Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

GUC 01 00:26:27.9±0.7, 32.66S×71.50W, h15km, MD3.5, ML2.5, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
IHA	**Instituto Hidr**	**0.39**	**198**	⇑*iP*		Pg	00 26 36.0	+0.2
IHA				*i* S		Sg	00 26 41.5	+0.4
JACH	**Jahuel**	**0.77**	**92**	⇑*iP*		Pg	00 26 42.0	-1.0
JACH				*i* S		Sg	00 26 52.4	-0.8
CHNG	**Los Chungos**	**0.77**	**0**	⇓*iP*		Pg	00 26 41.8	-1.1
CHNG				*i* S		Sg	00 26 52.0	-1.0
CHNG				AML		AML	00 26 55.9	
	comp=N,86nm,0.2s							
LCCH	**Las Cruces**	**0.82**	**184**	*i* P		Pg	00 26 42.5	-1.4
PEL	**Peldehue**	**0.84**	**126**	*e*P		Pb	00 26 43.5	-0.8
PEL				*i* S		Sg	00 26 55.1	-0.5
PEL				AML		AML	00 26 55.8	
	comp=N,586nm,0.2s							
SAN	**Santiago**	**1.06**	**139**	*i* S		Sb	00 27 00.9	-0.9
CLCH	**Cerro Calan**	**1.10**	**133**	⇑*iP*		Pb	00 26 47.5	-1.2
CLCH				*e*S		Sb	00 27 01.7	-1.3
CLCH				AML		AML	00 27 04.1	
	comp=E,133nm,0.5s							
CLCH				AML		AML	00 27 10.0	
	comp=E,232nm,0.7s							
ANTU	**Antumapu**	**1.17**	**142**	*e*P		Pn	00 26 49.0	-0.8
ANTU				*i* S		Sb	00 27 03.9	-0.9
ANTU				AML		AML	00 27 06.6	
	comp=E,109nm,0.2s							
PCH	**Pirque**	**1.27**	**140**	⇑*iP*		Pn	00 26 50.0	-1.3
PCH				*e*S		Sb	00 27 06.6	-1.3
LNV	**Longovilo**	**1.30**	**177**	⇑*iP*		Pn	00 26 50.4	-1.1
LNV				*i* S		Sb	00 27 06.7	-1.9
CHCH	**Chadas Angostu**	**1.46**	**151**	*e*P		Pn	00 26 53.2	-0.6
CHCH				*i* S		Sn	00 27 12.1	-0.6
CMCH	**Combarbala**	**1.54**	**16**	⇓*iP*		Pn	00 26 54.7	-0.3
CMCH				*i* S		Sn	00 27 14.3	-0.4
CMCH				AML		AML	00 27 17.6	
	comp=E,477nm,0.4s							
LMEL	**Las Melosas**	**1.61**	**138**	⇑*iP*		Pn	00 26 55.4	-0.7
LMEL				*i* S		Sn	00 27 15.9	-0.9
LMEL				AML		AML	00 27 18.1	
	comp=N,162nm,0.1s							
CACH	**El Canelo**	**1.64**	**153**	*e*P		Pn	00 26 57.2	+0.7
CACH				*e*S		Sb	00 27 18.6	-0.1

BGS ***01*** *00:28:44.4±2.5, 36.14N×79.67E, h33km, mb4.7, MS5.0*

LDG ***01*** *00:29:19.3±0.1, 39.44N×73.54E, h10km, Mb5.0/35, Ms4.4/11, Error ellipse: s-maj=16.5km s-min=4.1km az=45.0*

IDC ***01*** *00:29:21.3±0.4, 39.57N×73.49E, h0km, mb4.6/36, mb1 4.8/42, mb1mx4.7/44, mbtmp4.6/42, ML4.2/2, MS4.6/34, Ms1 4.6/34, ms1mx4.4/43, Error ellipse: s-maj=8.4km s-min=7.9km az=162.0*

BJI ***01*** *00:29:23.9, 39.57N×73.38E, h30km, mB5.1/32, mb4.9/41, ML5.4/4, Ms5.1/51, Ms7 4.9/48*

DJA ***01*** *00:29:24.4±0.5, 39.6N×7.4E±, h10km, M5.7/4, mB5.3/2, mb4.9/4, MLv6.1/2, Mw(mB)4.8/2*

ISCJB ***01*** *00:29:24.5±0.7, 39.58N±0.02×73.41E±0.02, h31km±5km, mb4.8/218, MS4.8/80, Error ellipse: s-maj=2.9km s-min=2.5km az=21.4*

MOS ***01*** *00:29:24.6±0.9, 39.49N×73.39E, h33km, mb5.1/71, MS4.7/35, Error ellipse: s-maj=5.5km s-min=3.7km az=110.7*

GCMT ***01*** *00:29:26.9±0.2, 39.66N×73.47E, h19km, MW5.2, Moment Tensor Solution. s48,c67; s93,c159; Moment tensor: Scale 10^16Nm; Mrr-0.28±.15; Mθθ-6.19±.15; Mφφ6.47±.14; Mrθ-0.49±.29; Mrφ-2.29±.11; Mθφ0.61±.27; Best double couple: Mo6.80000×10^16 NP1:φs35.00000°, δ84.00000°, λ1.00000°. NP2:φs305.00000°, δ89.00000°, λ174.00000°. Principal axes: T 6.9400, Plg5.0000°, Azm260.0000°; N -0.3200, Plg84.0000°, Azm112.0000°; P -6.6100, Plg3.0000°, Azm350.0000°; Data Used: IU II IC CN G.*

BKK ***01*** *00:29:26.4±0.3, 40.31N×6.7E±, h10km, M5.5/11, mB5.6/4, mb5.2/11, MLv5.7/2, Mw(mB)5.1/4*

NEIC ***01*** *00:29:27.2±0.6, 39.59N×73.45E, h40km±5km, mb5.0/57, Error ellipse: s-maj=4.8km s-min=3.5km az=180.0*

NEIC Felt at Osh.

SZGRF ***01*** *00:29:31.1, 39.14N×72.33E, h33km, mb4.8, MS4.9, Kyrgyzstan*

NNC ***01*** *00:29:32.0±3.1, 40.31N×73.20E, h18km±15km, mb5.4, mpv5.3, Error ellipse: s-maj=21.5km s-min=9.4km az=178.0*

ISC 01 00:29:24.3±0.6, 39.71N±0.02×73.52E±0.02, h18km±2km, n704, σ1§63/755, mb4.9/218, MS4.8/81, 48C-44D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KSH	**Kashi**	**1.90**	**95**	⇑*i*Pn	Sn	**Pn**	**00 29 54.0**	**-1.9**
KSH				smax	smax	**Sn**	**00 30 14.7**	**-4.8**
	comp=N,24μm,0.5s							
KSH				smax	smax			
	comp=E,12μm,0.5s							
AML	**Almayashu**	**2.42**	**3**	*i* PN		**Pb**	**00 30 06.2**	**-1.3**
AML	**Almayashu**	**2.42**	**3**	P		**Pb**	**00 30 06.2**	**-1.3**
	SNR=3555							
UCH	**Uchtor**	**2.62**	**16**	*i* PN		**Pb**	**00 30 09.8**	**-1.2**
UCH	**Uchtor**	**2.62**	**16**	P		**Pb**	**00 30 09.8**	**-1.2**
	SNR=135							
KZA	**Kyzart**	**2.70**	**28**	*i* PN		**Pb**	**00 30 10.5**	**-1.8**
KZA	**Kyzart**	**2.70**	**28**	P		**Pb**	**00 30 10.5**	**-1.8**
	SNR=97							
EKS2	**Erkin-Say**	**2.95**	**4**	*e*PN		**Pb**	**00 30 14.0**	**-2.4**
EKS2	**Erkin-Say**	**2.95**	**4**	P		**Pb**	**00 30 14.0**	**-2.4**
	SNR=415							
EKS2	**Erkin-Say**	**2.95**	**4**	*e*Pn		**Pb**	**00 30 14.0**	**-2.4**
EKS2				*e*Sn		**Sn**	**00 30 46.3**	**+1.0**
AAK	**Ala-Archa**	**3.01**	**14**	Pn		**Pb**	**00 30 15.0**	**-2.4**
	comp=E,12μm,0.6s							
AAK	**Ala-Archa**	**3.01**	**14**	*i* PN		**Pb**	**00 30 15.3**	**-2.0**
AAK	**Ala-Archa**	**3.01**	**14**	⇓Pn		**Pb**	**00 30 15.4**	**-2.0**
	SNR=1184							
AAK	**Ala-Archa**	**3.01**	**14**	⇑S		**Sg**	**00 30 59.8**	**-1.2**
AAK	**Ala-Archa**	**3.01**	**14**	P		**Pb**	**00 30 15.3**	**-2.0**
	SNR=562							
AAK	**Ala-Archa**	**3.01**	**14**	⇓*i*Pn		**Pb**	**00 30 15.2**	**-2.2**
AAK				*e*S		**Sn**	**00 30 50.4**	**+3.6**
AAK				Sn		**Sb**	**00 30 55.2**	**+1.4**
AAK	**Ala-Archa**	**3.01**	**14**	Pn		**Pb**	**00 30 15.4**	**-2.0**
	comp=E,184nm,0.3s,baz=178,slow=7.9,SNR=729							
AAK				Sn		**Sb**	**00 30 55.2**	**+1.4**
	comp=E,223nm,0.3s,baz=320,slow=21,SNR=11							
KBK	**Karagaybulak**	**3.13**	**20**	*i* PN		**Pb**	**00 30 17.0**	**-2.5**
KBK	**Karagaybulak**	**3.13**	**20**	P		**Pb**	**00 30 17.0**	**-2.5**
	SNR=157							
FRU	**Bishkek**	**3.22**	**14**	⇓*i*PN		Pb	00 30 18.0	-3.0
FRU				*i*			00 30 33.5	
FRU				*e*S		**Sg**	**00 31 05.0**	**-2.9**
FRU				*i*			00 31 09.0	
FRU				pmax	pmax			
	comp=Z,7μm,1.8s							
ULHL	**Ulahol**	**3.26**	**38**	*i* PN		Pb	00 30 18.7	-3.0
ULHL	**Ulahol**	**3.26**	**38**	P		Pb	00 30 18.7	-3.0
	SNR=43							
CHMS	**Chumysh**	**3.41**	**15**	*i* PN		Pb	00 30 20.4	-3.8
CHMS	**Chumysh**	**3.41**	**15**	P		Pb	00 30 20.4	-3.8
	SNR=163							
TKM2	**Tokmak 2**	**3.56**	**25**	⇓Pn		Pn	00 30 22.2	+3.4
	comp=Z,582nm,0.6s							
TKM2				⇓Lg		Lg	00 31 13.1	
	comp=Z,8μm,1.4s							
TKM2	**Tokmak 2**	**3.56**	**25**	*i* PN		Pn	00 30 22.6	+3.7
TKM2	**Tokmak 2**	**3.56**	**25**	P		Pn	00 30 22.6	+3.7
	SNR=169							
TKM2	**Tokmak 2**	**3.56**	**25**	⇓*e*Pn		Pn	00 30 22.5	+3.7
TKM2				*e*Sn		**Sn**	**00 31 03.8**	**+3.2**
USP	**Ospenovka**	**3.62**	**11**	*i* PN		Pn	00 30 23.1	+3.6
USP	**Ospenovka**	**3.62**	**11**	P		Pn	00 30 23.1	+3.6
	SNR=705							
KK31	**Karatay Array**	**4.07**	**327**	Pn		**Pn**	**00 30 27.2**	**+1.5**
	comp=Z,355nm,0.8s,baz=139,slow=12,SNR=5636							
KK31				Pg		**Pb**	**00 30 36.8**	**+1.3**
	comp=Z,618nm,0.6s,baz=140,slow=15,SNR=24							
KK31				⇓Lg		Lg	00 31 16.9	
	comp=Z,3μm,0.8s,baz=143,slow=26,SNR=7.3							
KK31	**Karatay Array**	**4.07**	**327**	*i* PN		**Pn**	**00 30 27.2**	**+1.5**
KK31				*e*			00 31 16.9	
KK31				pmax	pmax			
	comp=Z,11nm,0.4s							
KK31				smax	smax			
	comp=Z,5μm,0.9s							
KKAR	**Karatay Array**	**4.07**	**327**	*e*PN		**Pn**	**00 30 27.5**	**+1.8**
KKAR	**Karatay Array**	**4.07**	**327**	*e*Pn		**Pn**	**00 30 27.5**	**+1.8**
KKAR				*e*Sn		**Sn**	**00 31 14.4**	**+1.5**
KNDC	**Almaty**	**4.35**	**35**	⇓Pn		Pb	00 30 34.8	-5.5
	comp=Z,1μm,0.7s							
KNDC				⇓Lg		Lg	00 31 41.3	
	comp=Z,16μm,0.9s							
AAA	**Alma-Ata**	**4.39**	**35**	*e*PN		Pg	00 30 44.8	-3.5
AAA				*e*S		**Sg**	**00 31 42.0**	**-3.1**
AAA				pmax	pmax			
	comp=Z,2μm,0.6s							
AAA				smax	smax			
	comp=E,7μm,1.5s							
CEP	**Cherat**	**6.02**	**193**	⇑P		Pn	00 30 55.2	+2.7
CEP				S		**Sn**	**00 32 06.0**	**+4.9**
CHCP	**Chirah Chowk**	**6.05**	**182**	⇑P		Pn	00 30 56.1	+3.3
CHCP				S		Sn	00 32 07.0	+5.4
KBL	**Kabul**	**6.28**	**216**	⇑*e*PN		**Pn**	**00 30 57.7**	**+1.5**
KBL				*e*			00 32 06.9	
KBL	**Kabul**	**6.28**	**216**	⇑*e*Pn		**Pn**	**00 30 57.7**	**+1.5**
KBL				*e*Sn		**Sn**	**00 32 06.9**	**-0.7**
THW	**Thamme Wali**	**7.05**	**192**	⇑P		**Pn**	**00 31 08.0**	**+1.4**
THN	**Thein Dam**	**7.48**	**166**	*e*P		**Pn**	**00 31 10.7**	**-1.7**
THN				*e*4		Sn	00 32 27.5	-9.2
DHRM	**DHARAMSHALA**	**7.78**	**162**	*e*P		**Pn**	**00 31 17.7**	**+0.9**
DHRM				AMB	AMB	AMB	00 31 19.3	
	comp=Z,988nm,1.2s							
DHRM				*e*S		**Sn**	**00 32 43.1**	**-1.4**
BHK	**Bhakra**	**8.61**	**163**	*e*P		**Pn**	**00 31 29.0**	**+1.0**
BHK				*e*4		**Sn**	**00 33 05.6**	**+1.0**
SMLA	**Simla**	**9.07**	**160**	*i* P		**Pn**	**00 31 34.3**	**+0.1**
SMLA				AMB	AMB	AMB	00 31 44.4	
	comp=Z,172nm,1.2s							
SMLA				*i* x		**Sn**	**00 33 13.4**	**-2.4**
MK31	**Makanchi Array**	**9.53**	**39**	⇓Pn		Pn	00 31 45.0	+4.4
	comp=Z,28nm,0.6s,baz=202,slow=14,SNR=104							
MK31				⇓Lg		Lg	00 34 17.5	
	comp=Z,703nm,1.6s,baz=217,slow=24,SNR=5.5							
MK31	**Makanchi Array**	**9.53**	**39**	*e*P		Pn	00 31 45.0	+4.4
MK31				pmax	pmax			
	comp=Z,45nm,1.4s							
MK31	**Makanchi Array**	**9.53**	**39**	⇑*e*Pn		**Pn**	**00 31 43.5**	**+2.9**
MK31				*e*Sn		Sn	00 33 33.3	+6.1
MKAR	**Makanchi Array**	**9.53**	**39**	*e*P		Pn	00 31 44.3	+3.7
MKAR	**Makanchi Array**	**9.53**	**39**	*e*Pn		Pn	00 31 44.2	+3.7
MKAR				Lg		Lg	00 34 24.9	
MKAR	**Makanchi Array**	**9.53**	**39**	Pn		Pn	00 31 43.9	+3.3
	comp=Z,0.4nm,0.3s,baz=214,slow=14,SNR=32							
MKAR				Lg		Lg	00 34 24.9	
	comp=Z,3.9nm,0.3s,baz=236,slow=29,SNR=5.5							
MKAR				LR		LR	00 35 00.3	
	comp=Z,2μm,19.8s,baz=228,slow=35							
DDI	**Dehra Dun**	**10.08**	**157**	*ex*		Pn	00 31 44.0	-4.2
DDI				AMB	AMB	AMB	00 31 57.2	
	comp=Z,453nm,0.7s							
DDI				*e*S		**Sn**	**00 33 38.3**	**-2.4**
WMQ	**Urumqi**	**11.35**	**64**	P		**Pn**	**00 32 05.0**	**-0.5**
WMQ				PP		**PnPn**	**00 32 14.8**	**+1.7**
WMQ				sP			00 32 19.7	
WMQ				S		**Sn**	**00 34 12.0**	**+0.1**
WMQ				SS		**SnSn**	**00 34 26.6**	**+3.0**
WMQ				PcP		**PcP**	**00 37 55.5**	**-3.4**
WMQ				pmax	pmax			
	comp=Z,43nm,1.0s							
WMQ				pmax	pmax			
	comp=Z,120nm,4.3s							
WMQ				LR	LR			
	comp=N,2μm,15.4s							
WMQ				LR	LR			
	comp=E,4μm,11.1s							
NDI	**New Delhi**	**11.42**	**163**	*ex*		Pn	00 32 03.0	-3.5
NDI				*e*4		Sn	00 34 06.0	-7.5
KURBB	**Kurchatov Arra**	**11.46**	**16**	⇑Pn		**Pn**	**00 32 06.5**	**-0.5**
	comp=E,36nm,0.8s							
KURBB				⇑Lg		Lg	00 35 21.1	
	comp=E,4μm,1.6s							
KURBB	**Kurchatov Arra**	**11.46**	**16**	Pn		**Pn**	**00 32 06.8**	**-0.1**
	comp=E,0.4nm,0.3s,baz=210,slow=13,SNR=41							
KURBB				Lg		Lg	00 35 27.9	
	comp=E,1.1nm,0.3s,baz=286,slow=33,SNR=25							
KURK	**Kurchatov**	**11.57**	**16**	P		**Pn**	**00 32 06.8**	**-1.6**
KURK	**Kurchatov**	**11.57**	**16**	Pn		**Pn**	**00 32 06.8**	**-1.6**
KURK				Lg		Lg	00 35 27.9	
LGTI	**Lohaghat**	**11.64**	**150**	*e*P		Pn	00 32 16.4	+7.0
LGTI				*e*S		**Sn**	**00 34 22.4**	**+3.6**
ABKT	**Ailbek**	**12.15**	**266**	Pn		Pn	00 32 13.0	-3.4
	comp=E,452nm,0.5s,SNR=21							
VOSK	**Vostochnaya**	**13.13**	**353**	⇑Pn		**Pn**	**00 32 28.1**	**-1.6**
	comp=E,48nm,0.9s							
VOSK				⇑Lg		Lg	00 36 11.0	
	comp=E,752nm,1.3s							
VOSK	**Vostochnaya**	**13.13**	**353**	P		**Pn**	**00 32 28.1**	**-1.6**
VOSK				pmax	pmax			
	comp=Z,48nm,0.9s							
AJM	**Ajmer**	**13.23**	**176**	*i* P		Pn	00 32 22.0	-9.3
AJM				*i* S		Sn	00 34 47.0	-11
BVA0	**Borovoye Array**	**13.49**	**352**	Pn		**Pn**	**00 32 33.6**	**-1.0**
	comp=Z,133nm,1.6s,baz=165,slow=12,SNR=205							
BVA0				⇓Lg		Lg	00 36 21.7	
	comp=Z,598nm,2.0s,baz=158,slow=25,SNR=3.7							
BVA0	**Borovoye Array**	**13.49**	**352**	*i* P		**Pn**	**00 32 33.6**	**-1.0**
BVA0				pmax	pmax			
	comp=Z,67nm,0.9s							
BVAR	**Borovoye Array**	**13.49**	**352**	P		**Pn**	**00 32 33.3**	**-1.3**
BVAR				pmax	pmax			
	comp=Z,3.0nm,0.3s							
BVAR				MLR	MLR			
	comp=Z,2μm,20.2s							
BVAR	**Borovoye Array**	**13.49**	**352**	Pn		**Pn**	**00 32 33.3**	**-1.3**
BVAR				Lg		Lg	00 36 33.1	
BVAR	**Borovoye Array**	**13.49**	**352**	Pn		**Pn**	**00 32 33.3**	**-1.3**
	comp=Z,2.6nm,0.3s,baz=165,slow=13,SNR=92							
BVAR				Lg		Lg	00 36 33.1	
	comp=Z,2.7nm,0.3s,baz=159,slow=25,SNR=3.8							
BVAR				LR		LR	00 38 13.8	
	comp=Z,2μm,20.2s,baz=177,slow=39							
BRVK	**Borovoye**	**13.53**	**352**	Pn		**Pn**	**00 32 34.8**	**-0.4**
	comp=Z,278nm,1.0s,SNR=30							
BRVK	**Borovoye**	**13.53**	**352**	⇑Pn		**Pn**	**00 32 33.5**	**-1.7**
	comp=Z,316nm,1.6s							
BRVK				⇑Lg		Lg	00 36 22.8	
	comp=Z,1μm,1.8s							
BRVK	**Borovoye**	**13.53**	**352**	*d*P		**Pn**	**00 32 33.9**	**-1.3**
BRVK				pmax	pmax			
	comp=Z,80nm,1.2s							
BRVK	**Borovoye**	**13.53**	**352**	⇑Pn		**Pn**	**00 32 34.8**	**-0.4**
	SNR=62							
BRVK	**Borovoye**	**13.53**	**352**	⇓*e*Pn		**Pn**	**00 32 33.8**	**-1.3**
BRVK				*e*Sn		**Sn**	**00 35 06.8**	**+1.8**
AB31	**Akbulak array**	**13.58**	**319**	⇓Pn		**Pn**	**00 32 33.6**	**-2.3**
	comp=Z,47nm,0.8s,baz=132,slow=13,SNR=345							
AB31				⇑Sn		**Sn**	**00 35 02.2**	**-4.0**
	comp=Z,106nm,1.0s,baz=130,slow=25,SNR=5.6							
AB31				⇓Lg		Lg	00 36 23.3	
	comp=Z,263nm,1.4s							
AB31	**Akbulak array**	**13.58**	**319**	*i* P		**Pn**	**00 32 33.5**	**-2.3**
AB31				pmax	pmax			
	comp=Z,34nm,0.7s							
ZRNK	**Zerenda**	**13.60**	**348**	⇓Pn		**Pn**	**00 32 34.9**	**-1.2**
	comp=Z,88nm,1.8s							
ZRNK				⇑Sn		**Sn**	**00 35 03.6**	**-3.0**
	comp=Z,87nm,1.3s							
ZRNK				⇑Lg		Lg	00 36 22.4	
	comp=Z,1μm,1.4s							
ZRNK	**Zerenda**	**13.60**	**348**	P		**Pn**	**00 32 34.8**	**-1.2**
ZRNK							00 35 09.1	
ZRNK				pmax	pmax			
	comp=Z,31nm,0.7s							
ZRNK				smax	smax			
	comp=Z,41nm,0.9s							
PYUN	**Piuthan**	**13.99**	**143**	*e*P		Pn	00 32 37.9	-3.9
	comp=Z,556nm,0.6s							
DANN	**Dangsing**	**14.15**	**140**	*e*P		Pn	00 32 39.6	-4.4
	comp=Z,219nm,0.5s							
KOLN	**Koldanda**	**14.55**	**142**	*e*P		Pn	00 32 45.2	-4.3
	comp=Z,236nm,0.5s							
AKTO	**Aktyubinsk**	**15.29**	**320**	⇑Pn		**Pn**	**00 32 57.4**	**-1.7**
	comp=Z,148nm,1.6s							
AKTO				⇑Sn		**Sn**	**00 35 44.7**	**-3.1**
	comp=Z,109nm,1.0s							
AKTO				⇑Lg		Lg	00 37 18.6	
	comp=Z,388nm,1.8s							
AKTO	**Aktyubinsk**	**15.29**	**320**	P		**Pn**	**00 32 57.5**	**-1.6**
AKTO							00 35 41.8	
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.3s							
AKTO				smax	smax			
	comp=N,2.0nm,0.3s							
AKTO				MLR	MLR			
	comp=Z,3μm,18.4s							
AKTO	**Aktyubinsk**	**15.29**	**320**	Pn		**Pn**	**00 32 57.5**	**-1.6**
AKTO				Sn		**Sn**	**00 35 41.9**	**-6.0**
AKTO				Lg		Lg	00 37 30.1	
AKTO	**Aktyubinsk**	**15.29**	**320**	Pn		**Pn**	**00 32 57.5**	**-1.6**
	comp=Z,2.2nm,0.3s,baz=122,slow=13,SNR=28							
AKTO				Sn		**Sn**	**00 35 41.8**	**-6.0**
	comp=Z,1.7nm,0.3s,baz=90,slow=17,SNR=2.8							
AKTO				Lg		Lg	00 37 30.1	
	comp=Z,0.2nm,0.3s,baz=198,slow=20,SNR=2.7							
AKTO				LR		LR	00 39 08.5	
	comp=Z,3μm,18.4s,baz=298,slow=38							
KKN	**Kakani**	**15.38**	**137**	*e*P		Pn	00 32 55.6	-5.0
	comp=Z,127nm,0.6s							
DMN	**Daman**	**15.44**	**138**	*e*P		Pn	00 32 56.5	-4.8
	comp=Z,105nm,0.5s							
GUN	**Gumba**	**15.60**	**135**	*e*P		**Pn**	**00 32 59.1**	**-4.5**
	comp=Z,96nm,0.5s							
PKIN	**Phulchoki**	**15.61**	**137**	*e*P		Pn	00 32 58.8	-4.8
	comp=Z,87nm,0.5s							
PKI	**Pulchoki**	**15.62**	**137**	*e*P		Pn	00 32 58.8	-5.0
	comp=Z,98nm,0.5s							
JIRN	**Jiri**	**15.97**	**135**	*e*Pn		**Pn**	**00 33 04.1**	**-4.3**
	comp=Z,297nm,0.5s							
ZAA0	**Zalesovo Array**	**16.17**	**25**	*e*Pn		**Pn**	**00 33 11.2**	**+0.8**
ZAA0				*e*Sn		**Sn**	**00 36 14.2**	**+5.1**
ZALV	**Zalesovo Beam**	**16.17**	**25**	*i* P		**P**	**00 33 13.8**	**+0.3**
ZALV				pmax	pmax			
	comp=Z,12nm,0.5s							
ZALV	**Zalesovo Beam**	**16.17**	**25**	Pn		**Pn**	**00 33 10.9**	**+0.6**
ZALV				Sn		**S**	**00 36 20.4**	**-1.6**
ZALV				Lg		Lg	00 37 52.1	
ZALV	**Zalesovo Beam**	**16.17**	**25**	Pn		**Pn**	**00 33 10.9**	**+0.6**
	comp=Z,2.9nm,0.3s,baz=218,slow=11,SNR=27							
ZALV				Sn		**S**	**00 36 20.4**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=215,slow=25,SNR=2.1							
ZALV				Lg		Lg	00 37 52.1	
	baz=217,slow=25,SNR=2.5							
ZALV				LR		LR	00 40 04.4	
	comp=Z,1μm,19.4s,baz=37,slow=39							
NVS	**Novosibirsk**	**16.48**	**20**	*e*P		**Pn**	**00 33 14.8**	**+0.5**
BHJ	**Bhuj**	**16.73**	**192**	*e*P		**Pn**	**00 33 16.7**	**-1.0**
BHJ				AMB	AMB	AMB	00 33 24.1	
	comp=Z,146nm,0.4s							
RAMN	**Ramite**	**16.75**	**136**	*e*P		Pn	00 33 12.9	-5.3
	comp=Z,186nm,0.6s							
BHPL	**Bhopal**	**16.75**	**167**	AMB	AMB	AMB	00 33 14.0	
	comp=Z,45nm,0.7s							
BHPL				*e*P		**Pn**	**00 33 17.3**	**-0.7**
TAPN	**Taplejung**	**17.06**	**132**	*e*P		**Pn**	**00 33 17.5**	**-4.6**
	comp=Z,82nm,0.5s							
ODAN	**Odare**	**17.26**	**134**	*e*P		**Pn**	**00 33 20.8**	**-3.7**
	comp=Z,164nm,0.6s							
JBP	**Jabalpur**	**17.38**	**160**	⇓*e*P		**P**	**00 33 25.8**	**-1.3**
JBP				*e*4		x	00 36 23.7	
LSA	**Lhasa**	**17.58**	**119**	P		**P**	**00 33 30.7**	**+1.0**
LSA				S		**Sn**	**00 36 44.4**	**+0.2**
LSA				LR	LR			
	comp=N,2μm,18.2s							
LSA				LR	LR			
	comp=E,2μm,15.4s							
LSA				LR	LR			
	comp=Z,2μm,15.4s							
LSA	**Lhasa**	**17.58**	**119**	*e*P		**P**	**00 33 30.0**	**+0.3**
LSA				*e*			00 36 43.0	
LSA				pmax	pmax			
	comp=Z,33nm,0.9s							
LSA	**Lhasa**	**17.58**	**119**	*e*Pn		**P**	**00 33 30.0**	**+0.3**
	comp=Z,33nm,0.9s							
LSA				*e*Sn		**Sn**	**00 36 43.0**	**-1.2**
BOK	**Bokaro**	**19.01**	**143**	*e*P		**Pn**	**00 33 45.3**	**-0.5**
BOK				AMB	AMB	AMB	00 33 49.3	
	comp=Z,63nm,0.7s							
SVE	**Sverdlovsk**	**19.09**	**338**	⇓*e*P		**P**	**00 33 45.4**	**-0.3**
SVE				*e*S		**Sn**	**00 37 20.6**	**+0.8**
SVE				pmax	pmax			
	comp=Z,84nm,1.2s							
SVE				MLR	MLR			
	comp=Z,3μm,10.0s							
NGP	**Nagpur**	**19.10**	**164**	*e*P		**Pn**	**00 33 46.4**	**-0.6**
NGP				AMB	AMB	AMB	00 33 48.5	
	comp=Z,56nm,1.2s							
NGP				*e*4			00 37 00.5	
AKL	**Akola**	**19.18**	**170**	*e*P		**Pn**	**00 33 47.5**	**-0.4**
AKL				AMB	AMB	AMB	00 33 53.4	
	comp=Z,35nm,1.1s							
ARU	**Arti**	**19.41**	**334**	*d*P		**P**	**00 33 48.6**	**-0.6**
ARU				S		**Sn**	**00 37 26.6**	**-0.9**
ARU				pmax	pmax			
	comp=Z,60nm,1.2s							
ARU				MLR	MLR			
	comp=Z,2μm,17.0s							
ARU	**Arti**	**19.41**	**334**	P		**Pn**	**00 33 49.9**	**-0.5**
	comp=Z,627nm,0.9s,SNR=25							
MAK	**Makhachkala**	**

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VTS Vitosha 37.54 291 ⇑ iP P 00 36 38.2 +0.8
SANT Santorini 37.64 281 eP P 00 36 37.0 -1.1
comp=Z,47nm,1.3s
CRVS Cervenica-Dubn 37.71 302 eP P 00 36 36.7 -1.9
CRVS pmax pmax
comp=Z,2.0nm,0.8s
CRVS Cervenica-Dubn 37.71 302 eP P 00 36 36.7 -1.9
STHS Stebnicka Huta 37.80 303 eP P 00 36 39.6 +0.3
STHS Stebnicka Huta 37.80 303 eP P 00 36 39.6 +0.3
KKB Krupnik 37.80 290 iP P 00 36 39.6 +0.1
BZS Buzias 38.06 296 ⇑ iP P 00 36 42.4 +0.9
VAY Valandovo 38.31 289 eP P 00 36 41.1 -2.6
KECS Kecovo 38.40 301 eP P 00 36 45.1 +0.7
KECS pmax pmax
comp=Z,2.0nm,1.0s
KECS Kecovo 38.40 301 eP P 00 36 45.1 +0.7
NIE Niedzica 38.40 303 eP P 00 36 46.5 +2.1
NIE e 00 38 16.0
NIE Niedzica 38.40 303 eP P 00 36 46.5 +2.1
NIE ePP PnPn 00 38 16.0 +2.0
CN2 Changchun 38.43 66 eP P 00 36 44.4 -0.3
CN2 eS sP 00 37 01.9 +9.2
CN2 PP PnPn 00 38 16.8 +2.4
CN2 eS S 00 42 35.8 -3.0
CN2 SS SnSn 00 45 17.2 -7.8
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,2μm,18.0s
CN2 LR LR
comp=E,1μm,18.0s
CN2 LR LR
comp=Z,2μm,19.0s
IDI Anoyia 38.46 279 eP P 00 36 44.9 -0.2
comp=Z,22nm,0.7s
OJC Ojcow 38.66 304 eP P 00 36 46.3 -0.2
OJC e 00 38 19.0
OJC Ojcow 38.66 304 eP P 00 36 46.3 -0.2
OJC ePP PnPn 00 38 19.0 +2.0
OJC L L 00 52 57.3
comp=Z,2μm,19.8s
PSZ Piszkesteto 38.87 300 eP P 00 36 50.8 +2.4
PSZ pmax pmax
comp=Z,13nm,1.0s
PSZ Piszkesteto 38.87 300 eP P 00 36 50.8 +2.4
comp=Z,13nm,1.0s
PSZ Piszkesteto 38.87 300 ⇓ iP P 00 36 50.7 +2.4
PSZ Piszkesteto 38.87 300 ⇓ eP P 00 36 50.2 +1.8
SKO Skopje 38.97 291 eP P 00 36 47.1 -2.1
ARCES ARCESS Array B 38.99 335 P P 00 36 50.0 +0.9
ARCES ARCESS Array B 38.99 335 P P 00 36 50.0 +0.9
comp=Z,11nm,0.5s,baz=106,slow=7.8,SNR=31
ARCES LR LR 00 54 33.1
comp=Z,554nm,20.2s,baz=116,slow=39
ARE0 ARCESS Array S 38.99 335 eP P 00 36 50.3 +1.2
GVD Gavdhos 39.24 279 eP P 00 36 50.3 -1.3
comp=Z,149nm,0.6s
BIA Bitola 39.30 289 eP P 00 36 49.5 -2.6
TRTT Trang 39.46 137 P P 00 36 59.4 +5.9
comp=Z,24nm,1.7s
VYHS Vyhne 39.48 301 eP P 00 36 54.1 +0.6
VYHS pmax pmax
comp=Z,7.0nm,1.5s
VYHS Vyhne 39.48 301 eP P 00 36 54.1 +0.6
OKC Ostrava-Krasne 39.76 304 eP P 00 36 56.8 +1.1
OKC e 00 38 30.8
OKC eS S 00 42 52.2 -6.4
OKC MLR MLR
comp=Z,1μm,14.2s
OKC Ostrava-Krasne 39.76 304 eP P 00 36 56.8 +1.1
OKC ePP PnPn 00 38 30.8 +0.7
OKC eS S 00 42 52.2 -6.4
OKC AMS AMS 00 56 30.0
comp=Z,1μm,14.2s
PKSG 39.95 300 ⇑ eP P 00 36 58.5 +1.2
PKSM Moragy 39.99 298 ⇓ iP P 00 36 57.8 +0.1
PKSM Moragy 39.99 298 ⇓ eP P 00 36 58.1 +0.4
GKP Gorka Klasztor 40.01 309 eP P 00 36 57.7 0.0
GKP ePP PnPn 00 38 35.8 +2.8
MORC Moravsky Berou 40.15 304 eP P 00 36 59.2 +0.2
MORC pmax pmax
comp=Z,8.0nm,0.8s
MORC Moravsky Berou 40.15 304 eP P 00 36 59.2 +0.2
comp=Z,7.8nm,0.8s
PKS9 Tamasi 40.17 299 ⇑ eP P 00 37 00.1 +0.9
YAK Yakutsk 40.20 37 eP P 00 37 03.1 +3.9
YAK e*PP pP 00 37 12.0 +7.1
YAK e 00 38 33.5
YAK ePPP PPP 00 39 02.7
YAK e 00 39 04.2
YAK eS S 00 43 11.3 +6.4
YAK e*SS sS 00 43 25.3 +11
YAK eSSS SSS 00 46 34.2
YAK e 00 47 04.4
YAK pmax pmax
comp=Z,31nm,0.8s
YAK pmax pmax
comp=E,22nm,1.2s
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=Z,14nm,0.9s
YAK smax smax
comp=E,131nm,1.8s
YAK smax smax
comp=N,76nm,1.5s
YAK MLR MLR
comp=E,1μm,18.0s
YAK MLR MLR
comp=Z,1μm,15.0s
YAK MLR MLR
comp=N,483nm,14.0s
PKST T"s 40.21 300 eP P 00 36 59.8 +0.2
KSP Ksiaz 40.81 305 eP P 00 37 05.4 +1.0
KSP e 00 38 39.0
KSP eS S 00 43 14.8 +0.5
KSP eSS SS 00 46 09.0 -6.3
KSP MLR MLR
comp=Z,4μm,18.2s
VRAC Vranov 40.83 303 P P 00 37 05.5 +0.9
VRAC Vranov 40.83 303 P P 00 37 05.5 +0.9
comp=Z,5.5nm,0.9s,baz=88,slow=9.3,SNR=9.7
VRAC LR LR 00 55 28.7
comp=Z,1μm,19.0s,baz=79,slow=38
DPC Dobruska-Polom 40.85 305 eP P 00 37 06.0 +1.1
DPC e 00 37 12.6
DPC e 00 38 42.2
DPC Dobruska-Polom 40.85 305 eP P 00 37 06.0 +1.1
DPC ePP pP 00 37 12.6 +2.0
DPC ePP PnPn 00 38 42.2 -1.0
UPC Upice 41.03 305 eP P 00 37 07.3 +1.1
UPC e 00 38 42.8
UPC Upice 41.03 305 eP P 00 37 07.3 +1.1
UPC ex x 00 37 12.3
UPC ePP PP 00 38 42.8 +2.0
MDJ Mudanjiang 41.15 64 P P 00 37 07.9 +0.6
MDJ pP pP 00 37 19.1 +6.0
MDJ sP sP 00 37 24.4 +9.1
MDJ PP PP 00 38 43.4 +1.2
MDJ PcP PcP 00 39 05.4 -1.0
MDJ ScP ScP 00 42 51.9 -3.3
MDJ PcS PcS 00 42 56.8 -0.5
MDJ S S 00 43 17.3 -2.3
MDJ SS SS 00 46 25.3 +3.0
MDJ ScS ScS 00 47 08.4 -2.3
MDJ pmax pmax
comp=Z,9.0nm,1.3s
MDJ pmax pmax
comp=Z,33nm,5.6s
MDJ LR LR
comp=N,3μm,24.8s
MDJ LR LR
comp=E,840nm,25.5s
MDJ LR LR
comp=Z,2μm,15.0s
BSD Bornholm Skovb 41.26 312 iP P 00 37 09.3 +1.3
BSD i 00 38 44.8
STON Ston 41.41 293 P P 00 37 09.1 -0.3
CONA Conrad Observa 41.54 301 ⇑ iP P 00 37 10.9 +0.4
comp=Z,18nm,1.1s,SNR=19
TREC Trest 41.55 303 eP P 00 37 11.8 +1.3
TREC e 00 37 21.3
TREC MLR MLR
comp=Z,1μm,15.6s
TREC Trest 41.55 303 eP P 00 37 11.8 +1.3
TREC epP pP 00 37 21.3 +5.0
TREC AMS AMS 00 58 00.0
comp=Z,1μm,15.6s
KOGS Kog 41.57 299 i P P 00 37 10.7 0.0
KLR Kul'dur 41.68 57 eP P 00 37 08.2 -3.4
KLR MLR MLR
comp=E,900nm,12.0s
KLR MLR MLR
comp=Z,3μm,12.0s
HFS Hagfors 41.84 320 P P 00 37 12.3 -0.4
HFS Hagfors 41.84 320 P P 00 37 12.3 -0.4
comp=Z,16nm,0.5s,baz=98,slow=11,SNR=67
HFS LR LR 00 55 07.5
comp=Z,2μm,19.3s,baz=92,slow=37
PVCC Panska Ves 41.94 305 eP P 00 37 11.7 -2.0
PVCC ex x 00 37 19.8
PVCC AMS AMS 00 55 20.0
comp=Z,2μm,17.5s
KSAR Wonju Array Be 42.01 75 P P 00 37 15.1 +0.7
KSRS Korea Array 42.04 75 P P 00 37 15.1 +0.5
comp=Z,7.3nm,1.0s,baz=279,slow=7.2,SNR=10.0
KSRS LR LR 00 57 29.4
comp=Z,783nm,18.7s,baz=295,slow=40
PRU Pruhonice 42.04 304 eP P 00 37 15.3 +0.8
PRU e 00 37 20.6
PRU e 00 38 51.9
PRU eS S 00 43 34.9 +2.3
PRU MLR MLR
comp=Z,2μm,13.4s
PRU Pruhonice 42.04 304 eP P 00 37 15.3 +0.8
PRU ex x 00 37 20.6
PRU ePP PP 00 38 51.9 +0.2
PRU eS S 00 43 34.9 +2.3
PRU AMS AMS 00 57 50.0
comp=Z,2μm,13.4s
TIXI Tiksi 42.05 23 eP P 00 37 13.6 -0.7
TIXI pmax pmax
comp=Z,31nm,0.7s
PRA Prague 42.10 304 ⇑ P P 00 37 16.0 +1.0
PRA PP PP 00 38 52.0 -0.3
PRA AMS AMS 00 58 00.0
RGN Rugen 42.22 311 eP P 00 37 19.0 +3.1
comp=Z,62nm,1.0s
RGN Rugen 42.22 311 eP P 00 37 16.9 +1.1
comp=Z,60nm,0.9s
RGN ePP PP 00 38 54.5 +1.0
BRG Berggiesshubel 42.28 306 i P P 00 37 17.1 +0.6
comp=Z,13nm,1.2s
BRG PP PP 00 38 53.0 -1.3
BRG S S 00 43 35.0 -1.1
BRG SS SS 00 46 42.0 -2.4
BRG
comp=N,5μm,22.7s
BRG
comp=E,1μm,14.4s
BRG
comp=Z,2μm,16.1s
BRG Berggiesshubel 42.28 306 eP P 00 37 16.8 +0.3
comp=Z,18nm,1.3s
BRG Berggiesshubel 42.28 306 i P P 00 37 17.1 +0.6
BRG 00 38 53.0
BRG S S 00 43 35.0 -1.1
BRG SS SS 00 46 42.0 -2.4
BRG pmax pmax
comp=Z,13nm,1.2s
BRG MLR MLR
comp=N,5μm,22.7s
BRG MLR MLR
comp=E,1μm,14.4s
BRG MLR MLR
comp=Z,2μm,16.1s
PERS Pernice 42.30 299 eP P 00 37 16.9 +0.2
SOKA Soboth 42.34 299 ⇓ iP P 00 37 17.3 +0.2
comp=Z,27nm,1.4s
UDBI Udbina 42.34 296 P P 00 37 19.1 +2.0
BOJS Bojanci 42.46 298 iP P 00 37 18.1 +0.1
MOA Molln 42.61 301 ⇓ iP P 00 37 18.8 -0.4
comp=Z,19nm,1.7s
COP Copenhagen 42.63 313 i P P 00 37 22.4 +3.2
comp=Z,18nm,0.7s
COP i 00 38 59.2
OBKA Obir 42.71 299 ⇑ iP P 00 37 20.4 +0.3
comp=Z,14nm,1.0s,SNR=9.6
GEC2 GERESS Array S 42.78 303 eP P 00 37 21.0 +0.3
comp=Z,10.0nm,0.9s
GEC2 GERESS Array S 42.78 303 eP P 00 37 21.0 +0.3
GEC2 pmax pmax
comp=Z,16nm,0.9s
GERES GERESS Array B 42.78 303 P P 00 37 20.8 +0.1
GERES GERESS Array B 42.78 303 P P 00 37 20.8 +0.1
comp=Z,4.2nm,0.7s,baz=79,slow=7.2,SNR=26
GERES LR LR 00 56 40.2
comp=Z,1μm,20.5s,baz=76,slow=38
LLD Lille Linde 42.78 312 i P P 00 37 23.7 +3.3
comp=Z,30nm,0.7s
LLD i 00 39 04.1
CLL Collm 42.80 306 eP P 00 37 20.1 -0.6
CLL Collm 42.80 306 i P P 00 37 20.5 -0.2
CLL eS S 00 43 45.0 +1.3
CLL pmax pmax
comp=Z,34nm,1.8s
CLL MLR MLR
comp=Z,2μm,18.2s
CLL Collm 42.80 306 i P P 00 37 20.5 -0.2
comp=Z,7.0nm,1.2s
CLL i Pmax 00 37 23.1
comp=Z,34nm,1.8s
CLL i 00 37 26.1
CLL i (pP) pP 00 37 30.3 +3.9
CLL i 00 37 40.6
CLL ePP PP 00 38 58.0 -1.9
CLL ePPmax 00 39 03.0
CLL ePPP PPP 00 39 31.0
CLL ePPPP 00 39 39.0
CLL eS S 00 43 45.0 +1.3
CLL eSS SS 00 46 51.0 -3.6
CLL L L 00 57 00.0
comp=Z,2μm,18.2s
KHC Kasperske Hory 42.81 303 eP P 00 37 21.0 +0.2
KHC Kasperske Hory 42.81 303 eP P 00 37 21.0 +0.2
KHC ex x 00 37 24.0
USRK Ussuriysk Arsa 42.92 64 P P 00 37 22.3 +0.6
comp=Z,1.4nm,0.5s,baz=259,slow=8.1,SNR=2.8
USRK LR LR 00 56 18.9
comp=Z,2μm,18.1s,baz=278,slow=38
NVLJ Novalja 42.95 296 P P 00 37 20.9 -1.0
NB2 NORSAR Subarra 43.08 321 P P 00 37 22.7 -0.1
comp=Z,11nm,0.7s,baz=91,slow=8.6
NOA NORSAR Array B 43.08 321 P P 00 37 22.2 -0.7
NOA NORSAR Array B 43.08 321 P P 00 37 22.2 -0.7
comp=Z,8.9nm,0.7s,baz=92,slow=8.1,SNR=42
NOA LR LR 00 55 45.3
comp=Z,1μm,18.4s,baz=110,slow=37
JAVS Javornik 43.18 298 i P P 00 37 23.8 -0.2
TIP Timpagrande 43.20 288 eP P 00 37 23.8 -0.3
comp=Z,40nm,1.2s
NAO01 NORSAR Array S 43.24 321 eP P 00 37 24.3 +0.2
comp=Z,17nm,0.9s
NAO01 ePP PP 00 39 04.0 -0.4
WET Wettzell 43.26 303 eP P 00 37 24.4 0.0
comp=Z,12nm,0.7s
WET Wettzell 43.26 303 eP P 00 37 24.4 0.0
WET pmax pmax
comp=Z,12nm,0.7s
VOY Vojsko 43.26 299 eP P 00 37 24.1 -0.5
VOY e 00 37 27.3
CADS Cadrg 43.32 299 eP P 00 37 24.5 -0.5
WERN Wernitzgruen 43.36 305 eP P 00 37 25.4 +0.1
comp=Z,30nm,2.0s
GUNZ Gunzen 43.38 305 eP P 00 37 25.6 +0.2
comp=Z,19nm,1.6s
PSI Prapat 43.38 141 P P 00 37 23.6 -2.2
PSI Prapat 43.38 141 P P 00 37 23.7 -2.2
comp=Z,9.7nm,0.7s,baz=329,slow=7.0,SNR=4.3
WERD Werda 43.38 305 eP P 00 37 25.7 +0.3
comp=Z,26nm,2.0s
KBA Koelnbreinsper 43.38 300 ⇓ iP P 00 37 25.4 -0.3
comp=Z,9.8nm,0.8s
TRI Trieste 43.42 298 eP P 00 37 26.2 +0.4
TRI pmax pmax
comp=Z,26nm,0.8s
TRI Trieste 43.42 298 eP P 00 37 26.2 +0.4
comp=Z,26nm,0.8s
PLN Plauen 43.47 305 eP P 00 37 25.7 -0.4
comp=Z,42nm,1.2s
ROTZ Rotzenmuhle 43.57 304 eP P 00 37 26.3 -0.6
comp=Z,26nm,1.7s
RJOB Jochberg 43.60 301 eP P 00 37 26.8 -0.5
comp=Z,8.0nm,1.1s
CUC Castrocucco 43.61 290 eP P 00 37 27.9 +0.5
comp=Z,29nm,0.8s
MOX Moxa 43.78 306 eP P 00 37 28.9 +0.3
MOX eL L 00 56 54.6
comp=Z,2μm,18.9s
MOX Moxa 43.78 306 eP P 00 37 28.9 +0.3
MOX pmax pmax
comp=Z,8.0nm,1.8s
MOX MLR MLR
comp=Z,32μm,18.9s
KONO Kongsberg 43.91 319 eP P 00 37 29.9 +0.4
KONO e 00 39 13.0
KONO pmax pmax
comp=Z,10.0nm,0.8s
KONO Kongsberg 43.91 319 eP P 00 37 29.9 +0.4
comp=Z,10nm,0.8s
KONO ePP PP 00 39 13.0 +1.4
BSEG Bad Segeberg 44.04 311 eP P 00 37 31.3 +0.7
comp=Z,27nm,0.9s
BSEG Bad Segeberg 44.04 311 eP P 00 37 31.3 +0.7
BSEG pmax pmax
comp=Z,28nm,0.9s
CEL Celeste 44.15 287 eP P 00 37 31.5 -0.2
comp=Z,40nm,1.0s
GRF Grafenberg Arr 44.21 304 eP P 00 37 32.1 0.0
comp=Z,23nm,1.1s
GRF eL L 00 56 57.8
comp=Z,1μm,21.0s
GRF Grafenberg Arr 44.21 304 eP P 00 37 32.1 0.0
GRF pmax pmax
comp=Z,19nm,1.1s
GRF MLR MLR
comp=Z,23μm,21.0s
GRFO Grafenberg 44.21 304 eP P 00 37 33.5 +1.4
GRFO pmax pmax
comp=Z,17nm,0.9s
GRFO Grafenberg 44.21 304 eP P 00 37 33.5 +1.4
comp=Z,17nm,0.9s
CLZ Clausthal 44.33 308 eP P 00 37 33.0 -0.1
comp=Z,27nm,1.7s
CLZ Clausthal 44.33 308 eP P 00 37 33.0 -0.1
CLZ pmax pmax
comp=Z,38nm,1.7s
MUD Monsted U'grnd 44.38 314 i P P 00 37 36.0 +2.7
comp=Z,6.6nm,0.8s
MUD i 00 39 16.5
WTTA Wattenberg 44.48 301 i P P 00 37 34.0 -0.4
comp=Z,24nm,1.4s,SNR=11
FUR Furstenfeldbru 44.50 302 eP P 00 37 34.9 +0.5
comp=Z,34nm,1.5s
FUR Furstenfeldbru 44.50 302 eP P 00 37 34.9 +0.5
FUR pmax pmax
comp=Z,61nm,1.0s
AQU L'Aquila 44.60 294 eP P 00 37 38.9 +3.5
UBBA Unterbreizbach 44.75 306 eP P 00 37 37.3 +1.1
comp=Z,21nm,1.9s
MOTA Moosalm 44.81 301 ⇓ iP P 00 37 36.5 -0.6
comp=Z,9.1nm,0.9s
SPITS Spitsbergen Ar 44.84 346 P P 00 37 38.7 +1.9
SPITS Spitsbergen Ar 44.84 346 P P 00 37 38.7 +1.9
comp=Z,9.3nm,0.8s,baz=125,slow=9.8,SNR=9.4
SPITS LR LR 01 00 10.5
comp=Z,861nm,18.2s,baz=105,slow=41
FETA Feichten 45.13 301 ⇑ iP P 00 37 39.4 -0.3
comp=Z,13nm,1.6s
FUORN Ofenpass-Fuorn 45.55 300 eP P 00 37 45.0 +1.9
comp=Z,124nm,2.3s
DAVA Damuels 45.63 301 ⇑ iP P 00 37 43.2 -0.4
comp=Z,29nm,1.3s,SNR=12
STU Stuttgart 45.71 304 eP P 00 37 44.6 +0.6
comp=Z,20nm,1.4s
DAVOX Davos/Dischmat 45.76 301 P P 00 37 44.6 -0.1
DAVOX Davos/Dischmat 45.76 301 P P 00 37 44.6 -0.1
comp=Z,14nm,0.5s,baz=83,slow=7.1,SNR=23
DAVOX LR LR 00 58 52.5
comp=Z,1μm,20.4s,baz=61,slow=39
TOD Tromm 45.76 305 eP P 00 37 44.2 -0.2
TOD Tromm 45.76 305 eP P 00 37 44.2 -0.2
IBBN Ibbenburen 45.83 309 eP P 00 37 45.4 +0.5
comp=Z,15nm,1.0s
TNS Taunus Mts 45.85 306 eP P 00 37 45.9 +0.8
comp=Z,33nm,2.0s
TNS Taunus Mts 45.85 306 eP P 00 37 45.9 +0.8
TNS pmax pmax
comp=Z,13nm,2.0s
KBS Kingsbay 45.94 346 eP P 00 37 47.2 +1.8
KBS pmax pmax
comp=Z,17nm,0.9s
JNU Nakatsue 45.95 79 P P 00 37 47.1 +0.9
JNU Nakatsue 45.95 79 P P 00 37 47.1 +0.9
comp=Z,16nm,0.9s,baz=292,slow=11,SNR=2.7
SPAK Spaichingen-Ko 46.14 303 eP P 00 37 47.5 0.0
VLC Villacollemand 46.16 297 eP P 00 37 48.6 +1.0
comp=Z,24nm,0.9s
TUE Stuetta 46.20 300 eP P 00 37 51.6 +3.5
comp=Z,7.2nm,0.9s
BUG Bochum--Univer 46.31 308 eP P 00 37 48.7 +0.1
comp=Z,54nm,2.0s
BFO Black Forest 46.37 303 eP P 00 37 49.6 +0.3
comp=Z,12nm,1.3s
BFO Black Forest 46.37 303 eP P 00 37 49.6 +0.3
BFO pmax pmax
comp=Z,7.0nm,1.3s
BFO Black Forest 46.37 303 eP P 00 37 49.3 0.0
LANF Langenberg 46.55 304 eP P 00 37 49.8 -0.8
LANF Langenberg 46.55 304 eP P 00 37 49.8 -0.8
LANF Langenberg 46.55 304 eP P 00 37 49.8 -0.8
RUP Ruppelstein 46.84 305 eP P 00 37 53.5 +0.6
RUP Ruppelstein 46.84 305 eP P 00 37 53.5 +0.6
CDF Champ du Feu 47.03 304 eP P 00 37 54.3 -0.2
comp=Z,19nm,0.9s
BBS Basel-Blauen 47.13 302 eP P 00 37 53.7 -1.6
BBS Basel-Blauen 47.13 302 eP P 00 37 53.7 -1.6
ECH Echery 47.16 303 eP P 00 37 54.5 -0.9
ECH e 00 39 26.4
ECH pmax pmax
comp=Z,11nm,1.4s
ECH Echery 47.16 303 eP P 00 37 54.5 -0.9
comp=Z,11nm,1.4s
ECH ePcP PcP 00 39 26.4 -0.4
ECH Echery 47.16 303 eP P 00 37 54.8 -0.6
MOF Molkenrain 47.27 303 eP P 00 37 56.3 -0.1
MOF Molkenrain 47.27 303 eP P 00 37 56.3 -0.1
MOF Molkenrain 47.27 303 eP P 00 37 56.3 -0.1
MEM Membach 47.28 307 P P 00 37 59.2 +2.9
comp=Z,4.3nm,1.0s
WLF Walferdange 47.42 305 P P 00 37 56.4 -1.1
comp=Z,14nm,1.7s
WLF Walferdange 47.42 305 eP P 00 37 58.0 +0.6
comp=Z,22nm,1.2s
WLF Walferdange 47.42 305 eP P 00 37 56.3 -1.1
WLF pmax pmax
comp=Z,26nm,1.3s
WLF Walferdange 47.42 305 eP P 00 37 56.3 -1.1
comp=Z,26nm,1.3s
HINF Hinteralfeld 47.46 303 eP P 00 37 57.5 -0.3
comp=Z,21nm,1.0s
SENIN Lac Senin/Sane 47.59 301 eP P 00 37 59.1 +0.1
comp=Z,111nm,2.3s
LOMF Lomont 47.61 302 eP P 00 37 57.6 -1.4
LOMF Lomont 47.61 302 eP P 00 37 57.6 -1.4
LOMF Lomont 47.61 302 eP P 00 37 57.6 -1.4
PGF Pioggiola 47.62 295 eP P 00 37 58.9 -0.3
HAU Haudompre 47.74 303 eP P 00 37 59.6 -0.3
comp=Z,22nm,1.0s
HAU eR
comp=Z,807nm,17.2s
THEF They Montfort 47.91 304 eP P 00 38 01.3 +0.1
THEF They Montfort 47.91 304 eP P 00 38 01.3 +0.1
THEF They Montfort 47.91 304 eP P 00 38 01.3 +0.1
PAGF Fort de Pagny 47.99 304 eP P 00 38 02.2 +0.4
comp=Z,30nm,1.7s
GIVF Givet 48.14 306 eP P 00 38 03.2 +0.2
comp=Z,32nm,1.1s
LPG La Plagne 48.21 300 eP P 00 38 04.1 +0.1
comp=Z,24nm,0.8s
LPL La Plagne 48.22 300 eP P 00 38 04.0 +0.1

comp=Z,14nm,0.5s
AUTN L'Aution 48.23 298 *e*P **P 00 38 04.0 -0.1**
AUTN L'Aution 48.23 298 *e*P **P 00 38 04.0 -0.1**
AUTN L'Aution 48.23 298 *e*P **P 00 38 04.0 -0.1**
SBF Sospel 48.27 298 *e*P **P 00 38 04.2 0.0**
comp=Z,48nm,0.7s
DOU Dourbes 48.28 306 P **P 00 38 04.4 +0.3**
comp=Z,9.1nm,2.2s
CABF La Chapelle 48.31 302 *e*P **P 00 38 04.2 -0.3**
comp=Z,11nm,0.7s
TOUF Mont Tournerai 48.35 298 *e*P **P 00 38 05.0 +0.1**
TOUF Mont Tournerai 48.35 298 *e*P **P 00 38 05.0 +0.1**
TOUF Mont Tournerai 48.35 298 *e*P **P 00 38 05.0 +0.1**
REVF Revere 48.36 297 *e*P **P 00 38 04.5 -0.3**
REVF Revere 48.36 297 *e*P **P 00 38 04.5 -0.3**
REVF Revere 48.36 297 *e*P **P 00 38 04.5 -0.3**
MEZF Maizieres J'vi 48.43 304 *e*P **P 00 38 05.5 +0.3**
comp=Z,130nm,1.6s
MBDF Montbardon 48.44 299 *e*P **P 00 38 06.0 +0.4**
comp=Z,28nm,0.8s
MVIF Mont Vial 48.45 298 *e*P **P 00 38 05.8 +0.1**
MVIF Mont Vial 48.45 298 *e*P **P 00 38 05.8 +0.1**
MVIF Mont Vial 48.45 298 *e*P **P 00 38 05.8 +0.1**
SFTF Sexfontaines 48.52 304 *e*P **P 00 38 05.8 -0.2**
comp=Z,108nm,1.6s
BAIF Baives 48.53 306 *e*P **P 00 38 06.5 +0.5**
comp=Z,44nm,1.1s
CALN Calern 48.68 298 *e*P **P 00 38 07.5 +0.1**
CALN Calern 48.68 298 *e*P **P 00 38 07.5 +0.1**
CALN Calern 48.68 298 *e*P **P 00 38 07.5 +0.1**
ORIF Oris-en-Rattie 48.98 299 *e*P **P 00 38 09.0 -0.6**
comp=Z,22nm,0.9s
ORIF *e*R
comp=Z,1µm,21.0s
LMR La Mourre 49.08 297 *e*P **P 00 38 10.2 -0.1**
comp=Z,88nm,1.7s
LRW Lerwick 49.24 320 *e*P **P 00 38 12.8 +1.5**
LRW AMB AMB 00 38 14.7
comp=Z,32nm,2.5s
LRW AMS AMS 01 02 56.5
comp=Z,1µm,13.3s
SMRF Simiane la Rot 49.50 298 *e*P **P 00 38 13.5 -0.1**
comp=Z,13nm,0.7s
LOR Lormes 49.56 303 *e*P **P 00 38 13.1 -0.9**
comp=Z,13nm,0.9s
LOR *e*R
comp=Z,682nm,22.2s
SSB Saint Sauveur 49.76 300 *e*P **P 00 38 15.0 -0.5**
SSB pmax pmax
comp=Z,53nm,1.6s
SSB Saint Sauveur 49.76 300 *e*P **P 00 38 15.0 -0.5**
comp=Z,53nm,1.6s
SSB Saint Sauveur 49.76 300 *e*P **P 00 38 15.3 -0.2**
SMF Signal de Mont 49.77 302 *e*P **P 00 38 15.1 -0.5**
VIVF Saint-Julien-l 49.81 300 *e*P **P 00 38 15.9 0.0**
KEST Kesra 49.95 287 *e*P **P 00 38 17.7 +0.5**
KEST Kesra 49.95 287 P **P 00 38 16.9 -0.2**
comp=Z,1.9nm,0.8s,baz=280,slow=2.0,SNR=11
KEST LR LR 01 04 39.0
comp=Z,160nm,18.9s,baz=116,slow=42
MAJO Matsushiro 49.99 72 *e*P **P 00 38 18.0 +0.6**
MAJO pmax pmax
comp=Z,23nm,0.9s
MAJO Matsushiro 49.99 72 *e*P **P 00 38 18.0 +0.6**
comp=Z,23nm,0.9s
MAT Matsushiro 49.99 72 P **P 00 38 17.2 -0.2**
MAT S S 00 45 34.0 +6.8
MJAR Matsushiro Arr 49.99 72 P **P 00 38 17.9 +0.5**
MJAR Matsushiro Arr 49.99 72 P **P 00 38 17.9 +0.5**
comp=Z,16nm,0.9s,baz=287,slow=9.7,SNR=17
MJAR LR LR 01 00 06.0
comp=Z,404nm,19.7s,baz=280,slow=37
AVF Avril sur Loir 50.04 303 *e*P **P 00 38 17.1 -0.5**
comp=Z,22nm,0.7s
ELSH Elham, Standar 50.11 309 AMS AMS 01 00 32.4
comp=Z,1µm,20.0s
HYF Humbligny 50.35 303 *e*P **P 00 38 19.8 -0.1**
AGO Saint Agoulin 50.43 302 *e*P **P 00 38 20.4 -0.2**
AGO Saint Agoulin 50.43 302 *e*P **P 00 38 20.4 -0.2**
BGF Bois d'Agland 50.45 302 *e*P **P 00 38 20.2 -0.5**
comp=Z,12nm,0.7s
PYM Petit Puy Mans 50.61 301 *e*P **P 00 38 21.9 -0.1**
PYM Petit Puy Mans 50.61 301 *e*P **P 00 38 21.9 -0.1**
PYM Petit Puy Mans 50.61 301 *e*P **P 00 38 21.9 -0.1**
LASF Ste Croix 50.63 299 *e*P **P 00 38 22.2 +0.1**
comp=Z,39nm,1.0s
LBL Lubilhac 50.63 301 *e*P **P 00 38 22.1 -0.1**
LBL Lubilhac 50.63 301 *e*P **P 00 38 22.1 -0.1**
LBL Lubilhac 50.63 301 *e*P **P 00 38 22.1 -0.1**
MCD Coleburn Disti 50.86 317 *e*P **P 00 38 24.9 +1.4**
HPK Haverah Park 50.93 313 AMS AMS 01 03 11.2
comp=Z,924nm,15.0s
ESY Stoneypath 50.95 315 *e*P **P 00 38 24.5 +0.3**
TCF Toulx Ste Croi 50.95 302 *e*P **P 00 38 24.4 -0.1**
comp=Z,129nm,1.8s
CMAH Djebel Manchou 50.99 289 P **P 00 38 25.0 0.0**
ABSA Djebel Ababsia 51.10 288 P **P 00 38 25.2 -0.6**
EDI Edinburgh 51.26 315 AMS AMS 01 02 04.1
comp=Z,692nm,15.9s
ECK Cauldkaine Hil 51.43 314 *e*P **P 00 38 29.6 +1.7**
ESK Eskdalemuir 51.43 315 *i* P **P 00 38 30.7 +2.8**
ESK Eskdalemuir 51.43 315 *e*P **P 00 38 29.4 +1.5**
comp=Z,15nm,1.0s
MDO Dochfour 51.47 317 *e*P **P 00 38 29.5 +1.3**
WOL Wolverton 51.48 309 *e*P **P 00 38 29.9 +1.6**
WOL AMB AMB 00 38 31.6
comp=Z,69nm,2.0s
WOL AMS AMS 01 02 34.0
comp=Z,882nm,16.8s
STNC Stoke 51.51 312 AMS AMS 01 04 05.4
comp=Z,1µm,15.2s
CAF Calviac 51.52 301 *e*P **P 00 38 29.0 +0.2**
KESW Keswick, Cumbr 51.59 314 AMS AMS 01 05 52.2
comp=Z,755nm,13.2s
RJF Les Rejaudoux 51.75 301 *e*P **P 00 38 30.8 +0.3**
RJF *e*R
comp=Z,617nm,21.8s
SWN1 Swindon 51.76 310 AMS AMS 01 02 09.4
comp=Z,1µm,16.7s
EAB Aberfoyle 51.80 316 *e*P **P 00 38 32.3 +1.6**
FLN La Foliniere 51.84 306 *e*P **P 00 38 30.4 -0.7**
comp=Z,36nm,1.0s
FLN *e*R
comp=Z,2µm,21.2s
SJAF Saint Jean de 51.87 297 *e*P **P 00 38 30.8 -0.7**
SJAF Saint Jean de 51.87 297 *e*P **P 00 38 30.8 -0.7**
KAC Achnashellach 51.94 318 *e*P **P 00 38 32.9 +1.2**
GCD Castle Douglas 51.97 314 *e*P **P 00 38 31.8 -0.2**
PGBU Glenifferbraes 51.99 316 AMS AMS 01 04 50.9
comp=Z,783nm,19.4s
MTLF Montolieu 52.00 299 *e*P **P 00 38 32.3 -0.1**
FOEL Foel Wylfa 52.15 312 *e*P **P 00 38 35.1 +1.8**
FOEL AMB AMB 00 38 36.8
comp=Z,23nm,1.9s
FOEL AMS AMS 01 04 15.6
comp=Z,1µm,14.5s
KPL Plockton 52.17 318 *e*P **P 00 38 32.3 -1.0**
KPL AMS AMS 01 01 52.8
comp=Z,638nm,14.6s
GRR Gorron 52.20 306 *e*P **P 00 38 33.0 -0.8**
comp=Z,39nm,0.8s
DAG Danmarks Havn 52.23 343 *i* P **P 00 38 35.0 +1.5**
comp=Z,24nm,0.8s
MCH1 Michaelchurch 52.31 311 *e*P **P 00 38 34.3 -0.2**
MCH1 AMB AMB 00 38 37.4
comp=Z,48nm,2.1s
MCH1 AMS AMS 01 05 08.9
comp=Z,2µm,15.6s
MFF Saint Martin d 52.37 303 *e*P **P 00 38 34.3 -0.8**
comp=Z,23nm,0.9s
GAL1 Galloway 52.39 314 *e*P **P 00 38 35.1 +0.1**
GAL1 AMB AMB 00 38 38.4
comp=Z,18nm,2.2s
GAL1 AMS AMS 01 02 44.3
comp=Z,812nm,15.5s
LFF La Frestale 52.40 301 *e*P **P 00 38 35.4 +0.1**
comp=Z,23nm,0.7s
KMBO Kilima Mbogo 52.46 228 *e*P **P 00 38 36.0 -0.3**
KMBO Kilima Mbogo 52.46 228 *e*P **P 00 38 36.5 +0.2**
KMBO Kilima Mbogo 52.46 228 P **P 00 38 36.0 -0.3**
comp=Z,4.5nm,0.7s,baz=37,slow=12,SNR=5.2
KMBO LR LR 01 02 09.1
comp=Z,342nm,20.0s,baz=46,slow=38
JQE Queens East 52.66 307 *e*P **P 00 38 39.0 +1.9**
WLF1 Llynfaes 52.71 312 AMS AMS 01 03 42.4
comp=Z,684nm,14.6s
JSA Saint Aubin 52.74 307 AMB AMB 00 38 42.2
comp=Z,20nm,1.2s
YRE Yr Eifl 52.82 312 *e*P **P 00 38 40.4 +2.1**
MLS Moulis 52.91 299 *e*P **P 00 38 38.7 -0.4**
MLS Moulis 52.91 299 *e*P **P 00 38 38.7 -0.4**
GMM Mts of Mourne 53.27 314 *e*P **P 00 38 42.1 +0.5**
SGMF Saint Gilles 53.31 306 *e*P **P 00 38 41.6 -0.4**
comp=Z,26nm,0.7s
EPF Esparros 53.39 299 *e*P **P 00 38 41.6 -1.1**
comp=Z,9.8nm,0.8s
RESF Ens 53.48 299 *e*P **P 00 38 43.4 -0.1**
RESF Ens 53.48 299 *e*P **P 00 38 43.4 -0.1**
HTL Hartland 53.52 310 AMS AMS 01 05 37.6
comp=Z,1µm,17.4s
ROSF Rostrenen 53.73 306 *e*P **P 00 38 44.4 -0.6**
comp=Z,20nm,0.5s
QUIF Quistinic 53.82 306 *e*P **P 00 38 45.0 -0.7**
comp=Z,18nm,0.6s
ETSF Etsaut 54.05 299 *e*P **P 00 38 47.5 -0.1**
comp=Z,25nm,0.9s
SJPF Ste Jean 54.41 300 *e*P **P 00 38 50.1 0.0**
comp=Z,14nm,0.9s
BILL Bilibino 54.85 27 *e*P **P**
BILL pmax pmax **00 38 53.6 +0.7**
comp=Z,23nm,1.4s
BILL MLR MLR
comp=Z,300nm,16.0s
BILL Bilibino 54.85 27 *e*P P 00 38 56.2 +3.3
comp=Z,19nm,1.1s
MBAR Mbarara 55.98 235 *e*P **P 00 39 00.3 -1.7**
PETK Petropavlovsk- 56.29 46 P **P 00 39 04.3 +0.8**
PETK pmax pmax
comp=Z,3.0nm,0.8s
PETK Petropavlovsk- 56.29 46 P **P 00 39 04.3 +0.8**
PETK Petropavlovsk- 56.29 46 P **P 00 39 04.3 +0.8**
comp=Z,3.0nm,0.8s,baz=289,slow=3.2,SNR=3.2
ESDC Sonseca Array 57.74 297 P **P 00 39 13.8 -0.3**
ESDC Sonseca Array 57.74 297 P **P 00 39 13.8 -0.3**
comp=Z,3.8nm,0.5s,baz=57,slow=7.2,SNR=40
ESDC LR LR 01 06 19.4
comp=Z,293nm,18.6s,baz=50,slow=38
ESLA Sonseca Array 57.74 297 *e*P **P 00 39 13.9 -0.2**
comp=Z,2.1nm,0.9s
PAB San Pablo 58.07 297 *e*P **P 00 39 15.2 -1.2**
PAB San Pablo 58.07 297 *e*P **P 00 39 15.2 -1.2**
PBRG Braganca 58.66 300 *e*P **P 00 39 19.7 -0.7**
comp=Z,30nm,2.0s
SUMG Summit 58.67 341 *e*P **P 00 39 22.9 +2.4**
SUMG Summit 58.67 341 *e*P **P 00 39 22.9 +2.4**
SUMG Summit 58.67 341 *i* P P 00 39 23.7 +3.2
comp=Z,22nm,0.9s
MVO Moncorvo 59.14 300 *e*P **P 00 39 23.3 -0.5**
comp=Z,26nm,2.2s
MVO Moncorvo 59.14 300 *e*LQ LQ 00 56 47.4
MVO *e*LR LR 01 01 55.1
comp=Z,299nm,22.0s
TAM Tamanrasset 59.22 275 *e*P **P 00 39 23.7 -1.0**
TAM pmax pmax
comp=Z,5.0nm,0.8s
TAM Tamanrasset 59.22 275 *e*P **P 00 39 23.7 -1.0**
comp=Z,4.6nm,0.8s
PVRL Vila Real 59.55 300 *e*P **P 00 39 26.7 +0.1**
comp=Z,17nm,1.4s
PCAB Cabril 59.55 301 *e*P **P 00 39 27.1 +0.5**
comp=Z,56nm,1.4s
POLO Lamas de Olo 59.55 300 *e*P **P 00 39 26.9 +0.2**
comp=Z,14nm,1.5s
PGAV Gavieira, Arco 59.59 301 *e*P **P 00 39 26.7 -0.3**
comp=Z,58nm,1.8s
PGAV Gavieira, Arco 59.59 301 *e*LQ LQ 00 54 23.7
PGAV *e*LR LR 01 00 13.6
comp=Z,313nm,20.0s
MTE Manteigas 59.84 299 *e*P **P 00 39 29.2 +0.5**
comp=Z,46nm,1.8s
MTE Manteigas 59.84 299 *e*LQ LQ 00 56 53.2
MTE *e*LR LR 01 02 08.4
comp=Z,468nm,20.0s
PVIS Viseu 59.93 300 *e*P **P 00 39 29.6 +0.4**
comp=Z,37nm,2.0s
PMRV Marv??o 60.20 298 *e*P **P 00 39 31.6 +0.5**
comp=Z,33nm,1.6s
PMRV Marv??o 60.20 298 *e*LQ LQ 00 56 02.0
PMRV *e*LR LR 01 02 26.4
comp=Z,328nm,18.0s
PBAR Barrancos 60.57 297 *e*P **P 00 39 33.5 -0.1**
comp=Z,46nm,1.7s
PMTG Montargil 60.94 298 *e*P **P 00 39 35.7 -0.4**
comp=Z,15nm,1.5s
EVO Evora 61.06 298 *e*P **P 00 39 37.0 +0.1**
EVO *e*R
comp=Z,552nm,19.2s
PVAQ Vaqueiros 61.41 296 *e*LQ LQ 00 57 34.8
PVAQ *e*LR LR 01 03 57.1
comp=Z,463nm,18.0s
PBDV Barranco-do-Ve 61.64 296 *e*P **P 00 39 44.0 +3.1**
comp=Z,42nm,1.6s
FX1 Attu Island--F 64.66 41 *e*P **P 00 40 00.6 0.0**
FX1 *e*PcP **PcP 00 40 34.1 -0.2**
TOA0 Torodi Ar. Sit 67.78 269 *e*P **P 00 40 19.4 -1.8**
TORD Torodi Ar. Bea 67.78 269 P **P 00 40 19.6 -1.6**
TORD Torodi Ar. Bea 67.78 269 P **P 00 40 19.6 -1.6**
comp=Z,18nm,0.6s,baz=47,slow=5.3,SNR=190
TORD LR LR 01 14 20.9
comp=Z,226nm,19.9s,baz=85,slow=40
COLD Coldfoot 68.33 17 *e*P **P 00 40 24.2 +0.4**
comp=Z,18nm,0.9s
LSZ Lusaka 69.10 227 *e*P **P 00 40 28.6 -0.9**
LSZ Lusaka 69.10 227 *e*P **P 00 40 28.0 -1.5**
comp=Z,5.4nm,0.6s
INK Inuvik 70.40 10 P **P 00 40 37.6 +0.9**
INK Inuvik 70.40 10 P **P 00 40 37.6 +0.9**
baz=358,slow=7.4
PMOZ Porto Moniz, M 70.42 297 *e*LR LR 01 07 33.9
comp=Z,212nm,20.0s
COLA College 70.83 17 *e*P **P 00 40 40.0 +0.7**
COLA pmax pmax
comp=Z,8.0nm,0.4s
COLA College 70.83 17 *e*P **P 00 40 40.0 +0.7**
comp=Z,7.6nm,0.4s
ILAR Eielson Array 71.14 17 P **P 00 40 41.0 -0.2**
ILAR Eielson Array 71.14 17 P **P 00 40 41.0 -0.2**
comp=Z,7.5nm,0.9s,baz=322,slow=4.1,SNR=28
ILAR LR LR 01 13 11.3
comp=Z,360nm,19.3s,baz=119,slow=37
TRF Thorofare Moun 71.43 19 *e*P **P 00 40 43.7 +0.5**
comp=Z,3.9nm,0.6s
DOT Dot Lake 72.74 17 *e*P **P 00 40 50.6 -0.2**
comp=Z,17nm,1.3s
PAX Paxson 73.01 17 *e*P **P 00 40 54.1 +1.5**
PAX pmax pmax
comp=Z,32nm,1.4s
PAX Paxson 73.01 17 *e*P **P 00 40 54.1 +1.5**
comp=Z,32nm,1.4s
SML Sawmill 73.31 19 *e*P **P 00 40 54.6 +0.3**
SML pmax pmax
comp=Z,7.0nm,0.9s
SML Sawmill 73.31 19 *e*P **P 00 40 54.5 +0.3**
comp=Z,6.6nm,0.9s
FITZ Fitzroy Crossi 75.29 129 P **P 00 41 06.7 +0.4**
FITZ Fitzroy Crossi 75.29 129 P **P 00 41 06.7 +0.4**
comp=Z,5.2nm,0.7s,baz=337,slow=3.8,SNR=12
OHAK Old Harbor 75.71 24 *e*P **P 00 41 09.6 +1.4**
comp=Z,40nm,1.4s
DBIC Dimbokro 76.83 268 P **P 00 41 14.2 -1.1**
DBIC Dimbokro 76.83 268 P **P 00 41 14.2 -1.1**
comp=Z,13nm,0.7s,baz=41,slow=5.9,SNR=7.2
DBIC LR LR 01 19 59.7
comp=Z,280nm,18.8s,baz=184,slow=40
LIC Lamto 77.25 268 *e*P **P 00 41 16.5 -1.1**
comp=Z,22nm,0.6s
LIC *e*R
comp=Z,369nm,20.8s
YKW3 Yellowknife Ar 77.86 4 *e*P **P 00 41 20.0 -0.3**
comp=Z,0.2nm,0.7s
YKA Yellowknife Ar 77.93 4 P **P 00 41 21.6 +0.9**
YKA Yellowknife Ar 77.93 4 P **P 00 41 21.6 +0.9**
comp=Z,12nm,0.7s,baz=349,slow=5.6,SNR=22
YKA LR LR 01 19 37.9
comp=Z,29nm,19.0s,baz=345,slow=39
ERPM east rand prop 78.10 221 *e*P **P 00 41 21.2 -1.1**
ERPM AMB AMB 00 41 22.1
comp=Z,23nm,6.7s
LBTB Lobatse 78.39 223 *e*P **P 00 41 23.5 -0.2**
LBTB AMB AMB 00 41 24.4
comp=Z,24nm,3.6s
LBTB Lobatse 78.39 223 *e*P **P 00 41 23.1 -0.7**
comp=Z,11nm,0.8s
TSUM Tsumeb 78.45 233 *e*P **P 00 41 23.8 -0.4**
TSUM Tsumeb 78.45 233 *e*P **P 00 41 23.4 -0.9**
comp=Z,3.6nm,0.6s
SCHQ Schefferville 79.89 338 P **P 00 41 33.6 +2.0**
SCHQ Schefferville 79.89 338 P **P 00 41 33.6 +2.0**
comp=Z,5.3nm,0.9s,baz=51,slow=4.9,SNR=5.8
SCHQ LR LR 01 17 00.7
comp=Z,458nm,18.4s,baz=261,slow=36
SWZ Schweizer 80.28 222 *e*P **P 00 41 33.8 -0.3**
SWZ AMB AMB 00 41 40.1
comp=Z,28nm,3.2s
BOSA Boshof 81.47 222 *e*P **P 00 41 39.6 -0.8**
BOSA AMB AMB 00 41 43.2
comp=Z,15nm,2.2s
BOSA Boshof 81.47 222 P **P 00 41 39.5 -0.9**
BOSA Boshof 81.47 222 P **P 00 41 39.5 -0.9**
comp=Z,7.1nm,0.9s,baz=33,slow=7.7,SNR=8.5
WRAK Wrangell Islan 81.75 14 *e*P **P 00 41 43.9 +2.5**
comp=Z,8.2nm,0.8s
WRA Warramunga Arr 82.07 124 P **P 00 41 42.5 -1.0**
WRA Warramunga Arr 82.07 124 P **P 00 41 42.5 -1.0**
comp=Z,5.5nm,0.7s,baz=329,slow=5.1,SNR=29
WRA LR LR 01 24 12.2
comp=Z,132nm,21.5s,baz=345,slow=40
WRAB Tennant Creek 82.07 124 P **P 00 41 44.8 +1.2**
comp=Z,102nm,1.3s,SNR=11
WRAB Tennant Creek 82.07 124 *e*P **P 00 41 43.5 -0.1**
WRAB pmax pmax
comp=Z,18nm,0.9s
WRAB Tennant Creek 82.07 124 *e*P **P 00 41 43.5 -0.1**
comp=Z,18nm,0.9s
COEN Coen 83.81 114 *e*P **P 00 41 53.4 +0.6**
ASAR Alice Springs 84.52 127 P **P 00 41 55.5 -0.7**
ASAR Alice Springs 84.52 127 P **P 00 41 55.5 -0.7**
comp=Z,3.1nm,0.7s,baz=319,slow=5.2,SNR=15
ASAR LR LR 01 21 59.6
comp=Z,178nm,18.4s,baz=64,slow=37
FFC Flin Flon 85.85 357 *e*P **P 00 42 03.2 +0.7**
FFC pmax pmax
comp=Z,7.0nm,0.9s
FFC Flin Flon 85.85 357 *e*P **P 00 42 03.2 +0.7**
comp=Z,7.4nm,0.9s
ULM Lac du Bonnet 89.93 353 LR LR 01 25 32.4
comp=Z,410nm,20.0s,baz=21,slow=37
WALA Waterton Lakes 91.36 5 *e*P **P 00 42 28.8 -0.2**
comp=Z,0.2nm,1.0s
MDV Middlebury 91.42 337 *e*P **P 00 42 28.8 -0.3**
A14A Double T Ranch 91.48 5 P **P 00 42 28.8 -0.7**
baz=91
A15A Johnson Ranch, 91.51 4 P **P 00 42 28.8 -0.9**
baz=91
A16A West Butte Ran 91.60 3 P **P 00 42 29.6 -0.5**
baz=91
A18A Metzger Ranch, 91.69 2 P **P 00 42 29.5 -0.9**
baz=91
EYMN Ely 91.71 350 *e*P **P 00 42 32.0 +1.6**
comp=Z,13nm,1.1s
AGMN Agassiz Nation 91.86 353 *e*P **P 00 42 32.0 +0.9**
comp=Z,8.9nm,1.1s
NEW Newport 91.89 7 *e*P **P 00 42 32.3 +1.0**
comp=Z,4.7nm,0.9s
B15A Bradely Ranch, 92.19 4 P **P 00 42 33.4 +0.6**
baz=92
B17A L&G Farms, Che 92.29 3 P **P 00 42 34.3 +1.1**
baz=92
BSMT Bassoo Peak 92.50 6 *e*P **P 00 42 35.4 +1.0**
comp=Z,7.9nm,0.8s
C13A Hot Springs 92.69 5 P **P 00 42 36.3 +1.2**
baz=92
C15A Salmond Ranch, 92.72 4 P **P 00 42 36.5 +1.2**
baz=92
C16A Fuhringer Ranc 92.74 4 P **P 00 42 35.7 +0.4**
baz=92
C22A Vida 92.92 360 P **P 00 42 35.9 -0.1**
baz=93
C17A Wharram Farm, 92.95 3 P **P 00 42 36.6 +0.3**
baz=93
D12A Red Ives Fores 93.25 6 P **P 00 42 38.5 +0.8**
baz=93
D19A Cripps Ranch, 93.47 2 P **P 00 42 40.2 +1.5**
baz=93
E25A Miller Ranch, 94.12 358 P **P 00 42 43.3 +1.6**
baz=94
E19A Rath Farm, Rou 94.18 2 P **P 00 42 43.2 +1.2**
baz=94
F15A Butte 94.66 4 P **P 00 42 46.0 +1.7**
baz=94
LRM Limekiln Ridge 94.68 4 *e*P **P 00 42 45.1 +0.7**
comp=Z,26nm,0.9s
F17A Fitzpatrick Pl 94.68 3 P **P 00 42 45.8 +1.4**
baz=94
F18A Big Timber 94.71 2 P **P 00 42 45.7 +1.3**
baz=94
BOZ Bozeman (W) 94.89 4 *e*P **P 00 42 46.6 +1.3**
BOZ pmax pmax
comp=Z,4.0nm,1.0s
BOZ Bozeman (W) 94.89 4 *e*P **P 00 42 46.6 +1.3**
comp=Z,4.4nm,1.0s
DLMT Dillon 95.13 4 *e*P **P 00 42 48.9 +2.5**
comp=Z,4.4nm,0.9s
STKA Stephens Creek 95.13 128 LR LR 01 30 31.4
comp=Z,273nm,18.0s,baz=203,slow=39
MCMT McKenzie Canyo 95.64 5 *e*P **P 00 42 49.7 +0.8**
comp=Z,1.2nm,0.9s
JFWS Jewell Farm 96.45 348 *e*P **P 00 42 53.1 +0.8**
JFWS pmax pmax
comp=Z,6.0nm,0.7s
JFWS Jewell Farm 96.45 348 *e*P **P 00 42 53.1 +0.8**
comp=Z,5.7nm,0.7s
ECSD EROS Data Cent 96.46 353 *e*P **P 00 42 52.5 +0.2**
comp=Z,9.1nm,1.3s
PDAR Pinedale Array 97.85 2 P Pdif 00 43 01.3 +2.3
PDAR Pinedale Array 97.85 2 P Pdif 00 43 01.3 +2.3
comp=Z,0.8nm,0.7s,baz=347,slow=2.8,SNR=6.0
PDAR LR LR 01 32 05.2
comp=Z,370nm,18.6s,baz=0.7,slow=38
VNDA Vanda 128.05 164 PKP **PKPdf 00 48 27.5 -0.2**
VNDA Vanda 128.05 164 PKP **PKPdf 00 48 27.5 -0.2**
comp=Z,0.5nm,0.8s,baz=256,slow=4.1,SNR=4.2
QSPA South Pole Qui 129.50 180 PKP **PKPdf 00 48 31.1 +0.3**
QSPA South Pole Qui 129.50 180 PKP **PKPdf 00 48 31.1 +0.3**
comp=Z,2.3nm,1.0s,baz=261,slow=6.0,SNR=4.6
PPT2 Papeete2 136.75 72 *e*LR LR 01 32 53.5
comp=Z,202nm,23.5s
CPUP Villa Florida 137.18 273 PKP **PKPdf 00 48 45.8 -0.6**
CPUP Villa Florida 137.18 273 PKP **PKPdf 00 48 45.8 -0.6**
comp=Z,0.6nm,0.4s,baz=263,slow=16,SNR=2.2
LPAZ La Paz 139.32 294 PKP **PKPdf 00 48 50.3 -1.1**
LPAZ La Paz 139.32 294 PKP **PKPdf 00 48 50.3 -1.1**
comp=Z,0.2nm,0.4s,baz=115,slow=9.2,SNR=1.9
TBI Tubuai 140.30 79 *e*LR LR 01 34 26.5
comp=Z,137nm,26.0s
TRQA Tornquist 145.59 258 *e*PKPdf **PKPdf 00 49 00.5 -0.6**
LCO Las Campanas 148.78 279 *e*PKPdf **PKPdf 00 49 07.5 +0.4**
PLCA Paso Flores 152.66 256 PKPbc **PKPbc 00 49 20.8 +1.2**
PLCA PKPab **PKPab 00 49 30.1 -0.2**
PLCA Paso Flores 152.66 256 PKPbc **PKPbc 00 49 20.8 +1.2**
comp=Z,3.1nm,0.7s,baz=0.0,slow=0.0,SNR=2.4
PLCA PKPab **PKPab 00 49 30.1 -0.2**
comp=Z,5.2nm,0.9s,baz=100,slow=8.4,SNR=3.9

*JMA **01** 00:32:14.4±0.2, 37.48N×134.85E, h399km, M3.3*
*ISCJB **01** 00:32:15.5±0.6, 37.51N±0.09×134.84E±0.09, h378km,*
Error ellipse: s-maj=12.6km s-min=9.2km az=170.5
*IDC **01** 00:32:16.6±10.0, 37.54N×134.74E, h360km±188km,*
mb1 3.0/4, mb1mx2.8/30, mbtmp3.0/4, Error ellipse:
s-maj=66.8km s-min=29.7km az=124.0

ISC 01 00:32:15.6±1.5, 37.4N±0.1×134.89E±0.09, h378km, n16,
σ1s19/18, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJH	**Hakui**	**1.59**	**108**	P	**Pn**	**00 33 08.4**	**+1.3**
JKG	**Kaga**	**1.64**	**135**	P	**Pn**	**00 33 08.5**	**+1.1**
JHG	**Hegura jima**	**1.66**	**75**	P	**Pn**	**00 33 08.5**	**+1.1**
JKY	**Yasaka**	**1.82**	**175**	P	**Pn**	**00 33 09.1**	**+0.6**
JSZ	**Suzu**	**1.97**	**89**	P	**Pn**	**00 33 10.9**	**+1.6**
JWT	**Wachi**	**2.19**	**169**	P	**Pn**	**00 33 11.9**	**+1.0**
JSD	**Sado**	**2.74**	**76**	P	**Pn**	**00 33 15.7**	**+0.8**
MAT	**Matsushiro**	**2.80**	**108**	P	**Pn**	**00 33 16.8**	**+1.3**
MAT	**Matsushiro**	**2.80**	**108**	P	**Pn**	**00 33 16.6**	**+1.1**
MJAR	**Matsushiro Arr**	**2.80**	**108**	P	**Pn**	**00 33 16.6**	**+1.1**
	2.8nm,0.3s,baz=286,slow=9.2,SNR=57						

JIE	**Ise**	**3.38**	**154**	P	**Pn**	**00 33 21.7**	**+1.1**
JMK	**Ichinoseki**	**5.21**	**71**	P	**Pn**	**00 33 38.7**	**0.0**
JMK				*e*S	**S**	**00 34 45.6**	**-0.6**
JNU	**Nakatsue**	**5.42**	**218**	P	**Pn**	**00 33 41.6**	**+0.5**
	0.5nm,0.3s,baz=259,slow=5.2,SNR=2.6						
KSRS	**Korea Array**	**5.54**	**272**	P	**Pn**	**00 33 41.6**	**-0.7**
	0.7nm,0.3s,baz=94,slow=12,SNR=21						
BSO1	**Boso 1**	**5.66**	**118**	P	**Pn**	**00 33 43.3**	**+0.2**
BSO1				*e*S	**S**	**00 34 52.2**	**-2.1**
USRK	**Ussuriysk Arra**	**7.10**	**343**	P	**Pn**	**00 33 58.6**	**-1.0**
	1.6nm,0.3s,baz=157,slow=11,SNR=18						

IDC 01 00:33:16.6±2.1, 57.41S×146.28E, h0km, mb3.9/4, mb1 4.1/4, mb1mx4.0/13, mbtmp3.9/4, MS3.9/4, Ms1 3.8/4, ms1mx3.6/14, Error ellipse: s-maj=175.9km s-min=24.9km az=81.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**20.71**	**59**	LR	LR	00 43 53.6	
	comp=Z,277nm,21.3s,baz=353,slow=31						
VNDA	**Vanda**	**20.91**	**171**	P	P	00 37 59.5	-0.6
	1.8nm,1.1s,baz=337,slow=15,SNR=4.0						
VNDA				LR	LR	00 45 17.5	
	comp=Z,175nm,19.1s,baz=346,slow=34						
STKA	**Stephens Creek**	**25.73**	**351**	P	P	00 38 49.8	+1.3
	9.3nm,1.0s,baz=172,slow=14,SNR=3.4						
URZ	**Urewera**	**27.82**	**60**	LR	LR	00 48 03.1	
	comp=Z,301nm,19.5s,baz=218,slow=32						
ASAR	**Alice Springs**	**34.88**	**340**	P	P	00 40 09.4	-0.1
	0.8nm,0.6s,baz=162,slow=9.3,SNR=11						
MAW	**Mawson**	**36.82**	**219**	LR	LR	00 54 41.3	
	comp=Z,211nm,20.7s,baz=114,slow=35						
WRA	**Warramunga Arr**	**38.44**	**342**	P	P	00 40 38.9	-1.0
	3.0nm,0.8s,baz=166,slow=7.5,SNR=26						
KEST	**Kesra**	**144.15**	**252**	PKP	PKPdf	00 52 54.8	+1.1
	1.5nm,0.9s,baz=175,slow=2.2,SNR=6.7						
FINES	**FINESS Array B**	**150.26**	**303**	PKPbc	PKPbc	00 53 06.0	-2.0
	0.6nm,0.7s,baz=88,slow=8.8,SNR=3.0						
GERES	**GERESS Array B**	**150.83**	**274**	PKPbc	PKPbc	00 53 10.7	+0.7
	0.5nm,0.6s,baz=178,slow=2.9,SNR=3.2						

IDC 01 01:07:48.2±2.1, 46.45N×153.04E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/26, mbtmp3.6/6, ML3.0/1, Error ellipse: s-maj=51.0km s-min=32.6km az=169.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**7.31**	**23**	Pn	Pn	01 09 37.2	+1.1
	0.2nm,0.3s,baz=215,slow=19,SNR=3.9						
PETK				Sn	Sn	01 10 59.7	-0.1
	0.6nm,0.3s,baz=225,slow=20,SNR=4.1						
MKAR	**Makanchi Array**	**47.03**	**298**	P	P	01 16 21.3	+0.2
	0.4nm,0.7s,baz=65,slow=8.0,SNR=5.1						
FINES	**FINESS Array B**	**64.29**	**335**	P	P	01 18 24.8	0.0
	0.5nm,0.5s,baz=48,slow=2.7,SNR=5.2						
NB2	**NORSAR Subarra**	**68.49**	**341**	P	P	01 18 51.8	0.0
	comp=Z,0.3nm,0.5s,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.49**	**341**	P	P	01 18 51.6	-0.2
	comp=Z,0.2nm,0.4s,baz=28,slow=6.2,SNR=4.1						
AKASG	**Malin Array Be**	**71.77**	**326**	P	P	01 19 11.8	-0.2
	comp=Z,0.6nm,0.4s,baz=32,slow=6.2,SNR=3.0						
TXAR	**Lajitas Array**	**77.68**	**60**	P	P	01 19 46.8	0.0
	comp=Z,0.3nm,0.7s,baz=276,slow=3.5,SNR=3.0						

IDC 01 01:19:17.4±4.5, 22.74N×94.54E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/26, mbtmp3.4/3, Error ellipse: s-maj=368.4km s-min=26.9km az=60.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**2.11**	**345**	*e*P	Pg	01 20 04.0	+5.9
MKAR	**Makanchi Array**	**25.96**	**341**	P	P	01 24 51.6	0.0
	0.2nm,0.5s,baz=145,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**57.52**	**134**	P	P	01 29 08.7	-0.2
	0.3nm,0.3s,baz=321,slow=7.5,SNR=13						
ASAR	**Alice Springs**	**59.93**	**138**	P	P	01 29 25.9	+0.2
	0.2nm,0.4s,baz=321,slow=6.7,SNR=4.6						

IDC 01 01:22:27.5±3.4, 2.30S×138.60E, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=113.3km s-min=26.1km az=90.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.02**	**193**	P	Pn	01 26 39.4	-0.3
	0.2nm,0.3s,baz=17,slow=12,SNR=12						
FITZ	**Fitzroy Crossi**	**20.21**	**218**	P	P	01 27 04.0	-0.1
	0.7nm,0.6s,baz=42,slow=15,SNR=3.1						
ASAR	**Alice Springs**	**21.72**	**192**	P	P	01 27 21.2	+0.6
	1.0nm,0.7s,baz=22,slow=12,SNR=15						
MKAR	**Makanchi Array**	**69.40**	**322**	P	P	01 33 37.3	-0.2
	0.3nm,0.7s,baz=106,slow=7.8,SNR=2.5						

*CSEM **01** 01:44:20.7, 37.06N×20.72E, h6km, MD3.5, After ATH*
ATH 01 01:44:20.7, 37.06N×20.72E, h6km±2km, MD3.5/21, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.83**	**101**	*e*PB	Pg	01 44 36.6	-0.2
PYL				*e*SB	Sg	01 44 47.9	+0.3
PYL	**PYLOS**	**0.83**	**101**	*e*Pb	Pg	01 44 36.6	-0.2
PYL				*e*Sb	Sg	01 44 47.9	+0.3
AMT	**Artemida-Makis**	**0.92**	**59**	*e*PB	Pg	01 44 38.3	-0.1
AMT				*e*SB	Sb	01 44 51.5	-0.1
AMT	**Artemida-Makis**	**0.92**	**59**	*e*Pb	Pg	01 44 38.3	-0.1
AMT				*e*Sb	Sb	01 44 51.5	-0.1
ITM	**Ithomi**	**0.97**	**83**	*e*PG	Pg	01 44 38.9	-0.5
ITM				*e*SB	Sg	01 44 52.4	+0.3
ITM	**Ithomi**	**0.97**	**83**	*e*Pg	Pg	01 44 38.9	-0.5
ITM				*e*Sb	Sg	01 44 52.4	+0.3
VLS	**Valsamata**	**1.12**	**355**	*e*PB	Pb	01 44 42.4	-0.1
VLS	**Valsamata**	**1.12**	**355**	*e*Pb	Pb	01 44 42.4	-0.1
RLS	**Riolos of Patr**	**1.16**	**31**	*e*PG	Pg	01 44 42.3	-0.7
RLS				*e*SB	Sn	01 44 59.2	-0.4
RLS	**Riolos of Patr**	**1.16**	**31**	*e*Pg	Pg	01 44 42.3	-0.7
RLS				*e*Sb	Sn	01 44 59.2	-0.4
DYR	**Agios Nikonas**	**1.33**	**102**	*e*PB	Pn	01 44 45.7	-0.1
DYR	**Agios Nikonas**	**1.33**	**102**	*e*Pb	Pn	01 44 45.7	-0.1
VLX	**Vlachokerasia**	**1.36**	**76**	*e*PB	Pn	01 44 46.2	-0.2
VLX	**Vlachokerasia**	**1.36**	**76**	*e*Pb	Pn	01 44 46.2	-0.2
KLV	**Kalavryta, Ach**	**1.50**	**49**	*e*PN	Pn	01 44 47.7	-0.6
KLV				*e*SB	Sb	01 45 08.8	+0.3
KLV	**Kalavryta, Ach**	**1.50**	**49**	*e*Pn	Pn	01 44 47.7	-0.6
KLV				*e*Sb	Sb	01 45 08.8	+0.3
LAKA	**Lakka**	**1.54**	**40**	*e*PB	Pg	01 44 50.2	-0.2
LAKA	**Lakka**	**1.54**	**40**	*e*Pb	Pg	01 44 50.2	-0.2
GUR	**Goura**	**1.56**	**55**	*e*PN	Pn	01 44 48.4	-0.7
GUR	**Goura**	**1.56**	**55**	*e*Pn	Pn	01 44 48.4	-0.7
EFP	**Efpalio**	**1.66**	**34**	*e*PB	Pg	01 44 52.5	0.0
EFP	**Efpalio**	**1.66**	**34**	*e*Pb	Pg	01 44 52.5	0.0
TRIZ	**Trizonia**	**1.69**	**39**	*e*PG	Pb	01 44 51.7	-0.5
TRIZ	**Trizonia**	**1.69**	**39**	*e*Pg	Pb	01 44 51.7	-0.5
LKD2	**Lefkada island**	**1.73**	**358**	*e*PN	Pb	01 44 53.3	+0.4
LKD2	**Lefkada island**	**1.73**	**358**	*e*Pn	Pb	01 44 53.3	+0.4
KALE	**Kalithea**	**1.74**	**40**	*e*PG	Pb	01 44 52.7	-0.5
KALE	**Kalithea**	**1.74**	**40**	*e*Pg	Pb	01 44 52.7	-0.5
VLI	**Veliai**	**1.81**	**100**	*e*PN	Pb	01 44 54.6	+0.3
VLI	**Veliai**	**1.81**	**100**	*e*Pn	Pb	01 44 54.6	+0.3
KYTH	**Kithira**	**2.02**	**112**	*e*PG	Pb	01 44 57.8	0.0
KYTH	**Kithira**	**2.02**	**112**	*e*Pg	Pb	01 44 57.8	0.0
EVR	**Evrytania**	**2.04**	**25**	*e*PG	Pb	01 44 58.4	0.0
EVR	**Evrytania**	**2.04**	**25**	*e*Pg	Pb	01 44 58.4	0.0
DID	**Didima**	**2.06**	**77**	*e*PN	Pb	01 44 57.6	-0.9
DID	**Didima**	**2.06**	**77**	*e*Pn	Pb	01 44 57.6	-0.9
AGG	**Agios Georgios**	**2.33**	**32**	*e*PN	Pb	01 45 02.1	-1.2
AGG	**Agios Georgios**	**2.33**	**32**	*e*Pn	Pb	01 45 02.1	-1.2
THL	**Klokotos Trika**	**2.70**	**22**	*e*PB	Pn	01 45 06.6	+2.0
THL	**Klokotos Trika**	**2.70**	**22**	*e*Pb	Pn	01 45 06.6	+2.0
FNA	**Florina**	**3.75**	**8**	*e*PN	Pn	01 45 20.6	+1.4
FNA	**Florina**	**3.75**	**8**	*e*Pn	Pn	01 45 20.6	+1.4

IDC 01 01:45:45.2±1.4, 7.96S×125.36E, h0km, mb3.8/2, mb1 3.9/5, mb1mx3.7/21, mbtmp3.8/5, ML3.6/3, MS2.9/1, Ms1 2.9/1, ms1mx1.9/38, Error ellipse: s-maj=113.6km s-min=24.6km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.09**	**178**	Pn	Pn	01 48 10.9	-0.5
	0.3nm,0.3s,baz=358,slow=10.0,SNR=5.6						
FITZ				Sn	Sn	01 49 57.1	-8.2
	0.5nm,0.3s,baz=313,slow=19,SNR=3.9						
FITZ				LR	LR	01 52 52.6	
	comp=Z,63nm,18.5s,baz=356,slow=42						
WRA	**Warramunga Arr**	**14.75**	**145**	Pn	Pn	01 49 13.3	-2.0
	0.3nm,0.3s,baz=320,slow=14,SNR=15						
WRA				Sn	Sn	01 51 51.6	-8.0
	0.1nm,0.3s,baz=315,slow=25,SNR=4.5						
ASAR	**Alice Springs**	**17.64**	**153**	P	P	01 49 54.3	+0.7
	0.3nm,0.3s,baz=334,slow=13,SNR=20						
MKAR	**Makanchi Array**	**66.60**	**329**	P	P	01 56 37.8	+0.4
	0.3nm,0.5s,baz=127,slow=7.1,SNR=4.4						
ZALV	**Zalesovo Beam**	**70.49**	**336**	P	P	01 57 01.2	-0.3
	0.7nm,0.5s,baz=122,slow=7.9,SNR=3.3						

*NEIC **01** 01:52:30.2, 18.18N×66.99W, h21km, MD2.5(RSPR), After RSPR.*
RSPR 01 01:52:30.2, 18.18N×66.99W, h21km±1km, MD2.5/7, 23C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSP	**Las Mesas**	**0.09**	**270**	⇓*e*P	Pb	01 52 34.3	0.0
LSP				*e*S	Sb	01 52 36.9	-0.2
LSP	**Las Mesas**	**0.09**	**270**	⇑*e*P	Pb	01 52 34.2	-0.1
LSP				*e*S	Sb	01 52 38.1	+1.0
LSP	**Las Mesas**	**0.09**	**270**	⇓*e*P	Pb	01 52 34.3	0.0
LSP				*e*S	Sb	01 52 38.1	+1.0
LRS	**Lares**	**0.18**	**50**	⇑*e*P	Pb	01 52 35.0	-1.2
LRS				*e*S	Sb	01 52 38.7	-1.7
LRS	**Lares**	**0.18**	**50**	⇑*e*P	Pb	01 52 35.0	-1.2
LRS				*e*S	Sb	01 52 38.7	-1.7
LRS	**Lares**	**0.18**	**50**	⇑*e*P	Pb	01 52 35.0	-1.2
LRS				*e*S	Sb	01 52 38.7	-1.7
CRPR	**Cabo Rojo, PR**	**0.21**	**215**	⇓*e*P	Pb	01 52 35.2	-0.9
CRPR	**Cabo Rojo, PR**	**0.21**	**215**	*e*S	Sb	01 52 39.0	-1.2
CRPR	**Cabo Rojo, PR**	**0.21**	**215**	⇑*e*P	Pb	01 52 35.1	-1.0
CRPR	**Cabo Rojo, PR**	**0.21**	**215**	*e*S	Sb	01 52 39.2	-1.0
CRPR	**Cabo Rojo, PR**	**0.21**	**215**	⇑*e*P	Pb	01 52 35.1	-1.0
CRPR				*e*S	Sb	01 52 39.2	-1.0
AOPR	**Arecibo Observ**	**0.28**	**52**	⇑*e*P	Pb	01 52 36.2	-0.5
AOPR	**Arecibo Observ**	**0.28**	**52**	⇓*e*P	Pb	01 52 36.3	-0.4
AOPR				*e*S	Sb	01 52 40.8	-0.3
AOPR	**Arecibo Observ**	**0.28**	**52**	⇑*e*P	Pb	01 52 36.0	-0.7
AOPR				*e*S	Sb	01 52 40.6	-0.5
AOPR	**Arecibo Observ**	**0.28**	**52**	⇑*e*P	Pb	01 52 36.1	-0.6
AOPR	**Arecibo Observ**	**0.28**	**52**	⇑*e*P	Pb	01 52 36.1	-0.6
AOPR				*e*S	Sb	01 52 40.8	-0.3
AGPR	**Aguadilla, PR**	**0.31**	**338**	⇑*e*P	Pb	01 52 36.7	-0.4
AGPR	**Aguadilla, PR**	**0.31**	**338**	*e*S	Sb	01 52 41.6	-0.2
AGPR	**Aguadilla, PR**	**0.31**	**338**	⇑*e*P	Pb	01 52 36.6	-0.4
AGPR	**Aguadilla, PR**	**0.31**	**338**	*e*S	Sb	01 52 41.4	-0.4
AGPR	**Aguadilla, PR**	**0.31**	**338**	⇑*e*P	Pb	01 52 36.6	-0.4
AGPR				*e*S	Sb	01 52 41.6	-0.2
OBIP	**Obispado Ponce**	**0.39**	**110**	⇑*e*P	Pb	01 52 37.9	-0.3
OBIP	**Obispado Ponce**	**0.39**	**110**	*e*S	Sb	01 52 43.3	-0.3
OBIP	**Obispado Ponce**	**0.39**	**110**	⇑*e*P	Pb	01 52 37.9	-0.3
OBIP	**Obispado Ponce**	**0.39**	**110**	*e*S	Sb	01 52 43.4	-0.3
OBIP	**Obispado Ponce**	**0.39**	**110**	⇑*e*P	Pb	01 52 37.9	-0.3
OBIP				*e*S	Sb	01 52 43.3	-0.3
CELP	**Cerrillos**	**0.40**	**105**	⇓*e*P	Pb	01 52 38.0	-0.5
CELP	**Cerrillos**	**0.40**	**105**	⇓*e*P	Pb	01 52 38.0	-0.5
CBYP	**Canovanas**	**1.08**	**85**	⇑*e*P	Pn	01 52 48.6	-1.5
CBYP	**Canovanas**	**1.08**	**85**	⇑*e*P	Pn	01 52 47.9	-2.2
CBYP	**Canovanas**	**1.08**	**85**	⇑*e*P	Pn	01 52 48.6	-1.5
CBYP				*e*S	Sb	01 53 00.9	-3.0
HUMP	**Col San Antoni**	**1.08**	**92**	⇑*e*P	Pn	01 52 48.5	-1.6
HUMP	**Col San Antoni**	**1.08**	**92**	⇑*e*P	Pn	01 52 48.5	-1.6
MTP	**Monte Pirata**	**1.37**	**93**	⇑*e*P	Pn	01 52 53.2	-0.9
MTP	**Monte Pirata**	**1.37**	**93**	⇑*e*P	Pn	01 52 53.2	-0.9

IDC 01 01:54:14.5±2.3, 6.58S×130.63E, h0km, mb3.6/1, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=86.3km s-min=28.9km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.45**	**203**	Pn	Pn	01 57 12.9	-0.1
	0.6nm,0.3s,baz=21,slow=12,SNR=28						
FITZ				Sn	Sn	01 59 20.5	-12
	1.0nm,0.3s,baz=130,slow=19,SNR=9.6						
WRA	**Warramunga Arr**	**13.76**	**165**	Pn	Pn	01 57 29.9	-1.3
	0.4nm,0.3s,baz=348,slow=13,SNR=19						
WRA				Sn	Sn	01 59 52.9	-12
	0.9nm,0.3s,baz=334,slow=22,SNR=13						
ASAR	**Alice Springs**	**17.28**	**170**	P	P	01 58 18.4	-0.6
	0.3nm,0.3s,baz=344,slow=8.4,SNR=15						
ASAR				S	Sn	02 01 16.0	-14
	0.2nm,0.3s,baz=347,slow=25,SNR=4.2						
MKAR	**Makanchi Array**	**68.22**	**326**	P	P	02 05 17.0	0.0
	0.4nm,0.6s,baz=111,slow=7.7,SNR=5.2						

IDC 01 01:58:01.0±3.6, 18.78S×169.57E, h252km±41km, mb3.6/5, mb1 3.8/6, mb1mx3.4/19, mbtmp3.6/6, Error ellipse: s-maj=87.4km s-min=29.5km az=151.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.39**	**221**	P	Pn	01 59 09.5	-0.2
	2.4nm,0.3s,baz=270,slow=24,SNR=20						
CTA	**Charters Tower**	**22.02**	**263**	P	P	02 02 36.5	+1.2
	1.4nm,0.3s,baz=80,slow=11,SNR=4.2						
STKA	**Stephens Creek**	**28.35**	**237**	P	P	02 03 33.0	+1.0
	3.5nm,0.7s,baz=95,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**33.22**	**262**	P	P	02 04 13.9	-1.0
	0.9nm,0.3s,baz=98,slow=8.4,SNR=17						
ASAR	**Alice Springs**	**33.54**	**255**	P	P	02 04 17.4	-0.2
	12nm,0.4s,baz=82,slow=8.9,SNR=97						
ILAR	**Eielson Array**	**89.70**	**17**	P	P	02 10 30.2	0.0
	0.2nm,0.5s,baz=232,slow=4.4,SNR=2.7						

*CSEM **01** 02:01:56.8±0.1, 42.85N×1.46W, h5km, ML1.3/4, Error ellipse: s-maj=1.7km s-min=1.5km az=108.0*
*LDG **01** 02:01:56.7±0.1, 42.85N×1.48W, h6km, Md2.1/2, Ml1.6/3, Error ellipse: s-maj=1.4km s-min=1.2km az=89.0*
*MDD **01** 02:01:57.0±0.4, 42.85N×1.47W, h6km±5km, mbLg1.3/8, Error ellipse: s-maj=1.5km s-min=1.1km az=54.0, PRXIMO*
ISC 01 02:01:56.0±1.1, 42.86N±0.03×1.49W±0.04, h14km±7km, n33, σ0.962/44, 6C-1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUSE	**Utxeti**	**0.09**	**334**	⇑Pg	**Pg**	**02 01 59.4**	**+0.3**
	11nm,0.1s,SNR=18						
IUSE				Lg	Lg	02 02 01.5	
	9.2nm,0.0s,SNR=7.9						
IUSE	**Utxeti**	**0.09**	**334**	Pg	**Pg**	**02 01 59.4**	**+0.3**
	11nm,0.1s,SNR=18						
IUSE				Lg	Lg	02 02 01.5	
	9.2nm,0.0s,SNR=7.9						
IUNC	**Unciti**	**0.11**	**182**	⇑Pg	**Pg**	**02 01 59.2**	**0.0**
	9.3nm,0.0s,SNR=18						
IUNC				Lg	Lg	02 02 01.1	
	34nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.11**	**182**	Pg	**Pg**	**02 01 59.2**	**0.0**
	9.3nm,0.0s,SNR=18						
IUNC				Lg	Lg	02 02 01.1	
	34nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.11**	**215**	⇑Pg	**Pg**	**02 01 59.3**	**+0.1**
	7.3nm,0.0s,SNR=18						
EARA				Lg	Lg	02 02 01.1	
	107nm,0.1s,SNR=9.6						
EARA	**Aranguren**	**0.11**	**215**	Pg	**Pg**	**02 01 59.3**	**+0.1**
	7.3nm,0.0s,SNR=18						
EARA				Lg	Lg	02 02 01.1	
	107nm,0.1s,SNR=9.6						
IEPA	**Eparoz**	**0.19**	**117**	⇑Pg	**Pg**	**02 02 00.2**	**-0.1**
	3.1nm,0.1s,SNR=18						
IEPA				Lg	Lg	02 02 03.0	
	13nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.19**	**117**	Pg	**Pg**	**02 02 00.2**	**-0.1**
	3.1nm,0.1s,SNR=18						
IEPA				Lg	Lg	02 02 03.0	
	13nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.19**	**96**	⇓Pg	**Pg**	**02 02 00.3**	**-0.1**
	2.5nm,0.0s,SNR=18						
IELO				Lg	Lg	02 02 03.8	
	26nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.19**	**96**	Pg	**Pg**	**02 02 00.3**	**-0.1**
	2.5nm,0.0s,SNR=18						
IELO				Lg	Lg	02 02 03.8	
	26nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.30**	**355**	⇑Pg	**Pg**	**02 02 03.0**	**+0.8**
	3.2nm,0.2s,SNR=18						
ELIZ				Lg	Lg	02 02 07.8	
	2.5nm,0.1s,SNR=8.1						
ELIZ	**Elizondo**	**0.30**	**355**	Pg	**Pg**	**02 02 03.0**	**+0.8**
	3.2nm,0.2s,SNR=18						
ELIZ				Lg	Lg	02 02 07.8	
	2.5nm,0.1s,SNR=8.1						
SJPF	**Ste Jean**	**0.32**	**38**	*e*Pg	**Pg**	**02 02 03.0**	**+0.5**
SJPF				*e*Sg	**Sg**	**02 02 07.5**	**+0.5**
	6.3nm,0.2s						
SJPF	**Ste Jean**	**0.32**	**38**	Pg	**Pg**	**02 02 03.0**	**+0.5**
SJPF				*e*Sg	**Sg**	**02 02 07.5**	**+0.5**
	3.2nm,0.2s						
EALK	**Alkurruntz**	**0.36**	**358**	⇑Pg	**Pb**	**02 02 04.2**	**+0.1**
	0.7nm,0.1s,SNR=18						
EALK				Lg	Lg	02 02 09.6	
	2.0nm,0.1s,SNR=9.9						
EALK	**Alkurruntz**	**0.36**	**358**	Pg	**Pb**	**02 02 04.2**	**+0.1**
	0.7nm,0.1s,SNR=18						
EALK				Lg	Lg	02 02 09.6	
	2.0nm,0.1s,SNR=9.9						
LARF	**Larrau**	**0.41**	**65**	P	**Pg**	**02 02 04.2**	**0.0**
LARF	**Larrau**	**0.41**	**65**	Pg	**Pg**	**02 02 04.8**	**+0.6**
LARF				S	**Sg**	**02 02 10.5**	**+0.7**
OSSF	**Osses**	**0.43**	**23**	P	**Pg**	**02 02 05.0**	**+0.5**
OSSF				Sg	**Sg**	**02 02 09.8**	**-0.5**
OSSF				S	**Sb**	**02 02 10.8**	**-0.9**
ORDF	**Ordiarp**	**0.54**	**49**	P	**Pg**	**02 02 06.9**	**+0.3**
ORDF	**Ordiarp**	**0.54**	**49**	Pg	**Pb**	**02 02 07.4**	**+0.2**
ORDF				S	**Sg**	**02 02 13.6**	**-0.1**
ORDF				Sg	**Sb**	**02 02 14.1**	**-0.8**
ETSF	**Etsaut**	**0.69**	**87**	*e*Pg	**Pg**	**02 02 09.7**	**+0.3**
ETSF				*e*Sg	**Sb**	**02 02 19.2**	**0.0**
	1.7nm,0.2s						
ETSF	**Etsaut**	**0.69**	**87**	Pg	**Pg**	**02 02 09.7**	**+0.3**
ETSF				*e*Sg	**Sb**	**02 02 19.2**	**0.0**
	0.9nm,0.2s						
ETSF				Lg	Lg	02 02 19.2	
	0.8nm,0.2s						
EBIE	**Bielsa**	**1.22**	**98**	Pg	**Pg**	**02 02 20.6**	**+1.2**
	0.1nm,0.1s,SNR=9.0						
EBIE				Lg	Lg	02 02 37.9	
	0.3nm,0.1s						
EBIE	**Bielsa**	**1.22**	**98**	Pg	**Pg**	**02 02 20.6**	**+1.2**
	0.1nm,0.1s,SNR=9.0						
EBIE				Lg	Lg	02 02 37.9	
	0.3nm,0.1s						
EPF	**Esparros**	**1.36**	**82**	*e*Pg	**Pb**	**02 02 21.7**	**+0.5**
EPF				*e*Sg	**Sg**	**02 02 40.0**	**+0.3**
	1.6nm,0.3s						
EPF	**Esparros**	**1.36**	**82**	Pg	**Pb**	**02 02 21.7**	**+0.5**
EPF				*e*Sg	**Sg**	**02 02 40.0**	**+0.3**
	0.8nm,0.3s						
ESAC	**San Caprasio**	**1.37**	**146**	Pg	**Pb**	**02 02 22.2**	**+0.8**
	SNR=7.9						
ESAC				Lg	Lg	02 02 40.1	
	SNR=7.9						
ESAC	**San Caprasio**	**1.37**	**146**	Pg	**Pb**	**02 02 22.2**	**+0.8**
	SNR=7.9						
ESAC				Lg	Lg	02 02 40.1	
	SNR=7.9						
MTLF	**Montolieu**	**2.76**	**79**	*e*Sg	**Sg**	**02 03 23.3**	**-1.3**
	0.3nm,0.3s						
MTLF	**Montolieu**	**2.76**	**79**	*e*Sg	**Sg**	**02 03 23.3**	**-1.3**
	0.2nm,0.3s						
CAF	**Calviac**	**3.30**	**50**	*e*Sn	**Sn**	**02 03 25.3**	**-0.9**
	0.5nm,0.3s						
CAF	**Calviac**	**3.30**	**50**	*e*Sn	**Sn**	**02 03 25.3**	**-0.9**
	0.2nm,0.3s						

*CSEM **01** 02:02:41.0, 42.85N×1.48W, h0km, ML0.7, After MDD*
MDD 01 02:02:41.0±0.3, 42.85N×1.48W, h0km, mbLg0.7/5, 2C, Error ellipse: s-maj=2.4km s-min=2.2km az=161.0, PRXIMO, Pyrenees

| Code | Station Name | Δ° | AZ° | Ph

1.4nm,0.0s,SNR=18
IUNC Lg Lg 02 04 16.3
4.3nm,0.1s,SNR=7.9
IUNC Unciti 0.09 187 Pg Pg 02 04 14.5 0.0
1.4nm,0.0s,SNR=18
IUNC Lg Lg 02 04 16.3
4.3nm,0.1s,SNR=7.9
EARA Aranguren 0.10 223 Pg Pg 02 04 14.6 0.0
0.7nm,0.0s,SNR=7.9
EARA Lg Lg 02 04 16.8
15nm,0.1s,SNR=6.4
EARA Aranguren 0.10 223 Pg Pg 02 04 14.6 0.0
0.7nm,0.0s,SNR=7.9
EARA Lg Lg 02 04 16.8
15nm,0.1s,SNR=6.4
IUSE Utxeti 0.11 334 Pg Pg 02 04 14.7 -0.1
1.2nm,0.1s,SNR=7.9
IUSE Lg Lg 02 04 16.9
1.3nm,0.0s,SNR=7.9
IUSE Utxeti 0.11 334 Pg Pg 02 04 14.7 -0.1
1.2nm,0.1s,SNR=7.9
IUSE Lg Lg 02 04 16.9
1.3nm,0.0s,SNR=7.9
IEPA Eparoz 0.17 114 Pg Pg 02 04 15.7 0.0
0.3nm,0.1s,SNR=7.9
IEPA Lg Lg 02 04 18.8
2.8nm,0.2s,SNR=7.9
IEPA Eparoz 0.17 114 Pg Pg 02 04 15.7 0.0
0.3nm,0.1s,SNR=7.9
IEPA Lg Lg 02 04 18.8
2.8nm,0.2s,SNR=7.9
IELO Elcoad 0.18 92 Pg Pg 02 04 15.8 0.0
0.3nm,0.0s,SNR=7.9
IELO Lg Lg 02 04 19.1
3.1nm,0.1s,SNR=7.9
IELO Elcoad 0.18 92 Pg Pg 02 04 15.8 0.0
0.3nm,0.0s,SNR=7.9
IELO Lg Lg 02 04 19.1
3.1nm,0.1s,SNR=7.9
ELIZ Elizondo 0.32 354 Pg Pg 02 04 18.3 +0.2
0.3nm,0.1s,SNR=7.9
ELIZ Lg Lg 02 04 22.7
0.7nm,0.2s,SNR=7.9
ELIZ Elizondo 0.32 354 Pg Pg 02 04 18.3 +0.2
0.3nm,0.1s,SNR=7.9
ELIZ Lg Lg 02 04 22.7
0.7nm,0.2s,SNR=7.9
SJPF Ste Jean 0.33 36 *e*Pg Pg 02 04 18.3 +0.1
SJPF *e*Sg **Sg 02 04 22.8 +0.1**
1.2nm,0.2s
SJPF Ste Jean 0.33 36 Pg Pg 02 04 18.3 +0.1
SJPF *e*Sg **Sg 02 04 22.8 +0.1**
0.6nm,0.2s
ETSF Etsaut 0.68 86 *e*Pg Pg 02 04 25.0 +0.2
ETSF Etsaut 0.68 86 Pg Pg 02 04 25.0 +0.2
EPF Esparros 1.35 82 *e*Pg Pn 02 04 37.0 +0.8
EPF *e*Sg **Sb 02 04 55.0 +1.0**
0.4nm,0.2s
EPF Esparros 1.35 82 Pg Pn 02 04 37.0 +0.8
EPF *e*Sg **Sb 02 04 55.0 +1.0**
0.2nm,0.2s
MTLF Montolieu 2.75 78 *e*Sg Sg 02 05 38.6 -1.5
0.2nm,0.2s
MTLF Montolieu 2.75 78 Lg Lg 02 05 38.6
0.2nm,0.2s
CAF Calviac 3.30 50 *e*Sn Sn 02 05 40.4 -1.7
0.3nm,0.2s
CAF Calviac 3.30 50 *e*Sn Sn 02 05 40.4 -1.7
0.2nm,0.2s

*CSEM **01** 02:04:21.2±0.2, 42.86N×1.47W, h10km, ML1.2/5, Error ellipse: s-maj=4.1km s-min=3.8km az=157.0*
*LDG **01** 02:04:21.6±0.1, 42.86N×1.49W, h2km, Md1.8/2, Ml1.6/3, Error ellipse: s-maj=1.2km s-min=1.1km az=79.0*
*MDD **01** 02:04:21.6±0.5, 42.85N×1.49W, h7km±5km, mbLg1.1/8, Error ellipse: s-maj=2.3km s-min=1.3km az=84.0, PRXIMO*
ISC 01 02:04:21.0±1.1, 42.86N±0.03×1.49W±0.04, h12km±7km, n30, σ0.92/36, 3C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUSE	**Utxeti**	**0.10**	**333**	⇑Pg	**Pg**	**02 04 23.9**	**-0.1**
	4.1nm,0.0s,SNR=18						
IUSE				Lg	Lg	02 04 25.7	
	14nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.10**	**333**	Pg	**Pg**	**02 04 23.9**	**-0.1**
	4.1nm,0.0s,SNR=18						
IUSE				Lg	Lg	02 04 25.7	
	14nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**185**	⇑Pg	**Pg**	**02 04 23.9**	**-0.1**
	4.6nm,0.0s,SNR=18						
IUNC				Lg	Lg	02 04 25.6	
	14nm,0.0s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**185**	Pg	**Pg**	**02 04 23.9**	**-0.1**
	4.6nm,0.0s,SNR=18						
IUNC				Lg	Lg	02 04 25.6	
	14nm,0.0s,SNR=7.9						
EARA	**Aranguren**	**0.11**	**219**	⇑Pg	**Pg**	**02 04 23.9**	**-0.1**
	4.4nm,0.0s,SNR=18						
EARA				Lg	Lg	02 04 25.8	
	38nm,0.1s,SNR=4.5						
EARA	**Aranguren**	**0.11**	**219**	Pg	**Pg**	**02 04 23.9**	**-0.1**
	4.4nm,0.0s,SNR=18						
EARA				Lg	Lg	02 04 25.8	
	38nm,0.1s,SNR=4.5						
IEPA	**Eparoz**	**0.18**	**116**	Pg	**Pg**	**02 04 24.9**	**-0.2**
	1.2nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	02 04 27.5	
	11nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.18**	**116**	Pg	**Pg**	**02 04 24.9**	**-0.2**
	1.2nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	02 04 27.5	
	11nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.18**	**95**	Pg	**Pg**	**02 04 25.1**	**-0.1**
	4.0nm,0.1s,SNR=7.9						
IELO				Lg	Lg	02 04 28.3	
	18nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**0.18**	**95**	Pg	**Pg**	**02 04 25.1**	**-0.1**
	4.0nm,0.1s,SNR=7.9						
IELO				Lg	Lg	02 04 28.3	
	18nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**0.31**	**354**	Pg	**Pg**	**02 04 27.4**	**0.0**
	0.8nm,0.1s,SNR=8.9						
ELIZ				Lg	Lg	02 04 32.2	
	1.6nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.31**	**354**	Pg	**Pg**	**02 04 27.4**	**0.0**
	0.8nm,0.1s,SNR=8.9						
ELIZ				Lg	Lg	02 04 32.2	
	1.6nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**0.32**	**37**	*e*Pg	**Pg**	**02 04 27.7**	**+0.2**
SJPF				*e*Sg	**Sg**	**02 04 32.1**	**+0.2**
	4.7nm,0.2s						
SJPF	**Ste Jean**	**0.32**	**37**	Pg	**Pg**	**02 04 27.7**	**+0.2**
SJPF				*e*Sg	**Sg**	**02 04 32.1**	**+0.2**
	2.3nm,0.2s						
SJPF				Lg	Lg	02 04 32.1	
	2.4nm,0.2s						
EALK	**Alkurruntz**	**0.36**	**358**	Lg	Lg	02 04 33.6	
	1.2nm,0.1s,SNR=8.6						
EALK	**Alkurruntz**	**0.36**	**358**	Lg	Lg	02 04 33.6	
	1.2nm,0.1s,SNR=8.6						
ETSF	**Etsaut**	**0.68**	**86**	*e*Pg	**Pg**	**02 04 34.4**	**+0.1**
ETSF				*e*Sg	**Sg**	**02 04 43.9**	**+0.6**
	1.2nm,0.3s						
ETSF	**Etsaut**	**0.68**	**86**	Pg	**Pg**	**02 04 34.4**	**+0.1**
ETSF				*e*Sg	**Sg**	**02 04 43.9**	**+0.6**
	0.6nm,0.3s						
EBIE	**Bielsa**	**1.21**	**98**	Pg	**Pg**	**02 04 44.6**	**+0.3**
	0.1nm,0.1s,SNR=7.9						
EBIE				Lg	Lg	02 05 00.6	
	0.1nm,0.0s,SNR=7.9						
EBIE	**Bielsa**	**1.21**	**98**	Pg	**Pg**	**02 04 44.6**	**+0.3**
	0.1nm,0.1s,SNR=7.9						
EBIE				Lg	Lg	02 05 00.6	
	0.1nm,0.0s,SNR=7.9						
EPF	**Esparros**	**1.35**	**82**	*e*Pg	**Pb**	**02 04 46.3**	**0.0**
EPF				*e*Sg	**Sg**	**02 05 04.7**	**+0.1**
	0.9nm,0.3s						
EPF	**Esparros**	**1.35**	**82**	Pg	**Pb**	**02 04 46.3**	**0.0**
EPF				*e*Sg	**Sg**	**02 05 04.7**	**+0.1**
	0.4nm,0.3s						
ESAC	**San Caprasio**	**1.36**	**146**	Pg	**Pg**	**02 04 47.3**	**+0.1**
	0.6nm,0.1s,SNR=7.9						
ESAC				Lg	Lg	02 05 05.7	
	0.4nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.36**	**146**	Pg	**Pg**	**02 04 47.3**	**+0.1**
	0.6nm,0.1s,SNR=7.9						
ESAC				Lg	Lg	02 05 05.7	
	0.4nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**2.75**	**79**	*e*Pn	**Pn**	**02 05 04.6**	**-0.4**
MTLF	**Montolieu**	**2.75**	**79**	*e*P	**Pn**	**02 05 07.7**	**+2.7**
MTLF				*e*Sg	**Sg**	**02 05 48.0**	**-1.5**
	0.7nm,0.3s						
MTLF	**Montolieu**	**2.75**	**79**	Pn	**Pn**	**02 05 04.6**	**-0.4**
MTLF	**Montolieu**	**2.75**	**79**	*e*P	**Pn**	**02 05 07.7**	**+2.7**
MTLF				*e*Sg	**Sg**	**02 05 48.0**	**-1.5**
	0.3nm,0.3s						
MTLF				Lg	Lg	02 05 48.0	
	0.4nm,0.3s						
CAF	**Calviac**	**3.29**	**50**	*e*Sn	**Sn**	**02 05 49.8**	**-1.8**
	0.4nm,0.2s						
CAF	**Calviac**	**3.29**	**50**	Sn	**Sn**	**02 05 49.8**	**-1.8**
	0.1nm,0.2s						

*CSEM **01** 02:05:16.1, 42.85N×1.48W, h0km, ML0.6, After MDD*
MDD 01 02:05:16.1±0.3, 42.85N×1.48W, h0km, mbLg0.6/3, 1C, Error ellipse: s-maj=3.3km s-min=2.4km az=97.0, PRXIMO SIN SOLUCIN, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUNC	**Unciti**	**0.10**	**189**	⇑Pg	Pg	02 05 17.8	-0.2
	1.5nm,0.0s,SNR=18						
IUNC				Lg	Lg	02 05 19.3	
	1.9nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**189**	Pg	Pg	02 05 17.8	-0.2
	1.5nm,0.0s,SNR=18						
IUNC				Lg	Lg	02 05 19.3	
	1.9nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.11**	**224**	Pg	Pg	02 05 17.9	-0.3
	0.3nm,0.0s,SNR=7.9						
EARA				Lg	Lg	02 05 20.1	
	5.6nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.11**	**224**	Pg	Pg	02 05 17.9	-0.3
	0.3nm,0.0s,SNR=7.9						
EARA				Lg	Lg	02 05 20.1	
	5.6nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**333**	Pg	Pg	02 05 18.0	-0.4
	1.0nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	02 05 19.8	
	0.7nm,0.0s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**333**	Pg	Pg	02 05 18.0	-0.3
	1.0nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	02 05 19.8	
	0.7nm,0.0s,SNR=7.9						
IELO	**Elcoad**	**0.18**	**92**	Pg	Pg	02 05 19.1	-0.5
	0.2nm,0.0s,SNR=7.9						
IELO				Lg	Lg	02 05 22.5	
	1.2nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.18**	**92**	Pg	Pg	02 05 19.1	-0.5
	0.2nm,0.0s,SNR=7.9						
IELO				Lg	Lg	02 05 22.5	
	1.2nm,0.1s,SNR=7.9						

IDC 01 02:09:55.6±9.1, 5.27S×151.21E, h83km±63km, mb3.2/3, mb1 3.4/4, mb1mx3.1/19, mbtmp3.2/4, ML2.3/1, Error ellipse: s-maj=130.9km s-min=58.9km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.75**	**224**	P	Pn	02 11 18.8	+0.5
	0.5nm,0.3s,baz=22,slow=5.4,SNR=1.6						
PMG				S	Sn	02 12 23.5	+0.6
	2.0nm,0.3s,baz=141,slow=21,SNR=6.6						
WRA	**Warramunga Arr**	**21.96**	**227**	P	P	02 14 41.6	-1.1
	0.3nm,0.4s,baz=52,slow=10,SNR=6.7						
ASAR	**Alice Springs**	**24.75**	**221**	P	P	02 15 09.8	+0.3
	1.8nm,1.1s,baz=56,slow=8.8,SNR=7.7						
FITZ	**Fitzroy Crossi**	**28.05**	**241**	P	P	02 15 40.1	+0.9
	1.3nm,0.8s,baz=52,slow=8.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**148.93**	**287**	PKPbc	PKPbc	02 29 34.0	-0.9
	0.2nm,0.6s,baz=87,slow=1.6,SNR=2.9						

*IDC **01** 02:14:09.2±1.0, 0.17N×98.50E, h0km, mb3.9/8, mb1 4.0/10, mb1mx3.8/26, mbtmp3.9/10, ML3.9/2, Error ellipse: s-maj=34.0km s-min=18.2km az=62.0*
*ISCJB **01** 02:14:13.5±0.7, 0.18N±0.09×98.5E±0.1, h48km, mb4.1/12, Error ellipse: s-maj=19.0km s-min=11.5km az=151.9*
*NEIC **01** 02:14:16.6±2.6, 0.27N×98.66E, h54km±21km, mb4.4/4, Error ellipse: s-maj=28.6km s-min=10.7km az=54.0*
ISC 01 02:14:15.9±0.8, 0.2N±0.1×98.5E±0.2, h48km, n32, σ1.12/34, mb4.2/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.59**	**10**	Pn	**Pn**	**02 14 53.8**	**-1.6**
PSI	**Prapat**	**2.59**	**10**	Pn	**Pn**	**02 14 53.8**	**-1.6**
	9.0nm,0.3s,baz=176,slow=6.8,SNR=23						
IPM	**Ipoh**	**4.93**	**31**	P	**Pn**	**02 15 29.7**	**+2.2**
CMAR	**Chiang Mai Arr**	**18.11**	**1**	P	**Pn**	**02 18 24.1**	**0.0**
CMAR	**Chiang Mai Arr**	**18.11**	**1**	P	**Pn**	**02 18 24.1**	**0.0**
	0.3nm,0.3s,baz=196,slow=10,SNR=7.4						
WRA	**Warramunga Arr**	**40.46**	**122**	P	**P**	**02 21 48.9**	**-1.3**
WRA	**Warramunga Arr**	**40.46**	**122**	P	**P**	**02 21 48.9**	**-1.3**
	0.5nm,0.5s,baz=301,slow=9.2,SNR=9.3						
WRAB	**Tennant Creek**	**40.46**	**122**	*e*P	**P**	**02 21 48.2**	**-2.0**
	5.9nm,1.2s						
ASAR	**Alice Springs**	**41.81**	**127**	P	**P**	**02 22 00.6**	**-0.6**
ASAR	**Alice Springs**	**41.81**	**127**	P	**P**	**02 22 00.6**	**-0.6**
	0.6nm,0.6s,baz=300,slow=7.8,SNR=8.3						
KSAR	**Wonju Array Be**	**45.91**	**33**	P	**P**	**02 22 32.7**	**-1.2**
KSRS	**Korea Array**	**45.94**	**33**	P	**P**	**02 22 32.7**	**-1.4**
	1.8nm,0.6s,baz=216,slow=7.5,SNR=7.3						
TKM2	**Tokmak 2**	**47.19**	**337**	*e*P	**P**	**02 22 45.2**	**+1.2**
	2.7nm,0.9s						
SONM	**Songino Array**	**47.91**	**7**	P	**P**	**02 22 50.4**	**+0.9**
SONM				PcP	**PcP**	**02 24 18.2**	**+0.9**
SONM	**Songino Array**	**47.91**	**7**	P	**P**	**02 22 50.4**	**+0.9**
	2.2nm,0.8s,baz=183,slow=8.9,SNR=12						
SONM				PcP	**PcP**	**02 24 18.2**	**+0.9**
	1.3nm,0.6s,baz=188,slow=4.3,SNR=5.6						
MK31	**Makanchi Array**	**48.48**	**345**	*e*P	**P**	**02 22 54.5**	**+0.7**
MKAR	**Makanchi Array**	**48.48**	**345**	P	**P**	**02 22 54.7**	**+0.9**
MKAR	**Makanchi Array**	**48.48**	**345**	P	**P**	**02 22 54.7**	**+0.9**
	3.6nm,0.7s,baz=153,slow=7.7,SNR=31						
ZAA0	**Zalesovo Array**	**54.71**	**350**	*e*P	**P**	**02 23 37.9**	**-2.2**
ZALV	**Zalesovo Beam**	**54.71**	**350**	P	**P**	**02 23 40.4**	**+0.3**
ZALV	**Zalesovo Beam**	**54.71**	**350**	P	**P**	**02 23 40.4**	**+0.3**
	1.7nm,0.5s,baz=181,slow=7.7,SNR=11						
BRVK	**Borovoye**	**57.64**	**340**	*e*P	**P**	**02 24 01.1**	**+0.1**
	2.4nm,0.5s						
ABKAR	**Akbulak array**	**58.95**	**332**	*e*P	**P**	**02 24 10.1**	**-0.2**
	3.9nm,0.8s						
BRTR	**Keskin Array B**	**70.69**	**312**	P	**P**	**02 25 26.6**	**-0.6**
BRTR	**Keskin Array B**	**70.69**	**312**	P	**P**	**02 25 26.6**	**-0.6**
	0.7nm,0.7s,baz=134,slow=6.9,SNR=5.6						
BUR08	**Bucovina Ar. S**	**78.59**	**319**	*e*P	**P**	**02 26 13.2**	**+0.5**
FINES	**FINESS Array B**	**81.43**	**332**	P	**P**	**02 26 27.3**	**-0.3**
FINES	**FINESS Array B**	**81.43**	**332**	P	**P**	**02 26 27.3**	**-0.3**
	0.8nm,0.6s,baz=107,slow=6.4,SNR=5.6						
TXAR	**Lajitas Array**	**143.79**	**34**	PKP	**PKPdf**	**02 33 46.4**	**-0.2**
TXAR	**Lajitas Array**	**143.79**	**34**	PKP	**PKPdf**	**02 33 46.4**	**-0.2**
	0.3nm,0.6s,baz=277,slow=3.5,SNR=2.5						
CPUP	**Villa Florida**	**145.12**	**220**	PKPbc	**PKPdf**	**02 33 50.4**	**+1.5**
CPUP	**Villa Florida**	**145.12**	**220**	PKPbc	**PKPdf**	**02 33 50.4**	**+1.5**
	0.8nm,0.5s,baz=104,slow=1.1,SNR=5.0						

*BJI **01** 02:41:57.9, 24.30S×67.10W, h153km, mB4.9/1*
*ISCJB **01** 02:41:59.5±0.5, 24.28S±0.04×67.10W±0.05, h163km±4km, mb4.2/28, Error ellipse: s-maj=7.7km s-min=5.8km az=165.1*
*NEIC **01** 02:42:00.3±0.4, 24.29S×67.07W, h156km±4km, mb4.4/21, Error ellipse: s-maj=7.5km s-min=4.7km az=67.0*
*IDC **01** 02:42:01.0±0.9, 24.23S×67.06W, h162km±8km, mb3.8/11, mb1 4.0/17, mb1mx3.9/24, mbtmp3.8/17, Error ellipse: s-maj=14.1km s-min=9.8km az=63.0*
*GUC **01** 02:42:02.2±0.7, 24.11S×67.59W, h208km±15km, ML4.9*
ISC 01 02:42:00.2±0.6, 24.27S±0.04×67.09W±0.06, h159km±5km, n322, σ1.19/349, mb4.2/28, 126C-117D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.35**	**314**	⇑*i*P	**Pn**	**02 42 42.0**	**+1.8**
LVC				*i* S	**Sn**	**02 43 12.6**	**+1.5**
LVC	**Limon Verde**	**2.35**	**314**	P	**Pn**	**02 42 42.0**	**+1.8**
	98nm,0.3s,baz=141,slow=5.7,SNR=773						
LVC				S	**Sn**	**02 43 12.3**	**+1.2**
	106nm,0.3s,baz=158,slow=22,SNR=44						
PB04	**Plate Boundary**	**2.98**	**312**	⇑*i*P	Pn	02 42 53.5	+5.9
PB04				*e*S	Sn	02 43 32.5	+8.2
PB04				AML	AML	02 43 35.5	
	comp=N,2μm,0.5s						
CEN1	**Los Morros**	**2.98**	**287**	⇓*i*P	**Pn**	**02 42 48.9**	**+1.1**
CEN1				*e*S	**Sn**	**02 43 24.5**	**-0.1**
CEN1	**Los Morros**	**2.98**	**287**	⇓*i*P	**Pn**	**02 42 48.9**	**+1.1**
CEN1				*e*S	**Sn**	**02 43 24.5**	**-0.1**
CEN1				AML	AML	02 43 26.8	
	comp=E,2μm,0.8s						
ANCH	**Antofagasta**	**3.09**	**280**	⇑*i*P	**Pn**	**02 42 49.8**	**+0.7**
ANCH				*i* S	**Sn**	**02 43 24.9**	**-2.1**
ANCH	**Antofagasta**	**3.09**	**280**	⇑*i*P	**Pn**	**02 42 49.8**	**+0.7**
ANCH				*i* S	**Sn**	**02 43 24.9**	**-2.1**
ANCH				AML	AML	02 43 28.7	
	comp=E,2μm,0.6s						
PB09	**Plate Boundary**	**3.16**	**321**	⇑*i*P	**Pn**	**02 42 51.7**	**+1.5**
PB09				*e*S	**Sn**	**02 43 29.5**	**+0.6**
PB09	**Plate Boundary**	**3.16**	**321**	⇑*i*P	**Pn**	**02 42 51.7**	**+1.5**
PB09				*e*S	**Sn**	**02 43 29.5**	**+0.6**
PB09				AML	AML	02 43 31.7	
	comp=E,3μm,0.6s						
PB07	**Plate Boundary**	**3.61**	**314**	⇑*i*P	**Pn**	**02 42 56.2**	**+0.3**
PB07	**Plate Boundary**	**3.61**	**314**	⇑*i*P	**Pn**	**02 42 56.2**	**+0.3**
PB07				AML	AML	02 43 40.3	
	comp=E,2μm,0.4s						
PB01	**Plate Boundary**	**3.90**	**325**	⇑*i*P	**Pn**	**02 42 59.6**	**+0.1**
PB01				*i* S	**Sn**	**02 43 43.7**	**-2.1**
PB01	**Plate Boundary**	**3.90**	**325**	⇑*i*P	**Pn**	**02 42 59.6**	**+0.1**
PB01				*i* S	**Sn**	**02 43 43.7**	**-2.1**
HMBC	**Humberstone**	**4.75**	**326**	⇑*i*P	**Pn**	**02 43 09.0**	**-1.6**
HMBC				*i* S	**Sn**	**02 44 02.4**	**-3.1**
HMBC	**Humberstone**	**4.75**	**326**	⇑*i*P	**Pn**	**02 43 09.0**	**-1.6**
HMBC				*i* S	**Sn**	**02 44 02.4**	**-3.1**
LCO	**Las Campanas**	**5.72**	**214**	*e*Pn	**Pn**	**02 43 21.1**	**-2.3**
LCO				*e*Sn	Sn	02 44 19.4	-9.3
CFAA	**Coronel Fontan**	**7.37**	**188**	P	**Pn**	**02 43 44.9**	**-0.3**
CFAA				S	**Sn**	**02 45 03.2**	**-4.6**
CFAA	**Coronel Fontan**	**7.37**	**188**	P	**Pn**	**02 43 44.9**	**-0.3**
	comp=E,0.2nm,0.3s,baz=5.6,slow=12,SNR=31						
CFAA				S	**Sn**	**02 45 03.2**	**-4.6**
	comp=E,0.3nm,0.3s,baz=292,slow=19,SNR=6.0						
LPAZ	**La Paz**	**8.01**	**353**	*e*Pn	**Pn**	**02 43 54.8**	**+0.6**
LPAZ				S	**Sn**	**02 45 21.0**	**-3.0**
LPAZ				*e*Sn	Sn	02 45 21.2	-3.2
LPAZ	**La Paz**	**8.01**	**353**	P	**Pn**	**02 43 55.0**	**+0.8**
	comp=E,4.2nm,0.3s,baz=153,slow=6.0,SNR=101						
LPAZ				S	**Sn**	**02 45 21.0**	**-3.0**
	comp=E,0.5nm,0.3s,baz=243,slow=2.3,SNR=3.0						
CPUP	**Villa Florida**	**9.07**	**105**	P	**Pn**	**02 44 08.9**	**+1.2**
CPUP	**Villa Florida**	**9.07**	**105**	P	**Pn**	**02 44 08.9**	**+1.2**
	comp=E,0.7nm,0.3s,baz=261,slow=12,SNR=7.8						
SIV	**San Ignacio**	**9.99**	**36**	P	**Pn**	**02 44 19.5**	**-0.5**
SIV				S	**Sn**	**02 46 10.3**	**-0.6**
SIV	**San Ignacio**	**9.99**	**36**	P	**Pn**	**02 44 19.5**	**-0.5**
	comp=E,2.1nm,0.3s,baz=225,slow=14,SNR=56						
SIV				S	**Sn**	**02 46 10.3**	**-0.6**
	comp=E,0.2nm,0.3s,baz=234,slow=17,SNR=4.1						
TRQA	**Tornquist**	**14.41**	**164**	*e*Pn	**Pn**	**02 45 15.6**	**-1.3**
TRQA				*e*P	**P**	**02 45 20.1**	**+0.9**
NNA	**Nana**	**15.33**	**321**	*e*Pn	**Pn**	**02 45 29.4**	**+1.0**
PLCA	**Paso Flores**	**16.67**	**189**	*e*P	**Pn**	**02 45 44.8**	**+0.2**
	comp=E,11nm,0.7s						
PLCA				*e*Pn	**P**	**02 45 45.2**	**+1.1**
PLCA	**Paso Flores**	**16.67**	**189**	P	**Pn**	**02 45 45.0**	**+0.5**
	comp=E,0.4nm,0.3s,baz=0.5,slow=13,SNR=7.7						
BDFB	**Brasilia**	**19.86**	**68**	P	**P**	**02 46 19.7**	**+0.5**
BDFB	**Brasilia**	**19.86**	**68**	P	**P**	**02 46 19.7**	**+0.5**
	comp=E,1.6nm,0.3s,baz=239,slow=11,SNR=44						
USHA	**Ushuaia**	**30.54**	**182**	P	**P**	**02 47 59.2**	**+0.9**
USHA	**Ushuaia**	**30.54**	**182**	P	**P**	**02 47 59.2**	**+0.9**
	comp=E,4.0nm,0.7s,baz=338,slow=14,SNR=3.3						
SNAA	**Sanae**	**59.12**	**161**	*e*P	**P**	**02 51 43.5**	**-0.1**
SNAA	**Sanae**	**59.12**	**161**	P	**P**	**02 51 44.4**	**+0.8**
	comp=E,1.0nm,0.6s,baz=286,slow=7.6,SNR=34						
KMSC	**Kings Mountain**	**60.61**	**347**	⇑P	**P**	**02 51 53.8**	**-0.2**
	baz=61						
732A	**Laxson Ranch,**	**61.47**	**327**	⇓P	**P**	**02 51 59.2**	**-0.7**
	baz=62						
632A	**Uvalde**	**62.02**	**328**	⇑P	**P**	**02 52 03.9**	**+0.3**
	baz=62						
631A	**Perdido Creek**	**62.33**	**327**	⇓P	**P**	**02 52 05.3**	**-0.4**
	baz=63						
532A	**Rocksprings**	**62.59**	**328**	⇑P	**P**	**02 52 07.7**	**+0.2**
	baz=63						
JCT	**Junction City**	**62.83**	**328**	*e*P	**P**	**02 52 09.2**	**+0.2**
	comp=E,6.1nm,0.8s						
JCT	**Junction City**	**62.83**	**328**	⇑P	**P**	**02 52 08.7**	**-0.4**
	baz=63,SNR=5.7						
531A	**Rocksprings**	**62.93**	**328**	⇑P	**P**	**02 52 10.0**	**+0.2**
	baz=63						
432A	**Menard**	**63.16**	**329**	⇓P	**P**	**02 52 11.0**	**-0.2**
	baz=63						
WVT	**Waverly**	**63.19**	**341**	*e*P	**P**	**02 52 09.8**	**-1.4**
	comp=E,11nm,1.1s						
530A	**J-C Ranch, Com**	**63.31**	**327**	⇓P	**P**	**02 52 12.1**	**-0.2**
	baz=64,SNR=5.5						
431A	**Sonora**	**63.39**	**328**	⇓P	**P**	**02 52 12.6**	**-0.1**
	baz=64						
332A	**Millersview**	**63.56**	**329**	⇓P	**P**	**02 52 13.5**	**-0.3**
	baz=64,SNR=8.2						
628A	**Black Gap, Mar**	**63.56**	**325**	⇑P	**P**	**02 52 14.3**	**+0.4**
	baz=64,SNR=6.0						
MIAR	**Mount Ida**	**63.67**	**336**	*e*P	**P**	**02 52 14.3**	**-0.1**
	comp=E,4.3nm,0.8s						
529A	**Stev Forest Ra**	**63.73**	**326**	⇓P	**P**	**02 52 15.2**	**+0.2**
	baz=64,SNR=7.5						
430A	**Baggett Ranch,**	**63.78**	**327**	⇑P	**P**	**02 52 15.4**	**+0.1**
	baz=64						
627A	**Terlingua Ranc**	**63.80**	**325**	⇓P	**P**	**02 52 15.

Y32A	R-V Farms, Ver baz=66	65.61	331	⇓P	P	02 52 27.0	-0.1
TUL1	Tulsa baz=66	65.72	335	⇓P	P	02 52 27.9	+0.2
Z30A	Sanderson Ranc baz=66	65.78	329	⇑P	P	02 52 28.0	-0.2
227A	Bennet, Jal baz=66	65.80	327	⇓P	P	02 52 28.4	+0.1
128A	Castleberry Fa baz=66	65.89	328	⇑P	P	02 52 28.8	-0.2
QSPA	South Pole Qui comp=E,114nm,3.0s	65.93	180	*e*P	P	02 52 30.1	+1.2
QSPA	South Pole Qui comp=E,4.7nm,0.5s,baz=174,slow=1.2,SNR=51	65.93	180	P	P	02 52 30.0	+1.2
WMOK	Wichita Mounta comp=E,1.4nm,0.8s	65.94	332	*e*P	P	02 52 28.2	-1.0
Y31A	Rekieta Farm, baz=66	65.95	330	⇑P	P	02 52 29.5	+0.2
Z29A	Hungry Hill Ra baz=66	66.04	329	⇑P	P	02 52 29.6	-0.3
Y30A	Stafford Cattl baz=66	66.17	330	⇑P	P	02 52 30.7	+0.1
226B	Tecolote Peak, baz=67,SNR=7.2	66.29	326	⇑P	P	02 52 32.3	+0.8
127A	Arkansas Junct baz=67	66.36	327	⇑P	P	02 52 31.4	-0.6
X31A	McDonald Ranch baz=67,SNR=6.4	66.38	331	⇑P	P	02 52 31.7	-0.2
Z28A	Tucker Farm, M baz=67	66.39	328	⇑P	P	02 52 32.1	0.0
324A	Moseley Ranch, baz=67,SNR=8.0	66.47	325	⇓P	P	02 52 31.8	-1.0
Y29A	Porterfield Fa baz=67,SNR=5.5	66.51	329	⇓P	P	02 52 32.2	-0.7
MNTX	Cornudas Mount comp=E,4.1nm,1.0s	66.62	325	*e*P	P	02 52 32.6	-1.0
X30A	Coker Ranch, T baz=67	66.63	330	⇓P	P	02 52 33.5	0.0
225A	Deer Hill, Car baz=67,SNR=6.7	66.66	326	⇓P	P	02 52 34.0	0.0
126A	Clayton Basin, baz=67	66.67	326	⇓P	P	02 52 34.2	+0.3
SFIN	Scholer Farm baz=67	66.97	344	⇑P	P	02 52 34.9	-0.6
125A	Gardner Draw, baz=67,SNR=5.9	67.00	326	⇓P	P	02 52 35.6	-0.5
X29A	Tulia baz=67	67.01	329	⇓P	P	02 52 35.9	-0.1
MSTX	Muleshoe baz=67,SNR=7.6	67.13	328	⇑P	P	02 52 36.5	-0.3
Z26A	Caprock baz=67,SNR=8.5	67.15	327	⇓P	P	02 52 36.9	-0.1
Y27A	Causey baz=68	67.25	328	⇑P	P	02 52 37.4	-0.2
124A	Stringfield Ra baz=68,SNR=9.0	67.45	325	⇓P	P	02 52 39.0	-0.1
Z25A	Roswell baz=68	67.53	326	⇓P	P	02 52 39.3	-0.1
Y26A	Elida baz=68	67.60	327	⇑P	P	02 52 39.8	0.0
222A	Williams Famil baz=68	67.85	324	⇑P	P	02 52 42.7	+1.3
Z24A	Sheeppen Canyo baz=68,SNR=11	67.90	326	⇑P	P	02 52 41.8	0.0
Y25A	Mesa, Roswell baz=68	68.03	327	⇓P	P	02 52 42.9	+0.4
X26A	CR and CF Fran baz=68	68.10	328	⇑P	P	02 52 43.6	+0.7
W27A	Bowe Ranch, En baz=68	68.16	329	⇓P	P	02 52 43.8	+0.6
Z23A	Rita Site, Whi baz=69	68.29	325	⇑P	P	02 52 45.5	+1.3
V28A	Channing baz=69	68.33	330	⇓P	P	02 52 45.4	+1.1
T31A	Randall Ranch, baz=69	68.33	332	⇑P	P	02 52 44.7	+0.6
Y24A	Capitan baz=69	68.41	326	⇓P	P	02 52 46.0	+1.0
220A	Playas Peak, P baz=69,SNR=5.1	68.47	323	⇓P	P	02 52 46.4	+1.1
319A	Douglas baz=69	68.50	322	⇑P	P	02 52 46.8	+1.3
X25A	Clemmons Ranch baz=69	68.50	327	⇑P	P	02 52 45.2	-0.3
W26A	Owens Ranch, T baz=69	68.51	328	⇓P	P	02 52 46.4	+0.9
121A	Cookes Peak, D baz=69,SNR=6.9	68.55	324	⇓P	P	02 52 47.3	+1.4
Z22A	Elephant Butte baz=69,SNR=20	68.67	325	⇑P	P	02 52 48.0	+1.5
U28A	Mallet baz=69	68.84	330	⇓P	P	02 52 48.1	+0.6
W25A	X Bar L Ranch, baz=69	68.95	328	⇓P	P	02 52 49.0	+0.8
120A	U Bar Ranch, L baz=69	69.02	323	⇑P	P	02 52 50.0	+1.3
Z21A	St. Cloud Mine baz=69,SNR=6.7	69.08	324	⇓P	P	02 52 50.3	+1.2
V26A	Tequesquite Ra baz=69	69.09	329	⇓P	P	02 52 50.3	+1.2
Y22A	Socorro baz=70	69.20	325	⇑P	P	02 52 51.3	+1.5
X23A	Hourglass Bar baz=70,SNR=6.2	69.30	326	⇑P	P	02 52 51.2	+0.8
S29A	Ulysses baz=70	69.39	332	⇓P	P	02 52 52.2	+1.5
W24A	Lazy 6 Ranch, baz=70	69.41	327	⇓P	P	02 52 52.0	+0.9
Z20A	Nine Sixteen R baz=70	69.43	324	⇑P	P	02 52 52.6	+1.3
V25A	Rancho No Teng baz=70	69.53	328	⇑P	P	02 52 52.6	+0.8
U26A	Atchley Ranch, baz=70	69.56	329	⇓P	P	02 52 53.0	+1.0
R30A	Dighton baz=70	69.58	333	⇓P	P	02 52 53.6	+1.7
Y21A	Point of Rocks baz=70	69.63	325	⇑P	P	02 52 53.8	+1.3
S28A	Manter baz=70	69.70	331	⇓P	P	02 52 54.0	+1.3
ANMO	Albuquerque comp=E,5.0nm,0.9s	69.73	326	*e*P	P	02 52 54.0	+0.9
W23A	Werner Place, baz=70	69.74	327	⇓P	P	02 52 54.4	+1.3
V24A	Rampart Ranch, baz=70	69.75	328	⇑P	P	02 52 54.2	+0.9
U25A	Circle Dot Ran baz=70	69.88	329	⇓P	P	02 52 54.7	+0.7
X21A	Alamocita Cree baz=70,SNR=5.8	70.02	325	⇑P	P	02 52 56.2	+1.3
TUC	Tucson comp=E,28nm,1.3s	70.04	322	*e*P	P	02 52 56.3	+1.3
T26A	Comanche Natio baz=70,SNR=6.4	70.12	330	⇑P	P	02 52 56.1	+0.6
Q30A	Quinter baz=70	70.15	333	⇑P	P	02 52 57.0	+1.7
V23A	Ortiz Mt. (NFS baz=70	70.22	327	⇑P	P	02 52 57.2	+1.1
S26A	Kim baz=71,SNR=8.4	70.43	330	⇓P	P	02 52 58.1	+0.9
W21A	San Fidel baz=71	70.47	326	⇓P	P	02 52 58.9	+1.3
X20A	Quemado baz=71	70.47	325	⇓P	P	02 52 58.8	+1.2
T25A	Trinidad baz=71	70.47	329	⇑P	P	02 52 58.8	+1.2
U23A	El Rito baz=71	70.68	327	⇓P	P	02 53 00.0	+1.1
V22A	San Miguel Ran baz=71	70.71	327	⇓P	P	02 53 00.6	+1.5
S25A	Robets Cordova baz=71,SNR=6.1	70.91	329	⇓P	P	02 53 00.9	+0.8
214A	Organ Pipe Nat baz=71	70.96	320	⇑P	P	02 53 01.6	+1.2
R26A	Arlington baz=71	70.98	330	⇓P	P	02 53 01.7	+1.3
R25A	Fountain Ranch baz=72	71.23	330	⇓P	P	02 53 03.1	+1.1
S24A	Houchin Ranch, baz=72	71.26	329	⇑P	P	02 53 03.8	+1.4
SDCO	Great Sand Dun comp=E,5.3nm,1.1s	71.48	329	*e*P	P	02 53 04.3	+0.6
U21A	Nageezi baz=72	71.49	326	⇑P	P	02 53 05.1	+1.4
Q26A	Hugo baz=72	71.52	331	⇓P	P	02 53 05.0	+1.2
T22A	Edith baz=72	71.58	327	⇑P	P	02 53 05.6	+1.4
R24A	Sanders Place, baz=72	71.68	329	⇓P	P	02 53 06.1	+1.2
T21A	Navajo Lake baz=72	71.87	327	⇑P	P	02 53 07.3	+1.3
U20A	Newcomb baz=72	71.89	326	⇑P	P	02 53 07.1	+1.0
X16A	Lo Mia Camp, P baz=72,SNR=6.1	71.97	323	⇑P	P	02 53 07.9	+1.3
S22A	4UR Ranch, Cre baz=72	72.11	328	⇑P	P	02 53 08.6	+1.1
Q24A	Divide baz=73	72.29	330	⇓P	P	02 53 10.1	+1.5
Y14A	Wickenburg baz=73	72.50	321	⇓P	P	02 53 11.2	+1.6
S21A	Coal Bank Pass baz=73	72.52	327	⇑P	P	02 53 11.1	+1.2
MVCO	Mesa Verde	72.52	326	*e*P	P	02 53 11.3	+1.4
MVCO	Mesa Verde baz=73	72.52	326	⇓P	P	02 53 11.2	+1.4
WUAZ	Wupatki baz=73,SNR=5.5	72.75	323	⇑P	P	02 53 12.7	+1.6
ECSD	EROS Data Cent	72.90	338	*e*P	P	02 53 11.5	-0.2
S20A	Disappointment baz=73	72.94	327	⇑P	P	02 53 13.5	+1.2
R21A	Cimarron baz=73	72.95	328	⇓P	P	02 53 13.8	+1.4
ISCO	Idaho Springs	73.18	330	*e*P	P	02 53 15.0	+1.2
ISCO	Idaho Springs baz=74	73.18	330	⇑P	P	02 53 15.3	+1.5
R20A	Redvale baz=74,SNR=5.9	73.22	327	⇓P	P	02 53 15.2	+1.3
Y12C	Blythe baz=74	73.24	320	⇓P	P	02 53 15.6	+1.7
PV01	Paradox Valley	73.28	327	*e*P	P	02 53 15.4	+1.1
SMCO	Snowmass	73.31	329	*e*P	P	02 53 16.3	+1.6
SYO	Syowa Base	73.33	159	⇓*e*P	P	02 53 13.4	-0.5
P22A	Eagle baz=74	73.54	329	⇑P	P	02 53 17.1	+1.3
O23A	Lake Granby, G baz=74	73.65	330	⇑P	P	02 53 17.6	+1.1
BC3	Big Chuckawall baz=74	73.72	320	⇓P	P	02 53 18.5	+1.6
W13A	Hualapai Mount baz=74	73.84	322	⇓P	P	02 53 18.6	+0.9
O22A	Kremmling baz=74	73.90	330	⇓P	P	02 53 19.1	+1.1
IRM	Iron Mountain baz=74	73.90	320	⇓P	P	02 53 18.9	+1.1
U15A	North Rim baz=74,SNR=6.3	73.92	323	⇑P	P	02 53 19.7	+1.5
M24A	Cheyenne baz=74	74.17	331	⇑P	P	02 53 20.8	+1.4
N22A	Wattenberg Ran baz=75	74.36	330	⇑P	P	02 53 22.3	+1.7
VNDA	Vanda comp=E,7.1nm,1.6s	74.42	190	*e*P	P	02 53 21.9	+1.8
VNDA	Vanda comp=E,1.2nm,0.9s,baz=142,slow=5.5,SNR=4.9	74.42	190	P	P	02 53 21.5	+1.4
GMRC	Granite Mounta baz=75,SNR=6.2	74.64	320	⇑P	P	02 53 23.4	+1.2
P19A	Cripple Cowboy baz=75	74.64	328	⇓P	P	02 53 23.6	+1.4
O20A	White River Ci baz=75	74.67	328	⇑P	P	02 53 23.9	+1.6
MURC	Murrieta baz=75	74.73	318	⇑P	P	02 53 24.0	+1.4
SRU	San Rafael comp=E,6.8nm,0.9s	75.00	326	*e*P	P	02 53 25.3	+1.0
HEC	Hector,Ludlow baz=75	75.06	320	⇑P	P	02 53 26.1	+1.5
Q16A	Castle Valley baz=76	75.19	326	⇓P	P	02 53 27.2	+1.8
O19A	Miners Draw (B baz=76	75.22	328	⇑P	P	02 53 26.9	+1.5
N20A	Spence Gulch, baz=76	75.23	329	⇑P	P	02 53 26.8	+1.3
TUQ	Turquoise Moun baz=76	75.25	321	⇑P	P	02 53 27.1	+1.5
CCUT	Cedar City comp=E,12nm,1.1s	75.33	324	*e*P	P	02 53 28.5	+2.3
L22A	Ellis Ranch, M baz=76	75.34	331	⇓P	P	02 53 28.5	+2.4
MVU	Marysvale comp=E,3.5nm,0.8s	75.42	325	*e*P	P	02 53 28.1	+1.4
BFSC	Mount Baldy Ra baz=76	75.45	319	⇑P	P	02 53 28.1	+1.3
ARUT	Antelope Range	75.54	324	*e*P	P	02 53 28.6	+1.3
K23A	Bowen Ranch, D baz=76	75.56	332	⇑P	P	02 53 28.9	+1.6
J24A	Dixon Ranch, L baz=76	75.62	333	⇓P	P	02 53 29.4	+1.8
GSC	Goldstone baz=76	75.67	320	⇓P	P	02 53 29.4	+1.4
L21A	Rawlins baz=76	75.70	330	⇑P	P	02 53 29.6	+1.4
RSSD	Black Hills	76.01	334	*e*P	P	02 53 29.2	-0.7
L20A	Wamsutter baz=76	76.18	330	⇓P	P	02 53 32.1	+1.2
J22A	Midwest baz=77	76.47	332	⇑P	P	02 53 33.4	+1.0
FURC	Furnace Creek, baz=77	76.52	321	⇑P	P	02 53 34.2	+1.6
K20A	Yellowstone Ra baz=77	76.69	330	⇑P	P	02 53 34.5	+0.8
H24A	Dirks Ranch, A baz=77	76.74	334	⇑P	P	02 53 34.6	+0.7
TOA0	Torodi Ar. Sit	76.74	69	*e*P	P	02 53 34.3	-0.1
TORD	Torodi Ar. Bea	76.74	69	P	P	02 53 34.0	-0.4
TORD	Torodi Ar. Bea comp=E,4.1nm,0.8s,baz=260,slow=5.9,SNR=24	76.74	69	P	P	02 53 34.0	-0.4
J21A	Lysite baz=77	76.84	331	⇓P	P	02 53 35.9	+1.4
I22A	9 Mile Ranch, baz=77	76.85	332	⇓P	P	02 53 35.7	+1.1
ISA	Isabella baz=77	76.91	319	⇑P	P	02 53 36.6	+1.6
DUG	Dugway comp=E,11nm,1.6s	76.98	326	*e*P	P	02 53 35.8	+0.5
DUG	Dugway baz=77	76.98	326	⇑P	P	02 53 36.8	+1.4
K19A	Absolon Red Bu baz=77	77.06	330	⇑P	P	02 53 36.9	+1.1
I21A	Big Trails, Te baz=77,SNR=6.4	77.14	331	⇓P	P	02 53 36.4	+0.2
PKM	Peak Mountain baz=78	77.20	318	⇓P	P	02 53 38.3	+1.5
PDAR	Pinedale Array	77.34	329	P	P	02 53 37.5	+0.1
PDAR	Pinedale Array comp=E,0.5nm,0.6s,baz=134,slow=7.6,SNR=5.6	77.34	329	P	P	02 53 37.5	+0.1
H22A	Clearmont baz=78	77.36	332	⇑P	P	02 53 39.1	+1.8
VES	Vestal, Richgr baz=78	77.39	319	⇑P	P	02 53 38.6	+1.1
HWUT	Hardware Ranch comp=E,2.8nm,0.7s	77.41	327	*e*P	P	02 53 38.2	+0.4
G23A	Biddle baz=78	77.45	333	⇓P	P	02 53 38.6	+0.9
J19A	Crowheart baz=78	77.50	330	⇑P	P	02 53 39.2	+1.0
F24A	Ekalaka baz=78	77.60	334	⇓P	P	02 53 39.6	+1.0
I19A	Meeteetse baz=78	78.07	331	⇓P	P	02 53 42.9	+1.5
ULM	Lac du Bonnet	78.46	342	P	P	02 53 44.1	+1.0
ULM	Lac du Bonnet comp=E,2.5nm,0.7s,baz=180,slow=11,SNR=2.4	78.46	342	P	P	02 53 44.1	+1.0
LOHW	Long Hollow comp=E,2.7nm,0.8s	78.48	329	*e*P	P	02 53 44.3	+0.6
ELK	Elko comp=E,12nm,1.4s	78.65	325	*e*P	P	02 53 45.2	+0.5
G20A	Bridger baz=79	78.66	332	⇓P	P	02 53 45.2	+0.7
NVAR	Mina Array Bea	78.70	321	P	P	02 53 46.0	+1.0
NVAR	Mina Array Bea comp=E,0.7nm,0.6s,baz=153,slow=6.8,SNR=4.7	78.70	321	P	P	02 53 46.0	+1.0
H18A	Shoshone NF, C baz=79	78.87	331	⇑P	P	02 53 46.7	+0.9
D23A	Lindsay baz=79	78.99	335	⇑P	P	02 53 47.1	+0.9
I16A	Newdale baz=79	79.09	329	⇑P	P	02 53 48.3	+1.3
G18A	Lazy EL Ranch, baz=80	79.32	331	⇓P	P	02 53 49.4	+1.3
F19A	Roth Farm, Mol baz=80	79.47	332	⇓P	P	02 53 49.6	+0.7
H16A	Russell Place, baz=80	79.61	330	⇑P	P	02 53 51.1	+1.3
D21A	La Casta Ranch baz=80	79.62	334	⇓P	P	02 53 50.7	+1.1
E20A	Meyer Farm, Mu baz=80	79.64	333	⇑P	P	02 53 50.9	+1.2
DGMT	Dagmar baz=80	79.67	336	⇑P	P	02 53 50.9	+1.1
C22A	Vida baz=80	79.72	335	⇓P	P	02 53 51.2	+1.1
F18A	Big Timber baz=80	79.85	331	⇓P	P	02 53 51.7	+0.8
E19A	Rath Farm, Rou baz=80,SNR=5.8	79.88	332	⇑P	P	02 53 51.7	+0.7
A24A	Westby baz=80	79.98	336	⇓P	P	02 53 52.8	+1.3
I14A	Mackay baz=80	80.07	328	⇓P	P	02 53 53.5	+1.2
F17A	Fitzpatrick Pl baz=81	80.27	331	⇑P	P	02 53 54.2	+1.0
C21A	Desert Coulee baz=81	80.27	334	⇑P	P	02 53 53.9	+0.9
E18A	Harlowton baz=81	80.45	332	⇑P	P	02 53 54.8	+0.7
MCMT	McKenzie Canyo	80.45	329	*e*P	P	02 53 55.6	+1.3
D19A	Cripps Ranch, baz=81	80.48	333	⇓P	P	02 53 55.2	+1.0
C20A	Veseth Ranch, baz=81	80.55	333	⇓P	P	02 53 55.4	+0.8
BOSA	Boshof comp=E,19nm,1.2s	80.68	117	*e*P	P	02 53 56.1	+0.1
BOSA	Boshof comp=E,3.7nm,0.5s,baz=254,slow=3.0,SNR=18	80.68	117	P	P	02 53 56.3	+0.3
B21A	Ellsworth Farm baz=81	80.72	334	⇑P	P	02 53 56.5	+1.1
A22A	Carney Farms, baz=81	80.75	335	⇑P	P	02 53 56.7	+1.1
E17A	Martinsdale baz=81	80.78	331	⇓P	P	02 53 56.8	+0.8
I12A	Atlanta baz=81	80.80	327	⇑P	P	02 53 57.1	+0.9
MFID	Camas Ranch baz=81	80.87	326	⇓P	P	02 53 57.5	+1.0
D18A	Linhart Farms, baz=81	80.89	332	⇑P	P	02 53 57.4	+1.0
C19A	Slack Wire Ran baz=81	81.00	333	⇑P	P	02 53 57.2	+0.3
F15A	Butte baz=81	81.05	330	⇓P	P	02 53 58.8	+1.4
B20A	Solberg Farm, baz=81	81.13	334	⇑P	P	02 53 58.3	+0.7
MAW	Mawson	81.20	163	P	P	02 53 58.8	+1.1
MAW	Mawson comp=E,2.3nm,0.6s,baz=195,slow=5.9,SNR=11	81.20	163	P	P	02 53 58.8	+1.1
H12A	Diamond D Ranc baz=82	81.21	328	⇓P	P	02 53 59.4	+1.1
D17A	Six Diamond Ra baz=82	81.24	332	⇑P	P	02 53 59.3	+1.0
A20A	Cobblestone Ra baz=82	81.45	334	⇓P	P	02 53 59.8	+0.6
EGMT	Eagleton baz=82	81.52	333	⇑P	P	02 54 00.7	+1.0
B19A	Brinkman Farms baz=82	81.52	333	⇓P	P	02 54 00.6	+0.9
D16A	Dana Ranch, Ca baz=82,SNR=6.7	81.52	331	⇓P	P	02 54 00.6	+0.8
C17A	Wharam Farm, baz=82	81.64	332	⇓P	P	02 54 01.0	+0.6
G12A	Big Creek, Yel baz=82	81.86	328	⇓P	P	02 54 02.7	+1.0
D15A	Lincoln baz=82	81.97	331	⇓P	P	02 54 03.4	+1.2
B17A	L&G Farms, Che baz=82	82.17	332	⇓P	P	02 54 03.9	+0.9
C16A	Fuhringer Ranc baz=82	82.20	331	⇓P	P	02 54 04.0	+0.7
A18A	Metzger Ranch, baz=83	82.26	333	⇓P	P	02 54 04.1	+0.7
LBTB	Lobatse comp=E,6.6nm,0.7s	82.35	114	*e*P	P	02 54 04.9	+0.2
D14A	Greenough baz=83	82.44	330	⇓P	P	02 54 05.4	+0.8
MSO	Missoula baz=83	82.45	330	⇓P	P	02 54 05.7	+1.1
C15A	Salmond Ranch, baz=83	82.56	331	⇓P	P	02 54 06.4	+1.2
A17A	Triple J Farms baz=83	82.63	333	⇓P	P	02 54 06.1	+0.6
D13A	Huson baz=83	82.89	330	⇑P	P	02 54 07.8	+1.0
E12A	Beaver Dam Sad baz=83	82.91	329	⇓P	P	02 54 08.0	+0.9
B15A	Bradely Ranch, baz=83	82.94	331	⇑P	P	02 54 07.2	0.0
A16A	West Butte Ran baz=83	83.01	332	⇑P	P	02 54 08.3	+0.8
C14A	Swan Lake baz=83	83.06	330	⇓P	P	02 54 08.7	+1.0
D12A	Red Ives Fores baz=84	83.27	329	⇓P	P	02 54 09.8	+1.0
B14A	Marquette Ranc baz=84	83.29	331	⇓P	P	02 54 09.7	+0.7
C13A	Hot Springs baz=84	83.37	330	⇓P	P	02 54 10.4	+1.1
A13A	Flathead Natio baz=84	84.22	331	⇑P	P	02 54 14.6	+1.0
C11A	Tepee Creek (N baz=85	84.27	329	⇓P	P	02 54 14.5	+0.7
LSZ	Lusaka comp=E,6.5nm,1.0s	88.51	106	*e*P	P	02 54 37.0	+1.6
ASAR	Alice Springs	128.17	205	PKP	PKPdf	03 00 48.1	-0.1
ASAR	Alice Springs comp=E,0.2nm,0.4s,baz=143,slow=2.3,SNR=6.2	128.17	205	PKP	PKPdf	03 00 48.1	-0.1
WRA	Warramunga Arr	131.35	207	PKP	PKPdf	03 00 54.5	+0.2
WRA				SKPbc	SKPbc	03 04 02.8	-1.8
WRA	Warramunga Arr comp=E,0.4nm,0.5s,baz=161,slow=1.6,SNR=20	131.35	207	PKP	PKPdf	03 00 54.5	+0.2
WRA				SKPbc	SKPbc	03 04 02.8	-1.8
ZALV	Zalesovo Beam comp=E,0.8nm,0.7s,baz=149,slow=3.3,SNR=12	143.67	28	PKP	PKPdf	03 01 15.8	+0.1
ZALV	Zalesovo Beam comp=E,1.0nm,0.5s,baz=299,slow=1.5,SNR=3.9	143.67	28	PKP	PKPdf	03 01 15.8	+0.1
MK31	Makanchi Array	146.79	40	*e*PKPbc	PKPbc	03 01 23.7	+0.3
MKAR	Makanchi Array	146.79	40	PKPbc	PKPbc	03 01 23.9	+0.5
MKAR	Makanchi Array comp=E,1.6nm,0.5s,baz=302,slow=3.1,SNR=22	146.79	40	PKPbc	PKPbc	03 01 23.9	+0.5
KAPI	Kappang	150.14	194	*e*PKPbc	PKPbc	03 01 33.2	+0.2
WMQ	Urumqi	151.61	40	PKPbc	PKPdf	03 01 27.5	-1.7
MJAR	Matsushiro Arr	155.07	305	PKPab	PKPab	03 02 00.5	+0.8
MJAR	Matsushiro Arr comp=E,0.5nm,0.5s,baz=104,slow=1.8,SNR=4.2	155.07	305	PKPab	PKPab	03 02 00.5	+0.8
HHC	Hu-ho-hao-te	163.43	4	*e*PKP	PKPdf	03 01 39.9	-4.1
HHC				pPKP	pPKPdf	03 02 22.6	-3.7
HHC				sPKP		03 02 39.2	
HHC				PKS	PKSdf	03 05 11.8	-5.3
HHC				PP	PP	03 06 19.9	-0.6
HHC				SKS	SKSdf	03 08 26.7	-7.1
HHC				SKKS	SKKSac	03 12 50.0	-3.9
HHC				SS	SS	03 26 30.4	-2.7
HHC				AMB	AMB		
	comp=Z,80nm,6.9s						
LZH	Lanzhou	165.87	32	*e*PKP	PKPdf	03 01 45.1	-1.3
LZH				pPKP	pPKPdf	03 02 27.8	-0.9
LZH				sPKP		03 02 44.5	

IDC ***01*** *02:43:19.7±3.1,34.62N×28.23E,h0km,mb3.8/3, mb1 3.6/6,mb1mx3.4/27,mbtmp3.6/6,ML3.3/3,Error ellipse: s-maj=68.4km s-min=25.5km az=48.0*
ISK ***01*** *02:43:24.8,34.75N×28.44E,h22km,MD3.7*
CSEM ***01*** *02:43:25.5±0.2,34.62N×28.44E,h40km,MD3.1,Error ellipse: s-maj=8.5km s-min=5.0km az=78.0*
DDA ***01*** *02:43:34.2,35.47N×28.49E,h25km,MD3.1*

ISC 01 02:43:26.1±2.8,35.02N±0.09×28.39E±0.05,h8km±14km, n54,σ1°37/56,mb3.6/3,Eastern Mediterranean Sea

Code	Station Name	Δ°	Az°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
AKAS	Kas	1.57	39	*i* P	Pb	02 43 55.4	0.0
AKAS				*i* S	Sg	02 44 17.4	+1.0
AKAS	Kas	1.57	39	*i* P	Pb	02 43 55.4	0.0
AKAS				*i* S	Sg	02 44 17.4	+1.0
AKAS	Kas	1.57	39	*i* P	Pb	02 43 55.4	0.0
AKAS				*i* S	Sg	02 44 17.4	+1.0
FETY	Fethiye	1.71	19	*e*PN	Pb	02 43 57.4	-0.3
FETY	Fethiye	1.71	19	*e*Pn	Pb	02 43 57.4	-0.3
DALY	Dalyan (Mu˘la	1.81	7	*e*PN	Pb	02 43 59.2	-0.1
DALY				*e*SN	Sg	02 44 24.3	+0.2
DALY	Dalyan (Mu˘la	1.81	7	*e*Pn	Pb	02 43 59.3	-0.1

DALY				*e*Sn	**Sg**	02 44 24.3	+0.2	
DAT	**Datca**	**1.82**	**339**	*e*PN	**Pb**	02 43 59.5	-0.3	
DAT	**Datca**	**1.82**	**339**	*e*Pn	**Pb**	02 43 59.5	-0.3	
TURN	**Turunc**	**1.86**	**5**	*i* P	**Pn**	02 43 57.9	-0.2	
TURN				*i* S	**Sn**	02 44 22.8	+1.0	
TURN	**Turunc**	**1.86**	**5**	*i* P	**Pn**	02 43 57.9	-0.2	
TURN				*i* S	**Sn**	02 44 22.8	+1.0	
TURN	**Turunc**	**1.86**	**5**	*i* P	**Pn**	02 43 57.9	-0.2	
YER	**Yerkesik**	**2.11**	**358**	*e*PN	**Pb**	02 44 04.0	-0.6	
YER	**Yerkesik**	**2.11**	**358**	*e*Pn	**Pb**	02 44 04.0	-0.6	
BODT	**Bodrum**	**2.21**	**337**	*e*PN	**Pn**	02 44 05.1	+2.0	
BODT	**Bodrum**	**2.21**	**337**	*e*Pn	**Pn**	02 44 05.1	+2.0	
MLSB	**Milas**	**2.32**	**348**	*e*PN	**Pn**	02 44 06.6	+2.0	
MLSB	**Milas**	**2.32**	**348**	*e*Pn	**Pn**	02 44 06.6	+2.0	
GOLH	**Golhisar**	**2.41**	**23**	*i* P	**Pn**	02 44 08.3	-1.4	
GOLH				*i* S	Sb	02 44 40.4	+0.8	
GOLH	**Golhisar**	**2.41**	**23**	*i* P	**Pb**	02 44 08.3	-1.4	
GOLH				*i* S	Sb	02 44 40.4	+0.8	
GOLH	**Golhisar**	**2.41**	**23**	*i* P	**Pb**	02 44 08.3	-1.4	
GOLH				*i* S	Sb	02 44 40.4	+0.8	
ANTB	**Antalya**	**2.63**	**44**	*e*PN	**Pn**	02 44 09.8	+1.0	
ANTB	**Antalya**	**2.63**	**44**	*e*Pn	**Pn**	02 44 09.8	+1.0	
AYDN	**Tasoluk**	**2.67**	**351**	*i* P	**Pb**	02 44 12.1	-2.0	
AYDN				*i* S	**Sb**	02 44 45.4	-1.6	
AYDN	**Tasoluk**	**2.67**	**351**	*i* P	**Pb**	02 44 12.1	-2.0	
AYDN				*i* S	**Sb**	02 44 45.4	-1.6	
AYDN	**Tasoluk**	**2.67**	**351**	*i* P	**Pb**	02 44 12.1	-2.0	
AYDN				*i* S	**Sb**	02 44 45.4	-1.6	
DNZL	**Cakiroluk**	**2.71**	**11**	*i* P	**Pn**	02 44 11.8	+1.6	
DNZL				*i* S	**Sn**	02 44 45.4	+2.1	
DNZL	**Cakiroluk**	**2.71**	**11**	*i* P	**Pn**	02 44 11.8	+1.6	
DNZL				*i* S	**Sn**	02 44 45.4	+2.1	
DNZL	**Cakiroluk**	**2.71**	**11**	*i* P	**Pn**	02 44 11.8	+1.6	
DNZL				*i* S	**Sn**	02 44 45.4	+2.1	
APE	**Apeiranthos**	**3.09**	**312**	*e*PN	**Pn**	02 44 16.8	+1.6	
APE	**Apeiranthos**	**3.09**	**312**	*e*Pn	**Pn**	02 44 16.8	+1.6	
SUTC	**Sutluce-Ispart**	**3.23**	**40**	*e*PN	**Pn**	02 44 18.5	+1.2	
SUTC	**Sutluce-Ispart**	**3.23**	**40**	*e*Pn	**Pn**	02 44 18.5	+1.2	
BLCB	**Balcova**	**3.53**	**343**	*e*PN	**Pn**	02 44 23.0	+1.9	
BLCB	**Balcova**	**3.53**	**343**	*e*Pn	**Pn**	02 44 23.0	+1.9	
HDMB	**Hadim**	**3.85**	**59**	*e*PN	**Pn**	02 44 26.3	+0.5	
HDMB	**Hadim**	**3.85**	**59**	*e*Pn	**Pn**	02 44 26.3	+0.5	
HMAT	**Matruh**	**4.06**	**196**	P	Pn	02 44 20.2	-8.4	
HMAT				S	Sn	02 44 58.8	-18	
KONT	**Konya--Tatoy**	**4.33**	**47**	*e*PN	**Pn**	02 44 33.7	+1.4	
KONT	**Konya--Tatoy**	**4.33**	**47**	*e*Pn	**Pn**	02 44 33.7	+1.4	
SLUM		**4.41**	**218**	P	Pn	02 44 27.8	-5.5	
IKL	**Isikli**	**4.49**	**73**	*e*PN	Pn	02 44 34.1	-0.2	
IKL	**Isikli**	**4.49**	**73**	*e*Pn	Pn	02 44 34.1	-0.2	
AMAG	**Maghara**	**5.96**	**136**	P	Pn	02 44 46.1	-8.6	
RSH		**6.04**	**131**	P	Pn	02 44 47.3	-8.4	
MMAI	**Mount Meron Ar**	**6.16**	**107**	Pn	Pn	02 44 51.9	-5.5	
	0.8nm,0.3s,baz=286,slow=10,SNR=2.4							
MMAI				Sn	Sn	02 45 57.0	-11	
	2.3nm,0.3s,baz=294,slow=26,SNR=4.9							
BRTR	**Keskin Array B**	**6.29**	**40**	Pn	**Pn**	**02 44 59.3**	**+0.1**	
	0.3nm,0.3s,baz=223,slow=15,SNR=8.5							
BRTR				Sn	**Sn**	**02 46 11.7**	**+0.4**	
	0.3nm,0.3s,baz=202,slow=25,SNR=9.9							
SUZ		**6.39**	**143**	P	Pn	02 44 51.8	-8.7	
HNKL	**Nakhl**	**6.94**	**136**	P	Pn	02 44 59.3	-8.8	
EIL	**Elat**	**7.70**	**132**	Pn	Pn	02 45 11.1	-7.5	
	0.9nm,0.3s,baz=239,slow=5.6,SNR=17							
EIL				Sn	Sn	02 46 27.3	-19	
	1.5nm,0.3s,baz=9.2,slow=18,SNR=6.5							
TR2		**8.03**	**144**	P	Pn	02 45 13.9	-9.1	
FINES	**FINESS Array B**	**26.48**	**358**	P	**P**	**02 49 01.9**	**-1.6**	
	1.1nm,0.8s,baz=158,slow=11,SNR=4.1							
HFS	**Hagfors**	**26.88**	**344**	P	**P**	**02 49 05.1**	**-2.0**	
	0.3nm,0.4s,baz=139,slow=9.8,SNR=4.6							
ARCES	**ARCESS Array B**	**34.60**	**358**	P	P	02 50 13.2	-2.0	
	1.6nm,0.9s,baz=185,slow=9.5,SNR=3.4							

IDC 01 02:46:21.0±7.9, 26°.79S×177°.40W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/17, mbtmp3.5/3, Error ellipse: s-maj=351.6km s-min=37.5km az=152.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.95**	**263**	P	P	02 54 30.0	-0.1
	0.4nm,0.4s,baz=96,slow=7.1,SNR=6.3						
WRA	**Warramunga Arr**	**44.61**	**268**	P	P	02 54 35.4	0.0
	0.4nm,0.8s,baz=107,slow=7.5,SNR=3.8						
ILAR	**Eielson Array**	**94.31**	**13**	P	P	02 59 42.6	+0.9
	0.2nm,0.5s,baz=190,slow=3.7,SNR=3.1						
NB2	**NORSAR Subarra**	**145.26**	**353**	PKP	PKPbc	03 05 59.5	-0.4
	comp=Z,0.5nm,0.6s,baz=17,slow=2.9						
NOA	**NORSAR Array B**	**145.26**	**353**	PKPbc	PKPbc	03 05 58.5	-1.4
	comp=Z,0.6nm,0.6s,baz=18,slow=2.8,SNR=4.5						
HFS	**Hagfors**	**145.81**	**350**	PKPbc	PKPdf	03 06 00.4	-0.7
	comp=Z,0.5nm,0.3s,baz=41,slow=2.7,SNR=9.7						
BRTR	**Keskin Array B**	**151.17**	**304**	PKPab	PKPab	03 06 23.8	-0.6
	comp=Z,0.4nm,0.6s,baz=72,slow=4.7,SNR=2.7						

*SKO **01** 02:47:51.7, 41°.22N×22°.73E, h15km, M1.3, ML1.8*
*CSEM **01** 02:47:52.9±0.1, 41°.25N×22°.72E, h2km, ML1.8, Error ellipse: s-maj=3.1km s-min=2.6km az=41.0*
*ISCJB **01** 02:47:52.6±0.4, 41°.25N±0°.02×22°.74E±0°.03, h5km±3km, Error ellipse: s-maj=3.6km s-min=3.1km az=149.5*
*ATH **01** 02:47:52.5, 41°.27N×22°.72E, h19km±1km, MD3.3/8*
*THE **01** 02:47:52.8, 41°.29N×22°.75E, h2km±2km, ML2.2/5, Error ellipse: s-maj=2.2km s-min=0.5km az=15.0*
*BEO **01** 02:47:54.1±0.9, 41°.26N×22°.63E, h1km±2km, ML1.8/5*
ISC 01 02:47:52.9±1.1, 41°.27N±0°.02×22°.73E±0°.02, h2km±10km, n48, σ0s.63/80, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.13**	**295**	P	**Pg**	**02 47 55.1**	**-0.4**
VAY				S	**Sg**	**02 47 57.4**	**+0.2**
VAY	**Valandovo**	**0.13**	**295**	*i* Pg	**Pg**	**02 47 55.7**	**+0.1**
VAY				*i* Sg	**Sg**	**02 47 58.0**	**+0.8**
VAY				*e*Lg	Lg	02 47 58.6	
	comp=N,638nm,0.8s						
VAY				*e*Lg	Lg	02 47 59.1	
	comp=E,420nm,0.4s						
VAY	**Valandovo**	**0.13**	**295**	*e*Pg	**Pg**	**02 47 55.1**	**-0.4**
VAY				*e*Sg	**Sg**	**02 47 57.5**	**+0.2**
VAY	**Valandovo**	**0.13**	**295**	P	**Pg**	**02 47 55.1**	**-0.4**
VAY	**Valandovo**	**0.13**	**295**	*i* Pg	**Pg**	**02 47 55.6**	**+0.1**
VAY				S	**Sg**	**02 47 57.4**	**+0.2**
VAY				*e*Lg	Lg	02 47 59.1	
	comp=E,420nm,0.4s						
GRG	**Griva**	**0.40**	**219**	P	**Pg**	**02 48 00.8**	**+0.3**
GRG				S	**Sg**	**02 48 07.0**	**+1.3**
GRG	**Griva**	**0.40**	**219**	P	**Pg**	**02 48 00.8**	**+0.3**
GRG				S	**Sg**	**02 48 07.0**	**+1.3**
THE	**Thessaloniki**	**0.66**	**164**	P	**Pg**	**02 48 05.6**	**+0.1**
THE				S	**Sg**	**02 48 14.5**	**+0.4**
THE	**Thessaloniki**	**0.66**	**164**	P	**Pg**	**02 48 05.6**	**+0.1**
THE				S	**Sg**	**02 48 14.5**	**+0.4**
SRS	**Serrai**	**0.67**	**103**	P	**Pg**	**02 48 05.3**	**-0.5**
SRS				S	**Sg**	**02 48 14.5**	**+0.1**
SRS	**Serrai**	**0.67**	**103**	P	**Pg**	**02 48 05.3**	**-0.5**
SRS				S	**Sg**	**02 48 14.5**	**+0.1**
HORT	**Hortiatis**	**0.72**	**157**	P	**Pg**	**02 48 06.6**	**-0.2**
HORT				S	**Sb**	**02 48 17.5**	**-1.3**
HORT	**Hortiatis**	**0.72**	**157**	P	**Pg**	**02 48 06.6**	**-0.2**
HORT				S	**Sb**	**02 48 17.5**	**-1.3**
NVR	**Nevrokopi**	**0.86**	**84**	*e*PN	**Pg**	**02 48 09.1**	**-0.3**
NVR				*e*SN	**Sg**	**02 48 20.9**	**+0.4**
NVR	**Nevrokopi**	**0.86**	**84**	*e*Pn	**Pg**	**02 48 09.1**	**-0.3**
NVR				*e*Sn	**Sg**	**02 48 20.9**	**+0.4**
PLG	**Polygyros**	**1.04**	**148**	P	**Pg**	**02 48 12.4**	**-0.5**
PLG				S	**Sb**	**02 48 27.6**	**-0.3**
PLG	**Polygyros**	**1.04**	**148**	*e*PN	**Pg**	**02 48 12.5**	**-0.5**
PLG				*e*SN	**Sg**	**02 48 26.5**	**0.0**
PLG	**Polygyros**	**1.04**	**148**	P	**Pg**	**02 48 12.4**	**-0.5**
PLG				*e*Sn	**Sg**	**02 48 26.5**	**0.0**
PLG				S	**Sb**	**02 48 27.6**	**-0.3**
BIA	**Bitola**	**1.09**	**257**	*e*Pg	**Pg**	**02 48 12.0**	**-1.9**
BIA				*e*Sg	**Sb**	**02 48 28.8**	**-0.4**
BIA	**Bitola**	**1.09**	**257**	*e*Pg	**Pg**	**02 48 11.9**	**-1.9**
BIA				*e*Sg	**Sb**	**02 48 28.8**	**-0.4**
FNA	**Florina**	**1.13**	**245**	P	**Pg**	**02 48 14.2**	**-0.4**
FNA				S	**Sb**	**02 48 31.0**	**+0.6**
FNA	**Florina**	**1.13**	**245**	*e*PN	**Pg**	**02 48 14.2**	**-0.2**
FNA				*e*SN	**Sg**	**02 48 29.1**	**-0.2**
FNA	**Florina**	**1.13**	**245**	P	**Pg**	**02 48 14.2**	**-0.4**
FNA				*e*Sn	**Sg**	**02 48 29.1**	**-0.2**
FNA				S	**Sb**	**02 48 31.0**	**+0.6**
LIT	**Litokhoron**	**1.18**	**189**	P	**Pg**	**02 48 14.8**	**-0.7**
LIT	**Litokhoron**	**1.18**	**189**	*e*PN	**Pg**	**02 48 15.0**	**-0.5**
LIT				*e*SN	**Sb**	**02 48 31.4**	**-0.4**
LIT	**Litokhoron**	**1.18**	**189**	P	**Pg**	**02 48 14.8**	**-0.7**
LIT				*e*Sn	**Sb**	**02 48 31.4**	**-0.4**
OUR	**Ouranopolis**	**1.33**	**134**	P	**Pg**	**02 48 18.0**	**-0.4**
OUR	**Ouranopolis**	**1.33**	**134**	P	**Pg**	**02 48 18.0**	**-0.4**
VTS	**Vitosha**	**1.37**	**15**	P	**Pn**	**02 48 18.9**	**-0.4**
VTS	**Vitosha**	**1.37**	**15**	*e*Pg	**Pn**	**02 48 18.7**	**-0.6**
VTS				*e*Sg	**Sn**	**02 48 38.4**	**+0.3**
VTS	**Vitosha**	**1.37**	**15**	P	**Pn**	**02 48 18.9**	**-0.4**
VTS				*e*Sg	**Sn**	**02 48 38.4**	**+0.3**
KAVA	**Kavala**	**1.38**	**101**	P	**Pn**	**02 48 18.9**	**-0.2**
KAVA	**Kavala**	**1.38**	**101**	P	**Pn**	**02 48 18.9**	**-0.2**
NEST	**Nestorio**	**1.53**	**237**	P	**Pn**	**02 48 21.4**	**0.0**
NEST	**Nestorio**	**1.53**	**237**	P	**Pn**	**02 48 21.4**	**0.0**
BARS	**Barje**	**1.69**	**337**	*e*Pn	**Pn**	**02 48 23.8**	**+0.3**
BARS				*e*Sn	**Sg**	**02 48 47.0**	**-0.3**
BARS	**Barje**	**1.69**	**337**	*e*Pn	**Pn**	**02 48 23.8**	**+0.3**
BARS				*e*Sn	**Sg**	**02 48 47.0**	**-0.3**
PLD	**Plovdiv**	**1.70**	**60**	*e*Sn	**Sg**	**02 48 48.9**	**+1.4**
ZAPS	**Zavoj**	**2.01**	**358**	*e*Pn	**Pn**	**02 48 28.9**	**+1.0**
ZAPS				*e*Sn	**Sn**	**02 48 54.3**	**+0.7**
RDO	**Rodhopi**	**2.12**	**92**	*e*PN	**Pn**	**02 48 29.3**	**-0.1**
RDO	**Rodhopi**	**2.12**	**92**	*e*Pn	**Pn**	**02 48 29.3**	**-0.1**
AGG	**Agios Georgios**	**2.26**	**188**	*e*PB	**Pn**	**02 48 31.2**	**-0.2**
AGG	**Agios Georgios**	**2.26**	**188**	*e*Pb	**Pn**	**02 48 31.2**	**-0.2**
SMTH	**Samothraki Isl**	**2.27**	**110**	*e*PN	**Pn**	**02 48 32.9**	**+1.4**
SMTH	**Samothraki Isl**	**2.27**	**110**	*e*Pn	**Pn**	**02 48 32.9**	**+1.4**
SELS	**Selova**	**2.29**	**329**	*e*Pn	**Pn**	**02 48 32.0**	**+0.4**
SELS				*e*Sn	**Sn**	**02 49 01.3**	**+0.8**
ALN	**Alexandroupoli**	**2.53**	**97**	*e*PN	**Pn**	**02 48 35.0**	**-0.1**
ALN	**Alexandroupoli**	**2.53**	**97**	*e*Pn	**Pn**	**02 48 35.0**	**-0.1**

*SKO **01** 03:04:39.2, 41°.16N×22°.70E, h15km, M1.0, ML1.6*
*ISCJB **01** 03:04:40.8±0.5, 41°.26N±0°.02×22°.73E±0°.03, h4km±4km, Error ellipse: s-maj=4.0km s-min=3.4km az=167.2*
*ATH **01** 03:04:40.5, 41°.33N×22°.75E, h32km±2km, MD3.1/4*
*THE **01** 03:04:40.7, 41°.28N×22°.74E, h2km±17km, ML2.0/5, Error ellipse: s-maj=17.4km s-min=0.3km az=334.0*
*CSEM **01** 03:04:41.1±0.2, 41°.23N×22°.71E, h8km, ML1.7, Error ellipse: s-maj=4.2km s-min=3.7km az=70.0*
*BEO **01** 03:04:43.3±0.7, 41°.33N×22°.63E, h2km±3km, ML1.7/5*
ISC 01 03:04:40.9±0.8, 41°.28N±0°.02×22°.71E±0°.02, h10km±6km, n37, σ0s.65/67, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.11**	**294**	P	**Pg**	**03 04 43.2**	**-0.4**
VAY				S	**Sg**	**03 04 45.5**	**0.0**
VAY	**Valandovo**	**0.11**	**294**	*i* Pg	**Pg**	**03 04 43.7**	**+0.1**
VAY				*i* Sg	**Sg**	**03 04 45.9**	**+0.4**
VAY				*e*Lg	Lg	03 04 46.1	
	comp=N,418nm,0.8s						
VAY				*e*Lg	Lg	03 04 47.1	
	comp=E,262nm,0.4s						
VAY	**Valandovo**	**0.11**	**294**	*i* Pg	**Pg**	**03 04 43.7**	**+0.1**
VAY				*i* Sg	**Sg**	**03 04 46.1**	**+0.5**
VAY				*i* Lg	Lg	03 04 46.3	
	comp=N,433nm,0.8s						
VAY				*i* Lg	Lg	03 04 47.2	
	comp=E,262nm,0.4s						
VAY	**Valandovo**	**0.11**	**294**	*e*Pg	**Pg**	**03 04 43.2**	**-0.4**
VAY				*e*Sg	**Sg**	**03 04 45.6**	**0.0**
VAY	**Valandovo**	**0.11**	**294**	P	**Pg**	**03 04 43.2**	**-0.4**
VAY	**Valandovo**	**0.11**	**294**	*i* Pg	**Pg**	**03 04 43.7**	**+0.1**
VAY				*i* Sg	**Sg**	**03 04 46.0**	**+0.5**
VAY				*i* Lg	Lg	03 04 47.1	
	comp=E,262nm,0.4s						
GRG	**Griva**	**0.39**	**216**	P	**Pg**	**03 04 48.8**	**+0.2**
GRG				S	**Sg**	**03 04 54.8**	**+1.0**
GRG	**Griva**	**0.39**	**216**	P	**Pg**	**03 04 48.8**	**+0.2**
GRG				S	**Sg**	**03 04 54.8**	**+1.0**
THE	**Thessaloniki**	**0.67**	**163**	P	**Pg**	**03 04 53.4**	**-0.5**
THE				S	**Sg**	**03 05 03.1**	**+0.4**
THE	**Thessaloniki**	**0.67**	**163**	P	**Pg**	**03 04 53.4**	**-0.5**
THE				S	**Sg**	**03 05 03.1**	**+0.4**
SRS	**Serrai**	**0.69**	**103**	P	**Pg**	**03 04 53.4**	**-0.8**
SRS				S	**Sg**	**03 05 02.8**	**-0.4**
SRS	**Serrai**	**0.69**	**103**	P	**Pg**	**03 04 53.4**	**-0.8**
SRS				S	**Sg**	**03 05 02.8**	**-0.4**
HORT	**Hortiatis**	**0.74**	**156**	P	**Pg**	**03 04 54.7**	**-0.5**
HORT				S	**Sg**	**03 05 05.3**	**+0.4**
HORT	**Hortiatis**	**0.74**	**156**	P	**Pg**	**03 04 54.7**	**-0.5**
HORT				S	**Sg**	**03 05 05.3**	**+0.4**
NVR	**Nevrokopi**	**0.88**	**85**	*e*PN	**Pg**	**03 04 56.9**	**-0.9**
NVR				*e*SN	**Sg**	**03 05 08.9**	**-0.3**
NVR	**Nevrokopi**	**0.88**	**85**	*e*Pn	**Pg**	**03 04 56.9**	**-0.9**
NVR				*e*Sn	**Sg**	**03 05 08.9**	**-0.3**
PLG	**Polygyros**	**1.06**	**148**	P	**Pg**	**03 05 00.5**	**-0.8**
PLG				S	**Sg**	**03 05 15.4**	**+0.3**
PLG	**Polygyros**	**1.06**	**148**	*e*PN	**Pg**	**03 05 00.5**	**-0.8**
PLG				*e*SN	**Sg**	**03 05 15.4**	**+0.3**
PLG	**Polygyros**	**1.06**	**148**	*e*Pn	**Pg**	**03 05 00.5**	**-0.8**
PLG				*e*Sn	**Sg**	**03 05 15.4**	**+0.3**
FNA	**Florina**	**1.12**	**244**	P	**Pg**	**03 05 02.0**	**-0.4**
FNA	**Florina**	**1.12**	**244**	*e*PN	**Pg**	**03 05 02.0**	**-0.4**
FNA				*e*SN	**Sn**	**03 05 18.2**	**0.0**
FNA	**Florina**	**1.12**	**244**	P	**Pg**	**03 05 02.0**	**-0.4**
FNA	**Florina**	**1.12**	**244**	*e*Pn	**Pg**	**03 05 02.4**	**0.0**
FNA				*e*Sn	**Sn**	**03 05 18.2**	**0.0**
LIT	**Litokhoron**	**1.18**	**188**	*e*PN	**Pb**	**03 05 03.4**	**-0.1**
LIT	**Litokhoron**	**1.18**	**188**	*e*Pn	**Pb**	**03 05 03.4**	**-0.1**
OUR	**Ouranopolis**	**1.35**	**134**	P	**Pb**	**03 05 06.1**	**-0.2**
OUR				S	**Sg**	**03 05 25.1**	**+0.8**
OUR	**Ouranopolis**	**1.35**	**134**	P	**Pb**	**03 05 06.1**	**-0.2**
OUR				S	**Sg**	**03 05 25.1**	**+0.8**
VTS	**Vitosha**	**1.37**	**16**	P	**Pb**	**03 05 06.7**	**0.0**
VTS				S	**Sg**	**03 05 24.8**	**-0.2**
VTS	**Vitosha**	**1.37**	**16**	*e*Sg	**Sg**	**03 05 25.5**	**+0.5**
VTS	**Vitosha**	**1.37**	**16**	P	**Pb**	**03 05 06.7**	**0.0**
VTS				S	**Sg**	**03 05 24.8**	**-0.2**
VTS				*e*Sg	**Sg**	**03 05 25.5**	**+0.5**
KAVA	**Kavala**	**1.39**	**101**	P	**Pn**	**03 05 06.5**	**0.0**
KAVA	**Kavala**	**1.39**	**101**	P	**Pn**	**03 05 06.5**	**0.0**
BARS	**Barje**	**1.68**	**337**	*e*Pn	**Pb**	**03 05 11.7**	**-0.2**
BARS				*e*Sn	**Sg**	**03 05 34.1**	**-0.7**
BARS	**Barje**	**1.68**	**337**	*e*Pn	**Pb**	**03 05 11.7**	**-0.2**
BARS				*e*Sn	**Sg**	**03 05 34.1**	**-0.7**
PLD	**Plovdiv**	**1.71**	**60**	*e*Pg	**Pg**	**03 05 15.2**	**+1.5**
PLD				*e*Sg	**Sg**	**03 05 37.9**	**+2.0**
PLD	**Plovdiv**	**1.71**	**60**	*e*Pg	**Pg**	**03 05 15.2**	**+1.5**
PLD				*e*Sg	**Sg**	**03 05 37.9**	**+2.0**
ZAPS	**Zavoj**	**2.00**	**358**	*e*Pn	**Pg**	**03 05 18.3**	**-0.9**
ZAPS				*e*Sn	**Sb**	**03 05 42.4**	**0.0**

*CSEM **01** 03:29:18.9±0.1, 38°.79N×23°.42E, h15km, ML1.9/2, Error ellipse: s-maj=3.8km s-min=2.5km az=97.0*
*ATH **01** 03:29:18.9, 38°.81N×23°.38E, h25km±3km, MD2.7/3, ML2.1*
*ISCJB **01** 03:29:19.1±0.5, 38°.83N±0°.03×23°.38E±0°.06, h24km±5km, Error ellipse: s-maj=8.5km s-min=5.1km az=21.5*
*THE **01** 03:29:19.9, 38°.84N×23°.41E, h12km±2km, ML1.9/2, Error ellipse: s-maj=2.7km s-min=0.6km az=299.0*
ISC 01 03:29:19.0±0.9, 38°.81N±0°.03×23°.42E±0°.03, h17km±7km, n26, σ0s.14/38, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMIA	**Simia**	**0.18**	**295**	P	**Pg**	**03 29 23.6**	**+0.1**
SMIA				S	**Sg**	**03 29 26.6**	**0.0**
SMIA	**Simia**	**0.18**	**295**	P	**Pg**	**03 29 23.6**	**+0.1**
SMIA				S	**Sg**	**03 29 26.6**	**0.0**
LKR	**Lokris**	**0.36**	**245**	*e*PB	**Pg**	**03 29 26.4**	**-0.1**
LKR				*e*SB	**Sb**	**03 29 32.0**	**-0.2**
LKR	**Lokris**	**0.36**	**245**	*e*Pb	**Pg**	**03 29 26.4**	**-0.1**
LKR				*e*Sb	**Sb**	**03 29 32.0**	**-0.2**
SKIA	**Skiathos**	**0.36**	**6**	P	**Pb**	**03 29 27.0**	**0.0**
SKIA				S	**Sg**	**03 29 31.9**	**+0.2**
SKIA	**Skiathos**	**0.36**	**6**	P	**Pb**	**03 29 27.0**	**0.0**
SKIA				S	**Sg**	**03 29 31.9**	**+0.2**
AOS	**Alonnisos**	**0.51**	**45**	P	**Pg**	**03 29 29.2**	**-0.1**
AOS				S	**Sg**	**03 29 36.1**	**-0.1**
AOS	**Alonnisos**	**0.51**	**45**	*e*PN	**Pg**	**03 29 29.2**	**-0.1**
AOS	**Alonnisos**	**0.51**	**45**	*e*Pn	**Pg**	**03 29 29.2**	**-0.1**
AOS				S	**Sg**	**03 29 36.1**	**-0.1**
NEO	**Neokhori**	**0.52**	**343**	P	**Pg**	**03 29 29.6**	**+0.1**
NEO	**Neokhori**	**0.52**	**343**	*e*PN	**Pb**	**03 29 29.7**	**0.0**
NEO				*e*SN	**Sb**	**03 29 37.3**	**+0.3**
NEO	**Neokhori**	**0.52**	**343**	*e*Pn	**Pb**	**03 29 29.7**	**0.0**
NEO				*e*Sn	**Sb**	**03 29 37.3**	**+0.3**
XOR	**Xorichti**	**0.59**	**343**	P	**Pg**	**03 29 30.6**	**-0.1**
XOR				S	**Sg**	**03 29 38.5**	**0.0**
XOR	**Xorichti**	**0.59**	**343**	P	**Pg**	**03 29 30.6**	**-0.1**
XOR				S	**Sg**	**03 29 38.5**	**0.0**
AXAR	**Agios Charalam**	**0.59**	**267**	P	**Pb**	**03 29 31.0**	**+0.1**
AXAR	**Agios Charalam**	**0.59**	**267**	P	**Pb**	**03 29 31.0**	**+0.1**
PTL	**Penteli**	**0.83**	**155**	*e*PN	**Pn**	**03 29 35.9**	**0.0**
PTL	**Penteli**	**0.83**	**155**	*e*Pn	**Pn**	**03 29 35.9**	**0.0**
LTK	**Loutraki**	**0.86**	**204**	*e*PN	**Pb**	**03 29 35.3**	**-0.1**
LTK	**Loutraki**	**0.86**	**204**	*e*Pn	**Pb**	**03 29 35.3**	**-0.1**
ATH	**Athens Observa**	**0.86**	**164**	*e*PN	**Pn**	**03 29 36.2**	**-0.1**
ATH	**Athens Observa**	**0.86**	**164**	*e*Pn	**Pn**	**03 29 36.2**	**-0.1**
NAIG	**Nisos Aigina**	**1.05**	**177**	*e*PN	**Pg**	**03 29 39.5**	**+0.3**
NAIG	**Nisos Aigina**	**1.05**	**177**	*e*Pn	**Pg**	**03 29 39.5**	**+0.3**
DID	**Didima**	**1.30**	**186**	*e*PN	**Pb**	**03 29 43.1**	**+0.1**
DID	**Didima**	**1.30**	**186**	*e*Pn	**Pb**	**03 29 43.1**	**+0.1**

*CSEM **01** 03:29:33.3, 38°.35N×21°.99E, h5km, MD2.2, After ATH*
ATH 01 03:29:33.3, 38°.35N×21°.99E, h5km, MD2.2/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRIZ	**Trizonia**	**0.07**	**77**	*e*PG	Pg	03 29 35.0	+0.1
TRIZ	**Trizonia**	**0.07**	**77**	*e*Pg	Pg	03 29 35.0	+0.1
LAKA	**Lakka**	**0.11**	**185**	*e*PG	Pg	03 29 35.8	+0.1
LAKA				*e*SG	Sg	03 29 36.5	-0.7
LAKA	**Lakka**	**0.11**	**185**	*e*Pg	Pg	03 29 35.8	+0.1
LAKA				*e*Sg	Sg	03 29 36.5	-0.7
KALE	**Kalithea**	**0.12**	**71**	*e*PG	Pg	03 29 35.6	-0.4
KALE				*e*SG	Sg	03 29 37.7	-0.1
KALE	**Kalithea**	**0.12**	**71**	*e*Pg	Pg	03 29 35.6	-0.4
KALE				*e*Sg	Sg	03 29 37.7	-0.1
KLV	**Kalavryta, Ach**	**0.33**	**157**	*e*PB	Pg	03 29 40.2	+0.4
KLV	**Kalavryta, Ach**	**0.33**	**157**	*e*Pb	Pg	03 29 40.2	+0.4

*IDC **01** 03:33:28.8±2.2, 2°.20N×128°.28E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/21, mbtmp3.7/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/31, Error ellipse: s-maj=161.1km s-min=24.3km az=68.0*
*DJA **01** 03:33:29.1±1.3, 2°.N±6°×12°.8E±°, h28km±4km, M4.1/3, mb4.4/1, MLv3.9/3*
ISC 01 03:33:25.1±3.9, 1°.9N±0°.1×128°.2E±0°.2, h10km, n9, σ1s.66/8, mb3.4/3, Halmahera

| Code | Station Name | Δ° | AZ° | Ph

ZKR					S		Sb	04 16 22.6	+0.1	
NPS	**Neapolis**	**1.06**	**1**		P		Pn	04 16 08.0	-0.4	
NPS					S		Sb	04 16 23.2	+0.4	
NPS	**Neapolis**	**1.06**	**1**		*e*PN		Pn	04 16 08.0	-0.4	
NPS	**Neapolis**	**1.06**	**1**		P		Pn	04 16 08.0	-0.4	
NPS					S		Sb	04 16 23.2	+0.4	
IDI	**Anoyia**	**1.23**	**332**		P		Pn	04 16 10.6	-0.1	
IDI					S		Sb	04 16 28.1	+0.5	
IDI	**Anoyia**	**1.23**	**332**		*e*PN		Pn	04 16 10.7	0.0	
IDI	**Anoyia**	**1.23**	**332**		P		Pn	04 16 10.6	-0.1	
IDI					S		Sb	04 16 28.1	+0.5	
GVD	**Gavdhos**	**1.39**	**298**		P		Pn	04 16 13.0	+0.1	
GVD	**Gavdhos**	**1.39**	**298**		*e*PN		Pb	04 16 14.4	-0.4	
GVD	**Gavdhos**	**1.39**	**298**		P		Pn	04 16 13.0	+0.1	
GVD	**Gavdhos**	**1.39**	**298**		*e*Pn		Pb	04 16 14.4	-0.4	
VAM	**Vamos**	**1.66**	**317**		P		Pn	04 16 16.6	0.0	
VAM					S		Sn	04 16 38.2	+1.3	
VAM	**Vamos**	**1.66**	**317**		*e*PB		Pn	04 16 16.5	0.0	
VAM	**Vamos**	**1.66**	**317**		*e*Pb		Pn	04 16 16.5	0.0	
VAM					S		Sn	04 16 38.2	+1.3	
KARP	**Karpathos**	**1.87**	**43**		P		Pn	04 16 19.4	-0.1	
KARP	**Karpathos**	**1.87**	**43**		*e*PN		Pn	04 16 19.7	+0.2	
KARP	**Karpathos**	**1.87**	**43**		P		Pn	04 16 19.4	-0.1	
KARP	**Karpathos**	**1.87**	**43**		*e*Pn		Pn	04 16 19.7	+0.2	
VLI	**Veliai**	**3.32**	**320**		*e*PN		Pn	04 16 38.2	-1.1	
VLI	**Veliai**	**3.32**	**320**		*e*Pn		Pn	04 16 38.2	-1.1	

TIR ***01*** *04:18:58.0±2.8, 40°.65N×19°.52E, h0km±17km, ML3.8*
SKO ***01*** *04:18:58.7, 40°.50N×19°.44E, h0km*
CSEM ***01*** *04:19:00.2±0.3, 40°.64N×19°.52E, h2km, ML3.8, Error ellipse: s-maj=7.2km s-min=5.0km az=53.0*
PDG ***01*** *04:19:01.7±0.2, 40°.77N×19°.63E, h12km, ML2.4/8, Error ellipse: s-maj=0.3km s-min=0.3km az=0.0*

ISC 01 04:19:00.6±1.2, 40°.73N±0°.03×19°.60E±0°.03, h10km±10km, n56, σ1§52/77, 14C-2D, Albania

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.27**	**197**	*e*PG		Pg	04 19 04.0	-2.1
VLO	**Vlora**	**0.27**	**197**	*e*Pg		Pg	04 19 04.0	-2.1
	SNR=9.0							
SRN	**Sarande**	**0.90**	**160**	*e*Pg		**Pg**	**04 19 16.0**	**-2.0**
SRN				*i* SG		**Sn**	**04 19 33.7**	**+1.2**
SRN	**Sarande**	**0.90**	**160**	*e*Pg		**Pg**	**04 19 16.0**	**-2.0**
	SNR=9.0							
KBN	**Korca**	**0.91**	**96**	*e*PG		**Pg**	**04 19 17.9**	**-0.3**
KBN				*i* SG		**Sn**	**04 19 32.9**	**+0.1**
KBN	**Korca**	**0.91**	**96**	*e*Pg		**Pg**	**04 19 17.9**	**-0.3**
	SNR=9.0							
KBN				*i* Sg		**Sn**	**04 19 32.9**	**+0.1**
	SNR=9.0							
KEK	**Kerkira**	**1.03**	**171**	*e*P		**Pb**	**04 19 19.6**	**-0.9**
PHP	**Peshkopia**	**1.15**	**33**	*e*PN		**Pn**	**04 19 24.0**	**+1.2**
PHP				*e*PN		Sn	04 19 43.7	+5.1
PHP	**Peshkopia**	**1.15**	**33**	*e*Pn		**Pn**	**04 19 24.0**	**+1.2**
ULC	**Ulcinj**	**1.26**	**348**	*e*Pg		**Pg**	**04 19 24.9**	**+0.1**
ULC				*e*Sg		**Sg**	**04 19 44.1**	**+2.9**
ULC	**Ulcinj**	**1.26**	**348**	*e*Pg		**Pg**	**04 19 24.9**	**+0.1**
PUK	**Puka**	**1.33**	**10**	*i* PN		**Pg**	**04 19 26.3**	**+0.2**
PUK				*i* SN		Sg	04 19 50.5	+7.1
PUK	**Puka**	**1.33**	**10**	*i* Pn		**Pg**	**04 19 26.3**	**+0.2**
	SNR=4.0							
BIA	**Bitola**	**1.34**	**77**	*e*Pg		**Pb**	**04 19 25.7**	**-0.2**
BIA				*e*Sg		**Sg**	**04 19 47.1**	**+3.3**
BIA	**Bitola**	**1.34**	**77**	*e*Pg		**Pb**	**04 19 25.6**	**-0.2**
BIA				*e*Sg		**Sg**	**04 19 47.0**	**+3.3**
FNA	**Florina**	**1.35**	**87**	*e*P		**Pn**	**04 19 23.5**	**-2.1**
JAN	**Janina**	**1.44**	**138**	*e*P		**Pg**	**04 19 29.2**	**+1.0**
BUM	**Brajici-Budva**	**1.66**	**342**	⇑*i*Pn		**Pb**	**04 19 31.0**	**-0.2**
BUM				*e*Sn		**Sg**	**04 19 54.4**	**+0.6**
BUM	**Brajici-Budva**	**1.66**	**342**	⇑*i*Pn		**Pb**	**04 19 31.0**	**-0.2**
BCI	**Bajram Curri**	**1.67**	**12**	*e*PN		**Pg**	**04 19 33.4**	**+0.7**
BCI				*i* SN		**Sg**	**04 19 57.1**	**+2.7**
BCI	**Bajram Curri**	**1.67**	**12**	*e*Pn		**Pg**	**04 19 33.4**	**+0.7**
	SNR=4.0							
BCI				*i* Sn		**Sg**	**04 19 57.1**	**+2.7**
	SNR=4.0							
KZN	**Kozani**	**1.71**	**104**	*e*P		**Pg**	**04 19 33.5**	**+0.1**
PDG	**Podgorica**	**1.72**	**352**	⇑*i*Pn		**Pb**	**04 19 32.4**	**+0.2**
PDG				*e*Sn		**Sg**	**04 19 55.9**	**+0.1**
TTG	**Podgorica**	**1.72**	**352**	⇑*i*Pn		**Pb**	**04 19 32.4**	**+0.2**
TTG				*e*Sn		**Sg**	**04 19 55.9**	**+0.1**
SKO	**Skopje**	**1.86**	**48**	*e*Pn		**Pg**	**04 19 35.4**	**-0.9**
SKO	**Skopje**	**1.86**	**48**	*e*Pn		**Pg**	**04 19 35.4**	**-0.9**
PVY	**Plav**	**1.88**	**8**	⇓*i*Pn		**Pb**	**04 19 34.2**	**-0.9**
PVY				*e*Sn		**Sg**	**04 19 59.8**	**-1.3**
PVY	**Plav**	**1.88**	**8**	⇓*i*Pn		**Pb**	**04 19 34.2**	**-0.9**
PVY				*e*Sn		**Sg**	**04 19 59.8**	**-1.3**
HCY	**Herceg Novi**	**1.90**	**335**	⇑*i*Pn		**Pb**	**04 19 34.6**	**-0.9**
HCY				*e*Sn		**Sg**	**04 20 01.0**	**-0.8**
HCY	**Herceg Novi**	**1.90**	**335**	⇑*i*Pn		**Pb**	**04 19 34.6**	**-0.9**
LKD2	**Lefkada island**	**2.10**	**157**	*e*P		**Pn**	**04 19 37.5**	**+1.6**
NKY	**Niksic**	**2.13**	**348**	⇑*i*Pn		**Pb**	**04 19 37.6**	**-1.7**
NKY				*e*Sn		**Sb**	**04 20 05.5**	**-0.4**
NKY	**Niksic**	**2.13**	**348**	⇑*i*Pn		**Pb**	**04 19 37.6**	**-1.7**
GRG	**Griva**	**2.14**	**83**	*e*P		**Pb**	**04 19 39.4**	**-0.1**
BEY	**Berane**	**2.15**	**6**	*e*Pn		**Pb**	**04 19 38.1**	**-1.6**
BEY				*e*Sn		**Sb**	**04 20 06.1**	**-0.4**
IVA	**Berane**	**2.15**	**6**	*e*Pn		**Pb**	**04 19 38.1**	**-1.6**
IVA				*e*Sn		**Sb**	**04 20 06.1**	**-0.4**
LIT	**Litokhoron**	**2.30**	**105**	*e*P		**Pb**	**04 19 41.1**	**-1.0**
BRY	**Bratogost**	**2.31**	**340**	⇑*i*Pn		**Pb**	**04 19 40.8**	**-1.6**
BRY				*e*Sn		**Sb**	**04 20 10.4**	**-0.7**
BRY	**Bratogost**	**2.31**	**340**	⇑*i*Pn		**Pb**	**04 19 40.8**	**-1.6**
VAY	**Valandovo**	**2.33**	**74**	*e*Pn		**Pb**	**04 19 41.2**	**-1.5**
VAY	**Valandovo**	**2.33**	**74**	*e*Pn		**Pb**	**04 19 41.1**	**-1.5**
UPM	**Unac-Piva**	**2.52**	**348**	⇑*i*Pn		**Pn**	**04 19 43.4**	**+1.6**
UPM				*e*Sn		**Sb**	**04 20 15.5**	**-1.8**
UPM	**Unac-Piva**	**2.52**	**348**	⇑*i*Pn		**Pn**	**04 19 43.4**	**+1.6**
STON	**Ston**	**2.57**	**327**	*e*Pn		**Pn**	**04 19 43.1**	**+0.9**
STON				Sn		**Sn**	**04 20 15.3**	**+1.8**
STON	**Ston**	**2.57**	**327**	*e*Pn		**Pn**	**04 19 43.1**	**+0.9**
STON				Sn		**Sn**	**04 20 15.3**	**+1.8**
PLE	**Pljevlja**	**2.60**	**357**	⇑*i*Pn		**Pn**	**04 19 44.2**	**+1.3**
PLE				*e*Sn		**Sb**	**04 20 16.6**	**-2.9**
PLE	**Pljevlja**	**2.60**	**357**	⇑*i*Pn		**Pn**	**04 19 44.2**	**+1.3**
PLE				*e*Sn		**Sb**	**04 20 16.6**	**-2.9**
AGG	**Agios Georgios**	**2.71**	**128**	*e*P		**Pn**	**04 19 45.8**	**+1.6**
BBLS	**Lazići**	**3.14**	**357**	*e*Pn		**Pb**	**04 19 54.2**	**-2.3**
DIVS	**Divibare**	**3.38**	**5**	*e*Pn		**Pb**	**04 19 59.2**	**-1.4**
ZAPS	**Zavoj**	**3.40**	**41**	*e*Pn		**Pb**	**04 19 57.9**	**-3.1**
TEKS	**Tekeris**	**3.82**	**359**	*e*Pn		**Pn**	**04 19 56.5**	**-3.0**
UDBI	**Udbina**	**4.73**	**325**	*e*Pn		Pn	04 20 15.7	+3.6
UDBI	**Udbina**	**4.73**	**325**	*e*Pn		Pn	04 20 15.7	+3.6
NVLJ	**Novalja**	**5.18**	**319**	*e*Pn		**Pn**	**04 20 19.5**	**+1.4**
NVLJ				Sn		**Sn**	**04 21 18.7**	**+0.8**
NVLJ	**Novalja**	**5.18**	**319**	*e*Pn		**Pn**	**04 20 19.5**	**+1.4**
NVLJ				Sn		**Sn**	**04 21 18.6**	**+0.8**

ISCJB ***01*** *04:31:50.2±0.7, 19°.59S±0°.06×68°.7W±0°.1, h130km, mb4.3/4, Error ellipse: s-maj=15.5km s-min=8.6km az=9.1*
NEIC ***01*** *04:31:50.4±0.9, 19°.55S×68°.76W, h118km±10km, mb4.1/1, Error ellipse: s-maj=15.0km s-min=10.2km az=85.0*
IDC ***01*** *04:31:52.0±1.6, 19°.60S×68°.59W, h129km±15km, mb4.1/5, mb1 4.0/9, mb1mx3.6/22, mbtmp3.9/9, MS2.7/1, Ms1 2.7/1, ms1mx2.3/30, Error ellipse: s-maj=23.3km s-min=16.8km az=102.0*

ISC 01 04:31:51.8±0.8, 19°.66S±0°.07×68°.6W±0°.1, h130km, n27, σ1§16/29, mb4.2/4, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.95**	**185**	*e*Pn		**Pn**	**04 32 38.1**	**+0.2**
LVC				*e*S		**Sn**	**04 33 09.6**	**-3.9**
LVC	**Limon Verde**	**2.95**	**185**	P		**Pn**	**04 32 38.2**	**+0.3**
	10.0nm,0.3s,baz=10,slow=7.9,SNR=76							
LVC				S		**Sn**	**04 33 12.5**	**-1.0**
	31nm,0.3s,baz=344,slow=8.8,SNR=12							
LPAZ	**La Paz**	**3.39**	**8**	*e*Pn		**Pn**	**04 32 43.8**	**-0.3**
LPAZ	**La Paz**	**3.39**	**8**	P		**Pn**	**04 32 44.0**	**-0.1**
	12nm,0.3s,baz=201,slow=6.2,SNR=345							
ARE	**Arequipa**	**4.18**	**319**	*e*P		Pn	04 32 48.0	-6.3
ARE				*e*S		Sn	04 33 31.0	-12
SIV	**San Ignacio**	**8.07**	**64**	P		**Pn**	**04 33 45.2**	**-1.1**
SIV	**San Ignacio**	**8.07**	**64**	P		**Pn**	**04 33 45.2**	**-1.1**
	6.0nm,0.3s,baz=269,slow=10,SNR=140							
SIV				LR		LR	04 37 02.0	
	comp=Z,47nm,19.7s,slow=39							

CFAA	**Coronel Fontan**	**11.90**	**178**		P		**Pn**	**04 34 37.9**	**+0.6**	
CFAA	**Coronel Fontan**	**11.90**	**178**		P		**Pn**	**04 34 37.9**	**+0.6**	
	0.0nm,0.3s,baz=348,slow=10,SNR=3.9									
CPUP	**Villa Florida**	**12.34**	**125**		P		**Pn**	**04 34 43.4**	**+0.3**	
CPUP	**Villa Florida**	**12.34**	**125**		P		**Pn**	**04 34 43.4**	**+0.3**	
	0.4nm,0.3s,baz=286,slow=12,SNR=5.8									
TRQA	**Tornquist**	**19.22**	**164**	*e*P			**P**	**04 36 06.5**	**+0.7**	
	7.8nm,0.7s									
BDFB	**Brasilia**	**20.05**	**82**	P			**P**	**04 36 16.0**	**+1.0**	
BDFB	**Brasilia**	**20.05**	**82**	P			**P**	**04 36 16.0**	**+1.0**	
	5.0nm,0.6s,baz=248,slow=13,SNR=8.7									
PLCA	**Paso Flores**	**21.07**	**184**	P			**P**	**04 36 28.0**	**+2.4**	
PLCA	**Paso Flores**	**21.07**	**184**	P			**P**	**04 36 28.0**	**+2.4**	
	9.6nm,1.0s,baz=356,slow=11,SNR=3.5									
TEIG	**Tepich**	**44.07**	**333**	P			**P**	**04 39 46.7**	**-0.2**	
TEIG	**Tepich**	**44.07**	**333**	P			**P**	**04 39 46.7**	**-0.2**	
	4.8nm,0.8s,baz=96,slow=6.8,SNR=3.4									
DBIC	**Dimbokro**	**67.97**	**74**	P			**P**	**04 42 37.2**	**-0.1**	
DBIC	**Dimbokro**	**67.97**	**74**	P			**P**	**04 42 37.2**	**-0.1**	
	8.7nm,0.5s,baz=222,slow=7.3,SNR=28									
TORD	**Torodi Ar. Bea**	**76.50**	**71**	P			**P**	**04 43 27.6**	**-0.3**	
TORD	**Torodi Ar. Bea**	**76.50**	**71**	P			**P**	**04 43 27.6**	**-0.3**	
	2.1nm,0.4s,baz=253,slow=5.3,SNR=83									
YKA	**Yellowknife Ar**	**89.55**	**340**	pP		pP		04 45 04.9	-2.4	
	1.1nm,0.6s,baz=138,slow=4.9,SNR=5.0									
WRA	**Warramunga Arr**	**134.66**	**211**	PKP		**PKPdf**		**04 50 55.3**	**-0.5**	
WRA	**Warramunga Arr**	**134.66**	**211**	PKP		**PKPdf**		**04 50 55.3**	**-0.5**	
	0.3nm,0.5s,baz=152,slow=1.8,SNR=2.1									
SONM	**Songino Array**	**151.61**	**7**	PKPbc		**PKPbc**		**04 51 31.3**	**+0.4**	
SONM				pPKPbc		**pPKPbc**		**04 52 05.3**	**-0.3**	
SONM	**Songino Array**	**151.61**	**7**	PKPbc		**PKPbc**		**04 51 31.3**	**+0.4**	
	0.2nm,0.4s,baz=0.0,slow=0.3,SNR=2.2									
SONM				pPKPbc		**pPKPbc**		**04 52 05.3**	**-0.3**	
	0.3nm,0.4s,baz=4.7,slow=3.4,SNR=2.8									

IDC 01 04:41:15.4±0.9, 32°.45S×178°.19W, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.9/21, mbtmp4.1/5, MS3.8/3, Ms1 3.8/3, ms1mx3.2/25, Error ellipse: s-maj=28.8km s-min=25.8km az=103.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.96**	**212**	Pn		Pn	04 42 57.3	-1.2
	2.2nm,0.3s,baz=257,slow=4.8,SNR=8.1							
URZ					Sn	Sn	04 44 16.9	-1.5
	1.0nm,0.3s,baz=108,slow=9.6,SNR=3.5							
STKA	**Stephens Creek**	**33.91**	**260**	LR		LR	05 00 47.7	
	comp=Z,142nm,20.2s,baz=206,slow=35							
CTA	**Charters Tower**	**34.02**	**282**	P		P	04 48 02.7	+1.4
	1.6nm,0.3s,baz=31,slow=4.9,SNR=5.8							
ASAR	**Alice Springs**	**42.88**	**269**	P		P	04 49 16.0	+0.2
	0.9nm,0.5s,baz=107,slow=7.4,SNR=15							
WRA	**Warramunga Arr**	**44.05**	**274**	P		P	04 49 24.8	-0.6
	1.6nm,0.3s,baz=114,slow=8.1,SNR=71							
QSPA	**South Pole Qui**	**57.67**	**180**	P		P	04 51 08.0	+0.5
	1.5nm,1.1s,baz=25,slow=15,SNR=2.1							
PFO	**Pinyon Flat Ob**	**87.71**	**47**	LR		LR	05 28 06.6	
	comp=Z,55nm,18.4s,baz=351,slow=32							
KDAK	**Kodiak Island**	**92.43**	**13**	LR		LR	05 34 51.2	
	comp=Z,50nm,18.4s,baz=116,slow=35							
KURBB	**Kurchatov Arra**	**122.37**	**313**	PKP		PKPdf	05 00 10.9	-1.2
	0.2nm,0.4s,baz=105,slow=2.4,SNR=5.3							
JOF	**Joensuu**	**144.25**	**337**	*ep*		PKPab	05 00 50.3	-0.1
	0.7nm,0.4s							
KAF	**Kangasniemi**	**146.41**	**339**	*ep*		PKPbc	05 00 57.0	-0.6
	1.5nm,0.4s							
FINES	**FINESS Array B**	**147.00**	**339**	PKPbc		PKPbc	05 00 58.4	-0.9
	3.5nm,0.4s,baz=55,slow=4.3,SNR=26							
ASF	**Jabal al Asfar**	**150.43**	**279**	PKPbc		PKPbc	05 01 07.5	-1.7
NB2	**NORSAR Subarra**	**150.74**	**351**	PKP		PKPbc	05 01 08.7	-0.3
	comp=Z,1.2nm,0.8s,baz=25,slow=2.8							
NOA	**NORSAR Array B**	**150.74**	**351**	PKPbc		PKPbc	05 01 09.5	+0.5
	comp=Z,0.3nm,0.4s,baz=18,slow=4.1,SNR=3.9							
HFS	**Hagfors**	**151.21**	**348**	PKPbc		PKPbc	05 01 09.3	-0.8
	comp=Z,1.5nm,0.7s,baz=72,slow=4.7,SNR=7.2							
MMAI	**Mount Meron Ar**	**151.80**	**280**	PKPbc		PKPbc	05 01 12.8	+0.4
	comp=Z,0.8nm,0.3s,baz=103,slow=3.1,SNR=3.1							
AKASG	**Malin Array Be**	**152.80**	**320**	PKPbc		PKPbc	05 01 13.4	-0.5
	comp=Z,0.4nm,0.4s,baz=82,slow=1.3,SNR=4.6							
BRTR	**Keskin Array B**	**153.37**	**295**	PKPbc		PKPbc	05 01 15.6	-0.2
	comp=Z,0.6nm,0.7s,baz=122,slow=4.5,SNR=3.6							
TORD	**Torodi Ar. Bea**	**160.79**	**180**	PKPab		PKPab	05 02 00.5	+0.5
	comp=Z,0.6nm,0.8s,baz=178,slow=3.5,SNR=5.1							

MEX 01 05:15:25.1±0.6, 15°.57N×96°.27W, h3km±6km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.25**	**38**	*e*P		Pg	05 15 30.0	-0.1
HUIG				*i* S		Sg	05 15 33.2	-0.1
PNIG	**Pinotepa**	**1.96**	**295**	*e*P		Pn	05 15 55.6	-3.7
PNIG				*i* S		Sn	05 16 20.2	-4.3
UTMO	**Huajuapan**	**2.69**	**327**	*e*P		Pn	05 16 06.4	-3.1
UTMO				*i* S		Sn	05 16 39.5	-3.3
PCIG		**2.94**	**87**	*i* P		Pn	05 16 10.3	-2.5
PCIG				*i* S		Sn	05 16 44.0	-4.6
TPIG	**Tehuac#an**	**3.02**	**340**	*i* P		Pn	05 16 10.3	-3.8
TPIG				*i* S		Sn	05 16 46.7	-4.2
TGIG		**3.26**	**68**	*i* P		Pn	05 16 13.9	-3.2
TGIG				*i* S		Sn	05 16 53.4	-3.1

IDC 01 05:16:59.0±7.3, 20°.30S×178°.04W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.7/18, mbtmp3.9/2, Error ellipse: s-maj=328.0km s-min=67.7km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.53**	**257**	P		P	05 25 12.2	-0.5
	0.7nm,0.5s,baz=105,slow=7.2,SNR=7.8							
WRA	**Warramunga Arr**	**44.59**	**262**	P		P	05 25 13.5	+0.2
	0.8nm,0.3s,baz=96,slow=8.1,SNR=52							
BRTR	**Keskin Array B**	**146.68**	**313**	PKPbc		PKPbc	05 36 42.3	-0.8
	0.3nm,0.3s,baz=67,slow=3.7,SNR=4.0							

TRN 01 05:27:52.3, 17°.43N×62°.56W, h84km, MD2.9, M3.6(FDP), 2C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKI	**Saint Kitts**	**0.19**	**241**	⇑*e*P		Pn	05 28 05.6	+1.1
SKI				*e*S		Sn	05 28 15.4	+1.8
BPA	**Boggy Peak**	**0.78**	**119**	*e*P		Pn	05 28 10.6	+1.5
BPA				*e*S		Sn	05 28 23.6	+1.9
SEG	**Port Louis**	**1.44**	**135**	⇑*i*P		Pn	05 28 18.1	+1.1
LZG	**Guadaloupe-1**	**1.49**	**149**	*e*P		Pn	05 28 19.5	+1.9
BCG	**Bois Riant Cap**	**1.61**	**146**	*e*P		Pn	05 28 20.4	+1.0

ISCJB ***01*** *05:44:45.3±0.7, 34°.54S±0°.05×70°.6W±0°.1, h125km±5km, mb3.4/2, Error ellipse: s-maj=14.0km s-min=7.4km az=15.9*
NEIC ***01*** *05:44:46.2, 34°.54S×70°.57W, h118km, MD3.7(GUC), After GUC.*
NEIC Felt [II] at Santiago.
GUC ***01*** *05:44:46.2±0.5, 34°.54S×70°.57W, h118km±2km, MD3.7, ML4.1*
IDC ***01*** *05:44:48.2±5.4, 34°.72S×70°.26W, h140km±53km, mb3.2/2, mb1 3.2/3, mb1mx3.1/15, mbtmp2.9/3, Error ellipse: s-maj=63.3km s-min=42.9km az=50.0*

ISC 01 05:44:46.2±1.0, 34°.53S±0°.05×70°.56W±0°.08, h119km±7km, n29, σ0§48/50, 10C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CACH	**El Canelo**	**0.42**	**355**	⇓*i*P		**Pn**	**05 45 03.5**	**-0.2**
CACH				*i* S		**Sn**	**05 45 17.2**	**+0.3**
CACH	**El Canelo**	**0.42**	**355**	⇓*i*P		**Pn**	**05 45 03.5**	**-0.2**
CACH				*i* S		**Sn**	**05 45 17.2**	**+0.3**
CHCH	**Chadas Angostu**	**0.60**	**353**	*i* P		**Pn**	**05 45 04.5**	**-0.3**
CHCH	**Chadas Angostu**	**0.60**	**353**	*i* P		**Pn**	**05 45 04.5**	**-0.3**
LMEL	**Las Melosas**	**0.74**	**23**	⇓*i*P		**Pn**	**05 45 05.8**	**-0.2**
LMEL				*i* S		**Sn**	**05 45 21.2**	**+0.3**
LMEL	**Las Melosas**	**0.74**	**23**	⇓*i*P		**Pn**	**05 45 05.8**	**-0.2**
LMEL				*i* S		**Sn**	**05 45 21.2**	**+0.3**
LMEL				AML		AML	05 45 28.9	
	comp=N,6μm,0.1s							
LNV	**Longovilo**	**0.91**	**309**	⇑*i*P		**Pn**	**05 45 07.2**	**0.0**
LNV				*i* S		**Sn**	**05 45 22.8**	**-0.4**

LNV	**Longovilo**	**0.91**	**309**	⇑*i*P		**Pn**	**05 45 07.2**	**0.0**		
LNV				*i* S		**Sn**	**05 45 22.8**	**-0.4**		
PCH	**Pirque**	**0.91**	**2**	⇑*i*P		**Pn**	**05 45 07.5**	**+0.1**		
PCH				*i* S		**Sn**	**05 45 23.9**	**+0.5**		
PCH	**Pirque**	**0.91**	**2**	⇑*i*P		**Pn**	**05 45 07.5**	**+0.1**		
PCH				⇑*i*S		**Sn**	**05 45 23.9**	**+0.5**		
TACH	**Talagante**	**0.93**	**340**	*e*P		**Pn**	**05 45 07.7**	**+0.2**		
TACH				*i* S		**Sn**	**05 45 23.6**	**0.0**		
TACH	**Talagante**	**0.93**	**340**	*e*P		**Pn**	**05 45 07.7**	**+0.2**		
TACH				*i* S		**Sn**	**05 45 23.6**	**0.0**		
ANTU	**Antumapu**	**0.96**	**356**	*i* P		**Pn**	**05 45 07.8**	**0.0**		
ANTU				*i* S		**Sn**	**05 45 24.4**	**+0.2**		
ANTU	**Antumapu**	**0.96**	**356**	*i* P		**Pn**	**05 45 07.8**	**0.0**		
ANTU				*i* S		**Sn**	**05 45 24.4**	**+0.2**		
ANTU				AML		AML	05 45 24.9			
	comp=N,6μm,0.2s									
SAN	**Santiago**	**1.08**	**355**	⇑*i*P		**Pn**	**05 45 09.1**	**+0.1**		
SAN				*i* S		**Sn**	**05 45 26.4**	**+0.1**		
SAN	**Santiago**	**1.08**	**355**	⇑*i*P		**Pn**	**05 45 09.1**	**+0.1**		
SAN				*i* S		**Sn**	**05 45 26.4**	**+0.1**		
SAN				AML		AML	05 45 27.0			
	comp=N,5μm,0.4s									
CLCH	**Cerro Calan**	**1.13**	**1**	*i* P		**Pn**	**05 45 09.7**	**+0.1**		
CLCH				*i* S		**Sn**	**05 45 27.8**	**+0.5**		
CLCH				AML		AML	05 45 29.3			
	comp=E,4μm,0.4s									
CLCH				AML		AML	05 45 29.9			
	comp=E,4μm,0.4s									
TALC	**Talca**	**1.23**	**225**	⇑*i*P		**Pn**	**05 45 10.8**	**+0.3**		
TALC				*i* S		**Sn**	**05 45 29.1**	**+0.1**		
TALC	**Talca**	**1.23**	**225**	⇑*i*P		**Pn**	**05 45 10.8**	**+0.3**		
TALC				*i* S		**Sn**	**05 45 29.1**	**+0.1**		
TALC				AML		AML	05 45 31.9			
	comp=E,3μm,0.1s									
LCCH	**Las Cruces**	**1.35**	**321**	*i* P		**Pn**	**05 45 11.9**	**+0.1**		
LCCH				*i* S		**Sn**	**05 45 31.3**	**0.0**		
LCCH	**Las Cruces**	**1.35**	**321**	*i* P		**Pn**	**05 45 11.9**	**+0.1**		
LCCH				*i* S		**Sn**	**05 45 31.3**	**0.0**		
PEL	**Peldehue**	**1.39**	**356**	⇑*i*P		**Pn**	**05 45 12.6**	**+0.2**		
PEL				*i* S		**Sn**	**05 45 32.4**	**+0.2**		
PEL				AML		AML	05 45 33.7			
	comp=N,6μm,0.4s									
ROCH	**El Roble**	**1.60**	**346**	*e*P		**Pn**	**05 45 15.1**	**0.0**		
ROCH				*i* S		**Sn**	**05 45 37.3**	**+0.4**		
ROCH				AML		AML	05 45 39.7			
	comp=N,1μm,0.2s									
LCO	**Las Campanas**	**5.51**	**359**	*e*Pn		**Pn**	**05 46 04.3**	**-1.9**		
**

MJAR	**Matsushiro Arr**	**37.21**	**7**	LR		LR	06 45 38.1	
	comp=Z,82nm,19.6s,baz=30,slow=32							
KSRS	**Korea Array**	**38.17**	**353**	LR		LR	06 48 58.8	
	comp=Z,51nm,18.6s,baz=206,slow=36							
MKAR	**Makanchi Array**	**64.87**	**324**	P		**P**	**06 36 41.7**	**+0.5**
MKAR	**Makanchi Array**	**64.87**	**324**	P		**P**	**06 36 41.7**	**+0.5**
	2.6nm,0.5s,baz=112,slow=8.2,SNR=31							
ZALV	**Zalesovo Beam**	**67.45**	**331**	P		**P**	**06 36 56.9**	**-0.7**
ZALV	**Zalesovo Beam**	**67.45**	**331**	P		**P**	**06 36 56.9**	**-0.7**
	0.7nm,0.6s,baz=119,slow=5.1,SNR=3.8							
KURK	**Kurchatov**	**68.93**	**326**	P		**P**	**06 37 07.2**	**+0.3**
KURBB	**Kurchatov Arra**	**68.93**	**326**	P		**P**	**06 37 07.2**	**+0.3**
	3.5nm,0.7s,baz=121,slow=5.7,SNR=23							
BVAR	**Borovoye Array**	**74.53**	**326**	P		**P**	**06 37 40.8**	**+0.2**
BVAR	**Borovoye Array**	**74.53**	**326**	P		**P**	**06 37 40.8**	**+0.2**
	2.0nm,0.7s,baz=116,slow=6.6,SNR=8.2							
ILAR	**Eielson Array**	**86.16**	**25**	P		**P**	**06 38 42.8**	**-0.1**
ILAR	**Eielson Array**	**86.16**	**25**	P		**P**	**06 38 42.8**	**-0.1**
	0.4nm,0.7s,baz=253,slow=4.0,SNR=6.5							
CPUP	**Villa Florida**	**151.34**	**160**	PKPbc		**PKPbc**	**06 45 57.0**	**+0.7**
CPUP	**Villa Florida**	**151.34**	**160**	PKPbc		**PKPbc**	**06 45 57.0**	**+0.7**
	1.5nm,0.8s,baz=243,slow=6.8,SNR=3.9							

*NIED **01** 06:36:00,46.60N×153.50E,h5km,Mw4.1 Best double couple: M0=1.58000×10^15 NP1:φ=238.00000°,δ=66.00000°,λ=98.00000°. NP2:φ=40.00000°,δ=25.00000°,λ=74.00000°.*
*IDC **01** 06:36:23.9±0.7,46.56N×153.27E,h0km,mb4.0/21, mb1 4.2/24,mb1mx4.1/31,mbtmp4.0/24,ML3.3/3,MS3.2/5, Ms1 3.2/5,ms1mx2.9/36,Error ellipse: s-maj=18.8km s-min=14.4km az=151.0*
*ISCJB **01** 06:36:26.0±0.5,46.56N±0.06×153.27E±0.08,h24km, mb4.2/32,MS3.6/3,Error ellipse: s-maj=11.6km s-min=3.9km az=140.9*
*MOS **01** 06:36:27.5±1.0,46.64N×153.33E,h36km,mb4.5/23,Error ellipse: s-maj=10.7km s-min=7.7km az=70.6*
*BJI **01** 06:36:27.5,46.58N×153.79E,h50km,mB4.8/5,mb4.6/6*
*NEIC **01** 06:36:29.7±0.8,46.63N×153.30E,h40km±7km,mb4.4/2, Error ellipse: s-maj=10.7km s-min=5.2km az=140.0*

ISC 01 06:36:27.9±0.6,46.59N±0.09×153.28E±0.08,h24km,n123, σ1.9 38/127,mb4.2/32,MS3.5/3,3C-5D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.02**	**252**	*d iP*N	**Pn**	**06 37 30.5**	**+2.7**
KUR				*i* S	**Sn**	**06 38 16.4**	**+2.3**
KUR				pmax	pmax		
	comp=Z,201nm,0.5s						
KUR				pmax	pmax		
	comp=N,62nm,0.3s						
KUR				pmax	pmax		
	comp=E,31nm,0.3s						
KUR				smax	smax		
	comp=E,48nm,0.2s						
KUR				smax	smax		
	comp=N,103nm,0.5s						
SKR	**Severo-Kuril's**	**4.51**	**24**	*e*PN	**Pn**	**06 37 31.5**	**-3.0**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				MLR	MLR		
	comp=Z,800nm,16.0s						
SKR				MLR	MLR		
	comp=E,1μm,14.0s						
NEM2	**Nemuro 2**	**6.24**	**242**	P	**Pn**	**06 37 57.1**	**-1.3**
NEM2				*e*S	**Sn**	**06 39 04.6**	**-4.4**
JRA	**Rausu**	**6.34**	**248**	P	**Pn**	**06 38 01.3**	**+1.6**
JNK	**Nakash**	**6.76**	**247**	P	**Pn**	**06 38 06.4**	**+0.8**
JNK				*e*S	**Sn**	**06 39 21.3**	**-0.5**
JAK	**Akkeshi**	**7.09**	**243**	P	**Pn**	**06 38 08.6**	**-1.4**
JAK				*e*S	**Sn**	**06 39 24.3**	**-5.4**
JTKR	**Abashiri--Toko**	**7.11**	**252**	P	**Pn**	**06 38 12.2**	**+1.9**
PEA0B	**Petropavlovsk-**	**7.12**	**22**	*e*Pn	**Pn**	**06 38 10.2**	**-0.3**
PETK	**Petropavlovsk-**	**7.12**	**22**	PN	**Pn**	**06 38 11.2**	**+0.8**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**7.12**	**22**	Pn	**Pn**	**06 38 11.2**	**+0.8**
PETK	**Petropavlovsk-**	**7.12**	**22**	Pn	**Pn**	**06 38 11.2**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=182,slow=15,SNR=7.0						
PETK				LR	LR	06 40 55.0	
	comp=Z,42nm,19.5s,baz=144,slow=38						
YSS	**Yuzh-Sakhalins**	**7.24**	**277**	*e*PN	Pb	06 38 23.5	-9.2
JAR	**Ashorobuto**	**7.51**	**247**	P	**Pn**	**06 38 16.5**	**+0.7**
JAR				*e*S	**Sn**	**06 39 38.5**	**-1.6**
JOB	**Onbets**	**7.67**	**245**	P	**Pn**	**06 38 17.0**	**-1.0**
JOB				*e*S	**Sn**	**06 39 40.3**	**-3.7**
ASAJ	**Asahikawa**	**7.92**	**256**	Pn	**Pn**	**06 38 23.4**	**+1.9**
ASAJ	**Asahikawa**	**7.92**	**256**	P	Pn	06 38 25.4	+3.9
ASAJ	**Asahikawa**	**7.92**	**256**	Pn	**Pn**	**06 38 23.4**	**+1.9**
	comp=Z,1.8nm,0.3s,baz=86,slow=16,SNR=6.5						
ASAJ				LR	LR	06 41 18.4	
	comp=Z,89nm,18.7s,baz=2.5,slow=37						
JCH	**Churui**	**8.12**	**244**	P	**Pn**	**06 38 23.0**	**-1.1**
JCH				*e*S	**Sn**	**06 39 49.8**	**-5.3**
JFR	**Furan**	**8.33**	**250**	P	**Pn**	**06 38 28.1**	**+1.1**
ERM	**Erimo**	**8.58**	**241**	*i* PN	**Pn**	**06 38 32.4**	**+1.9**
JBT2	**Biratori 2**	**8.66**	**248**	P	**Pn**	**06 38 31.7**	**+0.1**
JNBK	**Urakawa-nobuka**	**8.68**	**244**	P	**Pn**	**06 38 30.2**	**-1.6**
JKB	**Kayabe**	**9.97**	**246**	P	**Pn**	**06 38 48.1**	**-1.4**
JANG	**Nango**	**10.56**	**238**	P	Pn	06 38 53.6	-4.1
JANG				*e*S	Sn	06 40 43.7	-11
OFUJ	**Ofunato**	**11.35**	**233**	*e*S	Sn	06 41 03.1	-11
HABR	**Khabarovsk**	**12.47**	**285**	*e*PN	P	06 39 29.3	-5.9
HABR				MLR	MLR		
	comp=Z,114nm,16.0s						
MJA0	**Matsu Arr-Jizo**	**15.06**	**234**	*e*P	**P**	**06 40 05.3**	**+1.2**
MJAR	**Matsushiro Arr**	**15.08**	**234**	Pn	**Pn**	**06 39 59.6**	**+0.3**
MJAR	**Matsushiro Arr**	**15.08**	**234**	Pn	**Pn**	**06 39 59.6**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=22,slow=13,SNR=3.2						
MAJO	**Matsushiro**	**15.08**	**234**	P	**Pn**	**06 40 00.5**	**+1.2**
MAJO	**Matsushiro**	**15.08**	**234**	Pn	**Pn**	**06 40 00.5**	**+1.2**
USRK	**Ussuriysk Arra**	**15.14**	**269**	Pn	**Pn**	**06 40 00.3**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=62,slow=12,SNR=8.2						
KSRS	**Korea Array**	**20.86**	**253**	P	Pn	06 41 09.1	-1.4
	comp=Z,1.9nm,0.6s,baz=58,slow=10,SNR=8.4						
KSAR	**Wonju Array Be**	**20.89**	**253**	P	**P**	**06 41 09.1**	**+0.8**
BILL	**Bilibino**	**22.52**	**13**	*i* P	**P**	**06 41 23.8**	**-1.7**
BILL				*e*S	**S**	**06 45 28.9**	**-2.0**
BILL				pmax	pmax		
	comp=Z,15nm,1.4s						
BILL	**Bilibino**	**22.52**	**13**	*e*P	**P**	**06 41 23.6**	**-2.0**
	comp=Z,4.1nm,0.5s						
SONM	**Songino Array**	**31.50**	**290**	P	**P**	**06 42 47.6**	**-0.1**
SONM	**Songino Array**	**31.50**	**290**	P	**P**	**06 42 47.6**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=66,slow=7.0,SNR=2.9						
BTO	**Baotou**	**31.59**	**275**	*e*P	**P**	**06 42 48.8**	**+0.2**
ZAK	**Zakamensk**	**32.85**	**295**	*e*P	**P**	**06 42 58.4**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s						
WHN	**Wuhan**	**34.00**	**256**	P	**P**	**06 43 11.3**	**+1.6**
MCK	**McKinley**	**35.70**	**40**	P	**P**	**06 43 22.9**	**-1.1**
MCK	**McKinley**	**35.70**	**40**	P	**P**	**06 43 22.9**	**-1.1**
SML	**Sawmill**	**36.01**	**43**	*e*P	**P**	**06 43 25.5**	**-1.2**
SML	**Sawmill**	**36.01**	**43**	*e*P	**P**	**06 43 25.5**	**-1.2**
COLA	**College**	**36.19**	**38**	*i* P	**P**	**06 43 30.1**	**+2.0**
ILAR	**Eielson Array**	**36.60**	**38**	P	**P**	**06 43 31.5**	**-0.1**
ILAR	**Eielson Array**	**36.60**	**38**	P	**P**	**06 43 31.5**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=263,slow=7.7,SNR=3.4						
ZALV	**Zalesovo Beam**	**42.80**	**306**	P	**P**	**06 44 22.5**	**-0.8**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**42.80**	**306**	P	**P**	**06 44 22.4**	**-0.8**
ZALV	**Zalesovo Beam**	**42.80**	**306**	P	**P**	**06 44 22.5**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=71,slow=7.1,SNR=3.2						
QIZ	**Qiongzhong**	**44.89**	**247**	P	**P**	**06 44 40.1**	**-0.4**
QIZ				S	**S**	**06 51 16.3**	**-0.7**
QIZ				pmax	pmax		
	comp=Z,13nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,82nm,3.7s						
MK31	**Makanchi Array**	**47.12**	**298**	*e*P	**P**	**06 44 57.4**	**-0.4**
MK31	**Makanchi Array**	**47.12**	**298**	*e*P	**P**	**06 44 57.4**	**-0.4**
MKAR	**Makanchi Array**	**47.12**	**298**	*e*P	**P**	**06 44 57.7**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**47.12**	**298**	P	**P**	**06 44 57.4**	**-0.4**
MKAR				PcP	**PcP**	**06 46 29.2**	**-0.1**
MKAR	**Makanchi Array**	**47.12**	**298**	P	**P**	**06 44 57.4**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=65,slow=7.9,SNR=23						
MKAR				PcP	**PcP**	**06 46 29.2**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=50,slow=3.9,SNR=3.7						
KURK	**Kurchatov**	**47.55**	**304**	P	**P**	**06 45 01.1**	**0.0**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KURK	**Kurchatov**	**47.55**	**304**	P	**P**	**06 45 01.1**	**0.0**
KURBB	**Kurchatov Arra**	**47.64**	**304**	P	**P**	**06 45 01.1**	**-0.7**
	comp=Z,3.5nm,0.7s,baz=69,slow=8.5,SNR=15						
YKA	**Yellowknife Ar**	**50.98**	**37**	P	**P**	**06 45 27.9**	**+0.8**
YKA	**Yellowknife Ar**	**50.98**	**37**	P	**P**	**06 45 27.9**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=296,slow=7.0,SNR=6.4						
BVAR	**Borovoye Array**	**51.05**	**310**	P	**P**	**06 45 27.7**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BVAR				MLR	MLR		
	comp=Z,45nm,18.4s						
BVAR	**Borovoye Array**	**51.05**	**310**	P	**P**	**06 45 27.7**	**-0.1**
BVAR	**Borovoye Array**	**51.05**	**310**	P	**P**	**06 45 27.7**	**-0.1**
	comp=Z,1.9nm,0.4s,baz=60,slow=8.8,SNR=9.0						
BVAR				LR	LR	07 09 19.2	
	comp=Z,45nm,18.4s,baz=182,slow=39						
BRVK	**Borovoye**	**51.09**	**310**	*e*P	**P**	**06 45 28.1**	**0.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**52.45**	**257**	P	**P**	**06 45 39.4**	**+0.7**
CMAR	**Chiang Mai Arr**	**52.45**	**257**	P	**P**	**06 45 39.4**	**+0.7**
	comp=Z,2.1nm,0.6s,baz=38,slow=7.6,SNR=8.7						
AAK	**Ala-Archa**	**54.01**	**297**	*i* P	**P**	**06 45 51.2**	**+1.1**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ODAN	**Odare**	**54.76**	**273**	*e*P	**P**	**06 45 57.7**	**+1.9**
	comp=Z,4.6nm,0.4s						
JIRN	**Jiri**	**55.08**	**275**	*e*P	**P**	**06 45 59.6**	**+1.4**
	comp=Z,18nm,0.5s						
ARU	**Arti**	**55.21**	**318**	*d* iP	**P**	**06 45 57.9**	**-0.4**
ARU				S	**S**	**06 53 37.5**	**-2.4**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.7s						
RAMN	**Ramite**	**55.24**	**274**	*e*P	**P**	**06 46 00.5**	**+1.2**
	comp=Z,19nm,0.6s						
KKN	**Kakani**	**55.62**	**276**	*e*P	**P**	**06 46 03.8**	**+1.8**
	comp=Z,15nm,0.6s						
PKI	**Pulchoki**	**55.67**	**275**	*e*P	**P**	**06 46 03.7**	**+1.2**
DMN	**Daman**	**55.85**	**275**	*e*P	**P**	**06 46 05.3**	**+1.6**
	comp=Z,13nm,0.5s						
DANN	**Dangsing**	**56.31**	**277**	*e*P	**P**	**06 46 08.7**	**+1.7**
	comp=Z,25nm,0.5s						
KOLN	**Koldanda**	**56.78**	**277**	*e*P	**P**	**06 46 10.6**	**+0.3**
	comp=Z,7.5nm,0.5s						
PYUN	**Piuthan**	**56.99**	**277**	*e*P	**P**	**06 46 12.9**	**+1.1**
	comp=Z,12nm,0.5s						
ARCES	**ARCESS Array B**	**58.04**	**341**	P	**P**	**06 46 17.8**	**-0.5**
ARCES	**ARCESS Array B**	**58.04**	**341**	P	**P**	**06 46 17.8**	**-0.5**
	comp=Z,3.7nm,0.9s,baz=30,slow=7.3,SNR=4.0						
ABKAR	**Akbulak array**	**58.62**	**310**	*e*P	**P**	**06 46 21.8**	**-0.8**
	comp=Z,2.1nm,0.4s						
AKTO	**Aktyubinsk**	**58.92**	**312**	P	**P**	**06 46 24.4**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKTO	**Aktyubinsk**	**58.92**	**312**	P	**P**	**06 46 24.4**	**-0.3**
AKTO	**Aktyubinsk**	**58.92**	**312**	P	**P**	**06 46 24.4**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=48,slow=6.7,SNR=4.7						
SUMG	**Summit**	**60.85**	**4**	*e*P	**P**	**06 46 38.5**	**+0.4**
SUMG				pmax	pmax		
	comp=Z,11nm,0.9s						
SUMG	**Summit**	**60.85**	**4**	*e*P	**P**	**06 46 38.5**	**+0.4**
	comp=Z,11nm,0.9s						
SUMG	**Summit**	**60.85**	**4**	*i* P	**P**	**06 46 39.1**	**+1.0**
	comp=Z,7.8nm,0.9s						
JOF	**Joensuu**	**61.53**	**334**	*e*p	**P**	**06 46 42.1**	**-0.2**
	comp=Z,1.3nm,0.7s						
JOF	**Joensuu**	**61.53**	**334**	*e*P	**P**	**06 46 42.1**	**-0.2**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**62.40**	**62**	P	**P**	**06 46 50.0**	**+1.1**
NVAR	**Mina Array Bea**	**62.40**	**62**	P	**P**	**06 46 50.0**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=316,slow=6.3,SNR=2.9						
FINES	**FINESS Array B**	**64.23**	**335**	P	**P**	**06 47 00.3**	**0.0**
FINES	**FINESS Array B**	**64.23**	**335**	P	**P**	**06 47 00.3**	**0.0**
	comp=Z,3.0nm,0.4s,baz=38,slow=7.0,SNR=21						
FINES				LR	LR	07 19 37.1	
	comp=Z,30nm,18.0s,baz=60,slow=40						
PDAR	**Pinedale Array**	**64.75**	**54**	P	**P**	**06 47 04.2**	**-0.1**
PDAR	**Pinedale Array**	**64.75**	**54**	P	**P**	**06 47 04.2**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=208,slow=2.9,SNR=4.1						
OBN	**Obninsk**	**65.51**	**326**	*e*P	P	06 47 05.3	-3.4
OBN				*e*		06 49 29.6	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WRA	**Warramunga Arr**	**68.40**	**199**	P	**P**	**06 47 26.0**	**-1.4**
WRA	**Warramunga Arr**	**68.40**	**199**	P	**P**	**06 47 26.0**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=24,slow=7.2,SNR=4.5						
NB2	**NORSAR Subarra**	**68.42**	**341**	P	**P**	**06 47 27.4**	**+0.2**
	comp=Z,3.7nm,0.7s,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.42**	**341**	P	**P**	**06 47 27.8**	**+0.6**
NOA	**NORSAR Array B**	**68.42**	**341**	P	**P**	**06 47 27.8**	**+0.6**
	comp=Z,2.0nm,0.5s,baz=28,slow=6.3,SNR=16						
KBZ	**Khabaz**	**71.06**	**314**	LR	LR	07 24 07.5	
	comp=Z,46nm,19.0s,baz=219,slow=40						
AKASG	**Malin Array Be**	**71.74**	**326**	*e*P	**P**	**06 47 47.9**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AKASG	**Malin Array Be**	**71.74**	**326**	P	**P**	**06 47 47.6**	**-0.1**
AKASG	**Malin Array Be**	**71.74**	**326**	P	**P**	**06 47 47.6**	**-0.1**
	comp=Z,4.2nm,0.5s,baz=32,slow=5.5,SNR=12						
KIEV	**Kiev**	**71.76**	**326**	*i* P	**P**	**06 47 47.4**	**-0.3**
ASAR	**Alice Springs**	**72.09**	**199**	P	**P**	**06 47 49.8**	**-0.3**
ASAR	**Alice Springs**	**72.09**	**199**	P	**P**	**06 47 49.8**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=12,slow=5.7,SNR=14						
BUR08	**Bucovina Ar. S**	**75.77**	**327**	*e*P	**P**	**06 48 11.3**	**-0.2**
BURAR	**Bucovina Array**	**75.79**	**327**	⇑ *i*P	**P**	**06 48 13.0**	**+1.4**
TRPA	**Tarpa**	**76.34**	**329**	⇓ *i*P	**P**	**06 48 15.9**	**+1.3**
CLL	**Collm**	**76.66**	**336**	*i* P	**P**	**06 48 16.8**	**+0.5**
CLL				*i*		06 48 23.7	
CLL				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CLL	**Collm**	**76.66**	**336**	*i* P	**P**	**06 48 16.8**	**+0.5**
	comp=Z,5.0nm,0.6s						
MLR	**Muntele Rosu**	**77.26**	**325**	⇑ *i*P	**P**	**06 48 21.4**	**+1.4**
TXAR	**Lajitas Array**	**77.47**	**61**	P	**P**	**06 48 21.2**	**-0.2**
TXAR	**Lajitas Array**	**77.47**	**61**	P	**P**	**06 48 21.2**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=303,slow=5.7,SNR=16						
VOIR		**77.66**	**326**	⇓ *i*P	**P**	**06 48 22.9**	**+0.7**
ARR	**Arges**	**77.88**	**326**	⇑ *i*P	**P**	**06 48 26.0**	**+2.6**
BRTR	**Keskin Array B**	**78.59**	**317**	P	**P**	**06 48 26.1**	**-1.4**
BRTR	**Keskin Array B**	**78.59**	**317**	P	**P**	**06 48 26.1**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=350,slow=2.9,SNR=4.0						
GERES	**GERESS Array B**	**78.65**	**334**	P	**P**	**06 48 26.7**	**-0.9**
GERES	**GERESS Array B**	**78.65**	**334**	P	**P**	**06 48 26.7**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=32,slow=5.8,SNR=5.4						

*NEIC **01** 07:01:00.5, 19.05N×64.46W, h84km, MD3.6(RSPR), After RSPR.*

RSPR 01 07:01:00.5,19.05N×64.46W,h84km±3km,10C,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBVI	**Tortola**	**0.64**	**193**	*e*P	Pn	07 01 15.5	-0.6
TBVI	**Tortola**	**0.64**	**193**	*e*P	Pn	07 01 15.5	-0.6
STVI	**Saint Thomas**	**0.83**	**214**	*e*P	Pn	07 01 17.5	-0.5
STVI	**Saint Thomas**	**0.83**	**214**	*e*S	Sn	07 01 30.7	-0.3
STVI	**Saint Thomas**	**0.83**	**214**	*e*P	Pn	07 01 17.5	-0.5
STVI				*e*S	Sn	07 01 30.7	-0.3
MTP	**Monte Pirata**	**1.40**	**228**	⇑ *e*P	Pn	07 01 24.3	-0.5
MTP	**Monte Pirata**	**1.40**	**228**	*e*S	Sn	07 01 42.7	-0.4
MTP	**Monte Pirata**	**1.40**	**228**	⇑ *e*P	Pn	07 01 24.3	-0.5
MTP				*e*S	Sn	07 01 42.7	-0.4
CBYP	**Canovanas**	**1.53**	**240**	⇑ *e*P	Pn	07 01 25.9	-0.7
CBYP	**Canovanas**	**1.53**	**240**	⇑ *e*P	Pn	07 01 25.9	-0.7
HUMP	**Col San Antoni**	**1.60**	**236**	⇑ *e*P	Pn	07 01 26.8	-0.5
HUMP	**Col San Antoni**	**1.60**	**236**	⇑ *e*P	Pn	07 01 26.8	-0.5

MEX 01 07:13:17.3±0.7,16.72N×99.40W,h8km±6km,MD3.7,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.90**	**292**	*e*P	Pg	07 13 32.1	-2.5
CAIG				*i* S	Sg	07 13 44.3	-1.9
MEIG	**Mezcala**	**1.22**	**350**	*i* P	Pb	07 13 35.5	-5.3
MEIG				*i* S	Sb	07 13 50.4	-6.5
PNIG	**Pinotepa**	**1.26**	**105**	*e*P	Pn	07 13 37.5	-3.8
PNIG				*i* S	Sb	07 13 53.4	-4.5
PLIG	**Platanillo**	**1.67**	**357**	*i* P	Pn	07 13 42.9	-4.2
PLIG				*i* S	Sn	07 14 03.4	-5.3
ARIG	**Puente Sto Nin**	**1.80**	**330**	*e*P	Pn	07 13 45.4	-3.4
ARIG				*i* S	Sn	07 14 07.1	-4.7
UTMO	**Huajuapan**	**1.88**	**54**	*i* P	Pn	07 13 46.8	-3.3
UTMO				*i* S	Sn	07 14 09.2	-5.1
YAIG	**Yautepec**	**2.15**	**8**	*i* P	Pn	07 13 50.7	-3.1
YAIG				*e*S	Sn	07 14 16.8	-4.1
ZIIG	**Zihuatanejo**	**2.17**	**294**	*i* P	Pn	07 13 51.1	-2.6
ZIIG				*i* S	Sn	07 14 15.5	-5.3
PPM	**Popocatepetl**	**2.45**	**17**	*e*P	Pn	07 13 55.6	-2.7
PPM				*i* S	Sn	07 14 24.6	-4.4

IDC 01 07:18:07.6±9.9,2.57N×128.96E,h195km±88km,mb3.5/6, mb1 3.8/6,mb1mx3.3/22,mbtmp3.5/6,MS3.5/1,Ms1 3.5/1, ms1mx2.7/33,Error ellipse: s-maj=115.4km s-min=15.8km az=60.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.98**	**167**	P	P	07 22 55.0	-0.4
	2.6nm,0.4s,baz=345,slow=10,SNR=53						
ASAR	**Alice Springs**	**26.52**	**170**	P	P	07 23 27.1	-0.2
	1.3nm,0.5s,baz=354,slow=7.9,SNR=32						
ASAR				PcP	PcP	07 26 46.9	-0.1
	0.3nm,0.4s,baz=353,slow=2.2,SNR=5.7						
CMAR	**Chiang Mai Arr**	**33.38**	**300**	P	P	07 24 28.1	+0.2
	1.1nm,0.4s,baz=127,slow=6.9,SNR=4.2						
STKA	**Stephens Creek**	**36.30**	**162**	P	P	07 24 53.1	+0.5
	2.3nm,0.7s,baz=339,slow=9.3,SNR=7.5						
MKAR	**Makanchi Array**	**59.78**	**325**	P	P	07 27 52.0	-0.2
	0.4nm,0.4s,baz=111,slow=8.2,SNR=8.3						
MKAR				LR	LR	07 56 29.6	
	comp=Z,34nm,18.1s,baz=173,slow=38						
VNDA	**Vanda**	**82.01**	**173**	P	P	07 30 05.0	-0.3
	0.4nm,0.3s,baz=303,slow=6.0,SNR=4.8						

*CSEM **01** 07:31:10.0,40.94N×16.66E,h7km,MD2.1/4,After ROM*
ROM 01 07:31:10.0±0.1,40.94N×16.66E,h7km±1km,Md2.1/4, Ml1.4/3,Error ellipse: s-maj=2.0km s-min=1.0km az=23.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMUR	**Altamura**	**0.05**	**237**	Pg	Pg	07 31 11.9	+0.3
AMUR				Sg	Sg	07 31 12.9	+0.2
AMUR	**Altamura**	**0.05**	**237**	Pg	Pg	07 31 11.9	+0.3
AMUR				Sg	Sg	07 31 12.9	+0.2
MATE	**Matera**	**0.29**	**173**	Pg	Pb	07 31 16.6	-0.9
MATE				Sg	Sb	07 31 21.3	-1.2
	72nm,0.2s						
MATE	**Matera**	**0.29**	**173**	Pg	Pb	07 31 16.6	-0.9
MATE				Sg	Sb	07 31 21.3	-1.2
	72nm,0.2s						
NOCI	**Noci**	**0.34**	**115**	Pg	Pb	07 31 17.8	-0.7
NOCI				Sg	Sb	07 31 23.1	-1.0
	38nm,0.3s						
NOCI	**Noci**	**0.34**	**115**	Pg	Pb	07 31 17.8	-0.7
NOCI				Sg	Sb	07 31 23.1	-1.0
	38nm,0.3s						
MRVN	**Minervino Murg**	**0.37**	**290**	Pg	Pg	07 31 18.1	+0.7
MRVN				Sg	Sb	07 31 24.7	-0.5
	24nm,0.7s						
MRVN	**Minervino Murg**	**0.37**	**290**	Pg	Pg	07 31 18.1	+0.7
MRVN				Sg	Sb	07 31 24.7	-0.5
	24nm,0.7s						

BUC 01 07:34:09.1±0.1,45.26N×25.10E,h2km,MD2.1/3,6C-2D, Error ellipse: s-maj=1.8km s-min=1.2km az=120.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTUR	**Matau**	**0.04**	**216**	⇑ *i*P	Pg	07 34 10.3	+0.1
MTUR	**Matau**	**0.04**	**216**	⇑ *i*P	Pg	07 34 10.3	+0.1
VOIR		**0.18**	**349**	⇑ *i*P	Pg	07 34 12.8	+0.1
VOIR				*i* S	Sg	07 34

IDC 01 07:50:13.6±1.2, 9°31'S×124°59'E, h0km, mb4.1/4, mb1 4.2/7, mb1mx3.9/21, mbtmp4.0/7, ML3.9/2, Error ellipse: s-maj=84.4km s-min=22.7km az=65.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**8.80**	**173**	Pn	Pn	07 52 22.7	+0.4
FITZ				Sn	Sn	07 53 57.3	-5.0
WRA	**Warramunga Arr**	**14.16**	**139**	Pn	Pn	07 53 35.6	-0.1
	0.7nm,0.3s,baz=312,slow=14,SNR=32						
WRA				Sn	Sn	07 56 09.9	-3.8
	0.3nm,0.3s,baz=311,slow=24,SNR=5.6						
ASAR	**Alice Springs**	**16.83**	**149**	Pn	Pn	07 54 10.6	-0.3
	0.3nm,0.3s,baz=325,slow=12,SNR=20						
ASAR				Sn	Sn	07 57 12.8	-5.9
	0.1nm,0.3s,baz=323,slow=23,SNR=3.4						
CMAR	**Chiang Mai Arr**	**37.44**	**317**	P	P	07 57 29.3	+0.4
	1.3nm,0.3s,baz=137,slow=6.8,SNR=4.4						
SONM	**Songino Array**	**59.13**	**346**	P	P	08 00 16.6	+0.5
	0.7nm,0.6s,baz=165,slow=6.0,SNR=3.4						
MKAR	**Makanchi Array**	**67.36**	**330**	P	P	08 01 10.4	-0.3
	0.7nm,0.6s,baz=122,slow=6.8,SNR=6.4						
AKTO	**Aktyubinsk**	**82.68**	**324**	P	P	08 02 38.1	-0.9
	0.8nm,0.6s,baz=100,slow=6.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**123.95**	**280**	PKP	PKPdf	08 09 14.9	0.0
	0.4nm,0.8s,baz=129,slow=0.4,SNR=2.5						

IDC 01 08:00:19.1±3.4, 52°39'N×35°14'E, h0km, mb1 3.3/3, mb1mx3.1/26, mbtmp3.2/3, ML2.8/3, Error ellipse: s-maj=40.6km s-min=13.0km az=111.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKASG	**Malin Array Be**	**4.06**	**248**	Pn	Pn	08 01 20.8	-1.6
	1.1nm,0.3s,baz=59,slow=16,SNR=3.5						
AKASG				Pg	Pb	08 01 30.8	-0.6
	1.8nm,0.3s,baz=58,slow=16,SNR=4.7						
AKASG				Lg	Lg	08 02 26.6	
	2.4nm,0.3s,baz=60,slow=29,SNR=4.3						
FINES	**FINESS Array B**	**10.32**	**335**	Pn	Pn	08 02 44.0	-4.3
	0.1nm,0.3s,baz=169,slow=16,SNR=3.2						
FINES				Sn	Sn	08 04 34.0	-11
	0.1nm,0.3s,baz=160,slow=25,SNR=2.9						
I26DE	**FREYUNG INFRAS**	**14.04**	**264**	*i*		09 22 10.0	
	baz=69,slow=312,SNR=2.7						
ARCES	**ARCESS Array B**	**17.78**	**349**	P	Pn	08 04 25.8	-1.9
	0.2nm,0.3s,baz=168,slow=12,SNR=5.0						

MEX 01 08:07:44.2±0.9, 16°44N×98°62W, h11km±11km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.47**	**96**	*e*P		Pg 08 07 52.1	-1.4
PNIG				*i* S		Sg 08 07 60.0	+0.2
UTMO	**Huajuapan**	**1.58**	**29**	*e*P		Pn 08 08 08.7	-3.8
UTMO				*i* S		Sn 08 08 27.5	-5.7
CAIG	**El Cayaco**	**1.69**	**291**	*e*P		Pn 08 08 09.9	-3.8
CAIG				*i* S		Sn 08 08 31.0	-4.4
MEIG	**Mezcala**	**1.76**	**327**	*e*P		Pn 08 08 10.9	-3.9
MEIG				*i* S		Sn 08 08 31.9	-5.3
PLIG	**Platanillo**	**2.12**	**337**	*i* P		Pn 08 08 16.7	-2.9
PLIG				*i* S		Sn 08 08 49.8	-5.3
YAIG	**Yautepec**	**2.44**	**350**	*i* P		Pn 08 08 22.1	-2.2
YAIG				*i* S		Sn 08 08 50.5	-3.8
ARIG	**Puente Sto Nin**	**2.47**	**318**	*i* P		Pn 08 08 21.7	-2.6
ARIG				*i* S		Sn 08 08 49.4	-5.1
PPM	**Popocatepetl**	**2.61**	**360**	*i* P		Pn 08 08 24.5	-2.5
PPM				*i* S		Sn 08 08 54.1	-5.1

*NIED **01** 08:09:00, 32°90N×136°90E, h20km, Mw3.3 Best double couple: M₀1.11000×10¹⁴ NP1:ϕ₀289.00000°, δ51.00000°, λ119.00000°. NP2:ϕ₀67.00000°, δ47.00000°, λ59.00000°.*

JMA 01 08:09:57.6±0.2, 32°93N×136°90E, h56km±3km, M3.6, 9D, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTO1	**TONANKAI O.B.S**	**0.70**	**352**	⇓P		Pn 08 10 11.8	+0.6
TTO1				S		Sn 08 10 22.7	+1.5
TTO2	**TONANKAI O.B.S**	**0.81**	**8**	⇓P		Pn 08 10 13.4	+0.8
TK01	**Tokai 1**	**1.01**	**35**	P		Pn 08 10 15.3	0.0
TK01				S		Sn 08 10 28.4	0.0
TTO3	**TONANKAI O.B.S**	**1.02**	**24**	⇓P		Pn 08 10 16.1	+0.5
TTO3				S		Sn 08 10 30.0	+1.1
JWZ	**Kozaga**	**1.16**	**301**	P		Pn 08 10 17.8	+0.2
JWZ				S		Sn 08 10 31.7	-0.9
TTO4	**TONANKAI O.B.S**	**1.20**	**26**	⇓P		Pn 08 10 18.3	+0.5
TTO4				S		Sn 08 10 33.5	+0.6
TK02	**Tokai 2**	**1.24**	**35**	P		Pn 08 10 18.6	+0.2
TK02				S		Sn 08 10 34.4	+0.4
JKN2	**Miekihoku**	**1.41**	**338**	⇓P		Pn 08 10 21.6	+0.7
JKN2				S		Sn 08 10 37.6	-0.8
JIE	**Ise**	**1.47**	**354**	⇓P		Pn 08 10 22.6	+0.8
JIE				S		Sn 08 10 40.4	+0.5
JWM	**Minabe**	**1.58**	**306**	P		Pn 08 10 24.1	+0.7
JWM				S		Sn 08 10 42.5	-0.3
TK04	**Tokai 4**	**1.66**	**29**	P		Pn 08 10 25.0	+0.7
TK04				S		Sn 08 10 44.9	+0.5
JWY	**Kouya**	**1.69**	**320**	⇓P		Pn 08 10 26.1	+1.3
JWY				S		Sn 08 10 45.8	+0.4
TSUJ	**Tsu 2**	**1.82**	**347**	⇓P		Pn 08 10 27.6	+1.1
JHE	**Heguri**	**2.00**	**330**	⇓P		Pn 08 10 30.3	+1.3
JHE				S		Sn 08 10 53.3	+0.5
JAI	**Aioi**	**2.22**	**293**	P		Pn 08 10 33.2	+1.2
JAI				S		Sn 08 10 58.3	0.0
MAT	**Matsushiro**	**3.76**	**16**	P		Pn 08 10 55.3	+2.2
MAT				S		Sn 08 11 37.4	+1.2

*IDC **01** 08:48:15.3±1.5, 3°85N×95°72E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.7/28, mbtmp3.8/8, ML4.3/2, MS3.2/1, Ms1 3.2/1, ms1mx1.9/51, Error ellipse: s-maj=51.3km s-min=17.3km az=54.0*
*DJA **01** 08:48:22.4±0.4, 4°N±2°×9°7E±°, h10km, M4.4/3, MLv4.4/3*
*ISCJB **01** 08:48:23.3±0.6, 4°56N±0°05×96°63E±0°06, h33km, mb4.0/7, Error ellipse: s-maj=8.6km s-min=7.0km az=158.3*

ISC 01 08:48:24.2±0.8, 4°53N±0°05×96°57E±0°05, h33km, n21, σ1$32/23, mb3.9/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**0.79**	**29**	P	**Pn**	**08 48 39.1**	**0.0**
LHMI				S	**Sb**	**08 48 52.5**	**+2.4**
KCSI	**Kotacane, Aceh**	**1.56**	**130**	P	**Pn**	**08 48 48.2**	**-1.5**
KCSI				S	**Sn**	**08 49 09.7**	**+0.8**
BSI	**Banda Aceh**	**1.59**	**307**	P	**Pn**	**08 48 51.5**	**+1.4**
BSI				S	**Sb**	**08 49 14.9**	**+2.1**
SNSI	**Sinabang, Aceh**	**2.12**	**186**	P	**Pn**	**08 48 57.0**	**-0.4**
SNSI				S	**Sn**	**08 49 24.1**	**+1.5**
TSI	**Tuntungan**	**2.24**	**117**	P	**Pn**	**08 49 01.4**	**+2.4**
PSI	**Prapat**	**2.91**	**126**	Pn	**Pn**	**08 49 08.9**	**+0.5**
	21nm,0.3s,baz=305,slow=11,SNR=40						
PSI				Sn	**Sb**	**08 49 52.4**	**+1.6**
	37nm,0.3s,baz=186,slow=22,SNR=6.3						
PSI				LR	LR	08 50 47.3	
	comp=Z,349nm,18.8s,baz=119,slow=45						
KULM	**Kulim**	**4.14**	**79**	P	**Pn**	**08 49 24.4**	**-0.7**
IPM	**Ipoh**	**4.45**	**90**	P	**Pn**	**08 49 29.1**	**-0.3**
FRIM	**Kepong**	**5.21**	**104**	P	**Pn**	**08 49 40.4**	**+0.6**
KTGM	**Kuala Trenggan**	**6.59**	**83**	P	**Pn**	**08 49 58.2**	**-0.7**
KGM	**Kluang**	**7.19**	**110**	P	**Pn**	**08 50 07.4**	**+0.3**
MYKOM	**Kota Tinggi**	**7.76**	**110**	P	**Pn**	**08 50 15.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**14.04**	**9**	Pn	**P**	**08 51 48.1**	**-0.2**
	0.5nm,0.3s,baz=196,slow=12,SNR=6.9						
KSRS	**Korea Array**	**43.53**	**37**	P	P	08 56 29.0	+4.1
	0.9nm,0.7s,baz=228,slow=8.7,SNR=3.7						
MKAR	**Makanchi Array**	**43.88**	**346**	P	**P**	**08 56 26.2**	**-1.4**
	0.2nm,0.4s,baz=179,slow=8.5,SNR=4.2						
WRA	**Warramunga Arr**	**44.38**	**125**	P	**P**	**08 56 30.6**	**-1.3**
	11nm,0.6s,baz=302,slow=9.3,SNR=117						
ASAR	**Alice Springs**	**45.94**	**129**	P	**P**	**08 56 42.8**	**-1.5**
	1.0nm,0.5s,baz=305,slow=8.1,SNR=14						
KURBB	**Kurchatov Arra**	**48.37**	**345**	P	P	08 57 00.4	-2.4
	0.5nm,0.4s,baz=163,slow=6.9,SNR=3.8						
BVAR	**Borovoye Array**	**52.92**	**340**	P	**P**	**08 57 37.5**	**+0.4**
	0.5nm,0.4s,baz=139,slow=7.0,SNR=4.4						
STKA	**Stephens Creek**	**56.07**	**133**	P	P	08 57 56.4	-4.0
	4.1nm,1.1s,baz=312,slow=12,SNR=3.3						
TXAR	**Lajitas Array**	**141.13**	**29**	PKP	**PKPdf**	**09 07 51.9**	**-0.3**
	0.1nm,0.4s,baz=298,slow=2.7,SNR=4.2						

*IDC **01** 09:01:13.8±0.8, 56°34S×25°50W, h0km, mb4.1/5, mb1 4.1/6, mb1mx3.9/18, mbtmp4.0/6, ML3.3/1, Error ellipse: s-maj=35.7km s-min=20.9km az=71.0*
*ISCJB **01** 09:01:16.5±0.7, 56°4S±0°1×25°7W±0°2, h29km, mb4.1/6, Error ellipse: s-maj=26.0km s-min=13.5km az=155.2*
*NEIC **01** 09:01:19.0±0.5, 56°36S×25°69W, h35km, mb4.5/3, Error ellipse: s-maj=17.4km s-min=9.6km az=65.0*

ISC 01 09:01:18.2±0.8, 56°4S±0°1×25°7W±0°2, h29km, n18, σ0$40/18, mb4.1/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**18.12**	**157**	Pn	**P**	**09 05 28.0**	**+0.4**
SNAA	**Sanae**	**18.12**	**157**	Pn	**P**	**09 05 28.0**	**+0.4**
	0.1nm,0.3s,baz=320,slow=13,SNR=14						
TRQA	**Tornquist**	**30.23**	**292**	P	**P**	**09 07 25.6**	**-0.5**
	10nm,1.3s						
QSPA	**South Pole Qui**	**33.89**	**180**	P	**P**	**09 07 58.0**	**-0.2**
	4.6nm,1.4s						
QSPA	**South Pole Qui**	**33.89**	**180**	P	**P**	**09 07 58.0**	**-0.2**
	1.9nm,0.5s,baz=170,slow=2.6,SNR=12						
CPUP	**Villa Florida**	**37.66**	**310**	P	**P**	**09 08 30.7**	**+0.1**
CPUP	**Villa Florida**	**37.66**	**310**	P	**P**	**09 08 30.7**	**+0.1**
	1.6nm,0.6s,baz=126,slow=9.4,SNR=5.8						
VNDA	**Vanda**	**46.30**	**182**	P	**P**	**09 09 40.5**	**0.0**
VNDA	**Vanda**	**46.30**	**182**	P	**P**	**09 09 40.5**	**0.0**
	0.3nm,0.5s,baz=164,slow=3.2,SNR=3.7						
LPAZ	**La Paz**	**51.25**	**304**	*e*P	**P**	**09 10 20.3**	**+0.3**
	2.4nm,0.5s						
LPAZ	**La Paz**	**51.25**	**304**	P	**P**	**09 10 20.7**	**+0.7**
	1.9nm,0.3s,baz=169,slow=3.7,SNR=18						
TOA0	**Torodi Ar. Sit**	**72.92**	**28**	*e*P	**P**	**09 12 44.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**72.92**	**28**	P	**P**	**09 12 44.5**	**0.0**
TORD	**Torodi Ar. Bea**	**72.92**	**28**	P	**P**	**09 12 44.5**	**0.0**
	0.8nm,0.4s,baz=200,slow=6.4,SNR=13						
SONM	**Songino Array**	**149.90**	**86**	PKPbc	**PKPbc**	**09 21 04.0**	**-0.7**
SONM	**Songino Array**	**149.90**	**86**	PKPbc	**PKPbc**	**09 21 04.0**	**-0.7**
	0.8nm,0.6s,baz=260,slow=2.5,SNR=3.2						
ILAR	**Eielson Array**	**150.96**	**311**	PKPbc	**PKPbc**	**09 21 06.6**	**+0.1**
ILAR	**Eielson Array**	**150.96**	**311**	PKPbc	**PKPbc**	**09 21 06.6**	**+0.1**
	2.0nm,0.9s,baz=125,slow=1.6,SNR=24						

*ISK **01** 09:01:27.6, 37°26N×27°92E, h26km, MD2.2*
*DDA **01** 09:01:29.2, 37°16N×27°96E, h7km, MD2.8*
*CSEM **01** 09:01:29.6±0.2, 37°17N×27°92E, h10km, MD2.2, Error ellipse: s-maj=4.9km s-min=3.7km az=34.0*

ISC 01 09:01:28.6±1.1, 37°13N±0°03×27°92E±0°03, h7km±13km, n19, σ1$21/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSB	**Milas**	**0.20**	**325**	*e*PG	**Pg**	**09 01 33.0**	**+0.3**
MLSB	**Milas**	**0.20**	**325**	*e*Pg	**Pg**	**09 01 33.0**	**+0.3**
YER	**Yerkesik**	**0.29**	**89**	*e*PG	**Pg**	**09 01 35.4**	**+1.1**
YER				*e*SG	**Sb**	**09 01 41.1**	**0.0**
YER	**Yerkesik**	**0.29**	**89**	*e*Pg	**Pg**	**09 01 35.4**	**+1.1**
YER				*e*Sg	**Sb**	**09 01 41.1**	**0.0**
DAT	**Datca**	**0.49**	**215**	*e*PG	**Pb**	**09 01 40.3**	**+0.8**
DAT	**Datca**	**0.49**	**215**	*e*Pg	**Pb**	**09 01 40.3**	**+0.8**
BODT	**Bodrum**	**0.49**	**262**	*e*PG	**Pg**	**09 01 38.8**	**+0.7**
BODT	**Bodrum**	**0.49**	**262**	*e*Pg	**Pg**	**09 01 38.8**	**+0.7**
AYDN	**Tasoluk**	**0.53**	**356**	*e*P	**Pg**	**09 01 39.1**	**+0.2**
AYDN				*e*S	**Sg**	**09 01 46.3**	**+0.5**
AYDN	**Tasoluk**	**0.53**	**356**	*e*P	**Pg**	**09 01 39.1**	**+0.2**
AYDN				*e*S	**Sg**	**09 01 46.3**	**+0.5**
AYDN	**Tasoluk**	**0.53**	**356**	*e*P	**Pg**	**09 01 39.1**	**+0.2**
AYDN				*e*S	**Sg**	**09 01 46.3**	**+0.5**
TURN	**Turunc**	**0.60**	**115**	*e*P	Pg	09 01 37.9	-2.3
TURN				*e*S	**Sg**	**09 01 44.7**	**-3.3**
TURN	**Turunc**	**0.60**	**115**	*e*P	Pg	09 01 37.9	-2.3
TURN				*e*S	**Sg**	**09 01 44.7**	**-3.3**
TURN	**Turunc**	**0.60**	**115**	*e*P	Pg	09 01 37.9	-2.3
DALY	**Dalyan (Mu¨la**	**0.66**	**118**	*e*PG	**Pg**	**09 01 42.6**	**+1.3**
DALY	**Dalyan (Mu¨la**	**0.66**	**118**	*e*Pg	**Pg**	**09 01 42.6**	**+1.3**
GCAM	**G?zelcaml?**	**0.79**	**316**	*e*P	**Pb**	**09 01 44.8**	**+0.2**
GCAM				*e*S	**Sb**	**09 01 54.7**	**-0.8**
GCAM	**G?zelcaml?**	**0.79**	**316**	*e*P	**Pb**	**09 01 44.8**	**+0.2**
GCAM				*e*S	**Sb**	**09 01 54.7**	**-0.8**
GCAM	**G?zelcaml?**	**0.79**	**316**	*e*P	**Pb**	**09 01 44.8**	**+0.2**
GCAM				*e*S	**Sb**	**09 01 54.7**	**-0.8**

GUC 01 09:10:08.7±0.9, 32°22S×71°75W, h26km±5km, MD3.6, ML2.6, 6C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.40**	**33**	⇓*i*P	Pb	09 10 17.5	+0.3
CHNG				*i* S	Sb	09 10 23.8	+0.7
CHNG				AML	AML	09 10 24.2	
	comp=E,779nm,0.3s						
ROCH	**El Roble**	**0.98**	**140**	⇓*i*P	Pn	09 10 26.2	-0.9
ROCH				*i* S	Sb	09 10 39.3	-0.8
ROCH				AML	AML	09 10 41.7	
	comp=N,336nm,0.3s						
JACH	**Jahuel**	**1.08**	**116**	⇑*i*P	Pn	09 10 27.9	-0.5
JACH				*i* S	Sn	09 10 42.3	-0.4
CMCH	**Combarbala**	**1.22**	**32**	⇑*i*P	Pn	09 10 29.8	-0.5
CMCH				*i* S	Sn	09 10 45.8	-0.3
CMCH				AML	AML	09 10 50.0	
	comp=E,526nm,0.5s						
LCCH	**Las Cruces**	**1.26**	**173**	*i* S	Sn	09 10 46.9	0.0
PEL	**Peldehue**	**1.29**	**136**	⇑*i*P	Pn	09 10 31.0	-0.2
PEL				*i* S	Sb	09 10 48.4	-0.2
PEL				AML	AML	09 10 50.6	
	comp=N,359nm,0.2s						
STL	**Santa Lucia**	**1.53**	**143**	AML	AML	09 10 58.2	
	comp=N,23nm,0.3s						
CLCH	**Cerro Calan**	**1.56**	**139**	⇑*i*P	Pn	09 10 35.5	+0.6
CLCH				*i* S	Sb	09 10 55.9	-0.5
CLCH				AML	AML	09 11 04.2	
	comp=N,108nm,0.4s						
TACH	**Talagante**	**1.59**	**155**	⇑*i*P	Pn	09 10 36.1	+0.9
ANTU	**Antumapu**	**1.64**	**145**	⇑*i*P	Pb	09 10 37.7	-0.7
ANTU				*i* S	Sb	09 10 58.7	-0.1
ANTU				AML	AML	09 11 02.7	
	comp=E,87nm,0.3s						
CHCH	**Chadas Angostu**	**1.94**	**152**	*i* S	Sb	09 11 06.3	-1.1
LMEL	**Las Melosas**	**2.08**	**142**	⇓*i*P	Pn	09 10 43.7	+1.5
LMEL				*i* S	Sb	09 11 10.3	-1.4
LMEL				AML	AML	09 11 18.2	
	comp=N,126nm,0.1s						
CACH	**El Canelo**	**2.13**	**153**	⇓*i*P	Pn	09 10 44.6	+1.8
CACH				*i* S	Sb	09 11 12.5	-0.4

*CSEM **01** 09:16:32.2, 40°81N×15°25E, h18km, MD2.0/6, After ROM*

ROM 01 09:16:32.2±0.4, 40°81N×15°25E, h18km±5km, Md2.0/6, Ml1.0/2, Error ellipse: s-maj=3.0km s-min=2.8km az=83.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCRV	**Calabrutti - M**	**0.07**	**246**	Pg	Pg	09 16 35.3	-0.6
MCRV				Sg	Sg	09 16 37.9	-0.4
	167nm,0.4s						
MCRV	**Calabrutti - M**	**0.07**	**246**	Pg	Pg	09 16 35.3	-0.6
MCRV				Sg	Sg	09 16 37.9	-0.4
	167nm,0.4s						
SNAL	**S. Angelo Dei**	**0.12**	**343**	Pg	Pg	09 16 36.6	+0.3
SNAL				Sg	Sg	09 16 39.8	+0.8
SNAL	**S. Angelo Dei**	**0.12**	**343**	Pg	Pg	09 16 36.6	+0.3
SNAL				Sg	Sg	09 16 39.8	+0.8
MRLC	**Muro Lucano**	**0.19**	**107**	Pg	Pg	09 16 37.0	-0.1
MRLC				Sg	Sg	09 16 40.9	+0.5
	46nm,0.6s						
MRLC	**Muro Lucano**	**0.19**	**107**	Pg	Pg	09 16 37.0	-0.1
MRLC				Sg	Sg	09 16 40.9	+0.5
	46nm,0.6s						
SGO	**Sicignano**	**0.25**	**171**	Pg	Pb	09 16 38.8	+0.7
SGO				Sg	Sg	09 16 43.4	+1.3
	11nm,0.3s						
SGO	**Sicignano**	**0.25**	**171**	Pg	Pb	09 16 38.8	+0.7
SGO				Sg	Sg	09 16 43.4	+1.3
	11nm,0.3s						
CDRU	**Civita di Ruta**	**0.32**	**173**	Pg	Pg	09 16 39.3	0.0
CDRU				Sg	Sb	09 16 44.6	0.0
	7.0nm,0.3s						
CDRU	**Civita di Ruta**	**0.32**	**173**	Pg	Pg	09 16 39.3	0.0
CDRU				Sg	Sb	09 16 44.6	0.0
	7.0nm,0.3s						
CMPR	**Campora**	**0.49**	**176**	Pg	Pg	09 16 42.1	-0.2
CMPR				Sg	Sb	09 16 49.3	0.0
CMPR	**Campora**	**0.49**	**176**	Pg	Pg	09 16 42.1	-0.2
CMPR				Sg	Sb	09 16 49.3	0.0

*UPP **01** 09:21:55.6, 58°22N×11°27E, h0km, ML1.8, Mining explosion.*
*BER **01** 09:21:56.6±2.1, 58°19N×11°29E, h0km±12km, MD1.5, ML1.3, ML1.5(NAO)*
*NAO **01** 09:21:57.4±3.0, 58°27N×11°41E*

CSEM 01 09:21:55.2±0.3, 58°22N×11°25E, h0km±2km, ML1.8, 1C-1D, Error ellipse: s-maj=5.3km s-min=3.4km az=67.0, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TJOU	**Tjoern**	**0.28**	**134**	⇑P	Pg	09 22 00.9	+0.4
TJOU				S	Sg	09 22 04.9	+0.9
VANU	**Vaenersborg**	**0.51**	**58**	P	Pg	09 22 05.2	+0.2
STRU	**Stroemstad**	**0.81**	**358**	P	Pg	09 22 11.0	+0.2
BORU	**Boraas**	**1.00**	**125**	P	Pg	09 22 13.9	-0.5
NASU	**Vaermlandsnaes**	**1.24**	**54**	P	Pg	09 22 18.2	-0.7
FINU	**Finntorp**	**1.35**	**28**	P	Pg	09 22 20.4	-0.6
HOMB	**Homborsund**	**1.45**	**273**	*e*P	Pn	09 22 22.6	-0.1
HOMB				*e*S	Sg	09 22 40.4	-1.4
HOMB	**Homborsund**	**1.45**	**273**	*e*P	Pn	09 22 22.6	0.0
	SNR=50						
HOMB				*e*S	Sg	09 22 40.4	-1.4
	SNR=50						
FABU	**Falkenberg**	**1.46**	**147**	P	Pn	09 22 21.8	-0.9
KONO	**Kongsberg**	**1.67**	**330**	*e*P	Pn	09 22 25.9	+0.3
KONO				*e*S	Sb	09 22 48.2	0.0
KONO	**Kongsberg**	**1.67**	**330**	*e*P	Pn	09 22 26.0	+0.4
	SNR=50						
KONO				*e*S	Sb	09 22 48.2	-0.1
	SNR=50						
SNART	**Snartemo**	**2.14**	**275**	*e*P	Pn	09 22 32.3	+0.2
SNART				AML	AML	09 23 00.1	
	comp=Z,3.8nm,0.3s						
UDD	**Uddeholm**	**2.23**	**32**	⇓P	Pn	09 22 33.6	+0.2
LNKU	**Linkoeping**	**2.25**	**88**	P	Pn	09 22 34.9	+1.2
HFS	**Hagfors**	**2.29**	**32**	Pn	Pn	09 22 34.4	+0.2
	baz=219,slow=16						
HFS				Sn	Sn	09 23 02.2	-1.0
	baz=215,slow=22						
HFS				Lg	Lg	09 23 06.9	
	baz=206,slow=37						
HFS	**Hagfors**	**2.29**	**32**	Pn	Pn	09 22 34.4	+0.2
	baz=219,slow=16						
HFS				Sn	Sn	09 23 02.2	-1.0
	baz=215,slow=22						
HFS				Lg	Lg	09 23 06.9	
	baz=206,slow=37						
HFS	**Hagfors**	**2.29**	**32**	Pn	Pn	09 22 34.4	+0.2
	baz=219,slow=14,SNR=0.1						
HFS				Sn	Sn	09 23 02.2	-1.0
	baz=215,slow=21,SNR=0.4						
HFS				Lg	Lg	09 23 06.9	
	baz=206,slow=29,SNR=8.8						
NB2	**NORSAR Subarra**	**2.83**	**360**	Pn	Pn	09 22 41.3	-0.4
NB2				Lg	Lg	09 23 24.6	
NB2	**NORSAR Subarra**	**2.83**	**360**	Pn	Pn	09 22 41.3	-0.4
NB2				Lg	Lg	09 23 24.6	
NB2	**NORSAR Subarra**	**2.83**	**360**	Pn	Pn	09 22 41.3	-0.3
NB2				Lg	Lg	09 23 24.6	

*BGS **01** 09:29:49.7±1.4, 32°49N×27°29E, h20km, mb5.8, MS6.1*
*DDA **01** 09:30:01.5, 33°55N×25°17E, h25km, ML6.5*
*NSSC **01** 09:30:01.9±3.2, 33°99N×25°05E, h0km±646km, MD2.7, ML5.5*
*ISCJB **01** 09:30:05.6±0.3, 34°039N±0°010×25°445E±0°010, h1km±2km, mb5.8/431, MS6.3/228, Error ellipse: s-maj=1.8km s-min=1.2km az=26.9*
*SZGRF **01** 09:30:06.7, 33°88N×26°18E, h33km, mb6.1, MS6.2, Eastern Mediterranean Sea*
*NIC **01** 09:30:07.3±0.4, 34°22N×25°23E, h25km, mb6.3, ML6.2*
*IDC **01** 09:30:07.8±0.2, 34°16N×25°52E, h0km, mb5.4/61, mb1 5.4/69, mb1mx5.4/69, mbtmp5.4/69, ML4.9/7, MS6.4/43, Ms1 6.4/43, ms1mx6.2/65, Error ellipse: s-maj=6.0km s-min=4.9km az=88.0*
*BJI **01** 09:30:07.5, 34°52N×25°31E, h12km, mB6.2/57, mb5.6/64, Ms6.4/78, Ms7 6.2/68*
*HLW **01** 09:30:08.6, 34°24N×25°51E, h32km±44km, Md4.7, Ml5.8*
*MOS **01** 09:30:09.4±0.9, 34°20N×25°40E, h25km, mb6.0/90, MS6.3/79, Error ellipse: s-maj=4.7km s-min=2.4km az=94.3*
*SFS **01** 09:30:09.0, 34°24N×25°48E, h10km, ML6.4*
*PDG **01** 09:30:10.3±0.2, 34°22N×25°37E, h11km, MD6.2/1, ML6.1/6, Error ellipse: s-maj=1.2km s-min=0.7km az=90.0*
*NEIC **01** 09:30:10.4±0.1, 34°16N×25°47E, h19km, mb6.1/212, ME6.3, MS6.3/130, MW6.4, ML5.8(ATH), ML5.9(HLW), ML6.0(THE), ML6.2(ISK), Error ellipse: s-maj=2.6km s-min=1.9km az=209.0 Broadband fault plane solution: P waves. NP1:ϕ₀115.00000°, δ65.00000°, λ125.00000°. NP2:ϕ₀236.00000°, δ42.00000°, λ39.00000°. Principal axes: T Plg55.0000°, Azm71

| | | |

HFRF Wahat Farafira 7.37 160 P Pn 09 31 56.5 -0.8
SLVT Silivri 7.38 16 ePN Pn 09 31 59.7 +2.3
FNA Florina 7.41 335 P Pn 09 31 57.9 +0.1
FNA Florina 7.41 335 ePN Pn 09 32 00.8 +3.0
KIZK Mersin 7.41 69 iP Pn 09 31 58.4 +0.6
KIZK iS Sn 09 33 22.8 +1.1
KIZK Mersin 7.41 69 iP Pn 09 31 58.4 +0.6
KIZK iS Sn 09 33 22.8 +1.1
GULT Gulveren 7.42 31 ePN Pn 09 32 00.5 +2.5
HRT Hereke 7.43 25 ePN Pn 09 32 00.9 +2.9
ISK Istanbul-Kandi 7.45 21 ePN Pn 09 32 01.1 +2.8
CTKS Kestenelik-??a 7.46 18 ePN Pn 09 32 00.5 +2.1
BGKT Bogazkoy 7.47 19 ePN Pn 09 32 01.4 +2.7
KBN Korca 7.49 331 ePN Pn 09 32 03.0 +4.1
KBN iSN Pb 09 32 22.0 +2.2
KBN Korca 7.49 331 ePn Pn 09 32 03.0 +4.1
KBN iSn Pb 09 32 22.0 +2.2
KDZ Kurdzhali 7.49 359 eP Pn 09 32 00.4 +1.5
SUZ 7.54 123 P Pn 09 31 57.8 -1.7
baz=123
VAY Valandovo 7.54 343 ePn Pn 09 32 01.4 +1.9
VAY eSg Sb 09 33 37.5 -13
VAY Valandovo 7.54 343 ePn Pn 09 32 01.4 +1.9
VAY eSg Sn 09 33 37.4 +13
SPNC Sapanca-Adapaz 7.55 29 ePN Pn 09 32 02.3 +2.6
RZN Rozhen 7.56 355 eP Pn 09 32 01.8 +1.8
MMB Musomiste 7.57 350 eP Pn 09 32 00.5 +0.5
SULT Sultanhani-AKS 7.61 56 ePN Pn 09 32 03.1 +2.4
KLYT Kilyos 7.62 20 ePN Pn 09 32 03.2 +2.6
BIA Bitola 7.63 335 ePn Pn 09 32 00.5 -0.4
BIA eSg Sn 09 33 34.4 +7.1
BIA Bitola 7.63 335 ePn Pn 09 32 00.5 -0.4
BIA eSg Sn 09 33 34.3 +7.1
CTYL Yal??k??y-??at 7.63 16 ePN Pn 09 32 02.8 +2.0
ZAF 7.69 127 P Pn 09 32 00.3 -1.4
baz=127
SILT Sile 7.71 24 ePN Pn 09 32 03.9 +2.0
EDRB Edirne 7.75 7 ePN Pn 09 32 04.2 +1.9
MDUB Mudurnu 7.75 34 ePN Pn 09 32 04.8 +2.2
ZNM 7.85 125 P Pn 09 32 02.2 -1.7
baz=125
DIM Dimitrovgrad 7.89 360 eP Pn 09 32 06.4 +2.0
KKB Krupnik 7.95 347 eP Pn 09 32 05.5 +0.3
PLD Plovdiv 7.97 356 eP Pn 09 32 07.7 +2.2
AFSR Af`ar-Bala (A 8.03 47 ePN Pn 09 32 08.8 +2.5
OFRI `Ofer 8.04 98 Pn Pn 09 32 04.2 -2.4
HNTI Hanita 8.11 95 Pn Pn 09 32 07.1 -0.3
HNTI Sn Sn 09 33 39.7 +0.8
LOD Lodumlu 8.14 43 ePN Pn 09 32 10.0 +2.2
GULE Gulek 8.14 65 iPn Pn 09 32 09.9 +2.0
GULE Gulek 8.14 65 iPn Pn 09 32 09.9 +2.0
ANTO Ankara 8.14 43 ePN Pn 09 32 09.3 +1.4
ANTO Ankara 8.14 43 eP Pn 09 32 09.1 +1.2
ANTO Ankara 8.14 43 Pn Pn 09 32 09.9 +2.0
SNR=140
ANTO Ankara 8.14 43 ePn Pn 09 32 09.1 +1.2
ANTO Ankara 8.14 43⇑iP Pn 09 32 09.9 +2.0
ANTO Ankara 8.14 43 ePn Pn 09 32 09.1 +1.2
ANTO Ankara 8.14 43⇑iP Pn 09 32 09.9 +2.0
KZT Kziot 8.15 111 Pn Pn 09 32 06.1 -1.8
SLTI Sal'it 8.19 101 Pn Pn 09 32 06.3 -2.2
SLTI Sn Sn 09 33 37.7 -3.1
BLGI Bet Lehem HaGe 8.19 97 Pn Pn 09 32 07.1 -1.4
HNKL Nakhl 8.31 118 P Pn 09 32 08.7 -1.5
baz=118
HNKL S Sn 09 33 39.9 -3.9
baz=118
HNKL AMP 09 34 00.0
comp=N,6260µm,0.9s,logA/T=6.8,baz=118
HNKL Nakhl 8.31 118 S Sn 09 33 39.9 -3.9
MMAI Mount Meron Ar 8.31 95 Pn Pn 09 32 08.7 -1.5
MMAI Sn Sn 09 33 47.4 +3.5
MMAI Mount Meron Ar 8.31 95 Pn Pn 09 32 08.7 -1.5
comp=N,43nm,0.3s,baz=274,slow=12,SNR=40
MMAI Sn Sn 09 33 47.4 +3.5
comp=N,368nm,0.3s,baz=269,slow=22,SNR=9.4
MMAI Mount Meron Ar 8.31 95 Pn Pn 09 32 08.7 -1.5
MMAI Sn Sn 09 33 47.4 +3.5
RTMI Retamim 8.31 109 Pn Pn 09 32 08.2 -2.0
NIG Nigde 8.34 59 ePN Pn 09 32 12.0 +1.3
KARA Karaisali 8.34 65 ePN Pn 09 32 11.9 +1.3
JMB Yambol 8.35 5 eP Pn 09 32 11.5 +0.9
KAMT Kaman 8.38 49 ePN Pn 09 32 13.1 +1.9
KRTS Karatas 8.39 70 ePN Pn 09 32 12.3 +1.1
BHL Bhannes 8.40 89 eP Pn 09 32 09.8 -1.7
MMLI Mount Malkishu 8.45 99 Pn Pn 09 32 09.7 -2.4
SKO Skopje 8.45 339 ePn Pn 09 32 14.4 +2.3
SKO eSg Sg 09 35 11.2 +30
SKO Skopje 8.45 339 ePn Pn 09 32 14.4 +2.3
SKO eSg Sg 09 35 11.1 +30
PGB Panagyurishte 8.46 353 eP Pn 09 32 12.5 +0.3
TIR Tirane 8.47 330 eP Pn 09 32 12.8 +0.4
TIR e 09 33 46.0
TIR Tirane 8.47 330 ePn Pn 09 32 12.8 +0.4
TIR eSn Sn 09 33 46.0 -1.8
TIR Tirane 8.47 330 ePn Pn 09 32 12.8 +0.4
TIR eSn Sn 09 33 46.0 -1.8
KSDI Kefar Szold 8.49 94 Pn Pn 09 32 10.8 -1.8
ASUT 8.49 141 P Pn 09 32 11.2 -1.5
baz=141
YTIR Yattir 8.53 106 Pn Pn 09 32 12.2 -1.1
GRB Gharib 8.53 131 P Pn 09 32 12.1 -1.1
baz=131
BR131 Keskin Array S 8.54 47 ePn Pn 09 32 14.8 +1.3
comp=N,2.7nm,0.6s
BR131 eSn Sn 09 33 53.4 +3.6
BR131 Keskin Array S 8.54 47 ePn Pn 09 32 14.8 +1.3
comp=N,2.7nm,0.6s
BR131 eSn Sn 09 33 53.4 +3.6
BRTR Keskin Array B 8.54 47 Pn Pn 09 32 13.7 +0.2
BRTR Sn Sn 09 33 55.8 +6.0
BRTR Lg Lg 09 34 39.9
BRTR ScP ScP 09 42 15.1 +0.5
BRTR Keskin Array B 8.54 47 Pn Pn 09 32 13.7 +0.2
comp=N,5.1nm,0.3s,baz=231,slow=12,SNR=180
BRTR Sn Sn 09 33 55.8 +6.0
comp=N,14nm,0.3s,baz=215,slow=27,SNR=7.1
BRTR Lg Lg 09 34 39.9
baz=346,slow=27,SNR=1.4
BRTR ScP ScP 09 42 15.1 +0.5
comp=N,0.1nm,0.3s,baz=218,slow=1.9,SNR=3.7
BRTR Keskin Array B 8.54 47 Pn Pn 09 32 13.7 +0.2
BRTR Sn Sn 09 33 55.8 +6.0
KDZE Karadeniz Ereo 8.54 31 ePN Pn 09 32 15.0 +2.6
HMDT Nahal Hemdat 8.58 100 Pn Pn 09 32 12.1 -1.8
RCY Rachaya 8.59 91 eP Pn 09 32 12.4 -1.7
HWQ Hawqa 8.62 86 eP Pn 09 32 12.4 -2.2
VTS Vitosha 8.63 348 ⇓P Pn 09 32 15.6 +1.0
VTS Vitosha 8.63 348⇓iP Pn 09 32 15.6 +1.0
VTS Vitosha 8.63 348⇓iP Pn 09 32 15.6 +1.0
KSHT Keshet 8.65 95 Pn Pn 09 32 13.6 -1.3
TIP Timpagrande 8.66 308 ePn Pn 09 32 12.7 -2.3
TIP Timpagrande 8.66 308 ePn Pn 09 32 12.7 -2.3
DSI Dead Sea 8.67 105 Pn Pn 09 32 13.1 -2.0
ARNB Al Arnab 8.73 76 eP Pn 09 32 15.1 -0.9
ARNB eS Sn 09 33 53.3 -0.9
ARNB AML AML 09 34 05.0
comp=N,2µm,0.9s
ARNB AML AML 09 34 07.7
comp=E,2µm,0.6s
ARNB Al Arnab 8.73 76 eP Pn 09 32 15.1 -0.9
SNR=45
ARNB eS Sn 09 33 53.3 -0.9
comp=E,2µm,0.6s,SNR=40
MZDA Masada 8.74 106 Pn Pn 09 32 14.7 -1.4
MZDA Sn Sn 09 33 54.5 0.0
KRMI Paran Flat 8.76 115 Pn Pn 09 32 14.1 -2.3
CEYT Ceyhan 8.79 68 ePN Pn 09 32 17.6 +0.8
CEL Celeste 8.81 301 ePn Pn 09 32 15.2 -1.8
CEL Celeste 8.81 301 ePn Pn 09 32 15.2 -1.8
TCHB Talchebab 8.84 97 eP Pn 09 32 16.9 -0.6
TCHB eS Sn 09 33 57.3 +0.3
TCHB AML AML 09 34 04.9
comp=E,11µm,0.7s
TCHB AML AML 09 34 05.5
comp=N,9µm,0.6s
TCHB Talchebab 8.84 97 eP Pn 09 32 16.9 -0.6
SNR=45
TCHB eS Sn 09 33 57.3 +0.3
comp=N,9µm,0.6s,SNR=40
PRNI Paran 8.86 113 Pn Pn 09 32 15.6 -2.2
SLNF Slenfeh 8.90 78 eP Pn 09 32 21.4 +3.0
SLNF eS Sn 09 33 56.8 -1.7
SLNF AML AML 09 34 14.6
comp=E,5µm,0.5s
SLNF AML AML 09 34 15.9
comp=N,7µm,0.5s
SLNF Slenfeh 8.90 78 eP Pn 09 32 21.4 +3.0
SNR=45
SLNF eS Sn 09 33 56.8 -1.7
comp=N,7µm,0.5s,SNR=40
HTY Hatay 8.90 74 ePN Pn 09 32 19.2 +1.0
CDAG Cicekdag 8.94 50 iPn Pn 09 32 21.2 +2.4
CDAG Cicekdag 8.94 50 iPn Pn 09 32 21.2 +2.4
QASN Qassioun 8.95 91 eP Pn 09 32 19.9 +0.8
QASN AML AML 09 34 12.8
comp=N,5µm,0.6s
QASN AML AML 09 34 14.6
comp=E,7µm,0.6s
QASN Qassioun 8.95 91 eP Pn 09 32 19.9 +0.8
SNR=45
KOZT Kozan 8.99 65 ePN Pn 09 32 20.6 +1.1
HRFI Mount Harif 9.04 114 Pn Pn 09 32 19.0 -1.2
HRFI Sn Sn 09 34 00.8 -1.0
PUK Puka 9.05 332 ePN Pn 09 32 09.1 -11
PUK Puka 9.05 332 ePn Pn 09 32 09.1 -11
TR2 9.05 127 P Pn 09 32 19.0 -1.4
baz=127
SAFT Safranbolu 9.06 37 ePN Pn 09 32 22.8 +2.3
MBRI Mt Berech 9.07 116 Pn Pn 09 32 19.0 -1.6
TOTH TOTAH 9.10 92 eP Pn 09 32 20.9 -0.2
TOTH eS Sn 09 34 03.2 -0.2
TOTH AML AML 09 34 13.5
comp=E,4µm,0.7s
TOTH AML AML 09 34 13.6
comp=N,3µm,0.7s
TOTH TOTAH 9.10 92 eP Pn 09 32 20.9 -0.2
SNR=45
TOTH eS Sn 09 34 03.2 -0.2
comp=N,3µm,0.7s,SNR=40
CANT Cankiri 9.10 43 ePN Pn 09 32 23.3 +2.2
SZH Strazhica 9.11 2 eP Pn 09 32 22.5 +1.4
BTCH Batrach 9.15 75 eP Pn 09 32 21.4 -0.3
BTCH eS Sn 09 34 04.1 -0.4
BTCH AML AML 09 34 10.1
comp=E,4µm,0.6s
BTCH AML AML 09 34 11.5
comp=N,2µm,0.7s
BTCH Batrach 9.15 75 eP Pn 09 32 21.4 -0.3
SNR=45
BTCH eS Sn 09 34 04.1 -0.4
comp=N,2µm,0.7s,SNR=40
HKAT Jabal Katrina 9.15 126 P Pn 09 32 19.8 -2.0
baz=125
PRD Provadia 9.15 9 eP Pn 09 32 22.8 +1.1
EIL Elat 9.16 117 Pn Pn 09 32 20.4 -1.4
EIL Sn Sn 09 34 04.8 0.0
EIL Elat 9.16 117 Pn Pn 09 32 20.4 -1.4
comp=N,32nm,0.3s,baz=311,slow=7.8,SNR=91
EIL Sn Sn 09 34 04.8 0.0
comp=N,110nm,0.3s,baz=57,slow=16,SNR=7.8
EIL Elat 9.16 117 Pn Pn 09 32 19.2 -2.6
EIL Sn Sn 09 34 04.8 0.0
WDD Wield Dalam 9.20 284 ePn Pn 09 32 20.0 -2.3
WDD Wield Dalam 9.20 284 ePn Pn 09 32 20.0 -2.3
HBST Basata 9.24 120 P Pn 09 32 21.3 -1.7
baz=120
ULC Ulcinj 9.24 329⇑iPn Pn 09 32 23.3 +0.3
ULC eSn Sn 09 34 03.1 -3.7
ULC Ulcinj 9.24 329⇑iPn Pn 09 32 23.3 +0.3
ULC eSn Sn 09 34 03.1 -3.7
MPEP Malo Peshtene 9.30 352 eP Pn 09 32 26.5 +2.8
CORM Corum 9.42 48 ePN Pn 09 32 27.5 +1.9
HDHB Dhahab 9.45 122 P Pn 09 32 24.2 -1.6
baz=122
TR1 9.46 128 P Pn 09 32 24.5 -1.5
baz=128
SALA Sala 9.46 96 eP Pn 09 32 26.3 +0.1
SALA eS Sn 09 34 10.4 -2.1
SALA AML AML 09 34 23.0
comp=E,209nm,0.6s
SALA AML AML 09 34 26.8
comp=N,3µm,0.6s
SALA Sala 9.46 96 eP Pn 09 32 26.3 +0.1
SNR=45
SALA eS Sn 09 34 10.4 -2.1
comp=N,3µm,0.6s,SNR=40
ZIMR 9.50 359 ⇓P Pn 09 32 26.9 +0.5
ZIMR 9.50 359⇓iP Pn 09 32 26.9 +0.5
PVY Plav 9.50 334⇓iPn Pn 09 32 26.9 +0.3
PVY eSn Sn 09 34 10.0 -3.2
PVY Plav 9.50 334⇓iPn Pn 09 32 26.9 +0.3
PVY eSn Sn 09 34 10.0 -3.2
BNN Bunyan 9.53 58 ePN Pn 09 32 28.9 +1.9
YOZ Yozgat 9.56 52 ePN Pn 09 32 28.7 +1.3
TOS Tosya 9.62 42 ePN Pn 09 32 30.0 +1.8
PDG Podgorica 9.63 331⇓iPn Pn 09 32 28.5 +0.3
PDG eSn Sn 09 34 12.3 -3.9
TTG Podgorica 9.63 331⇓iPn Pn 09 32 28.5 +0.3
TTG eSn Sn 09 34 12.3 -3.9
GTR Jabal at Tayr 9.65 152 P Pn 09 32 27.5 -1.0
baz=152
SHRM 9.65 128 P Pn 09 32 27.4 -1.2
baz=128
SHRM AMP 09 34 00.0
comp=N,2520µm,1.0s,logA/T=6.4,baz=128
BUM Brajici-Budva 9.67 329⇑iPn Pn 09 32 28.4 -0.5
BUM eSn Sn 09 34 13.4 -3.9
BUM Brajici-Budva 9.67 329⇑iPn Pn 09 32 28.4 -0.5
BUM eSn Sn 09 34 13.4 -3.9
CUC Castrocucco 9.71 310 ePn Pn 09 32 27.8 -1.6
CUC Castrocucco 9.71 310 ePn Pn 09 32 27.8 -1.6
AYKD Aykdinkavak 9.72 67 iP Pn 09 32 29.0 -0.5
AYKD Aykdinkavak 9.72 67 iP Pn 09 32 29.0 -0.5
ASF Jabal al Asfar 9.72 99 Pn Pn 09 32 28.0 -1.7
ASF Sn Sn 09 34 22.6 +3.9
ASF Jabal al Asfar 9.72 99 Pn Pn 09 32 28.0 -1.7
ASF Sn Sn 09 34 22.6 +3.9
PSN Preselentsi 9.74 11 eP Pn 09 32 30.1 +0.4
SARI SarD1z-Kayseri 9.76 61 ePN Pn 09 32 30.7 +0.5
HHRG Al Ghardaqah 9.77 133 P Pn 09 32 29.5 -0.7
baz=133
KMRS Kahramanmaras 9.81 67 ePN Pn 09 32 30.4 -0.4
ZALF Zalf 9.92 94 eP Pn 09 32 34.5 +2.2
ZALF eS Sn 09 34 20.5 -3.0
ZALF AML AML 09 34 47.4
comp=E,1µm,0.7s
ZALF AML AML 09 35 03.0
comp=N,997nm,0.6s
ZALF Zalf 9.92 94 eP Pn 09 32 34.5 +2.2
SNR=45
ZALF eS Sn 09 34 20.5 -3.0
comp=N,997nm,0.6s,SNR=40
MANR Mangalia 9.94 13⇑iP Pn 09 32 34.9 +2.4
GAZ Gaziantep 9.96 69 ePN Pn 09 32 33.1 +0.2
NKY Niksic 10.05 331⇑iPn Pn 09 32 34.6 +0.4
NKY eSn Sn 09 34 23.4 -3.4
NKY Niksic 10.05 331⇑iPn Pn 09 32 34.6 +0.4
NKY eSn Sn 09 34 23.4 -3.4
BRY Bratogost 10.31 330⇑iPn Pn 09 32 38.2 +0.5
BRY eSn Sn 09 34 29.4 -3.8
BRY Bratogost 10.31 330⇑iPn Pn 09 32 38.2 +0.5
BRY eSn Sn 09 34 29.4 -3.8
BYBT Boyabat 10.32 42 ePN Pn 09 32 39.4 +1.7
CVD Cernavoda 10.34 10⇑P Pn 09 32 40.0 +2.1
CVD Cernavoda 10.34 10⇑iP Pn 09 32 40.0 +2.1
CVD Cernavoda 10.34 10⇑iP Pn 09 32 40.0 +2.1
UPM Unac-Piva 10.42 332⇓iPn Pn 09 32 37.0 -2.2
UPM eSn Sn 09 34 31.5 -4.4
UPM Unac-Piva 10.42 332⇓iPn Pn 09 32 37.0 -2.2
UPM eSn Sn 09 34 31.5 -4.4
SULR 10.53 3⇓iP Pn 09 32 42.4 +1.9
TIRR Tirgusor 10.53 11 eP Pn 09 32 40.7 +0.1
TIRR Tirgusor 10.53 11 ePn Pn 09 32 40.7 +0.1
TIRR Tirgusor 10.53 11⇓iP Pn 09 32 42.5 +1.9
TIRR Tirgusor 10.53 11 ePn Pn 09 32 40.7 +0.1
TIRR Tirgusor 10.53 11⇓iP Pn 09 32 42.5 +1.9
AMRR Amara 10.54 7⇑P Pn 09 32 47.7 +7.0
AMRR Amara 10.54 7⇑iP Pn 09 32 47.7 +7.0
DARE Darende-Malaty 10.59 62 ePN Pn 09 32 41.9 +0.4
STON Ston 10.65 327 iPn Pn 09 32 39.8 -2.4
STON Sn Sn 09 34 31.8 -9.4
JHLN Al Jahlan 10.70 78 eP Pn 09 32 42.3 -0.7
JHLN eS Sn 09 34 41.6 -1.0
JHLN Al Jahlan 10.70 78 eP Pn 09 32 42.3 -0.7
SNR=45
JHLN eS Sn 09 34 41.6 -1.0
SNR=40
TOKT Tokat 10.72 52 ePN Pn 09 32 43.7 +0.5
PGOR Pogoanele 10.80 5⇑iP Pn 09 32 46.6 +2.3
AKCD Akcadag 10.82 64 iP Pn 09 32 44.8 +0.1
AKCD Akcadag 10.82 64 iP Pn 09 32 44.8 +0.1
DIVS Divibare 10.83 338 P Pn 09 32 46.6 +1.9
KVT Kavak 10.83 47 ePN Pn 09 32 45.9 +1.2
ATAB Bozova 10.88 69 iPn Pn 09 32 53.0 +7.6
ATAB Bozova 10.88 69 iPn Pn 09 32 53.0 +7.6
SECR 10.88 2⇑iP Pn 09 32 47.1 +1.7
ISR Istrita 10.98 4⇑iP Pn 09 32 49.0 +2.2
ISR Istrita 10.98 4⇑iP Pn 09 32 49.0 +2.2
ISR Istrita 10.98 4⇑iP Pn 09 32 49.0 +2.2
CFR Carcaliu 11.20 9⇑iP Pn 09 32 50.9 +1.3
CFR Carcaliu 11.20 9⇑iP Pn 09 32 50.8 +1.2
CFR Carcaliu 11.20 9⇑iP Pn 09 32 50.8 +1.2
MALT Malatya 11.21 65 ePN Pn 09 32 50.7 +0.7
MALT Malatya 11.21 65⇑P Pn 09 33 04.3 +14
MALT Malatya 11.21 65⇑iP Pn 09 33 04.3 +14
MYA Malataya 11.21 64 ePN Pn 09 32 50.9 +1.0
ARR Arges 11.23 357⇑iP Pn 09 32 50.2 0.0
RSDY Resadiye-TOKAT 11.27 53 ePN Pn 09 32 51.7 +1.0
URFA Urfa 11.28 69 ePN Pn 09 32 50.8 -0.1
VOIR 11.28 358 ⇓P Pn 09 32 51.3 +0.4
VOIR 11.28 358⇓iP Pn 09 32 51.3 +0.4
VOIR 11.28 358⇓iP Pn 09 32 51.3 +0.4
TLCR 11.31 12 ⇓P Pn 09 32 52.8 +1.6
TLCR 11.31 12⇓iP Pn 09 32 52.8 +1.6
TLCR 11.31 12⇓iP Pn 09 32 52.8 +1.6
MLR Muntele Rosu 11.33 1 Pn Pn 09 32 52.7 +1.0
MLR Lg Lg 09 36 15.5
MLR Muntele Rosu 11.33 1⇓iP Pn 09 32 53.2 +1.5
MLR Muntele Rosu 11.33 1 Pn Pn 09 32 52.7 +1.0
comp=N,0.2nm,0.3s,baz=166,slow=5.9,SNR=60
MLR Lg Lg 09 36 15.5
comp=N,0.2nm,0.3s,baz=49,slow=19,SNR=1.6
MLR Muntele Rosu 11.33 1 Pn Pn 09 32 52.7 +1.0
MLR Muntele Rosu 11.33 1⇓iP Pn 09 32 53.2 +1.5
MLR Lg Lg 09 36 15.5
LOT Lotru 11.37 354⇑iP Pn 09 32 53.0 +0.9
PETR Petresti 11.63 6⇑iP Pn 09 33 02.7 +7.1
PLOR Plostina 11.72 4⇑P Pn 09 32 57.6 +0.7
PLOR Plostina 11.72 4⇑iP Pn 09 32 57.6 +0.7
PLOR Plostina 11.72 4⇑iP Pn 09 32 57.6 +0.7
VRI Vrincioaia 11.74 4⇑P Pn 09 32 58.7 +1.6
VRI Vrincioaia 11.74 4⇑iP Pn 09 32 58.7 +1.6
VRI Vrincioaia 11.74 4⇑iP Pn 09 32 58.7 +1.6
BZS Buzias 11.84 346⇑P Pn 09 32 58.6 +0.1
BZS Buzias 11.84 346⇑iP Pn 09 32 58.6 +0.1
BZS Buzias 11.84 346⇑iP Pn 09 32 58.6 +0.1
SVRC Sivrice-ELAZID 11.89 65 ePN Pn 09 32 59.3 0.0
DEV Deva 11.89 351⇑P Pn 09 33 05.7 +6.5
DEV Deva 11.89 351⇑iP Pn 09 33 05.7 +6.5
PTK Pertek 12.11 63 ePN Pn 09 33 02.4 +0.1
SFNV Sufian 12.12 75 eP Pn 09 33 05.1 +2.6
SFNV eS Sn 09 35 16.9 -0.6
SFNV Sufian 12.12 75 eP Pn 09 33 05.1 +2.6
SNR=45
SFNV eS Sn 09 35 16.9 -0.6
SNR=40
TESR Tescani 12.38 4⇑iP Pn 09 33 07.6 +1.8
EZC Erzincan 12.38 59 ePN Pn 09 33 06.6 +0.5
ESPY Espiye-Giresun 12.45 53 ePN Pn 09 33 07.6 +0.7
LEOM Leova 12.48 9⇑P P 09 33 15.1 -3.9
LEOM Leova 12.48 9⇑iP P 09 33 15.1 -3.9
MZRK Al-Mazaregh 12.51 78 eP Pn 09 33 08.7 +1.0
MZRK Al-Mazaregh 12.51 78 eP Pn 09 33 08.7 +1.0
SNR=45
KBSD Kabsdagh 12.54 73 eP Pn 09 33 10.5 +2.3
KBSD Kabsdagh 12.54 73 eP Pn 09 33 10.5 +2.3
SNR=45
MAZI Mazidag 12.54 70 ePN Pn 09 33 07.6 -0.7
AQU L'Aquila 12.56 314 ePn Pn 09 33 08.2 -0.3
AQU L'Aquila 12.56 314 ePn Pn 09 33 08.2 -0.3
ERZN Erzincan 12.58 60 ePN Pn 09 33 08.9 +0.2
SIM Simferopol' 12.65 29ceP Pn 09 33 10.7 +1.2
SIM eS Sn 09 35 35.5 +5.4
SIM pmax pmax
comp=Z,251nm,0.9s
SIM MLR MLR
comp=Z,59µm,13.3s
GUMT Gumushane 12.76 56 ePN Pn 09 33 11.4 +0.2
DRGR 12.81 351 ⇓P Pn 09 33 11.8 0.0
DRGR 12.81 351⇓iP Pn 09 33 11.8 0.0
DRGR 12.81 351⇓iP Pn 09 33 11.8 0.0
UDBI Udbina 12.82 327 iPn Pn 09 33 09.9 -2.1
UDBI Sn Sn 09 35 26.8 -7.7
KIS Kishinev 13.07 10⇑iP Pn 09 33 14.0 -1.3
comp=Z,8µm,6.0s
KIS iS Sn 09 35 36.0 -4.5
comp=Z,28µm,17.0s
KIS iLi 09 36 23.0
KIS iLQ LQ 09 36 58.0
KIS LRM MLR 09 39 10.0
comp=Z,219µm,12.0s
KIS Kishinev 13.07 10α iP Pn 09 33 14.0 -1.3
KIS iS Sn 09 35 36.0 -4.5
KIS pmax pmax
comp=Z,8µm,6.0s
KIS pmax pmax
comp=N,12µm,7.0s
KIS pmax pmax
comp=E,2µm,7.0s
KIS pmax pmax
comp=Z,15µm,12.0s
KIS smax smax
comp=N,28µm,17.0s
KIS smax smax
comp=E,32µm,14.0s
BNGB Bing¶‖ 13.09 64 ePN Pn 09 33 15.8 +0.1
PKSM Moragy 13.15 338 ⇓P Pn 09 33 17.7 +1.4
PKSM Moragy 13.15 338⇓iP Pn 09 33 17.7 +1.4
PKSM Moragy 13.15 338 ePn Pn 09 33 15.1 -1.2
PKSM Moragy 13.15 338⇓iP Pn 09 33 17.7 +1.4
PKS2 Kecel 13.23 341 epPn P 09 33 24.5 -2.9
PKS6 Bocsa 13.24 342 epPn P 09 33 29.5 +2.1
NVLJ Novalja 13.27 325 ePn Pn 09 33 14.6 -3.3
NVLJ Sn Sn 09 35 37.4 -7.8
KEST Kesra 13.38 281 ePn Pn 09 33 20.1 +0.4
KEST Sn Sn 09 35 57.9 +10
KEST Lg Lg 09 37 18.4
KEST Kesra 13.38 281 Pn Pn 09 33 20.0 +0.4
comp=E,0.3nm,0.3s,baz=49,slow=13,SNR=17
KEST Sn Sn 09 35 57.9 +10
comp=E,0.5nm,0.3s,baz=163,slow=19,SNR=2.6
KEST Lg Lg 09 37 18.4
baz=54,slow=18,SNR=1.8
KEST Kesra 13.38 281 ePn Pn 09 33 20.1 +0.4
KEST Sn Sn 09 35 57.9 +10
BUR4R Bucovina Array 13.46 359⇑iP Pn 09 33 21.7 +1.1
BUR08 Bucovina Ar. S 13.49 359 ePn Pn 09 33 21.3 +0.3
BUR08 Bucovina Ar. S 13.49 359 ePn Pn 09 33 21.3 +0.3
BTMT Batman 13.50 68 ePN Pn 09 33 20.6 -0.6
PKS9 Tamasi 13.59 338 ePn Pn 09 33 24.3 +1.9
BMR Baia Mare 13.60 354 ⇓P Pn 09 33 22.6 +0.1
BMR Baia Mare 13.60 354⇓iP Pn 09 33 22.6 +0.1
BMR Baia Mare 13.60 354⇓iP Pn 09 33 22.6 +0.1
PKS7 Kunszentmiklos 13.76 341 epPn P 09 33 33.7 +0.5
EZM Erzurum 13.88 61 ePN Pn 09 33 26.6 -0.1
CRES Cresnjev 13.98 330 ePn Pn 09 33 22.7 -5.0
BEHE Becsehely 13.99 334⇓ePn P 09 33 32.8 -3.0
ANN Anapa 14.04 37 eP Pn 09 33 29.0 +0.5
ANN eS Sn 09 36 05.2 +1.2
ANN pmax pmax
comp=N,31nm,0.7s
ANN pmax pmax
comp=E,12nm,0.7s
ANN pmax pmax
comp=Z,82nm,0.7s
ANN MLR MLR
comp=N,12µm,17.0s
ANN MLR MLR
comp=E,27µm,17.0s
ANN MLR MLR
comp=Z,35µm,17.0s
TRPA Tarpa 14.15 352⇓iP Pn 09 33 30.0 0.0
TRPA Tarpa 14.15 352⇓ePn Pn 09 33 28.9 -1.1
KOGS Kog 14.17 333 ePn Pn 09 33 28.7 -1.5
KOGS eSn S 09 36 19.1 -9.1
KOGS

comp=Z,2µm,14.2s
BUD Budapest 14.20 342⇓ *e*PPn **P 09 33 37.9 -0.2**
PKST T˜˜s 14.27 339⇓ *e*PPn **Pn 09 33 32.0 +0.3**
PKSG 14.29 340⇓ *e*PPn **Pn 09 33 32.2 +0.3**
CSKK Cs˜ţkako 14.30 340⇓ *e*PPn **Pn 09 33 33.1 +1.1**
PDKS Podkum 14.36 329 *e*PPn Pn 09 33 28.8 -4.2
PDKS
comp=Z,7µm,19.2s
PSZ Piszkesteto 14.40 345 *e*P **Pn 09 33 31.6 -1.9**
PSZ Piszkesteto 14.40 345 *e*Pn **Pn 09 33 31.6 -1.9**
PSZ Piszkesteto 14.40 345⇓ *i*P **Pn 09 33 34.4 +0.9**
PSZ Piszkesteto 14.40 345⇓ *e*Pn **Pn 09 33 34.1 +0.6**
PSZ Piszkesteto 14.40 345 *e*Pn **Pn 09 33 31.6 -1.9**
SKDS Skadanscina 14.40 326 *e*Pn Pn 09 33 22.7 -11
SKDS *e*Sn Sn 09 36 06.1 -6.9
SKDS
comp=Z,4µm,16.0s
SOC Sochi 14.50 45*c i*P **Pn 09 33 34.5 -0.3**
SOC *e* 09 36 15.6
SOC pmax pmax
comp=Z,139nm,0.9s
SOC MLR MLR
comp=N,60µm,12.0s
SOC MLR MLR
comp=Z,76µm,12.0s
SOC MLR MLR
comp=E,28µm,12.0s
TRI Trieste 14.64 326 *e*P Pn 09 33 32.1 -4.6
TRI *e* 09 36 22.7
TRI Trieste 14.64 326 *e*Pn Pn 09 33 32.1 -4.6
TRI *e*Sn **Sn 09 36 22.7 +4.0**
TRI Trieste 14.64 326 *e*Pn Pn 09 33 32.1 -4.6
TRI *e*Sn **Sn 09 36 22.7 +4.0**
UZH Uzhgorod 14.67 351 *e*P **Pn 09 33 37.0 -0.1**
UZH *i*S **Sn 09 36 21.0 +1.5**
UZH MLR MLR
comp=Z,102µm,11.5s
ARTV Artvin 14.75 57 *i*P **Pn 09 33 40.2 +1.7**
ARTV Artvin 14.75 57 *i*P **Pn 09 33 40.2 +1.7**
PERS Pernice 14.77 331 *e*Pn Pn 09 33 33.3 -5.3
PERS *e*Sn **Sn 09 36 26.8 +4.8**
PERS
comp=Z,9µm,13.5s
KECS Kecovo 14.81 347 *e*P **Pn 09 33 38.5 -0.6**
KECS Kecovo 14.81 347 *e*PN **Pn 09 33 38.5 -0.6**
VOY Vojsko 14.82 327 *e*Pn Pn 09 33 34.5 -4.8
VOY 09 33 38.7
VOY *e* 09 33 44.2
SOKA Soboth 14.84 331⇑ *i*Pn Pn 09 33 35.0 -4.5
comp=Z,389nm,0.8s
OBKA Obir 14.90 329⇓ *i*Pn Pn 09 33 36.9 -3.5
comp=Z,235nm,0.8s,SNR=27
OSPF L'Ospedale 14.91 305 *e*P **Pn 09 33 38.6 -2.0**
OSPF L'Ospedale 14.91 305 *e*P **Pn 09 33 38.6 -2.0**
OSPF L'Ospedale 14.91 305 *e*P **Pn 09 33 38.6 -2.0**
ABSA Djebel Ababsia 14.92 283 P P 09 33 49.6 +3.3
ABSA Djebel Ababsia 14.92 283 P P 09 33 49.6 +3.3
KOLS Kolonicke sedl 14.97 352 *e*P **Pn 09 33 40.9 -0.3**
KOLS Kolonicke sedl 14.97 352 *e*PN **Pn 09 33 40.9 -0.3**
CMAH Djebel Manchou 14.99 285 P **P 09 33 49.5 +2.5**
CMAH Djebel Manchou 14.99 285 P **P 09 33 49.5 +2.5**
CADS Cadrg 15.04 327 *e*Pn **Pn 09 33 38.6 -3.6**
CADS *e* 09 35 35.9
CADS *e*Sn **S 09 36 52.0 +5.9**
CADS
comp=Z,3µm,14.5s
CRVS Cervenica-Dubn 15.05 350 *e*P **Pn 09 33 38.1 -4.2**
CRVS Cervenica-Dubn 15.05 350 *e*PN **Pn 09 33 38.1 -4.2**
ARSA Arzberg 15.12 333⇑ *i*Pn **Pn 09 33 40.6 -2.6**
comp=Z,143nm,0.6s,SNR=25
VYHS Vyhne 15.18 343 *e*P **Pn 09 33 42.9 -1.1**
VYHS Vyhne 15.18 343 *e*PN **Pn 09 33 42.9 -1.1**
ZST Bratislava 15.39 338 *e*P **Pn 09 33 44.2 -2.5**
ZST Bratislava 15.39 338 *e*PN **Pn 09 33 44.2 -2.5**
MYKA Terra Mystica 15.39 328⇓ *i*Pn **Pn 09 33 44.2 -2.7**
comp=Z,174nm,1.0s
VLC Villacollemand 15.41 315 *e*Pn **Pn 09 33 44.5 -2.5**
comp=Z,384nm,1.2s
VLC *e*S **Sn 09 36 41.9 +4.4**
VLC Villacollemand 15.41 315 *e*Pn **Pn 09 33 44.5 -2.5**
comp=Z,384nm,1.2s
VLC *e*S **Sn 09 36 41.9 +4.4**
PGF Pioggiola 15.43 308 *e*P **Pn 09 33 46.1 -1.3**
comp=Z,4µm,1.2s
PGF Pioggiola 15.43 308 *e*P **Pn 09 33 46.1 -1.3**
comp=Z,2µm,1.2s
CAEH 'Ain El Ouahch 15.46 285 P **P 09 33 56.1 +3.9**
CAEH 'Ain El Ouahch 15.46 285 P **P 09 33 56.1 +3.9**
CHVG Ch'k'valeri 15.52 52 P **P 09 33 51.2 -1.5**
CKFL Kef-Lekhel 15.54 284 P **P 09 33 56.6 +3.4**
CKFL Kef-Lekhel 15.54 284 P **P 09 33 56.6 +3.4**
CONA Conrad Observa 15.56 335⇓ *i*Pn **Pn 09 33 46.4 -2.7**
comp=Z,130nm,0.9s,SNR=12
SMOL Smolenice 15.58 340 *e*PG 10 02 05.2
SMOL *e*SG 10 02 06.1
STHS Stebnicka Huta 15.59 350 *e*P **Pn 09 33 49.1 -0.2**
STHS Stebnicka Huta 15.59 350 *e*PN **Pn 09 33 49.1 -0.2**
KWP Kalwaria Pacla 15.61 353 *e*P **Pn 09 33 49.2 -0.5**
KWP *e* 09 36 44.3
KWP pmax pmax
comp=Z,1µm,1.5s
KWP Kalwaria Pacla 15.61 353 *e*Pn **Pn 09 33 49.2 -0.5**
comp=Z,1µm,1.5s
KWP *e*Sn **Sn 09 36 44.3 +1.9**
KWP Kalwaria Pacla 15.61 353⇓ *i*P **Pn 09 33 50.3 +0.6**
KWP Kalwaria Pacla 15.61 353 *e*P **Pn 09 33 48.8 -0.9**
KWP *e*pP **pP 09 33 57.6 -0.1**
KWP *e*sP **sP 09 34 03.8 +4.3**
KWP *e*S S 09 37 08.5 +11
KWP MLZ LR 09 40 10.5
KWP Kalwaria Pacla 15.61 353 *e*Pn **Pn 09 33 49.2 -0.5**
comp=Z,1µm,1.5s
KWP *e*Sn **Sn 09 36 44.3 +1.9**
LVV L'vov 15.70 356 *e*P **Pn 09 33 49.5 -1.3**
LVV *e*S **Sn 09 36 41.7 -2.8**
LVV MLR MLR
comp=E,74µm,13.0s
LVV MLR MLR
comp=Z,108µm,13.0s
LVV MLR MLR
comp=N,65µm,14.0s
BHD Baghdad 15.71 88 *i*P **P 09 33 53.0 -1.9**
BHD *i*S **Sn 09 36 45.0 +0.2**
CASM Ain Smara 15.72 283 P P 09 34 01.8 +6.7
CASM Ain Smara 15.72 283 P P 09 34 01.8 +6.7
NIE Niedzica 15.74 347 *e*P **Pn 09 33 51.8 +0.4**
NIE *e*S **Sn 09 36 51.4 +5.8**
NIE Niedzica 15.74 347 *e*P **Pn 09 33 51.8 +0.4**
NIE *e*pP **pP 09 33 59.1 0.0**
NIE *e*S **Sn 09 36 51.4 +5.8**
CTEI Djebel Teioual 15.78 282 P P 09 34 01.9 +6.0
CTEI Djebel Teioual 15.78 282 P P 09 34 01.9 +6.0
KBA Koelnbreinsper 15.87 328⇓ *i*Pn **Pn 09 33 50.7 -2.5**
comp=N,625nm,1.0s,SNR=21
AKH Akhalkalaki 15.92 58 P **Pn 09 33 55.2 +1.3**
AKH S **S 09 37 03.1 -1.4**
ABTA Abfaltersbach 15.99 326⇓ *i*Pn **Pn 09 33 51.8 -2.9**
comp=N,844nm,0.7s,SNR=40
MOA Molln 16.09 332⇑ *i*Pn **Pn 09 33 52.8 -3.0**
comp=N,269nm,0.7s,SNR=62
DFRA Djebel Bou Aff 16.22 284 P **P 09 34 02.4 +1.6**
DFRA Djebel Bou Aff 16.22 284 P **P 09 34 02.4 +1.6**
GNI Garni 16.43 63 Pn **P 09 34 02.2 -0.9**
SNR=251
GNI Garni 16.43 63 *e*P **P 09 34 01.9 -1.2**
comp=N,976nm,0.8s
GNI Sn **S 09 37 19.2 +4.4**
GNI *e*S Sn 09 37 20.0 +17
GNI Garni 16.43 63 Pn **P 09 34 02.0 -1.1**
comp=N,13nm,0.3s,baz=300,slow=2.5,SNR=59
GNI Sn **S 09 37 19.2 +4.4**
comp=N,0.7nm,0.3s,baz=279,slow=19,SNR=1.4
GNI Garni 16.43 63 P **P 09 34 02.1 -1.0**
SNR=11
GNI Sn **S 09 37 19.2 +4.4**
KIV Kislovodsk 16.50 49 P **P 09 34 03.7 -0.1**
comp=N,8µm,0.9s,SNR=70
KBZ Khabaz 16.52 50 P **P 09 34 03.1 -0.8**
KBZ pmax pmax
comp=Z,2.0nm,0.3s
KBZ Khabaz 16.52 50 Pn **P 09 34 03.0 -0.8**
KBZ Sn **S 09 37 15.8 -0.4**
KBZ Khabaz 16.52 50 Pn **P 09 34 03.0 -0.8**
comp=Z,1.7nm,0.3s,baz=254,slow=9.8,SNR=54
KBZ Sn **S 09 37 15.8 -0.4**
comp=Z,1.4nm,0.3s,baz=163,slow=19,SNR=1.6
KBZ Khabaz 16.52 50 Pn **P 09 34 03.0 -0.8**
KBZ Sn **S 09 37 15.8 -0.4**
VRAC Vranov 16.54 339 Pn **Pn 09 34 00.0 -1.5**
VRAC Sn **S 09 37 19.2 +2.7**
VRAC Vranov 16.54 339 Pn **Pn 09 34 00.0 -1.5**
comp=Z,0.9nm,0.3s,baz=162,slow=9.3,SNR=29
VRAC Sn **S 09 37 19.2 +2.7**
comp=Z,0.4nm,0.3s,baz=223,slow=19,SNR=1.6
VRAC Vranov 16.54 339 Pn **Pn 09 34 00.0 -1.5**
VRAC Sn **S 09 37 19.2 +2.7**
SET Setif 16.59 283 P **P 09 34 04.0 -0.9**
SET Setif 16.59 283 P **P 09 34 04.0 -0.9**
OKC Ostrava-Krasne 16.60 343 *e*P **Pn 09 34 00.8 -1.5**
OKC MLR MLR
comp=Z,123µm,17.2s
OKC Ostrava-Krasne 16.60 343 *e*P **Pn 09 34 00.8 -1.5**
OKC *e*pP **pP 09 34 08.5 -0.1**
OKC AMS AMS 09 41 10.0
comp=Z,123µm,17.2s
OJC Ojcow 16.61 347 *e*P **Pn 09 34 00.0 -2.4**
OJC *e*S **Sn 09 37 11.1 +4.6**
OJC MLR MLR
comp=Z,94µm,12.1s
OJC Ojcow 16.61 347 *e*P **Pn 09 34 00.0 -2.4**
OJC *e*pP **pP 09 34 07.9 -0.8**
OJC *e*S **Sn 09 37 11.1 +4.6**
OJC L L 09 42 31.6
comp=Z,94µm,12.1s
RJOB Jochberg 16.61 329 *e*P **Pn 09 34 02.3 -0.2**
comp=Z,906nm,1.1s
MORC Moravsky Berou 16.70 342 *e*P **Pn 09 34 01.5 -2.0**
MORC pmax pmax
comp=Z,165nm,0.8s
MORC Moravsky Berou 16.70 342 *e*Pn **Pn 09 34 01.5 -2.0**
comp=Z,165nm,0.8s
MORC Moravsky Berou 16.70 342 *e*Pn **Pn 09 34 01.5 -2.0**
comp=Z,165nm,0.8s
AK02 Malin Array Si 16.72 8 Pn **Pn 09 34 02.9 -0.8**
AK02 *e*S **S 09 37 20.6 +0.5**
AK02 Malin Array Si 16.72 8 Pn **Pn 09 34 02.9 -0.8**
AK02 *e*S **S 09 37 20.6 +0.5**
ISHB Shabestar 16.72 70 *e*P **Pn 09 34 05.2 +1.1**
ISHB Shabestar 16.72 70 *e*P **Pn 09 34 05.2 +1.1**
ZEI Tsey 16.74 54 *e*P **P 09 34 06.1 -0.5**
ZEI pmax pmax
comp=Z,356nm,1.0s
AK01 Malin Array Si 16.75 8 *e*Pn **Pn 09 34 03.2 -1.0**
AK01 *e*S **S 09 37 20.0 -0.8**
AK01 Malin Array Si 16.75 8 *e*Pn **Pn 09 34 03.2 -1.0**
AK01 *e*S **S 09 37 20.0 -0.8**
KIEV Kiev 16.75 8 *e*P **Pn 09 34 01.6 -2.6**
KIEV pmax pmax
comp=Z,1µm,0.8s
KIEV Kiev 16.75 8 *e*Pn **Pn 09 34 01.6 -2.6**
comp=Z,1µm,0.8s
KIEV *e*S **S 09 37 21.0 +0.1**
KIEV Kiev 16.75 8 *e*Pn **Pn 09 34 01.6 -2.6**
comp=Z,1µm,0.8s
KIEV *e*S **S 09 37 21.0 +0.1**
AKASG Malin Array Be 16.76 8 *i*P **Pn 09 34 01.1 -3.2**
AKASG pmax pmax
comp=Z,223nm,0.7s
AKASG Malin Array Be 16.76 8 Pn **Pn 09 34 01.3 -3.0**
AKASG Sn **S 09 37 18.9 -2.2**
AKASG Lg Lg 09 39 02.8
AKASG ScP **ScP 09 42 26.4 -0.3**
AKASG Malin Array Be 16.76 8 Pn **Pn 09 34 01.3 -3.0**
comp=Z,5.7nm,0.3s,baz=200,slow=12,SNR=53
AKASG Sn **S 09 37 18.9 -2.2**
baz=197,slow=21,SNR=4.9
AKASG Lg Lg 09 39 02.8
comp=Z,1.4nm,0.3s,baz=200,slow=24,SNR=2.8
AKASG LR LR 09 40 45.1
comp=Z,116µm,21.2s,baz=185,slow=38
AKASG ScP **ScP 09 42 26.4 -0.3**
baz=207,slow=1.9,SNR=4.7
AKASG Malin Array Be 16.76 8 Pn **Pn 09 34 01.3 -3.0**
AKASG Sn **S 09 37 18.9 -2.2**
WTTA Wattenberg 16.78 325⇓ *i*Pn **Pn 09 34 02.7 -2.1**
comp=Z,550nm,0.9s,SNR=28
WTTA Wattenberg 16.78 325 Pn **Pn 09 34 02.7 -2.1**
comp=Z,550nm,0.9s,SNR=28
RAC Raciborz 16.82 343 *e*P **Pn 09 34 03.4 -1.6**
RAC MLR MLR
comp=E,360µm,19.6s
RAC MLR MLR
comp=N,200µm,22.2s
RAC MLR MLR
comp=Z,190µm,19.0s
IMRD Marand 16.85 68 *e*P **Pn 09 34 06.5 +0.8**
IMRD Marand 16.85 68 *e*P **Pn 09 34 06.5 +0.8**
TREC Trest 16.87 337 *e*P **Pn 09 34 04.2 -1.5**
TREC *e*S **Sn 09 37 17.4 +4.5**
TREC MLR MLR
comp=Z,87µm,12.9s
TREC Trest 16.87 337 *e*P **Pn 09 34 04.2 -1.5**
TREC *e*pP **pP 09 34 11.4 -0.2**
TREC *e*S **Sn 09 37 17.4 +4.5**
TREC AMS AMS 09 41 40.0
comp=Z,87µm,12.9s
TBLG Delisi 16.91 58 *e*P **P 09 34 07.4 -0.9**
TBLG Delisi 16.91 58 P **P 09 34 07.4 -0.9**
TBLG S **S 09 37 29.0 +4.7**
IAZR Azarshahr 16.93 72 *e*P **P 09 34 10.0 +1.3**
IAZR Azarshahr 16.93 72 *e*P **P 09 34 10.0 +1.3**
FUORN Ofenpass-Fuorn 17.01 322 *e*Pn **Pn 09 34 06.0 -1.8**
FUORN Ofenpass-Fuorn 17.01 322 *e*Pn **Pn 09 34 06.0 -1.8**
IBDR Badra 17.02 88 *i*P **Pn 09 34 07.0 -0.6**
IBDR *i*S **Sn 09 37 19.0 +2.4**
SAOF Saorge 17.04 310 *e*P **Pn 09 34 06.6 -1.4**
SAOF Saorge 17.04 310 *e*P **Pn 09 34 06.6 -1.4**
SAOF Saorge 17.04 310 *e*P **Pn 09 34 06.6 -1.4**
SAOF Saorge 17.04 310 *e*P **Pn 09 34 06.6 -1.4**
REVF Revere 17.05 310 *e*P **Pn 09 34 06.7 -1.3**
REVF Revere 17.05 310 *e*P **Pn 09 34 06.7 -1.3**
REVF Revere 17.05 310 *e*P **Pn 09 34 06.7 -1.3**
REVF Revere 17.05 310 *e*P **Pn 09 34 06.7 -1.3**
FETA Feichten 17.05 323⇑ *i*Pn **Pn 09 34 06.9 -1.2**
comp=Z,506nm,1.0s,SNR=132
FETA Feichten 17.05 323 Pn **Pn 09 34 06.9 -1.2**
comp=Z,506nm,1.0s,SNR=132
SBF Sospel 17.06 310 *e*P **Pn 09 34 06.6 -1.6**
comp=Z,3µm,1.2s
SBF Sospel 17.06 310 *e*P **Pn 09 34 06.6 -1.6**
comp=Z,2µm,1.2s
MOTA Moosalm 17.09 325⇓ *i*Pn **Pn 09 34 06.2 -2.5**
comp=Z,493nm,1.0s,SNR=38
MOTA Moosalm 17.09 325 Pn **Pn 09 34 06.2 -2.5**
comp=Z,493nm,1.0s,SNR=38
GEC2 GERESS Array S 17.12 333 *e*P **Pn 09 34 07.6 -1.4**
comp=Z,1µm,1.0s
GEC2 GERESS Array S 17.12 333 *e*P **Pn 09 34 07.6 -1.4**
GEC2 pmax pmax
comp=Z,10.0nm,1.0s
GERES GERESS Array B 17.12 333 P **Pn 09 34 08.0 -1.0**
GERES S **S 09 37 26.8 -1.9**
GERES ScP **ScP 09 42 26.5 -1.2**
GERES GERESS Array B 17.12 333 P **Pn 09 34 08.0 -1.0**
comp=Z,4.2nm,0.3s,baz=148,slow=11,SNR=146
GERES S **S 09 37 26.8 -1.9**
comp=Z,0.7nm,0.3s,baz=176,slow=14,SNR=2.6
GERES LR LR 09 42 22.7
comp=Z,143µm,18.4s,baz=145,slow=43
GERES ScP **ScP 09 42 26.5 -1.2**
baz=172,slow=2.7,SNR=4.1
GERES GERESS Array B 17.12 333 P **Pn 09 34 08.0 -1.0**
GERES S **S 09 37 26.8 -1.9**
ITBZ Tabriz 17.12 70 *e*P **P 09 34 12.0 +1.2**
ITBZ Tabriz 17.12 70 *e*P **P 09 34 12.0 +1.2**
AUTN L'Aution 17.13 310 *e*P **Pn 09 34 07.8 -1.4**
AUTN L'Aution 17.13 310 *e*P **Pn 09 34 07.8 -1.4**
AUTN L'Aution 17.13 310 *e*P **Pn 09 34 07.8 -1.4**
AUTN L'Aution 17.13 310 *e*P **Pn 09 34 07.8 -1.4**
IDHR Dehrash 17.21 82 *e*P **P 09 34 12.1 +0.3**
IDHR Dehrash 17.21 82 *e*P **P 09 34 12.1 +0.3**
TOUF Mont Tournerai 17.25 310 *e*P **Pn 09 34 10.3 -0.4**
TOUF Mont Tournerai 17.25 310 *e*P **Pn 09 34 10.3 -0.4**
TOUF Mont Tournerai 17.25 310 *e*P **Pn 09 34 10.3 -0.4**
TOUF Mont Tournerai 17.25 310 *e*P **Pn 09 34 10.3 -0.4**
MVIF Mont Vial 17.26 310 *e*P **Pn 09 34 09.4 -1.3**
MVIF Mont Vial 17.26 310 *e*P **Pn 09 34 09.4 -1.3**
MVIF Mont Vial 17.26 310 *e*P **Pn 09 34 09.4 -1.3**
DGRG David-gareji 17.27 59 P **P 09 34 12.7 +0.5**
DGRG S **S 09 37 38.0 +6.4**
IFTB Fath-abad 17.29 71 *e*P **P 09 34 15.0 +2.3**
IFTB Fath-abad 17.29 71 *e*P **P 09 34 15.0 +2.3**
DAVOX Davos/Dischmat 17.32 321 P **P 09 34 12.8 -0.1**
DAVOX S **S 09 37 34.6 +1.8**
DAVOX Davos/Dischmat 17.32 321 P **P 09 34 12.8 -0.1**
comp=Z,0.8nm,0.3s,baz=140,slow=11,SNR=16
DAVOX S **S 09 37 34.6 +1.8**
comp=Z,2.9nm,0.3s,baz=108,slow=19,SNR=2.9
DAVOX LR LR 09 41 41.4
comp=Z,158µm,20.2s,baz=122,slow=40
DAVOX Davos/Dischmat 17.32 321 P **P 09 34 12.8 -0.1**
DAVOX S **S 09 37 34.6 +1.8**
RETA Reutte 17.36 325⇑ *i*Pn **Pn 09 34 10.0 -1.9**
comp=Z,270nm,0.9s,SNR=55
RETA Reutte 17.36 325 Pn **Pn 09 34 10.0 -1.9**
comp=Z,270nm,0.9s,SNR=55
CALN Calern 17.36 309 *e*P **Pn 09 34 10.4 -1.6**
CALN Calern 17.36 309 *e*P **Pn 09 34 10.4 -1.6**
CALN Calern 17.36 309 *e*P **Pn 09 34 10.4 -1.6**
CALN Calern 17.36 309 *e*P **Pn 09 34 10.4 -1.6**
IGHG Ghaleghazi 17.39 83 *e*P **P 09 34 15.2 +1.3**
IGHG Ghaleghazi 17.39 83 *e*P **P 09 34 15.2 +1.3**
TUE Stuetta 17.39 320 *e*P **Pn 09 34 11.5 -1.0**
TUE Stuetta 17.39 320 *e*P **Pn 09 34 11.5 -1.0**
KHC Kasperske Hory 17.40 333 *e*P **Pn 09 34 10.3 -2.1**
KHC *e*S **S 09 37 30.5 -3.8**
KHC MLR MLR
comp=Z,146µm,14.6s
KHC Kasperske Hory 17.40 333 *e*P **Pn 09 34 10.3 -2.1**
KHC *ex* x 09 34 14.0
KHC *e*pP **pP 09 34 19.3 +1.8**
KHC *e*S **S 09 37 30.5 -3.8**
KHC AMS AMS 09 41 20.0
comp=Z,146µm,14.6s
KHC Kasperske Hory 17.40 333 *e*Pn **Pn 09 34 10.4 -2.1**
comp=Z,1µm,1.2s
KHC Kasperske Hory 17.40 333 *e*Pn **Pn 09 34 10.4 -2.0**
comp=Z,1µm,1.2s
KHC S **S 09 37 30.5 -3.8**
LMR La Mourre 17.42 307 *e*P **Pn 09 34 10.9 -1.7**
comp=Z,2µm,1.4s
LMR La Mourre 17.42 307 *e*P **Pn 09 34 10.9 -1.7**
comp=Z,917nm,1.4s
FUR Furstenfeldbru 17.61 327 *e*P **Pn 09 34 14.9 0.0**
comp=Z,4µm,1.5s
FUR Furstenfeldbru 17.61 327 *e*P **Pn 09 34 14.9 0.0**
FUR pmax pmax
comp=Z,34nm,1.5s
IVIS Veis 17.61 83 *e*P **P 09 34 16.7 +0.6**
IVIS Veis 17.61 83 *e*P **P 09 34 16.7 +0.6**
DAVA Damuels 17.65 323⇓ *i*P **Pn 09 34 15.3 -0.4**
comp=Z,436nm,0.8s,SNR=94
ILIN Lien 17.67 81 *e*P **P 09 34 18.0 +1.0**
ILIN Lien 17.67 81 *e*P **P 09 34 18.0 +1.0**
WET Wettzell 17.68 332 *e*P **Pn 09 34 14.4 -1.5**
comp=Z,2µm,1.3s
WET Wettzell 17.68 332 *e*P **Pn 09 34 14.4 -1.5**
WET pmax pmax
comp=Z,12nm,1.3s
UPC Upice 17.78 340 *e*P **Pn 09 34 15.3 -1.7**
UPC Upice 17.78 340 *e*P **Pn 09 34 15.3 -1.7**
UPC *e*S S 09 38 03.4 +22
UPC Upice 17.78 340 P **Pn 09 34 15.3 -1.7**
PRU Pruhonice 17.78 336 *e*P **Pn 09 34 14.8 -2.2**
PRU MLR MLR
comp=Z,106µm,18.6s
PRU Pruhonice 17.78 336 *e*P **Pn 09 34 14.8 -2.2**
PRU *e*pP **pP 09 34 21.7 +0.1**
PRU AMS AMS 09 41 30.0
comp=Z,106µm,18.6s
AKET Djebel Ketaf 17.82 282 P **P 09 34 19.9 +1.4**
AKET Djebel Ketaf 17.82 282 P **P 09 34 19.9 +1.4**
IHRS Heris 17.83 70 *e*P **P 09 34 21.2 +2.5**
IHRS Heris 17.83 70 *e*P **P 09 34 21.2 +2.5**
PRA Prague 17.89 336 P **Pn 09 34 15.0 -3.3**
PRA AMS AMS 09 42 00.0
MBDF Montbardon 17.90 312 *e*P **Pn 09 34 18.3 -0.4**
comp=Z,2µm,1.2s
MBDF Montbardon 17.90 312 *e*P **Pn 09 34 18.3 -0.4**
comp=Z,986nm,1.2s
MAHO Mahon 17.91 295 *i*P **Pn 09 34 17.0 -1.8**
MAHO *i*S **Sn 09 37 33.9 -4.4**
KSP Ksiaz 18.00 341⇑ *e*P **Pn 09 34 17.4 -2.3**
KSP *e*S **S 09 37 43.5 -2.8**
KSP MLR MLR
comp=Z,203µm,21.4s
KSP Ksiaz 18.00 341 *e*P **Pn 09 34 17.8 -1.9**
KSP *e*pP **pP 09 34 25.3 +1.2**
KSP *e*S **S 09 37 49.8 +3.5**
BEL Belsk 18.01 350 *e*P **Pn 09 34 18.4 -1.5**
BEL *e*pP **pP 09 34 27.0 +2.8**
BEL *e*S **S 09 37 48.0 +1.5**
BEL LMZ LR 09 41 32.8
ADJB Djebel Djouab 18.18 283 P **Pn 09 34 22.1 -0.1**
ADJB Djebel Djouab 18.18 283 P **Pn 09 34 22.1 -0.1**
IKOM Komasi 18.18 84 *e*P **P 09 34 24.0 +1.5**
IKOM Komasi 18.18 84 *e*P **P 09 34 24.0 +1.5**
PVCC Panska Ves 18.23 337 *e*P **Pn 09 34 20.1 -2.5**
PVCC *e*pP **pP 09 34 27.2 +0.6**
PVCC *e*S **S 09 37 50.1 -0.9**
PVCC AMS AMS 09 42 10.0
comp=Z,89µm,18.0s
ISRB Sarab 18.27 72 *e*P **P 09 34 25.2 +1.7**
ISRB Sarab 18.27 72 *e*P **P 09 34 25.2 +1.7**
LPG La Plagne 18.30 314 *e*P **Pn 09 34 23.4 -0.4**
comp=Z,1µm,1.2s
LPG La Plagne 18.30 314 *e*P **Pn 09 34 23.4 -0.4**
comp=Z,567nm,1.2s
SMRF Simiane la Rot 18.31 308 *e*P **Pn 09 34 23.2 -0.4**
comp=Z,1µm,1.1s
SMRF Simiane la Rot 18.31 308 *e*P **Pn 09 34 23.2 -0.4**
comp=Z,513nm,1.1s
LPL La Plagne 18.32 314 *e*P **Pn 09 34 23.6 -0.4**
comp=Z,486nm,1.1s
LPL La Plagne 18.32 314 *e*P **Pn 09 34 23.6 -0.4**
comp=Z,243nm,1.1s
ROTZ Rotzenmuhle 18.45 332 *e*P **P 09 34 23.1 -2.0**
comp=Z,663nm,1.3s
SENIN Lac Senin/Sane 18.46 317 *e*P **P 09 34 23.6 -2.0**
comp=Z,1µm,1.4s
SENIN Lac Senin/Sane 18.46 317 *e*P **P 09 34 23.5 -2.0**
comp=Z,1µm,1.4s
ABA Alger-Bouzarea 18.52 285 P **Pn 09 34 26.6 +0.4**
ABA Alger-Bouzarea 18.52 285 P **Pn 09 34 26.6 +0.4**
ORIF Oris-en-Rattie 18.54 311 *e*P **P 09 34 24.8 -1.6**
comp=Z,2µm,1.2s
ORIF *e*R
comp=Z,132µm,20.2s
ORIF Oris-en-Rattie 18.54 311 *e*P **P 09 34 24.8 -1.6**
comp=Z,874nm,1.2s
EMHD Djebel Mahouad 18.57 283 P **P 09 34 26.7 -0.1**
EMHD Djebel Mahouad 18.57 283 P **P 09 34 26.7 -0.1**
MANZ Manzenberg 18.66 332 *e*P **P 09 34 25.5 -2.0**
comp=Z,641nm,1.2s
DLMR Dylym 18.70 55 *e*P **Pn 09 34 29.0 +0.6**
DLMR pmax pmax
comp=Z,139nm,0.4s
BRG Berggiesshubel 18.73 337 *i*P **P 09 34 26.7 -1.6**
comp=Z,52nm,1.4s
BRG *i* 09 34 31.9
comp=Z,823nm,1.6s
BRG S **S 09 38 02.0 +0.8**
BRG
comp=N,80µm,14.3s
BRG
comp=E,130µm,16.0s
BRG
comp=Z,94µm,20.2s
BRG Berggiesshubel 18.73 337 *e*P **P 09 34 26.0 -2.3**
comp=Z,826nm,1.6s
SPAK Spaichingen-Ko 18.75 323 *e*P **P 09 34 28.4 -0.2**
SPAK Spaichingen-Ko 18.75 323 *e*P **P 09 34 28.4 -0.2**
GRF Grafenberg Arr 18.78 330 *e*P **P 09 34 27.8 -1.1**
comp=Z,2µm,1.4s
GRF *e*L L 09 43 32.5
comp=Z,108µm,18.0s
GRF Grafenberg Arr 18.78 330 *e*P **P 09 34 27.8 -1.1**
GRF pmax pmax
comp=Z,1.0nm,1.4s
GRFO Grafenberg 18.78 330 *e*P **P 09 34 27.3 -1.5**

GRFO	**Grafenberg**	18.78	330	*e*P		**P**	09 34 27.3	-1.5	
GRFO	**Grafenberg**	18.78	330	*e*P		**P**	09 34 27.3	-1.5	
WERN	**Wernitzgruen**	18.80	333	*e*P		**P**	09 34 27.6	-1.4	
	comp=Z,553nm,1.4s								
GUNZ	**Gunzen**	18.88	333	*e*P		**P**	09 34 28.4	-1.5	
	comp=Z,1µm,1.5s								
WERD	**Werda**	18.95	333	*e*P		**P**	09 34 29.7	-1.0	
	comp=Z,949nm,1.3s								
FBE	**Freiberg**	18.97	336	*e*P		**P**	09 34 29.9	-1.0	
	comp=Z,1µm,1.2s								
FELD	**Feldberg im Sc**	19.00	321	*e*P		**P**	09 34 30.1	-1.3	
FELD	**Feldberg im Sc**	19.00	321	*e*P		**P**	09 34 30.1	-1.3	
BBS	**Basel-Blauen**	19.00	320	*e*P		**P**	09 34 30.0	-1.3	
BBS	**Basel-Blauen**	19.00	320	*e*P		**P**	09 34 30.0	-1.3	
BBS	**Basel-Blauen**	19.00	320	*e*P		**P**	09 34 30.0	-1.3	
STU	**Stuttgart**	19.01	325	*e*P		**P**	09 34 30.4	-0.8	
	comp=Z,791nm,1.2s								
STU	**Stuttgart**	19.01	325	*e*P		**P**	09 34 30.5	-0.8	
STU				pmax		pmax			
	comp=Z,1µm,1.3s								
STU	**Stuttgart**	19.01	325	*e*Pn		**P**	09 34 30.5	-0.8	
	comp=Z,1µm,1.3s								
STU	**Stuttgart**	19.01	325	*e*Pn		**P**	09 34 30.5	-0.8	
	comp=Z,1µm,1.3s								
PLN	**Plauen**	19.04	333	*e*P		**P**	09 34 31.5	-0.2	
	comp=Z,7µm,1.6s								
NAY	**Al-Naaiem**	19.09	99	*e*P		**P**	09 34 32.4	0.0	
NAY				AMb		AMB	09 34 41.6		
	comp=Z,640nm,0.7s								
NAY	**Al-Naaiem**	19.09	99	*e*P		**P**	09 34 32.4	0.0	
	comp=Z,640nm,0.7s								
BFO	**Black Forest**	19.13	323	Pn		**P**	09 34 32.9	+0.2	
	comp=Z,3µm,1.1s,SNR=58								
BFO	**Black Forest**	19.13	323	*e*P		**P**	09 34 31.2	-1.5	
	comp=Z,1µm,1.4s								
BFO	**Black Forest**	19.13	323	*e*P		**P**	09 34 31.2	-1.5	
BFO				pmax		pmax			
	comp=Z,12nm,1.4s								
MAK	**Makhachkala**	19.26	56*c*	*i*P		**Pn**	09 34 36.1	+1.0	
MAK				*e*S		**S**	09 38 15.3	+3.5	
MAK				pmax		pmax			
	comp=Z,2µm,1.0s								
MAK				MLR		MLR			
	comp=Z,80µm,17.0s								
VIVF	**Saint-Julien-l**	19.28	310	*e*P		**P**	09 34 32.7	-1.6	
	comp=Z,2µm,1.4s								
VIVF	**Saint-Julien-l**	19.28	310	*e*P		**P**	09 34 32.7	-1.6	
	comp=Z,760nm,1.4s								
CABF	**La Chapelle**	19.29	316	*e*P		**P**	09 34 32.4	-2.1	
	comp=Z,1µm,1.0s								
CABF	**La Chapelle**	19.29	316	*e*P		**P**	09 34 32.4	-2.1	
	comp=Z,546nm,1.0s								
LOMF	**Lomont**	19.30	319	*e*P		**P**	09 34 34.1	-0.5	
LOMF	**Lomont**	19.30	319	*e*P		**P**	09 34 34.1	-0.5	
LOMF	**Lomont**	19.30	319	*e*P		**P**	09 34 34.1	-0.5	
LOMF	**Lomont**	19.30	319	*e*P		**P**	09 34 34.1	-0.5	
MOX	**Moxa**	19.38	332	*e*P		**P**	09 34 34.6	-0.7	
	comp=Z,937nm,1.3s								
MOX				*e*L		L	09 43 41.4		
	comp=Z,149µm,19.4s								
MOX	**Moxa**	19.38	332	*e*P		**P**	09 34 34.6	-0.7	
MOX				pmax		pmax			
	comp=Z,2.0nm,1.3s								
UMR	**Umm Al-Rimmam**	19.38	98	*e*P		**P**	09 34 35.6	+0.1	
UMR				AMb		AMB	09 34 44.8		
	comp=Z,2µm,0.9s								
UMR	**Umm Al-Rimmam**	19.38	98	*e*P		**P**	09 34 35.6	+0.1	
	comp=Z,2µm,0.9s								
LIBD	**Limburg**	19.38	322	*e*P		**P**	09 34 35.9	+0.5	
LIBD	**Limburg**	19.38	322	*e*P		**P**	09 34 35.9	+0.5	
LIBD	**Limburg**	19.38	322	*e*P		**P**	09 34 35.9	+0.5	
CLL	**Collm**	19.42	336	*e*P		**P**	09 34 34.6	-1.2	
	comp=Z,1µm,1.5s								
CLL	**Collm**	19.42	336	*e*P		**P**	09 34 35.0	-0.8	
CLL	**Collm**	19.42	336	*e*P		**P**	09 34 35.0	-0.8	
CLL				*i* sP		**sP**	09 34 42.4	+1.0	
	comp=Z,1µm,1.5s								
CLL				*e*PP		**PnPn**	09 34 50.0	-0.1	
CLL				*es*PP			09 34 55.0		
CLL				*e*			09 35 01.0		
CLL				*e*S		**S**	09 38 15.0	+0.1	
CLL				*e*SS		**SnSn**	09 38 32.0	+3.3	
CLL				*es*SS			09 38 36.0		
CLL				Lmax			09 42 00.0		
CLL				LmV			09 43 00.0		
	comp=Z,75µm,19.4s								
MOF	**Molkenrain**	19.44	320	*e*P		**P**	09 34 35.8	-0.3	
MOF	**Molkenrain**	19.44	320	*e*P		**P**	09 34 35.8	-0.3	
MOF	**Molkenrain**	19.44	320	*e*P		**P**	09 34 35.8	-0.3	
MOF	**Molkenrain**	19.44	320	*e*P		**P**	09 34 35.8	-0.3	
LASF	**Ste Croix**	19.48	307	*e*P		**P**	09 34 35.5	-1.0	
	comp=Z,4µm,1.5s								
LASF	**Ste Croix**	19.48	307	*e*P		**P**	09 34 35.5	-1.0	
	comp=Z,2µm,1.5s								
KBD	**Kabd**	19.49	99	*e*P		**P**	09 34 36.5	-0.2	
KBD				AMb		AMB	09 34 53.5		
	comp=Z,718nm,1.1s								
KBD	**Kabd**	19.49	99	*e*P		**P**	09 34 36.5	-0.2	
	comp=Z,718nm,1.1s								
SSB	**Saint Sauveur**	19.55	311	*e*P		**P**	09 34 35.1	-2.2	
SSB				pmax		pmax			
	comp=Z,190nm,0.9s								
SSB	**Saint Sauveur**	19.55	311	*e*P		**P**	09 34 35.1	-2.2	
	comp=Z,190nm,0.9s								
SSB	**Saint Sauveur**	19.55	311	*e*P		**P**	09 34 35.5	-1.8	
SSB	**Saint Sauveur**	19.55	311	*e*P		**P**	09 34 35.5	-1.8	
HINF	**Hinteralfeld**	19.57	320	*e*P		**P**	09 34 36.4	-1.1	
	comp=Z,1µm,1.2s								
HINF	**Hinteralfeld**	19.57	320	*e*P		**P**	09 34 36.4	-1.1	
	comp=Z,668nm,1.2s								
VORD	**Divnogorie**	19.57	27	*e*P		**P**	09 34 37.1	-0.3	
VORD				*e*S		**S**	09 38 13.6	-4.3	
VORD				pmax		pmax			
	comp=Z,470nm,0.8s								
VORD				pmax		pmax			
	comp=N,710nm,0.9s								
VORD				pmax		pmax			
	comp=E,1µm,0.9s								
VORD				smax		smax			
	comp=Z,30µm,9.9s								
VORD				smax		smax			
	comp=N,68µm,11.8s								
VORD				smax		smax			
	comp=E,49µm,10.9s								
VORD				MLR		MLR			
	comp=Z,98µm,16.0s								
VORD				MLR		MLR			
	comp=N,61µm,15.0s								
VORD				MLR		MLR			
	comp=E,41µm,14.0s								
SJAF	**Saint Jean de**	19.59	302	*e*P		**P**	09 34 36.3	-1.5	
SJAF	**Saint Jean de**	19.59	302	*e*P		**P**	09 34 36.3	-1.5	
SJAF	**Saint Jean de**	19.59	302	*e*P		**P**	09 34 36.3	-1.5	
ECH	**Echery**	19.65	321	*e*P		**P**	09 34 34.8	-3.6	
ECH				*e*S		**S**	09 38 16.0	-3.7	
ECH				pmax		pmax			
	comp=Z,701nm,1.0s								
ECH	**Echery**	19.65	321	*e*P		**P**	09 34 34.8	-3.6	
	comp=Z,701nm,1.0s								
ECH				*e*S		**S**	09 38 16.0	-3.7	
ECH				*e*ScP		ScP	09 42 21.9	-11	
ECH	**Echery**	19.65	321	*e*P		**P**	09 34 37.5	-0.9	
ECH	**Echery**	19.65	321	*e*P		**P**	09 34 37.5	-0.9	
ECH				*e*S		**S**	09 38 16.0	-3.7	
CDF	**Champ du Feu**	19.71	322	*e*P		**P**	09 34 39.3	+0.2	
	comp=Z,3µm,1.4s								
CDF	**Champ du Feu**	19.71	322	*e*P		**P**	09 34 39.3	+0.2	
	comp=Z,1µm,1.4s								
EBNR	**Beni Rached**	19.72	283	P		**Pn**	09 34 41.7	+0.9	
EBNR	**Beni Rached**	19.72	283	P		**Pn**	09 34 41.7	+0.9	
VSR	**Storozhevoye**	19.73	26	*e*P		**P**	09 34 38.4	-0.7	
VSR				*e*S		**S**	09 38 17.4	-3.7	
VSR				pmax		pmax			
	comp=N,650nm,0.9s								
VSR				pmax		pmax			
	comp=Z,420nm,0.9s								
VSR				pmax		pmax			
	comp=E,470nm,1.1s								
VSR				smax		smax			
	comp=Z,61µm,11.6s								
VSR				smax		smax			
	comp=N,31µm,8.8s								
VSR				smax		smax			
	comp=E,34µm,8.8s								
VSR				MLR		MLR			
	comp=Z,101µm,17.0s								
VSR				MLR		MLR			
	comp=N,56µm,15.0s								
VSR				MLR		MLR			
	comp=E,49µm,13.0s								
NEUB	**Neuenburg**	19.77	334	*e*P		**P**	09 34 39.3	-0.3	
	comp=Z,2µm,1.3s								
TOD	**Tromm**	19.78	326	*e*P		**P**	09 34 38.7	-1.0	
TOD	**Tromm**	19.78	326	*e*P		**P**	09 34 38.7	-1.0	
TOD	**Tromm**	19.78	326	*e*P		**P**	09 34 38.7	-1.0	
LANF	**Langenberg**	19.82	324	*e*P		**P**	09 34 40.5	+0.3	
LANF	**Langenberg**	19.82	324	*e*P		**P**	09 34 40.5	+0.3	
LANF	**Langenberg**	19.82	324	*e*P		**P**	09 34 40.5	+0.3	
LANF	**Langenberg**	19.82	324	*e*P		**P**	09 34 40.5	+0.3	
FILF	**Fillols**	19.84	302	*e*P		**P**	09 34 40.2	-0.3	
FILF	**Fillols**	19.84	302	*e*P		**P**	09 34 40.2	-0.3	
FILF	**Fillols**	19.84	302	*e*P		**P**	09 34 40.2	-0.3	
ECHA	**Ech Chlef**	19.86	283	P		**Pn**	09 34 42.3	0.0	
ECHA	**Ech Chlef**	19.86	283	P		**Pn**	09 34 42.3	0.0	
KTD	**Kalmit**	19.91	325	*e*P		**P**	09 34 41.4	+0.1	
KTD	**Kalmit**	19.91	325	*e*P		**P**	09 34 41.4	+0.1	
KTD	**Kalmit**	19.91	325	*e*P		**P**	09 34 41.4	+0.1	
SUW	**Suwalki**	19.93	356	*e*P		**P**	09 34 40.1	-1.2	
SUW				pmax		pmax			
	comp=Z,2µm,0.9s								
SUW	**Suwalki**	19.93	356	*e*P		**P**	09 34 40.1	-1.2	
	comp=Z,2µm,0.9s								
SUW	**Suwalki**	19.93	356	*e*P		**P**	09 34 40.0	-1.2	
SUW				*ep*P		**pP**	09 34 47.8	+2.6	
SUW				*e*S		**Sn**	09 38 28.5	+1.8	
SUW				LMZ		LR	09 43 47.1		
SUW	**Suwalki**	19.93	356	*e*P		**P**	09 34 40.1	-1.2	
	comp=Z,2µm,0.9s								
HAU	**Haudompre**	19.95	320	*e*P		**P**	09 34 39.3	-2.3	
	comp=Z,2µm,1.1s								
HAU				*e*R					
	comp=Z,121µm,19.8s								
HAU	**Haudompre**	19.95	320	*e*P		**P**	09 34 39.3	-2.3	
	comp=Z,907nm,1.1s								
LRDF	**Laroque-de-Fa**	19.97	303	*e*P		**P**	09 34 40.6	-1.3	
LRDF	**Laroque-de-Fa**	19.97	303	*e*P		**P**	09 34 40.6	-1.3	
LRDF	**Laroque-de-Fa**	19.97	303	*e*P		**P**	09 34 40.6	-1.3	
GKP	**Gorka Klasztor**	20.01	345	*e*P		**P**	09 34 40.4	-1.8	
GKP				*ep*P		**pP**	09 34 48.4	+2.3	
GKP				*e*S		**S**	09 38 27.3	+0.6	
IRAZ	**Razeghan**	20.07	79	*e*P		Pn	09 34 45.1	0.0	
IRAZ	**Razeghan**	20.07	79	*e*P		Pn	09 34 45.1	0.0	
EANR	**'Ain N'Sour**	20.08	282	P		**P**	09 34 42.9	-0.3	
EANR	**'Ain N'Sour**	20.08	282	P		**P**	09 34 42.9	-0.3	
UBBA	**Unterbreizbach**	20.15	330	*e*P		**P**	09 34 42.8	-0.9	
	comp=Z,1µm,1.5s								
VOR	**Voronezh**	20.16	25	*e*P		**P**	09 34 44.0	+0.2	
VOR				*e*S		**S**	09 38 25.0	-4.7	
VOR				pmax		pmax			
	comp=Z,4µm,2.0s								
RUE	**Ruedersdorf**	20.18	339	*e*P		**P**	09 34 43.2	-0.8	
	comp=Z,914nm,1.0s								
RUE	**Ruedersdorf**	20.18	339	*e*P		**P**	09 34 43.2	-0.8	
	comp=Z,2µm,1.3s								
RUE	**Ruedersdorf**	20.18	339	*e*P		**P**	09 34 43.2	-0.8	
	comp=Z,2µm,1.3s								
VALF	**Valcebollere**	20.18	301	*e*P		**P**	09 34 44.0	-0.3	
VALF	**Valcebollere**	20.18	301	*e*P		**P**	09 34 44.0	-0.3	
CARF	**Carcanieres**	20.21	302	*e*P		**P**	09 34 42.9	-1.7	
CARF	**Carcanieres**	20.21	302	*e*P		**P**	09 34 42.9	-1.7	
CARF	**Carcanieres**	20.21	302	*e*P		**P**	09 34 42.9	-1.7	
IGZV	**Ghazvin**	20.26	77	*e*P		Pn	09 34 46.7	-0.7	
IGZV	**Ghazvin**	20.26	77	*e*P		Pn	09 34 46.7	-0.7	
THEF	**They Montfort**	20.28	320	*e*P		**P**	09 34 43.6	-1.6	
THEF	**They Montfort**	20.28	320	*e*P		**P**	09 34 43.6	-1.6	
THEF	**They Montfort**	20.28	320	*e*P		**P**	09 34 43.6	-1.6	
THEF	**They Montfort**	20.28	320	*e*P		**P**	09 34 43.6	-1.6	
MTLF	**Montolieu**	20.32	304	*e*P		**P**	09 34 44.6	-1.1	
	comp=Z,982nm,1.4s								
MTLF	**Montolieu**	20.32	304	*e*P		**P**	09 34 44.6	-1.1	
	comp=Z,491nm,1.4s								
LBL	**Lubilhac**	20.35	310	*e*P		**P**	09 34 45.4	-0.7	
LBL	**Lubilhac**	20.35	310	*e*P		**P**	09 34 45.4	-0.7	
LBL	**Lubilhac**	20.35	310	*e*P		**P**	09 34 45.4	-0.7	
LBL	**Lubilhac**	20.35	310	*e*P		**P**	09 34 45.4	-0.7	
TNS	**Taunus Mts**	20.38	327	*e*P		**P**	09 34 45.6	-0.7	
	comp=Z,3µm,1.7s								
TNS	**Taunus Mts**	20.38	327	*e*P		**P**	09 34 45.6	-0.7	
OJGS	**Djebel Guires**	20.39	281	P		**P**	09 34 46.0	-0.6	
OJGS	**Djebel Guires**	20.39	281	P		**P**	09 34 46.0	-0.6	
RAYN	**Ar Rayn**	20.41	116	Pn		Pn	09 34 48.4	-0.6	
	comp=Z,1µm,0.8s,SNR=24								
RAYN	**Ar Rayn**	20.41	116	*e*Pn		Pn	09 34 48.2	-0.8	
RAYN	**Ar Rayn**	20.41	116	*e*Pn		Pn	09 34 48.2	-0.8	
MNK	**Minsk**	20.41	4*c*	*i*P		P	09 34 40.0	-6.6	
MNK				*e*			09 35 08.0		
MNK				*e*PPP		PPP	09 35 18.0		
MNK				pmax		pmax			
	comp=Z,670nm,1.0s								
MNK				pmax		pmax			
	comp=Z,23µm,6.0s								
MNK				pmax		pmax			
	comp=N,570nm,1.6s								
MNK				pmax		pmax			
	comp=Z,27µm,8.0s								
MNK				MLR		MLR			
	comp=Z,147µm,14.0s								
MNK				MLR		MLR			
	comp=N,114µm,12.0s								
MNK				MLR		MLR			
	comp=E,145µm,12.0s								
MICGM	**Minsk**	20.42	4	*i*P		P	09 34 40.0	-6.6	
OKGL	**Djebel Kef Gue**	20.45	282	P		**P**	09 34 46.0	-1.2	
OKGL	**Djebel Kef Gue**	20.45	282	P		**P**	09 34 46.0	-1.2	
ABH	**Alteburg**	20.55	325	*e*P		**P**	09 34 47.6	-0.6	
ABH	**Alteburg**	20.55	325	*e*P		**P**	09 34 47.6	-0.6	
IR5	**Iran Long-Peri**	20.61	80	*e*P		Pn	09 34 51.0	-0.4	
IR5	**Iran Long-Peri**	20.61	80	*e*P		Pn	09 34 51.0	-0.4	
PAGF	**Fort de Pagny**	20.61	320	*e*P		**P**	09 34 47.3	-1.5	
	comp=E,2µm,1.4s,baz=127								
PAGF	**Fort de Pagny**	20.61	320	*e*P		**P**	09 34 47.3	-1.5	
	comp=E,890nm,1.4s								
SMF	**Signal de Mont**	20.63	314	*e*P		**P**	09 34 47.2	-1.9	
	comp=E,764nm,1.1s								
SMF	**Signal de Mont**	20.63	314	*e*P		**P**	09 34 47.2	-1.9	
	comp=E,382nm,1.1s								
IMHD	**Mahdasht**	20.65	79	*e*P		Pn	09 34 51.0	-0.8	
IMHD	**Mahdasht**	20.65	79	*e*P		Pn	09 34 51.0	-0.8	
RUP	**Ruppelstein**	20.66	324	*e*P		**P**	09 34 49.0	-0.4	
RUP	**Ruppelstein**	20.66	324	*e*P		**P**	09 34 49.0	-0.4	
RUP	**Ruppelstein**	20.66	324	*e*P		**P**	09 34 49.0	-0.4	
OJBR	**Djebel Berber**	20.71	281	P		P	09 34 45.0	-5.1	
OJBR	**Djebel Berber**	20.71	281	P		P	09 34 45.0	-5.1	
PYM	**Petit Puy Mans**	20.73	311	*e*P		**P**	09 34 49.6	-0.6	
PYM	**Petit Puy Mans**	20.73	311	*e*P		**P**	09 34 49.6	-0.6	
PYM	**Petit Puy Mans**	20.73	311	*e*P		**P**	09 34 49.6	-0.6	
PYM	**Petit Puy Mans**	20.73	311	*e*P		**P**	09 34 49.6	-0.6	
NACGM	**Naroch**	20.77	2	*e*P		P	09 34 45.0	-5.4	
SFTF	**Sexfontaines**	20.78	319	*e*P		**P**	09 34 50.0	-0.6	
	comp=E,4µm,1.4s,baz=131								
SFTF	**Sexfontaines**	20.78	319	*e*P		**P**	09 34 50.0	-0.6	
	comp=E,2µm,1.4s								
AGO	**Saint Agoulin**	20.78	312	*e*P		**P**	09 34 49.8	-0.9	
AGO	**Saint Agoulin**	20.78	312	*e*P		**P**	09 34 49.8	-0.9	
AGO	**Saint Agoulin**	20.78	312	*e*P		**P**	09 34 49.8	-0.9	
CLZ	**Clausthal**	20.80	333	*e*P		**P**	09 34 49.9	-1.0	
	comp=Z,2µm,1.6s								
CLZ	**Clausthal**	20.80	333	*e*P		**P**	09 34 49.9	-1.0	
FRNF	**Fournols**	20.85	309	*e*P		**P**	09 34 51.7	+0.2	
FRNF	**Fournols**	20.85	309	*e*P		**P**	09 34 51.7	+0.2	
FRNF	**Fournols**	20.85	309	*e*P		**P**	09 34 51.7	+0.2	
TAM	**Tamanrasset**	20.88	242	*e*P		**P**	09 34 51.5	-0.6	
TAM				*e*S		**S**	09 38 46.6	+1.9	
TAM				pmax		pmax			
	comp=Z,863nm,1.0s								
TAM				MLR		MLR			
	comp=Z,112µm,20.0s								
TAM	**Tamanrasset**	20.88	242	*e*P		**P**	09 34 51.5	-0.6	
	comp=Z,863nm,1.0s								
TAM				*e*S		**S**	09 38 46.6	+1.9	
TAM				LR		LR			
	comp=Z,112µm,20.0s								
TAM	**Tamanrasset**	20.88	242	*e*P		**P**	09 34 51.5	-0.6	
	comp=Z,863nm,1.0s								
TAM				*e*S		**S**	09 38 46.6	+1.9	
LOR	**Lormes**	20.93	315	*e*P		**P**	09 34 51.2	-1.1	
	comp=Z,875nm,1.0s,baz=125								
LOR				*e*R					
	comp=Z,122µm,22.0s								
LOR	**Lormes**	20.93	315	*e*P		**P**	09 34 51.2	-1.1	
	comp=Z,438nm,1.0s								
MEZF	**Maizieres J'vi**	20.94	319	*e*P		**P**	09 34 52.0	-0.4	
	comp=Z,6µm,1.4s,baz=130								
MEZF	**Maizieres J'vi**	20.94	319	*e*P		**P**	09 34 52.0	-0.4	
	comp=Z,3µm,1.4s								
IR3	**Iran Long-Peri**	20.95	79	*e*P		**P**	09 34 53.8	+1.1	
IR3	**Iran Long-Peri**	20.95	79	*e*P		**P**	09 34 53.8	+1.1	
MLS	**Moulis**	20.99	302	*e*P		**P**	09 34 51.3	-1.6	
MLS	**Moulis**	20.99	302	*e*P		**P**	09 34 51.3	-1.6	
MLS	**Moulis**	20.99	302	*e*P		**P**	09 34 51.3	-1.6	
CAF	**Calviac**	20.99	308	*e*P		**P**	09 34 52.1	-0.9	
	comp=Z,2µm,1.4s								
CAF	**Calviac**	20.99	308	*e*P		**P**	09 34 52.1	-0.9	
	comp=Z,907nm,1.4s								
AVF	**Avril sur Loir**	21.00	314	*e*P		**P**	09 34 51.8	-1.2	
	comp=Z,466nm,0.9s								
AVF	**Avril sur Loir**	21.00	314	*e*P		**P**	09 34 51.8	-1.2	
	comp=Z,233nm,0.9s								
VERF	**Verneugheol**	21.06	310	*e*P		**P**	09 34 54.5	+0.8	
VERF	**Verneugheol**	21.06	310	*e*P		**P**	09 34 54.5	+0.8	
VERF	**Verneugheol**	21.06	310	*e*P		**P**	09 34 54.5	+0.8	
WLF	**Walferdange**	21.09	323	P		**P**	09 34 53.3	-0.6	
	comp=Z,940nm,1.4s								
WLF	**Walferdange**	21.09	323	*e*P		**P**	09 34 53.3	-0.6	
	comp=Z,2µm,1.2s								
WLF	**Walferdange**	21.09	323	*e*P		**P**	09 34 53.2	-0.6	
WLF				*e*S		Sn	09 38 53.0	-1.7	
WLF				pmax		pmax			
	comp=Z,2µm,1.3s								
WLF				MLR		MLR			
	comp=Z,138µm,19.0s								
WLF	**Walferdange**	21.09	323	*e*P		**P**	09 34 53.2	-0.6	
	comp=Z,2µm,1.3s								
WLF				*e*S		Sn	09 38 53.0	-1.7	
WLF				LR		LR			
	comp=Z,138µm,19.0s								
WLF	**Walferdange**	21.09	323	P		**P**	09 34 53.3	-0.6	
	comp=Z,940nm,1.4s								
ODJA	**Bouhanifia**	21.13	281	P		P	09 34 47.0	-7.6	
ODJA	**Bouhanifia**	21.13	281	P		P	09 34 47.0	-7.6	
BGF	**Bois d'Agland**	21.19	313	*e*P		**P**	09 34 54.3	-0.8	
	comp=Z,2µm,1.1s								
BGF	**Bois d'Agland**	21.19	313	*e*P		**P**	09 34 54.3	-0.8	
	comp=Z,772nm,1.1s								
MELF	**Melles**	21.20	302	*e*P		**P**	09 34 55.1	-0.2	
MELF	**Melles**	21.20	302	*e*P		**P**	09 34 55.1	-0.2	
MELF	**Melles**	21.20	302	*e*P		**P**	09 34 55.1	-0.2	
IPIR	**Pirpir**	21.20	87	*e*P		**P**	09 34 57.5	+1.9	
IPIR	**Pirpir**	21.20	87	*e*P		**P**	09 34 57.5	+1.9	
NRDL	**Niedersach Rie**	21.42	334	*e*P		**P**	09 34 56.3	-1.1	
	comp=Z,2µm,1.6s								
USTO	**Oran**	21.43	282	P		**P**	09 34 59.0	+1.3	
TCF	**Toulx Ste Croi**	21.46	311	*e*P		**P**	09 34 57.2	-0.8	
	comp=Z,2µm,1.3s								
TCF	**Toulx Ste Croi**	21.46	311	*e*P		**P**	09 34 57.2	-0.8	
	comp=Z,1µm,1.3s								
RESF	**Ens**	21.48	301	*e*P		**P**	09 34 58.1	-0.3	
RESF	**Ens**	21.48	301	*e*P		**P**	09 34 58.1	-0.3	
RESF	**Ens**	21.48	301	*e*P		**P**	09 34 58.1	-0.3	
RJF	**Les Rejaudoux**	21.50	308	*e*P		**P**	09 34 57.6	-0.8	
	comp=Z,1µm,0.9s								
RJF				*e*R					
	comp=Z,67µm,23.0s								
RJF	**Les Rejaudoux**	21.50	308	*e*P		**P**	09 34 57.6	-0.8	
	comp=Z,554nm,0.9s								
EPF	**Esparros**	21.54	302	*e*P		**P**	09 34 56.8	-2.1	
	comp=Z,772nm,1.3s								
EPF	**Esparros**	21.54	302	*e*P		**P**	09 34 56.8	-2.1	
	comp=Z,386nm,1.3s								
IVRN	**Varamin**	21.57	80	*e*P		**P**	09 34 59.2	-0.1	
IVRN				*e*P		**P**	09 35 00.0	+0.7	
IVRN	**Varamin**	21.57	80	*e*P		**P**	09 35 00.0	+0.7	
IKLH	**Kolah

SJPF Ste Jean 22.67 301 *e*P P 09 35 09.6 -1.4
comp=Z,1µm,1.2s
SJPF Ste Jean 22.67 301 *e*P P 09 35 09.6 -1.4
comp=Z,502nm,1.2s
OSSF Osses 22.73 302 *e*P P 09 35 09.1 -2.5
OSSF Osses 22.73 302 *e*P P 09 35 09.1 -2.5
OSSF Osses 22.73 302 *e*P P 09 35 09.1 -2.5
ISHM Shahmirzad 22.77 78 *e*P P 09 35 12.7 +0.2
ISHM Shahmirzad 22.77 78 *e*P P 09 35 12.7 +0.2
WIT Witteveen 23.02 330 *e*P P 09 35 13.6 -0.8
comp=Z,508nm,0.6s
IKIA Kiasar 23.07 77 *e*P P 09 35 14.6 -0.9
IKIA Kiasar 23.07 77 *e*P P 09 35 14.6 -0.9
MFF Saint Martin d 23.07 310 *e*P P 09 35 14.1 -1.0
comp=Z,3µm,1.4s
MFF Saint Martin d 23.07 310 *e*P P 09 35 14.1 -1.0
comp=Z,1µm,1.4s
LLD Lille Linde 23.12 340 *i* P P 09 35 13.7 -1.8
comp=Z,822nm,0.8s
MOS Moscow 23.16 18⇑ *i*P P 09 35 11.1 -4.7
MOS *e*PPP PPP 09 35 43.9
MOS *e* 09 39 04.8
MOS *i* S S 09 39 20.4 -6.4
MOS pmax pmax
comp=Z,3µm,2.1s
MOS pmax pmax
comp=Z,1µm,1.6s
MOS pmax pmax
comp=N,442nm,1.2s
MOS pmax pmax
comp=E,447nm,1.3s
MOS MLR MLR
comp=Z,132µm,15.0s
MOS MLR MLR
comp=E,91µm,15.0s
MOS MLR MLR
comp=N,84µm,15.0s
IANJ Anjilo 23.31 79 *e*P P 09 35 17.4 -0.5
IANJ Anjilo 23.31 79 *e*P P 09 35 17.4 -0.5
COP Copenhagen 23.37 341 *i* P P 09 35 17.2 -0.8
comp=N,183nm,0.8s
COP
comp=Z,25µm,14.0s
COP Copenhagen 23.37 341 *i* S S 09 39 30.3 -0.1
SNR=36
MELI Melilla 23.40 281 *i* P P 09 35 17.2 -1.4
MELI *i* S S 09 39 34.3 +3.0
MENF Mencas 23.67 321 *e*P P 09 35 17.8 -3.2
MENF Mencas 23.67 321 *e*P P 09 35 17.8 -3.2
MENF Mencas 23.67 321 *e*P P 09 35 17.8 -3.2
ISAD Sadrabad 23.67 88 *e*P P 09 35 22.3 +0.7
ISAD Sadrabad 23.67 88 *e*P P 09 35 22.3 +0.7
IPAR Pars 23.69 93 *e*P P 09 35 22.7 +0.9
IPAR Pars 23.69 93 *e*P P 09 35 22.7 +0.9
ISRV Sarvestan 23.89 94 *e*P P 09 35 25.7 +2.0
ISRV Sarvestan 23.89 94 *e*P P 09 35 25.7 +2.0
ESDC Sonseca Array 24.16 292 P P 09 35 24.6 -1.4
ESDC S S 09 39 45.3 +1.7
ESDC Sonseca Array 24.16 292 P P 09 35 24.6 -1.4
comp=Z,27nm,0.6s,baz=85,slow=8.9,SNR=162
ESDC S S 09 39 45.3 +1.7
comp=Z,0.2nm,0.3s,baz=65,slow=13,SNR=1.9
ESDC Sonseca Array 24.16 292 P P 09 35 24.5 -1.4
ESDC S S 09 39 45.3 +1.7
ESLA Sonseca Array 24.16 292 *e*P P 09 35 24.4 -1.5
comp=Z,356nm,1.4s
ESLA Sonseca Array 24.16 292 *e*P P 09 35 24.4 -1.5
comp=Z,356nm,1.4s
ICHK Chekchek 24.20 86 *e*P P 09 35 26.4 -0.1
ICHK Chekchek 24.20 86 *e*P P 09 35 26.4 -0.1
FLN La Foliniere 24.21 315 *e*P P 09 35 24.6 -1.5
comp=Z,969nm,0.8s,baz=122
FLN *e*R
comp=Z,96µm,22.8s
FLN La Foliniere 24.21 315 *e*P P 09 35 24.6 -1.5
comp=Z,485nm,0.8s
GRR Gorron 24.26 314 *e*P P 09 35 25.1 -1.5
comp=Z,1µm,1.0s
GRR Gorron 24.26 314 *e*P P 09 35 25.1 -1.5
comp=Z,648nm,1.0s
VSU Vasula 24.34 2*c* *i*P P 09 35 25.7 -1.5
VSU pmax pmax
comp=Z,658nm,1.0s
VSU MLR MLR
comp=Z,212µm,21.0s
PAB San Pablo 24.45 291 *e*P P 09 35 27.5 -1.1
PAB *e*S S 09 39 50.5 +2.2
PAB pmax pmax
comp=Z,386nm,1.1s
PAB MLR MLR
comp=Z,36µm,20.0s
PAB San Pablo 24.45 291 *e*P P 09 35 27.5 -1.1
comp=Z,386nm,1.1s
PAB *e*S S 09 39 50.5 +2.2
PAB LR LR
comp=Z,36µm,20.0s
PAB San Pablo 24.45 291 *e*P P 09 35 27.5 -1.1
comp=Z,386nm,1.1s
PAB *e*S S 09 39 50.5 +2.2
EMAL Malaga-Limoner 24.51 285 *i* P P 09 35 27.9 -1.1
EMAL *i* S S 09 39 50.7 +1.7
ELSH Elham, Standar 24.54 321⇑ *e*P P 09 35 28.0 -1.1
ELSH AMB AMB 09 35 37.0
comp=Z,1µm,1.4s
ELSH AMS AMS 09 46 21.0
comp=Z,100µm,22.5s
ELSH Elham, Standar 24.54 321⇑ *e*P P 09 35 28.0 -1.1
IMEH Mehriz 24.57 88 *e*P P 09 35 31.0 +1.1
IMEH Mehriz 24.57 88 *e*P P 09 35 31.0 +1.1
HMNX Herstmonceux 24.80 320⇑ *e*P P 09 35 30.5 -1.0
HMNX AMB AMB 09 35 39.8
comp=Z,741nm,1.9s
HMNX AMS AMS 09 40 43.5
comp=Z,29µm,22.1s
HMNX Herstmonceux 24.80 320⇑ *e*P P 09 35 30.5 -1.0
MUD Monsted U'grnd 24.98 338⇑ *i*P P 09 35 32.2 -0.8
comp=Z,450nm,1.0s
MDT Midelt 25.14 275 P P 09 35 33.5 -1.5
MDT S S 09 40 02.1 +2.5
MDT Midelt 25.14 275 P P 09 35 33.5 -1.5
comp=Z,81nm,0.9s,baz=86,slow=10,SNR=43
MDT S S 09 40 02.1 +2.5
comp=Z,9.5nm,0.9s,baz=132,slow=12,SNR=1.2
MDT Midelt 25.14 275 P P 09 35 33.5 -1.5
MDT S S 09 40 02.1 +2.5
REAL Reales 25.15 284 *e*P P 09 35 33.3 -1.7
SGMF Saint Gilles 25.23 312 *e*P P 09 35 33.8 -1.6
comp=Z,2µm,1.3s
SGMF Saint Gilles 25.23 312 *e*P P 09 35 33.8 -1.6
comp=Z,1µm,1.3s
LIJA Lijar 25.28 285 *i* P P 09 35 34.1 -2.0
IBAF Bafgh 25.31 87 *e*P P 09 35 37.6 +1.1
IBAF Bafgh 25.31 87 *e*P P 09 35 37.6 +1.1
JQE Queens East 25.32 315 *e*P P 09 35 34.3 -1.9
JQE Queens East 25.32 315 *e*P P 09 35 34.3 -1.9
JRS Jersey 25.35 315 *e*P P 09 35 35.0 -1.4
JRS Jersey 25.35 315 *e*P P 09 35 35.0 -1.4
AEU East Anglia Un 25.35 324 *e*P P 09 35 35.0 -1.4
AEU East Anglia Un 25.35 324 *e*P P 09 35 35.0 -1.4
AWI1 Witton 25.38 325 *e*P P 09 35 34.4 -2.3
AWI1 Witton 25.38 325 *e*P P 09 35 34.4 -2.3
QUIF Quistinic 25.48 311 *e*P P 09 35 36.2 -1.4
comp=Z,709nm,0.8s
QUIF Quistinic 25.48 311 *e*P P 09 35 36.2 -1.4
comp=Z,354nm,0.8s
ROSF Rostrenen 25.71 312 *e*P P 09 35 37.9 -1.8
comp=Z,412nm,0.7s
ROSF Rostrenen 25.71 312 *e*P P 09 35 37.9 -1.8
comp=Z,206nm,0.7s
PUL Pulkovo 25.82 6 *i*P P 09 35 39.9 -0.7
PUL pmax pmax
comp=Z,738nm,0.9s
PUL MLR MLR
comp=Z,32µm,13.0s
CNIL Conil 25.84 284 *e*P P 09 35 39.6 -1.4
SKP1 Kophill 25.87 321⇑ *e*P P 09 35 39.6 -1.6
SKP1 Kophill 25.87 321⇑ *e*P P 09 35 39.6 -1.6
WOL Wolverton 25.88 320⇑ *e*P P 09 35 39.9 -1.3
WOL AMB AMB 09 35 55.6
comp=Z,492nm,0.8s
WOL AMS AMS 09 47 56.8
comp=Z,85nm,16.2s
WOL Wolverton 25.88 320⇑ *e*P P 09 35 39.9 -1.3
DHBB Dhamar BB 25.89 134⇓ *e*P P 09 35 44.3 +2.3
DHBB AMb AMB 09 35 46.2
comp=N,2µm,1.7s
DHBB *i* S S 09 40 14.8 +2.8
DHBB Dhamar BB 25.89 134⇓ *e*P P 09 35 44.3 +2.3
comp=N,908nm,1.7s
SFS San Fernando 25.95 284 *i* P P 09 35 45.6 +3.5
SFS *e*S S 09 40 10.4 -1.6
UDYN Al 'Udayn 26.12 136⇓ *e*P P 09 35 46.4 +2.4
UDYN *i* S S 09 40 18.4 +3.1
BST Brest 26.18 312 *e*P P 09 35 41.4 -2.6
BST Brest 26.18 312 *e*P P 09 35 41.4 -2.6
BST Brest 26.18 312 *e*P P 09 35 41.4 -2.6
ISHV Shirvan 26.22 73 *e*P P 09 35 44.9 +0.1
ISHV Shirvan 26.22 73 *e*P P 09 35 44.9 +0.1
SWN1 Swindon 26.29 320⇑ *e*P P 09 35 43.5 -1.5
SWN1 AMB AMB 09 35 55.4
comp=Z,1µm,1.3s
SWN1 AMS AMS 09 48 10.2
comp=Z,84µm,15.4s
SWN1 Swindon 26.29 320⇑ *e*P P 09 35 43.5 -1.5
PBRG Braganca 26.46 296 *e*P P 09 35 45.2 -1.5
comp=Z,699nm,1.5s
PBRG Braganca 26.46 296 *e*P P 09 35 45.2 -1.5
comp=Z,699nm,1.5s
ISFR Sfrayin 26.48 74 *e*P P 09 35 47.8 +0.5
ISFR Sfrayin 26.48 74 *e*P P 09 35 47.8 +0.5
PBAR Barrancos 26.53 288 *e*P P 09 35 45.8 -1.5
comp=Z,766nm,1.6s
PBAR Barrancos 26.53 288 *e*P P 09 35 45.8 -1.5
comp=Z,766nm,1.6s
ABKT Ailbek 26.54 72 P P 09 35 47.7 +0.2
comp=Z,1µm,1.0s,SNR=45
SSW Stow on the Wo 26.55 320 *e*P P 09 35 46.0 -1.3
SSW Stow on the Wo 26.55 320 *e*P P 09 35 46.0 -1.3
MVO Moncorvo 26.61 295 *e*P P 09 35 46.8 -1.3
comp=Z,787nm,1.5s
MVO *e*S S 09 40 20.0 -2.6
MVO *e*LR LR 09 45 33.2
comp=Z,22µm,16.0s
MVO Moncorvo 26.61 295 *e*P P 09 35 46.8 -1.3
comp=Z,787nm,1.5s
MVO *e*S S 09 40 20.0 -2.6
HOMB Homborsund 26.70 340⇑ *i*P P 09 35 46.5 -2.1
HOMB AMB AMB 09 35 57.2
comp=Z,466nm,1.1s
HOMB Homborsund 26.70 340⇑ *i*P P 09 35 46.5 -2.1
comp=Z,466nm,1.1s,SNR=28
RTC Rabat Centre 26.78 279 *e*P P 09 35 48.8 -0.8
comp=Z,103nm,0.4s
RTC LR LR
comp=Z,38µm,21.0s
RTC Rabat Centre 26.78 279 *e*P P 09 35 48.8 -0.8
comp=Z,103nm,0.4s
TRBA At Turbah 26.80 137⇓ *e*P P 09 35 52.4 +2.3
PMRV Marv??o 26.80 291 *e*P P 09 35 48.3 -1.5
comp=Z,641nm,1.9s
PMRV *e*S S 09 40 26.9 +1.4
PMRV *e*LR LR 09 46 54.4
comp=Z,22µm,18.0s
PMRV Marv??o 26.80 291 *e*P P 09 35 48.3 -1.5
comp=Z,641nm,1.9s
PMRV *e*S S 09 40 26.9 +1.4
PCBR Castelo Branco 26.88 292 *e*P P 09 35 49.1 -1.3
comp=Z,367nm,1.2s
PCBR Castelo Branco 26.88 292 *e*P P 09 35 49.1 -1.3
comp=Z,367nm,1.2s
MTE Manteigas 26.95 293 *e*P P 09 35 49.6 -1.6
comp=Z,511nm,1.4s
MTE *e*S S 09 40 30.6 +2.6
MTE *e*LR LR 09 45 46.8
comp=Z,38µm,18.0s
MTE Manteigas 26.95 293 *e*P P 09 35 49.6 -1.6
comp=Z,420nm,1.1s
MTE S S 09 40 27.7 -0.2
MTE LR LR
comp=Z,38µm,19.0s
MTE Manteigas 26.95 293 *e*P P 09 35 49.6 -1.6
comp=Z,511nm,1.4s
MTE *e*S S 09 40 30.6 +2.6
PESTR Estremoz 26.95 290 *e*P P 09 35 49.6 -1.6
comp=Z,693nm,1.3s
PESTR Estremoz 26.95 290 *e*P P 09 35 49.6 -1.6
comp=Z,693nm,1.3s
DYA Yadsworthy 26.96 316⇑ *e*P P 09 35 49.1 -2.0
DYA AMB AMB 09 36 06.5
comp=Z,342nm,1.1s
DYA AMS AMS 09 41 05.5
comp=Z,31µm,30.0s
DYA Yadsworthy 26.96 316⇑ *e*P P 09 35 49.1 -2.0
IEMG Emamgholi 26.98 73 *e*P P 09 35 51.1 -0.7
IEMG Emamgholi 26.98 73 *e*P P 09 35 51.1 -0.7
BDHA Al Bayda' 27.06 133⇓ *e*P P 09 35 54.8 +2.3
BDHA Al Bayda' 27.06 133⇓ *e*P P 09 35 54.8 +2.3
KBI1 Birley Grange 27.08 323⇑ *e*P P 09 35 50.2 -1.9
KBI1 Birley Grange 27.08 323⇑ *e*P P 09 35 50.2 -1.9
PVAQ Vaqueiros 27.10 287 *e*P P 09 35 50.6 -1.8
comp=Z,573nm,1.4s
PVAQ *e*S S 09 40 30.5 +0.3
PVAQ *e*LR LR 09 47 32.7
comp=Z,23µm,20.0s
PVAQ Vaqueiros 27.10 287 *e*P P 09 35 50.6 -1.8
comp=Z,573nm,1.4s
PVAQ *e*S S 09 40 30.5 +0.3
IAKL Akhelmad 27.12 75 *e*P P 09 35 53.6 +0.6
HFS Hagfors 27.13 347 P P 09 35 50.5 -2.0
HFS S S 09 40 33.8 +3.5
HFS Hagfors 27.13 347 P P 09 35 50.5 -2.0
comp=Z,53nm,0.7s,baz=161,slow=9.4,SNR=131
HFS S S 09 40 33.7 +3.5
comp=Z,26nm,0.9s,baz=133,slow=14,SNR=2.8
HFS Hagfors 27.13 347 P P 09 35 50.5 -2.0
SNART Snartemo 27.13 339 *e*P P 09 35 51.7 -0.8
PVRL Vila Real 27.14 295 *e*P P 09 35 52.0 -0.8
comp=Z,312nm,1.7s
PVRL Vila Real 27.14 295 *e*P P 09 35 52.0 -0.8
comp=Z,312nm,1.7s
MCH1 Michaelchurch 27.18 320⇑ *e*P P 09 35 51.0 -2.0
MCH1 AMB AMB 09 35 59.4
comp=Z,301nm,2.7s
MCH1 AMS AMS 09 48 45.9
comp=Z,84µm,15.8s
MCH1 Michaelchurch 27.18 320⇑ *e*P P 09 35 51.0 -2.0
PBEJ Beja 27.19 288 *e*P P 09 35 52.6 -0.7
comp=Z,477nm,1.7s
PBEJ Beja 27.19 288 *e*P P 09 35 52.6 -0.7
comp=Z,477nm,1.7s
POLO Lamas de Olo 27.20 295 *e*P P 09 35 51.7 -1.8
comp=Z,186nm,1.0s
POLO Lamas de Olo 27.20 295 *e*P P 09 35 51.7 -1.8
comp=Z,186nm,1.0s
PVIS Viseu 27.23 294 *e*P P 09 35 53.1 -0.6
comp=Z,392nm,1.8s
PVIS Viseu 27.23 294 *e*P P 09 35 53.1 -0.6
comp=Z,392nm,1.8s
PBDV Barranco-do-Ve 27.28 286 *e*P P 09 35 52.6 -1.5
comp=Z,874nm,1.2s
PBDV Barranco-do-Ve 27.28 286 *e*P P 09 35 52.6 -1.5
comp=Z,874nm,1.2s
EVO Evora 27.29 289⇑ *i*P P 09 35 53.8 -0.3
comp=Z,568nm,1.0s
EVO *e*R
comp=Z,59µm,21.0s
EVO Evora 27.29 289 *e*P P 09 35 53.0 -1.1
comp=Z,680nm,1.6s
EVO Evora 27.29 289 *e*P P 09 35 53.0 -1.1
comp=Z,680nm,1.6s
FINES FINESS Array B 27.32 1 P P 09 35 52.1 -2.0
FINES S S 09 40 37.5 +4.4
FINES FINESS Array B 27.32 1 P P 09 35 52.1 -2.0
comp=Z,98nm,0.9s,baz=157,slow=10,SNR=213
FINES S S 09 40 37.5 +4.4
comp=Z,17nm,0.7s,baz=145,slow=17,SNR=1.8
FINES LR LR 09 47 14.7
comp=Z,74µm,21.7s,baz=182,slow=38
FINES FINESS Array B 27.32 1 P P 09 35 52.1 -2.0
FIA1 FINESS Array S 27.32 1 *e*P P 09 35 52.0 -2.1
FIA1 *e*PcP PcP 09 39 12.3 -0.8
FIA1 *e*S S 09 40 29.7 -3.4
FIA1 FINESS Array S 27.32 1 *e*P P 09 35 52.0 -2.1
STNC Stoke 27.33 322⇑ *e*P P 09 35 53.1 -1.2
STNC AMB AMB 09 36 00.8
comp=Z,558nm,1.7s
STNC AMS AMS 09 41 10.1
comp=Z,33µm,29.7s
STNC Stoke 27.33 322⇑ *e*P P 09 35 53.2 -1.2
PCVE Castro Verde 27.34 287 *e*P P 09 35 52.9 -1.7
comp=Z,441nm,1.5s
PCVE Castro Verde 27.34 287 *e*P P 09 35 52.9 -1.7
comp=Z,441nm,1.5s
EVOP Sao Brissos 27.38 289⇑ *i*P P 09 35 53.8 -1.1
comp=Z,284nm,1.0s
HLM1 Long Mynd 27.38 321⇑ *e*P P 09 35 52.8 -2.0
HLM1 AMB AMB 09 36 03.8
comp=Z,150nm,1.1s
HLM1 AMS AMS 09 41 13.3
comp=Z,33µm,28.2s
HLM1 Long Mynd 27.38 321⇑ *e*P P 09 35 52.8 -2.0
PCAB Cabril 27.40 296 *e*P P 09 35 54.0 -1.2
comp=Z,528nm,0.7s
PCAB Cabril 27.40 296 *e*P P 09 35 54.0 -1.2
comp=Z,528nm,0.7s
PMTG Montargil 27.45 290 *e*P P 09 35 53.7 -1.9
comp=Z,321nm,2.0s
PMTG Montargil 27.45 290 *e*P P 09 35 53.7 -1.9
comp=Z,321nm,2.0s
MESJ Messejana 27.48 288 *e*P P 09 35 54.4 -1.4
MESJ AMb AMB 09 36 02.0
comp=Z,395nm,0.9s
MESJ *e*S S 09 40 33.5 -2.6
MESJ Messejana 27.48 288 *e*P P 09 35 54.4 -1.4
comp=Z,395nm,0.9s
MESJ *e*S S 09 40 33.5 -2.6
MESJ Messejana 27.48 288 *e*P P 09 35 54.4 -1.4
MESJ *e*S S 09 40 33.5 -2.6
MESJ Messejana 27.48 288 *e*P P 09 35 54.4 -1.4
comp=Z,395nm,0.9s
MESJ *e*S S 09 40 33.5 -2.6
ATD Arta Tunnel 27.50 141 P P 09 35 58.1 +1.9
ATD S S 09 40 47.8 +11
ATD Arta Tunnel 27.50 141 P P 09 35 58.1 +1.9
comp=Z,23nm,1.0s,baz=327,slow=16,SNR=3.3
ATD S S 09 40 47.8 +11
comp=Z,3.3nm,0.3s,baz=307,slow=20,SNR=1.8
ATD LR LR 09 46 36.0
comp=Z,32µm,20.8s,baz=335,slow=36
ATD Arta Tunnel 27.50 141 P P 09 35 58.2 +1.9
HTL Hartland 27.53 317⇑ *e*P P 09 35 54.5 -1.6
HTL AMB AMB 09 36 02.5
comp=Z,258nm,1.6s
HTL AMS AMS 09 49 38.3
comp=Z,78µm,16.2s
HTL Hartland 27.53 317⇑ *e*P P 09 35 54.5 -1.6
HPK Haverah Park 27.53 324 AMS AMS 09 49 05.9
comp=Z,53µm,17.1s
ASUD Al Ashush, Dub 27.55 102 P P 09 35 57.2 +0.6
KONO Kongsberg 27.59 342⇑ *i*P P 09 35 54.2 -2.3
KONO AMB AMB 09 36 07.7
comp=Z,636nm,1.3s
KONO *e*S S 09 40 36.6 -0.8
KONO Kongsberg 27.59 342 *e*P P 09 35 54.3 -2.3
KONO *e*S S 09 40 31.4 -6.0
KONO pmax pmax
comp=Z,38nm,1.4s
KONO MLR MLR
comp=Z,45µm,21.0s
KONO Kongsberg 27.59 342 *e*P P 09 35 54.3 -2.3
comp=Z,38nm,1.4s
KONO *e*S S 09 40 31.4 -6.0
KONO LR LR
comp=Z,45µm,21.0s
KONO Kongsberg 27.59 342⇑ *i*P P 09 35 54.2 -2.3
comp=Z,636nm,1.3s,SNR=28
KONO *e*S S 09 40 36.6 -0.8
SNR=28
PGAV Gavieira, Arco 27.61 296 *e*P P 09 35 56.2 -0.9
comp=Z,353nm,2.0s
PGAV *e*S S 09 40 41.0 +2.7
PGAV *e*LR LR 09 47 00.5
comp=Z,29µm,18.0s
PGAV Gavieira, Arco 27.61 296 *e*P P 09 35 56.2 -0.9
comp=Z,353nm,2.0s
PGAV *e*S S 09 40 41.0 +2.7
ITEG Tejag 27.65 83 *e*P P 09 35 58.7 +1.0
ITEG Tejag 27.65 83 *e*P P 09 35 58.7 +1.0
NAZ Nazwa, Dubai 27.66 101 P P 09 35 58.3 +0.7
PNCL Nicolau / Gran 27.71 288 *e*P P 09 35 56.8 -1.1
comp=Z,361nm,1.3s
PNCL Nicolau / Gran 27.71 288 *e*P P 09 35 56.8 -1.1
comp=Z,361nm,1.3s
FAQ Al Faqa, Dubai 27.71 102 P P 09 35 58.4 +0.3
FOEL Foel Wylfa 27.74 321⇑ *e*P P 09 35 56.8 -1.2
FOEL AMB AMB 09 36 08.3
comp=Z,422nm,1.4s
FOEL AMS AMS 09 48 10.8
comp=Z,55µm,19.1s
FOEL Foel Wylfa 27.74 321⇑ *e*P P 09 35 56.8 -1.2
BANOM Banah 27.78 99 ⇑P P 09 35 58.8 +0.1
SNR=14
BANOM Banah 27.78 99 ⇑S S 09 40 46.5 +5.2
BANOM Banah 27.78 99 P P 09 35 59.1 +0.4
SNR=16
MORF Marmelete 27.85 286 *e*P P 09 35 59.1 -0.1
comp=Z,188nm,1.8s
MORF Marmelete 27.85 286 *e*P P 09 35 57.9 -1.3
MORF *e*S S 09 40 39.4 -2.7
MORF Marmelete 27.85 286 *e*P P 09 35 59.1 -0.1
comp=Z,188nm,1.8s
PTEO Sao Teotonio 27.89 287 *e*P P 09 35 58.3 -1.2
comp=Z,530nm,1.6s
PTEO Sao Teotonio 27.89 287 *e*P P 09 35 58.3 -1.2
comp=Z,530nm,1.6s
KAF Kangasniemi 27.99 1 *ep* P 09 35 58.2 -1.9
comp=Z,139nm,0.7s,baz=186,slow=8.8
KAF Kangasniemi 27.99 1 *e*P P 09 35 58.2 -1.9
KAF pmax pmax
comp=Z,139nm,0.7s
PFVI Vila Bisbo 28.00 286 *e*P P 09 35 58.9 -1.6
comp=Z,315nm,0.9s
PFVI Vila Bisbo 28.00 286 *e*P P 09 35 58.9 -1.6
comp=Z,315nm,0.9s
STAV Stavanger 28.08 338 *e* 09 37 08.4
NC602 NORSAR Array S 28.11 345 *e*P P 09 35 58.9 -2.3
NC602 *e*S S 09 40 45.2 -0.5
NC602 NORSAR Array S 28.11 345 *e*P P 09 35 58.9 -2.3
SNR=28
NC602 *e*S S 09 40 45.2 -0.5
SNR=28
HATD Hatta, Dubai 28.12 101 P P 09 36 01.6 -0.1
ASHO Ashiyiah 28.12 101 ⇑P P 09 36 01.6 -0.1
SNR=26
ASHO Ashiyiah 28.12 101 ⇑S S 09 40 47.6 +1.0
ASHO Ashiyiah 28.12 101 P P 09 36 01.8 0.0
SNR=17
ASHO S S 09 40 47.6 +1.0
UOSS Wadi Hilu 28.12 101 P P 09 36 02.2 +0.5
comp=Z,758nm,0.9s,SNR=16
LIS Lisbon 28.17 289 *e*P P 09 36 00.7 -1.3
LIS AMb AMB 09 36 09.3
comp=Z,652nm,1.2s
LIS *e*S S 09 40 44.7 -2.4
LIS Lisbon 28.17 289 *e*P P 09 36 00.7 -1.3
comp=Z,652nm,1.2s
LIS *e*S S 09 40 44.7 -2.4
LIS Lisbon 28.17 289 *e*P P 09 36 00.7 -1.3
LIS *e*S S 09 40 44.7 -2.4
LIS Lisbon 28.17 289 *e*P P 09 36 00.7 -1.3
comp=Z,652nm,1.2s
LIS *e*S S 09 40 44.7 -2.4
BLS5 Blasjo 28.25 339 *e*P P 09 36 01.2 -1.4
PMAFR Mafra 28.27 290 *e*P P 09 36 01.7 -1.3
comp=Z,589nm,1.0s
PMAFR Mafra 28.27 290 *e*P P 09 36 01.7 -1.3
comp=Z,589nm,1.0s
WPM1 Penmaenmawr 28.29 321⇑ *e*P P 09 36 01.2 -1.7
WPM1 Penmaenmawr 28.29 321⇑ *e*P P 09 36 01.2 -1.7
XAL Allendale 28.33 325 *e*P P 09 36 01.1 -2.2
XAL Allendale 28.33 325 *e*P P 09 36 01.1 -2.2
NAO01 NORSAR Array S 28.35 345 *e*P P 09 36 01.4 -2.0
comp=Z,0.6nm,0.4s
NAO01 NORSAR Array S 28.35 345 *e*P P 09 36 01.4 -2.0
comp=Z,0.6nm,0.4s
YLL Llanberis 28.37 321⇑ *e*P P 09 36 01.8 -1.8
YLL Llanberis 28.37 321⇑ *e*P P 09 36 01.8 -1.8
YRE Yr Eifl 28.42 321⇑ *e*P P 09 36 02.5 -1.6
YRE Yr Eifl 28.42 321⇑ *e*P P 09 36 02.5 -1.6
KMY Karmoy 28.44 338 *e*P P 09 36 02.0 -2.2
KMY AMB AMB 09 36 27.0
comp=Z,416nm,1.5s
KMY Karmoy 28.44 338 *e*P P 09 36 02.0 -2.2
comp=Z,416nm,1.5s,SNR=28
NB2 NORSAR Subarra 28.46 345 P P 09 36 02.1 -2.3
comp=Z,290nm,1.2s,baz=156,slow=9.3

NB2	**NORSAR Subarra**	**28.46**	**345**	P		**P**	**09 36 02.1**	**-2.3**	
	baz=156,slow=9.3								
NB2	**NORSAR Subarra**	**28.46**	**345**	P		**P**	**09 36 02.1**	**-2.3**	
	comp=Z,290nm,1.2s,baz=156,slow=8.9,SNR=26								
NOA	**NORSAR Array B**	**28.46**	**345**	P		**P**	**09 36 02.7**	**-1.7**	
NOA				S		**S**	**09 40 50.9**	**-0.3**	
NOA	**NORSAR Array B**	**28.46**	**345**	P		**P**	**09 36 02.7**	**-1.7**	
	comp=Z,34nm,0.7s,baz=166,slow=9.5,SNR=196								
NOA				S		**S**	**09 40 50.9**	**-0.3**	
	comp=Z,5.9nm,0.9s,baz=147,slow=12,SNR=2.0								
NOA	**NORSAR Array B**	**28.46**	**345**	P		**P**	**09 36 02.7**	**-1.7**	
NOA				S		**S**	**09 40 50.9**	**-0.3**	
WLF1	**Llynfaes**	**28.56**	**321**	*e*P		**P**	**09 36 03.3**	**-2.0**	
WLF1				AMB	AMB		09 36 16.1		
	comp=Z,90nm,1.2s								
WLF1				AMS	AMS		09 49 04.9		
	comp=Z,52µm,20.2s								
WLF1	**Llynfaes**	**28.56**	**321**	*e*P		**P**	**09 36 03.3**	**-2.0**	
WME	**Myndd Eilian**	**28.57**	**321**⇑	*e*P		**P**	**09 36 03.2**	**-2.2**	
WME	**Myndd Eilian**	**28.57**	**321**⇑	*e*P		**P**	**09 36 03.2**	**-2.2**	
KESW	**Keswick, Cumbr**	**28.60**	**324**⇑	*e*P		**P**	**09 36 03.9**	**-1.8**	
KESW				AMB	AMB		09 36 21.1		
	comp=Z,190nm,2.1s								
KESW				AMS	AMS		09 49 47.5		
	comp=Z,38µm,17.7s								
KESW	**Keswick, Cumbr**	**28.60**	**324**⇑	*e*P		**P**	**09 36 03.9**	**-1.8**	
IDAH	**Dahanechah**	**28.60**	**83**	*e*P		**P**	**09 36 07.7**	**+1.4**	
IDAH	**Dahanechah**	**28.60**	**83**	*e*P		**P**	**09 36 07.7**	**+1.4**	
ODD1	**Odda**	**28.61**	**340**	*e*P		**P**	**09 36 04.2**	**-1.5**	
ODD1				AMB	AMB		09 36 20.1		
	comp=Z,456nm,1.1s								
ODD1				*e*S		**S**	**09 40 53.3**	**-0.2**	
ODD1	**Odda**	**28.61**	**340**	*e*P		**P**	**09 36 04.2**	**-1.5**	
	comp=Z,456nm,1.1s,SNR=28								
ODD1				*e*S		**S**	**09 40 53.3**	**-0.2**	
	SNR=28								
YRC	**Rhoscolyn**	**28.63**	**321**⇑	*e*P		**P**	**09 36 04.5**	**-1.4**	
YRC	**Rhoscolyn**	**28.63**	**321**⇑	*e*P		**P**	**09 36 04.5**	**-1.4**	
AKTO	**Aktyubinsk**	**28.72**	**46**	P		**P**	**09 36 06.5**	**-0.2**	
AKTO				pmax	pmax				
	comp=Z,312nm,0.8s								
AKTO	**Aktyubinsk**	**28.72**	**46**	P		**P**	**09 36 06.6**	**-0.2**	
AKTO				S		S	09 41 12.1	+17	
AKTO	**Aktyubinsk**	**28.72**	**46**	P		**P**	**09 36 06.6**	**-0.2**	
	comp=Z,47nm,0.9s,baz=247,slow=9.0,SNR=156								
AKTO				S		S	09 41 12.1	+17	
	comp=Z,17nm,0.8s,baz=229,slow=11,SNR=2.0								
AKTO	**Aktyubinsk**	**28.72**	**46**	P		**P**	**09 36 06.6**	**-0.2**	
ECK	**Cauldkaine Hil**	**28.95**	**325**⇑	*e*P		**P**	**09 36 07.1**	**-1.7**	
ECK	**Cauldkaine Hil**	**28.95**	**325**⇑	*e*P		**P**	**09 36 07.1**	**-1.7**	
JOF	**Joensuu**	**29.02**	**5**	*e*P		**P**	**09 36 07.4**	**-1.9**	
	comp=Z,96nm,0.6s								
JOF	**Joensuu**	**29.02**	**5**	*e*P		**P**	**09 36 07.4**	**-1.9**	
JOF				pmax	pmax				
	comp=Z,96nm,0.6s								
EKA	**Eskdalemuir Ar**	**29.05**	**326**	P		**P**	**09 36 08.6**	**-1.1**	
EKA				PcP		**PcP**	**09 39 17.1**	**-0.5**	
EKA				S		**S**	**09 41 05.7**	**+5.2**	
EKA	**Eskdalemuir Ar**	**29.05**	**326**	P		**P**	**09 36 08.6**	**-1.1**	
	comp=Z,61nm,0.8s,baz=124,slow=9.2,SNR=145								
EKA				PcP		**PcP**	**09 39 17.1**	**-0.5**	
	comp=Z,4.2nm,0.6s,baz=91,slow=3.5,SNR=2.4								
EKA				S		**S**	**09 41 05.7**	**+5.2**	
	comp=Z,0.4nm,0.3s,baz=105,slow=22,SNR=2.8								
EKA	**Eskdalemuir Ar**	**29.05**	**326**	P		**P**	**09 36 08.6**	**-1.1**	
ESK	**Eskdalemuir**	**29.06**	**326**	P		**P**	**09 36 08.5**	**-1.2**	
	comp=Z,1µm,1.1s,SNR=30								
ESK	**Eskdalemuir**	**29.06**	**326**	*i* P		**P**	**09 36 08.5**	**-1.2**	
ESK	**Eskdalemuir**	**29.06**	**326**	PFAKE			09 36 20.0	+10	
ESK				LR		LR			
	comp=Z,48µm,19.0s								
ARQ	**Araqi**	**29.12**	**104**	⇑P		**P**	**09 36 11.3**	**+0.7**	
	SNR=25								
ARQ	**Araqi**	**29.12**	**104**	P		**P**	**09 36 11.3**	**+0.7**	
	SNR=25								
ESY	**Stoneypath**	**29.14**	**327**⇑	*e*P		**P**	**09 36 07.9**	**-2.5**	
ESY	**Stoneypath**	**29.14**	**327**⇑	*e*P		**P**	**09 36 07.9**	**-2.5**	
EBL	**Broad Law**	**29.25**	**326**⇑	*e*P		**P**	**09 36 09.8**	**-1.6**	
EBL	**Broad Law**	**29.25**	**326**⇑	*e*P		**P**	**09 36 09.8**	**-1.6**	
EGD	**Espegrend**	**29.30**	**339**	*e*P		**P**	**09 36 10.1**	**-1.7**	
BER	**Bergen**	**29.36**	**340**	*e*P		**P**	**09 36 09.9**	**-2.4**	
BER				AMB	AMB		09 36 21.1		
	comp=Z,303nm,2.0s								
BER				*e*S		**S**	**09 41 04.0**	**-1.3**	
BER	**Bergen**	**29.36**	**340**	*e*P		**P**	**09 36 09.9**	**-2.4**	
	comp=Z,303nm,2.0s,SNR=28								
BER				*e*S		**S**	**09 41 04.0**	**-1.3**	
	SNR=28								
RUND	**Rundenannen**	**29.38**	**340**	*e*P		**P**	**09 36 10.9**	**-1.6**	
RUND				*e*sP		**sP**	**09 36 18.8**	**+0.4**	
EDI	**Edinburgh**	**29.40**	**327**⇑	*e*P		**P**	**09 36 09.7**	**-3.1**	
EDI				AMB	AMB		09 36 17.8		
	comp=Z,274nm,1.6s								
EDI				AMS	AMS		09 50 24.6		
	comp=Z,54µm,16.3s								
EDI	**Edinburgh**	**29.40**	**327**⇑	*e*P		**P**	**09 36 09.7**	**-3.1**	
ASK	**Askoy**	**29.48**	**340**	*e*P		**P**	**09 36 11.7**	**-1.7**	
ASK				*e*pP		**pP**	**09 36 18.4**	**+0.8**	
AB31	**Akbulak array**	**29.49**	**49**	P		**P**	**09 36 13.6**	**0.0**	
AB31				pmax	pmax				
	comp=Z,61nm,0.5s								
ABKAR	**Akbulak array**	**29.49**	**49**	*e*P		**P**	**09 36 13.6**	**0.0**	
	comp=Z,89nm,0.6s								
ABKAR	**Akbulak array**	**29.49**	**49**	*e*P		**P**	**09 36 13.6**	**0.0**	
	comp=Z,89nm,0.6s								
GAL1	**Galloway**	**29.54**	**324**⇑	*e*P		**P**	**09 36 11.7**	**-2.2**	
GAL1				AMB	AMB		09 36 20.2		
	comp=Z,195nm,1.4s								
GAL1				AMS	AMS		09 51 02.7		
	comp=Z,34µm,14.7s								
GAL1	**Galloway**	**29.54**	**324**⇑	*e*P		**P**	**09 36 11.7**	**-2.2**	
HOQ	**Hoqain**	**29.64**	**102**	⇑P		**P**	**09 36 15.5**	**+0.3**	
	SNR=22								
HOQ	**Hoqain**	**29.64**	**102**	P		**P**	**09 36 15.5**	**+0.3**	
	SNR=22								
DRUM	**Mains of Drumt**	**29.69**	**329**⇑	*e*P		**P**	**09 36 12.9**	**-2.4**	
DRUM				AMB	AMB		09 36 24.0		
	comp=Z,199nm,2.0s								
DRUM				AMS	AMS		09 42 06.7		
	comp=Z,34µm,22.7s								
DRUM	**Mains of Drumt**	**29.69**	**329**⇑	*e*P		**P**	**09 36 12.9**	**-2.4**	
HYA	**Hoyanger**	**29.77**	**341**	*e*P		**P**	**09 36 14.4**	**-1.5**	
HYA				AMB	AMB		09 36 32.2		
	comp=Z,535nm,1.4s								
HYA				*e*S		**S**	**09 41 11.5**	**-0.2**	
HYA				*e*ScP		**ScP**	**09 42 59.6**	**-1.3**	
DOMB	**Dombas**	**29.82**	**344**	*e*P		**P**	**09 36 16.6**	**+0.1**	
PGBU	**Glenifferbraes**	**29.94**	**326**⇑	*e*P		**P**	**09 36 16.2**	**-1.3**	
PGBU				AMB	AMB		09 36 31.7		
	comp=Z,210nm,1.7s								
PGBU				AMS	AMS		09 50 39.7		
	comp=Z,46µm,16.6s								
PGBU	**Glenifferbraes**	**29.94**	**326**⇑	*e*P		**P**	**09 36 16.2**	**-1.3**	
BSY	**Bisya**	**29.95**	**104**	P		**P**	**09 36 18.9**	**+0.8**	
	SNR=29								
ELO	**Logie Almond**	**29.96**	**327**⇑	*e*P		**P**	**09 36 16.2**	**-1.5**	
ELO	**Logie Almond**	**29.96**	**327**⇑	*e*P		**P**	**09 36 16.2**	**-1.5**	
BSYO	**Bisya**	**29.99**	**104**	P		**P**	**09 36 18.9**	**+0.6**	
	SNR=29								
SUE	**Sulen**	**30.08**	**340**⇑	*i* P		**P**	**09 36 17.1**	**-1.6**	
SUE				*e*pP		**pP**	**09 36 23.0**	**+0.2**	
SUE	**Sulen**	**30.08**	**340**⇑	*i* P		**P**	**09 36 17.1**	**-1.6**	
	SNR=27								
SUE				*e*pP		**pP**	**09 36 23.0**	**+0.2**	
	SNR=153								
EAB	**Aberfoyle**	**30.09**	**326**⇑	*e*P		**P**	**09 36 17.3**	**-1.5**	
EAB	**Aberfoyle**	**30.09**	**326**⇑	*e*P		**P**	**09 36 17.3**	**-1.5**	
TOA0	**Torodi Ar. Sit**	**30.09**	**232**	*e*P		**P**	**09 36 17.9**	**-1.4**	
TOA0	**Torodi Ar. Sit**	**30.09**	**232**	*e*P		**P**	**09 36 17.9**	**-1.4**	
TORD	**Torodi Ar. Bea**	**30.09**	**232**	P		**P**	**09 36 18.0**	**-1.3**	
TORD				S		**S**	**09 41 16.1**	**-1.5**	
TORD	**Torodi Ar. Bea**	**30.09**	**232**	P		**P**	**09 36 18.0**	**-1.3**	
	comp=Z,22nm,0.7s,baz=32,slow=8.5,SNR=118								
TORD				S		**S**	**09 41 16.1**	**-1.5**	
	comp=Z,29nm,1.3s,baz=32,slow=14,SNR=3.8								
TORD				LR		LR	09 50 35.2		
	comp=Z,170µm,18.6s,baz=35,slow=41								
TORD	**Torodi Ar. Bea**	**30.09**	**232**	P		**P**	**09 36 18.0**	**-1.3**	
TORD				S		**S**	**09 41 16.1**	**-1.5**	
MME1	**Meikle Cairn**	**30.14**	**329**⇑	*e*P		**P**	**09 36 16.4**	**-2.9**	
MME1	**Meikle Cairn**	**30.14**	**329**⇑	*e*P		**P**	**09 36 16.4**	**-2.9**	
MCD	**Coleburn Disti**	**30.43**	**329**⇑	*e*P		**P**	**09 36 19.7**	**-2.2**	
MCD	**Coleburn Disti**	**30.43**	**329**⇑	*e*P		**P**	**09 36 19.7**	**-2.2**	
SMDO	**Samad**	**30.48**	**103**	P		**P**	**09 36 23.3**	**+0.5**	
	SNR=18								
SMDO	**Samad**	**30.48**	**103**	P		**P**	**09 36 23.3**	**+0.5**	
	SNR=18								
MOL	**Molde**	**30.63**	**344**	*e*P		**P**	**09 36 22.0**	**-1.5**	
MOL				AMB	AMB		09 36 40.1		
	comp=Z,398nm,2.0s								
MOL				*e*S		**S**	**09 41 24.5**	**-0.6**	
MOL	**Molde**	**30.63**	**344**	*e*P		**P**	**09 36 22.0**	**-1.5**	
	comp=Z,398nm,2.0s,SNR=27								
MOL				*e*S		**S**	**09 41 24.5**	**-0.6**	
	SNR=28								
TBLU	**Trondheim**	**30.65**	**346**	*e*P		**P**	**09 36 23.1**	**-0.7**	
TBLU				AMB	AMB		09 36 43.2		
	comp=Z,310nm,1.0s								
TBLU				*e*S		**S**	**09 41 28.8**	**+3.3**	
TBLU	**Trondheim**	**30.65**	**346**	*e*P		**P**	**09 36 23.1**	**-0.7**	
	comp=Z,310nm,1.0s,SNR=27								
TBLU				*e*S		**S**	**09 41 28.8**	**+3.3**	
	SNR=28								
MDO	**Dochfour**	**30.82**	**328**⇑	*e*P		**P**	**09 36 22.5**	**-2.8**	
MDO	**Dochfour**	**30.82**	**328**⇑	*e*P		**P**	**09 36 22.5**	**-2.8**	
JMDO	**Jabal Madar**	**30.86**	**104**	⇓P		**P**	**09 36 26.1**	**0.0**	
	SNR=23								
JMDO	**Jabal Madar**	**30.86**	**104**	P		**P**	**09 36 26.1**	**0.0**	
	SNR=23								
TMCR	**Tamitsa**	**31.02**	**11**	*e*P		**P**	**09 36 25.2**	**-1.7**	
TMCR				*e*			09 37 25.2		
TMCR				*e*S		**S**	**09 41 26.9**	**-4.2**	
TMCR				pmax	pmax				
	comp=Z,301nm,1.2s								
MVH1	**Achvaich**	**31.03**	**329**⇑	*e*P		**P**	**09 36 24.9**	**-2.3**	
MVH1	**Achvaich**	**31.03**	**329**⇑	*e*P		**P**	**09 36 24.9**	**-2.3**	
KSB	**Sheil Bridge**	**31.16**	**327**⇑	*e*P		**P**	**09 36 26.3**	**-1.9**	
KSB	**Sheil Bridge**	**31.16**	**327**⇑	*e*P		**P**	**09 36 26.3**	**-1.9**	
VAL	**Valentia**	**31.21**	**316**	*e*P		**P**	**09 36 27.7**	**-1.0**	
VAL	**Valentia**	**31.21**	**316**⇓	*i* S		**S**	**09 41 39.6**	**+5.2**	
KAC	**Achnashellach**	**31.27**	**328**⇑	*e*P		**P**	**09 36 26.9**	**-2.4**	
KAC	**Achnashellach**	**31.27**	**328**⇑	*e*P		**P**	**09 36 26.9**	**-2.4**	
LRW	**Lerwick**	**31.30**	**334**⇑	*e*P		**P**	**09 36 26.6**	**-2.8**	
LRW				AMB	AMB		09 36 36.1		
	comp=Z,199nm,3.7s								
LRW				AMS	AMS		09 50 32.7		
	comp=Z,62µm,18.9s								
LRW	**Lerwick**	**31.30**	**334**⇑	*e*P		**P**	**09 36 26.6**	**-2.8**	
KPL	**Plockton**	**31.33**	**327**⇑	*e*P		**P**	**09 36 27.5**	**-2.3**	
KPL				AMB	AMB		09 36 35.6		
	comp=Z,151nm,1.5s								
KPL				AMS	AMS		09 51 43.2		
	comp=Z,59µm,15.5s								
KPL	**Plockton**	**31.33**	**327**⇑	*e*P		**P**	**09 36 27.5**	**-2.3**	
WBK	**Wadi Bani Khal**	**31.44**	**103**	⇑P		**P**	**09 36 32.7**	**+1.5**	
	SNR=19								
WBK	**Wadi Bani Khal**	**31.44**	**103**	P		**P**	**09 36 32.7**	**+1.5**	
	SNR=19								
NSS	**Namsos**	**31.53**	**349**	*e*P		P	09 36 35.7	+4.2	
NSS				*e*S		**S**	**09 41 37.7**	**-1.4**	
NSS				AMS	AMS		09 51 03.7		
	comp=Z,12µm,18.8s								
ARU	**Arti**	**31.69**	**35***c*	*i* P		**P**	**09 36 32.2**	**-0.8**	
ARU							09 37 35.9		
ARU				PPP	PPP		09 37 49.6		
ARU							09 39 25.6		
ARU				S		**S**	**09 41 40.6**	**-1.3**	
ARU				SS		**SnSn**	**09 43 35.8**	**+7.5**	
ARU				pmax	pmax				
	comp=Z,110nm,1.7s								
ARU				MLR	MLR				
	comp=Z,35µm,15.0s								
ARU	**Arti**	**31.69**	**35**	P		**P**	**09 36 32.2**	**-0.8**	
	comp=Z,2µm,1.2s,SNR=49								
SOKR	**Solikamsk**	**32.68**	**29***c*	*i* P		**P**	**09 36 40.9**	**-0.7**	
SOKR				S		**S**	**09 42 01.2**	**+4.0**	
SOKR				pmax	pmax				
	comp=Z,470nm,0.9s								
SOKR				MLR	MLR				
	comp=Z,56µm,17.0s								
MOR8	**Moi Rana**	**32.73**	**352**	*e*P		**P**	**09 36 40.6**	**-1.5**	
MOR8				*e*pP		**pP**	**09 36 48.4**	**+2.1**	
MOR8				AMB	AMB		09 36 50.0		
	comp=Z,149nm,1.4s								
MOR8	**Moi Rana**	**32.73**	**352**	*e*P		**P**	**09 36 40.6**	**-1.5**	
	SNR=27								
MOR8				*e*pP		**pP**	**09 36 48.4**	**+2.1**	
	comp=Z,149nm,1.4s,SNR=153								
SVE	**Sverdlovsk**	**32.88**	**36***d*	*i* P		**P**	**09 36 43.2**	**-0.2**	
SVE				*e*S		**S**	**09 42 04.3**	**+3.8**	
SVE				pmax	pmax				
	comp=Z,466nm,1.1s								
SVE				pmax	pmax				
	comp=Z,4µm,14.8s								
SVE				MLR	MLR				
	comp=E,34µm,14.0s								
SVE				MLR	MLR				
	comp=Z,45µm,14.0s								
FLOS	**Flostrand**	**33.03**	**351**	*e*P		**P**	**09 36 42.3**	**-2.2**	
FLOS				AMB	AMB		09 36 52.0		
	comp=Z,592nm,1.1s								
STOK	**Stokkvaagen**	**33.07**	**351**	*e*P		**P**	**09 36 43.8**	**-1.1**	
KONS	**Konsvik**	**33.21**	**351**	*e*P		**P**	**09 36 44.6**	**-1.5**	
APA	**Apatity**	**33.77**	**5**⇑	*i*P		**P**	**09 36 49.0**	**-2.1**	
APA				*i*			09 36 59.0		
APA				*i* S		**S**	**09 42 10.0**	**-4.0**	
APA				*e*SS		**SnSn**	**09 44 12.0**	**-6.6**	
APA				pmax	pmax				
	comp=Z,180nm,1.0s								
APA				MLR	MLR				
	comp=Z,59µm,14.0s								
LVZ	**Lovozero**	**34.20**	**6***c*	*i* P		**P**	**09 36 53.0**	**-1.8**	
LVZ				pmax	pmax				
	comp=Z,85nm,0.7s								
LVZ				MLR	MLR				
	comp=Z,28µm,14.0s								
LVZ	**Lovozero**	**34.20**	**6**	P		**P**	**09 36 53.3**	**-1.5**	
	comp=Z,2µm,0.9s,SNR=31								
STEI	**Steigen**	**34.34**	**353**	*e*P		**P**	**09 36 53.9**	**-2.1**	
STEI				AMB	AMB		09 37 03.4		
	comp=Z,339nm,0.9s								
SOFL	**Sornfelli, Far**	**34.69**	**334**	*e*P		P	09 36 55.9	-3.2	
SOFL				AMB	AMB		09 37 13.6		
	comp=Z,146nm,2.2s								
SOFL				AMS	AMS		09 43 10.5		
	comp=Z,15µm,33.3s								
LOF	**Lofoten**	**34.72**	**352**	*e*P		**P**	**09 36 56.8**	**-2.4**	
LOF				AMB	AMB		09 37 12.3		
	comp=Z,202nm,1.4s								
MBAR	**Mbarara**	**34.91**	**171**	P		**P**	**09 37 00.1**	**-1.5**	
	comp=Z,223nm,1.5s,SNR=9.6								
MBAR	**Mbarara**	**34.91**	**171**	*e*P		**P**	**09 37 00.8**	**-0.9**	
MBAR	**Mbarara**	**34.91**	**171**	P		**P**	**09 37 00.7**	**-0.9**	
MBAR				S		**S**	**09 42 33.7**	**+0.9**	
MBAR	**Mbarara**	**34.91**	**171**	P		**P**	**09 37 00.7**	**-0.9**	
	comp=Z,11nm,0.7s,baz=3.2,slow=11,SNR=13								
MBAR				S		**S**	**09 42 33.7**	**+0.9**	
	comp=Z,1.8nm,0.2s,baz=198,slow=20,SNR=2.0								
MBAR				LR	LR		09 53 18.6		
	comp=Z,60µm,18.5s,baz=354,slow=40								
MBAR	**Mbarara**	**34.91**	**171**	P		**P**	**09 37 00.7**	**-0.9**	
MBAR				S		**S**	**09 42 33.7**	**+0.9**	
KTK1	**Kautokeino**	**34.94**	**359**	*e*P		**P**	**09 36 59.1**	**-2.0**	
KTK1				AMB	AMB		09 37 08.6		
	comp=Z,3µm,1.2s								
KTK1	**Kautokeino**	**34.94**	**359**	*e*P		**P**	**09 36 59.1**	**-2.0**	
	comp=Z,3µm,1.2s,SNR=27								
PMAR	**Madeira**	**35.27**	**280**	*e*P		**P**	**09 37 06.1**	**+1.4**	
	comp=Z,600nm,1.9s								
PMAR	**Madeira**	**35.27**	**280**	*e*P		**P**	**09 37 06.1**	**+1.4**	
	comp=Z,600nm,1.9s								
ARCES	**ARCESS Array B**	**35.44**	**360**	P		**P**	**09 37 03.4**	**-2.1**	
ARCES				S		**S**	**09 42 41.7**	**+2.0**	
ARCES	**ARCESS Array B**	**35.44**	**360**	P		**P**	**09 37 03.4**	**-2.1**	
	comp=Z,68nm,0.8s,baz=184,slow=8.3,SNR=158								
ARCES				S		**S**	**09 42 41.7**	**+2.0**	
	comp=Z,11nm,0.9s,baz=170,slow=21,SNR=2.4								
ARCES				LR	LR		09 53 04.7		
	comp=Z,63µm,18.3s,baz=175,slow=39								
ARCES	**ARCESS Array B**	**35.44**	**360**	P		**P**	**09 37 03.4**	**-2.1**	
ARCES				S		**S**	**09 42 41.7**	**+2.0**	
ARE0	**ARCESS Array S**	**35.44**	**360**⇑	*i*P		**P**	**09 37 03.1**	**-2.3**	
ARE0				*e*S		**S**	**09 42 40.3**	**+0.6**	
ARE0	**ARCESS Array S**	**35.44**	**360**	*e*P		**P**	**09 37 03.6**	**-1.9**	
ARE0				*e*S		**S**	**09 42 36.1**	**-3.6**	
ARE0	**ARCESS Array S**	**35.44**	**360**⇑	*i*P		**P**	**09 37 03.2**	**-2.3**	
	SNR=27								
ARE0				*e*S		**S**	**09 42 40.3**	**+0.6**	
	SNR=28								
PMOZ	**Porto Moniz, M**	**35.48**	**280**	*e*P		**P**	**09 37 08.3**	**+1.9**	
	comp=Z,460nm,1.4s								
PMOZ				*e*S		**S**	**09 42 46.5**	**+5.2**	
PMOZ				*e*LR		LR	09 50 11.2		
	comp=Z,11µm,20.0s								
PMOZ	**Porto Moniz, M**	**35.48**	**280**	*e*P		**P**	**09 37 08.3**	**+1.9**	
	comp=Z,460nm,1.4s								
PMOZ				*e*S		**S**	**09 42 46.5**	**+5.2**	
KEV	**Kevo**	**35.67**	**1**	*e*P		**P**	**09 37 05.2**	**-2.2**	
	comp=Z,87nm,0.7s								
KEV	**Kevo**	**35.67**	**1**	*e*P		**P**	**09 37 05.1**	**-2.3**	
KEV				*e*S		**S**	**09 42 37.9**	**-5.3**	
KEV				pmax	pmax				
	comp=Z,433nm,1.4s								
KEV				MLR	MLR				
	comp=Z,67µm,22.0s								
KEV	**Kevo**	**35.67**	**1**	*e*P		**P**	**09 37 05.1**	**-2.3**	
	comp=Z,433nm,1.4s								
KEV				*e*S		**S**	**09 42 37.9**	**-5.3**	
KEV				LR	LR				
	comp=Z,67µm,22.0s								
KEV	**Kevo**	**35.67**	**1**	*e*P		**P**	**09 37 05.1**	**-2.3**	
	comp=Z,433nm,1.4s								
KBL	**Kabul**	**35.72**	**77**	*e*P		**P**	**09 37 08.8**	**+0.3**	
KBL				pmax	pmax				
	comp=Z,209nm,1.4s								
KBL	**Kabul**	**35.72**	**77**	*e*P		**P**	**09 37 08.8**	**+0.3**	
	comp=Z,209nm,1.4s								
KBL	**Kabul**	**35.72**	**77**	*e*P		**P**	**09 37 08.8**	**+0.3**	
	comp=Z,209nm,1.4s								
TRO	**Tromso**	**35.73**	**356**	*e*P		**P**	**09 37 05.2**	**-2.7**	
TRO				*e*S		**S**	**09 42 45.4**	**+1.4**	
TRO	**Tromso**	**35.73**	**356**	*e*P		**P**	**09 37 05.2**	**-2.7**	
	SNR=27								
TRO				*e*S		**S**	**09 42 45.4**	**+1.4**	
	SNR=28								
KK31	**Karatay Array**	**35.89**	**62**	*i* P		**P**	**09 37 09.7**	**0.0**	
KK31				pmax	pmax				
	comp=Z,204nm,0.9s								
KKAR	**Karatay Array**	**35.89**	**62**	*e*P		**P**	**09 37 09.8**	**+0.1**	
KKAR	**Karatay Array**	**35.89**	**62**	*e*P		**P**	**09 37 09.8**	**+0.1**	
	comp=Z,0.1nm,0.8s								
KKAR	**Karatay Array**	**35.89**	**62**	*e*P		**P**	**09 37 09.8**	**+0.1**	
	comp=Z,0.1nm,0.8s								
ZRNK	**Zerenda**	**35.99**	**45**	P		**P**	**09 37 10.4**	**0.0**	
ZRNK				pmax	pmax				
	comp=Z,661nm,1.3s								
BRVK	**Borovoye**	**36.77**	**45**	P		**P**	**09 37 17.4**	**+0.3**	
	comp=Z,2µm,1.0s,SNR=53								
BRVK	**Borovoye**	**36.77**	**45***c*	*i* P		**P**	**09 37 17.3**	**+0.2**	
BRVK				pmax	pmax				
	comp=Z,146nm,1.7s								
BRVK				MLR	MLR				
	comp=Z,55µm,21.0s								
BRVK	**Borovoye**	**36.77**	**45**	P		**P**	**09 37 17.8**	**+0.7**	
	SNR=210								
BRVK	**Borovoye**	**36.77**	**45**	PFAKE			09 37 30.0	+13	
BRVK				LR	LR				
	comp=Z,52µm,21.0s								
BRVK	**Borovoye**	**36.77**	**45**	P		**P**	**09 37 17.8**	**+0.7**	
	SNR=210								
KMBO	**Kilima Mbogo**	**36.77**	**160**	*e*P		**P**	**09 37 15.1**	**-2.6**	
KMBO	**Kilima Mbogo**	**36.77**	**160**	⇑P		**P**	**09 37 19.3**	**+1.6**	
	SNR=7.9								
KMBO	**Kilima Mbogo**	**36.77**	**160**	P		**P**	**09 37 18.4**	**+0.7**	
KMBO				*e*PcP		**PcP**	**09 39 44.9**	**+4.9**	
KMBO				*e*S		**S**	**09 42 57.9**	**-3.6**	
KMBO				S		**S**	**09 43 01.2**	**-0.3**	
KMBO	**Kilima Mbogo**	**36.77**	**160**	P		**P**	**09 37 18.4**	**+0.7**	
	comp=Z,4.8nm,0.8s,baz=3.6,slow=8.8,SNR=4.3								
KMBO				S		**S**	**09 43 01.2**	**-0.3**	
	comp=Z,1.6nm,0.7s,ba

KZA	**Kyzart**	39.44	63	P		**P**		**09 37 41.0**	**+0.8**
	SNR=50								
TKM2	**Tokmak 2**	39.62	62	*i* P		**P**		**09 37 41.9**	**+0.4**
TKM2	**Tokmak 2**	39.62	62	P		**P**		**09 37 42.0**	**+0.4**
	SNR=29								
TKM2	**Tokmak 2**	39.62	62	*e*P		**P**		**09 37 41.7**	**+0.2**
	comp=Z,95nm,0.8s								
TKM2				LR		LR			
	comp=Z,29µm,20.0s								
TKM2	**Tokmak 2**	39.62	62	*e*P		**P**		**09 37 41.7**	**+0.2**
	comp=Z,95nm,0.8s								
LIC	**Lamto**	39.64	232	*e*P		P		09 37 38.0	-3.6
	comp=Z,326nm,0.9s,baz=49								
LIC				*e*R					
	comp=Z,173µm,18.5s								
LIC	**Lamto**	39.64	232	*e*P		P		09 37 38.0	-3.6
	comp=Z,163nm,0.9s								
BHJ	**Bhuj**	39.92	94	*e*P		**P**		**09 37 43.4**	**-0.5**
BHJ				AMB		AMB		09 38 02.4	
	comp=Z,302nm,1.6s								
ULHL	**Ulahol**	40.16	63	*i* P		**P**		**09 37 47.1**	**+1.2**
ULHL	**Ulahol**	40.16	63	P		**P**		**09 37 47.1**	**+1.2**
	SNR=22								
KSH	**Kashi**	40.29	67	P		**P**		**09 37 45.8**	**-1.2**
KSH				pP		**pP**		**09 37 50.8**	**-0.5**
KSH				sP		**sP**		**09 37 53.8**	**+0.8**
KSH				PP		**PnPn**		**09 39 22.5**	**-0.8**
KSH				S		**S**		**09 43 52.6**	**-1.6**
KSH				sS		**sS**		**09 43 58.4**	**-2.8**
KSH				SS		SS		09 46 41.3	-11
KSH				pmax		pmax			
	comp=Z,270nm,4.5s								
KSH				LR		LR			
	comp=N,15µm,18.1s								
KSH				LR		LR			
	comp=E,8µm,16.1s								
KSH				LR		LR			
	comp=Z,19µm,26.2s								
BJO	**Bjornoya**	40.56	357	*e*P		**P**		**09 37 46.4**	**-2.1**
BJO				*e*S		**S**		**09 43 56.8**	**-0.2**
BJO	**Bjornoya**	40.56	357	*e*P		**P**		**09 37 46.4**	**-2.1**
	SNR=26								
BJO				*e*S		**S**		**09 43 56.8**	**-0.2**
	SNR=27								
AAA	**Alma-Ata**	40.58	61	*e*P		**P**		**09 37 49.8**	**+0.6**
AAA				*e*S		**S**		**09 44 02.9**	**+4.6**
AAA				pmax		pmax			
	comp=Z,5µm,9.9s								
AAA				smax		smax			
	comp=E,14µm,13.9s								
BART	**Pico Bartolome**	40.80	290	*e*P		P		09 37 54.9	+3.8
	comp=E,174nm,1.1s								
BART	**Pico Bartolome**	40.80	290	*e*P		P		09 37 54.9	+3.8
	comp=E,174nm,1.1s								
PSMN	**Pico do Norte,**	40.87	289	*e*P		**P**		**09 37 54.4**	**+2.8**
	comp=E,195nm,1.0s								
PSMN	**Pico do Norte,**	40.87	289	*e*P		**P**		**09 37 54.4**	**+2.8**
	comp=E,195nm,1.0s								
PSMA	**Santa Maria**	40.92	289	*e*P		P		09 37 56.1	+4.1
	comp=E,336nm,1.2s								
CMLA	**Cha da Macela**	41.08	290	*e*P		P		09 37 58.6	+5.2
	comp=E,236nm,1.1s								
CMLA	**Cha da Macela**	41.08	290	PFAKE				09 38 00.0	+6.6
CMLA				LR		LR			
	comp=Z,14µm,21.0s								
CMLA	**Cha da Macela**	41.08	290	*e*P		P		09 37 58.6	+5.2
	comp=Z,236nm,1.1s								
JMIC	**Jan Mayen**	41.14	344	⇑*i*P		**P**		**09 37 53.2**	**-0.2**
JMIC				AMB		AMB		09 38 13.1	
	comp=Z,1µm,1.8s								
JMIC				*e*S		**S**		**09 44 10.1**	**+4.3**
JMIC				*e*SS		**SS**		**09 47 07.1**	**-1.2**
JMIC	**Jan Mayen**	41.14	344	P		**P**		**09 37 53.4**	**0.0**
JMIC				S		**S**		**09 44 09.3**	**+3.6**
JMIC	**Jan Mayen**	41.14	344	P		**P**		**09 37 53.4**	**0.0**
	comp=Z,198nm,0.8s,baz=124,slow=8.2,SNR=14								
JMIC				S		**S**		**09 44 09.4**	**+3.6**
	comp=Z,39nm,0.8s,baz=180,slow=10,SNR=2.7								
JMIC				LR		LR		09 57 00.8	
	comp=Z,29µm,18.6s,baz=131,slow=39								
JMIC	**Jan Mayen**	41.14	344	P		**P**		**09 37 53.4**	**0.0**
JMIC				*e*SS		SS		09 47 07.1	-1.1
	SNR=37								
JNW	**Jan Mayen West**	41.15	344	*e*P		**P**		**09 37 54.0**	**+0.5**
JNW	**Jan Mayen West**	41.15	344	*e*P		**P**		**09 37 54.0**	**+0.5**
	SNR=2.0								
PDA	**Ponta Delgada**	41.19	290	*e*P		P		09 37 58.9	+4.7
	comp=Z,438nm,0.5s								
PDA	**Ponta Delgada**	41.19	290	*e*P		P		09 37 58.9	+4.7
	comp=Z,438nm,0.5s								
PSET	**Sete Cidades**	41.22	290	*e*P		P		09 38 05.8	+11
	comp=Z,417nm,1.1s								
PSET	**Sete Cidades**	41.22	290	*e*P		P		09 38 05.8	+11
	comp=Z,417nm,1.1s								
KURBB	**Kurchatov Arra**	41.52	50	P		**P**		**09 37 57.1**	**+0.4**
	comp=Z,136nm,0.8s,baz=277,slow=8.7,SNR=1035								
KURBB				S		**S**		**09 44 15.0**	**+3.1**
	comp=Z,5.0nm,1.0s,baz=266,slow=5.7,SNR=4.3								
KURK	**Kurchatov**	41.58	50	P		**P**		**09 37 57.1**	**-0.2**
	comp=Z,2µm,1.7s,SNR=85								
KURK	**Kurchatov**	41.58	50	P		**P**		**09 37 57.2**	**-0.1**
KURK				S		**S**		**09 44 15.0**	**+2.2**
KURK				pmax		pmax			
	comp=Z,136nm,0.8s								
KURK				smax		smax			
	comp=N,5.0nm,1.0s								
KURK	**Kurchatov**	41.58	50	P		**P**		**09 37 57.1**	**-0.1**
KURK				S		**S**		**09 44 15.0**	**+2.2**
KURK	**Kurchatov**	41.58	50	P		**P**		**09 37 57.2**	**-0.1**
KURK				S		**S**		**09 44 15.0**	**+2.2**
BORG	**Borgarnes**	41.59	332	P		**P**		**09 37 58.0**	**+0.9**
	comp=N,856nm,1.2s,SNR=13								
BORG	**Borgarnes**	41.59	332	P		**P**		**09 37 56.9**	**-0.2**
BORG				S		**S**		**09 44 16.7**	**+4.2**
BORG	**Borgarnes**	41.59	332	P		**P**		**09 37 56.9**	**-0.2**
	comp=N,54nm,1.0s,baz=131,slow=9.0,SNR=32								
BORG				S		**S**		**09 44 16.7**	**+4.2**
	comp=N,7.1nm,1.0s,baz=154,slow=6.2,SNR=1.7								
BORG				LR		LR		09 57 26.6	
	comp=N,40µm,19.2s,baz=116,slow=39								
BORG	**Borgarnes**	41.59	332	P		**P**		**09 37 56.9**	**-0.2**
THN	**Thein Dam**	41.64	78	*e*P		**P**		**09 37 55.4**	**-2.6**
THN				*ex*		x		09 44 20.5	
DLH	**Dalhousie**	41.81	78	*e*P		**P**		**09 38 00.0**	**+0.3**
DLH				*ex*		x		09 38 11.0	
DHRM	**DHARAMSHALA**	42.16	78	*e*P		**P**		**09 38 03.5**	**+0.9**
ADH	**Angra Heroismo**	42.23	292	*e*P		P		09 38 09.3	+6.5
	comp=N,314nm,1.3s								
ADH	**Angra Heroismo**	42.23	292	*e*P		P		09 38 09.3	+6.5
	comp=N,314nm,1.3s								
BHK	**Bhakra**	42.51	79	*e*P		**P**		**09 38 05.0**	**-0.1**
BBTS	**Babate**	42.58	253	P		**P**		**09 38 06.2**	**+0.5**
BBTS				S		**S**		**09 44 33.5**	**+5.3**
BBTS	**Babate**	42.58	253	P		**P**		**09 38 06.2**	**+0.5**
	comp=N,124nm,0.8s,baz=88,slow=8.7,SNR=13								
BBTS				S		**S**		**09 44 33.5**	**+5.3**
	comp=N,17nm,0.8s,baz=73,slow=19,SNR=2.7								
BBTS				LR		LR		10 00 01.6	
	comp=N,38µm,18.2s,baz=239,slow=42								
BBTS	**Babate**	42.58	253	P		**P**		**09 38 06.2**	**+0.5**
PGRA	**Graciosa**	42.74	293	*e*P		P		09 38 12.9	+6.0
	comp=N,136nm,1.2s								
PGRA	**Graciosa**	42.74	293	*e*P		P		09 38 12.9	+6.0
	comp=N,136nm,1.2s								
PMAN	**Manadas**	42.90	292	*e*P		P		09 38 14.1	+5.9
	comp=N,383nm,1.5s								
PMAN	**Manadas**	42.90	292	*e*P		P		09 38 14.1	+5.9
	comp=N,383nm,1.5s								
SDNR	**Sundarnagar**	42.93	79	*e*P		**P**		**09 38 08.0**	**-0.6**
SDNR				*ex*		x		09 44 31.0	
ROSA	**Rosais**	43.00	292	*e*P		**P**		**09 38 11.9**	**+2.9**
	comp=N,240nm,1.2s								
ROSA	**Rosais**	43.00	292	*e*P		**P**		**09 38 11.9**	**+2.9**
	comp=N,240nm,1.2s								
PICO	**Pico**	43.18	292	*e*P		P		09 38 13.9	+3.3
PICO	**Pico**	43.18	292	*e*P		P		09 38 13.9	+3.3
SMLA	**Simla**	43.20	79	*i* P		**P**		**09 38 11.5**	**+0.8**
PCED	**Cedros**	43.37	292	*e*P		**P**		**09 38 14.7**	**+2.7**
	comp=N,257nm,1.6s								
PCED	**Cedros**	43.37	292	*e*P		**P**		**09 38 14.7**	**+2.7**
	comp=N,257nm,1.6s								
CALA	**Caldeira**	43.38	292	*e*P		P		09 38 16.1	+3.9
CALA	**Caldeira**	43.38	292	*e*P		P		09 38 16.1	+3.9
NDI	**New Delhi**	44.06	82	*e*P		**P**		**09 38 18.0**	**+0.3**
NDI				*ex*		x		09 44 56.0	
MK31	**Makanchi Array**	44.08	56	P		**P**		**09 38 18.0**	**+0.4**
MK31						pmax		pmax	
	comp=Z,148nm,0.5s								
MK31	**Makanchi Array**	44.08	56	*e*P		**P**		**09 38 18.0**	**+0.4**
MK31	**Makanchi Array**	44.08	56	*e*P		**P**		**09 38 18.0**	**+0.4**
MKAR	**Makanchi Array**	44.08	56	P		**P**		**09 38 18.1**	**+0.4**
MKAR				S		**S**		**09 44 54.2**	**+4.5**
MKAR				pmax		pmax			
	comp=Z,128nm,0.7s								
MKAR				smax		smax			
	comp=N,6.0nm,1.0s								
MKAR	**Makanchi Array**	44.08	56	P		**P**		**09 38 18.1**	**+0.4**
MKAR				S		**S**		**09 44 54.2**	**+4.5**
MKAR	**Makanchi Array**	44.08	56	P		**P**		**09 38 18.1**	**+0.4**
	comp=N,128nm,0.7s,baz=279,slow=6.4,SNR=1206								
MKAR				S		**S**		**09 44 54.2**	**+4.5**
	comp=N,5.7nm,1.0s,baz=283,slow=19,SNR=2.6								
MKAR	**Makanchi Array**	44.08	56	P		**P**		**09 38 18.0**	**+0.4**
DDI	**Dehra Dun**	44.19	80	*e*P		**P**		**09 38 17.3**	**-1.5**
DDI				AMB		AMB		09 38 36.4	
	comp=Z,973nm,2.7s								
SPA0	**Spitsbergen Ar**	44.31	357	*e*P		**P**		**09 38 17.9**	**-1.2**
SPA0				*e*S		**S**		**09 44 52.5**	**+0.2**
SPA0				*e*SS		**SS**		**09 48 10.3**	**-0.2**
SPA0	**Spitsbergen Ar**	44.31	357	*e*P		**P**		**09 38 17.9**	**-1.2**
	SNR=25								
SPA0				*e*S		**S**		**09 44 52.5**	**+0.2**
	SNR=26								
SPA0				*e*SS		**SS**		**09 48 10.3**	**-0.2**
	SNR=36								
SPITS	**Spitsbergen Ar**	44.31	357	P		**P**		**09 38 18.0**	**-1.1**
SPITS				S		**S**		**09 44 53.1**	**+0.8**
SPITS	**Spitsbergen Ar**	44.31	357	P		**P**		**09 38 18.0**	**-1.1**
	comp=Z,36nm,0.7s,baz=148,slow=9.8,SNR=23								
SPITS				S		**S**		**09 44 53.1**	**+0.8**
	comp=Z,13nm,1.0s,baz=130,slow=30,SNR=1.9								
SPITS				LR		LR		09 58 54.7	
	comp=Z,83µm,20.8s,baz=170,slow=39								
SPITS	**Spitsbergen Ar**	44.31	357	P		**P**		**09 38 18.0**	**-1.1**
SPITS				S		**S**		**09 44 53.1**	**+0.8**
SCO	**Scoresbysund**	44.39	339	*i* P		**P**		**09 38 20.1**	**+0.4**
	comp=Z,154nm,0.8s								
SCO									
	comp=Z,23µm,18.0s								
SCO	**Scoresbysund**	44.39	339	*i* P		**P**		**09 38 20.1**	**+0.4**
	comp=Z,154nm,0.8s,SNR=25								
NVS	**Novosibirsk**	44.59	44	*e*P		**P**		**09 38 20.5**	**-1.0**
NVS				*i*				09 40 08.3	
NVS				*e*S		**S**		**09 44 52.6**	**-4.2**
NVS				pmax		pmax			
	comp=Z,770nm,1.3s								
NVS				pmax		pmax			
	comp=N,129nm,1.4s								
NVS				pmax		pmax			
	comp=E,285nm,1.0s								
NVS				smax		smax			
	comp=N,400nm,2.8s								
NVS				smax		smax			
	comp=E,250nm,2.6s								
KBS	**Kingsbay**	45.25	356	⇑*i*P		**P**		**09 38 25.0**	**-1.5**
KBS				AMB		AMB		09 38 34.9	
	comp=Z,298nm,0.7s								
KBS				*e*S		**S**		**09 45 04.1**	**-1.7**
KBS	**Kingsbay**	45.25	356	*e*P		**P**		**09 38 25.2**	**-1.3**
KBS				*e*S		**S**		**09 45 03.0**	**-2.8**
KBS				pmax		pmax			
	comp=Z,189nm,0.9s								
KBS				MLR		MLR			
	comp=Z,74µm,20.0s								
KBS	**Kingsbay**	45.25	356	*e*P		**P**		**09 38 25.2**	**-1.3**
	comp=Z,188nm,0.9s								
KBS				*e*S		**S**		**09 45 03.0**	**-2.8**
KBS				LR		LR			
	comp=Z,74µm,20.0s								
KBS	**Kingsbay**	45.25	356	⇑*i*P		**P**		**09 38 25.0**	**-1.5**
	comp=Z,298nm,0.7s,SNR=24								
KBS				*e*S		**S**		**09 45 04.1**	**-1.7**
	SNR=26								
ZAA0	**Zalesovo Array**	45.48	45	*e*P		**P**		**09 38 28.4**	**-0.3**
ZAA0				S		**S**		**09 45 14.4**	**+4.6**
ZAA0	**Zalesovo Array**	45.48	45	*e*P		**P**		**09 38 28.4**	**-0.3**
ZALV	**Zalesovo Beam**	45.48	45	*i* P		**P**		**09 38 28.3**	**-0.4**
ZALV				pmax		pmax			
	comp=Z,70nm,0.7s								
ZALV	**Zalesovo Beam**	45.48	45	P		**P**		**09 38 28.4**	**-0.3**
ZALV				S		**S**		**09 45 14.6**	**+4.8**
ZALV	**Zalesovo Beam**	45.48	45	P		**P**		**09 38 28.4**	**-0.3**
	comp=Z,70nm,0.7s,baz=266,slow=9.2,SNR=235								
ZALV				S		**S**		**09 45 14.6**	**+4.8**
	comp=Z,8.0nm,0.8s,baz=273,slow=5.5,SNR=3.4								
ZALV				LR		LR		10 01 59.3	
	comp=Z,20µm,18.5s,baz=273,slow=42								
ZALV	**Zalesovo Beam**	45.48	45	P		**P**		**09 38 28.4**	**-0.3**
POO	**Poona**	45.59	97	⇑*i*x		**P**		**09 38 28.0**	**-2.0**
	comp=Z,550nm,1.0s								
LGTI	**Lohaghat**	46.27	80	*ex*		pP		09 38 43.7	+4.2
BHPL	**Bhopal**	46.36	89	*e*P		**P**		**09 38 36.9**	**+0.8**
BHPL				AMB		AMB		09 38 42.6	
	comp=Z,382nm,1.5s								
KAD	**Karad**	46.47	99	*i* P		**P**		**09 38 38.5**	**+1.5**
KAD				*i* x		x		09 45 31.7	
DAG	**Danmarks Havn**	47.10	347	⇑*i*P		**P**		**09 38 40.4**	**-0.7**
	comp=Z,124nm,0.8s								
DAG									
	comp=Z,12µm,16.0s								
GOA	**Goa**	47.13	101	*e*P		**P**		**09 38 43.3**	**+1.3**
GOA				*i* x		x		09 40 33.5	
GOA				*ex*		x		09 45 39.4	
MSEY	**Mahe Island**	47.85	138	P		**P**		**09 38 48.0**	**+0.3**
	comp=Z,83nm,0.8s								
MSEY				LR		LR			
	comp=Z,18µm,22.0s								
MSEY	**Mahe Island**	47.85	138	P		**P**		**09 38 48.0**	**+0.3**
	comp=Z,83nm,0.8s								
LATR	**Latur**	47.87	96	*ex*		P		09 38 41.5	-6.4
WMQ	**Urumqi**	48.25	59	P		**P**		**09 38 50.9**	**+0.3**
WMQ				pP		**pP**		**09 38 55.4**	**+0.5**
WMQ				sP		**sP**		**09 38 57.9**	**+1.3**
WMQ				PcP		**PcP**		**09 40 18.4**	**+0.9**
WMQ				PP		**PP**		**09 40 42.7**	**-0.1**
WMQ				ScP		**ScP**		**09 44 11.1**	**-0.6**
WMQ				S		**S**		**09 45 48.7**	**-1.1**
WMQ				sS		**sS**		**09 45 56.2**	**-0.7**
WMQ				ScS		**ScS**		**09 48 40.7**	**-2.6**
WMQ				SS		**SS**		**09 49 12.8**	**-6.1**
WMQ				pmax		pmax			
	comp=Z,240nm,1.5s								
WMQ				pmax		pmax			
	comp=Z,3µm,4.3s								
WMQ				LR		LR			
	comp=N,25µm,20.0s								
WMQ				LR		LR			
	comp=E,15µm,23.9s								
WMQ				LR		LR			
	comp=Z,20µm,27.5s								
JBP	**Jabalpur**	48.52	88	⇑*i*P		P		09 38 57.7	+5.0
JBP				*e*S		**S**		**09 45 59.0**	**+5.2**
NGP	**Nagpur**	48.64	91	*e*P		**P**		**09 38 52.0**	**-1.7**
NGP				*ex*		x		09 45 59.6	
PYUN	**Piuthan**	49.01	81	*e*P		**P**		**09 38 57.1**	**+0.3**
	comp=Z,723nm,0.7s								
LSZ	**Lusaka**	49.21	177	⇑*i*P		**P**		**09 38 58.2**	**+0.1**
LSZ	**Lusaka**	49.21	177	⇓P		**P**		**09 38 58.6**	**+0.4**
	SNR=30								
LSZ	**Lusaka**	49.21	177	*e*P		**P**		**09 38 58.2**	**+0.1**
	comp=Z,151nm,1.2s								
LSZ				*e*S		**S**		**09 46 06.6**	**+2.9**
LSZ				S		S		09 46 07.9	+4.1
LSZ	**Lusaka**	49.21	177	P		**P**		**09 38 58.1**	**-0.1**
	comp=Z,35nm,0.8s,baz=8.8,slow=9.1,SNR=30								
LSZ				S		**S**		**09 46 07.9**	**+4.1**
	comp=Z,1.4nm,0.3s,baz=52,slow=17,SNR=2.5								
LSZ				LR		LR		10 00 52.3	
	comp=Z,44µm,18.5s,baz=114,slow=38								
LSZ	**Lusaka**	49.21	177	P		**P**		**09 38 58.6**	**+0.4**
	SNR=30								
DANN	**Dangsing**	49.54	80	*e*P		**P**		**09 39 01.6**	**+0.6**
	comp=Z,2µm,0.9s								
KOLN	**Koldanda**	49.63	81	*e*P		**P**		**09 39 01.6**	**+0.1**
	comp=Z,366nm,0.8s								
HYB	**Hyderabad**	50.02	96	*i* P		**P**		**09 39 03.0**	**-1.4**
	comp=Z,540nm,1.0s								
HYB				*e*PP		**PP**		**09 41 04.0**	**+4.6**
HYB				*e*S		**S**		**09 46 14.0**	**-1.1**
HYB				*e*SS		**SS**		**09 49 44.0**	**-4.1**
HYB				LR		LR			
	comp=Z,28nm,24.0s								
HYB	**Hyderabad**	50.02	96	*e*P		**P**		**09 39 04.6**	**+0.2**
SUMG	**Summit**	50.03	339	*e*P		**P**		**09 39 03.7**	**-0.5**
SUMG				pmax		pmax			
	comp=Z,202nm,1.0s								
SUMG	**Summit**	50.03	339	*e*P		**P**		**09 39 03.7**	**-0.5**
	comp=Z,202nm,1.0s								
SUMG	**Summit**	50.03	339	⇑*i*P		**P**		**09 39 04.0**	**-0.2**
	comp=Z,151nm,0.9s								
SUMG									
	comp=Z,21µm,18.0s								
SUMG	**Summit**	50.03	339	*e*P		**P**		**09 39 03.7**	**-0.5**
	comp=Z,202nm,1.0s								
DMN	**Daman**	50.92	80	*e*P		**P**		**09 39 11.4**	**0.0**
	comp=Z,1µm,1.0s								
KKN	**Kakani**	50.99	80	*e*P		**P**		**09 39 11.8**	**-0.1**
	comp=Z,401nm,0.6s								
PKIN	**Phulchoki**	51.17	80	*e*P		**P**		**09 39 13.1**	**-0.2**
	comp=Z,1µm,1.2s								
PKI	**Pulchoki**	51.19	80	*e*P		**P**		**09 39 13.2**	**-0.3**
	comp=Z,840nm,0.9s								
GUN	**Gumba**	51.44	80	*e*P		**P**		**09 39 15.3**	**-0.1**
	comp=Z,798nm,0.7s								
JIRN	**Jiri**	51.79	80	*e*P		**P**		**09 39 17.8**	**-0.2**
	comp=Z,1µm,0.8s								
RAMN	**Ramite**	52.40	80	*e*P		**P**		**09 39 21.4**	**-1.1**
	comp=Z,848nm,1.2s								
ODAN	**Odare**	53.09	80	*e*P		**P**		**09 39 26.7**	**-0.8**
	comp=Z,729nm,1.2s								
BOK	**Bokaro**	53.13	84	*e*P		**P**		**09 39 26.8**	**-0.8**
TAPN	**Taplejung**	53.15	79	*e*P		**P**		**09 39 27.5**	**-0.6**
	comp=Z,747nm,0.9s								
TRD	**Trivandrum**	53.58	106	*e*P		**P**		**09 39 32.6**	**+1.7**
TSUM	**Tsumeb**	53.59	189	⇑*i*P		**P**		**09 39 30.4**	**-0.6**
TSUM	**Tsumeb**	53.59	189	*e*P		**P**		**09 39 30.4**	**-0.6**
	comp=Z,345nm,1.3s								
TSUM				*e*S		**S**		**09 47 04.5**	**+0.3**
TSUM				S		S		09 47 07.0	+2.9
TSUM	**Tsumeb**	53.59	189	P		**P**		**09 39 30.4**	**-0.6**
	comp=Z,30nm,0.7s,baz=359,slow=8.9,SNR=90								
TSUM				S		**S**		**09 47 07.0**	**+2.9**
	comp=Z,2.3nm,0.9s,baz=110,slow=18,SNR=2.9								
TSUM				LR		LR		10 04 19.2	
	comp=Z,182µm,18.4s,baz=5.4,slow=38								
TSUM	**Tsumeb**	53.59	189	*e*P		**P**		**09 39 30.4**	**-0.6**
	comp=Z,345nm,1.3s								
TSUM				*e*S		**S**		**09 47 04.4**	**+0.3**
SFJD	**Kangerlussuaq**	53.72	332	P		**P**		**09 39 30.3**	**-0.9**
	comp=Z,35nm,1.4s								
SFJD				*e*S		**S**		**09 47 05.6**	**+0.9**
SFJD				S		S		09 47 06.7	+2.1
SFJD	**Kangerlussuaq**	53.72	332	⇑*i*P		**P**		**09 39 30.3**	**-0.9**
	comp=Z,42nm,0.9s								
SFJD									
	comp=Z,22µm,22.0s								
SFJD	**Kangerlussuaq**	53.72	332	P		**P**		**09 39 30.3**	**-0.9**
	comp=Z,23nm,1.0s,baz=73,slow=8.4,SNR=6.1								
SFJD				S		**S**		**09 47 06.7**	**+2.1**
	comp=Z,8.9nm,1.0s,baz=135,slow=8.6,SNR=2.4								
SFJD				LR		LR		10 02 29.7	
	comp=Z,22µm,20.9s,baz=86,slow=36								
SFJD	**Kangerlussuaq**	53.72	332	P		**P**		**09 39 30.3**	**-0.9**
	comp=Z,35nm,1.4s								
SFJD				*e*S		**S**		**09 47 05.6**	**+0.9**
VIS	**Vishakhapatnam**	53.81	92	*e*P		**P**		**09 39 32.6**	**-0.1**
VIS				*i* x		x		09 47 12.2	
LSA	**Lhasa**	55.01	75	P		**P**		**09 39 43.1**	**+1.3**
LSA				pP		**pP**		**09 39 51.0**	**+4.8**
LSA				sP		sP		09 39 55.0	+7.1
LSA				PP		**PP**		**09 41 48.3**	**+3.5**
LSA				S		**S**		**09 47 26.8**	**+2.7**
LSA				pmax		pmax			
	comp=Z,50nm,0.9s								
LSA				LR		LR			
	comp=N,23µm,33.0s								
LSA				LR		LR			
	comp=E,22µm,29.0s								
LSA				LR		LR			
	comp=Z,29µm,34.3s								
LSA	**Lhasa**	55.01	75	*e*P		**P**		**09 39 41.8**	**0.0**
LSA				*e*S		S		09 47 33.4	+9.3
LSA				pmax		pmax			
	comp=Z,61nm,0.6s								
LSA				MLR		MLR			
	comp=Z,13µm,22.0s								
LSA	**Lhasa**	55.01	75	*e*P		**P**		**09 39 41.8**	**0.0**
	comp=Z,61nm,0.6s								
LSA				*e*S		S		09 47 33.4	+9.3
LSA				LR		LR			
	comp=Z,13µm,22.0s								
LSA	**Lhasa**	55.01	75	*e*P		**P**		**09 39 41.8**	**0.0**
	comp=Z,61nm,0.6s								
LSA				*e*S		S		09 47 33.3	+9.2
MOY	**Mondy**	55.47	47	*e*P		**P**		**09 39 45.9**	**+1.5**
MOY				pmax		pmax			
	comp=Z,454nm,1.8s								
OPO	**Ambohidratompo**	56.34	155	P		**P**		**09 39 51.0**	**+0.1**
OPO	**Ambohidratompo**	56.34	155	P		**P**		**09 39 51.0**	**+0.1**
	comp=Z,5.7nm,0.8s,baz=1.0,slow=3.

LBTB	**Lobatse**	**58.84**	**180**	P	**P**	**09 40 08.5**	**+0.2**
LBTB				S	**S**	**09 48 16.0**	**+2.5**
LBTB				*e*S	S	09 48 20.3	+6.7
LBTB	**Lobatse**	**58.84**	**180**	P	**P**	**09 40 08.5**	**+0.2**
comp=Z,47nm,0.8s,baz=358,slow=7.9,SNR=31							
LBTB				S	**S**	**09 48 16.0**	**+2.5**
comp=Z,2.3nm,0.7s,baz=16,slow=7.4,SNR=2.1							
LBTB				LR	LR	10 07 18.4	
comp=Z,48µm,18.1s,baz=143,slow=38							
LBTB	**Lobatse**	**58.84**	**180**	P	**P**	**09 40 08.5**	**+0.2**
IMP	**Imphal**	**59.30**	**79**	*e*P	**P**	**09 40 10.0**	**-1.8**
SLR	**Silverton**	**59.61**	**177**	*e*P	**P**	**09 40 14.4**	**+0.7**
SLR				AMB	AMB	09 40 21.7	
comp=Z,166nm,1.3s							
SONM	**Songino Array**	**59.89**	**50**	P	**P**	**09 40 15.9**	**+0.3**
SONM				S	**S**	**09 48 30.4**	**+3.4**
SONM	**Songino Array**	**59.89**	**50**	P	**P**	**09 40 15.9**	**+0.3**
comp=Z,41nm,0.9s,baz=284,slow=8.0,SNR=141							
SONM				S	**S**	**09 48 30.4**	**+3.4**
comp=Z,1.1nm,0.8s,baz=318,slow=30,SNR=2.7							
SONM				LR	LR	10 11 39.8	
comp=Z,29µm,19.1s,baz=28,slow=42							
SONM	**Songino Array**	**59.89**	**50**	P	**P**	**09 40 15.9**	**+0.3**
ERPM	**east rand prop**	**60.21**	**177**	*e*P	**P**	**09 40 18.0**	**+0.1**
ERPM				AMB	AMB	09 40 20.7	
comp=Z,49nm,4.5s							
ULN	**Ulaanbaatar**	**60.30**	**50**	P	**P**	**09 40 19.1**	**+0.7**
SNR=169							
ULN	**Ulaanbaatar**	**60.30**	**50**	*e*P	**P**	**09 40 18.6**	**+0.2**
comp=Z,326nm,1.1s							
ULN				*e*S	S	09 48 38.4	+6.0
ULN				LR	LR		
comp=Z,27µm,19.0s							
ULN	**Ulaanbaatar**	**60.30**	**50**	P	**P**	**09 40 18.8**	**+0.4**
comp=Z,280nm,1.1s,comp=Z,4µmcomp=Z,16µm							
ULN	**Ulaanbaatar**	**60.30**	**50**	*e*P	**P**	**09 40 18.6**	**+0.2**
comp=Z,326nm,1.1s							
DGAR	**Diego Garcia**	**60.64**	**124**	PFAKE		09 40 30.0	+9.1
DGAR				LR	LR		
comp=Z,12µm,22.0s							
SWZ	**Schweizer**	**60.99**	**180**	⇑*i*P	**P**	**09 40 22.8**	**-0.4**
SWZ				AMB	AMB	09 40 30.3	
comp=Z,222nm,1.5s							
POGA	**Pongola**	**61.45**	**174**	⇑*i*P	**P**	**09 40 27.1**	**+1.0**
POGA				AMB	AMB	09 40 35.2	
comp=Z,204nm,1.6s							
FRB	**Frobisher Bay**	**61.70**	**330**	P	**P**	**09 40 26.8**	**-0.6**
FRB				S	**S**	**09 48 53.8**	**+4.5**
FRB	**Frobisher Bay**	**61.70**	**330**	P	**P**	**09 40 26.8**	**-0.6**
comp=Z,67nm,0.8s,baz=77,slow=7.4,SNR=52							
FRB				S	**S**	**09 48 53.8**	**+4.5**
comp=Z,5.6nm,0.9s,baz=58,slow=9.5,SNR=2.1							
FRB	**Frobisher Bay**	**61.70**	**330**	P	**P**	**09 40 26.8**	**-0.6**
TIXI	**Tiksi**	**62.00**	**20**	*c i*P	**P**	**09 40 28.5**	**-0.8**
TIXI				pmax	pmax		
comp=Z,37nm,0.9s							
TIXI				MLR	MLR		
comp=Z,72µm,18.0s							
MRIV	**Mauritius Mete**	**62.11**	**146**	P	**P**	**09 40 31.3**	**+0.6**
MRIV	**Mauritius Mete**	**62.11**	**146**	P	**P**	**09 40 31.3**	**+0.6**
LZH	**Lanzhou**	**62.37**	**64**	⇑P	**P**	**09 40 33.0**	**+0.4**
LZH				pP	**pP**	**09 40 36.2**	**-0.8**
LZH				sP	**sP**	**09 40 40.1**	**+1.4**
LZH				PP	**PP**	**09 42 53.0**	**+3.4**
LZH				S	**S**	**09 48 56.5**	**-2.5**
LZH				sS	**sS**	**09 49 04.3**	**-2.0**
LZH				SS	**SS**	**09 53 01.6**	**-0.6**
LZH				pmax	pmax		
comp=Z,180nm,1.4s							
LZH				pmax	pmax		
comp=Z,3µm,9.7s							
LZH				LR	LR		
comp=N,11µm,14.7s							
LZH				LR	LR		
comp=E,8µm,14.5s							
LZH				LR	LR		
comp=Z,22µm,18.6s							
BOSA	**Boshof**	**62.42**	**180**	⇑*i*P	**P**	**09 40 32.6**	**-0.1**
BOSA				AMB	AMB	09 40 39.9	
comp=Z,241nm,1.4s							
BOSA	**Boshof**	**62.42**	**180**	*e*P	**P**	**09 40 32.6**	**-0.1**
comp=Z,284nm,1.3s							
BOSA				S	**S**	**09 49 03.5**	**+4.2**
BOSA	**Boshof**	**62.42**	**180**	P	**P**	**09 40 32.7**	**-0.1**
comp=Z,83nm,0.8s,baz=2.1,slow=7.6,SNR=46							
BOSA				S	**S**	**09 49 03.5**	**+4.2**
comp=Z,2.5nm,1.0s,baz=324,slow=17,SNR=1.5							
BOSA				LR	LR	10 08 19.1	
comp=Z,40µm,19.5s,baz=2.2,slow=37							
BOSA	**Boshof**	**62.42**	**180**	*e*P	**P**	**09 40 32.7**	**-0.1**
comp=Z,284nm,1.3s							
CIT	**Chita**	**62.80**	**44**	*e*P	P	09 40 30.6	-4.5
CIT				*e*		09 40 34.4	
CIT				*e*		09 40 40.3	
CIT				*e*		09 44 31.5	
KOMG	**Komaggas**	**64.05**	**188**	⇑*i*P	**P**	**09 40 42.9**	**-0.5**
KOMG				AMB	AMB	09 40 50.0	
comp=Z,165nm,2.0s							
DGPR	**DIGLIPUR**	**64.08**	**91**	*e*P	**P**	**09 40 43.9**	**-0.1**
SCHQ	**Schefferville**	**64.16**	**320**	*e*P	**P**	**09 40 42.9**	**-1.0**
comp=Z,371nm,0.9s							
SCHQ				S	**S**	**09 49 22.8**	**+2.3**
SCHQ	**Schefferville**	**64.16**	**320**	P	**P**	**09 40 43.0**	**-1.0**
comp=Z,66nm,0.8s,baz=66,slow=5.9,SNR=76							
SCHQ				S	**S**	**09 49 22.8**	**+2.3**
comp=Z,4.7nm,1.1s,baz=233,slow=20,SNR=3.6							
SCHQ				LR	LR	10 08 38.8	
comp=Z,14µm,18.0s,baz=69,slow=36							
SCHQ	**Schefferville**	**64.16**	**320**	*e*P	**P**	**09 40 42.9**	**-1.0**
comp=Z,371nm,0.9s							
CD2	**Chengdu**	**64.46**	**69**	⇑P	**P**	**09 40 46.2**	**-0.2**
CD2				pP	**pP**	**09 40 50.9**	**+0.1**
CD2				sP	**sP**	**09 40 53.2**	**+0.7**
CD2				PcP	**PcP**	**09 41 20.6**	**0.0**
CD2				PP	**PP**	**09 43 09.5**	**+1.5**
CD2				PcS		09 45 23.1	
CD2				S	**S**	**09 49 22.8**	**-2.2**
CD2				SS	**SS**	**09 53 34.0**	**-0.9**
CD2				pmax	pmax		
comp=Z,140nm,0.8s							
CD2				pmax	pmax		
comp=Z,4µm,8.8s							
CD2				LR	LR		
comp=N,17µm,24.0s							
CD2				LR	LR		
comp=E,12µm,20.1s							
CD2				LR	LR		
comp=Z,14µm,23.2s							
RES	**Resolute Bay**	**64.72**	**345**	P	**P**	**09 40 46.5**	**-0.8**
RES				S	**S**	**09 49 29.6**	**+2.7**
RES	**Resolute Bay**	**64.72**	**345**	P	**P**	**09 40 46.5**	**-0.8**
comp=Z,40nm,0.8s,baz=42,slow=8.1,SNR=8.0							
RES				S	**S**	**09 49 29.6**	**+2.7**
comp=Z,10nm,0.8s,baz=111,slow=8.6,SNR=2.6							
RES				LR	LR	10 09 29.5	
comp=Z,12µm,21.3s,baz=56,slow=36							
RES	**Resolute Bay**	**64.72**	**345**	P	**P**	**09 40 46.5**	**-0.8**
PBA	**Port Blair**	**64.72**	**93**	*ex*	P	09 40 37.5	-11
BTO	**Baotou**	**64.98**	**57**	*e*P	**P**	**09 40 49.4**	**-0.3**
BTO				S	**S**	**09 49 35.0**	**+3.7**
CVNA	**Calvinia**	**65.51**	**185**	⇑*i*P	**P**	**09 40 52.6**	**-0.3**
CVNA				AMB	AMB	09 40 59.8	
comp=Z,175nm,2.0s							
CMAI	**Chiengmai2**	**65.74**	**82**	P	**P**	**09 40 53.8**	**-1.2**
comp=Z,181nm,1.3s,comp=Z,17µm							
HHC	**Hu-ho-hao-te**	**65.94**	**56**	⇑*i*P	**P**	**09 40 56.6**	**+0.7**
HHC				pP	**pP**	**09 41 01.3**	**+0.9**
HHC				sP	**sP**	**09 41 03.6**	**+1.6**
HHC				PP	**PP**	**09 43 23.7**	**+2.9**
HHC				PcS		09 45 30.6	
HHC				S	**S**	**09 49 41.0**	**-2.1**
HHC				sS	**sS**	**09 49 47.9**	**-2.5**
HHC				ScS	**SKSac**	**09 50 48.3**	**-3.3**
HHC				SS	**SS**	**09 53 57.2**	**-0.4**
HHC				pmax	pmax		
comp=Z,210nm,1.2s							
HHC				pmax	pmax		
comp=Z,6µm,5.5s							
HHC				LR	LR		
comp=N,9µm,18.6s							
HHC				LR	LR		
comp=E,33µm,18.2s							
HHC				LR	LR		
comp=Z,39µm,18.4s							
CHTO	**Chiang Mai**	**66.20**	**83**	*e*P	**P**	**09 40 56.9**	**-0.8**
CHTO				*e*S	**S**	**09 49 44.9**	**-1.7**
CHTO				pmax	pmax		
comp=Z,214nm,1.4s							
CHTO				MLR	MLR		
comp=Z,7µm,22.0s							
CHTO	**Chiang Mai**	**66.20**	**83**	⇓P	**P**	**09 40 57.2**	**-0.6**
SNR=69							
CHTO	**Chiang Mai**	**66.20**	**83**	*e*P	**P**	**09 40 56.9**	**-0.8**
comp=Z,214nm,1.4s							
CHTO				*e*S	**S**	**09 49 44.9**	**-1.7**
CHTO				LR	LR		
comp=Z,7µm,22.0s							
CHTO	**Chiang Mai**	**66.20**	**83**	P	**P**	**09 40 57.0**	**-0.8**
comp=Z,143nm,1.6s,comp=Z,3µmcomp=Z,14µm							
CHTO	**Chiang Mai**	**66.20**	**83**	*e*P	**P**	**09 40 56.9**	**-0.8**
comp=Z,214nm,1.4s							
CHTO				*e*S	**S**	**09 49 44.9**	**-1.7**
CHTO	**Chiang Mai**	**66.20**	**83**	P	**P**	**09 40 57.0**	**-0.8**
comp=Z,38nm,1.5s,comp=Z,3µm							
CMMT	**Chiang Mai**	**66.21**	**83**	P	**P**	**09 40 57.6**	**-0.2**
comp=Z,127nm,1.6s,comp=Z,3µm							
CMMT	**Chiang Mai**	**66.21**	**83**	P	**P**	**09 40 57.6**	**-0.2**
comp=Z,127nm,1.6s,comp=Z,3µm							
KMI	**Kunming**	**66.27**	**75**	⇑P	**P**	**09 40 57.8**	**-0.6**
KMI				pP	**pP**	**09 41 01.7**	**-1.1**
KMI				PcP	**PcP**	**09 41 30.0**	**+1.6**
KMI				PP	**PP**	**09 43 26.5**	**+2.4**
KMI				S	**S**	**09 49 47.2**	**-0.5**
KMI				SKS	**SKSac**	**09 50 52.2**	**-2.6**
KMI				SS	**SS**	**09 54 03.0**	**-0.6**
KMI				pmax	pmax		
comp=Z,61nm,1.5s							
KMI				pmax	pmax		
comp=Z,2µm,6.9s							
KMI				LR	LR		
comp=N,9µm,20.3s							
KMI				LR	LR		
comp=E,6µm,19.7s							
KMI				LR	LR		
comp=Z,9µm,20.1s							
SUR	**Sutherland**	**66.32**	**184**	P	**P**	**09 40 58.1**	**-0.2**
comp=Z,586nm,1.3s,SNR=13							
SUR	**Sutherland**	**66.32**	**184**	⇑*i*P	**P**	**09 40 58.5**	**+0.2**
SUR				AMB	AMB	09 41 11.5	
comp=Z,106nm,2.3s							
SUR	**Sutherland**	**66.32**	**184**	⇑P	P	09 41 03.2	+4.9
SNR=6.9							
SUR	**Sutherland**	**66.32**	**184**	P	**P**	**09 40 58.4**	**+0.1**
SUR				S	**S**	**09 49 51.8**	**+4.1**
SUR	**Sutherland**	**66.32**	**184**	P	**P**	**09 40 58.4**	**+0.1**
comp=Z,69nm,0.7s,baz=12,slow=5.5,SNR=41							
SUR				S	**S**	**09 49 51.8**	**+4.1**
comp=Z,4.2nm,1.1s,baz=132,slow=22,SNR=2.4							
SUR				LR	LR	10 13 13.5	
comp=Z,85µm,18.1s,baz=7.7,slow=39							
SUR	**Sutherland**	**66.32**	**184**	P	**P**	**09 40 58.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**66.38**	**83**	P	**P**	**09 40 57.9**	**-1.0**
CMAR				S	**S**	**09 49 52.5**	**+3.7**
CMAR				P'P'		10 09 48.3	
CMAR	**Chiang Mai Arr**	**66.38**	**83**	P	**P**	**09 40 57.9**	**-1.0**
comp=Z,10nm,0.9s,baz=296,slow=8.0,SNR=34							
CMAR				S	**S**	**09 49 52.5**	**+3.7**
comp=Z,1.2nm,0.4s,baz=302,slow=17,SNR=4.7							
CMAR				PKPPKP	P'P'df	10 09 48.3	+14
comp=Z,0.7nm,0.5s,baz=116,slow=1.6,SNR=5.2							
CMAR	**Chiang Mai Arr**	**66.38**	**83**	P	**P**	**09 40 57.9**	**-1.0**
SOE	**Somerset East**	**66.51**	**180**	*e*P	**P**	**09 41 00.8**	**+1.5**
SOE				AMB	AMB	09 41 07.5	
comp=Z,214nm,1.7s							
YAK	**Yakutsk**	**66.60**	**30**	*e*P	**P**	**09 40 58.3**	**-1.2**
YAK				*e**PP	**pP**	**09 41 06.7**	**+2.7**
YAK				*e*		09 41 27.7	
YAK				*e*		09 43 27.3	
YAK				*e*S	**S**	**09 49 46.1**	**-3.9**
YAK				*e*		09 50 52.3	
YAK				*e*SS	**SS**	**09 54 01.6**	**-4.9**
YAK				*e*SSS	SSS	09 57 06.4	
YAK				pmax	pmax		
comp=N,16nm,1.1s							
YAK				pmax	pmax		
comp=E,36nm,1.6s							
YAK				pmax	pmax		
comp=Z,107nm,0.9s							
YAK				pmax	pmax		
comp=Z,491nm,3.2s							
YAK				pmax	pmax		
comp=N,281nm,2.3s							
YAK				pmax	pmax		
comp=E,203nm,2.0s							
YAK				smax	smax		
comp=N,2µm,8.9s							
YAK				smax	smax		
comp=E,2µm,8.5s							
CLNS	**Chul'man**	**66.88**	**36**	*e*P	**P**	**09 41 01.8**	**+0.3**
CLNS				*e**PP	pP	09 41 11.8	+5.8
CLNS				*e*		09 41 26.1	
CLNS				*e*		09 43 30.2	
CLNS				*e*S	**S**	**09 49 57.8**	**+4.0**
CLNS				*e*		09 50 59.7	
CLNS				*e*SS	**SS**	**09 54 05.7**	**-5.5**
CLNS				pmax	pmax		
comp=N,6.0nm,0.9s							
CLNS				pmax	pmax		
comp=Z,53nm,0.9s							
CLNS				pmax	pmax		
comp=E,20nm,1.0s							
CLNS				pmax	pmax		
comp=N,74nm,1.3s							
CLNS				pmax	pmax		
comp=Z,57nm,1.1s							
CLNS				pmax	pmax		
comp=E,38nm,0.9s							
CLNS				smax	smax		
comp=E,2µm,11.2s							
CLNS				smax	smax		
comp=N,1µm,9.7s							
CLNS				MLR	MLR		
comp=N,13µm,14.0s							
CLNS				MLR	MLR		
comp=Z,22µm,16.0s							
CLNS				MLR	MLR		
comp=E,15µm,15.0s							
LAMP	**Lampang**	**66.91**	**83**	P	**P**	**09 41 02.0**	**-0.3**
comp=E,62nm,0.9s,comp=E,554nm							
XAN	**Xi'an**	**67.00**	**64**	P	**P**	**09 41 02.4**	**-0.3**
XAN				sP	**sP**	**09 41 09.3**	**+0.5**
XAN				PP	**PP**	**09 43 32.5**	**+2.4**
XAN				S	**S**	**09 49 58.3**	**+2.3**
XAN				ScS	**SKSac**	**09 50 58.1**	**-1.7**
XAN				SS	**SS**	**09 54 14.1**	**-0.2**
XAN				pmax	pmax		
comp=Z,780nm,11.1s							
XAN				LR	LR		
comp=N,10µm,24.6s							
XAN				LR	LR		
comp=E,4µm,23.1s							
XAN				LR	LR		
comp=Z,4µm,20.3s							
GRM	**Grahamstown**	**67.11**	**179**	*e*P	**P**	**09 41 04.4**	**+1.2**
GRM				AMB	AMB	09 41 11.5	
comp=Z,197nm,1.6s							
HIA	**Hailar**	**67.52**	**45**	*e*P	**P**	**09 41 06.3**	**+0.6**
comp=Z,226nm,0.8s							
HIA				*e*S	S	09 50 08.7	+7.0
HIA				LR	LR		
comp=E,18µm,20.0s							
HIA	**Hailar**	**67.52**	**45**	*e*P	**P**	**09 41 06.3**	**+0.6**
comp=Z,226nm,0.8s							
TIY	**Taiyuan**	**67.92**	**59**	*e*P	**P**	**09 41 08.2**	**-0.3**
TIY				sP	**sP**	**09 41 17.7**	**+3.1**
TIY				PP	PP	09 43 44.0	+6.0
TIY				S	**S**	**09 50 12.7**	**+5.8**
TIY				pmax	pmax		
comp=Z,2µm,10.5s							
TIY				LR	LR		
comp=N,7µm,13.7s							
TIY				LR	LR		
comp=E,6µm,17.6s							
TIY				LR	LR		
comp=Z,14µm,20.7s							
PQI	**Presque Isle**	**68.30**	**312**	*e*P	**P**	**09 41 10.2**	**-0.4**
comp=Z,247nm,0.9s							
PQI	**Presque Isle**	**68.30**	**312**	*e*P	**P**	**09 41 10.2**	**-0.4**
comp=Z,247nm,0.9s							
ELIM	**Elim**	**68.60**	**185**	*e*P	**P**	**09 41 12.5**	**0.0**
ELIM				AMB	AMB	09 41 17.7	
comp=Z,70nm,2.1s							
GYA	**Guiyang**	**68.76**	**72**	⇑*i*P	**P**	**09 41 13.2**	**-0.8**
GYA				PP	**PP**	**09 43 47.9**	**+2.3**
GYA				ScP		09 45 42.5	
GYA				S	**S**	**09 50 17.9**	**+0.5**
GYA				SKS	**SKSac**	**09 51 10.0**	**-3.5**
GYA				SS	**SS**	**09 54 42.8**	**+0.9**
GYA				pmax	pmax		
comp=Z,140nm,1.0s							
GYA				pmax	pmax		
comp=Z,2µm,11.2s							
GYA				LR	LR		
comp=N,12µm,26.4s							
GYA				LR	LR		
comp=E,7µm,21.8s							
GYA				LR	LR		
comp=Z,11µm,24.6s							
LOEI	**Loei**	**68.76**	**83**	P	**P**	**09 41 14.7**	**+0.7**
comp=Z,109nm,1.9s,comp=Z,3µm							
EMMW	**East Machias**	**68.85**	**310**	*e*P	**P**	**09 41 12.6**	**-1.5**
comp=Z,978nm,1.3s							
EMMW	**East Machias**	**68.85**	**310**	*e*P	**P**	**09 41 12.6**	**-1.5**
comp=Z,978nm,1.3s							
PBKT	**Sadao Pong**	**69.00**	**84**	P	P	09 41 10.8	-4.6
PBKT	**Sadao Pong**	**69.00**	**84**	P	P	09 41 11.0	-4.4
ENH	**Enshi**	**69.15**	**67**	*e*P	**P**	**09 41 15.6**	**-0.7**
comp=Z,157nm,0.9s							
ENH				LR	LR		
comp=Z,12µm,21.0s							
ENH	**Enshi**	**69.15**	**67**	*e*P	**P**	**09 41 15.6**	**-0.7**
comp=Z,157nm,0.9s							
BJI	**Beijing**	**69.45**	**55**	P	**P**	**09 41 18.1**	**+0.2**
BJI				pP	**pP**	**09 41 20.4**	**-2.0**
BJI				PP	**PP**	**09 43 51.2**	**+0.1**
BJI				S	**S**	**09 50 23.7**	**-1.2**
BJI				SS	**SS**	**09 54 51.2**	**-0.5**
BJI				pmax	pmax		
comp=Z,51nm,0.9s							
BJI				pmax	pmax		
comp=Z,3µm,14.3s							
BJI				LR	LR		
comp=N,11µm,18.9s							
BJI				LR	LR		
comp=E,21µm,18.9s							
BJI				LR	LR		
comp=Z,21µm,21.7s							
BJT	**Baijiatuao**	**69.46**	**55**	*e*P	**P**	**09 41 18.1**	**+0.1**
comp=Z,160nm,1.0s							
BJT				*e*S	**S**	**09 50 26.4**	**+1.4**
BJT				LR	LR		
comp=Z,29µm,20.0s							
BJT	**Baijiatuao**	**69.46**	**55**	*e*P	**P**	**09 41 18.1**	**+0.1**
comp=Z,160nm,1.0s							
BJT				*e*S	**S**	**09 50 26.4**	**+1.4**
PHET	**Kaeng Krachan**	**69.78**	**88**	P	**P**	**09 41 19.8**	**-0.5**
comp=Z,413nm,0.9s,comp=Z,4µm							
CHAI	**Chaiyaphum**	**70.17**	**84**	P	**P**	**09 41 21.8**	**-0.9**
comp=Z,64nm,0.9s,comp=Z,517nm							
RCBR	**Riachuelo**	**70.24**	**248**	*e*P	**P**	**09 41 22.8**	**-0.3**
comp=Z,93nm,0.9s							
RCBR				S	**S**	**09 50 36.4**	**+1.5**
RCBR	**Riachuelo**	**70.24**	**248**	P	**P**	**09 41 23.0**	**-0.1**
comp=Z,21nm,0.8s,baz=41,slow=5.7,SNR=11							
RCBR				S	**S**	**09 50 36.4**	**+1.5**
comp=Z,5.6nm,1.0s,baz=26,slow=9.5,SNR=2.0							
RCBR				LR	LR	10 13 27.4	
comp=Z,63µm,19.9s,baz=44,slow=37							
RCBR	**Riachuelo**	**70.24**	**248**	*e*P	**P**	**09 41 22.8**	**-0.3**
comp=Z,93nm,0.9s							
NAYO	**Nakonayok**	**70.44**	**86**	P	**P**	**09 41 23.4**	**-0.9**
comp=Z,237nm,0.9s,comp=Z,4µm							
LBNH	**Lisbon**	**71.88**	**311**	*e*P	**P**	**09 41 32.2**	**-0.5**
LBNH				pmax	pmax		
comp=Z,178nm,1.2s							
LBNH				MLR	MLR		
comp=Z,17µm,21.0s							
LBNH	**Lisbon**	**71.88**	**311**	*e*P	**P**	**09 41 32.2**	**-0.5**
comp=Z,178nm,1.2s							
LBNH				LR	LR		
comp=Z,17µm,21.0s							
LBNH	**Lisbon**	**71.88**	**311**	*e*P	**P**	**09 41 32.2**	**-0.5**
comp=Z,178nm,1.2s							
TIA	**Tai'an**	**71.94**	**58**	⇑P	**P**	**09 41 32.2**	**-0.9**
TIA				PP	**PP**	**09 44 14.5**	**+1.9**
TIA				pmax	pmax		
comp=Z,150nm,1.3s							
TIA				pmax	pmax		
comp=Z,4µm,14.5s							
TIA				LR	LR		
comp=N,11µm,36.9s							
TIA				LR	LR		
comp=E,9µm,33.3s							
TIA				LR	LR		
comp=Z,9µm,22.6s							
CHBT	**CHBT**	**72.09**	**87**	P	**P**	**09 41 34.3**	**0.0**
comp=Z,119nm,2.1s,comp=Z,3µm							
FFD	**Franklin Falls**	**72.09**	**311**	*e*P	**P**	**09 41 34.1**	**+0.2**
comp=Z,120nm,1.0s							
FFD	**Franklin Falls**	**72.09**	**311**	*e*P	**P**	**09 41 34.1**	**+0.2**
comp=Z,120nm,1.0s							
HNH	**Hanover**	**72.37**	**311**	*e*P	**P**	**09 41 35.2**	**-0.4**
comp=Z,557nm,1.3s							
HNH	**Hanover**	**72.37**	**311**	*e*P	**P**	**09 41 35.2**	**-0.4**
comp=Z,557nm,1.3s							
WES	**Weston**	**72.43**	**310**	*e*P	**P**	**09 41 35.8**	**-0.1**
WES				pmax	pmax		
comp=Z,838nm,1.2s							
WES	**Weston**	**72.43**	**310**	*e*P	**P**	**09 41 35.8**	**-0.1**
comp=Z,838nm,1.2s							
WES	**Weston**	**72.43**	**310**	*e*P	**P**	**09 41 35.8**	**-0.1**
comp=Z,838nm,1.2s							
HRV	**Adam Dziewonsk**	**72.52**	**310**	*e*P	**P**	**09 41 36.4**	**-0.1**
HRV				pmax	pmax		
comp=Z,233nm,1.3s							
HRV	**Adam Dziewonsk**	**72.52**	**310**	*e*P	**P**	**09 41 36.4**	**-0.1**
comp=Z,233nm,1.3s							
HRV	**Adam Dziewonsk**	**72.52**	**310**	*e*P	**P**	**09 41 36.3**	**-0.2**
comp=Z,233nm,1.3s							
TRTT	**Trang**	**72.54**	**92**	P	**P**	**09 41 36.2**	**-0.8**
comp=Z,334nm,1.3s,comp=Z,4µm							
FRNY	**Flat Rock**	**72.60**	**313**	*e*P	**P**	**09 41 36.4**	**-0.5**
comp=Z,205nm,1.2s							
FRNY	**Flat Rock**	**72.60**	**313**	*e*P	**P**	**09 41 36.4**	**-0.5**
comp=Z,205nm,1.2s							
WHN	**Wuhan**	**72.70**	**65**	P	**P**	**09 41 37.7**	**-0.1**
WHN				S	**S**	**09 51 05.4**	**+2.5**
WHN				LR	LR		
comp=N,14µm,16.5s							
WHN				LR	LR		
comp=E,7µm,12.7s							
WHN				LR	LR		
comp=Z,24µm,20.2s							
MDV	**Middlebury**	**72.78**	**312**	*e*P	**P**	**09 41 38.5**	**+0.5**
MDV	**Middlebury**	**72.78**	**312**	*e*P	**P**	**09 41 38.5**	**+0.5**
BRYW	**Bryant College**	**72.81**	**309**	*e*P	**P**	**09 41 38.1**	**-0.1**
comp=Z,658nm,1.3s							
BRYW	**Bryant College**	**72.81**	**309**	*e*P	**P**	**09 41 38.1**	**-0.1**
comp=Z,658nm,1.3s							
BBSR	**BB Station**	**72.85**	**298**	*e*P	**P**	**09 41 38.1**	**-0.6**
comp=Z,115nm,1.1s							
BBSR				LR	LR		
comp=Z,10µm,22.0s							
BBSR	**BB Station**	**72.85**	**298**	*e*P	**P**	**09 41 38.1**	**-0.6**
comp=Z,115nm,1.1s							
MSNY	**Massena**	**73.29**	**313**	P	**P**	**09 41 40.3**	**-0.7**
comp=Z,1µm,1.2s							
MSNY	**Massena**	**73.29**	**313**	P	**P**	**09 41 40.3**	**-0.7**
comp=Z,1µm,1.2s							
LONY	**Lake Ozonia**	**73.32**	**313**	*e*P	**P**	**09 41 40.8**	**-0.4**
comp=Z,250nm,1.3s							
LONY				S	**SKiKP**	**09 51 14.4**	**+2.2**
LONY				LR	LR		
comp=Z,15µm,20.0s							
LONY	**Lake Ozonia**	**73

SNY	**Shenyang**	**73.47**	**51**	⇑P	**P**	**09 41 41.3**	**-0.8**
SNY				S	**S**	**09 51 11.0**	**-0.2**
SNY				pmax	pmax		
	comp=Z,75nm,2.4s						
SNY				pmax	pmax		
	comp=Z,3μm,12.5s						
SNY				LR	LR		
	comp=N,20μm,20.1s						
SNY				LR	LR		
	comp=E,18μm,19.6s						
SNY				LR	LR		
	comp=Z,21μm,21.0s						
CN2	**Changchun**	**73.62**	**48**	*e*P	**P**	**09 41 42.7**	**-0.3**
CN2				*ep*P	**pP**	**09 41 47.5**	**0.0**
CN2				PP	**PP**	**09 44 28.4**	**+1.7**
CN2				*e*S	**SKiKP**	**09 51 09.8**	**-2.9**
CN2				SS	**SS**	**09 55 54.7**	**-0.6**
CN2				pmax	pmax		
	comp=Z,50nm,1.0s						
CN2				pmax	pmax		
	comp=Z,2μm,6.0s						
CN2				LR	LR		
	comp=N,13μm,22.0s						
CN2				LR	LR		
	comp=E,10μm,22.0s						
CN2				LR	LR		
	comp=Z,16μm,26.0s						
DL2	**Dalian**	**73.69**	**54**	P	P	09 41 47.6	+4.1
DL2				S	**S**	**09 51 17.2**	**+3.4**
DL2				pmax	pmax		
	comp=Z,130nm,0.9s						
DL2				pmax	pmax		
	comp=Z,1μm,5.4s						
DL2				LR	LR		
	comp=N,4μm,21.1s						
DL2				LR	LR		
	comp=E,4μm,19.4s						
DL2				LR	LR		
	comp=Z,7μm,16.6s						
TRY	**Troy**	**73.74**	**311**	*e*P	**P**	**09 41 44.5**	**+0.8**
	comp=Z,430nm,1.4s						
TRY	**Troy**	**73.74**	**311**	*e*P	**P**	**09 41 44.5**	**+0.8**
	comp=Z,430nm,1.4s						
BILL	**Bilibino**	**73.97**	**14**	⇑*i*P	**P**	**09 41 43.9**	**-0.7**
BILL				*e**PP	**pP**	**09 41 49.8**	**+0.7**
BILL				*e*		09 42 01.2	
BILL				*e*		09 44 27.6	
BILL				*e*S	**SKiKP**	**09 51 13.5**	**+1.0**
BILL				pmax	pmax		
	comp=Z,71nm,1.3s						
BILL	**Bilibino**	**73.97**	**14**	*e*P	**P**	**09 41 43.9**	**-0.7**
	comp=Z,241nm,1.3s						
BILL	**Bilibino**	**73.97**	**14**	*e*P	**P**	**09 41 43.8**	**-0.8**
	comp=Z,241nm,1.3s						
YLE	**Yale**	**74.01**	**309**	*e*P	**P**	**09 41 44.5**	**-0.8**
	comp=Z,342nm,1.1s						
YLE	**Yale**	**74.01**	**309**	*e*P	**P**	**09 41 44.5**	**-0.8**
	comp=Z,342nm,1.1s						
KLR	**Kul'dur**	**74.33**	**41**	⇓*i*P	P	09 41 43.2	-3.8
KLR				*e*S	**S**	**09 51 20.5**	**-0.2**
KLR				pmax	pmax		
	comp=E,86nm,1.4s						
KLR				pmax	pmax		
	comp=Z,280nm,1.4s						
PSI	**Prapat**	**74.69**	**97**	P	**P**	**09 41 49.4**	**-0.5**
PSI				S	**S**	**09 51 24.8**	**-1.2**
PSI	**Prapat**	**74.69**	**97**	P	**P**	**09 41 49.4**	**-0.5**
	comp=Z,32nm,0.8s,baz=300,slow=4.2,SNR=30						
PSI				S	**S**	**09 51 24.8**	**-1.2**
	comp=Z,1.7nm,0.3s,baz=134,slow=22,SNR=8.6						
KULM	**Kulim**	**74.73**	**94**	P	**P**	**09 41 50.2**	**+0.3**
CPNY	**Central Park**	**74.95**	**309**	*e*P	**P**	**09 41 50.1**	**-0.6**
	comp=Z,359nm,1.7s						
CPNY	**Central Park**	**74.95**	**309**	*e*P	**P**	**09 41 50.2**	**-0.6**
	comp=Z,359nm,1.7s						
QIZ	**Qiongzhong**	**74.99**	**77**	P	**P**	**09 41 51.1**	**-0.3**
QIZ				sP	**sP**	**09 41 58.1**	**+0.6**
QIZ				S	**S**	**09 51 30.5**	**+1.5**
QIZ				sS	**sS**	**09 51 38.2**	**+1.7**
QIZ				pmax	pmax		
	comp=Z,36nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,2μm,11.1s						
QIZ				LR	LR		
	comp=N,9μm,29.0s						
QIZ				LR	LR		
	comp=E,2μm,23.7s						
QIZ				LR	LR		
	comp=Z,6μm,21.9s						
QIZ	**Qiongzhong**	**74.99**	**77**	*e*P	**P**	**09 41 50.9**	**-0.5**
	comp=Z,117nm,1.0s						
QIZ				LR	LR		
	comp=Z,7μm,21.0s						
QIZ	**Qiongzhong**	**74.99**	**77**	*e*P	**P**	**09 41 50.9**	**-0.5**
	comp=Z,117nm,1.0s						
NJ2	**Nanjing**	**75.26**	**61**	*e*P	**P**	**09 41 51.1**	**-1.6**
NJ2				pP	**pP**	**09 41 55.5**	**-1.8**
NJ2				sP	**sP**	**09 41 58.0**	**-0.9**
NJ2				PP	**PP**	**09 44 42.0**	**+1.0**
NJ2				S	**S**	**09 51 31.0**	**-0.7**
NJ2				sS	**sS**	**09 51 37.0**	**-2.1**
NJ2				SS	**SS**	**09 56 20.5**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,40nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,3μm,10.0s						
NJ2				LR	LR		
	comp=N,25μm,25.6s						
NJ2				LR	LR		
	comp=E,10μm,24.3s						
NJ2				LR	LR		
	comp=Z,30μm,18.0s						
BINY	**Binghamton**	**75.47**	**311**	*e*P	**P**	**09 41 53.3**	**-0.5**
	comp=Z,211nm,1.1s						
BINY				*e*S	S	09 51 49.6	+16
BINY				LR	LR		
	comp=Z,17μm,22.0s						
BINY	**Binghamton**	**75.47**	**311**	*e*P	**P**	**09 41 53.3**	**-0.5**
	comp=Z,211nm,1.1s						
IPM	**Ipoh**	**75.49**	**94**	P	**P**	**09 41 54.9**	**+0.6**
MDJ	**Mudanjiang**	**75.68**	**46**	P	**P**	**09 41 53.9**	**-1.0**
MDJ				pP	**pP**	**09 41 57.2**	**-2.3**
MDJ				PcP	**PcP**	**09 42 06.7**	**-1.0**
MDJ				PP	**PP**	**09 44 40.0**	**-4.2**
MDJ				S	**S**	**09 51 34.3**	**-1.7**
MDJ				ScS	**ScS**	**09 52 06.9**	**-1.6**
MDJ				SS	**SS**	**09 56 24.3**	**-2.3**
MDJ				pmax	pmax		
	comp=Z,20nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,2μm,11.5s						
MDJ				LR	LR		
	comp=N,14μm,22.6s						
MDJ				LR	LR		
	comp=E,16μm,24.1s						
MDJ				LR	LR		
	comp=Z,17μm,15.1s						
MDJ	**Mudanjiang**	**75.68**	**46**	*e*P	**P**	**09 41 52.7**	**-2.3**
	comp=Z,54nm,0.8s						
MDJ				LR	LR		
	comp=Z,11μm,21.0s						
MDJ	**Mudanjiang**	**75.68**	**46**	*e*P	**P**	**09 41 52.7**	**-2.3**
	comp=Z,54nm,0.8s						
GZH	**Guangzhou**	**75.69**	**72**	P	**P**	**09 41 55.4**	**+0.1**
GZH				S	**S**	**09 51 34.0**	**-2.7**
GZH				LR	LR		
	comp=N,11μm,29.2s						
GZH				LR	LR		
	comp=E,7μm,26.9s						
GZH				LR	LR		
	comp=Z,14μm,19.2s						
SADO	**Sadowa**	**75.97**	**315**	P	**P**	**09 41 55.8**	**-0.8**
SADO				S	**S**	**09 51 38.8**	**-0.3**
SADO	**Sadowa**	**75.97**	**315**	P	**P**	**09 41 55.8**	**-0.8**
	comp=Z,28nm,0.8s,baz=75,slow=4.9,SNR=24						
SADO				S	**S**	**09 51 38.8**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=69,slow=8.6,SNR=2.6						
SADO				LR	LR	10 14 42.1	
	comp=Z,21μm,21.4s,baz=21,slow=35						
SADO	**Sadowa**	**75.97**	**315**	P	**P**	**09 41 55.8**	**-0.8**
SADO				S	**S**	**09 51 38.8**	**-0.3**
HABR	**Khabarovsk**	**76.54**	**40**	*ce*P	**P**	**09 41 59.3**	**-0.4**
HABR				*e**PP	**PcP**	**09 42 08.7**	**-2.6**
HABR				*e*		09 42 09.8	
HABR						09 44 50.6	
HABR				PPP	PPP	09 46 38.0	

HABR					*e*S	**S**	**09 51 43.6**	**-1.6**
HABR					*e**SS	sS	09 51 59.7	+7.0
HABR							09 52 11.3	
HABR					*e*SS	**SS**	**09 56 37.6**	**-1.7**
HABR					*e*SSS	SSS	10 00 01.6	
HABR					pmax	pmax		
	comp=Z,2μm,4.7s							
HABR					pmax	pmax		
	comp=Z,457nm,2.3s							
HABR					pmax	pmax		
	comp=N,103nm,1.9s							
HABR					pmax	pmax		
	comp=E,112nm,1.9s							
HABR					MLR	MLR		
	comp=Z,12μm,18.0s							
INK	**Inuvik**	**76.66**	**352**		P	**P**	**09 41 59.2**	**-0.8**
INK					S	**S**	**09 51 47.2**	**+1.3**
INK	**Inuvik**	**76.66**	**352**		P	**P**	**09 41 59.2**	**-0.8**
	comp=Z,70nm,0.9s,baz=23,slow=5.7,SNR=74							
INK					S	**S**	**09 51 47.2**	**+1.3**
	comp=Z,7.2nm,1.1s,baz=260,slow=18,SNR=12							
INK					LR	LR	10 19 04.3	
	comp=Z,16μm,19.6s,baz=22,slow=38							
INK	**Inuvik**	**76.66**	**352**		P	**P**	**09 41 59.2**	**-0.8**
INK					S	**S**	**09 51 47.2**	**+1.3**
FRIM	**Kepong**	**76.68**	**95**		P	**P**	**09 42 01.8**	**+0.7**
HKC	**Hong Kong Obse**	**76.75**	**72**		P	**P**	**09 42 04.0**	**+2.6**
KTGM	**Kuala Trenggan**	**76.77**	**93**		P	**P**	**09 42 02.0**	**+0.5**
USRK	**Ussuriysk Arra**	**77.33**	**45**		P	**P**	**09 42 03.9**	**-0.4**
	comp=Z,75nm,0.8s,baz=294,slow=5.0,SNR=128							
USRK					S	**S**	**09 51 56.9**	**+2.9**
	comp=Z,1.8nm,0.8s,baz=273,slow=11,SNR=3.4							
USRK					LR	LR	10 22 36.1	
	comp=Z,12μm,18.2s,baz=302,slow=41							
SSE	**Sheshan**	**77.46**	**61**		P	**P**	**09 42 04.7**	**-0.5**
SSE					S	**S**	**09 51 52.1**	**-3.7**
SSE					pmax	pmax		
	comp=Z,92nm,1.2s							
SSE					pmax	pmax		
	comp=Z,3μm,12.0s							
SSE					LR	LR		
	comp=N,8μm,23.2s							
SSE					LR	LR		
	comp=E,10μm,23.2s							
SSE					LR	LR		
	comp=Z,11μm,18.9s							
SDMD	**Soldier's Deli**	**77.55**	**309**		*e*P	**P**	**09 42 04.9**	**-0.7**
	comp=Z,347nm,1.2s							
SDMD	**Soldier's Deli**	**77.55**	**309**		*e*P	**P**	**09 42 04.9**	**-0.7**
	comp=Z,347nm,1.2s							
INCN	**Inchon**	**77.78**	**53**		⇑P	**P**	**09 42 06.9**	**-0.1**
	SNR=10							
INCN	**Inchon**	**77.78**	**53**		*e*P	**P**	**09 42 06.8**	**-0.2**
	comp=Z,191nm,1.1s							
INCN					LR	LR		
	comp=Z,18μm,21.0s							
INCN	**Inchon**	**77.78**	**53**		*e*P	**P**	**09 42 06.8**	**-0.2**
	comp=Z,191nm,1.1s							
ANWB	**Willy Bob**	**78.14**	**283**		*e*P	**P**	**09 42 09.0**	**-0.2**
	comp=Z,55nm,0.6s							
ANWB					LR	LR		
	comp=Z,5μm,21.0s							
ANWB	**Willy Bob**	**78.14**	**283**		*e*P	**P**	**09 42 09.0**	**-0.2**
	comp=Z,55nm,0.6s							
ALLY	**Alegheny Colle**	**78.35**	**313**		*e*P	**P**	**09 42 09.6**	**-0.5**
	comp=Z,332nm,1.3s							
ALLY	**Alegheny Colle**	**78.35**	**313**		*e*P	**P**	**09 42 09.6**	**-0.5**
	comp=Z,332nm,1.3s							
YKW3	**Yellowknife Ar**	**78.45**	**342**		*e*P	**P**	**09 42 09.1**	**-1.0**
	comp=Z,1.5nm,0.9s							
YKW3					*e*S	**S**	**09 52 01.2**	**-4.3**
YKW3	**Yellowknife Ar**	**78.45**	**342**		*e*P	**P**	**09 42 09.1**	**-1.0**
	comp=Z,1.5nm,0.9s							
YKA	**Yellowknife Ar**	**78.51**	**342**		P	**P**	**09 42 09.7**	**-0.7**
YKA					S	**S**	**09 52 09.9**	**+3.9**
YKA					PKKPbc	**PKKPbc**	**10 01 08.3**	**+1.5**
YKA					P'P'		10 09 10.2	
YKA	**Yellowknife Ar**	**78.51**	**342**		P	**P**	**09 42 09.7**	**-0.7**
	comp=Z,28nm,0.7s,baz=30,slow=5.5,SNR=127							
YKA					S	**S**	**09 52 09.9**	**+3.9**
	comp=Z,1.4nm,0.9s,baz=28,slow=10,SNR=3.2							
YKA					PKKPbc	**PKKPbc**	**10 01 08.3**	**+1.5**
	comp=Z,1.4nm,0.9s,baz=197,slow=2.4,SNR=5.0							
YKA					PKPPKP	P'P'df	10 09 10.2	-6.1
	comp=Z,0.9nm,0.8s,baz=204,slow=1.4,SNR=2.9							
YKA					LR	LR	10 19 46.1	
	comp=Z,2μm,21.3s,baz=110,slow=38							
YKA	**Yellowknife Ar**	**78.51**	**342**		P	**P**	**09 42 09.7**	**-0.7**
CBN	**Corbin**	**78.57**	**308**		*e*P	**P**	**09 42 10.8**	**-0.5**
	comp=Z,356nm,1.2s							
CBN					LR	LR		
	comp=Z,21μm,20.0s							
CBN	**Corbin**	**78.57**	**308**		*e*P	**P**	**09 42 10.8**	**-0.5**
	comp=Z,356nm,1.2s							
KSAR	**Wonju Array Be**	**78.63**	**52**		P	**P**	**09 42 11.4**	**-0.2**
KSAR					S	**S**	**09 52 12.0**	**+3.7**
KSAR	**Wonju Array Be**	**78.63**	**52**		P	**P**	**09 42 11.4**	**-0.2**
KSRS	**Korea Array**	**78.65**	**52**		P	**P**	**09 42 11.4**	**-0.3**
	comp=Z,25nm,0.7s,baz=304,slow=5.0,SNR=86							
KSRS					S	**S**	**09 52 12.0**	**+3.5**
	comp=Z,0.7nm,0.7s,baz=191,slow=32,SNR=3.3							
KSRS					LR	LR	10 22 26.0	
	comp=Z,20μm,19.5s,baz=309,slow=40							
BBGH	**Gun Hill**	**78.74**	**278**		PFAKE		09 42 20.0	+7.4
BBGH					LR	LR		
	comp=Z,11μm,21.0s							
KGM	**Kluang**	**78.76**	**95**		P	**P**	**09 42 12.9**	**+0.3**
QZH	**Quanzhou**	**78.80**	**68**	⇑*i*P	P		09 42 17.2	+4.5
QZH					S	**S**	**09 52 15.1**	**+4.7**
QZH					pmax	pmax		
	comp=Z,130nm,0.8s							
QZH					pmax	pmax		
	comp=Z,3μm,10.8s							
QZH					LR	LR		
	comp=N,20μm,19.7s							
QZH					LR	LR		
	comp=E,7μm,16.4s							
QZH					LR	LR		
	comp=Z,20μm,20.7s							
COLD	**Coldfoot**	**78.89**	**358**		*e*P	**P**	**09 42 12.6**	**+0.1**
	comp=Z,208nm,1.1s							
COLD	**Coldfoot**	**78.89**	**358**		*e*P	**P**	**09 42 12.6**	**+0.1**
	comp=Z,208nm,1.1s							
GLMI	**Grayling**	**79.10**	**317**		P	**P**	**09 42 13.5**	**-0.6**
	comp=Z,262nm,0.9s							
GLMI					LR	LR		
	comp=Z,14μm,19.0s							
GLMI	**Grayling**	**79.10**	**317**		P	**P**	**09 42 13.5**	**-0.6**
	comp=Z,262nm,0.9s							
JSRW	**J. Sargeant Re**	**79.19**	**308**		*e*P	**P**	**09 42 13.9**	**-0.8**
JSRW	**J. Sargeant Re**	**79.19**	**308**		*e*P	**P**	**09 42 13.9**	**-0.8**
MYKOM	**Kota Tinggi**	**79.32**	**95**		P	**P**	**09 42 16.7**	**+0.9**
TNA	**Tin City**	**80.06**	**6**		*e*P	**P**	**09 42 18.2**	**-0.7**
	comp=Z,313nm,1.3s							
TNA	**Tin City**	**80.06**	**6**		*e*P	**P**	**09 42 18.2**	**-0.7**
	comp=Z,313nm,1.3s							
STVI	**Saint Thomas**	**80.32**	**286**		*e*P	**P**	**09 42 22.1**	**+1.0**
	comp=Z,221nm,1.7s							
STVI	**Saint Thomas**	**80.32**	**286**		*e*P	**P**	**09 42 22.1**	**+1.0**
	comp=Z,221nm,1.7s							
CDVI	**St. Croix**	**80.50**	**285**		*e*P	**P**	**09 42 20.5**	**-1.6**
	comp=Z,350nm,0.9s							
CDVI	**St. Croix**	**80.50**	**285**		*e*P	**P**	**09 42 20.5**	**-1.6**
	comp=Z,350nm,0.9s							
TOSP	**Speyside**	**80.53**	**277**		*e*	P	09 42 27.6	+5.3
CNNC	**Cliffs of the**	**80.60**	**306**		*e*P	**P**	**09 42 21.3**	**-1.1**
	comp=Z,202nm,1.3s							
CNNC					LR	LR		
	comp=Z,12μm,20.0s							
CNNC	**Cliffs of the**	**80.60**	**306**		*e*P	**P**	**09 42 21.3**	**-1.1**
	comp=Z,202nm,1.3s							
FFC	**Flin Flon**	**80.67**	**332**		P	**P**	**09 42 21.3**	**-1.1**
	comp=Z,836nm,1.0s,SNR=34							
FFC	**Flin Flon**	**80.67**	**332**		*i* P	**P**	**09 42 21.9**	**-0.5**
FFC	**Flin Flon**	**80.67**	**332**		PFAKE		09 42 30.0	+7.6
FFC					LR	LR		
	comp=Z,22μm,19.0s							
EYMN	**Ely**	**80.78**	**323**		*e*P	**P**	**09 42 22.0**	**-1.1**
	comp=Z,137nm,1.3s							
EYMN					LR	LR		
	comp=Z,12μm,20.0s							
EYMN	**Ely**	**80.78**	**323**		*e*P	**P**	**09 42 22.0**	**-1.1**
	comp=Z,137nm,1.3s							
EGAK	**Eagle**	**80.85**	**354**		*e*P	**P**	**09 42 22.9**	**-0.3**
	comp=Z,464nm,1.4s							
EGAK					LR	LR		
	comp=Z,9μm,20.0s							

EGAK	**Eagle**	**80.85**	**354**		*e*P	**P**	**09 42 22.9**	**-0.3**
	comp=Z,464nm,1.4s							
ACSO	**Alum Creek Sta**	**80.92**	**313**		*e*P	**P**	**09 42 23.3**	**-0.7**
	comp=Z,300nm,1.4s							
ACSO					LR	LR		
	comp=Z,14μm,21.0s							
ACSO	**Alum Creek Sta**	**80.92**	**313**		*e*P	**P**	**09 42 23.3**	**-0.7**
	comp=Z,300nm,1.4s							
MTP	**Monte Pirata**	**80.94**	**286**		*e*P	**P**	**09 42 23.7**	**-0.7**
	comp=Z,45nm,0.7s							
MTP	**Monte Pirata**	**80.94**	**286**		*e*P	**P**	**09 42 23.7**	**-0.7**
	comp=Z,45nm,0.7s							
TATO	**Taipei**	**80.99**	**66**		PFAKE		09 42 40.0	+15
TATO					LR	LR		
	comp=Z,8μm,21.0s							
GRGR	**Grenville**	**81.00**	**279**		*e*P	**P**	**09 42 25.3**	**+0.5**
	comp=Z,900nm,1.3s							
GRGR					LR	LR		
	comp=Z,4μm,22.0s							
GRGR	**Grenville**	**81.00**	**279**		*e*P	**P**	**09 42 25.3**	**+0.5**
	comp=Z,900nm,1.3s							
YHNB	**Yeheng**	**81.07**	**66**		*e*P	**P**	**09 42 25.1**	**-0.1**
	comp=Z,203nm,1.1s							
YHNB					LR	LR		
	comp=Z,9μm,21.0s							
YHNB	**Yeheng**	**81.07**	**66**		*e*P	**P**	**09 42 25.1**	**-0.1**
	comp=Z,203nm,1.1s							
BLA	**Blacksburg**	**81.12**	**309**		*e*P	**P**	**09 42 23.9**	**-1.3**
BLA					pmax	pmax		
	comp=Z,75nm,1.0s							
BLA					MLR	MLR		
	comp=Z,21μm,20.0s							
BLA	**Blacksburg**	**81.12**	**309**		*e*P	**P**	**09 42 23.9**	**-1.3**
	comp=Z,75nm,1.0s							
BLA					LR	LR		
	comp=Z,21μm,20.0s							
BLA	**Blacksburg**	**81.12**	**309**		*e*P	**P**	**09 42 23.9**	**-1.3**
	comp=Z,75nm,1.0s							
COLA	**College**	**81.17**	**357**		*e*P	**P**	**09 42 24.6**	**-0.2**
COLA					pmax	pmax		
	comp=Z,962nm,1.9s							
COLA					MLR	MLR		
	comp=Z,19μm,22.0s							
COLA	**College**	**81.17**	**357**		*e*P	**P**	**09 42 24.6**	**-0.2**
	comp=Z,962nm,1.9s							
COLA					LR	LR		
	comp=Z,19μm,22.0s							
COLA	**College**	**81.17**	**357**		*e*P	**P**	**09 42 24.6**	**-0.2**
	comp=Z,962nm,1.9s							
ILAR	**Eielson Array**	**81.23**	**357**		P	**P**	**09 42 24.6**	**-0.7**
ILAR					S	S	09 52 40.8	+6.0
ILAR					PKKPbc	**PKKPbc**	**10 00 58.9**	**-2.1**
ILAR					P'P'		10 09 05.8	
ILAR	**Eielson Array**	**81.23**	**357**		P	**P**	**09 42 24.5**	**-0.7**
	comp=Z,33nm,0.8s,baz=358,slow=5.0,SNR=317							
ILAR					S	S	09 52 40.8	+6.0
	comp=Z,0.6nm,1.1s,baz=341,slow=5.2,SNR=2.6							
ILAR					PKKPbc	**PKKPbc**	**10 00 58.9**	**-2.1**
	comp=Z,3.4nm,0.7s,baz=217,slow=2.8,SNR=30							
ILAR					PKPPKP	P'P'df	10 09 05.8	-5.6
	comp=Z,3.7nm,1.0s,baz=214,slow=1.8,SNR=9.5							
ILAR					LR	LR	10 19 15.1	
	comp=Z,19μm,22.0s,baz=16,slow=36							
ILAR	**Eielson Array**	**81.23**	**357**		P	**P**	**09 42 24.5**	**-0.7**
SSLB	**Suanglung**	**81.23**	**67**		*e*P	**P**	**09 42 24.5**	**-1.5**
	comp=Z,54nm,1.0s							
SSLB	**Suanglung**	**81.23**	**67**		*e*P	**P**	**09 42 24.5**	**-1.5**
	comp=Z,54nm,1.0s							
TPUB	**Ta-pu**	**81.25**	**68**		*e*P	**P**	**09 42 26.1**	**0.0**
	comp=Z,79nm,0.8s							
TPUB	**Ta-pu**	**81.25**	**68**		*e*P	**P**	**09 42 26.1**	**0.0**
	comp=Z,79nm,0.8s							
ULM	**Lac du Bonnet**	**81.32**	**326**		P	**P**	**09 42 25.0**	**-1.0**
ULM					S	**S**	**09 52 38.1**	**+1.9**
ULM	**Lac du Bonnet**	**81.32**	**326**		P	**P**	**09 42 25.0**	**-1.0**
	comp=Z,24nm,0.8s,baz=24,slow=4.7,SNR=18							
ULM					S	**S**	**09 52 38.1**	**+1.9**
	comp=Z,3.2nm,0.7s,baz=339,slow=8.6,SNR=2.1							
ULM					LR	LR	10 19 39.5	
	comp=Z,20μm,20.5s,baz=158,slow=37							
ULM	**Lac du Bonnet**	**81.32**	**326**		P	**P**	**09 42 25.0**	**-1.0**
SJG	**San Juan**	**81.41**	**286**		*e*P	**P**	**09 42 26.1**	**-0.8**
	comp=Z,415nm,1.7s							
SJG					LR	LR		
	comp=Z,5μm,20.0s							
SJG	**San Juan**	**81.41**	**286**		*e*P	**P**	**09 42 26.1**	**-0.8**
	comp=Z,415nm,1.7s							
GAMB	**Gambell**	**81.45**	**8**		*e*P	**P**	**09 42 25.7**	**-0.6**
	comp=Z,80nm,1.1s							
GAMB	**Gambell**	**81.45**	**8**		*e*P	**P**	**09 42 25.7**	**-0.6**
	comp=Z,80nm,1.1s							
NACB	**Ninganchiao**	**81.51**	**67**		*e*P	**P**	**09 42 26.1**	**-1.3**
	comp=Z,94nm,1.2s							
NACB	**Ninganchiao**	**81.51**	**67**		*e*P	**P**	**09 42 26.1**	**-1.3**
	comp=Z,94nm,1.2s							
YSS	**Yuzh-Sakalins**	**81.53**	**38**	α *i*P		**P**	**09 42 28.0**	**+0.9**
YSS				*i* *SP		**sP**	**09 42 33.6**	**+0.3**
YSS				*e*			09 42 40.0	
YSS				*e*			09 45 41.0	
YSS				*e*S		**S**	**09 52 41.0**	**+2.5**
YSS				*e*			09 52 47.0	
YSS				*e*PS		PnS	09 53 45.0	+19
YSS				pmax		pmax		
	comp=Z,100nm,1.0s							
YULB	**Yu-li**	**81.71**	**67**	*e*P		**P**	**09 42 28.6**	**0.0**
	comp=Z,138nm,1.3s							
YULB	**Yu-li**	**81.71**	**67**	*e*P		**P**	**09 42 28.5**	**0.0**
	comp=Z,138nm,1.3s							
CELP	**Cerrillos**	**81.77**	**286**	*e*P		**P**	**09 42 28.5**	**-0.4**
CELP	**Cerrillos**	**81.77**	**286**	*e*P		**P**	**09 42 28.5**	**-0.4**
COCO	**West Island**	**81.79**	**111**	*i* P		**P**	**09 42 31.5**	**+2.6**
COCO	**West Island**	**81.79**	**111**	PFAKE			09 42 40.0	+11
COCO				LR		LR		
	comp=Z,8μm,20.0s							
OBIP	**Obispado Ponce**	**81.81**	**286**	*e*P		**P**	**09 42 28.1**	**-1.0**
	comp=Z,195nm,1.0s							
OBIP	**Obispado Ponce**	**81.81**	**286**	*e*P		**P**	**09 42 28.1**	**-1.0**
	comp=Z,195nm,1.0s							
TWG	**Pinlang**	**81.85**	**68**	*e*P		**P**	**09 42 28.8**	**-0.4**
	comp=Z,666nm,1.2s							
TWG	**Pinlang**	**81.85**	**68**	*e*P		**P**	**09 42 28.8**	**-0.4**
	comp=Z,666nm,1.2s							
LRS	**Lares**	**81.86**	**286**	*e*P		**P**	**09 42 28.9**	**-0.5**
LRS	**Lares**	**81.86**	**286**	*e*P		**P**	**09 42 28.9**	**-0.5**
AGPR	**Aguadilla, PR**	**81.98**	**287**	P		**P**	**09 42 29.3**	**-0.6**
	comp=Z,334nm,1.1s							
AGPR	**Aguadilla, PR**	**81.98**	**287**	P		**P**	**09 42 29.3**	**-0.6**
	comp=Z,334nm,1.1s							
DOT	**Dot Lake**	**82.19**	**355**	*e*P		**P**	**09 42 30.6**	**+0.3**
	comp=Z,301nm,1.0s							
DOT	**Dot Lake**	**82.19**	**355**	*e*P		**P**	**09 42 30.6**

JNU	**Nakatsue**	**83.12**	**55**	P		**P**	**09 42 35.7**	**0.0**	
	comp=Z,300nm,0.9s,baz=355,slow=4.3,SNR=3.9								
JNU				S		**S**	**09 52 58.4**	**+3.0**	
	comp=Z,4.1nm,0.4s,baz=243,slow=8.2,SNR=1.8								
JNU				LR		LR	10 27 23.9		
	comp=Z,16µm,19.3s,baz=132,slow=41								
JNU	**Nakatsue**	**83.12**	**55**	*e*P		**P**	**09 42 35.3**	**-0.5**	
	comp=Z,10nm,1.1s								
SPMN	**St. Paul**	**83.28**	**321**	⇓P		**P**	**09 42 35.7**	**-0.6**	
	baz=83								
SFIN	**Scholer Farm**	**83.30**	**315**	⇓P		**P**	**09 42 35.2**	**-1.3**	
	baz=83								
ASAJ	**Asahikawa**	**83.35**	**40**	*e*P		**P**	**09 42 36.5**	**-0.2**	
	comp=Z,61nm,1.0s								
ASAJ				S		**S**	**09 53 00.2**	**+3.0**	
ASAJ	**Asahikawa**	**83.35**	**40**	P		**P**	**09 42 36.5**	**-0.2**	
	comp=Z,47nm,1.1s,baz=338,slow=5.4,SNR=12								
ASAJ				S		**S**	**09 53 00.2**	**+3.0**	
	comp=Z,9.3nm,1.1s,baz=53,slow=20,SNR=2.3								
ASAJ				LR		LR	10 24 47.6		
	comp=Z,29µm,19.6s,baz=76,slow=39								
ASAJ	**Asahikawa**	**83.35**	**40**	*e*P		**P**	**09 42 36.5**	**-0.2**	
	comp=Z,61nm,1.0s								
NHSC	**New Hope**	**83.39**	**306**	PFAKE			09 42 50.0	+13	
NHSC				LR		LR			
	comp=Z,13µm,19.0s								
JFWS	**Jewell Farm**	**83.45**	**318**	*e*P		**P**	**09 42 36.0**	**-1.2**	
JFWS				pmax		pmax			
	comp=Z,413nm,1.4s								
JFWS				MLR		MLR			
	comp=Z,14µm,20.0s								
JFWS	**Jewell Farm**	**83.45**	**318**	*e*P		**P**	**09 42 36.0**	**-1.2**	
	comp=Z,413nm,1.4s								
JFWS				LR		LR			
	comp=Z,14µm,20.0s								
JFWS	**Jewell Farm**	**83.45**	**318**	*e*P		**P**	**09 42 36.0**	**-1.2**	
	comp=Z,413nm,1.4s								
GRTK	**Grand Turk**	**83.46**	**291**	*e*P		**P**	**09 42 37.3**	**-0.3**	
	comp=Z,153nm,1.1s								
GRTK				LR		LR			
	comp=Z,4µm,19.0s								
GRTK	**Grand Turk**	**83.46**	**291**	*e*P		**P**	**09 42 37.3**	**-0.3**	
	comp=Z,153nm,1.1s								
TZTN	**Tazewell**	**83.52**	**310**	*e*P		**P**	**09 42 36.6**	**-1.1**	
	comp=Z,150nm,1.2s								
TZTN	**Tazewell**	**83.52**	**310**	*e*P		**P**	**09 42 36.6**	**-1.1**	
	comp=Z,150nm,1.2s								
PEA0B	**Petropavlovsk-**	**83.67**	**27**	*e*P		**P**	**09 42 36.5**	**-1.7**	
PEA0B	**Petropavlovsk-**	**83.67**	**27**	*e*P		**P**	**09 42 36.5**	**-1.7**	
PETK	**Petropavlovsk-**	**83.67**	**27**	P		**P**	**09 42 37.1**	**-1.1**	
PETK				S		**S**	**09 53 00.0**	**-0.2**	
PETK				pmax		pmax			
	comp=Z,16nm,1.0s								
PETK				smax		smax			
	comp=N,1.0nm,0.8s								
PETK	**Petropavlovsk-**	**83.67**	**27**	P		**P**	**09 42 37.1**	**-1.1**	
PETK				PP		PP	09 46 00.5	+10	
PETK				S		**S**	**09 52 60.0**	**-0.2**	
PETK	**Petropavlovsk-**	**83.67**	**27**	P		**P**	**09 42 37.1**	**-1.1**	
	comp=N,16nm,1.0s,baz=296,slow=2.4,SNR=18								
PETK				PP		PP	09 46 00.5	+10	
	comp=N,24nm,1.1s,baz=33,slow=5.7,SNR=4.2								
PETK				S		**S**	**09 52 60.0**	**-0.2**	
	comp=N,1.3nm,0.8s,baz=336,slow=13,SNR=2.3								
PETK				LR		LR	10 24 38.0		
	comp=N,15µm,20.1s,baz=318,slow=39								
PETK	**Petropavlovsk-**	**83.67**	**27**	P		**P**	**09 42 37.1**	**-1.1**	
BLO	**Bloomington**	**83.72**	**314**	*e*P		**P**	**09 42 38.0**	**-0.7**	
BLO				pmax		pmax			
	comp=Z,117nm,0.7s								
BLO	**Bloomington**	**83.72**	**314**	*e*P		**P**	**09 42 38.0**	**-0.7**	
	comp=Z,117nm,0.7s								
BLO	**Bloomington**	**83.72**	**314**	*e*P		**P**	**09 42 38.0**	**-0.7**	
	comp=Z,117nm,0.7s								
PET	**Petropavlovsk**	**84.09**	**26**	*e*P		**P**	**09 42 37.9**	**-2.4**	
PET				*e*			09 45 59.8		
PET				*e*S		**S**	**09 52 59.4**	**-4.9**	
PET				pmax		pmax			
	comp=Z,2µm,6.8s								
PET				pmax		pmax			
	comp=Z,2µm,14.2s								
PET				pmax		pmax			
	comp=Z,64nm,1.3s								
PET				pmax		pmax			
	comp=Z,39nm,1.7s								
PET				pmax		pmax			
	comp=Z,1µm,17.7s								
PET				MLR		MLR			
	comp=Z,19µm,21.0s								
PET				MLR		MLR			
	comp=Z,15µm,21.0s								
WCI	**Wyandotte Cave**	**84.18**	**313**	*e*P		**P**	**09 42 40.4**	**-0.7**	
WCI				pmax		pmax			
	comp=Z,258nm,1.1s								
WCI	**Wyandotte Cave**	**84.18**	**313**	*e*P		**P**	**09 42 40.4**	**-0.7**	
	comp=Z,258nm,1.1s								
WCI	**Wyandotte Cave**	**84.18**	**313**	*e*P		**P**	**09 42 40.4**	**-0.7**	
	comp=Z,258nm,1.1s								
TKL	**Tuckaleechee C**	**84.21**	**309**	P		**P**	**09 42 40.3**	**-1.0**	
TKL				S		**S**	**09 53 07.2**	**+1.0**	
TKL	**Tuckaleechee C**	**84.21**	**309**	P		**P**	**09 42 40.3**	**-1.0**	
	comp=Z,15nm,0.8s,baz=45,slow=3.5,SNR=7.7								
TKL				S		**S**	**09 53 07.2**	**+1.0**	
	comp=Z,2.2nm,0.8s,baz=96,slow=10,SNR=1.8								
TKL				LR		LR	10 18 09.8		
	comp=Z,7µm,21.6s,baz=59,slow=34								
TKL	**Tuckaleechee C**	**84.21**	**309**	P		**P**	**09 42 40.3**	**-1.0**	
SML	**Sawmill**	**84.25**	**357**	*e*P		**P**	**09 42 40.9**	**-0.1**	
SML				pmax		pmax			
	comp=Z,57nm,0.8s								
SML	**Sawmill**	**84.25**	**357**	*e*P		**P**	**09 42 40.9**	**-0.1**	
	comp=Z,57nm,0.8s								
SML	**Sawmill**	**84.25**	**357**	*e*P		**P**	**09 42 40.9**	**-0.1**	
	comp=Z,57nm,0.8s								
PMR	**Palmer**	**84.50**	**357**	*e*P		**P**	**09 42 41.9**	**-0.3**	
PMR				pmax		pmax			
	comp=Z,681nm,1.4s								
PMR	**Palmer**	**84.50**	**357**	*e*P		**P**	**09 42 41.9**	**-0.3**	
	comp=Z,681nm,1.4s								
PMR	**Palmer**	**84.50**	**357**	*e*P		**P**	**09 42 41.9**	**-0.3**	
	comp=Z,681nm,1.4s								
MDND	**Maddock**	**84.75**	**326**	⇑P		**P**	**09 42 42.7**	**-1.1**	
	baz=84								
DIV	**Divide**	**84.80**	**356**	*e*P		**P**	**09 42 43.6**	**-0.2**	
	comp=Z,174nm,1.3s								
DIV	**Divide**	**84.80**	**356**	*e*P		**P**	**09 42 43.6**	**-0.2**	
	comp=Z,174nm,1.3s								
CPCT	**Cooper Cave**	**84.82**	**310**	*e*P		**P**	**09 42 44.1**	**-0.2**	
CPCT	**Cooper Cave**	**84.82**	**310**	*e*P		**P**	**09 42 44.1**	**-0.2**	
KSM	**Kuching**	**84.84**	**92**	P		**P**	**09 42 45.2**	**+0.4**	
OLIL	**Olney**	**84.95**	**314**	*e*P		**P**	**09 42 44.0**	**-0.9**	
	comp=Z,444nm,1.3s								
OLIL	**Olney**	**84.95**	**314**	*e*P		**P**	**09 42 44.0**	**-0.9**	
	comp=Z,444nm,1.3s								
SKR	**Severo-Kuril's**	**84.96**	**29**	*e*P		P	09 42 36.0	-8.7	
SKR				*e*			09 45 56.0		
SKR				*e*PPP		PPP	09 47 54.0		
SKR				*e*S		**S**	**09 53 08.0**	**-5.0**	
SKR				*e*PS		**PnS**	**09 54 03.0**	**-4.7**	
SKR				*e*SSS		SSS	10 02 07.0		
SKR				pmax		pmax			
	comp=Z,110nm,0.9s								
SKR				pmax		pmax			
	comp=N,1µm,14.0s								
SKR				pmax		pmax			
	comp=Z,2µm,14.0s								
SKR				pmax		pmax			
	comp=Z,3µm,20.0s								
SKR				smax		smax			
	comp=N,3µm,10.0s								
SKR				smax		smax			
	comp=E,3µm,10.0s								
SKR				MLR		MLR			
	comp=E,16µm,20.0s								
SKR				MLR		MLR			
	comp=Z,13µm,20.0s								
SKR				MLR		MLR			
	comp=N,9µm,24.0s								
JOW	**Kunigami**	**84.98**	**61**	*e*P		**P**	**09 42 44.8**	**-0.5**	
	comp=N,165nm,1.3s								
JOW	**Kunigami**	**84.98**	**61**	*e*P		**P**	**09 42 44.8**	**-0.5**	
	comp=N,165nm,1.3s								
SDDR	**Presa de Saban**	**84.99**	**289**	*e*P		**P**	**09 42 45.2**	**-0.3**	
	comp=N,300nm,1.4s								
SDDR				LR		LR			
	comp=Z,8µm,22.0s								
SDDR	**Presa de Saban**	**84.99**	**289**	*e*P		**P**	**09 42 45.2**	**-0.3**	
	comp=Z,300nm,1.4s								
BCPH	**Baguio City Da**	**85.03**	**74**	⇑*i*P		**P**	**09 42 45.0**	**-0.8**	
ERM	**Erimo**	**85.06**	**42**	⇑*i*P		**P**	**09 42 45.3**	**-0.1**	
ERM				pmax		pmax			
	comp=Z,108nm,1.4s								
ERM	**Erimo**	**85.06**	**42**	*e*P		**P**	**09 42 43.9**	**-1.6**	
	comp=Z,343nm,1.4s								
ERM				LR		LR			
	comp=Z,14µm,20.0s								
ERM	**Erimo**	**85.06**	**42**	*e*P		**P**	**09 42 43.8**	**-1.6**	
	comp=Z,343nm,1.4s								
YUK	**Yuzh-Kuril'sk**	**85.12**	**39**	*i* P		P	09 42 49.3	+3.6	
YUK				*i*			09 45 59.3		
YUK				*i* PPP		PPP	09 48 04.6		
YUK				*i* S		**S**	**09 53 13.7**	**-1.2**	
YUK				*i* SS		**SS**	**09 58 44.2**	**-3.1**	
YUK				pmax		pmax			
	comp=Z,2µm,1.4s								
YUK				pmax		pmax			
	comp=E,549nm,1.7s								
YUK				pmax		pmax			
	comp=Z,2µm,1.7s								
YUK				pmax		pmax			
	comp=N,366nm,0.8s								
USIN	**University of**	**85.18**	**313**	*e*P		**P**	**09 42 45.2**	**-0.9**	
	comp=N,551nm,1.5s								
USIN	**University of**	**85.18**	**313**	*e*P		**P**	**09 42 45.2**	**-0.9**	
	comp=N,551nm,1.5s								
KUR	**Kuril'sk**	**85.30**	**37**	*c i*P		**P**	**09 42 45.4**	**-1.1**	
KUR				*i* S		**S**	**09 53 15.5**	**-1.1**	
KUR				pmax		pmax			
	comp=Z,582nm,1.8s								
KUR				pmax		pmax			
	comp=Z,1µm,2.6s								
SKAG	**Skagway**	**85.40**	**350**	*e*P		**P**	**09 42 46.7**	**0.0**	
	comp=Z,200nm,1.2s								
SKAG				*e*S		**S**	**09 53 18.0**	**+0.9**	
SKAG	**Skagway**	**85.40**	**350**	*e*P		**P**	**09 42 46.7**	**0.0**	
	comp=Z,200nm,1.2s								
SKAG	**Skagway**	**85.40**	**350**	*e*S		**S**	**09 53 18.0**	**+0.9**	
DLBC	**Dease Lake**	**85.52**	**347**	P		**P**	**09 42 48.4**	**+0.9**	
DLBC				S		**S**	**09 53 14.3**	**-4.3**	
DLBC				P'P'			10 08 59.4		
DLBC	**Dease Lake**	**85.52**	**347**	P		**P**	**09 42 48.4**	**+0.9**	
	comp=Z,21nm,0.8s,baz=11,slow=4.9,SNR=52								
DLBC				S		**S**	**09 53 14.3**	**-4.3**	
	comp=Z,0.6nm,0.4s,baz=330,slow=20,SNR=2.1								
DLBC				PKPPKP		**P'P'df**	**10 08 59.4**	**-4.1**	
	comp=Z,1.7nm,0.8s,baz=222,slow=5.6,SNR=4.7								
DLBC	**Dease Lake**	**85.52**	**347**	P		**P**	**09 42 48.4**	**+0.9**	
BDFB	**Brasilia**	**85.61**	**248**	P		**P**	**09 42 48.4**	**-0.3**	
BDFB				S		**S**	**09 53 18.9**	**-1.7**	
BDFB	**Brasilia**	**85.61**	**248**	P		**P**	**09 42 48.4**	**-0.3**	
	comp=Z,37nm,0.8s,baz=60,slow=5.6,SNR=40								
BDFB				S		**S**	**09 53 18.9**	**-1.7**	
	comp=Z,1.0nm,0.3s,baz=82,slow=14,SNR=2.7								
BDFB				LR		LR	10 22 56.8		
	comp=Z,49µm,19.8s,baz=50,slow=37								
BDFB	**Brasilia**	**85.61**	**248**	P		**P**	**09 42 48.3**	**-0.3**	
CAM4	**Nova Friburgo**	**85.70**	**239**	⇑*i*P		**P**	**09 42 49.1**	**0.0**	
CAM4				*i*			09 42 51.4		
CAM4				*i*			09 42 56.2		
CAM4				*i*			09 42 58.5		
CAM4				*i*			09 43 02.9		
CAM4				*i*			09 43 06.8		
CAM4				*i*			09 43 08.8		
CAM4				*i*			09 43 11.2		
CAM4				*i*			09 43 13.3		
CAM4				*i*			09 43 17.2		
CAM4				*i*			09 43 31.6		
CAM4				*i*			09 43 34.5		
CAM4				*i*			09 43 40.9		
PNL	**Peninsula**	**85.70**	**352**	*e*P		**P**	**09 42 47.8**	**-0.5**	
	comp=Z,260nm,1.3s								
PNL	**Peninsula**	**85.70**	**352**	*e*P		**P**	**09 42 47.8**	**-0.5**	
	comp=Z,260nm,1.3s								
RSO	**Redoubt South**	**85.72**	**359**	*e*P		**P**	**09 42 47.9**	**-0.8**	
	comp=Z,150nm,0.7s								
RSO	**Redoubt South**	**85.72**	**359**	*e*P		**P**	**09 42 47.9**	**-0.8**	
	comp=Z,150nm,0.7s								
SCIA	**State Center**	**85.76**	**319**	*e*P		**P**	**09 42 47.9**	**-1.0**	
	comp=Z,510nm,1.6s								
SCIA				LR		LR			
	comp=Z,15µm,20.0s								
SCIA	**State Center**	**85.76**	**319**	*e*P		**P**	**09 42 47.9**	**-1.0**	
	comp=Z,510nm,1.6s								
MAJO	**Matsushiro**	**85.77**	**48**	*e*P		**P**	**09 42 48.6**	**-0.5**	
MAJO				pmax		pmax			
	comp=Z,120nm,0.9s								
MAJO				MLR		MLR			
	comp=Z,16µm,21.0s								
MAJO	**Matsushiro**	**85.77**	**48**	*e*P		**P**	**09 42 48.6**	**-0.5**	
	comp=Z,120nm,0.9s								
MAJO				LR		LR			
	comp=Z,16µm,21.0s								
MAJO	**Matsushiro**	**85.77**	**48**	*e*P		**P**	**09 42 48.6**	**-0.5**	
	comp=Z,120nm,0.9s								
MAT	**Matsushiro**	**85.77**	**48**	P		**P**	**09 42 48.5**	**-0.6**	
MAT				S		**S**	**09 53 21.2**	**-0.4**	
MJAR	**Matsushiro Arr**	**85.77**	**48**	P		**P**	**09 42 48.9**	**-0.2**	
MJAR				S		**S**	**09 53 17.7**	**-4.0**	
MJAR	**Matsushiro Arr**	**85.77**	**48**	P		**P**	**09 42 48.9**	**-0.2**	
	comp=Z,31nm,1.0s,baz=298,slow=5.7,SNR=53								
MJAR				S		**S**	**09 53 17.7**	**-4.0**	
	comp=Z,0.5nm,0.5s,baz=255,slow=14,SNR=2.8								
MJAR				LR		LR	10 26 56.9		
	comp=Z,12µm,20.6s,baz=330,slow=40								
MJAR	**Matsushiro Arr**	**85.77**	**48**	P		**P**	**09 42 48.9**	**-0.2**	
A24A	**Westby**	**85.89**	**329**	⇓P		**P**	**09 42 48.9**	**-0.5**	
	baz=86,SNR=31								
SBUM	**Sibu**	**85.89**	**90**	P		**P**	**09 42 49.5**	**-0.5**	
BTM	**Bintulu**	**86.19**	**89**	P		**P**	**09 42 51.6**	**+0.1**	
A23A	**Redstone**	**86.23**	**330**	⇑P		**P**	**09 42 50.5**	**-0.7**	
	baz=86,SNR=30								
SLM	**Saint Louis**	**86.27**	**315**	*e*P		**P**	**09 42 50.8**	**-0.7**	
SLM				pmax		pmax			
	comp=Z,456nm,1.4s								
SLM	**Saint Louis**	**86.27**	**315**	*e*P		**P**	**09 42 50.8**	**-0.7**	
	comp=Z,456nm,1.4s								
SLM	**Saint Louis**	**86.27**	**315**	*e*P		**P**	**09 42 50.8**	**-0.7**	
	comp=Z,456nm,1.4s								
ECSD	**EROS Data Cent**	**86.28**	**322**	*e*P		**P**	**09 42 50.6**	**-0.8**	
	comp=Z,390nm,1.3s								
ECSD				LR		LR			
	comp=Z,14µm,20.0s								
ECSD	**EROS Data Cent**	**86.28**	**322**	*e*P		**P**	**09 42 50.7**	**-0.8**	
	comp=Z,390nm,1.3s								
SIUC	**Southern Illin**	**86.28**	**314**	*e*P		**P**	**09 42 50.8**	**-0.8**	
	comp=Z,287nm,1.0s								
SIUC	**Southern Illin**	**86.28**	**314**	*e*P		**P**	**09 42 50.8**	**-0.8**	
	comp=Z,287nm,1.0s								
DGMT	**Dagmar**	**86.32**	**329**	*e*P		**P**	**09 42 51.2**	**-0.4**	
	comp=Z,505nm,1.4s								
DGMT				LR		LR			
	comp=Z,12µm,20.0s								
DGMT	**Dagmar**	**86.32**	**329**	*e*P		**P**	**09 42 51.2**	**-0.4**	
	comp=Z,505nm,1.4s								
DGMT	**Dagmar**	**86.32**	**329**	⇓P		**P**	**09 42 51.2**	**-0.4**	
	baz=86,SNR=24								
WVT	**Waverly**	**86.46**	**312**	*e*P		**P**	**09 42 51.0**	**-1.5**	
WVT				pmax		pmax			
	comp=Z,268nm,1.4s								
WVT	**Waverly**	**86.46**	**312**	*e*P		**P**	**09 42 51.0**	**-1.5**	
	comp=Z,268nm,1.4s								
WVT	**Waverly**	**86.46**	**312**	*e*P		**P**	**09 42 51.0**	**-1.5**	
	comp=Z,268nm,1.4s								
MID	**Middleton Isla**	**86.53**	**356**	*e*P		**P**	**09 42 52.0**	**-0.3**	
MID				pmax		pmax			
	comp=Z,132nm,1.1s								
MID	**Middleton Isla**	**86.53**	**356**	*e*P		**P**	**09 42 52.0**	**-0.3**	
	comp=Z,132nm,1.1s								
MID	**Middleton Isla**	**86.53**	**356**	*e*P		**P**	**09 42 52.0**	**-0.3**	
	comp=Z,132nm,1.1s								
A22A	**Carney Farms,**	**86.63**	**330**	⇑P		**P**	**09 42 52.7**	**-0.4**	
	baz=86,SNR=66								
B23A	**Brookton**	**86.66**	**330**	⇓P		**P**	**09 42 52.3**	**-1.0**	
	baz=86,SNR=39								
TIGA	**Tifton**	**86.69**	**306**	⇓P		**P**	**09 42 52.8**	**-0.9**	
	baz=86,SNR=10								
BRSD	**Miller**	**86.94**	**324**	⇑P		**P**	**09 42 53.9**	**-0.8**	
	baz=87								
UTMT	**University of**	**86.96**	**313**	*e*P		**P**	**09 42 54.3**	**-0.6**	
	comp=Z,666nm,1.5s								
UTMT	**University of**	**86.96**	**313**	*e*P		**P**	**09 42 54.3**	**-0.6**	
	comp=Z,666nm,1.5s								
A21A	**Bergtoll Ranch**	**87.04**	**331**	⇑P		**P**	**09 42 54.3**	**-0.9**	
	baz=87,SNR=14								
E26A	**Carlson Angus**	**87.08**	**327**	⇑P		**P**	**09 42 54.6**	**-0.9**	
	baz=87,SNR=37								
C24A	**Savage**	**87.14**	**329**	⇑P		**P**	**09 42 55.4**	**-0.3**	
	baz=87,SNR=32								
B22A	**Reddig Ranch S**	**87.21**	**330**	⇑P		**P**	**09 42 55.5**	**-0.4**	
	baz=87,SNR=34								
KKM	**Kota Kinabalu**	**87.21**	**85**	P		**P**	**09 42 55.5**	**-1.1**	
KDM	**Kudat**	**87.23**	**84**	P		**P**	**09 42 55.6**	**-1.0**	
C23A	**Lambert**	**87.25**	**329**	⇓P		**P**	**09 42 55.9**	**-0.3**	
	baz=87,SNR=32								
GLAT	**Glass**	**87.27**	**313**	*e*P		**P**	**09 42 55.3**	**-1.1**	
GLAT	**Glass**	**87.27**	**313**	*e*P		**P**	**09 42 55.3**	**-1.1**	
PARMO	**Parma**	**87.29**	**313**	*e*P		**P**	**09 42 55.5**	**-1.0**	
PARMO	**Parma**	**87.29**	**313**	*e*P		**P**	**09 42 55.5**	**-1.0**	
GTBY	**Guantanamo Bay**	**87.42**	**292**	*e*P		**P**	**09 42 56.5**	**-0.9**	
	comp=Z,176nm,1.4s								
GTBY				LR		LR			
	comp=Z,7µm,20.0s								
GTBY	**Guantanamo Bay**	**87.42**	**292**	*e*P		**P**	**09 42 56.5**	**-0.9**	
	comp=Z,176nm,1.4s								
D24A	**Glendive**	**87.42**	**328**	⇓P		**P**	**09 42 56.9**	**-0.1**	
	baz=87,SNR=8.9								
PVMO	**Portageville**	**87.42**	**313**	*e*P		**P**	**09 42 56.3**	**-0.9**	
	comp=Z,945nm,1.3s								
PVMO	**Portageville**	**87.42**	**313**	*e*P		**P**	**09 42 56.3**	**-0.9**	
	comp=Z,945nm,1.3s								
E25A	**Miller Ranch,**	**87.48**	**327**	⇓P		**P**	**09 42 56.9**	**-0.4**	
	baz=87,SNR=37								
B21A	**Ellsworth Farm**	**87.53**	**331**	⇓P		**P**	**09 42 56.9**	**-0.5**	
	baz=87,SNR=15								
A20A	**Cobblestone Ra**	**87.53**	**331**	⇓P		**P**	**09 42 57.1**	**-0.4**	
	baz=87,SNR=52								
HALT	**Halls**	**87.53**	**313**	*e*P		**P**	**09 42 56.9**	**-0.8**	
HALT	**Halls**	**87.53**	**313**	*e*P		**P**	**09 42 56.9**	**-0.8**	
C22A	**Vida**	**87.59**	**330**	⇑P		**P**	**09 42 57.3**	**-0.6**	
	baz=87,SNR=46								
D23A	**Lindsay**	**87.75**	**329**	⇑P		**P**	**09 42 58.4**	**-0.3**	
	baz=87								
A19A	**Klindworth Far**	**87.81**	**332**	⇑P		**P**	**09 42 58.5**	**-0.5**	
	baz=88,SNR=18								
E24A	**Baker**	**87.84**	**328**	⇓P		**P**	**09 42 58.8**	**-0.3**	
	baz=88,SNR=12								
E24A				⇓SKSac		**SKSac**	**09 53 24.5**	**-2.6**	
	baz=88								
E24A				⇓SKSac		**SKSac**	**09 53 24.5**	**-2.6**	
	baz=88								
E24A				⇓SKSac		**SKSac**	**09 53 24.5**	**-2.6**	
	baz=88								
WRAK	**Wrangell Islan**	**87.85**	**348**	*e*P		**P**	**09 42 57.5**	**-1.3**	
	comp=Z,58nm,0.9s								
WRAK				LR		LR			
	comp=Z,12µm,19.0s								
WRAK	**Wrangell Islan**	**87.85**	**348**	*e*P		**P**	**09 42 57.5**	**-1.3**	
	comp=Z,58nm,0.9s								
B20A	**Solberg Farm,**	**87.92**	**331**	⇑P		**P**	**09 42 59.0**	**-0.4**	
	baz=88,SNR=18								
LRAL	**Lakeview Retre**	**87.93**	**309**	*e*P		**P**	**09 42 59.0**	**-0.7**	
	comp=Z,422nm,1.2s								
LRAL				LR		LR			
	comp=Z,19µm,19.0s								
LRAL	**Lakeview Retre**	**87.93**	**309**	*e*P		**P**	**09 42 59.0**	**-0.7**	
	comp=Z,422nm,1.2s								
C21A	**Desert Coulee**	**88.03**	**330**	⇑P		**P**	**09 42 59.7**	**-0.3**	
	baz=88,SNR=12								
D22A	**Cohagen**	**88.19**	**329**	⇓P		**P**	**09 43 00.4**	**-0.3**	
	baz=88,SNR=55								
SDKM	**Sandakan**	**88.24**	**84**	P		**P**	**09 43 00.4**	**-1.1**	
A18A	**Metzger Ranch,**	**88.25**	**332**	⇓P		**P**	**09 43 00.4**	**-0.6**	
	baz=88,SNR=38								
B19A	**Brinkman Farms**	**88.28**	**332**	⇓P		**P**	**09 43 00.5**	**-0.6**	
	baz=88,SNR=23								
E23A	**Ismay**	**88.32**	**328**	⇑P		**P**	**09 43 00.9**	**-0.4**	
	baz=88,SNR=53								
KDAK	**Kodiak Island**	**88.41**	**359**	P		**P**	**09 43 01.0**	**-0.4**	
	comp=Z,1µm,0.9s,SNR=26								
KDAK	**Kodiak Island**	**88.41**	**359**	*e*P		**P**	**09 43 00.7**	**-0.7**	
	comp=Z,517nm,1.4s								
KDAK				*e*S		**SKSac**	**09 53 33.0**	**+3.2**	
KDAK				S		**SKSac**	**09 53 33.8**	**+4.0**	
KDAK				LR		LR			
	comp=Z,14µm,21.0s								
KDAK	**Kodiak Island**	**88.41**	**359**	P		**P**	**09 43 01.0**	**-0.4**	
	comp=Z,56nm,0.8s,baz=39,slow=4.0,SNR=56								
KDAK				S		**SKSac**	**09 53 33.8**	**+4.0**	
	comp=Z,10.0nm,1.2s,baz=185,slow=20,SNR=7.6								
KDAK	**Kodiak Island**	**88.41**	**359**	*e*P		**P**	**09 43 00.7**	**-0.7**	
	comp=Z,517nm,1.4s								
F24A	**Ekalaka**	**88.45**	**328**	⇓P		**P**	**09 43 01.5**	**-0.5**	
	baz=88,SNR=27								
C20A	**Veseth Ranch,**	**88.50**	**331**	⇑P		**P**	**09 43 02.0**	**-0.1**	
	baz=88,SNR=38								
A17A	**Triple J Farms**	**88.56**	**333**	⇓P		**P**	**09 43 01.4**	**-1.0**	
	baz=88,SNR=13								
HBAR	**Harrisburg**	**88.57**	**313**	P		**P**	**09 43 02.5**	**

M30A Dale-Ortello V 89.52 322 ⇑P P 09 43 06.7 -0.4
baz=89
A14A Double T Ranch 89.54 334 ⇓P P 09 43 06.4 -0.7
baz=89
TSM Tawau 89.55 85 P P 09 43 06.3 -1.3
KSU1 Kansas State U 89.57 319 eP P 09 43 05.9 -1.4
comp=Z,130nm,1.0s
KSU1 LR LR
comp=Z,12µm,19.0s
KSU1 Kansas State U 89.57 319 eP P 09 43 05.9 -1.4
comp=Z,130nm,1.0s
MYLDM Lahad Datu 89.57 84 P P 09 43 07.0 -0.7
MYLDM Lahad Datu 89.57 84 P P 09 43 09.4 +1.7
RSSD Black Hills 89.59 326 eP P 09 43 05.6 -2.0
RSSD pmax pmax
comp=Z,216nm,1.4s
RSSD Black Hills 89.59 326 eP P 09 43 05.6 -2.0
comp=Z,216nm,1.4s
RSSD Black Hills 89.59 326 eP P 09 43 05.6 -2.0
comp=Z,216nm,1.4s
F21A Absaloka Mine, 89.63 329 ⇓P P 09 43 06.8 -0.8
baz=89
D18A Linhart Farms, 89.64 331 ⇓P P 09 43 07.4 -0.2
baz=89
WALA Waterton Lakes 89.64 335 eP P 09 43 06.5 -1.1
comp=Z,2.6nm,1.0s
WALA Waterton Lakes 89.64 335 eP P 09 43 06.5 -1.1
comp=Z,2.6nm,1.0s
C17A Wharram Farm, 89.66 332 ⇓P P 09 43 06.6 -1.1
baz=89,SNR=16
G22A Birney 89.75 328 ⇓P P 09 43 07.2 -1.0
baz=89,SNR=10
B15A Bradely Ranch, 89.78 334 ⇓P P 09 43 07.0 -1.3
baz=89,SNR=40
E19A Rath Farm, Rou 89.82 330 ⇑P P 09 43 07.8 -0.6
baz=90,SNR=31
K27A Flueckinger Fa 89.82 324 ⇓P P 09 43 07.9 -0.6
baz=90,SNR=15
CHGN Chignik 89.84 2 eP P 09 43 07.3 -0.9
CHGN Chignik 89.84 2 eP P 09 43 07.3 -0.9
H23A Clabaugh Cattl 89.87 327 ⇑P P 09 43 07.6 -1.1
baz=90
C16A Fuhringer Ranc 89.89 333 ⇓P P 09 43 07.5 -1.3
baz=90
A13A Flathead Natio 89.92 335 ⇑P P 09 43 07.8 -1.1
baz=90
B14A Marquette Ranc 90.00 334 ⇑P P 09 43 08.0 -1.3
baz=90,SNR=37
L28A Connealy Angus 90.00 324 ⇑P P 09 43 08.4 -0.9
baz=90
M29A Burnside Ranch 90.00 323 ⇓P P 09 43 08.3 -1.0
baz=90
D17A Six Diamond Ra 90.02 332 ⇑P P 09 43 08.6 -0.9
baz=90,SNR=14
J25A Sunshine Ranch 90.05 326 ⇓P P 09 43 08.5 -1.1
baz=90,SNR=14
I24A Kuemmerle Ranc 90.07 326 ⇓P P 09 43 08.6 -1.1
baz=90,SNR=9.7
F20A Billings 90.08 330 ⇓P P 09 43 09.3 -0.4
baz=90,SNR=9.3
UALR University of 90.12 313 eP P 09 43 08.6 -1.3
comp=Z,97nm,1.4s
UALR University of 90.12 313 eP P 09 43 08.6 -1.3
comp=Z,97nm,1.4s
G21A Lodge Grass 90.14 329 ⇓P P 09 43 09.2 -0.8
baz=90,SNR=8.8
N30A Hueftle Ranch, 90.19 322 ⇓P P 09 43 09.2 -1.0
baz=90
C15A Salmond Ranch, 90.24 333 ⇓P P 09 43 09.3 -1.2
baz=90
MTDJ Mount Denham 90.26 292 PFAKE 09 43 20.0 +9.0
MTDJ LR LR
comp=Z,6µm,20.0s
H22A Clearmont 90.27 328 ⇑P P 09 43 09.9 -0.7
baz=90,SNR=28
K26A Motz Farm, Whi 90.28 325 ⇓P P 09 43 09.9 -0.8
baz=90
L27A T5 Ranch, Ells 90.33 324 ⇓P P 09 43 10.1 -0.8
baz=90
A12A Yaak River Ran 90.35 336 ⇓P P 09 43 09.9 -0.9
baz=90,SNR=14
I23A Meade Ranch, G 90.37 327 ⇑P P 09 43 10.3 -0.9
baz=90
F19A Roth Farm, Mol 90.37 330 ⇓P P 09 43 10.8 -0.2
baz=90,SNR=40
M28A Bar X Bar Ranc 90.38 323 ⇑P P 09 43 10.4 -0.8
baz=90
B13A Whitefish 90.41 335 ⇓P P 09 43 10.5 -0.6
baz=90,SNR=41
N29A Votaw Ranch, W 90.44 322 ⇑P P 09 43 10.4 -1.0
baz=90
D16A Dana Ranch, Ca 90.45 332 ⇓P P 09 43 10.6 -0.9
baz=90,SNR=19
J24A Dixon Ranch, L 90.49 326 ⇑P P 09 43 10.8 -0.8
baz=90,SNR=8.7
G20A Bridger 90.58 329 ⇑P P 09 43 11.3 -0.7
baz=90,SNR=9.4
O30A MW Ranch, Wils 90.62 321 ⇑P P 09 43 10.8 -1.5
baz=90,SNR=15
F18A Big Timber 90.65 331 ⇑P P 09 43 11.7 -0.7
baz=90,SNR=24
E17A Martinsdale 90.65 332 ⇓P P 09 43 11.8 -0.6
baz=90,SNR=17
K25A Mack Ranch, Ha 90.67 325 ⇑P P 09 43 12.0 -0.6
baz=90,SNR=42
YBMT Yellow Bay 90.68 334 eP P 09 43 12.5 0.0
comp=Z,222nm,1.3s
YBMT Yellow Bay 90.68 334 eP P 09 43 12.5 0.0
comp=Z,222nm,1.3s
BLMT Blacktail Moun 90.68 334 eP P 09 43 12.0 -0.6
comp=Z,273nm,1.4s
BLMT Blacktail Moun 90.68 334 eP P 09 43 12.0 -0.6
comp=Z,273nm,1.4s
VBMS Vicksburg 90.71 310 eP P 09 43 12.0 -0.7
comp=Z,154nm,1.1s
VBMS LR LR
comp=Z,23µm,20.0s
VBMS Vicksburg 90.71 310 eP P 09 43 12.0 -0.7
comp=Z,154nm,1.1s
SDPT Sand Point 90.71 3 eP P 09 43 10.9 -1.3
comp=Z,132nm,0.7s
SDPT Sand Point 90.71 3 eP P 09 43 10.9 -1.3
comp=Z,132nm,0.7s
GCMT Greycliff 90.72 330 eP P 09 43 11.9 -0.9
comp=Z,108nm,1.3s
GCMT Greycliff 90.72 330 eP P 09 43 11.9 -0.9
comp=Z,108nm,1.3s
B12A Libby 90.73 335 ⇑P P 09 43 12.0 -0.6
baz=90,SNR=18
L26A Underwood Farm 90.74 324 ⇑P P 09 43 12.2 -0.7
baz=90
M27A Reverse DX Ran 90.78 324 ⇑P P 09 43 11.1 -2.0
baz=90
D15A Lincoln 90.82 333 ⇑P P 09 43 12.3 -0.9
baz=90,SNR=14
HRY Holter Researc 90.83 332 eP P 09 43 12.8 -0.4
comp=Z,38nm,0.9s
HRY Holter Researc 90.83 332 eP P 09 43 12.8 -0.4
comp=Z,38nm,0.9s
J23A Dilts Ranch, B 90.84 327 ⇑P P 09 43 12.2 -1.2
baz=90
JTMT Jette 90.88 334 eP P 09 43 13.2 -0.2
comp=Z,364nm,1.4s
JTMT Jette 90.88 334 eP P 09 43 13.2 -0.2
comp=Z,364nm,1.4s
I22A 9 Mile Ranch, 90.88 328 ⇓P P 09 43 12.5 -1.0
baz=90,SNR=25
E16A East Helena 90.92 332 ⇑P P 09 43 12.6 -1.0
baz=91
BSMT Bassoo Peak 90.97 335 eP P 09 43 13.4 -0.5
comp=Z,13nm,0.8s
BSMT Bassoo Peak 90.97 335 eP P 09 43 13.4 -0.5
comp=Z,13nm,0.8s
SWMT Swartz Lake 90.98 334 eP P 09 43 13.3 -0.6
comp=Z,198nm,1.3s
SWMT Swartz Lake 90.98 334 eP P 09 43 13.3 -0.6
comp=Z,198nm,1.3s
BBB Bella Bella 90.99 344 P P 09 43 13.2 -0.5
BBB PP PP 09 47 04.4 +16
BBB S SKSac 09 53 47.4 +2.3
BBB Bella Bella 90.99 344 P P 09 43 13.2 -0.5
comp=Z,16nm,0.9s,baz=63,slow=4.5,SNR=3.9
BBB PP PP 09 47 04.4 +16
comp=Z,21nm,1.2s,baz=242,slow=1.3,SNR=3.6
BBB S SKSac 09 53 47.4 +2.3
comp=Z,6.1nm,1.0s,baz=192,slow=20,SNR=1.9
BBB Bella Bella 90.99 344 P P 09 43 13.1 -0.5
MIAR Mount Ida 91.01 314 eP P 09 43 13.5 -0.6
MIAR pmax pmax
comp=Z,186nm,1.6s
MIAR MLR MLR
comp=Z,29µm,22.0s
MIAR Mount Ida 91.01 314 eP P 09 43 13.5 -0.6
comp=Z,186nm,1.6s
MIAR LR LR
comp=Z,29µm,22.0s
MIAR Mount Ida 91.01 314 eP P 09 43 13.5 -0.6
comp=Z,186nm,1.6s
SLMT Seeley Lake 91.02 333 eP P 09 43 13.1 -1.0
comp=Z,107nm,1.1s
SLMT Seeley Lake 91.02 333 eP P 09 43 13.1 -1.0
comp=Z,107nm,1.1s
F17A Fitzpatrick Pl 91.03 331 ⇑P P 09 43 13.7 -0.5
baz=91,SNR=27
K24A Anderson Ranch 91.03 326 ⇑P P 09 43 12.9 -1.3
baz=91
O29A 4D Ranch, Culb 91.04 322 ⇓P P 09 43 12.7 -1.5
baz=91
C13A Hot Springs 91.04 334 ⇓P P 09 43 13.6 -0.5
baz=91,SNR=25
OGNE Ogallala 91.05 323 eP P 09 43 13.3 -1.0
comp=Z,211nm,1.6s
OGNE LR LR
comp=Z,12µm,19.0s
OGNE Ogallala 91.05 323 eP P 09 43 13.3 -1.0
comp=Z,211nm,1.6s
OGNE Ogallala 91.05 323 ⇑P P 09 43 13.1 -1.2
baz=91
G18A Lazy EL Ranch, 91.06 330 ⇓P P 09 43 13.1 -1.2
baz=91
L25A Engebretsen Ra 91.07 325 ⇑P P 09 43 13.1 -1.3
baz=91
H20A Greybull 91.07 329 ⇓P P 09 43 13.2 -1.1
baz=91,SNR=23
RLMT Red Lodge 91.10 330 eP P 09 43 13.8 -0.8
comp=Z,212nm,1.4s
RLMT LR LR
comp=Z,21µm,19.0s
RLMT Red Lodge 91.10 330 eP P 09 43 13.8 -0.8
comp=Z,212nm,1.4s
Q31A Ellis 91.13 320 ⇑P P 09 43 13.2 -1.4
baz=91
D14A Greenough 91.16 333 ⇓P P 09 43 13.8 -0.9
baz=91,SNR=33
P30A Selden 91.19 321 ⇑P P 09 43 13.3 -1.6
baz=91
CHMT Chamberlain Mo 91.20 333 eP P 09 43 14.0 -1.0
comp=Z,981nm,0.7s
CHMT Chamberlain Mo 91.20 333 eP P 09 43 14.0 -1.0
comp=Z,981nm,0.7s
M26A McRoberts Ranc 91.20 324 ⇓P P 09 43 13.7 -1.3
baz=91
J22A Midwest 91.26 327 ⇑P P 09 43 13.3 -1.9
baz=91,SNR=24
I21A Big Trails, Te 91.30 328 ⇑P P 09 43 14.0 -1.5
baz=91,SNR=38
C12B Naegeli Ranch, 91.34 335 ⇑P P 09 43 14.9 -0.5
baz=91,SNR=19
H19A Powell 91.34 329 ⇓P P 09 43 15.3 -0.3
baz=91,SNR=40
TUL1 Tulsa 91.36 316 ⇑P P 09 43 14.7 -1.0
baz=91
K23A Bowen Ranch, D 91.38 326 ⇑P P 09 43 14.5 -1.3
baz=91,SNR=14
N27A Anderson Farm, 91.41 323 ⇓P P 09 43 15.1 -0.8
baz=91
NEW Newport 91.43 336 P P 09 43 15.1 -0.8
NEW S SKSac 09 53 50.9 +2.9
NEW LR LR
comp=Z,16µm,19.0s
NEW Newport 91.43 336 P P 09 43 15.1 -0.8
comp=Z,28nm,0.9s,baz=35,slow=4.9,SNR=53
NEW S SKSac 09 53 50.9 +2.9
comp=Z,0.4nm,0.4s,baz=90,slow=10,SNR=2.1
NEW Newport 91.43 336 P P 09 43 15.1 -0.8
NEW Newport 91.43 336 ⇓P P 09 43 15.5 -0.3
baz=91
D13A Huson 91.49 334 ⇑P P 09 43 15.5 -0.7
baz=91,SNR=40
P29A Atwood 91.50 322 ⇓P P 09 43 14.6 -1.8
baz=91
F16A Kennard Place, 91.52 332 ⇑P P 09 43 15.8 -0.6
baz=91,SNR=8.4
MSO Missoula 91.53 333 eP P 09 43 15.4 -1.0
comp=Z,68nm,1.3s
MSO LR LR
comp=Z,11µm,21.0s
MSO Missoula 91.53 333 eP P 09 43 15.4 -1.0
comp=Z,68nm,1.3s
MSO Missoula 91.53 333 ⇓P P 09 43 15.5 -0.9
baz=91,SNR=24
O28A Krutsinger Ran 91.53 322 ⇓P P 09 43 14.9 -1.7
baz=91
G17A Pierce Place, 91.54 331 ⇓P P 09 43 16.1 -0.5
baz=91,SNR=15
I20A Worland 91.56 328 ⇑P P 09 43 15.6 -1.0
baz=91,SNR=24
Q30A Quinter 91.59 321 ⇑P P 09 43 15.8 -1.0
baz=91
L24A Wheatland 91.61 325 ⇓P P 09 43 15.8 -1.2
baz=91
H18A Shoshone NF, C 91.62 330 ⇓P P 09 43 16.3 -0.7
baz=91,SNR=28
BOZ Bozeman (W) 91.63 332 eP P 09 43 16.3 -0.7
BOZ pmax pmax
comp=Z,87nm,1.4s
BOZ MLR MLR
comp=Z,30µm,19.0s
BOZ Bozeman (W) 91.63 332 eP P 09 43 16.3 -0.7
comp=Z,87nm,1.4s
BOZ LR LR
comp=Z,30µm,19.0s
BOZ Bozeman (W) 91.63 332 eP P 09 43 16.3 -0.7
comp=Z,87nm,1.4s
M25A Palm-Egli Farm 91.67 325 ⇓P P 09 43 17.4 +0.1
baz=91,SNR=18
N26A Koester Ranch, 91.73 324 ⇓P P 09 43 16.5 -1.0
baz=91
R31A Burdett 91.73 320 ⇓P P 09 43 16.3 -1.2
baz=91,SNR=22
J21A Lysite 91.74 328 ⇓P P 09 43 16.2 -1.4
baz=91,SNR=19
LRM Limekiln Ridge 91.81 332 eP P 09 43 17.1 -0.8
comp=Z,570nm,1.4s
LRM Limekiln Ridge 91.81 332 eP P 09 43 17.1 -0.8
comp=Z,570nm,1.4s
F15A Butte 91.81 332 ⇓P P 09 43 16.6 -1.3
baz=91,SNR=6.8
O27A Beecher Island 91.84 323 ⇑P P 09 43 16.9 -1.1
baz=92,SNR=19
D12A Red Ives Fores 91.85 334 ⇑P P 09 43 16.6 -1.3
baz=92
I19A Meeteetse 91.86 329 ⇑P P 09 43 17.0 -1.1
baz=92,SNR=53
K22A Casper 91.88 327 ⇑P P 09 43 16.4 -1.8
baz=92,SNR=25
L23A Garrett 91.92 326 ⇑P P 09 43 16.9 -1.6
baz=92,SNR=28
P28A Saint Francis 91.94 322 ⇓P P 09 43 17.2 -1.2
baz=92,SNR=7.1
M24A Cheyenne 92.01 325 ⇑P P 09 43 18.2 -0.6
baz=92,SNR=26
J20A Shoshoni 92.02 328 ⇑P P 09 43 17.9 -0.9
baz=92,SNR=19
LKWY Lake 92.02 330 eP P 09 43 19.8 +0.9
LKWY pmax pmax
comp=Z,58nm,1.0s
LKWY MLR MLR
comp=Z,38µm,21.0s
LKWY Lake 92.02 330 eP P 09 43 19.8 +0.9
comp=Z,58nm,1.0s
LKWY LR LR
comp=Z,38µm,21.0s
LKWY Lake 92.02 330 eP P 09 43 19.8 +0.9
comp=Z,58nm,1.0s
Q29A Oakley 92.05 321 ⇑P P 09 43 17.4 -1.5
baz=92
PAF Port-aux-Franc 92.12 153 PFAKE 09 43 30.0 +11
PAF LR LR
comp=Z,16µm,19.0s
R30A Dighton 92.13 320 ⇓P P 09 43 18.0 -1.3
baz=92,SNR=14
N25A Grover 92.16 324 ⇓P P 09 43 18.5 -1.0
baz=92
F14A Wisdom 92.17 333 ⇓P P 09 43 18.1 -1.4
baz=92,SNR=9.6
YMR Madison River 92.17 331 eP P 09 43 19.7 +0.1
comp=Z,115nm,1.1s
YMR Madison River 92.17 331 eP P 09 43 19.7 +0.1
comp=Z,115nm,1.1s
S31A Mullinville 92.20 319 ⇑P P 09 43 18.3 -1.3
baz=92
O26A Horse Wrangler 92.22 323 ⇓P P 09 43 18.5 -1.3
baz=92
QLMT Earthquake Lak 92.22 331 eP P 09 43 19.5 -0.3
comp=Z,4.9nm,1.0s
QLMT Earthquake Lak 92.22 331 eP P 09 43 19.5 -0.3
comp=Z,4.9nm,1.0s
H17A Grant Village 92.23 330 ⇓P P 09 43 20.9 +1.0
baz=92,SNR=18
DLMT Dillon 92.25 332 eP P 09 43 19.2 -0.6
comp=Z,96nm,1.4s
DLMT Dillon 92.25 332 eP P 09 43 19.2 -0.6
comp=Z,96nm,1.4s
H16A Russell Place, 92.25 331 ⇓P P 09 43 19.8 -0.1
baz=92,SNR=24
YFT Old Faithful 92.29 330 eP P 09 43 19.9 -0.3
comp=Z,180nm,1.3s
YFT Old Faithful 92.29 330 eP P 09 43 19.9 -0.3
comp=Z,180nm,1.3s
L22A Ellis Ranch, M 92.32 326 ⇑P P 09 43 19.5 -0.8
baz=92,SNR=24
Q28A Sharon Springs 92.36 322 ⇓P P 09 43 19.2 -1.3
baz=92
P27A Ficken Ranch, 92.37 323 ⇑P P 09 43 19.2 -1.3
baz=92,SNR=19
PHWY Pilot Hill 92.44 325 eP P 09 43 20.1 -0.8
comp=Z,138nm,1.0s
PHWY Pilot Hill 92.44 325 eP P 09 43 20.1 -0.8
comp=Z,138nm,1.0s
E12A Beaver Dam Sad 92.47 334 ⇓P P 09 43 19.3 -1.5
baz=92,SNR=32
I18A Diamond G Ranc 92.48 329 ⇓P P 09 43 20.3 -0.8
baz=92,SNR=15
R29A Marienthal 92.48 321 ⇑P P 09 43 19.7 -1.2
baz=92
J19A Crowheart 92.51 329 ⇓P P 09 43 19.6 -1.5
baz=92,SNR=14
N24A Carr 92.53 325 ⇓P P 09 43 19.2 -2.1
baz=92,SNR=21
I17A Pilgrim Ck. 92.62 330 ⇓P P 09 43 21.7 0.0
baz=92,SNR=8.0
T31A Randall Ranch, 92.68 319 ⇓P P 09 43 20.7 -1.1
baz=92
K20A Yellowstone Ra 92.69 328 ⇑P P 09 43 20.5 -1.4
baz=92,SNR=22
S30A Montezuma 92.71 320 ⇑P P 09 43 21.1 -0.9
baz=92
O25A Wiggins 92.71 324 ⇑P P 09 43 20.9 -1.2
baz=92
OD2 Odessa Site #2 92.72 337 P P 09 43 21.6 -0.2
OD2 Odessa Site #2 92.72 337 P P 09 43 21.6 -0.2
P26A Davis Ranch, A 92.75 323 ⇓P P 09 43 21.4 -0.9
baz=92,SNR=13
K19A Absolon Red Bu 92.77 328 ⇓P P 09 43 20.6 -1.7
baz=92,SNR=18
IMW Indian Meadow 92.79 330 eP P 09 43 22.3 -0.2
comp=Z,174nm,1.4s
IMW Indian Meadow 92.79 330 eP P 09 43 22.3 -0.2
comp=Z,174nm,1.4s
MCMT McKenzie Canyo 92.79 332 eP P 09 43 22.3 -0.2
comp=Z,32nm,1.4s
MCMT McKenzie Canyo 92.79 332 eP P 09 43 22.3 -0.2
comp=Z,32nm,1.4s
L21A Rawlins 92.80 327 ⇑P P 09 43 20.6 -1.9
baz=92,SNR=15
KSCO Kaye Shedlock' 92.81 322 ⇓P P 09 43 21.1 -1.5
baz=92,SNR=16
MOOW Moose Ponds 92.83 330 eP P 09 43 22.0 -0.6
comp=Z,96nm,1.4s
MOOW Moose Ponds 92.83 330 eP P 09 43 22.0 -0.6
comp=Z,96nm,1.4s
WTV Waterville 92.85 337 P P 09 43 22.0 -0.4
WTV Waterville 92.85 337 P P 09 43 22.0 -0.4
LOHW Long Hollow 92.88 330 eP P 09 43 22.4 -0.5
comp=Z,79nm,1.4s
LOHW Long Hollow 92.88 330 eP P 09 43 22.4 -0.5
comp=Z,79nm,1.4s
M22A Cedar Creek Ra 92.89 326 ⇓P P 09 43 21.9 -1.1
baz=92,SNR=18
R28A Tribune 92.89 321 ⇓P P 09 43 21.6 -1.3
baz=93
N23A Red Feather La 92.98 325 ⇑P P 09 43 22.2 -1.2
baz=93,SNR=36
JCW Jim Creek 93.02 339 P P 09 43 21.9 -1.2
JCW Jim Creek 93.02 339 P P 09 43 21.9 -1.2
I16A Newdale 93.03 330 ⇓P P 09 43 23.3 -0.2
baz=93,SNR=20
PGC Sidney 93.05 340 eP P 09 43 22.4 -0.8
comp=Z,6.2nm,1.1s
PGC Sidney 93.05 340 eP P 09 43 22.4 -0.8
comp=Z,6.2nm,1.1s
ETW Entiat 93.05 338 P P 09 43 22.9 -0.6
ETW Entiat 93.05 338 P P 09 43 22.9 -0.6
S29A Ulysses 93.07 320 ⇓P P 09 43 22.3 -1.4
baz=93
SNOW Snow King Moun 93.07 330 eP P 09 43 23.1 -0.7
comp=Z,72nm,1.2s
SNOW Snow King Moun 93.07 330 eP P 09 43 23.1 -0.7
comp=Z,72nm,1.2s
M21A Separation Pea 93.08 327 ⇑P P 09 43 22.2 -1.6
baz=93,SNR=13
BW06 Boulder Array 93.13 329 eP P 09 43 22.1 -1.9
comp=Z,85nm,1.4s
BW06 LR LR
comp=Z,18µm,19.0s
BW06 Boulder Array 93.13 329 eP P 09 43 22.1 -1.9
comp=Z,85nm,1.4s
PDAR Pinedale Array 93.13 329 P P 09 43 23.1 -1.0
PDAR PP PP 09 47 18.7 +12
PDAR S SKSac 09 54 00.0 +1.9
PDAR PKKPbc PKKPbc 10 00 32.4 +0.1
PDAR Pinedale Array 93.13 329 P P 09 43 23.1 -1.0
comp=Z,7.6nm,1.0s,baz=65,slow=4.3,SNR=44
PDAR PP PP 09 47 18.7 +12
comp=Z,16nm,1.2s,baz=46,slow=6.4,SNR=4.4
PDAR S SKSac 09 53 60.0 +1.9
comp=Z,2.3nm,1.2s,baz=47,slow=12,SNR=2.8
PDAR PKKPbc PKKPbc 10 00 32.4 +0.1
comp=Z,0.4nm,0.9s,baz=160,slow=2.9,SNR=2.4
PDAR LR LR 10 26 58.4
comp=Z,15µm,20.5s,baz=45,slow=37
PDAR Pinedale Array 93.13 329 P P 09 43 23.0 -1.0
TPAW Teton Pass 93.13 330 eP P 09 43 23.7 -0.4
comp=Z,38nm,0.8s
TPAW Teton Pass 93.13 330 eP P 09 43 23.7 -0.4
comp=Z,38nm,0.8s
DCID1 Drake Creek 93.14 330 P P 09 43 24.4 +0.4
comp=Z,258nm,1.3s
DCID1 Drake Creek 93.14 330 P P 09 43 24.4 +0.4
comp=Z,258nm,1.3s
O24A Longmont 93.17 324 ⇑P P 09 43 23.1 -1.1
baz=93,SNR=19
T30A Plains 93.17 320 ⇑P P 09 43 22.6 -1.5
baz=93
REDW Red Top Meadow 93.19 330 eP P 09 43 23.8 -0.5
comp=Z,2.0nm,1.6s
REDW Red Top Meadow 93.19 330 eP P 09 43 23.8 -0.5
comp=Z,2.0nm,1.6s
P25A Willow Gulch B 93.20 323 ⇓P P 09 43 23.1 -1.2
baz=93,SNR=17
L20A Wamsutter 93.20 327 ⇓P P 09 43 23.1 -1.3
baz=93,SNR=14
N22A Wattenberg Ran 93.30 326 ⇑P P 09 43 23.8 -1.1
baz=93,SNR=15
U31A Nine Bar Ranch 93.31 319 ⇓P P 09 43 23.6 -1.2
baz=93,SNR=6.5
Q26A Hugo 93.33 323 ⇑P P 09 43 23.9 -1.1
baz=93
RRI2 Red Ridge 93.40 330 eP P 09 43 24.9 -0.4
comp=Z,186nm,1.4s
RRI2 Red Ridge 93.40 330 eP P 09 43 24.9 -0.4
comp=Z,186nm,1.4s
R27A Eads 93.44 322 ⇓P P 09 43 24.3 -1.1
baz=93
G12A Big Creek, Yel 93.48 333 ⇓P P 09 43 23.8 -1.7
baz=93
S28A Manter 93.50 321 ⇓P P 09 43 24.6 -1.1
baz=93,SNR=10
O23A Lake Granby, G 93.51 325 ⇓P P 09 43 24.7 -1.3
baz=93,SNR=14
T29A Hugoton 93.51 320 ⇑P P 09 43 24.6 -1.1
baz=93
TBM Table Mountain 93.52 338 P P 09 43 24.9 -0.6

TBM	Table Mountain	93.52 338	P	P	09 43 24.9	-0.6		
M20A	Sweetwater, Wa	93.55 327	⇑P	P	09 43 24.7	-1.3		
	baz=93,SNR=6.0							
P24A	Kohler Place,	93.56 324	⇓P	P	09 43 24.9	-1.1		
	baz=93							
L19A	Farson	93.58 328	⇓P	P	09 43 24.6	-1.5		
	baz=93,SNR=13							
U30A	WK&E Inc. Balk	93.63 319	⇑P	P	09 43 24.9	-1.4		
	baz=93							
ISCO	Idaho Springs	93.68 324	eP	P	09 43 24.9	-1.9		
ISCO			pmax	pmax				
	comp=Z,72nm,1.3s							
ISCO			MLR	MLR				
	comp=Z,12µm,20.0s							
ISCO	Idaho Springs	93.68 324	eP	P	09 43 24.9	-1.9		
	comp=Z,72nm,1.3s							
ISCO			LR	LR				
	comp=Z,12µm,20.0s							
ISCO	Idaho Springs	93.68 324	eP	P	09 43 24.9	-1.9		
	comp=Z,72nm,1.3s							
ISCO	Idaho Springs	93.68 324	⇓P	P	09 43 25.6	-1.1		
	baz=93,SNR=50							
Q25A	Bedland, Calha	93.70 323	⇓P	P	09 43 26.2	-0.6		
	baz=93,SNR=9.1							
V31A	Spring Creek L	93.75 318	⇓P	P	09 43 26.3	-0.5		
	baz=93							
R26A	Arlington	93.76 322	⇓P	P	09 43 25.7	-1.2		
	baz=93,SNR=26							
I14A	Mackay	93.78 332	⇓P	P	09 43 26.7	-0.3		
	baz=93,SNR=26							
H12A	Diamond D Ranc	93.80 333	⇑P	P	09 43 25.4	-1.6		
	baz=93,SNR=14							
N21A	Black Mountain	93.83 326	⇓P	P	09 43 26.1	-1.2		
	baz=94,SNR=16							
HDW	Hoodsport	93.84 339	P	P	09 43 27.1	+0.1		
HDW	Hoodsport	93.84 339	P	P	09 43 27.1	+0.1		
O22A	Kremmling	93.84 325	⇑P	P	09 43 25.8	-1.7		
	baz=94,SNR=14							
HAWA	Hanford	93.86 337	eP	P	09 43 25.7	-1.3		
	comp=Z,134nm,1.4s							
HAWA			LR	LR				
	comp=Z,17µm,19.0s							
HAWA	Hanford	93.86 337	eP	P	09 43 25.7	-1.3		
	comp=Z,134nm,1.4s							
WMOK	Wichita Mounta	93.91 317	eP	P	09 43 26.6	-0.9		
WMOK			pmax	pmax				
	comp=Z,31nm,1.1s							
WMOK			MLR	MLR				
	comp=Z,13µm,21.0s							
WMOK	Wichita Mounta	93.91 317	eP	P	09 43 26.6	-0.9		
	comp=Z,31nm,1.1s							
WMOK			LR	LR				
	comp=Z,13µm,21.0s							
WMOK	Wichita Mounta	93.91 317	eP	P	09 43 26.6	-0.9		
	comp=Z,31nm,1.1s							
S27A	Las Animas	93.95 321	⇓P	P	09 43 26.5	-1.3		
	baz=94							
T28A	Walsh	93.97 321	⇓P	P	09 43 26.6	-1.3		
	baz=94							
M19A	Rock Springs	93.97 328	⇓P	P	09 43 26.6	-1.3		
	baz=94,SNR=9.0							
L18A	Fontenelle, Gr	94.02 328	⇑P	P	09 43 26.8	-1.3		
	baz=94							
U29A	Oasis Ranch, S	94.02 320	⇑P	P	09 43 26.8	-1.2		
	baz=94							
Q24A	Divide	94.11 324	⇑P	P	09 43 27.3	-1.4		
	baz=94,SNR=9.0							
N20A	Spence Gulch,	94.11 327	⇑P	P	09 43 27.5	-1.1		
	baz=94,SNR=9.1							
P23A	Jefferson	94.12 324	⇓P	P	09 43 27.6	-1.2		
	baz=94,SNR=46							
V30A	Spur Ranch, Mi	94.22 319	⇓P	P	09 43 27.6	-1.4		
	baz=94							
W31A	Holland Ranch,	94.23 318	⇑P	P	09 43 28.0	-1.0		
	baz=94							
O21A	Pagoda	94.24 326	⇑P	P	09 43 28.1	-1.1		
	baz=94,SNR=8.2							
WPW	White Pass	94.24 338	P	P	09 43 28.6	-0.3		
WPW	White Pass	94.24 338	P	P	09 43 28.6	-0.3		
LON	Longmire	94.27 338	eP	P	09 43 28.6	-0.4		
LON			pmax	pmax				
	comp=Z,103nm,1.4s							
LON	Longmire	94.27 338	eP	P	09 43 28.6	-0.4		
	comp=Z,103nm,1.4s							
LON	Longmire	94.27 338	eP	P	09 43 28.6	-0.4		
	comp=Z,103nm,1.4s							
S26A	Kim	94.29 322	⇓P	P	09 43 27.9	-1.5		
	baz=94							
R25A	Fountain Ranch	94.31 323	⇓P	P	09 43 28.2	-1.2		
	baz=94,SNR=17							
NLWA	Neilton Lookou	94.31 340	eP	P	09 43 28.2	-0.9		
	comp=Z,110nm,1.3s							
NLWA			LR	LR				
	comp=Z,30µm,20.0s							
NLWA	Neilton Lookou	94.31 340	eP	P	09 43 28.2	-0.9		
	comp=Z,110nm,1.3s							
DAV	Davao City (W)	94.31 79	LR	LR	10 37 11.0			
	comp=Z,7µm,19.4s,baz=313,slow=43							
T27A	Campo	94.33 321	⇓P	P	09 43 27.9	-1.6		
	baz=94							
P22A	Eagle	94.39 325	⇑P	P	09 43 28.6	-1.4		
	baz=94,SNR=7.8							
BMO	Blue Mountains	94.44 334	eP	P	09 43 28.2	-1.7		
	comp=Z,54nm,1.3s							
BMO			LR	LR				
	comp=Z,19µm,20.0s							
BMO	Blue Mountains	94.44 334	eP	P	09 43 28.2	-1.7		
	comp=Z,54nm,1.3s							
Q23A	Hartsel	94.49 324	⇓P	P	09 43 28.7	-1.7		
	baz=94							
I12A	Atlanta	94.54 333	⇑P	P	09 43 29.3	-1.2		
	baz=94,SNR=12							
U28A	Mallet	94.58 320	⇓P	P	09 43 29.2	-1.5		
	baz=94							
W30A	Crocket Farms	94.58 318	⇑P	P	09 43 29.7	-0.9		
	baz=94							
V29A	Stinnett	94.59 319	⇓P	P	09 43 29.4	-1.3		
	baz=94							
R24A	Sanders Place,	94.65 323	⇓P	P	09 43 29.9	-1.2		
	baz=94,SNR=17							
O20A	White River Ci	94.66 326	⇓P	P	09 43 29.6	-1.5		
	baz=94,SNR=19							
M17A	Scullys Gap (B	94.66 329	⇓P	P	09 43 29.4	-1.7		
	baz=94,SNR=9.3							
X31A	McDonald Ranch	94.66 318	⇓P	P	09 43 29.5	-1.5		
	baz=94							
T26A	Comanche Natio	94.70 322	⇑P	P	09 43 30.0	-1.3		
	baz=94							
S25A	Robets Cordova	94.76 322	⇑P	P	09 43 30.1	-1.4		
	baz=94,SNR=23							
Y32A	R-V Farms, Ver	94.82 317	⇓P	P	09 43 30.8	-0.9		
	baz=94							
SMCO	Snowmass	94.82 325	eP	P	09 43 30.8	-1.3		
	comp=Z,52nm,1.4s							
SMCO	Snowmass	94.82 325	eP	P	09 43 30.8	-1.3		
	comp=Z,52nm,1.4s							
U27A	Thompson Grove	94.87 321	⇑P	P	09 43 30.4	-1.6		
	baz=94							
O19A	Miners Draw (B	94.93 327	⇓P	P	09 43 30.8	-1.4		
	baz=95							
FL2	Flat Top 2	94.93 338	P	P	09 43 31.8	-0.3		
FL2	Flat Top 2	94.93 338	P	P	09 43 31.8	-0.3		
HWUT	Hardware Ranch	94.94 329	eP	P	09 43 31.0	-1.3		
	comp=Z,121nm,1.3s							
HWUT			LR	LR				
	comp=Z,21µm,19.0s							
HWUT	Hardware Ranch	94.94 329	eP	P	09 43 31.0	-1.3		
	comp=Z,121nm,1.3s							
Q22A	Crested Butte,	95.04 325	⇑P	P	09 43 32.0	-1.0		
	baz=95,SNR=44							
R23A	Moffat	95.04 324	⇓P	P	09 43 31.7	-1.3		
	baz=95,SNR=19							
V28A	Channing	95.06 320	⇑P	P	09 43 31.3	-1.6		
	baz=95							
WHTX	Lake Whitney	95.12 314	⇓P	P	09 43 32.4	-0.7		
	baz=95							
MFID	Camas Ranch	95.13 333	eP	P	09 43 32.1	-1.0		
	comp=Z,124nm,1.4s							
MFID	Camas Ranch	95.13 333	eP	P	09 43 32.1	-1.0		
	comp=Z,124nm,1.4s							
MFID	Camas Ranch	95.13 333	⇓P	P	09 43 32.5	-0.5		
	baz=95,SNR=21							
T25A	Trinidad	95.14 322	⇓P	P	09 43 32.1	-1.3		
	baz=95,SNR=14							
S24A	Houchin Ranch,	95.16 323	⇑P	P	09 43 32.1	-1.4		
	baz=95							
W29A	Amraillo	95.22 319	⇓P	P	09 43 32.4	-1.2		
	baz=95							
SDCO	Great Sand Dun	95.22 323	eP	P	09 43 32.2	-1.7		
	comp=Z,57nm,1.3s							
SDCO			LR	LR				
	comp=Z,13µm,22.0s							
SDCO	Great Sand Dun	95.22 323	eP	P	09 43 32.2	-1.7		
	comp=Z,57nm,1.3s							
P20A	De Beque	95.23 326	⇑P	P	09 43 32.1	-1.6		
	baz=95,SNR=9.4							
X30A	Coker Ranch, T	95.29 318	⇓P	P	09 43 32.2	-1.7		
	baz=95,SNR=17							
HVU	Hansel Valley	95.30 330	eP	P	09 43 33.2	-0.7		
HVU			pmax	pmax				
	comp=Z,94nm,1.4s							
HVU	Hansel Valley	95.30 330	eP	P	09 43 33.2	-0.7		
	comp=Z,94nm,1.4s							
HVU	Hansel Valley	95.30 330	eP	P	09 43 33.2	-0.7		
	comp=Z,94nm,1.4s							
Y31A	Rekieta Farm,	95.31 317	⇑P	P	09 43 32.8	-1.2		
	baz=95							
Z32A	Haskell	95.35 316	⇑P	P	09 43 33.2	-0.9		
	baz=95,SNR=27							
U26A	Atchley Ranch,	95.37 321	⇑P	P	09 43 33.1	-1.3		
	baz=95,SNR=17							
V27A	Dan Oppiter Fa	95.38 320	⇓P	P	09 43 32.9	-1.5		
	baz=95							
P19A	Cripple Cowboy	95.40 326	⇓P	P	09 43 33.3	-1.2		
	baz=95,SNR=16							
AMTX	Amarillo	95.41 319	eP	P	09 43 33.5	-1.0		
	comp=Z,28nm,1.5s							
AMTX			LR	LR				
	comp=Z,13µm,19.0s							
AMTX	Amarillo	95.41 319	eP	P	09 43 33.5	-1.0		
	comp=Z,28nm,1.5s							
W28A	Vega	95.42 319	⇓P	P	09 43 33.4	-1.2		
	baz=95							
ROSC	El Rosal	95.43 280	P	P	09 43 35.0	-0.3		
ROSC	El Rosal	95.43 280	P	P	09 43 35.4	+0.1		
	comp=Z,4.1nm,0.5s,baz=322,slow=4.9,SNR=2.1							
ROSC	El Rosal	95.43 280	P	P	09 43 35.0	-0.3		
R22A	Saguache, Gunn	95.47 324	⇓P	P	09 43 33.9	-1.0		
	baz=95,SNR=27							
S23A	Nye Farm, Mont	95.50 323	⇓P	P	09 43 33.4	-1.7		
	baz=95							
Q20A	Ridgley Place,	95.62 326	⇓P	P	09 43 34.0	-1.5		
	baz=95,SNR=17							
U25A	Circle Dot Ran	95.71 322	⇓P	P	09 43 34.6	-1.3		
	baz=95,SNR=26							
Z31A	Sharp Cattle R	95.72 317	⇑P	P	09 43 34.9	-0.9		
	baz=95,SNR=16							
Y30A	Stafford Cattl	95.73 318	⇓P	P	09 43 34.4	-1.6		
	baz=95							
R21A	Cimarron	95.74 325	⇓P	P	09 43 34.8	-1.3		
	baz=95,SNR=15							
X29A	Tulia	95.75 319	⇓P	P	09 43 34.1	-1.9		
	baz=95							
CTU	Camp Tracy	95.77 329	eP	P	09 43 35.0	-1.1		
	comp=Z,99nm,1.5s							
CTU	Camp Tracy	95.77 329	eP	P	09 43 35.0	-1.1		
	comp=Z,99nm,1.5s							
DAU	Daniels Canyon	95.78 328	eP	P	09 43 35.5	-0.8		
DAU			pmax	pmax				
	comp=Z,49nm,1.4s							
DAU	Daniels Canyon	95.78 328	eP	P	09 43 35.5	-0.8		
	comp=Z,49nm,1.4s							
DAU	Daniels Canyon	95.78 328	eP	P	09 43 35.5	-0.8		
	comp=Z,49nm,1.4s							
V26A	Tequesquite Ra	95.85 321	⇓P	P	09 43 34.4	-2.1		
	baz=96,SNR=9.4							
S22A	4UR Ranch, Cre	95.88 324	⇓P	P	09 43 35.1	-1.8		
	baz=96,SNR=32							
ABTX	Abilene, Hawle	95.94 316	⇑P	P	09 43 35.9	-0.9		
	baz=96,SNR=17							
X28A	Dimmitt	95.97 319	⇑P	P	09 43 35.7	-1.3		
	baz=96							
W27A	Bowe Ranch, En	96.02 320	⇓P	P	09 43 35.8	-1.5		
	baz=96							
T23A	Casias Ranch,	96.05 323	⇓P	P	09 43 36.4	-1.1		
	baz=96,SNR=18							
SIV	San Ignacio	96.08 255	P	P	09 43 37.6	0.0		
SIV			PP	PP	09 47 30.5	-0.1		
SIV	San Ignacio	96.08 255	P	P	09 43 37.6	0.0		
	comp=Z,1.3nm,0.7s,baz=108,slow=3.2,SNR=6.0							
SIV			PP	PP	09 47 30.5	-0.1		
	comp=Z,4.9nm,0.9s,baz=21,slow=9.1,SNR=3.6							
SIV	San Ignacio	96.08 255	P	P	09 43 37.6	0.0		
SIV	San Ignacio	96.08 255	PP	PP	09 47 30.5	-0.1		
U24A	Moreno Valley	96.15 322	⇑P	P	09 43 37.6	-0.4		
	baz=96,SNR=6.0							
Y29A	Porterfield Fa	96.17 318	⇑P	P	09 43 36.2	-1.7		
	baz=96							
V25A	Rancho No Teng	96.25 321	⇓P	P	09 43 36.8	-1.6		
	baz=96							
KAPI	Kappang	96.27 92	P	P	09 43 39.4	+0.9		
KAPI			PP	PP	09 47 35.3	+3.3		
KAPI	Kappang	96.27 92	P	P	09 43 39.4	+0.9		
	comp=Z,15nm,1.0s,baz=316,slow=5.4,SNR=3.6							
KAPI			PP	PP	09 47 35.3	+3.3		
	comp=Z,11nm,0.9s,baz=328,slow=6.1,SNR=4.5							
KAPI			LR	LR	10 31 09.4			
	comp=Z,6µm,20.2s,baz=64,slow=38							
KAPI	Kappang	96.27 92	P	P	09 43 39.4	+0.9		
MPU	Maple Canyon	96.27 328	eP	P	09 43 37.5	-0.9		
	comp=Z,32nm,1.3s							
MPU	Maple Canyon	96.27 328	eP	P	09 43 37.5	-0.9		
	comp=Z,32nm,1.3s							
R20A	Revale	96.28 325	⇑P	P	09 43 36.7	-1.8		
	baz=96,SNR=34							
Z30A	Sanderson Ranc	96.29 317	⇑P	P	09 43 37.4	-1.1		
	baz=96,SNR=5.6							
131A	Roby	96.33 317	⇑P	P	09 43 37.4	-1.2		
	baz=96							
X27A	F and S Farms,	96.36 320	⇓P	P	09 43 37.5	-1.4		
	baz=96							
PV04	Paradox Valley	96.36 326	eP	P	09 43 38.3	-0.6		
PV04	Paradox Valley	96.36 326	eP	P	09 43 38.3	-0.6		
W26A	Owens Ranch, T	96.38 320	⇓P	P	09 43 37.4	-1.5		
	baz=96							
PV01	Paradox Valley	96.41 325	eP	P	09 43 38.4	-0.8		
	comp=Z,314nm,1.1s							
PV01	Paradox Valley	96.41 325	eP	P	09 43 38.4	-0.8		
	comp=Z,314nm,1.1s							
S21A	Coal Bank Pass	96.41 324	⇑P	P	09 43 37.8	-1.5		
	baz=96,SNR=32							
Y28A	McKinney Farm,	96.45 319	⇓P	P	09 43 37.6	-1.6		
	baz=96							
232A	Coleman	96.48 316	⇑P	P	09 43 38.1	-1.2		
	baz=96,SNR=8.4							
T22A	Edith	96.49 324	⇑P	P	09 43 38.3	-1.3		
	baz=96,SNR=25							
SRU	San Rafael	96.52 327	eP	P	09 43 38.1	-1.5		
SRU			pmax	pmax				
	comp=Z,26nm,0.3s							
SRU	San Rafael	96.52 327	eP	P	09 43 38.1	-1.5		
	comp=Z,26nm,0.3s							
SRU	San Rafael	96.52 327	eP	P	09 43 38.1	-1.5		
	comp=Z,26nm,0.3s							
S20A	Disappointment	96.55 325	⇑P	P	09 43 38.7	-1.2		
	baz=96,SNR=19							
DUG	Dugway	96.63 329	eP	P	09 43 38.8	-1.2		
DUG			pmax	pmax				
	comp=Z,16nm,0.9s							
DUG			MLR	MLR				
	comp=Z,21µm,20.0s							
DUG	Dugway	96.63 329	eP	P	09 43 38.8	-1.2		
	comp=Z,16nm,0.9s							
DUG			LR	LR				
	comp=Z,21µm,20.0s							
DUG	Dugway	96.63 329	eP	P	09 43 38.8	-1.2		
	comp=Z,16nm,0.9s							
DUG	Dugway	96.63 329	⇓P	P	09 43 38.5	-1.5		
	baz=96,SNR=25							
Z29A	Hungry Hill Ra	96.64 318	⇓P	P	09 43 38.5	-1.6		
	baz=96							
W25A	X Bar L Ranch,	96.64 321	⇓P	P	09 43 38.7	-1.4		
	baz=96							
U23A	El Rito	96.67 323	⇑P	P	09 43 38.5	-1.8		
	baz=96,SNR=14							
COR	Corvallis	96.67 338	P	P	09 43 39.8	-0.1		
COR			pmax	pmax				
	comp=Z,217nm,1.4s							
COR	Corvallis	96.67 338	P	P	09 43 39.8	-0.1		
	comp=Z,217nm,1.4s							
COR	Corvallis	96.67 338	P	P	09 43 39.8	-0.1		
	comp=Z,217nm,1.4s							
V24A	Rampart Ranch,	96.67 322	⇓P	P	09 43 38.9	-1.6		
	baz=96,SNR=14							
TMUT	Trail Mountain	96.68 328	eP	P	09 43 39.8	-0.6		
	comp=Z,17nm,1.0s							
TMUT	Trail Mountain	96.68 328	eP	P	09 43 39.8	-0.6		
	comp=Z,17nm,1.0s							
MSTX	Muleshoe	96.69 319	⇑P	P	09 43 39.0	-1.4		
	baz=96							
130A	Snyder	96.71 317	⇓P	P	09 43 38.8	-1.6		
	baz=96							
X26A	CR and CF Fran	96.81 320	⇑P	P	09 43 39.1	-1.9		
	baz=96,SNR=7.3							
T21A	Navajo Lake	96.82 324	⇑P	P	09 43 39.3	-1.7		
	baz=96							
231A	Bronte	96.83 316	⇑P	P	09 43 40.0	-0.9		
	baz=96							
332A	Millersview	96.90 315	⇓P	P	09 43 40.3	-0.9		
	baz=97							
U22A	Llaves	96.97 323	⇑P	P	09 43 39.4	-2.3		
	baz=97,SNR=24							
Y27A	Causey	96.97 319	⇑P	P	09 43 39.9	-1.7		
	baz=97							
Q16A	Castle Valley	96.97 327	⇑P	P	09 43 40.4	-1.3		
	baz=97,SNR=7.5							
Z28A	Tucker Farm, M	96.99 318	⇓P	P	09 43 39.9	-1.8		
	baz=97							
WVOR	Wild Horse Val	97.02 334	eP	P	09 43 40.5	-1.2		
WVOR			pmax	pmax				
	comp=Z,98nm,1.8s							
WVOR			MLR	MLR				
	comp=Z,17µm,19.0s							
WVOR	Wild Horse Val	97.02 334	eP	P	09 43 40.5	-1.2		
	comp=Z,98nm,1.8s							
WVOR			LR	LR				
	comp=Z,17µm,19.0s							
WVOR	Wild Horse Val	97.02 334	eP	P	09 43 40.5	-1.2		
	comp=Z,98nm,1.8s							
TEIG	Tepich	97.03 300	P	Pdif	09 43 43.1	+1.0		
TEIG			LR	LR				
	comp=Z,7µm,21.0s							
TEIG	Tepich	97.03 300	P	Pdif	09 43 43.1	+1.0		
	comp=Z,12nm,0.9s,baz=74,slow=7.0,SNR=3.8							
TEIG	Tepich	97.03 300	P	Pdif	09 43 43.1	+1.0		
MVCO	Mesa Verde	97.11 325	eP	P	09 43 41.2	-1.1		
	comp=Z,47nm,1.3s							
MVCO			LR	LR				
	comp=Z,16µm,20.0s							
MVCO	Mesa Verde	97.11 325	eP	P	09 43 41.2	-1.1		
	comp=Z,47nm,1.3s							
MVCO	Mesa Verde	97.11 325	⇑P	P	09 43 40.9	-1.4		
	baz=97,SNR=6.4							
V23A	Ortiz Mt. (NFS	97.12 322	⇓P	P	09 43 41.0	-1.4		
	baz=97							
W24A	Lazy 6 Ranch,	97.14 321	⇑P	P	09 43 41.4	-1.1		
	baz=97,SNR=5.4							
ELK	Elko	97.17 331	eP	P	09 43 41.5	-1.0		
	comp=Z,20nm,1.3s							
ELK	Elko	97.17 331	eP	P	09 43 41.5	-1.0		
	comp=Z,20nm,1.3s							
129A	Stewart Farms,	97.19 318	⇓P	P	09 43 40.4	-2.2		
	baz=97							
X25A	Clemmons Ranch	97.28 321	⇓P	P	09 43 41.3	-1.7		
	baz=97							
Y26A	Elida	97.30 320	⇓P	P	09 43 41.6	-1.6		
	baz=97							
432A	Menard	97.30 315	⇑P	P	09 43 41.4	-1.7		
	baz=97							
230A	Sterling City	97.32 317	⇓P	P	09 43 41.6	-1.6		
	baz=97							
U21A	Nageezi	97.33 324	⇓P	P	09 43 40.6	-2.8		
	baz=97,SNR=12							
331A	San Angelo	97.35 316	⇓P	P	09 43 42.2	-1.1		
	baz=97							
V22A	San Miguel Ran	97.36 323	⇓P	P	09 43 41.6	-1.9		
	baz=97							
BCIP	Isla Barro Col	97.39 286	eP	P	09 43 43.4	-0.3		
	comp=Z,70nm,1.5s							
BCIP			LR	LR				
	comp=Z,4µm,21.0s							
BCIP	Isla Barro Col	97.39 286	eP	P	09 43 43.4	-0.3		
	comp=Z,70nm,1.5s							
Z27A	Tatum	97.43 319	⇑P	P	09 43 42.5	-1.2		
	baz=97,SNR=6.9							
128A	Castleberry Fa	97.55 318	⇑P	P	09 43 42.7	-1.5		
	baz=97							
W23A	Werner Place,	97.56 322	⇑P	P	09 43 42.9	-1.6		
	baz=97							
JCT	Junction City	97.59 315	eP	Pdif	09 43 44.7	+0.2		
JCT			pmax	pmax				
	comp=Z,22nm,1.2s							
JCT			MLR	MLR				
	comp=Z,20µm,22.0s							
JCT	Junction City	97.59 315	eP	Pdif	09 43 44.7	+0.2		
	comp=Z,22nm,1.2s							
JCT			LR	LR				
	comp=Z,20µm,22.0s							
JCT	Junction City	97.59 315	eP	Pdif	09 43 44.7	+0.2		
	comp=Z,22nm,1.2s							
JCT	Junction City	97.59 315	⇑P	P	09 43 43.0	-1.4		
	baz=97							
X24A	Lazy VL Ranch,	97.66 321	⇓P	P	09 43 43.1	-1.7		
	baz=97							
229A	Bryant Ranch,	97.66 317	⇓P	P	09 43 43.5	-1.2		
	baz=97							
330A	Mertzon	97.71 316	⇑P	P	09 43 44.4	-0.6		
	baz=97,SNR=7.2							
MSU	Marysvale	97.75 328	eP	P	09 43 44.1	-1.1		
MSU			pmax	pmax				
	comp=Z,14nm,0.6s							
MSU	Marysvale	97.75 328	eP	P	09 43 44.1	-1.1		
	comp=Z,14nm,0.6s							
MSU	Marysvale	97.75 328	eP	P	09 43 44.1	-1.1		
	comp=Z,14nm,0.6s							
Y25A	Mesa, Roswell	97.76 320	⇓P	P	09 43 43.8	-1.4		
	baz=97							
MVU	Marysvale	97.77 328	eP	P	09 43 44.8	-0.5		
	comp=Z,49nm,1.4s							
MVU	Marysvale	97.77 328	eP	P	09 43 44.8	-0.5		
	comp=Z,49nm,1.4s							
U20A	Newcomb	97.79 324	⇓P	P	09 43 44.0	-1.4		
	baz=98							
V21A	Milan	97.81 323	⇓P	P	09 43 43.8	-1.7		
	baz=98							
Z26A	Caprock	97.88 319	⇓P	P	09 43 44.3	-1.4		
	baz=98,SNR=17							
ANMO	Albuquerque	97.89 322	eP	P	09 43 45.4	-0.5		
	comp=Z,19nm,1.5s							
ANMO			PP	PP	09 47 39.4	-4.0		
ANMO			PKKPbc	PKKPbc	10 00 19.9	+0.5		
ANMO			LR	LR				
	comp=Z,20µm,20.0s							
ANMO	Albuquerque	97.89 322	P	Pdif	09 43 46.5	+0.7		
	comp=Z,3.9nm,0.9s,baz=68,slow=7.3,SNR=14							
ANMO			PP	PP	09 47 39.4	-4.0		
	comp=Z,2.9nm,1.0s,baz=68,slow=6.4,SNR=3.5							
ANMO			PKKPbc	PKKPbc	10 00 19.9	+0.5		
	comp=Z,2.4nm,0.8s,baz=232,slow=6.0,SNR=3.6							
ANMO	Albuquerque	97.89 322	eP	P	09 43 45.4	-0.5		
	comp=Z,19nm,1.5s							
532A	Rocksprings	97.91 315	⇑P	P	09 43 45.0	-0.8		
	baz=98							
431A	Sonora	97.92 315	⇑P	P	09 43 44.3	-1.6		
	baz=98							
228A	UT Block 9, Go	97.98 318	⇓P	P	09 43 44.8	-1.4		
	baz=98

BMN Battle Mountai 98.22 332 eP P 09 43 47.2 0.0
comp=Z,24nm,1.4s
531A Rocksprings 98.26 315 ⇓P P 09 43 45.7 -1.7
baz=98
Z25A Roswell 98.27 320 ⇓P P 09 43 45.7 -1.7
baz=98,SNR=9.4
632A Uvalde 98.29 314 ⇑P P 09 43 45.7 -1.8
baz=98
HUMO Hull Mountain 98.35 337 eP P 09 43 46.3 -1.2
comp=Z,75nm,1.6s
HUMO Hull Mountain 98.35 337 eP P 09 43 46.3 -1.2
comp=Z,75nm,1.6s
W21A San Fidel 98.36 323 ⇓P P 09 43 45.9 -2.0
baz=98
126A Clayton Basin, 98.37 319 ⇓P P 09 43 45.8 -2.1
baz=98
227A Bennet, Jal 98.45 318 ⇓P P 09 43 46.6 -1.7
baz=98
Y23A Lovelace Mesa, 98.47 321 ⇑P P 09 43 47.4 -1.1
baz=98,SNR=5.3
LPM Los Pinos Moun 98.47 322 eP P 09 43 47.6 -0.9
comp=Z,20nm,1.5s
LPM Los Pinos Moun 98.47 322 eP P 09 43 47.6 -0.9
comp=Z,20nm,1.5s
X22A Bernardo 98.52 322 ⇓P P 09 43 47.4 -1.2
baz=98
KVTX Kingsville 98.55 311 PFAKE 09 44 00.0 +11
KVTX LR LR
comp=Z,11μm,20.0s
Z24A Sheeppen Canyo 98.57 320 ⇓P P 09 43 48.0 -1.0
baz=98,SNR=5.8
BNM Barren Site 98.60 322 eP P 09 43 48.5 -0.6
comp=Z,19nm,1.3s
BNM Barren Site 98.60 322 eP P 09 43 48.5 -0.6
comp=Z,19nm,1.3s
328A Wristen Ranch, 98.66 317 ⇑P P 09 43 47.8 -1.4
baz=98
LAZ Ladron 98.66 322 eP P 09 43 48.4 -0.9
comp=Z,11nm,1.5s
LAZ Ladron 98.66 322 eP P 09 43 48.4 -0.9
comp=Z,11nm,1.5s
429A Davenport Ranc 98.70 316 ⇑P P 09 43 48.4 -1.1
baz=98
125A Gardner Draw, 98.71 319 ⇓P P 09 43 47.9 -1.6
baz=98
530A J-C Ranch, Com 98.74 315 ⇑Pdiff P 09 43 48.7 -0.9
baz=98
LENM Lemitar 98.76 322 P Pdif 09 43 53.6 +3.8
comp=Z,11nm,1.2s
W20A Ramah 98.77 323 ⇑Pdiff P 09 43 48.7 -1.2
baz=98
Y22D IRIS PASSCAL I 98.81 322 ⇓Pdiff P 09 43 48.8 -1.1
baz=98
631A Perdido Creek 98.83 314 ⇑Pdiff P 09 43 49.0 -1.0
baz=98
CPUP Villa Florida 98.86 244 P P 09 43 49.7 -0.2
CPUP Villa Florida 98.86 244 P P 09 43 49.7 -0.2
comp=Z,6.0nm,0.8s,baz=64,slow=6.6,SNR=10
CPUP LR LR 10 29 55.0
comp=Z,30μm,20.8s,baz=32,slow=36
CPUP Villa Florida 98.86 244 P P 09 43 49.7 -0.2
226B Tecolote Peak, 98.89 319 ⇓Pdiff P 09 43 49.1 -1.1
baz=99
ARUT Antelope Range 98.91 328 eP P 09 43 49.4 -0.9
ARUT pmax pmax
comp=Z,16nm,1.2s
ARUT Antelope Range 98.91 328 eP P 09 43 49.4 -0.9
comp=Z,16nm,1.2s
ARUT Antelope Range 98.91 328 eP P 09 43 49.4 -0.9
comp=Z,16nm,1.2s
Y22A Socorro 98.94 322 ⇓Pdiff P 09 43 49.7 -0.8
baz=99
X21A Alamocita Cree 98.96 323 ⇓Pdiff P 09 43 49.5 -1.2
baz=99
732A Laxson Ranch, 98.97 314 ⇑Pdiff P 09 43 49.6 -0.9
baz=99
YBH Yreka Blue Hor 99.05 336 P Pdif 09 43 51.4 +0.6
YBH PKKPbc PKKPbc 10 00 15.6 -0.6
YBH Yreka Blue Hor 99.05 336 P Pdif 09 43 51.4 +0.6
comp=Z,6.0nm,1.1s,baz=135,slow=1.4,SNR=3.0
YBH PKKPbc PKKPbc 10 00 15.6 -0.6
comp=Z,3.1nm,1.0s,baz=215,slow=15,SNR=3.3
YBH Yreka Blue Hor 99.05 336 P Pdif 09 43 51.4 +0.6
CCUT Cedar City 99.07 328 eP Pdif 09 43 50.2 -0.9
comp=Z,15nm,1.3s
CCUT Cedar City 99.07 328 eP Pdif 09 43 50.2 -0.9
comp=Z,15nm,1.3s
428A Kincaid Ranch, 99.08 317 ⇑Pdiff Pdif 09 43 50.3 -0.8
baz=99
Z23A Rita Site, Whi 99.08 321 ⇑Pdiff Pdif 09 43 50.5 -0.6
baz=99
124A Stringfield Ra 99.11 320 ⇓Pdiff Pdif 09 43 50.1 -1.3
baz=99
225A Deer Hill, Car 99.22 319 ⇓Pdiff Pdif 09 43 50.9 -1.0
baz=99
X20A Quemado 99.24 323 ⇓Pdiff Pdif 09 43 50.4 -1.5
baz=99
Y21A Point of Rocks 99.25 322 ⇑Pdiff Pdif 09 43 50.8 -1.2
baz=99
529A Stev Forest Ra 99.26 316 ⇓Pdiff Pdif 09 43 51.0 -0.9
baz=99
326A Caldwell Ranch 99.36 318 ⇑Pdiff Pdif 09 43 51.4 -1.0
baz=99
W18A Petrified Fore 99.39 324 ⇓Pdiff Pdif 09 43 51.2 -1.3
baz=99
Z22A Elephant Butte 99.47 321 ⇓Pdiff Pdif 09 43 51.2 -1.7
baz=99
U15A North Rim 99.52 327 ⇓Pdiff Pdif 09 43 52.4 -0.9
baz=99
528A Cox Ranch, San 99.56 316 ⇑Pdiff Pdif 09 43 52.8 -0.6
baz=99
123A Bell Site, Whi 99.59 320 ⇑Pdiff Pdif 09 43 52.0 -1.3
baz=99
Y20A Horse Springs, 99.68 323 ⇑Pdiff Pdif 09 43 52.4 -1.5
baz=99
Z21A St. Cloud Mine 99.80 322 ⇑Pdiff Pdif 09 43 53.2 -1.2
baz=100
MNTX Cornudas Mount 99.84 319 ePdif Pdif 09 43 52.2 -2.2
comp=Z,10nm,1.2s
MNTX ePP PP 09 47 57.5 -0.8
MNTX LR LR
comp=Z,7μm,21.0s
WUAZ Wupatki 99.84 326 ePdif Pdif 09 43 53.3 -1.2
comp=Z,28nm,1.3s
WUAZ LR LR
comp=Z,10μm,20.0s
WUAZ Wupatki 99.84 326 ⇓Pdiff Pdif 09 43 52.9 -1.6
baz=100
426A McDonald Obser 99.88 318 ⇑Pdiff Pdif 09 43 53.9 -1.0
baz=100
BEKR Beckworth 99.89 334 ePdif Pdif 09 43 58.5 +3.8
comp=Z,12nm,1.4s
122A Conniff Cattle 99.92 321 ⇓Pdiff Pdif 09 43 53.5 -1.4
baz=100
X18A Snowflake 99.96 324 ⇓Pdiff Pdif 09 43 53.5 -1.6
baz=100
527A Woodward Ranch 100.04 317 ⇑Pdiff Pdif 09 43 54.1 -1.4
baz=100
324A Moseley Ranch, 100.09 319 ⇑Pdiff Pdif 09 43 54.2 -1.5
baz=100
628A Black Gap, Mar 100.13 316 ⇓Pdiff Pdif 09 43 54.5 -1.2
baz=100
223A Chaparral, Ant 100.16 320 ⇓Pdiff Pdif 09 43 54.8 -1.2
baz=100
TGUH Tegucigalpa,Un 100.21 295 PFAKE 09 44 10.0 +14
TGUH LR LR
comp=Z,6μm,21.0s
NV11 Mina Array Sit 100.31 332 ePdif Pdif 09 43 57.1 +0.5
NV11 ePP PP 09 48 03.5 +1.9
NVAR Mina Array Bea 100.37 332 P Pdif 09 43 56.4 -0.5
NVAR PP PP 09 48 01.5 -0.7
NVAR PKKPbc PKKPbc 10 00 12.1 -0.5
NVAR SKKPbc SKKPbc 10 03 51.3 +1.7
NVAR Mina Array Bea 100.37 332 P Pdif 09 43 56.4 -0.5
comp=Z,1.2nm,0.9s,baz=34,slow=4.5,SNR=9.1
NVAR PP PP 09 48 01.5 -0.7
comp=Z,2.4nm,0.9s,baz=46,slow=5.5,SNR=4.1
NVAR PKKPbc PKKPbc 10 00 12.1 -0.5
comp=Z,0.8nm,0.6s,baz=199,slow=4.0,SNR=7.3
NVAR SKKPbc SKKPbc 10 03 51.3 +1.7
comp=Z,0.7nm,0.9s,baz=201,slow=4.5,SNR=3.6
NVAR Mina Array Bea 100.37 332 P Pdif 09 43 56.4 -0.5
526A Mary Lane Ranc 100.38 317 ⇓Pdiff Pdif 09 43 55.8 -1.2
baz=100
Z20A Nine Sixteen R 100.42 322 ⇑Pdiff Pdif 09 43 55.7 -1.4
baz=100
627A Terlingua Ranc 100.44 316 ⇓Pdiff Pdif 09 43 55.9 -1.3
baz=100
222A Williams Famil 100.44 321 ⇓Pdiff Pdif 09 43 56.0 -1.2
baz=100
121A Cookes Peak, D 100.47 321 ⇓Pdiff Pdif 09 43 55.5 -1.9
baz=100
TXAR Lajitas Array 100.69 316 P Pdif 09 43 57.9 -0.5
TXAR PP PP 09 48 04.9 0.0
TXAR PKKPbc PKKPbc 10 00 10.8 -0.5
TXAR Lajitas Array 100.69 316 P Pdif 09 43 57.9 -0.5
comp=Z,1.4nm,0.9s,baz=83,slow=4.0,SNR=12
TXAR PP PP 09 48 04.9 0.0
comp=Z,6.4nm,1.1s,baz=60,slow=7.4,SNR=4.2
TXAR PKKPbc PKKPbc 10 00 10.8 -0.5
comp=Z,0.6nm,0.6s,baz=198,slow=5.7,SNR=5.8
TXAR Lajitas Array 100.69 316 P Pdif 09 43 57.8 -0.5
TXAR Lajitas Array 100.69 316 PP PP 09 48 04.9 0.0
X16A Lo Mia Camp, P 100.77 325 ⇓Pdiff Pdif 09 43 57.2 -1.5
baz=100
626A Big Bend Ranch 100.78 317 ⇑Pdiff Pdif 09 43 57.3 -1.4
baz=100
120A U Bar Ranch, L 100.89 322 ⇓Pdiff Pdif 09 43 57.8 -1.4
baz=101
GRAC Grapevine Rang 101.23 331 ⇑Pdiff Pdif 09 43 59.0 -1.5
baz=101
MLAC Mammoth Lakes 101.28 332 ⇓Pdiff Pdif 09 43 59.0 -1.9
baz=101
W13A Hualapai Mount 101.34 327 ⇑Pdiff Pdif 09 43 59.4 -1.9
baz=101
220A Playas Peak, P 101.34 321 ⇓Pdiff Pdif 09 43 59.8 -1.4
baz=101
OTAV Otavalo 101.43 278 ePdif Pdif 09 44 03.3 +1.0
comp=Z,16nm,1.4s
OTAV LR LR
comp=Z,8μm,21.0s
FURC Furnace Creek, 101.48 330 ⇓Pdiff Pdif 09 44 00.1 -1.4
baz=101
CMB Columbia Colle 101.52 333 P Pdif 09 44 00.9 -0.9
CMB pmax pmax
comp=Z,24nm,1.7s
CMB Columbia Colle 101.52 333 Pdif Pdif 09 44 00.8 -0.9
comp=Z,24nm,1.7s
SHOC Shoshone 101.72 329 ⇑Pdiff Pdif 09 44 01.3 -1.3
baz=101
320A Kipp Ranch, An 101.80 321 ⇑Pdiff Pdif 09 44 01.1 -2.2
baz=102
Y14A Wickenburg 101.90 326 ⇓Pdiff Pdif 09 44 02.2 -1.4
baz=102
LDFC Landfair 101.91 328 ePdif Pdif 09 44 03.2 -0.5
LPAZ La Paz 101.93 258 P Pdif 09 44 05.5 +1.0
LPAZ PP PP 09 48 11.9 -4.1
LPAZ PKKPbc PKKPbc 10 00 09.4 +1.0
LPAZ La Paz 101.93 258 P Pdif 09 44 05.5 +1.0
comp=Z,0.8nm,0.8s,baz=75,slow=4.1,SNR=3.2
LPAZ PP PP 09 48 11.9 -4.1
comp=Z,3.1nm,0.8s,baz=332,slow=6.2,SNR=4.6
LPAZ PKKPbc PKKPbc 10 00 09.4 +1.0
comp=Z,0.6nm,0.6s,baz=225,slow=2.9,SNR=2.3
MPMC Manual Prospec 102.09 330 ⇑Pdiff Pdif 09 44 03.3 -1.3
baz=102
PDMCI Parker Dam,Lak 102.12 327 ⇑Pdiff Pdif 09 44 03.3 -1.1
baz=102
319A Douglas 102.15 322 ⇑Pdiff Pdif 09 44 04.4 -0.4
baz=102
TUC Tucson 102.16 323 eP Pdif 09 44 04.7 -0.1
TUC pmax pmax
comp=Z,17nm,1.3s
TUC MLR MLR
comp=Z,14μm,22.0s
TUC Tucson 102.16 323 ePdif Pdif 09 44 04.7 -0.1
comp=Z,17nm,1.3s
TUC LR LR
comp=Z,14μm,22.0s
Z14A Wintersburg 102.35 325 ⇓Pdiff Pdif 09 44 04.5 -1.0
baz=102
GMRC Granite Mounta 102.40 328 ⇓Pdiff Pdif 09 44 04.4 -1.5
baz=102
HEC Hector,Ludlow 102.65 329 ⇓Pdiff Pdif 09 44 06.5 -0.4
baz=102
LRMC Laurel Mountai 102.67 330 ⇑Pdiff Pdif 09 44 06.3 -0.8
baz=102
IRM Iron Mountain 102.70 327 ⇑Pdiff Pdif 09 44 06.2 -0.9
baz=102
ISA Isabella 102.83 331 eP Pdif 09 44 06.6 -1.1
ISA pmax pmax
comp=Z,17nm,1.3s
ISA Isabella 102.83 331 ePdif Pdif 09 44 06.6 -1.1
comp=Z,17nm,1.3s
ISA Isabella 102.83 331 ⇓Pdiff Pdif 09 44 06.6 -1.1
baz=102
113A Mohawk Valley, 103.23 326 ⇓Pdiff Pdif 09 44 08.3 -1.1
baz=103
EDW2 Edwards Air Fo 103.31 330 ⇓Pdiff Pdif 09 44 08.4 -1.4
baz=103
GLA Glamis 103.48 327 eP Pdif 09 44 14.7 +4.1
GLA pmax pmax
comp=Z,7.0nm,0.8s
GLA Glamis 103.48 327 ePdif Pdif 09 44 14.7 +4.1
comp=Z,7.2nm,0.8s
PFO Pinyon Flat Ob 103.74 328 Pdif Pdif 09 44 11.8 -0.1
PFO LR LR
comp=Z,16μm,20.0s
PFO Pinyon Flat Ob 103.74 328 Pdiff Pdif 09 44 11.8 -0.1
comp=Z,1.8nm,0.8s,baz=127,slow=5.1,SNR=2.6
PFO Pinyon Flat Ob 103.74 328 ⇓Pdiff Pdif 09 44 10.3 -1.5
baz=103
MBWA Marble Bar 104.90 106 PFAKE 09 44 30.0 +13
MBWA LR LR
comp=Z,9μm,21.0s
MAW Mawson 105.27 166 Pdif Pdif 09 44 18.2 +0.9
MAW PKiKP PKiKP 09 48 32.0 +0.8
MAW Mawson 105.27 166 Pdiff Pdif 09 44 18.2 +0.9
comp=Z,1.3nm,1.0s,baz=339,slow=8.6,SNR=1.6
MAW PKiKP PKiKP 09 48 32.0 +0.8
comp=Z,2.4nm,0.9s,baz=315,slow=1.4,SNR=3.5
MAW Mawson 105.27 166 PKiKP PKiKP 09 48 32.0 +0.8
GUMO Guam 105.34 62 PFAKE 09 48 40.0
GUMO LR LR
comp=Z,6μm,20.0s
LVC Limon Verde 105.85 253 PP PP 09 48 51.5 +6.7
LVC LR LR
comp=Z,12μm,21.0s
LVC Limon Verde 105.85 253 PP PP 09 48 51.5 +6.7
comp=Z,3.8nm,0.9s,baz=83,slow=11,SNR=3.4
NNA Nana 106.82 267 PFAKE 09 48 50.0
NNA LR LR
comp=Z,12μm,20.0s
VNA1 Neumayer--Stat 107.28 191 esPdiff sPdiff 09 44 46.1
VNA1 Neumayer--Stat 107.28 191 epPKiKP PP 09 48 50.6 -3.4
SNAA Sanae 107.41 189 esPdiff sPdif 09 44 40.8 +7.6
SNAA Sanae 107.41 189 epPKiKP pPKiKP 09 48 44.2 +4.2
SNAA Sanae 107.41 189 ePKPdf PKKPbc 09 59 49.9 -2.8
SNAA Sanae 107.41 189 Pdif Pdif 09 44 29.7 +2.7
comp=Z,0.5nm,1.4s
SNAA PKiKP PKiKP 09 48 35.2 0.0
SNAA PP PP 09 48 55.7 +0.6
SNAA PKKPbc PKKPdf 10 00 09.6 +3.0
SNAA Sanae 107.41 189 Pdiff Pdif 09 44 29.7 +2.7
comp=Z,0.3nm,1.0s,baz=77,slow=5.4,SNR=2.3
SNAA PKiKP PKiKP 09 48 35.2 0.0
comp=Z,1.1nm,1.0s,baz=336,slow=6.4,SNR=3.1
SNAA PP PP 09 48 55.7 +0.6
comp=Z,2.9nm,0.9s,baz=35,slow=11,SNR=6.0
SNAA PKKPbc PKKPdf 10 00 09.6 +3.0
comp=Z,1.1nm,0.9s,baz=213,slow=4.2,SNR=3.9
FITZ Fitzroy Crossi 108.11 100 Pdif Pdif 09 44 31.1 -0.2
FITZ PKiKP PKiKP 09 48 39.3 +1.2
FITZ PKKPbc PKKPab 10 00 01.4 -1.1
FITZ Fitzroy Crossi 108.11 100 Pdiff Pdif 09 44 31.1 -0.2
comp=Z,1.5nm,0.8s,baz=315,slow=1.4,SNR=3.3
FITZ PKiKP PKiKP 09 48 39.3 +1.2
comp=Z,1.5nm,0.6s,baz=297,slow=4.3,SNR=3.7
FITZ PKKPbc PKKPab 10 00 01.4 -1.1
comp=Z,1.7nm,0.7s,baz=146,slow=5.4,SNR=4.2
TRQA Tornquist 108.34 236 PFAKE 09 48 50.0
TRQA LR LR
comp=Z,18μm,20.0s
NWAO Narrogin (SRO) 108.84 117 PFAKE 09 48 50.0
NWAO LR LR
comp=Z,9μm,21.0s
CFAA Coronel Fontan 109.75 245 PKKPbc PKKPbc 09 59 50.4 +6.4
CFAA Coronel Fontan 109.75 245 PKKPbc PKKPbc 09 59 50.4 +6.4
comp=Z,0.4nm,0.6s,baz=262,slow=3.7,SNR=4.3
LCO Las Campanas 110.40 248 PFAKE 09 48 50.0
LCO LR LR
comp=Z,17μm,19.0s
PAYG Puerto Ayora 111.58 285 PFAKE 09 49 00.0
PAYG LR LR
comp=Z,3μm,20.0s
EFI East Falkland 112.31 222 PFAKE 09 49 00.0
EFI LR LR
comp=Z,11μm,20.0s
MIDW Midway 114.29 22 PFAKE 09 49 00.0 +10
MIDW LR LR
comp=Z,6μm,20.0s
WAKE Wake Island 115.24 41 PFAKE 09 49 00.0 +8.4
WAKE LR LR
comp=Z,6μm,20.0s
PLCA Paso Flores 115.47 237 PKP PKPdf 09 48 51.3 -0.2
PLCA PKKPbc PKKPab 09 59 31.6 +3.0
PLCA Paso Flores 115.47 237 PKP PKPdf 09 48 51.3 -0.2
comp=Z,2.6nm,0.6s,baz=90,slow=2.9,SNR=5.4
PLCA PKKPbc PKKPab 09 59 31.6 +3.0
comp=Z,3.0nm,0.9s,baz=352,slow=6.3,SNR=3.5
FORT Forrest 116.06 111 ePKPdf PKPdf 09 48 52.5 -0.3
FORT Forrest 116.06 111 ePKIKP PKPdf 09 48 52.5 -0.3
WRA Warramunga Arr 116.16 97 Pdif Pdif 09 45 07.9 +0.9
WRA PKP PKPdf 09 48 51.4 -1.9
WRA PP PP 09 49 59.1 +0.3
WRA PKKPab PKKPab 09 59 25.9 -1.2
WRA Warramunga Arr 116.16 97 Pdiff Pdif 09 45 07.9 +0.9
comp=Z,0.2nm,0.5s,baz=302,slow=3.9,SNR=3.4
WRA PKP PKPdf 09 48 51.4 -1.9
comp=Z,3.5nm,0.5s,baz=315,slow=1.8,SNR=49
WRA PP PP 09 49 59.1 +0.3
comp=Z,2.8nm,0.9s,baz=317,slow=1.6,SNR=5.5
WRA PKKPab PKKPab 09 59 25.9 -1.2
comp=Z,1.3nm,1.0s,baz=117,slow=3.9,SNR=7.6
WRA Warramunga Arr 116.16 97 PKIKP PKPdf 09 48 51.4 -1.9
WRAB Tennant Creek 116.16 97 ePKIKP PKPdf 09 48 52.1 -1.2
WRAB MLR MLR
comp=Z,4μm,20.0s
WRAB Tennant Creek 116.16 97 ePKPdf PKPdf 09 48 52.1 -1.2
WRAB LR LR
comp=Z,4μm,20.0s
WRAB Tennant Creek 116.16 97 ePKIKP PKPdf 09 48 52.1 -1.2
AS31 Alice Springs 117.56 101 ePKPdf PKPdf 09 48 55.0 -0.9
AS31 Alice Springs 117.56 101 ePKIKP PKPdf 09 48 55.0 -0.9
ASAR Alice Springs 117.56 101 Pdif Pdif 09 45 13.8 +0.6
ASAR PKP PKPdf 09 48 54.5 -1.5
ASAR PKKPbc PKKPbc 09 59 16.9 -0.5
ASAR Alice Springs 117.56 101 Pdiff Pdif 09 45 13.8 +0.6
comp=Z,0.8nm,0.9s,baz=293,slow=4.7,SNR=3.4
ASAR PKP PKPdf 09 48 54.5 -1.5
comp=Z,12nm,0.8s,baz=304,slow=1.4,SNR=45
ASAR PKKPbc PKKPbc 09 59 16.9 -0.5
comp=Z,0.8nm,0.8s,baz=119,slow=3.3,SNR=5.9
ASAR Alice Springs 117.56 101 PKIKP PKPdf 09 48 54.5 -1.5
CASY Casey 118.80 153 PKPdf PKPdf 09 48 59.6 +2.6
CASY LR LR
comp=Z,12μm,20.0s
CASY Casey 118.80 153 PKIKP PKPdf 09 48 59.6 +2.6
USHA Ushuaia 119.27 221 PKP PKPdf 09 48 58.3 +0.1
USHA Ushuaia 119.27 221 PKP PKPdf 09 48 58.3 +0.1
comp=Z,11nm,1.3s,baz=278,slow=7.5,SNR=2.7
USHA Ushuaia 119.27 221 PKIKP PKPdf 09 48 58.3 +0.1
PMSA Palmer Station 120.15 210 PKP PKPdf 09 48 59.9 +0.3
PMSA LR LR
comp=Z,10μm,21.0s
PMSA Palmer Station 120.15 210 PKP PKPdf 09 48 59.9 +0.3
comp=Z,13nm,0.8s,baz=337,slow=7.7,SNR=2.1
PMSA Palmer Station 120.15 210 PKIKP PKPdf 09 48 59.9 +0.3
COEN Coen 120.49 86 ePKPdf PKPdf 09 49 01.1 -0.7
COEN Coen 120.49 86 ePKIKP PKPdf 09 49 01.1 -0.7
PMG Port Moresby 121.32 80 PKP PKPdf 09 49 03.2 -0.2
PMG ePKPdf PKiKP 09 49 05.4 +1.9
PMG ePP PP 09 50 29.6 -4.7
PMG LR LR
comp=Z,3μm,20.0s
PMG Port Moresby 121.32 80 PKP PKPdf 09 49 03.2 -0.2
comp=Z,16nm,0.8s,baz=34,slow=3.6,SNR=2.2
PMG Port Moresby 121.32 80 PKIKP PKPdf 09 49 03.2 -0.2
QSPA South Pole Qui 124.00 180 ePKPdf PKPdf 09 49 04.8 -2.2
QSPA PKP PKPdf 09 49 06.4 -0.7
QSPA LR LR
comp=Z,26μm,22.0s
QSPA South Pole Qui 124.00 180 PKP PKPdf 09 49 06.4 -0.7
comp=Z,22nm,0.7s,baz=256,slow=1.4,SNR=75
QSPA South Pole Qui 124.00 180 PKIKP PKPdf 09 49 06.4 -0.7
KIP Kipapa 124.64 4 ePKIKP PKPdf 09 49 09.7 0.0
KIP MLR MLR
comp=Z,6μm,22.0s
KIP Kipapa 124.64 4 ePKPdf PKPdf 09 49 09.7 0.0
KIP LR LR
comp=Z,6μm,22.0s
KIP Kipapa 124.64 4 ePKIKP PKPdf 09 49 09.7 0.0
CTA Charters Tower 126.08 91 PKP PKPdf 09 49 12.1 -0.3
CTA Charters Tower 126.08 91 PKP PKPdf 09 49 12.1 -0.3
comp=Z,16nm,1.0s,baz=305,slow=3.1,SNR=13
CTA Charters Tower 126.08 91 PKIKP PKPdf 09 49 12.1 -0.3
CTAO Charters Tower 126.08 91 ePKIKP PKPdf 09 49 12.0 -0.3
CTAO e 09 51 09.1
CTAO MLR MLR
comp=Z,5μm,21.0s
CTAO Charters Tower 126.08 91 ePKPdf PKPdf 09 49 12.0 -0.3
CTAO ePP PP 09 51 09.1 +2.6
CTAO LR LR
comp=Z,5μm,21.0s
CTAO Charters Tower 126.08 91 ePKIKP PKPdf 09 49 12.0 -0.3
STKA Stephens Creek 127.12 107 ePKPdf PKPdf 09 49 13.3 -0.7
STKA PKP PKPdf 09 49 13.5 -0.6
STKA Stephens Creek 127.12 107 PKP PKPdf 09 49 13.5 -0.6
comp=Z,8.1nm,0.8s,baz=335,slow=3.4,SNR=14
STKA Stephens Creek 127.12 107 PKIKP PKPdf 09 49 13.5 -0.6
DRV Dumont d'Urvil 130.49 152 PP PP 09 51 16.0 -18
DRV SKS SKSdf 09 56 08.0 -22
DRV SKKS SKKSac 09 58 02.0 -28
DRV SP SP 10 01 57.0 +14
HNR Honiara 131.57 70 PFAKE 09 49 30.0 +7.0
HNR LR LR
comp=Z,4μm,20.0s
VNDA Vanda 132.52 168 PKP PKPdf 09 49 22.5 -0.4
VNDA ePKPdf PKPdf 09 49 23.1 +0.2
VNDA ePP PP 09 51 49.6 +2.5
VNDA eSKPdf SKPbc 09 52 49.5 0.0
VNDA SKPbc SKPab 09 52 52.7 +2.0
VNDA Vanda 132.52 168 PKP PKPdf 09 49 22.5 -0.4
comp=Z,1.8nm,0.7s,baz=268,slow=4.3,SNR=5.9
VNDA SKPbc SKPab 09 52 52.7 +2.0
comp=Z,10.0nm,0.9s,baz=269,slow=5.0,SNR=3.1
VNDA Vanda 132.52 168 ePKIKP PKPdf 09 49 23.1 +0.2
SBA Scott Base 133.08 170 ePKIKP PKPdf 09 49 24.3 +0.3
SBA MLR MLR
comp=Z,38μm,22.0s
SBA Scott Base 133.08 170 ePKPdf PKPdf 09 49 24.3 +0.3
SBA eSKPbc SKPbc 09 52 51.9 +0.6
SBA LR LR
comp=Z,38μm,22.0s
SBA Scott Base 133.08 170 ePKIKP PKPdf 09 49 24.3 +0.3
TARA Tarawa 133.25 48 PFAKE 09 49 40.0 +14
TARA LR LR
comp=Z,6μm,22.0s
CAN Canberra 134.07 108 ePKIKP PKPdf 09 49 27.4 +0.2
CAN MLR MLR
comp=Z,7μm,22.0s
CAN Canberra 134.07 108 ePKPdf PKPdf 09 49 27.4 +0.2
CAN LR LR
comp=Z,7μm,22.0s
CAN Canberra 134.07 108 ePKIKP PKPdf 09 49 27.4 +0.2
TAU Tasmania Unive 134.42 119 PFAKE 09 49 40.0 +13
TAU LR LR
comp=Z,10μm,19.0s
RPN Rapa Nui 140.80 268 PFAKE 09 49 50.0 +10
RPN LR LR
comp=Z,6μm,20.0s
DZM Mont Dzumac 143.69 81 ePKIKP PKPdf 09 49 44.2 -0.9
comp=Z,261nm,1.3s
DZM Mont Dzumac 143.69 81 ePP PP 09 52 55.7 -2.3
comp=Z,3μm,26.7s
DZM Mont Dzumac 143.69 81 eSS SS 10 11 47.3 +6.5
comp=Z,11μm,34.5s
DZM Mont Dzumac 143.69 81 eLR LR 10 36 49.2
comp=Z,13μm,24.4s
DZM Mont Dzumac 143.69 81 ePKPdf PKPbc 09 49 43.8 +1.1
DZM PKP PKPdf 09 49 44.2 -0.9
DZM Mont Dzumac 143.69 81 PKP PKPdf 09 49 44.2 -0.9
comp=Z,30nm,0.9s,baz=90,slow=20,SNR=6.2
DZM Mont Dzumac 143.69 81 PKIKP PKPdf 09 49 44.2 -0.9
XMAS Kiritimati 143.89 5 PFAKE 09 50 00.0 +14
XMAS LR LR
comp=Z,8μm,20.0s
FUNA Funafuti 144.83 50 ePKPdf PKPdf 09 49 47.2 -0.1

FUNA					LR	LR		
	comp=Z,15µm,20.0s							
FUNA	**Funafuti**	**144.83**	**50**	*e*PKIKP	**PKPdf**	**09 49 47.2**	**-0.1**
PYZ	**Puysegur Point**	**148.27**	**124**	PKP	**PKPbc**	**09 49 54.9**	**-0.6**
APZ	**The Paps**	**149.06**	**126**	PKP	**PKPbc**	**09 49 57.3**	**-0.3**
WHZ	**Wether Hill Ro**	**149.19**	**124**	PKP	**PKPbc**	**09 49 56.9**	**-0.9**
SYZ	**Scrubby Hill**	**149.89**	**125**	PKP	**PKPbc**	**09 49 58.9**	**-0.6**
MSVF	**Nonsavu**	**150.50**	**63**	*e*PKIKP	**PKPbc**	**09 50 02.7**	**+0.7**
MSVF				*e*		09 50 08.2	
MSVF				MLR	MLR		
	comp=Z,8µm,20.0s						
MSVF	**Nonsavu**	**150.50**	**63**	*e*PKPbc	**PKPbc**	**09 50 02.7**	**+0.7**
MSVF				*e*PKPab	**PKPab**	**09 50 08.2**	**-0.3**
MSVF				LR	LR		
	comp=Z,8µm,20.0s						
MSVF	**Nonsavu**	**150.50**	**63**	*e*PKPbc	**PKPbc**	**09 50 02.7**	**+0.7**
FOZ	**Fox Glacier**	**150.73**	**119**	PKP	**PKPbc**	**09 50 01.5**	**-0.1**
LBZ	**Lake Benmore**	**150.98**	**121**	PKP	**PKPbc**	**09 50 01.5**	**-0.7**
ODZ	**Otahua Downs**	**151.20**	**123**	*e*PKPbc	**PKPbc**	**09 50 03.2**	**+0.5**
ODZ	**Otahua Downs**	**151.20**	**123**	*e*PKPbc	**PKPbc**	**09 50 03.2**	**+0.5**
WVZ	**Waitaha Valley**	**151.55**	**119**	PKP	**PKPbc**	**09 50 02.1**	**-1.4**
RPZ	**Rata Peaks**	**151.70**	**120**	PKPbc	**PKPbc**	**09 50 03.6**	**-0.4**
RPZ	**Rata Peaks**	**151.70**	**120**	PKPbc	**PKPbc**	**09 50 03.6**	**-0.4**
	comp=Z,35nm,0.8s,baz=259,slow=3.1,SNR=11						
RPZ	**Rata Peaks**	**151.70**	**120**	PKPbc	**PKPbc**	**09 50 03.6**	**-0.4**
OXZ	**Oxford**	**152.46**	**119**	PKP	**PKPbc**	**09 50 05.2**	**-0.5**
DSZ	**Denniston Nort**	**152.47**	**116**	PKP	**PKPbc**	**09 50 03.7**	**-2.1**
LTZ	**Lake Taylor**	**152.70**	**118**	PKP	**PKPbc**	**09 50 05.8**	**-0.4**
QRZ	**Quartz Range**	**153.08**	**114**	PKP	**PKPbc**	**09 50 07.0**	**-0.1**
THZ	**Tophouse**	**153.28**	**116**	PKP	**PKPbc**	**09 50 05.9**	**-1.7**
KHZ	**Kahutara**	**153.68**	**118**	*e*PKPbc	**PKPbc**	**09 50 06.9**	**-1.4**
KHZ	**Kahutara**	**153.68**	**118**	*e*PKPbc	**PKPbc**	**09 50 06.9**	**-1.4**
AFI	**Afiamalu**	**154.46**	**42**	PKPbc	**PKPbc**	**09 50 12.0**	**+1.1**
AFI				LR	LR		
	comp=Z,6µm,20.0s						
AFI	**Afiamalu**	**154.46**	**42**	PKPbc	**PKPbc**	**09 50 12.0**	**+1.1**
	comp=Z,18nm,0.7s,baz=348,slow=9.3,SNR=2.8						
AFI	**Afiamalu**	**154.46**	**42**	PKPbc	**PKPbc**	**09 50 12.0**	**+1.1**
SNZO	**South Karori**	**154.68**	**115**	PFAKE		09 50 10.0	-0.5
SNZO				LR	LR		
	comp=Z,17µm,19.0s						
URZ	**Urewera**	**156.74**	**108**	PKP	**PKPdf**	**09 50 05.7**	**+0.9**
URZ	**Urewera**	**156.74**	**108**	PKP	**PKPdf**	**09 50 05.7**	**+0.9**
	comp=Z,9.9nm,1.0s,baz=336,slow=17,SNR=2.2						
URZ	**Urewera**	**156.74**	**108**	PKIKP	**PKPdf**	**09 50 05.7**	**+0.9**
RAO	**Raoul Island**	**159.47**	**83**	PFAKE		09 50 20.0	+12
RAO				LR	LR		
	comp=Z,9µm,20.0s						
RKT	**Rikitea**	**159.71**	**298**	*e*PP	PP	09 54 29.7	+0.6
	comp=Z,712nm,24.0s						
RKT	**Rikitea**	**159.71**	**298**	*e*SS	SS	10 14 41.0	+4.2
	comp=Z,5µm,33.0s						
RKT	**Rikitea**	**159.71**	**298**	*e*LR	LR	10 44 04.6	
	comp=Z,9µm,25.8s						
PPT2	**Papeete2**	**162.94**	**344**	*e*PP	PP	09 54 43.4	-1.9
	comp=Z,2µm,23.8s						
PPT2	**Papeete2**	**162.94**	**344**	*e*SS	SS	10 15 12.3	+3.8
	comp=Z,10µm,33.2s						
PPT2	**Papeete2**	**162.94**	**344**	*e*LR	LR	10 45 46.6	
	comp=Z,19µm,25.5s						
RAR	**Rarotonga**	**166.29**	**21**	PFAKE		09 50 30.0	+15
RAR				LR	LR		
	comp=Z,9µm,20.0s						
TBI	**Tubuai**	**168.38**	**337**	*e*PP	PP	09 55 12.4	-1.2
	comp=Z,427nm,26.0s						
TBI	**Tubuai**	**168.38**	**337**	*e*SS	SS	10 16 10.7	+6.7
	comp=Z,11µm,30.2s						
TBI	**Tubuai**	**168.38**	**337**	*e*LR	LR	10 48 17.7	
	comp=Z,22µm,30.2s						

*IDC **01** 09:37:16.6±1.4,34°.10N×25°.37E, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.9/26, mbtmp4.2/5, ML4.3/1, Error ellipse: s-maj=47.0km s-min=22.4km az=149.0*
*ISCJB **01** 09:37:17.3±1.1, 33°.91N±0°.09×25°.47E±0°.10, h17km, mb3.9/4, Error ellipse: s-maj=14.3km s-min=10.8km az=153.0*
*CSEM **01** 09:37:20.9, 34°.19N×25°.34E, h23km, MD3.5, After ATH*
*ATH **01** 09:37:20.9, 34°.19N×25°.34E, h23km±3km, MD3.5/8*

ISC 01 09:37:19.1±1.2, 34°.09N±0°.10×25°.39E±0°.05, h17km, n21, σ0s36/21, mb4.1/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.04**	**333**	*e*PN	**Pn**	**09 37 38.8**	**-0.1**
SIVA	**Sivas**	**1.04**	**333**	*e*Pn	**Pn**	**09 37 38.8**	**-0.1**
LAST	**Lasithi**	**1.07**	**4**	*e*PB	**Pb**	**09 37 39.0**	**-0.2**
LAST	**Lasithi**	**1.07**	**4**	*e*Pb	**Pb**	**09 37 39.0**	**-0.2**
NPS	**Neapolis**	**1.18**	**9**	*e*PN	**Pg**	**09 37 42.1**	**+0.1**
NPS	**Neapolis**	**1.18**	**9**	*e*Pn	**Pg**	**09 37 42.1**	**+0.1**
ZKR	**Zakros**	**1.23**	**34**	*e*PN	**Pg**	**09 37 43.3**	**+0.4**
ZKR	**Zakros**	**1.23**	**34**	*e*Pn	**Pg**	**09 37 43.3**	**+0.4**
IDI	**Anoyia**	**1.26**	**341**	*e*PN	**Pg**	**09 37 43.2**	**-0.3**
IDI	**Anoyia**	**1.26**	**341**	*e*Pn	**Pg**	**09 37 43.2**	**-0.3**
GVD	**Gavdhos**	**1.31**	**305**	*e*PN	**Pg**	**09 37 44.2**	**-0.1**
GVD	**Gavdhos**	**1.31**	**305**	*e*Pn	**Pg**	**09 37 44.2**	**-0.1**
VAM	**Vamos**	**1.64**	**324**	*e*PN	**Pb**	**09 37 49.2**	**+0.4**
VAM	**Vamos**	**1.64**	**324**	*e*Pn	**Pb**	**09 37 49.2**	**+0.4**
KARP	**Karpathos**	**2.06**	**45**	*e*PB	**Pb**	**09 37 55.6**	**-0.5**
KARP	**Karpathos**	**2.06**	**45**	*e*Pb	**Pb**	**09 37 55.6**	**-0.5**
AKASG	**Malin Array Be**	**16.84**	**8**	Pn	**Pn**	**09 41 14.6**	**+0.7**
	1.1nm,0.3s,baz=200,slow=10,SNR=4.3						
ESDC	**Sonseca Array**	**24.07**	**292**	P	**P**	**09 42 33.2**	**-0.4**
	0.5nm,0.4s,baz=80,slow=9.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**29.96**	**232**	P	**P**	**09 43 26.8**	**+0.2**
	8.8nm,1.2s,baz=38,slow=8.1,SNR=2.5						
KURBB	**Kurchatov Arra**	**41.66**	**50**	P	**P**	**09 45 06.0**	**-0.4**
	1.7nm,0.7s,baz=280,slow=8.5,SNR=2.6						
MKAR	**Makanchi Array**	**44.22**	**56**	P	**P**	**09 45 27.5**	**+0.2**
	2.7nm,0.5s,baz=278,slow=7.7,SNR=8.2						

IDC 01 09:39:58.1±1.4, 34°.10N×25°.19E, h0km, mb3.9/8, mb1 4.1/11, mb1mx3.9/29, mbtmp3.9/11, ML4.3/2, Error ellipse: s-maj=35.6km s-min=21.5km az=158.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**8.79**	**48**	Pn	Pn	09 42 06.7	+0.1
	0.1nm,0.3s,baz=204,slow=17,SNR=2.3						
AKASG	**Malin Array Be**	**16.85**	**9**	Pn	Pn	09 43 55.9	+0.6
	1.6nm,0.3s,baz=198,slow=10,SNR=4.7						
GERES	**GERESS Array B**	**17.03**	**333**	P	P	09 43 59.0	-0.7
	0.4nm,0.3s,baz=148,slow=11,SNR=5.6						
ESDC	**Sonseca Array**	**23.91**	**292**	P	P	09 45 13.6	-0.1
	0.3nm,0.3s,baz=79,slow=9.7,SNR=2.9						
EKA	**Eskdalemuir Ar**	**28.92**	**326**	P	P	09 45 58.3	-0.4
	1.5nm,0.7s,baz=124,slow=8.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**29.84**	**231**	P	P	09 46 07.5	+0.4
	2.3nm,0.7s,baz=35,slow=8.7,SNR=3.5						
KURBB	**Kurchatov Arra**	**41.77**	**50**	P	P	09 47 48.7	-0.3
	3.2nm,1.1s,baz=271,slow=8.3,SNR=4.5						
MKAR	**Makanchi Array**	**44.34**	**56**	P	P	09 48 10.1	+0.2
	1.9nm,0.7s,baz=277,slow=8.0,SNR=4.6						
ZALV	**Zalesovo Beam**	**45.72**	**45**	P	P	09 48 20.3	-0.5
	1.3nm,0.6s,baz=282,slow=7.2,SNR=2.5						
YKA	**Yellowknife Ar**	**78.46**	**342**	P	P	09 52 00.3	-0.2
	0.5nm,0.7s,baz=26,slow=5.7,SNR=2.8						
ILAR	**Eielson Array**	**81.26**	**357**	P	P	09 52 15.8	+0.1
	0.7nm,0.8s,baz=352,slow=3.2,SNR=4.3						

*IDC **01** 09:41:58.8±0.4, 34°.03N×25°.37E, h0km, mb4.5/37, mb1 4.6/45, mb1mx4.6/51, mbtmp4.5/45, ML4.7/6, Error ellipse: s-maj=11.2km s-min=10.1km az=121.0*
*BJI **01** 09:42:01.5, 34°.54N×25°.12E, h22km, mB5.3/2, mb5.0/10, Ms5.0/1, Ms7 4.6/1*
*MOS **01** 09:42:01.8±1.1, 34°.04N×25°.45E, h28km, mb4.8/34, Error ellipse: s-maj=7.7km s-min=4.5km az=102.6*
*NEIC **01** 09:42:02.3±1.2, 33°.99N×25°.46E, h21km±8km, mb4.7/21, ML4.4(NIC), ML4.7(ISK), Error ellipse: s-maj=5.7km s-min=3.6km az=196.0*
*ISK **01** 09:42:03.8, 34°.23N×25°.29E, h46km, ML4.6*
*ISCJB **01** 09:42:03.1±0.6, 34°.07N±0°.04×25°.35E±0°.02, h39km±4km, mb4.6/93, MS6.3/1, Error ellipse: s-maj=6.4km s-min=2.9km az=8.9*
*SFS **01** 09:42:03.0, 34°.09N×25°.35E, h25km, ML4.7*
*CSEM **01** 09:42:05.1±0.1, 34°.12N×25°.33E, h40km, mb4.6/44, Error ellipse: s-maj=4.4km s-min=2.6km az=175.0*
*THE **01** 09:42:05.2, 34°.27N×25°.45E, h8km±2km, ML3.5/2, Error ellipse: s-maj=2.8km s-min=1.4km az=160.0*

*ATH **01** 09:42:06.0, 34°.35N×25°.38E, h27km±2km, MD3.9/6*

ISC 01 09:42:03.0±0.5, 34°.05N±0°.04×25°.40E±0°.03, h26km±3km, h25km:pP-P, n573, σ1s15/587, mb4.7/93, 4C-3D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.08**	**334**	P	**Pn**	**09 42 22.5**	**0.0**
SIVA				S	**Sn**	**09 42 35.9**	**-0.7**
SIVA	**Sivas**	**1.08**	**334**	P	**Pn**	**09 42 22.5**	**0.0**
SIVA				S	**Sn**	**09 42 35.9**	**-0.7**
LAST	**Lasithi**	**1.11**	**3**	P	**Pn**	**09 42 21.7**	**-1.3**
LAST	**Lasithi**	**1.11**	**3**	P	**Pn**	**09 42 21.7**	**-1.3**
NPS	**Neapolis**	**1.22**	**8**	*e*PN	**Pn**	**09 42 23.6**	**-0.9**
NPS	**Neapolis**	**1.22**	**8**	*e*Pn	**Pn**	**09 42 23.6**	**-0.9**
ZKR	**Zakros**	**1.26**	**32**	P	**Pn**	**09 42 24.3**	**-0.6**
ZKR	**Zakros**	**1.26**	**32**	P	**Pn**	**09 42 24.3**	**-0.6**
IDI	**Anoyia**	**1.30**	**341**	P	**Pn**	**09 42 25.6**	**0.0**
IDI				S	**Sn**	**09 42 41.7**	**-0.6**
IDI	**Anoyia**	**1.30**	**341**	*e*PN	**Pn**	**09 42 25.5**	**0.0**
IDI				*e*SN	**Sn**	**09 42 40.4**	**-1.9**
IDI	**Anoyia**	**1.30**	**341**	*e*Pn	**Pn**	**09 42 25.9**	**+0.3**
IDI	**Anoyia**	**1.30**	**341**	P	**Pn**	**09 42 25.6**	**0.0**
IDI	**Anoyia**	**1.30**	**341**	*e*Pn	**Pn**	**09 42 25.9**	**+0.3**
IDI				*e*Sn	**Sn**	**09 42 40.4**	**-1.9**
IDI				S	**Sn**	**09 42 41.7**	**-0.6**
GVD	**Gavdhos**	**1.34**	**306**	P	**Pb**	**09 42 27.3**	**-0.1**
GVD				S	**Sb**	**09 42 45.1**	**+1.0**
GVD	**Gavdhos**	**1.34**	**306**	*e*Pn	**Pn**	**09 42 26.7**	**+0.7**
GVD	**Gavdhos**	**1.34**	**306**	*e*Pn	**Pn**	**09 42 26.7**	**+0.7**
GVD	**Gavdhos**	**1.34**	**306**	P	**Pb**	**09 42 27.3**	**-0.1**
VAM	**Vamos**	**1.68**	**324**	P	**Pn**	**09 42 31.3**	**+0.7**
VAM	**Vamos**	**1.68**	**324**	*e*PN	**Pb**	**09 42 32.5**	**-0.6**
VAM	**Vamos**	**1.68**	**324**	P	**Pn**	**09 42 31.3**	**+0.7**
VAM	**Vamos**	**1.68**	**324**	*e*Pn	**Pb**	**09 42 32.5**	**-0.6**
KARP	**Karpathos**	**2.08**	**44**	*e*PN	**Pb**	**09 42 38.8**	**-1.3**
KARP	**Karpathos**	**2.08**	**44**	*e*Pn	**Pb**	**09 42 38.8**	**-1.3**
SANT	**Santorini**	**2.32**	**1**	P	**Pn**	**09 42 40.1**	**+0.6**
SANT				S	**Sn**	**09 43 05.7**	**-1.5**
SANT	**Santorini**	**2.32**	**1**	*e*Pn	**Pn**	**09 42 39.8**	**+0.3**
SANT	**Santorini**	**2.32**	**1**	*e*Pn	**Pn**	**09 42 39.8**	**+0.3**
SANT	**Santorini**	**2.32**	**1**	P	**Pn**	**09 42 40.1**	**+0.6**
SANT				S	**Sn**	**09 43 05.7**	**-1.5**
THR2	**Thira island,**	**2.39**	**1**	P	**Pn**	**09 42 41.0**	**+0.5**
THR2	**Thira island,**	**2.39**	**1**	P	**Pn**	**09 42 41.0**	**+0.5**
ANKY	**Antikythira Is**	**2.50**	**317**	*e*PN	**Pn**	**09 42 44.4**	**+2.4**
ANKY	**Antikythira Is**	**2.50**	**317**	*e*Pn	**Pn**	**09 42 44.4**	**+2.4**
KYTH	**Kithira**	**2.95**	**320**	P	**Pn**	**09 42 49.8**	**+1.6**
KYTH	**Kithira**	**2.95**	**320**	*e*PN	**Pn**	**09 42 50.5**	**+2.3**
KYTH	**Kithira**	**2.95**	**320**	P	**Pn**	**09 42 49.8**	**+1.6**
KYTH	**Kithira**	**2.95**	**320**	*e*Pn	**Pn**	**09 42 50.5**	**+2.3**
APE	**Apeiranthos**	**3.01**	**2**	*e*PN	**Pn**	**09 42 48.6**	**-0.5**
APE				*e*SN	**Sn**	**09 43 20.6**	**-3.9**
APE	**Apeiranthos**	**3.01**	**2**	P	**Pn**	**09 42 49.1**	**0.0**
APE				S	**Sn**	**09 43 23.0**	**-1.4**
APE	**Apeiranthos**	**3.01**	**2**	P	**Pn**	**09 42 48.6**	**-0.5**
APE	**Apeiranthos**	**3.01**	**2**	*e*PN	**Pn**	**09 42 50.2**	**+1.1**
APE	**Apeiranthos**	**3.01**	**2**	Pn	**Pn**	**09 42 48.6**	**-0.5**
APE	**Apeiranthos**	**3.01**	**2**	*e*Pn	**Pn**	**09 42 48.6**	**-0.5**
APE	**Apeiranthos**	**3.01**	**2**	P	**Pn**	**09 42 49.1**	**0.0**
APE				*e*Sn	**Sn**	**09 43 20.6**	**-3.9**
APE				S	**Sn**	**09 43 23.0**	**-1.4**
DAT	**Datca**	**3.21**	**33**	*e*PN	**Pn**	**09 42 52.3**	**+0.4**
DAT	**Datca**	**3.21**	**33**	*e*Pn	**Pn**	**09 42 52.3**	**+0.4**
VLI	**Veliai**	**3.34**	**324**	*e*PN	**Pn**	**09 42 54.8**	**+1.3**
VLI	**Veliai**	**3.34**	**324**	*e*Pn	**Pn**	**09 42 54.8**	**+1.3**
BODT	**Bodrum**	**3.39**	**27**	*e*PN	**Pn**	**09 42 54.4**	**+0.2**
BODT				*e*SN	**Sn**	**09 43 31.7**	**-1.9**
BODT	**Bodrum**	**3.39**	**27**	*e*Pn	**Pn**	**09 42 54.4**	**+0.2**
BODT				*e*Sn	**Sn**	**09 43 31.7**	**-1.9**
DYR	**Agios Nikonas**	**3.69**	**318**	*e*PN	**Pn**	**09 43 01.5**	**+3.2**
DYR	**Agios Nikonas**	**3.69**	**318**	*e*Pn	**Pn**	**09 43 01.5**	**+3.2**
MLSB	**Milas**	**3.77**	**30**	*e*PN	**Pn**	**09 43 00.1**	**+0.6**
MLSB	**Milas**	**3.77**	**30**	*e*Pn	**Pn**	**09 43 00.1**	**+0.6**
DALY	**Dalyan (Mu˘la**	**3.83**	**43**	*e*PN	**Pn**	**09 43 01.5**	**+1.2**
DALY	**Dalyan (Mu˘la**	**3.83**	**43**	*e*Pn	**Pn**	**09 43 01.5**	**+1.2**
DID	**Didima**	**3.87**	**334**	*e*PN	**Pn**	**09 43 01.0**	**+0.1**
DID	**Didima**	**3.87**	**334**	*e*Pn	**Pn**	**09 43 01.0**	**+0.1**
YER	**Yerkesik**	**3.87**	**37**	*e*PN	**Pn**	**09 43 02.0**	**+1.1**
YER	**Yerkesik**	**3.87**	**37**	*e*Pn	**Pn**	**09 43 02.0**	**+1.1**
FETY	**Fethiye**	**3.97**	**48**	*e*PN	**Pn**	**09 43 03.6**	**+1.4**
FETY	**Fethiye**	**3.97**	**48**	*e*Pn	**Pn**	**09 43 03.6**	**+1.4**
NAIG	**Nisos Aigina**	**4.01**	**338**	*e*PN	**Pn**	**09 43 03.9**	**+1.1**
NAIG	**Nisos Aigina**	**4.01**	**338**	*e*Pn	**Pn**	**09 43 03.9**	**+1.1**
PTL	**Penteli**	**4.18**	**343**	*e*PN	**Pn**	**09 43 05.8**	**+0.7**
PTL	**Penteli**	**4.18**	**343**	*e*Pn	**Pn**	**09 43 05.8**	**+0.7**
BLCB	**Balcova**	**4.53**	**17**	*e*PN	**Pn**	**09 43 10.4**	**+0.6**
BLCB	**Balcova**	**4.53**	**17**	*e*Pn	**Pn**	**09 43 10.4**	**+0.6**
GUR	**Goura**	**4.60**	**328**	*e*PN	**Pn**	**09 43 12.0**	**+1.0**
GUR	**Goura**	**4.60**	**328**	*e*Pn	**Pn**	**09 43 12.0**	**+1.0**
LAKA	**Lakka**	**5.01**	**328**	*e*PN	Pn	09 43 19.8	+3.2
LAKA	**Lakka**	**5.01**	**328**	*e*Pn	Pn	09 43 19.8	+3.2
ANTB	**Antalya**	**5.15**	**55**	*e*PN	**Pn**	**09 43 20.9**	**+2.6**
ANTB	**Antalya**	**5.15**	**55**	*e*Pn	**Pn**	**09 43 20.9**	**+2.6**
KULA	**Kula-Manisa**	**5.18**	**30**	*e*PN	**Pn**	**09 43 19.6**	**+0.7**
KULA	**Kula-Manisa**	**5.18**	**30**	*e*Pn	**Pn**	**09 43 19.6**	**+0.7**
KHL	**Karahalli**	**5.42**	**37**	*e*PN	**Pn**	**09 43 23.8**	**+1.7**
KHL	**Karahalli**	**5.42**	**37**	*e*Pn	**Pn**	**09 43 23.8**	**+1.7**
BCK	**Bucak**	**5.42**	**50**	*e*PN	**Pn**	**09 43 24.4**	**+2.2**
BCK	**Bucak**	**5.42**	**50**	*e*Pn	**Pn**	**09 43 24.4**	**+2.2**
ISP	**Isparta**	**5.61**	**46**	*e*PN	**Pn**	**09 43 27.3**	**+2.5**
ISP	**Isparta**	**5.61**	**46**	*e*P	**Pn**	**09 43 26.6**	**+1.7**
ISP	**Isparta**	**5.61**	**46**	*e*Pn	**Pn**	**09 43 26.6**	**+1.7**
ISP	**Isparta**	**5.61**	**46**	*e*Pn	**Pn**	**09 43 26.5**	**+1.7**
SUTC	**Sutluce-Ispart**	**5.70**	**52**	*e*PN	**Pn**	**09 43 27.8**	**+1.8**
SUTC	**Sutluce-Ispart**	**5.70**	**52**	*e*Pn	**Pn**	**09 43 27.8**	**+1.8**
SHUT	**Suhut-Afyon**	**6.12**	**41**	*e*PN	**Pn**	**09 43 32.6**	**+0.7**
SHUT	**Suhut-Afyon**	**6.12**	**41**	*e*Pn	**Pn**	**09 43 32.6**	**+0.7**
ALT	**Altintas**	**6.27**	**36**	*e*PN	**Pn**	**09 43 35.2**	**+1.3**
ALT	**Altintas**	**6.27**	**36**	*e*Pn	**Pn**	**09 43 35.2**	**+1.3**
LEF	**Lefka**	**6.27**	**78**	*e*PN	**Pn**	**09 43 36.6**	**+2.8**
LEF	**Lefka**	**6.27**	**78**	*e*Pn	**Pn**	**09 43 36.6**	**+2.8**
TVSB	**Tavsanli**	**6.30**	**30**	*e*PN	**Pn**	**09 43 35.5**	**+1.2**
TVSB	**Tavsanli**	**6.30**	**30**	*e*Pn	**Pn**	**09 43 35.5**	**+1.2**
HDMB	**Hadim**	**6.47**	**61**	*e*PN	**Pn**	**09 43 39.4**	**+2.6**
HDMB	**Hadim**	**6.47**	**61**	*e*Pn	**Pn**	**09 43 39.4**	**+2.6**
CSS	**Prodhromos**	**6.61**	**80**	*e*PN	**Pn**	**09 43 41.1**	**+2.6**
CSS	**Prodhromos**	**6.61**	**80**	*e*Pn	**Pn**	**09 43 39.1**	**+0.6**
CSS				*e*Sn	**Sn**	**09 44 51.4**	**-1.7**
CSS	**Prodhromos**	**6.61**	**80**	*e*Pn	**Pn**	**09 43 41.1**	**+2.6**
CSS				*e*Sn	**Sn**	**09 44 51.4**	**-1.7**
KCTX	**Karacabey (Bur**	**6.64**	**20**	*e*PN	**Pn**	**09 43 39.4**	**+0.5**
KCTX	**Karacabey (Bur**	**6.64**	**20**	*e*Pn	**Pn**	**09 43 39.4**	**+0.5**
LFK	**Lefkose**	**6.81**	**77**	*e*PN	Pn	09 43 44.7	+3.3
LFK	**Lefkose**	**6.81**	**77**	*e*Pn	Pn	09 43 44.7	+3.3
KONT	**Konya--Tatoy**	**6.85**	**53**	*e*PN	**Pn**	**09 43 43.3**	**+1.4**
KONT	**Konya--Tatoy**	**6.85**	**53**	*e*Pn	**Pn**	**09 43 43.3**	**+1.4**
LADK	**Ladik-KONYA**	**7.00**	**52**	*e*PN	**Pn**	**09 43 45.6**	**+1.8**
LADK	**Ladik-KONYA**	**7.00**	**52**	*e*Pn	**Pn**	**09 43 45.6**	**+1.8**
KIZT	**Kizilcal**	**7.11**	**45**	*e*PN	**Pn**	**09 43 46.6**	**+1.2**
KIZT	**Kizilcal**	**7.11**	**45**	*e*Pn	**Pn**	**09 43 46.6**	**+1.2**
EREN	**Erenkoy**	**7.37**	**76**	*e*PN	Pn	09 43 52.3	+3.4
EREN	**Erenkoy**	**7.37**	**76**	*e*Pn	Pn	09 43 52.3	+3.4
VAY	**Valandovo**	**7.60**	**344**	*e*Pn	Pn	09 44 01.8	+10
BIA	**Bitola**	**7.67**	**336**	*e*Pn	**Pn**	**09 43 54.6**	**+1.6**
SULT	**Sultanhani-AKS**	**7.76**	**55**	*e*PN	**Pn**	**09 43 55.8**	**+1.4**
SULT	**Sultanhani-AKS**	**7.76**	**55**	*e*Pn	**Pn**	**09 43 55.8**	**+1.4**
ANTO	**Ankara**	**8.29**	**43**	P	**Pn**	**09 44 00.0**	**-1.6**
ANTO	**Ankara**	**8.29**	**43**	Pn	**Pn**	**09 43 60.0**	**-1.6**
ANTO	**Ankara**	**8.29**	**43**	Pn	**Pn**	**09 44 00.0**	**-1.6**
MMAI	**Mount Meron Ar**	**8.42**	**94**	Pn	**Pn**	**09 44 00.8**	**-2.5**
MMAI				Sn	**Sn**	**09 45 36.1**	**-1.5**
MMAI	**Mount Meron Ar**	**8.42**	**94**	Pn	**Pn**	**09 44 00.8**	**-2.5**
	2.9nm,0.3s,baz=283,slow=14,SNR=4.5						
MMAI				Sn	**Sn**	**09 45 36.1**	**-1.5**
	4.0nm,0.3s,baz=246,slow=14,SNR=3.5						
MMAI	**Mount Meron Ar**	**8.42**	**94**	Pn	**Pn**	**09 44 00.8**	**-2.5**
MMAI				Sn	**Sn**	**09 45 36.1**	**-1.5**
NIG	**Nigde**	**8.49**	**59**	*e*PN	**Pn**	**09 44 05.5**	**+1.1**
NIG	**Nigde**	**8.49**	**59**	*e*Pn	**Pn**	**09 44 05.5**	**+1.1**
KARA	**Karaisali**	**8.49**	**65**	*e*PN	**Pn**	**09 44 05.5**	**+1.3**
KARA	**Karaisali**	**8.49**	**65**	*e*Pn	**Pn**	**09 44 05.5**	**+1.3**
TIP	**Timpagrande**	**8.62**	**309**	*e*Pn	**Pn**	**09 44 05.7**	**-0.5**
TIP				*e*Sn	**Sn**	**09 45 40.5**	**-2.1**
TIP	**Timpagrande**	**8.62**	**309**	*e*Pn	**Pn**	**09 44 05.7**	**-0.5**
TIP				*e*Sn	**Sn**	**09 45 40.5**	**-2.1**
BR131	**Keskin Array S**	**8.70**	**47**	*e*Pn	**Pn**	**09 44 08.7**	**+1.5**
BR131	**Keskin Array S**	**8.70**	**47**	*e*Pn	**Pn**	**09 44 08.7**	**+1.5**
BRTR	**Keskin Array B**	**8.70**	**47**	Pn	**Pn**	**09 44 06.6**	**-0.6**
BRTR	**Keskin Array B**	**8.70**	**47**	Pn	**Pn**	**09 44 06.6**	**-0.6**
	0.5nm,0.3s,baz=224,slow=14,SNR=9.0						
BRTR	**Keskin Array B**	**8.70**	**47**	Pn	**Pn**	**09 44 06.6**	**-0.6**
BRTR	**Keskin Array B**	**8.70**	**47**	*i* P	**Pn**	**09 44 09.3**	**+2.1**
	8.0nm,0.9s						
CEL	**Celeste**	**8.76**	**301**	*e*Pn	**Pn**	**09 44 07.4**	**-0.6**
CEL				*e*Sn	**Sn**	**09 45 43.2**	**-2.7**
CEL	**Celeste**	**8.76**	**301**	*e*Pn	**Pn**	**09 44 07.4**	**-0.6**
CEL				*e*Sn	**Sn**	**09 45 43.2**	**-2.7**
KOZT	**Kozan**	**9.14**	**65**	*e*PN	**Pn**	**09 44 15.1**	**+1.9**
KOZT	**Kozan**	**9.14**	**65**	*e*Pn	**Pn**	**09 44 15.1**	**+1.9**
EIL	**Elat**	**9.22**	**116**	Pn	**Pn**	**09 44 12.7**	**-1.6**
EIL	**Elat**	**9.22**	**116**	Pn	**Pn**	**09 44 12.7**	**-1.6**
	3.0nm,0.3s,baz=2.9,slow=19,SNR=6.1						
EIL	**Elat**	**9.22**	**116**	Pn	**Pn**	**09 44 12.7**	**-1.6**
CUC	**Castrocucco**	**9.69**	**311**	*e*PN	**Pn**	**09 44 21.0**	**+0.3**
CUC	**Castrocucco**	**9.69**	**311**	*e*Pn	**Pn**	**09 44 21.0**	**+0.3**
ASF	**Jabal al Asfar**	**9.83**	**98**	Pn	**Pn**	**09 44 21.8**	**-0.9**
ASF	**Jabal al Asfar**	**9.83**	**98**	Pn	**Pn**	**09 44 21.8**	**-0.9**
PGF	**Pioggiola**	**15.40**	**308**	*e*P	**Pn**	**09 45 36.7**	**-1.9**
	70nm,1.0s						
STHS	**Stebnicka Huta**	**15.66**	**350**	*e*P	**Pn**	**09 45 37.9**	**-3.9**
STHS	**

LOMF Lomont 19.29 319 *e*P Pn 09 46 27.3 +0.3
LOMF Lomont 19.29 319 *e*P Pn 09 46 27.3 +0.3
LOMF Lomont 19.29 319 *e*P Pn 09 46 27.3 +0.3
LOMF Lomont 19.29 319 *e*P Pn 09 46 27.3 +0.3
MAK Makhachkala 19.41 56 *e*P Pn 09 46 29.2 +0.8
MAK pmax pmax
comp=Z,262nm,1.2s
MAK Makhachkala 19.41 56 *e*P Pn 09 46 29.2 +0.8
comp=Z,262nm,1.2s
MOF Molkenrain 19.44 321 *e*P Pn 09 46 31.7 +2.9
MOF Molkenrain 19.44 321 *e*P Pn 09 46 31.7 +2.9
MOF Molkenrain 19.44 321 *e*P Pn 09 46 31.7 +2.9
LASF Ste Croix 19.44 307 *e*P P 09 46 27.1 -0.4
comp=Z,25nm,0.8s
LASF Ste Croix 19.44 307 *e*P P 09 46 27.1 -0.4
comp=Z,12nm,0.8s
CLL Collm 19.46 336 *e*P P 09 46 28.0 +0.4
CLL Collm 19.46 336 *e*P P 09 46 28.0 +0.4
CLL *e*pP pP 09 46 32.0 -2.5
CLL *e* 09 46 40.0
CLL *e*(PPP) 09 46 52.0
CLL Collm 19.46 336 *e*P P 09 46 28.0 +0.4
HINF Hinteralfeld 19.56 320 *e*P P 09 46 28.0 -0.8
comp=Z,21nm,0.6s
HINF Hinteralfeld 19.56 320 *e*P P 09 46 28.0 -0.8
comp=Z,11nm,0.6s
PQL Pirkuli 19.58 63 P P 09 46 27.4 -1.8
SNR=3.2
PQL Pirkuli 19.58 63 P P 09 46 27.4 -1.8
SNR=3.2
PQL Pirkuli 19.58 63 P P 09 46 27.4 -1.8
SNR=3.2
ECH Echery 19.65 322 *e*P Pn 09 46 30.8 -0.5
ECH pmax pmax
comp=Z,12nm,0.9s
ECH Echery 19.65 322 *e*P Pn 09 46 30.8 -0.5
comp=Z,12nm,0.9s
ECH Echery 19.65 322 *e*P Pn 09 46 31.6 +0.3
ECH Echery 19.65 322 *e*P Pn 09 46 30.8 -0.5
comp=Z,12nm,0.9s
CDF Champ du Feu 19.72 322 *e*P P 09 46 31.0 +0.5
comp=Z,22nm,0.7s
CDF Champ du Feu 19.72 322 *e*P P 09 46 31.0 +0.5
comp=Z,11nm,0.7s
TOD Tromm 19.79 327 *e*P Pn 09 46 32.7 -0.2
TOD Tromm 19.79 327 *e*P Pn 09 46 32.7 -0.2
TOD Tromm 19.79 327 *e*P Pn 09 46 32.7 -0.2
LANF Langenberg 19.83 324 *e*P Pn 09 46 34.2 +0.9
LANF Langenberg 19.83 324 *e*P Pn 09 46 34.2 +0.9
LANF Langenberg 19.83 324 *e*P Pn 09 46 34.2 +0.9
VSR Storozhevoye 19.86 26 *e*P Pn 09 46 34.1 +0.4
VSR Storozhevoye 19.86 26 *e*P Pn 09 46 34.1 +0.4
SIZA Siyzn 19.87 62 P Pn 09 46 34.5 +0.5
SNR=3.5
SIZA Siyzn 19.87 62 P Pn 09 46 34.5 +0.5
SNR=3.5
SIZA Siyzn 19.87 62 P Pn 09 46 34.5 +0.5
SNR=3.5
KTD Kalmit 19.93 325 *e*P Pn 09 46 34.9 +0.4
KTD Kalmit 19.93 325 *e*P Pn 09 46 34.9 +0.4
HAU Haudompre 19.95 320 *e*P P 09 46 31.0 -2.0
comp=Z,45nm,0.9s
HAU Haudompre 19.95 320 *e*P P 09 46 31.0 -2.0
comp=Z,22nm,0.9s
THEF They Montfort 20.27 320 *e*P P 09 46 36.5 0.0
THEF They Montfort 20.27 320 *e*P P 09 46 36.5 0.0
THEF They Montfort 20.27 320 *e*P P 09 46 36.5 0.0
THEF They Montfort 20.27 320 *e*P P 09 46 36.5 0.0
MTLF Montolieu 20.28 304 *e*P P 09 46 36.0 -0.6
comp=Z,17nm,0.9s
MTLF Montolieu 20.28 304 *e*P P 09 46 36.0 -0.6
comp=Z,8.6nm,0.9s
LBL Lubilhac 20.32 310 *e*P Pn 09 46 39.4 +0.1
LBL Lubilhac 20.32 310 *e*P Pn 09 46 39.4 +0.1
LBL Lubilhac 20.32 310 *e*P Pn 09 46 39.4 +0.1
GOBA Gobu 20.36 65 P Pn 09 46 40.6 +1.0
SNR=3.3
GOBA Gobu 20.36 65 P Pn 09 46 40.6 +1.0
SNR=3.3
GOBA Gobu 20.36 65 P Pn 09 46 40.6 +1.0
SNR=3.3
PAGF Fort de Pagny 20.61 321 *e*P P 09 46 38.5 -1.7
comp=Z,21nm,0.8s
PAGF Fort de Pagny 20.61 321 *e*P P 09 46 38.5 -1.7
comp=Z,11nm,0.8s
SMF Signal de Mont 20.61 314 *e*P P 09 46 38.9 -1.3
comp=Z,23nm,0.7s
SMF Signal de Mont 20.61 314 *e*P P 09 46 38.9 -1.3
comp=Z,12nm,0.7s
PYM Petit Puy Mans 20.70 311 *e*P Pn 09 46 42.8 -0.9
PYM Petit Puy Mans 20.70 311 *e*P Pn 09 46 42.8 -0.9
PYM Petit Puy Mans 20.70 311 *e*P Pn 09 46 42.8 -0.9
PYM Petit Puy Mans 20.70 311 *e*P Pn 09 46 42.8 -0.9
AGO Saint Agoulin 20.76 312 *e*P P 09 46 42.7 +0.9
AGO Saint Agoulin 20.76 312 *e*P P 09 46 42.7 +0.9
AGO Saint Agoulin 20.76 312 *e*P P 09 46 42.7 +0.9
SFTF Sexfontaines 20.77 319 *e*P P 09 46 41.1 -0.8
comp=Z,61nm,1.0s
SFTF Sexfontaines 20.77 319 *e*P P 09 46 41.1 -0.8
comp=Z,30nm,1.0s
LOR Lormes 20.92 316 *e*P P 09 46 42.5 -1.0
comp=Z,22nm,0.7s,baz=138
LOR Lormes 20.92 316 *e*P P 09 46 42.5 -1.0
comp=Z,11nm,0.7s,baz=138
MEZF Maizieres J'vi 20.94 320 *e*P P 09 46 43.3 -0.4
MEZF Maizieres J'vi 20.94 320 *e*P P 09 46 43.3 -0.4
CAF Calviac 20.96 308 *e*P P 09 46 43.8 -0.2
comp=Z,35nm,0.9s
CAF Calviac 20.96 308 *e*P P 09 46 43.8 -0.2
comp=Z,17nm,0.9s
AVF Avril sur Loir 20.98 314 *e*P P 09 46 43.7 -0.4
comp=Z,28nm,0.8s
AVF Avril sur Loir 20.98 314 *e*P P 09 46 43.7 -0.4
comp=Z,14nm,0.8s
WLF Walferdange 21.09 323 P P 09 46 48.3 +2.9
WLF Walferdange 21.09 323 P P 09 46 46.5 +1.2
WLF pmax pmax
comp=Z,35nm,0.8s
WLF Walferdange 21.09 323 P P 09 46 46.5 +1.2
comp=Z,35nm,0.8s
WLF Walferdange 21.09 323 P P 09 46 46.5 +1.2
comp=Z,35nm,0.8s
BGF Bois d'Agland 21.17 313 *e*P P 09 46 46.3 +0.1
comp=Z,58nm,0.7s
BGF Bois d'Agland 21.17 313 *e*P P 09 46 46.3 +0.1
comp=Z,29nm,0.7s
TCF Toulx Ste Croi 21.44 312 *e*P P 09 46 49.0 -0.1
comp=Z,45nm,0.8s
TCF Toulx Ste Croi 21.44 312 *e*P P 09 46 49.0 -0.1
comp=Z,23nm,0.8s
RJF Les Rejaudoux 21.46 309 *e*P P 09 46 49.2 -0.2
comp=Z,30nm,0.7s
RJF Les Rejaudoux 21.46 309 *e*P P 09 46 49.2 -0.2
comp=Z,15nm,0.7s
EPF Esparros 21.49 302 *e*P P 09 46 47.9 -1.8
comp=Z,13nm,0.7s
EPF Esparros 21.49 302 *e*P P 09 46 47.9 -1.8
comp=Z,6.7nm,0.7s
MEM Membach 21.79 325 P P 09 46 53.3 +0.5
comp=Z,18nm,0.9s
MEM Membach 21.79 325 P P 09 46 53.3 +0.5
comp=Z,18nm,0.9s
LFF La Frestale 21.83 307 *e*P P 09 46 52.9 -0.4
comp=Z,37nm,0.7s
LFF La Frestale 21.83 307 *e*P P 09 46 52.9 -0.4
comp=Z,19nm,0.7s
GIVF Givet 22.03 323 *e*P P 09 46 54.5 -0.9
comp=Z,50nm,0.9s
GIVF Givet 22.03 323 *e*P P 09 46 54.5 -0.9
comp=Z,25nm,0.9s
ETSF Etsaut 22.09 301 *e*P P 09 46 55.4 -0.8
comp=Z,16nm,0.6s
ETSF Etsaut 22.09 301 *e*P P 09 46 55.4 -0.8
comp=Z,8.2nm,0.6s
DOU Dourbes 22.14 323 P P 09 46 56.6 0.0
DOU Dourbes 22.14 323 P P 09 46 56.6 0.0
BAIF Baives 22.32 322 *e*P P 09 46 57.1 -1.4
comp=Z,32nm,0.6s
BAIF Baives 22.32 322 *e*P P 09 46 57.1 -1.4
comp=Z,16nm,0.6s
OBN Obninsk 22.46 17 *i*P P 09 46 59.8 -0.1
OBN *e* 09 47 05.2
OBN Obninsk 22.46 17 *i*P P 09 46 59.8 -0.1
SJPF Ste Jean 22.62 301 *e*P P 09 47 01.0 -0.8
comp=Z,35nm,0.9s
SJPF Ste Jean 22.62 301 *e*P P 09 47 01.0 -0.8
comp=Z,17nm,0.9s
MFF Saint Martin d 23.05 311 *e*P P 09 47 05.9 -0.3
comp=Z,46nm,0.8s
ESDC Sonseca Array 24.09 292 P P 09 47 16.4 0.0
ESDC Sonseca Array 24.09 292 P P 09 47 16.4 0.0
comp=Z,7.9nm,0.6s,baz=84,slow=9.4,SNR=28
ESDC Sonseca Array 24.09 292 P P 09 47 16.5 0.0
ESLA Sonseca Array 24.09 292 *e*P P 09 47 16.2 -0.3
comp=Z,2.4nm,0.7s
ESLA Sonseca Array 24.09 292 *e*P P 09 47 16.2 -0.3
comp=Z,2.4nm,0.7s
FLN La Foliniere 24.19 315 *e*P P 09 47 16.1 -1.1
comp=Z,34nm,0.5s,baz=130
GRR Gorron 24.24 314 *e*P P 09 47 16.9 -0.8
comp=Z,55nm,0.9s
PAB San Pablo 24.38 292 *e*P P 09 47 19.4 +0.3
PAB pmax pmax
comp=Z,17nm,1.1s
PAB San Pablo 24.38 292 *e*P P 09 47 19.4 +0.3
comp=Z,17nm,1.1s
PAB San Pablo 24.38 292 *e*P P 09 47 19.4 +0.3
comp=Z,17nm,1.1s
MDT Midelt 25.04 276 P P 09 47 24.6 -0.6
MDT Midelt 25.04 276 P P 09 47 24.6 -0.6
comp=Z,8.1nm,0.8s,baz=69,slow=8.6,SNR=8.4
MDT Midelt 25.04 276 P P 09 47 24.6 -0.6
REAL Reales 25.06 284 *e*P P 09 47 25.0 -0.4
LIJA Lijar 25.19 285 *i*P P 09 47 26.0 -0.5
SGMF Saint Gilles 25.21 313 *e*P P 09 47 25.5 -1.0
comp=Z,55nm,0.8s
QUIF Quistinic 25.45 312 *e*P P 09 47 27.9 -0.8
comp=Z,52nm,0.8s
ROSF Rostrenen 25.68 312 *e*P P 09 47 29.8 -1.0
comp=Z,20nm,0.5s
PBRG Braganca 26.39 297 *e*P P 09 47 37.2 -0.1
comp=Z,26nm,1.2s
PBRG Braganca 26.39 297 *e*P P 09 47 37.2 -0.1
comp=Z,26nm,1.2s
PBAR Barrancos 26.45 288 *e*P P 09 47 37.7 -0.1
comp=Z,28nm,1.5s
PBAR Barrancos 26.45 288 *e*P P 09 47 37.7 -0.1
comp=Z,28nm,1.5s
MVO Moncorvo 26.54 295 *e*P P 09 47 39.0 +0.3
comp=Z,37nm,0.8s
MVO Moncorvo 26.54 295 *e*P P 09 47 39.0 +0.3
comp=Z,37nm,0.8s
PMRV Marv??o 26.73 291 *e*P P 09 47 40.3 0.0
comp=Z,32nm,1.9s
PMRV Marv??o 26.73 291 *e*P P 09 47 40.3 0.0
comp=Z,32nm,1.9s
PESTR Estremoz 26.88 290 *e*P P 09 47 41.5 -0.2
comp=Z,33nm,1.4s
PESTR Estremoz 26.88 290 *e*P P 09 47 41.5 -0.2
comp=Z,33nm,1.4s
MTE Manteigas 26.88 293 *e*P P 09 47 43.2 +1.4
comp=Z,29nm,1.7s
MTE Manteigas 26.88 293 *e*P P 09 47 41.3 -0.4
comp=Z,6.4nm,0.7s
MTE Manteigas 26.88 293 *e*P P 09 47 43.2 +1.4
comp=Z,29nm,1.7s
PVAQ Vaqueiros 27.01 287 *e*P P 09 47 42.3 -0.6
comp=Z,22nm,1.5s
PVAQ Vaqueiros 27.01 287 *e*P P 09 47 42.3 -0.6
comp=Z,22nm,1.5s
PBEJ Beja 27.11 288 A A 09 48 11.3
comp=Z,17nm,1.7s
POLO Lamas de Olo 27.14 295 *e*P P 09 47 44.0 -0.1
comp=Z,12nm,1.5s
POLO Lamas de Olo 27.14 295 *e*P P 09 47 44.0 -0.1
comp=Z,12nm,1.5s
PBDV Barranco-do-Ve 27.19 286 *e*P P 09 47 44.9 +0.3
comp=Z,35nm,1.0s
PBDV Barranco-do-Ve 27.19 286 *e*P P 09 47 44.9 +0.3
comp=Z,35nm,1.0s
HFS Hagfors 27.20 347 P P 09 47 43.7 -0.6
HFS Hagfors 27.20 347 P P 09 47 43.7 -0.6
comp=Z,7.2nm,0.6s,baz=134,slow=8.6,SNR=12
HFS Hagfors 27.20 347 P P 09 47 43.7 -0.6
EVO Evora 27.21 289 *i*P P 09 47 44.7 0.0
comp=Z,17nm,0.7s
EVO Evora 27.21 289 *e*P P 09 47 45.1 +0.4
comp=Z,21nm,1.3s
EVO Evora 27.21 289 *e*P P 09 47 45.1 +0.4
comp=Z,21nm,1.3s
PCVE Castro Verde 27.26 287 *e*P P 09 47 44.7 -0.4
comp=Z,21nm,1.8s
PCVE Castro Verde 27.26 287 *e*P P 09 47 44.7 -0.4
comp=Z,21nm,1.8s
PCAB Cabril 27.34 296 *e*P P 09 47 46.1 +0.2
comp=Z,21nm,1.3s
PCAB Cabril 27.34 296 *e*P P 09 47 46.1 +0.2
comp=Z,21nm,1.3s
PMTG Montargil 27.37 290 *e*P P 09 47 46.7 +0.6
comp=Z,19nm,1.3s
PMTG Montargil 27.37 290 *e*P P 09 47 46.7 +0.6
comp=Z,19nm,1.3s
MESJ Messejana 27.39 288 *e*P P 09 47 46.4 +0.1
MESJ Messejana 27.39 288 *e*P P 09 47 46.4 +0.1
MESJ Messejana 27.39 288 *e*P P 09 47 46.4 +0.1
FINES FINESS Array B 27.41 1 P P 09 47 44.9 -1.3
FINES FINESS Array B 27.41 1 P P 09 47 44.9 -1.3
comp=Z,3.1nm,0.4s,baz=167,slow=9.6,SNR=4.4
FINES FINESS Array B 27.41 1 P P 09 47 44.9 -1.3
PGAV Gavieira, Arco 27.55 297 *e*P P 09 47 47.6 -0.2
comp=Z,19nm,2.5s
PGAV Gavieira, Arco 27.55 297 *e*P P 09 47 47.6 -0.2
comp=Z,19nm,2.5s
NB2 NORSAR Subarra 28.52 346 P P 09 47 55.8 -0.4
comp=Z,3.0nm,0.7s,baz=156,slow=9.3
NB2 NORSAR Subarra 28.52 346 P P 09 47 55.8 -0.4
comp=Z,3.0nm,0.7s,SNR=6.5
NOA NORSAR Array B 28.52 346 P P 09 47 55.6 -0.6
NOA NORSAR Array B 28.52 346 P P 09 47 55.6 -0.6
comp=Z,1.8nm,0.7s,baz=162,slow=10,SNR=8.3
NOA NORSAR Array B 28.52 346 P P 09 47 55.6 -0.6
AKTO Aktyubinsk 28.87 46 P P 09 47 59.3 -0.1
AKTO pmax pmax
comp=Z,7.0nm,0.9s
AKTO Aktyubinsk 28.87 46 P P 09 47 59.3 -0.1
AKTO Aktyubinsk 28.87 46 P P 09 47 59.3 -0.1
comp=Z,6.6nm,0.9s,baz=264,slow=9.2,SNR=3.9
AKTO Aktyubinsk 28.87 46 P P 09 47 59.3 -0.1
EKA Eskdalemuir Ar 29.06 326 P P 09 48 00.7 -0.3
EKA Eskdalemuir Ar 29.06 326 P P 09 48 00.7 -0.3
comp=Z,6.1nm,0.8s,baz=126,slow=9.7,SNR=15
EKA Eskdalemuir Ar 29.06 326 P P 09 48 00.7 -0.3
ESK Eskdalemuir 29.07 326 *i*P P 09 48 01.7 +0.6
ABKAR Akbulak array 29.64 49 *e*P P 09 48 06.1 -0.1
comp=Z,6.7nm,0.9s
ABKAR Akbulak array 29.64 49 *e*P P 09 48 06.1 -0.1
comp=Z,6.7nm,0.9s
TORD Torodi Ar. Bea 29.94 232 P P 09 48 08.4 -0.8
TORD Torodi Ar. Bea 29.94 232 P P 09 48 08.4 -0.8
comp=Z,2.9nm,0.7s,baz=39,slow=9.0,SNR=5.4
TORD Torodi Ar. Bea 29.94 232 P P 09 48 08.4 -0.8
LVZ Lovozero 34.31 6 *i*P P 09 48 46.0 -1.0
LVZ pmax pmax
comp=Z,37nm,1.4s
ARCES ARCESS Array B 35.54 0 P P 09 48 55.9 -1.6
ARCES ARCESS Array B 35.54 0 P P 09 48 55.9 -1.6
comp=Z,3.9nm,0.7s,baz=172,slow=7.0,SNR=5.5
ARCES ARCESS Array B 35.54 0 P P 09 48 55.9 -1.6
BVAR Borovoye Array 36.98 45 P P 09 49 09.6 -0.5
BVAR pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 36.98 45 P P 09 49 09.6 -0.5
BVAR Borovoye Array 36.98 45 P P 09 49 09.6 -0.5
comp=Z,4.8nm,0.9s,baz=254,slow=8.4,SNR=3.6
BVAR Borovoye Array 36.98 45 P P 09 49 09.6 -0.5
DBIC Dimbokro 39.04 233 P P 09 49 26.6 -1.2
DBIC Dimbokro 39.04 233 P P 09 49 26.6 -1.2
comp=Z,2.9nm,0.7s,baz=14,slow=4.2,SNR=2.6
DBIC Dimbokro 39.04 233 P P 09 49 26.5 -1.2
BORG Borgarnes 41.62 332 P P 09 49 48.9 +0.4
BORG LR LR
comp=Z,45µm,20.0s
BORG Borgarnes 41.62 332 P P 09 49 48.9 +0.4
comp=Z,3.1nm,0.6s,baz=132,slow=12,SNR=2.6
BORG Borgarnes 41.62 332 P P 09 49 48.9 +0.4
KURBB Kurchatov Arra 41.67 50 P P 09 49 49.5 +0.3
comp=Z,10nm,0.8s,baz=277,slow=8.6,SNR=27
KURK Kurchatov 41.74 50 P P 09 49 49.5 -0.2
KURK pmax pmax
comp=Z,10.0nm,0.8s
KURK Kurchatov 41.74 50 P P 09 49 49.5 -0.2
KURK Kurchatov 41.74 50 P P 09 49 49.5 -0.2
MK31 Makanchi Array 44.23 56 *e*P P 09 50 10.4 +0.4
MK31 Makanchi Array 44.23 56 *e*P P 09 50 10.4 +0.4
MK31 Makanchi Array 44.23 56 *e*P P 09 50 10.4 +0.4
MKAR Makanchi Array 44.23 56 P P 09 50 10.1 0.0
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR Makanchi Array 44.23 56 P P 09 50 10.1 0.0
MKAR Makanchi Array 44.23 56 P P 09 50 10.1 0.0
comp=Z,9.1nm,0.7s,baz=270,slow=7.1,SNR=44
MKAR Makanchi Array 44.23 56 P P 09 50 10.1 0.0
SPITS Spitsbergen Ar 44.40 357 P P 09 50 10.7 -0.3
SPITS Spitsbergen Ar 44.40 357 P P 09 50 10.7 -0.3
comp=Z,7.8nm,0.9s,baz=187,slow=7.8,SNR=3.9
SPITS Spitsbergen Ar 44.40 357 P P 09 50 10.7 -0.3
ZALV Zalesovo Beam 45.64 45 P P 09 50 20.7 -0.3
ZALV pmax pmax
comp=Z,7.0nm,0.7s
ZALV Zalesovo Beam 45.64 45 P P 09 50 20.7 -0.3
ZALV Zalesovo Beam 45.64 45 P P 09 50 20.7 -0.3
comp=Z,6.9nm,0.7s,baz=269,slow=9.7,SNR=10
ZALV Zalesovo Beam 45.64 45 P P 09 50 20.7 -0.3
DAG Danmarks Havn 47.17 347 *i*P P 09 50 32.2 -0.6
comp=Z,5.1nm,0.8s
WMQ Urumqi 48.40 59 P P 09 50 45.0 +2.1
WMQ pP pP 09 50 52.0 +1.3
WMQ sP sP 09 50 55.3 +1.5
WMQ PP PP 09 52 36.6 +1.2
WMQ pmax pmax
comp=Z,44nm,1.2s
LSZ Lusaka 49.12 176 P P 09 50 48.2 -0.4
LSZ Lusaka 49.12 176 P P 09 50 48.2 -0.4
comp=Z,1.6nm,0.4s,baz=5.3,slow=9.1,SNR=3.6
LSZ Lusaka 49.12 176 P P 09 50 48.2 -0.4
PYUN Piuthan 49.14 80 *e*P P 09 50 49.4 +0.5
comp=Z,116nm,1.3s
DANN Dangsing 49.67 80 *e*P P 09 50 53.7 +0.6
comp=Z,68nm,0.8s
KOLN Koldanda 49.76 81 *e*P P 09 50 53.3 -0.4
comp=Z,12nm,0.7s
SUMG Summit 50.08 339 *i*P P 09 50 56.2 +0.5
comp=Z,7.6nm,0.8s
SUMG Summit 50.08 339 *i*P P 09 50 56.3 +0.5
comp=Z,7.6nm,0.8s
DMN Daman 51.06 80 *e*P P 09 51 03.5 -0.1
comp=Z,112nm,1.4s
KKN Kakani 51.13 80 *e*P P 09 51 04.2 +0.1
comp=Z,30nm,0.9s
PKIN Phulchoki 51.31 80 *e*P P 09 51 05.0 -0.4
comp=Z,21nm,0.8s
PKI Pulchoki 51.32 80 *e*P P 09 51 05.5 -0.1
comp=Z,39nm,0.9s
GUN Gumba 51.57 79 *e*P P 09 51 07.7 +0.2
comp=Z,42nm,0.9s
JIRN Jiri 51.92 80 *e*P P 09 51 10.0 -0.2
comp=Z,34nm,0.8s
RAMN Ramite 52.54 80 *e*P P 09 51 14.0 -0.6
comp=Z,113nm,2.0s
TAPN Taplejung 53.28 79 *e*P P 09 51 20.6 +0.4
TSUM Tsumeb 53.48 189 P P 09 51 20.7 -0.5
TSUM Tsumeb 53.48 189 P P 09 51 20.7 -0.5
comp=Z,4.2nm,0.8s,baz=353,slow=6.9,SNR=5.5
TSUM Tsumeb 53.48 189 P P 09 51 20.7 -0.5
TLY Talaya 57.22 46 *i*P P 09 51 52.0 +4.1
ZAK Zakamensk 57.34 48 *e*P P 09 51 49.8 +1.0
LBTB Lobatse 58.74 180 P P 09 51 59.5 +0.8
LBTB Lobatse 58.74 180 P P 09 51 59.5 +0.8
comp=Z,5.9nm,1.0s,baz=17,slow=7.5,SNR=3.5
LBTB Lobatse 58.74 180 P P 09 51 59.5 +0.8
SONM Songino Array 60.04 50 P P 09 52 08.6 +0.9
SONM Songino Array 60.04 50 P P 09 52 08.6 +0.9
comp=Z,2.4nm,0.7s,baz=284,slow=7.5,SNR=5.8
SONM Songino Array 60.04 50 P P 09 52 08.6 +0.9
FRB Frobisher Bay 61.72 330 P P 09 52 18.9 +0.3
FRB Frobisher Bay 61.72 330 P P 09 52 18.9 +0.3
comp=Z,8.5nm,0.6s,baz=80,slow=8.0,SNR=7.9
FRB Frobisher Bay 61.72 330 P P 09 52 18.9 +0.3
TIXI Tiksi 62.14 20 *i*P P 09 52 21.1 -0.2
TIXI pmax pmax
comp=Z,20nm,2.3s
BOSA Boshof 62.32 180 P P 09 52 23.4 +0.2
BOSA Boshof 62.32 180 P P 09 52 23.4 +0.2
comp=Z,7.8nm,0.9s,baz=10,slow=5.0,SNR=5.4
BOSA Boshof 62.32 180 P P 09 52 23.4 +0.2
SCHQ Schefferville 64.16 320 P P 09 52 35.3 +0.3
comp=Z,9.0nm,0.6s
SCHQ Schefferville 64.16 320 P P 09 52 35.3 +0.3
comp=Z,21nm,0.7s,baz=88,slow=4.8,SNR=40
SCHQ Schefferville 64.16 320 P P 09 52 35.3 +0.3
comp=Z,9.0nm,0.6s
HHC Hu-ho-hao-te 66.09 56 *e*P P 09 52 49.6 +1.6
HHC pP pP 09 52 57.1 +1.0
HHC sP sP 09 53 00.6 +1.5
HHC PP PP 09 55 17.4 +4.1
HHC S S 10 01 33.2 -1.6
HHC sS sS 10 01 45.1 -3.1
HHC ScS SKSac 10 02 39.8 -2.8
HHC SS SS 10 05 50.1 0.0
HHC pmax pmax
comp=Z,53nm,0.7s
SUR Sutherland 66.22 184 P P 09 52 48.3 -0.4
SUR Sutherland 66.22 184 P P 09 52 48.3 -0.4
comp=Z,4.1nm,0.9s,baz=354,slow=9.2,SNR=2.5
SUR Sutherland 66.22 184 P P 09 52 48.3 -0.4
KMI Kunming 66.41 75 P P 09 52 51.0 +0.6
KMI pmax pmax
comp=Z,13nm,1.3s
CMAR Chiang Mai Arr 66.51 83 P P 09 52 50.3 -0.6
CMAR Chiang Mai Arr 66.51 83 P P 09 52 50.3 -0.6
comp=Z,1.1nm,0.4s,baz=300,slow=8.5,SNR=4.2
CMAR Chiang Mai Arr 66.51 83 P P 09 52 50.3 -0.6
YAK Yakutsk 66.74 30 *e*P P 09 52 53.8 +2.2
YAK pmax pmax
comp=Z,13nm,0.8s
RCBR Riachuelo 70.09 248 P P 09 53 12.6 -0.7
RCBR Riachuelo 70.09 248 P P 09 53 12.6 -0.7
comp=Z,4.8nm,0.8s,baz=63,slow=16,SNR=2.3
RCBR Riachuelo 70.09 248 P P 09 53 12.6 -0.7
WHN Wuhan 72.85 65 P P 09 53 32.9 +3.2
LONY Lake Ozonia 73.30 313 *e*P P 09 53 33.8 +1.6
comp=Z,12nm,1.3s
LONY Lake Ozonia 73.30 313 *e*P P 09 53 33.8 +1.6
comp=Z,12nm,1.3s
BILL Bilibino 74.09 14 *e*P P 09 53 37.2 +0.8
BILL pmax pmax
comp=Z,20nm,0.9s
SADO Sadowa 75.95 315 P P 09 53 47.3 -0.2
SADO Sadowa 75.95 315 P P 09 53 47.3 -0.2
comp=Z,6.2nm,0.6s,baz=65,slow=5.7,SNR=12
SADO Sadowa 75.95 315 P P 09 53 47.3 -0.2
INK Inuvik 76.74 352 P P 09 53 50.9 -0.7
INK Inuvik 76.74 352 P P 09 53 50.9 -0.7
comp=Z,4.2nm,0.7s,baz=336,slow=5.1,SNR=13
INK Inuvik 76.74 352 P P 09 53 50.9 -0.7
USRK Usuriysk Arra 77.49 45 P P 09 53 56.1 -0.1
comp=Z,5.8nm,0.8s,baz=282,slow=5.6,SNR=12
YKW3 Yellowknife Ar 78.51 342 *e*P P 09 54 01.2 -0.3
YKW3 Yellowknife Ar 78.51 342 *e*P P 09 54 01.2 -0.3
YKA Yellowknife Ar 78.56 342 P P 09 54 01.8 0.0
YKA Yellowknife Ar 78.56 342 P P 09 54 01.8 0.0
comp=Z,4.5nm,0.6s,baz=31,slow=5.5,SNR=37
YKA Yellowknife Ar 78.56 342 P P 09 54 01.8 0.0
KSAR Wonju Array Be 78.78 52 P P 09 54 03.8 +0.3
KSAR Wonju Array Be 78.78 52 P P 09 54 03.8 +0.3
KSRS Korea Array 78.80 52 P P 09 54 03.8 +0.2
comp=Z,1.8nm,0.7s,baz=300,slow=5.1,SNR=8.9
COLD Coldfoot 78.98 358 *e*P P 09 54 04.9 +0.8
comp=Z,6.4nm,0.7s
COLD Coldfoot 78.98 358 *e*P P 09 54 04.9 +0.8
comp=Z,6.4nm,0.7s
EGAK Eagle 80.94 354 *e*P P 09 54 15.3 +0.6
comp=Z,6.1nm,0.6s
EGAK Eagle 80.94 354 *e*P P 09 54 15.3 +0.6
comp=Z,6.1nm,0.6s
ILAR Eielson Array 81.32 357 P P 09 54 17.0 +0.3
ILAR Eielson Array 81.32 357 P P 09 54 17.0 +0.3
comp=Z,3.4nm,0.7s,baz=351,slow=3.8,SNR=35
ILAR Eielson Array 81.32 357 P P 09 54 17.0 +0.3
DOT Dot Lake 82.27 355 *e*P P 09 54 22.8 +1.0
comp=Z,8.3nm,0.6s
DOT Dot Lake 82.27 355 *e*P P 09 54 22.8 +1.0
comp=Z,8.3nm,0.6s
MENT Mentasta 82.95 355 *e*P P 09 54 26.5 +1.1
MENT Mentasta 82.95 355 *e*P P 09 54 26.5 +1.1
BLO Bloomington 83.70 313 *e*P P 09 54 30.1 +0.4
BLO pmax pmax

	comp=Z,10.0nm,0.8s								
BLO	**Bloomington**	**83.70**	**313**	*e*P		**P**	**09 54 30.1**	**+0.4**
	comp=Z,9.6nm,0.8s								
BLO	**Bloomington**	**83.70**	**313**	*e*P		**P**	**09 54 30.1**	**+0.4**
	comp=Z,9.6nm,0.8s								
WCI	**Wyandotte Cave**	**84.16**	**313**	*e*P		**P**	**09 54 32.9**	**+0.8**
WCI				pmax		pmax			
	comp=Z,4.0nm,0.7s								
WCI	**Wyandotte Cave**	**84.16**	**313**	*e*P		**P**	**09 54 32.9**	**+0.8**
	comp=Z,4.2nm,0.7s								
WCI	**Wyandotte Cave**	**84.16**	**313**	*e*P		**P**	**09 54 32.9**	**+0.8**
	comp=Z,4.2nm,0.7s								
DLBC	**Dease Lake**	**85.59**	**347**	P		**P**	**09 54 38.7**	**-0.2**
DLBC	**Dease Lake**	**85.59**	**347**	P		**P**	**09 54 38.7**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=53,slow=4.4,SNR=5.7								
DLBC	**Dease Lake**	**85.59**	**347**	P		**P**	**09 54 38.7**	**-0.2**
MJAR	**Matsushiro Arr**	**85.92**	**48**	P		**P**	**09 54 41.4**	**+0.5**
MJAR	**Matsushiro Arr**	**85.92**	**48**	P		**P**	**09 54 41.4**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=297,slow=5.3,SNR=4.1								
MJAR	**Matsushiro Arr**	**85.92**	**48**	P		**P**	**09 54 41.4**	**+0.5**
SIUC	**Southern Illin**	**86.26**	**314**	*e*P		**P**	**09 54 42.7**	**+0.2**
	comp=Z,20nm,1.0s								
SIUC	**Southern Illin**	**86.26**	**314**	*e*P		**P**	**09 54 42.7**	**+0.2**
	comp=Z,20nm,1.0s								
WVT	**Waverly**	**86.44**	**312**	*e*P		**P**	**09 54 43.0**	**-0.4**
WVT				pmax		pmax			
	comp=Z,8.0nm,0.9s								
WVT	**Waverly**	**86.44**	**312**	*e*P		**P**	**09 54 43.0**	**-0.4**
	comp=Z,7.5nm,0.9s								
WVT	**Waverly**	**86.44**	**312**	*e*P		**P**	**09 54 43.0**	**-0.4**
	comp=Z,7.5nm,0.9s								
KDAK	**Kodiak Island**	**88.50**	**359**	P		**P**	**09 54 53.9**	**+1.0**
KDAK	**Kodiak Island**	**88.50**	**359**	P		**P**	**09 54 53.9**	**+1.0**
	comp=Z,6.6nm,0.7s,baz=6.1,slow=3.9,SNR=7.3								
KDAK	**Kodiak Island**	**88.50**	**359**	P		**P**	**09 54 53.9**	**+1.0**
YBMT	**Yellow Bay**	**90.72**	**334**	*e*P		**P**	**09 55 05.3**	**+1.6**
	comp=Z,4.6nm,0.9s								
YBMT	**Yellow Bay**	**90.72**	**334**	*e*P		**P**	**09 55 05.3**	**+1.6**
	comp=Z,4.6nm,0.9s								
NEW	**Newport**	**91.47**	**336**	*e*P		**P**	**09 55 07.3**	**+0.3**
	comp=Z,2.6nm,0.6s								
NEW	**Newport**	**91.47**	**336**	P		**P**	**09 55 07.6**	**+0.5**
	comp=Z,3.6nm,0.6s,baz=42,slow=6.3,SNR=10								
NEW	**Newport**	**91.47**	**336**	*e*P		**P**	**09 55 07.3**	**+0.3**
	comp=Z,2.6nm,0.6s								
PHWY	**Pilot Hill**	**92.45**	**325**	*e*P		**P**	**09 55 12.3**	**+0.3**
	comp=Z,6.3nm,0.7s								
PHWY	**Pilot Hill**	**92.45**	**325**	*e*P		**P**	**09 55 12.3**	**+0.3**
	comp=Z,6.2nm,0.7s								
IMW	**Indian Meadow**	**92.81**	**330**	*e*P		**P**	**09 55 15.2**	**+1.5**
	comp=Z,4.0nm,0.9s								
IMW	**Indian Meadow**	**92.81**	**330**	*e*P		**P**	**09 55 15.2**	**+1.5**
	comp=Z,4.0nm,0.9s								
PDAR	**Pinedale Array**	**93.15**	**329**	P		**P**	**09 55 14.9**	**-0.3**
PDAR	**Pinedale Array**	**93.15**	**329**	P		**P**	**09 55 14.9**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=59,slow=5.1,SNR=4.1								
PDAR	**Pinedale Array**	**93.15**	**329**	P		**P**	**09 55 14.9**	**-0.3**
MFID	**Camas Ranch**	**95.16**	**333**	*e*P		**P**	**09 55 24.9**	**+0.7**
	comp=Z,4.3nm,1.1s								
MFID	**Camas Ranch**	**95.16**	**333**	*e*P		**P**	**09 55 24.9**	**+0.7**
	comp=Z,4.3nm,1.1s								
WRA	**Warramunga Arr**	**116.27**	**97**	PKP		**PKPdf**	**10 00 44.9**	**+0.4**
WRA	**Warramunga Arr**	**116.27**	**97**	PKP		**PKPdf**	**10 00 44.9**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=293,slow=2.0,SNR=3.5								
WRA	**Warramunga Arr**	**116.27**	**97**	PKIKP		**PKPdf**	**10 00 44.9**	**+0.4**
ASAR	**Alice Springs**	**117.65**	**101**	PKP		**PKPdf**	**10 00 46.8**	**-0.4**
ASAR	**Alice Springs**	**117.65**	**101**	PKP		**PKPdf**	**10 00 46.8**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=295,slow=1.0,SNR=2.4								
ASAR	**Alice Springs**	**117.65**	**101**	PKIKP		**PKPdf**	**10 00 46.8**	**-0.4**

IDC ***01*** *09:51:24.2±0.8,59°.57S×26°.15W,h0km,mb4.1/11, mb1 4.2/12,mb1mx4.1/22,mbtmp4.1/12,ML4.2/1,Error ellipse: s-maj=26.0km s-min=17.1km az=55.0*
NEIC ***01*** *09:51:27.0±0.5,59°.60S×26°.05W,h20km,mb4.6/4,Error ellipse: s-maj=17.3km s-min=8.9km az=51.0*
ISC 01 09:51:29.2±0.7,59°.8S±0°.1×26°.2W±0°.1,h40km,n33,
σ1s89/33,mb4.1/12,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.11**	**153**	*e*SKSac	**Pn**	**09 54 34.1**	**+1.6**
SNAA	**Sanae**	**15.10**	**151**	Pn	**Pn**	**09 54 59.8**	**+0.4**
	0.6nm,0.6s						
SNAA				Sn	**Sn**	**09 57 39.8**	**-5.3**
SNAA	**Sanae**	**15.10**	**151**	Pn	**Pn**	**09 54 59.8**	**+0.4**
	1.0nm,0.3s,baz=312,slow=12,SNR=68						
SNAA				Sn	**Sn**	**09 57 39.8**	**-5.3**
	0.2nm,0.3s,baz=319,slow=19,SNR=6.4						
EFI	**East Falkland**	**19.54**	**281**	*e*P	**P**	**09 55 48.8**	**-4.2**
	165nm,1.4s						
USHA	**Ushuaia**	**23.04**	**264**	P	**P**	**09 56 31.3**	**+0.8**
USHA	**Ushuaia**	**23.04**	**264**	P	**P**	**09 56 31.3**	**+0.8**
	7.9nm,0.8s,baz=100,slow=12,SNR=6.8						
QSPA	**South Pole Qui**	**30.40**	**180**	P	**P**	**09 57 40.4**	**+3.1**
QSPA	**South Pole Qui**	**30.40**	**180**	P	**P**	**09 57 40.4**	**+3.1**
	2.9nm,0.5s,baz=188,slow=1.5,SNR=19						
TRQA	**Tornquist**	**31.44**	**298**	*e*P	**P**	**09 57 47.2**	**+0.7**
	3.6nm,0.6s						
PLCA	**Paso Flores**	**33.34**	**285**	*e*P	**P**	**09 58 03.5**	**+0.3**
PLCA	**Paso Flores**	**33.34**	**285**	P	**P**	**09 58 03.3**	**+0.1**
	1.4nm,0.7s,baz=157,slow=7.0,SNR=4.5						
CFAA	**Coronel Fontan**	**39.64**	**296**	P	**P**	**09 58 56.4**	**-0.5**
CFAA	**Coronel Fontan**	**39.64**	**296**	P	**P**	**09 58 56.4**	**-0.5**
	0.3nm,0.4s,baz=172,slow=7.6,SNR=5.8						
CPUP	**Villa Florida**	**39.77**	**313**	P	**P**	**09 58 57.3**	**-0.6**
CPUP	**Villa Florida**	**39.77**	**313**	P	**P**	**09 58 57.3**	**-0.6**
	0.4nm,0.3s,baz=174,slow=8.1,SNR=6.0						
VNDA	**Vanda**	**42.80**	**183**	P	P	09 59 26.3	+4.0
VNDA	**Vanda**	**42.80**	**183**	P	P	09 59 26.3	+4.0
	1.7nm,0.9s,baz=188,slow=5.7,SNR=5.6						
LVC	**Limon Verde**	**47.72**	**302**	P	**P**	**10 00 01.6**	**-0.5**
LVC	**Limon Verde**	**47.72**	**302**	P	**P**	**10 00 01.6**	**-0.5**
	1.4nm,0.3s,baz=169,slow=7.2,SNR=6.1						
SIV	**San Ignacio**	**50.60**	**315**	P	**P**	**10 00 22.7**	**-1.2**
SIV	**San Ignacio**	**50.60**	**315**	P	**P**	**10 00 22.7**	**-1.2**
	1.2nm,0.5s,baz=173,slow=6.9,SNR=7.7						
LPAZ	**La Paz**	**53.04**	**307**	P	**P**	**10 00 42.2**	**-0.6**
	5.2nm,1.5s						
LPAZ	**La Paz**	**53.04**	**307**	P	**P**	**10 00 42.2**	**-0.6**
	0.8nm,0.3s,baz=151,slow=2.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**76.13**	**28**	P	**P**	**10 03 12.8**	**+0.2**
TORD	**Torodi Ar. Bea**	**76.13**	**28**	P	**P**	**10 03 12.8**	**+0.2**
	0.7nm,0.4s,baz=199,slow=6.2,SNR=19						
ASAR	**Alice Springs**	**95.21**	**162**	P	**P**	**10 04 49.2**	**+0.8**
ASAR	**Alice Springs**	**95.21**	**162**	P	**P**	**10 04 49.2**	**+0.8**
	0.4nm,0.5s,baz=184,slow=4.2,SNR=7.3						
ARCES	**ARCESS Array B**	**134.26**	**23**	PKP	**PKPdf**	**10 10 40.8**	**+0.1**
ARCES	**ARCESS Array B**	**134.26**	**23**	PKP	**PKPdf**	**10 10 40.8**	**+0.1**
	0.6nm,0.5s,baz=232,slow=1.4,SNR=4.2						
YKA	**Yellowknife Ar**	**139.29**	**315**	PKP	**PKPdf**	**10 10 50.5**	**+0.4**
YKA	**Yellowknife Ar**	**139.29**	**315**	PKP	**PKPdf**	**10 10 50.6**	**+0.4**
	0.2nm,0.4s,baz=137,slow=2.1,SNR=5.4						
SONM	**Songino Array**	**150.23**	**92**	PKPbc	**PKPbc**	**10 11 15.5**	**+0.7**
SONM	**Songino Array**	**150.23**	**92**	PKPbc	**PKPbc**	**10 11 15.5**	**+0.7**
	2.1nm,0.6s,baz=225,slow=3.4,SNR=4.2						

ISCJB ***01*** *09:54:36.6±0.7,36°.18N±0°.05×35°.96E±0°.06,h8km±9km, Error ellipse: s-maj=9.3km s-min=6.7km az=143.4*
CSEM ***01*** *09:54:36.9±0.2,36°.18N×35°.98E,h10km,MD2.8,Error ellipse: s-maj=4.8km s-min=3.1km az=19.0*
ISK ***01*** *09:54:36.2,36°.20N×35°.98E,h8km,MD2.8*
DDA ***01*** *09:54:37.4,36°.17N×36°.14E,h7km,MD2.6*
ISC 01 09:54:36.1±1.1,36°.17N±0°.05×35°.96E±0°.05,h14km±13km,
n15,σ0s26/24,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTY	**Hatay**	**0.16**	**108**	*e*PG	**Pg**	**09 54 39.9**	**0.0**
HTY				*e*SG	**Sg**	**09 54 42.6**	**+0.1**
HTY	**Hatay**	**0.16**	**108**	*e*Pg	**Pg**	**09 54 39.9**	**0.0**
HTY				*e*Sg	**Sg**	**09 54 42.7**	**+0.1**
YAYL	**Yayladag**	**0.18**	**138**	*i* Pg	**Pg**	**09 54 40.5**	**+0.1**
YAYL				*i* Sg	**Sg**	**09 54 43.2**	**-0.2**
YAYL	**Yayladag**	**0.18**	**138**	*i* Pg	**Pg**	**09 54 40.5**	**+0.1**
YAYL				*i* Sg	**Sg**	**09 54 43.2**	**-0.2**
COBT	**Iskenderun**	**0.42**	**35**	*e*P	**Pb**	**09 54 45.2**	**-0.3**
COBT				*e*S	**Sg**	**09 54 50.6**	**+0.2**
COBT	**Iskenderun**	**0.42**	**35**	*e*P	**Pb**	**09 54 45.2**	**-0.3**
COBT				*e*S	**Sg**	**09 54 50.6**	**+0.2**
COBT	**Iskenderun**	**0.42**	**35**	*e*P	**Pb**	**09 54 45.2**	**-0.3**
COBT				*e*S	**Sg**	**09 54 50.6**	**+0.2**
KRTS	**Karatas**	**0.62**	**311**	*e*PG	**Pb**	**09 54 48.5**	**-0.1**
KRTS				*e*SG	**Sb**	**09 54 57.7**	**+0.5**
KRTS	**Karatas**	**0.62**	**311**	*e*Pg	**Pb**	**09 54 48.5**	**-0.1**
KRTS				*e*Sg	**Sb**	**09 54 57.7**	**+0.5**
KARA	**Karaisali**	**1.31**	**327**	*e*PN	**Pg**	**09 55 01.0**	**-0.2**
KARA	**Karaisali**	**1.31**	**327**	*e*Pn	**Pg**	**09 55 01.0**	**-0.2**
KOZT	**Kozan**	**1.31**	**356**	*e*PN	**Pg**	**09 55 01.2**	**-0.1**
KOZT	**Kozan**	**1.31**	**356**	*e*Pn	**Pg**	**09 55 01.2**	**-0.1**
IKL	**Isikli**	**1.84**	**273**	*e*PN	**Pb**	**09 55 09.2**	**-0.2**
IKL	**Isikli**	**1.84**	**273**	*e*Pn	**Pb**	**09 55 09.2**	**-0.2**

IDC 01 09:58:18.5±8.2,33°.79N×24°.99E,h0km,mb3.7/2,
mb1 3.4/4,mb1mx3.3/27,mbtmp3.4/4,ML3.3/2,Error ellipse: s-maj=137.2km s-min=76.9km az=63.0,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**9.12**	**47**	Pn	Pn	10 00 31.4	-0.1
	0.1nm,0.3s,baz=228,slow=14,SNR=2.7						
AKASG	**Malin Array Be**	**17.18**	**9**	Pn	Pn	10 02 19.8	+0.1
	0.4nm,0.3s,baz=198,slow=11,SNR=3.5						
KURBB	**Kurchatov Arra**	**42.10**	**50**	P	P	10 06 11.8	-0.3
	0.6nm,0.6s,baz=271,slow=8.5,SNR=5.1						
MKAR	**Makanchi Array**	**44.66**	**55**	P	P	10 06 32.9	0.0
	0.7nm,0.5s,baz=278,slow=6.5,SNR=7.2						

BJI ***01*** *09:59:00.9,33°.99N×24°.85E,h24km,mB5.1/9,mb4.9/36, Ms5.7/17,Ms7 5.4/17*
ISCJB ***01*** *09:59:03.4±0.4,33°.98N±0°.01×25°.63E±0°.01,h16km±3km, mb4.8/156,MS5.2/10,Error ellipse: s-maj=2.3km s-min=1.6km az=28.5*
IDC ***01*** *09:59:03.2±0.3,34°.12N×25°.61E,h0km,mb4.7/42, mb1 4.7/54,mb1mx4.7/58,mbtmp4.6/54,ML4.5/8,Error ellipse: s-maj=9.8km s-min=9.0km az=129.0*
NSSC ***01*** *09:59:04.1±3.5,34°.06N×25°.39E,h36km±999km,MD3.0, ML4.2*
SZGRF ***01*** *09:59:04.8,34°.04N×26°.39E,h33km,mb4.6,Crete, Greece*
ATH ***01*** *09:59:05.8,33°.96N×25°.54E,h39km±8km,MD4.1/33, ML4.5*
MOS ***01*** *09:59:05.2±1.0,34°.12N×25°.57E,h23km,mb5.0/67, MS5.0/4,Error ellipse: s-maj=5.7km s-min=2.8km az=98.7*
CSEM ***01*** *09:59:06.9±0.1,34°.00N×25°.62E,h30km,mb4.7/54,Error ellipse: s-maj=2.8km s-min=1.7km az=32.0*
HLW ***01*** *09:59:06.3,34°.07N×25°.67E,h31km±47km,Md4.2,Ml4.7*
NEIC ***01*** *09:59:06.2±1.1,34°.05N×25°.62E,h19km±7km,mb4.9/56, ML4.4(HLW),ML4.5(ATH),ML4.6(ISK),ML4.8(THE),Error ellipse: s-maj=3.9km s-min=2.7km az=203.0*
NEIC Felt at Timbakion. Felt [II] at Alexandria, Egypt. Also felt at Cairo.
SFS ***01*** *09:59:07.0,34°.08N×25°.55E,h28km,ML4.9*
THE ***01*** *09:59:09.3,34°.24N×25°.50E,h11km,ML4.5/7,Error ellipse: s-maj=1.1km s-min=0.4km az=170.0*
NIC ***01*** *09:59:12.4±0.3,34°.42N×26°.11E,h25km,mb4.8,ML4.4, MW4.0*
DDA ***01*** *09:59:23.2,34°.71N×27°.00E,h10km,MD4.3*
ISC 01 09:59:07.1±0.3,34°.03N±0°.02×25°.63E±0°.02,h27km±1km,
h27km:pP-P,n1141,σ1s43/1297,mb4.8/156,MS5.3/10,
22C-17D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.14**	**354**	P	**Pn**	**09 59 26.1**	**-1.1**
LAST				S	**Sn**	**09 59 39.6**	**-2.3**
LAST	**Lasithi**	**1.14**	**354**	*e*PB	**Pn**	**09 59 26.8**	**-0.4**
LAST				*e*SN	**Sb**	**09 59 43.1**	**+0.6**
LAST	**Lasithi**	**1.14**	**354**	P	**Pn**	**09 59 26.1**	**-1.1**
LAST	**Lasithi**	**1.14**	**354**	*e*Pb	**Pn**	**09 59 26.8**	**-0.4**
LAST				*e*Sn	**Sb**	**09 59 43.1**	**+0.6**
ZKR	**Zakros**	**1.18**	**24**	P	**Pb**	**09 59 28.4**	**-0.5**
ZKR	**Zakros**	**1.18**	**24**	*e*PB	**Pb**	**09 59 28.5**	**-0.5**
ZKR				*e*SN	**Sb**	**09 59 45.6**	**+1.8**
ZKR	**Zakros**	**1.18**	**24**	P	**Pb**	**09 59 28.4**	**-0.5**
ZKR				*e*Sn	**Sb**	**09 59 45.6**	**+1.8**
SIVA	**Sivas**	**1.20**	**326**	P	**Pn**	**09 59 27.1**	**-0.9**
SIVA				S	**Sn**	**09 59 40.6**	**-2.7**
SIVA	**Sivas**	**1.20**	**326**	*e*PN	**Pn**	**09 59 27.9**	**-0.1**
SIVA	**Sivas**	**1.20**	**326**	P	**Pn**	**09 59 27.1**	**-0.9**
SIVA	**Sivas**	**1.20**	**326**	*e*Pn	**Pn**	**09 59 27.9**	**-0.1**
NPS	**Neapolis**	**1.23**	**359**	P	**Pn**	**09 59 28.1**	**-0.4**
NPS				S	**Sn**	**09 59 42.8**	**-1.4**
NPS	**Neapolis**	**1.23**	**359**	*e*PN	**Pn**	**09 59 28.7**	**+0.2**
NPS				*e*SN	**Sb**	**09 59 46.1**	**+1.0**
NPS	**Neapolis**	**1.23**	**359**	P	**Pn**	**09 59 28.1**	**-0.4**
NPS	**Neapolis**	**1.23**	**359**	*e*Pn	**Pn**	**09 59 28.7**	**+0.2**
NPS				S	**Sn**	**09 59 42.8**	**-1.4**
NPS				*e*Sn	**Sb**	**09 59 46.1**	**+1.0**
IDI	**Anoyia**	**1.40**	**334**	P	**Pb**	**09 59 32.0**	**-0.5**
IDI				S	**Sn**	**09 59 45.7**	**-2.7**
IDI	**Anoyia**	**1.40**	**334**	*e*PN	**Pb**	**09 59 31.8**	**-0.8**
IDI				*e*SN	**Sn**	**09 59 48.5**	**+0.1**
IDI	**Anoyia**	**1.40**	**334**	*e*Pn	**Pb**	**09 59 31.7**	**-0.8**
IDI	**Anoyia**	**1.40**	**334**	*e*Pn	**Pb**	**09 59 31.7**	**-0.8**
IDI	**Anoyia**	**1.40**	**334**	P	**Pb**	**09 59 32.0**	**-0.5**
IDI				S	**Sn**	**09 59 45.7**	**-2.7**
IDI				*e*Sn	**Sn**	**09 59 48.5**	**+0.1**
GVD	**Gavdhos**	**1.51**	**303**	P	**Pn**	**09 59 32.1**	**-0.2**
GVD				S	**Sn**	**09 59 49.6**	**-1.5**
GVD	**Gavdhos**	**1.51**	**303**	*e*PB	**Pn**	**09 59 32.3**	**0.0**
GVD				*e*SN	**Sn**	**09 59 50.0**	**-1.1**
GVD	**Gavdhos**	**1.51**	**303**	*e*Pn	**Pn**	**09 59 32.4**	**0.0**
GVD	**Gavdhos**	**1.51**	**303**	P	**Pn**	**09 59 32.1**	**-0.2**
GVD	**Gavdhos**	**1.51**	**303**	*e*Pn	**Pn**	**09 59 32.4**	**+0.1**
GVD				S	**Sn**	**09 59 49.6**	**-1.5**
GVD				*e*Sn	**Sn**	**09 59 50.0**	**-1.1**
VAM	**Vamos**	**1.81**	**320**	P	**Pn**	**09 59 35.9**	**-0.5**
VAM				S	**Sn**	**09 59 56.5**	**-2.0**
VAM	**Vamos**	**1.81**	**320**	*e*PB	**Pn**	**09 59 37.2**	**+0.8**
VAM				*e*SN	**Sn**	**09 59 59.8**	**+1.3**
VAM	**Vamos**	**1.81**	**320**	P	**Pn**	**09 59 35.9**	**-0.5**
VAM	**Vamos**	**1.81**	**320**	*e*Pb	**Pn**	**09 59 37.2**	**+0.8**
VAM				S	**Sn**	**09 59 56.5**	**-2.0**
VAM				*e*Sn	**Sn**	**09 59 59.8**	**+1.3**
KARP	**Karpathos**	**1.97**	**39**	P	**Pn**	**09 59 40.0**	**+1.4**
KARP				S	**Sn**	**10 00 04.0**	**+1.6**
KARP	**Karpathos**	**1.97**	**39**	*e*PB	**Pb**	**09 59 41.0**	**-1.2**
KARP				*e*SN	**Sn**	**10 00 04.0**	**+1.6**
KARP	**Karpathos**	**1.97**	**39**	P	**Pn**	**09 59 40.3**	**+1.7**
KARP	**Karpathos**	**1.97**	**39**	P	**Pn**	**09 59 40.0**	**+1.4**
KARP	**Karpathos**	**1.97**	**39**	*e*Pb	**Pb**	**09 59 41.0**	**-1.2**
KARP				S	**Sn**	**10 00 04.0**	**+1.6**
THR1	**Thera Island**	**2.34**	**357**	P	**Pn**	**09 59 43.6**	**-0.1**
THR1	**Thera Island**	**2.34**	**357**	P	**Pn**	**09 59 43.6**	**-0.1**
SANT	**Santorini**	**2.34**	**357**	P	**Pn**	**09 59 43.4**	**-0.3**
SANT				S	**Sn**	**10 00 10.2**	**-1.4**
SANT	**Santorini**	**2.34**	**357**	*e*PN	**Pn**	**09 59 44.4**	**+0.7**
SANT	**Santorini**	**2.34**	**357**	*e*Pn	**Pn**	**09 59 44.3**	**+0.6**
SANT	**Santorini**	**2.34**	**357**	P	**Pn**	**09 59 43.4**	**-0.3**
SANT	**Santorini**	**2.34**	**357**	*e*Pn	**Pn**	**09 59 44.3**	**+0.6**
SANT				S	**Sn**	**10 00 10.2**	**-1.4**
THR3	**Thira Island,**	**2.38**	**355**	P	**Pn**	**09 59 45.0**	**+0.7**
THR3	**Thira Island,**	**2.38**	**355**	P	**Pn**	**09 59 45.0**	**+0.7**
THR2	**Thira island,**	**2.42**	**356**	P	**Pn**	**09 59 44.8**	**0.0**
THR2	**Thira island,**	**2.42**	**356**	P	**Pn**	**09 59 44.8**	**0.0**
LTBQ	**Tobruq**	**2.44**	**217**	*i* Pn	**Pn**	**09 59 45.9**	**+0.8**
	SNR=76						
LTBQ				*e*S	**Sn**	**10 00 15.2**	**+1.2**
	SNR=35						
SLUM		**2.56**	**188**	P	**Pn**	**09 59 46.2**	**-0.5**
	baz=189						
SLUM		**2.56**	**188**	P	**Pn**	**09 59 46.2**	**-0.5**
SLUM				S	**Sn**	**10 00 16.3**	**-0.6**
ANKY	**Antikythira Is**	**2.65**	**314**	P	**Pn**	**09 59 47.3**	**-0.7**
ANKY	**Antikythira Is**	**2.65**	**314**	*e*PN	**Pn**	**09 59 47.9**	**-0.1**
ANKY	**Antikythira Is**	**2.65**	**314**	P	**Pn**	**09 59 47.3**	**-0.7**
ANKY	**Antikythira Is**	**2.65**	**314**	*e*Pn	**Pn**	**09 59 47.9**	**-0.1**
ARG	**Arkhangelos**	**2.99**	**42**	P	**Pn**	**09 59 54.3**	**+1.7**
ARG	**Arkhangelos**	**2.99**	**42**	*e*PN	**Pn**	**09 59 55.2**	**+2.6**
ARG				*e*SB	**Sn**	**10 00 30.1**	**+2.6**
ARG	**Arkhangelos**	**2.99**	**42**	P	**Pn**	**09 59 54.3**	**+1.7**
ARG	**Arkhangelos**	**2.99**	**42**	*e*Pn	**Pn**	**09 59 55.2**	**+2.6**
MATC	**Matruh**	**3.00**	**153**	P	**Pn**	**09 59 52.0**	**-0.7**
	baz=153						
APE	**Apeiranthos**	**3.03**	**358**	*e*PN	**Pn**	**09 59 53.3**	**0.0**
APE	**Apeiranthos**	**3.03**	**358**	P	**Pn**	**09 59 53.0**	**-0.3**
APE				S	**Sn**	**10 00 27.2**	**-1.5**
APE	**Apeiranthos**	**3.03**	**358**	⇑P	**Pn**	**09 59 54.2**	**+0.9**
APE	**Apeiranthos**	**3.03**	**358**	*e*PN	**Pn**	**09 59 54.8**	**+1.5**
APE	**Apeiranthos**	**3.03**	**358**	⇑*i*P	**Pn**	**09 59 54.2**	**+0.9**
APE	**Apeiranthos**	**3.03**	**358**	P	**Pn**	**09 59 53.0**	**-0.3**
APE	**Apeiranthos**	**3.03**	**358**	*e*Pn	**Pn**	**09 59 54.8**	**+1.5**
APE				S	**Sn**	**10 00 27.2**	**-1.5**
KYTH	**Kithira**	**3.09**	**317**	P	**Pn**	**09 59 53.8**	**-0.3**
KYTH	**Kithira**	**3.09**	**317**	*e*PN	**Pn**	**09 59 55.0**	**+0.9**
KYTH	**Kithira**	**3.09**	**317**	P	**Pn**	**09 59 53.8**	**-0.3**
KYTH	**Kithira**	**3.09**	**317**	*e*Pn	**Pn**	**09 59 55.0**	**+0.9**
DAT	**Datca**	**3.13**	**30**	*e*PN	**Pn**	**09 59 54.8**	**+0.2**
DAT	**Datca**	**3.13**	**30**	*e*SN	**Sb**	**10 00 36.0**	**-3.7**
HMAT	**Matruh**	**3.18**	**157**	P	**Pn**	**09 59 54.6**	**-0.6**
HMAT	**Matruh**	**3.18**	**157**	P	**Pn**	**09 59 54.6**	**-0.6**
	baz=157						
HMAT				AMP		10 00 00.0	
	comp=E,4170μm,0.6s,logA/T=6.8,baz=157						
HMAT				S	**Sn**	**10 00 29.7**	**-2.6**
	baz=157						
HMAT	**Matruh**	**3.18**	**157**	P	**Pn**	**09 59 54.6**	**-0.6**
HMAT				S	**Sn**	**10 00 29.7**	**-2.6**
BODT	**Bodrum**	**3.32**	**24**	*e*PN	**Pn**	**09 59 57.6**	**+0.4**
VLI	**Veliai**	**3.47**	**321**	P	**Pn**	**09 59 58.7**	**-0.5**
VLI	**Veliai**	**3.47**	**321**	*e*PN	**Pn**	**10 00 00.1**	**+0.9**
VLI	**Veliai**	**3.47**	**321**	P	**Pn**	**09 59 58.7**	**-0.5**
VLI	**Veliai**	**3.47**	**321**	*e*Pn	**Pn**	**10 00 00.1**	**+0.9**
MLSB	**Milas**	**3.69**	**28**	*e*PN	**Pn**	**10 00 02.4**	**0.0**
DALY	**Dalyan (Mu¨la**	**3.72**	**41**	*e*PN	**Pn**	**10 00 02.9**	**+0.3**
TURN	**Turunc**	**3.73**	**40**	*i* P	**Pn**	**10 00 01.5**	**-1.3**
TURN				*i* S	**Sn**	**10 00 41.6**	**-4.2**
TURN	**Turunc**	**3.73**	**40**	*i* P	**Pn**	**10 00 01.5**	**-1.3**
TURN				*i* S	**Sn**	**10 00 41.6**	**-4.2**
TURN	**Turunc**	**3.73**	**40**	*i* P	**Pn**	**10 00 01.5**	**-1.3**
TURN				*i* S	**Sn**	**10 00 41.6**	**-4.2**
YER	**Yerkesik**	**3.77**	**34**	*e*PN	**Pn**	**10 00 04.2**	**+0.7**
SMG	**Samos**	**3.80**	**15**	P	**Pn**	**10 00 04.0**	**+0.2**
SMG	**Samos**	**3.80**	**15**	*e*PN	**Pn**	**10 00 04.2**	**+0.4**
SMG	**Samos**	**3.80**	**15**	P	**Pn**	**10 00 04.0**	**+0.2**
DYR	**Agios Nikonas**	**3.83**	**316**	P	**Pn**	**10 00 04.4**	**+0.1**
DYR	**Agios Nikonas**	**3.83**	**316**	*e*PN	**Pn**	**10 00 04.7**	**+0.4**
DYR	**Agios Nikonas**	**3.83**	**316**	P	**Pn**	**10 00 04.4**	**+0.1**
DYR	**Agios Nikonas**	**3.83**	**316**	*e*Pn	**Pn**	**10 00 04.7**	**+0.4**
FETI	**Fethiye**	**3.83**	**46**	*e*PN	**Pn**	**10 00 04.4**	**+0.1**
KSL	**Kastellorizon**	**3.87**	**56**	*e*PN	**Pn**	**10 00 06.0**	**+1.3**
AKAS	**Kas**	**3.93**	**55**	*i* P	**Pn**	**10 00 06.3**	**+0.6**
AKAS				*i* S	**Sn**	**10 00 52.0**	**+1.1**
AKAS	**Kas**	**3.93**	**55**	*i* P	**Pn**	**10 00 06

AXAR	**Agios Charalam**	**5.30**	**334**	P		**Pn**	**10 00 24.2**	**-0.2**	**ZAF**			**7.56**	**127**	P		**Pn**	**10 00 55.0**	**-0.4**	QASN					AML	AML	10 03 08.4		
AXAR				S		**Sn**	**10 01 22.1**	**-2.5**		comp=E,508nm,0.5s																			
KHL	**Karahalli**	**5.31**	**35**	*e*PN		**Pn**	**10 00 25.5**	**+0.8**	**KDZ**	**Kurdzhali**		**7.61**	**359**	P		**Pn**	**10 00 57.5**	**+1.4**	**QASN**	**Qassioun**	**8.88**	**90**	*e*P		**Pn**	**10 01 15.5**	**+1.9**
AOS	**Alonnisos**	**5.32**	**345**	P		**Pn**	**10 00 24.9**	**+0.2**	**KDZ**	**Kurdzhali**		**7.61**	**359**	P		**Pn**	**10 00 57.5**	**+1.4**	QASN				*e*S		**Sn**	**10 02 47.4**	**-5.3**
AOS				S		**Sn**	**10 01 23.7**	**-1.3**	**SULT**	**Sultanhani-AKS**		**7.61**	**55**	*e*PN		**Pn**	**10 00 56.5**	**+0.2**	QASN					AML	AML	10 02 57.8		
AOS	**Alonnisos**	**5.32**	**345**	*e*PN		**Pn**	**10 00 26.4**	**+1.7**	**VAY**	**Valandovo**		**7.67**	**342**	*i* Pn		**Pn**	**10 00 57.9**	**+1.0**		comp=N,316nm,0.5s											
AOS	**Alonnisos**	**5.32**	**345**	P		**Pn**	**10 00 24.9**	**+0.2**	**VAY**	**Valandovo**		**7.67**	**342**	*i* Pn		**Pn**	**10 00 57.9**	**+1.0**	QASN					AML	AML	10 03 08.4		
AOS	**Alonnisos**	**5.32**	**345**	*e*Pn		**Pn**	**10 00 26.4**	**+1.7**	**RZN**	**Rozhen**		**7.68**	**355**	P		**Pn**	**10 00 58.8**	**+1.6**		comp=E,508nm,0.5s											
AOS				S		**Sn**	**10 01 23.7**	**-1.3**	**RZN**	**Rozhen**		**7.68**	**355**	P		**Pn**	**10 00 58.8**	**+1.6**	**QASN**	**Qassioun**	**8.88**	**90**	*e*P		**Pn**	**10 01 15.5**	**+1.9**
EFP	**Efpalio**	**5.32**	**327**	*e*PN		**Pn**	**10 00 25.7**	**+1.0**	**MMB**	**Musomiste**		**7.69**	**349**	P		**Pn**	**10 00 58.7**	**+1.4**		comp=E,508nm,0.5s,SNR=117											
EFP	**Efpalio**	**5.32**	**327**	*e*Pn		**Pn**	**10 00 25.7**	**+1.0**	**MMB**	**Musomiste**		**7.69**	**349**	P		**Pn**	**10 00 58.7**	**+1.4**	QASN				*e*S		**Sn**	**10 02 47.4**	**-5.3**
AXS	**Araxos**	**5.40**	**322**	P		**Pn**	**10 00 26.6**	**+0.9**	**BIA**	**Bitola**		**7.77**	**335**	*i* Pn		**Pn**	**10 00 57.5**	**-0.8**		comp=E,508nm,0.5s,SNR=117											
AXS	**Araxos**	**5.40**	**322**	P		**Pn**	**10 00 26.6**	**+0.9**	BIA					*i* Sg		**Sn**	**10 02 21.7**	**-3.7**	**HRFI**	**Mount Harif**	**8.92**	**114**	Pn		**Pn**	**10 01 13.3**	**-0.8**
SKIA	**Skiathos**	**5.41**	**342**	P		**Pn**	**10 00 26.0**	**0.0**	BIA					*e*Lg		Lg	10 02 25.0		**CEL**	**Celeste**	**8.93**	**301**	*e*Pn		**Pn**	**10 01 13.2**	**-1.1**
SKIA	**Skiathos**	**5.41**	**342**	P		**Pn**	**10 00 26.0**	**0.0**		comp=E,35nm,0.8s									CEL				*e*Sn		**Sn**	**10 02 50.8**	**-3.2**
ISP	**Isparta**	**5.48**	**45**	*e*PN		**Pn**	**10 00 27.0**	**0.0**	BIA					*e*Lg		Lg	10 02 31.1		**CEL**	**Celeste**	**8.93**	**301**	*e*Pn		**Pn**	**10 01 13.2**	**-1.1**
ISP	**Isparta**	**5.48**	**45**	P		**Pn**	**10 00 27.8**	**+0.8**		comp=N,36nm,0.8s									CEL				*e*Sn		**Sn**	**10 02 50.8**	**-3.2**
ISP							10 01 27.0		**BIA**	**Bitola**		**7.77**	**335**	*i* Pn		**Pn**	**10 00 57.5**	**-0.8**	**MBRI**	**Mt Berech**	**8.95**	**116**	Pn		**Pn**	**10 01 13.8**	**-0.8**
ISP	**Isparta**	**5.48**	**45**	Pn		**Pn**	**10 00 27.8**	**+0.8**	BIA					*e*Lg		Lg	10 02 31.0		**KOZT**	**Kozan**	**8.97**	**65**	*e*PN		**Pn**	**10 01 14.3**	**-0.5**
ISP				Sn		**Sn**	**10 01 26.9**	**-2.2**		comp=N,36nm,0.8s									**TOTH**	**TOTAH**	**9.02**	**91**	*e*P		**Pn**	**10 01 18.1**	**+2.5**
ISP	**Isparta**	**5.48**	**45**	⇓*i*P		**Pn**	**10 00 29.6**	**+2.6**	**MDUB**	**Mudurnu**		**7.81**	**33**	*e*PN		**Pn**	**10 01 00.1**	**+1.2**	TOTH					*e*S		**Sn**	**10 02 52.2**	**-4.0**
ISP	**Isparta**	**5.48**	**45**	P		**Pn**	**10 00 27.8**	**+0.8**	**OFRI**	**'Ofer**		**7.95**	**98**	Pn		**Pn**	**10 00 59.8**	**-1.1**	TOTH					AML	AML	10 03 02.9		
SUTC	**Sutluce-Ispart**	**5.55**	**50**	*e*PN		**Pn**	**10 00 28.9**	**+0.8**	**KKB**	**Krupnik**		**8.08**	**346**	P		Pn	10 01 12.7	+10		comp=N,118nm,0.7s											
NEO	**Neokhori**	**5.61**	**341**	P		**Pn**	**10 00 29.0**	**+0.3**	**SLTI**	**Sal'it**		**8.09**	**100**	Pn		**Pn**	**10 01 01.3**	**-1.4**	TOTH					AML	AML	10 03 09.6		
NEO	**Neokhori**	**5.61**	**341**	*e*PN		**Pn**	**10 00 29.6**	**+0.9**	**GULE**	**Gulek**		**8.12**	**64**	*i* P		**Pn**	**10 01 04.1**	**+0.8**		comp=E,124nm,0.6s											
NEO	**Neokhori**	**5.61**	**341**	P		**Pn**	**10 00 29.0**	**+0.3**	GULE					*i* S		**Sn**	**10 02 31.6**	**-2.6**	**TOTH**	**TOTAH**	**9.02**	**91**	*e*P		**Pn**	**10 01 17.1**	**+1.6**
NEO	**Neokhori**	**5.61**	**341**	*e*Pn		**Pn**	**10 00 29.6**	**+0.9**	**GULE**	**Gulek**		**8.12**	**64**	*i* P		**Pn**	**10 01 04.1**	**+0.8**	TOTH				*e*S		**Sn**	**10 02 52.4**	**-3.8**
PPCY	**Paphos**	**5.61**	**79**	P		**Pn**	**10 00 28.0**	**-0.7**	GULE					*i* S		**Sn**	**10 02 31.6**	**-2.6**	TOTH					AML	AML	10 03 02.8		
PPCY	**Paphos**	**5.61**	**79**	P		**Pn**	**10 00 28.0**	**-0.7**	**GULE**	**Gulek**		**8.12**	**64**	*i* P		**Pn**	**10 01 04.1**	**+0.8**		comp=N,118nm,0.7s											
AKMC	**Akamas**	**5.62**	**78**	P		**Pn**	**10 00 28.1**	**-0.7**	**ANTO**	**Ankara**		**8.17**	**42**	*e*PN		**Pn**	**10 01 05.0**	**+1.1**	TOTH					AML	AML	10 03 09.5		
AKMC	**Akamas**	**5.62**	**78**	P		**Pn**	**10 00 28.1**	**-0.7**	**ANTO**	**Ankara**		**8.17**	**42**	P		**Pn**	**10 01 03.7**	**-0.2**		comp=E,124nm,0.6s											
AGG	**Agios Georgios**	**5.65**	**333**	P		**Pn**	**10 00 29.6**	**+0.4**	**ANTO**	**Ankara**		**8.17**	**42**	Pn		**Pn**	**10 01 03.7**	**-0.2**	**TOTH**	**TOTAH**	**9.02**	**91**	*e*P		**Pn**	**10 01 17.8**	**+2.3**
AGG	**Agios Georgios**	**5.65**	**333**	*e*PN		**Pn**	**10 00 31.0**	**+1.8**	**ANTO**	**Ankara**		**8.17**	**42**	⇑*i*P		**Pn**	**10 01 06.2**	**+2.3**	TOTH				*e*S		**Sn**	**10 02 50.9**	**-5.4**
AGG	**Agios Georgios**	**5.65**	**333**	P		**Pn**	**10 00 29.6**	**+0.4**	**ANTO**	**Ankara**		**8.17**	**42**	P		**Pn**	**10 01 03.7**	**-0.2**	TOTH					AML	AML	10 03 02.8		
AGG	**Agios Georgios**	**5.65**	**333**	*e*Pn		**Pn**	**10 00 31.0**	**+1.8**	**HNKL**	**Nakhl**		**8.18**	**118**	P		**Pn**	**10 01 03.5**	**-0.6**		comp=N,118nm,0.7s											
KFL	**Anninata**	**5.65**	**317**	P		**Pn**	**10 00 28.7**	**-0.5**		baz=118									TOTH					AML	AML	10 03 09.6		
KFL	**Anninata**	**5.65**	**317**	P		**Pn**	**10 00 28.7**	**-0.5**	**HNKL**	**Nakhl**		**8.18**	**118**	P		**Pn**	**10 01 03.5**	**-0.6**		comp=E,124nm,0.6s											
XOR	**Xorichti**	**5.67**	**340**	P		**Pn**	**10 00 30.2**	**+0.6**	**RTMI**	**Retamim**		**8.20**	**109**	Pn		**Pn**	**10 01 03.3**	**-1.0**	**TOTH**	**TOTAH**	**9.02**	**91**	*e*P		**Pn**	**10 01 17.8**	**+2.3**
XOR	**Xorichti**	**5.67**	**340**	P		**Pn**	**10 00 30.2**	**+0.6**	**MMAI**	**Mount Meron Ar**		**8.22**	**94**	Pn		**Pn**	**10 01 03.4**	**-1.2**		SNR=117											
EVR	**Evrytania**	**5.77**	**329**	*e*PN		**Pn**	**10 00 32.4**	**+1.5**	MMAI					Sn		**Sn**	**10 02 34.5**	**-2.1**	TOTH				*e*S		**Sn**	**10 02 50.8**	**-5.4**
EVR	**Evrytania**	**5.77**	**329**	*e*Pn		**Pn**	**10 00 32.4**	**+1.5**	**MMAI**	**Mount Meron Ar**		**8.22**	**94**	Pn		**Pn**	**10 01 03.4**	**-1.2**		comp=E,124nm,0.6s,SNR=117											
VLS	**Valsamata**	**5.81**	**317**	P		**Pn**	**10 00 31.7**	**+0.3**		comp=N,18nm,0.3s,baz=264,slow=12,SNR=15									**EIL**	**Elat**	**9.04**	**116**	Pn		**Pn**	**10 01 15.1**	**-0.6**
VLS	**Valsamata**	**5.81**	**317**	*e*PN		**Pn**	**10 00 32.4**	**+1.0**	MMAI					Sn		**Sn**	**10 02 34.5**	**-2.1**	EIL					Sn	Sn	10 02 47.4	-9.2	
VLS	**Valsamata**	**5.81**	**317**	P		**Pn**	**10 00 31.7**	**+0.3**		comp=N,39nm,0.3s,baz=258,slow=26,SNR=8.5									**EIL**	**Elat**	**9.04**	**116**	Pn		**Pn**	**10 01 15.1**	**-0.6**
VLS	**Valsamata**	**5.81**	**317**	*e*Pn		**Pn**	**10 00 32.4**	**+1.0**	**MMAI**	**Mount Meron Ar**		**8.22**	**94**	Pn		**Pn**	**10 01 03.4**	**-1.2**		comp=E,9.7nm,0.3s,baz=327,slow=13,SNR=62											
ALFC	**Alevga**	**5.85**	**77**	P		**Pn**	**10 00 31.0**	**-1.1**	MMAI					Sn		**Sn**	**10 02 34.5**	**-2.1**	EIL					Sn	Sn	10 02 47.4	-9.2	
	comp=E,15nm,0.5s								**KARA**	**Karaisali**		**8.32**	**65**	*e*PN		**Pn**	**10 01 05.6**	**-0.2**		comp=E,8.4nm,0.3s,baz=341,slow=18,SNR=3.1											
ALFC				S		**Sn**	**10 01 33.9**	**-4.4**	**NIG**	**Nigde**		**8.33**	**58**	*e*PN		**Pn**	**10 01 06.1**	**-0.2**	**EIL**	**Elat**	**9.04**	**116**	Pn		**Pn**	**10 01 15.1**	**-0.6**
ALFC	**Alevga**	**5.85**	**77**	P		**Pn**	**10 00 31.0**	**-1.1**	**MMLI**	**Mount Malkishu**		**8.35**	**98**	Pn		**Pn**	**10 01 03.8**	**-2.6**	**BTCH**	**Batrach**	**9.10**	**74**	*e*P		**Pn**	**10 01 19.8**	**+3.1**
	comp=E,15nm,0.5s								**KRTS**	**Karatas**		**8.36**	**70**	*e*PN		**Pn**	**10 01 05.7**	**-0.7**	BTCH				*e*S		**Sn**	**10 02 53.2**	**-5.1**
LIA	**Limnos Island**	**5.87**	**357**	*e*PN		**Pn**	**10 00 34.8**	**+2.6**	**KAMT**	**Kaman**		**8.39**	**48**	*e*PN		**Pn**	**10 01 07.3**	**+0.3**	BTCH					AML	AML	10 03 00.7		
GAZI	**Gazipasa**	**5.90**	**66**	*i* P		**Pn**	**10 00 32.1**	**-0.6**	**GRB**	**Gharib**		**8.40**	**131**	P		**Pn**	**10 01 05.5**	**-1.5**		comp=N,171nm,0.5s											
GAZI				*i* S		**Sn**	**10 01 35.8**	**-3.6**		baz=131									BTCH					AML	AML	10 03 03.5		
GAZI	**Gazipasa**	**5.90**	**66**	*i* P		**Pn**	**10 00 32.1**	**-0.6**	**GRB**	**Gharib**		**8.40**	**131**	P		**Pn**	**10 01 05.5**	**-1.5**		comp=E,272nm,0.6s											
GAZI				*i* S		**Sn**	**10 01 35.8**	**-3.6**	**KSDI**	**Kefar Szold**		**8.41**	**93**	Pn		**Pn**	**10 01 06.2**	**-0.8**	**BTCH**	**Batrach**	**9.10**	**74**	*e*P		Pn	10 01 20.2	+3.5	
GAZI	**Gazipasa**	**5.90**	**66**	*i* P		**Pn**	**10 00 32.1**	**-0.6**	**YTIR**	**Yattir**		**8.42**	**106**	Pn		**Pn**	**10 01 07.1**	**-0.3**	BTCH				*e*S		Sn	10 02 52.2	-6.1	
SHUT	**Suhut-Afyon**	**6.01**	**40**	*e*PN		**Pn**	**10 00 35.4**	**+1.1**	**RMNI**	**Mount Ramon**		**8.45**	**111**	Pn		**Pn**	**10 01 06.8**	**-1.0**	BTCH					AML	AML	10 03 00.7		
LEF	**Lefka**	**6.08**	**78**	*e*PN		**Pn**	**10 00 33.9**	**-1.2**	**HMDT**	**Nahal Hemdat**		**8.48**	**99**	Pn		**Pn**	**10 01 06.1**	**-2.0**		comp=N,171nm,0.5s											
HMYD	**Mayadein**	**6.09**	**132**	P		**Pn**	**10 00 34.9**	**-0.4**	**DSI**	**Dead Sea**		**8.56**	**104**	Pn		**Pn**	**10 01 08.0**	**-1.2**	BTCH					AML	AML	10 03 03.6		
	baz=133								**BR131**	**Keskin Array S**		**8.57**	**46**	*e*Pn		**Pn**	**10 01 10.4**	**+1.0**		comp=E,272nm,0.6s											
HMYD	**Mayadein**	**6.09**	**132**	P		**Pn**	**10 00 34.9**	**-0.4**	BR131					*e*Sn		**Sn**	**10 02 44.9**	**-0.4**	**BTCH**	**Batrach**	**9.10**	**74**	*e*P		Pn	10 01 20.2	+3.5	
LUJL	**Ujela**	**6.13**	**218**	*i* P		**Pn**	**10 00 35.0**	**-0.9**	**BR131**	**Keskin Array S**		**8.57**	**46**	*e*Pn		**Pn**	**10 01 10.4**	**+1.0**		SNR=117											
	comp=E,526nm,1.3s,SNR=23									comp=N,6.2nm,0.5s									BTCH					*e*S		Sn	10 02 52.2	-6.1	
AKDN	**Akdeniz- K¨–br**	**6.17**	**76**	*e*PN		**Pn**	**10 00 36.1**	**-0.3**	BR131					*e*Sn		**Sn**	**10 02 44.8**	**-0.4**		comp=E,272nm,0.6s,SNR=117											
LKD2	**Lefkada island**	**6.21**	**321**	P		**Pn**	**10 00 37.4**	**+0.4**	**BRTR**	**Keskin Array B**		**8.57**	**46**	Pn		**Pn**	**10 01 09.7**	**+0.3**	**BARS**	**Barje**	**9.27**	**342**	*e*Pn		**Pn**	**10 01 19.7**	**+0.9**
LKD2	**Lefkada island**	**6.21**	**321**	*e*PN		**Pn**	**10 00 37.6**	**+0.6**	BRTR					Sn		**Sn**	**10 02 42.2**	**-2.9**	**SALA**	**Sala**	**9.38**	**95**	*e*P		**Pn**	**10 01 21.9**	**+1.4**
LKD2	**Lefkada island**	**6.21**	**321**	*e*Pn		**Pn**	**10 00 37.6**	**+0.6**	BRTR					Lg		Lg	10 03 43.0		SALA				*e*S		**Sn**	**10 03 01.6**	**-3.6**
LKD2	**Lefkada island**	**6.21**	**321**	P		**Pn**	**10 00 37.4**	**+0.4**	**BRTR**	**Keskin Array B**		**8.57**	**46**	Pn		**Pn**	**10 01 09.7**	**+0.3**	SALA					AML	AML	10 03 11.4		
TVSB	**Tavsanli**	**6.22**	**29**	*e*PN		**Pn**	**10 00 37.9**	**+0.8**		comp=N,1.2nm,0.3s,baz=225,slow=14,SNR=53										comp=E,12nm,0.7s											
GONE	**Gonen-Balikesi**	**6.22**	**15**	*e*PN		**Pn**	**10 00 38.8**	**+1.7**	BRTR					Sn		**Sn**	**10 02 42.2**	**-2.9**	SALA					AML	AML	10 03 13.3		
THL	**Klokotos Trika**	**6.24**	**333**	P		**Pn**	**10 00 38.1**	**+0.8**		comp=N,1.1nm,0.3s,baz=209,slow=25,SNR=5.5										comp=N,159nm,0.4s											
THL	**Klokotos Trika**	**6.24**	**333**	*e*PN		**Pn**	**10 00 38.5**	**+1.2**	BRTR					Lg		Lg	10 03 42.9		**SALA**	**Sala**	**9.38**	**95**	*e*P		**Pn**	**10 01 20.9**	**+0.4**
THL	**Klokotos Trika**	**6.24**	**333**	P		**Pn**	**10 00 38.1**	**+0.8**		baz=225,slow=26,SNR=1.8									SALA				*e*S		Sn	10 02 55.5	-10	
THL	**Klokotos Trika**	**6.24**	**333**	*e*Pn		**Pn**	**10 00 38.5**	**+1.2**	**BRTR**	**Keskin Array B**		**8.57**	**46**	Pn		**Pn**	**10 01 09.7**	**+0.3**	SALA					AML	AML	10 03 11.4		
HDMB	**Hadim**	**6.31**	**60**	*e*PN		**Pn**	**10 00 38.8**	**+0.3**	**BRTR**	**Keskin Array B**		**8.57**	**46**	*i* P		**Pn**	**10 01 11.1**	**+1.7**		comp=E,12nm,0.7s											
AYT	**Al 'Ayyat**	**6.38**	**131**	P		**Pn**	**10 00 38.8**	**-0.4**		comp=N,19nm,0.9s									SALA					AML	AML	10 03 13.3		
AYT	**Al 'Ayyat**	**6.38**	**131**	P		**Pn**	**10 00 38.8**	**-0.4**	**TIR**	**Tirane**		**8.61**	**330**	*e*P		**Pn**	**10 01 10.3**	**+0.4**		comp=N,159nm,0.4s											
	baz=131								TIR					*e*			10 02 41.3		**SALA**	**Sala**	**9.38**	**95**	*e*P		**Pn**	**10 01 20.9**	**+0.4**
AYT	**Al 'Ayyat**	**6.38**	**131**	P		**Pn**	**10 00 38.8**	**-0.4**	**TIR**	**Tirane**		**8.61**	**330**	*e*Pn		**Pn**	**10 01 10.3**	**+0.4**		SNR=116											
GELI	**Tayfur-Gelibol**	**6.39**	**6**	*e*PN		**Pn**	**10 00 41.6**	**+2.2**	TIR					*e*Sn		**Sn**	**10 02 41.3**	**-4.8**	SALA				*e*S		Sn	10 02 55.5	-10	
LPK	**Lapseki**	**6.39**	**8**	*e*PN		**Pn**	**10 00 41.8**	**+2.4**	**TIR**	**Tirane**		**8.61**	**330**	*e*P		**Pn**	**10 01 10.3**	**+0.4**		comp=N,159nm,0.4s,SNR=116											
CSS	**Prodhromos**	**6.42**	**80**	⇓P		**Pn**	**10 00 39.9**	**0.0**	**BRBR**	**Barbar**		**8.62**	**91**	*e*P		**Pn**	**10 01 10.1**	**-0.1**	**MPEP**	**Malo Peshtene**	**9.43**	**352**	P		**Pn**	**10 01 22.4**	**+1.4**
CSS				S		**Sn**	**10 01 47.7**	**-4.6**	BRBR					*e*S		**Sn**	**10 02 41.8**	**-4.8**	**CORM**	**Corum**	**9.45**	**47**	*e*PN		**Pn**	**10 01 21.7**	**+0.3**
CSS	**Prodhromos**	**6.42**	**80**	*e*PN		**Pn**	**10 00 39.2**	**-0.7**	BRBR					AML	AML	10 02 49.9			**YOZ**	**Yozgat**	**9.57**	**51**	*e*PN		**Pn**	**10 01 22.9**	**-0.3**
CSS	**Prodhromos**	**6.42**	**80**	*e*Pn		**Pn**	**10 00 38.9**	**-1.0**		comp=E,178nm,0.5s									**ASF**	**Jabal al Asfar**	**9.63**	**98**	Pn		**Pn**	**10 01 22.7**	**-1.3**
CSS				*e*Sn		**Sn**	**10 01 50.2**	**-2.1**	BRBR					AML	AML	10 02 51.5			ASF				Sn		**Sn**	**10 03 12.3**	**+1.1**
CSS	**Prodhromos**	**6.42**	**80**	*e*Pn		**Pn**	**10 00 38.9**	**-1.0**		comp=N,207nm,0.6s									**ASF**	**Jabal al Asfar**	**9.63**	**98**	Pn		**Pn**	**10 01 22.7**	**-1.3**
CSS	**Prodhromos**	**6.42**	**80**	⇓P		**Pn**	**10 00 39.9**	**0.0**	**BRBR**	**Barbar**		**8.62**	**91**	*e*P		**Pn**	**10 01 09.1**	**-1.1**	ASF				Sn		**Sn**	**10 03 12.3**	**+1.1**
CSS				*e*Sn		**Sn**	**10 01 50.2**	**-2.1**	BRBR					*e*S		**Sn**	**10 02 42.1**	**-4.4**	**HHRG**	**Al Ghardaqah**	**9.63**	**133**	P		**Pn**	**10 01 24.3**	**+0.4**
OUR	**Ouranopolis**	**6.43**	**349**	P		**Pn**	**10 00 40.2**	**+0.3**	BRBR					AML	AML	10 02 49.8				baz=133											
OUR	**Ouranopolis**	**6.43**	**349**	P		**Pn**	**10 00 40.2**	**+0.3**		comp=E,178nm,0.5s									**HHRG**	**Al Ghardaqah**	**9.63**	**133**	P		**Pn**	**10 01 24.3**	**+0.4**
KRBG	**Karabiga-Canak**	**6.49**	**11**	*e*PN		**Pn**	**10 00 41.8**	**+1.2**	BRBR					AML	AML	10 02 51.4			**ZALF**	**Zalf**	**9.84**	**93**	*e*P		**Pn**	**10 01 28.5**	**+1.7**
ERMK	**Ermenek**	**6.50**	**64**	*i* P		**Pn**	**10 00 41.6**	**+0.6**		comp=N,207nm,0.6s									**ZALF**	**Zalf**	**9.84**	**93**	*e*P		**Pn**	**10 01 28.7**	**+2.0**
ERMK				*i* S		**Sn**	**10 01 52.5**	**-1.8**	**MZDA**	**Masada**		**8.64**	**106**	Pn		**Pn**	**10 01 07.8**	**-2.4**	ZALF				*e*S		**Sn**	**10 03 11.8**	**-4.5**
ERMK	**Ermenek**	**6.50**	**64**	*i* P		**Pn**	**10 00 41.6**	**+0.6**	**KRMI**	**Paran Flat**		**8.64**	**114**	Pn		**Pn**	**10 01 09.1**	**-1.3**	ZALF					AML	AML	10 03 35.5		
ERMK				*i* S		**Sn**	**10 01 52.5**	**-1.8**	**ARNB**	**Al Arnab**		**8.68**	**75**	*e*P		**Pn**	**10 01 10.7**	**-0.2**		comp=E,68nm,0.6s											
ERMK	**Ermenek**	**6.50**	**64**	*i* P		**Pn**	**10 00 41.6**	**+0.6**	ARNB					*e*S		**Sn**	**10 02 42.3**	**-5.6**	ZALF					AML	AML	10 03 37.3		
ERMK				*i* S		**Sn**	**10 01 52.5**	**-1.8**	ARNB					AML	AML	10 02 57.7				comp=N,69nm,0.6s											
AKIN	**Ak¨–nc¨–lar- K**	**6.54**	**79**	*e*PN		**Pn**	**10 00 41.1**	**-0.3**		comp=N,181nm,0.6s									**ZALF**	**Zalf**	**9.84**	**93**	*e*P		**Pn**	**10 01 27.9**	**+1.2**
ORLT	**Orhaneli**	**6.55**	**23**	*e*PN		**Pn**	**10 00 43.1**	**+1.6**	ARNB					AML	AML	10 03 00.1			ZALF				*e*S		Sn	10 03 08.6	-7.7	
LIT	**Litokhoron**	**6.56**	**338**	*e*PN		**Pn**	**10 00 42.6**	**+0.9**		comp=E,180nm,0.5s									ZALF					AML	AML	10 03 35.5		
LIT	**Litokhoron**	**6.56**	**338**	*e*Pn		**Pn**	**10 00 42.6**	**+0.9**	**ARNB**	**Al Arnab**		**8.68**	**75**	*e*P		**Pn**	**10 01 09.7**	**-1.2**		comp=E,69nm,0.6s											
PLG	**Polygyros**	**6.57**	**345**	*e*PN		**Pn**	**10 00 43.5**	**+1.7**	ARNB					*e*P			10 01 10.9		**ZALF**	**Zalf**	**9.84**	**93**	*e*P		**Pn**	**10 01 27.9**	**+1.2**
PLG	**Polygyros**	**6.57**	**345**	*e*Pn		**Pn**	**10 00 43.5**	**+1.7**	ARNB					*e*S		**Sn**	**10 02 42.6**	**-5.3**		SNR=115											
BNT	**Bandirma**	**6.57**	**15**	*e*PN		**Pn**	**10 00 43.0**	**+1.1**	ARNB					AML	AML	10 02 57.7			ZALF				*e*S		Sn	10 03 08.6	-7.7	
KCTX	**Karacabey (Bur**	**6.59**	**18**	*e*PN		**Pn**	**10 00 44.0**	**+1.9**		comp=N,181nm,0.6s										comp=N,69nm,0.6s,SNR=115											
LFK	**Lefkose**	**6.63**	**77**	*e*PN		**Pn**	**10 00 42.4**	**-0.3**	ARNB					AML	AML	10 03 00.1			**CUC**	**Castrocucco**	**9.85**	**310**	*e*Pn		**Pn**	**10 01 25.8**	**-1.0**
KOT	**Kottamia**	**6.67**	**126**	P		**Pn**	**10 00 42.9**	**-0.4**		comp=E,180nm,0.5s									CUC				*e*Sn		Sn	10 03 09.3	-7.1	
	baz=126								**ARNB**	**Al Arnab**		**8.68**	**75**	*e*P		**Pn**	**10 01 09.7**	**-1.2**	**CUC**	**Castrocucco**	**9.85**	**310**	*e*Pn		**Pn**	**10 01 25.8**	**-1.0**
KOT	**Kottamia**	**6.67**	**126**	P		**Pn**	**10 00 42.8**	**-0.4**	ARNB					*e*S		Sn	10 02 40.9	-7.1	**SLMH**	**Al Salmeh**	**10.30**	**74**	*e*P		**Pn**	**10 01 31.8**	**-1.3**
HSAF	**As Saff**	**6.69**	**130**	P		**Pn**	**10 00 43.1**	**-0.4**	ARNB					AML	AML	10 02 57.8			SLMH				*e*S		**Sn**	**10 03 23.4**	**-4.3**
	baz=130									comp=N,181nm,0.6s									SLMH					AML	AML	10 03 50.3		
HSAF	**As Saff**	**6.69**	**130**	P		**Pn**	**10 00 43.1**	**-0.4**	ARNB					AML	AML	10 02 60.0				comp=N,78nm,0.5s											
KONT	**Konya--Tatoy**	**6.71**	**52**	*e*PN		**Pn**	**10 00 44.3**	**+0.5**		comp=E,180nm,0.5s									SLMH					AML	AML	10 03 58.6		
RKY	**Sarkoy-Tekirda**	**6.76**	**10**	*e*PN		**Pn**	**10 00 45.5**	**+1.1**	**ARNB**	**Al Arnab**		**8.68**	**75**	*e*P		**Pn**	**10 01 09.7**	**-1.2**		comp=E,69nm,0.8s											
JAN	**Janina**	**6.80**	**327**	*e*PN		**Pn**	**10 00 46.5**	**+1.5**		SNR=118									**SLMH**	**Al Salmeh**	**10.30**	**74**	*e*P		**Pn**	**10 01 31.0**	**-2.1**
JAN	**Janina**	**6.80**	**327**	*e*Pn		**Pn**	**10 00 46.5**	**+1.5**	ARNB					*e*S		Sn	10 02 40.9	-7.1	SLMH				*e*S		Sn	10 03 16.4	-11	
GLL	**Jalalah**	**6.81**	**129**	P		**Pn**	**10 00 44.9**	**-0.4**		comp=E,180nm,0.5s,SNR=118									SLMH					AML	AML	10 03 50.3		
	baz=129								**PRNI**	**Paran**		**8.75**	**112**	Pn		**Pn**	**10 01 11.6**	**-0.2**		comp=N,78nm,0.5s											
GLL	**Jalalah**	**6.81**	**129**	P		**Pn**	**10 00 44.9**	**-0.4**	**TCHB**	**Talchebab**		**8.75**	**96**	*e*P		**Pn**	**10 01 10.8**	**-1.1**	SLMH					AML	AML	10 03 58.6		
HHAG	**Hagoal**	**6.83**	**125**	P		**Pn**	**10 00 45.1**	**-0.4**	TCHB					*e*S		**Sn**	**10 02 46.1**	**-3.5**		comp=E,69nm,0.8s											
	baz=125								**TCHB**	**Talchebab**		**8.75**	**96**	*e*P		**Pn**	**10 01 10.7**	**-1.2**	**TIRR**	**Tirgusor**	**10.63**	**11**	*e*P		**Pn**	**10 01 39.3**	**+1.8**
HHAG	**Hagoal**	**6.83**	**125**	P		**Pn**	**10 00 45.1**	**-

BUR08 **Bucovina Ar. S** 13.60 359 *e*Pn **Pn** 10 02 17.3 -0.9
ANN **Anapa** 14.08 37 *e*P **P** 10 02 31.7 -0.4
ANN pmax pmax
comp=Z,31nm,0.9s
ANN **Anapa** 14.08 37 *e*P **P** 10 02 31.7 -0.4
comp=Z,31nm,0.9s
PSZ **Piszkesteto** 14.53 344 *e*P **Pn** 10 02 30.5 -0.3
PSZ pmax pmax
comp=Z,27nm,1.0s
PSZ **Piszkesteto** 14.53 344 *e*Pn **Pn** 10 02 30.5 -0.3
comp=Z,27nm,1.0s
PSZ **Piszkesteto** 14.53 344 ⇑*i*P **Pn** 10 02 31.2 +0.4
PSZ **Piszkesteto** 14.53 344 *e*Pn **Pn** 10 02 30.5 -0.3
comp=Z,27nm,1.0s
TRI **Trieste** 14.78 326 *e*P **Pn** 10 02 34.1 0.0
TRI pmax pmax
comp=Z,91nm,1.2s
TRI **Trieste** 14.78 326 *e*Pn **Pn** 10 02 34.1 0.0
comp=Z,91nm,1.2s
TRI **Trieste** 14.78 326 *e*Pn **Pn** 10 02 34.1 0.0
comp=Z,91nm,1.2s
UZH **Uzhgorod** 14.80 351 *e*P **Pn** 10 02 37.1 +2.7
ABSA **Djebel Ababsia** 15.02 284 P **P** 10 02 45.4 +2.7
OSPF **L'Ospedale** 15.04 305 *e*P **Pn** 10 02 37.4 -0.4
OSPF **L'Ospedale** 15.04 305 *e*P **Pn** 10 02 37.4 -0.4
CMAH **Djebel Manchou** 15.09 285 P **P** 10 02 45.2 +1.8
KOLS **Kolonicke sedl** 15.10 351 *e*P **Pn** 10 02 38.2 -0.2
KOLS **Kolonicke sedl** 15.10 351 *e*PN **Pn** 10 02 38.2 -0.2
KOLS **Kolonicke sedl** 15.10 351 *e*Pn **Pn** 10 02 38.2 -0.2
CRVS **Cervenica-Dubn** 15.18 349 *e*P **Pn** 10 02 37.5 -2.0
CRVS **Cervenica-Dubn** 15.18 349 *e*PN **Pn** 10 02 37.5 -2.0
CRVS **Cervenica-Dubn** 15.18 349 *e*Pn **Pn** 10 02 37.5 -2.0
VYHS **Vyhne** 15.32 343 *e*P **Pn** 10 02 40.5 -0.8
VYHS **Vyhne** 15.32 343 *e*PN **Pn** 10 02 40.5 -0.8
VYHS **Vyhne** 15.32 343 *e*Pn **Pn** 10 02 40.5 -0.8
CAEH **Ain El Ouahch** 15.56 285 P **P** 10 02 50.8 +2.2
PGF **Pioggiola** 15.56 308 *e*P **Pn** 10 02 43.6 -1.0
comp=Z,95nm,0.9s
CKFL **Kef-Lekhel** 15.64 284 P **P** 10 02 52.1 +2.5
STHS **Stebnicka Huta** 15.71 349 *e*P **P** 10 02 50.2 0.0
STHS **Stebnicka Huta** 15.71 349 *e*PN **P** 10 02 50.2 0.0
STHS **Stebnicka Huta** 15.71 349 *e*Pn **P** 10 02 50.2 0.0
KWP **Kalwaria Pacla** 15.74 353 *e*P **Pn** 10 02 48.0 +1.3
KWP pmax pmax
comp=Z,25nm,0.9s
KWP **Kalwaria Pacla** 15.74 353 *e*Pn **Pn** 10 02 48.0 +1.3
comp=Z,25nm,0.9s
KWP **Kalwaria Pacla** 15.74 353 *e*P **Pn** 10 02 48.0 +1.3
KWP **Kalwaria Pacla** 15.74 353 *e*P **Pn** 10 02 48.0 +1.3
comp=Z,25nm,0.9s
CASM **Ain Smara** 15.82 284 P **P** 10 02 53.3 +1.8
LVV **L'vov** 15.82 356 *e*P **P** 10 02 53.5 +2.2
LVV **L'vov** 15.82 356 *e*P **P** 10 02 53.5 +2.2
CTEI **Djebel Teioual** 15.88 283 P **P** 10 02 54.2 +2.0
AKH **Akhalkalaki** 15.92 57 P **P** 10 02 55.7 +3.0
KBA **Koelnbreinsper** 16.01 328 ⇓*i*Pn **Pn** 10 02 47.5 -2.9
SNR=12
ABTA **Abfaltersbach** 16.13 326 ⇓*i*Pn **Pn** 10 02 50.9 -1.0
SNR=31
ABTA **Abfaltersbach** 16.13 326 Pn **Pn** 10 02 50.9 -1.0
SNR=31
MOA **Molln** 16.23 332 ⇑*i*Pn **Pn** 10 02 49.8 -3.3
SNR=13
DFRA **Djebel Bou Aff** 16.33 284 P **P** 10 03 00.1 +2.9
GNI **Garni** 16.41 63 Pn **P** 10 02 57.0 -1.2
GNI **Garni** 16.41 63 Pn **P** 10 02 57.0 -1.2
comp=Z,2.3nm,0.3s,baz=338,slow=5.4,SNR=4.8
GNI **Garni** 16.41 63 Pn **P** 10 02 57.0 -1.2
GNI **Garni** 16.41 63 *i*P **P** 10 02 57.4 -0.8
comp=Z,56nm,1.9s
KBZ **Khabaz** 16.54 49 P **P** 10 02 58.9 -0.4
KBZ pmax pmax
comp=Z,1.0nm,0.3s
KBZ **Khabaz** 16.54 49 Pn **P** 10 02 58.9 -0.4
KBZ **Khabaz** 16.54 49 Pn **P** 10 02 58.9 -0.4
comp=Z,0.5nm,0.3s,baz=240,slow=8.1,SNR=16
KBZ **Khabaz** 16.54 49 P **P** 10 02 58.9 -0.4
comp=Z,1.0nm,0.3s
CKHR **Kef el Ahmar** 16.60 283 P **P** 10 03 02.9 +2.6
VRAC **Vranov** 16.67 339 Pn **Pn** 10 02 58.4 -0.2
VRAC Sn **S** 10 06 10.5 -3.0
VRAC **Vranov** 16.67 339 Pn **Pn** 10 02 58.4 -0.2
comp=Z,1.9nm,0.3s,baz=153,slow=13,SNR=15
VRAC Sn **S** 10 06 10.5 -3.0
comp=Z,0.6nm,0.3s,baz=176,slow=14,SNR=2.6
VRAC **Vranov** 16.67 339 P **Pn** 10 02 58.4 -0.2
comp=Z,2.0nm,0.3s
SET **Setif** 16.70 283 P **P** 10 03 03.0 +1.7
SET **Setif** 16.70 283 P **P** 10 03 03.0 +1.7
OKC **Ostrava-Krasne** 16.73 343 *e*P **Pn** 10 02 58.3 -1.1
OKC **Ostrava-Krasne** 16.73 343 *e*P **Pn** 10 02 58.3 -1.1
OKC *ex* x 10 03 03.4
OKC *epP* **pP** 10 03 08.6 -0.2
ZEI **Tsey** 16.74 53 *e*P **P** 10 03 01.0 -0.9
ZEI pmax pmax
comp=Z,63nm,1.2s
ZEI **Tsey** 16.74 53 *e*P **P** 10 03 01.0 -0.9
comp=Z,63nm,1.2s
NAX **Nakhchivan** 16.75 66 P **P** 10 03 02.9 +1.1
SNR=12
NAX **Nakhchivan** 16.75 66 Pn **P** 10 03 02.9 +1.1
SNR=12
NAX **Nakhchivan** 16.75 66 P **P** 10 03 02.9 +1.1
SNR=12
RJOB **Jochberg** 16.75 329 *e*P **Pn** 10 02 58.4 -1.3
comp=Z,47nm,1.4s
AK02 **Malin Array Si** 16.82 8 *e*Pn **Pn** 10 02 59.3 -1.2
AK02 **Malin Array Si** 16.82 8 *e*Pn **Pn** 10 02 59.3 -1.2
MORC **Moravsky Berou** 16.83 342 *e*P **Pn** 10 02 58.6 -2.1
MORC pmax pmax
comp=Z,17nm,1.0s
MORC **Moravsky Berou** 16.83 342 *e*Pn **Pn** 10 02 58.6 -2.1
comp=Z,17nm,1.0s
MORC **Moravsky Berou** 16.83 342 *e*Pn **Pn** 10 02 58.6 -2.1
comp=Z,17nm,1.0s
AK01 **Malin Array Si** 16.86 8 *e*Pn **Pn** 10 02 58.8 -2.1
AK01 **Malin Array Si** 16.86 8 *e*Pn **Pn** 10 02 58.8 -2.1
KIEV **Kiev** 16.86 8 *e*P **Pn** 10 02 59.6 -1.3
KIEV pmax pmax
comp=Z,53nm,0.7s
KIEV **Kiev** 16.86 8 *e*Pn **Pn** 10 02 59.6 -1.3
comp=Z,53nm,0.7s
KIEV **Kiev** 16.86 8 *e*Pn **Pn** 10 02 59.6 -1.3
comp=Z,53nm,0.7s
AKASG **Malin Array Be** 16.87 8 P **Pn** 10 02 59.5 -1.5
AKASG 10 06 13.0
AKASG pmax pmax
comp=Z,12nm,0.3s
AKASG **Malin Array Be** 16.87 8 Pn **Pn** 10 02 59.5 -1.5
AKASG Sn **S** 10 06 13.0 -4.4
AKASG **Malin Array Be** 16.87 8 Pn **Pn** 10 02 59.5 -1.5
comp=Z,12nm,0.3s,baz=199,slow=11,SNR=59
AKASG Sn **S** 10 06 13.0 -4.4
baz=191,slow=22,SNR=5.5
AKASG **Malin Array Be** 16.87 8 Pn **Pn** 10 02 59.5 -1.5
WTTA **Wattenberg** 16.92 326 ⇓*i*Pn **Pn** 10 02 59.6 -2.4
SNR=21
WTTA **Wattenberg** 16.92 326 Pn **Pn** 10 02 59.6 -2.4
SNR=21
TREC **Trest** 17.00 337 *e*P **Pn** 10 03 01.9 -0.9
TREC **Trest** 17.00 337 *e*P **Pn** 10 03 01.9 -0.9
TREC *ex* x 10 03 04.6
TREC *es*P **sP** 10 03 15.1 -0.3
TREC **Trest** 17.00 337 *e*P **Pn** 10 03 01.9 -0.9
FUORN **Ofenpass-Fuorn** 17.15 322 *e*Pn **P** 10 03 07.8 +1.5
comp=Z,101nm,1.0s
SAOF **Saorge** 17.18 311 *e*P **Pn** 10 03 04.1 -0.9
SAOF **Saorge** 17.18 311 *e*P **Pn** 10 03 04.1 -0.9
SAOF **Saorge** 17.18 311 *e*P **Pn** 10 03 04.1 -0.9
SAOF **Saorge** 17.18 311 *e*P **Pn** 10 03 04.1 -0.9
FETA **Feichten** 17.19 323 ⇑*i*Pn **P** 10 03 06.5 -0.2
SNR=17
FETA **Feichten** 17.19 323 Pn **P** 10 03 06.5 -0.2
SNR=17
SBF **Sospel** 17.19 310 *e*P **Pn** 10 03 03.7 -1.6
comp=Z,205nm,1.1s
SBF **Sospel** 17.19 310 *e*P **Pn** 10 03 03.7 -1.6
comp=Z,103nm,1.1s
DGRG **David-gareji** 17.26 59 P **P** 10 03 09.6 +2.2
DGRG **David-gareji** 17.26 59 P **P** 10 03 09.6 +2.2
GEC2 **GERESS Array S** 17.26 333 *e*P **Pn** 10 03 05.3 -0.8
comp=Z,42nm,0.9s
GEC2 **GERESS Array S** 17.26 333 *e*P **Pn** 10 03 05.4 -0.7
GEC2 **GERESS Array S** 17.26 333 *e*Pn **Pn** 10 03 05.4 -0.7
GERES **GERESS Array B** 17.26 333 *e*P **Pn** 10 03 05.4 -0.7
GERES **GERESS Array B** 17.26 333 P **Pn** 10 03 05.1 -1.0
GERES S **S** 10 06 22.7 -3.0
GERES PcP **PcP** 10 07 48.2 0.0
GERES **GERESS Array B** 17.26 333 P **Pn** 10 03 05.1 -1.0
comp=Z,2.3nm,0.3s,baz=152,slow=12,SNR=43
GERES S **S** 10 06 22.7 -3.0
comp=Z,0.1nm,0.3s,baz=146,slow=24,SNR=2.5
GERES PcP **PcP** 10 07 48.2 0.0
comp=Z,0.1nm,0.3s,baz=192,slow=1.8,SNR=3.4
GERES **GERESS Array B** 17.26 333 P **Pn** 10 03 05.1 -1.0
comp=Z,2.0nm,0.3s
AUTN **L'Aution** 17.26 311 *e*P **Pn** 10 03 05.3 -1.0
AUTN **L'Aution** 17.26 311 *e*P **Pn** 10 03 05.3 -1.0
AUTN **L'Aution** 17.26 311 *e*P **Pn** 10 03 05.3 -1.0
AUTN **L'Aution** 17.26 311 *e*P **Pn** 10 03 05.3 -1.0
TOUF **Mont Tournerai** 17.38 310 *e*P **P** 10 03 08.7 -0.2
TOUF **Mont Tournerai** 17.38 310 *e*P **P** 10 03 08.7 -0.2
TOUF **Mont Tournerai** 17.38 310 *e*P **P** 10 03 08.7 -0.2
TOUF **Mont Tournerai** 17.38 310 *e*P **P** 10 03 08.7 -0.2
MVIF **Mont Vial** 17.39 310 *e*P **Pn** 10 03 06.6 -1.2
MVIF **Mont Vial** 17.39 310 *e*P **Pn** 10 03 06.6 -1.2
MVIF **Mont Vial** 17.39 310 *e*P **Pn** 10 03 06.6 -1.2
MVIF **Mont Vial** 17.39 310 *e*P **Pn** 10 03 06.6 -1.2
DAVOX **Davos/Dischmat** 17.45 322 P **Pn** 10 03 08.5 -0.1
DAVOX S **S** 10 06 36.7 +6.9
DAVOX **Davos/Dischmat** 17.45 322 P **Pn** 10 03 08.5 -0.1
comp=Z,1.4nm,0.3s,baz=139,slow=13,SNR=21
DAVOX S **S** 10 06 36.7 +6.9
comp=Z,0.2nm,0.3s,baz=330,slow=20,SNR=2.6
DAVOX **Davos/Dischmat** 17.45 322 P **Pn** 10 03 08.5 -0.1
comp=Z,1.0nm,0.3s
CALN **Calern** 17.49 309 *e*P **Pn** 10 03 08.2 -0.9
CALN **Calern** 17.49 309 *e*P **Pn** 10 03 08.2 -0.9
CALN **Calern** 17.49 309 *e*P **Pn** 10 03 08.2 -0.9
CALN **Calern** 17.49 309 *e*P **Pn** 10 03 08.2 -0.9
TUE **Stuetta** 17.53 320 *e*Pn **Pn** 10 03 08.9 -0.7
comp=Z,494nm,2.6s
TUE **Stuetta** 17.53 320 *e*Pn **Pn** 10 03 08.9 -0.7
comp=Z,494nm,2.6s
KHC **Kasperske Hory** 17.54 333 *e*P **Pn** 10 03 08.7 -0.8
KHC **Kasperske Hory** 17.54 333 *e*P **Pn** 10 03 08.7 -0.8
KHC *ex* x 10 03 11.4
KHC **Kasperske Hory** 17.54 333 *e*Pn **Pn** 10 03 08.9 -0.6
comp=Z,24nm,0.9s
KHC **Kasperske Hory** 17.54 333 *e*Pn **Pn** 10 03 08.9 -0.6
comp=Z,24nm,0.9s
LMR **La Mourre** 17.55 308 *e*P **Pn** 10 03 09.3 -0.4
comp=Z,79nm,1.0s
LMR **La Mourre** 17.55 308 *e*P **Pn** 10 03 09.3 -0.4
comp=Z,40nm,1.0s
FUR **Furstenfeldbru** 17.75 327 *e*P **Pn** 10 03 12.1 0.0
comp=Z,78nm,0.8s
FUR **Furstenfeldbru** 17.75 327 *e*P **Pn** 10 03 12.1 0.0
FUR pmax pmax
comp=Z,4μm,0.8s
FUR **Furstenfeldbru** 17.75 327 *e*P **Pn** 10 03 12.1 0.0
comp=Z,4μm,0.8s
DAVA **Damuels** 17.79 323 ⇑*i*Pn **Pn** 10 03 12.2 -0.6
SNR=8.8
DAVA **Damuels** 17.79 323 Pn **Pn** 10 03 12.2 -0.6
SNR=8.8
WET **Wettzell** 17.82 332 *e*P **Pn** 10 03 11.9 -1.1
comp=Z,56nm,1.0s
WET **Wettzell** 17.82 332 *e*P **Pn** 10 03 11.9 -1.1
WET pmax pmax
comp=Z,2μm,1.0s
WET **Wettzell** 17.82 332 *e*P **Pn** 10 03 11.9 -1.1
comp=Z,2μm,1.0s
UPC **Upice** 17.91 340 *e*P **Pn** 10 03 12.7 -1.4
UPC **Upice** 17.91 340 *e*P **Pn** 10 03 12.7 -1.4
UPC *ex* x 10 03 15.4
UPC *epP* **pP** 10 03 19.2 -2.7
UPC **Upice** 17.91 340 *e*P **Pn** 10 03 12.7 -1.4
PRU **Pruhonice** 17.92 336 *e*P **Pn** 10 03 12.4 -1.7
PRU **Pruhonice** 17.92 336 *e*P **Pn** 10 03 12.4 -1.7
PRU *epP* **P** 10 03 17.7 +3.2
PRU *es*P **sP** 10 03 25.5 0.0
PRU **Pruhonice** 17.92 336 *e*P **Pn** 10 03 12.4 -1.7
AKET **Djebel Ketaf** 17.92 283 P **P** 10 03 16.4 +1.5
AKET **Djebel Ketaf** 17.92 283 P **P** 10 03 16.4 +1.5
PRA **Prague** 18.02 336 P **Pn** 10 03 13.0 -2.4
MBDF **Montbardon** 18.03 312 *e*P **Pn** 10 03 15.9 +0.2
comp=Z,92nm,0.9s
MBDF **Montbardon** 18.03 312 *e*P **Pn** 10 03 15.9 +0.2
comp=Z,46nm,0.9s
KSP **Ksiaz** 18.13 341 *e*P **Pn** 10 03 14.7 -2.1
KSP **Ksiaz** 18.13 341 *e*P **P** 10 03 18.0 +1.1
KSP **Ksiaz** 18.13 341 *e*P **Pn** 10 03 14.7 -2.1
ADJB **Djebel Djouab** 18.28 283 P **Pn** 10 03 19.5 +0.7
ADJB **Djebel Djouab** 18.28 283 P **Pn** 10 03 19.5 +0.7
LPG **La Plagne** 18.44 314 *e*P **Pn** 10 03 21.3 +0.5
comp=Z,32nm,0.7s
LPG **La Plagne** 18.44 314 *e*P **Pn** 10 03 21.3 +0.5
comp=Z,16nm,0.7s
SMRF **Simiane la Rot** 18.44 308 *e*P **P** 10 03 20.0 -0.4
comp=Z,37nm,0.9s
SMRF **Simiane la Rot** 18.44 308 *e*P **P** 10 03 20.0 -0.4
comp=Z,19nm,0.9s
LPL **La Plagne** 18.46 314 *e*P **Pn** 10 03 21.5 +0.5
comp=Z,48nm,1.0s
LPL **La Plagne** 18.46 314 *e*P **Pn** 10 03 21.5 +0.5
comp=Z,24nm,1.0s
SEKA **Sheki** 18.50 61 P **Pn** 10 03 21.9 +0.5
SNR=9.2
SEKA **Sheki** 18.50 61 P **Pn** 10 03 21.9 +0.5
SNR=9.2
SEKA **Sheki** 18.50 61 P **Pn** 10 03 21.9 +0.5
SNR=9.2
ROTZ **Rotzenmuhle** 18.58 332 *e*P **P** 10 03 21.0 -0.9
comp=Z,15nm,1.1s
SENIN **Lac Senin/Sane** 18.60 317 *e*Pn **P** 10 03 22.2 -0.1
comp=Z,25nm,0.6s
SENIN **Lac Senin/Sane** 18.60 317 *e*Pn **P** 10 03 22.2 -0.1
comp=Z,25nm,0.6s
ABA **Alger-Bouzarea** 18.62 285 P **P** 10 03 22.3 -0.1
ABA **Alger-Bouzarea** 18.62 285 P **P** 10 03 22.3 -0.1
EMHD **Djebel Mahouad** 18.68 283 P **P** 10 03 23.5 +0.3
EMHD **Djebel Mahouad** 18.68 283 P **P** 10 03 23.5 +0.3
ORIF **Oris-en-Rattie** 18.68 311 *e*P **P** 10 03 22.6 -0.5
comp=Z,58nm,1.2s
ORIF **Oris-en-Rattie** 18.68 311 *e*P **P** 10 03 22.6 -0.5
comp=Z,29nm,1.2s
MANZ **Manzenberg** 18.80 332 *e*P **P** 10 03 23.5 -0.8
comp=Z,19nm,0.8s
BRG **Berggiesshubel** 18.87 337 *e*P **P** 10 03 24.8 -0.2
comp=Z,5.6nm,0.6s
BRG **Berggiesshubel** 18.87 337 *e*P **P** 10 03 24.6 -0.4
comp=Z,6.0nm,0.6s
BRG **Berggiesshubel** 18.87 337 *e*P **P** 10 03 24.8 -0.2
BRG pmax pmax
comp=Z,6.0nm,0.6s
BRG **Berggiesshubel** 18.87 337 *e*P **P** 10 03 24.8 -0.2
comp=Z,6.0nm,0.6s
SPAK **Spaichingen-Ko** 18.89 323 *e*P **P** 10 03 24.4 -0.9
SPAK **Spaichingen-Ko** 18.89 323 *e*P **P** 10 03 24.4 -0.9
GRA1 **Grafenberg Arr** 18.92 330 *e*P **P** 10 03 25.4 -0.2
comp=Z,103nm,1.1s
GRF **Grafenberg Arr** 18.92 330 *e*P **P** 10 03 25.4 -0.2
comp=Z,57nm,1.1s
GRF **Grafenberg Arr** 18.92 330 *e*P **P** 10 03 25.4 -0.2
GRF pmax pmax
comp=Z,103nm,1.1s
GRFO **Grafenberg** 18.92 330 *e*P **P** 10 03 25.2 -0.4
GRFO pmax pmax
comp=Z,56nm,1.0s
GRFO **Grafenberg** 18.92 330 *e*P **P** 10 03 25.2 -0.4
comp=Z,56nm,1.0s
GRFO **Grafenberg** 18.92 330 *e*P **P** 10 03 25.2 -0.4
comp=Z,56nm,1.0s
WERN **Wernitzgruen** 18.94 333 *e*P **P** 10 03 25.3 -0.5
comp=Z,16nm,0.8s
GLBA **Clilabad** 18.97 68 P **Pn** 10 03 28.4 +1.4
SNR=4.3
GLBA **Clilabad** 18.97 68 P **Pn** 10 03 28.4 +1.4
SNR=4.3
GLBA **Clilabad** 18.97 68 P **Pn** 10 03 28.4 +1.4
SNR=4.3
NAY **Al-Naaiem** 19.00 99 *e*P **P** 10 03 26.9 +0.3
NAY AMb AMB 10 03 33.9
comp=Z,49nm,1.1s
NAY **Al-Naaiem** 19.00 99 *e*P **P** 10 03 26.9 +0.3
comp=Z,49nm,1.1s
GUNZ **Gunzen** 19.02 333 *e*P **P** 10 03 27.0 +0.3
comp=Z,30nm,1.0s
WERD **Werda** 19.09 333 *e*P **P** 10 03 27.2 -0.3
comp=Z,20nm,0.7s
FBE **Freiberg** 19.11 336 *e*P **P** 10 03 28.0 +0.4
comp=Z,43nm,1.0s
FELD **Feldberg im Sc** 19.14 322 *e*P **P** 10 03 27.0 -1.1
FELD **Feldberg im Sc** 19.14 322 *e*P **P** 10 03 27.0 -1.1
BBS **Basel-Blauen** 19.14 320 *e*P **P** 10 03 27.4 -0.6
BBS **Basel-Blauen** 19.14 320 *e*P **P** 10 03 27.4 -0.6
BBS **Basel-Blauen** 19.14 320 *e*P **P** 10 03 27.4 -0.6
STU **Stuttgart** 19.15 325 *e*P **Pn** 10 03 28.8 -0.3
comp=Z,38nm,0.7s
STU **Stuttgart** 19.15 325 *e*P **P** 10 03 27.3 -0.8
STU pmax pmax
comp=Z,39nm,0.8s
STU **Stuttgart** 19.15 325 *e*P **P** 10 03 27.3 -0.8
comp=Z,39nm,0.8s
STU **Stuttgart** 19.15 325 *e*P **P** 10 03 27.3 -0.8
comp=Z,39nm,0.8s
PLN **Plauen** 19.18 333 *e*P **P** 10 03 28.0 -0.4
comp=Z,145nm,0.9s
MAK **Makhachkala** 19.26 56 *e*P **Pn** 10 03 33.4 +3.0
MAK pmax pmax
comp=Z,454nm,0.9s
BFO **Black Forest** 19.27 323 *e*P **P** 10 03 29.7 +0.3
comp=Z,37nm,1.2s
BFO **Black Forest** 19.27 323 *e*P **P** 10 03 29.2 -0.2
BFO pmax pmax
comp=Z,20nm,0.8s
BFO **Black Forest** 19.27 323 *e*P **P** 10 03 29.2 -0.2
comp=Z,20nm,0.8s
BFO **Black Forest** 19.27 323 *e*P **P** 10 03 29.2 -0.2
comp=Z,20nm,0.8s
UMR **Umm Al-Rimmam** 19.29 97 *e*P **Pn** 10 03 30.3 -0.6
UMR AMb AMB 10 03 35.5
comp=Z,111nm,1.4s
UMR **Umm Al-Rimmam** 19.29 97 *e*P **Pn** 10 03 30.3 -0.6
comp=Z,111nm,1.4s
KBD **Kabd** 19.39 98 *e*P **P** 10 03 31.4 +0.5
KBD AMb AMB 10 03 42.4
comp=Z,48nm,1.3s
KBD **Kabd** 19.39 98 *e*P **P** 10 03 31.4 +0.5
comp=Z,48nm,1.3s
VIVF **Saint-Julien-l** 19.41 310 *e*P **P** 10 03 29.2 -1.8
comp=Z,91nm,1.3s
VIVF **Saint-Julien-l** 19.41 310 *e*P **P** 10 03 29.2 -1.8
comp=Z,45nm,1.3s
PQL **Pirkuli** 19.42 63 P **Pn** 10 03 33.2 +0.7
SNR=5.0
PQL **Pirkuli** 19.42 63 P **Pn** 10 03 33.2 +0.7
SNR=5.0
PQL **Pirkuli** 19.42 63 P **Pn** 10 03 33.2 +0.7
SNR=5.0
CABF **La Chapelle** 19.43 316 *e*P **P** 10 03 29.9 -1.4
comp=Z,51nm,0.8s
CABF **La Chapelle** 19.43 316 *e*P **P** 10 03 29.9 -1.4
comp=Z,26nm,0.8s
LOMF **Lomont** 19.44 319 *e*P **P** 10 03 31.3 0.0
LOMF **Lomont** 19.44 319 *e*P **P** 10 03 31.3 0.0
LOMF **Lomont** 19.44 319 *e*P **P** 10 03 31.3 0.0
LOMF **Lomont** 19.44 319 *e*P **P** 10 03 31.3 0.0
QUBA **Quba, Azerbaij** 19.48 61 P **Pn** 10 03 33.7 +0.6
SNR=2.8
QUBA **Quba, Azerbaij** 19.48 61 P **Pn** 10 03 33.7 +0.6
SNR=2.8
QUBA **Quba, Azerbaij** 19.48 61 P **Pn** 10 03 33.7 +0.6
SNR=2.8
MOX **Moxa** 19.51 333 *e*P **P** 10 03 31.5 -0.6
comp=Z,25nm,0.8s
MOX **Moxa** 19.51 333 *e*P **P** 10 03 31.5 -0.6
MOX pmax pmax
comp=Z,149nm,0.8s
MOX **Moxa** 19.51 333 *e*P **P** 10 03 31.5 -0.6
comp=Z,149nm,0.8s
CLL **Collm** 19.55 336 *e*P **P** 10 03 31.6 -0.9
comp=Z,17nm,0.8s
CLL **Collm** 19.55 336 *e*P **P** 10 03 32.0 -0.5
CLL pmax pmax
comp=Z,17nm,1.1s
CLL **Collm** 19.55 336 *e*P **P** 10 03 32.0 -0.5
comp=Z,17nm,1.1s
CLL *i*pP **pP** 10 03 37.5 -2.4
CLL *i* 10 03 42.2
CLL *e* 10 04 02.0
CLL *es*S Sn 10 07 21.0 +8.5
CLL **Collm** 19.55 336 *e*P **P** 10 03 32.0 -0.5
comp=Z,17nm,1.1s
ALIB **Äli-Bayra** 19.56 66 P **Pn** 10 03 36.1 +2.0
SNR=13
ALIB **Äli-Bayra** 19.56 66 P **Pn** 10 03 36.1 +2.1
SNR=13
ALIB **Äli-Bayra** 19.56 66 P **Pn** 10 03 36.1 +2.0
SNR=13
MOF **Molkenrain** 19.58 320 *e*P **P** 10 03 33.1 +0.2
MOF **Molkenrain** 19.58 320 *e*P **P** 10 03 33.1 +0.2
MOF **Molkenrain** 19.58 320 *e*P **P** 10 03 33.1 +0.2
MOF **Molkenrain** 19.58 320 *e*P **P** 10 03 33.1 +0.2
LASF **Ste Croix** 19.61 307 *e*P **P** 10 03 32.1 -1.1
comp=Z,101nm,1.1s
LASF **Ste Croix** 19.61 307 *e*P **P** 10 03 32.1 -1.1
comp=Z,50nm,1.1s
VORD **Divnogorie** 19.64 26 *e*P **Pn** 10 03 35.8 +0.9
VORD pmax pmax
comp=N,60nm,0.9s
VORD pmax pmax
comp=Z,50nm,0.9s
VORD pmax pmax
comp=E,140nm,0.8s
VORD **Divnogorie** 19.64 26 *e*P **Pn** 10 03 35.8 +0.9
SSB **Saint Sauveur** 19.68 311 *e*P **P** 10 03 33.4 -0.6
SSB pmax pmax
comp=Z,10.0nm,0.9s
SSB **Saint Sauveur** 19.68 311 *e*P **P** 10 03 33.4 -0.6
comp=Z,9.8nm,0.9s
SSB **Saint Sauveur** 19.68 311 *e*P **P** 10 03 33.4 -0.6
comp=Z,9.8nm,0.9s
HINF **Hinteralfeld** 19.70 320 *e*P **P** 10 03 33.7 -0.5
comp=Z,28nm,0.8s
HINF **Hinteralfeld** 19.70 320 *e*P **P** 10 03 33.7 -0.5
comp=Z,14nm,0.8s
SIZA **Siyzn** 19.71 62 P **Pn** 10 03 36.5 +0.5
SNR=5.7
SIZA **Siyzn** 19.71 62 P **Pn** 10 03 36.5 +0.5
SNR=5.7
SIZA **Siyzn** 19.71 62 P **Pn** 10 03 36.5 +0.5
SNR=5.7
ECH **Echery** 19.79 321 *e*P **Pn** 10 03 36.7 -0.1
ECH **Echery** 19.79 321 *e*P **Pn** 10 03 36.7 -0.1
ECH **Echery** 19.79 321 *e*P **Pn** 10 03 36.7 -0.1
ECH **Echery** 19.79 321 *e*P **Pn** 10 03 36.7 -0.1
VSR **Storozhevoye** 19.80 26 *e*P **P** 10 03 35.0 -0.1
VSR pmax pmax
comp=Z,60nm,1.4s
VSR pmax pmax
comp=N,30nm,0.8s
VSR pmax pmax
comp=E,30nm,1.1s
VSR **Storozhevoye** 19.80 26 *e*P **P** 10 03 35.0 -0.1
comp=E,30nm,0.8s
EBNR **Beni Rached** 19.82 283 P **Pn** 10 03 37.3 0.0
EBNR **Beni Rached** 19.82 283 P **Pn** 10 03 37.3 0.0
CDF **Champ du Feu** 19.85 322 *e*P **P** 10 03 35.6 -0.3
comp=E,34nm,0.7s
CDF **Champ du Feu** 19.85 322 *e*P **P** 10 03 35.6 -0.3
comp=E,17nm,0.7s
NEUB **Neuenburg** 19.91 334 *e*P **P** 10 03 36.7 +0.4
comp=Z,34nm,0.7s
TOD **Tromm** 19.91 326 *e*P **P** 10 03 37.4 +0.9
TOD **Tromm** 19.91 326 *e*P **P** 10 03 37.4 +0.9
TOD **Tromm** 19.91 326 *e*P **P** 10 03 37.4 +0.9
LANF **Langenberg** 19.96 324 *e*P **Pn** 10 03 38.9 +0.1
LANF **Langenberg** 19.96 324 *e*P **Pn** 10 03 38.9 +0.1
LANF **Langenberg** 19.96 324 *e*P **Pn** 10 03 38.9 +0.1
LANF **Langenberg** 19.96 324 *e*P **Pn** 10 03 38.9 +0.1
ETRT **Tiaret** 20.04 281 P **P** 10 03 38.2 +0.1
ETRT **Tiaret** 20.04 281 P **P** 10 03 38.2 +0.1
SUW **Suwalki** 20.05 356 *e*P **P** 10 03 36.3 -1.6
SUW *es* **S** 10 07 18.5 -3.2
SUW pmax pmax
comp=Z,126nm,0.8s
SUW **Suwalki** 20.05 356 *e*P **P** 10 03 36.3 -1.6
comp=Z,126nm,0.8s
SUW *es* **S** 10 07 18.5 -3.2
SUW **Suwalki** 20.05 356 *e*P **P** 10 03 38.4 +0.5
SUW **Suwalki** 20.05 356 *e*P **P** 10 03 36.3 -1.6
comp=Z,126nm,0.8s
KTD **Kalmit** 20.05 325 *e*P Pn 10 03 39.7 -0.2

KTD **Kalmit** 20.05 325 *e*P Pn 10 03 39.7 -0.2
KTD **Kalmit** 20.05 325 *e*P Pn 10 03 39.7 -0.2
HAU **Haudompre** 20.09 320 *e*P **P** **10 03 37.4 -1.0**
comp=Z,44nm,0.7s
HAU **Haudompre** 20.09 320 *e*P **P** **10 03 37.4 -1.0**
comp=Z,22nm,0.7s
EANR **'Ain N'Sour** 20.18 282 P **P** **10 03 38.5 -1.0**
EANR **'Ain N'Sour** 20.18 282 P **P** **10 03 38.5 -1.0**
GOBA **Gobu** 20.19 65 P Pn 10 03 42.9 +1.3
SNR=8.0
GOBA **Gobu** 20.19 65 P Pn 10 03 42.9 +1.3
SNR=8.0
GOBA **Gobu** 20.19 65 P Pn 10 03 42.9 +1.4
SNR=8.0
VOR **Voronezh** 20.23 25 *e*P **P** **10 03 40.0 +0.1**
VOR **Voronezh** 20.23 25 *e*P **P** **10 03 40.0 +0.1**
RAYN **Ar Rayn** 20.29 116 *e*P Pn 10 03 43.0 +0.1
comp=Z,179nm,2.0s
UBBA **Unterbreizbach** 20.29 330 *e*P **P** **10 03 40.1 -0.3**
comp=Z,21nm,1.0s
THEF **They Montfort** 20.41 320 *e*P **P** **10 03 41.5 -0.4**
THEF **They Montfort** 20.41 320 *e*P **P** **10 03 41.5 -0.4**
THEF **They Montfort** 20.41 320 *e*P **P** **10 03 41.5 -0.4**
THEF **They Montfort** 20.41 320 *e*P **P** **10 03 41.5 -0.4**
MTLF **Montolieu** 20.45 304 *e*P **P** **10 03 41.4 -0.9**
comp=Z,46nm,1.0s
MTLF **Montolieu** 20.45 304 *e*P **P** **10 03 41.4 -0.9**
comp=Z,23nm,1.0s
LBL **Lubilhac** 20.48 310 *e*P Pn 10 03 44.5 -0.5
LBL **Lubilhac** 20.48 310 *e*P Pn 10 03 44.5 -0.5
LBL **Lubilhac** 20.48 310 *e*P Pn 10 03 44.5 -0.5
LBL **Lubilhac** 20.48 310 *e*P Pn 10 03 44.5 -0.5
OJGS **Djebel Guires** 20.48 281 P Pn 10 03 45.0 -0.2
TNS **Taunus Mts** 20.52 327 *e*P **P** **10 03 43.1 +0.1**
comp=Z,86nm,0.8s
TNS **Taunus Mts** 20.52 327 *e*P **P** **10 03 43.1 +0.1**
TNS **Taunus Mts** 20.52 327 *e*P **P** **10 03 43.1 +0.1**
MNK **Minsk** 20.52 4 *e*P P 10 03 38.0 -5.0
MICGM **Minsk** 20.53 4 *e* P 10 03 38.0 -5.0
PAGF **Fort de Pagny** 20.75 320 *e*P **P** **10 03 44.5 -1.0**
comp=Z,85nm,1.3s,baz=116
PAGF **Fort de Pagny** 20.75 320 *e*P **P** **10 03 44.5 -1.0**
comp=Z,42nm,1.3s,baz=116
SMF **Signal de Mont** 20.77 314 *e*P **P** **10 03 44.3 -1.4**
comp=Z,34nm,0.7s
SMF **Signal de Mont** 20.77 314 *e*P **P** **10 03 44.3 -1.4**
comp=Z,17nm,0.7s
RUP **Ruppelstein** 20.80 324 *e*P **P** **10 03 46.0 -0.2**
RUP **Ruppelstein** 20.80 324 *e*P **P** **10 03 46.0 -0.2**
RUP **Ruppelstein** 20.80 324 *e*P **P** **10 03 46.0 -0.2**
PYM **Petit Puy Mans** 20.86 311 *e*P **P** **10 03 47.3 +0.5**
PYM **Petit Puy Mans** 20.86 311 *e*P **P** **10 03 47.3 +0.5**
PYM **Petit Puy Mans** 20.86 311 *e*P **P** **10 03 47.3 +0.5**
PYM **Petit Puy Mans** 20.86 311 *e*P **P** **10 03 47.3 +0.5**
NACGM **Naroch** 20.88 2 *e* P 10 03 43.0 -3.9
TAM **Tamanrasset** 20.89 243 *e*P **P** **10 03 48.5 +1.0**
TAM pmax pmax
comp=Z,44nm,0.9s
TAM **Tamanrasset** 20.89 243 *e*P **P** **10 03 48.5 +1.0**
comp=Z,44nm,0.9s
TAM **Tamanrasset** 20.89 243 *e*P **P** **10 03 48.5 +1.0**
comp=Z,44nm,0.9s
SFTF **Sexfontaines** 20.91 319 *e*P **P** **10 03 48.3 +1.0**
comp=Z,362nm,1.4s,baz=134
SFTF **Sexfontaines** 20.91 319 *e*P **P** **10 03 48.3 +1.0**
comp=Z,181nm,1.4s,baz=134
AGO **Saint Agoulin** 20.92 312 *e*P **P** **10 03 47.8 +0.4**
AGO **Saint Agoulin** 20.92 312 *e*P **P** **10 03 47.8 +0.4**
AGO **Saint Agoulin** 20.92 312 *e*P **P** **10 03 47.8 +0.4**
CLZ **Clausthal** 20.94 333 *e*P **P** **10 03 46.7 -0.9**
comp=Z,20nm,0.7s
CLZ **Clausthal** 20.94 333 *e*P **P** **10 03 46.7 -0.9**
CLZ pmax pmax
comp=Z,2µm,0.7s
CLZ **Clausthal** 20.94 333 *e*P **P** **10 03 46.7 -0.9**
comp=Z,2µm,0.7s
LOR **Lormes** 21.07 315 *e*P **P** **10 03 47.8 -1.2**
comp=Z,70nm,1.1s,baz=125
LOR **Lormes** 21.07 315 *e*P **P** **10 03 47.8 -1.2**
comp=Z,35nm,1.1s,baz=125
MEZF **Maizieres J'vi** 21.08 319 *e*P **P** **10 03 50.5 +1.4**
baz=136
MEZF **Maizieres J'vi** 21.08 319 *e*P **P** **10 03 50.5 +1.4**
baz=136
MLS **Moulis** 21.11 302 *e*P **P** **10 03 51.5 +2.0**
MLS **Moulis** 21.11 302 *e*P **P** **10 03 51.5 +2.0**
CAF **Calviac** 21.12 308 *e*P **P** **10 03 48.6 -1.0**
comp=Z,34nm,0.8s
CAF **Calviac** 21.12 308 *e*P **P** **10 03 48.6 -1.0**
comp=Z,17nm,0.8s
AVF **Avril sur Loir** 21.13 314 *e*P **P** **10 03 48.5 -1.1**
comp=Z,34nm,0.9s
AVF **Avril sur Loir** 21.13 314 *e*P **P** **10 03 48.5 -1.1**
comp=Z,17nm,0.9s
WLF **Walferdange** 21.22 323 P **P** **10 03 51.0 +0.3**
comp=Z,37nm,1.1s
WLF **Walferdange** 21.22 323 *e*P **P** **10 03 51.1 +0.5**
comp=Z,56nm,1.0s
WLF **Walferdange** 21.22 323 P **P** **10 03 50.9 +0.3**
comp=Z,37nm,1.1s
ODJA **Bouhanifia** 21.23 281 P **P** **10 03 52.0 +1.1**
ODJA **Bouhanifia** 21.23 281 P **P** **10 03 52.0 +1.1**
BGF **Bois d'Agland** 21.33 313 *e*P **P** **10 03 51.0 -0.8**
comp=Z,59nm,0.7s
BGF **Bois d'Agland** 21.33 313 *e*P **P** **10 03 51.0 -0.8**
comp=Z,29nm,0.7s
MELF **Melles** 21.33 302 *e*P **P** **10 03 53.3 +1.4**
MELF **Melles** 21.33 302 *e*P **P** **10 03 53.3 +1.4**
MELF **Melles** 21.33 302 *e*P **P** **10 03 53.3 +1.4**
USTO **Oran** 21.53 282 P **P** **10 03 54.0 0.0**
NRDL **Niedersach Rie** 21.56 334 *e*P **P** **10 03 52.8 -1.3**
comp=Z,22nm,0.9s
TCF **Toulx Ste Croi** 21.60 312 *e*P **P** **10 03 54.0 -0.7**
comp=Z,85nm,1.0s
TCF **Toulx Ste Croi** 21.60 312 *e*P **P** **10 03 54.0 -0.7**
comp=Z,42nm,1.0s
RESF **Ens** 21.61 301 *e*P **P** **10 03 55.0 +0.1**
RESF **Ens** 21.61 301 *e*P **P** **10 03 55.0 +0.1**
RESF **Ens** 21.61 301 *e*P **P** **10 03 55.0 +0.1**
RJF **Les Rejaudoux** 21.63 309 *e*P **P** **10 03 54.2 -0.8**
comp=Z,90nm,1.0s
RJF **Les Rejaudoux** 21.63 309 *e*P **P** **10 03 54.2 -0.8**
comp=Z,45nm,1.0s
EPF **Esparros** 21.67 302 *e*P **P** **10 03 55.0 -0.5**
EPF **Esparros** 21.67 302 *e*P **P** **10 03 55.0 -0.5**
BUG **Bochum--Univer** 21.91 328 *e*P **P** **10 03 57.9 0.0**
comp=Z,66nm,1.0s
MEM **Membach** 21.91 325 P **P** **10 03 58.0 0.0**
comp=Z,44nm,1.2s
MEM **Membach** 21.91 325 P **P** **10 03 58.0 0.0**
comp=Z,44nm,1.2s
LFF **La Frestale** 22.00 307 *e*P **P** **10 03 59.6 +0.6**
comp=Z,116nm,1.1s
LFF **La Frestale** 22.00 307 *e*P **P** **10 03 59.6 +0.6**
comp=Z,58nm,1.1s
HGN **Heimansgroeve** 22.05 325 *e*P **P** **10 04 00.3 +0.8**
comp=Z,38nm,0.9s
HGN **Heimansgroeve** 22.05 325 *e*P **P** **10 04 00.3 +0.8**
comp=Z,38nm,0.9s
GIVF **Givet** 22.17 323 *e*P **P** **10 04 00.3 -0.4**
comp=Z,125nm,0.9s
GIVF **Givet** 22.17 323 *e*P **P** **10 04 00.3 -0.4**
comp=Z,63nm,0.9s
ETSF **Etsaut** 22.27 301 *e*P **P** **10 04 01.8 -0.2**
comp=Z,28nm,0.7s
ETSF **Etsaut** 22.27 301 *e*P **P** **10 04 01.8 -0.2**
comp=Z,14nm,0.7s
OLHC **Oulhaca** 22.27 281 P P 10 03 51.5 -11
DOU **Dourbes** 22.28 322 P **P** **10 04 01.4 -0.6**
comp=Z,27nm,1.0s
DOU **Dourbes** 22.28 322 P **P** **10 04 01.3 -0.6**
comp=Z,27nm,1.0s
IBBN **Ibbenburen** 22.33 330 *e*P **P** **10 04 03.2 +0.7**
comp=Z,19nm,0.8s
BSD **Bornholm Skovb** 22.37 344 *i* P **P** **10 04 03.6 +0.8**
comp=Z,8.7nm,0.9s
BSD **Bornholm Skovb** 22.37 344 *i* P **P** **10 04 03.6 +0.8**
comp=Z,49nm,0.8s,SNR=63
ATE **Arette** 22.42 302 *e*P **P** **10 04 04.5 +1.0**
ATE **Arette** 22.42 302 *e*P **P** **10 04 04.5 +1.0**
ATE **Arette** 22.42 302 *e*P **P** **10 04 04.5 +1.0**
OBN **Obninsk** 22.42 17⇑ *e*P **P** **10 04 04.3 +1.0**
OBN *e**PP **pP** **10 04 13.1 +2.3**
OBN *e* 10 04 26.9
OBN *e*SS **S** **10 08 07.2 -0.6**
OBN *e*SS **SnSn** **10 08 39.5 +2.5**
OBN pmax pmax
comp=Z,39nm,1.2s
OBN MLR MLR
comp=Z,3µm,18.0s
OBN **Obninsk** 22.42 17 *e*P **P** **10 04 04.3 +1.0**
comp=Z,39nm,1.2s
OBN *e*S **S** **10 08 07.2 -0.6**
BAIF **Baives** 22.45 322 *e*P **P** **10 04 02.1 -1.7**
comp=Z,51nm,0.7s
BAIF **Baives** 22.45 322 *e*P **P** **10 04 02.1 -1.7**
comp=Z,26nm,0.7s
WTSB **Winterswijk** 22.49 329 *e*P **P** **10 04 03.3 -0.9**
comp=Z,21nm,0.5s
WTSB **Winterswijk** 22.49 329 *e*P **P** **10 04 03.3 -0.9**
comp=Z,21nm,0.5s
LARF **Larrau** 22.61 301 *e*P **P** **10 04 06.0 +0.4**
LARF **Larrau** 22.61 301 *e*P **P** **10 04 06.0 +0.4**
LARF **Larrau** 22.61 301 *e*P **P** **10 04 06.0 +0.4**
BSEG **Bad Segeberg** 22.65 336 *e*P **P** **10 04 03.3 -2.5**
comp=Z,43nm,0.9s
BSEG **Bad Segeberg** 22.65 336 *e*P **P** **10 04 03.3 -2.5**
BSEG **Bad Segeberg** 22.65 336 *e*P **P** **10 04 03.3 -2.5**
SJPF **Ste Jean** 22.79 301 *e*P **P** **10 04 06.4 -1.1**
comp=Z,36nm,0.8s
SJPF **Ste Jean** 22.79 301 *e*P **P** **10 04 06.4 -1.1**
comp=Z,18nm,0.8s
MFF **Saint Martin d** 23.21 310 *e*P **P** **10 04 10.8 -0.9**
comp=Z,92nm,1.2s
MFF **Saint Martin d** 23.21 310 *e*P **P** **10 04 10.8 -0.9**
comp=Z,46nm,1.2s
MOS **Moscow** 23.24 17 *e*P **P** **10 04 08.8 -3.1**
MOS pmax pmax
comp=Z,77nm,1.4s
LLD **Lille Linde** 23.26 340 *i* P **P** **10 04 11.9 -0.1**
comp=Z,49nm,0.7s
MENF **Mencas** 23.81 321 *e*P **P** **10 04 17.0 -0.5**
MENF **Mencas** 23.81 321 *e*P **P** **10 04 17.0 -0.5**
ESDC **Sonseca Array** 24.28 292 P **P** **10 04 21.6 -0.4**
ESDC PcP **PcP** **10 08 02.2 +0.6**
ESDC **Sonseca Array** 24.28 292 P **P** **10 04 21.6 -0.4**
comp=Z,12nm,0.7s,baz=84,slow=9.3,SNR=41
ESDC PcP **PcP** **10 08 02.2 +0.6**
comp=Z,0.7nm,0.4s,baz=90,slow=1.3,SNR=5.9
FLN **La Foliniere** 24.34 315 *e*P **P** **10 04 21.2 -1.3**
comp=Z,43nm,0.7s,baz=120
GRR **Gorron** 24.40 314 *e*P **P** **10 04 22.4 -0.6**
comp=Z,78nm,1.1s
VSU **Vasula** 24.45 1⇑ *e*P **P** **10 04 23.8 +0.5**
VSU pmax pmax
comp=Z,177nm,2.2s
PAB **San Pablo** 24.57 292 *e*P **P** **10 04 24.6 -0.1**
PAB pmax pmax
comp=Z,49nm,1.2s
PAB **San Pablo** 24.57 292 *e*P **P** **10 04 24.6 -0.1**
comp=Z,49nm,1.2s
MUD **Monsted U'grnd** 25.11 338 *i* P **P** **10 04 29.3 0.0**
comp=Z,14nm,0.6s
MDT **Midelt** 25.23 276 P **P** **10 04 30.6 -0.2**
MDT **Midelt** 25.23 276 P **P** **10 04 30.6 -0.2**
comp=Z,13nm,0.8s,baz=81,slow=14,SNR=16
REAL **Reales** 25.25 284 *e*P **P** **10 04 30.0 -1.0**
SGMF **Saint Gilles** 25.37 313 *e*P **P** **10 04 30.5 -1.3**
comp=Z,49nm,0.9s
LIJA **Lijar** 25.39 285 *i* P **P** **10 04 30.8 -1.3**
QUIF **Quistinic** 25.61 311 *e*P **P** **10 04 32.7 -1.3**
comp=Z,59nm,0.9s
ROSF **Rostrenen** 25.84 312 *e*P **P** **10 04 34.4 -1.6**
comp=Z,32nm,0.6s
PUL **Pulkovo** 25.93 5⇓ *i* P **P** **10 04 35.9 -0.8**
BST **Brest** 26.31 312 *e*P **P** **10 04 40.2 -0.1**
BST **Brest** 26.31 312 *e*P **P** **10 04 40.2 -0.1**
PBRG **Braganca** 26.58 297 *e*P **P** **10 04 42.3 -0.5**
comp=Z,40nm,1.3s
PBRG **Braganca** 26.58 297 *e*P **P** **10 04 42.3 -0.5**
comp=Z,40nm,1.3s
PBAR **Barrancos** 26.64 288 *e*P **P** **10 04 43.0 -0.4**
comp=Z,33nm,1.8s
PBAR **Barrancos** 26.64 288 *e*P **P** **10 04 43.0 -0.4**
comp=Z,33nm,1.8s
MVO **Moncorvo** 26.73 295 *e*P **P** **10 04 43.9 -0.4**
comp=Z,44nm,0.8s
MVO **Moncorvo** 26.73 295 *e*P **P** **10 04 43.9 -0.4**
comp=Z,44nm,0.8s
PMRV **Marv??o** 26.92 291 *e*P **P** **10 04 45.1 -0.8**
comp=Z,34nm,1.3s
PMRV **Marv??o** 26.92 291 *e*P **P** **10 04 45.1 -0.8**
comp=Z,34nm,1.3s
PCBR **Castelo Branco** 26.99 292 *e*P **P** **10 04 46.5 -0.1**
comp=Z,22nm,1.4s
PCBR **Castelo Branco** 26.99 292 *e*P **P** **10 04 46.5 -0.1**
comp=Z,22nm,1.4s
PESTR **Estremoz** 27.07 290 *e*P **P** **10 04 46.6 -0.6**
comp=Z,39nm,1.3s
PESTR **Estremoz** 27.07 290 *e*P **P** **10 04 46.6 -0.6**
comp=Z,39nm,1.3s
PVAQ **Vaqueiros** 27.21 287 *e*P **P** **10 04 48.8 +0.3**
comp=Z,37nm,1.2s
PVAQ **Vaqueiros** 27.21 287 *e*P **P** **10 04 48.8 +0.3**
comp=Z,37nm,1.2s
HFS **Hagfors** 27.26 347 P **P** **10 04 47.2 -1.5**
HFS **Hagfors** 27.26 347 P **P** **10 04 47.2 -1.5**
comp=Z,6.0nm,0.7s,baz=158,slow=9.6,SNR=15
PBEJ **Beja** 27.30 288 *e*P **P** **10 04 49.9 +0.6**
comp=Z,21nm,1.2s
PBEJ **Beja** 27.30 288 *e*P **P** **10 04 49.9 +0.6**
comp=Z,21nm,1.2s
POLO **Lamas de Olo** 27.32 295 *e*P **P** **10 04 49.2 -0.4**
comp=Z,10nm,1.6s
POLO **Lamas de Olo** 27.32 295 *e*P **P** **10 04 49.2 -0.4**
comp=Z,10nm,1.6s
PBDV **Barranco-do-Ve** 27.39 286 *e*P **P** **10 04 49.7 -0.4**
comp=Z,59nm,1.3s
PBDV **Barranco-do-Ve** 27.39 286 *e*P **P** **10 04 49.7 -0.4**
comp=Z,59nm,1.3s
EVO **Evora** 27.40 289 *e*P **P** **10 04 50.7 +0.5**
comp=Z,14nm,0.6s
FINES **FINESS Array B** 27.43 0 P **P** **10 04 48.4 -1.9**
FINES PcP **PcP** **10 08 07.5 -0.7**
FINES **FINESS Array B** 27.43 0 P **P** **10 04 48.4 -1.9**
comp=Z,12nm,0.5s,baz=159,slow=11,SNR=25
FINES PcP **PcP** **10 08 07.5 -0.7**
comp=Z,1.1nm,0.4s,baz=149,slow=4.4,SNR=3.9
FINES **FINESS Array B** 27.43 0 PcP **PcP** **10 08 07.5 -0.7**
PCVE **Castro Verde** 27.45 287 *e*P **P** **10 04 49.9 -0.8**
comp=Z,25nm,1.3s
PCVE **Castro Verde** 27.45 287 *e*P **P** **10 04 49.9 -0.8**
comp=Z,25nm,1.3s
PCAB **Cabril** 27.52 296 *e*P **P** **10 04 51.5 +0.1**
comp=Z,34nm,1.4s
PCAB **Cabril** 27.52 296 *e*P **P** **10 04 51.5 +0.1**
comp=Z,34nm,1.4s
PMTG **Montargil** 27.56 290 *e*P **P** **10 04 49.8 -1.8**
comp=Z,20nm,1.3s
PMTG **Montargil** 27.56 290 *e*P **P** **10 04 49.8 -1.8**
comp=Z,20nm,1.3s
KONO **Kongsberg** 27.72 342 *e*P **P** **10 04 51.2 -1.6**
KONO pmax pmax
comp=Z,23nm,1.2s
KONO **Kongsberg** 27.72 342 *e*P **P** **10 04 51.2 -1.6**
comp=Z,23nm,1.2s
KAF **Kangasniemi** 28.10 1 *e*p **P** **10 04 54.8 -1.4**
comp=Z,14nm,0.7s
KAF **Kangasniemi** 28.10 1 *e*P **P** **10 04 54.8 -1.4**
KAF pmax pmax
comp=Z,14nm,0.7s
NAO01 **NORSAR Array S** 28.48 345 *e*P **P** **10 04 58.8 -0.8**
comp=Z,16nm,0.8s
NB2 **NORSAR Subarra** 28.59 345 P **P** **10 05 00.3 -0.3**
comp=Z,1.9nm,0.5s,baz=159,slow=10
NOA **NORSAR Array B** 28.59 345 P **P** **10 04 60.0 -0.6**
NOA **NORSAR Array B** 28.59 345 P **P** **10 04 60.0 -0.6**
comp=Z,1.9nm,0.7s,baz=155,slow=9.5,SNR=12
AKTO **Aktyubinsk** 28.75 45 P **P** **10 05 02.0 -0.1**
AKTO pmax pmax
comp=Z,7.0nm,0.7s
AKTO **Aktyubinsk** 28.75 45 P **P** **10 05 02.0 -0.1**
AKTO **Aktyubinsk** 28.75 45 P **P** **10 05 02.0 -0.1**
comp=Z,7.2nm,0.7s,baz=254,slow=8.2,SNR=16
JOF **Joensuu** 29.13 5 *e*p **P** **10 05 03.6 -1.7**
comp=Z,9.7nm,0.5s
JOF **Joensuu** 29.13 5 *e*P **P** **10 05 03.6 -1.7**
JOF pmax pmax
comp=Z,10.0nm,0.5s
JOF **Joensuu** 29.13 5 *e*P **P** **10 05 03.6 -1.7**
comp=Z,9.7nm,0.5s
EKA **Eskdalemuir Ar** 29.19 326 P **P** **10 05 05.2 -0.7**
EKA **Eskdalemuir Ar** 29.19 326 P **P** **10 05 05.2 -0.7**
comp=Z,7.0nm,0.7s,baz=128,slow=9.7,SNR=28
ESK **Eskdalemuir** 29.20 326 *e*P **P** **10 05 05.3 -0.8**
ESK pmax pmax
comp=Z,37nm,1.4s
ESK **Eskdalemuir** 29.20 326 *e*P **P** **10 05 05.3 -0.8**
comp=Z,37nm,1.4s
AB31 **Akbulak array** 29.51 49 *i* P **P** **10 05 09.0 +0.1**
AB31 pmax pmax
comp=Z,4.0nm,0.5s
TOA0 **Torodi Ar. Sit** 30.08 232 *e*P **P** **10 05 14.2 -0.1**
TORD **Torodi Ar. Bea** 30.08 232 P **P** **10 05 14.2 -0.1**
TORD PcP **PcP** **10 08 15.8 +0.2**
TORD **Torodi Ar. Bea** 30.08 232 P **P** **10 05 14.2 -0.1**
comp=Z,23nm,0.8s,baz=34,slow=8.3,SNR=81
TORD PcP **PcP** **10 08 15.8 +0.2**
comp=Z,3.4nm,0.9s,baz=40,slow=2.7,SNR=5.2
TMCR **Tamitsa** 31.11 10 *e*P P 10 05 30.6 +7.8
TMCR pmax pmax
comp=Z,55nm,1.3s
ARU **Arti** 31.74 35 P **P** **10 05 27.8 -0.7**
ARU S **S** **10 10 36.7 +0.2**
ARU **Arti** 31.74 35 P **P** **10 05 27.8 -0.7**
SOKR **Solikamsk** 32.73 29⇑ *i* P **P** **10 05 37.4 +0.3**
SOKR pmax pmax
comp=Z,30nm,1.0s
SOKR **Solikamsk** 32.73 29 *i* P **P** **10 05 37.4 +0.3**
comp=Z,30nm,1.0s
SVE **Sverdlovsk** 32.93 35 *e*P P 10 05 44.8 +5.9
APA **Apatity** 33.88 5⇑ *e*P **P** **10 05 46.0 -1.1**
APA *e*S **S** **10 11 06.0 -3.5**
APA MLR MLR
comp=Z,3µm,15.0s
APA **Apatity** 33.88 5 *e*P **P** **10 05 46.0 -1.1**
LVZ **Lovozero** 34.31 6⇑ *e*P **P** **10 05 52.7 +1.9**
LVZ pmax pmax
comp=Z,28nm,1.1s
LVZ **Lovozero** 34.31 6 *e*P **P** **10 05 52.7 +1.9**
comp=Z,28nm,1.1s
ARCES **ARCESS Array B** 35.56 360 P **P** **10 05 59.8 -1.8**
ARCES **ARCESS Array B** 35.56 360 P **P** **10 05 59.8 -1.8**
comp=Z,4.5nm,0.4s,baz=174,slow=8.9,SNR=31
ARCES **ARCESS Array B** 35.56 360 P **P** **10 05 59.8 -1.8**
comp=Z,5.0nm,0.4s
KEV **Kevo** 35.78 1 *e*p **P** **10 06 03.2 -0.2**
comp=Z,8.3nm,0.6s
KEV **Kevo** 35.78 1 *e*P **P** **10 06 03.2 -0.2**
KEV pmax pmax
comp=Z,8.0nm,0.6s
KEV **Kevo** 35.78 1 *e*P **P** **10 06 03.2 -0.2**
comp=Z,8.0nm,0.6s
KK31 **Karatay Array** 35.88 62 P **P** **10 06 04.8 +0.2**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KK31 **Karatay Array** 35.88 62 P **P** **10 06 04.8 +0.2**
comp=Z,2.0nm,0.4s
KKAR **Karatay Array** 35.88 62 *e*P **P** **10 06 05.6 +1.0**
KKAR pmax pmax
comp=Z,10.0nm,0.8s
KKAR **Karatay Array** 35.88 62 *e*P **P** **10 06 05.6 +1.0**
comp=Z,9.6nm,0.8s
KKAR **Karatay Array** 35.88 62 *e*P **P** **10 06 05.6 +1.0**
comp=Z,9.6nm,0.8s
BRVK **Borovoye** 36.80 45⇓ *i* P **P** **10 06 12.5 +0.2**
BRVK pmax pmax
comp=Z,13nm,0.9s
BRVK **Borovoye** 36.80 45 *e*P **P** **10 06 13.2 +0.8**
comp=Z,19nm,1.1s
BRVK **Borovoye** 36.80 45 *i* P **P** **10 06 12.5 +0.2**
comp=Z,13nm,0.9s
BVAR **Borovoye Array** 36.85 45 P **P** **10 06 13.3 +0.5**
BVAR pmax pmax
comp=Z,10.0nm,0.9s
BVAR **Borovoye Array** 36.85 45 P **P** **10 06 13.3 +0.5**
BVAR **Borovoye Array** 36.85 45 P **P** **10 06 13.3 +0.5**
comp=Z,10nm,0.9s,baz=240,slow=8.1,SNR=36
BVAR **Borovoye Array** 36.85 45 P **P** **10 06 13.3 +0.5**
comp=Z,10.0nm,0.9s
EKS2 **Erkin-Say** 38.29 62 *e*P **P** **10 06 25.8 +0.5**
EKS2 pmax pmax
comp=Z,6.0nm,0.8s
EKS2 **Erkin-Say** 38.29 62 *e*P **P** **10 06 25.8 +0.5**
comp=Z,6.1nm,0.8s
EKS2 **Erkin-Say** 38.29 62 *e*P **P** **10 06 25.8 +0.5**
comp=Z,6.1nm,0.8s
AAK **Ala-Archa** 38.82 62 *ce*P **P** **10 06 30.5 +0.7**
AAK pmax pmax
comp=Z,13nm,1.1s
AAK **Ala-Archa** 38.82 62 P **P** **10 06 30.2 +0.5**
AAK **Ala-Archa** 38.82 62 P **P** **10 06 30.2 +0.5**
comp=Z,2.7nm,0.5s,baz=204,slow=3.1,SNR=5.2
AAK **Ala-Archa** 38.82 62 P **P** **10 06 30.2 +0.5**
DBIC **Dimbokro** 39.18 233 P **P** **10 06 32.6 -0.2**
DBIC **Dimbokro** 39.18 233 P **P** **10 06 32.6 -0.2**
comp=Z,9.3nm,0.7s,baz=18,slow=8.6,SNR=10.0
DBIC **Dimbokro** 39.18 233 P **P** **10 06 32.6 -0.2**
comp=Z,9.0nm,0.7s
TKM2 **Tokmak 2** 39.61 62 *e*P **P** **10 06 37.6 +1.2**
TKM2 pmax pmax
comp=Z,6.0nm,1.0s
TKM2 **Tokmak 2** 39.61 62 *e*P **P** **10 06 37.6 +1.2**
comp=Z,6.0nm,1.0s
TKM2 **Tokmak 2** 39.61 62 *e*P **P** **10 06 37.6 +1.2**
comp=Z,6.0nm,1.0s
LIC **Lamto** 39.63 233 *e*P **P** **10 06 36.7 +0.2**
comp=Z,28nm,0.7s
LIC **Lamto** 39.63 233 *e*P **P** **10 06 36.7 +0.2**
comp=Z,14nm,0.7s
KSH **Kashi** 40.27 67 *e*P **P** **10 06 40.8 -1.0**
KSH pP **pP** **10 06 50.4 +0.4**
KSH sP **sP** **10 06 53.8 +0.4**
KSH PP **PnPn** **10 08 19.4 +1.1**
KSH S **S** **10 12 46.3 -1.3**
KSH sS **sS** **10 12 59.3 -1.8**
KSH ScS **ScS** **10 16 46.7 +0.3**
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH LR LR
comp=N,1µm,12.3s
KSH LR LR
comp=E,2µm,13.3s
KSH LR LR
comp=Z,3µm,16.9s
KURBB **Kurchatov Arra** 41.54 50 P **P** **10 06 52.3 +0.4**
comp=Z,18nm,0.8s,baz=276,slow=8.7,SNR=95
KURK **Kurchatov** 41.60 50 P **P** **10 06 52.3 -0.1**
KURK pmax pmax
comp=Z,18nm,0.8s
KURK **Kurchatov** 41.60 50 P **P** **10 06 52.3 -0.1**
KURK **Kurchatov** 41.60 50 P **P** **10 06 52.3 -0.1**
comp=Z,18nm,0.8s
BORG **Borgarnes** 41.73 332 P **P** **10 06 53.7 +0.5**
BORG **Borgarnes** 41.73 332 P **P** **10 06 53.7 +0.5**
comp=Z,3.4nm,0.6s,baz=156,slow=7.3,SNR=2.8
BORG **Borgarnes** 41.73 332 P **P** **10 06 53.7 +0.5**
comp=Z,3.0nm,0.6s
SDNR **Sundarnagar** 42.88 79 *e*P **P** **10 07 03.0 -0.2**
MK31 **Makanchi Array** 44.08 56 *e*P **P** **10 07 13.1 +0.4**
MK31 pmax pmax
comp=Z,13nm,0.7s
MK31 **Makanchi Array** 44.08 56 *e*P **P** **10 07 13.2 +0.6**
MK31 **Makanchi Array** 44.08 56 *e*P **P** **10 07 13.1 +0.4**
comp=Z,13nm,0.7s
MKAR **Makanchi Array** 44.08 56 P **P** **10 07 13.1 +0.4**
MKAR pmax pmax
comp=Z,10.0nm,0.7s
MKAR **Makanchi Array** 44.08 56 P **P** **10 07 13.1 +0.4**
comp=Z,10nm,0.7s,baz=277,slow=6.3,SNR=56
MKAR **Makanchi Array** 44.08 56 P **P** **10 07 13.1 +0.4**
comp=Z,10.0nm,0.7s
SPITS **Spitsbergen Ar** 44.43 357 P **P** **10 07 14.3 -0.7**
SPITS **Spitsbergen Ar** 44.43 357 P **P** **10 07 14.3 -0.7**
comp=Z,7.8nm,0.7s,baz=149,slow=12,SNR=8.5
SPITS **Spitsbergen Ar** 44.43 357 P **P** **10 07 14.3 -0.7**
comp=Z,8.0nm,0.7s
KBS **Kingsbay** 45.37 356⇑ *e*P **P** **10 07 22.1 -0.4**
KBS pmax pmax
comp=Z,15nm,1.0s
KBS **Kingsbay** 45.37 356 *e*P **P** **10 07 22.1 -0.4**
comp=Z,15nm,1.0s
ZAA0 **Zalesovo Array** 45.51 45 *e*P **P** **10 07 23.4 -0.5**
ZAA0 **Zalesovo Array** 45.51 45 *e*P **P** **10 07 23.4 -0.5**
ZALV **Zalesovo Beam** 45.51 45 *i* P **P** **10 07 23.7 -0.1**
ZALV pmax pmax
comp=Z,12nm,0.5s

ZALV	**Zalesovo Beam**	**45.51**	**45**	P	**P**	**10 07 23.8**	**-0.1**
ZALV	**Zalesovo Beam**	**45.51**	**45**	P	**P**	**10 07 23.8**	**-0.1**
	comp=Z,12nm,0.5s,baz=266,slow=8.5,SNR=40						
ZALV	**Zalesovo Beam**	**45.51**	**45**	P	**P**	**10 07 23.8**	**-0.1**
DAG	**Danmarks Havn**	**47.23**	**347**	*i* P	**P**	**10 07 36.1**	**-1.0**
	comp=Z,7.1nm,0.8s						
WMQ	**Urumqi**	**48.24**	**59**	P	**P**	**10 07 47.0**	**+1.5**
WMQ				pP	**pP**	**10 07 54.0**	**+0.1**
WMQ				sP	**sP**	**10 07 57.3**	**+0.1**
WMQ				PP	**PP**	**10 09 38.6**	**+0.8**
WMQ				pmax	pmax		
	comp=Z,54nm,1.1s						
PYUN	**Piuthan**	**48.95**	**81**	*e*P	**P**	**10 07 52.0**	**+0.7**
	comp=Z,84nm,0.9s						
LSZ	**Lusaka**	**49.09**	**177**	P	**P**	**10 07 53.1**	**+0.9**
LSZ	**Lusaka**	**49.09**	**177**	P	**P**	**10 07 53.1**	**+0.9**
	comp=Z,1.4nm,0.5s,baz=12,slow=8.3,SNR=4.9						
LSZ	**Lusaka**	**49.09**	**177**	P	**P**	**10 07 53.1**	**+0.9**
	comp=Z,1.0nm,0.5s						
DANN	**Dangsing**	**49.48**	**80**	*e*P	**P**	**10 07 56.5**	**+1.0**
	comp=Z,145nm,0.8s						
KOLN	**Koldanda**	**49.57**	**81**	*e*P	**P**	**10 07 56.3**	**+0.2**
	comp=Z,35nm,0.9s						
SUMG	**Summit**	**50.17**	**339**	*e*P	**P**	**10 08 00.2**	**0.0**
SUMG				pmax	pmax		
	comp=Z,19nm,1.1s						
SUMG	**Summit**	**50.17**	**339**	*e*P	**P**	**10 08 00.2**	**0.0**
	comp=Z,19nm,1.1s						
SUMG	**Summit**	**50.17**	**339**	*i* P	**P**	**10 08 00.9**	**+0.7**
	comp=Z,12nm,0.9s						
SUMG	**Summit**	**50.17**	**339**	*e*P	**P**	**10 08 00.2**	**0.0**
	comp=Z,19nm,1.1s						
DMN	**Daman**	**50.87**	**80**	*e*P	**P**	**10 08 06.3**	**+0.3**
	comp=Z,70nm,0.9s						
KKN	**Kakani**	**50.94**	**80**	*e*P	**P**	**10 08 06.6**	**+0.1**
	comp=Z,67nm,1.0s						
PKIN	**Phulchoki**	**51.12**	**80**	*e*P	**P**	**10 08 07.9**	**0.0**
	comp=Z,60nm,1.0s						
PKI	**Pulchoki**	**51.13**	**80**	*e*P	**P**	**10 08 08.1**	**+0.1**
	comp=Z,70nm,1.0s						
GUN	**Gumba**	**51.38**	**80**	*e*P	**P**	**10 08 10.2**	**+0.3**
	comp=Z,124nm,0.9s						
JIRN	**Jiri**	**51.73**	**80**	*e*P	**P**	**10 08 12.8**	**+0.2**
	comp=Z,53nm,0.9s						
RAMN	**Ramite**	**52.35**	**80**	*e*P	**P**	**10 08 16.5**	**-0.5**
	comp=Z,23nm,0.7s						
ODAN	**Odare**	**53.03**	**80**	*e*P	**P**	**10 08 20.8**	**-1.3**
	comp=Z,7.9nm,0.3s						
TAPN	**Taplejung**	**53.10**	**79**	*e*P	**P**	**10 08 22.5**	**-0.1**
	comp=Z,62nm,1.1s						
TSUM	**Tsumeb**	**53.49**	**189**	*e*P	**P**	**10 08 25.6**	**+0.5**
	comp=Z,341nm,3.0s						
TSUM	**Tsumeb**	**53.49**	**189**	P	**P**	**10 08 25.7**	**+0.5**
	comp=Z,5.6nm,0.7s,baz=0.6,slow=9.8,SNR=12						
TSUM	**Tsumeb**	**53.49**	**189**	*e*P	**P**	**10 08 25.6**	**+0.5**
	comp=Z,341nm,3.0s						
MOY	**Mondy**	**55.49**	**47**	*e*P	**P**	**10 08 41.1**	**+1.6**
TLY	**Talaya**	**57.09**	**47**	*e*P	**P**	**10 08 53.1**	**+2.3**
TLY				pmax	pmax		
	comp=Z,18nm,1.5s						
ZAK	**Zakamensk**	**57.20**	**48**	*e*P	**P**	**10 08 52.3**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
IRK	**Irkutsk**	**57.32**	**46**	*e*P	P	10 08 44.8	-7.6
IRK				pmax	pmax		
	comp=Z,31nm,0.9s						
GTA	**Gaotai**	**58.16**	**61**	*e*P	**P**	**10 08 59.2**	**+0.6**
GTA				pP	**pP**	**10 09 05.2**	**-1.9**
GTA				sP	**sP**	**10 09 07.9**	**-2.5**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LBTB	**Lobatse**	**58.72**	**180**	P	**P**	**10 09 04.7**	**+2.2**
LBTB	**Lobatse**	**58.72**	**180**	P	**P**	**10 09 04.7**	**+2.2**
	comp=Z,3.9nm,0.7s,baz=3.9,slow=8.1,SNR=5.7						
SONM	**Songino Array**	**59.90**	**50**	P	**P**	**10 09 11.3**	**+0.7**
SONM	**Songino Array**	**59.90**	**50**	P	**P**	**10 09 11.3**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=281,slow=8.4,SNR=15						
ULN	**Ulaanbaatar**	**60.31**	**50**	*e*P	**P**	**10 09 14.5**	**+1.0**
	comp=Z,75nm,2.2s						
FRB	**Frobisher Bay**	**61.83**	**330**	P	**P**	**10 09 23.4**	**+0.1**
FRB	**Frobisher Bay**	**61.83**	**330**	P	**P**	**10 09 23.4**	**+0.1**
	comp=Z,17nm,0.9s,baz=67,slow=7.6,SNR=8.2						
TIXI	**Tiksi**	**62.09**	**20**	*c*e P	**P**	**10 09 24.6**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BOSA	**Boshof**	**62.31**	**180**	*e*P	**P**	**10 09 27.5**	**+0.6**
	comp=Z,92nm,2.1s						
BOSA	**Boshof**	**62.31**	**180**	P	**P**	**10 09 27.8**	**+0.9**
	comp=Z,3.2nm,0.6s,baz=18,slow=6.9,SNR=12						
LZH	**Lanzhou**	**62.35**	**64**	*e*P	P	10 09 31.7	+4.3
LZH				pP	pP	10 09 39.6	+3.6
LZH				sP	sP	10 09 44.0	+4.8
LZH				PP	PP	10 11 50.8	+6.3
LZH				*e*S	**S**	**10 17 54.5**	**+2.1**
LZH				sS	sS	10 18 07.6	+1.1
LZH				pmax	pmax		
	comp=Z,38nm,1.5s						
LZH				pmax	pmax		
	comp=Z,170nm,6.0s						
LZH				LR	LR		
	comp=N,1μm,16.0s						
LZH				LR	LR		
	comp=E,1μm,15.2s						
LZH				LR	LR		
	comp=Z,2μm,17.5s						
CIT	**Chita**	**62.83**	**44**	*e*P	**P**	**10 09 31.4**	**+1.2**
SCHQ	**Schefferville**	**64.30**	**320**	P	**P**	**10 09 39.7**	**-0.1**
	comp=Z,21nm,0.9s						
SCHQ	**Schefferville**	**64.30**	**320**	P	**P**	**10 09 39.7**	**-0.1**
	comp=Z,17nm,0.7s,baz=63,slow=6.0,SNR=45						
CD2	**Chengdu**	**64.43**	**69**	P	**P**	**10 09 42.4**	**+1.3**
CD2				pP	**pP**	**10 09 51.1**	**+1.4**
CD2				sP	**sP**	**10 09 54.6**	**+1.6**
CD2				PcP	**PcP**	**10 10 16.7**	**+1.4**
CD2				PP	**PP**	**10 12 05.8**	**+3.0**
CD2				PcS		10 14 19.2	
CD2				S	**S**	**10 18 17.2**	**-1.1**
CD2				sS	**sS**	**10 18 31.5**	**-0.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,6.3s						
CD2				LR	LR		
	comp=N,2μm,17.6s						
CD2				LR	LR		
	comp=E,3μm,17.6s						
CD2				LR	LR		
	comp=Z,2μm,17.2s						
HHC	**Hu-ho-hao-te**	**65.94**	**56**	*e*P	**P**	**10 09 50.3**	**-0.5**
HHC				pP	**pP**	**10 09 58.1**	**-1.4**
HHC				sP	**sP**	**10 10 01.3**	**-1.4**
HHC				PP	**PP**	**10 12 17.5**	**+1.7**
HHC				PcS		10 14 24.2	
HHC				S	**S**	**10 18 33.9**	**-2.8**
HHC				ScS	**SKSac**	**10 19 40.8**	**-4.2**
HHC				pmax	pmax		
	comp=Z,99nm,1.0s						
HHC				LR	LR		
	comp=N,1μm,18.4s						
HHC				LR	LR		
	comp=E,1μm,17.2s						
HHC				LR	LR		
	comp=Z,2μm,18.0s						
SUR	**Sutherland**	**66.22**	**184**	P	**P**	**10 09 55.3**	**+2.8**
SUR	**Sutherland**	**66.22**	**184**	P	**P**	**10 09 55.3**	**+2.8**
	comp=Z,5.3nm,0.7s,baz=38,slow=5.3,SNR=4.0						
KMI	**Kunming**	**66.22**	**75**	P	**P**	**10 09 51.6**	**-1.4**
KMI				S	**S**	**10 18 39.1**	**-1.6**
KMI				pmax	pmax		
	comp=Z,16nm,2.0s						
KMI				LR	LR		
	comp=N,3μm,15.1s						
KMI				LR	LR		
	comp=E,5μm,15.1s						
KMI				LR	LR		
	comp=Z,4μm,17.0s						
CMAR	**Chiang Mai Arr**	**66.32**	**83**	P	**P**	**10 09 53.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**66.32**	**83**	P	**P**	**10 09 53.8**	**+0.4**
	comp=Z,3.4nm,0.7s,baz=299,slow=8.1,SNR=20						
YAK	**Yakutsk**	**66.66**	**30**	*e*P	**P**	**10 09 54.8**	**-0.1**
YAK				pmax	pmax		
	comp=Z,18nm,0.9s						
PQI	**Presque Isle**	**68.44**	**312**	P	**P**	**10 10 07.0**	**+0.6**
GYA	**Guiyang**	**68.72**	**72**	P	**P**	**10 10 10.2**	**+1.5**
GYA				pP	**pP**	**10 10 19.2**	**+1.9**
GYA				PP	**PP**	**10 12 44.3**	**+3.9**
GYA				ScP		10 14 35.6	
GYA				S	**S**	**10 19 10.0**	**-0.5**
GYA				SKS	**SKiKP**	**10 20 02.3**	**+3.0**
GYA				SS	**SS**	**10 23 36.6**	**+1.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=N,460nm,20.4s						
GYA				LR	LR		
	comp=E,380nm,22.8s						
GYA				LR	LR		
	comp=Z,410nm,21.6s						
BJI	**Beijing**	**69.46**	**55**	P	**P**	**10 10 13.8**	**+1.0**
BJI				pmax	pmax		
	comp=Z,13nm,0.6s						
RCBR	**Riachuelo**	**70.27**	**248**	P	**P**	**10 10 18.9**	**+0.7**
RCBR	**Riachuelo**	**70.27**	**248**	P	**P**	**10 10 18.9**	**+0.7**
	comp=Z,9.4nm,0.8s,baz=30,slow=7.9,SNR=7.8						
WHN	**Wuhan**	**72.68**	**65**	P	P	10 10 26.9	-5.6
FRNY	**Flat Rock**	**72.74**	**313**	*e*P	**P**	**10 10 33.4**	**+0.8**
	comp=Z,9.6nm,1.0s						
LONY	**Lake Ozonia**	**73.45**	**313**	*e*P	**P**	**10 10 38.6**	**+1.7**
	comp=Z,12nm,1.1s						
CN2	**Changchun**	**73.64**	**48**	*e*P	**P**	**10 10 36.0**	**-2.0**
CN2				*ep*P	**pP**	**10 10 43.9**	**-2.8**
CN2				*es*P	**sP**	**10 10 47.1**	**-2.8**
BILL	**Bilibino**	**74.06**	**14**	*i* P	**P**	**10 10 39.0**	**-1.0**
BILL				*e*		10 10 45.9	
BILL				*e**PP	**pP**	**10 10 50.3**	**+1.5**
BILL				*e**SP	**sP**	**10 10 55.9**	**+3.9**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BILL				MLR	MLR		
	comp=Z,600nm,20.0s						
KLR	**Kul'dur**	**74.36**	**41**	*e*P	P	10 10 38.0	-4.1
PSI	**Prapat**	**74.60**	**97**	P	**P**	**10 10 44.1**	**-0.1**
PSI	**Prapat**	**74.60**	**97**	P	**P**	**10 10 44.1**	**-0.1**
	comp=Z,6.6nm,0.8s,baz=336,slow=5.0,SNR=4.5						
QIZ	**Qiongzhong**	**74.94**	**77**	P	**P**	**10 10 46.0**	**0.0**
QIZ				S	**S**	**10 20 22.7**	**+0.7**
QIZ				pmax	pmax		
	comp=Z,14nm,1.2s						
NJ2	**Nanjing**	**75.25**	**61**	*e*P	**P**	**10 10 48.9**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SADO	**Sadowa**	**76.11**	**315**	P	**P**	**10 10 52.5**	**+0.3**
SADO	**Sadowa**	**76.11**	**315**	P	**P**	**10 10 52.5**	**+0.3**
	comp=Z,4.4nm,0.5s,baz=84,slow=4.5,SNR=12						
HABR	**Khabarovsk**	**76.58**	**40**	*e*P	**P**	**10 10 53.3**	**-1.5**
HABR				*e*		10 11 04.2	
HABR				*e**SP	**sP**	**10 11 07.5**	**+0.7**
HABR				*e*S	**S**	**10 20 37.6**	**-1.6**
HABR						10 21 07.2	
HABR				*e*SS	**SS**	**10 25 33.6**	**0.0**
HABR				*e*SSS	SSS	10 28 57.6	
HABR				pmax	pmax		
	comp=N,28nm,2.0s						
HABR				pmax	pmax		
	comp=E,21nm,1.3s						
HABR				pmax	pmax		
	comp=Z,28nm,1.7s						
HABR				MLR	MLR		
	comp=Z,2μm,21.0s						
INK	**Inuvik**	**76.79**	**352**	P	**P**	**10 10 55.5**	**-0.2**
INK	**Inuvik**	**76.79**	**352**	P	**P**	**10 10 55.5**	**-0.2**
	comp=Z,6.0nm,0.8s,baz=7.7,slow=6.9,SNR=9.7						
MVL	**Millersville**	**77.04**	**310**	*e*P	**P**	**10 10 59.4**	**+1.7**
	comp=Z,9.9nm,1.0s						
USRK	**Ussuriysk Arra**	**77.37**	**45**	P	**P**	**10 10 59.4**	**+0.1**
	comp=Z,8.0nm,0.8s,baz=292,slow=5.2,SNR=15						
KSAR	**Wonju Array Be**	**78.64**	**52**	P	**P**	**10 11 07.0**	**+0.4**
YKA	**Yellowknife Ar**	**78.64**	**342**	P	**P**	**10 11 05.8**	**-0.3**
YKA	**Yellowknife Ar**	**78.64**	**342**	P	**P**	**10 11 05.8**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=32,slow=5.4,SNR=19						
KSRS	**Korea Array**	**78.66**	**52**	P	**P**	**10 11 07.0**	**+0.4**
	comp=Z,4.5nm,0.8s,baz=301,slow=4.9,SNR=17						
COLD	**Coldfoot**	**79.01**	**358**	*e*P	**P**	**10 11 08.7**	**+0.7**
	comp=Z,8.6nm,0.9s						
FFC	**Flin Flon**	**80.81**	**332**	*i* P	**P**	**10 11 19.0**	**+1.0**
COLA	**College**	**81.29**	**357**	*e*P	**P**	**10 11 20.7**	**+0.4**
COLA				pmax	pmax		
	comp=Z,16nm,1.3s						
COLA	**College**	**81.29**	**357**	*e*P	**P**	**10 11 20.7**	**+0.4**
	comp=Z,16nm,1.3s						
ILAR	**Eielson Array**	**81.35**	**357**	P	**P**	**10 11 20.4**	**-0.3**
ILAR	**Eielson Array**	**81.35**	**357**	P	**P**	**10 11 20.4**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=352,slow=3.6,SNR=15						
ULM	**Lac du Bonnet**	**81.46**	**326**	P	**P**	**10 11 21.9**	**+0.4**
	comp=Z,6.5nm,0.9s						
ULM	**Lac du Bonnet**	**81.46**	**326**	P	**P**	**10 11 21.9**	**+0.4**
	comp=Z,5.0nm,0.8s,baz=26,slow=6.6,SNR=3.7						
DOT	**Dot Lake**	**82.31**	**355**	*e*P	**P**	**10 11 26.4**	**+0.6**
	comp=Z,13nm,0.9s						
MCK	**McKinley**	**82.47**	**358**	*e*P	**P**	**10 11 26.6**	**-0.1**
MCK				pmax	pmax		
	comp=Z,15nm,1.0s						
MCK	**McKinley**	**82.47**	**358**	*e*P	**P**	**10 11 26.6**	**-0.1**
	comp=Z,15nm,1.0s						
TRF	**Thorofare Moun**	**82.80**	**358**	*e*P	**P**	**10 11 27.9**	**-0.6**
	comp=Z,9.7nm,0.8s						
AGMN	**Agassiz Nation**	**82.82**	**325**	*e*P	**P**	**10 11 28.4**	**-0.3**
	comp=Z,5.8nm,0.8s						
MENT	**Mentasta**	**82.99**	**355**	*e*P	**P**	**10 11 30.2**	**+0.8**
PAX	**Paxson**	**83.07**	**356**	*e*P	**P**	**10 11 30.4**	**+0.5**
PAX				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PAX	**Paxson**	**83.07**	**356**	*e*P	**P**	**10 11 30.4**	**+0.5**
	comp=Z,6.0nm,1.0s						
JFWS	**Jewell Farm**	**83.59**	**318**	*e*P	**P**	**10 11 33.0**	**+0.2**
JFWS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
JFWS	**Jewell Farm**	**83.59**	**318**	*e*P	**P**	**10 11 33.0**	**+0.2**
	comp=Z,7.2nm,0.8s						
SML	**Sawmill**	**84.37**	**357**	*e*P	**P**	**10 11 37.0**	**+0.5**
SML				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SML	**Sawmill**	**84.37**	**357**	*e*P	**P**	**10 11 37.0**	**+0.5**
	comp=Z,3.6nm,0.8s						
PMR	**Palmer**	**84.62**	**357**	*e*P	**P**	**10 11 37.8**	**+0.2**
PMR				pmax	pmax		
	comp=Z,12nm,1.0s						
PMR	**Palmer**	**84.62**	**357**	*e*P	**P**	**10 11 37.8**	**+0.2**
	comp=Z,12nm,1.0s						
SPU	**Mount Spurr**	**85.11**	**359**	*e*P	**P**	**10 11 39.9**	**-0.3**
BDFB	**Brasilia**	**85.64**	**248**	P	**P**	**10 11 44.5**	**+0.9**
BDFB	**Brasilia**	**85.64**	**248**	P	**P**	**10 11 44.5**	**+0.9**
	comp=Z,11nm,0.6s,baz=36,slow=6.1,SNR=13						
DLBC	**Dease Lake**	**85.65**	**347**	P	**P**	**10 11 44.5**	**+1.5**
DLBC	**Dease Lake**	**85.65**	**347**	P	**P**	**10 11 44.5**	**+1.5**
	comp=Z,2.7nm,0.8s,baz=342,slow=5.0,SNR=3.2						
MAT	**Matsushiro**	**85.78**	**48**	P	**P**	**10 11 43.9**	**-0.1**
MJAR	**Matsushiro Arr**	**85.79**	**48**	P	**P**	**10 11 44.6**	**+0.5**
MJAR	**Matsushiro Arr**	**85.79**	**48**	P	**P**	**10 11 44.6**	**+0.5**
	comp=Z,5.0nm,1.0s,baz=310,slow=4.4,SNR=11						
SIUC	**Southern Illin**	**86.41**	**314**	*e*P	**P**	**10 11 47.3**	**+0.2**
	comp=Z,15nm,0.9s						
ECSD	**EROS Data Cent**	**86.41**	**322**	*e*P	**P**	**10 11 47.0**	**0.0**
	comp=Z,7.5nm,0.8s						
DGMT	**Dagmar**	**86.46**	**329**	*e*P	**P**	**10 11 47.3**	**+0.2**
	comp=Z,12nm,1.0s						
WVT	**Waverly**	**86.60**	**312**	*e*P	**P**	**10 11 47.1**	**-0.9**
WVT				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WVT	**Waverly**	**86.60**	**312**	*e*P	**P**	**10 11 47.1**	**-0.9**
	comp=Z,4.2nm,0.7s						
LRAL	**Lakeview Retre**	**88.06**	**309**	*e*P	**P**	**10 11 55.3**	**+0.2**
	comp=Z,24nm,1.2s						
KDAK	**Kodiak Island**	**88.53**	**359**	*e*P	**P**	**10 11 57.3**	**+0.5**
	comp=Z,36nm,1.6s						
KDAK	**Kodiak Island**	**88.53**	**359**	P	**P**	**10 11 57.5**	**+0.7**
	comp=Z,7.9nm,0.9s,baz=106,slow=5.0,SNR=7.5						
FX1	**Attu Island--F**	**88.94**	**19**	P	**P**	**10 11 58.7**	**-0.2**
FX1	**Attu Island--F**	**88.94**	**19**	P	**P**	**10 11 58.7**	**-0.2**
	comp=Z,3.6nm,0.5s,baz=329,slow=5.9,SNR=6.2						
EGMT	**Eagleton**	**89.08**	**332**	*e*P	**P**	**10 11 59.8**	**0.0**
	comp=Z,17nm,1.4s						
OHAK	**Ohi Harbor**	**89.10**	**359**	*e*P	**P**	**10 12 00.4**	**+0.9**
	comp=Z,32nm,1.4s						
RSSD	**Black Hills**	**89.73**	**326**	*e*P	**P**	**10 12 03.8**	**+0.7**
RSSD				pmax	pmax		
	comp=Z,8.0nm,1.1s						
RSSD	**Black Hills**	**89.73**	**326**	*e*P	**P**	**10 12 03.8**	**+0.7**
	comp=Z,8.3nm,1.1s						
YBMT	**Yellow Bay**	**90.82**	**334**	*e*P	**P**	**10 12 08.8**	**+0.8**
	comp=Z,5.9nm,1.0s						
YBMT				*e*PP	**PP**	**10 15 38.7**	**-4.2**
GCMT	**Greycliff**	**90.86**	**331**	*e*P	**P**	**10 12 08.6**	**+0.3**
	comp=Z,5.1nm,1.3s						
JTMT	**Jette**	**91.02**	**334**	*e*P	**P**	**10 12 09.3**	**+0.4**
BSMT	**Bassoo Peak**	**91.11**	**335**	*e*P	**P**	**10 12 10.0**	**+0.6**
SWMT	**Swartz Lake**	**91.11**	**334**	*e*P	**P**	**10 12 10.2**	**+0.9**
SLMT	**Seeley Lake**	**91.15**	**334**	*e*P	**P**	**10 12 10.0**	**+0.4**
NEW	**Newport**	**91.56**	**336**	P	**P**	**10 12 11.5**	**+0.2**
NEW	**Newport**	**91.56**	**336**	P	**P**	**10 12 11.5**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=316,slow=4.7,SNR=6.8						
PHWY	**Pilot Hill**	**92.58**	**325**	*e*P	**P**	**10 12 16.9**	**+0.4**
	comp=Z,9.3nm,1.0s						
IMW	**Indian Meadow**	**92.93**	**330**	*e*P	**P**	**10 12 18.6**	**+0.6**
	comp=Z,8.3nm,1.4s						
PDAR	**Pinedale Array**	**93.27**	**329**	P	**P**	**10 12 19.0**	**-0.5**
PDAR	**Pinedale Array**	**93.27**	**329**	P	**P**	**10 12 19.0**	**-0.5**
	comp=Z,1.0nm,1.0s,baz=25,slow=3.9,SNR=5.1						
ISCO	**Idaho Springs**	**93.82**	**325**	*e*P	**P**	**10 12 22.5**	**+0.2**
ISCO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ISCO	**Idaho Springs**	**93.82**	**325**	*e*P	**P**	**10 12 22.5**	**+0.2**
	comp=Z,3.5nm,0.9s						
SDCO	**Great Sand Dun**	**95.36**	**323**	*e*P	**P**	**10 12 28.0**	**-1.3**
	comp=Z,3.1nm,1.1s						
TXAR	**Lajitas Array**	**100.82**	**317**	P	**Pdif**	**10 12 55.0**	**+1.2**
TXAR				PP	**PP**	**10 17 00.6**	**-0.3**
TXAR	**Lajitas Array**	**100.82**	**317**	P	**Pdif**	**10 12 55.0**	**+1.2**
	comp=Z,0.5nm,0.9s,baz=54,slow=6.4,SNR=3.6						
TXAR				PP	**PP**	**10 17 00.6**	**-0.3**
	comp=Z,0.6nm,1.0s,baz=56,slow=5.5,SNR=3.5						
WRA	**Warramunga Arr**	**116.07**	**97**	PKP	**PKPdf**	**10 17 47.4**	**-0.6**
WRA	**Warramunga Arr**	**116.07**	**97**	PKP	**PKPdf**	**10 17 47.4**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=301,slow=1.7,SNR=6.8						
ASAR	**Alice Springs**	**117.46**	**101**	PKP	**PKPdf**	**10 17 49.9**	**-0.7**
ASAR	**Alice Springs**	**117.46**	**101**	PKP	**PKPdf**	**10 17 49.9**	**-0.7**
	comp=Z,2.4nm,1.1s,baz=320,slow=1.7,SNR=10						
QSPA	**South Pole Qui**	**123.89**	**180**	PKP	**PKPdf**	**10 18 01.7**	**0.0**
QSPA	**South Pole Qui**	**123.89**	**180**	PKP	**PKPdf**	**10 18 01.7**	**0.0**
	comp=Z,6.4nm,1.1s,baz=230,slow=2.5,SNR=7.7						

MEX 01 10:00:48.9±1.2, 15°25'N×96°38'W, h15km±22km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HUIG	**Huatulco**	**0.58**	**27**	*e*P		Pg	10 00 59.2	-1.1
HUIG				*e*S		Sg	10 01 05.5	-2.5
PNIG	**Pinotepa**	**2.03**	**304**	*e*P		Pn	10 01 19.7	-2.9
PNIG				*i* S		Sn	10 01 42.3	-5.4
UTMO	**Huajuapan**	**2.90**	**332**	*i* P		Pn	10 01 32.1	-2.8
UTMO				*i* S		Sn	10 02 06.2	-3.5
PCIG		**3.08**	**81**	*e*P		Pn	10 01 34.2	-2.8
PCIG				*i* S		Sn	10 02 09.2	-4.4

*ISCJB **01** 10:04:19.8±0.4,33°.90N±0°.04×25°.35E±0°.04,h17km, mb4.0/21,Error ellipse: s-maj=5.7km s-min=4.2km az=16.9*
*CSEM **01** 10:04:19.8±0.8,34°.01N×25°.35E,h2km,MD3.6,Error ellipse: s-maj=20.4km s-min=10.0km az=142.0*
*ATH **01** 10:04:19.1,33°.91N×25°.40E,h17km±4km,MD3.6/9*
*IDC **01** 10:04:20.1±1.0,34°.11N×25°.27E,h0km,mb4.1/14, mb1 4.3/20,mb1mx4.1/33,mbtmp4.1/20,ML4.4/6,Error ellipse: s-maj=21.7km s-min=15.8km az=4.0*

ISC 01 10:04:22.3±0.7,34°.03N±0°.06×25°.32E±0°.05,h17km,n79, σ0°96/86,mb4.2/20,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIVA	**Sivas**	**1.07**	**337**	*e*PN		**Pb**	**10 04 41.9**	**-0.5**
SIVA				*e*SN		**Sg**	**10 04 58.8**	**+1.7**
SIVA	**Sivas**	**1.07**	**337**	*e*Pn		**Pb**	**10 04 41.9**	**-0.5**
SIVA				*e*Sn		**Sg**	**10 04 58.8**	**+1.7**
LAST	**Lasithi**	**1.14**	**6**	*e*PB		**Pn**	**10 04 41.6**	**-1.9**
LAST				*e*SN		**Sg**	**10 04 59.5**	**+0.4**
LAST	**Lasithi**	**1.14**	**6**	*e*Pb		**Pn**	**10 04 41.6**	**-1.9**
LAST				*e*Sn		**Sg**	**10 04 59.5**	**+0.4**
NPS	**Neapolis**	**1.25**	**11**	*e*PN		**Pn**	**10 04 44.1**	**-0.9**
NPS				*e*SN		**Sg**	**10 05 02.8**	**0.0**
NPS	**Neapolis**	**1.25**	**11**	*e*Pn		**Pn**	**10 04 44.1**	**-0.9**
NPS				*e*Sn		**Sg**	**10 05 02.8**	**0.0**
GVD	**Gavdhos**	**1.30**	**309**	*e*PN		**Pb**	**10 04 46.3**	**0.0**
GVD	**Gavdhos**	**1.30**	**309**	*e*Pn		**Pb**	**10 04 46.3**	**0.0**
IDI	**Anoyia**	**1.30**	**344**	*e*PN		**Pn**	**10 04 45.2**	**-0.6**
IDI	**Anoyia**	**1.30**	**344**	*e*Pn		**Pn**	**10 04 45.2**	**-0.6**
ZKR	**Zakros**	**1.31**	**34**	*e*PN		**Pn**	**10 04 46.0**	**+0.2**
ZKR				*e*SN		**Sg**	**10 05 04.4**	**-0.3**
ZKR	**Zakros**	**1.31**	**34**	*e*Pn		**Pn**	**10 04 46.0**	**+0.2**
ZKR				*e*Sn		**Sg**	**10 05 04.4**	**-0.3**
VAM	**Vamos**

FLN	**La Foliniere**	**24.16**	**315**	*eP*	**P**	**10 09 36.3**	**-1.2**
GRR	**Gorron**	**24.21**	**314**	*eP*	**P**	**10 09 37.0**	**-0.9**
	21nm,0.9s						
GRR	**Gorron**	**24.21**	**314**	*eP*	**P**	**10 09 37.0**	**-0.9**
	20nm,0.9s						
SGMF	**Saint Gilles**	**25.18**	**313**	*eP*	**P**	**10 09 46.7**	**0.0**
SGMF	**Saint Gilles**	**25.18**	**313**	*eP*	**P**	**10 09 46.7**	**0.0**
QUIF	**Quistinic**	**25.42**	**312**	*eP*	**P**	**10 09 47.7**	**-1.2**
	13nm,0.7s						
QUIF	**Quistinic**	**25.42**	**312**	*eP*	**P**	**10 09 47.7**	**-1.2**
	13nm,0.7s						
ROSF	**Rostrenen**	**25.65**	**312**	*eP*	**P**	**10 09 51.2**	**+0.2**
	19nm,1.0s						
ROSF	**Rostrenen**	**25.65**	**312**	*eP*	**P**	**10 09 51.2**	**+0.2**
	18nm,1.0s						
HFS	**Hagfors**	**27.20**	**347**	P	P	**10 10 04.1**	**-0.7**
	3.4nm,0.7s,baz=152,slow=9.6,SNR=5.2						
FINES	**FINESS Array B**	**27.43**	**1**	P	**P**	**10 10 05.5**	**-1.4**
	2.3nm,0.7s,baz=170,slow=12,SNR=4.3						
NB2	**NORSAR Subarra**	**28.52**	**346**	P	**P**	**10 10 14.8**	**-1.9**
	comp=Z,1.1nm,0.8s,baz=156,slow=9.3						
NB2	**NORSAR Subarra**	**28.52**	**346**	P	**P**	**10 10 14.8**	**-1.9**
	comp=Z,1.1nm,0.8s,baz=156,slow=9.0,SNR=6.3						
NOA	**NORSAR Array B**	**28.52**	**346**	P	**P**	**10 10 16.2**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=150,slow=8.2,SNR=7.1						
EKA	**Eskdalemuir Ar**	**29.04**	**326**	P	**P**	**10 10 20.6**	**-0.7**
	comp=Z,2.5nm,0.8s,baz=126,slow=9.6,SNR=8.0						
TORD	**Torodi Ar. Bea**	**29.89**	**232**	P	**P**	**10 10 29.9**	**+0.8**
	comp=Z,3.4nm,0.7s,baz=35,slow=8.8,SNR=16						
KURBB	**Kurchatov Arra**	**41.73**	**50**	P	**P**	**10 12 10.7**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=277,slow=8.7,SNR=7.8						
MKAR	**Makanchi Array**	**44.29**	**56**	P	**P**	**10 12 31.8**	**+0.7**
	comp=Z,2.8nm,0.6s,baz=278,slow=6.4,SNR=15						
ZALV	**Zalesovo Beam**	**45.69**	**45**	P	**P**	**10 12 41.8**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=263,slow=9.9,SNR=4.2						
SONM	**Songino Array**	**60.10**	**50**	P	**P**	**10 14 28.9**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=286,slow=7.8,SNR=5.7						
SCHQ	**Schefferville**	**64.13**	**320**	P	**P**	**10 14 55.2**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=50,slow=12,SNR=5.6						
YKA	**Yellowknife Ar**	**78.56**	**342**	P	**P**	**10 16 22.5**	**0.0**
	comp=Z,0.6nm,0.7s,baz=30,slow=5.9,SNR=4.2						
KSRS	**Korea Array**	**78.86**	**52**	P	**P**	**10 16 25.0**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=301,slow=5.5,SNR=3.9						
ILAR	**Eielson Array**	**81.33**	**357**	P	**P**	**10 16 37.6**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=347,slow=3.9,SNR=9.6						

IDC 01 10:07:11.8±1.5,**33°93N**×25°**44E**,**h0**km,**mb3.6**/4,
mb1 3.7/6,**mb1mx3.5**/28,**mbtmp3.6**/6,**ML4.2**/2,**MS4.4**/1,
Ms1 4.4/1,**ms1mx3.7**/45,**Error ellipse: s-maj=36.8km**
s-min=25.3km az=144.0,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLR	**Muntele Rosu**	**11.56**	**2**	LR	LR	10 13 51.8	
	comp=Z,2μm,19.3s,baz=125,slow=35						
AKASG	**Malin Array Be**	**16.99**	**8**	Pn	Pn	10 11 09.8	-1.0
	1.0nm,0.3s,baz=201,slow=11,SNR=4.8						
GERES	**GERESS Array B**	**17.28**	**333**	P	Pn	10 11 13.4	-1.2
	0.3nm,0.3s,baz=146,slow=11,SNR=3.5						
EKA	**Eskdalemuir Ar**	**29.18**	**326**	P	P	10 13 15.6	+0.8
	0.1nm,0.3s,baz=119,slow=9.8,SNR=3.4						
TORD	**Torodi Ar. Bea**	**29.89**	**232**	P	P	10 13 21.1	-0.3
	0.5nm,0.6s,baz=31,slow=9.5,SNR=5.6						
KURBB	**Kurchatov Arra**	**41.72**	**50**	P	P	10 15 02.2	-0.1
	0.5nm,0.7s,baz=280,slow=8.3,SNR=3.2						
MKAR	**Makanchi Array**	**44.27**	**55**	P	P	10 15 23.1	0.0
	0.6nm,0.6s,baz=280,slow=6.2,SNR=5.2						

*IDC **01** 10:10:56.6±1.3,34°.05N×25°.16E,h0km,mb3.7/6,*
mb1 3.7/8,mb1mx3.5/29,mbtmp3.7/8,ML3.6/2,Error
ellipse: s-maj=28.4km s-min=23.3km az=152.0
*ISCJB **01** 10:10:57.4±0.8,33°.92N±0°.08×25°.35E±0°.08,h17km,*
mb3.4/6,Error ellipse: s-maj=12.1km s-min=9.1km
az=29.8
*CSEM **01** 10:11:00.2,34°.15N×25°.32E,h23km,MD3.7,After ATH*
*ATH **01** 10:11:00.2,34°.15N×25°.32E,h23km±6km,MD3.7/9*
ISC 01 10:10:59.6±1.1,**34°1N**±0°.1×**25°31E**±0°.06,**h17**km,**n27**,
σ0°**89**/**27**,**mb3.5**/**6**,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**1.03**	**336**	*e*PN	**Pb**	**10 11 18.6**	**-0.4**
SIVA	**Sivas**	**1.03**	**336**	*e*Pn	**Pb**	**10 11 18.6**	**-0.4**
LAST	**Lasithi**	**1.09**	**7**	*e*PN	**Pb**	**10 11 19.7**	**-0.4**
LAST	**Lasithi**	**1.09**	**7**	*e*Pn	**Pb**	**10 11 19.7**	**-0.4**
NPS	**Neapolis**	**1.21**	**12**	*e*PN	**Pb**	**10 11 22.2**	**+0.1**
NPS	**Neapolis**	**1.21**	**12**	*e*Pn	**Pb**	**10 11 22.2**	**+0.1**
IDI	**Anoyia**	**1.26**	**344**	*e*PN	**Pn**	**10 11 22.4**	**-0.1**
IDI	**Anoyia**	**1.26**	**344**	*e*Pn	**Pn**	**10 11 22.4**	**-0.1**
ZKR	**Zakros**	**1.28**	**35**	*e*PN	**Pb**	**10 11 23.2**	**0.0**
ZKR	**Zakros**	**1.28**	**35**	*e*Pn	**Pb**	**10 11 23.2**	**0.0**
VAM	**Vamos**	**1.62**	**326**	*e*PN	**Pb**	**10 11 29.0**	**0.0**
VAM	**Vamos**	**1.62**	**326**	*e*Pn	**Pb**	**10 11 29.0**	**0.0**
KARP	**Karpathos**	**2.12**	**45**	*e*PB	**Pn**	**10 11 35.5**	**+1.3**
KARP	**Karpathos**	**2.12**	**45**	*e*Pb	**Pn**	**10 11 35.5**	**+1.3**
ANKY	**Antikythira Is**	**2.44**	**318**	*e*PN	**Pn**	**10 11 40.4**	**+1.8**
ANKY	**Antikythira Is**	**2.44**	**318**	*e*Pn	**Pn**	**10 11 40.4**	**+1.8**
KYTH	**Kithira**	**2.89**	**320**	*e*PN	**Pn**	**10 11 46.3**	**+1.5**
KYTH	**Kithira**	**2.89**	**320**	*e*Pn	**Pn**	**10 11 46.3**	**+1.5**
EIL	**Elat**	**9.29**	**116**	Pn	**Pn**	**10 13 13.0**	**+0.2**
	0.2nm,0.3s,baz=299,slow=19,SNR=2.6						
AKASG	**Malin Array Be**	**16.86**	**9**	Pn	**Pn**	**10 14 54.4**	**-0.4**
	1.0nm,0.3s,baz=201,slow=9.7,SNR=5.7						
GERES	**GERESS Array B**	**17.10**	**333**	P	**P**	**10 14 59.8**	**+0.3**
	0.3nm,0.3s,baz=146,slow=14,SNR=7.7						
HFS	**Hagfors**	**27.16**	**347**	P	**P**	**10 16 41.3**	**-0.5**
	0.3nm,0.3s,baz=126,slow=14,SNR=3.2						
EKA	**Eskdalemuir Ar**	**29.00**	**326**	P	**P**	**10 16 57.4**	**-0.9**
	0.1nm,0.3s,baz=117,slow=8.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**29.90**	**232**	P	**P**	**10 17 05.3**	**-1.3**
	0.4nm,0.5s,baz=34,slow=8.4,SNR=7.5						
KURBB	**Kurchatov Arra**	**41.71**	**50**	P	**P**	**10 18 47.8**	**+0.4**
	0.3nm,0.4s,baz=280,slow=8.5,SNR=3.4						
MKAR	**Makanchi Array**	**44.27**	**56**	P	**P**	**10 19 09.3**	**+1.0**
	0.6nm,0.6s,baz=275,slow=6.6,SNR=4.4						
ZALV	**Zalesovo Beam**	**45.67**	**45**	P	**P**	**10 19 19.4**	**+0.2**
	0.7nm,0.3s,baz=256,slow=4.3,SNR=3.3						

IDC 01 10:11:33.6±0.9,**34°11N**×25°**34E**,**h0**km,**mb3.9**/16,
mb1 4.0/23,**mb1mx3.9**/36,**mbtmp3.9**/23,**ML4.1**/5,**Error**
ellipse: s-maj=22.4km s-min=14.3km az=176.0,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMAI	**Mount Meron Ar**	**8.47**	**95**	Pn	Pn	10 13 37.9	+0.2
	2.1nm,0.3s,baz=265,slow=11,SNR=2.6						
MMAI				Sn	Sn	10 15 09.4	-4.8
	2.4nm,0.3s,baz=266,slow=23,SNR=4.8						
BRTR	**Keskin Array B**	**8.69**	**47**	Pn	Pn	10 13 42.9	+2.0
	0.1nm,0.3s,baz=224,slow=12,SNR=6.0						
BRTR				Sn	Sn	10 15 19.7	0.0
	0.1nm,0.3s,baz=206,slow=22,SNR=2.8						
EIL	**Elat**	**9.29**	**116**	Pn	Pn	10 13 48.5	-0.4
	0.5nm,0.3s,baz=10.0,slow=17,SNR=2.2						
EIL				Sn	Sn	10 15 34.8	+0.6
	0.9nm,0.3s,baz=22,slow=19,SNR=2.8						
GNI	**Garni**	**16.59**	**63**	Pn	P	10 15 31.4	+0.9
	0.7nm,0.3s,baz=233,slow=15,SNR=2.6						
KBZ	**Khabaz**	**16.67**	**50**	Pn	P	10 15 32.0	+0.9
	0.2nm,0.3s,baz=247,slow=5.2,SNR=4.9						
AKASG	**Malin Array Be**	**16.82**	**9**	Pn	P	10 15 31.9	-0.8
	1.5nm,0.3s,baz=201,slow=10,SNR=7.8						
GERES	**GERESS Array B**	**17.08**	**333**	Pn	P	10 15 36.6	+0.9
	0.5nm,0.3s,baz=149,slow=13,SNR=7.3						
ESDC	**Sonseca Array**	**24.02**	**292**	P	P	10 16 51.0	+0.7
	0.2nm,0.2s,baz=85,slow=8.8,SNR=5.0						
MDT	**Midelt**	**24.98**	**275**	P	P	10 17 00.5	+1.3
	1.2nm,0.6s,baz=81,slow=12,SNR=4.0						
HFS	**Hagfors**	**27.13**	**347**	P	P	10 17 18.0	-0.2
	1.4nm,0.6s,baz=156,slow=15,SNR=5.4						
FINES	**FINESS Array B**	**27.35**	**1**	P	P	10 17 19.0	-1.1
	1.7nm,0.9s,baz=140,slow=11,SNR=4.0						
NB2	**NORSAR Subarra**	**28.45**	**346**	P	P	10 17 28.8	-1.2
	comp=Z,0.8nm,0.8s,baz=156,slow=9.3						
NOA	**NORSAR Array B**	**28.45**	**346**	P	P	10 17 29.4	-0.7
	comp=Z,0.5nm,0.7s,baz=149,slow=8.6,SNR=4.5						
EKA	**Eskdalemuir Ar**	**28.98**	**326**	P	P	10 17 34.9	+0.1
	comp=Z,0.4nm,0.5s,baz=130,slow=8.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**29.94**	**232**	P	P	10 17 43.2	-0.4
	comp=Z,0.9nm,0.7s,baz=32,slow=9.0,SNR=6.7						
KURBB	**Kurchatov Arra**	**41.67**	**50**	P	P	10 19 23.3	-0.5
	comp=Z,1.6nm,0.6s,baz=277,slow=8.7,SNR=11						
MKAR	**Makanchi Array**	**44.24**	**56**	P	P	10 19 44.5	-0.1
	comp=Z,2.3nm,0.6s,baz=280,slow=6.3,SNR=11						
ZALV	**Zalesovo Beam**	**45.63**	**45**	P	P	10 19 54.8	-0.7
	comp=Z,1.1nm,0.4s,baz=272,slow=8.9,SNR=4.4						
SONM	**Songino Array**	**60.04**	**50**	P	P	10 21 42.8	+0.4
	comp=Z,0.5nm,0.6s,baz=261,slow=8.6,SNR=2.9						
SCHQ	**Schefferville**	**64.08**	**320**	P	P	10 22 09.0	-0.2
	comp=Z,2.7nm,0.6s,baz=63,slow=6.0,SNR=10						
INK	**Inuvik**	**76.67**	**352**	P	P	10 23 25.7	-0.3
	comp=Z,1.1nm,0.7s,baz=18,slow=5.4,SNR=3.1						
YKA	**Yellowknife Ar**	**78.49**	**342**	P	P	10 23 35.6	-0.6
	comp=Z,0.8nm,0.6s,baz=28,slow=5.4,SNR=6.8						
KSRS	**Korea Array**	**78.81**	**52**	P	P	10 23 38.9	+0.5
	comp=Z,0.5nm,0.4s,baz=302,slow=4.8,SNR=3.1						
ILAR	**Eielson Array**	**81.26**	**357**	P	P	10 23 51.2	0.0
	comp=Z,0.6nm,0.6s,baz=346,slow=3.7,SNR=14						

IDC 01 10:16:26.3±1.1,**11°78N**×**142°87E**,**h0**km,**mb3.6**/6,
mb1 3.9/6,**mb1mx3.6**/26,**mbtmp3.6**/6,**MS4.9**/1,**Ms1 4.9**/1,
ms1mx4.3/29,**Error ellipse: s-maj=37.5km**
s-min=28.5km az=118.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.65**	**47**	LR	LR	10 17 41.9	
	comp=Z,21μm,18.6s,baz=45,slow=28						
WRA	**Warramunga Arr**	**32.62**	**195**	P	P	10 22 59.8	-0.3
	0.5nm,1.0s,baz=16,slow=9.6,SNR=2.8						
CMAR	**Chiang Mai Arr**	**42.84**	**284**	P	P	10 24 26.9	+0.2
	0.5nm,0.4s,baz=76,slow=4.9,SNR=4.4						
KURBB	**Kurchatov Arra**	**64.76**	**321**	P	P	10 27 06.5	-0.1
	0.2nm,0.5s,baz=108,slow=6.5,SNR=6.1						
ILAR	**Eielson Array**	**71.03**	**25**	P	P	10 27 45.1	-0.8
	0.1nm,0.6s,baz=262,slow=5.5,SNR=4.2						
YKA	**Yellowknife Ar**	**85.35**	**27**	P	P	10 29 05.7	+0.5
	0.6nm,0.7s,baz=297,slow=5.5,SNR=3.2						
NVAR	**Mina Array Bea**	**89.56**	**51**	P	P	10 29 26.8	+0.4
	0.5nm,0.8s,baz=249,slow=6.6,SNR=3.6						

*IDC **01** 10:18:30.9±4.8,33°.83N×25°.49E,h0km,mb3.4/3,*
mb1 3.7/6,mb1mx3.5/28,mbtmp3.5/6,ML3.7/3,Error
ellipse: s-maj=99.2km s-min=29.3km az=39.0
*CSEM **01** 10:18:36.3,34°.21N×25°.51E,h24km,MD3.6,After ATH*
*ATH **01** 10:18:36.3,34°.21N×25°.51E,h24km±6km,MD3.6/9*
ISC 01 10:18:34.5±1.3,**34°1N**±0°.1×**25°64E**±0°.07,**h17**km,**n24**,
σ0°**93**/**24**,**mb3.4**/**3**,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**1.10**	**353**	*e*PN	**Pb**	**10 18 54.2**	**-1.0**
LAST	**Lasithi**	**1.10**	**353**	*e*Pn	**Pb**	**10 18 54.2**	**-1.0**
ZKR	**Zakros**	**1.15**	**24**	*e*PN	**Pg**	**10 18 56.9**	**+0.1**
ZKR	**Zakros**	**1.15**	**24**	*e*Pn	**Pg**	**10 18 56.9**	**+0.1**
SIVA	**Sivas**	**1.17**	**325**	*e*PN	**Pn**	**10 18 55.2**	**-0.9**
SIVA	**Sivas**	**1.17**	**325**	*e*Pn	**Pn**	**10 18 55.2**	**-0.9**
NPS	**Neapolis**	**1.20**	**359**	*e*PN	**Pb**	**10 18 56.5**	**-0.3**
NPS	**Neapolis**	**1.20**	**359**	*e*Pn	**Pb**	**10 18 56.5**	**-0.3**
IDI	**Anoyia**	**1.37**	**333**	*e*PN	**Pb**	**10 18 59.0**	**-0.7**
IDI	**Anoyia**	**1.37**	**333**	*e*Pn	**Pb**	**10 18 59.0**	**-0.7**
VAM	**Vamos**	**1.79**	**319**	*e*PB	**Pn**	**10 19 04.7**	**+0.1**
VAM	**Vamos**	**1.79**	**319**	*e*Pb	**Pn**	**10 19 04.7**	**+0.1**
KARP	**Karpathos**	**1.94**	**40**	*e*PN	**Pb**	**10 19 09.5**	**0.0**
KARP	**Karpathos**	**1.94**	**40**	*e*Pn	**Pb**	**10 19 09.5**	**0.0**
ANKY	**Antikythira Is**	**2.63**	**314**	*e*PB	**Pn**	**10 19 17.8**	**+1.6**
ANKY	**Antikythira Is**	**2.63**	**314**	*e*Pb	**Pn**	**10 19 17.8**	**+1.6**
KYTH	**Kithira**	**3.07**	**317**	*e*PN	**Pn**	**10 19 23.7**	**+1.4**
KYTH	**Kithira**	**3.07**	**317**	*e*Pn	**Pn**	**10 19 23.7**	**+1.4**
EIL	**Elat**	**9.05**	**116**	Pn	**Pn**	**10 20 43.0**	**-1.4**
	0.5nm,0.3s,baz=319,slow=19,SNR=3.0						
AKASG	**Malin Array Be**	**16.83**	**8**	Pn	**P**	**10 22 30.8**	**-0.5**
	0.3nm,0.3s,baz=199,slow=10,SNR=2.6						
GERES	**GERESS Array B**	**17.23**	**333**	P	**P**	**10 22 36.0**	**+0.1**
	0.2nm,0.3s,baz=150,slow=12,SNR=7.5						
NOA	**NORSAR Array B**	**28.56**	**345**	P	**P**	**10 24 29.6**	**+0.4**
	0.3nm,0.7s,baz=147,slow=11,SNR=2.5						
KURBB	**Kurchatov Arra**	**41.51**	**50**	P	**P**	**10 26 21.8**	**+1.1**
	0.3nm,0.4s,baz=273,slow=8.7,SNR=4.4						
MKAR	**Makanchi Array**	**44.06**	**56**	P	**P**	**10 26 42.1**	**+0.7**
	0.3nm,0.5s,baz=271,slow=7.7,SNR=4.4						

*IDC **01** 10:20:42.2±0.6,3°.70N×126°.66E,h0km,mb3.9/13,*
mb1 4.1/13,mb1mx3.9/27,mbtmp3.9/13,Error ellipse:
s-maj=40.4km s-min=13.4km az=75.0
*NEIC **01** 10:20:44.9±4.1,3°.63N×126°.55E,h17km±26km,mb4.5/3,*
Error ellipse: s-maj=15.6km s-min=6.0km az=73.0
NEIC Felt [III] on Pulau Kabaruang.
*ISCJB **01** 10:20:47.5±0.4,3°.81N±0°.04×126°.84E±0°.06,h53km,*
mb4.0/16,Error ellipse: s-maj=9.3km s-min=6.0km
az=178.3
*DJA **01** 10:20:49.5±1.9,4°N±16°×12°7E±°,h108km±32km,M4.4/6,*
mb4.8/1,MLv4.2/6
ISC 01 10:20:49.6±0.6,**3°76N**±0°.05×**126°80E**±0°.09,**h53**km,**n41**,
σ1°**02**/**44**,**mb3.9**/**16**,**1C**,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAMI	**Galela, Maluku**	**2.15**	**153**	P	**Pn**	**10 21 24.0**	**+1.0**
TNTI	**Ternate**	**3.02**	**169**	P	**Pn**	**10 21 35.9**	**+0.9**
MNI	**Manado**	**3.02**	**221**	P	**Pn**	**10 21 36.2**	**+1.2**
DAV	**Davao City (W)**	**3.51**	**340**	*e*Pn	**Pn**	**10 21 39.7**	**-2.0**
CTBH	**Cotabato--PC H**	**4.28**	**324**	*i* P	**Pn**	**10 21 54.9**	**+2.7**
LBMI	**Labuha**	**4.42**	**171**	P	**Pn**	**10 21 54.4**	**+0.1**
GTOI	**Gorontalo**	**4.90**	**231**	P	**Pn**	**10 22 08.8**	**0.0**
GTOI				S	Sn	10 22 59.0	+2.8
MRSI	**Marisa**	**5.85**	**236**	P	**Pn**	**10 22 13.8**	**0.0**
KAPI	**Kappang**	**11.21**	**219**	Pn	Pn	10 23 20.1	-7.1
FITZ	**Fitzroy Crossi**	**21.75**	**183**	P	**P**	**10 25 35.6**	**-1.3**
FITZ	**Fitzroy Crossi**	**21.75**	**183**	P	**P**	**10 25 35.6**	**-1.3**
	3.3nm,0.7s,baz=13,slow=10,SNR=7.9						
COEN	**Coen**	**23.95**	**138**	*e*P	**P**	**10 26 00.1**	**+0.9**
	48nm,1.1s						
WRAB	**Tennant Creek**	**24.68**	**163**	*e*P	**P**	**10 26 04.3**	**-1.6**
	14nm,1.0s						
WRA	**Warramunga Arr**	**24.69**	**163**	P	**P**	**10 26 04.0**	**-1.9**
WRA				PcP	**PcP**	**10 29 43.1**	**+0.9**
WRA	**Warramunga Arr**	**24.69**	**163**	P	**P**	**10 26 04.0**	**-1.9**
	2.4nm,0.6s,baz=343,slow=10,SNR=30						
WRA				PcP	**PcP**	**10 29 43.1**	**+0.9**
	0.3nm,0.5s,baz=336,slow=2.2,SNR=3.5						
AS31	**Alice Springs**	**28.12**	**166**	P	**P**	**10 26 35.6**	**-1.2**
ASAR	**Alice Springs**	**28.12**	**166**	P	**P**	**10 26 35.7**	**-1.1**
ASAR				PcP	**PcP**	**10 29 51.0**	**+0.8**
ASAR	**Alice Springs**	**28.12**	**166**	P	**P**	**10 26 35.7**	**-1.1**
	0.5nm,0.4s,baz=343,slow=6.9,SNR=7.5						
ASAR				PcP	**PcP**	**10 29 51.0**	**+0.8**
	0.3nm,0.4s,baz=352,slow=2.5,SNR=4.6						
STKA	**Stephens Creek**	**38.13**	**159**	P	**P**	**10 28 03.0**	**-0.7**
STKA	**Stephens Creek**	**38.13**	**159**	P	**P**	**10 28 03.0**	**-0.7**
	2.6nm,0.5s,baz=13,slow=4.0,SNR=7.4						
USRK	**Ussuriysk Arra**	**40.53**	**6**	P	**P**	**10 28 23.8**	**+0.2**
	1.2nm,0.6s,baz=203,slow=4.7,SNR=3.5						
SONM	**Songino Array**	**47.29**	**341**	P	**P**	**10 29 17.6**	**-0.4**
SONM	**Songino Array**	**47.29**	**341**	P	**P**	**10 29 17.6**	**-0.4**
	0.8nm,0.6s,baz=161,slow=9.0,SNR=4.7						
PETK	**Petropavlovsk-**	**55.38**	**22**	P	**P**	**10 30 18.8**	**+0.6**
PETK	**Petropavlovsk-**	**55.38**	**22**	P	**P**	**10 30 18.8**	**+0.6**
	1.1nm,0.5s,baz=190,slow=3.4,SNR=5.0						
MK31	**Makanchi Array**	**57.57**	**325**	*e*P	**P**	**10 30 33.5**	**-0.5**
MKAR	**Makanchi Array**	**57.57**	**325**	P	**P**	**10 30 33.4**	**-0.6**
MKAR	**Makanchi Array**	**57.57**	**325**	P	**P**	**10 30 33.4**	**-0.6**
	0.7nm,0.4s,baz=119,slow=7.5,SNR=13						
ZALV	**Zalesovo Beam**	**60.60**	**333**	P	**P**	**10 30 54.6**	**-0.2**
ZALV	**Zalesovo Beam**	**60.60**	**333**	P	**P**	**10 30 54.6**	**-0.2**
	0.4nm,0.3s,baz=123,slow=10,SNR=2.8						
KURBB	**Kurchatov Arra**	**61.75**	**327**	P	**P**	**10 31 01.3**	**-1.4**
	0.8nm,0.5s,baz=131,slow=6.4,SNR=8.8						
KURK	**Kurchatov**	**61.76**	**327**	P	**P**	**10 31 01.3**	**-1.4**
BVAR	**Borovoye Array**	**67.34**	**327**	P	**P**	**10 31 39.2**	**+0.2**
BVAR	**Borovoye Array**	**67.34**	**327**	P	**P**	**10 31 39.2**	**+0.2**
	0.4nm,0.4s,baz=141,slow=9.6,SNR=4.7						
ABKAR	**Akbulak array**	**72.17**	**321**	*e*P	**P**	**10 32 09.4**	**+0.5**
	1.0nm,0.6s						
AKTO	**Aktyubinsk**	**73.68**	**322**	P	**P**	**10 32 18.1**	**+0.3**
AKTO	**Aktyubinsk**	**73.68**	**322**	P	**P**	**10 32 18.1**	**+0.3**
	1.0nm,0.6s,baz=117,slow=2.3,SNR=4.7						
ILAR	**Eielson Array**	**85.05**	**25**	P	**P**	**10 33 20.1**	**+0.7**
ILAR	**Eielson Array**	**85.05**	**25**	P	**P**	**10 33 20.1**	**+0.7**
	0.9nm,0.9s,baz=250,slow=6.6,SNR=4.9						
TORD	**Torodi Ar. Bea**	**122.98**	**288**	PKP	**PKPdf**	**10 39 41.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**122.98**	**288**	PKP	**PKPdf**	**10 39 41.3**	**+0.1**
	0.2nm,0.7s,baz=63,slow=2.1,SNR=3.9						

*IDC **01** 10:26:47.6±1.0,34°.12N×25°.41E,h0km,mb4.0/15,*
mb1 4.2/20,mb1mx4.1/33,mbtmp4.1/20,ML4.0/5,MS4.5/2,
Ms1 4.5/2,ms1mx3.9/50,Error ellipse: s-maj=22.0km
s-min=15.7km az=173.0
*ISCJB **01** 10:26:50.5±0.9,34°.00N±0°.06×25°.53E±0°.04,h38km±6km,*
mb4.0/31,MS4.2/1,Error ellipse: s-maj=9.7km
s-min=5.6km az=0.8
*MOS **01** 10:26:50.9±1.7,34°.05N×25°.36E,h33km,mb4.2/15,Error*
ellipse: s-maj=11.4km s-min=5.8km az=95.0
*THE **01** 10:26:50.6,34°.15N×25°.58E,h0km±1km,Error ellipse:*
s-maj=4.5km s-min=0.9km az=158.0
*CSEM **01** 10:26:51.4±0.2,34°.06N×25°.59E,h30km,mb4.3/13,Error*
ellipse: s-maj=8.8km s-min=4.5km az=27.0
*ATH **01** 10:26:55.5,34°.47N×25°.51E,h41km±7km,MD3.4/6*
*NEIC **01** 10:26:55.5,34°.47N×25°.51E,h41km,mb4.0/5,After ATH.*
ISC 01 10:26:50.6±0.7,**34°11N**±0°.06×**25°55E**±0°.04,**h20**km±5km,
n202,σ1°**13**/**205**,**mb4.1**/30,**1C**-**1D**,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**1.06**	**357**	P	**Pn**	**10 27 09.4**	**-0.9**
LAST				S	**Sn**	**10 27 25.8**	**+1.3**
LAST	**Lasithi**	**1.06**	**357**	*e*P	**Pn**	**10 27 10.3**	**0.0**
LAST				*e*S	**Sb**	**10 27 20.2**	**-3.5**
LAST	**Lasithi**	**1.06**	**357**	*e*P	**Pn**	**10 27 10.3**	**0.0**
LAST				S	**Sn**	**10 27 25.8**	**+1.3**
SIVA	**Sivas**	**1.10**	**326**	P	**Pn**	**10 27 10.8**	**0.0**
SIVA	**Sivas**	**1.10**	**326**	P	**Pn**	**10 27 10.8**	**0.0**
ZKR	**Zakros**	**1.15**	**28**	P	**Pn**	**10 27 11.8**	**+0.3**
ZKR				S	**Sb**	**10 27 27.7**	**+1.5**
ZKR	**Zakros**	**1.15**	**28**	*e*P	**Pn**	**10 27 11.9**	**+0.4**
ZKR	**Zakros**	**1.15**	**28**	P	**Pn**	**10 27 11.8**	**+0.3**
ZKR				S	**Sb**	**10 27 27.7**	**+1.5**
NPS	**Neapolis**	**1.16**	**2**	P	**Pn**	**10 27 11.7**	**+0.1**
NPS	**Neapolis**	**1.16**	**2**	*e*P	**Pn**	**10 27 11.8**	**+0.1**
NPS				*e*S	**Sn**	**10 27 21.6**	**-5.3**
NPS	**Neapolis**	**1.16**	**2**	P	**Pn**	**10 27 11.7**	**+0.1**
IDI	**Anoyia**	**1.30**	**335**	P	**Pb**	**10 27 14.5**	**+0.1**
IDI	**Anoyia**	**1.30**	**335**	*e*P

KHC	Kasperske Hory	17.45	333	*e*P		Pn	10 30 53.0	+0.3
KHC	Kasperske Hory	17.45	333	*e*P		P	10 30 53.7	-0.1
	comp=Z,4.1nm,0.9s							
KHC	Kasperske Hory	17.45	333	*e*P		P	10 30 53.7	-0.1
	comp=Z,4.1nm,0.9s							
DPC	Dobruska-Polom	17.59	340	*e*P		Pn	10 30 54.8	+0.3
DPC	Dobruska-Polom	17.59	340	*e*P		Pn	10 30 54.8	+0.3
DPC	Dobruska-Polom	17.59	340	*e*P		Pn	10 30 54.8	+0.3
WET	Wettzell	17.73	332	*e*P		P	10 30 57.4	+0.5
	comp=Z,12nm,1.1s							
WET	Wettzell	17.73	332	*e*P		P	10 30 57.4	+0.5
WET				pmax	pmax			
	comp=Z,56nm,1.1s							
WET	Wettzell	17.73	332	*e*P		P	10 30 57.4	+0.5
	comp=Z,56nm,1.1s							
MBDF	Montbardon	17.93	312	*e*P		Pn	10 30 58.9	+0.1
MBDF	Montbardon	17.93	312	*e*P		Pn	10 30 58.9	+0.1
ORIF	Oris-en-Rattie	18.58	311	*e*P		Pn	10 31 08.0	+1.3
	comp=Z,5.6nm,0.8s							
ORIF	Oris-en-Rattie	18.58	311	*e*P		Pn	10 31 08.0	+1.3
	comp=Z,5.0nm,0.8s							
GRA1	Grafenberg Arr	18.82	330	*e*P		Pn	10 31 10.7	+1.2
	comp=Z,57nm,0.9s							
GRF	Grafenberg Arr	18.82	330	*e*P		Pn	10 31 10.7	+1.2
	comp=Z,12nm,0.9s							
GRF	Grafenberg Arr	18.82	330	*e*P		Pn	10 31 10.7	+1.2
GRF				pmax	pmax			
	comp=Z,57nm,0.9s							
VIVF	Saint-Julien-I	19.31	310	*e*P		P	10 31 13.4	-0.9
	comp=Z,5.5nm,0.8s							
VIVF	Saint-Julien-I	19.31	310	*e*P		P	10 31 13.4	-0.9
	comp=Z,5.0nm,0.8s							
CABF	La Chapelle	19.33	316	*e*P		P	10 31 14.9	+0.3
	comp=Z,29nm,1.3s							
CABF	La Chapelle	19.33	316	*e*P		P	10 31 14.9	+0.3
	comp=Z,29nm,1.3s							
MOX	Moxa	19.42	333	*e*P		P	10 31 15.4	0.0
	comp=Z,6.0nm,0.7s							
MOX	Moxa	19.42	333	*e*P		P	10 31 15.4	0.0
MOX				pmax	pmax			
	comp=Z,25nm,0.7s							
MOX	Moxa	19.42	333	*e*P		P	10 31 15.4	0.0
	comp=Z,25nm,0.7s							
CLL	Collm	19.46	336	*e*P		P	10 31 16.0	+0.1
CLL				pmax	pmax			
	comp=Z,5.0nm,0.8s							
CLL	Collm	19.46	336	*e*P		P	10 31 16.0	+0.1
	comp=Z,5.0nm,0.8s							
CLL	Collm	19.46	336	*e*P		P	10 31 16.0	+0.1
	comp=Z,5.0nm,0.8s							
HINF	Hinteralfeld	19.60	320	*e*P		Pn	10 31 18.6	-0.3
	comp=Z,5.6nm,0.8s							
HINF	Hinteralfeld	19.60	320	*e*P		Pn	10 31 18.6	-0.3
	comp=Z,5.0nm,0.8s							
CDF	Champ du Feu	19.75	322	*e*P		Pn	10 31 22.7	+1.9
	comp=Z,8.0nm,0.8s							
TNS	Taunus Mts	20.42	327	*e*P		Pn	10 31 29.4	+0.8
	comp=Z,15nm,0.8s							
TNS	Taunus Mts	20.42	327	*e*P		Pn	10 31 29.4	+0.8
PAGF	Fort de Pagny	20.65	320	*e*P		Pn	10 31 31.4	+0.2
	comp=Z,10.0nm,0.9s							
PAGF	Fort de Pagny	20.65	320	*e*P		Pn	10 31 31.4	+0.2
	comp=Z,1.0nm,0.9s							
SMF	Signal de Mont	20.67	314	*e*P		P	10 31 29.8	+0.7
	comp=Z,5.1nm,0.6s							
SMF	Signal de Mont	20.67	314	*e*P		P	10 31 29.8	+0.7
	comp=Z,5.0nm,0.6s							
CLZ	Clausthal	20.84	333	*e*P		P	10 31 30.8	-0.2
	comp=Z,11nm,0.9s							
CLZ	Clausthal	20.84	333	*e*P		P	10 31 30.8	-0.2
CLZ				pmax	pmax			
	comp=Z,20nm,0.9s							
CLZ	Clausthal	20.84	333	*e*P		P	10 31 30.8	-0.2
	comp=Z,20nm,0.9s							
TAM	Tamanrasset	20.87	243	*e*P		P	10 31 32.5	+0.9
TAM				pmax	pmax			
	comp=Z,6.0nm,1.0s							
TAM	Tamanrasset	20.87	243	*e*P		P	10 31 32.5	+0.9
	comp=Z,6.0nm,1.0s							
TAM	Tamanrasset	20.87	243	*e*P		P	10 31 32.5	+0.9
	comp=Z,5.9nm,1.0s							
MEZF	Maizieres J'vi	20.98	319	*e*P		Pn	10 31 35.0	-0.1
	comp=Z,16nm,0.8s							
MEZF	Maizieres J'vi	20.98	319	*e*P		Pn	10 31 35.0	-0.1
	comp=Z,16nm,0.8s							
AVF	Avril sur Loir	21.03	314	*e*P		P	10 31 33.1	+0.1
	comp=Z,7.2nm,0.9s							
AVF	Avril sur Loir	21.03	314	*e*P		P	10 31 33.1	+0.1
	comp=Z,7.0nm,0.9s							
NRDL	Niedersach Rie	21.46	334	*e*P		P	10 31 37.1	-0.4
	comp=Z,8.0nm,0.8s							
TCF	Toulx Ste Croi	21.50	311	*e*P		P	10 31 38.1	+0.1
	comp=Z,15nm,1.0s							
TCF	Toulx Ste Croi	21.50	311	*e*P		P	10 31 38.1	+0.1
	comp=Z,14nm,1.0s							
RJF	Les Rejaudoux	21.53	308	*e*P		P	10 31 38.2	-0.2
	comp=Z,20nm,1.1s							
RJF	Les Rejaudoux	21.53	308	*e*P		P	10 31 38.2	-0.2
	comp=Z,19nm,1.1s							
GIVF	Givet	22.07	323	*e*P		P	10 31 45.3	+1.2
	comp=Z,19nm,0.9s							
GIVF	Givet	22.07	323	*e*P		P	10 31 45.3	+1.2
	comp=Z,19nm,0.9s							
BAIF	Baives	22.35	322	*e*P		P	10 31 47.2	+0.1
	comp=Z,13nm,0.8s							
BAIF	Baives	22.35	322	*e*P		P	10 31 47.2	+0.1
	comp=Z,13nm,0.8s							
OBN	Obninsk	22.37	17	*i* P		P	10 31 49.7	+2.5
OBN				*e**PP		pP	10 31 59.2	+6.2
OBN				*e*			10 32 13.8	
OBN				*e*			10 35 46.2	
OBN				pmax	pmax			
	comp=Z,11nm,0.5s							
OBN				MLR	MLR			
	comp=Z,800nm,16.0s							
OBN	Obninsk	22.37	17	*i* P		P	10 31 49.7	+2.5
	comp=Z,11nm,0.5s							
BSEG	Bad Segeberg	22.56	336	*e*P		P	10 31 47.7	-1.6
	comp=Z,13nm,1.0s							
BSEG	Bad Segeberg	22.56	336	*e*P		P	10 31 47.7	-1.6
BSEG				pmax	pmax			
	comp=Z,43nm,1.0s							
BSEG	Bad Segeberg	22.56	336	*e*P		P	10 31 47.7	-1.6
	comp=Z,43nm,1.0s							
SJPF	Ste Jean	22.70	301	*e*P		P	10 31 51.0	+0.1
	comp=Z,6.4nm,0.8s							
SJPF	Ste Jean	22.70	301	*e*P		P	10 31 51.0	+0.1
	comp=Z,6.0nm,0.8s							
MFF	Saint Martin d	23.11	310	*e*P		P	10 31 55.3	+0.2
	comp=Z,12nm,0.9s							
MFF	Saint Martin d	23.11	310	*e*P		P	10 31 55.3	+0.2
	comp=Z,12nm,0.9s							
ESDC	Sonseca Array	24.19	292	P		P	10 32 05.8	0.0
ESDC	Sonseca Array	24.19	292	P		P	10 32 05.8	0.0
	comp=Z,0.2nm,0.3s,baz=81,slow=10,SNR=6.4							
SGMF	Saint Gilles	25.27	312	*e*P		P	10 32 16.0	+0.7
QUIF	Quistinic	25.51	311	*e*P		P	10 32 17.5	0.0
	comp=Z,15nm,0.8s							
ROSF	Rostrenen	25.74	312	*e*P		P	10 32 19.3	-0.3
HFS	Hagfors	27.18	347	P		P	10 32 31.6	-0.8
HFS	Hagfors	27.18	347	P		P	10 32 31.6	-0.8
	comp=Z,1.7nm,0.7s,baz=152,slow=13,SNR=6.4							
FINES	FINESS Array B	27.36	1	P		P	10 32 32.8	-1.2
FINES	FINESS Array B	27.36	1	P		P	10 32 32.8	-1.2
	comp=Z,2.1nm,0.7s,baz=134,slow=11,SNR=7.2							
NAO01	NORSAR Array S	28.39	345	*e*P		P	10 32 42.8	-0.6
	comp=Z,4.4nm,0.8s							
NB2	NORSAR Subarra	28.50	345	P		P	10 32 43.6	-0.7
	comp=Z,2.0nm,0.9s,baz=160,slow=9.3							
NB2	NORSAR Subarra	28.50	345	P		P	10 32 43.6	-0.7
	comp=Z,2.0nm,0.9s,SNR=6.3							
NOA	NORSAR Array B	28.50	345	P		P	10 32 44.0	-0.3
NOA	NORSAR Array B	28.50	345	P		P	10 32 44.0	-0.3
	comp=Z,1.6nm,0.8s,baz=174,slow=10,SNR=7.4							
AKTO	Aktyubinsk	28.74	46	P		P	10 32 46.8	+0.2
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKTO	Aktyubinsk	28.74	46	P		P	10 32 46.8	+0.2
AKTO	Aktyubinsk	28.74	46	P		P	10 32 46.8	+0.2
	comp=Z,1.0nm,0.5s,baz=293,slow=7.7,SNR=2.7							
EKA	Eskdalemuir Ar	29.09	326	P		P	10 32 49.5	-0.1
EKA	Eskdalemuir Ar	29.09	326	P		P	10 32 49.5	-0.1
	comp=Z,2.9nm,0.8s,baz=125,slow=9.6,SNR=12							
ABKAR	Akbulak array	29.51	49	*e*P		P	10 32 56.1	+2.7
	comp=Z,19nm,1.1s							
TORD	Torodi Ar. Bea	30.07	232	P		P	10 32 57.8	-0.9
TORD	Torodi Ar. Bea	30.07	232	P		P	10 32 57.8	-0.9
	comp=Z,1.6nm,0.9s,baz=31,slow=8.9,SNR=14							
ARCES	ARCESS Array B	35.48	360	P		P	10 33 43.8	-1.6
ARCES	ARCESS Array B	35.48	360	P		P	10 33 43.8	-1.6
	comp=Z,2.6nm,0.8s,baz=175,slow=7.3,SNR=5.6							
KURBB	Kurchatov Arra	41.54	50	P		P	10 34 37.3	+0.8
	comp=Z,2.2nm,0.7s,baz=277,slow=8.6,SNR=22							
KURK	Kurchatov	41.60	50	P		P	10 34 37.3	+0.3
KURK				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KURK	Kurchatov	41.60	50	P		P	10 34 37.3	+0.3
MK31	Makanchi Array	44.09	56	*e*P		P	10 34 58.3	+1.0
MK31	Makanchi Array	44.09	56	*e*P		P	10 34 58.3	+1.0
MKAR	Makanchi Array	44.09	56	P		P	10 34 58.3	+1.0
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MKAR	Makanchi Array	44.09	56	P		P	10 34 58.3	+1.0
MKAR	Makanchi Array	44.09	56	P		P	10 34 58.3	+1.0
	comp=Z,2.7nm,0.7s,baz=280,slow=5.9,SNR=24							
ZALV	Zalesovo Beam	45.51	45	P		P	10 35 08.8	+0.4
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ZALV	Zalesovo Beam	45.51	45	P		P	10 35 08.8	+0.4
ZALV	Zalesovo Beam	45.51	45	P		P	10 35 08.8	+0.4
	comp=Z,0.9nm,0.4s,baz=265,slow=10,SNR=6.0							
ZAK	Zakamensk	57.20	48	*e*P		P	10 36 35.3	-1.0
ZAK				pmax	pmax			
	comp=Z,1.0nm,1.1s							
ZAK	Zakamensk	57.20	48	*e*P		P	10 36 35.3	-1.0
	comp=Z,1.0nm,1.1s							
SONM	Songino Array	59.91	50	P		P	10 36 56.5	+1.4
SONM	Songino Array	59.91	50	P		P	10 36 56.6	+1.4
	comp=Z,0.4nm,0.4s,baz=294,slow=7.3,SNR=3.5							
SONM	Songino Array	59.91	50	P		P	10 36 56.5	+1.4
SCHQ	Schefferville	64.20	320	P		P	10 37 23.3	-0.4
SCHQ	Schefferville	64.20	320	P		P	10 37 23.3	-0.4
	comp=Z,3.4nm,0.7s,baz=54,slow=13,SNR=7.5							
SCHQ	Schefferville	64.20	320	P		P	10 37 23.3	-0.4
YKA	Yellowknife Ar	78.55	342	P		P	10 38 50.3	+0.1
YKA	Yellowknife Ar	78.55	342	P		P	10 38 50.3	+0.1
	comp=Z,0.8nm,0.6s,baz=34,slow=5.8,SNR=5.7							
YKA	Yellowknife Ar	78.55	342	P		P	10 38 50.3	+0.1
	comp=Z,1.0nm,0.6s							
ILAR	Eielson Array	81.27	357	P		P	10 39 05.5	+0.5
ILAR	Eielson Array	81.27	357	P		P	10 39 05.5	+0.5
	comp=Z,0.7nm,0.8s,baz=352,slow=3.4,SNR=9.4							
ILAR	Eielson Array	81.27	357	P		P	10 39 05.4	+0.5

CSEM 01 10:28:45.1, 43.07N×2.38W, h0km, ML1.4, Mining explosion. After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUSE	Utxeti	0.62	101	Pg	Pg	10 28 56.1	-1.1
	SNR=7.9						
IUSE				Lg	Lg	10 29 03.7	
	SNR=7.9						
ELIZ	Elizondo	0.63	81	Pg	Pg	10 28 56.3	-1.0
	SNR=7.9						
ELIZ				Lg	Lg	10 29 06.5	
	14nm,0.5s,SNR=8.6						
EALK	Alkurruntz	0.66	76	Pg	Pg	10 28 56.9	-0.8
	4.9nm,0.4s,SNR=4.9						
EALK				Lg	Lg	10 29 07.7	
	7.2nm,0.4s,SNR=9.2						
EARA	Aranguren	0.66	116	Pg	Pg	10 28 58.5	+0.7
	45nm,0.7s,SNR=8.6						
EARA				Lg	Lg	10 29 06.6	
	40nm,0.6s,SNR=6.2						
IUNC	Unciti	0.72	115	Pg	Pg	10 28 59.0	0.0
	SNR=7.9						
IUNC				Lg	Lg	10 29 09.1	
	SNR=7.9						
IEPA	Eparoz	0.87	109	Pg	Pg	10 29 00.0	-1.9
	SNR=7.9						
IEPA				Lg	Lg	10 29 11.9	
	SNR=7.9						
IELO	Elcoad	0.87	105	Pg	Pg	10 29 00.3	-1.6
	SNR=7.9						
IELO				Lg	Lg	10 29 11.7	
	SNR=7.9						
EBIE	Bielsa	1.90	101	Pg	Pn	10 29 17.1	-1.9
	3.3nm,0.5s,SNR=5.7						

NNC 01 10:44:19.2±2.8, 54.00N×86.53E, h0km, mb3.8, mpv3.4, 3C-5D, Error ellipse: s-maj=23.6km s-min=19.4km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	Kurchatov Arra	5.96	239	⇓Pn	Pn	10 45 49.2	+0.6
	3.6nm,0.5s						
KURBB				⇓Sn	Sn	10 46 59.2	+1.7
	4.0nm,0.4s						
KURBB				⇓Lg	Lg	10 47 28.2	
	7.5nm,0.6s						
MK31	Makanchi Array	7.71	202	⇑Pn	Pn	10 46 15.6	+2.9
	0.5nm,0.5s,baz=27,slow=13,SNR=6.9						
MK31				⇓Sn	Sn	10 47 46.4	+5.8
	0.8nm,0.7s,baz=26,slow=28,SNR=2.7						
MK31				⇓Lg	Lg	10 48 24.5	
	5.3nm,1.1s,baz=12,slow=30,SNR=4.0						
VOSK	Vostochnaya	9.39	268	⇑Pn	Pn	10 46 33.9	-1.7
	0.8nm,0.4s						
VOSK				⇑Sn	Sn	10 48 14.2	-7.7
	2.7nm,0.7s						

IDC 01 10:44:34.0±1.8, 33.76N×25.61E, h0km, mb3.4/2, mb1 3.4/3, mb1mx3.2/25, mbtmp3.4/3, Error ellipse: s-maj=85.8km s-min=29.1km az=137.0, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKASG	Malin Array Be	17.14	8	P	Pn	10 48 35.0	+0.1
	baz=201,slow=9.8,SNR=2.2						
TORD	Torodi Ar. Bea	29.90	232	P	P	10 50 43.7	0.0
	0.2nm,0.5s,baz=36,slow=8.3,SNR=4.3						
MKAR	Makanchi Array	44.25	55	P	P	10 52 45.0	-0.2
	0.5nm,0.8s,baz=265,slow=7.2,SNR=3.1						

*DDA **01** 10:54:31.5, 39.78N×23.95E, h5km, MD3.7*
*ISCJB **01** 10:54:33.8±0.5, 39.95N±0.01×24.08E±0.02, h4km±3km, mb3.6/9, MS4.2/2, Error ellipse: s-maj=2.2km s-min=1.9km az=44.2*
*IDC **01** 10:54:34.1±1.2, 39.96N×24.04E, h0km, mb3.5/8, mb1 3.6/12, mb1mx3.6/31, mbtmp3.6/12, ML3.6/4, MS4.3/1, Ms1 4.4/1, ms1mx3.5/38, Error ellipse: s-maj=23.2km s-min=15.4km az=132.0*
*ATH **01** 10:54:34.4, 39.96N×24.09E, h27km±1km, MD3.4/16, ML3.9*
*CSEM **01** 10:54:34.7±0.1, 39.93N×24.08E, h5km, ML4.1/11, Error ellipse: s-maj=2.5km s-min=1.9km az=105.0*
*THE **01** 10:54:34.9, 39.94N×24.06E, h1km±1km, ML4.1/11, Error ellipse: s-maj=1.9km s-min=0.7km az=102.0*
*TIR **01** 10:54:34.5, 39.90N×23.90E, h17km*
*SKO **01** 10:54:36.4, 40.01N×24.06E, h10km, M3.4, ML4.0*
*MOS **01** 10:54:36.1±0.8, 39.94N×24.28E, h24km, mb4.2/3, Error ellipse: s-maj=18.9km s-min=6.6km az=85.1*

ISC 01 10:54:34.9±1.0, 39.95N±0.01×24.04E±0.01, h5km±8km, n270, σ1§06/328, mb3.4/9, 15C-13D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUR	Ouranopolis	0.38	353	P	Pg	10 54 43.1	+0.8
OUR				S	Sg	10 54 48.6	+1.2
OUR	Ouranopolis	0.38	353	P	Pg	10 54 43.1	+0.8
OUR				S	Sg	10 54 48.6	+1.2
PLG	Polygyros	0.62	313	P	Pg	10 54 46.8	0.0
PLG				S	Sg	10 54 55.5	+0.6
PLG	Polygyros	0.62	313	*e*PN	Pg	10 54 46.9	+0.1
PLG				*e*SN	Sg	10 54 55.6	+0.6
PLG	Polygyros	0.62	313	P	Pg	10 54 46.8	0.0
PLG				S	Sg	10 54 55.5	+0.6
AOS	Alonnisos	0.79	189	P	Pg	10 54 49.8	-0.3
AOS				S	Sb	10 55 02.6	+0.4
AOS	Alonnisos	0.79	189	*e*PB	Pg	10 54 49.9	-0.2
AOS				*e*SN	Sb	10 55 02.4	+0.2
AOS	Alonnisos	0.79	189	*e*Pb	Pg	10 54 49.9	-0.2
AOS				*e*Sn	Sb	10 55 02.4	+0.2
XOR	Xorichti	0.88	228	P	Pg	10 54 51.9	+0.1
XOR				S	Sb	10 55 04.5	-0.2
XOR	Xorichti	0.88	228	P	Pg	10 54 51.9	+0.1
XOR				S	Sb	10 55 04.5	-0.2
LIA	Limnos Island	0.88	93	P	Pg	10 54 51.3	-0.5
LIA				S	Sb	10 55 04.7	-0.1
LIA	Limnos Island	0.88	93	*e*PN	Pg	10 54 51.5	-0.3
LIA	Limnos Island	0.88	93	P	Pg	10 54 51.3	-0.5
LIA				S	Sb	10 55 04.7	-0.1
NEO	Neokhori	0.90	225	P	Pb	10 54 52.8	-0.3
NEO				S	Sb	10 55 05.5	+0.1
NEO	Neokhori	0.90	225	*e*PN	Pb	10 54 52.8	-0.3
NEO	Neokhori	0.90	225	P	Pb	10 54 52.8	-0.3
NEO				S	Sb	10 55 05.5	+0.1
SKIA	Skiathos	0.90	210	P	Pg	10 54 51.9	-0.3
SKIA				S	Sb	10 55 05.1	-0.3
SKIA	Skiathos	0.90	210	P	Pg	10 54 51.9	-0.3
SKIA				S	Sb	10 55 05.1	-0.3
HORT	Hortiatis	0.97	312	P	Pg	10 54 52.5	-0.9
HORT				S	Sg	10 55 06.7	+0.7
HORT	Hortiatis	0.97	312	P	Pg	10 54 52.5	-0.9
HORT				S	Sg	10 55 06.7	+0.7
THE	Thessaloniki	1.07	310	P	Pb	10 54 55.8	-0.1
THE				S	Sg	10 55 09.3	+0.1
THE	Thessaloniki	1.07	310	P	Pb	10 54 55.8	-0.1
THE				S	Sg	10 55 09.3	+0.1
KAVA	Kavala	1.10	19	P	Pg	10 54 55.3	-0.8
KAVA				S	Sg	10 55 10.2	-0.2
KAVA	Kavala	1.10	19	P	Pg	10 54 55.3	-0.8
KAVA				S	Sg	10 55 10.2	-0.2
LIT	Litokhoron	1.20	278	P	Pg	10 54 57.4	-0.5
LIT	Litokhoron	1.20	278	*e*PN	Pg	10 54 58.0	+0.1
LIT	Litokhoron	1.20	278	P	Pg	10 54 57.4	-0.5
LIT	Litokhoron	1.20	278	*e*Pn	Pg	10 54 58.0	+0.1
SRS	Serrai	1.21	344	P	Pg	10 54 57.3	-0.9
SRS				S	Sb	10 55 14.6	+0.2
SRS	Serrai	1.21	344	P	Pg	10 54 57.3	-0.9
SRS				S	Sb	10 55 14.6	+0.2
SMIA	Simia	1.25	211	P	Pg	10 54 58.1	-0.8
SMIA				S	Sg	10 55 15.2	+0.1
SMIA	Simia	1.25	211	P	Pg	10 54 58.1	-0.8
SMIA				S	Sg	10 55 15.2	+0.1
SMTH	Samothraki Isl	1.25	65	P	Pg	10 54 56.9	-2.0
SMTH				S	Sg	10 55 15.0	-0.2
SMTH	Samothraki Isl	1.25	65	*e*PN	Pg	10 54 57.0	-2.0
SMTH	Samothraki Isl	1.25	65	*e*Pn	Pg	10 54 57.0	-2.0
SMTH				S	Sg	10 55 15.0	-0.2
MRKA	Markates	1.29	196	P	Pn	10 54 58.0	-1.7
MRKA	Markates	1.29	196	P	Pn	10 54 58.0	-1.7
NVR	Nevrokopi	1.40	355	*e*PN	Pn	10 55 00.2	-1.0
NVR	Nevrokopi	1.40	355	*e*Pn	Pn	10 55 00.2	-1.0
LKR	Lokris	1.53	212	*e*PB	Pn	10 55 01.8	-1.1
LKR	Lokris	1.53	212	*e*Pb	Pn	10 55 01.8	-1.1
BOZC	Bozcaada	1.55	93	*i* P	Pn	10 55 01.1	-2.2
BOZC				*i* S	Sg	10 55 24.8	0.0
BOZC	Bozcaada	1.55	93	*i* P	Pn	10 55 01.1	-2.2
BOZC				*i* S	Sg	10 55 24.8	0.0
AXAR	Agios Charalam	1.60	223	P	Pn	10 55 03.1	-0.8
AXAR	Agios Charalam	1.60	223	P	Pn	10 55 03.1	-0.8
GRG	Griva	1.60	309	P	Pn	10 55 03.7	-0.3
GRG				S	Sg	10 55 26.5	+0.1
GRG	Griva	1.60	309	*e*PN	Pn	10 55 04.1	+0.1
GRG				*e*SN	Sn	10 55 24.7	-0.4
GRG	Griva	1.60	309	P	Pn	10 55 03.7	-0.3
GRG	Griva	1.60	309	*e*Pn	Pn	10 55 04.1	+0.1
GRG				*e*Sn	Sn	10 55 24.7	-0.4
GRG				S	Sg	10 55 26.5	+0.1
THL	Klokotos Trika	1.61	257	P	Pn	10 55 03.3	-0.7
THL	Klokotos Trika	1.61	257	*e*PN	Pn	10 55 03.4	-0.6
THL	Klokotos Trika	1.61	257	*e*Pn	Pn	10 55 03.4	-0.6
AGG	Agios Georgios	1.62	235	P	Pn	10 55 03.3	-0.9
AGG				S	Sn	10 55 25.2	-0.2
AGG	Agios Georgios	1.62	235	*e*PB	Pn	10 55 03.3	-0.9
AGG	Agios Georgios	1.62	235	P	Pn	10 55 03.3	-0.9
AGG				S	Sn	10 55 25.2	-0.2
MAKR	Makrakomi, Fth	1.75	238	P	Pn	10 55 05.6	-0.4
MAKR				S	Sn	10 55 28.3	-0.4
MAKR	Makrakomi, Fth	1.75	238	P	Pn	10 55 05.6	-0.4
MAKR				S	Sn	10 55 28.3	-0.4
EZN	Ezine	1.76	93	*e*PN	Pn	10 55 05.3	-0.8
EZN				*e*SN	Sg	10 55 32.7	+1.2
VAY	Valandovo	1.77	321	P	Pn	10 55 05.4	-0.8
VAY				S	Sg	10 55 31.4	-0.3
VAY	Valandovo	1.77	321	*i* Pn	Pn	10 55 01.9	-4.3
VAY				*e*Sg	Sg	10 55 32.7	+1.1
VAY				*e*Lg	Lg	10 55 36.6	
	comp=N,5μm,1.4s						
VAY				*e*Lg	Lg	10 55 36.7	
	comp=E,3μm,1.1s						
VAY	Valandovo	1.77	321	*i* Pn	Pn	10 55 01.8	-4.3
VAY	Valandovo	1.77	321	P	Pn	10 55 05.4	-0.8
VAY				*e*Lg	Lg	10 55 36.6	
	comp=E,3μm,1.1s						
KZN	Kozani	1.77	282	P	Pn	10 55 06.3	-0.1
KZN	Kozani	1.77	282	*e*PN	Pn	10 55 06.3	-0.1
KZN	Kozani	1.77	282	P	Pn	10 55 06.3	-0.1
ENEZ	Enez	1.79	63	*e*PN	Pn	10 55 05.2	-1.4
ENEZ				*e*SN	Sg	10 55 33.5	+0.9
ALN	Alexandroupoli	1.80	58	P	Pn	10 55 04.8	-1.8
ALN				S	Sb	10 55 31.1	-0.1
ALN	Alexandroupoli	1.80	58

GUR	**Goura**	**2.41**	**214**	P		**Pn**	**10 55 14.4**	**-0.7**
JAN	**Janina**	**2.48**	**264**	P		**Pn**	**10 55 16.9**	**+1.0**
JAN				S		**Sb**	**10 55 48.9**	**-1.8**
JAN	**Janina**	**2.48**	**264**	P		**Pn**	**10 55 16.9**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.51**	**72**	*e*PN		**Pn**	**10 55 15.1**	**-1.3**
DID	**Didima**	**2.52**	**195**	P		**Pn**	**10 55 15.1**	**-1.5**
DID	**Didima**	**2.52**	**195**	P		**Pn**	**10 55 15.1**	**-1.5**
KRBG	**Karabiga-Canak**	**2.53**	**79**	*e*PN		**Pn**	**10 55 16.3**	**-0.4**
URLA	**Izmir**	**2.54**	**128**	*i* P		**Pn**	**10 55 16.3**	**-0.6**
URLA				*i* S		**Sg**	**10 56 02.1**	**+5.4**
URLA	**Izmir**	**2.54**	**128**	*i* P		**Pn**	**10 55 16.3**	**-0.6**
URLA				*i* S		**Sg**	**10 56 02.1**	**+5.4**
URLA	**Izmir**	**2.54**	**128**	*i* P		**Pn**	**10 55 16.3**	**-0.6**
DIDY	**Didyma**	**2.56**	**195**	P		**Pn**	**10 55 15.6**	**-1.5**
DIDY	**Didyma**	**2.56**	**195**	P		**Pn**	**10 55 15.6**	**-1.5**
KBN	**Korca**	**2.58**	**286**	*e*PN		**Pn**	**10 55 18.4**	**+1.0**
KBN				*i* SN		**Sn**	**10 55 50.7**	**+1.5**
KBN	**Korca**	**2.58**	**286**	P		**Pn**	**10 55 18.5**	**+1.0**
KBN	**Korca**	**2.58**	**286**	*e*Pn		**Pn**	**10 55 18.4**	**+1.0**
KBN				*i* Sn		**Sn**	**10 55 50.7**	**+1.5**
MFT	**Murefte**	**2.61**	**70**	*e*PN		**Pn**	**10 55 16.9**	**-0.9**
VTS	**Vitosha**	**2.71**	**347**	P		**Pn**	**10 55 19.5**	**+0.2**
VTS	**Vitosha**	**2.71**	**347**	⇓P		**Pn**	**10 55 20.0**	**+0.7**
VTS	**Vitosha**	**2.71**	**347**	⇓*i* P		**Pn**	**10 55 20.0**	**+0.7**
VTS	**Vitosha**	**2.71**	**347**	P		**Pn**	**10 55 19.5**	**+0.2**
AXS	**Araxos**	**2.72**	**231**	P		**Pn**	**10 55 20.7**	**+1.5**
AXS	**Araxos**	**2.72**	**231**	P		**Pn**	**10 55 20.7**	**+1.5**
RLS	**Riolos of Patr**	**2.76**	**227**	P		**Pn**	**10 55 21.1**	**+1.3**
RLS				S		**Sn**	**10 55 55.3**	**+1.8**
RLS	**Riolos of Patr**	**2.76**	**227**	P		**Pn**	**10 55 21.1**	**+1.3**
BALY	**Balya**	**2.76**	**93**	*i* P		**Pn**	**10 55 18.6**	**-1.3**
BALY				*i* S		**Sg**	**10 56 01.8**	**-1.9**
BALY	**Balya**	**2.76**	**93**	*i* P		**Pn**	**10 55 18.6**	**-1.3**
BALY				*i* S		**Sg**	**10 56 01.8**	**-1.9**
BALY	**Balya**	**2.76**	**93**	*i* P		**Pn**	**10 55 18.6**	**-1.3**
EDRB	**Edirne**	**2.79**	**46**	*e*PN		**Pn**	**10 55 18.7**	**-1.5**
EDRB	**Edirne**	**2.79**	**46**	P		**Pn**	**10 55 19.6**	**-0.6**
EDRB				S		**Sn**	**10 56 56.7**	**+2.4**
EDRB	**Edirne**	**2.79**	**46**	P		**Pn**	**10 55 19.6**	**-0.6**
GONE	**Gonen-Balikesi**	**2.80**	**87**	*e*PN		**Pn**	**10 55 20.1**	**-0.3**
SKO	**Skopje**	**2.82**	**317**	P		**Pn**	**10 55 21.6**	**+0.9**
SKO	**Skopje**	**2.82**	**317**	*i* Pn		**Pn**	**10 55 22.1**	**+1.5**
SKO				*e*Sg		**Sb**	**10 56 01.1**	**+0.5**
SKO				*e*Lg		Lg	10 56 01.5	
	comp=E,395nm,1.3s							
SKO				*e*Lg		Lg	10 56 01.6	
	comp=N,452nm,1.2s							
SKO	**Skopje**	**2.82**	**317**	P		**Pn**	**10 55 21.6**	**+0.9**
SKO	**Skopje**	**2.82**	**317**	*i* Pn		**Pn**	**10 55 22.1**	**+1.5**
SKO				*e*Lg		Lg	10 56 01.6	
	comp=N,452nm,1.2s							
LKD2	**Lefkada island**	**2.87**	**247**	P		**Pn**	**10 55 22.8**	**+1.5**
LKD2				S		**Sn**	**10 55 58.7**	**+2.4**
LKD2	**Lefkada island**	**2.87**	**247**	P		**Pn**	**10 55 22.8**	**+1.5**
VLX	**Vlachokerasia**	**2.89**	**207**	P		**Pn**	**10 55 21.3**	**-0.4**
VLX	**Vlachokerasia**	**2.89**	**207**	P		**Pn**	**10 55 21.3**	**-0.4**
BALB	**Balikesir**	**2.98**	**95**	*e*PN		**Pn**	**10 55 22.3**	**-0.5**
BNT	**Bandirma**	**3.00**	**81**	*e*PN		**Pn**	**10 55 22.7**	**-0.5**
APE	**Apeiranthos**	**3.11**	**157**	P		**Pn**	**10 55 23.6**	**-1.1**
APE	**Apeiranthos**	**3.11**	**157**	⇑P		**Pn**	**10 55 23.7**	**-1.0**
APE	**Apeiranthos**	**3.11**	**157**	⇑*i* P		**Pn**	**10 55 23.7**	**-1.0**
APE	**Apeiranthos**	**3.11**	**157**	P		**Pn**	**10 55 23.6**	**-1.1**
SRN	**Sarande**	**3.11**	**270**	*e*PN		**Pn**	**10 55 26.2**	**+1.6**
SRN				*i* PN		**Sb**	**10 56 06.0**	**-2.8**
SRN	**Sarande**	**3.11**	**270**	*e*Pn		**Pn**	**10 55 26.2**	**+1.6**
KFL	**Anninata**	**3.13**	**235**	P		**Pn**	**10 55 27.0**	**+2.1**
KFL	**Anninata**	**3.13**	**235**	P		**Pn**	**10 55 27.0**	**+2.1**
VLS	**Valsamata**	**3.22**	**238**	P		**Pn**	**10 55 27.3**	**+1.1**
VLS	**Valsamata**	**3.22**	**238**	P		**Pn**	**10 55 27.3**	**+1.1**
ITM	**Ithomi**	**3.23**	**212**	P		**Pn**	**10 55 27.2**	**+0.9**
ITM	**Ithomi**	**3.23**	**212**	P		**Pn**	**10 55 27.2**	**+0.9**
BARS	**Barje**	**3.31**	**330**	⇓*i* Pn		**Pn**	**10 55 27.5**	**0.0**
VLI	**Veliai**	**3.34**	**195**	P		**Pn**	**10 55 27.1**	**-0.8**
VLI	**Veliai**	**3.34**	**195**	P		**Pn**	**10 55 27.1**	**-0.8**
SLVT	**Silivri**	**3.42**	**67**	*e*PN		**Pn**	**10 55 28.7**	**-0.2**
DYR	**Agios Nikonas**	**3.46**	**203**	P		**Pn**	**10 55 29.5**	**+0.1**
DYR	**Agios Nikonas**	**3.46**	**203**	P		**Pn**	**10 55 29.5**	**+0.1**
TIR	**Tirane**	**3.47**	**295**	*e*PN		**Pn**	**10 55 30.0**	**+0.4**
TIR				*i* SN		**Sb**	**10 56 16.3**	**-2.9**
TIR	**Tirane**	**3.47**	**295**	*e*Pn		**Pn**	**10 55 30.0**	**+0.4**
PYL	**PYLOS**	**3.55**	**211**	P		**Pn**	**10 55 32.1**	**+1.5**
PYL	**PYLOS**	**3.55**	**211**	P		**Pn**	**10 55 32.1**	**+1.5**
CTYL	**Yal??k??y-??at**	**3.57**	**63**	*e*PN		**Pn**	**10 55 31.2**	**+0.2**
CTKS	**Kestanelik-??a**	**3.63**	**68**	*e*PN		**Pn**	**10 55 32.1**	**+0.3**
THR3	**Thira Island,**	**3.70**	**163**	P		**Pn**	**10 55 32.0**	**-0.7**
THR3	**Thira Island,**	**3.70**	**163**	P		**Pn**	**10 55 32.0**	**-0.7**
MDNY	**Mudanya-Bursa**	**3.73**	**82**	*e*PN		**Pn**	**10 55 33.5**	**+0.3**
ARMT	**Armutlu**	**3.74**	**79**	*e*PN		**Pn**	**10 55 33.6**	**+0.3**
KYTH	**Kithira**	**3.75**	**192**	P		**Pn**	**10 55 32.9**	**-0.6**
KYTH	**Kithira**	**3.75**	**192**	P		**Pn**	**10 55 32.9**	**-0.6**
BGKT	**Bogazkoy**	**3.81**	**70**	*e*PN		**Pn**	**10 55 34.3**	**0.0**
KULA	**Kula-Manisa**	**3.87**	**110**	*e*PN		**Pn**	**10 55 34.5**	**-0.6**
KULA	**Kula-Manisa**	**3.87**	**110**	P		**Pn**	**10 55 35.6**	**+0.5**
KULA	**Kula-Manisa**	**3.87**	**110**	P		**Pn**	**10 55 35.6**	**+0.5**
GEMT	**Gemlik**	**3.97**	**81**	*e*PN		**Pn**	**10 55 37.1**	**+0.6**
ISK	**Istanbul-Kandi**	**3.98**	**72**	*e*PN		**Pn**	**10 55 37.2**	**+0.6**
KLYT	**Kilyos**	**4.02**	**77**	*e*PN		**Pn**	**10 55 37.5**	**+0.3**
YLV	**Yalova**	**4.13**	**80**	*e*PN		**Pn**	**10 55 39.2**	**+0.5**
BOLS	**Boljevac**	**4.17**	**339**	*e*Pn		**Pn**	**10 55 38.0**	**-1.3**
TVSB	**Tavsanli**	**4.21**	**95**	*e*PN		**Pn**	**10 55 40.2**	**+0.3**
ALT	**Altintas**	**4.78**	**99**	*e*PN		**Pn**	**10 55 47.7**	**0.0**
DIVS	**Divibare**	**5.12**	**325**	⇓*i* Pn		**Pn**	**10 55 52.2**	**-0.2**
BBLS	**Lazići**	**5.22**	**320**	*e*Pn		**Pn**	**10 55 54.1**	**+0.4**
ARR	**Arges**	**5.43**	**4**	⇓*i* P		**Pn**	**10 55 56.6**	**0.0**
ARR	**Arges**	**5.43**	**4**	⇓*i* P		**Pn**	**10 55 56.6**	**0.0**
ISR	**Istrita**	**5.48**	**19**	⇑P		**Pn**	**10 55 58.2**	**+0.9**
ISR	**Istrita**	**5.48**	**19**	⇑*i* P		**Pn**	**10 55 58.2**	**+0.9**
ISR	**Istrita**	**5.48**	**19**	P		**Pn**	**10 55 58.2**	**+0.9**
VOIR		**5.53**	**7**	⇓P		**Pn**	**10 55 58.3**	**+0.3**
VOIR		**5.53**	**7**	⇓*i* P		**Pn**	**10 55 58.3**	**+0.3**
VOIR		**5.53**	**7**	P		**Pn**	**10 55 58.3**	**+0.3**
TIRR	**Tirgusor**	**5.55**	**34**	⇑P		**Pn**	**10 55 57.9**	**-0.2**
TIRR	**Tirgusor**	**5.55**	**34**	⇑*i* P		**Pn**	**10 55 57.9**	**-0.2**
TIRR	**Tirgusor**	**5.55**	**34**	P		**Pn**	**10 55 57.9**	**-0.2**
TEKS	**Tekeris**	**5.68**	**325**	*e*Pn		**Pn**	**10 55 59.1**	**+1.1**
MLR	**Muntele Rosu**	**5.71**	**14**	⇓*i* P		**Pn**	**10 56 01.4**	**+0.9**
MLR	**Muntele Rosu**	**5.71**	**14**	Pn		**Pn**	**10 56 00.7**	**+0.2**
	comp=N,1.2nm,0.3s,baz=194,slow=5.9,SNR=21							
MLR				Sn		**Sn**	**10 57 07.2**	**+0.7**
	comp=N,0.2nm,0.3s,baz=97,slow=16,SNR=3.1							
MLR				Lg		Lg	10 57 40.2	
	comp=N,0.4nm,0.3s,baz=340,slow=22,SNR=3.4							
MLR	**Muntele Rosu**	**5.71**	**14**	P		**Pn**	**10 56 01.4**	**+0.9**
CFR	**Carcaliu**	**6.03**	**29**	⇑P		**Pn**	**10 56 04.2**	**-0.6**
CFR	**Carcaliu**	**6.03**	**29**	⇑*i* P		**Pn**	**10 56 04.2**	**-0.6**
CFR	**Carcaliu**	**6.03**	**29**	P		**Pn**	**10 56 04.2**	**-0.6**
PLOR	**Plostina**	**6.20**	**17**	⇓P		**Pn**	**10 56 08.5**	**+1.4**
PLOR	**Plostina**	**6.20**	**17**	⇓*i* P		**Pn**	**10 56 08.5**	**+1.4**
PLOR	**Plostina**	**6.20**	**17**	P		**Pn**	**10 56 08.5**	**+1.4**
VRI	**Vrincioaia**	**6.23**	**18**	⇑P		**Pn**	**10 56 08.6**	**+1.1**
VRI	**Vrincioaia**	**6.23**	**18**	⇑*i* P		**Pn**	**10 56 08.6**	**+1.1**
VRI	**Vrincioaia**	**6.23**	**18**	P		**Pn**	**10 56 08.6**	**+1.1**
TLCR		**6.31**	**32**	⇓P		**Pn**	**10 56 08.2**	**-0.3**
TLCR		**6.31**	**32**	⇓*i* P		**Pn**	**10 56 08.2**	**-0.3**
TLCR		**6.31**	**32**	P		**Pn**	**10 56 08.2**	**-0.3**
TESR	**Tescani**	**6.83**	**15**	⇑*i* P		**Pn**	**10 56 16.2**	**+0.5**
TESR	**Tescani**	**6.83**	**15**	⇑*i* P		**Pn**	**10 56 16.2**	**+0.5**
DRGR		**6.90**	**352**	⇑P		**Pn**	**10 56 18.5**	**+1.7**
DRGR		**6.90**	**352**	⇑*i* P		**Pn**	**10 56 18.5**	**+1.7**
DRGR		**6.90**	**352**	P		**Pn**	**10 56 18.5**	**+1.7**
BRTR	**Keskin Array B**	**7.39**	**89**	Pn		**Pn**	**10 56 23.1**	**-0.5**
	comp=N,0.7nm,0.3s,baz=266,slow=12,SNR=10							
BRTR				Lg		Lg	10 58 33.4	
	baz=277,slow=26,SNR=6.2							
BRTR	**Keskin Array B**	**7.39**	**89**	P		**Pn**	**10 56 23.1**	**-0.5**
	comp=N,1.0nm,0.3s							
BOJS	**Bojanci**	**8.52**	**314**	*e*Pn		**Pn**	**10 56 40.1**	**+1.2**
BOJS	**Bojanci**	**8.52**	**314**	Pn		**Pn**	**10 56 40.1**	**+1.2**
UZH	**Uzhgorod**	**8.77**	**352**	*e*P		Pn	10 56 46.9	+4.6
UZH				*e*S		**Sn**	**10 58 26.3**	**+4.9**
VISS	**Visnje**	**8.93**	**314**	*e*Pn		**Pn**	**10 56 45.5**	**+0.9**
VISS	**Visnje**	**8.93**	**314**	*e*Pn		**Pn**	**10 56 45.5**	**+0.9**
KOLS	**Kolonicke sedl**	**9.07**	**353**	*e*SG		Sn	10 59 26.8	+58
CRVS	**Cervenica-Dubn**	**9.13**	**349**	*e*P		Pn	10 56 43.9	-3.5
CRVS	**Cervenica-Dubn**	**9.13**	**349**	*e*PN		Pn	10 56 43.9	-3.5
CRVS	**Cervenica-Dubn**	**9.13**	**349**	*e*SG		Sn	10 59 28.1	+57
JAVS	**Javornik**	**9.42**	**312**	*i* Pn		**Pn**	**10 56 52.0**	**+0.7**
JAVS	**Javornik**	**9.42**	**312**	*i* Pn		**Pn**	**10 56 52.0**	**+0.7**
AKASG	**Malin Array Be**	**11.35**	**17**	P		**Pn**	**10 57 16.3**	**-1.3**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be**	**11.35**	**17**	Pn		**Pn**	**10 57 16.3**	**-1.3**
	comp=Z,1.3nm,0.3s,baz=228,slow=13,SNR=5.5							
AKASG	**Malin Array Be**	**11.35**	**17**	P		**Pn**	**10 57 16.3**	**-1.3**
	comp=Z,1.0nm,0.3s							
KEST	**Kesra**	**12.36**	**255**	Pn		**Pn**	**10 57 31.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=78,slow=9.9,SNR=6.4							
GNI	**Garni**	**15.86**	**83**	*e*P		**P**	**10 58 22.6**	**-0.2**
	comp=Z,21nm,2.0s							
OBN	**Obninsk**	**17.32**	**25**	*e*P		P	10 58 43.6	+4.8
OBN				pmax	pmax			
	comp=Z,8.0nm,0.5s							
OBN				MLR	MLR			
	comp=Z,900nm,17.0s							
HFS	**Hagfors**	**21.22**	**346**	P		**P**	**10 59 22.8**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=121,slow=17,SNR=2.9							
HFS	**Hagfors**	**21.22**	**346**	P		**P**	**10 59 22.8**	**+1.5**
ESDC	**Sonseca Array**	**21.48**	**278**	P		**P**	**10 59 23.4**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=76,slow=11,SNR=8.3							
ESDC				LR		LR	11 08 32.5	
	comp=Z,864nm,19.6s,baz=335,slow=39							
FINES	**FINESS Array B**	**21.55**	**3**	P		**P**	**10 59 23.9**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=172,slow=11,SNR=3.1							
FINES	**FINESS Array B**	**21.55**	**3**	P		**P**	**10 59 23.9**	**-1.0**
NOA	**NORSAR Array B**	**22.55**	**344**	P		**P**	**10 59 36.2**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=148,slow=9.3,SNR=4.5							
NOA	**NORSAR Array B**	**22.55**	**344**	P		**P**	**10 59 36.2**	**+0.5**
EKA	**Eskdalemuir Ar**	**23.71**	**319**	P		**P**	**10 59 47.3**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=101,slow=10,SNR=3.9							
EKA	**Eskdalemuir Ar**	**23.71**	**319**	P		**P**	**10 59 47.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**33.16**	**223**	P		**P**	**11 01 12.5**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=37,slow=9.1,SNR=8.4							
MKAR	**Makanchi Array**	**42.04**	**61**	*i* P		**P**	**11 02 28.2**	**+0.8**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**42.04**	**61**	P		**P**	**11 02 27.5**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=266,slow=5.8,SNR=4.5							
MKAR	**Makanchi Array**	**42.04**	**61**	*i* P		**P**	**11 02 28.2**	**+0.8**
	comp=Z,1.0nm,0.4s							
ZALV	**Zalesovo Beam**	**42.46**	**50**	P		**P**	**11 02 30.3**	**-0.3**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ZALV	**Zalesovo Beam**	**42.46**	**50**	P		**P**	**11 02 30.3**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=297,slow=9.5,SNR=2.8							
ZALV	**Zalesovo Beam**	**42.46**	**50**	P		**P**	**11 02 30.3**	**-0.3**
	comp=Z,1.0nm,0.4s							
BILL	**Bilibino**	**68.65**	**14**	*e*P		P	11 05 46.2	+7.5
BILL				pmax	pmax			
	comp=Z,14nm,1.3s							
BILL				MLR	MLR			
	comp=Z,200nm,20.0s							

*ISCJB **01** 10:57:01.9±0.7, 39.°95N±0.°02×24.°05E±0.°03, h6km±5km, Error ellipse: s-maj=3.5km s-min=2.7km az=35.0*
*ATH **01** 10:57:02.1, 39.°95N×24.°05E, h22km±1km, MD3.3/13, ML3.2*
*CSEM **01** 10:57:02.1±0.2, 39.°94N×24.°07E, h8km, ML3.5/8, Error ellipse: s-maj=3.8km s-min=2.9km az=104.0*
*THE **01** 10:57:02.8, 39.°95N×24.°03E, h10km, ML3.5/8, Error ellipse: s-maj=0.8km s-min=0.4km az=348.0*
*SKO **01** 10:57:04.5, 39.°98N×24.°00E, h18km, M3.1, ML3.4*
*DDA **01** 10:57:20.5, 40.°05N×24.°74E, h5km, MD3.1*

ISC 01 10:57:03.0±1.0, 39.°95N±0.°02×24.°03E±0.°01, h9km±8km, n88, σ0°89/135, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.38**	**354**	P		**Pg**	**10 57 10.7**	**+0.2**
OUR				S		**Sg**	**10 57 16.0**	**+0.4**
OUR	**Ouranopolis**	**0.38**	**354**	P		**Pg**	**10 57 10.7**	**+0.2**
OUR				S		**Sg**	**10 57 16.0**	**+0.4**
PLG	**Polygyros**	**0.61**	**313**	P		**Pg**	**10 57 14.5**	**-0.3**
PLG				S		**Sg**	**10 57 23.1**	**+0.1**
PLG	**Polygyros**	**0.61**	**313**	*e*PN		**Pg**	**10 57 14.6**	**-0.3**
PLG				*e*SN		**Sg**	**10 57 23.1**	**+0.1**
PLG	**Polygyros**	**0.61**	**313**	P		**Pg**	**10 57 14.5**	**-0.3**
PLG				S		**Sg**	**10 57 23.1**	**+0.1**
AOS	**Alonnisos**	**0.79**	**189**	P		**Pg**	**10 57 17.5**	**-0.7**
AOS				S		**Sb**	**10 57 29.3**	**-0.4**
AOS	**Alonnisos**	**0.79**	**189**	*e*PN		**Pg**	**10 57 17.5**	**-0.7**
AOS				*e*SN		**Sg**	**10 57 29.0**	**+0.5**
AOS	**Alonnisos**	**0.79**	**189**	P		**Pg**	**10 57 17.5**	**-0.7**
AOS				*e*Sn		**Sg**	**10 57 29.0**	**+0.5**
XOR	**Xorichti**	**0.87**	**228**	P		**Pg**	**10 57 18.8**	**-1.0**
XOR				S		**Sg**	**10 57 31.7**	**+0.5**
XOR	**Xorichti**	**0.87**	**228**	P		**Pg**	**10 57 18.8**	**-1.0**
XOR				S		**Sg**	**10 57 31.7**	**+0.5**
LIA	**Limnos Island**	**0.89**	**93**	P		**Pg**	**10 57 19.7**	**-0.3**
LIA				S		**Sb**	**10 57 32.3**	**+0.1**
LIA	**Limnos Island**	**0.89**	**93**	*e*PN		**Pg**	**10 57 19.8**	**-0.3**
LIA				*e*SN		**Sg**	**10 57 31.2**	**-0.4**
LIA	**Limnos Island**	**0.89**	**93**	*e*Pn		**Pg**	**10 57 19.8**	**-0.3**
LIA				*e*Sn		**Sg**	**10 57 31.2**	**-0.4**
LIA				S		**Sb**	**10 57 32.3**	**-0.1**
NEO	**Neokhori**	**0.90**	**224**	P		**Pg**	**10 57 20.3**	**0.0**
NEO				S		**Sg**	**10 57 32.4**	**+0.4**
NEO	**Neokhori**	**0.90**	**224**	P		**Pg**	**10 57 20.3**	**0.0**
NEO				S		**Sg**	**10 57 32.4**	**+0.4**
SKIA	**Skiathos**	**0.90**	**209**	P		**Pg**	**10 57 19.9**	**-0.4**
SKIA				S		**Sg**	**10 57 32.5**	**+0.5**
SKIA	**Skiathos**	**0.90**	**209**	P		**Pg**	**10 57 19.9**	**-0.4**
SKIA				S		**Sg**	**10 57 32.5**	**+0.5**
HORT	**Hortiatis**	**0.96**	**312**	P		**Pg**	**10 57 20.8**	**-0.7**
HORT				S		**Sg**	**10 57 34.3**	**+0.4**
HORT	**Hortiatis**	**0.96**	**312**	P		**Pg**	**10 57 20.8**	**-0.7**
HORT				S		**Sg**	**10 57 34.3**	**+0.4**
THE	**Thessaloniki**	**1.06**	**310**	P		**Pb**	**10 57 22.9**	**-0.5**
THE	**Thessaloniki**	**1.06**	**310**	P		**Pb**	**10 57 22.9**	**-0.5**
KAVA	**Kavala**	**1.10**	**19**	P		**Pb**	**10 57 23.0**	**-1.2**
KAVA				S		**Sb**	**10 57 38.7**	**0.0**
KAVA	**Kavala**	**1.10**	**19**	P		**Pb**	**10 57 23.0**	**-1.2**
KAVA				S		**Sb**	**10 57 38.7**	**0.0**
LIT	**Litokhoron**	**1.19**	**278**	P		**Pn**	**10 57 24.9**	**-0.9**
LIT	**Litokhoron**	**1.19**	**278**	*e*PN		**Pn**	**10 57 25.2**	**-0.6**
LIT	**Litokhoron**	**1.19**	**278**	P		**Pn**	**10 57 24.9**	**-0.9**
LIT	**Litokhoron**	**1.19**	**278**	*e*Pn		**Pn**	**10 57 25.2**	**-0.6**
SRS	**Serrai**	**1.21**	**344**	P		**Pn**	**10 57 24.9**	**-1.1**
SRS				S		**Sb**	**10 57 41.5**	**-0.2**
SRS	**Serrai**	**1.21**	**344**	P		**Pn**	**10 57 24.9**	**-1.1**
SRS				S		**Sb**	**10 57 41.5**	**-0.2**
SMIA	**Simia**	**1.25**	**211**	P		**Pn**	**10 57 25.7**	**-0.9**
SMIA				S		**Sb**	**10 57 42.8**	**0.0**
SMIA	**Simia**	**1.25**	**211**	P		**Pn**	**10 57 25.7**	**-0.9**
SMIA				S		**Sb**	**10 57 42.8**	**0.0**
SMTH	**Samothraki Isl**	**1.26**	**65**	P		**Pn**	**10 57 24.7**	**-2.0**
SMTH	**Samothraki Isl**	**1.26**	**65**	*e*PB		**Pn**	**10 57 24.5**	**-2.2**
SMTH				*e*SN		**Sb**	**10 57 43.1**	**0.0**
SMTH	**Samothraki Isl**	**1.26**	**65**	P		**Pn**	**10 57 24.7**	**-2.0**
SMTH				*e*Sn		**Sb**	**10 57 43.1**	**0.0**
MRKA	**Markates**	**1.29**	**196**	P		**Pn**	**10 57 26.1**	**-1.1**
MRKA				S		**Sb**	**10 57 43.8**	**-0.3**
MRKA	**Markates**	**1.29**	**196**	P		**Pn**	**10 57 26.1**	**-1.1**
MRKA				S		**Sb**	**10 57 43.8**	**-0.3**
NVR	**Nevrokopi**	**1.40**	**355**	*e*PN		**Pn**	**10 57 27.9**	**-0.8**
NVR				*e*SN		**Sn**	**10 57 47.6**	**+0.3**
NVR	**Nevrokopi**	**1.40**	**355**	*e*Pn		**Pn**	**10 57 27.9**	**-0.8**
NVR				*e*Sn		**Sn**	**10 57 47.6**	**+0.3**
BOZC	**Bozcaada**	**1.56**	**93**	*i* P		**Pn**	**10 57 29.0**	**-1.8**
BOZC				*i* S		**Sg**	**10 57 52.8**	**-0.3**
BOZC	**Bozcaada**	**1.56**	**93**	*i* P		**Pn**	**10 57 29.0**	**-1.8**
BOZC				*i* S		**Sg**	**10 57 52.8**	**-0.3**
GRG	**Griva**	**1.60**	**309**	P		**Pn**	**10 57 30.6**	**-0.8**
GRG	**Griva**	**1.60**	**309**	*e*PN		**Pb**	**10 57 32.6**	**0.0**
GRG	**Griva**	**1.60**	**309**	P		**Pn**	**10 57 30.6**	**-0.8**
GRG	**Griva**	**1.60**	**309**	*e*Pn		**Pb**	**10 57 32.6**	**0.0**
THL	**Klokotos Trika**	**1.60**	**257**	P		**Pn**	**10 57 30.7**	**-0.7**
THL	**Klokotos Trika**	**1.60**	**257**	*e*PN		**Pn**	**10 57 30.9**	**-0.5**
THL	**Klokotos Trika**	**1.60**	**257**	*e*Pn		**Pn**	**10 57 30.9**	**-0.5**
AGG	**Agios Georgios**	**1.61**	**235**	P		**Pn**	**10 57 31.1**	**-0.5**
AGG				S		**Sn**	**10 57 52.1**	**-0.4**
AGG	**Agios Georgios**	**1.61**	**235**	*e*PN		**Pn**	**10 57 31.2**	**-0.4**
AGG				*e*SN		**Sb**	**10 57 53.1**	**-0.2**
AGG	**Agios Georgios**	**1.61**	**235**	P		**Pn**	**10 57 31.1**	**-0.5**
AGG				S		**Sn**	**10 57 52.1**	**-0.4**
AGG				*e*Sn		**Sb**	**10 57 53.1**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.75**	**238**	P		**Pn**	**10 57 33.5**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.75**	**238**	P		**Pn**	**10 57 33.5**	**+0.1**
VAY	**Valandovo**	**1.76**	**321**	P		**Pn**	**10 57 33.1**	**-0.5**
VAY	**Valandovo**	**1.76**	**321**	*e*Pn		**Pn**	**10 57 33.9**	**+0.3**
VAY				*e*Sg		**Sg**	**10 58 00.3**	**+0.7**
VAY				*e*Lg		Lg	10 58 01.0	
	comp=N,388nm,0.7s							
VAY				*e*Lg		Lg	10 58 01.4	
	comp=E,598nm,1.1s							
VAY	**Valandovo**	**1.76**	**321**	P		**Pn**	**10 57 33.1**	**-0.5**
VAY	**Valandovo**	**1.76**	**321**	*e*Pn		**Pn**	**10 57 33.9**	**+0.3**
VAY				*e*Sg		**Sg**	**10 58 00.2**	**+0.7**
VAY				*e*Lg		Lg	10 58 01.3	
	comp=E,598nm,1.1s							
KZN	**Kozani**	**1.77**	**282**	P		**Pn**	**10 57 34.0**	**+0.2**
KZN	**Kozani**	**1.77**	**282**	*e*PN		**Pn**	**10 57 34.0**	**+0.2**
KZN	**Kozani**	**1.77**	**282**	P		**Pn**	**10 57 34.0**	**+0.2**
ALN	**Alexandroupoli**	**1.80**	**58**	P		**Pn**	**10 57 33.0**	**-1.2**
ALN	**Alexandroupoli**	**1.80**	**58**	*e*PB		**Pn**	**10 57 32.7**	**-1.5**
ALN				*e*SN		**Sn**	**10 57 57.0**	**-0.1**
ALN	**Alexandroupoli**	**1.80**	**58**	*e*Pb		**Pn**	**10 57 32.7**	**-1.5**
ALN	**Alexandroupoli**	**1.80**	**58**	P		**Pn**	**10 57 33.0**	**-1.2**
ALN	

comp=N,0.5nm,0.3s,baz=229,slow=15,SNR=8.9
SIV S S 11 16 28.9 -8.5
baz=231,slow=14,SNR=1.7
BDFB Brasilia 19.07 71 P **Pn 11 17 02.5 -2.3**
comp=N,0.3nm,0.3s,baz=239,slow=16,SNR=4.3
TORD Torodi Ar. Bea 75.95 69 P **P 11 24 17.9 +0.1**
comp=N,0.7nm,0.8s,baz=257,slow=5.3,SNR=8.7
MKAR Makanchi Array 145.59 39 PKPbc **PKPab 11 32 09.7 +1.8**
comp=N,0.8nm,0.5s,baz=310,slow=3.5,SNR=7.1

IDC 01 11:28:39.3±9.9, 33°90N×25°52E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.3/26, mbtmp3.5/3, ML3.9/1, Error ellipse: s-maj=177.8km s-min=52.8km az=35.0, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**17.01**	**8**	P	Pn	11 32 38.1	-0.5
	0.5nm,0.3s,baz=200,slow=10,SNR=3.0						
GERES	**GERESS Array B**	**17.34**	**333**	P	Pn	11 32 43.1	+0.4
	0.2nm,0.3s,baz=162,slow=11,SNR=5.7						
MKAR	**Makanchi Array**	**44.24**	**55**	P	P	11 36 50.2	-0.1
	0.4nm,0.6s,baz=282,slow=6.4,SNR=4.8						

KRSC 01 11:37:27.2±0.7, 50°93N×157°52E, h76km±76km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.92**	**255**	P	Pn	11 37 46.3	+1.3
SKR				S	Sn	11 37 59.9	+1.6
MIPR	**Malaya Ipel'ka**	**1.43**	**341**	P	Pn	11 37 52.0	+0.6
MIPR				S	Sn	11 38 09.9	+0.2
ASAK	**Asacha**	**1.47**	**9**	P	Pn	11 37 54.8	+2.7
ASAK				S	Sn	11 38 15.0	+4.1
MTVR	**Mutnovka**	**1.61**	**15**	P	Pn	11 37 56.6	+2.6
MTVR				S	Sn	11 38 18.4	+4.2
RUS	**Russkaya**	**1.63**	**22**	P	Pn	11 37 56.7	+2.7
RUS				S	Sn	11 38 17.8	+3.5
GRL	**Gorelyy**	**1.66**	**12**	P	Pn	11 37 57.9	+3.3
GRL				S	Sn	11 38 20.2	+4.8
APC	**Apacha**	**2.01**	**354**	P	Pn	11 37 59.8	+0.7
APC				S	Sn	11 38 23.4	0.0
PET	**Petropavlovsk**	**2.21**	**18**	P	Pn	11 38 04.0	+2.2
PET				S	Sn	11 38 31.3	+3.1
UGLR	**Uglovaya**	**2.42**	**19**	P	Pn	11 38 07.9	+3.2
UGLR				S	Sn	11 38 37.7	+4.2
AVH	**Avacha**	**2.46**	**17**	P	Pn	11 38 08.4	+3.2
KOK	**Koryaka**	**2.46**	**16**	P	Pn	11 38 08.7	+3.4
SMAR	**Somma**	**2.47**	**18**	P	Pn	11 38 08.4	+2.9
KRER	**Koryakskii**	**2.50**	**17**	P	Pn	11 38 08.8	+2.9
SDLR	**Sedlovina**	**2.50**	**19**	P	Pn	11 38 08.4	+2.6
SDLR				S	Sn	11 38 38.1	+2.7
SPN	**Mys Shipunskii**	**2.67**	**34**	P	Pn	11 38 10.8	+2.9
SPN				S	Sn	11 38 42.2	+3.0
GNL	**Ganaly**	**2.78**	**5**	P	Pn	11 38 10.3	+0.7
MKZ	**Mys Kozlova**	**4.44**	**34**	P	Pn	11 38 33.4	+1.4
MKZ				S	Sn	11 39 21.5	-0.8
BKI	**Bering**	**6.65**	**47**	S	Sn	11 40 13.4	-3.0

*ISCJB **01** 11:39:05.9±0.5, 24°06N±0°03×122°23E±0°02, h26km±4km, Error ellipse: s-maj=5.3km s-min=2.7km az=163.2*
*JMA **01** 11:39:05.1±0.4, 24°11N×122°12E, h44km, M2.6*
*TAP **01** 11:39:05.6, 24°08N×122°27E, h27km, ML3.0, D*
ISC 01 11:39:06.2±1.2, 24°08N±0°04×122°22E±0°03, h31km±11km, n31, σ0°65/42, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.56**	**309**	*e*P	**Pb**	**11 39 17.0**	**-0.6**
	baz=305						
ENA				S	**Sb**	**11 39 25.5**	**+0.1**
	baz=305						
TWD	**Chiawan**	**0.57**	**270**	*e*P	**Pb**	**11 39 18.2**	**+0.5**
	baz=270						
TWD				S	**Sb**	**11 39 26.3**	**+0.6**
	baz=270						
TWC	**Suao**	**0.62**	**328**	P	**Pb**	**11 39 17.9**	**-0.9**
	baz=324						
TWC				S	**Sb**	**11 39 27.2**	**0.0**
	baz=324						
ESL	**Shilin**	**0.77**	**250**	*e*P	**Pn**	**11 39 20.3**	**-0.7**
	baz=250						
ESL				*e*S	**Sn**	**11 39 30.3**	**-1.1**
	baz=250						
TWE	**Neicheng**	**0.81**	**322**	*e*P	**Pn**	**11 39 21.3**	**-0.3**
	baz=319						
TWE				*e*S	**Sb**	**11 39 32.8**	**+0.3**
	baz=319						
YOJ	**Yonaguni jima**	**0.82**	**62**	P	**Pn**	**11 39 21.2**	**-0.4**
YOJ				S	**Sn**	**11 39 33.1**	**+0.4**
NNS	**Nan Shan**	**0.85**	**295**	*e*P	**Pn**	**11 39 22.3**	**+0.1**
	baz=293						
NNS				*e*S	**Sn**	**11 39 33.6**	**-0.1**
	baz=293						
WHF	**Hehuan Shan**	**0.87**	**274**	*i* P	**Pn**	**11 39 22.3**	**-0.5**
	baz=274						
WHF				S	**Sn**	**11 39 34.2**	**-0.5**
	baz=274						
TWB1	**Santiao Chiao**	**0.95**	**347**	*e*P	**Pn**	**11 39 22.6**	**-0.8**
	baz=344						
TWB1				*e*S	**Sn**	**11 39 35.6**	**-0.4**
	baz=344						
TWT	**Tachien**	**0.97**	**281**	*e*P	**Pn**	**11 39 24.6**	**+0.8**
	baz=279						
TWT				*e*S	**Sn**	**11 39 36.4**	**-0.2**
	baz=279						
NSK	**Sanguang**	**0.98**	**307**	*e*P	**Pn**	**11 39 24.4**	**+0.4**
	baz=305						
NSK				*e*S	**Sb**	**11 39 37.4**	**0.0**
	baz=305						
NWF	**Wu-fen Shan**	**1.06**	**338**	*e*P	**Pn**	**11 39 24.6**	**-0.5**
	baz=335						
NWF				*e*S	**Sn**	**11 39 38.8**	**-0.1**
	baz=335						
TWF1	**Yuli**	**1.11**	**230**	*e*P	**Pn**	**11 39 24.7**	**-1.0**
	baz=230						
TWF1				*e*S	**Sn**	**11 39 38.6**	**-1.3**
	baz=230						
SMLT	**Sun Moon Lake**	**1.22**	**261**	*e*P	**Pn**	**11 39 27.8**	**+0.5**
	baz=261						
SMLT				S	**Sn**	**11 39 43.5**	**+0.7**
	baz=261						
NSTT	**Nanjuang**	**1.24**	**297**	*e*P	**Pb**	**11 39 29.4**	**+0.4**
	baz=295						
NSTT				*e*S	**Sb**	**11 39 45.0**	**+0.3**
	baz=295						
CHKT	**Chengkung**	**1.25**	**219**	*e*P	**Pn**	**11 39 27.5**	**-0.1**
	baz=220						
CHKT				*e*S	**Sn**	**11 39 42.7**	**-0.7**
	baz=220						
TYC	**Yuchr**	**1.26**	**262**	*e*P	**Pn**	**11 39 28.1**	**+0.4**
	baz=262						
TYC				*e*S	**Sn**	**11 39 44.0**	**+0.4**
	baz=262						
YUS	**Yu-Shan**	**1.30**	**243**	P	**Pn**	**11 39 28.7**	**0.0**
	baz=243						
YUS				S	**Sn**	**11 39 45.1**	**-0.2**
	baz=243						
TWQ1	**Liyutan**	**1.35**	**282**	*e*P	**Pn**	**11 39 29.6**	**+0.7**
	baz=281						
TWQ1				*e*S	**Sn**	**11 39 47.0**	**+1.2**
	baz=281						
IRIF	**Iriomote-Funau**	**1.40**	**79**	P	Pn	11 39 30.1	+0.4
IRIF				*e*S	**Sn**	**11 39 48.8**	**+1.6**
ALS	**Alishan**	**1.41**	**247**	*e*P	Pn	11 39 31.4	+1.3
	baz=247						
ALS				S	**Sn**	**11 39 48.3**	**+0.5**
	baz=247						
ELDTW	**Lidau**	**1.41**	**231**	*e*P	Pn	11 39 28.8	-1.1
	baz=232						
HATJ	**Hateruma jima**	**1.45**	**91**	P	Pn	11 39 30.7	+0.4
HATJ				*e*S	**Sn**	**11 39 48.8**	**+0.5**
CHN5	**Tsauling**	**1.49**	**251**	*e*P	Pn	11 39 32.5	+1.6
	baz=251						
CHN5				*e*S	**Sb**	**11 39 52.1**	**+0.2**
	baz=251						
TWG	**Pinlang**	**1.64**	**220**	*e*P	Pn	11 39 33.6	+0.7
	baz=221						
TWG				*e*S	Sn	11 39 53.6	+0.7
	baz=221						
JKRS	**Kuro-shima**	**1.64**	**84**	P	Pn	11 39 33.8	+0.8
JKRS				*e*S	Sn	11 39 54.6	+1.5
CHN4	**Tsaushan**	**1.66**	**244**	*e*P	Pn	11 39 35.4	+2.2
	baz=244						
CHN4				*e*S	Sn	11 39 54.9	+1.5
	baz=244						
WTP	**Ta-pu**	**1.69**	**241**	*e*P	Pn	11 39 34.6	+1.0
	baz=241						
WTP				*e*S	Sn	11 39 55.6	+1.4
	baz=241						
JIJ	**Ishigaki jima**	**1.78**	**80**	P	Pn	11 39 34.7	-0.2
JIJ				S	Sn	11 39 56.2	-0.3
CHN1	**Nanshi**	**1.79**	**240**	*e*P	Pn	11 39 35.9	+0.9
	baz=240						
CHN1				*e*S	Sn	11 39 58.1	+1.4
	baz=240						
JTJ	**Tarama**	**2.33**	**76**	*e*S	Sn	11 40 11.8	+1.7

*ATH **01** 11:59:40.9, 33°98N×25°35E, h22km±2km, MD3.3/7*
*IDC **01** 11:59:41.4±1.6, 33°95N×25°35E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.4/26, mbtmp3.5/5, ML3.7/2, Error ellipse: s-maj=53.8km s-min=27.4km az=140.0*
*ISCJB **01** 11:59:42.2±1.4, 34°02N±0°05×25°43E±0°05, h11km±11km, mb3.4/3, Error ellipse: s-maj=9.2km s-min=7.0km az=176.1*
*CSEM **01** 11:59:43.6±0.6, 34°15N×25°45E, h5km, MD3.3, Error ellipse: s-maj=11.2km s-min=7.2km az=166.0*
*THE **01** 11:59:47.1, 34°34N×25°45E, h2km±1km, Error ellipse: s-maj=2.1km s-min=0.6km az=164.0*
ISC 01 11:59:43.2±1.7, 34°13N±0°07×25°42E±0°03, h8km±9km, n34, σ1°19/53, mb3.6/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.02**	**331**	P	**Pn**	**12 00 03.4**	**-0.3**
SIVA				S	**Sn**	**12 00 16.9**	**-1.2**
SIVA	**Sivas**	**1.02**	**331**	*e*PN	**Pn**	**12 00 02.6**	**-1.1**
SIVA				*e*SN	**Sn**	**12 00 18.2**	**+0.1**
SIVA	**Sivas**	**1.02**	**331**	*e*Pn	**Pn**	**12 00 02.6**	**-1.1**
SIVA	**Sivas**	**1.02**	**331**	P	**Pn**	**12 00 03.4**	**-0.3**
SIVA				S	**Sn**	**12 00 16.9**	**-1.2**
SIVA				*e*Sn	**Sn**	**12 00 18.2**	**+0.1**
LAST	**Lasithi**	**1.03**	**3**	P	**Pb**	**12 00 02.9**	**-0.4**
LAST				S	**Sg**	**12 00 15.6**	**-0.7**
LAST	**Lasithi**	**1.03**	**3**	*e*PN	**Pg**	**12 00 02.8**	**-0.1**
LAST				*e*SN	**Sn**	**12 00 19.9**	**+1.3**
LAST	**Lasithi**	**1.03**	**3**	P	**Pb**	**12 00 02.9**	**-0.4**
LAST				S	**Sg**	**12 00 15.6**	**-0.7**
LAST				*e*Sn	**Sn**	**12 00 19.9**	**+1.3**
NPS	**Neapolis**	**1.14**	**8**	P	**Pg**	**12 00 05.1**	**0.0**
NPS	**Neapolis**	**1.14**	**8**	*e*PN	**Pg**	**12 00 04.9**	**-0.2**
NPS				*e*SN	**Sn**	**12 00 23.6**	**+2.4**
NPS	**Neapolis**	**1.14**	**8**	P	**Pg**	**12 00 05.1**	**0.0**
NPS				*e*Sn	**Sn**	**12 00 23.6**	**+2.4**
ZKR	**Zakros**	**1.18**	**34**	P	**Pg**	**12 00 06.3**	**+0.5**
ZKR				S	**Sb**	**12 00 20.8**	**-0.4**
ZKR	**Zakros**	**1.18**	**34**	*e*PN	**Pg**	**12 00 06.1**	**+0.3**
ZKR				*e*SN	**Sn**	**12 00 25.3**	**+3.1**
ZKR	**Zakros**	**1.18**	**34**	*e*Pn	**Pg**	**12 00 06.1**	**+0.3**
ZKR				S	**Sb**	**12 00 20.8**	**-0.4**
ZKR				*e*Sn	**Sn**	**12 00 25.3**	**+3.1**
IDI	**Anoyia**	**1.23**	**339**	P	**Pg**	**12 00 06.9**	**0.0**
IDI	**Anoyia**	**1.23**	**339**	*e*PN	**Pb**	**12 00 06.2**	**-0.5**
IDI				*e*SN	**Sn**	**12 00 24.7**	**+1.1**
IDI	**Anoyia**	**1.23**	**339**	*e*Pn	**Pb**	**12 00 06.2**	**-0.5**
IDI	**Anoyia**	**1.23**	**339**	P	**Pg**	**12 00 06.9**	**0.0**
IDI				*e*Sn	**Sn**	**12 00 24.7**	**+1.1**
GVD	**Gavdhos**	**1.31**	**303**	P	**Pg**	**12 00 09.8**	**+1.5**
GVD				S	**Sg**	**12 00 27.1**	**+1.9**
GVD	**Gavdhos**	**1.31**	**303**	*e*PN	**Pg**	**12 00 08.3**	**0.0**
GVD	**Gavdhos**	**1.31**	**303**	*e*Pn	**Pg**	**12 00 08.3**	**0.0**
GVD	**Gavdhos**	**1.31**	**303**	P	**Pg**	**12 00 09.8**	**+1.5**
GVD				S	**Sg**	**12 00 27.1**	**+1.9**
VAM	**Vamos**	**1.62**	**322**	P	**Pg**	**12 00 13.4**	**-0.9**
VAM				S	**Sb**	**12 00 33.6**	**-0.3**
VAM	**Vamos**	**1.62**	**322**	P	**Pg**	**12 00 13.4**	**-0.9**
VAM				S	**Sb**	**12 00 33.6**	**-0.3**
KARP	**Karpathos**	**2.01**	**45**	P	**Pb**	**12 00 18.9**	**-1.1**
KARP	**Karpathos**	**2.01**	**45**	P	**Pb**	**12 00 18.9**	**-1.1**
KYTH	**Kithira**	**2.90**	**318**	P	**Pn**	**12 00 31.3**	**+1.7**
KYTH	**Kithira**	**2.90**	**318**	P	**Pn**	**12 00 31.3**	**+1.7**
VLI	**Veliai**	**3.28**	**323**	*e*PN	**Pn**	**12 00 35.1**	**+0.3**
VLI	**Veliai**	**3.28**	**323**	*e*Pn	**Pn**	**12 00 35.1**	**+0.3**
BRTR	**Keskin Array B**	**8.63**	**47**	Pn	Pn	12 01 51.4	+3.0
	0.1nm,0.3s,baz=232,slow=16,SNR=3.1						
GERES	**GERESS Array B**	**17.09**	**333**	P	**P**	**12 03 43.9**	**-0.3**
	0.3nm,0.3s,baz=139,slow=12,SNR=7.5						
TORD	**Torodi Ar. Bea**	**30.01**	**232**	P	**P**	**12 05 50.8**	**-1.6**
	0.6nm,0.7s,baz=38,slow=8.8,SNR=4.1						
MKAR	**Makanchi Array**	**44.17**	**56**	P	**P**	**12 07 52.6**	**+0.3**
	0.7nm,0.6s,baz=279,slow=6.2,SNR=5.2						
ILAR	**Eielson Array**	**81.24**	**357**	P	**P**	**12 11 59.4**	**+0.1**
	0.1nm,0.5s,baz=358,slow=3.7,SNR=4.9						

*IDC **01** 12:09:10.5±1.0, 48°09N×122°93W, h0km, mb3.8/6, mb1 3.9/10, mb1mx3.7/31, mbtmp3.6/10, ML3.4/4, MS4.0/1, Ms1 4.0/1, ms1mx3.3/53, Error ellipse: s-maj=15.7km s-min=11.8km az=47.0*
*ISCJB **01** 12:09:16.8±0.2, 48°23N±0°02×122°63W±0°03, h71km±3km, mb3.6/5, Error ellipse: s-maj=3.3km s-min=2.9km az=141.3*
*NEIC **01** 12:09:17.9, 48°19N×122°63W, h59km, MD3.7(SEA), After SEA.*
NEIC Felt [III] at Mukilteo and Seattle; [II] on Camano Island and at Anacortes, Arlington, Bellingham, Bothell, Coupeville, Duvall, Eastsound, Everett, Fall City, Friday Harbor, La Conner, Marysville, Monroe, Mount Vernon, North Bend, Oak Harbor, Port Hadlock, Port Ludlow, Port Orchard, Port Townsend, Poulsbo, Renton, Sequim, Snohomish, Sultan and Woodinville. Felt [II] at Abbotsford, Vancouver and Victoria, British Columbia, Canada.
*PNSN **01** 12:09:17.9, 48°19N×122°63W, h59km, MD3.7, Fault plane solution: NP1: φs75.00000°, δ80.00000°, NP2: φs173.00000°, δ51.00000°, Principal axes: T Plg35.0000°, Azm26.0000°; P Plg19.0000°, Azm130.0000°;*
*PGC **01** 12:09:17.4, 48°13N×122°68W, h59km, ML3.3/5, 61km Ese of Victoria, Bc Washington*
ISC 01 12:09:17.4±0.6, 48°21N±0°03×122°62W±0°03, h56km±6km, n375, σ0°94/398, mb3.8/5, 141C-161D, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVOH	**Skagit Valley**	**0.08**	**352**	⇓P	**Pn**	**12 09 26.7**	**+0.9**
ERW	**Mount Erie**	**0.24**	**359**	⇓P	**Pn**	**12 09 27.4**	**+0.8**
SWID	**South Whidbey**	**0.24**	**146**	⇑P	**Pn**	**12 09 27.3**	**+0.7**
BLN	**Blyn Mountain**	**0.31**	**230**	⇓P	**Pn**	**12 09 27.5**	**+0.3**
SQM	**Sequim**	**0.32**	**245**	⇑P	**Pn**	**12 09 27.9**	**+0.8**
EVCC	**Everett Colleg**	**0.34**	**126**	⇑P	**Pn**	**12 09 28.3**	**+0.9**
BEVT	**Boeing Everett**	**0.37**	**141**	⇑P	**Pn**	**12 09 28.4**	**+0.7**
ATES	**Arlington Traf**	**0.37**	**86**	P	**Pn**	**12 09 28.5**	**+0.8**
CMW	**Cultus Mountai**	**0.40**	**57**	⇓P	**Pn**	**12 09 28.8**	**+0.8**
LYNC	**Lynnwood City**	**0.44**	**151**	⇑P	**Pn**	**12 09 29.1**	**+0.7**
JCW	**Jim Creek**	**0.46**	**92**	⇓P	**Pn**	**12 09 29.1**	**+0.5**
KINR	**Kitsap County**	**0.46**	**182**	⇑P	**Pn**	**12 09 29.4**	**+0.8**
EVGW	**Everett Gatewa**	**0.47**	**139**	⇑P	**Pn**	**12 09 29.4**	**+0.7**
MCW	**Mount Constitu**	**0.49**	**343**	⇓P	**Pn**	**12 09 29.9**	**+0.9**
SCCW	**Shoreline CC**	**0.49**	**159**	⇑P	**Pn**	**12 09 29.8**	**+0.9**
BRKS	**Brookside Elem**	**0.51**	**154**	⇑P	**Pn**	**12 09 30.0**	**+0.9**
VGZ	**Gonzales**	**0.51**	**294**	⇓P	**Pn**	**12 09 29.2**	**+0.1**
VGZ				⇑S	**Sn**	**12 09 37.9**	**+0.2**
VGZ	**Gonzales**	**0.51**	**294**	⇓P	**Pn**	**12 09 29.2**	**+0.1**
KITP	**Kitsap County**	**0.54**	**181**	⇑P	**Pn**	**12 09 30.6**	**+1.1**
NIHS	**Ingelmoor High**	**0.54**	**150**	⇑P	**Pn**	**12 09 30.6**	**+1.2**
BLH	**Bald Hill**	**0.54**	**133**	⇑P	**Pn**	**12 09 29.9**	**+0.4**
FINN	**Finn Hill Juni**	**0.56**	**152**	⇑P	**Pn**	**12 09 30.9**	**+1.2**
LEOT	**Leota Junior H**	**0.56**	**143**	⇑P	**Pn**	**12 09 30.6**	**+0.9**
SBES	**Silver Beach E**	**0.57**	**13**	⇓P	**Pn**	**12 09 31.2**	**+1.4**
LAWT	**Lawton Element**	**0.58**	**164**	P	**Pn**	**12 09 31.3**	**+1.5**
NOWS	**NOAA--Sand Poi**	**0.58**	**155**	P	**Pn**	**12 09 31.2**	**+1.3**
SEA	**Seattle**	**0.59**	**159**	⇑P	**Pn**	**12 09 31.4**	**+1.4**
QAW	**Queen Anne**	**0.61**	**163**	P	**Pn**	**12 09 31.8**	**+1.6**
BABE	**Bainbridge Sch**	**0.61**	**175**	⇑P	**Pn**	**12 09 31.7**	**+1.5**
EARN	**East Ridge Ele**	**0.61**	**140**	P	**Pn**	**12 09 31.2**	**+1.0**
MEAN	**Meany Midle Sc**	**0.62**	**160**	⇑P	**Pn**	**12 09 32.0**	**+1.6**
HDW	**Hoodsport**	**0.64**	**208**	⇑P	**Pn**	**12 09 31.1**	**+0.4**
MARYW	**Marymoor Park**	**0.64**	**149**	P	**Pn**	**12 09 31.9**	**+1.2**
KDKW	**Coast Env Seat**	**0.65**	**163**	⇑P	**Pn**	**12 09 32.3**	**+1.6**
MNWA	**Manchester**	**0.65**	**175**	⇑P	**Pn**	**12 09 31.7**	**+0.7**
ALKI	**Alki Wastewate**	**0.65**	**168**	⇑P	**Pn**	**12 09 32.0**	**+1.2**
PIER	**Pier 30 Seattl**	**0.66**	**163**	⇑P	**Pn**	**12 09 32.4**	**+1.6**
GNW	**Green Mountain**	**0.66**	**192**	⇑P	**Pn**	**12 09 31.3**	**+0.3**
HOLY	**Holy Rosary Sc**	**0.67**	**166**	P	**Pn**	**12 09 32.4**	**+1.5**
KIMB	**Kimball Elemen**	**0.67**	**161**	⇑P	**Pn**	**12 09 32.7**	**+1.7**
WISC	**Wilburton Inst**	**0.67**	**154**	P	**Pn**	**12 09 32.5**	**+1.5**
GMW	**Gold Mountain**	**0.67**	**190**	⇑P	**Pn**	**12 09 31.4**	**+0.4**
SNB	**Saturna Island**	**0.67**	**327**	⇓P	**Pn**	**12 09 32.0**	**+0.9**
SNB				⇑S	**Sn**	**12 09 42.1**	**+1.1**
SNB	**Saturna Island**	**0.67**	**327**	⇓P	**Pn**	**12 09 32.0**	**+0.9**
ACES	**Army Corps of**	**0.68**	**164**	⇑P	**Pn**	**12 09 32.6**	**+1.5**
ALCT	**Alcott Element**	**0.69**	**145**	P	**Pn**	**12 09 32.4**	**+1.2**
SP2	**Seward Park 2**	**0.70**	**159**	⇑P	**Pn**	**12 09 32.6**	**+1.3**
STW	**Striped Peak**	**0.71**	**265**	⇓P	**Pn**	**12 09 31.8**	**+0.3**
PGC	**Sidney**	**0.71**	**309**	⇓P	**Pn**	**12 09 31.9**	**+0.4**
PGC				⇓S	**Sn**	**12 09 42.2**	**+0.5**
PGC	**Sidney**	**0.71**	**309**	*e*Pg	**Pn**	**12 09 31.8**	**+0.4**
PGC				*e*Sg	**Sn**	**12 09 42.7**	**+1.0**
RHAZ	**Hazelwood Elem**	**0.73**	**156**	P	**Pn**	**12 09 32.6**	**+0.9**
PNLK	**Pine Lake Midd**	**0.74**	**148**	⇓P	**Pn**	**12 09 32.8**	**+0.9**
MBW	**Mount Baker**	**0.75**	**39**	⇑P	**Pn**	**12 09 33.2**	**+1.0**
RPW	**Rockport**	**0.77**	**72**	⇑P	**Pn**	**12 09 33.2**	**+0.8**
VVHS	**Vashon High Sc**	**0.80**	**172**	⇑P	**Pn**	**12 09 33.4**	**+0.8**
MPL	**Maple valley S**	**0.80**	**158**	⇓P	**Pn**	**12 09 33.7**	**+1.1**
B06A	**Marblemount**	**0.81**	**67**	⇑P	**Pn**	**12 09 33.6**	**+0.8**
OSD	**Olympics--Snow**	**0.83**	**242**	⇑P	**Pn**	**12 09 33.7**	**+0.5**
HICC	**Highline Commu**	**0.85**	**165**	P	**Pn**	**12 09 34.4**	**+1.2**
A05A	**Maple Falls**	**0.86**	**24**	⇑P	**Pn**	**12 09 34.8**	**+1.3**
ELW	**Echo Lake**	**0.88**	**145**	⇓P	**Pn**	**12 09 34.2**	**+0.6**
VDB	**Vedder Mountai**	**0.88**	**23**	⇑P	**Pn**	**12 09 34.9**	**+1.1**
VDB				⇓S	**Sn**	**12 09 48.0**	**+2.2**
VDB	**Vedder Mountai**	**0.88**	**23**	⇑P	**Pn**	**12 09 34.9**	**+1.1**
LZB	**Mount Lazard**	**0.90**	**297**	⇓P	**Pn**	**12 09 33.8**	**+0.2**
LZB				⇑S	**Sn**	**12 09 46.4**	**+0.2**
SVTR	**Two Rivers Sch**	**0.91**	**142**	P	**Pn**	**12 09 34.9**	**+0.8**
RMW	**Rattlesnake Mo**	**0.93**	**144**	⇓P	**Pn**	**12 09 35.0**	**+0.6**
GOBB	**Galiano Island**	**0.95**	**322**	⇓P	**Pn**	**12 09 35.4**	**+0.8**
GOBB				⇓S	**Sn**	**12 09 48.5**	**+1.2**
TBPA	**Tacoma Substat**	**0.97**	**170**	P	**Pn**	**12 09 35.9**	**+1.1**
GPW	**Glacier Peak**	**0.99**	**95**	⇑P	**Pn**	**12 09 36.2**	**+0.8**
OBC	**Olympics--Boni**	**0.99**	**260**	⇓P	**Pn**	**12 09 35.8**	**+0.6**
SMW	**South Mountain**	**1.02**	**209**	⇑P	**Pn**	**12 09 36.1**	**+0.5**
D05A	**Enumclaw**	**1.11**	**157**	⇓P	**Pn**	**12 09 37.8**	**+1.1**
OSR	**Olympics--Salm**	**1.15**	**233**	⇑P	**Pn**	**12 09 37.5**	**+0.2**
GSM	**Grass Mountain**	**1.15**	**151**	⇑P	**Pn**	**12 09 38.1**	**+0.7**
OOW	**Octopus West**	**1.16**	**246**	⇑P	**Pn**	**12 09 37.7**	**+0.3**
EGRN	**Evergreen Coll**	**1.16**	**192**	⇑P	**Pn**	**12 09 37.8**	**+0.4**
OTR	**Olympics--Tyee**	**1.16**	**264**	⇓P	**Pn**	**12 09 37.9**	**+0.4**
NLWA	**Neilton Lookou**	**1.18**	**226**	*e*Pg	**Pn**	**12 09 37.6**	**-0.1**
GHW	**Garrison Hill**	**1.19**	**169**	P	**Pn**	**12 09 38.0**	**+0.6**
OFR	**Olym-F Res Ctr**	**1.23**	**258**	⇓P	**Pn**	**12 09 38.7**	**+0.4**
PFB	**Port Renfrew**	**1.27**	**287**	⇓P	**Pn**	**12 09 38.4**	**-0.5**
CPW	**Capitol Peak**	**1.29**	**196**	⇓P	**Pn**	**12 09 39.5**	**+0.3**
PCMD	**Pierce County**	**1.34**	**171**	P	**Pn**	**12 09 40.4**	**+0.5**
RVC	**Mount Rainier-**	**1.34**	**161**	⇓P	**Pn**	**12 09 40.6**	**+0.6**
WISH	**Wishkah**	**1.34**	**216**	⇑P	**Pn**	**12 09 40.1**	**+0.3**
OCP	**Olym-Cheeka Pk**	**1.34**	**274**	⇓P	**Pn**	**12 09 39.6**	**-0.3**
RRHS	**Rochester High**	**1.44**	**192**	⇓P	**Pn**	**12 09 41.7**	**+0.5**
RCS	**Mount Rainier-**	**1.47**	**156**	⇓P	**Pn**	**12 09 42.7**	**+0.8**
REMR	**Mount Rainier-**	**1.49**	**159**	P	**Pn**	**12 09 42.6**	**+0.6**
RCM	**Mount Rainier-**	**1.50**	**156**	⇓P	**Pn**	**12 09 43.2**	**+0.8**
ON2	**Olympics--Nort**	**1.55**	**211**	⇑P	**Pn**	**12 09 42.6**	**0.0**
LMW	**Ladd Mountain**	**1.56**	**172**	⇑P	**Pn**	**12 09 43.7**	**+0.8**
LON	**Longmire**	**1.56**	**159**	*e*Pg	**Pn**	**12 09 43.5**	**+0.6**
TWW	**Teanaway**	**1.60**	**132**	⇓P	**Pn**	**12 09 45.2**	**+1.8**
LTY	**Liberty**	**1.62**	**125**	⇓P	**Pn**	**12 09 44.8**	**+1.1**
ETW	**Entiat**	**1.65**	**111**	⇓P	**Pn**	**12 09 45.8**	**+1.0**
WPW	**White Pass**	**1.68**	**154**	⇑P	**Pn**	**12 09 45.8**	**+1.3**
TBM	**Table Mountain**	**1.72**	**127**	⇓P	**Pn**	**12 09 46.4**	**+1.4**
CBSW	**Chelan Butte S**	**1.78**	**102**	P	**Pn**	**12 09 46.5**	**+0.7**
GLK	**Glacier Lake**	**1.79**	**157**	⇑P	**Pn**	**12 09 47.3**	**+1.3**
BMW	**Boistfort Moun**	**1.79**	**194**	⇑P	**Pn**	**12 09 46.1**	**+0.2**
E03A	**Lebam**	**1.79**	**201**	⇑P

KEBM	Edson Butte		5.47	193	ePn	Pn	12 10 36.6	+0.2		
KEBM					Sn	Sn	12 11 35.4	-2.6		
A13A	Flathead Natio		5.49	79	⇓P	Pn	12 10 37.4	+0.8		
	baz=5.5									
HUMO	Hull Mountain		5.61	183	ePn	Pn	12 10 38.6	+0.4		
HUMO					Sn	Sn	12 11 43.4	+2.1		
JTMT	Jette		5.62	92	ePn	Pn	12 10 39.0	+0.6		
D13A	Huson		5.62	98	⇑P	Pn	12 10 38.1	-0.3		
	baz=5.6,SNR=7.8									
D13A					⇓S	Sn	12 11 40.1	-1.7		
	baz=5.6									
WALA	Waterton Lakes		5.83	78	ePn	Pn	12 10 43.1	+1.8		
	0.1nm,0.7s									
WALA					Sn	Sn	12 11 48.5	+1.6		
SWMT	Swartz Lake		5.84	94	ePn	Pn	12 10 42.6	+1.1		
G12A	Big Creek, Yel		5.89	119	⇓P	Pn	12 10 42.6	+0.4		
	baz=5.9									
C14A	Swan Lake		5.97	91	⇓P	Pn	12 10 43.6	+0.3		
	baz=6.0									
MSO	Missoula		6.04	100	ePn	Pn	12 10 43.6	-0.6		
MSO	Missoula		6.04	100	⇓P	Pn	12 10 43.5	-0.7		
	baz=6.0,SNR=6.1									
MSO					⇑S	Sn	12 11 50.2	-1.7		
	baz=6.0									
A14A	Double T Ranch		6.15	79	⇑P	Pn	12 10 46.1	+0.4		
	baz=6.1									
SLMT	Seeley Lake		6.23	96	ePn	Pn	12 10 46.4	-0.4		
B14A	Marquette Ranc		6.24	85	⇑P	Pn	12 10 47.1	+0.2		
	baz=6.2									
D14A	Greenough		6.26	97	⇓P	Pn	12 10 46.6	-0.6		
	baz=6.2,SNR=18									
D14A					⇓S	Sn	12 11 55.9	-1.5		
	baz=6.2									
WVOR	Wild Horse Val		6.42	153	Pn	Pn	12 10 52.0	+2.6		
CHMT	Chamberlain Mo		6.47	98	ePn	Pn	12 10 50.0	-0.2		
YBH	Yreka Blue Hor		6.48	181	Pn	Pn	12 10 51.5	+1.3		
YBH					Sn	Sn	12 12 00.6	-2.2		
YBH	Yreka Blue Hor		6.48	181	Pn	Pn	12 10 51.5	+1.3		
	0.2nm,0.3s,baz=358,slow=21,SNR=11									
YBH					Sn	Sn	12 12 00.6	-2.2		
	0.2nm,0.3s,baz=196,slow=16,SNR=2.6									
H12A	Diamond D Ranc		6.50	121	⇑P	Pn	12 10 50.6	0.0		
	baz=6.5									
A15A	Johnson Ranch,		6.60	80	⇓P	Pn	12 10 52.4	+0.6		
	baz=6.6									
A15A					⇓S	Sn	12 12 04.8	-1.0		
	baz=6.6									
B15A	Bradely Ranch,		6.71	85	⇓P	Pn	12 10 53.5	+0.1		
	baz=6.7									
C15A	Salmond Ranch,		6.73	90	⇑P	Pn	12 10 53.5	-0.2		
	baz=6.7									
C15A					⇑S	Sn	12 12 07.8	-1.2		
	baz=6.7									
MFID	Camas Ranch		6.75	133	ePn	Pn	12 10 53.0	-0.8		
MFID					eSn	Sn	12 12 10.5	+1.1		
MFID	Camas Ranch		6.75	133	⇓P	Pn	12 10 53.5	-0.4		
	baz=6.7									
I12A	Atlanta		6.83	128	⇓P	Pn	12 10 55.5	+0.4		
	baz=6.8									
D15A	Lincoln		6.92	96	⇓P	Pn	12 10 56.2	-0.1		
	baz=6.9,SNR=7.6									
D15A					⇑S	Sn	12 12 11.6	-2.1		
	baz=6.9									
B16A	M & M Farms, S		7.28	84	⇑P	Pn	12 11 01.5	+0.4		
	baz=7.3									
C16A	Fuhringer Ranc		7.31	89	⇓P	Pn	12 11 01.8	+0.3		
	baz=7.3									
F15A	Butte		7.31	105	⇓P	Pn	12 11 01.7	0.0		
	baz=7.3									
F15A					⇑S	Sn	12 12 20.9	-2.5		
	baz=7.3									
DLMT	Dillon		7.45	109	ePn	Pn	12 11 04.1	+0.6		
MCMT	McKenzie Canyo		7.54	113	ePn	Pn	12 11 04.9	0.0		
	3.1nm,0.5s									
D16A	Dana Ranch, Ca		7.57	95	⇑P	Pn	12 11 05.3	+0.1		
	baz=7.6									
I14A	Mackay		7.68	121	⇑P	Pn	12 11 07.3	+0.6		
	baz=7.7,SNR=11									
B17A	L&G Farms, Che		7.89	85	⇑P	Pn	12 11 10.6	+1.1		
	baz=7.9									
F16A	Kennard Place,		7.90	104	⇓P	Pn	12 11 09.9	+0.3		
	baz=7.9									
BOZ	Bozeman (W)		7.95	105	ePn	Pn	12 11 11.3	+0.9		
	1.5nm,0.5s									
C17A	Wharram Farm,		7.99	90	⇓P	Pn	12 11 11.7	+0.9		
	baz=8.0									
D17A	Six Diamond Ra		8.12	93	⇑P	Pn	12 11 13.5	+0.8		
	baz=8.1									
E17A	Martinsdale		8.18	98	⇓P	Pn	12 11 14.2	+0.6		
	baz=8.2									
F17A	Fitzpatrick Pl		8.48	101	⇓P	Pn	12 11 18.1	+0.4		
	baz=8.5									
A18A	Metzger Ranch,		8.50	80	⇑P	Pn	12 11 18.2	+0.4		
	baz=8.5									
B18A	Beardsley Farm		8.56	84	⇑P	Pn	12 11 18.9	+0.2		
	baz=8.5									
H16A	Russell Place,		8.60	110	⇓P	Pn	12 11 19.6	+0.3		
	baz=8.6,SNR=14									
EGMT	Eagleton		8.61	86	⇓P	Pn	12 11 20.2	+0.8		
	baz=8.6									
G17A	Pierce Place,		8.65	105	⇓P	Pn	12 11 21.0	+1.0		
	baz=8.6									
E18A	Harlowton		8.78	96	⇑P	Pn	12 11 22.2	+0.5		
	baz=8.8									
YMR	Madison River		8.79	109	ePn	Pn	12 11 25.0	+3.0		
	12nm,0.9s									
I16A	Newdale		8.87	115	⇓P	Pn	12 11 23.8	+0.8		
	baz=8.8									
F18A	Big Timber		9.11	100	⇓P	Pn	12 11 26.8	+0.6		
	baz=9.1									
B19A	Brinkman Farms		9.12	83	⇑P	Pn	12 11 26.9	+0.7		
	baz=9.1									
IMW	Indian Meadow		9.19	114	ePn	Pn	12 11 29.7	+2.2		
G18A	Lazy EL Ranch,		9.42	103	⇑P	Pn	12 11 31.0	+0.6		
	baz=9.4									
E19A	Rath Farm, Rou		9.55	95	⇓P	Pn	12 11 33.0	+0.8		
	baz=9.5									
H18A	Shoshone NF, C		9.61	107	⇓P	Pn	12 11 34.0	+0.8		
	baz=9.6									
F19A	Roth Farm, Mol		9.63	99	⇓P	Pn	12 11 34.2	+0.9		
	baz=9.6									
RLMT	Red Lodge		9.68	104	Pn	Pn	12 11 35.3	+1.2		
	1.7nm,0.4s									
NVAR	Mina Array Bea		10.27	161	Pn	Pn	12 11 41.2	-0.9		
NVAR	Mina Array Bea		10.27	161	Pn	Pn	12 11 41.2	-0.9		
	0.1nm,0.3s,baz=336,slow=11,SNR=2.3									
DUG	Dugway		10.66	135	⇑P	Pn	12 11 48.0	+0.6		
	baz=11									
PDAR	Pinedale Array		10.66	116	Pn	Pn	12 11 50.8	+3.3		
PDAR	Pinedale Array		10.66	116	Pn	Pn	12 11 50.8	+3.3		
	0.1nm,0.3s,baz=312,slow=9.4,SNR=5.0									
ARUT	Antelope Range		12.38	144	Pn	Pn	12 12 10.1	-1.0		
	5.6nm,0.6s									
N20A	Spence Gulch,		12.61	120	⇓P	Pn	12 12 14.6	+0.5		
	baz=13,SNR=23									
MPMC	Manual Prospec		12.72	161	⇑P	Pn	12 12 17.2	+1.6		
	baz=13									
O20A	White River Ci		13.09	123	⇑P	Pn	12 12 21.3	+0.7		
	baz=13,SNR=8.0									
N21A	Black Mountain		13.09	119	⇓P	Pn	12 12 21.8	+1.2		
	baz=13									
GSC	Goldstone		13.60	159	⇑P	P	12 12 34.1	-0.7		
	baz=14									
N22A	Wattenberg Ran		13.69	117	⇑P	P	12 12 35.5	-0.4		
	baz=14									
TUQ	Turquoise Moun		13.70	156	⇓P	P	12 12 35.7	-0.2		
	baz=14									
I25A	Rochford		13.75	101	⇓P	P	12 12 36.0	-0.4		
	baz=14									
Q20A	Ridgley Place,		13.88	127	⇑P	P	12 12 38.0	0.0		
	baz=14									
N23A	Red Feather La		13.94	115	⇑P	Pn	12 12 32.2	0.0		
	baz=14									
U15A	North Rim		14.02	143	⇑P	Pn	12 12 34.0	+0.6		
	baz=14,SNR=7.5									
P22A	Eagle		14.29	121	⇑P	P	12 12 43.1	+0.5		
	baz=14									
O23A	Lake Granby, G		14.38	118	⇑P	P	12 12 42.6	-1.0		
	baz=14									
GMRC	Granite Mounta		14.39	156	⇓P	Pn	12 12 38.6	+0.5		
	baz=14									
R20A	Redvale		14.40	129	⇓P	P	12 12 43.8	-0.1		
	baz=14									
N24A	Carr		14.63	114	⇓P	P	12 12 45.9	-0.3		
	baz=15									
S20A	Disappointment		14.69	130	⇑P	Pn	12 12 42.6	+0.5		
	baz=15									
Q22A	Crested Butte,		14.71	124	⇑P	Pn	12 12 42.5	+0.1		
	baz=15,SNR=5.9									
P23A	Jefferson		14.97	120	⇑P	Pn	12 12 45.7	-0.1		
	baz=15									
YKA	Yellowknife Ar		15.00	14	Pn	Pn	12 12 42.3	-3.4		
YKA	Yellowknife Ar		15.00	14	Pn	Pn	12 12 42.3	-3.4		
	0.2nm,0.3s,baz=198,slow=12,SNR=7.7									
BELC	Belle Mtn. Jos		15.04	158	⇓P	Pn	12 12 48.0	+1.5		
	baz=15									
MVCO	Mesa Verde		15.09	132	⇑P	Pn	12 12 48.4	+1.1		
	baz=15									
S21A	Coal Bank Pass		15.11	129	⇓P	Pn	12 12 48.3	+0.7		
	baz=15									
WUAZ	Wupatki		15.18	143	⇓P	Pn	12 12 50.0	+1.6		
	baz=15,SNR=5.3									
R22A	Saguache, Gunn		15.24	125	⇓P	Pn	12 12 50.7	+1.3		
	baz=15									
BC3	Big Chuckawall		15.51	157	⇑P	Pn	12 12 53.4	+0.9		
	baz=16									
S22A	4UR Ranch, Cre		15.55	126	⇓P	Pn	12 12 54.7	+1.3		
	baz=16									
Q24A	Divide		15.64	120	⇑P	P	12 12 56.3	-1.3		
	baz=16									
R23A	Moffat		15.79	123	⇑P	Pn	12 12 56.0	-0.3		
	baz=16									
Y14A	Wickenburg		15.97	150	⇑P	P	12 13 01.5	+0.4		
	baz=16									
MONP	Monument Peak		16.00	161	⇑P	Pn	12 13 00.0	+1.0		
	baz=16									
T22A	Edith		16.06	128	⇑P	P	12 13 04.2	+1.9		
	baz=16,SNR=14									
SWSC	Sam W. Stewart		16.10	159	⇑P	P	12 13 02.9	+0.4		
	baz=16									
X16A	Lo Mia Camp, P		16.11	145	⇓P	Pn	12 13 00.7	+0.3		
	baz=16,SNR=9.2									
U21A	Nageezi		16.12	131	⇓P	Pn	12 13 00.2	-0.3		
	baz=16									
R24A	Sanders Place,		16.16	122	⇑P	Pn	12 13 00.6	-0.4		
	baz=16									
V20A	Brimhall		16.23	135	⇓P	Pn	12 13 02.3	+0.5		
	baz=16									
DVTC	Desert V Tower		16.30	160	⇑P	P	12 13 05.2	+0.5		
	baz=16									
P26A	Davis Ranch, A		16.33	115	⇓P	P	12 13 04.5	-0.6		
	baz=16									
OGNE	Ogallala		16.34	109	⇑P	P	12 13 05.1	0.0		
	baz=16									
T23A	Casias Ranch,		16.50	127	⇓P	P	12 13 07.0	-0.2		
	baz=16									
S24A	Houchin Ranch,		16.52	123	⇓P	P	12 13 07.0	-0.3		
	baz=16									
X18A	Snowflake		16.62	141	⇓P	P	12 13 08.5	+0.1		
	baz=17									
R25A	Fountain Ranch		16.69	120	⇑P	Pn	12 13 08.0	+0.4		
	baz=17,SNR=6.8									
L29A	Maesberg Ranch		16.76	103	⇓P	Pn	12 13 08.1	-0.2		
	baz=17									
W20A	Ramah		16.76	136	⇓P	Pn	12 13 08.2	-0.3		
	baz=17									
113A	Mohawk Valley,		16.81	153	⇑P	P	12 13 10.0	-0.3		
	baz=17									
V22A	San Miguel Ran		16.90	131	⇓P	P	12 13 11.3	-0.3		
	baz=17									
S25A	Rets Cordova		16.94	122	⇓P	P	12 13 13.0	+1.0		
	baz=17									
U23A	El Rito		16.95	128	⇑P	P	12 13 13.2	+1.1		
	baz=17									
R26A	Arlington		17.08	118	⇓P	P	12 13 14.1	+0.7		
	baz=17									
X20A	Quemado		17.25	137	⇓P	P	12 13 16.4	+1.1		
	baz=17									
T25A	Trinidad		17.32	123	⇓P	P	12 13 16.3	+0.1		
	baz=17									
R27A	Eads		17.47	117	⇑P	P	12 13 17.9	+0.2		
	baz=17									
S26A	Kim		17.52	120	⇑P	P	12 13 18.9	+0.7		
	baz=18									
X21A	Alamocita Cree		17.65	136	⇓P	P	12 13 20.5	+0.6		
	baz=18									
T26A	Comanche Natio		17.76	121	⇓P	P	12 13 21.6	+0.7		
	baz=18									
P29A	Atwood		17.79	111	⇑P	P	12 13 23.3	+2.1		
	baz=18									
Y20A	Horse Springs,		17.83	138	⇓P	P	12 13 22.6	+0.7		
	baz=18									
V24A	Rampart Ranch,		17.89	128	⇓P	Pn	12 13 23.3	+0.8		
	baz=18									
V25A	Rancho No Teng		18.16	126	⇑P	Pn	12 13 26.1	+0.4		
	baz=18									
W24A	Lazy 6 Ranch,		18.22	129	⇑P	Pn	12 13 26.9	+0.5		
	baz=18									
U26A	Atchley Ranch,		18.23	123	⇓P	Pn	12 13 26.9	+0.4		
	baz=18									
T27A	Campo		18.34	120	⇓P	Pn	12 13 28.1	+0.3		
	baz=18									
Z20A	Nine Sixteen R		18.41	140	⇓P	Pn	12 13 30.1	+1.4		
	baz=18									
Y22A	Socorro		18.46	135	⇑P	Pn	12 13 30.4	+1.1		
	baz=18									
S28A	Manter		18.46	117	⇑P	Pn	12 13 29.8	+0.5		
	baz=18									
Q30A	Quinter		18.61	111	⇓P	P	12 13 30.6	+0.5		
	baz=19									
V26A	Tequesquite Ra		18.64	125	⇓P	Pn	12 13 31.8	+0.4		
	baz=19									
Z21A	St. Cloud Mine		18.65	138	⇑P	Pn	12 13 32.4	+0.8		
	baz=19									
T28A	Walsh		18.65	119	⇑P	Pn	12 13 31.5	0.0		
	baz=19									
W25A	X Bar L Ranch,		18.71	127	⇑P	Pn	12 13 32.6	+0.3		
	baz=19									
U27A	Thompson Grove		18.73	122	⇓P	Pn	12 13 32.7	+0.2		
	baz=19									
120A	U Bar Ranch, L		18.88	141	⇓P	Pn	12 13 35.4	+1.0		
	baz=19									
Y23A	Lovelace Mesa,		18.90	133	⇓P	Pn	12 13 35.0	+0.4		
	baz=19									
S29A	Ulysses		18.91	116	⇓P	Pn	12 13 34.4	-0.2		
	baz=19									
Z22A	Elephant Butte		19.02	136	⇓P	Pn	12 13 36.4	+0.4		
	baz=19,SNR=5.3									
Y24A	Capitan		19.21	132	⇓P	Pn	12 13 38.3	0.0		
	baz=19,SNR=8.1									
121A	Cookes Peak, D		19.26	139	⇓P	Pn	12 13 39.0	+0.2		
	baz=19,SNR=6.4									
Z23A	Rita Site, Whi		19.36	135	⇓P	Pn	12 13 39.8	-0.2		
	baz=19									
220A	Playas Peak, P		19.48	142	⇓P	Pn	12 13 41.7	+0.2		
	baz=20,SNR=5.4									
X26A	CR and CF Fran		19.56	127	⇑P	P	12 13 41.3	+0.7		
	baz=20									
W27A	Bowe Ranch, En		19.58	125	⇓P	P	12 13 41.3	+0.4		
	baz=20									
Y25A	Mesa, Roswell		19.59	130	⇓P	Pn	12 13 42.6	-0.1		
	baz=20,SNR=11									
319A	Douglas		19.64	144	⇓P	Pn	12 13 43.5	+0.1		
	baz=20									
Z24A	Spleppen Canyo		19.72	133	⇑P	Pn	12 13 44.1	-0.3		
	baz=20,SNR=9.4									
V29A	Stinnett		19.86	121	⇑P	P	12 13 44.8	+1.0		
	baz=20									
S31A	Mullinville		19.90	114	⇓P	P	12 13 44.3	0.0		
	baz=20									
U30A	WK&E Inc. Balk		19.91	118	⇑P	P	12 13 44.3	-0.2		
	baz=20									
222A	Williams Famil		19.92	138	⇓P	P	12 13 45.6	+0.9		
	baz=20									
320A	Kipp Ranch, An		19.98	142	⇓P	P	12 13 46.3	+1.0		
	baz=20									
Y26A	Elida		20.04	129	⇓P	P	12 13 46.4	+0.6		
	baz=20									
Z25A	Roswell		20.09	131	⇑P	P	12 13 46.9	+0.5		
	baz=20									
T31A	Randall Ranch,		20.12	115	⇓P	P	12 13 46.4	-0.3		
	baz=20									
124A	Stringfield Ra		20.19	134	⇑P	P	12 13 48.2	+0.6		
	baz=20,SNR=6.6									
Z26A	Caprock		20.47	130	⇑P	P	12 13 51.1	+0.7		
	baz=20									
125A	Gardner Draw,		20.61	132	⇑P	P	12 13 53.5	+1.4		
	baz=21,SNR=12									
224A	Cornudas Mount		20.67	135	⇑P	P	12 13 53.7	+1.0		
	baz=21									
X29A	Tulia		20.79	124	⇑P	P	12 13 54.8	+0.9		
	baz=21									
Z27A	Tatum		20.83	129	⇑P	P	12 13 55.2	+0.8		
	baz=21									
INK	Inuvik		20.89	349	P	P	12 13 55.7	+1.1		
	3.1nm,0.8s,baz=165,slow=7.8,SNR=5.9									
V31A	Spring Creek L		20.91	118	⇓P	P	12 13 55.6	+0.5		
	baz=21									
225A	Deer Hill, Car		20.98	134	⇑P	P	12 13 56.8	+0.7		
	baz=21									
ILAR	Eielson Array		21.10	331	P	P	12 13 58.1	+1.2		
ILAR	Eielson Array		21.10	331	P	P	12 13 58.1	+1.2		
	1.5nm,1.0s,baz=141,slow=10,SNR=21									
Y29A	Porterfield Fa		21.24	125	⇓P	P	12 13 59.4	+0.7		
	baz=21									
226B	Tecolote Peak,		21.33	132	⇑P	P	12 14 00.3	+0.6		
	baz=21									
X31A	McDonald Ranch		21.63	121	⇓P	P	12 14 03.1	+0.2		
	baz=22									
128A	Castleberry Fa		21.75	128	⇓P	P	12 14 04.6	+0.3		
	baz=22									
425A	Indio Mountain		22.00	136	⇑P	P	12 14 07.4	+0.4		
	baz=22									
326A	Caldwell Ranch		22.04	133	⇑P	P	12 14 07.4	+0.1		
	baz=22									
228A	UT Block 9, Go		22.09	129	⇑P	P	12 14 07.1	-0.7		
	baz=22									
Z31A	Sharp Cattle R		22.49	123	⇑P	P	12 14 11.6	-0.5		
	baz=22									
328A	Wristen Ranch,		22.57	131	⇑P	P	12 14 12.4	-0.6		
	baz=23									
131A	Roby		22.84	125	⇓P	P	12 14 14.4	-1.4		
	baz=23									
329A	Wagon Wheel Ra		22.91	129	⇓P	P	12 14 15.9	-0.6		
	baz=23									
526A	Mary Lane Ranc		23.03	135	⇓P	P	12 14 17.3	-0.6		
	baz=23									
428A	Kincaid Ranch,		23.16	132	⇓P	P	12 14 17.9	-1.2		
	baz=23,SNR=7.0									
527A	Woodward Ranch		23.18	134	⇓P	P	12 14 18.5	-0.9		
	baz=23									
330A	Mertzon		23.39	128	⇑P	P	12 14 20.4	-0.8		
	baz=23									
626A	Big Bend Ranch		23.43	136	⇓P	P	12 14 21.4	-0.3		
	baz=23									
231A	Bronte		23.44	126	⇑P	P	12 14 21.0	-0.7		
	baz=23									
528A	Cox Ranch, San		23.57	133	⇓P	P	12 14 22.5	-0.5		
	baz=24									
429A	Davenport Ranc		23.64	130	⇑P	P	12 14 23.0	-0.6		
	baz=24									
TXAR	Lajitas Array		23.84	135	P	P	12 14 25.9	+0.5		
TXAR	Lajitas Array		23.84	135	P	P	12 14 25.9	+0.5		
	2.2nm,0.7s,baz=322,slow=7.1,SNR=22									
232A	Coleman		23.84	125	⇓P	P	12 14 24.4	-1.0		
	baz=24									
627A	Terlingua Ranc		23.87	135	⇑P	P	12 14 25.0	-0.7		
	baz=24									
529A	Stev Forest Ra		23.88	132	⇑P	P	12 14 24.9	-0.9		
	baz=24									
628A	Black Gap, Mar		24.08	134	⇑P	P	12 14 26.4	-1.2		
	baz=24									
332A	Millersview		24.18	126	⇓P	P	12 14 27.1	-1.4		
	baz=24									
431A	Sonora		24.26	128	⇓P	P	12 14 27.8	-1.5		
	baz=24									
530A	J-C Ranch, Com		24.31	130	⇑P	P	12 14 29.3	-0.3		
	baz=24									
531A	Rocksprings		24.70	129	⇑P	P	12 14 32.8	-0.5		
	baz=25									
JCT	Junction City		24.85	127	⇓P	P	12 14 34.0	-0.6		
	baz=25									
532A	Rocksprings		25.07	128	⇓P	P	12 14 35.9	-0.7		
	baz=25									
631A	Perdido Creek		25.29	130	⇑P	P	12 14 38.2	-0.4		
	baz=25									
632A	Uvalde		25.62	129	⇓P	P	12 14 41.2	-0.4		
	baz=26									
732A	Laxson Ranch,		26.15	130	⇓P	P	12 14 45.9	-0.5		
	baz=26									
HFS	Hagfors		66.33	22	P	P	12 20 00.0	+0.4		
HFS	Hagfors		66.33	22	P	P	12 20 00.0	+0.4		
	0.5nm,0.4s,baz=330,slow=5.0,SNR=4.6									
FINES	FINESS Array B		67.83	16	P	P	12 20 09.4	+0.3		
FINES	FINESS Array B		67.83	16	P	P	12 20 09.4	+0.3		
	1.8nm,0.6s,baz=354,slow=4.3,SNR=6.2									
ESDC	Sonseca Array		76.99	44	P	P	12 21 05.1	+1.0		
ESDC	Sonseca Array		76.99	44	P	P	12 21 05.1	+1.0		
	0.2nm,0.3s,baz=308,slow=6.3,SNR=5.1									

IDC 01 12:34:13.1±2.9, 32°38S×178°27W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.7/19, mbtmp3.7/3, ML3.4/1, MS3.6/1, Ms1 3.6/1, ms1mx3.2/28, Error ellipse: s-maj=70.9km s-min=44.9km az=122.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.13	6	LR	LR	12 35 40.6	
	comp=Z,1μm,20.5s,baz=230,slow=28						
URZ	Urewera	6.97	211	Pn	Pn	12 35 55.8	-0.7
	0.7nm,0.3s,baz=50,slow=2.1,SNR=7.6						
URZ				Sn	Sn	12 37 12.0	-4.5
	0.8nm,0.3s,baz=41,slow=20,SNR=3.2						
ASAR	Alice Springs	43.98

SLUM				AMP			13 02 00.0	
	comp=E,110μm,0.7s,logA/T=5.2,baz=185							
SLUM		**2.56**	**184**	P		**Pn**	**13 02 24.2**	**-0.6**
SLUM				S		**Sn**	**13 02 51.7**	**-4.3**
KYTH	**Kithira**	**2.95**	**319**	*e*PN		**Pn**	**13 02 31.5**	**+1.4**
KYTH	**Kithira**	**2.95**	**319**	*e*Pn		**Pn**	**13 02 31.5**	**+1.4**
HMAT	**Matruh**	**3.28**	**154**	P		**Pn**	**13 02 34.1**	**-0.5**
	baz=152							
HMAT				S		**Sn**	**13 03 09.6**	**-4.0**
	baz=152							
HMAT	**Matruh**	**3.28**	**154**	P		**Pn**	**13 02 34.1**	**-0.5**
HMAT				S		**Sn**	**13 03 09.6**	**-4.0**
VLI	**Veliai**	**3.34**	**323**	*e*PN		**Pn**	**13 02 35.9**	**+0.5**
VLI	**Veliai**	**3.34**	**323**	*e*Pn		**Pn**	**13 02 35.9**	**+0.5**
TURN	**Turunc**	**3.83**	**42**	*e*P		**Pn**	**13 02 41.0**	**-1.1**
TURN				*e*S		**Sn**	**13 03 21.9**	**-5.2**
TURN	**Turunc**	**3.83**	**42**	*e*P		**Pn**	**13 02 41.0**	**-1.1**
TURN				*e*S		**Sn**	**13 03 21.9**	**-5.2**
TURN	**Turunc**	**3.83**	**42**	*e*P		**Pn**	**13 02 41.0**	**-1.1**
AKAS	**Kas**	**4.06**	**57**	*i* P		**Pn**	**13 02 46.7**	**+1.2**
AKAS				*i* S		Sn	13 03 26.2	-6.9
AKAS	**Kas**	**4.06**	**57**	*i* P		**Pn**	**13 02 46.7**	**+1.2**
AKAS				*i* S		Sn	13 03 26.2	-6.9
AKAS	**Kas**	**4.06**	**57**	*i* P		**Pn**	**13 02 46.7**	**+1.2**
GOLH	**Golhisar**	**4.63**	**46**	*i* P		**Pn**	**13 02 55.4**	**+2.1**
GOLH				*e*S		**Sn**	**13 03 45.4**	**-1.8**
GOLH	**Golhisar**	**4.63**	**46**	*i* P		**Pn**	**13 02 55.4**	**+2.1**
GOLH				*e*S		**Sn**	**13 03 45.4**	**-1.8**
GOLH	**Golhisar**	**4.63**	**46**	*i* P		**Pn**	**13 02 55.4**	**+2.1**
GOLH				*e*S		**Sn**	**13 03 45.4**	**-1.8**
KHAL	**Karahalli**	**5.42**	**36**	*e*P		**Pn**	**13 03 03.2**	**-0.9**
KHAL				*i* S		**Sn**	**13 04 04.0**	**-2.6**
KHAL	**Karahalli**	**5.42**	**36**	*e*P		**Pn**	**13 03 03.2**	**-0.9**
KHAL				*i* S		**Sn**	**13 04 04.0**	**-2.6**
KHAL	**Karahalli**	**5.42**	**36**	*e*P		**Pn**	**13 03 03.2**	**-0.9**
GAZI	**Gazipasa**	**6.06**	**67**	*e*P		**Pn**	**13 03 12.5**	**-0.3**
GAZI				*e*S		Sn	13 04 14.9	-7.3
GAZI	**Gazipasa**	**6.06**	**67**	*e*P		**Pn**	**13 03 12.5**	**-0.3**
GAZI				*e*S		Sn	13 04 14.9	-7.3
GAZI	**Gazipasa**	**6.06**	**67**	*e*P		**Pn**	**13 03 12.5**	**-0.3**
HFRF	**Wahat Farafira**	**7.33**	**159**	P		**Pn**	**13 03 29.7**	**-0.5**
	baz=159							
HFRF	**Wahat Farafira**	**7.33**	**159**	P		**Pn**	**13 03 29.7**	**-0.5**
RSH		**7.67**	**111**	P		**Pn**	**13 03 36.1**	**+1.2**
	baz=110							
RSH		**7.67**	**111**	P		**Pn**	**13 03 36.1**	**+1.2**
MMAI	**Mount Meron Ar**	**8.40**	**94**	Pn		**Pn**	**13 03 45.7**	**+0.6**
	comp=E,3.1nm,0.3s,baz=278,slow=14,SNR=3.7							
MMAI				Sn		**Sn**	**13 05 17.6**	**-2.4**
	comp=E,2.6nm,0.3s,baz=288,slow=24,SNR=3.2							
BRTR	**Keskin Array B**	**8.68**	**47**	Pn		**Pn**	**13 03 51.2**	**+2.3**
	comp=E,0.1nm,0.3s,baz=221,slow=16,SNR=6.6							
BRTR				Sn		**Sn**	**13 05 30.8**	**+3.9**
	comp=E,0.1nm,0.3s,baz=211,slow=27,SNR=3.0							
KOZT	**Kozan**	**9.12**	**65**	PG		**Pn**	**13 03 55.0**	**+0.2**
KOZT				SG			13 03 56.9	
EIL	**Elat**	**9.21**	**116**	Pn		**Pn**	**13 03 56.0**	**-0.1**
	comp=E,1.0nm,0.3s,baz=350,slow=15,SNR=7.2							
EIL				Sn		**Sn**	**13 05 40.2**	**+0.4**
	comp=E,0.6nm,0.3s,baz=48,slow=12,SNR=2.6							
ASF	**Jabal al Asfar**	**9.81**	**98**	Pn		**Pn**	**13 04 04.7**	**+0.3**
MLR	**Muntele Rosu**	**11.43**	**2**	Pn		**Pn**	**13 04 29.1**	**+2.6**
	comp=E,0.0nm,0.3s,baz=205,slow=13,SNR=3.6							
KEST	**Kesra**	**13.30**	**282**	Pn		**Pn**	**13 04 53.9**	**+1.9**
	comp=E,0.1nm,0.3s,baz=145,slow=11,SNR=2.4							
VRAC	**Vranov**	**16.58**	**339**	Pn		**Pn**	**13 05 37.6**	**+2.0**
	baz=140,slow=12,SNR=4.5							
KBZ	**Khabaz**	**16.66**	**49**	Pn	P		**13 05 39.5**	**+0.5**
	comp=E,0.2nm,0.3s,baz=234,slow=9.7,SNR=5.3							
AKASG	**Malin Array Be**	**16.86**	**8**	Pn	P	**Pn**	**13 05 39.8**	**+0.7**
	comp=E,1.8nm,0.3s,baz=202,slow=10,SNR=8.0							
GERES	**GERESS Array B**	**17.15**	**333**	Pn		**Pn**	**13 05 44.4**	**+1.5**
	comp=E,0.2nm,0.3s,baz=150,slow=14,SNR=11							
ESDC	**Sonseca Array**	**24.10**	**292**	P		**P**	**13 06 58.0**	**-1.0**
	comp=E,0.3nm,0.3s,baz=81,slow=9.2,SNR=4.5							
HFS	**Hagfors**	**27.19**	**347**	P		**P**	**13 07 25.7**	**-1.0**
	comp=E,0.8nm,0.6s,baz=154,slow=14,SNR=2.8							
NOA	**NORSAR Array B**	**28.52**	**346**	P		**P**	**13 07 39.9**	**+1.3**
	comp=E,0.7nm,0.8s,baz=174,slow=9.9,SNR=4.0							
TORD	**Torodi Ar. Bea**	**29.96**	**232**	P		**P**	**13 07 51.0**	**-0.6**
	comp=E,1.3nm,0.5s,baz=31,slow=9.0,SNR=9.1							
MKAR	**Makanchi Array**	**44.22**	**56**	P		**P**	**13 09 52.7**	**+0.3**
	comp=E,1.7nm,0.5s,baz=270,slow=6.4,SNR=16							
ZALV	**Zalesovo Beam**	**45.62**	**45**	P		**P**	**13 10 03.2**	**-0.2**
	comp=E,0.9nm,0.4s,baz=275,slow=8.6,SNR=3.5							
SONM	**Songino Array**	**60.03**	**50**	P		**P**	**13 11 50.4**	**+0.2**
	comp=E,0.6nm,0.5s,baz=271,slow=6.8,SNR=2.3							
SCHQ	**Schefferville**	**64.16**	**320**	P		**P**	**13 12 16.6**	**-1.1**
	comp=E,1.2nm,0.6s,baz=66,slow=14,SNR=4.0							
ILAR	**Eielson Array**	**81.31**	**357**	P		**P**	**13 13 59.4**	**+0.1**
	comp=E,0.5nm,0.6s,baz=4.2,slow=3.2,SNR=9.0							

IDC 01 13:12:25.8±12.0,**20.93N**×**145.58E**,**h114**km±116km, **mb3.3**/6,**mb1 3.5**/6,**mb1mx3.2**/26,**mbtmp3.3**/6,**Error ellipse: s-maj=51.3km s-min=18.5km az=81.0,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**22.49**	**321**	P	P	13 17 15.7	0.1
	2.4nm,0.7s,baz=146,slow=8.2,SNR=12						
WRA	**Warramunga Arr**	**42.09**	**196**	P	P	13 20 06.7	0.0
	0.4nm,0.6s,baz=12,slow=8.1,SNR=15						
ASAR	**Alice Springs**	**45.76**	**195**	P	P	13 20 35.7	-0.4
	0.2nm,0.7s,baz=12,slow=6.7,SNR=3.4						
MKAR	**Makanchi Array**	**56.85**	**313**	P	P	13 21 59.2	+0.5
	0.4nm,0.6s,baz=88,slow=10,SNR=4.4						
NVAR	**Mina Array Bea**	**81.86**	**52**	P	P	13 24 33.3	+0.3
	0.5nm,0.7s,baz=254,slow=6.1,SNR=5.1						
FINES	**FINESS Array B**	**84.82**	**335**	P	P	13 24 46.7	-0.7
	0.8nm,0.4s,baz=63,slow=6.4,SNR=4.9						

*AUST **01** 13:32:54.6±5.1,23.24S×174.43W,h63km, Error ellipse: s-maj=3.5km s-min=1.4km az=358.0*
*NEIC **01** 13:32:58.6±0.5,23.23S×175.44W,mb4.7/7, Error ellipse: s-maj=16.8km s-min=12.1km az=141.0*
*IDC **01** 13:32:58.3±0.6,23.34S×175.42W,h44km±3km, mb4.0/13, mb1 4.2/13,mb1mx4.1/19,mbtmp4.0/13,MS3.9/3, Ms1 3.9/3,ms1mx3.4/32, Error ellipse: s-maj=26.6km s-min=14.6km az=152.0*

ISC 01 13:32:58.3±0.5,**23.30S**±0.09×**175.38W**±0.09,**h46**km±3km, **h45**km:**pP-P**,**n78**,σ1**s35**/106,**mb4.4**/20,**Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.60**	**51**	P	Pn	13 34 21.2	-12
	baz=5.9,SNR=7.7						
MSVF	**Nonsavu**	**8.28**	**311**	*e*P	Pn	13 35 00.3	+4.4
AFI	**Afiamalu**	**9.94**	**21**	*e*Pn	Pn	13 35 09.8	-8.9
AFI				S	Sn	13 36 49.4	-20
AFI	**Afiamalu**	**9.94**	**21**	P	Pn	13 35 11.1	-7.7
	4.6nm,0.3s,baz=25,slow=13,SNR=8.7						
AFI				S	Sn	13 36 49.3	-20
	baz=225,slow=19,SNR=1.7						
RAR	**Rarotonga**	**14.60**	**85**	*e*Pn	Pn	13 36 08.0	-14
RAR	**Rarotonga**	**14.60**	**85**	P	Pn	13 36 09.6	-12
	4.1nm,0.3s,baz=270,slow=2.9,SNR=7.0						
RAR				LR	LR	13 41 07.8	
	comp=Z,445nm,19.5s,baz=270,slow=33						
URZ	**Urewera**	**16.24**	**202**	P	**P**	**13 36 44.5**	**-1.3**
URZ				S	Sn	13 39 31.7	-11
URZ	**Urewera**	**16.24**	**202**	P	**P**	**13 36 45.7**	**0.0**
	0.6nm,0.3s,baz=102,slow=1.7,SNR=5.7						
URZ				S	Sn	13 39 31.7	-11
	0.7nm,0.3s,baz=154,slow=22,SNR=6.5						
DZM	**Mont Dzumac**	**16.82**	**271**	*e*LR	LR	13 40 44.7	
	260nm,24.4s						
DZM	**Mont Dzumac**	**16.82**	**271**	*e*P	**P**	**13 36 53.5**	**+1.1**
	22nm,1.0s						
DZM	**Mont Dzumac**	**16.82**	**271**	P	**P**	**13 36 55.1**	**+2.8**
	0.9nm,0.3s,baz=90,slow=24,SNR=15						
TBI	**Tubuai**	**23.80**	**95**	*e*LR	LR	13 43 56.2	
	392nm,24.8s						
LHI	**Lord Howe Isla**	**24.08**	**245**	P	P	13 38 19.7	+10
	baz=25,SNR=3.7						
PPT2	**Papeete2**	**24.82**	**82**	*e*LR	LR	13 44 20.8	
	289nm,21.8s						
EIDS	**Eidsvold**	**30.58**	**259**	*e*P	**P**	**13 39 07.4**	**-0.6**
CTAO	**Charters Tower**	**35.72**	**268**	*e*P	**P**	**13 39 52.5**	**-0.4**
	9.7nm,0.6s						
CTAO				*e*pP	**pP**	**13 40 04.7**	**-0.4**
RKT	**Rikitea**	**37.05**	**98**	*e*LR	LR	13 50 03.7	
	219nm,23.8s						
MTSU	**Mount Surprise**	**37.96**	**270**	P	**P**	**13 40 11.8**	**-0.1**
	baz=39,SNR=14						
PMG	**Port Moresby**	**38.37**	**285**	P	**P**	**13 40 15.2**	**-0.2**
PMG	**Port Moresby**	**38.37**	**285**	P	**P**	**13 40 15.2**	**-0.2**
	26nm,0.9s,baz=94,slow=2.7,SNR=5.5						
STKA	**Stephens Creek**	**38.87**	**248**	P	**P**	**13 40 18.2**	**-1.3**
STKA	**Stephens Creek**	**38.87**	**248**	P	**P**	**13 40 18.2**	**-1.3**
	4.8nm,0.9s,baz=67,slow=15,SNR=3.7						
ASAR	**Alice Springs**	**46.31**	**259**	P	**P**	**13 41 18.6**	**-1.4**
ASAR				pP	**pP**	**13 41 32.9**	**+0.4**
ASAR	**Alice Springs**	**46.31**	**259**	P	**P**	**13 41 18.6**	**-1.4**
	3.4nm,0.8s,baz=91,slow=7.3,SNR=38						
ASAR				pP	**pP**	**13 41 32.9**	**+0.4**
	3.3nm,0.8s,baz=89,slow=8.0,SNR=8.3						
ASAR				LR	LR	13 58 52.5	
	comp=Z,223nm,19.1s,baz=338,slow=34						
WRAB	**Tennant Creek**	**46.67**	**264**	*e*P	**P**	**13 41 20.6**	**-2.2**
	5.8nm,0.8s						
WRAB				*e*pP	**pP**	**13 41 34.6**	**-0.7**
WRA	**Warramunga Arr**	**46.68**	**264**	P	**P**	**13 41 20.7**	**-2.2**
WRA				pP	**pP**	**13 41 34.3**	**-1.1**
WRA	**Warramunga Arr**	**46.68**	**264**	P	**P**	**13 41 20.7**	**-2.2**
	4.6nm,0.8s,baz=96,slow=8.5,SNR=64						
WRA				pP	**pP**	**13 41 34.3**	**-1.1**
	3.6nm,0.6s,baz=91,slow=8.4,SNR=10						
KDU	**Kakadu**	**50.47**	**273**	P	**P**	**13 41 50.6**	**-1.4**
	baz=51,SNR=5.2						
KNRA	**Kununurra**	**52.94**	**268**	P	**P**	**13 42 09.2**	**-1.2**
	baz=54,SNR=16						
FITZ	**Fitzroy Crossi**	**55.10**	**264**	P	**P**	**13 42 25.7**	**-0.5**
	baz=56,SNR=4.1						
SBA	**Scott Base**	**55.27**	**185**	*e*P	**P**	**13 42 28.0**	**+1.5**
	4.4nm,0.9s						
SBA				*e*pP	**pP**	**13 42 41.0**	**+1.6**
KLBR	**Kellerberrin**	**59.12**	**246**	P	**P**	**13 42 53.5**	**-0.9**
	baz=60,SNR=5.4						
MORW	**Morawa**	**61.05**	**249**	P	**P**	**13 43 06.7**	**-1.0**
	baz=62,SNR=4.0						
QSPA	**South Pole Qui**	**66.79**	**180**	*e*P	**P**	**13 43 45.7**	**+0.7**
	8.5nm,1.1s						
QSPA				*e*pP	**pP**	**13 43 58.0**	**-0.2**
MJAR	**Matsushiro Arr**	**73.89**	**323**	P	**P**	**13 44 28.4**	**-0.2**
MJAR				pP	**pP**	**13 44 41.7**	**-0.2**
MJAR	**Matsushiro Arr**	**73.89**	**323**	P	**P**	**13 44 28.4**	**-0.2**
	1.0nm,0.6s,baz=161,slow=6.5,SNR=5.9						
MJAR				pP	**pP**	**13 44 41.7**	**-0.2**
	1.9nm,0.8s,baz=170,slow=6.5,SNR=4.4						
PETK	**Petropavlovsk-**	**79.60**	**344**	P	**P**	**13 45 00.5**	**+0.1**
PETK	**Petropavlovsk-**	**79.60**	**344**	P	**P**	**13 45 00.5**	**+0.1**
	3.9nm,0.8s,baz=147,slow=8.8,SNR=9.5						
PETK				LR	LR	14 13 32.3	
	comp=Z,58nm,20.5s,baz=336,slow=31						
MAW	**Mawson**	**79.76**	**199**	P	**P**	**13 45 01.7**	**+0.6**
MAW	**Mawson**	**79.76**	**199**	P	**P**	**13 45 01.7**	**+0.6**
	2.8nm,1.0s,baz=120,slow=5.6,SNR=4.3						
KSRS	**Korea Array**	**80.58**	**318**	P	**P**	**13 45 05.2**	**-0.8**
	2.1nm,0.8s,baz=135,slow=5.9,SNR=9.1						
KSRS				pP	**pP**	**13 45 21.0**	**+1.6**
	3.0nm,0.9s,baz=138,slow=6.4,SNR=7.5						
KSAR	**Wonju Array Be**	**80.60**	**318**	P	**P**	**13 45 05.2**	**-0.9**
KSAR				pP	**pP**	**13 45 21.0**	**+1.5**
NVAR	**Mina Array Bea**	**81.43**	**42**	P	**P**	**13 45 12.3**	**+1.5**
NVAR				pP	**pP**	**13 45 23.6**	**-0.6**
NVAR	**Mina Array Bea**	**81.43**	**42**	P	**P**	**13 45 12.3**	**+1.5**
	0.9nm,0.9s,baz=219,slow=8.1,SNR=5.4						
NVAR				pP	**pP**	**13 45 23.6**	**-0.6**
	3.2nm,0.9s,baz=221,slow=8.6,SNR=14						
NV11	**Mina Array Sit**	**81.52**	**42**	*e*P	**P**	**13 45 11.7**	**+0.5**
NV11				*e*pP	**pP**	**13 45 24.1**	**-0.6**
USRK	**Ussuriysk Arra**	**82.63**	**325**	P	**P**	**13 45 18.6**	**+2.0**
	9.2nm,0.8s,baz=130,slow=3.8,SNR=17						
USRK				pP	**pP**	**13 45 31.8**	**+1.7**
	8.6nm,0.9s,baz=122,slow=3.1,SNR=7.9						
TXAR	**Lajitas Array**	**86.55**	**56**	P	**P**	**13 45 37.4**	**+0.4**
TXAR				pP	**pP**	**13 45 50.2**	**-0.3**
TXAR	**Lajitas Array**	**86.55**	**56**	P	**P**	**13 45 37.4**	**+0.4**
	0.4nm,0.8s,baz=213,slow=9.0,SNR=3.9						
TXAR				pP	**pP**	**13 45 50.2**	**-0.3**
	0.6nm,0.6s,baz=203,slow=9.4,SNR=5.6						
PSI	**Prapat**	**87.14**	**274**	P	**P**	**13 45 40.4**	**+0.1**
	baz=88,SNR=6.8						
PDAR	**Pinedale Array**	**89.36**	**42**	P	**P**	**13 45 49.0**	**-1.2**
PDAR				pP	**pP**	**13 46 02.0**	**-1.8**
PDAR	**Pinedale Array**	**89.36**	**42**	P	**P**	**13 45 49.0**	**-1.2**
	0.2nm,0.4s,baz=233,slow=4.5,SNR=2.9						
PDAR				pP	**pP**	**13 46 02.0**	**-1.8**
	1.0nm,0.8s,baz=228,slow=3.8,SNR=7.0						
ENH	**Enshi**	**89.61**	**303**	*e*P	**P**	**13 45 51.1**	**-0.3**
	8.4nm,0.8s						
ENH				*e*pP	**pP**	**13 46 06.0**	**+1.0**
ILAR	**Eielson Array**	**90.51**	**12**	P	**P**	**13 45 53.6**	**-1.2**
ILAR				pP	**pP**	**13 46 07.2**	**-1.3**
ILAR	**Eielson Array**	**90.51**	**12**	P	**P**	**13 45 53.6**	**-1.2**
	0.9nm,1.2s,baz=213,slow=6.1,SNR=3.9						
ILAR				pP	**pP**	**13 46 07.2**	**-1.3**
	1.3nm,1.0s,baz=220,slow=4.8,SNR=8.0						
EGAK	**Eagle**	**91.69**	**14**	*e*P	**P**	**13 45 59.8**	**-0.5**
EGAK				*e*pP	**pP**	**13 46 13.2**	**-0.7**
CMAR	**Chiang Mai Arr**	**93.32**	**289**	P	**P**	**13 46 11.4**	**+2.5**
CMAR				pP	**pP**	**13 46 25.0**	**+2.5**
CMAR	**Chiang Mai Arr**	**93.32**	**289**	P	**P**	**13 46 11.4**	**+2.5**
	5.8nm,0.8s,baz=133,slow=3.3,SNR=38						
CMAR				pP	**pP**	**13 46 25.0**	**+2.5**
	6.2nm,0.9s,baz=120,slow=2.6,SNR=10						
CHTO	**Chiang Mai**	**93.46**	**289**	*e*P	**P**	**13 46 11.6**	**+2.1**
	6.5nm,0.8s						
CHTO				*e*pP	**pP**	**13 46 24.6**	**+1.5**
AKTO	**Aktyubinsk**	**130.76**	**317**	PKP	**PKPdf**	**13 52 02.3**	**-2.0**
AKTO				pPKP	**pPKPdf**	**13 52 17.2**	**-1.2**
AKTO	**Aktyubinsk**	**130.76**	**317**	PKP	**PKPdf**	**13 52 02.3**	**-2.0**
	0.3nm,0.3s,baz=90,slow=3.0,SNR=2.9						
AKTO				pPKP	**pPKPdf**	**13 52 17.2**	**-1.2**
	1.2nm,0.7s,baz=36,slow=2.2,SNR=2.9						
MBAR	**Mbarara**	**145.22**	**231**	PKPbc	**PKPdf**	**13 52 32.4**	**+0.2**
MBAR				pPKPbc	pPKPbc	13 52 45.3	-0.6
MBAR	**Mbarara**	**145.22**	**231**	PKPbc	**PKPdf**	**13 52 32.4**	**+0.2**
	2.7nm,0.2s,baz=77,slow=20,SNR=3.6						
MBAR				pPKPbc	pPKPbc	13 52 45.3	-0.6
	4.0nm,0.4s,baz=125,slow=23,SNR=3.9						
AKASG	**Malin Array Be**	**146.62**	**331**	PKP	**PKPdf**	**13 52 32.5**	**-0.6**
AKASG				PKPbc	**PKPab**	**13 52 35.1**	**-0.7**
AKASG				pPKPbc	pPKPbc	13 52 47.3	-1.4
AKASG	**Malin Array Be**	**146.62**	**331**	PKP	**PKPdf**	**13 52 32.5**	**-0.6**
	2.0nm,0.5s,baz=40,slow=4.6,SNR=7.0						
AKASG				PKPbc	**PKPab**	**13 52 35.1**	**-0.7**
	1.9nm,0.5s,baz=40,slow=4.5,SNR=8.5						
AKASG				pPKPbc	pPKPbc	13 52 47.3	-1.4
	4.3nm,0.6s,baz=41,slow=3.8,SNR=7.3						
EKA	**Eskdalemuir Ar**	**147.48**	**8**	PKPbc	**PKPab**	**13 52 38.8**	**-0.3**
EKA				pPKPbc	**pPKPbc**	**13 52 50.8**	**-0.2**
EKA	**Eskdalemuir Ar**	**147.48**	**8**	PKPbc	**PKPab**	**13 52 38.8**	**-0.3**
	0.2nm,0.4s,baz=345,slow=2.7,SNR=3.1						
EKA				pPKPbc	**pPKPbc**	**13 52 50.8**	**-0.2**
	1.7nm,0.8s,baz=12,slow=3.6,SNR=3.5						
BRTR	**Keskin Array B**	**150.50**	**311**	PKPbc	**PKPbc**	**13 52 45.4**	**0.0**
BRTR				pPKPbc	**pPKPbc**	**13 52 58.4**	**-1.0**
BRTR	**Keskin Array B**	**150.50**	**311**	PKPbc	**PKPbc**	**13 52 45.4**	**0.0**
	1.2nm,0.7s,baz=119,slow=4.4,SNR=6.4						
BRTR				pPKPbc	**pPKPbc**	**13 52 58.4**	**-1.0**
	5.2nm,0.9s,baz=119,slow=1.5,SNR=12						
KOLS	**Kolonicke sedl**	**150.85**	**336**	*e*PKP	**PKPbc**	**13 52 46.8**	**+1.1**
KOLS				*e*		13 52 59.0	
CRVS	**Cervenica-Dubn**	**151.18**	**337**	*e*PKP	**PKPab**	**13 52 57.2**	**+2.8**
MMAI	**Mount Meron Ar**	**151.27**	**297**	PKPbc	**PKPbc**	**13 52 48.0**	**+0.7**
MMAI				pPKPbc	**pPKPbc**	**13 53 01.5**	**+0.1**
MMAI	**Mount Meron Ar**	**151.27**	**297**	PKPbc	**PKPbc**	**13 52 48.0**	**+0.7**
	0.4nm,0.3s,baz=48,slow=2.7,SNR=3.2						
MMAI				pPKPbc	**pPKPbc**	**13 53 01.5**	**+0.1**
	6.2nm,0.7s,baz=61,slow=5.2,SNR=5.1						
CLL	**Collm**	**151.29**	**349**	*e*PKPbc	**PKPbc**	**13 52 46.0**	**-0.6**
CLL				*i* pPKPbc		13 53 00.0	
	comp=Z,12nm,1.1s						
BRG	**Berggiesshubel**	**151.53**	**348**	*e*(P)	**PKPab**	**13 53 00.3**	**+4.6**
	comp=Z,7.3nm,1.3s						
KECS	**Kecovo**	**151.88**	**337**	*e*PKP	**PKPdf**	**13 52 37.9**	**-3.7**
VYHS	**Vyhne**	**152.44**	**339**	*e*PKP	**PKPab**	**13 53 02.7**	**+3.1**
VYHS				*e*		13 53 13.9	
GERES	**GERESS Array B**	**153.51**	**346**	PKPbc	**PKPbc**	**13 52 52.2**	**+0.4**
GERES				PKPab	**PKPab**	**13 53 04.1**	**-0.1**
GERES	**GERESS Array B**	**153.51**	**346**	PKPbc	**PKPbc**	**13 52 52.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=31,slow=2.3,SNR=2.2						
GERES				PKPab	**PKPab**	**13 53 04.1**	**-0.1**
	comp=Z,0.4nm,0.2s,baz=45,slow=0.8,SNR=4.5						

*IDC **01** 13:46:12.9±1.6,34.00N×25.42E,h0km,mb3.5/2, mb1 3.6/4,mb1mx3.4/26,mbtmp3.5/4,ML3.9/1,MS3.4/1, Ms1 3.4/1,ms1mx2.4/38,Error ellipse: s-maj=50.4km s-min=26.7km az=132.0*
*ISCJB **01** 13:46:13.8±1.3,34.0N±0.1×25.3E±0.1,h17km,mb3.2/2, MS3.3/1,Error ellipse: s-maj=16.6km s-min=12.4km az=150.7*
*CSEM **01** 13:46:20.0,34.49N×25.33E,h30km,MD3.6,After ATH ATH **01** 13:46:20.0,34.49N×25.33E,h30km±6km,MD3.6/6*

ISC 01 13:46:15.9±1.3,**34.2N**±0.1×**25.33E**±0.06,**h17**km,**n16,** σ0**s73**/16,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.97**	**334**	*e*PN	**Pb**	**13 46 33.7**	**-0.5**
SIVA	**Sivas**	**0.97**	**334**	*e*Pn	**Pb**	**13 46 33.7**	**-0.5**
LAST	**Lasithi**	**1.01**	**7**	*e*PN	**Pb**	**13 46 34.0**	**-1.0**
LAST	**Lasithi**	**1.01**	**7**	*e*Pn	**Pb**	**13 46 34.0**	**-1.0**
IDI	**Anoyia**	**1.19**	**342**	*e*PN	**Pb**	**13 46 37.3**	**-0.7**
IDI	**Anoyia**	**1.19**	**342**	*e*Pn	**Pb**	**13 46 37.3**	**-0.7**
ZKR	**Zakros**	**1.21**	**37**	*e*PB	**Pn**	**13 46 37.9**	**-0.1**
ZKR	**Zakros**	**1.21**	**37**	*e*Pb	**Pn**	**13 46 37.9**	**-0.1**
VAM	**Vamos**	**1.56**	**324**	*e*PN	**Pb**	**13 46 44.2**	**-0.1**
VAM	**Vamos**	**1.56**	**324**	*e*Pn	**Pb**	**13 46 44.2**	**-0.1**
KARP	**Karpathos**	**2.05**	**47**	*e*PB	**Pb**	**13 46 52.5**	**-0.1**
KARP	**Karpathos**	**2.05**	**47**	*e*Pb	**Pb**	**13 46 52.5**	**-0.1**
AKASG	**Malin Array Be**	**16.78**	**9**	Pn	**Pn**	**13 50 11.1**	**+1.1**
	baz=200,slow=10.0,SNR=3.1						
GERES	**GERESS Array B**	**17.04**	**333**	P	**Pn**	**13 50 14.5**	**+1.2**
	0.2nm,0.3s,baz=149,slow=11,SNR=7.6						
TORD	**Torodi Ar. Bea**	**29.96**	**231**	P	**P**	**13 52 22.8**	**-0.7**
	0.4nm,0.6s,baz=38,slow=9.9,SNR=3.1						
TORD				LR	LR	14 05 51.9	
	comp=Z,69nm,19.3s,baz=180,slow=39						
MKAR	**Makanchi Array**	**44.22**	**56**	P	**P**	**13 54 23.9**	**-0.1**
	0.2nm,0.6s,baz=256,slow=8.6,SNR=3.7						

*IDC **01** 13:46:52.4±1.8,33.87N×25.45E,h0km,mb3.6/2, mb1 3.9/5,mb1mx3.5/27,mbtmp3.6/5,ML3.8/3,MS3.1/1, Ms1 3.1/1,ms1mx2.4/52,Error ellipse: s-maj=50.9km s-min=27.7km az=138.0*
*ISCJB **01** 13:46:53.5±1.2,33.9N±0.1×25.4E±0.1,h17km,mb3.5/2, Error ellipse: s-maj=16.4km s-min=12.6km az=151.9*
*CSEM **01** 13:47:00.0,34.38N×25.40E,h31km,MD3.6,After ATH ATH **01** 13:47:00.0,34.38N×25.40E,h31km±8km,MD3.6/6*

ISC 01 13:46:55.1±1.3,**34.0N**±0.1×**25.38E**±0.07,**h17**km,**n18,** σ0**s48**/17,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.08**	**334**	*e*PN	**Pg**	**13 47 15.9**

UTMO Huajuapan 7.28 303 *i* P Pn 13 50 54.1 +0.2
UTMO *i* S Sn 13 52 13.8 -1.4
530A J-C Ranch, Com 18.59 332 ⇑P Pn 13 53 24.6 +1.5
baz=19
431A Sonora 18.73 335 ⇓P Pn 13 53 25.4 +0.6
baz=19
628A Black Gap, Mar 18.80 328 ⇓P Pn 13 53 27.3 +1.7
baz=19
332A Millersview 19.02 338 ⇑P Pn 13 53 28.6 +0.5
baz=19
627A Terlingua Ranc 19.04 326 ⇑P Pn 13 53 30.2 +1.6
baz=19
430A Baggett Ranch, 19.09 333 ⇑P Pn 13 53 29.0 -0.1
baz=19
TXAR Lajitas Array 19.10 326 P Pn 13 53 30.6 +1.4
comp=Z,0.3nm,0.3s,baz=153,slow=13,SNR=22
331A San Angelo 19.21 336 ⇑P Pn 13 53 30.5 0.0
baz=19
429A Davenport Ranc 19.25 332 ⇓P Pn 13 53 30.5 -0.4
baz=19
528A Cox Ranch, San 19.30 329 ⇓P Pn 13 53 31.6 0.0
baz=19
232A Coleman 19.44 339 ⇓P P 13 53 30.8 -0.6
baz=20,SNR=5.1
626A Big Bend Ranch 19.53 325 ⇑P Pn 13 53 34.6 +0.4
baz=20,SNR=11
330A Mertzon 19.60 334 ⇑P P 13 53 33.8 +0.6
baz=20
527A Woodward Ranch 19.71 327 ⇓P Pn 13 53 36.3 -0.1
baz=20
526A Mary Lane Ranc 19.89 326 ⇑P Pn 13 53 39.4 +0.7
baz=20
329A Wagon Wheel Ra 20.02 333 ⇑P P 13 53 38.7 +0.9
baz=20
ABTX Abilene, Hawle 20.11 339 ⇑P P 13 53 39.3 +0.7
baz=20
328A Wristen Ranch, 20.31 331 ⇑P P 13 53 42.0 +1.1
baz=20,SNR=6.5
426A McDonald Obser 20.34 327 ⇓P P 13 53 42.6 +1.2
baz=20
Z32A Haskell 20.68 341 ⇓P P 13 53 44.6 -0.3
baz=21
228A UT Block 9, Go 20.83 332 ⇓P P 13 53 46.4 -0.1
baz=21
326A Caldwell Ranch 20.83 328 ⇓P P 13 53 47.9 +1.3
baz=21,SNR=14
Z31A Sharp Cattle R 20.91 339 ⇑P P 13 53 46.9 -0.5
baz=21
425A Indio Mountain 20.94 326 ⇓P P 13 53 49.5 +1.6
baz=21
129A Stewart Farms, 20.95 335 ⇑P P 13 53 47.3 -0.6
baz=21
128A Castleberry Fa 21.21 333 ⇓P P 13 53 50.6 0.0
baz=21
Z30A Sanderson Ranc 21.24 337 ⇑P P 13 53 50.3 -0.6
baz=21
Z29A Hungry Hill Ra 21.44 336 ⇑P P 13 53 52.3 -0.8
baz=22
226B Tecolote Peak, 21.54 329 ⇓P P 13 53 54.7 +0.6
baz=22
Y31A Rekieta Farm, 21.54 340 ⇑P P 13 53 52.7 -1.3
baz=22
Y30A Stafford Cattl 21.68 338 ⇓P P 13 53 55.3 -0.3
baz=22
324A Moseley Ranch, 21.72 326 ⇑P P 13 53 56.8 +0.7
baz=22,SNR=5.4
WMOK Wichita Mounta 21.80 344 *e*P P 13 53 56.1 -0.8
comp=Z,2.4nm,0.9s
MNTX Cornudas Mount 21.86 327 *e*P P 13 53 57.0 -0.5
comp=Z,3.2nm,0.8s
225A Deer Hill, Car 21.89 328 ⇑P P 13 53 59.1 +1.1
baz=22
X31A McDonald Ranch 22.06 341 ⇑P P 13 53 58.5 -1.1
baz=22
Z27A Tatum 22.12 333 ⇓P P 13 53 59.5 -0.9
baz=22
125A Gardner Draw, 22.25 329 ⇓P P 13 54 02.0 +0.2
baz=22
Z26A Caprock 22.43 332 ⇑P P 13 54 03.6 -0.1
baz=22
X29A Tulia 22.48 337 ⇓P P 13 54 03.7 -0.6
baz=22
MSTX Muleshoe 22.49 335 ⇓P P 13 54 03.7 -0.6
baz=22
Y27A Causey 22.58 334 ⇓P P 13 54 04.3 -1.1
baz=23
223A Chaparral, Ant 22.67 325 ⇑P P 13 54 06.2 -0.2
baz=23
124A Stringfield Ra 22.69 328 ⇓P P 13 54 07.2 +0.6
baz=23,SNR=15
TKL Tuckaleechee C 22.75 16 P P 13 54 05.0 -2.0
comp=Z,4.7nm,0.6s,baz=178,slow=9.0,SNR=6.3
TKL LR LR 14 03 38.5
comp=Z,50nm,20.2s,baz=69,slow=39
Z25A Roswell 22.78 330 ⇑P P 13 54 06.6 -0.9
baz=23
AMTX Amarillo 22.87 338 *e*P P 13 54 07.4 -0.9
comp=Z,4.9nm,0.5s
Y26A Elida 22.90 333 ⇑P P 13 54 08.3 -0.5
baz=23
V31A Spring Creek L 23.07 342 ⇓P P 13 54 07.4 -2.9
baz=23
Z24A Sheeppen Canyo 23.14 329 ⇑P P 13 54 11.3 +0.2
baz=23,SNR=5.9
Y25A Mesa, Roswell 23.30 331 ⇑P P 13 54 12.8 +0.2
baz=23
320A Kipp Ranch, An 23.41 321 ⇓P P 13 54 15.7 +2.0
baz=23
Z23A Rita Site, Whi 23.53 328 ⇓P P 13 54 15.7 +0.9
baz=24,SNR=6.6
W27A Bowe Ranch, En 23.56 336 ⇑P P 13 54 14.5 -0.5
baz=24
Y24A Capitan 23.66 330 ⇑P P 13 54 16.2 +0.2
baz=24
220A Playas Peak, P 23.81 322 ⇓P P 13 54 19.7 +2.4
baz=24
121A Cookes Peak, D 23.82 324 ⇑P P 13 54 19.0 +1.5
baz=24
Z22A Elephant Butte 23.91 326 ⇑P P 13 54 18.8 +0.5
baz=24,SNR=5.3
U30A WK&E Inc. Balk 24.02 342 ⇑P P 13 54 18.1 -1.0
baz=24
W25A X Bar L Ranch, 24.27 333 ⇓P P 13 54 21.8 +0.3
baz=24
120A U Bar Ranch, L 24.33 323 ⇓P P 13 54 23.7 +1.6
baz=24
Y22A Socorro 24.44 327 ⇓P P 13 54 23.9 +0.9
baz=24
U27A Thompson Grove 24.66 338 ⇓P P 13 54 23.0 -1.9
baz=25
Z20A Nine Sixteen R 24.71 324 ⇑P P 13 54 27.4 +1.8
baz=25
ANMO Albuquerque 24.98 330 P P 13 54 29.0 +1.0
comp=Z,0.9nm,0.5s,baz=196,slow=7.4,SNR=3.3
Y20A Horse Springs, 25.18 325 ⇑P P 13 54 31.6 +1.7
baz=25
X21A Alamocita Cree 25.26 327 ⇑P P 13 54 32.0 +1.4
baz=25
R28A Tribune 26.04 341 ⇓P P 13 54 35.7 -1.8
baz=26
214A Organ Pipe Nat 26.58 316 ⇑P P 13 54 44.8 +2.4
baz=27
PDMCI Parker Dam,Lak 28.91 319 ⇑P P 13 55 04.6 +1.5
baz=29
U15A North Rim 29.20 324 ⇑P P 13 55 06.7 +0.7
baz=29
PDAR Pinedale Array 32.76 335 P P 13 55 37.9 +0.7
comp=Z,0.3nm,0.7s,baz=138,slow=8.4,SNR=2.8
PDAR PcP PcP 13 58 22.2 +0.8
comp=Z,0.4nm,0.7s,baz=140,slow=4.6,SNR=3.3
NVAR Mina Array Bea 34.11 321 P P 13 55 52.1 +3.1
comp=Z,1.9nm,0.7s,baz=137,slow=8.9,SNR=14
NVAR pP pP 13 56 07.0 +2.5
comp=Z,5.3nm,0.7s,baz=133,slow=8.8,SNR=23
NVAR PcP PcP 13 58 27.2 +2.0
comp=Z,1.1nm,0.7s,baz=131,slow=4.1,SNR=8.4
MCMT McKenzie Canyo 35.82 334 *e*P P 13 56 06.2 +2.6
comp=Z,1.1nm,0.6s
B21A Ellsworth Farm 36.78 343 ⇑P P 13 56 12.2 +0.7
baz=37,SNR=5.0
SIV San Ignacio 42.21 134 P P 13 56 58.3 +1.2
comp=Z,4.7nm,0.8s,baz=314,slow=8.7,SNR=17
SCHQ Schefferville 45.14 20 P P 13 57 17.4 -2.7
comp=Z,1.5nm,0.6s,baz=199,slow=16,SNR=3.8
SCHQ LR LR 14 15 56.4
comp=Z,64nm,18.5s,baz=43,slow=36
YKA Yellowknife Ar 51.27 346 P P 13 58 06.2 -1.0
comp=Z,0.6nm,0.3s,baz=150,slow=7.7,SNR=6.4

YKA PcP PcP 13 59 21.6 +0.2
comp=Z,0.8nm,0.7s,baz=139,slow=4.0,SNR=5.7
INK Inuvik 60.71 343 P P 13 59 14.2 -0.3
comp=Z,0.9nm,0.6s,baz=150,slow=8.0,SNR=4.3
ILAR Eielson Array 63.16 337 P P 13 59 30.9 -0.2
comp=Z,0.6nm,0.8s,baz=123,slow=5.4,SNR=10
EKA Eskdalemuir Ar 77.74 36 P P 14 00 57.3 -2.8
comp=Z,0.5nm,0.5s,baz=274,slow=7.0,SNR=4.7
NOA NORSAR Array B 83.99 29 LR LR 14 39 31.4
comp=Z,14nm,18.3s,baz=55,slow=36
KURBB Kurchatov Arra 115.17 7 PKP PKPdf 14 07 43.2 -1.0
comp=Z,0.2nm,0.4s,baz=345,slow=1.7,SNR=4.1
KSRS Korea Array 116.95 326 PKP PKPdf 14 07 48.8 +0.8
comp=Z,0.5nm,0.6s,baz=45,slow=2.1,SNR=3.5
MKAR Makanchi Array 119.34 5 PKP PKPdf 14 07 52.1 -0.4
comp=Z,0.4nm,0.7s,baz=358,slow=1.4,SNR=3.0
MKAR pPKP pPKPdf 14 08 09.6 -1.1
comp=Z,0.4nm,0.7s,baz=14,slow=2.0,SNR=2.4
WRA Warramunga Arr 135.90 256 PKP PKPdf 14 08 26.2 +1.6
comp=Z,0.4nm,0.9s,baz=89,slow=2.4,SNR=5.4
ASAR Alice Springs 136.14 250 PKP PKPdf 14 08 25.9 +0.9
comp=Z,0.4nm,0.7s,baz=93,slow=0.9,SNR=4.6
CHTO Chiang Mai 145.94 342 *e*PKPdf PKPdf 14 08 42.7 0.0
CMAR Chiang Mai Arr 146.28 342 PKPbc PKPbc 14 08 44.7 +0.3
comp=Z,4.9nm,0.6s,baz=331,slow=3.5,SNR=20
CMAR pPKPbc pPKPbc 14 09 01.9 -0.6
comp=Z,2.0nm,0.8s,baz=327,slow=3.6,SNR=3.4

*ISK **01** 14:00:18.5,41.°61N×43.°40E,h2km,ML3.7*
*NSSP **01** 14:00:19.9,41.°47N×43.°43E,h14km,Ms3.8*
*TIF **01** 14:00:19.5,41.°53N×43.°53E,h14km*
*CSEM **01** 14:00:20.1±0.1,41.°51N×43.°45E,h2km,mb4.2,Error ellipse: s-maj=3.3km s-min=2.9km az=43.0*
*IDC **01** 14:00:20.0±0.7,41.°37N×43.°37E,h0km,mb3.6/8, mb1 3.8/12,mb1mx3.6/31,mbtmp3.7/12,ML3.6/4,MS3.1/2, Ms1 3.1/2,ms1mx2.5/44,Error ellipse: s-maj=12.8km s-min=7.5km az=49.0*
*MOS **01** 14:00:20.1±1.3,41.°43N×43.°40E,h12km,mb4.2/4,Error ellipse: s-maj=6.8km s-min=4.8km az=91.6*
*DDA **01** 14:00:22.6,41.°35N×43.°29E,h7km,ML4.3*
*AZER **01** 14:00:25.4,41.°58N×43.°64E,h0km*
*NNC **01** 14:00:30.4±5.0,41.°92N×44.°45E,h0km,mb3.8,Error ellipse: s-maj=106.0km s-min=49.3km az=122.0*

ISC 01 14:00:19.8±0.7,41.°52N±0.°01×43.°53E±0.°01,h14km±4km, n168,σ1°46/229,mb3.6/11,29C-18D,
Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.12**	**194**	*e*PG		**Pg**	**14 00 22.9**	**-0.4**
AKH	**Akhalkalaki**	**0.12**	**194**	P		**Pg**	**14 00 23.0**	**-0.4**
AKH				S		**Sg**	**14 00 25.1**	**-0.5**
AKH	**Akhalkalaki**	**0.12**	**194**	*e*Pg		**Pg**	**14 00 22.9**	**-0.4**
AKH				*S*		**Sg**	**14 00 25.1**	**-0.5**
GMRZ	**Gyumri**	**0.75**	**162**	*e*P		**Pn**	**14 00 36.0**	**-0.1**
GMRZ				S		**Sn**	**14 00 46.0**	**-1.3**
KAMZ	**Kamo**	**0.77**	**155**	⇑*i*P		**Pn**	**14 00 35.8**	**-0.5**
KAMZ				⇑*i*S		**Sn**	**14 00 46.9**	**-0.8**
KAMZ	**Kamo**	**0.77**	**155**	⇑P		**Pn**	**14 00 35.8**	**-0.5**
KAMZ				S		**Sn**	**14 00 46.9**	**-0.8**
STE	**Stepanavan**	**0.82**	**129**	⇑P		**Pg**	**14 00 35.0**	**-0.7**
STE				S		**Sg**	**14 00 45.8**	**-0.7**
STEZ	**Stepenevan**	**0.84**	**128**	⇑*i*P		**Pg**	**14 00 35.0**	**-1.1**
STEZ				⇑S		**Sg**	**14 00 45.8**	**-1.3**
SPIZ	**Spitak**	**0.89**	**141**	⇓*i*P		**Pb**	**14 00 34.8**	**-2.4**
SPIZ				⇓*i*S		**Sg**	**14 00 46.6**	**-2.2**
SPIZ	**Spitak**	**0.89**	**141**	⇓P		**Pb**	**14 00 34.8**	**-2.4**
SPIZ				S		**Sg**	**14 00 46.6**	**-2.2**
TBLG	**Delisi**	**0.93**	**77**	*i* PG		**Pn**	**14 00 37.9**	**-0.6**
TBLG				*i* S		**Sn**	**14 00 51.5**	**-0.1**
TBLG	**Delisi**	**0.93**	**77**	P		**Pn**	**14 00 38.0**	**-0.6**
TBLG				S		**Sn**	**14 00 51.5**	**-0.1**
TBLG	**Delisi**	**0.93**	**77**	*i* Pg		**Pn**	**14 00 37.9**	**-0.6**
TBLG				S		**Sn**	**14 00 51.5**	**-0.1**
KARS	**Kars**	**0.96**	**201**	*e*PG		**Pn**	**14 00 38.2**	**-0.8**
KARS	**Kars**	**0.96**	**201**	*e*Pg		**Pn**	**14 00 38.2**	**-0.8**
HARI	**Harich**	**0.98**	**159**	⇑*i*P		**Pn**	**14 00 39.3**	**-0.1**
HARI				⇑*i*S		**Sn**	**14 00 52.8**	**-0.3**
HARI	**Harich**	**0.98**	**159**	⇑P		**Pn**	**14 00 39.3**	**-0.1**
HARI				S		**Sn**	**14 00 52.8**	**-0.3**
HNAZ	**Hnaberd**	**1.00**	**152**	⇑*i*P		**Pn**	**14 00 39.6**	**-0.1**
HNAZ				⇑*i*S		**Sn**	**14 00 53.8**	**+0.1**
HNAZ	**Hnaberd**	**1.00**	**152**	⇑P		**Pn**	**14 00 39.6**	**-0.1**
HNAZ				S		**Sn**	**14 00 53.8**	**+0.1**
LERZ	**Lernakert**	**1.00**	**161**	⇑*i*P		**Pn**	**14 00 39.5**	**-0.2**
LERZ				⇑*i*S		**Sn**	**14 00 54.0**	**+0.2**
LERZ	**Lernakert**	**1.00**	**161**	⇑P		**Pn**	**14 00 39.5**	**-0.2**
LERZ				S		**Sn**	**14 00 54.0**	**+0.2**
NARZ	**Nor Artik**	**1.06**	**172**	⇑P		**Pg**	**14 00 40.6**	**+0.2**
NARZ				S		**Sb**	**14 00 50.6**	**-3.4**
DIGO	**Kars**	**1.11**	**186**	*i* P		**Pb**	**14 00 40.5**	**-0.5**
DIGO				*i* S		**Sb**	**14 00 53.8**	**-1.6**
DIGO	**Kars**	**1.11**	**186**	*i* P		**Pb**	**14 00 40.5**	**-0.5**
DIGO				*i* S		**Sb**	**14 00 53.8**	**-1.6**
DIGO	**Kars**	**1.11**	**186**	*i* P		**Pb**	**14 00 40.5**	**-0.5**
DIGO				*i* S		**Sb**	**14 00 53.8**	**-1.6**
ARTV	**Artvin**	**1.25**	**255**	*i* P		**Pn**	**14 00 42.5**	**-0.6**
ARTV				*i* S		**Sb**	**14 00 56.9**	**-2.5**
ARTV	**Artvin**	**1.25**	**255**	*i* P		**Pn**	**14 00 42.5**	**-0.6**
ARTV				*i* S		**Sb**	**14 00 56.9**	**-2.5**
ARTV	**Artvin**	**1.25**	**255**	*i* P		**Pn**	**14 00 42.5**	**-0.6**
ARTV				*i* S		**Sb**	**14 00 56.9**	**-2.5**
ZEI	**Tsey**	**1.28**	**12**	⇓*i*PG		**Pg**	**14 00 44.8**	**+0.4**
ZEI	**Tsey**	**1.28**	**12**	*i* Pg		**Pg**	**14 00 44.8**	**+0.4**
DAGI	**Agillar**	**1.30**	**251**	*i* P		**Pb**	**14 00 43.5**	**-0.6**
DAGI				*i* S		**Sb**	**14 00 58.3**	**-2.3**
DAGI	**Agillar**	**1.30**	**251**	*i* P		**Pb**	**14 00 43.5**	**-0.6**
DAGI				*i* S		**Sb**	**14 00 58.3**	**-2.3**
DIGR	**Digorskoe uzhe**	**1.38**	**2**	⇑*i*PG		**Pg**	**14 00 46.3**	**0.0**
DIGR	**Digorskoe uzhe**	**1.38**	**2**	*i* Pg		**Pg**	**14 00 46.3**	**0.0**
DGRG	**David-gareji**	**1.39**	**92**	*e*PG		**Pg**	**14 00 46.4**	**-0.1**
DGRG				*e*S		**Sg**	**14 01 06.8**	**+2.3**
DGRG	**David-gareji**	**1.39**	**92**	P		**Pg**	**14 00 46.4**	**-0.1**
DGRG				S		**Sg**	**14 01 06.8**	**+2.3**
DGRG	**David-gareji**	**1.39**	**92**	P		**Pg**	**14 00 46.4**	**-0.1**
DGRG				S		**Sg**	**14 01 06.8**	**+2.3**
DBOC	**Borcka**	**1.41**	**263**	*i* P		**Pb**	**14 00 45.0**	**-0.9**
DBOC				*i* S		**Sn**	**14 01 01.8**	**-1.8**
DBOC	**Borcka**	**1.41**	**263**	*i* P		**Pb**	**14 00 45.0**	**-0.9**
DBOC				*i* S		**Sn**	**14 01 01.8**	**-1.8**
DBOC	**Borcka**	**1.41**	**263**	*i* P		**Pb**	**14 00 45.0**	**-0.9**
DBOC				*i* S		**Sn**	**14 01 01.8**	**-1.8**
LACR	**Lac**	**1.42**	**23**	⇑*i*PG		**Pg**	**14 00 47.1**	**-0.1**
LACR	**Lac**	**1.42**	**23**	*i* Pg		**Pg**	**14 00 47.1**	**-0.1**
BCA	**Borcka**	**1.44**	**268**	*e*PN		**Pn**	**14 00 44.8**	**-0.6**
BCA				*e*SN		**Sb**	**14 01 04.5**	**0.0**
BCA	**Borcka**	**1.44**	**268**	*e*Pn		**Pn**	**14 00 44.8**	**-0.6**
BCA				*e*Sn		**Sb**	**14 01 04.5**	**0.0**
DDEM	**Demirkent**	**1.48**	**245**	*i* P		**Pb**	**14 00 46.9**	**-0.3**
DDEM				*i* S		**Sb**	**14 01 06.0**	**0.0**
DDEM	**Demirkent**	**1.48**	**245**	*i* P		**Pb**	**14 00 46.9**	**-0.3**
DDEM				*i* S		**Sb**	**14 01 06.0**	**0.0**
DDEM	**Demirkent**	**1.48**	**245**	*i* P		**Pb**	**14 00 46.9**	**-0.3**
DDEM				*i* S		**Sb**	**14 01 06.0**	**0.0**
CHVG	**Ch'k'valeri**	**1.61**	**318**	P		**Pg**	**14 00 49.4**	**-1.3**
CHVG				S		**Sg**	**14 01 11.7**	**+0.1**
CHVG	**Ch'k'valeri**	**1.61**	**318**	P		**Pg**	**14 00 49.4**	**-1.3**
CHVG				S		**Sg**	**14 01 11.7**	**+0.1**
GNI	**Garni**	**1.65**	**146**	*e*PN		**Pg**	**14 00 51.0**	**-0.4**
GNI	**Garni**	**1.65**	**146**	⇓*i*P		**Pg**	**14 00 51.5**	**0.0**
GNI				⇑*i*S		**Sg**	**14 01 14.4**	**+1.5**
GNI	**Garni**	**1.65**	**146**	Pn		**Pg**	**14 00 51.5**	**0.0**
	57nm,0.3s,baz=297,slow=6.2,SNR=38							
GNI					Sn	**Sg**	**14 01 13.8**	**+0.9**
	116nm,0.3s,baz=196,slow=21,SNR=13							
GNI	**Garni**	**1.65**	**146**	*i* Pn		**Pg**	**14 00 51.1**	**-0.4**
GNI				S		**Sg**	**14 01 14.4**	**+1.5**
VLKR	**Vladikavkaz**	**1.75**	**29**	*e*PN		**Pg**	**14 00 52.2**	**-1.1**
VLKR	**Vladikavkaz**	**1.75**	**29**	*e*Pn		**Pg**	**14 00 52.2**	**-1.1**
ARNR	**Ardon**	**1.76**	**18**	*e*PN		**Pg**	**14 00 52.7**	**-0.8**
ARNR	**Ardon**	**1.76**	**18**	*e*Pn		**Pg**	**14 00 52.7**	**-0.8**
LSNR	**Lesken**	**1.76**	**7**	*e*PN		**Pg**	**14 00 52.6**	**-1.1**
LSNR	**Lesken**	**1.76**	**7**	*e*Pn		**Pg**	**14 00 52.6**	**-1.1**
SNJR	**Sundja**	**1.81**	**31**	*e*PN		**Pg**	**14 00 53.7**	**-0.9**
SNJR	**Sundja**	**1.81**	**31**	*e*Pn		**Pg**	**14 00 53.7**	**-0.9**
HOMI	**Horasan**	**1.92**	**220**	*i* P		**Pb**	**14 00 54.3**	**-0.5**
HOMI				*i* S		**Sg**	**14 01 25.4**	**+3.8**
HOMI	**Horasan**	**1.92**	**220**	*i* P		**Pb**	**14 00 54.3**	**-0.5**
HOMI				*i* S		**Sg**	**14 01 25.4**	**+3.8**

DYDN Diyadin 1.98 176 *e*P Pb 14 00 56.2 +0.4
DYDN *e*S Sg 14 01 24.8 +1.3
DYDN Diyadin 1.98 176 *e*P Pb 14 00 56.2 +0.4
DYDN *e*S Sg 14 01 24.8 +1.3
AGRB Hanur-Agry 1.99 192 *e*PN Pb 14 00 55.4 -0.4
BTKR Batakoyurt 2.00 22 *e*PN Pg 14 00 58.3 +0.2
BTKR *e*S Sg 14 01 23.6 -0.4
BTKR Batakoyurt 2.00 22 *e*Sb Sg 14 01 23.6 -0.4
PZAR Pazar-Rize 2.01 261 *e*PN Pn 14 00 53.5 +0.2
PZAR Pazar-Rize 2.01 261 *e*Pn Pn 14 00 53.5 +0.2
VADZ Vardenis 2.15 128 *e*P Pg 14 01 00.0 -1.1
VADZ *e*S Sg 14 01 30.0 +0.9
VADZ Vardenis 2.15 128 P Pg 14 01 00.0 -1.1
VADZ S Sg 14 01 30.0 +0.9
KBZ Khabaz 2.25 348 PN Pg 14 01 02.1 -0.9
KBZ 14 01 32.4
KBZ pmax pmax
comp=Z,6.0nm,0.3s
KBZ smax smax
comp=N,13nm,0.3s
KBZ Khabaz 2.25 348 Pn Pg 14 01 02.1 -0.9
comp=N,6.4nm,0.3s,baz=164,slow=6.9,SNR=57
KBZ Sn Sg 14 01 32.4 +0.1
comp=N,13nm,0.3s,baz=54,slow=20,SNR=4.0
GANJ Ganja 2.28 112 ⇑P Pb 14 01 00.7 -0.1
SNR=10.0
GANJ ⇑S Sg 14 01 30.8 -2.4
GANJ Ganja 2.28 112 P Pb 14 01 00.7 -0.1
SNR=10.0
GANJ S Sg 14 01 30.8 -2.4
PRTR Priterechnaya 2.30 14 *e*PN Pb 14 01 00.6 -0.4
PRTR *e*S Sb 14 01 29.5 +0.3
PRTR Priterechnaya 2.30 14 *e*Pn Pb 14 01 00.6 -0.4
PRTR *e*Sn Sb 14 01 29.5 +0.3
EZM Erzurum 2.31 226 *e*PN Pb 14 00 59.0 -2.4
TRKR Terskaya 2.37 22 *e*PN Pb 14 01 01.6 -0.7
TRKR *e*S Sb 14 01 30.9 -0.5
TRKR Terskaya 2.37 22 *e*Pn Pb 14 01 01.6 -0.7
TRKR *e*Sn Sb 14 01 30.9 -0.5
CLDR Caldiran 2.39 173 *e*PN Pb 14 01 01.6 -1.2
KIV Kislovodsk 2.51 346 *e*PN Pg 14 01 06.5 -1.4
KIV *e*S Sg 14 01 39.5 -1.0
KIV pmax pmax
comp=Z,169nm,1.1s
SEKA Sheki 2.78 95 ⇓P Pb 14 01 08.4 -0.9
SNR=21
SEKA ⇓S Sb 14 01 45.6 +2.4
SEKA Sheki 2.78 95 P Pb 14 01 08.4 -0.9
SNR=21
SEKA S Sb 14 01 45.6 +2.4
NAX Nakhchivan 2.78 147 ⇓P Pg 14 01 13.1 -0.1
SNR=4.1
NAX ⇓S Sg 14 01 48.9 -0.3
BAYT Ayd¨–ntepe-Bay 2.80 247 *e*PN Pn 14 01 05.2 +0.8
BAYT Ayd¨–ntepe-Bay 2.80 247 *e*Pn Pn 14 01 05.2 +0.8
DBC Dubki 2.87 57 *i* PN Pg 14 01 12.8 -2.0
DBC *i* S Sg 14 01 51.1 -0.9
GRS Goris 2.94 132 ⇓P Pb 14 01 12.0 -0.1
STKZ 2.99 124 ⇓P Pn 14 01 07.6 +0.8
STKZ S Sb 14 01 48.5 -0.7
BRDA Brd 3.04 113 ⇓P Pg 14 01 16.1 -1.9
SNR=38
BRDA ⇓S Sg 14 01 55.3 -2.1
GUMT Gumushane 3.24 252 *e*PN Pn 14 01 11.5 +1.1
GUMT Gumushane 3.24 252 *e*Pn Pn 14 01 11.5 +1.1
MAK Makhachkala 3.28 63 *e*PN Pn 14 01 12.4 +1.6
MAK *e* 14 01 52.5
MAK pmax pmax
comp=Z,144nm,0.3s
MAK smax smax
comp=E,479nm,0.5s
MAK smax smax
comp=N,606nm,0.6s
MAK MLR MLR
comp=Z,344nm,10.0s
MAK Makhachkala 3.28 63 *e*Pn Pn 14 01 12.4 +1.6
comp=Z,144nm,0.3s
MAK *e*Sn Sn 14 01 52.5 +2.9
comp=Z,344nm,10.0s
SOC Sochi 3.49 307 *e*PN Pn 14 01 14.9 +1.2
SOC *e* 14 01 58.4
SOC *e*SS Sg 14 02 10.8 -1.1
SOC pmax pmax
comp=Z,38nm,0.7s
SOC MLR MLR
comp=Z,157nm,7.0s
SOC MLR MLR
comp=E,173nm,7.0s
SOC MLR MLR
comp=N,383nm,9.0s
SOC Sochi 3.49 307 *e*Pn Pn 14 01 14.9 +1.2
comp=N,38nm,0.7s
SOC *e*Sn Sb 14 01 58.4 -5.2
SOC *e*Sb Sg 14 02 10.8 -1.1
comp=N,383nm,9.0s
IML Ismayilli 3.59 100 ⇑P Pb 14 01 22.9 -0.1
QUBA Quba, Azerbaij 3.73 91 ⇑P Pb 14 01 22.8 -2.7
SNR=4.9
QUBA Quba, Azerbaij 3.73 91 P Pb 14 01 22.8 -2.7
SNR=4.9
PQL Pirkuli 3.89 99 ⇑P Pb 14 01 28.8 +0.5
SNR=12
SIZA Siyzn 4.07 95 ⇓P Pb 14 01 30.2 -1.1
SNR=4.4
PTK Pertek 4.12 232 *e*PN Pn 14 01 24.3 +1.9
PTK Pertek 4.12 232 *e*Pn Pn 14 01 24.3 +1.9
GLBA Clilabad 4.36 120 ⇑P Pb 14 01 35.2 -0.9
SNR=4.7
LKRN Lenkeran, Azer 4.91 123 ⇑P Pb 14 01 46.3 +0.8
SNR=3.5
ANN Anapa 5.53 308 *e*P Pn 14 01 43.4 +1.7
ANN *e* 14 02 48.1
ANN pmax pmax
comp=Z,39nm,0.6s
ANN smax smax
comp=N,37nm,0.9s
ANN smax smax
comp=E,30nm,0.9s
ANN MLR MLR
comp=Z,253nm,13.0s
ANN Anapa 5.53 308 *e*P Pn 14 01 43.4 +1.7
comp=Z,39nm,0.6s
ANN *e*S Sn 14 02 48.1 +3.0
comp=Z,253nm,13.0s
SUDU Sudak 7.08 301 *e*P Pn 14 02 04.1 +1.1
SUDU *e*S Sn 14 03 25.5 +2.3
SUDU Sudak 7.08 301 *e*P Pn 14 02 04.1 +1.1
SUDU *e*S Sn 14 03 25.5 +2.3
ALU Alushta 7.39 298 *e*P Pn 14 02 08.6 +1.4
ALU Alushta 7.39 298 *e*P Pn 14 02 08.6 +1.4
YAL Yalta 7.48 296 *e*P Pn 14 02 10.3 +1.8
YAL *e*S Sn 14 03 35.6 +2.5
YAL Yalta 7.48 296 *e*P Pn 14 02 10.3 +1.8
YAL *e*S Sn 14 03 35.6 +2.5
SIM Simferopol' 7.68 300 P Pn 14 02 13.5 +2.3
SIM *e*S Sn 14 03 41.6 +3.6
SIM pmax pmax
comp=Z,51nm,0.4s
SIM smax smax
comp=N,18nm,1.0s
SIM smax smax
comp=E,25nm,0.8s
SIM Simferopol' 7.68 300 P Pn 14 02 13.5 +2.3
comp=E,51nm,0.4s
SIM *e*S Sn 14 03 41.6 +3.6
comp=E,18nm,1.0s
BRTR Keskin Array B 7.74 260 Pn Pn 14 02 17.1 +5.0
comp=E,0.1nm,0.3s,baz=74,slow=11,SNR=4.1
SEV Sevastopol' 7.83 296 *e*P Pn 14 02 12.8 -0.4
SEV *e*S Sn 14 03 40.6 -1.0
SEV Sevastopol' 7.83 296 *e*P Pn 14 02 12.8 -0.4
SEV *e*S Sn 14 03 40.6 -1.0
MMAI Mount Meron Ar 10.67 220 LR LR 14 07 47.0
comp=E,98nm,19.4s,baz=215,slow=43
ASF Jabal al Asfar 10.73 212 LR LR 14 07 38.6
comp=E,80nm,18.3s,baz=181,slow=42
MLR Muntele Rosu 13.37 293 Pn Pn 14 03 31.7 +2.6
comp=E,0.1nm,0.3s,baz=151,slow=3.1,SNR=14
MLR Sn Sn 14 05 56.0 -1.5
comp=E,0.1nm,0.3s,baz=156,slow=18,SNR=2.5
MLR Muntele Rosu 13.37 293 P Pn 14 03 31.7 +2.6
AKTK Aktyubinsk 13.43 44 P Pn 14 03 31.1 +1.2
AKTO Aktyubinsk 13.43 44 ⇓Pn Pn 14 03 30.2 +0.4
comp=E,3.3nm,0.9s

AKTO				⇓Sn		**Sn**	**14 05 57.4 -1.4**
	comp=E,2.0nm,0.8s						
AKTO	**Aktyubinsk**	**13.43**	**44**	P		**Pn**	**14 03 31.1 +1.2**
AKTO							14 05 57.2
AKTO	**Aktyubinsk**	**13.43**	**44**	Pn		**Pn**	**14 03 31.1 +1.2**
	comp=E,0.1nm,0.3s,baz=219,slow=14,SNR=2.9						
AKTO				Sn		**Sn**	**14 05 57.2 -1.6**
	comp=E,0.2nm,0.3s,baz=108,slow=20,SNR=2.3						
AKTO	**Aktyubinsk**	**13.43**	**44**	Pn		**Pn**	**14 03 30.2 +0.4**
	comp=E,3.3nm,0.9s						
AKASG	**Malin Array Be**	**13.50**	**318**	P		**Pn**	**14 03 31.5 +0.8**
AKASG	**Malin Array Be**	**13.50**	**318**	Pn		**Pn**	**14 03 31.5 +0.8**
	comp=E,0.2nm,0.3s,baz=124,slow=13,SNR=2.2						
AKASG	**Malin Array Be**	**13.50**	**318**	P		**Pn**	**14 03 31.5 +0.8**
KIEV	**Kiev**	**13.50**	**318**	*i* P		**P**	**14 03 37.8 -2.2**
AB31	**Akbulak array**	**13.87**	**51**	Pn		**Pn**	**14 03 36.2 +0.4**
	comp=E,0.8nm,0.5s,baz=244,slow=12,SNR=14						
AB31				⇓Sn		Sn	14 06 03.5 -5.9
	comp=E,1.8nm,0.7s,baz=244,slow=22						
AB31	**Akbulak array**	**13.87**	**51**	Pn		**Pn**	**14 03 36.2 +0.4**
	comp=E,0.8nm,0.5s,baz=244,SNR=14						
OBN	**Obninsk**	**14.36**	**344**	*e*P		P	14 03 52.5 +3.0
OBN				pmax		pmax	
	comp=Z,3.0nm,0.6s						
OBN	**Obninsk**	**14.36**	**344**	*e*P		P	14 03 52.5 +3.0
	comp=Z,3.0nm,0.6s						
UZH	**Uzhgorod**	**16.57**	**303**	*e*P		**P**	**14 04 13.3 -0.8**
UZH	**Uzhgorod**	**16.57**	**303**	*e*P		**P**	**14 04 13.3 -0.8**
KOLS	**Kolonicke sedl**	**16.67**	**304**	*e*P		**P**	**14 04 13.6 -1.7**
KOLS	**Kolonicke sedl**	**16.67**	**304**	*e*PN		**P**	**14 04 13.6 -1.7**
KOLS	**Kolonicke sedl**	**16.67**	**304**	*e*Pn		**P**	**14 04 13.6 -1.7**
CRVS	**Cervenica-Dubn**	**17.17**	**303**	*e*P		**Pn**	**14 04 16.3 -2.9**
CRVS	**Cervenica-Dubn**	**17.17**	**303**	*e*PN		**Pn**	**14 04 16.3 -2.9**
ARU	**Arti**	**17.82**	**28***c*	*i*P		P	14 04 33.6 +5.7
ARU				S		**S**	**14 07 54.7 +2.5**
ARU				pmax		pmax	
	comp=Z,5.0nm,1.0s						
KK31	**Karatay Array**	**19.99**	**76**	⇑P		**Pn**	**14 04 54.6 +1.1**
	comp=Z,1.6nm,0.7s,baz=291,slow=9.8,SNR=19						
KK31	**Karatay Array**	**19.99**	**76**	P		**Pn**	**14 04 54.6 +1.1**
	comp=Z,1.6nm,0.7s,SNR=19						
BRVK	**Borovoye**	**21.37**	**48**	⇑*e*P		P	14 05 12.8 +6.2
BRVK				pmax		pmax	
	comp=Z,4.0nm,0.7s						
BVAR	**Borovoye Array**	**21.41**	**48**	P		P	14 05 11.2 +4.1
BVAR	**Borovoye Array**	**21.41**	**48**	P		P	14 05 11.2 +4.1
	comp=Z,1.9nm,0.8s,baz=240,slow=7.6,SNR=10						
BVAR	**Borovoye Array**	**21.41**	**48**	P		P	14 05 11.2 +4.1
GERES	**GERESS Array B**	**22.16**	**299**	P		**P**	**14 05 17.3 +2.0**
	comp=Z,1.1nm,0.7s,baz=112,slow=10,SNR=8.3						
GERES	**GERESS Array B**	**22.16**	**299**	P		**P**	**14 05 17.3 +2.0**
KHC	**Kasperske Hory**	**22.28**	**300**	*i* P		P	14 05 21.6 +5.1
FINES	**FINESS Array B**	**22.58**	**338**	P		P	14 05 24.1 +4.7
	comp=Z,1.5nm,0.7s,baz=130,slow=13,SNR=5.9						
FINES	**FINESS Array B**	**22.58**	**338**	P		P	14 05 24.1 +4.7
AAK	**Ala-Archa**	**22.95**	**77**	*i* P		**P**	**14 05 25.4 +1.6**
AAK				MLR		MLR	
	comp=Z,172nm,18.0s						
CLL	**Collm**	**23.06**	**306**	*e*P		**P**	**14 05 27.0 +2.4**
CLL				*e*			14 05 30.0
CLL				pmax		pmax	
	comp=Z,4.0nm,0.8s						
CLL	**Collm**	**23.06**	**306**	*e*P		**P**	**14 05 27.0 +2.4**
	comp=Z,4.0nm,0.8s						
CLL				*e*pP		**pP**	**14 05 30.0 +1.4**
CLL				*e*PPP		PPP	14 06 00.0
CLL	**Collm**	**23.06**	**306**	*e*P		**P**	**14 05 27.0 +2.4**
	comp=Z,4.0nm,0.8s						
KURBB	**Kurchatov Arra**	**25.72**	**57**	⇓P		P	14 05 55.6 +6.1
	comp=Z,2.3nm,0.9s						
KURBB	**Kurchatov Arra**	**25.72**	**57**	P		**P**	**14 05 52.2 +2.7**
	comp=Z,2.1nm,0.8s,baz=268,slow=9.0,SNR=18						
KURK	**Kurchatov**	**25.79**	**57**	P		**P**	**14 05 52.2 +2.1**
KURK				pmax		pmax	
	comp=Z,2.0nm,0.9s						
HFS	**Hagfors**	**26.14**	**326**	P		**P**	**14 05 55.6 +2.4**
	comp=Z,4.8nm,0.9s,baz=134,slow=11,SNR=7.1						
NOA	**NORSAR Array B**	**27.65**	**326**	P		**P**	**14 06 09.1 +2.2**
	comp=Z,0.4nm,0.5s,baz=121,slow=8.7,SNR=2.7						
MKAR	**Makanchi Array**	**28.10**	**66**	P		P	14 06 14.6 +3.6
MKAR	**Makanchi Array**	**28.10**	**66**	P		P	14 06 14.6 +3.6
	comp=Z,0.3nm,0.5s,baz=268,slow=8.2,SNR=4.4						
ESDC	**Sonseca Array**	**35.76**	**283**	P		P	14 07 20.8 +2.6
	comp=Z,0.2nm,0.3s,baz=65,slow=8.3,SNR=5.2						

CSEM ***01*** *14:10:44.6,34.˚44N×25.˚20E,h37km,MD3.5,After ATH*
ATH 01 14:10:44.6,34.˚44N×25.˚20E,h37km±10km,MD3.5/6, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.66**	**331**	*e*PN	Pn	14 10 57.9	+0.4
SIVA	**Sivas**	**0.66**	**331**	*e*Pn	Pn	14 10 57.9	+0.4
LAST	**Lasithi**	**0.76**	**18**	*e*Pn	Pn	14 10 59.7	+0.9
LAST	**Lasithi**	**0.76**	**18**	*e*Pn	Pn	14 10 59.7	+0.9
IDI	**Anoyia**	**0.88**	**343**	*e*PN	Pn	14 11 01.5	+0.9
IDI	**Anoyia**	**0.88**	**343**	*e*Pn	Pn	14 11 01.5	+0.9
ZKR	**Zakros**	**1.07**	**51**	*e*PN	Pn	14 11 05.3	+2.2
ZKR	**Zakros**	**1.07**	**51**	*e*Pn	Pn	14 11 05.3	+2.2
VAM	**Vamos**	**1.27**	**320**	*e*PN	Pn	14 11 07.8	+2.0
VAM	**Vamos**	**1.27**	**320**	*e*Pn	Pn	14 11 07.8	+2.0
KARP	**Karpathos**	**1.95**	**55**	*e*PN	Pn	14 11 16.3	+1.1
KARP	**Karpathos**	**1.95**	**55**	*e*Pn	Pn	14 11 16.3	+1.1

IDC 01 14:14:14.0±6.1,12.˚01S×166.˚56E,h216km±67km,mb3.4/7, mb1 3.6/8,mb1mx3.3/21,mbtmp3.4/8,MS3.7/1,Ms1 3.7/1, ms1mx2.9/18,Error ellipse: s-maj=50.1km s-min=25.0km az=149.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.01**	**181**	P	Pn	14 16 33.0	-0.2
	0.2nm,0.3s,baz=90,slow=24,SNR=7.0						
CTA	**Charters Tower**	**21.09**	**245**	P	P	14 18 42.8	+0.8
	3.5nm,0.7s,baz=74,slow=11,SNR=8.1						
STKA	**Stephens Creek**	**30.32**	**225**	P	P	14 20 04.8	-0.6
	5.5nm,1.0s,baz=41,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	**31.92**	**252**	P	P	14 20 19.2	-0.5
	0.7nm,0.6s,baz=83,slow=8.7,SNR=14						
ASAR	**Alice Springs**	**33.10**	**245**	P	P	14 20 29.7	-0.2
	1.5nm,0.7s,baz=69,slow=9.8,SNR=29						
PPT	**Papeete**	**42.70**	**103**	LR	LR	14 35 31.4	
	comp=Z,100nm,19.9s,baz=180,slow=30						
KSRS	**Korea Array**	**61.12**	**325**	P	P	14 24 04.8	-0.7
	0.8nm,0.7s,baz=143,slow=9.0,SNR=5.1						
ILAR	**Eielson Array**	**84.17**	**18**	P	P	14 26 20.6	+0.1
	1.0nm,0.6s,baz=240,slow=5.4,SNR=12						
MKAR	**Makanchi Array**	**94.76**	**317**	P	P	14 27 12.6	+1.6
	0.2nm,0.4s,baz=85,slow=9.0,SNR=2.8						

IDC 01 14:19:21.7±2.8,22.˚87N×144.˚17E,h0km,mb3.7/6, mb1 3.8/6,mb1mx3.5/27,mbtmp3.7/6,Error ellipse: s-maj=120.9km s-min=21.3km az=79.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.62**	**193**	P	P	14 27 27.5	-0.5
	0.4nm,0.3s,baz=16,slow=9.4,SNR=28						
ASAR	**Alice Springs**	**47.32**	**193**	P	P	14 27 57.7	+0.4
	0.4nm,0.9s,baz=16,slow=6.2,SNR=3.4						
MKAR	**Makanchi Array**	**54.59**	**312**	P	P	14 28 51.5	-0.5
	0.2nm,0.4s,baz=98,slow=7.4,SNR=3.4						
KURBB	**Kurchatov Arra**	**57.30**	**316**	P	P	14 29 11.1	-0.1
	0.8nm,0.6s,baz=95,slow=8.0,SNR=15						
BVAR	**Borovoye Array**	**62.38**	**319**	P	P	14 29 46.7	+0.4
	1.5nm,0.7s,baz=90,slow=7.4,SNR=6.1						
FINES	**FINESS Array B**	**82.52**	**335**	P	P	14 31 46.1	-0.1
	0.7nm,0.3s,baz=66,slow=5.5,SNR=8.2						

IDC 01 14:27:45.4±3.1,11.˚12S×113.˚30E,h0km,mb3.0/3, mb1 3.4/3,mb1mx3.2/21,mbtmp3.1/3,Error ellipse: s-maj=134.6km s-min=26.8km az=46.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.07**	**116**	P	P	14 32 42.6	+0.4
	0.3nm,0.7s,baz=290,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**23.25**	**125**	P	P	14 32 54.2	-0.5
	0.2nm,0.6s,baz=298,slow=9.7,SNR=5.9						
CMAR	**Chiang Mai Arr**	**32.62**	**334**	P	P	14 34 19.2	0.0
	0.2nm,0.3s,baz=165,slow=7.5,SNR=4.2						

IDC ***01*** *14:36:50.6±1.5,34.˚09N×25.˚33E,h0km,mb3.6/8, mb1 3.6/11,mb1mx3.5/29,mbtmp3.5/11,ML3.9/2,Error ellipse: s-maj=32.9km s-min=25.0km az=148.0*
ISCJB ***01*** *14:36:51.3±1.0,34.˚0N±0.˚1×25.˚3E±0.˚1,h17km,mb3.4/8, Error ellipse: s-maj=14.9km s-min=13.3km az=155.2*
CSEM ***01*** *14:36:57.3,34.˚48N×25.˚34E,h22km,MD3.3,After ATH*
ATH ***01*** *14:36:57.3,34.˚48N×25.˚34E,h22km±22km,MD3.3/5*
ISC 01 14:36:54.0±1.2,34.˚2N±0.˚1×25.˚36E±0.˚06,h17km,n21, σ1§11/21,mb3.5/8,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NPS	**Neapolis**	**1.08**	**11**	*e*PN	**Pb**	**14 37 13.6**	**-0.6**
NPS	**Neapolis**	**1.08**	**11**	*e*Pn	**Pb**	**14 37 13.6**	**-0.6**
IDI	**Anoyia**	**1.14**	**341**	*e*PB	**Pb**	**14 37 13.5**	**-2.0**
IDI	**Anoyia**	**1.15**	**341**	*e*Pb	**Pb**	**14 37 13.5**	**-2.0**
ZKR	**Zakros**	**1.16**	**38**	*e*PN	**Pn**	**14 37 15.4**	**0.0**
ZKR	**Zakros**	**1.16**	**38**	*e*Pn	**Pn**	**14 37 15.4**	**0.0**
VAM	**Vamos**	**1.54**	**322**	*e*PN	**Pb**	**14 37 22.9**	**+0.9**
VAM	**Vamos**	**1.54**	**322**	*e*Pn	**Pb**	**14 37 22.9**	**+0.9**
KARP	**Karpathos**	**2.00**	**47**	*e*PN	**Pb**	**14 37 29.6**	**-0.3**
KARP	**Karpathos**	**2.00**	**47**	*e*Pn	**Pb**	**14 37 29.6**	**-0.3**
BRTR	**Keskin Array B**	**8.62**	**48**	Pn	**Pn**	**14 38 59.9**	**+1.8**
	0.1nm,0.3s,baz=229,slow=13,SNR=2.3						
AKASG	**Malin Array Be**	**16.73**	**9**	Pn	**Pn**	**14 40 49.3**	**+1.9**
	1.0nm,0.3s,baz=200,slow=11,SNR=8.0						
GERES	**GERESS Array B**	**17.01**	**333**	Pn	**P**	**14 40 54.0**	**+1.2**
	0.1nm,0.3s,baz=151,slow=12,SNR=6.1						
FINES	**FINESS Array B**	**27.26**	**1**	P	**P**	**14 42 36.3**	**-0.7**
	1.0nm,0.8s,baz=138,slow=11,SNR=3.1						
NOA	**NORSAR Array B**	**28.37**	**346**	P	**P**	**14 42 46.9**	**-0.1**
	0.2nm,0.5s,baz=144,slow=9.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**30.01**	**231**	P	**P**	**14 43 00.8**	**-1.1**
	0.1nm,0.3s,baz=36,slow=7.5,SNR=2.5						
ARCES	**ARCESS Array B**	**35.39**	**0**	P	**P**	**14 43 47.4**	**-1.0**
	1.0nm,0.7s,baz=184,slow=8.1,SNR=3.0						
BVAR	**Borovoye Array**	**36.90**	**45**	P	**P**	**14 44 01.8**	**+0.3**
	0.3nm,0.5s,baz=255,slow=5.7,SNR=2.4						
KURBB	**Kurchatov Arra**	**41.60**	**50**	P	**P**	**14 44 40.7**	**-0.1**
	0.5nm,0.6s,baz=271,slow=8.6,SNR=5.9						
MKAR	**Makanchi Array**	**44.17**	**56**	P	**P**	**14 45 01.8**	**0.0**
	0.6nm,0.6s,baz=275,slow=7.2,SNR=9.7						
ZALV	**Zalesovo Beam**	**45.55**	**45**	P	**P**	**14 45 11.9**	**-0.7**
	0.7nm,0.5s,baz=266,slow=9.3,SNR=3.8						

IDC ***01*** *15:09:13.2±3.0,22.˚97S×171.˚01E,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.7/19,mbtmp3.8/6,ML4.0/1,Error ellipse: s-maj=106.0km s-min=36.8km az=160.0*
NOU ***01*** *15:09:16.3±0.5,23.˚09S×170.˚87E,h10km±69km,MD3.2, ML3.4*
ISC 01 15:09:19.8±1.5,22.˚8S±0.˚5×170.˚8E±0.˚1,h31km,n11, σ0§97/16,mb3.6/5,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.64**	**279**	*e*P	**Pn**	**15 10 13.7**	**-0.3**
BAYA				*e*S	**Sn**	**15 10 56.3**	**+0.3**
NORM	**Noumea**	**4.00**	**277**	*e*P	**Pn**	**15 10 18.3**	**-0.6**
NORM				*e*S	**Sn**	**15 11 03.9**	**-0.8**
NORM				AMP		15 11 06.6	
	comp=Z,183nm,1.4s						
DZM	**Mont Dzumac**	**4.06**	**279**	*e*P	**Pn**	**15 10 19.0**	**-0.9**
DZM				*e*S	**Sn**	**15 11 06.0**	**-0.4**
DZM				AMP		15 11 12.4	
	comp=Z,742nm,0.0s						
DZM	**Mont Dzumac**	**4.06**	**279**	Pn	**Pn**	**15 10 19.6**	**-0.3**
	comp=Z,7.6nm,0.3s,baz=90,slow=24,SNR=990						
DZM				Sn	**Sn**	**15 11 05.7**	**-0.7**
	comp=Z,16nm,0.3s,baz=90,slow=20,SNR=11						
NOUC	**Port Laguerre**	**4.18**	**278**	*e*P	**Pn**	**15 10 22.6**	**+1.1**
NOUC				*e*S	**Sn**	**15 11 11.3**	**+2.0**
NOUC				AMP		15 11 16.4	
	comp=Z,32nm,0.0s						
CTA	**Charters Tower**	**22.97**	**272**	P	**P**	**15 14 22.3**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=108,slow=6.4,SNR=3.1						
ASAR	**Alice Springs**	**33.83**	**261**	P	**P**	**15 15 59.5**	**0.0**
	comp=Z,1.2nm,0.7s,baz=92,slow=9.3,SNR=13						
WRA	**Warramunga Arr**	**33.99**	**268**	P	**P**	**15 15 59.7**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=102,slow=7.9,SNR=12						
CMAR	**Chiang Mai Arr**	**81.25**	**294**	P	**P**	**15 21 34.6**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=143,slow=4.4,SNR=4.7						
SONM	**Songino Array**	**90.89**	**323**	P	**P**	**15 22 19.6**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=104,slow=6.1,SNR=2.8						
EKA	**Eskdalemuir Ar**	**147.17**	**354**	PKPbc	**PKPdf**	**15 28 57.4**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=358,slow=2.5,SNR=5.3						

IDC ***01*** *15:09:57.4±0.8,34.˚10N×25.˚61E,h0km,mb3.9/19, mb1 4.0/27,mb1mx4.0/39,mbtmp3.9/27,ML4.2/6,MS3.1/5, Ms1 3.1/5,ms1mx2.6/46,Error ellipse: s-maj=19.2km s-min=13.0km az=3.0*
ATH ***01*** *15:09:58.2,33.˚95N×25.˚52E,h20km±2km,MD3.5/13*
CSEM ***01*** *15:09:59.5±0.1,33.˚98N×25.˚64E,h10km,mb4.3/6,Error ellipse: s-maj=5.2km s-min=3.5km az=52.0*
ISCJB ***01*** *15:09:59.3±1.0,33.˚94N±0.˚02×25.˚69E±0.˚03,h28km±9km, mb3.9/27,MS3.7/2,Error ellipse: s-maj=4.8km s-min=3.3km az=153.5*
THE ***01*** *15:10:01.7,34.˚06N×25.˚52E,h8km±10km,ML3.6/1,Error ellipse: s-maj=13.7km s-min=2.3km az=184.0*
HLW ***01*** *15:10:02.1,33.˚95N×25.˚73E,h32km±39km,Md3.4,Ml4.1*
ISC 01 15:09:59.8±1.1,33.˚96N±0.˚03×25.˚60E±0.˚03,h19km±3km, n177,σ1§16/192,mb4.0/26,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**1.20**	**355**	*e*PN	**Pn**	**15 10 20.5**	**-1.2**
LAST				*e*SN	**Sg**	**15 10 38.6**	**-0.3**
LAST	**Lasithi**	**1.20**	**355**	*e*Pn	**Pn**	**15 10 20.5**	**-1.2**
LAST				*e*Sn	**Sg**	**15 10 38.6**	**-0.3**
SIVA	**Sivas**	**1.24**	**328**	*e*PN	**Pn**	**15 10 21.3**	**-0.8**
SIVA	**Sivas**	**1.24**	**328**	*e*Pn	**Pn**	**15 10 21.3**	**-0.8**
ZKR	**Zakros**	**1.26**	**24**	P	**Pn**	**15 10 22.3**	**-0.1**
ZKR	**Zakros**	**1.26**	**24**	*e*PN	**Pn**	**15 10 22.3**	**-0.1**
ZKR				*e*SN	**Sg**	**15 10 41.4**	**+0.7**
ZKR	**Zakros**	**1.26**	**24**	P	**Pn**	**15 10 22.4**	**0.0**
ZKR				*e*Sn	**Sg**	**15 10 41.4**	**+0.7**
NPS	**Neapolis**	**1.30**	**1**	P	**Pn**	**15 10 22.1**	**-0.9**
NPS				S	**Sb**	**15 10 40.6**	**+0.6**
NPS	**Neapolis**	**1.30**	**1**	*e*PN	**Pn**	**15 10 22.2**	**-0.8**
NPS				*e*SN	**Sb**	**15 10 40.5**	**+0.6**
NPS	**Neapolis**	**1.30**	**1**	*e*Pn	**Pn**	**15 10 22.2**	**-0.8**
NPS				*e*Sn	**Sb**	**15 10 40.5**	**+0.6**
IDI	**Anoyia**	**1.45**	**336**	P	**Pn**	**15 10 24.8**	**-0.3**
IDI	**Anoyia**	**1.45**	**336**	*e*PN	**Pn**	**15 10 25.0**	**-0.1**
IDI	**Anoyia**	**1.45**	**336**	*e*Pn	**Pn**	**15 10 25.0**	**-0.1**
GVD	**Gavdhos**	**1.53**	**305**	P	**Pn**	**15 10 24.4**	**-1.7**
GVD	**Gavdhos**	**1.53**	**305**	*e*PB	**Pn**	**15 10 24.2**	**-1.9**
GVD				*e*SN	**Sb**	**15 10 46.6**	**+0.1**
GVD	**Gavdhos**	**1.53**	**305**	*e*Pb	**Pn**	**15 10 24.2**	**-1.9**
GVD				*e*Sn	**Sb**	**15 10 46.6**	**+0.1**
VAM	**Vamos**	**1.85**	**322**	P	**Pn**	**15 10 31.2**	**+0.8**
VAM	**Vamos**	**1.85**	**322**	*e*PN	**Pn**	**15 10 31.3**	**+0.8**
VAM	**Vamos**	**1.85**	**322**	*e*Pn	**Pn**	**15 10 31.3**	**+0.8**
KARP	**Karpathos**	**2.04**	**39**	P	**Pb**	**15 10 35.3**	**-1.0**
KARP				S	**Sn**	**15 10 58.4**	**+0.2**
KARP	**Karpathos**	**2.04**	**39**	*e*PN	**Pb**	**15 10 35.6**	**-0.7**
KARP				*e*SN	**Sb**	**15 11 00.6**	**-0.7**
KARP	**Karpathos**	**2.04**	**39**	P	**Pb**	**15 10 35.3**	**-1.0**
KARP	**Karpathos**	**2.04**	**39**	*e*Pn	**Pb**	**15 10 35.6**	**-0.7**
KARP				S	**Sn**	**15 10 58.4**	**+0.2**
KARP				*e*Sn	**Sb**	**15 11 00.6**	**-0.7**
LTBQ	**Tobruq**	**2.37**	**217**	*i* P	**Pb**	**15 10 40.0**	**-1.8**
	SNR=50						
THR6	**Thira Island,**	**2.40**	**356**	P	**Pn**	**15 10 38.5**	**+0.5**
THR6	**Thira Island,**	**2.40**	**356**	P	**Pn**	**15 10 38.5**	**+0.5**
THR1	**Thera Island**	**2.41**	**357**	P	**Pn**	**15 10 38.7**	**+0.5**
THR1	**Thera Island**	**2.41**	**357**	P	**Pn**	**15 10 38.7**	**+0.5**
SANT	**Santorini**	**2.41**	**357**	P	**Pn**	**15 10 38.5**	**+0.3**
SANT	**Santorini**	**2.41**	**357**	*e*PN	**Pn**	**15 10 38.6**	**+0.3**
SANT	**Santorini**	**2.41**	**357**	*e*Pn	**Pn**	**15 10 38.6**	**+0.3**
THR3	**Thira Island,**	**2.45**	**356**	P	**Pn**	**15 10 39.4**	**+0.6**
THR3	**Thira Island,**	**2.45**	**356**	P	**Pn**	**15 10 39.4**	**+0.6**
THR2	**Thira island,**	**2.48**	**357**	P	**Pn**	**15 10 39.5**	**+0.2**
THR2	**Thira island,**	**2.48**	**357**	P	**Pn**	**15 10 39.5**	**+0.2**
SLUM		**2.48**	**188**	S	**Sn**	**15 11 08.1**	**-0.9**
	baz=191						
SLUM		**2.48**	**188**	P	**Pn**	**15 10 40.5**	**+1.2**
SLUM				S	**Sn**	**15 11 08.1**	**-0.9**
ANKY	**Antikythira Is**	**2.68**	**316**	P	**Pn**	**15 10 43.7**	**+1.8**
ANKY	**Antikythira Is**	**2.68**	**316**	*e*PB	**Pn**	**15 10 43.2**	**+1.3**
ANKY	**Antikythira Is**	**2.68**	**316**	*e*Pb	**Pn**	**15 10 43.2**	**+1.3**
ANKY	**Antikythira Is**	**2.68**	**316**	P	**Pn**	**15 10 43.7**	**+1.8**
ARG	**Arkhangelos**	**3.06**	**42**	P	**Pn**	**15 10 49.5**	**+2.4**
ARG				S	**Sn**	**15 11 26.2**	**+2.9**
ARG	**Arkhangelos**	**3.06**	**42**	*e*PN	**Pn**	**15 10 49.6**	**+2.4**
ARG	**Arkhangelos**	**3.06**	**42**	P	**Pn**	**15 10 49.5**	**+2.4**
APE	**Apeiranthos**	**3.10**	**359**	P	**Pn**	**15 10 48.1**	**+0.3**
APE	**Apeiranthos**	**3.10**	**359**	*e*PN	**Pn**	**15 10 48.0**	**+0.3**
APE				*e*SN	**Sn**	**15 11 25.1**	**+0.7**
APE	**Apeiranthos**	**3.10**	**359**	P	**Pn**	**15 10 48.1**	**+0.3**
APE				*e*Sn	**Sn**	**15 11 25.1**	**+0.7**
KYTH	**Kithira**	**3.12**	**318**	P	**Pn**	**15 10 49.3**	**+1.2**
KYTH	**Kithira**	**3.12**	**318**	*e*PB	**Pn**	**15 10 49.5**	**+1.4**
KYTH	**Kithira**	**3.12**	**318**	P	**Pn**	**15 10 49.3**	**+1.2**
HMAT	**Matruh**	**3.13**	**156**	P	**Pn**	**15 10 48.4**	**+0.3**
	baz=157						
HMAT				AMP		15 11 00.0	
	comp=N,1010μm,0.4s,logA/T=6.4,baz=157						
HMAT				S	**Sn**	**15 11 23.7**	**-1.2**
	baz=157						
HMAT	**Matruh**	**3.13**	**156**	P	**Pn**	**15 10 48.4**	**+0.3**
HMAT				S	**Sn**	**15 11 23.7**	**-1.2**
VLI	**Veliai**	**3.51**	**322**	*e*PN	**Pn**	**15 10 53.6**	**+0.3**
VLI				*e*SN	**Sn**	**15 11 34.2**	**-0.1**
VLI	**Veliai**	**3.51**	**322**	*e*Pn	**Pn**	**15 10 53.6**	**+0.3**
VLI				*e*Sn	**Sn**	**15 11 34.2**	**-0.1**
DIDY	**Didyma**	**4.01**	**332**	P	**Pn**	**15 11 00.4**	**+0.1**
DIDY				S	**Sn**	**15 11 46.6**	**-0.2**
DIDY	**Didyma**	**4.01**	**332**	P	**Pn**	**15 11 00.4**	**+0.1**
DIDY				S	**Sn**	**15 11 46.6**	**-0.2**
DID	**Didima**	**4.03**	**332**	P	**Pn**	**15 11 00.3**	**-0.2**
DID	**Didima**	**4.03**	**332**	P	**Pn**	**15 11 00.3**	**-0.2**
SWA2		**4.71**	**182**	P	**Pn**	**15 11 11.3**	**+1.5**
	baz=183						
SWA2		**4.71**	**182**	P	**Pn**	**15 11 11.3**	**+1.5**
GUR	**Goura**	**4.76**	**327**	P	**Pn**	**15 11 10.7**	**0.0**
GUR	**Goura**	**4.76**	**327**	P	**Pn**	**15 11 10.7**	**0.0**
DSF	**Desfina**	**5.09**	**332**	P	**Pn**	**15 11 15.8**	**+0.7**
DSF	**Desfina**	**5.09**	**332**	P	**Pn**	**15 11 15.8**	**+0.7**
LJBD	**Adjabya**	**5.48**	**238**	*i* P	**Pn**	**15 11 22.9**	**+2.4**
	SNR=48						
LJBD				*e*S	**Sn**	**15 12 23.0**	**-0.1**
	SNR=48						
HSAF	**As Saff**	**6.67**	**129**	P	**Pn**	**15 11 36.7**	**-0.1**
	baz=129						
HSAF	**As Saff**	**6.67**	**129**	P	**Pn**	**15 11 36.7**	**-0.1**
GLL	**Jalalah**	**6.79**	**128**	P	**Pn**	**15 11 39.0**	**+0.4**
	baz=129						
GLL	**Jalalah**	**6.79**	**128**	P	**Pn**	**15 11 39.0**	**+0.4**
HFRF	**Wahat Farafira**	**7.18**	**160**	P	**Pn**	**15 11 44.0**	**+0.2**
	baz=161						
HFRF	**Wahat Farafira**	**7.18**	**160**	P	**Pn**	**15 11 44.0**	**+0.2**
AMAG	**Maghara**	**7.24**	**115**	P	**Pn**	**15 11 44.7**	**0.0**
	baz=115						
AMAG	**Maghara**	**7.24**	**115**	P	**Pn**	**15 11 44.7**	**0.0**
RSH		**7.49**	**111**	P	**Pn**	**15 11 48.2**	**+0.1**
	baz=111						
**RS

comp=Z,9.0nm,1.2s
TCF Toulx Ste Croi 21.62 312 *e*P **P 15 14 48.8 0.0**
TCF Toulx Ste Croi 21.62 312 *e*P **P 15 14 48.8 0.0**
ETSF Etsaut 22.28 301 *e*P **P 15 14 56.9 +1.0**
ETSF Etsaut 22.28 301 *e*P **P 15 14 56.9 +1.0**
DOU Dourbes 22.32 323 P **P 15 14 57.8 +1.6**
comp=Z,3.3nm,1.1s
BAIF Baives 22.49 322 *e*P **P 15 14 57.7 -0.3**
comp=Z,15nm,0.8s
BAIF Baives 22.49 322 *e*P **P 15 14 57.7 -0.3**
comp=Z,15nm,0.8s
MFF Saint Martin d 23.23 311 *e*P **P 15 15 08.3 +2.6**
MFF Saint Martin d 23.23 311 *e*P **P 15 15 08.3 +2.6**
LDF La Druitiere 24.08 315 *e*P **P 15 15 14.0 0.0**
LDF La Druitiere 24.08 315 *e*P **P 15 15 14.0 0.0**
ESDC Sonseca Array 24.28 292 P **P 15 15 16.3 +0.3**
comp=Z,0.3nm,0.3s,baz=87,slow=11,SNR=4.4
GRR Gorron 24.43 314 *e*P **P 15 15 18.3 +1.2**
GRR Gorron 24.43 314 *e*P **P 15 15 18.3 +1.2**
MDT Midelt 25.21 276 P **P 15 15 25.9 +1.3**
comp=Z,1.7nm,0.7s,baz=85,slow=8.2,SNR=5.2
SGMF Saint Gilles 25.39 313 *e*P **P 15 15 26.6 +0.7**
comp=Z,31nm,1.2s
SGMF Saint Gilles 25.39 313 *e*P **P 15 15 26.6 +0.7**
comp=Z,31nm,1.2s
QUIF Quistinic 25.64 312 *e*P **P 15 15 28.3 +0.2**
QUIF Quistinic 25.64 312 *e*P **P 15 15 28.3 +0.2**
ROSF Rostrenen 25.87 312 *e*P **P 15 15 31.4 +1.2**
ROSF Rostrenen 25.87 312 *e*P **P 15 15 31.4 +1.2**
HFS Hagfors 27.32 347 P **P 15 15 42.0 -1.2**
comp=Z,1.5nm,0.8s,baz=134,slow=11,SNR=5.9
FINES FINESS Array B 27.50 0 P **P 15 15 43.1 -1.6**
comp=Z,1.7nm,0.5s,baz=159,slow=11,SNR=20
NB2 NORSAR Subarra 28.65 345 P **P 15 15 53.8 -1.3**
comp=Z,0.3nm,0.5s,baz=156,slow=9.3
NB2 NORSAR Subarra 28.65 345 P **P 15 15 53.8 -1.3**
comp=Z,0.3nm,0.5s,baz=156,slow=9.0,SNR=4.7
NOA NORSAR Array B 28.65 345 P **P 15 15 54.9 -0.2**
comp=Z,0.3nm,0.5s,baz=155,slow=9.4,SNR=4.1
AKTO Aktyubinsk 28.82 45 P **P 15 15 55.8 -0.8**
comp=Z,1.7nm,0.7s,baz=249,slow=9.4,SNR=4.5
EKA Eskdalemuir Ar 29.23 326 P **P 15 16 00.3 +0.1**
comp=Z,0.5nm,0.5s,baz=137,slow=10.0,SNR=5.5
TORD Torodi Ar. Bea 30.02 232 P **P 15 16 09.1 +1.5**
comp=Z,0.8nm,0.6s,baz=36,slow=8.9,SNR=9.7
ARCES ARCESS Array B 35.62 360 P **P 15 16 54.4 -1.7**
comp=Z,2.1nm,0.8s,baz=187,slow=8.6,SNR=9.9
BVAR Borovoye Array 36.92 45 P **P 15 17 06.0 -1.3**
comp=Z,1.4nm,0.8s,baz=256,slow=4.4,SNR=7.6
KURBB Kurchatov Arra 41.60 50 P **P 15 17 46.9 +0.5**
comp=Z,3.1nm,0.7s,baz=277,slow=8.6,SNR=39
MKAR Makanchi Array 44.14 56 P **P 15 18 07.9 +0.8**
comp=Z,1.6nm,0.6s,baz=281,slow=6.1,SNR=24
SPITS Spitsbergen Ar 44.50 357 P **P 15 18 09.1 -0.5**
comp=Z,6.2nm,1.0s,baz=205,slow=13,SNR=4.4
ZALV Zalesovo Beam 45.58 45 P **P 15 18 18.4 0.0**
comp=Z,2.4nm,0.6s,baz=268,slow=9.2,SNR=9.6
SONM Songino Array 59.97 50 P **P 15 20 04.9 -0.2**
comp=Z,0.9nm,0.8s,baz=271,slow=9.1,SNR=4.4
SCHQ Schefferville 64.33 320 P **P 15 20 32.9 -1.1**
comp=Z,2.5nm,0.6s,baz=52,slow=2.1,SNR=4.5
CMAR Chiang Mai Arr 66.35 83 P **P 15 20 47.9 +0.2**
comp=Z,0.3nm,0.7s,baz=290,slow=7.4,SNR=3.4
WHN Wuhan 72.73 65 P **P 15 21 26.9 0.0**
YKA Yellowknife Ar 78.70 342 P **P 15 22 00.6 +0.2**
comp=Z,0.6nm,0.7s,baz=28,slow=5.2,SNR=4.1
ILAR Eielson Array 81.42 357 P **P 15 22 15.0 -0.1**
comp=Z,0.3nm,0.7s,baz=5.5,slow=2.8,SNR=3.7
JNU Nakatsue 83.19 55 LR LR 16 07 55.5
comp=Z,45nm,18.2s,baz=323,slow=42
PDAR Pinedale Array 92.31 329 LR LR 16 06 21.5
comp=Z,22nm,20.9s,baz=262,slow=36

CSEM ***01*** *15:11:48.4±0.1,42.84N×1.48W,h15km,ML1.1,Error ellipse: s-maj=2.9km s-min=2.2km az=164.0*
LDG ***01*** *15:11:49.4±0.1,42.86N×1.47W,h2km,Md1.8/2,MI1.8/1, Error ellipse: s-maj=1.6km s-min=1.2km az=114.0*
MDD 01 15:11:49.9±0.3,42.86N×1.46W,h0km,mbLg1.1/4,Error ellipse: s-maj=3.5km s-min=2.3km az=108.0,PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUNC	**Unciti**	**0.10**	**196**	Pg	Pg	15 11 51.7	-0.3
	5.1nm,0.0s,SNR=7.9						
IUNC				Lg	Lg	15 11 53.7	
	10nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**196**	Pg	Pg	15 11 51.7	-0.3
	5.1nm,0.0s,SNR=7.9						
IUNC				Lg	Lg	15 11 53.7	
	10nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**325**	Pg	Pg	15 11 51.8	-0.4
	9.1nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	15 11 53.8	
	5.9nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**325**	Pg	Pg	15 11 51.8	-0.4
	9.1nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	15 11 53.8	
	5.9nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.12**	**226**	Pg	Pg	15 11 51.8	-0.5
	0.9nm,0.0s,SNR=6.6						
EARA				Lg	Lg	15 11 53.8	
	36nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.12**	**226**	Pg	Pg	15 11 51.8	-0.5
	0.9nm,0.0s,SNR=6.6						
EARA				Lg	Lg	15 11 53.8	
	36nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**0.31**	**34**	*e*Pg	Pg	15 11 55.4	-0.5
SJPF				*e*Sg	Sg	15 12 00.0	0.0
	3.9nm,0.2s						
SJPF	**Ste Jean**	**0.31**	**34**	Pg	Pg	15 11 55.4	-0.5
SJPF				*e*Sg	Sg	15 12 00.0	0.0
	2.0nm,0.2s						
ELIZ	**Elizondo**	**0.31**	**351**	Pg	Pg	15 11 55.6	-0.3
	1.0nm,0.1s,SNR=7.9						
ELIZ				Lg	Lg	15 11 59.9	
	0.9nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.31**	**351**	Pg	Pg	15 11 55.6	-0.4
	1.0nm,0.1s,SNR=7.9						
ELIZ				Lg	Lg	15 11 59.9	
	0.9nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.66**	**86**	*e*Pg	Pg	15 12 02.0	-0.8
ETSF				*e*Sg	Sg	15 12 11.7	+0.2
	1.0nm,0.2s						
ETSF	**Etsaut**	**0.66**	**86**	Pg	Pg	15 12 02.0	-0.8
ETSF				*e*Sg	Sg	15 12 11.7	+0.2
	0.5nm,0.2s						
ETSF				Lg	Lg	15 12 11.7	
	0.4nm,0.2s						
EPF	**Esparros**	**1.33**	**82**	*e*Pg	Pg	15 12 13.8	-1.8
EPF				*e*Sg	Sg	15 12 32.2	-0.7
	1.9nm,0.3s						
EPF	**Esparros**	**1.33**	**82**	Pg	Pg	15 12 13.8	-1.8
EPF				*e*Sg	Sg	15 12 32.2	-0.7
	0.9nm,0.3s						
EPF				Lg	Lg	15 12 32.2	
	0.8nm,0.3s						

MDD 01 15:12:13.5±1.4,42.87N×1.41W,h0km,mbLg0.9/3,Error ellipse: s-maj=11.0km s-min=3.8km az=83.0,PRXIMO SIN SOLUCIN,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUSE	**Utxeti**	**0.13**	**307**	Pg	Pg	15 12 15.6	-0.5
	0.7nm,0.0s,SNR=7.9						
IUSE				Lg	Lg	15 12 18.1	
	1.4nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.13**	**210**	Pg	Pg	15 12 15.8	-0.3
	3.2nm,0.0s,SNR=7.9						
IUNC				Lg	Lg	15 12 18.6	
	3.0nm,0.0s,SNR=7.9						
EARA	**Aranguren**	**0.16**	**232**	Lg	Lg	15 12 17.9	
	6.3nm,0.1s,SNR=7.9						

IDC ***01*** *15:12:27.8±1.1,33.99N×25.51E,h0km,mb3.8/11, mb1 3.9/15,mb1mx3.8/30,mbtmp3.8/15,ML3.9/3,MS3.4/1, Ms1 3.4/1,ms1mx2.3/45,Error ellipse: s-maj=27.0km s-min=18.2km az=177.0*
ISCJB ***01*** *15:12:28.3±0.7,33.93N±0.06×25.60E±0.06,h17km, mb3.7/11,MS3.4/1,Error ellipse: s-maj=10.2km s-min=5.9km az=30.4*

CSEM ***01*** *15:12:32.9,34.30N×25.42E,h8km,MD3.7,After ATH*
ATH ***01*** *15:12:32.9,34.30N×25.42E,h8km,MD3.7/11*
ISC 01 15:12:30.1±0.7,34.07N±0.08×25.49E±0.04,h17km,n41, σ=37/41,mb3.8/11,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.09**	**359**	*e*PB	**Pb**	**15 12 49.5**	**-1.1**
LAST	**Lasithi**	**1.09**	**359**	*e*Pb	**Pb**	**15 12 49.5**	**-1.1**
SIVA	**Sivas**	**1.10**	**329**	*e*PB	**Pb**	**15 12 49.9**	**-0.8**
SIVA	**Sivas**	**1.10**	**329**	*e*Pb	**Pb**	**15 12 49.9**	**-0.8**
NPS	**Neapolis**	**1.20**	**5**	*e*PN	**Pb**	**15 12 51.8**	**-0.5**
NPS	**Neapolis**	**1.20**	**5**	*e*Pn	**Pb**	**15 12 51.8**	**-0.5**
ZKR	**Zakros**	**1.20**	**30**	*e*PN	**Pg**	**15 12 53.0**	**-0.3**
ZKR	**Zakros**	**1.20**	**30**	*e*Pn	**Pg**	**15 12 53.0**	**-0.3**
IDI	**Anoyia**	**1.31**	**338**	*e*PG	**Pn**	**15 12 52.6**	**-1.1**
IDI	**Anoyia**	**1.31**	**338**	*e*Pg	**Pn**	**15 12 52.6**	**-1.1**
VAM	**Vamos**	**1.71**	**322**	*e*PN	**Pn**	**15 12 59.6**	**+0.5**
VAM	**Vamos**	**1.71**	**322**	*e*Pn	**Pn**	**15 12 59.6**	**+0.5**
KARP	**Karpathos**	**2.02**	**42**	*e*PN	**Pb**	**15 13 07.4**	**+1.1**
KARP	**Karpathos**	**2.02**	**42**	*e*Pn	**Pb**	**15 13 07.4**	**+1.1**
SANT	**Santorini**	**2.30**	**359**	*e*PN	**Pb**	**15 13 09.1**	**-2.0**
SANT	**Santorini**	**2.30**	**359**	*e*Pn	**Pb**	**15 13 09.1**	**-2.0**
ANKY	**Antikythira Is**	**2.54**	**316**	*e*PG	**Pb**	**15 13 15.1**	**-0.1**
ANKY	**Antikythira Is**	**2.54**	**316**	*e*Pg	**Pb**	**15 13 15.1**	**-0.1**
KYTH	**Kithira**	**2.99**	**318**	*e*PN	**Pb**	**15 13 20.8**	**-2.1**
KYTH	**Kithira**	**2.99**	**318**	*e*Pn	**Pb**	**15 13 20.8**	**-2.1**
ARG	**Arkhangelos**	**3.04**	**44**	*e*PB	**Pb**	**15 13 21.2**	**-2.5**
ARG	**Arkhangelos**	**3.04**	**44**	*e*Pb	**Pb**	**15 13 21.2**	**-2.5**
MMAI	**Mount Meron Ar**	**8.34**	**94**	Pn	**Pn**	**15 14 29.7**	**-0.6**
	baz=269,slow=12,SNR=3.7						
MMAI				Sn	**Sn**	**15 16 01.1**	**-3.0**
	1.7nm,0.3s,baz=260,slow=23,SNR=2.5						
BRTR	**Keskin Array B**	**8.62**	**47**	Pn	**Pn**	**15 14 36.6**	**+2.4**
	0.1nm,0.3s,baz=226,slow=14,SNR=3.4						
EIL	**Eilat**	**9.16**	**116**	Sn	**Sn**	**15 16 22.1**	**-2.1**
	1.0nm,0.3s,baz=342,slow=3.2,SNR=4.9						
KBZ	**Khabaz**	**16.60**	**49**	Pn	**P**	**15 16 25.0**	**+0.6**
	0.1nm,0.3s,baz=195,slow=12,SNR=2.8						
AKASG	**Malin Array Be**	**16.84**	**8**	Pn	**P**	**15 16 26.4**	**-0.6**
	0.7nm,0.3s,baz=201,slow=10,SNR=8.9						
GERES	**GERESS Array B**	**17.18**	**333**	P	**Pn**	**15 16 30.0**	**+0.8**
	0.2nm,0.3s,baz=141,slow=13,SNR=4.5						
ESDC	**Sonseca Array**	**24.16**	**292**	P	**P**	**15 17 46.1**	**+0.7**
	0.3nm,0.3s,baz=82,slow=10,SNR=4.0						
FINES	**FINESS Array B**	**27.39**	**1**	P	**P**	**15 18 13.6**	**-0.8**
	1.2nm,0.8s,baz=183,slow=7.9,SNR=2.4						
EKA	**Eskdalemuir Ar**	**29.09**	**326**	P	**P**	**15 18 30.4**	**+0.9**
	0.8nm,0.7s,baz=136,slow=11,SNR=4.4						
TORD	**Torodi Ar. Bea**	**30.02**	**232**	P	**P**	**15 18 38.1**	**-0.1**
	0.8nm,1.1s,baz=39,slow=9.4,SNR=2.9						
DBIC	**Dimbokro**	**39.11**	**233**	LR	LR	15 37 46.0	
	comp=Z,56nm,20.3s,baz=354,slow=39						
KURBB	**Kurchatov Arra**	**41.60**	**50**	P	**P**	**15 20 17.9**	**+1.0**
	1.5nm,0.7s,baz=275,slow=8.5,SNR=6.6						
MKAR	**Makanchi Array**	**44.15**	**56**	P	**P**	**15 20 39.0**	**+1.3**
	2.3nm,0.6s,baz=270,slow=6.7,SNR=14						
ZALV	**Zalesovo Beam**	**45.57**	**45**	P	**P**	**15 20 48.9**	**+0.1**
	0.8nm,0.4s,baz=253,slow=9.8,SNR=3.4						
SONM	**Songino Array**	**59.97**	**50**	P	**P**	**15 22 36.7**	**+1.1**
	0.4nm,0.5s,baz=287,slow=9.5,SNR=3.6						
SCHQ	**Schefferville**	**64.20**	**320**	P	**P**	**15 23 05.6**	**+1.9**
	1.4nm,0.7s,baz=77,slow=18,SNR=5.5						
CMAR	**Chiang Mai Arr**	**66.43**	**83**	P	**P**	**15 23 18.7**	**0.0**
	0.3nm,0.6s,baz=295,slow=8.9,SNR=4.2						
KSRS	**Korea Array**	**78.73**	**52**	P	**P**	**15 24 32.6**	**+0.9**
	0.6nm,0.6s,baz=314,slow=5.0,SNR=3.2						
WRA	**Warramunga Arr**	**116.19**	**97**	PKP	**PKPdf**	**15 31 12.4**	**-0.5**
	0.3nm,0.7s,baz=317,slow=1.2,SNR=5.1						

CSEM ***01*** *15:20:52.8±0.1,42.85N×1.49W,h12km,ML1.0,Error ellipse: s-maj=1.1km s-min=1.0km az=175.0*
LDG ***01*** *15:20:53.5±0.1,42.86N×1.47W,h2km,Md1.6/2,MI1.6/1, Error ellipse: s-maj=1.6km s-min=1.6km az=149.0*
MDD ***01*** *15:20:54.0±0.3,42.86N×1.47W,h0km,mbLg1.0/5,Error ellipse: s-maj=2.6km s-min=2.6km az=91.0,PRXIMO*
ISC 01 15:20:53.0±3.3,42.85N±0.05×1.49W±0.09,h11km±23km, n16,σ=23/18,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUNC	**Unciti**	**0.10**	**185**	Pg	**Pg**	**15 20 55.7**	**-0.1**
	4.1nm,0.0s,SNR=7.9						
IUNC				Lg	Lg	15 20 57.6	
	12nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**185**	Pg	**Pg**	**15 20 55.7**	**-0.1**
	4.1nm,0.0s,SNR=7.9						
IUNC				Lg	Lg	15 20 57.6	
	12nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.10**	**335**	Pg	**Pg**	**15 20 55.9**	**0.0**
	7.8nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	15 20 58.1	
	12nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.10**	**335**	Pg	**Pg**	**15 20 55.9**	**0.0**
	7.8nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	15 20 58.1	
	12nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.10**	**220**	Lg	Lg	15 20 57.7	
	13nm,0.1s,SNR=6.3						
EARA	**Aranguren**	**0.10**	**220**	Lg	Lg	15 20 57.7	
	13nm,0.1s,SNR=6.3						
IEPA	**Eparoz**	**0.18**	**114**	Pg	**Pg**	**15 20 56.9**	**-0.1**
	1.1nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	15 20 59.6	
	1.4nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.18**	**114**	Pg	**Pg**	**15 20 56.8**	**-0.2**
	1.1nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	15 20 59.6	
	1.4nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.18**	**93**	Pg	**Pg**	**15 20 57.0**	**0.0**
	1.3nm,0.1s,SNR=7.9						
IELO				Lg	Lg	15 21 00.3	
	3.3nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.18**	**93**	Pg	**Pg**	**15 20 57.0**	**-0.1**
	1.3nm,0.1s,SNR=7.9						
IELO				Lg	Lg	15 21 00.3	
	3.3nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**0.32**	**36**	*e*Pg	**Pg**	**15 20 59.5**	**0.0**
SJPF				*e*Sg	**Sg**	**15 21 03.8**	**-0.1**
	3.1nm,0.2s						
SJPF	**Ste Jean**	**0.32**	**36**	Pg	**Pg**	**15 20 59.5**	**0.0**
SJPF				*e*Sg	**Sg**	**15 21 03.8**	**-0.1**
	1.5nm,0.2s						
SJPF				Lg	Lg	15 21 03.8	
	1.6nm,0.2s						
ETSF	**Etsaut**	**0.68**	**86**	*e*Pg	**Pg**	**15 21 06.2**	**-0.1**
ETSF				*e*Sg	**Sg**	**15 21 15.8**	**+0.5**
	0.8nm,0.2s						
ETSF	**Etsaut**	**0.68**	**86**	Pg	**Pg**	**15 21 06.2**	**-0.1**
ETSF				*e*Sg	**Sg**	**15 21 15.8**	**+0.5**
	0.4nm,0.2s						
EPF	**Esparros**	**1.35**	**82**	*e*Sg	**Sg**	**15 21 36.4**	**-0.2**
	1.0nm,0.2s						
EPF	**Esparros**	**1.35**	**82**	*e*Sg	**Sg**	**15 21 36.4**	**-0.2**
	0.5nm,0.2s						
EPF				Lg	Lg	15 21 36.4	
	0.4nm,0.2s						

CSEM ***01*** *15:21:17.3,42.86N×1.48W,h0km,ML0.7,After MDD*
MDD 01 15:21:17.3±0.4,42.86N×1.48W,h0km,mbLg0.7/4,Error ellipse: s-maj=3.1km s-min=2.7km az=46.0,PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUSE	**Utxeti**	**0.10**	**328**	Pg	Pg	15 21 18.6	-0.7
	0.5nm,0.0s,SNR=7.9						
IUSE				Lg	Lg	15 21 21.0	
	1.4nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.10**	**328**	Pg	Pg	15 21 18.6	-0.7
	0.5nm,0.0s,SNR=7.9						
IUSE				Lg	Lg	15 21 21.0	
	1.4nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.11**	**189**	Pg	Pg	15 21 19.2	-0.3
	2.7nm,0.0s,SNR=7.9						
IUNC				Lg	Lg	15 21 21.2	
	3.5nm,0.0s,SNR=7.9						
IUNC	**Unciti**	**0.11**	**189**	Pg	Pg	15 21 19.2	-0.3
	2.7nm,0.0s,SNR=7.9						
IUNC				Lg	Lg	15 21 21.2	
	3.5nm,0.0s,SNR=7.9						
EARA	**Aranguren**	**0.12**	**220**	Lg	Lg	15 21 21.1	
	4.8nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.12**	**220**	Lg	Lg	15 21 21.1	
	4.8nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.18**	**119**	Pg	Pg	15 21 20.1	-0.6
	0.1nm,0.0s,SNR=7.9						
IEPA				Lg	Lg	15 21 22.8	
	1.0nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.18**	**119**	Pg	Pg	15 21 20.1	-0.6
	0.1nm,0.0s,SNR=7.9						
IEPA				Lg	Lg	15 21 22.8	
	1.0nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.18**	**97**	Pg	Pg	15 21 20.4	-0.4
	0.6nm,0.1s,SNR=7.9						
IELO				Lg	Lg	15 21 23.8	
	0.6nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.18**	**97**	Pg	Pg	15 21 20.4	-0.4
	0.6nm,0.1s,SNR=7.9						
IELO				Lg	Lg	15 21 23.8	
	0.6nm,0.1s,SNR=7.9						

CASC 01 15:36:16.3±7.1,8.22N×84.09W,h35km±94km,MD4.0,1C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**1.01**	**65↑**	*e*P	Pb	15 36 35.2	-0.3
ACR				*e*S	Sn	15 36 46.1	-1.0
QCR	**Quepos**	**1.20**	**356**	*e*P	Pn	15 36 36.1	-0.5
BUS	**Buena Vista**	**1.37**	**14**	*e*P	Pn	15 36 39.2	-0.3
BUS				*e*S	Sn	15 36 55.0	-1.8
BRU2	**Volcan**	**1.50**	**67**	*e*P	Pb	15 36 43.3	-0.5
BRU2				*e*S	Sb	15 37 01.9	-0.7
TBS2		**1.53**	**68**	*e*P	Pb	15 36 44.0	-0.3
TBS2				*e*S	Sb	15 37 02.5	-1.1
URSC	**Urasca**	**1.64**	**11**	*e*P	Pn	15 36 43.6	+0.7
CGA2	**Cerro Gallo 2**	**1.82**	**348**	*e*P	Pb	15 36 47.5	-1.8

MOS ***01*** *16:03:18.8±0.8,49.09N×156.79E,h5km,mb4.3/1,Error ellipse: s-maj=79.2km s-min=17.6km az=79.1*
KRSC 01 16:03:18.8±0.3,49.09N×156.79E,h5km±5km,ML4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.65**	**345**	*e*PN	Pn	16 03 42.0	-6.4
SKR				pmax	pmax		
	comp=Z,80nm,0.4s						
SKR	**Severo-Kuril's**	**1.65**	**345**	P	Pn	16 03 46.8	-1.6
SKR				*i* S	Sn	16 04 07.8	-2.2
MIPR	**Malaya Ipel'ka**	**3.19**	**360**	P	Pn	16 04 10.2	+0.6
MIPR				*i* S	Sn	16 04 48.3	+0.3
ASAK	**Asacha**	**3.37**	**12**	P	Pn	16 04 14.4	+2.7
ASAK				*i* S	Sn	16 04 54.4	+1.7
MTVR	**Mutnovka**	**3.51**	**14**	P	Pn	16 04 16.7	+2.5
MTVR				*i* S	Sn	16 04 58.0	+1.8
RUS	**Russkaya**	**3.52**	**17**	PN	Pn	16 04 16.1	+2.0
RUS	**Russkaya**	**3.52**	**17**	P	Pn	16 04 16.1	+2.0
RUS				*i* S	Sn	16 04 56.5	+0.4
APC	**Apacha**	**3.85**	**3**	P	Pn	16 04 20.8	+2.2
PET	**Petropavlovsk**	**4.11**	**16**	*e*PN	Pn	16 04 25.4	+3.2
PET				*e*S	Sn	16 05 14.4	+3.8
PET				smax	smax		
	comp=N,88nm,0.5s						
PET				smax	smax		
	comp=E,70nm,0.5s						
PET	**Petropavlovsk**	**4.11**	**16**	P	Pn	16 04 25.1	+2.9
PET				*i* S	Sn	16 05 12.9	+2.3
UGLR	**Uglovaya**	**4.32**	**16**	P	Pn	16 04 28.6	+3.4
UGLR				*i* S	Sn	16 05 20.1	+4.0
AVH	**Avacha**	**4.36**	**16**	P	Pn	16 04 29.2	+3.5
AVH				*i* S	Sn	16 05 19.8	+2.9
KOK	**Koryaka**	**4.37**	**15**	P	Pn	16 04 29.7	+3.8
SMAR	**Somma**	**4.37**	**16**	P	Pn	16 04 30.1	+4.1
KRER	**Koryakskii**	**4.40**	**16**	P	Pn	16 04 29.3	+2.9
KRER				*i* S	Sn	16 05 20.5	+2.3
SDLR	**Sedlovina**	**4.40**	**17**	P	Pn	16 04 28.8	+2.5
SPN	**Mys Shipunski**	**4.50**	**26**	PN	Pn	16 04 30.5	+2.9
SPN	**Mys Shipunski**	**4.50**	**26**	P	Pn	16 04 30.5	+2.9
SPN				*i* S	Sn	16 05 22.0	+1.7
GNL	**Ganaly**	**4.67**	**8**	P	Pn	16 04 32.9	+2.9
GNL				*i* S	Sn	16 05 27.8	+3.1
MKZ	**Mys Kozlova**	**6.27**	**27**	PN	Pn	16 04 53.9	+2.1
MKZ	**Mys Kozlova**	**6.27**	**27**	P	Pn	16 04 53.9	+2.1
MKZ				*i* S	Sn	16 06 04.4	+0.6
TUMR	**Tumrok**	**6.54**	**17**	P	Pn	16 05 00.4	+4.7
BKI	**Bering**	**8.32**	**39**	PN	Pn	16 05 23.6	+3.6
BKI	**Bering**	**8.32**	**39**	P	Pn	16 05 23.6	+3.6
BKI				*i* S	Sn	16 06 54.6	+0.3

MAN 01 16:06:07,8.45N×123.18E,h32km,mb3.6,ML2.3,MS1.9, 2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.22**	**51↑**	*e*P	Pn	16 06 15.2	+1.1
PAGZ	**Pagadian**	**0.63**	**161**	*e*P	Pn	16 06 20.6	+0.9
PAGZ				*e*S	Sb	16 06 26.2	-2.0
IPIL	**Ipil**	**0.89**	**223**	*e*P	Pb	16 06 24.7	+0.7
IPIL				*e*S	Sn	16 06 32.3	-2.8
CTBH	**Cotabato--PC H**	**1.61**	**139↑**	*i*P	Pb	16 06 35.9	-0.3

CSEM ***01*** *16:13:05.7,35.14N×25.27E,h3km,MD3.6,After ATH*
ATH 01 16:13:05.7,35.14N×25.27E,h3km,MD3.6/5,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.17**	**83**	*e*PG	Pg	16 13 08.8	-0.4
LAST	**Lasithi**	**0.17**	**83**	*e*Pg	Pg	16 13 08.8	-0.4
IDI	**Anoyia**	**0.34**	**295**	*e*PG	Pg	16 13 12.4	-0.1
IDI	**Anoyia**	**0.34**	**295**	*e*Pg	Pg	16 13 12.4	-0.1
SIVA	**Sivas**	**0.40**	**252**	*e*PG	Pg	16 13

*CSEM **01** 16:41:10.7, 34˚.26N×25˚.22E, h34km, MD3.2, After ATH*
*ATH **01** 16:41:10.7, 34˚.26N×25˚.22E, h34km±7km, MD3.2/6*
*ISCJB **01** 16:41:11.9±0.9, 34˚.31N±0˚.08×25˚.21E±0˚.08, h25km, mb3.4/2, Error ellipse: s-maj=10.8km s-min=10.1km az=6.2*
*IDC **01** 16:41:11.8±1.6, 34˚.04N×25˚.31E, h0km, mb3.5/2, mb1 3.5/5, mb1mx3.3/27, mbtmp3.4/5, ML3.8/3, Error ellipse: s-maj=39.0km s-min=27.2km az=145.0*

ISC 01 16:41:14.7±1.2, 34˚.41N±0˚.09×25˚.20E±0˚.06, h25km, n21, σ1°68/23, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.68**	**332**	*e*PN		**Pb**		**16 41 26.8**	**-1.2**
SIVA	**Sivas**	**0.68**	**332**	*e*Pn		**Pb**		**16 41 26.8**	**-1.2**
LAST	**Lasithi**	**0.78**	**17**	*e*PN		**Pb**		**16 41 28.3**	**-1.4**
LAST				*e*Sn		**Sn**		**16 41 41.3**	**+0.2**
LAST	**Lasithi**	**0.78**	**17**	*e*Pn		**Pb**		**16 41 28.3**	**-1.4**
LAST				*e*Sn		**Sn**		**16 41 41.3**	**+0.2**
IDI	**Anoyia**	**0.91**	**344**	*e*PN		**Pn**		**16 41 30.6**	**-1.3**
IDI	**Anoyia**	**0.91**	**344**	*e*Pn		**Pn**		**16 41 30.6**	**-1.3**
NPS	**Neapolis**	**0.91**	**22**	*e*PN		**Pb**		**16 41 30.4**	**-1.4**
NPS	**Neapolis**	**0.91**	**22**	*e*Pn		**Pb**		**16 41 30.4**	**-1.4**
ZKR	**Zakros**	**1.09**	**50**	*e*PN		**Pn**		**16 41 32.8**	**-1.6**
ZKR	**Zakros**	**1.09**	**50**	*e*Pn		**Pn**		**16 41 32.8**	**-1.6**
VAM	**Vamos**	**1.29**	**321**	*e*PN		**Pb**		**16 41 37.0**	**-1.2**
VAM	**Vamos**	**1.29**	**321**	*e*Pn		**Pb**		**16 41 37.0**	**-1.2**
KARP	**Karpathos**	**1.97**	**54**	*e*PN		**Pn**		**16 41 44.5**	**-1.9**
KARP	**Karpathos**	**1.97**	**54**	*e*Pn		**Pn**		**16 41 44.5**	**-1.9**
ANKY	**Antikythira Is**	**2.13**	**314**	*e*PN		**Pn**		**16 41 46.7**	**-1.9**
ANKY	**Antikythira Is**	**2.13**	**314**	*e*Pn		**Pn**		**16 41 46.7**	**-1.9**
MMAI	**Mount Meron Ar**	**8.61**	**96**	Pn		**Pn**		**16 43 17.0**	**-0.7**
	1.2nm,0.3s,baz=266,slow=11,SNR=4.0								
AKASG	**Malin Array Be**	**16.54**	**9**	Pn		**P**		**16 45 09.4**	**+2.2**
	0.6nm,0.3s,baz=200,slow=10,SNR=5.2								
GERES	**GERESS Array B**	**16.76**	**333**	P		**P**		**16 45 13.1**	**+3.4**
	0.1nm,0.3s,baz=139,slow=12,SNR=7.2								
TORD	**Torodi Ar. Bea**	**30.04**	**231**	P		**P**		**16 47 21.1**	**-0.6**
	0.3nm,0.6s,baz=30,slow=8.0,SNR=4.2								
MKAR	**Makanchi Array**	**44.16**	**56**	P		**P**		**16 49 22.8**	**+1.6**
	0.6nm,0.6s,baz=281,slow=6.1,SNR=12								

IDC 01 16:43:36.0±6.2, 21˚.90N×142˚.99E, h281km±58km, mb3.0/6, mb1 3.1/7, mb1mx2.9/27, mbtmp3.0/7, Error ellipse: s-maj=52.8km s-min=17.7km az=77.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.17**	**345**	P			P	16 46 54.5	-1.4
	0.3nm,0.3s,baz=174,slow=8.7,SNR=4.3								
KSRS	**Korea Array**	**20.25**	**323**	P			P	16 47 51.2	+0.7
	1.7nm,0.7s,baz=142,slow=8.4,SNR=9.0								
SONM	**Songino Array**	**39.07**	**320**	P			P	16 50 36.1	-0.3
	0.3nm,0.5s,baz=134,slow=8.5,SNR=3.6								
WRA	**Warramunga Arr**	**42.44**	**192**	P			P	16 51 03.6	-0.3
	0.8nm,1.1s,baz=13,slow=8.9,SNR=11								
ZALV	**Zalesovo Beam**	**53.94**	**322**	P			P	16 52 30.5	-0.5
	0.9nm,0.5s,baz=97,slow=7.6,SNR=4.9								
MKAR	**Makanchi Array**	**54.43**	**313**	P			P	16 52 35.1	+0.4
	0.5nm,0.6s,baz=93,slow=8.6,SNR=7.2								
FINES	**FINESS Array B**	**82.92**	**334**	P			P	16 55 28.3	-1.0
	0.8nm,0.6s,baz=70,slow=6.3,SNR=4.2								
LPAZ	**La Paz**	**150.10**	**85**	PKPbc			PKPbc	17 02 55.4	+0.2
	0.5nm,0.5s,baz=342,slow=4.3,SNR=2.8								

*IDC **01** 16:54:09.0±1.8, 35˚.87N×140˚.22E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.3/26, mbtmp3.7/3, ML2.9/1, Error ellipse: s-maj=36.6km s-min=14.6km az=37.0*
*ISCJB **01** 16:54:15.7±0.7, 36˚.11N±0˚.06×140˚.06E±0˚.08, h81km±6km, mb3.8/2, Error ellipse: s-maj=10.2km s-min=9.3km az=19.2*
*JMA **01** 16:54:17.5±0.1, 36˚.12N×139˚.98E, h69km±1km, M3.3 Broadband fault plane solution: P waves. NP1: ϕs=333.00000°, δ59.00000°, λ56.00000°. NP2: ϕs=206.00000°, δ45.00000°, λ133.00000°. Principal axes: T Plg60.0000°, Azm191.0000°; N Plg29.0000°, Azm353.0000°; P Plg8.0000°, Azm87.0000°;*
JMA Felt I J1.

ISC 01 16:54:16.8±1.2, 36˚.12N±0˚.07×140˚.03E±0˚.06, h73km±9km, n15, σ0°59/20, 4C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.18**	**51**	⇑P			**Pn**	**16 54 28.0**	**+0.3**
JYT				S			**Sn**	**16 54 35.7**	**+0.1**
JAG	**Ashikaga**	**0.56**	**304**	⇑P			**Pn**	**16 54 30.6**	**+0.1**
JAG				S			**Sn**	**16 54 40.2**	**-0.3**
JKT	**Katashina**	**0.90**	**316**	P			**Pn**	**16 54 34.6**	**+0.2**
JRY	**Ryogami san**	**0.92**	**264**	⇓P			**Pn**	**16 54 34.7**	**+0.2**
JRY				S			**Sn**	**16 54 47.5**	**-0.1**
JOD2	**Odawara 2**	**1.14**	**222**	⇓P			**Pn**	**16 54 37.4**	**+0.1**
JOD2				S			**Sn**	**16 54 51.8**	**-0.8**
JFY	**Yanaizu**	**1.31**	**349**	⇑P			**Pn**	**16 54 39.9**	**+0.4**
JYN	**Shimodo**	**1.35**	**243**	⇓P			**Pn**	**16 54 40.5**	**+0.5**
BSO3	**Boso 3**	**1.37**	**163**	P			**Pn**	**16 54 40.3**	**+0.4**
JHK	**Hiroka**	**1.39**	**325**	⇑P			**Pn**	**16 54 40.9**	**+0.4**
MJAR	**Matsushiro Arr**	**1.53**	**287**	Pg			**Pn**	**16 54 41.7**	**-0.6**
	22nm,0.3s,baz=102,slow=9.1,SNR=229								
MJAR				Lg			Lg	16 55 02.5	
	8.8nm,0.3s,baz=39,slow=30,SNR=11								
MAT	**Matsushiro**	**1.53**	**287**	P			**Pn**	**16 54 42.7**	**+0.5**
MAT				S			**Sn**	**16 55 02.2**	**+0.7**
MAT	**Matsushiro**	**1.53**	**287**	P			**Pn**	**16 54 42.8**	**+0.5**
ASAJ	**Asahikawa**	**8.23**	**13**	Pn			**Pn**	**16 56 12.2**	**-1.2**
	0.2nm,0.3s,baz=258,slow=20,SNR=3.7								
WRA	**Warramunga Arr**	**56.01**	**186**	P			**P**	**17 03 47.2**	**-0.8**
	0.8nm,0.4s,baz=6.1,slow=7.4,SNR=44								
ASAR	**Alice Springs**	**59.74**	**186**	P			**P**	**17 04 14.8**	**+0.7**
	0.2nm,0.3s,baz=17,slow=12,SNR=4.2								

*NEIC **01** 17:05:58.6±1.2, 44˚.25N×105˚.35W, h0km, ML3.1, Error ellipse: s-maj=16.2km s-min=13.4km az=16.0, Suspected Mining explosion.*
NEIC 15 km [10 miles] ESE of Gillette.
*ISCJB **01** 17:05:59.7±0.2, 43˚.95N±0˚.01×105˚.28W±0˚.02, h0km, mb3.6/1, MS3.0/1, Error ellipse: s-maj=2.0km s-min=1.8km az=152.3*
*IDC **01** 17:06:00.4±0.9, 44˚.32N×105˚.74W, h0km, mb3.6/1, mb1 3.6/5, mb1mx3.4/30, mbtmp3.4/5, ML3.3/4, MS2.8/2, Ms1 2.8/2, ms1mx2.3/46, Error ellipse: s-maj=24.9km s-min=8.0km az=145.0*

ISC 01 17:06:00.1±0.6, 43˚.97N±0˚.01×105˚.28W±0˚.01, h0km, n237, σ0°76/276, 92C-102D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.13**	**265**	⇓P			**Pg**	**17 06 03.7**	**+1.0**
	baz=0.3,SNR=1000								
I23A				⇑S			**Sg**	**17 06 05.4**	**+0.9**
	baz=0.3								
I23A	**Meade Ranch, G**	**0.13**	**265**	⇓P			**Pg**	**17 06 03.7**	**+1.0**
	baz=0.3,SNR=1000								
I23A				⇑S			**Sg**	**17 06 05.4**	**+0.9**
	baz=0.3								
I24A	**Kuemmerle Ranc**	**0.48**	**103**	P			**Pg**	**17 06 09.9**	**+0.5**
	baz=0.7,SNR=249								
I24A	**Kuemmerle Ranc**	**0.48**	**103**	P			**Pg**	**17 06 09.9**	**+0.5**
	baz=0.7,SNR=249								
H23A	**Clabaugh Cattl**	**0.60**	**352**	⇓P			**Pg**	**17 06 12.3**	**+0.7**
	baz=0.3,SNR=20								
H23A	**Clabaugh Cattl**	**0.60**	**352**	⇓P			**Pg**	**17 06 12.3**	**+0.7**
	baz=0.3,SNR=20								
J23A	**Dilts Ranch, B**	**0.60**	**199**	P			**Pg**	**17 06 11.5**	**-0.2**
	baz=0.9,SNR=84								
J23A	**Dilts Ranch, B**	**0.60**	**199**	P			**Pg**	**17 06 11.5**	**-0.2**
	baz=0.9,SNR=84								
J24A	**Dixon Ranch, L**	**0.78**	**145**	P			**Pg**	**17 06 15.1**	**0.0**
	baz=1.0,SNR=506								
J24A	**Dixon Ranch, L**	**0.78**	**145**	P			**Pg**	**17 06 15.1**	**0.0**
	baz=1.0,SNR=506								
I22A	**9 Mile Ranch,**	**0.88**	**265**	P			**Pg**	**17 06 16.9**	**0.0**
	baz=0.9,SNR=51								
I22A	**9 Mile Ranch,**	**0.88**	**265**	P			**Pg**	**17 06 16.9**	**0.0**
	baz=0.9,SNR=51								
RSSD	**Black Hills**	**0.91**	**80**	*e*P			**Pg**	**17 06 17.3**	**-0.2**
H24A	**Dirks Ranch, A**	**0.93**	**34**	P			**Pg**	**17 06 18.2**	**+0.2**
	baz=0.8,SNR=170								
H24A				⇓S			**Sb**	**17 06 31.7**	**-0.6**
	baz=0.8								
H24A	**Dirks Ranch, A**	**0.93**	**34**	P			**Pg**	**17 06 18.2**	**+0.2**
	baz=0.8,SNR=170								
H24A				⇓S			**Sb**	**17 06 31.7**	**-0.6**
	baz=0.8								
H22A	**Clearmont**	**0.99**	**309**	⇑P			**Pg**	**17 06 19.5**	**+0.4**
	baz=0.8,SNR=50								
H22A	**Clearmont**	**0.99**	**309**	⇑P			**Pg**	**17 06 19.5**	**+0.4**
	baz=0.8,SNR=50								
J22A	**Midwest**	**1.03**	**238**	P			**Pg**	**17 06 18.9**	**-1.0**
	baz=1.2,SNR=174								
J22A				⇑S			**Sg**	**17 06 33.1**	**-0.3**
	baz=1.2								
J22A	**Midwest**	**1.03**	**238**	P			**Pg**	**17 06 18.9**	**-1.0**
	baz=1.2,SNR=174								
J22A				⇑S			**Sg**	**17 06 33.1**	**-0.3**
	baz=1.2								
I25A	**Rochford**	**1.12**	**87**	P			**Pg**	**17 06 21.4**	**-0.1**
	baz=1.2								
I25A	**Rochford**	**1.12**	**87**	P			**Pg**	**17 06 21.4**	**-0.1**
	baz=1.2								
J25A	**Sunshine Ranch**	**1.22**	**118**	P			**Pg**	**17 06 22.9**	**-0.6**
	baz=1.4								
J25A	**Sunshine Ranch**	**1.22**	**118**	P			**Pg**	**17 06 22.9**	**-0.6**
	baz=1.4								
G23A	**Biddle**	**1.23**	**356**	⇓P			**Pg**	**17 06 23.7**	**0.0**
	baz=1.0,SNR=146								
G23A	**Biddle**	**1.23**	**356**	⇓P			**Pg**	**17 06 23.7**	**0.0**
	baz=1.0,SNR=146								
K23A	**Bowen Ranch, D**	**1.24**	**192**	⇑P			**Pg**	**17 06 23.0**	**-1.0**
	baz=1.5,SNR=10								
K23A	**Bowen Ranch, D**	**1.24**	**192**	⇑P			**Pg**	**17 06 23.0**	**-1.0**
	baz=1.5,SNR=10								
K24A	**Anderson Ranch**	**1.29**	**165**	⇑P			**Pg**	**17 06 23.8**	**-1.1**
	baz=1.6								
K24A				⇓S			**Sg**	**17 06 42.2**	**+0.5**
	baz=1.6								
K24A	**Anderson Ranch**	**1.29**	**165**	⇑P			**Pg**	**17 06 23.8**	**-1.1**
	baz=1.6								
K24A				⇓S			**Sg**	**17 06 42.2**	**+0.5**
	baz=1.6								
H25A	**Fruitdale**	**1.37**	**61**	P			**Pg**	**17 06 26.1**	**-0.3**
	baz=1.3								
H25A	**Fruitdale**	**1.37**	**61**	P			**Pg**	**17 06 26.1**	**-0.3**
	baz=1.3								
H21A	**Big Horn, Sher**	**1.43**	**298**	P			**Pn**	**17 06 26.9**	**-0.5**
	baz=1.3								
H21A	**Big Horn, Sher**	**1.43**	**298**	P			**Pn**	**17 06 26.9**	**-0.5**
	baz=1.3								
G22A	**Birney**	**1.44**	**330**	⇑P			**Pn**	**17 06 27.4**	**-0.2**
	baz=1.2,SNR=30								
G22A	**Birney**	**1.44**	**330**	⇑P			**Pn**	**17 06 27.4**	**-0.2**
	baz=1.2,SNR=30								
I21A	**Big Trails, Te**	**1.47**	**264**	⇓P			**Pn**	**17 06 26.4**	**-1.5**
	baz=1.5								
I21A				⇑S			**Sg**	**17 06 46.5**	**-0.7**
	baz=1.5								
I21A	**Big Trails, Te**	**1.47**	**264**	⇓P			**Pn**	**17 06 26.4**	**-1.5**
	baz=1.5								
I21A				⇑S			**Sg**	**17 06 46.5**	**-0.7**
	baz=1.5								
G24A	**Alzada**	**1.49**	**24**	⇓P			**Pg**	**17 06 28.5**	**-0.2**
	baz=1.3,SNR=74								
G24A	**Alzada**	**1.49**	**24**	⇓P			**Pg**	**17 06 28.5**	**-0.2**
	baz=1.3,SNR=74								
K22A	**Casper**	**1.60**	**215**	P			**Pn**	**17 06 29.2**	**-0.7**
	baz=1.8,SNR=124								
K22A	**Casper**	**1.60**	**215**	P			**Pn**	**17 06 29.2**	**-0.7**
	baz=1.8,SNR=124								
J21A	**Lysite**	**1.69**	**249**	P			**Pn**	**17 06 30.4**	**-0.8**
	baz=1.8,SNR=354								
J21A				⇑S			**Sn**	**17 06 52.9**	**-0.7**
	baz=1.8								
J21A	**Lysite**	**1.69**	**249**	P			**Pn**	**17 06 30.4**	**-0.8**
	baz=1.8,SNR=354								
J21A				⇑S			**Sn**	**17 06 52.9**	**-0.7**
	baz=1.8								
K25A	**Mack Ranch, Ha**	**1.70**	**142**	⇑P			**Pn**	**17 06 31.3**	**+0.1**
	baz=2.0,SNR=72								
K25A	**Mack Ranch, Ha**	**1.70**	**142**	⇑P			**Pn**	**17 06 31.3**	**+0.1**
	baz=2.0,SNR=72								
I26A	**New Underwood**	**1.75**	**87**	Pb			**Pb**	**17 06 33.2**	**+0.1**
	baz=1.8								
I26A	**New Underwood**	**1.75**	**87**	Pb			**Pb**	**17 06 33.2**	**+0.1**
	baz=1.8								
F23A	**Volborg**	**1.75**	**357**	⇑P			**Pb**	**17 06 32.6**	**-0.6**
	baz=1.5,SNR=17								
F23A				⇓S			**Sg**	**17 06 56.2**	**-0.2**
	baz=1.5								
F23A	**Volborg**	**1.75**	**357**	⇑P			**Pb**	**17 06 32.6**	**-0.6**
	baz=1.5,SNR=17								
F23A				⇓S			**Sg**	**17 06 56.2**	**-0.2**
	baz=1.5								
G21A	**Lodge Grass**	**1.86**	**313**	⇓P			**Pn**	**17 06 34.0**	**+0.5**
	baz=1.6,SNR=85								
G21A				⇓S			**Sb**	**17 06 58.5**	**-0.5**
	baz=1.6								
G21A	**Lodge Grass**	**1.86**	**313**	⇓P			**Pn**	**17 06 34.0**	**+0.5**
	baz=1.6,SNR=85								
G21A				⇓S			**Sb**	**17 06 58.5**	**-0.5**
	baz=1.6								
L23A	**Garrett**	**1.88**	**190**	P			**Pn**	**17 06 33.4**	**-0.4**
	baz=2.2,SNR=311								
L23A	**Garrett**	**1.88**	**190**	P			**Pn**	**17 06 33.4**	**-0.4**
	baz=2.2,SNR=311								
H26A	**Fairpoint**	**1.91**	**69**	Pb			**Pb**	**17 06 36.2**	**+0.3**
	baz=1.9								
H26A	**Fairpoint**	**1.91**	**69**	Pb			**Pb**	**17 06 36.2**	**+0.3**
	baz=1.9								
F22A	**Rosebud**	**1.94**	**339**	⇑P			**Pn**	**17 06 34.5**	**+0.1**
	baz=1.7,SNR=93								
F22A	**Rosebud**	**1.94**	**339**	⇑P			**Pn**	**17 06 34.5**	**+0.1**
	baz=1.7,SNR=93								
L24A	**Wheatland**	**1.94**	**172**	⇑P			**Pn**	**17 06 34.7**	**+0.2**
	baz=2.2,SNR=52								
L24A				⇑S			**Sn**	**17 06 59.8**	**0.0**
	baz=2.2								
L24A	**Wheatland**	**1.94**	**172**	⇑P			**Pn**	**17 06 34.7**	**+0.2**
	baz=2.2,SNR=52								
L24A				⇑S			**Sn**	**17 06 59.8**	**0.0**
	baz=2.2								
F24A	**Ekalaka**	**1.96**	**17**	⇓P			**Pn**	**17 06 35.6**	**+0.8**
	baz=1.7,SNR=19								
F24A	**Ekalaka**	**1.96**	**17**	⇓P			**Pn**	**17 06 35.6**	**+0.8**
	baz=1.7,SNR=19								
K26A	**Motz Farm, Whi**	**1.99**	**129**	⇑P			**Pn**	**17 06 35.0**	**-0.2**
	baz=2.2,SNR=16								
K26A	**Motz Farm, Whi**	**1.99**	**129**	⇑P			**Pn**	**17 06 35.0**	**-0.2**
	baz=2.2,SNR=16								
H20A	**Greybull**	**2.02**	**286**	⇑P			**Pn**	**17 06 35.9**	**+0.3**
	baz=1.9,SNR=24								
H20A				⇑S			**Sb**	**17 07 02.7**	**-0.9**
	baz=1.9								
H20A	**Greybull**	**2.02**	**286**	⇑P			**Pn**	**17 06 35.9**	**+0.3**
	baz=1.9,SNR=24								
H20A				⇑S			**Sb**	**17 07 02.7**	**-0.9**
	baz=1.9								
L25A	**Engebretsen Ra**	**2.06**	**152**	⇑P			**Pn**	**17 06 36.4**	**+0.3**
	baz=2.3,SNR=21								
L25A	**Engebretsen Ra**	**2.06**	**152**	⇑P			**Pn**	**17 06 36.4**	**+0.3**
	baz=2.3,SNR=21								
I20A	**Worland**	**2.06**	**270**	⇓P			**Pn**	**17 06 36.4**	**+0.3**
	baz=2.0,SNR=200								
I20A				⇑S			**Sn**	**17 07 03.3**	**+0.8**
	baz=2.0								
I20A	**Worland**	**2.06**	**270**	⇓P			**Pn**	**17 06 36.4**	**+0.3**
	baz=2.0,SNR=200								
I20A				⇑S			**Sn**	**17 07 03.3**	**+0.8**
	baz=2.0								
L22A	**Ellis Ranch, M**	**2.12**	**204**	⇑P			**Pn**	**17 06 36.8**	**-0.2**
	baz=2.4,SNR=101								
L22A	**Ellis Ranch, M**	**2.12**	**204**	⇑P			**Pn**	**17 06 36.8**	**-0.2**
	baz=2.4,SNR=101								
J20A	**Shoshoni**	**2.13**	**254**	⇓Pb			**Pb**	**17 06 38.9**	**-0.8**
	baz=2.2								
J20A				⇓Sb			**Sb**	**17 07 07.5**	**+0.8**
	baz=2.2								
J20A	**Shoshoni**	**2.13**	**254**	⇓Pb			**Pb**	**17 06 38.9**	**-0.8**
	baz=2.2								
J20A				⇓Sb			**Sb**	**17 07 07.5**	**+0.8**
	baz=2.2								
F21A	**Absaloka Mine,**	**2.27**	**325**	⇓P			**Pn**	**17 06 38.9**	**0.0**
	baz=2.0,SNR=10								
F21A				⇑Sb			**Sg**	**17 07 12.2**	**-0.8**
	baz=2.0								
F21A	**Absaloka Mine,**	**2.27**	**325**	⇓P			**Pn**	**17 06 38.9**	**0.0**
	baz=2.0,SNR=10								
F21A				⇑Sb			**Sg**	**17 07 12.2**	**-0.8**
	baz=2.0								
I27A	**Quinn**	**2.33**	**86**	Pb			**Pb**	**17 06 42.7**	**-0.3**
	baz=2.4								
I27A	**Quinn**	**2.33**	**86**	Pb			**Pb**	**17 06 42.7**	**-0.3**
	baz=2.4								
G20A	**Bridger**	**2.44**	**302**	P			**Pn**	**17 06 41.4**	**0.0**
	baz=2.3,SNR=59								
G20A				⇑S			**Sn**	**17 07 12.8**	**+0.8**
	baz=2.3								
G20A	**Bridger**	**2.44**	**302**	P			**Pn**	**17 06 41.4**	**0.0**
	baz=2.3,SNR=59								
G20A				⇑S			**Sn**	**17 07 12.8**	**+0.8**
	baz=2.3								
E22A	**Miles City**	**2.51**	**349**	P			**Pn**	**17 06 42.5**	**+0.2**
	baz=2.2,SNR=19								
E22A	**Miles City**	**2.51**	**349**	P			**Pn**	**17 06 42.5**	**+0.2**
	baz=2.2,SNR=19								
L26A	**Underwood Farm**	**2.52**	**139**	⇓Sb			**Sb**	**17 07 18.8**	**+1.0**
	baz=2.8								
L26A	**Underwood Farm**	**2.52**	**139**	⇓Sb			**Sb**	**17 07 18.8**	**+1.0**
	baz=2.8								
M24A	**Cheyenne**	**2.52**	**172**	⇓P			**Pn**	**17 06 43.4**	**+0.8**
	baz=2.8,SNR=140								
M24A				⇑Sb			**Sb**	**17 07 19.1**	**+0.9**
	baz=2.8								
M24A	**Cheyenne**	**2.52**	**172**	⇓P			**Pn**	**17 06 43.4**	**+0.8**
	baz=2.8,SNR=140								
M24A				⇑Sb			**Sb**	**17 07 19.1**	**+0.9**
	baz=2.8								
E23A	**Ismay**	**2.53**	**360**	⇑P			**Pn**	**17 06 43.1**	**+0.6**
	baz=2.2,SNR=35								
E23A	**Ismay**	**2.53**	**360**	⇑P			**Pn**	**17 06 43.1**	**+0.6**
	baz=2.2,SNR=35								
L21A	**Rawlins**	**2.53**	**218**	⇓P			**Pn**	**17 06 43.0**	**+0.4**
	baz=2.7,SNR=46								
L21A				⇑Sb			**Sb**	**17 07 17.6**	**-0.6**
	baz=2.7								
L21A	**Rawlins**	**2.53**	**218**	⇓P			**Pn**	**17 06 43.0**	**+0.4**
	baz=2.7,SNR=46								
L21A				⇑Sb			**Sb**	**17 07 17.6**	**-0.6**
	baz=2.7								
K27A	**Flueckinger Fa**	**2.56**	**119**	⇑P			**Pn**	**17 06 42.9**	**-0.1**
	baz=2.7,SNR=14								
K27A	**Flueckinger Fa**	**2.56**	**119**	⇑P			**Pn**	**17 06 42.9**	**-0.1**
	baz=2.7,SNR=14								
PHWY	**Pilot Hill**	**2.67**	**183**	*e*P			**Pn**	**17 06 44.0**	**-0.7**
E24A	**Baker**	**2.68**	**14**	⇓P			**Pn**	**17 06 45.5**	**+1.0**
	baz=2.4,SNR=32								
E24A	**Baker**	**2.68**	**14**	⇓P			**Pn**	**17 06 45.5**	**+1.0**
	baz=2.4,SNR=32								
I19A	**Meeteetse**	**2.68**	**273**	⇑P			**Pn**	**17 06 45.2**	**+0.4**
	baz=2.6,SNR=9.9								
I19A	**Meeteetse**	**2.68**	**273**	⇑P			**Pn**	**17 06 45.2**	**+0.4**
	baz=2.6,SNR=9.9								
F20A	**Billings**	**2.74**	**313**	⇓P			**Pn**	**17 06 45.3**	**-0.1**
	baz=2.5,SNR=9.4								
F20A	**Billings**	**2.74**	**313**	⇓P			**Pn**	**17 06 45.3**	**-0.1**
	baz=2.5,SNR=9.4								
M22A	**Cedar Creek Ra**	**2.75**	**201**	⇑P			**Pn**	**17 06 46.6**	**+0.9**
	baz=3.0								
M22A	**Cedar Creek Ra**	**2.75**	**201**	⇑P			**Pn**	**17 06 46.6**	**+0.9**
	baz=3.0								
H19A	**Powell**	**2.75**	**286**	⇓P			**Pn**	**17 06 46.0**	**+0.3**
	baz=2.6,SNR=10								
H19A	**Powell**	**2.75**	**286**	⇓P			**Pn**	**17 06 46.0**	**+0.3**
	baz=2.6,SNR=10								
M21A	**Separation Pea**	**2.82**	**214**	⇓P			**Pn**	**17 06 48.0**	**+1.4**
	baz=3.0,SNR=35								
M21A	**Separation Pea**	**2.82**	**214**	⇓P			**Pn**	**17 06 48.0**	**+1.4**
	baz=3.0,SNR=35								
J19A	**Crowheart**	**2.83**	**257**	⇑P			**Pn**	**17 06 47.8**	**+1.1**
	baz=2.9,SNR=60								
J19A				⇓Sb			**Sb**	**17 07 26.9**	**0.0**
	baz=2.9								
J19A	**Crowheart**	**2.83**	**257**	⇑P			**Pn**	**17 06 47.8**	**+1.1**
	baz=2.9,SNR=60								
J19A				⇓Sb			**Sb**	**17 07 26.9**	**0.0**
	baz=2.9								
K19A	**Absolon Red Bu**	**2.84**	**247**	⇑P			**Pn**	**17 06 47.9**	**+0.9**
	baz=2.9								
K19A	**Absolon Red Bu**	**2.84**	**247**	⇑P			**Pn**	**17 06 47.9**	**+0.9**
	baz=2.9								
E25A	**Miller Ranch,**

C24A	Savage baz=3.3,SNR=15	3.61	9	⇑P	Pn	17 06 58.8	+1.5
C24A	Savage baz=3.3,SNR=15	3.61	9	⇑P	Pn	17 06 58.8	+1.5
GCMT	Greycliff	3.61	302	*e*P	Pn	17 06 58.2	+0.7
N21A	Black Mountain baz=3.8,SNR=20	3.61	208	⇓P	Pn	17 06 58.6	+1.0
N21A	Black Mountain baz=3.8,SNR=20	3.61	208	⇓P	Pn	17 06 58.6	+1.0
F18A	Big Timber baz=3.5,SNR=11	3.70	303	⇓P	Pn	17 06 59.4	+0.8
F18A	Big Timber baz=3.5,SNR=11	3.70	303	⇓P	Pn	17 06 59.4	+0.8
N27A	Anderson Farm, baz=4.0,SNR=10.0	3.76	146	⇑P	Pn	17 06 59.7	+0.2
N27A	Anderson Farm, baz=4.0,SNR=10.0	3.76	146	⇑P	Pn	17 06 59.7	+0.2
C23A	Lambert baz=3.6,SNR=16	3.83	1	⇓P	Pn	17 07 01.9	+1.5
C23A	Lambert baz=3.6,SNR=16	3.83	1	⇓P	Pn	17 07 01.9	+1.5
N20A	Spence Gulch, baz=4.0,SNR=17	3.84	216	⇓P	Pn	17 07 01.3	+0.7
N20A	Spence Gulch, baz=4.0,SNR=17	3.84	216	⇓P	Pn	17 07 01.3	+0.7
OGNE	Ogallala	3.86	140	*e*P	Pn	17 07 00.8	0.0
OGNE	Ogallala baz=4.1,SNR=14	3.86	140	⇓P	Pn	17 07 01.2	+0.4
OGNE	Ogallala baz=4.1,SNR=14	3.86	140	⇓P	Pn	17 07 01.2	+0.4
LOHW	Long Hollow	3.87	267	*e*P	Pb	17 07 07.8	-1.6
O22A	Kremmling	3.92	194	⇓P	Pn	17 07 02.5	+0.6
O22A	Kremmling baz=4.2,SNR=8.1	3.92	194	⇓P	Pn	17 07 02.5	+0.6
MOOW	Moose Ponds	3.96	269	*e*Pg	Pb	17 07 11.9	+1.0
L29A	Maesberg Ranch baz=4.2,SNR=6.4	4.00	117	⇓P	Pn	17 07 03.5	+0.8
L29A	Maesberg Ranch baz=4.2,SNR=6.4	4.00	117	⇓P	Pn	17 07 03.5	+0.8
SNOW	Snow King Moun	4.00	265	*e*Pg	Pb	17 07 13.1	+1.4
YFT	Old Faithful	4.03	279	*e*Pg	Pb	17 07 14.6	+2.5
IMW	Indian Meadow	4.09	271	*e*P	Pn	17 06 56.6	-7.5
TPAW	Teton Pass	4.14	265	*e*Pg	Pb	17 07 16.3	+2.3
ISCO	Idaho Springs	4.18	184	*e*P	Pn	17 07 05.8	+0.4
ISCO	Idaho Springs baz=4.5,SNR=7.0	4.18	184	⇓P	Pn	17 07 05.5	+0.1
ISCO	Idaho Springs baz=4.5,SNR=7.0	4.18	184	⇓P	Pn	17 07 05.5	+0.1
O27A	Beecher Island baz=4.6,SNR=5.7	4.32	150	⇓P	Pn	17 07 07.3	+0.2
O27A	Beecher Island baz=4.6,SNR=5.7	4.32	150	⇓P	Pn	17 07 07.3	+0.2
O20A	White River Ci baz=4.6,SNR=16	4.42	211	⇓P	Pn	17 07 09.4	+0.7
O20A	White River Ci baz=4.6,SNR=16	4.42	211	⇓P	Pn	17 07 09.4	+0.7
RRI2	Red Ridge	4.43	264	*e*P	Pn	17 07 09.8	+0.9
QLMT	Earthquake Lak	4.49	283	*e*Pg	Pb	17 07 20.3	+0.3
P25A	Willow Gulch B baz=4.8,SNR=9.6	4.53	169	⇓P	Pn	17 07 10.3	+0.1
P25A	Willow Gulch B baz=4.8,SNR=9.6	4.53	169	⇓P	Pn	17 07 10.3	+0.1
DGMT	Dagmar	4.56	9	*e*P	Pn	17 07 11.9	+1.5
O19A	Miners Draw (B baz=4.8,SNR=9.1	4.65	219	⇓P	Pn	17 07 12.1	+0.3
O19A	Miners Draw (B baz=4.8,SNR=9.1	4.65	219	⇓P	Pn	17 07 12.1	+0.3
E17A	Martinsdale baz=4.5,SNR=14	4.66	304	⇑P	Pn	17 07 12.5	+0.5
E17A	Martinsdale baz=4.5,SNR=14	4.66	304	⇑P	Pn	17 07 12.5	+0.5
BOZ	Bozeman (W)	4.82	293	*e*Pg	Pb	17 07 24.2	-1.4
D17A	Six Diamond Ra baz=4.7,SNR=33	4.95	312	⇓P	Pn	17 07 16.4	+0.5
D17A	Six Diamond Ra baz=4.7,SNR=33	4.95	312	⇓P	Pn	17 07 16.4	+0.5
SMCO	Snowmass	4.96	195	*e*Pn	Pn	17 07 14.0	-2.2
SMCO				*e*Pg	Pb	17 07 27.9	-0.1
Q25A	Bedland, Calha baz=5.4	5.11	171	⇑P	Pn	17 07 18.0	-0.2
Q25A	Bedland, Calha baz=5.4	5.11	171	⇑P	Pn	17 07 18.0	-0.2
EGMT	Eagleton	5.11	324	*e*P	Pn	17 07 17.9	-0.1
P28A	Saint Francis baz=5.4	5.12	148	⇑P	Pn	17 07 18.1	-0.1
P28A	Saint Francis baz=5.4	5.12	148	⇑P	Pn	17 07 18.1	-0.1
E16A	East Helena baz=5.0,SNR=5.5	5.19	302	⇑P	Pn	17 07 20.0	+0.8
E16A	East Helena baz=5.0,SNR=5.5	5.19	302	⇑P	Pn	17 07 20.0	+0.8
HWUT	Hardware Ranch 8.6nm,0.5s	5.20	245	*e*P	Pn	17 07 19.9	+0.6
Q26A	Hugo baz=5.5,SNR=6.4	5.21	165	⇑P	Pn	17 07 19.7	+0.2
Q26A	Hugo baz=5.5,SNR=6.4	5.21	165	⇑P	Pn	17 07 19.7	+0.2
D16A	Dana Ranch, Ca baz=5.1,SNR=5.6	5.37	307	⇑P	Pn	17 07 21.7	+0.2
D16A	Dana Ranch, Ca baz=5.1,SNR=5.6	5.37	307	⇑P	Pn	17 07 21.7	+0.2
DLMT	Dillon 4.3nm,0.7s	5.40	287	*e*Pn	Pn	17 07 17.1	-5.0
MCMT	McKenzie Canyo 1.5nm,0.4s	5.49	282	*e*Pg	Pb	17 07 37.4	+0.4
DAU	Daniels Canyon 7.7nm,0.4s	5.69	233	*e*Pn	Pn	17 07 27.6	+1.4
R26A	Arlington baz=6.1,SNR=21	5.83	166	⇑P	Pn	17 07 27.8	-0.2
R26A	Arlington baz=6.1,SNR=21	5.83	166	⇑P	Pn	17 07 27.8	-0.2
R25A	Fountain Ranch baz=6.2,SNR=9.0	5.87	172	P	Pn	17 07 28.4	-0.1
R25A	Fountain Ranch baz=6.2,SNR=9.0	5.87	172	P	Pn	17 07 28.4	-0.1
R28A	Tribune baz=6.5,SNR=5.8	6.20	154	⇓P	Pn	17 07 32.4	-0.6
R28A	Tribune baz=6.5,SNR=5.8	6.20	154	⇓P	Pn	17 07 32.4	-0.6
PV04	Paradox Valley	6.21	207	*e*Pn	Pn	17 07 34.1	+0.9
SDCO	Great Sand Dun 0.8nm,0.4s	6.22	182	*e*Pn	Pn	17 07 33.8	+0.3
SRU	San Rafael 12nm,0.3s	6.25	221	*e*P	Pn	17 07 33.2	-0.6
ECSD	EROS Data Cent 12nm,0.5s	6.27	89	*e*Pn	Pn	17 07 33.6	-0.2
CHMT	Chamberlain Mo 2.7nm,0.4s	6.33	300	*e*Pn	Pn	17 07 35.3	+0.3
TMUT	Trail Mountain 12nm,0.6s	6.45	226	*e*Pn	Pn	17 07 37.1	+0.6
S26A	Kim baz=6.8,SNR=5.8	6.49	167	⇓P	Pn	17 07 36.8	-0.2
S26A	Kim baz=6.8,SNR=5.8	6.49	167	⇓P	Pn	17 07 36.8	-0.2
D14A	Greenough baz=6.4,SNR=7.9	6.56	301	⇑P	Pn	17 07 38.2	+0.2
D14A	Greenough baz=6.4,SNR=7.9	6.56	301	⇑P	Pn	17 07 38.2	+0.2
Q16A	Castle Valley baz=6.9,SNR=5.8	6.71	223	⇑P	Pn	17 07 40.5	+0.3
Q16A	Castle Valley baz=6.9,SNR=5.8	6.71	223	⇑P	Pn	17 07 40.5	+0.3
DUG	Dugway baz=6.8,SNR=5.2	6.76	239	⇓P	Pn	17 07 40.9	+0.2
DUG	Dugway baz=6.8,SNR=5.2	6.76	239	⇓P	Pn	17 07 40.9	+0.2
MSU	Marysvale 2.2nm,0.4s	7.53	226	*e*Pn	Pn	17 07 51.9	+0.4
MVU	Marysvale 2.6nm,0.4s	7.56	226	*e*Pn	Pn	17 07 52.0	+0.3
ARUT	Antelope Range 3.6nm,0.5s	8.74	228	*e*Pn	Pn	17 08 09.1	+1.2
CCUT	Cedar City 2.5nm,0.5s	8.87	226	*e*Pn	Pn	17 08 10.9	+1.1
ULM	Lac du Bonnet	8.97	42	Pn	Pn	17 08 09.1	-1.8
ULM				Lg	Lg	17 10 37.3	
ULM	Lac du Bonnet 0.6nm,0.3s,baz=230,slow=15,SNR=2.9	8.97	42	Pn	Pn	17 08 09.1	-1.8
ULM				Lg	Lg	17 10 37.3	
NVAR	0.5nm,0.3s,baz=155,slow=19,SNR=2.1 Mina Array Bea	11.26	245	Pn	Pn	17 08 44.2	+1.7
NVAR	Mina Array Bea 0.1nm,0.3s,baz=62,slow=11,SNR=2.4	11.26	245	Pn	Pn	17 08 44.2	+1.7
PFO	Pinyon Flat Ob comp=Z,43nm,21.6s,baz=323,slow=40	13.52	224	LR	LR	17 14 55.7	
TXAR	Lajitas Array	14.67	174	Pn	P	17 09 35.5	0.0
TXAR	Lajitas Array 0.1nm,0.3s,baz=355,slow=9.1,SNR=6.6	14.67	174	Pn	P	17 09 35.5	0.0
MLR	Muntele Rosu comp=Z,6.0nm,18.1s,baz=120,slow=38	80.96	32	LR	LR	17 57 36.0	
MKAR	Makanchi Array	89.37	355	P	P	17 18 57.7	-0.7
MKAR	Makanchi Array 0.3nm,0.7s,baz=3.2,slow=4.7,SNR=3.7	89.37	355	P	P	17 18 57.7	-0.7

IDC ***01*** *17:23:19.2±4.6,36°.18N×70°.79E,h152km±41km,mb3.4/9, mb1 3.4/14,mb1mx3.2/32,mbtmp3.3/14,Error ellipse: s-maj=31.7km s-min=16.2km az=31.0*
ISCJB ***01*** *17:23:23.3±0.4,36°.56N±0°.03×70°.93E±0°.07,h188km, mb3.6/9,Error ellipse: s-maj=7.7km s-min=3.6km az=160.5*
NNC ***01*** *17:23:28.5±5.3,36°.97N×70°.77E,h165km±49km,mb3.0, mpv4.0,Error ellipse: s-maj=43.6km s-min=24.6km az=19.0*
NDI ***01*** *17:25:07.1±2.0,32°.73N×74°.28E,h10km,ML3.2*
ISC 01 17:23:23.8±0.6,**36°.58N**±0°.05×**70°.89E**±0°.07,**h188**km,**n53,**
σ1ş**54**/56,**mb3.6/9,5C-7D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CEP	Cherat	2.87	163	⇓P		Pn	17 24 11.5	0.0
CEP				S		Sn	17 24 47.0	-1.6
CHCP	Chirah Chowk	3.50	146	P		Pn	17 24 19.5	+0.5
THW	Thamme Wali	3.84	169	P		Pn	17 24 22.8	-0.4
THN	Thein Dam	5.74	135	*ex*		Pn	17 24 45.0	-2.5
THN				*e*S		Sn	17 25 47.5	-5.9
DLH	Dalhousie	5.81	132	*e*4		x	17 25 51.0	
DLH				*e*S		Sn	17 25 54.0	-1.4
AML	Almayashu SNR=119	5.95	21	P		Pn	17 24 51.0	+0.5
UCH	Uchtor SNR=8.2	6.30	25	P		Sn	17 26 05.8	-1.4
KZA	Kyzart SNR=17	6.45	30	P		Pn	17 24 56.8	-0.2
EKS2	Erkin-Say SNR=10	6.47	19	P		Pn	17 24 57.9	+0.9
KK31	Karatay Array 1.8nm,0.3s,baz=175,slow=12,SNR=145	6.52	358	P		Pn	17 24 58.1	+0.5
KK31				⇓S		Sn	17 26 07.0	-4.8
AAK	Ala-Archa SNR=9.7	6.65	24	P		Pn	17 25 00.5	+1.1
AAK	Ala-Archa 5.4nm,0.3s,baz=159,slow=4.1,SNR=17	6.65	24	P		Pn	17 25 00.5	+1.1
AAK				S		Sn	17 26 14.1	-1.0
KBK	Karagaybulak SNR=9.6	6.83	26	P		Pn	17 25 02.9	+1.1
ULHL	Ulahol SNR=8.5	7.01	35	P		Pn	17 25 04.5	+0.4
CHMS	Chumysh SNR=5.7	7.07	24	P		Pn	17 25 05.2	+0.6
SDNR	Sundarnagar	7.15	133	*e*P		x	17 25 49.0	
SDNR				*e*S		Sn	17 26 19.0	-7.7
USP	Ospenovka SNR=15	7.23	21	P		Pn	17 25 07.1	+0.2
TKM2	Tokmak 2 15nm,0.8s	7.29	28	⇑P		Pn	17 25 08.3	+0.4
TKM2				⇑S		Sn	17 26 27.9	-2.5
	5.7nm,0.8s							
TKM2	Tokmak 2 SNR=20	7.29	28	P		Pn	17 25 08.5	+0.6
AYAN	Aya Nagar	9.63	145	*e*S		Sn	17 27 15.2	-11
AYAN				AML		AML	17 27 27.4	
	comp=Z,18nm,0.1s							
KALG	Kalgarh	9.65	135	*ex*		Sn	17 27 10.0	-16
KALG				*ex*		x	17 28 17.6	
AGRA	Agra	11.07	145	*e*P		x	17 26 39.9	
AGRA				*ex*		Sn	17 28 00.6	+0.2
AGRA				AML		AML	17 28 26.5	
	comp=N,47nm,0.1s							
AGRA				AML		AML	17 28 30.7	
	comp=E,35nm,0.7s							
PYUN	Piuthan comp=E,33nm,0.8s	13.26	126	*e*P		Pn	17 26 23.1	-2.0
MK31	Makanchi Array comp=E,1.4nm,0.8s,baz=217,slow=11,SNR=12	13.28	36	⇑P		Pn	17 26 24.5	-0.5
MKAR	Makanchi Array comp=E,0.1nm,0.3s,baz=219,slow=12,SNR=12	13.28	36	P		Pn	17 26 25.8	+0.8
KOLN	Kolda comp=E,4.5nm,0.3s	13.88	126	*e*P		Pn	17 26 31.1	-1.8
AB31	Akbulak array comp=E,1.8nm,0.8s,baz=141,slow=12,SNR=14	14.97	331	⇓P		P	17 26 48.7	+1.8
AB31				⇓S		Sn	17 29 27.9	-5.2
	comp=E,0.7nm,0.6s,baz=142,slow=24,SNR=4.0							
DMN	Daman comp=E,6.3nm,0.4s	14.99	123	*e*P		Pn	17 26 46.6	0.0
KKN	Kakani comp=E,8.8nm,0.5s	14.99	122	*e*P		Pn	17 26 46.1	-0.5
KURBB	Kurchatov Arra comp=E,0.1nm,0.3s,baz=207,slow=10,SNR=6.4	15.07	19	P		P	17 26 48.9	+0.9
PKIN	Phulchoki comp=E,8.0nm,0.4s	15.21	122	*e*P		P	17 26 49.8	-0.2
JIRN	Jiri comp=E,19nm,0.3s	15.70	120	*e*P		P	17 26 56.3	+0.7
VOSK	Vostochnaya comp=E,0.6nm,0.5s	16.14	0	⇓P		Pn	17 27 00.6	+0.4
ZRNK	Zerenda comp=E,1.1nm,0.5s	16.42	356	⇑P		Pn	17 27 04.6	+1.1
RAMN	Ramite comp=E,9.6nm,0.4s	16.43	121	*e*P		Pn	17 27 05.1	+1.0
BVA0	Borovoye Array comp=E,0.6nm,0.3s,baz=0.0,slow=0.1,SNR=6.5	16.45	359	P		Pn	17 27 06.4	+2.6
BVAR	Borovoye Array comp=E,0.5nm,0.3s,baz=155,slow=9.2,SNR=7.7	16.45	359	P		Pn	17 27 04.7	+0.9
BRVK	Borovoye comp=E,2.8nm,0.8s	16.48	359	⇓P		Pn	17 27 05.5	+1.3
AKTO	Aktyubinsk comp=E,2.1nm,0.5s	16.67	330	⇓P		Pn	17 27 07.3	+0.8
AKTO				⇑S		S	17 30 09.9	+0.1
	comp=E,1.4nm,0.8s							
AKTO	Aktyubinsk comp=E,0.8nm,0.3s,baz=133,slow=12,SNR=14	16.67	330	P		Pn	17 27 07.0	+0.5
TAPN	Taplejung	16.96	118	*e*P		Pn	17 27 12.1	+1.6
ODAN	Odare comp=E,8.2nm,0.6s	17.03	120	*e*P		Pn	17 27 12.5	+1.2
ZALV	Zalesovo Beam comp=E,1.8nm,0.4s,baz=220,slow=12,SNR=12	19.88	25	P		P	17 27 42.4	+2.0
AKASG	Malin Array Be comp=E,0.6nm,0.4s,baz=73,slow=8.4,SNR=4.4	32.83	309	P		P	17 29 39.7	+0.4
JOF	Joensuu comp=E,2.7nm,0.4s	35.76	330	*ep*		P	17 30 05.7	+1.4
FINES	FINESS Array B comp=E,0.5nm,0.3s,baz=117,slow=9.2,SNR=10	37.37	326	P		P	17 30 19.5	+1.6
ARCES	ARCESS Array B comp=E,3.0nm,0.8s,baz=108,slow=8.0,SNR=12	41.04	338	P		P	17 30 50.0	+1.8
NB2	NORSAR Subarra comp=Z,1.3nm,0.5s,baz=96,slow=7.9	44.27	323	P		P	17 31 15.0	+0.7
NOA	NORSAR Array B comp=Z,1.2nm,0.5s,baz=96,slow=7.8,SNR=9.3	44.27	323	P		P	17 31 15.2	+0.9
TORD	Torodi Ar. Bea comp=Z,0.2nm,0.6s,baz=49,slow=6.1,SNR=4.0	65.63	269	P		P	17 33 46.2	-1.8
YKA	Yellowknife Ar comp=Z,0.4nm,0.3s,baz=350,slow=5.5,SNR=5.2	81.17	3	P		P	17 35 19.1	+1.2
WRA	Warramunga Ar comp=Z,0.6nm,0.5s,baz=324,slow=4.9,SNR=18	82.11	122	P		P	17 35 22.4	-1.0
ASAR	Alice Springs comp=Z,0.7nm,0.6s,baz=308,slow=4.6,SNR=17	84.37	125	P		P	17 35 33.9	-1.1

CSEM ***01*** *17:24:34.1,33°.99N×25°.28E,h5km,MD3.3,After ATH*
IDC ***01*** *17:24:34.6±1.8,34°.02N×25°.34E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.2/25,mbtmp3.3/3,ML3.7/1,Error ellipse: s-maj=60.4km s-min=30.9km az=138.0*
ATH ***01*** *17:24:34.1,33°.99N×25°.28E,h5km,MD3.3/5*
ISCJB ***01*** *17:24:35.1±1.1,33°.97N±0°.08×25°.3E±0°.1,h17km,mb3.2/2, Error ellipse: s-maj=13.4km s-min=10.8km az=155.9*
ISC 01 17:24:36.8±1.3,**34°.1N**±0°.1×**25°.26E**±0°.08,**h17**km,**n17,**
σ0ş**77**/19,**Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SIVA	Sivas	0.97	337	*e*PB		Pn	17 24 55.4	-0.2
SIVA				*e*SB		Sn	17 25 10.7	+1.7
SIVA	Sivas	0.97	337	*e*Pb		Pn	17 24 55.4	-0.2
SIVA				*e*Sb		Sn	17 25 10.7	+1.7
LAST	Lasithi	1.05	10	*e*PN		Pb	17 24 55.6	-1.0
LAST	Lasithi	1.05	10	*e*Pn		Pb	17 24 55.6	-1.0
NPS	Neapolis	1.17	14	*e*PB		Pb	17 24 58.6	-0.1
NPS	Neapolis	1.17	14	*e*Pb		Pb	17 24 58.6	-0.1
IDI	Anoyia	1.20	345	*e*PG		Pb	17 24 59.0	-0.2
IDI	Anoyia	1.20	345	*e*Pg		Pb	17 24 59.0	-0.2
ZKR	Zakros	1.26	38	*e*PB		Pb	17 25 00.0	-0.2
ZKR	Zakros	1.26	38	*e*Pb		Pb	17 25 00.0	-0.2
VAM	Vamos	1.55	326	*e*PB		Pg	17 25 06.0	-0.7
VAM	Vamos	1.55	326	*e*Pb		Pg	17 25 06.0	-0.7
KARP	Karpathos	2.11	47	*e*PG		Pb	17 25 14.4	-0.3
KARP	Karpathos	2.11	47	*e*Pg		Pb	17 25 14.4	-0.3
GERES	GERESS Array B 0.1nm,0.3s,baz=146,slow=13,SNR=6.6	17.04	333	P		P	17 28 35.8	-0.3
TORD	Torodi Ar. Bea 0.3nm,0.6s,baz=36,slow=8.0,SNR=4.0	29.90	231	P		P	17 30 44.0	+0.2
MKAR	Makanchi Array 0.3nm,0.6s,baz=273,slow=8.3,SNR=3.7	44.28	56	P		P	17 32 45.9	+0.3

CSEM ***01*** *17:47:20.2,34°.27N×25°.51E,h20km,MD3.3,After ATH*
ATH 01 17:47:20.2,34°.27N×25°.51E,h20km,±7km,**MD3.3/6,Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
LAST	Lasithi	0.89	358	*e*PN		Pb	17 47 37.0	-0.1
LAST	Lasithi	0.89	358	*e*Pn		Pb	17 47 37.0	-0.1
SIVA	Sivas	0.94	322	*e*PN		Pn	17 47 38.6	+0.3
SIVA	Sivas	0.94	322	*e*Pn		Pn	17 47 38.6	+0.3
NPS	Neapolis	0.99	5	*e*PN		Pn	17 47 39.1	0.0
NPS	Neapolis	0.99	5	*e*Pn		Pn	17 47 39.1	0.0
ZKR	Zakros	1.02	34	*e*PN		Pb	17 47 39.2	-0.1
ZKR	Zakros	1.02	34	*e*Pn		Pb	17 47 39.2	-0.1
IDI	Anoyia	1.14	333	*e*PN		Pb	17 47 41.8	+0.5
IDI	Anoyia	1.14	333	*e*Pn		Pb	17 47 41.8	+0.5
VAM	Vamos	1.56	317	*e*PN		Pb	17 47 48.6	+0.1
VAM	Vamos	1.56	317	*e*Pn		Pb	17 47 48.6	+0.1
KARP	Karpathos	1.86	46	*e*PN		Pb	17 47 53.5	-0.1
KARP	Karpathos	1.86	46	*e*Pn		Pb	17 47 53.5	-0.1
ANKY	Antikythira Is	2.41	312	*e*PN		Pb	17 48 00.9	-2.0
ANKY	Antikythira Is	2.41	312	*e*Pn		Pb	17 48 00.9	-2.0

IDC 01 17:50:25.0±1.8,**33°.95N**×**25°.37E,h0**km,**mb3.3/2,**
mb1 3.5/3,mb1mx3.2/25,mbtmp3.3/3,ML3.5/1,Error ellipse: s-maj=60.7km s-min=31.8km az=140.0,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GERES	GERESS Array B 0.1nm,0.3s,baz=140,slow=10,SNR=4.6	17.24	333	P		Pn	17 54 27.2	0.0
TORD	Torodi Ar. Bea 0.3nm,0.8s,baz=30,slow=7.8,SNR=4.4	29.86	232	P		P	17 56 34.2	0.0
MKAR	Makanchi Array 0.3nm,0.5s,baz=273,slow=5.6,SNR=4.5	44.31	56	P		P	17 58 36.5	-0.1

IDC ***01*** *18:03:27.3±1.1,5°.73S×150°.18E,h112km±9km,mb3.7/14, mb1 3.8/15,mb1mx3.7/20,mbtmp3.7/15,Error ellipse: s-maj=19.8km s-min=10.2km az=112.0*
ISCJB ***01*** *18:03:28.5±0.5,5°.65S±0°.05×150°.07E±0°.08,h135km, mb3.7/15,Error ellipse: s-maj=12.2km s-min=6.2km az=15.1*
AUST ***01*** *18:03:28.1,5°.71S×150°.11E,h100km*
ISC 01 18:03:29.4±0.7,**5°.76S**±0°.06×**150°.1E**±0°.1,**h135**km,**n35,**
σ1ş**54**/39,**mb3.8**/15,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RABL	Rabaul baz=2.5,SNR=4.6	2.56	53	P		Pn	18 04 06.3	-4.3
MANU	Manus Island baz=4.6,SNR=4.0	4.61	323	P		Pn	18 04 37.5	+0.1
PMG	Port Moresby 25nm,0.3s,baz=43,slow=5.2,SNR=58	4.67	219	P		Pn	18 04 38.5	+0.3
PMG				S		Sn	18 05 31.1	-0.7
	59nm,0.3s,baz=180,slow=20,SNR=15							
COEN	Coen baz=11,SNR=4.0	10.64	220	P		Pn	18 05 58.8	+0.5
COEN				S		Sn	18 07 53.5	-2.4
	baz=11,SNR=4.3							
MTSU	Mount Surprise baz=14,SNR=19	13.55	204	P		P	18 06 39.9	-0.8
CTA	Charters Tower 0.7nm,0.3s,baz=17,slow=13,SNR=10	14.73	194	P		P	18 06 53.2	-0.6
KDU	Kakadu baz=19,SNR=6.6	18.73	247	P		P	18 07 38.0	+0.2
EIDS	Eidsvold baz=20,SNR=8.6	19.52	177	P		Pn	18 07 49.0	0.0
MTN	Manton Dam baz=20,SNR=10.0	20.01	248	P		P	18 07 52.3	+0.5
RMQ	Roma baz=21,SNR=8.3	20.65	183	P		Pn	18 08 01.4	-1.0
WRA	Warramunga Arr 3.7nm,0.4s,baz=50,slow=10,SNR=117	20.84	226	P		P	18 08 01.8	+1.1
WRA				pP		pP	18 08 22.8	-2.3
	3.8nm,0.6s,baz=52,slow=11,SNR=7.7							
WRA				S		S	18 11 48.5	+2.6
	1.4nm,0.9s,baz=40,slow=20,SNR=4.9							
WRA				PcP		PcP	18 12 05.2	+1.2
	0.8nm,0.6s,baz=43,slow=1.8,SNR=6.2							
WRA				ScP		ScP	18 15 31.2	+2.8
	1.0nm,0.9s,baz=47,slow=2.6,SNR=5.7							
QLP	Quilpie baz=22,SNR=14	21.46	195	P		P	18 08 09.5	+2.3
DZM	Mont Dzumac 3.1nm,0.6s,baz=270,slow=24,SNR=7.5	22.62	137	P		P	18 08 20.0	+0.8
KNRA	Kununurra baz=23,SNR=13	23.17	243	P		P	18 08 24.8	+0.6
KNRA				S		S	18 12 24.5	-1.2
	baz=23,SNR=12							
ASAR	Alice Springs 1.4nm,0.5s,baz=55,slow=8.2,SNR=76	23.68	220	P		P	18 08 30.9	+2.0
ASAR				pP		pP	18 08 52.1	-3.8
	1.2nm,0.6s,baz=52,slow=9.6,SNR=4.1							
FITZ	Fitzroy Crossi 2.7nm,0.5s,baz=69,slow=6.7,SNR=26	26.87	241	P		P	18 08 56.9	-0.9
FITZ	Fitzroy Crossi baz=27,SNR=14	26.87	241	P		P	18 08 58.6	+0.8
LHI	Lord Howe Isla baz=27,SNR=4.1	26.96	163	P		P	18 08 50.1	-8.3
STKA	Stephens Creek 3.9nm,0.8s,baz=359,slow=10.0,SNR=7.4	27.18	196	P		P	18 08 59.8	-0.7
STKA				pP		pP	18 09 23.6	-5.6
	11nm,1.2s,baz=

σ1ᵍ45/32, mb3.6/12, 11C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.27**	**1**	⇑Pn	**Pn**	**18 06 13.2**	**+1.8**
	3.1nm,0.7s,baz=165,slow=11,SNR=20						
KK31				⇑Sn	**Sn**	**18 07 13.9**	**+1.7**
	3.2nm,0.5s,baz=172,slow=34						
AAK	**Ala-Arcba**	**5.75**	**32**	Pn	**Pn**	**18 06 20.0**	**+2.0**
	1.0nm,0.3s,baz=226,slow=8.7,SNR=6.0						
AAK				Pg	**Pg**	**18 06 40.2**	**-2.4**
	1.9nm,0.3s,baz=206,slow=16,SNR=14						
AAK				Sn	**Sn**	**18 07 25.7**	**+1.5**
	0.7nm,0.3s,baz=331,slow=16,SNR=1.8						
AAK				Lg	Lg	18 07 58.2	
	0.9nm,0.3s,baz=327,slow=19,SNR=6.2						
TKM2	**Tokmak 2**	**6.47**	**37**	⇑Pn	Pn	18 06 32.0	+4.0
	7.4nm,0.7s						
TKM2				⇑Sn	**Sn**	**18 07 39.3**	**-2.8**
	7.8nm,0.8s						
SDNR	**Sundarnagar**	**8.34**	**137**	*e*P	Sn	18 08 21.0	-6.7
MK31	**Makanchi Array**	**12.57**	**41**	⇑Pn	**Pn**	**18 07 52.8**	**+1.4**
	1.8nm,0.8s,baz=225,slow=14,SNR=15						
MKAR	**Makanchi Array**	**12.57**	**41**	Pn	**Pn**	**18 07 53.7**	**+2.3**
	0.1nm,0.3s,baz=226,slow=14,SNR=12						
AB31	**Akbulak array**	**13.68**	**330**	⇑Pn	**Pn**	**18 08 06.8**	**+0.4**
	0.1nm,0.2s,baz=157,slow=9.1,SNR=16						
AB31				⇑Sn	Sn	18 10 26.7	-12
	1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**14.06**	**22**	Pn	**Pn**	**18 08 11.6**	**0.0**
	0.0nm,0.3s,baz=209,slow=12,SNR=4.2						
VOSK	**Vostochnaya**	**14.90**	**1**	⇑Pn	**P**	**18 08 26.8**	**-2.0**
	1.0nm,0.6s						
ZRNK	**Zerenda**	**15.15**	**357**	⇑Pn	**P**	**18 08 30.5**	**-1.1**
	1.5nm,0.8s						
BVA0	**Borovoye Array**	**15.20**	**0**	Pn	**Pn**	**18 08 26.9**	**-0.2**
	1.2nm,0.6s,baz=226,slow=38,SNR=4.7						
BVAR	**Borovoye Array**	**15.20**	**0**	Pn	**Pn**	**18 08 27.3**	**+0.2**
	0.2nm,0.3s,baz=160,slow=15,SNR=3.2						
BRVK	**Borovoye**	**15.23**	**360**	⇓Pn	**Pn**	**18 08 28.1**	**+0.6**
	2.9nm,0.7s						
AKTO	**Aktyubinsk**	**15.38**	**329**	⇑Pn	**P**	**18 08 33.4**	**-0.7**
	7.4nm,0.7s						
AKTO				⇑Sn	**Sn**	**18 11 16.7**	**-3.0**
	3.9nm,1.4s						
AKTO	**Aktyubinsk**	**15.38**	**329**	Pn	**Pn**	**18 08 31.1**	**+1.6**
	0.6nm,0.3s,baz=140,slow=7.8,SNR=26						
AKTO				Sn	Sn	18 11 10.7	-9.1
	0.1nm,0.3s,baz=29,slow=19,SNR=2.7						
ZALV	**Zalesovo Beam**	**18.95**	**27**	P	**P**	**18 09 13.8**	**+0.3**
	0.3nm,0.3s,baz=218,slow=12,SNR=7.6						
KBZ	**Khabaz**	**21.56**	**295**	P	**P**	**18 09 41.4**	**-0.6**
	5.2nm,0.9s,baz=132,slow=8.1,SNR=10						
SONM	**Songino Array**	**28.03**	**58**	P	**P**	**18 10 45.4**	**+1.5**
	0.2nm,0.5s,baz=274,slow=9.1,SNR=2.5						
BRTR	**Keskin Array B**	**28.56**	**285**	P	**P**	**18 10 49.8**	**+1.1**
	0.3nm,0.6s,baz=90,slow=8.6,SNR=2.4						
AKASG	**Malin Array Be**	**31.72**	**307**	P	**P**	**18 11 16.1**	**-0.3**
	0.3nm,0.4s,baz=76,slow=4.9,SNR=2.7						
FINES	**FINESS Array B**	**36.10**	**325**	P	**P**	**18 11 54.4**	**+0.2**
	1.2nm,0.7s,baz=126,slow=5.5,SNR=6.3						
ARCES	**ARCESS Array B**	**39.72**	**337**	P	**P**	**18 12 25.0**	**+0.3**
	3.5nm,0.9s,baz=103,slow=11,SNR=5.2						
NB2	**NORSAR Subarra**	**43.01**	**322**	P	**P**	**18 12 51.2**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=95,slow=8.6						
NOA	**NORSAR Array B**	**43.01**	**322**	P	**P**	**18 12 51.5**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=96,slow=8.1,SNR=6.4						
ESDC	**Sonseca Array**	**56.39**	**297**	P	**P**	**18 14 33.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=63,slow=7.1,SNR=2.5						
TORD	**Torodi Ar. Bea**	**65.25**	**268**	P	**P**	**18 15 33.8**	**-0.8**
	comp=Z,1.2nm,1.0s,baz=48,slow=5.9,SNR=5.0						
YKA	**Yellowknife Ar**	**79.94**	**2**	P	**P**	**18 17 02.1**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=344,slow=4.7,SNR=3.3						
WRA	**Warramunga Arr**	**83.13**	**122**	P	**P**	**18 17 17.7**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=325,slow=5.0,SNR=4.4						
ASAR	**Alice Springs**	**85.43**	**125**	P	**P**	**18 17 29.0**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=304,slow=4.2,SNR=7.9						

TAP 01 18:06:35.1, 24°.23N×121°.72E, h10km±1km, ML1.8, 1C, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.19**	**216**	*e*P	Pg	18 06 39.5	+0.4
	baz=214						
ENA	**Nanau**	**0.19**	**6**	⇑*i*P	Pg	18 06 39.6	+0.4
	baz=8.0						
ENA				*e*S	Sg	18 06 43.1	+1.1
NNS	**Nan Shan**	**0.38**	**303**	*e*P	Pb	18 06 43.7	-0.4
	baz=303						
WHF	**Hehuan Shan**	**0.42**	**258**	P	Pg	18 06 44.4	+0.3
	baz=257						
TWT	**Tachien**	**0.50**	**272**	*e*S	Sb	18 06 54.1	+0.4
	baz=271						

TAP 01 18:06:41.6, 24°.21N×121°.73E, h6km±1km, ML1.9, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.18**	**223**	*e*P	Pg	18 06 46.1	+0.9
	baz=221						
TWD				*e*S	Sg	18 06 49.1	+1.5
	baz=221						
ENA	**Nanau**	**0.21**	**2**	*i* P	Pg	18 06 47.0	+1.1
	baz=4.0						
ENA				S	Sg	18 06 50.5	+1.8
	baz=4.0						
NNS	**Nan Shan**	**0.40**	**305**	*e*P	Pb	18 06 50.9	-0.3
	baz=305						
NNS				*e*S	Sb	18 06 57.1	-0.7
	baz=305						
TWC	**Suao**	**0.41**	**15**	*e*P	Pb	18 06 50.9	-0.4
	baz=16						
TWC				*e*S	Sg	18 06 56.1	+1.1
	baz=16						
WHF	**Hehuan Shan**	**0.43**	**261**	P	Pg	18 06 50.9	+0.4
	baz=260						
WHF				S	Sb	18 06 58.0	-1.3
	baz=260						
ESL	**Shilin**	**0.48**	**215**	*e*P	Pb	18 06 52.2	-0.3
	baz=213						
ESL				*e*S	Sb	18 07 00.2	+0.4
	baz=213						
TWT	**Tachien**	**0.51**	**275**	*e*P	Pn	18 06 54.9	-0.8
	baz=274						
TWT				*e*S	Sb	18 07 01.7	+0.6
	baz=274						
TWE	**Neicheng**	**0.51**	**353**	*e*P	Pb	18 06 52.6	-0.3
	baz=354						
TWE				*e*S	Sb	18 07 00.0	-0.7
	baz=354						
NSK	**Sanguang**	**0.57**	**324**	P	Pb	18 06 54.4	+0.3
	baz=324						
NSK				*e*S	Sb	18 07 02.5	-0.1
	baz=324						

*CSEM **01** 18:11:34.5, 42°.34N×13°.51E, h11km, MD2.0/9, After ROM*
ROM 01 18:11:34.5±0.1, 42°.34N×13°.51E, h11km±1km, Md2.0/9, Ml1.3/6, Error ellipse: s-maj=1.2km s-min=1.1km az=87.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.08**	**281**	Pg	Pg	18 11 37.1	+0.1
AQU	**L'Aquila**	**0.08**	**281**	Pg	Pg	18 11 37.1	+0.1
FAGN	**Fagnano**	**0.09**	**143**	Pg	Pg	18 11 37.9	+0.8
	178nm,1.1s						
FAGN	**Fagnano**	**0.09**	**143**	Pg	Pg	18 11 37.9	+0.8
	178nm,1.1s						
VCEL	**Villa Celiera**	**0.25**	**77**	Pg	Pg	18 11 40.5	+0.6
VCEL				Sg	Sg	18 11 44.4	+0.9
	56nm,0.4s						
VCEL	**Villa Celiera**	**0.25**	**77**	Pg	Pg	18 11 40.5	+0.6
VCEL				Sg	Sg	18 11 44.4	+0.9
	56nm,0.4s						
TERO	**Teramo**	**0.29**	**14**	Pg	Pg	18 11 40.6	+0.1
TERO				Sg	Sg	18 11 45.7	+1.1
	33nm,0.5s						
TERO	**Teramo**	**0.29**	**14**	Pg	Pg	18 11 40.6	+0.1
TERO				Sg	Sg	18 11 45.7	+1.1
	33nm,0.5s						
FIAM	**Fiamignano**	**0.30**	**257**	Pg	Pg	18 11 41.1	+0.4
FIAM				Sg	Sb	18 11 46.1	-1.1
	61nm,0.9s						
FIAM	**Fiamignano**	**0.30**	**257**	Pg	Pg	18 11 41.1	+0.4
FIAM				Sg	Sb	18 11 46.1	-1.1
	61nm,0.9s						
PTQR	**Pietraquaria**	**0.33**	**194**	Pg	Pg	18 11 41.4	+0.2
PTQR				Sg	Sg	18 11 46.6	+1.0
	4.0nm,0.4s						
PTQR	**Pietraquaria**	**0.33**	**194**	Pg	Pg	18 11 41.4	+0.2
PTQR				Sg	Sg	18 11 46.6	+1.0
	4.0nm,0.4s						
INTR	**Introdacqua**	**0.44**	**138**	Pg	Pg	18 11 43.2	-0.1
INTR				Sg	Sb	18 11 50.4	-0.7
INTR	**Introdacqua**	**0.44**	**138**	Pg	Pg	18 11 43.2	-0.1
INTR				Sg	Sb	18 11 50.4	-0.7
NRCA	**Norcia**	**0.57**	**330**	Pg	Pg	18 11 45.6	-0.2
NRCA	**Norcia**	**0.57**	**330**	Pg	Pg	18 11 45.6	-0.2

*ISK **01** 18:12:15.5, 38°.87N×26°.96E, h14km, MD3.5*
*DDA **01** 18:12:15.6, 38°.90N×27°.05E, h7km, MD3.3*
*ISCJB **01** 18:12:16.0±0.5, 38°.89N±0°.01×27°.00E±0°.02, h9km±4km, Error ellipse: s-maj=2.5km s-min=2.2km az=158.6*
*CSEM **01** 18:12:16.6±0.1, 38°.88N×27°.01E, h10km, MD3.5, Error ellipse: s-maj=2.2km s-min=2.0km az=71.0*
*ATH **01** 18:12:17.9, 38°.90N×26°.86E, h29km±1km, MD3.3/6*
*THE **01** 18:12:19.0, 38°.93N×26°.98E, h25km±6km, ML3.4/4, Error ellipse: s-maj=6.4km s-min=1.5km az=299.0*
ISC 01 18:12:16.1±1.0, 38°.88N±0°.01×27°.00E±0°.02, h9km±9km, n219, σ0ᵍ88/281, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.49**	**331**	*i* P	**Pb**	**18 12 26.3**	**-0.5**
AYVA				*i* S	**Sb**	**18 12 34.1**	**0.0**
AYVA	**Ayvalik**	**0.49**	**331**	*i* P	**Pb**	**18 12 26.3**	**-0.5**
AYVA				*i* S	**Sb**	**18 12 34.1**	**0.0**
AYVA	**Ayvalik**	**0.49**	**331**	*i* P	**Pb**	**18 12 26.3**	**-0.5**
AYVA				*i* S	**Sb**	**18 12 34.1**	**0.0**
BLCB	**Balcova**	**0.50**	**176**	PG	**Pg**	**18 12 25.6**	**-0.2**
BLCB				*e*SG	**Sg**	**18 12 32.8**	**+0.5**
BLCB	**Balcova**	**0.50**	**176**	*i* Pg	**Pg**	**18 12 25.6**	**-0.2**
BLCB				*e*Sg	**Sg**	**18 12 32.8**	**+0.5**
IZM	**Izmir**	**0.53**	**157**	PG	**Pg**	**18 12 26.4**	**+0.1**
IZM	**Izmir**	**0.53**	**157**	*i* Pg	**Pg**	**18 12 26.4**	**+0.1**
URLA	**Izmir**	**0.61**	**211**	*i* P	**Pb**	**18 12 28.2**	**-0.8**
URLA				*i* S	**Sn**	**18 12 39.2**	**-1.8**
URLA	**Izmir**	**0.61**	**211**	*i* P	**Pb**	**18 12 28.2**	**-0.8**
URLA				*i* S	**Sn**	**18 12 39.2**	**-1.8**
URLA	**Izmir**	**0.61**	**211**	*i* P	**Pb**	**18 12 28.2**	**-0.8**
URLA				*i* S	**Sn**	**18 12 39.2**	**-1.8**
AKHS	**Akhisar**	**0.64**	**90**	*i* P	**Pg**	**18 12 28.0**	**-0.4**
AKHS				*i* S	**Sg**	**18 12 37.2**	**+0.5**
AKHS	**Akhisar**	**0.64**	**90**	*i* P	**Pg**	**18 12 28.0**	**-0.4**
AKHS				*i* S	**Sg**	**18 12 37.2**	**+0.5**
AKHS	**Akhisar**	**0.64**	**90**	*i* P	**Pg**	**18 12 28.0**	**-0.4**
AKHS				*i* S	**Sg**	**18 12 37.2**	**+0.5**
PRK	**Paraskevi**	**0.67**	**303**	P	**Pb**	**18 12 29.8**	**-0.2**
PRK				S	**Sb**	**18 12 40.0**	**+0.6**
PRK	**Paraskevi**	**0.67**	**303**	*e*PN	**Pb**	**18 12 30.0**	**0.0**
PRK				*e*SN	**Sb**	**18 12 38.7**	**-0.7**
PRK	**Paraskevi**	**0.67**	**303**	P	**Pb**	**18 12 29.8**	**-0.2**
PRK				*e*Sn	**Sb**	**18 12 38.7**	**-0.7**
PRK				S	**Sb**	**18 12 40.0**	**+0.6**
CHOS	**Chios island**	**0.89**	**236**	P	**Pb**	**18 12 33.7**	**-0.1**
CHOS				S	**Sb**	**18 12 45.8**	**0.0**
CHOS	**Chios island**	**0.89**	**236**	*e*PN	**Pb**	**18 12 33.7**	**-0.1**
CHOS				*e*SN	**Sb**	**18 12 45.8**	**0.0**
CHOS	**Chios island**	**0.89**	**236**	P	**Pb**	**18 12 33.7**	**-0.1**
CHOS				*e*Sn	**Sb**	**18 12 45.8**	**0.0**
BALY	**Balya**	**0.98**	**29**	*i* P	**Pg**	**18 12 34.1**	**-0.8**
BALY				*i* S	**Sb**	**18 12 48.5**	**+0.1**
BALY	**Balya**	**0.98**	**29**	*i* P	**Pg**	**18 12 34.1**	**-0.8**
BALY				*i* S	**Sb**	**18 12 48.5**	**+0.1**
BALY	**Balya**	**0.98**	**29**	*i* P	**Pg**	**18 12 34.1**	**-0.8**
EZN	**Ezine**	**1.08**	**331**	*e*PG	**Pb**	**18 12 36.4**	**-0.5**
EZN	**Ezine**	**1.08**	**331**	*e*Pg	**Pb**	**18 12 36.4**	**-0.5**
SMG	**Samos**	**1.18**	**186**	P	**Pg**	**18 12 38.2**	**-0.5**
SMG				S	**Sn**	**18 12 54.9**	**-0.1**
SMG	**Samos**	**1.18**	**186**	P	**Pg**	**18 12 38.2**	**-0.5**
SMG				S	**Sn**	**18 12 54.9**	**-0.1**
GCAM	**G?zelcaml?**	**1.20**	**171**	*i* P	**Pb**	**18 12 38.4**	**-0.5**
GCAM				*i* S	**Sb**	**18 12 54.5**	**0.0**
GCAM	**G?zelcaml?**	**1.20**	**171**	*i* P	**Pb**	**18 12 38.4**	**-0.5**
GCAM				*i* S	**Sb**	**18 12 54.5**	**0.0**
GCAM	**G?zelcaml?**	**1.20**	**171**	*i* P	**Pb**	**18 12 38.4**	**-0.5**
BOZC	**Bozcaada**	**1.21**	**323**	*i* P	**Pn**	**18 12 39.1**	**-0.1**
BOZC				*i* S	**Sn**	**18 12 55.0**	**-0.6**
BOZC	**Bozcaada**	**1.21**	**323**	*i* P	**Pn**	**18 12 39.1**	**-0.1**
BOZC				*i* S	**Sn**	**18 12 55.0**	**-0.6**
GONE	**Gonen-Balikesi**	**1.28**	**24**	*e*PN	**Pn**	**18 12 39.7**	**-0.5**
GONE	**Gonen-Balikesi**	**1.28**	**24**	*e*Pn	**Pn**	**18 12 39.7**	**-0.5**
DEMI	**Demirci**	**1.35**	**83**	*i* P	**Pn**	**18 12 40.8**	**-0.4**
DEMI				*i* S	**Sb**	**18 12 58.6**	**-0.4**
DEMI	**Demirci**	**1.35**	**83**	*i* P	**Pn**	**18 12 40.8**	**-0.4**
DEMI				*i* S	**Sb**	**18 12 58.6**	**-0.4**
DEMI	**Demirci**	**1.35**	**83**	*i* P	**Pn**	**18 12 40.8**	**-0.4**
DEMI				*i* S	**Sb**	**18 12 58.6**	**-0.4**
DURS	**Dursunbey**	**1.35**	**58**	*i* P	**Pn**	**18 12 40.6**	**-0.6**
DURS				*i* S	**Sb**	**18 12 58.8**	**-0.2**
DURS	**Dursunbey**	**1.35**	**58**	*i* P	**Pn**	**18 12 40.6**	**-0.6**
DURS				*i* S	**Sb**	**18 12 58.8**	**-0.2**
DURS	**Dursunbey**	**1.35**	**58**	*i* P	**Pn**	**18 12 40.6**	**-0.6**
KULA	**Kula-Manisa**	**1.35**	**105**	*e*PN	**Pn**	**18 12 40.7**	**-0.6**
KULA	**Kula-Manisa**	**1.35**	**105**	P	**Pn**	**18 12 40.7**	**-0.6**
KULA				S	**Sb**	**18 12 58.6**	**-0.5**
KULA	**Kula-Manisa**	**1.35**	**105**	P	**Pn**	**18 12 40.7**	**-0.6**
KULA				S	**Sb**	**18 12 58.6**	**-0.5**
AYDN	**Tasoluk**	**1.40**	**150**	*i* P	**Pn**	**18 12 41.4**	**-0.6**
AYDN				*i* S	**Sg**	**18 13 01.6**	**+0.4**
AYDN	**Tasoluk**	**1.40**	**150**	*i* P	**Pn**	**18 12 41.4**	**-0.6**
AYDN				*i* S	**Sg**	**18 13 01.6**	**+0.4**
AYDN	**Tasoluk**	**1.40**	**150**	*i* P	**Pn**	**18 12 41.4**	**-0.6**
LPK	**Lapseki**	**1.50**	**353**	*e*PN	**Pn**	**18 12 42.8**	**-0.4**
LPK	**Lapseki**	**1.50**	**353**	*e*Pn	**Pn**	**18 12 42.8**	**-0.4**
KRBG	**Karabiga-Canak**	**1.52**	**9**	*e*PN	**Pn**	**18 12 43.2**	**-0.3**
KRBG	**Karabiga-Canak**	**1.52**	**9**	*e*Pn	**Pn**	**18 12 43.2**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.56**	**345**	*e*PN	**Pn**	**18 12 43.9**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.56**	**345**	*e*Pn	**Pn**	**18 12 43.9**	**-0.2**
BNT	**Bandirma**	**1.63**	**26**	*e*PN	**Pn**	**18 12 44.6**	**-0.5**
BNT	**Bandirma**	**1.63**	**26**	*e*Pn	**Pn**	**18 12 44.6**	**-0.5**
MLSB	**Milas**	**1.70**	**159**	*e*PN	**Pn**	**18 12 45.2**	**-0.8**
MLSB	**Milas**	**1.70**	**159**	*e*Pn	**Pn**	**18 12 45.2**	**-0.8**
KCTX	**Karacabey (Bur**	**1.73**	**37**	*e*PN	**Pn**	**18 12 45.8**	**-0.7**
KCTX	**Karacabey (Bur**	**1.73**	**37**	*e*Pn	**Pn**	**18 12 45.8**	**-0.7**
LIA	**Limnos Island**	**1.73**	**306**	P	**Pb**	**18 12 46.9**	**-1.2**
LIA				S	**Sn**	**18 13 07.0**	**-1.6**
LIA	**Limnos Island**	**1.73**	**306**	*e*PB	**Pn**	**18 12 46.3**	**-0.1**
LIA				*e*SN	**Sn**	**18 13 07.9**	**-0.7**
LIA	**Limnos Island**	**1.73**	**306**	*e*Pb	**Pn**	**18 12 46.3**	**-0.1**
LIA	**Limnos Island**	**1.73**	**306**	P	**Pb**	**18 12 46.9**	**-1.2**
LIA				S	**Sn**	**18 13 07.0**	**-1.6**
RKY	**Sarkoy-Tekirda**	**1.81**	**4**	*e*PN	**Pn**	**18 12 47.6**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.81**	**4**	*e*Pn	**Pn**	**18 12 47.6**	**+0.1**
SART	**Tekirdag**	**1.81**	**4**	*i* P	**Pn**	**18 12 47.8**	**+0.3**
SART				*i* S	**Sn**	**18 13 09.6**	**-1.1**
SART	**Tekirdag**	**1.81**	**4**	*i* P	**Pn**	**18 12 47.8**	**+0.3**
SART				*i* S	**Sn**	**18 13 09.6**	**-1.1**
SART	**Tekirdag**	**1.81**	**4**	*i* P	**Pn**	**18 12 47.8**	**+0.3**
SART				*i* S	**Sn**	**18 13 09.6**	**-1.1**
BODT	**Bodrum**	**1.84**	**172**	*e*PN	**Pn**	**18 12 47.3**	**-0.5**
BODT	**Bodrum**	**1.84**	**172**	*e*Pn	**Pn**	**18 12 47.3**	**-0.5**
ORLT	**Orhaneli**	**1.87**	**51**	*e*PN	**Pn**	**18 12 48.9**	**+0.5**
ORLT	**Orhaneli**	**1.87**	**51**	*e*Pn	**Pn**	**18 12 48.9**	**+0.5**
MFT	**Murefte**	**1.91**	**6**	*e*PN	**Pn**	**18 12 49.0**	**0.0**
MFT	**Murefte**	**1.91**	**6**	*e*Pn	**Pn**	**18 12 49.0**	**0.0**
GDZ	**Gediz**	**1.94**	**83**	*i* P	**Pb**	**18 12 50.8**	**-1.0**
GDZ				*i* S	**Sb**	**18 13 16.6**	**+0.4**
GDZ	**Gediz**	**1.94**	**83**	*i* P	**Pb**	**18 12 50.8**	**-1.0**
GDZ				*i* S	**Sb**	**18 13 16.6**	**+0.4**
GDZ	**Gediz**	**1.94**	**83**	*i* P	**Pb**	**18 12 50.8**	**-1.0**
GDZ				*i* S	**Sb**	**18 13 16.6**	**+0.4**
SMTH	**Samothraki Isl**	**1.95**	**325**	P	**Pn**	**18 12 49.6**	**+0.2**
SMTH	**Samothraki Isl**	**1.95**	**325**	*e*PN	**Pn**	**18 12 49.8**	**+0.4**
SMTH				*e*SN	**Sn**	**18 13 14.2**	**+0.2**
SMTH	**Samothraki Isl**	**1.95**	**325**	*e*Pn	**Pn**	**18 12 49.8**	**+0.4**
SMTH				*e*Sn	**Sn**	**18 13 14.2**	**+0.2**
DENT	**Denizli**	**1.96**	**125**	*e*PN	**Pn**	**18 12 49.4**	**-0.1**
DENT	**Denizli**	**1.96**	**125**	*e*Pn	**Pn**	**18 12 49.4**	**-0.1**
ENEZ	**Enez**	**1.96**	**341**	*e*PN	**Pn**	**18 12 49.4**	**-0.2**
ENEZ	**Enez**	**1.96**	**341**	*e*Pn	**Pn**	**18 12 49.4**	**-0.2**
TVSB	**Tavsanli**	**2.00**	**73**	*e*PN	**Pn**	**18 12 50.0**	**-0.1**
TVSB	**Tavsanli**	**2.00**	**73**	*e*Pn	**Pn**	**18 12 50.0**	**-0.1**
DNZL	**Cakiroluk**	**2.00**	**126**	*i* P	**Pn**	**18 12 50.4**	**+0.1**
DNZL	**Cakiroluk**	**2.00**	**126**	*i* P	**Pn**	**18 12 50.4**	**+0.1**
DNZL	**Cakiroluk**	**2.00**	**126**	*i* P	**Pn**	**18 12 50.4**	**+0.1**
KHAL	**Karahalli**	**2.02**	**104**	*i* P	**Pn**	**18 12 50.5**	**0.0**
KHAL				*i* S	**Sn**	**18 13 14.4**	**-1.5**
KHAL	**Karahalli**	**2.02**	**104**	*i* P	**Pn**	**18 12 50.5**	**0.0**
KHAL				*i* S	**Sn**	**18 13 14.4**	**-1.5**
KHAL	**Karahalli**	**2.02**	**104**	*i* P	**Pn**	**18 12 50.5**	**0.0**
KHAL				*i* S	**Sn**	**18 13 14.4**	**-1.5**
YER	**Yerkesik**	**2.02**	**149**	*e*PN	**Pn**	**18 12 49.8**	**-0.6**
YER	**Yerkesik**	**2.02**	**149**	*e*Pn	**Pn**	**18 12 49.8**	**-0.6**
KHL	**Karahalli**	**2.06**	**105**	*e*PN	**Pn**	**18 12 51.1**	**+0.2**
KHL	**Karahalli**	**2.06**	**105**	*e*Pn	**Pn**	**18 12 51.1**	**+0.2**
ULDT	**Uludag**	**2.08**	**52**	*i* P	**Pn**	**18 12 51.2**	**-0.1**
ULDT	**Uludag**	**2.08**	**52**	*i* P	**Pn**	**18 12 51.2**	**-0.1**
ULDT	**Uludag**	**2.08**	**52**	*i* P	**Pn**	**18 12 51.2**	**-0.1**
MDNY	**Mudanya-Bursa**	**2.08**	**44**	*e*PN	**Pn**	**18 12 51.5**	**+0.4**
MDNY	**Mudanya-Bursa**	**2.08**	**44**	*e*Pn	**Pn**	**18 12 51.5**	**+0.4**
ALN	**Alexandroupoli**	**2.14**	**340**	P	**Pn**	**18 12 52.0**	**0.0**
ALN				S	**Sn**	**18 13 17.8**	**-0.9**
ALN	**Alexandroupoli**	**2.14**	**340**	*e*PN	**Pn**	**18 12 52.6**	**+0.6**
ALN				*e*SN	**Sn**	**18 13 18.7**	**0.0**
ALN	**Alexandroupoli**	**2.14**	**340**	P	**Pn**	**18 12 52.0**	**0.0**
ALN	**Alexandroupoli**	**2.14**	**340**	*e*Pn	**Pn**	**18 12 52.6**	**+0.6**
ALN				S	**Sn**	**18 13 17.8**	**-0.9**
ALN				*e*Sn	**Sn**	**18 13 18.7**	**0.0**
TKR	**Tekirdag**	**2.14**	**11**	*e*PN	**Pn**	**18 12 52.3**	**+0.2**
TKR	**Tekirdag**	**2.14**	**11**	*e*Pn	**Pn**	**18 12 52.3**	**+0.2**
APE	**Apeiranthos**	**2.15**	**213**	*e*PN	**Pn**	**18 12 51.8**	**-0.4**
APE	**Apeiranthos**	**2.15**	**213**	P	**Pn**	**18 12 51.8**	**-0.4**
APE	**Apeiranthos**	**2.15**	**213**	P	**Pn**	**18 12 51.5**	**-0.7**
APE	**Apeiranthos**	**2.15**	**213**	*e*PN	**Pn**	**18 12 51.8**	**-0.4**
DAT	**Datca**	**2.20**	**168**	*e*PN	**Pn**	**18 12 52.5**	**-0.4**
DAT	**Datca**	**2.20**	**168**	*e*Pn	**Pn**	**18 12 52.5**	**-0.4**
ARMT	**Armutlu**	**2.21**	**40**	*e*PN	**Pn**	**18 12 53.2**	**+0.3**
ARMT	**Armutlu**	**2.21**	**40**	*e*Pn	**Pn**	**18 12 53.3**	**+0.3**
NIS1	**Nisyros Isl.**	**2.28**	**176**	P	**Pb**	**18 12 56.4**	**-1.1**
NIS1	**Nisyros Isl.**	**2.28**	**176**	P	**Pb**	**18 12 56.4**	**-1.1**
GEMT	**Gemlik**	**2.29**	**47**	*e*PN	**Pn**	**18 12 54.8**	**+0.7**
GEMT	**Gemlik**	**2.29**	**47**	*e*Pn	**Pn**	**18 12 54.8**	**+0.7**
TURN	**Turunc**	**2.38**	**147**	*i* P	**Pn**	**18 12 54.1**	**-1.1**
TURN	**Turunc**	**2.38**	**147**	*i* P	**Pn**	**18 12 54.1**	**-1.1**
TURN	**Turunc**	**2.38**	**147**	*i* P	**Pn**	**18 12 54.1**	**-1.1**
ALT	**Altintas**	**2.43**	**85**	*e*PN	**Pn**	**18 12 56.5**	**+0.4**
ALT	**Altintas**	**2.43**	**85**	P	**Pn**	**18 12 55.8**	**-0.3**
ALT	**Altintas**	**2.43**	**85**	*e*P	**Pg**	**18 13 04.0**	**+1.3**
ALT				*i* S	**Sn**	**18 13 27.3**	**+1.3**
ALT	**Altintas**	**2.43**	**85**	P	**Pn**	**18 12 55.8**	**-0.3**
ALT	**Altintas**	**2.43**	**85**	*e*PN	**Pn**	**18 12 56.5**	**+0.4**
DALY	**Dalyan (Mu¨la**	**2.44**	**147**	*e*PN	**Pn**	**18 12 56.1**	**-0.1**

*CSEM **01** 18:18:20.6±0.1,38.°90N×26.°94E,h2km,MD3.0,Error ellipse: s-maj=3.0km s-min=2.3km az=76.0*
*DDA **01** 18:18:20.9,38.°88N×27.°04E,h24km,MD3.0*
*ATH **01** 18:18:22.1,38.°87N×26.°96E,h34km±2km,MD3.1/5*
ISC 01 18:18:20.5±1.1,38.°89N±0.°02×26.°97E±0.°02,h8km±9km, n143,σ0°91/187,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.47**	**332**	*i* P	**Pb**	**18 18 31.4**	**+0.4**
AYVA				*i* S	**Sb**	**18 18 38.9**	**+0.8**
AYVA	**Ayvalik**	**0.47**	**332**	*i* P	**Pb**	**18 18 31.4**	**+0.4**
AYVA				*i* S	**Sb**	**18 18 38.9**	**+0.8**
AYVA	**Ayvalik**	**0.47**	**332**	*i* P	**Pb**	**18 18 31.4**	**+0.4**
BLCB	**Balcova**	**0.51**	**174**	PG	**Pg**	**18 18 30.9**	**+0.4**
BLCB	**Balcova**	**0.51**	**174**	*i* Pg	**Pg**	**18 18 30.9**	**+0.4**
IZM	**Izmir**	**0.55**	**155**	PG	**Pg**	**18 18 31.4**	**+0.3**
IZM	**Izmir**	**0.55**	**155**	*i* Pg	**Pg**	**18 18 31.4**	**+0.3**
URLA	**Izmir**	**0.61**	**209**	*i* P	**Pb**	**18 18 33.1**	**-0.3**
URLA				*i* S	**Sn**	**18 18 43.8**	**-1.6**
URLA	**Izmir**	**0.61**	**209**	*i* P	**Pb**	**18 18 33.1**	**-0.3**
URLA				*i* S	**Sn**	**18 18 43.8**	**-1.6**
URLA	**Izmir**	**0.61**	**209**	*i* P	**Pb**	**18 18 33.1**	**-0.3**
PRK	**Paraskevi**	**0.65**	**303**	*e*PN	**Pn**	**18 18 35.6**	**-0.3**
PRK				*e*SN	**Sn**	**18 18 45.2**	**-1.2**
PRK	**Paraskevi**	**0.65**	**303**	*e*Pn	**Pn**	**18 18 35.6**	**-0.3**
PRK				*e*Sn	**Sn**	**18 18 45.2**	**-1.2**
AKHS	**Akhisar**	**0.66**	**91**	*i* P	**Pg**	**18 18 33.1**	**-0.1**
AKHS				*i* S	**Sg**	**18 18 42.2**	**+0.4**
AKHS	**Akhisar**	**0.66**	**91**	*i* P	**Pg**	**18 18 33.1**	**-0.1**
AKHS				*i* S	**Sg**	**18 18 42.2**	**+0.4**
AKHS	**Akhisar**	**0.66**	**91**	*i* P	**Pg**	**18 18 33.1**	**-0.1**
AKHS				*i* S	**Sg**	**18 18 42.2**	**+0.4**
CHOS	**Chios island**	**0.88**	**235**	*e*PN	**Pn**	**18 18 38.7**	**-0.5**
CHOS				*e*SN	**Sb**	**18 18 50.8**	**+0.9**
CHOS	**Chios island**	**0.88**	**235**	*e*Pn	**Pn**	**18 18 38.7**	**-0.5**
CHOS				*e*Sn	**Sb**	**18 18 50.8**	**+0.9**
BALY	**Balya**	**0.98**	**31**	*i* P	**Pg**	**18 18 39.1**	**-0.4**
BALY				*i* S	**Sn**	**18 18 55.3**	**+0.5**
BALY	**Balya**	**0.98**	**31**	*i* P	**Pg**	**18 18 39.1**	**-0.4**
BALY				*i* S	**Sn**	**18 18 55.3**	**+0.5**
BALY	**Balya**	**0.98**	**31**	*i* P	**Pg**	**18 18 39.1**	**-0.4**
BALY				*i* S	**Sn**	**18 18 55.3**	**+0.5**
BALB	**Balikesir**	**1.03**	**43**	*e*PG	**Pg**	**18 18 39.9**	**-0.4**
BALB	**Balikesir**	**1.03**	**43**	*e*Pg	**Pg**	**18 18 39.9**	**-0.4**
EZN	**Ezine**	**1.06**	**332**	*e*PG	**Pg**	**18 18 39.6**	**-1.2**
EZN				*e*SG	**Sg**	**18 18 54.6**	**+0.1**
EZN	**Ezine**	**1.06**	**332**	*e*Pg	**Pg**	**18 18 39.6**	**-1.2**
EZN				*e*Sg	**Sg**	**18 18 54.6**	**+0.1**
BOZC	**Bozcaada**	**1.18**	**323**	*i* P	**Pn**	**18 18 44.5**	**+1.2**
BOZC				*i* S	**Sn**	**18 19 00.2**	**+0.6**
BOZC	**Bozcaada**	**1.18**	**323**	*i* P	**Pn**	**18 18 44.5**	**+1.2**
BOZC				*i* S	**Sn**	**18 19 00.2**	**+0.6**
GCAM	**G?zelcaml?**	**1.21**	**170**	*i* P	**Pn**	**18 18 43.9**	**+0.2**
GCAM				*i* S	**Sb**	**18 18 59.4**	**+0.1**
GCAM	**G?zelcaml?**	**1.21**	**170**	*i* P	**Pn**	**18 18 43.9**	**+0.2**
GCAM				*i* S	**Sb**	**18 18 59.4**	**+0.1**
GCAM	**G?zelcaml?**	**1.21**	**170**	*i* P	**Pn**	**18 18 43.9**	**+0.2**
GCAM				*i* S	**Sb**	**18 18 59.4**	**+0.1**
GONE	**Gonen-Balikesi**	**1.28**	**25**	*e*PN	**Pn**	**18 18 44.5**	**-0.1**
GONE	**Gonen-Balikesi**	**1.28**	**25**	*e*Pn	**Pn**	**18 18 44.5**	**-0.1**
MANT	**Manisa**	**1.31**	**107**	*i* P	**Pn**	**18 18 44.7**	**-0.5**
MANT				*i* S	**Sb**	**18 19 01.0**	**-1.4**
MANT	**Manisa**	**1.31**	**107**	*i* P	**Pn**	**18 18 44.7**	**-0.5**
MANT				*i* S	**Sb**	**18 19 01.0**	**-1.4**
MANT	**Manisa**	**1.31**	**107**	*i* P	**Pn**	**18 18 44.7**	**-0.5**
DURS	**Dursunbey**	**1.36**	**58**	*i* P	**Pn**	**18 18 45.5**	**-0.4**
DURS				*i* S	**Sb**	**18 19 03.6**	**-0.3**
DURS	**Dursunbey**	**1.36**	**58**	*i* P	**Pn**	**18 18 45.5**	**-0.4**
DURS				*i* S	**Sb**	**18 19 03.6**	**-0.3**
DURS	**Dursunbey**	**1.36**	**58**	*i* P	**Pn**	**18 18 45.5**	**-0.4**
DURS				*i* S	**Sb**	**18 19 03.6**	**-0.3**
DEMI	**Demirci**	**1.37**	**83**	*i* P	**Pn**	**18 18 45.7**	**-0.2**
DEMI				*i* S	**Sb**	**18 19 03.5**	**-0.5**
DEMI	**Demirci**	**1.37**	**83**	*i* P	**Pn**	**18 18 45.7**	**-0.2**
DEMI				*i* S	**Sb**	**18 19 03.5**	**-0.5**
DEMI	**Demirci**	**1.37**	**83**	*i* P	**Pn**	**18 18 45.7**	**-0.2**
DEMI				*i* S	**Sb**	**18 19 03.5**	**-0.5**
KULA	**Kula-Manisa**	**1.38**	**105**	*e*PN	**Pg**	**18 18 47.0**	**+0.1**
KULA	**Kula-Manisa**	**1.38**	**105**	*e*Pn	**Pg**	**18 18 47.0**	**+0.1**
AYDN	**Tasoluk**	**1.42**	**150**	*i* P	**Pn**	**18 18 46.3**	**-0.4**
AYDN				*i* S	**Sb**	**18 19 05.9**	**+0.3**
AYDN	**Tasoluk**	**1.42**	**150**	*i* P	**Pn**	**18 18 46.3**	**-0.4**
AYDN				*i* S	**Sb**	**18 19 05.9**	**+0.3**
AYDN	**Tasoluk**	**1.42**	**150**	*i* P	**Pn**	**18 18 46.3**	**-0.4**
AYDN				*i* S	**Sb**	**18 19 05.9**	**+0.3**
LPK	**Lapseki**	**1.49**	**354**	*e*PN	**Pn**	**18 18 47.5**	**0.0**
LPK	**Lapseki**	**1.49**	**354**	*e*Pn	**Pn**	**18 18 47.5**	**0.0**
KRBG	**Karabiga-Canak**	**1.52**	**9**	*e*PN	**Pn**	**18 18 48.1**	**+0.2**
KRBG	**Karabiga-Canak**	**1.52**	**9**	*e*Pn	**Pn**	**18 18 48.1**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.55**	**346**	*e*PN	**Pn**	**18 18 48.2**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.55**	**346**	*e*Pn	**Pn**	**18 18 48.2**	**-0.1**
BNT	**Bandirma**	**1.63**	**26**	*e*PN	**Pn**	**18 18 49.4**	**-0.1**
BNT	**Bandirma**	**1.63**	**26**	*e*Pn	**Pn**	**18 18 49.4**	**-0.1**
LIA	**Limnos Island**	**1.71**	**306**	*e*PB	**Pb**	**18 18 52.0**	**-0.1**
LIA				*e*SN	**Sn**	**18 19 12.9**	**+0.3**
LIA	**Limnos Island**	**1.71**	**306**	*e*Pb	**Pb**	**18 18 52.0**	**-0.1**
LIA				*e*Sn	**Sn**	**18 19 12.9**	**+0.3**
MLSB	**Milas**	**1.72**	**158**	*e*PN	**Pb**	**18 18 51.9**	**-0.4**
MLSB	**Milas**	**1.72**	**158**	*e*Pn	**Pb**	**18 18 51.9**	**-0.4**
KCTX	**Karacabey (Bur**	**1.74**	**38**	*e*PN	**Pn**	**18 18 51.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.74**	**38**	*e*Pn	**Pn**	**18 18 51.1**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.80**	**5**	*e*PN	**Pn**	**18 18 52.1**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.80**	**5**	*e*Pn	**Pn**	**18 18 52.1**	**+0.2**
SART	**Tekirdag**	**1.80**	**5**	*i* P	**Pn**	**18 18 52.6**	**+0.7**
SART				*i* S	**Sb**	**18 19 16.1**	**-0.4**
SART	**Tekirdag**	**1.80**	**5**	*i* P	**Pn**	**18 18 52.6**	**+0.7**
SART				*i* S	**Sb**	**18 19 16.1**	**-0.4**
SART	**Tekirdag**	**1.80**	**5**	*i* P	**Pn**	**18 18 52.6**	**+0.7**
SART				*i* S	**Sb**	**18 19 16.1**	**-0.4**
BODT	**Bodrum**	**1.85**	**172**	*e*PN	**Pb**	**18 18 53.8**	**-0.7**
BODT	**Bodrum**	**1.85**	**172**	*e*Pn	**Pb**	**18 18 53.8**	**-0.7**
ORLT	**Orhaneli**	**1.88**	**52**	*e*PN	**Pb**	**18 18 54.2**	**-0.9**
ORLT	**Orhaneli**	**1.88**	**52**	*e*Pn	**Pb**	**18 18 54.2**	**-0.9**
MFT	**Murefte**	**1.91**	**7**	*e*PN	**Pb**	**18 18 53.8**	**+0.5**
MFT	**Murefte**	**1.91**	**7**	*e*Pn	**Pb**	**18 18 53.8**	**+0.5**
SMTH	**Samothraki Isl**	**1.93**	**325**	*e*PN	**Pn**	**18 18 54.3**	**+0.7**
SMTH				*e*SN	**Sb**	**18 19 19.3**	**-0.8**
SMTH	**Samothraki Isl**	**1.93**	**325**	*e*Pn	**Pn**	**18 18 54.3**	**+0.7**
SMTH				*e*Sn	**Sb**	**18 19 19.3**	**-0.8**
ENEZ	**Enez**	**1.94**	**341**	*e*PN	**Pn**	**18 18 54.0**	**+0.2**
ENEZ	**Enez**	**1.94**	**341**	*e*Pn	**Pn**	**18 18 54.0**	**+0.2**
GDZ	**Gediz**	**1.97**	**84**	*i* P	**Pb**	**18 18 56.8**	**+0.2**
GDZ				*i* S	**Sb**	**18 19 21.6**	**+0.3**
GDZ	**Gediz**	**1.97**	**84**	*i* P	**Pb**	**18 18 56.8**	**+0.2**
GDZ				*i* S	**Sb**	**18 19 21.6**	**+0.3**
GDZ	**Gediz**	**1.97**	**84**	*i* P	**Pb**	**18 18 56.8**	**+0.2**
GDZ				*i* S	**Sb**	**18 19 21.6**	**+0.3**
DENT	**Denizli**	**1.98**	**124**	*e*PN	**Pb**	**18 18 55.9**	**-0.9**
DENT	**Denizli**	**1.98**	**124**	*e*Pn	**Pb**	**18 18 55.9**	**-0.9**
TVSB	**Tavsanli**	**2.01**	**73**	*e*PN	**Pb**	**18 18 56.4**	**-1.0**
TVSB	**Tavsanli**	**2.01**	**73**	*e*Pn	**Pb**	**18 18 56.4**	**-1.0**
DNZL	**Cakiroluk**	**2.03**	**126**	*i* P	**Pn**	**18 18 54.9**	**-0.2**
DNZL	**Cakiroluk**	**2.03**	**126**	*i* P	**Pn**	**18 18 54.9**	**-0.2**
DNZL	**Cakiroluk**	**2.03**	**126**	*i* P	**Pn**	**18 18 54.9**	**-0.2**
YER	**Yerkesik**	**2.04**	**149**	*e*PN	**Pb**	**18 18 56.7**	**-1.1**
YER	**Yerkesik**	**2.04**	**149**	*e*Pn	**Pb**	**18 18 56.7**	**-1.1**
KHAL	**Karahalli**	**2.04**	**104**	*i* P	**Pg**	**18 18 59.7**	**0.0**
KHAL	**Karahalli**	**2.04**	**104**	*i* P	**Pg**	**18 18 59.7**	**0.0**
KHL	**Karahalli**	**2.08**	**105**	*e*PN	**Pb**	**18 18 57.5**	**-1.0**
KHL	**Karahalli**	**2.08**	**105**	*e*Pn	**Pb**	**18 18 57.5**	**-1.0**
ULDT	**Uludag**	**2.09**	**53**	*e*P	**Pn**	**18 18 56.8**	**+0.8**
ULDT				*i* S	**Sg**	**18 19 27.2**	**-0.4**
ULDT	**Uludag**	**2.09**	**53**	*e*P	**Pn**	**18 18 56.8**	**+0.8**
ULDT				*i* S	**Sg**	**18 19 27.2**	**-0.4**
ULDT	**Uludag**	**2.09**	**53**	*e*P	**Pn**	**18 18 56.8**	**+0.8**
ALN	**Alexandroupoli**	**2.12**	**341**	*e*PN	**Pn**	**18 18 57.2**	**+1.0**
ALN	**Alexandroupoli**	**2.12**	**341**	*e*Pn	**Pn**	**18 18 57.2**	**+1.0**
APE	**Apeiranthos**	**2.15**	**212**	*e*PN	**Pn**	**18 18 57.6**	**+1.0**
APE	**Apeiranthos**	**2.15**	**212**	*e*Pn	**Pn**	**18 18 57.6**	**+1.0**
DAT	**Datca**	**2.21**	**167**	*e*PN	**Pn**	**18 18 58.9**	**+1.3**
DAT	**Datca**	**2.21**	**167**	*e*Pn	**Pn**	**18 18 58.9**	**+1.3**
ARMT	**Armutlu**	**2.22**	**41**	*e*PN	**Pn**	**18 18 58.6**	**+1.0**
ARMT	**Armutlu**	**2.22**	**41**	*e*Pn	**Pn**	**18 18 58.6**	**+1.0**
GEMT	**Gemlik**	**2.30**	**47**	*e*PN	**Pn**	**18 19 00.1**	**+1.4**
GEMT	**Gemlik**	**2.30**	**47**	*e*Pn	**Pn**	**18 19 00.1**	**+1.4**
DALY	**Dalyan (Mu˘la**	**2.46**	**147**	*e*PN	**Pn**	**18 19 02.7**	**+1.8**
DALY	**Dalyan (Mu˘la**	**2.46**	**147**	*e*Pn	**Pn**	**18 19 02.7**	**+1.8**
YLV	**Yalova**	**2.49**	**47**	*e*PN	**Pn**	**18 19 03.0**	**+1.6**
YLV	**Yalova**	**2.49**	**47**	*e*Pn	**Pn**	**18 19 03.0**	**+1.6**
SLVT	**Silivri**	**2.52**	**22**	*e*PN	**Pn**	**18 19 02.7**	**+1.0**
SLVT	**Silivri**	**2.52**	**22**	*e*Pn	**Pn**	**18 19 02.7**	**+1.0**
BUY	**Buyukada**	**2.56**	**40**	*e*PN	**Pn**	**18 19 03.3**	**+1.1**
BUY	**Buyukada**	**2.56**	**40**	*e*Pn	**Pn**	**18 19 03.3**	**+1.1**
CAVI	**Cavuskoy**	**2.58**	**59**	*e*PN	**Pn**	**18 19 04.0**	**+1.6**
CAVI	**Cavuskoy**	**2.58**	**59**	*e*Pn	**Pn**	**18 19 04.1**	**+1.6**
CTKS	**Kestanelik-??a**	**2.62**	**26**	*e*PN	**Pn**	**18 19 04.2**	**+1.1**
CTKS	**Kestanelik-??a**	**2.62**	**26**	*e*Pn	**Pn**	**18 19 04.2**	**+1.1**
ADVT	**Abdulvahap**	**2.63**	**53**	*e*PN	**Pn**	**18 19 04.7**	**+1.4**
ADVT	**Abdulvahap**	**2.63**	**53**	*e*Pn	**Pn**	**18 19 04.7**	**+1.4**
BGKT	**Bogazkoy**	**2.67**	**31**	*e*PN	**Pn**	**18 19 04.9**	**+1.1**
BGKT	**Bogazkoy**	**2.67**	**31**	*e*Pn	**Pn**	**18 19 04.9**	**+1.1**
ISK	**Istanbul-Kandi**	**2.70**	**36**	*e*PN	**Pn**	**18 19 05.3**	**+1.1**
ISK	**Istanbul-Kandi**	**2.70**	**36**	*e*Pn	**Pn**	**18 19 05.3**	**+1.1**
CTYL	**Yal??k??y-??at**	**2.77**	**21**	*e*PN	**Pn**	**18 19 06.2**	**+1.1**
CTYL	**Yal??k??y-??at**	**2.77**	**21**	*e*Pn	**Pn**	**18 19 06.2**	**+1.1**
HRT	**Hereke**	**2.83**	**46**	*e*PN	**Pn**	**18 19 07.4**	**+1.4**
HRT	**Hereke**	**2.83**	**46**	*e*Pn	**Pn**	**18 19 07.4**	**+1.4**
KLYT	**Kilyos**	**2.84**	**33**	*e*PN	**Pn**	**18 19 07.3**	**+1.2**
KLYT	**Kilyos**	**2.84**	**33**	*e*Pn	**Pn**	**18 19 07.3**	**+1.2**
KDZ	**Kurdzhali**	**3.00**	**337**	*e*P	**Pn**	**18 19 09.4**	**+1.1**
KDZ	**Kurdzhali**	**3.00**	**337**	*e*P	**Pn**	**18 19 09.4**	**+1.1**
ESKT	**Eskisehir**	**3.08**	**77**	*e*PN	**Pn**	**18 19 11.3**	**+1.8**
ESKT	**Eskisehir**	**3.08**	**77**	*e*Pn	**Pn**	**18 19 11.3**	**+1.8**
GULT	**Gulveren**	**3.14**	**60**	*e*PN	**Pn**	**18 19 12.0**	**+1.7**
GULT	**Gulveren**	**3.14**	**60**	*e*Pn	**Pn**	**18 19 12.0**	**+1.7**
RZN	**Rozhen**	**3.28**	**329**	*e*P	**Pn**	**18 19 14.0**	**+1.7**
RZN	**Rozhen**	**3.28**	**329**	*e*P	**Pn**	**18 19 14.0**	**+1.7**
SVRH	**Sivrihisar-ESK**	**3.58**	**80**	*e*PN	**Pn**	**18 19 18.5**	**+2.1**
SVRH	**Sivrihisar-ESK**	**3.58**	**80**	*e*Pn	**Pn**	**18 19 18.5**	**+2.1**
MDUB	**Mudurnu**	**3.62**	**63**	*e*PN	**Pn**	**18 19 18.9**	**+2.0**
MDUB	**Mudurnu**	**3.62**	**63**	*e*Pn	**Pn**	**18 19 18.9**	**+2.0**
KIZT	**Kizilcal**	**3.83**	**89**	*e*PN	**Pn**	**18 19 22.1**	**+2.3**
KIZT	**Kizilcal**	**3.83**	**89**	*e*Pn	**Pn**	**18 19 22.1**	**+2.3**
VTS	**Vitosha**	**4.67**	**323**	*e*P	**Pn**	**18 19 30.3**	**-1.1**
VTS	**Vitosha**	**4.67**	**323**	*e*P	**Pn**	**18 19 30.3**	**-1.1**

*IDC **01** 18:22:26.9±0.8,37.°68N×70.°31E,h0km,mb3.7/13, mb1 3.9/17,mb1mx3.8/31,mbtmp3.7/17,ML3.5/4,MS3.3/1, Ms1 3.3/1,ms1mx2.3/57,Error ellipse: s-maj=17.5km s-min=11.3km az=143.0*
*ISCJB **01** 18:22:27.0±0.6,37.°71N±0.°06×70.°22E±0.°07,h10km, mb3.7/13,MS3.3/1,Error ellipse: s-maj=9.5km s-min=7.0km az=42.1*
*NNC **01** 18:22:32.0±4.0,38.°21N×70.°39E,h0km,mb4.1,mpv3.7, Error ellipse: s-maj=41.4km s-min=25.7km az=55.0*
ISC 01 18:22:30.0±1.1,37.°85N±0.°10×70.°04E±0.°08,h10km,n37, σ1°76/37,mb3.7/12,11C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=14	**5.12**	**32**	P	**Pn**	**18 23 48.7**	**+1.6**
KK31	**Karatay Array** 2.1nm,0.5s,baz=198,slow=15,SNR=36	**5.26**	**4**	⇑Pn	**Pn**	**18 23 50.3**	**+1.5**
KK31	15nm,0.8s,baz=173,slow=12,SNR=16			⇑Pg	**Pb**	**18 24 04.7**	**+2.6**
KK31	10nm,0.6s			⇓Sn	**Sn**	**18 24 49.9**	**+0.4**
KK31	55nm,0.8s,baz=187,slow=27,SNR=8.0			⇑Lg	Lg	18 25 10.4	
KZA	**Kyzart** SNR=7.7	**5.82**	**42**	P	**Pn**	**18 23 57.0**	**+0.2**
AAK	**Ala-Archa** SNR=8.2	**5.87**	**34**	P	**Pn**	**18 23 58.0**	**+0.7**
AAK	**Ala-Archa** 2.7nm,0.3s,baz=190,slow=5.8,SNR=12	**5.87**	**34**	Pn	**Pn**	**18 23 58.1**	**+0.9**
AAK	2.0nm,0.3s,baz=207,slow=12,SNR=10			Pg	**Pb**	**18 24 14.9**	**+2.3**
AAK	0.7nm,0.3s,baz=180,slow=20,SNR=2.0			Sn	**Sn**	**18 25 06.2**	**+1.5**
AAK	1.3nm,0.3s,baz=122,slow=19,SNR=7.1			Lg	Lg	18 25 34.4	
CHMS	**Chumysh** SNR=9.3	**6.28**	**33**	P	**Pn**	**18 24 03.2**	**+0.5**
USP	**Ospenovka** SNR=9.6	**6.39**	**31**	P	**Pn**	**18 24 05.1**	**+0.8**
TKM2	**Tokmak 2** 8.7nm,0.7s	**6.61**	**38**	⇑Pn	**Pn**	**18 24 08.0**	**+0.6**
TKM2	14nm,0.8s			⇑Lg	Lg	18 25 52.4	
TKM2	**Tokmak 2** SNR=15	**6.61**	**38**	P	**Pn**	**18 24 08.1**	**+0.6**
MK31	**Makanchi Array** 4.1nm,1.1s,baz=226,slow=12,SNR=10	**12.72**	**41**	⇑Pn	**Pn**	**18 25 28.8**	**-2.1**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=225,slow=14,SNR=13	**12.72**	**41**	Pn	**Pn**	**18 25 29.6**	**-1.4**
MKAR	0.0nm,0.3s,baz=243,slow=21,SNR=2.6			Lg	Lg	18 29 21.6	
AB31	**Akbulak array** 0.1nm,0.2s	**13.54**	**331**	⇓Pn	**Pn**	**18 25 39.5**	**-2.5**
AB31	3.6nm,1.0s,baz=145,slow=22,SNR=5.3			⇓Sn	Sn	18 28 04.4	-8.0
KURBB	**Kurchatov Arra** 2.9nm,1.4s	**14.14**	**23**	⇑Pn	Pn	18 25 45.6	-4.6
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=214,slow=12,SNR=4.1	**14.14**	**23**	Pn	**Pn**	18 25 46.1	-4.1
KURBB	0.0nm,0.3s,baz=207,slow=29,SNR=5.6			Lg	Lg	18 30 07.6	
VOSK	**Vostochnaya** 2.2nm,0.8s	**14.89**	**2**	⇓Pn	**Pn**	**18 25 58.4**	**-2.1**
ZRNK	**Zerenda** 1.5nm,0.7s	**15.12**	**358**	⇑Pn	**Pn**	**18 26 05.7**	**+2.1**
BVA0	**Borovoye Array** 2.1nm,0.7s,baz=0.0,slow=0.1,SNR=7.0	**15.18**	**1**	Pn	**Pn**	**18 26 01.7**	**-2.7**
BVAR	**Borovoye Array** 0.4nm,0.3s,baz=158,slow=11,SNR=7.1	**15.18**	**1**	Pn	**Pn**	**18 26 04.4**	**0.0**
BVAR	0.2nm,0.3s,baz=192,slow=26,SNR=3.4			Lg	Lg	18 30 37.7	
BRVK	**Borovoye** 5.5nm,0.9s	**15.21**	**1**	⇑Pn	**Pn**	**18 26 06.1**	**+1.3**
AKTO	**Aktyubinsk** 10nm,0.7s	**15.23**	**330**	⇑Pn	**P**	**18 26 08.9**	**-1.2**
AKTO	4.6nm,0.8s			⇑Sn	**Sn**	**18 28 50.9**	**-2.8**
AKTO	**Aktyubinsk** 0.8nm,0.3s,baz=143,slow=11,SNR=18	**15.23**	**330**	Pn	**Pn**	**18 26 06.7**	**+1.7**
AKTO	0.1nm,0.3s,baz=0.0,slow=20,SNR=3.7			Sn	**Sn**	**18 28 49.6**	**-4.1**
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=222,slow=9.6,SNR=11	**19.05**	**28**	P	**P**	**18 26 49.3**	**-2.8**
ZALV	0.1nm,0.3s,baz=231,slow=18,SNR=4.1			S	S	18 30 37.2	+9.1
KBZ	**Khabaz** 5.0nm,0.8s,baz=126,slow=9.0,SNR=11	**21.32**	**295**	P	**P**	**18 27 18.9**	**+2.0**
SONM	**Songino Array** 0.4nm,0.6s,baz=285,slow=12,SNR=3.1	**28.23**	**58**	P	**P**	**18 28 21.3**	**-1.9**
BRTR	**Keskin Array B** 0.3nm,0.6s,baz=89,slow=6.2,SNR=2.3	**28.31**	**285**	P	**P**	**18 28 25.4**	**+1.4**
AKASG	**Malin Array Be** 1.1nm,0.5s,baz=72,slow=8.7,SNR=6.2	**31.51**	**307**	P	**P**	**18 28 52.6**	**+0.7**
CMAR	**Chiang Mai Arr** 0.6nm,1.1s,baz=316,slow=8.4,SNR=3.7	**31.78**	**119**	P	P	18 28 51.8	-2.9
FINES	**FINESS Array B** 1.0nm,0.6s,baz=100,slow=10,SNR=6.7	**35.94**	**325**	P	**P**	**18 29 30.6**	**+0.2**
ARCES	**ARCESS Array B** 4.1nm,1.0s,baz=102,slow=8.5,SNR=5.4	**39.61**	**337**	P	**P**	**18 30 01.6**	**+0.3**
NB2	**NORSAR Subarra** comp=Z,1.3nm,0.6s,baz=95,slow=8.6	**42.84**	**322**	P	**P**	**18 30 27.3**	**-0.7**
NOA	**NORSAR Array B** comp=Z,1.0nm,0.5s,baz=96,slow=8.1,SNR=9.8	**42.84**	**322**	P	**P**	**18 30 27.8**	**-0.2**
KSRS	**Korea Array** comp=Z,33nm,18.8s,baz=255,slow=36	**45.18**	**72**	LR	LR	18 49 47.7	
ESDC	**Sonseca Array** comp=Z,0.2nm,0.3s,baz=68,slow=7.4,SNR=3.3	**56.16**	**297**	P	**P**	**18 32 11.6**	**+1.7**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.5s,baz=53,slow=5.7,SNR=7.1	**64.99**	**267**	P	**P**	**18 33 09.8**	**-0.6**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.7s,baz=311,slow=5.4,SNR=3.7	**83.35**	**121**	P	P	18 34 54.2	-3.3
ASAR	**Alice Springs** comp=Z,0.3nm,0.7s,baz=322,slow=4.9,SNR=4.4	**85.65**	**124**	P	P	18 35 05.3	-3.8
PDAR	**Pinedale Array** comp=Z,0.2nm,0.5s,baz=349,slow=2.8,SNR=2.8	**99.77**	**360**	P	**Pdif**	**18 36 14.1**	**-0.5**

IDC 01 18:32:11.5±1.0,35.°04N×81.°19E,h0km,mb3.4/6, mb1 3.5/11,mb1mx3.4/31,mbtmp3.4/11,ML3.2/5,Error ellipse: s-maj=29.4km s-min=16.4km az=56.0,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa** 0.5nm,0.3s,baz=151,slow=19,SNR=2.0	**9.20**	**327**	Pn	Pn	18 34 29.5	+3.8
AAK	0.5nm,0.3s,baz=183,slow=18,SNR=3.0			Pg		18 35 01.8	
AAK	0.3nm,0.3s,baz=208,slow=15,SNR=4.6			Lg	Lg	18 37 05.9	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=178,slow=13,SNR=8.1	**11.77**	**4**	Pn	Pn	18 34 59.8	-0.9
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=174,slow=12,SNR=4.1	**15.69**	**354**	Pn	Pn	18 35 52.9	-1.0
ZALV	**Zalesovo Beam** 0.1nm,0.3s,baz=186,slow=13,SNR=4.0	**19.07**	**7**	P	P	18 36 34.3	-1.1
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=140,slow=9.7,SNR=6.7	**19.54**	**340**	P	P	18 36 40.9	+0.4
SONM	**Songino Array** 0.6nm,0.8s,baz=230,slow=11,SNR=3.6	**22.69**	**48**	P	P	18 37 15.3	+0.5
CMAR	**Chiang Mai Arr** 0.5nm,0.8s,baz=311,slow=9.9,SNR=4.7	**22.83**	**132**	P	P	18 37 16.1	-0.2
AKASG	**Malin Array Be** 0.3nm,0.3s,baz=72,slow=8.9,SNR=4.4	**40.31**	**309**	P	P	18 39 48.9	-1.5
TORD	**Torodi Ar. Bea** 0.7nm,0.6s,baz=37,slow=5.3,SNR=6.0	**74.05**	**275**	P	P	18 43 50.1	+0.5
WRA	**Warramunga Arr** 0.6nm,1.1s,baz=320,slow=5.7,SNR=4.1	**74.38**	**129**	P	P	18 43 51.6	+0.2
ASAR	**Alice Springs** 0.5nm,1.1s,baz=318,slow=5.8,SNR=3.8	**76.84**	**131**	P	P	18 44 05.6	+0.2

*ATH **01** 18:38:39.6,33.°90N×25.°48E,h15km±2km,MD3.6/14*
*ISCJB **01** 18:38:39.8±0.6,33.°94N±0.°02×25.°56E±0.°03,h15km±5km, mb4.1/54,Error ellipse: s-maj=4.8km s-min=2.4km az=136.0*
*IDC **01** 18:38:39.7±0.6,34.°06N×25.°51E,h0km,mb4.1/22, mb1 4.2/31,mb1mx4.1/40,mbtmp4.1/31,ML4.0/7,Error ellipse: s-maj=14.0km s-min=12.5km az=3.0*
*MOS **01** 18:38:41.1±1.3,33.°97N×25.°45E,h22km,mb4.2/20,Error ellipse: s-maj=9.7km s-min=4.8km az=95.1*
*HLW **01** 18:38:41.5,34.°17N×25.°64E,h33km±22km,Md3.5,Ml3.6*
*CSEM **01** 18:38:43.6±0.1,33.°97N×25.°54E,h30km,mb4.3/40,Error ellipse: s-maj=4.4km s-min=2.3km az=41.0*
*THE **01** 18:38:44.9,34.°20N×25.°41E,h0km±3km,ML4.0/2,Error ellipse: s-maj=7.2km s-min=1.5km az=179.0*
**ISC 01 18:38:43.8±1.0,33.°98N±0.°03×25.°50E±0.

CSS Prodhromos 6.54 79 Pn Pn 18 40 18.8 +0.6
KOT Kottamia 6.73 125 P Pn 18 40 19.0 -1.8
baz=127
KOT AMP 18 41 00.0
comp=N,60µm,0.5s,logA/T=5.1,baz=127
KOT Kottamia 6.73 125 P Pn 18 40 19.0 -1.8
HSAF As Saff 6.74 128 P Pn 18 40 19.5 -1.4
baz=130
HSAF As Saff 6.74 128 P Pn 18 40 19.5 -1.4
GLL Jalalah 6.87 128 P Pn 18 40 21.4 -1.3
baz=130
GLL Jalalah 6.87 128 P Pn 18 40 21.4 -1.3
HFRF Wahat Farafira 7.22 160 P Pn 18 40 27.3 -0.3
baz=161
HFRF Wahat Farafira 7.22 160 P Pn 18 40 27.3 -0.3
AMAG Maghara 7.32 115 P Pn 18 40 26.4 -2.6
baz=116
AMAG Maghara 7.32 115 P Pn 18 40 26.4 -2.6
RSH 7.57 111 P Pn 18 40 29.7 -2.6
baz=112
RSH 7.57 111 P Pn 18 40 29.7 -2.6
OFRI 'Ofer 8.06 97 Pn Pn 18 40 39.5 +0.5
KZIT Kziot 8.12 110 Pn Pn 18 40 37.4 -2.5
SLTI Sal'it 8.19 100 Pn Pn 18 40 39.3 -1.5
HNKL Nakhl 8.26 117 P Pn 18 40 39.4 -2.4
baz=118
HNKL Nakhl 8.26 117 P Pn 18 40 39.4 -2.4
RTMI Retamim 8.29 108 Pn Pn 18 40 41.3 -0.9
MMAI Mount Meron Ar 8.33 94 Pn Pn 18 40 40.5 -2.3
comp=N,4.7nm,0.3s,baz=270,slow=12,SNR=19
MMAI Sn Sn 18 42 11.1 -4.9
comp=N,6.0nm,0.3s,baz=266,slow=24,SNR=9.3
MMLI Mount Malkishu 8.46 98 Pn Pn 18 40 43.2 -1.3
HMDT Nahal Hemdat 8.59 99 Pn Pn 18 40 45.1 -1.1
DSI Dead Sea 8.66 103 Pn Pn 18 40 45.1 -2.2
BRTR Keskin Array B 8.69 46 Pn Pn 18 40 46.7 -1.0
comp=N,0.2nm,0.3s,baz=224,slow=13,SNR=9.3
BRTR Sn Sn 18 42 20.2 -4.6
baz=240,slow=13,SNR=2.9
BRTR Keskin Array B 8.69 46 *i* P Pn 18 40 48.5 +0.8
comp=N,1.0nm,0.7s
KRMI Paran Flat 8.72 114 Pn Pn 18 40 46.9 -1.3
MZDA Masada 8.73 105 Pn Pn 18 40 47.7 -0.5
TIP Timpagrande 8.74 309 P Pn 18 40 47.2 -1.1
TIP Timpagrande 8.74 309 P Pn 18 40 47.2 -1.1
PRNI Paran 8.83 112 Pn Pn 18 40 48.1 -1.5
HRFI Mount Harif 9.00 113 Pn Pn 18 40 50.4 -1.6
MBRI Mt Berech 9.03 115 Pn Pn 18 40 51.0 -1.4
HDK1 Dakhla 9.06 157 P Pn 18 40 52.7 -0.1
baz=158
HDK1 Dakhla 9.06 157 P Pn 18 40 52.7 -0.1
HKAT Jabal Katrina 9.08 125 P Pn 18 40 51.6 -1.6
baz=126
HKAT Jabal Katrina 9.08 125 P Pn 18 40 51.6 -1.6
EIL Elat 9.12 116 Pn Pn 18 40 51.6 -1.9
comp=N,2.2nm,0.3s,baz=285,slow=6.7,SNR=44
EIL Sn Sn 18 42 26.9 -8.3
comp=N,2.4nm,0.3s,baz=32,slow=15,SNR=4.4
EIL Elat 9.12 116 Pn Pn 18 40 51.7 -1.8
HDHB Dhahab 9.39 121 P Pn 18 40 56.2 -1.1
baz=123
HDHB Dhahab 9.39 121 P Pn 18 40 56.2 -1.1
AKRG Al Kharijah 9.49 151 P Pn 18 40 58.5 -0.3
baz=152
GTR Jabal at Tayr 9.51 151 P Pn 18 40 58.7 -0.3
baz=152
GTR Jabal at Tayr 9.51 151 P Pn 18 40 58.7 -0.3
HHRG Al Ghardaqah 9.68 132 P Pn 18 41 00.6 -0.7
baz=133
HHRG Al Ghardaqah 9.68 132 P Pn 18 41 00.6 -0.7
ASF Jabal al Asfar 9.73 98 Pn Pn 18 41 02.1 0.0
MLR Muntele Rosu 11.51 2 Pn Pn 18 41 27.2 +0.9
comp=N,0.0nm,0.3s,baz=198,slow=9.6,SNR=2.7
MLR Muntele Rosu 11.51 2 P Pn 18 41 27.2 +0.9
KECS Kecovo 14.97 347 *eP* P 18 42 21.4 +2.8
KECS Kecovo 14.97 347 *eP* P 18 42 21.4 +2.8
KOLS Kolonicke sedl 15.14 352 *eP* Pn 18 42 15.2 -0.4
KOLS Kolonicke sedl 15.14 352 *ePN* Pn 18 42 15.2 -0.4
KOLS Kolonicke sedl 15.14 352 *eP* P 18 42 22.2 +1.7
KOLS Kolonicke sedl 15.14 352 *ePn* Pn 18 42 15.2 -0.4
KOLS Kolonicke sedl 15.14 352 *eP* P 18 42 22.2 +1.7
VYHS Vyhne 15.34 343 *eP* Pn 18 42 16.4 -1.8
VYHS Vyhne 15.34 343 *ePN* Pn 18 42 16.4 -1.8
VYHS Vyhne 15.34 343 *eP* P 18 42 25.2 +2.5
VYHS Vyhne 15.34 343 *ePn* Pn 18 42 16.4 -1.8
PGF Pioggiola 15.51 308 *eP* Pn 18 42 20.2 -0.4
comp=N,40nm,1.0s
STHS Stebnicka Huta 15.75 350 *eP* P 18 42 27.8 +0.5
STHS Stebnicka Huta 15.75 350 *e* P 18 42 27.8 +0.5
STHS Stebnicka Huta 15.75 350 *eP* P 18 42 27.8 +0.5
KBA Koelnbreinsper 15.99 329 ⇑ *i* Pn Pn 18 42 23.1 -3.8
ABTA Abfaltersbach 16.12 326 ⇓ *i* Pn Pn 18 42 25.6 -2.8
MOA Molln 16.23 332 ⇑ *i* Pn Pn 18 42 26.0 -3.7
KIV Kislovodsk 16.64 48 *eP* P 18 42 37.7 +0.4
KIV pmax pmax
comp=Z,13nm,1.0s
KIV Kislovodsk 16.64 48 *eP* P 18 42 37.7 +0.4
comp=Z,13nm,1.0s
KBZ Khabaz 16.66 49 P P 18 42 37.2 -0.2
KBZ Khabaz 16.66 49 Pn P 18 42 37.1 -0.2
baz=251,slow=12,SNR=3.5
KBZ Khabaz 16.66 49 P P 18 42 37.2 -0.2
VRAC Vranov 16.68 339 Pn Pn 18 42 34.9 -0.5
comp=Z,0.3nm,0.3s,baz=158,slow=9.8,SNR=8.0
VRAC Vranov 16.68 339 *eP* P 18 42 36.8 -0.8
OKC Ostrava-Krasne 16.75 343 *eP* Pn 18 42 34.7 -1.6
OKC Ostrava-Krasne 16.75 343 *eP* Pn 18 42 34.7 -1.6
ZEI Tsey 16.86 53 *eP* P 18 42 41.0 +1.1
ZEI pmax pmax
comp=Z,7.0nm,0.4s
ZEI Tsey 16.86 53 *eP* P 18 42 41.0 +1.1
comp=Z,7.0nm,0.4s
AKASG Malin Array Be 16.94 8 P Pn 18 42 37.5 -1.1
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKASG Malin Array Be 16.94 8 Pn Pn 18 42 37.5 -1.1
comp=Z,2.5nm,0.3s,baz=199,slow=10,SNR=34
AKASG Malin Array Be 16.94 8 P Pn 18 42 37.5 -1.1
comp=Z,3.0nm,0.3s
SBF Sospel 17.14 310 *eP* Pn 18 42 40.4 -1.0
comp=Z,31nm,0.9s
SBF Sospel 17.14 310 *eP* Pn 18 42 40.4 -1.0
comp=Z,30nm,0.9s
FETA Feichten 17.16 324 ⇑ *i* Pn Pn 18 42 41.9 +0.1
FETA Feichten 17.16 324 Pn Pn 18 42 41.8 +0.1
GEC2 GERESS Array S 17.26 333 *eP* P 18 42 44.2 +0.1
comp=Z,13nm,0.9s
GEC2 GERESS Array S 17.26 333 *eP* P 18 42 44.2 +0.1
GEC2 pmax pmax
comp=Z,5.0nm,0.9s
GEC2 GERESS Array S 17.26 333 *eP* P 18 42 44.2 +0.1
comp=Z,5.0nm,0.9s
GERES GERESS Array B 17.26 333 Pn Pn 18 42 41.1 -1.6
comp=Z,0.4nm,0.3s,baz=152,slow=12,SNR=43
LMR La Mourre 17.50 308 *eP* Pn 18 42 45.3 -0.4
comp=Z,11nm,0.8s
LMR La Mourre 17.50 308 *eP* Pn 18 42 45.3 -0.4
comp=Z,11nm,0.8s
KHC Kasperske Hory 17.54 333 *eP* P 18 42 47.8 +0.7
KHC Kasperske Hory 17.54 333 *eP* Pn 18 42 45.5 -0.7
KHC *ex* x 18 42 47.8
KHC *ex* x 18 43 02.9
KHC Kasperske Hory 17.54 333 *eP* P 18 42 47.8 +0.7
DPC Dobruska-Polom 17.70 340 *eP* Pn 18 42 48.5 +0.4
DPC Dobruska-Polom 17.70 340 *eP* Pn 18 42 48.5 +0.4
DPC *epP* pP 18 42 57.3 +0.9
DPC Dobruska-Polom 17.70 340 *eP* Pn 18 42 48.5 +0.4
FUR Furstenfeldbru 17.73 327 *eP* P 18 42 50.4 +1.2
comp=Z,33nm,1.1s
FUR Furstenfeldbru 17.73 327 *eP* P 18 42 50.4 +1.2
FUR pmax pmax
comp=Z,78nm,1.1s
FUR Furstenfeldbru 17.73 327 *eP* P 18 42 50.4 +1.2
comp=Z,78nm,1.1s
WET Wettzell 17.82 332 *eP* P 18 42 50.3 +0.1
comp=Z,24nm,1.4s
WET Wettzell 17.82 332 *eP* P 18 42 50.3 +0.1
WET pmax pmax
comp=Z,16nm,1.4s
WET Wettzell 17.82 332 *eP* P 18 42 50.3 +0.1
comp=Z,16nm,1.4s
PRU Pruhonice 17.92 337 *eP* Pn 18 42 50.5 -0.4
PRU Pruhonice 17.92 337 *eP* Pn 18 42 50.5 -0.4
PRU Pruhonice 17.92 337 *eP* Pn 18 42 50.5 -0.4

MBDF Montbardon 17.98 312 *eP* Pn 18 42 51.7 -0.1
comp=Z,8.9nm,0.6s
MBDF Montbardon 17.98 312 *eP* Pn 18 42 51.7 -0.1
comp=Z,8.0nm,0.6s
SMRF Simiane la Rot 18.39 309 *eP* P 18 42 56.2 -0.3
comp=Z,11nm,0.9s
SMRF Simiane la Rot 18.39 309 *eP* P 18 42 56.2 -0.3
comp=Z,10.0nm,0.9s
LPG La Plagne 18.40 314 *eP* Pn 18 42 57.4 +0.4
LPG La Plagne 18.40 314 *eP* Pn 18 42 57.4 +0.4
LPL La Plagne 18.42 314 *eP* P 18 42 56.8 -0.2
comp=Z,4.3nm,0.6s
LPL La Plagne 18.42 314 *eP* P 18 42 56.8 -0.2
comp=Z,4.0nm,0.6s
ROTZ Rotzenmuhle 18.58 332 *eP* P 18 42 57.4 -1.1
comp=Z,3.0nm,0.9s
ORIF Oris-en-Rattie 18.63 312 *eP* P 18 42 58.3 -0.9
comp=Z,11nm,1.2s
ORIF Oris-en-Rattie 18.63 312 *eP* P 18 42 58.3 -0.9
comp=Z,11nm,1.2s
MANZ Manzenberg 18.79 332 *eP* P 18 42 59.6 -1.3
comp=Z,8.0nm,0.9s
SPAK Spaichingen-Ko 18.86 323 *eP* Pn 18 43 02.9 +0.5
BRG Berggiesshubel 18.88 337 *eP* P 18 43 00.3 -1.5
comp=Z,3.4nm,1.0s
BRG Berggiesshubel 18.88 337 *eP* P 18 42 59.9 -1.9
BRG Berggiesshubel 18.88 337 *eP* P 18 43 00.3 -1.5
BRG pmax pmax
comp=Z,3.0nm,1.0s
BRG Berggiesshubel 18.88 337 *eP* P 18 43 00.3 -1.5
comp=Z,3.0nm,1.0s
GRA1 Grafenberg Arr 18.91 330 *eP* Pn 18 43 04.0 +1.0
comp=Z,12nm,1.0s
GRF Grafenberg Arr 18.91 330 *eP* Pn 18 43 04.0 +1.0
comp=Z,18nm,1.0s
GRF Grafenberg Arr 18.91 330 *eP* Pn 18 43 04.0 +1.0
GRF pmax pmax
comp=Z,12nm,1.0s
GUNZ Gunzen 19.01 333 *eP* P 18 43 03.7 +0.4
comp=Z,6.0nm,0.8s
WERD Werda 19.09 334 *eP* P 18 43 04.1 -0.1
comp=Z,9.0nm,0.9s
BBS Basel-Blauen 19.11 320 *eP* P 18 43 04.8 +0.4
FELD Feldberg im Sc 19.11 322 *eP* P 18 43 04.5 0.0
PLN Plauen 19.18 333 *eP* P 18 43 04.9 -0.2
comp=Z,34nm,0.9s
VIVF Saint-Julien-l 19.36 310 *eP* P 18 43 06.8 -0.4
VIVF Saint-Julien-l 19.36 310 *eP* P 18 43 06.8 -0.4
CABF La Chapelle 19.39 316 *eP* P 18 43 05.8 -1.7
comp=Z,31nm,1.2s
CABF La Chapelle 19.39 316 *eP* P 18 43 05.8 -1.7
comp=Z,31nm,1.2s
LOMF Lomont 19.40 319 *eP* P 18 43 07.8 +0.1
LOMF Lomont 19.40 319 *eP* P 18 43 07.8 +0.1
MOX Moxa 19.51 333 *eP* P 18 43 08.6 -0.1
comp=Z,6.0nm,0.8s
MOX Moxa 19.51 333 *eP* P 18 43 08.6 -0.1
MOX pmax pmax
comp=Z,4.0nm,0.8s
MOX Moxa 19.51 333 *eP* P 18 43 08.6 -0.1
comp=Z,4.0nm,0.8s
LASF Ste Croix 19.55 307 *eP* P 18 43 10.2 +0.9
comp=Z,18nm,1.1s
LASF Ste Croix 19.55 307 *eP* P 18 43 10.2 +0.9
comp=Z,18nm,1.1s
CLL Collm 19.56 336 *eP* P 18 43 09.0 -0.2
comp=Z,8.0nm,1.3s
CLL Collm 19.56 336 *i* P P 18 43 09.0 -0.2
CLL pmax pmax
comp=Z,8.0nm,1.2s
CLL Collm 19.56 336 *i* P P 18 43 09.0 -0.2
comp=Z,8.0nm,1.2s
CLL *e* 18 43 12.0
CLL *ePP* PnPn 18 43 22.0 -2.3
CLL Collm 19.56 336 *i* P P 18 43 09.0 -0.2
comp=Z,8.0nm,1.2s
HINF Hinteralfeld 19.67 320 *eP* P 18 43 11.1 +0.5
comp=Z,5.8nm,0.7s
HINF Hinteralfeld 19.67 320 *eP* P 18 43 11.1 +0.5
comp=Z,5.0nm,0.7s
VORD Divnogorie 19.74 27 *eP* P 18 43 12.0 +0.8
VORD pmax pmax
comp=Z,9.0nm,0.9s
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,20nm,0.7s
VORD Divnogorie 19.74 27 *eP* P 18 43 12.0 +0.8
comp=E,20nm,0.6s
ECH Echery 19.76 322 *eP* Pn 18 43 13.5 +0.4
ECH Echery 19.76 322 *eP* Pn 18 43 13.5 +0.4
CDF Champ du Feu 19.83 322 *eP* P 18 43 12.7 +0.4
comp=E,11nm,0.9s
CDF Champ du Feu 19.83 322 *eP* P 18 43 12.7 +0.4
comp=E,11nm,0.9s
VSR Storozhevoye 19.89 26 *eP* Pn 18 43 14.0 -0.6
VSR pmax pmax
comp=Z,10.0nm,1.5s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,7.0nm,0.6s
VSR Storozhevoye 19.89 26 *eP* Pn 18 43 14.0 -0.6
comp=E,10.0nm,0.8s
TOD Tromm 19.90 327 *eP* Pn 18 43 14.8 +0.1
NEUB Neuenburg 19.91 334 *eP* P 18 43 13.0 0.0
comp=Z,13nm,0.8s
LANF Langenberg 19.94 324 *eP* Pn 18 43 15.6 +0.4
LANF Langenberg 19.94 324 *eP* Pn 18 43 15.6 +0.4
KTD Kalmit 20.03 325 *eP* Pn 18 43 16.2 -0.2
UBBA Unterbreizbach 20.28 331 *eP* P 18 43 17.1 +0.1
comp=Z,10.0nm,1.4s
THEF They Montfort 20.38 320 *eP* P 18 43 18.2 -0.1
THEF They Montfort 20.38 320 *eP* P 18 43 18.2 -0.1
MTLF Montolieu 20.39 304 *eP* P 18 43 19.1 +0.7
comp=Z,13nm,1.4s
MTLF Montolieu 20.39 304 *eP* P 18 43 19.1 +0.7
comp=Z,13nm,1.4s
LBL Lubilhac 20.43 310 *eP* P 18 43 20.0 +1.1
LBL Lubilhac 20.43 310 *eP* P 18 43 20.0 +1.1
TNS Taunus Mts 20.50 327 *eP* Pn 18 43 21.8 -0.1
comp=Z,17nm,0.9s
TNS Taunus Mts 20.50 327 *eP* Pn 18 43 21.8 -0.1
TNS pmax pmax
comp=Z,38nm,0.9s
TNS Taunus Mts 20.50 327 *eP* Pn 18 43 21.8 -0.1
comp=Z,38nm,0.9s
PAGF Fort de Pagny 20.72 321 *eP* P 18 43 22.4 +0.5
comp=Z,9.7nm,0.9s
PAGF Fort de Pagny 20.72 321 *eP* P 18 43 22.4 +0.5
comp=Z,9.0nm,0.9s
SMF Signal de Mont 20.72 314 *eP* P 18 43 21.0 -1.0
SMF Signal de Mont 20.72 314 *eP* P 18 43 21.0 -1.0
RUP Ruppelstein 20.78 325 *eP* P 18 43 22.3 -0.3
PYM Petit Puy Mans 20.81 311 *eP* P 18 43 21.7 -1.3
PYM Petit Puy Mans 20.81 311 *eP* P 18 43 21.7 -1.3
AGO Saint Agoulin 20.87 312 *eP* P 18 43 20.0 -3.6
CLZ Clausthal 20.94 333 *eP* P 18 43 23.6 -0.7
comp=Z,11nm,0.9s
CLZ Clausthal 20.94 333 *eP* P 18 43 23.6 -0.7
CLZ pmax pmax
comp=Z,8.0nm,0.9s
CLZ Clausthal 20.94 333 *eP* P 18 43 23.6 -0.7
comp=Z,8.0nm,0.9s
LOR Lormes 21.03 316 *eP* P 18 43 24.5 -0.8
comp=Z,14nm,1.0s
LOR Lormes 21.03 316 *eP* P 18 43 24.5 -0.8
comp=Z,14nm,1.0s
MEZF Maizieres J'vi 21.05 320 *eP* P 18 43 25.9 +0.5
MEZF Maizieres J'vi 21.05 320 *eP* P 18 43 25.9 +0.5
CAF Calviac 21.07 308 *eP* P 18 43 25.6 -0.1
comp=Z,11nm,0.9s
CAF Calviac 21.07 308 *eP* P 18 43 25.6 -0.1
comp=Z,10.0nm,0.9s
AVF Avril sur Loir 21.09 314 *eP* P 18 43 24.8 -1.1
AVF Avril sur Loir 21.09 314 *eP* P 18 43 24.8 -1.1
WLF Walferdange 21.20 323 P P 18 43 31.2 +4.2
comp=Z,15nm,1.2s
WLF Walferdange 21.20 323 *eP* P 18 43 31.0 +3.9
comp=Z,25nm,1.1s
BGF Bois d'Agland 21.28 313 *eP* P 18 43 27.9 -0.1
comp=Z,25nm,1.0s
BGF Bois d'Agland 21.28 313 *eP* P 18 43 27.9 -0.1
comp=Z,25nm,1.0s
TCF Toulx Ste Croi 21.55 312 *eP* P 18 43 31.2 +0.3
comp=Z,22nm,0.9s

TCF Toulx Ste Croi 21.55 312 *eP* P 18 43 31.2 +0.3
comp=Z,22nm,0.9s
RJF Les Rejaudoux 21.57 309 *eP* P 18 43 31.2 +0.1
comp=Z,19nm,0.9s
RJF Les Rejaudoux 21.57 309 *eP* P 18 43 31.2 +0.1
comp=Z,19nm,0.9s
MEM Membach 21.89 325 P P 18 43 35.4 +0.9
comp=Z,6.0nm,1.0s
BUG Bochum--Univer 21.90 328 *eP* P 18 43 35.0 +0.5
comp=Z,12nm,1.2s
LFF La Frestale 21.94 307 *eP* P 18 43 35.0 -0.1
LFF La Frestale 21.94 307 *eP* P 18 43 35.0 -0.1
GIVF Givet 22.14 323 *eP* P 18 43 36.9 -0.3
comp=Z,30nm,1.0s
GIVF Givet 22.14 323 *eP* P 18 43 36.9 -0.3
comp=Z,30nm,1.0s
ETSF Etsaut 22.20 301 *eP* P 18 43 37.9 0.0
comp=Z,5.4nm,0.6s
ETSF Etsaut 22.20 301 *eP* P 18 43 37.9 0.0
comp=Z,5.0nm,0.6s
DOU Dourbes 22.25 323 P P 18 43 40.0 +1.6
comp=Z,4.7nm,1.1s
IBBN Ibbenburen 22.33 330 *eP* P 18 43 39.2 +0.1
comp=Z,8.0nm,0.6s
BAIF Baives 22.43 322 *eP* P 18 43 39.5 -0.7
comp=Z,14nm,0.7s
BAIF Baives 22.43 322 *eP* P 18 43 39.5 -0.7
comp=Z,13nm,0.7s
OBN Obninsk 22.50 17 *eP* P 18 43 40.8 -0.1
OBN *e* 18 44 05.2
OBN *e* 18 47 37.1
OBN pmax pmax
comp=Z,7.0nm,0.7s
OBN Obninsk 22.50 17 *eP* P 18 43 40.8 -0.1
comp=Z,7.0nm,0.7s
BSEG Bad Segeberg 22.66 336 *eP* P 18 43 40.3 -2.3
comp=Z,17nm,1.1s
BSEG Bad Segeberg 22.66 336 *eP* P 18 43 40.3 -2.3
BSEG pmax pmax
comp=Z,13nm,1.1s
BSEG Bad Segeberg 22.66 336 *eP* P 18 43 40.3 -2.3
comp=Z,13nm,1.1s
SJPF Ste Jean 22.73 302 *eP* P 18 43 43.6 +0.1
comp=Z,13nm,0.8s
SJPF Ste Jean 22.73 302 *eP* P 18 43 43.6 +0.1
comp=Z,13nm,0.8s
MFF Saint Martin d 23.16 311 *eP* P 18 43 46.8 -1.1
comp=Z,17nm,1.0s
MFF Saint Martin d 23.16 311 *eP* P 18 43 46.8 -1.1
comp=Z,17nm,1.0s
LDF La Druitiere 24.01 315 *eP* P 18 43 55.6 -0.5
comp=Z,15nm,0.8s
LDF La Druitiere 24.01 315 *eP* P 18 43 55.6 -0.5
comp=Z,14nm,0.8s
ESDC Sonseca Array 24.20 292 P P 18 43 58.5 +0.5
comp=Z,1.4nm,0.5s,baz=86,slow=9.7,SNR=22
FLN La Foliniere 24.30 315 *eP* P 18 43 57.8 -1.0
comp=Z,19nm,0.8s
FLN La Foliniere 24.30 315 *eP* P 18 43 57.8 -1.0
comp=Z,18nm,0.8s
GRR Gorron 24.35 314 *eP* P 18 43 59.4 +0.2
GRR Gorron 24.35 314 *eP* P 18 43 59.4 +0.2
VSU Vasula 24.51 2 ⇓ *i* P P 18 44 00.5 0.0
VSU pmax pmax
comp=Z,21nm,0.9s
VSU Vasula 24.51 2 *i* P P 18 44 00.5 0.0
comp=Z,21nm,0.9s
MUD Monsted U'grnd 25.12 338 *i* P P 18 44 13.8 +7.8
comp=Z,6.5nm,0.8s
MDT Midelt 25.13 276 P P 18 44 07.3 +0.7
comp=Z,3.1nm,0.8s,baz=86,slow=12,SNR=6.0
SGMF Saint Gilles 25.32 313 *eP* P 18 44 08.0 0.0
comp=Z,27nm,1.1s
SGMF Saint Gilles 25.32 313 *eP* P 18 44 08.0 0.0
comp=Z,26nm,1.1s
QUIF Quistinic 25.56 312 *eP* P 18 44 10.3 +0.1
comp=Z,17nm,0.8s
QUIF Quistinic 25.56 312 *eP* P 18 44 10.3 +0.1
comp=Z,17nm,0.8s
PBRG Braganca 26.50 297 *eP* P 18 44 19.0 +0.2
comp=Z,9.5nm,1.3s
PBRG Braganca 26.50 297 *eP* P 18 44 19.0 +0.2
comp=Z,9.5nm,1.3s
PBAR Barrancos 26.55 289 *eP* P 18 44 19.3 0.0
comp=Z,11nm,1.6s
PBAR Barrancos 26.55 289 *eP* P 18 44 19.3 0.0
comp=Z,11nm,1.6s
MVO Moncorvo 26.65 295 *eP* P 18 44 22.2 +2.0
comp=Z,13nm,2.3s
MVO Moncorvo 26.65 295 *eP* P 18 44 22.2 +2.0
comp=Z,13nm,2.3s
PCBR Castelo Branco 26.91 292 *eP* P 18 44 22.1 -0.4
comp=Z,11nm,2.0s
PCBR Castelo Branco 26.91 292 *eP* P 18 44 22.1 -0.4
comp=Z,11nm,2.0s
HFS Hagfors 27.29 347 P P 18 44 24.2 -1.5
comp=Z,2.1nm,0.7s,baz=169,slow=8.5,SNR=8.4
HFS Hagfors 27.29 347 P P 18 44 24.2 -1.5
comp=Z,2.0nm,0.7s
EVO Evora 27.31 289 *eP* P 18 44 26.5 +0.4
comp=Z,8.2nm,0.8s
EVOP Sao Brissos 27.40 289 *eP* P 18 44 26.5 -0.4
comp=Z,8.0nm,0.8s
FINES FINESS Array B 27.49 1 P P 18 44 25.6 -1.8
comp=Z,1.6nm,0.6s,baz=158,slow=11,SNR=9.1
FINES PcP PcP 18 47 45.4 +0.4
comp=Z,0.9nm,0.8s,baz=127,slow=5.0,SNR=4.4
FINES FINESS Array B 27.49 1 P P 18 44 25.6 -1.8
comp=Z,2.0nm,0.6s
FINES FINESS Array B 27.49 1 PcP PcP 18 47 45.4 +0.4
NB2 NORSAR Subarra 28.61 345 P P 18 44 36.3 -1.2
comp=Z,0.9nm,0.6s,baz=152,slow=9.3
NB2 NORSAR Subarra 28.61 345 P P 18 44 36.3 -1.2
comp=Z,0.9nm,0.6s,SNR=7.5
NOA NORSAR Array B 28.61 345 P P 18 44 36.6 -0.8
comp=Z,1.8nm,0.8s,baz=174,slow=10,SNR=8.3
NOA NORSAR Array B 28.61 345 P P 18 44 36.7 -0.8
comp=Z,2.0nm,0.8s
AKTK Aktyubinsk 28.87 45 P P 18 44 39.4 -0.4
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 28.87 45 P P 18 44 39.4 -0.4
AKTO pmax pmax
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 28.87 45 P P 18 44 39.4 -0.4
comp=Z,1.8nm,0.6s,baz=238,slow=7.6,SNR=8.7
EKA Eskdalemuir Ar 29.17 326 P P 18 44 42.2 -0.2
comp=Z,2.7nm,0.8s,baz=132,slow=8.9,SNR=14
EKA Eskdalemuir Ar 29.17 326 P P 18 44 42.2 -0.2
comp=Z,3.0nm,0.8s
TORD Torodi Ar. Bea 29.96 232 P P 18 44 49.4 -0.4
comp=Z,0.4nm,0.4s,baz=37,slow=9.0,SNR=5.3
ARCES ARCESS Array B 35.61 0 P P 18 45 36.9 -1.8
comp=Z,1.5nm,0.7s,baz=172,slow=9.4,SNR=7.8
ARCES ARCESS Array B 35.61 0 P P 18 45 36.9 -1.8
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 36.97 45 P P 18 45 50.4 -0.1
BVAR pmax pmax
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 36.97 45 P P 18 45 50.4 -0.1
comp=Z,1.6nm,0.9s,baz=248,slow=7.8,SNR=8.9
BVAR Borovoye Array 36.97 45 P P 18 45 50.4 -0.1
comp=Z,2.0nm,0.8s
KURBB Kurchatov Arra 41.66 50 P P 18 46 29.7 +0.1
comp=Z,2.9nm,0.6s,baz=277,slow=8.6,SNR=45
KURK Kurchatov 41.72 50 P P 18 46 29.7 -0.4
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURK Kurchatov 41.72 50 P P 18 46 29.7 -0.4
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 44.20 56 P P 18 46 50.3 -0.1
MKAR 18 48 35.6
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 44.20 56 P P 18 46 50.3 -0.1
comp=Z,2.5nm,0.6s,baz=279,slow=6.5,SNR=30
MKAR PcP PcP 18 48 35.6 +0.9
comp=Z,0.5nm,0.7s,baz=306,slow=3.9,SNR=2.1
MKAR Makanchi Array 44.20 56 P P 18 46 50.3 -0.1
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 44.20 56 PcP PcP 18 48 35.6 +0.9
ZALV Zalesovo Beam 45.63 45 P P 18 47 01.0 -0.5
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 45.63 45 P P 18 47 00.9 -0.5
comp=Z,3.3nm,0.5s,baz=270,slow=8.7,SNR=16
ZALV Zalesovo Beam 45.63 45 P P 18 47 01.0 -0.5
comp=Z,3.0nm,0.5s

TSUM Tsumeb 53.42 189 P P 18 48 02.1 +0.8
comp=Z,0.7nm,0.3s,baz=4.9,slow=8.1,SNR=3.4
ZAK Zakamensk 57.32 48 eP P 18 48 29.4 +0.2
ZAK pmax pmax
comp=Z,1.0nm,1.1s
ZAK Zakamensk 57.32 48 eP P 18 48 29.4 +0.2
comp=Z,1.0nm,1.1s
SONM Songino Array 60.02 50 P P 18 48 47.1 -1.0
comp=Z,0.9nm,0.8s,baz=289,slow=8.2,SNR=5.3
SONM Songino Array 60.02 50 P P 18 48 47.1 -1.0
comp=Z,1.0nm,0.8s
BOSA Boshof 62.25 180 P P 18 49 04.5 +1.3
comp=Z,1.9nm,0.8s,baz=29,slow=7.0,SNR=3.7
BOSA Boshof 62.25 180 P P 18 49 04.5 +1.3
comp=Z,2.0nm,0.8s
SCHQ Schefferville 64.27 320 P P 18 49 16.6 +0.3
comp=Z,6.2nm,0.9s,baz=72,slow=7.9,SNR=6.8
CMAR Chiang Mai Arr 66.44 83 P P 18 49 30.6 -0.3
comp=Z,0.6nm,0.7s,baz=302,slow=8.5,SNR=8.3
CMAR Chiang Mai Arr 66.44 83 P P 18 49 30.6 -0.3
comp=Z,1.0nm,0.7s
BILL Bilibino 74.14 14 eP P 18 50 17.1 -0.1
BILL Bilibino 74.14 14 eP P 18 50 17.1 -0.1
USRK Ussuriysk Arra 77.49 45 P P 18 50 36.6 0.0
comp=Z,1.5nm,0.6s,baz=255,slow=7.2,SNR=4.5
YKA Yellowknife Ar 78.66 342 P P 18 50 43.4 +0.6
comp=Z,0.8nm,0.7s,baz=32,slow=6.1,SNR=3.9
YKA Yellowknife Ar 78.66 342 P P 18 50 43.4 +0.6
comp=Z,1.0nm,0.7s
KSRS Korea Array 78.78 52 P P 18 50 44.3 +0.3
comp=Z,0.8nm,0.5s,baz=293,slow=5.6,SNR=5.2
KSRS Korea Array 78.78 52 P P 18 50 44.3 +0.3
comp=Z,1.0nm,0.5s
FFC Flin Flon 80.80 332 *i* P P 18 50 58.0 +3.3
ILAR Eielson Array 81.40 357 P P 18 50 57.4 -0.2
comp=Z,1.0nm,0.9s,baz=356,slow=4.4,SNR=7.1
ILAR Eielson Array 81.40 357 P P 18 50 57.4 -0.2
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 116.17 97 PKP PKPdf 18 57 24.3 -0.5
comp=Z,0.3nm,0.8s,baz=331,slow=1.9,SNR=3.4
ASAR Alice Springs 117.56 101 PKP PKPdf 18 57 26.8 -0.6
comp=Z,0.4nm,0.9s,baz=280,slow=1.1,SNR=3.8

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*ISCJB **01** 18:38:59.6±0.3,20.°15S±0.°03×69.°13W±0.°04, h97km±2km, mb4.6/79, Error ellipse: s-maj=6.8km s-min=4.0km az=161.0*
*NEIC **01** 18:39:01.2,20.°23S×69.°43W, h93km, mb4.7/57, After GUC.*
NEIC Felt [IV] at Colchane, Pica and Pozo Almonte; [III] at Alto Hospicio, Camina, Huara and Iquique; [II] at Arica, Calama, Pisagua and Tocopilla.
*IDC **01** 18:39:01.1±0.3,20.°15S×69.°12W, h97km±2km, mb4.4/22, mb1 4.6/25, mb1mx4.5/27, mbtmp4.4/25, MS3.6/8, Ms1 3.6/8, ms1mx3.3/33, Error ellipse: s-maj=9.8km s-min=6.7km az=80.0*
*GUC **01** 18:39:01.2±0.5,20.°23S×69.°43W, h93km±4km, ML5.5*
*BJI **01** 18:39:03.5,20.°10S×69.°10W, h100km, mB5.3/4*
ISC 01 18:39:00.8±0.3, 20.°16S±0.°03×69.°23W±0.°04, h96km±2km, h96km:pP-P, n498, σ0.97/581, mb4.7/79, 161C-155D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
PB11	**Plate Boundary**	**0.56**	**315**	⇓*i*P		**Pn**	**18 39 16.5**	**-0.4**
PB11				*i*S		**Sn**	**18 39 28.8**	**-0.1**
PB11	**Plate Boundary**	**0.56**	**315**	⇓*i*P		**Pn**	**18 39 16.5**	**-0.4**
PB11				*i*S		**Sn**	**18 39 28.8**	**-0.1**
PB11				AML	AML		18 39 29.5	
	comp=E,1057μm,0.2s							
PB01	**Plate Boundary**	**0.91**	**195**	*i*P		**Pn**	**18 39 19.4**	**-0.7**
PB01				*i*S		**Sn**	**18 39 33.3**	**-1.3**
PB01	**Plate Boundary**	**0.91**	**195**	*i*P		**Pn**	**18 39 19.4**	**-0.7**
PB01				*i*S		**Sn**	**18 39 33.3**	**-1.3**
PB01				AML	AML		18 39 35.1	
	comp=N,212μm,0.3s							
PSGC	**Pisagua**	**1.01**	**304**	⇑*i*P		**Pn**	**18 39 20.6**	**-0.6**
PSGC				*i*S		**Sn**	**18 39 35.3**	**-1.2**
PSGC	**Pisagua**	**1.01**	**304**	⇑*i*P		**Pn**	**18 39 20.6**	**-0.6**
PSGC				*i*S		**Sn**	**18 39 35.3**	**-1.2**
MNMC	**Minimini**	**1.08**	**341**	⇑*i*P		**Pn**	**18 39 22.9**	**+0.7**
MNMC				*i*S		**Sn**	**18 39 39.7**	**+1.5**
MNMC	**Minimini**	**1.08**	**341**	⇑*i*P		**Pn**	**18 39 22.9**	**+0.7**
MNMC				*i*S		**Sn**	**18 39 39.7**	**+1.5**
MNMC				AML	AML		18 39 41.7	
	comp=N,224μm,0.3s							
PB09	**Plate Boundary**	**1.63**	**180**	⇑*i*P		**Pn**	**18 39 29.1**	**+0.4**
PB09				*i*S		**Sn**	**18 39 49.9**	**+0.1**
PB09	**Plate Boundary**	**1.63**	**180**	⇑*i*P		**Pn**	**18 39 29.1**	**+0.4**
PB09				*i*S		**Sn**	**18 39 49.9**	**+0.1**
PB09				AML	AML		18 39 54.0	
	comp=N,142μm,0.8s							
PB07	**Plate Boundary**	**1.68**	**201**	*i*P		**Pn**	**18 39 28.8**	**-0.5**
PB07				*i*S		**Sn**	**18 39 49.3**	**-1.5**
PB07	**Plate Boundary**	**1.68**	**201**	*i*P		**Pn**	**18 39 28.8**	**-0.5**
PB07				*i*S		**Sn**	**18 39 49.3**	**-1.5**
PB07				AML	AML		18 39 55.5	
	comp=N,30μm,0.6s							
PB04	**Plate Boundary**	**2.11**	**186**	*e*P		**Pn**	**18 39 37.1**	**+2.4**
PB04	**Plate Boundary**	**2.11**	**186**	*e*P		**Pn**	**18 39 37.1**	**+2.4**
PB04				AML	AML		18 40 23.8	
	comp=N,16μm,0.3s							
LVC	**Limon Verde**	**2.46**	**173**	*e*Pn		**Pn**	**18 39 39.8**	**+0.2**
LVC				P			18 39 41.7	
LVC				S		**Sn**	**18 40 09.4**	**+0.2**
LVC	**Limon Verde**	**2.46**	**173**	P		**Pn**	**18 39 41.7**	**+2.2**
	comp=N,391nm,0.3s,baz=354,slow=11,SNR=427							
LVC				S		**Sn**	**18 40 09.4**	**+0.2**
	comp=N,437nm,0.3s,baz=340,slow=9.0,SNR=11							
LVC				LR		LR	18 40 31.8	
	comp=N,420nm,18.5s,baz=54,slow=37							
LPAZ	**La Paz**	**3.99**	**15**	P		Pn	18 40 03.7	+3.2
LPAZ				S		**Sn**	**18 40 47.4**	**+0.9**
LPAZ	**La Paz**	**3.99**	**15**	P		Pn	18 40 03.7	+3.2
	comp=N,15nm,0.3s,baz=187,slow=8.0,SNR=384							
LPAZ				S		**Sn**	**18 40 47.4**	**+0.9**
	comp=N,12nm,0.3s,baz=227,slow=17,SNR=8.1							
LPAZ				LR		LR	18 41 35.5	
	comp=N.567nm,21.0s,baz=209,slow=39							
ARE	**Arequipa**	**4.26**	**329**	*e*P		**Pn**	**18 40 02.0**	**-1.8**
ARE				*e*S		**Sn**	**18 40 49.0**	**-3.5**
SIV	**San Ignacio**	**8.80**	**63**	P		**Pn**	**18 41 03.6**	**-1.6**
SIV				S		**Sn**	**18 42 39.7**	**-3.0**
SIV	**San Ignacio**	**8.80**	**63**	P		**Pn**	**18 41 03.6**	**-1.6**
	comp=N,33nm,0.3s,baz=260,slow=13,SNR=229							
SIV				S		**Sn**	**18 42 39.7**	**-3.0**
	baz=358,slow=22,SNR=3.3							
LCO	**Las Campanas**	**8.91**	**188**	*e*Pn		**Pn**	**18 41 08.2**	**+1.2**
	comp=N,186nm,0.7s							
NNA	**Nana**	**10.93**	**317**	*e*Pn		**Pn**	**18 41 33.9**	**-0.4**
	comp=N,48nm,0.8s							
CFAA	**Coronel Fontan**	**11.43**	**176**	P		**Pn**	**18 41 39.4**	**-1.7**
CFAA				S		Sn	18 43 36.4	-10
CFAA	**Coronel Fontan**	**11.43**	**176**	P		**Pn**	**18 41 39.4**	**-1.7**
	comp=N,0.2nm,0.3s,baz=353,slow=11,SNR=12							
CFAA				S		Sn	18 43 36.4	-10
	comp=N,0.6nm,0.3s,baz=230,slow=16,SNR=3.6							
CPUP	**Villa Florida**	**12.54**	**122**	P		**Pn**	**18 41 53.9**	**-1.9**
CPUP				S		**Sn**	**18 44 13.0**	**-0.7**
CPUP	**Villa Florida**	**12.54**	**122**	P		**Pn**	**18 41 53.9**	**-1.9**
	comp=N,4.1nm,0.3s,baz=287,slow=12,SNR=90							
CPUP				S		**Sn**	**18 44 13.0**	**-0.7**
	comp=N,0.7nm,0.3s,baz=279,slow=19,SNR=1.5							
CPUP				LR		LR	18 47 52.5	
	comp=N,174nm,18.7s,baz=273,slow=43							
ATAH	**Atahualpa**	**15.70**	**324**	P		**P**	**18 42 41.8**	**+2.6**
ATAH	**Atahualpa**	**15.70**	**324**	P		**P**	**18 42 41.8**	**+2.6**
	comp=N,0.3nm,0.3s,baz=176,slow=2.7,SNR=6.9							
TRQA	**Tornquist**	**18.91**	**162**	*e*Pn		**P**	**18 43 13.2**	**-0.8**
	comp=N,48nm,0.8s							
PLCA	**Paso Flores**	**20.54**	**183**	P		**P**	**18 43 31.4**	**-0.2**
PLCA	**Paso Flores**	**20.54**	**183**	P		**P**	**18 43 31.4**	**-0.2**
	comp=N,43nm,0.9s,baz=5.4,slow=12,SNR=45							
BDFB	**Brasilia**	**20.68**	**81**	P		**P**	**18 43 32.1**	**-1.3**
BDFB				S		**S**	**18 47 18.4**	**-0.9**
BDFB	**Brasilia**	**20.68**	**81**	P		**P**	**18 43 32.1**	**-1.3**
	comp=N,20nm,0.3s,baz=246,slow=12,SNR=26							
BDFB				S		**S**	**18 47 18.4**	**-0.9**
	comp=N,8.3nm,0.9s,baz=246,slow=20,SNR=2.2							
BDFB				LR		LR	18 52 47.1	
	comp=N,385nm,19.5s,baz=228,slow=40							
OTAV	**Otavalo**	**22.19**	**335**	*e*Pn		**P**	**18 43 50.9**	**+1.1**
	comp=N,25nm,0.9s							
USHA	**Ushuaia**	**34.62**	**179**	P		**P**	**18 45 39.2**	**-1.3**
USHA	**Ushuaia**	**34.62**	**179**	P		**P**	**18 45 39.2**	**-1.3**
	comp=N,9.0nm,0.8s,baz=24,slow=6.5,SNR=7.6							
RCBR	**Riachuelo**	**35.36**	**71**	P		**P**	**18 45 47.0**	**-0.5**
RCBR	**Riachuelo**	**35.36**	**71**	P		**P**	**18 45 47.0**	**-0.5**
	comp=N,16nm,0.8s,baz=226,slow=9.3,SNR=11							
CELP	**Cerrillos**	**38.09**	**4**	*e*Pn		**P**	**18 46 08.1**	**-2.3**
TEIG	**Tepich**	**44.26**	**334**	P		**P**	**18 47 01.1**	**+0.2**
TEIG	**Tepich**	**44.26**	**334**	P		**P**	**18 47 01.1**	**+0.2**
	comp=N,13nm,0.7s,baz=130,slow=6.5,SNR=9.6							
PMSA	**Palmer Station**	**44.73**	**177**	P		**P**	**18 47 05.2**	**+1.1**
PMSA	**Palmer Station**	**44.73**	**177**	P		**P**	**18 47 05.2**	**+1.1**
	comp=N,9.7nm,0.8s,baz=333,slow=11,SNR=2.3							
LRAL	**Lakeview Retre**	**55.55**	**342**	*e*Pn		**P**	**18 48 24.3**	**-1.9**
	comp=N,5.8nm,0.9s							
KMSC	**Kings Mountain**	**56.19**	**348**	⇑P		**P**	**18 48 30.4**	**-0.3**
	baz=56							
732A	**Laxson Ranch,**	**56.95**	**328**	⇑P		**P**	**18 48 36.0**	**-0.3**
	baz=57,SNR=11							
TKL	**Tuckaleechee C**	**57.20**	**346**	P		**P**	**18 48 37.1**	**-0.8**
TKL	**Tuckaleechee C**	**57.20**	**346**	P		**P**	**18 48 37.1**	**-0.8**
	comp=N,16nm,0.9s,baz=163,slow=8.8,SNR=6.2							
632A	**Uvalde**	**57.50**	**328**	⇑P		**P**	**18 48 40.1**	**-0.1**
	baz=58,SNR=6.4							
631A	**Perdido Creek**	**57.81**	**328**	⇑P		**P**	**18 48 41.9**	**-0.4**
	baz=58,SNR=14							
532A	**Rocksprings**	**58.06**	**329**	⇓P		**P**	**18 48 44.1**	**-0.1**
	baz=58							
JCT	**Junction City**	**58.30**	**329**	*e*Pn		**P**	**18 48 45.6**	**-0.2**
	comp=N,5.9nm,0.6s							
JCT	**Junction City**	**58.30**	**329**	⇑P		**P**	**18 48 45.5**	**-0.3**
	baz=58							
531A	**Rocksprings**	**58.41**	**328**	⇑P		**P**	**18 48 46.7**	**+0.1**
	baz=59,SNR=15							
WHTX	**Lake Whitney**	**58.48**	**332**	⇑P		**P**	**18 48 46.4**	**-0.5**
	baz=59							
432A	**Menard**	**58.63**	**329**	⇑P		**P**	**18 48 47.6**	**-0.5**
	baz=59,SNR=12							
WVT	**Waverly**	**58.69**	**342**	*e*Pn		**P**	**18 48 46.2**	**-2.0**
	comp=N,23nm,0.8s							
530A	**J-C Ranch, Com**	**58.80**	**327**	⇓P		**P**	**18 48 49.1**	**-0.1**
	baz=59,SNR=19							
431A	**Sonora**	**58.87**	**328**	⇓P		**P**	**18 48 49.1**	**-0.6**
	baz=59,SNR=9.4							
332A	**Millersview**	**59.02**	**330**	⇑P		**P**	**18 48 50.4**	**-0.4**
	baz=59,SNR=18							
628A	**Black Gap, Mar**	**59.07**	**326**	⇓P		**P**	**18 48 51.4**	**+0.2**
	baz=59,SNR=20							
MIAR	**Mount Ida**	**59.12**	**337**	*e*P		**P**	**18 48 50.9**	**-0.4**
	comp=N,25nm,1.0s							
529A	**Stev Forest Ra**	**59.23**	**327**	⇑P		**P**	**18 48 52.2**	**-0.1**
	baz=59,SNR=27							
430A	**Baggett Ranch,**	**59.26**	**328**	⇓P		**P**	**18 48 52.0**	**-0.5**
	baz=60,SNR=8.8							
331A	**San Angelo**	**59.29**	**329**	⇑P		**P**	**18 48 52.0**	**-0.6**
	baz=60							
TXAR	**Lajitas Array**	**59.36**	**325**	P		**P**	**18 48 53.5**	**+0.2**
TXAR				sP		**sP**	**18 49 27.0**	**-0.7**
TXAR	**Lajitas Array**	**59.36**	**325**	P		**P**	**18 48 53.5**	**+0.2**
	comp=N,3.0nm,0.8s,baz=141,slow=8.1,SNR=27							
TXAR				sP		**sP**	**18 49 27.0**	**-0.7**
	comp=N,1.8nm,0.7s,baz=143,slow=8.9,SNR=5.0							
232A	**Coleman**	**59.40**	**330**	⇓P		**P**	**18 48 52.9**	**-0.5**
	baz=60							
429A	**Davenport Ranc**	**59.46**	**327**	⇑P		**P**	**18 48 53.7**	**-0.2**
	baz=60,SNR=21							
528A	**Cox Ranch, San**	**59.55**	**326**	⇑P		**P**	**18 48 54.1**	**-0.4**
	baz=60,SNR=11							
330A	**Mertzon**	**59.73**	**328**	⇑P		**P**	**18 48 55.1**	**-0.6**
	baz=60,SNR=5.7							
231A	**Bronte**	**59.75**	**329**	⇓P		**P**	**18 48 55.1**	**-0.7**
	baz=60							
626A	**Big Bend Ranch**	**59.79**	**325**	⇓P		**P**	**18 48 56.5**	**+0.4**
	baz=60,SNR=19							
428A	**Kincaid Ranch,**	**59.95**	**327**	⇓P		**P**	**18 48 57.1**	**-0.1**
	baz=60,SNR=9.6							
527A	**Woodward Ranch**	**59.97**	**326**	⇑P		**P**	**18 48 57.2**	**-0.2**
	baz=60,SNR=14							
ABTX	**Abilene, Hawle**	**60.01**	**330**	⇑P		**P**	**18 48 57.0**	**-0.5**
	baz=60							
230A	**Sterling City**	**60.10**	**329**	⇑P		**P**	**18 48 57.5**	**-0.7**
	baz=60							
526A	**Mary Lane Ranc**	**60.16**	**325**	⇓P		**P**	**18 48 59.0**	**+0.2**
	baz=60,SNR=22							
329A	**Wagon Wheel Ra**	**60.20**	**328**	⇑P		**P**	**18 48 58.5**	**-0.4**
	baz=60,SNR=11							
131A	**Roby**	**60.40**	**330**	⇓P		**P**	**18 48 59.8**	**-0.4**
	baz=61,SNR=8.2							
Z32A	**Haskell**	**60.50**	**331**	⇓P		**P**	**18 49 00.2**	**-0.6**
	baz=61							
229A	**Bryant Ranch,**	**60.51**	**328**	⇓P		**P**	**18 49 00.2**	**-0.8**
	baz=61							
328A	**Wristen Ranch,**	**60.53**	**327**	⇑P		**P**	**18 49 00.8**	**-0.3**
	baz=61,SNR=9.8							
SIUC	**Southern Illin**	**60.56**	**342**	*e*P		**P**	**18 49 00.7**	**-0.5**
	comp=N,32nm,0.8s							
426A	**McDonald Obser**	**60.60**	**326**	⇑P		**P**	**18 49 01.6**	**-0.2**
	baz=61,SNR=14							
130A	**Snyder**	**60.61**	**329**	⇑P		**P**	**18 49 01.1**	**-0.6**
	baz=61,SNR=5.7							
Z31A	**Sharp Cattle R**	**60.82**	**330**	⇓P		**P**	**18 49 02.5**	**-0.5**
	baz=61,SNR=6.3							
327A	**Balmorhea Ranc**	**60.88**	**327**	⇓P		**P**	**18 49 03.6**	**+0.1**
	baz=61							
228A	**UT Block 9, Go**	**61.02**	**328**	⇑P		**P**	**18 49 03.8**	**-0.7**
	baz=61							
Y32A	**R-V Farms, Ver**	**61.07**	**331**	⇓P		**P**	**18 49 04.2**	**-0.5**
	baz=61							
129A	**Stewart Farms,**	**61.07**	**329**	⇑P		**P**	**18 49 04.2**	**-0.6**
	baz=61							
326A	**Caldwell Ranch**	**61.09**	**326**	⇑P		**P**	**18 49 04.8**	**-0.1**
	baz=61,SNR=7.5							
TUL1	**Tulsa**	**61.18**	**336**	⇓P		**P**	**18 49 04.5**	**-0.8**
	baz=61							
425A	**Indio Mountain**	**61.21**	**325**	⇑P		**P**	**18 49 05.7**	**-0.1**
	baz=61,SNR=29							
Z30A	**Sanderson Ranc**	**61.25**	**330**	⇑P		**P**	**18 49 05.4**	**-0.6**
	baz=62,SNR=13							
227A	**Bennet, Jal**	**61.28**	**327**	⇑P		**P**	**18 49 06.0**	**-0.2**
	baz=62							
128A	**Castleberry Fa**	**61.37**	**328**	⇓P		**P**	**18 49 06.1**	**-0.7**
	baz=62							
Y31A	**Rekieta Farm,**	**61.41**	**331**	⇓P		**P**	**18 49 06.4**	**-0.6**
	baz=62							
Z29A	**Hungry Hill Ra**	**61.51**	**329**	⇓P		**P**	**18 49 06.9**	**-0.8**
	baz=62							
Y30A	**Stafford Cattl**	**61.63**	**330**	⇓P		**P**	**18 49 07.8**	**-0.7**
	baz=62							
226B	**Tecolote Peak,**	**61.78**	**327**	⇑P		**P**	**18 49 10.0**	**+0.4**
	baz=62,SNR=11							
X31A	**McDonald Ranch**	**61.84**	**331**	⇑P		**P**	**18 49 09.2**	**-0.7**
	baz=62,SNR=8.7							
127A	**Arkansas Junct**	**61.85**	**328**	⇑P		**P**	**18 49 09.3**	**-0.8**
	baz=62							
Z28A	**Tucker Farm, M**	**61.86**	**329**	⇓P		**P**	**18 49 09.2**	**-0.9**
	baz=62							
324A	**Moseley Ranch,**	**61.98**	**325**	⇑P		**P**	**18 49 10.4**	**-0.7**
	baz=62,SNR=24							
X30A	**Coker Ranch, T**	**62.09**	**331**	⇓P		**P**	**18 49 10.5**	**-1.0**
	baz=62							
MNTX	**Cornudas Mount**	**62.13**	**325**	*e*P		**P**	**18 49 11.0**	**-0.9**
	comp=N,11nm,1.1s							
225A	**Deer Hill, Car**	**62.15**	**326**	⇓P		**P**	**18 49 12.0**	**-0.2**
	baz=62,SNR=8.9							
126A	**Clayton Basin,**	**62.16**	**327**	⇓P		**P**	**18 49 11.9**	**-0.3**
	baz=62,SNR=6.2							
Z27A	**Tatum**	**62.29**	**328**	⇓P		**P**	**18 49 12.1**	**-0.9**
	baz=62,SNR=15							
Y28A	**McKinney Farm,**	**62.30**	**329**	⇓P		**P**	**18 49 12.1**	**-0.9**
	baz=62							
ALLY	**Alegheny Colle**	**62.32**	**351**	*e*P		**P**	**18 49 13.0**	**+0.1**
	comp=N,16nm,0.4s							
BINY	**Binghamton**	**62.36**	**354**	*e*P		**P**	**18 49 13.4**	**+0.3**
	comp=N,12nm,1.0s							
X29A	**Tulia**	**62.47**	**330**	⇓P		**P**	**18 49 13.4**	**-0.8**
	baz=63							
SFIN	**Scholer Farm**	**62.48**	**345**	⇑P		**P**	**18 49 12.1**	**-1.9**
	baz=63,SNR=8.4							
125A	**Gardner Draw,**	**62.50**	**327**	⇓P		**P**	**18 49 13.8**	**-0.7**
	baz=63							
MSTX	**Muleshoe**	**62.60**	**329**	⇑P		**P**	**18 49 14.3**	**-0.8**
	baz=63,SNR=12							
Z26A	**Caprock**	**62.64**	**327**	⇓P		**P**	**18 49 14.8**	**-0.6**
	baz=63,SNR=6.6							
Y27A	**Causey**	**62.72**	**329**	⇓P		**P**	**18 49 15.0**	**-0.9**
	baz=63,SNR=6.8							
V31A	**Spring Creek L**	**62.73**	**332**	⇓P		**P**	**18 49 15.8**	**-0.1**
	baz=63							
X28A	**Dimmitt**	**62.77**	**330**	⇑P		**P**	**18 49 15.3**	**-0.9**
	baz=63							
124A	**Stringfield Ra**	**62.95**	**326**	⇓P		**P**	**18 49 17.3**	**-0.2**
	baz=63,SNR=10							
W29A	**Amraillo**	**63.00**	**330**	⇑P		**P**	**18 49 16.9**	**-0.8**
	baz=63							
Z25A	**Roswell**	**63.02**	**327**	⇓P		**P**	**18 49 17.3**	**-0.6**
	baz=63,SNR=7.8							
Y26A	**Elida**	**63.08**	**328**	⇑P		**P**	**18 49 17.2**	**-1.1**
	baz=63							
V30A	**Spur Ranch, Mi**	**63.10**	**332**	⇑P		**P**	**18 49 18.2**	**-0.1**
	baz=63							
W28A	**Vega**	**63.38**	**330**	⇓P		**P**	**18 49 19.9**	**-0.3**
	baz=64							
Z24A	**Sheeppen Canyo**	**63.39**	**326**	⇑P		**P**	**18 49 20.2**	**-0.3**
	baz=64,SNR=12							
Y25A	**Mesa, Roswell**	**63.51**	**327**	⇓P		**P**	**18 49 20.4**	**-0.8**
	baz=64,SNR=8.7							
X26A	**CR and CF Fran**	**63.57**	**328**	⇑P		**P**	**18 49 21.1**	**-0.4**
	baz=64,SNR=13							
W27A	**Bowe Ranch, En**	**63.62**	**329**	⇓P		**P**	**18 49 21.2**	**-0.7**
	baz=64,SNR=5.9							
SNAA	**Sanae**	**63.64**	**161**	*e*P		**P**	**18 49 21.6**	**+0.2**
SNAA	**Sanae**	**63.64**	**161**	P		**P**	**18 49 21.1**	**-0.3**
SNAA	**Sanae**	**63.64**	**161**	P		**P**	**18 49 21.1**	**-0.3**
	comp=N,2.4nm,0.8s,baz=285,slow=5.9,SNR=32							
T31A	**Randall Ranch,**	**63.78**	**333**	⇑P		**P**	**18 49 22.0**	**-0.7**
	baz=64							
Z23A	**Rita Site, Whi**	**63.79**	**326**	⇓P		**P**	**18 49 23.1**	**+0.1**
	baz=64							
W26A	**Owens Ranch, T**	**63.98**	**329**	⇑P		**P**	**18 49 23.8**	**-0.4**
	baz=64							
220A	**Playas Peak, P**	**64.01**	**323**	⇑P		**P**	**18 49 24.9**	**+0.4**
	baz=64,SNR=14							
319A	**Douglas**	**64.05**	**322**	⇑P		**P**	**18 49 25.6**	**+0.9**
	baz=64,SNR=16							
121A	**Cooks Peak, D**	**64.07**	**324**	⇑P		**P**	**18 49 25.7**	**+0.8**
	baz=64,SNR=8.9							
Z22A	**Elephant Butte**	**64.18**	**325**	⇑P		**P**	**18 49 26.2**	**+0.7**
	baz=64,SNR=18							
Y23A	**Lovelace Mesa,**	**64.22**	**326**	⇓P		**P**	**18 49 25.7**	**-0.2**
	baz=64							
U28A	**Mallet**	**64.31**	**331**	⇑P		**P**	**18 49 24.9**	**-1.4**
	baz=64							
X24A	**Lazy VL Ranch,**	**64.40**	**327**	⇑P		**P**	**18 49 26.8**	**-0.3**
	baz=65,SNR=7.1							
W25A	**X Bar L Ranch,**	**64.43**	**328**	⇑P		**P**	**18 49 26.6**	**-0.6**
	baz=65,SNR=9.8							
120A	**U Bar Ranch, L**	**64.55**	**324**	⇓P		**P**	**18 49 28.9**	**+0.8**
	baz=65,SNR=9.6							
V26A	**Tequesquite Ra**	**64.56**	**329**	⇓P		**P**	**18 49 27.6**	**-0.4**
	baz=65,SNR=13							
Z21A	**St. Cloud Mine**	**64.60**	**325**	⇑P		**P**	**18 49 29.2**	**+0.9**
	baz=65,SNR=8.3							
BNM	**Barren Site**	**64.69**	**326**	*e*P		**P**	**18 49 29.6**	**+0.6**
	comp=N,4.9nm,1.1s							
Y22A	**Socorro**	**64.70**	**326**	⇓P		**P**	**18 49 29.1**	**+0.1**
	baz=65							
W24A	**Lazy 6 Ranch,**	**64.89**	**328**	⇑P		**P**	**18 49 29.8**	**-0.4**
	baz=65							
Z20A	**Nine Sixteen R**	**64.95**	**324**	⇓P		**P**	**18 49 31.4**	**+0.8**
	baz=65,SNR=12							
V25A	**Rancho No Teng**	**65.00**	**329**	⇓P		**P**	**18 49 30.9**	**0.0**
	baz=65							
U26A	**Atchley Ranch,**	**65.03**	**330**	⇓P		**P**	**18 49 30.9**	**-0.1**
	baz=65,SNR=12							
Y21A	**Point of Rocks**	**65.13**	**325**	⇓P		**P**	**18 49 32.9**	**+1.0**
	baz=65,SNR=12							
LAZ	**Ladron**	**65.15**	**326**	*e*P		**P**	**18 49 32.3**	**+0.4**
	comp=N,5.1nm,1.2s							
S28A	**Manter**	**65.16**	**332**	⇓P		**P**	**18 49 31.2**	**-0.6**
	baz=65							
X22A	**Bernardo**	**65.16**	**326**	⇑P		**P**	**18 49 33.0**	**+1.1**
	baz=65							
ANMO	**Albuquerque**	**65.22**	**327**	*e*P		**P**	**18 49 33.0**	**+0.7**
	comp=N,4.9nm,0.9s							
V24A	**Rampart Ranch,**	**65.23**	**328**	⇓P		**P**	**18 49 32.3**	**-0.1**
	baz=65,SNR=7.5							
SADO	**Sadowa**	**65.24**	**352**	LR		LR	19 23 56.3	
	comp=N,33nm,19.6s,baz=157,slow=41							
U25A	**Circle Dot Ran**	**65.35**	**329**	⇑P		**P**	**18 49 33.2**	**+0.1**
	baz=66,SNR=14							
Y20A	**Horse Springs,

OGNE Ogallala 68.00 334 ⇑P P 18 49 49.9 +0.1
baz=68
MVCO Mesa Verde 68.01 327 eP P 18 49 50.8 +0.7
comp=N,3.6nm,0.6s
MVCO Mesa Verde 68.01 327 ⇑P P 18 49 50.5 +0.4
baz=68
Y14A Wickenburg 68.06 322 ⇓P P 18 49 51.4 +1.1
baz=68,SNR=6.7
WUAZ Wupatki 68.28 324 eP P 18 49 52.9 +1.2
comp=N,25nm,1.0s
WUAZ Wupatki 68.28 324 ⇑P P 18 49 53.0 +1.3
baz=68,SNR=15
ECSD EROS Data Cent 68.36 339 eP P 18 49 51.1 -0.8
comp=N,16nm,1.3s
P23A Jefferson 68.40 330 ⇑P P 18 49 53.4 +0.8
baz=69
N26A Koester Ranch, 68.41 333 ⇑P P 18 49 52.4 0.0
baz=69
S20A Disappointment 68.42 327 ⇓P P 18 49 53.7 +1.0
baz=69,SNR=7.8
R21A Cimarron 68.43 328 ⇑P P 18 49 53.5 +0.8
baz=69
SPMN St. Paul 68.52 342 ⇑P P 18 49 52.5 -0.3
baz=69
GLA Glamis 68.52 320 ⇑P P 18 49 55.0 +1.8
baz=69
ISCO Idaho Springs 68.64 331 eP P 18 49 54.3 +0.2
comp=N,11nm,1.2s
ISCO Idaho Springs 68.64 331 ⇑P P 18 49 54.4 +0.4
baz=69,SNR=7.8
M27A Reverse DX Ran 68.64 334 ⇓P P 18 49 54.0 +0.2
baz=69
DBIC Dimbokro 68.65 74 P P 18 49 53.1 -1.2
DBIC pP PcP 18 50 18.4 -0.2
DBIC sP sP 18 50 29.2 +0.1
DBIC Dimbokro 68.65 74 P P 18 49 53.1 -1.2
comp=N,12nm,0.7s,baz=203,slow=7.0,SNR=10
DBIC pP PcP 18 50 18.4 -0.2
comp=N,54nm,0.9s,baz=217,slow=7.0,SNR=15
DBIC sP sP 18 50 29.2 +0.1
comp=N,38nm,1.0s,baz=242,slow=4.7,SNR=6.2
DBIC LR LR 19 18 01.8
comp=N,51nm,20.0s,baz=44,slow=34
R20A Redvale 68.70 328 ⇑P P 18 49 55.1 +0.7
baz=69
PV01 Paradox Valley 68.76 328 eP P 18 49 55.9 +1.2
comp=N,723nm,1.2s
SMCO Snowmass 68.78 329 eP P 18 49 55.7 +0.6
comp=N,6.0nm,0.9s
Y12C Blythe 68.83 321 ⇓P P 18 49 56.9 +1.9
baz=69
K29A Lazy Trails An 68.85 336 ⇑P P 18 49 55.2 +0.2
baz=69
PDMCI Parker Dam,Lak 68.98 321 ⇓P P 18 49 57.4 +1.5
baz=69
P22A Eagle 69.01 330 ⇓P P 18 49 56.6 +0.3
baz=69
DVTC Desert V Tower 69.03 319 ⇓P P 18 49 58.4 +2.0
baz=69
SWSC Sam W. Stewart 69.04 319 ⇑P P 18 49 58.5 +2.2
baz=69
O23A Lake Granby, G 69.11 331 ⇓P P 18 49 57.5 +0.6
baz=69
N24A Carr 69.13 332 ⇓P P 18 49 57.9 +0.9
baz=69
K28A Ten Mile Ranch 69.22 335 ⇑P P 18 49 57.5 +0.2
baz=70
BC3 Big Chuckawall 69.32 320 ⇑P P 18 49 59.6 +1.4
baz=70,SNR=11
L26A Underwood Farm 69.35 334 ⇓P P 18 49 58.5 +0.3
baz=70
O22A Kremmling 69.36 330 ⇓P P 18 49 58.6 +0.1
baz=70,SNR=15
MONP Monument Peak 69.39 319 ⇓P P 18 50 00.1 +1.3
baz=70,SNR=5.4
BAR Barrett 69.40 318 eP P 18 49 59.4 +0.8
comp=N,7.6nm,0.9s
BAR epP pP 18 50 22.8 -0.2
BAR esP sP 18 50 34.1 +0.6
U15A North Rim 69.45 324 ⇑P P 18 50 00.7 +1.6
baz=70,SNR=25
IRM Iron Mountain 69.48 321 ⇑P P 18 50 00.4 +1.3
baz=70,SNR=11
M24A Cheyenne 69.63 332 ⇑P P 18 50 00.8 +0.8
baz=70,SNR=6.8
N23A Red Feather La 69.67 331 ⇓P P 18 50 00.9 +0.5
baz=70,SNR=7.4
J28A Allard Ranch, 69.77 336 ⇑P P 18 50 00.8 +0.1
baz=70,SNR=5.7
BRSD Miller 69.80 338 ⇓P P 18 50 00.3 -0.5
baz=70
N22A Wattenberg Ran 69.82 331 ⇓P P 18 50 02.1 +0.8
baz=70,SNR=6.2
O21A Pagoda 69.83 330 ⇑P P 18 50 02.3 +0.9
baz=70
BELC Belle Mtn. Jos 69.88 320 ⇓P P 18 50 03.0 +1.4
baz=70,SNR=6.6
PFO Pinyon Flat Ob 69.90 319 eP P 18 50 02.7 +0.9
comp=N,16nm,1.0s
PFO Pinyon Flat Ob 69.90 319 LR LR 19 19 22.1
comp=N,41nm,18.2s,baz=162,slow=35
PFO Pinyon Flat Ob 69.90 319 ⇓P P 18 50 03.2 +1.4
baz=70,SNR=6.6
P19A Cripple Cowboy 70.11 328 ⇓P P 18 50 03.7 +0.6
baz=70,SNR=10.0
O20A White River Ci 70.14 329 ⇓P P 18 50 04.1 +0.9
baz=70
GMRC Granite Mounta 70.22 321 ⇓P P 18 50 05.1 +1.5
baz=70,SNR=15
N21A Black Mountain 70.29 330 ⇑P P 18 50 04.9 +0.8
baz=70
MURC Murrieta 70.35 319 ⇑P P 18 50 06.3 +1.9
baz=70
SRU San Rafael 70.49 327 eP P 18 50 06.2 +0.8
comp=N,16nm,0.8s
L23A Garrett 70.53 332 ⇓P P 18 50 05.8 +0.3
baz=71
K24A Anderson Ranch 70.64 333 ⇓P P 18 50 07.0 +0.8
baz=71
HEC Hector,Ludlow 70.65 320 ⇓P P 18 50 07.8 +1.6
baz=71
EYMN Ely 70.67 344 eP P 18 50 05.0 -1.1
comp=N,15nm,0.9s
Q16A Castle Valley 70.68 326 ⇑P P 18 50 07.5 +1.0
baz=71,SNR=6.5
N20A Spence Gulch, 70.69 330 ⇑P P 18 50 07.3 +0.7
baz=71,SNR=10
O19A Miners Draw (B 70.69 329 ⇑P P 18 50 07.2 +0.7
baz=71,SNR=5.4
SCI San Clemente I 70.78 318 ⇓P P 18 50 08.8 +1.8
baz=71
L22A Ellis Ranch, M 70.79 332 ⇑P P 18 50 07.9 +0.8
baz=71
TUQ Turquoise Moun 70.82 321 ⇓P P 18 50 08.9 +1.6
baz=71,SNR=5.4
CCUT Cedar City 70.85 324 eP P 18 50 09.1 +1.5
comp=N,28nm,0.9s
M21A Separation Pea 70.88 331 ⇓P P 18 50 08.2 +0.5
baz=71,SNR=5.5
MSU Marysvale 70.91 326 eP P 18 50 08.9 +1.0
comp=N,20nm,0.9s
MVU Marysvale 70.92 326 eP P 18 50 09.1 +1.0
comp=N,21nm,1.0s
CIS Catalina Islan 70.97 318 ⇑P P 18 50 09.8 +1.6
baz=71
K23A Bowen Ranch, D 71.02 332 ⇑P P 18 50 08.9 +0.5
baz=71
BFSC Mount Baldy Ra 71.06 319 ⇓P P 18 50 10.0 +1.2
baz=71
ARUT Antelope Range 71.06 324 eP P 18 50 10.3 +1.5
comp=N,33nm,0.9s
L21A Rawlins 71.16 331 ⇑P P 18 50 09.6 +0.2
baz=71,SNR=15
M20A Sweetwater, Wa 71.17 330 ⇑P P 18 50 10.1 +0.6
baz=71
GSC Goldstone 71.26 320 eP P 18 50 10.9 +1.0
comp=N,18nm,1.3s
GSC Goldstone 71.26 320 ⇑P P 18 50 11.3 +1.4
baz=71,SNR=6.8
MWC Mount Wilson 71.30 319 eP P 18 50 11.3 +1.0
comp=N,30nm,1.3s
K22A Casper 71.33 332 ⇓P P 18 50 10.9 +0.6
baz=72
SHOC Shoshone 71.35 321 ⇑P P 18 50 12.2 +1.8
baz=72
RSSD Black Hills 71.46 334 eP P 18 50 10.9 -0.3
comp=N,3.3nm,0.8s
DECC Green Verdugo 71.48 319 ⇑P P 18 50 13.3 +2.1
baz=72
I24A Kuemmerle Ranc 71.49 334 ⇑P P 18 50 11.9 +0.8
baz=72
L20A Wamsutter 71.65 330 ⇑P P 18 50 12.7 +0.5
baz=72,SNR=5.0
EDW2 Edwards Air Fo 71.69 319 ⇓P P 18 50 13.6 +1.0
baz=72,SNR=6.2
MPU Maple Canyon 71.74 327 eP P 18 50 14.2 +1.4
comp=N,10nm,0.9s
LRMC Laurel Mountai 71.91 320 ⇑P P 18 50 15.1 +1.3
baz=72,SNR=6.3
J22A Midwest 71.92 332 ⇓P P 18 50 13.9 +0.1
baz=72,SNR=8.7
FURC Furnace Creek, 72.08 321 ⇑P P 18 50 16.4 +1.7
baz=72,SNR=14
K20A Yellowstone Ra 72.16 331 ⇑P P 18 50 15.1 -0.1
baz=72,SNR=6.9
MPMC Manual Prospc 72.18 321 ⇓P P 18 50 16.5 +0.9
baz=72,SNR=11
H24A Dirks Ranch, A 72.19 334 ⇑P P 18 50 15.0 -0.3
baz=72,SNR=6.4
AGMN Agassiz Nation 72.20 342 eP P 18 50 14.5 -0.6
comp=N,14nm,0.8s
L19A Farson 72.20 330 ⇓P P 18 50 15.9 +0.4
baz=72
J21A Lysite 72.29 332 ⇓P P 18 50 16.4 +0.4
baz=72,SNR=7.0
I22A 9 Mile Ranch, 72.31 333 ⇓P P 18 50 16.6 +0.5
baz=72
M17A Scullys Gap (B 72.35 329 ⇑P P 18 50 16.5 0.0
baz=73,SNR=5.2
L18A Fontenelle, Gr 72.38 329 ⇑P P 18 50 17.7 +1.0
baz=73
DUG Dugway 72.48 326 eP P 18 50 18.6 +1.4
comp=N,18nm,1.2s
DUG Dugway 72.48 326 ⇑P P 18 50 18.3 +1.1
baz=73,SNR=11
ISA Isabella 72.51 320 eP P 18 50 18.7 +1.3
comp=N,26nm,1.2s
ISA Isabella 72.51 320 ⇑P P 18 50 18.9 +1.5
baz=73,SNR=14
K19A Absolon Red Bu 72.52 331 ⇓P P 18 50 18.2 +0.7
baz=73
J20A Shoshoni 72.58 331 ⇑P P 18 50 18.0 +0.2
baz=73
I21A Big Trails, Te 72.59 332 ⇓P P 18 50 17.8 0.0
baz=73,SNR=16
G24A Alzada 72.61 335 ⇑P P 18 50 18.4 +0.5
baz=73
GRAC Grapevine Rang 72.75 321 ⇓P P 18 50 20.6 +1.8
baz=73
CWC Cottonwood Cre 72.79 321 ⇑P P 18 50 20.6 +1.4
baz=73,SNR=6.2
BW06 Boulder Array 72.80 330 eP P 18 50 19.1 -0.1
comp=N,3.1nm,0.9s
PDAR Pinedale Array 72.80 330 P P 18 50 19.4 +0.3
PDAR pP pP 18 50 43.5 -0.3
PDAR sP sP 18 50 52.6 -1.6
PDAR Pinedale Array 72.80 330 P P 18 50 19.4 +0.3
comp=N,2.1nm,0.9s,baz=152,slow=6.6,SNR=12
PDAR pP pP 18 50 43.5 -0.3
comp=N,1.3nm,0.7s,baz=117,slow=8.5,SNR=3.4
PDAR sP sP 18 50 52.6 -1.6
comp=N,2.2nm,0.8s,baz=134,slow=8.5,SNR=4.0
H22A Clearmont 72.81 333 ⇑P P 18 50 18.9 -0.2
baz=73
PKM Peak Mountain 72.83 318 ⇑P P 18 50 21.0 +1.6
baz=73,SNR=17
HWUT Hardware Ranch 72.89 328 eP P 18 50 20.1 +0.4
comp=N,13nm,0.8s
G23A Biddle 72.90 334 ⇓P P 18 50 20.0 +0.5
baz=73
J19A Crowheart 72.95 331 ⇑P P 18 50 20.1 +0.1
baz=73,SNR=5.6
MDND Maddock 72.98 339 ⇓P P 18 50 20.0 +0.2
baz=73
VES Vestal, Richgr 73.00 319 ⇓P P 18 50 22.0 +1.8
baz=73
F24A Ekalaka 73.05 335 ⇓P P 18 50 20.3 -0.1
baz=73,SNR=5.6
I20A Worland 73.07 332 ⇑P P 18 50 20.7 +0.1
baz=73
E25A Boulder Ranch, 73.19 336 ⇑P P 18 50 21.6 +0.4
baz=74
SMMC Simmler 73.21 319 ⇓P P 18 50 23.2 +1.7
baz=73,SNR=7.5
TIN Tinemaha 73.29 321 ⇑P P 18 50 23.8 +1.8
baz=73
G22A Birney 73.29 334 ⇓P P 18 50 22.0 +0.1
baz=74
F23A Volborg 73.33 334 ⇑P P 18 50 22.2 +0.1
baz=74
H20A Greybull 73.44 332 ⇓P P 18 50 22.7 0.0
baz=74
I19A Meeteetse 73.53 331 ⇓P P 18 50 23.8 +0.4
baz=74,SNR=8.1
E24A Baker 73.59 336 ⇓P P 18 50 24.0 +0.5
baz=74,SNR=6.9
HVU Hansel Valley 73.62 328 eP P 18 50 24.6 +0.7
comp=N,12nm,1.0s
I18A Diamond G Ranc 73.64 331 ⇑P P 18 50 24.6 +0.4
baz=74,SNR=6.6
G21A Lodge Grass 73.68 333 ⇑P P 18 50 24.3 +0.2
baz=74
F22A Rosebud 73.73 334 ⇓P P 18 50 24.3 -0.1
baz=74
E23A Ismay 73.93 335 ⇓P P 18 50 25.4 -0.1
baz=74,SNR=6.9
LOHW Long Hollow 73.94 330 eP P 18 50 26.4 +0.5
comp=N,5.3nm,1.0s
ULM Lac du Bonnet 73.95 343 P P 18 50 24.2 -1.2
ULM sP sP 18 50 58.6 -2.0
ULM Lac du Bonnet 73.95 343 P P 18 50 24.2 -1.2
comp=N,11nm,0.6s,baz=156,slow=6.4,SNR=9.7
ULM sP sP 18 50 58.6 -2.0
comp=N,7.0nm,0.7s,baz=171,slow=8.4,SNR=3.3
D24A Glendive 74.05 336 ⇑P P 18 50 26.9 +0.7
baz=74
G20A Bridger 74.11 332 ⇓P P 18 50 26.8 +0.1
baz=74
ELK Elko 74.16 325 eP P 18 50 28.1 +0.9
comp=N,6.3nm,1.1s
I17A Pilgrim Ck. 74.17 330 ⇓P P 18 50 28.1 +1.0
baz=74
NVAR Mina Array Bea 74.26 322 P P 18 50 29.1 +1.4
NVAR pP pP 18 50 53.0 +0.5
NVAR sP sP 18 51 04.1 +1.2
NVAR Mina Array Bea 74.26 322 P P 18 50 29.1 +1.4
comp=N,6.8nm,0.8s,baz=150,slow=6.8,SNR=43
NVAR pP pP 18 50 53.0 +0.5
comp=N,1.2nm,0.6s,baz=143,slow=6.6,SNR=2.7
NVAR sP sP 18 51 04.1 +1.2
comp=N,5.7nm,0.9s,baz=140,slow=5.6,SNR=5.3
IMW Indian Meadow 74.32 330 eP P 18 50 29.1 +0.9
comp=N,16nm,1.1s
H18A Shoshone NF, C 74.33 331 ⇓P P 18 50 28.3 +0.2
baz=75,SNR=9.1
C24A Savage 74.43 336 ⇑P P 18 50 29.2 +0.9
baz=75
D23A Lindsay 74.44 335 ⇓P P 18 50 29.2 +0.7
baz=75
RLMT Red Lodge 74.50 332 eP P 18 50 29.9 +0.9
comp=N,13nm,1.0s
I16A Newdale 74.56 330 ⇑P P 18 50 30.3 +0.9
baz=75
E21A Keefer Ranch, 74.68 334 ⇓P P 18 50 30.6 +0.7
baz=75
SCHQ Schefferville 74.71 1 P P 18 50 29.6 -0.2
SCHQ Schefferville 74.71 1 P P 18 50 29.6 -0.2
comp=N,9.1nm,0.9s,baz=177,slow=4.9,SNR=8.4
G18A Lazy EL Ranch, 74.78 332 ⇑P P 18 50 31.0 +0.4
baz=75,SNR=10
D22A Cohagen 74.81 335 ⇑P P 18 50 31.1 +0.5
baz=75
F19A Roth Farm, Mol 74.93 332 ⇑P P 18 50 31.9 +0.5
baz=75
C23A Lambert 74.95 336 ⇓P P 18 50 31.3 0.0
baz=75
D21A La Casta Ranch 75.07 334 ⇓P P 18 50 32.6 +0.6
baz=75,SNR=7.2
H16A Russell Place, 75.07 330 ⇓P P 18 50 33.5 +1.1
baz=75
E20A Meyer Farm, Mu 75.09 333 ⇓P P 18 50 32.7 +0.5
baz=75,SNR=9.1
DGMT Dagmar 75.13 337 eP P 18 50 33.4 +1.0
comp=N,16nm,0.8s
DGMT Dagmar 75.13 337 ⇓P P 18 50 32.8 +0.5
baz=75
C22A Vida 75.17 335 ⇑P P 18 50 33.3 +0.7
baz=75
GCMT Greycliff 75.19 332 eP P 18 50 33.8 +0.9
comp=N,14nm,1.1s
GCMT epP pP 18 50 58.5 +0.8
F18A Big Timber 75.30 332 ⇑P P 18 50 34.1 +0.6
baz=76,SNR=14
G17A Pierce Place, 75.31 331 ⇑P P 18 50 34.8 +1.1
baz=76
E19A Rath Farm, Rou 75.33 333 ⇑P P 18 50 34.2 +0.6
baz=76,SNR=23
PPT Papeete 75.34 256 LR LR 19 15 59.6
comp=N,65nm,18.7s,baz=12,slow=29
B23A Brockton 75.42 336 ⇑P P 18 50 35.0 +0.9
baz=76
I14A Mackay 75.55 329 ⇑P P 18 50 36.5 +1.5
baz=76
B22A Reddig Ranch S 75.67 336 ⇑P P 18 50 35.8 +0.3
baz=76,SNR=7.1
C21A Desert Coulee 75.72 335 ⇑P P 18 50 36.1 +0.4
baz=76
F17A Fitzpatrick Pl 75.72 332 ⇑P P 18 50 36.8 +0.8
baz=76,SNR=10
MCMT McKenzie Canyo 75.92 330 eP P 18 50 38.6 +1.4
comp=N,6.2nm,1.0s
D19A Cripps Ranch, 75.93 333 ⇑P P 18 50 37.4 +0.4
baz=76,SNR=9.0
BOZ Bozeman (W) 75.97 331 eP P 18 50 37.9 +0.6
comp=N,17nm,1.6s
C20A Veseth Ranch, 76.00 334 ⇓P P 18 50 37.8 +0.4
baz=76
B21A Ellsworth Farm 76.17 335 ⇓P P 18 50 39.0 +0.7
baz=76
DLMT Dillon 76.20 330 eP P 18 50 39.9 +1.2
comp=N,8.7nm,1.1s
A22A Carney Farms, 76.20 336 ⇑P P 18 50 38.7 +0.2
baz=76
E17A Martinsdale 76.24 332 ⇓P P 18 50 39.6 +0.7
baz=76,SNR=8.6
I12A Atlanta 76.28 328 ⇓P P 18 50 40.4 +1.2
baz=76,SNR=9.7
MFID Camas Ranch 76.36 327 eP P 18 50 41.1 +1.5
comp=N,14nm,1.2s
MFID epP pP 18 51 04.2 -0.2
MFID Camas Ranch 76.36 327 ⇑P P 18 50 40.8 +1.2
baz=77,SNR=9.9
BEKR Beckworth 76.41 322 eP P 18 50 41.4 +1.4
comp=N,3.6nm,1.1s
C19A Slack Wire Ran 76.45 334 ⇑P P 18 50 40.3 +0.4
baz=77,SNR=9.0
LRM Limekiln Ridge 76.48 330 eP P 18 50 41.2 +0.9
comp=N,48nm,1.1s
F15A Butte 76.51 330 ⇑P P 18 50 41.3 +0.9
baz=77,SNR=7.4
B20A Solberg Farm, 76.58 335 ⇑P P 18 50 41.0 +0.3
baz=77,SNR=5.4
H12A Diamond D Ranc 76.69 328 ⇓P P 18 50 42.3 +0.8
baz=77,SNR=10.0
D17A Six Diamond Ra 76.69 332 ⇓P P 18 50 41.9 +0.5
baz=77,SNR=15
A20A Cobblestone Ra 76.90 335 ⇓P P 18 50 42.7 +0.3
baz=77,SNR=5.7
F14A Wisdom 76.90 330 ⇑P P 18 50 43.6 +1.0
baz=77,SNR=7.4
EGMT Eagleton 76.97 333 eP P 18 50 43.2 +0.3
comp=N,19nm,1.1s
EGMT Eagleton 76.97 333 ⇑P P 18 50 42.9 0.0
baz=77,SNR=11
B19A Brinkman Farms 76.97 334 ⇓P P 18 50 43.2 +0.4
baz=77,SNR=6.9
D16A Dana Ranch, Ca 76.98 332 ⇓P P 18 50 43.9 +0.9
baz=77,SNR=25
SBA Scott Base 77.08 190 eP P 18 50 44.4 +1.3
comp=N,2.2nm,1.0s
C17A Wharram Farm, 77.10 333 ⇑P P 18 50 43.8 +0.2
baz=77,SNR=5.2
TORD Torodi Ar. Bea 77.19 71 P P 18 50 43.4 -1.4
TORD pP pP 18 51 09.4 -0.2
TORD sP sP 18 51 19.9 -0.1
TORD Torodi Ar. Bea 77.19 71 P P 18 50 43.4 -1.4
comp=N,6.0nm,0.3s,baz=253,slow=5.3,SNR=49
TORD pP pP 18 51 09.4 -0.2
comp=N,37nm,0.8s,baz=253,slow=5.3,SNR=18
TORD sP sP 18 51 19.9 -0.1
comp=N,17nm,0.8s,baz=249,slow=5.1,SNR=5.3
A19A Klindworth Far 77.26 335 ⇑P P 18 50 44.7 +0.2
baz=78,SNR=5.6
B18A Beardsley Farm 77.27 334 ⇑P P 18 50 44.9 +0.4
baz=78,SNR=9.8
D15A Lincoln 77.42 331 ⇑P P 18 50 46.6 +1.0
baz=78,SNR=9.8
B17A L&G Farms, Che 77.62 333 ⇑P P 18 50 46.7 +0.3
baz=78
C16A Fuhringer Ranc 77.65 332 ⇓P P 18 50 47.0 +0.3
baz=78,SNR=9.9
A18A Metzger Ranch, 77.71 334 ⇓P P 18 50 46.9 -0.1
baz=78,SNR=8.1
SYO Syowa Base 77.86 160 ⇓eP P 18 50 46.6 -0.9
D14A Greenough 77.90 331 ⇓P P 18 50 48.4 +0.2
baz=78
MSO Missoula 77.92 330 ⇓P P 18 50 49.4 +1.2
baz=78
C15A Salmond Ranch, 78.01 332 ⇓P P 18 50 49.8 +1.0
baz=78,SNR=23
SLMT Seeley Lake 78.01 331 eP P 18 50 49.8 +0.9
comp=N,8.8nm,1.0s
A17A Triple J Farms 78.08 334 ⇑P P 18 50 49.3 +0.3
baz=78,SNR=6.8
VNDA Vanda 78.11 190 P P 18 50 50.3 +1.5
VNDA Vanda 78.11 190 P P 18 50 50.3 +1.5
comp=N,2.4nm,0.8s,baz=131,slow=4.1,SNR=12
BMO Blue Mountains 78.13 327 eP P 18 50 50.3 +0.9
comp=N,9.2nm,0.8s
BMO epP pP 18 51 15.5 +1.1
D13A Huson 78.35 330 ⇓P P 18 50 51.4 +0.9
baz=79,SNR=10
E12A Beaver Dam Sad 78.38 329 ⇓P P 18 50 51.6 +0.7
baz=79,SNR=5.5
B15A Bradely Ranch, 78.40 332 ⇓P P 18 50 50.9 +0.1
baz=79,SNR=14
SWMT Swartz Lake 78.44 331 eP P 18 50 52.1 +1.0
comp=N,5.8nm,1.0s
A16A West Butte Ran 78.46 333 ⇓P P 18 50 51.6 +0.4
baz=79,SNR=19
B14A Marquette Ranc 78.75 332 ⇑P P 18 50 53.0 +0.2
baz=79,SNR=8.6
C13A Hot Springs 78.83 331 ⇓P P 18 50 54.0 +0.8
baz=79,SNR=7.0
A15A Johnson Ranch, 78.97 332 ⇑P P 18 50 54.1 +0.1
baz=79
BSMT Basso Peak 79.06 331 eP P 18 50 55.6 +1.0
comp=N,9.4nm,1.2s
A14A Double T Ranch 79.27 332 ⇓P P 18 50 55.9 +0.2
baz=80,SNR=7.3
B13A Whitefish 79.29 331 ⇑P P 18 50 56.5 +0.8
baz=80
WALA Waterton Lakes 79.55 332 eP P 18 50 57.3 +0.2
comp=N,0.5nm,1.1s
VIPM Ingram Point 79.62 325 P P 18 50 59.3 +1.6
FFC Flin Flon 79.67 341 eP P 18 50 57.4 -0.1
comp=N,11nm,1.3s
B12A Libby 79.88 331 ⇓P P 18 51 00.2 +1.3
baz=80
NEW Newport 80.44 330 ⇓P P 18 51 02.5 +0.6
baz=81
OD2 Odessa Site #2 80.60 328 P P 18 51 03.9 +1.2
TSUM Tsumeb 80.72 107 P P 18 51 03.8 -0.3
TSUM pP pP 18 51 31.2 +2.0
TSUM Tsumeb 80.72 107 P P 18 51 03.8 -0.3
comp=N,3.9nm,0.6s,baz=252,slow=4.7,SNR=12
TSUM pP pP 18 51 31.2 +2.0
comp=N,6.4nm,0.8s,baz=255,slow=4.5,SNR=3.7
TRW Toppenish Ridg 80.77 327 P P 18 51 05.5 +1.8
MDT Midelt 81.12 50 pP pP 18 51 32.2 +1.2
comp=N,6.0nm,1.0s,baz=246,slow=5.3,SNR=7.4
TBM Table Mountain 81.39 327 P P 18 51 08.2 +1.3
WTV Waterville 81.42 328 P P 18 51 08.0 +0.8
ETW Entiat 81.55 328 P P 18 51 08.9 +1.0
JCW Jim Creek 82.74 328 P P 18 51 14.2 +0.2
BOSA Boshof 84.34 118 P P 18 51 23.0 +0.1
BOSA pP pP 18 51 48.7 +0.6
BOSA Boshof 84.34 118 P P 18 51 23.0 +0.1
comp=N,6.2nm,0.9s,baz=296,slow=3.1,SNR=7.4
BOSA pP pP 18 51 48.7 +0.6
comp=N,16nm,0.9s,baz=254,slow=4.8,SNR=11
ESDC Sonseca Array 85.09 45 P P 18 51 27.3 +1.1
ESDC pP pP 18 51 52.2 +0.7

ESDC	**Sonseca Array**	**85.09**	**45**	P		**P**		**18 51 27.3**	**+1.1**
	comp=N,0.2nm,0.3s,baz=259,slow=2.1,SNR=4.4								
ESDC				pP		**pP**		**18 51 52.2**	**+0.7**
	comp=N,0.3nm,0.3s,baz=243,slow=5.2,SNR=3.3								
MAW	**Mawson**	**85.69**	**163**	P		**P**		**18 51 28.9**	**+0.3**
MAW				pP		**pP**		**18 51 55.7**	**+1.8**
MAW	**Mawson**	**85.69**	**163**	P		**P**		**18 51 28.9**	**+0.3**
	comp=N,3.0nm,0.8s,baz=232,slow=6.1,SNR=7.3								
MAW				pP		**pP**		**18 51 55.7**	**+1.8**
	comp=N,2.9nm,0.7s,baz=203,slow=6.0,SNR=3.8								
LBTB	**Lobatse**	**85.85**	**115**	P		**P**		**18 51 30.4**	**-0.1**
LBTB				pP		**pP**		**18 51 56.6**	**+0.9**
LBTB	**Lobatse**	**85.85**	**115**	P		**P**		**18 51 30.4**	**-0.1**
	comp=N,4.3nm,0.8s,baz=274,slow=8.0,SNR=5.5								
LBTB				pP		**pP**		**18 51 56.6**	**+0.9**
	comp=N,15nm,1.0s,baz=253,slow=6.3,SNR=8.0								
YKA	**Yellowknife Ar**	**89.83**	**341**	P		**P**		**18 51 48.2**	**0.0**
YKA				pP		**pP**		**18 52 13.7**	**0.0**
YKA	**Yellowknife Ar**	**89.83**	**341**	P		**P**		**18 51 48.2**	**0.0**
	comp=N,14nm,0.8s,baz=133,slow=4.7,SNR=48								
YKA				pP		**pP**		**18 52 13.7**	**0.0**
	comp=N,4.2nm,0.6s,baz=131,slow=4.7,SNR=4.5								
KEST	**Kesra**	**92.74**	**53**	P		**P**		**18 52 04.0**	**+1.4**
KEST	**Kesra**	**92.74**	**53**	P		**P**		**18 52 04.0**	**+1.4**
	comp=N,0.5nm,0.6s,baz=233,slow=5.1,SNR=2.8								
ILAR	**Eielson Array**	**102.91**	**335**	Pdif		**Pdif**		**18 52 47.6**	**0.0**
ILAR	**Eielson Array**	**102.91**	**335**	Pdiff		**Pdif**		**18 52 47.6**	**0.0**
	comp=N,0.4nm,0.7s,baz=140,slow=2.9,SNR=3.4								
VYHS	**Vyhne**	**103.58**	**43**	PDIF		**Pdif**		**18 52 56.9**	**+5.9**
KECS	**Kecovo**	**104.64**	**43**	PDIF		**Pdif**		**18 52 58.8**	**+3.1**
KOLS	**Kolonicke sedl**	**105.89**	**43**	PDIF		**Pdif**		**18 53 01.1**	**-0.2**
ARCES	**ARCESS Array B**	**110.36**	**22**	PKKPbc		PKKPbc		19 08 22.1	-2.2
	comp=N,2.0nm,0.8s,baz=100,slow=2.7,SNR=3.8								
AKASG	**Malin Array Be**	**110.62**	**42**	Pdif		**Pdif**		**18 53 20.1**	**-2.1**
AKASG				PP		**PP**		**18 58 02.1**	**+2.0**
AKASG	**Malin Array Be**	**110.62**	**42**	Pdiff		**Pdif**		**18 53 20.1**	**-2.1**
	comp=N,0.4nm,0.4s,baz=236,slow=15,SNR=4.6								
AKASG				PP		**PP**		**18 58 02.1**	**+2.0**
	comp=N,0.1nm,0.3s,baz=245,slow=8.7,SNR=4.2								
KBZ	**Khabaz**	**119.51**	**50**	PKP		**PKPdf**		**18 57 39.6**	**+0.4**
KBZ	**Khabaz**	**119.51**	**50**	PKP		**PKPdf**		**18 57 39.6**	**+0.4**
	comp=N,1.7nm,0.8s,baz=90,slow=5.1,SNR=4.0								
STKA	**Stephens Creek**	**120.42**	**210**	PKP		**PKPdf**		**18 57 40.5**	**-1.1**
STKA	**Stephens Creek**	**120.42**	**210**	PKP		**PKPdf**		**18 57 40.5**	**-1.1**
	comp=N,3.2nm,1.0s,baz=119,slow=10,SNR=3.1								
CTA	**Charters Tower**	**127.02**	**223**	PKP		**PKPdf**		**18 57 54.8**	**+0.3**
CTA	**Charters Tower**	**127.02**	**223**	PKP		**PKPdf**		**18 57 54.8**	**+0.3**
	comp=N,2.5nm,0.7s,baz=13,slow=3.1,SNR=7.5								
ABKAR	**Akbulak array**	**130.37**	**42**	*e*PKPdf		**PKPdf**		**18 57 59.8**	**-0.1**
ASAR	**Alice Springs**	**130.95**	**208**	PKP		**PKPdf**		**18 58 01.2**	**-0.8**
ASAR				pPKP		**pPKPdf**		**18 58 27.5**	**-1.0**
ASAR				SKPbc		**SKPbc**		**19 01 17.7**	**-0.1**
ASAR	**Alice Springs**	**130.95**	**208**	PKP		**PKPdf**		**18 58 01.2**	**-0.8**
	comp=N,2.6nm,0.8s,baz=121,slow=1.6,SNR=30								
ASAR				pPKP		**pPKPdf**		**18 58 27.5**	**-1.0**
	comp=N,0.9nm,0.8s,baz=144,slow=2.9,SNR=2.6								
ASAR				SKPbc		**SKPbc**		**19 01 17.7**	**-0.1**
	comp=N,0.8nm,1.0s,baz=148,slow=3.5,SNR=3.5								
WRA	**Warramunga Arr**	**133.94**	**211**	PKP		**PKPdf**		**18 58 07.4**	**-0.2**
WRA				pPKP		**pPKPdf**		**18 58 34.2**	**0.0**
WRA				SKPbc		**SKPbc**		**19 01 28.5**	**+0.2**
WRA	**Warramunga Arr**	**133.94**	**211**	PKhKP		PKPpre		18 57 54.5	
	comp=N,0.5nm,0.8s,baz=143,slow=3.0,SNR=5.2								
WRA				PKP		**PKPdf**		**18 58 07.4**	**-0.2**
	comp=N,2.2nm,0.6s,baz=157,slow=1.7,SNR=33								
WRA				pPKP		pPKPdf		18 58 34.2	0.0
	comp=N,1.7nm,0.8s,baz=152,slow=1.8,SNR=4.0								
WRA				SKPbc		**SKPbc**		**19 01 28.5**	**+0.2**
	comp=N,0.9nm,1.0s,baz=154,slow=3.1,SNR=3.2								
BVAR	**Borovoye Array**	**134.86**	**34**	PKPpre		PKPpre		18 58 02.3	
BVAR				PKP		**PKPdf**		**18 58 08.8**	**+0.5**
BVAR				pPKP		pPKPdf		18 58 34.9	+0.1
BVAR				sPKP				18 58 46.9	
BVAR				SKPbc		**SKPbc**		**19 01 29.2**	**-0.8**
BVAR	**Borovoye Array**	**134.86**	**34**	PKhKP		PKPpre		18 58 02.3	
	comp=N,0.1nm,0.5s,baz=309,slow=4.6,SNR=2.2								
BVAR				PKP		**PKPdf**		**18 58 08.8**	**+0.5**
	comp=N,0.8nm,0.7s,baz=266,slow=2.4,SNR=6.9								
BVAR				pPKP		pPKPdf		18 58 34.9	+0.1
	comp=N,1.2nm,0.8s,baz=298,slow=3.2,SNR=4.9								
BVAR				sPKP				18 58 46.9	
	comp=N,0.7nm,0.6s,baz=252,slow=3.0,SNR=4.0								
BVAR				SKPbc		**SKPbc**		**19 01 29.2**	**-0.8**
	comp=N,0.2nm,0.5s,baz=245,slow=3.0,SNR=3.2								
KURK	**Kurchatov**	**140.37**	**32**	PKP		**PKPdf**		**18 58 19.1**	**+0.6**
KURK				pPKP		**pPKPdf**		**18 58 45.8**	**+0.7**
KURK				SKPab		**SKPab**		**19 01 56.0**	**-2.1**
KURBB	**Kurchatov Arra**	**140.38**	**32**	PKP		**PKPdf**		**18 58 19.1**	**+0.6**
	comp=N,1.3nm,0.8s,baz=296,slow=2.3,SNR=11								
KURBB				pPKP		**pPKPdf**		**18 58 45.8**	**+0.7**
	comp=N,1.6nm,0.8s,baz=294,slow=2.5,SNR=6.8								
KURBB				SKPab		**SKPab**		**19 01 56.0**	**-2.2**
	comp=N,0.7nm,0.9s,baz=296,slow=6.2,SNR=4.9								
ZAA0	**Zalesovo Array**	**140.87**	**24**	*e*PKPdf		**PKPdf**		**18 58 18.1**	**-1.2**
ZALV	**Zalesovo Beam**	**140.87**	**24**	PKPpre		PKPpre		18 58 12.9	
ZALV				PKP		**PKPdf**		**18 58 18.9**	**-0.4**
ZALV				pPKP		pPKPdf		18 58 46.7	+0.9
ZALV				SKPbc		**SKPbc**		**19 01 48.5**	**+1.2**
ZALV	**Zalesovo Beam**	**140.87**	**24**	PKhKP		PKPpre		18 58 12.9	
	comp=N,0.4nm,0.3s,baz=316,slow=4.0,SNR=2.9								
ZALV				PKP		**PKPdf**		**18 58 18.9**	**-0.4**
	comp=N,5.5nm,0.8s,baz=292,slow=2.8,SNR=18								
ZALV				pPKP		pPKPdf		18 58 46.7	+0.9
	comp=N,5.2nm,0.8s,baz=270,slow=2.5,SNR=5.4								
ZALV				SKPbc		**SKPbc**		**19 01 48.5**	**+1.2**
	comp=N,2.1nm,0.9s,baz=316,slow=4.0,SNR=4.1								
MK31	**Makanchi Array**	**144.72**	**35**	*e*PKPdf		**PKPab**		**18 58 25.1**	**-0.3**
MKAR	**Makanchi Array**	**144.72**	**35**	PKP		**PKPab**		**18 58 25.4**	**0.0**
MKAR				pPKP		**pPKPdf**		**18 58 52.4**	**-0.6**
MKAR	**Makanchi Array**	**144.72**	**35**	PKP		**PKPab**		**18 58 25.4**	**0.0**
	comp=N,2.5nm,0.5s,baz=328,slow=2.8,SNR=54								
MKAR				pPKP		**pPKPdf**		**18 58 52.4**	**-0.6**
	comp=N,1.9nm,0.7s,baz=323,slow=3.2,SNR=3.9								
GUMO	**Guam**	**146.77**	**264**	*e*PKPdf		**PKPdf**		**18 58 29.5**	**-1.2**
USRK	**Ussuriysk Arra**	**150.22**	**328**	PKPbc		**PKPbc**		**18 58 40.9**	**+0.2**
	comp=N,26nm,1.0s,baz=20,slow=0.9,SNR=28								
USRK				pPKPbc		**pPKPbc**		**18 59 07.5**	**+0.4**
	comp=N,7.9nm,0.9s,baz=15,slow=0.9,SNR=4.4								
MJAR	**Matsushiro Ar**	**150.99**	**310**	PKPbc		**PKPbc**		**18 58 42.8**	**-0.1**
MJAR	**Matsushiro Arr**	**150.99**	**310**	PKPbc		**PKPbc**		**18 58 42.8**	**-0.1**
	comp=N,8.7nm,0.8s,baz=91,slow=1.2,SNR=20								
MAJO	**Matsushiro**	**151.00**	**310**	*e*PKPbc		**PKPbc**		**18 58 42.5**	**-0.3**
MAT	**Matsushiro**	**151.00**	**310**	P		**PKPbc**		**18 58 42.3**	**-0.5**
SONM	**Songino Array**	**152.16**	**6**	PKP		**PKPdf**		**18 58 39.4**	**+0.8**
SONM				PKPbc		**PKPbc**		**18 58 45.5**	**+0.2**
SONM				pPKPbc		**pPKPbc**		**18 59 13.0**	**+1.2**
SONM	**Songino Array**	**152.16**	**6**	PKP		**PKPdf**		**18 58 39.4**	**+0.8**
	comp=N,1.7nm,0.9s,baz=325,slow=0.9,SNR=8.4								
SONM				PKPbc		**PKPbc**		**18 58 45.5**	**+0.2**
	comp=N,5.2nm,0.5s,baz=306,slow=1.2,SNR=29								
SONM				pPKPbc		**pPKPbc**		**18 59 13.0**	**+1.2**
	comp=N,4.1nm,0.8s,baz=344,slow=1.7,SNR=5.2								
ULN	**Ulaanbaatar**	**152.20**	**5**	*e*PKPdf		**PKPdf**		**18 58 37.2**	**-1.5**
KSRS	**Korea Array**	**157.20**	**323**	PKP		**PKPdf**		**18 58 46.4**	**+0.8**
	comp=N,1.8nm,0.9s,baz=68,slow=2.6,SNR=8.0								
KSRS				PKPab		**PKPab**		**18 59 17.8**	**+0.9**
	comp=N,2.8nm,0.9s,baz=62,slow=4.8,SNR=7.1								
KSAR	**Wonju Array Be**	**157.23**	**323**	PKP		**PKPdf**		**18 58 46.4**	**+0.7**
KSAR				PKPab		**PKPab**		**18 59 17.8**	**+0.8**
GTA	**Gaotai**	**158.62**	**24**	*e*PKP		**PKPdf**		**18 58 48.3**	**+0.8**
CMAR	**Chiang Mai Arr**	**168.71**	**97**	PKP		**PKPdf**		**18 58 57.0**	**-0.3**
CMAR				PKPab		**PKPab**		**19 00 06.8**	**-1.2**
CMAR				pPKPab		**pPKPab**		**19 00 33.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**168.71**	**97**	PKP		**PKPdf**		**18 58 57.0**	**-0.3**
	comp=N,0.7nm,1.0s,baz=216,slow=3.4,SNR=5.3								
CMAR				PKPab		**PKPab**		**19 00 06.8**	**-1.2**
	comp=N,0.4nm,0.9s,baz=268,slow=6.9,SNR=3.4								
CMAR				pPKPab		**pPKPab**		**19 00 33.5**	**-0.1**
	comp=N,1.3nm,1.0s,baz=258,slow=6.2,SNR=4.7								

*ISCJB **01** 18:41:47.6±0.7,21°.94N±0°.06×121°.67E±0°.03,h10^{km}±8^{km}, Error ellipse: s-maj=10.2km s-min=4.0km az=3.7*
*TAP **01** 18:41:49.4,22°.01N×121°.43E,h8^{km}±1^{km},ML3.6,C*
*JMA **01** 18:41:51.9±0.3,22°.06N×121°.68E,h69^{km},M3.3*
ISC 01 18:41:47.3±1.7,21°.96N±0°.05×121°.57E±0°.04,h12^{km}±10^{km}, n51,σ1°20/78,3D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.08**	**348**	‖*i*P	Pg	18 41 52.7	+2.8
	baz=71						
TSEB	**Hengchuen, Pin**	**0.62**	**264**	P	**Pn**	**18 42 02.1**	**0.0**
	baz=281						
TSEB				*i* S	**Sn**	**18 42 11.4**	**-0.6**
TWK1	**Hengchun**	**0.71**	**269**	*i* P	**Pb**	**18 42 02.4**	**+0.7**
	baz=285						
TWK1				*e*S	**Sb**	**18 42 11.1**	**-0.3**
	baz=285						
TAW	**Tawu**	**0.74**	**302**	*e*P	**Pb**	**18 42 02.5**	**+0.4**
	baz=308						
TAW				*e*S	**Sb**	**18 42 11.6**	**-0.6**
	baz=308						
HEN	**Hengchun**	**0.77**	**273**	P	**Pn**	**18 42 03.6**	**-0.4**
	baz=288						
HEN				*e*S	**Sn**	**18 42 13.3**	**-2.3**
	baz=288						
ECL	**Taimali**	**0.85**	**318**	‖P	**Pb**	**18 42 03.9**	**-0.1**
	baz=326						
ECL				S	**Sb**	**18 42 14.5**	**-1.0**
	baz=326						
TTN	**Taitung**	**0.88**	**334**	*e*P	**Pb**	**18 42 05.3**	**+0.7**
	baz=354						
TTN				*e*S	**Sn**	**18 42 18.1**	**-0.2**
	baz=354						
SCZT	**Fangliau**	**0.97**	**295**	*e*P	**Pb**	**18 42 06.4**	**+0.3**
	baz=311						
TWG	**Pinlang**	**0.97**	**332**	P	**Pb**	**18 42 06.2**	**+0.1**
	baz=323						
TWG				S	**Sb**	**18 42 18.4**	**-0.6**
	baz=323						
CHKT	**Chengkung**	**1.15**	**351**	‖P	**Pg**	**18 42 08.7**	**-0.8**
	baz=12						
CHKT				S	**Sg**	**18 42 23.1**	**-1.3**
	baz=12						
TWP	**Hsiaoliuchiu**	**1.18**	**289**	*e*P	**Pn**	**18 42 11.9**	**+2.1**
	baz=309						
SGLT	**Jiouru**	**1.25**	**307**	*e*P	**Pn**	**18 42 12.2**	**+1.5**
	baz=323						
ELDTW	**Lidau**	**1.32**	**337**	*e*P	**Pn**	**18 42 11.5**	**-0.3**
	baz=346						
TWM1	**Shoushan**	**1.36**	**309**	*e*P	**Pg**	**18 42 15.3**	**+1.7**
	baz=329						
TWF1	**Yuli**	**1.41**	**350**	*e*P	**Pn**	**18 42 13.1**	**+0.2**
	baz=9.0						
CHN1	**Nanshi**	**1.55**	**322**	*e*P	**Pg**	**18 42 17.6**	**+0.4**
	baz=331						
CHN1				*e*S	**Sg**	**18 42 37.4**	**0.0**
	baz=331						
EHY	**Hungye**	**1.55**	**352**	*e*P	**Pn**	**18 42 15.0**	**+0.1**
	baz=8.0						
WTP	**Ta-pu**	**1.55**	**326**	*e*P	**Pg**	**18 42 16.7**	**-0.4**
	baz=348						
WTP				*e*S	**Sg**	**18 42 38.2**	**+0.9**
	baz=348						
CHN3	**Shinhua**	**1.57**	**315**	*e*P	**Pg**	**18 42 18.0**	**+0.5**
	baz=323						
YUS	**Yu-Shan**	**1.62**	**340**	*e*P	**Pn**	**18 42 17.6**	**+1.4**
	baz=348						
TWK	**Hsinying**	**1.64**	**323**	*e*P	**Pg**	**18 42 18.6**	**-0.3**
	baz=332						
TWK				*e*S	**Sg**	**18 42 39.5**	**-0.6**
	baz=332						
CHN4	**Tsaushan**	**1.65**	**327**	*e*P	**Pg**	**18 42 18.6**	**-0.4**
	baz=349						
CHN4				*e*S	**Sg**	**18 42 40.5**	**0.0**
	baz=349						
ALS	**Alishan**	**1.69**	**336**	*e*P	**Pn**	**18 42 18.1**	**+1.0**
	baz=344						
ALS				*e*S	**Sg**	**18 42 42.1**	**+0.2**
	baz=344						
CHN5	**Tsauling**	**1.82**	**333**	*e*P	**Pb**	**18 42 21.2**	**+0.5**
	baz=342						
CHN5				*e*S	**Sg**	**18 42 45.3**	**-0.7**
	baz=342						
ESL	**Shilin**	**1.85**	**356**	*e*P	**Pn**	**18 42 19.3**	**+0.4**
	baz=11						
CHY	**Chiayi**	**1.86**	**326**	*e*P	**Pg**	**18 42 22.5**	**-0.5**
	baz=335						
CHN8	**Yiju**	**1.86**	**318**	*e*P	**Pb**	**18 42 20.6**	**-0.7**
	baz=326						
WGK	**Gukeng**	**1.95**	**332**	*e*P	**Pb**	**18 42 22.8**	**0.0**
	baz=342						
WGK				*e*S	**Sb**	**18 42 47.5**	**+0.3**
	baz=342						
SMLT	**Sun Moon Lake**	**2.01**	**342**	*e*P	**Pb**	**18 42 24.0**	**+0.1**
	baz=352						
SMLT				*e*S	**Sb**	**18 42 50.1**	**+1.2**
	baz=352						
TYC	**Yuchr**	**2.04**	**341**	*e*P	**Pb**	**18 42 24.2**	**-0.2**
	baz=352						
TYC				*e*S	**Sg**	**18 42 51.2**	**-1.8**
	baz=352						
WNT	**Mingjian**	**2.07**	**337**	*e*P	**Pb**	**18 42 24.8**	**-0.1**
	baz=348						
WNT				*e*S	**Sb**	**18 42 51.2**	**+0.5**
	baz=348						
WSF	**Szhu**	**2.08**	**324**	*e*P	**Pn**	**18 42 23.0**	**+0.9**
	baz=334						
WSF				*e*S	**Sb**	**18 42 49.3**	**-1.6**
	baz=334						
TWD	**Chiawan**	**2.11**	**1**	*e*P	**Pn**	**18 42 23.0**	**+0.5**
	baz=18						
WHF	**Hehuan Shan**	**2.19**	**353**	*e*P	**Pn**	**18 42 26.6**	**+2.6**
	baz=12						
TWT	**Tachien**	**2.31**	**351**	*e*P	**Pn**	**18 42 28.2**	**+2.8**
	baz=11						
TWT				*e*S	**Sn**	**18 42 56.4**	**+2.5**
	baz=11						
TCU	**Taichung**	**2.33**	**339**	*e*P	**Pb**	**18 42 29.1**	**-0.2**
	baz=331						
PNG	**Penghu**	**2.45**	**311**	*e*P	**Pn**	**18 42 28.1**	**+0.9**
	baz=320						
PNG				*e*S	**Sn**	**18 42 56.0**	**-1.1**
	baz=320						
ENA	**Nanau**	**2.46**	**4**	*e*P	**Pn**	**18 42 28.7**	**+1.4**
	baz=11						
NNS	**Nan Shan**	**2.47**	**356**	*e*P	**Pn**	**18 42 29.8**	**+2.2**
	baz=12						
TWQ1	**Liyutan**	**2.48**	**343**	*e*P	**Pb**	**18 42 31.3**	**-0.7**
	baz=354						
TWQ1				*e*S	**Sb**	**18 43 01.9**	**-0.6**
	baz=354						
TWC	**Suao**	**2.65**	**6**	*e*P	**Pn**	**18 42 31.3**	**+1.4**
	baz=13						
NSTT	**Nanjuang**	**2.71**	**349**	*e*P	**Pb**	**18 42 34.8**	**-1.0**
	baz=344						
NSTT				*e*S	**Sb**	**18 43 08.2**	**-0.8**
	baz=344						
NSK	**Sanguang**	**2.71**	**356**	*e*P	**Pn**	**18 42 33.2**	**+2.4**
	baz=15						
TWE	**Neicheng**	**2.75**	**2**	*e*P	**Pn**	**18 42 34.4**	**+3.1**
	baz=360						
YOJ	**Yonaguni jima**	**2.82**	**28**	*e*P	Pn	18 42 35.6	+3.4
	baz=32						
YOJ	**Yonaguni jima**	**2.82**	**28**	P	**Pn**	**18 42 33.6**	**+1.3**
YOJ				*e*S	**Sn**	**18 43 05.7**	**-0.5**
HATJ	**Hateruma jima**	**2.93**	**44**	P	**Pn**	**18 42 35.2**	**+1.4**
HATJ				*e*S	**Sn**	**18 43 07.5**	**-1.5**
IRIF	**Iriomote-Funau**	**3.09**	**40**	P	**Pn**	**18 42 37.4**	**+1.5**
IRIF				*e*S	**Sn**	**18 43 11.4**	**-1.4**
JKRS	**Kuro-shima**	**3.19**	**44**	P	**Pn**	**18 42 39.0**	**+1.6**
JKRS				*e*S	**Sn**	**18 43 14.4**	**-0.9**
JIJ	**Ishigaki jima**	**3.37**	**44**	P	**Pn**	**18 42 40.8**	**+1.0**
JIJ				*e*S	**Sn**	**18 43 18.2**	**-1.5**
JTJ	**Tarama**	**3.92**	**47**	P	**Pn**	**18 42 49.2**	**+1.7**
JTJ				*e*S	**Sn**	**18 43 32.9**	**-0.6**

*ISCJB **01** 18:41:47.7±0.7,43°.06N±0°.06×0°.35W±0°.03,h11^{km}±7^{km}, Error ellipse: s-maj=10.0km s-min=3.3km az=1.5*
*LDG **01** 18:41:48.7±0.1,43°.03N×0°.36W,h2^{km},Md1.5/2,Ml1.6/1, Error ellipse: s-maj=2.7km s-min=0.9km az=1.0*
*CSEM **01** 18:41:48.4±0.1,43°.02N×0°.37W,h5^{km},ML2.2, Error ellipse: s-maj=5.5km s-min=2.0km az=1.0*
*MDD **01** 18:41:49.0±0.3,43°.03N×0°.36W,h0^{km},mbLg0.7/2, Error ellipse: s-maj=3.4km s-min=2.2km az=15.0,PRXIMO*
ISC 01 18:41:48.8±1.0,43°.02N±0°.04×0°.37W±0°.02,h3^{km}±12km, n21,σ0°68/33,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.05**	**341**	Pg	**Pg**	**18 41 49.7**	**-0.2**
REYF				Sg	**Sg**	**18 41 50.6**	**-0.1**
ETSF	**Etsaut**	**0.19**	**228**	*e*Pg	**Pg**	**18 41 52.7**	**+0.3**
ETSF				*e*Sg	**Sg**	**18 41 55.4**	**+0.5**
	11nm,0.3s						
ETSF	**Etsaut**	**0.19**	**228**	Pg	**Pg**	**18 41 52.7**	**+0.3**
ETSF				*e*Sg	**Sg**	**18 41 55.4**	**+0.5**
	5.7nm,0.3s						
ETSF				Lg	Lg	18 41 55.4	
	5.6nm,0.3s						
ATE	**Arette**	**0.25**	**285**	Pg	**Pg**	**18 41 53.4**	**-0.2**
ATE				Sg	**Sg**	**18 41 57.6**	**+0.7**
VIEF	**Viey**	**0.32**	**116**	Pg	**Pg**	**18 41 54.8**	**-0.2**
VIEF				Sg	**Sg**	**18 41 58.7**	**-0.5**
LABF	**Labassere**	**0.33**	**86**	Pg	**Pg**	**18 41 54.9**	**-0.2**
LABF				Sg	**Sg**	**18 41 59.4**	**+0.1**
LARF	**Larrau**	**0.45**	**272**	Pg	**Pg**	**18 41 57.9**	**+0.4**
LARF				Sg	**Sg**	**18 42 03.6**	**+0.2**
EBIE	**Bielsa**	**0.51**	**132**	Pg	**Pg**	**18 41 58.5**	**0.0**
	0.3nm,0.1s,SNR=7.9						
EBIE				Lg	Lg	18 42 05.3	
	1.5nm,0.1s,SNR=11						
EBIE	**Bielsa**	**0.51**	**132**	Pg	**Pg**	**18 41 58.5**	**0.0**
	0.3nm,0.1s,SNR=7.9						
EBIE				Lg	Lg	18 42 05.3	
	1.5nm,0.1s,SNR=11						
EPF	**Esparros**	**0.52**	**89**	*e*Pg	**Pg**	**18 41 58.3**	**-0.5**
EPF	**Esparros**	**0.52**	**89**	*e*P	**Pg**	**18 41 59.5**	**+0.7**
EPF				*e*Sg	**Sg**	**18 42 05.8**	**+0.3**
	1.9nm,0.2s						
EPF	**Esparros**	**0.52**	**89**	Pg	**Pg**	**18 41 58.3**	**-0.5**
EPF	**Esparros**	**0.52**	**89**	*e*P	**Pg**	**18 41 59.5**	**+0.7**
EPF				*e*Sg	**Sg**	**18 42 05.8**	**+0.3**
	0.9nm,0.2s						
EPF				Lg	Lg	18 42 05.8	
	0.8nm,0.2s						
SJPF	**Ste Jean**	**0.63**	**279**	*e*Pg	**Pg**	**18 42 00.8**	**-0.1**
SJPF				*e*Sg	**Sg**	**18 42 09.7**	**+0.6**
	1.5nm,0.3s						
SJPF	**Ste Jean**	**0.63**	**279**	Pg	**Pg**	**18 42 00.8**	**-0.1**
SJPF				*e*Sg	**Sg**	**18 42 09.7**	**+0.6**
	0.8nm,0.3s						
IELO	**Elcoad**	**0.66**	**255**	Pg	**Pg**	**18 42 01.8**	**+0.3**
	0.1nm,0.1s,SNR=7.9						
IELO				Lg	Lg	18 42 10.9	
	0.3nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.66**	**255**	Pg	**Pg**	**18 42 01.8**	**+0.3**
	0.1nm,0.1s,SNR=7.9						
IELO				Lg	Lg	18 42 10.9	
	0.3nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.70**	**250**	Pg	**Pg**	**18 42 00.1**	**-2.1**
	0.1nm,0.0s,SNR=7.9						
IEPA				Lg	Lg	18 42 11.3	
	0.7nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.70**	**250**	Pg	**Pg**	**18 42 00.1**	**-2.1**
	0.1nm,0.0s,SNR=7.9						
IEPA				Lg	Lg	18 42 11.3	
	0.7nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.92**	**80**	*e*Pg	**Pb**	**18 42 24.4**	**-0.1**
MTLF				*e*Sg	**Sb**	**18 42 48.8**	**0.0**
	0.6nm,0.2s						
MTLF	**Montolieu**	**1.92**	**80**	Pg	**Pb**	**18 42 24.4**	**-0.1**
MTLF				Lg	Lg	18 42 48.8	
	0.4nm,0.2s						

*IDC **01** 18:43:30.4±1.0,34°.09N×25°.39E,h0^{km},mb3.9/17, mb1 4.1/22,mb1mx4.0/33,mbtmp3.9/22,ML4.3/4, Error ellipse: s-maj=22.6km s-min=15.9km az=2.0*
*ISCJB **01** 18:43:32.9±0.4,33°.92N±0°.02×25°.57E±0°.03,h36^{km}±4^{km}, mb4.0/41,Error ellipse: s-maj=4.6km s-min=3.8km az=142.0*
*ATH **01** 18:43:33.8,34°.14N×25°.45E,h20^{km}±1^{km},MD3.5/13*
*CSEM **01** 18:43:34.4±0.2,33°.96N×25°.51E,h30^{km},mb4.2/25,Error ellipse: s-maj=5.6km s-min=4.5km az=43.0*
*MOS **01** 18:43:34.5±1.3,34°.15N×25°.50E,h33^{km},mb4.3/19,Error ellipse: s-maj=12.5km s-min=4.9km az=96.0*
ISC 01 18:43:33.0±1.1,34°.04N±0°.04×25°.46E±0°.03,h17^{km}±6^{km}, n230,σ1°27/223,mb4.1/40,2D,Crete

| Code | Station Name | Δ° | AZ° |

CRVS	Cervenica-Dubn	15.14	350	*e*P		P	18 47 08.6	-2.4	
CRVS	Cervenica-Dubn	15.14	350	*e*PN		P	18 47 08.6	-2.4	
CRVS	Cervenica-Dubn	15.14	350	*e*Pn		P	18 47 08.6	-2.4	
VYHS	Vyhne	15.26	343	*e*P		P	18 47 10.5	-1.9	
VYHS	Vyhne	15.26	343	*e*PN		P	18 47 10.5	-1.9	
VYHS	Vyhne	15.26	343	*e*P		P	18 47 18.9	+6.5	
VYHS	Vyhne	15.26	343	*e*Pn		P	18 47 10.5	-1.9	
PGF	Pioggiola	15.44	308	*e*P		P	18 47 15.5	+1.0	
	comp=Z,20nm,0.8s								
PGF	Pioggiola	15.44	308	*e*P		P	18 47 15.5	+1.0	
	comp=Z,19nm,0.8s								
STHS	Stebnicka Huta	15.68	350	*e*P		Pn	18 47 14.0	+1.0	
STHS	Stebnicka Huta	15.68	350	*e*PN		Pn	18 47 14.0	+1.0	
STHS	Stebnicka Huta	15.68	350	*e*Pn		Pn	18 47 14.0	+1.0	
VRAC	Vranov	16.61	339	Pn		Pn	18 47 24.0	-0.9	
	comp=Z,0.2nm,0.3s,baz=162,slow=9.8,SNR=3.3								
KIV	Kislovodsk	16.63	48	*e*P		P	18 47 29.6	+2.0	
KIV				pmax	pmax				
	comp=Z,7.0nm,1.1s								
KIV	Kislovodsk	16.63	48	*e*P		P	18 47 29.6	+2.0	
	comp=Z,7.0nm,1.1s								
KBZ	Khabaz	16.64	49	P		P	18 47 31.3	+3.6	
KBZ	Khabaz	16.64	49	Pn		P	18 47 31.2	+3.6	
	comp=Z,0.1nm,0.3s,baz=212,slow=6.1,SNR=4.7								
ZEI	Tsey	16.85	53	*e*P		P	18 47 32.5	+2.2	
ZEI				pmax	pmax				
	comp=Z,6.0nm,0.5s								
AKASG	Malin Array Be	16.88	8	P		Pn	18 47 27.4	-0.8	
AKASG				pmax	pmax				
	comp=Z,4.0nm,0.3s								
AKASG	Malin Array Be	16.88	8	*i* P		Pn	18 47 28.3	+0.1	
AKASG				pmax	pmax				
	comp=Z,12nm,0.6s								
AKASG	Malin Array Be	16.88	8	Pn		Pn	18 47 27.4	-0.8	
	comp=Z,3.5nm,0.3s,baz=199,slow=10,SNR=29								
AKASG				Sn		S	18 50 46.2	+0.7	
	comp=Z,0.4nm,0.3s,baz=191,slow=19,SNR=2.9								
AKASG	Malin Array Be	16.88	8	*i* P		Pn	18 47 28.3	+0.1	
	comp=Z,12nm,0.6s								
SBF	Sospel	17.07	310	*e*P		P	18 47 33.6	+1.0	
	comp=Z,23nm,0.9s								
SBF	Sospel	17.07	310	*e*P		P	18 47 33.6	+1.0	
	comp=Z,22nm,0.9s								
GEC2	GERESS Array S	17.18	333	*e*P		P	18 47 34.2	+0.4	
	comp=Z,7.0nm,1.0s								
GEC2	GERESS Array S	17.18	333	*e*P		P	18 47 34.2	+0.4	
GEC2				pmax	pmax				
	comp=Z,13nm,1.0s								
GEC2	GERESS Array S	17.18	333	*e*P		P	18 47 34.2	+0.4	
	comp=Z,13nm,1.0s								
GERES	GERESS Array B	17.18	333	P		Pn	18 47 32.9	+0.7	
	comp=Z,0.4nm,0.3s,baz=148,slow=12,SNR=26								
GERES	GERESS Array B	17.18	333	P		Pn	18 47 32.9	+0.7	
DAVOX	Davos/Dischmat	17.35	322	P		P	18 47 35.5	-0.2	
	comp=Z,0.1nm,0.3s,baz=71,slow=7.9,SNR=2.7								
DAVOX	Davos/Dischmat	17.35	322	P		P	18 47 35.5	-0.2	
LMR	La Mourre	17.43	308	*e*P		P	18 47 36.3	-0.1	
	comp=Z,8.3nm,0.8s								
LMR	La Mourre	17.43	308	*e*P		P	18 47 36.3	-0.1	
	comp=Z,8.0nm,0.8s								
KHC	Kasperske Hory	17.46	333	*e*P		P	18 47 37.7	+0.9	
KHC	Kasperske Hory	17.46	333	*e*P		P	18 47 37.7	+0.9	
KHC				epP		pP	18 47 43.6	+2.0	
KHC	Kasperske Hory	17.46	333	*e*P		P	18 47 37.7	+0.9	
DPC	Dobruska-Polom	17.62	340	*e*P		Pn	18 47 37.9	+0.3	
DPC	Dobruska-Polom	17.62	340	*e*P		Pn	18 47 37.9	+0.3	
DPC	Dobruska-Polom	17.62	340	*e*P		Pn	18 47 37.9	+0.3	
WET	Wettzell	17.74	332	*e*P		P	18 47 40.0	+0.1	
	comp=Z,15nm,1.2s								
WET	Wettzell	17.74	332	*e*P		P	18 47 40.0	+0.1	
WET				pmax	pmax				
	comp=Z,24nm,1.2s								
WET	Wettzell	17.74	332	*e*P		P	18 47 40.0	+0.1	
	comp=Z,24nm,1.2s								
PRU	Pruhonice	17.85	337	*e*P		P	18 47 40.8	-0.2	
PRU	Pruhonice	17.85	337	*e*P		P	18 47 40.8	-0.2	
PRU	Pruhonice	17.85	337	*e*P		P	18 47 40.8	-0.2	
MBDF	Montbardon	17.91	312	*e*P		P	18 47 42.8	+0.9	
	comp=Z,14nm,1.0s								
MBDF	Montbardon	17.91	312	*e*P		P	18 47 42.8	+0.9	
	comp=Z,13nm,1.0s								
SMRF	Simiane la Rot	18.32	309	*e*P		P	18 47 47.6	+1.3	
	comp=Z,13nm,1.0s								
SMRF	Simiane la Rot	18.32	309	*e*P		P	18 47 47.6	+1.3	
	comp=Z,13nm,1.0s								
LPG	La Plagne	18.33	314	*e*P		P	18 47 49.3	+2.7	
	comp=Z,2.8nm,0.5s								
LPG	La Plagne	18.33	314	*e*P		P	18 47 49.3	+2.7	
	comp=Z,2.0nm,0.5s								
LPL	La Plagne	18.35	314	*e*P		P	18 47 49.5	+2.7	
	comp=Z,4.7nm,0.6s								
LPL	La Plagne	18.35	314	*e*P		P	18 47 49.5	+2.7	
	comp=Z,4.0nm,0.6s								
VIVF	Saint-Julien-l	19.29	310	*e*P		Pn	18 47 58.7	+0.7	
	comp=Z,16nm,1.3s								
VIVF	Saint-Julien-l	19.29	310	*e*P		Pn	18 47 58.7	+0.7	
	comp=Z,16nm,1.3s								
CABF	La Chapelle	19.32	316	*e*P		Pn	18 47 58.5	+0.1	
	comp=Z,7.8nm,0.7s								
CABF	La Chapelle	19.32	316	*e*P		Pn	18 47 58.5	+0.1	
	comp=Z,7.0nm,0.7s								
MOX	Moxa	19.44	333	*e*P		P	18 47 58.6	+0.2	
	comp=Z,4.0nm,0.7s								
MOX	Moxa	19.44	333	*e*P		P	18 47 58.6	+0.2	
MOX				pmax	pmax				
	comp=Z,6.0nm,0.7s								
MOX	Moxa	19.44	333	*e*P		P	18 47 58.6	+0.2	
	comp=Z,6.0nm,0.7s								
CLL	Collm	19.49	336	*e*P		P	18 47 59.5	+0.6	
	comp=Z,4.0nm,0.9s								
CLL	Collm	19.49	336	*e*P		P	18 47 58.0	-0.9	
CLL	Collm	19.49	336	*e*P		P	18 47 58.0	-0.9	
CLL				*i*			18 47 59.2		
	comp=Z,4.0nm,0.9s								
CLL				*e*			18 48 04.0		
CLL				*e*(PPP)			18 48 23.0		
CLL	Collm	19.49	336	*e*P		P	18 47 58.0	-0.9	
LASF	Ste Croix	19.49	307	*e*P		Pn	18 48 00.2	-0.1	
	comp=Z,25nm,1.3s								
LASF	Ste Croix	19.49	307	*e*P		Pn	18 48 00.2	-0.1	
	comp=Z,25nm,1.3s								
HINF	Hinteralfeld	19.60	320	*e*P		Pn	18 48 02.8	+1.1	
	comp=Z,12nm,1.0s								
HINF	Hinteralfeld	19.60	320	*e*P		Pn	18 48 02.8	+1.1	
	comp=Z,11nm,1.0s								
VORD	Divnogorie	19.70	27	*e*P		Pn	18 48 03.8	+1.1	
VORD				pmax	pmax				
	comp=Z,7.0nm,1.0s								
VORD				pmax	pmax				
	comp=N,10.0nm,0.6s								
VORD				pmax	pmax				
	comp=E,10.0nm,0.6s								
VORD	Divnogorie	19.70	27	*e*P		Pn	18 48 03.8	+1.1	
	comp=E,7.0nm,1.0s								
CDF	Champ du Feu	19.75	322	*e*P		Pn	18 48 03.0	-0.5	
	comp=E,8.2nm,0.9s								
CDF	Champ du Feu	19.75	322	*e*P		Pn	18 48 03.0	-0.5	
	comp=E,8.0nm,0.9s								
VSR	Storozhevoye	19.85	26	*e*P		Pn	18 48 04.7	+0.1	
VSR				pmax	pmax				
	comp=Z,10.0nm,1.5s								
VSR				pmax	pmax				
	comp=N,9.0nm,0.8s								
VSR				pmax	pmax				
	comp=E,10.0nm,1.1s								
VSR	Storozhevoye	19.85	26	*e*P		Pn	18 48 04.7	+0.1	
	comp=E,9.0nm,0.8s								
LANF	Langenberg	19.86	324	*e*P		Pn	18 48 06.2	+1.4	
LANF	Langenberg	19.86	324	*e*P		Pn	18 48 06.2	+1.4	
UBBA	Unterbreizbach	20.21	331	*e*P		Pn	18 48 08.7	0.0	
	comp=Z,8.0nm,1.3s								
THEF	They Montfort	20.31	320	*e*P		Pn	18 48 11.1	+1.0	
THEF	They Montfort	20.31	320	*e*P		Pn	18 48 11.1	+1.0	
MTLF	Montolieu	20.32	304	*e*P		Pn	18 48 10.0	-0.2	
	comp=Z,5.0nm,0.9s								
MTLF	Montolieu	20.32	304	*e*P		Pn	18 48 10.0	-0.2	
	comp=Z,5.0nm,0.9s								
TNS	Taunus Mts	20.43	327	*e*P		Pn	18 48 12.1	+0.6	
	comp=Z,15nm,1.2s								
TNS	Taunus Mts	20.43	327	*e*P		Pn	18 48 12.1	+0.6	
TNS				pmax	pmax				
	comp=Z,17nm,1.2s								
TNS	Taunus Mts	20.43	327	*e*P		Pn	18 48 12.1	+0.6	
	comp=Z,17nm,1.2s								
PAGF	Fort de Pagny	20.65	321	*e*P		Pn	18 48 15.5	+1.5	
	comp=Z,5.4nm,0.8s								
CLZ	Clausthal	20.86	333	*e*P		P	18 48 14.0	0.0	
	comp=Z,6.0nm,0.8s								
CLZ	Clausthal	20.86	333	*e*P		P	18 48 14.0	0.0	
CLZ				pmax	pmax				
	comp=Z,11nm,0.8s								
CLZ	Clausthal	20.86	333	*e*P		P	18 48 14.0	0.0	
	comp=Z,11nm,0.8s								
CAF	Calviac	21.00	308	*e*P		P	18 48 16.5	+1.0	
	comp=Z,12nm,1.0s								
CAF	Calviac	21.00	308	*e*P		P	18 48 16.5	+1.0	
	comp=Z,11nm,1.0s								
AVF	Avril sur Loir	21.02	314	*e*P		P	18 48 16.1	+0.5	
	comp=Z,9.3nm,1.0s								
AVF	Avril sur Loir	21.02	314	*e*P		P	18 48 16.1	+0.5	
	comp=Z,9.0nm,1.0s								
BGF	Bois d'Agland	21.21	313	*e*P		P	18 48 18.3	+0.6	
	comp=Z,13nm,0.7s								
BGF	Bois d'Agland	21.21	313	*e*P		P	18 48 18.3	+0.6	
	comp=Z,12nm,0.7s								
TCF	Toulx Ste Croi	21.48	312	*e*P		P	18 48 21.2	+0.6	
	comp=Z,20nm,1.2s								
TCF	Toulx Ste Croi	21.48	312	*e*P		P	18 48 21.2	+0.6	
	comp=Z,20nm,1.2s								
NRDL	Niedersach Rie	21.48	334	*e*P		P	18 48 20.4	-0.1	
	comp=Z,4.0nm,0.7s								
RJF	Les Rejaudoux	21.51	309	*e*P		P	18 48 21.4	+0.5	
	comp=Z,11nm,0.9s								
RJF	Les Rejaudoux	21.51	309	*e*P		P	18 48 21.4	+0.5	
	comp=Z,11nm,0.9s								
LFF	La Frestale	21.88	307	*e*P		P	18 48 27.6	+2.7	
LFF	La Frestale	21.88	307	*e*P		P	18 48 27.6	+2.7	
GIVF	Givet	22.07	323	*e*P		P	18 48 29.4	+2.5	
GIVF	Givet	22.07	323	*e*P		P	18 48 29.4	+2.5	
BAIF	Baives	22.35	322	*e*P		P	18 48 30.8	+0.9	
	comp=Z,9.7nm,0.7s								
BAIF	Baives	22.35	322	*e*P		P	18 48 30.8	+0.9	
	comp=Z,9.0nm,0.7s								
OBN	Obninsk	22.45	17	*i*,*i* P		P	18 48 31.6	+0.7	
OBN				*e**PP		pP	18 48 42.4	+6.6	
OBN				pmax	pmax				
	comp=Z,7.0nm,0.6s								
OBN	Obninsk	22.45	17	*i* P		P	18 48 31.6	+0.7	
	comp=Z,7.0nm,0.6s								
BSEG	Bad Segeberg	22.58	336	*e*P		P	18 48 31.1	-1.2	
	comp=Z,15nm,1.0s								
BSEG	Bad Segeberg	22.58	336	*e*P		P	18 48 31.1	-1.2	
BSEG				pmax	pmax				
	comp=Z,17nm,1.0s								
BSEG	Bad Segeberg	22.58	336	*e*P		P	18 48 31.1	-1.2	
	comp=Z,17nm,1.0s								
SJPF	Ste Jean	22.66	301	*e*P		P	18 48 35.4	+2.0	
	comp=Z,23nm,1.1s								
SJPF	Ste Jean	22.66	301	*e*P		P	18 48 35.4	+2.0	
	comp=Z,23nm,1.1s								
MFF	Saint Martin d	23.09	311	*e*P		P	18 48 37.8	+0.1	
	comp=Z,16nm,0.9s								
MFF	Saint Martin d	23.09	311	*e*P		P	18 48 37.8	+0.1	
	comp=Z,15nm,0.9s								
LDF	La Druitiere	23.94	315	*e*P		P	18 48 45.7	-0.4	
	comp=Z,19nm,0.9s								
ESDC	Sonseca Array	24.14	292	P		P	18 48 48.1	+0.1	
	comp=Z,0.8nm,0.5s,baz=84,slow=8.8,SNR=8.9								
VSU	Vasula	24.44	2	*i*,*e*P		P	18 48 49.6	-0.9	
VSU				pmax	pmax				
	comp=Z,15nm,0.8s								
SGMF	Saint Gilles	25.25	313	*e*P		P	18 48 58.5	+0.5	
	comp=Z,8.5nm,0.7s								
QUIF	Quic	25.50	312	*e*P		P	18 49 00.5	+0.3	
	comp=Z,18nm,0.9s								
ROSF	Rostrenen	25.73	312	*e*P		P	18 49 03.7	+1.4	
	comp=Z,9.1nm,0.7s								
PBRG	Braganca	26.44	297	*e*P		P	18 49 09.7	+0.8	
	comp=Z,14nm,2.1s								
PBRG	Braganca	26.44	297	*e*P		P	18 49 09.7	+0.8	
	comp=Z,14nm,2.1s								
PBAR	Barrancos	26.50	288	*e*P		P	18 49 09.4	0.0	
	comp=Z,11nm,1.8s								
PBAR	Barrancos	26.50	288	*e*P		P	18 49 09.4	0.0	
	comp=Z,11nm,1.8s								
MVO	Moncorvo	26.59	295	*e*P		P	18 49 12.2	+1.9	
	comp=Z,10nm,1.1s								
MVO	Moncorvo	26.59	295	*e*P		P	18 49 12.2	+1.9	
	comp=Z,10nm,1.1s								
PMRV	Marv??o	26.78	291	*e*P		P	18 49 12.1	+0.2	
	comp=Z,11nm,1.4s								
PMRV	Marv??o	26.78	291	*e*P		P	18 49 12.1	+0.2	
	comp=Z,11nm,1.4s								
HFS	Hagfors	27.22	347	P		P	18 49 15.1	-0.6	
	comp=Z,2.7nm,0.7s,baz=161,slow=11,SNR=9.6								
FINES	FINESS Array B	27.42	1	P		P	18 49 16.1	-1.3	
	comp=Z,1.1nm,0.4s,baz=153,slow=13,SNR=10.0								
FINES				PcP		PcP	18 52 35.9	+0.1	
	comp=Z,0.5nm,0.6s,baz=186,slow=1.9,SNR=4.0								
FINES	FINESS Array B	27.42	1	PcP		PcP	18 52 35.9	+0.1	
KAF	Kangasniemi	28.10	1	*e*p		P	18 49 22.1	-1.4	
KAF	Kangasniemi	28.10	1	*e*P		P	18 49 22.1	-1.4	
KAF	Kangasniemi	28.10	1	*e*P		P	18 49 22.1	-1.4	
NB2	NORSAR Subarra	28.54	345	P		P	18 49 26.9	-0.6	
	comp=Z,1.6nm,0.7s,baz=158,slow=11								
NOA	NORSAR Array B	28.54	345	P		P	18 49 27.5	0.0	
	comp=Z,1.4nm,0.6s,baz=160,slow=9.7,SNR=9.4								
NOA	NORSAR Array B	28.54	345	P		P	18 49 27.5	0.0	
	comp=Z,1.0nm,0.6s								
EKA	Eskdalemuir Ar	29.10	326	P		P	18 49 31.9	-0.6	
	comp=Z,2.2nm,0.8s,baz=128,slow=9.4,SNR=10								
EKA	Eskdalemuir Ar	29.10	326	P		P	18 49 31.9	-0.6	
	comp=Z,2.0nm,0.8s								
JOF	Joensuu	29.13	6	*e*p		P	18 49 31.3	-1.4	
	comp=Z,2.1nm,0.5s								
JOF	Joensuu	29.13	6	*e*P		P	18 49 31.3	-1.4	
JOF				pmax	pmax				
	comp=Z,2.0nm,0.5s								
JOF	Joensuu	29.13	6	*e*P		P	18 49 31.3	-1.4	
	comp=Z,2.0nm,0.5s								
TORD	Torodi Ar. Bea	29.97	232	P		P	18 49 40.5	-0.1	
	comp=Z,0.7nm,0.7s,baz=36,slow=8.0,SNR=5.4								
ARCES	ARCESS Array B	35.55	0	P		P	18 50 27.4	-1.4	
	comp=Z,0.7nm,0.4s,baz=182,slow=9.0,SNR=12								
ARCES	ARCESS Array B	35.55	0	P		P	18 50 27.4	-1.4	
	comp=Z,1.0nm,0.4s								
BVAR	Borovoye Array	36.95	45	P		P	18 50 42.4	+1.4	
BVAR	Borovoye Array	36.95	45	P		P	18 50 42.4	+1.4	
	comp=Z,0.3nm,0.5s,baz=233,slow=43,SNR=2.7								
BVAR	Borovoye Array	36.95	45	P		P	18 50 42.4	+1.4	
KURBB	Kurchatov Arra	41.64	50	P		P	18 51 20.2	+0.1	
	comp=Z,0.8nm,0.4s,baz=288,slow=10,SNR=18								
KURK	Kurchatov	41.70	50	P		P	18 51 20.2	-0.5	
KURK				pmax	pmax				
	comp=Z,1.0nm,0.4s								
KURK	Kurchatov	41.70	50	P		P	18 51 20.2	-0.5	
	comp=Z,1.0nm,0.4s								
MKAR	Makanchi Array	44.20	56	P		P	18 51 41.4	+0.4	
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
MKAR	Makanchi Array	44.20	56	P		P	18 51 41.4	+0.4	
	comp=Z,1.1nm,0.5s,baz=278,slow=6.7,SNR=12								
MKAR	Makanchi Array	44.20	56	P		P	18 51 41.4	+0.4	
	comp=Z,1.0nm,0.6s								
ZALV	Zalesovo Beam	45.61	45	P		P	18 51 51.9	-0.1	
ZALV				pmax	pmax				
	comp=Z,1.0nm,0.4s								
ZALV	Zalesovo Beam	45.61	45	P		P	18 51 51.9	-0.1	
	comp=Z,1.1nm,0.4s,baz=268,slow=8.1,SNR=7.3								
ZALV	Zalesovo Beam	45.61	45	P		P	18 51 51.9	-0.1	
	comp=Z,1.0nm,0.4s								
LSZ	Lusaka	49.11	177	P		P	18 52 23.5	+3.8	
	comp=Z,2.5nm,1.0s,baz=13,slow=13,SNR=2.9								
SONM	Songino Array	60.01	50	P		P	18 53 39.6	+0.9	
	comp=Z,0.5nm,0.7s,baz=288,slow=7.4,SNR=3.8								
SONM	Songino Array	60.01	50	P		P	18 53 39.6	+0.9	
	comp=Z,1.0nm,0.7s								
SCHQ	Schefferville	64.20	320	P		P	18 54 06.8	+0.2	
	comp=Z,4.0nm,0.6s,baz=54,slow=7.4,SNR=6.2								
CMAR	Chiang Mai Arr	66.46	83	P		P	18 54 21.9	+0.1	
	comp=Z,0.3nm,0.8s,baz=290,slow=7.7,SNR=3.4								
CMAR	Chiang Mai Arr	66.46	83	P		P	18 54 21.9	+0.1	
YKA	Yellowknife Ar	78.58	342	P		P	18 55 33.0	-0.2	
	comp=Z,1.0nm,0.7s,baz=28,slow=5.6,SNR=3.9								
YKA	Yellowknife Ar	78.58	342	P		P	18 55 33.0	-0.2	
	comp=Z,1.0nm,0.7s								
ILAR	Eielson Array	81.33	357	P		P	18 55 46.5	-1.6	
	comp=Z,0.6nm,0.8s,baz=1.9,slow=2.7,SNR=4.9								
ILAR	Eielson Array	81.33	357	P		P	18 55 46.5	-1.6	
	comp=Z,1.0nm,0.8s								
PETK	Petropavlovsk-	83.80	27	P		P	18 56 01.9	+0.7	
PETK				pmax	pmax				
	comp=Z,1.0nm,0.5s								
PETK	Petropavlovsk-	83.80	27	P		P	18 56 01.9	+0.7	
	comp=Z,1.0nm,0.5s,baz=311,slow=13,SNR=4.1								
PETK	Petropavlovsk-	83.80	27	P		P	18 56 01.9	+0.7	
	comp=Z,1.0nm,0.5s								

ISCJB ***01*** *18:44:29.9±0.5, 38.88N±0.02×27.06E±0.03, h4km±6km, Error ellipse: s-maj=4.6km s-min=3.8km az=154.0*
DDA ***01*** *18:44:29.9, 38.90N×27.06E, h7km, MD2.8*
ISK ***01*** *18:44:29.4, 38.87N×27.13E, h7km, MD2.9*
ISC 01 18:44:30.0±1.0, 38.88N±0.02×27.08E±0.02, h9km±10km, n37, σ0.837/56, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLCB	Balcova	0.49	183	*e*PG		Pg	18 44 39.4	-0.2	
BLCB				*e*SG		Sg	18 44 46.6	+0.6	
BLCB	Balcova	0.49	183	*e*Pg		Pg	18 44 39.4	-0.2	
IZM	Izmir	0.50	163	*e*PG		Pg	18 44 39.3	-0.4	
IZM	Izmir	0.50	163	*e*Pg		Pg	18 44 39.3	-0.4	
AYVA	Ayvalik	0.52	325	*i* P		Pg	18 44 40.1	-0.1	
AYVA				*i* S		Sg	18 44 47.6	+0.5	
AYVA	Ayvalik	0.52	325	*i* P		Pg	18 44 40.1	-0.1	
AYVA				*i* S		Sg	18 44 47.6	+0.5	
AKHS	Akhisar	0.57	90	*i* P		Pb	18 44 42.1	-0.2	
AKHS				*i* S		Sb	18 44 50.7	+0.1	
AKHS	Akhisar	0.57	90	*i* P		Pb	18 44 42.1	-0.2	
AKHS				*i* S		Sb	18 44 50.7	+0.1	
URLA	Izmir	0.64	216	*e*P		Pg	18 44 42.1	-0.3	
URLA				*i* S		Sb	18 44 52.8	+0.3	
URLA	Izmir	0.64	216	*e*P		Pg	18 44 42.1	-0.3	
URLA				*i* S		Sb	18 44 52.8	+0.3	
URLA	Izmir	0.64	216	*e*P		Pg	18 44 42.1	-0.3	
BALY	Balya	0.96	26	*e*P		Pg	18 44 47.9	-0.6	
BALY				*i* S		Sn	18 45 03.8	+0.2	
BALY	Balya	0.96	26	*e*P		Pg	18 44 47.9	-0.6	
BALY				*i* S		Sn	18 45 03.8	+0.2	
BALB	Balikesir	0.98	39	*e*PG		Pg	18 44 48.4	-0.5	
EZN	Ezine	1.11	329	*e*PN		Pn	18 44 51.7	-0.1	
GCAM	G?zelcaml?	1.18	174	*i* P		Pb	18 44 52.5	-0.2	
GCAM				*i* S		Sg	18 45 08.5	+0.4	
GCAM	G?zelcaml?	1.18	174	*i* P		Pb	18 44 52.5	-0.2	
GCAM				*i* S		Sg	18 45 08.5	+0.4	
MANT	Manisa	1.22	108	*i* P		Pn	18 44 53.2	-0.4	
MANT				*i* S		Sb	18 45 09.6	+0.1	
MANT	Manisa	1.22	108	*i* P		Pn	18 44 53.2	-0.4	
MANT				*i* S		Sb	18 45 09.6	+0.1	
MANT	Manisa	1.22	108	*i* P		Pn	18 44 53.2	-0.4	
BOZC	Bozcaada	1.25	321	*i* P		Pn	18 44 53.2	-0.5	
BOZC				*i* S		Sb	18 45 09.8	-0.2	
BOZC	Bozcaada	1.25	321	*i* P		Pn	18 44 53.2	-0.5	
BOZC				*i* S		Sb	18 45 09.8	-0.2	
DEMI	Demirci	1.29	82	*i* P		Pg	18 44 54.9	+0.2	
DEMI				*i* S		Sn	18 45 12.0	+0.3	
DEMI	Demirci	1.29	82	*i* P		Pg	18 44 54.9	+0.2	
DEMI				*i* S		Sn	18 45 12.0	+0.3	
DEMI	Demirci	1.29	82	*i* P		Pg	18 44 54.9	+0.2	
KULA	Kula-Manisa	1.29	106	*e*PN		Pn	18 44 53.8	-0.6	
KULA	Kula-Manisa	1.29	106	*e*Pn		Pn	18 44 53.8	-0.6	
DURS	Dursunbey	1.30	56	*i* P		Pn	18 44 54.5	0.0	
DURS				*i* S		Sg	18 45 12.3	+0.3	
DURS	Dursunbey	1.30	56	*i* P		Pn	18 44 54.5	0.0	
DURS				*i* S		Sg	18 45 12.3	+0.3	
LPK	Lapseki	1.51	351	*e*PN		Pb	18 44 57.8	-0.4	
KRBG	Karabiga-Canak	1.52	6	*e*PN		Pn	18 44 57.6	+0.2	
GELI	Tayfur-Gelibol	1.59	343	*e*PN		Pb	18 44 59.0	-0.6	
BNT	Bandirma	1.61	24	*e*PN		Pn	18 44 58.8	0.0	
KCTX	Karacabey (Bur	1.70	35	*e

LWLI Liwa 8.99 126 P **Pn** 19 00 07.7 -1.1
562nm,0.7s,6µm
KLSI 9.37 122 P Pn 19 00 12.3 -1.7
418nm,0.6s,4µm
KASI Kota Agung 9.64 126 P Pn 19 00 14.8 -2.8
156nm,1.0s
PPBI Pangkal Pinang 9.71 104 P **Pn** 19 00 19.4 +0.9
60nm,0.8s,2µm
BLSI Bandar Lampung 10.17 123 P **Pn** 19 00 25.1 +0.2
134nm,1.2s
TPI Tanjungpandan 11.32 105 P **Pn** 19 00 40.8 +0.1
52nm,0.8s
PBA Port Blair 12.02 341 *e*P Pn 19 00 49.9 -0.2
PBA AMB AMB 19 01 11.9
comp=Z,55nm,0.4s
PHET Kaeng Krachan 12.92 13 P **Pn** 19 01 01.1 -1.5
comp=Z,101nm,0.8s,comp=Z,1µm
PHET Kaeng Krachan 12.92 13 P **Pn** 19 01 01.0 -1.5
comp=Z,101nm,0.8s,comp=Z,1µm
LEM Lembang 12.94 123 P **Pn** 19 01 03.5 +0.6
comp=Z,72nm,0.9s
CISI Cisompet, Garu 13.50 125 P Pn 19 01 05.9 -4.6
baz=14,SNR=6.7
CISI S Sn 19 03 32.3 -7.7
baz=14,SNR=3.7
CHBT CHBT 13.62 24 P **Pn** 19 01 09.9 -2.2
comp=Z,96nm,0.9s
CHBT CHBT 13.62 24 P **Pn** 19 01 09.8 -2.3
comp=Z,96nm,0.9s
KSM Kuching 13.64 85 P **Pn** 19 01 12.9 +0.6
TGJI Tegal 14.24 120 P **P** 19 01 29.0 +1.3
comp=Z,58nm,1.0s
NAYO Nakonayok 14.71 18 P **Pn** 19 01 25.6 -1.4
comp=Z,144nm,1.0s,comp=Z,8µm
STKI Sintang 14.75 91 P **P** 19 01 33.6 +0.2
comp=Z,377nm,0.9s,comp=Z,12µm
PBKI Pangkalan Bun 15.22 101 P **Pn** 19 01 37.4 +3.5
comp=Z,349nm,1.1s,comp=Z,3µm
SBUM Sibu 15.65 82 P **Pn** 19 01 38.6 -0.8
BTM Bintulu 16.61 80 P **Pn** 19 01 51.0 -0.8
PBKT Sadao Pong 16.76 14 P **Pn** 19 01 52.7 -0.9
comp=Z,144nm,0.8s
PBKT Sadao Pong 16.76 14 P **Pn** 19 01 52.0 -1.6
comp=Z,144nm,0.8s
UBPT Khong Chiam 17.27 30 P **Pn** 19 01 57.8 -2.2
comp=Z,196nm,1.0s,comp=Z,2µm
UBPT Khong Chiam 17.27 30 P **Pn** 19 01 58.6 -1.4
comp=Z,196nm,1.0s,comp=Z,2µm
PALK Pallekele 17.44 294 Pn **Pn** 19 02 04.4 +2.2
comp=Z,390nm,1.3s,SNR=6.0
PALK Pallekele 17.44 294 *e*P **P** 19 02 04.6 +1.3
comp=Z,104nm,1.1s
PALK Pallekele 17.44 294 P **Pn** 19 02 04.1 +1.9
comp=Z,80nm,1.2s
LOEI Loei 17.74 14 P **Pn** 19 02 05.0 -0.8
comp=Z,99nm,1.5s
MTKI Muara Teweh, K 18.21 94 P **Pn** 19 02 11.5 -0.2
comp=Z,142nm,0.9s,comp=Z,4µm
CMAR Chiang Mai Arr 18.24 7 P **Pn** 19 02 11.1 -0.9
CMAR PcP **PcP** 19 06 44.5 +0.2
CMAR ScP **ScP** 19 10 18.1 -0.3
CMAR Chiang Mai Arr 18.24 7 P **Pn** 19 02 11.1 -0.9
comp=Z,2.2nm,0.3s,baz=195,slow=12,SNR=135
CMAR PcP **PcP** 19 06 44.5 +0.2
comp=Z,0.2nm,0.3s,baz=215,slow=3.3,SNR=6.8
CMAR ScP **ScP** 19 10 18.1 -0.3
comp=Z,0.0nm,0.3s,baz=228,slow=3.8,SNR=5.0
CMAR LR LR 19 10 45.3
comp=Z,671nm,18.2s,baz=190,slow=42
LAMP Lampang 18.40 9 P **P** 19 02 13.2 -0.6
comp=Z,15nm,1.1s,comp=Z,137nm
BBKI Banjar Baru 18.48 102 P **P** 19 02 14.5 -0.2
comp=Z,190nm,1.0s
PANO Nakornpanom 18.52 24 P **P** 19 02 13.4 -1.7
comp=Z,371nm,0.8s
CHTO Chiang Mai 18.59 7 *e*P **P** 19 02 14.0 -1.9
CHTO pmax pmax
comp=Z,32nm,1.0s
CHTO Chiang Mai 18.59 7 P **P** 19 02 14.9 -1.0
SNR=17
CHTO Chiang Mai 18.59 7 *e*P **P** 19 02 14.0 -1.9
comp=Z,32nm,1.0s
CHTO Chiang Mai 18.59 7 P **P** 19 02 14.5 -1.4
comp=Z,44nm,1.1s,comp=Z,749nm
CHTO Chiang Mai 18.59 7 P **P** 19 02 14.7 -1.2
comp=Z,44nm,1.1s,comp=Z,749nm
CMMT Chiang Mai 18.59 7 P **P** 19 02 15.1 -0.8
comp=Z,40nm,1.0s,comp=Z,668nm
CMMT Chiang Mai 18.59 7 P **P** 19 02 15.3 -0.7
comp=Z,40nm,1.0s,comp=Z,668nm
CMAI Chiengmai2 19.71 6 P **P** 19 02 28.4 +0.1
comp=Z,226nm,0.9s
BKB Balikpapan 20.23 94 P **P** 19 02 34.7 +0.8
comp=Z,488nm,1.0s,comp=Z,4µm
KKM Kota Kinabalu 20.29 73 P **P** 19 02 34.9 +0.2
KHKI Kahang-Kahang 20.67 115 P **P** 19 02 37.4 -1.2
comp=Z,57nm,1.0s
SGKI Sangatta, Kali 20.89 92 P **P** 19 02 41.6 +0.5
comp=Z,342nm,0.8s,comp=Z,3µm
KDM Kudat 21.13 71 P **P** 19 02 43.1 -0.6
SDKM Sandakan 21.13 75 P **P** 19 02 43.2 -0.6
TSM Tawau 21.51 79 P **P** 19 02 47.0 -0.7
MYLDM Lahad Datu 22.29 77 P **P** 19 02 56.7 +0.6
QIZ Qiongzhong 22.69 34 P **P** 19 02 56.5 -3.8
QIZ S **S** 19 07 04.0 -3.5
QIZ pmax pmax
comp=Z,67nm,1.4s
QIZ LR LR
comp=N,480nm,13.3s
QIZ LR LR
comp=Z,590nm,22.4s
QIZ Qiongzhong 22.69 34 *e*P **P** 19 02 58.8 -1.5
comp=Z,87nm,1.3s
QIZ LR LR
comp=Z,614nm,22.0s
TTSI Tana Toraja 23.31 98 P **P** 19 03 07.5 +0.7
comp=Z,86nm,0.9s,comp=Z,892nm
BMNI Bima 23.56 112 P **P** 19 03 08.9 -0.3
comp=Z,183nm,1.1s,comp=Z,6µm
KAPI Kappang 23.58 103 P **P** 19 03 07.7 -1.8
comp=Z,457nm,0.7s,SNR=7.2
KAPI Kappang 23.58 103 P **P** 19 03 08.6 -0.9
SNR=9.6
KAPI Kappang 23.58 103 *e*P P 19 03 06.0 -3.5
comp=Z,103nm,1.1s
KAPI Kappang 23.58 103 P **P** 19 03 08.0 -1.5
comp=Z,100nm,1.1s,comp=Z,1µm
KAPI Kappang 23.58 103 P **P** 19 03 08.2 -1.3
comp=Z,69nm,1.1s,baz=288,slow=7.7,SNR=14
KAPI LR LR 19 12 45.1
comp=Z,574nm,19.3s,baz=36,slow=38
BKSI Bulukumba 24.01 104 P **P** 19 03 13.8 +0.3
comp=Z,91nm,0.9s,comp=Z,2µm
BSSI Bau Bau, Buton 24.55 105 P **P** 19 03 17.5 -1.0
comp=Z,237nm,0.9s,comp=Z,2µm
IMP Imphal 24.55 354 *e*P **P** 19 03 20.0 +1.5
IMP *e*4 S 19 07 46.0 +7.8
WBSI Waikabubak, Su 24.60 114 P **P** 19 03 18.4 -0.6
comp=Z,68nm,1.3s,comp=Z,1µm
HYB Hyderabad 24.73 315 *i* P **P** 19 03 20.0 -0.1
HYB Hyderabad 24.73 315 *e*P **P** 19 03 20.9 +0.8
HYB AMB AMB 19 03 22.8
comp=Z,38nm,0.9s
MRSI Marisa 25.22 89 P **P** 19 03 25.1 +0.6
comp=Z,86nm,0.7s,comp=Z,900nm
KMI Kunming 25.42 13 ⇑P **P** 19 03 27.1 +0.6
KMI pP **pP** 19 03 37.8 +4.4
KMI sP sP 19 03 42.3 +6.1
KMI PP **PnPn** 19 04 08.2 +6.1
KMI S **S** 19 07 49.4 -2.9
KMI sS **sS** 19 08 05.6 +1.9
KMI SS **SnSn** 19 08 54.3 +8.8
KMI pmax pmax
comp=Z,56nm,1.3s
KMI pmax pmax
comp=Z,260nm,3.1s
KMI LR LR
comp=N,1µm,11.2s
KMI LR LR
comp=E,1µm,16.3s
KMI LR LR
comp=Z,1µm,9.4s
WSI Waingapu 25.44 113 S **S** 19 07 56.9 +4.3
baz=25,SNR=3.6
SHL Shillong 25.62 350 *e*P **P** 19 03 27.7 -0.5
SHL *e*4 x 19 08 06.0
BOK Bokaro 25.68 337 *e*P **P** 19 03 27.7 -0.9
BOK AMB AMB 19 03 30.5
comp=Z,84nm,0.7s
LUWI Luwuk 26.08 93 P **P** 19 03 31.5 -0.9
comp=Z,272nm,1.0s,comp=Z,2µm
LUWI Luwuk 26.08 93 P **P** 19 03 31.6 -0.7
baz=26,SNR=26
GTOI Gorontalo 26.29 89 P **P** 19 03 33.4 -0.9
comp=Z,116nm,1.0s,comp=Z,1µm
BBSI Bau Bau 26.43 103 P **P** 19 03 36.0 +0.5
comp=Z,113nm,1.0s,comp=Z,1µm
KMSI Cibinong 27.26 89 P **P** 19 03 44.6 +1.6
comp=Z,182nm,0.8s,comp=Z,2µm
GYA Guiyang 27.78 19 ⇑*i*P **P** 19 03 46.8 -0.8
GYA pP pP 19 04 01.2 +6.7
GYA PP **PnPn** 19 04 39.7 +5.5
GYA S **S** 19 08 27.8 -1.6
GYA sS sS 19 08 46.2 +5.5
GYA SS **SnSn** 19 09 50.0 +7.1
GYA ScP **ScP** 19 10 41.5 -2.0
GYA ScS **ScS** 19 14 33.8 -2.0
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,660nm,16.4s
GYA LR LR
comp=E,580nm,17.8s
GYA LR LR
comp=Z,610nm,16.6s
ODAN Odare 27.95 342 *e*P **P** 19 03 49.5 +0.1
comp=Z,82nm,0.9s
MNI Manado 28.14 87 P **P** 19 03 51.7 +0.8
comp=Z,79nm,0.8s
RAMN Ramite 28.29 341 *e*P **P** 19 03 53.1 +0.7
comp=Z,54nm,0.6s
TAPN Taplejung 28.32 343 *e*P **P** 19 03 53.1 +0.4
comp=Z,44nm,0.9s
JIRN Jiri 29.08 341 *e*P **P** 19 03 59.7 +0.1
comp=Z,92nm,0.8s
PKI Pulchoki 29.27 339 *e*P **P** 19 04 01.1 -0.1
comp=Z,61nm,1.1s
PKIN Phulchoki 29.28 339 *e*P **P** 19 04 01.0 -0.2
comp=Z,30nm,0.8s
DMN Daman 29.42 339 *e*P **P** 19 04 02.5 +0.1
comp=Z,44nm,0.8s
GUN Gumba 29.42 340 *e*P **P** 19 04 02.8 +0.3
comp=Z,91nm,0.8s
KKN Kakani 29.52 339 *e*P **P** 19 04 03.3 +0.1
comp=Z,69nm,0.9s
DAV Davao City (W) 29.57 76 LR LR 19 17 43.6
comp=Z,406nm,18.4s,baz=228,slow=40
BHPL Bhopal 29.58 322 AMB AMB 19 04 04.3
comp=Z,32nm,7.1s
BHPL *e*P **P** 19 04 04.7 +1.1
LSA Lhasa 29.78 350 P **P** 19 04 06.3 +0.5
LSA Lhasa 29.78 350 *e*P **P** 19 04 06.3 +0.5
LSA pmax pmax
comp=Z,16nm,0.8s
LSA Lhasa 29.78 350 *e*P **P** 19 04 06.3 +0.5
comp=Z,16nm,0.8s
KOLN Koldanda 30.14 336 *e*P **P** 19 04 09.2 +0.5
comp=Z,134nm,0.7s
DANN Dangsing 30.59 337 *e*P **P** 19 04 13.1 +0.3
comp=Z,107nm,0.8s
PYUN Piuthan 30.68 336 *e*P **P** 19 04 13.8 +0.3
comp=Z,107nm,0.9s
LBMI Labuha 30.79 92 P **P** 19 04 13.6 -0.8
comp=Z,115nm,1.0s,comp=Z,2µm
MBWA Marble Bar 30.94 135 *e*P P 19 04 14.2 -1.5
CD2 Chengdu 31.23 12 P **P** 19 04 21.3 +3.1
CD2 pP pP 19 04 31.2 +6.1
CD2 sP sP 19 04 35.4 +7.5
CD2 PP **PnPn** 19 05 25.2 +4.7
CD2 PcP **PcP** 19 07 14.9 +2.3
CD2 S **S** 19 09 24.7 +1.3
CD2 sS sS 19 09 41.4 +6.6
CD2 SS **SnSn** 19 11 12.7 +5.8
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.1s
CD2 LR LR
comp=N,890nm,13.2s
CD2 LR LR
comp=E,1µm,14.1s
CD2 LR LR
comp=Z,970nm,16.2s
ENH Enshi 32.25 21 *e*P **P** 19 04 25.6 -1.5
comp=Z,34nm,0.6s
MSAI Masohi 32.38 97 P **P** 19 04 29.0 +0.5
comp=Z,16nm,0.8s,comp=Z,694nm
QZH Quanzhou 32.42 39 ⇑P **P** 19 04 27.4 -1.2
QZH S **S** 19 09 40.0 -1.9
QZH LR LR
comp=N,2µm,18.6s
QZH LR LR
comp=E,2µm,19.5s
QZH LR LR
comp=Z,2µm,13.6s
TPUB Ta-pu 32.64 44 *e*P **P** 19 04 30.1 -0.4
comp=Z,72nm,0.8s
YULB Yu-li 33.16 44 *e*P **P** 19 04 34.9 -0.2
comp=Z,69nm,0.8s
SSLB Suanglung 33.18 43 *e*P **P** 19 04 34.9 -0.5
comp=Z,88nm,0.8s
FITZ Fitzroy Crossi 33.77 124 *e*P **P** 19 04 40.0 -0.5
comp=Z,58nm,1.3s
FITZ Fitzroy Crossi 33.77 124 P **P** 19 04 40.3 -0.2
comp=Z,14nm,0.9s,baz=293,slow=3.5,SNR=24
FITZ LR LR 19 20 39.3
comp=Z,199nm,19.7s,baz=315,slow=40
FITZ Fitzroy Crossi 33.77 124 P **P** 19 04 40.2 -0.3
baz=34,SNR=19
YHNB Yeheng 34.05 43 *e*P **P** 19 04 42.3 -0.6
comp=Z,20nm,0.5s
YHNB LR LR
comp=Z,450nm,22.0s
TATO Taipei 34.33 42 P **P** 19 04 46.9 +1.6
WHN Wuhan 34.49 27 ⇑*i*P **P** 19 04 46.2 -0.3
WHN pP **pP** 19 04 57.3 +3.8
WHN S **S** 19 10 15.2 +1.3
WHN pmax pmax
comp=Z,72nm,1.0s
WHN LR LR
comp=N,710nm,14.3s
WHN LR LR
comp=E,980nm,13.8s
WHN LR LR
comp=Z,1µm,17.4s
DDI Dehra Dun 34.80 331 *e*P **P** 19 04 47.5 -1.8
DDI AMB AMB 19 04 49.4
comp=Z,86nm,1.6s
KNRA Kununurra 35.37 118 P P 19 04 52.7 -1.6
baz=35,SNR=13
XAN Xi'an 35.52 18 P **P** 19 04 53.9 -1.6
XAN sP **sP** 19 05 06.5 +1.2
XAN PP **PnPn** 19 06 14.3 -0.6
XAN PcP **PcP** 19 07 22.3 -2.3
XAN S S 19 10 24.0 -5.9
XAN ScS **ScS** 19 15 09.7 -4.3
XAN pmax pmax
comp=Z,6.0nm,1.1s
XAN LR LR
comp=N,450nm,12.9s
XAN LR LR
comp=E,130nm,11.4s
XAN LR LR
comp=Z,260nm,13.6s
FAKI Fak Fak 35.65 95 P P 19 04 55.1 -1.7
baz=36,SNR=9.3
SMLA Simla 35.89 331 *e*P **P** 19 04 58.1 -0.5
SMLA AMB AMB 19 05 00.1
comp=Z,28nm,0.7s
LZH Lanzhou 36.28 10 ⇑P **P** 19 05 04.5 +2.4
LZH pP pP 19 05 14.7 +5.6
LZH sP sP 19 05 18.8 +6.8
LZH PP **PP** 19 06 28.3 +3.4
LZH S **S** 19 10 43.1 +1.4
LZH sS sS 19 11 00.5 +7.3
LZH SS **SnSn** 19 13 09.7 +0.2
LZH pmax pmax
comp=Z,29nm,1.1s
LZH pmax pmax
comp=Z,170nm,4.6s
LZH LR LR
comp=N,730nm,13.2s
LZH LR LR
comp=E,530nm,13.0s
LZH LR LR
comp=Z,1µm,17.0s
SDNR Sundarnagar 36.29 331 *e*P **P** 19 05 02.0 -0.1
MTN Manton Dam 36.51 112 P P 19 05 01.9 -2.3
baz=36,SNR=5.8
DHRM DHARAMSHALA 37.23 331 *e*P **P** 19 05 08.6 -1.8
DHRM *e*P **P** 19 05 09.3 -1.1
RKPI Ransiki, Papua 37.49 93 P **P** 19 05 13.3 +0.7
comp=Z,44nm,0.9s,comp=Z,629nm
NJ2 Nanjing 37.93 31 *e*P **P** 19 05 15.8 -0.2
NJ2 pP **pP** 19 05 25.8 +2.8
NJ2 sP **sP** 19 05 30.7 +4.9
NJ2 PP **PnPn** 19 06 45.7 +1.4
NJ2 S **S** 19 11 08.0 +1.4
NJ2 sS **ScP** 19 11 22.5 +4.3
NJ2 pmax pmax
comp=Z,20nm,0.9s
NJ2 pmax pmax
comp=Z,120nm,6.0s
NJ2 LR LR
comp=N,620nm,23.1s
NJ2 LR LR
comp=E,490nm,22.4s
NJ2 LR LR
comp=Z,1µm,23.0s
NWAO Narrogin (SRO) 38.23 152 P **P** 19 05 19.1 +0.6
NWAO Narrogin (SRO) 38.23 152 P **P** 19 05 19.1 +0.6
comp=Z,16nm,0.9s,baz=331,slow=7.0,SNR=4.2
NWAO LR LR 19 19 12.6
comp=Z,256nm,20.9s,baz=349,slow=33
GTA Gaotai 39.09 4 *e*P **P** 19 05 25.5 -0.3
GTA pP **pP** 19 05 35.1 +2.2
GTA sP **sP** 19 05 39.1 +3.4
GTA PcP **PcP** 19 07 35.6 +0.1
GTA S **ScP** 19 11 22.7 0.0
GTA sS **sS** 19 11 39.8 +4.0
GTA SS SnSn 19 14 06.3 -11
GTA pmax pmax
comp=Z,7.0nm,0.9s
GTA pmax pmax
comp=Z,110nm,6.2s
GTA LR LR
comp=N,490nm,15.0s
GTA LR LR
comp=E,460nm,19.5s
GTA LR LR
comp=Z,290nm,15.0s
KMBL Kambalda 39.45 145 P **P** 19 05 30.2 +1.3
baz=40,SNR=6.4
WRA Warramunga Arr 41.94 121 P **P** 19 05 49.4 -0.2
WRA S **S** 19 12 03.1 -4.0
WRA Warramunga Arr 41.94 121 P **P** 19 05 49.4 -0.2
comp=Z,12nm,0.5s,baz=304,slow=8.8,SNR=69
WRA S **S** 19 12 03.1 -4.0
comp=Z,1.3nm,1.1s,baz=294,slow=12,SNR=5.8
WRA LR LR 19 26 37.7
comp=Z,178nm,20.0s,baz=305,slow=41
WRAB Tennant Creek 41.95 121 P **P** 19 05 49.0 -0.6
comp=Z,401nm,0.6s,SNR=36
WRAB Tennant Creek 41.95 121 *e*P **P** 19 05 49.4 -0.2
WRAB pmax pmax
comp=Z,102nm,1.1s
WRAB Tennant Creek 41.95 121 *e*P **P** 19 05 49.4 -0.2
comp=Z,102nm,1.1s
AS31 Alice Springs 43.21 126 *e*P **P** 19 05 59.2 -0.7
ASAR Alice Springs 43.21 126 P **P** 19 05 59.9 0.0
ASAR Alice Springs 43.21 126 P **P** 19 05 59.9 0.0
comp=Z,5.6nm,0.7s,baz=304,slow=8.4,SNR=51
BJT Baijiatuau 43.39 22 *e*P **P** 19 06 01.1 +0.2
comp=Z,46nm,0.6s
BJI Beijing 43.41 22 P **P** 19 06 01.6 +0.5
BJI PP **PP** 19 07 44.1 +1.8
BJI S **S** 19 12 26.5 -1.5
BJI pmax pmax
comp=Z,30nm,0.8s
BJI pmax pmax
comp=Z,170nm,6.3s
BJI LR LR
comp=N,370nm,15.7s
BJI LR LR
comp=E,320nm,14.7s
BJI LR LR
comp=Z,180nm,23.8s
KSH Kashi 43.45 337 ⇓*i*P P 19 05 59.8 -1.9
KSH pP pP 19 06 13.4 +4.6
KSH sP sP 19 06 17.1 +5.5
KSH PP **PP** 19 07 46.4 +3.4
KSH S **S** 19 12 25.0 -4.0
KSH sS sS 19 12 43.8 +3.1
KSH ScS **ScS** 19 15 59.0 -1.5
KSH pmax pmax
comp=Z,15nm,0.8s
KSH pmax pmax
comp=Z,120nm,4.0s
KSH LR LR
comp=N,130nm,6.3s
KSH LR LR
comp=E,180nm,6.9s
KSH LR LR
comp=Z,66nm,8.2s
SMDO Samad 43.89 304 P **P** 19 06 06.9 +1.5
SNR=6.0
WMQ Urumqi 44.14 351 P **P** 19 06 08.0 +0.9
WMQ pP **pP** 19 06 17.9 +3.8
WMQ sP **sP** 19 06 21.8 +4.8
WMQ PP **PP** 19 07 52.2 +2.0
WMQ PcP **PcP** 19 07 53.8 +1.9
WMQ ScP **ScP** 19 11 41.6 -1.0
WMQ S **S** 19 12 37.3 -1.5
WMQ sS **sS** 19 12 53.7 +3.2
WMQ SS SS 19 15 46.4 -11
WMQ ScS **ScS** 19 16 01.7 -2.8
WMQ pmax pmax
comp=Z,32nm,1.1s
WMQ pmax pmax
comp=Z,210nm,3.3s
WMQ LR LR
comp=N,190nm,15.4s
WMQ LR LR
comp=E,270nm,16.6s
WMQ LR LR
comp=Z,140nm,21.0s
BSY Bisya 44.47 303 P **P** 19 06 11.8 +1.8
SNR=7.8
HOQ Hoqain 44.73 304 P **P** 19 06 13.3 +1.3
SNR=10
DL2 Dalian 44.75 28 P **P** 19 06 11.9 0.0
DL2 S **S** 19 12 47.5 -0.1
DL2 pmax pmax
comp=Z,41nm,0.8s
DL2 pmax pmax
comp=Z,130nm,3.8s
DL2 LR LR
comp=N,200nm,19.0s
DL2 LR LR
comp=E,190nm,18.0s
DL2 LR LR
comp=Z,140nm,22.4s
ULHL Ulahol 45.71 339 P **P** 19 06 19.9 +0.1
SNR=34
JNU Nakatsue 45.84 41 *e*P **P** 19 06 20.2 -0.5
comp=Z,19nm,0.8s
JNU Nakatsue 45.84 41 LR LR 19 24 51.0
comp=Z,244nm,20.6s,baz=38,slow=35
KZA Kyzart 45.93 338 P **P** 19 06 22.1 +0.3
SNR=14
UCH Uchtor 46.34 337 P **P** 19 06 25.5 +0.4
SNR=5.5
TKM2 Tokmak 2 46.53 339 *i* P **P** 19 06 26.4 +0.2
TKM2 Tokmak 2 46.53 339 P **P** 19 06 26.4 +0.2
SNR=33
TKM2 Tokmak 2 46.53 339 *e*P **P** 19 06 26.1 -0.2
comp=Z,36nm,1.0s
KBK Karagaybulak 46.55 338 P **P** 19 06 27.6 +1.2
SNR=12
AML Almayashu 46.59 336 P **P** 19 06 27.2 +0.3
SNR=32
AAK Ala-Archa 46.70 337 *d* *i*P **P** 19 06 27.7 +0.2
AAK pmax pmax
comp=Z,106nm,2.5s
AAK Ala-Archa 46.70 337 P **P** 19 06 28.3 +0.9
SNR=11
AAK Ala-Archa 46.70 337 P **P** 19 06 28.4 +0.9

SNR=7.0
AAK Ala-Archa 46.70 337 *e*P **P** **19 06 28.0 +0.5**
comp=Z,15nm,0.9s
QIS Mount Isa 46.74 119 P **P** **19 06 31.2 +3.1**
baz=47,SNR=14
KSAR Wonju Array Be 46.88 34 P **P** **19 06 28.4 -0.4**
KSRS Korea Array 46.91 34 P **P** **19 06 28.4 -0.6**
comp=Z,23nm,0.6s,baz=219,slow=8.6,SNR=48
CHMS Chumysh 46.91 338 P **P** **19 06 28.9 -0.1**
SNR=15
EKS2 Erkin-Say 47.00 337 *e*P **P** **19 06 30.0 +0.2**
EKS2 pmax pmax
comp=Z,32nm,0.8s
EKS2 Erkin-Say 47.00 337 P **P** **19 06 30.4 +0.6**
SNR=46
EKS2 Erkin-Say 47.00 337 *e*P **P** **19 06 30.0 +0.2**
comp=Z,32nm,0.8s
USP Ospenovka 47.24 338 P **P** **19 06 31.7 +0.2**
SNR=43
MK31 Makanchi Array 48.06 347 *e*P **P** **19 06 37.3 -0.6**
MK31 Makanchi Array 48.06 347 *e*P **P** **19 06 37.3 -0.6**
MKAR Makanchi Array 48.06 347 *ce*P **P** **19 06 37.5 -0.4**
MKAR pmax pmax
comp=Z,27nm,0.7s
MKAR Makanchi Array 48.06 347 P **P** **19 06 37.9 +0.1**
MKAR PcP **PcP** **19 08 04.5 -1.0**
MKAR Makanchi Array 48.06 347 P **P** **19 06 37.9 +0.1**
comp=Z,27nm,0.7s,baz=159,slow=8.4,SNR=314
MKAR PcP **PcP** **19 08 04.5 -1.0**
comp=Z,3.0nm,0.6s,baz=155,slow=7.0,SNR=1.9
MKAR LR LR 19 32 23.3
comp=Z,91nm,18.1s,baz=333,slow=43
COEN Coen 48.09 109 *e*P **P** **19 06 40.0 +1.4**
comp=Z,153nm,1.1s
COEN Coen 48.09 109 P **P** **19 06 40.2 +1.6**
baz=48,SNR=4.1
SONM Songino Array 48.15 9 P **P** **19 06 38.6 0.0**
SONM PcP **PcP** **19 08 05.3 -0.6**
SONM Songino Array 48.15 9 P **P** **19 06 38.6 0.0**
comp=Z,10.0nm,0.9s,baz=190,slow=8.5,SNR=29
SONM PcP **PcP** **19 08 05.3 -0.6**
comp=Z,6.4nm,0.8s,baz=185,slow=4.3,SNR=4.6
SONM LR LR 19 28 38.1
comp=Z,206nm,20.4s,baz=207,slow=38
ULN Ulaanbaatar 48.28 9 P P 19 06 43.9 +4.2
SNR=6.6
ULN Ulaanbaatar 48.28 9 *e*P **P** **19 06 38.9 -0.8**
comp=Z,5.8nm,0.6s
ULN LR LR
comp=Z,208nm,22.0s
ULN Ulaanbaatar 48.28 9 P **P** **19 06 39.2 -0.5**
comp=Z,14nm,1.1s
KKAR Karatay Array 48.71 334 *e*P **P** **19 06 42.1 -0.8**
KKAR pmax pmax
comp=Z,25nm,0.9s
KKAR Karatay Array 48.71 334 *e*P **P** **19 06 42.1 -0.8**
comp=Z,25nm,0.9s
MTSU Mount Surprise 50.20 114 P **P** **19 06 54.9 +0.1**
baz=50,SNR=9.5
ZAK Zakamensk 50.27 5 *e*P **P** **19 06 53.8 -1.0**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
CN2 Changchun 50.38 27 *e*P **P** **19 06 54.6 -1.0**
CN2 *es*P **sP** **19 07 08.3 +2.8**
CN2 PP **PP** **19 08 51.1 -0.2**
CN2 *e*S **S** **19 14 04.8 -2.7**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,13.0s
CN2 LR LR
comp=E,300nm,13.0s
CN2 LR LR
comp=Z,400nm,14.0s
PMG Port Moresby 51.11 102 P **P** **19 07 01.7 0.0**
PMG Port Moresby 51.11 102 P **P** **19 07 01.6 0.0**
comp=Z,71nm,0.8s,comp=Z,819nm
PMG Port Moresby 51.11 102 P **P** **19 07 01.7 0.0**
comp=Z,54nm,0.7s,baz=308,slow=4.5,SNR=20
PMG LR LR 19 28 02.1
comp=Z,100nm,21.5s,baz=261,slow=35
MOY Mondy 51.37 3 *e*P **P** **19 07 03.4 +0.3**
TLY Talaya 51.59 5 *e*P **P** **19 07 05.3 +0.7**
TLY *e* 19 07 16.5
TLY *e*S S 19 14 11.0 -13
TLY *e*SS **SS** **19 17 55.1 -5.6**
TLY pmax pmax
comp=Z,6.0nm,0.8s
TLY MLR MLR
comp=Z,214nm,16.0s
ABKT Ailbek 51.65 321 P **P** **19 07 04.9 -0.5**
comp=Z,165nm,0.7s,SNR=5.2
OPO Ambohidratompo 52.10 246 LR LR 19 23 42.3
comp=Z,343nm,21.4s,baz=98,slow=30
IRK Irkutsk 52.21 6 *e*P **P** **19 07 12.0 +2.8**
IRK pmax pmax
comp=Z,26nm,1.4s
CTA Charters Tower 52.51 116 P **P** **19 07 12.7 +0.7**
CTA Charters Tower 52.51 116 P **P** **19 07 12.7 +0.7**
comp=Z,7.3nm,0.8s,baz=280,slow=11,SNR=15
CTAO Charters Tower 52.51 116 *e*P **P** **19 07 12.4 +0.4**
CTAO pmax pmax
comp=Z,42nm,1.1s
CTAO Charters Tower 52.51 116 *e*P **P** **19 07 12.4 +0.4**
comp=Z,42nm,1.1s
KURK Kurchatov 52.60 346 P **P** **19 07 11.5 -0.6**
comp=Z,164nm,1.3s,SNR=22
HIA Hailar 52.70 19 *e*P **P** **19 07 13.1 +0.2**
comp=Z,16nm,0.9s
MAJO Matsushiro 52.72 42 *e*P **P** **19 07 13.7 +0.4**
MAJO pmax pmax
comp=Z,11nm,0.7s
MAJO Matsushiro 52.72 42 *e*P **P** **19 07 13.7 +0.4**
comp=Z,11nm,0.7s
MAT Matsushiro 52.72 42 P **P** **19 07 11.8 -1.5**
MAT S S 19 14 23.8 -16
MJAR Matsushiro Arr 52.72 42 P P 19 07 10.8 -2.5
MJAR Matsushiro Arr 52.72 42 P P 19 07 10.8 -2.5
comp=Z,8.7nm,0.6s,baz=223,slow=7.1,SNR=12
QLP Quilpie 52.91 124 P **P** **19 07 15.7 +0.9**
baz=53,SNR=7.3
MDJ Mudanjiang 52.94 29 P **P** **19 07 15.9 +1.2**
MDJ pP **pP** **19 07 24.7 +2.8**
MDJ sP **sP** **19 07 29.0 +4.3**
MDJ PcP **PcP** **19 08 24.2 +0.7**
MDJ PP **PP** **19 09 14.2 -0.3**
MDJ ScP **ScP** **19 12 19.0 -0.8**
MDJ PcS **PcS** **19 12 23.1 +1.1**
MDJ S **S** **19 14 44.4 +1.6**
MDJ pmax pmax
comp=Z,10.0nm,1.0s
MDJ pmax pmax
comp=Z,94nm,4.7s
MDJ LR LR
comp=N,170nm,21.0s
MDJ LR LR
comp=E,250nm,17.7s
MDJ LR LR
comp=Z,190nm,24.0s
MDJ Mudanjiang 52.94 29 *e*P **P** **19 07 15.3 +0.6**
comp=Z,22nm,1.3s
STKA Stephens Creek 53.07 131 *e*P **P** **19 07 16.1 +0.2**
comp=Z,3.7nm,0.6s
STKA Stephens Creek 53.07 131 P **P** **19 07 16.3 +0.3**
comp=Z,14nm,1.0s,baz=292,slow=6.4,SNR=14
STKA LR LR 19 30 59.2
comp=Z,266nm,19.7s,baz=320,slow=37
STKA Stephens Creek 53.07 131 P **P** **19 07 16.5 +0.5**
baz=53,SNR=9.7
CIT Chita 53.51 13 *e*P **P** **19 07 21.9 +3.0**
CIT *e* 19 07 28.6
USRK Ussuriysk Arra 53.84 31 P **P** **19 07 21.2 -0.1**
comp=Z,30nm,1.0s,baz=232,slow=6.5,SNR=23
USRK LR LR 19 30 31.6
comp=Z,274nm,21.6s,baz=209,slow=36
ZAA0 Zalesovo Array 54.43 351 *e*P **P** **19 07 24.8 -0.7**
ZALV Zalesovo Beam 54.43 351 P **P** **19 07 25.1 -0.4**
ZALV S **S** **19 15 01.0 -1.7**
ZALV Zalesovo Beam 54.43 351 P **P** **19 07 25.1 -0.4**
ZALV S **S** **19 15 01.0 -1.7**
ZALV Zalesovo Beam 54.43 351 P **P** **19 07 25.1 -0.4**
comp=Z,61nm,0.6s,baz=180,slow=6.3,SNR=360
ZALV S **S** **19 15 01.0 -1.7**
comp=Z,1.7nm,0.8s,baz=167,slow=14,SNR=7.7
ZALV LR LR 19 36 46.5
comp=Z,98nm,18.4s,baz=250,slow=43
ATD Arta Tunnel 54.65 284 P **P** **19 07 28.2 +0.4**
ATD Arta Tunnel 54.65 284 P **P** **19 07 28.2 +0.4**
comp=Z,29nm,1.1s,baz=249,slow=18,SNR=9.0
ATD LR LR 19 24 47.7
comp=Z,160nm,20.6s,baz=332,slow=29
RAYN Ar Rayn 54.80 299 P **P** **19 07 28.5 -0.3**
comp=Z,185nm,0.9s,SNR=15
KBD Kabd 54.88 306 *e*P **P** **19 07 28.5 -0.6**
KBD AMb AMB 19 07 29.8
comp=Z,66nm,0.9s
RDF Al-Radifah 54.90 306 *e*P **P** **19 07 28.5 -0.8**
RDF AMb AMB 19 07 30.4
comp=Z,172nm,1.2s
UMR Umm Al-Rimmam 55.00 307 *e*P **P** **19 07 29.9 -0.2**
UMR AMb AMB 19 07 30.7
comp=Z,131nm,0.8s
NAY Al-Naaiem 55.27 306 *e*P **P** **19 07 31.1 -1.0**
NAY AMb AMB 19 07 32.3
comp=Z,69nm,0.7s
MIB Mutribah 55.40 307 *e*P **P** **19 07 32.7 -0.3**
MIB AMb AMB 19 07 33.7
comp=Z,194nm,0.8s
NVS Novosibirsk 55.54 351 ⇓ *i*P **P** **19 07 32.2 -1.3**
NVS *i* 19 07 43.3
NVS *i*S S 19 15 12.2 -5.3
NVS pmax pmax
comp=N,20nm,1.0s
NVS pmax pmax
comp=Z,31nm,1.0s
NVS pmax pmax
comp=E,10.0nm,0.7s
NVS smax smax
comp=N,11nm,1.4s
NVS smax smax
comp=E,25nm,1.8s
KRAR Krasnoyarsk 55.69 357 ⇑ *i*P **P** **19 07 34.4 -0.1**
KRAR pmax pmax
comp=Z,32nm,0.8s
CMSA Cobar Meteorol **56.05 129** P **P** **19 07 38.2 +0.6**
baz=56,SNR=19
RMQ Roma 56.66 122 P **P** **19 07 44.0 +1.9**
baz=57,SNR=8.1
BVAR Borovoye Array 57.01 341 P **P** **19 07 42.5 -1.5**
BVAR Borovoye Array 57.01 341 P **P** **19 07 42.5 -1.5**
BVAR Borovoye Array 57.01 341 P **P** **19 07 42.5 -1.5**
comp=Z,13nm,0.7s,baz=146,slow=8.6,SNR=86
BRVK Borovoye 57.07 341 P P 19 07 42.5 -1.9
comp=Z,105nm,0.6s,SNR=10.0
BRVK Borovoye 57.07 341 *e*P **P** **19 07 42.7 -1.7**
BRVK pmax pmax
comp=Z,10.0nm,0.8s
BRVK Borovoye 57.07 341 P **P** **19 07 43.2 -1.2**
SNR=9.6
BRVK Borovoye 57.07 341 *e*P **P** **19 07 42.7 -1.7**
comp=Z,10nm,0.8s
KLR Kul'dur 57.33 27 *e*P P 19 07 41.0 -5.3
KLR *e*S **S** **19 15 37.5 -3.9**
ABKAR Akbulak array 58.14 332 *e*P P 19 07 50.2 -1.8
comp=Z,26nm,0.7s
EIDS Eidsvold 58.30 120 *e*P **P** **19 07 53.4 -0.2**
comp=Z,30nm,1.0s
EIDS Eidsvold 58.30 120 P **P** **19 07 54.1 +0.5**
baz=58,SNR=6.1
HABR Khabarovsk 58.33 29 *e*P P 19 07 50.8 -2.5
HABR *e**PP pP 19 08 01.0 +0.4
HABR *e**SP sP 19 08 05.2 +1.8
HABR *e* 19 08 41.6
HABR *e*S **S** **19 15 51.0 -3.5**
HABR *e* 19 16 03.6
HABR *e**SS sS 19 16 08.0 +1.5
HABR *e* 19 17 37.7
HABR *e*SS **SS** **19 19 44.0 -2.9**
HABR pmax pmax
comp=Z,90nm,2.5s
HABR pmax pmax
comp=E,55nm,2.5s
HABR pmax pmax
comp=N,47nm,3.2s
HABR MLR MLR
comp=Z,143nm,20.0s
KMBO Kilima Mbogo 59.48 269 *e*P **P** **19 08 02.9 +0.5**
KMBO Kilima Mbogo 59.48 269 *e*P **P** **19 08 02.1 -0.2**
comp=Z,16nm,0.9s
KMBO Kilima Mbogo 59.48 269 P **P** **19 08 02.5 +0.2**
comp=Z,17nm,0.8s,baz=60,slow=9.5,SNR=30
KMBO LR LR 19 29 03.3
comp=Z,250nm,18.8s,baz=99,slow=31
KMBO Kilima Mbogo 59.48 269 P **P** **19 08 03.0 +0.7**
baz=60,SNR=5.9
AKTO Aktyubinsk 59.86 332 P P 19 08 02.0 -1.9
AKTO Aktyubinsk 59.86 332 P P 19 08 02.0 -1.9
AKTO Aktyubinsk 59.86 332 P P 19 08 02.0 -1.9
comp=Z,11nm,0.8s,baz=128,slow=8.5,SNR=32
YSS Yuzh-Sakhalins 61.41 34 *e*P **P** **19 08 15.2 +0.6**
YSS *e* 19 08 21.2
YSS pmax pmax
comp=Z,70nm,1.4s
GNI Garni 61.66 317 P **P** **19 08 17.0 +0.4**
SNR=5.8
GNI Garni 61.66 317 *e*P **P** **19 08 16.2 -0.5**
comp=Z,87nm,1.6s
DGRG David-gareji 61.83 318 P **P** **19 08 17.8 +0.2**
TBLG Delisi 62.38 318 *e*P **P** **19 08 20.6 -0.6**
TBLG Delisi 62.38 318 P **P** **19 08 20.6 -0.6**
MZRK Al-Mazaregh 62.87 311 *e*P P 19 08 21.2 -3.5
KBSD Kabsdagh 63.38 312 *e*P P 19 08 17.3 -11
SVE Sverdlovsk 63.41 339 ⇑ *e*P **P** **19 08 26.4 -1.4**
SVE pmax pmax
comp=Z,31nm,0.9s
ZEI Tsey 63.41 319 *e*P **P** **19 08 27.0 -1.4**
ZEI pmax pmax
comp=Z,21nm,0.8s
SFNV Sufian 63.50 311 *e*P **P** **19 08 28.2 -0.7**
HNR Honiara 63.65 101 *e*P **P** **19 08 30.6 +0.5**
comp=Z,174nm,0.9s
HNR Honiara 63.65 101 LR LR 19 37 34.2
comp=Z,21nm,21.4s,baz=351,slow=37
ARU Arti 63.89 338 *d i*P P 19 08 29.1 -1.8
ARU 19 09 03.8
ARU 19 10 50.9
ARU PPP PPP 19 12 22.7
ARU S **S** **19 17 02.9 -2.1**
ARU pmax pmax
comp=Z,14nm,1.0s
ARU MLR MLR
comp=Z,125nm,18.0s
ARU Arti 63.89 338 P **P** **19 08 29.7 -1.2**
comp=Z,133nm,0.6s,SNR=11
KBZ Khabaz 64.49 320 P **P** **19 08 34.4 -0.7**
KBZ Khabaz 64.49 320 P **P** **19 08 34.4 -0.7**
KBZ Khabaz 64.49 320 P **P** **19 08 34.4 -0.7**
comp=Z,17nm,0.8s,baz=123,slow=5.5,SNR=39
ZALF Zalf 64.50 307 *e*P P 19 08 30.3 -5.2
KIV Kislovodsk 64.73 320 *d i*P **P** **19 08 35.7 -1.1**
KIV *e*S **S** **19 17 12.1 -4.1**
KIV pmax pmax
comp=Z,37nm,1.0s
KIV Kislovodsk 64.73 320 P **P** **19 08 36.6 -0.2**
comp=Z,217nm,0.9s,SNR=7.6
SALA Sala 64.92 306 *e*P P 19 08 35.1 -3.3
TOTH TOTAH 65.36 307 *e*P P 19 08 34.4 -6.8
MALT Malatya 65.42 313 ⇓ *i*P P 19 08 55.7 +14
TCHB Talchebab 65.53 306 *e*P P 19 08 35.9 -6.3
EIL Elat 65.57 303 P **P** **19 08 42.5 0.0**
baz=66,SNR=21
MBAR Mbarara 65.99 269 *e*P **P** **19 08 45.4 -0.3**
BTCH Batrach 66.15 310 *e*P P 19 08 41.7 -4.5
DRWC Darouich 66.17 310 *e*P P 19 08 43.8 -2.5
ARNB Al Arnab 66.47 309 *e*P P 19 08 42.1 -6.2
YAK Yakutsk 66.47 16 *d i*P **P** **19 08 46.1 -1.5**
YAK *e**PP **pP** **19 08 56.2 +1.2**
YAK *e* 19 09 18.7
YAK *e* 19 11 14.1
YAK *e*PPP PPP 19 12 46.3
YAK *e*S **S** **19 17 32.3 -4.3**
YAK *e**SS **sS** **19 17 49.0 +0.3**
YAK *e* 19 18 40.5
YAK *e*SS **SS** **19 21 47.9 -5.9**
YAK pmax pmax
comp=Z,56nm,0.9s
YAK pmax pmax
comp=N,21nm,1.0s
YAK pmax pmax
comp=E,20nm,1.4s
YAK pmax pmax
comp=Z,36nm,2.5s
YAK pmax pmax
comp=E,66nm,3.1s
YAK pmax pmax
comp=N,44nm,2.4s
YAK smax smax
comp=N,178nm,4.3s
YAK smax smax
comp=E,88nm,2.4s
YAK MLR MLR
comp=N,232nm,20.0s
YAK MLR MLR
comp=E,59nm,14.0s
YAK MLR MLR
comp=Z,289nm,20.0s
SOC Sochi 66.52 318 *e*P P 19 08 46.0 -2.3
SOC *e* 19 11 15.3
SOC *e*S S 19 17 33.2 -4.6
SOC *e*SS **SS** **19 21 50.6 -4.6**
SOC pmax pmax
comp=Z,49nm,0.9s
SOKR Solikamsk 66.83 339 *d i*P **P** **19 08 48.8 -1.1**
SOKR pmax pmax
comp=Z,40nm,0.9s
CASY Casey 67.10 174 *e*P **P** **19 08 51.8 +0.3**
comp=Z,24nm,1.0s
POGA Pongola 68.14 240 *e*P **P** **19 08 58.0 -0.9**
POGA AMB AMB 19 08 59.0
comp=Z,26nm,0.9s
CSS Prodhromos 68.28 308 *e*P **P** **19 08 59.0 -0.6**
comp=Z,44nm,1.0s
LSZ Lusaka 69.38 254 ⇓ *i*P **P** **19 09 06.7 -0.3**
BR131 Keskin Array S 69.41 313 *e*P P 19 09 04.9 -1.8
comp=Z,26nm,0.9s
BRTR Keskin Array B 69.41 313 P P 19 09 05.2 -1.6
BRTR Keskin Array B 69.41 313 P P 19 09 05.2 -1.6
comp=Z,20nm,0.8s,baz=136,slow=7.4,SNR=112
VORD Divnogorie 69.91 325 *e*P P 19 09 06.8 -2.6
VORD pmax pmax
comp=Z,20nm,0.8s
VORD pmax pmax
comp=N,9.0nm,0.6s
VORD pmax pmax
comp=E,30nm,0.9s
ANTO Ankara 70.07 313 *e*P **P** **19 09 09.4 -1.4**
ANTO pmax pmax
comp=Z,43nm,1.3s
ANTO Ankara 70.07 313 P **P** **19 09 09.9 -0.9**
SNR=7.9
ANTO Ankara 70.07 313 *e*P **P** **19 09 09.4 -1.4**
comp=Z,44nm,1.3s
ANTO Ankara 70.07 313 ⇑ *i*P **P** **19 09 09.2 -1.6**
VSR Storozhevoye 70.09 326 *e*P P 19 09 07.7 -2.8
VSR pmax pmax
comp=Z,20nm,0.7s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,20nm,0.9s
SLR Silverton 70.75 243 *e*P **P** **19 09 15.1 -0.2**
SLR AMB AMB 19 09 15.5
comp=Z,42nm,1.1s
SIM Simferopol' **70.76 318** *d i*P **P** **19 09 13.7 -1.0**
SIM *e*S **S** **19 18 25.1 -3.1**
SIM pmax pmax
comp=Z,21nm,0.8s
ERPM east rand prop 70.89 242 *e*P **P** **19 09 15.6 -0.6**
ERPM AMB AMB 19 09 16.3
comp=Z,27nm,6.9s
MAW Mawson 71.67 193 P **P** **19 09 20.9 +1.1**
MAW Mawson 71.67 193 P **P** **19 09 20.9 +1.1**
comp=Z,9.2nm,0.7s,baz=22,slow=7.0,SNR=28
MAW LR LR 19 34 13.4
comp=Z,123nm,19.6s,baz=194,slow=30
MAW Mawson 71.67 193 P **P** **19 09 20.9 +1.1**
baz=72,SNR=17
PETK Petropavlovsk- 72.80 33 P **P** **19 09 26.6 -0.2**
PETK Petropavlovsk- 72.80 33 P **P** **19 09 26.6 -0.2**
PETK Petropavlovsk- 72.80 33 P **P** **19 09 26.6 -0.2**
comp=Z,2.3nm,0.9s,baz=218,slow=9.0,SNR=3.2
PETK LR LR 19 43 35.3
comp=Z,58nm,18.1s,baz=246,slow=38
MOS Moscow 72.92 329 *e*P P 19 09 21.6 -5.8
MOS *e* 19 09 38.5
MOS *e* 19 19 23.3
MOS pmax pmax
comp=Z,67nm,0.9s
MOS pmax pmax
comp=Z,100nm,1.1s
LBTB Lobatse 73.03 244 ⇓ *i*P **P** **19 09 28.7 -0.2**
LBTB AMB AMB 19 09 29.4
comp=Z,25nm,1.1s
OBN Obninsk 73.19 329 *d i*P **P** **19 09 27.5 -1.5**
OBN *e**PP **pP** **19 09 39.2 +2.7**
OBN *e* 19 12 12.5
OBN pmax pmax
comp=Z,71nm,1.7s
KARP Karpathos 73.32 307 P **P** **19 09 29.4 -0.9**
SWZ Schweizer 73.60 242 ⇓ *i*P **P** **19 09 31.6 -0.6**
SWZ AMB AMB 19 09 33.0
comp=Z,36nm,2.2s
BOSA Boshof 73.89 240 ⇑ *i*P **P** **19 09 33.2 -0.7**
BOSA AMB AMB 19 09 34.0
comp=Z,19nm,1.2s
BOSA Boshof 73.89 240 P **P** **19 09 33.5 -0.5**
BOSA Boshof 73.89 240 P **P** **19 09 33.5 -0.5**
comp=Z,11nm,0.8s,baz=85,slow=6.2,SNR=24
BOSA LR LR 19 38 02.5
comp=Z,152nm,18.4s,baz=108,slow=32
TIXI Tiksi 74.22 10 *d i*P **P** **19 09 33.1 -1.7**
TIXI pmax pmax
comp=Z,45nm,1.7s
TLCR 74.41 317 ⇑ *i*P **P** **19 09 35.2 -1.2**
TLCR 74.41 317 ⇑ *i*P **P** **19 09 35.2 -1.2**
PSN Preselentsi 74.44 316 *i*P **P** **19 09 35.7 -1.0**
TIRR Tirgusor 74.49 316 ⇓ *i*P **P** **19 09 35.4 -1.5**
TIRR Tirgusor 74.49 316 ⇓ *i*P **P** **19 09 35.4 -1.5**
LAST Lasithi 74.59 306 P **P** **19 09 37.1 -0.7**
SANT Santorini 74.83 308 P P 19 09 37.6 -1.6
CFR Carcaliu 74.87 317 ⇓ *i*P **P** **19 09 37.9 -1.2**
CFR Carcaliu 74.87 317 ⇓ *i*P **P** **19 09 37.9 -1.2**
PRD Provadia 74.87 315 *i*P **P** **19 09 38.0 -1.2**
HARR Harsova 74.88 316 ⇑ *i*P **P** **19 09 38.3 -0.9**
HARR Harsova 74.88 316 ⇑ *i*P **P** **19 09 38.3 -0.9**
IDI Anoyia 75.08 306 P **P** **19 09 40.0 -0.7**
SIVA Sivas 75.10 306 P **P** **19 09 40.0 -0.7**
JMB Yambol 75.28 314 *i*P **P** **19 09 41.1 -0.5**
VAM Vamos 75.66 306 P **P** **19 09 43.4 -0.5**
AK02 Malin Array Si 75.73 323 *e*P P 19 09 42.0 -1.9
AKASG Malin Array Be 75.73 323 P **P** **19 09 42.4 -1.6**
AKASG Malin Array Be 75.73 323 P **P** **19 09 42.4 -1.6**
AKASG Malin Array Be 75.73 323 P **P** **19 09 42.4 -1.6**
comp=Z,43nm,0.7s,baz=87,slow=5.1,SNR=114
AK01 Malin Array Si 75.73 323 *e*P P 19 09 41.9 -2.0
KIEV Kiev 75.74 323 *e*P P 19 09 42.1 -1.9
KIEV pmax pmax
comp=Z,34nm,0.7s
KIEV Kiev 75.74 323 *e*P P 19 09 42.1 -1.9
comp=Z,34nm,0.7s
SZH Strazhica 75.93 315 *i*P P 19 09 43.7 -1.6
VRI Vrincioaia 76.00 317 ⇓ *i*P **P** **19 09 45.4 -0.2**
VRI Vrincioaia 76.00 317 ⇓ *i*P **P** **19 09 45.4 -0.2**
PLOR Plostina 76.05 317 ⇓ *i*P **P** **19 09 45.3 -0.7**
PLOR Plostina 76.05 317 ⇓ *i*P **P** **19 09 45.3 -0.7**
TESR Tescani 76.22 318 ⇓ *i*P **P** **19 09 46.0 -0.8**
MLR Muntele Rosu 76.44 317 ⇑ *i*P **P** **19 09 47.5 -0.8**
RZN Rozhen 76.47 313 *i*P P 19 09 46.8 -1.8
TMCR Tamitsa 76.62 337 *e*P **P** **19 09 47.6 -1.1**
TMCR *e* 19 09 58.5
TMCR pmax pmax
comp=Z,28nm,0.8s
DID Didima 76.79 308 P P 19 09 47.6 -2.7
DIDY Didyma 76.81 308 P P 19 09 47.9 -2.6
HUMR Humele 76.89 316 ⇑ *i*P **P** **19 09 49.7 -1.0**
VOIR 77.04 317 ⇓ P **P** **19 09 50.3 -1.3**
VOIR 77.04 317 ⇓ *i*P **P** **19 09 50.3 -1.3**
PGB Panagyurishte 77.04 314 *i*P P 19 09 50.0 -1.7
PLG Polygyros 77.15 311 P P 19 09 50.3 -2.0
ARR Arges 77.31 317 ⇑ *i*P P 19 09 51.4 -1.7
BURAR Bucovina Array 77.43 319 ⇓ *i*P **P** **19 09 53.5 -0.3**
VLX Vlachokerasia 77.44 308 P P 19 09 52.2 -1.9
BUR08 Bucovina Ar. S 77.45 319 *e*P **P** **19 09 53.7 -0.3**

MPEP **Malo Peshtene** 77.51 314 *i* P P 19 09 52.9 -1.3
GUR **Goura** 77.56 309 P P 19 09 52.4 -2.4
MICGM **Minsk** 77.66 326 *e* P P 19 09 50.0 -4.7
MNK **Minsk** 77.68 326 *e*P P 19 09 50.0 -4.9
KKB **Krupnik** 77.70 313 *i* P P 19 09 53.2 -2.1
KLV **Kalavryta, Ach** 77.73 309 P P 19 09 53.0 -2.6
VTS **Vitosha** 77.75 314 P P **19 09 54.2 -1.5**
VTS **Vitosha** 77.75 314 ⇓P P **19 09 54.5 -1.2**
VTS **Vitosha** 77.75 314 *i* P P 19 09 54.1 -1.6
VTS **Vitosha** 77.75 314 ⇓*i*P P **19 09 54.5 -1.2**
LIT **Litokhoron** 77.82 311 P P 19 09 53.8 -2.2
TRIZ **Trizonia** 77.84 309 P P 19 09 54.0 -2.1
LOT **Lotru** 77.92 317 ⇑*i*P P 19 09 54.3 -2.3
SUR **Sutherland** 78.24 237 *e*P P **19 09 59.2 +0.5**
SUR AMB AMB 19 10 00.7
comp=Z,26nn,3.5s
NACGM **Naroch** 78.38 326 *e* P 19 09 55.0 -3.8
DEV **Deva** 78.61 317 ⇑P P **19 09 59.9 -0.3**
DEV **Deva** 78.61 317 ⇑*i*P P **19 09 59.9 -0.3**
LVV **L'vov** 78.71 321 *e*P P 19 09 58.3 -2.4
JOF **Joensuu** 78.81 335 *ep* P **19 09 59.7 -1.3**
comp=Z,18nn,0.9s
JOF **Joensuu** 78.81 335 *e*P P **19 09 59.7 -1.3**
JOF pmax pmax
comp=Z,18nn,0.9s
RPZ **Rata Peaks** 78.87 135 P P **19 10 00.7 -1.1**
RPZ **Rata Peaks** 78.87 135 P P **19 10 00.7 -1.1**
comp=Z,9.3nn,0.6s,baz=284,slow=4.8,SNR=7.5
DRGR 78.92 318 ⇑P P **19 10 01.5 -0.5**
DRGR 78.92 318 ⇑*i*P P **19 10 01.5 -0.5**
SYO **Syowa Base** 78.94 198 ⇑*e*P P **19 10 00.8 -0.8**
SYO **Syowa Base** 78.94 198 ⇑*e*PcP PcP **19 10 12.5 +2.4**
NEST **Nestorio** 78.96 311 P P 19 10 00.0 -2.4
LKD2 **Lefkada island** 79.01 309 P P **19 10 01.1 -1.5**
TRPA **Tarpa** 79.31 319 ⇑*i*P P **19 10 03.4 -0.6**
TRPA **Tarpa** 79.31 319 ⇑*e*P P **19 10 03.8 -0.2**
VSU **Vasula** 79.44 330 *d i*P P **19 10 03.2 -1.3**
VSU pmax pmax
comp=Z,57nn,1.1s
BZS **Buzias** 79.44 316 ⇑P P **19 10 03.8 -1.0**
BZS **Buzias** 79.44 316 ⇑*i*P P **19 10 03.8 -1.0**
KWP **Kalwaria Pacla** 79.51 321 *e*P P **19 10 05.0 -0.1**
UZH **Uzhgorod** 79.57 319 *d i*P P **19 10 04.5 -0.9**
UZH *i* 19 10 12.1
PHP **Peshkopia** 79.61 312 P P 19 10 03.5 -2.4
KOLS **Kolonicke sedl** 79.64 320 *e*P P **19 10 05.4 -0.5**
KOLS pmax pmax
comp=Z,53nn,1.0s
KOLS **Kolonicke sedl** 79.64 320 *e*P P **19 10 05.4 -0.5**
TSUM **Tsumeb** 79.82 251 *e*P P **19 10 07.3 -0.3**
TSUM **Tsumeb** 79.82 251 *e*P P **19 10 07.2 -0.3**
comp=Z,10.0nn,0.9s
APA **Apatity** 79.86 340 ⇓*i*P P **19 10 06.2 -0.4**
APA *i* 19 10 20.2
APA *e*S S **19 20 04.0 -4.3**
APA *e*SS SS 19 25 10.0 -7.8
APA MLR MLR
comp=Z,300nn,18.0s
CRVS **Cervenica-Dubn** 80.16 320 *e*P P 19 10 05.4 -3.3
CRVS pmax pmax
comp=Z,18nn,1.3s
CRVS **Cervenica-Dubn** 80.16 320 *e*P P 19 10 05.4 -3.3
SUW **Suwalki** 80.19 325 *e*P P **19 10 07.4 -1.2**
SUW **Suwalki** 80.19 325 *e*P P **19 10 07.4 -1.2**
comp=Z,124nn,1.0s
SUW **Suwalki** 80.19 325 *e*P P **19 10 07.6 -1.0**
DIVS **Divibare** 80.32 315 P P **19 10 08.5 -1.2**
STHS **Stebnicka Huta** 80.40 320 *e*P P **19 10 10.1 +0.1**
STHS pmax pmax
comp=Z,20nn,0.9s
STHS **Stebnicka Huta** 80.40 320 *e*P P **19 10 10.0 +0.1**
FIA1 **FINESS Array S** 80.63 333 *e*P P **19 10 09.5 -1.4**
FINES **FINESS Array B** 80.63 333 P P **19 10 09.8 -1.1**
FINES **FINESS Array B** 80.63 333 P P **19 10 09.8 -1.1**
comp=Z,14nn,0.6s,baz=100,slow=5.7,SNR=93
KECS **Kecovo** 80.72 319 *e*P P **19 10 11.0 -0.7**
KECS pmax pmax
comp=Z,13nn,1.4s
KECS **Kecovo** 80.72 319 *e*P P **19 10 11.0 -0.7**
KAF **Kangasniemi** 80.73 333 *ep* P **19 10 10.8 -0.6**
comp=Z,16nn,0.5s
KAF **Kangasniemi** 80.73 333 *e*P P **19 10 10.8 -0.6**
KAF pmax pmax
comp=Z,16nn,0.5s
NIE **Niedzica** 81.00 320 ⇓*i*P P **19 10 14.0 +0.8**
NIE *e**SP **sP** **19 10 25.2 +1.8**
NIE **Niedzica** 81.00 320 *i* P P **19 10 14.0 +0.8**
NIE *es*P **sP** **19 10 25.2 +1.8**
PSZ **Piszkesteto** 81.01 318 ⇓P P **19 10 12.5 -0.8**
PSZ **Piszkesteto** 81.01 318 *e*P P **19 10 12.3 -1.0**
comp=Z,23nn,0.9s
PSZ **Piszkesteto** 81.01 318 ⇓*i*P P **19 10 12.5 -0.8**
PSZ **Piszkesteto** 81.01 318 ⇓*e*P P **19 10 12.8 -0.5**
PKS2 **Kecel** 81.24 317 ⇓*e*P P **19 10 14.5 +0.1**
PKS7 **Kunszentmiklos** 81.36 318 ⇓*e*P P **19 10 14.8 -0.3**
OJC **Ojcow** 81.47 321 ⇓*i*P P **19 10 14.7 -0.9**
OJC *e**SP **sP** **19 10 26.0 +0.2**
OJC **Ojcow** 81.47 321 *i* P P **19 10 14.7 -0.9**
OJC *ep*P **PcP** **19 10 22.6 +1.0**
OJC *es*P **sP** **19 10 26.0 +0.2**
BUD **Budapest** 81.52 318 ⇓*e*P P **19 10 15.3 -0.6**
PKSM **Moragy** 81.59 317 ⇑P P **19 10 14.8 -1.5**
PKSM **Moragy** 81.59 317 ⇑*i*P P **19 10 14.8 -1.5**
PKSM **Moragy** 81.59 317 ⇑*e*P P **19 10 15.6 -0.7**
VYHS **Vyhne** 81.80 319 *e*P P **19 10 16.6 -0.8**
VYHS pmax pmax
comp=Z,10.0nn,1.3s
VYHS **Vyhne** 81.80 319 *e*P P **19 10 16.6 -0.8**
PKS9 **Tamasi** 81.89 317 ⇑*e*P P **19 10 17.5 -0.4**
PKSG 81.93 318 ⇑*e*P P **19 10 17.6 -0.5**
CSKK **Cs˘ˇtkako** 82.01 318 ⇑*e*P P **19 10 18.1 -0.5**
TIP **Timpagrande** 82.07 309 *e*P P **19 10 18.5 -0.6**
comp=Z,49nn,1.4s
PKST **T''s** 82.15 318 ⇑*e*P P **19 10 18.7 -0.6**
BILL **Bilibino** 82.23 21 *e*P P **19 10 19.5 +0.3**
BILL *e* 19 13 24.0
BILL pmax pmax
comp=Z,13nn,0.7s
OKC **Ostrava-Krasne** 82.45 320 *e*P P **19 10 20.4 -0.4**
OKC *e* 19 10 30.6
OKC *es* S **19 20 33.3 -2.7**
OKC **Ostrava-Krasne** 82.45 320 ⇓*e*P P **19 10 20.4 -0.4**
OKC *ep*P pP **19 10 30.6 +2.3**
OKC *es* S **19 20 33.3 -2.7**
CEL **Celeste** 82.65 308 *e*P P **19 10 21.5 -0.6**
comp=Z,49nn,0.9s
MORC **Moravsky Berou** 82.83 320 *e*P P **19 10 21.6 -1.2**
MORC pmax pmax
comp=Z,23nn,1.1s
MORC **Moravsky Berou** 82.83 320 *e*P P **19 10 21.6 -1.2**
comp=Z,24nn,1.1s
KEV **Kevo** 82.85 341 *ep* P **19 10 21.6 -0.8**
comp=Z,7.1nm,0.7s
KEV **Kevo** 82.85 341 *e*P P **19 10 21.6 -0.8**
KEV pmax pmax
comp=Z,7.0nm,0.7s
CUC **Castrocucco** 82.88 310 *e*P P 19 10 21.6 -1.7
comp=Z,12nn,0.9s
BEHE **Becsehely** 82.90 317 ⇑*e*P P **19 10 23.3 +0.1**
ZST **Bratislava** 82.90 318 *e*P P **19 10 21.8 -1.4**
ZST **Bratislava** 82.90 318 *e*P P **19 10 21.8 -1.4**
KOGS **Kog** 83.26 317 *e*P P **19 10 24.4 -0.7**
ARCES **ARCESS Array B** 83.28 340 P P **19 10 24.1 -0.6**
ARCES **ARCESS Array B** 83.28 340 P P **19 10 24.1 -0.6**
comp=Z,5.8nn,0.4s,baz=102,slow=5.0,SNR=94
ARCES LR LR 19 51 09.2
comp=Z,149nn,20.0s,baz=87,slow=38
GKP **Gorka Klasztor** 83.52 324 *e*P P **19 10 25.6 -0.6**
DPC **Dobruska-Polom** 83.69 321 ⇓*i*P P **19 10 27.2 0.0**
DPC *e* 19 10 38.3
DPC *es* S **19 20 46.0 -2.7**
DPC **Dobruska-Polom** 83.69 321 ⇓*i*P P **19 10 27.2 0.0**
DPC *ep*P pP **19 10 38.3 +3.5**
DPC *es* S **19 20 46.0 -2.7**
KSP **Ksiaz** 83.77 321 ⇓*e*P P **19 10 27.2 -0.4**
KSP *e**PP pP **19 10 35.7 +0.6**
KSP **Ksiaz** 83.77 321 *e*P P **19 10 27.5 -0.1**
ARSA **Arzberg** 83.85 317 ⇓*i*P P **19 10 27.4 -0.7**
comp=Z,24nn,1.0s,SNR=17
BOJS **Bojanci** 83.85 316 *i* P P **19 10 27.4 -0.7**
UPC **Upice** 83.91 321 *e*P P **19 10 28.3 0.0**
UPC **Upice** 83.91 321 ⇓*e*P P **19 10 28.3 0.0**

PERS **Pernice** 84.06 317 *i* P P **19 10 28.7 -0.6**
SOKA **Soboth** 84.12 317 ⇑*i*P P **19 10 28.9 -0.7**
comp=Z,35nn,1.1s
LJU **Ljubljana** 84.41 316 *i* P P **19 10 30.5 -0.4**
LJU *i* 19 10 41.7
OBKA **Obir** 84.44 317 ⇑*i*P P **19 10 30.6 -0.6**
comp=Z,13nn,1.0s
MOA **Molln** 84.76 318 ⇓*i*P P **19 10 31.6 -1.1**
comp=Z,8.7nn,1.1s
PRU **Pruhonice** 84.78 320 *e*P P **19 10 32.2 -0.6**
PRU *e* 19 10 41.7
PRU *es* S **19 20 58.7 -0.8**
PRU smax smax
comp=N,1.0nm,0.2s
PRU **Pruhonice** 84.78 320 ⇓*e*P P **19 10 32.2 -0.6**
PRU *ep*P pP **19 10 41.7 +1.4**
PRU *es* S **19 20 58.7 -0.8**
PVCC **Panska Ves** 84.82 321 ⇓*e*P P **19 10 32.6 -0.3**
PVCC *ep*P pP **19 10 44.3 +3.8**
PRA **Prague** 84.86 320 ⇓P P **19 10 33.0 -0.1**
AQU **L'Aquila** 84.90 312 *e*P P **19 10 33.1 -0.5**
comp=N,85nn,1.2s
CADS **Cadrg** 84.97 316 *i* P P **19 10 32.7 -1.2**
VNDA **Vanda** 84.98 169 *e*P P **19 10 32.9 -0.3**
comp=N,22nn,1.3s
VNDA **Vanda** 84.98 169 P P **19 10 33.1 0.0**
comp=N,14nn,1.1s,baz=298,slow=4.7,SNR=30
VNDA LR LR 19 48 05.3
comp=N,69nn,18.0s,baz=62,slow=35
MYKA **Terra Mystica** 85.07 317 ⇓*i*P P **19 10 33.5 -0.8**
comp=N,12nn,0.9s
BSD **Bornholm Skovb** 85.11 325 ⇓*i*P P **19 10 32.8 -1.5**
comp=N,17nn,0.9s
GEC2 **GERESS Array S** 85.22 319 *e*P P **19 10 34.5 -0.6**
comp=Z,40nn,1.2s
GEC2 *ep*P pP **19 10 45.5 +2.8**
GEC2 **GERESS Array S** 85.22 319 *e*P P **19 10 34.5 -0.6**
GEC2 pmax pmax
comp=Z,7.0nm,1.2s
GERES **GERESS Array B** 85.22 319 P P **19 10 34.4 -0.7**
GERES **GERESS Array B** 85.22 319 P P **19 10 34.4 -0.7**
comp=Z,15nn,1.0s,baz=100,slow=5.5,SNR=87
BRG **Berggiesshubel** 85.25 321 *e*P P **19 10 34.3 -0.8**
comp=Z,20nn,1.1s
BRG *e* 19 10 45.6
comp=Z,10nn,1.0s
BRG **Berggiesshubel** 85.25 321 *e*P P **19 10 34.4 -0.7**
comp=Z,20nn,1.1s
BRG *ep*P pP **19 10 45.6 +3.0**
BRG **Berggiesshubel** 85.25 321 *e*P P **19 10 34.3 -0.8**
BRG *e* 19 10 45.6
BRG pmax pmax
comp=Z,20nn,1.1s
BRG pmax pmax
comp=Z,10.0nm,1.0s
KBA **Koelnbreinsper** 85.31 317 ⇑*i*P P 19 10 34.0 -1.7
comp=Z,15nn,1.4s,SNR=6.8
KHC **Kasperske Hory** 85.33 319 *e*P P **19 10 34.7 -0.9**
KHC *e* 19 10 44.0
KHC **Kasperske Hory** 85.33 319 ⇓*e*P P **19 10 34.7 -0.9**
KHC *e*PCP **PcP** **19 10 39.8 +1.2**
KHC *ep*P pP **19 10 44.0 +0.9**
KHC **Kasperske Hory** 85.33 319 *e*P P 19 10 33.7 -1.8
comp=Z,3.6nn,0.8s
RUE **Ruedersdorf** 85.51 322 *e*P P **19 10 35.7 -0.5**
comp=Z,47nn,1.1s
RJOB **Jochberg** 85.73 318 *e*P P **19 10 36.2 -1.4**
comp=Z,13nn,1.2s
RJOB *ep*P pP **19 10 47.2 +2.0**
WET **Wettzell** 85.79 319 *e*P P **19 10 37.1 -0.7**
comp=Z,22nn,1.1s
WET **Wettzell** 85.79 319 *e*P P **19 10 37.1 -0.7**
WET pmax pmax
comp=Z,15nn,1.1s
ABTA **Abfaltersbach** 85.85 317 ⇓*i*P P **19 10 36.8 -1.5**
comp=Z,13nn,1.1s
CLL **Collm** 85.88 321 *e*P P **19 10 37.1 -1.1**
comp=Z,17nn,1.1s
CLL *ep*P pP **19 10 48.7 +3.0**
CLL **Collm** 85.88 321 ⇓*i*P P **19 10 37.1 -1.1**
CLL *e**PP pP **19 10 48.0 +2.3**
CLL *es*P sP **19 10 53.0 +4.5**
CLL *es* SKSac **19 21 06.0 +3.4**
CLL *es*S SS 19 26 36.0 -12
CLL pmax pmax
comp=Z,17nn,1.1s
CLL **Collm** 85.88 321 ⇓*i*P P **19 10 37.1 -1.1**
comp=Z,17nn,1.1s
CLL *ep*P pP **19 10 48.0 +2.3**
CLL *es*P sP **19 10 53.0 +4.5**
CLL *es* SKSac **19 21 06.0 +3.4**
CLL *es*S SS 19 26 36.0 -12
SBA **Scott Base** 86.08 168 *e*P P **19 10 39.2 +0.6**
SBA pmax pmax
comp=Z,19nn,1.0s
SBA **Scott Base** 86.08 168 *e*P P **19 10 39.2 +0.6**
comp=Z,19nn,1.0s
ROTZ **Rotzenmuhle** 86.27 320 *e*P P **19 10 39.9 -0.3**
comp=Z,18nn,1.1s
HFS **Hagfors** 86.32 330 P P **19 10 39.3 -0.9**
HFS **Hagfors** 86.32 330 P P **19 10 39.3 -0.9**
comp=Z,13nn,0.5s,baz=132,slow=4.4,SNR=100
WTTA **Wattenberg** 86.49 317 ⇓*i*P P **19 10 40.0 -1.5**
comp=Z,20nn,1.2s
WATA **Walderalm** 86.53 317 ⇑*i*P P 19 10 39.9 -1.8
comp=Z,14nn,1.1s
MOX **Moxa** 86.71 321 *e*P P **19 10 41.6 -0.7**
comp=Z,18nn,1.3s
MOX *ep*P pP **19 10 52.6 +2.7**
MOX **Moxa** 86.71 321 *e*P P **19 10 41.6 -0.7**
MOX *e**PP pP **19 10 52.6 +2.7**
FUR **Furstenfeldbru** 86.78 318 *e*P P **19 10 41.4 -1.4**
comp=Z,14nn,0.4s
FUR **Furstenfeldbru** 86.78 318 *e*P P **19 10 41.4 -1.4**
FUR pmax pmax
comp=Z,33nn,0.4s
MOTA **Moosalm** 86.85 317 ⇓*i*P P **19 10 41.7 -1.6**
comp=Z,19nn,1.2s,SNR=6.8
GRF **Grafenberg Arr** 86.90 320 *e*P P **19 10 42.9 -0.4**
comp=Z,24nn,1.1s
GRF **Grafenberg Arr** 86.90 320 *e*P P **19 10 42.9 -0.4**
GRF pmax pmax
comp=Z,18nn,1.1s
GRFO **Grafenberg** 86.91 320 *e*P P **19 10 42.8 -0.5**
GRFO pmax pmax
comp=Z,20nn,1.0s
GRFO **Grafenberg** 86.91 320 *e*P P **19 10 42.8 -0.5**
comp=Z,20nn,1.0s
FETA **Feichten** 87.09 317 ⇓*i*P P **19 10 43.4 -1.1**
comp=Z,10nn,1.3s
RETA **Reutte** 87.09 317 ⇓*i*P P **19 10 43.1 -1.2**
comp=Z,14nn,1.0s,SNR=9.7
CLZ **Clausthal** 87.56 322 *e*P P **19 10 45.9 -0.5**
comp=Z,27nn,1.3s
CLZ *ep*P pP **19 10 57.1 +3.1**
CLZ **Clausthal** 87.56 322 *e*P P **19 10 45.9 -0.5**
CLZ pmax pmax
comp=Z,6.0nm,1.3s
NB2 **NORSAR Subarra** 87.61 331 P P **19 10 45.4 -1.1**
comp=Z,23nn,1.1s,baz=98,slow=4.6
NB2 **NORSAR Subarra** 87.61 331 P P **19 10 45.4 -1.1**
baz=98,slow=4.6
NOA **NORSAR Array B** 87.61 331 P P **19 10 45.3 -1.2**
NOA **NORSAR Array B** 87.61 331 P P **19 10 45.3 -1.2**
comp=Z,9.6nm,0.9s,baz=95,slow=5.0,SNR=29
NOA LR LR 19 57 29.9
comp=Z,62nn,18.3s,baz=90,slow=41
DAVA **Damuels** 87.68 317 *i* P P **19 10 46.6 -0.7**
comp=Z,17nn,0.8s,SNR=9.5
BSEG **Bad Segeberg** 87.69 324 *e*P P **19 10 46.6 -0.3**
comp=Z,70nn,1.2s
BSEG **Bad Segeberg** 87.69 324 *e*P P **19 10 46.6 -0.3**
BSEG pmax pmax
comp=Z,15nn,1.2s
KEST **Kesra** 87.73 306 *e*P P **19 10 47.9 +0.2**
KEST **Kesra** 87.73 306 P P **19 10 48.1 +0.4**
comp=Z,9.6nn,0.9s,baz=89,slow=0.5,SNR=29
UBBA **Unterbreizbach** 87.74 321 *e*P P **19 10 46.7 -0.5**
comp=Z,20nn,2.0s
NRDL **Niedersach Rie** 87.75 322 *e*P P **19 10 47.0 -0.2**
comp=Z,35nn,1.1s
NAO01 **NORSAR Array S** 87.76 331 *e*P P 19 10 45.4 -1.7
comp=Z,20nn,1.1s
PGF **Pioggiola** 88.16 312 ⇓*i*P P **19 10 48.7 -0.9**
comp=Z,20nn,0.9s
STU **Stuttgart** 88.19 319 *e*P P **19 10 48.4 -1.1**
comp=Z,12nn,0.6s
KONO **Kongsberg** 88.34 330 *e*P P **19 10 49.3 -0.6**

KONO pmax pmax
comp=Z,45nn,1.5s
KONO **Kongsberg** 88.34 330 *e*P P **19 10 49.3 -0.6**
comp=Z,45nn,1.5s
SPAK **Spaichingen-Ko** 88.45 318 *e*P P **19 10 49.6 -1.2**
MUD **Monsted U'grnd** 88.45 326 *i* P P **19 10 50.4 -0.1**
comp=Z,11nn,0.8s
TOD **Tromm** 88.47 319 *e*P P **19 10 49.6 -1.2**
TOD **Tromm** 88.47 319 *e*P P **19 10 49.6 -1.2**
MAIT **Maitri** 88.56 199 *e*P P 19 10 42.3 -8.4
TNS **Taunus Mts** 88.72 320 *e*P P **19 10 51.5 -0.5**
comp=Z,20nn,1.2s
TNS **Taunus Mts** 88.72 320 *e*P P **19 10 51.5 -0.5**
TNS pmax pmax
comp=Z,15nn,1.2s
BFO **Black Forest** 88.76 318 *e*P P **19 10 50.9 -1.3**
comp=Z,8.0nn,1.0s
BFO **Black Forest** 88.76 318 *e*P P **19 10 50.9 -1.3**
BFO pmax pmax
comp=Z,37nn,1.0s
BFO **Black Forest** 88.76 318 *e*P P **19 10 50.9 -1.3**
comp=Z,11nn,1.4s
LANF **Langenberg** 89.11 319 *e*P P **19 10 52.9 -0.9**
LANF **Langenberg** 89.11 319 *e*P P **19 10 52.9 -0.9**
LANF **Langenberg** 89.11 319 *e*P P **19 10 52.9 -0.9**
IBBN **Ibbenburen** 89.18 322 *e*P P **19 10 53.7 -0.3**
comp=Z,54nn,1.2s
IBBN *ep*P pP **19 11 05.3 +3.7**
SAOF **Saorge** 89.24 314 *e*P P **19 10 53.6 -1.0**
SAOF **Saorge** 89.24 314 *e*P P **19 10 53.6 -1.0**
SAOF **Saorge** 89.24 314 *e*P P **19 10 53.6 -1.0**
ABH **Alteburg** 89.29 320 *e*P P **19 10 54.0 -0.7**
BBS **Basel-Blauen** 89.30 317 *e*P P **19 10 53.4 -1.4**
BBS **Basel-Blauen** 89.30 317 *e*P P **19 10 53.4 -1.4**
SBF **Sospel** 89.33 314 ⇓*i*P P **19 10 54.2 -0.8**
comp=Z,41nn,0.8s
AUTN **L'Aution** 89.33 314 *e*P P **19 10 54.5 -0.8**
AUTN **L'Aution** 89.33 314 *e*P P **19 10 54.5 -0.8**
AUTN **L'Aution** 89.33 314 *e*P P **19 10 54.5 -0.8**
CDF **Champ du Feu** 89.46 318 ⇓*i*P P **19 10 54.3 -1.3**
comp=Z,16nn,1.1s
TOUF **Mont Tournerai** 89.46 314 *e*P P **19 10 54.6 -1.2**
TOUF **Mont Tournerai** 89.46 314 *e*P P **19 10 54.6 -1.2**
TOUF **Mont Tournerai** 89.46 314 *e*P P **19 10 54.6 -1.2**
BUG **Bochum--Univer** 89.48 321 *e*P P **19 10 55.0 -0.4**
comp=Z,35nn,1.2s
BUG *ep*P pP **19 11 06.6 +3.6**
MVIF **Mont Vial** 89.53 314 *e*P P **19 10 55.4 -0.7**
MVIF **Mont Vial** 89.53 314 *e*P P **19 10 55.4 -0.7**
MVIF **Mont Vial** 89.53 314 *e*P P **19 10 55.4 -0.7**
ECH **Echery** 89.54 318 *e*P P **19 10 54.5 -1.4**
ECH pmax pmax
comp=Z,10.0nm,1.0s
ECH **Echery** 89.54 318 *e*P P **19 10 54.5 -1.4**
comp=Z,9.6nn,1.0s
ECH **Echery** 89.54 318 *e*P P 19 10 54.0 -1.9
MOF **Molkenrain** 89.55 318 *e*P P 19 10 54.4 -1.6
MOF **Molkenrain** 89.55 318 *e*P P 19 10 54.4 -1.6
MOF **Molkenrain** 89.55 318 *e*P P 19 10 54.4 -1.6
RUP **Ruppelstein** 89.61 320 *e*P P **19 10 55.7 -0.5**
RUP **Ruppelstein** 89.61 320 *e*P P **19 10 55.7 -0.5**
CALN **Calern** 89.72 314 *e*P P **19 10 56.3 -0.7**
CALN **Calern** 89.72 314 *e*P P **19 10 56.3 -0.7**
CALN **Calern** 89.72 314 *e*P P **19 10 56.3 -0.7**
HINF **Hinteralfeld** 89.74 318 *e*P P **19 10 55.3 -1.6**
LOMF **Lomont** 89.76 317 *e*P P **19 10 56.1 -0.9**
LOMF **Lomont** 89.76 317 *e*P P **19 10 56.1 -0.9**
LOMF **Lomont** 89.76 317 *e*P P **19 10 56.1 -0.9**
MBDF **Montbardon** 89.80 315 ⇓*i*P P **19 10 56.0 -1.4**
comp=Z,15nn,0.9s
LPG **La Plagne** 89.82 315 ⇓*i*P P **19 10 56.8 -0.8**
comp=Z,40nn,0.9s
LPL **La Plagne** 89.83 315 ⇓*i*P P **19 10 56.9 -0.7**
comp=Z,53nn,1.0s
RSL **Roselend** 89.90 315 *e*P P **19 10 56.6 -1.2**
RSL **Roselend** 89.90 315 *e*P P **19 10 56.6 -1.2**
RSL **Roselend** 89.90 315 *e*P P **19 10 56.6 -1.2**
LMR **La Mourre** 90.00 313 ⇓*i*P P **19 10 57.4 -0.7**
comp=Z,33nn,1.3s
HAU **Haudompre** 90.08 318 ⇓*i*P P **19 10 57.4 -1.0**
comp=Z,36nn,0.9s
HAU *e*R
comp=Z,58nn,21.8s
QSPA **South Pole Qui** 90.18 180 P P **19 10 58.6 0.0**
QSPA **South Pole Qui** 90.18 180 P P **19 10 58.6 0.0**
comp=Z,11nn,0.9s,baz=297,slow=1.7,SNR=49
WLF **Walferdange** 90.19 319 *e*P P **19 10 58.8 -0.1**
comp=Z,26nn,1.2s
CABF **La Chapelle** 90.27 316 ⇓*i*P P **19 10 58.9 -0.5**
comp=Z,38nn,0.9s
THEF **They Montfort** 90.32 318 *e*P P **19 10 58.0 -1.5**
THEF **They Montfort** 90.32 318 *e*P P **19 10 58.0 -1.5**
THEF **They Montfort** 90.32 318 *e*P P **19 10 58.0 -1.5**
ORIF **Oris-en-Rattie** 90.44 315 *e*P P **19 10 59.8 -0.4**
comp=Z,27nn,1.0s
ORIF *e*R
comp=Z,63nn,23.0s
PAGF **Fort de Pagny** 90.49 318 *e*P P **19 10 59.4 -0.9**
comp=Z,3.5nn,0.7s
SMRF **Simiane la Rot** 90.67 314 ⇓*i*P P **19 11 01.2 -0.1**
comp=Z,29nn,1.0s
MEZF **Maizieres J'vi** 90.94 318 ⇓*i*P P **19 11 01.8 -0.5**
comp=Z,28nn,0.9s
SFTF **Sexfontaines** 90.95 318 *e*P P **19 11 01.8 -0.7**
comp=Z,87nn,1.0s
TAM **Tamanrasset** 91.02 293 *e*P P **19 11 04.2 +0.7**
TAM pmax pmax
comp=Z,15nn,1.0s
TAM **Tamanrasset** 91.02 293 *e*P P **19 11 04.2 +0.7**
comp=Z,15nn,1.0s
GIVF **Givet** 91.05 320 ⇓*i*P P **19 11 02.2 -0.6**
comp=Z,25nn,0.9s
VIVF **Saint-Julien-l** 91.30 315 ⇓*i*P P **19 11 03.5 -0.7**
comp=Z,39nn,1.2s
SSB **Saint Sauveur** 91.38 315 *e*P P **19 11 03.8 -0.8**
SSB pmax pmax
comp=Z,17nn,1.2s
SSB **Saint Sauveur** 91.38 315 *e*P P **19 11 03.8 -0.8**
comp=Z,17nn,1.2s
SSB **Saint Sauveur** 91.38 315 *e*P P **19 11 03.7 -0.8**
BAIF **Baives** 91.44 320 ⇓*i*P P **19 11 04.4 -0.2**
comp=Z,52nn,0.9s
LOR **Lormes** 91.78 317 ⇓*i*P P **19 11 05.6 -0.7**
comp=Z,74nn,1.2s,baz=80
LOR *e*R
comp=Z,47nn,19.2s
SMF **Signal de Mont** 91.82 316 ⇓*i*P P **19 11 05.6 -0.9**
comp=Z,63nn,1.2s
LASF **Ste Croix** 91.91 314 ⇓*i*P P **19 11 06.5 -0.5**
comp=Z,27nn,1.1s
AVF **Avril sur Loir** 92.15 317 ⇓*i*P P **19 11 07.2 -0.8**
comp=Z,35nn,1.1s
LBL **Lubilhac** 92.29 315 *e*P P **19 11 08.4 -0.4**
LBL **Lubilhac** 92.29 315 *e*P P **19 11 08.4 -0.4**
LBL **Lubilhac** 92.29 315 *e*P P **19 11 08.4 -0.4**
AGO **Saint Agoulin** 92.33 316 *e*P P **19 11 08.2 -0.7**
AGO **Saint Agoulin** 92.33 316 *e*P P **19 11 08.2 -0.7**
PYM **Petit Puy Mans** 92.44 316 *e*P P **19 11 08.8 -0.7**
PYM **Petit Puy Mans** 92.44 316 *e*P P **19 11 08.8 -0.7**
PYM **Petit Puy Mans** 92.44 316 *e*P P **19 11 08.8 -0.7**
BGF **Bois d'Agland** 92.51 316 *e*P P **19 11 09.4 -0.3**
comp=Z,66nn,1.2s
TCF **Toulx Ste Croi** 92.96 316 ⇓*i*P P **19 11 11.2 -0.6**
comp=Z,20nn,1.1s
MTLF **Montolieu** 93.13 313 ⇓*i*P P **19 11 12.2 -0.4**
comp=Z,18nn,1.0s
CAF **Calviac** 93.14 315 ⇓*i*P P **19 11 12.4 -0.3**
comp=Z,8.2nn,0.8s
SNAA **Sanae** 93.23 198 *e*P P **19 11 13.4 +0.8**
SNAA **Sanae** 93.23 198 *ep*P pP 19 11 24.5 +4.3
SNAA **Sanae** 93.23 198 *es*P sP 19 11 28.6 +5.7
SNAA **Sanae** 93.23 198 *e*P P **19 11 12.8 +0.2**
comp=Z,2.5nn,0.8s
RJF **Les Rejaudoux** 93.51 315 *e*P P **19 11 14.1 -0.2**
RJF *e*R
comp=Z,57nn,20.5s
LFF **La Frestale** 94.08 315 ⇓*i*P P **19 11 16.6 -0.4**
LDF **La Druitiere** 94.36 319 *e*P P **19 11 17.2 -1.0**
MFF **Saint Martin d** 94.56 317 ⇓*i*P P **19 11 18.2 -0.9**
FLN **La Foliniere** 94.59 319 *e*P P **19 11 18.2 -1.0**
FLN *e*R
comp=Z,76nn,18.8s
TOA0 **Torodi Ar. Sit** 94.85 283 *e*P P **19 11 20.7 -0.4**
TORD **Torodi Ar. Bea** 94.85 283 P P **19 11 20.7 -0.4**

TORD PP PP 19 15 09.8 -0.3
TORD Torodi Ar. Bea 94.85 283 P P 19 11 20.7 -0.4
comp=Z,5.1nm,0.8s,baz=95,slow=5.0,SNR=27
TORD PP PP 19 15 09.8 -0.3
comp=Z,1.2nm,1.2s,baz=99,slow=4.7,SNR=3.6
TORD LR LR 19 51 14.9
comp=Z,122nm,18.7s,baz=110,slow=34
GRR Gorron 94.87 318 *eP* **P 19 11 19.8 -0.7**
ETSF Etsaut 95.19 313 ⇓*iP* **P 19 11 21.8 -0.4**
comp=Z,11nm,0.9s
EKA Eskdalemuir Ar 95.44 326 P **P 19 11 22.4 -0.5**
EKA Eskdalemuir Ar 95.44 326 P **P 19 11 22.4 -0.5**
comp=Z,1.9nm,0.6s,baz=99,slow=5.3,SNR=17
SJPF Ste Jean 95.65 313 *eP* **P 19 11 23.9 -0.3**
comp=Z,13nm,1.0s
ESDC Sonseca Array 98.08 310 P **P 19 11 35.2 -0.1**
ESDC PP PP 19 15 34.7 +0.2
ESDC Sonseca Array 98.08 310 P **P 19 11 35.2 -0.1**
comp=Z,0.2nm,0.3s,baz=71,slow=2.3,SNR=3.5
ESDC PP PP 19 15 34.7 +0.2
comp=Z,0.1nm,0.3s,baz=92,slow=9.0,SNR=4.7
ILAR Eielson Array 100.77 23 PP PP 19 15 49.6 -4.4
ILAR PKKPbc PKKPbc 19 27 59.1 -3.5
ILAR Eielson Array 100.77 23 PP PP 19 15 49.6 -4.4
comp=Z,0.3nm,0.7s,baz=284,slow=5.0,SNR=4.7
ILAR PKKPbc PKKPbc 19 27 59.1 -3.5
comp=Z,0.9nm,0.6s,baz=158,slow=2.6,SNR=4.7
INK Inuvik 103.53 17 PP PP 19 16 15.3 +0.7
INK Inuvik 103.53 17 PP PP 19 16 15.3 +0.7
comp=Z,1.1nm,0.8s,baz=281,slow=5.2,SNR=2.5
SCHQ Schefferville 123.48 349 PKP **PKPdf 19 16 54.4 -1.3**
SCHQ Schefferville 123.48 349 PKP **PKPdf 19 16 54.4 -1.3**
comp=Z,2.4nm,0.7s,baz=324,slow=4.7,SNR=4.2
A14A Double T Ranch 124.53 24 ⇑PKiKP **PKPdf 19 16 56.7 -1.3**
baz=124
B13A Whitefish 124.57 25 ⇑PKiKP **PKPdf 19 16 56.8 -1.2**
baz=124
A15A Johnson Ranch, 124.80 23 ⇑PKiKP **PKPdf 19 16 57.1 -1.3**
baz=125
BSMT Bassco Peak 124.83 25 *e*PKPdf **PKPdf 19 16 57.4 -1.3**
C13A Hot Springs 125.06 25 ⇓PKiKP **PKPdf 19 16 57.9 -1.1**
baz=125
B14A Marquette Ranc 125.07 24 ⇓PKiKP **PKPdf 19 16 57.9 -1.2**
baz=125
YBH Yreka Blue Hor 125.13 36 PKP **PKPdf 19 16 57.1 -2.2**
YBH Yreka Blue Hor 125.13 36 PKP **PKPdf 19 16 57.1 -2.2**
comp=Z,2.3nm,0.8s,baz=124,slow=3.6,SNR=2.7
A16A West Butte Ran 125.26 23 ⇑PKiKP **PKPdf 19 16 58.3 -1.1**
baz=125
B15A Bradely Ranch, 125.39 24 ⇓PKiKP **PKPdf 19 16 58.5 -1.2**
baz=125
D13A Huson 125.56 26 ⇓PKiKP **PKPdf 19 16 58.7 -1.2**
baz=125
E12A Beaver Dam Sad 125.58 27 ⇑PKiKP **PKPdf 19 16 58.9 -1.2**
baz=125
A17A Triple J Farms 125.60 22 ⇓PKiKP **PKPdf 19 16 58.9 -1.0**
baz=125
B16A M & M Farms, S 125.65 23 ⇑PKiKP **PKPdf 19 16 59.1 -1.0**
baz=125
C15A Salmond Ranch, 125.81 24 ⇑PKiKP **PKPdf 19 16 59.4 -1.1**
baz=126
A18A Metzger Ranch, 125.94 21 ⇑PKiKP **PKPdf 19 16 59.6 -0.9**
baz=126
D14A Greenough 125.98 25 ⇑PKiKP **PKPdf 19 16 59.7 -1.1**
baz=126
MSO Missoula 125.99 26 ⇑PKiKP **PKPdf 19 16 59.8 -1.1**
baz=126
B17A L&G Farms, Che 126.10 22 ⇑PKiKP **PKPdf 19 17 00.0 -0.9**
baz=126
C16A Fuhringer Ranc 126.13 23 ⇑PKiKP **PKPdf 19 16 59.9 -1.2**
baz=126
A19A Klindworth Far 126.33 21 ⇑PKiKP **PKPdf 19 17 00.2 -1.1**
baz=126
B18A Beardsley Farm 126.40 22 ⇓PKiKP **PKPdf 19 17 00.5 -1.0**
baz=126
D15A Lincoln 126.43 25 ⇓PKiKP **PKPdf 19 17 00.8 -0.9**
baz=126
A20A Cobblestone Ra 126.65 20 ⇓PKiKP **PKPdf 19 17 01.1 -0.8**
baz=126
B19A Brinkman Farms 126.65 21 ⇑PKiKP **PKPdf 19 17 01.1 -0.9**
baz=126
C17A Wharram Farm, 126.66 23 ⇑PKiKP **PKPdf 19 17 01.1 -1.0**
baz=126
EGMT Eagleton 126.72 22 ⇓PKiKP **PKPdf 19 17 01.5 -0.7**
baz=126
D16A Dana Ranch, Ca 126.83 24 ⇑PKiKP **PKPdf 19 17 01.6 -0.9**
baz=127
A21A Bergtoll Ranch 126.89 19 ⇑PKiKP **PKPdf 19 17 01.6 -0.8**
baz=127
B20A Solberg Farm, 127.00 20 ⇓PKiKP **PKPdf 19 17 02.1 -0.6**
baz=127
D17A Six Diamond Ra 127.08 23 ⇑PKiKP **PKPdf 19 17 02.0 -1.0**
baz=127
E16A East Helena 127.18 24 ⇓PKiKP **PKPdf 19 17 02.2 -1.0**
baz=127
A22A Carney Farms, 127.22 19 ⇓PKiKP **PKPdf 19 17 02.5 -0.6**
baz=127
C19A Slack Wire Ran 127.22 22 ⇑PKiKP **PKPdf 19 17 02.6 -0.5**
baz=127
H12A Diamond D Ranc 127.32 28 ⇓PKiKP **PKPdf 19 17 02.8 -0.7**
baz=127
B21A Ellsworth Farm 127.35 20 ⇓PKiKP **PKPdf 19 17 02.7 -0.6**
baz=127
C20A Veseth Ranch, 127.62 21 ⇓PKiKP **PKPdf 19 17 03.8 0.0**
baz=128
MFID Camas Ranch 127.69 30 ⇑PKiKP **PKPdf 19 17 03.7 -0.5**
baz=128
DLMT Dillon 127.72 26 *e*PKPdf **PKPdf 19 17 03.6 -0.7**
D19A Cripps Ranch, 127.76 22 ⇑PKiKP **PKPdf 19 17 03.7 -0.5**
baz=128
B22A Reddig Ranch S 127.80 19 ⇑PKiKP **PKPdf 19 17 03.6 -0.6**
baz=128
C21A Desert Coulee 127.84 20 ⇑PKiKP **PKPdf 19 17 03.6 -0.7**
baz=128
A24A Westby 127.87 17 ⇑PKiKP **PKPdf 19 17 03.7 -0.5**
baz=128
BOZ Bozeman (W) 127.91 25 *e*PKIKP **PKPdf 19 17 04.2 -0.4**
BOZ Bozeman (W) 127.91 25 *e*PKPdf **PKPdf 19 17 04.2 -0.4**
B23A Brockton 127.98 18 ⇑PKiKP **PKPdf 19 17 03.9 -0.6**
baz=128
MCMT McKenzie Canyo 128.03 26 *e*PKPdf **PKPdf 19 17 04.6 -0.4**
F17A Fitzpatrick Pl 128.11 24 ⇓PKiKP **PKPdf 19 17 04.4 -0.6**
baz=128
DGMT Dagmar 128.22 18 ⇑PKiKP **PKPdf 19 17 04.7 -0.3**
baz=128
C22A Vida 128.32 19 ⇓PKiKP **PKPdf 19 17 04.8 -0.4**
baz=128
F18A Big Timber 128.49 23 ⇓PKiKP **PKPdf 19 17 05.0 -0.6**
baz=128
C23A Lambert 128.50 19 ⇓PKiKP **PKPdf 19 17 05.3 -0.2**
baz=128
ULM Lac du Bonnet 128.57 10 PKP **PKPdf 19 17 04.3 -1.2**
ULM Lac du Bonnet 128.57 10 PKP **PKPdf 19 17 04.3 -1.2**
comp=Z,4.6nm,0.5s,baz=359,slow=1.0,SNR=4.1
E20A Meyer Farm, Mu 128.60 22 ⇓PKiKP **PKPdf 19 17 05.2 -0.6**
baz=128
D22A Cohagen 128.74 20 ⇓PKiKP **PKPdf 19 17 05.7 -0.3**
baz=128
H16A Russell Place, 128.83 25 ⇑PKiKP **PKPdf 19 17 06.0 -0.5**
baz=129
F19A Roth Farm, Mol 128.83 23 ⇓PKiKP **PKPdf 19 17 06.1 -0.2**
baz=129
F20A Billings 129.18 22 ⇓PKiKP **PKPdf 19 17 06.6 -0.4**
baz=129
H19A Powell 129.79 24 ⇓PKiKP **PKPdf 19 17 07.6 -0.6**
baz=130
NVAR Mina Array Bea 129.84 36 PKP **PKPdf 19 17 08.5 -0.1**
NVAR Mina Array Bea 129.84 36 PKP **PKPdf 19 17 08.5 -0.1**
comp=Z,1.6nm,0.8s,baz=291,slow=1.9,SNR=12
E24A Baker 129.88 19 ⇓PKiKP **PKPdf 19 17 07.6 -0.6**
baz=130
I19A Meeteetse 130.31 24 ⇓PKiKP **PKPdf 19 17 08.8 -0.5**
baz=130
I20A Worland 130.74 24 ⇑PKiKP **PKPdf 19 17 09.7 -0.3**
baz=130
PDAR Pinedale Array 131.11 26 PKP **PKPdf 19 17 09.5 -1.4**
PDAR PP PP 19 19 30.1 +2.9
PDAR SKPbc **SKPbc 19 20 32.2 -2.0**
PDAR Pinedale Array 131.11 26 PKP **PKPdf 19 17 09.5 -1.4**
comp=Z,0.7nm,0.6s,baz=228,slow=0.9,SNR=6.6
PDAR PP PP 19 19 30.1 +2.9
comp=Z,0.3nm,0.6s,baz=270,slow=2.7,SNR=2.7
PDAR SKPbc **SKPbc 19 20 32.2 -2.0**
comp=Z,1.8nm,1.0s,baz=343,slow=1.5,SNR=5.9
I21A Big Trails, Te 131.18 23 ⇑PKiKP **PKPdf 19 17 10.5 -0.4**
baz=131
J20A Shoshoni 131.25 24 ⇓PKiKP **PKPdf 19 17 10.5 -0.5**
baz=131
K19A Absolon Red Bu 131.37 25 ⇑PKiKP **PKPdf 19 17 10.8 -0.5**
baz=131
I22A 9 Mile Ranch, 131.43 22 ⇓PKiKP **PKPdf 19 17 11.0 -0.3**
baz=131
J21A Lysite 131.51 24 ⇓PKiKP **PKPdf 19 17 11.2 -0.3**
baz=131
ISA Isabella 131.53 39 ⇑PKiKP **PKPdf 19 17 11.3 -0.3**
baz=131
L18A Fontenelle, Gr 131.58 27 ⇓PKiKP **PKPdf 19 17 11.1 -0.7**
baz=131
DUG Dugway 131.59 30 ⇓PKiKP **PKPdf 19 17 11.4 -0.4**
baz=131
L19A Farson 131.74 26 ⇑PKiKP **PKPdf 19 17 11.5 -0.5**
baz=132
I23A Meade Ranch, G 131.75 21 ⇑PKiKP **PKPdf 19 17 11.5 -0.5**
baz=132
J22A Midwest 131.84 23 ⇓PKiKP **PKPdf 19 17 11.8 -0.3**
baz=132
MPMC Manual Prospec 131.89 38 ⇓PKiKP **PKPdf 19 17 12.2 -0.3**
baz=132
L21A Rawlins 132.70 24 ⇑PKiKP **PKPdf 19 17 13.6 -0.3**
baz=132
M21A Separation Pea 133.00 25 ⇓PKiKP **PKPdf 19 17 14.1 -0.4**
baz=133
L22A Ellis Ranch, M 133.02 24 ⇓PKiKP **PKPdf 19 17 14.4 -0.1**
baz=133
L23A Garrett 133.24 23 ⇑PKiKP **PKPdf 19 17 14.6 -0.3**
baz=133
N20A Spence Gulch, 133.25 26 ⇑PKiKP **PKPdf 19 17 14.6 -0.4**
baz=133
O19A Miners Draw (B 133.29 27 ⇑PKiKP **PKPdf 19 17 14.8 -0.2**
baz=133
BRSD Miller 133.38 15 ⇓PKiKP **PKPdf 19 17 15.2 +0.3**
baz=133
Q16A Castle Valley 133.39 30 ⇓PKiKP **PKPdf 19 17 15.3 +0.1**
baz=133
HEC Hector,Ludlow 133.41 38 ⇓PKiKP **PKPdf 19 17 15.5 +0.2**
baz=133
N21A Black Mountain 133.63 26 ⇓PKiKP **PKPdf 19 17 15.8 +0.1**
baz=133
MURC Murrieta 133.66 40 ⇓PKiKP **PKPdf 19 17 15.9 +0.2**
baz=134
O20A White River Ci 133.82 27 ⇓PKiKP **PKPdf 19 17 16.1 +0.1**
baz=134
GMRC Granite Mounta 133.85 38 ⇑PKiKP **PKPdf 19 17 16.5 +0.3**
baz=134
ECSD EROS Data Cent 134.63 14 *e*PKPdf **PKPdf 19 17 15.9 -1.3**
U15A North Rim 134.66 33 ⇑PKiKP **PKPdf 19 17 17.7 -0.1**
baz=134
W13A Hualapai Mount 134.70 36 ⇓PKiKP **PKPdf 19 17 17.7 -0.1**
baz=134
BC3 Big Chuckawall 134.73 39 ⇓PKiKP **PKPdf 19 17 17.9 +0.1**
baz=135
O23A Lake Granby, G 134.76 25 ⇓PKiKP **PKPdf 19 17 18.1 +0.2**
baz=134
S21A Coal Bank Pass 136.02 28 ⇓PKiKP **PKPdf 19 17 20.4 +0.1**
baz=136
P25A Willow Gulch B 136.07 23 ⇓PKiKP **PKPdf 19 17 20.6 +0.3**
baz=136
X16A Lo Mia Camp, P 136.60 35 ⇓PKiKP **PKPdf 19 17 21.7 +0.4**
baz=136
T22A Edith 136.96 28 ⇑PKiKP **PKPdf 19 17 22.4 +0.3**
baz=137
W18A Petrified Fore 137.02 32 ⇑PKiKP **PKPdf 19 17 22.8 +0.6**
baz=137
S25A Robets Cordova 137.53 25 ⇑PKiKP **PKPdf 19 17 23.9 +0.9**
baz=137
S26A Kim 137.97 24 ⇓PKiKP **PKPdf 19 17 24.3 +0.6**
baz=138
T25A Trinidad 137.98 25 ⇑PKiKP **PKPdf 19 17 24.5 +0.6**
baz=138
PLCA Paso Flores 138.06 195 PKP **PKPdf 19 17 23.6 -0.2**
PLCA Paso Flores 138.06 195 PKP **PKPdf 19 17 23.6 -0.2**
comp=Z,2.3nm,0.8s,baz=298,slow=13,SNR=2.9
T26A Comanche Natio 138.30 25 ⇑PKiKP **PKPdf 19 17 25.2 +0.7**
baz=138
X21A Alamocita Cree 138.56 31 ⇓PKiKP **PKPdf 19 17 25.5 +0.5**
baz=138
R30A Dighton 138.60 20 ⇓PKiKP **PKPdf 19 17 25.4 +0.6**
baz=138
U25A Circle Dot Ran 138.60 26 ⇑PKiKP **PKPdf 19 17 25.4 +0.3**
baz=138
Y20A Horse Springs, 138.67 32 ⇓PKiKP **PKPdf 19 17 25.6 +0.3**
baz=138
T27A Campo 138.75 24 ⇑PKiKP **PKPdf 19 17 26.2 +1.0**
baz=138
V24A Rampart Ranch, 138.77 28 ⇓PKiKP **PKPdf 19 17 26.0 +0.5**
baz=139
ANMO Albuquerque 138.84 29 PKP **PKPdf 19 17 25.1 -0.4**
ANMO Albuquerque 138.84 29 PKP **PKPdf 19 17 25.1 -0.4**
comp=Z,2.0nm,0.9s,baz=226,slow=3.9,SNR=4.4
U26A Atchley Ranch, 138.90 25 ⇓PKiKP **PKPdf 19 17 26.2 +0.6**
baz=139
X22A Bernardo 138.91 30 ⇑PKiKP **PKPdf 19 17 26.2 +0.5**
baz=139
V25A Rancho No Teng 138.98 27 ⇓PKiKP **PKPdf 19 17 26.3 +0.5**
baz=139
W24A Lazy 6 Ranch, 139.13 28 ⇓PKiKP **PKPdf 19 17 26.4 +0.4**
baz=139
Y23A Lovelace Mesa, 139.85 30 ⇓PKiKP **PKPdf 19 17 28.3 +1.0**
baz=140
Z22A Elephant Butte 139.92 32 ⇓PKiKP **PKPdf 19 17 28.1 +0.7**
baz=140
X25A Clemmons Ranch 140.04 28 ⇓PKiKP **PKPdf 19 17 28.3 +0.6**
baz=140
319A Douglas 140.05 36 ⇓PKiKP **PKPdf 19 17 28.5 +0.8**
baz=140
220A Playas Peak, P 140.10 34 ⇑PKiKP **PKPdf 19 17 28.4 +0.6**
baz=140
Y24A Capitan 140.16 29 ⇓PKiKP **PKPdf 19 17 28.8 +0.8**
baz=140
W27A Bowe Ranch, En 140.31 26 ⇓PKPdf **PKPdf 19 17 26.0 -2.1**
baz=140
X26A CR and CF Fran 140.41 27 ⇓PKPdf **PKPdf 19 17 26.6 -1.7**
baz=140
320A Kipp Ranch, An 140.52 35 ⇓PKiKP **PKPdf 19 17 29.5 +0.9**
baz=140
Y25A Mesa, Roswell 140.52 29 ⇑PKPdf **PKPdf 19 17 27.2 -1.3**
baz=140
V31A Spring Creek L 140.99 22 ⇑PKPdf **PKPdf 19 17 27.9 -1.3**
baz=141
CBN Corbin 141.37 353 PFAKE 19 17 40.0 +10
CBN LR LR
comp=Z,116nm,19.0s
Z27A Tatum 141.72 27 ⇑PKPdf **PKPdf 19 17 29.3 -1.3**
baz=142
MNTX Cornudas Mount 141.96 31 *e*PKPdf **PKPdf 19 17 30.3 -0.7**
BDFB Brasilia 141.97 245 PKPpre PKPpre 19 17 26.1
BDFB PKP **PKPdf 19 17 31.6 +0.1**
BDFB Brasilia 141.97 245 PKhKP PKPpre 19 17 26.1
comp=Z,2.2nm,0.4s,baz=188,slow=4.8,SNR=3.5
BDFB PKP **PKPdf 19 17 31.6 +0.1**
comp=Z,6.6nm,0.7s,baz=179,slow=4.2,SNR=7.2
WMOK Wichita Mounta 142.31 21 *e*PKHKP PKPpre 19 17 25.5
WMOK MLR MLR
comp=Z,132nm,20.0s
WMOK Wichita Mounta 142.31 21 *e*PKPpre PKPpre 19 17 25.5
WMOK LR LR
comp=Z,132nm,20.0s
425A Indio Mountain 142.89 32 ⇑PKPdf PKPdf 19 17 28.3 -4.5
baz=143
326A Caldwell Ranch 142.99 30 ⇓PKPdf PKPdf 19 17 28.4 -4.5
baz=143
228A UT Block 9, Go 143.00 28 ⇑PKPdf PKPdf 19 17 28.4 -4.5
baz=143
Z31A Sharp Cattle R 143.04 24 ⇓PKPdf PKPdf 19 17 28.5 -4.4
baz=143
426A Mcnaild Obser 143.48 31 ⇑PKPdf PKPab 19 17 30.0 -0.3
baz=143
229A Bryant Ranch, 143.49 27 ⇓PKPdf PKPab 19 17 29.8 -0.2
baz=143
131A Roby 143.50 25 ⇓PKPdf PKPab 19 17 30.1 +0.1
baz=143
328A Wristen Ranch, 143.51 29 ⇓PKPdf PKPab 19 17 30.4 +0.3
baz=143
WVT Waverly 143.57 6 *e*PKIKP PKPab 19 17 30.4 +0.3
WVT Waverly 143.57 6 *e*PKPdf PKPab 19 17 30.4 +0.3
329A Wagon Wheel Ra 143.81 28 ⇓PKPdf PKPab 19 17 31.0 -0.2
baz=144
ABTX Abilene, Hawle 143.85 24 ⇑PKPdf PKPab 19 17 31.4 +0.1
baz=144
230A Sterling City 143.87 26 ⇓PKPdf PKPab 19 17 31.4 -0.1
baz=144
CPUP Villa Florida 143.97 222 PKP **PKPab 19 17 32.1 +0.3**
CPUP Villa Florida 143.97 222 PKP **PKPab 19 17 32.1 +0.3**
comp=Z,35nm,0.6s,baz=95,slow=2.7,SNR=82
MIAR Mount Ida 144.08 15 *e*PKIKP **PKPab 19 17 31.4 -0.7**
MIAR Mount Ida 144.08 15 *e*PKPdf **PKPab 19 17 31.4 -0.7**
428A Kincaid Ranch, 144.11 29 ⇓PKPdf **PKPab 19 17 31.8 -0.6**
baz=144
527A Woodward Ranch 144.12 31 ⇓PKPdf **PKPab 19 17 32.4 -0.1**
baz=144
330A Mertzon 144.25 27 ⇓PKPdf **PKPab 19 17 32.3 -0.6**
baz=144
TKL Tuckaleechee C 144.29 1 PKP **PKPab 19 17 31.7 -1.1**
TKL *e*PKPdf PKPbc 19 17 31.7 -1.5
TKL Tuckaleechee C 144.29 1 PKP **PKPab 19 17 31.7 -1.1**
comp=Z,10.0nm,0.6s,baz=131,slow=3.4,SNR=15
626A Big Bend Ranch 144.31 32 ⇓PKPdf **PKPab 19 17 33.0 -0.2**
baz=144
CPCT Cooper Cave 144.48 2 *e*PKPdf **PKPab 19 17 32.2 -1.4**
232A Coleman 144.49 24 ⇑PKPdf **PKPab 19 17 32.9 -0.9**
baz=144
528A Cox Ranch, San 144.52 30 ⇓PKPdf **PKPab 19 17 33.8 -0.2**
baz=144
429A Davenport Ranc 144.57 28 ⇑PKPdf **PKPab 19 17 33.3 -0.8**
baz=144
331A San Angelo 144.66 26 ⇑PKPdf **PKPab 19 17 33.2 -1.2**
baz=144
TXAR Lajitas Array 144.74 32 PKP **PKPab 19 17 34.5 -0.3**
TXAR Lajitas Array 144.74 32 PKP **PKPab 19 17 34.5 -0.3**
comp=Z,4.7nm,0.7s,baz=247,slow=1.0,SNR=53
430A Baggett Ranch, 144.74 27 ⇓PKPdf **PKPab 19 17 33.8 -0.9**
baz=144
529A Stev Forest Ra 144.83 29 ⇓PKPdf **PKPab 19 17 34.2 -0.8**
baz=145
332A Millersview 144.89 25 ⇑PKPdf **PKPab 19 17 33.8 -1.4**
baz=145
628A Black Gap, Mar 145.02 31 ⇑PKPdf **PKPab 19 17 34.4 -1.4**
baz=145
431A Sonora 145.12 27 ⇑PKPdf **PKPbc 19 17 34.6 -1.5**
baz=145
530A J-C Ranch, Com 145.23 28 ⇓PKPdf **PKPbc 19 17 35.7 -0.7**
baz=145
WHTX Lake Whitney 145.25 21 ⇑PKPdf **PKPbc 19 17 34.6 -1.8**
baz=145
432A Menard 145.31 25 ⇑PKPdf **PKPbc 19 17 35.0 -1.7**
baz=145
531A Rocksprings 145.59 27 ⇑PKPdf **PKPdf 19 17 36.7 -0.8**
baz=145
JCT Junction City 145.65 26 *e*PKP2 **PKPdf 19 17 36.5 -1.0**
JCT Junction City 145.65 26 *e*PKPdf **PKPdf 19 17 36.5 -1.0**
JCT Junction City 145.65 26 ⇓PKPdf **PKPdf 19 17 36.4 -1.0**
baz=145
532A Rocksprings 145.91 26 ⇑PKPdf **PKPdf 19 17 37.4 -0.6**
baz=146
631A Perdido Creek 146.21 28 ⇓PKPdf **PKPdf 19 17 38.1 -0.4**
baz=146
632A Uvalde 146.49 27 ⇓PKPdf **PKPdf 19 17 39.2 +0.2**
baz=146
LRAL Lakeview Retre 146.72 6 *e*PKPdf **PKPdf 19 17 39.4 +0.2**
LCO Las Campanas 148.96 202 *e*PKPbc **PKPdf 19 17 47.0 +3.6**
LVC Limon Verde 153.73 211 *e*PKPbc **PKPbc 19 17 58.8 +0.2**
LPAZ La Paz 158.15 222 PKP **PKPdf 19 17 57.1 -0.1**
LPAZ PKPab **PKPab 19 18 31.5 +0.8**
LPAZ La Paz 158.15 222 PKP **PKPdf 19 17 57.1 -0.1**
comp=Z,4.3nm,0.9s,baz=93,slow=0.9,SNR=12
LPAZ PKPab **PKPab 19 18 31.5 +0.8**
comp=Z,2.6nm,0.5s,baz=110,slow=9.1,SNR=7.9
TGUH Tegucigalpa,Un 165.26 15 PFAKE 19 18 10.0 +6.2
TGUH LR LR
comp=Z,82nm,22.0s
OTAV Otavalo 175.15 276 PFAKE 19 18 20.0 +10
OTAV LR LR
comp=Z,97nm,21.0s

IDC 01 19:06:17.2±0.9, 0.08N×96.70E, h0km, mb3.9/12, mb1 4.0/14, mb1mx3.9/27, mbtmp3.9/14, ML3.9/2, MS3.2/1, Ms1 3.2/1, ms1mx2.9/27, Error ellipse: s-maj=31.7km s-min=18.6km az=52.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.50**	**39**	Pn	Pn	19 07 11.3	-1.8
	5.1nm,0.3s,baz=227,slow=4.2,SNR=9.9						
PSI				LR	LR	19 08 41.8	
	comp=Z,338nm,21.1s,baz=195,slow=42						
IPM	**Ipoh**	**6.14**	**45**	P	Pn	19 07 48.9	-0.4
KULM	**Kulim**	**6.51**	**37**	P	Pn	19 07 53.1	-1.2
CMAR	**Chiang Mai Arr**	**18.39**	**7**	P	P	19 10 34.0	0.0
	0.2nm,0.3s,baz=198,slow=11,SNR=15						
WRA	**Warramunga Arr**	**41.88**	**121**	P	P	19 14 11.3	+1.6
	0.6nm,0.5s,baz=302,slow=8.7,SNR=6.5						
ASAR	**Alice Springs**	**43.13**	**126**	P	P	19 14 18.0	-1.9
	0.7nm,0.9s,baz=297,slow=7.8,SNR=3.7						
KSRS	**Korea Array**	**47.05**	**34**	P	P	19 14 49.2	-1.4
	1.1nm,0.6s,baz=212,slow=9.9,SNR=2.9						
MKAR	**Makanchi Array**	**48.20**	**347**	P	P	19 14 59.9	+0.3
	1.2nm,0.5s,baz=164,slow=8.8,SNR=20						
SONM	**Songino Array**	**48.30**	**9**	P	P	19 15 00.9	+0.4
	0.3nm,0.3s,baz=195,slow=10,SNR=3.0						
ZALV	**Zalesovo Beam**	**54.58**	**351**	P	P	19 15 47.4	+0.2
	3.4nm,0.6s,baz=182,slow=5.9,SNR=15						
BRTR	**Keskin Array B**	**69.50**	**313**	P	P	19 17 27.6	-0.4
	1.2nm,0.8s,baz=140,slow=6.2,SNR=5.9						
AKASG	**Malin Array Be**	**75.84**	**323**	P	P	19 18 04.7	-0.6
	1.5nm,0.6s,baz=75,slow=6.4,SNR=5.1						
FINES	**FINESS Array B**	**80.76**	**333**	P	P	19 18 32.1	-0.2
	1.1nm,0.8s,baz=65,slow=5.0,SNR=5.6						
URZ	**Urewera**	**82.51**	**128**	P	P	19 18 42.1	-0.1
	6.0nm,0.9s,baz=315,slow=4.3,SNR=2.3						
ARCES	**ARCESS Array B**	**83.42**	**340**	P	P	19 18 46.5	+0.3
	2.0nm,0.9s,baz=94,slow=5.4,SNR=4.3						
GERES	**GERESS Array B**	**85.32**	**319**	P	P	19 18 57.2	+0.8
	0.7nm,0.7s,baz=108,slow=8.6,SNR=4.4						
CPUP	**Villa Florida**	**143.84**	**222**	PKP	PKPdf	19 25 54.3	-1.0
	0.8nm,0.4s,baz=63,slow=2.5,SNR=4.7						
TXAR	**Lajitas Array**	**144.88**	**32**	PKP	PKPdf	19 25 56.8	-0.4
	0.2nm,0.5s,baz=191,slow=0.9,SNR=3.3						

*ISK **01** 19:10:53.6, 38.92N×26.95E, h5km, MD3.4*
*CSEM **01** 19:10:55.5±0.1, 38.90N×26.98E, h5km, MD2.9, Error ellipse: s-maj=2.9km s-min=2.3km az=89.0*
*DDA **01** 19:10:55.0, 38.89N×27.05E, h25km, MD2.9*
*ATH **01** 19:10:55.3, 38.89N×27.11E, h29km±2km, MD3.1/6*

ISC 01 19:10:56.0±0.6, 38.89N±0.02×27.03E±0.02, h27km±6km, n139, σ1°49/173, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AYVA	**Ayvalik**	**0.49**	**328**	*i* P	**Pb**	**19 11 06.0**	**-0.2**
AYVA				*i* S	**Sb**	**19 11 13.2**	**+0.2**
AYVA	**Ayvalik**	**0.49**	**328**	*i* P	**Pb**	**19 11 06.0**	**-0.2**
AYVA				*i* S	**Sb**	**19 11 13.2**	**+0.2**
AYVA	**Ayvalik**	**0.49**	**328**	*i* P	**Pb**	**19 11 06.0**	**-0.2**
AYVA				*i* S	**Sb**	**19 11 13.2**	**+0.2**
BLCB	**Balcova**	**0.51**	**179**	PG	**Pb**	**19 11 05.2**	**-1.1**
BLCB	**Balcova**	**0.51**	**179**	*i* Pg	**Pb**	**19 11 05.3**	**-1.1**
IZM	**Izmir**	**0.53**	**160**	PG	**Pb**	**19 11 05.9**	**-0.9**
IZM	**Izmir**	**0.53**	**160**	*i* Pg	**Pb**	**19 11 05.9**	**-0.9**
AKHS	**Akhisar**	**0.61**	**91**	*i* P	**Pb**	**19 11 07.6**	**-0.6**
AKHS				*i* S	**Sn**	**19 11 16.6**	**-1.3**
AKHS	**Akhisar**	**0.61**	**91**	*i* P	**Pb**	**19 11 07.6**	**-0.6**
AKHS				*i* S	**Sn**	**19 11 16.6**	**-1.3**
AKHS	**Akhisar**	**0.61**	**91**	*i* P	**Pb**	**19 11 07.6**	**-0.6**
AKHS				*i* S	**Sn**	**19 11 16.6**	**-1.3**
URLA	**Izmir**	**0.63**	**213**	*i* P	**Pb**	**19 11 07.7**	**-0.8**
URLA				*i* S	**Sn**	**19 11 17.8**	**-0.6**
URLA	**Izmir**	**0.63**	**213**	*i* P	**Pb**	**19 11 07.7**	**-0.8**
URLA				*i* S	**Sn**	**19 11 17.8**	**-0.6**
URLA	**Izmir**	**0.63**	**213**	*i* P	**Pb**	**19 11 07.7**	**-0.8**
URLA				*i* S	**Sn**	**19 11 17.8**	**-0.6**
PRK	**Paraskevi**	**0.69**	**301**	*e*PN	**Pn**	**19 11 10.3**	**+0.4**
PRK				*e*SN	**Sn**	**19 11 21.3**	**+1.6**
PRK	**Paraskevi**	**0.69**	**301**	*e*Pn	**Pn**	**19 11 10.3**	**+0.4**
PRK				*e*Sn	**Sn**	**19 11 21.3**	**+1.6**
CHOS	**Chios island**	**0.92**	**237**	*e*PB	**Pb**	**19 11 13.2**	**-0.1**
CHOS				*e*SN	**Sn**	**19 11 28.0**	**+2.6**
CHOS	**Chios island**	**0.92**	**237**	*e*Pb	**Pb**	**19 11 13.2**	**-0.1**
CHOS				*e*Sn	**Sn**	**19 11 28.0**	**+2.6**
BALY	**Balya**	**0.96**	**28**	*i* P	**Pb**	**19 11 13.7**	**-0.4**
BALY				*i* S	**Sn**	**19 11 29.8**	**+3.2**
BALY	**Balya**	**0.96**	**28**	*i* P	**Pb**	**19 11 13.7**	**-0.4**
BALY				*i* S	**Sn**	**19 11 29.8**	**+3.2**
BALY	**Balya**	**0.96**	**28**	*i* P	**Pb**	**19 11 13.7**	**-0.4**
BALB	**Balikesir**	**1.00**	**41**	*e*PG	**Pb**	**19 11 14.4**	**-0.2**
BALB				*e*SG	**Sn**	**19 11 29.2**	**+1.9**
BALB	**Balikesir**	**1.00**	**41**	*e*Pg	**Pb**	**19 11 14.4**	**-0.2**

BALB				*e*Sg	**Sn**	19 11 29.2 +1.9
SMG	**Samos**	**1.19**	**187**	*e*PN	**Pb**	19 11 17.6 -0.3
SMG				*e*SN	**Sb**	19 11 34.7 +1.8
SMG	**Samos**	**1.19**	**187**	*e*Pn	**Pb**	19 11 17.6 -0.3
SMG				*e*Sn	**Sb**	19 11 34.7 +1.8
GCAM	**G?zelcaml?**	**1.20**	**172**	*i* P	**Pb**	19 11 18.0 -0.1
GCAM				*i* S	**Sb**	19 11 34.0 +0.8
GCAM	**G?zelcaml?**	**1.20**	**172**	*i* P	**Pb**	19 11 18.0 -0.1
GCAM				*i* S	**Sb**	19 11 34.0 +0.8
GCAM	**G?zelcaml?**	**1.20**	**172**	*i* P	**Pb**	19 11 18.0 -0.1
GCAM				*i* S	**Sb**	19 11 34.0 +0.8
BOZC	**Bozcaada**	**1.21**	**322**	*i* P	**Pb**	19 11 18.7 +0.5
BOZC				*i* S	**Sb**	19 11 35.0 +1.5
BOZC	**Bozcaada**	**1.21**	**322**	*i* P	**Pb**	19 11 18.7 +0.5
BOZC				*i* S	**Sb**	19 11 35.0 +1.5
GONE	**Gonen-Balikesi**	**1.26**	**24**	*e*PN	**Pb**	19 11 18.7 -0.3
GONE	**Gonen-Balikesi**	**1.26**	**24**	*e*Pn	**Pb**	19 11 18.7 -0.3
MANT	**Manisa**	**1.26**	**108**	*i* P	**Pb**	19 11 18.3 -1.0
MANT				*i* S	**Sb**	19 11 35.3 +0.1
MANT	**Manisa**	**1.26**	**108**	*i* P	**Pb**	19 11 18.3 -1.0
MANT				*i* S	**Sb**	19 11 35.3 +0.1
MANT	**Manisa**	**1.26**	**108**	*i* P	**Pb**	19 11 18.3 -1.0
MANT				*i* S	**Sb**	19 11 35.3 +0.1
DEMI	**Demirci**	**1.32**	**83**	*i* P	**Pb**	19 11 20.4 +0.2
DEMI				*i* S	**Sb**	19 11 37.4 +0.6
DEMI	**Demirci**	**1.32**	**83**	*i* P	**Pb**	19 11 20.4 +0.2
DEMI				*i* S	**Sb**	19 11 37.4 +0.6
DEMI	**Demirci**	**1.32**	**83**	*i* P	**Pb**	19 11 20.4 +0.2
DEMI				*i* S	**Sb**	19 11 37.4 +0.6
DURS	**Dursunbey**	**1.33**	**57**	*i* P	**Pb**	19 11 20.0 -0.3
DURS				*i* S	**Sb**	19 11 38.1 +1.2
DURS	**Dursunbey**	**1.33**	**57**	*i* P	**Pb**	19 11 20.0 -0.3
DURS				*i* S	**Sb**	19 11 38.1 +1.2
DURS	**Dursunbey**	**1.33**	**57**	*i* P	**Pb**	19 11 20.0 -0.3
DURS				*i* S	**Sb**	19 11 38.1 +1.2
KULA	**Kula-Manisa**	**1.33**	**106**	*e*PN	**Pb**	19 11 21.2 +0.9
KULA	**Kula-Manisa**	**1.33**	**106**	*e*Pn	**Pb**	19 11 21.3 +0.9
AYDN	**Tasoluk**	**1.40**	**151**	*i* P	**Pb**	19 11 20.6 -0.9
AYDN				*i* S	**Sb**	19 11 40.2 +1.2
AYDN	**Tasoluk**	**1.40**	**151**	*i* P	**Pb**	19 11 20.6 -0.9
AYDN				*i* S	**Sb**	19 11 40.2 +1.2
AYDN	**Tasoluk**	**1.40**	**151**	*i* P	**Pb**	19 11 20.6 -0.9
AYDN				*i* S	**Sb**	19 11 40.2 +1.2
LPK	**Lapseki**	**1.49**	**352**	*e*PN	**Pb**	19 11 21.9 -1.1
LPK	**Lapseki**	**1.49**	**352**	*e*Pn	**Pb**	19 11 21.9 -1.1
KRBG	**Karabiga-Canak**	**1.51**	**8**	*e*PN	**Pb**	19 11 22.7 -0.7
KRBG	**Karabiga-Canak**	**1.51**	**8**	*e*Pn	**Pb**	19 11 22.7 -0.7
GELI	**Tayfur-Gelibol**	**1.56**	**344**	*e*PN	**Pb**	19 11 23.2 -1.0
GELI	**Tayfur-Gelibol**	**1.56**	**344**	*e*Pn	**Pb**	19 11 23.2 -1.0
BNT	**Bandirma**	**1.61**	**25**	*e*PN	**Pb**	19 11 24.2 -1.0
BNT	**Bandirma**	**1.61**	**25**	*e*Pn	**Pb**	19 11 24.2 -1.0
MLSB	**Milas**	**1.70**	**159**	*e*PN	**Pb**	19 11 26.2 -0.3
MLSB	**Milas**	**1.70**	**159**	*e*Pn	**Pb**	19 11 26.3 -0.3
KCTX	**Karacabey (Bur**	**1.71**	**36**	*e*PN	**Pb**	19 11 25.2 -1.6
KCTX	**Karacabey (Bur**	**1.71**	**36**	*e*Pn	**Pb**	19 11 25.2 -1.6
LIA	**Limnos Island**	**1.75**	**306**	*e*PB	**Pb**	19 11 26.2 -1.1
LIA				*e*SN	**Sb**	19 11 47.7 -1.1
LIA	**Limnos Island**	**1.75**	**306**	*e*Pb	**Pb**	19 11 26.2 -1.1
LIA				*e*Sn	**Sb**	19 11 47.7 -1.1
RKY	**Sarkoy-Tekirda**	**1.80**	**4**	*e*PN	**Pb**	19 11 26.6 -1.6
RKY	**Sarkoy-Tekirda**	**1.80**	**4**	*e*Pn	**Pb**	19 11 26.6 -1.6
SART	**Tekirdag**	**1.80**	**4**	*i* P	**Pb**	19 11 27.1 -1.2
SART				*i* S	**Sb**	19 11 51.0 +0.6
SART	**Tekirdag**	**1.80**	**4**	*i* P	**Pb**	19 11 27.1 -1.2
SART				*i* S	**Sb**	19 11 51.0 +0.6
SART	**Tekirdag**	**1.80**	**4**	*i* P	**Pb**	19 11 27.1 -1.2
SART				*i* S	**Sb**	19 11 51.0 +0.6
BODT	**Bodrum**	**1.84**	**173**	*e*PN	**Pb**	19 11 28.1 -0.9
BODT	**Bodrum**	**1.84**	**173**	*e*Pn	**Pb**	19 11 28.1 -0.9
ORLT	**Orhaneli**	**1.85**	**51**	*e*PN	**Pb**	19 11 28.2 -0.9
ORLT	**Orhaneli**	**1.85**	**51**	*e*Pn	**Pb**	19 11 28.2 -0.9
MFT	**Murefte**	**1.90**	**6**	*e*PN	**Pb**	19 11 27.9 -2.1
MFT	**Murefte**	**1.90**	**6**	*e*Pn	**Pb**	19 11 28.0 -2.1
GDZ	**Gediz**	**1.92**	**83**	*i* P	**Pb**	19 11 31.4 +1.0
GDZ				*i* S	**Sb**	19 11 56.7 +2.7
GDZ	**Gediz**	**1.92**	**83**	*i* P	**Pb**	19 11 31.4 +1.0
GDZ				*i* S	**Sb**	19 11 56.7 +2.7
GDZ	**Gediz**	**1.92**	**83**	*i* P	**Pb**	19 11 31.4 +1.0
GDZ				*i* S	**Sb**	19 11 56.7 +2.7
SMTH	**Samothraki Isl**	**1.95**	**324**	*e*PN	**Pb**	19 11 29.3 -1.6
SMTH				*e*SN	**Sb**	19 11 53.9 -0.9
SMTH	**Samothraki Isl**	**1.95**	**324**	*e*Pn	**Pb**	19 11 29.3 -1.6
SMTH				*e*Sn	**Sb**	19 11 53.9 -0.9
ENEZ	**Enez**	**1.96**	**340**	*e*PN	**Pn**	19 11 28.5 +1.1
ENEZ	**Enez**	**1.96**	**340**	*e*Pn	**Pb**	19 11 28.5 +1.1
TVSB	**Tavsanli**	**1.97**	**73**	*e*PN	**Pb**	19 11 30.2 -1.0
TVSB	**Tavsanli**	**1.97**	**73**	*e*Pn	**Pb**	19 11 30.2 -1.0
KHAL	**Karahalli**	**2.00**	**104**	*i* P	**Pb**	19 11 31.9 +0.2
KHAL				*i* S	**Sb**	19 11 54.2 -2.0
KHAL	**Karahalli**	**2.00**	**104**	*i* P	**Pb**	19 11 31.9 +0.2
KHAL				*i* S	**Sb**	19 11 54.2 -2.0
KHAL	**Karahalli**	**2.00**	**104**	*i* P	**Pb**	19 11 31.9 +0.2
KHAL				*i* S	**Sb**	19 11 54.2 -2.0
YER	**Yerkesik**	**2.02**	**150**	*e*PN	**Pb**	19 11 30.8 -1.2
YER	**Yerkesik**	**2.02**	**150**	*e*Pn	**Pb**	19 11 30.8 -1.2
KHL	**Karahalli**	**2.04**	**105**	*e*PN	**Pb**	19 11 31.3 -1.0
KHL	**Karahalli**	**2.04**	**105**	*e*Pn	**Pb**	19 11 31.3 -1.0
ULDT	**Uludag**	**2.05**	**52**	*e*P	**Pb**	19 11 32.5 -0.2
ULDT				*i* S	**Sb**	19 11 59.8 +1.9
ULDT	**Uludag**	**2.05**	**52**	*e*P	**Pb**	19 11 32.5 -0.2
ULDT				*i* S	**Sb**	19 11 59.8 +1.9
ULDT	**Uludag**	**2.05**	**52**	*e*P	**Pb**	19 11 32.5 -0.2
ULDT				*i* S	**Sb**	19 11 59.8 +1.9
TKR	**Tekirdag**	**2.13**	**10**	*e*PN	**Pb**	19 11 31.5 -2.4
TKR	**Tekirdag**	**2.13**	**10**	*e*Pn	**Pb**	19 11 31.5 -2.4
ALN	**Alexandroupoli**	**2.14**	**340**	*e*PB	**Pb**	19 11 31.9 -2.1
ALN				*e*SN	**Sb**	19 11 58.5 -1.6
ALN	**Alexandroupoli**	**2.14**	**340**	*e*Pb	**Pb**	19 11 31.9 -2.1
ALN				*e*Sn	**Sb**	19 11 58.5 -1.6
APE	**Apeiranthos**	**2.17**	**213**	*e*PN	**Pb**	19 11 32.4 -2.2
APE	**Apeiranthos**	**2.17**	**213**	*e*Pn	**Pb**	19 11 32.4 -2.2
ARMT	**Armutlu**	**2.19**	**40**	*e*PN	**Pb**	19 11 32.9 -2.0
ARMT	**Armutlu**	**2.19**	**40**	*e*Pn	**Pb**	19 11 32.9 -2.0
DAT	**Datca**	**2.20**	**168**	*e*PN	**Pb**	19 11 33.4 -1.8
DAT	**Datca**	**2.20**	**168**	*e*Pn	**Pb**	19 11 33.4 -1.8
GEMT	**Gemlik**	**2.27**	**47**	*e*PN	**Pb**	19 11 34.0 -2.2
GEMT	**Gemlik**	**2.27**	**47**	*e*Pn	**Pb**	19 11 34.0 -2.2
ALT	**Altintas**	**2.41**	**85**	*e*PN	**Pb**	19 11 36.6 -2.1
ALT	**Altintas**	**2.41**	**85**	*e*Pn	**Pb**	19 11 36.6 -2.1
DALY	**Dalyan (Mu˘la**	**2.44**	**148**	*e*PN	**Pb**	19 11 36.7 -2.2
DALY	**Dalyan (Mu˘la**	**2.44**	**148**	*e*Pn	**Pb**	19 11 36.9 -2.2
YLV	**Yalova**	**2.46**	**47**	*e*PN	**Pb**	19 11 37.2 -2.4
YLV	**Yalova**	**2.46**	**47**	*e*Pn	**Pb**	19 11 37.2 -2.4
SLVT	**Silivri**	**2.50**	**21**	*e*PN	Pb	19 11 37.0 -3.3
SLVT	**Silivri**	**2.50**	**21**	*e*Pn	Pb	19 11 37.0 -3.3
BUY	**Buyukada**	**2.53**	**39**	*e*PN	**Pb**	19 11 37.7 -3.0
BUY	**Buyukada**	**2.53**	**39**	*e*Pn	**Pb**	19 11 37.7 -3.0
ADVT	**Abdulvahap**	**2.60**	**53**	*e*PN	**Pb**	19 11 39.1 -2.7
ADVT	**Abdulvahap**	**2.60**	**53**	*e*Pn	**Pb**	19 11 39.1 -2.7
CTKS	**Kestanelik-??a**	**2.60**	**25**	*e*PN	**Pn**	19 11 38.3 +2.1
CTKS	**Kestanelik-??a**	**2.60**	**25**	*e*Pn	**Pn**	19 11 38.3 +2.1
BGKT	**Bogazkoy**	**2.65**	**30**	*e*PN	Pb	19 11 39.2 -3.5
BGKT	**Bogazkoy**	**2.65**	**30**	*e*Pn	Pb	19 11 39.2 -3.5
ISK	**Istanbul-Kandi**	**2.67**	**35**	*e*PN	Pb	19 11 39.6 -3.5
ISK	**Istanbul-Kandi**	**2.67**	**35**	*e*Pn	Pb	19 11 39.6 -3.5
CTYL	**Yal??k??y-??at**	**2.75**	**20**	*e*PN	**Pn**	19 11 40.5 +2.2
CTYL	**Yal??k??y-??at**	**2.75**	**20**	*e*Pn	**Pn**	19 11 40.5 +2.2
SHUT	**Suhut-Afyon**	**2.78**	**96**	*e*PN	**Pb**	19 11 41.8 -3.2
SHUT	**Suhut-Afyon**	**2.78**	**96**	*e*Pn	**Pb**	19 11 41.8 -3.2
FETY	**Fethiye**	**2.78**	**144**	*e*PN	**Pb**	19 11 41.9 -3.1
FETY	**Fethiye**	**2.78**	**144**	*e*Pn	**Pb**	19 11 41.9 -3.1
HRT	**Hereke**	**2.80**	**46**	*e*PN	Pb	19 11 41.6 -3.7
HRT	**Hereke**	**2.80**	**46**	*e*Pn	Pb	19 11 41.6 -3.7
KLYT	**Kilyos**	**2.82**	**33**	*e*PN	Pb	19 11 41.7 -3.9
KLYT	**Kilyos**	**2.82**	**33**	*e*Pn	Pb	19 11 41.7 -3.9
ESKT	**Eskisehir**	**3.03**	**77**	*e*PN	Pb	19 11 45.2 -4.2
ESKT	**Eskisehir**	**3.03**	**77**	*e*Pn	Pb	19 11 45.2 -4.2
GULT	**Gulveren**	**3.10**	**59**	*e*PN	Pb	19 11 46.0 -4.4
GULT	**Gulveren**	**3.10**	**59**	*e*Pn	Pb	19 11 46.0 -4.4
SVRH	**Sivrihisar-ESK**	**3.54**	**80**	*e*PN	Pn	19 11 52.6 +3.4
SVRH	**Sivrihisar-ESK**	**3.54**	**80**	*e*Pn	Pn	19 11 52.6 +3.4
MDUB	**Mudurnu**	**3.58**	**63**	*e*PN	Pn	19 11 53.2 +3.4
MDUB	**Mudurnu**	**3.58**	**63**	*e*Pn	Pn	19 11 53.2 +3.4
KIZT	**Kizilcal**	**3.79**	**89**	*e*PN	Pn	19 11 55.9 +3.2
KIZT	**Kizilcal**	**3.79**	**89**	*e*Pn	Pn	19 11 55.9 +3.2

*IDC **01** 19:20:15.5±3.0, 34˚.14S×179˚.58W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.7/18, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=67.4km s-min=45.4km az=119.0*

*ISCJB **01** 19:20:23.2±2.1, 34˚.60S±0˚.09×179˚.9W±0˚.3, h61km, mb3.5/2, Error ellipse: s-maj=41.0km s-min=11.2km az=11.1*

ISC 01 19:20:23.4±2.4, 34˚.6S±0˚.1×179˚.7W±0˚.3, h61km, n10, σ0s78/14, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.39**	**208**	*e*PN	**Pn**	**19 21 14.7**	**+0.8**
MXZ				SN	**Sn**	**19 21 52.6**	**-0.3**
CNGZ	**Carnagh Statio**	**4.25**	**203**	*e*PN	**Pn**	**19 21 26.6**	**+0.9**
MWZ	**Matawai**	**4.37**	**210**	*e*PN	**Pn**	**19 21 27.6**	**+0.3**
MWZ				SN	**Sn**	**19 22 15.5**	**-1.4**
URZ	**Urewera**	**4.49**	**214**	Pn	**Pn**	**19 21 30.1**	**+1.2**
	3.5nm,0.3s,baz=15,slow=11,SNR=11						
URZ				Sn	**Sn**	**19 22 20.6**	**+0.7**
	3.2nm,0.3s,baz=97,slow=17,SNR=5.9						
URZ	**Urewera**	**4.49**	**214**	*e*PN	**Pn**	**19 21 28.8**	**-0.1**
URZ				SN	**Sn**	**19 22 19.9**	**0.0**
BKZ	**Black Stump Fm**	**5.51**	**213**	*e*PN	**Pn**	**19 21 42.4**	**-0.6**
MRZ	**Mangatainoka R**	**7.14**	**210**	*e*PN	**Pn**	**19 22 04.8**	**-0.4**
ASAR	**Alice Springs**	**41.65**	**272**	P	**P**	**19 28 06.3**	**+0.3**
	0.4nm,0.5s,baz=113,slow=7.9,SNR=14						
WRA	**Warramunga Arr**	**43.02**	**278**	P	**P**	**19 28 17.3**	**+0.2**
	0.5nm,0.3s,baz=117,slow=7.7,SNR=14						
FINES	**FINESS Array B**	**148.48**	**336**	PKPbc	**PKPbc**	**19 40 01.7**	**-0.7**
	0.4nm,0.7s,baz=57,slow=2.8,SNR=5.8						

*CSEM **01** 19:47:34.8, 34˚.00N×25˚.31E, h5km, MD3.3, After ATH*

*IDC **01** 19:47:34.8±1.8, 33˚.91N×25˚.38E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.3/25, mbtmp3.5/3, ML3.8/1, MS3.5/2, Ms1 3.5/2, ms1mx2.7/35, Error ellipse: s-maj=59.5km s-min=31.3km az=141.0*

*ATH **01** 19:47:34.8, 34˚.00N×25˚.31E, h5km, MD3.3/7*

*ISCJB **01** 19:47:35.2±1.1, 33˚.94N±0˚.08×25˚.3E±0˚.1, h17km, mb3.4/2, MS3.5/2, Error ellipse: s-maj=14.1km s-min=10.4km az=153.9*

ISC 01 19:47:36.6±1.3, 34˚.14N±0˚.09×25˚.30E±0˚.05, h17km, n23, σ1s37/21, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.96**	**335**	*e*PB	**Pg**	**19 47 56.2**	**+0.9**
SIVA				*e*SB	**Sn**	**19 48 11.3**	**+2.7**
SIVA	**Sivas**	**0.96**	**335**	*e*Pb	**Pg**	**19 47 56.2**	**+0.9**
SIVA				*e*Sb	**Sn**	**19 48 11.3**	**+2.7**
LAST	**Lasithi**	**1.03**	**8**	*e*PN	**Pg**	**19 47 56.7**	**+0.1**
LAST	**Lasithi**	**1.03**	**8**	*e*Pn	**Pg**	**19 47 56.7**	**+0.1**
NPS	**Neapolis**	**1.15**	**13**	*e*PG	**Pg**	**19 47 58.7**	**-0.1**
NPS	**Neapolis**	**1.15**	**13**	*e*Pg	**Pg**	**19 47 58.7**	**-0.1**
IDI	**Anoyia**	**1.19**	**344**	*e*PB	**Pg**	**19 48 00.8**	**+1.1**
IDI	**Anoyia**	**1.19**	**344**	*e*Pb	**Pg**	**19 48 00.8**	**+1.1**
ZKR	**Zakros**	**1.23**	**38**	*e*PG	**Pg**	**19 48 00.1**	**-0.3**
ZKR	**Zakros**	**1.23**	**38**	*e*Pg	**Pg**	**19 48 00.1**	**-0.3**
VAM	**Vamos**	**1.55**	**325**	*e*PB	**Pg**	**19 48 06.4**	**-0.1**
VAM	**Vamos**	**1.55**	**325**	*e*Pb	**Pg**	**19 48 06.4**	**-0.1**
KARP	**Karpathos**	**2.08**	**47**	*e*PG	**Pg**	**19 48 15.4**	**-1.1**
KARP	**Karpathos**	**2.08**	**47**	*e*Pg	**Pg**	**19 48 15.4**	**-1.1**
KYTH	**Kithira**	**2.82**	**320**	*e*PB	**Pb**	**19 48 24.6**	**-2.0**
KYTH	**Kithira**	**2.82**	**320**	*e*Pb	**Pb**	**19 48 24.6**	**-2.0**
VLI	**Veliai**	**3.21**	**324**	*e*PB	Pb	19 48 30.5	-2.7
VLI	**Veliai**	**3.21**	**324**	*e*Pb	Pb	19 48 30.5	-2.7
GERES	**GERESS Array B**	**17.03**	**333**	P	**P**	**19 51 37.5**	**+1.7**
	0.1nm,0.3s,baz=148,slow=13,SNR=6.3						
TORD	**Torodi Ar. Bea**	**29.93**	**231**	P	**P**	**19 53 43.9**	**0.0**
	0.4nm,0.6s,baz=26,slow=8.8,SNR=4.4						
BVAR	**Borovoye Array**	**36.97**	**45**	LR	LR	20 11 40.4	
	comp=Z,37nm,19.2s,baz=301,slow=39						
MKAR	**Makanchi Array**	**44.24**	**56**	P	**P**	**19 55 46.4**	**+1.3**
	0.6nm,0.6s,baz=274,slow=7.9,SNR=5.6						
FRB	**Frobisher Bay**	**61.60**	**330**	LR	LR	20 28 33.5	
	comp=Z,60nm,18.2s,baz=226,slow=40						

WEL 01 19:55:26.4±0.4, 38˚.38S×176˚.00E, h179km±3km, ML3.6/10, 4C-3D, Error ellipse: s-maj=2.6km s-min=2.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWVZ	**Taurewa**	**0.82**	**212**	⇑PN	Pn	19 55 52.8	0.0
BKZ	**Black Stump Fm**	**0.88**	**154**	PN	Pn	19 55 53.4	+0.2
BKZ				SN	Sn	19 56 13.1	-0.9
URZ	**Urewera**	**0.88**	**83**	⇓PN	Pn	19 55 52.9	-0.2
URZ				SN	Sn	19 56 13.1	-0.6
WPVZ	**Whakapapa**	**0.90**	**203**	PN	Pn	19 55 53.4	0.0
TUVZ	**Tukino**	**0.93**	**197**	PN	Pn	19 55 53.7	+0.1
FWVZ	**Far West T-bar**	**0.95**	**201**	⇑PN	Pn	19 55 53.8	-0.1
FWVZ				SN	Sn	19 56 15.1	-0.1
WNVZ	**Wahianoa**	**1.00**	**198**	PN	Pn	19 55 54.1	0.0
PKVZ	**Pokaka**	**1.05**	**209**	PN	Pn	19 55 54.3	-0.1
MOVZ	**Moawhango**	**1.05**	**190**	PN	Pn	19 55 54.1	-0.3
BHHZ	**Black Hill Sta**	**1.11**	**177**	PN	Pn	19 55 54.8	-0.1
BHHZ				SN	Sn	19 56 15.2	-1.9
MCHZ	**McNeill Hill**	**1.20**	**153**	SN	Sn	19 56 19.0	+0.8
MWZ	**Matawai**	**1.20**	**89**	⇓PN	Pn	19 55 55.8	+0.1
MWZ				SN	Sn	19 56 18.8	+0.6
PNHZ	**Pukenui**	**1.55**	**174**	⇓PN	Pn	19 55 58.7	0.0
PNHZ				SN	Sn	19 56 22.0	-1.9
KAHZ	**Kahuranaki**	**1.58**	**155**	PN	Pn	19 55 59.7	+0.7
WAZ	**Wanganui**	**1.59**	**209**	PN	Pn	19 55 58.7	-0.4
TSZ	**Takapari Road**	**1.68**	**181**	⇑PN	Pn	19 55 59.8	-0.3
WPHZ	**Waipukurau**	**1.72**	**169**	PN	Pn	19 56 00.4	-0.1
NEZ	**North Egmont**	**1.73**	**238**	PN	Pn	19 56 00.7	0.0
KHEZ	**Kahui Hut**	**1.80**	**239**	PN	Pn	19 56 00.9	-0.5
NWEZ	**Newall Road**	**1.89**	**241**	PN	Pn	19 56 01.3	-0.9
POWZ	**Post Office Ro**	**2.02**	**185**	PN	Pn	19 56 02.7	-0.9
ANWZ	**Angora Road**	**2.12**	**170**	PN	Pn	19 56 04.3	-0.3
MRZ	**Mangatainoka R**	**2.31**	**188**	⇑PN	Pn	19 56 05.4	-1.4
BFZ	**Birch Farm**	**2.31**	**175**	PN	Pn	19 56 05.8	-1.0
BFZ				AML	AML	19 56 41.7	
TIWZ	**Tintock**	**2.40**	**182**	PN	Pn	19 56 06.7	-1.2
OGWZ	**Otaki Gorge**	**2.52**	**194**	PN	Pn	19 56 07.9	-1.4
HOWZ	**Holdsworth Sta**	**2.55**	**188**	PN	Pn	19 56 07.9	-1.7
KIW	**Kapiti Island**	**2.62**	**198**	PN	Pn	19 56 08.5	-1.9
TMWZ	**Te Maipa**	**2.73**	**182**	PN	Pn	19 56 10.3	-1.4
MTW	**Mount Morrison**	**2.81**	**188**	PN	Pn	19 56 10.4	-2.2
DUWZ	**D'Urville Isla**	**2.91**	**213**	PN	Pn	19 56 11.4	-2.4
TCW	**Tory Channel**	**3.13**	**205**	PN	Pn	19 56 14.1	-2.4
BHW	**Baring Head**	**3.15**	**196**	PN	Pn	19 56 14.3	-2.5
PLWZ	**Palliser**	**3.24**	**190**	PN	Pn	19 56 15.2	-2.7
TUWZ	**Tuamarina**	**3.44**	**207**	PN	Pn	19 56 17.5	-2.8

*IDC **01** 19:59:24.6±1.1, 1˚.02N×126˚.15E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.7/22, mbtmp4.0/6, ML3.6/1, Error ellipse: s-maj=93.5km s-min=17.2km az=69.0*

*ISCJB **01** 19:59:29.5±0.6, 1˚.12N±0˚.08×126˚.39E±0˚.04, h39km, mb4.0/5, Error ellipse: s-maj=12.1km s-min=5.6km az=12.1*

*DJA **01** 19:59:29.9±0.9, 1˚N±7˚×12˚6E±˚, h19km±16km, M4.2/8, mb4.4/1, MLv4.0/8*

ISC 01 19:59:30.3±0.9, 1˚.17N±0˚.09×126˚.42E±0˚.05, h39km, n16, σ1s45/17, mb4.0/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.03**	**113**	P	**Pn**	**19 59 49.0**	**+0.8**
TNTI				S	**Sn**	**20 00 02.4**	**+1.0**
GAMI	**Galela, Maluku**	**1.52**	**64**	P	**Pn**	**19 59 56.6**	**+1.6**
MNI	**Manado**	**1.60**	**280**	P	**Pn**	**19 59 55.7**	**-0.4**
MNI				S	**Sn**	**20 00 14.6**	**-0.9**
LBMI	**Labuha**	**2.10**	**149**	P	**Pn**	**20 00 02.9**	**0.0**
KMSI	**Cibinong**	**2.51**	**256**	P	**Pn**	**20 00 08.4**	**-0.1**
GTOI	**Gorontalo**	**3.45**	**261**	P	**Pn**	**20 00 24.3**	**+2.9**
LUWI	**Luwuk**	**4.26**	**239**	P	**Pn**	**20 00 34.7**	**+2.1**
MRSI	**Marisa**	**4.53**	**261**	P	**Pn**	**20 00 37.2**	**+0.9**
TTSI	**Tana Toraja**	**7.81**	**238**	P	**Pn**	**20 01 23.5**	**+2.0**
BAKI	**Biak**	**9.97**	**104**	P	Pn	20 01 58.6	+7.6
FITZ	**Fitzroy Crossi**	**19.17**	**182**	P	**P**	**20 03 49.2**	**-1.3**
	0.1nm,0.3s,baz=10,slow=10,SNR=8.3						
WRA	**Warramunga Arr**	**22.37**	**160**	P	**P**	**20 04 23.5**	**-1.8**
	3.5nm,0.4s,baz=336,slow=11,SNR=83						
ASAR	**Alice Springs**	**25.74**	**164**	P	**P**	**20 04 56.4**	**-1.0**
	1.5nm,0.4s,baz=348,slow=12,SNR=24						
STKA	**Stephens Creek**	**35.88**	**158**	P	**P**	**20 06 26.1**	**-0.5**
	4.4nm,1.0s,baz=332,slow=11,SNR=18						
SONM	**Songino Array**	**49.62**	**342**	P	**P**	**20 08 18.3**	**+0.3**
	0.5nm,0.7s,baz=146,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**59.48**	**326**	P	**P**	**20 09 29.5**	**+0.1**
	0.5nm,0.5s,baz=121,slow=6.9,SNR=18						

MAN 01 20:03:51, 16˚.22N×119˚.92E, h35km, mb3.6, ML2.3, MS1.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.16**	**358**	*e*P	Pn	20 03 59.9	+2.4
BOLP				*e*S	Sn	20 04 04.6	+2.6
SCZP	**Santa Cruz**	**0.44**	**181**	*e*P	Pn	20 04 03.1	+2.3
SCZP				*e*S	Sn	20 04 08.8	+1.3
BCPH	**Baguio City Da**	**0.66**	**75**	⇑*i*P	Pn	20 04 05.9	+1.8
BALP	**Baler**	**1.66**	**106**	*e*P	Pn	20 04 19.2	+1.5
CAUP	**Cauayan**	**1.96**	**68**	*e*P	Pn	20 04 25.6	+3.8
APYP	**Conner**	**2.07**	**38**	*e*P	Pn	20 04 23.9	+0.6

*MDD **01** 20:06:44.5±2.2, 37˚.18N×13˚.88W, h0km, mb4.5/1, Error ellipse: s-maj=19.0km s-min=17.8km az=92.0, PRXIMO*

*INMG **01** 20:06:46.1±1.1, 37˚.03N×14˚.26W, h10km, ML2.3, Error ellipse: s-maj=7.4km s-min=6.0km az=84.0*

*CSEM **01** 20:06:48.2±0.4, 37˚.36N×13˚.58W, h10km, ML2.9/25, Error ellipse: s-maj=6.5km s-min=5.9km az=88.0*

ISC 01 20:06:45.1±3.5, 37˚.29N±0˚.09×13˚.8W±0˚.2, h10km, n72, σ1s39/118, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMAFR	**Mafra**	**3.90**	**63**	*i* Pn	**Pn**	**20 07 46.8**	**+1.7**
PMAFR				*e*Sn	**Sn**	**20 08 33.5**	**+2.5**
PMAFR				A	A	20 08 42.1	
	14nm,0.6s						
PMAFR	**Mafra**	**3.90**	**63**	Pn	**Pn**	**20 07 46.8**	**+1.7**
	7.0nm,0.2s,SNR=7.9						
PMAFR				Sn	**Sn**	**20 08 32

	0.9nm,0.2s							
PCBR	**Castelo Branco**	**5.54**	**61**	Sn	**Sn**	**20 09 12.5**	**+1.1**
	0.4nm,0.2s							
PCBR	**Castelo Branco**	**5.54**	**61**	*e*Sn	**Sn**	**20 09 12.5**	**+1.1**
	0.9nm,0.2s							
EMIN	**Mina Concepcio**	**5.65**	**83**	Pn	**Pn**	**20 08 09.6**	**+0.4**
	0.3nm,0.1s,SNR=7.9							
EMIN				Sn	**Sn**	**20 09 12.2**	**-1.9**
	0.8nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.65**	**83**	Pn	**Pn**	**20 08 09.6**	**+0.4**
	0.3nm,0.1s,SNR=7.9							
EMIN				Sn	**Sn**	**20 09 12.2**	**-1.9**
	0.8nm,0.2s,SNR=7.9							
PVIS	**Viseu**	**5.71**	**51**	*e*Sn	**Sn**	**20 09 15.1**	**-0.5**
PVIS				A	A	20 09 20.3		
	2.3nm,0.1s							
PVIS	**Viseu**	**5.71**	**51**	Sn	**Sn**	**20 09 15.1**	**-0.5**
	1.2nm,0.1s							
PVIS	**Viseu**	**5.71**	**51**	*e*Sn	**Sn**	**20 09 15.1**	**-0.5**
	2.3nm,0.1s							
POLO	**Lamas de Olo**	**6.17**	**47**	*e*Sn	**Sn**	**20 09 25.1**	**-1.8**
POLO				A	A	20 09 37.5		
	0.7nm,0.7s							
POLO	**Lamas de Olo**	**6.17**	**47**	*e*Sn	**Sn**	**20 09 25.1**	**-1.8**
	0.7nm,0.7s							
PCAB	**Cabril**	**6.26**	**43**	*e*Sn	**Sn**	**20 09 27.5**	**-1.5**
PCAB				A	A	20 09 35.4		
	3.6nm,0.3s							
PCAB	**Cabril**	**6.26**	**43**	Sn	**Sn**	**20 09 27.5**	**-1.5**
	1.8nm,0.3s							
PCAB	**Cabril**	**6.26**	**43**	*e*Sn	**Sn**	**20 09 27.5**	**-1.5**
	3.6nm,0.3s							
PGAV	**Gavieira, Arco**	**6.31**	**41**	*e*Pn	**Pn**	**20 08 20.2**	**+2.0**
PGAV				*e*Sn	**Sn**	**20 09 28.8**	**-1.6**
PGAV				A	A	20 09 31.6		
	1.3nm,0.2s							
PGAV	**Gavieira, Arco**	**6.31**	**41**	*e*Pn	**Pn**	**20 08 20.2**	**+2.0**
PGAV				*e*Sn	**Sn**	**20 09 28.8**	**-1.6**
	1.3nm,0.2s							
MVO	**Moncorvo**	**6.50**	**51**	*e*Pn	**Pn**	**20 08 21.6**	**+0.7**
MVO				*e*Sn	**Sn**	**20 09 33.1**	**-2.0**
MVO				A	A	20 09 37.1		
	1.8nm,1.0s							
MVO	**Moncorvo**	**6.50**	**51**	Pn	**Pn**	**20 08 21.5**	**+0.7**
	0.4nm,0.1s,SNR=7.9							
MVO				Sn	**Sn**	**20 09 32.5**	**-2.7**
	1.5nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**6.50**	**51**	*e*Pn	**Pn**	**20 08 21.6**	**+0.7**
MVO				*e*Sn	**Sn**	**20 09 33.1**	**-2.0**
	1.8nm,1.0s							
EPLA	**Plasencia**	**6.62**	**63**	Pn	**Pn**	**20 08 23.4**	**+1.0**
	0.4nm,0.1s,SNR=7.9							
EPLA				Sn	**Sn**	**20 09 35.6**	**-2.3**
	0.2nm,0.3s,SNR=7.9							
EPLA	**Plasencia**	**6.62**	**63**	Pn	**Pn**	**20 08 23.4**	**+1.0**
	0.4nm,0.1s,SNR=7.9							
EPLA				Sn	**Sn**	**20 09 35.6**	**-2.3**
	0.2nm,0.3s,SNR=7.9							
EMAZ	**Mazaricos**	**6.74**	**31**	Pn	**Pn**	**20 08 25.3**	**+1.3**
	0.4nm,0.1s,SNR=7.9							
EMAZ				Sn	**Sn**	**20 09 37.0**	**-3.9**
	2.3nm,0.2s,SNR=7.9							
EMAZ	**Mazaricos**	**6.74**	**31**	Pn	**Pn**	**20 08 25.3**	**+1.3**
	0.4nm,0.1s,SNR=7.9							
PBRG	**Braganca**	**7.05**	**48**	*e*Sn	**Sn**	**20 09 47.6**	**-1.1**
PBRG				A	A	20 09 54.6		
	1.4nm,0.5s							
PBRG	**Braganca**	**7.05**	**48**	Sn	**Sn**	**20 09 47.6**	**-1.1**
	0.7nm,0.5s							
PBRG	**Braganca**	**7.05**	**48**	Sn	**Sn**	**20 09 47.6**	**-1.1**
	0.7nm,0.5s							
ECAL	**Calabor**	**7.14**	**47**	Sn	**Sn**	**20 09 49.1**	**-1.7**
	1.3nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**7.14**	**47**	Sn	**Sn**	**20 09 49.1**	**-1.7**
	1.3nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**7.33**	**80**	Pn	**Pn**	**20 08 32.4**	**+0.2**
	0.3nm,0.1s,SNR=7.9							
EADA				Sn	**Sn**	**20 09 49.6**	**-5.8**
	0.7nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**7.33**	**80**	Pn	**Pn**	**20 08 32.4**	**+0.2**
	0.3nm,0.1s,SNR=7.9							
EPON	**Pontenova**	**7.87**	**38**	Sn	**Sn**	**20 10 06.8**	**-1.8**
	0.9nm,0.3s,SNR=7.9							
EPON	**Pontenova**	**7.87**	**38**	Sn	**Sn**	**20 10 06.8**	**-1.8**
	0.9nm,0.3s,SNR=7.9							

NIED ***01*** *20:07:00,21.°90N×121.°70E,h8km,Mw3.9 Best double couple: M₀7.29000×10¹⁴ NP1:φ₀284.00000°,δ68.00000°, λ-91.00000°. NP2:φ₀105.00000°, δ22.00000°, λ-88.00000°.*

ISCJB ***01*** *20:07:51.7±0.7,21.°91N±0.°03×121.°69E±0.°02,h13km±5km, mb3.7/7, Error ellipse: s-maj=5.4km s-min=3.7km az=5.9*

IDC ***01*** *20:07:52.9±1.0,21.°60N×121.°08E,h0km,mb3.8/7, mb1 3.9/8,mb1mx3.6/26,mbtmp3.7/8,ML3.3/1, Error ellipse: s-maj=71.2km s-min=17.5km az=69.0*

TAP ***01*** *20:07:53.2,21.°96N×121.°50E,h14km,ML3.7,C*

JMA ***01*** *20:07:54.9±0.4,21.°95N×121.°73E,h62km,M3.6*

ISC 01 20:07:52.8±1.1,22.°01N±0.°03×121.°62E±0.°04,h12km±6km, n62,σ1°97/89,mb3.8/7,1C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.07**	**298**	⇓*i*P	**Pg**	**20 07 56.6**	**+1.3**
	baz=47						
TSEB	**Hengchuen, Pin**	**0.67**	**261**	*i* P	**Pb**	**20 08 06.0**	**-0.5**
	baz=265						
TSEB				*i* S	**Sb**	**20 08 15.3**	**-0.4**
	baz=265						
TAW	**Tawu**	**0.75**	**298**	*e*P	**Pg**	**20 08 06.4**	**-1.0**
	baz=307						
TAW				S	**Sg**	**20 08 16.0**	**-1.2**
	baz=307						
TWK1	**Hengchun**	**0.76**	**265**	P	**Pg**	**20 08 06.3**	**-1.1**
	baz=284						
TWK1				*e*S	**Sg**	**20 08 15.6**	**-1.7**
	baz=284						
EAST	**Anshuo**	**0.80**	**298**	⇑*i*P	**Pg**	**20 08 07.3**	**-1.0**
	baz=306						
HEN	**Hengchun**	**0.81**	**270**	*e*P	**Pg**	**20 08 07.2**	**-1.3**
	baz=289						
HEN				S	**Sg**	**20 08 18.0**	**-1.2**
	baz=289						
ECL	**Taimali**	**0.85**	**314**	*e*P	**Pg**	**20 08 07.9**	**-1.3**
	baz=324						
ECL				*e*S	**Sg**	**20 08 18.6**	**-1.7**
	baz=324						
TTN	**Taitung**	**0.86**	**330**	*e*P	**Pb**	**20 08 09.5**	**-0.2**
	baz=352						
TTN				*e*S	**Sb**	**20 08 22.0**	**+0.8**
	baz=352						
TWG	**Pinlang**	**0.95**	**328**	*e*P	**Pg**	**20 08 10.4**	**-0.8**
	baz=323						
TWG				*e*S	**Sb**	**20 08 23.9**	**0.0**
	baz=323						
SCZT	**Fangliau**	**0.99**	**292**	*e*P	**Pg**	**20 08 10.4**	**-1.6**
	baz=310						
CHKT	**Chengkung**	**1.11**	**348**	⇓P	**Pb**	**20 08 12.6**	**-1.4**
	baz=7.0						
CHKT				*e*S	**Sg**	**20 08 26.7**	**-2.0**
	baz=7.0						
TWP	**Hsiaoliuchiu**	**1.21**	**286**	*e*P	**Pg**	**20 08 15.8**	**-0.2**
	baz=291						
SGLT	**Jiouru**	**1.26**	**305**	*e*P	**Pg**	**20 08 17.0**	**-0.1**
	baz=323						
ELDTW	**Lidau**	**1.30**	**335**	*e*P	**Pn**	**20 08 15.2**	**-1.7**
	baz=342						
KAU	**Kaohsiung**	**1.33**	**295**	*e*P	**Pg**	**20 08 18.9**	**+0.4**
	baz=300						
TWM1	**Shoushan**	**1.37**	**307**	*e*P	**Pg**	**20 08 19.3**	**+0.1**
	baz=323						
TWF1	**Yuli**	**1.37**	**348**	*e*P	**Pn**	**20 08 17.5**	**-0.2**
	baz=4.0						
EHY	**Hungye**	**1.52**	**350**	*e*P	**Pn**	**20 08 19.1**	**-0.7**
	baz=4.0						
WTP	**Ta-pu**	**1.54**	**323**	*e*P	**Pb**	**20 08 21.0**	**-0.3**
	baz=344						
WTP				*e*S	**Sg**	**20 08 43.3**	**+0.8**
	baz=344						
CHN1	**Nanshi**	**1.54**	**320**	P	**Pg**	**20 08 21.5**	**-1.0**
	baz=327						
CHN1				S	**Sg**	**20 08 42.5**	**0.0**
	baz=327						
CHN3	**Shinhua**	**1.57**	**313**	*e*P	**Pg**	**20 08 21.9**	**-1.1**
	baz=318						
YUS	**Yu-Shan**	**1.60**	**338**	*e*P	**Pb**	**20 08 22.2**	**-0.3**
	baz=344						
TWK	**Hsinying**	**1.63**	**320**	*e*P	**Pb**	**20 08 22.9**	**+0.1**
	baz=328						
TWK				*e*S	**Sg**	**20 08 44.4**	**-0.9**
	baz=328						
CHN4	**Tsaushan**	**1.64**	**325**	*e*P	**Pb**	**20 08 23.0**	**0.0**
	baz=344						
CHN4				*e*S	**Sg**	**20 08 46.0**	**+0.4**
	baz=344						
ALS	**Alishan**	**1.67**	**334**	*e*P	**Pb**	**20 08 23.1**	**-0.6**
	baz=341						
ALS				*e*S	**Sg**	**20 08 47.1**	**+0.4**
	baz=341						
CHN5	**Tsauling**	**1.80**	**332**	P	**Pb**	**20 08 25.2**	**-0.6**
	baz=338						
CHN5				*e*S	**Sg**	**20 08 50.4**	**-0.5**
	baz=338						
ESL	**Shilin**	**1.81**	**355**	*e*P	**Pn**	**20 08 23.6**	**-0.1**
	baz=10.0						
ESL				*e*S	**Sn**	**20 08 46.6**	**0.0**
	baz=10.0						
CHY	**Chiayi**	**1.85**	**324**	*e*P	**Pg**	**20 08 27.1**	**-1.1**
	baz=330						
CHY				*e*S	**Sb**	**20 08 49.9**	**+0.3**
	baz=330						
WGK	**Gukeng**	**1.93**	**330**	*e*P	**Pb**	**20 08 27.6**	**-0.4**
	baz=337						
WGK				*e*S	**Sb**	**20 08 52.8**	**+0.8**
	baz=337						
SMLT	**Sun Moon Lake**	**1.98**	**341**	*e*P	**Pb**	**20 08 28.3**	**-0.6**
	baz=358						
SMLT				*e*S	**Sn**	**20 08 52.6**	**+1.5**
	baz=358						
TYC	**Yuchr**	**2.01**	**340**	*e*P	**Pb**	**20 08 27.9**	**-1.4**
	baz=346						
TYC				*e*S	**Sb**	**20 08 55.4**	**+1.0**
	baz=346						
WNT	**Mingjian**	**2.05**	**335**	*e*P	**Pb**	**20 08 29.8**	**-0.2**
	baz=342						
WNT				*e*S	**Sb**	**20 08 55.4**	**-0.1**
	baz=342						
TWD	**Chiawan**	**2.06**	**360**	*e*P	**Pn**	**20 08 26.9**	**-0.4**
	baz=14						
WSF	**Szhu**	**2.07**	**322**	*e*P	**Pn**	**20 08 26.7**	**-0.7**
	baz=327						
WHF	**Hehuan Shan**	**2.15**	**351**	*e*P	**Pb**	**20 08 30.5**	**-1.5**
	baz=7.0						
TWT	**Tachien**	**2.27**	**350**	*e*P	**Pn**	**20 08 31.7**	**+1.4**
	baz=5.0						
TCU	**Taichung**	**2.30**	**338**	*e*P	**Pb**	**20 08 33.5**	**-0.7**
	baz=326						
NNS	**Nan Shan**	**2.43**	**355**	*e*P	**Pb**	**20 08 35.9**	**-0.6**
	baz=360						
PNG	**Penghu**	**2.46**	**310**	*e*P	**Pn**	**20 08 33.5**	**+0.8**
	baz=313						
TWQ1	**Liyutan**	**2.46**	**342**	*e*P	**Pb**	**20 08 35.2**	**-1.7**
	baz=331						
TWQ1				*e*S	**Sb**	**20 09 06.5**	**-0.6**
	baz=331						
NSY	**Sanyi**	**2.52**	**342**	*e*P	**Pb**	**20 08 37.0**	**-1.0**
	baz=330						
TWC	**Suao**	**2.60**	**5**	*e*P	**Pb**	**20 08 37.4**	**-1.9**
	baz=19						
NSK	**Sanguang**	**2.67**	**355**	*e*P	**Pn**	**20 08 37.5**	**+1.9**
	baz=1.0						
NSK				*e*S	**Sn**	**20 09 09.2**	**+1.3**
	baz=1.0						
NSTT	**Nanjuang**	**2.67**	**348**	*e*P	**Pb**	**20 08 39.7**	**-0.9**
	baz=2.0						
TWE	**Neicheng**	**2.70**	**1**	*e*P	**Pb**	**20 08 39.0**	**-2.1**
	baz=356						
YOJ	**Yonaguni jima**	**2.76**	**27**	*e*P	**Pn**	**20 08 38.0**	**+1.1**
	baz=30						
YOJ	**Yonaguni jima**	**2.76**	**27**	P	**Pn**	**20 08 37.7**	**+0.8**
YOJ				*e*S	**Sn**	**20 09 11.1**	**+1.0**
HATJ	**Hateruma jima**	**2.87**	**44**	P	**Pn**	**20 08 38.8**	**+0.4**
HATJ				*e*S	**Sn**	**20 09 11.7**	**-1.1**
IRIF	**Iriomote-Funau**	**3.03**	**40**	P	**Pn**	**20 08 41.3**	**+0.8**
IRIF				*e*S	**Sn**	**20 09 15.4**	**-1.3**
NWF	**Wu-fen Shan**	**3.05**	**3**	*e*P	**Pn**	**20 08 43.3**	**+2.3**
	baz=357						
JKRS	**Kuro-shima**	**3.13**	**44**	P	**Pn**	**20 08 42.9**	**+1.0**
JKRS				*e*S	**Sn**	**20 09 18.6**	**-0.6**
JIJ	**Ishigaki jima**	**3.30**	**44**	P	**Pn**	**20 08 44.7**	**+0.4**
JIJ				*e*S	**Sn**	**20 09 22.3**	**-1.2**
JTJ	**Tarama**	**3.86**	**47**	P	**Pn**	**20 08 53.1**	**+1.1**
JTJ				*e*S	**Sn**	**20 09 36.8**	**-0.5**
JOGS	**Gusukube**	**4.43**	**51**	P	**Pn**	**20 09 00.5**	**+0.7**
JOGS				*e*S	**Sn**	**20 09 49.9**	**-1.5**
KSRS	**Korea Array**	**16.33**	**18**	Pn	P	20 11 50.3	+5.5
	0.1nm,0.3s,baz=209,slow=12,SNR=4.9						
FITZ	**Fitzroy Crossi**	**40.06**	**174**	P	**P**	**20 15 27.1**	**-0.9**
	1.0nm,0.4s,baz=13,slow=11,SNR=11						
MKAR	**Makanchi Array**	**40.19**	**318**	P	**P**	**20 15 30.6**	**+1.6**
	0.2nm,0.5s,baz=113,slow=9.5,SNR=4.3						
ZALV	**Zalesovo Beam**	**42.29**	**328**	P	**P**	**20 15 48.3**	**+2.3**
	0.4nm,0.5s,baz=119,slow=10.0,SNR=2.2						
WRA	**Warramunga Arr**	**43.51**	**162**	P	**P**	**20 15 55.6**	**-0.7**
	0.6nm,0.4s,baz=343,slow=9.0,SNR=17						
ASAR	**Alice Springs**	**46.95**	**165**	P	**P**	**20 16 23.6**	**0.0**
	0.4nm,0.4s,baz=345,slow=7.2,SNR=19						
STKA	**Stephens Creek**	**56.89**	**160**	P	**P**	**20 17 38.6**	**+1.0**
	2.7nm,1.0s,baz=328,slow=9.5,SNR=3.1						
FINES	**FINESS Array B**	**73.52**	**330**	P	P	20 19 28.2	+3.0
	1.3nm,0.8s,baz=65,slow=10.0,SNR=3.1						

IDC ***01*** *20:09:20.1±1.2,34.°09N×25.°18E,h0km,mb3.6/8, mb1 3.5/12,mb1mx3.5/30,mbtmp3.5/12,ML3.3/3,Error ellipse: s-maj=25.9km s-min=19.4km az=173.0*

ISCJB ***01*** *20:09:21.1±0.7,33.°99N±0.°06×25.°36E±0.°06,h20km, mb3.4/8,Error ellipse: s-maj=9.7km s-min=5.9km az=38.9*

CSEM ***01*** *20:09:25.9,34.°27N×25.°10E,h28km,MD3.6,After ATH*

ATH ***01*** *20:09:25.9,34.°27N×25.°10E,h28km±2km,MD3.6/8*

ISC 01 20:09:23.0±0.8,34.°07N±0.°07×25.°25E±0.°05,h20km,n30, σ1°03/37,mb3.5/8,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**1.01**	**339**	*e*PN	**Pb**	**20 09 42.1**	**+0.3**
SIVA				*e*SN	**Sb**	**20 09 52.0**	**-2.6**
SIVA	**Sivas**	**1.01**	**339**	*e*Pn	**Pb**	**20 09 42.1**	**+0.3**
SIVA				*e*Sn	**Sb**	**20 09 52.0**	**-2.6**
LAST	**Lasithi**	**1.10**	**10**	*e*PN	**Pn**	**20 09 44.2**	**+0.8**
LAST				*e*SN	**Sb**	**20 09 57.6**	**+0.2**
LAST	**Lasithi**	**1.10**	**10**	*e*Pn	**Pn**	**20 09 44.2**	**+0.8**
LAST				*e*Sn	**Sb**	**20 09 57.6**	**+0.2**
NPS	**Neapolis**	**1.22**	**14**	*e*PN	**Pb**	**20 09 46.3**	**+0.8**
NPS	**Neapolis**	**1.22**	**14**	*e*Pn	**Pb**	**20 09 46.3**	**+0.8**
IDI	**Anoyia**	**1.25**	**346**	*e*PB	**Pn**	**20 09 44.7**	**-0.7**
IDI				*e*SN	**Sb**	**20 10 00.4**	**-1.2**
IDI	**Anoyia**	**1.25**	**346**	*e*Pb	**Pn**	**20 09 44.7**	**-0.7**
IDI				*e*Sn	**Sb**	**20 10 00.4**	**-1.2**
VAM	**Vamos**	**1.59**	**327**	*e*PN	**Pb**	**20 09 51.8**	**+0.2**
VAM	**Vamos**	**1.59**	**327**	*e*Pn	**Pb**	**20 09 51.8**	**+0.2**
KARP	**Karpathos**	**2.15**	**46**	*e*PN	**Pb**	**20 10 01.2**	**-0.2**
KARP	**Karpathos**	**2.15**	**46**	*e*Pn	**Pb**	**20 10 01.2**	**-0.2**
VLI	**Velíai**	**3.24**	**325**	*e*PN	**Pn**	**20 10 14.1**	**+1.3**
VLI	**Velíai**	**3.24**	**325**	*e*Pn	**Pn**	**20 10 14.1**	**+1.3**
DID	**Didima**	**3.79**	**335**	*e*PN	**Pn**	**20 10 20.9**	**+0.5**
DID	**Didima**	**3.79**	**335**	*e*Pn	**Pn**	**20 10 20.9**	**+0.5**
MMAI	**Mount Meron Ar**	**8.54**	**94**	Pn	**Pn**	**20 11 25.7**	**0.0**
	baz=277,slow=12,SNR=2.8						
MMAI					Sn	**Sn**	**20 13 00.1**	**-1.4**
	0.7nm,0.3s,baz=260,slow=25,SNR=4.0						
BRTR	**Keskin Array B**	**8.77**	**48**	Pn	**Pn**	**20 11 29.4**	**+0.6**
	0.1nm,0.3s,baz=227,slow=7.7,SNR=2.1						
EIL	**Elat**	**9.35**	**115**	Pn	**Pn**	**20 11 35.8**	**-0.8**
	0.4nm,0.3s,baz=225,slow=7.1,SNR=3.4						
AKASG	**Malin Array Be**	**16.87**	**9**	Pn	**Pn**	**20 13 18.6**	**+0.8**
	0.5nm,0.3s,baz=202,slow=10,SNR=11						
GERES	**GERESS Array B**	**17.08**	**333**	P	**P**	**20 13 22.8**	**+0.5**
	0.2nm,0.3s,baz=149,slow=12,SNR=26						
KHC	**Kasperske Hory**	**17.36**	**334**	*e*P	**P**	**20 13 26.5**	**+1.2**
ESDC	**Sonseca Array**	**23.97**	**292**	P	**P**	**20 14 36.7**	**+0.6**
	0.1nm,0.3s,baz=74,slow=9.5,SNR=4.1						
HFS	**Hagfors**	**27.15**	**347**	P	**P**	**20 15 03.6**	**-1.1**
	0.8nm,0.7s,baz=189,slow=8.7,SNR=4.8						
FINES	**FINESS Array B**	**27.39**	**1**	P	**P**	**20 15 05.4**	**-1.3**
	0.7nm,0.7s,baz=210,slow=14,SNR=3.2						
EKA	**Eskdalemuir Ar**	**28.97**	**326**	P	**P**	**20 15 20.6**	**-0.4**
	0.4nm,0.5s,baz=138,slow=9.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**29.86**	**231**	P	**P**	**20 15 28.9**	**-0.3**
	0.7nm,0.8s,baz=32,slow=9.3,SNR=5.6						
MKAR	**Makanchi Array**	**44.32**	**56**	P	**P**	**20 17 32.4**	**+0.8**
	0.9nm,0.6s,baz=274,slow=6.4,SNR=12						
ZALV	**Zalesovo Beam**	**45.71**	**45**	P	**P**	**20 17 42.3**	**-0.1**
	0.7nm,0.4s,baz=279,slow=9.2,SNR=4.1						
SONM	**Songino Array**	**60.12**	**50**	P	**P**	**20 19 30.5**	**+1.4**
	0.4nm,0.8s,baz=284,slow=5.8,SNR=3.0						

ISCJB ***01*** *20:15:47.3±0.8,24.°18S±0.°06×67.°1W±0.°1,h213km±16km, mb3.1/2,Error ellipse: s-maj=20.8km s-min=9.6km az=5.8*

IDC ***01*** *20:15:47.2±1.4,24.°20S×66.°83W,h180km±16km,mb3.1/2, mb1 3.3/7,mb1mx3.2/21,mbtmp3.3/7,Error ellipse: s-maj=22.7km s-min=16.6km az=107.0*

GUC ***01*** *20:15:49.6±0.5,23.°98S×67.°44W,h228km±9km,ML4.5*

ISC 01 20:15:49.0±1.4,24.°1S±0.°1×67.°1W±0.°1,h209km±16km,n19, σ0°97/25,1C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.22**	**310**	⇓*i*P	**Pn**	**20 16 31.5**	**+0.7**
LVC				*i* S	**S**	**20 17 03.2**	**+0.4**
LVC	**Limon Verde**	**2.22**	**310**	P	**Pn**	**20 16 31.4**	**+0.7**
	18nm,0.3s,baz=139,slow=7.0,SNR=142						
LVC				S	**S**	**20 17 03.3**	**+0.4**
	32nm,0.3s,baz=49,slow=19,SNR=38						
PB04	**Plate Boundary**	**2.85**	**309**	*e*P	Pn	20 16 43.2	+5.8
PB04				*i* S	S	20 17 23.6	+8.8
PB04				AML	AML	20 17 25.3	
	comp=N,346nm,0.4s						
PB09	**Plate Boundary**	**3.01**	**318**	⇓*i*P	**Pn**	**20 16 40.9**	**+1.3**
PB09				*i* S	**S**	**20 17 19.7**	**+1.2**
PB09				AML	AML	20 17 21.2	
	comp=N,1μm,0.5s						
ANCH	**Antofagasta**	**3.07**	**277**	⇓*i*P	**Pn**	**20 16 39.9**	**0.0**
ANCH				*i* S	**S**	**20 17 17.3**	**-2.0**
ANCH				AML	AML	20 17 20.4	
	comp=E,645nm,0.1s						
MACH	**Maria Elena**	**3.09**	**307**	*i* S	**S**	**20 17 19.3**	**-0.9**
PB07	**Plate Boundary**	**3.48**	**311**	⇑*i*P	**Pn**	**20 16 45.3**	**+0.3**
PB07				*i* S	**S**	**20 17 27.7**	**-0.8**
PB07				AML	AML	20 17 29.7	
	comp=N,456nm,0.4s						
PB01	**Plate Boundary**	**3.74**	**323**	*e*P	**Pn**	**20 16 48.4**	**+0.3**
PB01				*i* S	**S**	**20 17 33.7**	**-0.4**
PB01				AML	AML	20 17 36.1	
	comp=N,194nm,0.3s						
MNMC	**Minimini**	**5.44**	**334**	*e*P	**Pn**	**20 17 09.8**	**+0.2**
MNMC				*i* S	**S**	**20 18 11.9**	**-1.1**
CFAA	**Coronel Fontan**	**7.58**	**187**	P	Pn	20 17 32.8	-4.0
	comp=N,0.2nm,0.3s,baz=7.9,slow=13,SNR=4.3						
CFAA				S	S	20 18 51.2	-11
	comp=N,0.6nm,0.3s,baz=254,slow=21,SNR=9.4						
LPAZ	**La Paz**	**7.80**	**353**	P	**Pn**	**20 17 41.4**	**+1.0**
	comp=N,1.1nm,0.3s,baz=158,slow=8.0,SNR=18						
LPAZ				S	**S**	**20 19 08.3**	**-0.7**
	comp=N,0.3nm,0.3s,baz=270,slow=20,SNR=3.0						
SIV	**San Ignacio**	**9.82**	**36**	P	**Pn**	**20 18 04.0**	**-2.0**
	comp=N,1.9nm,0.3s,baz=246,slow=13,SNR=29						
BDFB	**Brasilia**	**19.78**	**68**	P	**P**	**20 20 03.2**	**-0.5**
	comp=N,0.3nm,0.3s,baz=233,slow=13,SNR=4.9						
SNAA	**Sanae**	**59.31**	**161**	P	**P**	**20 25 28.5**	**-0.1**
	comp=N,0.1nm,0.5s,baz=283,slow=8.2,SNR=6.7						
TORD	**Torodi Ar. Bea**	**76.66**	**69**	P	**P**	**20 27 16.9**	**-0.4**
	comp=N,0.5nm,0.3s,baz=260,slow=5.5,SNR=21						
ASAR	**Alice Springs**	**128.36**	**205**	PKP	**PKPdf**	**20 34 32.3**	**+0.9**
	comp=N,0.2nm,0.7s,baz=163,slow=2.2,SNR=4.1						
WRA	**Warramunga Arr**	**131.53**	**207**	PKP	**PKPdf**	**20 34 38.6**	**+1.1**
	comp=N,0.7nm,1.1s,baz=154,slow=1.7,SNR=11						
ZALV	**Zalesovo Beam**	**143.49**	**28**	PKP	**PKPdf**	**20 34 58.5**	**+0.2**
	comp=N,1.2nm,0.5s,baz=305,slow=3.0,SNR=5.4						
MKAR	**Makanchi Array**	**146.62**	**40**	PKPbc	**PKPab**	**20 35 08.1**	**+0.6**
	comp=N,1.4nm,0.5s,baz=307,slow=3.3,SNR=22						

KRSC 01 20:23:24.9±0.9,50.°95N×157.°97E,h39km±39km,ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.21**	**258**	*e*P	Pn	20 23 44.1	-1.1
SKR				*i* S	Sn	20 23 58.1	-2.2
ASAK	**Asacha**	**1.44**	**358**	*e*P	Pn	20 23 49.5	+1.0
ASAK				*i* S	Sn	20 24 07.0	+0.8
RUS	**Russkaya**	**1.52**	**13**	*e*P	Pn	20 23 50.5	+0.9
RUS				*i* S	Sn	20 24 08.8	+0.7
MIPR	**Malaya Ipel'ka**	**1.53**	**331**	*i* P	Pn	20 23 50.5	+0.8
MIPR				*i* S	Sn	20 24 09.5	+1.2
MTVR	**Mutnovka**	**1.54**	**5**	*e*P	Pn	20 23 51.2	+1.2
MTVR				*i* S	Sn	20 24 10.7	+1.8
GRL	**Gorelyy**	**1.61**	**2**	*e*P	Pn	20 23 52.3	+1.4
GRL				*i* S	Sn	20 24 12.1	+1.6
APC	**Apacha**	**2.04**	**346**	*e*P	Pn	20 23 58.1	+1.4
PET	**

comp=Z,17nm,0.9s
KUGN Kugaaruk Camp, 14.25 295 PN **Pn** **20 27 46.5 +1.1**
KUGN SN Sn 20 30 16.3 -6.9
DAG Danmarks Havn 15.04 30 *i* P Pn 20 27 39.9 -16
NUNN Nunuq Camp, NU 15.38 284 PN **Pn** **20 27 56.9 -3.8**
NUNN SN Sn 20 30 38.8 -12
STLN Stellar Camp, 15.50 292 PN **Pn** **20 28 01.8 -0.4**
STLN SN Sn 20 30 43.1 -11
SEDN First Sedna Si 16.23 278 PN **Pn** **20 28 09.3 -2.3**
SEDN SN Sn 20 30 57.8 -14
SEDN Trac 20 31 02.4
comp=Z,24nm,1.1s
JOSN Second Sedna S 16.40 277 PN **Pn** **20 28 11.9 -1.9**
JOSN SN Sn 20 31 02.2 -13
WEMQ Wemindji, Queb 17.86 235 PN **Pn** **20 28 31.6 -0.5**
SILO Sutton Inlier 19.19 248 PN **P** **20 28 47.6 +0.1**
FCC Fort Churchill 19.85 268 PN **Pn** **20 28 57.7 +1.5**
VIMO Victor Mine 20.06 243 PN Pn 20 29 00.2 +1.5
YKA Yellowknife Ar 25.82 291 P **P** **20 29 59.0 +4.1**
0.9nm,0.8s,baz=63,slow=8.5,SNR=2.5
FINES FINESS Array B 33.23 60 P **P** **20 31 00.6 +0.1**
1.2nm,0.7s,baz=328,slow=6.8,SNR=5.0
PDAR Pinedale Array 38.26 261 P P 20 31 49.3 +5.1
0.3nm,0.7s,baz=59,slow=5.4,SNR=2.8
ESDC Sonseca Array 38.29 109 P **P** **20 31 44.2 0.0**
0.1nm,0.3s,baz=320,slow=6.7,SNR=4.9
AKTO Aktyubinsk 52.64 48 P **P** **20 33 38.7 +1.1**
0.5nm,0.3s,baz=310,slow=7.4,SNR=3.8
BRTR Keskin Array B 53.33 74 P **P** **20 33 43.2 +0.2**
0.4nm,0.5s,baz=314,slow=6.9,SNR=3.4
ZALV Zalesovo Beam 56.16 28 P **P** **20 34 03.8 +0.7**
1.0nm,0.6s,baz=344,slow=8.5,SNR=5.2
MKAR Makanchi Array 62.41 33 P **P** **20 34 47.6 +1.1**
0.4nm,0.7s,baz=337,slow=5.5,SNR=4.7
TORD Torodi Ar. Bea 64.33 118 P **P** **20 34 59.0 -0.5**
0.5nm,0.8s,baz=333,slow=8.1,SNR=5.4
SONM Songino Array 65.34 15 P **P** **20 35 07.8 +1.9**
0.4nm,0.6s,baz=339,slow=5.5,SNR=4.4

IDC 01 20:32:55.4±1.5, 4.93N×125.27E, h0km, mb3.1/5, mb1 3.3/5, mb1mx3.2/24, mbtmp3.1/5, Error ellipse: s-maj=157.2km s-min=22.2km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.27**	**160**	P	P	20 38 31.6	-1.1
	0.1nm,0.3s,baz=340,slow=10,SNR=4.1						
ASAR	**Alice Springs**	**29.64**	**164**	P	P	20 39 04.3	+1.4
	0.1nm,0.5s,baz=0.6,slow=8.3,SNR=2.8						
SONM	**Songino Array**	**45.72**	**342**	P	P	20 41 19.7	+1.2
	0.2nm,0.5s,baz=161,slow=9.2,SNR=2.2						
MKAR	**Makanchi Array**	**55.75**	**325**	P	P	20 42 33.5	-0.6
	0.1nm,0.4s,baz=116,slow=6.4,SNR=5.2						
KURBB	**Kurchatov Arra**	**59.95**	**328**	P	P	20 43 02.9	-0.7
	0.3nm,0.7s,baz=123,slow=6.7,SNR=3.7						

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*MOS **01** 20:46:49.8±2.8, 45.78N×147.19E, h36km, mb4.1/6, Error ellipse: s-maj=16.1km s-min=12.4km az=91.9*
*ISCJB **01** 20:46:50.6±1.2, 44.1N±0.1×147.9E±0.1, h137km±9km, mb3.5/10, Error ellipse: s-maj=20.8km s-min=13.1km az=140.1*
*JMA **01** 20:46:51.8±0.5, 44.15N×148.02E, h96km, M3.9*
*IDC **01** 20:46:53.8±3.5, 45.07N×147.73E, h104km±34km, mb3.3/9, mb1 3.5/11, mb1mx3.3/27, mbtmp3.4/11, Error ellipse: s-maj=85.9km s-min=22.6km az=164.0*

ISC 01 20:46:50.9±1.9, 44.1N±0.1×148.0E±0.1, h127km±13km, n35, σ1s23/40, mb3.6/10, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.12**	**356**	*d* iPN	Pn	20 47 09.3	-5.3
KUR				pmax	pmax		
	comp=N,26nm,0.4s						
KUR				pmax	pmax		
	comp=E,28nm,0.4s						
KUR				pmax	pmax		
	comp=Z,91nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.54**	**268**	*i* PN	**Pn**	**20 47 18.5**	**-0.6**
YUK				pmax	pmax		
	comp=E,69nm,0.2s						
YUK				pmax	pmax		
	comp=Z,600nm,0.2s						
YUK				pmax	pmax		
	comp=N,49nm,0.2s						
NEM2	**Nemuro 2**	**1.79**	**246**	P	**Pn**	**20 47 22.3**	**+0.2**
NEM2				*e*S	**Sn**	**20 47 45.4**	**-0.6**
JRA	**Rausu**	**2.08**	**266**	P	**Pn**	**20 47 25.7**	**+0.1**
JRA				*e*S	**Sn**	**20 47 52.5**	**+0.4**
JNK	**Nakash**	**2.42**	**258**	P	**Pn**	**20 47 30.6**	**+0.6**
JAK	**Akkeshi**	**2.64**	**246**	P	**Pn**	**20 47 33.4**	**+0.7**
JAK				*e*S	**Sn**	**20 48 04.4**	**-0.5**
JTKR	**Abashiri--Toko**	**2.95**	**268**	P	**Pn**	**20 47 37.1**	**+0.5**
JAR	**Ashorobuto**	**3.17**	**256**	P	**Pn**	**20 47 41.2**	**+1.6**
JCH	**Churui**	**3.69**	**248**	P	**Pn**	**20 47 47.4**	**+0.9**
JCH				*e*S	**Sn**	**20 48 30.2**	**+0.7**
JKK2	**Kamakawa 2**	**3.79**	**268**	P	**Pn**	**20 47 48.7**	**+1.0**
ASAJ	**Asahikawa**	**3.88**	**272**	P	**Pn**	**20 47 50.0**	**+1.1**
	comp=N,4.9nm,0.3s,baz=72,slow=21,SNR=39						
JSE	**Soyaes**	**3.95**	**284**	P	**Pn**	**20 47 49.4**	**-0.5**
JFR	**Furan**	**4.03**	**258**	P	**Pn**	**20 47 52.8**	**+1.8**
ERM	**Erimo**	**4.12**	**241**	*e*PN	Pn	20 47 55.5	+3.4
JNBK	**Urakawa-nobuka**	**4.25**	**246**	P	**Pn**	**20 47 54.5**	**+0.7**
JNBK				*e*S	**Sn**	**20 48 41.6**	**-1.0**
JWK2	**Keihoku**	**4.50**	**288**	P	**Pn**	**20 47 58.2**	**+1.0**
YSS	**Yuzh-Sakhalins**	**4.64**	**309**	*e*PN	Px	20 47 40.4	
JKB	**Kayabe**	**5.57**	**249**	P	**Pn**	**20 48 12.5**	**+1.0**
JKB				*e*S	**Sn**	**20 49 12.1**	**-2.2**
JOT	**Ohata**	**5.80**	**244**	P	**Pn**	**20 48 15.1**	**+0.5**
JANG	**Nango**	**6.09**	**234**	P	**Pn**	**20 48 18.6**	**0.0**
JANG				*e*S	**Sn**	**20 49 24.2**	**-2.8**
JOSM	**Okushiri--Mats**	**6.56**	**255**	P	**Pn**	**20 48 25.4**	**+0.6**
USRK	**Ussuriysk Arra**	**11.49**	**276**	P	**Pn**	**20 49 30.4**	**-0.7**
	comp=N,0.2nm,0.3s,baz=89,slow=14,SNR=6.8						
SONM	**Songino Array**	**28.89**	**292**	P	**P**	**20 52 38.8**	**+1.1**
	comp=N,0.1nm,0.3s,baz=69,slow=7.9,SNR=2.4						
ILAR	**Eielson Array**	**40.83**	**36**	P	**P**	**20 54 20.8**	**+1.2**
	comp=N,0.6nm,0.5s,baz=274,slow=8.7,SNR=6.2						
ZALV	**Zalesovo Beam**	**41.26**	**307**	PcP	**PcP**	**20 56 21.4**	**+1.9**
	comp=N,0.5nm,0.5s,baz=90,slow=1.4,SNR=2.8						
MKAR	**Makanchi Array**	**44.95**	**298**	P	**P**	**20 54 54.1**	**+1.1**
MKAR						20 56 34.5	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**44.95**	**298**	P	**P**	**20 54 54.1**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=76,slow=8.3,SNR=8.9						
MKAR				PcP	**PcP**	**20 56 34.5**	**+2.4**
	comp=Z,0.2nm,0.6s,baz=64,slow=3.4,SNR=2.8						
INK	**Inuvik**	**45.78**	**31**	P	**P**	**20 54 57.5**	**-1.7**
	comp=Z,0.8nm,0.4s,baz=313,slow=8.0,SNR=6.0						
KURK	**Kurchatov**	**45.82**	**304**	P	**P**	**20 55 00.8**	**+1.0**
KURBB	**Kurchatov Arra**	**45.91**	**304**	P	**P**	**20 55 00.8**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=72,slow=8.7,SNR=3.8						
BRVK	**Borovoye**	**49.78**	**309**	*e*P	**P**	**20 55 28.9**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**59.11**	**340**	P	**P**	**20 56 35.8**	**-1.6**
	comp=Z,3.4nm,1.0s,baz=40,slow=7.1,SNR=3.2						
FINES	**FINESS Array B**	**64.82**	**333**	P	**P**	**20 57 14.2**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=54,slow=7.8,SNR=11						
NOA	**NORSAR Array B**	**69.47**	**339**	P	**P**	**20 57 44.3**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=27,slow=8.1,SNR=6.2						
GERES	**GERESS Array B**	**79.13**	**331**	P	**P**	**20 58 41.8**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=38,slow=6.6,SNR=2.8						

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*IDC **01** 20:51:56.7±1.2, 43.51N×105.25W, h0km, mb4.1/2, mb1 4.0/7, mb1mx3.6/31, mbtmp3.8/7, ML3.6/4, MS2.9/3, Ms1 2.9/3, ms1mx2.5/48, Error ellipse: s-maj=24.2km s-min=8.1km az=154.0*
*ISCJB **01** 20:51:57.7±0.1, 43.77N±0.01×105.29W±0.02, h0km, mb4.2/2, MS5.3/1, Error ellipse: s-maj=2.0km s-min=1.6km az=155.2*
*NEIC **01** 20:51:58.6±0.5, 43.77N×105.22W, h0km, ML3.4, Error ellipse: s-maj=6.9km s-min=6.0km az=158.0, Suspected Mining explosion.*
NEIC 60 km [40 miles] SSE of Gillette.

ISC 01 20:51:58.5±0.6, 43.76N±0.02×105.28W±0.02, h0km, n361, σ0s84/384, 146C-144D, Wyoming

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

I23A	**Meade Ranch, G**	**0.24**	**327**	P	**Pg**	**20 52 04.4**	**+1.2**
	baz=0.3,SNR=141						
I23A				⇑S	**Sg**	**20 52 07.6**	**+1.2**
	baz=0.3						
I23A	**Meade Ranch, G**	**0.24**	**327**	P	**Pg**	**20 52 04.4**	**+1.2**
	baz=0.3,SNR=141						
I23A				⇑S	**Sg**	**20 52 07.6**	**+1.2**
	baz=0.3						
J23A	**Dilts Ranch, B**	**0.41**	**210**	P	**Pg**	**20 52 06.7**	**+0.4**
	baz=0.4,SNR=174						
J23A				⇓S	**Sg**	**20 52 11.5**	**0.0**
	baz=0.4						
J23A	**Dilts Ranch, B**	**0.41**	**210**	P	**Pg**	**20 52 06.7**	**+0.4**
	baz=0.4,SNR=174						
J23A				⇓S	**Sg**	**20 52 11.5**	**0.0**
	baz=0.4						
I24A	**Kuemmerle Ranc**	**0.48**	**77**	P	**Pg**	**20 52 08.7**	**+0.9**
	baz=0.4,SNR=806						
I24A				⇑S	**Sb**	**20 52 16.1**	**-1.6**
	baz=0.4						
I24A	**Kuemmerle Ranc**	**0.48**	**77**	P	**Pg**	**20 52 08.7**	**+0.9**
	baz=0.4,SNR=806						
I24A				⇑S	**Sb**	**20 52 16.1**	**-1.6**
	baz=0.4						
J24A	**Dixon Ranch, L**	**0.62**	**133**	P	**Pg**	**20 52 10.8**	**+0.4**
	baz=0.6,SNR=171						
J24A	**Dixon Ranch, L**	**0.62**	**133**	P	**Pg**	**20 52 10.8**	**+0.4**
	baz=0.6,SNR=171						
H23A	**Clabaugh Cattl**	**0.81**	**354**	P	**Pg**	**20 52 14.3**	**+0.3**
	baz=0.8,SNR=66						
H23A	**Clabaugh Cattl**	**0.81**	**354**	P	**Pg**	**20 52 14.3**	**+0.3**
	baz=0.8,SNR=66						
I22A	**9 Mile Ranch,**	**0.88**	**279**	⇑P	**Pg**	**20 52 15.4**	**-0.1**
	baz=0.9,SNR=100						
I22A	**9 Mile Ranch,**	**0.88**	**279**	⇑P	**Pg**	**20 52 15.4**	**-0.1**
	baz=0.9,SNR=100						
J22A	**Midwest**	**0.94**	**249**	P	**Pg**	**20 52 15.8**	**-0.7**
	baz=1.0,SNR=301						
J22A	**Midwest**	**0.94**	**249**	P	**Pg**	**20 52 15.8**	**-0.7**
	baz=1.0,SNR=301						
RSSD	**Black Hills**	**0.97**	**67**	*e*P	**Pg**	**20 52 17.0**	**-0.1**
K23A	**Bowen Ranch, D**	**1.03**	**194**	⇑P	**Pg**	**20 52 17.6**	**-0.7**
	baz=1.1,SNR=14						
K23A	**Bowen Ranch, D**	**1.03**	**194**	⇑P	**Pg**	**20 52 17.6**	**-0.7**
	baz=1.1,SNR=83						
K24A	**Anderson Ranch**	**1.09**	**162**	⇓P	**Pg**	**20 52 19.0**	**-0.3**
	baz=1.1,SNR=83						
K24A	**Anderson Ranch**	**1.09**	**162**	⇓P	**Pg**	**20 52 19.0**	**-0.3**
	baz=1.1,SNR=83						
H24A	**Dirks Ranch, A**	**1.12**	**28**	⇓P	**Pg**	**20 52 19.7**	**-0.3**
	baz=1.1						
H24A	**Dirks Ranch, A**	**1.12**	**28**	⇓P	**Pg**	**20 52 19.7**	**-0.3**
	baz=1.1						
J25A	**Sunshine Ranch**	**1.13**	**108**	P	**Pg**	**20 52 20.0**	**-0.2**
	baz=1.1						
J25A	**Sunshine Ranch**	**1.13**	**108**	P	**Pg**	**20 52 20.0**	**-0.2**
	baz=1.1						
H22A	**Clearmont**	**1.14**	**318**	⇑P	**Pg**	**20 52 20.2**	**-0.2**
	baz=1.2,SNR=229						
H22A				⇓S	**Sb**	**20 52 36.5**	**0.0**
	baz=1.2						
H22A	**Clearmont**	**1.14**	**318**	⇑P	**Pg**	**20 52 20.2**	**-0.2**
	baz=1.2,SNR=229						
H22A				⇓S	**Sb**	**20 52 36.5**	**0.0**
	baz=1.2						
I25A	**Rochford**	**1.15**	**76**	P	**Pg**	**20 52 20.3**	**-0.2**
	baz=1.1						
I25A	**Rochford**	**1.15**	**76**	P	**Pg**	**20 52 20.3**	**-0.2**
	baz=1.1						
K22A	**Casper**	**1.43**	**220**	⇑P	**Pn**	**20 52 24.5**	**-1.4**
	baz=1.5,SNR=114						
K22A				⇑S	**Sb**	**20 52 45.4**	**+0.3**
	baz=1.5						
K22A	**Casper**	**1.43**	**220**	⇑P	**Pn**	**20 52 24.5**	**-1.4**
	baz=1.5,SNR=114						
K22A				⇑S	**Sb**	**20 52 45.4**	**+0.3**
	baz=1.5						
G23A	**Biddle**	**1.45**	**357**	⇓P	**Pn**	**20 52 25.6**	**-0.4**
	baz=1.4,SNR=127						
G23A	**Biddle**	**1.45**	**357**	⇓P	**Pn**	**20 52 25.6**	**-0.4**
	baz=1.4,SNR=127						
I21A	**Big Trails, Te**	**1.46**	**273**	⇓P	**Pn**	**20 52 24.4**	**-1.9**
	baz=1.5,SNR=190						
I21A	**Big Trails, Te**	**1.46**	**273**	⇓P	**Pn**	**20 52 24.4**	**-1.9**
	baz=1.5,SNR=190						
H25A	**Fruitdale**	**1.49**	**54**	P	**Pn**	**20 52 26.5**	**0.0**
	baz=1.4						
H25A	**Fruitdale**	**1.49**	**54**	P	**Pn**	**20 52 26.5**	**0.0**
	baz=1.4						
H21A	**Big Horn, Sher**	**1.54**	**305**	⇑P	**Pn**	**20 52 27.2**	**-0.1**
	baz=1.6,SNR=118						
H21A	**Big Horn, Sher**	**1.54**	**305**	⇑P	**Pn**	**20 52 27.2**	**-0.1**
	baz=1.6,SNR=118						
K25A	**Mack Ranch, Ha**	**1.54**	**138**	⇓P	**Pn**	**20 52 27.7**	**+0.3**
	baz=1.5,SNR=63						
K25A	**Mack Ranch, Ha**	**1.54**	**138**	⇓P	**Pn**	**20 52 27.7**	**+0.3**
	baz=1.5,SNR=63						
J21A	**Lysite**	**1.63**	**256**	P	**Pn**	**20 52 27.6**	**-1.0**
	baz=1.7,SNR=137						
J21A				⇑S	**Sn**	**20 52 50.1**	**-0.3**
	baz=1.7						
J21A	**Lysite**	**1.63**	**256**	P	**Pn**	**20 52 27.6**	**-1.0**
	baz=1.7,SNR=137						
J21A				⇑S	**Sn**	**20 52 50.1**	**-0.3**
	baz=1.7						
G22A	**Birney**	**1.63**	**334**	⇑P	**Pn**	**20 52 28.9**	**+0.3**
	baz=1.6,SNR=73						
G22A	**Birney**	**1.63**	**334**	⇑P	**Pn**	**20 52 28.9**	**+0.3**
	baz=1.6,SNR=73						
L23A	**Garrett**	**1.67**	**191**	P	**Pn**	**20 52 28.8**	**-0.4**
	baz=1.7,SNR=1000						
L23A	**Garrett**	**1.67**	**191**	P	**Pn**	**20 52 28.8**	**-0.4**
	baz=1.7,SNR=1000						
G24A	**Alzada**	**1.69**	**21**	⇓P	**Pn**	**20 52 29.9**	**+0.5**
	baz=1.7,SNR=124						
G24A	**Alzada**	**1.69**	**21**	⇓P	**Pn**	**20 52 29.9**	**+0.5**
	baz=1.7,SNR=124						
L24A	**Wheatland**	**1.73**	**171**	⇓P	**Pn**	**20 52 29.9**	**-0.1**
	baz=1.7,SNR=19						
L24A	**Wheatland**	**1.73**	**171**	⇓P	**Pn**	**20 52 29.9**	**-0.1**
	baz=1.7,SNR=19						
I26A	**New Underwood**	**1.77**	**80**	Pb	**Pb**	**20 52 31.5**	**-0.4**
	baz=1.7						
I26A	**New Underwood**	**1.77**	**80**	Pb	**Pb**	**20 52 31.5**	**-0.4**
	baz=1.7						
K26A	**Motz Farm, Whi**	**1.86**	**124**	⇓P	**Pn**	**20 52 32.7**	**+0.9**
	baz=1.8,SNR=53						
K26A	**Motz Farm, Whi**	**1.86**	**124**	⇓P	**Pn**	**20 52 32.7**	**+0.9**
	baz=1.8,SNR=53						
L25A	**Engebretsen Ra**	**1.87**	**149**	⇑P	**Pb**	**20 52 33.0**	**-0.6**
	baz=1.9						
L25A	**Engebretsen Ra**	**1.87**	**149**	⇑P	**Pb**	**20 52 33.0**	**-0.6**
	baz=1.9						
L22A	**Ellis Ranch, M**	**1.92**	**207**	⇓P	**Pn**	**20 52 33.0**	**+0.3**
	baz=2.0,SNR=233						
L22A	**Ellis Ranch, M**	**1.92**	**207**	⇓P	**Pn**	**20 52 33.0**	**+0.3**
	baz=2.0,SNR=233						
F23A	**Volborg**	**1.97**	**357**	P	**Pn**	**20 52 33.7**	**+0.5**
	baz=2.0,SNR=94						
F23A	**Volborg**	**1.97**	**357**	P	**Pn**	**20 52 33.7**	**+0.5**
	baz=2.0,SNR=94						
H26A	**Fairpoint**	**2.00**	**64**	Pb	**Pb**	**20 52 35.5**	**-0.2**
	baz=1.9						
H26A	**Fairpoint**	**2.00**	**64**	Pb	**Pb**	**20 52 35.5**	**-0.2**
	baz=1.9						
G21A	**Lodge Grass**	**2.02**	**317**	⇓P	**Pn**	**20 52 34.1**	**+0.3**
	baz=2.0,SNR=146						
G21A	**Lodge Grass**	**2.02**	**317**	⇓P	**Pn**	**20 52 34.1**	**+0.3**
	baz=2.0,SNR=146						
I20A	**Worland**	**2.07**	**276**	⇓P	**Pn**	**20 52 35.1**	**+0.5**
	baz=2.1,SNR=298						
I20A	**Worland**	**2.07**	**276**	⇓P	**Pn**	**20 52 35.1**	**+0.5**
	baz=2.1,SNR=298						
J20A	**Shoshoni**	**2.08**	**260**	⇑Pb	**Pb**	**20 52 36.6**	**-0.6**
	baz=2.1						
J20A	**Shoshoni**	**2.08**	**260**	⇑Pb	**Pb**	**20 52 36.6**	**-0.6**
	baz=2.1						
H20A	**Greybull**	**2.09**	**291**	⇑P	**Pn**	**20 52 34.8**	**-0.1**
	baz=2.1						
H20A	**Greybull**	**2.09**	**291**	⇑P	**Pn**	**20 52 34.8**	**-0.1**
	baz=2.1						
F22A	**Rosebud**	**2.14**	**341**	⇓P	**Pn**	**20 52 35.5**	**0.0**
	baz=2.1,SNR=31						
F22A	**Rosebud**	**2.14**	**341**	⇓P	**Pn**	**20 52 35.5**	**0.0**
	baz=2.1,SNR=31						
M24A	**Cheyenne**	**2.31**	**172**	⇑Pb	**Pb**	**20 52 40.7**	**-0.4**
	baz=2.3						
M24A	**Cheyenne**	**2.31**	**172**	⇑Pb	**Pb**	**20 52 40.7**	**-0.4**
	baz=2.3						
I27A	**Quinn**	**2.35**	**81**	Pb	**Pb**	**20 52 41.4**	**-0.4**
	baz=2.3						
I27A	**Quinn**	**2.35**	**81**	Pb	**Pb**	**20 52 41.4**	**-0.4**
	baz=2.3						
L26A	**Underwood Farm**	**2.36**	**136**	⇓P	**Pn**	**20 52 39.9**	**+1.3**
	baz=2.3						
L26A	**Underwood Farm**	**2.36**	**136**	⇓P	**Pn**	**20 52 39.9**	**+1.3**
	baz=2.3						
L21A	**Rawlins**	**2.36**	**221**	⇑P	**Pn**	**20 52 39.2**	**+0.5**
	baz=2.4						
L21A	**Rawlins**	**2.36**	**221**	⇑P	**Pn**	**20 52 39.2**	**+0.5**
	baz=2.4						
F21A	**Absaloka Mine,**	**2.45**	**328**	⇑P	**Pn**	**20 52 39.8**	**0.0**
	baz=2.5,SNR=6.6						
F21A	**Absaloka Mine,**	**2.45**	**328**	⇑P	**Pn**	**20 52 39.8**	**0.0**
	baz=2.5,SNR=6.6						
PHWY	**Pilot Hill**	**2.46**	**183**	*e*P	**Pn**	**20 52 40.8**	**+0.7**
K27A	**Flueckinger Fa**	**2.46**	**114**	⇑P	**Pn**	**20 52 40.5**	**+0.6**
	baz=2.4						
K27A	**Flueckinger Fa**	**2.46**	**114**	⇑P	**Pn**	**20 52 40.5**	**+0.6**
	baz=2.4						
K20A	**Yellowstone Ra**	**2.50**	**245**	⇑P	**Pn**	**20 52 41.1**	**+0.6**
	baz=2.5						
K20A				⇓Sb	**Sb**	**20 53 16.0**	**+0.4**
	baz=2.5						
K20A	**Yellowstone Ra**	**2.50**	**245**	⇑P	**Pn**	**20 52 41.1**	**+0.6**
	baz=2.5						
K20A				⇓Sb	**Sb**	**20 53 16.0**	**+0.4**
	baz=2.5						
M22A	**Cedar Creek Ra**	**2.54**	**203**	⇓P	**Pn**	**20 52 42.6**	**+1.3**
	baz=2.6,SNR=86						
M22A	**Cedar Creek Ra**	**2.54**	**203**	⇓P	**Pn**	**20 52 42.6**	**+1.3**
	baz=2.6,SNR=86						
G20A	**Bridger**	**2.56**	**306**	⇑P	**Pn**	**20 52 41.0**	**-0.4**
	baz=2.6,SNR=225						
G20A	**Bridger**	**2.56**	**306**	⇑P	**Pn**	**20 52 41.0**	**-0.4**
	baz=2.6,SNR=225						
M21A	**Separation Pea**	**2.64**	**216**	⇑P	**Pn**	**20 52 43.9**	**+1.3**
	baz=2.7						
M21A	**Separation Pea**	**2.64**	**216**	⇑P	**Pn**	**20 52 43.9**	**+1.3**
	baz=2.7						
I19A	**Meeteetse**	**2.70**	**277**	⇓P	**Pn**	**20 52 44.1**	**+0.7**
	baz=2.7,SNR=28						
I19A	**Meeteetse**	**2.70**	**277**	⇓P	**Pn**	**20 52 44.1**	**+0.7**
	baz=2.7,SNR=28						
E22A	**Miles City**	**2.72**	**350**	⇑P	**Pn**	**20 52 43.3**	**-0.3**
	baz=2.7,SNR=22						
E22A	**Miles City**	**2.72**	**350**	⇑P	**Pn**	**20 52 43.3**	**-0.3**
	baz=2.7,SNR=22						
E23A	**Ismay**	**2.74**	**360**	⇓P	**Pn**	**20 52 44.1**	**+0.3**
	baz=2.7,SNR=104						
E23A	**Ismay**	**2.74**	**360**	⇓P	**Pn**	**20 52 44.1**	**+0.3**
	baz=2.7,SNR=104						
K19A	**Absolon Red Bu**	**2.77**	**252**	⇑P	**Pn**	**20 52 45.3**	**+1.0**
	baz=2.8						
K19A	**Absolon Red Bu**	**2.77**	**252**	⇑P	**Pn**	**20 52 45.3**	**+1.0**
	baz=2.8						
M26A	**McRoberts Ranc**	**2.78**	**145**	⇑P	**Pn**	**20 52 45.0**	**+0.7**
	baz=2.8						
M26A	**McRoberts Ranc**	**2.78**	**145**	⇑P	**Pn**	**20 52 45.0**	**+0.7**
	baz=2.8						
J19A	**Crowheart**	**2.79**	**261**	⇑P	**Pn**	**20 52 46.1**	**+1.5**
	baz=2.8						
J19A				⇑Sb	**Sb**	**20 53 24.5**	**+0.4**
	baz=2.8						
J19A	**Crowheart**	**2.79**	**261**	⇑P	**Pn**	**20 52 46.1**	**+1.5**
	baz=2.8						
J19A				⇑Sb	**Sb**	**20 53 24.5**	**+0.4**
	baz=2.8						
H19A	**Powell**	**2.82**	**290**	⇓P	**Pn**	**20 52 45.5**	**+0.6**
	baz=2.8,SNR=26						
H19A	**Powell**	**2.82**	**290**	⇓P	**Pn**	**20 52 45.5**	**+0.6**
	baz=2.8,SNR=26						
L20A	**Wamsutter**	**2.85**	**233**	⇑P	**Pn**	**20 52 46.8**	**+1.4**
	baz=2.9						
L20A	**Wamsutter**	**2.85**	**233**	⇑P	**Pn**	**20 52 46.8**	**+1.4**
	baz=2.9						
E24A	**Baker**	**2.89**	**13**	⇓P	**Pn**	**20 52 46.7**	**+0.9**
	baz=2.9,SNR=74						
E24A	**Baker**	**2.89**	**13**	⇓P	**Pn**	**20 52 46.7**	**+0.9**
	baz=2.9,SNR=74						
F20A	**Billings**	**2.89**	**316**	⇓P	**Pn**	**20 52 45.5**	**-0.3**
	baz=2.9,SNR=20						
F20A	**Billings**	**2.89**	**316**	⇓P	**Pn**	**20 52 45.5**	**-0.3**
	baz=2.9,SNR=20						
N23A	**Red Feather La**	**2.90**	**190**	⇑P	**Pn**	**20 52 47.2**	**+1.0**
	baz=2.9,SNR=60						
N23A				⇓Sb	**Sb**	**20 53 28.4**	**+1.0**
	baz=2.9						
N23A	**Red Feather La**	**2.90**	**190**	⇑P	**Pn**	**20 52 47.2**	**+1.0**
	baz=2.9,SNR=60						
N23A				⇓Sb	**Sb**	**20 53 28.4**	**+1.0**
	baz=2.9						
N24A	**Carr**	**2.94**	**174**	⇑P	**Pn**	**20 52 47.4**	**+0.7**
	baz=3.0,SNR=8.0						
N24A	**Carr**	**2.94**	**174**	⇑P	**Pn**	**20 52 47.4**	**+0.7**
	baz=3.0,SNR=8.0						
J28A	**Allard Ranch,**	**2.96**	**95**	⇓P	**Pn**	**20 52 49.4**	**+2.6**
	baz=2.9						
J28A	**Allard Ranch,**	**2.96**	**95**	⇓P	**Pn**	**20 52 49.4**	**+2.6**
	baz=2.9						
K28A	**Ten Mile Ranch**

N21A	Black Mountain baz=3.5	3.42	210	⇑P		Pn	20 52 54.6	+1.2
G18A	Lazy EL Ranch, baz=3.5,SNR=56	3.44	298	⇓P		Pn	20 52 53.7	+0.2
G18A	Lazy EL Ranch, baz=3.5,SNR=56	3.44	298	⇓P		Pn	20 52 53.7	+0.2
D22A	Cohagen baz=3.4	3.45	350	⇓P		Pn	20 52 53.9	+0.3
D22A	Cohagen baz=3.4	3.45	350	⇓P		Pn	20 52 53.9	+0.3
D21A	La Casta Ranch baz=3.5	3.52	341	⇑P		Pn	20 52 54.5	0.0
D21A	La Casta Ranch baz=3.5	3.52	341	⇑P		Pn	20 52 54.5	0.0
N27A	Anderson Farm, baz=3.6	3.58	144	⇑P		Pn	20 52 56.4	+1.0
N27A	Anderson Farm, baz=3.6	3.58	144	⇑P		Pn	20 52 56.4	+1.0
N20A	Spence Gulch, baz=3.7	3.67	218	⇑P		Pn	20 52 57.2	+0.6
N20A	Spence Gulch, baz=3.7	3.67	218	⇑P		Pn	20 52 57.2	+0.6
E19A	Rath Farm, Rou baz=3.7	3.67	319	⇓P		Pn	20 52 56.4	-0.2
E19A	baz=3.7			⇑S		Sn	20 53 41.5	+0.8
E19A	Rath Farm, Rou baz=3.7	3.67	319	⇓P		Pn	20 52 56.4	-0.2
E19A	baz=3.7			⇑S		Sn	20 53 41.5	+0.8
OGNE	Ogallala baz=3.7	3.70	138	*e*P		Pn	20 52 58.0	+1.0
OGNE	Ogallala baz=3.7	3.70	138	⇓P		Pn	20 52 58.1	+1.1
OGNE	Ogallala baz=3.7	3.70	138	⇓P		Pn	20 52 58.1	+1.1
O22A	Kremmling baz=3.7,SNR=6.0	3.71	195	⇑P		Pn	20 52 57.9	+0.5
O22A	baz=3.7			⇑Sb		Sb	20 53 53.5	+2.6
O22A	Kremmling baz=3.7,SNR=6.0	3.71	195	⇑P		Pn	20 52 57.9	+0.5
O22A	baz=3.7			⇑Sb		Sb	20 53 53.5	+2.6
GCMT	Greycliff	3.73	305	*e*P		Pn	20 52 57.9	+0.4
O25A	Wiggins baz=3.8,SNR=6.9	3.74	166	⇑P		Pn	20 52 57.5	-0.1
O25A	Wiggins baz=3.8,SNR=6.9	3.74	166	⇑P		Pn	20 52 57.5	-0.1
O26A	Horse Wrangler baz=3.8	3.81	157	⇓P		Pn	20 52 59.4	+0.9
O26A	Horse Wrangler baz=3.8	3.81	157	⇓P		Pn	20 52 59.4	+0.9
F18A	Big Timber baz=3.8,SNR=33	3.82	306	⇓P		Pn	20 52 59.4	+0.8
F18A	baz=3.8			⇓S		Sn	20 53 44.8	+0.6
F18A	Big Timber baz=3.8,SNR=33	3.82	306	⇓P		Pn	20 52 59.4	+0.8
F18A	baz=3.8			⇓S		Sn	20 53 44.8	+0.6
C24A	Savage baz=3.8,SNR=56	3.82	9	⇑P		Pn	20 52 59.8	+1.2
C24A	Savage baz=3.8,SNR=56	3.82	9	⇑P		Pn	20 52 59.8	+1.2
LOHW	Long Hollow	3.87	270	*e*P		Pn	20 53 01.7	+2.3
L29A	Maesberg Ranch baz=3.9	3.91	114	⇑P		Pn	20 53 00.4	+0.5
L29A	Maesberg Ranch baz=3.9	3.91	114	⇑P		Pn	20 53 00.4	+0.5
MOOW	Moose Ponds	3.96	272	*e*P		Pn	20 53 03.2	+2.5
ISCO	Idaho Springs	3.96	184	*e*P		Pn	20 53 01.7	+1.0
ISCO	Idaho Springs baz=4.0	3.96	184	⇓P		Pn	20 53 01.8	+1.0
ISCO	Idaho Springs baz=4.0	3.96	184	⇓P		Pn	20 53 01.8	+1.0
C22A	Vida baz=4.0,SNR=44	4.01	354	⇓P		Pn	20 53 02.5	+1.3
C22A	Vida baz=4.0,SNR=44	4.01	354	⇓P		Pn	20 53 02.5	+1.3
C23A	Lambert baz=4.0,SNR=101	4.05	1	⇓P		Pn	20 53 03.1	+1.3
C23A	Lambert baz=4.0,SNR=101	4.05	1	⇓P		Pn	20 53 03.1	+1.3
YFT	Old Faithful	4.06	282	P		Pn	20 53 00.6	-1.6
IMW	Indian Meadow	4.10	274	*e*P		Pn	20 53 04.0	+1.3
TPAW	Teton Pass	4.13	268	*e*P		Pn	20 53 05.8	+2.8
O27A	Beecher Island baz=4.1,SNR=27	4.13	149	⇓P		Pn	20 53 03.5	+0.6
O27A	Beecher Island baz=4.1,SNR=27	4.13	149	⇓P		Pn	20 53 03.5	+0.6
G17A	Pierce Place, baz=4.2	4.21	294	⇑P		Pn	20 53 04.0	0.0
G17A	Pierce Place, baz=4.2	4.21	294	⇑P		Pn	20 53 04.0	0.0
O20A	White River Ci baz=4.3	4.24	212	⇓P		Pn	20 53 04.2	-0.3
O20A	White River Ci baz=4.3	4.24	212	⇓P		Pn	20 53 04.2	-0.3
D19A	Cripps Ranch, baz=4.3,SNR=16	4.25	325	⇓P		Pn	20 53 04.5	0.0
D19A	Cripps Ranch, baz=4.3,SNR=16	4.25	325	⇓P		Pn	20 53 04.5	0.0
C21A	Desert Coulee baz=4.3,SNR=24	4.26	343	⇑P		Pn	20 53 05.1	+0.4
C21A	Desert Coulee baz=4.3,SNR=24	4.26	343	⇑P		Pn	20 53 05.1	+0.4
DCID1	Drake Creek	4.29	270	*e*P		Pn	20 53 02.6	-2.5
P25A	Willow Gulch B baz=4.3,SNR=12	4.32	169	⇑P		Pn	20 53 06.3	+0.7
P25A	Willow Gulch B baz=4.3,SNR=12	4.32	169	⇑P		Pn	20 53 06.3	+0.7
F17A	Fitzpatrick Pl baz=4.4	4.39	301	⇓P		Pn	20 53 07.0	+0.5
F17A	Fitzpatrick Pl baz=4.4	4.39	301	⇓P		Pn	20 53 07.0	+0.5
C20A	Veseth Ranch, baz=4.4	4.39	335	⇑P		Pn	20 53 07.2	+0.7
C20A	Veseth Ranch, baz=4.4	4.39	335	⇑P		Pn	20 53 07.2	+0.7
P23A	Jefferson baz=4.4,SNR=9.1	4.40	186	⇓P		Pn	20 53 07.4	+0.6
P23A	Jefferson baz=4.4,SNR=9.1	4.40	186	⇓P		Pn	20 53 07.4	+0.6
RRI2	Red Ridge	4.41	267	*e*P		Pn	20 53 08.7	+1.7
P26A	Davis Ranch, A baz=4.4	4.43	160	⇑P		Pn	20 53 08.0	+0.8
P26A	Davis Ranch, A baz=4.4	4.43	160	⇑P		Pn	20 53 08.0	+0.8
O19A	Miners Draw (B baz=4.5	4.49	221	⇓P		Pn	20 53 08.4	+0.5
O19A	Miners Draw (B baz=4.5	4.49	221	⇓P		Pn	20 53 08.4	+0.5
QLMT	Earthquake Lak	4.54	286	*e*Pg		Pb	20 53 18.9	-0.4
B22A	Reddig Ranch S baz=4.6,SNR=5.9	4.57	354	⇓P		Pn	20 53 09.5	+0.6
B22A	Reddig Ranch S baz=4.6,SNR=5.9	4.57	354	⇓P		Pn	20 53 09.5	+0.6
P27A	Ficken Ranch, baz=4.7,SNR=40	4.66	153	P		Pn	20 53 10.9	+0.7
P27A	Ficken Ranch, baz=4.7,SNR=40	4.66	153	P		Pn	20 53 10.9	+0.7
D18A	Linhart Farms, baz=4.7	4.69	319	⇑P		Pn	20 53 11.5	+0.9
D18A	Linhart Farms, baz=4.7	4.69	319	⇑P		Pn	20 53 11.5	+0.9
B23A	Brockton baz=4.7,SNR=26	4.71	2	⇓P		Pn	20 53 11.9	+1.1
B23A	Brockton baz=4.7,SNR=26	4.71	2	⇓P		Pn	20 53 11.9	+1.1
C19A	Slack Wire Ran baz=4.8	4.77	328	⇓P		Pn	20 53 12.5	+0.8
C19A	Slack Wire Ran baz=4.8	4.77	328	⇓P		Pn	20 53 12.5	+0.8
DGMT	Dagmar	4.77	9	*e*P		Pn	20 53 13.1	+1.4
DGMT	Dagmar baz=4.8,SNR=24	4.77	9	⇓P		Pn	20 53 13.1	+1.4
DGMT	Dagmar baz=4.8,SNR=24	4.77	9	⇓P		Pn	20 53 13.1	+1.4
E17A	Martinsdale baz=4.8	4.79	306	⇓P		Pn	20 53 12.7	+0.7
E17A	Martinsdale baz=4.8	4.79	306	⇓P		Pn	20 53 12.7	+0.7
B21A	Ellsworth Farm baz=4.8,SNR=7.4	4.83	346	⇓P		Pn	20 53 12.7	+0.3
B21A	Ellsworth Farm baz=4.8,SNR=7.4	4.83	346	⇓P		Pn	20 53 12.7	+0.3
Q25A	Bedland, Calha baz=4.9,SNR=13	4.90	171	⇑P		Pn	20 53 13.9	+0.3
Q25A	Bedland, Calha baz=4.9,SNR=13	4.90	171	⇑P		Pn	20 53 13.9	+0.3
BOZ	Bozeman (W)	4.91	295	*e*P		Pn	20 53 12.4	-1.2
P19A	Cripple Cowboy baz=5.0	4.96	215	⇑P		Pn	20 53 15.5	+1.0
P19A	Cripple Cowboy baz=5.0	4.96	215	⇑P		Pn	20 53 15.5	+1.0
Q26A	Hugo baz=5.0,SNR=13	5.01	164	⇑P		Pn	20 53 15.2	+0.2
Q26A	Hugo baz=5.0,SNR=13	5.01	164	⇑P		Pn	20 53 15.2	+0.2
B20A	Solberg Farm, baz=5.1	5.06	339	⇓P		Pn	20 53 16.2	+0.6
B20A	Solberg Farm, baz=5.1	5.06	339	⇓P		Pn	20 53 16.2	+0.6
D17A	Six Diamond Ra baz=5.1,SNR=56	5.10	314	P		Pn	20 53 16.6	+0.3
D17A	Six Diamond Ra baz=5.1,SNR=56	5.10	314	P		Pn	20 53 16.6	+0.3
HWUT	Hardware Ranch 13nm,0.5s	5.11	247	*e*P		Pn	20 53 16.2	-0.3
KSCO	Kaye Shedlock' baz=5.1	5.14	156	⇑P		Pn	20 53 17.3	+0.4
KSCO	Kaye Shedlock' baz=5.1	5.14	156	⇑P		Pn	20 53 17.3	+0.4
A23A	Redstone baz=5.2	5.21	3	⇑P		Pn	20 53 18.8	+1.1
A23A	Redstone baz=5.2	5.21	3	⇑P		Pn	20 53 18.8	+1.1
A24A	Westby baz=5.2,SNR=14	5.24	9	⇓P		Pn	20 53 19.5	+1.3
A24A	Westby baz=5.2,SNR=14	5.24	9	⇓P		Pn	20 53 19.5	+1.3
O30A	MW Ranch, Wils baz=5.3	5.28	131	⇑P		Pn	20 53 20.0	+1.3
O30A	MW Ranch, Wils baz=5.3	5.28	131	⇑P		Pn	20 53 20.0	+1.3
EGMT	Eagleton 26nm,0.4s	5.29	325	*e*P		Pn	20 53 19.2	+0.3
EGMT	Eagleton baz=5.3,SNR=9.1	5.29	325	⇓P		Pn	20 53 19.1	+0.3
EGMT	Eagleton baz=5.3,SNR=9.1	5.29	325	⇓P		Pn	20 53 19.1	+0.3
E16A	East Helena baz=5.3,SNR=7.3	5.31	304	P		Pn	20 53 19.6	+0.4
E16A	East Helena baz=5.3,SNR=7.3	5.31	304	P		Pn	20 53 19.6	+0.4
B19A	Brinkman Farms baz=5.3	5.35	333	⇑P		Pn	20 53 20.1	+0.6
B19A	Brinkman Farms baz=5.3	5.35	333	⇑P		Pn	20 53 20.1	+0.6
Q28A	Sharon Springs baz=5.4	5.36	150	⇑P		Pn	20 53 20.3	+0.5
Q28A	Sharon Springs baz=5.4	5.36	150	⇑P		Pn	20 53 20.3	+0.5
C17A	Wharram Farm, baz=5.5,SNR=9.7	5.46	317	P		Pn	20 53 21.7	+0.5
C17A	Wharram Farm, baz=5.5,SNR=9.7	5.46	317	P		Pn	20 53 21.7	+0.5
DLMT	Dillon 6.3nm,0.5s	5.47	290	*e*Pn		Pn	20 53 22.1	+0.7
D16A	Dana Ranch, Ca baz=5.5,SNR=5.5	5.50	309	⇓P		Pn	20 53 21.9	+0.2
D16A	Dana Ranch, Ca baz=5.5,SNR=5.5	5.50	309	⇓P		Pn	20 53 21.9	+0.2
LRM	Limekiln Ridge 35nm,0.4s	5.51	295	*e*Pn		Pn	20 53 22.7	+0.8
MCMT	McKenzie Canyo 3.0nm,0.4s	5.54	284	*e*Pn		Pn	20 53 26.0	+3.6
R23A	Moffat baz=5.6	5.58	184	⇑P		Pn	20 53 22.9	0.0
R23A	Moffat baz=5.6	5.58	184	⇑P		Pn	20 53 22.9	0.0
B18A	Beardsley Farm baz=5.6	5.59	328	⇑P		Pn	20 53 23.5	+0.5
B18A	Beardsley Farm baz=5.6	5.59	328	⇑P		Pn	20 53 23.5	+0.5
R26A	Arlington baz=5.6,SNR=45	5.62	165	P		Pn	20 53 23.8	+0.3
R26A	Arlington baz=5.6,SNR=45	5.62	165	P		Pn	20 53 23.8	+0.3
R25A	Fountain Ranch baz=5.7,SNR=11	5.65	172	P		Pn	20 53 24.1	+0.2
R25A	Fountain Ranch baz=5.7,SNR=11	5.65	172	P		Pn	20 53 24.1	+0.2
MDND	Maddock baz=5.7,SNR=6.5	5.70	42	⇑P		Pn	20 53 24.5	+0.1
MDND	Maddock baz=5.7,SNR=6.5	5.70	42	⇑P		Pn	20 53 24.5	+0.1
A19A	Klindworth Far baz=5.7,SNR=5.5	5.70	336	⇓P		Pn	20 53 23.9	-0.5
A19A	Klindworth Far baz=5.7,SNR=5.5	5.70	336	⇓P		Pn	20 53 23.9	-0.5
R27A	Eads baz=5.8	5.78	160	⇓P		Pn	20 53 25.9	+0.3
R27A	Eads baz=5.8	5.78	160	⇓P		Pn	20 53 25.9	+0.3
B17A	L&G Farms, Che baz=5.9	5.95	322	⇑P		Pn	20 53 28.2	+0.4
B17A	L&G Farms, Che baz=5.9	5.95	322	⇑P		Pn	20 53 28.2	+0.4
SDCO	Great Sand Dun 2.5nm,0.4s	6.01	182	*e*Pn		Pn	20 53 29.7	+0.8
R28A	Tribune baz=6.0,SNR=33	6.01	153	P		Pn	20 53 28.7	-0.1
R28A	Tribune baz=6.0,SNR=33	6.01	153	P		Pn	20 53 28.7	-0.1
A18A	Metzger Ranch, baz=6.1	6.05	330	⇓P		Pn	20 53 29.0	-0.3
A18A	Metzger Ranch, baz=6.1	6.05	330	⇓P		Pn	20 53 29.0	-0.3
D15A	Lincoln baz=6.1	6.07	305	⇓P		Pn	20 53 29.7	+0.2
D15A	Lincoln baz=6.1	6.07	305	⇓P		Pn	20 53 29.7	+0.2
C16A	Fuhringer Ranc baz=6.1	6.07	314	⇓P		Pn	20 53 29.1	-0.4
C16A	Fuhringer Ranc baz=6.1	6.07	314	⇓P		Pn	20 53 29.1	-0.4
SRU	San Rafael 15nm,0.5s	6.09	222	*e*Pn		Pn	20 53 29.8	-0.1
S25A	Robets Cordova baz=6.1,SNR=21	6.12	174	P		Pn	20 53 30.4	0.0
S25A	Robets Cordova baz=6.1,SNR=21	6.12	174	P		Pn	20 53 30.4	0.0
R29A	Marienthal baz=6.2	6.18	148	⇑P		Pn	20 53 31.1	+0.1
R29A	Marienthal baz=6.2	6.18	148	⇑P		Pn	20 53 31.1	+0.1
ECSD	EROS Data Cent 15nm,0.3s	6.28	87	*e*Pn		Pn	20 53 32.7	+0.4
S26A	Kim baz=6.3,SNR=9.1	6.28	167	⇓P		Pn	20 53 31.6	-0.9
S26A	Kim baz=6.3,SNR=9.1	6.28	167	⇓P		Pn	20 53 31.6	-0.9
TMUT	Trail Mountain 15nm,0.4s	6.30	227	*e*Pn		Pn	20 53 31.1	-1.7
S27A	Las Animas baz=6.3	6.33	163	⇓P		Pn	20 53 33.2	0.0
S27A	Las Animas baz=6.3	6.33	163	⇓P		Pn	20 53 33.2	0.0
A17A	Triple J Farms baz=6.4	6.40	326	⇓P		Pn	20 53 33.7	-0.4
A17A	Triple J Farms baz=6.4	6.40	326	⇓P		Pn	20 53 33.7	-0.4
CHMT	Chamberlain Mo 2.5nm,0.4s	6.45	302	*e*P		Pn	20 53 34.6	-0.2
B16A	M & M Farms, S baz=6.5,SNR=12	6.45	318	⇑P		Pn	20 53 34.4	-0.4
B16A	M & M Farms, S baz=6.5,SNR=12	6.45	318	⇑P		Pn	20 53 34.4	-0.4
C15A	Salmond Ranch, baz=6.5	6.51	311	⇑P		Pn	20 53 35.4	-0.2
C15A	Salmond Ranch, baz=6.5	6.51	311	⇑P		Pn	20 53 35.4	-0.2
Q16A	Castle Valley baz=6.6	6.56	225	⇓P		Pn	20 53 36.6	+0.2
Q16A	Castle Valley baz=6.6	6.56	225	⇓P		Pn	20 53 36.6	+0.2
DUG	Dugway 5.4nm,0.4s	6.65	240	*e*P		Pn	20 53 36.3	-1.2
DUG	Dugway baz=6.7	6.65	240	⇑P		Pn	20 53 37.6	0.0
DUG	Dugway baz=6.7	6.65	240	⇑P		Pn	20 53 37.6	0.0
S28A	Manter baz=6.7	6.67	156	⇑P		Pn	20 53 37.8	-0.1
S28A	Manter baz=6.7	6.67	156	⇑P		Pn	20 53 37.8	-0.1
D14A	Greenough baz=6.7,SNR=8.1	6.68	303	⇑P		Pn	20 53 37.7	-0.2
D14A	Greenough baz=6.7,SNR=8.1	6.68	303	⇑P		Pn	20 53 37.7	-0.2
SLMT	Seeley Lake 3.9nm,0.5s	6.74	304	*e*P		Pn	20 53 38.7	-0.2
B15A	Bradely Ranch, baz=6.8,SNR=7.6	6.81	314	⇑P		Pn	20 53 39.2	-0.6
B15A	Bradely Ranch, baz=6.8,SNR=7.6	6.81	314	⇑P		Pn	20 53 39.2	-0.6
T27A	Campo baz=7.0,SNR=12	6.97	163	⇑P		Pn	20 53 41.5	-0.4
T27A	Campo baz=7.0,SNR=12	6.97	163	⇑P		Pn	20 53 41.5	-0.4
T28A	Walsh baz=7.1,SNR=13	7.05	159	⇑P		Pn	20 53 42.7	-0.3
T28A	Walsh baz=7.1,SNR=13	7.05	159	⇑P		Pn	20 53 42.7	-0.3
S30A	Montezuma baz=7.1	7.12	147	⇓P		Pn	20 53 43.9	0.0
S30A	Montezuma baz=7.1	7.12	147	⇓P		Pn	20 53 43.9	0.0
SWMT	Swartz Lake 3.6nm,0.4s	7.17	305	*e*P		Pn	20 53 45.0	+0.3
B14A	Marquette Ranc baz=7.2	7.22	312	⇓P		Pn	20 53 45.2	-0.1
B14A	Marquette Ranc baz=7.2	7.22	312	⇓P		Pn	20 53 45.2	-0.1
T29A	Hugoton baz=7.3	7.26	154	⇑P		Pn	20 53 46.0	+0.1
T29A	Hugoton baz=7.3	7.26	154	⇑P		Pn	20 53 46.0	+0.1
A15A	Johnson Ranch, baz=7.3	7.34	318	⇑P		Pn	20 53 46.3	-0.6
A15A	Johnson Ranch, baz=7.3	7.34	318	⇑P		Pn	20 53 46.3	-0.6
YBMT	Yellow Bay 5.1nm,0.4s	7.35	307	*e*P		Pn	20 53 48.3	+1.1
U25A	Circle Dot Ran baz=7.4	7.38	175	⇓P		Pn	20 53 47.8	+0.2
U25A	Circle Dot Ran baz=7.4	7.38	175	⇓P		Pn	20 53 47.8	+0.2
MVU	Marysvale 4.3nm,0.4s	7.41	227	*e*P		Pn	20 53 48.0	-0.1
A14A	Double T Ranch baz=7.7,SNR=12	7.67	316	⇓P		Pn	20 53 50.6	-1.0
A14A	Double T Ranch baz=7.7,SNR=12	7.67	316	⇓P		Pn	20 53 50.6	-1.0
U28A	Mallet baz=7.7,SNR=12	7.73	161	⇑P		Pn	20 53 52.6	+0.2
U28A	Mallet baz=7.7,SNR=12	7.73	161	⇑P		Pn	20 53 52.6	+0.2
AGMN	Agassiz Nation 18nm,0.4s	7.97	52	*e*P		Pn	20 53 51.1	-4.5
WALA	Waterton Lakes 0.1nm,0.4s	7.98	315	*e*P		Pn	20 53 55.1	-0.7
ARUT	Antelope Range 4.9nm,0.4s	8.59	229	*e*P		Pn	20 54 05.5	+1.3
CCUT	Cedar City 2.5nm,0.5s	8.72	227	*e*P		Pn	20 54 07.1	+0.9
ULM	Lac du Bonnet	9.13	41	Pn		Pn	20 54 10.2	-1.3
ULM				Lg		Lg	20 56 42.1	
ULM	Lac du Bonnet baz=3.9nm,0.3s,baz=234,slow=10,SNR=12	9.13	41	Pn		Pn	20 54 10.2	-1.3
ULM	1.4nm,0.3s,baz=143,slow=20,SNR=4.4			Lg		Lg	20 56 42.1	
NEW	Newport	9.39	303	Pn		Pn	20 54 14.4	-0.7
NEW				Lg		Lg	20 56 50.5	
NEW	Newport 0.2nm,0.3s,baz=98,slow=16,SNR=1.8	9.39	303	Pn		Pn	20 54 14.4	-0.7
NEW	0.1nm,0.3s,baz=351,slow=22,SNR=3.4			Lg		Lg	20 56 50.5	
NEW	comp=Z,100nm,21.2s,baz=104,slow=40			LR		LR	20 58 16.0	
NVAR	Mina Array Bea	11.17	246	Pn		Pn	20 54 38.6	-1.1
NVAR				Lg		Lg	20 57 50.9	
NVAR	Mina Array Bea 0.2nm,0.3s,baz=57,slow=12,SNR=2.2	11.17	246	Pn		Pn	20 54 38.6	-1.1
NVAR	baz=60,slow=29,SNR=1.6			Lg		Lg	20 57 50.9	
PFO	Pinyon Flat Ob comp=Z,53nm,19.1s,baz=92,slow=39	13.36	224	LR		LR	21 00 35.2	
TKL	Tuckaleechee C comp=Z,22nm,21.0s,baz=60,slow=36	18.38	109	LR		LR	21 02 57.1	
YKA	Yellowknife Ar	19.55	347	P		Pn	20 56 29.1	+0.4
YKA	Yellowknife Ar 0.2nm,0.3s,baz=151,slow=13,SNR=5.3	19.55	347	P		Pn	20 56 29.0	+0.4
ARCES	ARCESS Array B	61.40	18	P		P	21 02 15.7	-0.1
ARCES	ARCESS Array B 1.4nm,0.6s,baz=339,slow=6.5,SNR=6.8	61.40	18	P		P	21 02 15.7	-0.1
FINES	FINESS Array B	68.02	23	P		P	21 02 58.0	-1.1
FINES	FINESS Array B 1.4nm,0.9s,baz=335,slow=6.2,SNR=2.8	68.02	23	P		P	21 02 58.0	-1.1
USRK	Murwusk Arra comp=Z,2µm,20.8s,baz=327,slow=36	78.64	322	LR		LR	21 38 56.0	

*BJI **01** 20:53:35.3, 13°.29N×143°.92E, h170km, mB5.4/33, mb5.6/62*

*ISCJB **01** 20:53:36.9±0.5, 13°.26N±0°.02×143°.76E±0°.02, h180km±4km, mb5.3/199, Error ellipse: s-maj=3.8km s-min=3.2km az=153.2*

*MOS **01** 20:53:36.9±1.0, 13°.31N×143°.67E, h181km, mb5.3/46, Error ellipse: s-maj=8.1km s-min=5.1km az=109.3*

*DJA **01** 20:53:38.6±0.5, 13°N±4°×14°4E±°, h185km±5km, M5.3/70, mb5.3/70, mB5.7/37, MLv5.6/1, Mw(mB)5.3/37, Mwp6.5/1*

*BKK **01** 20:53:38.4±0.5, 13°N±5°×14°4E±°, h177km±7km, M5.4/37, mB5.8/21, mb5.3/37, MLv5.6/1, Mw(mB)5.3/21*

*IDC **01** 20:53:38.9±0.6, 13°.24N×143°.76E, h190km±5km, mb4.8/47, mb1 4.8/48, mb1mx4.8/50, mbtmp4.8/48, MS4.2/1, Ms1 4.2/1, ms1mx3.4/53, Error ellipse: s-maj=7.9km s-min=4.9km az=87.0*

*NEIC **01** 20:53:38.6±0.7, 13°.27N×143°.72E, h184km±6km, mb5.2/56, Error ellipse: s-maj=4.0km s-min=3.9km az=116.0*

NEIC Felt [III] at Apra Harbor and [II] at Andersen AFB and Santa Rita. Also felt at Barrigada, Dededo, Hagatna Heights, Mangilao, Tamuning and Yigo.

*GCMT **01** 20:53:39.2±0.2, 13°.04N×143°.78E, h177km, MW5.4, Moment Tensor Solution. s88,c148; s95,c178; Moment tensor: Scale 10^17^Nm; Mrr 1.23±.02; Mθθ -1.10±.03; Mφφ 0.13±.03; Mrθ 0.33±.03; Mθφ 0.44±.03; Mφr 0.84±.02; Best double couple: M0 1.50000×10^17^ NP1:φs316.00000°, δ51.00000°, λ127.00000°. NP2:φs86.00000°, δ52.00000°, λ53.00000°. Principal axes: T 1.7100, Plg62.0000°, Azm291.0000°; N -0.4400, Plg28.0000°, Azm111.0000°; P -1.2700, Plg0.0000°, Azm201.0000°; Data Used: II IU CN IC G.*

ISC 01 20:53:37.8±0.2, 13°.31N±0°.03×143°.78E±0°.03, h180km±1km, h180km; pP-P, n824, σ1.929/1033, mb5.3/210, 149C-118D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	Guam	1.09	75	*e*Pn		Pn	Pn	20 54 06.0	-0.2
GUMO				*e*S		Sn	Sn	20 54 25.7	-2.5
JAY	Jayapura 262nm,0.8s	16.01	191	P		Pn	Pn	20 57 14.5	+1.1
BAKI	Biak	16.29	208	P		Pn	Pn	20 57 17.5	+0.7
RKPI	Ransiki, Papua 300nm,1.5s,4µm	17.54	214	P		Pn	Pn	20 57 31.3	-0.3
PLP	Palo	18.50	265	⇓*e*P		Pn	Pn	20 57 42.7	-0.2
CNP	Catarman	18.65	270	*e*P		Pn	Pn	20 57 45.3	+0.5
MSLP	Maasin	18.79	262	*e*P		Pn	Pn	20 57 46.3	-0.1
DAV	Davao City (W) SNR=28	18.95	253	P		Pn	Pn	20 57 47.8	-0.4
DAV	Davao City (W)	18.95	253	P		P	P	20 57 46.8	+1.3
DAV				S		S	S	21 01 16.1	+4.7
DAV	Davao City (W) 500nm,1.4s,7µm	18.95	253	P		Pn	Pn	20 57 47.1	-1.1
DAV	Davao City (W) 30nm,0.3s,baz=75,slow=4.0,SNR=21	18.95	253	P		P	P	20 57 46.8	+1.3
DAV	27nm,0.3s,baz=347,slow=19,SNR=2.1			S		S	S	21 01 16.0	+4.7
BUKP	Musuan	19.17	256	*e*P		Pn	Pn	20 57 49.8	-1.0
GAMI	Galela, Maluku 319nm,0.8s,9µm	19.50	236	P		P	P	20 57 51.3	-0.2
LLP	Lapu-Lapu	19.62	263	⇑*e*P		P	P	20 57 54.2	+1.4
FAKI	Fak Fak 320nm,0.7s,3µm	19.77	216	P		P	P	20 57 55.8	+1.5
JOW	Kunigami 692nm,0.7s	19.80	315	*e*P		Pn	Pn	20 57 57.2	-1.0

CTBH Cotabato--PC H 20.14 254⇑ iP P 20 57 59.1 +0.8
TNTI Ternate 20.48 234 P P 20 58 01.1 -0.8
148nm,1.0s,2µm
AUQP San Andres 20.54 272 eP Pn 20 58 06.2 -1.2
RCP Roxas 20.62 267⇑ eP P 20 58 04.4 +1.0
PAGZ Pagadian 20.77 257 eP P 20 58 06.5 +1.5
GUIM Jordan 20.90 265 eP P 20 58 07.8 +1.4
PALP Palanan 20.94 283 eP P 20 58 08.6 +1.8
OTRP Odiongan 21.24 270 eP P 20 58 11.2 +1.2
LBMI Labuha 21.27 231 P P 20 58 11.2 +0.9
139nm,0.9s,2µm
BOAC Boac 21.34 273 eP P 20 58 12.8 +1.8
CAUP Cauayan 21.50 282 eP P 20 58 15.1 +2.4
IPIL Ipil 21.55 257 eP P 20 58 13.9 +0.6
BALP Baler 21.63 279 eP P 20 58 14.3 +0.2
SJMP San Jose 22.11 270 eP P 20 58 20.6 +1.7
MNI Manado 22.15 239 P P 20 58 19.1 -0.2
366nm,1.1s,5µm
MSAI Masohi 22.16 223 P P 20 58 20.1 +0.7
28nm,0.8s,1µm
APYP Conner 22.17 285 eP P 20 58 20.4 +1.0
BCPH Baguio City Da 22.63 281 ⇓ iP P 20 58 23.9 0.0
ABRA Dolores 22.64 284 eP P 20 58 23.9 +0.1
WAKE Wake Island 22.73 72 eP P 20 58 24.1 -0.6
426nm,0.9s
PMG Port Moresby 22.82 171 eP P 20 58 25.0 -0.4
42nm,0.9s
PMG S S 21 02 16.8 -4.2
PMG Port Moresby 22.82 171 P P 20 58 24.8 -0.6
49nm,1.0s,840nm
PMG Port Moresby 22.82 171 P P 20 58 24.7 -0.7
33nm,0.8s,baz=351,slow=6.0,SNR=9.9
PMG S S 21 02 16.8 -4.2
4.8nm,0.4s,baz=277,slow=17,SNR=2.8
JNU Nakatsue 22.97 331 eP P 20 58 27.6 +0.9
821nm,1.1s
JNU S S 21 02 22.0 -1.3
JNU Nakatsue 22.97 331 P P 20 58 27.8 +1.1
449nm,0.8s,baz=117,slow=4.5,SNR=120
JNU S S 21 02 22.0 -1.3
7.1nm,0.8s,baz=229,slow=19,SNR=5.1
BUSP Coron 23.05 269 eP P 20 58 28.5 +1.0
SCZP Santa Cruz 23.23 279 eP P 20 58 29.8 +0.6
BOLP Bolinao 23.27 281 eP P 20 58 28.7 -0.8
KMSI Cibinong 23.34 239 P P 20 58 31.6 +1.4
606nm,0.8s,5µm
TWG Pinlang 23.54 297 eP P 20 58 31.4 -0.6
908nm,0.8s
YULB Yu-li 23.55 298 eP P 20 58 32.2 +0.2
NACB Ninganchiao 23.59 300 eP P 20 58 32.6 +0.3
159nm,0.7s
MJAR Matsushiro Arr 23.67 349 P P 20 58 32.5 -0.5
MJAR S S 21 02 34.4 0.0
MJAR ScP ScP 21 05 31.8 -1.9
MJAR Matsushiro Arr 23.67 349 P P 20 58 32.5 -0.5
31nm,0.4s,baz=165,slow=10,SNR=97
MJAR S S 21 02 34.4 0.0
1.1nm,0.6s,baz=160,slow=16,SNR=3.3
MJAR LR LR 21 05 24.3
comp=Z,628nm,21.4s,baz=115,slow=30
MJAR ScP ScP 21 05 31.8 -1.9
2.0nm,0.5s,baz=171,slow=2.6,SNR=9.3
MAJO Matsushiro 23.67 349 eP P 20 58 32.1 -0.9
MAJO pmax pmax
comp=Z,180nm,1.1s
MAJO Matsushiro 23.67 349 eP P 20 58 32.1 -0.9
comp=Z,180nm,1.1s
MAT Matsushiro 23.67 349 P P 20 58 32.6 -0.4
MAT S S 21 02 37.2 +2.7
ENPP El Nido 23.89 268 eP P 20 58 36.6 +1.4
YHNB Yeheng 23.97 301 eP P 20 58 36.4 +0.4
comp=Z,165nm,0.8s
SSLB Suanglung 23.98 299 eP P 20 58 36.3 +0.3
comp=Z,4µm,1.7s
TATO Taipei 24.00 302 eP P 20 58 36.8 +0.7
comp=Z,102nm,0.9s
TPUB Ta-pu 24.09 298 eP P 20 58 36.9 -0.1
comp=Z,315nm,0.8s
GTOI Gorontalo 24.12 240 P P 20 58 38.6 +1.3
comp=Z,166nm,1.0s,comp=Z,2µm
PPR Puerto Princes 24.79 265 i P P 20 58 48.1 +4.7
MRSI Marisa 25.11 241 P P 20 58 46.4 +0.1
comp=Z,194nm,1.4s,comp=Z,3µm
LUWI Luwuk 25.25 237 P P 20 58 46.6 -0.9
comp=Z,458nm,0.9s,comp=Z,4µm
BATP Bataraza 25.88 263 eP P 20 58 55.0 +1.8
MYLDM Lahad Datu 26.20 254 P P 20 58 56.8 +0.7
QZH Quanzhou 26.41 300⇑ iP P 20 58 57.9 0.0
QZH sP sP 20 59 53.0 -2.6
QZH S S 21 03 10.3 -7.7
QZH pmax pmax
comp=Z,370nm,1.4s
QZH pmax pmax
comp=Z,870nm,5.2s
QZH LR LR
comp=Z,760nm,20.2s
COEN Coen 27.10 181 eP P 20 59 04.6 +0.6
comp=Z,133nm,0.8s
TSM Tawau 27.10 253 P P 20 59 04.3 +0.1
SDKM Sandakan 27.29 256 P P 20 59 06.5 +0.7
SSE Sheshan 27.31 314 P P 20 59 07.0 +1.2
SSE S S 21 03 34.7 +2.7
SSE pmax pmax
comp=Z,90nm,1.2s
SSE pmax pmax
comp=Z,250nm,6.0s
SSE LR LR
comp=N,290nm,15.9s
SSE LR LR
comp=E,280nm,15.9s
SSE LR LR
comp=Z,470nm,14.4s
KSRS Korea Array 27.90 332 P P 20 59 11.4 +0.4
comp=Z,44nm,0.6s,baz=145,slow=9.3,SNR=13
KSRS ScP ScP 21 05 45.4 -0.6
comp=Z,9.0nm,1.2s,baz=174,slow=2.9,SNR=9.8
KSAR Wonju Array Be 27.91 332 P P 20 59 11.4 +0.4
KSAR ScP ScP 21 05 45.4 -0.6
KKM Kota Kinabalu 28.09 258 P P 20 59 14.0 +0.9
BBSI Bau Bau 28.15 230 P P 20 59 15.0 +1.5
comp=Z,70nm,1.0s,comp=Z,1µm
INCN Inchon 28.53 331 eP P 20 59 17.2 +0.6
comp=Z,133nm,1.6s
ERM Erimo 28.61 359 P P 20 59 21.5 +4.3
comp=Z,161nm,1.1s,SNR=5.8
ERM Erimo 28.61 359 i P P 20 59 20.6 +3.4
ERM pmax pmax
comp=Z,43nm,1.5s
TTSI Tana Toraja 28.80 237 P P 20 59 19.0 -0.3
comp=Z,37nm,1.3s,comp=Z,2µmcomp=Z,108µm
NJ2 Nanjing 29.49 313 eP P 20 59 26.1 +1.0
NJ2 pP pP 21 00 01.3 -1.1
NJ2 sP sP 21 00 21.6 -1.6
NJ2 S S 21 04 07.0 +0.7
NJ2 sS sS 21 05 12.5 +0.2
NJ2 pmax pmax
comp=Z,50nm,0.7s
NJ2 pmax pmax
comp=Z,220nm,6.2s
NJ2 LR LR
comp=N,3µm,18.2s
NJ2 LR LR
comp=E,2µm,15.1s
NJ2 LR LR
comp=Z,5µm,23.8s
KAPI Kappang 30.01 234 P P 20 59 29.6 -0.4
comp=Z,246nm,0.6s,SNR=16
KAPI Kappang 30.01 234 eP P 20 59 29.1 -0.9
comp=Z,27nm,0.7s
KAPI Kappang 30.01 234 P P 20 59 28.0 -2.0
comp=Z,39nm,1.2s
KAPI Kappang 30.01 234 P P 20 59 28.9 -1.0
comp=Z,18nm,0.5s,baz=80,slow=2.8,SNR=30
MMRI Maumere 30.55 226 P P 20 59 35.0 +0.4
comp=Z,113nm,1.3s,comp=Z,2µm
ASAJ Asahikawa 30.72 358 eP P 20 59 37.3 +1.5
comp=Z,151nm,1.7s
ASAJ Asahikawa 30.72 358 P P 20 59 36.3 +0.5
comp=Z,18nm,0.7s,baz=134,slow=7.1,SNR=16
BTM Bintulu 31.95 254 P P 20 59 47.6 +0.6
WHN Wuhan 32.10 307⇑ iP P 20 59 49.7 +1.6
WHN sP sP 21 00 44.0 -2.3
WHN S S 21 04 47.3 +0.2
WHN pmax pmax
comp=Z,500nm,1.0s
WHN pmax pmax
comp=Z,760nm,4.1s
DL2 Dalian 32.16 326 P P 20 59 50.1 +1.6
DL2 sP sP 21 00 47.6 +0.9
DL2 S S 21 04 48.4 +0.6
DL2 pmax pmax
comp=Z,330nm,0.8s
DL2 pmax pmax
comp=Z,310nm,2.8s
USRK Ussuriysk Arra 32.40 344 P P 20 59 51.4 +0.8
comp=Z,14nm,0.5s,baz=150,slow=8.6,SNR=38
USRK S S 21 04 45.6 -5.8
comp=Z,1.3nm,0.8s,baz=193,slow=16,SNR=2.3
USRK ScP ScP 21 05 59.7 -0.9
comp=Z,1.3nm,0.6s,baz=201,slow=3.7,SNR=5.9
SBUM Sibu 33.02 254 P P 20 59 56.7 +0.4
QIZ Qiongzhong 33.05 284 P P 20 59 56.7 +0.2
QIZ sP sP 21 00 53.3 -1.5
QIZ S S 21 05 03.5 +1.4
QIZ pmax pmax
comp=Z,60nm,1.3s
QIZ pmax pmax
comp=Z,300nm,7.1s
QIZ LR LR
comp=N,4µm,20.9s
QIZ LR LR
comp=Z,7µm,21.8s
QIZ Qiongzhong 33.05 284 eP P 20 59 58.0 +1.5
comp=Z,161nm,1.4s
TIA Tai'an 33.05 318 ⇑ P P 20 59 58.0 +1.6
TIA pmax pmax
comp=Z,330nm,4.1s
BBKI Banjar Baru 33.21 242 P P 21 00 02.8 +4.8
comp=Z,33nm,1.6s
CTAO Charters Tower 33.28 176 eP P 20 59 59.1 +0.7
CTAO eS S 21 05 05.1 -0.3
CTAO pmax pmax
comp=Z,16nm,0.9s
CTAO Charters Tower 33.28 176 eP P 20 59 59.1 +0.7
comp=Z,16nm,0.9s
CTAO eS S 21 05 05.1 -0.3
MDJ Mudanjiang 33.47 341 P P 21 00 01.4 +1.6
MDJ pP pP 21 00 37.0 -0.5
MDJ sP sP 21 00 55.8 -2.4
MDJ PP PP 21 01 20.3 +0.9
MDJ PcP PcP 21 02 37.8 +1.2
MDJ S S 21 05 11.8 +3.8
MDJ ScP ScP 21 06 04.8 +0.5
MDJ sS sS 21 06 15.2 +0.7
MDJ PcS PcS 21 06 23.6 +1.1
MDJ ScS ScS 21 10 07.6 +2.0
MDJ pmax pmax
comp=Z,55nm,1.1s
MDJ pmax pmax
comp=Z,160nm,4.0s
MDJ Mudanjiang 33.47 341 eP P 21 00 00.8 +1.0
comp=Z,127nm,1.4s
YSS Yuzh-Sakhalins 33.55 359 eP P 21 00 00.0 -0.4
YSS e*SP sP 21 00 59.0 +0.2
YSS eS S 21 05 08.0 -1.1
YSS eSS SnSn 21 07 28.0 -6.7
CN2 Changchun 34.22 336 eP P 21 00 06.7 +0.4
CN2 esP sP 21 01 04.3 -0.4
CN2 PP PP 21 01 29.0 +1.3
CN2 eS S 21 05 20.2 +0.6
CN2 SS SnSn 21 07 45.1 -6.3
CN2 pmax pmax
comp=Z,40nm,1.1s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,400nm,16.0s
CN2 LR LR
comp=E,300nm,16.0s
CN2 LR LR
comp=Z,600nm,17.0s
WRAB Tennant Creek 34.31 196 P P 21 00 07.0 -0.4
comp=Z,2µm,0.6s
WRAB Tennant Creek 34.31 196 eP P 21 00 06.9 -0.4
WRAB pmax pmax
comp=Z,152nm,0.6s
WRAB Tennant Creek 34.31 196 eP P 21 00 06.8 -0.5
comp=Z,152nm,0.6s
WRA Warramunga Arr 34.32 196 P P 21 00 07.4 -0.1
WRA PcP PcP 21 02 40.0 +0.5
WRA S S 21 05 18.6 -3.0
WRA ScP ScP 21 06 06.3 -1.3
WRA PKiKP PKiKP 21 10 01.7 -1.2
WRA Warramunga Arr 34.32 196 P P 21 00 07.4 -0.1
comp=Z,102nm,0.6s,baz=9.8,slow=9.5,SNR=343
WRA PcP PcP 21 02 40.0 +0.5
comp=Z,13nm,0.7s,baz=12,slow=3.2,SNR=5.9
WRA S S 21 05 18.6 -3.0
comp=Z,7.7nm,0.8s,baz=15,slow=16,SNR=13
WRA ScP ScP 21 06 06.3 -1.3
comp=Z,7.0nm,0.8s,baz=13,slow=3.8,SNR=7.6
WRA PKiKP PKiKP 21 10 01.7 -1.2
comp=Z,0.9nm,0.4s,baz=321,slow=1.3,SNR=17
STKI Sintang 34.61 250 P P 21 00 10.4 +0.4
comp=Z,172nm,1.3s,comp=Z,16µm
KSM Kuching 35.15 253 P P 21 00 14.7 0.0
KHKI Kahang-Kahang 35.30 234 P P 21 00 15.4 -0.5
comp=Z,218nm,1.1s,comp=Z,2µm
PBKI Pangkalan Bun 35.62 246 P P 21 00 17.1 -1.5
comp=Z,228nm,1.4s,comp=Z,3µm
HABR Khabarovsk 35.80 350 eP P 21 00 20.1 +0.4
HABR *PP pP 21 00 56.2 -1.5
HABR e*SP sP 21 01 16.9 -1.4
HABR e 21 01 43.6
HABR 21 02 41.5
HABR eS S 21 05 44.1 +0.6
HABR e*SS sS 21 06 50.6 +0.1
HABR e 21 10 15.6
HABR pmax pmax
comp=E,43nm,2.1s
HABR pmax pmax
comp=Z,153nm,2.1s
HABR pmax pmax
comp=N,79nm,2.1s
ENH Enshi 35.85 304 eP P 21 00 21.8 +1.3
comp=N,372nm,1.0s
IGBI Denpasar 35.94 234 P P 21 00 21.5 +0.1
comp=N,222nm,0.9s
FITZ Fitzroy Crossi 35.98 210 P P 21 00 21.5 -0.1
FITZ PP PnPn 21 01 52.7 +3.6
FITZ PcP PcP 21 02 45.1 +0.8
FITZ ePcP PcP 21 02 45.5 +1.1
FITZ S S 21 05 44.4 -2.5
FITZ Fitzroy Crossi 35.98 210 P P 21 00 21.5 -0.1
comp=N,30nm,0.5s,baz=31,slow=9.3,SNR=205
FITZ PP PnPn 21 01 52.7 +3.6
comp=N,13nm,1.0s,baz=30,slow=12,SNR=3.3
FITZ PcP PcP 21 02 45.1 +0.8
comp=N,24nm,0.6s,baz=360,slow=2.2,SNR=9.7
FITZ S S 21 05 44.4 -2.5
comp=N,6.9nm,0.9s,baz=288,slow=19,SNR=6.1
BJT Baijiatuan 36.01 323 eP P 21 00 22.8 +1.2
comp=N,237nm,0.7s
BJI Beijing 36.02 323 P P 21 00 23.0 +1.3
BJI S S 21 05 47.5 +0.4
BJI pmax pmax
comp=Z,590nm,3.2s
BJI LR LR
comp=N,660nm,20.3s
BJI LR LR
comp=E,740nm,20.3s
BJI LR LR
comp=Z,300nm,22.7s
BLJI Banyuglugur 36.55 237 P P 21 00 25.7 -0.9
comp=Z,168nm,0.8s
GMJI Gumukmas 36.98 236 P P 21 00 30.9 +0.8
comp=Z,140nm,1.1s
TIY Taiyuan 37.00 317 eP P 21 00 31.4 +1.2
TIY sP sP 21 01 29.1 +0.2
TIY S S 21 06 04.0 +1.8
TIY pmax pmax
comp=Z,820nm,3.9s
TIY LR LR
comp=Z,4µm,24.6s
TIY LR LR
comp=N,720nm,11.7s
TIY LR LR
comp=E,1µm,13.9s
GYA Guiyang 37.13 296⇑ iP P 21 00 33.2 +1.7
GYA pP pP 21 01 10.8 +1.1
GYA sP sP 21 01 31.4 +1.2
GYA PP PnPn 21 02 04.6 +1.7
GYA PcP PcP 21 02 48.2 +0.2
GYA S S 21 06 04.3 -0.4
GYA ScP ScP 21 06 17.8 -0.3
GYA PcS PcS 21 06 36.9 +0.1
GYA sS sS 21 07 11.2 -0.6
GYA ScS ScS 21 10 24.3 -2.2
GYA pmax pmax
comp=Z,120nm,1.0s
GYA pmax pmax
comp=Z,130nm,4.8s
UBPT Khong Chiam 37.15 278 P P 21 00 32.8 +1.2
comp=Z,47nm,1.6s,comp=Z,1µm
UBPT Khong Chiam 37.15 278 P P 21 00 33.1 +1.5
comp=Z,47nm,1.6s,comp=Z,1µm
KLR Kul'dur 37.17 347 eP P 21 00 28.2 -3.1
KLR pmax pmax
comp=Z,150nm,1.4s
XAN Xi'an 37.74 309 P P 21 00 37.5 +1.0
XAN pP pP 21 01 13.8 -0.9
XAN sP sP 21 01 35.4 +0.1
XAN PP PnPn 21 02 10.9 +1.0
XAN S S 21 06 09.8 -3.8
XAN SS SS 21 09 01.4 -5.8
XAN pmax pmax
comp=Z,36nm,1.1s
XAN pmax pmax
comp=Z,110nm,9.4s
PANO Nakornpanom 37.94 281 P P 21 00 40.1 +1.8
comp=Z,370nm,1.1s
AS31 Alice Springs 37.99 195 eP P 21 00 37.8 -0.8
ASAR Alice Springs 38.00 195 P P 21 00 38.2 -0.4
ASAR PP PnPn 21 02 14.4 +1.3
ASAR PcP PcP 21 02 51.0 +0.6
ASAR S S 21 06 13.4 -4.0
ASAR ScP ScP 21 06 20.2 -0.9
ASAR PKiKP PKiKP 21 10 04.4 -1.3
ASAR Alice Springs 38.00 195 P P 21 00 38.2 -0.4
comp=Z,15nm,0.6s,baz=15,slow=13,SNR=181
ASAR PP PnPn 21 02 14.4 +1.3
comp=Z,6.4nm,0.8s,baz=31,slow=12,SNR=4.4
ASAR PcP PcP 21 02 51.0 +0.6
comp=Z,8.0nm,0.8s,baz=359,slow=4.0,SNR=4.7
ASAR S S 21 06 13.4 -4.0
comp=Z,7.9nm,1.0s,baz=16,slow=19,SNR=7.9
ASAR ScP ScP 21 06 20.2 -0.9
comp=Z,6.0nm,0.7s,baz=18,slow=4.5,SNR=12
ASAR PKiKP PKiKP 21 10 04.4 -1.3
comp=Z,0.6nm,0.5s,baz=13,slow=1.7,SNR=8.1
SJI Sawahan 38.05 238 P P 21 00 38.8 -0.5
comp=Z,163nm,0.9s
PWJI Pagerwojo 38.18 238 P P 21 00 37.7 -2.5
comp=Z,245nm,1.0s
PCJI Pacitan 38.79 238 P P 21 00 45.6 +0.3
comp=Z,275nm,0.6s
EIDS Eidsvold 39.10 169 eP P 21 00 48.3 +0.6
comp=Z,22nm,1.3s
EIDS eS S 21 06 37.9 +4.1
UGM Wanagama 39.19 239 eP P 21 00 48.7 0.0
comp=Z,996nm,1.8s
TPI Tanjungpandan 39.24 249 P P 21 00 47.4 -1.7
comp=Z,73nm,1.3s,comp=Z,1µm
HHC Hu-ho-hao-te 39.30 320 eP P 21 00 51.0 +1.6
HHC pP pP 21 01 28.9 +1.0
HHC sP sP 21 01 48.9 +0.5
HHC PP PnPn 21 02 29.0 +0.8
HHC S S 21 06 38.9 +2.0
HHC PcS PcS 21 06 45.6 +1.1
HHC sS sS 21 07 44.8 +0.3
HHC SS SS 21 09 33.0 -5.2
HHC ScS ScS 21 10 38.2 -0.3
HHC pmax pmax
comp=Z,160nm,1.0s
HHC pmax pmax
comp=Z,810nm,7.9s
BJII Banjamegara 39.57 241 P P 21 00 53.8 +1.9
comp=Z,151nm,1.9s,comp=Z,4µm
TGJI Tegal 39.84 242 P P 21 00 52.0 -2.0
comp=Z,61nm,1.5s
KMI Kunming 40.34 293 ⇑ P P 21 01 00.5 +2.1
KMI pP pP 21 01 37.9 +0.8
KMI sP sP 21 01 58.6 +1.1
KMI PP PnPn 21 02 38.4 -2.2
KMI S S 21 06 52.5 -0.6
KMI sS sS 21 07 59.3 -1.6
KMI SS SS 21 09 53.7 -5.7
KMI pmax pmax
comp=Z,110nm,0.9s
KMI pmax pmax
comp=Z,570nm,3.1s
KMI LR LR
comp=N,250nm,12.7s
KMI LR LR
comp=E,210nm,14.6s
KMI LR LR
comp=Z,210nm,13.6s
CHBT CHBT 40.35 274 P P 21 00 58.5 +0.2
comp=Z,250nm,1.1s,comp=Z,3µm
CHBT CHBT 40.35 274 P P 21 00 59.6 +1.3
comp=Z,250nm,1.1s,comp=Z,3µm
CD2 Chengdu 40.74 302⇑ iP P 21 01 02.4 +1.0
CD2 pP pP 21 01 40.8 +0.7
CD2 sP sP 21 02 00.9 +0.4
CD2 PP PP 21 02 42.3 +3.2
CD2 PcP PcP 21 03 01.0 +1.8
CD2 PcS PcS 21 06 50.8 +0.4
CD2 S S 21 06 59.0 +0.5
CD2 SS SS 21 10 01.3 -5.5
CD2 pmax pmax
comp=Z,440nm,0.6s
CD2 pmax pmax
comp=Z,570nm,3.0s
CD2 LR LR
comp=N,550nm,16.6s
CD2 LR LR
comp=E,340nm,15.6s
CD2 LR LR
comp=Z,300nm,16.6s
KTGM Kuala Trenggan 40.84 263 P P 21 01 02.4 +0.2
HIA Hailar 40.96 336 eP P 21 01 04.2 +1.4
comp=Z,179nm,1.2s
LEM Lembang 41.11 243 P P 21 01 04.4 -0.3
comp=Z,86nm,1.2s
MYKOM Kota Tinggi 41.13 257 P P 21 01 04.5 -0.1
LOEI Loei 41.14 281 P P 21 01 02.4 -2.3
comp=Z,132nm,1.2s
NAYO Nakonayok 41.20 277 P P 21 01 06.9 +1.7
comp=Z,116nm,1.3s,comp=Z,14µm
PETK Petropavlovsk- 41.22 13 P P 21 01 05.8 +1.0
PETK 21 02 59.8
PETK Petropavlovsk- 41.22 13 P P 21 01 05.8 +1.0
PETK PcP PcP 21 02 59.8 -0.5
PETK Petropavlovsk- 41.22 13 P P 21 01 05.8 +1.0
comp=Z,1.3nm,0.4s,baz=159,slow=4.9,SNR=6.6
PETK PcP PcP 21 02 59.8 -0.5
comp=Z,14nm,1.1s,baz=184,slow=3.9,SNR=4.9
PBKT Sadao Pong 41.44 280 P P 21 01 08.0 +0.9
comp=Z,240nm,1.1s
PBKT Sadao Pong 41.44 280 P P 21 01 08.6 +1.5
comp=Z,240nm,1.1s
NOUC Port Laguerre 41.55 148 eP P 21 01 10.8 +3.0
KGM Kluang 41.56 258 P P 21 01 07.9 -0.3
DZM Mont Dzumac 41.60 147 eP P 21 01 08.9 +0.5
DZM Mont Dzumac 41.60 147 eP P 21 01 09.7 +1.4
comp=Z,82nm,0.6s
DZM PcP PcP 21 03 02.3 +0.2
DZM Mont Dzumac 41.60 147 P P 21 01 09.8 +1.4
comp=Z,90nm,0.7s,baz=270,slow=20,SNR=112
DZM PcP PcP 21 03 02.3 +0.2
comp=Z,16nm,0.6s,baz=90,slow=20,SNR=3.4
MBWA Marble Bar 41.61 215 eP P 21 01 08.5 +0.1
comp=Z,70nm,0.7s
DBJI Dramaga 41.74 244 P P 21 01 10.9 +1.3
comp=Z,55nm,1.4s
CRAI Chiangrai 42.03 285 P P 21 01 14.1 +2.1
comp=Z,309nm,0.9s,comp=Z,28µm
LZH Lanzhou 42.38 310 ⇑ P P 21 01 16.7 +2.0
LZH pP pP 21 01 55.0 +1.3
LZH sP sP 21 02 14.0 0.0
LZH PP PP 21 03 00.5 +3.8
LZH S S 21 07 24.5 +1.9
LZH sS sS 21 08 32.1 +1.1
LZH SS SS 21 10 34.2 -4.6
LZH pmax pmax

comp=Z,190nm,1.5s
LZH pmax pmax
comp=Z,650nm,6.7s
LZH LR LR
comp=N,1µm,15.0s
LZH LR LR
comp=E,750nm,14.6s
LZH LR LR
comp=Z,1µm,17.5s
LAMP Lampang 42.69 283 P **P** **21 01 18.3 +1.0**
comp=Z,22nm,0.8s,comp=Z,203nm
KLSI 42.70 248 P **P** **21 01 16.2 -1.2**
comp=Z,220nm,1.8s,comp=Z,5µm
FRIM Kepong 42.83 260 P **P** **21 01 18.1 -0.3**
PHET Kaeng Krachan 42.96 275 P **P** **21 01 21.3 +1.8**
comp=Z,279nm,1.0s,comp=Z,2µm
IPM Ipoh 43.08 262 P **P** **21 01 20.5 0.0**
KULM Kulim 43.25 264 P **P** **21 01 21.9 +0.2**
RGRI Rengat 43.26 255 P **P** **21 01 21.8 -0.1**
comp=Z,323nm,1.2s,comp=Z,35µm
CMAI Chiengmai2 43.27 285 P **P** **21 01 23.2 +1.1**
comp=Z,230nm,0.8s,comp=Z,14µm
CMMT Chiang Mai 43.34 283 P **P** **21 01 22.5 0.0**
comp=Z,32nm,0.8s,comp=Z,614nm
CMMT Chiang Mai 43.34 283 P **P** **21 01 23.7 +1.2**
comp=Z,32nm,0.8s,comp=Z,614nm
CHTO Chiang Mai 43.35 283 *e*P **P** **21 01 23.5 +0.9**
CHTO pmax pmax
comp=Z,23nm,0.8s
CHTO Chiang Mai 43.35 283 P **P** **21 01 23.7 +1.2**
SNR=14
CHTO Chiang Mai 43.35 283 *e*P **P** **21 01 23.5 +0.9**
comp=Z,23nm,0.8s
CHTO Chiang Mai 43.35 283 P **P** **21 01 22.0 -0.6**
comp=Z,36nm,0.8s,comp=Z,690nm
CHTO Chiang Mai 43.35 283 P **P** **21 01 23.1 +0.5**
comp=Z,36nm,0.8s,comp=Z,688nm
CMAR Chiang Mai Arr 43.35 283 P **P** **21 01 24.1 +1.5**
CMAR PcP **PcP** **21 03 09.1 +1.0**
CMAR ScP **ScP** **21 06 41.9 -0.6**
CMAR PKiKP **PKiKP** **21 10 10.1 -0.5**
CMAR Chiang Mai Arr 43.35 283 P **P** **21 01 24.1 +1.5**
comp=Z,64nm,0.8s,baz=83,slow=6.2,SNR=506
CMAR PcP **PcP** **21 03 09.1 +1.0**
comp=Z,16nm,0.6s,baz=109,slow=1.6,SNR=14
CMAR ScP **ScP** **21 06 41.9 -0.6**
comp=Z,2.5nm,0.8s,baz=86,slow=2.2,SNR=4.3
CMAR PKiKP **PKiKP** **21 10 10.1 -0.5**
comp=Z,0.3nm,0.6s,baz=167,slow=1.2,SNR=4.4
LWLI Liwa 43.44 248 P **P** **21 01 23.0 -0.5**
comp=Z,156nm,1.0s,comp=Z,3µm
ARMA Armidale 44.12 170 *e*P **P** **21 01 28.2 -0.4**
KSI Kapahiang 44.22 250 P **P** **21 01 27.8 -1.8**
comp=Z,223nm,1.1s,comp=Z,3µm
BKNI Bangkinang 44.26 257 P **P** **21 01 29.0 -0.8**
comp=Z,123nm,1.2s
STKA Stephens Creek 44.98 183 *e*P **P** **21 01 34.9 -0.3**
comp=Z,4.8nm,0.8s
STKA PcP **PcP** **21 03 12.4 -0.8**
STKA S **S** **21 07 56.2 -3.7**
STKA Stephens Creek 44.98 183 P **P** **21 01 34.6 -0.6**
comp=Z,20nm,0.7s,baz=352,slow=7.9,SNR=82
STKA PcP **PcP** **21 03 12.4 -0.8**
comp=Z,5.9nm,0.5s,baz=48,slow=0.8,SNR=3.6
STKA S **S** **21 07 56.2 -3.7**
comp=Z,6.2nm,1.0s,baz=90,slow=19,SNR=3.1
PPI Padang Panjang 45.12 256 P **P** **21 01 34.5 -2.1**
comp=Z,92nm,1.0s,comp=Z,1µm
PSI Prapat 45.54 261 P **P** **21 01 40.5 +0.4**
PSI PcP **PcP** **21 03 14.9 -0.9**
PSI Prapat 45.54 261 P **P** **21 01 40.5 +0.4**
comp=Z,62nm,0.6s,baz=76,slow=4.8,SNR=76
PSI PcP **PcP** **21 03 14.9 -0.9**
comp=Z,32nm,0.8s,baz=81,slow=3.6,SNR=7.0
CIT Chita 45.60 334 *e*P **P** **21 01 41.4 +1.4**
CIT *e* 21 08 10.1
CIT pmax pmax
comp=Z,264nm,1.6s
TSI Tuntungan 45.70 262 P **P** **21 01 41.1 -0.2**
comp=Z,133nm,1.0s
MSVF Nonsavu 45.77 132 *e*P **P** **21 01 43.4 +1.6**
MSVF pmax pmax
comp=Z,32nm,0.9s
MSVF Nonsavu 45.77 132 *e*P **P** **21 01 43.4 +1.6**
comp=Z,32nm,0.9s
CLNS Chul'man 45.79 346 *e*P **P** **21 01 42.0 +0.7**
CLNS pmax pmax
comp=Z,14nm,0.9s
CLNS pmax pmax
comp=N,15nm,1.2s
CLNS pmax pmax
comp=E,6.0nm,1.0s
FX1 Attu Island--F 45.89 24 *e*P **P** **21 01 43.9 +1.8**
FX1 PcP **PcP** **21 03 16.4 +0.3**
FX1 S **S** **21 08 13.6 +1.0**
FX1 Attu Island--F 45.89 24 P **P** **21 01 43.0 +0.8**
comp=E,16nm,0.7s,baz=301,slow=5.9,SNR=7.1
FX1 PcP **PcP** **21 03 16.4 +0.3**
comp=E,5.8nm,0.4s,baz=281,slow=19,SNR=3.8
FX1 S **S** **21 08 13.6 +1.0**
comp=E,3.6nm,0.7s,baz=237,slow=16,SNR=2.5
ULN Ulaanbaatar 46.01 326 P **P** **21 01 45.1 +1.7**
SNR=66
ULN Ulaanbaatar 46.01 326 *e*P **P** **21 01 44.5 +1.1**
comp=E,100nm,1.0s
ULN Ulaanbaatar 46.01 326 P **P** **21 01 43.4 0.0**
comp=E,126nm,1.1s,comp=E,2µm
SONM Songino Array 46.36 326 P **P** **21 01 47.6 +1.5**
SONM ScP **ScP** **21 06 53.2 -1.3**
SONM S **S** **21 08 21.5 +1.9**
SONM Songino Array 46.36 326 P **P** **21 01 47.6 +1.5**
comp=E,49nm,0.5s,baz=145,slow=7.8,SNR=355
SONM ScP **ScP** **21 06 53.2 -1.3**
comp=E,2.3nm,0.7s,baz=139,slow=3.1,SNR=4.4
SONM S **S** **21 08 21.5 +1.9**
comp=E,1.0nm,1.1s,baz=137,slow=16,SNR=3.3
FORT Forrest 46.37 199 *e*P **P** **21 01 45.5 -0.6**
comp=E,158nm,0.6s
BBOO Buckleboo 46.45 189 *e*P **P** **21 01 46.6 -0.1**
comp=E,371nm,0.7s
KCSI Kotacane, Aceh 46.46 262 P **P** **21 01 46.7 -0.5**
comp=E,255nm,1.3s,comp=E,2µm
GTA Gaotai 46.57 312 ⇑P **P** **21 01 49.4 +1.5**
GTA S **S** **21 08 24.7 +1.7**
GTA sS **sS** **21 09 33.9 +1.6**
GTA SS **SS** **21 11 50.4 -1.0**
GTA pmax pmax
comp=Z,240nm,0.9s
GTA pmax pmax
comp=Z,710nm,6.7s
GTA LR LR
comp=N,400nm,18.3s
GTA LR LR
comp=E,470nm,19.2s
GTA LR LR
comp=Z,390nm,20.2s
LHMI Lhok Sumawe 46.85 265 P **P** **21 01 52.3 +2.1**
comp=E,645nm,0.8s,comp=Z,6µm
IMP Imphal 48.25 291 *e*P **P** **21 01 59.0 -1.9**
ZAK Zakamensk 49.49 327 *e*P **P** **21 02 10.7 +0.7**
ZAK *e* 21 09 03.1
ZAK pmax pmax
comp=Z,75nm,1.3s
YAK Yakutsk 49.70 351 *e*P **P** **21 02 11.1 -0.1**
YAK *e**PP **pP** **21 02 51.8 +0.4**
YAK *e* 21 03 31.2
YAK *e* 21 04 07.7
YAK *e*S **S** **21 09 03.3 -2.5**
YAK *e**SS **sS** **21 10 14.8 -1.1**
YAK *e* 21 11 39.2
YAK pmax pmax
comp=E,16nm,1.4s
YAK pmax pmax
comp=Z,121nm,0.9s
YAK pmax pmax
comp=N,67nm,1.5s
YAK pmax pmax
comp=Z,125nm,3.5s
YAK pmax pmax
comp=N,55nm,2.3s
YAK pmax pmax
comp=E,84nm,4.3s
YAK smax smax
comp=N,155nm,2.0s
YAK smax smax
comp=E,300nm,2.4s

TLY Talaya 50.03 328 *e*P **P** **21 02 15.3 +1.3**
TLY pmax pmax
comp=Z,113nm,1.2s
TLY Talaya 50.03 328 P **P** **21 02 15.1 +1.1**
comp=Z,507nm,0.9s,SNR=19
IRK Irkutsk 50.04 329 *e*P **P** **21 02 14.0 0.0**
IRK pmax pmax
comp=Z,123nm,0.8s
SHL Shillong 50.15 292 *i*P **P** **21 02 15.0 -0.5**
SHL *ex* x 21 10 32.0
LSA Lhasa 51.18 297 P **P** **21 02 25.3 +1.8**
LSA Lhasa 51.18 297 *e*P **P** **21 02 25.1 +1.6**
LSA pmax pmax
comp=Z,160nm,1.0s
LSA Lhasa 51.18 297 *e*P **P** **21 02 25.1 +1.6**
comp=Z,160nm,1.0s
MOY Mondy 51.40 327 *e*P **P** **21 02 25.4 +1.1**
MOY pmax pmax
comp=Z,107nm,2.0s
AFI Afiamalu 51.66 120 P **P** **21 02 27.4 +0.6**
AFI Afiamalu 51.66 120 P **P** **21 02 27.4 +0.6**
comp=Z,17nm,0.3s,baz=342,slow=19,SNR=3.6
TAPN Taplejung 54.00 294⇑*i*P **P** **21 02 44.8 +0.8**
comp=Z,224nm,0.7s
ODAN Odare 54.26 294⇑*i*P **P** **21 02 46.5 +0.7**
comp=Z,41nm,0.4s
RAMN Ramite 54.97 294⇑*i*P **P** **21 02 51.6 +0.7**
comp=Z,368nm,1.0s
JIRN Jiri 55.36 294 *e*P **P** **21 02 54.8 +0.9**
comp=Z,89nm,0.4s
GUN Gumba 55.65 295⇑*i*P **P** **21 02 56.7 +0.8**
comp=Z,155nm,0.4s
KIP Kipapa 55.88 73⇑*e*P **P** **21 02 59.1 +1.9**
KIP pmax pmax
comp=Z,78nm,1.0s
KIP Kipapa 55.88 73 *e*P **P** **21 02 58.9 +1.7**
comp=Z,60nm,0.8s
OUZ Omahuta 55.93 151 *e*P **P** **21 02 59.0 +1.8**
comp=Z,35nm,1.0s
PKI Pulchoki 56.05 294⇑*i*P **P** **21 02 59.0 +0.3**
comp=Z,124nm,0.5s
PKIN Phulchoki 56.06 294⇑*i*P **P** **21 02 59.0 +0.2**
comp=Z,104nm,0.5s
KKN Kakani 56.17 295⇑*i*P **P** **21 02 59.9 +0.4**
comp=Z,137nm,0.9s
DMN Daman 56.32 294⇑*i*P **P** **21 03 01.1 +0.5**
comp=Z,157nm,0.7s
WMQ Urumqi 56.57 314 P **P** **21 03 03.9 +2.1**
WMQ pP **pP** **21 03 41.0 -2.0**
WMQ sP **sP** **21 03 58.9 -3.9**
WMQ PP **PP** **21 05 13.0 +3.4**
WMQ ScP **ScP** **21 07 41.4 +2.8**
WMQ S **S** **21 10 40.0 +0.5**
WMQ sS sS 21 11 45.0 -6.1
WMQ ScS **ScS** **21 12 33.1 0.0**
WMQ SS **SS** **21 14 30.1 +0.4**
WMQ pmax pmax
comp=Z,170nm,1.2s
WMQ pmax pmax
comp=Z,770nm,4.0s
WMQ LR LR
comp=N,3µm,23.5s
WMQ LR LR
comp=E,2µm,24.0s
WMQ LR LR
comp=Z,3µm,23.3s
BILL Bilibino 56.62 10*c i*P **P** **21 03 01.0 -0.6**
BILL *e**PP **pP** **21 03 44.8 +2.0**
BILL *e* 21 03 52.0
BILL *e* 21 05 08.9
BILL *e* 21 10 38.4
BILL pmax pmax
comp=Z,42nm,2.0s
BILL Bilibino 56.62 10 *e*P **P** **21 03 01.2 -0.4**
comp=Z,16nm,0.6s
DANN Dangsing 57.53 295⇑*i*P **P** **21 03 09.8 +0.6**
comp=Z,302nm,0.5s
KOLN Koldanda 57.66 295⇑*i*P **P** **21 03 10.4 +0.5**
comp=Z,130nm,0.7s
KRAR Krasnoyarsk 57.72 329*ce*P **P** **21 03 10.1 +0.5**
KRAR pmax pmax
comp=Z,88nm,1.4s
PYUN Piuthan 58.21 295 *e*P **P** **21 03 14.1 +0.4**
TIXI Tiksi 59.01 355*ce*P **P** **21 03 18.5 +0.3**
TIXI pmax pmax
comp=Z,15nm,1.1s
MK31 Makanchi Array 60.96 316 *e*P **P** **21 03 33.0 +1.0**
MK31 Makanchi Array 60.96 316 *e*P **P** **21 03 33.0 +1.0**
MKAR Makanchi Array 60.96 316 *e*P **P** **21 03 33.4 +1.4**
MKAR S **S** **21 11 36.9 +0.9**
MKAR Makanchi Array 60.96 316 *e*P **P** **21 03 33.4 +1.4**
MKAR S **S** **21 11 36.9 +0.9**
MKAR ⇑*e* 21 32 53.6
MKAR Makanchi Array 60.96 316 P **P** **21 03 33.2 +1.3**
comp=Z,74nm,0.8s,baz=93,slow=8.5,SNR=668
MKAR S **S** **21 11 36.9 +0.9**
comp=Z,2.0nm,1.1s,baz=110,slow=12,SNR=6.0
MKAR PKP2bc 21 32 53.6
comp=Z,2.5nm,0.7s,baz=280,slow=1.6,SNR=15
JBP Jabalpur 60.98 289⇑*i*P **P** **21 03 33.6 +1.1**
JBP AMB AMB 21 03 35.4
comp=Z,91nm,0.9s
JBP *ex* x 21 04 19.8
ZAA0 Zalesovo Array 61.24 325 *e*P **P** **21 03 33.9 +0.3**
ZALV Zalesovo Beam 61.24 325 P **P** **21 03 34.0 +0.4**
ZALV 21 04 14.0
ZALV S **S** **21 11 40.1 +1.0**
ZALV Zalesovo Beam 61.24 325 P **P** **21 03 34.0 +0.4**
ZALV PcP **PcP** **21 04 14.0 -0.5**
ZALV S **S** **21 11 40.1 +1.0**
ZALV ⇑*e* 21 32 53.7
ZALV Zalesovo Beam 61.24 325 P **P** **21 03 34.0 +0.4**
comp=Z,30nm,0.6s,baz=109,slow=6.9,SNR=135
ZALV PcP **PcP** **21 04 14.0 -0.5**
comp=Z,6.8nm,0.7s,baz=151,slow=3.4,SNR=4.3
ZALV S **S** **21 11 40.1 +1.0**
comp=Z,2.0nm,1.0s,baz=108,slow=9.5,SNR=5.1
ZALV PKP2bc 21 32 53.7
comp=Z,0.7nm,0.5s,baz=199,slow=4.1,SNR=4.2
RPZ Rata Peaks 61.97 158 *e*P **P** **21 03 39.6 +0.9**
comp=Z,33nm,0.8s
PALK Pallekele 62.22 271 *e*P **P** **21 03 41.7 +0.7**
comp=Z,138nm,1.5s
PALK Pallekele 62.22 271 P **P** **21 03 42.1 +1.1**
comp=Z,66nm,2.1s
NVS Novosibirsk 62.39 325⇑*i*P **P** **21 03 41.8 +0.5**
NVS *i**PP **pP** **21 04 27.0 +3.7**
NVS *i* S **S** **21 11 52.9 -0.6**
NVS pmax pmax
comp=N,49nm,1.6s
NVS pmax pmax
comp=E,122nm,1.6s
NVS pmax pmax
comp=Z,195nm,1.6s
NVS smax smax
comp=N,81nm,2.0s
NVS smax smax
comp=E,19nm,1.1s
HYB Hyderabad 62.77 283 *i*P **P** **21 03 44.0 -0.6**
SMLA Simla 63.32 298 *i*P **P** **21 03 48.5 +0.6**
KURK Kurchatov 64.12 320 P **P** **21 03 53.3 +0.5**
comp=E,1µm,0.9s
KURK Kurchatov 64.12 320 P **P** **21 03 53.7 +0.9**
KURK *PP **pP** **21 04 35.8 +0.9**
KURK S **S** **21 12 15.4 +0.3**
KURK Kurchatov 64.12 320 P **P** **21 03 53.6 +0.9**
KURK pP **pP** **21 04 35.8 +0.9**
KURK S **S** **21 12 15.4 +0.3**
KURK P'P' 21 32 42.1
KURK ⇑*e* 21 32 47.9
KURBB Kurchatov Arra 64.16 320 P **P** **21 03 53.6 +0.6**
comp=E,97nm,0.7s,baz=103,slow=6.7,SNR=812
KURBB pP **pP** **21 04 35.8 +0.6**
comp=E,57nm,0.8s,baz=103,slow=6.6,SNR=6.0
KURBB S **S** **21 12 15.4 -0.2**
comp=E,2.0nm,1.2s,baz=96,slow=10,SNR=8.4
KURBB PKPPKP **P'P'df** **21 32 42.1 -1.2**
comp=E,1.5nm,1.0s,baz=270,slow=3.3,SNR=6.0
KURBB PKP2bc 21 32 47.9
comp=E,2.2nm,0.7s,baz=272,slow=3.7,SNR=13
SVW2 Sparrevohn 64.42 28 *e*P **P** **21 03 55.2 +0.6**
comp=E,40nm,1.8s
LATR Latur 64.55 284 *e*P **P** **21 03 55.2 -1.0**
THN Thein Dam 64.56 300 *e*P **P** **21 03 55.9 -0.1**
KSH Kashi 64.57 308⇑*i*P P 21 03 59.6 +3.5

KSH pP pP 21 04 40.5 +2.1
KSH sP sP 21 04 59.9 +2.0
KSH PP **PP** **21 06 25.3 +4.9**
KSH S **S** **21 12 23.1 +1.7**
KSH ScS **SKSac** **21 13 32.1 -1.2**
KSH sS sS 21 13 35.9 +1.1
KSH pmax pmax
comp=Z,130nm,1.5s
KSH LR LR
comp=N,74nm,5.0s
KSH LR LR
comp=E,170nm,6.0s
KSH LR LR
comp=Z,210nm,9.9s
ULHL Ulahol 64.57 311 P **P** **21 03 58.3 +2.1**
SNR=6.5
KDAK Kodiak Island 64.87 32 *e*P **P** **21 03 58.5 +1.0**
comp=Z,13nm,0.7s
KDAK Kodiak Island 64.87 32 P **P** **21 03 56.6 -0.8**
comp=Z,3.6nm,0.4s,baz=303,slow=8.7,SNR=5.9
TKM2 Tokmak 2 65.11 311 *e*P **P** **21 04 00.8 +1.2**
TKM2 Tokmak 2 65.11 311 P **P** **21 04 00.8 +1.2**
SNR=59
TKM2 Tokmak 2 65.11 311 *e*P **P** **21 04 00.8 +1.2**
KZA Kyzart 65.29 310 P **P** **21 04 03.1 +2.0**
SNR=143
RSO Redoubt South 65.53 29 *e*P **P** **21 04 03.4 +1.4**
RSO *es*P **sP** **21 05 00.4 -3.4**
KBK Karagaybulak 65.56 311 P **P** **21 04 03.6 +1.1**
SNR=45
AJM Ajmer 65.66 293 *i*P **P** **21 04 03.0 -0.3**
CHMS Chumysh 65.73 311 P **P** **21 04 04.3 +0.9**
SNR=40
FRU Bishkek 65.82 311 *i*P **P** **21 04 04.0 0.0**
FRU pmax pmax
comp=Z,200nm,2.0s
UCH Uchtor 65.85 310 P **P** **21 04 06.5 +1.7**
SNR=15
AAK Ala-Archa 65.89 311 P **P** **21 04 05.0 +0.4**
comp=Z,185nm,0.6s,SNR=13
AAK Ala-Archa 65.89 311*c i*P **P** **21 04 05.7 +1.1**
AAK pmax pmax
comp=Z,151nm,1.4s
AAK Ala-Archa 65.89 311 P **P** **21 04 05.8 +1.1**
SNR=27
AAK Ala-Archa 65.89 311 P **P** **21 04 05.6 +1.1**
SNR=19
AAK Ala-Archa 65.89 311 *e*P **P** **21 04 05.5 +0.9**
comp=Z,65nm,1.3s
AAK Ala-Archa 65.89 311 P **P** **21 04 05.4 +0.8**
comp=Z,21nm,0.9s,baz=109,slow=4.9,SNR=47
USP Ospenovka 65.93 312 P **P** **21 04 05.6 +0.8**
SNR=47
EKS2 Erkin-Say 66.42 311 *e*P **P** **21 04 09.0 +1.1**
EKS2 pmax pmax
comp=Z,87nm,1.4s
EKS2 Erkin-Say 66.42 311 P **P** **21 04 09.1 +1.1**
SNR=51
EKS2 Erkin-Say 66.42 311 *e*P **P** **21 04 09.0 +1.1**
comp=Z,86nm,1.4s
AML Almayashu 66.45 310 P **P** **21 04 10.0 +1.5**
SNR=58
POO Poona 67.10 285⇑*i*x P 21 04 09.0 -3.5
comp=Z,100nm,3.0s
TRF Thorofare Moun 67.50 26 *e*P **P** **21 04 13.3 -1.1**
comp=Z,15nm,0.9s
PMR Palmer 67.53 28 *e*P **P** **21 04 14.5 +0.1**
PMR pmax pmax
comp=Z,19nm,0.8s
PMR Palmer 67.53 28 *e*P **P** **21 04 14.5 +0.1**
comp=Z,19nm,0.8s
MCK McKinley 68.15 26 *e*P **P** **21 04 19.8 +1.5**
MCK McKinley 68.15 26 *e*P **P** **21 04 19.8 +1.5**
COLD Coldfoot 68.61 22 *e*P **P** **21 04 22.1 +1.0**
KKAR Karatay Array 68.84 311 *e*P **P** **21 04 23.5 +0.6**
KKAR Karatay Array 68.84 311 *e*P **P** **21 04 23.5 +0.6**
DIV Divide 69.02 29 *e*P **P** **21 04 25.5 +1.8**
comp=Z,26nm,1.0s
ILAR Eielson Array 69.27 25 P **P** **21 04 23.8 -1.4**
ILAR ⇑*e* 21 32 32.0
ILAR Eielson Array 69.27 25 P **P** **21 04 23.8 -1.4**
comp=Z,9.9nm,0.8s,baz=253,slow=5.4,SNR=78
ILAR PKP2bc 21 32 32.0
comp=Z,1.9nm,1.1s,baz=62,slow=1.8,SNR=6.8
BVAR Borovoye Array 69.49 322 P **P** **21 04 27.4 +0.7**
BVAR *PP **pP** **21 05 11.7 +2.2**
BVAR Borovoye Array 69.49 322 P **P** **21 04 27.4 +0.7**
BVAR pP **pP** **21 05 11.7 +2.2**
BVAR Borovoye Array 69.49 322 P **P** **21 04 27.4 +0.7**
comp=Z,44nm,0.3s,baz=103,slow=8.4,SNR=704
BVAR pP **pP** **21 05 11.7 +2.2**
comp=Z,27nm,0.7s,baz=103,slow=7.8,SNR=3.0
PAX Paxson 69.51 27 *e*P **P** **21 04 27.2 +0.4**
PAX Paxson 69.51 27 *e*P **P** **21 04 27.2 +0.4**
BRVK Borovoye 69.56 322 P **P** **21 04 27.8 +0.7**
comp=Z,754nm,0.6s,SNR=85
BRVK Borovoye 69.56 322*c i*P **P** **21 04 27.6 +0.4**
BRVK pmax pmax
comp=Z,197nm,1.3s
BRVK Borovoye 69.56 322 P **P** **21 04 28.1 +1.0**
SNR=97
BRVK Borovoye 69.56 322 *e*P **P** **21 04 27.5 +0.4**
KBL Kabul 70.08 302 *e*P **P** **21 04 31.3 +0.3**
KBL Kabul 70.08 302 *e*P **P** **21 04 31.3 +0.3**
EGAK Eagle 71.69 26 *e*P **P** **21 04 39.5 -0.2**
comp=Z,7.9nm,0.5s
PNL Peninsula 71.96 31 *e*P **P** **21 04 43.6 +2.1**
INK Inuvik 75.03 22 P **P** **21 04 58.4 -0.8**
INK Inuvik 75.03 22 P **P** **21 04 58.4 -0.8**
comp=Z,3.2nm,0.6s,baz=282,slow=5.0,SNR=13
SVE Sverdlovsk 75.23 326*d i*P **P** **21 05 01.2 +0.6**
SVE pmax pmax
comp=Z,107nm,1.4s
WRAK Wrangell Islan 75.65 35 *e*P **P** **21 05 03.8 +0.9**
ABKAR Akbulak array 76.04 318 *e*P **P** **21 05 05.4 +0.1**
ARU Arti 76.39 325*c i*P **P** **21 05 07.1 -0.1**
ARU *PP **pP** **21 05 51.1 +0.3**
ARU *SP **sP** **21 06 09.2 -0.8**
ARU 21 08 00.5
ARU PPP PPP 21 09 45.3
ARU S **S** **21 14 35.8 -1.5**
ARU pmax pmax
comp=Z,128nm,1.7s
ARU Arti 76.39 325 P **P** **21 05 07.0 -0.1**
comp=Z,410nm,0.6s,SNR=31
DLBC Dease Lake 76.79 33 P **P** **21 05 09.6 +0.1**
DLBC Dease Lake 76.79 33 P **P** **21 05 09.6 +0.1**
comp=Z,7.9nm,0.8s,baz=281,slow=4.7,SNR=16
SOKR Solikamsk 77.12 329*c i*P **P** **21 05 11.6 +0.5**
SOKR pmax pmax
comp=Z,70nm,1.5s
AKTO Aktyubinsk 77.18 319 P **P** **21 05 11.7 -0.1**
AKTO Aktyubinsk 77.18 319 P **P** **21 05 11.7 -0.1**
AKTO Aktyubinsk 77.18 319 P **P** **21 05 11.7 -0.1**
comp=Z,13nm,0.7s,baz=88,slow=7.5,SNR=50
ABKT Ailbek 78.57 306 P **P** **21 05 20.4 +0.7**
comp=Z,450nm,1.1s,SNR=29
WBK Wadi Bani Khal 80.28 291 P **P** **21 05 30.0 +0.7**
SNR=10
SMDO Samad 81.04 292 P **P** **21 05 33.6 +0.3**
SNR=7.8
HOQ Hoqain 81.61 292 P **P** **21 05 36.6 +0.4**
SNR=36
BSY Bisya 81.86 291 P **P** **21 05 38.2 +0.6**
SNR=8.6
NLWA Neilton Lookou 81.91 43 *e*P **P** **21 05 39.1 +1.7**
BANOM Banah 82.07 295 P **P** **21 05 40.2 +1.5**
SNR=5.2
UOSS Wadi Hilu 82.34 294 P **P** **21 05 40.0 0.0**
comp=Z,282nm,1.2s,SNR=8.6
ARQ Araqi 82.36 292 P **P** **21 05 40.8 +0.6**
SNR=21
ASHO Ashiyiah 82.52 294 P **P** **21 05 41.9 +0.9**
SNR=8.6
MBW Mount Baker 82.93 42 P **P** **21 05 43.8 +0.9**
CASY Casey 83.10 193 *e*P **P** **21 05 42.5 -0.4**
TDL Tradedollar La 83.23 44 P **P** **21 05 45.7 +1.3**
RPW Rockport 83.25 42 P **P** **21 05 44.9 +0.6**
KHMM Horse Mountain 83.28 50 *e*P **P** **21 05 46.5 +1.7**
KHMM *epP **pP** **21 06 32.1 +3.1**
LON Longmire 83.42 44 *e*P **P** **21 05 46.3 +1.1**
LON Longmire 83.42 44 *e*P **P** **21 05 46.3 +1.1**
HUMO Hull Mountain 83.49 48 *e*P **P** **21 05 47.1 +1.5**
HUMO *epP **pP** **21 06 30.0 +0.1**
YKW3 Yellowknife Ar 83.57 27 *e*P **P** **21 05 45.5 0.0**

comp=Z,0.3nm,1.1s
YKA **Yellowknife Ar** 83.59 27 P P 21 05 45.6 0.0
YKA pP pP 21 06 32.4 +2.5
YKA Yellowknife Ar 83.59 27 P P 21 05 45.6 0.0
comp=Z,5.9nm,0.5s,baz=286,slow=5.1,SNR=26
YKA pP pP 21 06 32.4 +2.5
comp=Z,6.4nm,0.6s,baz=289,slow=5.4,SNR=2.8
WPW White Pass 83.61 44 P P 21 05 47.1 +0.8
KCPM Cahto Peak 83.63 51 *e*P P 21 05 48.1 +1.6
VLL Laurance Lake 83.78 45 P P 21 05 48.3 +1.1
YBH Yreka Blue Hor 83.85 49 *e*P P 21 05 48.7 +1.2
comp=Z,15nm,0.6s
YBH Yreka Blue Hor 83.85 49 P P 21 05 48.9 +1.4
comp=Z,18nm,0.6s,baz=303,slow=2.6,SNR=26
BUOR Burton Butte 84.07 48 P P 21 05 49.9 +1.1
NAC Naches 84.08 44 P P 21 05 49.7 +1.2
TBM Table Mountain 84.14 43 P P 21 05 49.5 +0.6
WDC Whiskeytown Da 84.22 50 *e*P P 21 05 50.6 +1.2
WDC Whiskeytown Da 84.22 50 *e*P P 21 05 50.6 +1.2
HOG Hogback Mounta 84.47 48 P P 21 05 51.9 +1.1
B08A Colville Reser 84.69 42 P P 21 05 51.8 +0.2
LASM Arnica Sink 84.71 49 P P 21 05 53.1 +1.0
LVZ Lovozero 84.78 339 *c i*P P 21 05 51.0 -0.6
LVZ pmax pmax
comp=Z,42nm,1.5s
TMCR Tamitsa 84.84 335 *e*P P 21 05 50.4 -1.5
TMCR pmax pmax
comp=Z,52nm,1.3s
HAWA Hanford 85.03 44 *e*P P 21 05 54.4 +1.1
RES Resolute Bay 85.06 13 P P 21 05 52.8 0.0
RES Resolute Bay 85.06 13 P P 21 05 52.8 0.0
comp=Z,15nm,0.7s,baz=333,slow=5.2,SNR=3.0
OD2 Odessa Site #2 85.33 43 P P 21 05 55.4 +0.6
RBK Rabkut 85.69 287 P P 21 05 57.1 0.0
SNR=5.4
SAO San Andreas Ge 85.91 53 *e*P P 21 06 01.1 +3.3
SAO San Andreas Ge 85.91 53 *e*P P 21 06 01.1 +3.3
BEKR Beckworth 86.01 50 *e*P P 21 05 59.0 +0.5
BEKR *e*pP pP 21 06 42.6 -0.5
NEW Newport 86.14 41 *e*P P 21 05 59.2 +0.4
NEW Newport 86.14 41 P P 21 05 59.2 +0.4
comp=Z,34nm,0.7s,baz=276,slow=3.9,SNR=61
NEW Newport 86.14 41 ⇓P P 21 05 59.1 +0.3
baz=86
CMB Columbia Colle 86.43 52 *e*P P 21 06 01.0 +0.6
CMB Columbia Colle 86.43 52 *e*P P 21 06 01.0 +0.6
KEV Kevo 86.46 342 *e*P P 21 06 00.7 +0.9
KEV Kevo 86.46 342 *e*P P 21 06 00.7 +0.9
PAHR Pah Rah Range 86.78 50 *e*P P 21 06 03.1 +1.0
A12A Yaak River Ran 86.89 40 ⇓P P 21 06 03.5 +1.0
baz=87
ARCES ARCESS Array B 87.02 342 P P 21 06 02.0 -0.5
ARCES PKiKP PKiKP 21 11 07.0 +0.4
ARCES ARCESS Array B 87.02 342 P P 21 06 02.0 -0.5
comp=Z,2.1nm,0.5s,baz=46,slow=6.9,SNR=26
ARCES PKiKP PKiKP 21 11 07.0 +0.4
comp=Z,2.1nm,0.7s,baz=115,slow=0.7,SNR=9.9
ARE0 ARCESS Array S 87.02 342 *e*P P 21 06 02.8 +0.2
WAKR Walker 87.04 51 *e*P P 21 06 04.6 +1.1
B12A Libby 87.06 41 ⇑P P 21 06 03.6 +0.4
baz=87
C12B Naegeli Ranch, 87.36 42 ⇓P P 21 06 05.1 +0.5
baz=87
SMMC Simmler 87.40 54 ⇓P P 21 06 06.1 +1.0
baz=87
DGRG David-gareji 87.49 312 P P 21 06 04.4 -1.0
PKM Peak Mountain 87.65 55 ⇑P P 21 06 07.7 +1.2
baz=88,SNR=27
E12A Beaver Dam Sad 87.67 43 ⇓P P 21 06 06.7 +0.5
baz=88,SNR=23
MLAC Mammoth Lakes 87.72 52 ⇓P P 21 06 07.3 +0.5
baz=88
BSMT Bassoo Peak 87.76 41 *e*P P 21 06 07.3 +0.6
B13A Whitefish 87.81 41 ⇓P P 21 06 07.4 +0.6
baz=88,SNR=13
SBC Santa Barbara 87.84 55 ⇓P P 21 06 08.0 +0.8
baz=88
TBLG Delisi 87.87 312 *e*P P 21 06 05.6 -1.6
TLG Delisi 87.87 312 P P 21 06 05.7 -1.6
NVAR Mina Array Bea 87.92 51 P P 21 06 08.6 +0.8
NVAR Mina Array Bea 87.92 51 P P 21 06 08.6 +0.8
comp=Z,30nm,0.7s,baz=265,slow=5.8,SNR=179
C13A Hot Springs 87.95 41 ⇓P P 21 06 07.7 +0.2
baz=88,SNR=8.8
WALA Waterton Lakes 87.95 40 *e*P P 21 06 08.0 +0.5
comp=Z,0.3nm,0.8s
MOS Moscow 87.97 327 *e*P P 21 06 02.4 -4.9
MOS *e**PP pP 21 06 47.7 -4.3
MOS *e* 21 09 31.3
MOS *e* 21 17 57.3
MOS pmax pmax
comp=Z,200nm,1.9s
MOS pmax pmax
comp=Z,100nm,1.7s
BLMT Blacktail Moun 87.98 41 *e*P P 21 06 08.8 +1.0
BLMT *e*pP pP 21 06 53.5 +0.9
VES Vestal, Richgr 87.99 54 ⇑P P 21 06 08.0 +0.2
baz=88
BSC Santa Cruz Isl 88.02 56 ⇓P P 21 06 08.7 +0.6
baz=88
JOF Joensuu 88.10 335 *e*p P 21 06 06.3 -1.5
comp=Z,11nm,0.7s
JOF Joensuu 88.10 335 *e*P P 21 06 06.3 -1.5
JOF pmax pmax
comp=Z,11nm,0.7s
JTMT Jette 88.11 41 *e*P P 21 06 09.2 +0.8
ZEI Tsey 88.17 313 *e*P P 21 06 06.7 -2.1
ZEI pmax pmax
comp=Z,44nm,1.3s
BMN Battle Mountai 88.19 49 *e*P P 21 06 09.9 +1.0
BMN Battle Mountai 88.19 49 *e*P P 21 06 09.9 +1.0
D13A Huson 88.20 42 ⇓P P 21 06 08.4 -0.3
baz=88,SNR=6.9
YBMT Yellow Bay 88.25 41 *e*P P 21 06 09.6 +0.6
A14A Double T Ranch 88.28 40 ⇓P P 21 06 09.7 +0.6
baz=88,SNR=12
GNI Garni 88.30 311 P P 21 06 10.0 +0.6
SNR=7.7
GNI Garni 88.30 311 *e*P P 21 06 09.4 0.0
GNI Garni 88.30 311 P P 21 06 08.6 -0.8
comp=Z,2.8nm,0.6s,baz=348,slow=19,SNR=12
TIN Tinemaha 88.34 52 ⇓P P 21 06 10.5 +0.9
baz=88
MFID Camas Ranch 88.36 46 *e*P P 21 06 10.5 +0.9
MFID Camas Ranch 88.36 46 ⇑P P 21 06 10.6 +1.0
baz=88
SWMT Swartz Lake 88.37 42 *e*P P 21 06 09.9 +0.4
ARVC Arvin 88.37 54 ⇓P P 21 06 10.0 +0.3
baz=88
ISA Isabella 88.51 54 *e*P P 21 06 10.6 +0.2
ISA Isabella 88.51 54 *e*P P 21 06 10.6 +0.2
ISA Isabella 88.51 54 ⇑P P 21 06 10.4 0.0
baz=88,SNR=7.3
B14A Marquette Ranc 88.57 41 ⇑P P 21 06 10.8 +0.3
baz=88,SNR=18
KBZ Khabaz 88.61 315 P P 21 06 09.5 -1.0
KBZ Khabaz 88.61 315 P P 21 06 09.5 -1.0
KBZ Khabaz 88.61 315 P P 21 06 09.5 -1.0
comp=Z,14nm,1.0s,baz=101,slow=2.8,SNR=12
MSO Missoula 88.62 42 ⇓P P 21 06 10.6 -0.1
baz=89
CWC Cottonwood Cre 88.62 53 ⇓P P 21 06 11.4 +0.4
baz=89
VSR Storozhevoye 88.66 322 *e*P P 21 06 08.5 -2.1
VSR pmax pmax
comp=N,9.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,20nm,0.8s
VORD Divnogorie 88.67 322 *e*P P 21 06 08.6 -2.1
VORD pmax pmax
comp=Z,20nm,0.9s
VORD pmax pmax
comp=N,6.0nm,0.6s
VORD pmax pmax
comp=E,30nm,0.8s
KIV Kislovodsk 88.69 315 *e*P P 21 06 09.7 -1.4
KIV *e**PP pP 21 06 53.6 -2.3
KIV *e* 21 09 40.1
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,284nm,19.0s
H12A Diamond D Ranc 88.69 45 ⇑P P 21 06 11.5 +0.2
baz=89
UMR Umm Al-Rimmam 88.70 300 *e*P P 21 06 09.6 -1.7
UMR AMb AMB 21 06 14.1
comp=Z,93nm,1.3s
A15A Johnson Ranch, 88.71 40 ⇑P P 21 06 11.2 +0.1
baz=89,SNR=9.5
I12A Atlanta 88.73 45 ⇑P P 21 06 11.9 +0.5
baz=89
OBN Obninsk 88.76 327 *c i*P P 21 06 09.6 -1.4
OBN *e* 21 06 55.2
OBN *e* 21 09 40.9
OBN *e*S **SKSac** 21 16 20.5 -2.7
OBN *e*PS **PnS** 21 18 12.3 +1.9
OBN *e*SS **SS** 21 22 37.9 0.0
OBN pmax pmax
comp=Z,115nm,1.6s
OBN Obninsk 88.76 327 P P 21 06 10.1 -0.9
comp=Z,322nm,1.6s,SNR=7.1
SLMT Seeley Lake 88.78 42 *e*P P 21 06 11.7 +0.2
KBD Kabd 88.82 300 *e*P P 21 06 10.3 -1.6
KBD AMb AMB 21 06 19.2
comp=Z,31nm,1.0s
D14A Greenough 88.82 42 ⇑P P 21 06 11.4 -0.3
baz=89
AKH Akhalkalaki 88.86 312 P P 21 06 11.6 -0.5
MIB Mutribah 88.96 300 *e*P P 21 06 11.2 -1.3
MIB AMb AMB 21 06 14.6
comp=Z,100nm,1.3s
DECC Green Verdugo 89.00 55 ⇓P P 21 06 12.9 +0.2
baz=89
GRAC Grapevine Rang 89.02 52 ⇑P P 21 06 13.6 +0.9
baz=89
B15A Bradely Ranch, 89.03 40 ⇓P P 21 06 12.5 -0.1
baz=89
CHMT Chamberlain Mo 89.04 42 *e*P P 21 06 12.8 0.0
EDW2 Edwards Air Fo 89.10 54 ⇓P P 21 06 13.8 +0.7
baz=89,SNR=12
CIS Catalina Islan 89.16 56 ⇓P P 21 06 13.8 +0.3
baz=89,SNR=6.0
FMP Fort Macarthur 89.17 56 ⇓P P 21 06 14.0 +0.6
baz=89
MPMC Manual Prospec 89.18 53 ⇑P P 21 06 14.5 +0.9
baz=89,SNR=39
C15A Salmond Ranch, 89.18 41 ⇑P P 21 06 13.3 -0.1
baz=89,SNR=9.0
LRMC Laurel Mountai 89.18 54 ⇓P P 21 06 14.3 +0.7
baz=89,SNR=13
NAY Al-Naaiem 89.18 300 *e*P P 21 06 11.8 -1.8
NAY AMb AMB 21 06 16.4
comp=Z,58nm,1.1s
MWC Mount Wilson 89.22 55 *e*P P 21 06 14.7 +0.8
MWC Mount Wilson 89.22 55 *e*P P 21 06 14.7 +0.8
F14A Wisdom 89.31 43 ⇑P P 21 06 13.9 -0.2
baz=89
D15A Lincoln 89.47 42 ⇓P P 21 06 14.7 0.0
baz=89
BFSC Mount Baldy Ra 89.54 55 ⇓P P 21 06 15.5 +0.2
baz=90
B16A M & M Farms, S 89.54 40 ⇑P P 21 06 15.1 +0.1
baz=90
ELK Elko 89.55 48 *e*P P 21 06 16.4 +1.1
FURC Furnace Creek, 89.56 53 ⇓P P 21 06 16.1 +0.9
baz=90,SNR=16
C16A Fuhringer Ranc 89.72 41 ⇑P P 21 06 15.8 -0.1
baz=90
I14A Mackay 89.85 45 ⇓P P 21 06 17.6 +1.0
baz=90,SNR=13
F15A Butte 89.88 43 ⇓P P 21 06 17.0 +0.2
baz=90,SNR=9.9
LRM Limekiln Ridge 89.91 43 *e*P P 21 06 17.3 +0.3
GSC Goldstone 89.92 54 *e*P P 21 06 17.9 +0.9
GSC Goldstone 89.92 54 *e*P P 21 06 17.9 +0.9
GSC Goldstone 89.92 54 ⇓P P 21 06 17.7 +0.7
baz=90,SNR=14
PUL Pulkovo 89.94 332 *i*P P 21 06 16.8 +0.4
DLMT Dillon 89.97 43 *e*P P 21 06 17.9 +0.7
MCMT McKenzie Canyo 89.97 44 *e*P P 21 06 17.9 +0.7
A17A Triple J Farms 89.98 39 ⇑P P 21 06 17.2 +0.2
baz=90
MURC Murrieta 90.08 56 ⇓P P 21 06 17.9 +0.1
baz=90
D16A Dana Ranch, Ca 90.10 41 ⇑P P 21 06 17.9 +0.2
baz=90
B17A L&G Farms, Che 90.15 40 ⇓P P 21 06 17.7 0.0
baz=90,SNR=8.1
SHOC Shoshone 90.17 53 ⇓P P 21 06 18.6 +0.6
baz=90
E16A East Helena 90.19 42 ⇑P P 21 06 18.4 +0.3
baz=90
109C Camp Elliot, M 90.35 56 ⇑P P 21 06 19.5 +0.5
baz=90
C17A Wtram Farm, 90.40 41 ⇓P P 21 06 18.9 -0.1
baz=90
HEC Hector,Ludlow 90.43 54 ⇑P P 21 06 20.1 +0.7
baz=90,SNR=5.6
F16A Kennard Place, 90.47 43 ⇓P P 21 06 19.7 +0.2
baz=90,SNR=9.3
BOZ Bozeman (W) 90.52 43 *e*P P 21 06 20.0 +0.4
BOZ Bozeman (W) 90.52 43 *e*P P 21 06 20.0 +0.4
comp=Z,1.9nm,0.6s
A18A Metzger Ranch, 90.52 39 ⇑P P 21 06 19.6 +0.1
baz=90,SNR=6.5
KAF Kangasniemi 90.53 335 *e*p P 21 06 17.8 -1.3
comp=Z,7.2nm,0.6s
KAF Kangasniemi 90.53 335 *e*P P 21 06 17.8 -1.3
KAF pmax pmax
comp=Z,7.0nm,0.6s
TUQ Turquoise Moun 90.58 53 ⇑P P 21 06 20.7 +0.6
baz=90,SNR=12
D17A Six Diamond Ra 90.61 41 ⇑P P 21 06 20.4 +0.3
baz=90,SNR=12
PFO Pinyon Flat Ob 90.67 55 P P 21 06 20.4 -0.2
comp=Z,126nm,1.3s,SNR=7.9
PFO Pinyon Flat Ob 90.67 55 *e*P P 21 06 21.1 +0.5
comp=Z,30nm,1.1s
PFO Pinyon Flat Ob 90.67 55 P P 21 06 20.6 0.0
comp=Z,18nm,1.0s,baz=281,slow=3.1,SNR=15
PFO Pinyon Flat Ob 90.67 55 ⇓P P 21 06 21.0 +0.4
baz=91,SNR=14
E17A Martinsdale 90.74 42 ⇑P P 21 06 21.1 +0.4
baz=91,SNR=7.5
B18A Beardsley Farm 90.75 40 ⇓P P 21 06 20.7 +0.1
baz=91
BAR Barrett 90.76 56 *e*P P 21 06 21.9 +0.9
SHPR Sheep Range 90.86 52 *e*P P 21 06 22.8 +1.3
EGMT Eagleton 90.90 40 ⇑P P 21 06 21.4 +0.1
baz=91
MONP Monument Peak 90.90 56 ⇓P P 21 06 22.1 +0.3
baz=91,SNR=17
QLMT Earthquake Lak 90.92 43 *e*P P 21 06 22.9 +1.2
BELC Belle Mtn. Jos 90.93 55 ⇑P P 21 06 22.1 +0.3
baz=91,SNR=15
FIA1 FINESS Array S 90.97 335 *e*P P 21 06 20.2 -1.0
FINES FINESS Array B 90.97 335 P P 21 06 19.8 -1.4
FINES PKKPbc **PKKPdf** 21 23 43.8 +1.8
FINES FINESS Array B 90.97 335 P P 21 06 19.8 -1.4
comp=Z,5.9nm,0.5s,baz=71,slow=5.0,SNR=48
FINES PKKPbc **PKKPdf** 21 23 43.8 +1.8
comp=Z,0.9nm,0.7s,baz=270,slow=1.9,SNR=5.4
GMRC Granite Mounta 90.97 54 ⇓P P 21 06 22.8 +0.8
baz=91,SNR=18
HVU Hansel Valley 91.00 47 *e*P P 21 06 23.1 +1.1
HVU Hansel Valley 91.00 47 *e*P P 21 06 23.1 +1.1
F17A Fitzpatrick Pl 91.07 42 ⇑P P 21 06 22.8 +0.6
baz=91,SNR=5.6
H16A Russell Place, 91.09 44 ⇓P P 21 06 23.6 +1.2
baz=91,SNR=11
D18A Linhart Farms, 91.17 41 ⇓P P 21 06 22.6 +0.1
baz=91
A19A Klindworth Far 91.19 39 ⇑P P 21 06 22.2 -0.4
baz=91,SNR=6.1
I16A Newdale 91.21 44 ⇑P P 21 06 24.0 +1.1
baz=91,SNR=8.4
G17A Pierce Place, 91.22 43 ⇑P P 21 06 23.8 +0.9
baz=91
DVTC Desert V Tower 91.23 56 ⇓P P 21 06 23.9 +0.8
baz=91,SNR=9.4
B19A Brinkman Farms 91.25 39 ⇓P P 21 06 23.0 +0.1
baz=91
VNDA Vanda 91.26 176 *e*P P 21 06 21.8 -0.3
VNDA Vanda 91.26 176 P P 21 06 21.5 -0.5
comp=Z,10nm,1.1s,baz=325,slow=5.8,SNR=24
YMR Madison River 91.29 44 *e*P P 21 06 25.3 +2.0
LDFC Landfair 91.32 54 *e*P P 21 06 25.1 +1.5
E18A Harlowton 91.32 41 ⇑P P 21 06 23.9 +0.5
baz=91
SWSC Sam W. Stewart 91.39 56 ⇑P P 21 06 24.2 +0.4
baz=91,SNR=5.4
C19A Slack Wire Ran 91.45 40 ⇑P P 21 06 24.2 +0.3
baz=91
YFT Old Faithful 91.45 44 *e*P P 21 06 27.2 +3.1
BC3 Big Chuckawall 91.46 55 ⇑P P 21 06 24.9 +0.7
baz=91,SNR=14
DUG Dugway 91.48 48 *e*P P 21 06 25.0 +0.7
DUG Dugway 91.48 48 *e*P P 21 06 24.9 +0.7
DUG Dugway 91.48 48 ⇓P P 21 06 24.7 +0.5
baz=91,SNR=9.3
RRI2 Red Ridge 91.50 45 *e*P P 21 06 25.8 +1.4
IRM Iron Mountain 91.56 54 ⇑P P 21 06 25.4 +0.8
baz=92,SNR=8.8
IMW Indian Meadow 91.57 44 *e*P P 21 06 25.2 +0.4
H17A Grant Village 91.64 44 ⇑P P 21 06 27.3 +2.3
baz=92
F18A Big Timber 91.68 42 ⇑P P 21 06 25.6 +0.6
baz=92,SNR=12
TPAW Teton Pass 91.70 45 *e*P P 21 06 26.4 +1.0
A20A Cobblestone Ra 91.71 39 ⇓P P 21 06 25.1 +0.1
baz=92
MOOW Moose Ponds 91.75 44 *e*P P 21 06 26.4 +0.9
GCMT Greycliff 91.75 42 *e*P P 21 06 26.6 +1.2
D19A Cripps Ranch, 91.76 41 ⇓P P 21 06 25.5 +0.2
baz=92,SNR=13
NEE2 Needles Airpor 91.79 54 ⇑P P 21 06 26.5 +0.9
baz=92
I17A Pilgrim Ck. 91.81 44 ⇑P P 21 06 27.2 +1.4
baz=92
B20A Solberg Farm, 91.82 39 ⇑P P 21 06 25.7 +0.2
baz=92
LOHW Long Hollow 91.90 44 *e*P P 21 06 27.3 +1.1
HWUT Hardware Ranch 91.91 47 *e*P P 21 06 26.4 +0.1
comp=Z,14nm,0.9s
SBA Scott Base 91.93 175 *e*P P 21 06 26.6 +1.4
SBA Scott Base 91.93 175 *e*P P 21 06 26.6 +1.4
G18A Lazy EL Ranch, 91.99 43 ⇓P P 21 06 27.4 +0.8
baz=92,SNR=6.0
E19A Rath Farm, Rou 92.08 41 ⇓P P 21 06 27.0 +0.2
baz=92
C20A Veseth Ranch, 92.11 40 ⇑P P 21 06 27.3 +0.4
baz=92,SNR=22
GLA Glamis 92.14 55 *e*P P 21 06 28.6 +1.3
GLA Glamis 92.14 55 *e*P P 21 06 28.6 +1.3
GLA Glamis 92.14 55 ⇑P P 21 06 28.2 +0.9
baz=92,SNR=9.6
H18A Shoshone NF, C 92.16 43 ⇓P P 21 06 28.3 +1.0
baz=92
RAYN Ar Rayn 92.17 295 P P 21 06 26.7 -0.9
comp=Z,107nm,0.9s,SNR=8.8
RAYN Ar Rayn 92.17 295 *e*P P 21 06 26.4 -1.2
Y12C Blythe 92.17 55 ⇑P P 21 06 28.3 +0.9
baz=92,SNR=8.2
VSU Vasula 92.18 332 *ce*P P 21 06 25.1 -1.7
VSU pmax pmax
comp=Z,56nm,1.1s
F19A Roth Farm, Mol 92.20 42 ⇑P P 21 06 27.7 +0.2
baz=92,SNR=5.4
RLMT Red Lodge 92.26 43 *e*P P 21 06 28.6 +0.8
comp=Z,17nm,0.7s
W13A Hualapai Mount 92.27 53 ⇓P P 21 06 28.5 +0.4
baz=92
A21A Bergtoll Ranch 92.28 38 ⇓P P 21 06 27.7 +0.1
baz=92
PDMCI Parker Dam,Lak 92.31 54 ⇑P P 21 06 28.8 +0.8
baz=92,SNR=5.2
I18A Diamond G Ranc 92.40 44 ⇑P P 21 06 29.1 +0.5
baz=92,SNR=5.8
B21A Ellsworth Farm 92.44 39 ⇓P P 21 06 28.8 +0.4
baz=92
E20A Meyer Farm, Mu 92.49 41 ⇑P P 21 06 28.7 +0.1
baz=92
MSU Marysvale 92.49 50 *e*P P 21 06 30.4 +1.3
MSU Marysvale 92.49 50 *e*P P 21 06 30.4 +1.3
DAU Daniels Canyon 92.53 48 *e*P P 21 06 30.3 +1.0
DAU Daniels Canyon 92.53 48 *e*P P 21 06 30.3 +1.0
M17A Scullys Gap (B 92.59 46 ⇓P P 21 06 29.4 0.0
baz=92
FFC Flin Flon 92.61 32 *i*P P 21 06 29.1 +0.2
FFC Flin Flon 92.61 32 *e*P P 21 06 28.5 -0.5
comp=Z,6.8nm,0.9s
C21A Desert Coulee 92.63 40 ⇓P P 21 06 29.5 +0.2
baz=93,SNR=7.2
F20A Billings 92.74 42 ⇑P P 21 06 30.0 +0.1
baz=93,SNR=6.6
I19A Meeteetse 92.83 44 ⇓P P 21 06 31.3 +0.8
baz=93,SNR=13
L18A Fontenelle, Gr 92.88 46 ⇑P P 21 06 31.0 +0.2
baz=93
BW06 Boulder Array 92.91 45 *e*P P 21 06 30.5 -0.4
comp=Z,2.4nm,0.6s
PDAR Pinedale Array 92.91 45 P P 21 06 30.8 -0.1
PDAR Pinedale Array 92.91 45 P P 21 06 30.8 -0.1
comp=Z,2.8nm,0.6s,baz=240,slow=2.5,SNR=22
G20A Bridger 92.92 42 ⇓P P 21 06 30.7 0.0
baz=93
D21A La Casta Ranch 92.99 40 ⇓P P 21 06 31.1 +0.2
baz=93
113A Mohawk Valley, 93.08 55 ⇑P P 21 06 32.0 +0.5
baz=93,SNR=11
J19A Crowheart 93.08 44 ⇓P P 21 06 32.2 +0.6
baz=93,SNR=14
U15A North Rim 93.08 52 ⇑P P 21 06 32.6 +0.8
baz=93
Q16A Castle Valley 93.10 49 ⇑P P 21 06 32.7 +0.9
baz=93
B22A Reddig Ranch S 93.12 39 ⇑P P 21 06 31.5 0.0
baz=93
E21A Keefer Ranch, 93.14 41 ⇓P P 21 06 31.9 +0.2
baz=93
L19A Farson 93.29 46 ⇓P P 21 06 33.0 +0.3
baz=93
Y14A Wickenburg 93.32 54 ⇑P P 21 06 33.4 +0.7
baz=93,SNR=16
H20A Greybull 93.33 43 ⇓P P 21 06 33.0 +0.3
baz=93
K19A Absolon Red Bu 93.38 45 ⇓P P 21 06 32.8 -0.2
baz=93,SNR=13
F21A Absaloka Mine, 93.39 41 ⇓P P 21 06 32.9 0.0
baz=93
C22A Vida 93.41 39 ⇓P P 21 06 32.9 0.0
baz=93
I20A Worland 93.45 43 ⇑P P 21 06 33.5 +0.3
baz=93,SNR=8.3
D22A Cohagen 93.47 40 ⇓P P 21 06 33.4 +0.2
baz=93,SNR=5.4
SRU San Rafael 93.51 49 *e*P P 21 06 33.4 -0.3
SRU pmax pmax
comp=Z,7.0nm,0.7s
SRU San Rafael 93.51 49 *e*P P 21 06 33.4 -0.3
comp=Z,6.7nm,0.7s
A23A Redstone 93.52 38 ⇑P P 21 06 34.6 +1.3
baz=93
Z14A Wintersburg 93.55 55 ⇓P P 21 06 34.7 +1.0
baz=94
G21A Lodge Grass 93.57 42 ⇓P P 21 06 34.3 +0.6
baz=94
M19A Rock Springs 93.64 46 ⇑P P 21 06 34.2 -0.1
baz=94
B23A Brockton 93.66 38 ⇓P P 21 06 33.8 -0.2
baz=94
J20A Shoshoni 93.70 44 ⇑P P 21 06 34.4 -0.1
baz=94,SNR=6.4
K20A Yellowstone Ra 93.78 45 ⇑P P 21 06 34.9 0.0
baz=94,SNR=9.6
C23A Lambert 93.82 39 ⇑P P 21 06 35.1 +0.4
baz=94
E22A Miles City 93.90 41 ⇓P P 21 06 35.3 +0.1
baz=94
H21A Big Horn, Sher 93.91 43 ⇑P P 21 06 35.8 +0.5
baz=94,SNR=11
F22A Rosebud 93.97 41 ⇑P P 21 06 35.4 -0.1
baz=94
L20A Wamsutter 94.03 45 ⇓P P 21 06 36.4 +0.4
baz=94
I21A Big Trails, Te 94.06 43 ⇑P P 21 06 36.0 -0.1
baz=94,SNR=13
D23A Lindsay 94.07 40 ⇓P P 21 06 36.3 +0.4
baz=94
WUAZ Wupatki 94.08 52 *e*P P 21 06 37.9 +1.6
214A Organ Pipe Nat 94.09 56 ⇓P P 21 06 37.2 +0.9
baz=94
O19A Miners Draw (B 94.10 47 ⇑P P 21 06 36.4 +0.1
baz=94
SIM Simferopol' 94.10 318 *e*P P 21 06 35.0 -1.0
SIM *e**PP pP 21 07 24.0 +3.0

SIM pmax pmax
comp=Z,11nm,0.7s
J21A Lysite 94.14 44 ⇑P **P 21 06 36.5 0.0**
baz=94,SNR=12
G22A Birney 94.17 42 ⇓P **P 21 06 36.6 +0.1**
baz=94
E23A Ismay 94.28 40 ⇓P **P 21 06 37.1 +0.2**
baz=94,SNR=6.5
M20A Sweetwater, Wa 94.33 46 ⇓P **P 21 06 37.8 +0.4**
baz=94
H22A Clearmont 94.38 42 ⇓P **P 21 06 37.5 +0.1**
baz=94,SNR=5.3
C24A Savage 94.40 39 ⇓P **P 21 06 37.7 +0.3**
baz=94
P19A Cripple Cowboy 94.44 48 ⇓P **P 21 06 37.7 -0.3**
baz=94,SNR=5.7
N20A Spence Gulch, 94.52 46 ⇓P **P 21 06 38.4 +0.1**
baz=94
F23A Volborg 94.54 41 ⇓P **P 21 06 38.2 +0.1**
baz=94
I22A 9 Mile Ranch, 94.57 43 ⇑P **P 21 06 38.9 +0.5**
baz=94
AKASG Malin Array Be 94.63 325 P **P 21 06 36.4 -1.9**
AKASG Malin Array Be 94.63 325 P **P 21 06 36.4 -1.9**
AKASG PKKPbc **PKKPdf 21 23 34.9 -0.6**
AKASG Malin Array Be 94.63 325 P **P 21 06 36.4 -1.9**
comp=Z,0.6nm,0.4s,baz=49,slow=5.6,SNR=21
AKASG PKKPbc **PKKPdf 21 23 34.9 -0.6**
comp=Z,0.8nm,0.5s,baz=256,slow=3.1,SNR=9.1
D24A Glendive 94.64 39 ⇓P **P 21 06 38.9 +0.4**
baz=95
AK01 Malin Array Si 94.64 325 *e*P **P 21 06 36.2 -2.2**
L21A Rawlins 94.71 45 ⇓P **P 21 06 39.3 +0.1**
baz=95
G23A Biddle 94.76 42 ⇑P **P 21 06 39.2 +0.1**
baz=95
J22A Midwest 94.76 43 ⇑P **P 21 06 39.0 -0.3**
baz=95,SNR=9.0
O20A White River Ci 94.79 47 ⇑P **P 21 06 39.5 -0.1**
baz=95
M21A Separation Pea 94.86 45 ⇑P **P 21 06 39.7 -0.1**
baz=95
E24A Baker 94.88 40 ⇓P **P 21 06 39.8 +0.2**
baz=95
P20A De Beque 94.92 48 ⇓P **P 21 06 40.2 +0.1**
baz=95
N21A Black Mountain 95.07 46 ⇑P **P 21 06 40.9 0.0**
baz=95
PV01 Paradox Valley 95.28 49 *e*P **P 21 06 42.0 +0.1**
L22A Ellis Ranch, M 95.33 45 ⇓P **P 21 06 42.4 +0.4**
baz=95
J23A Dilts Ranch, B 95.38 43 ⇓P **P 21 06 42.1 0.0**
baz=95
R20A Redvale 95.40 49 ⇓P **P 21 06 42.6 +0.2**
baz=95
E25A Miller Ranch, 95.47 40 ⇓P **P 21 06 42.6 +0.2**
baz=95
H24A Dirks Ranch, A 95.49 42 ⇑P **P 21 06 42.4 -0.1**
baz=95
S20A Disappointment 95.55 49 ⇓P **P 21 06 42.9 -0.2**
baz=96
K23A Bowen Ranch, D 95.59 44 ⇑P **P 21 06 43.1 0.0**
baz=96
TUC Tucson 95.61 55 *e*P **P 21 06 44.5 +1.2**
TUC Tucson 95.61 55 *e*P **P 21 06 44.5 +1.2**
MVCO Mesa Verde 95.67 50 ⇓P **P 21 06 43.9 +0.2**
baz=96
N22A Wattenberg Ran 95.80 46 ⇑P **P 21 06 44.6 +0.4**
baz=96
L23A Garrett 95.80 44 ⇑P **P 21 06 44.2 0.0**
baz=96
I24A Kuemmerle Ranc 95.81 43 ⇓P **P 21 06 43.6 -0.4**
baz=96
R21A Cimarron 95.94 48 ⇑P **P 21 06 45.3 +0.4**
baz=96
U20A Newcomb 95.96 51 ⇑P **P 21 06 45.2 +0.3**
baz=96
O22A Kremmling 95.98 47 ⇓P **P 21 06 44.9 -0.2**
baz=96
J24A Dixon Ranch, L 96.00 43 ⇑P **P 21 06 44.8 -0.1**
baz=96
S21A Coal Bank Pass 96.03 49 ⇓P **P 21 06 45.4 0.0**
baz=96
P22A Eagle 96.05 47 ⇓P **P 21 06 45.4 +0.1**
baz=96
SMCO Snowmass 96.06 48 *e*P **P 21 06 45.8 +0.2**
comp=Z,3.2nm,0.7s
N23A Red Feather La 96.12 46 ⇓P **P 21 06 46.1 +0.5**
baz=96
K24A Anderson Ranch 96.15 44 ⇑P **P 21 06 46.3 +0.7**
baz=96
V20A Brimhall 96.20 51 ⇑P **P 21 06 46.3 +0.2**
baz=96
Q22A Crested Butte, 96.22 48 ⇑P **P 21 06 46.8 +0.6**
baz=96
O23A Lake Granby, G 96.41 46 ⇓P **P 21 06 47.6 +0.6**
baz=96
BR131 Keskin Array S 96.48 313 *e*P **P 21 06 45.2 -2.0**
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 96.48 313 P **P 21 06 45.6 -1.6**
BRTR PP PP 21 10 35.2 -8.0
BRTR PKKPbc **PKKPbc 21 23 31.4 -0.4**
BRTR Keskin Array B 96.48 313 P **P 21 06 45.6 -1.6**
comp=Z,2.5nm,0.7s,baz=46,slow=3.6,SNR=21
BRTR PP PP 21 10 35.2 -8.0
comp=Z,3.1nm,1.0s,baz=90,slow=4.9,SNR=4.0
BRTR PKKPbc **PKKPbc 21 23 31.4 -0.4**
comp=Z,0.7nm,0.6s,baz=193,slow=4.4,SNR=6.0
R22A Saguache, Gunn 96.58 48 ⇑P **P 21 06 48.4 +0.5**
baz=96
U21A Nageezi 96.58 50 ⇓P **P 21 06 48.4 +0.6**
baz=96
X20A Quemado 96.63 52 ⇑P **P 21 06 48.9 +0.8**
baz=97
M24A Cheyenne 96.66 45 ⇑P **P 21 06 48.5 +0.5**
baz=97
S22A 4UR Ranch, Cre 96.70 49 ⇑P **P 21 06 48.8 +0.4**
baz=97
ISCO Idaho Springs 96.78 47 ⇑P **P 21 06 49.1 +0.4**
baz=97
P23A Jefferson 96.79 47 ⇑P **P 21 06 49.8 +1.0**
baz=97
ASF Jabal al Asfar 96.81 305 P **P 21 06 48.0 -0.7**
ASF Jabal al Asfar 96.81 305 P **P 21 06 48.0 -0.7**
comp=Z,3.2nm,0.7s
V21A Milan 96.83 51 ⇑P **P 21 06 49.5 +0.5**
baz=97
T22A Edith 96.93 50 ⇑P **P 21 06 49.8 +0.4**
baz=97
NB2 NORSAR Subarra 96.93 339 P **P 21 06 46.6 -2.0**
comp=Z,2.0nm,0.8s,baz=54,slow=4.4
NB2 NORSAR Subarra 96.93 339 P **P 21 06 46.6 -2.0**
baz=54,slow=4.4
NOA NORSAR Array B 96.93 339 P **P 21 06 47.5 -1.0**
NOA PP **PP 21 10 42.8 -3.0**
NOA NORSAR Array B 96.93 339 P **P 21 06 47.5 -1.0**
comp=Z,0.9nm,0.7s,baz=51,slow=4.7,SNR=3.4
NOA PP **PP 21 10 42.8 -3.0**
comp=Z,2.2nm,0.9s,baz=47,slow=7.8,SNR=5.9
Y20A Horse Springs, 96.95 53 ⇑P **P 21 06 50.2 +0.7**
baz=97
L25A Engebretsen Ra 96.96 44 ⇓P **P 21 06 50.0 +0.8**
baz=97
Z20A Nine Sixteen R 97.07 54 ⇓P Pdif 21 06 50.8 +0.8
baz=97
319A Douglas 97.13 56 ⇓P Pdif 21 06 51.3 +1.0
baz=97
120A U Bar Ranch, L 97.23 54 ⇑P Pdif 21 06 51.5 +0.7
baz=97
Y21A Point of Rocks 97.46 53 ⇓P Pdif 21 06 52.7 +0.8
baz=97
220A Playas Peak, P 97.55 55 ⇑P **P 21 06 52.1 0.0**
baz=98
SDCO Great Sand Dun 97.68 48 *e*P **P 21 06 52.8 0.0**
comp=Z,1.8nm,1.0s
MMAI Mount Meron Ar 97.69 306 P **P 21 06 51.5 -1.2**
MMAI Mount Meron Ar 97.69 306 P **P 21 06 51.5 -1.2**
comp=Z,6.8nm,0.8s,baz=79,slow=5.5,SNR=12
LAZ Ladron 97.73 52 P **P 21 06 53.1 +0.1**
comp=Z,3.1nm,1.3s
ATD Arta Tunnel 97.79 284 P **P 21 06 53.5 +0.1**
ATD Arta Tunnel 97.79 284 P **P 21 06 53.5 +0.1**
comp=Z,3.5nm,0.5s,baz=109,slow=18,SNR=4.4
121A Cookes Peak, D 97.91 54 ⇑Pdiff Pdif 21 06 54.2 +0.4
baz=98
S24A Houchin Ranch, 97.93 48 ⇑Pdiff Pdif 21 06 54.5 +0.5
baz=98
Y22A Socorro 98.03 52 ⇑Pdiff **P 21 06 54.4 +0.1**
baz=98
Z22A Elephant Butte 98.29 53 ⇑Pdiff Pdif 21 06 55.7 +0.2
baz=98
S25A Robets Cordova 98.48 48 ⇓Pdiff Pdif 21 06 56.5 +0.2
baz=98
T25A Trinidad 98.71 49 ⇑Pdiff **P 21 06 57.5 +0.2**
baz=99
Y23A Lovelace Mesa, 98.74 52 ⇓Pdiff Pdif 21 06 58.3 +0.8
baz=99
W24A Lazy 6 Ranch, 98.74 51 ⇑Pdiff Pdif 21 06 58.1 +0.6
baz=99
MAW Mawson 98.76 203 P **P 21 06 55.1 -1.3**
MAW Mawson 98.76 203 P **P 21 06 55.1 -1.3**
comp=Z,4.6nm,0.9s,baz=81,slow=5.8,SNR=9.1
KWP Kalwaria Pacla 98.80 326 *e*P **P 21 06 56.1 -1.1**
KWP Kalwaria Pacla 98.80 326 *e*P **P 21 06 56.1 -1.1**
comp=Z,40nm,1.3s
KWP Kalwaria Pacla 98.80 326 *e*PKP **P 21 06 56.3 -0.8**
R26A Arlington 98.93 47 ⇓Pdiff Pdif 21 06 58.6 +0.4
baz=99
U25A Circle Dot Ran 99.01 49 ⇑Pdiff **Pdif 21 06 58.0 -0.6**
baz=99
MLR Muntele Rosu 99.04 321 PKKPbc PKKPbc 21 23 23.7 -1.4
MLR Muntele Rosu 99.04 321 PKKPbc PKKPbc 21 23 23.7 -1.4
comp=Z,0.4nm,0.6s,baz=272,slow=18,SNR=9.6
S26A Kim 99.20 48 ⇑Pdiff **Pdif 21 06 59.3 -0.1**
baz=99
EIL Elat 99.25 303 P **Pdif 21 06 58.7 -0.9**
EIL Elat 99.25 303 P **Pdif 21 06 58.7 -0.9**
comp=Z,4.8nm,0.7s,baz=47,slow=8.2,SNR=4.7
T26A Comanche Natio 99.30 48 ⇑Pdiff **Pdif 21 06 59.9 0.0**
baz=99
KOLS Kolonicke sedl 99.41 325 *e*P **Pdif 21 06 59.0 -0.9**
KOLS pmax pmax
comp=Z,7.0nm,1.4s
KOLS Kolonicke sedl 99.41 325 PDIF **Pdif 21 06 59.0 -0.9**
U26A Atchley Ranch, 99.50 49 ⇑Pdiff **Pdif 21 07 00.9 0.0**
baz=99
UZH Uzhgorod 99.56 325 *e*P **Pdif 21 06 58.0 -2.6**
X25A Clemmons Ranch 99.57 51 ⇓Pdiff **Pdif 21 07 01.0 -0.1**
baz=100
STHS Stebnicka Huta 99.71 326 *e*P **Pdif 21 07 01.3 0.0**
STHS pmax pmax
comp=Z,4.0nm,1.2s
STHS Stebnicka Huta 99.71 326 PDIF **Pdif 21 07 01.3 0.0**
Y25A Mesa, Roswell 99.78 52 ⇑Pdiff **Pdif 21 07 02.0 -0.1**
baz=100
CRVS Cervenica-Dubn 99.88 326 *e*P **Pdif 21 06 58.7 -3.3**
CRVS pmax pmax
comp=Z,18nm,1.4s
CRVS Cervenica-Dubn 99.88 326 PDIF **Pdif 21 06 58.7 -3.3**
MNTX Cornudas Mount 100.11 54 *e*Pdif **Pdif 21 07 03.7 +0.3**
comp=Z,1.1nm,0.6s
324A Moseley Ranch, 100.13 54 ⇓Pdiff **Pdif 21 07 04.3 +0.7**
baz=100
X26A CR and CF Fran 100.20 51 ⇑Pdiff **Pdif 21 07 04.2 +0.2**
baz=100
NIE Niedzica 100.22 326 *e*P **Pdif 21 07 04.3 +0.8**
NIE Niedzica 100.22 326 *e*P **Pdif 21 07 04.3 +0.8**
125A Gardner Draw, 100.31 53 ⇓Pdiff **Pdif 21 07 05.1 +0.7**
baz=100
T28A Walsh 100.39 48 ⇓Pdiff **Pdif 21 07 05.4 +0.7**
baz=100
KECS Kecovo 100.65 326 *e*P **Pdif 21 07 05.0 -0.4**
KECS pmax pmax
comp=Z,3.0nm,1.0s
KECS Kecovo 100.65 326 PDIF **Pdif 21 07 05.0 -0.4**
425A Indio Mountain 100.77 55 ⇑Pdiff **Pdif 21 07 07.1 +0.5**
baz=101
VYHS Vyhne 101.54 326 *e*P **Pdif 21 07 09.0 -0.4**
VYHS pmax pmax
comp=Z,10.0nm,1.3s
VYHS Vyhne 101.54 326 PDIF **Pdif 21 07 09.0 -0.4**
426A McDonald Obser 101.58 55 ⇓Pdiff **Pdif 21 07 11.1 +0.9**
baz=102
DPC Dobruska-Polom 101.75 329 *e*PP PP 21 11 21.2 -1.4
526A Mary Lane Ranc 101.77 55 ⇓Pdiff **Pdif 21 07 12.1 +1.1**
baz=102
328A Wristen Ranch, 102.25 53 ⇓Pdiff **Pdif 21 07 13.3 +0.3**
baz=102
TXAR Lajitas Array 102.39 56 P **Pdif 21 07 14.3 +0.6**
TXAR PP **PP 21 11 24.5 -3.7**
TXAR PKKPbc **PKKPbc 21 23 12.9 -2.0**
TXAR Lajitas Array 102.39 56 P **Pdif 21 07 14.3 +0.6**
comp=Z,0.9nm,0.7s,baz=268,slow=3.8,SNR=7.5
TXAR PP **PP 21 11 24.5 -3.7**
comp=Z,0.6nm,0.8s,baz=232,slow=4.4,SNR=3.5
TXAR PKKPbc **PKKPbc 21 23 12.9 -2.0**
comp=Z,0.6nm,0.6s,baz=126,slow=6.5,SNR=5.9
627A Terlingua Ranc 102.56 55 ⇑Pdiff **Pdif 21 07 14.8 +0.3**
baz=102
BRG Berggiesshubel 102.60 330 *e*P **PP 21 11 28.3 -0.5**
comp=Z,5.3nm,1.2s
428A Kincaid Ranch, 102.62 54 ⇑Pdiff **Pdif 21 07 15.4 +0.7**
baz=103
CLL Collm 102.77 331 *i* P **Pdif 21 07 14.1 -0.7**
CLL *e* 21 11 28.0
CLL *e*S **Sdif 21 18 43.0 -1.4**
CLL pmax pmax
comp=Z,13nm,1.6s
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 102.77 331 ⇓*i*Pdif **Pdif 21 07 14.1 -0.7**
comp=Z,13nm,1.6s
CLL *e* 21 10 27.0
CLL *e* 21 10 45.0
CLL *e*PP **PP 21 11 28.0 -2.0**
comp=Z,8.0nm,1.0s
CLL *e*pPP 21 12 10.0
CLL *e*PPP PPP 21 13 44.0
CLL *e*Sdif Sdif 21 18 43.0 -1.4
CLL *e*SP **SP 21 20 19.0 -0.2**
CLL *e*PS **PS 21 20 42.0 +0.1**
CLL *e*PPS PPS 21 21 36.0
329A Wagon Wheel Ra 102.86 53 ⇓Pdiff **Pdif 21 07 16.6 +0.9**
baz=103
PRU Pruhonice 102.87 329 *e*PP PP 21 11 28.6 -2.2
PRA Prague 102.87 329 PP PP 21 11 29.0 -1.8
628A Black Gap, Mar 102.95 55 ⇓Pdiff **Pdif 21 07 16.7 +0.6**
baz=103
429A Davenport Ranc 103.28 54 ⇓Pdiff **Pdif 21 07 17.7 +0.1**
baz=103
430A Baggett Ranch, 103.73 53 ⇑Pdiff **Pdif 21 07 20.0 +0.4**
baz=104
KHC Kasperske Hory 103.90 329 *e*P **Pdif 21 07 19.4 -0.5**
KHC *e* 21 11 40.0
KHC Kasperske Hory 103.90 329 *e*PDIFF **Pdif 21 07 19.4 -0.5**
KHC *e*PP **PP 21 11 40.0 +1.4**
GERES GERESS Array B 104.02 329 PKiKP **PKiKP 21 11 37.7 +0.8**
GERES PKKPbc **PKKPbc 21 23 08.8 -2.0**
GERES GERESS Array B 104.02 329 PP PP 21 11 34.1 -5.5
comp=Z,0.9nm,0.6s,baz=66,slow=4.7,SNR=4.2
GERES PKiKP **PKiKP 21 11 37.7 +0.8**
comp=Z,0.9nm,0.6s,baz=57,slow=4.9,SNR=3.6
GERES PKKPbc **PKKPbc 21 23 08.8 -2.0**
comp=Z,1.0nm,0.6s,baz=232,slow=3.0,SNR=13
GRF Grafenberg Arr 104.69 330 *e*Pdiff **Pdif 21 07 22.5 -0.9**
GRF *e*PP **PP 21 11 41.8 -2.6**
GRF Grafenberg Arr 104.69 330 *e*P **Pdif 21 07 22.5 -0.9**
GRF *e* 21 11 41.8
TUL1 Tulsa 105.47 47 ⇓Pdiff 21 11 40.1
baz=105
WHTX Lake Whitney 106.11 51 ⇓Pdiff 21 11 40.8
baz=106
LANF Langenberg 106.80 331 *e*P **PP 21 11 57.3 -2.5**
ECH Echery 107.65 331 *e*P **PP 21 12 04.8 -1.2**
MOF Molkenrain 107.92 331 *e*P **PP 21 12 07.8 -0.3**
THEF They Montfort 108.19 332 *e*P **PP 21 12 09.5 -0.4**
LOMF Lomont 108.42 331 *e*P **PP 21 12 11.1 -0.6**
CABF La Chapelle 109.31 331 *e*PKiKP **PKiKP 21 11 47.2 +0.4**
LPL La Plagne 109.78 329 *e*PKiKP **PKiKP 21 11 48.0 +0.1**
SAOF Saorge 110.43 328 *e*P **PP 21 12 24.0 -2.3**
ORIF Oris-en-Rattie 110.62 329 *e*PKiKP **PKiKP 21 11 49.3 -0.1**
comp=Z,2.6nm,0.6s
PGF Pioggiola 110.65 326 *e*PKiKP **PKiKP 21 11 49.3 -0.2**
comp=Z,7.2nm,0.8s
TCF Toulx Ste Croi 111.35 332 *e*PKiKP **PKiKP 21 11 50.6 0.0**
LMR La Mourre 111.43 328 *e*PKiKP **PKiKP 21 11 50.6 -0.2**
comp=Z,4.3nm,0.7s
SMRF Simiane la Rot 111.45 329 *e*PKiKP **PKiKP 21 11 51.1 +0.2**
comp=Z,6.6nm,0.9s
LBL Lubilhac 111.67 331 *e*P **PP 21 12 34.5 -0.6**
LASF Ste Croix 112.23 330 *e*PKiKP **PKiKP 21 11 52.5 +0.2**
comp=Z,5.4nm,0.7s
KEST Kesra 114.93 320 PKP PKPdf 21 11 58.1 +0.3
KEST PKKPbc **PKKPbc 21 22 34.9 -0.7**
KEST Kesra 114.93 320 PKP PKPdf 21 11 58.1 +0.3
comp=Z,1.1nm,0.7s,baz=79,slow=5.2,SNR=6.6
KEST PKKPbc **PKKPbc 21 22 34.9 -0.7**
comp=Z,0.7nm,0.8s,baz=156,slow=16,SNR=3.5
ETSF Etsaut 115.22 332 *e*PKIKP **PKPdf 21 11 58.9 +0.7**
comp=Z,4.3nm,0.6s
LSZ Lusaka 117.76 260 *e*PKPdf **PKPdf 21 12 04.3 +0.6**
SNAA Sanae 118.31 191 *e*PKP **PKPdf 21 12 02.6 -0.6**
SNAA Sanae 118.31 191 *e*PKPdf **PKPdf 21 12 02.1 -1.1**
PGAV Gavieira, Arco 119.27 336 *e*PKPdf **PKPdf 21 12 06.3 +0.3**
ESDC Sonseca Array 119.34 332 PKP **PKPdf 21 12 06.1 -0.1**
ESDC PP **PP 21 13 25.9 -2.8**
ESDC PKKPbc **PKKPbc 21 22 19.6 -0.6**
ESDC Sonseca Array 119.34 332 PKP **PKPdf 21 12 06.1 -0.1**
comp=Z,0.3nm,0.3s,baz=18,slow=2.5,SNR=7.5
ESDC PP **PP 21 13 25.9 -2.8**
comp=Z,1.7nm,0.8s,baz=38,slow=6.9,SNR=8.8
ESDC PKKPbc **PKKPbc 21 22 19.6 -0.6**
comp=Z,0.5nm,0.5s,baz=227,slow=4.4,SNR=9.4
PCAB Cabril 119.39 336 *e*PKPdf **PKPdf 21 12 06.6 +0.4**
MVO Moncorvo 119.45 335 *e*PKPdf **PKPdf 21 12 06.9 +0.5**
POLO Lamas de Olo 119.58 336 *e*PKPdf **PKPdf 21 12 07.2 +0.5**
PVRL Vila Real 119.64 336 *e*PKPdf **PKPdf 21 12 07.4 +0.7**
PTO Porto 120.11 336 *e*PKPdf **PKPdf 21 12 08.6 +1.1**
PVIS Viseu 120.18 335 *e*PKPdf **PKPdf 21 12 08.3 +0.5**
MTE Manteigas 120.30 335 *e*PKPdf **PKPdf 21 12 08.3 +0.2**
MTE Manteigas 120.30 335 *e*PKPdf **PKPdf 21 12 08.2 +0.2**
PCBR Castelo Branco 120.75 334 *e*PKPdf **PKPdf 21 12 09.3 +0.5**
LBTB Lobatse 120.89 249 *e*PKPdf **PKPdf 21 12 09.5 -0.1**
PMRV Marv??o 121.05 334 *e*PKPdf **PKPdf 21 12 09.7 +0.3**
BOSA Boshof 121.18 245 *e*PKPdf **PKPdf 21 12 09.5 -0.5**
BOSA PKP **PKPdf 21 12 09.9 -0.1**
BOSA PKKPbc **PKKPbc 21 22 11.9 -1.0**
BOSA Boshof 121.18 245 PKP **PKPdf 21 12 09.9 -0.1**
comp=Z,14nm,0.6s,baz=119,slow=1.2,SNR=45
BOSA PKKPbc **PKKPbc 21 22 11.9 -1.0**
comp=Z,2.1nm,0.8s,baz=344,slow=21,SNR=4.6
PMTG Montargil 121.71 335 *e*PKPdf **PKPdf 21 12 10.8 +0.1**
PBAR Barrancos 121.94 333 *e*PKPdf **PKPdf 21 12 11.6 +0.5**
EVO Evora 122.07 334 *e*PKIKP **PKiKP 21 12 11.8 +0.3**
comp=Z,12nm,0.9s
PBEJ Beja 122.43 334 *e*PKPdf **PKPdf 21 12 12.8 +0.7**
PNCL Nicolau / Gran 122.64 334 *e*PKPdf **PKPdf 21 12 12.9 +0.4**
PCVE Castro Verde 122.83 333 *e*PKPdf **PKPdf 21 12 13.5 +0.6**
PBDV Barranco-do-Ve 123.11 333 *e*PKPdf **PKPdf 21 12 14.4 +0.9**
MDT Midelt 125.08 327 PKP **PKPdf 21 12 17.8 +0.3**
MDT Midelt 125.08 327 PKP **PKPdf 21 12 17.8 +0.3**
comp=Z,5.8nm,1.0s,baz=333,slow=1.6,SNR=8.0
TAM Tamanrasset 125.61 311 *e*PKIKP **PKPdf 21 12 19.3 +0.5**
TAM Tamanrasset 125.61 311 *e*PKPdf **PKPdf 21 12 19.3 +0.5**
TORD Torodi Ar. Bea 134.14 303 PKPpre PKPpre 21 12 18.8
TORD PKP **PKPdf 21 12 34.9 -0.1**
TORD PP **PP 21 15 02.6 -4.8**
TORD SKPbc **SKPbc 21 15 46.5 -1.1**
TORD Torodi Ar. Bea 134.14 303 PKhKP PKPpre 21 12 18.8
comp=Z,0.3nm,0.4s,baz=49,slow=2.7,SNR=11
TORD PKP **PKPdf 21 12 34.9 -0.1**
comp=Z,8.8nm,0.7s,baz=60,slow=1.3,SNR=37
TORD PP **PP 21 15 02.6 -4.8**
comp=Z,4.7nm,1.0s,baz=46,slow=6.0,SNR=7.5
TORD SKPbc **SKPbc 21 15 46.5 -1.1**
comp=Z,8.4nm,0.9s,baz=50,slow=3.1,SNR=9.8
OTAV Otavalo 136.04 76 *e*PKPdf **PKPdf 21 12 38.6 -0.5**
PLCA Paso Flores 139.43 139 PKPpre PKPpre 21 12 37.3
PLCA PKP **PKPdf 21 12 45.2 +1.1**
PLCA *e*PKPdf **PKiKP 21 12 45.4 -1.1**
PLCA SKPbc **SKPbc 21 16 02.2 -0.5**
PLCA Paso Flores 139.43 139 PKhKP PKPpre 21 12 37.3
comp=Z,14nm,1.1s,baz=241,slow=4.1,SNR=8.9
PLCA PKP **PKPdf 21 12 45.2 +1.1**
comp=Z,16nm,0.6s,baz=211,slow=2.2,SNR=46
PLCA SKPbc **SKPbc 21 16 02.2 -0.5**
comp=Z,7.7nm,1.0s,baz=228,slow=1.5,SNR=5.0
DBIC Dimbokro 143.06 301 *e*PKPpre PKPpre 21 12 47.7
DBIC SKPbc **SKPbc 21 16 11.9 -0.8**
DBIC Dimbokro 143.06 301 PKhKP PKPpre 21 12 47.8
comp=Z,29nm,0.8s,baz=32,slow=3.8,SNR=36
DBIC SKPbc **SKPbc 21 16 11.9 -0.8**
comp=Z,2.7nm,0.5s,baz=72,slow=3.2,SNR=3.5
LIC Lamto 143.44 300 *e*PKIKP PKPab 21 12 48.7 +0.1
comp=Z,89nm,0.5s
LCO Las Campanas 144.41 122 *e*PKPdf PKPbc 21 12 53.0 +0.4
TRQA Tornquist 146.36 142 *e*PKPdf **PKPdf 21 12 56.9 +0.5**
LVC Limon Verde 147.62 111 *e*PKPdf **PKPbc 21 13 00.9 -1.2**
LVC PKPbc **PKPbc 21 13 01.3 -0.8**
LVC Limon Verde 147.62 111 PKPbc **PKPbc 21 13 01.3 -0.8**
comp=Z,21nm,0.6s,baz=269,slow=4.4,SNR=17
LPAZ La Paz 149.02 99 *e*PKPdf **PKPdf 21 13 02.7 +0.6**
LPAZ PKP **PKPdf 21 13 03.4 +1.3**
LPAZ PKPbc **PKiKP 21 13 07.3 -0.2**
LPAZ La Paz 149.02 99 PKP **PKPdf 21 13 03.4 +1.3**
comp=Z,33nm,0.8s,baz=265,slow=2.8,SNR=63
LPAZ PKPbc **PKiKP 21 13 07.3 -0.2**
comp=Z,33nm,0.8s,baz=251,slow=3.0,SNR=79
CPUP Villa Florida 156.34 126 PKP **PKPdf 21 13 12.1 +0.4**
CPUP PKPab **PKPab 21 13 41.5 +0.7**
CPUP Villa Florida 156.34 126 PKP **PKPdf 21 13 12.1 +0.4**
comp=Z,8.9nm,0.8s,baz=301,slow=1.9,SNR=17
CPUP PKPab **PKPab 21 13 41.5 +0.7**
comp=Z,5.7nm,0.7s,baz=240,slow=3.3,SNR=8.7
BDFB Brasilia 168.34 103 PKP **PKPdf 21 13 24.3 +0.3**
BDFB PKPab **PKPab 21 14 34.3 +0.4**
BDFB Brasilia 168.34 103 PKP **PKPdf 21 13 24.3 +0.3**
comp=Z,22nm,0.9s,baz=247,slow=1.6,SNR=21
BDFB PKPab **PKPab 21 14 34.3 +0.4**
comp=Z,3.6nm,0.6s,baz=224,slow=4.2,SNR=3.9

*ISCJB **01** 20:55:36.5±1.8, 42°.85N±0°.05×1°.46W±0°.07, h14km±15km, Error ellipse: s-maj=9.1km s-min=8.1km az=41.4*
*CSEM **01** 20:55:37.0±0.1, 42°.85N×1°.48W, h10km, ML1.1, Error ellipse: s-maj=2.7km s-min=2.3km az=25.0*
*LDG **01** 20:55:37.3±0.1, 42°.85N×1°.47W, h2km, Md1.6/2, Ml1.4/1, Error ellipse: s-maj=1.3km s-min=1.2km az=75.0*
*MDD **01** 20:55:37.4±0.5, 42°.85N×1°.48W, h7km±6km, mbLg1.1/7, Error ellipse: s-maj=1.9km s-min=1.2km az=68.0, PRXIMO*
ISC 01 20:55:37.5±1.2, 42°.85N±0°.03×1°.47W±0°.04, h6km±11km, n22, σ0°.34/27, 2C-2D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IUNC	**Unciti**	**0.10**	**192**	⇑Pg		**Pg**		**20 55 39.6**	**-0.1**
	11nm,0.1s,SNR=18								
IUNC				Lg		Lg		20 55 41.2	
	23nm,0.1s,SNR=7.9								
IUNC	**Unciti**	**0.10**	**192**	Pg		**Pg**		**20 55 39.6**	**-0.1**
	11nm,0.1s,SNR=18								
IUNC				Lg		Lg		20 55 41.2	
	23nm,0.1s,SNR=7.9								
IUSE	**Utxeti**	**0.11**	**328**	⇓Pg		**Pg**		**20 55 39.8**	**-0.1**
	8.7nm,0.1s,SNR=18								
IUSE				Lg		Lg		20 55 41.8	
	12nm,0.1s,SNR=7.9								
IUSE	**Utxeti**	**0.11**	**328**	Pg		**Pg**		**20 55 39.8**	**-0.1**
	8.7nm,0.1s,SNR=18								
IUSE				Lg		Lg		20 55 41.8	
	12nm,0.1s,SNR=7.9								
EARA	**Aranguren**	**0.12**	**225**	⇑Pg		**Pg**		**20 55 39.7**	**-0.2**
	3.2nm,0.0s,SNR=18								
EARA				Lg		Lg		20 55 41.6	
	52nm,0.2s,SNR=7.9								
EARA	**Aranguren**	**0.12**	**225**	Pg		**Pg**		**20 55 39.7**	**-0.2**
	3.2nm,0.0s,SNR=18								
EARA				Lg		Lg		20 55 41.7	
	52nm,0.2s,SNR=7.9								
IEPA	**Eparoz**	**0.17**	**117**	⇓Pg		**Pg**		**20 55 40.6**	**-0.3**
	4.8nm,0.2s,SNR=18								
IEPA				Lg		Lg		20 55 43.6	
	17nm,0.2s,SNR=7.9								
IEPA	**Eparoz**	**0.17**	**117**	Pg		**Pg**		**20 55 40.6**	**-0.3**
	4.8nm,0.2s,SNR=18								
IEPA				Lg		Lg		20 55 43.6	
	17nm,0.2s,SNR=7.9								
IELO	**Elcoad**	**0.17**	**94**	Pg		**Pg**		**20 55 40.9**	**-0.1**
	1.8nm,0.1s,SNR=7.9								
IELO				Lg		Lg		20 55 44.1	
	7.3nm,0.1s,SNR=7.9								
IELO	**Elcoad**	**0.17**	**94**	Pg		**Pg**		**20 55 40.9**	**-0.1**
	1.8nm,0.1s,SNR=7.9								
IELO				Lg		Lg		20 55 44.1	
	7.3nm,0.1s,SNR=7.9								
ELIZ	**Elizondo**	**0.31**	**352**	Pg		**Pg**		**20 55 43.6**	**0.0**
	1.3nm,0.2s,SNR=7.9								

ELIZ					Lg	Lg	20 55 48.2		
	1.5nm,0.1s,SNR=7.9								
ELIZ	**Elizondo**	**0.31**	**352**	Pg	**Pg**		**20 55 43.6**	**0.0**	
	1.3nm,0.2s,SNR=7.9								
ELIZ					Lg	Lg	20 55 48.2		
	1.5nm,0.1s,SNR=7.9								
SJPF	**Ste Jean**	**0.32**	**35**	*e*Pg	**Pg**		**20 55 43.4**	**-0.3**	
SJPF				*e*Sg	**Sg**		**20 55 47.8**	**0.0**	
	2.6nm,0.2s								
SJPF	**Ste Jean**	**0.32**	**35**	Pg	**Pg**		**20 55 43.4**	**-0.3**	
SJPF				Lg	Lg		20 55 47.8		
	1.2nm,0.2s								
EALK	**Alkurruntz**	**0.37**	**356**	Pg	**Pg**		**20 55 44.5**	**-0.1**	
	0.2nm,0.1s,SNR=7.9								
EALK					Lg	Lg	20 55 49.3		
	2.8nm,0.2s,SNR=7.9								
EALK					Lg	Lg	20 55 49.3		
	SNR=7.9								
EALK	**Alkurruntz**	**0.37**	**356**	Pg	**Pg**		**20 55 44.5**	**-0.1**	
	0.2nm,0.1s,SNR=7.9								
EALK					Lg	Lg	20 55 49.3		
	SNR=7.9								
ETSF	**Etsaut**	**0.67**	**86**	*e*Pg	**Pg**		**20 55 50.1**	**-0.3**	
ETSF				*e*Sg	**Sg**		**20 55 59.6**	**+0.5**	
	0.8nm,0.3s								
ETSF	**Etsaut**	**0.67**	**86**	Pg	**Pg**		**20 55 50.1**	**-0.3**	
ETSF				*e*Sg	**Sg**		**20 55 59.6**	**+0.5**	
	0.4nm,0.3s								
EBIE	**Bielsa**	**1.20**	**98**	Pg	**Pn**		**20 56 01.6**	**+0.6**	
	0.4nm,0.1s,SNR=7.9								
EBIE					Lg	Lg	20 56 18.2		
	0.3nm,0.2s,SNR=7.9								
EBIE	**Bielsa**	**1.20**	**98**	Pg	**Pn**		**20 56 01.6**	**+0.6**	
	0.4nm,0.1s,SNR=7.9								
EBIE					Lg	Lg	20 56 18.2		
	0.3nm,0.2s,SNR=7.9								
EPF	**Esparros**	**1.34**	**82**	*e*Pg	**Pn**		**20 56 02.1**	**-0.6**	
EPF				*e*Sg	**Sb**		**20 56 20.5**	**+0.1**	
	0.9nm,0.3s								
EPF	**Esparros**	**1.34**	**82**	Pg	**Pn**		**20 56 02.1**	**-0.6**	
EPF				*e*Sg	**Sb**		**20 56 20.5**	**+0.1**	
	0.4nm,0.3s								

*CSEM **01** 20:56:06.9, 42.85N×1.49W, h0km, ML0.4, After MDD*
MDD 01 20:56:07.0±0.4, 42.85N×1.49W, h0km, mbLg0.4/3, Error ellipse: s-maj=3.2km s-min=3.0km az=98.0, PRXIMO SIN SOLUCIN, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUNC	**Unciti**	**0.09**	**187**	Pg	Pg	20 56 08.4	-0.4
	0.7nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	20 56 10.2	
	4.0nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**0.09**	**187**	Pg	Pg	20 56 08.4	-0.4
	0.7nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	20 56 10.2	
	4.0nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**0.10**	**223**	Pg	Pg	20 56 08.6	-0.4
	0.9nm,0.1s,SNR=7.9						
EARA				Lg	Lg	20 56 10.5	
	2.9nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.10**	**223**	Pg	Pg	20 56 08.6	-0.4
	0.9nm,0.1s,SNR=7.9						
EARA				Lg	Lg	20 56 10.5	
	2.9nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**335**	Pg	Pg	20 56 08.7	-0.5
	0.1nm,0.1s,SNR=4.0						
IUSE				Lg	Lg	20 56 10.7	
	0.4nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**335**	Pg	Pg	20 56 08.7	-0.5
	0.1nm,0.1s,SNR=4.0						
IUSE				Lg	Lg	20 56 10.7	
	0.4nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.17**	**113**	Lg	Lg	20 56 12.4	
	1.5nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**0.17**	**113**	Lg	Lg	20 56 12.4	
	1.5nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**0.18**	**91**	Lg	Lg	20 56 13.1	
	0.6nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.18**	**91**	Lg	Lg	20 56 13.1	
	0.6nm,0.1s,SNR=7.9						

*ISK **01** 21:10:28.5, 38.88N×26.93E, h3km, MD3.0*
*DDA **01** 21:10:29.9, 38.88N×27.04E, h5km, MD2.8*
*ISCJB **01** 21:10:30.0±0.5, 38.88N±0.02×26.99E±0.03, h9km±4km, Error ellipse: s-maj=3.6km s-min=3.0km az=164.3*
*CSEM **01** 21:10:30.1±0.1, 38.87N×27.00E, h10km, MD3.0, Error ellipse: s-maj=3.3km s-min=2.6km az=84.0*
*ATH **01** 21:10:31.0, 38.87N×26.94E, h31km±2km, MD3.0/5*
ISC 01 21:10:28.2±1.2, 38.88N±0.02×26.95E±0.02, h2km±11km, n74, σ0.92/116, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.47**	**335**	*i* P	**Pn**	**21 10 40.6**	**-1.4**
AYVA				*i* S	**Sb**	**21 10 47.7**	**+1.1**
AYVA	**Ayvalik**	**0.47**	**335**	*i* P	**Pn**	21 10 40.6	-1.4
AYVA				*i* S	**Sb**	**21 10 47.7**	**+1.1**
AYVA	**Ayvalik**	**0.47**	**335**	*i* P	**Pn**	21 10 40.6	-1.4
AYVA				*i* S	**Sb**	**21 10 47.7**	**+1.1**
BLCB	**Balcova**	**0.50**	**172**	*e*PG	**Pb**	**21 10 39.1**	**-0.6**
BLCB				*e*SG	**Sb**	**21 10 46.9**	**-0.5**
BLCB	**Balcova**	**0.50**	**172**	*e*Pg	**Pb**	21 10 39.1	-0.6
BLCB				*e*Sg	**Sb**	**21 10 46.9**	**-0.5**
IZM	**Izmir**	**0.54**	**153**	*e*PG	**Pb**	**21 10 40.1**	**-0.4**
IZM	**Izmir**	**0.54**	**153**	*e*Pg	**Pb**	21 10 40.1	-0.4
URLA	**Izmir**	**0.59**	**208**	*i* P	**Pb**	**21 10 42.0**	**+0.8**
URLA				*i* S	**Sn**	**21 10 51.8**	**-2.0**
URLA	**Izmir**	**0.59**	**208**	*i* P	**Pb**	21 10 42.0	+0.8
URLA				*i* S	**Sn**	21 10 51.8	-2.0
URLA	**Izmir**	**0.59**	**208**	*i* P	**Pb**	21 10 42.0	+0.8
URLA				*i* S	**Sn**	21 10 51.8	-2.0
PRK	**Paraskevi**	**0.64**	**305**	*e*PN	**Pn**	21 10 43.9	-0.4
PRK				*e*SN	**Sn**	21 10 54.4	-0.6
PRK	**Paraskevi**	**0.64**	**305**	*e*Pn	**Pn**	21 10 43.9	-0.4
PRK				*e*Sn	**Sn**	21 10 54.4	-0.6
AKHS	**Akhisar**	**0.68**	**90**	*i* P	**Pb**	21 10 42.3	-0.4
AKHS				*i* S	**Sg**	21 10 51.0	+1.1
AKHS	**Akhisar**	**0.68**	**90**	*i* P	**Pb**	21 10 42.3	-0.4
AKHS				*i* S	**Sg**	21 10 51.0	+1.1
AKHS	**Akhisar**	**0.68**	**90**	*i* P	**Pb**	21 10 42.3	-0.4
AKHS				*i* S	**Sg**	21 10 51.0	+1.1
CHOS	**Chios island**	**0.86**	**235**	*e*PN	**Pn**	**21 10 47.7**	**+0.4**
CHOS				*e*SN	**Sn**	**21 10 59.6**	**-0.9**
CHOS	**Chios island**	**0.86**	**235**	*e*Pn	**Pn**	21 10 47.7	+0.4
CHOS				*e*Sn	**Sn**	**21 10 59.6**	**-0.9**
BALY	**Balya**	**1.00**	**31**	*i* P	**Pb**	**21 10 48.5**	**+0.2**
BALY				*i* S	**Sb**	**21 11 02.3**	**+0.4**
BALY	**Balya**	**1.00**	**31**	*i* P	**Pb**	21 10 48.5	+0.2
BALY				*i* S	**Sb**	**21 11 02.3**	**+0.4**
BALY	**Balya**	**1.00**	**31**	*i* P	**Pb**	21 10 48.5	+0.2
BALY				*i* S	**Sb**	**21 11 02.3**	**+0.4**
BALB	**Balikesir**	**1.05**	**43**	*e*PG	**Pn**	**21 10 49.6**	**-0.3**
BALB	**Balikesir**	**1.05**	**43**	*e*Pg	**Pn**	21 10 49.6	-0.3
SMG	**Samos**	**1.18**	**184**	*e*PB	**Pn**	**21 10 52.1**	**+0.5**
SMG				*e*SN	**Sn**	**21 11 09.5**	**+1.3**
SMG	**Samos**	**1.18**	**184**	*e*Pb	**Pn**	21 10 52.1	+0.5
SMG				*e*Sn	**Sn**	21 11 09.5	+1.3
BOZC	**Bozcaada**	**1.18**	**324**	*i* P	**Pn**	**21 10 54.0**	**+2.2**
BOZC				*i* S	**Sn**	**21 11 09.8**	**+1.4**
BOZC	**Bozcaada**	**1.18**	**324**	*i* P	**Pn**	21 10 54.0	+2.2
BOZC				*i* S	**Sn**	21 11 09.8	+1.4
GCAM	**G?zelcaml?**	**1.20**	**169**	*i* P	**Pn**	**21 10 53.0**	**+1.0**
GCAM				*i* S	**Sn**	**21 11 08.8**	**0.0**
GCAM	**G?zelcaml?**	**1.20**	**169**	*i* P	**Pn**	21 10 53.0	+1.0
GCAM				*i* S	**Sn**	21 11 08.8	0.0
GCAM	**G?zelcaml?**	**1.20**	**169**	*i* P	**Pn**	21 10 53.0	+1.0
GCAM				*i* S	**Sn**	21 11 08.8	0.0
GONE	**Gonen-Balikesi**	**1.29**	**26**	*e*PN	**Pb**	**21 10 53.8**	**+0.5**
GONE	**Gonen-Balikesi**	**1.29**	**26**	*e*Pn	**Pb**	21 10 53.8	+0.5
MANT	**Manisa**	**1.32**	**107**	*e*P	**Pn**	**21 10 53.1**	**-0.7**
MANT				*i* S	**Sg**	**21 11 08.6**	**-2.0**
MANT	**Manisa**	**1.32**	**107**	*e*P	**Pn**	21 10 53.1	-0.7
MANT				*i* S	**Sg**	21 11 08.6	-2.0
MANT	**Manisa**	**1.32**	**107**	*e*P	**Pn**	21 10 53.1	-0.7
MANT				*i* S	**Sg**	21 11 08.6	-2.0
DURS	**Dursunbey**	**1.39**	**58**	*i* P	**Pb**	**21 10 54.8**	**-0.1**
DURS				*i* S	**Sg**	**21 11 12.6**	**-0.2**
DURS	**Dursunbey**	**1.39**	**58**	*i* P	**Pb**	21 10 54.8	-0.1
DURS				*i* S	**Sg**	21 11 12.6	-0.2
DURS	**Dursunbey**	**1.39**	**58**	*i* P	**Pb**	21 10 54.8	-0.1
DURS				*i* S	**Sg**	21 11 12.6	-0.2
DEMI	**Demirci**	**1.39**	**83**	*i* P	**Pg**	**21 10 55.3**	**+0.5**
DEMI				*i* S	**Sg**	**21 11 12.4**	**-0.4**
DEMI	**Demirci**	**1.39**	**83**	*i* P	**Pg**	21 10 55.3	+0.5
DEMI				*i* S	**Sg**	21 11 12.4	-0.4
DEMI	**Demirci**	**1.39**	**83**	*i* P	**Pg**	21 10 55.3	+0.5
DEMI				*i* S	**Sg**	21 11 12.4	-0.4
KULA	**Kula-Manisa**	**1.39**	**105**	*e*PN	**Pg**	**21 10 55.8**	**+1.0**
KULA	**Kula-Manisa**	**1.39**	**105**	*e*Pn	**Pg**	21 10 55.8	+1.0
AYDN	**Tasoluk**	**1.42**	**149**	*e*P	**Pn**	**21 10 54.4**	**-0.7**
AYDN				*i* S	**Sn**	**21 11 15.4**	**+1.0**
AYDN	**Tasoluk**	**1.42**	**149**	*e*P	**Pn**	21 10 54.4	-0.7
AYDN				*i* S	**Sn**	**21 11 15.4**	**+1.0**
AYDN	**Tasoluk**	**1.42**	**149**	*e*P	**Pn**	21 10 54.4	-0.7
AYDN				*i* S	**Sn**	**21 11 15.4**	**+1.0**
LPK	**Lapseki**	**1.50**	**354**	*e*PN	**Pg**	**21 10 57.1**	**+0.2**
LPK	**Lapseki**	**1.50**	**354**	*e*Pn	**Pg**	21 10 57.1	+0.2
KRBG	**Karabiga-Canak**	**1.53**	**10**	*e*PN	**Pg**	**21 10 57.5**	**-0.1**
KRBG	**Karabiga-Canak**	**1.53**	**10**	*e*Pn	**Pg**	21 10 57.5	-0.1
GELI	**Tayfur-Gelibol**	**1.56**	**347**	*e*PN	**Pg**	**21 10 57.9**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.56**	**347**	*e*Pn	**Pg**	21 10 57.9	-0.2
MLSB	**Milas**	**1.71**	**157**	*e*PN	**Pb**	**21 11 00.2**	**-0.2**
MLSB	**Milas**	**1.71**	**157**	*e*Pn	**Pb**	21 11 00.2	-0.2
KCTX	**Karacabey (Bur**	**1.76**	**38**	*e*PN	**Pb**	**21 11 00.8**	**-0.4**
KCTX	**Karacabey (Bur**	**1.76**	**38**	*e*Pn	**Pb**	21 11 00.8	-0.4
RKY	**Sarkoy-Tekirda**	**1.81**	**6**	*e*PN	**Pb**	**21 11 01.6**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.81**	**6**	*e*Pn	**Pb**	21 11 01.6	-0.5
MFT	**Murefte**	**1.92**	**8**	*e*PN	**Pb**	**21 11 03.2**	**-0.8**
MFT	**Murefte**	**1.92**	**8**	*e*Pn	**Pb**	21 11 03.2	-0.8
SMTH	**Samothraki Isl**	**1.93**	**326**	*e*PN	**Pb**	**21 11 03.7**	**-0.4**
SMTH				*e*SN	**Sb**	**21 11 27.9**	**-0.7**
SMTH	**Samothraki Isl**	**1.93**	**326**	*e*Pn	**Pb**	21 11 03.7	-0.4
SMTH				*e*Sn	**Sb**	**21 11 27.9**	**-0.7**
ENEZ	**Enez**	**1.95**	**342**	*e*PN	**Pb**	**21 11 03.5**	**-0.9**
ENEZ	**Enez**	**1.95**	**342**	*e*Pn	**Pb**	21 11 03.5	-0.9
TVSB	**Tavsanli**	**2.03**	**73**	*e*PN	**Pb**	**21 11 05.0**	**-0.9**
TVSB	**Tavsanli**	**2.03**	**73**	*e*Pn	**Pb**	21 11 05.0	-0.9
KHAL	**Karahalli**	**2.06**	**104**	*e*P	**Pg**	**21 11 08.5**	**+0.9**
KHAL				*i* S	**Sb**	**21 11 31.7**	**-0.7**
KHAL	**Karahalli**	**2.06**	**104**	*e*P	**Pg**	21 11 08.5	+0.9
KHAL				*i* S	**Sb**	**21 11 31.7**	**-0.7**
KHAL	**Karahalli**	**2.06**	**104**	*e*P	**Pg**	21 11 08.5	+0.9
KHAL				*i* S	**Sb**	**21 11 31.7**	**-0.7**
ALN	**Alexandroupoli**	**2.13**	**341**	*e*PN	**Pb**	**21 11 07.0**	**-0.5**
ALN	**Alexandroupoli**	**2.13**	**341**	*e*Pn	**Pb**	21 11 07.0	-0.5
ARMT	**Armutlu**	**2.24**	**41**	*e*PN	**Pb**	**21 11 07.9**	**-1.4**
ARMT	**Armutlu**	**2.24**	**41**	*e*Pn	**Pb**	21 11 07.9	-1.4
ALT	**Altintas**	**2.47**	**85**	*e*PN	**Pn**	**21 11 11.2**	**+1.7**
ALT	**Altintas**	**2.47**	**85**	*e*Pn	**Pn**	21 11 11.2	+1.7

*BJI **01** 21:10:39.9, 0.69N×126.05E, h39km, mB5.7/44, mb5.5/60, Ms5.3/68, Ms7 5.2/60*
*AUST **01** 21:10:40.8, 1.00N×126.00E, h5km*
*BKK **01** 21:10:41.7±0.2, 1.N±3°×12.6E±°, h10km, M5.7/45, mb5.7/45, mB6.0/32, MLv6.0/5, Mw(mB)5.6/32, Mwp5.5/2*
*MOS **01** 21:10:42.9±1.2, 1.11N×125.94E, h33km, mb5.9/90, MS5.1/64, Error ellipse: s-maj=8.4km s-min=4.6km az=114.0*
*IDC **01** 21:10:42.2±1.4, 1.06N×125.95E, h19km±8km, mb5.3/38, mb1 5.3/40, mb1mx5.3/41, mbtmp5.3/40, ML5.0/2, MS5.0/23, Ms1 5.0/23, ms1mx4.8/42, Error ellipse: s-maj=12.7km s-min=8.2km az=68.0*
*ISCJB **01** 21:10:44.4±0.3, 1.03N±0.02×126.02E±0.02, h52km±2km, mb5.7/187, MS5.2/218, Error ellipse: s-maj=3.1km s-min=2.6km az=162.6*
*NEIC **01** 21:10:44.4±0.1, 1.05N×125.96E, h37km, mb5.7/83, MS5.3/146, MW5.7, MW5.8, Error ellipse: s-maj=4.7km s-min=3.2km az=71.0, Moment Tensor Solution. s28 Moment tensor: Scale 10^17^Nm; Mrr3.65; Mθθ1.37; Mφφ-5.02; Mrθ-0.78; Mθφ1.65; Mφr-0.71; Best double couple: M0 4.90000×10^17^ NP1:φs325.00000°, δ46.00000°, λ59.00000°. NP2:φs186.00000°, δ52.00000°, λ118.00000°. Principal axes: T 4.0500, Plg67.0000°, Azm158.0000°; N 1.4000, Plg22.0000°, Azm348.0000°; P -5.4500, Plg3.0000°, Azm256.0000°;*
NEIC Felt [IV] at Bitung and Manado, Indonesia.
*DJA **01** 21:10:46.2±0.2, 1.N±2°×12.6E±°, h51km±2km, M5.7/53, mb5.7/53, mB6.0/32, MLv6.2/3, Mw(mB)5.7/32, Mwp5.8/2*
*GCMT **01** 21:10:48.0±0.1, 1.13N×125.92E, h30km, MW5.8, Moment Tensor Solution. s99,c194; s55,c67; Moment tensor: Scale 10^17^Nm; Mrr3.96±.06; Mθθ1.02±.04; Mφφ-4.98±.05; Mrθ-0.31±.08; Mθφ-1.21±.04; Mφr-3.08±.09; Best double couple: M0 5.50000×10^17^ NP1:φs16.00000°, δ28.00000°, λ98.00000°. NP2:φs187.00000°, δ62.00000°, λ86.00000°. Principal axes: T 4.9200, Plg73.0000°, Azm87.0000°; N 1.2400, Plg4.0000°, Azm189.0000°; P -6.1600, Plg17.0000°, Azm280.0000°; Data Used: II IU IC G CN. Surface waves: sta=104, comp=209, per= 50.*
*NEIC **01** 21:10:57.2±0.0, 0.87N×126.09E, h31km, Moment Tensor Solution. s122 Moment tensor: Scale 10^17^Nm; Mrr4.79; Mθθ0.33; Mφφ-5.13; Mrθ-1.11; Mθφ-1.05; Mφr-1.68; Best double couple: M0 5.40000×10^17^ NP1:φs1.00000°, δ36.00000°, λ75.00000°. NP2:φs200.00000°, δ56.00000°, λ101.00000°. Principal axes: T 5.2500, Plg76.0000°, Azm143.0000°; N 0.4000, Plg8.0000°, Azm13.0000°; P -5.6600, Plg10.0000°, Azm281.0000°;*
ISC 01 21:10:44.0±0.4, 1.06N±0.02×125.97E±0.03, h34km±1km, h34km: pP-P, n1150, σ1957/1315, mb5.8/197, MS5.2/218, 126C-133D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**1.20**	**289**	P	**Pb**	**21 11 06.7**	**+0.6**
MNI				S	**Sb**	**21 11 24.7**	**+3.4**
TNTI	**Ternate**	**1.42**	**101**	P	**Pn**	**21 11 05.1**	**-2.4**
GAMI	**Galela, Maluku**	**1.97**	**67**	P	**Pn**	**21 11 13.4**	**-1.7**
KMSI	**Cibinong**	**2.05**	**256**	P	**Pb**	**21 11 18.7**	**-1.8**
KMSI				S	**Sb**	**21 11 47.9**	**+2.3**
LBMI	**Labuha**	**2.27**	**138**	P	**Pn**	**21 11 18.2**	**-1.0**
LBMI				S	**Sn**	**21 11 49.2**	**+3.1**
GTOI	**Gorontalo**	**2.99**	**262**	P	Pb	21 11 33.1	-3.5
LUWI	**Luwuk**	**3.82**	**237**	P	Pn	21 11 42.7	+2.3
LUWI	**Luwuk**	**3.82**	**237**	P	Pn	21 11 43.1	+2.7
	baz=3.8,SNR=122						
MRSI	**Marisa**	**4.07**	**262**	P	**Pn**	**21 11 45.9**	**+2.0**
MSAI	**Masohi**	**5.28**	**146**	P	Pn	21 12 03.3	+2.8
MATI	**Mati**	**5.86**	**3**	*e*P	**Pn**	**21 12 09.5**	**+1.0**
KCP	**Kidapawan**	**5.98**	**352**	*e*P	Pn	21 12 17.2	+7.0
DAV	**Davao City (W)**	**5.99**	**356**	P	Pb	21 12 21.1	-6.5
	SNR=37						
DAV	**Davao City (W)**	**5.99**	**356**	*e*P	Pb	21 12 20.2	-7.4
DAV	**Davao City (W)**	**5.99**	**356**	*e*Pn	**Pn**	**21 12 08.8**	**-1.5**
DAV				*e*Pg	Pb	21 12 32.2	+4.6
DAV				*e*Sn	**Sn**	**21 13 17.1**	**-0.6**
DAV				*e*Sg	Sb	21 13 47.3	+8.5
DAV	**Davao City (W)**	**5.99**	**356**	Pn	Pn	21 12 16.3	+6.1
	59nm,0.3s,baz=246,slow=7.6,SNR=10						
DAV				Sn	**Sn**	**21 13 17.1**	**-0.6**
	79nm,0.3s,baz=136,slow=21,SNR=4.0						
CTBH	**Cotabato--PC H**	**6.36**	**344**	*e*P	Pn	21 12 18.0	+2.6
BNDI	**Bandanaira**	**6.79**	**145**	P	Pn	21 12 18.3	-3.1
BNDI	**Bandanaira**	**6.79**	**145**	P	Pn	21 12 24.7	+3.4
	baz=6.8,SNR=9.6						
BUKP	**Musuan**	**6.84**	**352**	*e*P	Pn	21 12 25.5	+3.5
ZMPH	**Zamboanga City**	**7.04**	**326**	*e*P	Pn	21 12 27.5	+2.8
PAGZ	**Pagadian**	**7.22**	**339**	*e*P	**Pn**	**21 12 29.0**	**+1.8**
BBSI	**Bau Bau**	**7.33**	**208**	P	Pn	21 12 31.2	+2.4
	3μm,1.4s,32μm11nm						
TTSI	**Tana Toraja**	**7.38**	**236**	P	Pn	21 12 32.2	+2.8
FAKI	**Fak Fak**	**7.42**	**122**	P	**Pn**	**21 12 30.6**	**+0.7**
FAKI	**Fak Fak**	**7.42**	**122**	P	**Pn**	**21 12 30.3**	**+0.4**
	baz=7.4,SNR=75						
CGP	**Cagayan de Oro**	**7.46**	**350**	*e*P	Pn	21 12 41.1	+11
IPIL	**Ipil**	**7.50**	**333**	*e*P	Pn	21 12 33.4	+2.4
BUTP	**Butuan**	**7.87**	**357**	*e*P	Pn	21 12 43.3	+7.2
DCPH	**Dipolog City**	**7.92**	**341**	*e*P	Pn	21 12 42.0	+5.2
MYLDM	**Lahad Datu**	**8.51**	**299**	P	Pn	21 12 50.0	+5.0
SGKI	**Sangatta, Kali**	**8.52**	**259**	P	Pn	21 12 48.1	+3.1
RKPI	**Ransiki, Papua**	**8.59**	**107**	P	Pn	21 12 50.6	+4.5
BKSI	**Bulukumba**	**8.62**	**223**	P	Pn	21 12 49.0	+2.6
	648nm,0.8s,7μm27μm						
KAPI	**Kappang**	**8.66**	**226**	P	**Pn**	**21 12 49.0**	**+2.0**
	SNR=82						

KAPI	**Kappang**	**8.66**	**226**	*i* Pn	**Pn**		**21 12 48.1**	**+1.2**
KAPI				*e*Sn	**Sn**		**21 14 24.9**	**+1.3**
KAPI				Sn			21 14 27.5	
KAPI	**Kappang**	**8.66**	**226**	P	**Pn**		**21 12 48.6**	**+1.6**
	679nm,1.4s,7μm28μm								
KAPI	**Kappang**	**8.66**	**226**	Pn	**Pn**		**21 12 48.3**	**+1.3**
	10.0nm,0.3s,baz=53,slow=8.7,SNR=59								
KAPI				Sn	**Sn**		**21 14 27.5**	**+4.0**
	11nm,0.3s,baz=321,slow=14,SNR=2.6								
TSM	**Tawau**	**8.71**	**292**	P	Pn		21 12 50.7	+3.1
BSSI	**Bau Bau, Buton**	**9.01**	**217**	P	**Pn**		**21 12 53.7**	**+2.0**
	771nm,0.8s,9μm								
MSLP	**Maasin**	**9.09**	**353**	*e*P	Pn		21 12 57.5	+4.6
BKB	**Balikpapan**	**9.36**	**256**	P	Pn		21 12 59.9	+3.3
LLP	**Lapu-Lapu**	**9.41**	**348**	*e*P	Pn		21 13 02.3	+5.0
SDKM	**Sandakan**	**9.87**	**298**	P	Pn		21 13 06.9	+3.3
GUIM	**Jordan**	**10.08**	**341**	*e*P	Pn		21 13 12.9	+6.4
PLP	**Palo**	**10.09**	**354**	*e*P	Pn		21 13 10.4	+3.8
MMRI	**Maumere**	**10.32**	**201**	P	Pn		21 13 12.2	+2.4
BAKI	**Biak**	**10.38**	**102**	P	Pn		21 13 14.3	+3.7
	1μm,1.7s,17μm								
PALU	**Palau**	**10.53**	**53**	P	**Pn**		**21 13 13.9**	**+1.3**
	baz=11,SNR=21								
PALU				S	**Sn**		**21 15 15.2**	**+5.8**
	baz=11,SNR=4.0								
KDM	**Kudat**	**10.81**	**303**	P	Pn		21 13 23.5	+7.0
CUYO	**Cuyo Island**	**10.90**	**333**	*e*P	Pn		21 13 21.2	+3.4
RCP	**Roxas**	**10.91**	**343**	*e*P	Pn		21 13 22.6	+4.7
KKM	**Kota Kinabalu**	**10.92**	**297**	P	Pn		21 13 22.9	+4.8
BATP	**Bataraza**	**11.19**	**314**	*e*P	Pn		21 13 24.2	+2.5
MTKI	**Muara Teweh, K**	**11.25**	**260**	P	Pn		21 13 26.2	+3.7
PPR	**Puerto Princes**	**11.27**	**321**	*e*P	Pn		21 13 31.4	+8.7
CNP	**Catarman**	**11.45**	**354**	*e*P	Pn		21 13 29.7	+4.4
BBKI	**Banjar Baru**	**12.00**	**248**	P	Pn		21 13 36.7	+4.0
ENPP	**El Nido**	**12.00**	**327**	*e*P	Pn		21 13 35.8	+3.1
WSI	**Waingapu**	**12.06**	**208**	P	Pn		21 13 37.9	+4.3
	988nm,1.4s,10μm								
WSI	**Waingapu**	**12.06**	**208**	P	**P**		**21 13 44.8**	**-1.3**
	baz=12,SNR=4.5								
BUSP	**Coron**	**12.29**	**332**	*e*P	Pn		21 13 40.4	+3.6
SJMP	**San Jose**	**12.31**	**337**	*e*P	Pn		21 13 42.2	+5.2
BASI	**Baing, Sumba**	**12.42**	**205**	P	Pn		21 13 41.0	+2.5
WBSI	**Waikabubak, Su**	**12.49**	**212**	P	Pn		21 13 42.0	+2.5
BTM	**Bintulu**	**13.05**	**280**	P	Pn		21 13 51.3	+4.1
SBUM	**Sibu**	**13.81**	**276**	P	Pn		21 14 01.3	+3.7
KHKI	**Kahang-Kahang**	**13.94**	**228**	P	Pn		21 14 02.6	+3.3
	1μm,1.0s,9μm								
DNP	**Denpasar**	**14.44**	**228**	P	**P**		**21 14 14.2**	**+1.7**
STKI	**Sintang**	**14.53**	**266**	P	**Pn**		**21 14 10.3**	**+3.0**
IGBI	**Denpasar**	**14.58**	**228**	P	**P**		**21 14 14.1**	**0.0**
PBKI	**Pangkalan Bun**	**14.78**	**255**	P	**Pn**		**21 14 12.9**	**+2.2**
BLJI	**Banyuglugur**	**15.13**	**234**	P	**P**		**21 14 22.3**	**+2.2**
JAY	**Jayapura**	**15.15**	**104**	P	**P**		**21 14 20.0**	**-0.5**
JAY	**Jayapura**	**15.15**	**104**	P	**Pn**		**21 14 15.9**	**+0.2**
	baz=15,SNR=13								
BALP	**Baler**	**15.22**	**344**	*e*P	**P**		**21 14 20.5**	**-0.7**
GMJI	**Gumukmas**	**15.55**	**233**	P	**P**		**21 14 25.2**	**+0.3**
KSM	**Kuching**	**15.66**	**272**	P	**P**		**21 14 25.3**	**-0.9**
SCZP	**Santa Cruz**	**15.80**	**338**	*e*P	**P**		**21 14 26.4**	**-1.2**
BOLP	**Bolinao**	**16.36**	**339**	*e*P	**Pn**		**21 14 32.9**	**+1.7**
SJI	**Sawahan

comp=Z,9μm,21.0s
PMG Port Moresby 23.52 117 P P 21 15 50.4 -1.0
comp=Z,247nm,1.1s,comp=Z,4μm
PMG Port Moresby 23.52 117 P P 21 15 50.2 -1.2
comp=Z,198nm,1.0s,baz=300,slow=5.7,SNR=22
MNAI Manna 23.62 257 P P 21 15 55.3 +3.0
baz=24,SNR=4.6
RGRI Rengat 23.68 267 P P 21 15 54.5 +1.7
comp=Z,388nm,0.5s,comp=Z,42μm
KSI Kapahiang 23.83 259 P P 21 15 54.4 0.0
comp=Z,313nm,0.8s,comp=Z,4μm
QIZ Qiongzhong 23.86 319 P P 21 15 52.0 -2.4
QIZ pP **pP** **21 16 03.0 -1.0**
QIZ sP sP 21 16 09.4 +1.3
QIZ S **S** **21 20 11.8 +3.4**
QIZ pmax pmax
comp=Z,39nm,1.8s
QIZ pmax pmax
comp=Z,920nm,4.6s
QIZ LR LR
comp=N,4μm,22.4s
QIZ LR LR
comp=Z,7μm,21.7s
QIZ Qiongzhong 23.86 319 *e*P **P 21 15 53.9 -0.5**
QIZ
comp=Z,158nm,1.1s
QIZ LR LR
comp=Z,7μm,22.0s
YHNB Yeheng 23.89 350 *e*P **P 21 15 55.1 +0.3**
comp=Z,183nm,1.0s
YHNB LR LR
comp=Z,10μm,22.0s
TATO Taipei 24.17 350 *e*P **P 21 15 56.8 -0.5**
TATO LR LR
comp=Z,7μm,21.0s
FRIM Kepong 24.42 275 P P 21 16 01.3 +1.5
UBPT Khong Chiam 24.68 306 P P 21 16 03.3 +1.2
comp=Z,230nm,1.6s,comp=Z,5μm
UBPT Khong Chiam 24.68 306 P P 21 16 03.1 +1.0
comp=Z,240nm,0.9s,comp=Z,5μm
QZH Quanzhou 24.79 344⇑*i*P **P 21 16 01.4 -1.6**
QZH S S 21 20 13.0 -10
QZH pmax pmax
comp=Z,190nm,0.8s
QZH pmax pmax
comp=Z,3μm,4.9s
QZH LR LR
comp=N,5μm,15.9s
QZH LR LR
comp=E,2μm,12.1s
QZH LR LR
comp=Z,9μm,20.5s
BKNI Bangkinang 24.94 269 P P 21 16 05.7 +1.2
GZH Guangzhou 25.10 332 P P 21 16 08.5 +2.8
GZH S **S** **21 20 28.2 -0.1**
GZH LR LR
comp=N,5μm,20.0s
GZH LR LR
comp=E,4μm,22.9s
GZH LR LR
comp=Z,8μm,22.4s
IPM Ipoh 25.14 278 P P 21 16 07.1 +0.8
QIS Mount Isa 25.29 149 P P 21 16 06.6 -0.9
baz=25,SNR=283
QIS S S 21 20 40.0 +8.4
baz=25,SNR=5.0
PPI Padang Panjang 25.62 267 P P 21 16 10.0 -0.6
comp=Z,156nm,1.3s,comp=Z,2μm
PPI Padang Panjang 25.62 267 P P 21 16 11.4 +0.8
baz=26,SNR=8.6
KULM Kulim 25.62 280 P P 21 16 11.4 +0.7
JOW Kunigami 25.72 5 *e*P **P 21 16 12.3 +0.9**
comp=Z,87nm,0.9s
ASAR Alice Springs 25.76 163 P P 21 16 11.0 -0.8
ASAR PcP **PcP** **21 19 41.5 +0.1**
ASAR S **S** **21 20 37.0 -1.9**
ASAR ScP **ScP** **21 23 21.2 +2.7**
ASAR Alice Springs 25.76 163 P P 21 16 11.0 -0.8
comp=Z,88nm,0.7s,baz=345,slow=11,SNR=78
ASAR PcP **PcP** **21 19 41.5 +0.1**
comp=Z,10nm,0.6s,baz=345,slow=2.4,SNR=5.8
ASAR S **S** **21 20 37.0 -1.9**
comp=Z,6.3nm,0.9s,baz=345,slow=10,SNR=3.2
ASAR ScP **ScP** **21 23 21.2 +2.7**
comp=Z,5.8nm,0.9s,baz=323,slow=2.3,SNR=5.2
CHBT CHBT 26.15 297 P P 21 16 16.3 +0.9
comp=Z,125nm,1.8s,comp=Z,2μm
CHBT CHBT 26.15 297 P P 21 16 16.4 +1.0
comp=Z,147nm,1.1s,comp=Z,2μm
MTSU Mount Surprise 26.26 137 P P 21 16 15.8 -0.5
baz=26,SNR=30
PANO Nakornpanom 26.41 308 P P 21 16 18.7 +1.0
comp=Z,180nm,1.2s,comp=Z,22μm
PSI Prapat 27.09 274 P P 21 16 23.0 -1.0
PSI S **S** **21 20 54.4 -5.9**
PSI ScP **ScP** **21 23 23.1 +0.3**
PSI Prapat 27.09 274 P P 21 16 23.0 -1.0
comp=Z,157nm,0.8s,baz=92,slow=5.6,SNR=90
PSI S **S** **21 20 54.4 -5.9**
comp=Z,3.9nm,0.4s,baz=150,slow=20,SNR=3.0
PSI ScP **ScP** **21 23 23.1 +0.3**
comp=Z,3.0nm,0.2s,baz=177,slow=10,SNR=3.8
PSI Prapat 27.09 274 P P 21 16 23.1 -0.9
baz=27,SNR=74
PSI S **S** **21 20 58.4 -1.9**
baz=27,SNR=4.6
TSI Tuntungan 27.49 276 P P 21 16 27.8 +0.3
NAYO Nakonayok 27.70 300 P P 21 16 30.4 +1.0
comp=Z,182nm,0.7s
KCSI Kotacane, Aceh 28.28 275 P P 21 16 33.1 -1.5
comp=Z,192nm,1.4s,comp=Z,2μm
PKDT Phuket 28.36 285 P P 21 16 35.4 +0.1
comp=Z,154nm,1.8s,comp=Z,2μm
MEEK Meekatharra 28.43 194 P P 21 16 35.9 +0.1
baz=28,SNR=29
PHET Kaeng Krachan 28.63 295 P P 21 16 38.6 +0.9
comp=Z,213nm,0.9s,comp=Z,2μm
CTA Charters Tower 28.93 138 P P 21 16 40.1 -0.2
CTA S S 21 21 24.4 -4.6
CTA ScP **SS** **21 23 31.8 -0.6**
CTA Charters Tower 28.93 138 P P 21 16 40.1 -0.2
comp=Z,36nm,1.0s,baz=321,slow=12,SNR=32
CTA S S 21 21 24.4 -4.6
comp=Z,6.1nm,0.7s,baz=277,slow=8.1,SNR=2.4
CTA ScP **SS** **21 23 31.8 -0.6**
comp=Z,23nm,1.1s,baz=243,slow=6.8,SNR=5.1
CTAO Charters Tower 28.93 138 *e*P **P 21 16 39.7 -0.6**
CTAO pmax pmax
comp=Z,110nm,1.2s
CTAO MLR MLR
comp=Z,4μm,21.0s
CTAO Charters Tower 28.93 138 *e*P **P 21 16 39.7 -0.6**
comp=Z,110nm,1.2s
CTAO LR LR
comp=Z,4μm,21.0s
LHMI Lhok Sumawe 29.27 279 P P 21 16 44.2 +0.8
LHMI Lhok Sumawe 29.27 279 P P 21 16 44.6 +1.3
baz=29,SNR=5.0
LOEI Loei 29.28 305 P P 21 16 40.9 -2.5
comp=Z,160nm,1.1s,comp=Z,5μm
SSE Sheshan 30.22 352 P P 21 16 53.1 +1.6
SSE S **S** **21 21 52.7 +3.8**
SSE sS sS 21 22 11.7 +6.8
SSE pmax pmax
comp=Z,35nm,0.9s
SSE pmax pmax
comp=Z,350nm,7.0s
SSE LR LR
comp=N,2μm,24.8s
SSE LR LR
comp=E,1μm,24.8s
SSE LR LR
comp=Z,4μm,20.4s
NANT Nan 30.42 307 P P 21 16 54.8 +1.3
comp=Z,157nm,0.7s
BSI Banda Aceh 30.93 279 P P 21 16 57.2 -0.9
comp=Z,138nm,1.4s,comp=Z,2μm
LAMP Lampang 31.13 305 P P 21 17 01.3 +1.5
comp=Z,13nm,1.1s,comp=Z,137nm
WHN Wuhan 31.33 340⇑*i*P **P 21 17 02.0 +0.6**
WHN PcP **PcP** **21 19 56.9 +1.9**
WHN S S 21 22 16.4 +10
WHN LR LR
comp=N,10μm,23.6s
WHN LR LR
comp=E,3μm,15.7s
WHN LR LR
comp=Z,11μm,19.1s

GYA Guiyang 31.35 325⇑*i*P **P 21 17 02.2 +0.4**
GYA pP pP 21 17 15.3 +3.8
GYA sP sP 21 17 20.4 +4.9
GYA PP **PnPn** **21 18 07.8 +2.9**
GYA PcP **PcP** **21 19 56.2 +0.9**
GYA S **S** **21 22 08.9 +1.9**
GYA sS sS 21 22 26.5 +3.5
GYA ScP **ScP** **21 23 36.0 -0.1**
GYA SS **SnSn** **21 23 57.8 +5.5**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,150nm,5.0s
GYA LR LR
comp=N,3μm,16.9s
GYA LR LR
comp=E,1μm,17.7s
GYA LR LR
comp=Z,3μm,16.8s
MORW Morawa 31.43 197 P P 21 17 02.3 +0.1
baz=32,SNR=27
NJ2 Nanjing 31.55 348 *e*P **P 21 17 06.2 +2.9**
NJ2 pP pP 21 17 15.3 +2.3
NJ2 sP sP 21 17 19.7 +2.7
NJ2 S **S** **21 22 10.5 +0.7**
NJ2 sS sS 21 22 27.6 +1.8
NJ2 pmax pmax
comp=Z,70nm,1.3s
NJ2 LR LR
comp=N,3μm,18.2s
NJ2 LR LR
comp=E,2μm,16.3s
NJ2 LR LR
comp=Z,3μm,20.8s
CMAR Chiang Mai Arr 31.66 305 P P 21 17 05.2 +0.7
CMAR PcP **PcP** **21 19 58.0 +1.9**
CMAR ScP **ScP** **21 23 38.8 +1.6**
CMAR Chiang Mai Arr 31.66 305 P P 21 17 05.2 +0.7
comp=Z,24nm,1.1s,baz=126,slow=7.4,SNR=70
CMAR PcP **PcP** **21 19 58.0 +1.9**
comp=Z,14nm,0.9s,baz=150,slow=2.0,SNR=10
CMAR ScP **ScP** **21 23 38.8 +1.6**
comp=Z,3.0nm,1.0s,baz=152,slow=2.1,SNR=4.8
FORT Forrest 31.72 177 *e*P **P 21 17 05.0 +0.2**
comp=Z,472nm,0.8s
FORT Forrest 31.72 177 P P 21 17 05.3 +0.5
baz=32,SNR=49
COCO West Island 31.79 245 PFAKE 21 17 20.0 +14
COCO LR LR
comp=Z,4μm,20.0s
CMMT Chiang Mai 31.84 305 P P 21 17 07.4 +1.4
comp=Z,80nm,1.3s,comp=Z,1μm
CMMT Chiang Mai 31.84 305 P P 21 17 07.0 +1.0
comp=Z,80nm,1.3s,comp=Z,1μm
CHTO Chiang Mai 31.84 305 *e*P **P 21 17 06.8 +0.7**
CHTO *e* 21 19 58.3
CHTO pmax pmax
comp=Z,107nm,1.3s
CHTO MLR MLR
comp=Z,3μm,19.0s
CHTO Chiang Mai 31.84 305 P P 21 17 06.4 +0.4
SNR=39
CHTO Chiang Mai 31.84 305 *e*P **P 21 17 06.8 +0.7**
comp=Z,107nm,1.3s
CHTO *e*PcP **PcP** **21 19 58.3 +1.7**
CHTO LR LR
comp=Z,3μm,19.0s
CHTO Chiang Mai 31.84 305 P P 21 17 06.8 +0.7
comp=Z,89nm,1.3s,comp=Z,1μm
CHTO Chiang Mai 31.84 305 P P 21 17 06.4 +0.4
comp=Z,89nm,1.3s,comp=Z,1μm
JNU Nakatsue 32.23 8 *e*P **P 21 17 09.9 +0.6**
JNU Nakatsue 32.23 8 P P 21 17 10.3 +1.0
comp=Z,64nm,0.9s,baz=188,slow=7.3,SNR=21
CMAI Chiengmai2 32.34 307 P P 21 17 10.9 +0.3
comp=Z,105nm,1.5s,comp=Z,4μm
QLP Quilpie 32.64 149 P P 21 17 12.2 -0.8
baz=33,SNR=20
BLDU Ballidu 32.71 195 P P 21 17 13.5 0.0
baz=33,SNR=43
KMI Kunming 32.80 319 P P 21 17 16.1 +1.5
KMI pP pP 21 17 25.8 +1.5
KMI sP sP 21 17 31.4 +3.0
KMI PP **PP** **21 18 27.7 -1.4**
KMI S **S** **21 22 28.4 -1.5**
KMI sS sS 21 22 46.2 +0.3
KMI pmax pmax
comp=Z,110nm,1.4s
KMI pmax pmax
comp=Z,590nm,4.7s
KMI LR LR
comp=N,3μm,16.7s
KMI LR LR
comp=E,4μm,21.3s
KMI LR LR
comp=Z,5μm,22.8s
ENH Enshi 33.01 333⇓*e*P **P 21 17 15.3 -0.8**
comp=Z,227nm,1.1s
ENH *e*PcP **PcP** **21 20 00.3 +0.7**
ENH *e*S **S** **21 22 30.3 -2.3**
ENH LR LR
comp=Z,5μm,20.0s
KLBR Kellerberrin 33.39 193 P P 21 17 19.9 +0.4
baz=34,SNR=48
NWAO Narrogin (SRO) 34.79 193 *e*P **P 21 17 32.3 +0.7**
comp=Z,135nm,1.5s
NWAO Narrogin (SRO) 34.79 193 P P 21 17 31.9 +0.3
comp=Z,44nm,0.7s,baz=24,slow=10,SNR=21
NWAO LR LR 21 32 51.1
comp=Z,1μm,21.0s,baz=186,slow=38
BBOO Buckleboo 35.01 165 *e*P **P 21 17 33.2 -0.3**
comp=Z,3μm,1.0s
BBOO Buckleboo 35.01 165 P P 21 17 33.0 -0.5
baz=35,SNR=29
BBOO S **S** **21 23 04.2 +0.8**
baz=35,SNR=4.6
RMQ Roma 35.11 143 P P 21 17 33.7 -0.8
baz=35,SNR=8.4
HNR Honiara 35.40 108 *e*P **P 21 17 35.5 -1.6**
HNR Honiara 35.40 108 P P 21 17 35.8 -1.3
comp=Z,386nm,0.8s,baz=211,slow=4.7,SNR=14
HNR LR LR 21 31 33.9
comp=Z,5μm,21.5s,baz=102,slow=35
EIDS Eidsvold 35.78 139 *e*P **P 21 17 39.0 -1.3**
comp=Z,91nm,1.3s
EIDS Eidsvold 35.78 139 P P 21 17 38.9 -1.3
baz=36,SNR=11
TIA Tai'an 35.93 348⇓*i*P **P 21 17 39.3 -2.0**
TIA S S 21 23 12.3 -5.2
TIA pmax pmax
comp=Z,340nm,5.4s
TIA LR LR
comp=N,3μm,26.2s
TIA LR LR
comp=E,4μm,26.2s
TIA LR LR
comp=Z,4μm,24.9s
STKA Stephens Creek 35.95 157 *e*P **P 21 17 40.8 -0.8**
STKA S **S** **21 23 14.8 -3.0**
STKA Stephens Creek 35.95 157 P P 21 17 41.0 -0.5
comp=Z,192nm,0.9s,baz=327,slow=8.5,SNR=91
STKA S **S** **21 23 14.8 -3.0**
comp=Z,16nm,1.0s,baz=114,slow=20,SNR=3.8
STKA Stephens Creek 35.95 157 P P 21 17 41.0 -0.5
baz=36,SNR=56
STKA S **S** **21 23 18.1 +0.2**
baz=36,SNR=3.6
KSAR Wonju Array Be 36.25 3 P P 21 17 45.6 +1.6
KSAR PcP **PcP** **21 20 10.2 +1.4**
KSAR ScP **ScP** **21 23 53.9 +0.9**
INCN Inchon 36.25 1 *e*P P 21 17 48.5 +4.4
INCN LR LR
comp=Z,2μm,21.0s
KSRS Korea Array 36.26 3 P P 21 17 45.6 +1.5
comp=Z,11nm,0.6s,baz=180,slow=9.8,SNR=36
KSRS PcP **PcP** **21 20 10.2 +1.4**
comp=Z,5.2nm,0.6s,baz=185,slow=2.3,SNR=6.5
KSRS ScP **ScP** **21 23 53.9 +0.9**
comp=Z,2.0nm,0.7s,baz=168,slow=2.2,SNR=5.3
CD2 Chengdu 36.40 327 P P 21 17 48.6 +3.1
CD2 pP pP 21 17 59.1 +3.9
CD2 sP sP 21 18 03.6 +4.3
CD2 PP **PP** **21 19 13.3 +4.6**
CD2 PcP **PcP** **21 20 12.2 +2.7**
CD2 S **S** **21 23 27.6 +2.7**
CD2 sS sS 21 23 45.1 +4.1

CD2 SS **SnSn** **21 25 54.6 +0.1**
CD2 pmax pmax
comp=Z,190nm,0.9s
CD2 pmax pmax
comp=Z,620nm,5.2s
CD2 LR LR
comp=N,4μm,22.5s
CD2 LR LR
comp=E,4μm,23.0s
CD2 LR LR
comp=Z,5μm,20.6s
XAN Xi'an 36.49 336 P P 21 17 45.0 -1.2
XAN pP **pP** **21 17 53.7 -2.3**
XAN sP **sP** **21 17 58.9 -1.1**
XAN PcP **PcP** **21 20 10.3 +0.6**
XAN pmax pmax
comp=Z,32nm,1.4s
XAN pmax pmax
comp=Z,80nm,5.2s
XAN LR LR
comp=N,2μm,27.5s
XAN LR LR
comp=E,500nm,21.4s
XAN LR LR
comp=Z,790nm,25.7s
MAJO Matsushiro 37.08 16 *e*P **P 21 17 51.1 -0.1**
MAJO MLR MLR
comp=Z,2μm,20.0s
MAJO Matsushiro 37.08 16 *e*P **P 21 17 51.0 -0.1**
MAJO LR LR
comp=Z,2μm,20.0s
MAT Matsushiro 37.08 16 P P 21 17 50.8 -0.4
MAT S **S** **21 23 31.2 -3.9**
MJAR Matsushiro Arr 37.08 16 P P 21 17 50.9 -0.3
MJAR PcP **PcP** **21 20 13.0 +1.6**
MJAR Matsushiro Arr 37.08 16 P P 21 17 50.9 -0.3
comp=Z,49nm,0.7s,baz=185,slow=9.0,SNR=101
MJAR PcP **PcP** **21 20 13.0 +1.6**
comp=Z,4.7nm,0.8s,baz=175,slow=2.5,SNR=4.9
MJAR LR LR 21 30 56.0
comp=Z,2μm,21.9s,baz=200,slow=33
CMSA Cobar Meteorol 37.43 152 P P 21 17 54.0 -0.2
baz=38,SNR=34
DL2 Dalian 37.88 354 P P 21 17 59.1 +1.3
DL2 S **S** **21 23 48.6 +1.6**
DL2 pmax pmax
comp=Z,260nm,1.0s
DL2 pmax pmax
comp=Z,480nm,4.9s
DL2 LR LR
comp=N,1μm,16.1s
DL2 LR LR
comp=E,440nm,18.8s
DL2 LR LR
comp=Z,1μm,16.7s
IMP Imphal 38.92 310 *e*P **P 21 18 05.0 -1.9**
IMP *e*S **S** **21 24 04.0 +0.6**
ARMA Armidale 39.71 144 *e*P **P 21 18 13.6 +0.2**
comp=Z,464nm,1.6s
ARMA *e*PP **PP** **21 19 44.3 -0.9**
ARMA Armidale 39.71 144 P P 21 18 13.6 +0.2
baz=40,SNR=43
BJT Baijiatuau 39.79 348 *e*P **P 21 18 12.7 -1.2**
comp=Z,61nm,0.6s
BJT *e*PcP **PcP** **21 20 21.3 +1.6**
BJT LR LR
comp=Z,2μm,22.0s
BJI Beijing 39.81 348 P P 21 18 13.6 -0.4
BJI PP **PnPn** **21 19 49.1 -0.2**
BJI S **S** **21 24 13.1 -3.1**
BJI pmax pmax
comp=Z,28nm,1.0s
BJI pmax pmax
comp=Z,630nm,5.8s
BJI LR LR
comp=N,2μm,23.0s
BJI LR LR
comp=E,1μm,16.6s
BJI LR LR
comp=Z,2μm,25.9s
ARPS Mount Arapiles 40.42 160 P P 21 18 19.3 +0.2
baz=40,SNR=18
LZH Lanzhou 40.45 332⇓*i*P **P 21 18 19.9 +0.3**
LZH pP pP 21 18 30.5 +1.0
LZH PP **PnPn** **21 19 57.5 +0.4**
LZH PcP **PcP** **21 20 23.0 +0.9**
LZH ScP **ScP** **21 24 08.1 -1.1**
LZH PcS **PcS** **21 24 11.7 -1.2**
LZH S **S** **21 24 25.0 -1.2**
LZH sS sS 21 24 43.7 +1.2
LZH SS **SS** **21 27 23.1 -3.3**
LZH ScS **ScS** **21 28 21.5 -2.0**
LZH pmax pmax
comp=Z,230nm,1.5s
LZH pmax pmax
comp=Z,680nm,5.8s
LZH LR LR
comp=N,3μm,15.9s
LZH LR LR
comp=E,4μm,17.2s
LZH LR LR
comp=Z,6μm,19.0s
SNY Shenyang 40.64 357⇓*i*P **P 21 18 21.4 +0.5**
SNY S **S** **21 24 28.7 +0.2**
SNY pmax pmax
comp=Z,180nm,1.0s
SNY pmax pmax
comp=Z,1μm,3.7s
SNY LR LR
comp=N,2μm,23.7s
SNY LR LR
comp=E,2μm,19.2s
SNY LR LR
comp=Z,3μm,21.6s
SHL Shillong 40.91 309 *e*P **P 21 18 25.0 +1.4**
SHL *e*S **S** **21 24 32.0 -1.4**
YNG Young 40.99 151 P P 21 18 24.4 +0.5
baz=41,SNR=17
MGCD Mangrove Creek 41.51 147 P P 21 18 28.9 +0.8
baz=42,SNR=17
HHC Hu-ho-hao-te 41.71 344 *e*P **P 21 18 30.5 +0.7**
HHC pP **pP** **21 18 40.6 +0.9**
HHC sP sP 21 18 44.7 +1.0
HHC PP **PnPn** **21 20 11.3 -0.4**
HHC S **S** **21 24 44.2 -0.5**
HHC sS **sS** **21 25 00.5 -0.5**
HHC SS **SS** **21 27 50.1 -1.0**
HHC pmax pmax
comp=Z,92nm,1.2s
HHC pmax pmax
comp=Z,930nm,6.7s
HHC LR LR
comp=N,5μm,17.1s
HHC LR LR
comp=E,2μm,17.9s
HHC LR LR
comp=Z,7μm,17.5s
BTO Baotou 41.94 342 *e*P **P 21 18 30.2 -1.5**
CAN Canberra 42.10 152 *e*P **P 21 18 33.2 +0.1**
CAN *e* 21 20 11.3
CAN *e* 21 20 27.9
CAN pmax pmax
comp=Z,133nm,1.0s
CAN MLR MLR
comp=Z,3μm,22.0s
CAN Canberra 42.10 152 *e*P **P 21 18 33.1 +0.1**
comp=Z,133nm,1.0s
CAN *e*PP **PP** **21 20 11.3 +0.3**
CAN *e*PcP **PcP** **21 20 27.9 +0.5**
CAN LR LR
comp=Z,3μm,22.0s
CNB Canberra Magne 42.27 151 P P 21 18 35.2 +0.7
baz=42,SNR=11
TOO Toolangi 42.47 157 P P 21 18 37.2 +1.3
baz=43,SNR=8.7
CN2 Changchun 42.56 359 *e*P **P 21 18 36.2 -0.4**
CN2 *e*pP **pP** **21 18 46.2 -0.3**
CN2 PP **PP** **21 20 18.4 +2.7**
CN2 *e*S **S** **21 24 57.7 +0.8**
CN2 pmax pmax
comp=Z,50nm,0.8s
CN2 pmax pmax
comp=Z,500nm,4.0s
CN2 LR LR
comp=N,900nm,21.0s

CN2 LR LR
comp=E,1μm,21.0s
CN2 LR LR
comp=Z,2μm,17.0s
USRK Ussuriysk Arra 43.29 6 P **P** **21 18 43.5 +1.0**
comp=Z,73nm,0.6s,baz=188,slow=7.0,SNR=105
USRK S **S** **21 25 09.1 +1.5**
comp=Z,1.1nm,0.6s,baz=170,slow=24,SNR=3.1
MDJ Mudanjiang 43.49 4 P **P** **21 18 46.0 +1.9**
MDJ pP **pP** **21 18 54.9 +0.9**
MDJ sP sP 21 18 58.9 +0.8
MDJ PP **PP** **21 20 27.3 +1.6**
MDJ PcP **PcP** **21 20 33.3 +1.6**
MDJ ScP **ScP** **21 24 22.2 +1.3**
MDJ PcS **PcS** **21 24 26.1 +1.8**
MDJ S **S** **21 25 11.9 +1.3**
MDJ pmax pmax
comp=Z,140nm,1.1s
MDJ pmax pmax
comp=Z,520nm,5.0s
MDJ LR LR
comp=N,980nm,24.4s
MDJ LR LR
comp=E,1μm,22.5s
MDJ LR LR
comp=Z,2μm,22.5s
MDJ Mudanjiang 43.49 4 *e*P **P** **21 18 44.9 +0.8**
comp=Z,119nm,0.8s
MDJ LR LR
comp=Z,2μm,21.0s
ERM Erimo 43.61 19 *c*e P **P** **21 18 46.9 +1.8**
ERM pmax pmax
comp=Z,135nm,1.7s
ERM Erimo 43.61 19 *e*P **P** **21 18 46.0 +0.9**
comp=Z,66nm,1.0s
ERM *e*PcP **PcP** **21 20 32.8 +0.6**
ERM LR LR
comp=Z,2μm,22.0s
LSA Lhasa 43.68 314 P **P** **21 18 47.2 +0.7**
LSA Lhasa 43.68 314⇓ *e*P **P** **21 18 46.7 +0.2**
LSA *e* 21 20 33.9
LSA pmax pmax
comp=Z,207nm,1.3s
LSA MLR MLR
comp=Z,2μm,20.0s
LSA Lhasa 43.68 314⇓ *e*P **P** **21 18 46.7 +0.2**
comp=Z,207nm,1.3s
LSA *e*PcP **PcP** **21 20 33.9 +0.5**
LSA LR LR
comp=Z,2μm,20.0s
WAKE Wake Island 43.76 63 PFAKE 21 19 00.0 +13
WAKE LR LR
comp=Z,3μm,21.0s
BOK Bokaro 44.92 303 *e*P **P** **21 18 55.2 -0.7**
BOK AMB AMB 21 19 17.4
comp=Z,306nm,11.8s
TAPN Taplejung 45.04 309 *e*P **P** **21 18 56.7 -0.4**
comp=Z,138nm,0.8s
VIS Vishakhapatnam 45.05 294 *i* P **P** **21 18 56.4 -0.5**
VIS *e*P **P** **21 18 56.5 -0.5**
VIS AMB AMB 21 19 01.5
comp=Z,131nm,0.0s
VIS *i* x x 21 26 07.5
ODAN Odare 45.05 308 *e*P **P** **21 18 56.6 -0.6**
comp=Z,124nm,0.8s
ASAJ Asahikawa 45.35 17 *e*P **P** **21 19 00.2 +1.2**
comp=Z,167nm,1.7s
ASAJ S **S** **21 25 38.5 +0.8**
ASAJ Asahikawa 45.35 17 P **P** **21 18 59.8 +0.8**
comp=Z,48nm,0.8s,baz=231,slow=14,SNR=21
ASAJ S **S** **21 25 38.5 +0.8**
comp=Z,4.5nm,0.8s,baz=198,slow=20,SNR=1.9
PALK Pallekele 45.54 279 *e*P **P** **21 19 00.6 -0.5**
comp=Z,38nm,1.0s
PALK *e*PcP **PcP** **21 20 39.0 -0.5**
PALK Pallekele 45.54 279 P **P** **21 18 59.7 -1.4**
comp=Z,56nm,1.2s
NOUC Port Laguerre 45.57 123 *e*P **P** **21 19 02.4 +1.3**
DZM Mont Dzumac 45.68 123 *e*P **P** **21 19 01.6 -0.5**
comp=Z,227nm,1.2s
DZM *e*S **S** **21 25 44.9 +1.7**
comp=Z,2μm,29.5s
DZM *e*LR LR 21 31 55.7
comp=Z,7μm,24.1s
DZM Mont Dzumac 45.68 123 *e*P **P** **21 19 01.7 -0.3**
comp=Z,112nm,1.2s
DZM *e*PcP **PcP** **21 20 40.2 +0.3**
DZM Mont Dzumac 45.68 123 P **P** **21 19 02.0 0.0**
comp=Z,53nm,1.1s,baz=270,slow=24,SNR=22
RAMN Ramite 45.72 308 *e*P **P** **21 19 02.2 -0.3**
comp=Z,215nm,0.9s
YUK Yuzh-Kuril'sk 46.31 20 *d*P P 21 19 11.6 +5.1
YUK S **S** **21 25 55.8 +4.5**
JIRN Jiri 46.37 308 *e*P **P** **21 19 07.3 -0.5**
GUN Gumba 46.73 308 *e*P **P** **21 19 09.9 -0.7**
comp=Z,483nm,0.9s
TARA Tarawa 46.94 89 *e*P **P** **21 19 11.8 -0.2**
comp=Z,138nm,0.9s
TARA *e*PcP **PcP** **21 20 43.8 -0.5**
TARA LR LR
comp=Z,5μm,21.0s
PKI Pulchoki 46.94 308 *e*P **P** **21 19 11.2 -1.0**
comp=Z,172nm,0.9s
PKIN Phulchoki 46.96 308 *e*P **P** **21 19 11.2 -1.0**
comp=Z,150nm,0.9s
KKN Kakani 47.15 308 *e*P **P** **21 19 12.7 -1.0**
comp=Z,206nm,0.9s
DMN Daman 47.20 308 *e*P **P** **21 19 13.4 -0.7**
comp=Z,150nm,0.9s
MOO Moorlands 47.34 159 P **P** **21 19 15.6 +1.0**
baz=48,SNR=4.6
TAU Tasmania Unive 47.80 159 PFAKE 21 19 30.0 +12
TAU LR LR
comp=Z,5μm,19.0s
HABR Khabarovsk 47.88 8 *e*P **P** **21 19 18.9 +0.2**
HABR *e**PP **pP** **21 19 27.1 -1.6**
HABR *e**SP **sP** **21 19 31.4 -1.3**
HABR *e* 21 20 45.0
HABR *e* 21 21 09.5
HABR *e*PPP PPP 21 21 57.1
HABR *e*S **S** **21 26 14.9 +1.3**
HABR *e**SS sS 21 26 30.1 0.0
HABR *e* 21 29 07.9
HABR pmax pmax
comp=E,226nm,1.8s
HABR pmax pmax
comp=Z,631nm,1.8s
HABR pmax pmax
comp=Z,856nm,2.1s
HABR pmax pmax
comp=N,255nm,1.8s
HABR MLR MLR
comp=Z,651nm,17.0s
YSS Yuzh-Sakhalins 48.00 15 *e*P P 21 19 16.0 -3.7
YSS *e* 21 19 21.0
YSS *e* 21 19 34.0
YSS *e*S S 21 26 10.0 -5.4
YSS *e*SS **ScS** **21 29 12.0 +1.7**
YSS MLR MLR
comp=Z,600nm,16.0s
KUR Kuril'sk 48.05 21 *e*P **P** **21 19 20.5 +0.5**
KUR *i* S **S** **21 26 18.6 +2.5**
KUR pmax pmax
comp=N,162nm,1.7s
KUR pmax pmax
comp=Z,272nm,1.7s
KUR pmax pmax
comp=Z,2μm,1.8s
KUR MLR MLR
comp=N,612nm,21.0s
KUR MLR MLR
comp=E,1μm,21.0s
KUR MLR MLR
comp=Z,1μm,21.0s
KLR Kul'dur 48.25 5 *e*P P 21 19 18.0 -3.5
KLR *e*S **S** **21 26 15.5 -3.3**
KLR *e* 21 29 06.5
KLR pmax pmax
comp=Z,380nm,1.8s
HIA Hailar 48.32 355 *e*P **P** **21 19 22.4 +0.3**
comp=Z,344nm,1.3s
HIA *e*PcP **PcP** **21 20 49.4 +0.8**
HIA LR LR
comp=Z,3μm,20.0s
KOLN Koldanda 48.47 307 *e*P **P** **21 19 23.6 -0.3**
comp=Z,247nm,0.7s

DANN Dangsing 48.60 308 *e*P **P** **21 19 24.2 -0.8**
comp=Z,374nm,0.7s
PYUN Piuthan 49.10 307 *e*P **P** **21 19 28.3 -0.4**
comp=Z,467nm,0.7s
HYB Hyderabad 49.36 292 *i* P **P** **21 19 30.0 -0.7**
comp=Z,320nm,1.0s
HYB *e*S **S** **21 26 34.0 -1.5**
HYB Hyderabad 49.36 292 *e*P **P** **21 19 30.2 -0.5**
HYB AMB AMB 21 19 34.5
comp=Z,241nm,2.0s
ULN Ulaanbaatar 49.43 343 P **P** **21 19 31.0 +0.2**
SNR=34
ULN Ulaanbaatar 49.43 343 *e*P **P** **21 19 30.1 -0.8**
comp=Z,46nm,0.9s
ULN *e*PcP **PcP** **21 20 53.4 +0.6**
ULN *e*PP **PP** **21 21 25.7 +0.5**
ULN LR LR
comp=Z,2μm,21.0s
ULN Ulaanbaatar 49.43 343 P **P** **21 19 30.4 -0.4**
comp=Z,68nm,0.9s,comp=Z,976nm
SONM Songino Array 49.59 343 P **P** **21 19 31.6 -0.4**
SONM PcP **PcP** **21 20 54.7 +1.4**
SONM Songino Array 49.59 343 P **P** **21 19 31.6 -0.4**
comp=Z,30nm,0.8s,baz=163,slow=8.3,SNR=36
SONM PcP **PcP** **21 20 54.7 +1.4**
comp=Z,24nm,1.0s,baz=159,slow=3.7,SNR=6.2
JBP Jabalpur 49.72 300⇑ *i*P **P** **21 19 33.9 +0.6**
JBP *i* x x 21 19 39.3
comp=Z,125nm,1.8s
JBP *e*x x 21 20 52.6
LATR Latur 51.44 293 *e*x P 21 19 39.8 -6.5
CIT Chita 51.84 350 *e*P **P** **21 19 49.7 +0.8**
CIT *e* 21 20 08.1
CIT *e* 21 21 01.5
CIT pmax pmax
comp=Z,778nm,1.6s
LGTI Lohaghat 51.85 307 *e*x pP 21 19 59.1 -0.2
BHPL Bhopal 51.98 299 *e*P **P** **21 19 50.3 0.0**
BHPL AMB AMB 21 19 53.9
comp=Z,104nm,0.5s
ZAK Zakamensk 52.80 342 *e*P **P** **21 19 55.5 -0.5**
ZAK *e* 21 21 05.2
ZAK pmax pmax
comp=Z,15nm,1.5s
KAD Karad 53.40 291 *i* P **P** **21 20 00.7 -0.3**
TLY Talaya 53.83 343 *e*P **P** **21 20 03.5 0.0**
TLY *e*S **S** **21 27 34.3 -1.8**
TLY *e* 21 29 49.6
TLY pmax pmax
comp=Z,83nm,1.2s
TLY MLR MLR
comp=Z,1μm,21.0s
TLY Talaya 53.83 343 P **P** **21 20 04.0 +0.5**
comp=Z,286nm,1.3s,SNR=10
FUNA Funafuti 53.89 101 PFAKE
FUNA LR LR 21 20 20.0 +15
comp=Z,7μm,19.0s
DDI Dehra Dun 53.94 307 *e*P **P** **21 20 06.1 +1.4**
DDI AMB AMB 21 20 08.0
comp=Z,328nm,0.0s
POO Poona 53.97 292⇓ *i* x P 21 20 01.5 -3.6
comp=Z,100nm,1.0s
NDI New Delhi 53.99 305 *e*P P 21 20 02.0 -3.1
NDI *e*x x 21 27 33.0
DGAR Diego Garcia 54.04 260 PFAKE 21 20 20.0 +14
DGAR LR LR
comp=Z,2μm,19.0s
IRK Irkutsk 54.15 344 *e*P **P** **21 20 06.0 +0.2**
IRK pmax pmax
comp=Z,129nm,1.8s
WMQ Urumqi 54.49 327 P **P** **21 20 09.5 +0.9**
WMQ pP **pP** **21 20 19.6 +0.9**
WMQ sP sP 21 20 23.5 +0.8
WMQ PcP **PcP** **21 21 12.5 +0.8**
WMQ PP **PP** **21 22 13.1 +2.0**
WMQ ScP **ScP** **21 25 06.8 -1.0**
WMQ PcS **PcS** **21 25 10.7 -0.6**
WMQ S **S** **21 27 44.5 -0.9**
WMQ sS **sS** **21 28 01.2 -1.0**
WMQ ScS **ScS** **21 29 52.6 -2.9**
WMQ SS **SS** **21 31 26.8 -1.6**
WMQ pmax pmax
comp=Z,140nm,1.1s
WMQ pmax pmax
comp=Z,710nm,4.0s
WMQ LR LR
comp=N,3μm,21.4s
WMQ LR LR
comp=E,2μm,19.8s
WMQ LR LR
comp=Z,3μm,22.9s
MSVF Nonsavu 54.54 113 *e*P **P** **21 20 09.9 +0.5**
MSVF *e* 21 21 12.0
MSVF pmax pmax
comp=Z,198nm,1.5s
MSVF MLR MLR
comp=Z,3μm,22.0s
MSVF Nonsavu 54.54 113 *e*P **P** **21 20 09.8 +0.5**
comp=Z,198nm,1.5s
MSVF *e*PcP **PcP** **21 21 12.0 -0.4**
MSVF LR LR
comp=Z,3μm,22.0s
MOY Mondy 54.63 341 *e*P **P** **21 20 09.8 +0.3**
MOY pmax pmax
comp=Z,181nm,1.4s
SMLA Simla 54.96 308 *i* P **P** **21 20 12.2 +0.2**
SMLA *i* P **P** **21 20 12.2 +0.2**
SMLA AMb AMB 21 20 16.8
comp=Z,925nm,0.6s
SMLA *i* x x 21 27 46.1
SDNR Sundarnagar 55.26 308 *e*P **P** **21 20 14.0 -0.3**
CLNS Chul'man 55.62 359 *e*P **P** **21 20 17.1 +0.7**
CLNS *e**PP **pP** **21 20 25.9 -0.7**
CLNS *e* 21 21 16.9
CLNS *e* 21 22 17.0
CLNS *e*S **S** **21 28 00.4 +0.4**
CLNS *e* 21 30 00.8
CLNS *e*SSS SSS 21 33 53.1
CLNS pmax pmax
comp=Z,75nm,1.0s
CLNS pmax pmax
comp=E,20nm,1.1s
CLNS pmax pmax
comp=N,58nm,1.3s
CLNS pmax pmax
comp=N,16nm,1.3s
CLNS pmax pmax
comp=E,22nm,1.4s
CLNS pmax pmax
comp=Z,15nm,1.4s
CLNS smax smax
comp=E,628nm,12.1s
CLNS smax smax
comp=N,331nm,12.1s
CLNS MLR MLR
comp=Z,495nm,15.0s
CLNS MLR MLR
comp=E,375nm,18.0s
CLNS MLR MLR
comp=N,510nm,16.0s
SKR Severo-Kuril's 55.66 23 *e*P P 21 20 12.0 -4.7
SKR *e* 21 20 18.5
SKR *e* 21 20 30.0
SKR *e* 21 22 20.0
SKR *e* 21 23 36.0
SKR *e*S S 21 27 56.0 -4.5
SKR *e*PS **PnS** **21 28 07.0 -6.7**
SKR pmax pmax
comp=Z,120nm,0.8s
SKR pmax pmax
comp=N,600nm,8.0s
SKR pmax pmax
comp=Z,600nm,8.0s
SKR MLR MLR
comp=N,1μm,20.0s
SKR MLR MLR
comp=E,1μm,20.0s
SKR MLR MLR
comp=Z,2μm,20.0s
DHRM DHARAMSHALA 56.08 309 *e*P **P** **21 20 20.3 -0.1**
DHRM AMB AMB 21 20 23.1
comp=Z,321nm,3.0s
PONG Pong 56.24 308 *e*P **P** **21 20 20.5 -0.7**
DLH Dalhousie 56.46 309 *e*P **P** **21 20 24.0 +0.9**
OUZ Omahuta 57.23 134 *e*P **P** **21 20 28.3 +0.1**
comp=Z,110nm,1.6s
PEA0B Petropavlovsk- 58.17 22 *e*P **P** **21 20 35.7 +1.2**
PEA0B *e*PP **PP** **21 22 43.7 +0.1**
PETK Petropavlovsk- 58.17 22 P **P** **21 20 35.2 +0.7**
PETK pmax pmax
comp=Z,56nm,0.7s
PETK MLR MLR
comp=Z,538nm,21.3s
PETK Petropavlovsk- 58.17 22 P **P** **21 20 35.2 +0.7**
PETK Petropavlovsk- 58.17 22 P **P** **21 20 35.2 +0.7**
comp=Z,56nm,0.7s,baz=194,slow=6.8,SNR=109
PETK LR LR 21 44 35.7
comp=Z,538nm,21.3s,baz=218,slow=35
PET Petropavlovsk 58.47 22 *e*P **P** **21 20 37.8 +1.3**
PET *e*S **S** **21 28 38.4 +0.9**
PET pmax pmax
comp=Z,79nm,1.9s
PET pmax pmax
comp=Z,400nm,17.6s
MK31 Makanchi Array 59.33 327 *e*P **P** **21 20 42.2 -0.5**
MK31 *e* 21 21 29.7
MK31 Makanchi Array 59.33 327 *e*P **P** **21 20 42.2 -0.5**
MK31 *e*PcP **PcP** **21 21 29.7 -0.8**
MKAR Makanchi Array 59.33 327 P **P** **21 20 42.4 -0.3**
MKAR S **S** **21 28 45.3 -3.7**
MKAR pmax pmax
comp=Z,38nm,0.6s
MKAR smax smax
comp=N,1.0nm,0.9s
MKAR MLR MLR
comp=Z,3μm,19.0s
MKAR Makanchi Array 59.33 327 P **P** **21 20 42.4 -0.3**
MKAR S **S** **21 28 45.3 -3.7**
MKAR P'P' 21 49 59.2
MKAR ⇑ *e* 21 50 23.4
MKAR Makanchi Array 59.33 327 P **P** **21 20 42.4 -0.3**
comp=Z,38nm,0.6s,baz=121,slow=6.9,SNR=171
MKAR S **S** **21 28 45.3 -3.7**
comp=Z,0.9nm,0.9s,baz=104,slow=12,SNR=3.4
MKAR LR LR 21 48 13.9
comp=Z,3μm,19.0s,baz=123,slow=38
MKAR PKPPKP P'P'df 21 49 59.2 -15
comp=Z,0.5nm,0.8s,baz=300,slow=2.8,SNR=4.7
MKAR PKP2bc 21 50 23.4
comp=Z,1.4nm,0.8s,baz=341,slow=2.2,SNR=6.7
KSH Kashi 59.42 317⇑ *i*P **P** **21 20 45.6 +2.0**
KSH pP pP 21 20 56.2 +2.3
KSH sP sP 21 21 00.1 +2.3
KSH PP PP 21 23 00.8 +5.7
KSH S **S** **21 28 52.4 +1.7**
KSH sS sS 21 29 10.9 +3.3
KSH pmax pmax
comp=Z,83nm,1.1s
KSH pmax pmax
comp=Z,270nm,2.7s
KSH LR LR
comp=N,400nm,11.6s
KSH LR LR
comp=E,1μm,15.7s
KSH LR LR
comp=Z,2μm,20.1s
RPZ Rata Peaks 60.05 144 *e*P **P** **21 20 47.5 -0.2**
comp=Z,102nm,1.1s
MIDW Midway 60.42 58 PFAKE 21 21 00.0 +9.5
MIDW LR LR
comp=Z,1μm,21.0s
ULHL Ulahol 60.52 319 P **P** **21 20 51.0 -0.2**
SNR=68
AAA Alma-Ata 60.57 321 *e*P **P** **21 20 51.0 -0.4**
AAA *e*S **S** **21 29 05.9 +0.7**
AAA pmax pmax
comp=Z,800nm,4.7s
AAA smax smax
comp=E,1μm,18.7s
AAA MLR MLR
comp=Z,2μm,22.0s
KHZ Kahutara 60.84 141 *e*P **P** **21 20 52.3 -0.8**
comp=Z,68nm,0.9s
KHZ *e*PcP **PcP** **21 21 36.2 -0.4**
YAK Yakutsk 60.89 2 *d* *i*P **P** **21 20 53.6 +0.6**
YAK *e**PP **pP** **21 21 03.8 +0.5**
YAK *e* 21 21 34.7
YAK *e* 21 23 09.2
YAK *e*S **S** **21 29 07.9 -0.5**
YAK *e**SS sS 21 29 26.9 +1.6
YAK *e* 21 30 40.1
YAK *e*SS SS 21 33 00.8 -7.2
YAK pmax pmax
comp=Z,142nm,0.9s
YAK pmax pmax
comp=N,91nm,1.5s
YAK pmax pmax
comp=E,27nm,1.4s
YAK pmax pmax
comp=N,142nm,2.3s
YAK pmax pmax
comp=Z,145nm,2.0s
YAK pmax pmax
comp=E,99nm,2.5s
YAK smax smax
comp=N,1μm,5.4s
YAK smax smax
comp=E,3μm,10.6s
YAK MLR MLR
comp=N,1μm,19.0s
YAK MLR MLR
comp=Z,2μm,20.0s
KRAR Krasnoyarsk 60.95 339 *c* *i*P **P** **21 20 53.4 -0.2**
KRAR pmax pmax
comp=Z,146nm,1.5s
SNZO South Karori 61.01 140 *e*P **P** **21 20 53.1 -1.1**
comp=Z,125nm,0.9s
SNZO LR LR
comp=Z,3μm,22.0s
KZA Kyzart 61.09 319 P **P** **21 20 55.6 +0.2**
SNR=61
URZ Urewera 61.15 136 *e*P **P** **21 20 54.0 -1.3**
comp=Z,128nm,1.2s
URZ *e*PcP **PcP** **21 21 38.1 +0.2**
TKM2 Tokmak 2 61.26 320⇓ *e*P **P** **21 20 55.6 -0.7**
TKM2 *e* 21 21 39.0
TKM2 pmax pmax
comp=Z,218nm,1.3s
TKM2 MLR MLR
comp=Z,3μm,21.0s
TKM2 Tokmak 2 61.26 320 P **P** **21 20 55.9 -0.3**
SNR=42
TKM2 Tokmak 2 61.26 320⇓ *e*P **P** **21 20 55.6 -0.7**
comp=Z,218nm,1.3s
TKM2 *e*PcP **PcP** **21 21 39.0 +0.3**
TKM2 LR LR
comp=Z,3μm,21.0s
KBK Karagaybulak 61.56 319 P **P** **21 20 58.6 +0.4**
SNR=32
UCH Uchtor 61.64 319 P **P** **21 20 59.9 +0.7**
SNR=27
MCQ Macquarie Isla 61.69 159 P P 21 21 08.0 +10
baz=62,SNR=8.6
AAK Ala-Archa 61.84 319 *d* *i*P **P** **21 20 59.7 -0.4**
AAK pmax pmax
comp=Z,292nm,1.7s
AAK MLR MLR
comp=Z,4μm,18.0s
AAK Ala-Archa 61.84 319 P **P** **21 20 60.0 -0.2**
SNR=91
AAK Ala-Archa 61.84 319 P P 21 21 03.8 +3.7
SNR=29
AAK Ala-Archa 61.84 319 *e*P **P** **21 20 60.0 -0.2**
comp=Z,216nm,1.5s
AAK S **S** **21 29 17.9 -3.7**
AAK Ala-Archa 61.84 319 P **P** **21 20 59.8 -0.4**
comp=Z,34nm,0.9s,baz=138,slow=5.5,SNR=28
AAK S **S** **21 29 17.9 -3.7**
comp=Z,1.1nm,0.3s,baz=197,slow=14,SNR=1.8
AAK LR LR 21 50 19.5
comp=Z,2μm,21.8s,baz=98,slow=38
CHMS Chumysh 61.84 320 P **P** **21 20 59.3 -0.7**
SNR=27
FRU Bishkek 61.85 319 *e*P **P** **21 21 00.0 -0.1**
FRU *e* 21 21 18.0
FRU pmax pmax
comp=Z,120nm,1.6s
FRU MLR MLR
comp=Z,2μm,18.0s
USP Ospenovka 62.13 320 P **P** **21 21 01.9 -0.1**
SNR=60

AML	**Almayashu**	**62.14**	**318**	P		**P**	**21 21 02.4**	**0.0**	
	SNR=72								
EKS2	**Erkin-Say**	**62.33**	**319**	*e*P		**P**	**21 21 03.2**	**-0.2**	
EKS2				pmax		pmax			
	comp=Z,229nm,1.3s								
EKS2				MLR		MLR			
	comp=Z,2µm,21.0s								
EKS2	**Erkin-Say**	**62.33**	**319**	P		**P**	**21 21 03.1**	**-0.2**	
	SNR=54								
EKS2	**Erkin-Say**	**62.33**	**319**	*e*P		**P**	**21 21 03.2**	**-0.2**	
	comp=Z,229nm,1.3s								
EKS2				LR		LR			
	comp=Z,2µm,21.0s								
KBL	**Kabul**	**62.57**	**309**	*e*P		**P**	**21 21 04.2**	**-1.0**	
KBL				pmax		pmax			
	comp=Z,177nm,1.2s								
KBL	**Kabul**	**62.57**	**309**	*e*P		**P**	**21 21 04.2**	**-1.0**	
	comp=Z,177nm,1.2s								
KBL	**Kabul**	**62.57**	**309**	P		**P**	**21 21 04.9**	**-0.3**	
	baz=63,SNR=37								
ZAA0	**Zalesovo Array**	**62.63**	**334**	*e*P		**P**	**21 21 03.6**	**-1.3**	
ZAA0				*e*PcP		PcP	21 21 36.0	-7.6	
ZAA0				*e*PP		**PP**	**21 23 24.2**	**+1.2**	
ZALV	**Zalesovo Beam**	**62.63**	**334**	P		**P**	**21 21 03.7**	**-1.2**	
ZALV				S		**S**	**21 29 26.5**	**-4.3**	
ZALV				pmax		pmax			
	comp=Z,10.0nm,0.5s								
ZALV	**Zalesovo Beam**	**62.63**	**334**	P		**P**	**21 21 03.7**	**-1.2**	
ZALV				S		**S**	**21 29 26.5**	**-4.3**	
ZALV				⇑*e*			21 50 13.7		
ZALV	**Zalesovo Beam**	**62.63**	**334**	P		**P**	**21 21 03.7**	**-1.2**	
	comp=Z,9.5nm,0.5s,baz=116,slow=6.8,SNR=31								
ZALV				S		**S**	**21 29 26.5**	**-4.3**	
	comp=Z,0.3nm,0.3s,baz=112,slow=19,SNR=2.5								
ZALV				PKP2bc			21 50 13.7		
	comp=Z,1.2nm,0.7s,baz=327,slow=2.5,SNR=4.7								
AFI	**Afiamalu**	**63.41**	**106**	PFAKE			21 21 20.0	+9.1	
AFI				LR		LR			
	comp=Z,877nm,19.0s								
KURBB	**Kurchatov Arra**	**63.59**	**328**	P		**P**	**21 21 10.5**	**-0.9**	
	comp=Z,79nm,0.8s,baz=126,slow=6.3,SNR=100								
KURBB				PKPPKP		**P'P'df**	**21 50 03.9**	**-3.5**	
	comp=Z,0.6nm,0.9s,baz=287,slow=3.5,SNR=4.7								
KURBB				PKP2bc			21 50 11.4		
	comp=Z,1.5nm,1.0s,baz=295,slow=3.3,SNR=6.9								
KURK	**Kurchatov**	**63.59**	**329**	P		**P**	**21 21 10.0**	**-1.4**	
	comp=Z,1µm,0.7s								
KURK	**Kurchatov**	**63.59**	**329**	P		**P**	**21 21 10.5**	**-0.9**	
KURK				pmax		pmax			
	comp=Z,79nm,0.8s								
KURK	**Kurchatov**	**63.59**	**329**	P		**P**	**21 21 10.5**	**-0.9**	
KURK				P'P'			21 50 03.9		
KURK				⇑*e*			21 50 11.4		
NVS	**Novosibirsk**	**63.91**	**334**	⇓*i*P		**P**	**21 21 12.1**	**-1.3**	
NVS				*e*S		S	21 29 38.6	-8.1	
NVS				*e*			21 30 58.0		
NVS				pmax		pmax			
	comp=N,85nm,1.7s								
NVS				pmax		pmax			
	comp=E,90nm,1.7s								
NVS				pmax		pmax			
	comp=Z,173nm,1.7s								
NVS				smax		smax			
	comp=N,32nm,2.4s								
NVS				smax		smax			
	comp=E,57nm,2.4s								
KKAR	**Karatay Array**	**64.68**	**318**	*e*P		**P**	**21 21 17.9**	**-0.9**	
KKAR				pmax		pmax			
	comp=Z,105nm,1.2s								
KKAR	**Karatay Array**	**64.68**	**318**	*e*P		**P**	**21 21 17.9**	**-0.9**	
	comp=Z,105nm,1.2s								
FX1	**Attu Island--F**	**64.77**	**29**	*e*P		**P**	**21 21 19.9**	**+0.8**	
FX1				*e*PcP		**PcP**	**21 21 48.8**	**-3.6**	
NIUE	**Niue**	**65.98**	**111**	P		P	21 21 20.1	-7.5	
	baz=66,SNR=3.5								
AMKA	**Amchitka**	**67.14**	**33**	*e*P		**P**	**21 21 36.7**	**+2.4**	
	comp=Z,103nm,1.0s								
AMKA				*e*PcP		**PcP**	**21 22 02.3**	**+0.1**	
CASY	**Casey**	**68.09**	**187**	*e*P		**P**	**21 21 40.3**	**+0.2**	
	comp=Z,51nm,0.9s								
CASY				*e*PcP		**PcP**	**21 22 06.4**	**+0.5**	
CASY				LR		LR			
	comp=Z,1µm,22.0s								
DRV	**Dumont d'Urvil**	**68.31**	**174**	P		P	21 21 34.0	-7.4	
DRV	**Dumont d'Urvil**	**68.31**	**174**	PP		PP	21 24 21.0	+8.6	
DRV				S		**S**	**21 30 45.0**	**+5.2**	
DRV				SS		SS	21 35 12.0	+8.5	
DRV				L		L	21 38 00.0		
DRV				L		L	21 43 00.0		
WBK	**Wadi Bani Khal**	**68.41**	**294**	⇑P		**P**	**21 21 40.7**	**-2.3**	
	SNR=5.9								
BVAR	**Borovoye Array**	**69.15**	**328**	P		**P**	**21 21 46.2**	**-0.8**	
BVAR				pmax		pmax			
	comp=Z,20nm,0.8s								
BVAR	**Borovoye Array**	**69.15**	**328**	P		**P**	**21 21 46.2**	**-0.8**	
BVAR	**Borovoye Array**	**69.15**	**328**	P		**P**	**21 21 46.2**	**-0.8**	
	comp=Z,20nm,0.8s,baz=124,slow=7.4,SNR=66								
JMDO	**Jabal Madar**	**69.17**	**293**	P		**P**	**21 21 48.2**	**+0.5**	
	SNR=7.1								
BRVK	**Borovoye**	**69.22**	**328**	*d*iP		**P**	**21 21 47.1**	**-0.3**	
BRVK				pmax		pmax			
	comp=Z,148nm,1.2s								
BRVK	**Borovoye**	**69.22**	**328**	P		**P**	**21 21 47.1**	**-0.3**	
	SNR=108								
BRVK	**Borovoye**	**69.22**	**328**	*e*P		**P**	**21 21 46.4**	**-1.0**	
	comp=Z,164nm,1.1s								
BRVK				*e*PcP		**PcP**	**21 22 10.9**	**-0.1**	
BRVK				LR		LR			
	comp=Z,1µm,21.0s								
BSY	**Bisya**	**70.05**	**294**	P		**P**	**21 21 52.7**	**-0.4**	
	SNR=6.1								
MRIV	**Mauritius Mete**	**70.24**	**248**	*e*P		**P**	**21 21 54.8**	**+0.5**	
TIXI	**Tiksi**	**70.51**	**1***d*	*i*P		**P**	**21 21 53.7**	**-1.2**	
TIXI				pmax		pmax			
	comp=Z,225nm,1.7s								
TIXI				MLR		MLR			
	comp=Z,2µm,18.0s								
MSEY	**Mahe Island**	**70.65**	**265**	PFAKE			21 22 10.0	+13	
MSEY				LR		LR			
	comp=Z,2µm,22.0s								
MIR	**Mirnyy**	**71.40**	**193**	⇓*i*P		**P**	**21 22 03.0**	**+2.6**	
MIR				*i*			21 22 21.0		
MIR				pmax		pmax			
	comp=Z,193nm,1.5s								
ABKT	**Ailbek**	**71.98**	**310**	P		**P**	**21 22 04.7**	**+0.1**	
	comp=Z,463nm,0.8s,SNR=14								
BILL	**Bilibino**	**72.31**	**15***c*	*i*P		**P**	**21 22 06.3**	**+0.4**	
BILL				*e*			21 22 21.7		
BILL				*e*SS		SS	21 36 09.6	+4.6	
BILL				pmax		pmax			
	comp=Z,84nm,2.2s								
BILL				MLR		MLR			
	comp=Z,800nm,22.0s								
BILL	**Bilibino**	**72.31**	**15**	*e*P		**P**	**21 22 06.2**	**+0.3**	
	comp=Z,35nm,1.1s								
BILL				*e*PcP		**PP**	**21 24 46.6**	**-0.3**	
BILL				LR		LR			
	comp=Z,1µm,20.0s								
ABKAR	**Akbulak array**	**73.74**	**321**	*e*P		**P**	**21 22 13.7**	**-1.0**	
	comp=Z,68nm,1.0s								
AKTO	**Aktyubinsk**	**75.28**	**322**	LR		LR	21 58 29.2		
	comp=Z,2µm,20.0s,baz=96,slow=38								
SVE	**Sverdlovsk**	**75.84**	**329**	⇓*i*P		**P**	**21 22 26.8**	**+0.1**	
SVE				*e*S		S	21 32 01.0	-5.6	
SVE				pmax		pmax			
	comp=Z,363nm,1.5s								
SVE				MLR		MLR			
	comp=Z,974nm,19.0s								
UNV	**Unalaska Valle**	**76.04**	**34**	*e*P		**P**	**21 22 28.7**	**+0.8**	
	comp=Z,310nm,1.5s								
AKUT	**Akutan**	**76.54**	**34**	*e*P		**P**	**21 22 31.0**	**+0.3**	
	comp=Z,1µm,1.8s								
XMAS	**Kiritimati**	**76.56**	**88**	PFAKE			21 22 40.0	+8.3	
XMAS				LR		LR			
	comp=Z,3µm,20.0s								
KIP	**Kipapa**	**76.60**	**68**⇑	*e*P		**P**	**21 22 32.9**	**+1.2**	
KIP				pmax		pmax			
	comp=Z,133nm,1.7s								
KIP	**Kipapa**	**76.60**	**68**	PFAKE			21 22 40.0	+8.3	
KIP				LR		LR			
	comp=Z,3µm,22.0s								
ARU	**Arti**	**76.78**	**328**	*d*iP		**P**	**21 22 31.1**	**-1.0**	
ARU							21 25 21.0		
ARU				S		**S**	**21 32 15.7**	**-1.3**	
ARU				pmax		pmax			
	comp=Z,365nm,1.7s								
ARU				MLR		MLR			
	comp=Z,800nm,21.0s								
ARU	**Arti**	**76.78**	**328**	P		**P**	**21 22 31.6**	**-0.5**	
	comp=Z,1µm,0.9s,SNR=29								
GAMB	**Gambell**	**77.13**	**24**	*e*P		**P**	**21 22 34.6**	**+0.8**	
FALS	**False Pass**	**78.06**	**34**	*e*P		**P**	**21 22 40.3**	**+1.1**	
	comp=Z,168nm,0.7s								
SOKR	**Solikamsk**	**78.67**	**331***d*	*i*P		**P**	**21 22 41.9**	**-0.5**	
SOKR				S		**S**	**21 32 33.0**	**-4.1**	
SOKR				pmax		pmax			
	comp=Z,290nm,1.6s								
SOKR				MLR		MLR			
	comp=Z,970nm,20.0s								
KBD	**Kabd**	**79.25**	**299**	*e*P		**P**	**21 22 44.3**	**-2.0**	
KBD				AMb		AMB	21 22 50.1		
	comp=Z,100nm,1.4s								
UMR	**Umm Al-Rimmam**	**79.26**	**300**	*e*P		**P**	**21 22 44.8**	**-1.6**	
UMR				AMb		AMB	21 22 50.1		
	comp=Z,149nm,1.2s								
RDF	**Al-Radifah**	**79.36**	**299**	*e*P		**P**	**21 22 44.9**	**-2.0**	
RDF				AMb		AMB	21 22 52.2		
	comp=Z,160nm,1.1s								
NAY	**Al-Naaiem**	**79.65**	**299**	*e*P		**P**	**21 22 46.9**	**-1.7**	
NAY				AMb		AMB	21 22 51.6		
	comp=Z,103nm,1.0s								
ABPO	**Ambohimpanom**	**79.71**	**251**	*e*P		**P**	**21 22 49.3**	**0.0**	
ABPO				pmax		pmax			
	comp=Z,55nm,1.0s								
ABPO				MLR		MLR			
	comp=Z,1µm,20.0s								
ABPO	**Ambohimpanom**	**79.71**	**251**	*e*P		**P**	**21 22 49.3**	**0.0**	
	comp=Z,56nm,1.0s								
ABPO				LR		LR			
	comp=Z,1µm,20.0s								
SDPT	**Sand Point**	**79.82**	**34**	*e*P		**P**	**21 22 49.3**	**+0.4**	
	comp=Z,202nm,0.6s								
MAK	**Makhachkala**	**80.84**	**313**	*e*P		**P**	**21 22 55.8**	**+1.2**	
MAK				*e*			21 23 02.1		
MAK				*e*			21 26 00.6		
MAK				*e*PPP		PPP	21 27 53.7		
MAK				*e*S		**S**	**21 33 01.4**	**+0.6**	
MAK				*e*SS		SS	21 38 08.1	-6.8	
MAK				pmax		pmax			
	comp=Z,241nm,1.8s								
MAK				MLR		MLR			
	comp=Z,905nm,21.0s								
VNDA	**Vanda**	**80.89**	**173**	*e*P		**P**	**21 22 54.1**	**-0.1**	
	comp=Z,31nm,0.8s								
VNDA				*e*PcP		**PcP**	**21 22 59.5**	**-1.2**	
VNDA				S		**S**	**21 32 56.8**	**-3.3**	
VNDA	**Vanda**	**80.89**	**173**	P		**P**	**21 22 54.2**	**0.0**	
	comp=Z,31nm,1.0s,baz=320,slow=6.2,SNR=46								
VNDA				S		**S**	**21 32 56.8**	**-3.3**	
	comp=Z,0.4nm,0.6s,baz=230,slow=15,SNR=2.6								
MAW	**Mawson**	**81.00**	**200**	S		**S**	**21 32 58.6**	**-2.9**	
MAW	**Mawson**	**81.00**	**200**	P		**P**	**21 22 56.5**	**+1.6**	
	comp=Z,35nm,0.9s,baz=58,slow=6.3,SNR=44								
MAW				S		**S**	**21 32 58.6**	**-2.9**	
	comp=Z,1.1nm,0.8s,baz=90,slow=9.1,SNR=2.0								
MAW				LR		LR	21 55 18.2		
	comp=Z,640nm,21.5s,baz=61,slow=33								
MAW	**Mawson**	**81.00**	**200**	P		**P**	**21 22 56.6**	**+1.6**	
	baz=81,SNR=37								
IBDR	**Badra**	**81.08**	**303**	*i* P		**P**	**21 22 54.0**	**-2.1**	
IBDR				*i* S		S	21 33 10.0	+6.3	
CHGN	**Chignik**	**81.16**	**33**	*e*P		**P**	**21 22 56.4**	**+0.4**	
SBA	**Scott Base**	**81.81**	**172**	*e*P		**P**	**21 23 00.0**	**+0.9**	
SBA				pmax		pmax			
	comp=Z,34nm,0.9s								
SBA				MLR		MLR			
	comp=Z,937nm,21.0s								
SBA	**Scott Base**	**81.81**	**172**	*e*P		**P**	**21 23 00.0**	**+0.9**	
	comp=Z,34nm,0.9s								
SBA				LR		LR			
	comp=Z,937nm,21.0s								
TRBA	**At Turbah**	**81.83**	**283**	*e*P		**P**	**21 23 01.8**	**+1.1**	
DGRG	**David-gareji**	**82.25**	**312**	P		**P**	**21 23 03.2**	**+0.9**	
DGRG				S		**S**	**21 33 11.2**	**-4.4**	
BHD	**Baghdad**	**82.39**	**303**	*i* P		P	21 22 59.0	-4.0	
BHD				*i* S		**S**	**21 33 15.0**	**-2.2**	
GNI	**Garni**	**82.61**	**310**	P		**P**	**21 23 05.9**	**+1.6**	
	SNR=38								
GNI	**Garni**	**82.61**	**310**	*e*P		**P**	**21 23 05.1**	**+0.8**	
	comp=Z,90nm,0.9s								
GNI	**Garni**	**82.61**	**310**	P		**P**	**21 23 04.7**	**+0.4**	
	comp=Z,26nm,1.0s,baz=118,slow=2.3,SNR=25								
GNI				LR		LR	22 03 17.3		
	comp=Z,336nm,21.3s,baz=214,slow=38								
TBLG	**Delisi**	**82.75**	**312**	*e*P		**P**	**21 23 05.2**	**+0.4**	
TBLG				*e*S		**S**	**21 33 17.2**	**-3.4**	
TBLG	**Delisi**	**82.75**	**312**	P		**P**	**21 23 05.2**	**+0.4**	
TBLG				S		**S**	**21 33 17.3**	**-3.4**	
ATD	**Arta Tunnel**	**83.05**	**281**	LR		LR	22 01 03.0		
	comp=Z,308nm,18.6s,baz=245,slow=36								
HAKT	**HAKKARI**	**83.22**	**308**	*i* P		**P**	**21 23 08.0**	**+0.4**	
HAKT	**HAKKARI**	**83.22**	**308**	*i* P		**P**	**21 23 08.0**	**+0.4**	
DYDN	**Diyadin**	**83.37**	**310**	*i* P		**P**	**21 23 09.8**	**+1.4**	
DYDN	**Diyadin**	**83.37**	**310**	*i* P		**P**	**21 23 09.8**	**+1.4**	
ZEI	**Tsey**	**83.46**	**313**	*e*P		**P**	**21 23 09.0**	**+0.3**	
ZEI				*e*S		**S**	**21 33 27.4**	**-0.8**	
ZEI				pmax		pmax			
	comp=Z,232nm,5.9s								
ZEI				pmax		pmax			
	comp=Z,256nm,1.0s								
ZEI				pmax		pmax			
	comp=N,208nm,1.2s								
ZEI				pmax		pmax			
	comp=E,190nm,0.8s								
AKH	**Akhalkalaki**	**83.66**	**311**	P		**P**	**21 23 10.6**	**+0.9**	
AKH				S		**S**	**21 33 29.5**	**-0.7**	
GEVA	**Gevas**	**83.78**	**308**	*i* P		**P**	**21 23 11.0**	**+0.6**	
GEVA	**Gevas**	**83.78**	**308**	*i* P		**P**	**21 23 11.0**	**+0.6**	
OHAK	**Old Harbor**	**84.09**	**33**	*e*P		**P**	**21 23 11.9**	**+0.6**	
	comp=E,106nm,0.9s								
OHAK				*e*PP		**PP**	**21 26 24.5**	**-1.1**	
SIRN	**S¨¨rnak**	**84.24**	**307**	*i* P		**P**	**21 23 12.6**	**0.0**	
SIRN	**S¨¨rnak**	**84.24**	**307**	*i* P		**P**	**21 23 12.6**	**0.0**	
KBZ	**Khabaz**	**84.26**	**314**	P		**P**	**21 23 12.5**	**+0.1**	
KBZ				pmax		pmax			
	comp=Z,48nm,0.9s								
KBZ				MLR		MLR			
	comp=Z,499nm,20.7s								
KBZ	**Khabaz**	**84.26**	**314**	P		**P**	**21 23 12.5**	**+0.1**	
KBZ	**Khabaz**	**84.26**	**314**	P		**P**	**21 23 12.5**	**+0.1**	
	comp=Z,48nm,0.9s,baz=111,slow=4.1,SNR=32								
KBZ				LR		LR	22 07 08.2		
	comp=Z,499nm,20.7s,baz=261,slow=40								
KIV	**Kislovodsk**	**84.43**	**314**	*e*P		**P**	**21 23 13.3**	**-0.2**	
KIV				pmax		pmax			
	comp=Z,54nm,5.3s								
KIV				pmax		pmax			
	comp=Z,92nm,1.1s								
KIV	**Kislovodsk**	**84.43**	**314**	P		**P**	**21 23 13.2**	**-0.2**	
	comp=Z,550nm,0.8s,SNR=17								
KDAK	**Kodiak Island**	**84.54**	**32**	*e*P		**P**	**21 23 14.5**	**+1.0**	
	comp=Z,202nm,1.3s								
KDAK				*e*PP		**PP**	**21 26 25.9**	**-3.3**	
KDAK	**Kodiak Island**	**84.54**	**32**	LR		LR	21 55 36.1		
	comp=Z,1µm,21.2s,baz=251,slow=32								
RSO	**Redoubt South**	**84.78**	**29**	*e*P		**P**	**21 23 15.4**	**+0.4**	
	comp=Z,238nm,0.9s								
CHVG	**Ch'k'valeri**	**84.79**	**313**	P		**P**	**21 23 16.3**	**+1.1**	
CHVG				S		S	21 33 00.0	-41	
ARTV	**Artvin**	**84.82**	**311**	*i* P		**P**	**21 23 16.0**	**+0.3**	
ARTV	**Artvin**	**84.82**	**311**	*i* P		**P**	**21 23 16.0**	**+0.3**	
DAGI	**Agillar**	**84.82**	**311**	*i* P		**P**	**21 23 16.3**	**+0.7**	
DAGI	**Agillar**	**84.82**	**311**	*i* P		**P**	**21 23 16.3**	**+0.7**	
DDEM	**Demirkent**	**84.94**	**311**	*i* P		**P**	**21 23 16.9**	**+0.8**	
DDEM	**Demirkent**	**84.94**	**311**	*i* P		**P**	**21 23 16.9**	**+0.8**	
DBAD	**Bademkaya**	**84.98**	**311**	*i* P		**P**	**21 23 17.1**	**+0.7**	
DBAD	**Bademkaya**	**84.98**	**311**	*i* P		**P**	**21 23 17.1**	**+0.7**	
DBOC	**Borcka**	**85.02**	**311**	*i* P		**P**	**21 23 17.3**	**+0.9**	
DBOC	**Borcka**	**85.02**	**311**	*i* P		**P**	**21 23 17.3**	**+0.9**	
PPT	**Papeete**	**85.03**	**108**	eLR		LR	21 53 36.9		
	comp=Z,784nm,20.7s,baz=194,slow=30								
PPT2	**Papeete2**	**85.03**	**108**	eLR		LR	21 50 10.9		
	comp=Z,2µm,26.0s								
ERZM	**Erzurum**	**85.18**	**310**	*i* P		**P**	**21 23 19.4**	**+1.8**	
ERZM	**Erzurum**	**85.18**	**310**	*i* P		**P**	**21 23 19.4**	**+1.8**	
BNGL	**BINGOL**	**85.31**	**309**	*i* P		**P**	**21 23 19.3**	**+1.1**	
BNGL	**BINGOL**	**85.31**	**309**	*i* P		**P**	**21 23 19.3**	**+1.1**	
TBI	**Tubuai**	**85.42**	**113**	eLR		LR	21 50 21.1		
	comp=Z,2µm,24.8s								
MARD	**Mardin**	**85.53**	**307**	*i* P		**P**	**21 23 19.7**	**+0.5**	
MARD	**Mardin**	**85.53**	**307**	*i* P		**P**	**21 23 19.7**	**+0.5**	
MZRK	**Al-Mazaregh**	**85.58**	**306**	*e*P		**P**	**21 23 22.2**	**+2.8**	
KBSD	**Kabsdagh**	**85.71**	**307**	*e*P		P	21 23 11.3	-8.7	
KOPT	**Kop Dagi**	**85.85**	**310**	*i* P		**P**	**21 23 22.3**	**+1.4**	
KOPT	**Kop Dagi**	**85.85**	**310**	*i* P		**P**	**21 23 22.3**	**+1.4**	
SFNV	**Sufian**	**86.04**	**306**	*e*P		P	21 23 18.9	-2.7	
TRF	**Thorofare Moun**	**86.25**	**27**	*e*P		**P**	**21 23 22.2**	**0.0**	
	comp=Z,8.6nm,0.9s								
TRF				*e*PP		**PP**	**21 26 43.7**	**+0.5**	
MACK	**Trabzon**	**86.44**	**311**	*i* P		**P**	**21 23 24.1**	**+0.6**	
MACK	**Trabzon**	**86.44**	**311**	*i* P		**P**	**21 23 24.1**	**+0.6**	
SOC	**Sochi**	**86.56**	**313***d*	*i*P		**P**	**21 23 23.1**	**-0.8**	
SOC				*e*			21 26 39.7		
SOC				*e*S		**SKSac**	**21 33 47.0**	**-1.3**	
SOC				*e*SS		**SS**	**21 39 38.8**	**-0.7**	
SOC				*e*SSS		SSS	21 43 03.8		
SOC				pmax		pmax			
	comp=Z,197nm,1.0s								
COLD	**Coldfoot**	**86.63**	**23**	*e*P		**P**	**21 23 24.7**	**+0.9**	
	comp=Z,30nm,0.8s								
PMR	**Palmer**	**86.64**	**28**	*e*P		**P**	**21 23 23.8**	**-0.1**	
PMR				*e*			21 26 47.8		
PMR				pmax		pmax			
	comp=Z,47nm,1.1s								
PMR	**Palmer**	**86.64**	**28**	*e*P		**P**	**21 23 23.8**	**-0.1**	
	comp=Z,47nm,1.1s								
PMR				*e*PP		**PP**	**21 26 47.8**	**+1.8**	
KELT	**Kelkit**	**86.81**	**310**	*i* P		**P**	**21 23 26.1**	**+0.6**	
KELT	**Kelkit**	**86.81**	**310**	*i* P		**P**	**21 23 26.1**	**+0.6**	
MCK	**McKinley**	**86.88**	**26**	*e*P		**P**	**21 23 25.3**	**+0.2**	
MCK				pmax		pmax			
	comp=Z,15nm,0.8s								
MCK	**McKinley**	**86.88**	**26**	*e*P		**P**	**21 23 25.3**	**+0.2**	
	comp=Z,15nm,0.8s								
ELZG	**Elazig**	**86.98**	**308**	*i* P		**P**	**21 23 27.3**	**+0.9**	
ELZG	**Elazig**	**86.98**	**308**	*i* P		**P**	**21 23 27.3**	**+0.9**	
SML	**Sawmill**	**87.03**	**28**	*e*P		**P**	**21 23 25.6**	**-0.3**	
SML				pmax		pmax			
	comp=Z,10.0nm,1.0s								
SML	**Sawmill**	**87.03**	**28**	*e*P		**P**	**21 23 25.6**	**-0.3**	
	comp=Z,10nm,1.0s								
VORD	**Divnogorie**	**87.09**	**321**	*e*P		**P**	**21 23 25.9**	**-0.4**	
VORD				*e*S		S	21 33 55.8	-7.4	
VORD				pmax		pmax			
	comp=N,50nm,1.4s								
VORD				pmax		pmax			
	comp=Z,200nm,1.4s								
VORD				pmax		pmax			
	comp=E,150nm,1.2s								
VORD				smax		smax			
	comp=Z,90nm,7.8s								
VORD				smax		smax			
	comp=N,450nm,8.4s								
VORD				smax		smax			
	comp=E,520nm,12.1s								
VORD				MLR		MLR			
	comp=Z,1µm,26.0s								
VORD				MLR		MLR			
	comp=N,560nm,21.0s								
VORD				MLR		MLR			
	comp=E,660nm,23.0s								
VOR	**Voronezh**	**87.17**	**322**	*e*P		**P**	**21 23 25.0**	**-1.7**	
VOR				pmax		pmax			
	comp=Z,250nm,1.0s								
VSR	**Storozhevoye**	**87.17**	**321**	*e*P		**P**	**21 23 26.1**	**-0.7**	
VSR				*e*S		**SKSac**	**21 33 51.0**	**-0.7**	
VSR				pmax		pmax			
	comp=Z,160nm,1.3s								
VSR				pmax		pmax			
	comp=N,9.0nm,0.7s								
VSR				pmax		pmax			
	comp=E,60nm,1.2s								
VSR				smax		smax			
	comp=Z,170nm,10.9s								
VSR				smax		smax			
	comp=N,340nm,8.6s								
VSR				smax		smax			
	comp=E,400nm,10.3s								
VSR				MLR		MLR			
	comp=Z,740nm,21.0s								
VSR				MLR		MLR			
	comp=N,350nm,23.0s								
VSR				MLR		MLR			
	comp=E,470nm,25.0s								
KEMA	**Kemaliye**	**87.38**	**309**	*i* P		**P**	**21 23 29.3**	**+1.1**	
KEMA	**Kemaliye**	**87.38**	**309**	*i* P		**P**	**21 23 29.3**	**+1.1**	
COLA	**College**	**87.42**	**25**	PFAKE			21 23 40.0	+12	
COLA				LR		LR			
	comp=Z,393nm,20.0s								
MALT	**Malatya**	**87.42**	**308**	PFAKE			21 23 40.0	+12	
MALT				LR		LR			
	comp=Z,620nm,22.0s								
GRSN	**GIRESUNGRSN**	**87.58**	**311**	*i* P		P	21 23 25.3	-3.7	
GRSN	**GIRESUNGRSN**	**87.58**	**311**	*i* P		P	21 23 25.3	-3.7	
SUSE	**Susehri**	**87.62**	**310**	*i* P		**P**	**21 23 30.1**	**+0.7**	
SUSE	**Susehri**	**87.62**	**310**	*i* P		**P**	**21 23 30.1**	**+0.7**	
SLMH	**Al Salmeh**	**87.80**	**306**	*e*P		**P**	**21 23 29.5**	**-0.6**	
AKCD	**Akcadag**	**87.82**	**308**	*i* P		**P**	**21 23 31.8**	**+1.4**	
AKCD	**Akcadag**	**87.82**	**308**	*i* P		**P**	**21 23 31.8**	**+1.4**	
ILAR	**Eielson Array**	**87.83**	**25**	P		**P**	**21 23 28.9**	**-0.8

KMBO Kilima Mbogo 88.74 269 *e*P P **21 23 36.7 +1.4**
comp=Z,195nm,1.6s
KMBO S **SKSac 21 34 04.8 +1.6**
KMBO Kilima Mbogo 88.74 269 P **P 21 23 36.8 +1.4**
comp=Z,30nm,0.8s,baz=53,slow=6.2,SNR=42
KMBO S **SKSac 21 34 04.8 +1.6**
comp=Z,0.5nm,0.4s,baz=72,slow=20,SNR=3.3
KMBO LR LR 21 59 47.8
comp=Z,2µm,21.1s,baz=84,slow=33
KMBO Kilima Mbogo 88.74 269 P **P 21 23 37.1 +1.7**
baz=89,SNR=20
SALA Sala 88.79 303 *e*P **P 21 23 35.2 +0.1**
OBN Obninsk 88.80 325 *d i*P **P 21 23 33.5 -0.9**
OBN *e* 21 27 01.9
OBN *e*S **SKSac 21 34 05.9 +4.6**
OBN *e* 21 34 16.4
OBN pmax pmax
comp=Z,155nm,1.7s
OBN MLR MLR
comp=Z,1µm,22.0s
OBN Obninsk 88.80 325 P **P 21 23 33.5 -0.9**
comp=Z,504nm,1.7s,SNR=6.5
DRWC Darouich 88.82 306 *e*P **P 21 23 34.9 -0.1**
BTCH Batrach 88.99 306 *e*P **P 21 23 34.4 -1.5**
TOTH TOTAH 89.04 303 *e*P **P 21 23 34.1 -2.1**
FKH Fakeheh 89.05 304 *e*P **P 21 23 37.4 +1.1**
YAYL Yayladag 89.28 306 *i*P **P 21 23 37.4 +0.1**
YAYL Yayladag 89.28 306 *i*P **P 21 23 37.4 +0.1**
ARNB Al Arnab 89.39 306 *e*P **P 21 23 35.5 -2.3**
HWQ Hawqa 89.43 304 *e*P **P 21 23 38.2 +0.2**
TCHB Talchebab 89.44 302 *e*P **P 21 23 36.4 -1.6**
BRBR Barbar 89.44 303 *e*P P 21 23 34.9 -3.4
HAVZ Havza 89.50 311 *i*P **P 21 23 38.5 +0.3**
HAVZ Havza 89.50 311 *i*P **P 21 23 38.5 +0.3**
LVZ Lovozero 89.53 338 *ce*P **P 21 23 38.6 +1.0**
LVZ pmax pmax
comp=Z,122nm,2.5s
SYO Syowa Base 89.68 201⇑ *e*P **P 21 23 38.4 +0.2**
SYO Syowa Base 89.68 201‖ *e*P sP 21 23 54.8 +2.0
BHL Bhannes 89.68 304 *e*P **P 21 23 39.3 +0.1**
MMAI Mount Meron Ar 89.91 303 P **P 21 23 40.8 +0.6**
MMAI PP **PP 21 27 11.8 -1.5**
MMAI S **SKSac 21 34 08.8 -0.3**
MMAI Mount Meron Ar 89.91 303 P **P 21 23 40.8 +0.6**
comp=Z,39nm,0.9s,baz=84,slow=8.0,SNR=50
MMAI PP **PP 21 27 11.8 -1.5**
comp=Z,2.9nm,0.9s,baz=116,slow=9.8,SNR=2.9
MMAI S **SKSac 21 34 08.8 -0.3**
comp=Z,0.2nm,0.4s,baz=271,slow=12,SNR=2.6
APA Apatity 90.02 337‖ *i*P P 21 23 35.0 -4.8
APA *e*S SKSac 21 34 18.0 +10
CTKT Corum 90.22 310 *i*P **P 21 23 41.7 +0.1**
CTKT Corum 90.22 310 *i*P **P 21 23 41.7 +0.1**
EGAK Eagle 90.28 25 *e*P **P 21 23 41.7 +0.6**
EGAK LR LR
comp=Z,607nm,22.0s
GULE Gulek 90.32 307 *i*P **P 21 23 42.4 +0.2**
GULE Gulek 90.32 307 *i*P **P 21 23 42.4 +0.2**
EIL Elat 90.37 300 P **P 21 23 42.6 +0.2**
EIL S **SKSac 21 34 13.3 +1.7**
EIL Elat 90.37 300 P **P 21 23 42.6 +0.2**
comp=Z,20nm,1.1s,baz=100,slow=1.4,SNR=13
EIL S **SKSac 21 34 13.3 +1.7**
comp=Z,1.8nm,0.8s,baz=56,slow=3.6,SNR=2.3
EIL LR LR 22 08 00.6
comp=Z,925nm,20.9s,baz=345,slow=38
EIL Elat 90.37 300 P **P 21 23 43.1 +0.8**
baz=90,SNR=7.6
CDAG Cicekdag 90.57 309 *i*P **P 21 23 42.8 -0.5**
CDAG Cicekdag 90.57 309 *i*P **P 21 23 42.8 -0.5**
SIM Simferopol' 90.58 315 *c i*P **P 21 23 42.7 -0.3**
SIM pmax pmax
comp=Z,83nm,0.8s
SIM MLR MLR
comp=Z,380nm,22.6s
QSPA South Pole Qui 90.98 180 *e*P **P 21 23 44.9 +0.3**
comp=Z,81nm,1.5s
QSPA *e*PP **PP 21 27 21.1 +0.3**
QSPA S **SKSac 21 34 12.7 -1.2**
QSPA LR LR
comp=Z,2µm,19.0s
QSPA South Pole Qui 90.98 180 S **SKSac 21 34 12.7 -1.2**
comp=Z,1.9nm,1.1s,baz=231,slow=14,SNR=9.2
BR131 Keskin Array S 91.13 310 *e*P **P 21 23 44.9 -0.9**
comp=Z,9.8nm,0.8s
BRTR Keskin Array B 91.13 310 P **P 21 23 44.6 -1.2**
BRTR PKKPbc **PKKPbc 21 41 10.1 -0.1**
BRTR Keskin Array B 91.13 310 P **P 21 23 44.6 -1.2**
comp=Z,15nm,0.9s,baz=108,slow=4.0,SNR=25
BRTR PKKPbc **PKKPbc 21 41 10.1 -0.1**
comp=Z,0.5nm,0.7s,baz=181,slow=5.8,SNR=3.4
BRTR LR LR 22 12 17.2
comp=Z,526nm,21.1s,baz=341,slow=41
JOF Joensuu 91.20 333 *e*p **P 21 23 46.0 +0.6**
comp=Z,19nm,0.6s
JOF Joensuu 91.20 333 *e*P **P 21 23 46.0 +0.6**
JOF pmax pmax
comp=Z,19nm,0.6s
BALT Daday 91.25 311 *i*P **P 21 23 46.6 +0.1**
BALT Daday 91.25 311 *i*P **P 21 23 46.6 +0.1**
PNL Peninsula 91.44 30 *e*P **P 21 23 46.9 +0.2**
comp=Z,27nm,0.9s
CSS Prodhromos 91.57 305 *e*P **P 21 23 46.6 -1.3**
comp=Z,101nm,0.9s
CSS LR LR
comp=Z,369nm,22.0s
ANTO Ankara 91.77 310 *e*P **P 21 23 47.8 -1.0**
ANTO *e* 21 27 28.1
ANTO pmax pmax
comp=Z,19nm,1.0s
ANTO MLR MLR
comp=Z,475nm,22.0s
ANTO Ankara 91.77 310 P **P 21 23 48.4 -0.3**
SNR=7.9
ANTO Ankara 91.77 310 *e*P **P 21 23 47.8 -1.0**
comp=Z,19nm,1.0s
ANTO *e*PP **PP 21 27 28.1 +0.2**
ANTO LR LR
comp=Z,475nm,22.0s
PUL Pulkovo 91.95 330 *i*P P 21 23 52.5 +3.5
KEV Kevo 92.12 340 *e*p P 21 23 53.2 +3.6
comp=Z,11nm,0.9s
KEV Kevo 92.12 340 *e*P P 21 23 53.2 +3.6
KEV pmax pmax
comp=Z,11nm,0.9s
KEV Kevo 92.12 340 PFAKE 21 24 00.0 +10
KEV LR LR
comp=Z,1µm,22.0s
GAZI Gazipasa 92.34 306 *i*P **P 21 23 50.5 -0.9**
GAZI Gazipasa 92.34 306 *i*P **P 21 23 50.5 -0.9**
ARCES ARCESS Array B 92.68 340 P **P 21 23 51.6 -0.6**
ARCES PKKP **PKKPdf 21 41 00.5 -4.0**
ARCES PKKPbc **PKKPbc 21 41 05.7 -1.3**
ARCES ARCESS Array B 92.68 340 P **P 21 23 51.6 -0.6**
comp=Z,8.9nm,0.6s,baz=85,slow=4.2,SNR=39
ARCES PKKP **PKKPdf 21 41 00.5 -4.0**
comp=Z,3.5nm,0.9s,baz=352,slow=15,SNR=8.2
ARCES PKKPbc **PKKPbc 21 41 05.7 -1.3**
comp=Z,2.4nm,0.8s,baz=16,slow=1.8,SNR=3.7
ARE0 ARCESS Array S 92.68 340 *e*P **P 21 23 51.6 -0.6**
INK Inuvik 92.91 21 P **P 21 23 53.1 -0.2**
INK S **SKSac 21 34 22.6 -1.8**
INK PKKPbc **PKKPdf 21 41 04.8 +0.8**
INK Inuvik 92.91 21 P **P 21 23 53.1 -0.2**
comp=Z,11nm,0.9s,baz=284,slow=4.6,SNR=22
INK S **SKSac 21 34 22.6 -1.8**
comp=Z,0.8nm,0.7s,baz=216,slow=12,SNR=2.9
INK PKKPbc **PKKPdf 21 41 04.8 +0.8**
comp=Z,0.8nm,0.5s,baz=142,slow=6.6,SNR=4.3
INK LR LR 22 06 55.3
comp=Z,432nm,21.7s,baz=3.7,slow=36
AKASG Malin Array Be 93.47 321 P **P 21 23 55.0 -1.2**
AKASG pmax pmax
comp=Z,8.0nm,0.8s
AKASG Malin Array Be 93.47 321 P **P 21 23 55.0 -1.2**
AKASG PKiKP **PKiKP 21 28 42.9 +0.7**
AKASG Malin Array Be 93.47 321 P **P 21 23 55.0 -1.2**
comp=Z,7.7nm,0.8s,baz=73,slow=4.4,SNR=26
AKASG PKiKP **PKiKP 21 28 42.9 +0.7**
comp=Z,0.4nm,0.3s,baz=57,slow=3.5,SNR=4.4
KBS Kingsbay 93.48 350 P P 21 24 01.7 +6.0
KBS pmax pmax
comp=Z,10.0nm,0.6s
KBS Kingsbay 93.48 350 PFAKE 21 24 10.0 +14
KBS LR LR
comp=Z,1µm,20.0s
KIEV Kiev 93.48 321 *e*P **P 21 23 54.6 -1.7**
KIEV pmax pmax
comp=Z,42nm,1.4s
KIEV MLR MLR
comp=Z,736nm,20.0s
KIEV Kiev 93.48 321 *e*P **P 21 23 54.6 -1.7**
comp=Z,42nm,1.4s
KIEV LR LR
comp=Z,736nm,20.0s
AK02 Malin Array Si 93.49 321 *e*P **P 21 23 55.9 -0.4**
SKAG Skagway 93.52 30 *e*P **P 21 23 56.6 +0.3**
comp=Z,43nm,1.0s
KAF Kangasniemi 93.60 332 *ep* **P 21 23 57.0 +0.4**
comp=Z,14nm,0.6s
KAF Kangasniemi 93.60 332 *e*P **P 21 23 57.0 +0.4**
KAF pmax pmax
comp=Z,14nm,0.6s
ISP Isparta 93.67 308 PFAKE 21 24 10.0 +12
ISP LR LR
comp=Z,455nm,20.0s
FIA1 FINESS Array S 93.81 332 *e*P **P 21 23 57.8 +0.3**
FINES FINESS Array B 93.81 332 P **P 21 23 57.1 -0.4**
FINES PKKPbc **PKKPdf 21 41 02.3 0.0**
FINES FINESS Array B 93.81 332 P **P 21 23 57.1 -0.4**
comp=Z,9.5nm,0.6s,baz=54,slow=4.8,SNR=13
FINES PKKPbc **PKKPdf 21 41 02.3 0.0**
comp=Z,0.7nm,0.6s,baz=343,slow=6.0,SNR=3.5
FINES LR LR 22 09 22.5
comp=Z,1µm,20.5s,baz=78,slow=38
MICGM Minsk 93.85 325 *e* P 21 23 53.0 -4.9
KORT Korkueli 93.87 307 *i*P **P 21 23 59.6 +1.0**
KORT Korkueli 93.87 307 *i*P **P 21 23 59.6 +1.0**
MNK Minsk 93.88 325 *e*P P 21 23 53.0 -5.0
VSU Vasula 93.94 329 *i*P **P 21 23 58.7 +0.5**
VSU pmax pmax
comp=Z,57nm,1.4s
KIS Kishinev 94.12 317 *e*P P 21 23 56.0 -3.3
KIS *e*SKS **SKSac 21 34 34.0 +2.1**
KIS *e*S **SKKSac 21 34 58.0 +5.3**
KIS LRM MLR 22 09 50.0
comp=Z,700nm,20.0s
KIS Kishinev 94.12 317 *e*P P 21 23 56.0 -3.3
KIS *e* 21 24 05.0
KIS *e* 21 34 34.0
KIS *e*S **SKKSac 21 34 58.0 +5.3**
KIS MLR MLR
comp=E,300nm,17.0s
KIS MLR MLR
comp=Z,500nm,17.0s
KIS MLR MLR
comp=Z,700nm,20.0s
NACGM Naroch 94.43 325 *e* **P 21 24 01.0 +0.5**
TIRR Tirgusor 94.67 315 *e*P **P 21 24 02.1 +0.2**
TIRR pmax pmax
comp=Z,38nm,1.1s
TIRR Tirgusor 94.67 315 *e*P **P 21 24 02.1 +0.2**
comp=Z,38nm,1.1s
MBAR Mbarara 95.24 269 PFAKE 21 24 20.0 +15
MBAR LR LR
comp=Z,1µm,22.0s
WRAK Wrangell Islan 95.58 33 *e*P **P 21 24 07.0 +1.2**
comp=Z,46nm,1.3s
WRAK LR LR
comp=Z,701nm,22.0s
DIB Dawson Inlet, 96.07 36 T T 23 11 14.9
MLR Muntele Rosu 96.28 316 P **P 21 24 09.2 -0.2**
MLR PP PP 21 27 56.2 -6.7
MLR Muntele Rosu 96.28 316 P **P 21 24 09.2 -0.2**
comp=Z,5.9nm,0.9s,baz=360,slow=3.0,SNR=21
MLR PP PP 21 27 56.2 -6.7
comp=Z,2.9nm,1.2s,baz=47,slow=9.8,SNR=6.1
MLR LR LR 22 17 22.8
comp=Z,158nm,19.3s,baz=323,slow=42
DLBC Dease Lake 96.41 31 LR LR 22 03 07.8
comp=Z,1µm,21.5s,baz=287,slow=33
BUR08 Bucovina Ar. S 96.48 318 *e*P **P 21 24 10.5 +0.2**
SUW Suwalki 96.65 325 *e*P **P 21 24 11.0 +0.3**
SUW pmax pmax
comp=Z,87nm,0.9s
SUW Suwalki 96.65 325 *e*P **P 21 24 11.0 +0.3**
comp=Z,87nm,0.9s
SUW Suwalki 96.65 325 *e*P **P 21 24 09.8 -0.9**
LVV L'vov 96.89 320 *e*P **P 21 24 11.5 -0.4**
LVV MLR MLR
comp=Z,400nm,18.0s
LVV MLR MLR
comp=N,200nm,19.0s
LVV MLR MLR
comp=E,400nm,19.0s
KWP Kalwaria Pacla 97.77 320 *e*P Pdif 21 24 17.7 +1.7
KWP pmax pmax
comp=Z,104nm,1.5s
KWP MLR MLR
comp=Z,992nm,20.0s
KWP Kalwaria Pacla 97.77 320 *e*P Pdif 21 24 17.7 +1.7
comp=Z,104nm,1.5s
KWP LR LR
comp=Z,992nm,20.0s
KWP Kalwaria Pacla 97.77 320 *e*P **P 21 24 15.9 0.0**
LSZ Lusaka 97.79 255 *e*P **P 21 24 16.7 -0.1**
comp=Z,11nm,0.9s
LSZ Lusaka 97.79 255 LR LR 22 03 31.9
comp=Z,923nm,21.8s,baz=132,slow=32
SANT Santorini 97.84 307 PFAKE 21 24 30.0 +13
SANT LR LR
comp=Z,291nm,20.0s
TRPA Tarpa 98.16 319‖ *e*P Pdif 21 24 19.9 +2.2
KOLS Kolonicke sedl 98.19 320 *e*P **P 21 24 18.1 +0.3**
KOLS Kolonicke sedl 98.19 320 PDIF **P 21 24 18.1 +0.3**
UZH Uzhgorod 98.23 319 *de*P **P 21 24 18.3 +0.4**
BEL Belsk 98.52 323 *e*P Pdif 21 24 21.7 +2.5
CRVS Cervenica-Dubn 98.72 320 *e*P **P 21 24 17.9 -2.3**
CRVS Cervenica-Dubn 98.72 320 PDIF **P 21 24 17.9 -2.3**
RKT Rikitea 98.74 113 *e*LR LR 21 56 22.5
comp=Z,1µm,23.8s
STHS Stebnicka Huta 98.75 320 *e*P Pdif 21 24 21.8 +1.5
STHS Stebnicka Huta 98.75 320 PDIF Pdif 21 24 21.8 +1.5
BBB Bella Bella 98.88 37 LR LR 22 03 44.1
comp=Z,323nm,21.8s,baz=296,slow=32
NIE Niedzica 99.34 320 *e*P **Pdif 21 24 24.5 +1.5**
NIE Niedzica 99.34 320 *e*P **Pdif 21 24 24.5 +1.5**
VAY Valandovo 99.35 312 *e*P **Pdif 21 24 20.4 -2.7**
VAY *e*P **Pdif 21 24 20.8 -2.3**
KECS Kecovo 99.44 319 *e*P **Pdif 21 24 24.3 +0.9**
KECS Kecovo 99.44 319 PDIF **Pdif 21 24 24.3 +0.9**
OJC Ojcow 99.49 321 *e*P **Pdif 21 24 24.0 +0.4**
OJC Ojcow 99.49 321 *e*P **Pdif 21 24 24.0 +0.4**
DAG Danmarks Havn 99.78 352 *i*P **Pdif 21 24 24.2 -0.1**
comp=Z,15nm,0.9s
BOSA Boshof 99.92 241 P **Pdif 21 24 26.5 +0.4**
BOSA P **PP 21 28 28.6 -2.7**
BOSA Boshof 99.92 241 P **Pdif 21 24 26.5 +0.4**
comp=Z,1.9nm,0.8s,baz=103,slow=7.3,SNR=3.6
BOSA PP **PP 21 28 28.6 -2.7**
comp=Z,9.7nm,1.2s,baz=103,slow=13,SNR=3.2
BOSA LR LR 22 04 36.4
comp=Z,2µm,22.0s,baz=113,slow=32
PSZ Piszkesteto 99.94 319 *e*P **Pdif 21 24 25.7 0.0**
PSZ pmax pmax
comp=Z,33nm,1.4s
PSZ MLR MLR
comp=Z,1µm,21.0s
PSZ Piszkesteto 99.94 319 *e*Pdif **Pdif 21 24 25.7 0.0**
comp=Z,33nm,1.4s
PSZ LR LR
comp=Z,1µm,21.0s
PSZ Piszkesteto 99.94 319‖ *e*Pdiff **Pdif 21 24 27.3 +1.6**
SKO Skopje 100.07 313 *e*P **Pdif 21 24 23.4 -3.0**
BIA Bitola 100.33 312 *e*P **Pdif 21 24 24.6 -3.0**
VYHS Vyhne 100.50 320 *e*P **Pdif 21 24 28.2 +0.1**
VYHS Vyhne 100.50 320 PDIF **Pdif 21 24 28.2 +0.1**
RES Resolute Bay 100.56 10 P **Pdif 21 24 28.4 +0.6**
RES Resolute Bay 100.56 10 P **Pdif 21 24 28.4 +0.6**
comp=Z,13nm,0.8s,baz=315,slow=4.3,SNR=2.9
OKC Ostrava-Krasne 100.61 321 *e*P **Pdif 21 24 30.5 +1.9**
OKC *e* 21 35 04.4
OKC *e*S **Sdif 21 36 01.7 -1.6**
OKC MLR MLR
comp=Z,500nm,20.6s
OKC Ostrava-Krasne 100.61 321 *e*PDIFF **Pdif 21 24 30.5 +1.9**
OKC *e*pP pP 21 24 38.1 -1.3
OKC *e*SKS **SKSac 21 35 04.4 -0.8**
OKC *e*SDIF **Sdif 21 36 01.7 -1.6**
OKC AMS AMS 22 12 40.0
comp=Z,500nm,20.6s
NB2 NORSAR Subarra 100.82 333 P **Pdif 21 24 28.6 -0.7**
comp=Z,33nm,1.7s,baz=69,slow=4.6
NB2 NORSAR Subarra 100.82 333 P **Pdif 21 24 28.6 -0.7**
baz=69,slow=4.6
NOA NORSAR Array B 100.82 333 P **Pdif 21 24 28.2 -1.1**
NOA PKKPbc **PKKPbc 21 40 42.5 -2.1**
NOA NORSAR Array B 100.82 333 P **Pdif 21 24 28.2 -1.1**
comp=Z,2.2nm,0.7s,baz=69,slow=4.6,SNR=12
NOA PKKPbc **PKKPbc 21 40 42.5 -2.1**
comp=Z,0.6nm,0.7s,baz=69,slow=3.3,SNR=3.3
MORC Moravsky Berou 101.01 321 *e*P **Pdif 21 24 32.0 +1.6**
MORC pmax pmax
comp=Z,10.0nm,1.0s
MORC Moravsky Berou 101.01 321 *e*Pdif **Pdif 21 24 32.0 +1.6**
comp=Z,9.7nm,1.0s
BSD Bornholm Skovb 101.03 327 *i* P **Pdif 21 24 36.2 +5.9**
comp=Z,8.9nm,1.0s
NAO01 NORSAR Array S 101.05 333 *e*Pdif **Pdif 21 24 29.7 -0.6**
comp=Z,4.5nm,0.9s
PKSM Moragy 101.17 317‖ *e*Pdiff **Pdif 21 24 27.8 -3.3**
TIR Tirane 101.35 312 *e*P **Pdif 21 24 31.8 -0.3**
TIR MLR MLR
comp=Z,647nm,22.0s
TIR Tirane 101.35 312 *e*Pdif **Pdif 21 24 31.8 -0.3**
TIR LR LR
comp=Z,647nm,22.0s
KSP Ksiaz 101.50 322 *e*P **Pdif 21 24 33.2 +0.7**
KSP *e* 21 28 42.9
KSP *e* 21 35 08.0
KSP MLR MLR
comp=Z,2µm,21.3s
KSP Ksiaz 101.50 322 *e*P **Pdif 21 24 33.1 +0.6**
DPC Dobruska-Polom 101.61 322 *e*P **Pdif 21 24 34.8 +1.7**
DPC *e* 21 28 45.9
DPC *e* 21 35 08.7
DPC Dobruska-Polom 101.61 322 *e*PDIFF **Pdif 21 24 34.8 +1.7**
DPC *ex* x 21 24 38.9
DPC *e*pP pP 21 24 43.0 -1.0
DPC *e*PP **PP 21 28 45.9 +2.6**
DPC *e*SKS **SKSac 21 35 08.7 -1.4**
DPC *ex* x 21 43 50.5
ZST Bratislava 101.70 320 *e*P **Pdif 21 24 32.6 -0.8**
ZST Bratislava 101.70 320 PDIF **Pdif 21 24 32.6 -0.8**
UPC Upice 101.76 322 *e*P **Pdif 21 24 36.2 +2.5**
UPC Upice 101.76 322 *e*PDIFF **Pdif 21 24 36.2 +2.5**
KONO Kongsberg 102.11 332 PFAKE 21 24 50.0 +15
KONO LR LR
comp=Z,1µm,22.0s
YKA Yellowknife Ar 102.23 24 P **Pdif 21 24 36.2 +0.8**
YKA PKiKP **PKiKP 21 28 57.9 +0.6**
YKA PKKP PKKPdf 21 40 55.9 +8.8
YKA Yellowknife Ar 102.23 24 P **Pdif 21 24 36.2 +0.8**
comp=Z,2.4nm,0.8s,baz=302,slow=5.1,SNR=6.3
YKA PKiKP **PKiKP 21 28 57.9 +0.6**
comp=Z,0.6nm,0.5s,baz=307,slow=1.6,SNR=3.7
YKA PKKP PKKPdf 21 40 55.8 +8.8
comp=Z,1.4nm,0.9s,baz=106,slow=4.8,SNR=3.8
TREC Trest 102.43 321 *e*SKS **SKSac 21 35 12.4 -1.6**
TREC *e*SDIF **Sdif 21 36 18.7 +0.1**
TREC *ex* x 21 44 03.9
TREC AMS AMS 22 16 50.0
comp=Z,600nm,20.9s
SNAA Sanae 102.45 195 *e*Pdiff **Pdif 21 24 37.6 +1.2**
SNAA Sanae 102.45 195 *ep*Pdiff pPdif 21 24 48.8 +1.7
SNAA Sanae 102.45 195 *e*PKKP **PKKPbc 21 40 37.8 -2.4**
SNAA Sanae 102.45 195 PP PP 21 28 45.4 -3.6
SNAA PKiKP **PKiKP 21 28 59.7 +2.1**
SNAA PKKPbc **PKKPbc 21 40 37.8 -2.4**
SNAA Sanae 102.45 195 PP PP 21 28 45.4 -3.5
comp=Z,0.9nm,0.9s,baz=77,slow=7.3,SNR=3.4
SNAA PKiKP **PKiKP 21 28 59.7 +2.1**
comp=Z,3.3nm,1.1s,baz=148,slow=9.0,SNR=4.1
SNAA PKKPbc **PKKPbc 21 40 37.8 -2.4**
comp=Z,0.8nm,0.6s,baz=269,slow=2.8,SNR=18
PVCC Panska Ves 102.64 322 *e*PDIFF **Pdif 21 24 40.2 +2.7**
PVCC *ep*P 21 24 48.0
PVCC *e*PP PP 21 28 43.6 -7.2
NLWA Neilton Lookou 102.75 41 PFAKE 21 24 50.0 +12
NLWA LR LR
comp=Z,1µm,22.0s
PRU Pruhonice 102.81 322 *e*P **Pdif 21 24 40.8 +2.5**
PRU *e* 21 28 48.1
PRU *e* 21 35 14.9
PRU *e*S **Sdif 21 36 20.3 -1.4**
PRU MLR MLR
comp=Z,1µm,20.8s
PRU Pruhonice 102.81 322 *e*PDIFF **Pdif 21 24 40.8 +2.5**
PRU *e*PP **PP 21 28 48.1 -4.1**
PRU *e*SKS **SKSac 21 35 14.9 -0.8**
PRU *e*SDIF **Sdif 21 36 20.3 -1.4**
PRU *ex* x 21 44 00.9
PRU AMS AMS 22 14 40.0
comp=Z,1µm,20.8s
PRA Prague 102.86 322 PDIFF **Pdif 21 24 41.0 +2.5**
PRA PP **PP 21 28 50.0 -2.5**
PRA AMS AMS 22 15 00.0
BRG Berggiesshubel 102.91 323 *e*PDIF **Pdif 21 24 39.1 +0.4**
comp=Z,3.8nm,1.1s
BRG Berggiesshubel 102.91 323 *e*P **Pdif 21 24 42.9 +4.1**
comp=Z,16nm,1.1s
BRG PP **PP 21 28 51.0 -1.9**
BRG SKS SKSac 21 34 58.0 -18
BRG SDIF **SKKSac 21 35 55.0 -1.3**
BRG SS SS 21 43 19.0 -13
BRG
comp=N,583nm,25.4s
BRG
comp=E,830nm,19.7s
BRG
comp=Z,1µm,21.2s
BRG Berggiesshubel 102.91 323 *e*Pdiff **Pdif 21 24 40.1 +1.3**
BRG *e*PP **PP 21 28 52.5 -0.4**
BRG *e*SKSac **SKSac 21 35 13.5 -2.6**
BRG *e*Sdiff **Sdif 21 36 20.5 -2.0**
BRG Berggiesshubel 102.91 323 *e*P **Pdif 21 24 42.9 +4.1**
BRG 21 28 51.0
BRG pmax pmax
comp=Z,16nm,1.1s
BRG MLR MLR
comp=N,583nm,25.4s
BRG MLR MLR
comp=E,830nm,19.7s
BRG MLR MLR
comp=Z,1µm,21.2s
CLL Collm 103.33 324 *e*Pdiff **Pdif 21 24 42.4 +1.8**
CLL *e*PP **PP 21 28 55.9 -0.1**
CLL *e*SKSac **SKSac 21 35 15.6 -2.5**
CLL *e*Sdiff **Sdif 21 36 23.5 -2.5**
CLL Collm 103.33 324 *i*P **Pdif 21 24 43.3 +2.7**
CLL *e* 21 28 56.0
CLL *e* 21 35 13.0
CLL *e* 21 36 00.0
CLL pmax pmax
comp=Z,44nm,2.4s
CLL pmax pmax
comp=Z,12nm,1.2s
CLL MLR MLR
comp=Z,1µm,21.0s
CLL Collm 103.33 324 *i* Pdif **Pdif 21 24 43.3 +2.7**
comp=Z,44nm,2.4s
CLL *i* 21 24 47.2
CLL *i* (pPdif) 21 24 52.8
CLL *i* 21 28 01.7
CLL *e* 21 28 17.0
CLL *e*PP **PP 21 28 56.0 -0.1**
comp=Z,12nm,1.2s
CLL *e* 21 29 21.0
CLL *e*SKSac **SKSac 21 35 13.0 -5.1**
CLL *e*SKKSac **SKKSac 21 36 00.0 +0.7**
CLL *e*Sdif **Sdif 21 36 24.0 -2.0**
CLL *e* 21 37 47.0
CLL *e* 21 38 46.0
CLL *e*PPS PPS 21 38 58.0
CLL *e*SS **SS 21 43 36.0 -1.3**
CLL *e*(SSS) 21 47 54.0
CLL LmV 22 17 00.0
comp=Z,1µm,21.0s
SUR Sutherland 103.36 237 PFAKE 21 24 50.0 +8.6
SUR LR LR
comp=Z,1µm,19.0s
LEGS Legarje 103.47 318 *e*Pdiff **Pdif 21 24 41.8 +0.4**
MOA Molln 103.62 320⇑ *i*Pdiff **Pdif 21 24 40.1 -2.0**
comp=Z,10.0nm,1.1s

BOJS Bojanci 103.64 317 *e*Pdiff **Pdif 21 24 42.4 +0.3**
BOJS *e*PP **PP 21 29 00.1 +1.6**
KHC Kasperske Hory 103.67 321 *e*P **Pdif 21 24 42.6 +0.3**
KHC *e* 21 28 57.4
KHC *e* 21 35 20.0
KHC *e*S **Sdif 21 36 27.0 -2.0**
KHC MLR MLR
comp=Z,700nm,21.2s
KHC Kasperske Hory 103.67 321 *e*PDIFF **Pdif 21 24 42.6 +0.3**
KHC *e*PP 21 24 49.7
KHC *e*PP **PP 21 28 57.4 -1.3**
KHC *e*SKS **SKSac 21 35 20.0 +0.1**
KHC *e*SDIF **Sdif 21 36 27.0 -2.0**
KHC *e*PKKS 21 44 14.5
KHC AMS AMS 22 13 40.0
comp=Z,700nm,21.2s
KHC Kasperske Hory 103.67 321 *e*Pdif **Pdif 21 24 42.1 -0.2**
comp=Z,2.3nm,0.8s
GEC2 GERESS Array S 103.68 321 *e*Pdiff **Pdif 21 24 42.0 -0.4**
GEC2 *e*SKSac **SKSac 21 35 17.8 -2.3**
GEC2 *e*Sdiff **Sdif 21 36 28.7 -0.5**
GEC2 GERESS Array S 103.68 321 *e*P **Pdif 21 24 42.0 -0.4**
GEC2 *e* 21 35 17.8
GEC2 *e*S **Sdif 21 36 28.7 -0.5**
GERES GERESS Array B 103.68 321 Pdif **Pdif 21 24 43.0 +0.6**
GERES PKiKP **PKiKP 21 29 01.8 +1.3**
GERES PKKP PKKPdf 21 40 52.3 +8.0
GERES GERESS Array B 103.68 321 Pdiff **Pdif 21 24 43.0 +0.6**
comp=Z,1.6nm,1.0s,baz=69,slow=4.4,SNR=7.8
GERES PKiKP **PKiKP 21 29 01.8 +1.3**
comp=Z,2.8nm,1.0s,baz=64,slow=3.1,SNR=5.5
GERES PKKP PKKPdf 21 40 52.3 +8.0
comp=Z,0.2nm,0.5s,baz=132,slow=5.6,SNR=3.5
TANN Tannenbergstha 103.95 323 *e*SKSac **SKSac 21 35 16.5 -4.6**
TANN *e*Sdiff **Sdif 21 36 27.8 -3.5**
BSEG Bad Segeberg 103.96 327 *e*Pdiff **Pdif 21 24 43.2 -0.1**
BSEG *e*SKSac **SKSac 21 35 20.3 -0.5**
BSEG *e*Sdiff **Sdif 21 36 30.1 -0.9**
BSEG Bad Segeberg 103.96 327 *e*P **Pdif 21 24 43.2 -0.1**
BSEG *e* 21 35 20.3
BSEG *e*S **Sdif 21 36 30.1 -0.9**
WET Wettzell 104.11 321 *e*Pdiff **Pdif 21 24 43.9 -0.3**
WET *e*SKSac **SKSac 21 35 20.1 -1.7**
WET *e*Sdiff **Sdif 21 36 33.0 +0.4**
WET Wettzell 104.11 321 *e*P **Pdif 21 24 43.9 -0.3**
WET *e* 21 35 20.1
WET *e*S **Sdif 21 36 33.0 +0.4**
TIP Timpagrande 104.14 311 *e*Pdif **Pdif 21 24 44.2 -0.3**
comp=Z,9.4nm,0.9s
TIP LR LR
comp=Z,997nm,22.0s
ROTZ Rotzenmuhle 104.32 322 *e*Pdiff **Pdif 21 24 44.8 -0.3**
ROTZ *e*PP **PP 21 29 04.1 +0.7**
ROTZ *e*SKSac **SKSac 21 35 22.0 -0.7**
ROTZ *e*Sdiff **Sdif 21 36 35.0 +0.7**
MOX Moxa 104.38 323 *e*Pdiff **Pdif 21 24 45.1 -0.2**
MOX *e*PP **PP 21 29 03.6 -0.3**
MOX *e*SKSac **SKSac 21 35 20.7 -2.3**
MOX *e*Sdiff **Sdif 21 36 34.1 -0.7**
MOX *e*L L 22 15 38.2
comp=Z,948nm,20.9s
MOX Moxa 104.38 323 *e*P **Pdif 21 24 45.1 -0.2**
MOX *e* 21 29 03.6
MOX *e* 21 35 20.7
MOX *e*S **Sdif 21 36 34.1 -0.7**
MOX MLR MLR
comp=Z,18μm,20.9s
CADS Cadrg 104.44 318 *e*Pdiff **Pdif 21 24 45.3 -0.4**
RJOB Jochberg 104.60 320 *e*SKSac **SKSac 21 35 19.9 -4.3**
NRDL Niedersach Rie 104.61 325 *e*Pdiff **Pdif 21 24 48.7 +2.6**
NRDL *e*PP **PP 21 29 05.1 -0.2**
CUC Castrocucco 104.65 312 *e*Pdif **Pdif 21 24 48.1 +1.3**
comp=Z,2.2nm,0.8s
CUC LR LR
comp=Z,587nm,21.0s
CLZ Clausthal 104.69 325 *e*Pdiff **Pdif 21 24 49.3 +2.6**
CLZ *e*PP **PP 21 29 06.1 -0.1**
CLZ *e*SKSac **SKSac 21 35 23.1 -1.3**
CLZ *e*Sdiff **Sdif 21 36 35.6 -1.8**
CLZ Clausthal 104.69 325 *e*P **Pdif 21 24 49.3 +2.6**
CLZ *e* 21 29 06.1
CLZ *e* 21 35 23.1
CLZ *e*S **Sdif 21 36 35.6 -1.8**
GRF Grafenberg Arr 104.95 322 *e*Pdiff **Pdif 21 24 47.6 -0.3**
GRF *e*PP **PP 21 29 08.5 +0.4**
GRF *e*SKSac **SKSac 21 35 24.2 -1.4**
GRF *e*Sdiff **Sdif 21 36 39.8 +0.2**
GRF *e*L L 22 14 43.1
comp=Z,910nm,21.5s
GRF Grafenberg Arr 104.95 322 *e*P **Pdif 21 24 47.6 -0.3**
GRF *e* 21 29 08.5
GRF *e* 21 35 24.2
GRF *e*S **Sdif 21 36 39.8 +0.2**
GRF MLR MLR
comp=Z,24μm,21.5s
CEL Celeste 105.00 310 *e*Pdif **Pdif 21 24 48.8 +0.4**
comp=Z,15nm,1.0s
CEL LR LR
comp=Z,627nm,21.0s
UBBA Unterbreizbach 105.28 324 *e*PP PP 21 29 10.3 -0.1
UBBA *e*SKSac **SKSac 21 35 24.9 -1.9**
UBBA *e*Sdiff **Sdif 21 36 41.0 -1.0**
FUR Furstenfeldbru 105.43 321 *e*PP PP 21 29 11.7 0.0
FUR *e*SKSac **SKSac 21 35 24.4 -3.5**
FUR *e*Sdiff **Sdif 21 36 43.5 -0.2**
AQU L'Aquila 105.79 315 PFAKE 21 29 20.0
AQU LR LR
comp=Z,1μm,22.0s
SUMG Summit 105.82 355 *i* P **Pdif 21 24 50.7 -1.1**
HAWA Hanford 105.89 41 PFAKE 21 29 20.0
HAWA LR LR
comp=Z,1μm,22.0s
IBBN Ibbenburen 106.01 326 *e*Pdiff **Pdif 21 24 55.1 +2.6**
IBBN *e*PP **PP 21 29 15.7 -0.1**
IBBN *e*Sdiff **Sdif 21 36 46.2 -2.0**
TNS Taunus Mts 106.42 324 *e*Pdiff **Pdif 21 24 56.7 +2.2**
TNS *e*PP **PP 21 29 19.1 +0.1**
TNS *e*SKSac **SKSac 21 35 31.9 -0.4**
TNS *e*Sdiff **Sdif 21 36 52.4 +0.4**
TNS Taunus Mts 106.42 324 *e*P **Pdif 21 24 56.7 +2.2**
TNS *e* 21 29 19.1
TNS *e* 21 35 31.9
STU Stuttgart 106.51 322 *e*PP PP 21 29 19.7 0.0
STU *e*SKSac **SKSac 21 35 29.9 -2.7**
STU *e*Sdiff **Sdif 21 36 52.5 -0.1**
BUG Bochum--Univer 106.63 325 *e*SKSac **SKSac 21 35 31.8 -1.1**
BUG *e*Sdiff **Sdif 21 36 53.3 -0.1**
WDD Wield Dalam 106.64 308 PFAKE 21 29 20.0
WDD LR LR
comp=Z,425nm,22.0s
NEW Newport 106.78 38 PKiKP **PKiKP 21 29 06.1 -0.1**
NEW PP **PP 21 29 20.9 -0.8**
NEW LR LR
comp=Z,813nm,22.0s
NEW Newport 106.78 38 PKiKP **PKiKP 21 29 06.1 -0.1**
comp=Z,1.7nm,0.6s,baz=274,slow=19,SNR=3.9
NEW PP **PP 21 29 20.9 -0.8**
comp=Z,1.3nm,0.4s,baz=276,slow=18,SNR=6.1
BFO Black Forest 107.21 322 *e*SKSac **SKSac 21 35 32.9 -2.9**
BFO *e*Sdiff **Sdif 21 36 58.7 +0.2**
BFO Black Forest 107.21 322 PFAKE 21 29 20.0
BFO LR LR
comp=Z,1μm,21.0s
TUE Stuetta 107.24 320 PFAKE 21 29 20.0
TUE LR LR
comp=Z,733nm,20.0s
BEKR Beckworth 107.29 48 *e*PP PP 21 29 25.9 -0.1
VLC Villacollemand 107.34 317 PFAKE 21 29 20.0
VLC LR LR
comp=Z,834nm,22.0s
TSUM Tsumeb 107.70 250 PFAKE 21 29 20.0
TSUM LR LR
comp=Z,1μm,21.0s
WVOR Wild Horse Val 107.76 45 PFAKE 21 29 20.0
WVOR LR LR
comp=Z,855nm,21.0s
BMO Blue Mountains 107.87 42 PFAKE 21 29 20.0
BMO LR LR
comp=Z,485nm,19.0s
ECH Echery 107.98 322 PFAKE 21 29 20.0
ECH LR LR
comp=Z,985nm,20.0s

WLF Walferdange 108.01 324 *e*PP PP 21 29 31.1 +0.6
WLF *e*SKSac **SKSac 21 35 38.0 -1.1**
WLF *e*Sdiff **Sdif 21 37 06.1 +1.1**
WLF Walferdange 108.01 324 PFAKE 21 29 20.0
WLF LR LR
comp=Z,910nm,22.0s
BSMT Bassoo Peak 108.39 38 *e*Pdif **Pdif 21 25 04.9 +1.4**
comp=Z,1.8nm,0.7s
BSMT *e*PKP **PKiKP 21 29 09.9 +0.5**
BSMT *e*PP **PP 21 29 31.6 -2.1**
C13A Hot Springs 108.59 38 ⇓PKiKP **PKiKP 21 29 10.0 +0.4**
baz=108
PKM Peak Mountain 109.06 52 ⇓PKiKP **PKiKP 21 29 11.5 +0.4**
baz=109
NVAR Mina Array Bea 109.24 49 Pdif **Pdif 21 25 08.1 +0.6**
NVAR PKiKP **PKiKP 21 29 13.2 +1.9**
NVAR PP PP 21 29 35.6 -4.6
NVAR PKKPbc **PKKPbc 21 40 18.9 +0.3**
NVAR PKKP **PKKPab 21 40 30.6 +0.4**
NVAR Mina Array Bea 109.24 49 Pdiff **Pdif 21 25 08.1 +0.6**
comp=Z,0.8nm,0.8s,baz=282,slow=4.5,SNR=2.9
NVAR PKiKP **PKiKP 21 29 13.2 +1.9**
comp=Z,1.8nm,0.9s,baz=271,slow=2.1,SNR=6.3
NVAR PP PP 21 29 35.6 -4.6
comp=Z,2.9nm,1.0s,baz=267,slow=6.0,SNR=5.4
NVAR PKKPbc **PKKPbc 21 40 18.9 +0.3**
comp=Z,1.4nm,0.8s,baz=155,slow=3.3,SNR=9.1
NVAR PKKP **PKKPab 21 40 30.6 +0.4**
comp=Z,3.3nm,0.8s,baz=133,slow=4.9,SNR=13
LPG La Plagne 109.28 319 *e*P **Pdif 21 25 06.9 -0.7**
comp=Z,10nm,1.1s
LPL La Plagne 109.29 319 *e*P **Pdif 21 25 06.9 -0.7**
MSO Missoula 109.32 39 PFAKE 21 29 20.0
MSO LR LR
comp=Z,457nm,20.0s
BMN Battle Mountai 109.41 46 PFAKE 21 29 20.0
BMN LR LR
comp=Z,1μm,22.0s
D14A Greenough 109.49 39 ⇑PKiKP **PKiKP 21 29 11.1 -0.3**
baz=109
VSL Villasalto 109.56 313 PFAKE 21 29 20.0
VSL LR LR
comp=Z,3.0nm,19.0s
B15A Bradely Ranch, 109.56 37 ⇑PKiKP **PKiKP 21 29 11.5 0.0**
baz=110
H12A Diamond D Ranc 109.61 42 ⇑PKiKP **PKiKP 21 29 12.2 +0.4**
baz=110
I12A Atlanta 109.71 42 ⇑PKiKP **PKiKP 21 29 12.8 +0.8**
baz=110
CHMT Chamberlain Mo 109.72 39 *e*PKiKP **PKiKP 21 29 12.4 +0.4**
C15A Salmond Ranch, 109.76 38 ⇑PKiKP **PKiKP 21 29 12.1 +0.2**
baz=110
ORIF Oris-en-Rattie 110.08 319 *e*P **Pdif 21 25 10.4 -0.5**
BORG Borgarnes 110.14 346 PFAKE 21 29 20.0
BORG LR LR
comp=Z,707nm,20.0s
TPH Tonopah 110.16 49 PFAKE 21 29 20.0
TPH LR LR
comp=Z,588nm,21.0s
ESK Eskdalemuir 110.24 332 PFAKE 21 29 20.0
ESK LR LR
comp=Z,1μm,22.0s
C16A Fuhringer Ranc 110.27 37 ⇑PKiKP **PKiKP 21 29 13.5 +0.6**
baz=110
A17A Triple J Farms 110.39 36 ⇓PKiKP **PKiKP 21 29 13.7 +0.7**
baz=110
FMP Fort Macarthur 110.59 53 ⇓PKiKP **PKiKP 21 29 15.0 +1.3**
baz=111
KEST Kesra 110.73 309 PKiKP **PKiKP 21 29 15.7 +1.7**
KEST PP **PP 21 29 49.9 -1.0**
KEST PKKPbc **PKKPbc 21 40 13.2 -0.3**
KEST Kesra 110.73 309 PKiKP **PKiKP 21 29 15.7 +1.7**
comp=Z,0.9nm,0.6s,baz=101,slow=10,SNR=3.8
KEST PP **PP 21 29 49.9 -1.0**
comp=Z,3.5nm,1.0s,baz=25,slow=2.1,SNR=6.1
KEST PKKPbc **PKKPbc 21 40 13.2 -0.3**
comp=Z,1.1nm,0.9s,baz=272,slow=21,SNR=3.8
ELK Elko 110.73 45 *e*PKiKP **PKiKP 21 29 14.7 +0.6**
SSB Saint Sauveur 110.80 320 PFAKE 21 29 30.0
SSB LR LR
comp=Z,544nm,21.0s
A18A Metzger Ranch, 110.90 36 ⇓PKiKP **PKiKP 21 29 14.8 +0.8**
baz=111
C17A Wharram Farm, 110.94 37 ⇓PKiKP **PKiKP 21 29 14.1 0.0**
baz=111
F16A Kennard Place, 111.21 39 ⇓PKiKP **PKiKP 21 29 15.1 +0.4**
baz=111
BOZ Bozeman (W) 111.27 39 PFAKE 21 29 30.0
BOZ LR LR
comp=Z,720nm,22.0s
EGMT Eagleton 111.37 37 PFAKE 21 29 30.0
EGMT LR LR
comp=Z,674nm,22.0s
MURC Murrieta 111.50 53 ⇓PKiKP **PKiKP 21 29 15.7 +0.2**
baz=112
F17A Fitzpatrick Pl 111.77 39 ⇓PKiKP **PKiKP 21 29 16.8 +1.0**
baz=112
H16A Russell Place, 111.91 40 ⇓PKiKP **PKiKP 21 29 16.7 +0.5**
baz=112
FFC Flin Flon 111.93 28*c i*PKiKP **PKiKP 21 29 16.8 +1.2**
FFC Flin Flon 111.93 28 PFAKE 21 29 30.0
FFC LR LR
comp=Z,762nm,21.0s
SFJD Kangerlussuaq 112.05 359 PFAKE 21 29 30.0
SFJD LR LR
comp=Z,490nm,20.0s
PFO Pinyon Flat Ob 112.09 53 PKiKP **PKiKP 21 29 19.0 +2.3**
PFO PP **PP 21 29 58.2 -2.6**
PFO LR LR
comp=Z,1μm,21.0s
PFO Pinyon Flat Ob 112.09 53 PKiKP **PKiKP 21 29 19.0 +2.3**
comp=Z,1.9nm,0.6s,baz=247,slow=2.4,SNR=4.3
PFO PP **PP 21 29 58.2 -2.6**
comp=Z,1.6nm,0.5s,baz=226,slow=8.3,SNR=4.6
PFO Pinyon Flat Ob 112.09 53 ⇑PKiKP **PKiKP 21 29 16.9 +0.2**
baz=112
B20A Solberg Farm, 112.19 36 ⇑PKiKP **PKiKP 21 29 17.0 +0.6**
baz=112
MONP Monument Peak 112.33 54 ⇓PKiKP **PKiKP 21 29 17.7 +0.3**
baz=112
BELC Belle Mtn. Jos 112.34 52 ⇑PKiKP **PKiKP 21 29 17.8 +0.6**
baz=112
F18A Big Timber 112.36 39 ⇓PKiKP **PKiKP 21 29 17.8 +0.9**
baz=112
GMRC Granite Mounta 112.37 52 ⇑PKiKP **PKiKP 21 29 18.2 +1.0**
baz=112
MSKU Masuku 112.38 269 PFAKE 21 29 30.0
MSKU LR LR
comp=Z,2.0nm,22.0s
LKWY Lake 112.52 40 PFAKE 21 29 30.0
LKWY LR LR
comp=Z,1μm,22.0s
DUG Dugway 112.65 45 PFAKE 21 29 30.0
DUG LR LR
comp=Z,723nm,21.0s
DUG Dugway 112.65 45 ⇓PKiKP **PKiKP 21 29 18.5 +0.8**
baz=113
DVTC Desert V Tower 112.65 54 ⇑PKiKP **PKiKP 21 29 18.5 +0.8**
baz=113
LOHW Long Hollow 112.79 41 *e*PKiKP **PKiKP 21 29 18.0 +0.1**
SWSC Sam W. Stewart 112.82 53 ⇓PKiKP **PKiKP 21 29 18.7 +0.8**
baz=113
BC3 Big Chuckawall 112.88 53 ⇑PKiKP **PKiKP 21 29 19.1 +0.9**
baz=113
HWUT Hardware Ranch 112.98 43 PFAKE 21 29 30.0
HWUT LR LR
comp=Z,658nm,22.0s
RLMT Red Lodge 113.00 39 PFAKE 21 29 30.0
RLMT LR LR
comp=Z,916nm,21.0s
C21A Desert Coulee 113.03 36 ⇓PKiKP **PKiKP 21 29 18.8 +0.8**
baz=113
W13A Hualapai Mount 113.65 51 ⇑PKiKP **PKiKP 21 29 20.0 +0.2**
baz=114
MVU Marysvale 113.72 47 PFAKE 21 29 30.0
MVU LR LR
comp=Z,922nm,22.0s
MSU Marysvale 113.74 47 *e*PKiKP **PKiKP 21 29 20.8 +0.9**
C22A Vida 113.78 35 ⇑PKiKP **PKiKP 21 29 20.1 +0.7**
baz=114
BW06 Boulder Array 113.85 42 PFAKE 21 29 30.0
BW06 LR LR
comp=Z,400nm,19.0s
PDAR Pinedale Array 113.85 42 PKiKP **PKiKP 21 29 20.8 +0.9**
PDAR PP **PP 21 30 12.2 -0.8**
PDAR PKKPbc **PKKPbc 21 40 03.0 -0.5**
PDAR PKKPab **PKKPab 21 40 10.2 +0.4**
PDAR Pinedale Array 113.85 42 PKiKP **PKiKP 21 29 20.8 +0.9**
comp=Z,1.0nm,0.7s,baz=206,slow=1.6,SNR=5.7
PDAR PP **PP 21 30 12.2 -0.8**
comp=Z,1.0nm,0.8s,baz=305,slow=5.2,SNR=5.7
PDAR PKKPbc **PKKPbc 21 40 03.0 -0.5**
comp=Z,4.5nm,0.9s,baz=118,slow=5.5,SNR=19
PDAR PKKPab **PKKPab 21 40 10.2 +0.4**
comp=Z,6.9nm,0.8s,baz=134,slow=6.4,SNR=17
D22A Cohagen 113.91 36 ⇑PKiKP **PKiKP 21 29 20.6 +0.9**
baz=114
J19A Crowheart 113.96 41 ⇓PKiKP **PKiKP 21 29 20.1 0.0**
baz=114
C23A Lambert 114.16 35 ⇑PKiKP **PKiKP 21 29 21.1 +0.9**
baz=114
I20A Worland 114.25 40 ⇓PKiKP PKPdf 21 29 21.1 +0.6
baz=114
L19A Farson 114.27 42 ⇑PKiKP PKPdf 21 29 20.9 +0.2
baz=114
K19A Absolon Red Bu 114.29 41 ⇓PKiKP PKPdf 21 29 21.5 +0.7
baz=114
DGMT Dagmar 114.36 34 PFAKE 21 29 30.0 +9.5
DGMT LR LR
comp=Z,657nm,22.0s
E22A Miles City 114.41 37 ⇑PKiKP PKPdf 21 29 21.6 +0.9
baz=114
U15A North Rim 114.41 49 ⇓PKiKP PKPdf 21 29 21.9 +0.6
baz=114
SRU San Rafael 114.70 46 *e*PKiKP PKPdf 21 29 22.3 +0.6
SRU San Rafael 114.70 46 *e*PKiKP PKPdf 21 29 22.3 +0.6
E23A Ismay 114.76 36 ⇑PKiKP PKPdf 21 29 22.6 +1.2
baz=115
I21A Big Trails, Te 114.85 40 ⇑PKiKP **PKiKP 21 29 20.9 -0.8**
baz=115
E24A Baker 115.32 36 ⇓PKiKP **PKPdf 21 29 23.9 +1.5**
baz=115
WUAZ Wupatki 115.44 50 PFAKE 21 29 30.0 +6.9
WUAZ LR LR
comp=Z,663nm,19.0s
214A Organ Pipe Nat 115.52 54 ⇓PKiKP **PKPdf 21 29 23.3 0.0**
baz=116
N20A Spence Gulch, 115.56 43 ⇑PKiKP **PKPdf 21 29 23.7 +0.3**
baz=116
J22A Midwest 115.56 40 ⇑PKiKP **PKiKP 21 29 23.1 0.0**
baz=116
L21A Rawlins 115.66 42 ⇑PKiKP **PKPdf 21 29 23.8 +0.4**
baz=116
X16A Lo Mia Camp, P 115.78 51 ⇓PKiKP **PKiKP 21 29 24.4 +0.5**
baz=116
M21A Separation Pea 115.82 42 ⇑PKiKP **PKPdf 21 29 24.4 +0.6**
baz=116
O20A White River Ci 115.88 44 ⇑PKiKP **PKPdf 21 29 24.8 +0.9**
baz=116
PMSA Palmer Station 116.01 175 PFAKE 21 29 30.0 +6.9
PMSA LR LR
comp=Z,2μm,21.0s
P20A De Beque 116.05 44 ⇑PKiKP **PKPdf 21 29 25.1 +0.9**
baz=116
N21A Black Mountain 116.10 43 ⇓PKiKP **PKiKP 21 29 25.2 +0.8**
baz=116
H24A Dirks Ranch, A 116.11 38 ⇑PKiKP **PKPdf 21 29 24.8 +0.7**
baz=116
R20A Redvale 116.61 46 ⇓PKiKP **PKPdf 21 29 25.9 +0.5**
baz=116
RSSD Black Hills 116.75 38 *e*PKiKP **PKPdf 21 29 24.8 -0.7**
RSSD Black Hills 116.75 38 *e*PKPdf **PKPdf 21 29 24.8 -0.7**
S20A Disappointment 116.77 46 ⇑PKiKP **PKiKP 21 29 27.2 +1.4**
baz=117
N22A Wattenberg Ran 116.80 42 ⇓PKiKP **PKiKP 21 29 26.8 +1.0**
baz=117
MVCO Mesa Verde 116.93 47 PFAKE 21 29 40.0 +14
MVCO LR LR
comp=Z,1μm,22.0s
MVCO Mesa Verde 116.93 47 ⇑PKiKP **PKiKP 21 29 28.0 +2.0**
baz=117
TUC Tucson 117.03 53 *e*PKiKP **PKPdf 21 29 26.5 +0.3**
TUC MLR MLR
comp=Z,1μm,21.0s
TUC Tucson 117.03 53 *e*PKPdf **PKPdf 21 29 26.5 +0.3**
TUC LR LR
comp=Z,1μm,21.0s
O22A Kremmling 117.03 43 ⇓PKiKP **PKiKP 21 29 27.3 +1.1**
baz=117
U20A Newcomb 117.25 48 ⇑PKiKP **PKiKP 21 29 29.0 +2.4**
baz=117
S21A Coal Bank Pass 117.25 46 ⇑PKiKP **PKiKP 21 29 28.9 +2.1**
baz=117
TAM Tamanrasset 117.42 296 *e*PKiKP **PKPdf 21 29 28.0 +0.7**
TAM MLR MLR
comp=Z,709nm,22.0s
TAM Tamanrasset 117.42 296 *e*PKPdf **PKPdf 21 29 28.0 +0.7**
TAM LR LR
comp=Z,709nm,22.0s
O23A Lake Granby, G 117.44 43 ⇑PKiKP **PKiKP 21 29 29.0 +1.9**
baz=117
ULM Lac du Bonnet 117.65 29 PKP **PKPdf 21 29 26.3 -0.4**
ULM PKKPbc **PKKPbc 21 39 52.0 +1.7**
ULM Lac du Bonnet 117.65 29 PKP **PKPdf 21 29 26.3 -0.4**
comp=Z,6.9nm,0.7s,baz=335,slow=4.2,SNR=5.9
ULM PKKPbc **PKKPbc 21 39 52.0 +1.7**
comp=Z,6.4nm,0.8s,baz=157,slow=4.3,SNR=4.7
T21A Navajo Lake 117.72 47 ⇓PKiKP **PKiKP 21 29 29.9 +2.3**
baz=118
R22A Saguache, Gunn 117.75 45 ⇓PKiKP **PKiKP 21 29 29.6 +1.9**
baz=118
W20A Ramah 117.76 49 ⇓PKiKP **PKiKP 21 29 29.4 +1.6**
baz=118
L25A Engebretsen Ra 117.79 40 ⇓PKiKP **PKiKP 21 29 28.4 +0.9**
baz=118
ISCO Idaho Springs 117.83 43 *e*PKiKP **PKPdf 21 29 27.7 -0.1**
ISCO MLR MLR
comp=Z,693nm,20.0s
ISCO Idaho Springs 117.83 43 *e*PKPdf **PKPdf 21 29 27.7 -0.1**
ISCO LR LR
comp=Z,693nm,20.0s
ISCO Idaho Springs 117.83 43 ⇑PKiKP **PKiKP 21 29 29.2 +1.4**
baz=118
U21A Nageezi 117.86 47 ⇑PKiKP **PKiKP 21 29 29.7 +1.8**
baz=118
P23A Jefferson 117.88 44 ⇓PKiKP **PKiKP 21 29 29.8 +1.8**
baz=118
S22A 4UR Ranch, Cre 117.91 46 ⇑PKiKP **PKiKP 21 29 29.8 +1.7**
baz=118
X20A Quemado 117.99 50 ⇑PKiKP **PKiKP 21 29 30.3 +2.1**
baz=118
V21A Milan 118.13 48 ⇓PKiKP **PKiKP 21 29 30.5 +2.0**
baz=118
T22A Edith 118.17 46 ⇓PKiKP **PKiKP 21 29 30.5 +2.0**
baz=118
Y20A Horse Springs, 118.33 50 ⇑PKiKP **PKiKP 21 29 31.0 +2.1**
baz=118
R23A Moffat 118.42 45 ⇓PKiKP **PKiKP 21 29 30.5 +1.5**
baz=118
Z20A Nine Sixteen R 118.46 51 ⇓PKiKP **PKiKP 21 29 30.9 +1.8**
baz=118
Q24A Divide 118.54 44 ⇑PKiKP **PKiKP 21 29 31.1 +1.8**
baz=118
319A Douglas 118.55 53 ⇓PKiKP **PKiKP 21 29 30.9 +1.7**
baz=118
X21A Alamocita Cree 118.57 49 ⇑PKiKP **PKiKP 21 29 30.9 +1.6**
baz=118
V22A San Miguel Ran 118.63 48 ⇓PKiKP **PKiKP 21 29 31.5 +2.1**
baz=119
120A U Bar Ranch, L 118.64 52 ⇓PKiKP **PKiKP 21 29 31.2 +1.8**
baz=119
O25A Wiggins 118.70 42 ⇓PKiKP **PKiKP 21 29 31.9 +2.6**
baz=119
Y21A Point of Rocks 118.82 50 ⇓PKiKP **PKiKP 21 29 31.7 +1.8**
baz=119
J28A Allard Ranch, 118.84 38 ⇑PKiKP **PKiKP 21 29 31.1 +1.8**
baz=119
SDCO Great Sand Dun 118.85 45 *e*PKPdf **PKPdf 21 29 30.0 +0.2**
SDCO LR LR
comp=Z,851nm,22.0s
R24A Sanders Place, 118.91 44 ⇑PKiKP **PKiKP 21 29 31.1 +1.2**
baz=119
ESDC Sonseca Array 118.93 317 PKP **PKPdf 21 29 30.6 +1.1**
ESDC PP **PP 21 30 51.2 +2.8**
ESDC PKKPbc **PKKPbc 21 39 45.4 0.0**
ESDC Sonseca Array 118.93 317 PKP **PKPdf 21 29 30.6 +1.1**
comp=Z,1.2nm,0.7s,baz=20,slow=1.9,SNR=9.8
ESDC PP **PP 21 30 51.2 +2.8**
comp=Z,7.7nm,1.1s,baz=57,slow=7.7,SNR=9.3
ESDC PKKPbc **PKKPbc 21 39 45.4 0.0**
comp=Z,0.1nm,0.3s,baz=268,slow=4.3,SNR=5.4
AGMN Agassiz Nation 118.93 31 *e*PKPdf **PKPdf 21 29 29.4 +0.1**
AGMN LR LR

comp=Z,807nm,22.0s
P25A Willow Gulch B 118.95 43 ⇓PKiKP **PKiKP 21 29 31.3 +1.4**
baz=119
220A Playas Peak, P 118.96 52 ⇑PKiKP **PKiKP 21 29 31.7 +1.6**
baz=119
Z21A St. Cloud Mine 119.10 51 ⇓PKiKP **PKiKP 21 29 31.9 +1.6**
baz=119
S24A Houchin Ranch, 119.10 45 ⇓PKiKP **PKiKP 21 29 32.0 +1.7**
baz=119
X22A Bernardo 119.13 49 ⇑PKiKP **PKiKP 21 29 32.6 +2.3**
baz=119
320A Kipp Ranch, An 119.17 53 ⇑PKiKP **PKiKP 21 29 32.3 +1.9**
baz=119
Q25A Bedland, Calha 119.19 43 ⇑PKiKP **PKiKP 21 29 31.8 +1.4**
baz=119
V23A Ortiz Mt. (NFS 119.23 47 ⇓PKiKP **PKiKP 21 29 32.2 +1.6**
baz=119
PAB San Pablo 119.25 317 *e*PKiKP **PKPdf 21 29 30.6 +0.3**
PAB MLR MLR
comp=Z,403nm,20.0s
PAB San Pablo 119.25 317 *e*PKPdf **PKPdf 21 29 30.6 +0.3**
PAB LR LR
comp=Z,403nm,20.0s
121A Cookes Peak, D 119.31 51 ⇑PKiKP **PKiKP 21 29 32.8 +2.1**
baz=119
ANMO Albuquerque 119.36 48 *e*PKPdf **PKPdf 21 29 30.7 0.0**
ANMO PKKPbc **PKKPbc 21 39 44.5 +0.7**
ANMO LR LR
comp=Z,537nm,20.0s
ANMO Albuquerque 119.36 48 PKP **PKPdf 21 29 30.9 +0.2**
comp=Z,4.5nm,0.8s,baz=214,slow=2.6,SNR=11
ANMO PKKPbc **PKKPbc 21 39 44.5 +0.7**
comp=Z,0.7nm,0.4s,baz=140,slow=2.9,SNR=4.2
Y22A Socorro 119.39 50 ⇓PKiKP **PKiKP 21 29 32.8 +1.9**
baz=119
P26A Davis Ranch, A 119.49 42 ⇓PKiKP **PKiKP 21 29 32.0 +1.1**
baz=119
W23A Werner Place, 119.50 48 ⇑PKiKP **PKPdf 21 29 31.8 +0.8**
baz=119
R25A Fountain Ranch 119.52 44 ⇓PKiKP **PKiKP 21 29 32.1 +1.1**
baz=119
BNM Barren Site 119.56 49 *e*PKPdf **PKPdf 21 29 32.5 +1.2**
S25A Robets Cordova 119.64 45 ⇑PKiKP **PKiKP 21 29 32.3 +1.0**
baz=120
OGNE Ogallala 119.66 40 PFAKE 21 29 40.0 +9.0
OGNE LR LR
comp=Z,668nm,20.0s
PBRG Braganca 119.66 321 *e*PKPdf **PKPdf 21 29 32.2 +1.3**
PBRG Braganca 119.66 321 *e*P **SP 21 40 33.5 -4.9**
Z22A Elephant Butte 119.67 50 ⇑PKiKP **PKiKP 21 29 33.0 +1.6**
baz=120
X23A Hourglass Bar 119.72 49 ⇑PKiKP **PKiKP 21 29 33.2 +1.7**
baz=120
122A Conniff Cattle 119.86 51 ⇑PKiKP **PKiKP 21 29 33.8 +2.0**
baz=120
T25A Trinidad 119.90 45 ⇓PKiKP **PKiKP 21 29 33.6 +1.7**
baz=120
V24A Rampart Ranch, 119.91 47 ⇓PKiKP **PKiKP 21 29 33.6 +1.7**
baz=120
R26A Arlington 120.03 44 ⇑PKiKP **PKiKP 21 29 33.3 +1.4**
baz=120
W24A Lazy 6 Ranch, 120.03 48 ⇑PKiKP **PKiKP 21 29 33.7 +1.6**
baz=120
Y23A Lovelace Mesa, 120.09 49 ⇓PKiKP **PKiKP 21 29 33.3 +1.1**
baz=120
MVO Moncorvo 120.19 320 *e*PKPdf **PKPdf 21 29 34.0 +2.0**
MVO Moncorvo 120.19 320 *e*PP PP 21 30 59.7 +2.7
MVO *e*P PKKPdf 21 40 30.3 +17
MVO Moncorvo 120.19 320 *e*LR LR 22 19 29.0
comp=Z,524nm,20.0s
Z23A Rita Site, Whi 120.22 50 ⇑PKiKP **PKiKP 21 29 34.3 +1.9**
baz=120
U25A Circle Dot Ran 120.24 46 ⇓PKiKP **PKiKP 21 29 33.8 +1.4**
baz=120
S26A Kim 120.33 44 ⇑PKiKP **PKiKP 21 29 33.9 +1.3**
baz=120
V25A Rancho No Teng 120.34 47 ⇓PKiKP **PKiKP 21 29 34.2 +1.5**
baz=120
T26A Comanche Natio 120.46 45 ⇓PKiKP **PKiKP 21 29 34.5 +1.6**
baz=120
R27A Eads 120.48 43 ⇑PKiKP **PKiKP 21 29 33.9 +1.1**
baz=120
PCAB Cabril 120.52 321 *e*PKPdf **PKPdf 21 29 34.4 +1.8**
PGAV Gavieira, Arco 120.53 322 *e*PKPdf **PKPdf 21 29 34.2 +1.5**
PGAV Gavieira, Arco 120.53 322 *e*PP PP 21 31 03.5 +4.2
PGAV *e*P SP 21 40 36.2 -10
PGAV Gavieira, Arco 120.53 322 *e*LR LR 22 19 25.4
comp=Z,506nm,22.0s
Y24A Capitan 120.56 49 ⇓PKiKP **PKiKP 21 29 34.7 +1.5**
baz=120
POLO Lamas de Olo 120.56 321 *e*PKPdf **PKPdf 21 29 34.5 +1.8**
POLO Lamas de Olo 120.56 321 *e*PP PP 21 31 13.3 +14
POLO *e*P **SP 21 40 43.1 -3.3**
PVRL Vila Real 120.56 321 *e*PKPdf **PKPdf 21 29 34.4 +1.7**
S27A Las Animas 120.70 44 ⇑PKiKP **PKiKP 21 29 34.5 +1.2**
baz=121
U26A Atchley Ranch, 120.72 46 ⇑PKiKP **PKiKP 21 29 34.4 +1.0**
baz=121
W25A X Bar L Ranch, 120.73 47 ⇓PKiKP **PKiKP 21 29 34.4 +1.0**
baz=121
Z24A Sheeppen Canyo 120.86 50 ⇑PKiKP **PKiKP 21 29 34.6 +0.8**
baz=121
MTE Manteigas 120.92 320 *e*PKPdf **PKPdf 21 29 35.2 +1.8**
MTE Manteigas 120.92 320 *e*PP PP 21 31 08.0 +5.9
MTE *e*P SP 21 40 38.5 -11
MTE *e*SS SS 21 47 40.6 +9.1
MTE Manteigas 120.92 320 *e*LR LR 22 19 48.1
comp=Z,587nm,22.0s
MTE Manteigas 120.92 320 *e*PKPdf **PKPdf 21 29 33.9 +0.5**
MTE LR LR
comp=Z,757nm,22.0s
V26A Tequesquite Ra 120.96 46 ⇑PKiKP **PKiKP 21 29 34.6 +0.8**
baz=121
PVIS Viseu 120.98 320 *e*PKPdf **PKPdf 21 29 35.2 +1.7**
124A Stringfield Ra 121.05 50 ⇓PKiKP **PKiKP 21 29 35.4 +1.2**
baz=121
Y25A Mesa, Roswell 121.12 49 ⇑PKiKP **PKPdf 21 29 34.9 +0.8**
baz=121
T27A Campo 121.13 45 ⇑PKiKP **PKiKP 21 29 35.3 +1.2**
baz=121
R28A Tribune 121.13 43 ⇑PKiKP **PKiKP 21 29 35.0 +1.0**
baz=121
PCBR Castelo Branco 121.18 319 *e*PKPdf **PKPdf 21 29 35.6 +1.8**
W26A Owens Ranch, T 121.29 47 ⇑PKiKP **PKiKP 21 29 36.1 +1.6**
baz=121
EYMN Ely 121.33 29 *e*PKPdf **PKPdf 21 29 34.2 +0.3**
EYMN LR LR
comp=Z,632nm,21.0s
PMRV Marv??o 121.34 319 *e*PKPdf **PKPdf 21 29 36.0 +1.8**
PMRV Marv??o 121.34 319 *e*P **SP 21 40 48.0 -5.4**
PMRV Marv??o 121.34 319 *e*LR LR 22 20 21.1
comp=Z,441nm,20.0s
U27A Thompson Grove 121.36 45 ⇑PKiKP **PKiKP 21 29 35.6 +1.0**
baz=121
Z25A Roswell 121.37 49 ⇓PKiKP **PKiKP 21 29 36.0 +1.3**
baz=121
ECSD EROS Data Cent 121.40 35 *e*PKPdf **PKPdf 21 29 34.6 +0.5**
ECSD LR LR
comp=Z,692nm,21.0s
X26A CR and CF Fran 121.50 48 ⇑PKiKP **PKiKP 21 29 35.9 +0.9**
baz=121
MNTX Cornudas Mount 121.51 51 *e*PKPdf **PKPdf 21 29 35.5 +0.8**
MNTX *e*PP **PP 21 31 05.8 -0.7**
MNTX LR LR
comp=Z,574nm,19.0s
T28A Walsh 121.52 44 ⇑PKiKP **PKiKP 21 29 36.3 +1.4**
baz=121
324A Moseley Ranch, 121.53 52 ⇓PKiKP **PKiKP 21 29 36.3 +1.2**
baz=122
125A Gardner Draw, 121.68 50 ⇓PKiKP **PKiKP 21 29 36.9 +1.5**
baz=122
PBAR Barrancos 121.75 317 *e*PKPdf **PKPdf 21 29 36.6 +1.6**
PBAR Barrancos 121.75 317 *e*P **SP 21 40 49.7 -7.5**
PBAR *e*SS **SS 21 47 43.4 +1.3**
PESTR Estremoz 121.77 318 *e*PKPdf **PKPdf 21 29 36.1 +1.1**
PESTR Estremoz 121.77 318 *e*P **SP 21 40 50.7 -6.5**
PESTR *e*SS **SS 21 47 43.8 +1.6**
Y26A Elida 121.77 48 ⇓PKiKP **PKiKP 21 29 36.7 +1.2**
baz=122
225A Deer Hill, Car 121.78 51 ⇑PKiKP **PKiKP 21 29 36.8 +1.2**
baz=122
U28A Mallet 121.81 45 ⇑PKiKP **PKiKP 21 29 36.8 +1.4**
baz=122
W27A Bowe Ranch, En 121.82 47 ⇓PKiKP **PKiKP 21 29 36.6 +1.1**
baz=122
BGNE Belgrade 121.86 38 ⇓PKiKP **PKiKP 21 29 36.0 +0.7**
baz=122
Z26A Caprock 121.94 49 ⇓PKiKP **PKPdf 21 29 36.2 +0.6**
baz=122
X27A F and S Farms, 121.98 47 ⇓PKiKP **PKiKP 21 29 36.7 +0.8**
baz=122
PMTG Montargil 122.08 319 *e*PKPdf **PKPdf 21 29 36.7 +1.1**
PMTG Montargil 122.08 319 *e*P **SP 21 40 55.6 -4.4**
126A Clayton Basin, 122.17 50 ⇑PKiKP **PKiKP 21 29 37.1 +0.8**
baz=122
425A Indio Mountain 122.19 52 ⇓PKiKP **PKiKP 21 29 37.3 +0.9**
baz=122
R30A Dighton 122.20 42 ⇑PKiKP **PKiKP 21 29 36.8 +0.7**
baz=122
EVO Evora 122.22 318 *e*PKiKP **PKPdf 21 29 36.1 +0.2**
comp=Z,40nm,1.0s
Y27A Causey 122.28 48 ⇑PKiKP **PKiKP 21 29 37.5 +1.0**
baz=122
226B Tecolote Peak, 122.30 50 ⇓PKiKP **PKPdf 21 29 36.9 +0.6**
baz=122
PBEJ Beja 122.39 318 *e*PKPdf **PKPdf 21 29 38.2 +2.0**
Q31A Ellis 122.40 41 ⇓PKiKP **PKiKP 21 29 37.4 +1.0**
baz=122
Z27A Tatum 122.49 49 ⇓PKiKP **PKiKP 21 29 37.8 +0.9**
baz=122
MSTX Muleshoe 122.53 48 ⇓PKiKP **PKiKP 21 29 37.7 +0.8**
baz=122
V29A Stinnett 122.55 45 ⇓PKiKP **PKiKP 21 29 38.1 +1.2**
baz=122
PVAQ Vaqueiros 122.61 317 *e*PKPdf **PKPdf 21 29 38.8 +2.2**
PVAQ Vaqueiros 122.61 317 *e*PP PP 21 31 25.2 +12
PVAQ *e*P **SP 21 41 01.8 -3.0**
PVAQ Vaqueiros 122.61 317 *e*LR LR 22 18 37.8
comp=Z,383nm,20.0s
T30A Plains 122.66 44 ⇓PKiKP **PKiKP 21 29 38.5 +1.4**
baz=123
127A Arkansas Junct 122.66 49 ⇑PKiKP **PKiKP 21 29 38.5 +1.2**
baz=123
R31A Burdett 122.69 42 ⇑PKiKP **PKPdf 21 29 37.4 +0.5**
baz=123
X28A Dimmitt 122.70 47 ⇓PKiKP **PKiKP 21 29 38.2 +0.9**
baz=123
PCVE Castro Verde 122.71 317 *e*PKPdf **PKPdf 21 29 39.0 +2.2**
PCVE Castro Verde 122.71 317 *e*P SP 21 40 55.0 -11
PCVE *e*SS **SS 21 47 58.1 +3.8**
326A Caldwell Ranch 122.76 51 ⇓PKiKP **PKPdf 21 29 38.1 +0.8**
baz=123
PNCL Nicolau / Gran 122.79 318 *e*PKPdf **PKPdf 21 29 38.5 +1.5**
PNCL Nicolau / Gran 122.79 318 *e*PP PP 21 31 21.0 +6.3
PNCL *e*P **SP 21 41 00.1 -6.2**
PNCL *e*SS SS 21 48 05.5 +10
PMAFR Mafra 122.83 319 *e*P SP 21 40 57.4 -9.3
U30A WK&E Inc. Balk 122.83 44 ⇓PKiKP **PKiKP 21 29 38.8 +1.4**
baz=123
PBDV Barranco-do-Ve 122.84 317 *e*PKPdf **PKPdf 21 29 40.6 +3.5**
PBDV Barranco-do-Ve 122.84 317 *e*PP PP 21 31 20.1 +5.0
PBDV *e*P **SP 21 41 01.0 -5.9**
AMTX Amarillo 122.91 46 *e*PKPdf **PKPdf 21 29 37.5 0.0**
AMTX LR LR
comp=Z,665nm,22.0s
TOA0 Torodi Ar. Sit 122.98 286 *e*PKPdf **PKPdf 21 29 38.2 +0.2**
TORD Torodi Ar. Bea 122.98 286 PKP **PKPdf 21 29 38.3 +0.4**
TORD PP **PP 21 31 17.5 +0.3**
TORD PKKPbc **PKKPab 21 39 30.9 +1.1**
TORD Torodi Ar. Bea 122.98 286 PKP **PKPdf 21 29 38.3 +0.4**
comp=Z,29nm,0.8s,baz=59,slow=1.8,SNR=90
TORD PP **PP 21 31 17.5 +0.3**
comp=Z,4.4nm,1.0s,baz=60,slow=5.1,SNR=2.3
TORD PKKPbc **PKKPab 21 39 30.9 +1.1**
comp=Z,10nm,0.7s,baz=272,slow=2.8,SNR=64
426A McDonald Obser 122.99 52 ⇓PKiKP **PKiKP 21 29 39.1 +1.0**
baz=123
X29A Tulia 123.10 47 ⇑PKiKP **PKiKP 21 29 39.3 +1.3**
baz=123
526A Mary Lane Ranc 123.18 53 ⇑PKiKP **PKiKP 21 29 39.5 +1.1**
baz=123
PTEO Sao Teotonio 123.22 318 *e*PKPdf **PKPdf 21 29 41.4 +3.6**
T31A Randall Ranch, 123.22 43 ⇓PKiKP **PKiKP 21 29 39.0 +0.9**
baz=123
MORF Marmelete 123.29 317 *e*PKPdf **PKPdf 21 29 40.2 +2.2**
MORF Marmelete 123.29 317 *e*P **SP 21 41 06.9 -4.0**
MORF Marmelete 123.29 317 *e*PKiKP **PKPdf 21 29 38.3 +0.3**
MORF *e*SS SS 21 48 03.0 +1.1
SCHQ Schefferville 123.31 9 *e*PKPdf **PKPdf 21 29 38.3 +0.8**
SCHQ *e*PP **PP 21 31 17.6 +0.3**
SCHQ Schefferville 123.31 9 PKP **PKPdf 21 29 37.6 +0.1**
comp=Z,8.1nm,0.6s,baz=343,slow=2.6,SNR=21
128A Castelberry Fa 123.35 49 ⇓PKiKP **PKiKP 21 29 39.5 +1.0**
baz=123
626A Big Bend Ranch 123.35 53 ⇓PKiKP **PKiKP 21 29 39.7 +1.0**
baz=123
Y29A Porterfield Fa 123.39 47 ⇓PKiKP **PKiKP 21 29 39.5 +0.9**
baz=123
U31A Nine Bar Ranch 123.47 44 ⇓PKiKP **PKiKP 21 29 39.8 +1.1**
baz=123
228A UT Block 9, Go 123.49 50 ⇑PKiKP **PKiKP 21 29 39.8 +0.9**
baz=123
PFVI Vila Bisbo 123.50 317 *e*PKPdf **PKPdf 21 29 39.4 +1.0**
PFVI Vila Bisbo 123.50 317 *e*P **SP 21 41 05.0 -7.7**
527A Woodward Ranch 123.53 52 ⇑PKiKP **PKiKP 21 29 39.9 +0.8**
baz=124
328A Wristen Ranch, 123.64 51 ⇑PKiKP **PKiKP 21 29 40.0 +0.8**
baz=124
Z29A Hungry Hill Ra 123.64 48 ⇓PKiKP **PKiKP 21 29 39.9 +0.7**
baz=124
RTC Rabat Centre 123.68 313 PFAKE 21 29 50.0 +11
RTC LR LR
comp=Z,547nm,20.0s
X30A Coker Ranch, T 123.70 46 ⇑PKiKP **PKiKP 21 29 40.2 +1.0**
baz=124
COWI Conover 123.78 29 *e*PKPdf **PKPdf 21 29 38.8 +0.1**
COWI LR LR
comp=Z,567nm,19.0s
V31A Spring Creek L 123.78 45 ⇑PKiKP **PKiKP 21 29 40.6 +1.3**
baz=124
129A Stewart Farms, 123.81 49 ⇓PKiKP **PKPdf 21 29 40.1 +0.8**
baz=124
TXAR Lajitas Array 123.81 53 PKP **PKPdf 21 29 40.0 +0.6**
TXAR PP **PP 21 31 19.9 -2.3**
TXAR PKKPbc **PKKPbc 21 39 28.6 +2.0**
TXAR Lajitas Array 123.81 53 PKP **PKPdf 21 29 40.0 +0.6**
comp=Z,5.3nm,0.7s,baz=250,slow=1.2,SNR=49
TXAR PP **PP 21 31 19.9 -2.3**
comp=Z,1.2nm,1.0s,baz=284,slow=3.6,SNR=2.4
TXAR PKKPbc **PKKPbc 21 39 28.6 +2.0**
comp=Z,1.1nm,0.8s,baz=128,slow=8.1,SNR=5.9
Y30A Stafford Cattl 123.95 47 ⇑PKiKP **PKiKP 21 29 40.6 +0.9**
baz=124
627A Terlingua Ranc 123.98 53 ⇑PKiKP **PKiKP 21 29 40.7 +0.7**
baz=124
W31A Holland Ranch, 124.00 45 ⇓PKiKP **PKiKP 21 29 40.6 +0.9**
baz=124
428A Kincaid Ranch, 124.02 51 ⇓PKiKP **PKiKP 21 29 41.2 +1.2**
baz=124
Z30A Sanderson Ranc 124.06 48 ⇑PKiKP **PKiKP 21 29 40.6 +0.7**
baz=124
KSU1 Kansas State U 124.15 40 *e*PKPdf **PKPdf 21 29 39.5 -0.1**
KSU1 *e*PP **PP 21 31 21.8 -2.0**
KSU1 LR LR
comp=Z,650nm,22.0s
229A Bryant Ranch, 124.15 50 ⇑PKiKP **PKPdf 21 29 40.7 +0.8**
baz=124
528A Cox Ranch, San 124.17 52 ⇑PKiKP **PKiKP 21 29 41.1 +0.8**
baz=124
329A Wagon Wheel Ra 124.23 50 ⇓PKiKP **PKiKP 21 29 41.1 +0.8**
baz=124
X31A McDonald Ranch 124.25 46 ⇓PKiKP **PKiKP 21 29 41.3 +1.0**
baz=124
628A Black Gap, Mar 124.37 53 ⇑PKiKP **PKiKP 21 29 41.5 +0.9**
baz=124
Y31A Rekieta Farm, 124.38 47 ⇑PKiKP **PKiKP 21 29 41.4 +0.9**
baz=124
SCIA State Center 124.49 35 PFAKE 21 29 50.0 +10
SCIA LR LR
comp=Z,590nm,21.0s
529A Stev Forest Ra 124.63 52 ⇑PKiKP **PKiKP 21 29 42.0 +0.8**
baz=125
429A Davenport Ranc 124.67 51 ⇑PKiKP **PKiKP 21 29 42.3 +1.1**
baz=125
230A Sterling City 124.72 49 ⇑PKiKP **PKiKP 21 29 42.3 +1.0**
baz=125
Z31A Sharp Cattle R 124.77 47 ⇓PKiKP **PKPdf 21 29 41.9 +0.9**
baz=125
330A Mertzon 124.89 50 ⇓PKiKP **PKPdf 21 29 41.7 +0.4**
baz=125
131A Roby 124.90 48 ⇑PKiKP **PKPdf 21 29 42.1 +0.9**
baz=125
WMOK Wichita Mounta 125.06 45 *e*PKiKP **PKPdf 21 29 41.6 +0.1**
WMOK MLR MLR
comp=Z,526nm,20.0s
WMOK Wichita Mounta 125.06 45 *e*PKPdf **PKPdf 21 29 41.6 +0.1**
WMOK LR LR
comp=Z,526nm,20.0s
430A Baggett Ranch, 125.11 51 ⇓PKiKP **PKiKP 21 29 42.8 +0.7**
baz=125
USHA Ushuaia 125.12 170 PKP **PKPdf 21 29 41.8 +0.9**
USHA Ushuaia 125.12 170 PKP **PKPdf 21 29 41.8 +0.9**
comp=Z,11nm,0.7s,baz=199,slow=3.2,SNR=15
Z32A Haskell 125.27 47 ⇑PKiKP **PKiKP 21 29 43.1 +0.8**
baz=125
231A Bronte 125.30 49 ⇑PKiKP **PKPdf 21 29 42.9 +0.8**
baz=125
530A J-C Ranch, Com 125.31 51 ⇑PKiKP **PKiKP 21 29 43.2 +0.7**
baz=125
JFWS Jewell Farm 125.46 32 *e*PKiKP **PKPdf 21 29 41.2 -0.8**
JFWS MLR MLR
comp=Z,627nm,21.0s
JFWS Jewell Farm 125.46 32 *e*PKPdf **PKPdf 21 29 41.2 -0.8**
JFWS LR LR
comp=Z,627nm,21.0s
ABTX Abilene, Hawle 125.47 48 ⇓PKiKP **PKPdf 21 29 42.8 +0.5**
baz=125
331A San Angelo 125.50 50 ⇓PKiKP **PKiKP 21 29 43.6 +0.8**
baz=125
431A Sonora 125.64 50 ⇑PKiKP **PKPdf 21 29 43.5 +0.8**
baz=126
232A Coleman 125.82 49 ⇑PKiKP **PKPdf 21 29 43.7 +0.7**
baz=126
531A Rocksprings 125.92 51 ⇑PKiKP **PKPdf 21 29 44.2 +0.9**
baz=126
332A Millersview 125.98 49 ⇑PKiKP **PKPdf 21 29 44.3 +1.0**
baz=126
432A Menard 126.18 50 ⇓PKiKP **PKPdf 21 29 44.6 +0.8**
baz=126
631A Perdido Creek 126.23 52 ⇓PKiKP **PKiKP 21 29 45.0 +0.8**
baz=126
JCT Junction City 126.36 50 *e*PKiKP **PKPdf 21 29 44.4 +0.3**
JCT MLR MLR
comp=Z,874nm,22.0s
JCT Junction City 126.36 50 *e*PKPdf **PKPdf 21 29 44.4 +0.3**
JCT LR LR
comp=Z,874nm,22.0s
JCT Junction City 126.36 50 ⇑PKiKP **PKiKP 21 29 45.1 +0.6**
baz=126
532A Rocksprings 126.44 51 ⇓PKiKP **PKPdf 21 29 45.0 +0.8**
baz=126
632A Uvalde 126.81 51 ⇓PKiKP **PKiKP 21 29 46.3 +0.8**
baz=127
GLMI Grayling 126.84 27 PFAKE 21 30 00.0 +15
GLMI LR LR
comp=Z,585nm,20.0s
732A Laxson Ranch, 127.00 52 ⇓PKiKP **PKiKP 21 29 46.5 +0.7**
baz=127
WHTX Lake Whitney 127.40 47 ⇑PKiKP **PKiKP 21 29 47.4 +0.8**
baz=127
HDIL Hopedale 127.60 34 PFAKE 21 30 00.0 +14
HDIL LR LR
comp=Z,665nm,20.0s
FVM French Village 128.66 37 *e*PKiKP **PKPdf 21 29 47.6 -0.6**
FVM French Village 128.66 37 *e*PKPdf **PKPdf 21 29 47.6 -0.6**
MIAR Mount Ida 128.76 42 *e*PKiKP **PKPdf 21 29 48.8 +0.3**
MIAR *e* 21 31 53.8
MIAR MLR MLR
comp=Z,1μm,22.0s
MIAR Mount Ida 128.76 42 *e*PKPdf **PKPdf 21 29 48.8 +0.3**
MIAR *e*PP **PP 21 31 53.8 -0.6**
MIAR LR LR
comp=Z,1μm,22.0s
SFIN Scholer Farm 128.92 32 ⇑PKiKP **PKiKP 21 29 50.0 +0.7**
baz=129
KVTX Kingsville 129.17 53 PFAKE 21 30 00.0 +11
KVTX LR LR
comp=Z,906nm,20.0s
SADO Sadowa 129.20 23 PKP **PKPdf 21 29 49.5 +0.5**
SADO Sadowa 129.20 23 PKP **PKPdf 21 29 49.5 +0.5**
comp=Z,4.6nm,0.7s,baz=275,slow=11,SNR=3.2
EFI East Falkland 129.45 177 PFAKE 21 30 00.0 +11
EFI LR LR
comp=Z,651nm,21.0s
OLIL Olney 129.52 35 *e*Pdif **Pdif 21 26 36.6 -0.7**
OLIL *e*PKPdf **PKPdf 21 29 50.8 +1.0**
BLO Bloomington 130.09 33 *e*PKiKP **PKPdf 21 29 51.6 +0.7**
BLO Bloomington 130.09 33 *e*PKPdf **PKPdf 21 29 51.5 +0.7**
DBIC Dimbokro 130.33 280 *e*PKPdf **PKPdf 21 29 53.0 +1.0**
DBIC SKPbc **SKPab 21 33 11.2 -1.6**
DBIC Dimbokro 130.33 280 PKP **PKPdf 21 29 53.7 +1.7**
comp=Z,13nm,0.7s,baz=46,slow=3.7,SNR=11
DBIC SKPbc **SKPab 21 33 11.2 -1.6**
comp=Z,17nm,1.0s,baz=93,slow=5.3,SNR=5.9
LIC Lamto 130.55 279 *e*PKiKP **PKPdf 21 29 50.2 -2.3**
comp=Z,30nm,0.7s
WCI Wyandotte Cave 130.88 34 *e*PKiKP **PKPdf 21 29 53.1 +0.6**
WCI Wyandotte Cave 130.88 34 *e*PKPdf **PKPdf 21 29 53.1 +0.6**
LONY Lake Ozonia 130.97 19 PFAKE 21 30 00.0 +7.6
LONY LR LR
comp=Z,707nm,22.0s
ACSO Alum Creek Sta 131.15 29 *e*PKPdf **PKPdf 21 29 53.0 +0.1**
ACSO LR LR
comp=Z,679nm,22.0s
WVT Waverly 131.44 37 *e*PKiKP **PKPdf 21 29 54.0 +0.4**
WVT Waverly 131.44 37 *e*PKPdf **PKPdf 21 29 54.0 +0.4**
PMAR Madeira 131.47 317 *e*PKPdf **PKPdf 21 29 57.7 +3.8**
PMOZ Porto Moniz, M 131.60 318 *e*LR LR 22 24 13.0
comp=Z,392nm,18.0s
NCB Newcomb 131.67 19 *e*PKPdf **PKPdf 21 29 54.5 +0.8**
NCB LR LR
comp=Z,748nm,21.0s
MDV Middlebury 131.98 19 *e*PKPdf **PKPdf 21 29 55.1 +0.8**
LBNH Lisbon 132.15 17 PFAKE 21 30 10.0 +15
LBNH LR LR
comp=Z,1μm,22.0s
VBMS Vicksburg 132.19 43 PFAKE 21 30 10.0 +15
VBMS LR LR
comp=Z,1μm,22.0s
BINY Binghamton 132.59 22 PFAKE 21 30 10.0 +14
BINY LR LR
comp=Z,766nm,22.0s
CMLA Cha da Macela 133.25 329 PFAKE 21 30 10.0 +13
CMLA LR LR
comp=Z,732nm,19.0s
TZTN Tazewell 133.61 33 *e*PKPdf **PKPdf 21 29 58.6 +1.0**
LRAL Lakeview Retre 134.00 39 *e*PKPdf **PKPdf 21 29 59.4 +0.9**
LRAL LR LR
comp=Z,1μm,22.0s
TKL Tuckaleechee C 134.13 34 PKP **PKPdf 21 29 59.7 +1.1**
TKL Tuckaleechee C 134.13 34 PKP **PKPdf 21 29 59.7 +1.1**
comp=Z,25nm,0.9s,baz=280,slow=1.0,SNR=10
BLA Blacksburg 134.75 30 *e*PKiKP **PKPdf 21 29 59.9 +0.1**
BLA MLR MLR
comp=Z,857nm,22.0s
BLA Blacksburg 134.75 30 *e*PKPdf **PKPdf 21 29 59.9 +0.1**
BLA LR LR
comp=Z,857nm,22.0s
BRAL Brewton 135.26 42 PFAKE 21 30 10.0 +9.1
BRAL LR LR
comp=Z,537nm,21.0s
CBN Corbin 135.39 26 PFAKE 21 30 10.0 +9.1
CBN LR LR
comp=Z,833nm,19.0s
KMSC Kings Mountain 135.86 33 ⇑PKiKP **PKiKP 21 30 03.9 +0.4**
baz=136
CNNC Cliffs of the 137.56 29 PFAKE 21 30 20.0 +15
CNNC LR LR
comp=Z,1μm,21.0s
PLCA Paso Flores 137.76 161 PKPpre PKPpre 21 29 57.8
PLCA PKP **PKPdf 21 30 05.4 0.0**
PLCA SKPbc **SKPbc 21 33 37.7 +0.9**
PLCA Paso Flores 137.76 161 PKhKP PKPpre 21 29 57.8
comp=Z,2.0nm,0.8s,baz=178,slow=7.8,SNR=3.6
PLCA PKP **PKPdf 21 30 05.4 0.0**
comp=Z,5.4nm,0.9s,baz=186,slow=2.4,SNR=4.6
PLCA SKPbc **SKPbc 21 33 37.7 +0.9**
comp=Z,3.0nm,1.0s,baz=289,slow=4.6,SNR=2.6
NHSC New Hope 138.02 34 PFAKE 21 30 20.0 +14
NHSC LR LR
comp=Z,911nm,22.0s
ASCN Ascension 139.90 259 PFAKE 21 30 20.0 +10
ASCN LR LR
comp=Z,373nm,20.0s
TEIG Tepich 140.34 56 PKPpre PKPpre 21 30 04.1
TEIG LR LR
comp=Z,651nm,22.0s

TEIG	**Tepich**	**140.34**	**56**	PKhKP	PKPpre	21 30 04.1		
	baz=343,slow=2.9							
TRQA	**Tornquist**	**142.46**	**170**	*e*PKPdf	**PKPdf**	**21 30 10.1**	**-3.8**	
TRQA				LR	LR			
	comp=Z,1μm,20.0s							
PAYG	**Puerto Ayora**	**143.75**	**90**	PFAKE		21 30 30.0	+13	
PAYG				LR	LR			
	comp=Z,2μm,20.0s							
TGUH	**Tegucigalpa,Un**	**143.81**	**64**	*e*PKPdf	**PKPdf**	**21 30 16.4**	**-0.3**	
TGUH				LR	LR			
	comp=Z,954nm,21.0s							
BBSR	**BB Station**	**145.25**	**16**	*e*PKPbc	**PKPab**	**21 30 19.5**	**+0.9**	
BBSR				LR	LR			
	comp=Z,528nm,20.0s							
LCO	**Las Campanas**	**147.97**	**152**	*e*PKPdf	**PKPdf**	**21 30 25.7**	**+1.7**	
LCO				*e*PKPbc	**PKPbc**	**21 30 28.0**	**+1.1**	
MTDJ	**Mount Denham**	**149.97**	**49**	*e*PKPbc	**PKPbc**	**21 30 32.5**	**+0.4**	
GTBY	**Guantanamo Bay**	**150.64**	**44**	*e*PKPbc	**PKPbc**	**21 30 34.3**	**+0.8**	
GTBY				LR	LR			
	comp=Z,486nm,22.0s							
GRTK	**Grand Turk**	**152.03**	**36**	PFAKE		21 30 40.0	+3.3	
GRTK				LR	LR			
	comp=Z,628nm,22.0s							
BCIP	**Isla Barro Col**	**152.36**	**68**	*e*PKPdf	**PKPdf**	**21 30 31.2**	**+0.3**	
BCIP				*e*PKPbc	**PKPbc**	**21 30 37.9**	**+0.3**	
BCIP				LR	LR			
	comp=Z,2μm,22.0s							
SDDR	**Presa de Saban**	**153.84**	**40**	PFAKE		21 30 40.0	-0.8	
SDDR				LR	LR			
	comp=Z,694nm,22.0s							
LVC	**Limon Verde**	**154.14**	**147**	PFAKE		21 30 40.0	-1.7	
LVC				LR	LR			
	comp=Z,748nm,22.0s							
CPUP	**Villa Florida**	**154.67**	**173**	PKP	**PKPdf**	**21 30 34.3**	**+0.5**	
CPUP				PKPbc	**PKiKP**	**21 30 43.5**	**+1.2**	
CPUP	**Villa Florida**	**154.67**	**173**	PKP	**PKPdf**	**21 30 34.3**	**+0.5**	
	comp=Z,6.9nm,0.9s,baz=270,slow=10,SNR=7.4							
CPUP				PKPbc	**PKiKP**	**21 30 43.5**	**+1.2**	
	comp=Z,6.7nm,0.7s,baz=159,slow=0.9,SNR=13							
NNA	**Nana**	**154.90**	**117**	PFAKE		21 30 50.0	+6.8	
NNA				LR	LR			
	comp=Z,966nm,21.0s							
OTAV	**Otavalo**	**155.54**	**87**	*e*PKPdf	**PKPdf**	**21 30 36.5**	**+0.5**	
OTAV				*e*PKPab	**PKPab**	**21 31 03.2**	**+1.3**	
OTAV				LR	LR			
	comp=Z,1μm,22.0s							
CAM4	**Nova Friburgo**	**156.07**	**207**	(P)	**PKPab**	**21 31 04.9**	**+1.5**	
CAM4				*i*		21 31 07.1		
CAM4				*i*		21 31 09.5		
CAM4				*i*		21 31 13.4		
CAM4				*i*		21 31 18.8		
CAM4				*i*		21 31 24.0		
CAM4				*i*		21 31 37.7		
CAM4				*i*		21 31 40.7		
CAM4				*i*		21 31 57.1		
CAM4				*i*		21 32 09.2		
ROSC	**El Rosal**	**158.88**	**74**	PKP	**PKPdf**	**21 30 40.9**	**+0.8**	
ROSC				PKPab	**PKPab**	**21 31 18.3**	**+2.1**	
ROSC	**El Rosal**	**158.88**	**74**	PKP	**PKPdf**	**21 30 40.9**	**+0.8**	
	comp=Z,9.7nm,0.3s,baz=266,slow=11,SNR=4.1							
ROSC				PKPab	**PKPab**	**21 31 18.3**	**+2.1**	
	comp=Z,18nm,0.5s,baz=301,slow=20,SNR=6.3							
LPAZ	**La Paz**	**159.45**	**138**	*e*PKPdf	**PKPdf**	**21 30 41.4**	**+0.5**	
LPAZ				*e*PKPab	**PKPab**	**21 31 18.9**	**+0.2**	
LPAZ				PKPab	PKPab	21 31 19.7	+1.0	
LPAZ				*e*PP	**PP**	**21 34 56.7**	**-2.5**	
LPAZ				PP	PP	21 34 57.0	-2.2	
LPAZ	**La Paz**	**159.45**	**138**	PKP	**PKPdf**	**21 30 42.4**	**+1.4**	
	comp=Z,4.6nm,0.7s,baz=208,slow=2.3,SNR=20							
LPAZ				PKPab	**PKPab**	**21 31 19.7**	**+1.0**	
	comp=Z,8.2nm,0.8s,baz=168,slow=6.3,SNR=6.0							
LPAZ				PP	**PP**	**21 34 57.0**	**-2.2**	
	comp=Z,2.6nm,0.8s,baz=224,slow=6.5,SNR=4.6							
ANWB	**Willy Bob**	**159.88**	**22**	PFAKE		21 30 50.0	+9.4	
ANWB				LR	LR			
	comp=Z,529nm,20.0s							
RCBR	**Riachuelo**	**161.30**	**255**	PFAKE		21 30 50.0	+7.6	
RCBR				LR	LR			
	comp=Z,825nm,20.0s							
BDFB	**Brasilia**	**164.34**	**202**	PKP	**PKPdf**	**21 30 45.5**	**+0.2**	
BDFB				PKPab	**PKPab**	**21 31 40.0**	**+0.7**	
BDFB	**Brasilia**	**164.34**	**202**	PKP	**PKPdf**	**21 30 45.5**	**+0.2**	
	comp=Z,3.0nm,0.6s,baz=192,slow=4.6,SNR=4.3							
BDFB				PKPab	**PKPab**	**21 31 40.0**	**+0.7**	
	comp=Z,12nm,0.9s,baz=130,slow=3.4,SNR=7.9							

*IDC **01** 21:28:49.4±0.7,56.34S×25.61W,h0km,mb4.4/7,*
mb1 4.4/8,mb1mx4.2/18,mbtmp4.3/8,ML3.7/1,Error
ellipse: s-maj=31.0km s-min=18.5km az=76.0
*ISCJB **01** 21:28:51.9±0.7,56.3S±0.1×25.7W±0.3,h29km,mb4.5/9,*
Error ellipse: s-maj=24.5km s-min=12.4km az=152.2
*NEIC **01** 21:28:54.8±0.4,56.33S×25.76W,h35km,mb4.7/6,Error*
ellipse: s-maj=17.1km s-min=9.6km az=56.0

ISC 01 21:28:53.8±0.6,56.4S±0.1×25.8W±0.2,h29km,n27,
σ0.66/25,mb4.5/8,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**18.14**	**157**	*e*P	**P**	**21 33 03.5**	**+0.3**
	5.6nm,0.9s						
SNAA	**Sanae**	**18.14**	**157**	P	**P**	**21 33 03.6**	**+0.3**
	0.2nm,0.3s,baz=320,slow=12,SNR=25						
TRQA	**Tornquist**	**30.18**	**292**	*e*P	**P**	**21 35 01.0**	**-0.3**
	31nm,1.7s						
QSPA	**South Pole Qui**	**33.89**	**180**	*e*P	**P**	**21 35 33.8**	**+0.1**
	4.7nm,0.6s						
QSPA	**South Pole Qui**	**33.89**	**180**	P	**P**	**21 35 33.4**	**-0.3**
	5.1nm,0.7s,baz=227,slow=3.1,SNR=26						
CPUP	**Villa Florida**	**37.63**	**310**	P	**P**	**21 36 06.0**	**+0.1**
CPUP	**Villa Florida**	**37.63**	**310**	P	**P**	**21 36 06.0**	**+0.1**
	3.1nm,0.6s,baz=134,slow=8.5,SNR=6.3						
LVC	**Limon Verde**	**46.15**	**299**	*e*P	**P**	**21 37 16.3**	**+0.4**
	16nm,0.6s						
VNDA	**Vanda**	**46.30**	**182**	P	**P**	**21 37 15.4**	**-0.6**
	2.2nm,0.8s,baz=179,slow=6.1,SNR=6.5						
LPAZ	**La Paz**	**51.22**	**304**	*e*P	**P**	**21 37 55.0**	**-0.2**
	6.4nm,0.6s						
LPAZ	**La Paz**	**51.22**	**304**	P	**P**	**21 37 56.1**	**+0.9**
	8.8nm,0.7s,baz=162,slow=5.7,SNR=30						
DBIC	**Dimbokro**	**65.12**	**23**	*e*P	**P**	**21 39 31.0**	**-0.7**
	2.0nm,0.5s						
DBIC	**Dimbokro**	**65.12**	**23**	P	**P**	**21 39 31.4**	**-0.3**
	1.6nm,0.5s,baz=208,slow=19,SNR=4.6						
TORD	**Torodi Ar. Bea**	**72.94**	**28**	P	**P**	**21 40 19.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**72.94**	**28**	P	**P**	**21 40 19.9**	**-0.2**
	3.5nm,0.7s,baz=202,slow=5.9,SNR=10						
ASAR	**Alice Springs**	**98.44**	**161**	P		Pdif	21 42 30.0	+0.8
ASAR	**Alice Springs**	**98.44**	**161**	P		Pdif	21 42 30.0	+0.8
	0.4nm,0.7s,baz=182,slow=4.4,SNR=3.5						
CMAR	**Chiang Mai Arr**	**124.20**	**109**	PKP	**PKPdf**	**21 47 50.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**124.20**	**109**	PKP	**PKPdf**	**21 47 50.0**	**+0.6**
	0.5nm,0.8s,baz=224,slow=5.0,SNR=4.1						
KURBB	**Kurchatov Arra**	**136.71**	**64**	PKP	**PKPdf**	**21 48 13.7**	**+1.6**
	0.2nm,0.6s,baz=242,slow=3.3,SNR=3.5						
KURK	**Kurchatov**	**136.81**	**64**	PKP	**PKPdf**	**21 48 13.7**	**+1.4**
INK	**Inuvik**	**146.56**	**320**	PKPbc	**PKPbc**	**21 48 30.0**	**-0.6**
INK	**Inuvik**	**146.56**	**320**	PKPbc	**PKPbc**	**21 48 30.0**	**-0.6**
	3.5nm,0.8s,baz=70,slow=4.6,SNR=9.7						
SONM	**Songino Array**	**149.94**	**86**	PKPbc	**PKPbc**	**21 48 39.8**	**-0.6**
SONM	**Songino Array**	**149.94**	**86**	PKPbc	**PKPbc**	**21 48 39.8**	**-0.6**
	1.9nm,0.7s,baz=231,slow=2.8,SNR=12						
ILAR	**Eielson Array**	**150.93**	**311**	PKPbc	**PKPbc**	**21 48 42.0**	**0.0**
ILAR	**Eielson Array**	**150.93**	**311**	PKPbc	**PKPbc**	**21 48 42.0**	**0.0**
	4.5nm,0.9s,baz=123,slow=1.4,SNR=30						

DJA 01 21:41:12.5±1.9,1.7N±9.7×12.2E±.7,h3km±11km,M4.0/5,
MLv4.0/5,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.80**	**204**	P	Pg	21 41 26.7	-1.1
MRSI				S	Sb	21 41 40.1	-0.1
GTOI	**Gorontalo**	**0.94**	**127**	P	Pg	21 41 28.2	-2.4
GTOI				S	Sg	21 41 42.6	-0.2
KMSI	**Cibinong**	**1.83**	**110**	P	Pg	21 41 48.1	+0.4
KMSI				S	Sn	21 42 08.5	-0.1
LUWI	**Luwuk**	**2.29**	**167**	P	Pn	21 41 51.8	+0.5
TTSI	**Tana Toraja**	**4.88**	**210**	P	Pn	21 42 24.2	-2.7

IDC 01 21:49:08.9±1.8,33.97N×25.39E,h0km,mb3.3/2,
mb1 3.4/4,mb1mx3.2/26,mbtmp3.3/4,ML3.6/2,Error
ellipse: s-maj=51.2km s-min=29.9km az=131.0,Eastern
Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKASG	**Malin Array Be**	**16.96**	**8**	P	Pn	21 53 06.9	-0.5
	0.2nm,0.3s,baz=196,slow=11,SNR=5.9						
GERES	**GERESS Array B**	**17.22**	**333**	P	Pn	21 53 11.4	+0.5
	0.1nm,0.3s,baz=153,slow=13,SNR=7.1						
TORD	**Torodi Ar. Bea**	**29.88**	**232**	P	P	21 55 18.3	0.0
	0.1nm,0.5s,baz=38,slow=8.7,SNR=2.9						
MKAR	**Makanchi Array**	**44.28**	**56**	P	P	21 57 20.1	-0.1
	0.3nm,0.6s,baz=274,slow=6.9,SNR=5.9						

*IDC **01** 21:56:26.2±1.3,34.07N×25.32E,h0km,mb3.6/7,*
mb1 3.6/13,mb1mx3.6/33,mbtmp3.6/13,ML3.9/5,MS3.0/1,
Ms1 3.0/1,ms1mx2.8/32,Error ellipse: s-maj=26.6km
s-min=21.2km az=1.0
*CSEM **01** 21:56:36.6,34.56N×25.24E,h13km,After THE*
*THE **01** 21:56:36.6,34.56N×25.24E,h13km±4km,Error ellipse:*
s-maj=4.9km s-min=2.6km az=171.0

ISC 01 21:56:31.2±0.8,34.25N±0.07×25.33E±0.04,h30km,n36,
σ1.920/37,mb3.5/7,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.88**	**331**	P	**Pb**	**21 56 47.6**	**-0.3**
SIVA	**Sivas**	**0.88**	**331**	P	**Pb**	**21 56 47.6**	**-0.3**
LAST	**Lasithi**	**0.92**	**8**	P	**Pb**	**21 56 48.4**	**-0.2**
LAST	**Lasithi**	**0.92**	**8**	P	**Pb**	**21 56 48.4**	**-0.2**
NPS	**Neapolis**	**1.04**	**13**	P	**Pb**	**21 56 51.3**	**+0.8**
NPS	**Neapolis**	**1.04**	**13**	P	**Pb**	**21 56 51.3**	**+0.8**
IDI	**Anoyia**	**1.10**	**341**	P	**Pb**	**21 56 51.1**	**-0.5**
IDI	**Anoyia**	**1.10**	**341**	P	**Pb**	**21 56 51.1**	**-0.5**
ZKR	**Zakros**	**1.13**	**40**	P	**Pb**	**21 56 53.9**	**+1.8**
ZKR	**Zakros**	**1.13**	**40**	P	**Pb**	**21 56 53.9**	**+1.8**
GVD	**Gavdhos**	**1.18**	**300**	P	**Pb**	**21 56 53.6**	**+0.6**
GVD	**Gavdhos**	**1.18**	**300**	P	**Pb**	**21 56 53.6**	**+0.6**
VAM	**Vamos**	**1.48**	**321**	P	**Pb**	**21 56 58.7**	**+0.6**
VAM	**Vamos**	**1.48**	**321**	P	**Pb**	**21 56 58.7**	**+0.6**
KARP	**Karpathos**	**1.98**	**49**	P	**Pb**	**21 57 06.5**	**-0.1**
KARP	**Karpathos**	**1.98**	**49**	P	**Pb**	**21 57 06.5**	**-0.1**
THR3	**Thira Island,**	**2.15**	**2**	P	**Pb**	**21 57 08.1**	**-1.4**
THR3	**Thira Island,**	**2.15**	**2**	P	**Pb**	**21 57 08.1**	**-1.4**
ANKY	**Antikythira Is**	**2.32**	**315**	P	**Pn**	**21 57 09.2**	**+1.9**
ANKY	**Antikythira Is**	**2.32**	**315**	P	**Pn**	**21 57 09.2**	**+1.9**
APE	**Apeiranthos**	**2.82**	**3**	P	**Pn**	**21 57 16.7**	**+2.5**
APE				S	**Sn**	**21 57 45.8**	**-1.4**
APE	**Apeiranthos**	**2.82**	**3**	P	**Pn**	**21 57 16.7**	**+2.5**
APE				S	**Sn**	**21 57 45.8**	**-1.4**
MMAI	**Mount Meron Ar**	**8.49**	**96**	Pn	**Pn**	**21 58 30.6**	**-1.5**
	0.9nm,0.3s,baz=275,slow=11,SNR=7.3						
MMAI				Sn	**Sn**	**22 00 05.1**	**-1.9**
	0.8nm,0.3s,baz=278,slow=32,SNR=4.3						
BRTR	**Keskin Array B**	**8.60**	**48**	Pn	**Pn**	**21 58 34.5**	**+0.8**
	0.1nm,0.3s,baz=228,slow=13,SNR=4.4						
EIL	**Elat**	**9.36**	**117**	Pn	Pn	21 58 40.0	-4.0
	0.8nm,0.3s,baz=257,slow=8.5,SNR=11						
EIL				Sn	Sn	22 00 19.4	-8.9
	0.2nm,0.3s,baz=252,slow=9.6,SNR=2.2						
KEST	**Kesra**	**13.19**	**281**	LR	LR	22 05 50.5	
	comp=Z,65nm,21.6s,baz=37,slow=43						
KBZ	**Khabaz**	**16.59**	**50**	Pn	**P**	**22 00 24.1**	**+0.5**
	0.1nm,0.3s,baz=270,slow=8.1,SNR=3.8						
AKASG	**Malin Array Be**	**16.68**	**9**	Pn	**P**	**22 00 24.4**	**-0.2**
	1.3nm,0.3s,baz=201,slow=10,SNR=9.8						
GERES	**GERESS Array B**	**16.95**	**333**	P	**P**	**22 00 26.9**	**-0.9**
	0.2nm,0.3s,baz=148,slow=13,SNR=14						
HFS	**Hagfors**	**26.99**	**347**	P	**P**	**22 02 10.5**	**+0.4**
	0.6nm,0.7s,baz=131,slow=7.9,SNR=3.0						
EKA	**Eskdalemuir Ar**	**28.86**	**326**	P	**P**	**22 02 26.9**	**0.0**
	0.2nm,0.4s,baz=134,slow=10,SNR=3.6						
TORD	**Torodi Ar. Bea**	**30.02**	**231**	P	**P**	**22 02 36.3**	**-1.1**
	0.5nm,0.8s,baz=31,slow=9.4,SNR=3.3						
KURBB	**Kurchatov Arra**	**41.59**	**50**	P	**P**	**22 04 16.8**	**+0.7**
	0.3nm,0.3s,baz=286,slow=9.8,SNR=3.9						
MKAR	**Makanchi Array**	**44.16**	**56**	P	**P**	**22 04 37.8**	**+0.7**
	1.1nm,0.5s,baz=268,slow=7.8,SNR=18						
ZALV	**Zalesovo Beam**	**45.53**	**46**	P	**P**	**22 04 47.0**	**-0.9**
	0.4nm,0.3s,baz=255,slow=8.8,SNR=2.6						
SONM	**Songino Array**	**59.96**	**50**	P	**P**	**22 06 35.6**	**+0.9**
	0.2nm,0.3s,baz=268,slow=7.2,SNR=2.4						

*ISCJB **01** 22:12:11.4±0.3,39.94N±0.02×48.84E±0.04,h66km±3km,*
mb3.7/22,Error ellipse: s-maj=4.7km s-min=3.7km
az=152.8
*CSEM **01** 22:12:11.2±0.3,40.03N×49.03E,h40km,ML4.0,Error*
ellipse: s-maj=9.0km s-min=7.8km az=30.0
*THR **01** 22:12:11.7±0.4,39.78N×48.88E,h30km±6km,ML4.0*
*AZER **01** 22:12:11.4,39.96N×48.71E,h42km*
*IDC **01** 22:12:12.0±0.8,39.94N×48.70E,h50km±5km,mb3.6/19,*
mb1 3.7/21,mb1mx3.6/31,mbtmp3.6/21,Error ellipse:
s-maj=18.0km s-min=11.3km az=5.0
*MOS **01** 22:12:12.1±1.7,40.15N×48.91E,h25km,mb4.1/11,Error*
ellipse: s-maj=10.3km s-min=7.0km az=105.7
*NNC **01** 22:12:21.4±26.0,40.45N×50.10E,h45km±257km,mb3.7,*
Error ellipse: s-maj=238.0km s-min=143.2km az=131.0

ISC 01 22:12:11.9±0.5,39.93N±0.03×48.82E±0.03,h52km±4km,
h51km:pP-P,n112,σ1.962/136,mb3.7/21,22C-14D,
Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALIB	**Äli-Bayra**	**0.14**	**80**	⇓P	**Pn**	**22 12 19.3**	**-0.8**
	SNR=646						
ALIB				⇑S	**Sn**	**22 12 27.2**	**+1.2**
GLBA	**Clilabad**	**0.77**	**206**	⇑P	**Pn**	**22 12 26.8**	**+0.2**
	SNR=472						
GLBA				⇓S	**Sn**	**22 12 39.3**	**+2.1**
GOBA	**Gobu**	**0.84**	**56**	⇑P	**Pn**	**22 12 29.5**	**+1.9**
	SNR=29						
PQL	**Pirkuli**	**0.87**	**349**	⇑P	**Pn**	**22 12 28.5**	**+0.3**
	SNR=306						
PQL				⇓S	**Sn**	**22 12 42.2**	**+2.2**
IML	**Ismayilli**	**0.99**	**331**	⇑P	**Pn**	**22 12 29.3**	**-0.3**
	SNR=56						
IML				⇑S	**Sn**	**22 12 43.3**	**+0.7**
NDR	**Nardaran**	**1.10**	**54**	⇓P	**Pn**	**22 12 32.2**	**+1.2**
	SNR=18						
NDR				⇑S	**Sn**	**22 12 49.4**	**+4.2**
GALA	**Gala**	**1.13**	**65**	⇑P	Pn	22 12 34.5	+3.1
GALA				⇓S	Sn	22 12 51.3	+5.5
SIZA	**Siyzn**	**1.14**	**3**	⇓P	**Pn**	**22 12 33.0**	**+1.2**
	SNR=36						
LKRN	**Lenkeran, Azer**	**1.22**	**182**	⇑P	**Pn**	**22 12 33.3**	**+0.7**
	SNR=131						
LKRN				⇑S	**Sn**	**22 12 50.4**	**+2.3**
BRDA	**Brd**	**1.30**	**285**	⇓P	**Pn**	**22 12 34.7**	**+1.0**
	SNR=58						
GRMI	**Germi**	**1.33**	**213**	*e*Pg	**Pn**	**22 12 34.4**	**+0.1**
GRMI				*e*Sg	**Sn**	**22 12 51.1**	**+0.1**
GRMI				AML	AML	22 12 54.7	
	comp=N,3μm,0.6s						
GRMI				AML	AML	22 12 55.0	
	comp=E,2μm,0.8s						
GRMI	**Germi**	**1.33**	**213**	*e*Pg	**Pn**	**22 12 34.4**	**+0.1**
GRMI				*e*Sg	**Sn**	**22 12 51.1**	**+0.1**
QUBA	**Quba, Azerbaij**	**1.44**	**350**	⇑P	**Pn**	**22 12 36.2**	**+0.5**
	SNR=93						
QUBA				⇓S	**Sn**	**22 12 53.1**	**-0.4**
AKT	**Akhty**	**1.75**	**332**	*e*P	**Pn**	**22 12 40.5**	**+0.5**
AKT				*e*S	**Sn**	**22 13 04.0**	**+2.7**
AKT				pmax	pmax		
	comp=Z,90nm,0.3s						
AKT	**Akhty**	**1.75**	**332**	*e*P	**Pn**	**22 12 40.5**	**+0.5**
	comp=Z,90nm,0.3s						
AKT				*e*S	**Sn**	**22 13 04.0**	**+2.7**
SEKA	**Sheki**	**1.78**	**316**	⇑P	**Pn**	**22 12 40.3**	**0.0**
	SNR=113						
SEKA				⇑S	**Sn**	**22 13 03.2**	**+1.5**
GANJ	**Ganja**	**2.04**	**291**	⇑P	**Pn**	**22 12 43.2**	**-0.6**
	SNR=13						
GANJ				⇑S	**Sn**	**22 13 08.8**	**+0.6**
NAX	**Nakhchivan**	**2.68**	**255**	⇓P	**Pn**	**22 12 53.4**	**+0.8**
	SNR=8.4						
DGRG	**David-gareji**	**3.03**	**301**	P	**Pn**	**22 12 58.3**	**+0.9**
DGRG				S	**Sn**	**22 13 34.4**	**+2.0**
DGRG	**David-gareji**	**3.03**	**301**	P	**Pn**	**22 12 58.3**	**+0.9**
DGRG				S	**Sn**	**22 13 34.4**	**+2.0**
GNI	**Garni**	**3.14**	**275**	P	**Pn**	**22 13 00.8**	**+1.8**
	comp=Z,3.7nm,0.3s,baz=3.2,slow=2.6,SNR=15						
GNI	**Garni**	**3.14**	**275**	*i* P	**Pn**	**22 13 00.3**	**+1.3**
MAKU	**Maku**	**3.25**	**261**	*e*Pn	**Pn**	**22 13 03.3**	**+2.8**
MAKU	**Maku**	**3.25**	**261**	*e*Pn	**Pn**	**22 13 03.3**	**+2.8**
ZNJK	**Zanjan**	**3.26**	**182**	*e*Pn	**Pn**	**22 13 01.0**	**+0.2**
ZNJK	**Zanjan**	**3.26**	**182**	*e*Pn	**Pn**	**22 13 01.0**	**+0.2**
DBC	**Dubki**	**3.43**	**335**	*i* P	**Pn**	**22 13 03.2**	**+0.3**
DBC				*i* S	**Sn**	**22 13 41.7**	**-0.6**
DBC	**Dubki**	**3.43**	**335**	*i* P	**Pn**	**22 13 03.2**	**+0.3**
DBC				*i* S	**Sn**	**22 13 41.7**	**-0.6**
TBLG	**Delisi**	**3.58**	**301**	*e*P	**Pn**	**22 13 04.7**	**-0.2**
TBLG				*e*S	**Sn**	**22 13 45.2**	**-0.7**
TBLG	**Delisi**	**3.58**	**301**	P	**Pn**	**22 13 04.8**	**-0.2**
TBLG				S	**Sn**	**22 13 45.3**	**-0.7**
TBLG	**Delisi**	**3.58**	**301**	*e*P	**Pn**	**22 13 04.7**	**-0.2**
TBLG				*e*S	**Sn**	**22 13 45.2**	**-0.7**
AKH	**Akhalkalaki**	**4.31**	**292**	P	Pn	22 13 19.9	+4.8
AKH	**Akhalkalaki**	**4.31**	**292**	P	Pn	22 13 19.9	+4.8
THKV	**Tehran--Karaj**	**4.33**	**157**	*e*Pn	**Pn**	**22 13 15.8**	**+0.5**
THKV				AML	AML	22 14 06.1	
	comp=E,388nm,0.4s						
THKV				AML	AML	22 14 09.4	
	comp=N,231nm,0.3s						
THKV	**Tehran--Karaj**	**4.33**	**157**	*e*Pn	**Pn**	**22 13 15.8**	**+0.5**
CHTH	**Charan**	**4.41**	**155**	*e*Pn	**Pn**	**22 13 16.7**	**+0.2**
CHTH				AML	AML	22 14 08.6	
	comp=E,80nm,0.4s						
CHTH	**Charan**	**4.41**	**155**	*e*Pn	**Pn**	**22 13 16.7**	**+0.2**
ZEI	**Tsey**	**4.67**	**309**	*e*P	Pn	22 13 23.4	+3.4
ZEI				pmax	pmax		
	comp=Z,11nm,0.7s						
ZEI	**Tsey**	**4.67**	**309**	*e*P	Pn	22 13 23.4	+3.4
	comp=Z,11nm,0.7s						
DAMV	**Damavand**	**4.97**	**149**	*e*Pn	**Pn**	**22 13 24.7**	**+0.5**
DAMV	**Damavand**	**4.97**	**149**	*e*Pn	**Pn**	**22 13 24.7**	**+0.5**
ASAO	**Ashtian**	**5.46**	**169**	*e*PN5	**Pn**	**22 13 31.2**	**+0.3**
KBZ	**Khabaz**	**5.83**	**313**	P	**Pn**	**22 13 38.6**	**+2.9**
KBZ	**Khabaz**	**5.83**	**313**	P	**Pn**	**22 13 38.6**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=268,slow=5.6,SNR=2.3						
KBZ	**Khabaz**	**5.83**	**313**	P	**Pn**	**22 13 38.6**	**+2.9**
KIV	**Kislovodsk**	**6.09**	**313**	*e*P	Pn	22 13 50.6	+11
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ANN	**Anapa**	**9.73**	**304**	*e*P	**Pn**	**22 14 27.8**	**-1.3**
ANN				*e*S	**Sn**	**22 16 19.0**	**+2.2**
ANN				pmax	pmax		
	comp=Z,18nm,1.6s						
ANN	**Anapa**	**9.73**	**304**	*e*P	**Pn**	**22 14 27.8**	**-1.3**
	comp=Z,18nm,1.6s						
ANN				*e*S	**Sn**	**22 16 19.0**	**+2.2**
AB31	**Akbulak array**	**12.22**	**37**	Pn	Pn	22 14 58.4	-4.7
	comp=Z,0.5nm,0.3s,baz=230,slow=13,SNR=31						
AB31				⇑Sn	Sn	22 17 05.4	-12
	comp=Z,2.2nm,0.5s,baz=233,slow=26,SNR=9.7						
AB31	**Akbulak array**	**12.22**	**37**	Pn	Pn	22 14 58.4	-4.7
	comp=Z,0.5nm,0.3s,SNR=31						
AB31				Sn	Sn	22 17 05.4	-12
	comp=Z,2.2nm,0.5s,SNR=9.7						
AKTO	**Aktyubinsk**	**12.33**	**29**	⇓Pn	Pn	22 15 00.3	-4.3
	comp=Z,2.0nm,0.5s						
AKTO				⇓Sn	Sn	22 17 08.9	-12
	comp=Z,7.1nm,0.5s						
AKTO	**Aktyubinsk**	**12.33**	**29**	P	Pn	22 15 00.6	-4.0
AKTO				S	Sn	22 17 09.7	-11
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax	smax		
	comp=N,2.0nm,0.3s						
AKTO	**Aktyubinsk**	**12.33**	**29**	P	Pn	22 15 00.6	-4.0
	comp=N,1.0nm,0.3s,baz=203,slow=12,SNR=11						
AKTO				S	Sn	22 17 09.7	-11
	comp=N,2.1nm,0.3s,baz=197,slow=17,SNR=9.0						
AKTO	**Aktyubinsk**	**12.33**	**29**	Pn	Pn	22 15 00.3	-4.3
	comp=N,2.0nm,0.5s						
AKTO				Sn	Sn	22 17 08.9	-12
	comp=N,7.1nm,0.5s						
KK31	**Karatay Array**	**16.55**	**72**	⇑P	**Pn**	**22

JOF	**Joensuu**	**25.30**	**341**	*e*P		**P**	**22 17 32.6**	**-0.6**
JOF				pmax	pmax			
	comp=Z,2.0nm,0.5s							
FINES	**FINESS Array B**	**25.65**	**335**	P		**P**	**22 17 36.0**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=138,slow=9.3,SNR=35							
FINES				pP		**pP**	**22 17 47.9**	**-1.6**
	comp=Z,2.1nm,0.5s,baz=137,slow=9.0,SNR=5.3							
KAF	**Kangasniemi**	**26.07**	**336**	*e*p		**P**	**22 17 41.5**	**+1.3**
KAF	**Kangasniemi**	**26.07**	**336**	*e*P		**P**	**22 17 41.5**	**+1.3**
GERES	**GERESS Array B**	**26.43**	**301**	P		**P**	**22 17 43.2**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=104,slow=8.2,SNR=7.6							
ZALV	**Zalesovo Beam**	**27.94**	**48**	P		**P**	**22 17 57.9**	**+0.8**
ZALV				*PP		**pP**	**22 18 09.0**	**-1.3**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**27.94**	**48**	P		**P**	**22 17 57.9**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=258,slow=7.2,SNR=4.1							
ZALV				pP		**pP**	**22 18 09.0**	**-1.3**
	comp=Z,1.5nm,0.4s,baz=252,slow=9.2,SNR=5.1							
ATD	**Arta Tunnel**	**28.78**	**192**	P		**P**	**22 18 05.6**	**+0.7**
	comp=Z,3.4nm,0.8s,baz=23,slow=22,SNR=2.7							
HFS	**Hagfors**	**29.74**	**325**	P		**P**	**22 18 12.8**	**-0.2**
	comp=Z,3.0nm,0.6s,baz=120,slow=8.9,SNR=26							
HFS				pP		**pP**	**22 18 24.7**	**-1.6**
	comp=Z,2.1nm,0.5s,baz=120,slow=8.8,SNR=5.9							
NB2	**NORSAR Subarra**	**31.24**	**325**	P		**P**	**22 18 25.4**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=115,slow=8.6							
NOA	**NORSAR Array B**	**31.24**	**325**	P		**P**	**22 18 25.7**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=114,slow=8.1,SNR=13							
NOA				pP		**pP**	**22 18 38.9**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=118,slow=8.3,SNR=5.1							
ARCES	**ARCESS Array B**	**32.13**	**345**	P		**P**	**22 18 34.4**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=135,slow=12,SNR=4.3							
EKA	**Eskdalemuir Ar**	**37.31**	**312**	P		**P**	**22 19 18.7**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=99,slow=9.4,SNR=3.2							
EKA	**Eskdalemuir Ar**	**37.31**	**312**	P		**P**	**22 19 18.7**	**-0.1**
ESDC	**Sonseca Array**	**40.05**	**287**	P		**P**	**22 19 41.4**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=64,slow=8.5,SNR=5.8							
SPITS	**Spitsbergen Ar**	**40.59**	**350**	P		**P**	**22 19 46.5**	**+0.6**
	comp=Z,6.1nm,1.0s,baz=151,slow=13,SNR=4.2							
SPITS				pP		**pP**	**22 19 59.5**	**0.0**
	comp=Z,9.3nm,1.0s,baz=145,slow=10,SNR=1.7							
SPITS	**Spitsbergen Ar**	**40.59**	**350**	P		**P**	**22 19 46.5**	**+0.6**
	comp=Z,6.0nm,1.0s							
SONM	**Songino Array**	**41.39**	**59**	P		**P**	**22 19 54.0**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=270,slow=9.3,SNR=2.2							
SONM				pP		**pP**	**22 20 07.3**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=269,slow=9.1,SNR=1.9							
SONM	**Songino Array**	**41.39**	**59**	P		**P**	**22 19 54.0**	**+1.0**
TORD	**Torodi Ar. Bea**	**49.15**	**251**	P		**P**	**22 20 53.7**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=39,slow=9.3,SNR=4.2							
KSRS	**Korea Array**	**59.81**	**65**	P		**P**	**22 22 12.6**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=297,slow=8.0,SNR=3.2							
KSRS				pP		**pP**	**22 22 26.4**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=301,slow=7.2,SNR=3.5							
SCHQ	**Schefferville**	**70.80**	**326**	P		**P**	**22 23 22.8**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=249,slow=15,SNR=4.0							
ILAR	**Eielson Array**	**74.91**	**7**	P		**P**	**22 23 47.6**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=331,slow=5.2,SNR=2.7							
YKA	**Yellowknife Ar**	**77.05**	**352**	P		**P**	**22 23 59.9**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=34,slow=6.7,SNR=2.8							
WRA	**Warramunga Arr**	**99.22**	**108**	P		**Pdif**	**22 25 47.3**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=318,slow=3.8,SNR=4.5							

*CSEM **01** 22:17:00.6±0.1, 42°.85N×1°.47W, h10km, ML1.1, Error ellipse: s-maj=1.6km s-min=1.4km az=14.0*
*LDG **01** 22:17:01.0±0.1, 42°.85N×1°.48W, h2km, Md1.6/2, Ml1.3/1, Error ellipse: s-maj=1.7km s-min=1.5km az=66.0*
*MDD **01** 22:17:01.1±0.5, 42°.85N×1°.48W, h7km±6km, mbLg1.1/8, Error ellipse: s-maj=1.7km s-min=1.3km az=65.0, PRXIMO*
ISC 01 22:17:00.9±1.2, 42°.85N±0°.03×1°.47W±0°.04, h8km±11km, n23, σ0§26/29, 4C-1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IUNC	**Unciti**	**0.10**	**191**	⇑Pg	**Pg**	**22 17 03.3**	**0.0**
IUNC	5.9nm,0.0s,SNR=18			Lg	Lg	22 17 05.2	
	26nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**191**	Pg	**Pg**	**22 17 03.3**	**0.0**
IUNC	5.9nm,0.0s,SNR=18			Lg	Lg	22 17 05.2	
	26nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**329**	⇑Pg	**Pg**	**22 17 03.4**	**-0.1**
IUSE	4.6nm,0.1s,SNR=18			Lg	Lg	22 17 05.5	
	5.1nm,0.0s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**329**	Pg	**Pg**	**22 17 03.4**	**-0.1**
IUSE	4.6nm,0.1s,SNR=18			Lg	Lg	22 17 05.5	
	5.1nm,0.0s,SNR=7.9						
EARA	**Aranguren**	**0.11**	**224**	⇑Pg	**Pg**	**22 17 03.4**	**-0.1**
EARA	5.7nm,0.0s,SNR=18			Lg	Lg	22 17 05.3	
	58nm,0.1s,SNR=4.9						
EARA	**Aranguren**	**0.11**	**224**	Pg	**Pg**	**22 17 03.4**	**-0.1**
EARA	5.7nm,0.0s,SNR=18			Lg	Lg	22 17 05.3	
	58nm,0.1s,SNR=4.9						
IEPA	**Eparoz**	**0.17**	**116**	Pg	**Pg**	**22 17 04.3**	**-0.1**
IEPA	1.7nm,0.1s,SNR=7.9			Lg	Lg	22 17 07.6	
	12nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.17**	**116**	Pg	**Pg**	**22 17 04.3**	**-0.1**
IEPA	1.7nm,0.1s,SNR=7.9			Lg	Lg	22 17 07.6	
	12nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.17**	**94**	⇓Pg	**Pg**	**22 17 04.3**	**-0.2**
IELO	2.8nm,0.1s,SNR=18			Lg	Lg	22 17 07.8	
	16nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.17**	**94**	Pg	**Pg**	**22 17 04.3**	**-0.2**
IELO	2.8nm,0.1s,SNR=18			Lg	Lg	22 17 07.8	
	16nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.31**	**352**	⇑Pg	**Pg**	**22 17 07.1**	**0.0**
ELIZ	1.3nm,0.1s,SNR=18			Lg	Lg	22 17 11.9	
	1.6nm,0.1s						
ELIZ	**Elizondo**	**0.31**	**352**	Pg	**Pg**	**22 17 07.1**	**0.0**
ELIZ	1.3nm,0.1s,SNR=18			Lg	Lg	22 17 11.9	
	1.6nm,0.1s						
SJPF	**Ste Jean**	**0.32**	**35**	*e*Pg	**Pg**	**22 17 07.0**	**-0.2**
SJPF				*e*Sg	**Sg**	**22 17 11.5**	**+0.1**
	4.8nm,0.2s						
SJPF	**Ste Jean**	**0.32**	**35**	Pg	**Pg**	**22 17 07.0**	**-0.2**
SJPF				*e*Sg	**Sg**	**22 17 11.5**	**+0.1**
	2.4nm,0.2s						
EALK	**Alkurruntz**	**0.37**	**356**	Pg	**Pg**	**22 17 08.3**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
EALK				Lg	Lg	22 17 13.7	
	1.7nm,0.1s,SNR=6.1						
EALK	**Alkurruntz**	**0.37**	**356**	Pg	**Pg**	**22 17 08.3**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
EALK				Lg	Lg	22 17 13.7	
	1.7nm,0.1s,SNR=6.1						
LARF	**Larrau**	**0.40**	**63**	Pg	**Pg**	**22 17 08.8**	**0.0**
LARF				Lg	Lg	22 17 14.5	
ETSF	**Etsaut**	**0.67**	**86**	*e*Pg	**Pg**	**22 17 13.7**	**-0.2**
ETSF				*e*Sg	**Sg**	**22 17 23.3**	**+0.6**
	0.8nm,0.2s						
ETSF	**Etsaut**	**0.67**	**86**	Pg	**Pg**	**22 17 13.7**	**-0.2**
ETSF				*e*Sg	**Sg**	**22 17 23.3**	**+0.6**
	0.4nm,0.2s						
EBIE	**Bielsa**	**1.20**	**97**	Pg	**Pg**	**22 17 24.4**	**+0.4**
	0.1nm,0.1s,SNR=6.4						
EBIE				Lg	Lg	22 17 41.9	
	0.1nm,0.1s						
EBIE	**Bielsa**	**1.20**	**97**	Pg	**Pg**	**22 17 24.4**	**+0.4**
	0.1nm,0.1s,SNR=6.4						
EBIE				Lg	Lg	22 17 41.9	
	0.1nm,0.1s						
EPF	**Esparros**	**1.34**	**82**	*e*Pg	**Pn**	**22 17 25.8**	**-0.3**
EPF				*e*Sg	**Sg**	**22 17 44.2**	**+0.1**
	0.7nm,0.3s						
EPF	**Esparros**	**1.34**	**82**	Pg	**Pn**	**22 17 25.8**	**-0.3**
EPF				*e*Sg	**Sg**	**22 17 44.2**	**+0.1**
	0.3nm,0.3s						
EPF				Lg	Lg	22 17 44.2	
	0.4nm,0.3s						

*CSEM **01** 22:17:36.3, 42°.86N×1°.47W, h0km, ML0.9, After MDD*
MDD 01 22:17:36.3±0.3, 42°.86N×1°.47W, h0km, mbLg0.9/1, Error ellipse: s-maj=2.9km s-min=2.6km az=17.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IUNC	**Unciti**	**0.10**	**192**	Pg	Pg	22 17 38.0	-0.4
	0.2nm,0.0s,SNR=7.9						
IUNC				Lg	Lg	22 17 39.9	
	0.9nm,0.0s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**192**	Pg	Pg	22 17 38.0	-0.3
	0.2nm,0.0s,SNR=7.9						
IUNC				Lg	Lg	22 17 39.9	
	0.9nm,0.0s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**328**	Pg	Pg	22 17 38.0	-0.5
	0.5nm,0.0s,SNR=7.9						
IUSE				Lg	Lg	22 17 40.4	
	0.5nm,0.0s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**328**	Pg	Pg	22 17 38.0	-0.5
	0.5nm,0.0s,SNR=7.9						
IUSE				Lg	Lg	22 17 40.4	
	0.5nm,0.0s,SNR=7.9						
EARA	**Aranguren**	**0.12**	**224**	Pg	Pg	22 17 38.1	-0.5
	0.5nm,0.1s,SNR=7.9						
EARA				Lg	Lg	22 17 40.4	
	3.7nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.12**	**224**	Pg	Pg	22 17 38.1	-0.5
	0.5nm,0.1s,SNR=7.9						
EARA				Lg	Lg	22 17 40.4	
	3.7nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.17**	**117**	Pg	Pg	22 17 39.0	-0.7
	0.1nm,0.0s,SNR=7.9						
IEPA				Lg	Lg	22 17 42.3	
	0.5nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.17**	**117**	Pg	Pg	22 17 39.0	-0.6
	0.1nm,0.0s,SNR=7.9						
IEPA				Lg	Lg	22 17 42.3	
	0.5nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.17**	**94**	Pg	Pg	22 17 39.1	-0.7
	0.2nm,0.1s,SNR=7.9						
IELO				Lg	Lg	22 17 42.5	
	0.8nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.17**	**94**	Pg	Pg	22 17 39.1	-0.6
	0.2nm,0.1s,SNR=7.9						
IELO				Lg	Lg	22 17 42.5	
	0.8nm,0.1s,SNR=7.9						

MEX 01 22:51:08.8±0.9, 17°.75N×100°.62W, h85km±12km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.78**	**154**	*i* P	Pn	22 51 23.7	-2.0
CAIG				*i* S	Sn	22 51 36.9	-1.3
ZIIG	**Zihuatanejo**	**0.82**	**260**	*i* P	Pn	22 51 25.2	-0.8
ZIIG				*i* S	Sn	22 51 37.1	-1.9
PLIG	**Platanillo**	**1.24**	**59**	*i* P	Pn	22 51 30.2	-0.9
PLIG				*i* S	Sn	22 51 45.6	-2.3
YAIG	**Yautepec**	**1.84**	**53**	*i* P	Pn	22 51 37.3	-1.7
YAIG				*i* S	Sn	22 52 00.8	-1.1
PPM	**Popocatepetl**	**2.30**	**55**	*i* P	Pn	22 51 43.8	-1.7
PPM				*i* S	Sn	22 52 12.1	-1.4
PNIG	**Pinotepa**	**2.74**	**119**	*i* P	Pn	22 51 50.6	-0.2
PNIG				*i* S	Sn	22 52 20.7	-2.4

*CSEM **01** 23:27:11.4, 33°.98N×25°.07E, h13km, MD3.4, After ATH*
ATH 01 23:27:11.4, 33°.98N×25°.07E, h13km±9km, MD3.4/5, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**1.06**	**348**	*e*PN	Pn	23 27 32.4	+0.5
SIVA				*e*SB	Sn	23 27 46.2	-0.3
SIVA	**Sivas**	**1.06**	**348**	*e*PN	Pn	23 27 32.3	+0.4
SIVA	**Sivas**	**1.06**	**348**	*e*Pn	Pn	23 27 32.4	+0.5
SIVA				*e*Sb	Sn	23 27 46.2	-0.3
SIVA	**Sivas**	**1.06**	**348**	*e*Pn	Pn	23 27 32.3	+0.4
LAST	**Lasithi**	**1.23**	**16**	*e*PN	Pn	23 27 34.1	-0.3
LAST				*e*SB	Sg	23 27 52.0	+0.8
LAST	**Lasithi**	**1.23**	**16**	*e*PN	Pn	23 27 33.2	-1.2
LAST	**Lasithi**	**1.23**	**16**	*e*Pn	Pn	23 27 34.1	-0.3
LAST				*e*Sb	Sg	23 27 52.0	+0.8
LAST	**Lasithi**	**1.23**	**16**	*e*Pn	Pn	23 27 33.2	-1.2
IDI	**Anoyia**	**1.31**	**354**	*e*PN	Pn	23 27 35.4	-0.2
IDI				*e*SB	Sg	23 27 53.7	-0.3
IDI	**Anoyia**	**1.31**	**354**	*e*PN	Pn	23 27 35.5	-0.1
IDI	**Anoyia**	**1.31**	**354**	*e*Pn	Pn	23 27 35.4	-0.2
IDI				*e*Sb	Sg	23 27 53.7	-0.3
IDI	**Anoyia**	**1.31**	**354**	*e*Pn	Pn	23 27 35.5	-0.1
NPS	**Neapolis**	**1.35**	**19**	*e*PN	Pn	23 27 35.1	-1.0
NPS	**Neapolis**	**1.35**	**19**	*e*Pn	Pn	23 27 35.1	-1.0
ZKR	**Zakros**	**1.48**	**40**	*e*PB	Pb	23 27 39.1	+0.4
ZKR	**Zakros**	**1.48**	**40**	*e*PN	Pb	23 27 39.1	+0.4
ZKR	**Zakros**	**1.48**	**40**	*e*Pb	Pb	23 27 39.1	+0.4
ZKR	**Zakros**	**1.48**	**40**	*e*Pn	Pb	23 27 39.1	+0.4
VAM	**Vamos**	**1.59**	**334**	*e*PB	Pg	23 27 42.1	0.0
VAM	**Vamos**	**1.59**	**334**	*e*PN	Pg	23 27 42.9	+0.8
VAM	**Vamos**	**1.59**	**334**	*e*Pb	Pg	23 27 42.1	0.0
VAM	**Vamos**	**1.59**	**334**	*e*Pn	Pg	23 27 42.9	+0.8

*ISCJB **01** 23:37:53.9±0.4, 7°.22S±0°.08×120°.1E±0°.1, h587km, mb3.8/12, Error ellipse: s-maj=18.6km s-min=6.7km az=153.8*
*IDC **01** 23:37:54.4±0.6, 7°.26S×120°.13E, h567km±7km, mb3.3/12, mb1 3.4/15, mb1mx3.3/25, mbtmp3.3/15, Error ellipse: s-maj=21.9km s-min=8.2km az=64.0*
*AUST **01** 23:38:26.2±2.0, 12°.60S×120°.42E, h468km, Error ellipse: s-maj=2.4km s-min=1.2km az=241.0*
ISC 01 23:37:55.0±0.6, 7°.30S±0°.09×120°.1E±0°.2, h587km, n29, σ1§87/28, mb3.7/11, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKSI	**Bulukumba**	**1.96**	**0**	P	**P**	**23 39 05.6**	**-2.5**
KAPI	**Kappang**	**2.30**	**351**	P	**P**	**23 39 07.0**	**-2.5**
KAPI	**Kappang**	**2.30**	**351**	P	**P**	**23 39 07.0**	**-2.5**
	30nm,0.3s,baz=188,slow=2.4,SNR=158						
KAPI				S	**S**	**23 40 06.1**	**-3.9**
	baz=307,slow=23,SNR=3.7						
WSI	**Waingapu**	**2.36**	**176**	S	**S**	**23 40 05.5**	**-5.1**
	baz=2.9,SNR=3.6						
MMRI	**Maumere**	**2.48**	**123**	P	P	23 39 06.3	-4.0
SPSI	**Sidrap Palu**	**3.33**	**354**	P	**P**	**23 39 13.8**	**-1.4**
TTSI	**Tana Toraja**	**4.24**	**356**	P	**P**	**23 39 20.0**	**-1.3**
LUWI	**Luwuk**	**6.75**	**23**	P	S	23 41 02.5	-7.5
	baz=12,SNR=3.1						
KNRA	**Kununurra**	**11.87**	**135**	P	**P**	**23 40 31.3**	**-1.2**
	baz=8.7,SNR=5.8						
FITZ	**Fitzroy Crossi**	**12.01**	**154**	P	**P**	**23 40 32.8**	**-1.0**
	0.8nm,0.3s,baz=341,slow=6.0,SNR=21						
MTN	**Manton Dam**	**12.16**	**118**	P	**P**	**23 40 34.0**	**-1.4**
	baz=10,SNR=11						
WRA	**Warramunga Arr**	**18.66**	**134**	P	**P**	**23 41 38.1**	**+0.9**
	1.3nm,0.3s,baz=310,slow=10,SNR=36						
WRA				S	**S**	**23 44 38.7**	**+1.1**
	0.1nm,0.3s,baz=312,slow=17,SNR=4.0						
MEEK	**Meekatharra**	**19.29**	**184**	P	**P**	**23 41 42.8**	**-0.1**
	baz=14,SNR=3.2						
ASAR	**Alice Springs**	**20.97**	**142**	P	**P**	**23 41 58.8**	**+0.6**
	2.6nm,0.3s,baz=320,slow=8.2,SNR=44						
BBOO	**Buckleboo**	**29.39**	**152**	P	**P**	**23 43 12.8**	**+0.7**
	baz=25,SNR=8.0						
STKA	**Stephens Creek**	**31.60**	**144**	P	**P**	**23 43 32.6**	**+1.5**
	4.9nm,0.4s,baz=320,slow=9.0,SNR=26						
STKA	**Stephens Creek**	**31.60**	**144**	P	**P**	**23 43 32.4**	**+1.3**
	baz=27,SNR=20						
STKA				S	S	23 47 19.1	-41
	baz=27,SNR=7.0						
CMAR	**Chiang Mai Arr**	**33.04**	**321**	P	**P**	**23 43 44.4**	**+0.9**
	1.2nm,0.6s,baz=151,slow=6.4,SNR=6.5						
YNG	**Young**	**37.43**	**140**	P	**P**	**23 44 21.9**	**+2.3**
	baz=33,SNR=8.8						
LHI	**Lord Howe Isla**	**43.56**	**129**	P	P	23 45 19.5	+11
	baz=40,SNR=3.8						
KSRS	**Korea Array**	**45.11**	**9**	P	**P**	**23 45 19.5**	**-0.5**
	5.8nm,0.7s,baz=122,slow=38,SNR=8.6						
MJAR	**Matsushiro Arr**	**46.80**	**20**	P	**P**	**23 45 33.2**	**+0.3**
	0.9nm,0.5s,baz=197,slow=8.1,SNR=3.3						
USRK	**Ussuriysk Arra**	**52.37**	**11**	P	**P**	**23 46 13.8**	**+0.4**
	1.3nm,0.4s,baz=202,slow=6.9,SNR=5.0						
SONM	**Songino Array**	**56.22**	**349**	P	**P**	**23 46 41.8**	**+1.2**
	1.3nm,0.5s,baz=167,slow=8.3,SNR=10						
MKAR	**Makanchi Array**	**63.47**	**332**	P	**P**	**23 47 29.5**	**+1.0**
	4.1nm,0.5s,baz=145,slow=7.4,SNR=72						
ZALV	**Zalesovo Beam**	**67.87**	**338**	P	**P**	**23 47 55.7**	**+0.1**
	2.6nm,0.3s,baz=136,slow=4.6,SNR=16						
MAW	**Mawson**	**71.20**	**200**	P	**P**	**23 48 15.5**	**+0.3**
	0.8nm,0.5s,baz=222,slow=15,SNR=5.8						
VNDA	**Vanda**	**73.49**	**171**	P	**P**	**23 48 29.9**	**+1.6**
	1.1nm,0.6s,baz=320,slow=6.4,SNR=9.0						
AKTO	**Aktyubinsk**	**78.48**	**325**	P	**P**	**23 48 56.6**	**+0.4**
	0.8nm,0.6s,baz=136,slow=7.3,SNR=4.4						

*ISCJB **01** 23:45:53.2±0.7, 33°.90N±0°.07×25°.76E±0°.05, h17km, mb3.4/3, MS3.3/1, Error ellipse: s-maj=10.7km s-min=5.0km az=26.7*
*IDC **01** 23:45:53.0±1.4, 33°.96N×25°.76E, h0km, mb3.5/3, mb1 3.4/8, mb1mx3.3/29, mbtmp3.4/8, ML3.4/5, MS3.4/1, Ms1 3.4/1, ms1mx2.2/31, Error ellipse: s-maj=29.0km s-min=22.0km az=155.0*
*THE **01** 23:45:55.8, 34°.01N×25°.58E, h0km±3km, ML3.0/1, Error ellipse: s-maj=13.1km s-min=2.8km az=171.0*
*CSEM **01** 23:46:00.7±0.8, 34°.41N×25°.58E, h15km±8km, MD3.6, Error ellipse: s-maj=19.3km s-min=6.7km az=169.0*
*ATH **01** 23:46:00.3, 34°.36N×25°.52E, h35km±8km, MD3.6/11*
ISC 01 23:45:56.1±1.0, 34°.00N±0°.08×25°.64E±0°.04, h17km, n48, σ1§16/53, mb3.6/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**1.17**	**353**	P	**Pn**	**23 46 16.2**	**-1.5**
LAST	**Lasithi**	**1.17**	**353**	*e*PN	**Pn**	**23 46 15.9**	**-1.8**
LAST	**Lasithi**	**1.17**	**353**	*e*Pn	**Pn**	**23 46 15.9**	**-1.8**
LAST	**Lasithi**	**1.17**	**353**	P	**Pn**	**23 46 16.2**	**-1.5**
ZKR	**Zakros**	**1.21**	**23**	P	**Pn**	**23 46 17.5**	**-0.7**
ZKR	**Zakros**	**1.21**	**23**	P	**Pn**	**23 46 17.5**	**-0.7**
SIVA	**Sivas**	**1.23**	**326**	P	**Pn**	**23 46 17.3**	**-1.1**
SIVA	**Sivas**	**1.23**	**326**	*e*PB	**Pn**	**23 46 16.5**	**-1.9**
SIVA	**Sivas**	**1.23**	**326**	*e*Pb	**Pn**	**23 46 16.5**	**-1.9**
SIVA	**Sivas**	**1.23**	**326**	P	**Pn**	**23 46 17.3**	**-1.1**
NPS	**Neapolis**	**1.26**	**359**	P	**Pn**	**23 46 17.5**	**-1.4**
NPS	**Neapolis**	**1.26**	**359**	*e*PN	**Pn**	**23 46 17.3**	**-1.6**
NPS	**Neapolis**	**1.26**	**359**	P	**Pn**	**23 46 17.5**	**-1.4**
IDI	**Anoyia**	**1.43**	**334**	P	**Pn**	**23 46 21.3**	**0.0**
IDI				S	**Sb**	**23 46 40.4**	**+0.2**
IDI	**Anoyia**	**1.43**	**334**	*e*PN	**Pn**	**23 46 21.2**	**0.0**
IDI	**Anoyia**	**1.43**	**334**	*e*Pn	**Pn**	**23 46 21.2**	**0.0**
GVD	**Gavdhos**	**1.53**	**303**	P	**Pn**	**23 46 21.2**	**-1.5**
GVD				S	**Sb**	**23 46 43.8**	**+0.6**
GVD	**Gavdhos**	**1.53**	**303**	P	**Pn**	**23 46 21.2**	**-1.5**
GVD				S	**Sb**	**23 46 43.8**	**+0.6**
VAM	**Vamos**	**1.84**	**320**	P	**Pn**	**23 46 27.5**	**+0.6**
VAM	**Vamos**	**1.84**	**320**	*e*PN	**Pn**	**23 46 27.2**	**+0.3**
VAM	**Vamos**	**1.84**	**320**	*e*Pn	**Pn**	**23 46 27.2**	**+0.3**
VAM	**Vamos**	**1.84**	**320**	P	**Pn**	**23 46 27.5**	**+0.6**
KARP	**Karpathos**	**1.98**	**39**	P	**Pn**	**23 46 30.6**	**+1.7**
KARP				S	**Sb**	**23 46 57.5**	**+1.3**
KARP	**Karpathos**	**1.98**	**39**	*e*PN	**Pn**	**23 46 30.7**	**+1.8**
KARP	**Karpathos**	**1.98**	**39**	P	**Pn**	**23 46 30.6**	**+1.7**
KARP				S	**Sb**	**23 46 57.5**	**+1.3**
THR3	**Thira Island,**	**2.41**	**355**	P	**Pn**	**23 46 34.4**	**-0.3**
THR3	**Thira Island,**	**2.41**	**355**	P	**Pn**	**23 46 34.4**	**-0.3**
ANKY	**Antikythira Is**	**2.68**	**315**	P	**Pn**	**23 46 39.3**	**+0.9**
ANKY	**Antikythira Is**	**2.68**	**315**	P	**Pn**	**23 46 39.3**	**+0.9**
APE	**Apeiranthos**	**3.06**	**358**	*e*PN	**Pn**	**23 46 43.5**	**-0.2**
APE	**Apeiranthos**	**3.06**	**358**	*e*Pn	**Pn**	**23 46 43.5**	**-0.2**
KYTH	**Kithira**	**3.12**	**318**	P	**Pn**	**23 46 45.5**	**+0.9**
KYTH	**Kithira**	**3.12**	**318**	*e*PN	**Pn**	**23 46 45.4**	**+0.9**
KYTH	**Kithira**	**3.12**	**318**	*e*Pn	**Pn**	**23 46 45.4**	**+0.9**
VLI	**Veliai**	**3.50**	**322**	*e*PN	**Pn**	**23 46 49.0**	**-0.7**
VLI	**Veliai**	**3.50**	**322**	*e*Pn	**Pn**	**23 46 49.0**	**-0.7**
DID	**Didima**	**4.01**	**331**	*e*PN	**Pn**	**23 46 55.6**	**-1.1**
DID	**Didima**	**4.01**	**331**	*e*Pn	**Pn**	**23 46 55.6**	**-1.1**
VLX	**Vlachokerasia**	**4.28**	**323**	*e*PN	**Pn**	**23 47 01.3**	**+0.7**
VLX	**Vlachokerasia**	**4.28**	**323**	*e*Pn	**Pn**	**23 47 01.3**	**+0.7**
MMAI	**Mount Meron Ar**	**8.21**	**94**	Pn	Pn	23 47 51.6	-2.8
	0.6nm,0.3s,baz=276,slow=13,SNR=4.4						
MMAI				Sn	**Sn**	**23 49

IDI	**Anoyia**	**0.63**	**327**	*e*P	Pn	00 39 57.0 +1.2
IDI	**Anoyia**	**0.63**	**327**	*e*P	Pn	00 39 57.0 +1.2
ZKR	**Zakros**	**0.82**	**64**	*e*P	Pn	00 39 59.2 +0.9
ZKR	**Zakros**	**0.82**	**64**	*e*P	Pn	00 39 59.2 +0.9
VAM	**Vamos**	**1.12**	**306**	*e*P	Pn	00 40 03.9 +1.6
VAM	**Vamos**	**1.12**	**306**	*e*P	Pn	00 40 03.9 +1.6
KYTH	**Kithira**	**2.40**	**310**	*e*P	Pn	00 40 21.7 +1.8
KYTH	**Kithira**	**2.40**	**310**	*e*P	Pn	00 40 21.7 +1.8
ARG	**Arkhangelos**	**2.72**	**57**	*e*P	Pn	00 40 25.5 +1.2
ARG	**Arkhangelos**	**2.72**	**57**	*e*P	Pn	00 40 25.5 +1.2
VLI	**Veliai**	**2.75**	**316**	*e*P	Pn	00 40 26.0 +1.3
VLI	**Veliai**	**2.75**	**316**	*e*P	Pn	00 40 26.0 +1.3
DID	**Didima**	**3.21**	**329**	*e*P	Pn	00 40 32.6 +1.5
DID	**Didima**	**3.21**	**329**	*e*P	Pn	00 40 32.6 +1.5
GUR	**Goura**	**3.97**	**324**	*e*P	Pn	00 40 42.8 +1.2
GUR	**Goura**	**3.97**	**324**	*e*P	Pn	00 40 42.8 +1.2

TAP 02 00:40:47.4, 22°.08N×121°.43E, h3km, ML3.5, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu** baz=108	**0.12**	**109**	*i* P	Pg	00 40 50.2	+0.4
TSEB	**Hengchuen, Pin** baz=251	**0.52**	**250**	*e*P	Pg	00 40 58.0	+0.6
TSEB	baz=251			S	Sb	00 41 09.1	+2.0
TWK1	**Hengchun** baz=256	**0.59**	**257**	*e*P	Pb	00 40 59.8	-0.6
TWK1	baz=256			*e*S	Sb	00 41 09.3	+0.1
HEN	**Hengchun** baz=263	**0.64**	**264**	*e*P	Pb	00 41 00.7	-0.6
HEN	baz=263			*e*S	Sb	00 41 10.7	0.0
ECL	**Taimali** baz=320	**0.68**	**320**	*e*P	Pb	00 41 01.8	0.0
ECL	baz=320			*e*S	Sb	00 41 12.4	+0.7
TTN	**Taitung** baz=339	**0.72**	**339**	*e*P	Pb	00 41 02.4	-0.3
TTN	baz=339			*e*S	Sb	00 41 14.2	+1.2
SCZT	**Fangliau** baz=291	**0.80**	**291**	*e*P	Pb	00 41 03.7	-0.3
SCZT	baz=291			*e*S	Sb	00 41 16.7	+1.4
TWG	**Pinlang** baz=336	**0.81**	**336**	*e*P	Pb	00 41 04.3	+0.2
TWG	baz=336			*e*S	Sn	00 41 17.0	-1.4
CHKT	**Chengkung** baz=357	**1.02**	**357**	*e*P	Pg	00 41 06.4	-0.5
CHKT	baz=357			*e*S	Sn	00 41 23.7	+0.3
TWP	**Hsiaoliuchiu** baz=285	**1.02**	**285**	*e*P	Pn	00 41 09.4	+0.7
ELDTW	**Lidau** baz=341	**1.17**	**341**	*e*P	Pn	00 41 10.9	0.0
TWM1	**Shoushan** baz=308	**1.19**	**309**	*e*P	Pn	00 41 13.7	+2.6
TWF1	**Yuli** baz=354	**1.27**	**355**	*e*P	Pn	00 41 12.3	+0.1
TWF1	baz=354			*e*S	Sn	00 41 31.2	+1.4
CHN1	**Nanshi** baz=322	**1.38**	**323**	*e*P	Pb	00 41 15.2	+1.2
CHN1	baz=322			*e*S	Sn	00 41 35.6	+3.2
WTP	**Ta-pu** baz=327	**1.38**	**327**	*e*P	Pg	00 41 15.1	+1.1
WTP	baz=327			*e*S	Sn	00 41 33.8	+1.2
EHY	**Hungye** baz=356	**1.43**	**356**	*e*P	Pn	00 41 13.1	-1.1
TWK	**Hsinying** baz=324	**1.47**	**324**	*e*P	Pg	00 41 16.2	+0.6
TWK	baz=324			*e*S	Sg	00 41 37.9	+3.1
YUS	**Yu-Shan** baz=342	**1.47**	**343**	*e*P	Pn	00 41 15.3	-0.2
YUS	baz=342			*e*S	Sg	00 41 36.2	+0.4
CHN4	**Tsaushan** baz=328	**1.48**	**329**	*e*P	Pb	00 41 15.5	-0.1
CHN4	baz=328			*e*S	Sg	00 41 36.0	+0.9
ALS	**Alishan** baz=338	**1.54**	**338**	*e*P	Pn	00 41 16.3	+0.1
ALS	baz=338			*e*S	Sg	00 41 37.7	+0.2
CHN5	**Tsauling** baz=335	**1.66**	**336**	*e*P	Pn	00 41 18.1	+0.5
CHN5	baz=335			*e*S	Sg	00 41 41.5	+0.4
CHY	**Chiayi** baz=326	**1.69**	**327**	*e*P	Pn	00 41 17.8	-0.1
CHY	baz=326			*e*S	Sg	00 41 43.4	+1.6
SMLT	**Sun Moon Lake** baz=345	**1.86**	**345**	*e*P	Pn	00 41 20.9	+0.5
SMLT	baz=345			*e*S	Sb	00 41 45.5	-0.6
TYC	**Yuchr** baz=344	**1.89**	**344**	*e*P	Pn	00 41 21.3	+0.6
TYC	baz=344			*e*S	Sb	00 41 46.4	-0.2
WNT	**Mingjian** baz=339	**1.92**	**339**	*e*P	Pg	00 41 23.7	-0.5
WNT	baz=339			*e*S	Sg	00 41 49.3	+0.2
TWD	**Chiawan** baz=4.0	**2.00**	**4**	*e*P	Pn	00 41 22.3	+0.2
WHF	**Hehuan Shan** baz=356	**2.06**	**356**	*e*P	Pn	00 41 24.0	+0.4
WHF	baz=356			*e*S	Sn	00 41 50.6	+0.4
TWQ1	**Liyutan** baz=345	**2.34**	**345**	*e*P	Pn	00 41 27.6	+0.8
TWQ1	baz=345			*e*S	Sb	00 41 58.0	-1.6
NNS	**Nan Shan** baz=358	**2.35**	**359**	*e*P	Pn	00 41 27.8	+0.6
NNS	baz=358			*e*S	Sn	00 41 57.6	+0.9
NSTT	**Nanjuang** baz=351	**2.57**	**351**	*e*S	Sb	00 42 05.8	-0.5

*NEIC **02** 00:41:54.6, 18°.82N×66°.53W, h151km, MD3.4(RSPR), After RSPR.*

RSPR 02 00:41:54.6, 18°.82N×66°.53W, h151km±4km, MD3.4/3, 13C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**0.52**	**204**	⇑*e*P	Pn	00 42 15.4	-0.8
AOPR	**Arecibo Observ**	**0.52**	**204**	⇑*e*P	Pn	00 42 15.6	-0.7
AOPR	**Arecibo Observ**	**0.52**	**204**	⇑*e*P	Pn	00 42 15.4	-0.8
AOPR				*e*S	Sn	00 42 32.2	-0.5
AGPR	**Aguadilla, PR**	**0.66**	**237**	*e*S	Sn	00 42 34.4	+0.4
LSP	**Las Mesas**	**0.83**	**220**	⇑*e*P	Pn	00 42 20.0	+1.8
LSP	**Las Mesas**	**0.83**	**220**	⇑*e*P	Pn	00 42 20.0	+1.8
CBYP	**Canovanas**	**0.84**	**131**	⇑*e*P	Pn	00 42 17.2	-1.1
CBYP	**Canovanas**	**0.84**	**131**	⇑*e*P	Pn	00 42 17.2	-1.1
HUMP	**Col San Antoni**	**0.94**	**136**	⇑*e*P	Pn	00 42 18.7	-0.2
HUMP	**Col San Antoni**	**0.94**	**136**	⇑*e*P	Pn	00 42 18.8	-0.2
HUMP	**Col San Antoni**	**0.94**	**136**	⇑*e*P	Pn	00 42 18.7	-0.2
HUMP				*e*S	Sn	00 42 37.0	-0.5
CRPR	**Cabo Rojo, PR**	**0.98**	**214**	⇓*e*P	Pn	00 42 22.9	+3.6
CRPR	**Cabo Rojo, PR**	**0.98**	**214**	*e*S	Sn	00 42 44.4	+6.2
CRPR	**Cabo Rojo, PR**	**0.98**	**214**	⇓*e*P	Pn	00 42 22.9	+3.6
CRPR				*e*S	Sn	00 42 44.4	+6.2
MTP	**Monte Pirata**	**1.17**	**128**	⇑*e*P	Pn	00 42 21.1	+0.1
MTP	**Monte Pirata**	**1.17**	**128**	⇑*e*P	Pn	00 42 20.6	-0.5
MTP	**Monte Pirata**	**1.17**	**128**	⇑*e*P	Pn	00 42 21.1	+0.1
MTP				*e*S	Sn	00 42 41.9	+0.6
STVI	**Saint Thomas**	**1.56**	**107**	*e*S	Sn	00 42 48.3	+0.2

*ISCJB **02** 01:01:05.7±1.0, 33°.98N±0°.03×25°.38E±0°.04, h6km±6km, mb3.6/13, MS3.5/1, Error ellipse: s-maj=6.4km s-min=4.3km az=152.1*

*IDC **02** 01:01:06.4±1.0, 33°.92N×25°.26E, h0km, mb3.7/11, mb1 3.8/17, mb1mx3.7/32, mbtmp3.7/17, ML3.9/5, MS3.4/2, Ms1 3.4/2, ms1mx2.5/42, Error ellipse: s-maj=22.6km s-min=16.0km az=178.0*

*CSEM **02** 01:01:07.3±0.2, 34°.05N×25°.40E, h5km, MD3.6, Error ellipse: s-maj=6.2km s-min=3.4km az=77.0*

*ATH **02** 01:01:07.7, 34°.04N×25°.35E, h5km±3km, MD3.6/12*

*THE **02** 01:01:11.4, 34°.30N×25°.36E, h0km±1km, Error ellipse: s-maj=4.4km s-min=1.1km az=159.0*

ISC 02 01:01:06.7±1.5, 34°.04N±0°.04×25°.36E±0°.04, h0km±10km, n78, σ1§15/85, mb3.7/12, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.07**	**335**	P	**Pg**	**01 01 27.5**	**+0.2**
SIVA	**Sivas**	**1.07**	**335**	*e*PN	**Pb**	**01 01 28.2**	**0.0**
SIVA				*e*SB	**Sn**	**01 01 43.6**	**-1.0**
SIVA	**Sivas**	**1.07**	**335**	P	**Pg**	**01 01 27.5**	**+0.2**
SIVA	**Sivas**	**1.07**	**335**	*e*Pn	**Pb**	**01 01 28.2**	**0.0**
SIVA				*e*Sb	**Sn**	**01 01 43.6**	**-1.0**
LAST	**Lasithi**	**1.12**	**5**	P	**Pg**	**01 01 28.3**	**+0.1**
LAST	**Lasithi**	**1.12**	**5**	*e*PG	**Pg**	**01 01 28.6**	**+0.4**
LAST				*e*SB	**Sn**	**01 01 45.4**	**-0.5**
LAST	**Lasithi**	**1.12**	**5**	P	**Pg**	**01 01 28.3**	**+0.1**
LAST	**Lasithi**	**1.12**	**5**	*e*Pg	**Pg**	**01 01 28.6**	**+0.4**
LAST				*e*Sb	**Sn**	**01 01 45.4**	**-0.5**
NPS	**Neapolis**	**1.24**	**10**	P	**Pg**	**01 01 30.7**	**+0.4**
NPS				S	**Sg**	**01 01 45.4**	**-1.0**
NPS	**Neapolis**	**1.24**	**10**	*e*PG	**Pg**	**01 01 30.8**	**+0.4**
NPS	**Neapolis**	**1.24**	**10**	*e*Pg	**Pg**	**01 01 30.8**	**+0.4**
NPS				S	**Sg**	**01 01 45.4**	**-1.0**
ZKR	**Zakros**	**1.28**	**33**	P	**Pn**	**01 01 31.9**	**+0.1**
ZKR	**Zakros**	**1.28**	**33**	*e*PB	**Pn**	**01 01 32.5**	**+0.7**
ZKR	**Zakros**	**1.28**	**33**	P	**Pn**	**01 01 31.9**	**+0.1**
ZKR	**Zakros**	**1.28**	**33**	*e*Pb	**Pn**	**01 01 32.5**	**+0.7**
IDI	**Anoyia**	**1.30**	**343**	P	**Pg**	**01 01 31.8**	**+0.1**
IDI	**Anoyia**	**1.30**	**343**	*e*PG	**Pg**	**01 01 31.8**	**+0.1**
IDI	**Anoyia**	**1.30**	**343**	P	**Pg**	**01 01 31.8**	**+0.1**
GVD	**Gavdhos**	**1.32**	**307**	P	**Pb**	**01 01 33.6**	**+1.3**
GVD				S	**Sn**	**01 01 51.4**	**+0.8**
GVD	**Gavdhos**	**1.32**	**307**	*e*PB	**Pb**	**01 01 33.0**	**+0.7**
GVD	**Gavdhos**	**1.32**	**307**	*e*Pb	**Pb**	**01 01 33.0**	**+0.7**
GVD	**Gavdhos**	**1.32**	**307**	P	**Pb**	**01 01 33.6**	**+1.3**
GVD				S	**Sn**	**01 01 51.4**	**+0.8**
VAM	**Vamos**	**1.67**	**325**	P	**Pn**	**01 01 37.4**	**+0.3**
VAM	**Vamos**	**1.67**	**325**	*e*PG	**Pb**	**01 01 38.8**	**+0.6**
VAM	**Vamos**	**1.67**	**325**	P	**Pn**	**01 01 37.4**	**+0.3**
VAM	**Vamos**	**1.67**	**325**	*e*Pg	**Pb**	**01 01 38.8**	**+0.6**
KARP	**Karpathos**	**2.11**	**44**	*e*PN	**Pb**	**01 01 46.6**	**+0.8**
KARP	**Karpathos**	**2.11**	**44**	*e*Pn	**Pb**	**01 01 46.6**	**+0.8**
SANT	**Santorini** 335nm,5.9s	**2.33**	**2**	P	**Pn**	**01 01 46.3**	**+0.1**
SANT				S	**Sn**	**01 02 13.0**	**-2.5**
SANT	**Santorini**	**2.33**	**2**	*e*PN	**Pb**	**01 01 49.9**	**+0.4**
SANT	**Santorini** 335nm,5.9s	**2.33**	**2**	P	**Pn**	**01 01 46.3**	**+0.1**
SANT	**Santorini**	**2.33**	**2**	*e*Pn	**Pb**	**01 01 49.9**	**+0.4**
SANT				S	**Sn**	**01 02 13.0**	**-2.5**
ANKY	**Antikythira Is**	**2.49**	**318**	*e*PN	**Pb**	**01 01 52.2**	**0.0**
ANKY	**Antikythira Is**	**2.49**	**318**	*e*Pn	**Pb**	**01 01 52.2**	**0.0**
SLUM		**2.55**	**183**	P	**Pn**	**01 01 49.4**	**+0.2**
KYTH	**Kithira**	**2.94**	**320**	*e*PN	**Pb**	**01 01 59.3**	**-0.6**
KYTH	**Kithira**	**2.94**	**320**	*e*Pn	**Pb**	**01 01 59.3**	**-0.6**
ARG	**Arkhangelos**	**3.14**	**45**	*e*PN	**Pb**	**01 02 01.2**	**-2.1**
HMAT	**Matruh**	**3.28**	**153**	P	**Pn**	**01 01 59.5**	**+0.1**
HMAT				S	**Sn**	**01 02 36.1**	**-3.0**
VLI	**Veliai**	**3.33**	**324**	*e*PB	**Pn**	**01 02 02.0**	**+2.1**
VLI	**Veliai**	**3.33**	**324**	*e*Pb	**Pn**	**01 02 02.0**	**+2.1**
DYR	**Agios Nikonas**	**3.67**	**319**	*e*PB	Pb	01 02 09.4	-3.1
AMT	**Artemida-Makis**	**4.58**	**321**	*e*PN	Pn	01 02 20.8	+3.6
AMT	**Artemida-Makis**	**4.58**	**321**	*e*Pn	Pn	01 02 20.8	+3.6
SWA2		**4.78**	**179**	P	**Pn**	**01 02 20.4**	**+0.4**
EFP	**Efpalio**	**5.19**	**328**	*e*PN	Pn	01 02 30.4	+4.8
EFP	**Efpalio**	**5.19**	**328**	*e*Pn	Pn	01 02 30.4	+4.8
HFRF	**Wahat Farafira**	**7.33**	**159**	P	**Pn**	**01 02 54.9**	**0.0**
MMAI	**Mount Meron Ar** 0.8nm,0.3s,baz=284,slow=12,SNR=5.8	**8.45**	**94**	Pn	**Pn**	**01 03 10.0**	**-0.3**
MMAI	1.1nm,0.3s,baz=287,slow=22,SNR=4.0			Sn	**Sn**	**01 04 47.3**	**+0.9**
BRTR	**Keskin Array B** 0.0nm,0.3s,baz=225,slow=16,SNR=3.0	**8.72**	**47**	Pn	**Pn**	**01 03 16.6**	**+2.4**
EIL	**Elat** 0.4nm,0.3s,baz=318,slow=15,SNR=8.5	**9.24**	**116**	Pn	**Pn**	**01 03 21.8**	**+0.5**
PGF	**Pioggiola** 12nm,0.9s	**15.38**	**308**	*e*P	**Pn**	**01 04 44.4**	**-0.7**
KBZ	**Khabaz** 0.1nm,0.3s,baz=236,slow=12,SNR=2.5	**16.70**	**49**	Pn	**P**	**01 05 07.8**	**+3.4**
AKASG	**Malin Array Be** 1.3nm,0.3s,baz=203,slow=11,SNR=8.3	**16.89**	**8**	P	**P**	**01 05 05.6**	**-0.8**
SBF	**Sospel** 24nm,1.0s	**17.02**	**310**	*e*P	**Pn**	**01 05 05.1**	**-0.9**
GERES	**GERESS Array B** 0.3nm,0.3s,baz=144,slow=12,SNR=20	**17.15**	**333**	P	**P**	**01 05 08.8**	**-0.6**
GERES	comp=Z,58nm,18.1s,baz=148,slow=39			LR	LR	01 12 22.8	
KHC	**Kasperske Hory**	**17.43**	**333**	*e*P	**P**	**01 05 13.8**	**+1.3**
KHC				*ex*	x	01 05 22.5	
DPC	**Dobruska-Polom**	**17.60**	**341**	*e*P	**Pn**	**01 05 10.3**	**-2.9**
PRU	**Pruhonice**	**17.82**	**337**	*e*P	**Pn**	**01 05 15.0**	**-0.9**
UPC	**Upice**	**17.82**	**340**	*e*P	**Pn**	**01 05 12.0**	**-4.0**
LASF	**Sic Croix** 26nm,1.4s	**19.43**	**307**	*e*P	**Pn**	**01 05 35.9**	**+0.3**
PAGF	**Fort de Pagny** 2.9nm,0.7s	**20.60**	**321**	*e*P	**P**	**01 05 47.7**	**+0.5**
AVF	**Avril sur Loir** 2.9nm,0.7s	**20.96**	**314**	*e*P	**P**	**01 05 51.1**	**0.0**
RJF	**Les Rejaudoux**	**21.45**	**309**	*e*P	**P**	**01 05 56.1**	**-0.3**
LDF	**La Druitiere**	**23.89**	**315**	*e*P	**P**	**01 06 20.6**	**-1.2**
ESDC	**Sonseca Array** 0.3nm,0.4s,baz=83,slow=9.3,SNR=6.8	**24.07**	**292**	P	**P**	**01 06 22.8**	**-0.8**
FLN	**La Foliniere**	**24.18**	**315**	*e*P	**P**	**01 06 23.7**	**-0.8**
EVO	**Evora** 33nm,1.5s	**27.18**	**289**	*e*P	**P**	**01 06 52.0**	**+0.1**
HFS	**Hagfors** 0.6nm,0.5s,baz=111,slow=7.9,SNR=5.6	**27.20**	**347**	P	**P**	**01 06 52.5**	**+0.8**
FINES	**FINESS Array B** 0.8nm,0.7s,baz=183,slow=12,SNR=4.4	**27.42**	**1**	P	**P**	**01 06 55.1**	**+1.3**
NOA	**NORSAR Array B** 0.3nm,0.5s,baz=146,slow=9.1,SNR=3.4	**28.52**	**346**	P	**P**	**01 07 03.2**	**-0.4**
EKA	**Eskdalemuir Ar** 0.6nm,0.7s,baz=128,slow=8.7,SNR=5.6	**29.05**	**326**	P	**P**	**01 07 08.5**	**+0.2**
TORD	**Torodi Ar. Bea** 1.0nm,0.5s,baz=45,slow=8.0,SNR=19	**29.91**	**232**	P	**P**	**01 07 15.1**	**-1.3**
TORD	comp=Z,109nm,18.6s,baz=80,slow=42			LR	LR	01 21 47.1	
MKAR	**Makanchi Array** 1.1nm,0.6s,baz=276,slow=6.8,SNR=19	**44.26**	**56**	P	**P**	**01 09 18.2**	**+0.4**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=271,slow=8.4,SNR=3.2	**45.66**	**45**	P	**P**	**01 09 29.8**	**+0.9**
SONM	**Songino Array** 0.4nm,0.6s,baz=297,slow=6.5,SNR=3.7	**60.07**	**50**	P	**P**	**01 11 16.4**	**+0.8**
SCHQ	**Schefferville** 1.6nm,0.6s,baz=54,slow=7.2,SNR=4.0	**64.15**	**320**	P	**P**	**01 11 42.6**	**0.0**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=327,slow=4.3,SNR=4.0	**81.33**	**357**	P	**P**	**01 13 25.3**	**+0.7**

*CSEM **02** 01:03:29.9, 33°.89N×25°.48E, h18km, MD3.5, After ATH*

ATH 02 01:03:29.9, 33°.89N×25°.48E, h18km±5km, MD3.5/6, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.25**	**334**	*e*PN	Pb	01 03 53.5	+0.5
SIVA				*e*SN	Sg	01 04 11.0	+0.4
SIVA	**Sivas**	**1.25**	**334**	*e*Pn	Pb	01 03 53.5	+0.5
SIVA				*e*Sn	Sg	01 04 11.0	+0.4
LAST	**Lasithi**	**1.27**	**360**	*e*PN	Pb	01 03 53.2	-0.2
LAST	**Lasithi**	**1.27**	**360**	*e*Pn	Pb	01 03 53.2	-0.2
ZKR	**Zakros**	**1.36**	**26**	*e*PN	Pb	01 03 55.6	+0.6
ZKR				*e*SN	Sg	01 04 14.7	+0.5
ZKR	**Zakros**	**1.36**	**26**	*e*Pn	Pb	01 03 55.6	+0.6
ZKR				*e*Sn	Sg	01 04 14.7	+0.5
NPS	**Neapolis**	**1.37**	**5**	*e*PN	Pb	01 03 55.4	+0.3
NPS	**Neapolis**	**1.37**	**5**	*e*Pn	Pb	01 03 55.4	+0.3
IDI	**Anoyia**	**1.48**	**341**	*e*PN	Pb	01 03 56.9	-0.1
IDI	**Anoyia**	**1.48**	**341**	*e*Pn	Pb	01 03 56.9	-0.1
VAM	**Vamos**	**1.84**	**325**	*e*PN	Pb	01 04 03.7	+0.6
VAM	**Vamos**	**1.84**	**325**	*e*Pn	Pb	01 04 03.7	+0.6

JMA 02 01:05:45.4±0.3, 43°.60N×147°.33E, h19km±5km, M3.6,

Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.18**	**259**	P	Pn	01 06 06.7	-0.1
NEM2				*e*S	Sn	01 06 22.7	+0.4
JRA	**Rausu**	**1.64**	**283**	P	Pn	01 06 13.6	+0.5
JRA				*e*S	Sb	01 06 34.4	-0.7
JNK	**Nakash**	**1.90**	**270**	P	Pn	01 06 17.1	+0.4
JNK				*e*S	Sn	01 06 40.7	+0.6
JAK	**Akkeshi**	**2.02**	**253**	P	Pn	01 06 19.1	+0.8
JAK				*e*S	Sn	01 06 44.1	+1.1
JTKR	**Abashiri--Toko**	**2.51**	**280**	*e*S	Sn	01 06 57.1	+2.0
JAR	**Ashorobuto**	**2.61**	**265**	P	Pn	01 06 28.4	+1.8
JAR				*e*S	Sn	01 07 00.2	+2.5
JOB	**Onbets**	**2.65**	**256**	P	Pn	01 06 29.0	+2.0
JOB				*e*S	Sn	01 07 00.6	+2.0
JCH	**Churui**	**3.07**	**253**	P	Pn	01 06 34.8	+2.0
JCH				*e*S	Sn	01 07 11.0	+2.0
JEM	**Erimo**	**3.45**	**244**	P	Pn	01 06 41.5	+3.4
JNBK	**Urakawa-nobuka**	**3.61**	**250**	P	Pn	01 06 42.6	+2.3

*IDC **02** 01:18:29.3±0.9, 42°.17N×48°.22E, h0km, mb3.4/6, mb1 3.5/10, mb1mx3.4/30, mbtmp3.5/10, ML3.5/2, Error ellipse: s-maj=16.5km s-min=8.6km az=147.0*

*TEH **02** 01:18:31.6, 42°.27N×48°.42E, h9km, ML3.9*

*AZER **02** 01:18:31.4, 42°.14N×48°.19E, h17km*

*MOS **02** 01:18:31.6±1.1, 42°.20N×48°.45E, h14km, mb4.5/2, Error ellipse: s-maj=7.7km s-min=5.9km az=39.3*

*ISCJB **02** 01:18:32.5±0.4, 42°.16N±0°.02×48°.53E±0°.03, h33km±3km, mb3.4/6, Error ellipse: s-maj=3.6km s-min=2.7km az=44.3*

*CSEM **02** 01:18:33.2±0.3, 42°.20N×48°.45E, h24km±2km, mb4.5, Error ellipse: s-maj=4.1km s-min=2.8km az=47.0*

*NNC **02** 01:18:41.8±4.9, 42°.71N×49°.33E, h0km, mb3.6, Error ellipse: s-maj=55.1km s-min=40.1km az=103.0*

ISC 02 01:18:32.4±1.0, 42°.17N±0°.02×48°.41E±0°.03, h16km±7km, n133, σ1§21/181, mb3.5/6, 21C-11D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**0.16**	**204**	⇓*i*PG	Pg	01 18 40.5	+4.1
DRN				*e*S	Sg	01 18 45.0	+5.9
DRN	**Derbent**	**0.16**	**204**	*i* Pg	Pg	01 18 40.5	+4.1
DRN				*e*Sg	Sg	01 18 45.0	+5.9
URKR	**Urkarakh**	**0.58**	**269**	PG	**Pg**	**01 18 44.0**	**+0.1**
URKR				S	**Sg**	**01 18 52.0**	**+0.4**
URKR	**Urkarakh**	**0.58**	**269**	Pg	**Pg**	**01 18 44.0**	**+0.1**
KSMR	**Kasumkent**	**0.61**	**201**	*e*PG	**Pb**	**01 18 45.0**	**+0.3**
KSMR				*e*S	**Sb**	**01 18 53.5**	**+0.4**
KSMR	**Kasumkent**	**0.61**	**201**	*e*Pg	**Pb**	**01 18 45.0**	**+0.3**
KSMR				*e*Sg	**Sb**	**01 18 53.5**	**+0.4**
SGKR	**Sergokala**	**0.63**	**297**	*i* PG	**Pg**	**01 18 45.0**	**+0.2**
SGKR				*e*S	**Sg**	**01 18 53.5**	**+0.4**
SGKR	**Sergokala**	**0.63**	**297**	*i* Pg	**Pg**	**01 18 45.0**	**+0.2**
SGKR				*e*Sg	**Sg**	**01 18 53.5**	**+0.4**
MNSR	**Manas**	**0.74**	**316**	PG	**Pn**	**01 18 49.0**	**+0.9**
MNSR				*e*S	**Sn**	**01 19 00.0**	**+1.0**
MNSR	**Manas**	**0.74**	**316**	Pg	**Pn**	**01 18 49.0**	**+0.9**
MNSR				*e*Sg	**Sn**	**01 19 00.0**	**+1.0**
QUBA	**Quba, Azerbaij** SNR=47	**0.82**	**176**	⇑P	**Pb**	**01 18 48.9**	**+0.6**
QUBA				⇑S	**Sb**	**01 18 59.9**	**+0.8**
QUBA	**Quba, Azerbaij** SNR=47	**0.82**	**176**	P	**Pb**	**01 18 48.9**	**+0.6**
QUBA				S	**Sb**	**01 18 59.9**	**+0.8**
AKT	**Akhty**	**0.86**	**217**	⇓*i*PG	**Pg**	**01 18 48.2**	**-0.9**
AKT				S	**Sg**	**01 19 00.0**	**-0.5**
AKT	**Akhty**	**0.86**	**217**	*i* Pg	**Pg**	**01 18 48.2**	**-0.9**
KMKR	**Kumukh**	**0.98**	**268**	⇓*i*PG	**Pg**	**01 18 50.0**	**-1.4**
KMKR				*i* S	**Sg**	**01 19 02.0**	**-2.2**
KMKR	comp=Z,697nm,0.2s			pmax	pmax		
KMKR	**Kumukh** comp=Z,697nm,0.2s	**0.98**	**268**	*i* Pg	**Pg**	**01 18 50.0**	**-1.4**
MAK	**Makhachkala**	**1.03**	**320**	*e*PG	**Pn**	**01 18 53.3**	**+1.1**
MAK				*e*		01 19 08.6	
MAK	comp=Z,176nm,0.3s			pmax	pmax		
MAK	comp=E,3μm,0.5s			smax	smax		
MAK	comp=N,4μm,0.5s			smax	smax		
MAK	**Makhachkala** comp=N,176nm,0.3s	**1.03**	**320**	*e*Pg	**Pn**	**01 18 53.3**	**+1.1**
ARKR	**Arakani**	**1.14**	**293**	*i* PG	**Pb**	**01 18 53.5**	**-0.2**
ARKR				*e*S	**Sb**	**01 19 09.0**	**+0.8**
ARKR	**Arakani**	**1.14**	**293**	*i* Pg	**Pb**	**01 18 53.5**	**-0.2**
ARKR				*e*Sg	**Sb**	**01 19 09.0**	**+0.8**
SIZA	**Siyzn** SNR=8.4	**1.16**	**162**	⇑P	**Pn**	**01 18 55.0**	**+1.0**
SIZA				⇓S	**Sn**	**01 19 12.4**	**+2.9**
SIZA	**Siyzn** SNR=8.4	**1.16**	**162**	P	**Pn**	**01 18 55.0**	**+1.0**
SIZA				S	**Sn**	**01 19 12.4**	**+2.9**
BUJR	**Buynaksk**	**1.16**	**304**	*e*PG	**Pb**	**01 18 54.0**	**-0.2**
BUJR				S	**Sg**	**01 19 10.2**	**+0.1**
BUJR	comp=Z,201nm,0.2s			pmax	pmax		
BUJR	**Buynaksk** comp=Z,201nm,0.2s	**1.16**	**304**	*e*Pg	**Pb**	**01 18 54.0**	**-0.2**
BUJR				Sg	**Sg**	**01 19 10.2**	**+0.1**
KRNR	**Karanay**	**1.29**	**301**	⇓*i*PG	**Pn**	**01 18 56.0**	**+0.1**
KRNR				*e*S	**Sb**	**01 19 13.5**	**+0.7**
KRNR	comp=Z,172nm,0.2s			pmax	pmax		
KRNR	**Karanay** comp=Z,172nm,0.2s	**1.29**	**301**	*i* Pg	**Pn**	**01 18 56.0**	**+0.1**
KRNR				*e*Sg	**Sb**	**01 19 13.5**	**+0.7**
UNCR	**Uncukul**	**1.31**	**295**	*e*PG	**Pn**	**01 18 56.0**	**-0.1**
UNCR				*e*S	**Sb**	**01 19 13.0**	**-0.4**
UNCR	comp=Z,94nm,0.4s			pmax	pmax		
UNCR	**Uncukul**

ALIB	**Äli-Bayra**	**2.26**	**168**	⇓P		**Pb**	**01 19 12.5**	**-0.3**
	SNR=4.1							
ALIB	**Äli-Bayra**	**2.26**	**168**	P		**Pb**	**01 19 12.5**	**-0.3**
	SNR=4.1							
DGRG	**David-gareji**	**2.39**	**253**	P		**Pn**	**01 19 12.4**	**+1.5**
DGRG				S		**Sn**	**01 19 42.5**	**+2.7**
TBLG	**Delisi**	**2.78**	**262**	*e*PN		**Pn**	**01 19 16.8**	**+0.6**
TBLG				*i* S		**Sn**	**01 19 49.1**	**-0.4**
TBLG	**Delisi**	**2.78**	**262**	P		**Pn**	**01 19 16.9**	**+0.6**
TBLG				S		**Sn**	**01 19 49.1**	**-0.4**
TBLG	**Delisi**	**2.78**	**262**	P		**Pn**	**01 19 16.9**	**+0.7**
TBLG				S		**Sn**	**01 19 49.1**	**-0.4**
GLBA	**Clilabad**	**2.93**	**180**	⇑P		**Pn**	**01 19 19.0**	**+0.7**
	SNR=12							
GLBA	**Clilabad**	**2.93**	**180**	P		**Pn**	**01 19 19.0**	**+0.7**
	SNR=12							
BTKR	**Batakoyurt**	**3.09**	**294**	*e*PN		**Pn**	**01 19 20.0**	**-0.6**
BTKR	**Batakoyurt**	**3.09**	**294**	*e*Pn		**Pn**	**01 19 20.0**	**-0.6**
ZEI	**Tsey**	**3.39**	**282**	*e*PN		**Pb**	**01 19 30.9**	**-1.4**
ZEI				pmax	pmax			
	comp=Z,9.0nm,0.6s							
GNI	**Garni**	**3.43**	**235**	Pn		**Pn**	**01 19 26.7**	**+1.3**
	comp=Z,3.7nm,0.3s,baz=14,slow=8.3,SNR=15							
GNI				Sn		**Sn**	**01 20 04.9**	**-0.9**
	comp=Z,3.9nm,0.3s,baz=344,slow=23,SNR=3.8							
GNI	**Garni**	**3.43**	**235**	Pn		**Pn**	**01 19 26.7**	**+1.3**
	comp=Z,4.0nm,0.3s							
LKRN	**Lenkeran, Azer**	**3.47**	**175**	⇑P		**Pn**	**01 19 26.5**	**+0.7**
LKRN				⇓S		**Sn**	**01 20 04.1**	**-2.4**
LKRN	**Lenkeran, Azer**	**3.47**	**175**	P		**Pn**	**01 19 26.5**	**+0.7**
LKRN				S		**Sn**	**01 20 04.1**	**-2.4**
DIGR	**Digorskoe uzhe**	**3.65**	**283**	*e*PN		**Pn**	**01 19 30.8**	**+2.5**
DIGR	**Digorskoe uzhe**	**3.65**	**283**	*e*Pn		**Pn**	**01 19 30.8**	**+2.5**
AKH	**Akhalkalaki**	**3.76**	**260**	P		**Pn**	**01 19 31.0**	**+1.1**
AKH				S		**Sn**	**01 19 31.0**	**+1.1**
AKH	**Akhalkalaki**	**3.76**	**260**	P		**Pn**	**01 19 31.0**	**+1.1**
AKH				S		**Sn**	**01 20 14.3**	**+0.4**
NCK	**Nalchik**	**3.78**	**292**	*e*PN		**Pn**	**01 19 30.9**	**+0.9**
NCK	**Nalchik**	**3.78**	**292**	*e*Pn		**Pn**	**01 19 30.9**	**+0.9**
IHRS	**Heris**	**3.99**	**196**	*e*Pn		**Pn**	**01 19 34.0**	**+0.9**
IHRS	**Heris**	**3.99**	**196**	*e*Pn		**Pn**	**01 19 34.0**	**+0.9**
KBZ	**Khabaz**	**4.34**	**293**	PN		**Pn**	**01 19 37.8**	**+0.2**
KBZ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KBZ	**Khabaz**	**4.34**	**293**	Pn		**Pn**	**01 19 37.8**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=126,slow=11,SNR=15							
KBZ				Sn		**Sn**	**01 20 25.3**	**-2.5**
	comp=Z,1.1nm,0.3s,baz=190,slow=18,SNR=3.2							
KBZ	**Khabaz**	**4.34**	**293**	Pn		**Pn**	**01 19 37.8**	**+0.2**
	comp=Z,1.0nm,0.3s							
ISRB	**Sarab**	**4.38**	**188**	*e*Pn		**Pn**	**01 19 38.4**	**-0.1**
ISRB				*e*			01 19 46.5	
	comp=Z,218nm,0.1s							
ISRB	**Sarab**	**4.38**	**188**	*e*Pn		**Pn**	**01 19 38.4**	**-0.1**
ISHB	**Shabestar**	**4.44**	**210**	*e*Pn		**Pn**	**01 19 39.8**	**+0.5**
ISHB				*e*			01 37 55.9	
	comp=Z,469nm,0.0s							
ISHB	**Shabestar**	**4.44**	**210**	*e*Pn		**Pn**	**01 19 39.8**	**+0.5**
BEYR	**Belyy Ugol+**	**4.49**	**296**	*e*PN		**Pn**	**01 19 39.9**	**+0.1**
BEYR	**Belyy Ugol+**	**4.49**	**296**	*e*Pn		**Pn**	**01 19 39.9**	**+0.1**
KIV	**Kislovodsk**	**4.56**	**295**	*e*PN		**Pn**	**01 19 41.9**	**+1.1**
KIV	**Kislovodsk**	**4.56**	**295**	*e*Pn		**Pn**	**01 19 41.9**	**+1.1**
CHVG	**Ch'k'valeri**	**4.72**	**279**	P		**Pg**	**01 20 05.2**	**+2.5**
GOF	**Gofitskoye**	**4.85**	**308**	*e*PN		**Pb**	**01 19 57.2**	**+0.2**
IAZR	**Azarshahr**	**4.87**	**203**	*e*Pn		**Pn**	**01 19 46.0**	**+0.8**
IAZR	**Azarshahr**	**4.87**	**203**	*e*Pn		**Pn**	**01 19 46.0**	**+0.8**
IPRN	**Peran**	**6.66**	**152**	*e*Pn		**Pn**	**01 20 09.8**	**+0.1**
IPRN				*e*Sn		**Sn**	**01 21 23.0**	**-2.4**
IPRN				*e*			01 21 25.3	
	comp=Z,1μm,0.1s							
IRAZ	**Razeghan**	**6.86**	**170**	*e*Pn		**Pn**	**01 20 12.7**	**+0.1**
IRAZ				*e*			01 31 41.8	
	comp=Z,191nm,0.2s							
IRAZ	**Razeghan**	**6.86**	**170**	*e*Pn		**Pn**	**01 20 12.7**	**+0.1**
IALA	**Alasht**	**6.97**	**149**	*e*Pn		**Pn**	**01 20 14.2**	**0.0**
IALA				*e*			01 21 32.5	
	comp=Z,1μm,0.1s							
IALA	**Alasht**	**6.97**	**149**	*e*Pn		**Pn**	**01 20 14.2**	**0.0**
IGLO	**Ghaloghah**	**7.05**	**142**	*e*Pn		**Pn**	**01 20 15.0**	**-0.1**
IKIA	**Kiasar**	**7.23**	**144**	*e*Pn		**Pn**	**01 20 17.6**	**0.0**
IKIA				*e*Sn		**Sn**	**01 21 37.6**	**-1.9**
IKIA				*e*			01 21 39.1	
	comp=Z,326nm,0.1s							
IKIA	**Kiasar**	**7.23**	**144**	*e*Pn		**Pn**	**01 20 17.6**	**0.0**
IKIA				*e*Sn		**Sn**	**01 21 37.6**	**-1.9**
IFIR	**Firoozkooh**	**7.35**	**151**	*e*Pn		**Pn**	**01 20 19.4**	**+0.1**
IFIR				*e*			01 33 00.3	
	comp=Z,493nm,0.0s							
IFIR	**Firoozkooh**	**7.35**	**151**	*e*Pn		**Pn**	**01 20 19.4**	**+0.1**
ISHM	**Shahmirzad**	**7.41**	**148**	*e*Pn		**Pn**	**01 20 20.1**	**0.0**
ISHM				*e*Sn		**Sn**	**01 21 39.4**	**-4.5**
ISHM				*e*			01 21 46.6	
	comp=Z,1μm,0.1s							
ISHM	**Shahmirzad**	**7.41**	**148**	*e*Pn		**Pn**	**01 20 20.1**	**0.0**
IVRN	**Varamin**	**7.62**	**159**	*e*Pn		**Pn**	**01 20 22.9**	**0.0**
IVRN				*e*			01 22 01.4	
	comp=Z,90nm,0.2s							
IVRN	**Varamin**	**7.62**	**159**	*e*Pn		**Pn**	**01 20 22.9**	**0.0**
ILAS	**Lasjerd**	**7.65**	**151**	*e*Pn		**Pn**	**01 20 23.4**	**0.0**
ILAS				*e*			01 25 38.8	
	comp=Z,209nm,0.1s							
ILAS	**Lasjerd**	**7.65**	**151**	*e*Pn		**Pn**	**01 20 23.4**	**0.0**
IKRD	**Kardeh**	**9.49**	**121**	*e*Pn		Pn	01 20 56.6	+8.0
IKRD				*e*			01 21 36.1	
	comp=Z,75nm,0.2s							
IAKL	**Akhelmad**	**9.75**	**121**	*e*Pn		**Pn**	**01 20 51.3**	**-0.9**
IAKL				*e*			01 20 56.2	
	comp=Z,84nm,0.1s							
IAKL				*e*Sn		Sn	01 22 35.0	-6.4
IAKL	**Akhelmad**	**9.75**	**121**	*e*Pn		**Pn**	**01 20 51.3**	**-0.9**
IPAY	**Payeh**	**9.99**	**121**	*e*Pn		**Pn**	**01 20 54.6**	**-0.9**
IPAY				*e*			01 22 48.6	
	comp=Z,76nm,0.1s							
IPAY	**Payeh**	**9.99**	**121**	*e*Pn		**Pn**	**01 20 54.6**	**-0.9**
AKTK	**Aktyubinsk**	**10.59**	**35**	P		**Pn**	**01 21 03.3**	**-0.1**
	comp=Z,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**10.59**	**35**	⇑Pn		**Pn**	**01 21 03.4**	**-0.1**
	comp=Z,1.4nm,0.3s							
AKTO				⇑Sn		Sn	01 22 55.1	-6.5
	comp=Z,4.5nm,0.6s							
AKTO	**Aktyubinsk**	**10.59**	**35**	P		**Pn**	**01 21 03.3**	**-0.1**
AKTO							01 22 57.1	
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AKTO				smax	smax			
	comp=N,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**10.59**	**35**	Pn		**Pn**	**01 21 03.2**	**-0.2**
	comp=N,0.5nm,0.3s,baz=210,slow=14,SNR=9.0							
AKTO				Sn		Sn	01 22 57.0	-4.6
	comp=N,0.6nm,0.3s,baz=49,slow=20,SNR=4.8							
AKTO	**Aktyubinsk**	**10.59**	**35**	Pn		**Pn**	**01 21 03.4**	**-0.1**
	comp=N,1.4nm,0.3s							
AB31	**Akbulak array**	**10.72**	**45**	⇑Pn		**Pn**	**01 21 04.7**	**-0.5**
	comp=N,0.3nm,0.2s,baz=240,slow=16,SNR=38							
AB31				⇑Sn		Sn	01 22 57.8	-7.0
	comp=N,0.7nm,0.3s,baz=232,slow=26,SNR=4.8							
AB31	**Akbulak array**	**10.72**	**45**	Pn		**Pn**	**01 21 04.7**	**-0.5**
	comp=N,0.3nm,0.2s,baz=240,SNR=38							
OBN	**Obninsk**	**15.10**	**333**	⇑*e*P		**Pn**	**01 22 05.8**	**+0.9**
OBN				*e*S		**Sn**	**01 24 56.0**	**+4.4**
OBN				pmax	pmax			
	comp=Z,3.0nm,0.9s							
OBN				MLR	MLR			
	comp=Z,100nm,18.0s							
ARU	**Arti**	**15.70**	**21**	*e*P		**Pn**	**01 22 14.4**	**+1.7**
ARU				S		**Sn**	**01 25 08.5**	**+2.2**
ARU	**Arti**	**15.70**	**21**	*e*P		**Pn**	**01 22 14.4**	**+1.7**
KK31	**Karatay Array**	**16.29**	**79**	⇓P		**Pn**	**01 22 18.5**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=268,slow=16,SNR=4.3							
KK31				⇓S		**Sn**	**01 25 15.4**	**-5.3**
	comp=Z,0.8nm,0.5s,baz=279,slow=24,SNR=5.0							
BVAR	**Borovoye Array**	**18.29**	**46**	P		**Pn**	**01 22 46.1**	**+0.8**
BVAR	**Borovoye Array**	**18.29**	**46**	P		**Pn**	**01 22 46.1**	**+0.8**
	baz=243,slow=9.5,SNR=2.9							
BVAR	**Borovoye Array**	**18.29**	**46**	P		**Pn**	**01 22 46.1**	**+0.8**
VOSK	**Vostochnaya**	**18.47**	**47**	⇓P		**P**	**01 22 46.9**	**-0.5**
	comp=Z,0.8nm,0.7s							
KURBB	**Kurchatov Arra**	**22.30**	**57**	⇑P		**P**	**01 23 32.5**	**+3.6**
	comp=Z,0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**22.30**	**57**	P		**P**	**01 23 29.7**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=263,slow=12,SNR=5.9							
KURK	**Kurchatov**	**22.37**	**57**	P		**P**	**01 23 29.7**	**0.0**
KURK	**Kurchatov**	**22.37**	**57**	P		**P**	**01 23 29.7**	**0.0**
FINES	**FINESS Array B**	**23.51**	**333**	P		**P**	**01 23 39.5**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=143,slow=10,SNR=11							
FINES	**FINESS Array B**	**23.51**	**333**	P		**P**	**01 23 39.5**	**-1.8**
	comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**24.49**	**68**	*e*P		**P**	**01 23 51.1**	**+0.4**
MKAR	**Makanchi Array**	**24.49**	**68**	P		**P**	**01 23 50.7**	**0.0**
	comp=Z,0.3nm,0.5s,baz=263,slow=8.2,SNR=6.8							
MKAR	**Makanchi Array**	**24.49**	**68**	*e*P		**P**	**01 23 51.1**	**+0.4**
HFS	**Hagfors**	**27.76**	**322**	P		**P**	**01 24 18.0**	**-2.1**
	comp=Z,0.6nm,0.7s,baz=116,slow=9.8,SNR=4.6							
HFS	**Hagfors**	**27.76**	**322**	P		**P**	**01 24 18.0**	**-2.1**
	comp=Z,1.0nm,0.7s							
NOA	**NORSAR Array B**	**29.25**	**323**	P		P	01 24 30.9	-2.4
	comp=Z,0.3nm,0.5s,baz=117,slow=8.4,SNR=3.3							
TORD	**Torodi Ar. Bea**	**49.64**	**249**	P		P	01 27 19.6	-3.7
	comp=Z,0.4nm,0.5s,baz=38,slow=7.5,SNR=11							

*CSEM **02** 01:38:35.5,34˚.30N×25˚.15E,h30km,MD3.9, After ATH*

ATH 02 01:38:35.5,34˚.30N×25˚.15E, h30km±2km, MD3.9/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.77**	**339**	*e*PN	Pb	01 38 50.8	+0.4
SIVA	**Sivas**	**0.77**	**339**	*e*Pn	Pb	01 38 50.8	+0.4
LAST	**Lasithi**	**0.90**	**17**	*e*PN	Pb	01 38 53.2	+0.5
LAST	**Lasithi**	**0.90**	**17**	*e*Pn	Pb	01 38 53.2	+0.5
IDI	**Anoyia**	**1.01**	**348**	*e*PN	Pb	01 38 54.7	+0.2
IDI	**Anoyia**	**1.01**	**348**	*e*Pn	Pb	01 38 54.7	+0.2
ZKR	**Zakros**	**1.20**	**47**	*e*PN	Pb	01 38 57.8	+0.2
ZKR	**Zakros**	**1.20**	**47**	*e*Pn	Pb	01 38 57.8	+0.2
VAM	**Vamos**	**1.35**	**325**	*e*PN	Pb	01 39 00.4	+0.2
VAM	**Vamos**	**1.35**	**325**	*e*Pn	Pb	01 39 00.4	+0.2

*NIED **02** 01:38:00,21˚.90N×121˚.70E,h8km,Mw3.9 Best double couple: M₀8.05000×10¹⁴ NP1:φ₁66.00000°, δ89.00000°, λ127.00000°. NP2:φ₂157.00000°, δ37.00000°, λ1.00000°.*

*ISCJB **02** 01:38:43.1±0.8,21˚.91N±0˚.04×121˚.67E±0˚.02,h14km±5km, mb3.6/6, Error ellipse: s-maj=6.0km s-min=3.7km az=172.7*

*IDC **02** 01:38:43.1±1.0,21˚.81N×121˚.45E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/25, mbtmp3.7/7, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx1.9/36, Error ellipse: s-maj=40.9km s-min=19.9km az=74.0*

*TAP **02** 01:38:44.8,21˚.98N×121˚.49E,h13km, ML3.8, C*

*JMA **02** 01:38:46.4±0.4,21˚.94N×121˚.75E, h72km, M3.5*

ISC 02 01:38:44.5±1.1, 22˚.00N±0˚.04×121˚.58E±0˚.03, h14km±6km, n56, σ1°13/77, mb3.8/6, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.05**	**330**	*i* P	**Pg**	**01 38 48.0**	**+0.8**
	baz=46						
TSEB	**Hengchuen, Pin**	**0.64**	**261**	*e*P	**Pb**	**01 38 57.2**	**-0.1**
	baz=263						
TSEB				S	**Sn**	**01 39 07.2**	**-1.8**
	baz=263						
TWK1	**Hengchun**	**0.72**	**266**	P	**Pg**	**01 38 57.7**	**-0.8**
	baz=284						
TWK1				*e*S	**Sg**	**01 39 06.1**	**-1.8**
	baz=284						
TAW	**Tawu**	**0.73**	**300**	*e*P	**Pb**	**01 38 58.6**	**-0.3**
	baz=307						
TAW				S	**Sg**	**01 39 07.3**	**-0.9**
	baz=307						
EAST	**Anshuo**	**0.78**	**300**	⇓*i*P	**Pg**	**01 38 58.7**	**-0.9**
	baz=306						
HEN	**Hengchun**	**0.78**	**271**	*e*P	**Pb**	**01 38 59.1**	**-0.7**
	baz=288						
HEN				*e*S	**Sb**	**01 39 09.3**	**-0.9**
	baz=288						
ECL	**Taimali**	**0.83**	**316**	*e*P	**Pg**	**01 38 59.3**	**-1.3**
	baz=323						
TTN	**Taitung**	**0.85**	**332**	P	**Pg**	**01 39 00.4**	**-0.7**
	baz=352						
TWG	**Pinlang**	**0.94**	**330**	*e*P	**Pg**	**01 39 01.5**	**-1.2**
	baz=323						
TWG				*e*S	**Sg**	**01 39 14.5**	**-0.7**
	baz=323						
SCZT	**Fangliau**	**0.96**	**293**	*e*P	**Pg**	**01 39 01.9**	**-1.2**
	baz=310						
CHKT	**Chengkung**	**1.11**	**350**	P	**Pb**	**01 39 03.8**	**-1.7**
	baz=8.0						
CHKT				*e*S	**Sb**	**01 39 18.3**	**-1.6**
	baz=8.0						
TWP	**Hsiaoliuchiu**	**1.18**	**287**	*e*P	**Pg**	**01 39 07.6**	**+0.4**
	baz=291						
SGLT	**Jiouru**	**1.24**	**306**	*e*P	**Pg**	**01 39 07.8**	**-0.5**
	baz=321						
ELDTW	**Lidau**	**1.29**	**337**	*e*P	**Pn**	**01 39 07.1**	**-1.1**
	baz=343						
TWM1	**Shoushan**	**1.35**	**308**	*e*P	**Pg**	**01 39 10.6**	**+0.1**
	baz=326						
TWM1				*e*S	**Sg**	**01 39 28.5**	**+0.5**
	baz=326						
TWF1	**Yuli**	**1.37**	**349**	*e*P	**Pn**	**01 39 08.2**	**-1.0**
	baz=5.0						
EHY	**Hungye**	**1.52**	**351**	*e*P	**Pn**	**01 39 09.6**	**-1.6**
	baz=5.0						
CHN1	**Nanshi**	**1.53**	**321**	*e*P	**Pb**	**01 39 12.4**	**-0.2**
	baz=327						
CHN1				*e*S	**Sb**	**01 39 32.9**	**+1.0**
	baz=327						
WTP	**Ta-pu**	**1.53**	**325**	P	**Pn**	**01 39 12.1**	**+0.7**
	baz=345						
WTP				*e*S	**Sg**	**01 39 33.2**	**-0.5**
	baz=345						
YUS	**Yu-Shan**	**1.59**	**339**	*e*P	**Pn**	**01 39 12.8**	**+0.1**
	baz=345						
TWK	**Hsinying**	**1.61**	**322**	*e*P	**Pb**	**01 39 13.7**	**-0.4**
	baz=329						
TWK				*e*S	**Sb**	**01 39 35.0**	**+0.6**
	baz=329						
CHN4	**Tsaushan**	**1.63**	**326**	*e*P	**Pn**	**01 39 13.5**	**+0.8**
	baz=345						
CHN4				*e*S	**Sg**	**01 39 36.4**	**-0.4**
	baz=345						
ALS	**Alishan**	**1.67**	**335**	*e*P	**Pn**	**01 39 13.8**	**+0.3**
	baz=342						
ALS				*e*S	**Sg**	**01 39 38.8**	**+0.5**
	baz=342						
CHN5	**Tsauling**	**1.80**	**333**	P	**Pb**	**01 39 16.5**	**-0.7**
	baz=339						
CHN5				*e*S	**Sb**	**01 39 41.2**	**+1.6**
	baz=339						
ESL	**Shilin**	**1.81**	**356**	*e*P	**Pn**	**01 39 14.6**	**-0.7**
	baz=8.0						
CHY	**Chiayi**	**1.83**	**325**	*e*P	**Pb**	**01 39 16.9**	**-0.9**
	baz=330						
SMLT	**Sun Moon Lake**	**1.98**	**342**	P	**Pb**	**01 39 19.5**	**-0.8**
	baz=358						
SMLT				S	**Sb**	**01 39 45.5**	**+0.6**
	baz=358						
TYC	**Yuchr**	**2.01**	**341**	⇑*i*P	**Pb**	**01 39 19.9**	**-0.9**
	baz=347						
TYC				*e*S	**Sb**	**01 39 46.2**	**+0.5**
	baz=347						
WNT	**Minjijian**	**2.04**	**336**	*e*P	**Pb**	**01 39 20.9**	**-0.5**
	baz=323						
TWD	**Chiawan**	**2.07**	**0**	*e*P	**Pn**	**01 39 17.2**	**-1.6**
	baz=15						
WHF	**Hehuan Shan**	**2.16**	**352**	*e*P	**Pn**	**01 39 21.7**	**+1.3**
	baz=8.0						
ENA	**Nanau**	**2.42**	**4**	*e*P	**Pn**	**01 39 23.6**	**0.0**
	baz=17						
PNG	**Penghu**	**2.43**	**310**	*e*P	**Pn**	**01 39 23.0**	**-0.7**
	baz=316						
PNG				*e*S	**Sn**	**01 39 51.4**	**-2.0**
	baz=316						
NNS	**Nan Shan**	**2.44**	**356**	*e*P	**Pn**	**01 39 25.3**	**+1.3**
	baz=1.0						
TWQ1	**Liyutan**	**2.46**	**343**	*e*P	**Pn**	**01 39 26.4**	**+2.3**
	baz=332						
TWQ1				*e*S	**Sb**	**01 39 57.9**	**-0.6**
	baz=332						
TWC	**Suao**	**2.61**	**5**	*e*P	**Pn**	**01 39 27.2**	**+1.0**
	baz=20						
NSK	**Sanguang**	**2.67**	**356**	*e*P	**Pn**	**01 39 27.6**	**+0.4**
	baz=11						
NSTT	**Nanjuang**	**2.67**	**349**	*e*P	**Pb**	**01 39 30.4**	**-1.7**
	baz=5.0						
NSTT				*e*S	**Sn**	**01 40 02.4**	**+3.0**
	baz=5.0						
TWE	**Neicheng**	**2.71**	**2**	*e*P	**Pb**	**01 39 31.5**	**-1.3**
	baz=16						
YOJ	**Yonaguni jima**	**2.79**	**28**	*e*P	**Pn**	**01 39 27.2**	**-1.4**
	baz=31						
YOJ	**Yonaguni jima**	**2.79**	**28**	P	**Pn**	**01 39 29.4**	**+0.8**
YOJ				*e*S	**Sn**	**01 40 02.6**	**+0.6**
HATJ	**Hateruma jima**	**2.90**	**45**	P	**Pn**	**01 39 30.4**	**+0.2**
HATJ				S	**Sn**	**01 40 03.6**	**-1.3**
IRIF	**Iriomote-Funau**	**3.06**	**40**	P	**Pn**	**01 39 32.8**	**+0.5**
IRIF				S	**Sn**	**01 40 07.5**	**-1.2**
NWF	**Wu-fen Shan**	**3.07**	**3**	*e*P	**Pn**	**01 39 34.4**	**+1.8**
	baz=358						
JKRS	**Kuro-shima**	**3.16**	**45**	P	**Pn**	**01 39 34.3**	**+0.5**
JKRS				S	**Sn**	**01 40 10.3**	**-1.0**
JIJ	**Ishigaki jima**	**3.33**	**45**	P	**Pn**	**01 39 36.0**	**-0.2**
JIJ				S	**Sn**	**01 40 13.4**	**-2.2**
JTJ	**Tarama**	**3.90**	**47**	P	**Pn**	**01 39 44.6**	**+0.7**
JTJ				S	**Sn**	**01 40 28.0**	**-1.4**
DAV	**Davao City (W)**	**15.34**	**165**	LR	LR	01 48 08.3	
	comp=Z,68nm,20.6s,baz=43,slow=37						
KSRS	**Korea Array**	**16.35**	**18**	Pn	**P**	**01 42 36.9**	**+0.4**
	0.3nm,0.3s,baz=209,slow=9.7,SNR=4.2						
MJAR	**Matsushiro Arr**	**20.46**	**41**	P	Pn	01 43 24.9	+1.1
	0.6nm,0.3s,baz=230,slow=9.4,SNR=3.3						
MKAR	**Makanchi Array**	**40.17**	**318**	P	**P**	**01 46 21.7**	**+1.5**
	0.4nm,0.6s,baz=110,slow=10,SNR=5.3						
ZALV	**Zalesovo Beam**	**42.28**	**328**	P	P	01 46 42.6	+5.2
	0.5nm,0.4s,baz=117,slow=8.3,SNR=3.6						
WRA	**Warramunga Arr**	**43.51**	**162**	P	**P**	**01 46 47.4**	**-0.3**
	0.8nm,0.5s,baz=343,slow=8.9,SNR=11						
ASAR	**Alice Springs**	**46.95**	**164**	P	**P**	**01 47 14.7**	**-0.3**
	0.4nm,0.5s,baz=348,slow=8.1,SNR=10						
FINES	**FINESS Array B**	**73.51**	**330**	P	**P**	**01 50 17.8**	**+1.4**
	1.0nm,0.9s,baz=11,slow=7.8,SNR=3.3						
HFS	**Hagfors**	**79.64**	**331**	P	**P**	**01 50 52.8**	**+1.6**
	0.5nm,0.5s,baz=72,slow=4.8,SNR=4.7						

IDC 02 01:39:14.6±1.1, 34˚.00N×25˚.20E, h0km, mb3.7/10, mb1 3.7/14, mb1mx3.7/30, mbtmp3.7/14, ML3.8/4, 1C, Error ellipse: s-maj=23.7km s-min=17.9km az=1.0, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMAI	**Mount Meron Ar**	**8.58**	**94**	Pn	Pn	01 41 19.4	-0.8
	0.5nm,0.3s,baz=301,slow=12,SNR=2.4						
MMAI				Sn	Sn	01 42 55.0	-2.7
	0.8nm,0.3s,baz=260,slow=22,SNR=2.8						
BRTR	**Keskin Array B**	**8.85**	**47**	Pn	Pn	01 41 24.4	+0.4
	0.1nm,0.3s,baz=218,slow=13,SNR=2.9						
EIL	**Elat**	**9.35**	**115**	Pn	Pn	01 41 30.6	0.0
	0.6nm,0.3s,baz=330,slow=16,SNR=4.5						
PGF	**Pioggiola**	**15.30**	**309**	*e*P	P	01 42 57.5	+0.4
	14nm,0.8s						
SBF	**Sospel**	**16.94**	**311**	*e*P	P	01 43 15.2	0.0
AKASG	**Malin Array Be**	**16.95**	**9**	Pn	Pn	01 43 13.0	0.0
	1.0nm,0.3s,baz=200,slow=10,SNR=8.3						
GERES	**GERESS Array B**	**17.13**	**333**	P	P	01 43 16.5	-0.7
	0.1nm,0.3s,baz=149,slow=12,SNR=21						
LMR	**La Mourre**	**17.29**	**308**	*e*P	P	01 43 22.2	+3.3
	2.7nm,0.7s						
KHC	**Kasperske Hory**	**17.41**	**334**	*e*P	P	01 43 22.0	+1.7
MBDF	**Montbardon**	**17.79**	**312**	*e*P	P	01 43 28.0	+3.4
	1.5nm,0.3s						
CABF	**La Chapelle**	**19.21**	**317**	*e*P	Pn	01 43 44.2	+3.2
	2.9nm,0.6s						
CLL	**Collm**	**19.44**	**337**	⇑*i*P	Pn	01 43 45.5	+1.9
CLL				*i*		01 43 49.2	
	comp=Z,3.0nm,0.8s						
PAGF	**Fort de Pagny**	**20.55**	**321**	*e*P	Pn	01 43 59.0	+2.2
	comp=Z,2.8nm,0.8s						
LOR	**Lormes**	**20.85**	**316**	*e*P	Pn	01 44 01.4	+1.1
TCF	**Toulx Ste Croi**	**21.35**	**312**	*e*P	P	01 44 06.7	+3.3
	comp=Z,18nm,1.6s						
RJF	**Les Rejaudoux**	**21.37**	**309**	*e*P	P	01 44 06.7	+3.2
	comp=Z,4.7nm,0.8s						
EPF	**Esparros**	**21.38**	**302**	*e*P	P	01 44 03.7	0.0
	comp=Z,2.4nm,0.6s						
BAIF	**Baives**	**22.26**	**322**

KYTH	Kithira	2.96	320	P	Pb	01 55 24.4	-3.4
KYTH	Kithira	2.96	320	*e*PN	Pn	**01 55 24.2**	**+1.9**
KYTH	Kithira	2.96	320	*e*Pn	Pn	**01 55 24.2**	**+1.9**
APE	Apeiranthos	3.03	2	*e*PN	Pn	**01 55 24.0**	**+0.7**
APE	Apeiranthos	3.03	2	*e*Pn	Pn	**01 55 24.0**	**+0.7**
ARG	Arkhangelos	3.12	45	P	Pn	**01 55 27.3**	**+2.8**
ARG	Arkhangelos	3.12	45	*e*PN	Pn	**01 55 27.5**	**+3.0**
ARG	Arkhangelos	3.12	45	P	Pn	**01 55 27.3**	**+2.8**
HMAT	Matruh	3.26	153	P	Pn	**01 55 26.8**	**+0.4**
HMAT				S	Sn	**01 56 03.0**	**-2.8**
VLI	Veliai	3.35	324	*e*PN	Pn	**01 55 28.6**	**+1.0**
VLI	Veliai	3.35	324	*e*Pn	Pn	**01 55 28.6**	**+1.0**
DYR	Agios Nikonas	3.70	318	*e*PN	Pn	**01 55 34.5**	**+2.0**
DYR	Agios Nikonas	3.70	318	*e*Pn	Pn	**01 55 34.5**	**+2.0**
PYL	PYLOS	4.13	315	*e*PN	Pn	**01 55 39.0**	**+0.6**
PYL	PYLOS	4.13	315	*e*Pn	Pn	**01 55 39.0**	**+0.6**
VLX	Vlachokerasia	4.14	324	P	Pn	**01 55 39.9**	**+1.3**
VLX				S	Sn	**01 56 25.0**	**-2.6**
VLX	Vlachokerasia	4.14	324	*e*PN	Pn	01 55 41.1	+2.5
VLX	Vlachokerasia	4.14	324	P	Pn	**01 55 39.9**	**+1.3**
VLX	Vlachokerasia	4.14	324	*e*Pn	Pn	01 55 41.1	+2.5
ITM	Ithomi	4.23	319	*e*PN	Pn	01 55 42.0	+2.3
ITM	Ithomi	4.23	319	*e*Pn	Pn	01 55 42.0	+2.3
SWA2		4.77	179	P	Pn	**01 55 47.6**	**+0.4**
LAKA	Lakka	5.03	328	*e*PN	Pn	**01 55 52.7**	**+2.0**
LAKA	Lakka	5.03	328	*e*Pn	Pn	**01 55 52.7**	**+2.0**
KALE	Kalithea	5.09	330	*e*PN	Pn	01 55 54.5	+3.0
KALE	Kalithea	5.09	330	*e*Pn	Pn	01 55 54.5	+3.0
TRIZ	Trizonia	5.09	329	*e*PN	Pn	01 55 54.8	+3.2
TRIZ	Trizonia	5.09	329	*e*Pn	Pn	01 55 54.8	+3.2
AWBH		6.44	151	P	Pn	**01 56 10.3**	**+0.3**
GLL	Jalalah	6.97	128	P	Pn	**01 56 17.9**	**+0.5**
HFRF	Wahat Farafira	7.30	159	P	Pn	**01 56 22.4**	**+0.4**
MMAI	Mount Meron Ar	8.42	94	Pn	Pn	**01 56 36.5**	**-0.8**
	1.7nm,0.3s,baz=274,slow=12,SNR=9.3						
MMAI				Sn	Sn	**01 58 09.7**	**-3.2**
	1.2nm,0.3s,baz=273,slow=24,SNR=3.5						
BRTR	Keskin Array B	8.71	47	Pn	Pn	**01 56 42.0**	**+0.6**
	0.1nm,0.3s,baz=223,slow=13,SNR=2.5						
EIL	Elat	9.21	116	Pn	Pn	**01 56 48.1**	**0.0**
	0.5nm,0.3s,baz=301,slow=18,SNR=11						
EIL				Sn	Sn	**01 58 28.9**	**-3.6**
	0.4nm,0.3s,baz=357,slow=19,SNR=3.4						
AKASG	Malin Array Be	16.89	8	Pn	Pn	**01 58 32.0**	**+0.3**
	1.1nm,0.3s,baz=202,slow=10,SNR=6.9						
GERES	GERESS Array B	17.17	333	P	P	**01 58 35.8**	**-1.2**
	0.2nm,0.3s,baz=144,slow=11,SNR=9.4						
HFS	Hagfors	27.22	347	P	P	**02 00 18.6**	**-0.7**
	0.8nm,0.8s,baz=128,slow=9.6,SNR=4.4						
EKA	Eskdalemuir Ar	29.08	326	P	P	**02 00 37.9**	**+2.0**
	0.3nm,0.4s,baz=117,slow=10,SNR=3.0						
TORD	Torodi Ar. Bea	29.37	232	P	P	**02 00 44.0**	**+0.2**
	0.5nm,0.7s,baz=35,slow=8.6,SNR=6.5						
MKAR	Makanchi Array	44.24	56	P	P	**02 02 45.2**	**+0.2**
	0.7nm,0.6s,baz=276,slow=6.7,SNR=13						

IDC ***02*** *02:07:22.6±0.7,56°.33N×25°.54W,h0km,mb4.5/8, mb1 4.5/9,mb1mx4.2/19,mbtmp4.4/9,ML3.9/1,MS3.5/6, Ms1 3.4/6,ms1mx3.3/24,Error ellipse: s-maj=27.1km s-min=16.8km az=69.0*

ISCJB ***02*** *02:07:25.4±0.6,56°.39N±0°.09×25°.56W±0°.2,h29km,mb4.5/9, MS3.6/5,Error ellipse: s-maj=19.7km s-min=11.6km az=153.1*

NEIC ***02*** *02:07:27.8±0.3,56°.37N×25°.53W,h35km,mb4.8/6,Error ellipse: s-maj=12.6km s-min=8.1km az=65.0*

ISC 02 02:07:26.9±0.7,56°.48S±0°.10×25°.4W±0°.1,h29km,n36, σ1§48/31,mb4.6/8,MS3.5/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	17.95	157	*e*Pn	P	02 11 35.4	+1.0
	3.6nm,0.4s						
SNAA				S	Sn	02 14 48.7	-4.3
SNAA	Sanae	17.95	157	P	P	02 11 35.4	+1.0
	0.4nm,0.3s,baz=322,slow=11,SNR=47						
SNAA				S	Sn	02 14 48.7	-4.3
	0.0nm,0.3s,baz=338,slow=19,SNR=3.8						
SNAA				LR	LR	02 17 23.6	
	comp=Z,32nm,20.1s,baz=179,slow=33						
PMSA	Palmer Station	20.37	230	P	P	02 12 01.5	+0.7
PMSA	Palmer Station	20.37	230	P	P	02 12 01.5	+0.7
	27nm,1.0s,baz=67,slow=4.0,SNR=4.7						
PLCA	Paso Flores	33.05	279	LR	LR	02 25 57.0	
	comp=Z,85nm,19.8s,baz=117,slow=34						
QSPA	South Pole Qui	33.77	180	*e*P	P	02 14 06.5	+0.8
	11nm,0.6s						
QSPA	South Pole Qui	33.77	180	P	P	02 14 06.6	+0.8
	11nm,0.6s,baz=206,slow=3.2,SNR=77						
CPUP	Villa Florida	37.85	309	P	P	02 14 39.5	-1.4
CPUP	Villa Florida	37.85	309	P	P	02 14 39.5	-1.4
	3.3nm,0.6s,baz=128,slow=7.1,SNR=16						
CPUP				LR	LR	02 28 11.5	
	comp=Z,58nm,19.9s,baz=360,slow=33						
MAW	Mawson	39.21	143	P	P	02 14 53.7	+1.8
MAW	Mawson	39.21	143	P	P	02 14 53.7	+1.8
	0.7nm,0.6s,baz=234,slow=8.7,SNR=2.2						
MAW				LR	LR	02 28 27.0	
	comp=Z,59nm,21.3s,baz=42,slow=32						
BOSA	Boshof	45.13	74	LR	LR	02 31 59.6	
	comp=Z,117nm,18.0s,baz=165,slow=33						
VNDA	Vanda	46.18	182	*e*P	P	02 15 49.3	+1.0
	3.3nm,0.8s						
VNDA	Vanda	46.18	182	P	P	02 15 49.3	+1.0
	3.7nm,0.7s,baz=183,slow=5.9,SNR=22						
LVC	Limon Verde	46.37	299	*e*P	P	02 15 49.8	-0.9
	16nm,0.6s						
LPAZ	La Paz	51.44	304	*e*P	P	02 16 29.1	-0.9
	8.3nm,0.6s						
LPAZ	La Paz	51.44	304	P	P	02 16 29.1	-0.9
	9.7nm,0.6s,baz=141,slow=5.2,SNR=57						
OTAV	Otavalo	70.72	302	*e*P	P	02 18 41.4	+0.7
	10nm,1.1s						
ROSC	El Rosal	72.94	308	LR	LR	02 49 05.0	
	comp=Z,54nm,19.4s,baz=246,slow=34						
TOA0	Torodi Ar. Sit	72.96	28	*e*P	P	02 18 53.2	-0.2
TORD	Torodi Ar. Bea	72.96	28	P	P	02 18 53.3	-0.2
TORD	Torodi Ar. Bea	72.96	28	P	P	02 18 53.3	-0.2
	2.5nm,0.7s,baz=201,slow=6.1,SNR=26						
ASAR	Alice Springs	98.27	161	P	Pdif	02 21 02.5	+0.9
ASAR	Alice Springs	98.27	161	P	Pdif	02 21 02.5	+0.9
	0.5nm,0.7s,baz=181,slow=3.8,SNR=5.0						
WRA	Warramunga Arr	101.98	161	P	**Pdif**	**02 21 18.8**	**+0.7**
WRA	Warramunga Arr	101.98	161	P	**Pdif**	**02 21 18.8**	**+0.7**
	1.1nm,0.3s,baz=192,slow=4.3,SNR=36						
FINES	FINESS Array B	124.31	27	PKP	**PKPdf**	**02 26 21.6**	**+0.3**
FINES	FINESS Array B	124.31	27	PKP	**PKPdf**	**02 26 21.6**	**+0.3**
	1.8nm,1.1s,baz=321,slow=1.8,SNR=3.2						
YKA	Yellowknife Ar	137.16	317	PKPpre	PKPpre	02 26 42.1	
YKA	Yellowknife Ar	137.16	317	PKhKP	PKPpre	02 26 42.1	
	1.6nm,0.9s,baz=145,slow=2.3,SNR=3.0						
SONM	Songino Array	149.77	86	PKPbc	**PKPbc**	**02 27 12.8**	**-0.3**
SONM	Songino Array	149.77	86	PKPbc	**PKPbc**	**02 27 12.8**	**-0.3**
	1.9nm,0.6s,baz=228,slow=3.0,SNR=14						
ILAR	Eielson Array	151.15	311	PKPbc	**PKPbc**	**02 27 14.8**	**-0.9**
ILAR	Eielson Array	151.15	311	PKPbc	**PKPbc**	**02 27 14.8**	**-0.9**
	6.0nm,0.8s,baz=132,slow=1.8,SNR=63						
MCK	McKinley	151.81	308	*e*PKPbc	**PKPbc**	**02 27 17.2**	**0.0**
TRF	Thorofare Moun	152.35	307	*e*PKPbc	**PKPbc**	**02 27 17.4**	**-1.2**

CSEM ***02*** *02:15:58.3±0.2,40°.81N×24°.29E,h2km,ML1.8/4,Error ellipse: s-maj=5.0km s-min=4.3km az=171.0*

ATH ***02*** *02:15:58.5,40°.83N×24°.25E,h4km,MD3.5/7*

THE ***02*** *02:15:58.7,40°.86N×24°.26E,h2km±29km,ML1.8/4,Error ellipse: s-maj=29.5km s-min=0.7km az=134.0*

BEO ***02*** *02:16:03.6±0.8,40°.94N×24°.12E,h0km,ML1.6/5*

ISC 02 02:15:58.0±1.1,40°.82N±0°.02×24°.27E±0°.02,h4km±10km, n35,σ0§82/53,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAVA	Kavala	0.26	46	P	Pg	02 16 03.4	+0.4
KAVA				S	Sg	02 16 06.6	+0.2
KAVA	Kavala	0.26	46	P	Pg	02 16 03.4	+0.4
KAVA				S	Sg	02 16 06.6	+0.2
OUR	Ouranopolis	0.53	204	P	Pb	02 16 09.7	-0.2
OUR				S	Sb	02 16 17.6	-0.3
OUR	Ouranopolis	0.53	204	P	Pb	02 16 09.7	-0.2
OUR				S	Sb	02 16 17.6	-0.3
SRS	Serrai	0.59	300	P	Pg	02 16 09.2	-0.2
SRS				S	Sg	02 16 16.8	-0.3
SRS	Serrai	0.59	300	P	Pg	02 16 09.2	-0.2
SRS				S	Sg	02 16 16.8	-0.3
NVR	Nevrokopi	0.61	330	P	Pg	02 16 10.0	+0.2
NVR				S	Sg	02 16 18.1	+0.3
NVR	Nevrokopi	0.61	330	*e*PG	Pg	02 16 10.0	+0.2
NVR	Nevrokopi	0.61	330	P	Pg	02 16 10.0	+0.2
NVR				S	Sg	02 16 18.1	+0.3
PLG	Polygyros	0.77	235	P	Pg	02 16 13.7	+0.9
PLG	Polygyros	0.77	235	*e*PB	Pg	02 16 13.4	+0.6
PLG				*e*SG	Sg	02 16 22.1	-0.7
PLG	Polygyros	0.77	235	*e*Pb	Pg	02 16 13.4	+0.6
PLG	Polygyros	0.77	235	P	Pg	02 16 13.7	+0.9
PLG				*e*Sg	Sg	02 16 22.1	-0.7
RDO	Rodhopi	1.01	71	P	Pg	02 16 17.3	-0.2
RDO	Rodhopi	1.01	71	*e*PG	Pg	02 16 17.9	+0.4
RDO	Rodhopi	1.01	71	P	Pg	02 16 17.3	-0.2
RDO	Rodhopi	1.01	71	*e*Pg	Pg	02 16 17.9	+0.4
SMTH	Samothraki Isl	1.02	110	*e*PG	Pg	02 16 17.9	+0.3
SMTH	Samothraki Isl	1.02	110	*e*Pg	Pg	02 16 17.9	+0.3
LIA	Limnos Island	1.16	143	*e*PB	Pg	02 16 20.6	+0.4
LIA	Limnos Island	1.16	143	*e*Pb	Pg	02 16 20.6	+0.4
PLD	Plovdiv	1.32	14	*e*Pg	Pb	02 16 23.9	+0.4
PLD				*e*Sg	Sn	02 16 43.1	+1.7
PLD	Plovdiv	1.32	14	*e*Pg	Pb	02 16 23.9	+0.4
PLD				*e*Sg	Sn	02 16 43.1	+1.7
ALN	Alexandroupoli	1.35	86	*e*PB	Pn	02 16 22.6	-1.0
ALN	Alexandroupoli	1.35	86	*e*Pb	Pn	02 16 22.6	-1.0
VAY	Valandovo	1.38	292	*e*Pg	Pb	02 16 26.2	+1.8
VAY	Valandovo	1.38	292	*e*Pg	Pb	02 16 26.2	+1.8
GRG	Griva	1.42	276	*e*PG	Pn	02 16 24.7	0.0
GRG				*e*SB	Sn	02 16 44.3	+0.4
GRG	Griva	1.42	276	*e*Pg	Pn	02 16 24.7	0.0
GRG				*e*Sb	Sn	02 16 44.3	+0.4
VTS	Vitosha	1.94	336	*e*Pn	Pb	02 16 34.6	+0.5
VTS				*e*Sn	Sg	02 16 59.5	-0.9
VTS	Vitosha	1.94	336	*e*Pn	Pb	02 16 34.6	+0.5
VTS				*e*Sn	Sg	02 16 59.5	-0.9
JMB	Yambol	2.39	46	*e*Pn	Pg	02 16 45.1	+1.3
JMB				*e*Sn	Sg	02 17 14.3	-0.5
BARS	Barje	2.71	318	*e*Pn	Pb	02 16 45.8	-1.3
BARS	Barje	2.71	318	*e*Pn	Pb	02 16 45.8	-1.3
ZAPS	Zavoj	2.74	334	*e*Pn	Pb	02 16 47.3	-0.3
ZAPS				*e*Sn	Sb	02 17 19.4	-2.1

IDC 02 02:21:04.1±34.0,3°.81N×124°.19E,h0km,mb3.9/4, mb1 4.2/4,mb1mx3.6/24,mbtmp4.0/4,Error ellipse: s-maj=597.3km s-min=124.1km az=137.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.82	176	P	P	02 25 58.4	+0.3
	1.1nm,0.3s,baz=2.6,slow=9.4,SNR=8.6						
WRA	Warramunga Arr	25.62	157	P	P	02 26 35.3	-0.2
	2.2nm,0.3s,baz=336,slow=10.0,SNR=33						
ASAR	Alice Springs	28.90	161	P	P	02 27 04.5	-0.6
	0.4nm,0.3s,baz=335,slow=8.6,SNR=6.5						
STKA	Stephens Creek	39.16	156	P	P	02 28 34.2	+0.4
	0.8nm,0.3s,baz=327,slow=9.9,SNR=4.7						

IDC ***02*** *02:25:49.0±2.0,19°.36N×108°.69W,h0km,mb3.5/5, mb1 3.9/7,mb1mx3.8/23,mbtmp3.6/7,ML3.5/2,MS3.7/9, Ms1 3.7/9,ms1mx3.4/21,Error ellipse: s-maj=63.9km s-min=26.2km az=65.0*

ISCJB ***02*** *02:25:50.3±1.2,19°.2N±0°.1×108°.8W±0°.1,h22km,mb3.8/9, MS3.5/7,Error ellipse: s-maj=17.2km s-min=14.5km az=137.2*

NEIC ***02*** *02:25:50.3±2.1,19°.19N×108°.82W,h10km,mb4.0/15, Error ellipse: s-maj=27.6km s-min=12.8km az=172.0*

ISC 02 02:25:50.0±1.4,19°.3N±0°.1×108°.7W±0°.2,h10km,n194, σ1§01/184,mb3.8/9,MS3.5/7,77C-75D,Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	11.00	24	Pn	Pn	02 28 27.6	+0.1
	0.2nm,0.3s,baz=202,slow=13,SNR=22						
626A	Big Bend Ranch	11.03	21	⇓P	Pn	02 28 27.8	-0.2
	baz=11,SNR=7.4						
627A	Terlingua Ranc	11.21	24	⇑P	Pn	02 28 30.1	-0.4
	baz=11						
628A	Black Gap, Mar	11.44	26	⇑P	Pn	02 28 33.3	-0.3
	baz=12						
526A	Mary Lane Ranc	11.51	20	⇑P	Pn	02 28 34.3	-0.3
	baz=12						
527A	Woodward Ranch	11.75	22	⇑P	Pn	02 28 37.3	-0.6
	baz=12,SNR=10						
425A	Indio Mountain	11.93	16	⇑P	Pn	02 28 40.7	+0.3
	baz=12,SNR=7.0						
320A	Kipp Ranch, An	12.01	1	⇓P	Pn	02 28 41.9	+0.5
	baz=12						
319A	Douglas	12.05	358	⇓P	Pn	02 28 42.0	0.0
	baz=12,SNR=6.2						
528A	Cox Ranch, San	12.08	25	⇑P	Pn	02 28 41.5	-0.8
	baz=12						
426A	McDonald Obser	12.09	19	⇓P	Pn	02 28 42.5	-0.2
	baz=12,SNR=8.0						
529A	Stev Forest Ra	12.28	27	⇓P	Pn	02 28 44.7	-0.4
	baz=12						
324A	Moseley Ranch,	12.45	13	⇓P	Pn	02 28 47.7	+0.3
	baz=13						
220A	Playas Peak, P	12.57	1	⇓P	Pn	02 28 49.9	+0.8
	baz=13						
530A	J-C Ranch, Com	12.70	30	⇑P	Pn	02 28 50.5	-0.3
	baz=13						
326A	Caldwell Ranch	12.71	19	⇓P	Pn	02 28 51.0	0.0
	baz=13						
MNTX	Cornudas Mount	12.71	13	*e*Pn	Pn	02 28 52.9	+1.9
	4.2nm,1.2s						
429A	Davenport Ranc	12.85	27	⇓P	Pn	02 28 53.0	0.0
	baz=13						
632A	Uvalde	13.00	37	⇑P	Pn	02 28 54.1	-0.7
	baz=13						
224A	Cornudas Mount	13.05	12	⇑P	Pn	02 28 56.4	+0.7
	baz=13						
531A	Rocksprings	13.11	33	⇑P	Pn	02 28 56.1	-0.2
	baz=13						
TUC	Tucson	13.11	352	*e*Pn	Pn	02 28 58.3	+1.8
214A	Organ Pipe Nat	13.16	344	⇓P	Pn	02 28 58.5	+1.4
	baz=13						
120A	U Bar Ranch, L	13.21	0	⇓P	Pn	02 28 58.7	+0.8
	baz=13						
121A	Cookes Peak, D	13.22	3	⇑P	Pn	02 28 58.5	+0.4
	baz=13						
430A	Baggett Ranch,	13.29	29	⇓P	Pn	02 28 58.5	-0.3
	baz=14						
226B	Tecolote Peak,	13.37	17	⇑P	Pn	02 29 00.5	+0.5
	baz=14						
532A	Rocksprings	13.41	35	⇑P	Pn	02 29 01.0	+0.5
	baz=14,SNR=8.9						
329A	Wagon Wheel Ra	13.57	25	⇓P	Pn	02 29 02.3	-0.4
	baz=14						
124A	Stringfield Ra	13.67	12	⇑P	Pn	02 29 05.0	+0.8
	baz=14,SNR=6.5						
JCT	Junction City	13.74	34	*e*Pn	Pn	02 29 08.6	+3.6
	8.1nm,1.2s						
Z20A	Nine Sixteen R	13.78	0	⇓P	Pn	02 29 06.7	+1.2
	baz=14,SNR=7.0						
125A	Gardner Draw,	13.80	14	⇓P	Pn	02 29 07.0	+1.2
	baz=14						
330A	Mertzon	13.84	28	⇑P	Pn	02 29 07.0	+0.7
	baz=14						
Z21A	St. Cloud Mine	14.00	3	⇓P	Pn	02 29 10.2	+1.5
	baz=14						
Z22A	Elephant Butte	14.00	6	⇓P	Pn	02 29 10.2	+1.5
	baz=14						
331A	San Angelo	14.10	30	⇓P	Pn	02 29 10.8	+0.9
	baz=14						
113A	Mohawk Valley,	14.19	342	⇓P	Pn	02 29 12.2	+1.1
	baz=14						
Z24A	Sheeppen Canyo	14.30	11	⇑P	Pn	02 29 14.0	+1.2
	baz=14						
Z25A	Roswell	14.38	13	⇑P	Pn	02 29 15.3	+1.4
	baz=15						
128A	Castleberry Fa	14.40	21	⇑P	Pn	02 29 14.9	+0.9
	baz=15						
332A	Millersview	14.49	32	⇓P	Pn	02 29 15.8	+0.4
	baz=15						
Z14A	Wintersburg	14.53	346	⇑P	Pn	02 29 17.6	+1.8
	baz=15						
Y20A	Horse Springs,	14.57	1	⇑P	Pn	02 29 18.4	+1.8
	baz=15						
129A	Stewart Farms,	14.63	23	⇑P	Pn	02 29 18.1	+0.9
	baz=15						
Y22A	Socorro	14.68	6	⇑P	Pn	02 29 19.4	+1.5
	baz=15						
Y21A	Point of Rocks	14.70	3	⇓P	Pn	02 29 19.6	+1.4
	baz=15						
Y23A	Lovelace Mesa,	14.78	9	⇓P	Pn	02 29 20.2	+0.9
	baz=15						
GLA	Glamis	14.78	339	*e*Pn	Pn	02 29 19.6	+0.4
GLA	Glamis	14.78	339	⇓P	Pn	02 29 20.6	+1.4
	baz=15						
Z27A	Tatum	14.80	18	⇑P	Pn	02 29 20.2	+0.6
	baz=15						
BNM	Barren Site	14.92	7	*e*Pn	Pn	02 29 23.2	+1.9
	4.9nm,1.1s						
232A	Coleman	14.95	31	⇓P	Pn	02 29 21.3	-0.3
	baz=15						
Y25A	Mesa, Roswell	15.01	13	⇑P	Pn	02 29 23.9	+1.5
	baz=15						
Y14A	Wickenburg	15.10	346	⇑P	Pn	02 29 25.0	+1.4
	baz=15						
LAZ	Ladron	15.12	5	*e*Pn	Pn	02 29 24.9	+0.9
	3.4nm,1.3s						
X21A	Alamocita Cree	15.12	3	⇓P	Pn	02 29 25.0	+0.9
	baz=15,SNR=11						
X20A	Quemado	15.20	1	⇑P	Pn	02 29 26.4	+1.4
	baz=15						
MONP	Monument Peak	15.22	334	⇓P	Pn	02 29 26.4	+1.1
	baz=15						
X18A	Snowflake	15.23	356	⇑P	Pn	02 29 26.8	+1.4
	baz=15						
X22A	Bernardo	15.24	5	⇓P	Pn	02 29 26.5	+1.1
	baz=15						
Z29A	Hungry Hill Ra	15.25	23	⇓P	Pn	02 29 25.7	+0.2
	baz=15						
X16A	Lo Mia Camp, P	15.28	351	⇑P	Pn	02 29 27.1	+1.1
	baz=15						
Y12C	Blythe	15.33	341	⇑P	Pn	02 29 28.6	+2.1
	baz=15						
Y27A	Causey	15.35	18	⇓P	Pn	02 29 27.6	+0.7
	baz=16						
X23A	Hourglass Bar	15.40	8	⇓P	Pn	02 29 28.9	+1.3
	baz=16						
Z30A	Sanderson Ranc	15.49	24	⇑P	Pn	02 29 28.9	+0.2
	baz=16						
BC3	Big Chuckawall	15.54	338	⇑P	Pn	02 29 30.5	+1.1
	baz=16						
MSTX	Muleshoe	15.54	19	⇓P	Pn	02 29 29.7	+0.3
	baz=16						
ABTX	Abilene, Hawle	15.56	30	⇓P	Pn	02 29 29.3	-0.2
	baz=16						
Y28A	McKinney Farm,	15.65	20	⇑P	Pn	02 29 31.3	+0.5
	6.5nm,1.3s						
ANMO	Albuquerque	15.73	7	*e*Pn	Pn	02 29 33.8	+1.9
	6.5nm,1.3s						
ANMO	Albuquerque	15.73	7	Pn	Pn	02 29 31.9	0.0
	0.1nm,0.3s,baz=197,slow=17,SNR=2.4						
PDMCI	Parker Dam,Lak	15.73	343	⇓P	Pn	02 29 33.5	+1.8
	baz=16						
W20A	Ramah	15.78	1	⇓P	Pn	02 29 34.3	+1.7
	baz=16,SNR=6.4						
X26A	CR and CF Fran	15.81	15	⇓P	Pn	02 29 33.4	+0.5
	baz=16						
PFO	Pinyon Flat Ob	15.87	336	LR	LR	02 34 44.1	
	comp=Z,673nm,21.1s,baz=347,slow=34						
PFO	Pinyon Flat Ob	15.87	336	⇓P	Pn	02 29 35.9	+2.2
	baz=16						
IRM	Iron Mountain	15.90	340	⇓P	Pn	02 29 35.8	+1.9
	baz=16						
Z31A	Sharp Cattle R	15.92	27	⇑P	Pn	02 29 35.0	+0.7
	baz=16						
W23A	Werner Place,	15.97	8	⇑P	Pn	02 29 36.6	+1.5
	baz=16						
BELC	Belle Mtn. Jos	16.05	337	⇓P	Pn	02 29 37.1	+1.2
	baz=16,SNR=5.6						
W24A	Lazy 6 Ranch,	16.13	10	⇑P	Pn	02 29 38.0	+0.9
	baz=16,SNR=7.3						
MURC	Murrieta	16.16	334	⇑P	P	02 29 39.4	-1.2
	baz=16						
Z32A	Haskell	16.21	29	⇓P	Pn	02 29 38.2	+0.3
	baz=16						
W25A	X Bar L Ranch,	16.31	12	⇓P	Pn	02 29 39.6	+0.3
	baz=16						
WUAZ	Wupatki	16.35	352	*e*Pn	Pn	02 29 41.2	+1.4
	21nm,1.5s						
WUAZ	Wupatki	16.35	352	⇑P	Pn	02 29 41.4	+1.5
	baz=16						
W13A	Hualapai Mount	16.42	345	⇓P	P	02 29 43.0	-0.6
	baz=16						
V20A	Brimhall	16.46	1	⇓P	Pn	02 29 42.7	+1.5
	baz=17						
W27A	Bowe Ranch, En	16.49	16	⇑P	Pn	02 29 42.6	+1.1
	baz=17						
GMRC	Granite Mounta	16.64	340	⇑P	Pn	02 29 45.1	+1.6
	baz=17						
AMTX	Amarillo	16.73	20	*e*Pn	Pn	02 29 46.7	+2.0
V25A	Rancho No Teng	16.88	11	⇑P	Pn	02 29 47.3	+0.7
	baz=17,SNR=8.0						
BFSC	Mount Baldy Ra	16.91	334	⇓P	P	02 29 48.6	-0.3
	baz=17						
HEC	Hector,Ludlow	16.91	338	⇓P	Pn	02 29 48.1	+1.2
	baz=17						
U20A	Newcomb	17.03	0	⇑P	P

	5.2nm,1.1s								
P20A	**De Beque**	**20.15**	**1**	⇑P		**P**	**02 30 25.6**	**+1.0**
	baz=20								
P23A	**Jefferson**	**20.17**	**6**	⇓P		**P**	**02 30 24.6**	**-0.5**
	baz=20								
P25A	**Willow Gulch B**	**20.53**	**10**	⇓P		**P**	**02 30 29.0**	**+0.3**
	baz=21								
ISCO	**Idaho Springs**	**20.62**	**7**	⇓P		**P**	**02 30 29.7**	**-0.2**
	baz=21								
O20A	**White River Ci**	**20.79**	**1**	⇓P		**P**	**02 30 31.9**	**+0.3**
	baz=21								
NLU	**North Lily Min**	**20.81**	**353**	*e*Pn		**P**	**02 30 33.0**	**+1.1**
	26nm,1.8s								
NVAR	**Mina Array Bea**	**20.84**	**338**	P		**P**	**02 30 32.9**	**+0.8**
	1.4nm,0.7s,baz=165,slow=13,SNR=6.8								
NVAR				LR		LR	02 37 53.3		
	comp=Z,231nm,21.9s,baz=32,slow=35								
O19A	**Miners Draw (B**	**20.95**	**359**	⇑P		**P**	**02 30 33.4**	**+0.1**
	baz=21								
DUG	**Dugway**	**21.14**	**351**	*e*P		**P**	**02 30 36.3**	**+1.0**
	13nm,1.1s								
DUG	**Dugway**	**21.14**	**351**	⇓P		**P**	**02 30 36.1**	**+0.7**
	baz=21,SNR=12								
DAU	**Daniels Canyon**	**21.18**	**355**	*e*P		**P**	**02 30 37.3**	**+1.4**
CMB	**Columbia Colle**	**21.29**	**334**	*e*P		**P**	**02 30 35.1**	**-1.7**
	4.9nm,1.1s								
WAKR	**Walker**	**21.32**	**336**	*e*P		**P**	**02 30 38.6**	**+1.3**
N21A	**Black Mountain**	**21.43**	**2**	⇓P		**P**	**02 30 39.5**	**+0.9**
	baz=22								
N20A	**Spence Gulch,**	**21.48**	**1**	⇑P		**P**	**02 30 39.4**	**+0.3**
	baz=22,SNR=5.6								
N23A	**Red Feather La**	**21.67**	**6**	⇑P		**P**	**02 30 41.3**	**+0.2**
	baz=22								
ELK	**Elko**	**22.12**	**347**	*e*P		**P**	**02 30 46.4**	**+0.5**
	5.9nm,1.0s								
M21A	**Separation Pea**	**22.28**	**3**	⇑P		**P**	**02 30 47.9**	**+0.2**
	baz=22								
L21A	**Rawlins**	**22.64**	**3**	⇑P		**P**	**02 30 51.8**	**+0.3**
	baz=23								
L20A	**Wamsutter**	**22.66**	**1**	⇑P		**P**	**02 30 52.3**	**+0.6**
	baz=23								
K20A	**Yellowstone Ra**	**23.31**	**1**	⇑P		**P**	**02 30 57.7**	**-0.6**
	baz=24								
K22A	**Casper**	**23.37**	**4**	⇑P		**P**	**02 30 58.6**	**-0.3**
	baz=24								
PDAR	**Pinedale Array**	**23.43**	**358**	P		**P**	**02 30 59.9**	**+0.3**
	1.0nm,0.9s,baz=157,slow=9.8,SNR=6.9								
J20A	**Shoshoni**	**24.00**	**1**	⇓P		**P**	**02 31 05.2**	**+0.2**
	baz=24								
J22A	**Midwest**	**24.13**	**4**	⇓P		**P**	**02 31 05.8**	**-0.4**
	baz=24								
LOHW	**Long Hollow**	**24.31**	**357**	*e*P		**P**	**02 31 09.1**	**+1.1**
	11nm,1.3s								
I21A	**Big Trails, Te**	**24.48**	**2**	⇑P		**P**	**02 31 08.9**	**-0.7**
	baz=25								
I20A	**Worland**	**24.60**	**1**	⇓P		**P**	**02 31 10.1**	**-0.5**
	baz=25								
MOD	**Modoc**	**24.62**	**339**	*e*P		**P**	**02 31 12.2**	**+1.4**
	6.8nm,0.9s								
I16A	**Newdale**	**24.63**	**355**	⇑P		**P**	**02 31 10.6**	**-0.3**
	baz=25								
I19A	**Meeteetse**	**24.68**	**359**	⇓P		**P**	**02 31 11.2**	**-0.2**
	baz=25								
J28A	**Allard Ranch,**	**24.87**	**13**	⇑P		**P**	**02 31 12.4**	**-0.5**
	baz=25								
I14A	**Mackay**	**24.90**	**352**	⇓P		**P**	**02 31 13.4**	**+0.1**
	baz=25								
I25A	**Rochford**	**25.01**	**8**	⇓P		**P**	**02 31 14.5**	**+0.2**
	baz=25								
I12A	**Atlanta**	**25.04**	**349**	⇓P		**P**	**02 31 14.8**	**+0.2**
	baz=25,SNR=6.1								
YBH	**Yreka Blue Hor**	**25.37**	**335**	LR		LR	02 39 48.6		
	comp=Z,128nm,21.2s,baz=159,slow=33								
H16A	**Russell Place,**	**25.44**	**356**	⇓P		**P**	**02 31 18.9**	**+0.7**
	baz=26								
H12A	**Diamond D Ranc**	**25.72**	**350**	⇑P		**P**	**02 31 21.1**	**+0.4**
	baz=26								
G12A	**Big Creek, Yel**	**26.36**	**349**	⇑P		**P**	**02 31 27.2**	**+0.6**
	baz=26								
F18A	**Big Timber**	**26.56**	**358**	⇑P		**P**	**02 31 29.0**	**+0.7**
	baz=27								
E19A	**Rath Farm, Rou**	**27.11**	**360**	⇑P		**P**	**02 31 33.4**	**+0.2**
	baz=27								
D16A	**Dana Ranch, Ca**	**27.78**	**356**	⇓P		**P**	**02 31 38.8**	**-0.4**
	baz=28								
D19A	**Cripps Ranch,**	**27.81**	**360**	⇓P		**P**	**02 31 39.1**	**-0.4**
	baz=28								
MSO	**Missoula**	**27.81**	**352**	⇑P		**P**	**02 31 39.4**	**-0.1**
	baz=28								
CHMT	**Chamberlain Mo**	**27.82**	**353**	*e*P		**P**	**02 31 40.0**	**+0.4**
D17A	**Six Diamond Ra**	**27.85**	**357**	⇑P		**P**	**02 31 39.4**	**-0.4**
	baz=28								
D15A	**Lincoln**	**27.87**	**354**	⇓P		**P**	**02 31 39.9**	**-0.1**
	baz=28								
D22A	**Cohagen**	**27.87**	**4**	⇑P		**P**	**02 31 40.1**	**+0.2**
	baz=28								
D14A	**Greenough**	**28.01**	**353**	⇑P		**P**	**02 31 41.3**	**0.0**
	baz=28								
D13A	**Huson**	**28.14**	**352**	⇓P		**P**	**02 31 42.0**	**-0.4**
	baz=28								
SLMT	**Seeley Lake**	**28.16**	**353**	*e*P		**P**	**02 31 42.9**	**+0.2**
D12A	**Red Ives Fores**	**28.23**	**350**	⇑P		**P**	**02 31 42.9**	**-0.3**
	baz=28								
C20A	**Veseth Ranch,**	**28.36**	**1**	⇓P		**P**	**02 31 44.3**	**0.0**
	baz=28								
B15A	**Bradely Ranch,**	**29.13**	**355**	⇑P		**P**	**02 31 51.4**	**+0.2**
	baz=29								
NEW	**Newport**	**29.71**	**349**	LR		LR	02 44 23.8		
	comp=Z,94nm,19.6s,baz=166,slow=38								
ULM	**Lac du Bonnet**	**32.54**	**15**	LR		LR	02 46 02.8		
	comp=Z,110nm,19.9s,baz=351,slow=37								
YKA	**Yellowknife Ar**	**43.37**	**356**	P		**P**	**02 33 51.1**	**-1.2**
	0.6nm,0.8s,baz=158,slow=8.3,SNR=3.0								
YKA				LR		LR	02 52 17.2		
	comp=Z,16nm,18.2s,baz=170,slow=37								
ILAR	**Eielson Array**	**52.07**	**340**	P		**P**	**02 34 59.2**	**-0.6**
	1.0nm,0.9s,baz=151,slow=7.6,SNR=12								
LPAZ	**La Paz**	**53.28**	**129**	P		**P**	**02 35 11.2**	**+1.1**
	0.7nm,0.6s,baz=323,slow=5.1,SNR=4.2								
LPAZ				LR		LR	02 53 39.7		
	comp=Z,47nm,18.6s,baz=338,slow=31								
PPT2	**Papeete2**	**54.38**	**230**	*e*LR		LR	02 50 54.4		
	202nm,27.2s								
TBI	**Tubuai**	**58.13**	**225**	*e*LR		LR	02 52 48.0		
	131nm,25.0s								
PLCA	**Paso Flores**	**69.43**	**150**	LR		LR	03 00 23.0		
	comp=Z,134nm,19.5s,baz=180,slow=30								
DZM	**Mont Dzumac**	**92.55**	**248**	*e*LR		LR	03 08 41.0		
	198nm,29.1s								

NIED ***02*** *02:26:00,36˚.60N×141˚.50E,h53km,Mw3.9 Best double couple: M0 7.71000×10^14 NP1:φ=21.00000°,δ=66.00000°, λ=105.00000°. NP2:φ=167.00000°,δ=28.00000°,λ=60.00000°.*

IDC ***02*** *02:26:15.7±1.0,36˚.66N×141˚.97E,h0km,mb3.9/10, mb1 4.0/13,mb1mx3.9/27,mbtmp3.9/13,ML3.6/3,MS2.9/3, Ms1 3.0/3,ms1mx2.6/40,Error ellipse: s-maj=30.3km s-min=19.4km az=73.0*

ISCJB ***02*** *02:26:22.6±1.1,36˚.60N±0˚.06×141˚.60E±0˚.09,h58km±8km, mb3.8/11,MS3.3/1,Error ellipse: s-maj=13.0km s-min=8.2km az=36.2*

NEIC ***02*** *02:26:22.2±1.3,36˚.64N×141˚.80E,h43km±9km,mb4.1/1, Error ellipse: s-maj=15.4km s-min=9.8km az=129.0*

NEIC Recorded [1 JMA] in Fukushima, Ibaraki and Tochigi.

JMA ***02*** *02:26:24.1±0.1,36˚.62N×141˚.47E,h61km±2km,M4.1*

JMA Felt I J1.

ISC 02 02:26:22.4±2.1,36˚.58N±0˚.08×141˚.69E±0˚.10,h43km±16km, n43,σ0°78/50,mb3.8/11,8D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.89**	**307**	⇓P	**Pn**	**02 26 38.4**	**-0.1**
ONAJ				S	**Sn**	**02 26 49.1**	**-1.1**
JHO	**Hitachi**	**0.90**	**273**	⇓P	**Pn**	**02 26 38.7**	**+0.1**
JHO				S	**Sn**	**02 26 49.3**	**-1.2**
JFK	**Kawauchi**	**1.02**	**321**	⇓P	**Pn**	**02 26 40.5**	**+0.2**
JFK				S	**Sn**	**02 26 52.6**	**-0.9**
JFT	**Otama**	**1.43**	**311**	⇓P	**Pn**	**02 26 47.0**	**+1.1**
JFT				S	**Sn**	**02 27 03.6**	**+0.1**
JMM	**Marumori**	**1.47**	**331**	⇓P	**Pn**	**02 26 46.8**	**+0.4**
JMM				S	**Sn**	**02 27 04.0**	**-0.5**
JFY	**Yanaizu**	**1.79**	**298**	⇓P	**Pn**	**02 26 51.3**	**+0.5**
JFY				S	**Sn**	**02 27 12.5**	**+0.1**
JAG	**Ashikaga**	**1.81**	**266**	⇓P	**Pn**	**02 26 51.3**	**+0.3**
JAG				S	**Sn**	**02 27 11.3**	**-1.4**
JKT	**Katashina**	**1.97**	**276**	⇓P	**Pn**	**02 26 54.0**	**+0.7**
JKT				S	**Sn**	**02 27 15.9**	**-1.0**
MJAR	**Matsushiro Arr**	**2.80**	**270**	Pn	**Pn**	**02 27 05.5**	**+0.8**
MJAR	**Matsushiro Arr**	**2.80**	**270**	Pn	**Pn**	**02 27 05.5**	**+0.8**
	64nm,0.3s,baz=94,slow=12,SNR=353						
MAJO	**Matsushiro**	**2.80**	**270**	*e*Pn	**Pn**	**02 27 06.1**	**+1.3**
MAT	**Matsushiro**	**2.80**	**270**	P	**Pn**	**02 27 06.1**	**+1.4**
MAT				S	**Sn**	**02 27 35.4**	**-1.9**
ERM	**Erimo**	**5.55**	**11**	*e*Pn	**Pn**	**02 27 43.1**	**+0.7**
ERM				*e*S	**Sn**	**02 28 43.0**	**-1.9**
ASAJ	**Asahikawa**	**7.56**	**5**	Pn	Pn	02 28 06.5	-3.5
ASAJ	**Asahikawa**	**7.56**	**5**	Pn	Pn	02 28 06.5	-3.5
	0.5nm,0.3s,baz=135,slow=18,SNR=2.4						
ASAJ				LR	LR	02 31 02.8	
	comp=Z,39nm,20.4s,baz=117,slow=38						
KSRS	**Korea Array**	**11.04**	**279**	Pn	**Pn**	**02 28 59.2**	**+1.6**
	0.3nm,0.3s,baz=94,slow=15,SNR=4.1						
KSRS				LR	LR	02 32 19.5	
	comp=Z,40nm,19.1s,baz=342,slow=32						
KSAR	**Wonju Array Be**	**11.07**	**279**	Pn	**Pn**	**02 28 59.2**	**+1.1**
SONM	**Songino Array**	**28.22**	**305**	P	P	**02 32 11.3**	**+0.1**
SONM	**Songino Array**	**28.22**	**305**	P	P	**02 32 11.3**	**+0.1**
	1.2nm,0.5s,baz=101,slow=8.6,SNR=12						
CMAR	**Chiang Mai Arr**	**41.60**	**256**	LR	LR	02 54 30.6	
	comp=Z,34nm,18.1s,baz=210,slow=40						
ZALV	**Zalesovo Beam**	**42.38**	**313**	P	**P**	**02 34 12.3**	**0.0**
ZALV	**Zalesovo Beam**	**42.38**	**313**	P	**P**	**02 34 12.3**	**0.0**
	0.9nm,0.5s,baz=106,slow=8.1,SNR=5.4						
MK31	**Makanchi Array**	**44.55**	**303**	*e*P	**P**	**02 34 29.6**	**-0.3**
MKAR	**Makanchi Array**	**44.55**	**303**	P	**P**	**02 34 30.1**	**+0.2**
MKAR	**Makanchi Array**	**44.55**	**303**	P	**P**	**02 34 30.1**	**+0.2**
	0.9nm,0.6s,baz=86,slow=9.1,SNR=12						
WRA	**Warramunga Arr**	**56.64**	**188**	P	**P**	**02 36 01.4**	**+0.3**
WRA	**Warramunga Arr**	**56.64**	**188**	P	**P**	**02 36 01.4**	**+0.3**
	0.3nm,0.3s,baz=6.0,slow=7.2,SNR=17						
ABKAR	**Akbulak array**	**58.40**	**310**	*e*P	**P**	**02 36 13.0**	**-0.3**
	0.9nm,0.5s						
ASAR	**Alice Springs**	**60.37**	**188**	P	**P**	**02 36 27.2**	**+0.1**
ASAR	**Alice Springs**	**60.37**	**188**	P	**P**	**02 36 27.2**	**+0.1**
	0.3nm,0.4s,baz=10,slow=5.7,SNR=4.2						
FINES	**FINESS Array B**	**69.32**	**332**	P	**P**	**02 37 24.7**	**-0.2**
FINES	**FINESS Array B**	**69.32**	**332**	P	**P**	**02 37 24.7**	**-0.2**
	1.4nm,0.7s,baz=59,slow=6.7,SNR=7.3						
NB2	**NORSAR Subarra**	**74.69**	**337**	P	**P**	**02 37 57.5**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=41,slow=6.2						
NOA	**NORSAR Array B**	**74.69**	**337**	P	**P**	**02 37 57.1**	**0.0**
NOA	**NORSAR Array B**	**74.69**	**337**	P	**P**	**02 37 57.1**	**0.0**
	comp=Z,1.2nm,0.7s,baz=40,slow=5.8,SNR=8.5						
AKASG	**Malin Array Be**	**74.79**	**322**	P	**P**	**02 37 57.3**	**-0.6**
AKASG	**Malin Array Be**	**74.79**	**322**	P	**P**	**02 37 57.3**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=44,slow=6.5,SNR=7.5						
BRTR	**Keskin Array B**	**79.32**	**312**	P	**P**	**02 38 24.2**	**+0.5**
BRTR	**Keskin Array B**	**79.32**	**312**	P	**P**	**02 38 24.2**	**+0.5**
	comp=Z,0.9nm,1.0s,baz=72,slow=4.7,SNR=3.5						
GERES	**GERESS Array B**	**83.22**	**328**	P	**P**	**02 38 44.2**	**+0.1**
GERES	**GERESS Array B**	**83.22**	**328**	P	**P**	**02 38 44.2**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=36,slow=7.3,SNR=4.4						
LPAZ	**La Paz**	**146.73**	**61**	PKPbc	**PKPbc**	**02 46 00.2**	**-0.6**
LPAZ	**La Paz**	**146.73**	**61**	PKPbc	**PKPbc**	**02 46 00.2**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=348,slow=3.0,SNR=3.6						

IDC ***02*** *02:54:11.4±1.7,34˚.00N×25˚.30E,h0km,mb3.6/2, mb1 3.5/4,mb1mx3.3/26,mbtmp3.4/4,ML3.7/2,Error ellipse: s-maj=50.6km s-min=28.2km az=133.0*

ISCJB ***02*** *02:54:12.4±1.1,33˚.95N±0˚.07×25˚.34E±0˚.09,h17km, mb3.4/2,Error ellipse: s-maj=11.4km s-min=9.4km az=8.4*

CSEM ***02*** *02:54:13.9,34˚.07N×25˚.37E,h15km,MD3.4,After ATH*

ATH ***02*** *02:54:13.9,34˚.07N×25˚.37E,h15km±5km,MD3.4/5*

ISC 02 02:54:13.9±1.3,34˚.06N±0˚.07×25˚.36E±0˚.06,h17km,n16, σ0°50/24,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.06**	**335**	*e*PB	**Pb**	**02 54 33.1**	**-0.7**
SIVA				*e*SN	**Sn**	**02 54 48.9**	**+0.6**
SIVA	**Sivas**	**1.06**	**335**	*e*Pb	**Pb**	**02 54 33.1**	**-0.7**
SIVA				*e*Sn	**Sn**	**02 54 48.9**	**+0.6**
LAST	**Lasithi**	**1.10**	**5**	*e*PN	**Pg**	**02 54 35.0**	**-0.3**
LAST				*e*SN	**Sg**	**02 54 49.5**	**-0.2**
LAST	**Lasithi**	**1.10**	**5**	*e*Pn	**Pg**	**02 54 35.0**	**-0.3**
LAST				*e*Sn	**Sg**	**02 54 49.5**	**-0.2**
NPS	**Neapolis**	**1.21**	**10**	*e*PN	**Pg**	**02 54 36.9**	**-0.5**
NPS	**Neapolis**	**1.21**	**10**	*e*Pn	**Pg**	**02 54 36.9**	**-0.5**
ZKR	**Zakros**	**1.26**	**34**	*e*PN	**Pb**	**02 54 37.1**	**-0.2**
ZKR				*e*SN	**Sg**	**02 54 55.0**	**+0.1**
ZKR	**Zakros**	**1.26**	**34**	*e*Pn	**Pb**	**02 54 37.1**	**-0.2**
ZKR				*e*Sn	**Sg**	**02 54 55.0**	**+0.1**
IDI	**Anoyia**	**1.28**	**342**	*e*PN	**Pg**	**02 54 38.2**	**-0.5**
IDI				*e*SN	**Sg**	**02 54 55.2**	**-0.3**
IDI	**Anoyia**	**1.28**	**342**	*e*Pn	**Pg**	**02 54 38.2**	**-0.5**
IDI				*e*Sn	**Sg**	**02 54 55.2**	**-0.3**
VAM	**Vamos**	**1.65**	**325**	*e*PN	**Pb**	**02 54 44.5**	**+0.6**
VAM	**Vamos**	**1.65**	**325**	*e*Pn	**Pb**	**02 54 44.5**	**+0.6**
AKASG	**Malin Array Be**	**16.87**	**8**	Pn	**Pn**	**02 58 09.5**	**+0.4**
	0.4nm,0.3s,baz=203,slow=11,SNR=5.2						
GERES	**GERESS Array B**	**17.13**	**333**	P	**Pn**	**02 58 12.7**	**+0.2**
	0.1nm,0.3s,baz=142,slow=11,SNR=5.9						
TORD	**Torodi Ar. Bea**	**29.93**	**232**	P	**P**	**03 00 20.5**	**-0.7**
	0.4nm,0.8s,baz=33,slow=8.5,SNR=4.4						
MKAR	**Makanchi Array**	**44.25**	**56**	P	**P**	**03 02 23.1**	**+0.7**
	0.7nm,0.5s,baz=274,slow=7.1,SNR=10						

ISCJB ***02*** *03:09:49.4±0.7,7˚.26S±0˚.04×75˚.89W±0˚.05,h127km±7km, mb4.5/95,Error ellipse: s-maj=9.3km s-min=5.4km az=148.0*

NEIC ***02*** *03:09:49.1±0.2,7˚.27S×75˚.81W,mb4.8/48,Error ellipse: s-maj=6.6km s-min=3.9km az=61.0*

NEIC Felt [II] at Tarapoto. Also felt at Bellavista, Contamana, Juanjui, Picota, Sauce and Tocache Nuevo.

IDC ***02*** *03:09:49.2±0.6,7˚.23S×75˚.83W,h113km±5km,mb4.1/23, mb1 4.2/27,mb1mx4.2/31,mbtmp4.1/27,Error ellipse: s-maj=11.5km s-min=7.9km az=28.0*

BJI ***02*** *03:09:51.9,7˚.20S×75˚.90W,h109km,mB5.2/8*

ISC 02 03:09:50.1±0.4,7˚.29S±0˚.04×75˚.85W±0˚.06,h121km±3km, h121km:pP-P,n501,σ0°90/539,mb4.5/95,140C-159D, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.54**	**273**	P	**Pn**	**03 10 30.7**	**0.0**
ATAH				S	**Sn**	**03 11 01.3**	**-0.6**
ATAH	**Atahualpa**	**2.54**	**273**	P	**Pn**	**03 10 30.7**	**0.0**
ATAH				S	**Sn**	**03 11 01.3**	**-0.6**
	147nm,0.3s,baz=288,slow=19,SNR=9.0						
NNA	**Nana**	**4.77**	**192**	*e*Pn	**Pn**	**03 11 01.5**	**+1.4**
NNA				*e*S	**Sn**	**03 11 54.2**	**-0.3**
OTAV	**Otavalo**	**7.92**	**341**	*e*Pn	**Pn**	**03 11 43.2**	**+0.3**
ARE	**Arequipa**	**10.06**	**155**	P	Pn	03 12 16.0	+4.3
LPAZ	**La Paz**	**11.70**	**141**	*e*Pn	**Pn**	**03 12 32.2**	**-1.8**
LPAZ	**La Paz**	**11.70**	**141**	P	**Pn**	**03 12 32.1**	**-1.8**
	0.9nm,0.3s,baz=329,slow=11,SNR=19						
ROSC	**El Rosal**	**12.16**	**7**	*e*Pn	**Pn**	**03 12 42.0**	**+2.2**
ROSC	**El Rosal**	**12.16**	**7**	P	**Pn**	**03 12 39.6**	**-0.2**
	0.8nm,0.3s,baz=230,slow=16,SNR=2.1						
PAYG	**Puerto Ayora**	**15.83**	**294**	*e*Pn	**Pn**	**03 13 25.2**	**-1.1**
LVC	**Limon Verde**	**16.63**	**157**	*e*P	**P**	**03 13 40.3**	**+3.5**
	250nm,2.5s						
LVC				S	**Sn**	**03 16 42.0**	**+0.3**
LVC	**Limon Verde**	**16.63**	**157**	P	**P**	**03 13 40.0**	**+3.2**
	1.8nm,0.3s,baz=326,slow=9.0,SNR=19						
LVC				S	**Sn**	**03 16 42.0**	**+0.3**
	2.3nm,0.3s,baz=35,slow=14,SNR=43						
BCIP	**Isla Barro Col**	**16.82**	**346**	Pn	**P**	**03 13 39.9**	**+1.3**
SIV	**San Ignacio**	**16.84**	**122**	P	**Pn**	**03 13 37.8**	**-1.1**
SIV	**San Ignacio**	**16.84**	**122**	P	**Pn**	**03 13 37.8**	**-1.1**
	2.3nm,0.3s,baz=310,slow=11,SNR=49						
GRGR	**Grenville**	**23.90**	**36**	*e*P	**P**	**03 14 52.9**	**0.0**
	89nm,0.8s						
CFAA	**Coronel Fontan**	**25.21**	**165**	P	**P**	**03 15 05.4**	**+0.7**
CFAA	**Coronel Fontan**	**25.21**	**165**	P	**P**	**03 15 05.4**	**+0.7**
	0.4nm,0.3s,baz=336,slow=9.7,SNR=15						
MTDJ	**Mount Denham**	**25.41**	**356**	*e*P	**P**	**03 15 08.6**	**+1.9**
	58nm,0.8s						
CPUP	**Villa Florida**	**25.87**	**139**	P	**P**	**03 15 10.9**	**+0.2**
CPUP	**Villa Florida**	**25.87**	**139**	P	**P**	**03 15 10.9**	**+0.2**
	3.4nm,0.4s,baz=307,slow=9.6,SNR=15						
CELP	**Cerrillos**	**26.81**	**20**	*e*P	**P**	**03 15 20.0**	**+0.8**
AOPR	**Arecibo Observ**	**27.01**	**19**	*e*P	**P**	**03 15 21.3**	**+0.4**
	40nm,0.7s						
STVI	**Saint Thomas**	**27.65**	**23**	*e*P	**P**	**03 15 26.0**	**-0.6**
	37nm,0.5s						
BDFB	**Brasilia**	**28.48**	**109**	P	**P**	**03 15 34.4**	**+0.1**
BDFB	**Brasilia**	**28.48**	**109**	P	**P**	**03 15 34.4**	**+0.1**
	10nm,0.9s,baz=270,slow=9.1,SNR=14						
TEIG	**Tepich**	**29.95**	**336**	P	**P**	**03 15 47.0**	**0.0**
TEIG	**Tepich**	**29.95**	**336**	P	**P**	**03 15 47.0**	**0.0**
	9.5nm,0.8s,baz=191,slow=12,SNR=4.0						
PLCA	**Paso Flores**	**33.63**	**173**	P	**P**	**03 16 19.9**	**+0.7**
PLCA				PcP	**PcP**	**03 18 56.9**	**+0.1**
PLCA	**Paso Flores**	**33.63**	**173**	P	**P**	**03 16 19.9**	**+0.7**
	3.8nm,0.7s,baz=327,slow=7.9,SNR=9.7						
PLCA				PcP	**PcP**	**03 18 56.9**	**+0.1**
	2.5nm,0.7s,baz=335,slow=2.3,SNR=5.1						
TIGA	**Tifton**	**39.22**	**350**	⇓P	**P**	**03 17 06.6**	**0.0**
	baz=39						
RCBR	**Riachuelo**	**39.70**	**90**	P	**P**	**03 17 10.0**	**-1.0**
RCBR	**Riachuelo**	**39.70**	**90**	P	**P**	**03 17 10.0**	**-1.0**
	7.1nm,0.7s,baz=270,slow=9.8,SNR=6.8						
GOGA	**Godfrey**	**41.12**	**350**	*e*P	**P**	**03 17 22.0**	**-0.2**
	17nm,1.0s						
LRAL	**Lakeview Retre**	**41.48**	**346**	*e*P	**P**	**03 17 24.4**	**-0.8**
	11nm,0.8s						
KMSC	**Kings Mountain**	**42.52**	**353**	⇑P	**P**	**03 17 33.9**	**+0.2**
	baz=43						
732A	**Laxson Ranch,**	**42.70**	**328**	⇑P	**P**	**03 17 35.5**	**+0.2**
	baz=43						
632A	**Uvalde**	**43.23**	**329**	⇓P	**P**	**03 17 40.6**	**+1.0**
	baz=43,SNR=11						
CPCT	**Cooper Cave**	**43.29**	**350**	*e*P	**P**	**03 17 39.7**	**-0.1**
TKL	**Tuckaleechee C**	**43.37**	**351**	P	**P**	**03 17 39.9**	**-0.6**
TKL	**Tuckaleechee C**	**43.37**	**351**	P	**P**	**03 17 39.9**	**-0.6**
	1.7nm,0.5s,baz=166,slow=9.9,SNR=5.1						
631A	**Perdido Creek**	**43.57**	**328**	⇓P	**P**	**03 17 42.5**	**+0.3**
	baz=44,SNR=15						
532A	**Rocksprings**	**43.79**	**329**	⇓P	**P**	**03 17 44.8**	**+0.8**
	baz=44,SNR=10						
531A	**Rocksprings**	**44.15**	**329**	⇑P	**P**	**03 17 47.7**	**+0.7**
	baz=44						
WHTX	**Lake Whitney**	**44.17**	**333**	⇑P	**P**	**03 17 47.8**	**+0.8**
	baz=44						
432A	**Menard**	**44.34**	**330**	⇑P	**P**	**03 17 49.0**	**+0.6**
	baz=44						
530A	**J-C Ranch, Com**	**44.55**	**328**	⇑P	**P**	**03 17 50.6**	**+0.5**
	baz=45,SNR=5.6						
431A	**Sonora**	**44.60**	**329**	⇑P	**P**	**03 17 50.8**	**+0.4**
	baz=45						
UALR	**University of**	**44.65**	**341**	*e*P	**P**	**03 17 50.2**	**-0.5**
	17nm,0.9s						
332A	**Millersview**	**44.73**	**331**	⇓P	**P**	**03 17 52.0**	**+0.4**
	baz=45,SNR=14						
JSRW	**J. Sargeant Re**	**44.79**	**358**	*e*P	**P**	**03 17 52.4**	**+0.6**
MIAR	**Mount Ida**	**44.86**	**339**	*e*P	**P**	**03 17 52.2**	**-0.2**
	4.6nm,0.9s						
628A	**Black Gap, Mar**	**44.88**	**326**	⇑P	**P**	**03 17 53.6**	**+0.9**
	baz=45,SNR=8.2						
529A	**Stev Forest Ra**	**45.00**	**327**	⇓P	**P**	**03 17 54.1**	**+0.3**
	baz=45,SNR=5.2						
430A	**Baggett Ranch,**	**45.00**	**329**	⇓P	**P**	**03 17 54.1**	**+0.4**
	baz=45						
331A	**San Angelo**	**45.01**	**330**	⇑P	**P**	**03 17 53.8**	**0.0**
	baz=45,SNR=6.4						
232A	**Coleman**	**45.10**	**331**	⇓P	**P**	**03 17 54.7**	**+0.2**
	baz=45,SNR=16						
627A	**Terlingua Ranc**	**45.13**	**325**	⇓P	**P**	**03 17 55.3**	**+0.5**
	baz=45,SNR=5.2						
TXAR	**Lajitas Array**	**45.20**	**325**	P	**P**	**03 17 55.6**	**+0.3**
TXAR				PcP	**PcP**	**03 19 33.7**	**+0.1**

MSTX	Muleshoe baz=48	48.32	330	⇓P		P	03 18 19.5 0.0
V31A	Spring Creek L baz=49	48.42	334	⇑P		P	03 18 21.0 +0.7
Y27A	Causey baz=49	48.45	329	⇑P		P	03 18 20.5 -0.1
AMTX	Amarillo 6.7nm,0.8s	48.53	331	*e*P		P	03 18 20.9 -0.2
AMTX				*e*PcP		PcP	03 19 45.5 +0.2
W29A	Amraillo	48.70	332	⇑P		P	03 18 22.2 -0.3
124A	Stringfield Ra baz=49	48.74	326	⇓P		P	03 18 23.4 +0.4
Z25A	Roswell baz=49	48.79	327	⇑P		P	03 18 23.4 +0.2
X27A	F and S Farms, baz=49	49.02	330	⇓P		P	03 18 25.5 +0.5
Z24A	Sheeppen Canyo baz=49	49.17	327	⇑P		P	03 18 26.7 +0.4
HDIL	Hopedale 51nm,0.6s	49.20	346	*e*P		P	03 18 24.6 -1.4
BINY	Binghamton 12nm,0.8s	49.25	360	*e*P		P	03 18 27.2 +0.8
BINY				*e*pP		pP	03 18 56.2 +1.6
BINY				*e*sP		sP	03 19 11.1 +3.0
Y25A	Mesa, Roswell baz=49	49.27	328	⇑P		P	03 18 26.8 -0.1
X26A	CR and CF Fran baz=50	49.30	329	⇓P		P	03 18 27.3 +0.2
W27A	Bowe Ranch, En baz=50	49.34	330	⇑P		P	03 18 27.7 +0.4
T31A	Randall Ranch, baz=50	49.47	335	⇓P		P	03 18 28.8 +0.6
V28A	Channing baz=50	49.49	332	⇑P		P	03 18 29.1 +0.6
320A	Kipp Ranch, An baz=50	49.52	323	⇑P		P	03 18 29.1 +0.3
Z23A	Rita Site, Whi baz=50	49.59	326	⇑P		P	03 18 29.7 +0.3
Y24A	Capitan baz=50	49.66	327	⇑P		P	03 18 30.3 +0.3
W26A	Owens Ranch, T baz=50	49.71	330	⇓P		P	03 18 30.5 +0.3
TRY	Troy 8.1nm,0.6s	49.82	2	*e*P		P	03 18 31.8 +1.2
S31A	Mullinville baz=50	49.83	335	⇓P		P	03 18 31.9 +0.9
220A	Playas Peak, P baz=50	49.92	323	⇓P		P	03 18 32.4 +0.6
121A	Cookes Peak, D baz=50	49.94	324	⇓P		P	03 18 32.6 +0.6
319A	Douglas baz=50	50.00	322	⇓P		P	03 18 32.9 +0.5
Y23A	Lovelace Mesa, baz=50	50.00	327	⇑P		P	03 18 32.7 +0.2
X24A	Lazy VL Ranch, baz=50	50.15	328	⇓P		P	03 18 33.9 +0.2
W25A	X Bar L Ranch, baz=50	50.16	329	⇓P		P	03 18 33.9 +0.3
T29A	Hugoton baz=50	50.22	333	⇓P		P	03 18 34.6 +0.7
V26A	Tequesquite Ra baz=50	50.28	330	⇑P		P	03 18 34.7 +0.3
U27A	Thompson Grove baz=50	50.32	332	⇑P		P	03 18 34.9 +0.2
R31A	Burdett baz=51	50.42	336	⇑P		P	03 18 35.7 +0.3
Z21A	St. Cloud Mine baz=51	50.44	325	⇓P		P	03 18 36.6 +0.8
120A	U Bar Ranch, L baz=51	50.44	324	⇑P		P	03 18 36.2 +0.4
Y22A	Socorro baz=51	50.51	326	⇓P		P	03 18 37.2 +0.9
T28A	Walsh baz=51	50.56	333	⇑P		P	03 18 36.7 +0.2
W24A	Lazy 6 Ranch, baz=51	50.64	328	⇓P		P	03 18 37.3 0.0
V25A	Rancho No Teng baz=51	50.72	330	⇓P		P	03 18 38.1 +0.2
R30A	Dighton baz=51	50.73	335	⇑P		P	03 18 38.3 +0.6
U26A	Atchley Ranch, baz=51	50.73	331	⇓P		P	03 18 38.3 +0.3
T27A	Campo baz=51	50.79	332	⇑P		P	03 18 38.5 +0.2
Z20A	Nine Sixteen R baz=51	50.82	324	⇓P		P	03 18 39.5 +0.9
S28A	Manter baz=51	50.85	333	⇑P		P	03 18 38.9 +0.2
LAZ	Ladron 1.0nm,0.8s	50.95	326	*e*P		P	03 18 40.1 +0.5
Y21A	Point of Rocks baz=51	50.95	326	⇓P		P	03 18 40.9 +1.2
V24A	Rampart Ranch, baz=51	50.97	329	⇓P		P	03 18 40.0 +0.3
ANMO	Albuquerque 7.0nm,1.0s	50.99	327	*e*P		P	03 18 40.0 +0.2
W23A	Werner Place, baz=51	50.99	328	⇑P		P	03 18 40.1 +0.2
NCB	Newcomb 22nm,1.0s	51.04	2	*e*P		P	03 18 40.5 +0.6
U25A	Circle Dot Ran baz=51	51.06	330	⇑P		P	03 18 40.7 +0.3
MDV	Middlebury	51.10	2	*e*P		P	03 18 40.9 +0.6
R29A	Marienthal baz=51	51.21	334	⇑P		P	03 18 41.8 +0.4
Y20A	Horse Springs, baz=51	51.27	325	⇑P		P	03 18 43.0 +0.9
T26A	Comanche Natio baz=52	51.29	332	⇓P		P	03 18 41.9 -0.2
Q30A	Quinter baz=52	51.29	336	⇓P		P	03 18 42.6 +0.7
X21A	Alamocita Cree baz=52	51.34	326	⇓P		P	03 18 43.8 +1.2
LBNH	Lisbon 16nm,0.8s	51.41	4	*e*P		P	03 18 43.6 +1.0
P31A	Stockton baz=52	51.42	337	⇑P		P	03 18 43.2 +0.4
V23A	Ortiz Mt. (NFS baz=52	51.45	328	⇓P		P	03 18 44.2 +0.9
S26A	Kim baz=52	51.59	332	⇓P		P	03 18 44.9 +0.7
T25A	Trinidad baz=52	51.65	331	⇓P		P	03 18 45.5 +0.7
JFWS	Jewell Farm 14nm,0.7s	51.66	347	*e*P		P	03 18 43.1 -1.4
LONY	Lake Ozonia 4.6nm,0.7s	51.68	1	*e*P		P	03 18 44.5 -0.1
LONY				*e*pP		pP	03 19 16.0 +2.9
P30A	Selden baz=52	51.78	336	⇓P		P	03 18 46.1 +0.5
X20A	Quemado baz=52	51.81	325	⇓P		P	03 18 46.5 +0.5
R27A	Eads baz=52	51.82	333	⇓P		P	03 18 46.2 +0.3
U23A	El Rito baz=52	51.91	329	⇓P		P	03 18 47.2 +0.5
V22A	San Miguel Ran baz=52	51.96	328	⇑P		P	03 18 47.8 +0.6
Q28A	Sharon Springs baz=52	52.04	334	⇓P		P	03 18 47.8 +0.3
S25A	Robets Cordova baz=52	52.08	331	⇑P		P	03 18 48.4 +0.5
P29A	Atwood baz=52	52.11	335	⇑P		P	03 18 48.7 +0.6
R26A	Arlington baz=52	52.13	332	⇓P		P	03 18 48.6 +0.4
W20A	Ramah baz=52	52.23	326	⇓P		P	03 18 50.1 +0.9
O30A	MW Ranch, Wils baz=52	52.25	337	⇑P		P	03 18 49.6 +0.6
V21A	Milan baz=52	52.27	327	⇓P		P	03 18 50.2 +0.8
U22A	Llaves baz=52	52.28	328	⇓P		P	03 18 50.4 +0.9
KSCO	Kaye Shedlock' baz=52	52.34	334	⇑P		P	03 18 50.2 +0.4
S24A	Houchin Ranch, baz=53	52.44	331	⇓P		P	03 18 51.5 +0.8
O29A	4D Ranch, Culb baz=53	52.50	336	⇓P		P	03 18 51.4 +0.5
214A	Organ Pipe Nat baz=53	52.60	320	⇓P		P	03 18 52.2 +0.4
BGNE	Belgrade baz=53	52.60	339	⇑P		P	03 18 52.1 +0.6
X18A	Snowflake baz=53	52.62	324	⇑P		P	03 18 52.7 +0.7
SDCO	Great Sand Dun 12nm,0.9s	52.66	330	*e*P		P	03 18 52.7 +0.3
SDCO				*e*pP		pP	03 19 18.5 -2.3
Q26A	Hugo baz=53	52.67	333	⇓P		P	03 18 52.7 +0.4
U21A	Nageezi baz=53	52.74	328	⇓P		P	03 18 53.3 +0.4
T22A	Edith baz=53	52.80	329	⇓P		P	03 18 54.2 +0.9
R24A	Sanders Place, baz=53	52.85	331	⇓P		P	03 18 54.7 +1.0
Q25A	Bedland, Calha baz=53	52.99	332	⇑P		P	03 18 54.6 -0.1
N29A	Votaw Ranch, W baz=53	53.02	337	⇑P		P	03 18 54.9 +0.2
T21A	Navajo Lake baz=53	53.11	328	⇑P		P	03 18 55.3 -0.3
P26A	Davis Ranch, A baz=53	53.11	333	⇓P		P	03 18 55.8 +0.3
R23A	Moffat baz=53	53.17	331	⇓P		P	03 18 56.3 +0.3
U20A	Newcomb baz=53	53.17	327	⇑P		P	03 18 56.2 +0.2
O27A	Beecher Island baz=54	53.25	335	⇓P		P	03 18 57.3 +0.8
S22A	4UR Ranch, Cre baz=54	53.32	329	⇓P		P	03 18 57.7 +0.5
X16A	Lo Mia Camp, P baz=54	53.42	323	⇓P		P	03 18 58.5 +0.6
P25A	Willow Gulch B baz=54	53.44	333	⇓P		P	03 18 58.4 +0.5
M29A	Burnside Ranch baz=54	53.58	337	⇑P		P	03 18 59.4 +0.6
R22A	Saguache, Gunn baz=54	53.66	330	⇑P		P	03 19 00.4 +0.7
OGNE	Ogallala baz=54	53.70	335	⇓P		P	03 19 00.1 +0.5
113A	Mohawk Valley, baz=54	53.74	320	⇑P		P	03 19 00.6 +0.6
M28A	Bar X Bar Ranc baz=54	53.81	336	⇑P		P	03 19 01.0 +0.6
L29A	Maesberg Ranch baz=54	54.03	337	⇑P		P	03 19 02.4 +0.3
P23A	Jefferson baz=54	54.10	331	⇓P		P	03 19 04.1 +1.2
WUAZ	Wupatki 7.0nm,1.0s	54.15	324	*e*P		P	03 19 03.9 +0.7
WUAZ	Wupatki baz=54	54.15	324	⇑P		P	03 19 03.6 +0.5
ECSD	EROS Data Cent 7.2nm,0.9s	54.16	342	*e*P		P	03 19 01.5 -1.4
ECSD				*e*PcP		PcP	03 20 05.6 -0.3
R21A	Cimarron baz=54	54.16	329	⇓P		P	03 19 03.9 +0.6
S20A	Disappointment baz=54	54.17	328	⇓P		P	03 19 03.8 +0.4
Q22A	Crested Butte, baz=54	54.22	330	⇑P		P	03 19 04.3 +0.5
M27A	Reverse DX Ran baz=54	54.33	336	⇑P		P	03 19 04.9 +0.6
ISCO	Idaho Springs baz=54	54.34	332	⇑P		P	03 19 04.9 +0.3
O24A	Longmont baz=54	54.34	333	⇓P		P	03 19 05.1 +0.7
R20A	Revale baz=55	54.45	329	⇓P		P	03 19 06.2 +0.9
SMCO	Snowmass 3.3nm,0.8s	54.50	330	*e*P		P	03 19 05.1 -0.8
SMCO				*e*PcP		PcP	03 20 08.7 +0.8
P22A	Eagle baz=55	54.72	331	⇑P		P	03 19 07.8 +0.5
O23A	Lake Granby, G baz=55	54.80	332	⇑P		P	03 19 08.7 +0.7
K28A	Ten Mile Ranch baz=55	54.93	337	⇓P		P	03 19 09.5 +0.9
O22A	Kremmling baz=55	55.06	331	⇓P		P	03 19 10.0 +0.2
SWSC	Sam W. Stewart baz=55	55.16	319	⇑P		P	03 19 11.1 +0.8
K27A	Flueckinger Fa baz=56	55.26	336	⇑P		P	03 19 11.6 +0.7
U15A	North Rim baz=56	55.31	324	⇓P		P	03 19 12.4 +0.7
M24A	Cheyenne baz=56	55.32	334	⇑P		P	03 19 12.2 +0.8
W13A	Hualapai Mount baz=56	55.35	322	⇑P		P	03 19 12.5 +0.6
N23A	Red Feather La baz=56	55.36	332	⇑P		P	03 19 12.2 +0.3
BC3	Big Chuckawall baz=56	55.39	320	⇓P		P	03 19 12.8 +0.7
J28A	Allard Ranch, baz=56	55.48	338	⇓P		P	03 19 12.8 +0.3
IRM	Iron Mountain baz=56	55.52	320	⇑P		P	03 19 13.5 +0.6
BRSD	Miller baz=56	55.56	340	⇑P		P	03 19 12.6 -0.3
P19A	Cripple Cowboy baz=56	55.85	329	⇓P		P	03 19 15.9 +0.5
O20A	White River Ci baz=56	55.86	330	⇓P		P	03 19 15.8 +0.4
I28A	Midland baz=56	55.95	338	⇓P		P	03 19 15.9 +0.1
BELC	Belle Mtn. Jos baz=56	55.96	320	⇑P		P	03 19 16.6 +0.5
N21A	Black Mountain baz=56	55.99	331	⇓P		P	03 19 16.8 +0.4
L23A	Garrett baz=56	56.23	334	⇑P		P	03 19 18.3 +0.3
GMRC	Granite Mounta baz=56	56.24	321	⇑P		P	03 19 18.6 +0.5
SRU	San Rafael 4.1nm,0.7s	56.26	328	*e*P		P	03 19 18.4 +0.2
I27A	Quinn baz=56	56.34	338	⇓P		P	03 19 19.2 +0.7
N20A	Spence Gulch, baz=57	56.41	331	⇓P		P	03 19 19.8 +0.5
O19A	Miners Draw (B baz=57	56.42	330	⇓P		P	03 19 19.8 +0.5
Q16A	Castle Valley baz=57	56.46	327	⇑P		P	03 19 20.6 +0.9
J25A	Sunshine Ranch baz=57	56.46	336	⇑P		P	03 19 20.4 +0.9
H28A	Mission Ridge baz=57	56.48	339	⇑P		P	03 19 19.7 +0.2
L22A	Ellis Ranch, M baz=57	56.49	333	⇓P		P	03 19 20.4 +0.6
MURC	Murrieta baz=57	56.49	319	⇑P		P	03 19 20.2 +0.4
M21A	Separation Pea baz=57	56.58	332	⇓P		P	03 19 20.9 +0.4
I26A	New Underwood baz=57	56.62	337	⇑P		P	03 19 21.1 +0.5
HEC	Hector,Ludlow baz=57	56.70	320	⇑P		P	03 19 22.5 +1.2
EYMN	Ely 11nm,0.9s	56.71	347	*e*P		P	03 19 19.7 -1.4
K23A	Bowen Ranch, D baz=57	56.71	334	⇑P		P	03 19 22.0 +0.7
CCUT	Cedar City 4.0nm,1.1s	56.71	325	*e*P		P	03 19 22.9 +1.3
TUQ	Turquoise Moun baz=57	56.83	321	⇓P		P	03 19 22.8 +0.5
L21A	Rawlins baz=57	56.86	332	⇓P		P	03 19 22.4 0.0
M20A	Sweetwater, Wa baz=57	56.88	331	⇓P		P	03 19 23.1 +0.5
I25A	Rochford baz=57	56.96	336	⇓P		P	03 19 23.9 +0.8
K22A	Casper baz=57	57.02	333	⇓P		P	03 19 23.9 +0.4
RSSD	Black Hills 4.8nm,0.9s	57.16	336	*e*P		P	03 19 24.6 0.0
I24A	Kuemmerle Ranc baz=57	57.19	336	⇑P		P	03 19 25.1 +0.5
GSC	Goldstone baz=58	57.30	320	⇓P		P	03 19 26.6 +1.0
H25A	Fruitdale baz=58	57.41	337	⇑P		P	03 19 26.6 +0.5
J22A	Midwest baz=58	57.61	334	⇑P		P	03 19 27.5 -0.1
EDW2	Edwards Air Fo baz=58	57.79	319	⇑P		P	03 19 28.7 -0.3
K20A	Yellowstone Ra baz=58	57.85	332	⇓P		P	03 19 29.4 0.0
H24A	Dirks Ranch, A baz=58	57.89	336	⇑P		P	03 19 29.4 -0.1
J21A	Lysite baz=58	57.98	333	⇓P		P	03 19 30.6 +0.3
I22A	9 Mile Ranch, baz=58	57.99	334	⇑P		P	03 19 30.6 +0.3
M17A	Scullys Gap (B baz=58	58.07	330	⇑P		P	03 19 30.7 -0.3
FURC	Furnace Creek, baz=58	58.08	321	⇓P		P	03 19 31.5 +0.7
AGMN	Agassiz Nation 14nm,0.8s	58.09	344	*e*P		P	03 19 29.8 -0.9
MPMC	Manual Prospec baz=58	58.21	321	⇓P		P	03 19 32.3 +0.2
K19A	Absolon Red Bu baz=58	58.22	332	⇓P		P	03 19 31.5 -0.4
DUG	Dugway 26nm,1.6s	58.26	327	*e*P		P	03 19 33.0 +0.8
DUG	Dugway baz=58	58.26	327	⇓P		P	03 19 32.5 +0.2
PDAR	Pinedale Array	58.51	331	P		P	03 19 33.3 -0.7
PDAR				PcP		PcP	03 20 22.2 -1.0
PDAR	Pinedale Array 1.2nm,0.6s,baz=124,slow=8.9,SNR=13	58.51	331	P		P	03 19 33.3 -0.7
PDAR				PcP		PcP	03 20 22.2 -1.0
E26A	1.7nm,0.6s,baz=139,slow=5.9,SNR=8.9 Carlson Angus baz=59	58.54	339	⇓P		P	03 19 34.0 0.0
ISA	Isabella baz=59	58.59	320	⇑P		P	03 19 34.9 +0.4
G23A	Biddle baz=59	58.60	336	⇑P		P	03 19 34.4 -0.1
J19A	Crowheart baz=59	58.65	332	⇓P		P	03 19 35.3 +0.3
GRAC	Grapevine Rang baz=59	58.73	322	⇓P		P	03 19 36.1 +0.6
F24A	Ekalaka baz=59	58.76	337	⇑P		P	03 19 35.6 +0.1
I20A	Worland baz=59	58.76	333	⇓P		P	03 19 35.7 0.0
MDND	Maddock baz=59	58.77	341	⇑P		P	03 19 36.0 +0.5
CWC	Cottonwood Cre baz=59	58.82	321	⇑P		P	03 19 36.8 +0.6
H21A	Big Horn, Sher baz=59	58.82	334	⇓P		P	03 19 35.5 -0.6
F23A	Volborg baz=59	59.03	336	⇑P		P	03 19 37.1 -0.3
H20A	Greybull baz=59	59.13	334	⇓P		P	03 19 37.8 -0.3
I19A	Meeteetse baz=59	59.22	333	⇓P		P	03 19 38.9 0.0
E24A	Baker baz=60	59.30	338	⇓P		P	03 19 39.5 +0.3
I18A	Diamond G Ranc baz=60	59.34	332	⇓P		P	03 19 39.8 0.0
F22A	Rosebud baz=60	59.42	336	⇑P		P	03 19 40.0 0.0
ULM	Lac du Bonnet	59.89	345	*e*P		P	03 19 42.2 -0.9
ULM	Lac du Bonnet 19nm,0.8s,baz=166,slow=7.8,SNR=12	59.89	345	P		P	03 19 41.9 -1.2
IMW	Indian Meadow 2.2nm,0.5s	60.02	331	*e*P		P	03 19 44.2 -0.3
IMW				*e*			03 20 29.1
D23A	Lindsay baz=60	60.15	337	⇓P		P	03 19 45.7 +0.7
NVAR	Mina Array Bea	60.21	322	P		P	03 19 46.4 +0.5
NVAR	Mina Array Bea 1.8nm,0.8s,baz=132,slow=7.4,SNR=15	60.21	322	P		P	03 19 46.3 +0.5
I16A	Newdale baz=60	60.27	331	⇑P		P	03 19 46.5 +0.4
E21A	Keefer Ranch, baz=61	60.38	336	⇓P		P	03 19 46.8 +0.2
G18A	Lazy EL Ranch, baz=61	60.47	333	⇓P		P	03 19 47.4 +0.1
D22A	Cohagen baz=61	60.51	337	⇓P		P	03 19 48.1 +0.6
F19A	Roth Farm, Mol baz=61	60.62	334	⇓P		P	03 19 48.3 0.0
C23A	Lambert baz=61	60.67	338	⇓P		P	03 19 48.9 +0.4
D21A	La Casta Ranch baz=61	60.77	336	⇓P		P	03 19 49.8 +0.6
H16A	Russell Place, baz=61	60.77	332	⇓P		P	03 19 50.5 +1.0
E20A	Meyer Farm, Mu baz=61	60.78	335	⇑P		P	03 19 49.8 +0.5
DGMT	Dagmar 10nm,0.8s	60.86	339	*e*P		P	03 19 50.6 +0.8
DGMT	Dagmar baz=61	60.86	339	⇑P		P	03 19 50.5 +0.8
C22A	Vida baz=61	60.88	337	⇑P		P	03 19 50.9 +0.9
GCMT	Greycliff 14nm,0.9s	60.88	334	*e*P		P	03 19 50.2 +0.1
F18A	Big Timber baz=61	60.99	334	⇓P		P	03 19 51.1 +0.3
E19A	Rath Farm, Rou baz=61	61.02	335	⇑P		P	03 19 51.4 +0.4
B23A	Brockton baz=61	61.15	338	⇓P		P	03 19 52.7 +0.9
A24A	Westby baz=61	61.17	339	⇑P		P	03 19 52.8 +0.9
I14A	Mackay baz=61	61.27	330	⇓P		P	03 19 53.4 +0.6
B22A	Reddig Ranch S baz=62	61.38	338	⇑P		P	03 19 53.9 +0.6
F17A	Fitzpatrick Pl baz=62	61.41	333	⇑P		P	03 19 54.0 +0.3
C21A	Desert Coulee baz=62	61.42	337	⇓P		P	03 19 54.0 +0.4
A23A	Redstone baz=62	61.52	339	⇓P		P	03 19 55.1 +0.9
E18A	Harlowton baz=62	61.59	334	⇓P		P	03 19 55.2 +0.4
D19A	Cripps Ranch, baz=62	61.62	335	⇑P		P	03 19 55.1 +0.1
MCMT	McKenzie Canyo 1.1nm,0.8s	61.63	331	*e*P		P	03 19 55.9 +0.6
C20A	Veseth Ranch, baz=62	61.69	336	⇑P		P	03 19 55.4 0.0
F16A	Kennard Place, baz=62	61.76	332	⇓P		P	03 19 56.5 +0.5
B21A	Ellsworth Farm baz=62	61.88	337	⇑P		P	03 19 57.5 +0.9
A22A	Carney Farms, baz=62	61.92	338	⇑P		P	03 19 57.6 +0.7
I12A	Atlanta baz=62	62.03	329	⇓P		P	03 19 58.2 +0.3
D18A	Linhart Farms, baz=62	62.03	334	⇓P		P	03 19 58.6 +0.8
MFID	Camas Ranch 9.6nm,0.9s	62.12	328	*e*P		P	03 19 58.8 +0.3
MFID				*e*pP		pP	03 20 30.2 +2.3
MFID	Camas Ranch baz=62	62.12	328	⇑P		P	03 19 59.0 +0.5
C19A	Slack Wire Ran baz=62	62.14	335	⇑P		P	03 19 58.8 +0.3
F15A	Butte baz=62	62.21	332	⇓P		P	03 19 58.8 -0.4
A21A	Bergtoll Ranch baz=62	62.30	337	⇑P		P	03 20 00.2 +0.8
E16A	East Helena baz=62	62.35	333	⇑P		P	03 20 01.1 +1.1
SCHQ	Schefferville 8.7nm,1.0s	62.35	6	*e*P		P	03 19 59.5 -0.1
SCHQ	Schefferville 5.4nm,0.8s,baz=209,slow=8.0,SNR=9.4	62.35	6	P		P	03 19 59.0 -0.6
D17A	Six Diamond Ra baz=63	62.38	334	⇓P		P	03 20 00.3 +0.1
H12A	Diamond D Ranc baz=63	62.42	329	⇓P		P	03 20 00.8 +0.3
A20A	Cobblestone Ra baz=63	62.60	337	⇓P		P	03 20 02.2 +0.7
F14A	Wisdom baz=63	62.60	331	⇑P		P	03 20 02.2 +0.5
EGMT	Eagleton 10nm,1.2s	62.66	335	*e*P		P	03 20 02.1 +0.1
EGMT	Eagleton baz=63	62.66	335	⇓P		P	03 20 02.0 +0.1
B19A	Brinkman Farms baz=63	62.67	336	⇓P		P	03 20 02.2 +0.3
D16A	Dana Ranch, Ca baz=63	62.67	333	⇓P		P	03 20 02.4 +0.3
C17A	Wharram Farm, baz=63	62.79	334	⇑P		P	03 20 03.0 +0.2
B18A	Beardsley Farm baz=63	62.96	335	⇓P		P	03 20 04.1 +0.3
A19A	Klindworth Far baz=63	62.96	336	⇓P		P	03 20 04.3 +0.4
G12A	Big Creek, Yel baz=63	63.06	330	⇑P		P	03 20 05.1 +0.3

C16A	Fuhringer Ranc	63.34	334	⇑P		P	03 20 06.6	+0.2		
	baz=64									
A18A	Metzger Ranch,	63.40	336	⇑P		P	03 20 06.9	+0.1		
	baz=64									
D14A	Greenough	63.60	332	⇑P		P	03 20 07.9	-0.2		
	baz=64									
MSO	Missoula	63.62	332	*e*P		P	03 20 08.3	+0.1		
	8.2nm,1.3s									
MSO	Missoula	63.62	332	⇑P		P	03 20 08.9	+0.6		
	baz=64									
C15A	Salmond Ranch,	63.70	333	⇓P		P	03 20 10.0	+1.1		
	baz=64									
A17A	Triple J Farms	63.77	335	⇓P		P	03 20 09.5	+0.3		
	baz=64									
B16A	M & M Farms, S	63.79	334	⇑P		P	03 20 09.5	+0.1		
	baz=64									
D13A	Huson	64.05	332	⇓P		P	03 20 11.4	+0.3		
	baz=64									
B15A	Bradely Ranch,	64.09	334	⇓P		P	03 20 11.2	-0.2		
	baz=64									
E12A	Beaver Dam Sad	64.10	331	⇑P		P	03 20 11.5	0.0		
	baz=64									
A16A	West Butte Ran	64.15	335	⇓P		P	03 20 11.9	+0.1		
	baz=64									
C14A	Swan Lake	64.21	333	⇑P		P	03 20 12.5	+0.4		
	baz=64									
B14A	Marquette Ranc	64.44	333	⇓P		P	03 20 14.2	+0.5		
	baz=65									
D12A	Red Ives Fores	64.44	331	⇓P		P	03 20 14.2	+0.5		
	baz=65									
C13A	Hot Springs	64.53	332	⇓P		P	03 20 14.5	+0.3		
	baz=65									
A15A	Johnson Ranch,	64.66	334	⇑P		P	03 20 15.1	0.0		
	baz=65									
BSMT	Bassoo Peak	64.75	332	*e*P		P	03 20 16.5	+0.7		
A14A	Double T Ranch	64.96	334	⇓P		P	03 20 17.1	0.0		
	baz=65									
B13A	Whitefish	64.99	333	⇓P		P	03 20 17.5	+0.3		
	baz=65									
WALA	Waterton Lakes	65.24	333	*e*P		P	03 20 18.7	-0.1		
	0.2nm,0.6s									
A13A	Flathead Natio	65.37	333	⇑P		P	03 20 20.3	+0.6		
	baz=66									
C11A	Tepee Creek (N	65.44	331	⇓P		P	03 20 20.2	+0.2		
	baz=66									
FFC	Flin Flon	65.55	344	*e*P		P	03 20 20.1	-0.5		
	6.8nm,1.0s									
NEW	Newport	66.15	331	⇓P		P	03 20 25.0	+0.4		
	baz=66									
LIC	Lamto	71.91	81	*e*P		P	03 21 01.3	+0.4		
DBIC	Dimbokro	72.15	81	P		P	03 21 02.2	0.0		
DBIC	Dimbokro	72.15	81	P		P	03 21 02.2	0.0		
	6.3nm,0.6s,baz=233,slow=6.2,SNR=12									
YKA	Yellowknife Ar	75.67	343	P		P	03 21 21.1	-0.6		
YKA				PcP		PcP	03 21 31.9	-2.0		
YKA				pP		pP	03 21 50.8	-1.4		
YKA	Yellowknife Ar	75.67	343	P		P	03 21 21.1	-0.6		
	3.3nm,0.5s,baz=139,slow=6.1,SNR=36									
YKA				PcP		PcP	03 21 31.9	-2.0		
	1.4nm,0.8s,baz=134,slow=4.6,SNR=4.8									
YKA				pP		pP	03 21 50.7	-1.4		
	0.5nm,0.3s,baz=122,slow=8.1,SNR=3.1									
PNCL	Nicolau / Gran	77.04	48	*e*P		P	03 21 30.3	+0.3		
	21nm,1.7s									
PCVE	Castro Verde	77.24	49	*e*P		P	03 21 32.4	+1.2		
	19nm,1.5s									
EVO	Evora	77.56	48	*e*P		P	03 21 33.0	+0.1		
	15nm,1.0s									
SNAA	Sanae	77.80	162	*e*P		P	03 21 34.9	+1.1		
SNAA	Sanae	77.80	162	*e*pP		pP	03 22 07.2	+2.9		
SNAA	Sanae	77.80	162	*e*sP		sP	03 22 21.5	+4.3		
SNAA	Sanae	77.80	162	*e*P		P	03 21 34.5	+0.8		
	13nm,1.2s									
SNAA				*e*pP		pP	03 22 06.6	+2.3		
PESTR	Estremoz	77.99	48	*e*P		P	03 21 35.9	+0.6		
	14nm,1.4s									
PVIS	Viseu	78.39	46	*e*P		P	03 21 37.9	+0.3		
	16nm,1.3s									
PCBR	Castelo Branco	78.40	47	*e*P		P	03 21 37.9	+0.4		
MDT	Midelt	78.42	54	P		P	03 21 38.4	+0.5		
MDT	Midelt	78.42	54	P		P	03 21 38.4	+0.5		
	2.5nm,0.9s,baz=257,slow=6.5,SNR=4.4									
MTE	Manteigas	78.54	46	*e*P		P	03 21 38.5	+0.1		
	13nm,1.0s									
PCAB	Cabril	78.64	45	*e*P		P	03 21 39.0	+0.1		
POLO	Lamas de Olo	78.69	45	*e*P		P	03 21 39.5	+0.2		
	7.5nm,1.5s									
PVRL	Vila Real	78.71	46	*e*P		P	03 21 40.1	+0.8		
	11nm,1.5s									
MVO	Moncorvo	79.16	46	*e*P		P	03 21 42.1	+0.3		
	13nm,1.4s									
PBRG	Braganca	79.58	45	*e*P		P	03 21 43.8	-0.2		
TOA0	Torodi Ar. Sit	79.63	75	*e*P		P	03 21 44.6	-0.2		
TORD	Torodi Ar. Bea	79.63	75	P		P	03 21 44.8	0.0		
TORD				pP		pP	03 22 12.4	-2.9		
TORD	Torodi Ar. Bea	79.63	75	P		P	03 21 44.8	0.0		
	6.3nm,0.9s,baz=274,slow=5.6,SNR=65									
TORD				pP		pP	03 22 12.4	-2.9		
	3.4nm,0.8s,baz=295,slow=6.7,SNR=4.5									
PAB	San Pablo	80.59	48	*e*P		P	03 21 50.0	+0.5		
ESDC	Sonseca Array	80.91	48	P		P	03 21 51.7	+0.5		
ESDC	Sonseca Array	80.91	48	P		P	03 21 51.7	+0.5		
	3.7nm,0.8s,baz=262,slow=5.6,SNR=14									
QSPA	South Pole Qui	82.81	180	*e*P		P	03 22 01.9	+1.1		
	8.2nm,0.9s									
SUMG	Summit	83.27	11	*e*P		P	03 22 03.2	0.0		
	20nm,0.9s									
SUMG	Summit	83.27	11	⇓*i*P		P	03 22 03.4	+0.2		
	14nm,0.9s									
SJPF	Ste Jean	83.87	45	*e*P		P	03 22 07.4	+0.9		
	15nm,0.8s									
QUIF	Quistinic	83.95	40	*e*P		P	03 22 06.7	0.0		
	11nm,0.9s									
ROSF	Rostrenen	84.01	40	*e*P		P	03 22 07.1	+0.1		
	6.2nm,0.7s									
ETSF	Etsaut	84.28	46	*e*P		P	03 22 09.5	+0.9		
	8.7nm,0.8s									
SGMF	Saint Gilles	84.44	40	*e*P		P	03 22 09.1	-0.1		
EPF	Esparros	84.95	46	*e*P		P	03 22 12.6	+0.6		
MFF	Saint Martin d	85.55	42	*e*P		P	03 22 14.9	+0.1		
	5.1nm,0.6s									
GRR	Gorron	85.56	40	*e*P		P	03 22 14.7	-0.1		
	2.1nm,0.4s									
LFF	La Frestale	85.71	44	*e*P		P	03 22 15.8	+0.2		
FLN	La Foliniere	85.91	40	*e*P		P	03 22 16.2	-0.3		
LDF	La Druitiere	86.09	40	*e*P		P	03 22 17.0	-0.4		
	15nm,1.0s									
EKA	Eskdalemuir Ar	86.26	33	P		P	03 22 17.9	-0.2		
EKA	Eskdalemuir Ar	86.26	33	P		P	03 22 17.9	-0.2		
	2.2nm,0.8s,baz=239,slow=5.5,SNR=14									
RJF	Les Rejaudoux	86.34	44	*e*P		P	03 22 18.7	0.0		
MTLF	Montolieu	86.36	46	*e*P		P	03 22 18.6	-0.3		
	2.3nm,0.6s									
CAF	Calviac	86.62	44	*e*P		P	03 22 20.0	-0.2		
BGF	Bois d'Agland	87.53	43	*e*P		P	03 22 24.1	-0.4		
LASF	Ste Croix	87.68	45	*e*P		P	03 22 25.4	+0.1		
	4.8nm,0.8s									
SMF	Signal de Mont	88.22	43	*e*P		P	03 22 27.2	-0.6		
SML	Sawmill	88.23	333	*e*P		P	03 22 27.5	0.0		
	6.3nm,0.7s									
LOR	Lormes	88.37	42	*e*P		P	03 22 27.6	-0.8		
	5.3nm,0.8s									
VIVF	Saint-Julien-l	88.42	45	*e*P		P	03 22 28.9	+0.2		
	5.8nm,0.8s									
ILAR	Eielson Array	88.61	336	P		P	03 22 28.5	-0.6		
ILAR				PP		PP	03 25 58.1	-1.1		
ILAR	Eielson Array	88.61	336	P		P	03 22 28.5	-0.6		
	3.6nm,0.8s,baz=135,slow=3.1,SNR=49									
ILAR				PP		PP	03 25 58.1	-1.1		
	0.6nm,0.8s,baz=106,slow=6.8,SNR=7.9									
SMRF	Simiane la Rot	88.88	46	*e*P		P	03 22 31.3	+0.4		
COLA	College	89.03	336	*e*P		P	03 22 31.4	+0.3		
	11nm,0.9s									
MCK	McKinley	89.11	335	*e*P		P	03 22 31.6	+0.1		
	3.8nm,0.5s									
ORIF	Oris-en-Rattie	89.27	45	*e*P		P	03 22 33.2	+0.4		
	9.6nm,0.7s									
LMR	La Mourre	89.42	46	*e*P		P	03 22 33.4	0.0		
VNDA	Vanda	89.56	191	P		P	03 22 35.0	+1.5		
VNDA	Vanda	89.56	191	P		P	03 22 35.0	+1.5		
	1.9nm,0.8s,baz=122,slow=5.5,SNR=11									
GIVF	Givet	89.59	39	*e*P		P	03 22 33.9	-0.2		
TRF	Thorofare Moun	89.60	334	*e*P		P	03 22 33.0	-1.1		
	9.8nm,0.6s									
CABF	La Chapelle	89.73	43	*e*P		P	03 22 35.6	+0.7		
SPU	Mount Spurr	89.75	332	*e*P		P	03 22 34.7	0.0		
PAGF	Fort de Pagny	89.86	41	*e*P		P	03 22 35.4	0.0		
	1.5nm,0.6s									
LPL	La Plagne	89.97	44	*e*P		P	03 22 36.7	+0.4		
	6.9nm,0.8s									
LPG	La Plagne	89.98	44	*e*P		P	03 22 36.9	+0.5		
	9.1nm,0.9s									
KEST	Kesra	90.32	54	*e*P		P	03 22 37.7	-0.2		
KEST	Kesra	90.32	54	P		P	03 22 38.1	+0.2		
	1.3nm,0.7s,baz=254,slow=7.4,SNR=5.6									
COLD	Coldfoot	90.69	338	*e*P		P	03 22 39.4	+0.6		
	2.6nm,0.8s									
CDF	Champ du Feu	90.85	41	*e*P		P	03 22 39.6	-0.5		
TSUM	Tsumeb	90.85	109	P		P	03 22 41.7	+0.9		
TSUM				pP		pP	03 23 10.5	-1.6		
TSUM	Tsumeb	90.85	109	P		P	03 22 41.7	+0.9		
	2.4nm,0.8s,baz=245,slow=1.5,SNR=6.4									
TSUM				pP		pP	03 23 10.5	-1.6		
	5.7nm,0.9s,baz=198,slow=3.2,SNR=3.7									
SYO	Syowa Base	92.06	161	⇑*e*P		P	03 22 44.2	-1.0		
NOA	NORSAR Array B	94.90	29	P		P	03 22 54.0	-4.3		
NOA	NORSAR Array B	94.90	29	P		P	03 22 54.0	-4.3		
	0.7nm,0.7s,baz=259,slow=4.5,SNR=2.3									
HFS	Hagfors	96.03	30	P		P	03 23 02.9	-0.7		
HFS	Hagfors	96.03	30	P		P	03 23 02.9	-0.7		
	1.1nm,0.8s,baz=255,slow=3.9,SNR=3.9									
ABKAR	Akbulak array	124.13	34	*e*PKPdf		PKPdf	03 28 35.1	+0.7		
STKA	Stephens Creek	127.15	220	PKP		PKPdf	03 28 40.7	-0.2		
STKA	Stephens Creek	127.15	220	PKP		PKPdf	03 28 40.7	-0.2		
	4.4nm,0.6s,baz=106,slow=1.7,SNR=9.5									
ZAA0	Zalesovo Array	130.92	15	*e*PKPdf		PKPdf	03 28 47.5	+0.2		
ZALV	Zalesovo Beam	130.92	15	PKP		PKPdf	03 28 47.0	-0.2		
ZALV	Zalesovo Beam	130.92	15	PKP		PKPdf	03 28 47.0	-0.2		
	2.9nm,0.4s,baz=318,slow=1.9,SNR=19									
MK31	Makanchi Array	136.40	22	*e*PKPdf		PKPdf	03 28 57.9	0.0		
MKAR	Makanchi Array	136.40	22	PKP		PKPdf	03 28 57.4	-0.4		
MKAR	Makanchi Array	136.40	22	PKP		PKPdf	03 28 57.4	-0.4		
	2.8nm,0.9s,baz=337,slow=2.0,SNR=15									
MJAR	Matsushiro Arr	137.44	318	PKP		PKPdf	03 28 58.9	-1.2		
MJAR	Matsushiro Arr	137.44	318	PKP		PKPdf	03 28 58.9	-1.2		
	2.0nm,0.9s,baz=70,slow=1.7,SNR=4.4									
ASAR	Alice Springs	137.68	223	PKPpre	PKPpre	03 28 52.5				
ASAR				PKP	PKPdf	03 29 00.1	-0.9			
ASAR	Alice Springs	137.68	223	PKhKP	PKPpre	03 28 52.5				
	0.6nm,0.5s,baz=136,slow=2.4,SNR=8.4									
ASAR				PKP	PKPdf	03 29 00.1	-0.9			
	2.9nm,0.8s,baz=130,slow=1.8,SNR=21									
CN2	Changchun	139.13	336	*e*PKP	PKPdf	03 29 06.1	+3.2			
KSH	Kashi	139.14	34	*e*PKP	PKPdf	03 29 07.2	+4.0			
KSH				SKS	SKSdf	03 35 58.0	-4.9			
KSH				AMB	AMB					
	comp=Z,100nm,4.7s									
KSH				LR	LR					
	comp=N,130nm,8.3s									
KSH				LR	LR					
	comp=E,170nm,7.4s									
KSH				LR	LR					
	comp=Z,310nm,20.9s									
SONM	Songino Array	139.55	358	PKPpre	PKPpre	03 28 55.2				
SONM				PKP	PKPdf	03 29 01.9	-1.9			
SONM	Songino Array	139.55	358	PKhKP	PKPpre	03 28 55.2				
	comp=Z,0.5nm,0.5s,baz=327,slow=2.9,SNR=3.8									
SONM				PKP	PKPdf	03 29 01.8	-1.9			
	comp=Z,1.0nm,0.6s,baz=15,slow=2.2,SNR=6.1									
WRAB	Tennant Creek	139.81	227	*e*PKPdf	PKPdf	03 29 04.6	-0.2			
WRA	Warramunga Arr	139.82	227	PKPpre	PKPpre	03 28 57.7				
WRA				PKP	PKPdf	03 29 04.6	-0.3			
WRA				pPKP	pPKPdf	03 29 35.4	-2.2			
WRA	Warramunga Arr	139.82	227	PKhKP	PKPpre	03 28 57.7				
	comp=Z,0.6nm,0.4s,baz=130,slow=2.4,SNR=16									
WRA				PKP	PKPdf	03 29 04.6	-0.3			
	comp=Z,4.3nm,0.5s,baz=122,slow=1.9,SNR=45									
WRA				pPKP	pPKPdf	03 29 35.4	-2.2			
	comp=Z,0.9nm,0.6s,baz=123,slow=1.9,SNR=2.2									
KSRS	Korea Array	143.02	328	PKhKP	PKPpre	03 29 04.3				
	comp=Z,1.4nm,0.7s,baz=43,slow=4.7,SNR=6.8									
KSRS				PKP	PKPdf	03 29 10.1	+0.1			
	comp=Z,4.3nm,0.8s,baz=28,slow=2.1,SNR=17									
KSAR	Wonju Array Be	143.05	328	PKPpre	PKPpre	03 29 04.3				
KSAR				PKP	PKPdf	03 29 10.1	0.0			
KDU	Kakadu	145.56	235	P	PKPdf	03 29 15.2	+0.1			
	baz=4.2,SNR=5.1									
BJI	Beijing	145.66	344	PKPbc	PKPdf	03 29 14.1	-0.5			
BJI				SS	SS	03 51 19.4	+1.3			
BJI				LR	LR					
	comp=N,92nm,11.7s									
BJI				LR	LR					
	comp=E,86nm,19.6s									
BJI				LR	LR					
	comp=Z,46nm,18.4s									
HHC	Hu-ho-hao-te	145.93	350	*e*PKPbc	PKPdf	03 29 14.9	-0.3			
HHC				PP	PP	03 32 41.4	+4.4			
HHC				PKS	PKSdf	03 32 49.0	-1.7			
HHC				SKS	SKSdf	03 36 12.0	-1.4			
HHC				SKKS	SKKSac	03 39 19.4	+0.5			
HHC				SS	SS	03 51 24.4	+3.1			
HHC				AMB	AMB					
	comp=Z,160nm,8.7s									
MTN	Manton Dam	146.55	233	P	PKPbc	03 29 18.3	-0.2			
	baz=4.4,SNR=20									
KNRA	Kununurra	146.61	227	P	PKPbc	03 29 19.0	+0.4			
	baz=4.3,SNR=6.5									
FITZ	Fitzroy Crossi	147.04	220	PKPbc	PKPdf	03 29 17.9	+0.4			
FITZ	Fitzroy Crossi	147.04	220	PKPbc	PKPdf	03 29 17.9	+0.4			
	baz=172,slow=2.7									
FITZ	Fitzroy Crossi	147.04	220	P	pPKiKP	03 29 54.7	0.0			
	baz=7.2,SNR=3.8									
GTA	Gaotai	147.78	6	PKPbc	PKPdf	03 29 19.2	+0.8			
GTA				pPKP	pPKPdf	03 29 45.5	-5.6			
GTA				sPKP		03 29 56.9				
LZH	Lanzhou	151.34	1	*e*PKPbc	PKPdf	03 29 17.4	-6.8			
LZH				PKPbc	PKiKP	03 29 31.0	+0.2			
LZH				pPKP	PKPab	03 29 46.5	+7.9			
LZH				sPKP		03 29 57.0				
LZH				PKS	PKSdf	03 32 49.0	-10			
NJ2	Nanjing	151.81	333	*e*PKPbc	PKPdf	03 29 24.1	-0.7			
XAN	Xi'an	153.02	351	PKPbc	PKPbc	03 29 33.8	-0.2			
CD2	Chengdu	156.50	1	PKP	PKPdf	03 29 30.1	-1.4			
GYA	Guiyang	160.79	353	*e*PKP	PKPdf	03 29 33.8	-3.0			
GYA				pPKP	pPKPdf	03 30 09.8	+0.2			
GYA				PKPab	PKPab	03 30 19.4	+0.2			
GYA				sPKP		03 30 22.5				
GYA				PKS	PKSdf	03 33 06.4	-4.0			
GYA				PP	PP	03 34 03.0	+2.3			
GYA				AMB	AMB					
	comp=Z,90nm,8.0s									
KMI	Kunming	162.21	4	PKP	PKPdf	03 29 35.3	-3.1			
CMAR	Chiang Mai Arr	167.79	24	PKP	PKPdf	03 29 42.9	-0.2			
CMAR				PKPab	PKPab	03 30 49.6	-0.5			
CMAR	Chiang Mai Arr	167.79	24	PKP	PKPdf	03 29 42.9	-0.2			
	comp=Z,0.7nm,0.3s,baz=316,slow=2.5,SNR=5.6									
CMAR				PKPab	PKPab	03 30 49.6	-0.5			
	comp=Z,1.0nm,0.3s,baz=321,slow=5.5,SNR=5.4									

MOS ***02*** *03:20:47.5±1.1, 11°.55S×14°.21W, h10km, mb5.2/50, MS5.1/16, Error ellipse: s-maj=12.0km s-min=5.0km az=67.1*

ISCJB ***02*** *03:20:47.1±0.2, 11°.67S±0°.04×14°.09W±0°.04, h10km, mb5.0/178, MS4.9/54, Error ellipse: s-maj=6.6km s-min=5.0km az=43.5*

IDC ***02*** *03:20:47.2±0.4, 11°.66S×14°.11W, h0km, mb4.6/26, mb1 4.6/26, mb1mx4.6/29, mbtmp4.6/26, MS4.9/26, Ms1 4.8/26, ms1mx4.8/29, Error ellipse: s-maj=13.9km s-min=11.2km az=151.0*

BJI ***02*** *03:20:48.4, 11°.43S×14°.38W, h9km, mB5.5/12, Ms5.3/16, Ms7 5.0/16*

TEH ***02*** *03:20:49.0, 11°.70S×14°.09W, h10km, ML5.2*

NEIC ***02*** *03:20:49.1±0.2, 11°.63S×14°.16W, h10km, mb5.2/56, Error ellipse: s-maj=6.3km s-min=4.7km az=137.0*

GCMT ***02*** *03:20:53.2±0.1, 11°.73S×14°.08W, h12km, MW5.4, Moment Tensor Solution. s78,c137; s99,c205; Moment tensor: Scale 10^17^Nm; Mrr-0.18±.02; Mθθ-0.54±.02; Mφφ0.72±.02; Mrθ-0.03±.05; Mθφ1.43±.02; Mφr0.13±.05; Best double couple: M0 1.60000×10^17^ NP1:φs78.00000°, δ85.00000°, λ-1.00000°. NP2:φs168.00000°, δ89.00000°, λ-175.00000°. Principal axes: T 1.6600, Plg3.0000°, Azm303.0000°; N -0.1800, Plg85.0000°, Azm179.0000°; P -1.4800, Plg4.0000°, Azm33.0000°; Data Used: ll IU IC G CN. Surface waves from 100 sta.*

SZGRF ***02*** *03:21:01.7, 10°.50S×12°.79W, h33km, mb5.2, MS5.1,*

Ascension Island region

ISC 02 03:20:48.6±0.3, 11°.85S±0°.05×14°.07W±0°.05, h10km, n492, σ1941/528, mb5.1/177, MS4.9/55, 33C-26D, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASCN	Ascension	3.91	356	*e*Pn	Pn	Pn	03 21 44.9	-3.9
SHEL	Horse Pasture	9.05	118	Pn	Pn	Pn	03 22 58.9	-0.6
	2μm,0.9s,SNR=5.3							
SHEL	Horse Pasture	9.05	118	*e*P	Pn	Pn	03 22 58.1	-1.4
SHEL	Horse Pasture	9.05	118	*e*Pn	Pn	Pn	03 22 58.1	-1.4
LIC	Lamto	20.08	27	*e*P	P	P	03 25 21.2	-1.3
	289nm,1.3s,baz=217							
LIC				*e*R				
	7μm,18.8s							
DBIC	Dimbokro	20.56	27	*e*P	P	P	03 25 26.1	-1.5
DBIC	Dimbokro	20.56	27	P	P	P	03 25 26.0	-1.6
DBIC	Dimbokro	20.56	27	P	P	P	03 25 26.0	-1.6
	45nm,1.1s,baz=190,slow=12,SNR=11							
DBIC				LR	LR		03 31 30.9	
	comp=Z,5μm,19.2s,baz=182,slow=32							
RCBR	Riachuelo	22.38	284	*e*P	P	P	03 25 45.8	-1.6
	206nm,1.3s							
RCBR	Riachuelo	22.38	284	P	P	P	03 25 45.8	-1.6
	128nm,1.2s,baz=107,slow=14,SNR=21							
RCBR				LR	LR		03 32 17.6	
	comp=Z,5μm,20.0s,baz=94,slow=31							
BBTS	Babate	26.46	355	LR	LR		03 35 05.2	
	comp=Z,904nm,19.5s,baz=100,slow=33							
TOA0	Torodi Ar. Sit	29.35	33	*e*P	P	P	03 26 50.2	-1.7
TORD	Torodi Ar. Bea	29.35	33	P	P	P	03 26 49.9	-2.1
TORD	Torodi Ar. Bea	29.35	33	P	P	P	03 26 49.9	-2.1
	17nm,1.1s,baz=219,slow=9.2,SNR=32							
TORD				LR	LR		03 36 58.2	
	comp=Z,4μm,18.2s,baz=215,slow=33							
TSUM	Tsumeb	31.32	107	*e*P	P	P	03 27 08.0	-1.6
TSUM	Tsumeb	31.32	107	*e*P	P	P	03 27 09.6	+0.1
TSUM	Tsumeb	31.32	107	P	P	P	03 27 09.1	-0.5
	11nm,1.1s,baz=277,slow=10,SNR=8.1							
TSUM				LR	LR		03 37 14.8	
	comp=Z,4μm,19.8s,baz=281,slow=31							
BDFB	Brasilia	33.17	260	P	P	P	03 27 25.2	-0.5
BDFB	Brasilia	33.17	260	P	P	P	03 27 25.2	-0.5
	14nm,1.1s,baz=67,slow=8.8,SNR=5.8							
BDFB				LR	LR		03 37 50.5	
	comp=Z,1μm,20.9s,baz=267,slow=31							
BB16B	Bebedouro	34.28	250	⇑P	P	P	03 27 34.6	-0.7
BB16B				*i*			03 28 24.7	
BB16B				*i*			03 29 05.7	
BB16B				*i*			03 29 49.6	
BB16B				*i*			03 30 42.7	
BB16B				*e*S	S	S	03 32 59.0	-3.7
BB16B				*i*			03 33 32.5	
BB16B				*i*			03 34 58.8	
SUR	Sutherland	37.97	128	LR	LR		03 40 15.0	
	comp=Z,4μm,21.5s,baz=228,slow=31							
TAM	Tamanrasset	39.42	29	*e*P	P	P	03 28 19.6	+0.4
TAM				pmax	pmax			
	comp=Z,11nm,1.1s							
TAM	Tamanrasset	39.42	29	*e*P	P	P	03 28 19.6	+0.4
	comp=Z,11nm,1.1s							
LBTB	Lobatse	39.69	115	*e*P	P	P	03 28 22.1	+0.7
LBTB				AMB	AMB		03 28 28.6	
	comp=Z,30nm,3.4s							
LBTB	Lobatse	39.69	115	P	P	P	03 28 23.8	+2.4
	comp=Z,103nm,2.2s							
LBTB	Lobatse	39.69	115	P	P	P	03 28 23.0	+1.6
	comp=Z,6.4nm,1.0s,baz=282,slow=11,SNR=8.6							
SWZ	Schweizer	39.95	118	*e*P	P		03 28 20.7	-2.9
SWZ				AMB	AMB		03 28 26.8	
	comp=Z,23nm,5.0s							
BOSA	Boshof	40.26	120	*e*P	P		03 28 21.8	-4.3
BOSA				AMB	AMB		03 28 35.0	
	comp=Z,19nm,3.7s							
BOSA	Boshof	40.26	120	*e*P	P	P	03 28 20.0	+1.8
	comp=Z,9.4nm,1.1s							
BOSA	Boshof	40.26	120	P	P	P	03 28 27.8	+1.7
	comp=Z,4.4nm,1.1s,baz=275,slow=8.0,SNR=3.9							
BOSA				LR	LR		03 41 49.7	
	comp=Z,4μm,21.6s,baz=268,slow=31							

comp=Z,10nm,1.6s
KEST Kesra 52.25 24 P **P 03 30 00.2 0.0**
KEST Kesra 52.25 24 P **P 03 30 00.2 0.0**
comp=Z,7.5nm,1.2s,baz=185,slow=5.2,SNR=18
KEST LR LR 03 52 03.1
comp=Z,988nm,19.1s,baz=38,slow=36
PGRA Graciosa 52.26 346 *e*S **S 03 37 24.9 -0.3**
MTE Manteigas 52.34 6 *e*P **P 03 30 02.1 +1.3**
comp=Z,25nm,1.4s
MTE *e*S **S 03 37 27.1 +0.7**
MTE *e*LR LR 03 43 14.8
comp=Z,976nm,20.0s
MTE Manteigas 52.34 6 *e*P **P 03 29 59.8 -1.0**
comp=Z,14nm,1.0s
LPAZ La Paz 52.51 259 *e*P **P 03 30 01.9 -1.3**
comp=Z,52nm,1.9s
LPAZ La Paz 52.51 259 P **P 03 30 04.2 +1.1**
comp=Z,2.1nm,0.8s,baz=69,slow=8.8,SNR=5.7
MVO Moncorvo 53.15 7 *e*P **P 03 30 07.0 +0.2**
comp=Z,30nm,1.2s
MVO *e*S **S 03 37 36.9 -0.6**
MVO *e*LR LR 03 44 05.9
comp=Z,795nm,20.0s
PVRL Vila Real 53.19 6 *e*P **P 03 30 06.4 -0.6**
comp=Z,27nm,1.4s
POLO Lamas de Olo 53.28 6 *e*P **P 03 30 06.9 -0.8**
comp=Z,13nm,1.2s
POLO *e*S **S 03 37 40.2 +1.0**
CFAA Coronel Fontan 53.46 239 P **P 03 30 09.5 +0.1**
CFAA Coronel Fontan 53.46 239 P **P 03 30 09.5 +0.1**
comp=Z,3.5nm,0.9s,baz=60,slow=7.2,SNR=24
PCAB Cabril 53.59 6 *e*P **P 03 30 09.7 -0.2**
comp=Z,48nm,1.6s
PGAV Gavieira, Arco 53.82 5 *e*S **S 03 37 45.9 -0.6**
PGAV *e*LR LR 03 46 13.8
comp=Z,717nm,18.0s
LCO Las Campanas 55.25 243 *e*P **P 03 30 24.1 +1.4**
comp=Z,53nm,0.8s
ETSF Etsaut 55.87 12 *e*P **P 03 30 26.6 +0.1**
comp=Z,37nm,1.3s
SJPF Ste Jean 55.95 11 *e*P **P 03 30 26.8 -0.2**
comp=Z,48nm,1.1s
EPF Esparros 56.19 13 *e*P **P 03 30 28.8 0.0**
comp=Z,46nm,1.5s
MTLF Montolieu 56.91 14 *e*P **P 03 30 33.0 -0.8**
PLCA Paso Flores 57.08 229 LR LR 03 51 16.7
comp=Z,578nm,20.4s,baz=78,slow=32
CEL Celeste 57.19 28 *e*P **P 03 30 36.2 +0.2**
comp=Z,36nm,0.5s
LASF Ste Croix 58.01 15 *e*P **P 03 30 41.1 -0.5**
comp=Z,19nm,1.1s
LMR La Mourre 58.05 18 *e*P **P 03 30 41.4 -0.5**
comp=Z,34nm,1.2s
LFF La Frestale 58.10 12 *e*P **P 03 30 42.0 -0.1**
comp=Z,40nm,1.1s
PGF Pioggiola 58.12 20 *e*P **P 03 30 42.0 -0.6**
comp=Z,27nm,1.2s
TIP Timpagrande 58.33 28 *e*P **P 03 30 43.1 -1.0**
comp=Z,20nm,1.2s
SMRF Simiane la Rot 58.37 17 *e*P **P 03 30 44.5 +0.3**
comp=Z,18nm,1.2s
CAF Calviac 58.37 13 *e*P **P 03 30 43.4 -0.7**
CUC Castrocucco 58.57 27 *e*P **P 03 30 44.2 -1.4**
comp=Z,8.3nm,0.9s
RJF Les Rejaudoux 58.61 13 *e*P **P 03 30 45.2 -0.6**
comp=Z,40nm,1.1s
RJF *e*R
comp=Z,2µm,18.8s
MVIF Mont Vial 58.76 18 *e*P **P 03 30 47.7 +0.7**
MVIF Mont Vial 58.76 18 *e*P **P 03 30 47.7 +0.7**
MVIF Mont Vial 58.76 18 *e*P **P 03 30 47.7 +0.7**
SBF Sospel 58.81 18 *e*P **P 03 30 46.9 -0.4**
comp=Z,62nm,1.2s
TOUF Mont Tournerai 58.89 18 *e*P **P 03 30 47.9 -0.1**
TOUF Mont Tournerai 58.89 18 *e*P **P 03 30 47.9 -0.1**
TOUF Mont Tournerai 58.89 18 *e*P **P 03 30 47.9 -0.1**
AUTN L'Aution 58.93 18 *e*P **P 03 30 48.3 0.0**
AUTN L'Aution 58.93 18 *e*P **P 03 30 48.3 0.0**
AUTN L'Aution 58.93 18 *e*P **P 03 30 48.3 0.0**
VIVF Saint-Julien-l 58.94 15 *e*P **P 03 30 48.0 -0.1**
comp=Z,55nm,1.5s
HUMP Col San Antoni 59.16 300 *e*P **P 03 30 50.6 +0.6**
comp=Z,33nm,0.9s
SSB Saint Sauveur 59.30 15 *e*P **P 03 30 50.2 -0.4**
SSB pmax pmax
comp=Z,24nm,1.4s
SSB Saint Sauveur 59.30 15 *e*P **P 03 30 50.2 -0.4**
comp=Z,24nm,1.4s
ORIF Oris-en-Rattie 59.33 16 *e*P **P 03 30 51.2 +0.4**
comp=Z,25nm,1.1s
ORIF *e*R
comp=Z,3µm,17.5s
PYM Petit Puy Mans 59.37 14 *e*P **P 03 30 51.1 0.0**
PYM Petit Puy Mans 59.37 14 *e*P **P 03 30 51.1 0.0**
PYM Petit Puy Mans 59.37 14 *e*P **P 03 30 51.1 0.0**
MBDF Montbardon 59.40 17 *e*P **P 03 30 51.7 +0.3**
comp=Z,46nm,1.1s
MFF Saint Martin d 59.51 11 *e*P **P 03 30 51.5 -0.5**
comp=Z,61nm,1.4s
TCF Toulx Ste Croi 59.70 13⇑*i*P **P 03 30 53.2 -0.1**
comp=Z,53nm,1.3s
CELP Cerrillos 59.75 299 *e*P **P 03 30 53.5 -0.7**
SDV Santo Domingo 59.89 288 *e*P **P 03 30 55.8 +0.3**
comp=Z,27nm,1.0s
LRS Lares 60.07 299 *e*P **P 03 30 55.3 -1.1**
BGF Bois d'Agland 60.09 13 *e*P **P 03 30 55.8 -0.2**
comp=Z,32nm,1.3s
LPG La Plagne 60.10 17⇑*i*P **P 03 30 56.6 +0.2**
comp=Z,53nm,1.3s
LPL La Plagne 60.11 17 *e*P **P 03 30 56.5 +0.1**
comp=Z,45nm,1.2s
SNAA Sanae 60.17 176 *e*P **P 03 30 58.0 +1.7**
SNAA Sanae 60.17 176 *e*P **P 03 30 56.4 +0.1**
SNAA Sanae 60.17 176 *e*P **P 03 30 57.7 +1.4**
comp=Z,20nm,1.0s
SNAA Sanae 60.17 176 P **P 03 30 57.8 +1.4**
comp=Z,2.6nm,1.0s,baz=353,slow=6.8,SNR=10
SNAA LR LR 03 50 32.5
comp=Z,386nm,21.0s,baz=355,slow=30
QUIF Quistinic 60.29 8 *e*P **P 03 30 56.5 -0.8**
comp=Z,77nm,1.5s
SMF Signal de Mont 60.41 14 *e*P **P 03 30 57.8 -0.4**
comp=Z,52nm,1.3s
AVF Avril sur Loir 60.43 14 *e*P **P 03 30 57.9 -0.4**
comp=Z,20nm,1.0s
ROSF Rostrenen 60.68 8 *e*P **P 03 30 59.5 -0.5**
comp=Z,81nm,1.4s
SGMF Saint Gilles 60.71 9 *e*P **P 03 30 59.7 -0.4**
comp=Z,56nm,1.4s
CABF La Chapelle 60.94 16⇑*i*P **P 03 31 01.3 -0.6**
comp=Z,80nm,1.4s
LOR Lormes 61.00 14 *e*P **P 03 31 01.7 -0.5**
comp=Z,32nm,1.3s,baz=214
LOR *e*R
comp=Z,3µm,18.8s
GRR Gorron 61.11 10⇑*i*P **P 03 31 02.4 -0.5**
comp=Z,60nm,1.3s
LDF La Druitiere 61.44 10 *e*P **P 03 31 04.5 -0.6**
comp=Z,35nm,1.3s
TIR Tirane 61.50 29 *e*P **P 03 31 06.8 +1.2**
TIR pmax pmax
comp=Z,47nm,1.4s
TIR Tirane 61.50 29 *e*P **P 03 31 06.8 +1.2**
comp=Z,47nm,1.4s
TUE Stuetta 61.75 18 *e*P **P 03 31 07.3 -0.2**
comp=Z,23nm,1.4s
LOMF Lomont 61.82 16 *e*P **P 03 31 06.7 -1.1**
LOMF Lomont 61.82 16 *e*P **P 03 31 06.7 -1.1**
LOMF Lomont 61.82 16 *e*P **P 03 31 06.7 -1.1**
BBS Basel-Blauen 62.11 16 *e*P **P 03 31 08.7 -1.0**
BBS Basel-Blauen 62.11 16 *e*P **P 03 31 08.7 -1.0**
SFTF Sexfontaines 62.15 14 *e*P **P 03 31 09.6 -0.3**
comp=Z,118nm,1.5s
FUORN Ofenpass-Fuorn 62.16 19 *e*P **P 03 31 10.0 -0.3**
comp=Z,21nm,1.4s
ROSC El Rosal 62.18 282 *e*P **P 03 31 11.9 +0.6**
ROSC El Rosal 62.18 282 P **P 03 31 11.7 +0.4**
comp=Z,5.8nm,0.7s,baz=100,slow=6.1,SNR=7.6
ROSC LR LR 03 54 59.6
comp=Z,2µm,21.9s,baz=21,slow=33
HINF Hinteralfeld 62.26 16 *e*P **P 03 31 09.6 -1.1**
comp=Z,30nm,1.5s
HAU Haudompre 62.30 15 *e*P **P 03 31 10.2 -0.7**
comp=Z,51nm,1.3s
HAU *e*R
comp=Z,2µm,19.0s
THEF They Montfort 62.41 15 *e*P **P 03 31 11.4 -0.3**
THEF They Montfort 62.41 15 *e*P **P 03 31 11.4 -0.3**
MEZF Maizieres J'vi 62.43 14 *e*P **P 03 31 11.6 -0.2**
comp=Z,100nm,1.5s
FELD Feldberg im Sc 62.62 17 *e*P **P 03 31 10.9 -2.4**
DAVA Damuels 62.64 18⇓*i*P **P 03 31 11.8 -1.6**
comp=Z,36nm,1.4s,SNR=13
PAGF Fort de Pagny 62.65 15 *e*P **P 03 31 13.1 -0.1**
comp=Z,12nm,1.2s
FETA Feichten 62.67 19⇓*i*P **P 03 31 11.9 -1.7**
comp=Z,24nm,1.4s,SNR=11
ECH Echery 62.70 16 *e*P **P 03 31 13.1 -0.6**
ECH pmax pmax
comp=Z,20nm,1.3s
ECH Echery 62.70 16 *e*P **P 03 31 13.1 -0.6**
comp=Z,20nm,1.3s
ECH Echery 62.70 16 *e*P **P 03 31 12.5 -1.2**
JAVS Javornik 62.81 22 *i*P **P 03 31 13.6 -1.0**
JAVS *e*S **S 03 39 45.3 +1.4**
CEY Cerknica 62.82 22 *i*P **P 03 31 13.7 -0.8**
CEY *e*S **S 03 39 45.3 +1.5**
CDF Champ du Feu 62.92 16 *e*P **P 03 31 14.1 -1.0**
comp=Z,26nm,1.3s
BOJS Bojanci 62.92 23 *i*P **P 03 31 14.5 -0.7**
BOJS *e*S **S 03 39 46.2 +1.2**
ABTA Abfaltersbach 63.01 20⇓*i*P **P 03 31 15.1 -0.7**
comp=Z,21nm,1.5s
SPAK Spaichingen-Ko 63.05 17 *e*P **P 03 31 13.9 -2.1**
MOTA Moosalm 63.07 19⇓*i*P **P 03 31 14.9 -1.4**
comp=Z,29nm,1.3s
RETA Reutte 63.09 19⇓*i*P **P 03 31 14.6 -1.7**
comp=Z,21nm,1.2s,SNR=13
LJU Ljubljana 63.11 22 *i*P **P 03 31 16.2 -0.2**
LJU *e*S **S 03 39 49.2 +1.8**
BFO Black Forest 63.13 17 P **P 03 31 15.1 -1.4**
comp=Z,71nm,1.2s,SNR=7.4
BFO Black Forest 63.13 17 *e*P **P 03 31 15.3 -1.2**
comp=Z,29nm,1.4s
BFO Black Forest 63.13 17 *e*P **P 03 31 15.7 -0.8**
BFO pmax pmax
comp=Z,27nm,1.4s
BFO Black Forest 63.13 17 *e*P **P 03 31 15.7 -0.8**
comp=Z,26nm,1.4s
WTTA Wattenberg 63.17 19⇑*i*P **P 03 31 15.6 -1.4**
comp=Z,32nm,1.4s,SNR=11
WATA Walderalm 63.22 19⇑*i*P **P 03 31 16.9 -0.3**
comp=Z,9.5nm,0.9s
MYKA Terra Mystica 63.30 21⇓*i*P **P 03 31 17.2 -0.5**
comp=Z,18nm,1.4s
LANF Langenberg 63.58 16 *e*P **P 03 31 18.2 -1.2**
LANF Langenberg 63.58 16 *e*P **P 03 31 18.2 -1.2**
LANF Langenberg 63.58 16 *e*P **P 03 31 18.2 -1.2**
KBA Koelnbreinsper 63.58 21⇓*i*P **P 03 31 19.6 -0.1**
comp=Z,18nm,1.3s
BAIF Baives 63.70 13 *e*P **P 03 31 19.4 -0.8**
comp=Z,55nm,1.4s
STU Stuttgart 63.77 17 *e*P **P 03 31 19.6 -1.1**
STU Stuttgart 63.77 17 *e*P **P 03 31 19.6 -1.1**
WLF Walferdange 63.78 14 P **P 03 31 21.0 +0.3**
comp=Z,16nm,1.7s
WLF Walferdange 63.78 14 *e*P **P 03 31 19.5 -1.2**
comp=Z,22nm,1.3s
WLF Walferdange 63.78 14 *e*P **P 03 31 20.1 -0.6**
WLF pmax pmax
comp=Z,15nm,1.3s
WLF Walferdange 63.78 14 *e*P **P 03 31 20.1 -0.6**
comp=Z,15nm,1.3s
DOU Dourbes 63.82 13 P **P 03 31 22.1 +1.2**
comp=Z,9.9nm,1.7s
SOKA Soboth 63.84 22⇓*i*P **P 03 31 20.9 -0.3**
comp=Z,26nm,1.4s
FUR Furstenfeldbru 63.85 19 *e*P **P 03 31 20.4 -0.9**
comp=Z,31nm,1.2s
FUR Furstenfeldbru 63.85 19 *e*P **P 03 31 20.4 -0.9**
FUR pmax pmax
comp=Z,14nm,1.2s
GIVF Givet 63.88 13 *e*P **P 03 31 20.5 -0.8**
comp=Z,38nm,1.2s
RJOB Jochberg 63.97 20 *e*P **P 03 31 20.6 -1.5**
comp=Z,12nm,1.5s
RUP Ruppelstein 64.04 15 *e*P **P 03 31 21.2 -1.3**
RUP Ruppelstein 64.04 15 *e*P **P 03 31 21.2 -1.3**
VTS Vitosha 64.05 30⇓P **P 03 31 24.1 +1.3**
VTS Vitosha 64.05 30⇓*i*P **P 03 31 24.1 +1.3**
TOD Tromm 64.42 16 *e*P **P 03 31 24.0 -1.0**
TOD Tromm 64.42 16 *e*P **P 03 31 24.0 -1.0**
ARSA Arzberg 64.50 22⇓*i*P **P 03 31 24.7 -0.9**
comp=Z,24nm,1.5s,SNR=14
MOA Molln 64.56 21⇓*i*P **P 03 31 23.8 -2.1**
comp=Z,24nm,1.4s,SNR=13
MEM Membach 64.62 14 P **P 03 31 26.2 0.0**
comp=Z,6.4nm,1.4s
PKSM Moragy 64.84 24⇑P P 03 31 23.8 -3.9
PKSM Moragy 64.84 24⇑*i*P P 03 31 23.8 -3.9
PKSM Moragy 64.84 24⇑*e*P **P 03 31 27.3 -0.4**
TNS Taunus Mts 64.88 16 *e*P **P 03 31 27.5 -0.5**
comp=Z,31nm,1.6s
TNS Taunus Mts 64.88 16 *e*P **P 03 31 27.5 -0.5**
TNS pmax pmax
comp=Z,20nm,1.6s
PKS9 Tamasi 65.00 24⇑*e*P **P 03 31 29.4 +0.6**
OTAV Otavalo 65.02 276 *e*P **P 03 31 30.7 +0.6**
comp=Z,16nm,1.2s
GRFO Grafenberg 65.19 18 *e*P **P 03 31 28.8 -1.2**
GRFO pmax pmax
comp=Z,27nm,1.4s
GRFO Grafenberg 65.19 18 *e*P **P 03 31 28.8 -1.2**
comp=Z,27nm,1.4s
GRF Grafenberg Arr 65.19 18 *e*P **P 03 31 29.5 -0.5**
comp=Z,23nm,1.2s
GRF *e*L L 03 58 33.8
comp=Z,1µm,21.4s
GRF Grafenberg Arr 65.19 18 *e*P **P 03 31 29.5 -0.5**
WET Wettzell 65.22 19 *e*P **P 03 31 29.3 -0.9**
comp=Z,29nm,1.4s
WET Wettzell 65.22 19 *e*P **P 03 31 29.3 -0.9**
WET pmax pmax
comp=Z,22nm,1.4s
GEC2 GERESS Array S 65.23 20 *e*P **P 03 31 29.4 -1.0**
comp=Z,22nm,1.3s
GEC2 GERESS Array S 65.23 20 *e*P **P 03 31 29.4 -1.0**
GEC2 pmax pmax
comp=Z,40nm,1.3s
GERES GERESS Array B 65.23 20 P **P 03 31 28.8 -1.6**
GERES PP **PP 03 33 55.5 +1.4**
GERES GERESS Array B 65.23 20 P **P 03 31 28.7 -1.6**
comp=Z,8.8nm,1.2s,baz=193,slow=5.5,SNR=28
GERES PP **PP 03 33 55.5 +1.4**
comp=Z,2.8nm,0.9s,baz=206,slow=8.9,SNR=5.4
PKS2 Kecel 65.30 25⇑*e*P **P 03 31 31.7 +1.0**
KHC Kasperske Hory 65.44 20 *i*P **P 03 31 30.3 -1.3**
KHC *e* 03 31 36.6
KHC *e* 03 33 52.5
KHC *e*S **S 03 40 15.5 -0.6**
KHC *e* 03 44 20.5
KHC MLR MLR
comp=Z,2µm,17.1s
KHC Kasperske Hory 65.44 20 *i*P **P 03 31 30.3 -1.3**
KHC *e*P **pP 03 31 36.6 +1.7**
KHC *e*PP **PP 03 33 52.5 -3.3**
KHC *e*S S **03 40 15.5 -0.6**
KHC *e*SS SS 03 44 20.5 -9.4
KHC AMS AMS 04 00 10.0
comp=Z,2µm,17.1s
KHC Kasperske Hory 65.44 20 *e*P **P 03 31 30.6 -1.0**
comp=Z,17nm,1.4s
KHC *e*PP **PP 03 33 53.3 -2.5**
PKST T"'s 65.45 23⇑*e*P **P 03 31 32.0 +0.3**
PKS6 Bocsa 65.53 25⇑*e*P P 03 31 35.4 +3.2
ROTZ Rotzenmuhle 65.56 18 *e*P **P 03 31 31.7 -0.6**
comp=Z,26nm,1.4s
BZS Buzias 65.63 27⇑P **P 03 31 30.2 -2.7**
BZS Buzias 65.63 27⇑*i*P **P 03 31 30.2 -2.7**
CSKK Cs˚‡kako 65.63 24⇑*e*P **P 03 31 33.1 +0.3**
PKSG 65.70 24⇑*e*P **P 03 31 33.4 +0.1**
MANZ Manzenberg 65.72 18 *e*P **P 03 31 32.5 -0.9**
comp=Z,37nm,1.5s
PKS7 Kunszentmiklos 65.73 24⇓*e*P **P 03 31 33.9 +0.4**
UBBA Unterbreizbach 65.84 16 *e*P **P 03 31 33.7 -0.3**
comp=Z,40nm,1.6s
ZST Bratislava 65.87 22 *e*P **P 03 31 35.4 +1.0**
ZST Bratislava 65.87 22 *e*P **P 03 31 35.4 +1.0**
BUD Budapest 66.03 24⇑*e*P **P 03 31 35.6 +0.2**
WERN Wernitzgruen 66.06 18 *e*P **P 03 31 34.4 -1.3**
comp=Z,30nm,1.5s
GUNZ Gunzen 66.12 18 *e*P **P 03 31 35.3 -0.7**
comp=Z,25nm,1.3s
MOX Moxa 66.15 18 *e*P **P 03 31 35.5 -0.7**
comp=Z,20nm,1.3s
MOX *e*L L 03 59 13.1
comp=Z,1µm,21.1s
MOX Moxa 66.15 18 *e*P **P 03 31 35.5 -0.7**
PLN Plauen 66.17 18 *e*P **P 03 31 35.4 -0.9**
comp=Z,109nm,1.5s
WERD Werda 66.19 18 *e*P **P 03 31 35.5 -0.9**
comp=Z,20nm,1.3s
TREC Trest 66.22 21 *i*P **P 03 31 35.1 -1.5**
TREC *e* 03 31 41.5
TREC *e*S **S 03 40 22.8 -2.9**
TREC *e* 03 44 34.2
TREC MLR MLR
comp=Z,2µm,20.8s
TREC Trest 66.22 21 *i*P **P 03 31 35.1 -1.5**
TREC *e*pP **pP 03 31 41.5 +1.6**
TREC *e*S S **03 40 22.8 -2.9**
TREC *e*SS SS 03 44 34.2 -7.9
TREC AMS AMS 03 59 10.0
comp=Z,2µm,20.8s
SYO Syowa Base 66.46 162⇓*e*P **P 03 31 36.8 -1.1**
PRU Pruhonice 66.49 20 *i*P **P 03 31 38.1 -0.2**
PRU *e* 03 31 42.9
PRU *e*S **S 03 40 26.8 -2.1**
PRU *e* 03 44 37.3
PRU MLR MLR
comp=Z,1µm,18.6s
PRU Pruhonice 66.49 20 *i*P **P 03 31 38.1 -0.2**
PRU *e*pP **pP 03 31 42.9 +1.3**
PRU *e*S S **03 40 26.8 -2.1**
PRU *e*SS SS 03 44 37.3 -9.0
PRU AMS AMS 03 58 50.0
comp=Z,1µm,18.6s
PRA Prague 66.53 20 P **P 03 31 39.0 +0.4**
PRA AMS AMS 03 59 00.0
NEUB Neuenburg 66.70 17 *e*P **P 03 31 39.1 -0.5**
comp=Z,26nm,1.4s
PSZ Piszkesteto 66.72 24 *e*P **P 03 31 40.0 0.0**
PSZ pmax pmax
comp=Z,26nm,1.3s
PSZ Piszkesteto 66.72 24 *e*P **P 03 31 40.0 0.0**
comp=Z,26nm,1.3s
PSZ Piszkesteto 66.72 24⇓*i*P **P 03 31 39.8 -0.2**
PSZ Piszkesteto 66.72 24⇓*e*P **P 03 31 39.9 0.0**
VYHS Vyhne 66.78 23 *e*P **P 03 31 40.1 -0.1**
VYHS pmax pmax
comp=Z,18nm,1.5s
VYHS Vyhne 66.78 23 *e*P **P 03 31 40.1 -0.1**
ARR Arges 66.81 29⇑*i*P **P 03 31 39.7 -0.9**
CLZ Clausthal 66.87 16 *e*P **P 03 31 40.2 -0.6**
comp=Z,14nm,1.5s
CLZ Clausthal 66.87 16 *e*P **P 03 31 40.2 -0.6**
CLZ pmax pmax
comp=Z,27nm,1.5s
FBE Freiberg 66.92 18 *e*P **P 03 31 40.1 -1.0**
comp=Z,15nm,1.4s
PVCC Panska Ves 66.97 19 *i*P **P 03 31 40.9 -0.5**
PVCC *e*S **S 03 40 36.1 +1.5**
PVCC MLR MLR
comp=Z,1µm,18.1s
PVCC Panska Ves 66.97 19 *i*P **P 03 31 40.9 -0.5**
PVCC *e*S **S 03 40 36.1 +1.5**
PVCC AMS AMS 03 59 10.0
comp=Z,1µm,18.1s
DRGR 67.02 27⇑P **P 03 31 41.8 -0.1**
DRGR 67.02 27⇑*i*P **P 03 31 41.8 -0.1**
VOIR 67.06 29⇓P **P 03 31 42.0 -0.1**
VOIR 67.06 29⇓*i*P **P 03 31 42.0 -0.1**
BRG Berggiesshubel 67.06 19 *e*P **P 03 31 41.8 -0.2**
comp=Z,14nm,1.4s
BRG *e*PP **PP 03 34 07.0 -3.0**
comp=Z,8.4nm,1.3s
BRG S **S 03 40 35.0 -0.8**
BRG SS SS 03 44 45.0 -10
BRG
comp=N,1µm,18.1s
BRG
comp=E,1µm,18.4s
BRG
comp=Z,2µm,18.4s
BRG Berggiesshubel 67.06 19 *e*P **P 03 31 42.0 0.0**
comp=Z,14nm,1.4s
BRG Berggiesshubel 67.06 19 *e*P **P 03 31 41.8 -0.2**
BRG *e* 03 34 07.0
BRG S **S 03 40 35.0 -0.8**
BRG SS SS 03 44 45.0 -10
BRG pmax pmax
comp=Z,14nm,1.4s
BRG pmax pmax
comp=Z,8.0nm,1.3s
BRG MLR MLR
comp=N,1µm,18.1s
BRG MLR MLR
comp=E,1µm,18.4s
BRG MLR MLR
comp=Z,2µm,18.4s
CLL Collm 67.15 18 *e*P **P 03 31 41.9 -0.6**
comp=Z,10.0nm,1.5s
CLL Collm 67.15 18 *e*P **P 03 31 41.0 -1.5**
CLL *e*S **S 03 40 38.0 +1.2**
CLL pmax pmax
comp=Z,11nm,1.5s
CLL MLR MLR
comp=Z,1µm,18.3s
CLL Collm 67.15 18 *e*P **P 03 31 41.0 -1.5**
comp=Z,11nm,1.5s
CLL *e* 03 32 26.0
CLL *e*PP **PP 03 34 06.0 -4.7**
CLL *e*PPP PPP 03 35 48.0
CLL *e*PPS PPS 03 41 06.0
CLL *e*SS **SS 03 44 55.0 -1.4**
CLL *e*SSS SSS 03 47 54.0
CLL *e* 03 49 30.0
CLL LV 04 00 00.0
comp=Z,1µm,18.3s
MORC Moravsky Berou 67.35 22 *e*P **P 03 31 43.1 -0.8**
MORC pmax pmax
comp=Z,21nm,1.4s
MORC Moravsky Berou 67.35 22 *e*P **P 03 31 43.1 -0.8**
comp=Z,21nm,1.4s
ANTO Ankara 67.36 37⇑P **P 03 31 46.5 +2.3**
ANTO Ankara 67.36 37 *e*P **P 03 31 45.2 +1.0**
comp=Z,26nm,1.2s
ANTO Ankara 67.36 37⇑*i*P **P 03 31 46.5 +2.3**
NRDL Niedersach Rie 67.38 16 *e*P **P 03 31 44.4 +0.5**
comp=Z,32nm,1.4s
DPC Dobruska-Polom 67.40 21 *i*P **P 03 31 43.4 -0.8**
DPC *e* 03 31 49.3
DPC *e*S **S 03 40 39.3 -0.7**
DPC Dobruska-Polom 67.40 21 *i*P **P 03 31 43.4 -0.8**
DPC *e*pP **pP 03 31 49.3 +1.8**
DPC *e*S S **03 40 39.3 -0.7**
KECS Kecovo 67.41 24 *e*P **P 03 31 44.1 -0.2**
KECS pmax pmax
comp=Z,8.0nm,1.2s
KECS Kecovo 67.41 24 *e*P **P 03 31 44.1 -0.2**
UPC Upice 67.43 20 *i*P **P 03 31 43.7 -0.6**
UPC *e* 03 31 48.7
UPC Upice 67.43 20 *i*P **P 03 31 43.7 -0.6**
UPC *e*pP **pP 03 31 48.7 +1.1**
MLR Muntele Rosu 67.52 29⇑*i*P **P 03 31 44.6 -0.6**
ESK Eskdalemuir 67.54 7 *i*P **P 03 31 46.2 +1.3**
ESK Eskdalemuir 67.54 7 *e*P **P 03 31 44.1 -0.7**
comp=Z,23nm,1.2s
OKC Ostrava-Krasne 67.62 22 *i*P **P 03 31 44.5 -1.0**
OKC *e* 03 31 51.3
OKC *e*S S **03 40 42.5 0.0**
OKC MLR MLR
comp=Z,1µm,17.7s
OKC Ostrava-Krasne 67.62 22 *i*P **P 03 31 44.5 -1.0**
OKC *e*pP **pP 03 31 51.3 +2.5**
OKC *e*S S **03 40 42.5 0.0**
OKC *ex* x 03 44 40.7
OKC AMS AMS 04 02 30.0
comp=Z,1µm,17.7s
BR131 Keskin Array S 67.78 38 *e*P **P 03 31 47.3 +0.3**
comp=Z,16nm,1.2s
BRTR Keskin Array B 67.78 38 P **P 03 31 46.7 -0.3**
BRTR Keskin Array B 67.78 38 P **P 03 31 46.7 -0.3**
comp=Z,14nm,1.3s,baz=217,slow=6.5,SNR=25

BRTR LR LR 04 02 52.5
comp=Z,286nm,18.8s,baz=54,slow=37
KSP Ksiaz 67.81 20 *e*P **P 03 31 46.5 -0.2**
KSP *e*S **S 03 40 44.0 -0.7**
KSP *e*SS **SS 03 45 02.0 -4.6**
KSP Ksiaz 67.81 20 *e*P **P 03 31 46.8 +0.1**
TIRR Tirgusor 68.00 31 ⇑P **P 03 31 48.2 +0.2**
TIRR Tirgusor 68.00 31 *e*P **P 03 31 47.3 -0.7**
comp=Z,25nm,1.3s
TIRR Tirgusor 68.00 31 ⇑*i*P **P 03 31 48.2 +0.2**
RAYN Ar Rayn 68.03 59 *e*P **P 03 31 50.5 +1.7**
comp=Z,20nm,1.4s
NIE Niedzica 68.10 23 *e*P P 03 31 51.6 +3.0
NIE Niedzica 68.10 23 *e*P P 03 31 51.6 +3.0
PLOR Plostina 68.12 29 ⇓P **P 03 31 51.6 +2.8**
PLOR Plostina 68.12 29 ⇓*i*P **P 03 31 51.6 +2.8**
CRVS Cervenica-Dubn 68.14 24 *e*P **P 03 31 46.0 -2.8**
CRVS pmax pmax
comp=Z,23nm,1.4s
CRVS Cervenica-Dubn 68.14 24 *e*P **P 03 31 46.0 -2.8**
VRI Vrincioaia 68.17 29 ⇑P **P 03 31 48.9 -0.2**
VRI Vrincioaia 68.17 29 ⇑*i*P **P 03 31 48.9 -0.2**
UZH Uzhgorod 68.27 25 *e*P **P 03 31 49.1 -0.5**
UZH *e* 03 32 12.9
UZH *e*S S 03 40 42.7 -7.6
UZH *e*PS **SKSac 03 41 51.5 +3.1**
UZH MLR MLR
comp=N,400nm,16.0s
UZH MLR MLR
comp=E,900nm,16.0s
UZH MLR MLR
comp=Z,110nm,16.0s
STHS Stebnicka Huta 68.46 24 *e*P P 03 31 56.7 +5.9
STHS Stebnicka Huta 68.46 24 *e* P 03 31 56.7 +5.9
KOLS Kolonicke sedl 68.50 25 *e*P **P 03 31 51.0 -0.1**
KOLS pmax pmax
comp=Z,14nm,1.5s
KOLS Kolonicke sedl 68.50 25 *e*P **P 03 31 51.0 -0.1**
OJC Ojcow 68.55 23 *e*P **P 03 31 51.3 0.0**
OJC *e*S **S 03 40 54.2 +0.6**
OJC MLR MLR
comp=Z,700nm,18.3s
OJC Ojcow 68.55 23 *e*P **P 03 31 51.3 0.0**
OJC *e*S **S 03 40 54.2 +0.6**
OJC L L 04 03 09.7
comp=Z,700nm,18.3s
TESR Tescani 68.60 29 ⇓*i*P **P 03 31 51.7 -0.1**
BSEG Bad Segeberg 68.74 15 *e*P **P 03 31 51.8 -0.6**
comp=Z,42nm,1.5s
BSEG Bad Segeberg 68.74 15 *e*P **P 03 31 51.8 -0.6**
BSEG pmax pmax
comp=Z,70nm,1.5s
BURAR Bucovina Array 68.75 27 ⇓*i*P **P 03 31 53.7 +0.9**
BUR08 Bucovina Ar. S 68.77 27 *e*P **P 03 31 53.2 +0.3**
KWP Kalwaria Pacla 69.22 25 ⇑P **P 03 31 56.4 +0.8**
KWP Kalwaria Pacla 69.22 25 *e*P **P 03 31 55.2 -0.3**
comp=Z,35nm,1.3s
KWP Kalwaria Pacla 69.22 25 ⇑*i*P **P 03 31 56.4 +0.8**
KWP Kalwaria Pacla 69.22 25 *e*P **P 03 31 54.8 -0.8**
LVV L'vov 69.91 25 *e*P **P 03 31 59.4 -0.4**
LVV *e* 03 36 15.0
LVV *e*S **S 03 41 05.8 -3.9**
LVV *e* 03 41 33.4
LVV MLR MLR
comp=N,800nm,19.0s
LVV MLR MLR
comp=E,800nm,19.0s
LVV MLR MLR
comp=Z,1μm,18.0s
MALT Malatya 69.95 42 ⇓P P 03 32 10.1 +10
MALT Malatya 69.95 42 ⇓*i*P P 03 32 10.1 +10
KIS Kishinev 69.99 30 *e*P **P 03 31 58.0 -2.3**
KIS Kishinev 69.99 30 *e*PcP PcP 03 32 17.0 -5.6
KIS Kishinev 69.99 30 *e*PP PP 03 34 20.0 -15
KIS Kishinev 69.99 30 *e*P **P 03 31 58.0 -2.3**
KIS *e* 03 32 04.0
KIS *e* 03 32 17.0
KIS *e*PPP PPP 03 36 12.0
KIS *e*S **S 03 41 10.0 -0.7**
KIS *e*PS **PnS 03 41 32.0 -5.1**
KIS MLR MLR
comp=E,300nm,17.0s
KIS MLR MLR
comp=Z,1μm,17.0s
KIS MLR MLR
comp=Z,900nm,18.0s
MUD Monsted U'grnd 70.75 13 *e*P P 03 32 14.5 +10
MUD pmax pmax
comp=Z,9.0nm,1.2s
MUD MLR MLR
comp=Z,560nm,14.0s
MUD Monsted U'grnd 70.75 13 *i*P P 03 32 14.5 +10
comp=Z,9.3nm,1.2s
MUD
comp=Z,560nm,14.0s
COP Copenhagen 70.86 16 *e*P P 03 32 11.0 +5.6
COP pmax pmax
comp=Z,9.0nm,0.8s
COP MLR MLR
comp=Z,240nm,16.0s
COP Copenhagen 70.86 16 *i*P P 03 32 11.0 +5.6
comp=Z,9.1nm,0.7s
COP
comp=Z,240nm,16.0s
BSD Bornholm Skovb 71.04 17 *e*P P 03 32 12.1 +5.6
BSD pmax pmax
comp=Z,4.0nm,1.0s
BSD MLR MLR
comp=Z,580nm,17.0s
BSD Bornholm Skovb 71.04 17 *i*P P 03 32 12.1 +5.6
comp=Z,4.2nm,0.9s
BSD
comp=Z,580nm,16.0s
SIM Simferopol' 71.35 34 *e*P P 03 32 18.0 +9.3
SIM *e*S S 03 41 32.0 +5.3
SIM pmax pmax
comp=Z,9.0nm,1.4s
AK02 Malin Array Si 72.77 27 *e*P **P 03 32 16.8 -0.3**
AK01 Malin Array Si 72.79 27 *e*P **P 03 32 15.7 -1.5**
KIEV Kiev 72.79 27 *e*P **P 03 32 16.2 -1.0**
KIEV pmax pmax
comp=Z,59nm,1.4s
KIEV Kiev 72.79 27 *e*P **P 03 32 16.2 -1.0**
comp=Z,59nm,1.4s
AKASG Malin Array Be 72.81 27 *i*P **P 03 32 16.3 -1.0**
AKASG pmax pmax
comp=Z,20nm,1.1s
AKASG Malin Array Be 72.81 27 P **P 03 32 15.7 -1.6**
AKASG Malin Array Be 72.81 27 P **P 03 32 15.6 -1.6**
comp=Z,20nm,1.1s,baz=225,slow=7.0,SNR=65
AKASG LR LR 04 05 28.0
comp=Z,1μm,20.0s,baz=255,slow=37
SUW Suwalki 72.83 22 *e*P **P 03 32 15.4 -1.9**
ANN Anapa 73.11 36 *e*P **P 03 32 17.3 -1.9**
ANN *e*S **S 03 41 44.4 -2.4**
ANN pmax pmax
comp=Z,64nm,1.6s
ANN MLR MLR
comp=Z,572nm,24.0s
IDHR Dehrash 73.61 48 *e*P **P 03 32 22.1 -0.6**
SOC Sochi 73.73 38 *e*P **P 03 32 22.7 -0.2**
SOC *e* 03 32 37.4
SOC *e* 03 35 06.3
SOC *e*S **SKiKP 03 41 52.3 -0.7**
SOC *e* 03 42 24.0
SOC *e*SS **SS 03 46 37.4 -0.6**
SOC pmax pmax
comp=Z,24nm,1.0s
SOC MLR MLR
comp=Z,171nm,15.0s
MAW Mawson 74.14 157 P **P 03 32 25.7 +0.8**
MAW Mawson 74.14 157 P **P 03 32 25.7 +0.8**
comp=Z,5.1nm,0.9s,baz=274,slow=7.1,SNR=10
MAW LR LR 03 57 49.7
comp=Z,991nm,20.7s,baz=289,slow=30
IKOM Komasi 74.20 49 *e*P **P 03 32 25.6 -0.5**
AKH Akhalkalaki 74.90 41 P **P 03 32 27.1 -2.9**
MNK Minsk 74.98 24 *e*P **P 03 32 27.0 -2.9**
MICGM Minsk 74.99 24 *e* **P 03 32 27.0 -3.0**
GNI Garni 75.08 43 *e*P **P 03 32 32.8 +1.7**
comp=Z,88nm,1.4s
NB2 NORSAR Subarra 75.37 12 P **P 03 32 32.1 0.0**
comp=Z,9.9nm,1.2s,baz=203,slow=6.2
NOA NORSAR Array B 75.37 12 P **P 03 32 31.5 -0.6**
comp=Z,4.9nm,1.1s,baz=206,slow=6.0,SNR=5.6
KIV Kislovodsk 75.73 39 *e*P **P 03 32 35.5 +0.8**
KIV *e*S **S 03 42 18.5 +2.0**
KIV pmax pmax
comp=Z,31nm,4.8s
KIV pmax pmax
comp=Z,48nm,1.1s
KIV Kislovodsk 75.73 39 P **P 03 32 35.9 +1.2**
comp=Z,207nm,1.1s,SNR=5.2
KBZ Khabaz 75.74 39 P **P 03 32 34.7 +0.2**
KBZ Khabaz 75.74 39 P **P 03 32 34.7 +0.2**
KBZ Khabaz 75.74 39 P **P 03 32 34.7 +0.2**
comp=Z,5.0nm,1.0s,baz=245,slow=7.4,SNR=8.3
KBZ LR LR 04 07 10.3
comp=Z,264nm,21.5s,baz=242,slow=37
TBLG Delisi 75.87 41 *e*P **P 03 32 36.8 +1.5**
TBLG Delisi 75.87 41 P **P 03 32 36.9 +1.5**
ZEI Tsey 75.87 40 *e*P **P 03 32 37.1 +1.5**
ZEI pmax pmax
comp=Z,17nm,1.4s
DGRG David-gareji 76.14 42 P **P 03 32 38.8 +1.9**
IGZV Ghazvin 77.16 48 *e*P P 03 32 36.7 -6.4
SDMD Soldier's Deli 77.41 315 *e*P **P 03 32 44.1 -0.1**
comp=Z,3.5nm,0.6s
VORD Divnogorie 77.80 31 *e*P **P 03 32 45.0 -1.0**
VORD pmax pmax
comp=Z,30nm,1.4s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD MLR MLR
comp=Z,670nm,18.0s
VORD MLR MLR
comp=N,340nm,20.0s
VORD MLR MLR
comp=E,450nm,16.0s
VSR Storozhevoye 77.89 31 *e*P **P 03 32 45.0 -1.5**
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=Z,20nm,1.2s
VSR pmax pmax
comp=E,10.0nm,1.3s
VSR MLR MLR
comp=Z,810nm,20.0s
VSR MLR MLR
comp=N,290nm,19.0s
VSR MLR MLR
comp=E,490nm,18.0s
ISAD Sadrabad 78.00 54 *e*P **P 03 32 48.9 +0.9**
MAK Makhachkala 78.26 41 *e*P **P 03 32 49.9 +1.2**
MAK *i* 03 32 57.4
MAK *e* 03 35 51.6
MAK *e*S **S 03 42 46.5 +2.6**
MAK pmax pmax
comp=Z,61nm,1.0s
QSPA South Pole Qui 78.29 180 *e*P **P 03 32 50.7 +1.9**
comp=Z,57nm,1.2s
IMEH Mehriz 78.55 54 *e*P **P 03 32 51.4 +0.5**
ICHK Chekchek 78.70 54 *e*P **P 03 32 51.0 -0.7**
KMSC Kings Mountain 78.87 310 P **P 03 32 52.9 +0.6**
baz=79
OBN Obninsk 79.07 27 ⇑*i*P **P 03 32 53.4 +0.5**
OBN *e* 03 35 49.7
OBN *i*S **S 03 42 49.5 -2.5**
OBN *i*SS SS 03 47 50.2 -8.0
OBN pmax pmax
comp=Z,23nm,1.6s
OBN MLR MLR
comp=Z,1μm,21.0s
IBAF Bafgh 79.38 54 *e*P **P 03 32 53.6 -1.8**
FINES FINESS Array B 79.60 18 P **P 03 32 55.1 -0.5**
FINES FINESS Array B 79.60 18 P **P 03 32 55.1 -0.5**
comp=Z,1.7nm,0.7s,baz=195,slow=5.1,SNR=8.9
FINES LR LR 04 07 27.2
comp=Z,772nm,20.6s,baz=229,slow=35
SCHQ Schefferville 79.85 332 P **P 03 32 56.2 -1.1**
SCHQ Schefferville 79.85 332 P **P 03 32 56.2 -1.1**
comp=Z,2.8nm,0.7s,baz=121,slow=5.9,SNR=5.3
SCHQ LR LR 04 03 16.0
comp=Z,602nm,21.5s,baz=128,slow=32
MOS Moscow 79.93 27 *e*P P 03 32 53.6 -4.0
MOS *e* 03 32 57.8
MOS *e* 03 33 01.3
MOS pmax pmax
comp=Z,31nm,0.8s
ALLY Alegheny Colle 80.66 316 *e*P **P 03 33 01.3 -0.6**
comp=Z,19nm,0.9s
ACSO Alum Creek Sta 82.05 314 *e*P **P 03 33 09.6 +0.3**
comp=Z,18nm,1.0s
ITEG Tejag 82.36 54 *e*P **P 03 33 12.6 +1.3**
LRAL Lakeview Retre 82.50 306 *e*P **P 03 33 11.3 -0.5**
comp=Z,14nm,1.2s
IKRD Kardeh 83.47 50 *e*P P 03 33 21.8 +4.7
IPAY Payeh 83.73 51 *e*P **P 03 33 18.2 -0.2**
ISRO Mashad 84.04 51 *e*P **P 03 33 19.1 -0.8**
WVT Waverly 84.16 309 *e*P **P 03 33 18.2 -2.1**
WVT pmax pmax
comp=Z,24nm,1.3s
WVT Waverly 84.16 309 *e*P **P 03 33 18.2 -2.1**
comp=Z,24nm,1.3s
IMYA Miami 84.54 51 *e*P **P 03 33 22.8 +0.3**
SIUC Southern Illin 85.72 310 *e*P **P 03 33 27.0 -1.1**
comp=Z,21nm,1.0s
ARCES ARCESS Array B 85.74 13 LR LR 04 10 32.2
comp=Z,491nm,20.1s,baz=226,slow=35
SUMG Summit 85.76 353 *e*P **P 03 33 29.0 +0.9**
SUMG pmax pmax
comp=Z,13nm,1.0s
SUMG Summit 85.76 353 *e*P **P 03 33 28.9 +0.9**
comp=Z,12nm,1.0s
SUMG Summit 85.76 353 *i*P P 03 33 31.8 +3.8
comp=Z,9.3nm,1.0s
MIR Mirnyy 85.87 157 *e*P **P 03 33 30.0 +1.6**
MIR pmax pmax
comp=Z,30nm,1.3s
FVM French Village 86.71 310 *e*P **P 03 33 32.0 -1.0**
FVM pmax pmax
comp=Z,24nm,0.9s
FVM French Village 86.71 310 *e*P **P 03 33 32.0 -1.0**
comp=Z,24nm,0.9s
JFWS Jewell Farm 88.09 314 *e*P **P 03 33 38.7 -0.9**
JFWS pmax pmax
comp=Z,13nm,0.8s
JFWS Jewell Farm 88.09 314 *e*P **P 03 33 38.7 -0.9**
comp=Z,13nm,0.8s
ABKAR Akbulak array 88.71 39 *e*P **P 03 33 42.1 -0.2**
ARU Arti 90.42 32*d i*P **P 03 33 51.6 +1.4**
ARU 03 37 25.8
ARU S **SKSac 03 44 22.5 +1.0**
ARU pmax pmax
comp=Z,16nm,1.2s
SBA Scott Base 90.45 180 *e*P **P 03 33 52.8 +2.8**
SBA pmax pmax
comp=Z,45nm,1.7s
SBA Scott Base 90.45 180 *e*P **P 03 33 52.8 +2.8**
comp=Z,45nm,1.7s
WHTX Lake Whitney 90.68 302 P **P 03 33 51.8 -0.1**
baz=91
VNDA Vanda 90.76 179 *e*P **P 03 33 54.3 +2.8**
comp=Z,6.5nm,1.2s
VNDA Vanda 90.76 179 P **P 03 33 52.4 +0.9**
comp=Z,3.0nm,1.0s,baz=224,slow=4.2,SNR=8.7
VNDA LR LR 04 10 14.5
comp=Z,432nm,18.9s,baz=187,slow=33
KSU1 Kansas State U 91.68 309 *e*P **P 03 33 55.8 -0.7**
comp=Z,5.9nm,0.3s
732A Laxson Ranch, 92.08 299 P **P 03 33 58.5 0.0**
baz=92
632A Uvalde 92.08 300 P **P 03 33 58.7 +0.1**
baz=92
JCT Junction City 92.30 301 *e*P **P 03 33 59.4 -0.2**
JCT pmax pmax
comp=Z,21nm,1.0s
JCT Junction City 92.30 301 *e*P **P 03 33 59.4 -0.2**
comp=Z,21nm,1.0s
JCT Junction City 92.30 301 P **P 03 33 59.5 -0.2**
baz=92
532A Rocksprings 92.31 300 P **P 03 33 59.5 -0.2**
baz=92
WMOK Wichita Mounta 92.38 305 *e*P **P 03 33 59.5 -0.3**
WMOK pmax pmax
comp=Z,13nm,1.6s
WMOK Wichita Mounta 92.38 305 *e*P **P 03 33 59.5 -0.3**
comp=Z,13nm,1.6s
332A Millersview 92.44 301 P **P 03 33 59.8 -0.4**
baz=92
232A Coleman 92.47 302 P **P 03 34 00.4 +0.1**
baz=92
Z32A Haskell 92.64 303 P **P 03 34 01.0 0.0**
baz=92
631A Perdido Creek 92.74 299 P **P 03 34 01.2 -0.3**
baz=93
ECSD EROS Data Cent 92.78 314 *e*P **P 03 34 00.5 -0.9**
comp=Z,35nm,1.8s
531A Rocksprings 92.87 300 P **P 03 34 02.2 -0.1**
baz=93
331A San Angelo 93.00 301 P **P 03 34 02.5 -0.3**
baz=93
431A Sonora 93.02 301 P **P 03 34 02.6 -0.4**
baz=93
X31A McDonald Ranch 93.32 305 P **P 03 34 03.8 -0.4**
baz=93
AGMN Agassiz Nation 93.36 319 *e*P **P 03 34 04.0 0.0**
comp=Z,7.5nm,1.1s
Y31A Rekieta Farm, 93.41 304 P **P 03 34 04.6 -0.1**
baz=93
V31A Spring Creek L 93.45 306 P **P 03 34 04.5 -0.3**
baz=93
530A J-C Ranch, Com 93.53 300 P **P 03 34 04.7 -0.6**
baz=93
430A Baggett Ranch, 93.58 301 P **P 03 34 05.1 -0.4**
baz=94
330A Mertzon 93.65 301 P **P 03 34 05.8 0.0**
baz=94
ULM Lac du Bonnet 93.84 320 LR LR 04 09 56.8
comp=Z,849nm,19.1s,baz=302,slow=32
Y30A Stafford Cattl 93.91 304 P **P 03 34 06.8 -0.2**
baz=94
429A Davenport Ranc 94.10 300 P **P 03 34 07.3 -0.6**
baz=94
529A Stev Forest Ra 94.28 300 P **P 03 34 08.0 -0.8**
baz=94
R30A Dighton 94.30 308 P **P 03 34 09.0 +0.3**
baz=94
Z29A Hungry Hill Ra 94.45 303 P **P 03 34 09.1 -0.4**
baz=94
628A Black Gap, Mar 94.73 299 P **P 03 34 11.2 +0.4**
baz=95
428A Kincaid Ranch, 94.79 300 P **P 03 34 11.3 +0.2**
baz=95
Y28A McKinney Farm, 95.02 303 P **P 03 34 12.0 -0.1**
baz=95
TXAR Lajitas Array 95.37 299 P **P 03 34 13.6 -0.2**
TXAR Lajitas Array 95.37 299 P **P 03 34 13.5 -0.2**
comp=Z,1.8nm,1.0s,baz=119,slow=7.3,SNR=9.8
TXAR LR LR 04 11 35.7
comp=Z,375nm,21.8s,baz=145,slow=32
MSTX Muleshoe 95.46 303 P **P 03 34 14.3 +0.2**
baz=95
527A Woodward Ranch 95.47 300 P **P 03 34 14.4 +0.1**
baz=95
T28A Walsh 95.51 307 P **P 03 34 14.8 +0.6**
baz=95
Y27A Causey 95.76 303 P **P 03 34 15.3 -0.3**
baz=96
626A Big Bend Ranch 95.81 299 P **P 03 34 15.8 0.0**
baz=96
526A Mary Lane Ranc 95.86 299 P **P 03 34 15.7 -0.4**
baz=96
426A McDonald Obser 95.92 300 P **P 03 34 16.5 0.0**
baz=96
U27A Thompson Grove 95.94 306 P **P 03 34 16.1 -0.2**
baz=96
BRVK Borovoye 96.00 37 ⇓*i*P **P 03 34 16.5 +0.5**
BRVK pmax pmax
comp=Z,3.0nm,1.4s
226B Tecolote Peak, 96.28 301 P **P 03 34 18.3 +0.4**
baz=96
V26A Tequesquite Ra 96.60 305 P **P 03 34 18.9 -0.4**
baz=96
425A Indio Mountain 96.75 300 P **P 03 34 19.3 -0.8**
baz=97
AAK Ala-Archa 96.87 48*ce*P P 03 34 25.9 +5.5
AAK pmax pmax
comp=Z,11nm,1.7s
KSH Kashi 97.46 51 P Pdif 03 34 23.1 -0.1
KSH pP pP 03 34 27.0 +0.5
KSH sP sP 03 34 28.8 +1.1
KSH PP **PP 03 38 20.2 -0.2**
KSH SKS **SKSac 03 44 58.3 -2.7**
KSH S S 03 45 40.9 -7.2
KSH pmax pmax
comp=Z,95nm,10.0s
KSH LR LR
comp=N,170nm,7.1s
KSH LR LR
comp=E,160nm,11.0s
KSH LR LR
comp=Z,600nm,25.8s
Y24A Capitan 97.63 303 P Pdif 03 34 24.3 +0.1
baz=98
Y23A Lovelace Mesa, 98.14 303 P **P 03 34 26.4 -0.1**
baz=98
SDCO Great Sand Dun 98.27 307 *e*P Pdif 03 34 27.6 +0.6
comp=Z,5.9nm,1.5s
BNM Barren Site 98.65 303 *e*P **P 03 34 27.4 -1.4**
comp=Z,5.6nm,1.2s
WMQ Urumqi 106.57 48 Pdif **Pdif 03 35 06.2 +2.7**
WMQ PP PP 03 39 33.6 +4.8
WMQ S **Sdif 03 47 03.2 -0.9**
WMQ SS **SS 03 54 34.6 +1.5**
WMQ LR LR
comp=N,430nm,27.1s
WMQ LR LR
comp=E,250nm,23.4s
WMQ LR LR
comp=Z,240nm,31.0s
SONM Songino Array 119.03 42 PKP **PKPdf 03 39 37.7 -0.2**
SONM Songino Array 119.03 42 PKP **PKPdf 03 39 37.7 -0.2**
comp=Z,0.4nm,0.9s,baz=192,slow=1.3,SNR=2.3
KMI Kunming 119.10 68 PKP **PKPdf 03 39 38.4 -0.5**
KMI PP **PP 03 41 02.0 +3.1**
KMI SS SS 03 57 20.2 -0.5
KMI AMB AMB
comp=Z,76nm,5.3s
KMI LR LR
comp=N,220nm,13.9s
KMI LR LR
comp=E,220nm,17.6s
KMI LR LR
comp=Z,280nm,18.0s
LZH Lanzhou 119.40 55 *e*PKP **PKPdf 03 39 35.5 -3.6**
LZH sPKP 03 39 40.1
LZH PP **PP 03 41 01.0 +0.5**
LZH SKS SKSdf 03 46 43.0 -8.6
LZH SS **SS 03 57 18.1 -5.6**
LZH AMB AMB
comp=Z,140nm,4.8s
LZH LR LR
comp=N,1μm,16.7s
LZH LR LR
comp=E,1μm,17.7s
LZH LR LR
comp=Z,580nm,20.6s
CD2 Chengdu 119.81 61 PKP **PKPdf 03 39 39.0 -0.8**
CD2 PP **PP 03 41 06.5 +3.1**
CD2 PKS **PKSdf 03 43 14.4 -2.3**
CD2 SKS **SKSdf 03 46 48.7 -3.7**
CD2 SKKS **SKKSac 03 47 58.1 -5.7**
CD2 SS **SS 03 57 28.0 -1.0**
CD2 AMB AMB
comp=Z,120nm,6.4s
CD2 LR LR
comp=N,210nm,16.6s
CD2 LR LR
comp=E,470nm,15.2s
CD2 LR LR
comp=Z,310nm,17.1s
GYA Guiyang 122.61 66 *e*Pdif **Pdif 03 36 15.0 -0.3**
GYA PKP **PKPdf 03 39 44.2 -1.2**
GYA PP **PP 03 41 26.4 +3.7**
GYA PKS **PKSdf 03 43 19.8 -2.6**
GYA SKKS 03 48 17.0
GYA SS **SS 03 58 03.2 -2.1**
GYA AMB AMB
comp=Z,120nm,7.6s
GYA LR LR
comp=N,160nm,22.9s
GYA LR LR
comp=E,120nm,23.7s

GYA				LR	LR			
	comp=Z,150nm,22.8s							
TBI	**Tubuai**	**124.06**	**231**	*e*LR	LR	04 18 17.4		
	comp=Z,487nm,22.5s							
HHC	**Hu-ho-hao-te**	**124.44**	**48**	*e*PKP	**PKPdf**	**03 39 46.6**	**-1.9**	
HHC				PP	**PP**	**03 41 37.2**	**+2.7**	
HHC				PKS	**PKSdf**	**03 43 22.4**	**-2.8**	
HHC				SKS	**SKSdf**	**03 46 57.4**	**-3.4**	
HHC				SKKS	**SKKSac**	**03 48 29.1**	**-4.4**	
HHC				SS	**SS**	**03 58 26.4**	**-1.1**	
HHC				AMB	AMB			
	comp=Z,110nm,9.5s							
HHC				LR	LR			
	comp=N,670nm,20.5s							
HHC				LR	LR			
	comp=E,510nm,19.7s							
HHC				LR	LR			
	comp=Z,540nm,20.8s							
PPT2	**Papeete2**	**127.22**	**237**	*e*SS	SS	03 59 04.8	+2.3	
	comp=Z,113nm,29.0s							
PPT2	**Papeete2**	**127.22**	**237**	*e*LR	LR	04 19 46.3		
	comp=Z,407nm,23.2s							
BJI	**Beijing**	**128.05**	**48**	PKP	**PKPdf**	**03 39 54.8**	**-0.5**	
BJI				SS	SS	03 59 12.3	+0.1	
BJI				LR	LR			
	comp=N,200nm,23.8s							
BJI				LR	LR			
	comp=E,330nm,23.2s							
BJI				LR	LR			
	comp=Z,270nm,25.5s							
NJ2	**Nanjing**	**132.37**	**57**	*e*PKP	**PKPdf**	**03 40 03.4**	**-0.3**	
NJ2				sPKP		03 40 08.0		
NJ2				PP	**PP**	**03 42 26.0**	**-0.7**	
NJ2				PKS	**PKSdf**	**03 43 36.0**	**-4.2**	
NJ2				SKS	**SKSdf**	**03 47 14.0**	**-1.5**	
NJ2				AMB	AMB			
	comp=Z,50nm,9.4s							
NJ2				LR	LR			
	comp=N,90nm,19.6s							
NJ2				LR	LR			
	comp=E,70nm,10.5s							
NJ2				LR	LR			
	comp=Z,150nm,19.7s							
ASAR	**Alice Springs**	**132.80**	**138**	PKP	**PKPdf**	**03 40 07.2**	**+2.2**	
ASAR	**Alice Springs**	**132.80**	**138**	PKP	**PKPdf**	**03 40 07.2**	**+2.2**	
	comp=Z,0.4nm,0.8s,baz=215,slow=1.1,SNR=4.0							
CN2	**Changchun**	**132.83**	**40**	*e*PKP	**PKPdf**	**03 40 00.7**	**-3.6**	
KLR	**Kul'dur**	**133.24**	**30**	*e*PKIKP	**PKPdf**	**03 40 03.7**	**-1.1**	
MDJ	**Mudanjiang**	**134.91**	**37**	PKP	**PKPdf**	**03 40 07.3**	**-0.8**	
MDJ				sPKP		03 40 12.0		
MDJ				PP	**PP**	**03 42 41.2**	**-0.9**	
MDJ				LR	LR			
	comp=N,270nm,29.6s							
MDJ				LR	LR			
	comp=E,390nm,26.6s							
MDJ				LR	LR			
	comp=Z,240nm,28.1s							
WRA	**Warramunga Arr**	**135.66**	**135**	PKP	**PKPdf**	**03 40 09.5**	**-0.8**	
WRA	**Warramunga Arr**	**135.66**	**135**	PKP	**PKPdf**	**03 40 09.5**	**-0.8**	
	comp=Z,2.0nm,1.1s,baz=233,slow=2.5,SNR=5.3							
YUK	**Yuzh-Kuril'sk**	**143.57**	**25**	*i* PKIKP	**PKPdf**	**03 40 28.0**	**+4.1**	
YUK				*e*		03 43 43.5		
YUK				*e*		03 47 33.5		
YUK				SS	SS	04 02 14.1	-2.2	
MJAR	**Matsushiro Arr**	**144.97**	**41**	PKP	PKPbc	03 40 25.8	-0.1	
MJAR	**Matsushiro Arr**	**144.97**	**41**	PKP	PKPbc	03 40 25.8	-0.1	
	comp=Z,6.9nm,1.1s,baz=297,slow=3.7,SNR=14							
COEN	**Coen**	**145.84**	**138**	*e*PKPdf	**PKPbc**	**03 40 29.5**	**+0.3**	
AFI	**Afiamalu**	**146.18**	**221**	PKPbc	**PKPab**	**03 40 32.1**	**+1.2**	
DZM	**Mont Dzumac**	**146.28**	**181**	*e*LR	LR	04 28 42.8		
	comp=Z,448nm,27.8s							
DZM	**Mont Dzumac**	**146.28**	**181**	PKPbc	**PKPab**	**03 40 33.5**	**+2.3**	

*CSEM **02** 03:28:50.6±0.1, 42.°85N×1.°45W, h10km, ML2.2/8, Error ellipse: s-maj=2.7km s-min=2.7km az=133.0*
*LDG **02** 03:28:51.0±0.1, 42.°86N×1.°48W, h2km, Md2.5/2, Ml2.3/5, Error ellipse: s-maj=1.8km s-min=1.4km az=95.0*
*MDD **02** 03:28:51.1±0.2, 42.°85N×1.°47W, h4km±3km, mbLg1.9/15, Error ellipse: s-maj=1.1km s-min=1.0km az=61.0, PRXIMO*
MDD EMS: II INTENSIDAD MAXIMA.

ISC 02 03:28:50.6±0.9, 42.°87N±0.°02×1.°46W±0.°02, h12km±6km, n66, σ98/88, 5C-1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUSE	**Utxeti**	**0.10**	**323**	⇑Pg	**Pg**	**03 28 53.3**	**-0.2**
	80nm,0.1s,SNR=18						
IUSE				Lg	Lg	03 28 55.2	
	156nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.10**	**323**	Pg	**Pg**	**03 28 53.3**	**-0.2**
	80nm,0.1s,SNR=18						
IUSE				Lg	Lg	03 28 55.2	
	156nm,0.1s,SNR=7.9						
IUNC	**Uncitti**	**0.11**	**193**	⇑Pg	**Pg**	**03 28 53.1**	**-0.5**
	54nm,0.0s,SNR=18						
IUNC				Lg	Lg	03 28 55.0	
	152nm,0.1s,SNR=7.9						
IUNC	**Uncitti**	**0.11**	**193**	Pg	**Pg**	**03 28 53.1**	**-0.5**
	54nm,0.0s,SNR=18						
IUNC				Lg	Lg	03 28 55.0	
	152nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.13**	**223**	⇑Pg	**Pg**	**03 28 53.3**	**-0.5**
	19nm,0.0s,SNR=18						
EARA				Lg	Lg	03 28 55.2	
	421nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.13**	**223**	Pg	**Pg**	**03 28 53.3**	**-0.5**
	19nm,0.0s,SNR=18						
EARA				Lg	Lg	03 28 55.2	
	421nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.17**	**97**	⇓Pg	**Pg**	**03 28 54.2**	**-0.2**
	23nm,0.1s,SNR=18						
IELO				Lg	Lg	03 28 57.7	
	285nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**0.17**	**97**	Pg	**Pg**	**03 28 54.2**	**-0.2**
	23nm,0.1s,SNR=18						
IELO				Lg	Lg	03 28 57.7	
	285nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**0.17**	**120**	⇑Pg	**Pg**	**03 28 54.1**	**-0.4**
	42nm,0.2s,SNR=18						
IEPA				Lg	Lg	03 28 57.1	
	112nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.17**	**120**	Pg	**Pg**	**03 28 54.1**	**-0.3**
	42nm,0.2s,SNR=18						
IEPA				Lg	Lg	03 28 57.1	
	112nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.30**	**351**	⇑Pg	**Pg**	**03 28 57.0**	**+0.2**
	10nm,0.1s,SNR=18						
ELIZ				Lg	Lg	03 29 01.7	
	15nm,0.1s,SNR=18						
ELIZ	**Elizondo**	**0.30**	**351**	Pg	**Pg**	**03 28 57.0**	**+0.2**
	10nm,0.1s,SNR=18						
ELIZ				Lg	Lg	03 29 01.7	
	15nm,0.1s,SNR=18						
SJPF	**Ste Jean**	**0.30**	**35**	*e*Pg	**Pg**	**03 28 56.9**	**+0.1**
SJPF				*e*Sg	**Sg**	**03 29 01.5**	**+0.6**
	54nm,0.2s						
SJPF	**Ste Jean**	**0.30**	**35**	Pg	**Pg**	**03 28 56.9**	**+0.1**
SJPF				*e*Sg	**Sg**	**03 29 01.5**	**+0.6**
	27nm,0.2s						
EALK	**Alkurruntz**	**0.36**	**355**	Pg	**Pg**	**03 28 58.1**	**+0.4**
	3.2nm,0.1s,SNR=24						
EALK				Lg	Lg	03 29 03.2	
	22nm,0.1s						
EALK	**Alkurruntz**	**0.36**	**355**	Pg	**Pg**	**03 28 58.1**	**+0.4**
	3.2nm,0.1s,SNR=24						
EALK				Lg	Lg	03 29 03.2	
	22nm,0.1s						
LARF	**Larrau**	**0.39**	**64**	Pg	**Pg**	**03 28 58.7**	**+0.3**
LARF				Sg	**Sg**	**03 29 04.5**	**+0.9**
OSSF	**Osses**	**0.42**	**21**	Pg	**Pg**	**03 28 58.9**	**0.0**
OSSF				Sg	**Sg**	**03 29 04.8**	**+0.4**
ORDF	**Ordiarp**	**0.52**	**48**	Pg	**Pg**	**03 29 01.2**	**+0.4**
ORDF				Sg	**Sg**	**03 29 08.2**	**+0.5**
ATE	**Arette**	**0.60**	**68**	Pg	**Pg**	**03 29 02.5**	**+0.2**
ATE				Sg	**Sg**	**03 29 10.8**	**+0.5**
FDAF	**Les Forges d'A**	**0.66**	**94**	Pg	**Pg**	**03 29 03.4**	**0.0**
FDAF				Lg	Lg	03 29 13.2	
ETSF	**Etsaut**	**0.67**	**87**	*e*Pg	**Pg**	**03 29 03.4**	**-0.1**
ETSF				*e*Sg	**Sg**	**03 29 12.3**	**0.0**
	15nm,0.3s						
ETSF	**Etsaut**	**0.67**	**87**	Pg	**Pg**	**03 29 03.4**	**-0.1**
ETSF				*e*Sg	**Sg**	**03 29 12.3**	**0.0**
	7.7nm,0.3s						
ETSF				Lg	Lg	03 29 12.3	
	7.6nm,0.3s						
REYF	**Montagne du Re**	**0.81**	**75**	Pg	**Pg**	**03 29 06.4**	**+0.1**
REYF				Lg	Lg	03 29 16.2	
VIEF	**Viey**	**1.09**	**89**	Lg	Lg	03 29 27.6	
LABF	**Labassere**	**1.14**	**80**	Pg	**Pb**	**03 29 12.2**	**-0.1**
LABF				Lg	Lg	03 29 27.6	
EBIE	**Bielsa**	**1.20**	**98**	Pg	**Pn**	**03 29 13.1**	**-0.3**
	0.1nm,0.1s,SNR=62						
EBIE				Lg	Lg	03 29 30.4	
	1.3nm,0.1s,SNR=4.8						
EBIE	**Bielsa**	**1.20**	**98**	Pg	**Pn**	**03 29 13.1**	**-0.3**
	0.1nm,0.1s,SNR=62						
EBIE				Lg	Lg	03 29 30.4	
	1.3nm,0.1s,SNR=4.8						
RESF	**Ens**	**1.33**	**92**	Pg	**Pg**	**03 29 17.0**	**+0.9**
RESF				Lg	Lg	03 29 34.0	
RESF				Sg	**Sg**	**03 29 37.0**	**+3.7**
EPF	**Esparros**	**1.33**	**82**	*e*Pn	**Pb**	**03 29 15.5**	**-0.1**
EPF	**Esparros**	**1.33**	**82**	*e*Pg	**Pg**	**03 29 16.6**	**+0.4**
EPF	**Esparros**	**1.33**	**82**	*e*P	**Pg**	**03 29 17.7**	**+1.5**
EPF				*e*Sg	**Sg**	**03 29 33.7**	**+0.1**
	7.5nm,0.2s						
EPF	**Esparros**	**1.33**	**82**	Pn	**Pb**	**03 29 15.5**	**-0.1**
EPF	**Esparros**	**1.33**	**82**	Pg	**Pg**	**03 29 16.6**	**+0.4**
EPF	**Esparros**	**1.33**	**82**	*e*P	**Pg**	**03 29 17.7**	**+1.5**
EPF				*e*Sg	**Sg**	**03 29 33.7**	**+0.1**
	3.8nm,0.2s						
ESAC	**San Caprasio**	**1.36**	**147**	Pg	**Pg**	**03 29 17.0**	**+0.3**
	10nm,0.1s,SNR=14						
ESAC				Lg	Lg	03 29 34.4	
	5.8nm,0.1s,SNR=10.0						
ESAC	**San Caprasio**	**1.36**	**147**	Pg	**Pg**	**03 29 17.0**	**+0.3**
	10nm,0.1s,SNR=14						
ESAC				Lg	Lg	03 29 34.4	
	5.8nm,0.1s,SNR=10.0						
CSOR	**Sort**	**1.98**	**103**	Pg	**Pb**	**03 29 27.2**	**+0.6**
	0.0nm,0.1s,SNR=13						
CSOR				Lg	Lg	03 29 55.1	
	0.5nm,0.1s,SNR=5.0						
CSOR	**Sort**	**1.98**	**103**	Pg	**Pb**	**03 29 27.2**	**+0.6**
	SNR=13						
CSOR				Lg	Lg	03 29 55.1	
	0.5nm,0.1s,SNR=5.0						
ETOR	**Torete**	**2.09**	**192**	Pn	**Pn**	**03 29 26.7**	**+1.2**
	0.3nm,0.0s,SNR=7.9						
ETOR				Lg	Lg	03 29 56.7	
	3.2nm,0.1s,SNR=7.9						
ETOR	**Torete**	**2.09**	**192**	Pn	**Pn**	**03 29 26.7**	**+1.2**
	0.3nm,0.0s,SNR=7.9						
ETOR				Lg	Lg	03 29 56.7	
	3.2nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.33**	**144**	Pg	**Pb**	**03 29 31.7**	**-0.9**
	0.1nm,0.1s,SNR=7.9						
ERTA				Lg	Lg	03 30 05.9	
	0.9nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.33**	**144**	Lg	Lg	03 30 05.9	
	0.9nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.41**	**112**	Pn	**Pn**	**03 29 29.2**	**-0.7**
	0.1nm,0.1s,SNR=7.9						
EMIR				Pg	**Pb**	**03 29 35.5**	**+1.6**
	0.1nm,0.0s,SNR=7.9						
EMIR				Lg	Lg	03 30 07.6	
	0.3nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**2.41**	**112**	Pn	**Pn**	**03 29 29.2**	**-0.7**
	0.1nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**2.41**	**112**	Pg	**Pb**	**03 29 35.5**	**+1.6**
	0.1nm,0.0s,SNR=7.9						
EMIR				Lg	Lg	03 30 07.6	
	0.3nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.42**	**128**	Pn	**Pn**	**03 29 30.1**	**0.0**
	0.0nm,0.0s,SNR=7.9						
EPOB				Pg	**Pb**	**03 29 34.2**	**+0.1**
	0.4nm,0.1s,SNR=7.9						
EPOB				Sn	**Sn**	**03 29 59.2**	**-0.5**
	0.1nm,0.1s,SNR=7.9						
EPOB				Lg	Lg	03 30 07.3	
	0.8nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.42**	**128**	Pn	**Pn**	**03 29 30.1**	**0.0**
	SNR=7.9						
EPOB				Sn	**Sn**	**03 29 59.2**	**-0.5**
	0.1nm,0.1s,SNR=7.9						
EPOB				Lg	Lg	03 30 07.3	
	0.8nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**2.56**	**97**	Pn	**Pn**	**03 29 31.9**	**-0.2**
	0.1nm,0.1s,SNR=7.9						
CLLI				Pg	**Pg**	**03 29 38.6**	**-1.1**
	0.7nm,0.3s,SNR=7.9						
CLLI				Lg	Lg	03 30 13.0	
	0.1nm,0.1s,SNR=6.9						
CLLI	**Llivia**	**2.56**	**97**	Pn	**Pn**	**03 29 31.9**	**-0.2**
	0.1nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**2.56**	**97**	Pg	**Pg**	**03 29 38.6**	**-1.1**
	0.7nm,0.3s,SNR=7.9						
CLLI				Lg	Lg	03 30 13.0	
	0.1nm,0.1s,SNR=6.9						
EMOS	**Mosqueruela**	**2.61**	**163**	Pn	**Pn**	**03 29 32.9**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
EMOS				Lg	Lg	03 30 14.5	
	0.1nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.61**	**163**	Pn	**Pn**	**03 29 32.9**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
EMOS				Lg	Lg	03 30 14.5	
	0.1nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**2.62**	**37**	*e*Pg	**Pg**	**03 29 39.8**	**-0.9**
LFF				*e*Sg	**Sg**	**03 30 13.1**	**-1.5**
	4.9nm,0.4s						
LFF	**La Frestale**	**2.62**	**37**	Pg	**Pg**	**03 29 39.8**	**-0.9**
LFF				*e*Sg	**Sg**	**03 30 13.1**	**-1.5**
	2.5nm,0.4s						
LFF				Lg	Lg	03 30 13.1	
	2.4nm,0.4s						
MTLF	**Montolieu**	**2.74**	**79**	*e*Sn	**Sn**	**03 30 06.7**	**-0.7**
	1.9nm,0.3s						
MTLF	**Montolieu**	**2.74**	**79**	Sn	**Sn**	**03 30 06.7**	**-0.7**
	0.4nm,0.3s						
EARI	**Arriondas**	**2.78**	**280**	Pn	**Pn**	**03 29 35.7**	**+0.7**
	0.0nm,0.0s,SNR=4.0						
EARI				Sn	**Sn**	**03 30 07.7**	**-0.7**
	0.0nm,0.1s,SNR=4.0						
EARI	**Arriondas**	**2.78**	**280**	Pn	**Pn**	**03 29 35.7**	**+0.7**
	SNR=4.0						
EARI				Sn	**Sn**	**03 30 07.7**	**-0.7**
	SNR=4.0						
CFON	**Fontmartina**	**3.10**	**110**	Pn	**Pn**	**03 29 40.1**	**+0.8**
	0.1nm,0.1s,SNR=5.6						
CFON				Pg	**Pb**	**03 29 47.6**	**+2.0**
	0.2nm,0.1s,SNR=8.7						
CFON				Sn	**Sn**	**03 30 13.0**	**-3.3**
	0.1nm,0.0s,SNR=7.9						
CFON				Lg	Lg	03 30 28.9	
	0.1nm,0.0s,SNR=5.0						
CFON	**Fontmartina**	**3.10**	**110**	Pn	**Pn**	**03 29 40.1**	**+0.8**
	0.1nm,0.1s,SNR=5.6						
CFON	**Fontmartina**	**3.10**	**110**	Pg	**Pb**	**03 29 47.6**	**+2.0**
	0.2nm,0.1s,SNR=8.7						
CFON				Lg	Lg	03 30 28.9	
	0.1nm,0.0s,SNR=5.0						
RJF	**Les Rejaudoux**	**3.25**	**40**	*e*Sn	**Sn**	**03 30 18.2**	**-1.8**
	2.9nm,0.2s						
RJF	**Les Rejaudoux**	**3.25**	**40**	Sn	**Sn**	**03 30 18.2**	**-1.8**
	0.8nm,0.2s						
CAF	**Calviac**	**3.28**	**50**	*e*Pn	**Pn**	**03 29 43.0**	**+1.2**
CAF				*e*Sn	**Sn**	**03 30 19.1**	**-1.7**
	1.9nm,0.2s						
CAF	**Calviac**	**3.28**	**50**	Pn	**Pn**	**03 29 43.0**	**+1.2**
CAF				Sn	**Sn**	**03 30 19.1**	**-1.7**
	0.4nm,0.2s						

*CSEM **02** 03:29:49.4, 42.°85N×1.°47W, h0km, ML0.7, After MDD*

MDD 02 03:29:49.4±0.3, 42.°85N×1.°47W, h0km, mbLg0.7/5, Error ellipse: s-maj=2.9km s-min=2.6km az=11.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUNC	**Uncitti**	**0.10**	**192**	Pg	Pg	03 29 51.0	-0.4
	1.2nm,0.0s,SNR=7.9						
IUNC				Lg	Lg	03 29 53.1	
	2.8nm,0.1s,SNR=7.9						
IUNC	**Uncitti**	**0.10**	**192**	Pg	Pg	03 29 51.0	-0.4
	1.2nm,0.0s,SNR=7.9						
IUNC				Lg	Lg	03 29 53.1	
	2.8nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**329**	Pg	Pg	03 29 51.2	-0.4
	0.7nm,0.0s,SNR=7.9						
IUSE				Lg	Lg	03 29 53.4	
	1.2nm,0.0s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**329**	Pg	Pg	03 29 51.2	-0.4
	0.7nm,0.0s,SNR=7.9						
IUSE				Lg	Lg	03 29 53.4	
	1.2nm,0.0s,SNR=7.9						
EARA	**Aranguren**	**0.11**	**225**	Pg	Pg	03 29 51.2	-0.4
	0.8nm,0.1s,SNR=7.9						
EARA				Lg	Lg	03 29 53.3	
	4.9nm,0.0s,SNR=7.9						
EARA	**Aranguren**	**0.11**	**225**	Pg	Pg	03 29 51.2	-0.4
	0.8nm,0.1s,SNR=7.9						
EARA				Lg	Lg	03 29 53.3	
	4.9nm,0.0s,SNR=7.9						
IEPA	**Eparoz**	**0.17**	**116**	Pg	Pg	03 29 52.1	-0.6
	0.1nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	03 29 54.9	
	1.2nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.17**	**116**	Pg	Pg	03 29 52.1	-0.6
	0.1nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	03 29 54.9	
	1.2nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.17**	**93**	Pg	Pg	03 29 52.2	-0.6
	1.0nm,0.1s,SNR=7.9						
IELO				Lg	Lg	03 29 55.7	
	3.2nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**0.17**	**93**	Pg	Pg	03 29 52.2	-0.6
	1.0nm,0.1s,SNR=7.9						
IELO				Lg	Lg	03 29 55.7	
	3.2nm,0.2s,SNR=7.9						

IDC 02 03:31:21.1±0.6, 31.°68S×58.°16E, h0km, mb4.2/14, mb1 4.3/15, mb1mx4.1/31, mbtmp4.2/15, ML3.8/1, Error ellipse: s-maj=19.4km s-min=16.1km az=62.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.39**	**320**	Pn	P	03 35 14.6	-1.2
	0.3nm,0.3s,baz=143,slow=13,SNR=3.1						
MAW	**Mawson**	**36.07**	**177**	P	P	03 38 24.0	0.0
	2.1nm,0.9s,baz=1.6,slow=7.4,SNR=3.8						
TSUM	**Tsumeb**	**38.48**	**279**	P	P	03 38 45.6	+0.3
	1.3nm,0.8s,baz=109,slow=6.0,SNR=4.5						
SNAA	**Sanae**	**51.21**	**201**	P	P	03 40 25.5	-0.4
	0.7nm,0.9s,baz=97,slow=8.1,SNR=8.0						
QSPA	**South Pole Qui**	**58.49**	**180**	P	P	03 41 19.2	+0.3
	8.9nm,0.8s,baz=268,slow=2.2,SNR=48						
FITZ	**Fitzroy Crossi**	**61.84**	**95**	P	P	03 41 42.2	-0.1
	2.1nm,0.8s,baz=216,slow=6.9,SNR=4.1						
VNDA	**Vanda**	**62.21**	**166**	P	P	03 41 44.1	+0.1
	1.5nm,0.9s,baz=249,slow=8.3,SNR=7.0						
CMAR	**Chiang Mai Arr**	**63.36**	**44**	P	P	03 41 52.9	+0.5
	1.9nm,0.6s,baz=229,slow=6.4,SNR=7.6						
ASAR	**Alice Springs**	**66.35**	**104**	P	P	03 42 11.9	-0.1
	6.1nm,0.7s,baz=241,slow=6.1,SNR=60						
WRA	**Warramunga Arr**	**68.36**	**101**	P	P	03 42 24.7	0.0
	7.2nm,0.7s,baz=243,slow=5.4,SNR=43						
STKA	**Stephens Creek**	**69.05**	**115**	P	P	03 42 29.2	+0.3
	5.4nm,0.8s,baz=271,slow=6.6,SNR=5.9						
TORD	**Torodi Ar. Bea**	**70.08**	**300**	P	P	03 42 35.3	0.0
	0.8nm,0.9s,baz=137,slow=5.7,SNR=3.6						
BRTR	**Keskin Array B**	**74.60**	**341**	P	P	03 43 01.7	-0.3
	1.1nm,0.9s,baz=160,slow=6.1,SNR=7.2						
MKAR	**Makanchi Array**	**81.09**	**17**	P	P	03 43 37.9	0.0
	0.6nm,0.8s,baz=219,slow=5.6,SNR=6.7						
BVAR	**Borovoye Array**	**85.02**	**7**	P	P	03 43 58.2	+0.2
	3.0nm,0.8s,baz=180,slow=5.8,SNR=15						
YKA	**Yellowknife Ar**	**148.82**	**354**	PKPbc	PKPbc	03 51 09.3	-0.5
	1.7nm,0.7s,baz=4.1,slow=2.8,SNR=11						
ULM	**Lac du Bonnet**	**153.22**	**321**	PKPbc	PKPbc	03 51 18.5	-2.0
	3.3nm,0.7s,baz=32,slow=2.9,SNR=3.1						

IDC 02 03:31:25.5±2.6, 4.°48S×131.°03E, h0km, mb3.3/1, mb1 3.5/4, mb1mx3.4/20, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=99.9km s-min=29.5km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.53**	**201**	Pn	Pn	03 34 52.5	0.0
	0.1nm,0.3s,baz=23,slow=9.6,SNR=12						
WRA	**Warramunga Arr**	**15.70**	**168**	Pn	Pn	03 35 08.6	+0.3
	0.1nm,0.3s,baz=348,slow=13,SNR=4.8						
WRA				Sn	Sn	03 38 03.4	+0.3
	0.1nm,0.3s,baz=355,slow=23,SNR=4.1						
ASAR	**Alice Springs**	**19.27**	**172**	Pn	Pn	03 35 52.8	-0.1
	0.3nm,0.3s,baz=353,slow=10.0,SNR=11						
MKAR	**Makanchi Array**	**66.72**	**326**	P	P	03 42 18.5	0.0
	0.2nm,0.6s,baz=135,slow=7.9,SNR=2.5						

*NIED **02** 03:50:00, 37.°90N×141.°90E, h41km, Mw4.3 Best double couple: M0 3.25000×10^15 NP1:φ,δ 20.00000°, δ 73.00000°, λ 95.00000°. NP2:φ,δ 183.00000°, δ 18.00000°, λ 73.00000°.*
*MOS **02** 03:50:16.3±0.9, 37.°89N×142.°06E, h33km, mb4.5/24, Error ellipse: s-maj=9.9km s-min=7.7km az=101.8*
*ISCJB **02** 03:50:17.7±0.7, 37.°87N±0.°03×142.°00E±0.°06, h42km±5km, mb4.4/40, MS3.6/1, Error ellipse: s-maj=8.2km s-min=4.3km az=29.2*
*JMA **02** 03:50:19.0±0.1, 37.°87N×141.°88E, h41km±1km, M4.3*
JMA Felt II J1.
*NEIC **02** 03:50:20.4±0.8, 37.°90N×141.°95E, h52km±6km, mb4.9/4, MW4.3(NIED), Error ellipse: s-maj=9.4km s-min=5.7km az=126.0*
NEIC Recorded [2 JMA] in Iwate and Miyagi and [1 JMA] in Fukushima.
*IDC **02** 03:50:21.6±2.0, 37.°93N×141.°98E, h62km±16km, mb3.9/18, mb1 4.1/23, mb1mx4.0/30, mbtmp3.9/23, MS3.5/5, Ms1 3.5/5, ms1mx3.1/43, Error ellipse: s-maj=16.8km s-min=10.4km az=119.0*

ISC 02 03:50:19.5±1.2, 37.°88N±0.°05×141.°96E±0.°06, h43km±9km, n121, σ1$09/141, mb4.4/40, 4C-14D, Near east coast of eastern Honshu

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

YUK	**Yuzh-Kuril'sk**	**6.82**	**24**	*e*P		**Pn**	**03 51 55.4**	**-1.4**
YUK				*e*S		**Sn**	**03 53 08.4**	**-4.7**
YUK				pmax	pmax			
	comp=Z,33nm,0.7s							
YUK				pmax	pmax			
	comp=N,59nm,0.6s							
YUK				pmax	pmax			
	comp=Z,99nm,0.6s							
YUK				smax	smax			
	comp=E,265nm,0.5s							
YUK				smax	smax			
	comp=N,190nm,0.5s							
YUK				pmax	pmax			
	comp=N,539nm,2.0s							
YUK				pmax	pmax			
	comp=E,674nm,2.0s							
USRK	**Ussuriysk Arra**	**9.82**	**313**	P		**Pn**	**03 52 38.1**	**+0.2**
	comp=E,1.7nm,0.3s,baz=121,slow=14,SNR=19							
USRK				LR		LR	03 56 13.4	
	comp=E,269nm,19.3s,baz=77,slow=36							
JNU	**Nakatsue**	**10.21**	**246**	P		**Pn**	**03 52 45.0**	**+1.6**
JNU	**Nakatsue**	**10.21**	**246**	P		**Pn**	**03 52 45.0**	**+1.6**
	comp=E,0.4nm,0.3s,baz=59,slow=8.1,SNR=6.1							
JNU				LR		LR	03 57 00.8	
	comp=E,245nm,20.2s,baz=223,slow=39							
KSRS	**Korea Array**	**11.14**	**272**	P		**Pn**	**03 52 58.9**	**+2.9**
	comp=E,0.8nm,0.3s,baz=85,slow=14,SNR=21							
KSRS				LR		LR	03 57 01.8	
	comp=E,136nm,18.4s,baz=165,slow=36							
KSAR	**Wonju Array Be**	**11.17**	**272**	P		**Pn**	**03 52 58.9**	**+2.4**
KLR	**Kul'dur**	**13.53**	**330**	*e*P		P	03 53 32.8	-4.1
TPUB	**Ta-pu**	**23.34**	**238**	P		**P**	**03 55 24.6**	**+0.6**
SONM	**Songino Array**	**27.69**	**302**	P		**P**	**03 56 03.7**	**+0.2**
SONM	**Songino Array**	**27.69**	**302**	P		**P**	**03 56 03.7**	**+0.2**
	comp=E,6.6nm,0.7s,baz=104,slow=8.6,SNR=42							
SONM				LR		LR	04 07 42.5	
	comp=E,152nm,18.2s,baz=79,slow=38							
ENH	**Enshi**	**27.85**	**264**	*e*P		**P**	**03 56 02.9**	**-2.1**
	comp=E,28nm,0.8s							
ZAK	**Zakamensk**	**30.10**	**307**	*e*P		**P**	**03 56 24.1**	**-0.8**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
BILL	**Bilibino**	**33.09**	**16**	*i*P		**P**	**03 56 51.0**	**+0.2**
BILL				*e*S		**S**	**04 02 08.4**	**+1.8**
BILL				*e*SS		**SnSn**	**04 04 05.8**	**-2.0**
BILL				pmax	pmax			
	comp=Z,23nm,1.3s							
ZAA0	**Zalesovo Array**	**41.67**	**312**	P		**P**	**03 58 02.8**	**-0.8**
ZALV	**Zalesovo Beam**	**41.67**	**312**	*i*P		**P**	**03 58 03.5**	**-0.1**
ZALV				pmax	pmax			
	comp=Z,6.0nm,0.4s							
ZALV	**Zalesovo Beam**	**41.67**	**312**	P		**P**	**03 58 03.1**	**-0.5**
ZALV	**Zalesovo Beam**	**41.67**	**312**	P		**P**	**03 58 03.1**	**-0.5**
	comp=Z,5.9nm,0.4s,baz=89,slow=7.8,SNR=21							
CMAR	**Chiang Mai Arr**	**42.14**	**255**	P		**P**	**03 58 07.8**	**0.0**
CMAR	**Chiang Mai Arr**	**42.14**	**255**	P		**P**	**03 58 07.8**	**0.0**
	comp=Z,1.5nm,0.6s,baz=48,slow=6.9,SNR=6.1							
NVS	**Novosibirsk**	**42.58**	**313**	*i*P		**P**	**03 58 10.5**	**-0.4**
MK31	**Makanchi Array**	**44.04**	**301**	*e*P		**P**	**03 58 22.7**	**-0.2**
MK31	**Makanchi Array**	**44.04**	**301**	*e*P		**P**	**03 58 22.7**	**-0.2**
MKAR	**Makanchi Array**	**44.04**	**301**	*ce*P		**P**	**03 58 22.7**	**-0.3**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
MKAR	**Makanchi Array**	**44.04**	**301**	P		**P**	**03 58 22.5**	**-0.4**
MKAR	**Makanchi Array**	**44.04**	**301**	P		**P**	**03 58 22.5**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=85,slow=9.5,SNR=18							
ODAN	**Odare**	**46.80**	**273**	*e*P		**P**	**03 58 44.3**	**-1.0**
	comp=Z,9.4nm,0.6s							
RAMN	**Ramite**	**47.38**	**274**	*e*P		**P**	**03 58 49.6**	**-0.2**
	comp=Z,30nm,0.9s							
GUN	**Gumba**	**47.51**	**275**	*e*P		**P**	**03 58 50.9**	**0.0**
	comp=Z,28nm,0.6s							
KKN	**Kakani**	**48.04**	**275**	*e*P		**P**	**03 58 54.9**	**0.0**
	comp=Z,21nm,0.7s							
ILAR	**Eielson Array**	**48.55**	**33**	P		**P**	**03 58 58.3**	**+0.3**
ILAR	**Eielson Array**	**48.55**	**33**	P		**P**	**03 58 58.3**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=268,slow=6.5,SNR=15							
DANN	**Dangsing**	**48.98**	**277**	*e*P		**P**	**03 59 02.2**	**0.0**
	comp=Z,58nm,0.8s							
KOLN	**Koldanda**	**49.37**	**276**	*e*P		**P**	**03 59 04.2**	**-0.9**
	comp=Z,4.4nm,0.3s							
TKM2	**Tokmak 2**	**49.62**	**298**	*e*P		**P**	**03 59 07.3**	**+0.5**
TKM2				pmax	pmax			
	comp=Z,8.0nm,0.5s							
TKM2	**Tokmak 2**	**49.62**	**298**	*e*P		**P**	**03 59 07.3**	**+0.5**
	comp=Z,8.0nm,0.5s							
PYUN	**Piuthan**	**49.70**	**277**	*e*P		**P**	**03 59 07.4**	**-0.2**
	comp=Z,61nm,1.0s							
BVAR	**Borovoye Array**	**50.33**	**312**	P		**P**	**03 59 11.4**	**-0.4**
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
BVAR	**Borovoye Array**	**50.33**	**312**	P		**P**	**03 59 11.4**	**-0.4**
BVAR	**Borovoye Array**	**50.33**	**312**	P		**P**	**03 59 11.4**	**-0.4**
	comp=Z,2.1nm,0.5s,baz=76,slow=6.8,SNR=11							
BRVK	**Borovoye**	**50.38**	**312**	*ce*P		**P**	**03 59 11.8**	**-0.4**
BRVK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
AAK	**Ala-Archa**	**50.48**	**298**	*ce*P		**P**	**03 59 13.4**	**+0.2**
AAK				pmax	pmax			
	comp=Z,9.0nm,0.8s							
ARU	**Arti**	**56.02**	**318**	*c i*P		**P**	**03 59 53.3**	**-0.2**
ARU				S		**S**	**04 07 39.3**	**+0.7**
ARU				pmax	pmax			
	comp=Z,15nm,0.7s							
KBL	**Kabul**	**57.52**	**291**	*e*P		**P**	**04 00 04.5**	**-0.3**
KBL	**Kabul**	**57.52**	**291**	*e*P		**P**	**04 00 04.5**	**-0.3**
ABKAR	**Akbulak array**	**57.73**	**310**	*e*P		**P**	**04 00 05.2**	**-0.6**
	comp=Z,5.5nm,0.6s							
WRAB	**Tennant Creek**	**57.95**	**188**	*e*P		**P**	**04 00 07.3**	**-0.2**
WRAB				pmax	pmax			
	comp=Z,4.0nm,0.7s							
WRAB	**Tennant Creek**	**57.95**	**188**	*e*P		**P**	**04 00 07.3**	**-0.2**
	comp=Z,3.6nm,0.7s							
WRA	**Warramunga Arr**	**57.96**	**188**	P		**P**	**04 00 06.8**	**-0.8**
WRA	**Warramunga Arr**	**57.96**	**188**	P		**P**	**04 00 06.8**	**-0.8**
	comp=Z,2.9nm,0.6s,baz=5.7,slow=7.2,SNR=37							
ASAR	**Alice Springs**	**61.69**	**188**	P		**P**	**04 00 33.1**	**0.0**
ASAR	**Alice Springs**	**61.69**	**188**	P		**P**	**04 00 33.1**	**0.0**
	comp=Z,1.0nm,0.7s,baz=11,slow=6.8,SNR=9.8							
YKA	**Yellowknife Ar**	**62.86**	**30**	P		**P**	**04 00 41.0**	**+0.4**
YKA	**Yellowknife Ar**	**62.86**	**30**	P		**P**	**04 00 41.0**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=306,slow=7.4,SNR=3.6							
ARCES	**ARCESS Array B**	**63.36**	**339**	P		**P**	**04 00 44.2**	**+0.4**
ARCES	**ARCESS Array B**	**63.36**	**339**	P		**P**	**04 00 44.2**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=54,slow=8.2,SNR=8.0							
JOF	**Joensuu**	**65.42**	**332**	*ep*		**P**	**04 00 57.4**	**0.0**
	comp=Z,1.0nm,0.5s							
JOF	**Joensuu**	**65.42**	**332**	*e*P		**P**	**04 00 57.4**	**0.0**
JOF				pmax	pmax			
	comp=Z,1.0nm,0.5s							
OBN	**Obninsk**	**67.68**	**323**	*i*P		**P**	**04 01 11.8**	**-0.1**
OBN				*e**PP		PcP	04 01 32.3	-6.3
OBN				*e*			04 03 43.8	
OBN				*e*S		**S**	**04 10 03.2**	**-2.7**
OBN				pmax	pmax			
	comp=Z,8.0nm,0.6s							
FINES	**FINESS Array B**	**68.27**	**332**	P		**P**	**04 01 15.0**	**-0.5**
FINES	**FINESS Array B**	**68.27**	**332**	P		**P**	**04 01 15.0**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=46,slow=6.0,SNR=8.3							
KIV	**Kislovodsk**	**70.68**	**311**	*e*P		**P**	**04 01 32.0**	**+1.1**
KIV				pmax	pmax			
	comp=Z,12nm,0.9s							
KBZ	**Khabaz**	**70.68**	**311**	P		**P**	**04 01 31.0**	**+0.3**
KBZ				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KBZ	**Khabaz**	**70.68**	**311**	P		**P**	**04 01 31.0**	**+0.3**
KBZ	**Khabaz**	**70.68**	**311**	P		**P**	**04 01 31.0**	**+0.3**
	comp=Z,3.4nm,0.8s,baz=29,slow=2.8,SNR=7.7							
FFC	**Flin Flon**	**72.76**	**33**	*i*P		**P**	**04 01 44.2**	**+1.2**
NB2	**NORSAR Subarra**	**73.57**	**337**	P		**P**	**04 01 47.6**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=41,slow=6.2							
NOA	**NORSAR Array B**	**73.57**	**337**	P		**P**	**04 01 47.5**	**-0.2**
NOA	**NORSAR Array B**	**73.57**	**337**	P		**P**	**04 01 47.5**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=39,slow=5.8,SNR=11							
AKASG	**Malin Array Be**	**73.89**	**322**	P		**P**	**04 01 49.2**	**-0.6**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.4s							
AKASG	**Malin Array Be**	**73.89**	**322**	P		**P**	**04 01 49.2**	**-0.6**
AKASG	**Malin Array Be**	**73.89**	**322**	P		**P**	**04 01 49.2**	**-0.6**
	comp=Z,1.7nm,0.4s,baz=45,slow=5.9,SNR=9.6							
PDAR	**Pinedale Array**	**76.76**	**46**	P		**P**	**04 02 07.5**	**+0.7**
PDAR	**Pinedale Array**	**76.76**	**46**	P		**P**	**04 02 07.4**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=338,slow=3.9,SNR=8.5							
BUR08	**Bucovina Ar. S**	**77.90**	**322**	*e*P		**P**	**04 02 12.8**	**-0.1**
BRTR	**Keskin Array B**	**78.62**	**312**	P		**P**	**04 02 17.1**	**+0.1**
BRTR	**Keskin Array B**	**78.62**	**312**	P		**P**	**04 02 17.1**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=34,slow=4.6,SNR=5.8							
BRG	**Berggiesshubel**	**80.55**	**330**	*e*P		**P**	**04 02 26.9**	**-0.2**
	comp=Z,3.3nm,0.7s							
BRG	**Berggiesshubel**	**80.55**	**330**	*e*P		**P**	**04 02 26.9**	**-0.1**
BRG				pmax	pmax			
	comp=Z,3.0nm,0.7s							
CLL	**Collm**	**80.58**	**330**	*e*P		**P**	**04 02 27.0**	**-0.2**
CLL				*e*			04 02 40.0	
CLL				pmax	pmax			
	comp=Z,4.0nm,0.9s							
CLL	**Collm**	**80.58**	**330**	*e*P		**P**	**04 02 27.0**	**-0.2**
	comp=Z,4.0nm,0.9s							
GERES	**GERESS Array B**	**82.22**	**328**	P		**P**	**04 02 35.7**	**-0.4**
GERES	**GERESS Array B**	**82.22**	**328**	P		**P**	**04 02 35.7**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=40,slow=5.7,SNR=10							
BAIF	**Baives**	**84.84**	**334**	*e*P		**P**	**04 02 49.4**	**+0.1**
CDF	**Champ du Feu**	**85.11**	**332**	*e*P		**P**	**04 02 50.9**	**0.0**
	comp=Z,7.1nm,0.8s							
PAGF	**Fort de Pagny**	**85.57**	**333**	*e*P		**P**	**04 02 53.3**	**+0.3**
	comp=Z,2.7nm,0.6s							
HAU	**Haudompre**	**85.79**	**332**	*e*P		**P**	**04 02 53.9**	**-0.3**
	comp=Z,7.2nm,0.7s							
LOR	**Lormes**	**87.33**	**333**	*e*P		**P**	**04 03 01.7**	**0.0**
	comp=Z,8.6nm,0.9s							
FLN	**La Foliniere**	**87.51**	**336**	*e*P		**P**	**04 03 02.4**	**-0.1**
LDF	**La Druitiere**	**87.55**	**336**	*e*P		**P**	**04 03 03.1**	**+0.4**
LPL	**La Plagne**	**87.72**	**330**	*e*P		**P**	**04 03 04.3**	**+0.4**
	comp=Z,2.2nm,0.6s							
LPG	**La Plagne**	**87.72**	**330**	*e*P		**P**	**04 03 04.4**	**+0.4**
	comp=Z,3.5nm,0.6s							
AVF	**Avril sur Loir**	**87.92**	**333**	*e*P		**P**	**04 03 04.7**	**+0.2**
	comp=Z,9.9nm,0.8s							
GRR	**Gorron**	**87.96**	**336**	*e*P		**P**	**04 03 04.8**	**+0.1**
TXAR	**Lajitas Array**	**89.26**	**53**	P		**P**	**04 03 11.9**	**+0.6**
TXAR	**Lajitas Array**	**89.26**	**53**	P		**P**	**04 03 11.9**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=305,slow=3.2,SNR=13							
CAF	**Calviac**	**89.98**	**333**	*e*P		**P**	**04 03 14.9**	**+0.6**
	comp=Z,4.9nm,0.9s							
TORD	**Torodi Ar. Bea**	**117.04**	**316**	PKP		**PKPdf**	**04 08 58.8**	**-1.4**
TORD	**Torodi Ar. Bea**	**117.04**	**316**	PKP		**PKPdf**	**04 08 58.8**	**-1.4**
	comp=Z,0.5nm,0.9s,baz=24,slow=2.2,SNR=6.4							
LPAZ	**La Paz**	**145.89**	**59**	PKPbc		**PKPbc**	**04 09 55.3**	**-0.1**
LPAZ	**La Paz**	**145.89**	**59**	PKPbc		**PKPbc**	**04 09 55.3**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=304,slow=0.6,SNR=8.3							

ROM 02 03:59:43.3±0.3, 42.57N×13.20E, h11km±1km, Md1.9/3, Ml1.0/1, Error ellipse: s-maj=4.5km s-min=1.5km az=166.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.12**	**288**	Pg	Pg	03 59 46.6	+0.1
LNSS				Sg	Sg	03 59 49.5	+0.8
	33nm,0.2s						
NRCA	**Norcia**	**0.27**	**347**	Pg	Pg	03 59 49.5	+0.4
NRCA				Sg	Sg	03 59 54.0	+1.1

*IDC **02** 04:09:39.1±1.6, 33.91N×25.32E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/25, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=55.1km s-min=29.2km az=134.0*
*CSEM **02** 04:09:45.0, 34.35N×25.36E, h38km, MD3.2, After ATH*
*ATH **02** 04:09:45.0, 34.35N×25.36E, h38km±8km, MD3.2/6*
ISC 02 04:09:44.0±2.2, 34.3N±0.2×25.42E±0.9, h17km, n16, σ0s26/15, mb3.4/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.88**	**3**	*e*PN	**Pb**	**04 10 00.7**	**-0.1**
LAST	**Lasithi**	**0.88**	**3**	*e*Pn	**Pb**	**04 10 00.7**	**-0.1**
SIVA	**Sivas**	**0.89**	**326**	*e*PN	**Pb**	**04 10 00.9**	**0.0**
SIVA	**Sivas**	**0.89**	**326**	*e*Pn	**Pb**	**04 10 00.9**	**0.0**
NPS	**Neapolis**	**0.99**	**9**	*e*PN	**Pb**	**04 10 02.6**	**-0.1**
NPS	**Neapolis**	**0.99**	**9**	*e*Pn	**Pb**	**04 10 02.6**	**-0.1**
ZKR	**Zakros**	**1.05**	**38**	*e*PN	**Pg**	**04 10 04.6**	**+0.1**
ZKR	**Zakros**	**1.05**	**38**	*e*Pn	**Pg**	**04 10 04.6**	**+0.1**
IDI	**Anoyia**	**1.09**	**337**	*e*PN	**Pn**	**04 10 04.5**	**-0.1**
IDI	**Anoyia**	**1.09**	**337**	*e*Pn	**Pn**	**04 10 04.5**	**-0.1**
VAM	**Vamos**	**1.50**	**318**	*e*PN	**Pn**	**04 10 10.0**	**-0.2**
VAM	**Vamos**	**1.50**	**318**	*e*Pn	**Pn**	**04 10 10.0**	**-0.2**
GERES	**GERESS Array B**	**16.95**	**333**	P	**Pn**	**04 13 40.4**	**0.0**
	0.1nm,0.3s,baz=150,slow=12,SNR=20						
TORD	**Torodi Ar. Bea**	**30.10**	**231**	P	P	04 15 47.7	-5.1
	0.4nm,0.6s,baz=43,slow=9.4,SNR=9.5						
MKAR	**Makanchi Array**	**44.08**	**56**	P	**P**	**04 17 50.6**	**-0.5**
	0.3nm,0.6s,baz=282,slow=7.2,SNR=3.9						
ILAR	**Eielson Array**	**81.08**	**357**	P	**P**	**04 21 58.5**	**+0.6**
	0.5nm,1.1s,baz=351,slow=4.6,SNR=4.0						

IDC 02 04:20:32.1±0.8, 55.37S×27.00W, h0km, mb4.0/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, ML3.0/1, MS3.6/1, Ms1 3.5/1, ms1mx2.9/23, Error ellipse: s-maj=32.9km s-min=18.5km az=68.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.33**	**157**	P	P	04 24 58.3	-0.3
	0.0nm,0.3s,baz=308,slow=11,SNR=11						
QSPA	**South Pole Qui**	**34.89**	**180**	P	P	04 27 25.3	+0.3
	1.4nm,0.6s,baz=202,slow=2.5,SNR=20						
MAW	**Mawson**	**40.64**	**144**	P	P	04 28 12.7	-0.5
	1.6nm,0.6s,baz=231,slow=8.3,SNR=4.7						
BDFB	**Brasilia**	**42.82**	**329**	LR	LR	04 45 22.2	
	comp=Z,73nm,19.1s,baz=85,slow=35						
LVC	**Limon Verde**	**45.05**	**299**	P	P	04 28 49.7	-0.2
	2.8nm,0.5s,baz=135,slow=8.6,SNR=6.7						
VNDA	**Vanda**	**47.27**	**183**	P	P	04 29 06.1	-0.2
	1.1nm,0.7s,baz=184,slow=6.7,SNR=7.2						
LPAZ	**La Paz**	**50.07**	**305**	P	P	04 29 29.1	-0.3
	1.4nm,0.6s,baz=117,slow=9.0,SNR=8.5						
TORD	**Torodi Ar. Bea**	**72.40**	**29**	P	P	04 32 00.0	+0.1
	1.3nm,0.8s,baz=201,slow=6.2,SNR=17						
ILAR	**Eielson Array**	**149.74**	**313**	PKPbc	PKPbc	04 40 21.7	-0.6
	1.5nm,0.7s,baz=125,slow=2.6,SNR=29						
SONM	**Songino Array**	**150.57**	**85**	PKPbc	PKPbc	04 40 24.9	-0.1
	0.4nm,0.7s,baz=216,slow=3.2,SNR=3.9						

*ATH **02** 04:25:44.6, 33.70N×25.27E, h7km, MD3.7/13*
*IDC **02** 04:25:48.5±3.5, 34.08N×25.34E, h0km, mb3.8/6, mb1 3.8/11, mb1mx3.7/30, mbtmp3.7/11, ML4.4/4, Error ellipse: s-maj=69.0km s-min=24.3km az=28.0*
*ISCJB **02** 04:25:49.6±0.8, 34.04N±0.04×25.40E±0.06, h19km±7km, mb3.6/6, Error ellipse: s-maj=8.8km s-min=5.4km az=150.7*
*CSEM **02** 04:25:50.2±0.4, 34.06N×25.25E, h10km, ML3.6/1, Error ellipse: s-maj=11.4km s-min=7.7km az=74.0*
*THE **02** 04:25:53.0, 34.23N×25.23E, h0km±3km, ML3.6/1, Error ellipse: s-maj=5.7km s-min=1.5km az=169.0*
*HLW **02** 04:25:53.6, 33.84N×25.44E, h10km±15km, Md2.9, Ml3.2*
ISC 02 04:25:48.3±1.4, 33.98N±0.03×25.26E±0.04, h1km±10km, n55, σ1s52/69, mb3.6/6, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.10**	**340**	P	**Pg**	**04 26 09.0**	**-0.5**
SIVA				S	**Sg**	**04 26 22.8**	**-0.9**
SIVA	**Sivas**	**1.10**	**340**	*e*PN	**Pg**	**04 26 08.9**	**-0.5**
SIVA	**Sivas**	**1.10**	**340**	*e*Pn	**Pg**	**04 26 08.9**	**-0.5**
LAST	**Lasithi**	**1.19**	**9**	P	**Pg**	**04 26 10.2**	**-1.0**
LAST				S	**Sg**	**04 26 25.4**	**-1.2**
LAST	**Lasithi**	**1.19**	**9**	*e*PN	**Pg**	**04 26 10.8**	**-0.4**
LAST				*e*SB	**Sn**	**04 26 32.4**	**+3.3**
LAST	**Lasithi**	**1.19**	**9**	*e*Pn	**Pg**	**04 26 10.8**	**-0.4**
LAST				*e*Sb	**Sn**	**04 26 32.4**	**+3.3**
GVD	**Gavdhos**	**1.29**	**312**	P	**Pg**	**04 26 14.3**	**+1.2**
GVD				S	**Sb**	**04 26 30.5**	**-0.1**
GVD	**Gavdhos**	**1.29**	**312**	*e*PB	**Pg**	**04 26 14.3**	**+1.2**
GVD	**Gavdhos**	**1.29**	**312**	P	**Pg**	**04 26 14.3**	**+1.2**
GVD				S	**Sb**	**04 26 30.5**	**-0.1**
NPS	**Neapolis**	**1.31**	**13**	*e*PG	**Pg**	**04 26 14.9**	**+1.4**
NPS	**Neapolis**	**1.31**	**13**	*e*Pg	**Pg**	**04 26 14.9**	**+1.4**
IDI	**Anoyia**	**1.34**	**347**	P	**Pn**	**04 26 13.5**	**-0.8**
IDI				S	**Sb**	**04 26 30.6**	**-1.4**
IDI	**Anoyia**	**1.34**	**347**	*e*PN	**Pn**	**04 26 13.4**	**-0.8**
IDI				*e*SB	**Sn**	**04 26 37.6**	**+4.8**
IDI	**Anoyia**	**1.34**	**347**	P	**Pn**	**04 26 13.5**	**-0.8**
IDI				S	**Sb**	**04 26 30.6**	**-1.4**
IDI				*e*Sb	**Sn**	**04 26 37.6**	**+4.8**
ZKR	**Zakros**	**1.38**	**35**	P	**Pb**	**04 26 15.8**	**+0.9**
ZKR	**Zakros**	**1.38**	**35**	*e*PB	**Pn**	**04 26 15.3**	**+0.6**
ZKR	**Zakros**	**1.38**	**35**	*e*Pb	**Pn**	**04 26 15.3**	**+0.6**
ZKR	**Zakros**	**1.38**	**35**	P	**Pb**	**04 26 15.8**	**+0.9**
VAM	**Vamos**	**1.67**	**329**	P	**Pn**	**04 26 19.4**	**+0.7**
VAM	**Vamos**	**1.67**	**329**	*e*PG	**Pb**	**04 26 20.1**	**+0.2**
VAM	**Vamos**	**1.67**	**329**	P	**Pn**	**04 26 19.4**	**+0.7**
VAM	**Vamos**	**1.67**	**329**	*e*Pg	**Pb**	**04 26 20.1**	**+0.2**
KARP	**Karpathos**	**2.21**	**44**	P	**Pn**	**04 26 27.9**	**+1.7**
KARP	**Karpathos**	**2.21**	**44**	*e*PN	**Pn**	**04 26 27.9**	**+1.7**
KARP	**Karpathos**	**2.21**	**44**	P	**Pn**	**04 26 27.9**	**+1.7**
SANT	**Santorini**	**2.39**	**4**	*e*PB	**Pn**	**04 26 28.9**	**+0.2**
SANT	**Santorini**	**2.39**	**4**	*e*Pb	**Pn**	**04 26 28.9**	**+0.2**
SLUM		**2.48**	**181**	P	**Pn**	**04 26 31.9**	**+2.1**
KYTH	**Kithira**	**2.93**	**322**	P	**Pn**	**04 26 36.8**	**+0.7**
KYTH	**Kithira**	**2.93**	**322**	*e*PB	**Pn**	**04 26 37.6**	**+1.5**
KYTH	**Kithira**	**2.93**	**322**	P	**Pn**	**04 26 36.8**	**+0.7**
KYTH	**Kithira**	**2.93**	**322**	*e*Pb	**Pn**	**04 26 37.6**	**+1.5**
APE	**Apeiranthos**	**3.09**	**4**	*e*PN	**Pn**	**04 26 38.7**	**+0.4**
APE	**Apeiranthos**	**3.09**	**4**	*e*Pn	**Pn**	**04 26 38.7**	**+0.4**
ARG	**Arkhangelos**	**3.24**	**46**	*e*PB	**Pn**	**04 26 41.8**	**+1.5**
ARG	**Arkhangelos**	**3.24**	**46**	*e*Pb	**Pn**	**04 26 41.8**	**+1.5**
HMAT	**Matruh**	**3.27**	**151**	P	**Pn**	**04 26 41.8**	**+1.1**
	baz=152						
HMAT				S	**Sn**	**04 27 18.4**	**-1.8**
	baz=152						
HMAT	**Matruh**	**3.27**	**151**	P	**Pn**	**04 26 41.8**	**+1.1**
HMAT				S	**Sn**	**04 27 18.4**	**-1.8**
VLI	**Veliai**	**3.33**	**326**	*e*PN	**Pn**	**04 26 43.0**	**+1.5**
VLI	**Veliai**	**3.33**	**326**	*e*Pn	**Pn**	**04 26 43.0**	**+1.5**
DID	**Didima**	**3.88**	**336**	P	**Pn**	**04 26 49.0**	**-0.2**
DID				S	**Sn**	**04 27 33.2**	**-2.3**
DID	**Didima**	**3.88**	**336**	P	**Pn**	**04 26 49.0**	**-0.2**
DID				S	**Sn**	**04 27 33.2**	**-2.3**
SWA2		**4.72**	**178**	P	**Pn**	**04 27 02.4**	**+1.7**
	baz=179						
SWA2				AMP		04 28 00.0	
	comp=E,50μm,0.6s,logA/T=4.9,baz=179						
SWA2		**4.72**	**178**	P	**Pn**	**04 27 02.4**	**+1.7**
MMAI	**Mount Meron Ar**	**8.53**	**94**	Pn	**Pn**	**04 27 52.6**	**-0.4**
	comp=E,1.8nm,0.3s,baz=289,slow=14,SNR=2.8						
BRTR	**Keskin Array B**	**8.83**	**47**	Pn	**Pn**	**04 27 56.2**	**-0.9**
	comp=E,0.2nm,0.3s,baz=230,slow=15,SNR=3.7						
VRAC	**Vranov**	**16.61**	**340**	Pn	**Pn**	**04 29 43.2**	**+0.9**
	comp=E,1.6nm,0.3s,baz=150,slow=12,SNR=5.1						
AKASG	**Malin Array Be**	**16.96**	**9**	Pn	**Pn**	**04 29 46.4**	**-0.4**
	comp=E,2.8nm,0.3s,baz=200,slow=11,SNR=13						
GERES	**GERESS Array B**	**17.17**	**333**	Pn	**P**	**04 29 50.9**	**-0.2**
	comp=E,0.2nm,0.3s,baz=142,slow=11,SNR=9.7						
HFS	**Hagfors**	**27.24**	**347**	P	**P**	**04 31 33.0**	**-0.7**
	comp=E,0.3nm,0.4s,baz=148,slow=8.5,SNR=5.6						
NOA	**NORSAR Array B**	**28.56**	**346**	P	**P**	**04 31 44.7**	**-0.8**
	comp=E,0.4nm,0.7s,baz=143,slow=6.6,SNR=2.8						
MKAR	**Makanchi Array**	**44.36**	**56**	P	**P**	**04 33 59.6**	**-0.6**
	comp=E,2.3nm,0.4s,baz=272,slow=7.3,SNR=28						
ZALV	**Zalesovo Beam**	**45.77**	**45**	P	**P**	**04 34 09.6**	**-1.6**
	comp=E,1.3nm,0.3s,baz=271,slow=8.2,SNR=3.5						
SONM	**Songino Array**	**60.17

3.9nm,0.4s,baz=112,slow=21,SNR=4.4
RCBR **Riachuelo** 34.95 64 *e*P P 04 39 07.6 -0.5
4.7nm,0.5s
BCIP **Isla Barro Col** 35.43 338 *e*P P 04 39 13.0 +0.9
18nm,1.9s
TGUH **Tegucigalpa,Un** 42.86 330 *e*P P 04 40 14.0 +0.4
11nm,0.7s
TIGA **Tifton** 57.53 343 ⇑P P 04 42 03.0 -0.6
baz=58
SNAA **Sanae** 59.18 161 *e*P P 04 42 16.4 +1.7
SNAA **Sanae** 59.18 161 *e*PcP PcP 04 43 02.8 +1.7
SNAA **Sanae** 59.18 161 *e*P P 04 42 16.2 +1.5
2.1nm,0.6s
SNAA **Sanae** 59.18 161 P P 04 42 16.1 +1.4
0.8nm,0.6s,baz=300,slow=7.7,SNR=34
KMSC **Kings Mountain** 60.53 346 ⇓P P 04 42 24.3 +0.2
baz=61
732A **Laxson Ranch,** 61.45 327 ⇑P P 04 42 30.3 -0.2
baz=62,SNR=5.4
632A **Uvalde** 61.99 328 ⇓P P 04 42 34.1 0.0
baz=62
631A **Perdido Creek** 62.31 327 ⇑P P 04 42 35.8 -0.4
baz=62
532A **Rocksprings** 62.56 328 ⇑P P 04 42 38.0 0.0
baz=63,SNR=7.4
JCT **Junction City** 62.80 328 *e*P P 04 42 39.4 -0.1
9.7nm,0.8s
JCT **Junction City** 62.80 328 ⇓P P 04 42 39.4 -0.1
baz=63,SNR=6.2
531A **Rocksprings** 62.91 327 ⇑P P 04 42 40.3 +0.1
baz=63,SNR=9.1
WHTX **Lake Whitney** 62.99 331 ⇓P P 04 42 40.1 -0.5
baz=63
432A **Menard** 63.13 328 ⇓P P 04 42 41.3 -0.4
baz=63,SNR=6.9
530A **J-C Ranch, Com** 63.29 327 ⇓P P 04 42 42.8 +0.1
baz=64,SNR=6.3
431A **Sonora** 63.36 328 ⇓P P 04 42 42.9 -0.3
baz=64,SNR=5.0
332A **Millersview** 63.53 329 ⇓P P 04 42 43.9 -0.3
baz=64,SNR=13
628A **Black Gap, Mar** 63.55 325 ⇑P P 04 42 45.0 +0.6
baz=64,SNR=9.6
MIAR **Mount Ida** 63.62 336 *e*P P 04 42 44.6 -0.2
6.4nm,1.1s
529A **Stev Forest Ra** 63.71 326 ⇓P P 04 42 45.7 +0.2
baz=64,SNR=13
430A **Baggett Ranch,** 63.76 327 ⇓P P 04 42 45.5 -0.3
baz=64,SNR=5.9
627A **Terlingua Ranc** 63.78 325 ⇑P P 04 42 46.1 +0.1
baz=64,SNR=6.5
331A **San Angelo** 63.79 328 ⇓P P 04 42 45.5 -0.5
baz=64,SNR=10
TXAR **Lajitas Array** 63.84 324 P P 04 42 46.2 -0.2
TXAR **Lajitas Array** 63.84 324 P P 04 42 46.2 -0.2
1.3nm,0.8s,baz=152,slow=8.2,SNR=17
232A **Coleman** 63.90 329 ⇑P P 04 42 46.4 -0.3
baz=64,SNR=8.4
429A **Davenport Ranc** 63.95 327 ⇓P P 04 42 47.1 0.0
baz=64,SNR=9.3
528A **Cox Ranch, San** 64.03 326 ⇑P P 04 42 47.6 -0.1
baz=64,SNR=6.2
PARMO **Parma** 64.21 340 *e*P P 04 42 48.3 -0.2
330A **Mertzon** 64.23 328 ⇓P P 04 42 48.7 -0.2
baz=64
231A **Bronte** 64.26 329 ⇓P P 04 42 48.6 -0.4
baz=64
626A **Big Bend Ranch** 64.26 324 ⇓P P 04 42 49.6 +0.5
baz=64,SNR=23
527A **Woodward Ranch** 64.45 325 ⇑P P 04 42 50.4 0.0
baz=65,SNR=9.9
ABTX **Abilene, Hawle** 64.51 330 ⇓P P 04 42 50.0 -0.6
baz=65
230A **Sterling City** 64.60 328 ⇓P P 04 42 50.6 -0.7
baz=65
526A **Mary Lane Ranc** 64.63 325 ⇓P P 04 42 52.1 +0.5
baz=65,SNR=16
329A **Wagon Wheel Ra** 64.70 327 ⇑P P 04 42 51.6 -0.3
baz=65,SNR=7.2
131A **Roby** 64.90 329 ⇓P P 04 42 52.9 -0.2
baz=65,SNR=7.1
229A **Bryant Ranch,** 65.00 328 ⇓P P 04 42 53.2 -0.7
baz=65
Z32A **Haskell** 65.01 330 ⇓P P 04 42 53.4 -0.4
baz=65
328A **Wristen Ranch,** 65.03 326 ⇓P P 04 42 54.0 0.0
baz=65,SNR=8.1
426A **McDonald Obser** 65.08 325 ⇑P P 04 42 54.9 +0.3
baz=65,SNR=10
130A **Snyder** 65.11 329 ⇓P P 04 42 54.0 -0.5
baz=65,SNR=9.4
Z31A **Sharp Cattle R** 65.32 330 ⇑P P 04 42 55.6 -0.3
baz=66,SNR=7.7
228A **UT Block 9, Go** 65.51 327 ⇓P P 04 42 56.6 -0.6
baz=66
326A **Caldwell Ranch** 65.57 326 ⇑P P 04 42 57.7 +0.2
baz=66,SNR=9.0
Y32A **R-V Farms, Ver** 65.58 331 ⇑P P 04 42 56.9 -0.5
baz=66
425A **Indio Mountain** 65.68 324 ⇑P P 04 42 58.5 +0.1
baz=66,SNR=10
Z30A **Sanderson Ranc** 65.75 329 ⇑P P 04 42 58.1 -0.5
baz=66,SNR=7.0
227A **Bennet, Jal** 65.78 326 ⇓P P 04 42 59.0 +0.2
baz=66
128A **Castleberry Fa** 65.86 327 ⇑P P 04 42 59.1 -0.3
baz=66
Y31A **Rekieta Farm,** 65.91 330 ⇓P P 04 42 59.4 -0.2
baz=66,SNR=6.7
Z29A **Hungry Hill Ra** 66.01 328 ⇑P P 04 42 59.7 -0.6
baz=66,SNR=5.4
QSPA **South Pole Qui** 66.05 180 *e*P P 04 43 02.2 +2.0
5.0nm,0.7s
Y30A **Stafford Cattl** 66.14 329 ⇓P P 04 43 00.8 -0.2
baz=66
226B **Tecolote Peak,** 66.27 326 ⇑P P 04 43 02.6 +0.5
baz=66,SNR=7.8
127A **Arkansas Junct** 66.34 327 ⇓P P 04 43 02.4 -0.1
baz=67
X31A **McDonald Ranch** 66.34 331 ⇑P P 04 43 02.0 -0.3
baz=67,SNR=9.2
324A **Moseley Ranch,** 66.46 324 ⇓P P 04 43 02.7 -0.6
baz=67
Y29A **Porterfield Fa** 66.48 329 ⇓P P 04 43 02.8 -0.5
baz=67,SNR=6.4
X30A **Coker Ranch, T** 66.60 330 ⇑P P 04 43 03.5 -0.5
baz=67,SNR=5.1
MNTX **Cornudas Mount** 66.61 325 *e*P P 04 43 03.7 -0.4
6.2nm,1.2s
225A **Deer Hill, Car** 66.64 325 ⇓P P 04 43 04.6 +0.1
baz=67,SNR=8.1
126A **Clayton Basin,** 66.65 326 ⇑P P 04 43 04.5 0.0
baz=67,SNR=5.2
Z27A **Tatum** 66.78 327 ⇑P P 04 43 04.6 -0.7
baz=67,SNR=9.1
W31A **Holland Ranch,** 66.79 331 ⇑P P 04 43 05.3 +0.1
baz=67
Y28A **McKinney Farm,** 66.80 328 ⇑P P 04 43 05.3 -0.1
baz=67
SFIN **Scholer Farm** 66.89 343 ⇓P P 04 43 04.4 -1.2
baz=67
224A **Cornudas Mount** 66.97 325 ⇑P P 04 43 06.4 -0.2
baz=67,SNR=14
X29A **Tulia** 66.98 329 ⇓P P 04 43 06.3 -0.2
baz=67
125A **Gardner Draw,** 66.98 326 ⇑P P 04 43 06.1 -0.5
baz=67,SNR=5.4
MSTX **Muleshoe** 67.10 328 ⇑P P 04 43 06.9 -0.4
baz=67,SNR=11
Y27A **Causey** 67.22 328 ⇑P P 04 43 07.6 -0.5
baz=68,SNR=8.0
V31A **Spring Creek L** 67.24 331 ⇓P P 04 43 08.4 +0.3
baz=68
X28A **Dimmitt** 67.27 329 ⇓P P 04 43 08.5 +0.2
baz=68
124A **Stringfield Ra** 67.43 325 ⇑P P 04 43 09.7 +0.2
baz=68,SNR=12
Z25A **Roswell** 67.51 326 ⇑P P 04 43 09.5 -0.3
baz=68,SNR=7.7
W29A **Amraillo** 67.51 330 ⇑P P 04 43 09.5 -0.3
baz=68
Y26A **Elida** 67.58 327 ⇑P P 04 43 11.0 +0.7
baz=68
V30A **Spur Ranch, Mi** 67.61 331 ⇑P P 04 43 11.4 +1.0
baz=68
HDIL **Hopedale** 67.66 342 *e*P P 04 43 09.3 -1.1
12nm,0.7s
DBIC **Dimbokro** 67.81 71 *e*P P 04 43 10.6 -1.3
4.7nm,0.7s
DBIC **Dimbokro** 67.81 71 P P 04 43 10.8 -1.1
4.6nm,0.7s,baz=211,slow=9.3,SNR=6.2
222A **Williams Famil** 67.84 324 ⇑P P 04 43 12.7 +0.7
baz=68,SNR=6.3
Z24A **Sheeppen Canyo** 67.88 326 ⇑P P 04 43 12.2 0.0
baz=68,SNR=9.1
Y25A **Mesa, Roswell** 68.01 327 ⇓P P 04 43 12.7 -0.3
baz=68,SNR=6.2
320A **Kipp Ranch, An** 68.04 322 ⇓P P 04 43 14.3 +1.1
baz=68
X26A **CR and CF Fran** 68.07 328 ⇑P P 04 43 13.9 +0.5
baz=68
W27A **Bowe Ranch, En** 68.13 329 ⇓P P 04 43 14.0 +0.3
baz=68
U30A **WK&E Inc. Balk** 68.23 331 ⇑P P 04 43 15.1 +0.9
baz=68
Z23A **Rita Site, Whi** 68.27 325 ⇓P P 04 43 15.3 +0.6
baz=68,SNR=6.3
T31A **Randall Ranch,** 68.29 332 ⇓P P 04 43 14.9 +0.4
baz=68
V28A **Channing** 68.30 330 ⇑P P 04 43 15.4 +0.7
baz=68
220A **Playas Peak, P** 68.46 323 ⇓P P 04 43 16.7 +0.8
baz=69,SNR=6.3
W26A **Owens Ranch, T** 68.48 328 ⇑P P 04 43 16.7 +0.8
baz=69
319A **Douglas** 68.49 322 ⇓P P 04 43 17.3 +1.3
baz=69
121A **Cookes Peak, D** 68.53 324 ⇑P P 04 43 17.6 +1.3
baz=69,SNR=7.2
V27A **Dan Oppiter Fa** 68.58 329 ⇑P P 04 43 17.9 +1.4
baz=69
Z22A **Elephant Butte** 68.65 325 ⇓P P 04 43 18.2 +1.2
baz=69,SNR=6.1
Y23A **Lovelace Mesa,** 68.70 326 ⇓P P 04 43 18.4 +1.0
baz=69
W25A **X Bar L Ranch,** 68.92 328 ⇓P P 04 43 18.8 +0.2
baz=69,SNR=7.5
120A **U Bar Ranch, L** 69.01 323 ⇓P P 04 43 20.4 +1.1
baz=69,SNR=5.5
V26A **Tequesquite Ra** 69.06 329 ⇓P P 04 43 19.5 0.0
baz=69,SNR=6.5
Z21A **St. Cloud Mine** 69.07 324 ⇑P P 04 43 20.7 +1.1
baz=69,SNR=7.2
U27A **Thompson Grove** 69.12 330 ⇑P P 04 43 20.4 +0.6
baz=69
BNM **Barren Site** 69.17 325 *e*P P 04 43 21.3 +1.0
7.3nm,1.3s
S29A **Ulysses** 69.35 332 ⇓P P 04 43 22.1 +1.0
baz=70
T28A **Walsh** 69.37 331 ⇑P P 04 43 21.7 +0.4
baz=70
W24A **Lazy 8 Ranch,** 69.39 327 ⇓P P 04 43 21.9 +0.3
baz=70,SNR=5.8
Z20A **Nine Sixteen R** 69.42 323 ⇑P P 04 43 22.9 +1.2
baz=70,SNR=5.8
V25A **Rancho No Teng** 69.50 328 ⇑P P 04 43 23.0 +0.8
baz=70
U26A **Atchley Ranch,** 69.53 329 ⇓P P 04 43 22.7 +0.3
baz=70,SNR=7.0
T27A **Campo** 69.60 330 ⇑P P 04 43 22.8 +0.1
baz=70,SNR=5.8
Y21A **Point of Rocks** 69.61 325 ⇓P P 04 43 23.4 +0.4
baz=70,SNR=6.9
LAZ **Ladron** 69.63 325 *e*P P 04 43 24.4 +1.3
0.9nm,0.8s
S28A **Manter** 69.67 331 ⇑P P 04 43 24.1 +1.0
baz=70
ANMO **Albuquerque** 69.70 326 *e*P P 04 43 24.3 +0.8
5.8nm,0.9s
W23A **Weerr Place,** 69.72 326 ⇓P P 04 43 24.6 +1.0
baz=70
V24A **Rampart Ranch,** 69.73 327 ⇑P P 04 43 24.0 +0.3
baz=70,SNR=5.3
U25A **Circle Dot Ran** 69.85 328 ⇓P P 04 43 24.8 +0.4
baz=70,SNR=6.9
Y20A **Horse Springs,** 69.91 324 ⇑P P 04 43 25.9 +1.1
baz=70,SNR=5.2
X21A **Alamocita Cree** 70.00 325 ⇑P P 04 43 26.7 +1.3
baz=70
W22A **Albuquerque** 70.01 326 ⇓P P 04 43 26.9 +1.5
baz=70
TUC **Tucson** 70.04 321 *e*P P 04 43 26.5 +1.0
31nm,1.3s
T26A **Comanche Natio** 70.09 330 ⇓P P 04 43 26.4 +0.6
baz=70,SNR=6.1
Q30A **Quinter** 70.11 333 ⇓P P 04 43 26.5 +0.9
baz=70
JFWS **Jewell Farm** 70.11 342 *e*P P 04 43 25.0 -0.5
18nm,0.6s
V23A **Ortiz Mt. (NFS** 70.19 327 ⇓P P 04 43 27.8 +1.3
baz=70
P31A **Stockton** 70.22 334 ⇑P P 04 43 26.5 +0.1
baz=70
Q29A **Oakley** 70.35 332 ⇑P P 04 43 27.6 +0.5
baz=71
S26A **Kim** 70.40 330 ⇓P P 04 43 28.3 +0.7
baz=71,SNR=7.8
T25A **Trinidad** 70.44 329 ⇑P P 04 43 28.8 +0.9
baz=71,SNR=5.8
X20A **Quemado** 70.45 324 ⇓P P 04 43 29.3 +1.2
baz=71
U23A **El Rito** 70.66 327 ⇑P P 04 43 30.1 +0.8
baz=71
V22A **San Miguel Ran** 70.69 326 ⇑P P 04 43 30.9 +1.4
baz=71
S25A **Robets Cordova** 70.88 329 ⇓P P 04 43 31.5 +0.9
baz=71,SNR=13
W20A **Ramah** 70.90 325 ⇑P P 04 43 31.8 +1.0
baz=71,SNR=5.7
P29A **Atwood** 70.93 333 ⇓P P 04 43 32.4 +1.7
baz=71
R26A **Arlington** 70.94 330 ⇑P P 04 43 31.3 +0.4
baz=71,SNR=6.8
214A **Organ Pipe Nat** 70.95 320 ⇑P P 04 43 32.3 +1.3
baz=71,SNR=5.6
V21A **Milan** 70.98 326 ⇓P P 04 43 32.7 +1.5
baz=71
U22A **Llaves** 71.03 327 ⇑P P 04 43 33.3 +1.8
baz=71
T23A **Casias Ranch,** 71.14 328 ⇓P P 04 43 33.4 +1.1
baz=71
KSCO **Kaye Shedlock'** 71.16 331 ⇑P P 04 43 33.3 +1.1
baz=71
R25A **Fountain Ranch** 71.20 330 ⇓P P 04 43 33.4 +0.9
baz=72
X18A **Snowflake** 71.22 324 ⇓P P 04 43 34.2 +1.5
baz=72
S24A **Houchin Ranch,** 71.23 329 ⇑P P 04 43 33.9 +1.1
baz=72,SNR=6.4
BGNE **Belgrade** 71.37 336 ⇑P P 04 43 33.4 +0.2
baz=72
V20A **Brimhall** 71.40 325 ⇓P P 04 43 34.8 +1.0
baz=72
SDCO **Great Sand Dun** 71.45 329 *e*P P 04 43 35.2 +1.1
2.4nm,0.7s
U21A **Nageezi** 71.47 326 ⇑P P 04 43 35.3 +1.1
baz=72,SNR=6.2
Q26A **Hugo** 71.48 331 ⇓P P 04 43 35.1 +0.9
baz=72
T22A **Edith** 71.55 327 ⇑P P 04 43 35.9 +1.3
baz=72
W18A **Petrified Fore** 71.55 324 ⇑P P 04 43 35.8 +1.1
baz=72
R24A **Sanders Place,** 71.65 329 ⇑P P 04 43 36.3 +1.1
baz=72
O28A **Krutsinger Ran** 71.72 333 ⇓P P 04 43 36.4 +0.9
baz=72
Q25A **Bedland, Calha** 71.81 330 ⇓P P 04 43 37.1 +1.0
baz=72
T21A **Navajo Lake** 71.85 327 ⇑P P 04 43 37.7 +1.3
baz=72
U20A **Newcomb** 71.87 326 ⇑P P 04 43 37.7 +1.2
baz=72
R23A **Moffat** 71.96 329 ⇓P P 04 43 38.1 +1.0
baz=72,SNR=5.2
X16A **Lo Mia Camp, P** 71.96 322 ⇑P P 04 43 38.7 +1.6
baz=72
O27A **Beecher Island** 72.07 332 ⇑P P 04 43 38.7 +1.2
baz=72
S22A **4UR Ranch, Cre** 72.09 328 ⇑P P 04 43 38.9 +1.0
baz=72
113A **Mohawk Valley,** 72.10 320 ⇓P P 04 43 38.9 +1.2
baz=72
R22A **Saguache, Gunn** 72.43 328 ⇓P P 04 43 41.4 +1.4
baz=73
Y14A **Wickenburg** 72.50 321 ⇑P P 04 43 41.6 +1.5
baz=73
S21A **Coal Bank Pass** 72.50 327 ⇑P P 04 43 41.6 +1.2
baz=73
MVCO **Mesa Verde** 72.50 326 *e*P P 04 43 41.5 +1.1
4.7nm,0.8s
MVCO **Mesa Verde** 72.50 326 ⇑P P 04 43 41.5 +1.1
baz=73
WUAZ **Wupatki** 72.74 323 ⇑P P 04 43 43.2 +1.5
baz=73,SNR=5.4
ECSD **EROS Data Cent** 72.84 338 *e*P P 04 43 41.5 -0.4
6.5nm,0.9s
P23A **Jefferson** 72.91 329 ⇑P P 04 43 44.5 +1.7
baz=73
S20A **Disappointment** 72.91 327 ⇓P P 04 43 44.2 +1.4
baz=73,SNR=6.5
R21A **Cimarron** 72.93 328 ⇓P P 04 43 44.3 +1.5
baz=73
SPMN **St. Paul** 72.97 341 ⇑P P 04 43 42.5 -0.1
baz=73
Q22A **Crested Butte,** 73.01 328 ⇑P P 04 43 44.2 +0.8
baz=73
ISCO **Idaho Springs** 73.14 330 *e*P P 04 43 45.4 +1.2
3.4nm,0.9s
ISCO **Idaho Springs** 73.14 330 ⇓P P 04 43 45.4 +1.2
baz=73
R20A **Redvale** 73.20 327 ⇑P P 04 43 45.8 +1.4
baz=73,SNR=9.9
Y12C **Blythe** 73.24 320 ⇑P P 04 43 46.1 +1.7
baz=74
SMCO **Snowmass** 73.29 329 *e*P P 04 43 46.4 +1.3
2.8nm,0.7s
Q21A **Lamborn Mesa,** 73.31 328 ⇑P P 04 43 46.5 +1.6
baz=74
K29A **Lazy Trails An** 73.35 335 ⇑P P 04 43 46.1 +1.1
baz=74
SYO **Syowa Base** 73.38 159 ⇓*e*P P 04 43 45.2 +0.4
PDMCI **Parker Dam,Lak** 73.41 321 ⇓P P 04 43 46.5 +1.1
baz=74
P22A **Eagle** 73.51 329 ⇓P P 04 43 47.6 +1.4
baz=74
BC3 **Big Chuckawall** 73.72 319 ⇑P P 04 43 48.6 +1.1
baz=74,SNR=5.3
W13A **Hualapai Mount** 73.83 321 ⇑P P 04 43 49.9 +1.8
baz=74
O22A **Kremmling** 73.86 329 ⇓P P 04 43 49.4 +1.1
baz=74
IRM **Iron Mountain** 73.90 320 ⇓P P 04 43 49.9 +1.6
baz=74
U15A **North Rim** 73.91 323 ⇓P P 04 43 50.3 +1.6
baz=74,SNR=8.8
K27A **Flueckinger Fa** 74.06 334 ⇓P P 04 43 51.1 +1.9
baz=74
M24A **Cheyenne** 74.14 331 ⇓P P 04 43 51.4 +1.7
baz=74
N23A **Red Feather La** 74.17 330 ⇓P P 04 43 51.5 +1.4
baz=74
P20A **De Beque** 74.22 328 ⇑P P 04 43 51.9 +1.6
baz=74
BELC **Belle Mtn. Jos** 74.29 319 ⇓P P 04 43 52.3 +1.6
baz=74
PFO **Pinyon Flat Ob** 74.29 319 P P 04 43 51.8 +1.0
PFO **Pinyon Flat Ob** 74.29 319 P P 04 43 51.8 +1.0
2.7nm,0.6s,baz=150,slow=6.1,SNR=4.4
PFO **Pinyon Flat Ob** 74.29 319 ⇓P P 04 43 52.1 +1.4
baz=74
N22A **Wattenberg Ran** 74.33 330 ⇓P P 04 43 52.8 +1.8
baz=75
VNDA **Vanda** 74.55 190 P P 04 43 53.8 +2.4
VNDA **Vanda** 74.55 190 P P 04 43 53.8 +2.4
1.9nm,1.0s,baz=119,slow=5.5,SNR=7.3
P19A **Cripple Cowboy** 74.61 328 ⇑P P 04 43 53.8 +1.2
baz=75,SNR=11
GMRC **Granite Mounta** 74.63 320 ⇓P P 04 43 54.2 +1.5
baz=75,SNR=6.2
O20A **White River Ci** 74.64 328 ⇑P P 04 43 53.8 +1.1
baz=75,SNR=5.7
L24A **Wheatland** 74.65 332 ⇑P P 04 43 54.3 +1.7
baz=75
SRU **San Rafael** 74.98 326 *e*P P 04 43 55.6 +0.9
5.8nm,0.7s
L23A **Garrett** 75.04 331 ⇑P P 04 43 56.3 +1.4
baz=75
HEC **Hector,Ludlow** 75.06 320 ⇓P P 04 43 56.4 +1.3
baz=75,SNR=5.3
EYMN **Ely** 75.09 343 *e*P P 04 43 54.8 0.0
4.3nm,0.7s
I27A **Quinn** 75.13 335 ⇑P P 04 43 56.6 +1.4
baz=75
Q16A **Castle Valley** 75.17 326 ⇑P P 04 43 57.4 +1.7
baz=75
O19A **Miners Draw (B** 75.19 328 ⇑P P 04 43 56.9 +1.1
baz=75
N20A **Spence Gulch,** 75.20 329 ⇓P P 04 43 57.1 +1.2
baz=75
TUQ **Turquoise Moun** 75.25 320 ⇑P P 04 43 57.2 +1.0
baz=76
J25A **Sunshine Ranch** 75.27 333 ⇓P P 04 43 57.5 +1.4
baz=76
CCUT **Cedar City** 75.31 323 *e*P P 04 43 58.5 +1.9
8.5nm,0.8s
K23A **Bowen Ranch, D** 75.53 332 ⇑P P 04 43 58.8 +1.2
baz=76
G28A **Parade** 75.55 336 ⇑P P 04 43 58.1 +0.6
baz=76
SHPR **Sheep Range** 75.56 322 *e*P P 04 43 59.4 +1.4
J24A **Dixon Ranch, L** 75.58 333 ⇑P P 04 43 59.0 +1.2
baz=76
H27A **Howes** 75.62 335 ⇓P P 04 43 59.2 +1.3
baz=76
GSC **Goldstone** 75.67 320 ⇓P P 04 43 59.8 +1.3
baz=76
L21A **Rawlins** 75.67 330 ⇑P P 04 43 59.3 +0.8
baz=76,SNR=5.5
M20A **Sweetwater, Wa** 75.68 329 ⇓P P 04 43 59.7 +1.1
baz=76
I25A **Rochford** 75.76 334 ⇓P P 04 44 00.1 +1.1
baz=76
H26A **Fairpoint** 75.88 334 ⇓P P 04 44 00.8 +1.4
baz=76
EDW2 **Edwards Air Fo** 76.09 319 ⇓P P 04 44 01.9 +1.1
baz=76
L20A **Wamsutter** 76.15 329 ⇓P P 04 44 02.6 +1.3
baz=76
G27A **Dupree** 76.19 335 ⇓P P 04 44 01.4 +0.2
baz=76
J22A **Midwest** 76.43 331 ⇑P P 04 44 03.7 +1.0
baz=77
FURC **Furnace Creek,** 76.51 321 ⇓P P 04 44 04.9 +1.8
baz=77
TOA0 **Torodi Ar. Sit** 76.58 69 *e*P P 04 44 03.9 -0.1
TORD **Torodi Ar. Bea** 76.58 69 P P 04 44 03.9 -0.1
TORD **Torodi Ar. Bea** 76.58 69 P P 04 44 03.9 -0.1
2.1nm,0.4s,baz=258,slow=5.9,SNR=67
MPMC **Manual Prospec** 76.59 320 ⇑P P 04 44 04.3 +0.4
baz=77
AGMN **Agassiz Nation** 76.65 341 *e*P P 04 44 02.5 -1.1
6.0nm,0.9s
K20A **Yellowstone Ra** 76.66 330 ⇑P P 04 44 04.9 +0.8
baz=77
H24A **Dirks Ranch, A** 76.70 333 ⇓P P 04 44 04.3 +0.2
baz=77,SNR=6.9
L19A **Farson** 76.70 329 ⇓P P 04 44 05.4 +1.1
baz=77
J21A **Lysite** 76.80 331 ⇓P P 04 44 05.8 +0.9
baz=77
I22A **9 Mile Ranch,** 76.81 332 ⇓P P 04 44 05.4 +0.6
baz=77,SNR=5.7
ISA **Isabella** 76.91 319 *e*P P 04 44 06.9 +1.4
2.4nm,0.7s
ISA **Isabella** 76.91 319 ⇑P P 04 44 06.9 +1.4
baz=77
K19A **Absolon Red Bu** 77.02 330 ⇓P P 04 44 06.4 +0.3
baz=77
J20A **Shoshoni** 77.09 331 ⇓P P 04 44 06.7 +0.3
baz=77
I21A **Big Trails, Te** 77.10 331 ⇓P P 04 44 06.9 +0.4
baz=77,SNR=10.0
G24A **Alzada** 77.12 334 ⇓P P 04 44 06.8 +0.3
baz=77
PKM **Peak Mountain** 77.21 318 ⇑P P 04 44 08.6 +1.3
baz=77
PDAR **Pinedale Array** 77.31 329 P P 04 44 07.7 -0.1
PDAR **Pinedale Array** 77.31 329 P P 04 44 07.7 -0.1
1.0nm,0.5s,baz=136,slow=8.5,SNR=10
H22A **Clearmont** 77.32 332 ⇓P P 04 44 08.5 +0.9
baz=78
G23A **Biddle** 77.41 333 ⇓P P 04 44 08.8 +0.7
baz=78
MDND **Maddock** 77.46 338 ⇑P P 04 44 08.7 +0.5

	baz=78								
J19A	**Crowheart**	**77.46**	**330**	⇓P		**P**	**04 44 09.2**	**+0.6**
	baz=78								
F24A	**Ekalaka**	**77.55**	**334**	⇑P		**P**	**04 44 09.7**	**+0.8**
	baz=78								
I20A	**Worland**	**77.58**	**331**	⇑P		**P**	**04 44 09.6**	**+0.5**
	baz=78								
H21A	**Big Horn, Sher**	**77.64**	**332**	⇓P		**P**	**04 44 09.4**	**0.0**
	baz=78,SNR=6.0								
E25A	**Miller Ranch,**	**77.69**	**335**	⇓P		**P**	**04 44 10.2**	**+0.6**
	baz=78								
G22A	**Birney**	**77.80**	**333**	⇓P		**P**	**04 44 09.9**	**-0.3**
	baz=78								
F23A	**Volborg**	**77.84**	**334**	⇑P		**P**	**04 44 10.8**	**+0.4**
	baz=78,SNR=5.1								
H20A	**Greybull**	**77.95**	**331**	⇑P		**P**	**04 44 11.6**	**+0.5**
	baz=78								
I19A	**Meeteetse**	**78.04**	**330**	⇑P		**P**	**04 44 12.6**	**+0.9**
	baz=78								
E24A	**Baker**	**78.09**	**335**	⇑P		**P**	**04 44 12.4**	**+0.6**
	baz=78								
I18A	**Diamond G Ranc**	**78.15**	**330**	⇓P		**P**	**04 44 13.2**	**+0.8**
	baz=78								
G21A	**Lodge Grass**	**78.19**	**332**	⇑P		**P**	**04 44 13.2**	**+0.8**
	baz=78								
F22A	**Rosebud**	**78.24**	**333**	⇑P		**P**	**04 44 13.4**	**+0.8**
	baz=78								
ULM	**Lac du Bonnet**	**78.39**	**342**	P		**P**	**04 44 12.9**	**-0.3**
ULM	**Lac du Bonnet**	**78.39**	**342**	P		**P**	**04 44 12.9**	**-0.3**
	3.9nm,0.5s,baz=155,slow=6.9,SNR=4.7								
E23A	**Ismay**	**78.43**	**334**	⇑P		**P**	**04 44 14.0**	**+0.4**
	baz=79								
LOHW	**Long Hollow**	**78.45**	**329**	*e*P		**P**	**04 44 15.0**	**+0.9**
	2.9nm,0.6s								
H19A	**Powell**	**78.53**	**331**	⇑P		**P**	**04 44 15.1**	**+0.8**
	baz=79								
G20A	**Bridger**	**78.62**	**332**	⇑P		**P**	**04 44 15.5**	**+0.7**
	baz=79								
SCHQ	**Schefferville**	**78.67**	**0**	P		**P**	**04 44 14.3**	**-0.3**
SCHQ	**Schefferville**	**78.67**	**0**	P		**P**	**04 44 14.3**	**-0.3**
	0.8nm,0.5s,baz=236,slow=16,SNR=3.6								
I17A	**Pilgrim Ck.**	**78.67**	**329**	⇑P		**P**	**04 44 16.0**	**+0.8**
	baz=79								
NVAR	**Mina Array Bea**	**78.69**	**321**	P		**P**	**04 44 15.8**	**+0.4**
NVAR	**Mina Array Bea**	**78.69**	**321**	P		**P**	**04 44 15.8**	**+0.4**
	0.9nm,0.6s,baz=147,slow=5.4,SNR=9.8								
IMW	**Indian Meadow**	**78.82**	**329**	*e*P		**P**	**04 44 17.1**	**+1.0**
	3.2nm,0.6s								
H18A	**Shoshone NF, C**	**78.84**	**330**	⇑P		**P**	**04 44 16.9**	**+0.8**
	baz=79								
C24A	**Savage**	**78.93**	**335**	⇓P		**P**	**04 44 17.9**	**+1.5**
	baz=79								
D23A	**Lindsay**	**78.94**	**335**	⇑P		**P**	**04 44 17.8**	**+1.4**
	baz=79								
I16A	**Newdale**	**79.06**	**329**	⇓P		**P**	**04 44 18.2**	**+0.9**
	baz=79								
E21A	**Keefer Ranch,**	**79.19**	**333**	⇓P		**P**	**04 44 18.6**	**+0.8**
	baz=79								
G18A	**Lazy EL Ranch,**	**79.29**	**331**	⇓P		**P**	**04 44 19.4**	**+0.9**
	baz=80								
D22A	**Cohagen**	**79.31**	**334**	⇓P		**P**	**04 44 19.4**	**+1.0**
	baz=80								
F19A	**Roth Farm, Mol**	**79.44**	**332**	⇓P		**P**	**04 44 19.9**	**+0.7**
	baz=80								
D21A	**La Casta Ranch**	**79.57**	**333**	⇑P		**P**	**04 44 20.7**	**+0.8**
	baz=80								
H16A	**Russell Place,**	**79.58**	**330**	⇓P		**P**	**04 44 21.1**	**+0.9**
	baz=80								
E20A	**Meyer Farm, Mu**	**79.60**	**332**	⇑P		**P**	**04 44 21.0**	**+1.1**
	baz=80								
DGMT	**Dagmar**	**79.62**	**336**	⇑P		**P**	**04 44 21.1**	**+1.0**
	baz=80								
C22A	**Vida**	**79.68**	**334**	⇑P		**P**	**04 44 21.1**	**+0.7**
	baz=80								
GCMT	**Greyclift**	**79.70**	**331**	*e*P		**P**	**04 44 21.6**	**+1.0**
	1.2nm,0.7s								
F18A	**Big Timber**	**79.81**	**331**	⇓P		**P**	**04 44 21.8**	**+0.6**
	baz=80,SNR=7.8								
E19A	**Rath Farm, Rou**	**79.84**	**332**	⇓P		**P**	**04 44 21.9**	**+0.5**
	baz=80,SNR=10								
B23A	**Brockton**	**79.92**	**335**	⇑P		**P**	**04 44 22.4**	**+0.8**
	baz=80								
A24A	**Westby**	**79.93**	**336**	⇓P		**P**	**04 44 23.1**	**+1.4**
	baz=80								
I14A	**Mackay**	**80.04**	**328**	⇑P		**P**	**04 44 24.1**	**+1.5**
	baz=80,SNR=6.3								
B22A	**Reddig Ranch S**	**80.17**	**335**	⇓P		**P**	**04 44 23.9**	**+0.9**
	baz=80								
PAHR	**Pah Rah Range**	**80.18**	**322**	*e*P		**P**	**04 44 25.1**	**+1.7**
	11nm,0.9s								
F17A	**Fitzpatrick Pl**	**80.23**	**331**	⇑P		**P**	**04 44 24.5**	**+1.0**
	baz=80								
E18A	**Harlowton**	**80.41**	**332**	⇓P		**P**	**04 44 24.9**	**+0.4**
	baz=81								
MCMT	**McKenzie Canyo**	**80.42**	**329**	*e*P		**P**	**04 44 26.1**	**+1.5**
	6.3nm,1.3s								
D19A	**Cripps Ranch,**	**80.44**	**332**	⇑P		**P**	**04 44 25.1**	**+0.7**
	baz=81								
C20A	**Veseth Ranch,**	**80.50**	**333**	⇓P		**P**	**04 44 24.7**	**-0.1**
	baz=81,SNR=5.7								
BOSA	**Boshof**	**80.62**	**117**	P		**P**	**04 44 26.9**	**+0.8**
BOSA	**Boshof**	**80.62**	**117**	P		**P**	**04 44 26.9**	**+0.8**
	1.8nm,0.5s,baz=239,slow=5.9,SNR=9.5								
B21A	**Ellsworth Farm**	**80.68**	**334**	⇑P		**P**	**04 44 26.3**	**+0.6**
	baz=81,SNR=5.1								
A22A	**Carney Farms,**	**80.70**	**335**	⇑P		**P**	**04 44 26.4**	**+0.6**
	baz=81,SNR=6.1								
DLMT	**Dillon**	**80.70**	**329**	*e*P		**P**	**04 44 27.2**	**+1.1**
	2.1nm,0.5s								
I12A	**Atlanta**	**80.78**	**327**	⇑P		**P**	**04 44 27.5**	**+1.0**
	baz=81								
MFID	**Camas Ranch**	**80.85**	**326**	⇑P		**P**	**04 44 27.9**	**+1.1**
	baz=81								
C19A	**Slack Wire Ran**	**80.95**	**333**	⇑P		**P**	**04 44 27.9**	**+0.7**
	baz=81								
F15A	**Butte**	**81.02**	**330**	⇓P		**P**	**04 44 28.4**	**+0.7**
	baz=81								
B20A	**Solberg Farm,**	**81.09**	**334**	⇑P		**P**	**04 44 28.5**	**+0.6**
	baz=81								
H12A	**Diamond D Ranc**	**81.19**	**328**	⇑P		**P**	**04 44 29.2**	**+0.5**
	baz=81								
D17A	**Six Diamond Ra**	**81.20**	**331**	⇑P		**P**	**04 44 29.1**	**+0.4**
	baz=82,SNR=8.9								
MAW	**Mawson**	**81.27**	**163**	P		**P**	**04 44 30.2**	**+1.7**
MAW	**Mawson**	**81.27**	**163**	P		**P**	**04 44 30.2**	**+1.7**
	3.0nm,0.6s,baz=210,slow=7.8,SNR=7.7								
A20A	**Cobblestone Ra**	**81.40**	**334**	⇑P		**P**	**04 44 30.2**	**+0.7**
	baz=82								
F14A	**Wisdom**	**81.40**	**329**	⇓P		**P**	**04 44 31.0**	**+1.2**
	baz=82								
EGMT	**Eagleton**	**81.48**	**333**	⇓P		**P**	**04 44 31.1**	**+1.1**
	baz=82								
B19A	**Brinkman Farms**	**81.48**	**333**	⇓P		**P**	**04 44 30.5**	**+0.6**
	baz=82								
D16A	**Dana Ranch, Ca**	**81.49**	**331**	⇑P		**P**	**04 44 30.9**	**+0.8**
	baz=82,SNR=11								
C17A	**Wharram Farm,**	**81.61**	**332**	⇑P		**P**	**04 44 30.7**	**+0.1**
	baz=82,SNR=6.1								
A19A	**Klindworth Far**	**81.77**	**334**	⇑P		**P**	**04 44 31.8**	**+0.3**
	baz=82								
B18A	**Beardsley Farm**	**81.78**	**333**	⇓P		**P**	**04 44 32.2**	**+0.7**
	baz=82								
G12A	**Big Creek, Yel**	**81.84**	**328**	⇑P		**P**	**04 44 32.7**	**+0.7**
	baz=82								
D15A	**Lincoln**	**81.93**	**330**	⇑P		**P**	**04 44 33.3**	**+0.9**
	baz=82								
B17A	**L&G Farms, Che**	**82.13**	**332**	⇑P		**P**	**04 44 33.4**	**0.0**
	baz=82								
C16A	**Fuhringer Ranc**	**82.16**	**331**	⇓P		**P**	**04 44 34.2**	**+0.6**
	baz=82								
A18A	**Metzger Ranch,**	**82.21**	**333**	⇑P		**P**	**04 44 33.9**	**+0.2**
	baz=82								
D14A	**Greenough**	**82.41**	**330**	⇓P		**P**	**04 44 35.5**	**+0.6**
	baz=83								
MSO	**Missoula**	**82.42**	**330**	⇓P		**P**	**04 44 35.6**	**+0.7**
	baz=83								
C15A	**Salmond Ranch,**	**82.52**	**331**	⇓P		**P**	**04 44 36.3**	**+0.8**
	baz=83,SNR=11								
A17A	**Triple J Farms**	**82.59**	**333**	⇓P		**P**	**04 44 35.9**	**+0.1**
	baz=83,SNR=5.4								
B16A	**M & M Farms, S**	**82.61**	**332**	⇓P		**P**	**04 44 36.3**	**+0.5**
	baz=83								
D13A	**Huson**	**82.86**	**329**	⇑P		**P**	**04 44 37.8**	**+0.7**
	baz=83								
E12A	**Beaver Dam Sad**	**82.89**	**328**	⇓P		**P**	**04 44 37.8**	**+0.4**
	baz=83								
B15A	**Bradely Ranch,**	**82.91**	**331**	⇓P		**P**	**04 44 37.4**	**-0.1**
	baz=83								
A16A	**West Butte Ran**	**82.97**	**332**	⇑P		**P**	**04 44 38.3**	**+0.5**
	baz=83								
C14A	**Swan Lake**	**83.03**	**330**	⇓P		**P**	**04 44 38.7**	**+0.6**
	baz=83								
D12A	**Red Ives Fores**	**83.24**	**329**	⇓P		**P**	**04 44 39.7**	**+0.5**
	baz=84								
JTMT	**Jette**	**83.25**	**330**	*e*P		**P**	**04 44 40.2**	**+0.9**
B14A	**Marquette Ranc**	**83.26**	**331**	⇓P		**P**	**04 44 40.6**	**+1.4**
	baz=84								
C13A	**Hot Springs**	**83.34**	**330**	⇓P		**P**	**04 44 40.5**	**+0.9**
	baz=84								
B13A	**Whitefish**	**83.80**	**330**	⇑P		**P**	**04 44 42.5**	**+0.6**
	baz=84								
A13A	**Flathead Natio**	**84.19**	**331**	⇑P		**P**	**04 44 44.7**	**+0.7**
	baz=84								
C11A	**Tepee Creek (N**	**84.24**	**329**	⇑P		**P**	**04 44 44.7**	**+0.5**
	baz=84								
B12A	**Libby**	**84.38**	**330**	⇑P		**P**	**04 44 45.8**	**+0.9**
	baz=85								
A12A	**Yaak River Ran**	**84.75**	**330**	⇓P		**P**	**04 44 47.5**	**+0.8**
	baz=85								
NEW	**Newport**	**84.95**	**329**	⇓P		**P**	**04 44 50.1**	**+2.4**
	baz=85								
YKA	**Yellowknife Ar**	**94.29**	**340**	P		**P**	**04 45 30.9**	**-0.3**
YKA	**Yellowknife Ar**	**94.29**	**340**	P		**P**	**04 45 30.9**	**-0.3**
	1.7nm,0.6s,baz=130,slow=4.5,SNR=14								
YKA					LR	LR	05 31 37.3		
	comp=Z,8.5nm,20.1s,baz=20,slow=38								
ASAR	**Alice Springs**	**128.33**	**205**		PKP	**PKPdf**	**04 51 19.1**	**+0.2**
ASAR	**Alice Springs**	**128.33**	**205**		PKP	**PKPdf**	**04 51 19.1**	**+0.2**
	2.1nm,0.7s,baz=136,slow=1.4,SNR=19								
WRA	**Warramunga Arr**	**131.51**	**207**		PKP	**PKPdf**	**04 51 25.3**	**+0.4**
WRA	**Warramunga Arr**	**131.51**	**207**		PKP	**PKPdf**	**04 51 25.3**	**+0.4**
	1.5nm,0.5s,baz=159,slow=1.7,SNR=25								
ZALV	**Zalesovo Beam**	**143.51**	**28**		PKP	PKPbc	04 51 44.1	+0.5	
ZALV	**Zalesovo Beam**	**143.51**	**28**		PKP	PKPbc	04 51 44.1	+0.5	
	2.8nm,0.6s,baz=300,slow=3.2,SNR=11								
MKAR	**Makanchi Array**	**146.61**	**40**		PKPbc	**PKPdf**	**04 51 52.2**	**+0.8**
MKAR	**Makanchi Array**	**146.61**	**40**		PKPbc	**PKPdf**	**04 51 52.2**	**+0.8**
	4.0nm,0.7s,baz=310,slow=2.4,SNR=37								
WMQ	**Urumqi**	**151.43**	**40**		PKPbc	**PKPdf**	**04 52 00.0**	**+0.7**
MJAR	**Matsushiro Arr**	**155.11**	**306**		PKPab	**PKPab**	**04 52 30.4**	**+0.1**
MJAR	**Matsushiro Arr**	**155.11**	**306**		PKPab	**PKPab**	**04 52 30.4**	**+0.1**
	0.9nm,0.6s,baz=84,slow=2.1,SNR=6.3								
SONM	**Songino Array**	**155.78**	**11**		PKP	**PKPdf**	**04 52 05.0**	**-0.5**
SONM					PKPab	**PKPab**	**04 52 32.4**	**-0.4**
SONM	**Songino Array**	**155.78**	**11**		PKP	**PKPdf**	**04 52 05.0**	**-0.5**
	baz=63,slow=0.3,SNR=4.0								
SONM					PKPab	**PKPab**	**04 52 32.4**	**-0.4**
	0.8nm,0.8s,baz=341,slow=3.1,SNR=4.2								
HHC	**Hu-ho-hao-te**	**163.31**	**4**	*e*	PKP	**PKPdf**	**04 52 12.4**	**-1.8**
HHC					pPKP	pPKPdf	04 52 54.7	-7.1	
HHC					sPKP		04 53 11.6		
HHC					PKS	**PKSdf**	**04 55 45.3**	**-2.0**
HHC					PP	**PP**	**04 56 51.8**	**+1.5**
HHC					SKS	**SKSdf**	**04 58 59.0**	**-2.8**
HHC					SKKS	**SKKSac**	**05 03 22.1**	**+0.6**
HHC					SS	**SS**	**05 17 01.2**	**+0.8**
BJI	**Beijing**	**163.95**	**351**		PKP	**PKPdf**	**04 52 15.2**	**+0.6**
BJI					SS	SS	05 17 11.4	+4.6	
BJI					LR	LR			
	comp=N,83nm,16.2s								
BJI					LR	LR			
	comp=E,86nm,18.0s								
BJI					LR	LR			
	comp=Z,43nm,21.0s								
LZH	**Lanzhou**	**165.70**	**32**	*e*	PKP	**PKPdf**	**04 52 16.8**	**+0.3**
LZH					pPKP	**pPKPdf**	**04 53 00.0**	**-4.1**
LZH					sPKP		04 53 16.5		

*IDC **02** 04:55:43.8±0.9,23°.51S×175°.17W,h0km,mb4.3/10, mb1 4.5/10,mb1mx4.3/19,mbtmp4.3/10,MS4.0/11, Ms1 4.0/11,ms1mx3.7/33,Error ellipse: s-maj=37.5km s-min=22.5km az=159.0*
*AUST **02** 04:55:45.1,23°.68S×174°.69W,h20km*
*ISCJB **02** 04:55:47.7±0.6,23°.3S±0°.1×175°.3W±0°.1,h29km,mb4.5/16, MS4.1/10,Error ellipse: s-maj=15.6km s-min=11.9km az=143.7*
*NEIC **02** 04:55:50.0±0.6,23°.34S×175°.28W,h35km,mb4.7/4,Error ellipse: s-maj=17.2km s-min=14.2km az=160.0*
ISC 02 04:55:48.8±0.6,23°.64S±0°.08×175°.22W±0°.10,h29km,n69,
σ1§75/60,mb4.6/16,MS4.1/10,1C,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.70**	**48**	P		Pn	04 57 14.7	-11
	baz=6.4,SNR=8.7							
MSVF	**Nonsavu**	**8.61**	**312**	*e*Pn		**Pn**	**04 57 48.5**	**-3.0**
AFI	**Afiamalu**	**10.21**	**19**	Pn		Pn	04 58 05.0	-8.5
AFI	**Afiamalu**	**10.21**	**19**	Pn		Pn	04 58 05.0	-8.5
	3.0nm,0.3s,baz=216,slow=18,SNR=4.6							
RAR	**Rarotonga**	**14.49**	**83**	Pn		Pn	04 59 02.7	-9.3
RAR	**Rarotonga**	**14.49**	**83**	Pn		Pn	04 59 02.7	-9.3
	2.3nm,0.3s,baz=242,slow=12,SNR=5.4							
RAR				LR		LR	05 03 00.6	
	comp=Z,403nm,19.2s,baz=280,slow=30							
URZ	**Urewera**	**15.98**	**202**	Pn		**P**	**04 59 35.8**	**+1.1**
URZ				Sn		**Sn**	**05 02 22.7**	**-5.1**
URZ	**Urewera**	**15.98**	**202**	Pn		**P**	**04 59 35.8**	**+1.1**
	0.4nm,0.3s,baz=66,slow=9.1,SNR=3.3							
URZ				Sn		**Sn**	**05 02 22.7**	**-5.1**
	0.6nm,0.3s,baz=307,slow=20,SNR=5.6							
DZM	**Mont Dzumac**	**16.97**	**272**	*e*LR		LR	05 03 48.8	
	461nm,23.8s							
DZM	**Mont Dzumac**	**16.97**	**272**	*e*P		**Pn**	**04 59 44.6**	**+0.4**
	21nm,1.0s							
DZM	**Mont Dzumac**	**16.97**	**272**	Pn		**P**	**04 59 47.5**	**+1.6**
	0.5nm,0.3s,baz=90,slow=24,SNR=16							
TBI	**Tubuai**	**23.62**	**95**	*e*LR		LR	05 06 25.7	
	501nm,22.2s							
LHI	**Lord Howe Isla**	**24.07**	**245**	P		**P**	**05 01 05.5**	**+3.8**
	baz=24,SNR=4.3							
LHI				S		**S**	**05 05 18.2**	**+0.8**
	baz=24,SNR=3.7							
PPT2	**Papeete2**	**24.73**	**81**	*e*LR		LR	05 06 39.7	
	507nm,22.2s							
PPT	**Papeete**	**24.73**	**81**	LR		LR	05 08 31.2	
	comp=Z,417nm,18.0s,baz=305,slow=31							
CTAO	**Charters Tower**	**35.85**	**268**	*e*P		**P**	**05 02 46.0**	**-0.3**
	16nm,1.1s							
RKT	**Rikitea**	**36.87**	**97**	*e*LR		LR	05 12 16.8	
	324nm,23.5s							
MTSU	**Mount Surprise**	**38.10**	**270**	P		**P**	**05 03 05.1**	**-0.3**
	baz=39,SNR=13							
PMG	**Port Moresby**	**38.60**	**285**	*e*P		**P**	**05 03 08.2**	**-1.3**
	35nm,1.0s							
STKA	**Stephens Creek**	**38.88**	**248**	LR		LR	05 16 58.8	
	comp=Z,327nm,20.8s,baz=25,slow=33							
ASAR	**Alice Springs**	**46.39**	**259**	P		**P**	**05 04 12.3**	**-0.6**
ASAR	**Alice Springs**	**46.39**	**259**	P		**P**	**05 04 12.3**	**-0.6**
	4.3nm,0.9s,baz=94,slow=8.4,SNR=26							
ASAR				LR		LR	05 23 49.7	
	comp=Z,236nm,18.0s,baz=75,slow=36							
WRAB	**Tennant Creek**	**46.78**	**264**	*e*P		**P**	**05 04 15.0**	**-1.0**
	13nm,1.2s							
WRA	**Warramunga Arr**	**46.79**	**264**	P		**P**	**05 04 14.3**	**-1.8**
WRA	**Warramunga Arr**	**46.79**	**264**	P		**P**	**05 04 14.3**	**-1.8**
	3.2nm,0.8s,baz=95,slow=8.4,SNR=38							
KNRA	**Kununurra**	**53.07**	**268**	P		**P**	**05 05 03.5**	**-0.3**
	baz=54,SNR=6.6							
FITZ	**Fitzroy Crossi**	**55.21**	**264**	P		**P**	**05 05 19.5**	**+0.1**
	baz=56,SNR=6.1							
KLBR	**Kellerberrin**	**59.11**	**246**	P		**P**	**05 05 47.5**	**+0.6**
	baz=60,SNR=5.2							
LUWI	**Luwuk**	**64.05**	**281**	P		P	05 06 25.8	+5.4
	baz=65,SNR=5.0							
XMI	**Christmas Isla**	**75.96**	**265**	P		**P**	**05 07 34.1**	**+0.6**
	baz=76,SNR=3.5							
JNU	**Nakatsue**	**76.31**	**316**	LR		LR	05 35 26.2	
	comp=Z,96nm,19.1s,baz=141,slow=31							
ASAJ	**Asahikawa**	**77.70**	**330**	LR		LR	05 36 36.3	
	comp=Z,133nm,20.2s,baz=165,slow=32							
MAW	**Mawson**	**79.49**	**199**	LR		LR	05 42 41.3	
	comp=Z,128nm,18.6s,baz=326,slow=35							
PETK	**Petropavlovsk-**	**79.97**	**344**	P		**P**	**05 07 53.8**	**-1.0**
PETK	**Petropavlovsk-**	**79.97**	**344**	P		**P**	**05 07 53.8**	**-1.0**
	5.0nm,0.9s,baz=104,slow=6.1,SNR=7.8							
PETK				LR		LR	05 37 08.3	
	comp=Z,91nm,19.8s,baz=320,slow=31							
KSRS	**Korea Array**	**80.93**	**318**	P		**P**	**05 08 00.6**	**+0.2**
	2.1nm,0.7s,baz=131,slow=5.0,SNR=8.9							
KSRS				LR		LR	05 38 21.0	
	comp=Z,95nm,19.8s,baz=297,slow=32							
KSAR	**Wonju Array Be**	**80.94**	**318**	P		**P**	**05 08 00.6**	**+0.1**
NVAR	**Mina Array Bea**	**81.58**	**42**	P		**P**	**05 08 03.7**	**-0.4**
NVAR	**Mina Array Bea**	**81.58**	**42**	P		**P**	**05 08 03.7**	**-0.4**
	1.4nm,0.9s,baz=222,slow=4.9,SNR=9.5							
USRK	**Ussuriysk Arra**	**82.99**	**325**	P		**P**	**05 08 11.2**	**+0.1**
	9.4nm,0.9s,baz=122,slow=4.6,SNR=17							
SNAA	**Sanae**	**84.80**	**178**	*e*P		**P**	**05 08 22.3**	**+2.1**
	5.3nm,1.0s							
TXAR	**Lajitas Array**	**86.61**	**56**	P		**P**	**05 08 27.1**	**-2.8**
TXAR	**Lajitas Array**	**86.61**	**56**	P		**P**	**05 08 27.1**	**-2.8**
	0.7nm,0.9s,baz=236,slow=6.4,SNR=5.7							
PSI	**Prapat**	**87.31**	**274**	P		**P**	**05 08 34.2**	**+0.5**
	baz=88,SNR=5.7							
NEW	**Newport**	**88.44**	**35**	LR		LR	05 39 47.8	
	comp=Z,98nm,20.1s,baz=242,slow=30							
PDAR	**Pinedale Array**	**89.51**	**42**	P		**P**	**05 08 41.8**	**-1.7**
PDAR	**Pinedale Array**	**89.51**	**42**	P		**P**	**05 08 41.8**	**-1.7**
	0.6nm,0.9s,baz=232,slow=2.2,SNR=4.2							
ENH	**Enshi**	**89.91**	**303**	*e*P		**P**	**05 08 46.4**	**+0.9**
	7.4nm,0.6s							
ILAR	**Eielson Array**	**90.81**	**12**	P		**P**	**05 08 47.9**	**-0.9**
ILAR	**Eielson Array**	**90.81**	**12**	P		**P**	**05 08 47.9**	**-0.9**
	0.4nm,0.9s,baz=218,slow=5.3,SNR=4.0							
CMAR	**Chiang Mai Arr**	**93.57**	**288**	P		**P**	**05 09 03.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**93.57**	**288**	P		**P**	**05 09 03.8**	**+1.1**
	4.5nm,0.6s,baz=132,slow=3.2,SNR=30							
CHTO	**Chiang Mai**	**93.71**	**289**	*e*P		**P**	**05 09 04.5**	**+1.3**
	21nm,1.4s							
YKA	**Yellowknife Ar**	**98.29**	**24**	LR		LR	05 47 58.0	
	comp=Z,7.9nm,20.4s,baz=0.0,slow=32							
AKASG	**Malin Array Be**	**146.99**	**331**	PKPbc		**PKPdf**	**05 15 26.8**	**+0.4**
AKASG	**Malin Array Be**	**146.99**	**331**	PKPbc		**PKPdf**	**05 15 26.8**	**+0.4**
	1.7nm,0.5s,baz=37,slow=3.9,SNR=11							
AK01	**Malin Array Si**	**147.00**	**331**	PKPdf		**PKPbc**	**05 15 27.6**	**-0.9**
AK02	**Malin Array Si**	**147.03**	**331**	PKPdf		**PKPbc**	**05 15 27.8**	**-0.7**
KWP	**Kalwaria Pacla**	**150.49**	**336**	*e*PKPdf		**PKPbc**	**05 15 37.7**	**+0.2**
BR131	**Keskin Array S**	**150.83**	**310**	*e*PKPdf		**PKPbc**	**05 15 38.1**	**-0.7**
BR131				PKPbc		**PKiKP**	**05 15 42.4**	**+3.0**
BR131				*e*PKPab		**PKPab**	**05 15 47.7**	**+1.6**
BRTR	**Keskin Array B**	**150.83**	**310**	PKPbc		**PKPbc**	**05 15 38.5**	**-0.4**
BRTR	**Keskin Array B**	**150.83**	**310**	PKPbc		**PKPbc**	**05 15 38.5**	**-0.4**
	1.6nm,0.8s,baz=91,slow=1.6,SNR=9.3							
BUR08	**Bucovina Ar. S**	**151.03**	**331**	PKPbc		**PKPbc**	**05 15 41.3**	**+2.3**
STHS	**Stebnicka Huta**	**151.19**	**337**	*e*PKP		**PKPab**	**05 15 47.2**	**+0.2**
CRVS	**Cervenica-Dubn**	**151.55**	**337**	*e*PKP		**PKPbc**	**05 15 37.4**	**-2.6**
CLL	**Collm**	**151.65**	**349**	*e*PKP		**PKPbc**	**05 15 40.0**	**-0.1**
CLL					⇑*i*PKPab	**PKPab**	**05 15 52.8**	**+4.0**
	comp=Z,19nm,1.4s							
BRG	**Berggiesshubel**	**151.89**	**348**	*e*P		**PKPbc**	**05 15 41.8**	**+1.1**
	comp=Z,3.3nm,0.9s							
BRG				*e*			05 15 53.8	
	comp=Z,9.4nm,1.2s							
TORD	**Torodi Ar. Bea**	**169.17**	**164**	PKP		**PKPdf**	**05 15 53.4**	**-0.7**
TORD				PKPab		**PKPab**	**05 17 06.9**	**+1.3**
TORD	**Torodi Ar. Bea**	**169.17**	**164**	PKP		**PKPdf**	**05 15 53.4**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=160,slow=1.5,SNR=3.2							
TORD				PKPab		**PKPab**	**05 17 06.9**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=180,slow=4.2,SNR=2.2							

*IDC **02** 05:19:00.9±4.2,36°.08N×71°.00E,h74km±37km,mb3.6/12, mb1 3.8/17,mb1mx3.6/32,mbtmp3.7/17,ML4.1/5,Error ellipse: s-maj=25.1km s-min=18.7km az=17.0*
*ISCJB **02** 05:19:03.8±0.3,36°.29N±0°.03×71°.31E±0°.06,h114km, mb3.9/15,Error ellipse: s-maj=7.2km s-min=3.4km az=161.4*
*MOS **02** 05:19:03.3±1.0,36°.28N×71°.11E,h101km,mb4.1/14,Error ellipse: s-maj=14.2km s-min=5.8km az=81.7*
*NNC **02** 05:19:10.4±7.3,36°.83N×70°.78E,h111km±84km,mb3.7, mpv4.3,Error ellipse: s-maj=55.9km s-min=37.8km az=3.0*
ISC 02 05:19:04.7±0.5,36°.36N±0°.04×71°.26E±0°.06,h114km,n85,
σ1§83/90,mb4.0/15,9C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.58**	**168**	⇑P		**Pn**	**05 19 44.8**	**-0.7**
CEP				S		**Sn**	**

PKIN	**Phulchoki**	**14.84**	**122**	*e*P		**Pn**	**05 22 27.5**	**-1.5**
	comp=Z,13nm,0.4s								
PKI	**Pulchoki**	**14.85**	**122**	*e*P		**Pn**	**05 22 28.2**	**-1.0**
	comp=Z,6.3nm,0.2s								
PKI				*e*S		Sn	05 25 04.2	-9.2	
GUN	**Gumba**	**14.96**	**120**	*e*P		**Pn**	**05 22 30.0**	**-0.6**
	comp=Z,11nm,0.3s								
KURBB	**Kurchatov Arra**	**15.19**	**18**	⇓P		**P**	**05 22 36.5**	**+1.2**
	comp=Z,2.4nm,0.6s								
KURBB	**Kurchatov Arra**	**15.19**	**18**	P		**P**	**05 22 36.6**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=205,slow=11,SNR=9.6								
KURK	**Kurchatov**	**15.30**	**18**	P		**P**	**05 22 36.7**	**+0.2**
AB31	**Akbulak array**	**15.31**	**331**	P		**Pn**	**05 22 31.0**	**-3.5**
	comp=Z,5.1nm,0.4s,baz=142,slow=11,SNR=206								
AB31	**Akbulak array**	**15.31**	**331**	*e*P		**Pn**	**05 22 30.9**	**-3.5**
AB31				pmax		pmax			
	comp=Z,1.0nm,0.3s								
JIRN	**Jiri**	**15.33**	**120**	*e*P		**Pn**	**05 22 34.1**	**-1.2**
	comp=Z,30nm,0.4s								
RAMN	**Ramite**	**16.06**	**121**	*e*P		**P**	**05 22 43.6**	**-1.8**
	comp=Z,7.9nm,0.3s								
RAMN				*e*S		Sn	05 25 33.1	-9.4	
VOSK	**Vostochnaya**	**16.36**	**359**	⇓P		**Pn**	**05 22 45.7**	**-1.9**
	comp=Z,3.1nm,0.8s								
TAPN	**Taplejung**	**16.59**	**118**	*e*P		**P**	**05 22 49.9**	**-1.5**
	comp=Z,7.0nm,0.3s								
ODAN	**Odare**	**16.66**	**120**	*e*P		**P**	**05 22 51.1**	**-1.0**
	comp=Z,8.6nm,0.4s								
ZRNK	**Zerenda**	**16.67**	**355**	⇑P		**Pn**	**05 22 50.8**	**-0.4**
	comp=Z,1.6nm,0.5s								
BVA0	**Borovoye Array**	**16.68**	**358**	⇑P		**Pn**	**05 22 50.7**	**-0.7**
	comp=Z,3.6nm,0.9s,baz=161,slow=14,SNR=4.1								
BVAR	**Borovoye Array**	**16.68**	**358**	P		**Pn**	**05 22 51.4**	**+0.1**
BVAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
BVAR	**Borovoye Array**	**16.68**	**358**	P		**Pn**	**05 22 51.4**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=162,slow=13,SNR=7.9								
BRVK	**Borovoye**	**16.71**	**358**	*e*P		**Pn**	**05 22 52.0**	**+0.2**
BRVK				pmax		pmax			
	comp=Z,6.0nm,1.2s								
AKTO	**Aktyubinsk**	**17.01**	**330**	⇑P		**P**	**05 22 53.7**	**-1.7**
	comp=Z,20nm,0.9s								
AKTO	**Aktyubinsk**	**17.01**	**330**	P		**P**	**05 22 54.2**	**-1.2**
AKTO				pmax		pmax			
	comp=Z,20nm,1.0s								
AKTO	**Aktyubinsk**	**17.01**	**330**	P		**P**	**05 22 53.5**	**-1.9**
	comp=Z,1.3nm,0.3s,baz=145,slow=14,SNR=36								
ZALV	**Zalesovo Beam**	**19.96**	**24**	*i* P		Pn	05 23 29.7	-0.7	
ZALV				pmax		pmax			
	comp=Z,8.0nm,0.4s								
ZALV	**Zalesovo Beam**	**19.96**	**24**	P		Pn	05 23 29.6	-0.7	
	comp=Z,7.6nm,0.4s,baz=213,slow=10,SNR=15								
NVS	**Novosibirsk**	**20.24**	**20**	*e*P		Pn	05 23 34.8	+1.2	
ARU	**Arti**	**21.84**	**341**	*d i* P		**P**	**05 23 49.9**	**+2.2**
ARU							05 24 11.6		
ARU				S		**S**	**05 27 42.7**	**+0.9**
ARU				SS		**SnSn**	**05 28 20.7**	**+2.4**
ARU				pmax		pmax			
	comp=Z,8.0nm,1.0s								
BRTR	**Keskin Array B**	**29.68**	**288**	P		**P**	**05 25 00.2**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=83,slow=8.5,SNR=4.7								
OBN	**Obninsk**	**30.18**	**319**	⇓*e*P		**P**	**05 25 04.9**	**+1.1**
OBN				*e*			05 26 08.3		
OBN				*e*S		**S**	**05 29 50.8**	**-3.7**
OBN				pmax		pmax			
	comp=Z,9.0nm,0.4s								
AKASG	**Malin Array Be**	**33.20**	**309**	*ce*P		**P**	**05 25 32.5**	**+2.1**
AKASG	**Malin Array Be**	**33.20**	**309**	P		**P**	**05 25 30.7**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=83,slow=7.8,SNR=4.1								
JOF	**Joensuu**	**36.10**	**330**	*ep*		**P**	**05 25 57.3**	**+2.2**
	comp=Z,2.0nm,0.5s								
JOF	**Joensuu**	**36.10**	**330**	*e*P		**P**	**05 25 57.3**	**+2.2**
JOF				pmax		pmax			
	comp=Z,2.0nm,0.5s								
FINES	**FINESS Array B**	**37.72**	**326**	P		**P**	**05 26 10.9**	**+2.0**
	comp=Z,1.5nm,0.5s,baz=98,slow=10.0,SNR=7.0								
ARCES	**ARCESS Array B**	**41.36**	**338**	P		**P**	**05 26 41.5**	**+2.5**
	comp=Z,4.9nm,0.7s,baz=108,slow=8.6,SNR=13								
CLL	**Collm**	**43.45**	**309**	*i* P		P	05 27 02.6	+6.5	
CLL				pmax		pmax			
	comp=Z,4.0nm,0.5s								
CLL	**Collm**	**43.45**	**309**	*i* P		P	05 27 02.6	+6.5	
	comp=Z,4.0nm,0.5s								
NB2	**NORSAR Subarra**	**44.62**	**323**	P		**P**	**05 27 06.5**	**+1.1**
	comp=Z,0.7nm,0.4s,baz=95,slow=7.9								
NOA	**NORSAR Array B**	**44.62**	**323**	P		**P**	**05 27 05.8**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=97,slow=7.8,SNR=6.2								
TORD	**Torodi Ar. Bea**	**65.93**	**269**	P		**P**	**05 29 36.4**	**-2.4**
	comp=Z,1.2nm,0.4s,baz=50,slow=5.5,SNR=26								
ILAR	**Eielson Array**	**74.86**	**16**	P		**P**	**05 30 34.0**	**+1.7**
	comp=Z,0.4nm,0.9s,baz=316,slow=5.0,SNR=4.6								
BOSA	**Boshof**	**77.78**	**220**	P		**P**	**05 30 49.4**	**0.0**
	comp=Z,1.6nm,0.6s,baz=38,slow=4.7,SNR=3.1								
YKA	**Yellowknife Ar**	**81.38**	**3**	P		**P**	**05 31 10.7**	**+2.4**
	comp=Z,0.6nm,0.6s,baz=350,slow=5.5,SNR=5.4								
WRA	**Warramunga Arr**	**81.73**	**122**	P		**P**	**05 31 11.8**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=322,slow=5.0,SNR=7.5								
ASAR	**Alice Springs**	**84.00**	**125**	P		**P**	**05 31 23.9**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=313,slow=4.7,SNR=5.7								

IDC 02 05:41:59.3±2.0, 5°26N×124°28E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/24, mbtmp4.0/3, Error ellipse: s-maj=194.6km s-min=24.7km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.92**	**159**	P		P	05 47 42.9	+0.4
	1.3nm,0.3s,baz=338,slow=9.6,SNR=44							
ASAR	**Alice Springs**	**30.24**	**162**	P		P	05 48 11.6	-0.5
	0.6nm,0.4s,baz=344,slow=7.1,SNR=9.6							
MKAR	**Makanchi Array**	**54.92**	**326**	P		P	05 51 31.9	-0.1
	0.5nm,0.3s,baz=116,slow=8.0,SNR=9.2							

*NEIC **02** 06:10:54.0, 13°.50S×72°.19W, h24km, ML4.0(ARE), After ARE.*
NEIC Felt [IV] at Anta and Zurite, [III] at Huarocondo and [II] at Cusco.
*IDC **02** 06:10:56.6±1.5, 13°.59S×72°.64W, h0km, mb3.3/1, mb1 3.9/3, mb1mx3.5/21, mbtmp3.6/3, ML3.3/2, MS3.3/6, Ms1 3.3/6, ms1mx3.1/10, Error ellipse: s-maj=73.2km s-min=19.3km az=42.0*

ISC 02 06:10:56.0±0.8, 13°.5S±0°.1×72°.6W±0°.1, h10km, n15, σ2s09/13, 1C, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**3.09**	**160**	⇑*i*P		**Pb**	**06 11 50.0**	**-1.3**
NNA	**Nana**	**4.42**	**290**	*e*Pn		**Pb**	**06 12 12.6**	**-1.3**
LPAZ	**La Paz**	**5.10**	**123**	*e*Pn		**Pn**	**06 12 14.5**	**+1.4**
LPAZ	**La Paz**	**5.10**	**123**	Pn		**Pn**	**06 12 14.5**	**+1.4**
	0.4nm,0.3s,baz=316,slow=13,SNR=25							
LPAZ				Pg		Pb	06 12 30.7	+4.9
	7.0nm,0.3s,baz=306,slow=17,SNR=34							
LPAZ				Lg		Lg	06 13 40.4	
	baz=18,slow=19,SNR=1.7							
LPAZ				LR		LR	06 14 30.4	
	comp=Z,582nm,20.5s,baz=325,slow=42							
ATAH	**Atahualpa**	**8.55**	**318**	Pn		Pn	06 13 07.4	+7.1
	0.3nm,0.3s,baz=153,slow=8.6,SNR=4.3							
ATAH				LR		LR	06 16 35.7	
	comp=Z,131nm,19.7s,baz=304,slow=40							
LVC	**Limon Verde**	**9.67**	**159**	*e*Pn		**Pn**	**06 13 16.3**	**+0.7**
	9.0nm,0.7s							
LVC	**Limon Verde**	**9.67**	**159**	Pn		**Pn**	**06 13 16.4**	**+0.8**
	0.6nm,0.3s,baz=334,slow=10.0,SNR=8.7							
LVC				LR		LR	06 17 02.0	
	comp=Z,162nm,21.6s,baz=322,slow=38							
SIV	**San Ignacio**	**11.40**	**104**	Pn		**Pn**	**06 13 37.3**	**-1.8**
	0.2nm,0.3s,baz=283,slow=13,SNR=5.2							
SIV				Lg		Lg	06 16 51.3	
	0.5nm,0.3s,baz=27,slow=23,SNR=4.7							
SIV				LR		LR	06 18 10.7	
	comp=Z,168nm,18.6s,slow=38							
OTAV	**Otavalo**	**14.87**	**337**	*e*Pn		**Pn**	**06 14 24.5**	**-2.5**
	2.5nm,1.0s							
ROSC	**El Rosal**	**18.36**	**354**	LR		LR	06 22 29.6	
	comp=Z,72nm,21.5s,baz=351,slow=38							
CPUP	**Villa Florida**	**19.15**	**134**	P		**P**	**06 15 18.1**	**-1.5**
	0.1nm,0.3s,baz=307,slow=18,SNR=2.4							
CPUP				LR		LR	06 23 41.1	
	comp=Z,76nm,19.6s,baz=343,slow=40							
TXAR	**Lajitas Array**	**52.13**	**325**	P		**P**	**06 20 08.9**	**+2.1**
	0.3nm,0.8s,baz=138,slow=8.4,SNR=4.4							
KURBB	**Kurchatov Arra**	**136.21**	**26**	PKP		**PKPdf**	**06 30 20.9**	**+3.2**
	0.3nm,0.6s,baz=318,slow=1.2,SNR=5.3							
WRA	**Warramunga Arr**	**137.46**	**219**	PKP		**PKPdf**	**06 30 24.0**	**+3.0**
	0.3nm,0.7s,baz=148,slow=1.9,SNR=5.1							
SONM	**Songino Array**	**145.80**	**1**	PKPbc		**PKPab**	**06 30 36.4**	**+0.4**
	0.2nm,0.4s,baz=352,slow=3.1,SNR=2.8							

*ISCJB **02** 06:17:09.5±0.8, 33°.97N±0°.02×25°.32E±0°.02, h9km±5km, mb4.3/51, MS3.8/10, Error ellipse: s-maj=3.5km s-min=2.8km az=139.8*
*IDC **02** 06:17:09.4±0.6, 34°.06N×25°.25E, h0km, mb4.2/18, mb1 4.2/29, mb1mx4.2/39, mbtmp4.1/29, ML3.9/9, MS3.7/9, Ms1 3.7/9, ms1mx3.1/51, Error ellipse: s-maj=14.6km s-min=12.7km az=5.0*
*BJI **02** 06:17:09.2, 34°.64N×24°.56E, h19km, mB5.0/6, mb4.7/10, Ms4.7/2, Ms7 4.4/2*
*ATH **02** 06:17:09.2, 33°.93N×25°.34E, h4km, MD3.9/20*
*MOS **02** 06:17:11.7±1.3, 34°.03N×25°.23E, h20km, mb4.3/20, Error ellipse: s-maj=9.1km s-min=5.1km az=87.9*
*CSEM **02** 06:17:11.4±0.1, 34°.01N×25°.31E, h10km, mb4.4/38, Error ellipse: s-maj=4.1km s-min=2.9km az=44.0*
*NEIC **02** 06:17:11.7±1.6, 34°.01N×25°.28E, h12km±9km, mb4.2/16, ML3.9(ATH), ML4.1(THE), Error ellipse: s-maj=7.6km s-min=4.6km az=192.0*
*HLW **02** 06:17:12.7, 34°.09N×25°.40E, h32km±23km, Md3.6, Ml3.2*
*THE **02** 06:17:13.6, 34°.16N×25°.17E, h2km±2km, ML4.0/3, Error ellipse: s-maj=4.8km s-min=2.3km az=175.0*
ISC 02 06:17:12.0±0.6, 34°.01N±0°.03×25°.34E±0°.03, h15km±3km, h15km: pP-P, n394, σ1s25/424, mb4.4/51, MS3.8/10, 9C-8D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.09**	**337**	*e*PB		**Pb**	**06 17 31.9**	**-0.7**
SIVA	**Sivas**	**1.09**	**337**	*e*Pb		**Pb**	**06 17 31.9**	**-0.7**
LAST	**Lasithi**	**1.15**	**6**	P		**Pn**	**06 17 31.8**	**-1.9**
LAST				S		**Sn**	**06 17 49.1**	**-0.1**
LAST	**Lasithi**	**1.15**	**6**	*e*PB		**Pn**	**06 17 31.7**	**-1.9**
LAST				*e*SB		**Sg**	**06 17 49.6**	**+0.2**
LAST	**Lasithi**	**1.15**	**6**	P		**Pn**	**06 17 31.8**	**-1.9**
LAST				S		**Sn**	**06 17 49.1**	**-0.1**
NPS	**Neapolis**	**1.27**	**10**	P		**Pn**	**06 17 33.9**	**-1.3**
NPS				S		**Sn**	**06 17 52.1**	**+0.2**
NPS	**Neapolis**	**1.27**	**10**	*e*PB		**Pn**	**06 17 33.9**	**-1.3**
NPS				*e*SB		**Sg**	**06 17 53.0**	**0.0**
NPS	**Neapolis**	**1.27**	**10**	P		**Pn**	**06 17 33.9**	**-1.3**
NPS				S		**Sn**	**06 17 52.1**	**+0.2**
NPS				*e*Sb		**Sg**	**06 17 53.0**	**0.0**
ZKR	**Zakros**	**1.32**	**33**	*e*PN		**Pn**	**06 17 35.6**	**-0.2**
ZKR	**Zakros**	**1.32**	**33**	*e*Pn		**Pn**	**06 17 35.6**	**-0.2**
GVD	**Gavdhos**	**1.32**	**309**	*e*PN		**Pb**	**06 17 36.2**	**-0.3**
GVD	**Gavdhos**	**1.32**	**309**	*e*Pn		**Pn**	**06 17 35.7**	**-0.2**
GVD				*e*Sn		**Sb**	**06 17 53.3**	**+0.1**
GVD	**Gavdhos**	**1.32**	**309**	*e*Pn		**Pn**	**06 17 35.7**	**-0.2**
GVD				*e*Sn		**Sb**	**06 17 53.3**	**+0.1**
IDI	**Anoyia**	**1.33**	**344**	P		**Pn**	**06 17 34.6**	**-1.4**
IDI				S		**Sn**	**06 17 51.9**	**-1.5**
IDI	**Anoyia**	**1.33**	**344**	*e*PB		**Pn**	**06 17 34.9**	**-1.1**
IDI	**Anoyia**	**1.33**	**344**	*e*Pg		**Pn**	**06 17 35.1**	**-0.9**
IDI	**Anoyia**	**1.33**	**344**	P		**Pn**	**06 17 34.6**	**-1.4**
IDI	**Anoyia**	**1.33**	**344**	*e*Pb		**Pn**	**06 17 34.9**	**-1.1**
IDI	**Anoyia**	**1.33**	**344**	*e*Pg		**Pn**	**06 17 35.1**	**-0.9**
IDI				S		**Sn**	**06 17 51.9**	**-1.5**
VAM	**Vamos**	**1.68**	**326**	P		**Pn**	**06 17 39.5**	**-1.3**
VAM				S		**Sn**	**06 17 59.8**	**-2.2**
VAM	**Vamos**	**1.68**	**326**	*e*PG		**Pn**	**06 17 41.5**	**+0.7**
VAM	**Vamos**	**1.68**	**326**	P		**Pn**	**06 17 39.5**	**-1.3**
VAM	**Vamos**	**1.68**	**326**	*e*Pg		**Pn**	**06 17 41.5**	**+0.7**
VAM				S		**Sn**	**06 17 59.8**	**-2.2**
KARP	**Karpathos**	**2.15**	**44**	P		**Pb**	**06 17 49.6**	**-1.0**
KARP				S		**Sb**	**06 18 16.2**	**-0.8**
KARP	**Karpathos**	**2.15**	**44**	P		**Pb**	**06 17 49.6**	**-1.0**
LTBQ	**Tobruq**	**2.28**	**212**	*i* P		**Pn**	**06 17 50.1**	**+1.0**
	SNR=35							
SANT	**Santorini**	**2.36**	**2**	P		**Pn**	**06 17 50.3**	**+0.1**
SANT				S		**Sn**	**06 18 18.9**	**+0.1**
SANT	**Santorini**	**2.36**	**2**	*e*PN		**Pb**	**06 17 52.3**	**-1.9**
SANT	**Santorini**	**2.36**	**2**	*e*Pn		**Pn**	**06 17 50.5**	**+0.3**
SANT	**Santorini**	**2.36**	**2**	P		**Pn**	**06 17 50.3**	**+0.1**
SANT				S		**Sn**	**06 18 18.9**	**+0.1**
ANKY	**Antikythira Is**	**2.50**	**318**	*e*PG		**Pb**	**06 17 55.7**	**-0.8**
ANKY	**Antikythira Is**	**2.50**	**318**	*e*Pg		**Pb**	**06 17 55.7**	**-0.8**
SLUM		**2.52**	**182**	S		**Sn**	**06 18 21.9**	**-0.7**
	baz=184							
SLUM				AMP			06 18 00.0	
	comp=N,120μm,0.6s,logA/T=5.3,baz=184							
SLUM		**2.52**	**182**	P		**Pn**	**06 17 51.9**	**-0.4**
SLUM				S		**Sn**	**06 18 21.9**	**-0.7**
KYTH	**Kithira**	**2.95**	**321**	*e*PN		**Pn**	**06 17 59.6**	**+1.4**
APE	**Apeiranthos**	**3.06**	**3**	P		**Pn**	**06 18 00.5**	**+0.7**
APE	**Apeiranthos**	**3.06**	**3**	*e*PN		**Pn**	**06 17 58.2**	**-1.6**
APE	**Apeiranthos**	**3.06**	**3**	*e*Pn		**Pn**	**06 17 58.2**	**-1.6**
APE	**Apeiranthos**	**3.06**	**3**	P		**Pn**	**06 18 00.5**	**+0.7**
ARG	**Arkhangelos**	**3.17**	**45**	*e*PB		**Pn**	**06 18 04.1**	**+2.8**
ARG	**Arkhangelos**	**3.17**	**45**	*e*Pb		**Pn**	**06 18 04.1**	**+2.8**
HMAT	**Matruh**	**3.27**	**152**	P		**Pn**	**06 18 02.3**	**-0.4**
	baz=153							
HMAT				AMP			06 18 00.0	
	comp=N,120μm,0.8s,logA/T=5.2,baz=153							
HMAT				S		**Sn**	**06 18 39.6**	**-1.6**
	baz=153							
HMAT	**Matruh**	**3.27**	**152**	P		**Pn**	**06 18 02.3**	**-0.4**
HMAT				S		**Sn**	**06 18 39.6**	**-1.6**
VLI	**Veliai**	**3.34**	**325**	*e*PN		**Pn**	**06 18 05.9**	**+2.3**
VLI	**Veliai**	**3.34**	**325**	*e*Pn		**Pn**	**06 18 05.9**	**+2.3**
DYR	**Agios Nikonas**	**3.68**	**319**	*e*PB		Pn	06 18 12.5	+4.2
DYR	**Agios Nikonas**	**3.68**	**319**	*e*Pb		Pn	06 18 12.5	+4.2
DID	**Didima**	**3.88**	**335**	P		**Pn**	**06 18 11.4**	**+0.3**
DID				S		**Sn**	**06 18 55.1**	**-1.4**
DID	**Didima**	**3.88**	**335**	*e*PN		**Pn**	**06 18 11.6**	**+0.5**
DID	**Didima**	**3.88**	**335**	P		**Pn**	**06 18 11.4**	**+0.3**
DID				S		**Sn**	**06 18 55.1**	**-1.4**
TURN	**Turunc**	**3.91**	**42**	*e*Pn		Pn	06 18 07.5	-3.8
VLX	**Vlachokerasia**	**4.13**	**325**	P		**Pn**	**06 18 15.5**	**+1.0**
VLX				S		**Sn**	**06 19 00.3**	**-2.3**
VLX	**Vlachokerasia**	**4.13**	**325**	*e*PN		**Pn**	**06 18 17.0**	**+2.5**
VLX	**Vlachokerasia**	**4.13**	**325**	P		**Pn**	**06 18 15.5**	**+1.0**
VLX	**Vlachokerasia**	**4.13**	**325**	*e*Pn		**Pn**	**06 18 17.0**	**+2.5**
VLX				S		**Sn**	**06 19 00.3**	**-2.3**
AKAS	**Kas**	**4.14**	**56**	*e*Pn		**Pn**	**06 18 15.6**	**+0.8**
AKAS				*e*Sn		**Sn**	**06 19 04.8**	**+1.8**
AYDN	**Tasoluk**	**4.19**	**29**	*e*Pn		Pn	06 18 10.9	-4.4
AYDN				*e*Sn		**Sn**	**06 19 03.0**	**-1.0**
ITM	**Ithomi**	**4.21**	**320**	*e*PN		**Pn**	**06 18 14.4**	**-1.2**
ITM	**Ithomi**	**4.21**	**320**	*e*Pn		**Pn**	**06 18 14.4**	**-1.2**
URLA	**Izmir**	**4.46**	**13**	*e*Pn		**Pn**	**06 18 18.2**	**-0.8**
GUR	**Goura**	**4.61**	**329**	*e*PN		**Pn**	**06 18 21.8**	**+0.6**
GUR	**Goura**	**4.61**	**329**	*e*Pn		**Pn**	**06 18 21.8**	**+0.6**
GOLH	**Golhisar**	**4.71**	**46**	*e*Pn		**Pn**	**06 18 24.1**	**+1.5**
GOLH				*e*Sn		**Sn**	**06 19 17.8**	**+0.8**
DNZL	**Cakiroluk**	**4.75**	**38**	*e*Pn		**Pn**	**06 18 22.8**	**-0.3**
SWA2		**4.75**	**179**	P		**Pn**	**06 18 23.4**	**+0.3**
	baz=179							
SWA2		**4.75**	**179**	P		**Pn**	**06 18 23.4**	**+0.3**
LAKA	**Lakka**	**5.02**	**328**	*e*PN		**Pn**	**06 18 29.8**	**+3.1**
LAKA	**Lakka**	**5.02**	**328**	*e*Pn		**Pn**	**06 18 29.8**	**+3.1**
KORT	**Korkueli**	**5.06**	**52**	*e*Pn		**Pn**	**06 18 29.9**	**+2.5**
KALE	**Kalithea**	**5.08**	**330**	*e*PN		**Pn**	**06 18 29.6**	**+2.0**
KALE	**Kalithea**	**5.08**	**330**	*e*Pn		**Pn**	**06 18 29.6**	**+2.0**
HBRG	**Burj al 'Arab**	**5.13**	**131**	P		**Pn**	**06 18 28.0**	**-0.2**
	baz=131							
LJBD	**Adjabya**	**5.33**	**236**	*i* P		**Pn**	**06 18 31.0**	**0.0**
	SNR=24							
KHAL	**Karahalli**	**5.50**	**36**	*e*Pn		**Pn**	**06 18 33.7**	**+0.3**
GAZI	**Gazipasa**	**6.13**	**67**	*e*Pn		**Pn**	**06 18 39.2**	**-2.8**
GAZI				*e*Sn		Sn	06 19 43.6	-8.3
CSS	**Prodhromos**	**6.67**	**80**	*e*Pn		**Pn**	**06 18 50.5**	**+1.1**
CSS	**Prodhromos**	**6.67**	**80**	*e*Pn		**Pn**	**06 18 50.5**	**+1.1**
KOT	**Kottamia**	**6.86**	**125**	P		**Pn**	**06 18 51.9**	**-0.1**
	baz=125							
KOT	**Kottamia**	**6.86**	**125**	P		**Pn**	**06 18 51.9**	**-0.1**
GLL	**Jalalah**	**7.00**	**127**	P		**Pn**	**06 18 53.4**	**-0.5**
	baz=128							
GLL	**Jalalah**	**7.00**	**127**	P		**Pn**	**06 18 53.4**	**-0.5**
HFRF	**Wahat Farafira**	**7.30**	**159**	P		**Pn**	**06 18 58.3**	**+0.2**
	baz=159							
HFRF	**Wahat Farafira**	**7.30**	**159**	P		**Pn**	**06 18 58.3**	**+0.2**
AMAG	**Maghara**	**7.46**	**115**	P		**Pn**	**06 18 59.4**	**-0.9**
	baz=115							
AMAG	**Maghara**	**7.46**	**115**	P		**Pn**	**06 18 59.4**	**-0.9**
RSH		**7.71**	**111**	P		**Pn**	**06 19 03.1**	**-0.6**
	baz=111							
RSH		**7.71**	**111**	P		**Pn**	**06 19 03.1**	**-0.6**
HNKL	**Nakhl**	**8.39**	**117**	P		**Pn**	**06 19 12.8**	**-0.2**
	baz=117							
HNKL	**Nakhl**	**8.39**	**117**	P		**Pn**	**06 19 12.9**	**-0.2**
MMAI	**Mount Meron Ar**	**8.46**	**94**	Pn		**Pn**	**06 19 14.6**	**+0.5**
MMAI				Sn		**Sn**	**06 20 45.9**	**-3.5**
MMAI	**Mount Meron Ar**	**8.46**	**94**	Pn		**Pn**	**06 19 14.6**	**+0.5**
	comp=E,2.5nm,0.3s,baz=270,slow=13,SNR=3.0							
MMAI				Sn		**Sn**	**06 20 45.9**	**-3.5**
	comp=E,1.4nm,0.3s,baz=274,slow=24,SNR=2.4							
MMAI	**Mount Meron Ar**	**8.46**	**94**	Pn		**Pn**	**06 19 14.6**	**+0.5**
TIP	**Timpagrande**	**8.61**	**309**	*e*Pn		**Pn**	**06 19 15.0**	**-1.1**
TIP	**Timpagrande**	**8.61**	**309**	*e*Pn		**Pn**	**06 19 15.0**	**-1.1**
CEL	**Celeste**	**8.73**	**302**	*e*Pn		**Pn**	**06 19 17.0**	**-0.7**
CEL	**Celeste**	**8.73**	**302**	*e*Pn		**Pn**	**06 19 17.0**	**-0.7**
BR131	**Keskin Array S**	**8.76**	**47**	*e*Pn		**Pn**	**06 19 19.9**	**+1.7**
	comp=E,1.6nm,0.6s							
BR131				*e*Sn		**Sn**	**06 21 00.8**	**+4.1**
BRTR	**Keskin Array B**	**8.76**	**47**	Pn		**Pn**	**06 19 19.5**	**+1.3**
BRTR				Sn		**Sn**	**06 20 55.1**	**-1.6**
BRTR	**Keskin Array B**	**8.76**	**47**	Pn		**Pn**	**06 19 19.5**	**+1.3**
	comp=E,0.2nm,0.3s,baz=229,slow=14,SNR=11							
BRTR				Sn		**Sn**	**06 20 55.1**	**-1.6**
	comp=E,0.1nm,0.3s,baz=220,slow=24,SNR=3.2							
BRTR	**Keskin Array B**	**8.76**	**47**	S		**Sn**	**06 20 55.1**	**-1.6**
HKAT	**Jabal Katrina**	**9.21**	**124**	P		**Pn**	**06 19 24.5**	**+0.1**
	baz=124							
HKAT	**Jabal Katrina**	**9.21**	**124**	P		**Pn**	**06 19 24.5**	**+0.1**
EIL	**Elat**	**9.25**	**115**	Pn		**Pn**	**06 19 25.2**	**+0.4**
EIL				Sn		**Sn**	**06 21 05.8**	**-2.9**
EIL	**Elat**	**9.25**	**115**	Pn		**Pn**	**06 19 25.2**	**+0.4**
	comp=E,2.1nm,0.3s,baz=283,slow=12,SNR=7.8							
EIL				Sn		**Sn**	**06 21 05.8**	**-2.9**
	comp=E,0.7nm,0.3s,baz=308,slow=19,SNR=2.7							
EIL	**Elat**	**9.25**	**115**	Pn		**Pn**	**06 19 25.2**	**+0.4**
EIL				Sn		**Sn**	**06 21 05.8**	**-2.9**
CUC	**Castrocucco**	**9.67**	**311**	*e*Pn		**Pn**	**06 19 30.4**	**-0.2**
CUC	**Castrocucco**	**9.67**	**311**	*e*Pn		**Pn**	**06 19 30.4**	**-0.2**
ASF	**Jabal al Asfar**	**9.87**	**98**	Pn		**Pn**	**06 19 33.3**	**-0.1**
ASF				Sn		**Sn**	**06 21 20.7**	**-3.3**
ASF	**Jabal al Asfar**	**9.87**	**98**	Pn		**Pn**	**06 19 33.3**	**-0.1**
ASF				Sn		**Sn**	**06 21 20.7**	**-3.3**
BBLS	**Lazići**	**10.87**	**337**	*e*Pn		**Pn**	**06 19 45.6**	**-1.4**
VOIR		**11.41**	**359**	⇓*i*P		**Pn**	**06 19 55.8**	**+1.3**
VOIR		**11.41**	**359**	⇓*i*P		**Pn**	**06 19 55.8**	**+1.3**
**

GERES	**GERESS Array B**	17.17	333	Pn		**P**	06 21 12.6	-0.2	
	comp=Z,0.5nm,0.3s,baz=149,slow=12,SNR=40								
GERES	**GERESS Array B**	17.17	333	P		**P**	06 21 12.6	-0.2	
	comp=Z,1.0nm,0.3s								
LMR	**La Mourre**	17.37	308	*e*P		**P**	06 21 16.9	+1.9	
	comp=Z,24nm,1.1s								
LMR	**La Mourre**	17.37	308	*e*P		**P**	06 21 16.9	+1.9	
	comp=Z,24nm,1.1s								
TUE	**Stuetta**	17.39	320	P		**P**	06 21 15.8	+0.3	
	comp=Z,7.6nm,0.9s								
TUE	**Stuetta**	17.39	320	P		**P**	06 21 15.8	+0.3	
	comp=Z,7.6nm,0.9s								
KHC	**Kasperske Hory**	17.45	333	*e*P		**P**	06 21 16.5	+0.6	
KHC				MLR	MLR				
	comp=Z,200nm,13.6s								
KHC	**Kasperske Hory**	17.45	333	*e*P		**P**	06 21 16.5	+0.6	
KHC				*e*pP		**pP**	06 21 21.0	+0.8	
KHC				AMS	AMS		06 28 20.0		
	comp=Z,200nm,13.6s								
KHC	**Kasperske Hory**	17.45	333	*e*P		**P**	06 21 16.5	+0.6	
	comp=Z,26nm,1.4s								
KHC	**Kasperske Hory**	17.45	333	*e*P		**P**	06 21 16.5	+0.6	
	comp=Z,26nm,1.4s								
DPC	**Dobruska-Polom**	17.62	341	*e*P		**P**	06 21 17.5	-0.3	
DPC	**Dobruska-Polom**	17.62	341	*e*P		**P**	06 21 17.5	-0.3	
DPC	**Dobruska-Polom**	17.62	341	*e*P		**P**	06 21 17.5	-0.3	
PRU	**Pruhonice**	17.84	337	*e*P		**P**	06 21 19.9	-0.2	
PRU				MLR	MLR				
	comp=Z,100nm,12.4s								
PRU	**Pruhonice**	17.84	337	*e*P		**P**	06 21 19.9	-0.2	
PRU				AMS	AMS		06 28 30.0		
	comp=Z,100nm,12.4s								
PRU	**Pruhonice**	17.84	337	*e*P		**P**	06 21 19.9	-0.2	
	comp=Z,100nm,12.4s								
UPC	**Upice**	17.85	340	*e*P		**Pn**	06 21 17.7	-1.9	
UPC	**Upice**	17.85	340	*e*P		**Pn**	06 21 17.7	-1.9	
UPC	**Upice**	17.85	340	*e*P		**Pn**	06 21 17.7	-1.9	
MBDF	**Montbardon**	17.86	312	*e*P		**Pn**	06 21 20.3	+0.3	
	comp=Z,11nm,0.8s								
MBDF	**Montbardon**	17.86	312	*e*P		**Pn**	06 21 20.3	+0.3	
	comp=Z,11nm,0.8s								
SMRF	**Simiane la Rot**	18.26	309	*e*P		**P**	06 21 25.5	+0.6	
	comp=Z,9.8nm,0.9s								
SMRF	**Simiane la Rot**	18.26	309	*e*P		**P**	06 21 25.5	+0.6	
	comp=Z,9.0nm,0.9s								
SENIN	**Lac Senin/Sane**	18.44	317	*e*P		**Pn**	06 21 29.2	+2.0	
	comp=Z,5.1nm,0.6s								
SENIN	**Lac Senin/Sane**	18.44	317	*e*P		**Pn**	06 21 29.2	+2.0	
	comp=Z,5.1nm,0.6s								
BRG	**Berggiesshubel**	18.79	337	*e*P		**P**	06 21 30.7	+0.1	
	comp=Z,3.0nm,0.8s								
BRG	**Berggiesshubel**	18.79	337	*e*P		**P**	06 21 30.7	+0.1	
BRG				pmax	pmax				
	comp=Z,3.0nm,0.8s								
BRG	**Berggiesshubel**	18.79	337	*e*P		**P**	06 21 30.7	+0.1	
	comp=Z,3.0nm,0.8s								
GRFO	**Grafenberg**	18.82	331	*e*P		**P**	06 21 30.7	-0.2	
GRFO				pmax	pmax				
	comp=Z,19nm,0.9s								
GRFO	**Grafenberg**	18.82	331	*e*Pn		**P**	06 21 30.7	-0.2	
	comp=Z,19nm,0.9s								
GRFO	**Grafenberg**	18.82	331	*e*P		**P**	06 21 30.7	-0.2	
	comp=Z,19nm,0.9s								
BFO	**Black Forest**	19.14	323	*e*P		**Pn**	06 21 35.4	+0.1	
BFO				pmax	pmax				
	comp=Z,7.0nm,1.0s								
BFO	**Black Forest**	19.14	323	*e*Pn		**Pn**	06 21 35.4	+0.1	
	comp=Z,6.8nm,1.0s								
BFO	**Black Forest**	19.14	323	*e*P		**Pn**	06 21 35.4	+0.1	
	comp=Z,7.0nm,1.0s								
CABF	**La Chapelle**	19.27	316	*e*P		**Pn**	06 21 38.0	+0.9	
	comp=Z,13nm,0.8s								
CABF	**La Chapelle**	19.27	316	*e*P		**Pn**	06 21 38.0	+0.9	
	comp=Z,12nm,0.8s								
LASF	**Ste Croix**	19.43	307	*e*P		**Pn**	06 21 38.4	-0.5	
LASF	**Ste Croix**	19.43	307	*e*P		**Pn**	06 21 38.4	-0.5	
CLL	**Collm**	19.47	336	*i* P		P	06 21 30.9	-7.2	
CLL	**Collm**	19.47	336	*e*P		P	06 21 30.0	-8.1	
CLL				*i*			06 21 30.9		
	comp=Z,5.0nm,0.7s								
CLL				*e*			06 21 38.0		
CLL				Lm	MLR		06 28 00.0		
	comp=N,100nm,20.1s								
CLL				Lm	MLR		06 28 00.0		
	comp=E,200nm,19.7s								
HINF	**Hinteralfeld**	19.56	320	*e*P		**P**	06 21 39.7	+0.6	
	comp=E,12nm,0.8s								
HINF	**Hinteralfeld**	19.56	320	*e*P		**P**	06 21 39.7	+0.6	
	comp=E,12nm,0.8s								
ECH	**Echery**	19.65	322	*e*P		**Pn**	06 21 41.9	+0.4	
ECH				pmax	pmax				
	comp=Z,8.0nm,1.1s								
ECH	**Echery**	19.65	322	*e*P		**Pn**	06 21 41.9	+0.4	
	comp=Z,7.6nm,1.1s								
ECH	**Echery**	19.65	322	*e*P		**Pn**	06 21 41.9	+0.4	
	comp=Z,7.6nm,1.1s								
CDF	**Champ du Feu**	19.72	322	*e*P		**Pn**	06 21 42.3	-0.1	
	comp=Z,19nm,0.9s								
CDF	**Champ du Feu**	19.72	322	*e*P		**Pn**	06 21 42.3	-0.1	
	comp=Z,18nm,0.9s								
VSR	**Storozhevoye**	19.92	26	*e*P		**Pn**	06 21 45.1	+0.5	
VSR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
VSR				pmax	pmax				
	comp=N,10.0nm,0.9s								
VSR				pmax	pmax				
	comp=E,10.0nm,1.1s								
VSR	**Storozhevoye**	19.92	26	*e*P		**Pn**	06 21 45.1	+0.5	
	comp=E,10.0nm,0.9s								
HAU	**Haudompre**	19.95	320	*e*P		**P**	06 21 43.5	+0.2	
	comp=E,12nm,0.6s								
HAU	**Haudompre**	19.95	320	*e*P		**P**	06 21 43.5	+0.2	
	comp=E,11nm,0.6s								
SUW	**Suwalki**	20.05	356	*e*P		Pn	06 21 45.7	-0.5	
SUW	**Suwalki**	20.05	356	*e*P		Pn	06 21 45.7	-0.4	
	comp=E,50nm,0.3s								
SUW	**Suwalki**	20.05	356	*e*P		Pn	06 21 45.7	-0.5	
	comp=E,50nm,0.3s								
SMF	**Signal de Mont**	20.60	314	*e*P		**P**	06 21 49.4	-1.1	
	comp=E,8.2nm,0.7s								
SMF	**Signal de Mont**	20.60	314	*e*P		**P**	06 21 49.4	-1.1	
	comp=E,8.0nm,0.7s								
PAGF	**Fort de Pagny**	20.61	321	*e*P		**P**	06 21 50.2	-0.3	
	comp=E,10.0nm,0.8s,baz=127								
PAGF	**Fort de Pagny**	20.61	321	*e*P		**P**	06 21 50.2	-0.3	
	comp=E,1.0nm,0.8s								
TAM	**Tamanrasset**	20.67	242	*e*P		Pn	06 21 53.9	0.0	
TAM				pmax	pmax				
	comp=Z,5.0nm,0.8s								
TAM	**Tamanrasset**	20.67	242	*e*P		Pn	06 21 53.9	0.0	
	comp=Z,5.0nm,0.8s								
LOR	**Lormes**	20.91	316	*e*P		**P**	06 21 53.2	-0.6	
	comp=Z,8.7nm,0.8s,baz=124								
LOR	**Lormes**	20.91	316	*e*P		**P**	06 21 53.2	-0.6	
	comp=Z,8.0nm,0.8s								
AVF	**Avril sur Loir**	20.97	314	*e*P		**P**	06 21 54.8	+0.4	
	comp=Z,15nm,1.0s								
AVF	**Avril sur Loir**	20.97	314	*e*P		**P**	06 21 54.8	+0.4	
	comp=Z,14nm,1.0s								
BGF	**Bois d'Agland**	21.16	313	*e*P		**P**	06 21 56.7	+0.2	
	comp=Z,15nm,0.6s								
BGF	**Bois d'Agland**	21.16	313	*e*P		**P**	06 21 56.7	+0.2	
	comp=Z,15nm,0.6s								
TCF	**Toulx Ste Croi**	21.43	312	*e*P		**P**	06 21 59.0	-0.3	
	comp=Z,39nm,1.3s								
TCF	**Toulx Ste Croi**	21.43	312	*e*P		**P**	06 21 59.0	-0.3	
	comp=Z,38nm,1.3s								
RJF	**Les Rejaudoux**	21.45	309	*e*P		**P**	06 21 59.3	-0.3	
	comp=Z,7.5nm,0.6s								
RJF	**Les Rejaudoux**	21.45	309	*e*P		**P**	06 21 59.3	-0.3	
	comp=Z,7.0nm,0.6s								
MEM	**Membach**	21.79	325	P		**P**	06 22 05.0	+1.8	
	comp=Z,10nm,1.0s								
MEM	**Membach**	21.79	325	P		**P**	06 22 05.0	+1.8	
	comp=Z,10nm,1.0s								
GIVF	**Givet**	22.03	323	*e*P		**P**	06 22 07.1	+1.3	
	comp=Z,13nm,0.6s								
GIVF	**Givet**	22.03	323	*e*P		**P**	06 22 07.1	+1.3	
	comp=Z,13nm,0.6s								
BEBN	**Eben Emael**	22.07	325	P		**P**	06 22 08.1	+2.0	
BEBN	**Eben Emael**	22.07	325	P		**P**	06 22 08.1	+2.0	
DOU	**Dourbes**	22.14	323	P		**P**	06 22 07.7	+0.7	
	comp=Z,6.7nm,1.0s								
DOU	**Dourbes**	22.14	323	P		**P**	06 22 07.7	+0.7	
	comp=Z,6.7nm,1.0s								
BAIF	**Baives**	22.32	322	*e*P		**P**	06 22 09.8	+1.0	
	comp=Z,21nm,0.8s								
BAIF	**Baives**	22.32	322	*e*P		**P**	06 22 09.8	+1.0	
	comp=Z,20nm,0.8s								
OBN	**Obninsk**	22.51	17⇑	*e*P		**P**	06 22 13.6	+2.8	
OBN				*e*S		**S**	06 26 11.2	-5.8	
OBN				pmax	pmax				
	comp=Z,11nm,0.5s								
OBN				MLR	MLR				
	comp=Z,100nm,19.0s								
MFF	**Saint Martin d**	23.03	311	*e*P		**P**	06 22 16.1	-0.3	
	comp=Z,24nm,0.9s								
MFF	**Saint Martin d**	23.03	311	*e*P		**P**	06 22 16.1	-0.3	
	comp=Z,23nm,0.9s								
MOS	**Moscow**	23.34	18	*e*P		P	06 22 27.5	+8.1	
LDF	**La Druitiere**	23.89	315	*e*P		**P**	06 22 23.7	-1.2	
	comp=Z,14nm,0.7s								
LDF	**La Druitiere**	23.89	315	*e*P		**P**	06 22 23.7	-1.2	
	comp=Z,13nm,0.7s								
ESDC	**Sonseca Array**	24.06	292	P		**P**	06 22 26.1	-0.6	
ESDC	**Sonseca Array**	24.06	292	P		**P**	06 22 26.1	-0.6	
	comp=Z,1.8nm,0.6s,baz=83,slow=9.5,SNR=10.0								
ESDC	**Sonseca Array**	24.06	292	P		**P**	06 22 26.0	-0.6	
FLN	**La Foliniere**	24.18	315	*e*P		**P**	06 22 26.4	-1.2	
	baz=122								
FLN	**La Foliniere**	24.18	315	*e*P		**P**	06 22 26.4	-1.2	
GRR	**Gorron**	24.23	314	*e*P		**P**	06 22 27.8	-0.3	
	comp=Z,13nm,0.7s								
GRR	**Gorron**	24.23	314	*e*P		**P**	06 22 27.8	-0.3	
	comp=Z,12nm,0.7s								
MDT	**Midelt**	24.99	276	P		**P**	06 22 35.1	-0.2	
MDT	**Midelt**	24.99	276	P		**P**	06 22 35.1	-0.2	
	comp=Z,3.6nm,0.9s,baz=90,slow=13,SNR=4.2								
MDT	**Midelt**	24.99	276	P		**P**	06 22 35.1	-0.2	
SGMF	**Saint Gilles**	25.20	313	*e*P		**P**	06 22 36.4	-0.4	
	comp=Z,22nm,1.0s								
SGMF	**Saint Gilles**	25.20	313	*e*P		**P**	06 22 36.4	-0.4	
	comp=Z,22nm,1.0s								
QUIF	**Quistinic**	25.44	312	*e*P		**P**	06 22 39.0	0.0	
	comp=Z,13nm,0.7s								
QUIF	**Quistinic**	25.44	312	*e*P		**P**	06 22 39.0	0.0	
	comp=Z,12nm,0.7s								
PBRG	**Braganca**	26.37	297	*e*P		**P**	06 22 48.4	+0.8	
	comp=Z,12nm,1.6s								
PBRG	**Braganca**	26.37	297	*e*P		**P**	06 22 48.4	+0.8	
	comp=Z,12nm,1.6s								
PBAR	**Barrancos**	26.41	288	*e*P		**P**	06 22 47.4	-0.6	
	comp=Z,18nm,1.7s								
PBAR	**Barrancos**	26.41	288	*e*P		**P**	06 22 47.4	-0.6	
	comp=Z,18nm,1.7s								
MVO	**Moncorvo**	26.52	295	*e*P		**P**	06 22 49.1	+0.2	
	comp=Z,10nm,1.9s								
MVO	**Moncorvo**	26.52	295	*e*P		**P**	06 22 49.1	+0.2	
	comp=Z,10nm,1.9s								
PMRV	**Marv??o**	26.69	291	*e*P		**P**	06 22 49.8	-0.7	
	comp=Z,13nm,1.4s								
PMRV	**Marv??o**	26.69	291	*e*P		**P**	06 22 49.8	-0.7	
	comp=Z,13nm,1.4s								
HFS	**Hagfors**	27.23	347	P		**P**	06 22 54.7	-0.3	
HFS	**Hagfors**	27.23	347	P		**P**	06 22 54.7	-0.3	
	comp=Z,17nm,0.6s,baz=152,slow=9.4,SNR=11								
HFS	**Hagfors**	27.23	347	P		**P**	06 22 54.7	-0.3	
	comp=Z,2.0nm,0.6s								
FINES	**FINESS Array B**	27.45	1	P		**P**	06 22 56.8	-0.2	
FINES	**FINESS Array B**	27.45	1	P		**P**	06 22 56.8	-0.2	
	comp=Z,0.7nm,0.4s,baz=165,slow=12,SNR=5.7								
FINES	**FINESS Array B**	27.45	1	P		**P**	06 22 56.8	-0.2	
	comp=Z,1.0nm,0.4s								
PTEO	**Sao Teotonio**	27.77	287	*e*P		**P**	06 22 59.4	-0.7	
	comp=Z,46nm,1.6s								
PTEO	**Sao Teotonio**	27.77	287	*e*P		**P**	06 22 59.4	-0.7	
	comp=Z,46nm,1.6s								
NB2	**NORSAR Subarra**	28.54	346	P		**P**	06 23 05.7	-1.2	
	comp=Z,1.0nm,0.8s,baz=156,slow=9.3								
NB2	**NORSAR Subarra**	28.54	346	P		**P**	06 23 05.7	-1.2	
	comp=Z,1.0nm,0.8s,baz=156,slow=9.0,SNR=7.5								
NOA	**NORSAR Array B**	28.54	346	P		**P**	06 23 05.3	-1.5	
NOA	**NORSAR Array B**	28.54	346	P		**P**	06 23 05.3	-1.5	
	comp=Z,0.8nm,0.5s,baz=151,slow=9.2,SNR=7.1								
NOA	**NORSAR Array B**	28.54	346	P		**P**	06 23 05.3	-1.5	
	comp=Z,1.0nm,0.5s								
AKTK	**Aktyubinsk**	28.94	46	P		**P**	06 23 11.4	+1.0	
	comp=Z,1.0nm,0.6s								
AKTO	**Aktyubinsk**	28.94	46	P		**P**	06 23 11.4	+1.0	
AKTO				pmax	pmax				
	comp=Z,1.0nm,0.6s								
AKTO	**Aktyubinsk**	28.94	46	P		**P**	06 23 11.3	+1.0	
AKTO	**Aktyubinsk**	28.94	46	P		**P**	06 23 11.3	+1.0	
	comp=Z,1.4nm,0.6s,baz=239,slow=8.8,SNR=3.9								
AKTO	**Aktyubinsk**	28.94	46	P		**P**	06 23 11.4	+1.0	
EKA	**Eskdalemuir Ar**	29.07	326	P		**P**	06 23 10.5	-1.0	
EKA	**Eskdalemuir Ar**	29.07	326	P		**P**	06 23 10.5	-1.0	
	comp=Z,3.3nm,0.8s,baz=121,slow=9.1,SNR=14								
EKA	**Eskdalemuir Ar**	29.07	326	P		**P**	06 23 10.5	-1.0	
	comp=Z,3.0nm,0.8s								
ESK	**Eskdalemuir**	29.08	326	*i* P		**P**	06 23 11.9	+0.3	
ESK	**Eskdalemuir**	29.08	326	*i* P		**P**	06 23 11.9	+0.3	
ABKAR	**Akbulak array**	29.71	49	*e*P		**P**	06 23 18.9	+1.7	
ABKAR	**Akbulak array**	29.71	49	*e*P		**P**	06 23 18.9	+1.7	
TORD	**Torodi Ar. Bea**	29.88	232	P		**P**	06 23 18.9	-0.2	
TORD	**Torodi Ar. Bea**	29.88	232	P		**P**	06 23 18.9	-0.2	
	comp=Z,2.7nm,0.8s,baz=37,slow=9.0,SNR=16								
TORD				LR	LR		06 38 05.4		
	comp=Z,312nm,18.4s,baz=65,slow=42								
TORD	**Torodi Ar. Bea**	29.88	232	P		**P**	06 23 18.9	-0.2	
ARU	**Arti**	31.90	35*d*	*i* P		P	06 23 40.8	+4.3	
ARU							06 24 43.4		
ARU				S		**S**	06 28 52.6	+5.9	
ARU				SS		**SnSn**	06 30 36.7	+1.7	
ARU				pmax	pmax				
	comp=Z,4.0nm,1.0s								
ARCES	**ARCESS Array B**	35.58	0	P		**P**	06 24 07.1	-1.2	
ARCES	**ARCESS Array B**	35.58	0	P		**P**	06 24 07.1	-1.2	
	comp=Z,2.7nm,0.9s,baz=178,slow=9.0,SNR=6.1								
ARCES	**ARCESS Array B**	35.58	0	P		**P**	06 24 07.1	-1.2	
	comp=Z,3.0nm,0.9s								
KKAR	**Karatay Array**	36.10	62	*e*P		**P**	06 24 15.3	+2.1	
KKAR	**Karatay Array**	36.10	62	*e*P		**P**	06 24 15.3	+2.1	
KKAR	**Karatay Array**	36.10	62	*e*P		**P**	06 24 15.3	+2.1	
BRVK	**Borovoye**	36.99	45	*e*P		**P**	06 24 22.7	+2.1	
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.8s								
BRVK	**Borovoye**	36.99	45	*e*P		**P**	06 24 22.7	+2.1	
	comp=Z,3.0nm,0.8s								
BVAR	**Borovoye Array**	37.04	45	LR		LR	06 42 25.4		
	comp=Z,58nm,19.4s,baz=4.2,slow=41								
DBIC	**Dimbokro**	38.98	233	LR		LR	06 43 37.7		
	comp=Z,159nm,19.5s,baz=33,slow=41								
AAK	**Ala-Archa**	39.05	62	LR		LR	06 44 09.9		
	comp=Z,64nm,20.2s,baz=347,slow=42								
MK31	**Makanchi Array**	44.29	56	*e*P		**P**	06 25 21.2	+0.1	
MK31				*e*			06 27 05.3		
MK31	**Makanchi Array**	44.29	56	*e*P		**P**	06 25 21.2	+0.1	
MK31				*e*			06 27 05.3		
MK31	**Makanchi Array**	44.29	56	*e*P		**P**	06 25 21.2	+0.1	
MK31	**Makanchi Array**	44.29	56	*e*PcP		**PcP**	06 27 05.3	+0.1	
MKAR	**Makanchi Array**	44.29	56	*e*P		P	06 25 21.2	+0.1	
MKAR				pmax	pmax				
	comp=Z,6.0nm,0.6s								
MKAR	**Makanchi Array**	44.29	56	P		**P**	06 25 21.1	0.0	
MKAR	**Makanchi Array**	44.29	56	P		**P**	06 25 21.1	0.0	
	comp=Z,5.6nm,0.6s,baz=269,slow=7.7,SNR=72								
MKAR	**Makanchi Array**	44.29	56	P		**P**	06 25 21.1	0.0	
ZAA0	**Zalesovo Array**	45.70	45	*e*P		**P**	06 25 32.0	-0.1	
ZAA0	**Zalesovo Array**	45.70	45	*e*P		**P**	06 25 32.0	-0.1	
ZALV	**Zalesovo Beam**	45.70	45	*i* P		**P**	06 25 32.2	+0.1	
ZALV				pmax	pmax				
	comp=Z,3.0nm,0.5s								
ZALV	**Zalesovo Beam**	45.70	45	P		**P**	06 25 31.6	-0.4	
ZALV	**Zalesovo Beam**	45.70	45	P		**P**	06 25 31.6	-0.4	
	comp=Z,2.9nm,0.5s,baz=270,slow=8.6,SNR=12								
ZALV	**Zalesovo Beam**	45.70	45	*i* P		**P**	06 25 32.2	+0.1	
	comp=Z,3.0nm,0.5s								
WMQ	**Urumqi**	48.46	59	*e*P		**P**	06 25 54.0	+0.1	
WMQ				pP		**pP**	06 25 58.5	-0.2	
WMQ				sP		**sP**	06 26 01.0	+0.4	
WMQ				PP		**PP**	06 27 46.5	0.0	
WMQ				pmax	pmax				
	comp=Z,13nm,0.4s								
WMQ				pmax	pmax				
	comp=Z,82nm,5.2s								
TSUM	**Tsumeb**	53.43	189	LR		LR	06 51 54.3		
	comp=Z,79nm,18.6s,baz=350,slow=39								
ZAK	**Zakamensk**	57.40	48	*e*P		**P**	06 26 59.7	-0.1	
ZAK				pmax	pmax				
	comp=Z,2.0nm,0.9s								
ZAK	**Zakamensk**	57.40	48	*e*P		**P**	06 26 59.7	-0.1	
	comp=Z,2.0nm,0.9s								
SONM	**Songino Array**	60.10	50	P		**P**	06 27 19.4	+0.7	
SONM	**Songino Array**	60.10	50	P		**P**	06 27 19.4	+0.7	
	comp=Z,1.6nm,0.6s,baz=282,slow=7.9,SNR=9.6								
SONM	**Songino Array**	60.10	50	P		**P**	06 27 19.4	+0.7	
	comp=Z,2.0nm,0.6s								
BOSA	**Boshof**	62.29	180	P		**P**	06 27 33.7	+0.2	
BOSA	**Boshof**	62.29	180	P		**P**	06 27 33.7	+0.2	
	comp=Z,3.2nm,0.9s,baz=131,slow=7.5,SNR=2.1								
BOSA				LR	LR		06 55 10.6		
	comp=Z,81nm,18.1s,baz=346,slow=37								
BOSA	**Boshof**	62.29	180	P		**P**	06 27 33.7	+0.2	
	comp=Z,81nm,18.1s								
LZH	**Lanzhou**	62.58	63	*e*P		**P**	06 27 36.1	+0.4	
LZH				pP		**pP**	06 27 40.0	-0.6	
LZH				pmax	pmax				
	comp=Z,14nm,1.0s								
SCHQ	**Schefferville**	64.16	320	*e*P		**P**	06 27 44.9	-0.7	
SCHQ				*e*PcP		**PcP**	06 28 19.3	-1.2	
SCHQ	**Schefferville**	64.16	320	P		**P**	06 27 44.6	-1.0	
	comp=Z,3.6nm,0.6s,baz=63,slow=7.0,SNR=11								
SCHQ	**Schefferville**	64.16	320	*e*P		**P**	06 27 44.9	-0.7	
HHC	**Hu-ho-hao-te**	66.16	56	*e*P		**P**	06 27 58.2	-0.8	
HHC				PcP		**PcP**	06 28 28.2	-1.0	
HHC				PP		**PP**	06 30 25.4	+1.1	
HHC				ScP			06 32 30.1		
HHC				PcS			06 32 31.5		
HHC				S		**S**	06 36 43.3	-3.9	
HHC				ScS		**SKSac**	06 37 49.6	-5.2	
HHC				SS		**SS**	06 41 00.4	-2.1	
HHC				pmax	pmax				
	comp=Z,41nm,0.7s								
HHC				pmax	pmax				
	comp=Z,190nm,6.5s								
HHC				LR	LR				
	comp=N,140nm,16.6s								
HHC				LR	LR				
	comp=E,270nm,17.5s								
HHC				LR	LR				
	comp=Z,250nm,17.8s								
CMAR	**Chiang Mai Arr**	66.56	83	P		**P**	06 28 03.2	+1.5	
CMAR	**Chiang Mai Arr**	66.56	83	P		**P**	06 28 03.2	+1.5	
	comp=Z,0.5nm,0.3s,baz=310,slow=7.4,SNR=4.6								
CMAR	**Chiang Mai Arr**	66.56	83	P		**P**	06 28 03.2	+1.5	
	comp=Z,1.0nm,0.3s								
GYA	**Guiyang**	68.96	72	*e*P		**P**	06 28 18.6	+1.7	
GYA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
BILL	**Bilibino**	74.14	14⇑	*e*P		**P**	06 28 48.9	+1.6	
BILL				*e*			06 31 31.8		
BILL	**Bilibino**	74.14	14	*e*P		**P**	06 28 48.9	+1.6	
MDJ	**Mudanjiang**	75.90	46	P		**P**	06 28 58.3	+0.5	
MDJ				pmax	pmax				
	comp=Z,5.0nm,1.6s								
MDJ				pmax	pmax				
	comp=Z,79nm,8.0s								
USRK	**Ussuriysk Arra**	77.56	45	P		**P**	06 29 07.2	0.0	
	comp=Z,1.8nm,0.6s,baz=309,slow=6.2,SNR=4.1								
YKA	**Yellowknife Ar**	78.58	342	P		**P**	06 29 11.8	-0.8	
YKA	**Yellowknife Ar**	78.58	342	P		**P**	06 29 11.8	-0.8	
	comp=Z,1.0nm,0.6s,baz=31,slow=5.4,SNR=8.6								
YKA	**Yellowknife Ar**	78.58	342	P		**P**	06 29 11.8	-0.8	
	comp=Z,1.0nm,0.6s								
KSRS	**Korea Array**	78.87	52	LR		LR	07 07 07.7		
	comp=Z,25nm,20.8s,baz=225,slow=38								
COLD	**Coldfoot**	79.02	358	*e*P		**P**

JCZ				AML	AML	06 40 54.4
WKZ	**Wanaka**	**1.42**	**100**	PN	Pn	06 40 37.6 -0.2
WKZ				AML	AML	06 40 58.9
WHZ	**Wether Hill Ro**	**1.44**	**154**	PN	Pn	06 40 37.0 -1.0
PYZ	**Puysegur Point**	**1.58**	**189**	PN	Pn	06 40 39.3 -0.7
EAZ	**Earnscleugh**	**1.72**	**112**	PN	Pn	06 40 41.8 -0.1
EAZ				AML	AML	06 41 07.9
EAZ				AML	AML	06 41 07.9
EAZ				AML	AML	06 41 09.5
SYZ	**Scrubby Hill**	**2.43**	**144**	PN	Pn	06 40 51.2 -0.4

GUC ***02*** *06:50:52.4±0.7, 32°.14S×66°.62W, h156km, MD4.2, ML5.1*
IDC ***02*** *06:50:55.9±0.5, 32°.30S×67°.13W, h0km, mb4.5/12, mb1 4.6/17, mb1mx4.5/22, mbtmp4.4/17, ML4.5/5, MS3.6/6, Ms1 3.6/6, ms1mx3.3/32, Error ellipse: s-maj=17.7km s-min=12.8km az=78.0*
BJI ***02*** *06:50:58.8, 33°.24S×67°.96W, h29km, mB5.3/3, Ms5.3/4, Ms7 4.9/5*
ISCJB ***02*** *06:50:59.3±0.2, 32°.40S±0°.03×66°.93W±0°.04, h33km, mb4.6/47, MS3.6/3, Error ellipse: s-maj=4.8km s-min=4.6km az=25.8*
NEIC ***02*** *06:51:00.2±1.3, 32°.36S×67°.04W, h25km±9km, mb4.7/33, Error ellipse: s-maj=6.1km s-min=4.6km az=83.0*
ISC 02 06:50:59.6±1.1, 32°32S±0°04×67°13W±0°05, h24km±8km, n372, ₙ0ᵍ99/393, mb4.6/47, MS3.3/3, 122C-127D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**1.19**	**307**	Pn	Pn	06 51 18.1	-2.7
CFAA				Sn	**Sn**	**06 51 33.2**	**-3.0**
CFAA	**Coronel Fontan**	**1.19**	**307**	Pn	Pn	06 51 18.1	-2.7
	48nm,0.3s,baz=127,slow=18,SNR=2193						
CFAA				Sn	**Sn**	**06 51 33.2**	**-3.0**
	79nm,0.3s,baz=24,slow=20,SNR=20						
FCH	**Farellones**	**2.85**	**249**	*i* S	**Sb**	**06 52 25.8**	**+1.4**
FCH				AML	AML	06 52 28.2	
	comp=N,4μm,0.5s						
LMEL	**Las Melosas**	**3.00**	**239**	⇑*i* P	**Pn**	**06 51 46.8**	**+1.0**
LMEL				*i* S	**Sb**	**06 52 28.1**	**-0.6**
LMEL	**Las Melosas**	**3.00**	**239**	⇑*i* P	**Pn**	**06 51 46.8**	**+1.0**
LMEL				*i* S	**Sb**	**06 52 28.1**	**-0.6**
LMEL				AML	AML	06 52 29.4	
	comp=E,2μm,0.6s						
CLCH	**Cerro Calan**	**3.06**	**249**	⇑*i* P	**Pn**	**06 51 47.6**	**+1.0**
CLCH				*i* S	**Sb**	**06 52 30.1**	**-0.4**
FSR	**Penalolen**	**3.08**	**247**	*i* S	**Sb**	**06 52 30.4**	**-0.7**
FSR				AML	AML	06 52 31.9	
	comp=N,1μm,0.5s						
FSR				AML	AML	06 52 33.0	
	comp=E,1μm,0.5s						
PEL	**Peldehue**	**3.11**	**254**	⇓*i* P	**Pn**	**06 51 48.3**	**+1.0**
PEL				*i* S	**Sb**	**06 52 29.9**	**-1.8**
PEL				AML	AML	06 52 32.6	
	comp=N,6μm,0.5s						
PCH	**Pirque**	**3.13**	**245**	*e*P	**Pn**	**06 51 48.4**	**+0.8**
PCH	**Pirque**	**3.13**	**245**	*e*P	**Pn**	**06 51 48.4**	**+0.8**
STL	**Santa Lucia**	**3.16**	**248**	*e*P	**Pn**	**06 51 49.9**	**+2.0**
STL				*i* S	**Sb**	**06 52 32.8**	**-0.4**
STL				AML	AML	06 52 35.9	
	comp=N,665nm,0.7s						
SAN	**Santiago**	**3.18**	**248**	⇓*i* P	**Pn**	**06 51 49.5**	**+1.2**
SAN				S	**Sb**	**06 52 33.9**	**+0.1**
SAN	**Santiago**	**3.18**	**248**	⇓*i* P	**Pn**	**06 51 49.5**	**+1.2**
SAN				*i* S	**Sb**	**06 52 33.9**	**+0.1**
ROCH	**El Roble**	**3.34**	**258**	⇑*i* P	**Pn**	**06 51 51.6**	**+1.0**
CHCH	**Chadas Angostu**	**3.37**	**241**	P	**Pn**	**06 51 52.5**	**+1.7**
CHCH	**Chadas Angostu**	**3.37**	**241**	⇓*i* P	**Pn**	**06 51 52.5**	**+1.7**
CACH	**El Canelo**	**3.42**	**238**	⇑*i* P	**Pn**	**06 51 52.3**	**+0.7**
CACH	**El Canelo**	**3.42**	**238**	⇑*i* P	**Pn**	**06 51 52.3**	**+0.7**
TACH	**Talagante**	**3.47**	**246**	P	**Pn**	**06 51 53.9**	**+1.7**
TACH	**Talagante**	**3.47**	**246**	⇑*i* P	**Pn**	**06 51 53.9**	**+1.7**
TLL	**Tololo Astrono**	**3.81**	**303**	⇓*e*P	Pn	06 52 01.1	+3.9
TLL				*i* S	**Sb**	**06 52 48.9**	**-3.3**
TLL	**Tololo Astrono**	**3.81**	**303**	⇓*e*P	Pn	06 52 01.1	+3.9
TLL				*i* S	**Sb**	**06 52 48.9**	**-3.3**
LCO	**Las Campanas**	**4.51**	**316**	*e*Pn	**Pn**	**06 52 08.6**	**+1.8**
LCO				*e*S	**Sb**	**06 53 12.6**	**+0.1**
TRQA	**Tornquist**	**7.10**	**145**	*e*Pn	**Pn**	**06 52 42.1**	**0.0**
TRQA				*e*Sn	**Sn**	**06 54 00.1**	**-1.9**
PLCA	**Paso Flores**	**8.83**	**197**	*e*Pn	**Pn**	**06 53 05.9**	**+0.1**
PLCA				Lg	Lg	06 55 37.9	
PLCA	**Paso Flores**	**8.83**	**197**	Pn	**Pn**	**06 53 06.0**	**+0.1**
	comp=N,0.6nm,0.3s,baz=10,slow=14,SNR=19						
PLCA				Lg	Lg	06 55 37.9	
	comp=N,2.3nm,0.3s,baz=327,slow=6.4,SNR=6.2						
PLCA				LR	LR	06 56 47.2	
	comp=N,189nm,18.3s,baz=175,slow=40						
LVC	**Limon Verde**	**9.80**	**350**	*e*Pn	**Pn**	**06 53 21.0**	**+1.6**
LVC				Lg	Lg	06 56 06.5	
LVC	**Limon Verde**	**9.80**	**350**	Pn	**Pn**	**06 53 19.8**	**+0.5**
	comp=N,4.1nm,0.3s,baz=186,slow=11,SNR=30						
LVC				Lg	Lg	06 56 06.5	
	comp=N,2.6nm,0.3s,baz=245,slow=5.0,SNR=4.6						
LVC				LR	LR	06 57 38.9	
	comp=N,536nm,19.1s,baz=182,slow=41						
CPUP	**Villa Florida**	**10.42**	**58**	Pn	**Pn**	**06 53 27.5**	**-0.1**
CPUP	**Villa Florida**	**10.42**	**58**	Pn	**Pn**	**06 53 27.5**	**-0.1**
	comp=N,2.4nm,0.3s,baz=220,slow=12,SNR=31						
LPAZ	**La Paz**	**15.99**	**356**	Pn	**Pn**	**06 54 45.1**	**+1.5**
LPAZ	**La Paz**	**15.99**	**356**	Pn	**Pn**	**06 54 43.0**	**-0.7**
	comp=N,0.8nm,0.3s,baz=162,slow=9.5,SNR=30						
LPAZ				LR	LR	07 01 31.9	
	comp=N,166nm,18.1s,baz=173,slow=40						
SIV	**San Ignacio**	**17.16**	**20**	Pn	**Pn**	**06 54 58.2**	**+0.2**
SIV	**San Ignacio**	**17.16**	**20**	Pn	**Pn**	**06 54 58.2**	**+0.2**
	comp=N,0.8nm,0.3s,baz=222,slow=13,SNR=16						
BB16B	**Bebedouro**	**19.99**	**60**	⇑*i* P	**P**	**06 55 29.5**	**-1.1**
BB16B				*i*		06 55 32.4	
BB16B				*i*		06 55 36.6	
BB16B				*i*		06 55 44.4	
BB16B				*e*S	Sn	06 59 29.9	+13
EFI	**East Falkland**	**20.45**	**164**	*e*P	**P**	**06 55 34.7**	**-0.5**
	comp=N,234nm,1.3s						
NNA	**Nana**	**22.12**	**334**	*e*P	**P**	**06 55 54.3**	**+0.7**
	comp=N,24nm,1.0s						
USHA	**Ushuaia**	**22.52**	**182**	P	**P**	**06 55 58.1**	**+0.7**
USHA	**Ushuaia**	**22.52**	**182**	P	**P**	**06 55 58.1**	**+0.7**
	comp=N,10nm,1.0s,baz=351,slow=11,SNR=8.9						
BDFB	**Brasilia**	**24.03**	**51**	P	**P**	**06 56 11.9**	**-1.2**
BDFB	**Brasilia**	**24.03**	**51**	P	**P**	**06 56 11.9**	**-1.2**
	comp=N,11nm,0.8s,baz=226,slow=9.3,SNR=15						
ATAH	**Atahualpa**	**27.17**	**335**	LR	LR	07 06 19.8	
	comp=N,79nm,19.8s,baz=70,slow=34						
OTAV	**Otavalo**	**34.11**	**340**	P	**P**	**06 57 44.0**	**+0.9**
	comp=N,1.4nm,0.6s						
ROSC	**El Rosal**	**37.60**	**348**	*e*P	**P**	**06 58 14.7**	**+1.7**
ROSC	**El Rosal**	**37.60**	**348**	LR	LR	07 15 15.4	
	comp=N,48nm,19.1s,baz=252,slow=39						
TGUH	**Tegucigalpa,Un**	**49.99**	**334**	*e*P	**P**	**06 59 53.0**	**+1.0**
	comp=N,32nm,1.0s						
OBIP	**Obispado Ponce**	**50.08**	**1**	*e*P	**P**	**06 59 54.9**	**+2.2**
	comp=N,30nm,0.8s						
CELP	**Cerrillos**	**50.11**	**1**	*e*P	**P**	**06 59 53.0**	**0.0**
SDDR	**Presa de Saban**	**51.17**	**355**	*e*P	P	07 00 06.0	+5.0
	comp=N,18nm,1.0s						
SNAA	**Sanae**	**51.61**	**159**	*e*P	**P**	**07 00 03.2**	**-0.6**
SNAA	**Sanae**	**51.61**	**159**	*e*PcP	**PcP**	**07 01 17.2**	**-0.1**
SNAA	**Sanae**	**51.61**	**159**	*e*P	**P**	**07 00 02.9**	**-0.9**
	comp=N,7.9nm,0.9s						
TEIG	**Tepich**	**56.04**	**336**	*e*P	**P**	**07 00 36.8**	**+0.2**
	comp=N,20nm,0.6s						
QSPA	**South Pole Qui**	**57.91**	**180**	*e*P	**P**	**07 00 49.6**	**0.0**
	comp=N,12nm,0.8s						
SYO	**Syowa Base**	**65.88**	**158**	⇓*e*P	**P**	**07 01 41.0**	**-1.9**
VNDA	**Vanda**	**66.52**	**190**	P	**P**	**07 01 46.7**	**-0.2**
VNDA	**Vanda**	**66.52**	**190**	P	**P**	**07 01 46.7**	**-0.2**
	comp=N,1.2nm,1.0s,baz=124,slow=7.3,SNR=3.8						
732A	**Laxson Ranch,**	**68.27**	**329**	⇑P	**P**	**07 01 59.4**	**+0.8**
	baz=69,SNR=13						
632A	**Uvalde**	**68.86**	**330**	⇓P	**P**	**07 02 03.1**	**+0.8**
	baz=69,SNR=10.0						
631A	**Perdido Creek**	**69.12**	**329**	⇑P	**P**	**07 02 04.7**	**+0.8**
	baz=70						
CPCT	**Cooper Cave**	**69.37**	**345**	*e*P	**P**	**07 02 05.6**	**+0.4**
532A	**Rocksprings**	**69.45**	**330**	⇓P	**P**	**07 02 06.8**	**+0.8**
	baz=70,SNR=19						
JCT	**Junction City**	**69.72**	**330**	*e*P	**P**	**07 02 08.0**	**+0.4**
	comp=N,9.0nm,0.6s						
JCT	**Junction City**	**69.72**	**330**	⇓P	**P**	**07 02 08.1**	**+0.6**
	baz=70						
531A	**Rocksprings**	**69.76**	**329**	⇓P	**P**	**07 02 08.8**	**+0.9**
	baz=70,SNR=9.3						
432A	**Menard**	**70.06**	**330**	⇓P	**P**	**07 02 10.2**	**+0.6**
	baz=70						
530A	**J-C Ranch, Com**	**70.09**	**329**	⇑P	**P**	**07 02 10.6**	**+0.8**
	baz=70						
628A	**Black Gap, Mar**	**70.22**	**327**	⇑P	**P**	**07 02 11.6**	**+0.9**
	baz=71,SNR=15						
431A	**Sonora**	**70.23**	**330**	⇓P	**P**	**07 02 11.2**	**+0.4**
	baz=71,SNR=6.7						
JSRW	**J. Sargeant Re**	**70.38**	**351**	*e*P	**P**	**07 02 12.3**	**+0.9**
627A	**Terlingua Ranc**	**70.42**	**327**	⇑P	**P**	**07 02 12.1**	**+0.1**
	baz=71						
TXAR	**Lajitas Array**	**70.45**	**327**	P	**P**	**07 02 12.4**	**+0.2**
TXAR	**Lajitas Array**	**70.45**	**327**	P	**P**	**07 02 12.4**	**+0.2**
	comp=N,1.5nm,0.6s,baz=150,slow=7.8,SNR=18						
529A	**Stev Forest Ra**	**70.46**	**328**	⇑P	**P**	**07 02 12.6**	**+0.5**
	baz=71,SNR=16						
332A	**Millersview**	**70.48**	**331**	⇑P	**P**	**07 02 12.4**	**+0.2**
	baz=71						
430A	**Baggett Ranch,**	**70.59**	**329**	⇓P	**P**	**07 02 13.5**	**+0.5**
	baz=71,SNR=16						
331A	**San Angelo**	**70.70**	**330**	⇓P	**P**	**07 02 13.8**	**+0.2**
	baz=71						
DBIC	**Dimbokro**	**70.73**	**69**	P	**P**	**07 02 13.4**	**-0.7**
DBIC	**Dimbokro**	**70.73**	**69**	P	**P**	**07 02 13.4**	**-0.7**
	comp=N,4.5nm,0.6s,baz=225,slow=7.6,SNR=9.3						
429A	**Davenport Ranc**	**70.74**	**329**	⇑P	**P**	**07 02 14.4**	**+0.5**
	baz=71,SNR=13						
528A	**Cox Ranch, San**	**70.75**	**328**	⇑P	**P**	**07 02 14.0**	**0.0**
	baz=71,SNR=8.8						
WVT	**Waverly**	**70.81**	**342**	*e*P	**P**	**07 02 13.1**	**-1.0**
	comp=N,31nm,0.8s						
626A	**Big Bend Ranch**	**70.86**	**326**	⇑P	**P**	**07 02 15.5**	**+0.8**
	baz=71,SNR=14						
MIAR	**Mount Ida**	**71.01**	**337**	*e*P	**P**	**07 02 18.5**	**+3.1**
	comp=N,4.8nm,0.9s						
330A	**Mertzon**	**71.10**	**330**	⇓P	**P**	**07 02 16.0**	**-0.1**
	baz=72						
527A	**Woodward Ranch**	**71.11**	**327**	⇓P	**P**	**07 02 16.1**	**-0.2**
	baz=72						
231A	**Bronte**	**71.20**	**331**	⇑P	**P**	**07 02 16.7**	**+0.1**
	baz=72,SNR=9.5						
526A	**Mary Lane Ranc**	**71.26**	**327**	⇑P	**P**	**07 02 17.8**	**+0.7**
	baz=72,SNR=11						
UTMT	**University of**	**71.28**	**342**	*e*P	**P**	**07 02 17.3**	**+0.4**
	comp=N,67nm,0.8s						
230A	**Sterling City**	**71.49**	**330**	⇑P	**P**	**07 02 18.7**	**+0.3**
	baz=72						
329A	**Wagon Wheel Ra**	**71.52**	**329**	⇑P	**P**	**07 02 18.8**	**+0.2**
	baz=72						
ABTX	**Abilene, Hawle**	**71.52**	**331**	⇓P	**P**	**07 02 18.8**	**+0.3**
	baz=72						
426A	**McDonald Obser**	**71.74**	**327**	⇓P	**P**	**07 02 20.4**	**+0.2**
	baz=72,SNR=9.2						
328A	**Wristen Ranch,**	**71.80**	**328**	⇑P	**P**	**07 02 20.6**	**+0.3**
	baz=72						
PARMO	**Parma**	**71.82**	**341**	*e*P	**P**	**07 02 20.8**	**+0.7**
131A	**Roby**	**71.87**	**331**	⇑P	**P**	**07 02 21.1**	**+0.5**
	baz=72						
130A	**Snyder**	**72.04**	**330**	⇑P	**P**	**07 02 21.9**	**+0.2**
	baz=72						
Z32A	**Haskell**	**72.05**	**332**	⇓P	**P**	**07 02 22.0**	**+0.3**
	baz=72						
326A	**Caldwell Ranch**	**72.27**	**327**	⇓P	**P**	**07 02 23.1**	**0.0**
	baz=73						
425A	**Indio Mountain**	**72.29**	**326**	⇓P	**P**	**07 02 23.2**	**-0.1**
	baz=73						
228A	**UT Block 9, Go**	**72.33**	**329**	⇓P	**P**	**07 02 24.3**	**+0.8**
	baz=73						
Z31A	**Sharp Cattle R**	**72.33**	**331**	⇑P	**P**	**07 02 23.2**	**-0.1**
	baz=73,SNR=9.6						
129A	**Stewart Farms,**	**72.45**	**330**	⇑P	**P**	**07 02 24.3**	**+0.1**
	baz=73						
227A	**Bennet, Jal**	**72.55**	**328**	⇑P	**P**	**07 02 25.3**	**+0.6**
	baz=73						
Y32A	**R-V Farms, Ver**	**72.65**	**332**	⇑P	**P**	**07 02 25.7**	**+0.4**
	baz=73						
SIUC	**Southern Illin**	**72.66**	**342**	*e*P	**P**	**07 02 27.7**	**+2.5**
	comp=N,9.5nm,0.9s						
Z30A	**Sanderson Ranc**	**72.71**	**331**	⇑P	**P**	**07 02 25.8**	**+0.2**
	baz=73						
128A	**Castleberry Fa**	**72.71**	**329**	⇑P	**P**	**07 02 26.2**	**+0.5**
	baz=73						
Z29A	**Hungry Hill Ra**	**72.93**	**330**	⇑P	**P**	**07 02 27.0**	**0.0**
	baz=73						
Y31A	**Rekieta Farm,**	**72.94**	**332**	⇑P	**P**	**07 02 27.5**	**+0.5**
	baz=73						
226B	**Tecolote Peak,**	**72.99**	**328**	⇓P	**P**	**07 02 27.4**	**0.0**
	baz=73						
324A	**Moseley Ranch,**	**73.07**	**326**	⇓P	**P**	**07 02 27.4**	**-0.6**
	baz=73						
GDL2	**Guadalupe Moun**	**73.19**	**328**	*e*P	**P**	**07 02 29.3**	**+0.7**
MNTX	**Cornudas Mount**	**73.23**	**327**	*e*P	**P**	**07 02 28.4**	**-0.4**
	comp=N,3.4nm,1.0s						
Z28A	**Tucker Farm, M**	**73.24**	**330**	⇓P	**P**	**07 02 28.6**	**-0.3**
	baz=74						
FVM	**French Village**	**73.24**	**341**	*e*P	**P**	**07 02 28.7**	**+0.1**
	comp=N,18nm,0.9s						
225A	**Deer Hill, Car**	**73.32**	**327**	⇑P	**P**	**07 02 29.2**	**-0.2**
	baz=74						
OLIL	**Olney**	**73.34**	**343**	*e*P	**P**	**07 02 30.8**	**+1.7**
	comp=N,2.2nm,0.4s						
126A	**Clayton Basin,**	**73.41**	**328**	⇑P	**P**	**07 02 29.7**	**-0.2**
	baz=74						
X31A	**McDonald Ranch**	**73.41**	**332**	⇓P	**P**	**07 02 29.9**	**+0.2**
	baz=74,SNR=5.5						
Y29A	**Porterfield Fa**	**73.43**	**331**	⇑P	**P**	**07 02 29.7**	**-0.2**
	baz=74						
MAW	**Mawson**	**73.56**	**162**	P	**P**	**07 02 30.1**	**-0.2**
MAW	**Mawson**	**73.56**	**162**	P	**P**	**07 02 30.1**	**-0.2**
	comp=N,7.7nm,0.8s,baz=221,slow=8.2,SNR=18						
X30A	**Coker Ranch, T**	**73.61**	**331**	⇑P	**P**	**07 02 31.2**	**+0.2**
	baz=74						
224A	**Cornudas Mount**	**73.61**	**327**	⇑P	**P**	**07 02 30.6**	**-0.6**
	baz=74						
Z27A	**Tatum**	**73.62**	**329**	⇓P	**P**	**07 02 30.9**	**-0.2**
	baz=74						
ACSO	**Alum Creek Sta**	**73.67**	**347**	*e*P	**P**	**07 02 33.8**	**+2.7**
	comp=N,11nm,0.9s						
125A	**Gardner Draw,**	**73.71**	**328**	⇑P	**P**	**07 02 31.3**	**-0.4**
	baz=74						
X29A	**Tulia**	**73.95**	**331**	⇑P	**P**	**07 02 33.1**	**+0.1**
	baz=74						
MSTX	**Muleshoe**	**73.99**	**330**	⇓P	**P**	**07 02 33.5**	**+0.2**
	baz=74						
Y27A	**Causey**	**74.08**	**329**	⇑P	**P**	**07 02 33.4**	**-0.4**
	baz=74						
124A	**Stringfield Ra**	**74.10**	**327**	⇓P	**P**	**07 02 33.7**	**-0.4**
	baz=74						
X28A	**Dimmitt**	**74.22**	**330**	⇓P	**P**	**07 02 34.6**	**0.0**
	baz=75						
Z25A	**Roswell**	**74.25**	**328**	⇑P	**P**	**07 02 34.2**	**-0.6**
	baz=75						
V31A	**Spring Creek L**	**74.36**	**333**	⇓P	**P**	**07 02 35.5**	**+0.1**
	baz=75						
222A	**Williams Famil**	**74.38**	**326**	⇓P	**P**	**07 02 35.4**	**-0.2**
	baz=75						
320A	**Kipp Ranch, An**	**74.45**	**324**	⇓P	**P**	**07 02 36.6**	**+0.6**
	baz=75						
W29A	**Amraillo**	**74.51**	**331**	⇓P	**P**	**07 02 36.8**	**+0.5**
	baz=75						
Z24A	**Sheeppen Canyo**	**74.59**	**327**	⇓P	**P**	**07 02 37.4**	**+0.5**
	baz=75						
Y25A	**Mesa, Roswell**	**74.79**	**328**	⇓P	**P**	**07 02 38.7**	**+0.7**
	baz=75						
319A	**Douglas**	**74.86**	**324**	⇑P	**P**	**07 02 39.2**	**+0.8**
	baz=75						
220A	**Playas Peak, P**	**74.91**	**324**	⇓P	**P**	**07 02 39.7**	**+0.9**
	baz=75						
X26A	**CR and CF Fran**	**74.93**	**329**	⇓P	**P**	**07 02 39.4**	**+0.7**
	baz=75						
Z23A	**Rita Site, Whi**	**74.93**	**327**	⇑P	**P**	**07 02 40.1**	**+1.3**
	baz=75						
W27A	**Bowe Ranch, En**	**75.05**	**330**	⇑P	**P**	**07 02 39.9**	**+0.5**
	baz=75						
121A	**Cookes Peak, D**	**75.06**	**325**	⇑P	**P**	**07 02 40.2**	**+0.6**
	baz=75						
Z22A	**Elephant Butte**	**75.27**	**326**	⇑P	**P**	**07 02 42.0**	**+1.3**
	baz=76						
X25A	**Clemmons Ranch**	**75.28**	**329**	⇑P	**P**	**07 02 42.0**	**+1.2**
	baz=76						
U30A	**WK&E Inc. Balk**	**75.34**	**333**	⇓P	**P**	**07 02 42.1**	**+1.1**
	baz=76						
W26A	**Owens Ranch, T**	**75.37**	**330**	⇓P	**P**	**07 02 42.3**	**+1.0**
	baz=76						
Y23A	**Lovelace Mesa,**	**75.41**	**327**	⇓P	**P**	**07 02 42.6**	**+1.0**
	baz=76						
120A	**U Bar Ranch, L**	**75.49**	**325**	⇓P	**P**	**07 02 42.4**	**+0.3**
	baz=76						
Z21A	**St. Cloud Mine**	**75.65**	**326**	⇓P	**P**	**07 02 43.3**	**+0.3**
	baz=76						
W25A	**X Bar L Ranch,**	**75.78**	**329**	⇑P	**P**	**07 02 44.3**	**+0.6**
	baz=76						
Y22A	**Socorro**	**75.83**	**327**	⇑P	**P**	**07 02 45.2**	**+1.2**
	baz=76						
U28A	**Mallet**	**75.83**	**331**	⇑P	**P**	**07 02 45.4**	**+1.5**
	baz=76						
Z20A	**Nine Sixteen R**	**75.93**	**325**	⇓P	**P**	**07 02 45.8**	**+1.2**
	baz=76						
V26A	**Tequesquite Ra**	**75.98**	**330**	⇑P	**P**	**07 02 45.4**	**+0.7**
	baz=76						
X23A	**Hourglass Bar**	**76.01**	**328**	⇑P	**P**	**07 02 46.5**	**+1.5**
	baz=76						
W24A	**Lazy 6 Ranch,**	**76.19**	**329**	⇑P	**P**	**07 02 46.9**	**+0.9**
	baz=77						
Y21A	**Point of Rocks**	**76.22**	**326**	⇑P	**P**	**07 02 47.2**	**+0.9**
	baz=77						
LAZ	**Ladron**	**76.30**	**327**	*e*P	**P**	**07 02 47.7**	**+1.1**
	comp=N,1.1nm,0.9s						
V25A	**Rancho No Teng**	**76.37**	**329**	⇑P	**P**	**07 02 47.6**	**+0.6**
	baz=77						
T28A	**Walsh**	**76.43**	**332**	⇓P	**P**	**07 02 48.0**	**+0.8**
	baz=77						
ANMO	**Albuquerque**	**76.44**	**328**	*e*P	**P**	**07 02 47.5**	**+0.1**
	comp=N,9.3nm,1.5s						
R31A	**Burdett**	**76.46**	**334**	⇑P	**P**	**07 02 48.0**	**+0.7**
	baz=77						
U26A	**Atchley Ranch,**	**76.47**	**330**	⇑P	**P**	**07 02 48.6**	**+1.0**
	baz=77						
Y20A	**Horse Springs,**	**76.47**	**326**	⇓P	**P**	**07 02 48.4**	**+0.6**
	baz=77						
W23A	**Werner Place,**	**76.47**	**328**	⇑P	**P**	**07 02 48.5**	**+0.9**
	baz=77						
X21A	**Alamocita Cree**	**76.63**	**326**	⇓P	**P**	**07 02 49.4**	**+0.8**
	baz=77						
S28A	**Manter**	**76.75**	**332**	⇑P	**P**	**07 02 49.4**	**+0.4**
	baz=77						
U25A	**Circle Dot Ran**	**76.76**	**330**	⇓P	**P**	**07 02 49.3**	**+0.1**
	baz=77						
V23A	**Ortiz Mt. (NFS**	**76.98**	**328**	⇓P	**P**	**07 02 51.3**	**+0.8**
	baz=77						
X20A	**Quemado**	**77.05**	**326**	⇓P	**P**	**07 02 51.5**	**+0.5**
	baz=77						
T26A	**Comanche Natio**	**77.08**	**331**	⇑P	**P**	**07 02 51.6**	**+0.6**
	baz=78						
BOSA	**Boshof**	**77.14**	**116**	P	**P**	**07 02 51.4**	**-0.3**
BOSA	**Boshof**	**77.14**	**116**	P	**P**	**07 02 51.4**	**-0.3**
	comp=N,9.0nm,0.8s,baz=245,slow=5.7,SNR=12						
BOSA				LR	LR	07 30 51.7	
	comp=N,87nm,18.6s,baz=168,slow=31						
214A	**Organ Pipe Nat**	**77.14**	**321**	⇓P	**P**	**07 02 51.6**	**+0.3**
	baz=78						
R29A	**Marienthal**	**77.18**	**333**	⇑P	**P**	**07 02 52.1**	**+0.7**
	baz=78						
Q30A	**Quinter**	**77.32**	**334**	⇑P	**P**	**07 02 52.8**	**+0.7**
	baz=78						
R28A	**Tribune**	**77.37**	**333**	⇓P	**P**	**07 02 53.0**	**+0.6**
	baz=78						
T25A	**Trinidad**	**77.38**	**330**	⇑P	**P**	**07 02 53.3**	**+0.6**
	baz=78						
S26A	**Kim**	**77.41**	**331**	⇓P	**P**	**07 02 53.2**	**+0.5**
	baz=78						
V22A	**San Miguel Ran**	**77.44**	**328**	⇑P	**P**	**07 02 53.7**	**+0.6**
	baz=78						
U23A	**El Rito**	**77.47**	**329**	⇓P	**P**	**07 02 54.4**	**+1.1**
	baz=78						
Q29A	**Oakley**	**77.53**	**334**	⇑P	**P**	**07 02 54.6**	**+1.2**
	baz=78						
W20A	**Ramah**	**77.53**	**326**	⇓P	**P**	**07 02 54.8**	**+1.1**
	baz=78						
R27A	**Eads**	**77.71**	**332**	⇓P	**P**	**07 02 55.7**	**+1.3**
	baz=78						
X18A	**Snowflake**	**77.73**	**325**	⇓P	**P**	**07 02 55.6**	**+0.9**
	baz=78						
U22A	**Llaves**	**77.80**	**328**	⇑P	**P**	**07 02 56.1**	**+1.0**
	baz=78						
S25A	**Robets Cordova**	**77.84**	**331**	⇑P	**P**	**07 02 56.3**	**+1.1**
	baz=78						
R26A	**Arlington**	**77.98**	**332**	⇑P	**P**	**07 02 56.9**	**+1.0**
	baz=78						
Q28A	**Sharon Springs**	**78.00**	**333**	⇑P	**P**	**07 02 57.1**	**+1.1**
	baz=78						
P29A	**Atwood**	**78.13**	**334**	⇑P	**P**	**07 02 57.5**	**+0.9**
	baz=78						
S24A	**Houchin Ranch,**	**78.15**	**330**	⇓P	**P**	**07 02 58.3**	**+1.2**
	baz=78						

baz=82
BFSC Mount Baldy Ra 81.50 320 ⇑P P 07 03 15.8 +0.7
baz=82
O20A White River Ci 81.53 329 ⇓P P 07 03 16.1 +0.9
baz=82
J28A Allard Ranch, 81.59 336 ⇓P P 07 03 17.3 +2.0
baz=82
CASY Casey 81.70 179 eP P 07 03 15.7 +0.1
SRU San Rafael 81.70 327 eP P 07 03 16.9 +0.8
comp=N,3.8nm,1.0s
N21A Black Mountain 81.74 330 ⇓P P 07 03 17.6 +1.2
baz=82
CCUT Cedar City 81.81 325 eP P 07 03 18.6 +1.8
Q16A Castle Valley 81.85 327 ⇓P P 07 03 18.5 +1.5
baz=82
MVU Marysvale 82.00 326 eP P 07 03 18.6 +0.7
comp=N,3.7nm,1.0s
O19A Miners Draw (B 82.04 329 ⇑P P 07 03 19.0 +1.1
baz=82
N20A Spence Gulch, 82.11 330 ⇑P P 07 03 19.7 +1.3
baz=82
M20A Sweetwater, Wa 82.62 330 ⇓P P 07 03 20.9 0.0
baz=83
K23A Bowen Ranch, D 82.64 332 ⇑P P 07 03 21.3 +0.4
baz=83
L21A Rawlins 82.68 331 ⇑P P 07 03 21.6 +0.4
baz=83
J24A Dixon Ranch, L 82.76 333 ⇑P P 07 03 22.6 +1.1
baz=83
MPMC Manual Prospec 82.78 321 ⇑P P 07 03 22.3 +0.4
baz=83
K22A Casper 82.91 332 ⇓P P 07 03 23.3 +1.0
baz=83
I25A Rochford 83.00 334 ⇓P P 07 03 23.5 +0.6
baz=83
M19A Rock Springs 83.05 330 ⇓P P 07 03 24.6 +1.4
baz=83
PKM Peak Mountain 83.18 319 ⇑P P 07 03 25.0 +1.0
baz=84
I24A Kuemmerle Ranc 83.20 334 ⇓P P 07 03 25.2 +1.4
baz=84
RSSD Black Hills 83.20 334 eP P 07 03 25.0 +1.0
comp=N,3.8nm,1.1s
J22A Midwest 83.53 332 ⇓P P 07 03 26.5 +1.0
baz=84
L19A Farson 83.62 330 ⇑P P 07 03 26.8 +0.7
baz=84
DUG Dugway 83.63 327 ⇓P P 07 03 26.9 +0.8
baz=84
K20A Yellowstone Ra 83.65 331 ⇑P P 07 03 27.2 +1.0
baz=84
H24A Dirks Ranch, A 83.93 334 ⇓P P 07 03 28.2 +0.7
baz=84
I22A 9 Mile Ranch, 83.94 333 ⇓P P 07 03 27.8 +0.2
baz=84
K19A Absolon Red Bu 84.00 331 ⇓P P 07 03 28.2 +0.2
baz=84
HWUT Hardware Ranch 84.19 328 eP P 07 03 27.2 -1.8
comp=N,4.7nm,1.1s
I21A Big Trails, Te 84.19 332 ⇑P P 07 03 29.1 +0.2
baz=85
PDAR Pinedale Array 84.25 330 P P 07 03 29.3 -0.1
PDAR Pinedale Array 84.25 330 P P 07 03 29.3 -0.1
comp=N,1.0nm,0.8s,baz=133,slow=5.3,SNR=7.3
AGMN Agassiz Nation 84.28 341 eP P 07 03 28.9 -0.1
comp=N,6.3nm,1.0s
G24A Alzada 84.38 335 ⇓P P 07 03 30.2 +0.5
baz=85
H22A Clearmont 84.48 333 ⇑P P 07 03 30.4 +0.1
baz=85
H21A Big Horn, Sher 84.77 333 ⇑P P 07 03 31.9 +0.1
baz=85
MDND Maddock 84.96 339 ⇑P P 07 03 32.6 +0.1
baz=85
G22A Birney 84.98 333 ⇑P P 07 03 33.0 +0.2
baz=85
NVAR Mina Array Bea 84.98 322 P P 07 03 33.7 +0.6
NVAR Mina Array Bea 84.98 322 P P 07 03 33.7 +0.6
comp=N,1.1nm,0.8s,baz=140,slow=4.7,SNR=8.4
H20A Greybull 85.03 332 ⇓P P 07 03 33.1 0.0
baz=85
F23A Volborg 85.07 334 ⇓P P 07 03 33.4 +0.2
baz=86
ELK Elko 85.21 325 P P 07 03 34.9 +0.6
comp=N,2.5nm,0.9s
LOHW Long Hollow 85.38 330 eP P 07 03 35.6 +0.6
comp=N,1.3nm,0.5s
F22A Rosebud 85.44 334 ⇓P P 07 03 35.1 +0.1
baz=86
G20A Bridger 85.72 332 ⇓P P 07 03 36.4 -0.2
baz=86
IMW Indian Meadow 85.76 330 eP P 07 03 37.8 +0.8
H18A Shoshone NF, C 85.86 331 ⇑P P 07 03 37.1 -0.2
baz=86
D24A Glendive 85.88 336 ⇑P P 07 03 37.4 +0.3
baz=86
RLMT Red Lodge 86.06 332 eP P 07 03 38.8 +0.4
comp=N,3.9nm,0.9s
D23A Lindsay 86.24 335 ⇓P P 07 03 39.3 +0.4
baz=87
C24A Savage 86.27 336 ⇑P P 07 03 39.6 +0.5
baz=87
G18A Lazy EL Ranch, 86.34 332 ⇓P P 07 03 39.6 0.0
baz=87
F19A Roth Farm, Mol 86.54 332 ⇑P P 07 03 40.7 +0.2
baz=87
D22A Cohagen 86.57 334 ⇓P P 07 03 40.8 +0.2
baz=87
E20A Meyer Farm, Mu 86.76 333 ⇓P P 07 03 42.0 +0.5
baz=87,SNR=13
C23A Lambert 86.77 335 ⇓P P 07 03 41.6 +0.1
baz=87
GCMT Greycliff 86.77 332 eP P 07 03 42.2 +0.5
comp=N,3.3nm,0.8s
D21A La Casta Ranch 86.80 334 ⇑P P 07 03 42.0 +0.3
baz=87
SCHQ Schefferville 86.80 0 P P 07 03 40.6 -0.8
SCHQ Schefferville 86.80 0 P P 07 03 40.6 -0.8
comp=N,2.5nm,0.6s,baz=184,slow=6.3,SNR=6.2
I14A Mackay 86.87 328 ⇓P P 07 03 42.6 +0.3
baz=87
F18A Big Timber 86.89 332 ⇑P P 07 03 42.9 +0.7
baz=87,SNR=9.9
C22A Vida 86.97 335 ⇓P P 07 03 43.0 +0.5
baz=87
E19A Rath Farm, Rou 86.98 333 ⇑P P 07 03 43.0 +0.3
baz=87,SNR=17
DGMT Dagmar 87.00 336 eP P 07 03 46.4 +3.8
DGMT Dagmar 87.00 336 ⇓P P 07 03 43.2 +0.6
baz=87
F17A Fitzpatrick Pl 87.27 331 ⇑P P 07 03 44.5 +0.3
baz=88
MCMT McKenzie Canyo 87.32 329 eP P 07 03 45.5 +0.9
comp=N,2.4nm,0.9s
C21A Desert Coulee 87.47 334 ⇓P P 07 03 45.4 +0.4
baz=88
B22A Reddig Ranch S 87.48 335 ⇓P P 07 03 45.4 +0.4
baz=88
E18A Harlowton 87.51 332 ⇓P P 07 03 46.0 +0.7
baz=88
I12A Atlanta 87.52 327 ⇑P P 07 03 46.1 +0.6
baz=88
MFID Camas Ranch 87.55 327 ⇑P P 07 03 46.0 +0.5
baz=88
D19A Cripps Ranch, 87.59 333 ⇓P P 07 03 46.0 +0.5
baz=88
DLMT Dillon 87.64 330 eP P 07 03 46.5 +0.6
comp=N,8.7nm,1.3s
C20A Veseth Ranch, 87.72 334 ⇑P P 07 03 46.5 +0.4
baz=88
LRM Limekiln Ridge 87.94 330 eP P 07 03 49.0 +1.5
B21A Ellsworth Farm 87.95 335 ⇓P P 07 03 47.6 +0.4
baz=88
F15A Butte 87.98 330 ⇓P P 07 03 47.7 +0.1
baz=88
D18A Linhart Farms, 87.98 332 ⇓P P 07 03 47.7 +0.3
baz=88
A22A Carney Farms, 88.04 336 ⇑P P 07 03 47.8 +0.2
baz=88
C19A Slack Wire Ran 88.13 333 ⇓P P 07 03 48.3 +0.2
baz=88
D17A Six Diamond Ra 88.29 332 ⇑P P 07 03 49.2 +0.2
baz=89,SNR=14
F14A Wisdom 88.33 330 ⇓P P 07 03 49.6 +0.3
baz=89
A21A Bergtoll Ranch 88.39 335 ⇑P P 07 03 49.8 +0.5
baz=89
A20A Cobblestone Ra 88.66 334 ⇓P P 07 03 50.6 0.0
baz=89
B19A Brinkman Farms 88.69 334 ⇓P P 07 03 50.8 +0.1
baz=89
C17A Wharram Farm, 88.71 332 ⇓P P 07 03 51.2 +0.3
baz=89
D15A Lincoln 88.95 331 ⇓P P 07 03 52.1 0.0
baz=89
B18A Beardsley Farm 88.95 333 ⇓P P 07 03 51.9 -0.1
baz=89
A19A Klindworth Far 89.00 334 ⇑P P 07 03 52.2 0.0
baz=89
C16A Fuhringer Ranc 89.24 332 ⇑P P 07 03 53.5 +0.1
baz=90
B17A L&G Farms, Che 89.26 333 ⇑P P 07 03 53.5 +0.1
baz=90
D14A Greenough 89.39 330 ⇑P P 07 03 54.2 0.0
baz=90
A18A Metzger Ranch, 89.41 333 ⇓P P 07 03 54.0 0.0
baz=90
C15A Salmond Ranch, 89.57 331 ⇑P P 07 03 54.6 -0.3
baz=90
A17A Triple J Farms 89.75 333 ⇑P P 07 03 55.5 -0.2
baz=90
B15A Bradely Ranch, 89.98 332 ⇓P P 07 03 56.4 -0.4
baz=90
C14A Swan Lake 90.03 331 ⇑P P 07 03 56.8 -0.3
baz=90
A16A West Butte Ran 90.10 332 ⇓P P 07 03 57.1 -0.3
baz=90
D12A Red Ives Fores 90.15 329 ⇓P P 07 03 57.3 -0.3
baz=90
JTMT Jette 90.24 330 P P 07 03 55.9 -2.2
comp=N,1.6nm,0.6s
C13A Hot Springs 90.31 330 ⇓P P 07 03 58.0 -0.3
baz=91
A15A Johnson Ranch, 90.58 332 ⇓P P 07 03 59.3 -0.3
baz=91
A14A Double T Ranch 90.85 332 ⇓P P 07 04 00.6 -0.3
baz=91
C11A Tepee Creek (N 91.15 329 ⇑P P 07 04 01.9 -0.3
baz=92
B12A Libby 91.35 330 ⇑P P 07 04 03.1 0.0
baz=92
NEW Newport 91.85 329 ⇑P P 07 04 05.5 +0.1
baz=92
KKAR Karatay Array 145.13 60 ePKPdf PKPbc 07 10 34.3 -0.3
EKS2 Erkin-Say 147.56 60 ePKPbc PKPbc 07 10 43.0 +1.1
PSI Prapat 147.84 153 PKPbc PKPbc 07 10 42.9 -0.6
PSI Prapat 147.84 153 PKPbc PKPbc 07 10 42.9 -0.6
comp=N,9.5nm,0.7s,baz=262,slow=2.0,SNR=12
AAK Ala-Archa 148.09 60 ePKPbc PKPbc 07 10 44.9 +1.5
AAK ePKPab **PKPab** 07 10 47.5 +1.2
TKM2 Tokmak 2 148.86 59 ePKPbc PKPbc 07 10 46.3 +0.8
KSH Kashi 149.43 66 PKPbc PKPbc 07 10 47.4 +0.6
KSH pPKP **PKPab** 07 10 55.2 +3.5
KSH sPKP 07 10 58.7
KSH PP PP 07 14 25.4 +5.6
KSH SKKS 07 21 06.2
KSH SS SS 07 33 32.0 -0.7
KSH AMB AMB
comp=Z,150nm,6.5s
ZAA0 Zalesovo Array 150.56 34 ePKPbc PKPbc 07 10 49.5 +0.6
ZALV Zalesovo Beam 150.56 34 PKPbc PKPbc 07 10 49.4 +0.5
ZALV Zalesovo Beam 150.56 34 PKPbc PKPbc 07 10 49.4 +0.5
comp=Z,17nm,0.7s,baz=288,slow=2.4,SNR=30
MK31 Makanchi Array 152.55 49 ePKPdf PKPdf 07 10 46.8 0.0
MK31 ePKPbc PKPbc 07 10 54.0 +0.2
MK31 ePKPab PKPab 07 11 05.1 +0.8
MKAR Makanchi Array 152.55 49 PKPbc PKPbc 07 10 53.9 +0.1
MKAR Makanchi Array 152.55 49 PKPbc PKPbc 07 10 53.9 +0.1
comp=Z,2.0nm,0.6s,baz=267,slow=1.7,SNR=16
WMQ Urumqi 157.19 53 PKP PKPdf 07 10 52.1 -1.2
MDJ Mudanjiang 162.10 318 PKP PKPdf 07 11 00.4 +1.6
MDJ PP PP 07 15 28.9 -0.5
SONM Songino Array 163.74 16 PKP PKPdf 07 11 00.9 +0.4
SONM PKPab PKPab 07 11 53.2 +0.6
SONM Songino Array 163.74 16 PKP PKPdf 07 11 00.9 +0.4
comp=Z,0.2nm,0.4s,baz=264,slow=1.4,SNR=3.0
SONM PKPab **PKPab** 07 11 53.2 +0.6
comp=Z,0.9nm,0.7s,baz=336,slow=3.2,SNR=6.0
CN2 Changchun 164.88 323 ePKP PKPdf 07 11 01.4 0.0
KMI Kunming 168.58 126 PKP PKPdf 07 11 04.5 -0.6
HHC Hu-ho-hao-te 171.43 7 ePKP PKPdf 07 11 03.9 -2.2
HHC sPKP 07 11 18.6
HHC PKS PKSdf 07 14 35.6 -2.9
HHC PP PP 07 16 18.0 +1.2
HHC SKS SKSdf 07 18 02.3 -5.8
HHC LR LR
comp=N,220nm,21.4s
HHC LR LR
comp=E,330nm,21.1s
HHC LR LR
comp=Z,180nm,22.1s
LZH Lanzhou 171.63 61 ePKP PKPdf 07 11 04.3 -2.2
LZH pPKP **pPKPdf** 07 11 12.5 -2.0
LZH sPKP 07 11 17.0
LZH PKPab **PKPab** 07 12 27.8 -0.3
LZH LR LR
comp=Z,170nm,16.6s
BJI Beijing 171.85 342 PKP PKPdf 07 11 07.7 +1.5
BJI SS SS 07 37 30.2 +5.1
BJI LR LR
comp=N,69nm,17.7s
BJI LR LR
comp=E,110nm,19.7s
BJI LR LR
comp=Z,36nm,18.7s
GYA Guiyang 172.03 136 ePKP PKPdf 07 11 06.4 -0.5
GYA sPKP 07 11 19.0
GYA PKPab **PKPab** 07 12 30.0 +0.1
GYA PKS **PKSdf** 07 14 38.6 -0.8
GYA PP **PP** 07 16 22.5 +1.8
GYA AMB AMB
comp=Z,90nm,8.0s
CD2 Chengdu 172.10 98 PKP PKPdf 07 11 06.1 -0.6
NJ2 Nanjing 174.92 269 ePKP PKPdf 07 11 09.1 +1.5

*IDC **02** 07:03:17.2±1.2, 6.08S×130.78E, h0km, mb4.1/3, mb1 4.5/5, mb1mx4.0/18, mbtmp4.3/5, ML5.0/2, Error ellipse: s-maj=91.6km s-min=23.7km az=71.0*
*ISCJB **02** 07:03:28.7±0.4, 6.62S±0.04×130.27E±0.08, h90km, mb3.8/3, Error ellipse: s-maj=11.1km s-min=4.6km az=163.7*
*AUST **02** 07:03:29.6, 6.48S×130.54E, h100km*
*DJA **02** 07:03:29.0±3.3, 7.3S±3.1×13.0E±, h28km±38km, M4.7/6, mb4.9/5, mB5.6/2, MLv4.5/6, Mw(mB)5.1/2*
ISC 02 07:03:28.8±0.6, 6.61S±0.04×130.42E±0.07, h90km, n31, σ2s70/33, mb4.0/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.13**	**346**	P	**Pn**	**07 04 03.8**	**+1.0**
BNDI				S	**Sn**	**07 04 33.1**	**+4.4**
BNDI	**Bandanaira** baz=2.1,SNR=7.4	**2.13**	**346**	P	**Pn**	**07 04 03.9**	**+1.1**
MSAI	**Masohi**	**3.56**	**335**	P	**Pn**	**07 04 22.7**	**+0.8**
AAI	**Ambon** baz=3.6,SNR=9.5	**3.65**	**323**	P	**Pn**	**07 04 23.3**	**+0.2**
FAKI	**Fak Fak**	**4.10**	**27**	P	**Pn**	**07 04 30.2**	**+1.1**
FAKI				S	**Sn**	**07 05 13.2**	**-2.8**
FAKI	**Fak Fak** baz=3.9,SNR=18	**4.10**	**27**	P	**Pn**	**07 04 29.4**	**+0.3**
FAKI	baz=3.9,SNR=20			S	**Sn**	**07 05 13.6**	**-2.4**
NLAI	**Namlea**	**4.70**	**315**	P	**Pn**	**07 04 37.8**	**+0.4**
MTN	**Manton Dam** baz=6.4,SNR=284	**6.24**	**174**	P	**Pn**	**07 05 00.9**	**+2.7**
MTN	baz=6.4,SNR=6.9			S	**Sn**	**07 06 11.0**	**+2.9**
KDU	**Kakadu** baz=6.5,SNR=694	**6.37**	**162**	P	**Pn**	**07 05 03.2**	**+3.1**
KDU	baz=6.5,SNR=5.5			S	**Sn**	**07 06 14.3**	**+2.9**
BAKI	**Biak** 107nm,0.7s,1μm	**7.82**	**47**	P	**Pn**	**07 05 22.6**	**+2.7**
KNRA	**Kununurra** baz=9.4,SNR=55	**9.16**	**190**	P	**Pn**	**07 05 38.8**	**+0.7**
KNRA	baz=9.4,SNR=15			S	**Sn**	**07 07 14.8**	**-4.6**
LUWI	**Luwuk** baz=9.5,SNR=5.7	**9.42**	**306**	P	Pn	07 05 28.3	-13
WSI	**Waingapu** baz=11,SNR=4.9	**10.47**	**252**	S	Sn	07 07 38.8	-13
MRSI	**Marisa** 34nm,1.1s	**11.00**	**309**	P	**Pn**	**07 06 03.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**12.34**	**202**	Pn	**Pn**	**07 06 18.7**	**-2.5**
FITZ				Sn	Sn	07 08 26.7	-10
WRA	**Warramunga Arr** 6.6nm,0.3s,baz=339,slow=13,SNR=71	**13.79**	**164**	Pn	**Pn**	**07 06 39.4**	**-1.0**
WRA	4.6nm,0.3s,baz=328,slow=24,SNR=7.3			Sn	Sn	07 09 05.7	-6.5
PALU	**Palau** baz=14,SNR=5.3	**14.44**	**16**	S	**S**	**07 09 42.1**	**+0.2**
COEN	**Coen** baz=14,SNR=19	**14.52**	**121**	P	**Pn**	**07 06 50.5**	**+0.6**
COEN	baz=14,SNR=5.2			S	**Sn**	**07 09 27.4**	**-2.5**
QIS	**Mount Isa** baz=17,SNR=6.6	**16.48**	**148**	P	**P**	**07 07 18.8**	**+3.1**
ASAR	**Alice Springs** 4.6nm,0.3s,baz=337,slow=8.9,SNR=122	**17.29**	**169**	P	**P**	**07 07 25.4**	**+0.8**
ASAR	1.6nm,0.3s,baz=349,slow=24,SNR=6.0			S	**Sn**	**07 10 32.1**	**-4.6**
MTSU	**Mount Surprise** baz=18,SNR=42	**17.75**	**131**	P	**Pn**	**07 07 34.0**	**+3.8**
CTA	**Charters Tower** 2.2nm,0.6s,baz=303,slow=13,SNR=5.2	**20.39**	**133**	P	Pn	07 08 03.5	+2.1
MEEK	**Meekatharra** baz=23,SNR=3.4	**22.87**	**208**	P	P	07 08 43.4	+19
QLP	**Quilpie** baz=24,SNR=7.1	**23.83**	**148**	P	**P**	**07 08 38.0**	**+4.3**
XMIS	**Christmas Isla** baz=25,SNR=3.6	**24.78**	**259**	S	S	07 13 18.3	+20
BBOO	**Buckleboo** baz=27,SNR=5.2	**26.59**	**169**	P	**P**	**07 09 03.0**	**+4.3**
STKA	**Stephens Creek** 1.7nm,0.4s,baz=321,slow=8.4,SNR=4.7	**27.22**	**159**	P	**P**	**07 09 06.6**	**+2.3**
CMSA	**Cobar Meteorol** baz=29,SNR=6.6	**28.62**	**152**	P	P	07 09 20.0	+3.2
MCQ	**Macquarie Isla** baz=53,SNR=3.9	**52.99**	**160**	P	**P**	**07 12 33.7**	**-2.4**
MKAR	**Makanchi Array** 1.0nm,0.5s,baz=124,slow=7.4,SNR=19	**68.13**	**327**	P	**P**	**07 14 17.8**	**-1.4**
ILAR	**Eielson Array** 0.3nm,0.8s,baz=259,slow=5.3,SNR=4.3	**92.82**	**25**	P	**P**	**07 16 28.2**	**-2.8**

IDC 02 07:17:11.0±9.3, 21.77S×67.66W, h183km±72km, mb3.3/1, mb1 3.4/2, mb1mx3.1/16, mbtmp3.3/2, MS3.6/1, Ms1 3.6/1, ms1mx2.8/7, Error ellipse: s-maj=122.2km s-min=81.7km az=70.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz** 2.3nm,0.3s,baz=191,slow=4.4,SNR=68	**5.47**	**355**	P	Pn	07 18 31.8	-0.2
LPAZ	baz=119,slow=23,SNR=1.5			S	Sn	07 19 35.8	+0.1
PLCA	**Paso Flores** comp=Z,168nm,18.3s,baz=167,slow=37	**19.06**	**187**	LR	LR	07 28 57.4	
TORD	**Torodi Ar. Bea** 0.4nm,0.5s,baz=254,slow=4.6,SNR=5.9	**76.36**	**70**	P	P	07 28 40.5	0.0
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=320,slow=3.2,SNR=3.7	**145.16**	**37**	PKPbc	PKPbc	07 36 25.8	-0.9

*ISCJB **02** 07:23:33.5±0.9, 28.92S±0.04×178.12W±0.05, h136km±8km, mb4.6/58, Error ellipse: s-maj=7.9km s-min=6.3km az=24.2*
*BJI **02** 07:23:34.2, 28.62S×177.90W, h142km, mB5.3/11, mb5.0/17*
*NEIC **02** 07:23:38.9±0.8, 28.83S×178.29W, h175km±7km, mb4.6/33, Error ellipse: s-maj=11.0km s-min=7.2km az=136.0*
*AUST **02** 07:23:39.0±0.0, 28.41S×177.90W, h179km, Error ellipse: s-maj=1.3km s-min=0.9km az=307.0*
*IDC **02** 07:23:39.5±0.5, 28.54S×178.23W, h175km±4km, mb4.2/18, mb1 4.4/18, mb1mx4.4/20, mbtmp4.2/18, MS3.7/2, Ms1 3.7/2, ms1mx2.6/31, Error ellipse: s-maj=15.5km s-min=12.8km az=147.0*
*GCMT **02** 07:23:41.6±0.3, 28.65S×177.88W, h193km±3km, MW5.1, Moment Tensor Solution. s30,c37; s73,c97; Moment tensor: Scale 10^16 Nm; Mrr 1.69±.20; Mθθ -2.21±.25; Mφφ 0.53±.23; Mrθ -5.07±.18; Mθφ 1.05±.19; Mφr 0.46±.16; Best double couple: M0 5.50000×10^16 NP1:φs 132.00000°, δ 13.00000°, λ 126.00000°. NP2:φs 275.00000°, δ 79.00000°, λ 82.00000°. Principal axes: T 5.1800, Plg 55.0000°, Azm 175.0000°; N 0.7200, Plg 8.0000°, Azm 277.0000°; P -5.8900, Plg 34.0000°, Azm 12.0000°; Data Used: IU II G CN IC.*
*DJA **02** 07:24:06.3±6.0, 29.2S±25.17°9W±3.3, h396km±55km, M4.7/6, mb4.7/6*
ISC 02 07:23:35.3±0.4, 28.85S±0.05×178.07W±0.06, h145km±3km, h144km:pP-P, n366, σ1s29/398, mb4.6/58, 86C-93D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.42**	**162**	ePn	Pn	07 24 06.0	+10
RAO				eSn	Sn	07 24 22.2	+11
RAO				S		07 24 25.1	
RAO	**Raoul Island** 3μm,0.3s,baz=93,slow=2.8,SNR=223	**0.42**	**162**	P	Pn	07 24 06.0	+10
RAO	3μm,0.3s,baz=89,slow=23,SNR=31			S	Sn	07 24 25.1	+14
MXZ	**Matakaoa Point**	**9.21**	**198**	PN	**Pn**	**07 25 44.7**	**-0.1**
OUZ	**Omahuta**	**9.51**	**226**	ePn	**Pn**	**07 25 49.0**	**+0.1**
OUZ				eSn	**Sn**	**07 27 30.7**	**-3.4**
PUZ	**Puketiti**	**9.70**	**197**	PN	**Pn**	**07 25 49.6**	**-1.8**
PUZ				SN	**Sn**	**07 27 38.0**	**-0.7**
CNGZ	**Carnagh Statio**	**10.10**	**197**	PN	**Pn**	**07 25 55.6**	**-1.1**
MWZ	**Matawai**	**10.15**	**200**	PN	**Pn**	**07 25 55.5**	**-1.9**
MWZ				SN	**Sn**	**07 27 48.9**	**-0.7**
URZ	**Urewera**	**10.21**	**202**	ePn	**Pn**	**07 25 57.2**	**-0.9**
URZ				eSn	**Sn**	**07 27 52.1**	**+1.1**
URZ	**Urewera** 4.6nm,0.3s,baz=268,slow=3.0,SNR=42	**10.21**	**202**	P	**Pn**	**07 25 57.0**	**-1.2**
URZ	39nm,0.3s,baz=94,slow=21,SNR=12			S	**Sn**	**07 27 51.9**	**+0.9**
URZ	**Urewera**	**10.21**	**202**	PN	**Pn**	**07 25 57.2**	**-0.9**
MHGZ	**Mahia Peninsul**	**10.81**	**197**	PN	**Pn**	**07 25 04.9**	**-1.2**
RAHZ	**Arahi**	**10.82**	**201**	PN	**Pn**	**07 26 04.0**	**-2.3**
NMHZ	**Naumai**	**11.07**	**201**	PN	**Pn**	**07 26 06.7**	**-2.9**
NMHZ				SN	**Sn**	**07 28 12.0**	**+0.1**
BKZ	**Black Stump Fm**	**11.24**	**202**	PN	**Pn**	**07 26 10.2**	**-1.5**
MCHZ	**McNeill Hill**	**11.42**	**201**	PN	**Pn**	**07 26 12.7**	**-1.5**
MSVF	**Nonsavu**	**11.62**	**341**	ePn	**Pn**	**07 26 17.6**	**+0.7**
MSVF				eSn	**Sn**	**07 28 27.5**	**+2.1**
FWVZ	**Far West T-bar**	**11.65**	**205**	PN	**Pn**	**07 26 16.5**	**-0.8**
BHHZ	**Black Hill Sta**	**11.67**	**203**	PN	**Pn**	**07 26 15.0**	**-2.5**
KAHZ	**Kahuranaki**	**11.69**	**200**	PN	**Pn**	**07 26 14.6**	**-3.0**
WNVZ	**Wahianoa**	**11.70**	**205**	PN	**Pn**	**07 26 18.2**	**+0.3**
NIUE	**Niue** baz=12,SNR=7.1	**12.24**	**39**	P	**Pn**	**07 26 22.7**	**-2.2**
NIUE	baz=12,SNR=10			S	Sn	07 28 25.4	-15
BFZ	**Birch Farm**	**12.70**	**200**	PN	Pn	07 26 25.2	-5.4
MRZ	**Mangatainoka R**	**12.89**	**202**	PN	Pn	07 26 27.5	-5.7
TIWZ	**Tintock**	**12.89**	**201**	PN	Pn	07 26 30.0	-3.2
HOWZ	**Holdsworth Sta**	**13.12**	**202**	PN	**Pn**	**07 26 33.6**	**-2.6**
OGWZ	**Otaki Gorge**	**13.17**	**203**	PN	Pn	07 26 32.5	-4.2
MSWZ	**Moikau Station**	**13.68**	**202**	PN	**Pn**	**07 26 40.3**	**-2.9**
BHW	**Baring Head**	**13.79**	**203**	PN	**Pn**	**07 26 42.9**	**-1.8**
TCW	**Tory Channel**	**13.83**	**205**	PN	Pn	07 26 41.8	-3.4
TUWZ	**Tuamarina**	**14.15**	**205**	PN	**Pn**	**07 26 46.3**	**-2.9**
QRZ	**Quartz Range**	**14.22**	**210**	PN	**Pn**	**07 26 49.6**	**-0.5**
BSWZ	**Blackbirch Sta**	**14.42**	**205**	ePN	**Pn**	**07 26 51.6**	**-1.0**
THZ	**Tophouse**	**14.84**	**207**	PN	**Pn**	**07 26 54.8**	**-3.1**
KHZ	**Kahutara** 550nm,2.3s	**15.15**	**204**	ePn	**Pn**	**07 27 00.1**	**-1.6**
KHZ	**Kahutara**	**15.15**	**204**	PN	**Pn**	**07 26 57.4**	**-4.4**
DZM	**Mont Dzumac** 627nm,33.6s	**15.53**	**292**	eS	**Sn**	**07 29 57.4**	**-1.9**
DZM	94nm,24.6s			eLR	LR	07 30 49.3	
DZM	**Mont Dzumac**	**15.53**	**292**	eP	P	07 27 16.5	+8.7
DZM	**Mont Dzumac** 14nm,0.6s	**15.53**	**292**	ePn	P	07 27 12.4	+4.5
LTZ	**Lake Taylor**	**15.95**	**207**	PN	**Pn**	**07 27 09.0**	**-2.6**
AFI	**Afiamalu**	**15.97**	**23**	ePn	Pn	07 27 04.5	-7.6
AFI				S	Sn	07 29 46.8	-23
AFI	**Afiamalu** 16nm,0.3s,baz=125,slow=0.6,SNR=25	**15.97**	**23**	P	Pn	07 27 05.3	-6.8
AFI	15nm,0.3s,baz=36,slow=23,SNR=8.0			S	Sn	07 29 46.8	-23

OXZ Oxford 16.50 206 PN Pn 07 27 15.3 -3.0
RPZ Rata Peaks 17.21 208 P P 07 27 25.4 -0.9
RPZ S S 07 30 23.5 -15
RPZ Rata Peaks 17.21 208 P P 07 27 25.4 -0.9
2.2nm,0.3s,baz=127,slow=16,SNR=9.7
RPZ S S 07 30 23.5 -15
3.1nm,0.3s,baz=62,slow=4.5,SNR=17
RPZ LR LR 07 33 47.6
comp=Z,175nm,18.6s,baz=180,slow=35
TBI Tubuai 26.23 85 eS S 07 33 19.2 +0.7
301nm,37.2s
TBI eLR LR 07 35 30.8
116nm,32.0s
MGCD Mangrove Creek 26.72 253 P P 07 29 05.8 +4.6
baz=27,SNR=11
CNB Canberra Magne 28.26 248 P P 07 29 19.6 +4.6
baz=28,SNR=5.2
PPT2 Papeete2 28.40 73 eLQ LQ 07 35 13.1
358nm,26.8s
PPT2 eLR LR 07 36 10.9
171nm,28.5s
CMSA Cobar Meteorol 31.35 256 P P 07 29 44.9 +2.6
baz=32,SNR=6.3
CTAO Charters Tower 33.52 277 eP P 07 30 03.2 +1.8
7.9nm,0.9s
ARPS Mount Arapiles 34.42 246 P P 07 30 11.7 +2.8
baz=35,SNR=5.0
STKA Stephens Creek 34.80 255 P P 07 30 14.2 +2.0
STKA Stephens Creek 34.80 255 P P 07 30 14.2 +2.0
5.3nm,0.3s,baz=95,slow=10,SNR=29
STKA Stephens Creek 34.80 255 P P 07 30 14.2 +2.0
baz=35,SNR=26
MTSU Mount Surprise 35.97 279 P P 07 30 26.0 +3.6
baz=36,SNR=4.7
QIS Mount Isa 39.17 272 S S 07 36 31.5 -7.2
baz=39,SNR=4.3
BBOO Buckleboo 39.36 252 P P 07 30 51.2 +0.5
baz=40,SNR=6.8
MANU Manus Island 42.36 303 S S 07 37 20.8 -5.2
baz=42,SNR=5.2
AS31 Alice Springs 43.16 265 eP P 07 31 22.1 +0.2
ASAR Alice Springs 43.16 265 P P 07 31 21.5 -0.4
ASAR PcP PcP 07 33 09.0 +0.1
ASAR ScP ScP 07 36 42.0 -4.7
ASAR Alice Springs 43.16 265 P P 07 31 21.5 -0.4
4.4nm,0.5s,baz=107,slow=7.5,SNR=30
ASAR PcP PcP 07 33 09.0 +0.1
2.5nm,0.8s,baz=104,slow=4.6,SNR=4.3
ASAR ScP ScP 07 36 42.0 -4.7
1.5nm,0.9s,baz=129,slow=4.2,SNR=5.6
WRAB Tennant Creek 44.00 271 eP P 07 31 28.0 -0.5
27nm,1.3s
WRAB ePcP PcP 07 33 12.1 +0.4
WRA Warramunga Arr 44.00 271 P P 07 31 27.9 -0.8
WRA PcP PcP 07 33 10.8 -1.0
WRA ScP ScP 07 36 45.2 -4.8
WRA Warramunga Arr 44.00 271 P P 07 31 27.9 -0.8
7.2nm,0.5s,baz=108,slow=7.8,SNR=100
WRA PcP PcP 07 33 10.8 -1.0
5.1nm,0.9s,baz=111,slow=3.1,SNR=7.1
WRA ScP ScP 07 36 45.2 -4.8
2.2nm,0.9s,baz=108,slow=4.1,SNR=7.1
FORT Forrest 46.41 254 P P 07 31 47.4 -0.1
baz=47,SNR=14
KDU Kakadu 48.61 279 P P 07 32 04.4 -0.2
baz=49,SNR=4.1
SBA Scott Base 49.58 184 eP P 07 32 16.7 +5.6
93nm,1.0s
VNDA Vanda 49.63 186 eP P 07 32 16.1 +4.6
38nm,1.3s
VNDA Vanda 49.63 186 P P 07 32 16.0 +4.5
14nm,1.0s,baz=7.3,slow=8.3,SNR=40
KNRA Kununurra 50.55 273 P P 07 32 19.9 +0.6
baz=51,SNR=4.6
KIP Kipapa 53.59 23 eP P 07 32 41.7 +0.2
71nm,1.2s
MEEK Meekatharra 55.49 256 P P 07 32 54.4 -1.0
baz=56,SNR=6.9
BLDU Ballidu 55.94 251 P P 07 32 57.4 -1.1
baz=56,SNR=10
CASY Casey 56.49 207 eP P 07 33 02.3 +0.5
MORW Morawa 56.93 252 P P 07 33 04.8 -0.8
baz=57,SNR=14
QSPA South Pole Qui 61.26 180 eP P 07 33 38.4 +3.5
52nm,1.0s
MAW Mawson 73.74 200 P P 07 34 54.9 +1.9
MAW Mawson 73.74 200 P P 07 34 54.9 +1.9
44nm,1.0s,baz=123,slow=7.4,SNR=48
MAW Mawson 73.74 200 P P 07 34 55.0 +1.9
baz=74,SNR=45
MJAR Matsushiro Arr 76.94 325 P P 07 35 10.6 -1.1
MJAR Matsushiro Arr 76.94 325 P P 07 35 10.6 -1.1
3.3nm,0.8s,baz=164,slow=5.2,SNR=8.1
YULB Yu-li 78.13 305 P P 07 35 16.4 -2.2
3.4nm,0.4s
SYO Syowa Base 78.61 193 ⇓iP P 07 35 20.4 -0.1
SNAA Sanae 79.70 178 eP P 07 35 28.2 +1.6
SNAA Sanae 79.70 178 eP P 07 35 28.2 +1.6
22nm,1.1s
ASAJ Asahikawa 81.04 332 LR LR 08 04 31.5
comp=Z,48nm,21.0s,baz=184,slow=30
KSRS Korea Array 83.13 320 P P 07 35 45.2 +0.4
1.8nm,0.8s,baz=130,slow=6.3,SNR=8.4
KSAR Wonju Array Be 83.14 320 P P 07 35 45.2 +0.3
PLCA Paso Flores 83.61 133 P P 07 35 49.8 +2.1
PLCA Paso Flores 83.61 133 P P 07 35 49.8 +2.1
2.5nm,0.6s,baz=257,slow=6.1,SNR=7.8
CIS Catalina Islan 83.82 47 ⇓P P 07 35 49.7 +1.1
baz=84
PKM Peak Mountain 83.91 45 ⇑P P 07 35 50.2 +1.0
baz=84
SMMC Simmler 84.07 44 ⇑P P 07 35 51.0 +1.2
baz=84
PTRM Twissleman Ran 84.17 44 epP pP 07 36 25.8 -0.8
SAO San Andreas Ge 84.17 42 eP P 07 35 51.4 +1.1
6.7nm,1.0s
QIZ Qiongzhong 84.28 295 P P 07 35 49.6 -1.6
QIZ S S 07 46 02.9 -2.0
QIZ pmax pmax
comp=Z,10.0nm,1.1s
PETK Petropavlovsk- 84.30 346 P P 07 35 49.8 -0.7
PETK Petropavlovsk- 84.30 346 P P 07 35 49.8 -0.7
comp=Z,3.9nm,0.8s,baz=134,slow=8.5,SNR=4.5
ARVC Arvin 84.67 45 ⇑P P 07 35 53.6 +0.8
baz=85
MURC Murrieta 84.72 47 ⇓P P 07 35 53.8 +0.7
baz=85
MONP Monument Peak 84.77 48 ⇑P P 07 35 54.4 +0.8
baz=85
BFSC Mount Baldy Ra 84.83 46 ⇓P P 07 35 54.7 +0.9
baz=85
DVTC Desert V Tower 84.83 48 ⇑P P 07 35 54.9 +1.1
baz=85
VES Vestal, Richgr 84.98 44 ⇑P P 07 35 54.9 +0.6
baz=85
EDW2 Edwards Air Fo 85.03 46 ⇑P P 07 35 55.5 +0.8
baz=85,SNR=9.4
NJ2 Nanjing 85.19 311 eP P 07 35 56.2 +0.7
NJ2 pmax pmax
comp=Z,20nm,0.5s
PFO Pinyon Flat Ob 85.20 47 eP P 07 35 56.4 +0.7
PFO Pinyon Flat Ob 85.20 47 P P 07 35 56.4 +0.7
comp=Z,6.3nm,0.9s,baz=262,slow=5.4,SNR=7.5
PFO Pinyon Flat Ob 85.20 47 ⇑P P 07 35 56.4 +0.7
baz=86
SWSC Sam W. Stewart 85.21 48 ⇓P P 07 35 56.5 +1.0
baz=86
PSI Prapat 85.22 276 P P 07 35 54.8 -1.4
baz=85,SNR=6.2
ISA Isabella 85.24 45 eP P 07 35 56.9 +1.2
comp=Z,14nm,1.0s
ISA Isabella 85.24 45 ⇓P P 07 35 56.5 +0.8
baz=86,SNR=14
LRMC Laurel Mountai 85.61 45 ⇑P P 07 35 58.3 +0.7
baz=86
BELC Belle Mtn. Jos 85.74 47 ⇓P P 07 35 59.3 +0.9
baz=86,SNR=9.7
USRK Ussurirysk Arra 85.84 326 P P 07 35 58.3 0.0
comp=Z,2.5nm,0.8s,baz=98,slow=3.9,SNR=7.1
BC3 Big Chuckawall 85.88 48 ⇓P P 07 36 00.1 +1.1
baz=86,SNR=6.7
GLA Glamis 85.92 49 ⇓P P 07 36 00.3 +1.2
baz=86
CWC Cottonwood Cre 85.98 44 ⇑P P 07 36 00.0 +0.5
baz=86
GSC Goldstone 86.05 46 eP P 07 36 00.5 +0.7
comp=Z,13nm,0.9s
GSC Goldstone 86.05 46 ⇓P P 07 36 00.5 +0.7
baz=86,SNR=9.7
HEC Hector,Ludlow 86.05 47 ⇑P P 07 36 00.2 +0.4
baz=86,SNR=10
MPMC Manual Prospec 86.10 45 ⇑P P 07 36 00.5 +0.4
baz=86,SNR=12
WDC Whiskeytown Da 86.14 39 eP P 07 36 00.8 +0.8
comp=Z,4.7nm,1.0s
MTUM Tungsten Hills 86.28 43 eP P 07 36 02.1 +1.1
MLAC Mammoth Lakes 86.30 43 ⇓P P 07 36 01.6 +0.5
baz=87
IRM Iron Mountain 86.39 48 ⇑P P 07 36 02.6 +1.2
baz=87,SNR=12
113A Mohawk Valley, 86.44 50 ⇓P P 07 36 02.5 +0.9
baz=87
GMRC Granite Mounta 86.45 47 ⇓P P 07 36 02.5 +0.7
baz=87,SNR=7.0
WAKR Walker 86.52 42 eP P 07 36 03.2 +1.0
Y12C Blythe 86.55 48 ⇓P P 07 36 03.1 +1.0
baz=87
214A Organ Pipe Nat 86.60 51 ⇓P P 07 36 03.4 +1.0
baz=87
TUQ Turquoise Moun 86.69 46 ⇑P P 07 36 03.9 +0.9
baz=87
FURC Furnace Creek, 86.76 45 ⇑P P 07 36 03.8 +0.8
baz=87
SHOC Shoshone 86.76 46 ⇓P P 07 36 03.7 +0.5
baz=87,SNR=5.8
GRAC Grapevine Rang 86.78 44 ⇑P P 07 36 04.0 +0.8
baz=87
YBH Yreka Blue Hor 86.85 38 P P 07 36 04.1 +0.6
YBH Yreka Blue Hor 86.85 38 P P 07 36 04.1 +0.6
comp=Z,3.6nm,0.8s,baz=204,slow=5.0,SNR=7.2
LDFC Landfair 86.99 47 eP P 07 36 06.2 +1.8
comp=Z,23nm,0.9s
PDMCI Parker Dam,Lak 87.13 48 ⇑P P 07 36 06.3 +1.4
baz=88
NVAR Mina Array Bea 87.14 43 P P 07 36 05.7 +0.6
NVAR Mina Array Bea 87.14 43 P P 07 36 05.7 +0.6
comp=Z,6.9nm,0.8s,baz=223,slow=8.6,SNR=61
NV11 Mina Array Sit 87.23 43 eP P 07 36 05.5 0.0
MDJ Mudanjiang 87.32 326 P P 07 36 07.5 +1.9
MDJ pP pP 07 36 40.8 -1.3
MDJ S S 07 46 34.1 +0.6
MDJ pmax pmax
comp=Z,7.0nm,2.3s
MDJ LR LR
comp=E,45nm,19.6s
MDJ LR LR
comp=Z,41nm,22.7s
Z14A Wintersburg 87.35 49 ⇑P P 07 36 07.2 +1.2
baz=88,SNR=5.3
Y14A Wickenburg 87.66 49 ⇓P P 07 36 08.5 +1.0
baz=88,SNR=13
W13A Hualapai Mount 87.79 48 ⇓P P 07 36 09.4 +1.1
baz=88,SNR=6.3
SHPR Sheep Range 87.84 46 eP P 07 36 09.7 +1.2
TUC Tucson 88.19 51 eP P 07 36 11.6 +1.4
MOD Modoc 88.28 39 eP P 07 36 11.0 +0.5
comp=Z,3.8nm,0.7s
319A Douglas 88.69 53 ⇓P P 07 36 13.9 +1.3
baz=89
CN2 Changchun 88.87 323 eP P 07 36 12.7 -0.2
CN2 epP pP 07 36 48.7 -0.9
CN2 eS S 07 46 46.5 -1.7
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,3.0s
X16A Lo Mia Camp, P 88.98 49 ⇑P P 07 36 15.3 +1.3
baz=89,SNR=23
320A Kipp Ranch, An 89.19 53 ⇑P P 07 36 16.6 +1.6
baz=90
220A Playas Peak, P 89.52 53 ⇓P P 07 36 17.8 +1.4
baz=90,SNR=9.5
WVOR Wild Horse Val 89.56 40 eP P 07 36 17.0 +0.6
comp=Z,7.7nm,1.3s
CCUT Cedar City 89.62 46 eP P 07 36 18.4 +1.5
comp=Z,6.1nm,1.2s
U15A North Rim 89.62 47 ⇓P P 07 36 18.1 +1.1
baz=90,SNR=16
WUAZ Wupatki 89.68 49 ⇑P P 07 36 18.2 +1.1
baz=90
120A U Bar Ranch, L 89.81 52 ⇑P P 07 36 19.3 +1.5
baz=90,SNR=11
X18A Snowflake 90.05 50 ⇑P P 07 36 20.1 +1.2
baz=90
221A Mulvaite Ranch 90.10 53 ⇓P P 07 36 20.6 +1.4
baz=90
Z20A Nine Sixteen R 90.16 52 ⇓P P 07 36 20.9 +1.5
baz=90,SNR=14
NLWA Neilton Lookou 90.20 33 eP P 07 36 20.1 +1.0
PBKT Sadao Pong 90.22 289 P P 07 36 20.9 +1.1
121A Cookes Peak, D 90.39 53 ⇑P P 07 36 21.8 +1.3
baz=91
W18A Petrified Fore 90.53 50 ⇑P P 07 36 22.1 +1.0
baz=91
222A Williams Famil 90.63 53 ⇑P P 07 36 22.7 +1.1
baz=91
GYA Guiyang 90.73 300 P P 07 36 23.2 +1.0
GYA pP pP 07 37 01.3 +2.3
GYA sP sP 07 37 15.6 +1.5
GYA PP PP 07 40 03.4 +3.4
GYA SKS SKSac 07 46 39.0 -1.6
GYA S S 07 47 05.8 -0.6
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.6s
Y20A Horse Springs, 90.76 51 ⇑P P 07 36 23.7 +1.4
baz=91,SNR=14
Z21A St. Cloud Mine 90.91 52 ⇓P P 07 36 24.4 +1.4
baz=91,SNR=9.5
MVU Marysvale 90.92 46 eP P 07 36 24.0 +1.0
comp=Z,2.6nm,0.8s
MSU Marysvale 90.94 46 eP P 07 36 24.6 +1.5
122A Conniff Cattle 91.03 53 ⇑P P 07 36 25.0 +1.5
baz=91
X20A Quemado 91.04 51 ⇓P P 07 36 24.8 +1.2
baz=91,SNR=11
Y21A Point of Rocks 91.30 52 ⇑P P 07 36 26.3 +1.5
baz=92,SNR=13
W20A Ramah 91.37 50 ⇓P P 07 36 26.3 +1.2
baz=92,SNR=5.7
Z22A Elephant Butte 91.37 52 ⇓P P 07 36 26.2 +1.1
baz=92,SNR=11
626A Big Bend Ranch 91.37 57 ⇓P P 07 36 25.6 +0.6
baz=92,SNR=6.6
324A Moseley Ranch, 91.42 55 ⇓P P 07 36 25.5 +0.2
baz=92,SNR=5.8
425A Indio Mountain 91.42 55 ⇓P P 07 36 25.9 +0.6
baz=92,SNR=5.3
X21A Alamocita Cree 91.47 51 ⇑P P 07 36 26.8 +1.2
baz=92,SNR=6.8
TXAR Lajitas Array 91.60 57 P P 07 36 26.6 +0.4
TXAR PKKPbc PKKPbc 07 53 46.4 +1.0
TXAR Lajitas Array 91.60 57 P P 07 36 26.6 +0.4
comp=Z,2.0nm,1.0s,baz=210,slow=6.4,SNR=16
TXAR PKKPbc PKKPbc 07 53 46.4 +1.0
comp=Z,0.1nm,0.4s,baz=128,slow=2.8,SNR=5.6
MNTX Cornudas Mount 91.63 54 eP P 07 36 26.5 +0.4
comp=Z,4.4nm,1.1s
526A Mary Lane Ranc 91.68 56 ⇑P P 07 36 27.1 +0.5
baz=92,SNR=5.7
HAWA Hanford 91.69 36 eP P 07 36 26.9 +0.9
comp=Z,8.0nm,0.8s
224A Cornudas Mount 91.73 54 ⇓P P 07 36 27.4 +0.6
baz=92
Y22A Socorro 91.75 52 ⇓P P 07 36 27.7 +0.8
baz=92,SNR=6.5
MFID Camas Ranch 91.77 40 eP P 07 36 26.8 +0.2
comp=Z,6.6nm,0.8s
MFID Camas Ranch 91.77 40 ⇓P P 07 36 26.8 +0.2
baz=92
BJI Beijing 91.78 316 P P 07 36 28.2 +1.7
BJI S S 07 47 17.3 +2.3
BJI SS SS 07 53 30.1 +3.3
BJI pmax pmax
comp=Z,14nm,0.5s
BJI pmax pmax
comp=Z,60nm,5.9s
BJI LR LR
comp=N,83nm,14.6s
BJI LR LR
comp=E,86nm,15.8s
BJI LR LR
comp=Z,38nm,21.4s
Q16A Castle Valley 91.82 46 ⇓P P 07 36 27.9 +0.8
baz=92
BMO Blue Mountains 91.86 38 eP P 07 36 27.1 +0.1
comp=Z,1.7nm,0.7s
627A Terlingua Ranc 91.87 57 ⇓P P 07 36 28.2 +0.8
baz=92
Z23A Rita Site, Whi 91.88 53 ⇑P P 07 36 28.6 +1.3
baz=92
LAZ Ladron 91.89 51 eP P 07 36 28.9 +1.5
comp=Z,2.1nm,1.2s
W21A San Fidel 91.94 51 ⇑P P 07 36 28.6 +0.8
baz=92
TMUT Trail Mountain 92.02 46 eP P 07 36 28.9 +0.8
comp=Z,8.3nm,0.8s
426A McDonald Obser 92.05 56 ⇓P P 07 36 28.5 +0.2
baz=92,SNR=6.9
U20A Newcomb 92.06 49 ⇓P P 07 36 28.9 +0.7
baz=92
527A Woodward Ranch 92.07 57 ⇓P P 07 36 28.6 +0.3
baz=92
124A Stringfield Ra 92.12 54 ⇓P P 07 36 29.3 +0.6
baz=92
LPM Los Pinos Moun 92.18 52 eP P 07 36 29.6 +0.8
225A Deer Hill, Car 92.25 54 ⇑P P 07 36 29.8 +0.6
baz=93
628A Black Gap, Mar 92.25 58 ⇓P P 07 36 29.3 +0.2
baz=93,SNR=5.4
V21A Milan 92.33 50 ⇓P P 07 36 30.0 +0.5
baz=93
SRU San Rafael 92.34 46 eP P 07 36 29.6 +0.2
comp=Z,3.6nm,0.8s
Y23A Lovelace Mesa, 92.37 52 ⇑P P 07 36 30.3 +0.6
baz=93
I12A Atlanta 92.40 40 ⇓P P 07 36 29.8 +0.2
baz=93
326A Caldwell Ranch 92.43 55 ⇓P P 07 36 29.9 0.0
baz=93
Z24A Sheeppen Canyo 92.53 53 ⇑P P 07 36 30.9 +0.4
baz=93
HVU Hansel Valley 92.54 43 eP P 07 36 30.9 +0.7
MVCO Mesa Verde 92.55 48 ⇓P P 07 36 31.1 +0.6
baz=93
GDL2 Guadalupe Moun 92.62 55 eP P 07 36 31.2 +0.4
GDL2 epP pP 07 37 03.2 -4.4
ANMO Albuquerque 92.65 51 eP P 07 36 31.5 +0.5
comp=Z,4.1nm,1.2s
ANMO Albuquerque 92.65 51 P P 07 36 30.8 -0.3
comp=Z,1.3nm,0.8s,baz=218,slow=5.0,SNR=5.6
125A Gardner Draw, 92.66 54 ⇓P P 07 36 31.4 +0.4
baz=93
U21A Nageezi 92.67 50 ⇓P P 07 36 31.5 +0.4
baz=93
528A Cox Ranch, San 92.69 57 ⇑P P 07 36 31.6 +0.4
baz=93
226B Tecolote Peak, 92.70 55 ⇓P P 07 36 31.2 +0.1
baz=93
Y24A Capitan 92.80 53 ⇓P P 07 36 32.2 +0.5
baz=93,SNR=12
CMAR Chiang Mai Arr 92.83 289 P P 07 36 32.0 0.0
CMAR Chiang Mai Arr 92.83 289 P P 07 36 32.0 0.0
comp=Z,0.7nm,0.3s,baz=128,slow=2.3,SNR=6.2
Z25A Roswell 92.95 53 ⇑P P 07 36 33.1 +0.7
baz=93,SNR=5.0
S20A Disappointment 92.99 48 ⇑P P 07 36 32.8 +0.3
baz=93
PV01 Paradox Valley 93.03 48 eP P 07 36 33.0 +0.3
comp=Z,100nm,0.8s
H12A Diamond D Ranc 93.03 40 ⇑P P 07 36 32.5 0.0
baz=93
428A Kincaid Ranch, 93.06 57 ⇓P P 07 36 33.4 +0.6
baz=93
T21A Navajo Lake 93.06 49 ⇑P P 07 36 33.5 +0.6
baz=93
KMI Kunming 93.07 297 P P 07 36 34.3 +1.1
KMI pmax pmax
comp=Z,11nm,0.9s
529A Stev Forest Ra 93.08 57 ⇓P P 07 36 32.9 -0.1
baz=93
G12A Big Creek, Yel 93.13 39 ⇑P P 07 36 32.7 -0.2
baz=94
R20A Redvale 93.18 48 ⇓P P 07 36 34.0 +0.7
baz=94
S21A Coal Bank Pass 93.27 48 ⇑P P 07 36 34.2 +0.3
baz=94
I14A Mackay 93.44 41 ⇓P P 07 36 34.9 +0.5
baz=94
T22A Edith 93.50 49 ⇓P P 07 36 35.0 +0.1
baz=94
W24A Lazy 6 Ranch, 93.52 52 ⇓P P 07 36 35.0 0.0
baz=94
429A Davenport Ranc 93.58 57 ⇓P P 07 36 35.1 -0.1
baz=94,SNR=9.5
127A Arkansas Junct 93.60 55 ⇓P P 07 36 35.1 -0.2
baz=94
X25A Clemmons Ranch 93.66 52 ⇓P P 07 36 35.7 +0.1
baz=94
Q20A Ridgley Place, 93.67 47 ⇑P P 07 36 35.5 0.0
baz=94
E12A Beaver Dam Sad 93.80 38 ⇑P P 07 36 36.8 +0.9
baz=94
R21A Cimarron 93.82 48 ⇓P P 07 36 36.9 +0.6
baz=94
O19A Miners Draw (B 93.91 46 ⇓P P 07 36 36.6 0.0
baz=94
P20A De Beque 93.92 47 ⇓P P 07 36 37.4 +0.7
baz=94
631A Perdido Creek 93.94 59 ⇓P P 07 36 36.9 +0.1
baz=94
S22A 4UR Ranch, Cre 93.95 49 ⇑P P 07 36 37.4 +0.4
baz=94
329A Wagon Wheel Ra 93.97 56 ⇑P P 07 36 36.9 -0.1
baz=94
Z27A Tatum 94.04 54 ⇑P P 07 36 36.7 -0.6
baz=94
732A Laxson Ranch, 94.05 59 ⇑P P 07 36 37.1 -0.1
baz=94
Q21A Lamborn Mesa, 94.07 48 ⇑P P 07 36 37.7 +0.2
baz=94
T23A Casias Ranch, 94.09 50 ⇓P P 07 36 37.8 +0.1
baz=94
NEW Newport 94.15 36 ⇑P P 07 36 38.1 +0.8
baz=94
W25A X Bar L Ranch, 94.17 52 ⇑P P 07 36 37.9 0.0
baz=94
128A Castleberry Fa 94.19 55 ⇓P P 07 36 37.9 -0.1
baz=94
R22A Saguache, Gunn 94.26 48 ⇑P P 07 36 38.8 +0.3
baz=95
D12A Red Ives Fores 94.31 38 ⇓P P 07 36 38.8 +0.6
baz=95
C11A Tepee Creek (N 94.33 37 ⇑P P 07 36 38.7 +0.5
baz=95
MCMT McKenzie Canyo 94.33 40 eP P 07 36 39.2 +0.7
comp=Z,1.7nm,1.1s
531A Rocksprings 94.34 58 ⇓P P 07 36 38.8 +0.1
baz=95
O20A White River Ci 94.37 46 ⇓P P 07 36 39.0 +0.2
baz=95
Y27A Causey 94.37 54 ⇑P P 07 36 38.6 -0.3
baz=95
V25A Rancho No Teng 94.40 51 ⇑P P 07 36 39.2 +0.2
baz=95
Q22A Crested Butte, 94.51 48 ⇑P P 07 36 39.7 +0.1
baz=95
I16A Newdale 94.55 42 ⇑P P 07 36 40.1 +0.6
baz=95
632A Uvalde 94.58 59 ⇓P P 07 36 40.4 +0.6
baz=95
TRF Thorofare Moun 94.59 12 eP P 07 36 37.6 -1.5
comp=Z,26nm,2.1s
Z28A Tucker Farm, M 94.61 55 ⇓P P 07 36 39.6 -0.3
baz=95
129A Stewart Farms, 94.64 55 ⇓P P 07 36 40.1 0.0
baz=95
SMCO Snowmass 94.65 48 eP P 07 36 40.4 +0.1
comp=Z,3.5nm,0.9s
C12B Naegeli Ranch, 94.66 37 ⇑P P 07 36 40.3 +0.6
baz=95
MSTX Muleshoe 94.69 54 ⇓P P 07 36 40.1 -0.2
baz=95
SNOW Snow King Moun 94.74 42 eP P 07 36 41.2 +0.7
comp=Z,7.4nm,0.9s
N20A Spence Gulch, 94.75 46 ⇑P P 07 36 40.5 0.0
baz=95
L19A Farson 94.79 44 ⇓P P 07 36 40.7 0.0
baz=95
DLMT Dillon 94.80 40 eP P 07 36 41.5 +1.0
comp=Z,23nm,2.1s

532A	**Rocksprings**	**94.80**	**58**	⇑P		**P**	**07 36 40.7**	**-0.1**
	baz=95							
X27A	**F and S Farms,**	**94.82**	**53**	⇑P		**P**	**07 36 40.9**	**0.0**
	baz=95							
R23A	**Moffat**	**94.86**	**49**	⇑P		**P**	**07 36 41.5**	**+0.3**
	baz=95							
IMW	**Indian Meadow**	**94.88**	**42**	*e*P		**P**	**07 36 42.0**	**+0.8**
	comp=Z,4.7nm,0.9s							
S24A	**Houchin Ranch,**	**94.97**	**50**	⇑P		**P**	**07 36 42.2**	**+0.5**
	baz=95							
P22A	**Eagle**	**95.02**	**47**	⇑P		**P**	**07 36 42.1**	**+0.3**
	baz=95							
Y28A	**McKinney Farm,**	**95.03**	**54**	⇓P		**P**	**07 36 42.0**	**+0.2**
	baz=95							
PDAR	**Pinedale Array**	**95.05**	**43**	P		**P**	**07 36 41.5**	**-0.3**
PDAR	**Pinedale Array**	**95.05**	**43**	P		**P**	**07 36 41.5**	**-0.3**
	comp=Z,2.2nm,1.0s,baz=221,slow=4.6,SNR=12							
Z29A	**Hungry Hill Ra**	**95.08**	**55**	⇓P		**P**	**07 36 41.7**	**-0.4**
	baz=95							
HHC	**Hu-ho-hao-te**	**95.12**	**314**	*e*P		**P**	**07 36 43.2**	**+1.2**
HHC				sP		**sP**	**07 37 35.0**	**+1.0**
HHC				PP		**PP**	**07 40 37.2**	**+3.1**
HHC				SKS		**SKSac**	**07 47 04.7**	**+0.6**
HHC				S		**S**	**07 47 43.1**	**-1.4**
HHC				sS		**sS**	**07 48 46.6**	**-2.2**
HHC				SS		**SS**	**07 54 16.7**	**+2.0**
HHC				pmax	pmax			
	comp=Z,24nm,0.7s							
HHC				pmax	pmax			
	comp=Z,200nm,6.6s							
HHC				LR	LR			
	comp=N,250nm,16.4s							
HHC				LR	LR			
	comp=E,260nm,16.9s							
HHC				LR	LR			
	comp=Z,220nm,16.4s							
C13A	**Hot Springs**	**95.12**	**37**	⇑P		**P**	**07 36 41.8**	**0.0**
	baz=96							
M20A	**Sweetwater, Wa**	**95.17**	**45**	⇑P		**P**	**07 36 42.5**	**+0.1**
	baz=96							
H16A	**Russell Place,**	**95.17**	**41**	⇓P		**P**	**07 36 43.1**	**+0.8**
	baz=96							
N21A	**Black Mountain**	**95.17**	**46**	⇓P		**P**	**07 36 42.5**	**0.0**
	baz=96							
CD2	**Chengdu**	**95.21**	**302**	P		**P**	**07 36 44.8**	**+2.1**
CD2				pP		**pP**	**07 37 21.0**	**+1.5**
CD2				sP		**sP**	**07 37 36.1**	**+1.5**
CD2				PP		**PP**	**07 40 39.0**	**+4.1**
CD2				SKS		**SKSac**	**07 47 05.8**	**+0.8**
CD2				S		**S**	**07 47 44.7**	**-1.0**
CD2				sS		**sS**	**07 48 48.4**	**-1.5**
CD2				SS		**SS**	**07 54 18.7**	**+2.4**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,120nm,5.4s							
432A	**Menard**	**95.27**	**58**	⇓P		**P**	**07 36 42.3**	**-0.6**
	baz=96							
130A	**Snyder**	**95.28**	**56**	⇑P		**P**	**07 36 42.4**	**-0.5**
	baz=96							
D14A	**Greenough**	**95.33**	**38**	⇑P		**P**	**07 36 43.5**	**+0.6**
	baz=96							
L20A	**Wamsutter**	**95.36**	**45**	⇓P		**P**	**07 36 43.6**	**+0.4**
	baz=96							
H17A	**Grant Village**	**95.39**	**42**	⇓P		**P**	**07 36 42.6**	**-0.8**
	baz=96							
X28A	**Dimmitt**	**95.39**	**54**	⇓P		**P**	**07 36 43.6**	**+0.2**
	baz=96							
231A	**Bronte**	**95.42**	**57**	⇓P		**P**	**07 36 42.3**	**-1.2**
	baz=96							
Y29A	**Porterfield Fa**	**95.42**	**54**	⇑P		**P**	**07 36 43.3**	**-0.3**
	baz=96							
I18A	**Diamond G Ranc**	**95.43**	**43**	⇓P		**P**	**07 36 43.6**	**0.0**
	baz=96							
O22A	**Kremmling**	**95.46**	**47**	⇑P		**P**	**07 36 43.8**	**-0.1**
	baz=96							
MENT	**Mentasta**	**95.48**	**15**	*e*P		**P**	**07 36 43.3**	**+0.2**
Z30A	**Sanderson Ranc**	**95.51**	**55**	⇑P		**P**	**07 36 43.3**	**-0.7**
	baz=96							
332A	**Millersview**	**95.56**	**57**	⇑P		**P**	**07 36 44.1**	**-0.1**
	baz=96							
J19A	**Crowheart**	**95.64**	**43**	⇓P		**P**	**07 36 44.8**	**+0.4**
	baz=96							
X29A	**Tulia**	**95.70**	**54**	⇓P		**P**	**07 36 45.1**	**+0.2**
	baz=96							
K20A	**Yellowstone Ra**	**95.73**	**44**	⇑P		**P**	**07 36 44.5**	**-0.4**
	baz=96							
M21A	**Separation Pea**	**95.74**	**45**	⇓P		**P**	**07 36 44.8**	**-0.3**
	baz=96							
232A	**Coleman**	**95.88**	**57**	⇑P		**P**	**07 36 45.4**	**-0.3**
	baz=96							
I19A	**Meeteetse**	**96.11**	**43**	⇑P		**P**	**07 36 47.0**	**+0.3**
	baz=96							
B14A	**Marquette Ranc**	**96.23**	**37**	⇓P		**P**	**07 36 46.8**	**-0.2**
	baz=97							
J20A	**Shoshoni**	**96.27**	**44**	⇓P		**P**	**07 36 47.4**	**+0.1**
	baz=97							
D16A	**Dana Ranch, Ca**	**96.37**	**39**	⇑P		**P**	**07 36 47.7**	**0.0**
	baz=97							
ILAR	**Eielson Array**	**96.43**	**13**	P		**P**	**07 36 45.9**	**-1.4**
ILAR	**Eielson Array**	**96.43**	**13**	P		**P**	**07 36 45.9**	**-1.4**
	comp=Z,0.7nm,0.9s,baz=223,slow=5.5,SNR=7.7							
A14A	**Double T Ranch**	**96.52**	**37**	⇑P		**P**	**07 36 48.3**	**+0.1**
	baz=97							
I20A	**Worland**	**96.58**	**43**	⇑P		**P**	**07 36 49.3**	**+0.6**
	baz=97							
J21A	**Lysite**	**96.66**	**44**	⇓P		**P**	**07 36 49.0**	**-0.1**
	baz=97							
C16A	**Fuhringer Ranc**	**96.72**	**38**	⇑P		**P**	**07 36 49.4**	**+0.2**
	baz=97							
Z32A	**Haskell**	**96.72**	**56**	⇑P		**P**	**07 36 49.5**	**+0.2**
	baz=97							
K22A	**Casper**	**96.84**	**45**	⇑P		**P**	**07 36 49.3**	**-0.6**
	baz=97							
A15A	**Johnson Ranch,**	**96.88**	**37**	⇑P		**P**	**07 36 49.0**	**-0.9**
	baz=97							
D17A	**Six Diamond Ra**	**96.92**	**39**	⇓P		**P**	**07 36 49.5**	**-0.6**
	baz=97							
R27A	**Eads**	**96.92**	**50**	⇓P		**P**	**07 36 48.6**	**-1.7**
	baz=97							
I21A	**Big Trails, Te**	**97.01**	**44**	⇑P		**P**	**07 36 50.3**	**-0.3**
	baz=97							
L23A	**Garrett**	**97.06**	**46**	⇑P		**P**	**07 36 50.7**	**-0.3**
	baz=97							
Y32A	**R-V Farms, Ver**	**97.09**	**55**	⇓P		**P**	**07 36 51.1**	**0.0**
	baz=97							
C17A	**Wharram Farm,**	**97.16**	**39**	⇓P		**P**	**07 36 50.6**	**-0.5**
	baz=98							
M24A	**Cheyenne**	**97.27**	**47**	⇓P		**P**	**07 36 52.0**	**+0.1**
	baz=98							
J22A	**Midwest**	**97.28**	**44**	⇓P		**P**	**07 36 51.5**	**-0.4**
	baz=98							
A16A	**West Butte Ran**	**97.47**	**38**	⇑P		**P**	**07 36 52.4**	**-0.1**
	baz=98							
LZH	**Lanzhou**	**97.75**	**307**	*e*P		Pdif	07 36 56.7	+2.5
LZH				pP		pP	07 37 31.5	+0.4
LZH				sP		sP	07 37 47.5	+1.3
LZH				pmax	pmax			
	comp=Z,20nm,1.0s							
LZH				pmax	pmax			
	comp=Z,110nm,4.4s							
LZH				LR	LR			
	comp=N,370nm,11.6s							
LZH				LR	LR			
	comp=E,380nm,14.7s							
LZH				LR	LR			
	comp=Z,110nm,12.4s							
RSSD	**Black Hills**	**99.16**	**45**	*e*P		**Pdif**	**07 37 00.4**	**+0.1**
YKA	**Yellowknife Ar**	**104.07**	**25**	PKKPbc	PKKPbc		07 53 09.9	-2.0
YKA	**Yellowknife Ar**	**104.07**	**25**	PKKPbc	PKKPbc		07 53 09.9	-2.0
	comp=Z,0.5nm,0.6s,baz=36,slow=2.9,SNR=7.5							
WMQ	**Urumqi**	**112.22**	**309**	PKP		**PKiKP**	**07 41 54.4**	**+0.7**
MKAR	**Makanchi Array**	**116.73**	**311**	PKP		**PKPdf**	**07 42 00.4**	**-1.8**
MKAR				PKKPbc		**PKKPbc**	**07 52 30.8**	**+0.7**
MKAR	**Makanchi Array**	**116.73**	**311**	PKP		**PKPdf**	**07 42 00.4**	**-1.8**
	comp=Z,0.6nm,0.4s,baz=158,slow=0.8,SNR=13							
MKAR				PKKPbc		**PKKPbc**	**07 52 30.8**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=279,slow=3.9,SNR=5.2							
KSH	**Kashi**	**119.39**	**301**	PKP		**PKPdf**	**07 42 07.6**	**-0.1**
ARCES	**ARCESS Array B**	**137.06**	**348**	PKP		**PKPdf**	**07 42 39.5**	**-0.7**
ARCES	**ARCESS Array B**	**137.06**	**348**	PKP		**PKPdf**	**07 42 39.5**	**-0.7**
	comp=Z,5.0nm,0.9s,baz=46,slow=3.5,SNR=5.1							
FINES	**FINESS Array B**	**143.67**	**341**	PKPpre	PKPpre		07 42 47.2	
FINES	**FINESS Array B**	**143.67**	**341**	PKhKP	PKPpre		07 42 47.2	
	comp=Z,0.6nm,0.3s,baz=147,slow=32,SNR=6.4							
KBZ	**Khabaz**	**144.18**	**306**	PKP		**PKPdf**	**07 42 53.6**	**-0.2**
KBZ	**Khabaz**	**144.18**	**306**	PKP		**PKPdf**	**07 42 53.6**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=82,slow=4.3,SNR=3.9							
NB2	**NORSAR Subarra**	**147.21**	**352**	PKP		**PKPdf**	**07 42 59.3**	**+0.8**
	comp=Z,8.6nm,0.9s,baz=11,slow=2.9							
NOA	**NORSAR Array B**	**147.21**	**352**	PKPbc		**PKPdf**	**07 42 59.4**	**+0.8**
NOA	**NORSAR Array B**	**147.21**	**352**	PKPbc		**PKPdf**	**07 42 59.4**	**+0.8**
	comp=Z,4.9nm,0.8s,baz=15,slow=4.5,SNR=16							
NAO01	**NORSAR Array S**	**147.44**	**352**	*e*PKPdf		**PKPdf**	**07 42 58.6**	**-0.2**
NAO01				*e*PKPbc		**PKPbc**	**07 43 00.3**	**-1.3**
NAO01				*e*PKPab		**PKPab**	**07 43 04.1**	**+0.2**
AKASG	**Malin Array Be**	**150.02**	**324**	PKPbc		**PKPbc**	**07 43 07.1**	**-1.2**
AKASG	**Malin Array Be**	**150.02**	**324**	PKPbc		**PKPbc**	**07 43 07.1**	**-1.2**
	comp=Z,6.5nm,0.6s,baz=43,slow=3.8,SNR=30							
AKBB	**Malin Array Si**	**150.02**	**324**	*e*PKPdf		**PKPdf**	**07 43 04.0**	**+0.7**
AKBB				*e*PKPbc		**PKPbc**	**07 43 07.3**	**-1.1**
AKBB				*e*PKPab		**PKPab**	**07 43 13.8**	**-0.9**
AK01	**Malin Array Si**	**150.03**	**324**	*e*PKPbc		**PKPbc**	**07 43 07.3**	**-1.1**
AK01				*e*PKPab		**PKPab**	**07 43 13.7**	**-1.0**
KIEV	**Kiev**	**150.03**	**324**	*e*PKPdf		**PKPdf**	**07 43 04.0**	**+0.7**
KIEV				*e*PKPbc		**PKPbc**	**07 43 07.2**	**-1.1**
KIEV				*e*PKPab		**PKPab**	**07 43 13.8**	**-0.9**
AK02	**Malin Array Si**	**150.06**	**324**	*e*PKPbc		**PKPbc**	**07 43 07.4**	**-1.1**
AK02				*e*PKPab		**PKPab**	**07 43 14.5**	**-0.3**
BR131	**Keskin Array S**	**151.78**	**301**	*e*PKPdf		**PKPdf**	**07 43 07.8**	**+1.2**
BR131				*e*PKPbc		**PKPbc**	**07 43 12.2**	**-0.8**
BR131				*e*PKPab		**PKPab**	**07 43 22.6**	**0.0**
BRTR	**Keskin Array B**	**151.78**	**301**	PKPbc		**PKPbc**	**07 43 12.1**	**-1.0**
BRTR	**Keskin Array B**	**151.78**	**301**	PKPbc		**PKPbc**	**07 43 12.1**	**-1.0**
	comp=Z,2.1nm,0.4s,baz=146,slow=5.0,SNR=11							
BUR08	**Bucovina Ar. S**	**153.97**	**323**	*e*PKPab		**PKPab**	**07 43 31.5**	**0.0**
KOLS	**Kolonicke sedl**	**154.59**	**328**	*e*PKP		**PKPab**	**07 43 32.1**	**-1.9**
CRVS	**Cervenica-Dubn**	**154.99**	**329**	*e*PKP		**PKPbc**	**07 43 18.0**	**-1.6**
CRVS				*e*			07 43 33.7	
VYHS	**Vyhne**	**156.45**	**331**	*e*PKP		**PKPab**	**07 43 39.4**	**-2.5**
TORD	**Torodi Ar. Bea**	**164.38**	**179**	PKP		**PKPdf**	**07 43 21.8**	**-0.5**
TORD				PKPab		**PKPab**	**07 44 18.4**	**+1.2**
TORD				PP		**PP**	**07 48 04.3**	**+2.2**
TORD	**Torodi Ar. Bea**	**164.38**	**179**	PKP		**PKPdf**	**07 43 21.8**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=90,slow=1.5,SNR=3.8							
TORD				PKPab		**PKPab**	**07 44 18.4**	**+1.2**
	comp=Z,1.8nm,0.4s,baz=183,slow=3.7,SNR=15							
TORD				PP		**PP**	**07 48 04.3**	**+2.2**
	comp=Z,0.9nm,0.9s,baz=174,slow=5.1,SNR=3.6							

***IDC 02** 07:44:57.3±3.6, 15°.31S×173°.45W, h0km, mb3.9/4, mb1 4.3/4, mb1mx3.9/20, mbtmp3.9/4, MS3.6/6, Ms1 3.6/6, ms1mx3.1/34, Error ellipse: s-maj=192.8km s-min=26.6km az=146.0, Tonga Islands*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.13**	**49**	Pn	Pn	07 45 26.4	-7.9
	57nm,0.3s,baz=107,slow=0.9,SNR=61						
AFI				Sn	Sn	07 45 44.0	-18
	181nm,0.3s,baz=353,slow=23,SNR=21						
AFI				LR	LR	07 46 03.8	
	comp=Z,1μm,18.9s,baz=257,slow=31						
RAR	**Rarotonga**	**14.25**	**116**	LR	LR	07 51 55.5	
	comp=Z,213nm,19.4s,baz=289,slow=29						
DZM	**Mont Dzumac**	**20.19**	**248**	*e*LR	LR	07 54 16.9	
	217nm,25.4s						
PPT	**Papeete**	**23.00**	**99**	LR	LR	07 57 34.4	
	comp=Z,103nm,18.6s,baz=238,slow=33						
PPT2	**Papeete2**	**23.00**	**99**	*e*LQ	LQ	07 54 32.4	
	237nm,27.0s						
PPT2				*e*LR	LR	07 55 33.4	
	145nm,25.2s						
TBI	**Tubuai**	**23.98**	**113**	*e*LQ	LQ	07 54 55.7	
	268nm,31.2s						
TBI				*e*LR	LR	07 55 57.8	
	135nm,25.5s						
HNR	**Honiara**	**26.62**	**280**	LR	LR	07 59 19.7	
	comp=Z,92nm,21.0s,baz=146,slow=32						
RPZ	**Rata Peaks**	**31.25**	**202**	LR	LR	08 01 23.5	
	comp=Z,146nm,18.2s,baz=340,slow=32						
WRA	**Warramunga Arr**	**49.82**	**257**	P	P	07 53 52.1	-0.5
	1.0nm,0.5s,baz=90,slow=7.1,SNR=27						
ASAR	**Alice Springs**	**50.10**	**252**	P	P	07 53 54.2	-0.4
	5.7nm,0.6s,baz=86,slow=8.1,SNR=108						
FX1	**Attu Island--F**	**68.89**	**351**	LR	LR	08 20 10.4	
	comp=Z,47nm,19.4s,baz=61,slow=31						
NVAR	**Mina Array Bea**	**74.29**	**42**	P	P	07 56 36.7	-0.2
	0.4nm,0.7s,baz=224,slow=8.3,SNR=4.1						
ILAR	**Eielson Array**	**82.36**	**11**	P	P	07 57 19.4	-1.3
	0.5nm,1.0s,baz=202,slow=6.0,SNR=4.2						
GERES	**GERESS Array B**	**146.04**	**352**	PKPbc	PKPbc	08 04 39.3	-0.1
	0.3nm,0.2s,baz=28,slow=2.3,SNR=4.1						
BRTR	**Keskin Array B**	**146.06**	**321**	PKPbc	PKPab	08 04 40.6	+0.2
	2.5nm,0.7s,baz=82,slow=1.3,SNR=13						

***IDC 02** 07:52:59.0±0.9, 37°.91N×144°.95E, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.6/26, mbtmp3.5/7, ML3.4/2, Error ellipse: s-maj=40.2km s-min=20.6km az=117.0*
*NIED **02** 07:53:00, 38°.10N×144°.70E, h5km, Mw3.7 Best double couple: Mo3.99000×10^14 NP1:φ=204.00000°, δ75.00000°, λ-87.00000°. NP2:φ=14.00000°, δ15.00000°, λ-100.00000°.*
*ISCJB **02** 07:53:01.1±0.6, 38°.14N±0°.04×144°.76E±0°.05, h26km, mb3.5/5, Error ellipse: s-maj=6.0km s-min=5.2km az=175.3*
*JMA **02** 07:53:02.9±0.2, 38°.05N×144°.66E, h37km, M3.9*

ISC 02 07:53:02.3±0.9, 38°.08N±0°.06×144°.80E±0°.07, h26km, n26, σ1=98°/40, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.65**	**293**	P	**Pn**	**07 53 43.6**	**+0.3**
OFUJ				*e*S	**Sn**	**07 54 14.0**	**-0.5**
JIO	**Ouri**	**2.74**	**279**	P	**Pn**	**07 53 44.6**	**0.0**
JIO				*e*S	**Sn**	**07 54 15.2**	**-1.6**
MIYJ	**Miyakonagasawa**	**2.76**	**304**	P	**Pn**	**07 53 45.0**	**+0.1**
MIYJ				*e*S	**Sn**	**07 54 16.2**	**-1.2**
JMK	**Ichinoseki**	**2.94**	**288**	P	**Pn**	**07 53 47.7**	**+0.4**
JMK				*e*S	**Sn**	**07 54 21.2**	**-0.5**
JOU	**Okura**	**3.27**	**276**	P	**Pn**	**07 53 52.5**	**+0.6**
JOU				S	**Sn**	**07 54 28.9**	**-1.0**
JRG	**Rokugo**	**3.51**	**293**	P	**Pn**	**07 53 56.5**	**+1.3**
JRG				*e*S	**Sn**	**07 54 36.6**	**+0.7**
JFT	**Otama**	**3.58**	**262**	*e*S	**Sn**	**07 54 36.1**	**-1.4**
JYK	**Kaneyama**	**3.58**	**285**	P	**Pn**	**07 53 57.2**	**+1.0**
JYK				*e*S	**Sn**	**07 54 37.7**	**+0.1**
JAH	**Hinai**	**3.86**	**304**	*e*S	**Sn**	**07 54 45.1**	**+0.6**
JTM	**Tenmabayashi**	**3.95**	**314**	*e*S	**Sn**	**07 54 45.6**	**-1.2**
JOT	**Ohata**	**4.38**	**320**	*e*S	**Sn**	**07 54 55.7**	**-1.7**
JCH	**Churui**	**4.66**	**347**	P	**Pn**	**07 54 11.4**	**+0.4**
JCH				*e*S	**Sn**	**07 55 01.6**	**-2.6**
JKB	**Kayabe**	**4.78**	**324**	P	**Pn**	**07 54 12.6**	**0.0**
JKB				*e*S	**Sn**	**07 55 04.7**	**-2.3**
JRY	**Ryogami san**	**5.14**	**248**	P	**Pn**	**07 54 17.2**	**-0.5**
JRY				*e*S	**Sn**	**07 55 11.6**	**-4.6**
NEM2	**Nemuro 2**	**5.33**	**7**	P	**Pn**	**07 54 18.3**	**-1.8**
NEM2				*e*S	**Sn**	**07 55 14.7**	**-5.9**
MJAR	**Matsushiro Arr**	**5.47**	**256**	Pn	**Pn**	**07 54 23.3**	**+1.1**
	1.3nm,0.3s,baz=82,slow=14,SNR=9.6						
MJAR				Sn	**Sn**	**07 55 21.1**	**-3.2**
	0.8nm,0.3s,baz=169,slow=9.9,SNR=4.5						
MAT	**Matsushiro**	**5.47**	**256**	P	**Pn**	**07 54 21.2**	**-1.0**
MAT				S	**Sn**	**07 55 20.4**	**-3.9**
JOSM	**Okushiri--Mats**	**5.71**	**316**	P	**Pn**	**07 54 27.3**	**+1.9**
JTKR	**Abashiri--Toko**	**5.92**	**354**	P	**Pn**	**07 54 28.3**	**0.0**
JTKR				*e*S	**Sn**	**07 55 31.1**	**-4.2**
JHR	**Hokuryu**	**6.12**	**339**	*e*S	**Sn**	**07 55 39.7**	**-0.4**
ASAJ	**Asahikawa**	**6.25**	**345**	Pn	**Pn**	**07 54 34.8**	**+1.9**
	0.8nm,0.3s,baz=156,slow=18,SNR=3.8						
ILAR	**Eielson Array**	**47.16**	**33**	P	**P**	**08 01 32.9**	**+0.7**
	0.3nm,0.6s,baz=256,slow=5.9,SNR=6.0						
WRA	**Warramunga Arr**	**58.55**	**192**	P	**P**	**08 02 55.9**	**-0.8**
	0.9nm,0.6s,baz=11,slow=7.1,SNR=8.1						
ASAR	**Alice Springs**	**62.27**	**191**	P	**P**	**08 03 21.9**	**-0.2**
	0.2nm,0.5s,baz=14,slow=7.9,SNR=3.4						
PDAR	**Pinedale Array**	**75.00**	**47**	P	**P**	**08 04 42.9**	**+1.2**
	0.4nm,0.6s,baz=316,slow=7.7,SNR=3.3						
TXAR	**Lajitas Array**	**87.34**	**54**	P	**P**	**08 05 48.8**	**+1.5**
	0.2nm,0.9s,baz=328,slow=3.2,SNR=2.4						

CASC 02 07:53:18.9±1.6, 13°.48N×91°.10W, h36km±7km, MD3.6, ML3.4, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.98**	**328**	*e*P	Pn	07 53 36.4	+0.2

FUG	**Fuego 3**	**0.99**	**15**	*e*P		Pn	07 53 36.5	-0.1
NBG	**Las Nubes**	**1.32**	**34**	*e*P		Pn	07 53 42.1	+0.9
RTR	**El Retiro**	**1.47**	**74**	*e*P		Pn	07 53 43.1	-0.1
SBLS	**San Blas**	**1.48**	**76**	*e*P		Pn	07 53 42.8	-0.5
SBLS				*e*S		Sn	07 54 02.1	+0.5
SNJE	**San Jose**	**1.50**	**75**	*e*P		Pn	07 53 43.5	0.0
RBDL	**Robledal**	**1.51**	**65**	*e*P		Pn	07 53 43.9	+0.3
BOQS	**Boqueron**	**1.79**	**82**	*e*P		Pn	07 53 47.9	+0.3
BOQS				*e*S		Sn	07 54 09.8	+0.6
SNET	**Serv Nac Est T**	**1.83**	**83**	*e*P		Pn	07 53 48.1	+0.2
SNET				AML		AML	07 54 16.8	
	comp=Z,379nm,0.2s							
LFRS	**El Faro**	**1.99**	**86**	*e*P		Pn	07 53 50.9	+0.7
LFRS				*e*S		Sn	07 54 15.6	+1.7
LBRS	**Las Brisas**	**2.02**	**82**	*e*P		Pn	07 53 51.2	+0.7
LBRS				*e*S		Sn	07 54 15.9	+1.3
MRL	**Marmol**	**2.08**	**41**	*e*P		Pn	07 53 53.6	+2.0

***IDC 02** 07:57:28.2±2.1, 53°.87N×90°.93E, h0km, mb3.6/1, mb1 3.5/4, mb1mx3.3/31, mbtmp3.5/4, ML3.2/3, Error ellipse: s-maj=23.0km s-min=19.8km az=143.0*

ISC 02 07:57:30.5±2.5, 53.9N±0.1×90.8E±0.2, h10km, n8, σ=0.89/11, 2C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**3.52**	**274**	Pn	**Pn**	**07 58 27.0**	**+1.8**
	0.5nm,0.3s,baz=97,slow=12,SNR=4.7						
ZALV				Pg	**Pb**	**07 58 32.2**	**-0.7**
	2.3nm,0.3s,baz=92,slow=15,SNR=22						
ZALV				Lg	Lg	07 59 22.6	
	4.1nm,0.3s,baz=92,slow=24,SNR=6.3						
KURBB	**Kurchatov Arra**	**8.19**	**252**	⇓Pn	**Pn**	**07 59 29.5**	**+0.3**
	4.2nm,0.5s						
KURBB				⇑Sn	**Sn**	**08 01 01.0**	**-0.7**
	67nm,0.8s						
KURBB				⇑Lg	Lg	08 01 52.2	
	51nm,0.8s						
KURBB	**Kurchatov Arra**	**8.19**	**252**	Pn	**Pn**	**07 59 29.8**	**+0.6**
	0.2nm,0.3s,baz=64,slow=14,SNR=9.2						
KURBB				Sn	**Sn**	**08 01 01.4**	**-0.2**
	0.1nm,0.3s,baz=67,slow=26,SNR=9.2						
KURBB				Lg	Lg	08 01 48.7	
	0.1nm,0.3s,baz=62,slow=28,SNR=5.5						
MK31	**Makanchi Array**	**8.92**	**221**	⇓Pn	**Pn**	**07 59 40.1**	**+0.9**
	1.0nm,0.6s,baz=36,slow=14						
MK31				⇓Sn	**Sn**	**08 01 20.2**	**+0.5**
	2.2nm,0.6s,baz=41,slow=26,SNR=3.9						
MK31				⇓Lg	Lg	08 02 08.4	
	20nm,0.9s,baz=41,slow=28,SNR=5.4						
MKAR	**Makanchi Array**	**8.92**	**221**	Pn	**Pn**	**07 59 39.6**	**+0.3**
	0.4nm,0.3s,baz=40,slow=13,SNR=17						
MKAR				Sn	**Sn**	**08 01 20.0**	**+0.3**
	0.2nm,0.3s,baz=44,slow=23,SNR=3.2						
MKAR				Lg	Lg	08 02 04.4	
	0.1nm,0.3s,baz=29,slow=22,SNR=4.4						
SONM	**Songino Array**	**11.56**	**115**	Lg	Lg	08 03 22.6	
	baz=295,slow=24,SNR=9.9						
AAK	**Ala-Archa**	**15.57**	**230**	Lg	Lg	08 05 37.9	
	0.2nm,0.3s,baz=98,slow=23,SNR=5.8						
TORD	**Torodi Ar. Bea**	**78.97**	**277**	P	**P**	**08 09 33.8**	**-0.7**
	0.5nm,0.8s,baz=46,slow=8.3,SNR=2.9						

*IDC **02** 08:06:05.9±0.5, 14°.57S×175°.88W, h0km, mb4.3/21, mb1 4.4/21, mb1mx4.4/24, mbtmp4.2/21, MS4.5/24, Ms1 4.5/24, ms1mx4.4/32, Error ellipse: s-maj=19.5km s-min=14.4km az=122.0*
*ISCJB **02** 08:06:09.5±3.7, 14°.61S±0°.06×175°.93W±0°.06, h24km±26km, mb4.7/82, MS4.7/35, Error ellipse: s-maj=11.5km s-min=9.4km az=142.4*
*BJI **02** 08:06:11.2, 15°.16S×175°.93W, h41km, mB5.3/19, mb5.0/24, Ms5.2/21, Ms7 4.9/22*
*GCMT **02** 08:06:12.8±0.1, 14°.57S×175°.63W, h13km, MW5.4, Moment Tensor Solution. s73,c119; s98,c186; Moment tensor: Scale 10^17Nm; Mrr-0.25±.02; Mθθ0.61±.03; Mφφ-0.36±.02; Mrθ-0.03±.05; Mθφ1.26±.02; Mφr0.09±.05; Best double couple: Mo1.40000×10^17 NP1:φ=100.00000°, δ86.00000°, λ-3.00000°. NP2:φ

	comp=Z,467nm,19.0s,baz=105,slow=34								
AS31	**Alice Springs**	**48.11**	**251**	*e*P		**P**	**08 14 46.8**	**-2.4**	
ASAR	**Alice Springs**	**48.11**	**251**	P		**P**	**08 14 47.1**	**-2.1**	
ASAR	**Alice Springs**	**48.11**	**251**	P		**P**	**08 14 47.1**	**-2.1**	
	19nm,0.7s,baz=83,slow=8.2,SNR=75								
ASAR				LR		LR	08 34 10.9		
	comp=Z,588nm,18.1s,baz=85,slow=35								
FITZ	**Fitzroy Crossi**	**56.07**	**258**	LR		LR	08 38 10.2		
	comp=Z,451nm,20.8s,baz=89,slow=34								
DAV	**Davao City (W)**	**61.99**	**286**	LR		LR	08 40 27.3		
	comp=Z,333nm,19.5s,baz=130,slow=33								
SBA	**Scott Base**	**63.78**	**184**	*e*P		**P**	**08 16 41.7**	**+1.3**	
VNDA	**Vanda**	**63.86**	**185**	*e*P		**P**	**08 16 43.0**	**+2.1**	
VNDA	**Vanda**	**63.86**	**185**	P		**P**	**08 16 42.2**	**+1.3**	
	1.4nm,1.1s,baz=12,slow=7.4,SNR=3.7								
VNDA				LR		LR	08 38 45.2		
	comp=Z,328nm,20.4s,baz=31,slow=31								
MJAR	**Matsushiro Arr**	**66.90**	**321**	P		**P**	**08 17 00.5**	**-0.7**	
MJAR	**Matsushiro Arr**	**66.90**	**321**	P		**P**	**08 17 00.5**	**-0.7**	
	3.0nm,0.9s,baz=158,slow=6.0,SNR=7.3								
MJAR				LR		LR	08 40 45.0		
	comp=Z,499nm,21.0s,baz=130,slow=31								
CASY	**Casey**	**70.08**	**204**	*e*P		**P**	**08 17 22.2**	**+1.6**	
	8.5nm,1.0s								
PEA0B	**Petropavlovsk-**	**71.26**	**344**	*e*P		**P**	**08 17 28.2**	**+0.4**	
PETK	**Petropavlovsk-**	**71.26**	**344**	P		**P**	**08 17 26.8**	**-1.1**	
PETK	**Petropavlovsk-**	**71.26**	**344**	P		**P**	**08 17 26.8**	**-1.1**	
	10nm,0.9s,baz=132,slow=10,SNR=9.8								
PETK				LR		LR	08 41 46.0		
	comp=Z,452nm,22.0s,baz=156,slow=30								
SAO	**San Andreas Ge**	**72.39**	**43**	*e*P		**P**	**08 17 35.4**	**+0.4**	
	14nm,1.3s								
KIPM	**Iron Peak**	**72.85**	**40**	*e*P		**P**	**08 17 39.0**	**+1.1**	
CMB	**Columbia Colle**	**73.80**	**43**	*e*P		**P**	**08 17 41.6**	**-1.8**	
	11nm,1.2s								
CMB				*e*pP		**pP**	**08 17 52.2**	**-2.1**	
CMB				*es*P		**sP**	**08 17 56.5**	**-1.8**	
ISA	**Isabella**	**73.80**	**46**	*e*P		**P**	**08 17 42.4**	**-1.2**	
	40nm,1.7s								
ISA				*e*pP		**pP**	**08 17 52.4**	**-2.0**	
ISA				*es*P		**sP**	**08 17 57.3**	**-1.1**	
KSRS	**Korea Array**	**74.02**	**317**	P		**P**	**08 17 44.4**	**-0.3**	
	1.7nm,0.7s,baz=128,slow=7.2,SNR=4.9								
KSRS				LR		LR	08 47 52.8		
	comp=Z,348nm,18.6s,baz=311,slow=34								
KSAR	**Wonju Array Be**	**74.04**	**316**	P		**P**	**08 17 44.4**	**-0.4**	
YBH	**Yreka Blue Hor**	**74.47**	**38**	*e*P		**P**	**08 17 49.8**	**+2.5**	
	11nm,1.1s								
YBH				*e*pP		**pP**	**08 17 56.3**	**-1.9**	
BEKR	**Beckworth**	**74.84**	**41**	*e*P		**P**	**08 17 49.6**	**-0.1**	
	1.2nm,0.9s								
BEKR				*e*pP		**pP**	**08 17 59.0**	**-1.5**	
HUMO	**Hull Mountain**	**74.85**	**38**	*e*P		**P**	**08 17 50.3**	**+0.9**	
	20nm,1.7s								
QSPA	**South Pole Qui**	**75.35**	**180**	*e*P		**P**	**08 17 52.1**	**0.0**	
QSPA	**South Pole Qui**	**75.35**	**180**	P		**P**	**08 17 50.8**	**-1.4**	
	2.6nm,0.8s,baz=35,slow=1.4								
NVAR	**Mina Array Bea**	**75.39**	**43**	P		**P**	**08 17 50.9**	**-2.0**	
NVAR	**Mina Array Bea**	**75.39**	**43**	P		**P**	**08 17 50.9**	**-2.0**	
	4.3nm,0.9s,baz=228,slow=10,SNR=13								
NVAR				LR		LR	08 43 10.7		
	comp=Z,218nm,20.9s,baz=120,slow=30								
USRK	**Ussuriysk Arra**	**75.41**	**324**	P		**P**	**08 17 49.9**	**-2.7**	
	0.5nm,0.4s,baz=141,slow=3.7,SNR=3.2								
USRK				LR		LR	08 44 29.4		
	comp=Z,1μm,21.9s,baz=114,slow=31								
NV11	**Mina Array Sit**	**75.49**	**43**	*e*P		**P**	**08 17 53.1**	**-0.2**	
NV11				*e*pP		**pP**	**08 18 02.1**	**-2.2**	
MOD	**Modoc**	**76.03**	**39**	*e*P		**P**	**08 17 57.8**	**+1.4**	
	8.9nm,1.1s								
MOD				*e*pP		**pP**	**08 18 05.1**	**-2.2**	
MDJ	**Mudanjiang**	**77.04**	**323**	P		**P**	**08 18 03.7**	**+1.9**	
MDJ				sP		**sP**	**08 18 17.0**	**+0.2**	
MDJ				PP		**PP**	**08 20 56.0**	**+0.2**	
MDJ				S		S	08 27 55.6	+7.5	
MDJ				sS		**sS**	**08 28 07.7**	**+1.6**	
MDJ				SS		SS	08 32 54.5	+8.4	
MDJ				pmax		pmax			
	comp=Z,11nm,2.2s								
MDJ				pmax		pmax			
	comp=Z,93nm,9.5s								
MDJ				LR		LR			
	comp=N,380nm,36.6s								
MDJ				LR		LR			
	comp=E,550nm,33.0s								
MDJ				LR		LR			
	comp=Z,920nm,31.9s								
DIB	**Dawson Inlet,**	**77.17**	**25**	T		T	09 42 40.3		
WVOR	**Wild Horse Val**	**77.36**	**40**	*e*P		**P**	**08 18 05.1**	**+1.3**	
	comp=Z,14nm,1.3s								
TUC	**Tucson**	**77.77**	**52**	*e*P		**P**	**08 18 05.3**	**-1.0**	
	comp=Z,26nm,1.7s								
NJ2	**Nanjing**	**77.87**	**308**	*e*P		**P**	**08 18 07.2**	**+0.5**	
NJ2				pP		**PcP**	**08 18 17.0**	**+0.5**	
NJ2				sP		**sP**	**08 18 21.0**	**-0.7**	
NJ2				PP		**PP**	**08 21 03.0**	**0.0**	
NJ2				sS		**sS**	**08 28 15.0**	**-0.6**	
NJ2				pmax		pmax			
	comp=Z,20nm,0.9s								
NJ2				pmax		pmax			
	comp=Z,100nm,8.6s								
NJ2				LR		LR			
	comp=N,690nm,24.6s								
NJ2				LR		LR			
	comp=E,920nm,25.8s								
NJ2				LR		LR			
	comp=Z,900nm,21.6s								
ARUT	**Antelope Range**	**78.36**	**46**	*e*P		**P**	**08 18 10.4**	**+0.8**	
	comp=Z,13nm,1.5s								
ELK	**Elko**	**78.62**	**42**	*e*P		**P**	**08 18 10.1**	**-0.9**	
	comp=Z,13nm,1.5s								
WUAZ	**Wupatki**	**78.77**	**49**	*e*P		**P**	**08 18 13.6**	**+1.8**	
	comp=Z,15nm,1.5s								
WUAZ				*e*PcP		**pP**	**08 18 22.0**	**-0.8**	
PMR	**Palmer**	**78.92**	**13**	*e*P		**P**	**08 18 11.7**	**-0.1**	
	comp=Z,13nm,1.1s								
CN2	**Changchun**	**79.05**	**321**	*e*P		**P**	**08 18 14.8**	**+1.8**	
CN2				*e*pP		**pP**	**08 18 24.8**	**+0.9**	
CN2				*e*S		**S**	**08 28 10.4**	**+0.7**	
CN2				SS		**SS**	**08 33 21.5**	**+5.2**	
CN2				pmax		pmax			
	comp=Z,10.0nm,1.2s								
CN2				LR		LR			
	comp=N,300nm,20.0s								
CN2				LR		LR			
	comp=E,300nm,20.0s								
CN2				LR		LR			
	comp=Z,500nm,20.0s								
HAWA	**Hanford**	**79.05**	**36**	*e*P		**P**	**08 18 12.8**	**-0.1**	
	comp=Z,6.4nm,0.9s								
DIV	**Divide**	**79.26**	**14**	*e*P		**P**	**08 18 14.4**	**+0.5**	
	comp=Z,20nm,1.1s								
BMO	**Blue Mountains**	**79.49**	**38**	*e*P		**P**	**08 18 14.9**	**-0.6**	
	comp=Z,7.2nm,1.2s								
MVU	**Marysvale**	**79.55**	**46**	*e*P		**P**	**08 18 16.2**	**0.0**	
	comp=Z,23nm,1.8s								
DUG	**Dugway**	**79.95**	**44**	*e*P		**P**	**08 18 18.9**	**+0.7**	
	comp=Z,9.6nm,1.1s								
TRF	**Thorofare Moun**	**80.36**	**11**	*e*P		**P**	**08 18 18.1**	**-1.8**	
	comp=Z,9.7nm,0.9s								
QIZ	**Qiongzhong**	**80.47**	**293**	P		**P**	**08 18 21.4**	**+0.2**	
QIZ				S		**S**	**08 28 25.1**	**-0.6**	
QIZ				LR		LR			
	comp=N,250nm,21.5s								
QIZ				LR		LR			
	comp=Z,420nm,26.3s								
TMUT	**Trail Mountain**	**80.62**	**45**	*e*P		**P**	**08 18 24.0**	**+2.0**	
	comp=Z,40nm,1.6s								
SKAG	**Skagway**	**80.84**	**20**	*e*P		**P**	**08 18 22.9**	**+0.6**	
	comp=Z,17nm,1.4s								
MCK	**McKinley**	**80.88**	**12**	*e*P		**P**	**08 18 22.3**	**-0.2**	
	comp=Z,27nm,1.3s								
DAU	**Daniels Canyon**	**81.10**	**44**	*e*P		**P**	**08 18 23.0**	**-1.6**	
	comp=Z,28nm,1.8s								
MENT	**Mentasta**	**81.32**	**14**	*e*P		**P**	**08 18 23.9**	**-0.9**	
MENT				*e*PcP		**PcP**	**08 18 31.8**	**+0.9**	
LAZ	**Ladron**	**81.42**	**51**	*e*P		**P**	**08 18 28.2**	**+2.0**	
	comp=Z,13nm,1.9s								
LAZ				*e*pP		**pP**	**08 18 37.9**	**+0.7**	
HWUT	**Hardware Ranch**	**81.46**	**43**	*e*P		**P**	**08 18 25.8**	**-0.4**	
	comp=Z,9.3nm,1.3s								
MNTX	**Cornudas Mount**	**81.69**	**54**	*e*P		**P**	**08 18 27.4**	**-0.1**	
	comp=Z,19nm,1.7s								
BNM	**Barren Site**	**81.70**	**52**	*e*P		**P**	**08 18 29.1**	**+1.3**	
	comp=Z,36nm,2.0s								
BNM				*e*pP		**pP**	**08 18 39.2**	**+0.4**	

PV01	**Paradox Valley**	**81.94**	**47**	*e*P		**P**	**08 18 30.0**	**+1.0**	
	comp=Z,1μm,1.5s								
COLA	**College**	**82.12**	**12**	*e*P		**P**	**08 18 28.9**	**-0.1**	
	comp=Z,17nm,1.0s								
ANMO	**Albuquerque**	**82.15**	**51**	*e*P		**P**	**08 18 29.7**	**-0.5**	
	comp=Z,14nm,1.3s								
ANMO				*e*pP		**pP**	**08 18 41.4**	**+0.3**	
TXAR	**Lajitas Array**	**82.17**	**57**	P		**P**	**08 18 28.6**	**-1.6**	
TXAR	**Lajitas Array**	**82.17**	**57**	P		**P**	**08 18 28.6**	**-1.6**	
	comp=Z,0.7nm,0.8s,baz=243,slow=4.0,SNR=5.8								
TXAR				LR		LR	08 47 44.2		
	comp=Z,593nm,19.4s,baz=70,slow=30								
MCMT	**McKenzie Canyo**	**82.19**	**40**	*e*P		**P**	**08 18 28.8**	**-1.3**	
	comp=Z,4.4nm,1.1s								
MCMT				*e*pP		**pP**	**08 18 39.5**	**-1.7**	
ILAR	**Eielson Array**	**82.22**	**12**	P		**P**	**08 18 27.6**	**-1.9**	
ILAR	**Eielson Array**	**82.22**	**12**	P		**P**	**08 18 27.6**	**-1.9**	
	comp=Z,2.7nm,0.9s,baz=232,slow=5.5,SNR=10								
ILAR				LR		LR	08 47 33.6		
	comp=Z,218nm,20.2s,baz=207,slow=30								
MSO	**Missoula**	**82.53**	**38**	*e*P		**P**	**08 18 31.4**	**-0.3**	
	comp=Z,5.5nm,1.3s								
BSMT	**Bassoo Peak**	**82.56**	**36**	*e*P		**P**	**08 18 31.1**	**-0.8**	
	comp=Z,24nm,1.9s								
DLMT	**Dillon**	**82.61**	**39**	*e*P		**P**	**08 18 32.6**	**+0.5**	
	comp=Z,15nm,1.1s								
TPAW	**Teton Pass**	**82.74**	**42**	*e*P		**P**	**08 18 33.7**	**+0.6**	
	comp=Z,64nm,1.9s								
SNOW	**Snow King Moun**	**82.86**	**42**	*e*P		**P**	**08 18 34.5**	**+0.9**	
	comp=Z,31nm,1.3s								
LRM	**Limekiln Ridge**	**82.92**	**39**	*e*P		**P**	**08 18 35.6**	**+1.6**	
	comp=Z,32nm,1.0s								
IMW	**Indian Meadow**	**82.94**	**41**	*e*P		**P**	**08 18 34.8**	**+0.7**	
	comp=Z,16nm,1.1s								
CHMT	**Chamberlain Mo**	**82.98**	**38**	*e*P		**P**	**08 18 32.7**	**-1.4**	
	comp=Z,1.9nm,1.0s								
MOOW	**Moose Ponds**	**83.00**	**41**	*e*P		**P**	**08 18 35.7**	**+1.4**	
	comp=Z,12nm,1.4s								
MOOW				*e*pP		**pP**	**08 18 45.2**	**-0.1**	
LOHW	**Long Hollow**	**83.02**	**42**	*e*P		**P**	**08 18 35.1**	**+0.6**	
	comp=Z,16nm,1.4s								
QLMT	**Earthquake Lak**	**83.07**	**40**	*e*P		**P**	**08 18 33.7**	**-1.0**	
	comp=Z,0.8nm,0.7s								
BJI	**Beijing**	**83.29**	**314**	P		**P**	**08 18 36.7**	**+1.1**	
BJI				S		**S**	**08 28 55.0**	**+1.1**	
BJI				SS		**SS**	**08 34 21.6**	**+1.9**	
BJI				pmax		pmax			
	comp=Z,10.0nm,0.6s								
BJI				pmax		pmax			
	comp=Z,88nm,4.1s								
BJI				LR		LR			
	comp=N,340nm,21.7s								
BJI				LR		LR			
	comp=E,280nm,22.9s								
BJI				LR		LR			
	comp=Z,330nm,27.8s								
YMR	**Madison River**	**83.29**	**41**	*e*P		**P**	**08 18 38.1**	**+2.3**	
	comp=Z,169nm,2.1s								
BW06	**Boulder Array**	**83.31**	**43**	*e*P		**P**	**08 18 33.6**	**-2.4**	
	comp=Z,20nm,1.5s								
PDAR	**Pinedale Array**	**83.31**	**43**	P		**P**	**08 18 33.4**	**-2.6**	
PDAR	**Pinedale Array**	**83.31**	**43**	P		**P**	**08 18 33.4**	**-2.6**	
	comp=Z,1.5nm,1.0s,baz=212,slow=3.2,SNR=6.0								
PDAR				LR		LR	08 47 39.6		
	comp=Z,134nm,20.6s,baz=249,slow=30								
EGAK	**Eagle**	**83.48**	**14**	*e*P		**P**	**08 18 36.4**	**+0.3**	
	comp=Z,9.2nm,1.3s								
SMCO	**Snowmass**	**83.52**	**47**	*e*P		**P**	**08 18 38.5**	**+1.1**	
	comp=Z,20nm,1.3s								
COLD	**Coldfoot**	**83.82**	**10**	*e*P		**P**	**08 18 38.0**	**+0.3**	
	comp=Z,13nm,1.1s								
SDCO	**Great Sand Dun**	**83.99**	**49**	*e*P		**P**	**08 18 40.0**	**+0.4**	
	comp=Z,20nm,1.9s								
SDCO				*e*pP		**pP**	**08 18 50.1**	**-0.6**	
RLMT	**Red Lodge**	**84.57**	**41**	*e*P		**P**	**08 18 43.4**	**+1.1**	
	comp=Z,9.4nm,1.1s								
GCMT	**Greycliff**	**84.62**	**40**	*e*P		**P**	**08 18 44.0**	**+1.5**	
	comp=Z,47nm,2.1s								
GYA	**Guiyang**	**85.64**	**299**	*e*P		**P**	**08 18 48.0**	**0.0**	
GYA				pP		**pP**	**08 18 58.6**	**-0.5**	
GYA				sP		**sP**	**08 19 03.4**	**+0.3**	
GYA				PP		**PP**	**08 22 09.0**	**+1.6**	
GYA				SKS		**SKSac**	**08 29 08.5**	**-2.8**	
GYA				S		**S**	**08 29 16.0**	**-2.3**	
GYA				sS		**sS**	**08 29 34.7**	**-1.8**	
GYA				SS		**SS**	**08 34 55.2**	**-0.1**	
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
GYA				pmax		pmax			
	comp=Z,120nm,5.2s								
GYA				LR		LR			
	comp=N,490nm,19.9s								
GYA				LR		LR			
	comp=E,350nm,20.7s								
GYA				LR		LR			
	comp=Z,460nm,18.8s								
HHC	**Hu-ho-hao-te**	**86.83**	**314**	*e*P		**P**	**08 18 55.9**	**+2.4**	
HHC				sP		**sP**	**08 19 10.8**	**+2.2**	
HHC				PP		**PP**	**08 22 21.2**	**+4.5**	
HHC				SKS		**SKSac**	**08 29 15.7**	**-2.4**	
HHC				S		**S**	**08 29 29.5**	**+0.2**	
HHC				pmax		pmax			
	comp=Z,46nm,0.7s								
HHC				pmax		pmax			
	comp=Z,230nm,6.7s								
HHC				LR		LR			
	comp=N,390nm,17.3s								
HHC				LR		LR			
	comp=E,390nm,16.1s								
HHC				LR		LR			
	comp=Z,450nm,17.2s								
MAW	**Mawson**	**87.71**	**199**	P		**P**	**08 18 58.1**	**+0.9**	
MAW	**Mawson**	**87.71**	**199**	P		**P**	**08 18 58.1**	**+0.9**	
	comp=Z,1.7nm,0.8s,baz=44,slow=7.2,SNR=4.5								
KMI	**Kunming**	**88.61**	**296**	P		**P**	**08 19 03.4**	**+0.9**	
KMI				pP		**pP**	**08 19 14.3**	**+0.7**	
KMI				PP		**PP**	**08 22 33.7**	**+2.2**	
KMI				S		**S**	**08 29 44.5**	**-2.6**	
KMI				SS		**SS**	**08 35 37.1**	**-1.9**	
KMI				pmax		pmax			
	comp=Z,7.0nm,0.6s								
KMI				LR		LR			
	comp=N,190nm,13.9s								
KMI				LR		LR			
	comp=E,200nm,19.3s								
KMI				LR		LR			
	comp=Z,430nm,29.5s								
CD2	**Chengdu**	**89.44**	**302**	P		**P**	**08 19 07.2**	**+1.1**	
CD2				pP		**pP**	**08 19 18.3**	**+1.1**	
CD2				sP		**sP**	**08 19 22.4**	**+1.2**	
CD2				PP		**PP**	**08 22 40.7**	**+2.8**	
CD2				SKS		**SKSac**	**08 29 32.5**	**-1.6**	
CD2				S		**S**	**08 29 52.5**	**-1.9**	
CD2				sS		**sS**	**08 30 10.9**	**-1.9**	
CD2				SS		**SS**	**08 35 51.1**	**+0.5**	
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,120nm,5.8s								
CD2				LR		LR			
	comp=N,320nm,16.6s								
CD2				LR		LR			
	comp=E,440nm,20.6s								
CD2				LR		LR			
	comp=Z,440nm,20.1s								
CMAR	**Chiang Mai Arr**	**90.17**	**289**	P		**P**	**08 19 09.4**	**-0.3**	
CMAR	**Chiang Mai Arr**	**90.17**	**289**	P		**P**	**08 19 09.4**	**-0.3**	
	comp=Z,0.3nm,0.3s,baz=98,slow=2.7,SNR=3.5								
YKA	**Yellowknife Ar**	**90.39**	**24**	P		**P**	**08 19 09.8**	**+0.2**	
YKA	**Yellowknife Ar**	**90.39**	**24**	P		**P**	**08 19 09.8**	**+0.2**	
	comp=Z,0.5nm,0.7s,baz=239,slow=5.2,SNR=3.7								
YKA				LR		LR	08 51 57.3		
	comp=Z,43nm,21.0s,baz=0.0,slow=30								
LZH	**Lanzhou**	**90.92**	**307**	*e*P		**P**	**08 19 15.2**	**+2.1**	
LZH				pP		**pP**	**08 19 25.4**	**+1.3**	
LZH				sP		**sP**	**08 19 29.8**	**+1.7**	
LZH				pmax		pmax			
	comp=Z,14nm,1.0s								
LZH				LR		LR			
	comp=N,2μm,19.1s								
LZH				LR		LR			
	comp=E,750nm,15.9s								
LZH				LR		LR			
	comp=Z,710nm,20.5s								
PLCA	**Paso Flores**	**91.72**	**133**	LR		LR	08 50 46.2		
	comp=Z,266nm,18.7s,baz=182,slow=29								

SONM	**Songino Array**	**92.76**	**319**	P		**P**	**08 19 21.6**	**+0.4**	
SONM	**Songino Array**	**92.76**	**319**	P		**P**	**08 19 21.6**	**+0.4**	
	comp=Z,0.6nm,0.6s,baz=78,slow=7.5,SNR=2.6								
SNAA	**Sanae**	**93.72**	**178**	P		**P**	**08 19 25.8**	**+0.6**	
SNAA	**Sanae**	**93.72**	**178**	P		**P**	**08 19 25.8**	**+0.6**	
	comp=Z,0.2nm,0.8s,baz=174,slow=10,SNR=3.2								
ULM	**Lac du Bonnet**	**94.86**	**39**	LR		LR	08 56 18.9		
	comp=Z,573nm,20.3s,baz=156,slow=32								
CLL	**Collm**	**142.78**	**351**	*e*PKPdf		**PKPdf**	**08 25 41.0**	**-1.0**	
CLL				*e*PKiKP		**PKiKP**	**08 25 45.0**	**-0.2**	
CLL				*es*PKiKP		sPKiKP	08 25 59.0	-1.5	
DPC	**Dobruska-Polom**	**143.08**	**347**	AMS		AMS	09 27 00.0		
OKC	**Ostrava-Krasne**	**143.13**	**345**	AMS		AMS	09 26 40.0		
	comp=Z,200nm,21.5s								
PVCC	**Panska Ves**	**143.27**	**349**	AMS		AMS	09 27 50.0		
	comp=Z,400nm,26.5s								
PRU	**Pruhonice**	**143.79**	**349**	AMS		AMS	09 29 00.0		
	comp=Z,300nm,17.8s								
BRTR	**Keskin Array B**	**144.11**	**320**	PKP		**PKPab**	**08 25 41.5**	**-1.1**	
BRTR	**Keskin Array B**	**144.11**	**320**	PKP		**PKPab**	**08 25 41.5**	**-1.1**	
	comp=Z,2.0nm,0.9s,baz=104,slow=2.5,SNR=7.7								
TREC	**Trest**	**144.26**	**347**	AMS		AMS	09 28 20.0		
	comp=Z,300nm,20.9s								
KHC	**Kasperske Hory**	**144.79**	**349**	*e*PKP		**PKPab**	**08 25 43.9**	**-0.7**	
KHC				*ex*		x	08 25 50.3		
KHC				*ep*PKP		**pPKPdf**	**08 25 59.6**	**+2.5**	
KHC				AMS		AMS	09 30 40.0		
	comp=Z,300nm,21.0s								
GERES	**GERESS Array B**	**145.04**	**349**	PKP		**PKPbc**	**08 25 43.6**	**-2.0**	
GERES	**GERESS Array B**	**145.04**	**349**	PKP		**PKPbc**	**08 25 43.6**	**-2.0**	
	comp=Z,2.8nm,0.8s,baz=11,slow=2.0,SNR=8.8								
CONA	**Conrad Observa**	**145.47**	**346**	*i* PKPdf		**PKPdf**	**08 25 46.8**	**-0.1**	
	comp=Z,29nm,1.0s,SNR=19								
MOA	**Molln**	**145.89**	**348**	*i* PKiKP		**PKPab**	**08 25 49.3**	**+0.7**	
	comp=Z,22nm,1.2s,SNR=11								
BFO	**Black Forest**	**146.28**	**355**	*e*PKPbc		**PKPab**	**08 25 50.7**	**+0.6**	
KBA	**Koelnbreinsper**	**146.81**	**349**	⇓*i* PKPab		**PKPbc**	**08 25 50.8**	**-0.3**	
	comp=Z,8.9nm,0.8s								
MYKA	**Terra Mystica**	**147.18**	**348**	⇑*i* PKPab		**PKPbc**	**08 25 52.3**	**+0.2**	
	comp=Z,15nm,1.1s,SNR=6.3								
ABTA	**Abfaltersbach**	**147.28**	**349**	⇑*ip*PKPdf		**PKPab**	**08 25 57.7**	**+3.6**	
	comp=Z,15nm,1.1s,SNR=6.3								
FETA	**Feichten**	**147.30**	**352**	*i* pPKPdf		pPKPdf	08 25 58.7	-2.9	
	comp=Z,11nm,1.1s,SNR=5.6								
SSB	**Saint Sauveur**	**149.50**	**359**	*e*PKPdf		**PKPdf**	**08 25 54.0**	**+0.3**	
SSB				*e*PKPbc		**PKPbc**	**08 25 58.5**	**+0.3**	
SSB				*e*PKPab		**PKPab**	**08 26 03.9**	**+0.9**	
TIP	**Timpagrande**	**153.20**	**338**	*e*PKPdf		**PKPdf**	**08 25 59.8**	**+0.3**	
TIP				*e*PKPbc		**PKPbc**	**08 26 06.9**	**-0.1**	

*IDC **02** 08:13:26.4±0.8, 32°.40S×71°.73W, h0km, mb4.1/6, mb1 4.1/9, mb1mx3.9/19, mbtmp3.9/9, ML3.9/3, MS3.4/6, Ms1 3.4/6, ms1mx3.2/24, Error ellipse: s-maj=21.8km s-min=16.8km az=135.0*

*ISCJB **02** 08:13:28.3±0.9, 32°.45S±0°.03×72°.02W±0°.06, h24km±5km, mb4.0/6, MS3.9/2, Error ellipse: s-maj=8.5km s-min=3.9km az=163.9*

*NEIC **02** 08:13:29.9, 32°.46S×71°.87W, h30km, mb4.1/3, ML3.9(GUC), After GUC.*

*GUC **02** 08:13:29.9±0.8, 32°.46S×71°.87W, h30km±5km, MD4.1, ML3.9*

ISC 02 08:13:28.4±2.1, 32°.45S±0°.02×71°.91W±0°.06, h16km±12km, n70, o094/97, mb4.2/6, 15C-21D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h	m	s	Res ISC
PACH	**Papudo**	**0.41**	**102**	⇓*i*P		**Pb**	**08 13 38.1**			**+0.8**
PACH	**Papudo**	**0.41**	**102**	⇓*i*P		**Pb**	**08 13 38.1**			**+0.8**
IHA	**Instituto Hidr**	**0.61**	**158**	⇓*i*P		**Pb**	**08 13 41.2**			**+0.4**
IHA	**Instituto Hidr**	**0.61**	**158**	⇓*i*P		**Pb**	**08 13 41.2**			**+0.4**
CHNG	**Los Chungos**	**0.67**	**31**	⇓*i*P		**Pb**	**08 13 42.5**			**+0.8**
CHNG				*i* S		**Sb**	**08 13 51.9**			**+1.2**
CHNG	**Los Chungos**	**0.67**	**31**	⇓*i*P		**Pb**	**08 13 42.5**			**+0.8**
CHNG				*i* S		**Sb**	**08 13 51.9**			**+1.2**
CHNG				AML		AML	08 13 54.8			
	comp=N,3μm,0.5s									
PTCH	**Petorca**	**0.85**	**77**	⇓*i*P		**Pb**	**08 13 45.2**			**+0.4**
PTCH				*i* S		**Sg**	**08 13 56.5**			**+0.3**
PTCH	**Petorca**	**0.85**	**77**	⇓*i*P		**Pb**	**08 13 45.2**			**+0.4**
PTCH				*i* S		**Sg**	**08 13 56.5**			**+0.3**
PTCH				AML		AML	08 13 57.9			
	comp=N,6μm,0.2s									
**

TLL					AML	AML	08 14 48.6			
	comp=E,1μm,0.7s									
CFAA	**Coronel Fontan**	**3.23**	**76**		Pn	**Pn**	**08 14 21.6**	**+3.0**		
CFAA					Pg	**Pb**	**08 14 22.7**	**-2.7**		
CFAA					Lg	Lg	08 15 03.6			
CFAA	**Coronel Fontan**	**3.23**	**76**		Pn	**Pn**	**08 14 21.6**	**+3.0**		
	comp=E,2.6nm,0.3s,baz=253,slow=11,SNR=59									
CFAA					Pg	**Pb**	**08 14 22.7**	**-2.7**		
	comp=E,3.3nm,0.3s,baz=233,slow=14,SNR=59									
CFAA					Lg	Lg	08 15 03.6			
	comp=E,1.9nm,0.3s,baz=252,slow=13,SNR=7.2									
LCO	**Las Campanas**	**3.59**	**17**	⇑	*iP*	**Pn**	**08 14 24.3**	**+0.6**		
LCO					*i* S	**Sn**	**08 15 06.0**	**+0.2**		
LCO	**Las Campanas**	**3.59**	**17**	⇑	*iP*	**Pn**	**08 14 24.3**	**+0.6**		
LCO					*i* S	**Sn**	**08 15 06.0**	**+0.2**		
LCO					AML	AML	08 15 25.9			
	comp=E,356nm,0.8s									
PLCA	**Paso Flores**	**8.33**	**173**		Pn	**Pn**	**08 15 29.4**	**+0.8**		
PLCA	**Paso Flores**	**8.33**	**173**		Pn	**Pn**	**08 15 29.4**	**+0.8**		
	comp=E,0.6nm,0.3s,baz=339,slow=11,SNR=11									
PLCA					LR	LR	08 19 19.8			
	comp=E,84nm,19.9s,baz=183,slow=42									
LVC	**Limon Verde**	**10.16**	**16**		LR	LR	08 19 51.1			
	comp=E,208nm,21.0s,baz=218,slow=38									
CPUP	**Villa Florida**	**14.09**	**68**		Pn	Pn	08 16 51.1	+3.7		
CPUP	**Villa Florida**	**14.09**	**68**		Pn	Pn	08 16 51.1	+3.7		
	comp=E,0.4nm,0.3s,baz=228,slow=14,SNR=3.0									
CPUP					LR	LR	08 22 19.2			
	comp=E,79nm,22.0s,baz=52,slow=38									
LPAZ	**La Paz**	**16.46**	**13**		*eP*	**Pn**	**08 17 20.0**	**+0.7**		
	comp=E,4.5nm,0.9s									
LPAZ	**La Paz**	**16.46**	**13**		Pn	**Pn**	**08 17 17.7**	**-1.6**		
	comp=E,0.2nm,0.3s,baz=174,slow=8.0,SNR=12									
SIV	**San Ignacio**	**19.12**	**34**		P	**P**	**08 17 49.5**	**-1.3**		
SIV	**San Ignacio**	**19.12**	**34**		P	**P**	**08 17 49.5**	**-1.3**		
	comp=E,0.1nm,0.3s,baz=223,slow=10,SNR=5.3									
SIV					LR	LR	08 26 38.6			
	comp=E,90nm,18.2s,slow=42									
BDFB	**Brasilia**	**27.40**	**58**		P	**P**	**08 19 12.1**	**-1.4**		
BDFB	**Brasilia**	**27.40**	**58**		P	**P**	**08 19 12.1**	**-1.4**		
	comp=E,4.9nm,0.8s,baz=225,slow=5.6,SNR=7.3									
BDFB					LR	LR	08 30 51.1			
	comp=E,103nm,20.4s,baz=47,slow=38									
SNAA	**Sanae**	**52.97**	**158**		*eP*	**P**	**08 22 44.3**	**+0.5**		
	comp=E,3.2nm,1.0s									
SNAA	**Sanae**	**52.97**	**158**		P	**P**	**08 22 44.1**	**+0.3**		
	comp=E,0.5nm,0.6s,baz=322,slow=5.4,SNR=10									
QSPA	**South Pole Qui**	**57.78**	**180**		*eP*	**P**	**08 23 17.6**	**-1.0**		
	comp=E,3.0nm,1.0s									
QSPA	**South Pole Qui**	**57.78**	**180**		P	**P**	**08 23 19.0**	**+0.5**		
	comp=E,2.6nm,1.0s,baz=108,slow=0.3,SNR=8.9									
TXAR	**Lajitas Array**	**68.44**	**330**		P	**P**	**08 24 30.4**	**+0.6**		
TXAR	**Lajitas Array**	**68.44**	**330**		P	**P**	**08 24 30.3**	**+0.6**		
	comp=E,0.1nm,0.8s,baz=215,slow=4.4,SNR=2.5									
DBIC	**Dimbokro**	**74.59**	**72**		P	**P**	**08 25 06.8**	**-0.3**		
DBIC	**Dimbokro**	**74.59**	**72**		P	**P**	**08 25 06.8**	**-0.3**		
	comp=E,6.1nm,0.9s,baz=197,slow=4.4,SNR=4.1									
TORD	**Torodi Ar. Bea**	**83.58**	**70**		P	**P**	**08 25 56.2**	**-0.1**		
TORD	**Torodi Ar. Bea**	**83.58**	**70**		P	**P**	**08 25 56.2**	**-0.1**		
	comp=E,2.5nm,0.8s,baz=255,slow=4.5,SNR=13									
SCHQ	**Schefferville**	**87.04**	**3**		LR	LR	09 07 41.6			
	comp=E,145nm,19.5s,baz=295,slow=37									
BVAR	**Borovoye Array**	**146.07**	**41**		PKPbc	**PKPbc**	**08 33 07.7**	**+0.6**		
BVAR	**Borovoye Array**	**146.07**	**41**		PKPbc	**PKPbc**	**08 33 07.7**	**+0.6**		
	comp=E,1.1nm,0.5s,baz=300,slow=5.9,SNR=6.0									
EKS2	**Erkin-Say**	**151.13**	**59**		*e*PKPbc	**PKPbc**	**08 33 21.2**	**+0.4**		
ZALV	**Zalesovo Beam**	**152.85**	**31**		PKPbc	**PKPbc**	**08 33 24.3**	**+0.2**		
ZALV	**Zalesovo Beam**	**152.85**	**31**		PKPbc	**PKPbc**	**08 33 24.3**	**+0.2**		
	comp=E,1.4nm,0.5s,baz=289,slow=4.2,SNR=7.4									
MKAR	**Makanchi Array**	**155.65**	**46**		PKPab	**PKPab**	**08 33 47.1**	**-0.4**		
MKAR	**Makanchi Array**	**155.65**	**46**		PKPab	**PKPab**	**08 33 47.1**	**-0.4**		
	comp=E,0.7nm,0.7s,baz=287,slow=4.5,SNR=8.6									

*TRN **02** 08:18:20.1, 17.87N×64.52W, h17km*
*NEIC **02** 08:18:21.3, 18.88N×64.59W, h72km, MD3.5(RSPR), After RSPR.*

RSPR 02 08:18:21.3, 18.88N×64.59W, h71km±5km, MD3.5/3, 6C-6D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.46**	**184**	⇓ *eP*	Pn	08 18 33.2	-0.7
TBVI	**Tortola**	**0.46**	**184**	⇓ *eP*	Pn	08 18 33.2	-0.7
TBVI	**Tortola**	**0.46**	**184**	⇓ *eP*	Pn	08 18 33.2	-0.7
STVI	**Saint Thomas**	**0.63**	**214**	⇓ *eP*	Pn	08 18 34.8	-0.8
STVI	**Saint Thomas**	**0.63**	**214**	*eS*	Sn	08 18 45.8	-0.3
STVI	**Saint Thomas**	**0.63**	**214**	⇓ *eP*	Pn	08 18 34.8	-0.8
STVI				*eS*	Sn	08 18 45.8	-0.3
STVI	**Saint Thomas**	**0.63**	**214**	⇓ *eP*	Pn	08 18 34.8	-0.8
STVI				*eS*	Sn	08 18 45.8	-0.3
MTP	**Monte Pirata**	**1.20**	**230**	⇑ *eP*	Pn	08 18 41.8	-0.7
MTP				*eS*	Sn	08 18 57.7	-0.6
MTP	**Monte Pirata**	**1.20**	**230**	⇑ *eP*	Pn	08 18 41.8	-0.7
MTP				*eS*	Sn	08 18 57.7	-0.6
MTP	**Monte Pirata**	**1.20**	**230**	⇑ *eP*	Pn	08 18 41.8	-0.7
MTP				*eS*	Sn	08 18 57.7	-0.6
HUMP	**Col San Antoni**	**1.40**	**239**	⇑ *eP*	Pn	08 18 44.6	-0.4
HUMP	**Col San Antoni**	**1.40**	**239**	⇑ *eS*	Sn	08 19 02.2	-0.8
HUMP	**Col San Antoni**	**1.40**	**239**	⇑ *eP*	Pn	08 18 44.6	-0.4
HUMP				*eS*	Sn	08 19 02.2	-0.8
HUMP	**Col San Antoni**	**1.40**	**239**	⇑ *eP*	Pn	08 18 44.6	-0.4
HUMP				*eS*	Sn	08 19 02.2	-0.8

IDC 02 08:39:00.6±5.6, 5.00S×153.15E, h88km±46km, mb3.5/6, mb1 3.7/7, mb1mx3.4/20, mbtmp3.5/7, Error ellipse: s-maj=55.7km s-min=28.6km az=123.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.38**	**233**	P	Pn	08 40 46.6	+0.9
	1.4nm,0.3s,baz=39,slow=14,SNR=3.2						
PMG				S	Sn	08 42 07.4	-0.6
	10nm,0.3s,baz=158,slow=20,SNR=12						
WRA	**Warramunga Arr**	**23.58**	**229**	P	P	08 44 03.7	+0.2
	1.5nm,0.3s,baz=50,slow=10.0,SNR=44						
ASAR	**Alice Springs**	**26.24**	**223**	P	P	08 44 27.8	+0.2
	0.2nm,0.5s,baz=56,slow=9.1,SNR=4.7						
FITZ	**Fitzroy Crossi**	**29.87**	**242**	P	P	08 44 59.9	-0.1
	1.4nm,0.3s,baz=79,slow=9.1,SNR=11						
CMAR	**Chiang Mai Arr**	**58.28**	**295**	P	P	08 48 47.4	+0.8
	0.6nm,0.3s,baz=112,slow=5.5,SNR=4.2						
MKAR	**Makanchi Array**	**80.71**	**319**	P	P	08 51 03.8	-0.4
	1.5nm,0.8s,baz=105,slow=7.0,SNR=12						
ILAR	**Eielson Array**	**82.21**	**22**	P	P	08 51 11.6	-0.2
	0.3nm,0.7s,baz=248,slow=6.2,SNR=7.3						
TORD	**Torodi Ar. Bea**	**150.70**	**288**	PKPbc	PKPbc	08 58 43.5	-0.2
	1.0nm,1.0s,baz=78,slow=2.3,SNR=4.3						

*BJI **02** 08:51:49.8, 1.78S×99.96E, h35km, mB5.0/29, mb4.7/38, Ms5.3/38, Ms7 4.9/36*
*MOS **02** 08:51:55.6±1.0, 0.96S×100.40E, h33km, mb5.2/34, MS4.7/9, Error ellipse: s-maj=12.5km s-min=5.5km az=112.8*
*ISCJB **02** 08:51:55.9±0.5, 1.17S±0.03×100.07E±0.03, h35km±4km, mb4.8/88, MS4.7/49, Error ellipse: s-maj=5.5km s-min=3.6km az=147.2*
*GCMT **02** 08:51:56.1±0.2, 1.11S×100.10E, h12km, MW5.1, Moment Tensor Solution. s32,c35; s81,c129; Moment tensor: Scale 10^16Nm; Mrr-0.59±.13; Mθθ4.52±.10; Mϕϕ-3.93±.12; Mrθ1.85±.32; Mθϕ1.37±.11; Mϕr1.27±.36; Best double couple: M=4.90000×10^16 NP1:ϕs127.00000°, δ65.00000°, λ2.00000°. NP2:ϕs36.00000°, δ88.00000°, λ155.00000°. Principal axes: T 5.4300, Plg19.0000°, Azm349.0000°; N -1.0100, Plg65.0000°, Azm212.0000°; P -4.4200, Plg16.0000°, Azm85.0000°; Data Used: IU II IC CN G.*
*NEIC **02** 08:51:57.5±0.2, 1.05S×100.33E, h35km, mb4.8/16 Error ellipse: s-maj=10.7km s-min=5.7km az=58.0*
NEIC Felt [V] at Padang; [III] at Painan and Pariaman; [II] at Padangpanjang. Also felt at Bukittinggi.
*DJA **02** 08:51:57.2±0.3, 1.5S×100.0E±°, h12km, M5.1/19, mB5.5/15, mb5.1/19, MLv5.6/13, Mw(mB)4.9/15*
*AUST **02** 08:51:58.8±0.8, 1.04S×100.27E, h48km, Error ellipse: s-maj=1.7km s-min=0.8km az=242.0*
*IDC **02** 08:51:58.8±1.9, 1.10S×100.35E, h47km±17km, mb4.3/26, mb1 4.4/29, mb1mx4.4/30, mbtmp4.3/29, ML4.5/3, MS4.5/27, Ms1 4.5/27, ms1mx4.3/42, Error ellipse: s-maj=15.6km s-min=8.7km az=58.0*
*BKK **02** 08:51:59.2±0.4, 1.5S×100.0E±°, h5km, M4.8/18, mB5.1/9, mb4.7/18, MLv5.2/4, Mw(mB)4.5/9*

ISC 02 08:51:57.5±0.3, 1.12S±0.03×100.16E±0.04, h33km, n325, σ1.53/367, mb4.9/88, MS4.6/49, 17C-12D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**0.70**	**20**	P	Pn	08 52 07.9	-3.3
PPI	**Padang Panjang**	**0.70**	**20**	P	Pn	08 52 07.9	-3.3
	baz=0.6,SNR=433						
PPI				S	**Sb**	**08 52 17.9**	**-3.1**
	baz=0.6,SNR=13						
BKNI	**Bangkinang**	**1.69**	**32**	P	**Pn**	**08 52 25.4**	**+0.7**
BKNI				S	**Sb**	**08 52 48.3**	**-0.6**
BKNI	**Bangkinang**	**1.69**	**32**	P	**Pn**	**08 52 25.7**	**+0.9**
	baz=1.6,SNR=87						
BKNI				S	**Sb**	**08 52 50.3**	**+1.4**
	baz=1.6,SNR=4.4						
RGRI	**Rengat**	**2.31**	**71**	P	**Pn**	**08 52 33.8**	**+0.5**
RGRI				S	**Sn**	**08 53 02.7**	**+2.1**
MBSI	**MBSI**	**3.37**	**141**	P	**Pb**	**08 52 56.4**	**-0.2**
MBSI				S	**Sb**	**08 53 33.3**	**-3.8**
PSI	**Prapat**	**4.09**	**342**	P	**Pn**	**08 52 56.2**	**-1.6**
PSI				S	**Sn**	**08 53 46.0**	**+1.4**
PSI	**Prapat**	**4.09**	**342**	P	**Pn**	**08 52 56.2**	**-1.6**
	10nm,0.3s,baz=159,slow=13,SNR=123						
PSI				S	**Sn**	**08 53 46.0**	**+1.4**
	12nm,0.3s,baz=158,slow=22,SNR=2.8						
PSI				LR	LR	08 54 49.6	
	comp=Z,19μm,18.5s,baz=157,slow=42						
PSI	**Prapat**	**4.09**	**342**	P	**Pn**	**08 52 57.2**	**-0.6**
	baz=4.0,SNR=147						
MNAI	**Manna**	**4.26**	**139**	P	Pb	08 53 16.9	+5.1
MNAI	**Manna**	**4.26**	**139**	P	**Pn**	**08 52 59.7**	**-0.5**
	baz=4.3,SNR=19						
BTDF	**Bukit Timah Da**	**4.38**	**56**	P	**Pn**	**08 53 02.2**	**+0.4**
BTDF	**Bukit Timah Da**	**4.38**	**56**	P	**Pn**	**08 53 02.2**	**+0.4**
	baz=4.2,SNR=18						
BTDF				P	**Pn**	**08 53 02.2**	**+0.4**
	baz=4.2,SNR=18						
KGM	**Kluang**	**4.44**	**45**	P	**Pn**	**08 53 03.7**	**+1.0**
FRIM	**Kepong**	**4.57**	**19**	P	**Pn**	**08 53 05.5**	**+1.0**
MYKOM	**Kota Tinggi**	**4.69**	**52**	P	**Pn**	**08 53 07.2**	**+1.1**
TSI	**Tuntungan**	**4.86**	**341**	P	**Pn**	**08 53 10.0**	**+1.6**
TSI				S	**Sn**	**08 54 07.1**	**+3.6**
KCSI	**Kotacane, Aceh**	**5.19**	**333**	P	**Pn**	**08 53 12.4**	**-0.6**
	535nm,0.7s,20μm8.8nm						
SNSI	**Sinabang, Aceh**	**5.19**	**312**	P	**Pn**	**08 53 14.7**	**+1.8**
	600nm,0.8s,9μm3.3nm						
LWLI	**Liwa**	**5.49**	**135**	P	**Pn**	**08 53 20.1**	**+2.9**
	1μm,0.7s,16μm9.5nm						
IPM	**Ipoh**	**5.63**	**9**	P	**Pn**	**08 53 21.2**	**+2.2**
KLSI		**5.78**	**128**	P	**Pn**	**08 53 22.3**	**+1.2**
	442nm,1.1s,20μm4.5nm						
PPBI	**Pangkal Pinang**	**6.07**	**100**	P	Pn	08 53 29.0	+4.0
	196nm,0.8s,5μm3.0nm						
KASI	**Kota Agung**	**6.16**	**135**	P	**Pn**	**08 53 27.0**	**+0.8**
	368nm,0.7s,6μm2.0nm						
KULM	**Kulim**	**6.39**	**4**	P	**Pn**	**08 53 30.0**	**+0.6**
KTGM	**Kuala Trenggan**	**7.06**	**25**	P	**Pn**	**08 53 40.7**	**+2.0**
LHMI	**Lhok Sumawe**	**7.08**	**333**	P	**Pn**	**08 53 38.3**	**-0.5**
	201nm,0.8s,5μm6.0nm						
TPI	**Tanjungpandan**	**7.67**	**102**	P	**Pn**	**08 53 46.9**	**-0.1**
	32nm,1.1s,613nm0.9nm						
BSI	**Banda Aceh**	**8.17**	**324**	P	**Pn**	**08 53 53.9**	**0.0**
	105nm,0.8s,2μm						
DBJI	**Dramaga**	**8.51**	**130**	P	Pn	08 54 05.2	+6.7
TRTT	**Trang**	**8.91**	**357**	P	**Pn**	**08 54 05.0**	**+1.0**
	105nm,0.9s,1μm0.4nm						
PKDT	**Phuket**	**9.14**	**349**	P	**Pn**	**08 54 09.3**	**+2.2**
	62nm,1.0s						
LEM	**Lembang**	**9.35**	**127**	P	Pn	08 54 24.3	+14
CISI	**Cisompet, Garu**	**9.96**	**130**	P	Pn	08 54 26.6	+8.1
CISI	**Cisompet, Garu**	**9.96**	**130**	P	**Pn**	**08 54 16.6**	**-1.8**
	baz=9.9,SNR=4.6						
KSM	**Kuching**	**10.47**	**76**	P	Pn	08 54 31.1	+5.6
TGJI	**Tegal**	**10.61**	**123**	P	Pn	08 54 32.7	+5.4
BJII	**Banjamegara**	**11.35**	**123**	P	Pn	08 54 46.5	+9.0
UGM	**Wanagama**	**12.34**	**123**	P	**Pn**	**08 54 51.5**	**+0.5**
	baz=12,SNR=6.1						
SBUM	**Sibu**	**12.57**	**74**	P	**Pn**	**08 54 57.1**	**+2.9**
SJI	**Sawahan**	**13.31**	**120**	P	P	08 55 18.4	+4.8
BTM	**Bintulu**	**13.62**	**72**	P	**P**	**08 55 15.1**	**-1.9**
PHET	**Kaeng Krachan**	**13.95**	**358**	P	**P**	**08 55 20.1**	**-0.5**
NAYO	**Nakonayok**	**15.38**	**4**	P	**P**	**08 55 34.9**	**-1.7**
	23nm,1.2s,830nm						
JAGI	**Jajag, Banyuwa**	**15.73**	**118**	P	**P**	**08 55 41.6**	**+1.1**
	baz=16,SNR=4.2						
KHKI	**Kahang-Kahang**	**16.99**	**116**	P	**P**	**08 55 58.7**	**+4.3**
CHAI	**Chaiyaphum**	**17.01**	**6**	P	P	08 56 04.9	+10
UBPT	**Khong Chiam**	**17.12**	**18**	P	**P**	**08 55 56.2**	**+0.3**
	46nm,0.8s,705nm						
UBPT	**Khong Chiam**	**17.12**	**18**	P	**P**	**08 55 56.2**	**+0.3**
	46nm,0.8s,705nm						
PBKT	**Sadao Pong**	**17.60**	**3**	P	**P**	**08 56 04.7**	**+3.6**
PBKT	**Sadao Pong**	**17.60**	**3**	P	**P**	**08 56 04.7**	**+3.6**
	22nm,0.9s						
SDKM	**Sandakan**	**18.29**	**68**	P	**Pn**	**08 56 11.6**	**+2.6**
KDM	**Kudat**	**18.46**	**64**	P	**Pn**	**08 56 14.0**	**+3.1**
TSM	**Tawau**	**18.50**	**73**	P	Pn	08 56 16.7	+5.2
LOEI	**Loei**	**18.55**	**3**	P	**Pn**	**08 56 13.8**	**+1.8**
	12nm,0.9s,1μm						
PANO	**Nakornpanom**	**18.68**	**13**	P	**Pn**	**08 56 15.9**	**+2.3**
	58nm,1.8s,1μm						
MYLDM	**Lahad Datu**	**19.36**	**71**	P	**Pn**	**08 56 25.7**	**+3.9**
CMAR	**Chiang Mai Arr**	**19.49**	**357**	P	**P**	**08 56 20.6**	**-1.4**
CMAR	**Chiang Mai Arr**	**19.49**	**357**	P	**P**	**08 56 20.6**	**-1.4**
	1.0nm,0.3s,baz=186,slow=9.9,SNR=29						
CMAR				LR	LR	09 04 11.2	
	comp=Z,2μm,19.9s,baz=185,slow=38						
LAMP	**Lampang**	**19.53**	**359**	P	**Pn**	**08 56 28.3**	**+4.5**
	14nm,0.8s,117nm						
TTSI	**Tana Toraja**	**19.74**	**96**	P	**Pn**	**08 56 27.9**	**+1.5**
	73nm,1.0s,930nm						
SPSI	**Sidrap Palu**	**19.80**	**99**	P	**Pn**	**08 56 29.7**	**+2.7**
CMMT	**Chiang Mai**	**19.84**	**357**	P	**Pn**	**08 56 30.5**	**+2.9**
CMMT	**Chiang Mai**	**19.84**	**357**	P	**Pn**	**08 56 30.5**	**+2.9**
	19nm,0.8s						
CHTO	**Chiang Mai**	**19.85**	**357**	*eP*	**P**	**08 56 24.7**	**-1.1**
CHTO				*eS*	**S**	**09 00 06.1**	**-1.6**
CHTO				pmax	pmax		
	comp=Z,12nm,0.8s						
CHTO	**Chiang Mai**	**19.85**	**357**	*eP*	**P**	**08 56 24.7**	**-1.1**
	comp=Z,12nm,0.8s						
CHTO				*eS*	**S**	**09 00 06.1**	**-1.6**
CHTO	**Chiang Mai**	**19.85**	**357**	P	**Pn**	**08 56 27.6**	**0.0**
	comp=Z,18nm,0.9s						
CHTO	**Chiang Mai**	**19.85**	**357**	P	**Pn**	**08 56 27.6**	**0.0**
	comp=Z,18nm,0.9s						
KAPI	**Kappang**	**19.94**	**102**	*eP*	**P**	**08 56 27.4**	**+0.5**
	comp=Z,62nm,0.9s						
KAPI	**Kappang**	**19.94**	**102**	P	**Pn**	**08 56 31.1**	**+2.3**
	comp=Z,56nm,1.2s,comp=Z,796nm						
KAPI	**Kappang**	**19.94**	**102**	P	**P**	**08 56 26.1**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=291,slow=13,SNR=8.1						
BKSI	**Bulukumba**	**20.36**	**102**	P	Pn	08 56 33.2	-0.5
	comp=Z,96nm,1.2s,comp=Z,962nm						
WSI	**Waingapu**	**21.76**	**114**	P	**P**	**08 56 46.3**	**-0.3**
WSI	**Waingapu**	**21.76**	**114**	P	P	08 56 41.5	-5.0
	baz=22,SNR=3.6						
MRSI	**Marisa**	**21.84**	**86**	P	**P**	**08 56 51.5**	**+4.0**
	comp=Z,61nm,1.0s,comp=Z,1μm						
QIZ	**Qiongzhong**	**22.17**	**25**	P	**P**	**08 56 50.2**	**-0.7**
QIZ				pP	**pP**	**08 56 57.6**	**-2.2**
QIZ				sP	**sP**	**08 57 03.9**	**-0.1**
QIZ				S	**S**	**09 00 53.0**	**-0.4**
QIZ				pmax	pmax		
	comp=Z,24nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,110nm,5.4s						
QIZ				LR	LR		
	comp=N,3μm,10.9s						
QIZ				LR	LR		
	comp=E,2μm,12.6s						
GTOI	**Gorontalo**	**22.92**	**86**	P	P	08 57 04.8	+5.8
VIS	**Vishakhapatnam**	**25.00**	**319**	*eP*	**P**	**08 57 19.4**	**+0.8**
VIS				AMB	AMB	08 57 20.0	
	comp=Z,38nm,0.0s						
KMI	**Kunming**	**26.21**	**5**	P	**P**	**08 57 31.6**	**+1.9**
KMI				pP	**pP**	**08 57 41.2**	**+2.0**
KMI				sP	**sP**	**08 57 45.4**	**+2.1**
KMI				PP	**PnPn**	**08 58 14.7**	**+5.4**
KMI				S	**S**	**09 01 59.4**	**-0.6**
KMI				sS	**sS**	**09 02 16.1**	**+0.3**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,96nm,5.4s						
KMI				LR	LR		
	comp=N,3μm,10.4s						
KMI				LR	LR		
	comp=E,3μm,10.4s						
KMI				LR	LR		
	comp=Z,4μm,9.1s						
DAV	**Davao City (W)**	**26.64**	**72**		LR	LR	09 09 58.5	
	comp=Z,918nm,20.5s,baz=214,slow=41						
SHL	**Shillong**	**27.71**	**344**	*eP*	**P**	**08 57 41.8**	**-1.4**
SHL				*eS*	**S**	**09 02 21.7**	**-1.9**
GYA	**Guiyang**	**28.13**	**12**	P	**P**	**08 57 47.6**	**+0.8**
GYA				pP	**pP**	**08 57 57.0**	**+0.6**
GYA				PP	**PnPn**	**08 58 39.4**	**+4.0**
GYA				S	**S**	**09 02 29.5**	**-0.6**
GYA				sS	**sS**	**09 02 46.3**	**+0.4**
GYA				ScS	**ScS**	**09 08 29.3**	**-2.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.6s						
GYA				LR	LR		
	comp=N,530nm,17.9s						
GYA				LR	LR		
	comp=E,450nm,18.7s						
GYA				LR	LR		
	comp=Z,510nm,17.8s						
BOK	**Bokaro**	**28.39**	**332**	*eP*	**P**	**08 57 49.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**30.18**	**126**	P	**P**	**08 58 03.2**	**-1.8**
FITZ	**Fitzroy Crossi**	**30.18**	**126**	P	**P**	**08 58 03.2**	**-1.8**
	comp=Z,2.8nm,0.8s,baz=316,slow=9.9,SNR=5.8						
FITZ				LR	LR	09 11 28.4	
	comp=Z,832nm,18.9s,baz=300,slow=39						
FITZ	**Fitzroy Crossi**	**30.18**	**126**	P	**P**	**08 58 03.3**	**-1.8**
	baz=30,SNR=6.2						
ODAN	**Odare**	**30.42**	**337**	*eP*	**P**	**08 58 07.3**	**0.0**
	comp=Z,95nm,0.8s						
TAPN	**Taplejung**	**30.74**	**338**	*eP*	**P**	**08 58 10.6**	**+0.4**
	comp=Z,158nm,1.0s						
RAMN	**Ramite**	**30.81**	**336**	*eP*	**P**	**08 58 11.2**	**+0.4**
	comp=Z,40nm,0.6s						
MEEK	**Meekatharra**	**30.96**	**147**	P	**P**	**08 58 11.9**	**+0.1**
	baz=31,SNR=6.1						
QZH	**Quanzhou**	**31.47**	**33**	P	**P**	**08 58 18.1**	**+1.8**
QZH				*eS*	**S**	**09 03 22.8**	**+0.5**
QZH				LR	LR		
	comp=N,1μm,10.0s						
QZH				LR	LR		
	comp=E,3μm,12.4s						
QZH				LR	LR		
	comp=Z,2μm,21.3s						
JIRN	**Jiri**	**31.61**	**336**	*eP*	**P**	**08 58 18.2**	**+0.3**
	comp=Z,121nm,0.7s						
MORW	**Morawa**	**31.65**	**153**	P	**P**	**08 58 18.6**	**+0.8**
	baz=32,SNR=4.3						
LSA	**Lhasa**	**31.83**	**345**	*eP*	**P**	**08 58 20.1**	**+0.1**
LSA				pmax	pmax		
	comp=Z,19nm,0.8s						
LSA	**Lhasa**	**31.83**	**345**	*eP*	**P**	**08 58 20.1**	**+0.1**
	comp=Z,19nm,0.8s						
PKI	**Pulchoki**	**31.86**	**335**	*eP*	**P**	**08 58 19.7**	**-0.4**
	comp=Z,33nm,0.8s						
PKIN	**Phulchoki**	**31.87**	**335**	*eP*	**P**	**08 58 19.8**	**-0.3**
	comp=Z,26nm,0.6s						
GUN	**Gumba**	**31.96**	**336**	*eP*	**P**	**08 58 21.3**	**+0.3**
	comp=Z,166nm,0.6s						
DMN	**Daman**	**32.02**	**334**	*eP*	**P**	**08 58 21.4**	**0.0**
	comp=Z,51nm,0.8s						
CD2	**Chengdu**	**32.04**	**6**	P	**P**	**08 58 22.0**	**+0.7**
CD2				pP	**pP**	**08 58 31.9**	**+1.0**
CD2				sP	**sP**	**08 58 36.1**	**+1.2**
CD2				PP	**PnPn**	**08 59 29.0**	**+1.7**
CD2				PcP	**PcP**	**09 01 11.1**	**+0.5**
CD2				S	**S**	**09 03 30.4**	**-0.7**
CD2				sS	**sS**	**09 03 47.2**	**+0.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.4s						
CD2				LR	LR		
	comp=N,4μm,13.7s						
CD2				LR	LR		
	comp=E,4μm,12.7s						
CD2				LR	LR		
	comp=Z,4μm,13.7s						
KKN	**Kakani**	**32.10**	**335**	*eP*	**P**	**08 58

WRA Warramunga Arr 38.31 121 P **P** **08 59 12.7 -2.7**
comp=Z,3.3nm,0.4s,baz=297,slow=11,SNR=29
WRA LR LR 09 15 03.4
comp=Z,706nm,21.9s,baz=285,slow=36
WRAB Tennant Creek 38.31 121 *e*P **P** **08 59 13.0 -2.4**
WRAB pmax pmax
comp=Z,15nm,0.8s
WRAB Tennant Creek 38.31 121 *e*P **P** **08 59 13.0 -2.4**
comp=Z,15nm,0.8s
SMLA Simla 38.80 328 *e*P **P** **08 59 19.6 +0.2**
SMLA AMB AMB 08 59 20.6
comp=Z,30nm,0.7s
AS31 Alice Springs 39.65 127 *e*P **P** **08 59 24.7 -1.9**
ASAR Alice Springs 39.65 127 P **P** **08 59 24.6 -2.0**
ASAR PcP **PcP** **09 01 33.4 +0.1**
ASAR S S 09 05 21.4 -6.6
ASAR Alice Springs 39.65 127 P **P** **08 59 24.6 -2.0**
comp=Z,6.4nm,0.7s,baz=304,slow=7.4,SNR=48
ASAR PcP **PcP** **09 01 33.4 +0.1**
comp=Z,3.1nm,0.6s,baz=304,slow=2.6,SNR=5.0
ASAR S S 09 05 21.4 -6.6
comp=Z,1.3nm,0.8s,baz=297,slow=15,SNR=4.7
ASAR LR LR 09 17 49.2
comp=Z,653nm,18.1s,baz=298,slow=39
DHRM DHARAMSHALA 40.14 328 *e*P **P** **08 59 31.1 +0.3**
DHRM AMB AMB 08 59 35.5
comp=Z,26nm,0.9s
GTA Gaotai 40.34 360 *e*P **P** **08 59 31.6 -0.6**
GTA pmax pmax
comp=Z,8.0nm,1.1s
HHC Hu-ho-hao-te 43.05 13 *e*P **P** **08 59 53.2 -1.1**
HHC PP **PP** **09 01 35.4 +0.7**
HHC PcP **PcP** **09 01 43.6 -0.5**
HHC ScP **ScP** **09 05 30.7 -2.3**
HHC PcS **PcS** **09 05 34.7 -1.8**
HHC S **S** **09 06 15.5 -2.5**
HHC pmax pmax
comp=Z,27nm,0.6s
HHC pmax pmax
comp=Z,250nm,6.6s
HHC LR LR
comp=N,2μm,15.6s
HHC LR LR
comp=E,2μm,14.9s
HHC LR LR
comp=Z,1μm,14.5s
BJI Beijing 43.51 18 P **P** **08 59 58.5 +0.6**
BJI S **S** **09 06 25.8 +1.3**
BJI SS **SS** **09 09 42.4 +2.5**
BJI pmax pmax
comp=Z,11nm,0.5s
BJI pmax pmax
comp=Z,110nm,9.6s
BJI LR LR
comp=N,1μm,16.2s
BJI LR LR
comp=E,2μm,14.8s
BJI LR LR
comp=Z,480nm,15.3s
JNU Nakatsue 44.71 38 LR LR 09 20 04.6
comp=Z,510nm,18.7s,baz=51,slow=38
WMQ Urumqi 46.11 347 P **P** **09 00 19.3 +0.6**
WMQ pP **pP** **09 00 29.2 +0.6**
WMQ sP **sP** **09 00 33.1 +0.5**
WMQ PcP **PcP** **09 01 55.0 +0.5**
WMQ PP **PP** **09 02 07.3 0.0**
WMQ ScP **ScP** **09 05 45.2 -0.3**
WMQ S **S** **09 07 01.3 -1.1**
WMQ sS **sS** **09 07 17.7 -1.0**
WMQ ScS **ScS** **09 10 09.7 -2.2**
WMQ SS SS 09 10 18.3 -10
WMQ pmax pmax
comp=Z,11nm,1.0s
WMQ LR LR
comp=N,390nm,15.0s
WMQ LR LR
comp=E,620nm,12.5s
WMQ LR LR
comp=Z,290nm,20.9s
KSH Kashi 46.12 334 *e*P **P** **09 00 17.5 -1.4**
KSH pP **pP** **09 00 31.9 +3.1**
KSH PP **PP** **09 02 07.3 -0.2**
KSH S **S** **09 06 56.9 -5.8**
KSH sS **sS** **09 07 17.4 -1.6**
KSH SS **ScS** **09 10 17.7 +5.4**
KSH pmax pmax
comp=Z,140nm,4.7s
KSH LR LR
comp=N,140nm,8.6s
KSH LR LR
comp=E,200nm,9.9s
KSH LR LR
comp=Z,540nm,23.7s
KSAR Wonju Array Be 46.16 31 P **P** **09 00 18.6 -0.5**
KSRS Korea Array 46.19 31 P **P** **09 00 18.6 -0.7**
comp=Z,6.0nm,0.8s,baz=225,slow=8.4,SNR=27
KSRS LR LR 09 19 33.3
comp=Z,350nm,19.0s,baz=224,slow=36
PMG Port Moresby 47.47 102 LR LR 09 22 18.2
comp=Z,406nm,19.2s,baz=55,slow=38
ULHL Ulahol 48.27 336 P **P** **09 00 34.7 -1.1**
SNR=5.6
KZA Kyzart 48.54 335 P **P** **09 00 38.5 +0.4**
SNR=11
CTA Charters Tower 48.83 116 P **P** **09 00 39.5 -0.7**
CTA Charters Tower 48.83 116 P **P** **09 00 39.5 -0.7**
comp=Z,3.1nm,0.6s,baz=302,slow=9.9,SNR=6.1
CTA LR LR 09 23 20.0
comp=Z,355nm,20.0s,baz=272,slow=39
SONM Songino Array 49.06 6 P **P** **09 00 41.2 -0.4**
SONM Songino Array 49.06 6 P **P** **09 00 41.2 -0.4**
comp=Z,9.1nm,0.8s,baz=188,slow=9.5,SNR=27
SONM LR LR 09 22 06.2
comp=Z,476nm,18.6s,baz=7.8,slow=37
TKM2 Tokmak 2 49.09 336 *e*P **P** **09 00 42.3 +0.2**
TKM2 Tokmak 2 49.09 336 P **P** **09 00 42.3 +0.2**
SNR=26
TKM2 Tokmak 2 49.09 336 *e*P **P** **09 00 42.3 +0.2**
KBK Karagaybulak 49.14 335 P **P** **09 00 43.4 +1.0**
SNR=8.1
ULN Ulaanbaatar 49.16 6 *e*P **P** **09 00 41.8 -0.6**
comp=Z,5.5nm,0.7s
ULN Ulaanbaatar 49.16 6 P **P** **09 00 42.0 -0.4**
comp=Z,8.2nm,0.9s
AML Almayashu 49.25 334 P **P** **09 00 43.8 +0.3**
SNR=12
AAK Ala-Archa 49.31 335 *ce*P **P** **09 00 44.4 +0.7**
AAK pmax pmax
comp=Z,33nm,1.7s
AAK Ala-Archa 49.31 335 *e*P **P** **09 00 44.2 +0.6**
QLP Quilpie 49.32 125 P **P** **09 00 43.2 -0.6**
baz=49,SNR=19
FRU Bishkek 49.42 335 *e*P **P** **09 00 44.0 -0.4**
FRU *e*S **S** **09 07 50.5 +1.1**
FRU pmax pmax
comp=Z,74nm,2.2s
FRU MLR MLR
comp=Z,700nm,22.0s
CHMS Chumysh 49.51 336 P **P** **09 00 45.0 0.0**
SNR=6.2
STKA Stephens Creek 49.62 132 P **P** **09 00 45.1 -0.9**
comp=Z,14nm,0.9s,baz=315,slow=7.8,SNR=11
STKA LR LR 09 21 31.3
comp=Z,1μm,22.0s,baz=110,slow=36
STKA Stephens Creek 49.62 132 P **P** **09 00 45.2 -0.8**
baz=50,SNR=11
EKS2 Erkin-Say 49.64 335 *e*P **P** **09 00 46.7 +0.5**
EKS2 pmax pmax
comp=Z,20nm,0.8s
EKS2 Erkin-Say 49.64 335 P **P** **09 00 46.7 +0.5**
SNR=24
EKS2 Erkin-Say 49.64 335 *e*P **P** **09 00 46.7 +0.5**
comp=Z,20nm,0.8s
USP Ospenovka 49.83 336 P **P** **09 00 47.7 +0.2**
SNR=22
CN2 Changchun 50.12 24 *e*P P 09 00 57.1 +7.5
CN2 *e*pP pP 09 01 07.0 +7.4
CN2 pmax pmax
comp=Z,10.0nm,0.8s
MK31 Makanchi Array 50.23 344 *e*P **P** **09 00 49.9 -0.5**
MK31 Makanchi Array 50.23 344 *e*P **P** **09 00 49.9 -0.5**
MKAR Makanchi Array 50.23 344 *ce*P **P** **09 00 49.7 -0.7**
MKAR pmax pmax
comp=Z,22nm,0.7s
MKAR Makanchi Array 50.23 344 P **P** **09 00 49.8 -0.6**
MKAR S **S** **09 08 00.5 0.0**
comp=Z,296nm,21.5s,baz=42,slow=30
MAW Mawson 71.17 194 P **P** **09 03 14.3 +1.7**
baz=71,SNR=5.4
PETK Petropavlovsk- 72.06 32 P **P** **09 03 17.8 -0.6**
PETK Petropavlovsk- 72.06 32 P **P** **09 03 17.8 -0.6**
PETK Petropavlovsk- 72.06 32 P **P** **09 03 17.8 -0.6**
comp=Z,0.6nm,0.5s,baz=2.9,slow=2.9,SNR=2.1
PETK LR LR 09 34 24.9
comp=Z,138nm,20.6s,baz=65,slow=35
BR131 Keskin Array S 72.85 312 *e*P **P** **09 03 23.3 -0.2**
comp=Z,2.5nm,0.7s
BRTR Keskin Array B 72.85 312 P **P** **09 03 23.1 -0.4**
BRTR Keskin Array B 72.85 312 P **P** **09 03 23.1 -0.4**
comp=Z,3.9nm,0.9s,baz=134,slow=7.0,SNR=17
VORD Divnogorie 72.98 325 *e*P **P** **09 03 20.9 -2.9**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VORD pmax pmax
comp=N,10.0nm,0.4s
VORD pmax pmax
comp=E,20nm,0.6s
VSR Storozhevoye 73.15 325 *e*P **P** **09 03 23.2 -1.6**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,6.0nm,0.7s
VSR pmax pmax
comp=E,20nm,0.9s
SIM Simferopol' 74.06 318 *e*P **P** **09 03 30.0 -0.3**
SIM pmax pmax
comp=Z,16nm,0.8s
TIXI Tiksi 74.97 9 *e*P **P** **09 03 33.4 -1.6**
TIXI pmax pmax
comp=Z,22nm,1.7s
MOS Moscow 75.83 329 *e*P **P** **09 03 39.4 -0.9**
MOS pmax pmax
comp=Z,75nm,1.5s
OBN Obninsk 76.14 328⇓ *i*P **P** **09 03 41.7 -0.3**
OBN *e* 09 06 31.6
OBN *i*S **S** **09 13 20.8 -2.7**
OBN *e*SS **SS** **09 18 22.9 +5.6**
OBN pmax pmax
comp=Z,34nm,1.2s
BOSA Boshof 76.22 241 P **P** **09 03 42.4 -0.9**
BOSA Boshof 76.22 241 P **P** **09 03 42.4 -0.9**
comp=Z,3.8nm,0.6s,baz=98,slow=2.9,SNR=9.3
BOSA LR LR 09 30 55.4
comp=Z,323nm,19.6s,baz=76,slow=31
TIRR Tirgusor 77.83 316⇑ *i*P **P** **09 03 52.1 +0.2**
TIRR Tirgusor 77.83 316 *e*P **P** **09 03 52.0 +0.2**
comp=Z,8.6nm,0.8s
TIRR Tirgusor 77.83 316⇑ *i*P **P** **09 03 52.0 +0.2**
AKASG Malin Array Be 78.89 322 P **P** **09 03 56.1 -1.4**
AKASG Malin Array Be 78.89 322 P **P** **09 03 56.1 -1.4**
AKASG Malin Array Be 78.89 322 P **P** **09 03 56.1 -1.4**
comp=Z,1.9nm,0.6s,baz=88,slow=4.8,SNR=8.8
TMCR Tamitsa 79.20 337 *e*P **P** **09 03 57.9 -1.0**
TMCR *e* 09 04 05.7
TMCR pmax pmax
comp=Z,25nm,0.3s
VRI Vrincioaia 79.32 317⇓ *i*P **P** **09 04 00.7 +0.7**
VRI Vrincioaia 79.32 317⇓ *i*P **P** **09 04 00.7 +0.7**
PLOR Plostina 79.37 317⇓ *i*P **P** **09 04 01.0 +0.7**
PLOR Plostina 79.37 317⇓ *i*P **P** **09 04 01.0 +0.7**
TESR Tescani 79.52 318⇓ *i*P **P** **09 04 01.5 +0.4**
MLR Muntele Rosu 79.77 317⇓ *i*P **P** **09 04 03.2 +0.5**
VOIR 80.38 316⇑ *i*P **P** **09 04 05.8 -0.1**
VOIR 80.38 316⇑ *i*P **P** **09 04 05.8 -0.1**
BURAR Bucovina Array 80.71 319⇑ *i*P **P** **09 04 08.3 +0.7**
BUR08 Bucovina Ar. S 80.72 319 *e*P **P** **09 04 08.3 +0.6**
VTS Vitosha 81.16 313⇑ *i*P **P** **09 04 08.4 -1.8**
VTS Vitosha 81.16 313⇑ *i*P **P** **09 04 08.4 -1.8**
NACGM Naroch 81.41 326 *e* **P** **09 04 09.0 -2.0**
JOF Joensuu 81.50 334 *ep* **P** **09 04 10.9 -0.4**
comp=Z,3.2nm,0.8s
JOF Joensuu 81.50 334 *e*P **P** **09 04 10.9 -0.4**
JOF pmax pmax
comp=Z,3.0nm,0.8s
DRGR 82.23 317⇓ *i*P **P** **09 04 16.3 +0.6**
DRGR 82.23 317⇓ *i*P **P** **09 04 16.3 +0.6**
BILL Bilibino 82.28 20⇑ *e*P **P** **09 04 16.2 +0.8**
BILL *e* 09 07 24.1
BILL *e*S S 09 14 19.1 -9.4
BILL pmax pmax
comp=Z,3.0nm,1.2s
BILL MLR MLR
comp=Z,200nm,15.0s
BZS Buzias 82.78 316⇑ *i*P P 09 04 09.0 -9.5
BZS Buzias 82.78 316⇑ *i*P P 09 04 09.0 -9.5
KOLS Kolonicke sedl 82.89 319 *e*P **P** **09 04 19.8 +0.8**
KOLS pmax pmax
comp=Z,13nm,1.1s
KOLS Kolonicke sedl 82.89 319 *e*P **P** **09 04 19.8 +0.8**
VNDA Vanda 82.99 169 *e*P **P** **09 04 19.6 +0.7**
comp=Z,2.4nm,0.6s
VNDA Vanda 82.99 169 P **P** **09 04 19.4 +0.5**
comp=Z,2.6nm,0.6s,baz=315,slow=3.3,SNR=6.0
VNDA LR LR 09 38 42.6
comp=Z,176nm,18.1s,baz=314,slow=34
FIA1 FINESS Array S 83.41 332 *e*P **P** **09 04 21.1 -0.2**
FINES FINESS Array B 83.41 332 P **P** **09 04 21.1 -0.2**
FINES FINESS Array B 83.41 332 P **P** **09 04 21.1 -0.2**
comp=Z,3.9nm,0.5s,baz=114,slow=4.6,SNR=16
KAF Kangasniemi 83.48 333 *ep* **P** **09 04 21.0 -0.7**
comp=Z,8.4nm,0.7s
KAF Kangasniemi 83.48 333 *e*P **P** **09 04 21.0 -0.7**
KAF pmax pmax
comp=Z,8.0nm,0.7s
KECS Kecovo 83.99 319 *e*P **P** **09 04 24.9 +0.3**
KECS pmax pmax
comp=Z,3.0nm,1.1s
KECS Kecovo 83.99 319 *e*P **P** **09 04 24.9 +0.3**
SBA Scott Base 84.08 169 *e*P **P** **09 04 25.0 +0.5**
SBA pmax pmax
comp=Z,4.0nm,0.8s
SBA Scott Base 84.08 169 *e*P **P** **09 04 25.0 +0.5**
comp=Z,4.4nm,0.8s
VYHS Vyhne 85.08 319 *e*P **P** **09 04 29.8 -0.3**
VYHS pmax pmax
comp=Z,10.0nm,1.8s
VYHS Vyhne 85.08 319 *e*P **P** **09 04 29.8 -0.3**
TIP Timpagrande 85.58 309 *e*P **P** **09 04 33.6 +0.7**
comp=Z,9.0nm,1.1s
ARCES ARCESS Array B 85.70 340 P **P** **09 04 32.4 -0.4**
ARCES ARCESS Array B 85.70 340 P **P** **09 04 32.4 -0.4**
comp=Z,3.0nm,0.5s,baz=102,slow=5.0,SNR=19
ARCES LR LR 09 46 35.3
comp=Z,259nm,20.4s,baz=81,slow=38
ARE0 ARCESS Array S 85.70 340 *e*P **P** **09 04 34.0 +1.2**
MORC Moravsky Berou 86.07 320 *e*P **P** **09 04 35.3 +0.2**
MORC pmax pmax
comp=Z,4.0nm,0.9s
MORC Moravsky Berou 86.07 320 *e*P **P** **09 04 35.2 +0.2**
comp=Z,4.0nm,0.9s
DPC Dobruska-Polom 86.91 320 *e*P **P** **09 04 40.0 +0.8**
DPC Dobruska-Polom 86.91 320 *e*P **P** **09 04 40.0 +0.8**
SOKA Soboth 87.45 317⇑ *i*P **P** **09 04 42.4 +0.4**
comp=Z,6.1nm,1.0s
BSD Bornholm Skovb 88.18 325⇓ *i*P **P** **09 04 45.1 0.0**
BSD pmax pmax
comp=Z,8.0nm,0.9s
BSD Bornholm Skovb 88.18 325⇓ *i*P **P** **09 04 45.1 0.0**
comp=Z,8.0nm,0.9s
BRG Berggiesshubel 88.46 321 *e*P **P** **09 04 47.0 +0.5**
comp=Z,6.7nm,0.9s
BRG Berggiesshubel 88.46 321 *e*P **P** **09 04 47.0 +0.5**
BRG pmax pmax
comp=Z,7.0nm,0.9s
GERES GERESS Array B 88.50 319 P **P** **09 04 46.8 -0.1**
GERES GERESS Array B 88.50 319 P **P** **09 04 46.8 -0.1**
comp=Z,1.3nm,0.6s,baz=94,slow=5.4,SNR=12
KHC Kasperske Hory 88.59 319 *e*P **P** **09 04 47.6 +0.3**
KHC Kasperske Hory 88.59 319 *e*P **P** **09 04 47.6 +0.3**
QSPA South Pole Qui 88.83 180 *e*P **P** **09 04 49.0 +0.8**
comp=Z,6.1nm,1.1s
CLL Collm 89.08 321 *i*P **P** **09 04 49.7 +0.2**
CLL pmax pmax
comp=Z,6.0nm,1.0s
CLL Collm 89.08 321 *i*P **P** **09 04 49.7 +0.2**
comp=Z,6.0nm,1.0s
CLL *i* 09 04 53.8
comp=Z,12nm,1.3s
CLL *e* 09 05 27.0
SPITS Spitsbergen Ar 89.81 348 P **P** **09 04 51.2 -1.1**
SPITS Spitsbergen Ar 89.81 348 P **P** **09 04 51.2 -1.1**

comp=Z,3.5nm,0.6s,baz=116,slow=8.9,SNR=4.8
NOA NORSAR Array B 90.46 331 P P 09 04 55.6 -0.2
NOA NORSAR Array B 90.46 331 P P 09 04 55.6 -0.2
comp=Z,0.6nm,0.7s,baz=95,slow=4.7,SNR=3.3
NOA LR LR 09 48 34.6
comp=Z,159nm,19.4s,baz=90,slow=38
DAVA Damuels 91.00 317 ⇑*iP* P 09 04 58.0 -0.7
comp=Z,11nm,1.0s
KEST Kesra 91.31 306 *e*P **P 09 05 01.2 +0.9**
KEST Kesra 91.31 306 P **P 09 05 01.8 +1.5**
comp=Z,3.4nm,0.8s,baz=291,slow=5.7,SNR=12
TORD Torodi Ar. Bea 98.49 283 P **P 09 05 33.4 -0.1**
TORD Torodi Ar. Bea 98.49 283 P **P 09 05 33.4 -0.1**
comp=Z,0.9nm,1.0s,baz=96,slow=4.3,SNR=4.9
ILAR Eielson Array 100.64 24 P **Pdif 09 05 38.8 -3.2**
ILAR Eielson Array 100.64 24 P **Pdif 09 05 38.8 -3.2**
comp=Z,0.1nm,0.5s,baz=306,slow=3.2,SNR=2.8
TBI Tubuai 108.20 115 *e*LR LR 09 42 07.1
comp=Z,514nm,24.2s
PPT2 Papeete2 108.94 109 *e*LR LR 09 42 23.0
comp=Z,437nm,23.5s
DLMT Dillon 127.34 29 *e*PKPdf **PKPdf 09 10 59.2 -0.1**
NVAR Mina Array Bea 128.82 39 PKP **PKPdf 09 11 02.3 -0.1**
NVAR Mina Array Bea 128.82 39 PKP **PKPdf 09 11 02.3 -0.1**
comp=Z,0.7nm,0.7s,baz=305,slow=2.1,SNR=5.7
PDAR Pinedale Array 130.74 29 PKP **PKPdf 09 11 06.7 +0.7**
PDAR Pinedale Array 130.74 29 PKP **PKPdf 09 11 06.7 +0.7**
comp=Z,0.3nm,0.7s,baz=270,slow=2.7,SNR=2.9
MNTX Cornudas Mount 141.18 36 *e*PKPdf **PKPdf 09 11 25.4 0.0**
WMOK Wichita Mounta 142.17 26 *e*PKIKP **PKPdf 09 11 26.2 -0.9**
WMOK Wichita Mounta 142.17 26 *e*PKPdf **PKPdf 09 11 26.2 -0.9**
TXAR Lajitas Array 143.91 37 PKP PKPbc 09 11 28.2 0.0
TXAR Lajitas Array 143.91 37 PKP PKPbc 09 11 28.2 0.0
comp=Z,1.6nm,0.5s,baz=262,slow=0.8,SNR=42
MIAR Mount Ida 144.36 20 *e*PKIKP **PKPab 09 11 28.4 -0.6**
MIAR Mount Ida 144.36 20 *e*PKPdf **PKPab 09 11 28.4 -0.6**
WVT Waverly 144.39 11 *e*PKIKP **PKPab 09 11 28.3 -0.7**
WVT Waverly 144.39 11 *e*PKPdf **PKPab 09 11 28.3 -0.7**
BDFB Brasilia 144.41 241 PKP PKPbc 09 11 30.3 +0.3
BDFB Brasilia 144.41 241 PKP PKPbc 09 11 30.3 +0.3
comp=Z,2.6nm,0.4s,baz=78,slow=6.7,SNR=4.2
UALR University of 144.54 18 *e*PKPdf **PKPab 09 11 29.5 -0.1**
TZTN Tazewell 144.59 5 *e*PKPdf **PKPab 09 11 28.9 -0.8**
CPUP Villa Florida 145.11 217 PKPbc **PKPdf 09 11 32.8 +0.3**
CPUP Villa Florida 145.11 217 PKPbc **PKPdf 09 11 32.8 +0.3**
comp=Z,14nm,0.8s,baz=97,slow=3.4,SNR=30
JCT Junction City 145.19 31 *e*PKIKP **PKPbc 09 11 31.7 -0.5**
JCT Junction City 145.19 31 *e*PKPbc **PKPbc 09 11 31.7 -0.5**
CPCT Cooper Cave 145.57 7 *e*PKPdf **PKPdf 09 11 32.1 -0.9**
LRAL Lakeview Retre 147.55 11 *e*PKPdf **PKPdf 09 11 35.8 -0.6**
LRAL *e*PKPbc **PKPbc 09 11 38.1 -0.9**
LRAL *e*PKPab **PKPab 09 11 39.6 -1.4**
LPAZ La Paz 159.19 213 PKP **PKPdf 09 11 55.5 +1.3**
LPAZ La Paz 159.19 213 PKP **PKPdf 09 11 55.5 +1.3**
comp=Z,2.8nm,1.0s,baz=123,slow=6.0,SNR=4.0

GUC 02 09:01:36.4±0.8, 32°45S×71°78W, h10km±8km, MD3.5, ML2.3, 3C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHNG	**Los Chungos**	**0.62**	**23**	⇓*iP*		Pg	09 01 48.5	+0.2
CHNG				*i* S		Sb	09 01 57.8	-0.1
CHNG				AML		AML	09 02 01.1	
	comp=E,104nm,0.4s							
ROCH	**El Roble**	**0.83**	**129**	⇓*iP*		Pg	09 01 52.0	-0.7
ROCH				*i* S		Sg	09 02 04.1	+0.3
ROCH				AML		AML	09 02 06.3	
	comp=E,180nm,0.3s							
JACH	**Jahuel**	**1.03**	**103**	⇑*iP*		Pg	09 01 55.5	-0.8
JACH				*i* S		Sg	09 02 09.6	-0.3
PEL	**Peldehue**	**1.15**	**127**	⇑*iP*		Pb	09 01 57.4	-1.1
PEL				*i* S		Sb	09 02 13.3	-0.2
PEL				AML		AML	09 02 14.5	
	comp=E,264nm,0.3s							
TACH	**Talagante**	**1.39**	**150**	*e*P		Pn	09 02 01.1	-0.8
TACH				*i* S		Sn	09 02 18.5	-1.8
CLCH	**Cerro Calan**	**1.41**	**132**	*i* P		Pn	09 02 01.3	-0.9
CLCH				*i* S		Sn	09 02 20.1	-0.7
CLCH				AML		AML	09 02 24.1	
	comp=E,94nm,0.3s							
CMCH	**Combarbala**	**1.44**	**28**	⇓*iP*		Pn	09 02 01.5	-1.1
CMCH				*i* S		Sn	09 02 20.8	-0.8
CMCH				AML		AML	09 02 26.5	
	comp=N,299nm,0.7s							
FCH	**Farellones**	**1.53**	**125**	⇑*iP*		Pn	09 02 04.5	+0.3
FCH				*i* S		Sn	09 02 24.3	-0.1
FCH				AML		AML	09 02 26.6	
	comp=N,78nm,0.2s							
PCH	**Pirque**	**1.58**	**138**	*e*P		Pn	09 02 03.9	-0.7
PCH				*i* S		Sn	09 02 25.5	+0.3
CHCH	**Chadas Angostu**	**1.75**	**148**	⇓*iP*		Pn	09 02 06.2	-0.7
CHCH				*e*S		Sn	09 02 29.4	0.0
LMEL	**Las Melosas**	**1.92**	**137**	*e*P		Pn	09 02 09.2	-0.1
LMEL				*i* S		Sn	09 02 34.8	+1.1
CACH	**El Canelo**	**1.93**	**150**	⇓*iP*		Pb	09 02 11.1	-0.8
CACH				*i* S		Sb	09 02 35.9	-0.3

NNC 02 09:09:49.1±9.0, 36°94N×70°13E, h0km, mb3.9, mpv3.8, 6C, Error ellipse: s-maj=76.4km s-min=54.2km az=163.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KK31	**Karatay Array**	**6.16**	**3**	⇑P		Pn	09 11 24.4	+3.0
	1.2nm,0.2s,baz=177,slow=12,SNR=55							
KK31				⇑S		Sn	09 12 34.6	+1.9
	1.6nm,0.4s,baz=186,slow=25,SNR=6.6							
TKM2	**Tokmak 2**	**7.30**	**33**	⇑P		Pn	09 11 37.5	+0.2
	5.1nm,0.5s							
TKM2				⇑S		Sn	09 12 59.7	-1.3
	1.0nm,0.5s							
AB31	**Akbulak array**	**14.37**	**332**	⇑P		Pn	09 13 11.9	-1.8
	0.2nm,0.2s,baz=149,slow=13,SNR=10							
AKTO	**Aktyubinsk**	**16.06**	**331**	⇑P		Pn	09 13 31.2	-5.0
	0.8nm,0.5s							

*CSEM **02** 09:14:36.7, 34°41N×25°26E, h38km, MD3.5, After ATH*
ATH 02 09:14:36.7, 34°41N×25°26E, h38km±25km, MD3.5/7, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIVA	**Sivas**	**0.71**	**329**	*e*PN		Pn	09 14 51.3	+1.0
SIVA	**Sivas**	**0.71**	**329**	*e*Pn		Pn	09 14 51.3	+1.0
LAST	**Lasithi**	**0.77**	**13**	*e*PB		Pn	09 14 50.8	-0.4
LAST	**Lasithi**	**0.77**	**13**	*e*Pb		Pn	09 14 50.8	-0.4
NPS	**Neapolis**	**0.90**	**19**	*e*PN		Pn	09 14 54.8	+1.9
NPS	**Neapolis**	**0.90**	**19**	*e*Pn		Pn	09 14 54.8	+1.9
IDI	**Anoyia**	**0.93**	**341**	*e*PN		Pn	09 14 54.8	+1.5
IDI	**Anoyia**	**0.93**	**341**	*e*Pn		Pn	09 14 54.8	+1.5
ZKR	**Zakros**	**1.06**	**48**	*e*PN		Pn	09 14 56.6	+1.6
ZKR	**Zakros**	**1.06**	**48**	*e*Pn		Pn	09 14 56.6	+1.6
VAM	**Vamos**	**1.32**	**319**	*e*PN		Pn	09 15 00.6	+2.0
VAM	**Vamos**	**1.32**	**319**	*e*Pn		Pn	09 15 00.6	+2.0
KYTH	**Kithira**	**2.60**	**316**	*e*PN		Pn	09 15 18.0	+1.7
KYTH	**Kithira**	**2.60**	**316**	*e*Pn		Pn	09 15 18.0	+1.7

IGQ 02 09:17:52.3, 0°78S×81°55W, h6km±30km, Mb4.0, Ms3.8, 1C-3D, Error ellipse: s-maj=10.4km s-min=3.8km az=7.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHIS	**Cerro-Chispas-**	**0.86**	**108**	⇓P		Pg	09 18 06.9	-2.0
MAG1	**Magdalena**	**1.91**	**68**	S		Sg	09 18 53.4	-0.2
MAG1	**Magdalena**	**1.91**	**68**	P		Pb	09 18 27.7	+0.2
PINO	**Pino**	**3.00**	**78**	⇓P		Pn	09 18 41.9	+0.7
TERV	**Terraza Guagua**	**3.00**	**78**	P		Pn	09 18 42.7	+1.5
GGP	**Refugio Guagua**	**3.01**	**79**	P		Pn	09 18 42.2	+0.9
CAMI	**Rancho Maria**	**3.04**	**88**	P		Pn	09 18 43.8	+2.2
BNAS	**Cotopaxi Volca**	**3.07**	**88**	P		Pn	09 18 43.8	+1.9
BREF	**Cotopaxi Volca**	**3.11**	**88**	P		Pn	09 18 44.6	+1.9
PITA	**Cotopaxi Volc**	**3.12**	**86**	P		Pn	09 18 44.6	+1.9
ARNL	**Arenillas**	**3.12**	**152**	⇓P		Pn	09 18 44.7	+2.7
VC1	**Cotopaxi 1**	**3.15**	**88**	P		Pb	09 18 46.3	-3.0
BMAS	**Trigal station**	**3.15**	**103**	P		Pn	09 18 44.7	+1.7
BTAM	**Cotopaxi Volca**	**3.15**	**88**	P		Pn	09 18 45.4	+2.2
PISA	**Pisayambo**	**3.17**	**95**	P		Pn	09 18 46.0	+2.6
ARRY	**Arrayan**	**3.17**	**103**	S		Sn	09 19 19.1	-2.7
ARRY	**Arrayan**	**3.17**	**103**	P		Pn	09 18 44.8	+1.5
TAMB	**Tambo**	**3.18**	**89**	P		Pb	09 18 46.7	-3.2
BRUN	**Tungurahua Vol**	**3.20**	**102**	P		Pn	09 18 46.1	+2.6
BULB	**Ulba Tungurahu**	**3.20**	**102**	P		Pn	09 18 45.4	+1.7
COV1	**Cotopaxi Volc**	**3.20**	**88**	P		Pn	09 18 44.2	+0.2
OTAV	**Otavalo**	**3.25**	**72**	⇑P		Pn	09 18 45.7	+1.2
ANTI	**Antisana**	**3.40**	**84**	P		Pn	09 18 49.4	+2.7
CAYA	**Cayambe**	**3.65**	**77**	P		Pn	09 18 53.1	+3.0

*CSEM **02** 09:25:23.6±0.2, 38°69N×20°63E, h2km, ML3.2/4, Error ellipse: s-maj=5.2km s-min=3.7km az=70.0*
*ATH **02** 09:25:24.2, 38°67N×20°60E, h5km±2km, MD3.7/26*
*THE **02** 09:25:24.2, 38°70N×20°64E, h0km±2km, ML3.2/4, Error ellipse: s-maj=2.6km s-min=0.8km az=249.0*
ISC 02 09:25:23.7±1.1, 38°67N±0°02×20°61E±0°03, h4km±9km, n82, σ1=91°01/109, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LKD2	**Lefkada island**	**0.13**	**19**	P		Pg	09 25 26.0	-0.3
LKD2				S		Sg	09 25 27.9	-0.1
LKD2	**Lefkada island**	**0.13**	**19**	*e*PG		Pg	09 25 26.0	-0.3
LKD2				*e*SG		Sg	09 25 28.0	-0.1
LKD2	**Lefkada island**	**0.13**	**19**	P		Pg	09 25 26.0	-0.3
LKD2				S		Sg	09 25 27.9	-0.1
VLS	**Valsamata**	**0.49**	**181**	P		Pg	09 25 33.6	+0.5
VLS				S		Sb	09 25 42.3	-0.1
VLS	**Valsamata**	**0.49**	**181**	*e*PG		Pg	09 25 33.6	+0.5
VLS				*e*SB		Sg	09 25 42.4	0.0
VLS	**Valsamata**	**0.49**	**181**	P		Pg	09 25 33.6	+0.5
VLS				S		Sb	09 25 42.3	-0.1
AXS	**Araxos**	**0.77**	**128**	P		Pb	09 25 38.8	-0.8
AXS				S		Sb	09 25 50.0	-0.3
AXS	**Araxos**	**0.77**	**128**	P		Pb	09 25 38.8	-0.8
AXS				S		Sb	09 25 50.0	-0.3
RLS	**Riolos of Patr**	**0.91**	**132**	P		Pg	09 25 41.2	+0.1
RLS	**Riolos of Patr**	**0.91**	**132**	*e*PG		Pg	09 25 41.3	+0.1
RLS	**Riolos of Patr**	**0.91**	**132**	P		Pg	09 25 41.2	+0.1
EVR	**Evrytania**	**0.97**	**75**	P		Pb	09 25 42.6	-0.5
EVR				S		Sb	09 25 55.9	-0.5
EVR	**Evrytania**	**0.97**	**75**	*e*PG		Pb	09 25 42.7	-0.4
EVR	**Evrytania**	**0.97**	**75**	P		Pb	09 25 42.6	-0.5
EVR				S		Sb	09 25 55.9	-0.5
JAN	**Janina**	**1.00**	**11**	*e*PB		Pb	09 25 43.4	-0.3
JAN	**Janina**	**1.00**	**11**	*e*Pb		Pb	09 25 43.4	-0.3
EFP	**Efpalio**	**1.05**	**103**	P		Pg	09 25 43.4	-0.4
EFP				S		Sn	09 25 58.4	-1.8
EFP	**Efpalio**	**1.05**	**103**	*e*PG		Pg	09 25 43.3	-0.5
EFP				*e*SB		Sn	09 26 00.2	0.0
EFP	**Efpalio**	**1.05**	**103**	*e*Pg		Pg	09 25 43.3	-0.5
EFP				S		Sn	09 25 58.4	-1.8
EFP				*e*Sb		Sn	09 26 00.2	0.0
LAKA	**Lakka**	**1.16**	**111**	P		Pb	09 25 45.2	-1.1
LAKA	**Lakka**	**1.16**	**111**	*e*PG		Pb	09 25 45.2	-1.1
LAKA	**Lakka**	**1.16**	**111**	P		Pb	09 25 45.2	-1.1
TRIZ	**Trizonia**	**1.19**	**104**	P		Pb	09 25 45.8	-1.0
TRIZ	**Trizonia**	**1.19**	**104**	*e*PN		Pb	09 25 45.8	-1.0
TRIZ				*e*SB		Sn	09 26 04.9	+1.2
TRIZ	**Trizonia**	**1.19**	**104**	P		Pb	09 25 45.8	-1.0
TRIZ				*e*Sb		Sn	09 26 04.9	+1.2
KEK	**Kerkira**	**1.22**	**329**	P		Pg	09 25 47.2	+0.2
KEK				S		Sn	09 26 04.4	0.0
KEK	**Kerkira**	**1.22**	**329**	*e*PN		Pn	09 25 46.7	-0.8
KEK				*e*SB		Sn	09 26 05.2	+0.8
KEK	**Kerkira**	**1.22**	**329**	*e*Pn		Pn	09 25 46.7	-0.8
KEK	**Kerkira**	**1.22**	**329**	P		Pg	09 25 47.2	+0.2
KEK				S		Sn	09 26 04.4	0.0
KALE	**Kalithea**	**1.23**	**102**	P		Pn	09 25 46.5	-1.3
KALE	**Kalithea**	**1.23**	**102**	*e*PB		Pn	09 25 46.1	-1.7
KALE				*e*SB		Sn	09 26 06.9	+2.0
KALE	**Kalithea**	**1.23**	**102**	*e*Pb		Pn	09 25 46.1	-1.7
KALE	**Kalithea**	**1.23**	**102**	P		Pn	09 25 46.5	-1.3
KALE				*e*Sb		Sn	09 26 06.9	+2.0
MAKR	**Makrakomi, Fth**	**1.24**	**73**	P		Pn	09 25 47.0	-0.8
MAKR	**Makrakomi, Fth**	**1.24**	**73**	P		Pn	09 25 47.0	-0.8
KLV	**Kalavryta, Ach**	**1.36**	**117**	P		Pn	09 25 48.4	-1.1
KLV	**Kalavryta, Ach**	**1.36**	**117**	*e*PN		Pn	09 25 48.5	-1.1
KLV	**Kalavryta, Ach**	**1.36**	**117**	P		Pn	09 25 48.4	-1.1
AGG	**Agios Georgios**	**1.39**	**75**	P		Pn	09 25 49.4	-0.5
AGG	**Agios Georgios**	**1.39**	**75**	*e*PG		Pb	09 25 50.0	-0.3
AGG				*e*SB		Sg	09 26 11.4	+3.0
AGG	**Agios Georgios**	**1.39**	**75**	P		Pn	09 25 49.4	-0.5
AGG	**Agios Georgios**	**1.39**	**75**	*e*Pg		Pb	09 25 50.0	-0.3
AGG				*e*Sb		Sg	09 26 11.4	+3.0
THL	**Klokotos Trika**	**1.42**	**50**	P		Pn	09 25 49.3	-0.9
THL	**Klokotos Trika**	**1.42**	**50**	*e*PB		Pn	09 25 49.0	-1.2
THL				*e*SB		Sg	09 26 12.2	+3.0
THL	**Klokotos Trika**	**1.42**	**50**	*e*Pb		Pn	09 25 49.0	-1.2
THL	**Klokotos Trika**	**1.42**	**50**	P		Pn	09 25 49.3	-0.9
THL				*e*Sb		Sg	09 26 12.2	+3.0
DSF	**Desfina**	**1.53**	**99**	P		Pn	09 25 51.2	-0.6
DSF				S		Sg	09 26 13.2	+0.4
DSF	**Desfina**	**1.53**	**99**	P		Pn	09 25 51.2	-0.6
DSF				S		Sg	09 26 13.2	+0.4
GUR	**Goura**	**1.55**	**118**	P		Pn	09 25 51.4	-0.7
GUR	**Goura**	**1.55**	**118**	*e*PN		Pb	09 25 52.0	-1.0
GUR	**Goura**	**1.55**	**118**	P		Pn	09 25 51.4	-0.7
GUR	**Goura**	**1.55**	**118**	*e*Pn		Pb	09 25 52.0	-1.0
ITM	**Ithomi**	**1.82**	**144**	P		Pb	09 25 57.2	-0.3
ITM	**Ithomi**	**1.82**	**144**	*e*PG		Pb	09 25 57.6	+0.1
ITM	**Ithomi**	**1.82**	**144**	P		Pb	09 25 57.2	-0.3
ITM	**Ithomi**	**1.82**	**144**	*e*Pg		Pb	09 25 57.6	+0.1
LKR	**Lokris**	**1.87**	**90**	*e*PN		Pg	09 26 01.0	+1.4
LKR	**Lokris**	**1.87**	**90**	*e*Pn		Pg	09 26 01.0	+1.4
VLX	**Vlachokerasia**	**1.91**	**132**	*e*PN		Pg	09 26 01.6	+1.3
VLX	**Vlachokerasia**	**1.91**	**132**	*e*Pn		Pg	09 26 01.6	+1.3
LTK	**Loutraki**	**1.96**	**108**	P		Pb	09 25 59.1	-0.9
LTK	**Loutraki**	**1.96**	**108**	*e*PN		Pg	09 26 02.0	+0.6
LTK	**Loutraki**	**1.96**	**108**	P		Pb	09 25 59.1	-0.9
LTK	**Loutraki**	**1.96**	**108**	*e*Pn		Pg	09 26 02.0	+0.6
PYL	**PYLOS**	**1.99**	**153**	*e*PG		Pb	09 26 00.7	+0.3
PYL	**PYLOS**	**1.99**	**153**	*e*Pg		Pb	09 26 00.7	+0.3
LIT	**Litokhoron**	**2.04**	**45**	*e*PG		Pg	09 26 02.8	-0.1
LIT	**Litokhoron**	**2.04**	**45**	*e*Pg		Pg	09 26 02.8	-0.1
NEO	**Neokhori**	**2.14**	**72**	*e*PG		Pg	09 26 04.5	-0.2
NEO	**Neokhori**	**2.14**	**72**	*e*Pg		Pg	09 26 04.5	-0.2
FNA	**Florina**	**2.19**	**15**	*e*PN		Pb	09 26 04.1	+0.1
FNA	**Florina**	**2.19**	**15**	*e*Pn		Pb	09 26 04.1	+0.1
DYR	**Agios Nikonas**	**2.34**	**144**	*e*PG		Pg	09 26 08.5	-0.1
DYR	**Agios Nikonas**	**2.34**	**144**	*e*Pg		Pg	09 26 08.5	-0.1
DID	**Didima**	**2.38**	**118**	*e*PN		Pb	09 26 05.8	-1.3
DID	**Didima**	**2.38**	**118**	*e*Pn		Pb	09 26 05.8	-1.3
GRG	**Griva**	**2.67**	**31**	*e*PN		Pb	09 26 12.0	-0.1
GRG	**Griva**	**2.67**	**31**	*e*Pn		Pb	09 26 12.0	-0.1
VLI	**Veliai**	**2.69**	**136**	*e*PG		Pg	09 26 14.9	-0.2
VLI	**Veliai**	**2.69**	**136**	*e*Pg		Pg	09 26 14.9	-0.2
KYTH	**Kithira**	**3.07**	**140**	*e*PN		Pb	09 26 17.5	-1.3
KYTH	**Kithira**	**3.07**	**140**	*e*Pn		Pb	09 26 17.5	-1.3

*TIR **02** 09:28:06.3, 41°80N×19°75E, h8km, ML2.6*
*ISCJB **02** 09:28:07.6±0.5, 41°81N±0°03×19°77E±0°03, h3km±4km, Error ellipse: s-maj=4.9km s-min=3.2km az=37.5*
*CSEM **02** 09:28:07.5±0.3, 41°78N×19°74E, h5km, ML2.5/8, Error ellipse: s-maj=5.2km s-min=3.4km az=31.0*
*PDG **02** 09:28:08.1±0.2, 41°81N×19°76E, h11km, MD2.6/1, ML2.5/8, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
*BEO **02** 09:28:08.8±0.4, 41°79N×19°73E, h10km±3km, ML2.4/9*
ISC 02 09:28:07.6±1.1, 41°77N±0°03×19°72E±0°02, h9km±9km, n45, σ0=90°77, 10C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PUK	**Puka**	**0.30**	**25**	*e*PG		Pg	09 28 13.4	-0.2
PUK				*e*SG		Sb	09 28 29.1	+8.6
PUK	**Puka**	**0.30**	**25**	*e*Pg		Pg	09 28 13.4	-0.2
ULC	**Ulcinj**	**0.41**	**299**	⇑*iP*g		Pb	09 28 15.9	-1.1
ULC				*e*Sg		Sb	09 28 22.4	-1.0
ULC	**Ulcinj**	**0.41**	**299**	⇑*iP*g		Pb	09 28 15.9	-1.1
ULC				*e*Sg		Sb	09 28 22.4	-1.0
TIR	**Tirane**	**0.43**	**166**	*e*PG		Pb	09 28 16.6	-0.8
TIR	**Tirane**	**0.43**	**166**	*e*Sg		Sb	09 28 25.2	+1.2
TIR	**Tirane**	**0.43**	**166**	*e*Pg		Pb	09 28 16.6	-0.8
PHP	**Peshkopia**	**0.54**	**98**	*e*PG		Pg	09 28 17.7	-0.4
PHP				*e*SG		Sb	09 28 26.1	-1.2
PHP	**Peshkopia**	**0.54**	**98**	*e*Pg		Pg	09 28 17.7	-0.4
PHP				*e*Sg		Sb	09 28 26.1	-1.2
BCI	**Bajram Curri**	**0.65**	**23**	*e*PG		Pn	09 28 29.3	+6.2
PDG	**Podgorica**	**0.75**	**332**	*e*Pg		Pg	09 28 21.4	-0.6
PDG				*e*Sg		Sb	09 28 33.6	+0.4
PDG	**Podgorica**	**0.75**	**332**	⇑*iP*g		Pg	09 28 21.4	-0.6
PDG				*e*Sg		Sb	09 28 33.1	-0.1
TTG	**Podgorica**	**0.75**	**332**	⇑*iP*g		Pg	09 28 21.4	-0.6
TTG				*e*Sg		Sb	09 28 33.1	-0.1
BUM	**Brajici-Budva**	**0.82**	**311**	⇑*iP*g		Pg	09 28 22.9	-0.4
BUM				*e*Sg		Sb	09 28 36.1	+0.9
BUM	**Brajici-Budva**	**0.82**	**311**	⇑*iP*g		Pg	09 28 22.9	-0.4
BUM				*e*Sg		Sb	09 28 36.1	+0.9
PVY	**Plav**	**0.85**	**12**	⇓*iP*g		Pg	09 28 22.9	-1.0
PVY				*e*Sg		Sb	09 28 35.1	-1.0
PVY	**Plav**	**0.85**	**12**	⇓*iP*g		Pg	09 28 22.9	-1.0
PVY				*e*Sg		Sb	09 28 35.1	-1.0
BEY	**Berane**	**1.11**	**6**	⇑*iP*g		Pg	09 28 27.8	-1.1
BEY				*e*Sg		Sn	09 28 44.2	-0.8
IVA	**Berane**	**1.11**	**6**	⇑*iP*g		Pg	09 28 27.8	-1.1
IVA				*e*Sg		Sn	09 28 44.2	-0.8
HCY	**Herceg Novi**	**1.14**	**307**	⇓*iP*g		Pg	09 28 28.3	-1.2
HCY				*e*Sg		Sn	09 28 47.0	+1.4
HCY	**Herceg Novi**	**1.14**	**307**	⇓*iP*g		Pg	09 28 28.3	-1.2
NKY	**Niksic**	**1.18**	**333**	⇑*iP*g		Pb	09 28 30.0	-0.2
NKY				*e*Sg		Sn	09 28 48.0	+1.3
NKY	**Niksic**	**1.18**	**333**	⇑*iP*g		Pb	09 28 30.0	-0.2
NKY				*e*Sg		Sn	09 28 48.0	+1.3
SKO	**Skopje**	**1.30**	**80**	*e*Pg		Pb	09 28 32.6	+0.4
SKO				*e*Sg		Sn	09 28 49.9	+0.4
SKO	**Skopje**	**1.30**	**80**	*e*Pg		Pb	09 28 32.6	+0.4
BRY	**Bratogost**	**1.43**	**323**	*e*Pg		Pg	09 28 34.6	-0.5
BRY				*e*Sg		Sg	09 28 55.9	+2.2
BRY	**Bratogost**	**1.43**	**323**	*e*Pg		Pg	09 28 34.6	-0.5
BRY				*e*Sg		Sg	09 28 55.9	+2.2
SJES	**Sjenica**	**1.51**	**7**	*e*Pg		Pn	09 28 34.8	-0.1
SJES				*e*Sg		Sg	09 28 55.3	-0.7
SJES	**Sjenica**	**1.51**	**7**	*e*Pg		Pn	09 28 34.8	-0.1
SJES				*e*Sg		Sg	09 28 55.3	-0.7
UPM	**Unac-Piva**	**1.56**	**337**	⇓*iP*g		Pg	09 28 37.0	-0.5
UPM				*e*Sg		Sg	09 28 59.0	+1.3
UPM	**Unac-Piva**	**1.56**	**337**	⇓*iP*g		Pg	09 28 37.0	-0.5
UPM				*e*Sg		Sg	09 28 59.0	+1.3
PLE	**Pljevlja**	**1.58**	**351**	⇓*iP*g		Pn	09 28 36.2	+0.2
PLE				*e*Sg		Sg	09 28 58.9	+0.4
PLE	**Pljevlja**	**1.58**	**351**	⇓*iP*g		Pn	09 28 36.2	+0.2
PLE				*e*Sg		Sg	09 28 58.9	+0.4
SELS	**Selova**	**1.78**	**35**	*e*Pn		Pn	09 28 38.5	-0.1
STON	**Ston**	**1.86**	**307**	*e*Pn		Pn	09 28 39.5	-0.2
STON				Sn		Sg	09 29 08.4	+1.0
STON	**Ston**	**1.86**	**307**	*e*Pn		Pn	09 28 39.4	-0.2
BARS	**Barje**	**1.87**	**55**	*e*Pn		Pn	09 28 39.7	-0.2
BARS				*e*Sn		Sb	09 29 04.9	-0.7
BBLS	**Lazići**	**2.11**	**354**	*e*Pn		Pn	09 28 43.9	+0.7
BBLS				*e*Sn		Sn	09 29 10.7	+1.1
BBLS	**Lazići**	**2.11**	**354**	*e*Pn		Pn	09 28 43.9	+0.7
BBLS				*e*Sn		Sn	09 29 10.7	+1.1
DIVS	**Divibare**	**2.34**	**5**	*e*Pn		Pn	09 28 47.5	+1.2
DIVS			

KOLN	**Koldanda**	**13.33**	**114**	*eP*		**Pn**	09 34 02.6	-0.9
	comp=Z,15nm,0.3s								
JBP	**Jabalpur**	**14.01**	**138**	*eP*		**Pn**	09 34 12.2	-0.4
JBP				*eS*		**Sn**	09 36 53.4	+5.3
DMN	**Daman**	**14.56**	**112**	*eP*		**Pn**	09 34 18.0	-2.3
	comp=Z,33nm,0.5s								
KKN	**Kakani**	**14.60**	**111**	*eP*		**Pn**	09 34 19.6	-1.3
	comp=Z,37nm,0.5s								
PKIN	**Phulchoki**	**14.80**	**112**	*eP*		**Pn**	09 34 21.4	-2.2
	comp=Z,43nm,0.4s								
PKI	**Pulchoki**	**14.81**	**112**	*eP*		**Pn**	09 34 21.5	-2.3
	comp=Z,21nm,0.3s								
GUN	**Gumba**	**15.01**	**110**	*eP*		**Pn**	09 34 24.9	-1.7
	comp=Z,27nm,0.4s								
JIRN	**Jiri**	**15.37**	**110**	*eP*		**Pn**	09 34 28.5	-2.9
	comp=Z,43nm,0.4s								
MK31	**Makanchi Array**	**15.80**	**33**	⇑P		**P**	09 34 39.0	-1.4
	comp=Z,2.1nm,0.5s,baz=205,slow=8.4,SNR=7.9								
MK31	**Makanchi Array**	**15.80**	**33**	*eP*		**Pn**	09 34 35.7	-0.8
MK31	**Makanchi Array**	**15.80**	**33**	*e*Pn		**Pn**	09 34 35.7	-0.8
MKAR	**Makanchi Array**	**15.80**	**33**	P		**Pn**	09 34 35.5	-1.0
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
MKAR	**Makanchi Array**	**15.80**	**33**	Pn		**Pn**	09 34 35.5	-1.0
MKAR	**Makanchi Array**	**15.80**	**33**	Pn		**Pn**	09 34 35.5	-1.0
	comp=Z,0.6nm,0.3s,baz=210,slow=9.0,SNR=22								
RAMN	**Ramite**	**16.04**	**112**	*eP*		**Pn**	09 34 38.0	-1.9
	comp=Z,26nm,0.4s								
ODAN	**Odare**	**16.69**	**111**	*eP*		**Pn**	09 34 46.3	-2.0
	comp=Z,8.5nm,0.3s								
TAPN	**Taplejung**	**16.71**	**109**	*eP*		**Pn**	09 34 46.7	-1.8
	comp=Z,13nm,0.4s								
AB31	**Akbulak array**	**16.87**	**337**	⇓P		**P**	09 34 51.5	-0.7
	comp=Z,1.0nm,0.3s,baz=154,slow=13,SNR=6.2								
ABKAR	**Akbulak array**	**16.87**	**337**	*e*Pn		**Pn**	09 34 49.2	-0.9
	comp=Z,2.4nm,0.4s								
KURBB	**Kurchatov Arra**	**17.70**	**18**	⇑P		**P**	09 35 02.7	+1.3
	comp=Z,3.3nm,0.7s								
KURBB	**Kurchatov Arra**	**17.70**	**18**	P		**Pn**	09 34 58.9	-1.6
	comp=Z,0.1nm,0.3s,baz=205,slow=10,SNR=9.9								
KURK	**Kurchatov**	**17.81**	**18**	P		**Pn**	09 34 58.9	-2.9
KURK	**Kurchatov**	**17.81**	**18**	P		**Pn**	09 34 58.9	-2.9
AKTO	**Aktyubinsk**	**18.52**	**336**	⇓P		**Pn**	09 35 12.0	+1.4
	comp=Z,5.1nm,0.8s								
AKTO	**Aktyubinsk**	**18.52**	**336**	P		**Pn**	09 35 11.2	+0.6
AKTO	**Aktyubinsk**	**18.52**	**336**	P		**Pn**	09 35 11.2	+0.6
AKTO	**Aktyubinsk**	**18.52**	**336**	P		**Pn**	09 35 11.2	+0.6
	comp=Z,0.4nm,0.3s,baz=160,slow=11,SNR=12								
VOSK	**Vostochnaya**	**18.66**	**2**	⇑P		**Pn**	09 35 12.7	+0.5
	comp=Z,2.5nm,0.6s								
ZRNK	**Zerenda**	**18.88**	**358**	⇑P		**Pn**	09 35 15.6	+0.7
	comp=Z,2.7nm,0.7s								
BVA0	**Borovoye Array**	**18.95**	**1**	⇓P		**Pn**	09 35 16.0	+0.3
	comp=Z,2.7nm,0.6s,baz=174,slow=11,SNR=5.2								
BVAR	**Borovoye Array**	**18.95**	**1**	P		**P**	09 35 15.3	+0.2
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
BVAR	**Borovoye Array**	**18.95**	**1**	P		**P**	09 35 15.2	+0.2
BVAR	**Borovoye Array**	**18.95**	**1**	P		**P**	09 35 15.3	+0.2
	comp=Z,0.5nm,0.3s,baz=173,slow=13,SNR=14								
BRVK	**Borovoye**	**18.98**	**1**	*eP*		**P**	09 35 15.1	-0.3
BRVK				pmax	pmax				
	comp=Z,6.0nm,0.7s								
BRVK	**Borovoye**	**18.98**	**1**	*eP*		**P**	09 35 15.1	-0.3
	comp=Z,5.7nm,0.7s								
ZAA0	**Zalesovo Array**	**22.49**	**23**	*eP*		**P**	09 35 53.3	-0.1
ZALV	**Zalesovo Beam**	**22.49**	**23**	P		**P**	09 35 51.6	-1.8
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.3s								
ZALV	**Zalesovo Beam**	**22.49**	**23**	P		**P**	09 35 51.6	-1.8
ZALV	**Zalesovo Beam**	**22.49**	**23**	P		**P**	09 35 51.6	-1.8
	comp=Z,1.9nm,0.3s,baz=206,slow=9.6,SNR=5.3								
NVS	**Novosibirsk**	**22.76**	**20**	*eP*		**P**	09 35 57.7	+1.4
BR131	**Keskin Array S**	**29.40**	**292**	*eP*		**P**	09 36 58.8	+1.1
	comp=Z,0.9nm,0.6s								
BRTR	**Keskin Array B**	**29.40**	**292**	P		**P**	09 36 59.3	+1.6
BRTR	**Keskin Array B**	**29.40**	**292**	P		**P**	09 36 59.3	+1.6
	comp=Z,1.5nm,0.8s,baz=104,slow=9.0,SNR=7.9								
CMAR	**Chiang Mai Arr**	**30.20**	**114**	P		**P**	09 37 05.0	+0.3
CMAR	**Chiang Mai Arr**	**30.20**	**114**	P		**P**	09 37 05.0	+0.3
	comp=Z,0.8nm,0.3s,baz=306,slow=8.6,SNR=6.0								
SONM	**Songino Array**	**30.49**	**52**	P		**P**	09 37 08.0	+0.8
SONM	**Songino Array**	**30.49**	**52**	P		**P**	09 37 08.0	+0.8
	comp=Z,0.7nm,0.5s,baz=266,slow=8.4,SNR=3.6								
AKASG	**Malin Array Be**	**33.83**	**312**	P		**P**	09 37 37.7	+1.5
AKASG				pmax	pmax				
	comp=Z,3.0nm,0.7s								
AKASG	**Malin Array Be**	**33.83**	**312**	P		**P**	09 37 37.7	+1.5
AKASG	**Malin Array Be**	**33.83**	**312**	P		**P**	09 37 37.7	+1.5
	comp=Z,2.6nm,0.7s,baz=89,slow=7.6,SNR=11								
AK02	**Malin Array Si**	**33.83**	**312**	*eP*		**P**	09 37 37.4	+1.2
FIA1	**FINESS Array S**	**39.03**	**328**	*eP*		P	09 38 24.4	+3.9
PSI	**Prapat**	**41.23**	**133**	P		**P**	09 38 39.8	+0.4
PSI	**Prapat**	**41.23**	**133**	P		**P**	09 38 39.8	+0.4
	comp=Z,7.1nm,0.6s,baz=313,slow=5.7,SNR=4.7								
CUC	**Castrocucco**	**43.02**	**294**	*eP*		**P**	09 38 53.0	-0.7
	comp=Z,4.3nm,0.8s								
ARCES	**ARCESS Array B**	**43.06**	**339**	P		**P**	09 38 51.8	-1.8
ARCES	**ARCESS Array B**	**43.06**	**339**	P		**P**	09 38 51.8	-1.8
	comp=Z,3.3nm,0.9s,baz=122,slow=8.6,SNR=2.8								
GERES	**GERESS Array B**	**43.64**	**307**	P		**P**	09 38 58.3	-0.3
GERES	**GERESS Array B**	**43.64**	**307**	P		**P**	09 38 58.3	-0.3
	comp=Z,0.2nm,0.3s,baz=76,slow=9.2,SNR=2.7								
NB2	**NORSAR Subarra**	**45.80**	**325**	P		**P**	09 39 15.8	+0.1
	comp=Z,0.9nm,0.5s,baz=97,slow=8.6								
NOA	**NORSAR Array B**	**45.80**	**325**	P		**P**	09 39 15.5	-0.2
NOA	**NORSAR Array B**	**45.80**	**325**	P		**P**	09 39 15.5	-0.2
	comp=Z,1.2nm,0.7s,baz=100,slow=7.9,SNR=5.4								
KSAR	**Wonju Array Be**	**46.54**	**68**	P		**P**	09 39 21.8	0.0
KSRS	**Korea Array**	**46.57**	**68**	P		**P**	09 39 21.8	-0.1
	comp=Z,1.4nm,0.7s,baz=278,slow=7.0,SNR=5.3								
TORD	**Torodi Ar. Bea**	**64.77**	**269**	P		**P**	09 41 32.9	-0.1
TORD	**Torodi Ar. Bea**	**64.77**	**269**	P		**P**	09 41 32.9	-0.1
	comp=Z,0.7nm,0.7s,baz=49,slow=5.6,SNR=7.0								
BOSA	**Boshof**	**75.31**	**220**	P		**P**	09 42 38.2	+0.7
BOSA	**Boshof**	**75.31**	**220**	P		**P**	09 42 38.2	+0.7
	comp=Z,2.6nm,0.7s,baz=102,slow=4.8,SNR=4.9								
ILAR	**Eielson Array**	**77.35**	**15**	P		**P**	09 42 47.5	-1.1
ILAR	**Eielson Array**	**77.35**	**15**	P		**P**	09 42 47.5	-1.1
	comp=Z,0.5nm,0.7s,baz=322,slow=5.6,SNR=7.2								
WRA	**Warramunga Arr**	**81.50**	**121**	P		**P**	09 43 12.3	+0.5
WRA	**Warramunga Arr**	**81.50**	**121**	P		**P**	09 43 12.3	+0.5
	comp=Z,4.7nm,0.8s,baz=324,slow=4.9,SNR=39								
WRAB	**Tennant Creek**	**81.50**	**121**	*eP*		**P**	09 43 12.4	+0.6
WRAB				pmax	pmax				
	comp=Z,5.0nm,0.7s								
WRAB	**Tennant Creek**	**81.50**	**121**	*eP*		**P**	09 43 12.4	+0.6
	comp=Z,5.0nm,0.7s								
ASAR	**Alice Springs**	**83.63**	**124**	P		**P**	09 43 23.4	+0.5
ASAR	**Alice Springs**	**83.63**	**124**	P		**P**	09 43 23.4	+0.5
	comp=Z,2.5nm,0.8s,baz=307,slow=5.2,SNR=24								
YKA	**Yellowknife Ar**	**83.70**	**2**	P		**P**	09 43 22.6	-0.1
YKA	**Yellowknife Ar**	**83.70**	**2**	P		**P**	09 43 22.6	-0.1
	comp=Z,0.5nm,0.3s,baz=349,slow=5.4,SNR=13								

MAN 02 09:36:02,16.78N×120.42E,h19km,mb3.8,ML2.5,MS2.1, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.42**	**158**	⇑*i*P			Pb	09 36 11.3	+0.1
BCPH				*i* S			Sg	09 36 16.2	-0.8

GUC 02 09:38:45.5±0.7,32.48S×71.87W,h26km±8km,MD3.6, ML3.0,4C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.58**	**161**	⇓*i*P			Pb	09 38 56.5	-0.6
IHA				*i* S			Sb	09 39 04.9	-0.1
CHNG	**Los Chungos**	**0.67**	**28**	⇓*i*P			Pb	09 38 58.1	-0.5
CHNG				*i* S			Sb	09 39 07.5	+0.1
CHNG				AML		AML	AML	09 39 09.6	
	comp=E,485nm,0.2s								
PTCH	**Petorca**	**0.82**	**75**	⇑*i*P			Pb	09 39 00.8	-0.4
PTCH				*i* S			Sb	09 39 12.2	+0.2
PTCH				AML		AML	AML	09 39 18.4	
	comp=E,1μm,0.7s								
JACH	**Jahuel**	**1.10**	**101**	⇑*i*P			Pn	09 39 05.0	-0.4
JACH				*i* S			Sn	09 39 19.3	-0.6
PEL	**Peldehue**	**1.20**	**124**	⇑*i*P			Pn	09 39 06.8	+0.1
PEL				*i* S			Sb	09 39 22.8	-0.1
PEL				AML		AML	AML	09 39 24.6	
	comp=N,973nm,0.3s								
TACH	**Talagante**	**1.41**	**147**	⇓*i*P			Pn	09 39 09.9	+0.3
TACH				*i* S			Sb	09 39 28.2	-0.6
CLCH	**Cerro Calan**	**1.45**	**130**	⇓*i*P			Pn	09 39 10.5	+0.3
CLCH				*i* S			Sb	09 39 29.4	-0.7
CLCH				AML		AML	AML	09 39 33.8	
	comp=N,314nm,0.4s								
CMCH	**Combarbala**	**1.49**	**30**	⇑*i*P			Pn	09 39 10.8	0.0
CMCH				*i* S			Sb	09 39 30.7	-0.7
CMCH				AML		AML	AML	09 39 34.8	
	comp=E,974nm,0.5s								
ANTU	**Antumapu**	**1.50**	**137**	AML		AML	AML	09 39 36.7	
	comp=N,255nm,0.5s								
FCH	**Farellones**	**1.58**	**123**	AML		AML	AML	09 39 40.9	
	comp=N,244nm,0.3s								
PCH	**Pirque**	**1.61**	**135**	*i* P			Pn	09 39 13.2	+0.8
PCH				*i* S			Sb	09 39 33.8	-1.0
CHCH	**Chadas Angostu**	**1.77**	**145**	*e*P			Pn	09 39 14.5	-0.2
CHCH				*i* S			Sn	09 39 37.1	+0.7
LMEL	**Las Melosas**	**1.96**	**135**	⇓*i*P			Pn	09 39 18.7	+1.4
LMEL				*i* S			Sb	09 39 45.1	+0.3
LMEL				AML		AML	AML	09 39 50.4	
	comp=N,202nm,0.4s								

IDC 02 10:20:07.0±2.9,6.80N×77.16W,h53km±28km,mb3.7/9, mb1 3.9/10,mb1mx3.7/22,mbtmp3.7/10,ML2.4/1, MS3.3/2,Ms1 3.3/2,ms1mx2.8/31,Error ellipse: s-maj=29.0km s-min=16.2km az=40.0,Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.41**	**124**	P			Pn	10 20 59.0	+0.8
	8.0nm,0.3s,baz=287,slow=10.0,SNR=13								
ROSC				*i* S			Sn	10 21 38.3	+0.5
	7.5nm,0.3s,baz=57,slow=20,SNR=4.5								
ROSC				LR		LR	LR	10 22 42.2	
	comp=Z,286nm,19.5s,baz=10,slow=45								
TXAR	**Lajitas Array**	**33.56**	**315**	P		P	P	10 26 41.5	-0.7
	0.1nm,0.7s,baz=113,slow=6.9,SNR=2.3								
SADO	**Sadowa**	**37.87**	**358**	P		P	P	10 27 19.0	+0.3
	2.7nm,0.6s,baz=259,slow=10,SNR=3.7								
SADO				LR		LR	LR	10 43 55.1	
	comp=Z,72nm,19.7s,baz=354,slow=38								
PDAR	**Pinedale Array**	**45.81**	**327**	P		P	P	10 28 23.1	-0.9
	0.4nm,0.7s,baz=110,slow=6.6,SNR=3.4								
SCHQ	**Schefferville**	**48.62**	**8**	P		P	P	10 28 45.7	+0.4
	4.7nm,0.8s,baz=208,slow=5.7,SNR=6.2								
NVAR	**Mina Array Bea**	**48.69**	**317**	P		P	P	10 28 47.1	+0.6
	0.3nm,0.7s,baz=93,slow=6.5,SNR=3.5								
NVAR				PcP		PcP	PcP	10 30 12.0	+1.0
	0.3nm,0.6s,baz=124,slow=4.2,SNR=3.6								
BBTS	**Babate**	**59.94**	**77**	P		P	P	10 30 07.2	-1.1
	12nm,0.4s,baz=197,slow=2.2,SNR=3.7								
YKA	**Yellowknife Ar**	**61.95**	**341**	P		P	P	10 30 20.3	-0.8
	1.4nm,0.5s,baz=132,slow=6.7,SNR=24								
ILAR	**Eielson Array**	**75.30**	**335**	P		P	P	10 31 44.2	-0.1
	0.5nm,0.6s,baz=116,slow=4.4,SNR=14								
TORD	**Torodi Ar. Bea**	**77.67**	**78**	P		P	P	10 31 58.5	-0.1
	0.5nm,0.4s,baz=285,slow=6.6,SNR=14								
NB2	**NORSAR Subarra**	**83.32**	**29**	P		P	P	10 32 28.7	+0.6
	comp=Z,1.3nm,0.7s,baz=272,slow=5.1								
NOA	**NORSAR Array B**	**83.32**	**29**	P		P	P	10 32 28.7	+0.6
	comp=Z,0.8nm,0.7s,baz=275,slow=5.3,SNR=4.9								
ARCES	**ARCESS Array B**	**88.08**	**20**	P		P	P	10 32 52.2	+0.7
	comp=Z,3.0nm,0.6s,baz=287,slow=4.9,SNR=8.0								
ASAR	**Alice Springs**	**145.78**	**237**	PKPbc		PKPdf	PKPdf	10 39 40.7	0.0
	comp=Z,0.9nm,0.7s,baz=116,slow=3.7,SNR=14								
WRA	**Warramunga Arr**	**146.76**	**244**	PKPbc		PKPdf	PKPdf	10 39 42.8	+0.5
	comp=Z,0.5nm,0.6s,baz=102,slow=3.1,SNR=14								

IDC 02 10:36:13.2±0.8,22.36S×67.29W,h165km±8km,mb3.5/6, mb1 3.8/11,mb1mx3.6/20,mbtmp3.6/11,Error ellipse: s-maj=13.9km s-min=12.9km az=99.0,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.52**	**260**	P			Pn	10 36 45.1	+0.7
	baz=70,slow=8.0								
LVC				*i* S			Sn	10 37 08.4	-0.1
	72nm,0.3s,baz=255,slow=20,SNR=34								
LPAZ	**La Paz**	**6.09**	**352**	P			Pn	10 37 43.5	+1.3
	1.8nm,0.3s,baz=154,slow=6.6,SNR=42								
LPAZ				*i* S			Sn	10 38 50.6	-1.4
	0.7nm,0.3s,baz=14,slow=23,SNR=7.5								
SIV	**San Ignacio**	**8.64**	**44**	P			Pn	10 38 14.2	-1.0
	20nm,0.3s,baz=236,slow=11,SNR=267								
SIV				*i* S			Sn	10 39 46.9	-4.8
	2.4nm,0.3s,baz=244,slow=15,SNR=3.3								
CFAA	**Coronel Fontan**	**9.24**	**185**	P			Pn	10 38 21.6	-1.5
	0.1nm,0.3s,baz=359,slow=12,SNR=12								
CFAA				*i* S			Sn	10 39 59.5	-6.5
	0.2nm,0.3s,baz=277,slow=23,SNR=6.5								
CPUP	**Villa Florida**	**9.90**	**115**	P			Pn	10 38 31.5	-0.2
	0.3nm,0.3s,baz=285,slow=14,SNR=8.7								
PLCA	**Paso Flores**	**18.52**	**188**	P			P	10 40 17.0	-0.1
	0.1nm,0.3s,baz=1.2,slow=11,SNR=4.8								
BDFB	**Brasilia**	**19.41**	**73**	P			P	10 40 27.8	+0.8
	1.4nm,0.3s,baz=245,slow=12,SNR=10								
TXAR	**Lajitas Array**	**62.20**	**324**	P			P	10 46 17.0	-0.5
	0.3nm,0.6s,baz=150,slow=10,SNR=4.8								
PDAR	**Pinedale Array**	**75.61**	**329**	P			P	10 47 40.3	+0.2
	0.4nm,0.5s,baz=110,slow=7.8,SNR=3.5								
TORD	**Torodi Ar. Bea**	**76.24**	**69**	P			P	10 47 43.7	-0.3
	4.0nm,0.5s,baz=258,slow=5.7,SNR=47								
NVAR	**Mina Array Bea**	**77.10**	**321**	P			P	10 47 48.7	+0.1
	0.4nm,0.8s,baz=149,slow=6.9,SNR=4.1								
BOSA	**Boshof**	**81.72**	**117**	P			P	10 48 14.2	+0.3
	1.3nm,0.5s,baz=270,slow=5.1,SNR=3.9								
YKA	**Yellowknife Ar**	**92.50**	**340**	P			P	10 49 04.7	-0.3
	1.0nm,0.7s,baz=133,slow=4.3,SNR=10								
ASAR	**Alice Springs**	**129.82**	**206**	PKP		PKPdf	PKPdf	10 55 03.0	-0.7
	0.6nm,0.8s,baz=108,slow=1.4,SNR=5.8								
WRA	**Warramunga Arr**	**132.94**	**208**	PKP		PKPdf	PKPdf	10 55 09.6	-0.1
	0.4nm,0.6s,baz=154,slow=1.8,SNR=10								
MKAR	**Makanchi Array**	**145.42**	**38**	PKPbc		PKPbc	PKPbc	10 55 31.9	+0.2
	0.2nm,0.5s,baz=336,slow=2.7,SNR=3.5								

NIED ***02*** *10:41:00,24.00N×121.40E,h41km,Mw3.8 Best double couple: M0 4.95000×10^14 NP1:φs=341.00000°,δ63.00000°, λ=129.00000°. NP2:φs=222.00000°,δ46.00000°, λ=-39.00000°.*

JMA ***02*** *10:41:42.5±0.5,24.05N×121.44E,h8km,M3.6*

IDC ***02*** *10:41:46.0±1.5,23.86N×121.20E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.4/26,mbtmp3.5/4,ML3.3/1,Error ellipse: s-maj=72.2km s-min=26.5km az=68.0*

ISCJB ***02*** *10:41:47.2±0.3,24.21N±0.01×121.77E±0.02,h5km±2km, mb3.4/3,Error ellipse: s-maj=3.0km s-min=1.9km az=32.1*

TAP ***02*** *10:41:47.5,24.22N×121.72E,h12km,ML3.9,B*

ISC 02 10:41:47.4±0.8,24.20N±0.02×121.74E±0.02,h13km±5km, n67,σ0 s80/114,mb3.5/3,13C-4D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.11**	**1**	*i* P			Pg	10 41 50.5	0.0
	baz=17								
EHP				*i* S			Sg	10 41 52.7	0.0
	baz=17								
TWD	**Chiawan**	**0.18**	**228**	⇑*i*P			Pg	10 41 51.8	+0.3
	baz=218								
TWD				*i* S			Sg	10 41 54.5	+0.3
	baz=218								
ENA	**Nanau**	**0.23**	**1**	⇑*i*P			Pg	10 41 52.3	0.0
	baz=7.0								
ENA				*e*S			Sg	10 41 55.1	-0.5
	baz=7.0								
HWA	**Hwalien**	**0.25**	**209**	*e*P			Pb	10 41 53.6	-0.2
	baz=203								
ESF	**Shoufeng Towns**	**0.39**	**213**	*e*P			Pg	10 41 55.5	+0.4
	baz=220								
ESF				*e*S			Sb	10 42 01.1	-0.9
	baz=220								
NNS	**Nan Shan**	**0.41**	**306**	⇑*i*P			Pg	10 41 55.5	-0.2
	baz=305								
NNS				*i* S			Sg	10 42 01.1	-0.1
	baz=305								
TWC	**Suao**	**0.42**	**14**	⇑*i*P			Pg	10 41 55.8	0.0
	baz=11								
TWC				*i* S			Sg	10 42 01.2	-0.2
	baz=11								
WHF	**Hehuan Shan**	**0.44**	**263**	⇑*i*P			Pg	10 41 56.2	0.0
	baz=260								
WHF				*i* S			Sg	10 42 01.9	-0.2
	baz=260								
ESL	**Shilin**	**0.47**	**216**	⇑*i*P			Pg	10 41 56.7	-0.1
	baz=222								
ESL				*e*S			Sb	10 42 05.0	+0.5
	baz=222								
TWT	**Tachien**	**0.52**	**276**	⇑*i*P			Pb	10 41 58.1	-0.3
	baz=274								
TWT				*i* S			Sg	10 42 04.5	0.0
	baz=274								
TWE	**Neicheng**	**0.52**	**353**	⇑*i*P			Pg	10 41 57.8	+0.1
	baz=1.0								
TWE				*i* S			Sg	10 42 04.3	-0.3
	baz=1.0								
ILA	**Ilan**	**0.56**	**1**	*e*P			Pg	10 41 58.5	0.0
	baz=2.0								
ILA				S			Sg	10 42 06.3	+0.4
	baz=2.0								
NSK	**Sanguang**	**0.59**	**324**	⇑*i*P			Pg	10 41 58.9	-0.1
	baz=324								
NSK				*i* S			Sg	10 42 06.4	-0.3
	baz=324								
EHY	**Hungye**	**0.79**	**209**	*e*P			Pg	10 42 01.7	-1.0
	baz=213								
EHY				*e*S			Sn	10 42 15.1	-0.8
	baz=213								
TWA	**Mucha**	**0.79**	**350**	P			Pb	10 42 03.1	+0.1
	baz=350								
TWA				*e*S			Sg	10 42 12.7	-0.5
	baz=350								
NSTT	**Nanjuang**	**0.80**	**303**	*e*P			Pg	10 42 02.9	0.0
	baz=302								
NSTT				*e*S			Sg	10 42 12.9	-0.5
	baz=302								
SMLT	**Sun Moon Lake**	**0.83**	**248**	⇑P			Pg	10 42 03.6	+0.1
	baz=239								
SMLT				*e*S			Sg	10 42 14.3	0.0
	baz=239								
TWB1	**Santiao Chiao**	**0.84**	**16**	⇓*i*P			Pg	10 42 03.6	0.0
	baz=17								
TWB1				*e*S			Sg	10 42 13.4	-1.1
	baz=17								
TAP1	**Taipei**	**0.86**	**347**	P			Pb	10 42 04.8	+0.7
	baz=346								
TAP1				*e*S			Sg	10 42 15.3	0.0
	baz=346								
TYC	**Yuchr**	**0.86**	**250**	*i* P			Pb	10 42 04.0	-0.2
	baz=242								
TYC				*e*S			Sg	10 42 14.7	-0.5
	baz=242								
TAP	**Taipei**	**0.86**	**346**	*e*P			Pb	10 42 04.6	+0.4
	baz=346								
TAP				*e*S			Sb	10 42 16.1	+0.4
	baz=346								
NWF	**Wu-fen Shan**	**0.87**	**3**	⇓P			Pg	10 42 04.5	+0.3
	baz=354								
NWF				S			Sg	10 42 15.4	-0.2
	baz=354								
TWQ1	**Liyutan**	**0.89**	**280**	⇑*e*P			Pn	10 42 05.2	-0.5
	baz=279								
NCU	**National Centr**	**0.92**	**327**	*e*P			Pb	10 42 05.6	+0.4
	baz=327								
NCU				*e*S			Sn	10 42 18.5	-0.5
	baz=327								
NSY	**Sanyi**	**0.92**	**284**	*e*P			Pb	10 42 05.5	+0.3
	baz=283								
NSY				S			Sn	10 42 18.1	-1.0
	baz=283								
TWF1	**Yuli**	**0.94**	**206**	*e*P			Pg	10 42 03.8	-1.7
	baz=217								
TWS1	**Kuangyinshan**	**0.94**	**342**	*e*P			Pn	10 42 06.3	-0.1
	baz=350								
TWS1				*e*S			Sb	10 42 18.9	+0.9
	baz=350								
TCU	**Taichung**	**0.97**	**267**	P			Pn	10 42 07.3	+0.6
	baz=266								
TCU				S			Sn	10 42 20.7	+0.3
	baz=266

PNG				*e*S		**Sn**	**10 42 48.8**	**+0.7**
	baz=254								
JIJ	**Ishigaki jima**	**2.20**	**85**	P		**Pn**	**10 42 23.5**	**-0.1**
JIJ				*e*S		**Sn**	**10 42 50.3**	**-0.4**
TWK1	**Hengchun**	**2.41**	**201**	*e*P		**Pn**	**10 42 28.4**	**+1.9**
	baz=191								
JTJ	**Tarama**	**2.74**	**80**	P		**Pn**	**10 42 32.8**	**+1.8**
JTJ				*e*S		**Sb**	**10 43 08.6**	**-1.1**
KNM	**Kinmen**	**3.02**	**275**	*e*P		**Pn**	**10 42 36.0**	**+1.0**
	baz=273								
JOGS	**Gusukube**	**3.39**	**80**	P		**Pn**	**10 42 41.1**	**+1.1**
KSRS	**Korea Array**	**14.23**	**20**	Pn		**P**	**10 45 15.9**	**-0.1**
	0.1nm,0.3s,baz=200,slow=12,SNR=8.2								
MKAR	**Makanchi Array**	**38.68**	**316**	P		**P**	**10 49 10.4**	**-0.4**
	0.4nm,0.6s,baz=113,slow=9.0,SNR=4.4								
WRA	**Warramunga Arr**	**45.56**	**163**	P		**P**	**10 50 05.6**	**-1.6**
	0.5nm,0.7s,baz=345,slow=8.6,SNR=6.6								
ASAR	**Alice Springs**	**49.02**	**165**	P		**P**	**10 50 34.0**	**-0.1**
	0.3nm,0.7s,baz=350,slow=6.3,SNR=5.3								

MAN 02 10:53:11,11˚.26N×124˚.65E,h8km,mb4.8,ML3.7,MS3.7, 1C-2D,Leyte

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLP	**Palo**	**0.34**	**106**	↓*iP*		Pb	10 53 19.5	+0.2
PLP				*i* S		Sb	10 53 28.8	+0.9
LLP	**Lapu-Lapu**	**1.16**	**216**	↓*eP*		Pg	10 53 32.4	-0.8
LLP				*e*S		Sb	10 53 48.5	0.0
TBP	**Tagbilaran**	**1.74**	**207**	*e*P		Pn	10 53 41.7	+0.1
RCP	**Roxas**	**1.89**	**279**	↑*eP*		Pn	10 53 43.7	0.0
RCP				*e*S		Sb	10 54 09.7	0.0

TRN 02 11:03:31.3,17˚.06N×62˚.34W,h18km,MD3.7,M4.0(FDF), **13C-2D,Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MBRV		**0.28**	**151**	↓*iP*		Pn	11 03 39.9	-0.7
MBGB		**0.34**	**162**	↑*iP*		Pb	11 03 40.2	+1.2
MBWH		**0.35**	**156**	↑*iP*		Pb	11 03 40.1	+1.0
MLYT	**Lee's Yard**	**0.37**	**157**	↑*iP*		Pb	11 03 40.5	+1.1
MLYT	**Lee's Yard**	**0.37**	**157**	↑*iP*		Pb	11 03 40.6	+1.2
MBBY		**0.38**	**160**	↑*iP*		Pn	11 03 40.9	-1.1
MBRY		**0.40**	**153**	↑*iP*		Pb	11 03 41.0	+1.1
SKI	**Saint Kitts**	**0.47**	**306**	*e*P		Pn	11 03 43.2	0.0
SKI				*e*S		Sn	11 03 50.6	-0.5
SEG	**Port Louis**	**1.03**	**129**	↓*iP*		Pg	11 03 51.9	+0.6
LZG	**Guadaloupe-1**	**1.06**	**149**	↑*iP*		Pg	11 03 52.4	+0.5
BCG	**Bois Riant Cap**	**1.19**	**144**	↑*iP*		Pg	11 03 54.8	+0.3
SCG	**Saint Claude**	**1.20**	**148**	↑*iP*		Pg	11 03 54.8	0.0
DOG	**Dongo Capester**	**1.23**	**146**	↑*iP*		Pg	11 03 55.4	+0.1
HMG	**Houelmont**	**1.23**	**150**	*e*P		Pg	11 03 55.1	-0.2
PHG	**Guadaloupe-2**	**1.24**	**147**	↑*iP*		Pg	11 03 55.4	0.0
TBG	**Guadaloupe-3**	**1.37**	**151**	↑*iP*		Pb	11 03 57.0	+0.5
DEG	**La Desirade**	**1.43**	**121**	*e*P		Pb	11 03 57.6	0.0
MGG	**Marie-Galante**	**1.50**	**139**	↑*iP*		Pg	11 03 59.5	-0.7
DVCT	**Vielle Casse P**	**1.69**	**148**	*e*P		Pb	11 04 02.8	+0.9
DVCT				*e*S		Sg	11 04 24.7	-1.3
DWS	**Wesley**	**1.78**	**146**	*e*P		Pb	11 04 03.8	+0.4
DWS				*e*S		Sb	11 04 25.6	+0.1
DSHT	**Scott's Head**	**2.06**	**153**	*e*P		Pb	11 04 07.4	-0.7
FDF	**Fort de France**	**2.58**	**154**	*e*P		Pn	11 04 14.3	+2.0
FDF				*e*S		Sn	11 04 42.1	-1.2
MVM	**Montagne Vaucl**	**2.85**	**151**	*e*P		Pn	11 04 18.5	+2.5
MVM				*e*S		Sn	11 04 52.4	+2.4
MCLT	**Moule a Chique**	**3.59**	**158**	*e*P		Pn	11 04 28.9	+2.7
MCLT				*e*S		Sn	11 05 09.8	+1.6
SVB	**Belmont**	**3.91**	**164**	*e*P		Pn	11 04 32.6	+2.0
SVB				*e*S		Sn	11 05 17.6	+1.6

BJI ***02*** *11:29:30.5,4˚.20N×125˚.14E,h7km,mB5.0/36,mb5.1/57, Ms4.6/53,Ms7 4.3/52*

ISCJB ***02*** *11:29:38.1±0.7,4˚.59N±0˚.02×124˚.57E±0˚.02,h26km±5km, mb5.1/130,MS4.3/43, Error ellipse: s-maj=4.2km s-min=2.6km az=164.4*

BKK ***02*** *11:29:39.6±0.2,5˚N±3˚×12˚5E±˚,h10km,M5.2/26, mB5.3/11,mb5.0/26,MLv5.8/4,Mw(mB)4.8/11*

MOS ***02*** *11:29:39.0±1.0,4˚.67N×124˚.61E,h33km,mb5.4/43, Error ellipse: s-maj=10.4km s-min=5.2km az=112.9*

GCMT ***02*** *11:29:41.0±0.2,4˚.65N×124˚.40E,h27km,MW5.2, Moment Tensor Solution. s52,c81; s87,c144; Moment tensor: Scale 10^16^Nm; Mrr0.30±.16; Mθθ6.15±.14; Mϕϕ-6.45±.16; Mrθ0.95±.26; Mθϕ-3.24±.13; Mϕr-0.16±.30; Best double couple: M~o~7.20000×10^16^ NP1:ϕ~s~149.00000°,δ84.00000°, λ5.00000°. NP2:ϕ~s~58.00000°,δ85.00000°,λ174.00000°. Principal axes: T 7.0700, Plg8.0000°, Azm14.0000°; N 0.1700, Plg82.0000°, Azm197.0000°; P -7.2400, Plg1.0000°, Azm104.0000°; Data Used: II IU IC CN G.*

MAN ***02*** *11:29:41,4˚.92N×124˚.42E,h13km,mb5.7,ML4.7,MS5.1*

NEIC ***02*** *11:29:41.6±0.7,4˚.60N×124˚.57E,h42km±6km,mb5.2/47, Error ellipse: s-maj=6.1km s-min=3.5km az=77.0*

AUST ***02*** *11:29:42.3±0.3,4˚.52N×124˚.62E,h45km,Error ellipse: s-maj=0.9km s-min=0.7km az=317.0*

IDC ***02*** *11:29:43.4±1.8,4˚.58N×124˚.56E,h57km±16km,mb4.6/36, mb1 4.7/38,mb1mx4.7/39,mbtmp4.7/38,MS4.2/23, Ms1 4.2/23,ms1mx3.9/42, Error ellipse: s-maj=13.6km s-min=7.1km az=72.0*

DJA ***02*** *11:29:45.1±0.4,4˚N±3˚×12˚4E±˚,h50km,M5.3/17, mB5.6/15,mb5.4/17,MLv5.7/8,Mw(mB)5.1/15*

ISC 02 11:29:39.4±0.3,4˚.59N±0˚.02×124˚.56E±0˚.04,h22km±2km, h22km:pP-P,n380,σ1§45/461,mb5.2/141,MS4.3/43, 14C-8D,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KCP	**Kidapawan**	**2.46**	**12**	↓*eP*		**Pb**	**11 30 23.6**	**+0.7**
KCP				*i* S		**Sb**	**11 30 54.2**	**+1.4**
DAV	**Davao City (W)**	**2.66**	**22**	P		**Pb**	**11 30 24.2**	**-2.2**
	SNR=184							
DAV	**Davao City (W)**	**2.66**	**22**	*e*Pn		**Pb**	**11 30 24.1**	**-2.3**
DAV				*e*Sn		**Sn**	**11 30 54.1**	**+1.5**
DAV				S		**Sb**	**11 30 59.8**	**+1.1**
DAV	**Davao City (W)**	**2.66**	**22**	P		**Pb**	**11 30 24.2**	**-2.2**
DAV	**Davao City (W)**	**2.66**	**22**	P		**Pb**	**11 30 24.1**	**-2.3**
	606nm,0.3s,baz=243,slow=10,SNR=250							
DAV				S		**Sb**	**11 30 59.8**	**+1.1**
	492nm,0.3s,baz=310,slow=22,SNR=7.6							
DAV				LR		LR	11 31 36.4	
	comp=Z,4μm,19.1s,baz=54,slow=42							
MNI	**Manado**	**3.14**	**175**	P		**Pn**	**11 30 27.5**	**0.0**
MNI				S		**Sn**	**11 31 01.9**	**-2.4**
BUKP	**Musuan**	**3.31**	**9**	*e*P		**Pn**	**11 30 31.2**	**+1.3**
ZMPH	**Zamboanga City**	**3.42**	**313**	↓*iP*		**Pn**	**11 30 29.8**	**-1.6**
ZMPH				*i* S		Sn	11 31 04.5	-6.8
CGP	**Cagayan de Oro**	**3.84**	**2**	↓*iP*		**Pn**	**11 30 38.9**	**+1.7**
CGP				*i* S		**Sn**	**11 31 23.1**	**+1.4**
KMSI	**Cibinong**	**4.03**	**188**	P		**Pn**	**11 30 39.3**	**-0.5**
DCPH	**Dipolog City**	**4.15**	**343**	↑*eP*		**Pn**	**11 30 41.7**	**+0.3**
GAMI	**Galela, Maluku**	**4.22**	**130**	P		**Pn**	**11 30 43.5**	**+1.1**
GTOI	**Gorontalo**	**4.22**	**202**	P		**Pn**	**11 30 39.9**	**-2.5**
BUTP	**Butuan**	**4.48**	**14**	*e*P		Pn	11 30 50.4	+4.5
TNTI	**Ternate**	**4.71**	**143**	P		**Pn**	**11 30 51.5**	**+2.3**
TNTI				S		**Sn**	**11 31 45.2**	**+2.0**
MRSI	**Marisa**	**4.85**	**213**	P		**Pn**	**11 30 50.6**	**-0.5**
MRSI				S		**Sn**	**11 31 43.1**	**-3.5**
TBP	**Tagbilaran**	**5.12**	**352**	*e*P		**Pn**	**11 30 56.2**	**+1.5**
MSLP	**Maasin**	**5.52**	**3**	*e*P		**Pn**	**11 31 02.1**	**+1.9**
LLP	**Lapu-Lapu**	**5.72**	**354**	↑*eP*		**Pn**	**11 31 05.1**	**+2.0**
LUWI	**Luwuk**	**5.87**	**198**	P		**Pn**	**11 31 06.8**	**+1.7**
	2μm,0.9s,29μm							
LUWI	**Luwuk**	**5.87**	**198**	P		**Pn**	**11 31 05.9**	**+0.8**
	baz=5.9,SNR=58							
LUWI				S		**Sn**	**11 32 13.8**	**+2.0**
	baz=5.9,SNR=8.9							
LBMI	**Labuha**	**5.96**	**150**	P		**Pn**	**11 31 07.7**	**+1.3**
	356nm,0.8s,15μm							
LBMI				S		**Sn**	**11 32 14.5**	**+0.4**
	356nm,0.8s,15μm							
MYLDM	**Lahad Datu**	**6.07**	**276**	P		**Pn**	**11 31 09.2**	**+1.4**
GUIM	**Jordan**	**6.31**	**342**	*e*P		**Pn**	**11 31 11.9**	**+0.8**
OCLP	**Ormoc**	**6.42**	**0**	*e*P		**Pn**	**11 31 14.9**	**+2.3**
PLP	**Palo**	**6.55**	**4**	↓*eP*		**Pn**	**11 31 15.6**	**+1.2**
TSM	**Tawau**	**6.68**	**268**	P		**Pn**	**11 31 16.9**	**+0.7**
RCP	**Roxas**	**7.16**	**346**	↑*eP*		**Pn**	**11 31 24.6**	**+1.8**
PPR	**Puerto Princes**	**7.75**	**312**	↑*iP*		**Pn**	**11 31 30.7**	**-0.1**
SKSI	**Soroako, Sulaw**	**7.77**	**205**	P		**Pn**	**11 31 31.3**	**0.0**
	446nm,0.7s,3μm							
KDM	**Kudat**	**8.03**	**287**	P		**Pn**	**11 31 35.9**	**+1.1**
TTSI	**Tana Toraja**	**8.94**	**212**	P		**Pn**	**11 31 46.7**	**-0.6**
	404nm,1.0s,3μm							
MSAI	**Masohi**	**9.01**	**151**	P		**Pn**	**11 31 51.2**	**+3.0**
	55nm,0.5s,1μm0.3nm							
BKB	**Balikpapan**	**9.62**	**233**	P		**Pn**	**11 31 56.0**	**-0.5**
	429nm,0.7s,3μm							
SPSI	**Sidrap Palu**	**9.75**	**209**	P		**Pn**	**11 31 58.5**	**+0.1**
	180nm,0.8s,1μm							
TGY	**Tagaytay City**	**10.11**	**340**	P		**Pn**	**11 32 06.2**	**+2.9**
TGY	**Tagaytay City**	**10.11**	**340**	P		**Pn**	**11 32 06.2**	**+2.9**
	22nm,0.3s,baz=121,slow=18,SNR=4.4							
PALU	**Palu**	**10.23**	**74**	P		**Pn**	**11 32 06.1**	**+1.1**
	baz=10,SNR=7.0							
PALU				S		**Sn**	**11 33 55.5**	**-3.6**
	baz=10,SNR=3.7							
KAPI	**Kappang**	**10.68**	**207**	Pn		**Pn**	**11 32 10.4**	**-0.7**
	678nm,1.0s,SNR=6.9							
KAPI	**Kappang**	**10.68**	**207**	P		Pn	11 32 18.6	+7.4
	SNR=7.2							
KAPI	**Kappang**	**10.68**	**207**	*e*Pn		**Pn**	**11 32 09.8**	**-1.4**
KAPI				S		Sn	11 34 03.1	-7.1
KAPI	**Kappang**	**10.68**	**207**	P		**Pn**	**11 32 10.2**	**-1.0**
	45nm,0.9s,1μm							
KAPI	**Kappang**	**10.68**	**207**	P		**Pn**	**11 32 10.1**	**-1.0**
	5.1nm,0.3s,baz=27,slow=7.7,SNR=18							
KAPI				S		Sn	11 34 03.1	-7.1
	baz=47,slow=19,SNR=3.1							
KAPI				LR		LR	11 36 24.8	
	comp=Z,1μm,18.3s,baz=30,slow=38							
FAKI	**Fak Fak**	**10.71**	**134**	P		**Pn**	**11 32 12.8**	**+1.3**
	176nm,1.0s,2μm							
FAKI	**Fak Fak**	**10.71**	**134**	P		**Pn**	**11 32 13.8**	**+2.3**
	baz=11,SNR=35							
BKSI	**Bulukumba**	**10.80**	**204**	P		**Pn**	**11 32 13.0**	**+0.3**
	76nm,0.8s,740nm							
MTKI	**Muara Teweh, K**	**11.11**	**241**	P		Pn	11 32 10.2	-6.9
RKPI	**Ransiki, Papua**	**11.36**	**122**	P		Pn	11 32 25.4	+5.0
	274nm,0.9s,6μm							
BSSI	**Bau Bau, Buton**	**11.41**	**201**	P		**Pn**	**11 32 22.5**	**+1.4**
	166nm,1.1s,2μm							
BTM	**Bintulu**	**11.54**	**264**	P		**Pn**	**11 32 23.3**	**+0.4**
SBUM	**Sibu**	**12.50**	**261**	P		**Pn**	**11 32 36.2**	**+0.1**
BBKI	**Banjar Baru**	**12.58**	**231**	P		Pn	11 32 41.2	+4.0
	159nm,1.0s,2μm							
BAKI	**Biak**	**12.88**	**116**	P		Pn	11 32 45.2	+3.9
	433nm,1.1s,5μm							
MMRI	**Maumere**	**13.34**	**190**	P		**P**	**11 32 56.5**	**-0.5**
STKI	**Sintang**	**13.82**	**251**	P		**Pn**	**11 32 56.7**	**+2.6**
	44nm,0.9s							
KSM	**Kuching**	**14.57**	**258**	P		**Pn**	**11 33 04.9**	**+0.6**
WSI	**Waingapu**	**14.79**	**197**	P		**P**	**11 33 10.8**	**-2.3**
KHKI	**Kahang-Kahang**	**15.66**	**215**	P		**P**	**11 33 25.1**	**+2.3**
SRBI	**Singaraja**	**15.67**	**217**	P		**P**	**11 33 27.4**	**+4.5**
JAGI	**Jajag, Banyuwa**	**16.62**	**219**	P		**P**	**11 33 35.6**	**+2.2**
JAGI	**Jajag, Banyuwa**	**16.62**	**219**	P		**P**	**11 33 34.8**	**+1.4**
	baz=17,SNR=4.7							
GMJI	**Gumukmas**	**16.92**	**221**	P		P	11 33 42.2	+5.5
JAY	**Jayapura**	**17.61**	**113**	P		**P**	**11 33 47.2**	**+2.8**
JAY	**Jayapura**	**17.61**	**113**	P		**Pn**	**11 33 43.9**	**+0.4**
	baz=18,SNR=26							
TWG	**Pinlang**	**18.44**	**350**	*e*P		**P**	**11 33 52.8**	**-0.7**
	256nm,0.9s							
UGM	**Wanagama**	**18.72**	**228**	P		**Pn**	**11 34 00.2**	**+3.1**
	baz=19,SNR=3.3							
KDU	**Kakadu**	**18.88**	**155**	P		**P**	**11 33 57.7**	**-0.6**
	baz=19,SNR=13							
YULB	**Yu-li**	**18.96**	**351**	*e*P		**P**	**11 33 58.0**	**-1.2**
	183nm,1.4s							
TPUB	**Ta-pu**	**18.99**	**349**	*e*P		**P**	**11 33 59.5**	**0.0**
	138nm,0.9s							
SSLB	**Suanglung**	**19.40**	**350**	*e*P		**P**	**11 34 03.1**	**-1.0**
	227nm,1.0s							
NACB	**Ninganchiao**	**19.68**	**352**	*e*P		**P**	**11 34 06.2**	**-0.8**
	168nm,1.6s							
YHNB	**Yeheng**	**20.20**	**352**	*e*P		**P**	**11 34 11.6**	**-1.2**
	121nm,1.1s							
QIZ	**Qiongzhong**	**20.31**	**316**	P		**P**	**11 34 14.3**	**+0.3**
QIZ				pP		Pn	11 34 17.0	+0.9
QIZ				S		**S**	**11 37 59.3**	**-1.6**
QIZ				pmax		pmax		
	comp=Z,16nm,1.3s							
QIZ				pmax		pmax		
	comp=Z,230nm,5.7s							
QIZ				LR		LR		
	comp=N,620nm,19.2s							
QIZ				LR		LR		
	comp=E,340nm,20.7s							
QIZ				LR		LR		
	comp=Z,900nm,18.2s							
QIZ	**Qiongzhong**	**20.31**	**316**	*e*P		**P**	**11 34 14.1**	**+0.1**
	comp=Z,146nm,1.4s							
KNRA	**Kununurra**	**20.56**	**168**	P		**P**	**11 34 16.7**	**0.0**
	baz=21,SNR=37							
CISI	**Cisompet, Garu**	**20.61**	**234**	P		Pn	11 34 23.5	+3.7
	baz=21,SNR=7.8							
MYKOM	**Kota Tinggi**	**20.86**	**263**	P		**P**	**11 34 20.6**	**+0.5**
QZH	**Quanzhou**	**21.04**	**345**	↑*iP*		**P**	**11 34 22.5**	**+0.7**
QZH				S		**S**	**11 38 16.9**	**+1.8**
QZH				pmax		pmax		
	comp=Z,350nm,1.0s							
QZH				LR		LR		
	comp=N,1μm,14.0s							
QZH				LR		LR		
	comp=E,920nm,13.8s							
QZH				LR		LR		
	comp=Z,1μm,19.8s							
GZH	**Guangzhou**	**21.35**	**331**	P		P	11 34 30.3	+5.2
GZH				S		Sn	11 38 28.6	-0.6
GZH				LR		LR		
	comp=N,700nm,19.3s							
GZH				LR		LR		
	comp=E,1μm,17.2s							
KGM	**Kluang**	**21.36**	**264**	P		**P**	**11 34 26.3**	**+0.8**
KTGM	**Kuala Trenggan**	**21.36**	**273**	P		**P**	**11 34 26.5**	**+1.1**
UBPT	**Khong Chiam**	**21.57**	**301**	P		**P**	**11 34 28.9**	**+1.2**
	comp=E,80nm,1.1s,comp=E,1μm							
GUMO	**Guam**	**21.93**	**65**	*e*P		**P**	**11 34 32.5**	**+1.0**
JOW	**Kunigami**	**22.40**	**9**	*e*P		**P**	**11 34 36.6**	**+0.1**
	comp=E,183nm,0.9s							
FITZ	**Fitzroy Crossi**	**22.57**	**177**	P		**P**	**11 34 37.2**	**-1.1**
FITZ				S		**S**	**11 38 42.5**	**-2.3**
FITZ	**Fitzroy Crossi**	**22.57**	**177**	P		**P**	**11 34 37.2**	**-1.1**
	comp=E,116nm,0.8s,baz=7.8,slow=6.3,SNR=105							
FITZ				S		**S**	**11 38 42.5**	**-2.3**
	comp=E,4.4nm,0.9s,baz=0.0,slow=20,SNR=3.6							
PANO	**Nakornpanom**	**23.20**	**304**	P		**P**	**11 34 45.6**	**+0.7**
	comp=E,73nm,1.3s,comp=E,915nm							
IPM	**Ipoh**	**23.46**	**271**	P		**P**	**11 34 48.8**	**+1.2**
SKNT	**Sakolnakorn**	**23.63**	**303**	P		**P**	**11 34 48.5**	**-0.7**
	comp=E,61nm,1.3s							
KULM	**Kulim**	**23.83**	**273**	P		**P**	**11 34 51.6**	**+0.4**
NAYO	**Nakonayok**	**24.85**	**294**	P		**P**	**11 35 00.9**	**+0.4**
	comp=E,82nm,1.0s							
CHAI	**Chaiyaphum**	**24.86**	**299**	P		**P**	**11 35 00.9**	**+0.3**
	comp=E,26nm,0.7s,comp=E,178nm							
TRTT	**Trang**	**24.93**	**279**	P		**P**	**11 35 02.2**	**+1.0**
	comp=E,34nm,1.4s							
PSI	**Prapat**	**25.65**	**267**	P		**P**	**11 35 08.3**	**+0.4**
PSI	**Prapat**	**25.65**	**267**	P		**P**	**11 35 08.3**	**+0.4**
	comp=E,50nm,0.8s,baz=74,slow=7.2,SNR=18							
PSI				LR		LR	11 44 40.7	
	comp=E,498nm,19.1s,baz=236,slow=35							
PSI	**Prapat**	**25.65**	**267**	P		**P**	**11 35 08.7**	**+0.8**
	baz=26,SNR=13							
PHET	**Kaeng Krachan**	**25.97**	**290**	P		**P**	**11 35 12.6**	**+2.0**
	comp=E,147nm,0.8s							
MBWA	**Marble Bar**	**26.02**	**190**	P		**P**	**11 35 11.9**	**+0.9**
	SNR=5.5							
MBWA	**Marble Bar**	**26.02**	**190**	*e*P		**P**	**11 35 11.3**	**+0.3**
	comp=E,70nm,0.8s							
PBKT	**Sadao Pong**	**26.03**	**299**	P		**P**	**11 35 11.6**	**+0.5**
	comp=E,54nm,1.0s							
COEN	**Coen**	**26.09**	**135**	P		**P**	**11 35 11.8**	**+0.1**
	baz=26,SNR=6.7							
LOEI	**Loei**	**26.18**	**301**	P		**P**	**11 35 10.3**	**-2.2**
	comp=E,46nm,1.4s,comp=E,991nm							
WRAB	**Tennant Creek**	**26.20**	**159**	P		**P**	**11 35 12.0**	**-0.6**
	comp=E,288nm,0.5s,SNR=83							
WRAB	**Tennant Creek**	**26.20**	**159**	*e*P		**P**	**11 35 12.1**	**-0.6**
WRAB				pmax		pmax		
	comp=Z,112nm,1.0s							
WRAB	**Tennant Creek**	**26.20**	**159**	*e*P		**P**	**11 35 12.1**	**-0.6**
	comp=Z,112nm,1.0s							
WRA	**Warramunga Arr**	**26.20**	**159**	P		**P**	**11 35 12.0**	**-0.7**
WRA				S		**S**	**11 39 41.5**	**-2.2**
WRA	**Warramunga Arr**	**26.20**	**159**	P		**P**	**11 35 12.0**	**-0.7**
	comp=Z,23nm,0.5s,baz=334,slow=10,SNR=215							
WRA				S		**S**	**11 39 41.5**	**-2.2**
	comp=Z,12nm,1.1s,baz=328,slow=16,SNR=7.7							
PMG	**Port Moresby**	**26.47**	**122**	*e*P		**P**	**11 35 14.9**	**-0.2**
	comp=Z,48nm,1.0s							
PMG	**Port Moresby**	**26.47**	**122**	P		**P**	**11 35 15.9**	**+0.8**
	comp=Z,27nm,0.8s,baz=328,slow=8.7,SNR=11							
NANT	**Nan**	**27.25**	**303**	P		**P**	**11 35 24.0**	**+1.9**
	comp=Z,74nm,1.1s							
WHN	**Wuhan**	**27.55**	**341**	↑*iP*		**P**	**11 35 25.9**	**+1.2**
WHN				sP		**sP**	**11 35 38.5**	**+4.3**
WHN				S		**S**	**11 40 08.1**	**+3.2**
WHN				pmax		pmax		
	comp=Z,140nm,1.1s							
WHN				LR		LR		
	comp=Z,1μm,14.8s							
GYA	**Guiyang**	**27.68**	**324**	P		**P**	**11 35 27.6**	**+1.6**
GYA				PP		**PnPn**	**11 36 16.4**	**+4.4**
GYA				PcP		**PcP**	**11 38 45.0**	**+2.0**
GYA				S		**S**	**11 40 08.7**	**+1.5**
GYA				ScP		**ScP**	**11 42 24.3**	**+1.7**
GYA				ScS		**ScS**	**11 46 14.0**	**-0.8**
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,130nm,4.7s							
GYA				LR		LR		
	comp=N,680nm,16.9s							
GYA				LR		LR		
	comp=E,590nm,17.7s							
GYA				LR		LR		
	comp=Z,640nm,17.8s							
NJ2	**Nanjing**	**27.84**	**350**	*e*P		**P**	**11 35 27.4**	**+0.1**
NJ2				pP		**pP**	**11 35 31.6**	**-2.4**
NJ2				sP		**sP**	**11 35 40.3**	**+3.6**
NJ2				S		**S**	**11 40 14.0**	**+4.7**
NJ2				sS		**sS**	**11 40 20.0**	**-0.4**
NJ2				pmax		pmax		
	comp=Z,20nm,0.9s							
NJ2				pmax		pmax		
	comp=Z,140nm,8.5s							
NJ2				LR		LR		
	comp=N,520nm,17.6s							
NJ2				LR		LR		
	comp=E,1μm,20.0s							
NJ2				LR		LR		
	comp=Z,670nm,26.0s							
LAMP	**Lampang**	**28.02**	**302**	P		**P**	**11 35 30.8**	**+1.7**
	comp=Z,5.8nm,0.9s,comp=Z,76nm							
CMAR	**Chiang Mai Arr**	**28.58**	**301**	P		**P**	**11 35 35.0**	**+1.0**
CMAR				PcP		**PcP**	**11 38 44.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**28.58**	**301**	P		**P**	**11 35 35.0**	**+1.0**
	comp=Z,5.1nm,1.0s,baz=116,slow=7.5,SNR=24							
CMAR				PcP		**PcP**	**11 38 44.9**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=141,slow=1.8,SNR=4.8							
CMMT	**Chiang Mai**	**28.73**	**302**	P		**P**	**11 35 36.4**	**+1.0**
	comp=Z,19nm,1.5s							
CHTO	**Chiang Mai**	**28.73**	**302**	*e*P		**P**	**11 35 35.6**	**+0.2**
CHTO				pmax		pmax		
	comp=Z,11nm,0.7s							
CHTO	**Chiang Mai**	**28.73**	**302**	*e*P		**P**	**11 35 35.6**	**+0.2**
	comp=Z,11nm,0.7s							
CHTO	**Chiang Mai**	**28.73**	**302**	P		**P**	**11 35 36.5**	**+1.1**
	comp=Z,21nm,1.5s							
RABL	**Rabaul**	**28.92**	**107**	P		**P**	**11 35 39.7**	**+2.6**
	baz=29,SNR=5.0							
JNU	**Nakatsue**	**28.99**	**11**	*e*P		**P**	**11 35 35.8**	**-1.8**
	comp=Z,11nm,0.9s							
ENH	**Enshi**	**29.24**	**333**	*e*P		**P**	**11 35 39.6**	**-0.3**
	comp=Z,90nm,1.0s							
KMI	**Kunming**	**29.26**	**316**	P		**P**	**11 35 42.9**	**+2.6**
KMI				pP		**pP**	**11 35 45.6**	**-1.4**
KMI				sP		**sP**	**11 35 46.8**	**-2.9**
KMI				PP		**PnPn**	**11 36 37.7**	**+4.0**
KMI				S		**S**	**11 40 34.6**	**+2.3**
KMI				pmax		pmax		
	comp=Z,12nm,0.8s							
KMI				pmax		pmax		
	comp=Z,91nm,5.3s							
KMI				LR		LR		
	comp=N,780nm,21.4s							
KMI				LR		LR		
	comp=E,550nm,19.5s							
KMI				LR		LR		
	comp=Z,690nm,15.6s						

comp=E,260nm,19.7s
DL2 LR LR
comp=Z,210nm,17.2s
MORW Morawa 34.45 193 P **P** **11 36 25.5 -0.1**
baz=35,SNR=6.0
FORT Forrest 35.33 175 *e*P **P** **11 36 32.5 -0.5**
comp=Z,75nm,0.8s
FORT Forrest 35.33 175 P **P** **11 36 33.4 +0.3**
baz=36,SNR=11
BLDU Ballidu 35.80 192 P **P** **11 36 37.3 +0.1**
baz=36,SNR=9.8
KMBL Kambalda 35.85 184 P **P** **11 36 37.2 -0.4**
baz=36,SNR=8.4
BJT Baijiatuau 36.08 349 *e*P **P** **11 36 38.6 -0.8**
comp=Z,132nm,1.0s
BJI Beijing 36.10 349 P **P** **11 36 38.6 -1.0**
BJI PP **PP** **11 38 03.2 +1.3**
BJI S **S** **11 42 22.0 +4.2**
BJI pmax pmax
comp=Z,100nm,1.0s
BJI pmax pmax
comp=Z,140nm,3.2s
BJI LR LR
comp=N,320nm,21.5s
BJI LR LR
comp=E,300nm,21.2s
BJI LR LR
comp=Z,430nm,24.3s
QLP Quilpie 36.37 149 P **P** **11 36 42.3 +0.2**
baz=36,SNR=11
KLBR Kellerberrin 36.56 190 P **P** **11 36 43.0 -0.7**
baz=37,SNR=12
LZH Lanzhou 36.69 331 ⇑P **P** **11 36 46.6 +1.6**
LZH pP **pP** **11 36 51.0 -0.7**
LZH sP **sP** **11 36 53.2 -1.3**
LZH *e*S **S** **11 42 28.3 +0.9**
LZH pmax pmax
comp=Z,130nm,1.2s
LZH pmax pmax
comp=Z,220nm,4.0s
LZH LR LR
comp=N,690nm,15.8s
LZH LR LR
comp=E,300nm,11.4s
LZH LR LR
comp=Z,650nm,19.3s
SNY Shenyang 37.09 359 ⇑P **P** **11 36 46.7 -1.3**
SNY pmax pmax
comp=Z,16nm,1.2s
SNY pmax pmax
comp=Z,110nm,5.0s
SNY LR LR
comp=N,260nm,24.3s
SNY LR LR
comp=E,500nm,22.7s
SNY LR LR
comp=Z,320nm,16.7s
HHC Hu-ho-hao-te 37.94 344 *e*P **P** **11 36 55.8 +0.4**
HHC PP **PnPn** **11 38 26.5 +2.8**
HHC PcP **PcP** **11 39 11.5 +0.3**
HHC S **S** **11 42 47.9 +1.7**
HHC ScP **ScP** **11 42 57.0 -0.7**
HHC SS **SnSn** **11 45 25.0 -3.7**
HHC ScS **ScS** **11 47 04.9 -1.9**
HHC pmax pmax
comp=Z,87nm,0.6s
HHC pmax pmax
comp=Z,390nm,6.2s
HHC LR LR
comp=N,650nm,14.9s
HHC LR LR
comp=E,570nm,14.6s
HHC LR LR
comp=Z,760nm,15.0s
NWAO Narrogin (SRO) 37.95 190 P **P** **11 36 55.8 +0.3**
NWAO Narrogin (SRO) 37.95 190 P **P** **11 36 55.8 +0.3**
comp=Z,3.4nm,0.5s,baz=23,slow=7.7,SNR=8.3
BBOO Buckleboo 38.76 164 P **P** **11 37 02.7 +0.4**
baz=39,SNR=18
CN2 Changchun 39.06 1 *e*P **P** **11 37 07.2 +2.6**
CN2 *e*sP **sP** **11 37 14.0 -0.1**
CN2 *e*S **S** **11 43 07.0 +4.3**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=N,300nm,20.0s
CN2 LR LR
comp=E,200nm,20.0s
CN2 LR LR
comp=Z,400nm,20.0s
EIDS Eidsvold 39.37 140 *e*P **P** **11 37 07.2 -0.3**
comp=Z,19nm,0.9s
EIDS Eidsvold 39.37 140 P **P** **11 37 07.3 -0.2**
baz=39,SNR=4.0
STKA Stephens Creek 39.73 157 *e*P **P** **11 37 10.8 +0.4**
STKA Stephens Creek 39.73 157 P **P** **11 37 10.7 +0.3**
comp=Z,14nm,0.5s,baz=339,slow=8.5,SNR=31
STKA Stephens Creek 39.73 157 P **P** **11 37 11.0 +0.7**
baz=40,SNR=16
USRK Ussuriysk Arra 39.99 8 P **P** **11 37 11.5 -0.9**
comp=Z,8.2nm,0.8s,baz=196,slow=8.2,SNR=18
USRK PP **PP** **11 38 45.0 +0.5**
comp=Z,7.4nm,1.0s,baz=187,slow=9.2,SNR=4.7
USRK PcP **PcP** **11 39 17.4 0.0**
comp=Z,2.1nm,0.5s,baz=219,slow=3.9,SNR=4.3
USRK LR LR 11 53 02.6
comp=Z,226nm,21.7s,baz=182,slow=35
MDJ Mudanjiang 40.11 6 P **P** **11 37 11.9 -1.5**
MDJ sP sP 11 37 16.9 -6.0
MDJ PcP **PcP** **11 39 17.2 -0.5**
MDJ ScP **ScP** **11 43 06.2 +0.5**
MDJ S **S** **11 43 20.0 +1.5**
MDJ SS **SS** **11 46 12.1 -4.4**
MDJ pmax pmax
comp=Z,13nm,1.0s
MDJ pmax pmax
comp=Z,53nm,3.6s
MDJ LR LR
comp=N,180nm,29.1s
MDJ LR LR
comp=E,380nm,26.1s
MDJ LR LR
comp=Z,230nm,20.8s
LSA Lhasa 40.26 312 *e*P **P** **11 37 16.5 +1.1**
LSA pmax pmax
comp=Z,17nm,0.6s
LSA Lhasa 40.26 312 *e*P **P** **11 37 16.5 +1.1**
comp=Z,17nm,0.6s
CMSA Cobar Meteorol 41.19 152 P **P** **11 37 23.5 +1.0**
baz=41,SNR=7.3
GTA Gaotai 41.27 331 *e*P **P** **11 37 24.3 +1.1**
GTA pP **pP** **11 37 28.4 -1.7**
GTA sP **sP** **11 37 31.8 -1.0**
GTA S **S** **11 43 37.8 +1.6**
GTA pmax pmax
comp=Z,28nm,0.8s
GTA pmax pmax
comp=Z,99nm,6.2s
GTA LR LR
comp=N,450nm,15.7s
GTA LR LR
comp=E,410nm,18.5s
GTA LR LR
comp=Z,430nm,18.0s
TAPN Taplejung 41.77 307 *e*P **P** **11 37 28.7 +1.0**
comp=Z,80nm,1.1s
ODAN Odare 41.82 306 *e*P **P** **11 37 29.0 +1.0**
comp=Z,73nm,0.9s
ASAJ Asahikawa 42.45 19 *e*P **P** **11 37 32.0 -0.6**
comp=Z,12nm,0.9s
RAMN Ramite 42.49 306 *e*P **P** **11 37 34.5 +0.9**
comp=Z,110nm,1.0s
JIRN Jiri 43.12 306 *e*P **P** **11 37 39.5 +0.7**
comp=Z,45nm,0.7s
ARMA Armidale 43.39 145 *e*P **P** **11 37 41.3 +0.8**
comp=Z,28nm,1.1s
ARMA Armidale 43.39 145 P **P** **11 37 41.9 +1.4**
baz=44,SNR=7.4
GUN Gumba 43.48 306 *e*P **P** **11 37 42.6 +1.0**
comp=Z,131nm,0.9s
PKI Pulchoki 43.71 306 *e*P **P** **11 37 43.9 +0.4**
comp=Z,36nm,0.9s
PKIN Phulchoki 43.73 306 *e*P **P** **11 37 43.8 +0.2**
comp=Z,14nm,0.7s
KKN Kakani 43.91 306 *e*P **P** **11 37 45.4 +0.4**
comp=Z,35nm,0.8s
DMN Daman 43.98 306 *e*P **P** **11 37 46.2 +0.7**
comp=Z,76nm,1.0s
ARPS Mount Arapiles 44.20 160 P **P** **11 37 48.0 +1.2**
baz=44,SNR=11
HABR Khabarovsk 44.63 10 *c e*P **P** **11 37 48.1 -2.0**
HABR *e**PP **pP** **11 37 56.6 -0.4**
HABR 11 39 29.6
HABR *e* 11 39 31.0
HABR *e*S **S** **11 44 21.5 -3.5**
HABR *e**SS **sS** **11 44 37.1 +0.8**
HABR *e*SS **SS** **11 47 41.8 -3.8**
HABR pmax pmax
comp=Z,56nm,2.6s
HABR pmax pmax
comp=N,46nm,3.3s
HABR pmax pmax
comp=E,36nm,2.6s
HABR MLR MLR
comp=Z,95nm,16.0s
HIA Hailar 44.71 356 *e*P **P** **11 37 49.8 -0.9**
comp=Z,25nm,0.9s
YNG Young 44.74 152 P **P** **11 37 52.8 +1.6**
baz=45,SNR=8.0
KLR Kul'dur 44.90 7 *e*P P 11 37 46.9 -5.3
YSS Yuzh-Sakhalins 45.04 18 *e*P **P** **11 37 54.0 +0.6**
YSS *e* 11 47 39.0
YSS pmax pmax
comp=Z,50nm,1.2s
KOLN Koldanda 45.26 305 *e*P **P** **11 37 56.5 +0.7**
comp=Z,75nm,0.6s
DANN Dangsing 45.36 306 *e*P **P** **11 37 57.1 +0.4**
comp=Z,86nm,0.6s
ULN Ulaanbaatar 45.66 344 P **P** **11 37 58.6 +0.1**
SNR=8.5
ULN Ulaanbaatar 45.66 344 *e*P **P** **11 37 57.9 -0.6**
SONM Songino Array 45.82 343 P **P** **11 37 59.7 -0.1**
SONM PcP **PcP** **11 39 36.5 -0.5**
SONM PP **PP** **11 39 48.7 +1.4**
SONM Songino Array 45.82 343 P **P** **11 37 59.7 -0.1**
comp=Z,8.1nm,0.8s,baz=152,slow=9.3,SNR=24
SONM PcP **PcP** **11 39 36.5 -0.5**
comp=Z,4.0nm,0.8s,baz=155,slow=4.9,SNR=4.9
SONM PP **PP** **11 39 48.7 +1.4**
comp=Z,5.7nm,1.1s,baz=164,slow=8.7,SNR=4.9
SONM LR LR 11 58 49.7
comp=Z,434nm,19.7s,baz=155,slow=38
CAN Canberra 45.86 152 *e*P **P** **11 38 01.5 +1.4**
CAN pmax pmax
comp=Z,20nm,0.6s
CAN Canberra 45.86 152 *e*P **P** **11 38 01.5 +1.4**
comp=Z,20nm,0.6s
PYUN Piuthan 45.89 305 *e*P **P** **11 38 01.6 +0.9**
comp=Z,90nm,0.7s
CNB Canberra Magne 46.03 152 P **P** **11 38 03.3 +1.8**
baz=46,SNR=7.5
TOO Toolangi 46.25 157 P **P** **11 38 05.2 +2.1**
baz=46,SNR=7.6
HYB Hyderabad 46.79 290 *i* P **P** **11 38 07.0 -0.8**
DZM Mont Dzumac 48.80 125 *e*P **P** **11 38 24.1 +0.9**
comp=Z,49nm,0.9s
DZM *e*pP **pP** **11 38 33.1 +2.9**
DZM Mont Dzumac 48.80 125 P **P** **11 38 24.4 +1.1**
comp=Z,7.1nm,0.7s,baz=270,slow=24,SNR=7.5
ZAK Zakamensk 49.03 342 *e*P **P** **11 38 23.7 -0.9**
ZAK *e* 11 39 47.7
TLY Talaya 50.06 343 *e*P **P** **11 38 32.4 0.0**
TLY pmax pmax
comp=Z,14nm,0.9s
TLY MLR MLR
comp=Z,279nm,19.0s
WMQ Urumqi 50.80 326 P **P** **11 38 39.2 +1.0**
WMQ pP **pP** **11 38 43.7 -1.4**
WMQ sP **sP** **11 38 46.2 -1.6**
WMQ PcP **PcP** **11 39 56.6 +1.7**
WMQ PP **PP** **11 40 36.2 +1.7**
WMQ ScP **ScP** **11 43 50.8 +0.8**
WMQ S **S** **11 45 52.6 -0.3**
WMQ ScS **ScS** **11 48 26.5 -1.4**
WMQ pmax pmax
comp=Z,32nm,0.8s
WMQ pmax pmax
comp=Z,220nm,5.0s
WMQ LR LR
comp=N,670nm,21.2s
WMQ LR LR
comp=E,360nm,17.8s
WMQ LR LR
comp=Z,230nm,20.8s
NDI New Delhi 50.85 304 *e*P **P** **11 38 37.0 -1.7**
MOY Mondy 50.86 341 *e*P **P** **11 38 38.8 +0.3**
MOY pmax pmax
comp=Z,48nm,2.4s
CLNS Chul'man 52.10 0 *e*P **P** **11 38 46.3 -1.4**
CLNS pmax pmax
comp=Z,13nm,0.8s
CLNS pmax pmax
comp=E,5.0nm,1.0s
CLNS pmax pmax
comp=N,8.0nm,0.9s
PEA0B Petropavlovsk- 55.48 24 *e*P **P** **11 39 12.5 +0.1**
PETK Petropavlovsk- 55.48 24 P **P** **11 39 12.5 0.0**
PETK Petropavlovsk- 55.48 24 P **P** **11 39 12.4 0.0**
PETK Petropavlovsk- 55.48 24 P **P** **11 39 12.4 0.0**
comp=N,14nm,0.8s,baz=201,slow=5.9,SNR=25
MK31 Makanchi Array 55.63 326 *i* P **P** **11 39 13.9 +0.3**
MK31 pmax pmax
comp=Z,37nm,0.8s
MK31 Makanchi Array 55.63 326 *e*P **P** **11 39 13.9 +0.3**
MKAR Makanchi Array 55.63 326 P **P** **11 39 14.1 +0.4**
MKAR 11 40 12.0
MKAR Makanchi Array 55.63 326 P **P** **11 39 14.1 +0.4**
MKAR PcP **PcP** **11 40 12.0 -1.1**
MKAR Makanchi Array 55.63 326 P **P** **11 39 14.1 +0.4**
comp=Z,20nm,0.7s,baz=120,slow=8.1,SNR=204
MKAR PcP **PcP** **11 40 12.0 -1.1**
comp=Z,8.1nm,0.8s,baz=120,slow=5.0,SNR=4.4
MKAR LR LR 12 04 25.5
comp=Z,260nm,18.6s,baz=125,slow=37
KSH Kashi 55.92 316 P **P** **11 39 18.0 +2.0**
KSH sP **sP** **11 39 25.4 -0.3**
KSH PcP **PcP** **11 40 17.8 +3.3**
KSH PP **PP** **11 41 22.8 +2.0**
KSH S **S** **11 47 03.4 +0.6**
KSH pmax pmax
comp=Z,28nm,1.2s
KSH pmax pmax
comp=Z,85nm,3.4s
KSH LR LR
comp=N,84nm,8.0s
KSH LR LR
comp=E,110nm,6.1s
KSH LR LR
comp=Z,160nm,7.0s
YAK Yakutsk 57.44 3 *e*P **P** **11 39 24.4 -1.8**
YAK *e**PP **pP** **11 39 37.0 +3.8**
YAK *e* 11 40 18.4
YAK *e* 11 41 31.7
YAK *e*S S 11 47 14.4 -7.4
YAK *e**SS **sS** **11 47 28.4 -5.0**
YAK *e*SS **SS** **11 51 06.7 -5.0**
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=N,16nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.4s
YAK pmax pmax
comp=Z,5.0nm,0.8s
YAK pmax pmax
comp=N,45nm,2.7s
YAK smax smax
comp=E,70nm,3.5s
YAK smax smax
comp=N,74nm,3.0s
KZA Kyzart 57.53 318 P **P** **11 39 29.2 +1.4**
SNR=32
TKM2 Tokmak 2 57.68 319 *i* P **P** **11 39 29.3 +0.8**
TKM2 Tokmak 2 57.68 319 P **P** **11 39 29.4 +0.8**
SNR=17
TKM2 Tokmak 2 57.68 319 *e*P **P** **11 39 28.9 +0.4**
comp=N,22nm,1.0s
KBK Karagaybulak 57.99 318 P **P** **11 39 33.1 +2.4**
SNR=9.6
AAK Ala-Archa 58.28 318 P **P** **11 39 34.9 +2.2**
comp=N,80nm,1.0s,SNR=5.5
AAK Ala-Archa 58.28 318 *c i*P **P** **11 39 33.6 +0.9**
AAK pmax pmax
comp=Z,66nm,1.7s
AAK Ala-Archa 58.28 318 P **P** **11 39 34.0 +1.3**
SNR=16
AAK Ala-Archa 58.28 318 *e*P **P** **11 39 33.9 +1.2**
AAK Ala-Archa 58.28 318 P **P** **11 39 33.2 +0.5**
comp=Z,8.5nm,0.7s,baz=108,slow=4.9,SNR=16
FRU Bishkek 58.28 319 *e*P **P** **11 39 32.5 -0.1**
USP Ospenovka 58.55 319 P **P** **11 39 35.2 +0.8**
SNR=21
AML Almayashu 58.59 317 P **P** **11 39 36.9 +1.7**
SNR=14
EKS2 Erkin-Say 58.77 318 *e*P **P** **11 39 37.3 +1.3**
EKS2 pmax pmax
comp=Z,29nm,0.9s
EKS2 Erkin-Say 58.77 318 P **P** **11 39 37.4 +1.3**
SNR=19
EKS2 Erkin-Say 58.77 318 *e*P **P** **11 39 37.3 +1.3**
comp=Z,29nm,0.9s
ZAA0 Zalesovo Array 58.86 334 *e*P **P** **11 39 35.1 -1.2**
ZALV Zalesovo Beam 58.86 334 P **P** **11 39 35.4 -0.9**
ZALV Zalesovo Beam 58.86 334 P **P** **11 39 35.4 -0.9**
ZALV Zalesovo Beam 58.86 334 P **P** **11 39 35.4 -0.9**
comp=Z,15nm,0.8s,baz=116,slow=6.9,SNR=64
ZALV LR LR 12 05 43.9
comp=Z,104nm,18.2s,baz=70,slow=37
KBL Kabul 59.29 308 *e*P **P** **11 39 40.3 +0.4**
KBL pmax pmax
comp=Z,22nm,0.9s
KBL Kabul 59.29 308 *e*P **P** **11 39 40.3 +0.4**
comp=Z,22nm,0.9s
KURBB Kurchatov Arra 59.86 328 P **P** **11 39 43.3 0.0**
comp=Z,99nm,0.8s,baz=125,slow=6.2,SNR=653
KURK Kurchatov 59.87 328 P **P** **11 39 42.7 -0.6**
comp=Z,1μm,0.7s
KURK Kurchatov 59.87 328 P **P** **11 39 43.3 0.0**
KURK Kurchatov 59.87 328 P **P** **11 39 43.3 0.0**
NVS Novosibirsk 60.14 334 ⇑*i*P **P** **11 39 43.6 -1.5**
NVS *e*S **S** **11 47 54.9 -2.3**
NVS pmax pmax
comp=N,23nm,1.0s
NVS pmax pmax
comp=E,22nm,1.0s
NVS pmax pmax
comp=Z,55nm,1.0s
NVS smax smax
comp=N,7.0nm,1.8s
KK31 Karatay Array 61.14 317 P **P** **11 39 51.6 -0.6**
KK31 pmax pmax
comp=Z,23nm,0.8s
KKAR Karatay Array 61.14 317 *e*P **P** **11 39 52.1 -0.1**
KKAR pmax pmax
comp=Z,19nm,0.8s
KKAR Karatay Array 61.14 317 *e*P **P** **11 39 52.1 -0.1**
comp=Z,19nm,0.8s
FX1 Attu Island--F 62.44 31 P **P** **11 40 01.2 +0.6**
FX1 Attu Island--F 62.44 31 P **P** **11 40 01.2 +0.6**
comp=Z,26nm,0.8s,baz=248,slow=11,SNR=15
BVAR Borovoye Array 65.43 327 P **P** **11 40 20.6 +0.2**
BVAR Borovoye Array 65.43 327 P **P** **11 40 20.6 +0.2**
BVAR Borovoye Array 65.43 327 P **P** **11 40 20.6 +0.2**
comp=Z,65nm,0.9s,baz=126,slow=7.5,SNR=150
BRVK Borovoye 65.50 327 P **P** **11 40 21.8 +0.9**
comp=Z,600nm,1.0s,SNR=31
BRVK Borovoye 65.50 327 *e*P **P** **11 40 20.5 -0.4**
BRVK pmax pmax
comp=Z,110nm,1.0s
BRVK Borovoye 65.50 327 P **P** **11 40 21.1 +0.2**
SNR=46
BRVK Borovoye 65.50 327 *e*P **P** **11 40 20.5 -0.4**
comp=Z,110nm,1.0s
ZRNK Zerenda 66.15 327 P **P** **11 40 24.3 -0.7**
ZRNK pmax pmax
comp=Z,88nm,1.0s
TIXI Tiksi 67.03 1 *d i*P **P** **11 40 28.4 -1.9**
TIXI pmax pmax
comp=Z,20nm,1.7s
BILL Bilibino 69.29 16 ⇑*e*P **P** **11 40 43.8 -0.8**
BILL *e* 11 43 16.6
BILL *e*S S 11 49 40.8 -8.8
BILL pmax pmax
comp=Z,7.0nm,1.2s
BILL Bilibino 69.29 16 *e*P **P** **11 40 43.3 -1.3**
comp=Z,9.9nm,1.3s
AB31 Akbulak array 70.12 321 P **P** **11 40 49.7 -0.4**
AB31 pmax pmax
comp=Z,15nm,0.8s
ABKAR Akbulak array 70.12 321 *e*P **P** **11 40 49.7 -0.4**
comp=Z,60nm,1.4s
CASY Casey 71.42 186 *e*P **P** **11 40 56.6 -0.9**
comp=Z,3.8nm,0.9s
AKTO Aktyubinsk 71.65 322 P **P** **11 40 59.1 -0.2**
AKTO Aktyubinsk 71.65 322 P **P** **11 40 59.1 -0.2**
AKTO Aktyubinsk 71.65 322 P **P** **11 40 59.1 -0.2**
comp=Z,9.8nm,0.6s,baz=104,slow=7.0,SNR=36
AKTO LR LR 12 15 58.9
comp=Z,169nm,19.7s,baz=289,slow=39
DRV Dumont d'Urvil 71.95 174 SP SKiKP 11 51 16.0 +39
DRV SS SS 11 55 12.0 +15
DRV L L 11 58 00.0
DRV R 12 04 00.0
SVE Sverdlovsk 72.11 329 ⇓*e*P **P** **11 41 01.5 -0.4**
SVE pmax pmax
comp=Z,46nm,1.4s
ARU Arti 73.06 328 *c i*P **P** **11 41 06.4 -1.2**
ARU S **S** **11 50 32.4 -1.2**
ARU pmax pmax
comp=Z,42nm,1.7s
SOKR Solikamsk 74.92 331 *d i*P **P** **11 41 18.3 0.0**
SOKR pmax pmax
comp=Z,20nm,1.1s
ZEI Tsey 80.05 312 *e*P **P** **11 41 46.8 -0.9**
ZEI pmax pmax
comp=Z,20nm,0.9s
KBZ Khabaz 80.82 313 P **P** **11 41 51.5 -0.1**
KBZ Khabaz 80.82 313 P **P** **11 41 51.5 -0.1**
KBZ Khabaz 80.82 313 P **P** **11 41 51.5 -0.1**
comp=Z,7.4nm,1.1s,baz=112,slow=3.9,SNR=11
KBZ LR LR 12 23 10.0
comp=Z,150nm,18.9s,baz=262,slow=40
KIV Kislovodsk 80.98 314 *e*P **P** **11 41 52.0 -0.6**
KIV *e*S **S** **11 51 55.9 -4.8**
KIV pmax pmax
comp=Z,13nm,0.9s
ATD Arta Tunnel 80.99 281 LR LR 12 14 46.6
comp=Z,58nm,21.8s,baz=173,slow=33
KDAK Kodiak Island 82.33 32 P **P** **11 41 59.6 +0.4**
comp=Z,208nm,0.8s,SNR=6.7
KDAK Kodiak Island 82.33 32 P **P** **11 41 59.8 +0.6**
KDAK Kodiak Island 82.33 32 P **P** **11 41 59.8 +0.6**
comp=Z,21nm,0.7s,baz=294,slow=1.9,SNR=23
RSO Redoubt South 82.42 30 *e*P **P** **11 41 59.3 -0.7**
comp=Z,32nm,0.9s
VORD Divnogorie 83.48 321 *e*P P 11 42 01.9 -3.5
VORD pmax pmax
comp=Z,30nm,1.3s
VORD pmax pmax
comp=N,5.0nm,0.3s
VORD pmax pmax
comp=E,20nm,1.1s
VSR Storozhevoye 83.56 321 *e*P **P** **11 42 04.2 -1.6**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=N,3.0nm,0.4s
VSR pmax pmax
comp=E,9.0nm,0.5s
TRF Thorofare Moun 83.75 27 *e*P **P** **11 42 05.5 -1.3**
comp=E,34nm,1.0s
MAW Mawson 83.82 200 P **P** **11 42 06.8 +0.1**
MAW Mawson 83.82 200 P **P** **11 42 06.8 +0.1**
comp=E,4.3nm,0.9s,baz=58,slow=7.8,SNR=8.6
MAW LR LR 12 14 08.2
comp=E,82nm,21.2s,baz=232,slow=32
COLD Coldfoot 83.95 23 *e*P **P** **11 42 07.6 +0.2**
comp=E,46nm,1.1s
MALT Malatya 84.15 308 P **P** **11 42 10.0 +0.7**
MALT pmax pmax
comp=Z,2.0nm,0.7s
MALT Malatya 84.15 308 P **P** **11 42 10.0 +0.7**
comp=Z,2.0nm,0.7s
PMR Palmer 84.23 29 *e*P **P** **11 42 08.1 -0.9**
PMR pmax pmax
comp=Z,39nm,1.1s
PMR Palmer 84.23 29 *e*P **P** **11 42 08.1 -0.9**
comp=Z,39nm,1.1s

MCK	**McKinley**	**84.36**	**27**	*e*P	**P**	**11 42 09.1**	**-0.6**
MCK				pmax	pmax		
	comp=Z,79nm,0.9s						
MCK	**McKinley**	**84.36**	**27**	*e*P	**P**	**11 42 09.1**	**-0.6**
	comp=Z,79nm,0.9s						
TMCR	**Tamitsa**	**84.38**	**334**	*e*P	**P**	**11 42 08.0**	**-1.7**
TMCR				pmax	pmax		
	comp=Z,21nm,0.4s						
MOS	**Moscow**	**84.51**	**325**	*e*P	P	11 42 07.3	-3.2
MOS				pmax	pmax		
	comp=Z,70nm,1.4s						
VNDA	**Vanda**	**84.55**	**172**	P	**P**	**11 42 10.3**	**0.0**
VNDA	**Vanda**	**84.55**	**172**	P	**P**	**11 42 10.3**	**0.0**
	comp=Z,3.1nm,0.9s,baz=315,slow=5.0,SNR=7.5						
VNDA				LR	LR	12 15 07.5	
	comp=Z,83nm,20.8s,baz=326,slow=32						
SML	**Sawmill**	**84.61**	**28**	*e*P	**P**	**11 42 10.3**	**-0.7**
SML				pmax	pmax		
	comp=Z,12nm,1.1s						
SML	**Sawmill**	**84.61**	**28**	*e*P	**P**	**11 42 10.3**	**-0.7**
	comp=Z,12nm,1.1s						
ANN	**Anapa**	**84.76**	**314**	*e*P	**P**	**11 42 10.9**	**-1.1**
ANN				*e*S	S	11 52 31.7	-7.1
ANN				pmax	pmax		
	comp=Z,55nm,1.2s						
COLA	**College**	**84.85**	**25**	*e*P	**P**	**11 42 11.2**	**-0.8**
COLA				pmax	pmax		
	comp=Z,13nm,0.8s						
COLA	**College**	**84.85**	**25**	*e*P	**P**	**11 42 11.2**	**-0.8**
	comp=Z,13nm,0.8s						
OBN	**Obninsk**	**85.12**	**325**	⇓*i*P	**P**	**11 42 12.7**	**-0.9**
OBN				*i* S	SKSac	11 52 28.3	-8.7
OBN				pmax	pmax		
	comp=Z,52nm,0.9s						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s						
ILAR	**Eielson Array**	**85.26**	**25**	P	**P**	**11 42 13.0**	**-1.1**
ILAR	**Eielson Array**	**85.26**	**25**	P	**P**	**11 42 13.0**	**-1.1**
	comp=Z,7.4nm,0.8s,baz=242,slow=4.6,SNR=98						
DIV	**Divide**	**85.85**	**29**	*e*P	**P**	**11 42 17.4**	**+0.1**
	comp=Z,18nm,1.0s						
PAX	**Paxson**	**85.93**	**27**	*e*P	**P**	**11 42 16.8**	**-0.8**
PAX				pmax	pmax		
	comp=Z,16nm,1.3s						
PAX	**Paxson**	**85.93**	**27**	*e*P	**P**	**11 42 16.8**	**-0.8**
	comp=Z,16nm,1.3s						
APA	**Apatity**	**86.23**	**337**	⇑*e*P	**P**	**11 42 19.4**	**+0.5**
APA				MLR	MLR		
	comp=Z,400nm,17.0s						
MENT	**Mentasta**	**86.73**	**27**	*e*P	**P**	**11 42 20.8**	**-0.7**
KMBO	**Kilima Mbogo**	**87.41**	**269**	P	**P**	**11 42 26.1**	**+0.1**
KMBO	**Kilima Mbogo**	**87.41**	**269**	P	**P**	**11 42 26.1**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=53,slow=5.1,SNR=4.2						
KMBO				LR	LR	12 17 27.7	
	comp=Z,84nm,18.3s,baz=93,slow=33						
EIL	**Elat**	**87.42**	**299**	LR	LR	12 22 28.3	
	comp=Z,92nm,20.6s,baz=278,slow=36						
JOF	**Joensuu**	**87.43**	**333**	*e*p	**P**	**11 42 23.3**	**-1.5**
	comp=Z,11nm,0.6s						
JOF	**Joensuu**	**87.43**	**333**	*e*P	**P**	**11 42 23.3**	**-1.5**
JOF				pmax	pmax		
	comp=Z,11nm,0.6s						
PPT	**Papeete**	**87.43**	**108**	LR	LR	12 15 11.4	
	comp=Z,142nm,20.1s,baz=253,slow=31						
EGAK	**Eagle**	**87.71**	**25**	*e*P	**P**	**11 42 25.6**	**-0.6**
	comp=Z,5.9nm,0.8s						
BR131	**Keskin Array S**	**87.81**	**309**	*e*P	**P**	**11 42 27.4**	**0.0**
	comp=Z,3.7nm,0.8s						
BRTR	**Keskin Array B**	**87.81**	**309**	P	**P**	**11 42 26.1**	**-1.3**
BRTR	**Keskin Array B**	**87.81**	**309**	P	**P**	**11 42 26.1**	**-1.3**
	comp=Z,4.1nm,0.9s,baz=115,slow=4.6,SNR=16						
ARCES	**ARCESS Array B**	**88.90**	**340**	P	**P**	**11 42 30.5**	**-1.2**
ARCES	**ARCESS Array B**	**88.90**	**340**	P	**P**	**11 42 30.5**	**-1.2**
	comp=Z,9.8nm,0.9s,baz=58,slow=5.4,SNR=9.2						
ARCES				LR	LR	12 31 39.9	
	comp=Z,89nm,18.1s,baz=80,slow=42						
KBS	**Kingsbay**	**89.78**	**350**	*e*P	**P**	**11 42 34.9**	**-0.8**
KBS				pmax	pmax		
	comp=Z,25nm,2.5s						
KAF	**Kangasniemi**	**89.84**	**332**	*e*p	**P**	**11 42 34.5**	**-1.7**
	comp=Z,8.1nm,0.8s						
KAF	**Kangasniemi**	**89.84**	**332**	*e*P	**P**	**11 42 34.5**	**-1.7**
KAF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AKASG	**Malin Array Be**	**89.86**	**321**	P	**P**	**11 42 35.5**	**-1.1**
AKASG	**Malin Array Be**	**89.86**	**321**	P	**P**	**11 42 35.5**	**-1.1**
AKASG	**Malin Array Be**	**89.86**	**321**	P	**P**	**11 42 35.5**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=64,slow=5.1,SNR=11						
AKASG				LR	LR	12 27 02.5	
	comp=Z,167nm,21.8s,baz=110,slow=38						
FINES	**FINESS Array B**	**90.06**	**332**	P	**P**	**11 42 35.8**	**-1.5**
FINES	**FINESS Array B**	**90.06**	**332**	P	**P**	**11 42 35.8**	**-1.5**
	comp=Z,6.8nm,0.8s,baz=108,slow=6.2,SNR=18						
FINES				LR	LR	12 25 36.8	
	comp=Z,157nm,21.7s,baz=53,slow=37						
INK	**Inuvik**	**90.16**	**21**	P	**P**	**11 42 36.5**	**-1.0**
INK	**Inuvik**	**90.16**	**21**	P	**P**	**11 42 36.5**	**-1.0**
	comp=Z,8.8nm,0.9s,baz=294,slow=4.3,SNR=12						
SKAG	**Skagway**	**91.20**	**30**	*e*P	**P**	**11 42 42.4**	**-0.3**
	comp=Z,10.0nm,0.9s						
BUR08	**Bucovina Ar. S**	**92.93**	**318**	*e*P	**P**	**11 42 50.0**	**-1.1**
WRAK	**Wrangell Islan**	**93.40**	**33**	*e*P	**P**	**11 42 52.7**	**-0.1**
	comp=Z,114nm,1.0s						
DLBC	**Dease Lake**	**94.11**	**31**	P	**P**	**11 42 56.0**	**-0.2**
DLBC	**Dease Lake**	**94.11**	**31**	P	**P**	**11 42 56.0**	**-0.2**
	comp=Z,6.1nm,0.9s,baz=288,slow=5.1,SNR=12						
UZH	**Uzhgorod**	**94.65**	**319**	*e*P	**P**	**11 42 58.7**	**-0.1**
UZH				*e*		11 43 05.7	
CRVS	**Cervenica-Dubn**	**95.13**	**320**	*e*P	**P**	**11 42 59.5**	**-1.5**
CRVS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CRVS	**Cervenica-Dubn**	**95.13**	**320**	*e*P	**P**	**11 42 59.5**	**-1.5**
KECS	**Kecovo**	**95.85**	**320**	*e*P	**P**	**11 43 04.7**	**+0.4**
KECS				pmax	pmax		
	comp=Z,2.0nm,1.2s						
KECS	**Kecovo**	**95.85**	**320**	*e*P	**P**	**11 43 04.6**	**+0.3**
HFS	**Hagfors**	**96.25**	**332**	LR	LR	12 33 01.4	
	comp=Z,154nm,18.0s,baz=257,slow=40						
NB2	**NORSAR Subarra**	**97.06**	**333**	P	**P**	**11 43 07.3**	**-2.2**
	comp=Z,0.2nm,0.7s,baz=69,slow=5.3						
NOA	**NORSAR Array B**	**97.06**	**333**	P	**P**	**11 43 08.0**	**-1.6**
NOA	**NORSAR Array B**	**97.06**	**333**	P	**P**	**11 43 07.9**	**-1.6**
	comp=Z,2.7nm,0.8s,baz=68,slow=4.6,SNR=9.9						
NOA				LR	LR	12 30 36.8	
	comp=Z,118nm,20.7s,baz=60,slow=38						
VRAC	**Vranov**	**98.12**	**321**	LR	LR	12 34 42.3	
	comp=Z,88nm,18.3s,baz=183,slow=40						
YKA	**Yellowknife Ar**	**99.60**	**24**	P	**Pdif**	**11 43 20.1**	**-0.7**
YKA	**Yellowknife Ar**	**99.60**	**24**	P	**Pdif**	**11 43 20.1**	**-0.7**
	comp=Z,3.1nm,0.9s,baz=302,slow=4.9,SNR=20						
SNAA	**Sanae**	**105.48**	**195**	*e*PKKPbc	PKKPbc	11 59 23.8	-4.3
SNAA	**Sanae**	**105.48**	**195**	*e*PKKPab	PKKPab	11 59 41.3	-1.6
NVAR	**Mina Array Bea**	**107.93**	**47**	Pdif	**Pdif**	**11 44 00.5**	**+1.7**
NVAR	**Mina Array Bea**	**107.93**	**47**	Pdiff	**Pdif**	**11 44 00.5**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=270,slow=4.5,SNR=3.1						
SCHQ	**Schefferville**	**120.03**	**8**	PKP	**PKPdf**	**11 48 27.8**	**-0.5**
SCHQ	**Schefferville**	**120.03**	**8**	PKP	**PKPdf**	**11 48 27.8**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=272,slow=13,SNR=3.7						
X26A	**CR and CF Fran**	**120.11**	**45**	P	**PKPdf**	**11 48 28.6**	**-0.7**
	baz=120						
U28A	**Mallet**	**120.26**	**43**	P	**PKPdf**	**11 48 29.2**	**-0.2**
	baz=120						
MNTX	**Cornudas Mount**	**120.35**	**49**	*e*PKPdf	**PKPdf**	**11 48 29.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**120.60**	**288**	PKP	**PKPdf**	**11 48 29.4**	**-1.1**
TORD	**Torodi Ar. Bea**	**120.60**	**288**	PKP	**PKPdf**	**11 48 29.4**	**-1.1**
	comp=Z,3.0nm,0.9s,baz=49,slow=2.1,SNR=12						
Z27A	**Tatum**	**121.16**	**46**	P	**PKPdf**	**11 48 30.8**	**-0.4**
	baz=121						
626A	**Big Bend Ranch**	**122.30**	**51**	P	**PKPdf**	**11 48 33.2**	**-0.3**
	baz=122						
527A	**Woodward Ranch**	**122.42**	**50**	P	**PKPdf**	**11 48 33.4**	**-0.4**
	baz=122						
328A	**Wristen Ranch,**	**122.42**	**48**	P	**PKPdf**	**11 48 33.4**	**-0.3**
	baz=122						
TXAR	**Lajitas Array**	**122.76**	**51**	PKP	**PKPdf**	**11 48 34.7**	**+0.2**
TXAR	**Lajitas Array**	**122.76**	**51**	PKP	**PKPdf**	**11 48 34.7**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=251,slow=0.7,SNR=8.9						
428A	**Kincaid Ranch,**	**122.84**	**49**	P	**PKPdf**	**11 48 34.8**	**+0.2**
	baz=123						
627A	**Terlingua Ranc**	**122.92**	**50**	P	**PKPdf**	**11 48 34.8**	**+0.1**
	baz=123						
528A	**Cox Ranch, San**	**123.04**	**49**	P	**PKPdf**	**11 48 34.8**	**-0.1**
	baz=123						
628A	**Black Gap, Mar**	**123.28**	**50**	P	**PKPdf**	**11 48 34.8**	**-0.5**
	baz=123						
429A	**Davenport Ranc**	**123.48**	**49**	P	**PKPdf**	**11 48 35.6**	**-0.2**
	baz=123						
529A	**Stev Forest Ra**	**123.48**	**49**	P	**PKPdf**	**11 48 35.6**	**-0.2**
	baz=123						
530A	**J-C Ranch, Com**	**124.14**	**49**	P	**PKPdf**	**11 48 37.1**	**+0.2**
	baz=124						
531A	**Rocksprings**	**124.72**	**48**	P	**PKPdf**	**11 48 37.6**	**-0.5**
	baz=125						
JCT	**Junction City**	**125.11**	**48**	P	**PKPdf**	**11 48 38.7**	**-0.2**
	baz=125						
532A	**Rocksprings**	**125.21**	**48**	P	**PKPdf**	**11 48 39.0**	**-0.1**
	baz=125						
632A	**Uvalde**	**125.62**	**49**	P	**PKPdf**	**11 48 39.8**	**0.0**
	baz=126						
TRQA	**Tornquist**	**146.16**	**171**	*e*PKPdf	**PKPdf**	**11 49 17.3**	**-0.1**
CFAA	**Coronel Fontan**	**150.56**	**157**	PKPbc	**PKPbc**	**11 49 29.7**	**-0.5**
CFAA	**Coronel Fontan**	**150.56**	**157**	PKPbc	**PKPbc**	**11 49 29.7**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=140,slow=3.6,SNR=8.9						

PRU 02 11:39:20.1, 49.89N×18.45E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.20**	**255**	*e*PG	Pg	11 39 24.2	+0.2
OKC				*e*SG	Sg	11 39 27.1	+0.4
	comp=Z,14nm,0.2s						
OJC	**Ojcow**	**0.93**	**69**	*e*Pg	Pg	11 39 38.3	+0.3
OJC				*e*Sg	Sb	11 39 51.2	-0.9
DPC	**Dobruska-Polom**	**1.45**	**289**	*e*PG	Pn	11 39 46.5	-1.1
DPC				*e*SG	Sb	11 40 06.9	-0.1

IDC 02 11:40:21.6±2.0, 5.14S×139.72E, h0km, mb3.6/1, mb1 3.8/3, mb1mx3.5/16, mbtmp3.5/3, ML3.5/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/25, Error ellipse: s-maj=128.4km s-min=31.1km az=110.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.62**	**199**	Pn	Pn	11 44 04.3	+1.0
	0.2nm,0.3s,baz=16,slow=11,SNR=7.8						
WRA				Sn	Sn	11 46 56.0	-1.2
	0.1nm,0.3s,baz=22,slow=22,SNR=3.5						
ASAR	**Alice Springs**	**19.25**	**196**	P	P	11 44 47.6	-0.2
	0.1nm,0.3s,baz=29,slow=10,SNR=18						
JNU	**Nakatsue**	**38.96**	**348**	LR	LR	12 00 54.7	
	comp=Z,80nm,19.1s,baz=226,slow=32						
ILAR	**Eielson Array**	**87.61**	**24**	P	P	11 53 11.6	0.0
	0.3nm,0.7s,baz=257,slow=5.6,SNR=4.4						

VIE 02 11:41:47.7±0.2, 47.54N×14.95E, h0km, mb1.4/2, ML1.0/4, 5C-1D, Error ellipse: s-maj=2.0km s-min=1.1km az=26.0 4 km ENE of Erzberg Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSA	**Arzberg**	**0.48**	**126**	⇑*i*Pg	Pg	11 41 57.1	+0.1
	4.5nm,0.3s						
ARSA				⇑*i*Sg	Sg	11 42 03.5	+0.2
	3.1nm,0.3s						
MOA	**Molln**	**0.56**	**304**	⇑*i*Pg	Pg	11 41 58.4	-0.2
	0.6nm,0.2s						
MOA				⇑*i*Sg	Sg	11 42 06.3	+0.4
	3.1nm,0.3s						
CONA	**Conrad Observa**	**0.73**	**57**	⇓*i*Pg	Pg	11 42 02.0	+0.1
	0.9nm,0.2s						
CONA				⇑*i*Sg	Sg	11 42 11.8	+0.4
	6.4nm,0.6s						

*ISCJB **02** 11:47:26.0±0.5, 14.96N±0.05×92.41W±0.04, h115km±5km, mb3.8/5, Error ellipse: s-maj=8.9km s-min=4.7km az=31.0*
*CASC **02** 11:47:26.0±1.2, 15.00N×92.44W, h104km±19km, MD3.9*
*MEX **02** 11:47:27.0±1.1, 14.85N×92.36W, h107km±9km, MD4.3*
*IDC **02** 11:47:34.0±4.3, 15.19N×91.79W, h162km±38km, mb3.4/5, mb1 3.5/6, mb1mx3.3/24, mbtmp3.2/6, MS2.9/1, Ms1 2.9/1, ms1mx2.3/24, Error ellipse: s-maj=36.8km s-min=20.6km az=50.0*

ISC 02 11:47:26.8±0.9, 14.94N±0.05×92.42W±0.04, h104km±7km, n25, σ1.51/33, mb3.9/5, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.15**	**100**	*e*P	**Pn**	**11 47 40.0**	**-1.2**
THIG				*i* S	**Sn**	**11 47 51.4**	**-0.7**
JAT	**Jato**	**0.97**	**129**	⇓*i*P	**Pn**	**11 47 47.5**	**+0.3**
PCIG		**1.09**	**315**	*e*P	**Pn**	**11 47 49.1**	**+0.7**
PCIG				*i* S	**Sn**	**11 48 06.1**	**+1.4**
CCIG	**Comitan**	**1.37**	**11**	*e*P	**Pn**	**11 47 52.5**	**+0.7**
CCIG				*i* S	**Sn**	**11 48 11.2**	**+0.4**
FUG	**Fuego 3**	**1.60**	**107**	*e*P	**Pn**	**11 47 54.5**	**-0.2**
PCG	**Pacaya**	**1.83**	**107**	*e*P	**Pn**	**11 47 57.8**	**+0.1**
PCG				*e*S	**Sn**	**11 48 23.2**	**+2.1**
TGIG		**1.95**	**340**	*e*P	**Pn**	**11 47 58.7**	**-0.3**
TGIG				*i* S	**Sn**	**11 48 24.1**	**+0.6**
NBG	**Las Nubes**	**2.03**	**100**	*e*P	**Pn**	**11 48 00.5**	**+0.3**
MRL	**Marmol**	**2.64**	**87**	*e*P	**Pn**	**11 48 08.2**	**+0.2**
RBDL	**Robledal**	**2.77**	**107**	*e*P	**Pn**	**11 48 09.4**	**-0.3**
SBLS	**San Blas**	**2.92**	**112**	*e*P	**Pn**	**11 48 12.8**	**+1.0**
SBLS				*e*S	**Sn**	**11 48 47.6**	**+1.2**
SNJE	**San Jose**	**2.92**	**111**	*e*P	**Pn**	**11 48 12.3**	**+0.4**
HUIG	**Huatulco**	**3.66**	**284**	*i* P	**Pn**	**11 48 21.9**	**+0.5**
HUIG				*i* S	**Sn**	**11 48 59.6**	**-4.0**
SCIG	**Sabancuy**	**4.18**	**16**	*i* P	**Pn**	**11 48 29.3**	**+0.8**
SCIG				*i* S	**Sn**	**11 49 15.8**	**-0.5**
VHO	**Vista Hermosa**	**4.66**	**298**	*i* P	Pn	11 48 44.0	+8.9
VHO				*i* S	Sn	11 49 36.3	+8.0
PNIG	**Pinotepa**	**5.69**	**286**	*e*P	**Pn**	**11 48 49.7**	**+0.9**
PNIG				*i* S	**Sn**	**11 49 52.9**	**0.0**
UTMO	**Huajuapan**	**5.92**	**300**	*i* P	**Pn**	**11 48 53.0**	**+0.9**
UTMO				*i* S	**Sn**	**11 50 00.2**	**+1.4**
TEIG	**Tepich**	**6.58**	**36**	P	**Pn**	**11 48 59.5**	**-1.5**
	55nm,0.3s,baz=236,slow=2.6,SNR=105						
TEIG				S	**Sn**	**11 50 11.3**	**-3.2**
	23nm,0.3s,baz=38,slow=22,SNR=22						
TXAR	**Lajitas Array**	**17.70**	**326**	P	**Pn**	**11 51 30.5**	**+3.7**
	0.1nm,0.3s,baz=153,slow=8.1,SNR=3.1						
TKL	**Tuckaleechee C**	**22.05**	**19**	LR	LR	12 02 38.9	
	comp=Z,30nm,18.2s,baz=15,slow=42						
NVAR	**Mina Array Bea**	**32.70**	**321**	P	P	11 53 53.6	+4.0
	2.3nm,0.6s,baz=133,slow=8.7,SNR=28						
SIV	**San Ignacio**	**43.62**	**134**	P	**P**	**11 55 20.5**	**-0.7**
	1.2nm,0.6s,baz=310,slow=3.0,SNR=4.7						
SCHQ	**Schefferville**	**44.49**	**21**	P	**P**	**11 55 25.4**	**-2.3**
	1.5nm,0.8s,baz=228,slow=12,SNR=3.2						
YKA	**Yellowknife Ar**	**50.03**	**347**	P	**P**	**11 56 09.9**	**-0.6**
	0.4nm,0.4s,baz=136,slow=9.1,SNR=9.8						
ILAR	**Eielson Array**	**61.83**	**337**	P	**P**	**11 57 35.4**	**+0.8**
	0.5nm,0.6s,baz=120,slow=6.2,SNR=9.9						

*IDC **02** 11:47:36.3±0.8, 11.83N×143.89E, h0km, mb4.0/15, mb1 4.2/15, mb1mx4.1/28, mbtmp4.0/15, MS3.4/1, Ms1 3.4/1, ms1mx2.8/40, Error ellipse: s-maj=24.0km s-min=17.7km az=102.0*
*ISCJB **02** 11:47:38.8±0.6, 11.79N±0.08×143.74E±0.10, h26km, mb4.2/19, MS3.2/1, Error ellipse: s-maj=16.2km s-min=8.6km az=37.4*
*NEIC **02** 11:47:40.7±3.8, 11.81N×143.83E, h28km±27km, mb4.5/3, Error ellipse: s-maj=13.9km s-min=10.4km az=123.0*

ISC 02 11:47:40.5±0.8, 11.8N±0.1×143.9E±0.1, h26km, n37, σ0.88/37, mb4.2/19, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.99**	**29**	*e*Pn	**Pn**	**11 48 13.4**	**+0.9**
GUMO				*e*Sn	**Sb**	**11 48 39.1**	**-1.3**
TGY	**Tagaytay City**	**22.46**	**278**	P	**P**	**11 52 37.7**	**-0.2**
TGY	**Tagaytay City**	**22.46**	**278**	P	**P**	**11 52 37.7**	**-0.2**
	66nm,0.3s,baz=79,slow=10,SNR=2.4						
MJAR	**Matsushiro Arr**	**25.12**	**349**	P	**P**	**11 53 01.9**	**-1.4**
MJAR	**Matsushiro Arr**	**25.12**	**349**	P	**P**	**11 53 01.9**	**-1.4**
	1.4nm,0.8s,baz=173,slow=9.7,SNR=3.8						
HNR	**Honiara**	**26.50**	**142**	LR	LR	12 01 55.0	
	comp=Z,71nm,19.5s,baz=309,slow=32						
KSRS	**Korea Array**	**29.24**	**333**	P	**P**	**11 53 40.2**	**-0.1**
	0.3nm,0.3s,baz=142,slow=10.0,SNR=3.5						
KSAR	**Wonju Array Be**	**29.25**	**333**	P	**P**	**11 53 40.2**	**-0.1**
WRA	**Warramunga Arr**	**32.95**	**197**	P	**P**	**11 54 12.7**	**-0.5**
WRA	**Warramunga Arr**	**32.95**	**197**	P	**P**	**11 54 12.7**	**-0.5**
	1.0nm,0.6s,baz=20,slow=9.7,SNR=17						
ASAR	**Alice Springs**	**36.61**	**195**	P	**P**	**11 54 43.8**	**-1.0**
ASAR	**Alice Springs**	**36.61**	**195**	P	**P**	**11 54 43.8**	**-1.0**
	0.2nm,0.5s,baz=18,slow=10,SNR=8.0						
CMAR	**Chiang Mai Arr**	**43.77**	**284**	P	**P**	**11 55 45.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**43.77**	**284**	P	**P**	**11 55 45.2**	**+0.8**
	0.7nm,0.6s,baz=91,slow=5.3,SNR=4.8						
SONM	**Songino Array**	**47.61**	**326**	P	**P**	**11 56 14.9**	**+0.4**
SONM	**Songino Array**	**47.61**	**326**	P	**P**	**11 56 14.9**	**+0.4**
	0.6nm,0.4s,baz=160,slow=9.1,SNR=5.0						
MKAR	**Makanchi Array**	**62.08**	**317**	P	**P**	**11 57 59.3**	**+0.2**
MKAR	**Makanchi Array**	**62.08**	**317**	P	**P**	**11 57 59.3**	**+0.2**
	1.2nm,0.7s,baz=96,slow=8.7,SNR=7.7						
ZALV	**Zalesovo Beam**	**62.48**	**325**	P	**P**	**11 58 01.2**	**-0.3**
ZALV	**Zalesovo Beam**	**62.48**	**325**	P	**P**	**11 58 01.2**	**-0.3**
	0.7nm,0.3s,baz=108,slow=8.0,SNR=3.8						
KURK	**Kurchatov**	**65.29**	**321**	P	**P**	**11 58 20.4**	**+0.2**
KURBB	**Kurchatov Arra**	**65.33**	**320**	P	**P**	**11 58 20.4**	**0.0**
	5.9nm,0.9s,baz=104,slow=6.3,SNR=28						
KKAR	**Karatay Array**	**69.87**	**312**	*e*P	**P**	**11 58 49.2**	**-0.1**
	3.5nm,0.8s						
ILAR	**Eielson Array**	**70.55**	**25**	P	**P**	**11 58 51.9**	**-1.1**
ILAR	**Eielson Array**	**70.55**	**25**	P	**P**	**11 58 51.9**	**-1.1**
	0.5nm,0.4s,baz=251,slow=5.8,SNR=17						
INK	**Inuvik**	**76.34**	**22**	P	**P**	**11 59 28.2**	**+1.2**
INK	**Inuvik**	**76.34**	**22**	P	**P**	**11 59 28.2**	**+1.2**
	3.0nm,0.7s,baz=301,slow=3.7,SNR=6.8						
ABKAR	**Akbulak array**	**77.18**	**318**	*e*P	**P**	**11 59 31.8**	**-0.3**
	1.1nm,0.4s						
YKA	**Yellowknife Ar**	**84.85**	**27**	P	**P**	**12 00 13.5**	**+0.8**
YKA	**Yellowknife Ar**	**84.85**	**27**	P	**P**	**12 00 13.5**	**+0.8**
	0.9nm,0.5s,baz=285,slow=5.0,SNR=14						
NEW	**Newport**	**87.17**	**41**	P	**P**	**12 00 25.8**	**+1.2**
NEW	**Newport**	**87.17**	**41**	P	**P**	**12 00 25.8**	**+1.2**
	2.2nm,0.8s,baz=290,slow=1.9,SNR=4.2						
BMO	**Blue Mountains**	**87.91**	**45**	*e*P	**P**	**12 00 28.5**	**+0.2**
	5.2nm,1.4s						
ARCES	**ARCESS Array B**	**88.44**	**342**	P	**P**	**12 00 30.0**	**-0.1**
ARCES	**ARCESS Array B**	**88.44**	**342**	P	**P**	**12 00 30.0**	**-0.1**
	4.4nm,0.9s,baz=53,slow=4.7,SNR=6.4						
FINES	**FINESS Array B**	**92.32**	**335**	P	**P**	**12 00 46.8**	**-1.5**
FINES	**FINESS Array B**	**92.32**	**335**	P	**P**	**12 00 46.8**	**-1.5**
	2.0nm,0.9s,baz=72,slow=8.2,SNR=4.1						

*CSEM **02** 11:56:05.2, 38.32N×22.06E, h6km, MD2.6, After ATH*

ATH 02 11:56:05.2, 38.32N×22.06E, h6km±3km, MD2.6/5, 6C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRIZ	**Trizonia**	**0.05**	**12**	⇑*i*Pg	Pg	11 56 06.8	+0.2
TRIZ				*e*SG	Sg	11 56 07.7	+0.1
TRIZ	**Trizonia**	**0.05**	**12**	⇑*i*Pg	Pg	11 56 06.8	+0.2
TRIZ				*e*Sg	Sg	11 56 07.7	+0.1
KALE	**Kalithea**	**0.10**	**41**	⇑*i*PG	Pg	11 56 07.5	+0.1
KALE				*e*SG	Sg	11 56 09.3	+0.3
KALE	**Kalithea**	**0.10**	**41**	⇑*i*Pg	Pg	11 56 07.5	+0.1
KALE				*e*Sg	Sg	11 56 09.3	+0.3
LAKA	**Lakka**	**0.10**	**219**	⇑*i*PG	Pg	11 56 07.8	+0.3
LAKA	**Lakka**	**0.10**	**219**	⇑*i*Pg	Pg	11 56 07.8	+0.3
KLV	**Kalavryta, Ach**	**0.28**	**165**	*e*PG	Pg	11 56 10.5	-0.4
KLV				*e*SG	Sg	11 56 15.2	+0.5
KLV	**Kalavryta, Ach**	**0.28**	**165**	*e*Pg	Pg	11 56 10.5	-0.4
KLV				*e*Sg	Sg	11 56 15.2	+0.5
GUR	**Goura**	**0.44**	**150**	*e*PG	Pg	11 56 13.3	-0.6
GUR	**Goura**	**0.44**	**150**	*e*Pg	Pg	11 56 13.3	-0.6

*CSEM **02** 11:57:35.1±0.1, 40.81N×27.72E, h10km, MD2.7, Error ellipse: s-maj=1.9km s-min=1.3km az=161.0*
*DDA **02** 11:57:35.6, 40.80N×27.70E, h7km, ML3.2*

ISK 02 11:57:34.7, 40.80N×27.73E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKR	**Tekirdag**	**0.24**	**322**	*e*PG	Pg	11 57 40.2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**0.61**	**108**	P	Pg	12 02 58.6	-0.9
JAMA	**Jama**	**1.25**	**62**	S	Sg	12 03 27.7	-0.4
JAMA	**Jama**	**1.25**	**62**	P	Pg	12 03 11.5	-0.3
MAG1	**Magdalena**	**1.72**	**63**	P	Pb	12 03 19.2	-0.7
JUA2	**San Juan 2**	**2.77**	**77**	P	Pn	12 03 34.4	+0.9
PINO	**Pino**	**2.78**	**76**	P	Pn	12 03 34.0	+0.1
GGP	**Refugio Guagua**	**2.79**	**76**	P	Pn	12 03 32.7	-1.2
CAMI	**Rancho Maria**	**2.80**	**86**	P	Pn	12 03 35.7	+1.7
BNAS	**Cotopaxi Volca**	**2.83**	**86**	P	Pn	12 03 36.4	+2.1
BREF	**Cotopaxi Volca**	**2.87**	**86**	P	Pn	12 03 36.8	+1.7
PITA	**Cotopaxi Volc**	**2.89**	**84**	P	Pn	12 03 36.5	+1.4
BMAS	**Trigal station**	**2.90**	**103**	P	Pn	12 03 37.6	+2.5
VC1	**Cotopaxi 1**	**2.91**	**86**	P	Pb	12 03 38.4	-2.5
BTAM	**Cotopaxi Volca**	**2.91**	**86**	P	Pn	12 03 38.1	+2.6
ARRY	**Arrayan**	**2.92**	**103**	P	Pn	12 03 37.1	+1.7
PAT1	**Patacocha**	**2.94**	**103**	P	Pn	12 03 37.7	+1.9
TAMB	**Tambo**	**2.94**	**87**	P	Pn	12 03 38.6	+2.7
BPAT	**Tungurahua Vol**	**2.94**	**103**	P	Pn	12 03 37.7	+1.9
BRUN	**Tungurahua Vol**	**2.94**	**101**	P	Pn	12 03 37.7	+2.0
OTAV	**Otavalo**	**3.05**	**69**	P	Pn	12 03 37.0	-0.4

*ATH **02** 12:10:12.2, 40°.92N×27°.93E, h32$^{km}_{\pm}$23^{km}, MD3.5/6*
*CSEM **02** 12:10:14.3±0.1, 40°.83N×27°.70E, h5^{km}, MD3.2, Error ellipse: s-maj=2.4km s-min=1.8km az=172.0*
*ISCJB **02** 12:10:14.0±0.4, 40°.84N±0°.02×27°.70E±0°.02, h5$^{km}_{\pm}$3^{km}, Error ellipse: s-maj=3.6km s-min=2.8km az=172.0*
*DDA **02** 12:10:14.5, 40°.81N×27°.71E, h7^{km}, ML3.5*
*ISK **02** 12:10:14.0, 40°.81N×27°.70E, h8^{km}, MD3.2, ML3.0*
*THE **02** 12:10:15.4, 40°.88N×27°.72E, h12$^{km}_{\pm}$2^{km}, ML3.5/1, Error ellipse: s-maj=2.2km s-min=0.6km az=106.0*

ISC 02 12:10:14.9±0.9, 40°.81N±0°.02×27°.71E±0°.02, h10$^{km}_{\pm}$7^{km}, n110, σ0§82/140, 7C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKR	**Tekirdag**	**0.22**	**324**	*e*PG	**Pg**	**12 10 19.4**	**-0.2**
TKR				*e*SG	**Sg**	**12 10 23.0**	**+0.2**
TKR	**Tekirdag**	**0.22**	**324**	*e*Pg	**Pg**	**12 10 19.4**	**-0.2**
TKR				*e*Sg	**Sg**	**12 10 23.0**	**+0.2**
MFT	**Murefte**	**0.33**	**266**	*e*PG	**Pg**	**12 10 21.1**	**-0.4**
MFT	**Murefte**	**0.33**	**266**	*e*Pg	**Pg**	**12 10 21.1**	**-0.4**
SART	**Tekirdag**	**0.42**	**254**	*i* P	**Pg**	**12 10 22.7**	**-0.5**
SART				*i* S	**Sg**	**12 10 29.1**	**+0.4**
SART	**Tekirdag**	**0.42**	**254**	*i* P	**Pg**	**12 10 22.7**	**-0.5**
SART				*i* S	**Sg**	**12 10 29.1**	**+0.4**
RKY	**Sarkoy-Tekirda**	**0.42**	**254**	*e*PG	**Pg**	**12 10 22.5**	**-0.7**
RKY	**Sarkoy-Tekirda**	**0.42**	**254**	*e*Pg	**Pg**	**12 10 22.5**	**-0.7**
KRBG	**Karabiga-Canak**	**0.52**	**217**	*e*PG	**Pg**	**12 10 24.3**	**-0.7**
KRBG	**Karabiga-Canak**	**0.52**	**217**	*e*Pg	**Pg**	**12 10 24.3**	**-0.7**
SLVT	**Silivri**	**0.57**	**42**	*e*PG	**Pg**	**12 10 25.8**	**-0.2**
SLVT	**Silivri**	**0.57**	**42**	*e*Pg	**Pg**	**12 10 25.8**	**-0.2**
ELBA	**Catalca**	**0.64**	**58**	*i* P	**Pg**	**12 10 27.2**	**-0.2**
ELBA	**Catalca**	**0.64**	**58**	*i* P	**Pg**	**12 10 27.2**	**-0.2**
KCTX	**Karacabey (Bur**	**0.73**	**137**	*e*PG	**Pg**	**12 10 28.6**	**-0.5**
KCTX	**Karacabey (Bur**	**0.73**	**137**	*e*Pg	**Pg**	**12 10 28.6**	**-0.5**
CTKS	**Kestanelik-??a**	**0.74**	**54**	*e*PG	**Pg**	**12 10 28.9**	**-0.3**
CTKS	**Kestanelik-??a**	**0.74**	**54**	*e*Pg	**Pg**	**12 10 28.9**	**-0.3**
GONE	**Gonen-Balikesi**	**0.76**	**181**	*e*PG	**Pg**	**12 10 29.2**	**-0.4**
GONE	**Gonen-Balikesi**	**0.76**	**181**	*e*Pg	**Pg**	**12 10 29.2**	**-0.4**
CTYL	**Yal??k??y-??at**	**0.80**	**33**	*e*PG	**Pg**	**12 10 29.6**	**-0.7**
CTYL	**Yal??k??y-??at**	**0.80**	**33**	*e*Pg	**Pg**	**12 10 29.6**	**-0.7**
LPK	**Lapseki**	**0.84**	**239**	*e*PG	**Pg**	**12 10 30.0**	**-1.2**
LPK	**Lapseki**	**0.84**	**239**	*e*Pg	**Pg**	**12 10 30.0**	**-1.2**
BGKT	**Bogazkoy**	**0.89**	**65**	*e*PG	**Pb**	**12 10 31.4**	**-1.0**
BGKT	**Bogazkoy**	**0.89**	**65**	*e*Pg	**Pb**	**12 10 31.4**	**-1.0**
ARMT	**Armutlu**	**0.91**	**105**	*e*PG	**Pb**	**12 10 32.2**	**-0.6**
ARMT	**Armutlu**	**0.91**	**105**	*e*Pg	**Pb**	**12 10 32.2**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.00**	**116**	*e*PG	**Pb**	**12 10 33.7**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.00**	**116**	*e*Pg	**Pb**	**12 10 33.7**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.02**	**247**	*e*PG	**Pb**	**12 10 33.1**	**-1.6**
GELI	**Tayfur-Gelibol**	**1.02**	**247**	*e*Pg	**Pb**	**12 10 33.1**	**-1.6**
ISK	**Istanbul-Kandi**	**1.06**	**75**	*e*PG	**Pb**	**12 10 34.1**	**-1.1**
ISK	**Istanbul-Kandi**	**1.06**	**75**	P	**Pb**	**12 10 34.1**	**-1.1**
ISK				S	**Sg**	**12 10 49.2**	**+0.2**
ISK	**Istanbul-Kandi**	**1.06**	**75**	P	**Pb**	**12 10 34.1**	**-1.1**
ISK				S	**Sg**	**12 10 49.2**	**+0.2**
BALY	**Balya**	**1.07**	**184**	*i* P	**Pb**	**12 10 35.6**	**+0.1**
BALY				*i* S	**Sn**	**12 10 51.5**	**+0.6**
BALY	**Balya**	**1.07**	**184**	*i* P	**Pb**	**12 10 35.6**	**+0.1**
BALY				*i* S	**Sn**	**12 10 51.5**	**+0.6**
KLYT	**Kilyos**	**1.10**	**66**	*e*PN	**Pb**	**12 10 35.5**	**-0.6**
KLYT	**Kilyos**	**1.10**	**66**	*e*Pn	**Pb**	**12 10 35.5**	**-0.6**
BALB	**Balikesir**	**1.17**	**174**	*e*PN	**Pn**	**12 10 37.0**	**-0.4**
BALB	**Balikesir**	**1.17**	**174**	*e*Pn	**Pn**	**12 10 37.0**	**-0.4**
ENEZ	**Enez**	**1.18**	**267**	*e*PN	**Pn**	**12 10 36.6**	**-0.9**
ENEZ	**Enez**	**1.18**	**267**	*e*Pn	**Pn**	**12 10 36.6**	**-0.9**
GEMT	**Gemlik**	**1.19**	**108**	*e*PN	**Pn**	**12 10 36.5**	**-1.0**
GEMT	**Gemlik**	**1.19**	**108**	*e*Pn	**Pn**	**12 10 36.5**	**-1.0**
ALN	**Alexandroupoli**	**1.26**	**275**	P	**Pn**	**12 10 38.0**	**-0.6**
ALN				S	**Sg**	**12 10 55.5**	**-0.1**
ALN	**Alexandroupoli**	**1.26**	**275**	*e*PN	**Pn**	**12 10 38.0**	**-0.6**
ALN				*e*SN	**Sg**	**12 10 56.1**	**+0.5**
ALN	**Alexandroupoli**	**1.26**	**275**	P	**Pn**	**12 10 38.0**	**-0.6**
ALN				S	**Sg**	**12 10 55.5**	**-0.1**
ALN				*e*Sn	**Sg**	**12 10 56.1**	**+0.5**
YLV	**Yalova**	**1.29**	**100**	*e*PN	**Pn**	**12 10 38.8**	**-0.2**
YLV	**Yalova**	**1.29**	**100**	*e*Pn	**Pn**	**12 10 38.8**	**-0.2**
DURS	**Dursunbey**	**1.34**	**154**	*i* P	**Pn**	**12 10 39.2**	**-0.5**
DURS				*i* S	**Sb**	**12 10 57.9**	**+0.5**
DURS	**Dursunbey**	**1.34**	**154**	*i* P	**Pn**	**12 10 39.2**	**-0.5**
DURS				*i* S	**Sb**	**12 10 57.9**	**+0.5**
HRT	**Hereke**	**1.49**	**89**	*e*PN	**Pb**	**12 10 42.1**	**-0.5**
HRT	**Hereke**	**1.49**	**89**	*e*Pn	**Pb**	**12 10 42.1**	**-0.5**
SILT	**Sile**	**1.50**	**76**	*e*PN	**Pb**	**12 10 42.1**	**-0.8**
SILT	**Sile**	**1.50**	**76**	*e*Pn	**Pb**	**12 10 42.1**	**-0.8**
ADVT	**Abdulvahap**	**1.59**	**103**	*e*PN	**Pb**	**12 10 43.9**	**-0.5**
ADVT	**Abdulvahap**	**1.59**	**103**	*e*Pn	**Pb**	**12 10 43.9**	**-0.5**
BOZC	**Bozcaada**	**1.59**	**233**	*i* P	**Pn**	**12 10 42.9**	**-0.2**
BOZC				*i* S	**Sb**	**12 11 05.2**	**+0.7**
AYVA	**Ayvalik**	**1.69**	**208**	*i* P	**Pb**	**12 10 46.2**	**+0.2**
AYVA				*i* S	**Sb**	**12 11 07.3**	**0.0**
AYVA	**Ayvalik**	**1.69**	**208**	*i* P	**Pb**	**12 10 46.2**	**+0.2**
AYVA				*i* S	**Sb**	**12 11 07.3**	**0.0**
SMTH	**Samothraki Isl**	**1.69**	**259**	P	**Pn**	**12 10 43.5**	**-1.0**
SMTH				S	**Sb**	**12 11 06.3**	**-1.1**
SMTH	**Samothraki Isl**	**1.69**	**259**	*e*PN	**Pn**	**12 10 43.3**	**-1.2**
SMTH				*e*SN	**Sb**	**12 11 08.0**	**+0.6**
SMTH	**Samothraki Isl**	**1.69**	**259**	P	**Pn**	**12 10 43.5**	**-1.0**
SMTH				S	**Sb**	**12 11 06.3**	**-1.1**
SMTH				*e*Sn	**Sb**	**12 11 08.0**	**+0.6**
CAVI	**Cavuskoy**	**1.74**	**110**	*e*PN	**Pn**	**12 10 45.7**	**+0.6**
CAVI	**Cavuskoy**	**1.74**	**110**	*e*Pn	**Pn**	**12 10 45.7**	**+0.6**
JMB	**Yambol**	**1.86**	**333**	P	**Pn**	**12 10 45.5**	**-1.3**
JMB				S	**Sn**	**12 11 08.7**	**-1.6**
JMB	**Yambol**	**1.86**	**333**	P	**Pn**	**12 10 45.5**	**-1.3**
JMB				S	**Sn**	**12 11 08.7**	**-1.6**
PRK	**Paraskevi**	**1.91**	**216**	P	**Pn**	**12 10 48.1**	**+0.6**
PRK				S	**Sb**	**12 11 13.2**	**-0.5**
PRK	**Paraskevi**	**1.91**	**216**	*e*PB	**Pn**	**12 10 48.2**	**+0.7**
PRK				*e*SN	**Sb**	**12 11 12.9**	**-0.8**
PRK	**Paraskevi**	**1.91**	**216**	P	**Pn**	**12 10 48.1**	**+0.6**
PRK				*e*Sn	**Sb**	**12 11 12.9**	**-0.8**
PRK				S	**Sb**	**12 11 13.2**	**-0.5**
TVSB	**Tavsanli**	**1.91**	**135**	*e*PN	**Pn**	**12 10 48.3**	**+0.7**
TVSB	**Tavsanli**	**1.91**	**135**	*e*Pn	**Pn**	**12 10 48.3**	**+0.7**
KDZ	**Kurdzhali**	**1.92**	**297**	P	**Pg**	**12 10 50.9**	**-0.9**
AKHS	**Akhisar**	**1.93**	**178**	*i* P	**Pn**	**12 10 47.7**	**0.0**
AKHS				*i* S	**Sg**	**12 11 17.3**	**+0.4**
AKHS	**Akhisar**	**1.93**	**178**	*i* P	**Pn**	**12 10 47.7**	**0.0**
AKHS				*i* S	**Sg**	**12 11 17.3**	**+0.4**
LIA	**Limnos Island**	**2.13**	**246**	P	**Pn**	**12 10 50.9**	**+0.4**
LIA				S	**Sn**	**12 11 17.7**	**+0.7**
LIA	**Limnos Island**	**2.13**	**246**	*e*PN	**Sb**	**12 10 49.7**	**-0.8**
LIA				*e*SN	**Sb**	**12 11 18.7**	**-1.4**
LIA	**Limnos Island**	**2.13**	**246**	S	**Sn**	**12 11 17.7**	**+0.7**
LIA				*e*Sn	**Sb**	**12 11 18.7**	**-1.4**
GULT	**Gulveren**	**2.17**	**99**	*e*PN	**Pn**	**12 10 52.1**	**+1.0**
GULT	**Gulveren**	**2.17**	**99**	*e*Pn	**Pn**	**12 10 52.1**	**+1.0**
PRD	**Provadia**	**2.40**	**355**	P	**Pb**	**12 10 59.0**	**+0.8**
KULA	**Kula-Manisa**	**2.41**	**162**	*e*PN	**Pn**	**12 10 55.1**	**+0.8**
KULA	**Kula-Manisa**	**2.41**	**162**	P	**Pn**	**12 10 54.7**	**+0.3**
KULA	**Kula-Manisa**	**2.41**	**162**	P	**Pn**	**12 10 54.7**	**+0.3**
KULA	**Kula-Manisa**	**2.41**	**162**	*e*Pn	**Pn**	**12 10 55.2**	**+0.8**
RZN	**Rozhen**	**2.42**	**292**	P	**Pn**	**12 10 54.3**	**-0.4**
RZN	**Rozhen**	**2.42**	**292**	P	**Pn**	**12 10 54.3**	**-0.4**
KAVA	**Kavala**	**2.43**	**275**	P	**Pn**	**12 10 54.5**	**-0.1**
KAVA	**Kavala**	**2.43**	**275**	P	**Pn**	**12 10 54.5**	**-0.1**
ALT	**Altintas**	**2.54**	**133**	*e*PN	**Pn**	**12 10 57.3**	**+1.0**
ALT	**Altintas**	**2.54**	**133**	*e*Pn	**Pn**	**12 10 57.3**	**+1.0**
MDUB	**Mudurnu**	**2.68**	**96**	*e*PN	**Pn**	**12 10 59.2**	**+1.2**
MDUB	**Mudurnu**	**2.68**	**96**	*e*Pn	**Pn**	**12 10 59.3**	**+1.2**
CHOS	**Chios island**	**2.73**	**208**	P	**Pn**	**12 10 59.0**	**+0.1**
CHOS	**Chios island**	**2.73**	**208**	*e*PN	**Pn**	**12 10 58.7**	**-0.2**
NVR	**Nevrokopi**	**2.96**	**282**	*e*PN	**Pn**	**12 11 02.2**	**+0.3**
NVR	**Nevrokopi**	**2.96**	**282**	*e*Pn	**Pn**	**12 11 02.2**	**+0.3**
SMG	**Samos**	**3.17**	**193**	*e*PN	**Pn**	**12 11 04.1**	**-0.7**
KKB	**Krupnik**	**3.64**	**288**	P	**Pb**	**12 11 21.4**	**+2.1**
TIRR	**Tirgusor**	**3.69**	**8**	*i*/*e* P	Pn	12 11 14.8	+3.0
TIRR	**Tirgusor**	**3.69**	**8**	*i*/*e* P	Pn	12 11 14.8	+3.0
VTS	**Vitosha**	**3.81**	**299**	*i*/*e* P	**Pg**	**12 11 38.5**	**+2.6**
VTS	**Vitosha**	**3.81**	**299**	*i*/*e* P	**Pb**	**12 11 24.6**	**+2.3**
HUMR	**Humele**	**4.23**	**332**	*i*/*e* P	**Pg**	**12 11 38.5**	**+2.6**
BARS	**Barje**	**4.84**	**296**	*i*/*e* P	Pn	**12 11 28.2**	**+0.4**
MLR	**Muntele Rosu**	**4.86**	**345**	*i*/*e* P	**Pn**	**12 11 27.0**	**-1.1**
MLR	**Muntele Rosu**	**4.86**	**345**	*i*/*e* P	**Pn**	**12 11 27.0**	**-1.1**
TESR	**Tescani**	**5.75**	**353**	*i*/*e* P	**Pn**	**12 11 40.1**	**-0.2**
TESR	**Tescani**	**5.75**	**353**	*i*/*e* P	**Pn**	**12 11 40.1**	**-0.2**

*ISCJB **02** 12:43:00.4±0.4, 38°.31N±0°.02×22°.07E±0°.03, h10$^{km}_{\pm}$3^{km}, Error ellipse: s-maj=4.6km s-min=3.6km az=3.3*
*CSEM **02** 12:43:00.6±0.1, 38°.32N×22°.06E, h5^{km}, ML1.8/4, Error ellipse: s-maj=3.0km s-min=2.5km az=105.0*
*ATH **02** 12:43:00.9, 38°.31N×22°.07E, h6$^{km}_{\pm}$2^{km}, MD2.3/8*
*THE **02** 12:43:00.6, 38°.32N×22°.07E, h8$^{km}_{\pm}$1^{km}, ML1.8/4, Error ellipse: s-maj=1.1km s-min=0.4km az=73.0*

ISC 02 12:43:00.6±1.0, 38°.32N±0°.02×22°.08E±0°.02, h7$^{km}_{\pm}$5^{km}, n35, σ0§67/61, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.05**	**357**	P	**Pg**	**12 43 02.1**	**-0.1**
TRIZ				S	**Sg**	**12 43 03.1**	**-0.3**
TRIZ	**Trizonia**	**0.05**	**357**	*e*PG	**Pg**	**12 43 02.2**	**0.0**
TRIZ				*e*SG	**Sg**	**12 43 03.6**	**+0.2**
TRIZ	**Trizonia**	**0.05**	**357**	P	**Pg**	**12 43 02.1**	**-0.1**
TRIZ				S	**Sg**	**12 43 03.1**	**-0.3**
KALE	**Kalithea**	**0.09**	**34**	P	**Pg**	**12 43 02.9**	**+0.1**
KALE				S	**Sg**	**12 43 04.8**	**+0.4**
KALE	**Kalithea**	**0.09**	**34**	*e*PG	**Pg**	**12 43 02.9**	**+0.1**
KALE				*e*SG	**Sg**	**12 43 05.0**	**+0.6**
KALE	**Kalithea**	**0.09**	**34**	P	**Pg**	**12 43 02.9**	**+0.1**
KALE				S	**Sg**	**12 43 04.8**	**+0.4**
LAKA	**Lakka**	**0.11**	**225**	*e*PG	**Pg**	**12 43 03.2**	**+0.2**
LAKA				*e*SG	**Sg**	**12 43 05.1**	**+0.4**
LAKA	**Lakka**	**0.11**	**225**	*e*Pg	**Pg**	**12 43 03.2**	**+0.2**
LAKA				*e*Sg	**Sg**	**12 43 05.1**	**+0.4**
EFP	**Efpalio**	**0.17**	**310**	*e*PG	**Pg**	**12 43 05.0**	**+0.9**
EFP				*e*SG	**Sg**	**12 43 07.4**	**+0.9**
EFP	**Efpalio**	**0.17**	**310**	*e*Pg	**Pg**	**12 43 05.0**	**+0.9**
EFP				*e*Sg	**Sg**	**12 43 07.4**	**+0.9**
KLV	**Kalavryta, Ach**	**0.28**	**168**	P	**Pg**	**12 43 05.9**	**-0.1**
KLV				S	**Sg**	**12 43 10.8**	**+1.0**
KLV	**Kalavryta, Ach**	**0.28**	**168**	*e*PG	**Pg**	**12 43 06.0**	**-0.1**
KLV				*e*SG	**Sg**	**12 43 10.7**	**+1.0**
KLV	**Kalavryta, Ach**	**0.28**	**168**	*e*Pg	**Pg**	**12 43 06.0**	**-0.1**
KLV				S	**Sg**	**12 43 10.8**	**+1.0**
DSF	**Desfina**	**0.37**	**75**	P	**Pg**	**12 43 07.5**	**-0.3**
DSF				S	**Sg**	**12 43 13.5**	**+0.9**
DSF	**Desfina**	**0.37**	**75**	P	**Pg**	**12 43 07.5**	**-0.3**
DSF				S	**Sg**	**12 43 13.5**	**+0.9**
GUR	**Goura**	**0.43**	**151**	P	**Pg**	**12 43 08.7**	**-0.3**
GUR				S	**Sg**	**12 43 15.6**	**+0.9**
GUR	**Goura**	**0.43**	**151**	*e*PG	**Pg**	**12 43 08.7**	**-0.3**
GUR				*e*SB	**Sg**	**12 43 15.9**	**+1.2**
GUR	**Goura**	**0.43**	**151**	P	**Pg**	**12 43 08.7**	**-0.3**
GUR				S	**Sg**	**12 43 15.6**	**+0.9**
RLS	**Riolos of Patr**	**0.55**	**242**	P	**Pg**	**12 43 11.1**	**0.0**
RLS	**Riolos of Patr**	**0.55**	**242**	*e*PB	**Pg**	**12 43 11.0**	**0.0**
RLS	**Riolos of Patr**	**0.55**	**242**	P	**Pg**	**12 43 11.1**	**0.0**
AXS	**Araxos**	**0.56**	**258**	P	**Pg**	**12 43 11.3**	**-0.1**
AXS	**Araxos**	**0.56**	**258**	P	**Pg**	**12 43 11.3**	**-0.1**
EVR	**Evrytania**	**0.64**	**341**	P	**Pg**	**12 43 12.6**	**-0.2**
EVR				S	**Sg**	**12 43 22.4**	**+1.3**
EVR	**Evrytania**	**0.64**	**341**	P	**Pg**	**12 43 12.6**	**-0.2**
EVR				S	**Sg**	**12 43 22.4**	**+1.3**
AXAR	**Agios Charalam**	**0.64**	**45**	P	**Pg**	**12 43 12.8**	**-0.1**
AXAR				S	**Sg**	**12 43 22.4**	**+1.1**
AXAR	**Agios Charalam**	**0.64**	**45**	P	**Pg**	**12 43 12.8**	**-0.1**
AXAR				S	**Sg**	**12 43 22.4**	**+1.1**
MAKR	**Makrakomi, Fth**	**0.70**	**4**	P	**Pg**	**12 43 13.7**	**-0.3**
MAKR				S	**Sb**	**12 43 24.4**	**-0.5**
MAKR	**Makrakomi, Fth**	**0.70**	**4**	P	**Pg**	**12 43 13.7**	**-0.3**
MAKR				S	**Sb**	**12 43 24.4**	**-0.5**
AGG	**Agios Georgios**	**0.73**	**16**	P	**Pg**	**12 43 13.8**	**-0.9**
AGG				S	**Sg**	**12 43 25.2**	**+1.0**
AGG	**Agios Georgios**	**0.73**	**16**	P	**Pg**	**12 43 13.8**	**-0.9**
AGG				S	**Sg**	**12 43 25.2**	**+1.0**
AMT	**Artemida-Makis**	**0.83**	**200**	*e*PB	**Pb**	**12 43 17.1**	**-0.3**
AMT	**Artemida-Makis**	**0.83**	**200**	*e*Pb	**Pb**	**12 43 17.1**	**-0.3**
VLS	**Valsamata**	**1.18**	**264**	P	**Pg**	**12 43 21.9**	**-1.3**
VLS	**Valsamata**	**1.18**	**264**	P	**Pg**	**12 43 21.9**	**-1.3**

*DDA **02** 12:42:49.5, 34°.82N×28°.20E, h25^{km}, MD3.1*
*ISK **02** 12:42:59.3, 35°.08N×28°.43E, h5^{km}, ML3.7*
*ISCJB **02** 12:43:04.3±0.2, 35°.22N±0°.02×28°.59E±0°.02, h54$^{km}_{\pm}$6^{km}, mb3.6/8, Error ellipse: s-maj=3.5km s-min=2.8km az=30.3*
*IDC **02** 12:43:04.7±5.9, 35°.34N×28°.51E, h32$^{km}_{\pm}$50^{km}, mb3.6/8, mb1 3.7/12, mb1mx3.5/29, mbtmp3.6/12, ML3.7/3, Error ellipse: s-maj=21.9km s-min=16.7km az=138.0*
*ATH **02** 12:43:04.2, 35°.32N×28°.53E, h35$^{km}_{\pm}$4^{km}, MD3.7/14*
*CSEM **02** 12:43:05.3±0.1, 35°.26N×28°.55E, h30^{km}, ML3.5, Error ellipse: s-maj=2.7km s-min=2.0km az=44.0*
*NIC **02** 12:43:08.1±0.0, 35°.40N×28°.77E, h36^{km}, mb4.1, ML3.6, MW3.4*
*THE **02** 12:43:08.6, 35°.53N×28°.34E, h18$^{km}_{\pm}$10^{km}, ML3.5/2, Error ellipse: s-maj=13.0km s-min=1.5km az=119.0*
*HLW **02** 12:43:09.1, 34°.98N×28°.69E, h32$^{km}_{\pm}$44^{km}, Md3.9, MI3.6*

ISC 02 12:43:05.8±0.9, 35°.29N±0°.03×28°.56E±0°.02, h43$^{km}_{\pm}$12^{km}, n177, σ1§16/206, mb3.6/8, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.99**	**339**	P	**Pn**	**12 43 22.6**	**-0.7**
ARG				S	**Sn**	**12 43 32.2**	**-3.9**
ARG	**Arkhangelos**	**0.99**	**339**	*e*PN	**Pn**	**12 43 22.7**	**-0.6**
ARG				*e*SN	**Sn**	**12 43 35.9**	**-0.2**
ARG	**Arkhangelos**	**0.99**	**339**	*e*Pn	**Pn**	**12 43 22.7**	**-0.6**
ARG				*e*Sn	**Sn**	**12 43 35.9**	**-0.2**
KARP	**Karpathos**	**1.17**	**283**	P	**Pn**	**12 43 25.7**	**0.0**
KARP				S	**Sn**	**12 43 39.6**	**-0.9**
KARP	**Karpathos**	**1.17**	**283**	*e*PN	**Pn**	**12 43 25.6**	**-0.1**
KARP				*e*SN	**Sn**	**12 43 41.2**	**+0.7**
KARP	**Karpathos**	**1.17**	**283**	P	**Pn**	**12 43 25.7**	**0.0**
KARP				S	**Sn**	**12 43 39.6**	**-0.9**
KARP				*e*Sn	Sn	12 43 41.2	+0.6
AKAS	**Kas**	**1.27**	**42**	*i* P	**Pn**	**12 43 27.5**	**+0.3**
AKAS				*i* S	**Sn**	**12 43 44.0**	**+0.8**
AKAS	**Kas**	**1.27**	**42**	*i* P	**Pn**	**12 43 27.5**	**+0.3**
AKAS				*i* S	**Sn**	**12 43 44.0**	**+0.8**
FETY	**Fethiye**	**1.41**	**17**	*e*PN	**Pn**	**12 43 29.2**	**+0.2**
FETY				*e*SN	**Sn**	**12 43 51.7**	**+5.2**
FETY	**Fethiye**	**1.41**	**17**	*e*Pn	**Pn**	**12 43 29.2**	**+0.2**
FETY				*e*Sn	**Sn**	**12 43 51.7**	**+5.2**
DALY	**Dalyan (Mu¨la**	**1.53**	**3**	*e*PN	**Pn**	**12 43 30.2**	**-0.4**
DALY	**Dalyan (Mu¨la**	**1.53**	**3**	*e*Pn	**Pn**	**12 43 30.2**	**-0.4**
TURN	**Turunc**	**1.58**	**1**	*i* P	**Pn**	**12 43 30.5**	**-0.9**
TURN				*i* S	**Sn**	**12 43 47.4**	**-3.3**
TURN	**Turunc**	**1.58**	**1**	*i* P	**Pn**	**12 43 30.5**	**-0.9**
TURN				*i* S	**Sn**	**12 43 47.3**	**-3.3**
DAT	**Datca**	**1.64**	**331**	*e*PN	**Pn**	**12 43 31.6**	**-0.7**
DAT	**Datca**	**1.64**	**331**	*e*Pn	**Pn**	**12 43 31.6**	**-0.7**
NIS1	**Nisyros Isl.**	**1.72**	**320**	P	**Pn**	**12 43 32.1**	**-1.2**
NIS1	**Nisyros Isl.**	**1.72**	**320**	*e*PB	**Pn**	**12 43 33.9**	**+0.6**
NIS1	**Nisyros Isl.**	**1.72**	**320**	P	**Pn**	**12 43 32.1**	**-1.2**
NIS1	**Nisyros Isl.**	**1.72**	**320**	*e*Pb	**Pn**	**12 43 33.9**	**+0.6**
ELL	**Elmali**	**1.82**	**37**	*e*PN	**Pn**	**12 43 35.4**	**+0.6**
ELL	**Elmali**	**1.82**	**37**	*e*Pn	**Pn**	**12 43 35.4**	**+0.6**
YER	**Yerkesik**	**1.86**	**353**	*e*PN	**Pn**	**12 43 35.4**	**+0.2**
YER	**Yerkesik**	**1.86**	**353**	*e*Pn	**Pn**	**12 43 35.4**	**+0.2**
ZKR	**Zakros**	**1.92**	**266**	P	**Pn**	**12 43 36.0**	**0.0**
ZKR				S	**Sn**	**12 43 59.3**	**+0.3**
ZKR	**Zakros**	**1.92**	**266**	*e*PN	**Pn**	**12 43 36.1**	**0.0**
ZKR				*e*SN	**Sn**	**12 43 59.5**	**+0.5**
ZKR	**Zakros**	**1.92**	**266**	*e*Pn	**Pn**	**12 43 36.1**	**0.0**
ZKR				*e*Sn	**Sn**	**12 43 59.5**	**+0.5**
BODT	**Bodrum**	**2.04**	**331**	*e*PN	**Pn**	**12 43 36.8**	**-0.8**
BODT	**Bodrum**	**2.04**	**331**	*e*Pn	**Pn**	**12 43 36.8**	**-0.8**
MLSB	**Milas**	**2.10**	**343**	*e*PN	**Pn**	**12 43 38.7**	**+0.2**
MLSB	**Milas**	**2.10**	**343**	*e*Pn	**Pn**	**12 43 38.7**	**+0.2**
GOLH	**Golhisar**	**2.11**	**22**	*i* P	**Pn**	**12 43 39.8**	**+1.1**
GOLH				*i* S	**Sn**	**12 44 05.1**	**+1.3**
GOLH	**Golhisar**	**2.11**	**22**	*i* P	**Pn**	**12 43 39.8**	**+1.1**
GOLH				*i* S	**Sn**	**12 44 05.1**	**+1.3**
ANTB	**Antalya**	**2.34**	**46**	*e*PN	**Pn**	**12 43 42.7**	**+1.0**
ANTB	**Antalya**	**2.34**	**46**	*e*Pn	**Pn**	**12 43 42.7**	**+1.0**
XRY	**Khrisi**	**2.38**	**261**	*e*PN	**Pn**	**12 43 41.9**	**-0.4**
XRY	**Khrisi**	**2.38**	**261**	*e*Pn	**Pn**	**12 43 41.9**	**-0.4**
NPS	**Neapolis**	**2.41**	**270**	P	**Pn**	**12 43 43.6**	**+0.8**
NPS				S	**Sn**	**12 44 10.3**	**-0.7**
NPS	**Neapolis**	**2.41**	**270**	*e*PN	**

AWBH 6.95 177 P Pn 12 44 44.1 -1.0
baz=178
AWBH 6.95 177 P Pn 12 44 44.1 -1.0
HNKL Nakhl 7.03 138 P Pn 12 44 45.8 -0.5
baz=136
HNKL Nakhl 7.03 138 P Pn 12 44 45.8 -0.5
KRMI Paran Flat 7.32 133 Pn Pn 12 44 49.2 -1.0
PRNI Paran 7.33 130 Pn Pn 12 44 49.3 -0.9
HRFI Mount Harif 7.57 132 Pn Pn 12 44 52.4 -1.2
MBRI Mt Berech 7.67 134 Pn Pn 12 44 55.3 +0.3
EIL Elat 7.78 134 Pn Pn 12 44 56.0 -0.4
comp=N,2.0nm,0.3s,baz=349,slow=16,SNR=12
EIL Sn Sn 12 46 19.1 -4.1
comp=N,10.0nm,0.3s,baz=333,slow=15,SNR=13
EIL Elat 7.78 134 Pn Pn 12 44 55.5 -1.0
HKAT Jabal Katrina 8.17 144 P Pn 12 45 01.7 -0.3
baz=143
HKAT Jabal Katrina 8.17 144 P Pn 12 45 01.7 -0.3
KOLS Kolonicke sedl 14.40 343 *e*PN Pn 12 46 27.5 +0.6
KOLS Kolonicke sedl 14.40 343 *e*Pn Pn 12 46 27.5 +0.6
KECS Kecovo 14.48 338 *e*PN Pn 12 46 27.0 -0.9
KECS Kecovo 14.48 338 *e*Pn Pn 12 46 27.0 -0.9
CRVS Cervenica-Dubn 14.58 341 *e*PN Pn 12 46 29.9 +0.7
CRVS Cervenica-Dubn 14.58 341 *e*Pn Pn 12 46 29.9 +0.7
VYHS Vyhne 15.03 334 *e*PN Pn 12 46 37.0 +1.8
VYHS Vyhne 15.03 334 *e*Pn Pn 12 46 37.0 +1.8
KEST Kesra 15.65 277 Pn P 12 46 47.8 +0.9
comp=N,0.2nm,0.3s,baz=30,slow=2.9,SNR=6.4
GERES GERESS Array B 17.43 326 P Pn 12 47 04.2 -1.5
baz=141,slow=13,SNR=3.3
ESDC Sonseca Array 26.09 289 P P 12 48 35.0 -0.5
comp=N,0.7nm,0.5s,baz=80,slow=9.7,SNR=6.3
AKTO Aktyubinsk 26.15 46 P P 12 48 35.8 0.0
comp=N,1.2nm,0.6s,baz=232,slow=8.9,SNR=5.0
FINES FINESS Array B 26.22 357 P P 12 48 35.4 -0.9
comp=N,1.1nm,0.6s,baz=138,slow=15,SNR=4.4
HFS Hagfors 26.67 343 P P 12 48 40.2 -0.2
comp=N,0.5nm,0.4s,baz=145,slow=11,SNR=4.6
TORD Torodi Ar. Bea 32.76 234 P P 12 49 35.1 +0.2
comp=N,1.5nm,0.8s,baz=34,slow=8.9,SNR=10.0
MKAR Makanchi Array 41.38 57 P P 12 50 48.5 +0.8
comp=N,0.2nm,0.5s,baz=269,slow=8.1,SNR=5.0
DBIC Dimbokro 41.87 235 P P 12 50 51.8 -0.1
comp=N,3.5nm,1.0s,baz=50,slow=9.1,SNR=3.5
YKA Yellowknife Ar 78.15 343 P P 12 54 59.2 -0.9
comp=N,0.3nm,0.5s,baz=29,slow=5.2,SNR=5.3

IDC 02 12:55:12.7±1.2, 3.38N×126.72E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/24, mbtmp3.7/5, Error ellipse: s-maj=60.3km s-min=20.9km az=81.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.37**	**183**	P	P	13 00 02.9	+1.1
	2.7nm,1.0s,baz=29,slow=10,SNR=4.9						
WRA	**Warramunga Arr**	**24.35**	**162**	P	P	13 00 32.3	-0.2
	1.3nm,0.5s,baz=338,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**27.78**	**166**	P	P	13 01 03.4	-0.1
	0.3nm,0.6s,baz=347,slow=7.3,SNR=6.9						
PETK	**Petropavlovsk-**	**55.76**	**22**	P	P	13 04 50.9	-0.4
	1.9nm,0.4s,baz=146,slow=12,SNR=5.7						
MKAR	**Makanchi Array**	**57.84**	**325**	P	P	13 05 06.1	-0.1
	0.6nm,0.6s,baz=122,slow=8.3,SNR=7.2						

*MOS **02** 12:57:00.3±0.9, 48.99N×156.85E, h5km, mb4.3/1, Error ellipse: s-maj=79.1km s-min=18.3km az=80.5*

KRSC 02 12:57:00.3±0.8, 48.99N×156.85E, h5km±5km, ML4.2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.76**	**345**	*e*PN	Pn	12 57 23.5	-7.9
SKR				*e*		12 57 57.1	
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax	smax		
	comp=N,170nm,0.5s						
SKR				smax	smax		
	comp=E,490nm,0.4s						
SKR	**Severo-Kuril's**	**1.76**	**345**	*e*P	Pn	12 57 28.8	-2.6
SKR				*e*S	Sn	12 57 49.9	-4.3
MIPR	**Malaya Ipel'ka**	**3.29**	**359**	P	Pn	12 57 53.9	+1.4
ASAK	**Asacha**	**3.46**	**11**	*e*P	Pn	12 57 57.3	+2.4
ASAK				*e*S	Sn	12 58 39.0	+2.6
MTVR	**Mutnovka**	**3.60**	**13**	*e*P	Pn	12 57 59.1	+2.2
MTVR				*e*S	Sn	12 58 43.3	+3.4
RUS	**Russkaya**	**3.61**	**16**	PN	Pn	12 57 58.7	+1.9
RUS				S	Sn	12 58 41.3	+1.6
RUS	**Russkaya**	**3.61**	**16**	*e*P	Pn	12 57 58.7	+1.9
RUS				*e*S	Sn	12 58 41.3	+1.6
GRL	**Gorelyy**	**3.65**	**12**	P	Pn	12 58 00.6	+3.0
GRL				S	Sn	12 58 43.4	+2.3
APC	**Apacha**	**3.94**	**3**	*e*P	Pn	12 58 04.3	+2.9
APC				*e*S	Sn	12 58 52.2	+4.1
PET	**Petropavlovsk**	**4.20**	**15**	PN	Pn	12 58 08.2	+3.3
PET				S	Sn	12 58 57.9	+3.7
PET	**Petropavlovsk**	**4.20**	**15**	*e*P	Pn	12 58 08.2	+3.3
PET				*e*S	Sn	12 58 57.9	+3.7
UGLR	**Uglovaya**	**4.40**	**16**	P	Pn	12 58 11.0	+3.1
AVH	**Avacha**	**4.44**	**15**	P	Pn	12 58 11.3	+2.9
AVH				S	Sn	12 59 03.1	+2.6
KOK	**Koryaka**	**4.45**	**14**	*e*P	Pn	12 58 11.5	+2.9
SDLR	**Sedlovina**	**4.48**	**16**	*e*P	Pn	12 58 11.8	+2.8
SPN	**Mys Shipunski**	**4.57**	**25**	PN	Pn	12 58 13.4	+3.3
SPN				S	Sn	12 59 08.1	+4.5
SPN	**Mys Shipunski**	**4.57**	**25**	*e*P	Pn	12 58 13.4	+3.3
SPN				*e*S	Sn	12 59 08.1	+4.5
GNL	**Ganaly**	**4.76**	**8**	*e*P	Pn	12 58 16.0	+3.2
MKZ	**Mys Kozlova**	**6.34**	**27**	PN	Pn	12 58 36.5	+2.2
MKZ	**Mys Kozlova**	**6.34**	**27**	*e*P	Pn	12 58 36.5	+2.2
MKZ				S	Sn	12 59 48.8	+1.7
BKI	**Bering**	**8.38**	**39**	*e*S	Sn	13 00 36.1	-1.0

*ISCJB **02** 13:37:07.7±0.6, 33.85N±0.05×25.38E±0.07, h17km, mb3.6/9, Error ellipse: s-maj=9.2km s-min=5.9km az=139.0*

*IDC **02** 13:37:07.3±1.1, 33.93N×25.32E, h0km, mb3.8/9, mb1 3.9/15, mb1mx3.8/32, mbtmp3.8/15, ML3.8/6, Error ellipse: s-maj=25.4km s-min=17.9km az=178.0*

*CSEM **02** 13:37:08.0, 33.93N×25.20E, h18km, MD3.5, After ATH ATH **02** 13:37:08.0, 33.93N×25.20E, h18km±3km, MD3.5/8*

ISC 02 13:37:10.0±0.8, 33.97N±0.06×25.36E±0.06, h17km, n33, σ1°25/41, mb3.6/9, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.94**	**17**	*e*PN	Pb	13 37 25.8	-2.1
XRY	**Khrisi**	**0.94**	**17**	*e*Pn	Pb	13 37 25.8	-2.1
SIVA	**Sivas**	**1.14**	**337**	*e*PN	Pn	13 37 30.1	-1.0
SIVA				*e*SN	Sb	13 37 45.2	-0.5
SIVA	**Sivas**	**1.14**	**337**	*e*Pn	Pn	13 37 30.1	-1.0
SIVA				*e*Sn	Sb	13 37 45.2	-0.5
LAST	**Lasithi**	**1.19**	**5**	*e*PN	Pn	13 37 32.0	+0.1
LAST				*e*SN	Sg	13 37 49.2	+0.6
LAST	**Lasithi**	**1.19**	**5**	*e*Pn	Pn	13 37 32.0	+0.1
LAST				*e*Sn	Sg	13 37 49.2	+0.6
NPS	**Neapolis**	**1.30**	**9**	*e*PN	Pn	13 37 33.0	-0.5
NPS	**Neapolis**	**1.30**	**9**	*e*Pn	Pn	13 37 33.0	-0.5
ZKR	**Zakros**	**1.34**	**32**	*e*PN	Pg	13 37 35.9	0.0
ZKR	**Zakros**	**1.34**	**32**	*e*Pn	Pg	13 37 35.9	0.0
IDI	**Anoyia**	**1.37**	**344**	*e*PN	Pn	13 37 33.7	-0.7
IDI				*e*SN	Sn	13 37 52.9	+0.7
IDI	**Anoyia**	**1.37**	**344**	*e*Pn	Pn	13 37 33.7	-0.7
IDI				*e*Sn	Sn	13 37 52.9	+0.7
VAM	**Vamos**	**1.72**	**327**	*e*PN	Pn	13 37 38.7	-0.5
VAM	**Vamos**	**1.72**	**327**	*e*Pn	Pn	13 37 38.7	-0.5
KARP	**Karpathos**	**2.16**	**43**	*e*PN	Pn	13 37 47.2	+1.9
KARP	**Karpathos**	**2.16**	**43**	*e*Pn	Pn	13 37 47.2	+1.9
ARG	**Arkhangelos**	**3.19**	**45**	*e*PN	Pn	13 38 01.7	+2.4
ARG	**Arkhangelos**	**3.19**	**45**	*e*Pn	Pn	13 38 01.7	+2.4
MMAI	**Mount Meron Ar**	**8.45**	**94**	Pn	Pn	13 39 10.8	-0.8
	1.5nm,0.3s,baz=262,slow=12,SNR=4.8						
MMAI				Sn	Sn	13 40 44.4	-2.2
	2.9nm,0.3s,baz=269,slow=26,SNR=5.9						
BRTR	**Keskin Array B**	**8.77**	**47**	Pn	Pn	13 39 17.9	+1.7
	0.2nm,0.3s,baz=218,slow=14,SNR=9.4						
EIL	**Elat**	**9.22**	**115**	Pn	Pn	13 39 22.3	+0.1
	0.6nm,0.3s,baz=325,slow=12,SNR=2.9						
EIL				Sn	Sn	13 41 02.4	-3.1
	0.7nm,0.3s,baz=42,slow=17,SNR=3.7						
KBZ	**Khabaz**	**16.75**	**49**	Pn	P	13 41 08.2	+2.4
	0.1nm,0.3s,baz=263,slow=8.3,SNR=8.8						
AKASG	**Malin Array Be**	**16.96**	**8**	Pn	Pn	13 41 07.0	+0.7
	0.9nm,0.3s,baz=200,slow=10,SNR=22						
GERES	**GERESS Array B**	**17.21**	**333**	P	P	13 41 10.9	-0.2
	0.2nm,0.3s,baz=152,slow=12,SNR=9.9						
ESDC	**Sonseca Array**	**24.09**	**292**	P	P	13 42 24.0	-0.6
	0.7nm,0.5s,baz=94,slow=11,SNR=5.1						
HFS	**Hagfors**	**27.27**	**347**	P	P	13 42 53.2	+0.1
	0.7nm,0.7s,baz=144,slow=10,SNR=3.1						
EKA	**Eskdalemuir Ar**	**29.11**	**326**	P	P	13 43 09.5	-0.1
	1.1nm,0.8s,baz=120,slow=8.0,SNR=5.4						
TORD	**Torodi Ar. Bea**	**29.87**	**232**	P	P	13 43 16.8	+0.1
	0.5nm,0.7s,baz=34,slow=8.5,SNR=4.7						
MKAR	**Makanchi Array**	**44.30**	**56**	P	P	13 45 19.1	+0.2
	2.6nm,0.6s,baz=276,slow=6.7,SNR=36						
ZALV	**Zalesovo Beam**	**45.71**	**45**	P	P	13 45 29.2	-0.7
	1.5nm,0.5s,baz=268,slow=8.4,SNR=6.5						
YKA	**Yellowknife Ar**	**78.63**	**342**	P	P	13 49 10.6	+0.1
	0.4nm,0.7s,baz=30,slow=5.9,SNR=4.4						
KSRS	**Korea Array**	**78.88**	**52**	P	P	13 49 12.6	+0.2
	0.7nm,0.6s,baz=305,slow=4.6,SNR=5.5						
ILAR	**Eielson Array**	**81.39**	**357**	P	P	13 49 26.1	+0.6
	0.4nm,0.6s,baz=348,slow=3.8,SNR=7.4						

*CSEM **02** 13:46:48.5, 39.10N×27.56E, h8km, MD2.4, After DDA*

DDA 02 13:46:48.5, 39.10N×27.56E, h8km, MD2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.30**	**139**	*i* P	Pg	13 46 54.6	+0.2
AKHS				*i* S	Sb	13 47 00.0	-1.2
AKHS	**Akhisar**	**0.30**	**139**	*i* P	Pg	13 46 54.6	+0.1
AKHS				*i* S	Sb	13 47 00.0	-1.2
BALY	**Balya**	**0.64**	**4**	*i* P	Pg	13 47 01.0	0.0
BALY				*i* S	Sb	13 47 10.9	-0.3
BALY	**Balya**	**0.64**	**4**	*i* P	Pg	13 47 01.0	0.0
BALY				*i* S	Sb	13 47 10.9	-0.3
DEMI	**Demirci**	**0.90**	**93**	*e*P	Pg	13 47 06.0	0.0
DEMI				*i* S	Sb	13 47 18.5	-0.3
DEMI	**Demirci**	**0.90**	**93**	*e*P	Pg	13 47 06.0	0.0
DEMI				*i* S	Sb	13 47 18.5	-0.2
MANT	**Manisa**	**0.99**	**128**	*i* P	Pg	13 47 07.3	-0.6
MANT				*i* S	Sn	13 47 22.7	-0.7
MANT	**Manisa**	**0.99**	**128**	*i* P	Pg	13 47 07.3	-0.6
MANT				*i* S	Sn	13 47 22.7	-0.7
ULDT	**Uludag**	**1.60**	**49**	*i* P	Pb	13 47 18.1	-0.4
ULDT				*i* S	Sn	13 47 38.3	0.0
ULDT	**Uludag**	**1.60**	**49**	*i* P	Pb	13 47 18.1	-0.5
ULDT				*i* S	Sn	13 47 38.3	0.0

BUC 02 13:48:44.2±0.7, 45.06N×28.25E, h1km, MD2.1/2, 10C, Error ellipse: s-maj=8.5km s-min=4.6km az=58.0, Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFR	**Carcaliu**	**0.14**	**327**	*i* P	Pg	13 48 46.9	0.0
CFR				*i* S	Sg	13 48 49.8	+1.0
CFR	**Carcaliu**	**0.14**	**327**	*i* P	Pg	13 48 46.9	0.0
CFR				S	Sg	13 48 49.8	+1.0
TLCR		**0.42**	**72**	*i* P	Pg	13 48 52.8	+0.5
TLCR				*i* S	Sg	13 48 59.3	+1.5
TLCR		**0.42**	**72**	*i* P	Pg	13 48 52.8	+0.5
TIRR	**Tirgusor**	**0.61**	**169**	*i* P	Pg	13 48 56.6	+0.7
TIRR				*i* S	Sb	13 49 06.9	+0.1
TIRR	**Tirgusor**	**0.61**	**169**	*i* P	Pg	13 48 56.6	+0.7
VRI	**Vrincioaia**	**1.34**	**308**	*i* P	Pb	13 49 11.4	+1.2
VRI				*i* S	Sn	13 49 29.8	+1.2
VRI	**Vrincioaia**	**1.34**	**308**	*i* P	Pb	13 49 11.4	+1.2
PLOR	**Plostina**	**1.37**	**306**	*i* S	Sn	13 49 31.0	+1.5
PLOR	**Plostina**	**1.37**	**306**	S	Sn	13 49 31.0	+1.5
MLR	**Muntele Rosu**	**1.68**	**286**	*i* P	Pb	13 49 15.7	-0.4
MLR				*i* S	Sg	13 49 39.4	+0.8
MLR	**Muntele Rosu**	**1.68**	**286**	*i* P	Pb	13 49 15.7	-0.4
MLR	**Muntele Rosu**	**1.68**	**286**	S	Sg	13 49 39.4	+0.8

IDC 02 14:35:06.8±2.5, 16.15S×175.05W, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.8/20, mbtmp3.8/5, ML2.0/1, MS3.6/14, Ms1 3.6/14, ms1mx3.4/33, Error ellipse: s-maj=184.9km s-min=22.3km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.87**	**55**	Pn	Pn	14 36 05.5	-2.2
	5.8nm,0.3s,baz=355,slow=23,SNR=13						
AFI				Sn	Sn	14 36 44.8	-9.1
	8.6nm,0.3s,baz=40,slow=20,SNR=7.7						
AFI				LR	LR	14 37 31.8	
	comp=Z,778nm,19.0s,baz=253,slow=38						
DZM	**Mont Dzumac**	**18.45**	**249**	*e*LR	LR	14 44 31.5	
	462nm,25.6s						
URZ	**Urewera**	**23.08**	**196**	LR	LR	14 47 08.8	
	comp=Z,39nm,21.5s,baz=26,slow=31						
PPT2	**Papeete2**	**24.41**	**97**	*e*LQ	LQ	14 45 26.5	
	214nm,24.8s						
PPT2				*e*LR	LR	14 46 31.7	
	44nm,26.2s						
TBI	**Tubuai**	**25.09**	**111**	*e*LQ	LQ	14 45 42.7	
	287nm,29.5s						
TBI				*e*LR	LR	14 47 05.1	
	63nm,28.2s						
HNR	**Honiara**	**25.27**	**282**	LR	LR	14 47 56.1	
	comp=Z,137nm,21.2s,baz=320,slow=30						
STKA	**Stephens Creek**	**42.29**	**240**	LR	LR	14 59 21.0	
	comp=Z,95nm,19.3s,baz=25,slow=34						
WRA	**Warramunga Arr**	**48.13**	**258**	P	P	14 43 48.7	-0.3
	2.2nm,1.1s,baz=90,slow=7.1,SNR=4.7						
WRA				LR	LR	15 02 37.9	
	comp=Z,141nm,19.4s,baz=285,slow=34						
ASAR	**Alice Springs**	**48.37**	**253**	P	P	14 43 49.9	-1.0
	2.6nm,0.9s,baz=86,slow=8.2,SNR=10						
ASAR				LR	LR	15 01 19.3	
	comp=Z,76nm,18.8s,baz=335,slow=32						
MJAR	**Matsushiro Arr**	**56.51**	**321**	LR	LR	15 08 37.2	
	comp=Z,85nm,21.2s,baz=240,slow=29						
PETK	**Petropavlovsk-**	**72.88**	**343**	LR	LR	15 16 15.2	
	comp=Z,30nm,18.7s,baz=292,slow=34						
KSRS	**Korea Array**	**75.60**	**316**	LR	LR	15 17 22.9	
	comp=Z,50nm,18.7s,baz=202,slow=34						
NVAR	**Mina Array Bea**	**75.95**	**43**	P	P	14 46 55.2	-0.7
	0.4nm,0.7s,baz=239,slow=8.3,SNR=3.3						
TXAR	**Lajitas Array**	**82.35**	**57**	P	P	14 47 32.5	+1.5
	1.0nm,1.0s,baz=224,slow=6.3,SNR=4.3						
TXAR				LR	LR	15 20 43.7	
	comp=Z,54nm,18.1s,baz=175,slow=33						
PDAR	**Pinedale Array**	**83.88**	**42**	LR	LR	15 22 29.7	
	comp=Z,21nm,18.4s,baz=80,slow=34						
PLCA	**Paso Flores**	**90.17**	**133**	LR	LR	15 22 34.2	
	comp=Z,76nm,19.5s,baz=360,slow=32						
YKA	**Yellowknife Ar**	**91.42**	**24**	LR	LR	15 21 42.6	
	comp=Z,3.9nm,19.2s,baz=310,slow=31						
ULM	**Lac du Bonnet**	**95.51**	**39**	LR	LR	15 25 09.5	
	comp=Z,61nm,18.4s,baz=352,slow=31						
BRTR	**Keskin Array B**	**145.71**	**319**	PKPbc	PKPab	14 54 48.6	+0.2
	0.7nm,0.8s,baz=127,slow=0.7,SNR=3.5						

IDC 02 14:35:45.9±1.9, 24.42S×179.75E, h545km±20km, mb3.3/7, mb1 3.5/9, mb1mx3.3/20, mbtmp3.4/9, Error ellipse: s-maj=21.7km s-min=13.1km az=171.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.46**	**278**	P	P	14 38 30.5	+1.2
	1.4nm,0.3s,baz=270,slow=24,SNR=5.7						
URZ	**Urewera**	**13.98**	**189**	P	P	14 38 45.0	-0.4
	0.4nm,0.3s,baz=345,slow=12,SNR=3.1						
URZ				S	S	14 41 07.1	-4.9
	0.5nm,0.3s,baz=106,slow=11,SNR=3.1						
STKA	**Stephens Creek**	**34.32**	**249**	P	P	14 41 47.8	+0.4
	1.8nm,0.6s,baz=89,slow=14,SNR=6.2						
ASAR	**Alice Springs**	**41.73**	**261**	P	P	14 42 47.8	+0.1
	1.0nm,0.5s,baz=90,slow=7.2,SNR=15						
ASAR				S	S	14 48 25.8	0.0
	0.4nm,0.7s,baz=103,slow=14,SNR=3.4						
WRA	**Warramunga Arr**	**42.15**	**267**	P	P	14 42 50.6	-0.4
	2.8nm,0.5s,baz=104,slow=8.1,SNR=28						
WRA				ScP	ScP	14 47 33.6	+1.9
	1.5nm,0.7s,baz=96,slow=4.0,SNR=8.1						
WRA				S	S	14 48 31.5	-0.4
	1.0nm,1.0s,baz=98,slow=15,SNR=4.0						
QSPA	**South Pole Qui**	**65.67**	**180**	P	P	14 45 36.2	0.0
	4.4nm,0.6s,baz=11,slow=1.1,SNR=3.8						
MAW	**Mawson**	**77.19**	**201**	P	P	14 46 43.6	+0.4
	1.3nm,0.5s,baz=95,slow=6.1,SNR=9.5						
NVAR	**Mina Array Bea**	**85.28**	**44**	P	P	14 47 25.8	+0.1
	0.7nm,0.7s,baz=229,slow=7.9,SNR=5.0						
TXAR	**Lajitas Array**	**90.90**	**58**	P	P	14 47 52.2	+0.2
	1.1nm,0.8s,baz=214,slow=7.0,SNR=7.5						
MKAR	**Makanchi Array**	**112.34**	**313**	PKiKP	PKiKP	14 53 19.3	-0.6
	0.2nm,0.5s,baz=233,slow=2.1,SNR=3.5						
ARCES	**ARCESS Array B**	**132.35**	**348**	PKP	PKPdf	14 53 57.4	-0.1
	5.5nm,1.0s,baz=37,slow=4.7,SNR=4.2						
FINES	**FINESS Array B**	**138.86**	**341**	PKP	PKPdf	14 54 10.9	+1.2
	1.2nm,0.9s,baz=90,slow=5.7,SNR=5.1						
NOA	**NORSAR Array B**	**142.56**	**351**	PKP	PKPdf	14 54 14.0	-2.5
	0.3nm,0.6s,baz=11,slow=4.1,SNR=3.5						
HFS	**Hagfors**	**143.01**	**348**	PKP	PKPab	14 54 14.5	-0.3
	4.5nm,0.4s,baz=64,slow=3.4,SNR=48						
AKASG	**Malin Array Be**	**145.28**	**327**	PKPbc	PKPdf	14 54 21.5	+0.1
	1.0nm,0.4s,baz=45,slow=3.9,SNR=5.8						
BRTR	**Keskin Array B**	**147.71**	**306**	PKPbc	PKPbc	14 54 29.9	+0.2
	0.4nm,0.3s,baz=134,slow=3.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**168.64**	**190**	PKPab	PKPab	14 56 04.2	-0.5
	0.3nm,0.5s,baz=207,slow=3.1,SNR=5.4						

*ISK **02** 14:40:26.7, 39.03N×41.88E, h5km, MD3.9*

*DDA **02** 14:40:27.9, 39.05N×41.85E, h3km, MD3.7*

*CSEM **02** 14:40:28.6±0.1, 39.03N×41.90E, h2km, MD3.7, Error ellipse: s-maj=3.8km s-min=3.2km az=3.0*

*ISCJB **02** 14:40:29.2±0.2, 39.03N±0.02×41.85E±0.02, h10km, mb3.3/8, MS2.7/1, Error ellipse: s-maj=2.8km s-min=2.5km az=0.5*

*IDC **02** 14:40:29.7±1.1, 39.04N×42.05E, h0km, mb3.6/8, mb1 3.6/14, mb1mx3.5/32, mbtmp3.5/14, ML3.3/5, MS2.9/3, Ms1 2.9/3, ms1mx2.3/43, Error ellipse: s-maj=21.1km s-min=10.9km az=164.0*

ISC 02 14:40:29.3±0.6, 39.01N±0.02×41.87E±0.02, h10km, n121, σ1°21/132, mb3.5/8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNGL	**BINGOL**	**0.56**	**264**	*i* P	**Pg**	**14 40 38.6**	**-1.7**
BNGL				*e*S	**Sg**	**14 40 47.0**	**-0.7**
TATV	**Tatvan**	**0.59**	**148**	*e*P	**Pg**	**14 40 40.0**	**-0.9**
TATV				*e*S	**Sb**	**14 40 50.5**	**0.0**
TATV	**Tatvan**	**0.59**	**148**	*e*P	**Pg**	**14 40 40.0**	**-0.9**
TUTA	**Tutak**	**0.83**	**62**	*i* P	**Pg**	**14 40 43.0**	**-2.4**
TUTA				*i* S	**Sg**	**14 40 56.4**	**+0.1**
TUTA	**Tutak**	**0.83**	**62**	*i* P	**Pg**	**14 40 43.0**	**-2.4**
TUTA				*i* S	**Sg**	**14 40 56.4**	**+0.1**
BTMT	**Batman**	**0.87**	**200**	*e*PG	**Pg**	**14 40 45.2**	**-0.9**
BTMT	**Batman**	**0.87**	**200**	*e*Pg	**Pg**	**14 40 45.2**	**-0.9**
BNGB	**Bing¶ll**	**0.92**	**269**	*e*PG	**Pg**	**14 40 45.0**	**-2.2**
BNGB				*e*SG	**Sb**	**14 40 59.7**	**-0.2**
ERZM	**Erzurum**	**0.97**	**337**	*i* P	**Pg**	**14 40 45.9**	**-2.2**
ERZM				*i* S	**Sg**	**14 40 59.0**	**-1.7**
ERZM	**Erzurum**	**0.97**	**337**	*i* P	**Pg**	**14 40 45.9**	**-2.2**
ERZM				*i* S	**Sg**	**14 40 59.0**	**-1.7**
EZM	**Erzurum**	**0.97**	**337**	*e*PG	**Pg**	**14 40 46.0**	**-2.1**
HOMI	**Horasan**	**1.03**	**2**	*i* P	**Pg**	**14 40 46.8**	**-2.4**
HOMI				*i* S	**Sb**	**14 41 02.6**	**-0.5**
AGRB	**Hanur-Agry**	**1.04**	**57**	*e*PG	**Pg**	**14 40 47.0**	**-2.3**
AGRB	**Hanur-Agry**	**1.04**	**57**	*e*Pg	**Pg**	**14 40 47.0**	**-2.3**
BINT	**Bingol**	**1.08**	**263**	*e*Pg	Pb	14 40 45.0	-5.2
BINT				*e*Sg	**Sg**	**14 40 59.7**	**-4.5**
GEVA	**Gevas**	**1.17**	**127**	*i* P	**Pb**	**14 40 50.6**	**-1.1**
GEVA				*i* S	**Sn**	**14 41 08.3**	**+0.3**
GEVA	**Gevas**	**1.17**	**127**	*i* P	**Pb**	**14 40 50.6**	**-1.1**
GEVA				*i* S	**Sn**	**14 41 08.3**	**+0.3**
TVAN	**Van**	**1.30**	**111**	*i* P	**Pb**	**14 40 53.5**	**-0.5**
TVAN	**Van**	**1.30**	**111**	*i* P	**Pb**	**14 40 53.5**	**-0.5**
KOPT	**Kop Dagi**	**1.46**	**314**	*i* P	**Pn**	**14 40 55.0**	**-1.0**
KOPT				*i* S	**Sg**	**14 41 16.5**	**+0.2**
KOPT	**Kop Dagi**	**1.46**	**314**	*i* P	**Pn**	**14 40 55.0**	**-1.0**
KOPT				*i* S	**Sg**	**14 41 16.5**	**+0.2**
DYDN	**Diyadin**	**1.51**	**69**	*i* P	**Pn**	**14 40 56.5**	**-0.2**
DYDN				*i* S	**Sg**	**14 41 17.3**	**-0.7**
DYDN	**Diyadin**	**1.51**	**69**	*i* P	**Pn**	**14 40 56.5**	**-0.2**
DYDN				*i* S	**Sg**	**14 41 17.3**	**-0.7**
SIRT	**Sirnak**	**1.58**	**163**	*e*PN	**Pn**	**14 40 56.9**	**-0.6**
SIRT	**Sirnak**	**1.58**	**163**	*e*Pn	**Pn**	**14 40 56.9**	**-0.6**
CLDR	**Cald

	0.2nm,0.3s,baz=189,slow=14,SNR=2.9						
KBZ				Lg	Lg	14 43 08.1	
	baz=84,slow=22,SNR=1.9						
KBZ				LR	LR	14 43 51.9	
	comp=Z,228nm,18.8s,baz=297,slow=43						
KVT	**Kavak**	**4.92**	**297**	*e*PN	**Pn**	**14 41 44.7**	**+1.3**
KVT	**Kavak**	**4.92**	**297**	*e*Pn	**Pn**	**14 41 44.7**	**+1.3**
KOZT	**Kozan**	**4.99**	**254**	*e*PN	**Pn**	**14 41 45.9**	**+1.5**
KOZT	**Kozan**	**4.99**	**254**	*e*Pn	**Pn**	**14 41 45.9**	**+1.5**
YOZ	**Yozgat**	**5.11**	**279**	*e*PN	**Pn**	**14 41 47.7**	**+1.6**
YOZ	**Yozgat**	**5.11**	**279**	*e*Pn	**Pn**	**14 41 47.7**	**+1.6**
CEYT	**Ceyhan**	**5.23**	**249**	*e*PN	**Pn**	**14 41 49.3**	**+1.7**
CEYT	**Ceyhan**	**5.23**	**249**	*e*Pn	**Pn**	**14 41 49.3**	**+1.7**
CORM	**Corum**	**5.71**	**284**	*e*PN	**Pn**	**14 41 56.0**	**+1.7**
CORM	**Corum**	**5.71**	**284**	*e*Pn	**Pn**	**14 41 56.0**	**+1.7**
NIG	**Nigde**	**5.76**	**263**	*e*PN	**Pn**	**14 41 56.8**	**+1.7**
NIG	**Nigde**	**5.76**	**263**	*e*Pn	**Pn**	**14 41 56.8**	**+1.7**
BHD	**Baghdad**	**6.08**	**160**	*e*P	**Pb**	**14 42 13.3**	**-2.1**
BHD				*e*S	Sb	14 43 20.0	-8.2
BRTR	**Keskin Array B**	**6.41**	**279**	Pn	Pn	14 42 07.0	+3.1
	0.2nm,0.3s,baz=108,slow=15,SNR=8.3						
BRTR				Lg	Lg	14 44 00.2	
	0.1nm,0.3s,baz=240,slow=15,SNR=2.1						
IBDR	**Badra**	**6.75**	**150**	*e*P	Pb	14 42 19.4	-7.3
IBDR				*e*S	Sn	14 43 31.0	+5.7
ASF	**Jabal al Asfar**	**7.93**	**212**	LR	LR	14 45 35.4	
	comp=Z,49nm,18.5s,baz=85,slow=38						
MMAI	**Mount Meron Ar**	**7.95**	**223**	Pn	Pn	14 42 27.9	+2.9
	1.4nm,0.3s,baz=24,slow=14,SNR=3.0						
AKASG	**Malin Array Be**	**14.70**	**327**	Pn	**Pn**	**14 43 57.6**	**+0.4**
	0.3nm,0.3s,baz=136,slow=12,SNR=7.8						
AKTO	**Aktyubinsk**	**16.15**	**40**	Pn	**Pn**	**14 44 14.6**	**-1.7**
	0.1nm,0.3s,baz=249,slow=13,SNR=7.4						
GERES	**GERESS Array B**	**22.42**	**305**	P	**P**	**14 45 30.6**	**+2.4**
	1.0nm,0.8s,baz=96,slow=8.2,SNR=5.6						
BVAR	**Borovoye Array**	**24.06**	**45**	P	**P**	**14 45 46.0**	**+1.4**
	0.2nm,0.4s,baz=237,slow=10,SNR=2.8						
FINES	**FINESS Array B**	**24.49**	**342**	P	**P**	**14 45 49.3**	**+1.0**
	1.7nm,0.8s,baz=150,slow=11,SNR=3.5						
KEST	**Kesra**	**25.98**	**273**	P	P	14 46 06.7	+4.5
	1.0nm,0.7s,baz=24,slow=6.8,SNR=4.3						
KURBB	**Kurchatov Arra**	**28.19**	**54**	P	**P**	**14 46 23.3**	**+1.4**
	0.3nm,0.2s,baz=264,slow=9.3,SNR=5.6						
NOA	**NORSAR Array B**	**29.09**	**329**	LR	LR	14 59 18.3	
	comp=Z,21nm,21.0s,baz=190,slow=39						
MKAR	**Makanchi Array**	**30.34**	**62**	P	**P**	**14 46 40.9**	**-0.2**
	0.2nm,0.7s,baz=275,slow=3.6,SNR=3.6						
ESDC	**Sonseca Array**	**35.15**	**286**	P	**P**	**14 47 25.0**	**+1.8**
	0.2nm,0.3s,baz=54,slow=6.5,SNR=2.8						
TORD	**Torodi Ar. Bea**	**43.81**	**245**	P	P	14 48 39.6	+4.0
	0.7nm,0.8s,baz=45,slow=7.5,SNR=4.5						

MAN 02 14:46:31,13°48N×120°57E,h53km,mb3.7,ML2.5,MS2.0, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.37**	**87**	⇑*i*P	Pn	14 46 43.6	+2.5
SJMP	**San Jose**	**1.15**	**152**	*e*P	Pn	14 46 53.3	+2.5
SJMP				*e*S	Sn	14 47 04.6	-0.8
BUSP	**Coron**	**1.51**	**194**	*e*P	Pn	14 46 57.7	+2.0
ENPP	**El Nido**	**2.52**	**206**	*e*P	Pn	14 47 11.3	+1.8
CUYO	**Cuyo Island**	**2.65**	**170**	*e*P	Pn	14 47 12.5	+1.1

*NEIC **02** 14:50:34.8,38°63S×175°82E,h169km,MG4.3(WEL), After WEL*

WEL 02 14:50:35.1±0.3,38°65S×175°79E,h168km±2km,ML4.2/21, 13C-1D,Error ellipse: s-maj=1.5km s-min=1.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.07**	**217**	Pn	Pn	14 50 57.5	+0.1
WATZ	**Wairara**	**0.07**	**217**	PN	Pn	14 50 57.5	+0.1
WHTZ	**Whakaora**	**0.13**	**98**	Pn	Pn	14 50 57.6	+0.1
WHTZ	**Whakaora**	**0.13**	**98**	PN	Pn	14 50 57.6	+0.1
RATZ	**Rangitukua**	**0.22**	**184**	Pn	Pn	14 50 57.5	-0.1
RATZ	**Rangitukua**	**0.22**	**184**	⇑PN	Pn	14 50 57.4	-0.2
RITZ	**Rihia Road**	**0.33**	**171**	Pn	Pn	14 50 58.0	+0.2
RITZ	**Rihia Road**	**0.33**	**171**	PN	Pn	14 50 58.0	+0.2
KATZ	**Kakaramea**	**0.34**	**193**	Pn	Pn	14 50 57.9	-0.1
KATZ	**Kakaramea**	**0.34**	**193**	PN	Pn	14 50 57.9	-0.1
HATZ	**Hinemaiaia**	**0.34**	**136**	Pn	Pn	14 50 57.7	-0.2
HATZ				Sn	Sn	14 51 14.3	-1.1
HATZ	**Hinemaiaia**	**0.34**	**136**	PN	Pn	14 50 57.7	-0.2
HATZ				SN	Sn	14 51 14.5	-1.0
TLZ	**Tolley Road**	**0.38**	**328**	PN	Pn	14 50 57.9	-0.1
TLZ				SN	Sn	14 51 15.7	+0.1
ALRZ	**Allen Road**	**0.44**	**79**	Pn	Pn	14 50 57.8	-0.4
ALRZ	**Allen Road**	**0.44**	**79**	PN	Pn	14 50 57.8	-0.5
ALRZ				SN	Sn	14 51 15.9	0.0
KRVZ	**Karewarewa**	**0.46**	**195**	Pn	Pn	14 50 58.4	-0.1
KRVZ	**Karewarewa**	**0.46**	**195**	PN	Pn	14 50 58.2	-0.3
WTVZ	**West Tongariro**	**0.49**	**199**	Pn	Pn	14 50 58.5	-0.1
WTVZ	**West Tongariro**	**0.49**	**199**	PN	Pn	14 50 58.5	-0.1
PRRZ	**Plateau Road**	**0.49**	**72**	Pn	Pn	14 50 58.2	-0.3
PRRZ				Sn	Sn	14 51 15.6	-0.7
PRRZ	**Plateau Road**	**0.49**	**72**	PN	Pn	14 50 57.9	-0.6
PRRZ				SN	Sn	14 51 15.6	-0.7
TWVZ	**Taurewa**	**0.50**	**213**	Pn	Pn	14 50 58.6	0.0
TWVZ	**Taurewa**	**0.50**	**213**	PN	Pn	14 50 58.5	0.0
OTVZ	**Oturere**	**0.52**	**191**	Pn	Pn	14 50 58.8	0.0
OTVZ	**Oturere**	**0.52**	**191**	PN	Pn	14 50 58.7	-0.1
NGZ	**Ngauruhoe**	**0.55**	**196**	Pn	Pn	14 50 58.9	0.0
NGZ	**Ngauruhoe**	**0.55**	**196**	PN	Pn	14 50 58.7	-0.2
WPVZ	**Whakapapa**	**0.59**	**199**	Pn	Pn	14 50 58.9	-0.2
WPVZ	**Whakapapa**	**0.59**	**199**	PN	Pn	14 50 58.9	-0.2
TUVZ	**Tukino**	**0.63**	**190**	Pn	Pn	14 50 59.5	+0.2
TUVZ	**Tukino**	**0.63**	**190**	⇑PN	Pn	14 50 59.5	+0.2
FWVZ	**Far West T-bar**	**0.63**	**197**	Pn	Pn	14 50 59.2	-0.2
FWVZ	**Far West T-bar**	**0.63**	**197**	⇑PN	Pn	14 50 59.2	-0.2
RRRZ	**Republican Roa**	**0.65**	**62**	Pn	Pn	14 50 58.9	-0.3
RRRZ	**Republican Roa**	**0.65**	**62**	*e*PN	Pn	14 50 58.9	-0.3
RRRZ				SN	Sn	14 51 17.0	-0.7
DRZ	**Dome Shelter**	**0.65**	**196**	Pn	Pn	14 50 59.6	0.0
DRZ	**Dome Shelter**	**0.65**	**196**	PN	Pn	14 50 59.6	0.0
WHVZ	**Whangaehu Hut**	**0.65**	**194**	⇑PN	Pn	14 50 59.4	-0.1
TRVZ	**Turoa**	**0.68**	**196**	Pn	Pn	14 50 59.8	+0.1
TRVZ	**Turoa**	**0.68**	**196**	PN	Pn	14 50 59.7	+0.1
WNVZ	**Wahianoa**	**0.69**	**192**	Pn	Pn	14 50 59.8	+0.1
WNVZ	**Wahianoa**	**0.69**	**192**	⇑PN	Pn	14 50 59.8	+0.1
PKVZ	**Pokaka**	**0.73**	**208**	Pn	Pn	14 50 59.7	0.0
PKVZ	**Pokaka**	**0.73**	**208**	PN	Pn	14 50 59.7	0.0
HIZ	**Hauiti**	**0.75**	**280**	Pn	Pn	14 50 59.5	-0.2
HIZ	**Hauiti**	**0.75**	**280**	PN	Pn	14 50 59.5	-0.2
BKZ	**Black Stump Fm**	**0.75**	**134**	Pn	Pn	14 50 59.5	-0.4
BKZ				Sn	Sn	14 51 17.8	-1.2
BKZ	**Black Stump Fm**	**0.75**	**134**	PN	Pn	14 50 59.7	-0.2
BKZ				SN	Sn	14 51 17.8	-1.2
BKZ				AML	AML	14 51 20.0	
MOVZ	**Moawhango**	**0.76**	**182**	Pn	Pn	14 50 59.8	-0.1
MOVZ	**Moawhango**	**0.76**	**182**	⇑PN	Pn	14 50 59.7	-0.2
MTVZ	**Mangateitei**	**0.78**	**199**	Pn	Pn	14 51 00.2	+0.2
MTVZ	**Mangateitei**	**0.78**	**199**	PN	Pn	14 51 00.2	+0.1
BHHZ	**Black Hill Sta**	**0.86**	**166**	Pn	Pn	14 51 00.6	0.0
BHHZ	**Black Hill Sta**	**0.86**	**166**	⇑PN	Pn	14 51 00.6	0.0
NMHZ	**Naumai**	**0.91**	**120**	PN	Pn	14 51 01.7	+0.8
NMHZ				SN	Sn	14 51 21.7	+0.8
VRZ	**Vera Road**	**0.94**	**239**	Pn	Pn	14 51 00.7	-0.3
VRZ	**Vera Road**	**0.94**	**239**	PN	Pn	14 51 00.9	-0.1
TOZ	**Tahuroa Road**	**0.95**	**346**	Pn	Pn	14 51 00.5	-0.6
TOZ	**Tahuroa Road**	**0.95**	**346**	PN	Pn	14 51 00.5	-0.6
OPRZ	**Ohinepanea**	**1.00**	**37**	Pn	Pn	14 51 01.0	-0.6
OPRZ	**Ohinepanea**	**1.00**	**37**	PN	Pn	14 51 01.0	-0.6
RAHZ	**Arahi**	**1.05**	**105**	PN	Pn	14 51 02.3	+0.4
MCHZ	**McNeill Hill**	**1.06**	**139**	Pn	Pn	14 51 03.0	+0.9
MCHZ	**McNeill Hill**	**1.06**	**139**	PN	Pn	14 51 02.9	+0.9
URZ	**Urewera**	**1.11**	**70**	Pn	Pn	14 51 01.6	-0.8
URZ				Sn	Sn	14 51 21.1	-2.2
URZ	**Urewera**	**1.11**	**70**	PN	Pn	14 51 01.5	-0.8
URZ				SN	Sn	14 51 20.9	-2.5
URZ				AML	AML	14 51 21.7	
MHEZ	**Mangahewa**	**1.22**	**249**	Pn	Pn	14 51 03.6	+0.2
MHEZ	**Mangahewa**	**1.22**	**249**	PN	Pn	14 51 03.5	+0.1
RAEZ	**Rainy Point**	**1.26**	**239**	Pn	Pn	14 51 03.8	+0.1
RAEZ	**Rainy Point**	**1.26**	**239**	PN	Pn	14 51 03.8	+0.1
WAZ	**Wanganui**	**1.27**	**209**	Pn	Pn	14 51 03.7	-0.1
WAZ	**Wanganui**	**1.27**	**209**	PN	Pn	14 51 03.7	-0.1
PNHZ	**Pukenui**	**1.30**	**166**	Pn	Pn	14 51 04.1	0.0
PNHZ	**Pukenui**	**1.30**	**166**	⇑PN	Pn	14 51 04.1	-0.1
DREZ	**Durham Road**	**1.35**	**246**	Pn	Pn	14 51 04.5	-0.1
DREZ	**Durham Road**	**1.35**	**246**	PN	Pn	14 51 04.4	-0.1
MWZ	**Matawai**	**1.40**	**78**	Pn	Pn	14 51 04.5	-0.6
MWZ				Sn	Sn	14 51 26.1	-2.1
MWZ	**Matawai**	**1.40**	**78**	⇓PN	Pn	14 51 25.4	-2.8
MWZ				SN	Sn	14 51 25.4	-2.8
MWZ				AML	AML	14 51 27.2	
MWZ				AML	AML	14 51 27.2	
MWZ				AML	AML	14 51 27.2	
TSZ	**Takapari Road**	**1.42**	**175**	Pn	Pn	14 51 05.0	-0.2
TSZ	**Takapari Road**	**1.42**	**175**	PN	Pn	14 51 05.0	-0.2
TSZ				AML	AML	14 51 29.9	
TSZ				AML	AML	14 51 30.5	
CKHZ	**Cape Kidnapper**	**1.42**	**136**	Pn	Pn	14 51 05.8	+0.6
CKHZ	**Cape Kidnapper**	**1.42**	**136**	PN	Pn	14 51 05.7	+0.5
KAHZ	**Kahuranaki**	**1.42**	**144**	Pn	Pn	14 51 05.8	+0.5
KAHZ	**Kahuranaki**	**1.42**	**144**	⇑PN	Pn	14 51 05.8	+0.5
NEZ	**North Egmont**	**1.46**	**244**	Pn	Pn	14 51 05.8	+0.1
NEZ	**North Egmont**	**1.46**	**244**	PN	Pn	14 51 05.8	+0.1
DFE	**Dawson Falls**	**1.48**	**242**	Pn	Pn	14 51 05.8	0.0
DFE	**Dawson Falls**	**1.48**	**242**	PN	Pn	14 51 05.8	0.0
WPHZ	**Waipukurau**	**1.50**	**161**	Pn	Pn	14 51 06.0	0.0
WPHZ	**Waipukurau**	**1.50**	**161**	⇑PN	Pn	14 51 06.0	0.0
PKE	**Pukeiti**	**1.51**	**248**	Pn	Pn	14 51 05.9	-0.2
PKE	**Pukeiti**	**1.51**	**248**	PN	Pn	14 51 05.9	-0.2
KNZ	**Kokohu**	**1.52**	**105**	Pn	Pn	14 51 06.2	+0.1
KNZ	**Kokohu**	**1.52**	**105**	PN	Pn	14 51 06.2	+0.1
KNZ				AML	AML	14 51 30.7	
KNZ				AML	AML	14 51 32.9	
KHEZ	**Kahui Hut**	**1.53**	**245**	PN	Pn	14 51 06.1	-0.2
PXZ	**Pawanui**	**1.61**	**149**	Pn	Pn	14 51 07.1	0.0
PXZ	**Pawanui**	**1.61**	**149**	PN	Pn	14 51 07.1	0.0
PXZ				AML	AML	14 51 34.0	
PXZ				AML	AML	14 51 34.1	
PXZ				AML	AML	14 51 34.3	
PXZ				AML	AML	14 51 34.3	
NWEZ	**Newall Road**	**1.62**	**247**	Pn	Pn	14 51 07.1	-0.2
NWEZ	**Newall Road**	**1.62**	**247**	PN	Pn	14 51 07.1	-0.2
PRGZ	**Paritu Road**	**1.66**	**100**	PN	Pn	14 51 07.6	-0.1
DVHZ	**Dannevirke**	**1.67**	**170**	Pn	Pn	14 51 07.2	-0.5
DVHZ	**Dannevirke**	**1.67**	**170**	⇑PN	Pn	14 51 07.2	-0.5
NMEZ	**Namu Road**	**1.67**	**242**	PN	Pn	14 51 07.4	-0.3
MHGZ	**Mahia Peninsul**	**1.73**	**108**	Pn	Pn	14 51 08.6	+0.3
MHGZ	**Mahia Peninsul**	**1.73**	**108**	PN	Pn	14 51 08.6	+0.3
POWZ	**Post Office Ro**	**1.74**	**181**	Pn	Pn	14 51 07.8	-0.6
POWZ	**Post Office Ro**	**1.74**	**181**	PN	Pn	14 51 07.8	-0.7
PRHZ	**Porangahau**	**1.74**	**158**	Pn	Pn	14 51 08.3	-0.2
PRHZ	**Porangahau**	**1.74**	**158**	PN	Pn	14 51 08.3	-0.2
ANWZ	**Angora Road**	**1.89**	**164**	PN	Pn	14 51 09.7	-0.3
CNGZ	**Carnagh Statio**	**1.90**	**86**	Pn	Pn	14 51 10.3	+0.2
CNGZ	**Carnagh Statio**	**1.90**	**86**	PN	Pn	14 51 10.3	+0.2
PRWZ	**Pori Road**	**1.91**	**176**	PN	Pn	14 51 09.7	-0.5
MRZ	**Mangatainoka R**	**2.02**	**185**	Pn	Pn	14 51 10.4	-1.1
MRZ	**Mangatainoka R**	**2.02**	**185**	⇑PN	Pn	14 51 10.4	-1.1
MRZ				AML	AML	14 51 39.5	
MRZ				AML	AML	14 51 39.5	
PUZ	**Puketiti**	**2.02**	**74**	Pn	Pn	14 51 10.6	-1.0
PUZ	**Puketiti**	**2.02**	**74**	PN	Pn	14 51 10.5	-1.0
PUZ				AML	AML	14 51 39.2	
PUZ				AML	AML	14 51 40.2	
BFZ	**Birch Farm**	**2.06**	**170**	Pn	Pn	14 51 11.1	-0.8
BFZ	**Birch Farm**	**2.06**	**170**	PN	Pn	14 51 11.1	-0.9
BFZ				AML	AML	14 51 41.5	
BFZ				AML	AML	14 51 42.3	
BFZ				AML	AML	14 51 43.2	
BFZ				AML	AML	14 51 43.2	
TIWZ	**Tintock**	**2.13**	**178**	Pn	Pn	14 51 11.7	-1.0
TIWZ	**Tintock**	**2.13**	**178**	PN	Pn	14 51 11.7	-1.1
OGWZ	**Otaki Gorge**	**2.22**	**192**	Pn	Pn	14 51 12.6	-1.1
OGWZ	**Otaki Gorge**	**2.22**	**192**	PN	Pn	14 51 12.6	-1.1
HOWZ	**Holdsworth Sta**	**2.26**	**185**	Pn	Pn	14 51 12.8	-1.4
HOWZ	**Holdsworth Sta**	**2.26**	**185**	⇑PN	Pn	14 51 12.8	-1.4
MXZ	**Matakaoa Point**	**2.26**	**62**	Pn	Pn	14 51 13.4	-0.9
MXZ	**Matakaoa Point**	**2.26**	**62**	PN	Pn	14 51 13.4	-0.9
KIW	**Kapiti Island**	**2.31**	**197**	Pn	Pn	14 51 13.3	-1.5
KIW	**Kapiti Island**	**2.31**	**197**	PN	Pn	14 51 13.3	-1.5
KIW				AML	AML	14 51 44.7	
KIW				AML	AML	14 51 44.8	
TMWZ	**Te Maipa**	**2.46**	**178**	Pn	Pn	14 51 15.2	-1.4
TMWZ	**Te Maipa**	**2.46**	**178**	PN	Pn	14 51 15.2	-1.4
CAW	**Cannon Point**	**2.52**	**193**	Pn	Pn	14 51 15.8	-1.5
CAW	**Cannon Point**	**2.52**	**193**	PN	Pn	14 51 15.7	-1.5
CAW				AML	AML	14 51 49.2	
CAW				AML	AML	14 51 50.0	
DUWZ	**D'Urville Isla**	**2.59**	**213**	Pn	Pn	14 51 16.1	-1.8
DUWZ	**D'Urville Isla**	**2.59**	**213**	PN	Pn	14 51 16.3	-1.8
PAWZ	**Paruwai Farm**	**2.74**	**186**	Pn	Pn	14 51 18.0	-1.9
PAWZ	**Paruwai Farm**	**2.74**	**186**	PN	Pn	14 51 18.0	-1.9
PAWZ				AML	AML	14 51 51.7	
PAWZ				AML	AML	14 51 52.9	
TRWZ	**Traveller**	**2.75**	**182**	Pn	Pn	14 51 18.3	-1.7
TRWZ	**Traveller**	**2.75**	**182**	PN	Pn	14 51 18.3	-1.7
TRWZ				AML	AML	14 51 54.1	
TRWZ				AML	AML	14 51 54.3	
WEL	**Wellington**	**2.75**	**196**	Pn	Pn	14 51 18.3	-1.7
WEL	**Wellington**	**2.75**	**196**	PN	Pn	14 51 18.3	-1.7
SNZO	**South Karori**	**2.79**	**197**	Pn	Pn	14 51 18.4	-2.0
SNZO	**South Karori**	**2.79**	**197**	PN	Pn	14 51 18.4	-2.0
SNZO				AML	AML	14 51 54.8	
SNZO				AML	AML	14 51 54.9	
MSWZ	**Moikau Station**	**2.79**	**188**	Pn	Pn	14 51 18.5	-2.1
MSWZ	**Moikau Station**	**2.79**	**188**	PN	Pn	14 51 18.5	-2.1
MSWZ				AML	AML	14 51 53.7	
MSWZ				AML	AML	14 51 55.0	
TCW	**Tory Channel**	**2.81**	**204**	Pn	Pn	14 51 19.0	-1.8
TCW	**Tory Channel**	**2.81**	**204**	PN	Pn	14 51 19.0	-1.8
TCW				AML	AML	14 51 55.6	
TCW				AML	AML	14 51 55.9	
BHW	**Baring Head**	**2.84**	**194**	Pn	Pn	14 51 19.1	-2.1
BHW	**Baring Head**	**2.84**	**194**	PN	Pn	14 51 19.1	-2.1
BHW				AML	AML	14 51 53.1	
BHW				AML	AML	14 51 53.8	
PLWZ	**Palliser**	**2.95**	**188**	PN	Pn	14 51 20.3	-2.2
TUWZ	**Tuamarina**	**3.12**	**206**	Pn	Pn	14 51 22.3	-2.3
TUWZ	**Tuamarina**	**3.12**	**206**	PN	Pn	14 51 22.3	-2.3
TUWZ				AML	AML	14 52 00.5	
TUWZ				AML	AML	14 52 01.5	
NNZ	**Nelson**	**3.17**	**215**	Pn	Pn	14 51 22.7	-2.5
NNZ	**Nelson**	**3.17**	**215**	PN	Pn	14 51 22.7	-2.5
CMWZ	**Cape Campbell**	**3.32**	**201**	PN	Pn	14 51 25.7	-1.4
CMWZ				AML	AML	14 52 07.6	
CMWZ				AML	AML	14 52 14.3	
QRZ	**Quartz Range**	**3.33**	**228**	Pn	Pn	14 51 24.0	-3.1
QRZ	**Quartz Range**	**3.33**	**228**	PN	Pn	14 51 24.0	-3.2
BSWZ	**Blackbirch Sta**	**3.40**	**205**	Pn	Pn	14 51 25.9	-2.2
BSWZ	**Blackbirch Sta**	**3.40**	**205**	PN	Pn	14 51 25.8	-2.2
BSWZ				AML	AML	14 52 08.5	
BSWZ				AML	AML	14 52 08.6	
THZ	**Tophouse**	**3.82**	**214**	Pn	Pn	14 51 30.7	-2.8
THZ	**Tophouse**	**3.82**	**214**	PN	Pn	14 51 30.7	-2.8
KHZ	**Kahutara**	**4.14**	**204**	Pn	Pn	14 51 35.0	-2.4
KHZ	**Kahutara**	**4.14**	**204**	PN	Pn	14 51 35.0	-2.5
KHZ				AML	AML	14 52 23.4	
KHZ				AML	AML	14 52 23.5	
DSZ	**Denniston Nort**	**4.35**	**223**	Pn	Pn	14 51 37.7	-2.6
DSZ	**Denniston Nort**	**4.35**	**223**	PN	Pn	14 51 36.7	-3.6
LTZ	**Lake Taylor**	**4.92**	**212**	Pn	Pn	14 51 44.3	-3.4
LTZ	**Lake Taylor**	**4.92**	**212**	PN	Pn	14 51 44.2	-3.5
OXZ	**Oxford**	**5.47**	**210**	PN	Pn	14 51 50.3	-4.6
CRLZ	**Canterbury Las**	**5.47**	**205**	PN	Pn	14 51 50.1	-4.8
MQZ	**McQueen's Vall**	**5.58**	**204**	Pn	Pn	14 51 52.0	-4.3
MQZ	**McQueen's Vall**	**5.58**	**204**	PN	Pn	14 51 51.9	-4.3
WVZ	**Waitaha Valley**	**5.85**	**219**	Pn	Pn	14 51 56.8	-3.1
WVZ	**Waitaha Valley**	**5.85**	**219**	PN	Pn	14 51 56.7	-3.2
RPZ	**Rata Peaks**	**6.20**	**214**	Pn	Pn	14 52 00.8	-3.6
RPZ	**Rata Peaks**	**6.20**	**214**	PN	Pn	14 52 00.8	-3.6
FOZ	**Fox Glacier**	**6.73**	**221**	Pn	Pn	14 52 06.7	-4.8
FOZ	**Fox Glacier**	**6.73**	**221**	PN	Pn	14 52 06.7	-4.8
LBZ	**Lake Benmore**	**7.11**	**214**	Pn	Pn	14 52 12.3	-4.2
LBZ	**Lake Benmore**	**7.11**	**214**	PN	Pn	14 52 12.3	-4.2
ODZ	**Otahua Downs**	**7.46**	**209**	Pn	Pn	14 52 17.5	-3.6
ODZ	**Otahua Downs**	**7.46**	**209**	PN	Pn	14 52 17.2	-3.9
JCZ	**Jackson Bay**	**7.57**	**222**	Pn	Pn	14 52 18.5	-4.3
JCZ	**Jackson Bay**	**7.57**	**222**	PN	Pn	14 52 18.5	-4.3
WKZ	**Wanaka**	**7.98**	**217**	Pn	Pn	14 52 23.4	-4.7
WKZ	**Wanaka**	**7.98**	**217**	PN	Pn	14 52 23.2	-4.9
EAZ	**Earnscleugh**	**8.16**	**214**	PN	Pn	14 52 26.0	-4.4
WHZ	**Wether Hill Ro**	**9.28**	**216**	PN	Pn	14 52 41.0	-4.2

DJA 02 14:59:42.7±1.1,2°N±7°×12°7E±1°0,h79km±14km,M3.5/4, MLv3.5/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**0.72**	**122**	P	Pn	14 59 59.8	+1.3
GAMI				S	Sn	15 00 12.6	+2.4
TNTI	**Ternate**	**1.45**	**173**	P	Pn	15 00 08.2	+0.8
TNTI				S	Sn	15 00 27.2	+1.2
MNI	**Manado**	**2.46**	**252**	P	Pn	15 00 20.9	+0.1
LBMI	**Labuha**	**2.86**	**174**	P	Pn	15 00 25.7	-0.4

*ISCJB **02** 15:03:50.3±0.5,32°41N±0°05×105°23E±0°06,h15km, mb3.7/9,Error ellipse: s-maj=8.3km s-min=5.9km az=38.2*
*IDC **02** 15:03:50.1±0.9,32°65N×105°38E,h0km,mb3.7/9, mb1 3.8/10,mb1mx3.6/29,mbtmp3.7/10,ML3.6/1,Error ellipse: s-maj=51.0km s-min=18.2km az=58.0*
*BJI **02** 15:03:52.8,32°45N×105°04E,h21km,ML3.3/12*

ISC 02 15:03:52.0±0.6,32°36N±0°04×105°25E±0°06,h15km,n16, σ1°46/23,mb3.9/9,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.93**	**222**	Pn	**Pn**	**15 04 23.9**	**-0.5**
CD2				Pg	**Pb**	**15 04 26.3**	**-0.6**
CD2				Sn	**Sn**	**15 04 49.0**	**+0.6**
CD2				Sg	**Sb**	**15 04 52.1**	**+1.3**
CD2				smax	smax		
	comp=N,1μm,0.6s						
CD2				smax	smax		
	comp=E,750nm,0.7s						
XAN	**Xi'an**	**3.50**	**61**	Pn	**Pn**	**15 04 48.1**	**+2.1**
XAN				Pg	**Pg**	**15 04 56.8**	**-2.3**
XAN				Sn	**Sn**	**15 05 25.6**	**-1.6**
XAN				smax	smax		
	comp=N,110nm,0.5s						
XAN				smax	smax		
	comp=E,54nm,0.8s						
LZH	**Lanzhou**	**3.89**	**343**	Pn	**Pn**	**15 04 52.2**	**+0.7**
LZH				Pg	**Pb**	**15 05 00.8**	**+0.3**
LZH				Sn	**Sn**	**15 05 36.5**	**-0.5**
LZH				Sg	**Sb**	**15 05 49.7**	**+2.2**
LZH				smax	smax		
	comp=N,170nm,0.5s						
LZH				smax	smax		
	comp=E,270nm,0.6s						
GTA	**Gaotai**	**8.30**	**329**	*e*P	Pb	15 06 17.8	+2.3

*CSEM **02** 15:36:29.7, 33°.97N×25°.49E, h16km, MD3.4, After ATH*
*ATH **02** 15:36:29.7, 33°.97N×25°.49E, h16km±1km, MD3.4/7*
*IDC **02** 15:36:31.6±1.4, 34°.15N×25°.70E, h0km, mb3.6/3, mb1 3.6/5, mb1mx3.4/26, mbtmp3.5/5, Error ellipse: s-maj=48.8km s-min=24.6km az=137.0*

ISC 02 15:36:29.5±2.8, 34°.0N±0°.1×25°.54E±0°.06, h5km±12km, n19, σ0°62/28, mb3.7/3, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.18**	**358**	*e*	P	N	**Pb**	**15 36 51.7**	**-0.8**
LAST	**Lasithi**	**1.18**	**358**	*e*	Pn		**Pb**	**15 36 51.7**	**-0.8**
SIVA	**Sivas**	**1.20**	**330**	*e*	Pn		**Pb**	**15 36 52.2**	**-0.5**
SIVA				*e*	Sn		**Sg**	**15 37 08.3**	**+0.2**
SIVA	**Sivas**	**1.20**	**330**	*e*	Pn		**Pb**	**15 36 52.2**	**-0.5**
SIVA				*e*	Sn		**Sg**	**15 37 08.3**	**+0.2**
ZKR	**Zakros**	**1.26**	**26**	*e*	PN		**Pg**	**15 36 53.9**	**+0.1**
ZKR				*e*	SN		**Sn**	**15 37 11.6**	**+0.4**
ZKR	**Zakros**	**1.26**	**26**	*e*	Pn		**Pg**	**15 36 53.9**	**+0.1**
ZKR				*e*	Sn		**Sn**	**15 37 11.6**	**+0.4**
NPS	**Neapolis**	**1.28**	**3**	*e*	Pn		**Pn**	**15 36 53.5**	**-0.6**
NPS				*e*	SN		**Sg**	**15 37 11.2**	**+0.4**
NPS	**Neapolis**	**1.28**	**3**	*e*	Pn		**Pn**	**15 36 53.5**	**-0.6**
NPS				*e*	Sn		**Sg**	**15 37 11.2**	**+0.4**
IDI	**Anoyia**	**1.41**	**338**	*e*	PN		**Pb**	**15 36 56.1**	**-0.3**
IDI				*e*	SN		**Sg**	**15 37 15.8**	**+0.9**
IDI	**Anoyia**	**1.41**	**338**	*e*	Pn		**Pb**	**15 36 56.1**	**-0.3**
IDI				*e*	Sn		**Sg**	**15 37 15.8**	**+0.9**
VAM	**Vamos**	**1.80**	**323**	*e*	PN		**Pb**	**15 37 02.4**	**-0.6**
VAM				*e*	SN		**Sb**	**15 37 25.5**	**-0.4**
VAM	**Vamos**	**1.80**	**323**	*e*	Pn		**Pb**	**15 37 02.4**	**-0.6**
VAM				*e*	Sn		**Sb**	**15 37 25.5**	**-0.4**
KARP	**Karpathos**	**2.06**	**40**	*e*	PN		**Pb**	**15 37 06.6**	**-0.8**
KARP	**Karpathos**	**2.06**	**40**	*e*	Pn		**Pb**	**15 37 06.6**	**-0.8**
AKASG	**Malin Array Be**	**16.93**	**8**	Pn			**P**	**15 40 28.7**	**-0.4**
	0.7nm,0.3s,baz=198,slow=10,SNR=5.6								
GERES	**GERESS Array B**	**17.27**	**333**	P			**Pn**	**15 40 31.5**	**+0.1**
	0.0nm,0.3s,baz=158,slow=11,SNR=4.7								
TORD	**Torodi Ar. Bea**	**29.99**	**232**	P			P	15 42 44.1	+4.9
	0.3nm,0.7s,baz=33,slow=8.9,SNR=2.8								
MKAR	**Makanchi Array**	**44.17**	**56**	P			**P**	**15 44 40.4**	**+1.2**
	0.8nm,0.6s,baz=278,slow=6.2,SNR=14								
ZALV	**Zalesovo Beam**	**45.60**	**45**	P			**P**	**15 44 51.1**	**+0.7**
	0.7nm,0.5s,baz=255,slow=9.9,SNR=3.2								

IDC 02 15:53:25.1±2.3, 22°.70N×91°.75E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.5/28, mbtmp3.9/5, ML3.6/1, 1C, Error ellipse: s-maj=132.2km s-min=19.9km az=58.0, Bangladesh

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.86**	**2**	⇑*i*	P	N	Pg	15 54 25.0	+4.8
SHL				*e*	SN		Sg	15 54 56.0	-1.4
CMAR	**Chiang Mai Arr**	**7.95**	**121**	Pn			Pn	15 55 23.9	+2.0
	0.2nm,0.3s,baz=318,slow=14,SNR=6.7								
MKAR	**Makanchi Array**	**25.23**	**345**	P			P	15 58 53.0	+0.3
	2.8nm,0.5s,baz=148,slow=9.1,SNR=62								
KURBB	**Kurchatov Arra**	**29.73**	**343**	P			P	15 59 32.7	-0.2
	0.3nm,0.5s,baz=146,slow=10,SNR=4.5								
WRA	**Warramunga Arr**	**59.32**	**132**	P			P	16 03 28.4	-1.0
	1.5nm,0.4s,baz=322,slow=7.3,SNR=28								
ASAR	**Alice Springs**	**61.67**	**136**	P			P	16 03 45.5	+0.4
	1.1nm,0.4s,baz=317,slow=6.5,SNR=60								

*JMA **02** 15:56:11.7±0.6, 25°.39N×121°.91E, h0km, M3.1*
*TAP **02** 15:56:15.1, 24°.22N×121°.71E, h12km, ML3.6, B*

ISC 02 15:56:15.0±0.8, 24°.21N±0°.02×121°.76E±0°.02, h13km±5km, n57, σ0°75/96, 9C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.10**	**349**	*i*	P		**Pg**	**15 56 18.1**	**+0.1**
	baz=19								
EHP					S		**Sg**	**15 56 20.3**	**+0.1**
	baz=19								
TWD	**Chiawan**	**0.20**	**229**	⇓*i*	P		**Pg**	**15 56 19.2**	**-0.3**
	baz=216								
TWD				*i*	S		**Sg**	**15 56 22.3**	**-0.2**
	baz=216								
ENA	**Nanau**	**0.22**	**355**	⇑*i*	P		**Pg**	**15 56 19.9**	**+0.1**
	baz=8.0								
ENA					*e*S		**Sg**	**15 56 23.2**	**+0.2**
	baz=8.0								
HWA	**Hwalien**	**0.27**	**212**	*e*	P		**Pg**	**15 56 21.2**	**+0.4**
	baz=201								
TWC	**Suao**	**0.40**	**11**	⇑*i*	P		**Pb**	**15 56 23.4**	**-0.6**
	baz=11								
TWC					S		**Sb**	**15 56 29.0**	**-1.1**
	baz=11								
ESF	**Shoufeng Towns**	**0.41**	**215**	*e*	P		**Pg**	**15 56 23.9**	**+0.7**
	baz=219								
NNS	**Nan Shan**	**0.42**	**303**	⇑*i*	P		**Pg**	**15 56 23.1**	**-0.4**
	baz=305								
NNS				*e*	S		**Sg**	**15 56 28.6**	**-0.6**
	baz=305								
WHF	**Hehuan Shan**	**0.46**	**262**	⇑*i*	P		**Pg**	**15 56 23.8**	**-0.5**
	baz=260								
WHF					S		**Sg**	**15 56 29.6**	**-0.9**
	baz=260								
ESL	**Shilin**	**0.50**	**217**		P		**Pg**	**15 56 24.2**	**-0.6**
	baz=221								
ESL				*e*	S		**Sg**	**15 56 32.4**	**+0.9**
	baz=221								
TWE	**Neicheng**	**0.52**	**350**	⇑*i*	P		**Pg**	**15 56 25.3**	**+0.2**
	baz=1.0								
TWE					S		**Sg**	**15 56 32.0**	**0.0**
	baz=1.0								
TWT	**Tachien**	**0.54**	**275**	⇑*i*	P		**Pg**	**15 56 25.6**	**-0.1**
	baz=274								
TWT				*i*	S		**Sg**	**15 56 32.2**	**-0.7**
	baz=274								
ILA	**Ilan**	**0.55**	**359**	*e*	P		**Pb**	**15 56 26.1**	**-0.5**
	baz=3.0								
ILA				*e*	S		**Sb**	**15 56 34.1**	**-0.3**
	baz=3.0								
NSK	**Sanguang**	**0.59**	**322**	⇑*i*	P		**Pg**	**15 56 26.4**	**-0.2**
	baz=324								
NSK				*i*	S		**Sg**	**15 56 34.1**	**-0.4**
	baz=324								
TWA	**Mucha**	**0.78**	**348**		P		**Pb**	**15 56 30.6**	**0.0**
	baz=350								
TWA				*e*	S		**Sb**	**15 56 40.6**	**-0.4**
	baz=350								
EHY	**Hungye**	**0.81**	**210**	*e*	P		**Pg**	**15 56 29.2**	**-1.5**
	baz=207								
NSTT	**Nanjuang**	**0.81**	**301**	*e*	P		**Pg**	**15 56 30.1**	**-0.7**
	baz=302								
NSTT					S		**Sg**	**15 56 40.3**	**-1.1**
	baz=302								
TAP1	**Taipei**	**0.85**	**345**	*e*	P		**Pb**	**15 56 31.9**	**+0.3**
	baz=346								
TAP1				*e*	S		**Sb**	**15 56 42.9**	**-0.1**
	baz=346								
SMLT	**Sun Moon Lake**	**0.85**	**248**	⇓*i*	P		**Pg**	**15 56 31.2**	**-0.3**
	baz=239								
SMLT				*e*	S		**Sg**	**15 56 41.9**	**-0.9**
	baz=239								
NWF	**Wu-fen Shan**	**0.86**	**1**	*e*	P		**Pb**	**15 56 32.1**	**+0.2**
	baz=354								
NWF				*e*	S		**Sg**	**15 56 42.2**	**-0.6**
	baz=354								
TAP	**Taipei**	**0.86**	**344**	*e*	P		**Pn**	**15 56 32.3**	**-0.5**
	baz=346								
TAP				*e*	S		**Sb**	**15 56 43.4**	**+0.2**
	baz=346								
TYC	**Yuchr**	**0.88**	**250**	⇓*i*	P		**Pg**	**15 56 31.6**	**-0.5**
	baz=241								
TYC				*e*	S		**Sg**	**15 56 42.8**	**-0.9**
	baz=241								
TWQ1	**Liyutan**	**0.91**	**279**	*e*	P		**Pb**	**15 56 33.3**	**+0.5**
	baz=279								
TWQ1				*e*	S		**Sn**	**15 56 46.3**	**-0.3**
	baz=279								
NCU	**National Centr**	**0.92**	**325**	*e*	P		**Pn**	**15 56 34.2**	**+0.5**
	baz=327								
NCU				*e*	S		**Sn**	**15 56 46.0**	**-0.8**
	baz=327								
NSY	**Sanyi**	**0.94**	**283**	*e*	P		**Pn**	**15 56 34.1**	**+0.2**
	baz=283								
NSY				*e*	S		**Sb**	**15 56 45.8**	**+0.3**
	baz=283								
TWS1	**Kuangyinshan**	**0.94**	**341**	*e*	P		**Pn**	**15 56 33.9**	**0.0**
	baz=350								
TWS1				*e*	S		**Sn**	**15 56 47.1**	**-0.2**
	baz=350								
TWF1	**Yuli**	**0.96**	**207**	*e*	P		**Pb**	**15 56 31.6**	**-1.8**
	baz=217								
TCU	**Taichung**	**0.99**	**267**		P		**Pn**	**15 56 35.3**	**+0.6**
	baz=266								
TCU				*e*	S		**Sn**	**15 56 48.4**	**-0.1**
	baz=266								
YUS	**Yu-Shan**	**1.03**	**226**	*e*	P		**Pb**	**15 56 34.5**	**-0.6**
	baz=225								
YUS				*e*	S		**Sb**	**15 56 48.5**	**-0.3**
	baz=225								
WNT	**Mingjian**	**1.04**	**252**	*e*	P		**Pg**	**15 56 35.3**	**+0.2**
	baz=247								
WNT				*e*	S		**Sn**	**15 56 49.9**	**+0.2**
	baz=247								
TWY	**Chenhua**	**1.07**	**352**	*e*	P		**Pn**	**15 56 36.5**	**+0.7**
	baz=6.0								
ALS	**Alishan**	**1.12**	**232**	⇓*i*	P		**Pb**	**15 56 36.1**	**-0.4**
	baz=215								
CHKT	**Chengkung**	**1.17**	**198**	*e*	P		**Pn**	**15 56 35.8**	**-1.2**
	baz=182								
CHN5	**Tsauling**	**1.17**	**239**		P		**Pn**	**15 56 37.0**	**-0.1**
	baz=239								
CHN5				*e*	S		**Sn**	**15 56 54.1**	**+1.1**
	baz=239								
YOJ	**Yonaguni jima**	**1.17**	**77**	*e*	P		**Pg**	**15 56 37.2**	**-0.3**
	baz=66								
YOJ	**Yonaguni jima**	**1.17**	**77**		P		**Pg**	**15 56 37.5**	**0.0**
YOJ				*e*	S		**Sn**	**15 56 55.8**	**+3.0**
WGK	**Gukeng**	**1.22**	**245**	*e*	P		**Pn**	**15 56 37.7**	**-0.1**
	baz=245								
WGK				*e*	S		**Sg**	**15 56 56.0**	**+1.7**
	baz=245								
ELDTW	**Lidau**	**1.23**	**214**	*e*	P		**Pn**	**15 56 36.8**	**-1.1**
	baz=212								
CHN2	**Minshiung**	**1.36**	**240**	*e*	P		**Pg**	**15 56 41.2**	**0.0**
	baz=241								
CHN2				*e*	S		**Sg**	**15 56 59.9**	**+1.0**
	baz=241								
WTCT	**Ta-ch'eng**	**1.40**	**256**	*e*	P		**Pb**	**15 56 41.0**	**0.0**
	baz=256								
WTCT				*e*	S		**Sg**	**15 57 00.1**	**0.0**
	baz=256								
CHY	**Chiayi**	**1.42**	**240**	*e*	P		**Pb**	**15 56 41.9**	**+0.6**
	baz=239								
WTP	**Ta-pu**	**1.43**	**228**	⇑*i*	P		**Pn**	**15 56 41.2**	**+0.5**
	baz=229								
WTP				*e*	S		**Sg**	**15 57 01.1**	**+0.1**
	baz=229								
PCYT	**Pengchaiyu**	**1.44**	**11**	*e*	P		**Pb**	**15 56 41.8**	**+0.1**
	baz=13								
TWK	**Hsinying**	**1.50**	**231**	*e*	P		**Pn**	**15 56 42.5**	**+0.9**
	baz=233								
TWK				*e*	S		**Sg**	**15 57 03.3**	**0.0**
	baz=233								
WSF	**Szhu**	**1.52**	**248**	*e*	P		**Pn**	**15 56 42.3**	**+0.4**
	baz=258								
WSF				*e*	S		**Sb**	**15 57 03.2**	**+0.9**
	baz=258								
TWG	**Pinlang**	**1.52**	**205**	*e*	P		**Pn**	**15 56 42.3**	**+0.3**
	baz=188								
CHN1	**Nanshi**	**1.52**	**228**	⇑	P		**Pn**	**15 56 42.9**	**+0.9**
	baz=219								
CHN1				*e*	S		**Sg**	**15 57 05.3**	**+1.1**
	baz=219								
SGST	**Jiashian**	**1.56**	**224**	*e*	P		**Pn**	**15 56 43.1**	**+0.6**
	baz=225								
SGST				*e*	S		**Sg**	**15 57 05.7**	**+0.4**
	baz=225								
CHN8	**Yiju**	**1.66**	**239**	*e*	P		**Pn**	**15 56 44.5**	**+0.6**
	baz=226								
CHN8				*e*	S		**Sg**	**15 57 08.0**	**-0.5**
	baz=226								
CHN3	**Shinhua**	**1.71**	**229**	*e*	P		**Pn**	**15 56 45.5**	**+1.0**
	baz=230								
ECL	**Taimali**	**1.77**	**205**	*e*	P		**Pn**	**15 56 45.3**	**-0.1**
	baz=192								
IRIF	**Iriomote-Funau**	**1.80**	**86**		P		**Pb**	**15 56 47.2**	**-0.6**
IRIF				*e*	S		**Sg**	**15 57 13.3**	**+0.3**
TWM1	**Shoushan**	**1.85**	**222**	*e*	P		**Pb**	**15 56 48.5**	**-0.2**
	baz=223								
EAST	**Anshuo**	**2.00**	**205**	*e*	P		**Pb**	**15 56 50.5**	**-0.9**
	baz=193								
JKRS	**Kuro-shima**	**2.05**	**89**		P		**Pn**	**15 56 50.2**	**+1.0**
JKRS				*e*	S		**Sg**	**15 57 18.9**	**-2.1**
SCZT	**Fangliau**	**2.11**	**210**	*e*	P		**Pn**	**15 56 50.0**	**0.0**
	baz=212								
JIJ	**Ishigaki jima**	**2.18**	**86**		P		**Pn**	**15 56 51.2**	**+0.2**
JIJ				*e*	S		**Sn**	**15 57 18.5**	**+0.7**
TWK1	**Hengchun**	**2.42**	**202**	*e*	P		**Pn**	**15 56 55.1**	**+0.8**
	baz=190								

*NEIC **02** 16:25:19.1, 41°.55S×173°.00E, h92km, ML4.2(WEL), After WEL.*
NEIC Felt in the Nelson-Marlborough area.

WEL 02 16:25:19.2±0.3, 41°.55S×173°.00E, h92km±2km, ML4.2/20, 4C-18D, Error ellipse: s-maj=2.0km s-min=1.9km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.44**	**41**	⇓	P	n	Pn	16 25 33.5	-0.1
NNZ					Sn		Sn	16 25 43.6	-0.8
NNZ	**Nelson**	**0.44**	**41**	⇓	PN		Pn	16 25 33.5	-0.1
NNZ					SN		Sn	16 25 43.6	-0.8
BSWZ	**Blackbirch Sta**	**0.68**	**104**		Pn		Pn	16 25 36.1	+0.4
BSWZ	**Blackbirch Sta**	**0.68**	**104**	⇓	PN		Pn	16 25 36.1	+0.4
BSWZ					AML		AML	16 25 49.8	
BSWZ					AML		AML	16 25 52.3	
TUWZ	**Tuamarina**	**0.72**	**81**		Pn		Pn	16 25 36.3	+0.2
TUWZ	**Tuamarina**	**0.72**	**81**	⇓	PN		Pn	16 25 36.3	+0.2
TUWZ					AML		AML	16 25 48.8	
TUWZ					AML		AML	16 25 49.2	
QRZ	**Quartz Range**	**0.80**	**334**		Pn		Pn	16 25 36.6	-0.3
QRZ	**Quartz Range**	**0.80**	**334**		PN		Pn	16 25 36.6	-0.3
DSZ	**Denniston Nort**	**0.91**	**257**	⇓	Pn		Pn	16 25 37.4	-0.7
DSZ	**Denniston Nort**	**0.91**	**257**	⇓	PN		Pn	16 25 37.4	-0.7
CMWZ	**Cape Campbell**	**0.94**	**103**		Pn		Pn	16 25 38.7	+0.4
CMWZ	**Cape Campbell**	**0.94**	**103**		PN		Pn	16 25 38.7	+0.4
CMWZ					AML		AML	16 25 59.5	
CMWZ					AML		AML	16 26 06.7	
KHZ	**Kahutara**	**0.96**	**155**	⇑	Pn		Pn	16 25 38.6	+0.1
KHZ	**Kahutara**	**0.96**	**155**	⇑	PN		Pn	16 25 38.6	+0.1
KHZ					AML		AML	16 25 58.3	
KHZ					AML		AML	16 25 58.9	
TCW	**Tory Channel**	**1.02**	**71**		Pn		Pn	16 25 39.7	+0.5
TCW	**Tory Channel**	**1.02**	**71**	⇓	PN		Pn	16 25 39.7	+0.5
TCW					AML		AML	16 25 55.8	
TCW					AML		AML	16 25 56.6	
DUWZ	**D'Urville Isla**	**1.02**	**43**		Pn		Pn	16 25 39.9	+0.6
DUWZ	**D'Urville Isla**	**1.02**	**43**	⇓	PN		Pn	16 25 39.9	+0.6
SNZO	**South Karori**	**1.31**	**80**		Pn		Pn	16 25 42.3	-0.3
SNZO	**South Karori**	**1.31**	**80**		PN		Pn	16 25 42.3	-0.3
SNZO					AML		AML	16 26 01.5	
SNZO					AML		AML	16 26 01.5	
SNZO					AML		AML	16 26 01.5	
SNZO					AML		AML	16 26 01.6	
LTZ	**Lake Taylor**	**1.34**	**203**		Pn		Pn	16 25 42.9	-0.3
LTZ	**Lake Taylor**	**1.34**	**203**		PN		Pn	16 25 42.8	-0.3
WEL	**Wellington**	**1.36**	**79**		Pn		Pn	16 25 42.9	-0.3
WEL	**Wellington**	**1.36**	**79**		PN		Pn	16 25 42.8	-0.4
BHW	**Baring Head**	**1.42**	**85**		Pn		Pn	16 25 43.4	-0.6
BHW					Sn		Sn	16 26 01.2	-1.4
BHW	**Baring Head**	**1.42**	**85**		PN		Pn	16 25 43.4	-0.6
BHW					SN		Sn	16 26 01.2	-1.4
BHW					AML		AML	16 26 03.4	
KIW	**Kapiti Island**	**1.60**	**65**		Pn		Pn	16 25 46.4	+0.1
KIW	**Kapiti Island**	**1.60**	**65**	⇓	PN		Pn	16 25 46.4	+0.1
KIW					AML		AML	16 25 46.6	
KIW					AML		AML	16 25 47.0	
CAW	**Cannon Point**	**1.62**	**75**		Pn		Pn	16 25 46.1	-0.5
CAW	**Cannon Point**	**1.62**	**75**	⇓	PN		Pn	16 25 46.1	-0.5
CAW					AML		AML	16 26 07.9	
CAW					AML		AML	16 26 08.0	
PLWZ	**Palliser**	**1.70**	**91**		Pn		Pn	16 25 46.5	-1.1
PLWZ	**Palliser**	**1.70**	**91**		PN		Pn	16 25 46.5	-1.1
MSWZ	**Moikau Station**	**1.70**	**86**		Pn		Pn	16 25 46.6	-1.0
MSWZ	**Moikau Station**	**1.70**	**86**	⇓	PN		Pn	16 25 46.6	-1.0
MSWZ					AML		AML	16 26 08.4	
MSWZ					AML		AML	16 26 09.0	
OGWZ	**Otaki Gorge**	**1.80**	**67**		Pn		Pn	16 25 48.5	-0.3
OGWZ	**Otaki Gorge**	**1.80**	**67**	⇓	PN		Pn	16 25 48.5	-0.3
PAWZ	**Paruwai Farm**	**1.83**	**86**		Pn		Pn	16 25 48.1	-1.2
PAWZ	**Paruwai Farm**	**1.83**	**86**	⇓	PN		Pn	16 25 48.1	-1.2
PAWZ					AML		AML	16 26 11.8	
PAWZ					AML		AML	16 26 12.0	
OXZ	**Oxford**	**1.91**	**201**		PN		Pn	16 25 49.0	-1.3
MTW	**Mount Morrison**	**1.93**	**79**	⇓	Pn		Pn	16 25 49.3	-1.2
MTW	**Mount Morrison**	**1.93**	**79**	⇓	PN		Pn	16 25 49.3	-1.2
MTW					AML		AML	16 26 13.8	
MTW					AML		AML	16 26 14.1	
HOWZ	**Holdsworth Sta**	**2.01**	**72**		Pn		Pn	16 25 50.5	-1.1
HOWZ	**Holdsworth Sta**	**2.01**	**72**	⇓	PN		Pn	16 25 50.5	-1.1
TRWZ	**Traveller**	**2.03**	**87**		Pn		Pn	16 25 50.6	-1.2
TRWZ	**Traveller**	**2.03**	**87**		PN		Pn	16 25 50.4	-1.4
TRWZ					AML		AML	16 26 16.7	
TRWZ					AML		AML	16 26 20.7	
CRLZ	**Canterbury Las**	**2.04**	**188**		Pn		Pn	16 25 50.5	-1.4
CRLZ	**Canterbury Las**	**2.04**	**188**		PN		Pn	16 25 50.5	-1.5
MRZ	**Mangatainoka R**	**2.15**	**66**		Pn		Pn	16 25 52.3	-1.1
MRZ	**Mangatainoka R**	**2.15**	**66**	⇑	PN		Pn	16 25 52.3	-1.1
MRZ					AML		AML	16 26 19.2	
MRZ					AML		AML	16 26 20.3	
MQZ	**McQueen's Vall**	**2.17**	**187**		Pn		Pn	16 25 51.7	-1.9
MQZ	**McQueen's Vall**	**2.17**	**187**		PN		Pn	16 25 51.7	-1.9
TMWZ	**Te Maipa**	**2.23**	**80**		Pn		Pn	16 25 52.9	-1.5
TMWZ	**Te Maipa**	**2.23**	**80**		PN		Pn	16 25 52.9	-1.5
NMEZ	**Namu Road**	**2.24**	**18**		PN		Pn	16 25 55.8	+1.2
WVZ	**Waitaha Valley**	**2.27**	**227**		Pn		Pn	16 25 54.0	-0.9
WVZ	**Waitaha Valley**	**2.27**	**227**		PN		Pn	16 25 54.0	-0.8
TIWZ	**Tintock**	**2.31**	**71**		Pn		Pn	16 25 54.2	-1.4
TIWZ	**Tintock**	**2.31**	**71**	⇓	PN		Pn	16 25 54.2	-1.4
WAZ	**Wanganui**	**2.35**	**41**		Pn		Pn	16 25 57.2	+1.1
WAZ	**Wanganui**	**2.35**	**41**		PN		Pn	16 25 57.2	+1.1
NWEZ	**Newall Road**	**2.37**	**17**		Pn		Pn	16 25 57.7	+1.4
NWEZ	**Newall Road**	**2.37**	**17**		PN		Pn	16 25 57.7	+1.4
DFE	**Dawson Falls**	**2.38**	**21**		Pn		Pn	16 25 57.7	+1.1
DFE	**Dawson Falls**	**2.38**	**21**		PN		Pn	16 25 57.7	+1.1
KHEZ	**Kahui Hut**	**2.38**	**19**		PN		Pn	16 25 57.7	+1.0
POWZ	**Post Office Ro**	**2.40**	**62**		Pn		Pn	16 25 55.4	-1.2
POWZ	**Post Office Ro**	**2.40**	**62**		PN		Pn	16 25 55.4	-1.2
NEZ	**North Egmont**	**2.43**	**21**		Pn		Pn	16 25 58.0	+0.8
NEZ	**North Egmont**	**2.43**	**21**		PN		Pn	16 25 57.9	+0.7
PRWZ	**Pori Road**	**2.46**	**67**		PN		Pn	16 25 56.3	-1.2
PKE	**Pukeiti**	**2.47**	**18**		Pn		Pn	16 25 58.8	+1.1
PKE	**Pukeiti**	**2.47**	**18**		PN		Pn	16 25 58.8	+1.1
RAEZ	**Rainy Point**	**2.50**	**26**		Pn		Pn	16 25 59.5	+1.4
RAEZ	**Rainy Point**	**2.50**	**26**		PN		Pn	16 25 59.4	+1.4
DREZ	**Durham Road**	**2.53**	**22**		Pn		Pn	16 25 59.7	+1.2
DREZ	**Durham Road**	**2.53**	**22**		PN		Pn	16 25 59.7	+1.2
RPZ	**Rata Peaks**	**2.60**	**213**		Pn		Pn	16 25 57.6	-1.7
RPZ	**Rata Peaks**	**2.60**	**213**		PN		Pn	16 25 57.6	-1.8
BFZ	**Birch Farm**	**2.60**	**72**		Pn		Pn	16 25 57.5	-1.9
BFZ	**Birch Farm**	**2.60**	**72**		PN		Pn	16 25 57.5	-1.9
BFZ					AML		AML	16 26 29.6	
BFZ					AML		AML	16 26 29.6	
BFZ					AML		AML	16 26 33.8	
BFZ					AML		AML	16 26 33.8	
MHEZ	**Mangahewa**	**2.67**	**23**		Pn		Pn	16 26 01.6	+1.3
MHEZ	**Mangahewa**	**2.67**	**23**		PN		Pn	16 26 01.5	+1.2
TSZ	**Takapari Road**	**2.70**	**58**		Pn		Pn	16 25 59.4	-1.4
TSZ	**Takapari Road**	**2.70**	**58**		PN		Pn	16 25 59.4	-1.4
TSZ					AML		AML	16 26 14.0	
TSZ					AML		AML	16 26 41.1	
DVHZ	**Dannevirke**	**2.71**	**64**		Pn		Pn	16 25 59.1	-1.8
DVHZ	**Dannevirke**	**2.71**	**64**		PN		Pn	16 25 59.0	-1.8
VRZ	**Vera Road**	**2.77**	**30**		Pn		Pn	16 26 02.9	+1.2
VRZ	**Vera Road**	**2.77**	**30**		PN		Pn	16 26 02.9	+1.2
ANWZ	**Angora Road**	**2.85**	**69**		PN		Pn	16 26 00.5	-2.2
MTVZ	**Mangateitei**	**2.87**	**42**	*e*	Pn		Pn	16 26 03.1	0.0
MTVZ	**Mangateitei**	**2.87**	**42**	*e*	PN		Pn	16 26 03.1	0.0
PNHZ	**Pukenui**	**2.93**	**57**		Pn		Pn	16 26 02.2	-1.7
PNHZ	**Pukenui**	**2.93**	**57**	⇓	PN		Pn	16 26 02.2	-1.7
MOVZ	**Moawhango**	**3.00**	**45**		Pn		Pn	16 26 04.2	-0.7
MOVZ	**Moawhango**	**3.00**	**45**		PN		Pn	16 26 04.2

ellipse: s-maj=69.2km s-min=36.1km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.87**	**212**	Pn	Pn	16 55 50.8	+0.3
	1.0nm,0.3s,baz=201,slow=12,SNR=7.2						
URZ				Sn	Sn	16 57 07.7	-1.7
	2.8nm,0.3s,baz=180,slow=23,SNR=9.8						
ASAR	**Alice Springs**	**42.76**	**269**	P	P	17 02 08.1	0.0
	0.6nm,0.7s,baz=109,slow=7.6,SNR=12						
WRA	**Warramunga Arr**	**43.94**	**274**	P	P	17 02 17.4	-0.1
	1.1nm,0.5s,baz=114,slow=7.7,SNR=13						
FINES	**FINESS Array B**	**146.99**	**339**	PKPbc	PKPbc	17 13 51.5	-0.9
	1.0nm,0.6s,baz=35,slow=5.3,SNR=6.9						

GUC 02 17:05:12.1±0.8, 32°47S×71°88W, h27km±4km, MD3.7, ML3.1, 3C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.59**	**160**	⇓*i*P	Pb	17 05 23.2	-0.7
CHNG	**Los Chungos**	**0.67**	**29**	⇓*i*P	Pb	17 05 24.7	-0.5
CHNG				*i* S	Sb	17 05 34.0	0.0
CHNG				AML	AML	17 05 36.1	
	comp=E,549nm,0.2s						
PTCH	**Petorca**	**0.83**	**76**	⇓*i*P	Pb	17 05 27.6	-0.3
PTCH				*i* S	Sb	17 05 38.6	-0.1
PTCH				AML	AML	17 05 40.8	
	comp=N,2μm,0.1s						
ROCH	**El Roble**	**0.89**	**125**	⇓*i*P	Pn	17 05 28.1	-1.0
ROCH				*i* S	Sb	17 05 41.0	+0.2
ROCH				AML	AML	17 05 42.4	
	comp=E,830nm,0.3s						
JACH	**Jahuel**	**1.10**	**101**	⇑*i*P	Pn	17 05 31.6	-0.4
JACH				*i* S	Sn	17 05 46.3	-0.2
PEL	**Peldehue**	**1.21**	**124**	⇑*i*P	Pn	17 05 33.5	+0.2
PEL				*i* S	Sb	17 05 49.5	-0.2
PEL				AML	AML	17 05 51.3	
	comp=N,2μm,0.3s						
SAN	**Santiago**	**1.42**	**134**	*e*P	Pn	17 05 36.4	+0.2
SAN				*e*S	Sb	17 05 55.4	-0.2
SAN				AML	AML	17 05 57.1	
	comp=N,341nm,0.3s						
TACH	**Talagante**	**1.42**	**147**	⇓*i*P	Pn	17 05 36.6	+0.4
TACH				*i* S	Sn	17 05 54.6	+0.5
CLCH	**Cerro Calan**	**1.46**	**130**	*i* P	Pn	17 05 37.5	+0.7
CLCH				*i* S	Sb	17 05 56.9	0.0
CLCH				AML	AML	17 06 00.3	
	comp=E,491nm,0.2s						
CLCH				AML	AML	17 06 00.4	
	comp=E,605nm,0.7s						
CMCH	**Combarbala**	**1.49**	**30**	⇓*i*P	Pn	17 05 37.5	+0.2
CMCH				*i* S	Sb	17 05 57.2	-0.7
CMCH				AML	AML	17 06 02.5	
	comp=N,2μm,0.7s						
ANTU	**Antumapu**	**1.51**	**137**	AML	AML	17 05 59.8	
	comp=E,360nm,0.6s						
FCH	**Farellones**	**1.58**	**123**	*i* S	Sb	17 06 00.4	-0.7
FCH				AML	AML	17 06 02.7	
	comp=N,598nm,0.5s						
PCH	**Pirque**	**1.62**	**135**	*e*P	Pn	17 05 39.9	+0.8
PCH				*e*S	Sb	17 06 01.0	-0.6
CHCH	**Chadas Angostu**	**1.79**	**145**	*e*P	Pn	17 05 42.7	+1.4
CHCH				*e*S	Sb	17 06 04.9	-1.3
CACH	**El Canelo**	**1.96**	**147**	⇓*i*P	Pn	17 05 45.5	+1.7
CACH				*i* S	Sb	17 06 11.8	+0.3
LMEL	**Las Melosas**	**1.96**	**135**	⇑*i*P	Pn	17 05 45.2	+1.3
LMEL				*e*S	Sb	17 06 10.2	-1.5
LMEL				AML	AML	17 06 16.0	
	comp=N,302nm,0.2s						

MAN 02 17:11:43, 13°21N×120°19E, h20km, mb4.4, ML3.3, MS3.1, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.80**	**69**	⇑*i*P	Pb	17 11 56.9	-1.4
SJMP	**San Jose**	**1.17**	**129**	*e*P	Pn	17 12 04.2	-0.1
SJMP				*e*S	Sn	17 12 20.4	+0.7
BUSP	**Coron**	**1.20**	**180**	*e*P	Pb	17 12 05.4	+0.3
BOAC	**Boac**	**1.63**	**81**	*e*P	Pb	17 12 11.7	-0.7
ENPP	**El Nido**	**2.13**	**201**	*e*P	Pn	17 12 18.2	+0.7

*IDC **02** 17:16:35.3±1.3, 41°.62S×173°.16E, h76km±19km, mb3.2/2, mb1 3.5/4, mb1mx3.3/16, mbtmp3.3/4, Error ellipse: s-maj=38.2km s-min=9.9km az=131.0*
*ISCJB **02** 17:16:36.2±0.3, 41°.69S±0°.03×173°.12E±0°.05, h114km±5km, mb3.8/3, Error ellipse: s-maj=7.3km s-min=3.5km az=40.2*
*WEL **02** 17:16:38.1±0.2, 41°.58S×172°.99E, h91km±2km, ML4.6/21, Error ellipse: s-maj=2.2km s-min=2.0km az=90.0, 5.*
WEL Felt between Nelson, West Coast and Wellington, maximum reported intensity MM.
*NEIC **02** 17:16:38.1, 41°.58S×172°.99E, h92km, mb4.3/1, ML4.6(WEL), After WEL.*
NEIC Felt in the Nelson-Marlborough area.

ISC 02 17:16:37.1±0.9, 41°.63S±0°.04×173°.06E±0°.04, h104km±6km, n169, σ1°9.14/174, mb3.6/3, 7C-21D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.47**	**30**	Pn	**Pn**	**17 16 52.6**	**-0.5**
NNZ				Sn	**Sn**	**17 17 02.9**	**-2.1**
NNZ	**Nelson**	**0.47**	**30**	PN	**Pn**	**17 16 52.6**	**-0.5**
NNZ				SN	**Sn**	**17 17 02.9**	**-2.1**
BSWZ	**Blackbirch Sta**	**0.62**	**99**	Pn	**Pn**	**17 16 55.2**	**+1.1**
BSWZ	**Blackbirch Sta**	**0.62**	**99**	⇑PN	**Pn**	**17 16 55.2**	**+1.1**
BSWZ				AML	AML	17 17 08.6	
BSWZ				AML	AML	17 17 11.4	
TUWZ	**Tuamarina**	**0.69**	**74**	Pn	**Pn**	**17 16 55.4**	**+0.7**
TUWZ	**Tuamarina**	**0.69**	**74**	PN	**Pn**	**17 16 55.3**	**+0.6**
TUWZ				AML	AML	17 17 09.0	
TUWZ				AML	AML	17 17 09.6	
KHZ	**Kahutara**	**0.87**	**156**	Pn	**Pn**	**17 16 57.6**	**+1.2**
KHZ				S	**Sn**	**17 17 10.6**	**-0.4**
KHZ	**Kahutara**	**0.87**	**156**	PN	**Pn**	**17 16 57.6**	**+1.2**
CMWZ	**Cape Campbell**	**0.87**	**99**	Pn	**Pn**	**17 16 57.8**	**+1.4**
CMWZ	**Cape Campbell**	**0.87**	**99**	PN	**Pn**	**17 16 57.8**	**+1.4**
CMWZ				AML	AML	17 17 19.0	
CMWZ				AML	AML	17 17 32.7	
QRZ	**Quartz Range**	**0.89**	**333**	⇓Pn	**Pn**	**17 16 55.8**	**-0.9**
QRZ	**Quartz Range**	**0.89**	**333**	⇓PN	**Pn**	**17 16 55.8**	**-0.9**
DSZ	**Denniston Nort**	**0.95**	**262**	⇓Pn	**Pn**	**17 16 56.4**	**-0.9**
DSZ	**Denniston Nort**	**0.95**	**262**	⇓PN	**Pn**	**17 16 56.4**	**-0.9**
TCW	**Tory Channel**	**1.00**	**66**	Pn	**Pn**	**17 16 58.8**	**+1.0**
TCW	**Tory Channel**	**1.00**	**66**	⇓PN	**Pn**	**17 16 58.8**	**+1.0**
TCW				AML	AML	17 17 14.2	
TCW				AML	AML	17 17 14.4	
DUWZ	**D'Urville Isla**	**1.05**	**39**	Pn	**Pn**	**17 16 59.1**	**+0.8**
DUWZ	**D'Urville Isla**	**1.05**	**39**	PN	**Pn**	**17 16 59.1**	**+0.8**
SNZO	**South Karori**	**1.27**	**76**	Pn	**Pn**	**17 17 01.4**	**+0.6**
SNZO				*e*Sn	**Sn**	**17 17 19.1**	**+0.3**
SNZO	**South Karori**	**1.27**	**76**	⇓PN	**Pn**	**17 17 01.4**	**+0.6**
SNZO				AML	AML	17 17 19.8	
SNZO				AML	AML	17 17 19.8	
SNZO				AML	AML	17 17 19.9	
SNZO				AML	AML	17 17 19.9	
LTZ	**Lake Taylor**	**1.30**	**207**	Pn	**Pn**	**17 17 01.9**	**+0.7**
LTZ	**Lake Taylor**	**1.30**	**207**	PN	**Pn**	**17 17 01.8**	**+0.7**
WEL	**Wellington**	**1.33**	**76**	Pn	**Pn**	**17 17 02.2**	**+0.8**
WEL	**Wellington**	**1.33**	**76**	PN	**Pn**	**17 17 02.2**	**+0.8**
BHW	**Baring Head**	**1.38**	**82**	Pn	**Pn**	**17 17 02.5**	**+0.5**
BHW	**Baring Head**	**1.38**	**82**	⇓PN	**Pn**	**17 17 02.5**	**+0.5**
BHW				AML	AML	17 17 20.8	
BHW				AML	AML	17 17 21.9	
KIW	**Kapiti Island**	**1.59**	**62**	Pn	**Pn**	**17 17 05.5**	**+0.9**
KIW	**Kapiti Island**	**1.59**	**62**	⇓PN	**Pn**	**17 17 05.5**	**+0.9**
KIW				AML	AML	17 17 26.4	
KIW				AML	AML	17 17 27.8	
CAW	**Cannon Point**	**1.59**	**72**	Pn	**Pn**	**17 17 05.2**	**+0.5**
CAW	**Cannon Point**	**1.59**	**72**	⇓PN	**Pn**	**17 17 05.2**	**+0.5**
CAW				AML	AML	17 17 26.3	
CAW				AML	AML	17 17 26.6	
PLWZ	**Palliser**	**1.65**	**89**	Pn	**Pn**	**17 17 05.6**	**+0.3**
PLWZ	**Palliser**	**1.65**	**89**	⇓PN	**Pn**	**17 17 05.6**	**+0.3**
MSWZ	**Moikau Station**	**1.66**	**83**	Pn	**Pn**	**17 17 05.7**	**+0.3**
MSWZ	**Moikau Station**	**1.66**	**83**	⇓PN	**Pn**	**17 17 05.7**	**+0.3**
MSWZ				AML	AML	17 17 27.5	
MSWZ				AML	AML	17 17 27.6	
OGWZ	**Otaki Gorge**	**1.78**	**64**	Pn	**Pn**	**17 17 07.6**	**+0.6**
OGWZ	**Otaki Gorge**	**1.78**	**64**	⇓PN	**Pn**	**17 17 07.6**	**+0.6**
PAWZ	**Paruwai Farm**	**1.79**	**83**	Pn	**Pn**	**17 17 07.2**	**+0.1**
PAWZ	**Paruwai Farm**	**1.79**	**83**	⇓PN	**Pn**	**17 17 07.2**	**+0.1**
PAWZ				AML	AML	17 17 30.1	
PAWZ				AML	AML	17 17 30.8	
OXZ	**Oxford**	**1.86**	**204**	⇓PN	**Pn**	**17 17 07.9**	**-0.1**
MTW	**Mount Morrison**	**1.89**	**77**	Pn	**Pn**	**17 17 08.5**	**0.0**
MTW	**Mount Morrison**	**1.89**	**77**	⇓PN	**Pn**	**17 17 08.5**	**0.0**
MTW				AML	AML	17 17 32.6	
MTW				AML	AML	17 17 32.6	
CRLZ	**Canterbury Las**	**1.98**	**189**	Pn	**Pn**	**17 17 09.5**	**0.0**
CRLZ	**Canterbury Las**	**1.98**	**189**	⇑PN	**Pn**	**17 17 09.5**	**0.0**
TRWZ	**Traveller**	**1.98**	**84**	Pn	**Pn**	**17 17 09.8**	**+0.2**
TRWZ	**Traveller**	**1.98**	**84**	PN	**Pn**	**17 17 09.8**	**+0.2**
TRWZ				AML	AML	17 17 35.5	
TRWZ				AML	AML	17 17 36.0	
HOWZ	**Holdsworth Sta**	**1.99**	**69**	Pn	**Pn**	**17 17 09.6**	**0.0**
HOWZ	**Holdsworth Sta**	**1.99**	**69**	⇓PN	**Pn**	**17 17 09.6**	**0.0**
MQZ	**McQueen's Vall**	**2.10**	**188**	Pn	**Pn**	**17 17 10.8**	**-0.3**
MQZ	**McQueen's Vall**	**2.10**	**188**	PN	**Pn**	**17 17 10.8**	**-0.3**
MRZ	**Mangatainoka R**	**2.13**	**64**	Pn	**Pn**	**17 17 11.5**	**0.0**
MRZ	**Mangatainoka R**	**2.13**	**64**	⇓PN	**Pn**	**17 17 11.5**	**0.0**
MRZ				AML	AML	17 17 38.5	
MRZ				AML	AML	17 17 38.5	
TMWZ	**Te Maipa**	**2.19**	**77**	Pn	**Pn**	**17 17 12.1**	**-0.2**
TMWZ	**Te Maipa**	**2.19**	**77**	PN	**Pn**	**17 17 12.1**	**-0.2**
WVZ	**Waitaha Valley**	**2.25**	**229**	Pn	**Pn**	**17 17 13.5**	**+0.4**
WVZ	**Waitaha Valley**	**2.25**	**229**	PN	**Pn**	**17 17 13.5**	**+0.4**
TIWZ	**Tintock**	**2.29**	**69**	Pn	**Pn**	**17 17 13.3**	**-0.3**
TIWZ	**Tintock**	**2.29**	**69**	⇓PN	**Pn**	**17 17 13.3**	**-0.3**
NMEZ	**Namu Road**	**2.29**	**16**	PN	**Pn**	**17 17 15.1**	**+1.5**
WAZ	**Wanganui**	**2.37**	**39**	Pn	**Pn**	**17 17 16.4**	**+1.7**
WAZ	**Wanganui**	**2.37**	**39**	PN	**Pn**	**17 17 16.3**	**+1.7**
POWZ	**Post Office Ro**	**2.39**	**60**	Pn	**Pn**	**17 17 14.6**	**-0.3**
POWZ	**Post Office Ro**	**2.39**	**60**	PN	**Pn**	**17 17 14.6**	**-0.3**
NWEZ	**Newall Road**	**2.43**	**15**	Pn	**Pn**	**17 17 16.7**	**+1.4**
NWEZ	**Newall Road**	**2.43**	**15**	PN	**Pn**	**17 17 16.7**	**+1.4**
DFE	**Dawson Falls**	**2.43**	**19**	Pn	**Pn**	**17 17 16.9**	**+1.4**
DFE	**Dawson Falls**	**2.43**	**19**	⇑PN	**Pn**	**17 17 16.9**	**+1.4**
KHEZ	**Kahui Hut**	**2.44**	**18**	PN	**Pn**	**17 17 16.9**	**+1.3**
PRWZ	**Pori Road**	**2.44**	**65**	⇓PN	**Pn**	**17 17 15.5**	**-0.1**
NEZ	**North Egmont**	**2.48**	**19**	Pn	**Pn**	**17 17 17.3**	**+1.2**
NEZ	**North Egmont**	**2.48**	**19**	PN	**Pn**	**17 17 17.0**	**+0.8**
PKE	**Pukeiti**	**2.53**	**17**	Pn	**Pn**	**17 17 18.1**	**+1.3**
PKE	**Pukeiti**	**2.53**	**17**	PN	**Pn**	**17 17 18.0**	**+1.3**
RAEZ	**Rainy Point**	**2.55**	**24**	Pn	**Pn**	**17 17 18.6**	**+1.7**
RAEZ	**Rainy Point**	**2.55**	**24**	PN	**Pn**	**17 17 18.6**	**+1.7**
RPZ	**Rata Peaks**	**2.56**	**215**	Pn	**Pn**	**17 17 16.7**	**-0.4**
RPZ				*e*Sn	**Sn**	**17 17 49.2**	**+1.4**
RPZ	**Rata Peaks**	**2.56**	**215**	P	**Pn**	**17 17 16.3**	**-0.8**
	4.3nm,0.3s,baz=49,slow=2.1,SNR=38						
RPZ				S	**Sn**	**17 17 46.2**	**-1.6**
	11nm,0.3s,baz=340,slow=6.1,SNR=7.0						
RPZ	**Rata Peaks**	**2.56**	**215**	PN	**Pn**	**17 17 16.7**	**-0.4**
BFZ	**Birch Farm**	**2.58**	**70**	Pn	**Pn**	**17 17 16.7**	**-0.7**
BFZ	**Birch Farm**	**2.58**	**70**	PN	**Pn**	**17 17 16.7**	**-0.7**
BFZ				AML	AML	17 17 47.7	
BFZ				AML	AML	17 17 47.7	
BFZ				AML	AML	17 17 48.5	
BFZ				AML	AML	17 17 48.5	
DREZ	**Durham Road**	**2.58**	**20**	Pn	**Pn**	**17 17 18.7**	**+1.3**
DREZ	**Durham Road**	**2.58**	**20**	PN	**Pn**	**17 17 18.7**	**+1.3**
DVHZ	**Dannevirke**	**2.70**	**62**	Pn	**Pn**	**17 17 18.2**	**-0.7**
DVHZ	**Dannevirke**	**2.70**	**62**	⇓PN	**Pn**	**17 17 18.2**	**-0.7**
TSZ	**Takapari Road**	**2.70**	**56**	Pn	**Pn**	**17 17 18.6**	**-0.4**
TSZ	**Takapari Road**	**2.70**	**56**	PN	**Pn**	**17 17 18.6**	**-0.4**
TSZ				AML	AML	17 17 52.1	
TSZ				AML	AML	17 17 53.4	
MHEZ	**Mangahewa**	**2.72**	**21**	Pn	**Pn**	**17 17 20.6**	**+1.4**
MHEZ	**Mangahewa**	**2.72**	**21**	PN	**Pn**	**17 17 20.4**	**+1.2**
VRZ	**Vera Road**	**2.81**	**28**	Pn	**Pn**	**17 17 22.2**	**+1.7**
VRZ	**Vera Road**	**2.81**	**28**	⇑PN	**Pn**	**17 17 22.2**	**+1.7**
ANWZ	**Angora Road**	**2.83**	**67**	PN	**Pn**	**17 17 20.0**	**-0.7**
PKVZ	**Pokaka**	**2.91**	**38**	PN	**Pn**	**17 17 22.9**	**+1.1**
PNHZ	**Pukenui**	**2.93**	**55**	Pn	**Pn**	**17 17 21.4**	**-0.7**
PNHZ	**Pukenui**	**2.93**	**55**	PN	**Pn**	**17 17 21.4**	**-0.7**
WPHZ	**Waipukurau**	**3.00**	**60**	Pn	**Pn**	**17 17 22.3**	**-0.6**
WPHZ	**Waipukurau**	**3.00**	**60**	⇑PN	**Pn**	**17 17 22.3**	**-0.6**
WNVZ	**Wahianoa**	**3.00**	**41**	Pn	**Pn**	**17 17 23.9**	**+0.8**
WNVZ	**Wahianoa**	**3.00**	**41**	PN	**Pn**	**17 17 23.9**	**+0.8**
MOVZ	**Moawhango**	**3.02**	**44**	Pn	**Pn**	**17 17 23.5**	**+0.2**
MOVZ	**Moawhango**	**3.02**	**44**	⇑PN	**Pn**	**17 17 23.5**	**+0.2**
PRHZ	**Porangahau**	**3.03**	**65**	Pn	**Pn**	**17 17 22.6**	**-0.7**
PRHZ	**Porangahau**	**3.03**	**65**	PN	**Pn**	**17 17 22.4**	**-0.9**
WHVZ	**Whangaehu Hut**	**3.03**	**40**	PN	**Pn**	**17 17 24.2**	**+0.6**
FWVZ	**Far West T-bar**	**3.03**	**40**	Pn	**Pn**	**17 17 24.2**	**+0.6**
FWVZ	**Far West T-bar**	**3.03**	**40**	PN	**Pn**	**17 17 23.9**	**+0.3**
WPVZ	**Whakapapa**	**3.07**	**39**	Pn	**Pn**	**17 17 24.8**	**+0.8**
WPVZ	**Whakapapa**	**3.07**	**39**	PN	**Pn**	**17 17 26.2**	**+2.2**
TUVZ	**Tukino**	**3.07**	**41**	Pn	**Pn**	**17 17 24.7**	**+0.7**
TUVZ	**Tukino**	**3.07**	**41**	PN	**Pn**	**17 17 24.7**	**+0.7**
BHHZ	**Black Hill Sta**	**3.13**	**48**	Pn	**Pn**	**17 17 24.5**	**-0.1**
BHHZ	**Black Hill Sta**	**3.13**	**48**	PN	**Pn**	**17 17 24.5**	**-0.1**
TWVZ	**Taurewa**	**3.13**	**36**	Pn	**Pn**	**17 17 25.2**	**+0.5**
TWVZ	**Taurewa**	**3.13**	**36**	PN	**Pn**	**17 17 25.2**	**+0.5**
FOZ	**Fox Glacier**	**3.16**	**231**	Pn	**Pn**	**17 17 23.7**	**-1.3**
FOZ	**Fox Glacier**	**3.16**	**231**	PN	**Pn**	**17 17 23.6**	**-1.3**
OTVZ	**Oturere**	**3.16**	**40**	Pn	**Pn**	**17 17 25.8**	**+0.7**
OTVZ	**Oturere**	**3.16**	**40**	PN	**Pn**	**17 17 25.9**	**+0.7**
WTVZ	**West Tongariro**	**3.16**	**38**	Pn	**Pn**	**17 17 26.6**	**+1.4**
WTVZ	**West Tongariro**	**3.16**	**38**	PN	**Pn**	**17 17 26.6**	**+1.4**
KRVZ	**Karewarewa**	**3.20**	**39**	Pn	**Pn**	**17 17 27.3**	**+1.5**
KRVZ	**Karewarewa**	**3.20**	**39**	PN	**Pn**	**17 17 27.3**	**+1.5**
PXZ	**Pawanui**	**3.29**	**62**	Pn	**Pn**	**17 17 26.0**	**-0.8**
PXZ	**Pawanui**	**3.29**	**62**	PN	**Pn**	**17 17 26.0**	**-0.8**
PXZ				AML	AML	17 18 05.1	
PXZ				AML	AML	17 18 05.1	
PXZ				AML	AML	17 18 07.4	
PXZ				AML	AML	17 18 07.4	
HIZ	**Hauiti**	**3.40**	**24**	Pn	**Pn**	**17 17 28.9**	**+0.6**
HIZ	**Hauiti**	**3.40**	**24**	⇑PN	**Pn**	**17 17 28.9**	**+0.6**
KAHZ	**Kahuranaki**	**3.43**	**59**	Pn	**Pn**	**17 17 27.8**	**-0.9**
KAHZ	**Kahuranaki**	**3.43**	**59**	PN	**Pn**	**17 17 27.8**	**-0.9**
RATZ	**Rangitukua**	**3.45**	**38**	Pn	**Pn**	**17 17 32.1**	**+3.1**
RATZ	**Rangitukua**	**3.45**	**38**	PN	**Pn**	**17 17 32.1**	**+3.1**
LBZ	**Lake Benmore**	**3.48**	**216**	Pn	**Pn**	**17 17 28.2**	**-1.0**
LBZ	**Lake Benmore**	**3.48**	**216**	PN	**Pn**	**17 17 28.2**	**-1.0**
WATZ	**Wairara**	**3.56**	**36**	Pn	**Pn**	**17 17 33.3**	**+2.8**
WATZ	**Wairara**	**3.56**	**36**	PN	**Pn**	**17 17 33.2**	**+2.8**
BKZ	**Black Stump Fm**	**3.59**	**48**	Pn	**Pn**	**17 17 30.1**	**-0.8**
BKZ	**Black Stump Fm**	**3.59**	**48**	⇓PN	**Pn**	**17 17 30.1**	**-0.8**
BKZ				AML	AML	17 18 19.6	
BKZ				AML	AML	17 18 41.7	
TLZ	**Tolley Road**	**3.80**	**31**	PN	**Pn**	**17 17 34.4**	**+0.7**
NMHZ	**Naumai**	**3.81**	**50**	PN	**Pn**	**17 17 33.1**	**-0.8**
ODZ	**Otahua Downs**	**3.85**	**206**	Pn	**Pn**	**17 17 34.1**	**-0.1**
ODZ	**Otahua Downs**	**3.85**	**206**	PN	**Pn**	**17 17 34.1**	**-0.1**
JCZ	**Jackson Bay**	**4.00**	**231**	Pn	**Pn**	**17 17 36.2**	**-0.2**
JCZ	**Jackson Bay**	**4.00**	**231**	PN	**Pn**	**17 17 36.2**	**-0.2**
RAHZ	**Arahi**	**4.10**	**50**	*e*PN	**Pn**	**17 17 36.2**	**-1.4**
TOZ	**Tahuroa Road**	**4.32**	**27**	Pn	**Pn**	**17 17 41.2**	**+0.5**
TOZ	**Tahuroa Road**	**4.32**	**27**	PN	**Pn**	**17 17 41.2**	**+0.5**
KNZ	**Kokohu**	**4.38**	**55**	AML	AML	17 18 29.9	
MHGZ	**Mahia Peninsul**	**4.45**	**58**	Pn	**Pn**	**17 17 40.5**	**-1.8**
MHGZ	**Mahia Peninsul**	**4.45**	**58**	PN	**Pn**	**17 17 40.5**	**-1.8**
EAZ	**Earnscleugh**	**4.53**	**216**	Pn	**Pn**	**17 17 42.4**	**-0.9**
EAZ	**Earnscleugh**	**4.53**	**216**	PN	**Pn**	**17 17 42.4**	**-0.9**
URZ	**Urewera**	**4.58**	**44**	Pn	**Pn**	**17 17 41.9**	**-2.3**
URZ	**Urewera**	**4.58**	**44**	P	**Pn**	**17 17 41.8**	**-2.3**
	1.5nm,0.3s,baz=13,slow=14,SNR=10						
URZ				S	**Sn**	**17 18 33.1**	**-3.1**
	28nm,0.3s,baz=86,slow=15,SNR=4.5						
URZ	**Urewera**	**4.58**	**44**	PN	**Pn**	**17 17 41.9**	**-2.3**
URZ				AML	AML	17 18 34.5	
URZ				AML	AML	17 18 35.0	
KBAZ	**Karaka Road Bo**	**4.74**	**18**	Pn	**Pn**	**17 17 47.3**	**+1.0**
MWZ	**Matawai**	**4.75**	**48**	Pn	**Pn**	**17 17 44.5**	**-2.0**
MWZ	**Matawai**	**4.75**	**48**	PN	**Pn**	**17 17 44.4**	**-2.0**
MWZ				AML	AML	17 18 40.7	
MWZ				AML	AML	17 18 43.8	
MKAZ	**Moumakai**	**4.79**	**21**	Pn	**Pn**	**17 17 48.0**	**+1.0**
MKAZ	**Moumakai**	**4.79**	**21**	PN	**Pn**	**17 17 48.0**	**+1.0**
ABAZ	**Army Bay**	**5.20**	**16**	PN	**Pn**	**17 17 53.6**	**+1.0**
KUZ	**Kuaotunu**	**5.29**	**24**	Pn	**Pn**	**17 17 54.2**	**+0.5**
KUZ	**Kuaotunu**	**5.29**	**24**	PN	**Pn**	**17 17 54.2**	**+0.5**
PUZ	**Puketiti**	**5.34**	**50**	Sn	**Sn**	**17 18 51.3**	**-3.5**
PUZ	**Puketiti**	**5.34**	**50**	AML	AML	17 18 56.5	
PUZ				AML	AML	17 18 57.3	
WCZ	**Waipu Caves**	**5.76**	**10**	Pn	**Pn**	**17 18 00.7**	**+0.5**
WCZ	**Waipu Caves**	**5.76**	**10**	PN	**Pn**	**17 18 00.7**	**+0.5**
CTZ	**Chatham Island**	**7.89**	**109**	Pn	**Pn**	**17 18 29.1**	**+0.1**
CTZ	**Chatham Island**	**7.89**	**109**	PN	**Pn**	**17 18 29.0**	**+0.1**
ASAR	**Alice Springs**	**37.14**	**286**	P	**P**	**17 23 39.6**	**+1.7**
	0.3nm,0.6s,baz=124,slow=7.2,SNR=13						
WRAB	**Tennant Creek**	**39.23**	**291**	*e*P	**P**	**17 23 56.8**	**+1.4**
	5.1nm,1.2s						
WRA	**Warramunga Arr**	**39.23**	**291**	P	**P**	**17 23 56.4**	**+1.0**
	0.7nm,0.7s,baz=128,slow=7.7,SNR=9.9						
TORD	**Torodi Ar. Bea**	**150.65**	**197**	PKPbc	**PKPbc**	**17 36 18.6**	**+1.3**
	0.3nm,0.7s,baz=155,slow=1.9,SNR=4.8						

*IDC **02** 17:38:54.1±5.9, 33°.91N×25°.45E, h0km, mb3.9/2, mb1 3.7/6, mb1mx3.5/28, mbtmp3.6/6, ML3.8/3, Error ellipse: s-maj=100.7km s-min=38.2km az=35.0*
*ATH **02** 17:38:54.5, 33°.92N×25°.48E, h5km, MD3.6/6*
*CSEM **02** 17:38:56.6±0.3, 34°.06N×25°.63E, h2km, MD3.6, Error ellipse: s-maj=12.5km s-min=5.0km az=77.0*

ISC 02 17:38:54.7±1.5, 33°.95N±0°.04×25°.57E±0°.06, h0km±12km, n21, σ0°82/28, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.21**	**357**	*e*PG	**Pg**	**17 39 17.8**	**-0.2**
LAST	**Lasithi**	**1.21**	**357**	*e*Pg	**Pg**	**17 39 17.8**	**-0.2**
SIVA	**Sivas**	**1.24**	**330**	*e*PB	**Pg**	**17 39 18.3**	**-0.1**
SIVA				*e*SB	**Sg**	**17 39 34.9**	**-0.5**
SIVA	**Sivas**	**1.24**	**330**	*e*Pb	**Pg**	**17 39 18.3**	**-0.1**
SIVA				*e*Sb	**Sb**	**17 39 34.9**	**-0.5**
ZKR	**Zakros**	**1.28**	**25**	*e*PB	**Pb**	**17 39 19.9**	**+0.2**
ZKR				*e*SB	**Sn**	**17 39 38.9**	**+1.1**
ZKR	**Zakros**	**1.28**	**25**	*e*Pb	**Pb**	**17 39 19.9**	**+0.2**
NPS	**Neapolis**	**1.31**	**2**	*e*PG	**Pg**	**17 39 19.6**	**-0.3**
NPS	**Neapolis**	**1.31**	**2**	*e*Pg	**Pg**	**17 39 19.6**	**-0.3**
IDI	**Anoyia**	**1.45**	**338**	*e*PB	**Pb**	**17 39 22.6**	**0.0**
IDI				*e*SB	**Sn**	**17 39 42.0**	**0.0**
IDI	**Anoyia**	**1.45**	**338**	*e*Pb	**Pb**	**17 39 22.6**	**0.0**
IDI				*e*Sb	**Sn**	**17 39 42.0**	**0.0**
VAM	**Vamos**	**1.84**	**323**	*e*PN	**Pb**	**17 39 29.1**	**-0.1**
VAM				*e*SN	**Sg**	**17 39 54.4**	**+0.5**
VAM	**Vamos**	**1.84**	**323**	*e*Pn	**Pb**	**17 39 29.1**	**-0.1**
VAM				*e*Sn	**Sg**	**17 39 54.4**	**+0.5**
SLUM		**2.47**	**187**	P	**Pb**	**17 39 39.4**	**-0.5**
HMAT	**

baz=1.5,SNR=327
K22A ⇓S Sg 17 54 14.6 +0.8
baz=1.5
K22A Casper 1.45 220 P Pn 17 53 53.5 -1.3
baz=1.5,SNR=327
K22A ⇓S Sg 17 54 14.6 +0.8
baz=1.5
I21A Big Trails, Te 1.47 272 ⇓P Pn 17 53 53.4 -1.6
baz=1.6,SNR=171
I21A ⇑S Sg 17 54 13.9 -0.2
baz=1.6
I21A Big Trails, Te 1.47 272 ⇓P Pn 17 53 53.4 -1.6
baz=1.6,SNR=171
I21A ⇑S Sg 17 54 13.9 -0.2
baz=1.6
H25A Fruitdale 1.47 54 ⇓P Pn 17 53 54.0 -0.9
baz=1.4,SNR=20
H25A Fruitdale 1.47 54 ⇓P Pn 17 53 54.0 -0.9
baz=1.4,SNR=20
H21A Big Horn, Sher 1.53 304 ⇓P Pn 17 53 55.5 -0.4
baz=1.7,SNR=42
H21A ⇑S Sg 17 54 16.9 +0.6
baz=1.7
H21A Big Horn, Sher 1.53 304 ⇓P Pn 17 53 55.5 -0.4
baz=1.7,SNR=42
H21A ⇑S Sg 17 54 16.9 +0.6
baz=1.7
K25A Mack Ranch, Ha 1.55 138 ⇓P Pn 17 53 55.7 -0.4
baz=1.4,SNR=66
K25A ⇓S Sn 17 54 16.9 -0.1
baz=1.4
K25A Mack Ranch, Ha 1.55 138 ⇓P Pn 17 53 55.7 -0.4
baz=1.4,SNR=66
K25A ⇓S Sn 17 54 16.9 -0.1
baz=1.4
G22A Birney 1.61 333 ⇓P Pn 17 53 57.0 +0.1
baz=1.8,SNR=84
G22A Birney 1.61 333 ⇓P Pn 17 53 57.0 +0.1
baz=1.8,SNR=84
J21A Lysite 1.64 255 P Pn 17 53 56.4 -1.0
baz=1.8,SNR=293
J21A ⇑S Sn 17 54 19.6 +0.3
baz=1.8
J21A Lysite 1.64 255 P Pn 17 53 56.4 -1.0
baz=1.8,SNR=293
J21A ⇑S Sn 17 54 19.6 +0.3
baz=1.8
G24A Alzada 1.67 21 ⇓P Pn 17 53 57.5 -0.1
baz=1.7,SNR=93
G24A Alzada 1.67 21 ⇓P Pn 17 53 57.5 -0.1
baz=1.7,SNR=93
L23A Garrett 1.69 191 P Pn 17 53 57.4 -0.8
baz=1.6,SNR=386
L23A ⇑S Sn 17 54 20.5 -0.2
baz=1.6
L23A Garrett 1.69 191 P Pn 17 53 57.4 -0.8
baz=1.6,SNR=386
L23A ⇑S Sn 17 54 20.5 -0.2
baz=1.6
L24A Wheatland 1.75 172 ⇓P Pn 17 53 58.6 -0.3
baz=1.6,SNR=31
L24A Wheatland 1.75 172 ⇓P Pn 17 53 58.6 -0.3
baz=1.6,SNR=31
I26A New Underwood 1.76 81 ⇑Pb Pb 17 54 00.1 -0.3
baz=1.6,SNR=7.3
I26A New Underwood 1.76 81 ⇑Pb Pb 17 54 00.1 -0.3
baz=1.6,SNR=7.3
K26A Motz Farm, Whi 1.87 124 ⇑Pb Pb 17 54 01.7 -0.5
baz=1.7,SNR=10.0
K26A Motz Farm, Whi 1.87 124 ⇑Pb Pb 17 54 01.7 -0.5
baz=1.7,SNR=10.0
L25A Engebretsen Ra 1.88 149 ⇓P Pn 17 54 01.0 +0.3
baz=1.7,SNR=30
L25A ⇑Sb Sb 17 54 27.4 +0.8
baz=1.7
L25A Engebretsen Ra 1.88 149 ⇓P Pn 17 54 01.0 +0.3
baz=1.7,SNR=30
L25A ⇑Sb Sb 17 54 27.4 +0.8
baz=1.7
F23A Volborg 1.94 357 ⇑P Pn 17 54 01.5 0.0
baz=2.1,SNR=25
F23A ⇑Sb Sg 17 54 29.5 0.0
baz=2.1
F23A Volborg 1.94 357 ⇑P Pn 17 54 01.5 0.0
baz=2.1,SNR=25
F23A ⇑Sb Sg 17 54 29.5 0.0
baz=2.1
L22A Ellis Ranch, M 1.94 206 ⇑P Pn 17 54 01.8 +0.2
baz=1.9,SNR=189
L22A ⇑Sb Sb 17 54 28.9 +0.5
baz=1.9
L22A Ellis Ranch, M 1.94 206 ⇑P Pn 17 54 01.8 +0.2
baz=1.9,SNR=189
L22A ⇑Sb Sb 17 54 28.9 +0.5
baz=1.9
H26A Fairpoint 1.98 64 ⇑Pb Pb 17 54 03.8 -0.3
baz=1.9,SNR=24
H26A ⇑Sg Sg 17 54 32.4 +1.6
baz=1.9
H26A Fairpoint 1.98 64 ⇑Pb Pb 17 54 03.8 -0.3
baz=1.9,SNR=24
H26A ⇑Sg Sg 17 54 32.4 +1.6
baz=1.9
G21A Lodge Grass 2.00 317 ⇓P Pn 17 54 02.5 +0.2
baz=2.2,SNR=61
G21A ⇑Sb Sg 17 54 31.3 -0.2
baz=2.2
G21A Lodge Grass 2.00 317 ⇓P Pn 17 54 02.5 +0.2
baz=2.2,SNR=61
G21A ⇑Sb Sg 17 54 31.3 -0.2
baz=2.2
I20A Worland 2.08 276 ⇑P Pn 17 54 03.5 +0.2
baz=2.2,SNR=239
I20A ⇑Sb Sb 17 54 33.2 +1.1
baz=2.2
I20A Worland 2.08 276 ⇑P Pn 17 54 03.5 +0.2
baz=2.2,SNR=239
I20A ⇑Sb Sb 17 54 33.2 +1.1
baz=2.2
H20A Greybull 2.09 291 ⇑P Pn 17 54 03.8 +0.3
baz=2.3,SNR=69
H20A Greybull 2.09 291 ⇑P Pn 17 54 03.8 +0.3
baz=2.3,SNR=69
J20A Shoshoni 2.09 259 ⇑Pb Pb 17 54 05.3 -0.6
baz=2.2,SNR=194
J20A ⇓Sb Sg 17 54 34.0 -0.3
baz=2.2
J20A Shoshoni 2.09 259 ⇑Pb Pb 17 54 05.3 -0.6
baz=2.2,SNR=194
J20A ⇓Sb Sg 17 54 34.0 -0.3
baz=2.2
F22A Rosebud 2.12 341 ⇑P Pn 17 54 04.0 +0.2
baz=2.3,SNR=95
F22A ⇑S Sn 17 54 31.7 +0.8
baz=2.3
F22A Rosebud 2.12 341 ⇑P Pn 17 54 04.0 +0.2
baz=2.3,SNR=95
F22A ⇑S Sn 17 54 31.7 +0.8
baz=2.3
F24A Ekalaka 2.15 16 ⇓P Pn 17 54 04.8 +0.5
baz=2.2,SNR=30
F24A Ekalaka 2.15 16 ⇓P Pn 17 54 04.8 +0.5
baz=2.2,SNR=30
M24A Cheyenne 2.33 172 ⇑P Pn 17 54 07.4 +0.5
baz=2.2,SNR=99
M24A Cheyenne 2.33 172 ⇑P Pn 17 54 07.4 +0.5
baz=2.2,SNR=99
I27A Quinn 2.34 82 ⇑Pb Pb 17 54 09.7 -0.6
baz=2.2,SNR=14
I27A Quinn 2.34 82 ⇑Pb Pb 17 54 09.7 -0.6
baz=2.2,SNR=14
L26A Underwood Farm 2.37 137 ⇑P Pn 17 54 07.7 +0.4
baz=2.2,SNR=7.3
L26A Underwood Farm 2.37 137 ⇑P Pn 17 54 07.7 +0.4
baz=2.2,SNR=7.3
L21A Rawlins 2.38 221 P Pn 17 54 08.1 +0.5
baz=2.4,SNR=100
L21A Rawlins 2.38 221 P Pn 17 54 08.1 +0.5
baz=2.4,SNR=100
K27A Flueckinger Fa 2.46 115 ⇓P Pn 17 54 08.8 +0.2
baz=2.3,SNR=28
K27A Flueckinger Fa 2.46 115 ⇓P Pn 17 54 08.8 +0.2
baz=2.3,SNR=28
PHWY Pilot Hill 2.48 183 *e*P Pn 17 54 09.2 +0.1
M25A Palm-Egli Farm 2.51 159 ⇓P Pn 17 54 10.1 +0.8
baz=2.4,SNR=7.4
M25A Palm-Egli Farm 2.51 159 ⇓P Pn 17 54 10.1 +0.8
baz=2.4,SNR=7.4

K20A Yellowstone Ra 2.51 245 ⇑P Pn 17 54 10.7 +1.4
baz=2.6,SNR=89
K20A Yellowstone Ra 2.51 245 ⇑P Pn 17 54 10.7 +1.4
baz=2.6,SNR=89
G20A Bridger 2.55 305 P Pn 17 54 09.4 -0.5
baz=2.7,SNR=178
G20A Bridger 2.55 305 P Pn 17 54 09.4 -0.5
baz=2.7,SNR=178
M22A Cedar Creek Ra 2.57 203 ⇓P Pn 17 54 10.8 +0.6
baz=2.5,SNR=56
M22A Cedar Creek Ra 2.57 203 ⇓P Pn 17 54 10.8 +0.6
baz=2.5,SNR=56
M21A Separation Pea 2.66 216 ⇑P Pn 17 54 12.6 +1.0
baz=2.7,SNR=77
M21A Separation Pea 2.66 216 ⇑P Pn 17 54 12.6 +1.0
baz=2.7,SNR=77
E22A Miles City 2.70 350 ⇑P Pn 17 54 11.5 -0.4
baz=2.8,SNR=12
E22A Miles City 2.70 350 ⇑P Pn 17 54 11.5 -0.4
baz=2.8,SNR=12
I19A Meeteetse 2.71 277 ⇓P Pn 17 54 12.3 +0.3
baz=2.9,SNR=15
I19A Meeteetse 2.71 277 ⇓P Pn 17 54 12.3 +0.3
baz=2.9,SNR=15
K19A Absolon Red Bu 2.78 251 ⇑P Pn 17 54 14.4 +1.3
baz=2.9,SNR=74
K19A Absolon Red Bu 2.78 251 ⇑P Pn 17 54 14.4 +1.3
baz=2.9,SNR=74
J19A Crowheart 2.80 261 ⇑P Pn 17 54 14.3 +0.9
baz=2.9,SNR=46
J19A Crowheart 2.80 261 ⇑P Pn 17 54 14.3 +0.9
baz=2.9,SNR=46
H19A Powell 2.82 290 ⇑P Pn 17 54 13.8 +0.3
baz=3.0,SNR=8.9
H19A Powell 2.82 290 ⇑P Pn 17 54 13.8 +0.3
baz=3.0,SNR=8.9
E24A Baker 2.86 13 ⇓P Pn 17 54 14.6 +0.5
baz=2.9,SNR=17
E24A Baker 2.86 13 ⇓P Pn 17 54 14.6 +0.5
baz=2.9,SNR=17
L20A Wamsutter 2.87 233 ⇓P Pn 17 54 15.6 +1.3
baz=2.9,SNR=19
L20A Wamsutter 2.87 233 ⇓P Pn 17 54 15.6 +1.3
baz=2.9,SNR=19
F20A Billings 2.88 316 ⇑P Pn 17 54 14.7 +0.3
baz=3.1,SNR=8.3
F20A Billings 2.88 316 ⇑P Pn 17 54 14.7 +0.3
baz=3.1,SNR=8.3
N23A Red Feather La 2.92 190 ⇑P Pn 17 54 16.2 +1.0
baz=2.8,SNR=20
N23A Red Feather La 2.92 190 ⇑P Pn 17 54 16.2 +1.0
baz=2.8,SNR=20
J28A Allard Ranch, 2.95 96 ⇓P Pn 17 54 16.7 +1.4
baz=2.8,SNR=8.1
J28A Allard Ranch, 2.95 96 ⇓P Pn 17 54 16.7 +1.4
baz=2.8,SNR=8.1
I28A Midland 2.97 84 ⇓P Pn 17 54 16.9 +1.3
baz=2.8,SNR=13
I28A Midland 2.97 84 ⇓P Pn 17 54 16.9 +1.3
baz=2.8,SNR=13
RLMT Red Lodge 3.16 297 *e*P Pn 17 54 18.6 +0.3
H28A Mission Ridge 3.18 72 ⇓P Pn 17 54 19.4 +1.0
baz=3.1,SNR=6.8
H28A Mission Ridge 3.18 72 ⇓P Pn 17 54 19.4 +1.0
baz=3.1,SNR=6.8
H18A Shoshone NF, C 3.28 287 ⇓P Pn 17 54 20.3 +0.2
baz=3.4,SNR=13
H18A Shoshone NF, C 3.28 287 ⇓P Pn 17 54 20.3 +0.2
baz=3.4,SNR=13
PDAR Pinedale Array 3.29 254 Pn Pn 17 54 21.5 +1.4
PDAR Lg Lg 17 55 08.3
PDAR Pinedale Array 3.29 254 Pn Pn 17 54 21.5 +1.4
3.2nm,0.3s,baz=80,slow=15,SNR=59
PDAR Lg Lg 17 55 08.3
6.7nm,0.3s,baz=75,slow=32,SNR=13
BW06 Boulder Array 3.29 254 *e*P Pn 17 54 20.9 +0.8
F19A Roth Farm, Mol 3.34 310 ⇑P Pn 17 54 21.0 +0.3
baz=3.5,SNR=58
F19A Roth Farm, Mol 3.34 310 ⇑P Pn 17 54 21.0 +0.3
baz=3.5,SNR=58
D23A Lindsay 3.40 1 ⇑P Pn 17 54 22.4 +1.1
baz=3.5,SNR=18
D23A Lindsay 3.40 1 ⇑P Pn 17 54 22.4 +1.1
baz=3.5,SNR=18
D24A Glendive 3.40 11 ⇓P Pn 17 54 22.2 +0.7
baz=3.5,SNR=8.1
D24A Glendive 3.40 11 ⇓P Pn 17 54 22.2 +0.7
baz=3.5,SNR=8.1
D22A Cohagen 3.43 350 ⇓P Pn 17 54 22.5 +0.6
baz=3.6,SNR=6.7
D22A Cohagen 3.43 350 ⇓P Pn 17 54 22.5 +0.6
baz=3.6,SNR=6.7
G18A Lazy EL Ranch, 3.43 298 ⇑P Pn 17 54 22.3 +0.3
baz=3.6,SNR=12
G18A Lazy EL Ranch, 3.43 298 ⇑P Pn 17 54 22.3 +0.3
baz=3.6,SNR=12
N21A Black Mountain 3.45 210 ⇓P Pn 17 54 23.4 +1.1
baz=3.4,SNR=7.6
N21A Black Mountain 3.45 210 ⇓P Pn 17 54 23.4 +1.1
baz=3.4,SNR=7.6
N27A Anderson Farm, 3.60 145 ⇓P Pn 17 54 24.8 +0.6
baz=3.4,SNR=8.1
N27A Anderson Farm, 3.60 145 ⇓P Pn 17 54 24.8 +0.6
baz=3.4,SNR=8.1
E19A Rath Farm, Rou 3.66 318 P Pn 17 54 24.8 -0.3
baz=3.8,SNR=27
E19A Rath Farm, Rou 3.66 318 P Pn 17 54 24.8 -0.3
baz=3.8,SNR=27
N20A Spence Gulch, 3.69 218 ⇑P Pn 17 54 26.4 +0.9
baz=3.7,SNR=10
N20A Spence Gulch, 3.69 218 ⇑P Pn 17 54 26.4 +0.9
baz=3.7,SNR=10
OGNE Ogallala 3.71 139 *e*Pg Pb 17 54 34.1 +0.6
OGNE Ogallala 3.71 139 ⇓P Pn 17 54 26.6 +0.8
baz=3.5,SNR=7.6
OGNE Ogallala 3.71 139 ⇓P Pn 17 54 26.6 +0.8
baz=3.5,SNR=7.6
GCMT Greycliff 3.72 304 *e*P Pn 17 54 26.4 +0.5
F18A Big Timber 3.81 305 ⇓P Pn 17 54 27.8 +0.6
baz=4.0,SNR=18
F18A Big Timber 3.81 305 ⇓P Pn 17 54 27.8 +0.6
baz=4.0,SNR=18
O26A Horse Wrangler 3.82 157 ⇑P Pn 17 54 27.9 +0.6
baz=3.7,SNR=7.7
O26A Horse Wrangler 3.82 157 ⇑P Pn 17 54 27.9 +0.6
baz=3.7,SNR=7.7
LOHW Long Hollow 3.87 269 *e*P Pn 17 54 32.2 +4.1
MOOW Moose Ponds 3.97 271 *e*Pn Pn 17 54 31.1 +1.7
ISCO Idaho Springs 3.98 184 *e*P Pn 17 54 30.3 +0.6
ISCO Idaho Springs 3.98 184 ⇑P Pn 17 54 30.1 +0.4
baz=3.9,SNR=6.1
ISCO Idaho Springs 3.98 184 ⇑P Pn 17 54 30.1 +0.4
baz=3.9,SNR=6.1
SNOW Snow King Moun 4.00 267 *e*Pn Pn 17 54 31.7 +1.8
C23A Lambert 4.03 1 ⇑P Pn 17 54 30.7 +0.7
baz=4.1,SNR=23
C23A Lambert 4.03 1 ⇑P Pn 17 54 30.7 +0.7
baz=4.1,SNR=23
YFT Old Faithful 4.07 281 *e*P Pb 17 54 36.8 -2.9
IMW Indian Meadow 4.10 274 *e*Pn Pn 17 54 32.5 +1.2
TPAW Teton Pass 4.13 268 *e*P Pn 17 54 33.5 +1.8
E18A Harlowton 4.31 312 ⇓P Pn 17 54 34.3 +0.4
baz=4.5,SNR=22
E18A Harlowton 4.31 312 ⇓P Pn 17 54 34.3 +0.4
baz=4.5,SNR=22
P26A Davis Ranch, A 4.45 160 ⇑P Pn 17 54 36.5 +0.5
baz=4.3,SNR=28
P26A Davis Ranch, A 4.45 160 ⇑P Pn 17 54 36.5 +0.5
baz=4.3,SNR=28
O28A Krutsinger Ran 4.49 143 ⇑P Pn 17 54 36.7 +0.3
baz=4.3,SNR=5.0
O28A Krsinger Ran 4.49 143 ⇑P Pn 17 54 36.7 +0.3
baz=4.3,SNR=5.0
M17A Scullys Gap (B 4.60 242 ⇑P Pn 17 54 38.9 +0.8
baz=4.7,SNR=5.4
M17A Scullys Gap (B 4.60 242 ⇑P Pn 17 54 38.9 +0.8
baz=4.7,SNR=5.4
P27A Ficken Ranch, 4.68 154 ⇓P Pn 17 54 39.0 0.0
baz=4.5,SNR=11
P27A Ficken Ranch, 4.68 154 ⇓P Pn 17 54 39.0 0.0
baz=4.5,SNR=11
DGMT Dagmar 4.75 9 *e*P Pn 17 54 42.1 +2.2
DGMT Dagmar 4.75 9 ⇑P Pn 17 54 41.1 +1.1
baz=4.8,SNR=9.2
DGMT Dagmar 4.75 9 ⇑P Pn 17 54 41.1 +1.1
baz=4.8,SNR=9.2
SMCO Snowmass 4.77 196 *e*Pg Pb 17 54 52.6 +0.7
E17A Martinsdale 4.78 306 ⇓P Pn 17 54 41.1 +0.6
baz=5.0,SNR=21
E17A Martinsdale 4.78 306 ⇓P Pn 17 54 41.1 +0.6
baz=5.0,SNR=21
BOZ Bozeman (W) 4.90 295 *e*P Pn 17 54 47.6 +5.5
6.4nm,0.8s
Q25A Bedland, Calha 4.92 171 P Pn 17 54 42.7 +0.2
baz=4.8,SNR=8.6
Q25A Bedland, Calha 4.92 171 P Pn 17 54 42.7 +0.2
baz=4.8,SNR=8.6
Q26A Hugo 5.03 164 ⇑P Pn 17 54 44.1 +0.1
baz=4.9,SNR=11
Q26A Hugo 5.03 164 ⇑P Pn 17 54 44.1 +0.1
baz=4.9,SNR=11
D17A Six Diamond Ra 5.09 313 ⇑P Pn 17 54 45.3 +0.6
baz=5.3,SNR=22
D17A Six Diamond Ra 5.09 313 ⇑P Pn 17 54 45.3 +0.6
baz=5.3,SNR=22
HWUT Hardware Ranch 5.12 247 *e*P Pn 17 54 47.4 +2.1
9.8nm,0.7s
EGMT Eagleton 5.27 325 *e*P Pn 17 54 49.0 +1.8
20nm,1.0s
E16A East Helena 5.30 304 P Pn 17 54 48.7 +1.1
baz=5.5,SNR=9.5
E16A East Helena 5.30 304 P Pn 17 54 48.7 +1.1
baz=5.5,SNR=9.5
DLMT Dillon 5.47 289 *e*P Pb 17 55 00.9 -2.6
15nm,1.3s
D16A Dana Ranch, Ca 5.49 309 ⇓P Pn 17 54 50.4 +0.1
baz=5.7,SNR=15
D16A Dana Ranch, Ca 5.49 309 ⇓P Pn 17 54 50.4 +0.1
baz=5.7,SNR=15
DAU Daniels Canyon 5.58 235 *e*P Pn 17 54 55.4 +3.8
6.5nm,0.7s
R26A Arlington 5.64 165 ⇑P Pn 17 54 52.0 -0.3
baz=5.5,SNR=16
R26A Arlington 5.64 165 ⇑P Pn 17 54 52.0 -0.3
baz=5.5,SNR=16
HVU Hansel Valley 5.87 253 P Pn 17 54 57.3 +1.7
5.5nm,0.7s
R28A Tribune 6.03 153 P Pn 17 54 56.9 -0.7
baz=5.9,SNR=12
R28A Tribune 6.03 153 P Pn 17 54 56.9 -0.7
baz=5.9,SNR=12
PV04 Paradox Valley 6.04 208 *e*P Pn 17 54 59.4 +1.6
C16A Fuhringer Ranc 6.06 314 P Pn 17 54 57.7 -0.3
baz=6.2,SNR=12
C16A Fuhringer Ranc 6.06 314 P Pn 17 54 57.7 -0.3
baz=6.2,SNR=12
SRU San Rafael 6.11 222 *e*P Pn 17 54 58.0 -0.9
6.6nm,0.6s
ECSD EROS Data Cent 6.27 87 *e*P Pn 17 55 01.2 +0.3
4.0nm,0.4s
CHMT Chamberlain Mo 6.44 302 *e*P Pn 17 55 03.8 +0.5
2.6nm,0.6s
B16A M & M Farms, S 6.44 318 ⇑P Pn 17 55 02.6 -0.6
baz=6.6,SNR=8.0
B16A M & M Farms, S 6.44 318 ⇑P Pn 17 55 02.6 -0.6
baz=6.6,SNR=8.0
C15A Salmond Ranch, 6.50 310 P Pn 17 55 03.8 -0.3
baz=6.7,SNR=7.9
C15A Salmond Ranch, 6.50 310 P Pn 17 55 03.8 -0.3
baz=6.7,SNR=7.9
D14A Greenough 6.67 303 ⇓P Pn 17 55 06.3 -0.1
baz=6.8,SNR=6.2
D14A Greenough 6.67 303 ⇓P Pn 17 55 06.3 -0.1
baz=6.8,SNR=6.2
B15A Bradely Ranch, 6.80 314 ⇓P Pn 17 55 07.7 -0.5
baz=7.0,SNR=7.2
B15A Bradely Ranch, 6.80 314 ⇓P Pn 17 55 07.7 -0.5
baz=7.0,SNR=7.2
B14A Marquette Ranc 7.21 312 P Pn 17 55 14.1 +0.2
baz=7.4,SNR=8.9
B14A Marquette Ranc 7.21 312 P Pn 17 55 14.1 +0.2
baz=7.4,SNR=8.9
ULM Lac du Bonnet 9.11 41 Pn Pn 17 55 36.6 -3.1
ULM Lg Lg 17 58 09.9
ULM Lac du Bonnet 9.11 41 Pn Pn 17 55 36.6 -3.1
0.5nm,0.3s,baz=224,slow=11,SNR=3.3
ULM Lg Lg 17 58 09.9
0.4nm,0.3s,baz=142,slow=18,SNR=3.2
NVAR Mina Array Bea 11.19 246 Pn Pn 17 56 09.7 +1.2
NVAR Mina Array Bea 11.19 246 Pn Pn 17 56 09.7 +1.2
0.1nm,0.3s,baz=64,slow=10,SNR=3.2

IDC 02 17:53:41.6±9.7, 33°91N×25°54E, h0km, mb3.1/1, mb1 3.5/3, mb1mx3.2/26, mbtmp3.4/3, ML4.0/1, Error ellipse: s-maj=177.3km s-min=51.8km az=35.0, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKASG	Malin Array Be	17.00	8	P		Pn	17 57 40.4	-0.2
	1.0nm,0.3s,baz=200,slow=10,SNR=4.7							
GERES	GERESS Array B	17.34	333	P		Pn	17 57 45.2	+0.2
	0.2nm,0.3s,baz=151,slow=12,SNR=4.8							
MKAR	Makanchi Array	44.21	55	P		P	18 01 52.2	-0.1
	0.2nm,0.6s,baz=273,slow=7.2,SNR=3.2							

IDC 02 18:14:54.5±2.4, 39°46N×20°97E, h0km, mb3.5/2, mb1 3.3/3, mb1mx3.1/27, mbtmp3.3/3, ML2.6/1, Error ellipse: s-maj=117.8km s-min=28.4km az=144.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BRTR	Keskin Array B	9.78	84	Pn		Pn	18 17 17.0	+0.3
	0.1nm,0.3s,baz=265,slow=16,SNR=2.3							
TORD	Torodi Ar. Bea	31.25	218	P		P	18 21 16.0	0.0
	0.2nm,0.4s,baz=26,slow=8.6,SNR=4.2							
MKAR	Makanchi Array	44.34	60	P		P	18 23 06.0	-0.3
	0.6nm,0.6s,baz=276,slow=6.8,SNR=9.6							

*IDC **02** 18:17:11.0±2.1, 33°48S×179°69W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/17, mbtmp3.4/2, ML4.8/1, Error ellipse: s-maj=57.8km s-min=39.3km az=132.0*

ISC 02 18:17:14.2±1.8, 34°3S±0°1×178°3W±0°2, h53km, n42, σ1°53/36, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	Matakaoa Point	4.28	219	PN		Pn	18 18 19.8	+3.0
MXZ				SN		Sn	18 19 06.9	+1.5
PUZ	Puketiti	4.70	215	PN		Pn	18 18 25.2	+2.6
PUZ				SN		Sn	18 19 17.0	+1.2
CNGZ	Carnagh Statio	5.05	213	PN		Pn	18 18 30.4	+3.0
MWZ	Matawai	5.26	219	PN		Pn	18 18 31.4	+1.1
URZ	Urewera	5.43	222	PN		Pn	18 18 32.9	+0.3
	27nm,0.3s,baz=297,slow=1.2,SNR=122							
URZ				Sn		Sn	18 19 31.7	-2.0
	19nm,0.3s,baz=334,slow=23,SNR=8.7							
URZ	Urewera	5.43	222	PN		Pn	18 18 33.0	+0.5
URZ				SN		Sn	18 19 31.7	-2.0
OPRZ	Ohinepanea	5.48	228	PN		Pn	18 18 34.1	+0.9
MARZ	Manawahe	5.50	226	PN		Pn	18 18 35.1	+1.7
KNZ	Kokohu	5.73	213	PN		Pn	18 18 38.7	+2.0
MHGZ	Mahia Peninsul	5.74	211	PN		Pn	18 18 39.4	+2.6
TARZ	Mount Tarawera	5.76	225	PN		Pn	18 18 40.2	+3.1
KARZ	Kaharoa	5.78	228	PN		Pn	18 18 39.3	+1.9
MKAZ	Moumakai	6.02	240	PN		Pn	18 18 42.1	+1.4
BKZ	Black Stump Fm	6.42	219	PN		Pn	18 18 45.9	-0.3
MCHZ	McNeill Hill	6.53	216	PN		Pn	18 18 49.7	+2.1
KAHZ	Kahuranaki	6.72	214	PN		Pn	18 18 51.5	+1.2
BHHZ	Black Hill Sta	6.88	219	PN		Pn	18 18 53.0	+0.4
NGZ	Ngauruhoe	6.92	223	PN		Pn	18 18 53.9	+0.8
TUVZ	Tukino	6.95	222	PN		Pn	18 18 54.7	+1.2
MOVZ	Moawhango	6.99	221	PN		Pn	18 18 54.5	+0.5
WHVZ	Whangaehu Hut	7.00	223	PN		Pn	18 18 54.9	+0.6
FWVZ	Far West T-bar	7.00	223	PN		Pn	18 18 54.6	+0.3
PNHZ	Pukenui	7.14	216	PN		Pn	18 18 55.9	0.0
WPHZ	Waipukurau	7.14	214	PN		Pn	18 18 56.7	+0.7
TSZ	Takapari Road	7.37	217	PN		Pn	18 18 58.5	-0.6
DVHZ	Dannevirke	7.45	215	PN		Pn	18 19 00.2	-0.1
WAZ	Wanganui	7.66	223	PN		Pn	18 19 03.3	+0.2
BFZ	Birch Farm	7.72	213	PN		Pn	18 19 04.2	+0.3
HOWZ	Holdsworth Sta	8.23	215	PN		Pn	18 19 09.2	-1.7
OGWZ	Otaki Gorge	8.33	217	PN		Pn	18 19 10.9	-1.5
PLWZ	Palliser	8.88	213	PN		Pn	18 19 18.5	-1.4
BHW	Baring Head	8.93	215	PN		Pn	18 19 18.7	-1.8
TCW	Tory Channel	9.08	218	PN		Pn	18 19 19.7	-2.8
QRZ	Quartz Range	9.78	225	PN		Pn	18 19 28.0	-4.1
LTZ	Lake Taylor	11.24	218	PN		Pn	18 19 47.4	-4.7
OXZ	Oxford	11.75	217	PN		Pn	18 19 53.7	-5.4

RPZ	**Rata Peaks**	**12.53**	**218**	Pn	Pn	18 20 04.4	-5.4
	0.8nm,0.3s,baz=343,slow=10,SNR=6.6						
RPZ				Sn	Sn	18 22 14.5	-13
	0.5nm,0.3s,baz=170,slow=18,SNR=11						
ODZ	**Otahua Downs**	**13.70**	**215**	PN	Pn	18 20 20.6	-5.0
ASAR	**Alice Springs**	**42.79**	**271**	P	P	18 25 00.3	-6.5
	0.3nm,0.6s,baz=112,slow=7.3,SNR=7.3						
WRA	**Warramunga Arr**	**44.13**	**276**	P	P	18 25 11.7	-5.9
	0.4nm,0.4s,baz=116,slow=8.0,SNR=9.8						
FINES	**FINESS Array B**	**148.66**	**338**	PKPbc	**PKPab**	**18 36 55.9**	**-2.4**
	1.0nm,0.6s,baz=35,slow=7.0,SNR=7.3						
NOA	**NORSAR Array B**	**152.53**	**350**	PKPbc	**PKPbc**	**18 37 05.8**	**+1.9**
	0.4nm,0.4s,baz=14,slow=4.0,SNR=3.4						

*ISCJB **02** 18:17:59.8±0.3,24°.21N±0°.02×121°.75E±0°.02,h8km±2km, Error ellipse: s-maj=3.1km s-min=2.2km az=44.0*
*JMA **02** 18:17:59.6±0.7,24°.13N×121°.73E,h11km,M2.3*
*TAP **02** 18:17:59.9,24°.22N×121°.71E,h12km,ML3.2,C*

ISC 02 18:17:59.7±0.9,24°.18N±0°.02×121°.74E±0°.02,h11km±6km, n52,σ0s59/87,5C-4D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.13**	**2**	**P**		**Pg**		**18 18 02.8**	**0.0**
	baz=20								
EHP				*S*		**Sg**		**18 18 05.1**	**+0.1**
	baz=20								
TWD	**Chiawan**	**0.16**	**232**	⇓*P*		**Pb**		**18 18 04.2**	**-0.6**
	baz=215								
TWD				*S*		**Sg**		**18 18 07.1**	**+1.3**
	baz=215								
HWA	**Hwalien**	**0.24**	**211**	*eP*		**Pb**		**18 18 06.1**	**+0.1**
	baz=200								
ENA	**Nanau**	**0.24**	**1**	*i P*		**Pg**		**18 18 04.6**	**-0.2**
	baz=8.0								
ENA				*i S*		**Sg**		**18 18 07.6**	**-0.6**
	baz=8.0								
NNS	**Nan Shan**	**0.42**	**308**	⇑*iP*		**Pg**		**18 18 07.8**	**-0.2**
	baz=305								
NNS				*i S*		**Sg**		**18 18 13.2**	**-0.4**
	baz=305								
WHF	**Hehuan Shan**	**0.43**	**265**	⇑*iP*		**Pg**		**18 18 08.6**	**+0.3**
	baz=259								
WHF				*i S*		**Sg**		**18 18 14.3**	**+0.2**
	baz=259								
TWC	**Suao**	**0.44**	**13**	⇑*iP*		**Pg**		**18 18 08.2**	**-0.1**
	baz=11								
TWC				S		**Sg**		**18 18 13.8**	**-0.3**
	baz=11								
ESL	**Shilin**	**0.46**	**217**	⇓*iP*		**Pb**		**18 18 09.2**	**-0.6**
	baz=221								
ESL				*eS*		**Sb**		**18 18 16.6**	**0.0**
	baz=221								
TWT	**Tachien**	**0.52**	**278**	⇑*iP*		**Pb**		**18 18 10.4**	**-0.5**
	baz=273								
TWT				*i S*		**Sg**		**18 18 17.2**	**+0.5**
	baz=273								
TWE	**Neicheng**	**0.54**	**353**	*i P*		**Pg**		**18 18 10.0**	**-0.3**
	baz=1.0								
TWE				*i S*		**Sg**		**18 18 17.1**	**-0.3**
	baz=1.0								
NSK	**Sanguang**	**0.60**	**325**	⇑*iP*		**Pg**		**18 18 11.1**	**-0.3**
	baz=323								
NSK				*i S*		**Sg**		**18 18 18.6**	**-0.8**
	baz=323								
EHY	**Hungye**	**0.77**	**210**	*eP*		**Pg**		**18 18 14.3**	**-0.3**
	baz=206								
NSTT	**Nanjuang**	**0.81**	**304**	*eP*		**Pg**		**18 18 15.0**	**-0.3**
	baz=302								
NSTT				*eS*		**Sg**		**18 18 25.3**	**-0.5**
	baz=302								
TWA	**Mucha**	**0.81**	**350**	*eP*		**Pg**		**18 18 15.3**	**+0.1**
	baz=351								
SMLT	**Sun Moon Lake**	**0.82**	**249**	⇓*P*		**Pb**		**18 18 15.9**	**-0.2**
	baz=238								
SMLT				*eS*		**Sb**		**18 18 26.8**	**-0.4**
	baz=238								
TYC	**Yuchr**	**0.85**	**251**	⇓*iP*		**Pb**		**18 18 16.2**	**-0.2**
	baz=239								
TYC				*eS*		**Sb**		**18 18 27.6**	**-0.3**
	baz=239								
TAP1	**Taipei**	**0.88**	**347**	*eP*		**Pb**		**18 18 17.1**	**+0.2**
	baz=347								
NWF	**Wu-fen Shan**	**0.89**	**3**	*eP*		**Pg**		**18 18 16.4**	**-0.4**
	baz=354								
NWF				*eS*		**Sg**		**18 18 27.7**	**-0.7**
	baz=354								
TWQ1	**Liyutan**	**0.90**	**281**	*eP*		**Pb**		**18 18 17.3**	**0.0**
	baz=278								
TWQ1				*eS*		**Sb**		**18 18 29.1**	**-0.1**
	baz=278								
TWF1	**Yuli**	**0.92**	**206**	*eP*		**Pg**		**18 18 16.1**	**-1.3**
	baz=216								
NSY	**Sanyi**	**0.92**	**285**	*eP*		**Pb**		**18 18 17.8**	**+0.1**
	baz=282								
NSY				*eS*		**Sb**		**18 18 29.9**	**0.0**
	baz=282								
NCU	**National Centr**	**0.93**	**328**	*eP*		**Pb**		**18 18 18.1**	**+0.3**
	baz=326								
NCU				*eS*		**Sg**		**18 18 29.5**	**-0.3**
	baz=326								
TWS1	**Kuangyinshan**	**0.96**	**342**	*eP*		**Pg**		**18 18 17.7**	**-0.5**
	baz=350								
TWS1				*eS*		**Sg**		**18 18 30.8**	**+0.1**
	baz=350								
TCU	**Taichung**	**0.97**	**268**	*eP*		**Pn**		**18 18 19.1**	**-0.2**
	baz=266								
TCU				*eS*		**Sb**		**18 18 31.3**	**0.0**
	baz=266								
YUS	**Yu-Shan**	**1.00**	**226**	*eP*		**Pg**		**18 18 19.1**	**+0.2**
	baz=225								
YUS				*eS*		**Sn**		**18 18 33.7**	**-0.7**
	baz=225								
WNT	**Mingjian**	**1.01**	**253**	*eP*		**Pg**		**18 18 18.6**	**-0.5**
	baz=247								
WNT				*eS*		**Sn**		**18 18 34.0**	**-0.1**
	baz=247								
ALS	**Alishan**	**1.08**	**232**	*eP*		**Pg**		**18 18 20.9**	**+0.3**
	baz=217								
ALS				*eS*		**Sn**		**18 18 36.6**	**+0.3**
	baz=217								
TWY	**Chenhua**	**1.10**	**353**	*eP*		**Pb**		**18 18 20.2**	**-0.5**
	baz=340								
CHKT	**Chengkung**	**1.13**	**198**	*eP*		**Pb**		**18 18 21.1**	**-0.2**
	baz=217								
CHKT				*eS*		**Sn**		**18 18 38.0**	**+1.0**
	baz=217								
CHN5	**Tsauling**	**1.13**	**239**	*eP*		**Pb**		**18 18 21.2**	**-0.1**
	baz=238								
CHN5				*eS*		**Sn**		**18 18 37.8**	**+0.6**
	baz=238								
WGK	**Gukeng**	**1.18**	**246**	*eP*		**Pg**		**18 18 22.8**	**+0.4**
	baz=244								
WGK				*eS*		**Sn**		**18 18 39.6**	**+1.3**
	baz=244								
ELDTW	**Lidau**	**1.19**	**214**	*eP*		**Pb**		**18 18 21.2**	**-1.1**
	baz=214								
ELDTW				*eS*		**Sn**		**18 18 38.8**	**+0.1**
	baz=214								
YOJ	**Yonaguni jima**	**1.20**	**76**	P		**Pn**		**18 18 22.1**	**-0.3**
WTCT	**Ta-ch'eng**	**1.37**	**257**	*eP*		**Pn**		**18 18 24.7**	**-0.1**
	baz=255								
CHY	**Chiayi**	**1.38**	**241**	*eP*		**Pg**		**18 18 27.0**	**+0.8**
	baz=239								
WTP	**Ta-pu**	**1.39**	**228**	*eP*		**Pb**		**18 18 25.8**	**+0.1**
	baz=229								
WTP				*eS*		**Sg**		**18 18 45.4**	**+1.0**
	baz=229								
TWK	**Hsinying**	**1.46**	**232**	*eP*		**Pg**		**18 18 27.4**	**-0.4**
	baz=232								
TWK				*eS*		**Sg**		**18 18 46.3**	**-0.5**
	baz=232								
TWG	**Pinlang**	**1.49**	**204**	*eP*		**Pn**		**18 18 25.9**	**-0.5**
	baz=188								
CHN1	**Nanshi**	**1.49**	**228**	*eP*		**Pb**		**18 18 27.0**	**-0.4**
	baz=230								
CHN1				*eS*		**Sg**		**18 18 47.5**	**0.0**
	baz=230								
SGST	**Jiashian**	**1.52**	**224**	*eP*		**Pb**		**18 18 27.7**	**-0.2**
	baz=225								
SGST				*eS*		**Sg**		**18 18 48.6**	**-0.1**
	baz=225								
CHN8	**Yiju**	**1.63**	**240**	*eP*		**Pn**		**18 18 28.0**	**-0.3**
	baz=223								
SCLT	**Jiali**	**1.73**	**235**	*eP*		**Pn**		**18 18 30.0**	**+0.3**
	baz=235								
ECL	**Taimali**	**1.73**	**205**	*eP*		**Pb**		**18 18 30.5**	**-1.0**
	baz=191								
TAI1	**Yung-k'ang**	**1.79**	**231**	*eP*		**Pn**		**18 18 30.5**	**0.0**
	baz=231								
TWM1	**Shoushan**	**1.81**	**222**	*eP*		**Pn**		**18 18 31.5**	**+0.6**
	baz=223								
IRIF	**Iriomote-Funau**	**1.83**	**85**	P		**Pn**		**18 18 31.8**	**+0.8**
IRIF				*eS*		**Sn**		**18 18 55.2**	**+1.0**
HATJ	**Hateruma jima**	**1.89**	**93**	P		**Pn**		**18 18 32.4**	**+0.4**
HATJ				*eS*		**Sn**		**18 18 56.3**	**+0.4**
EAST	**Anshuo**	**1.97**	**205**	*eP*		**Pb**		**18 18 34.5**	**-1.0**
	baz=192								
SCZT	**Fangliau**	**2.07**	**210**	*eP*		**Pn**		**18 18 35.0**	**+0.5**
	baz=212								
JKRS	**Kuro-shima**	**2.08**	**88**	P		**Pn**		**18 18 35.6**	**+1.1**
JKRS				*eS*		**Sb**		**18 19 02.2**	**-1.0**
JIJ	**Ishigaki jima**	**2.20**	**85**	P		**Pn**		**18 18 36.3**	**+0.1**
JIJ				*eS*		**Sn**		**18 19 03.3**	**-0.2**
JTJ	**Tarama**	**2.74**	**80**	P		**Pn**		**18 18 45.3**	**+1.7**
JTJ				*eS*		**Sn**		**18 19 18.2**	**+1.4**

GUC 02 18:30:32.2±0.8,32°.47S×71°.84W,h11km±7km,MD3.6, ML2.9,6C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.58**	**164**	*eP*		Pg		18 30 43.4	-0.2
IHA				*i S*		Sb		18 30 52.2	-0.6
CHNG	**Los Chungos**	**0.65**	**26**	⇓*iP*		Pg		18 30 44.8	0.0
CHNG				*i S*		Sb		18 30 54.3	-0.3
CHNG					AML	AML		18 30 57.0	
	comp=E,306nm,0.3s								
ROCH	**El Roble**	**0.86**	**126**	⇓*iP*		Pg		18 30 48.4	-0.8
ROCH				*i S*		Sg		18 31 00.5	-0.1
ROCH					AML	AML		18 31 02.7	
	comp=E,518nm,0.4s								
JACH	**Jahuel**	**1.07**	**102**	⇑*iP*		Pb		18 30 51.4	-1.5
JACH				*i S*		Sg		18 31 06.7	-0.4
PEL	**Peldehue**	**1.18**	**125**	⇑*iP*		Pb		18 30 53.7	-1.1
PEL				*i S*		Sb		18 31 09.5	-0.7
PEL					AML	AML		18 31 11.6	
	comp=N,898nm,0.3s								
SAN	**Santiago**	**1.40**	**135**	*i S*		Sn		18 31 15.7	-0.5
TACH	**Talagante**	**1.41**	**148**	⇑*iP*		Pn		18 30 57.4	-0.4
TACH				*i S*		Sn		18 31 15.1	-1.3
CLCH	**Cerro Calan**	**1.43**	**131**	⇑*iP*		Pn		18 30 57.7	-0.6
CLCH				*i S*		Sn		18 31 16.5	-0.7
CLCH					AML	AML		18 31 20.6	
	comp=E,295nm,0.3s								
CMCH	**Combarbala**	**1.47**	**29**	⇑*iP*		Pn		18 30 57.6	-1.2
CMCH					AML	AML		18 31 22.7	
	comp=N,918nm,0.8s								
PCH	**Pirque**	**1.60**	**136**	⇑*iP*		Pn		18 31 00.3	-0.3
PCH				*i S*		Sn		18 31 20.9	-0.6
CHCH	**Chadas Angostu**	**1.77**	**146**	*eP*		Pn		18 31 02.6	-0.2
CHCH				*i S*		Sn		18 31 26.1	+0.6
LMEL	**Las Melosas**	**1.94**	**136**	⇓*iP*		Pn		18 31 05.5	+0.1
LMEL				*i S*		Sb		18 31 31.2	-1.1
LMEL					AML	AML		18 31 35.0	
	comp=N,219nm,0.3s								
CACH	**El Canelo**	**1.95**	**148**	⇓*iP*		Pn		18 31 05.8	+0.4
CACH				*i S*		Sb		18 31 32.8	+0.4
TLL	**Tololo Astrono**	**2.46**	**21**		AML	AML		18 31 55.1	
	comp=N,90nm,0.4s								

*ISCJB **02** 18:33:44.9±0.4,37°.67S±0°.04×176°.54E±0°.06,h251km, mb3.7/4, Error ellipse: s-maj=7.0km s-min=5.2km az=37.9*
*NEIC **02** 18:33:44.9,37°.42S×176°.76E,h241km,MG4.6(WEL), After WEL.*
*IDC **02** 18:33:44.6±0.8,37°.59S×176°.25E,h231km±7km, mb3.4/4, mb1 3.6/5,mb1mx3.3/17,mbtmp3.5/5, Error ellipse: s-maj=22.4km s-min=18.5km az=60.0*
*WEL **02** 18:33:45.9±0.4,37°.47S×176°.74E,h234km±3km, ML4.6/22, Error ellipse: s-maj=2.4km s-min=2.2km az=90.0*

ISC 02 18:33:44.0±0.9,37°.61S±0°.06×176°.58E±0°.05,h251km, n200,σ1s41/210,mb3.6/4,26C,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.24**	**186**	Pn		**Pn**		**18 34 16.4**	**0.0**
OPRZ	**Ohinepanea**	**0.24**	**186**	⇑PN		**Pn**		**18 34 16.4**	**0.0**
TGRZ	**Tauranga**	**0.28**	**244**	Pn		**Pn**		**18 34 16.8**	**+0.3**
TGRZ	**Tauranga**	**0.28**	**244**	PN		**Pn**		**18 34 16.8**	**+0.3**
MARZ	**Manawahe**	**0.38**	**169**	Pn		**Pn**		**18 34 17.0**	**+0.3**
MARZ	**Manawahe**	**0.38**	**169**	⇑PN		**Pn**		**18 34 17.0**	**+0.3**
KARZ	**Kaharoa**	**0.49**	**213**	Pn		**Pn**		**18 34 17.6**	**+0.6**
KARZ	**Kaharoa**	**0.49**	**213**	PN		**Pn**		**18 34 17.6**	**+0.6**
EDRZ	**Edgecumbe**	**0.51**	**166**	Pn		**Pn**		**18 34 17.8**	**+0.7**
EDRZ	**Edgecumbe**	**0.51**	**166**	PN		**Pn**		**18 34 17.6**	**+0.5**
OMRZ	**Omania**	**0.53**	**199**	Pn		**Pn**		**18 34 17.9**	**+0.8**
OMRZ	**Omania**	**0.53**	**199**	⇑PN		**Pn**		**18 34 17.9**	**+0.8**
TARZ	**Mount Tarawera**	**0.63**	**186**	Pn		**Pn**		**18 34 18.5**	**+1.0**
TARZ	**Mount Tarawera**	**0.63**	**186**	PN		**Pn**		**18 34 18.5**	**+1.0**
HLRZ	**Highlands Stat**	**0.67**	**196**	PN		**Pn**		**18 34 18.7**	**+1.1**
RRRZ	**Republican Roa**	**0.73**	**184**	Pn		**Pn**		**18 34 18.5**	**+0.8**
RRRZ	**Republican Roa**	**0.73**	**184**	PN		**Pn**		**18 34 18.6**	**+0.8**
URZ	**Urewera**	**0.77**	**148**	Pn		**Pn**		**18 34 17.5**	**-0.4**
URZ	**Urewera**	**0.77**	**148**	P		**Pn**		**18 34 17.9**	**0.0**
	308nm,0.3s,baz=271,slow=2.3,SNR=2338								
URZ				S		**S**		**18 34 43.2**	**-1.5**
	128nm,0.3s,baz=99,slow=20,SNR=30								
URZ	**Urewera**	**0.77**	**148**	PN		**Pn**		**18 34 17.9**	**0.0**
URZ				SN		**S**		**18 34 42.9**	**-1.8**
URZ					AML	AML		18 34 45.8	
HRRZ	**Handcock Road**	**0.82**	**197**	Pn		**Pn**		**18 34 19.4**	**+1.2**
HRRZ	**Handcock Road**	**0.82**	**197**	⇑PN		**Pn**		**18 34 19.4**	**+1.2**
TOZ	**Tahuroa Road**	**0.87**	**262**	Pn		**Pn**		**18 34 19.5**	**+1.1**
TOZ	**Tahuroa Road**	**0.87**	**262**	PN		**Pn**		**18 34 19.5**	**+1.1**
PRRZ	**Plateau Road**	**0.90**	**190**	Pn		**Pn**		**18 34 19.5**	**+1.0**
PRRZ	**Plateau Road**	**0.90**	**190**	PN		**Pn**		**18 34 19.5**	**+0.9**
ALRZ	**Allen Road**	**0.97**	**191**	Pn		**Pn**		**18 34 20.1**	**+1.1**
ALRZ	**Allen Road**	**0.97**	**191**	PN		**Pn**		**18 34 20.1**	**+1.1**
MWZ	**Matawai**	**1.04**	**135**	Pn		**Pn**		**18 34 19.4**	**+0.1**
MWZ				SN		**S**		**18 34 45.7**	**-1.6**
MWZ	**Matawai**	**1.04**	**135**	PN		**Pn**		**18 34 19.4**	**+0.1**
MWZ				SN		**S**		**18 34 45.7**	**-1.6**
MWZ					AML	AML		18 34 47.9	
TLZ	**Tolley Road**	**1.10**	**229**	PN		**Pn**		**18 34 21.4**	**+1.7**
KUZ	**Kuaotunu**	**1.10**	**321**	Pn		**Pn**		**18 34 18.5**	**-1.3**
KUZ	**Kuaotunu**	**1.10**	**321**	PN		**Pn**		**18 34 18.7**	**-1.1**
WHTZ	**Whakaora**	**1.17**	**205**	Pn		**Pn**		**18 34 22.0**	**+1.8**
WHTZ	**Whakaora**	**1.17**	**205**	PN		**Pn**		**18 34 22.0**	**+1.8**
MKAZ	**Moumakai**	**1.23**	**293**	Pn		**Pn**		**18 34 20.6**	**+0.1**
MKAZ	**Moumakai**	**1.23**	**293**	PN		**Pn**		**18 34 20.7**	**+0.1**
WATZ	**Wairara**	**1.29**	**211**	Pn		**Pn**		**18 34 22.7**	**+1.8**
WATZ	**Wairara**	**1.29**	**211**	⇑PN		**Pn**		**18 34 22.7**	**+1.8**
HATZ	**Hinemaiaia**	**1.34**	**197**	Pn		**Pn**		**18 34 22.6**	**+1.4**
HATZ	**Hinemaiaia**	**1.34**	**197**	PN		**Pn**		**18 34 22.6**	**+1.4**
RAHZ	**Arahi**	**1.37**	**163**	⇑PN		**Pn**		**18 34 22.9**	**+1.5**
MXZ	**Matakaoa Point**	**1.37**	**89**	Pn		**Pn**		**18 34 20.4**	**-1.1**
MXZ	**Matakaoa Point**	**1.37**	**89**	PN		**Pn**		**18 34 20.3**	**-1.1**
MXZ				SN		**S**		**18 34 47.9**	**-2.9**
MXZ					AML	AML		18 34 49.5	
MXZ					AML	AML		18 34 49.5	
MXZ					AML	AML		18 34 49.5	
PUZ	**Puketiti**	**1.40**	**110**	Pn		**Pn**		**18 34 21.0**	**-0.7**
PUZ				Sn		**S**		**18 34 48.6**	**-2.8**
PUZ	**Puketiti**	**1.40**	**110**	PN		**Pn**		**18 34 21.3**	**-0.4**
PUZ				SN		**S**		**18 34 48.6**	**-2.8**
PUZ					AML	AML		18 34 49.9	
RATZ	**Rangitukua**	**1.41**	**207**	Pn		**Pn**		**18 34 23.1**	**+1.3**
RATZ	**Rangitukua**	**1.41**	**207**	PN		**Pn**		**18 34 23.4**	**+1.6**
RITZ	**Rihia Road**	**1.48**	**202**	Pn		**Pn**		**18 34 24.2**	**+1.9**
RITZ	**Rihia Road**	**1.48**	**202**	PN		**Pn**		**18 34 24.1**	**+1.9**
NMHZ	**Naumai**	**1.50**	**173**	⇑PN		**Pn**		**18 34 24.3**	**+1.9**
KATZ	**Kakaramea**	**1.53**	**207**	Pn		**Pn**		**18 34 24.4**	**+1.6**
KATZ	**Kakaramea**	**1.53**	**207**	PN		**Pn**		**18 34 24.4**	**+1.6**
CNGZ	**Carnagh Statio**	**1.55**	**125**	Pn		**Pn**		**18 34 23.6**	**+0.8**
CNGZ	**Carnagh Statio**	**1.55**	**125**	⇑PN		**Pn**		**18 34 23.6**	**+0.8**
BKZ	**Black Stump Fm**	**1.56**	**183**	Pn		**Pn**		**18 34 23.7**	**+0.8**
BKZ	**Black Stump Fm**	**1.56**	**183**	PN		**Pn**		**18 34 24.0**	**+1.1**
BKZ					AML	AML		18 34 55.3	
BKZ					AML	AML		18 34 56.1	
HIZ	**Hauiti**	**1.64**	**236**	Pn		**Pn**		**18 34 25.6**	**+2.1**
HIZ	**Hauiti**	**1.64**	**236**	PN		**Pn**		**18 34 25.5**	**+2.1**
KNZ	**Kokohu**	**1.65**	**149**	Pn		**Pn**		**18 34 24.4**	**+0.9**
KNZ	**Kokohu**	**1.65**	**149**	⇑PN		**Pn**		**18 34 24.4**	**+0.9**
KNZ					AML	AML		18 34 57.5	
KNZ					AML	AML		18 35 00.9	
KRVZ	**Karewarewa**	**1.66**	**206**	Pn		**Pn**		**18 34 25.3**	**+1.6**
KRVZ	**Karewarewa**	**1.66**	**206**	⇑PN		**Pn**		**18 34 25.3**	**+1.6**
PRGZ	**Paritu Road**	**1.67**	**142**	Pn		**Pn**		**18 34 24.1**	**+0.5**
PRGZ	**Paritu Road**	**1.67**	**142**	PN		**Pn**		**18 34 24.1**	**+0.5**
WTVZ	**West Tongariro**	**1.70**	**207**	Pn		**Pn**		**18 34 25.6**	**+1.6**
WTVZ	**West Tongariro**	**1.70**	**207**	⇑PN		**Pn**		**18 34 25.6**	**+1.6**
OTVZ	**Oturere**	**1.71**	**205**	Pn		**Pn**		**18 34 26.1**	**+1.9**
OTVZ	**Oturere**	**1.71**	**205**	PN		**Pn**		**18 34 26.1**	**+1.9**
TWVZ	**Taurewa**	**1.72**	**211**	Pn		**Pn**		**18 34 25.9**	**+1.7**
TWVZ	**Taurewa**	**1.72**	**211**	PN		**Pn**		**18 34 25.9**	**+1.7**
NGZ	**Ngauruhoe**	**1.75**	**206**	Pn		**Pn**		**18 34 26.2**	**+1.7**
NGZ	**Ngauruhoe**	**1.75**	**206**	PN		**Pn**		**18 34 26.2**	**+1.7**
WPVZ	**Whakapapa**	**1.79**	**207**	Pn		**Pn**		**18 34 26.4**	**+1.6**
WPVZ	**Whakapapa**	**1.79**	**207**	PN		**Pn**		**18 34 26.2**	**+1.4**
TUVZ	**Tukino**	**1.81**	**203**	Pn		**Pn**		**18 34 26.8**	**+1.8**
TUVZ	**Tukino**	**1.81**	**203**	⇑PN		**Pn**		**18 34 26.8**	**+1.8**
FWVZ	**Far West T-bar**	**1.83**	**206**	Pn		**Pn**		**18 34 26.7**	**+1.4**
FWVZ	**Far West T-bar**	**1.83**	**206**	PN		**Pn**		**18 34 26.7**	**+1.4**
MCHZ	**McNeill Hill**	**1.83**	**177**	Pn		**Pn**		**18 34 27.0**	**+1.9**
MCHZ	**McNeill Hill**	**1.83**	**177**	⇑PN		**Pn**		**18 34 27.0**	**+1.9**
WHVZ	**Whangaehu Hut**	**1.84**	**205**	PN		**Pn**		**18 34 26.8**	**+1.4**
DRZ	**Dome Shelter**	**1.85**	**205**	Pn		**Pn**		**18 34 27.3**	**+1.8**
DRZ	**Dome Shelter**	**1.85**	**205**	PN		**Pn**		**18 34 27.3**	**+1.8**
MHGZ	**Mahia Peninsul**	**1.86**	**146**	Pn		**Pn**		**18 34 26.4**	**+1.1**
MHGZ	**Mahia Peninsul**	**1.86**	**146**	PN		**Pn**		**18 34 26.4**	**+1.1**
TRVZ	**Turoa**	**1.88**	**205**	Pn		**Pn**		**18 34 27.3**	**+1.6**
TRVZ	**Turoa**	**1.88**	**205**	PN		**Pn**		**18 34 27.2**	**+1.5**
WNVZ	**Wahianoa**	**1.88**	**204**	Pn		**Pn**		**18 34 27.4**	**+1.7**
WNVZ	**Wahianoa**	**1.88**	**204**	⇑PN		**Pn**		**18 34 27.4**	**+1.7**
MOVZ	**Moawhango**	**1.91**	**200**	Pn		**Pn**		**18 34 27.1**	**+1.3**
MOVZ	**Moawhango**	**1.91**	**200**	⇑PN		**Pn**		**18 34 27.1**	**+1.3**
BHHZ	**Black Hill Sta**	**1.92**	**192**	Pn		**Pn**		**18 34 27.4**	**+1.5**
BHHZ	**Black Hill Sta**	**1.92**	**192**	⇑PN		**Pn**		**18 34 27.4**	**+1.5**
PKVZ	**Pokaka**	**1.94**	**210**	Pn		**Pn**		**18 34 27.8**	**+1.7**
PKVZ	**Pokaka**	**1.94**	**210**	PN		**Pn**		**18 34 27.8**	**+1.7**
MTVZ	**Mangateitei**	**1.98**	**206**	Pn		**Pn**		**18 34 28.1**	**+1.7**
MTVZ	**Mangateitei**	**1.98**	**206**	PN		**Pn**		**18 34 28.1**	**+1.7**
CKHZ	**Cape Kidnapper**	**2.08**	**169**	Pn		**Pn**		**18 34 28.8**	**+1.5**
CKHZ	**Cape Kidnapper**	**2.08**	**169**	PN		**Pn**		**18 34 28.7**	**+1.5**
VRZ	**Vera Road**	**2.09**	**223**	Pn		**Pn**		**18 34 29.4**	**+2.2**
VRZ	**Vera Road**	**2.09**	**223**	PN		**Pn**		**18 34 29.6**	**+2.3**
KAHZ	**Kahuranaki**	**2.20**	**174**	Pn		**Pn**		**18 34 30.0**	**+1.6**
KAHZ	**Kahuranaki**	**2.20**	**174**	PN		**Pn**		**18 34 30.0**	**+1.6**
MHEZ	**Mangahewa**	**2.31**	**230**	Pn		**Pn**		**18 34 32.5**	**+3.2**
MHEZ	**Mangahewa**	**2.31**	**230**	PN		**Pn**		**18 34 32.3**	**+3.0**
PNHZ	**Pukenui**	**2.32**	**187**	Pn		**Pn**		**18 34 30.7**	**+1.2**
PNHZ	**Pukenui**	**2.32**	**187**	⇑PN		**Pn**		**18 34 30.7**	**+1.2**
RAEZ	**Rainy Point**	**2.40**	**225**	PN		**Pn**		**18 34 33.2**	**+2.9**
PXZ	**Pawanui**	**2.43**	**175**	Pn		**Pn**		**18 34 31.7**	**+1.2**
PXZ	**Pawanui**	**2.43**	**175**	PN		**Pn**		**18 34 31.7**	**+1.2**
PXZ					AML	AML		18 35 14.3	
PXZ					AML	AML		18 35 14.3	
PXZ					AML	AML		18 35 17.0	
PXZ					AML	AML		18 35 17.0	
DREZ	**Durham Road**	**2.45**	**229**	Pn		**Pn**		**18 34 33.7**	**+3.0**
DREZ	**Durham Road**	**2.45**	**229**	PN		**Pn**		**18 34 33.7**	**+

MOZ	**McQueen's Vall**	**6.79**	**205**	PN	**Pn**	**18 35 21.2**	**-0.6**
MOZ				SN	**S**	**18 36 37.6**	**-2.7**
WVZ	**Waitaha Valley**	**7.05**	**217**	PN	**Pn**	**18 35 24.7**	**-0.5**
RPZ	**Rata Peaks**	**7.41**	**213**	P	**Pn**	**18 35 29.3**	**-0.4**
	2.2nm,0.3s,baz=183,slow=22,SNR=34						
RPZ				S	**S**	**18 36 50.7**	**-4.0**
	6.8nm,0.3s,baz=235,slow=9.5,SNR=26						
RPZ	**Rata Peaks**	**7.41**	**213**	PN	**Pn**	**18 35 29.0**	**-0.8**
FOZ	**Fox Glacier**	**7.93**	**219**	PN	**Pn**	**18 35 34.5**	**-1.8**
LBZ	**Lake Benmore**	**8.32**	**214**	PN	**Pn**	**18 35 40.5**	**-0.8**
ODZ	**Otahua Downs**	**8.67**	**209**	PN	**Pn**	**18 35 45.1**	**-0.5**
JCZ	**Jackson Bay**	**8.77**	**220**	PN	**Pn**	**18 35 45.7**	**-1.2**
WKZ	**Wanaka**	**9.19**	**216**	PN	**Pn**	**18 35 51.3**	**-0.9**
EAZ	**Earnscleugh**	**9.37**	**213**	PN	**Pn**	**18 35 53.4**	**-1.1**
MSZ	**Milford Sound**	**9.61**	**220**	PN	**Pn**	**18 35 59.1**	**+1.6**
STKA	**Stephens Creek**	**29.20**	**271**	P	**P**	**18 39 23.4**	**+0.9**
	1.9nm,0.7s,baz=106,slow=7.4,SNR=2.7						
ASAR	**Alice Springs**	**38.93**	**278**	P	**P**	**18 40 46.0**	**0.0**
	1.0nm,0.4s,baz=125,slow=8.2,SNR=46						
WRA	**Warramunga Arr**	**40.61**	**284**	P	**P**	**18 40 59.5**	**-0.3**
	1.0nm,0.5s,baz=120,slow=7.9,SNR=13						
QSPA	**South Pole Qui**	**52.52**	**180**	P	**P**	**18 42 33.9**	**+2.5**
	1.6nm,0.7s,baz=54,slow=1.4,SNR=15						
FINES	**FINESS Array B**	**149.89**	**332**	PKPbc	**PKPbc**	**18 53 05.6**	**+2.1**
	1.6nm,0.8s,baz=64,slow=6.5,SNR=3.5						

*ISCJB **02** 18:36:13.0±0.4,23.75N±0.02×122.15E±0.02,h17km±3km, Error ellipse: s-maj=3.5km s-min=2.1km az=147.2*
*JMA **02** 18:36:14.5±0.2,23.75N×122.15E,h61km,M2.8*
*TAP **02** 18:36:14.8,23.79N×122.06E,h35km,ML3.5,C*

ISC 02 18:36:13.8±1.1,23.76N±0.03×122.11E±0.02,h25km±12km, n65,σ0.94/116,15C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.51**	**295**	⇑*i*P	**Pb**	**18 36 24.4**	**+0.2**
	baz=288						
HWA				*e*S	**Sb**	**18 36 31.4**	**+0.1**
	baz=288						
TEGC	**Jichi Village**	**0.53**	**265**	*e*P	**Pb**	**18 36 24.8**	**+0.3**
	baz=260						
TEGC				*e*S	**Sb**	**18 36 32.5**	**+0.8**
	baz=260						
ESF	**Shoufeng Towns**	**0.56**	**281**	*e*P	**Pb**	**18 36 24.8**	**-0.3**
	baz=281						
ESF				*e*S	**Sb**	**18 36 32.8**	**0.0**
	baz=281						
TWD	**Chiawan**	**0.57**	**304**	⇑*i*P	**Pb**	**18 36 25.1**	**-0.2**
	baz=304						
TWD				S	**Sb**	**18 36 32.2**	**-0.8**
	baz=304						
ESL	**Shilin**	**0.62**	**275**	⇑*i*P	**Pn**	**18 36 25.7**	**-1.4**
	baz=264						
ESL				*e*S	**Sb**	**18 36 33.6**	**-0.9**
	baz=264						
EHP	**Heping Village**	**0.65**	**328**	*e*P	**Pn**	**18 36 25.8**	**-1.6**
	baz=321						
ENA	**Nanau**	**0.75**	**333**	⇑*i*P	**Pn**	**18 36 28.0**	**-0.8**
	baz=327						
ENA				*e*S	**Sn**	**18 36 38.0**	**-1.4**
	baz=327						
EHY	**Hungye**	**0.77**	**251**	P	**Pn**	**18 36 28.2**	**-0.8**
	baz=261						
EHY				*e*S	**Sn**	**18 36 38.7**	**-1.1**
	baz=261						
TWF1	**Yuli**	**0.85**	**242**	P	**Pn**	**18 36 29.6**	**-0.6**
	baz=229						
TWF1				*e*S	**Sn**	**18 36 40.8**	**-1.1**
	baz=229						
WHF	**Hehuan Shan**	**0.86**	**296**	⇑*i*P	**Pn**	**18 36 29.7**	**-1.1**
	baz=287						
WHF				S	**Sn**	**18 36 40.6**	**-2.3**
	baz=287						
TWC	**Suao**	**0.88**	**344**	⇑P	**Pn**	**18 36 30.3**	**-0.3**
	baz=357						
TWC				S	**Sn**	**18 36 41.4**	**-1.2**
	baz=357						
CHKT	**Chengkung**	**0.95**	**226**	⇓*i*P	**Pn**	**18 36 30.3**	**-1.3**
	baz=213						
CHKT				*e*S	**Sn**	**18 36 41.8**	**-2.5**
	baz=213						
NNS	**Nan Shan**	**0.96**	**315**	⇑P	**Pn**	**18 36 31.0**	**-0.8**
	baz=315						
NNS				*e*S	**Sn**	**18 36 43.1**	**-1.6**
	baz=315						
TWT	**Tachien**	**0.99**	**300**	⇑*i*P	**Pn**	**18 36 32.0**	**-0.3**
	baz=298						
TWT				*e*S	**Sn**	**18 36 44.0**	**-1.6**
	baz=298						
TWE	**Neicheng**	**1.04**	**337**	⇑P	**Pn**	**18 36 32.7**	**-0.1**
	baz=339						
TWE				*e*S	**Sn**	**18 36 45.5**	**-1.1**
	baz=339						
ILA	**Ilan**	**1.05**	**342**	*e*P	**Pn**	**18 36 33.8**	**+0.7**
	baz=343						
ILA				*e*S	**Sn**	**18 36 47.1**	**+0.2**
	baz=343						
YOJ	**Yonaguni jima**	**1.08**	**49**	P	**Pn**	**18 36 33.6**	**+0.3**
YOJ				*e*S	**Sn**	**18 36 47.6**	**+0.1**
YUS	**Yu-Shan**	**1.10**	**256**	*e*P	**Pn**	**18 36 34.0**	**-0.1**
	baz=253						
YUS				*e*S	**Sn**	**18 36 47.1**	**-1.6**
	baz=253						
SMLT	**Sun Moon Lake**	**1.12**	**277**	⇑*i*P	**Pn**	**18 36 33.9**	**-0.1**
	baz=274						
SMLT				S	**Sn**	**18 36 47.2**	**-1.4**
	baz=274						
NSK	**Sanguang**	**1.14**	**323**	⇑P	**Pn**	**18 36 34.0**	**-0.3**
	baz=312						
NSK				*e*S	**Sn**	**18 36 47.9**	**-1.3**
	baz=312						
ELDTW	**Lidau**	**1.16**	**241**	⇓P	**Pn**	**18 36 33.6**	**-0.9**
	baz=238						
TYC	**Yuchr**	**1.16**	**277**	⇑*i*P	**Pn**	**18 36 34.4**	**-0.1**
	baz=275						
TYC				*e*S	**Sn**	**18 36 49.4**	**-0.1**
	baz=275						
ALS	**Alishan**	**1.22**	**259**	⇑P	**Pn**	**18 36 36.0**	**+0.4**
	baz=265						
ALS				*e*S	**Sn**	**18 36 50.8**	**-0.7**
	baz=265						
TWA	**Mucha**	**1.31**	**338**	*e*P	**Pn**	**18 36 37.5**	**+1.0**
	baz=340						
TWA				*e*S	**Sn**	**18 36 53.6**	**+0.4**
	baz=340						
WNT	**Mingjian**	**1.31**	**275**	P	**Pn**	**18 36 37.7**	**+1.1**
	baz=273						
WNT				*e*S	**Sn**	**18 36 54.2**	**+0.9**
	baz=273						
CHN5	**Tsauling**	**1.32**	**263**	⇑P	**Pn**	**18 36 37.7**	**+0.9**
	baz=261						
CHN5				*e*S	**Sn**	**18 36 54.5**	**+0.7**
	baz=261						
NSTT	**Nanjuang**	**1.33**	**311**	P	**Pn**	**18 36 37.8**	**+0.9**
	baz=310						
NSTT				S	**Sn**	**18 36 53.8**	**-0.1**
	baz=310						
TWG	**Pinlang**	**1.34**	**226**	*e*P	**Pn**	**18 36 36.0**	**-0.9**
	baz=223						
TTN	**Taitung**	**1.34**	**222**	*e*P	**Pn**	**18 36 36.0**	**-0.9**
	baz=209						
NWF	**Wu-fen Shan**	**1.34**	**347**	*e*P	**Pn**	**18 36 37.8**	**+0.7**
	baz=348						
NWF				*e*S	**Sn**	**18 36 54.2**	**+0.1**
	baz=348						
TWQ1	**Liyutan**	**1.36**	**296**	*e*P	**Pn**	**18 36 38.0**	**+0.8**
	baz=295						
TWQ1				*e*S	**Sb**	**18 36 55.5**	**0.0**
	baz=295						
TCU	**Taichung**	**1.37**	**287**	⇑P	**Pb**	**18 36 38.9**	**+0.2**
	baz=285						
TCU				*e*S	**Sn**	**18 36 55.7**	**+1.0**
	baz=285						
TAP1	**Taipei**	**1.38**	**337**	*e*P	**Pn**	**18 36 38.2**	**+0.7**
	baz=326						
TAP1				*e*S	**Sn**	**18 36 55.2**	**+0.2**
	baz=326						
TAP	**Taipei**	**1.39**	**337**	*e*P	**Pn**	**18 36 38.4**	**+0.8**
	baz=338						
NSY	**Sanyi**	**1.40**	**298**	*e*P	**Pn**	**18 36 38.9**	**+1.1**
	baz=297						
NSY				*e*S	**Sb**	**18 36 57.0**	**+0.3**
	baz=297						
WGK	**Gukeng**	**1.42**	**267**	*e*P	**Pn**	**18 36 39.3**	**+1.2**
	baz=265						
WGK				*e*S	**Sn**	**18 36 56.9**	**+0.8**
	baz=265						
WTP	**Ta-pu**	**1.47**	**250**	*e*P	**Pn**	**18 36 39.9**	**+1.1**
	baz=247						
WTP				*e*S	**Sn**	**18 36 58.6**	**+1.4**
	baz=247						
NCU	**National Centr**	**1.47**	**325**	P	**Pn**	**18 36 39.6**	**+0.8**
	baz=325						
NCU				*e*S	**Sn**	**18 36 58.1**	**+0.8**
	baz=325						
TWS1	**Kuangyinshan**	**1.48**	**335**	*e*P	**Pn**	**18 36 39.2**	**+0.4**
	baz=335						
TWS1				*e*S	**Sn**	**18 36 57.5**	**+0.2**
	baz=335						
CHN2	**Minshiung**	**1.52**	**262**	*e*P	**Pb**	**18 36 41.2**	**-0.1**
	baz=259						
CHN2				*e*S	**Sb**	**18 36 59.9**	**-0.3**
	baz=259						
SGST	**Jiashian**	**1.56**	**245**	*e*P	**Pn**	**18 36 41.4**	**+1.4**
	baz=232						
SGST				*e*S	**Sn**	**18 37 00.8**	**+1.4**
	baz=232						
CHN1	**Nanshi**	**1.56**	**249**	*e*P	**Pn**	**18 36 41.6**	**+1.6**
	baz=246						
CHN1				*e*S	**Sb**	**18 37 01.4**	**-0.1**
	baz=246						
CHY	**Chiayi**	**1.57**	**261**	*e*P	**Pn**	**18 36 41.3**	**+1.2**
	baz=258						
CHY				*e*S	**Sn**	**18 37 00.7**	**+1.0**
	baz=258						
TWK	**Hsinying**	**1.57**	**252**	*e*P	**Pn**	**18 36 41.3**	**+1.2**
	baz=249						
TWK				*e*S	**Sn**	**18 37 00.9**	**+1.2**
	baz=249						
ECL	**Taimali**	**1.57**	**223**	*e*P	**Pn**	**18 36 39.0**	**-1.2**
	baz=229						
HATJ	**Hateruma jima**	**1.58**	**79**	P	**Pn**	**18 36 40.1**	**-0.1**
HATJ				*e*S	**Sn**	**18 36 59.6**	**-0.2**
TWY	**Chenhua**	**1.58**	**343**	*e*P	**Pn**	**18 36 40.8**	**+0.6**
	baz=344						
IRIF	**Iriomote-Funau**	**1.59**	**69**	P	**Pn**	**18 36 40.7**	**+0.4**
IRIF				*e*S	**Sn**	**18 37 00.4**	**+0.4**
WTCT	**Ta-ch'eng**	**1.68**	**274**	*e*P	**Pn**	**18 36 43.0**	**+1.4**
	baz=272						
WTCT				*e*S	**Sb**	**18 37 04.8**	**0.0**
	baz=272						
WSF	**Szhu**	**1.74**	**266**	*e*P	**Pn**	**18 36 42.4**	**0.0**
	baz=264						
WSF				*e*S	**Sb**	**18 37 05.9**	**-0.5**
	baz=264						
CHN3	**Shinhua**	**1.74**	**247**	*e*P	**Pb**	**18 36 45.0**	**-0.2**
	baz=245						
CHN3				*e*S	**Sb**	**18 37 06.6**	**0.0**
	baz=245						
CHN8	**Yiju**	**1.79**	**257**	*e*P	**Pn**	**18 36 44.3**	**+1.2**
	baz=255						
CHN8				*e*S	**Sn**	**18 37 06.4**	**+1.3**
	baz=255						
EAST	**Anshuo**	**1.80**	**221**	*e*P	**Pn**	**18 36 42.5**	**-0.8**
	baz=218						
JKRS	**Kuro-shima**	**1.80**	**74**	P	**Pn**	**18 36 43.8**	**+0.6**
JKRS				*e*S	**Sn**	**18 37 05.1**	**-0.2**
TWM1	**Shoushan**	**1.81**	**239**	*e*P	**Pn**	**18 36 44.6**	**+1.2**
	baz=237						
SCLT	**Jiali**	**1.85**	**252**	*e*P	**Pn**	**18 36 44.2**	**+0.2**
	baz=250						
SCLT				*e*S	**Sn**	**18 37 08.8**	**+2.1**
	baz=250						
SCZT	**Fangliau**	**1.95**	**225**	*e*P	**Pb**	**18 36 48.2**	**-0.5**
	baz=219						
JIJ	**Ishigaki jima**	**1.95**	**72**	P	**Pn**	**18 36 45.3**	**0.0**
JIJ				*e*S	**Sn**	**18 37 07.9**	**-1.2**
HEN	**Hengchun**	**2.16**	**216**	*e*P	**Pn**	**18 36 50.6**	**+2.5**
	baz=207						
HEN				*e*S	**Sn**	**18 37 13.7**	**-0.4**
	baz=207						
TSEB	**Hengchuen, Pin**	**2.16**	**211**	*e*P	**Pn**	**18 36 49.9**	**+1.7**
	baz=210						
TSEB				*e*S	**Sn**	**18 37 14.2**	**0.0**
	baz=210						
TWK1	**Hengchun**	**2.17**	**214**	*e*P	**Pn**	**18 36 47.9**	**-0.5**
	baz=212						
PNG	**Penghu**	**2.35**	**266**	*e*P	**Pn**	**18 36 50.8**	**-0.1**
	baz=264						
JTJ	**Tarama**	**2.52**	**69**	P	**Pn**	**18 36 53.4**	**+0.2**
JTJ				*e*S	**Sn**	**18 37 22.4**	**-0.7**
JMJ	**Miyako jima 2**	**3.09**	**69**	*e*S	**Sn**	**18 37 37.2**	**+0.1**
JOGS	**Gusukube**	**3.17**	**71**	*e*S	**Sn**	**18 37 38.9**	**-0.2**

*NNC **02** 18:37:34.0±12.0,36.23N×70.49E,h0km,mb4.1,mpv3.7, Error ellipse: s-maj=104.3km s-min=84.6km az=158.0*

ISC 02 18:37:34.3±3.7,35.9N±0.2×70.5E±0.2,h10km,n8, σ1.9/19/10,1C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.69**	**21**	P	**Pn**	**18 39 11.1**	**+0.8**
	SNR=114						
KK31	**Karatay Array**	**7.18**	**0**	⇓Pn	**Pn**	**18 39 16.8**	**+0.2**
	2.2nm,0.2s,baz=177,slow=13,SNR=191						
KK31				⇑Sn	**Sn**	**18 40 37.6**	**+1.0**
	6.4nm,0.6s,baz=187,slow=21,SNR=3.8						
KZA	**Kyzart**	**7.18**	**30**	P	**Pn**	**18 39 17.7**	**+0.8**
	SNR=6.4						
EKS2	**Erkin-Say**	**7.20**	**20**	P	**Pn**	**18 39 17.8**	**+0.8**
	SNR=9.2						
CHMS	**Chumysh**	**7.80**	**24**	P	**Pn**	**18 39 25.7**	**+0.7**
	SNR=9.1						
USP	**Ospenovka**	**7.97**	**22**	P	**Pn**	**18 39 28.1**	**+0.8**
	SNR=7.6						
TKM2	**Tokmak 2**	**8.03**	**28**	⇓Pn	**Pn**	**18 39 29.2**	**+0.9**
	1.0nm,0.3s						
TKM2				⇓Sn	**Sn**	**18 40 55.6**	**-1.9**
	1.2nm,0.5s						
AB31	**Akbulak array**	**15.41**	**333**	⇓P	**P**	**18 41 06.6**	**-1.1**
	1.0nm,0.3s,baz=156,slow=13,SNR=53						

KRSC 02 18:50:07.9±0.9,51.17N×157.34E,h121km±61km,ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.92**	**238**	*e*P	Pn	18 50 29.3	+0.2
SKR				*e*S	Sn	18 50 45.3	+0.1
MIPR	**Malaya Ipel'ka**	**1.17**	**342**	*i* P	Pn	18 50 31.0	-0.7
ASAK	**Asacha**	**1.26**	**16**	*e*P	Pn	18 50 34.1	+1.3
ASAK				*e*S	Sn	18 50 53.2	+1.4
MTVR	**Mutnovka**	**1.42**	**21**	*e*P	Pn	18 50 36.3	+1.7
MTVR				*e*S	Sn	18 50 56.7	+1.8
RUS	**Russkaya**	**1.46**	**29**	*e*P	Pn	18 50 36.5	+1.7
RUS				*e*S	Sn	18 50 57.2	+1.8
APC	**Apacha**	**1.76**	**356**	*e*P	Pn	18 50 38.3	-0.1
APC				*e*S	Sn	18 51 00.6	-1.1
PET	**Petropavlovsk**	**2.03**	**23**	*e*S	Sn	18 51 10.4	+2.9
UGLR	**Uglovaya**	**2.24**	**24**	*e*P	Pn	18 50 47.0	+2.5
UGLR				*e*S	Sn	18 51 15.4	+2.9
AVH	**Avacha**	**2.27**	**22**	*e*P	Pn	18 50 47.5	+2.7
AVH				*e*S	Sn	18 51 16.5	+3.4
KOK	**Koryaka**	**2.27**	**20**	*e*P	Pn	18 50 47.3	+2.4
KOK				*e*S	Sn	18 51 15.7	+2.5
SMAR	**Somma**	**2.28**	**23**	*e*P	Pn	18 50 46.9	+1.7
KRER	**Koryakskii**	**2.31**	**22**	*e*P	Pn	18 50 47.9	+2.4
SDLR	**Sedlovina**	**2.31**	**24**	*e*P	Pn	18 50 47.0	+1.5
SDLR				*e*S	Sn	18 51 15.3	+1.0
SPN	**Mys Shipunski**	**2.54**	**40**	*e*P	Pn	18 50 50.3	+2.1
SPN				*e*S	Sn	18 51 21.0	+1.8
GNL	**Ganaly**	**2.56**	**8**	*e*P	Pn	18 50 49.1	+0.6
MKZ	**Mys Kozlova**	**4.31**	**36**	*e*P	Pn	18 51 12.4	+1.0
MKZ				*e*S	Sn	18 52 00.3	-0.5
BKI	**Bering**	**6.57**	**49**	*e*S	Sn	18 52 52.1	-3.3

*BJI **02** 19:00:09.0,34.30N×84.70E,h10km,mB4.5/3,mb4.0/6, Ms4.2/5,Ms7 3.8/4*
*IDC **02** 19:00:10.4±0.8,34.20N×85.11E,h0km,mb3.7/10, mb1 3.9/15,mb1mx3.8/32,mbtmp3.8/15,ML3.7/5,MS3.4/10, Ms1 3.4/10,ms1mx3.0/42,Error ellipse: s-maj=28.4km s-min=15.0km az=48.0*
*ISCJB **02** 19:00:11.1±0.4,34.46N±0.04×85.3E±0.1,h10km,mb3.6/9, MS3.4/8,Error ellipse: s-maj=14.4km s-min=5.4km az=168.2*

ISC 02 19:00:13.0±0.6,34.42N±0.08×85.2E±0.1,h10km,n30, σ1.51/25,mb3.7/9,MS3.3/8,Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DANN	**Dangsing**	**6.17**	**192**	*e*P	**Pn**	**19 01 45.7**	**+1.2**
	43nm,0.7s						
GUN	**Gumba**	**6.52**	**174**	*e*P	**Pn**	**19 01 52.1**	**+2.8**
	72nm,0.6s						
PYUN	**Piuthan**	**6.57**	**197**	*e*P	**Pn**	**19 01 48.6**	**-1.3**
	72nm,0.8s						
KKN	**Kakani**	**6.61**	**179**	*e*P	**Pn**	**19 01 52.9**	**+2.4**
	15nm,0.6s						
KOLN	**Koldanda**	**6.76**	**192**	*e*P	**Pn**	**19 01 52.7**	**+0.1**
	25nm,0.8s						
JIRN	**Jiri**	**6.79**	**172**	*e*P	**Pn**	**19 01 54.9**	**+1.7**
	18nm,0.3s						
PKIN	**Phulchoki**	**6.82**	**178**	*e*P	**Pn**	**19 01 55.5**	**+2.0**
	21nm,0.5s						
PKI	**Pulchoki**	**6.83**	**178**	*e*P	**Pn**	**19 01 55.7**	**+2.1**
	26nm,0.5s						
LSA	**Lhasa**	**6.92**	**131**	Pg	**Pb**	**19 02 14.6**	**+0.9**
TAPN	**Taplejung**	**7.38**	**162**	*e*P	**Pn**	**19 02 01.7**	**+0.6**
	28nm,0.8s						
ODAN	**Odare**	**7.77**	**165**	*e*P	**Pn**	**19 02 06.5**	**0.0**
	21nm,0.5s						
WMQ	**Urumqi**	**9.59**	**11**	*e*P	Pn	19 02 27.3	-3.9
AAK	**Ala-Archa**	**11.70**	**318**	Pn	**Pn**	**19 03 02.1**	**+1.9**
	0.3nm,0.3s,baz=126,slow=1.3,SNR=5.8						
AAK				LR	LR	19 07 39.8	
	comp=Z,73nm,21.6s,baz=109,slow=38						
MKAR	**Makanchi Array**	**12.55**	**351**	Pn	**Pn**	**19 03 11.9**	**+0.2**
	1.5nm,0.3s,baz=175,slow=11,SNR=12						
KURBB	**Kurchatov Arra**	**16.90**	**345**	P	**P**	**19 04 11.5**	**-0.1**
	0.1nm,0.3s,baz=166,slow=11,SNR=16						
ZALV	**Zalesovo Beam**	**19.53**	**359**	P	**P**	**19 04 41.4**	**+1.0**
	0.1nm,0.3s,baz=182,slow=12,SNR=5.1						
ZALV				LR	LR	19 13 01.3	
	comp=Z,66nm,19.6s,baz=252,slow=39						
CMAR	**Chiang Mai Arr**	**20.09**	**139**	P	**P**	**19 04 44.6**	**-2.2**
	0.1nm,0.3s,baz=325,slow=12,SNR=6.1						
SONM	**Songino Array**	**20.78**	**43**	P	**P**	**19 04 54.7**	**+0.4**
	1.1nm,0.5s,baz=231,slow=9.1,SNR=3.0						
SONM				LR	LR	19 13 32.9	
	comp=Z,132nm,20.3s,baz=259,slow=38						
BVAR	**Borovoye Array**	**21.37**	**335**	P	**P**	**19 05 01.5**	**+1.1**
	2.0nm,0.7s,baz=129,slow=12,SNR=19						
BVAR				LR	LR	19 14 32.4	
	comp=Z,124nm,19.4s,baz=328,slow=40						
AKTO	**Aktyubinsk**	**25.45**	**317**	P	**P**	**19 05 41.8**	**+0.9**
	2.4nm,0.7s,baz=110,slow=11,SNR=7.2						
AKTO				LR	LR	19 17 28.9	
	comp=Z,58nm,18.4s,baz=331,slow=41						
KBZ	**Khabaz**	**33.79**	**299**	LR	LR	19 23 27.7	
	comp=Z,66nm,20.6s,baz=290,slow=41						
KSRS	**Korea Array**	**34.54**	**72**	LR	LR	19 23 36.1	
	comp=Z,44nm,18.3s,baz=326,slow=41						
BRTR	**Keskin Array B**	**40.99**	**293**	P	**P**	**19 07 55.1**	**-1.2**
	0.8nm,0.7s,baz=120,slow=7.2,SNR=5.8						
AKASG	**Malin Array Be**	**43.23**	**310**	P	**P**	**19 08 13.1**	**-1.1**
	0.9nm,0.5s,baz=73,slow=8.9,SNR=4.6						
ARCES	**ARCESS Array B**	**47.66**	**336**	LR	LR	19 30 44.1	
	comp=Z,60nm,18.7s,baz=55,slow=38						
NOA	**NORSAR Array B**	**52.93**	**324**	P	**P**	**19 09 28.6**	**-0.6**
	0.5nm,0.7s,baz=85,slow=7.4,SNR=3.5						
NOA				LR	LR	19 32 25.8	
	comp=Z,32nm,19.0s,baz=95,slow=36						
GERES	**GERESS Array B**	**53.41**	**309**	P	**P**	**19 09 33.9**	**+0.8**
	1.4nm,0.7s,baz=76,slow=7.4,SNR=16						
GERES				LR	LR	19 35 34.3	
	comp=Z,60nm,20.5s,baz=268,slow=40						
WRA	**Warramunga Arr**	**71.48**	**131**	P	**P**	**19 11 31.9**	**-2.2**
	1.0nm,0.8s,baz=327,slow=6.5,SNR=12						
ASAR	**Alice Springs**	**74.02**	**134**	P	**P**	**19 11 48.5**	**-0.7**
	0.3nm,0.8s,baz=327,slow=7.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**77.36**	**277**	P	P	19 12 06.6	-1.9
	0.5nm,0.7s,baz=47,slow=5.1,SNR=3.4						

*ISCJB **02** 19:07:57.9±0.4,34.33N±0.04×135.63E±0.04,h70km±4km, mb3.6/5,Error ellipse: s-maj=6.7km s-min=5.5km az=141.6*
*JMA **02** 19:07:59.0±0.1,34.34N×135.65E,h64km±1km,M3.3 Broadband fault plane solution: P waves. NP1: φs135.00000°,δ82.00000°,λ52.00000°. NP2:φs34.00000°, δ38.00000°,λ167.00000°. Principal axes: T Plg41.0000°, Azm10.0000°; N Plg37.0000°, Azm141.0000°; P Plg27.0000°, Azm254.0000°;*
JMA Felt I J1.
*IDC **02** 19:08:01.4±0.9,34.42N×135.78E,h92km±8km,mb3.4/5, mb1 3.4/8,mb1mx3.2/29,mbtmp3.3/8 Error ellipse: s-maj=28.8km s-min=15.0km az=71.0*

ISC 02 19:07:59.4±0.8,34.33N±0.04×135.67E±0.04,h68km±6km, n20,σ1.73/32,mb3.5/5,4C-6D,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWY	**Kouya**	**0.13**	**207**	⇑P	**Pn**	**19 08 08.9**	**-0.7**
JWY				S	**Sn**	**19 08 15.7**	**-1.4**
JHE	**Heguri**	**0.32**	**3**	⇓P	**Pn**	**19 08 09.8**	**-0.8**
JHE				S	**Sn**	**19 08 17.4**	**-1.3**
JKN2	**Miekihoku**	**0.51**	**101**	⇓P	**Pn**	**19 08 11.5**	**-0.7**
JKN2				S	**Sn**	**19 08 20.4**	**-1.1**
JWM	**Minabe**	**0.55**	**208**	⇑P	**Pn**	**19 08 11.3**	**-1.2**
JWM				S	**Sn**	**19 08 20.2**	**-2.0**
TSUJ	**Tsu 2**	**0.73**	**59**	⇓P	**Pn**	**19 08 13.9**	**-0.6**
TSUJ				S	**Sn**	**19 08 24.7**	**-0.9**
JWZ	**Kozaga**	**0.80**	**177**	⇑P	**Pn**	**19 08 14.4**	**-1.0**
JIE	**Ise**	**0.86**	**86**	⇓P	**Pn**	**19 08 15.7**	**-0.4**
JKS	**Kasai**	**0.94**	**314**	⇓P	**Pn**	**19 08 16.3**	**-0.7**
JKS				S	**Sn**	**19 08 28.5**	**-1.6**
JWT	**Wachi**	**0.97**	**347**	⇑P	**Pn**	**19 08 16.8**	**-0.6**
JWT				S	**Sn**	**19 08 29.7**	**-1.1**
JAI	**Aioi**	**1.14**	**242**	⇓P	**Pn**	**19 08 19.0**	**-0.6**
JAI				S	**Sn**	**19 08 33.3**	**-1.4**
MAT	**Matsushiro**	**3.03**	**43**	P	**Pn**	**19 08 45.0**	**0.0**
MAT				S	**Sn**	**19 09 20.5**	**+0.4**
MJAR	**Matsushiro Arr**	**3.03**	**43**	P	**Pn**	**19 08 45.5**	**+0.5**
	2.1nm,0.3s,baz=246,slow=14,SNR=25						
MJAR				S	**Sn**	**19 09 14.1**	**-6.0**
	10nm,0.3s,baz=227,slow=17,SNR=14						
JNU	**Nakatsue**	**4.17**	**254**	P	**Pn**	**19 09 00.6**	**0.0**
	4.2n

SKAG				S	Sb	19 12 27.3	+0.3	
BESE	**Bessie Mountai**	**1.12**	**120**	P	Pb	19 12 22.1	-0.5	
BESE				S	Sb	19 12 37.4	+0.2	
PNL	**Peninsula**	**1.47**	**292**	P	Pn	19 12 26.7	-0.7	
PNL				S	Sn	19 12 45.9	-0.5	
HYT	**Haines Junctio**	**1.73**	**347**	⇓Pn	Pb	19 12 32.2	-0.9	
HYT				⇑Sg	Sb	19 12 55.5	+0.7	
HYT	**Haines Junctio**	**1.73**	**347**	P	Pn	19 12 31.3	+0.1	
WHY	**Whitehorse**	**1.78**	**31**	⇓Pn	Pb	19 12 33.3	-0.6	
WHY				⇓Sg	Sg	19 12 58.0	-1.0	
WHY	**Whitehorse**	**1.78**	**31**	P	Pn	19 12 32.6	+0.8	
WHY				S	Sb	19 12 56.1	0.0	
SAMH	**Samovar Hills**	**2.29**	**297**	P	Pn	19 12 39.2	+0.5	
SAMH				S	Sn	19 13 07.3	+0.5	
GRNC	**Granite Creek**	**2.99**	**304**	P	Pn	19 12 48.7	+0.1	
KULT	**Kultieth River**	**3.24**	**293**	P	Pn	19 12 51.5	-0.3	
DLBC	**Dease Lake**	**3.56**	**99**	⇓Pn	Pn	19 12 57.8	+1.6	
DLBC				⇓Sg	Sg	19 13 52.2	-3.5	
DLBC	**Dease Lake**	**3.56**	**99**	P	Pn	19 12 56.5	+0.4	
DAWY	**Dawson**	**5.10**	**347**	⇓Pn	Pn	19 13 18.5	+1.2	
DAWY				⇑Sg	Sg	19 14 40.0	-5.1	

CSEM ***02*** *19:32:27.2, 42°.56N × 13°.22E, h10km, MD1.7/6, After ROM*
ROM 02 19:32:27.2±0.2, 42°.56N×13°.22E, h10km±1km, Md1.7/6, Ml1.3/2, Error ellipse: s-maj=3.3km s-min=1.5km az=6.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.14**	**290**	Pg	Pg	19 32 31.0	+0.4
LNSS				Sg	Sg	19 32 33.3	+0.3
	92nm,0.2s						
LNSS	**Leonessa**	**0.14**	**290**	Pg	Pg	19 32 31.0	+0.4
LNSS				Sg	Sg	19 32 33.3	+0.3
	92nm,0.2s						
GAVE	**Gavelli**	**0.27**	**300**	Pg	Pb	19 32 33.9	-0.5
GAVE	**Gavelli**	**0.27**	**300**	Pg	Pb	19 32 33.9	-0.5
NRCA	**Norcia**	**0.29**	**345**	Pg	Pg	19 32 33.5	+0.3
NRCA				Sg	Sg	19 32 37.9	+0.7
	19nm,0.1s						
NRCA	**Norcia**	**0.29**	**345**	Pg	Pg	19 32 33.5	+0.3
NRCA				Sg	Sg	19 32 37.9	+0.7
	19nm,0.1s						
TERO	**Teramo**	**0.29**	**77**	Pg	Pg	19 32 33.7	+0.4
TERO				Sg	Sg	19 32 38.4	+1.1
TERO	**Teramo**	**0.29**	**77**	Pg	Pg	19 32 33.7	+0.4
TERO				Sg	Sg	19 32 38.4	+1.1
CESI	**CESI - Serrava**	**0.50**	**333**	Pg	Pg	19 32 37.0	-0.2
CESI				Sg	Sb	19 32 45.2	-0.5
CESI	**CESI - Serrava**	**0.50**	**333**	Pg	Pg	19 32 37.0	-0.2
CESI				Sg	Sb	19 32 45.2	-0.5

IDC ***02*** *19:32:59.6±1.9, 1°.58N × 127°.07E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/22, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=113.8km s-min=22.8km az=69.0*
ISCJB ***02*** *19:33:11.3±0.8, 1°.4N±0°.1×126°.92E±0°.05, h103km, mb3.5/3, Error ellipse: s-maj=15.5km s-min=7.5km az=7.9*
DJA ***02*** *19:33:14.8±1.1, 1°N±7°×12°7E±°, h38km±19km, M3.3/6, MLv3.3/6*
ISC 02 19:33:12.0±1.1, 1°.46N±0°.10×126°.92E±0°.06, h103km, n10, σ1§30/12, mb3.5/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.81**	**147**	P	**Pn**	**19 33 30.5**	**-0.2**
GAMI	**Galela, Maluku**	**0.94**	**66**	P	**Pn**	**19 33 32.8**	**+0.8**
MNI	**Manado**	**2.08**	**270**	P	**Pn**	**19 33 45.9**	**+0.2**
MNI				S	**Sn**	**19 34 11.6**	**+0.1**
LBMI	**Labuha**	**2.16**	**164**	P	**Pn**	**19 33 48.4**	**+1.6**
KMSI	**Cibinong**	**3.07**	**253**	P	**Pn**	**19 33 59.1**	**+0.4**
KMSI				S	**Sn**	**19 34 34.2**	**-0.6**
GTOI	**Gorontalo**	**3.99**	**258**	P	**Pn**	**19 34 12.4**	**+1.3**
FITZ	**Fitzroy Crossi**	**19.48**	**184**	P	**P**	**19 37 29.5**	**-1.3**
	0.1nm,0.3s,baz=8.1,slow=14,SNR=3.2						
WRA	**Warramunga Arr**	**22.48**	**161**	P	**P**	**19 38 00.3**	**-2.6**
	1.0nm,0.4s,baz=341,slow=11,SNR=34						
ASAR	**Alice Springs**	**25.88**	**165**	P	**P**	**19 38 35.3**	**+0.9**
	0.5nm,0.3s,baz=343,slow=11,SNR=9.5						
MKAR	**Makanchi Array**	**59.53**	**326**	P	**P**	**19 43 04.7**	**+0.1**
	0.3nm,0.5s,baz=122,slow=7.3,SNR=9.9						

IDC ***02*** *19:44:14.9±1.8, 3°.87S × 35°.80E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.5/27, mbtmp3.6/4, ML4.1/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/24, Error ellipse: s-maj=82.2km s-min=19.4km az=119.0*
ISCJB ***02*** *19:44:15.4±0.9, 3°.9S±0°.1×35°.99E±0°.09, h10km, mb3.4/2, Error ellipse: s-maj=19.0km s-min=6.1km az=139.0*
ISC 02 19:44:16.7±0.9, 3°.8S±0°.2×35°.9E±0°.2, h10km, n7, σ1§95/9, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBAT	**Babati**	**0.52**	**236**	*i* P	**Pb**	**19 44 28.0**	**-0.1**
BBAT				*i* S	**Sb**	**19 44 34.1**	**-1.7**
KOND	**KOND**	**0.82**	**210**	*i* S	Sn	19 44 54.4	+7.5
MANYT	**Many**	**2.12**	**221**	*i* P	**Pb**	**19 44 53.5**	**-1.9**
MANYT				*i* S	**Sg**	**19 45 28.8**	**+3.9**
KMBO	**Kilima Mbogo**	**3.01**	**27**	Pn	**Pn**	**19 45 04.8**	**+0.1**
	20nm,0.3s,baz=209,slow=16,SNR=170						
KMBO				Sn	**Sn**	**19 45 40.9**	**-0.1**
	36nm,0.3s,baz=86,slow=23,SNR=8.0						
KMBO				Lg	Lg	19 45 52.5	
	99nm,0.3s,baz=287,slow=24,SNR=11						
KMBO				LR	LR	19 46 26.7	
	comp=Z,176nm,18.3s,baz=92,slow=43						
LSZ	**Lusaka**	**13.67**	**213**	Pn	**Pn**	**19 47 30.1**	**-0.9**
	0.2nm,0.3s,baz=19,slow=13,SNR=4.2						
LSZ				Lg	Lg	19 51 23.5	
	0.8nm,0.3s,baz=124,slow=20,SNR=7.9						
MKAR	**Makanchi Array**	**64.88**	**33**	P	**P**	**19 54 56.9**	**+0.7**
	0.4nm,0.9s,baz=236,slow=6.8,SNR=3.2						
CMAR	**Chiang Mai Arr**	**65.90**	**68**	P	**P**	**19 55 03.6**	**+0.2**
	0.2nm,0.6s,baz=262,slow=5.1,SNR=4.1						

IDC ***02*** *19:47:45.6±0.5, 34°.11N × 25°.31E, h0km, mb4.6/25, mb1 4.7/33, mb1mx4.6/38, mbtmp4.6/33, ML4.7/6, MS4.0/26, Ms1 4.0/26, ms1mx3.7/59, Error ellipse: s-maj=13.4km s-min=11.3km az=178.0*
ISCJB ***02*** *19:47:46.0±0.5, 33°.98N±0°.02×25°.30E±0°.01, h16km±3km, mb4.6/132, MS4.0/30, Error ellipse: s-maj=2.8km s-min=1.9km az=9.9*
BJI ***02*** *19:47:45.2, 33.67N × 25°.12E, h25km, mB5.1/10, mb4.8/19, Ms4.6/5, Ms7 4.5/5*
NSSC ***02*** *19:47:48.4±1.2, 33°.39N × 25°.89E, h0km±241km, ML3.5*
MOS ***02*** *19:47:48.7±1.2, 34°.14N × 25°.27E, h29km, mb4.8/61, Error ellipse: s-maj=5.2km s-min=2.6km az=97.2*
SZGRF ***02*** *19:47:48.1, 34°.04N × 25°.66E, h33km, mb4.9, MS3.4, Crete, Greece*
GCMT ***02*** *19:47:49.2±0.4, 34°.04N × 25°.51E, h12km±1km, MW4.8, Moment Tensor Solution. s14,c15; s58,c86; Moment tensor: Scale 10^16 Nm; Mrr 1.23±.12; Mθθ -1.06±.08; Mφφ -0.17±.07; Mrθ 0.01±.15; Mrφ 0.72±.05; Mθφ 1.12±.27; Best double couple: M0 1.70000×10^16 NP1: ϕ95.00000°, δ40.00000°, λ43.00000°. NP2: ϕ329.00000°, δ64.00000°, λ122.00000°. Principal axes: T 1.9000, Plg59.0000°, Azm284.0000°; N -0.3100, Plg28.0000°, Azm134.0000°; P -1.5900, Plg13.0000°, Azm36.0000°; Data Used: II IC IU G CN.*
CSEM ***02*** *19:47:49.4±0.1, 33°.98N × 25°.29E, h30km, mb4.7/99, Ms3.7, Mw4.3 Error ellipse: s-maj=3.1km s-min=2.0km az=24.0*
HLW ***02*** *19:47:50.6, 34°.01N × 25°.53E, h32km±42km, Md4.0, Ml3.9*
NEIC ***02*** *19:47:50.2, 34°.25N × 25°.22E, h22km, mb4.7/47, ML4.1(HLW), ML4.0(ATH), ML4.2(ISK), After ATH.*
ATH ***02*** *19:47:50.2, 34°.25N × 25°.22E, h22km±1km, MD4.4/27, ML4.0*
DDA ***02*** *19:47:52.6, 34°.23N × 25°.77E, h3km, MD4.1*
NIC ***02*** *19:47:57.0±0.1, 34°.82N × 25°.82E, h25km, mb4.7, ML4.2, MW3.8*
ISC 02 19:47:47.5±0.5, 33°.99N±0°.02×25°.30E±0°.02, h15km±2km, n1061, σ1§28/1115, mb4.7/132, MS4.1/30, 39C-20D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.10**	**339**	P	**Pb**	**19 48 07.1**	**-1.3**
SIVA	**Sivas**	**1.10**	**339**	*e*PN	**Pb**	**19 48 07.1**	**-1.3**
SIVA				*e*SN	**Sb**	**19 48 17.7**	**-4.9**
SIVA	**Sivas**	**1.10**	**339**	*e*Pn	**Pb**	**19 48 07.1**	**-1.3**
SIVA				*e*Sn	**Sb**	**19 48 17.7**	**-4.9**
SIVA	**Sivas**	**1.10**	**339**	P	**Pb**	**19 48 07.1**	**-1.3**
LAST	**Lasithi**	**1.18**	**7**	P	**Pb**	**19 48 08.3**	**-1.5**
LAST	**Lasithi**	**1.18**	**7**	*e*PN	**Pb**	**19 48 08.1**	**-1.7**
LAST				*e*SN	**Sb**	**19 48 20.8**	**-4.1**
LAST	**Lasithi**	**1.18**	**7**	*e*Pn	**Pb**	**19 48 08.1**	**-1.7**
LAST				*e*Sn	**Sb**	**19 48 20.8**	**-4.1**
LAST	**Lasithi**	**1.18**	**7**	P	**Pb**	**19 48 08.3**	**-1.5**
LAST				*e*Sn	**Sb**	**19 48 20.8**	**-4.1**
NPS	**Neapolis**	**1.30**	**11**	P	**Pn**	**19 48 10.0**	**-1.2**
NPS	**Neapolis**	**1.30**	**11**	*e*P	**Pn**	**19 48 10.2**	**-1.0**
NPS				*e*		19 48 25.0	
NPS	**Neapolis**	**1.30**	**11**	*e*PN	**Pn**	**19 48 10.2**	**-1.0**
NPS				*e*SN	**Sb**	**19 48 25.0**	**-3.3**
NPS	**Neapolis**	**1.30**	**11**	*e*Pn	**Pn**	**19 48 10.2**	**-1.0**
NPS				*e*Sn	**Sb**	**19 48 25.0**	**-3.3**
NPS	**Neapolis**	**1.30**	**11**	*e*Pn	**Pn**	**19 48 10.2**	**-1.0**
NPS				*e*Sn	**Sb**	**19 48 25.0**	**-3.3**
GVD	**Gavdhos**	**1.31**	**311**	P	**Pb**	**19 48 12.3**	**+0.3**
GVD	**Gavdhos**	**1.31**	**311**	*e*PN	**Pb**	**19 48 12.3**	**+0.3**
GVD				*e*SN	**Sb**	**19 48 27.2**	**-1.5**
GVD	**Gavdhos**	**1.31**	**311**	*e*Pn	**Pn**	**19 48 11.9**	**+0.5**
GVD				*e*S	**Sb**	**19 48 27.5**	**-1.2**
GVD	**Gavdhos**	**1.31**	**311**	*e*Pn	**Pn**	**19 48 11.9**	**+0.5**
GVD	**Gavdhos**	**1.31**	**311**	P	**Pb**	**19 48 12.3**	**+0.3**
GVD				*e*Sn	**Sb**	**19 48 27.2**	**-1.5**
IDI	**Anoyia**	**1.34**	**346**	P	**Pn**	**19 48 10.5**	**-1.3**
IDI	**Anoyia**	**1.34**	**346**	*e*PN	**Pn**	**19 48 10.7**	**-1.2**
IDI				*e*SN	**Sb**	**19 48 26.0**	**-3.5**
IDI	**Anoyia**	**1.34**	**346**	*e*Pn	**Pn**	**19 48 10.6**	**-1.3**
IDI				*e*Sn	**Sb**	**19 48 28.1**	**-1.4**
IDI	**Anoyia**	**1.34**	**346**	*e*Pn	**Pn**	**19 48 10.6**	**-1.3**
IDI				*e*Sn	**Sb**	**19 48 28.1**	**-1.4**
ZKR	**Zakros**	**1.36**	**34**	P	**Pb**	**19 48 11.8**	**-0.9**
ZKR	**Zakros**	**1.36**	**34**	*e*PB	**Pb**	**19 48 11.6**	**-1.1**
ZKR	**Zakros**	**1.36**	**34**	P	**Pb**	**19 48 11.8**	**-0.9**
VAM	**Vamos**	**1.68**	**328**	P	**Pn**	**19 48 16.4**	**-0.1**
VAM	**Vamos**	**1.68**	**328**	*e*PN	**Pn**	**19 48 16.8**	**+0.3**
VAM				*e*SN	**Sn**	**19 48 35.8**	**-2.0**
VAM	**Vamos**	**1.68**	**328**	P	**Pn**	**19 48 16.4**	**-0.1**
VAM	**Vamos**	**1.68**	**328**	*e*Pn	**Pn**	**19 48 16.8**	**+0.3**
VAM				*e*Sn	**Sn**	**19 48 35.8**	**-2.0**
KARP	**Karpathos**	**2.19**	**44**	P	**Pb**	**19 48 25.9**	**-0.9**
KARP	**Karpathos**	**2.19**	**44**	*e*PN	**Pb**	**19 48 26.2**	**-0.6**
KARP	**Karpathos**	**2.19**	**44**	P	**Pb**	**19 48 25.9**	**-0.9**
KARP	**Karpathos**	**2.19**	**44**	*e*Pn	**Pb**	**19 48 26.2**	**-0.6**
LTBQ	**Tobruq**	**2.25**	**211**	*i* P	**Pn**	**19 48 24.0**	**-0.2**
	SNR=42						
THR1	**Thera Island**	**2.38**	**3**	P	**Pn**	**19 48 27.2**	**+1.1**
THR1	**Thera Island**	**2.38**	**3**	P	**Pn**	**19 48 27.2**	**+1.1**
SANT	**Santorini**	**2.38**	**3**	P	**Pn**	**19 48 26.9**	**+0.7**
SANT	**Santorini**	**2.38**	**3**	*e*PN	**Pn**	**19 48 27.4**	**+1.2**
SANT				*e*SN	**Sn**	**19 48 53.1**	**-2.1**
SANT	**Santorini**	**2.38**	**3**	*e*Pn	**Pn**	**19 48 26.7**	**+0.6**
SANT				*e*Pg	**Pg**	**19 48 33.0**	**-0.3**
SANT	**Santorini**	**2.38**	**3**	P	**Pn**	**19 48 26.9**	**+0.7**
SANT				*e*Sn	**Sn**	**19 48 53.1**	**-2.1**
THR3	**Thira Island,**	**2.42**	**2**	P	**Pn**	**19 48 27.6**	**+1.0**
THR3	**Thira Island,**	**2.42**	**2**	P	**Pn**	**19 48 27.6**	**+1.0**
SLUM		**2.49**	**182**	P	**Pn**	**19 48 28.5**	**+0.9**
ANKY	**Antikythira Is**	**2.49**	**319**	P	**Pg**	**19 48 28.1**	**-0.1**
ANKY	**Antikythira Is**	**2.49**	**319**	*e*PN	**Pn**	**19 48 28.2**	**+0.8**
ANKY	**Antikythira Is**	**2.49**	**319**	*e*Pn	**Pn**	**19 48 28.2**	**+0.6**
KYTH	**Kithira**	**2.95**	**322**	P	**Pn**	**19 48 36.4**	**+2.5**
KYTH	**Kithira**	**2.95**	**322**	*e*PB	**Pn**	**19 48 35.6**	**+1.7**
KYTH	**Kithira**	**2.95**	**322**	*e*Pb	**Pn**	**19 48 35.6**	**+1.7**
KYTH	**Kithira**	**2.95**	**322**	P	**Pn**	**19 48 36.4**	**+2.5**
NIS1	**Nisyros Isl.**	**3.03**	**30**	*e*PN	**Pn**	**19 48 36.9**	**+1.9**
NIS1				*e*SN	**Sn**	**19 49 11.1**	**0.0**
NIS1	**Nisyros Isl.**	**3.03**	**30**	*e*Pn	**Pn**	**19 48 36.9**	**+1.9**
NIS1				*e*Sn	**Sn**	**19 49 11.1**	**0.0**
APE	**Apeiranthos**	**3.08**	**3**	*e*PN	**Pn**	**19 48 35.9**	**+0.1**
APE				*e*SN	**Sn**	**19 49 14.6**	**+2.2**
APE	**Apeiranthos**	**3.08**	**3**	P	**Pn**	**19 48 37.0**	**+1.2**
APE	**Apeiranthos**	**3.08**	**3**	*e*PN	**Pn**	**19 48 36.3**	**+0.5**
APE	**Apeiranthos**	**3.08**	**3**	*e*Pn	**Pn**	**19 48 36.3**	**+0.5**
APE	**Apeiranthos**	**3.08**	**3**	P	**Pn**	**19 48 37.0**	**+1.2**
ARG	**Arkhangelos**	**3.21**	**45**	P	Pb	19 48 41.0	-3.3
ARG	**Arkhangelos**	**3.21**	**45**	*e*PN	Pb	19 48 40.2	-4.1
ARG				*e*SN	**Sn**	**19 49 17.4**	**+1.8**
ARG	**Arkhangelos**	**3.21**	**45**	*e*Pn	Pb	19 48 40.2	-4.1
ARG	**Arkhangelos**	**3.21**	**45**	P	Pb	19 48 41.0	-3.3
ARG				*e*Sn	**Sn**	**19 49 17.4**	**+1.8**
HMAT	**Matruh**	**3.26**	**152**	P	**Pn**	**19 48 38.5**	**+0.3**
HMAT				S	**Sn**	**19 49 14.8**	**-2.0**
HMAT	**Matruh**	**3.26**	**152**	P	**Pn**	**19 48 38.5**	**+0.3**
	baz=155						
HMAT				AMP		19 49 00.0	
	comp=E,430μm,0.8s,logA/T=5.7,baz=155						
HMAT				S	**Sn**	**19 49 14.7**	**-2.0**
	baz=155						
HMAT	**Matruh**	**3.26**	**152**	P	**Pn**	**19 48 38.5**	**+0.3**
HMAT				S	**Sn**	**19 49 14.7**	**-2.0**
DAT	**Datca**	**3.31**	**34**	*e*PN	**Pn**	**19 48 39.8**	**+0.9**
DAT	**Datca**	**3.31**	**34**	*e*SN	**Sb**	**19 49 22.1**	**-4.1**
VLI	**Veliai**	**3.34**	**325**	P	**Pn**	**19 48 39.6**	**+0.3**
VLI	**Veliai**	**3.34**	**325**	*e*PN	**Pn**	**19 48 40.2**	**+0.9**
VLI	**Veliai**	**3.34**	**325**	P	**Pn**	**19 48 39.6**	**+0.3**
VLI	**Veliai**	**3.34**	**325**	*e*Pn	**Pn**	**19 48 40.2**	**+0.9**
BODT	**Bodrum**	**3.48**	**28**	*e*PN	**Pn**	**19 48 41.9**	**+0.7**
DYR	**Agios Nikonas**	**3.68**	**320**	P	Pg	19 49 01.7	+3.7
DYR	**Agios Nikonas**	**3.68**	**320**	*e*PN	**Pn**	**19 48 45.5**	**+1.5**
DYR	**Agios Nikonas**	**3.68**	**320**	*e*Pn	**Pn**	**19 48 45.5**	**+1.5**
MLSB	**Milas**	**3.87**	**31**	*e*PN	**Pn**	**19 48 47.7**	**+1.1**
DIDY	**Didyma**	**3.87**	**335**	P	**Pn**	**19 48 47.2**	**+0.5**
DIDY	**Didyma**	**3.87**	**335**	P	**Pn**	**19 48 47.2**	**+0.5**
DID	**Didima**	**3.89**	**335**	P	**Pn**	**19 48 47.1**	**+0.2**
DID	**Didima**	**3.89**	**335**	*e*PN	**Pn**	**19 48 46.9**	**0.0**
DID	**Didima**	**3.89**	**335**	P	**Pn**	**19 48 47.1**	**+0.2**
SMG	**Samos**	**3.92**	**18**	*e*PN	**Pn**	**19 48 48.6**	**+1.4**
SMG	**Samos**	**3.92**	**18**	*e*Pn	**Pn**	**19 48 48.6**	**+1.4**
DALY	**Dalyan (Mu˘la**	**3.94**	**43**	*e*PN	**Pn**	**19 48 49.0**	**+1.6**
TURN	**Turunc**	**3.95**	**42**	*i* P	Pn	19 48 44.2	-3.4
TURN				*i* S	Sn	19 49 26.9	-6.7
TURN	**Turunc**	**3.95**	**42**	*i* P	Pn	19 48 44.2	-3.4
YER	**Yerkesik**	**3.97**	**37**	*e*PN	**Pn**	**19 48 49.3**	**+1.3**
NAIG	**Nisos Aigina**	**4.04**	**339**	*e*PN	**Pn**	**19 48 49.4**	**+0.5**
NAIG	**Nisos Aigina**	**4.04**	**339**	*e*Pn	**Pn**	**19 48 49.4**	**+0.5**
FETY	**Fethiye**	**4.07**	**48**	*e*PN	**Pn**	**19 48 50.6**	**+1.3**
PYL	**PYLOS**	**4.11**	**316**	*e*PN	**Pn**	**19 48 50.6**	**+0.8**
PYL	**PYLOS**	**4.11**	**316**	*e*Pn	**Pn**	**19 48 50.6**	**+0.8**
KSL	**Kastellorizon**	**4.12**	**57**	*e*Pn	Pn	19 48 52.6	+2.6
VLX	**Vlachokerasia**	**4.13**	**326**	P	**Pn**	**19 48 51.5**	**+1.3**
VLX	**Vlachokerasia**	**4.13**	**326**	*e*PN	**Pn**	**19 48 51.2**	**+1.0**
VLX	**Vlachokerasia**	**4.13**	**326**	*e*Pn	**Pn**	**19 48 51.2**	**+1.0**
VLX	**Vlachokerasia**	**4.13**	**326**	P	**Pn**	**19 48 51.5**	**+1.3**
MRMA	**Marmari**	**4.13**	**350**	P	**Pn**	**19 48 51.9**	**+1.8**
MRMA	**Marmari**	**4.13**	**350**	P	**Pn**	**19 48 51.9**	**+1.8**
ATH	**Athens Observa**	**4.18**	**343**	*e*PN	**Pn**	**19 48 51.1**	**+0.3**
ATH	**Athens Observa**	**4.18**	**343**	*e*Pn	**Pn**	**19 48 51.1**	**+0.3**
AKAS	**Kas**	**4.18**	**56**	*i* P	**Pn**	**19 48 51.7**	**+0.7**
AKAS				*i* S	**Sn**	**19 49 39.7**	**0.0**
AKAS	**Kas**	**4.18**	**56**	*i* P	**Pn**	**19 48 51.7**	**+0.7**
AKAS				*i* S	**Sn**	**19 49 39.7**	**0.0**
ITM	**Ithomi**	**4.21**	**320**	P	**Pn**	**19 48 51.9**	**+0.7**
ITM	**Ithomi**	**4.21**	**320**	*e*PN	**Pn**	**19 48 52.3**	**+1.1**
ITM	**Ithomi**	**4.21**	**320**	P	**Pn**	**19 48 51.9**	**+0.7**
ITM	**Ithomi**	**4.21**	**320**	*e*Pn	**Pn**	**19 48 52.3**	**+1.1**
PTL	**Penteli**	**4.22**	**344**	P	**Pn**	**19 48 51.6**	**+0.2**
PTL	**Penteli**	**4.22**	**344**	*e*PN	**Pn**	**19 48 52.2**	**+0.8**
PTL	**Penteli**	**4.22**	**344**	P	**Pn**	**19 48 51.6**	**+0.2**
PTL	**Penteli**	**4.22**	**344**	*e*Pn	**Pn**	**19 48 52.2**	**+0.8**
CHOS	**Chios island**	**4.43**	**8**	*e*PN	**Pn**	**19 48 55.8**	**+1.4**
CHOS	**Chios island**	**4.43**	**8**	*e*Pn	**Pn**	**19 48 55.8**	**+1.4**
LTK	**Loutraki**	**4.45**	**336**	*e*PN	**Pn**	**19 48 54.9**	**+0.4**
LTK	**Loutraki**	**4.45**	**336**	*e*Pn	**Pn**	**19 48 54.9**	**+0.4**
AMT	**Artemida-Makis**	**4.59**	**322**	*e*PN	**Pn**	**19 48 58.5**	**+2.1**
AMT	**Artemida-Makis**	**4.59**	**322**	*e*Pn	**Pn**	**19 48 58.5**	**+2.1**
BLCB	**Balcova**	**4.61**	**17**	*e*PN	**Pn**	**19 48 57.8**	**+1.0**
GUR	**Goura**	**4.61**	**330**	P	**Pn**	**19 48 57.6**	**+0.7**
GUR	**Goura**	**4.61**	**330**	*e*PN	**Pn**	**19 48 57.3**	**+0.4**
GUR	**Goura**	**4.61**	**330**	*e*Pn	**Pn**	**19 48 57.3**	**+0.4**
GUR	**Goura**	**4.61**	**330**	P	**Pn**	**19 48 57.6**	**+0.7**
ELL	**Elmali**	**4.67**	**53**	*e*PN	**Pn**	**19 48 58.6**	**+1.0**
IZM	**Izmir**	**4.68**	**19**	*e*PN	**Pn**	**19 48 59.1**	**+1.4**
GOLH	**Golhisar**	**4.75**	**46**	*i* P	**Pn**	**19 48 59.1**	**+0.4**
GOLH				*i* S	**Sn**	**19 49 54.7**	**+1.0**
GOLH	**Golhisar**	**4.75**	**46**	*i* P	**Pn**	**19 48 59.1**	**+0.4**
GOLH				*i* S	**Sn**	**19 49 54.7**	**+1.0**
KLV	**Kalavryta, Ach**	**4.79**	**329**	P	**Pn**	**19 49 01.8**	**+2.6**
KLV	**Kalavryta, Ach**	**4.79**	**329**	*e*PN	**Pn**	**19 49 00.1**	**+0.9**
KLV	**Kalavryta, Ach**	**4.79**	**329**	*e*Pn	**Pn**	**19 49 00.1**	**+0.9**
KLV	**Kalavryta, Ach**	**4.79**	**329**	P	**Pn**	**19 49 01.8**	**+2.6**
DNZL	**Cakiroluk**	**4.79**	**38**	*i* P	Pn	19 48 59.1	-0.2
DNZL				*i* S	Sb	19 50 01.1	-7.7
DNZL	**Cakiroluk**	**4.79**	**38**	*i* P	**Pn**	**19 48 59.1**	**-0.2**
DENT	**Denizli**	**4.83**	**38**	*e*PN	**Pn**	**19 49 01.3**	**+1.5**
MRKA	**Markates**	**4.91**	**344**	P	**Pn**	**19 49 01.5**	**+0.7**
MRKA	**Markates**	**4.91**	**344**	P	**Pn**	**19 49 01.5**	**+0.7**
LKR	**Lokris**	**5.01**	**339**	*e*PN	**Pn**	**19 49 03.0**	**+0.8**
LKR	**Lokris**	**5.01**	**339**	*e*Pn	**Pn**	**19 49 03.0**	**+0.8**
LAKA	**Lakka**	**5.02**	**329**	*e*PN	**Pn**	**19 49 03.5**	**+1.1**
LAKA	**Lakka**	**5.02**	**329**	*e*Pn	**Pn**	**19 49 03.5**	**+1.1**
KALE	**Kalithea**	**5.08**	**331**	*e*PN	**Pn**	**19 49 04.0**	**+0.7**
KALE	**Kalithea**	**5.08**	**331**	*e*Pn	**Pn**	**19 49 04.0**	**+0.7**
TRIZ	**Trizonia**	**5.09**	**330**	*e*PN	**Pn**	**19 49 04.1**	**+0.8**
TRIZ	**Trizonia**	**5.09**	**330**	*e*Pn	**Pn**	**19 49 04.1**	**+0.8**
KORT	**Korkueli**	**5.10**	**52**	*i* P	**Pn**	**19 49 05.6**	**+2.0**
KORT				*i* S	**Sn**	**19 50 03.2**	**+0.9**
KORT	**Korkueli**	**5.10**	**52**	*i* P	**Pn**	**19 49 05.6**	**+2.0**
KORT				*i* S	**Sn**	**19 50 03.2**	**+0.9**
RLS	**Riolos of Patr**	**5.11**	**324**	*e*PN	**Pn**	**19 49 06.5**	**+2.9**
RLS	**Riolos of Patr**	**5.11**	**324**	*e*Pn	**Pn**	**19 49 06.5**	**+2.9**
SMIA	**Simia**	**5.17**	**342**	P	**Pn**	**19 49 05.3**	**+0.9**
SMIA	**Simia**	**5.17**	**342**	P	**Pn**	**19 49 05.3**	**+0.9**
EFP	**Efpalio**	**5.21**	**329**	*e*PN	**Pn**	**19 49 06.3**	**+1.3**
EFP	**Efpalio**	**5.21**	**329**	*e*Pn	**Pn**	**19 49 06.3**	**+1.3**
AXAR	**Agios Charalam**	**5.22**	**337**	P	**Pn**	**19 49 06.2**	**+1.0**
AXAR	**Agios Charalam**	**5.22**	**337**	P	**Pn**	**19 49 06.2**	**+1.0**
ANTB	**Antalya**	**5.25**	**55**	*e*PN	**Pn**	**19 49 06.9**	**+1.4**
KULA	**Kula-Manisa**	**5.27**	**30**	*e*PN	**Pn**	**19 49 07.1**	**+1.2**
LJBD	**Adjabya**	**5.29**	**236**	*i* P	**Pn**	**19 49 05.9**	**-0.2**
	SNR=24						
AOS	**Alonnisos**	**5.30**	**348**	P	**Pn**	**19 49 07.5**	**+1.4**
AOS	**Alonnisos**	**5.30**	**348**	*e*PN	**Pn**	**19 49 07.6**	**+1.4**
AOS	**Alonnisos**	**5.30**	**348**	P	**Pn**	**19 49 07.5**	**+1.4**
PRK	**Paraskevi**	**5.31**	**8**	P	**Pn**	**19 49 07.5**	**+1.2**
PRK	**Paraskevi**	**5.31**	**8**	*e

ARMT Armutlu 7.15 22 *e*PN **Pn** **19 49 32.1 +0.4**
KIZT Kizilcal 7.21 45 *e*PN **Pn** **19 49 33.5 +0.9**
KEK Kerkira 7.22 324 *e*PN **Pn** **19 49 33.0 +0.5**
KEK Kerkira 7.22 324 *e*Pn **Pn** **19 49 33.0 +0.5**
IKL Isikli 7.23 70 *e*PN **Pn** **19 49 32.5 -0.3**
SRS Serrai 7.25 350 P **Pn** **19 49 33.7 +0.8**
SRS Serrai 7.25 350 P **Pn** **19 49 33.7 +0.8**
NEST Nestorio 7.26 333 P **Pn** **19 49 32.7 -0.5**
NEST Nestorio 7.26 333 P **Pn** **19 49 32.7 -0.5**
YLV Yalova 7.33 25 *e*PN **Pn** **19 49 34.7 +0.6**
ADVT Abdulvahap 7.34 28 *e*PN **Pn** **19 49 35.0 +0.7**
NVR Nevrokopi 7.44 352 P **Pn** **19 49 37.1 +1.5**
NVR Nevrokopi 7.44 352 P **Pn** **19 49 37.1 +1.5**
EREN Erenkoy 7.46 76 *e*PN **Pn** **19 49 35.8 -0.1**
FNA Florina 7.47 336 P **Pn** **19 49 36.4 +0.4**
FNA Florina 7.47 336 P **Pn** **19 49 36.4 +0.4**
AMAG Maghara 7.48 114 P **Pn** **19 49 35.7 -0.5**
baz=115
AMAG Maghara 7.48 114 P **Pn** **19 49 35.7 -0.5**
VAY Valandovo 7.63 344 *e*Pn **Pn** **19 49 39.3 +1.0**
VAY Valandovo 7.63 344 *e*Pn **Pn** **19 49 39.2 +1.0**
GULT Gulveren 7.66 31 *e*PN **Pn** **19 49 39.4 +0.7**
CTKS Kestanelik-??a 7.67 18 *e*PN **Pn** **19 49 39.1 +0.4**
BIA Bitola 7.70 337 *e*Pn **Pn** **19 49 38.5 -0.7**
BIA Bitola 7.70 337 *e*Pn **Pn** **19 49 38.5 -0.7**
RSH 7.73 111 P **Pn** **19 49 39.4 -0.2**
baz=111
RSH 7.73 111 P **Pn** **19 49 39.4 -0.2**
SULT Sultanhani-AKS 7.87 55 *e*PN **Pn** **19 49 42.0 +0.5**
MDUB Mudurnu 8.00 34 *e*PN **Pn** **19 49 43.7 +0.4**
GULE Gulek 8.39 64 *i* P **Pn** **19 49 50.4 +1.6**
GULE *i* S **Sn** **19 51 24.3 +1.0**
GULE Gulek 8.39 64 *i* P **Pn** **19 49 50.4 +1.6**
GULE *i* S **Sn** **19 51 24.3 +1.0**
LOD Lodumlu 8.39 43 *e*PN **Pn** **19 49 48.8 +0.1**
ANTO Ankara 8.39 43 *e*PN **Pn** **19 49 49.2 +0.5**
ANTO Ankara 8.39 43 *e*P **Pn** **19 49 48.3 -0.4**
ANTO pmax pmax
comp=Z,50nm,1.2s
ANTO Ankara 8.39 43 *e*Pn **Pn** **19 49 48.3 -0.4**
comp=Z,50nm,1.2s
ANTO Ankara 8.39 43 ⇓*i*P Pn 19 49 54.5 +5.8
ANTO Ankara 8.39 43 *e*P **Pn** **19 49 48.3 -0.4**
comp=Z,50nm,1.2s
HNKL Nakhl 8.41 116 P **Pn** **19 49 48.2 -0.8**
baz=117
HNKL AMP 19 51 00.0
comp=N,70μm,0.8s,logA/T=4.9,baz=117
HNKL Nakhl 8.41 116 P **Pn** **19 49 48.2 -0.8**
MMAI Mount Meron Ar 8.49 94 Pn **Pn** **19 49 48.7 -1.4**
MMAI Sn **Sn** **19 51 23.4 -2.5**
MMAI Mount Meron Ar 8.49 94 Pn **Pn** **19 49 48.7 -1.4**
comp=N,5.3nm,0.3s,baz=284,slow=11,SNR=20
MMAI Sn **Sn** **19 51 23.4 -2.5**
comp=N,9.5nm,0.3s,baz=269,slow=25,SNR=7.4
MMAI Mount Meron Ar 8.49 94 Pn **Pn** **19 49 48.7 -1.4**
TIR Tirane 8.52 331 *e*P **Pn** **19 49 50.1 -0.3**
TIR *e* 19 51 27.9
TIR pmax pmax
comp=Z,39nm,0.8s
TIR Tirane 8.52 331 *e*Pn **Pn** **19 49 50.1 -0.3**
comp=Z,39nm,0.8s
TIR *e*Sn **Sn** **19 51 27.9 +1.7**
TIR Tirane 8.52 331 *e*P **Pn** **19 49 50.1 -0.3**
comp=Z,39nm,0.8s
TIR *e*S **Sn** **19 51 27.9 +1.7**
KARA Karaisali 8.59 65 *e*PN **Pn** **19 49 51.2 -0.2**
NIG Nigde 8.59 59 *e*PN **Pn** **19 49 51.5 -0.1**
TIP Timpagrande 8.60 309 *e*Pn **Pn** **19 49 50.2 -1.4**
comp=Z,127nm,1.3s
TIP *e*Sn **Sn** **19 51 24.6 -3.9**
TIP Timpagrande 8.60 309 *e*Pn **Pn** **19 49 50.2 -1.4**
comp=Z,127nm,1.3s
KAMT Kaman 8.63 49 *e*PN **Pn** **19 49 52.3 +0.2**
KRTS Karatas 8.63 70 *e*PN **Pn** **19 49 51.3 -0.6**
CEL Celeste 8.72 302 *e*Pn **Pn** **19 49 52.3 -0.9**
comp=Z,88nm,0.6s
CEL *e*Sn **Sn** **19 51 27.1 -4.3**
CEL Celeste 8.72 302 *e*Pn **Pn** **19 49 52.3 -0.9**
comp=Z,88nm,0.6s
VTS Vitosha 8.75 350 ⇓P **Pn** **19 49 55.3 +1.6**
VTS Vitosha 8.75 350 ⇓*i*P **Pn** **19 49 55.3 +1.6**
VTS Vitosha 8.75 350 P **Pn** **19 49 55.3 +1.6**
BR131 Keskin Array S 8.80 47 *e*Pn **Pn** **19 49 55.1 +0.7**
comp=Z,8.3nm,0.8s
BR131 *e*Sn **Sn** **19 51 34.2 +0.8**
BR131 Keskin Array S 8.80 47 *e*Pn **Pn** **19 49 55.1 +0.7**
comp=Z,8.3nm,0.8s
BR131 *e*Sn **Sn** **19 51 34.2 +0.8**
BRTR Keskin Array B 8.80 47 Pn **Pn** **19 49 54.0 -0.4**
BRTR Keskin Array B 8.80 47 Pn **Pn** **19 49 54.0 -0.4**
comp=Z,0.6nm,0.3s,baz=223,slow=14,SNR=15
BRTR LR LR 19 53 16.5
comp=Z,196nm,18.9s,baz=31,slow=38
BRTR Keskin Array B 8.80 47 Pn **Pn** **19 49 54.0 -0.4**
BRTR Keskin Array B 8.80 47 *i* P Pn 19 49 57.0 +2.6
comp=Z,6.0nm,0.8s
ARNB Al Arnab 8.96 75 *e*P **Pn** **19 49 56.0 -0.6**
ARNB *e*S Sn 19 51 29.2 -8.1
ARNB AML AML 19 51 39.2
comp=E,56nm,0.8s
ARNB AML AML 19 51 48.3
comp=N,65nm,0.6s
ARNB Al Arnab 8.96 75 *e*P **Pn** **19 49 56.2 -0.4**
ARNB *i* S Sn 19 51 25.0 -12
ARNB AML AML 19 51 39.2
comp=E,56nm,0.8s
ARNB AML AML 19 51 48.3
comp=N,65nm,0.6s
ARNB Al Arnab 8.96 75 *e*P **Pn** **19 49 56.0 -0.6**
SNR=45
ARNB *e*S Sn 19 51 29.2 -8.1
comp=N,65nm,0.6s,SNR=40
TCHB Talchebab 9.03 95 *e*P **Pn** **19 49 54.8 -2.6**
TCHB *i* S Sn 19 51 24.0 -15
TCHB AML AML 19 51 39.2
comp=N,114nm,0.6s
TCHB AML AML 19 51 48.9
comp=E,111nm,0.6s
TCHB Talchebab 9.03 95 *e*P **Pn** **19 49 55.5 -1.9**
TCHB *e*S Sn 19 51 24.4 -14
TCHB AML AML 19 51 39.2
comp=N,114nm,0.6s
TCHB Talchebab 9.03 95 *e*P **Pn** **19 49 54.8 -2.6**
SNR=45
TCHB *i* S Sn 19 51 24.0 -15
comp=N,111nm,0.6s,SNR=40
CEYT Ceyhan 9.04 68 *e*PN **Pn** **19 49 57.2 -0.3**
WDD Wield Dalam 9.05 285 *e*Pn **Pn** **19 49 57.0 -0.6**
comp=N,131nm,1.0s
WDD Wield Dalam 9.05 285 *e*Pn **Pn** **19 49 57.0 -0.6**
comp=N,131nm,1.0s
HAWK Haweek 9.21 84 *e*P **Pn** **19 49 57.8 -2.2**
HAWK AML AML 19 50 18.7
comp=E,26nm,0.7s
HAWK *i* S Sn 19 51 32.3 -11
HAWK AML AML 19 51 41.6
comp=N,50nm,0.7s
HAWK Haweek 9.21 84 *e*P **Pn** **19 49 57.9 -2.1**
HAWK *e*S Sn 19 51 28.8 -15
HAWK AML AML 19 51 41.6
comp=N,50nm,0.7s
HAWK AML AML 19 51 48.5
comp=Z,38nm,0.6s
HAWK Haweek 9.21 84 *e*P **Pn** **19 49 57.8 -2.2**
SNR=45
HAWK *i* S Sn 19 51 32.3 -11
comp=Z,50nm,0.7s,SNR=40
BARS Barje 9.23 344 ⇑*i*Pn **Pn** **19 49 59.6 -0.5**
KOZT Kozan 9.24 65 *e*PN **Pn** **19 50 00.0 -0.3**
EIL Elat 9.27 115 Pn **Pn** **19 50 00.3 -0.4**
EIL Elat 9.27 115 Pn **Pn** **19 50 00.3 -0.4**
comp=Z,3.4nm,0.3s,baz=302,slow=7.5,SNR=36
EIL LR LR 19 55 27.7
comp=Z,306nm,18.8s,baz=79,slow=50
EIL Elat 9.27 115 Pn **Pn** **19 50 00.3 -0.4**
BTCH Batrach 9.38 74 *e*P **Pn** **19 49 59.9 -2.4**
BTCH *e*S Sn 19 51 31.7 -16
BTCH AML AML 19 51 49.2
comp=N,67nm,0.6s
BTCH AML AML 19 51 49.6
comp=E,72nm,0.7s
SALA Sala 9.65 94 *e*P Pn 19 50 02.8 -3.3
SALA *i* S Sn 19 51 40.5 -14
SALA AML AML 19 52 02.4
comp=E,3.4nm,0.6s
SALA AML AML 19 52 25.1
comp=N,38nm,0.6s
SALA Sala 9.65 94 *e*P **Pn** **19 50 03.2 -2.9**
SALA *e*S Sn 19 51 36.9 -18
SALA AML AML 19 52 02.4
comp=E,3.4nm,0.6s
SALA AML AML 19 52 25.1
comp=N,38nm,0.6s
SALA Sala 9.65 94 *e*P Pn 19 50 02.8 -3.3
SNR=45
SALA *i* S Sn 19 51 40.5 -14
comp=N,38nm,0.6s,SNR=40
CUC Castrocucco 9.66 311 *e*Pn **Pn** **19 50 05.6 -0.6**
comp=N,47nm,0.6s
CUC *e*Sn **Sn** **19 51 55.5 +1.0**
CUC Castrocucco 9.66 311 *e*Pn **Pn** **19 50 05.6 -0.6**
comp=N,47nm,0.6s
CUC *e*Sn **Sn** **19 51 55.5 +1.0**
BNN Bunyan 9.79 57 *e*PN **Pn** **19 50 07.6 -0.3**
BOLS Boljevac 10.17 346 *e*Pn **Pn** **19 50 12.5 -0.5**
HUMR Humele 10.53 359 ⇑*i*P **Pn** **19 50 19.5 +1.6**
HUMR Humele 10.53 359 ⇑*i*P **Pn** **19 50 19.5 +1.6**
STON Ston 10.68 328 *e*Pn **Pn** **19 50 17.6 -2.4**
STON Sn Sn 19 52 07.0 -12
TIRR Tirgusor 10.73 12 ⇑P **Pn** **19 50 21.5 +0.8**
TIRR Tirgusor 10.73 12 *e*Pn **Pn** **19 50 19.7 -1.0**
comp=N,34nm,1.5s
TIRR Tirgusor 10.73 12 ⇑*i*P **Pn** **19 50 21.5 +0.8**
TIRR Tirgusor 10.73 12 *e*Pn **Pn** **19 50 19.7 -1.0**
comp=N,34nm,1.5s
TIRR Tirgusor 10.73 12 P **Pn** **19 50 21.5 +0.8**
ISR Istrita 11.16 5 ⇑P **Pn** **19 50 28.3 +1.7**
ISR Istrita 11.16 5 ⇑*i*P **Pn** **19 50 28.3 +1.7**
ISR Istrita 11.16 5 P **Pn** **19 50 28.3 +1.7**
CFR Carcaliu 11.39 10 ⇓P **Pn** **19 50 31.8 +2.2**
CFR Carcaliu 11.39 10 ⇓*i*P **Pn** **19 50 31.8 +2.2**
CFR Carcaliu 11.39 10 P **Pn** **19 50 31.8 +2.2**
VOIR 11.44 359 ⇓P **Pn** **19 50 32.8 +2.4**
VOIR 11.44 359 ⇓*i*P **Pn** **19 50 32.8 +2.4**
VOIR 11.44 359 P **Pn** **19 50 32.8 +2.4**
MALT Malatya 11.46 64 ⇑P Pn 19 50 39.8 +9.1
MALT Malatya 11.46 64 ⇑*i*P Pn 19 50 39.8 +9.1
MLR Muntele Rosu 11.50 2 ⇑*i*P **Pn** **19 50 32.6 +1.3**
MLR Muntele Rosu 11.50 2 P **Pn** **19 50 32.6 +1.3**
LOT Lotru 11.51 355 ⇑*i*P **Pn** **19 50 33.3 +1.9**
LOT Lotru 11.51 355 ⇑*i*P **Pn** **19 50 33.3 +1.9**
PLOR Plostina 11.90 5 ⇑P **Pn** **19 50 39.3 +2.6**
PLOR Plostina 11.90 5 ⇑*i*P **Pn** **19 50 39.3 +2.6**
PLOR Plostina 11.90 5 P **Pn** **19 50 39.3 +2.6**
VRI Vrincioaia 11.92 5 ⇑P **Pn** **19 50 38.6 +1.7**
VRI Vrincioaia 11.92 5 ⇑*i*P **Pn** **19 50 38.6 +1.7**
VRI Vrincioaia 11.92 5 P **Pn** **19 50 38.6 +1.7**
BZS Buzias 11.95 347 ⇓P **Pn** **19 50 37.5 +0.1**
BZS Buzias 11.95 347 ⇓*i*P **Pn** **19 50 37.5 +0.1**
BZS Buzias 11.95 347 P **Pn** **19 50 37.5 +0.1**
AQU L'Aquila 12.54 315 *e*Pn **Pn** **19 50 45.8 +0.4**
comp=N,10nm,0.5s
AQU L'Aquila 12.54 315 *e*P **Pn** **19 50 45.8 +0.4**
comp=N,10.0nm,0.5s
TESR Tescani 12.55 4 ⇑*i*P Pn 19 50 48.3 +2.7
TESR Tescani 12.55 4 ⇑*i*P Pn 19 50 48.3 +2.7
UDBI Udbina 12.85 328 *e*Pn **Pn** **19 50 48.3 -1.4**
UDBI Udbina 12.85 328 *e*Pn **Pn** **19 50 48.3 -1.4**
SIM Simferopol' 12.88 29 *e*P P 19 50 55.0 -5.9
SIM S Sn 19 53 23.0 +10
SIM pmax pmax
comp=Z,8.0nm,0.9s
SIM pmax pmax
comp=Z,20nm,6.9s
SIM MLR MLR
comp=Z,250nm,15.0s
KEST Kesra 13.22 282 *e*Pn **Pn** **19 50 53.8 -1.0**
KEST Kesra 13.22 282 Pn **Pn** **19 50 54.6 -0.2**
comp=Z,0.0nm,0.3s,baz=35,slow=5.2,SNR=4.4
KEST Kesra 13.22 282 *e*Pn **Pn** **19 50 53.8 -1.0**
KIS Kishinev 13.27 11 *e*P Pn 19 50 52.0 -3.3
KIS *e*S **Sn** **19 53 24.0 +1.4**
KIS LRM MLR 19 56 38.0
comp=Z,1μm,12.0s
KIS Kishinev 13.27 11 *e*P Pn 19 50 50.0 -5.3
KIS *e*S **Sn** **19 53 24.0 +1.4**
KIS MLR MLR
comp=Z,900nm,12.0s
KIS MLR MLR
comp=N,700nm,11.0s
KIS MLR MLR
comp=Z,1μm,12.0s
NVLJ Novalja 13.28 326 *e*Pn **Pn** **19 50 52.8 -2.8**
BURAR Bucovina Array 13.62 360 ⇑*i*P **Pn** **19 51 01.0 +0.8**
BURAR Bucovina Array 13.62 360 ⇑*i*P **Pn** **19 51 01.0 +0.8**
BOJS Bojanci 13.84 329 *i* Pn **Pn** **19 51 00.7 -2.5**
BOJS *i* Sn Sn 19 53 26.8 -10
CRES Cresnjev 14.02 330 *i* Pn Pn 19 51 01.6 -4.0
BEHE Becsehely 14.05 335 *e*Pn **P** **19 51 10.7 -3.2**
ANN Anapa 14.29 37 *e*P **Pn** **19 51 07.4 -1.9**
ANN pmax pmax
comp=Z,21nm,1.0s
ANN MLR MLR
comp=Z,160nm,10.0s
PKSG 14.37 341 *e*PKPPKPd **P** **19 51 19.2 +1.8**
PKSG 14.37 341 *e*P **P** **19 51 19.2 +1.8**
SKDS Skadanscina 14.43 326 *i* Pn Pn 19 51 07.2 -4.0
PSZ Piszkesteto 14.50 345 ⇓P **Pn** **19 51 12.5 +0.3**
PSZ Piszkesteto 14.50 345 *e*Pn **Pn** **19 51 11.0 -1.2**
comp=Z,20nm,1.3s
PSZ Piszkesteto 14.50 345 ⇓*i*P **Pn** **19 51 12.5 +0.3**
PSZ Piszkesteto 14.50 345 *e*Pn **Pn** **19 51 12.9 +0.7**
PSZ Piszkesteto 14.50 345 *e*Pn **Pn** **19 51 11.0 -1.2**
comp=Z,20nm,1.3s
TRI Trieste 14.66 326 *e*P **Pn** **19 51 14.1 -0.3**
TRI pmax pmax
comp=Z,39nm,1.1s
TRI Trieste 14.66 326 *e*Pn **Pn** **19 51 14.1 -0.3**
comp=Z,39nm,1.1s
TRI Trieste 14.66 326 *e*Pn **Pn** **19 51 14.1 -0.3**
comp=Z,39nm,1.1s
JAVS Javornik 14.67 327 *i* Pn **Pn** **19 51 12.1 -2.5**
JAVS *i* Sn Sn 19 53 44.5 -12
SOC Sochi 14.75 45 *e*P **Pn** **19 51 15.3 -0.4**
SOC *e* 19 53 56.9
SOC pmax pmax
comp=Z,8.0nm,0.7s
SOC MLR MLR
comp=Z,261nm,13.0s
UZH Uzhgorod 14.80 352 *e*P **Pn** **19 51 17.2 +0.9**
UZH *e*S **Sn** **19 54 04.8 +4.8**
UZH MLR MLR
comp=N,600nm,10.0s
UZH MLR MLR
comp=E,500nm,10.0s
UZH MLR MLR
comp=Z,200nm,10.0s
PERS Pernice 14.81 332 *i* Pn Pn 19 51 12.5 -4.0
VOY Vojsko 14.85 327 *e*Pn Pn 19 51 12.9 -4.1
VOY *e* 19 51 22.2
VOY *e* 19 51 40.9
VOY *e* 19 51 44.3
SOKA Soboth 14.88 331 ⇑*i*Pn Pn 19 51 13.7 -3.7
comp=Z,25nm,1.0s
KECS Kecovo 14.92 347 *e*P **Pn** **19 51 17.6 -0.4**
KECS Kecovo 14.92 347 *e*PN **Pn** **19 51 17.5 -0.4**
KECS Kecovo 14.92 347 *e*Pn **Pn** **19 51 17.6 -0.4**
KOLS Kolonicke sedl 15.10 352 *e*P **Pn** **19 51 17.0 -3.4**
KOLS Kolonicke sedl 15.10 352 *e*PN **Pn** **19 51 17.0 -3.4**
KOLS Kolonicke sedl 15.10 352 *e*P **Pn** **19 51 20.8 +0.4**
ARSA Arzberg 15.17 334 ⇓*i*Pn **Pn** **19 51 18.2 -3.0**
comp=Z,18nm,0.9s,SNR=7.5
VYHS Vyhne 15.28 343 *e*P **Pn** **19 51 19.8 -2.9**
VYHS Vyhne 15.28 343 *e*PN **Pn** **19 51 19.8 -2.9**
PGF Pioggiola 15.38 309 *e*P **Pn** **19 51 23.5 -0.6**
comp=Z,438nm,1.5s
ZST Bratislava 15.47 339 *e*P **P** **19 51 30.1 +0.5**
ZST Bratislava 15.47 339 *e*P **P** **19 51 30.1 +0.5**
ZST Bratislava 15.47 339 *e*P **P** **19 51 30.1 +0.5**
SMOL Smolenice 15.66 340 *e*P **P** **19 51 32.2 +0.5**
SMOL Smolenice 15.66 340 *e*P **P** **19 51 32.2 +0.5**
SMOL Smolenice 15.66 340 *e*P **P** **19 51 32.2 +0.5**
STHS Stebnicka Huta 15.71 350 *e*P **P** **19 51 32.5 +0.2**
STHS Stebnicka Huta 15.71 350 *e*P **P** **19 51 32.5 +0.2**
STHS Stebnicka Huta 15.71 350 *e*P **P** **19 51 32.5 +0.2**
KWP Kalwaria Pacla 15.75 354 *e*P **Pn** **19 51 28.9 +0.1**
KWP pmax pmax
comp=Z,20nm,1.0s
KWP Kalwaria Pacla 15.75 354 *e*Pn **Pn** **19 51 28.9 +0.1**
comp=Z,20nm,1.0s
KWP Kalwaria Pacla 15.75 354 ⇑*i*P **Pn** **19 51 29.1 +0.3**
KWP Kalwaria Pacla 15.75 354 *e*P **Pn** **19 51 29.6 +0.8**
KWP Kalwaria Pacla 15.75 354 *e*Pn **Pn** **19 51 28.9 +0.1**
comp=Z,20nm,1.0s
CHVG Ch'k'valeri 15.77 52 P **P** **19 51 32.6 -0.4**
CHVG Ch'k'valeri 15.77 52 P **P** **19 51 32.6 -0.4**
LVV L'vov 15.85 357 *e*P **P** **19 51 32.6 -1.2**
LVV *e*S **Sn** **19 54 27.2 +1.8**
LVV MLR MLR
comp=E,400nm,11.0s
LVV MLR MLR
comp=N,600nm,12.0s
LVV MLR MLR
comp=Z,500nm,12.0s
LVV L'vov 15.85 357 *e*P **P** **19 51 32.6 -1.2**
NIE Niedzica 15.86 348 *e*P **P** **19 51 32.7 -1.2**
NIE Niedzica 15.86 348 *e*P **P** **19 51 32.7 -1.2**
NIE Niedzica 15.86 348 *e*P **P** **19 51 32.7 -1.2**
KBA Koelnbreinsper 15.90 329 ⇓*i*Pn **Pn** **19 51 30.5 -0.4**
comp=Z,28nm,0.7s,SNR=20
KBA Koelnbreinsper 15.90 329 Pn **Pn** **19 51 30.5 -0.4**
comp=Z,28nm,0.7s,SNR=20
ABTA Abfaltersbach 16.02 327 ⇑*i*Pn **Pn** **19 51 30.4 -1.9**
comp=Z,38nm,0.7s,SNR=17
ABTA Abfaltersbach 16.02 327 Pn **Pn** **19 51 30.4 -1.9**
comp=Z,38nm,0.7s,SNR=17
MOA Molln 16.14 332 ⇓*i*Pn **Pn** **19 51 31.8 -2.1**
comp=Z,40nm,0.8s,SNR=48
MOA Molln 16.14 332 Pn **Pn** **19 51 31.8 -2.1**
comp=Z,40nm,0.8s,SNR=48
AKH Akhalkalaki 16.18 57 P **P** **19 51 40.4 +2.7**
AKH Akhalkalaki 16.18 57 P **P** **19 51 40.4 +2.7**
VRAC Vranov 16.61 340 Pn **Pn** **19 51 39.1 -0.7**
VRAC Vranov 16.61 340 Pn **Pn** **19 51 39.1 -0.7**
comp=Z,1.5nm,0.3s,baz=154,slow=9.2,SNR=27
VRAC Vranov 16.61 340 *e*Pn **Pn** **19 51 38.6 -1.3**
GNI Garni 16.68 63 *e*Pn **Pn** **19 51 41.3 +0.4**
comp=Z,32nm,0.6s
GNI Garni 16.68 63 Pn **Pn** **19 51 41.0 +0.1**
comp=Z,4.0nm,0.3s,baz=290,slow=3.9,SNR=28
GNI Garni 16.68 63 *e*Pn **Pn** **19 51 41.3 +0.4**
comp=Z,32nm,0.6s
GNI Garni 16.68 63 *i* P **P** **19 51 43.4 +0.2**
comp=Z,78nm,1.7s
OKC Ostrava-Krasne 16.70 344 *e*P **Pn** **19 51 39.9 -1.0**
OKC MLR MLR
comp=Z,600nm,9.4s
OKC Ostrava-Krasne 16.70 344 *e*P **Pn** **19 51 39.9 -1.0**
OKC *ep*P **P** **19 51 44.9 +1.7**
OKC *e*S **S** **19 55 00.9 +3.9**
OKC AMS AMS 20 00 20.0
comp=Z,600nm,9.4s
OJC Ojcow 16.72 348 ⇓*e*P **Pn** **19 51 39.6 -1.6**
OJC Ojcow 16.72 348 *e*P **Pn** **19 51 39.6 -1.6**
KIV Kislovodsk 16.76 48 *e*P **P** **19 51 43.9 -0.1**
KIV *e*S **S** **19 54 52.6 -6.0**
KIV pmax pmax
comp=Z,36nm,1.0s
KIV MLR MLR
comp=Z,100nm,13.0s
KIV Kislovodsk 16.76 48 *e*P **P** **19 51 43.9 -0.1**
comp=Z,36nm,1.0s
KBZ Khabaz 16.78 49 P **P** **19 51 43.6 -0.5**
KBZ pmax pmax
comp=Z,1.0nm,0.3s
KBZ Khabaz 16.78 49 Pn **P** **19 51 43.6 -0.5**
KBZ Khabaz 16.78 49 Pn **P** **19 51 43.6 -0.5**
comp=Z,0.7nm,0.3s,baz=246,slow=9.6,SNR=23
KBZ Khabaz 16.78 49 P **P** **19 51 43.6 -0.5**
comp=Z,1.0nm,0.3s
MORC Moravsky Berou 16.79 342 *e*P **Pn** **19 51 39.9 -2.2**
MORC pmax pmax
comp=Z,7.0nm,0.8s
MORC Moravsky Berou 16.79 342 *e*Pn **Pn** **19 51 39.9 -2.2**
comp=Z,6.5nm,0.8s
MORC Moravsky Berou 16.79 342 *e*Pn **Pn** **19 51 39.9 -2.2**
comp=Z,6.5nm,0.8s
WTTA Wattenberg 16.80 326 ⇑*i*Pn **Pn** **19 51 41.2 -1.2**
comp=Z,43nm,1.2s,SNR=45
WTTA Wattenberg 16.80 326 Pn **Pn** **19 51 41.2 -1.2**
comp=Z,43nm,1.2s,SNR=45
TREC Trest 16.94 337 *e*P **P** **19 51 45.0 -0.9**
TREC MLR MLR
comp=Z,400nm,11.6s
TREC Trest 16.94 337 *e*P **P** **19 51 45.0 -0.9**
TREC *ex* x 19 51 46.7
TREC *e*S **S** **19 55 04.8 +2.7**
TREC AMS AMS 19 59 00.0
comp=Z,400nm,11.6s
TREC Trest 16.94 337 *e*P **P** **19 51 45.0 -0.9**
comp=Z,400nm,11.6s
KIEV Kiev 16.94 9 *e*P **Pn** **19 51 43.6 -0.3**
KIEV pmax pmax
comp=Z,25nm,0.6s
KIEV Kiev 16.94 9 *e*Pn **Pn** **19 51 43.6 -0.3**
comp=Z,25nm,0.6s
KIEV Kiev 16.94 9 *e*P **Pn** **19 51 43.6 -0.3**
comp=Z,25nm,0.6s
AKASG Malin Array Be 16.95 9 *i* P **Pn** **19 51 42.5 -1.5**
AKASG pmax pmax
comp=Z,21nm,0.5s
AKASG Malin Array Be 16.95 9 Pn **Pn** **19 51 42.6 -1.5**
AKASG Malin Array Be 16.95 9 Pn **Pn** **19 51 42.6 -1.5**
comp=Z,12nm,0.3s,baz=202,slow=10,SNR=77
AKASG Malin Array Be 16.95 9 Pn **Pn** **19 51 42.6 -1.5**
ZEI Tsey 16.99 53 *e*P **P** **19 51 48.0 +1.3**
ZEI pmax pmax
comp=Z,114nm,1.9s
ZEI Tsey 16.99 53 *e*P **P** **19 51 48.0 +1.3**
comp=Z,114nm,1.9s
SAOF Saorge 17.00 311 *e*P **Pn** **19 51 45.5 +0.7**
SAOF Saorge 17.00 311 *e*P **Pn** **19 51 45.5 +0.7**
SAOF Saorge 17.00 311 *e*P **Pn** **19 51 45.5 +0.7**
SAOF Saorge 17.00 311 *e*P **Pn** **19 51 45.5 +0.7**
SBF Sospel 17.01 311 *e*P **Pn** **19 51 46.0 +1.0**
SBF Sospel 17.01 311 *e*P **Pn** **19 51 46.0 +1.0**
AUTN L'Aution 17.08 311 *e*P **Pn** **19 51 46.7 +0.7**
AUTN L'Aution 17.08 311 *e*P **Pn** **19 51 46.7 +0.7**
AUTN L'Aution 17.08 311 *e*P **Pn** **19 51 46.7 +0.7**
AUTN L'Aution 17.08 311 *e*P **Pn** **19 51 46.7 +0.7**
MOTA Moosalm 17.11 325 ⇑*i*Pn **Pn** **19 51 44.7 -1.6**
comp=Z,4.5nm,0.6s,SNR=6.0
MOTA Moosalm 17.11 325 Pn **Pn** **19 51 44.7 -1.6**
comp=Z,4.5nm,0.6s,SNR=6.0
TBLG Delisi 17.17 58 *e*P **P** **19 51 49.0 +0.5**
TBLG Delisi 17.17 58 P **P** **19 51 49.0 +0.5**
TBLG Delisi 17.17 58 *e*P **P** **19 51 49.0 +0.5**
GEC2 GERESS Array S 17.17 333 *e*P **Pn** **19 51 46.0 -1.0**
comp=Z,100nm,1.1s
GEC2 GERESS Array S 17.17 333 *e*P **Pn** **19 51 46.0 -1.0**
GEC2 pmax pmax
comp=Z,22nm,1.1s
GEC2 GERESS Array S 17.17 333 *e*P **Pn** **19 51 46.0 -1.0**
comp=Z,22nm,1.1s
GERES GERESS Array B 17.17 333 P **Pn** **19 51 46.9 -0.1**
GERES GERESS Array B 17.17 333 P **Pn** **19 51 46.9 -0.1**
comp=Z,2.0nm,0.3s,baz=148,slow=11,SNR=39
GERES GERESS Array B 17.17 333 P **Pn** **19 51 46.9 -0.1**
comp=Z,2.0nm,0.3s
TOUF Mont Tournerai 17.20 311 *e*P **Pn** **19 51 48.4 +0.9**
TOUF Mont Tournerai 17.20 311 *e*P **Pn** **19 51 48.4 +0.9**
TOUF Mont Tournerai 17.20 311 *e*P **Pn** **19 51 48.4 +0.9**
TOUF Mont Tournerai 17.20 311 *e*P **Pn** **19 51 48.4 +0.9**
MVIF Mont Vial 17.21 310 *e*P **Pn** **19 51 46.7 -0.8**
MVIF Mont Vial 17.21 310 *e*P **Pn** **19 51 46.7 -0.8**
MVIF Mont Vial 17.21 310 *e*P **Pn** **19 51 46.7 -0.8**
MVIF Mont Vial 17.21 310 *e*P **Pn** **19 51 46.7 -0.8**
CALN Calern 17.30 310 *e*P **Pn** **19 51 49.3 +0.6**
CALN Calern 17.30 310 *e*P **Pn** **19 51 49.3 +0.6**
CALN Calern 17.30 310 *e*P **Pn** **19 51 49.3 +0.6**
CALN Calern 17.30 310 *e*P **Pn** **19 51 49.3 +0.6**
DAVOX Davos/Dischmat 17.32 322 Pn **Pn** **19 51 49.2 +0.3**
DAVOX Davos/Dischmat 17.32 322 Pn **Pn** **19 51 49.2 +0.3**
comp=Z,0.5nm,0.3s,baz=126,slow=9.3,SNR=22
DAVOX Davos/Dischmat 17.32 322 P **Pn** **19 51 49.2 +0.3**
comp=Z,1.0nm,0.3s
LMR La Mourre 17.36 308 *e*P **P** **19 51 50.6 0.0**
comp=Z,63nm,1.2s
LMR La Mourre 17.36 308 *e*P **P** **19 51 50.6 0.0**
comp=Z,32nm,1.2s
RETA Reutte 17.37 325 ⇑*i*Pn **Pn** **19 51 48.3 -1.2**

comp=Z,8.2nm,0.5s,SNR=18
RETA Reutte 17.37 325 P **Pn** 19 51 48.3 -1.2
comp=Z,8.2nm,0.5s,SNR=18
TUE Stuetta 17.39 321 *e*Pn **Pn** 19 51 49.4 -0.4
comp=Z,38nm,1.1s
TUE Stuetta 17.39 321 *e*Pn **Pn** 19 51 49.4 -0.4
comp=Z,38nm,1.1s
KHC Kasperske Hory 17.46 334 *e*P **Pn** 19 51 49.6 -0.9
KHC *e*S **Sn** 19 55 07.2 +2.7
KHC MLR MLR
comp=Z,900nm,12.4s
KHC Kasperske Hory 17.46 334 *e*P **Pn** 19 51 49.6 -0.9
KHC *epP* **P** 19 51 52.5 +0.9
KHC *es*P **sP** 19 51 59.5 +1.9
KHC *e*S **Sn** 19 55 07.2 +2.7
KHC AMS AMS 19 59 40.0
comp=Z,900nm,12.4s
KHC Kasperske Hory 17.46 334 *e*Pn **Pn** 19 51 49.6 -0.9
comp=Z,147nm,1.3s
KHC Kasperske Hory 17.46 334 *e*P **Pn** 19 51 49.6 -0.9
comp=Z,900nm,12.4s
DGRG David-gareji 17.52 59 P **P** 19 51 53.8 +1.4
DGRG David-gareji 17.52 59 P **P** 19 51 53.8 +1.4
DPC Dobruska-Polom 17.63 341 *e*P **Pn** 19 51 51.6 -1.0
DPC Dobruska-Polom 17.63 341 *e*P **Pn** 19 51 51.6 -1.0
DPC *ex* x 19 51 54.3
DPC *e*S **S** 19 55 14.4 -1.8
DPC Dobruska-Polom 17.63 341 *e*P **Pn** 19 51 51.6 -1.0
DPC S **S** 19 55 14.4 -1.8
FUR Furstenfeldbru 17.63 328 *e*P **Pn** 19 51 52.9 +0.2
comp=Z,185nm,1.5s
FUR Furstenfeldbru 17.63 328 *e*P **Pn** 19 51 52.9 +0.2
FUR pmax pmax
comp=Z,31nm,1.5s
FUR Furstenfeldbru 17.63 328 *e*P **Pn** 19 51 52.9 +0.2
comp=Z,31nm,1.5s
DAVA Damuels 17.66 323⇑ *i*Pn **P** 19 51 54.8 +0.8
comp=Z,12nm,0.6s,SNR=30
DAVA Damuels 17.66 323 P **P** 19 51 54.8 +0.8
comp=Z,12nm,0.6s,SNR=30
WET Wettzell 17.73 332 *e*P **Pn** 19 51 54.2 +0.3
comp=Z,195nm,1.3s
WET Wettzell 17.73 332 *e*P **Pn** 19 51 54.2 +0.3
WET pmax pmax
comp=Z,29nm,1.3s
WET Wettzell 17.73 332 *e*P **Pn** 19 51 54.2 +0.3
comp=Z,29nm,1.3s
PRU Pruhonice 17.85 337 *e*P **Pn** 19 51 54.2 -1.0
PRU MLR MLR
comp=Z,500nm,10.2s
PRU Pruhonice 17.85 337 *e*P **Pn** 19 51 54.2 -1.0
PRU *ex* x 19 51 56.5
PRU AMS AMS 20 00 10.0
comp=Z,500nm,10.2s
PRU Pruhonice 17.85 337 *e*P **Pn** 19 51 54.2 -1.0
comp=Z,500nm,10.2s
MBDF Montbardon 17.86 312 *e*P **Pn** 19 51 56.2 +0.6
comp=Z,130nm,1.4s
MBDF Montbardon 17.86 312 *e*P **Pn** 19 51 56.2 +0.6
comp=Z,65nm,1.4s
UPC Upice 17.86 340 *e*P **Pn** 19 51 55.0 -0.4
UPC Upice 17.86 340 *e*P **Pn** 19 51 55.0 -0.4
UPC *epP* **pP** 19 51 58.4 -1.7
UPC Upice 17.86 340 *e*P **Pn** 19 51 55.0 -0.4
PRA Prague 17.95 337 P **Pn** 19 51 55.0 -1.5
KSP Ksiaz 18.09 341 *e*P **Pn** 19 51 56.9 -1.3
KSP *e*S **S** 19 55 22.0 -3.3
KSP Ksiaz 18.09 341 *e*P **Pn** 19 51 57.7 -0.5
KSP Ksiaz 18.09 341 *e*P **Pn** 19 51 56.9 -1.3
KSP *e*S **S** 19 55 22.0 -3.3
SMRF Simiane la Rot 18.25 309 *e*P **Pn** 19 52 00.7 +0.4
comp=Z,134nm,1.4s
SMRF Simiane la Rot 18.25 309 *e*P **Pn** 19 52 00.7 +0.4
comp=Z,67nm,1.4s
LPG La Plagne 18.27 314 *e*P **Pn** 19 52 00.5 -0.3
comp=Z,39nm,1.1s
LPG La Plagne 18.27 314 *e*P **Pn** 19 52 00.5 -0.3
comp=Z,20nm,1.1s
LPL La Plagne 18.29 315 *e*P **P** 19 52 02.2 +1.1
comp=Z,18nm,0.7s
LPL La Plagne 18.29 315 *e*P **P** 19 52 02.2 +1.1
comp=Z,9.1nm,0.7s
PVCC Panska Ves 18.31 338 *e*P **Pn** 19 52 00.8 -0.1
PVCC Panska Ves 18.31 338 *e*P **Pn** 19 52 00.8 -0.1
PVCC Panska Ves 18.31 338 *e*P **Pn** 19 52 00.8 -0.1
ROTZ Rotzenmuhle 18.49 332 *e*P **P** 19 52 02.5 -0.5
comp=Z,67nm,1.7s
ORIF Oris-en-Rattie 18.50 312 *e*P **P** 19 52 02.7 -0.6
comp=Z,65nm,1.3s
ORIF *e*R
comp=Z,430nm,22.5s
ORIF Oris-en-Rattie 18.50 312 *e*P **P** 19 52 02.7 -0.6
comp=Z,32nm,1.3s
MANZ Manzenberg 18.71 333 *e*P **P** 19 52 04.8 -0.6
comp=Z,51nm,1.1s
SPAK Spaichingen-Ko 18.76 324 *e*P **Pn** 19 52 06.6 +0.1
SPAK Spaichingen-Ko 18.76 324 *e*P **Pn** 19 52 06.6 +0.1
BRG Berggiesshubel 18.80 337 *e*P **P** 19 52 05.8 -0.6
comp=Z,20nm,1.2s
BRG S **Sn** 19 55 37.0 0.0
BRG
comp=N,451nm,23.8s
BRG
comp=E,494nm,17.7s
BRG
comp=Z,373nm,20.0s
BRG Berggiesshubel 18.80 337 *e*P **P** 19 52 05.5 -0.9
comp=Z,34nm,1.3s
BRG Berggiesshubel 18.80 337 *e*P **P** 19 52 05.8 -0.6
BRG S **Sn** 19 55 37.0 0.0
BRG pmax pmax
comp=Z,20nm,1.3s
BRG MLR MLR
comp=N,451nm,23.8s
BRG MLR MLR
comp=E,494nm,17.7s
BRG MLR MLR
comp=Z,373nm,20.0s
BRG Berggiesshubel 18.80 337 *e*P **P** 19 52 05.8 -0.6
comp=Z,20nm,1.3s
BRG S **Sn** 19 55 37.0 0.0
comp=Z,373nm,20.0s
GRA1 Grafenberg Arr 18.82 331 *e*P **P** 19 52 06.6 -0.1
comp=Z,1.0nm,1.3s
GRF Grafenberg Arr 18.82 331 *e*P **P** 19 52 06.6 -0.1
comp=Z,297nm,1.3s
GRF *e*L L 20 00 05.0
comp=Z,89nm,20.0s
GRF Grafenberg Arr 18.82 331 *e*P **P** 19 52 06.6 -0.1
GRF pmax pmax
comp=Z,1.0nm,1.3s
GRFO Grafenberg 18.82 331 *e*P **P** 19 52 06.5 -0.2
GRFO pmax pmax
comp=Z,242nm,1.3s
GRFO Grafenberg 18.82 331 *e*P **P** 19 52 06.5 -0.2
comp=Z,242nm,1.3s
GRFO Grafenberg 18.82 331 *e*P **P** 19 52 06.4 -0.2
comp=Z,242nm,1.3s
WERN Wernitzgruen 18.85 334 *e*P **P** 19 52 06.7 -0.3
comp=Z,66nm,1.5s
GUNZ Gunzen 18.93 334 *e*P **P** 19 52 07.6 -0.3
comp=Z,61nm,1.2s
BBS Basel-Blauen 18.99 320 *e*P **P** 19 52 08.7 +0.1
BBS Basel-Blauen 18.99 320 *e*P **P** 19 52 08.7 +0.1
BBS Basel-Blauen 18.99 320 *e*P **P** 19 52 08.7 +0.1
FELD Feldberg im Sc 19.00 322 *e*P **P** 19 52 07.4 -1.3
FELD Feldberg im Sc 19.00 322 *e*P **P** 19 52 07.4 -1.3
WERD Werda 19.01 334 *e*P **P** 19 52 08.7 0.0
comp=Z,57nm,1.2s
STU Stuttgart 19.02 326 *e*P **P** 19 52 09.1 +0.2
STU pmax pmax
comp=Z,62nm,1.1s
STU Stuttgart 19.02 326 *e*P **P** 19 52 09.1 +0.2
comp=Z,62nm,1.1s
STU Stuttgart 19.02 326 *e*P **P** 19 52 09.1 +0.2
comp=Z,62nm,1.1s
FBE Freiberg 19.04 336 *e*P **P** 19 52 09.1 +0.1
comp=Z,104nm,1.4s
BFO Black Forest 19.14 324 *e*P **P** 19 52 10.5 +0.4
comp=Z,41nm,1.4s
BFO Black Forest 19.14 324 *e*P **P** 19 52 10.5 +0.4
BFO pmax pmax
comp=Z,29nm,1.4s
BFO Black Forest 19.14 324 *e*P **P** 19 52 09.9 -0.2
comp=Z,31nm,1.1s
BFO Black Forest 19.14 324 *e*P **P** 19 52 09.9 -0.2
comp=Z,31nm,1.1s
VIVF Saint-Julien-l 19.23 310 *e*P **P** 19 52 10.8 -0.4
comp=Z,25nm,1.0s
VIVF Saint-Julien-l 19.23 310 *e*P **P** 19 52 10.8 -0.4
comp=Z,12nm,1.0s
CABF La Chapelle 19.27 317 *e*P **P** 19 52 10.6 -1.1
comp=Z,23nm,0.7s
CABF La Chapelle 19.27 317 *e*P **P** 19 52 10.6 -1.1
comp=Z,12nm,0.7s
LOMF Lomont 19.29 319 *e*P **P** 19 52 11.5 -0.4
LOMF Lomont 19.29 319 *e*P **P** 19 52 11.5 -0.4
LOMF Lomont 19.29 319 *e*P **P** 19 52 11.5 -0.4
LOMF Lomont 19.29 319 *e*P **P** 19 52 11.5 -0.4
LASF Ste Croix 19.42 308 *e*P **P** 19 52 13.4 +0.2
comp=Z,176nm,1.4s
LASF Ste Croix 19.42 308 *e*P **P** 19 52 13.4 +0.2
comp=Z,88nm,1.4s
MOX Moxa 19.43 333 *e*P **P** 19 52 12.6 -0.7
comp=Z,26nm,1.0s
MOX *e*L L 20 01 10.2
comp=Z,537nm,21.1s
MOX Moxa 19.43 333 *e*P **P** 19 52 12.6 -0.7
MOX pmax pmax
comp=Z,1.0nm,1.0s
MOX MLR MLR
comp=Z,26µm,21.1s
MOX Moxa 19.43 333 *e*P **P** 19 52 12.6 -0.7
comp=Z,26µm,21.1s
MOF Molkenrain 19.43 321 *e*P **P** 19 52 12.8 -0.7
MOF Molkenrain 19.43 321 *e*P **P** 19 52 12.8 -0.7
MOF Molkenrain 19.43 321 *e*P **P** 19 52 12.8 -0.7
MOF Molkenrain 19.43 321 *e*P **P** 19 52 12.8 -0.7
CLL Collm 19.48 336 *e*P **P** 19 52 13.4 -0.4
comp=Z,69nm,1.3s
CLL Collm 19.48 336⇓ *i*P **P** 19 52 13.8 0.0
CLL *e*S Sn 19 55 44.0 -9.4
CLL pmax pmax
comp=Z,69nm,1.3s
CLL Collm 19.48 336⇓ *i*P **P** 19 52 13.8 0.0
comp=Z,69nm,1.3s
CLL *e*S Sn 19 55 44.0 -9.4
CLL *e* 19 57 18.0
CLL Lmax 20 02 00.0
CLL Collm 19.48 336 *i*P **P** 19 52 13.8 0.0
comp=Z,69nm,1.3s
SSB Saint Sauveur 19.51 311 *e*P **P** 19 52 13.6 -0.6
SSB pmax pmax
comp=Z,47nm,1.6s
SSB Saint Sauveur 19.51 311 *e*P **P** 19 52 13.6 -0.6
comp=Z,47nm,1.6s
SSB Saint Sauveur 19.51 311 *e*P **P** 19 52 13.6 -0.6
comp=Z,47nm,1.6s
MAK Makhachkala 19.52 56 *e*P **Pn** 19 52 14.6 -0.9
MAK *e*S **S** 19 55 55.2 +1.0
MAK pmax pmax
comp=Z,161nm,0.9s
MAK MLR MLR
comp=Z,357nm,23.0s
MAK Makhachkala 19.52 56 *e*P **Pn** 19 52 14.6 -0.9
comp=Z,161nm,0.9s
MAK *e*S **S** 19 55 55.2 +1.0
comp=Z,357nm,23.0s
HINF Hinteralfeld 19.56 320 *e*P **Pn** 19 52 15.8 -0.3
comp=Z,68nm,1.1s
HINF Hinteralfeld 19.56 320 *e*P **Pn** 19 52 15.8 -0.3
comp=Z,34nm,1.1s
ECH Echery 19.65 322 *e*P **P** 19 52 15.4 -0.3
ECH pmax pmax
comp=Z,45nm,1.2s
ECH Echery 19.65 322 *e*P **P** 19 52 15.4 -0.3
comp=Z,45nm,1.2s
ECH Echery 19.65 322 *e*P **Pn** 19 52 16.7 -0.5
ECH Echery 19.65 322 *e*P **Pn** 19 52 16.7 -0.5
CDF Champ du Feu 19.72 322 *e*P **P** 19 52 16.9 +0.3
comp=Z,65nm,1.1s
CDF Champ du Feu 19.72 322 *e*P **P** 19 52 16.9 +0.3
comp=Z,32nm,1.1s
TOD Tromm 19.80 327 *e*P **Pn** 19 52 18.5 -0.4
TOD Tromm 19.80 327 *e*P **Pn** 19 52 18.5 -0.4
TOD Tromm 19.80 327 *e*P **Pn** 19 52 18.5 -0.4
VORD Divnogorie 19.80 27 *e*P **P** 19 52 17.1 -0.2
VORD *e*S **S** 19 55 53.7 -6.2
VORD pmax pmax
comp=N,40nm,0.8s
VORD pmax pmax
comp=Z,30nm,0.8s
VORD pmax pmax
comp=E,60nm,0.9s
VORD smax smax
comp=Z,100nm,7.1s
VORD smax smax
comp=N,190nm,8.6s
VORD smax smax
comp=E,40nm,5.8s
VORD MLR MLR
comp=Z,320nm,14.0s
VORD MLR MLR
comp=N,200nm,12.0s
VORD MLR MLR
comp=E,150nm,11.0s
VORD Divnogorie 19.80 27 *e*P **P** 19 52 17.1 -0.2
NEUB Neuenburg 19.83 334 *e*P **P** 19 52 17.9 +0.3
comp=Z,149nm,1.2s
LANF Langenberg 19.83 324 *e*P **Pn** 19 52 19.5 +0.2
LANF Langenberg 19.83 324 *e*P **Pn** 19 52 19.5 +0.2
LANF Langenberg 19.83 324 *e*P **Pn** 19 52 19.5 +0.2
LANF Langenberg 19.83 324 *e*P **Pn** 19 52 19.5 +0.2
LRDF Laroque-de-Fa 19.89 303 *e*P **P** 19 52 18.8 +0.4
LRDF Laroque-de-Fa 19.89 303 *e*P **P** 19 52 18.8 +0.4
LRDF Laroque-de-Fa 19.89 303 *e*P **P** 19 52 18.8 +0.4
KTD Kalmit 19.93 325 *e*P **Pn** 19 52 20.0 -0.5
KTD Kalmit 19.93 325 *e*P **Pn** 19 52 20.0 -0.5
KTD Kalmit 19.93 325 *e*P **Pn** 19 52 20.0 -0.5
HAU Haudompre 19.94 320 *e*P **Pn** 19 52 20.7 0.0
comp=Z,51nm,0.8s
HAU *e*R
comp=Z,564nm,19.5s
HAU Haudompre 19.94 320 *e*P **Pn** 19 52 20.7 0.0
comp=Z,25nm,0.8s
VSR Storozhevoye 19.96 26 *e*P **P** 19 52 18.0 -1.0
VSR *e*S **S** 19 55 56.5 -6.5
VSR pmax pmax
comp=Z,30nm,1.2s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR smax smax
comp=Z,240nm,10.1s
VSR smax smax
comp=N,150nm,10.5s
VSR smax smax
comp=E,90nm,10.8s
VSR MLR MLR
comp=Z,340nm,12.0s
VSR MLR MLR
comp=N,240nm,17.0s
VSR MLR MLR
comp=E,140nm,11.0s
VSR Storozhevoye 19.96 26 *e*P **P** 19 52 18.0 -1.0
comp=E,10.0nm,0.8s
SUW Suwalki 20.08 356 *e*P **P** 19 52 19.6 -0.7
SUW pmax pmax
comp=Z,195nm,1.0s
SUW Suwalki 20.08 356 *e*P **P** 19 52 19.6 -0.7
comp=Z,195nm,1.0s
SUW Suwalki 20.08 356 *e*P **P** 19 52 19.2 -1.1
SUW Suwalki 20.08 356 *e*P **P** 19 52 19.2 -1.1
GKP Gorka Klasztor 20.11 346 *e*P **P** 19 52 20.3 -0.4
GKP Gorka Klasztor 20.11 346 *e*P **P** 19 52 20.4 -0.3
UBBA Unterbreizbach 20.19 331 *e*P **P** 19 52 21.3 -0.2
comp=Z,76nm,1.5s
MTLF Montolieu 20.25 304 *e*P **P** 19 52 22.0 -0.3
comp=Z,42nm,1.3s
MTLF Montolieu 20.25 304 *e*P **P** 19 52 22.0 -0.3
comp=Z,21nm,1.3s
THEF They Montfort 20.27 320 *e*P **P** 19 52 22.8 +0.3
THEF They Montfort 20.27 320 *e*P **P** 19 52 22.8 +0.3
THEF They Montfort 20.27 320 *e*P **P** 19 52 22.8 +0.3
THEF They Montfort 20.27 320 *e*P **P** 19 52 22.8 +0.3
LBL Lubilhac 20.30 310 *e*P Pn 19 52 26.1 +1.2
LBL Lubilhac 20.30 310 *e*P Pn 19 52 26.1 +1.2
LBL Lubilhac 20.30 310 *e*P Pn 19 52 26.1 +1.2
LBL Lubilhac 20.30 310 *e*P Pn 19 52 26.1 +1.2
TNS Taunus Mts 20.41 328 *e*P **P** 19 52 24.1 +0.1
comp=Z,143nm,1.5s
TNS Taunus Mts 20.41 328 *e*P **P** 19 52 24.1 +0.1
TNS pmax pmax
comp=Z,31nm,1.5s
TNS Taunus Mts 20.41 328 *e*P **P** 19 52 24.1 +0.1
comp=Z,31nm,1.5s
MNK Minsk 20.59 4⇑ *e*P **P** 19 52 22.0 -3.8
MNK *e* 19 56 14.0
MNK pmax pmax
comp=Z,120nm,1.5s
MNK pmax pmax
comp=N,170nm,1.5s
MNK MLR MLR
comp=Z,1µm,8.0s
MNK Minsk 20.59 4 *e*S **S** 19 56 14.0 -1.4
SMF Signal de Mont 20.60 314 *e*P **P** 19 52 24.9 -1.2
comp=Z,20nm,0.8s
SMF Signal de Mont 20.60 314 *e*P **P** 19 52 24.9 -1.2
comp=Z,9.9nm,0.8s
PAGF Fort de Pagny 20.61 321 *e*P **P** 19 52 26.0 -0.2
comp=Z,88nm,1.3s,baz=129
PAGF Fort de Pagny 20.61 321 *e*P **P** 19 52 26.0 -0.2
comp=Z,49nm,1.3s,baz=129
TAM Tamanrasset 20.63 242 *e*P **P** 19 52 27.2 +0.5
TAM pmax pmax
comp=Z,14nm,1.0s
TAM Tamanrasset 20.63 242 *e*P **P** 19 52 27.2 +0.5
comp=Z,14nm,1.0s
TAM Tamanrasset 20.63 242 *e*P **P** 19 52 27.2 +0.5
comp=Z,14nm,1.0s
PYM Petit Puy Mans 20.68 311 *e*P **P** 19 52 27.5 +0.5
PYM Petit Puy Mans 20.68 311 *e*P **P** 19 52 27.5 +0.5
PYM Petit Puy Mans 20.68 311 *e*P **P** 19 52 27.5 +0.5
PYM Petit Puy Mans 20.68 311 *e*P **P** 19 52 27.5 +0.5
RUP Ruppelstein 20.68 325 *e*P **P** 19 52 26.7 -0.3
RUP Ruppelstein 20.68 325 *e*P **P** 19 52 26.7 -0.3
RUP Ruppelstein 20.68 325 *e*P **P** 19 52 26.7 -0.3
AGO Saint Agoulin 20.74 312 *e*P Pn 19 52 29.3 -0.7
AGO Saint Agoulin 20.74 312 *e*P Pn 19 52 29.3 -0.7
AGO Saint Agoulin 20.74 312 *e*P Pn 19 52 29.3 -0.7
SFTF Sexfontaines 20.77 319 *e*P **P** 19 52 28.0 +0.1
comp=Z,87nm,0.9s,baz=136
SFTF Sexfontaines 20.77 319 *e*P **P** 19 52 28.0 +0.1
comp=Z,43nm,0.9s,baz=136
CLZ Clausthal 20.86 333 *e*P **P** 19 52 28.3 -0.5
comp=Z,88nm,1.3s
CLZ Clausthal 20.86 333 *e*P **P** 19 52 28.3 -0.5
CLZ pmax pmax
comp=Z,14nm,1.3s
CLZ Clausthal 20.86 333 *e*P **P** 19 52 28.3 -0.5
comp=Z,14nm,1.3s
MLS Moulis 20.90 302 *e*P **P** 19 52 30.2 +0.8
MLS Moulis 20.90 302 *e*P **P** 19 52 30.2 +0.8
MLS Moulis 20.90 302 *e*P **P** 19 52 30.2 +0.8
LOR Lormes 20.91 316 *e*P **P** 19 52 28.8 -0.6
comp=Z,116nm,1.4s,baz=126
LOR *e*R
comp=Z,517nm,22.8s
LOR Lormes 20.91 316 *e*P **P** 19 52 28.8 -0.6
comp=Z,58nm,1.4s,baz=126
CAF Calviac 20.93 308 *e*P **P** 19 52 29.5 -0.2
comp=Z,63nm,1.2s
CAF Calviac 20.93 308 *e*P **P** 19 52 29.5 -0.2
comp=Z,52nm,1.2s
MEZF Maizieres J'vi 20.93 320 *e*P **P** 19 52 30.0 +0.4
comp=Z,381nm,1.3s,baz=124
MEZF Maizieres J'vi 20.93 320 *e*P **P** 19 52 30.0 +0.4
comp=Z,190nm,1.3s,baz=124
NACGM Naroch 20.94 2 *e* **P** 19 52 27.0 -2.6
AVF Avril sur Loir 20.96 314 *e*P **P** 19 52 29.6 -0.4
comp=Z,34nm,0.9s
AVF Avril sur Loir 20.96 314 *e*P **P** 19 52 29.6 -0.4
comp=Z,17nm,0.9s
WLF Walferdange 21.09 324 P **P** 19 52 33.0 +1.6
comp=Z,86nm,1.4s
WLF Walferdange 21.09 324 *e*P **P** 19 52 31.2 -0.2
comp=Z,137nm,1.1s
WLF Walferdange 21.09 324 *e*P **P** 19 52 31.6 +0.2
WLF pmax pmax
comp=Z,120nm,1.1s
WLF Walferdange 21.09 324 *e*P **P** 19 52 31.6 +0.2
comp=Z,120nm,1.1s
WLF Walferdange 21.09 324 *e*P **P** 19 52 31.5 +0.2
comp=Z,120nm,1.1s
MELF Melles 21.11 302 *e*P **P** 19 52 33.3 +1.5
MELF Melles 21.11 302 *e*P **P** 19 52 33.3 +1.5
MELF Melles 21.11 302 *e*P **P** 19 52 33.3 +1.5
BGF Bois d'Agland 21.15 313 *e*P **P** 19 52 32.0 -0.1
comp=Z,111nm,1.0s
BGF Bois d'Agland 21.15 313 *e*P **P** 19 52 32.0 -0.1
comp=Z,55nm,1.0s
RESF Ens 21.39 302 *e*P **P** 19 52 35.4 +0.6
RESF Ens 21.39 302 *e*P **P** 19 52 35.4 +0.6
RESF Ens 21.39 302 *e*P **P** 19 52 35.4 +0.6
TCF Toulx Ste Croi 21.42 312 *e*P **P** 19 52 35.0 +0.1
comp=Z,168nm,1.3s
TCF Toulx Ste Croi 21.42 312 *e*P **P** 19 52 35.0 +0.1
comp=Z,84nm,1.3s
RJF Les Rejaudoux 21.44 309 *e*P **P** 19 52 34.9 -0.2
comp=Z,46nm,0.8s
RJF *e*R
comp=Z,342nm,22.5s
RJF Les Rejaudoux 21.44 309 *e*P **P** 19 52 34.9 -0.2
comp=Z,23nm,0.8s
EPF Esparros 21.45 302 *e*P **P** 19 52 35.3 -0.1
comp=Z,58nm,1.5s
EPF Esparros 21.45 302 *e*P **P** 19 52 35.3 -0.1
comp=Z,29nm,1.5s
NRDL Niedersach Rie 21.48 334 *e*P **P** 19 52 35.0 -0.3
comp=Z,62nm,1.4s
LABF Labassere 21.65 302 *e*P **P** 19 52 39.6 +2.2
LABF Labassere 21.65 302 *e*P **P** 19 52 39.6 +2.2
LABF Labassere 21.65 302 *e*P **P** 19 52 39.6 +2.2
MEM Membach 21.79 325 P **P** 19 52 39.3 +0.5
comp=Z,22nm,1.4s
MEM Membach 21.79 325 P **P** 19 52 39.3 +0.5
comp=Z,22nm,1.4s
BUG Bochum--Univer 21.80 329 *e*P **P** 19 52 38.4 -0.5
comp=Z,123nm,1.5s
LFF La Frestale 21.81 307 *e*P **P** 19 52 39.0 0.0
comp=Z,33nm,0.8s
LFF La Frestale 21.81 307 *e*P **P** 19 52 39.0 0.0
comp=Z,16nm,0.8s
HGN Heimansgroeve 21.93 326 *e*P **P** 19 52 40.6 +0.3
comp=Z,93nm,1.3s
HGN *e*S **S** 19 56 44.9 +2.9
HGN *e*L L 20 02 31.3
comp=Z,266nm,20.0s
GIVF Givet 22.04 323 *e*P **P** 19 52 41.1 -0.4
comp=Z,69nm,1.0s
GIVF Givet 22.04 323 *e*P **P** 19 52 41.1 -0.4
comp=Z,34nm,1.0s
ETSF Etsaut 22.05 301 *e*P **P** 19 52 41.7 -0.1
comp=Z,37nm,1.0s
ETSF Etsaut 22.05 301 *e*P **P** 19 52 41.7 -0.1
comp=Z,19nm,1.0s
DOU Dourbes 22.15 323 P **P** 19 52 42.6 0.0
comp=Z,24nm,1.8s
DOU Dourbes 22.15 323 P **P** 19 52 42.6 0.0
comp=Z,24nm,1.8s
ATE Arette 22.20 302 *e*P **P** 19 52 44.5 +1.1
ATE Arette 22.20 302 *e*P **P** 19 52 44.5 +1.1
ATE Arette 22.20 302 *e*P **P** 19 52 44.5 +1.1
RGN Rugen 22.21 341 *e*P **P** 19 52 40.6 -2.7
comp=Z,159nm,1.6s
RGN Rugen 22.21 341 *e*P **P** 19 52 41.9 -1.4
comp=Z,77nm,1.1s
RGN Rugen 22.21 341 *e*P **P** 19 52 41.9 -1.4
comp=Z,77nm,1.1s
IBBN Ibbenburen 22.24 331 *e*P **P** 19 52 42.8 -0.8
comp=Z,102nm,1.5s
BAIF Baives 22.32 322 *e*P **P** 19 52 43.7 -0.8
comp=Z,46nm,0.7s
BAIF Baives 22.32 322 *e*P **P** 19 52 43.7 -0.8
comp=Z,23nm,0.7s
BSD Bornholm Skovb 22.34 344 *i*P **P** 19 52 42.1 -2.5
BSD pmax pmax
comp=Z,6.0nm,0.8s
BSD Bornholm Skovb 22.34 344 *i*P **P** 19 52 42.1 -2.5
comp=Z,6.3nm,0.8s
BSD Bornholm Skovb 22.34 344 *i*P **P** 19 52 42.1 -2.5
comp=Z,6.0nm,0.8s
WTSB Winterswijk 22.39 329 *e*P **P** 19 52 45.1 -0.1
comp=Z,93nm,1.3s
WTSB Winterswijk 22.39 329 *e*P **P** 19 52 45.1 -0.1
comp=Z,93nm,1.3s
OBN Obninsk 22.54 17⇑ *e*P **P** 19 52 47.1 +0.3

OBN *i* 19 53 08.3
OBN *i* S **S** **19 56 47.4 -6.0**
OBN pmax pmax
comp=Z,117nm,1.7s
OBN MLR MLR
comp=Z,500nm,19.0s
OBN Obninsk 22.54 17 *e*P **P** **19 52 47.1 +0.3**
comp=Z,117nm,1.7s
SJPF Ste Jean 22.58 302 *e*P **P** **19 52 46.8 -0.6**
comp=Z,33nm,1.0s
SJPF Ste Jean 22.58 302 *e*P **P** **19 52 46.8 -0.6**
comp=Z,17nm,1.0s
BSEG Bad Segeberg 22.58 337 *e*P **P** **19 52 45.1 -2.1**
comp=Z,252nm,1.5s
BSEG Bad Segeberg 22.58 337 *e*P **P** **19 52 45.1 -2.1**
BSEG pmax pmax
comp=Z,42nm,1.5s
BSEG Bad Segeberg 22.58 337 *e*P **P** **19 52 45.1 -2.1**
comp=Z,42nm,1.5s
MFF Saint Martin d 23.02 311 *e*P **P** **19 52 51.8 -0.2**
comp=Z,94nm,1.1s
MFF Saint Martin d 23.02 311 *e*P **P** **19 52 51.8 -0.2**
comp=Z,47nm,1.1s
LLD Lille Linde 23.21 341 *i*P **P** **19 52 52.8 -0.9**
LLD pmax pmax
comp=Z,52nm,0.9s
LLD Lille Linde 23.21 341 *i*P **P** **19 52 52.8 -0.9**
comp=Z,52nm,0.8s
LLD Lille Linde 23.21 341 *i*P **P** **19 52 52.8 -0.9**
comp=Z,52nm,0.9s
MOS Moscow 23.37 18 *e*P **P** **19 52 51.5 -3.9**
MOS *e* 19 52 56.5
MOS *e*PPP PPP 19 53 29.2
MOS *e*S **S** **19 57 04.4 -3.2**
MOS pmax pmax
comp=Z,35nm,0.7s
MOS MLR MLR
comp=Z,600nm,16.0s
COP Copenhagen 23.46 342 *i*P **P** **19 52 55.5 -0.8**
COP pmax pmax
comp=Z,9.0nm,0.8s
COP Copenhagen 23.46 342 *i*P **P** **19 52 55.5 -0.8**
comp=Z,8.8nm,0.8s
COP Copenhagen 23.46 342 *i*P **P** **19 52 55.5 -0.8**
comp=Z,9.0nm,0.8s
LDF La Druitiere 23.89 315 *e*P **P** **19 52 59.7 -0.8**
comp=Z,87nm,1.0s
LDF La Druitiere 23.89 315 *e*P **P** **19 52 59.7 -0.8**
comp=Z,43nm,1.0s
ESDC Sonseca Array 24.04 292 P **P** **19 53 02.5 +0.4**
ESDC Sonseca Array 24.04 292 P **P** **19 53 02.5 +0.4**
comp=Z,4.6nm,0.7s,baz=85,slow=9.1,SNR=41
ESDC Sonseca Array 24.04 292 P **P** **19 53 02.5 +0.4**
FLN La Foliniere 24.18 315 *e*P **P** **19 53 02.5 -0.8**
comp=Z,42nm,0.6s,baz=121
FLN *e*R
comp=Z,487nm,21.8s
FLN La Foliniere 24.18 315 *e*P **P** **19 53 02.5 -0.8**
comp=Z,21nm,0.6s,baz=121
GRR Gorron 24.23 314 *e*P **P** **19 53 03.2 -0.5**
comp=Z,56nm,0.7s
GRR Gorron 24.23 314 *e*P **P** **19 53 03.2 -0.5**
comp=Z,28nm,0.7s
PAB San Pablo 24.33 292 *e*P **P** **19 53 04.9 +0.1**
PAB pmax pmax
comp=Z,48nm,1.4s
PAB San Pablo 24.33 292 *e*P **P** **19 53 04.9 +0.1**
comp=Z,48nm,1.4s
PAB San Pablo 24.33 292 *e*P **P** **19 53 04.9 +0.1**
comp=Z,48nm,1.4s
VSU Vasula 24.50 2*d* *i*P **P** **19 53 05.1 -0.9**
VSU pmax pmax
comp=Z,173nm,2.5s
VSU Vasula 24.50 2 *i*P **P** **19 53 05.1 -0.9**
comp=Z,173nm,2.5s
MDT Midelt 24.96 276 P **P** **19 53 11.4 +0.7**
MDT Midelt 24.96 276 P **P** **19 53 11.4 +0.7**
comp=Z,2.4nm,0.6s,baz=88,slow=14,SNR=5.7
MDT Midelt 24.96 276 P **P** **19 53 11.4 +0.7**
MUD Monsted U'grnd 25.05 339⇑ *i*P **P** **19 53 10.4 -0.6**
MUD pmax pmax
comp=Z,26nm,0.9s
MUD Monsted U'grnd 25.05 339⇑ *i*P **P** **19 53 10.4 -0.6**
comp=Z,26nm,0.9s
MUD Monsted U'grnd 25.05 339 *i*P **P** **19 53 10.4 -0.6**
comp=Z,26nm,0.9s
SGMF Saint Gilles 25.20 313 *e*P **P** **19 53 12.9 +0.4**
comp=Z,105nm,1.2s
SGMF Saint Gilles 25.20 313 *e*P **P** **19 53 12.9 +0.4**
comp=Z,52nm,1.2s
QUIF Quistinic 25.43 312 *e*P **P** **19 53 13.8 -0.8**
comp=Z,49nm,0.9s
QUIF Quistinic 25.43 312 *e*P **P** **19 53 13.8 -0.8**
comp=Z,24nm,0.9s
ROSF Rostrenen 25.67 313 *e*P **P** **19 53 15.8 -0.9**
comp=Z,28nm,0.8s
ROSF Rostrenen 25.67 313 *e*P **P** **19 53 15.8 -0.9**
comp=Z,14nm,0.8s
PUL Pulkovo 26.00 6 *e*P **P** **19 53 18.9 -0.7**
PUL pmax pmax
comp=Z,104nm,1.2s
PUL Pulkovo 26.00 6 *e*P **P** **19 53 18.9 -0.7**
comp=Z,104nm,1.2s
PBRG Braganca 26.35 297 *e*P **P** **19 53 24.0 +0.9**
comp=Z,46nm,1.0s
PBRG Braganca 26.35 297 *e*P **P** **19 53 24.0 +0.9**
comp=Z,46nm,1.0s
PBAR Barrancos 26.39 288 *e*P **P** **19 53 23.1 -0.3**
comp=Z,45nm,1.7s
PBAR Barrancos 26.39 288 *e*P **P** **19 53 23.1 -0.3**
comp=Z,45nm,1.7s
MVO Moncorvo 26.50 295 *e*P **P** **19 53 25.5 +1.1**
comp=Z,55nm,1.2s
MVO *e*LR LR 20 03 23.2
comp=Z,102nm,18.0s
MVO Moncorvo 26.50 295 *e*P **P** **19 53 25.5 +1.1**
comp=Z,55nm,1.2s
PMRV Marv??o 26.67 291 *e*P **P** **19 53 25.5 -0.5**
comp=Z,33nm,1.6s
PMRV *e*S **S** **19 58 01.7 +0.9**
PMRV Marv??o 26.67 291 *e*P **P** **19 53 25.5 -0.5**
comp=Z,33nm,1.6s
PESTR Estremoz 26.82 290 *e*P **P** **19 53 27.5 +0.2**
comp=Z,29nm,1.2s
PESTR Estremoz 26.82 290 *e*P **P** **19 53 27.5 +0.2**
comp=Z,29nm,1.2s
MTE Manteigas 26.83 293 *e*P **P** **19 53 30.2 +2.7**
comp=Z,23nm,1.7s
MTE *e*LR LR 20 01 58.4
comp=Z,167nm,18.0s
MTE Manteigas 26.83 293 *e*P **P** **19 53 28.6 +1.2**
comp=Z,7.4nm,0.8s
MTE Manteigas 26.83 293 *e*P **P** **19 53 28.6 +1.2**
comp=Z,7.4nm,0.8s
PVAQ Vaqueiros 26.95 287 *e*P **P** **19 53 28.8 +0.3**
comp=Z,38nm,1.3s
PVAQ *e*S **S** **19 58 06.0 +0.8**
PVAQ Vaqueiros 26.95 287 *e*P **P** **19 53 28.8 +0.3**
comp=Z,38nm,1.3s
PBEJ Beja 27.05 288 *e*P **P** **19 53 29.5 +0.2**
comp=Z,21nm,1.4s
PBEJ Beja 27.05 288 *e*P **P** **19 53 29.5 +0.2**
comp=Z,21nm,1.4s
POLO Lamas de Olo 27.09 296 *e*P **P** **19 53 30.9 +1.1**
comp=Z,18nm,1.1s
POLO Lamas de Olo 27.09 296 *e*P **P** **19 53 30.9 +1.1**
comp=Z,18nm,1.1s
PVIS Viseu 27.12 294 *e*P **P** **19 53 31.8 +1.8**
comp=Z,28nm,1.3s
PVIS Viseu 27.12 294 *e*P **P** **19 53 31.8 +1.8**
comp=Z,28nm,1.3s
PBDV Barranco-do-Ve 27.13 286 *e*P **P** **19 53 29.7 -0.4**
comp=Z,48nm,1.4s
PBDV Barranco-do-Ve 27.13 286 *e*P **P** **19 53 29.7 -0.4**
comp=Z,48nm,1.4s
EVO Evora 27.15 289 *e*P **P** **19 53 31.3 +1.0**
comp=Z,25nm,1.0s
EVO *e*R
comp=Z,269nm,21.2s
EVO Evora 27.15 289 *e*P **P** **19 53 30.6 +0.3**
comp=Z,34nm,1.8s
EVO Evora 27.15 289 *e*P **P** **19 53 30.6 +0.3**
comp=Z,34nm,1.8s
PCVE Castro Verde 27.20 287 *e*P **P** **19 53 31.0 +0.3**
comp=Z,27nm,1.2s
PCVE Castro Verde 27.20 287 *e*P **P** **19 53 31.0 +0.3**
comp=Z,27nm,1.2s
EVOP Sao Brissos 27.24 289 *e*P **P** **19 53 31.3 +0.3**
comp=Z,12nm,1.0s
HFS Hagfors 27.24 347 P **P** **19 53 28.5 -2.4**
HFS Hagfors 27.24 347 P **P** **19 53 28.5 -2.4**
comp=Z,6.2nm,0.5s,baz=156,slow=11,SNR=34
HFS Hagfors 27.24 347 P **P** **19 53 28.5 -2.4**
comp=Z,6.0nm,0.5s
PCAB Cabril 27.30 296 *e*P **P** **19 53 32.1 +0.5**
comp=Z,27nm,1.3s
PCAB Cabril 27.30 296 *e*P **P** **19 53 32.1 +0.5**
comp=Z,27nm,1.3s
FINES FINESS Array B 27.48 1 P **P** **19 53 31.2 -1.7**
FINES FINESS Array B 27.48 1 P **P** **19 53 31.2 -1.7**
comp=Z,5.6nm,0.7s,baz=160,slow=12,SNR=16
FINES LR LR 20 05 44.8
comp=Z,268nm,18.1s,baz=180,slow=39
FINES FINESS Array B 27.48 1 P **P** **19 53 31.2 -1.7**
comp=Z,268nm,18.1s
PGAV Gavieira, Arco 27.50 297 *e*P **P** **19 53 33.7 +0.2**
comp=Z,24nm,1.6s
PGAV *e*S **S** **19 58 19.7 +5.8**
PGAV *e*LR LR 20 03 58.7
comp=Z,147nm,18.0s
PGAV Gavieira, Arco 27.50 297 *e*P **P** **19 53 33.7 +0.2**
comp=Z,24nm,1.6s
ATD Arta Tunnel 27.51 140 LR LR 20 06 47.0
comp=Z,99nm,18.3s,baz=330,slow=41
KONO Kongsberg 27.68 343 *e*P **P** **19 53 33.0 -1.8**
KONO pmax pmax
comp=Z,56nm,1.4s
KONO Kongsberg 27.68 343 *e*P **P** **19 53 33.0 -1.8**
comp=Z,56nm,1.4s
KONO Kongsberg 27.68 343 *e*P **P** **19 53 33.0 -1.8**
comp=Z,56nm,1.4s
KAF Kangasniemi 28.15 1 *e*p **P** **19 53 37.2 -1.7**
comp=Z,2.3nm,0.6s
KAF Kangasniemi 28.15 1 *e*P **P** **19 53 37.2 -1.7**
KAF pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 28.15 1 *e*P **P** **19 53 37.2 -1.7**
comp=Z,2.0nm,0.6s
NB2 NORSAR Subarra 28.56 346 P **P** **19 53 41.2 -1.5**
comp=Z,0.6nm,0.5s,baz=148,slow=10
NB2 NORSAR Subarra 28.56 346 P **P** **19 53 41.2 -1.5**
comp=Z,0.6nm,0.5s,SNR=6.7
NOA NORSAR Array B 28.56 346 P **P** **19 53 41.7 -0.9**
NOA NORSAR Array B 28.56 346 P **P** **19 53 41.7 -0.9**
comp=Z,6.3nm,0.7s,baz=153,slow=8.5,SNR=27
NOA LR LR 20 06 52.1
comp=Z,194nm,19.4s,baz=170,slow=40
NOA NORSAR Array B 28.56 346 P **P** **19 53 41.7 -0.9**
comp=Z,194nm,19.4s
AKTK Aktyubinsk 28.98 46 P **P** **19 53 45.9 -0.5**
comp=Z,14nm,1.5s
AKTO Aktyubinsk 28.98 46 P **P** **19 53 45.9 -0.5**
AKTO pmax pmax
comp=Z,14nm,1.5s
AKTO Aktyubinsk 28.98 46 P **P** **19 53 45.3 -1.1**
AKTO Aktyubinsk 28.98 46 P **P** **19 53 45.3 -1.1**
comp=Z,2.2nm,0.5s,baz=262,slow=10.0,SNR=11
AKTO Aktyubinsk 28.98 46 P **P** **19 53 45.3 -1.1**
EKA Eskdalemuir Ar 29.07 326 P **P** **19 53 46.7 -0.5**
EKA Eskdalemuir Ar 29.07 326 P **P** **19 53 46.7 -0.5**
comp=Z,7.1nm,0.7s,baz=122,slow=9.1,SNR=32
EKA Eskdalemuir Ar 29.07 326 P **P** **19 53 46.7 -0.5**
comp=Z,7.0nm,0.7s
ESK Eskdalemuir 29.08 326 *i*P **P** **19 53 48.3 +1.0**
ESK Eskdalemuir 29.08 326 *e*P **P** **19 53 46.5 -0.8**
comp=Z,2.6nm,1.1s
ESK Eskdalemuir 29.08 326 *e*P **P** **19 53 46.5 -0.8**
comp=Z,24nm,1.1s
JOF Joensuu 29.20 6 *e*p **P** **19 53 46.1 -2.1**
comp=Z,1.8nm,0.4s
JOF Joensuu 29.20 6 *e*P **P** **19 53 46.1 -2.1**
JOF pmax pmax
comp=Z,2.0nm,0.4s
JOF Joensuu 29.20 6 *e*P **P** **19 53 46.1 -2.1**
comp=Z,2.0nm,0.4s
AB31 Akbulak array 29.75 49 *i*P **P** **19 53 53.7 +0.4**
AB31 pmax pmax
comp=Z,1.0nm,0.2s
AB31 Akbulak array 29.75 49 *i*P **P** **19 53 53.7 +0.4**
comp=Z,1.0nm,0.2s
ABKAR Akbulak array 29.75 49 *e*P **P** **19 53 52.8 -0.5**
comp=Z,3.3nm,0.6s
ABKAR Akbulak array 29.75 49 *e*P **P** **19 53 52.8 -0.5**
comp=Z,3.2nm,0.6s
TORD Torodi Ar. Bea 29.84 232 P **P** **19 53 55.3 +0.9**
TORD Torodi Ar. Bea 29.84 232 P **P** **19 53 55.3 +0.9**
comp=Z,5.8nm,0.7s,baz=37,slow=9.0,SNR=31
TORD LR LR 20 08 25.1
comp=Z,1μm,18.4s,baz=40,slow=41
TORD Torodi Ar. Bea 29.84 232 P **P** **19 53 55.3 +0.9**
ARU Arti 31.94 35*d* *i*P **P** **19 54 10.8 -1.7**
ARU 19 55 15.3
ARU S **S** **19 59 24.4 +1.4**
ARU SS **SnSn** **20 01 10.8 -0.8**
ARU pmax pmax
comp=Z,17nm,1.7s
ARU Arti 31.94 35 *i*P **P** **19 54 10.8 -1.7**
comp=Z,17nm,1.7s
SOKR Solikamsk 32.90 29*c* *i*P **P** **19 54 20.6 -0.3**
SOKR pmax pmax
comp=Z,20nm,1.8s
SOKR MLR MLR
comp=Z,240nm,17.0s
SOKR Solikamsk 32.90 29 *i*P **P** **19 54 20.6 -0.3**
comp=Z,240nm,17.0s
SVE Sverdlovsk 33.13 36 *e*P **P** **19 54 23.7 +0.7**
SVE *e* 19 55 36.6
SVE *e*S **S** **19 59 40.7 -0.9**
SVE pmax pmax
comp=Z,19nm,0.9s
SVE MLR MLR
comp=Z,181nm,15.0s
SVE Sverdlovsk 33.13 36 *e*P **P** **19 54 23.7 +0.7**
comp=Z,19nm,0.9s
SVE *e*S **S** **19 59 40.7 -0.9**
comp=Z,181nm,15.0s
ARCES ARCESS Array B 35.60 0 P **P** **19 54 42.5 -1.7**
ARCES ARCESS Array B 35.60 0 P **P** **19 54 42.5 -1.7**
comp=Z,5.0nm,0.8s,baz=178,slow=7.9,SNR=22
ARCES LR LR 20 10 34.0
comp=Z,225nm,19.6s,baz=178,slow=39
ARCES ARCESS Array B 35.60 0 P **P** **19 54 42.5 -1.7**
comp=Z,225nm,19.6s
KK31 Karatay Array 36.14 62 *i*P **P** **19 54 49.6 +0.4**
KK31 pmax pmax
comp=Z,6.0nm,0.8s
KK31 Karatay Array 36.14 62 *i*P **P** **19 54 49.6 +0.4**
comp=Z,6.0nm,0.8s
KKAR Karatay Array 36.14 62 *e*P **P** **19 54 49.7 +0.5**
KKAR pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 36.14 62 *e*P **P** **19 54 49.7 +0.5**
comp=Z,5.7nm,0.8s
KKAR Karatay Array 36.14 62 *e*P **P** **19 54 49.7 +0.5**
comp=Z,6.0nm,0.8s
ZRNK Zerenda 36.25 45 P **P** **19 54 48.7 -1.3**
ZRNK Zerenda 36.25 45 P **P** **19 54 48.7 -1.3**
KMBO Kilima Mbogo 36.69 160 LR LR 20 11 47.9
comp=Z,135nm,18.6s,baz=70,slow=39
BRVK Borovoye 37.03 45 *e*P **P** **19 54 55.7 -0.9**
BRVK pmax pmax
comp=Z,9.0nm,1.7s
BRVK Borovoye 37.03 45 *e*P **P** **19 54 56.7 +0.1**
comp=Z,6.4nm,1.0s
BRVK Borovoye 37.03 45 *e*P **P** **19 54 55.7 -0.9**
comp=Z,9.0nm,1.7s
BVA0 Borovoye Array 37.08 45 *i*P **P** **19 54 55.9 -1.2**
BVA0 pmax pmax
comp=Z,8.0nm,1.3s
BVA0 Borovoye Array 37.08 45 *i*P **P** **19 54 55.9 -1.2**
comp=Z,8.0nm,1.3s
VOSK Vostochnaya 37.37 46 P **P** **19 54 57.9 -1.6**
VOSK pmax pmax
comp=Z,11nm,1.0s
VOSK Vostochnaya 37.37 46 P **P** **19 54 57.9 -1.6**
comp=Z,11nm,1.0s
EKS2 Erkin-Say 38.56 62 *e*P **P** **19 55 10.6 +0.8**
EKS2 pmax pmax
comp=Z,5.0nm,0.9s
EKS2 Erkin-Say 38.56 62 *e*P **P** **19 55 10.6 +0.8**
comp=Z,4.8nm,0.9s
EKS2 Erkin-Say 38.56 62 *e*P **P** **19 55 10.6 +0.8**
comp=Z,5.0nm,0.9s
DBIC Dimbokro 38.94 233 P **P** **19 55 13.8 +0.7**
DBIC Dimbokro 38.94 233 P **P** **19 55 13.8 +0.7**
comp=Z,4.1nm,0.8s,baz=50,slow=7.9,SNR=3.1
DBIC LR LR 20 13 48.8
comp=Z,817nm,18.6s,baz=17,slow=40
DBIC Dimbokro 38.94 233 P **P** **19 55 13.8 +0.7**
comp=Z,817nm,18.6s
AAK Ala-Archa 39.09 62*c* *i*P **P** **19 55 15.3 +1.0**
AAK pmax pmax
comp=Z,14nm,0.8s
AAK Ala-Archa 39.09 62 *e*P **P** **19 55 14.5 +0.2**
comp=Z,6.4nm,0.8s
AAK Ala-Archa 39.09 62 *e*P **P** **19 55 14.5 +0.2**
comp=Z,6.4nm,0.8s
FRU Bishkek 39.16 62 *e*P **P** **19 55 14.0 -0.8**
FRU pmax pmax
comp=Z,60nm,2.2s
FRU pmax pmax
comp=E,40nm,1.8s
FRU Bishkek 39.16 62 *e*P **P** **19 55 14.0 -0.8**
comp=E,60nm,2.2s
TKM2 Tokmak 2 39.88 62 *e*P **P** **19 55 21.4 +0.4**
TKM2 pmax pmax
comp=Z,4.0nm,0.8s
TKM2 Tokmak 2 39.88 62 *e*P **P** **19 55 21.4 +0.4**
comp=Z,3.9nm,0.8s
TKM2 Tokmak 2 39.88 62 *e*P **P** **19 55 21.4 +0.4**
comp=Z,4.0nm,0.8s
SDNR Sundarnagar 43.16 78 *e*P **P** **19 55 48.0 +0.2**
MK31 Makanchi Array 44.33 56 *i*P **P** **19 55 57.5 +0.5**
MK31 pmax pmax
comp=Z,14nm,0.5s
MK31 Makanchi Array 44.33 56 *i*P **P** **19 55 57.5 +0.5**
comp=Z,14nm,0.5s
MKAR Makanchi Array 44.33 56*ce*P **P** **19 55 57.7 +0.7**
MKAR pmax pmax
comp=Z,16nm,0.6s
MKAR Makanchi Array 44.33 56 P **P** **19 55 57.8 +0.7**
MKAR Makanchi Array 44.33 56 P **P** **19 55 57.8 +0.7**
comp=Z,16nm,0.6s,baz=278,slow=6.4,SNR=180
MKAR LR LR 20 18 03.6
comp=Z,107nm,21.1s,baz=99,slow=41
MKAR Makanchi Array 44.33 56 *e*P **P** **19 55 57.7 +0.7**
comp=Z,16nm,0.6s
SCO Scoresbysund 44.47 339 *i*P **P** **19 56 00.1 +2.4**
SCO pmax pmax
comp=Z,11nm,1.0s
SCO Scoresbysund 44.47 339 *i*P **P** **19 56 00.1 +2.4**
comp=Z,11nm,1.0s
NVS Novosibirsk 44.84 44⇑ *i*P **P** **19 56 01.4 +0.5**
NVS *e* 19 57 42.4
NVS pmax pmax
comp=N,4.0nm,1.0s
NVS pmax pmax
comp=E,7.0nm,1.0s
NVS pmax pmax
comp=Z,17nm,1.0s
NVS Novosibirsk 44.84 44 *i*P **P** **19 56 01.4 +0.5**
NVS Novosibirsk 44.84 44 *e*PcP **PcP** **19 57 42.4 -0.1**
KBS Kingsbay 45.40 356 *i*P **P** **19 56 04.8 -0.2**
comp=Z,6.3nm,0.8s,SNR=25
ZALV Zalesovo Beam 45.74 45 P **P** **19 56 08.0 -0.1**
ZALV pmax pmax
comp=Z,8.0nm,0.5s
ZALV MLR MLR
comp=Z,101nm,21.0s
ZALV Zalesovo Beam 45.74 45 P **P** **19 56 08.0 -0.1**
ZALV Zalesovo Beam 45.74 45 P **P** **19 56 08.0 -0.1**
comp=Z,8.0nm,0.5s,baz=267,slow=8.8,SNR=44
ZALV LR LR 20 17 51.6
comp=Z,101nm,21.0s,baz=70,slow=40
ZALV Zalesovo Beam 45.74 45 P **P** **19 56 08.0 -0.1**
comp=Z,101nm,21.0s
DAG Danmarks Havn 47.22 347 *i*P **P** **19 56 19.8 +0.5**
DAG pmax pmax
comp=Z,10.0nm,1.0s
DAG Danmarks Havn 47.22 347 *i*P **P** **19 56 19.8 +0.5**
comp=Z,9.6nm,1.0s
WMQ Urumqi 48.50 59 P **P** **19 56 29.3 -0.6**
PYUN Piuthan 49.23 80 *e*P **P** **19 56 36.9 +1.1**
comp=Z,76nm,0.7s
DANN Dangsing 49.77 80 *e*P **P** **19 56 41.2 +1.2**
comp=Z,139nm,0.7s
KOLN Koldanda 49.85 81 *e*P **P** **19 56 41.2 +0.6**
comp=Z,25nm,0.8s
SUMG Summit 50.11 339 *e*P **P** **19 56 42.5 +0.3**
SUMG pmax pmax
comp=Z,8.0nm,0.9s
SUMG Summit 50.11 339 *e*P **P** **19 56 42.5 +0.3**
comp=Z,7.9nm,0.9s
SUMG Summit 50.11 339 *i*P **P** **19 56 42.4 +0.3**
comp=Z,7.8nm,0.9s
SUMG Summit 50.11 339 *e*P **P** **19 56 42.4 +0.3**
comp=Z,7.8nm,0.9s
KRAR Krasnoyarsk 50.33 42 *e*P **P** **19 56 43.9 +0.4**
KRAR pmax pmax
comp=Z,11nm,0.9s
KRAR Krasnoyarsk 50.33 42 *e*P **P** **19 56 43.9 +0.4**
comp=Z,11nm,0.9s
DMN Daman 51.15 80 *e*P **P** **19 56 51.1 +0.7**
comp=Z,54nm,0.7s
KKN Kakani 51.22 80 *e*P **P** **19 56 51.5 +0.6**
comp=Z,41nm,0.7s
PKIN Phulchoki 51.40 80 *e*P **P** **19 56 52.8 +0.5**
comp=Z,36nm,0.7s
PKI Pulchoki 51.41 80 *e*P **P** **19 56 52.9 +0.4**
comp=Z,45nm,0.7s
GUN Gumba 51.66 79 *e*P **P** **19 56 55.0 +0.6**
comp=Z,62nm,0.7s
JIRN Jiri 52.01 80 *e*P **P** **19 56 57.5 +0.4**
comp=Z,46nm,0.7s
RAMN Ramite 52.63 80 *e*P **P** **19 57 01.2 -0.3**
comp=Z,13nm,0.6s
ODAN Odare 53.31 80 *e*P **P** **19 57 07.0 +0.5**
comp=Z,16nm,0.8s
TAPN Taplejung 53.38 79 *e*P **P** **19 57 07.4 +0.3**
comp=Z,26nm,0.8s
LSA Lhasa 55.25 75 *e*P **P** **19 57 21.1 +0.2**
LSA pmax pmax
comp=Z,6.0nm,0.4s
LSA Lhasa 55.25 75 *e*P **P** **19 57 21.1 +0.2**
comp=Z,6.2nm,0.4s
LSA Lhasa 55.25 75 *e*P **P** **19 57 21.1 +0.2**
comp=Z,6.0nm,0.4s
MOY Mondy 55.72 47 *e*P **P** **19 57 24.7 +1.2**
MOY Mondy 55.72 47 *e*P **P** **19 57 24.7 +1.2**
TLY Talaya 57.32 46 *e*P **P** **19 57 37.3 +2.5**
TLY pmax pmax
comp=Z,13nm,1.7s
GTA Gaotai 58.42 61 *e*P **P** **19 57 43.6 +0.7**
GTA pP **pP** **19 57 47.9 +0.4**
GTA sP **sP** **19 57 51.2 +1.9**
GTA pmax pmax
comp=Z,4.0nm,0.8s
LBTB Lobatse 58.68 180 LR LR 20 26 28.9
comp=Z,244nm,18.2s,baz=17,slow=40
SONM Songino Array 60.14 50 P **P** **19 57 55.6 +0.9**
SONM Songino Array 60.14 50 P **P** **19 57 55.6 +0.9**
comp=Z,5.5nm,0.7s,baz=285,slow=8.4,SNR=18
SONM LR LR 20 29 04.1
comp=Z,89nm,20.7s,baz=278,slow=41
SONM Songino Array 60.14 50 P **P** **19 57 55.6 +0.9**
comp=Z,89nm,20.7s
ULN Ulaanbaatar 60.55 50 *e*P **P** **19 57 58.0 +0.5**
comp=Z,5.0nm,0.7s
ULN Ulaanbaatar 60.55 50 *e*P **P** **19 57 58.0 +0.5**
comp=Z,5.0nm,0.7s
TIXI Tiksi 62.22 20 *e*P **P** **19 58 08.7 +0.6**
TIXI pmax pmax
comp=Z,4.0nm,1.2s
TIXI Tiksi 62.22 20 *e*P **P** **19 58 08.7 +0.6**
comp=Z,4.0nm,1.2s
BOSA Boshof 62.26 180 P **P** **19 58 10.7 +1.6**
BOSA Boshof 62.26 180 P **P** **19 58 10.7 +1.6**
comp=Z,2.8nm,0.7s,baz=304,slow=7.9,SNR=6.0
BOSA LR LR 20 28 47.1
comp=Z,198nm,21.4s,baz=348,slow=40
BOSA Boshof 62.26 180 P **P** **19 58 10.6 +1.6**
SCHQ Schefferville 64.16 320 *e*P **P** **19 58 21.2 -0.1**
comp=Z,11nm,0.9s
SCHQ Schefferville 64.16 320 P **P** **19 58 21.4 +0.1**
comp=Z,8.5nm,0.8s,baz=58,slow=6.1,SNR=13
SCHQ Schefferville 64.16 320 *e*P **P** **19 58 21.2 -0.1**
comp=Z,11nm,0.9s
CD2 Chengdu 64.70 69 P **P** **19 58 24.7 -0.6**
CD2 pP **pP** **19 58 29.4 -0.6**
CD2 PP **PP** **20 00 48.8 +1.3**
CD2 S **S** **20 07 03.0 -2.3**

CD2					SS	**SS**	**20 11 15.4**	**-0.6**
CD2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
CD2					pmax	pmax		
	comp=Z,100nm,5.2s							
SUR	**Sutherland**	**66.15**	**184**		LR	LR	20 31 26.2	
	comp=Z,204nm,18.2s,baz=261,slow=40							
CHTO	**Chiang Mai**	**66.42**	**83**	*eP*		**P**	**19 58 36.2**	**-0.3**
CHTO					pmax	pmax		
	comp=Z,2.0nm,0.7s							
CHTO	**Chiang Mai**	**66.42**	**83**	*eP*		**P**	**19 58 36.2**	**-0.3**
	comp=Z,1.9nm,0.7s							
CHTO	**Chiang Mai**	**66.42**	**83**	*eP*		**P**	**19 58 36.2**	**-0.3**
	comp=Z,2.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**66.60**	**83**	P		**P**	**19 58 37.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**66.60**	**83**	P		**P**	**19 58 37.7**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=299,slow=8.1,SNR=24							
CMAR	**Chiang Mai Arr**	**66.60**	**83**	P		**P**	**19 58 37.7**	**+0.1**
	comp=Z,2.0nm,0.7s							
YAK	**Yakutsk**	**66.83**	**30**	*eP*		**P**	**19 58 36.2**	**-2.2**
YAK					pmax	pmax		
	comp=Z,12nm,0.9s							
YAK	**Yakutsk**	**66.83**	**30**	*eP*		**P**	**19 58 36.2**	**-2.2**
	comp=Z,12nm,0.9s							
HIA	**Hailar**	**67.78**	**45**	*eP*		**P**	**19 58 44.3**	**-0.4**
	comp=Z,8.6nm,0.5s							
HIA	**Hailar**	**67.78**	**45**	*eP*		**P**	**19 58 44.3**	**-0.4**
	comp=Z,9.0nm,0.5s							
ENH	**Enshi**	**69.40**	**67**	*eP*		**P**	**19 58 55.4**	**+0.2**
	comp=Z,7.1nm,0.7s							
ENH	**Enshi**	**69.40**	**67**	*eP*		**P**	**19 58 55.3**	**+0.2**
	comp=Z,7.1nm,0.7s							
BILL	**Bilibino**	**74.17**	**14**	⇓*iP*		**P**	**19 59 22.9**	**-0.2**
BILL					pmax	pmax		
	comp=Z,9.0nm,1.2s							
BILL					MLR	MLR		
	comp=Z,100nm,20.0s							
BILL	**Bilibino**	**74.17**	**14**	*i* P		**P**	**19 59 22.9**	**-0.2**
	comp=Z,100nm,20.0s							
KLR	**Kul'dur**	**74.58**	**41**	*eP*		P	19 59 21.8	-4.0
PSI	**Prapat**	**74.87**	**97**	P		**P**	**19 59 28.7**	**+0.4**
PSI	**Prapat**	**74.87**	**97**	P		**P**	**19 59 28.7**	**+0.4**
	comp=Z,7.7nm,0.6s,baz=20,slow=6.2,SNR=7.3							
QIZ	**Qiongzhong**	**75.22**	**77**	P		P	19 59 38.2	+8.1
QIZ				S		S	20 09 17.7	+8.8
QIZ					pmax	pmax		
	comp=Z,15nm,1.5s							
INK	**Inuvik**	**76.79**	**352**		LR	LR	20 34 21.7	
	comp=Z,87nm,18.7s,baz=37,slow=36							
HABR	**Khabarovsk**	**76.79**	**40**	*ceP*		**P**	**19 59 37.4**	**-1.1**
HABR				*e*			19 59 47.6	
HABR					PPP	PPP	20 04 17.2	
HABR					S	**S**	**20 09 26.1**	**+0.9**
HABR				*e*			20 09 53.6	
HABR				*e*	SS	**SS**	**20 14 22.9**	**+2.5**
HABR					pmax	pmax		
	comp=E,19nm,2.0s							
HABR					pmax	pmax		
	comp=Z,40nm,3.2s							
HABR					pmax	pmax		
	comp=N,9.0nm,1.7s							
HABR					MLR	MLR		
	comp=Z,110nm,16.0s							
HABR	**Khabarovsk**	**76.79**	**40**	*eP*		**P**	**19 59 37.4**	**-1.1**
	comp=Z,9.0nm,1.7s							
HABR	**Khabarovsk**	**76.79**	**40**	*ePcP*		**PcP**	**19 59 47.6**	**-2.1**
USRK	**Ussuriysk Arra**	**77.59**	**45**	P		**P**	**19 59 43.4**	**+0.4**
	comp=Z,10nm,0.6s,baz=292,slow=4.8,SNR=28							
YKA	**Yellowknife Ar**	**78.60**	**342**	P		**P**	**19 59 48.4**	**+0.1**
YKA	**Yellowknife Ar**	**78.60**	**342**	P		**P**	**19 59 48.4**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=34,slow=5.5,SNR=12							
YKA					LR	LR	20 37 17.8	
	comp=Z,9.5nm,20.6s,baz=55,slow=38							
YKA	**Yellowknife Ar**	**78.60**	**342**	P		**P**	**19 59 48.4**	**+0.1**
	comp=Z,10.0nm,20.6s							
KSAR	**Wonju Array Be**	**78.89**	**52**	P		**P**	**19 59 51.1**	**+0.7**
KSAR	**Wonju Array Be**	**78.89**	**52**	P		**P**	**19 59 51.1**	**+0.7**
KSRS	**Korea Array**	**78.91**	**52**	P		**P**	**19 59 51.1**	**+0.6**
	comp=Z,4.3nm,0.6s,baz=309,slow=4.8,SNR=25							
KSRS					LR	LR	20 42 12.6	
	comp=Z,82nm,18.2s,baz=150,slow=42							
KSRS	**Korea Array**	**78.91**	**52**	P		**P**	**19 59 51.1**	**+0.6**
	comp=Z,82nm,18.2s							
COLD	**Coldfoot**	**79.04**	**358**	*eP*		**P**	**19 59 51.1**	**+0.4**
	comp=Z,3.6nm,0.7s							
COLD	**Coldfoot**	**79.04**	**358**	*eP*		**P**	**19 59 51.1**	**+0.4**
	comp=Z,3.6nm,0.7s							
FFC	**Flin Flon**	**80.72**	**332**	*ceP*		**P**	**20 00 00.7**	**+0.7**
FFC	**Flin Flon**	**80.72**	**332**	*eP*		**P**	**19 59 59.4**	**-0.6**
	comp=Z,2.8nm,0.7s							
FFC	**Flin Flon**	**80.72**	**332**	*eP*		**P**	**19 59 59.4**	**-0.6**
	comp=Z,2.8nm,0.7s							
COWI	**Conover**	**80.77**	**320**	*eP*		**P**	**20 00 01.0**	**+0.5**
	comp=Z,4.2nm,0.7s							
COWI	**Conover**	**80.77**	**320**	*eP*		**P**	**20 00 01.0**	**+0.5**
	comp=Z,4.2nm,0.7s							
EGAK	**Eagle**	**80.99**	**354**	*eP*		**P**	**20 00 02.1**	**+0.9**
	comp=Z,4.7nm,0.3s							
EGAK	**Eagle**	**80.99**	**354**	*eP*		**P**	**20 00 02.1**	**+0.9**
	comp=Z,4.7nm,0.3s							
ULM	**Lac du Bonnet**	**81.34**	**326**	P		**P**	**20 00 03.4**	**0.0**
ULM	**Lac du Bonnet**	**81.34**	**326**	P		**P**	**20 00 03.4**	**0.0**
	comp=Z,4.7nm,0.9s,baz=76,slow=5.4,SNR=3.6							
ULM					LR	LR	20 37 00.1	
	comp=Z,72nm,18.9s,baz=355,slow=36							
ULM	**Lac du Bonnet**	**81.34**	**326**	P		**P**	**20 00 03.4**	**0.0**
	comp=Z,72nm,18.9s							
ILAR	**Eielson Array**	**81.38**	**357**	P		**P**	**20 00 04.2**	**+0.8**
ILAR	**Eielson Array**	**81.38**	**357**	P		**P**	**20 00 04.2**	**+0.8**
	comp=Z,3.2nm,0.8s,baz=354,slow=3.2,SNR=30							
ILAR					LR	LR	20 36 35.5	
	comp=Z,90nm,21.8s,baz=355,slow=36							
ILAR	**Eielson Array**	**81.38**	**357**	P		**P**	**20 00 04.2**	**+0.8**
	comp=Z,91nm,21.8s							
YSS	**Yuzh-Sakhalins**	**81.78**	**38**	*eP*		**P**	**20 00 08.0**	**+2.2**
MCK	**McKinley**	**82.50**	**357**	*eP*		**P**	**20 00 09.6**	**+0.3**
MCK					pmax	pmax		
	comp=Z,21nm,1.1s							
MCK	**McKinley**	**82.50**	**357**	*eP*		**P**	**20 00 09.6**	**+0.3**
	comp=Z,20nm,1.1s							
MCK	**McKinley**	**82.50**	**357**	*eP*		**P**	**20 00 09.6**	**+0.3**
	comp=Z,21nm,1.1s							
TRF	**Thorofare Moun**	**82.83**	**358**	*eP*		**P**	**20 00 10.8**	**-0.4**
	comp=Z,11nm,0.9s							
TRF	**Thorofare Moun**	**82.83**	**358**	*eP*		**P**	**20 00 10.8**	**-0.4**
	comp=Z,11nm,0.9s							
PETK	**Petropavlovsk-**	**83.91**	**27**	LR		LR	20 44 13.2	
	comp=Z,63nm,20.4s,baz=197,slow=40							
SML	**Sawmill**	**84.40**	**357**	*eP*		**P**	**20 00 19.6**	**+0.4**
SML					pmax	pmax		
	comp=Z,2.0nm,0.9s							
SML	**Sawmill**	**84.40**	**357**	*eP*		**P**	**20 00 19.6**	**+0.4**
	comp=Z,2.5nm,0.9s							
SML	**Sawmill**	**84.40**	**357**	*eP*		**P**	**20 00 19.6**	**+0.4**
	comp=Z,2.0nm,0.9s							
PMR	**Palmer**	**84.65**	**357**	*eP*		**P**	**20 00 20.8**	**+0.5**
PMR					pmax	pmax		
	comp=Z,9.0nm,0.9s							
PMR	**Palmer**	**84.65**	**357**	*eP*		**P**	**20 00 20.8**	**+0.5**
	comp=Z,8.6nm,0.9s							
PMR	**Palmer**	**84.65**	**357**	*eP*		**P**	**20 00 20.8**	**+0.5**
	comp=Z,9.0nm,0.9s							
BDFB	**Brasilia**	**85.37**	**248**	LR		LR	20 40 28.0	
	comp=Z,230nm,18.3s,baz=208,slow=37							
MJAR	**Matsushiro Arr**	**86.02**	**48**	P		**P**	**20 00 28.4**	**+0.7**
MJAR	**Matsushiro Arr**	**86.02**	**48**	P		**P**	**20 00 28.4**	**+0.7**
	comp=Z,3.9nm,0.9s,baz=298,slow=5.7,SNR=12							
MJAR					LR	LR	20 43 48.1	
	comp=Z,95nm,20.0s,baz=320,slow=39							
MJAR	**Matsushiro Arr**	**86.02**	**48**	P		**P**	**20 00 28.4**	**+0.7**
	comp=Z,95nm,20.0s							
LRAL	**Lakeview Retre**	**87.88**	**309**	*eP*		**P**	**20 00 37.2**	**+0.5**
	comp=Z,18nm,1.1s							
LRAL	**Lakeview Retre**	**87.88**	**309**	*eP*		**P**	**20 00 37.2**	**+0.5**
	comp=Z,18nm,1.1s							
FX1	**Attu Island--F**	**89.07**	**19**	LR		LR	20 42 17.4	
	comp=Z,63nm,20.8s,baz=105,slow=37							
RSSD	**Black Hills**	**89.61**	**326**	*eP*		**P**	**20 00 44.8**	**-0.3**
RSSD					pmax	pmax		
	comp=Z,4.0nm,0.9s							
RSSD	**Black Hills**	**89.61**	**326**	*eP*		**P**	**20 00 44.8**	**-0.3**
	comp=Z,3.8nm,0.9s							
RSSD	**Black Hills**	**89.61**	**326**	*eP*		**P**	**20 00 44.8**	**-0.3**
	comp=Z,4.0nm,0.9s							
WALA	**Waterton Lakes**	**89.70**	**335**	*eP*		**P**	**20 00 45.4**	**+0.2**
	comp=Z,0.2nm,1.1s							
WALA	**Waterton Lakes**	**89.70**	**335**	*eP*		**P**	**20 00 45.4**	**+0.2**
	comp=Z,0.2nm,1.1s							
YBMT	**Yellow Bay**	**90.74**	**334**	*eP*		**P**	**20 00 50.3**	**+0.2**
	comp=Z,16nm,1.6s							
YBMT	**Yellow Bay**	**90.74**	**334**	*eP*		**P**	**20 00 50.3**	**+0.2**
	comp=Z,16nm,1.6s							
JTMT	**Jette**	**90.94**	**334**	*eP*		**P**	**20 00 51.5**	**+0.5**
	comp=Z,19nm,1.4s							
JTMT	**Jette**	**90.94**	**334**	*eP*		**P**	**20 00 51.5**	**+0.5**
	comp=Z,19nm,1.4s							
BSMT	**Bassoo Peak**	**91.03**	**334**	*eP*		**P**	**20 00 51.8**	**+0.3**
	comp=Z,4.9nm,1.3s							
BSMT	**Bassoo Peak**	**91.03**	**334**	*eP*		**P**	**20 00 51.8**	**+0.3**
	comp=Z,4.9nm,1.3s							
NEW	**Newport**	**91.49**	**336**	P		**P**	**20 00 53.2**	**-0.3**
NEW	**Newport**	**91.49**	**336**	P		**P**	**20 00 53.2**	**-0.3**
	comp=Z,2.8nm,0.6s,baz=38,slow=6.9,SNR=7.6							
NEW	**Newport**	**91.49**	**336**	P		**P**	**20 00 53.2**	**-0.3**
	comp=Z,3.0nm,0.6s							
BOZ	**Bozeman (W)**	**91.67**	**331**	*eP*		**P**	**20 00 54.9**	**+0.4**
BOZ					pmax	pmax		
	comp=Z,3.0nm,1.1s							
BOZ	**Bozeman (W)**	**91.67**	**331**	*eP*		**P**	**20 00 54.9**	**+0.4**
	comp=Z,3.3nm,1.1s							
BOZ	**Bozeman (W)**	**91.67**	**331**	*eP*		**P**	**20 00 54.9**	**+0.4**
	comp=Z,3.0nm,1.1s							
PHWY	**Pilot Hill**	**92.46**	**325**	*eP*		**P**	**20 00 58.3**	**-0.1**
	comp=Z,4.3nm,0.8s							
PHWY	**Pilot Hill**	**92.46**	**325**	*eP*		**P**	**20 00 58.3**	**-0.1**
	comp=Z,4.3nm,0.8s							
IMW	**Indian Meadow**	**92.83**	**330**	*eP*		**P**	**20 01 01.1**	**+1.0**
	comp=Z,9.3nm,0.3s							
IMW	**Indian Meadow**	**92.83**	**330**	*eP*		**P**	**20 01 01.1**	**+1.0**
	comp=Z,9.3nm,0.3s							
PDAR	**Pinedale Array**	**93.16**	**328**	P		**P**	**20 01 00.9**	**-0.6**
PDAR	**Pinedale Array**	**93.16**	**328**	P		**P**	**20 01 00.9**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=64,slow=3.4,SNR=7.0							
PDAR					LR	LR	20 47 19.3	
	comp=Z,58nm,18.7s,baz=301,slow=38							
PDAR	**Pinedale Array**	**93.16**	**328**	P		**P**	**20 01 00.9**	**-0.6**
CPUP	**Villa Florida**	**98.61**	**244**	LR		LR	20 47 26.9	
	comp=Z,134nm,20.3s,baz=228,slow=36							
WRA	**Warramunga Arr**	**116.34**	**97**	PKP		**PKPdf**	**20 06 30.8**	**-0.2**
WRA	**Warramunga Arr**	**116.34**	**97**	PKP		**PKPdf**	**20 06 30.8**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=310,slow=1.7,SNR=12							
ASAR	**Alice Springs**	**117.72**	**101**	PKP		**PKPdf**	**20 06 33.6**	**0.0**
ASAR	**Alice Springs**	**117.72**	**101**	PKP		**PKPdf**	**20 06 33.6**	**0.0**
	comp=Z,0.8nm,0.6s,baz=302,slow=1.4,SNR=18							
STKA	**Stephens Creek**	**127.27**	**107**	PKP		**PKPdf**	**20 06 51.1**	**-0.5**
STKA	**Stephens Creek**	**127.27**	**107**	PKP		**PKPdf**	**20 06 51.1**	**-0.5**
	comp=Z,5.9nm,1.1s,baz=11,slow=7.6,SNR=5.7							

CSEM **02** *19:48:03.8, 42.56N×13.20E, h10km, After ROM*
ROM 02 19:48:03.8±0.1, **42.56N×13.20E, h10km, MI1.8**/12, **Error ellipse: s-maj=1.1km s-min=0.8km az=61.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LNSS	**Leonessa**	**0.13**	**290**	Pg		Pg	19 48 07.5	+0.5
LNSS				Sg		Sg	19 48 09.9	+0.7
LNSS	**Leonessa**	**0.13**	**290**	Pg		Pg	19 48 07.5	+0.5
LNSS				Sg		Sg	19 48 09.9	+0.7
AQU	**L'Aquila**	**0.25**	**145**	Pg		Pg	19 48 09.8	+0.7
AQU				Sg		Sb	19 48 14.3	-0.8
	113nm,0.4s							
AQU	**L'Aquila**	**0.25**	**145**	Pg		Pg	19 48 09.8	+0.7
AQU				Sg		Sb	19 48 14.3	-0.8
	113nm,0.4s							
NRCA	**Norcia**	**0.28**	**346**	Pg		Pg	19 48 09.9	+0.3
NRCA				Sg		Sg	19 48 14.4	+0.8
	253nm,0.2s							
NRCA	**Norcia**	**0.28**	**346**	Pg		Pg	19 48 09.9	+0.3
NRCA				Sg		Sg	19 48 14.4	+0.8
	253nm,0.2s							
FIAM	**Fiamignano**	**0.30**	**192**	Pg		Pg	19 48 10.5	+0.5
FIAM				Sg		Sg	19 48 15.1	+1.0
	133nm,0.5s							
FIAM	**Fiamignano**	**0.30**	**192**	Pg		Pg	19 48 10.5	+0.5
FIAM				Sg		Sg	19 48 15.1	+1.0
	133nm,0.5s							
TERO	**Teramo**	**0.30**	**78**	Pg		Pg	19 48 10.1	+0.1
TERO				Sg		Sg	19 48 14.7	+0.6
	153nm,0.6s							
TERO	**Teramo**	**0.30**	**78**	Pg		Pg	19 48 10.1	+0.1
TERO				Sg		Sg	19 48 14.7	+0.6
	153nm,0.6s							
MNS	**Montasola**	**0.42**	**246**	Pg		Pg	19 48 12.5	+0.3
MNS				Sg		Sb	19 48 19.1	-0.9
	60nm,0.2s							
MNS	**Montasola**	**0.42**	**246**	Pg		Pg	19 48 12.5	+0.3
MNS				Sg		Sb	19 48 19.1	-0.9
	60nm,0.2s							
CESX	**Cesi**	**0.46**	**276**	Pg		Pg	19 48 13.3	+0.4
	44nm,0.4s							
CESX	**Cesi**	**0.46**	**276**	Pg		Pg	19 48 13.3	+0.4
	44nm,0.4s							
FDMO	**Fiordimonte**	**0.48**	**350**	Pg		Pg	19 48 13.5	+0.2
FDMO				Sg		Sb	19 48 20.9	-0.8
	31nm,0.2s							
FDMO	**Fiordimonte**	**0.48**	**350**	Pg		Pg	19 48 13.5	+0.2
FDMO				Sg		Sb	19 48 20.9	-0.8
	31nm,0.2s							
CESI	**CESI - Serrava**	**0.50**	**334**	Pg		Pg	19 48 13.8	+0.2
CESI				Sg		Sb	19 48 21.6	-0.6
	15nm,0.3s							
CESI	**CESI - Serrava**	**0.50**	**334**	Pg		Pg	19 48 13.8	+0.2
CESI				Sg		Sb	19 48 21.6	-0.6
	15nm,0.3s							
VCEL	**Villa Celiera**	**0.50**	**109**	Pg		Pg	19 48 14.2	+0.5
VCEL				Sg		Sb	19 48 22.2	-0.1
	97nm,0.3s							
VCEL	**Villa Celiera**	**0.50**	**109**	Pg		Pg	19 48 14.2	+0.5
VCEL				Sg		Sb	19 48 22.2	-0.1
	97nm,0.3s							
OFFI	**Offida**	**0.52**	**43**	Pg		Pb	19 48 14.9	-0.1
	117nm,0.7s							
OFFI	**Offida**	**0.52**	**43**	Pg		Pb	19 48 14.9	-0.1
	117nm,0.7s							
ASSB	**Assisi San Ben**	**0.63**	**320**	Pg		Pg	19 48 16.2	+0.1
ASSB				Sg		Sb	19 48 25.6	-0.3
	36nm,0.2s							
ASSB	**Assisi San Ben**	**0.63**	**320**	Pg		Pg	19 48 16.2	+0.1
ASSB				Sg		Sb	19 48 25.6	-0.3
	36nm,0.2s							
CERT	**Cerreto**	**0.63**	**195**	Pg		Pg	19 48 16.3	+0.1
CERT	**Cerreto**	**0.63**	**195**	Pg		Pg	19 48 16.3	+0.1
GUMA	**Gualdo di Mace**	**0.74**	**47**	Pg		Pg	19 48 14.4	-3.7
GUMA	**Gualdo di Mace**	**0.74**	**47**	Pg		Pg	19 48 14.4	-3.7
NVLJ	**Novalja**	**2.34**	**31**	*ePn*		Pn	19 48 43.3	+1.0
NVLJ				Sn		Sn	19 49 12.7	+1.6
SKO	**Skopje**	**6.14**	**93**	*ePn*		Pn	19 49 37.7	+3.1

MOS **02** *20:03:56.9±1.2, 51.68N×102.02E, h17km, mb4.3/1, Error ellipse: s-maj=15.8km s-min=11.8km az=150.1*
BYKL **02** *20:03:57.5±0.3, 51.69N×102.07E, h15km±4km*
ISC 02 20:03:56.9±1.1, **51.64N**±0.03×**102.09E**±0.02, **h7**km±9km, **n36**, σ1.9**60**/68, **9C-6D, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ARS	**Arshan**	**0.35**	**36**	⇑*iPg*		**Pg**	**20 04 04.2**	**+0.5**
ARS				*i* Sg		**Sg**	**20 04 09.1**	**+0.7**
ARS					Pmax			
	290nm,0.1s							
ARS					Smax			
	4μm,0.3s							
ARS	**Arshan**	**0.35**	**36**	*ePG*		**Pg**	**20 04 04.3**	**+0.5**
ARS				*e*			20 04 09.1	
ARS					pmax	pmax		
	comp=Z,270nm,0.1s							
ARS					smax	smax		
	comp=N,3μm,0.1s							
MOY	**Mondy**	**0.68**	**273**	⇑*iPg*		**Pg**	**20 04 09.6**	**-0.5**
	comp=N,68nm,0.7s							
MOY				⇓*iPg*		**Pg**	**20 04 09.6**	**-0.5**
	comp=N,317nm,0.7s							
MOY				⇑*iPg*		**Pg**	**20 04 09.6**	**-0.5**
	comp=N,419nm,0.7s							
MOY				*i* Sg		**Sg**	**20 04 19.2**	**+0.2**
MOY					Pmax			
	comp=N,437nm,0.7s							
MOY					Smax			
	comp=N,3μm,0.4s							
MOY	**Mondy**	**0.68**	**273**	⇑*iPG*		**Pg**	**20 04 09.6**	**-0.5**
MOY				*e*			20 04 18.9	
MOY					pmax	pmax		
	comp=Z,434nm,0.3s							
MOY					smax	smax		
	comp=E,3μm,0.4s							
TLY	**Talaya**	**0.97**	**87**	⇓*iPg*		**Pg**	**20 04 14.9**	**-0.6**
TLY				*ePb*		**Pb**	**20 04 16.0**	**0.0**
TLY				*i* Sg		**Sg**	**20 04 28.4**	**+0.3**
TLY				*eSb*		**Sb**	**20 04 29.8**	**+0.7**
TLY					max			
	comp=E,136nm,0.1s							
TLY					max			
	comp=E,2μm,0.1s							
TLY	**Talaya**	**0.97**	**87**	*c iPG*		**Pg**	**20 04 14.6**	**-0.9**
TLY				*e*			20 04 28.3	
TLY					pmax	pmax		
	comp=Z,74nm,0.3s							
TLY					smax	smax		
	comp=N,484nm,0.3s							
ZAK	**Zakamensk**	**1.47**	**149**	⇑*iPg*		**Pb**	**20 04 24.5**	**-0.1**
ZAK				*ePb*		**Pg**	**20 04 25.2**	**+0.2**
ZAK				*e*			20 04 27.3	
ZAK				*eSg*		**Sg**	**20 04 45.3**	**+1.3**
ZAK				*e*			20 04 47.8	
ZAK					max			
	comp=N,130nm,0.1s							
ZAK					max			
	comp=N,361nm,0.3s							
ZAK	**Zakamensk**	**1.47**	**149**	*ePN*		**Pn**	**20 04 24.3**	**+0.4**
ZAK				*eS*		**Sg**	**20 04 44.9**	**+0.9**
ZAK					pmax	pmax		
	comp=Z,130nm,0.2s							
ZAK					smax	smax		
	comp=E,357nm,0.3s							
IRK	**Irkutsk**	**1.48**	**65**	⇓*iPg*		**Pb**	**20 04 24.4**	**-0.3**
IRK				*e*			20 04 27.5	
IRK				*i* Sg		**Sn**	**20 04 43.3**	**-0.3**
IRK				*eSb*		**Sg**	**20 04 44.7**	**+0.2**
IRK					Pmax			
	comp=E,215nm,0.2s							
IRK					Smax			
	comp=E,2μm,0.4s							
IRK	**Irkutsk**	**1.48**	**65**	*ePN*		**Pb**	**20 04 24.4**	**-0.3**
IRK				*e*			20 04 43.3	
IRK					pmax	pmax		
	comp=Z,217nm,0.2s							
IRK					smax	smax		
	comp=N,2μm,0.4s							
ORL	**Orlik**	**1.67**	**304**	⇑*iPg*		**Pn**	**20 04 26.2**	**-0.5**
	comp=N,19nm,0.7s							
ORL				⇓*iPg*		**Pn**	**20 04 26.2**	**-0.5**
	comp=N,54nm,0.7s							
ORL				⇑*iPg*		**Pn**	**20 04 26.2**	**-0.5**
	comp=N,66nm,0.7s							
ORL				*e*			20 04 28.0	
ORL				*e*			20 04 34.9	
ORL				*i* Sg		**Sn**	**20 04 47.2**	**-1.2**
ORL					max			
	comp=N,228nm,0.3s							
ORL					Smax			
	comp=N,240nm,0.5s							
ORL	**Orlik**	**1.67**	**304**	*ePN*		**Pn**	**20 04 26.1**	**-0.6**
ORL				*e*			20 04 47.0	
ORL					pmax	pmax		
	comp=Z,266nm,0.3s							
ORL					smax	smax		
	comp=N,295nm,0.6s							
LSTR	**Listvyanka**	**1.72**	**81**	*ePn*		**Pn**	**20 04 28.0**	**+0.7**
LSTR				*ePg*		**Pb**	**20 04 28.3**	**-0.5**
LSTR				*i* Sg		**Sb**	**20 04 50.6**	**0.0**
LSTR					Pmax			
	comp=N,64nm,0.2s							
LSTR					Smax			
	comp=N,332nm,0.5s							
LSTR	**Listvyanka**	**1.72**	**81**	*ePN*		**Pb**	**20 04 28.4**	**-0.4**
LSTR				*e*			20 04 50.6	
LSTR					pmax	pmax		
	comp=Z,64nm,0.2s							
LSTR					smax	smax		
	comp=N,332nm,0.4s							
TRG	**Tyrgan**	**2.85**	**65**	*ePn*		**Pn**	**20 04 43.3**	**+0.4**
TRG				*e*			20 04 45.8	
TRG				*e*			20 05 18.5	
TRG				*i* Sg		**Sb**	**20 05 23.9**	**+0.7**
TRG					max			
	comp=N,28nm,0.2s							
TRG					Smax			
	comp=N,300nm,0.2s							
TRG	**Tyrgan**	**2.85**	**65**	*ePN*		**Pn**	**20 04 43.2**	**+0.4**
TRG				*e*			20 04 48.2	
TRG				*eS*		**Sn**	**20 05 16.9**	**-0.5**
TRG				*e*			20 05 23.8	
TRG					pmax	pmax		
	comp=Z,30nm,0.2s							
TRG					smax	smax		
	comp=E,311nm,0.2s							
KAB	**Kabansk**	**2.86**	**80**	*ePn*		Pn	20 04 39.8	-3.1
KAB				*ePg*		**Pb**	**20 04 49.1**	**+0.8**
KAB				*i* Sg		**Sg**	**20 05 26.6**	**-2.2**
KAB					Pmax			
	comp=E,75nm,0.4s							
KAB					Smax			
	comp=E,554nm,0.4s							
KAB	**Kabansk**	**2.86**	**80**	*ePN*		**Pb**	**20 04 48.7**	**+0.4**
KAB				*e*			20 05 26.4	
KAB					pmax	pmax		
	comp=Z,79nm,0.4s							
KAB					smax	smax		
	comp=N,533nm,0.5s							
ZRHB	**Zarechye**	**3.25**	**72**	*ePg*		**Pb**	**20 04 55.1**	**+0.1**
ZRH

NIZ				⇓*i*				20 05 30.1	
NIZ				*e*Pg		**Pb**		**20 05 45.3**	**+2.6**
NIZ				*i* Sn		**Sn**		**20 06 34.1**	**-2.3**
NIZ				*e*Sg		Sg		20 07 03.3	-8.0
NIZ				Pmax					
	comp=E,10.0nm,0.3s								
NIZ				Smax					
	comp=E,33nm,0.6s								
NIZ	**Nizh Angarsk**	**6.06**	**44**	*e*PN		**Pn**		**20 05 27.0**	**+0.2**
NIZ				*e*				20 05 46.3	
NIZ				*e*				20 07 03.4	
NIZ				pmax	pmax				
	comp=Z,6.0nm,0.5s								
NIZ				smax	smax				
	comp=N,27nm,0.7s								
YLYR	**Ulyunkhan**	**6.34**	**56**	*e*Pn		**Pn**		**20 05 32.4**	**+1.7**
YLYR				*e*				20 05 39.3	
YLYR				*e*Pg		Pb		20 05 51.4	+4.0
YLYR				*e*				20 05 53.9	
YLYR				*e*				20 07 11.5	
YLYR				*e*Sg		**Sg**		**20 07 14.3**	**-5.9**
YLYR				max					
	comp=N,3.0nm,0.5s								
YLYR				Smax					
	comp=N,38nm,1.9s								
KPC	**Khapcheranga**	**6.82**	**102**	*e*Pn		**Pn**		**20 05 36.3**	**-1.1**
KPC				*e*				20 05 39.5	
KPC				*e*Pg		Pb		20 06 01.4	+5.6
KPC				*e*				20 06 50.6	
KPC				*e*Sg		**Sg**		**20 07 30.7**	**-5.1**
KPC				Pmax					
	comp=N,2.0nm,0.5s								
KPC				Smax					
	comp=N,42nm,1.3s								
KPC	**Khapcheranga**	**6.82**	**102**	*e*PN		**Pn**		**20 05 36.5**	**-0.9**
KPC				*e*				20 05 59.4	
KPC				*e*				20 07 30.6	
KPC				pmax	pmax				
	comp=Z,2.0nm,0.4s								
KPC				smax	smax				
	comp=N,42nm,1.2s								
KMO	**Kumora**	**6.87**	**48**	*e*Pn		**Pn**		**20 05 39.3**	**+1.3**
KMO				*e*Pg		Pb		20 06 00.9	+4.3
KMO				*e*				20 06 05.6	
KMO				*e*				20 06 56.6	
KMO				*i* Sg		Sg		20 07 30.2	-7.2
KMO				max					
	comp=N,6.0nm,0.5s								
KMO				Smax					
	comp=N,49nm,1.5s								
UKT	**Uakit**	**7.88**	**56**	*e*Pn		**Pn**		**20 05 52.9**	**+1.1**
UKT				*e*				20 06 15.8	
UKT				*e*Pg		Pb		20 06 19.4	+5.7
UKT				*e*				20 07 37.7	
UKT				*e*Sg		Sg		20 08 01.3	-8.2
UKT				Pmax					
	comp=N,1.0nm,0.7s								
UKT				Smax					
	comp=N,18nm,1.3s								
BOD	**Bodaibo**	**9.26**	**43**	*e*				20 08 30.8	
BOD				*e*Sg		Sn		20 08 42.8	+48
BOD				Smax					
	comp=N,19nm,1.7s								
NLYR	**Nelyaty**	**9.36**	**53**	*e*		Px		20 06 42.1	
NLYR				*e*Pg		Pn		20 06 46.3	+34
NLYR				*i* Sg		Sn		20 08 47.9	+50
NLYR				*e*				20 09 15.2	
NLYR				Pmax					
	comp=N,2.0nm,0.9s								
NLYR				Smax					
	comp=N,26nm,1.8s								
CRS	**Chara**	**10.82**	**55**	*e*Sg		Sn		20 09 32.3	+59
CRS				*e*				20 09 42.5	
CRS				max					
	comp=N,37nm,0.8s								
TUP	**Tupik**	**11.11**	**68**	*e*				20 08 01.9	
TUP				*e*Sg				20 09 41.5	

IDC 02 20:11:52.5±1.9, 2°16N×127°89E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/22, mbtmp3.6/4, Error ellipse: s-maj=99.8km s-min=23.2km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.26**	**186**	P	P	20 16 29.2	-0.4
	1.3nm,0.8s,baz=0.0,slow=14,SNR=4.0						
WRA	**Warramunga Arr**	**22.86**	**164**	P	P	20 16 58.3	+0.6
	1.9nm,0.4s,baz=345,slow=11,SNR=30						
ASAR	**Alice Springs**	**26.33**	**167**	P	P	20 17 29.8	-0.5
	0.4nm,0.4s,baz=346,slow=7.7,SNR=14						
MKAR	**Makanchi Array**	**59.50**	**325**	P	P	20 21 57.7	+0.1
	0.2nm,0.6s,baz=115,slow=6.8,SNR=3.1						

IDC 02 20:14:12.4±32.0, 28°88S×61°44E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.5/27, mbtmp3.8/3, Error ellipse: s-maj=807.6km s-min=54.1km az=75.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**59.39**	**42**	P	P	20 24 16.8	-0.1
	0.3nm,0.4s,baz=224,slow=6.3,SNR=3.0						
ASAR	**Alice Springs**	**64.28**	**104**	P	P	20 24 50.2	+0.3
	0.9nm,0.6s,baz=245,slow=6.2,SNR=23						
WRA	**Warramunga Arr**	**66.08**	**100**	P	P	20 25 01.2	-0.4
	0.4nm,0.5s,baz=247,slow=5.9,SNR=7.5						

*ISCJB **02** 20:16:24.0±0.5, 17°64S±0°04×69°59W±0°07, h141km±5km, mb4.1/8, Error ellipse: s-maj=11.7km s-min=5.9km az=11.9*
*NEIC **02** 20:16:24.7±0.5, 17°61S×69°58W, h135km±5km, mb4.1/6, Error ellipse: s-maj=10.3km s-min=7.0km az=93.0*
*IDC **02** 20:16:25.5±1.4, 17°65S×69°43W, h137km±9km, mb4.0/6, mb1 4.0/9, mb1mx3.7/21, mbtmp3.9/9, Error ellipse: s-maj=23.2km s-min=9.9km az=106.0*
*GUC **02** 20:16:25.1±0.4, 17°88S×69°93W, h164km±6km, ML4.1*

ISC 02 20:16:24.3±0.8, 17°59S±0°04×69°57W±0°06, h130km±7km, n50, σ1§29/65, mb4.2/8, 5C-6D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minimini**	**1.53**	**181**	⇑*i*P	**Pn**	**20 16 54.6**	**+1.5**
MNMC				*i* S	**Sn**	**20 17 17.5**	**+2.6**
MNMC	**Minimini**	**1.53**	**181**	⇑*i*P	**Pn**	**20 16 54.6**	**+1.5**
MNMC				*i* S	**Sn**	**20 17 17.5**	**+2.6**
MNMC				AML	AML	20 17 20.2	
	comp=E,3μm,0.3s						
LPAZ	**La Paz**	**1.90**	**47**	P	**Pn**	**20 16 59.9**	**+2.3**
LPAZ				S	**Sn**	**20 17 24.2**	**+1.2**
LPAZ	**La Paz**	**1.90**	**47**	P	**Pn**	**20 16 59.9**	**+2.3**
	comp=E,89nm,0.3s,baz=243,slow=7.5,SNR=1477						
LPAZ				S	**Sn**	**20 17 24.2**	**+1.2**
	comp=E,8.4nm,0.3s,baz=334,slow=23,SNR=6.9						
PSGC	**Pisagua**	**2.06**	**195**	⇓*i*P	**Pn**	**20 16 59.1**	**0.0**
PSGC				S	**Sn**	**20 17 25.2**	**-0.6**
PSGC	**Pisagua**	**2.06**	**195**	⇓*i*P	**Pn**	**20 16 59.1**	**0.0**
PSGC				*i* S	**Sn**	**20 17 25.2**	**-0.6**
PSGC				AML	AML	20 17 28.6	
	comp=N,407nm,0.3s						
ARE	**Arequipa**	**2.15**	**301**	⇑*i*P	**Pn**	**20 16 59.5**	**-0.9**
ARE				*i* S	Sn	20 17 14.5	-14
HMBC	**Humberstone**	**2.69**	**186**	⇓*i*P	**Pn**	**20 17 07.1**	**+0.1**
HMBC				*i* S	**Sn**	**20 17 38.6**	**-1.3**
HMBC	**Humberstone**	**2.69**	**186**	⇓*i*P	**Pn**	**20 17 07.1**	**+0.1**
HMBC				*i* S	**Sn**	**20 17 38.6**	**-1.3**
HMBC				AML	AML	20 17 44.3	
	comp=E,654nm,0.2s						
PB01	**Plate Boundary**	**3.43**	**179**	⇓*i*P	**Pn**	**20 17 17.2**	**+0.5**
PB01				*i* S	**Sn**	**20 17 56.3**	**-0.9**
PB01	**Plate Boundary**	**3.43**	**179**	⇓*i*P	**Pn**	**20 17 17.2**	**+0.5**
PB01				*i* S	**Sn**	**20 17 56.3**	**-0.9**
PB01				AML	AML	20 17 59.6	
	comp=N,1μm,0.2s						
PB07	**Plate Boundary**	**4.12**	**184**	*e*P	**Pn**	**20 17 26.0**	**+0.2**
PB07	**Plate Boundary**	**4.12**	**184**	*e*P	**Pn**	**20 17 26.0**	**+0.2**
PB09	**Plate Boundary**	**4.19**	**176**	*e*P	**Pn**	**20 17 27.7**	**+0.9**
PB09				*e*S	**Sn**	**20 18 14.5**	**-0.8**
PB09	**Plate Boundary**	**4.19**	**176**	*e*P	**Pn**	**20 17 27.7**	**+0.9**
PB09				*e*S	**Sn**	**20 18 14.5**	**-0.8**
PB04	**Plate Boundary**	**4.65**	**179**	⇑*i*P	**Pn**	**20 17 33.6**	**+0.9**
PB04	**Plate Boundary**	**4.65**	**179**	⇑*i*P	**Pn**	**20 17 33.6**	**+0.9**
LVC	**Limon Verde**	**5.03**	**173**	*e*P	**Pn**	**20 17 39.7**	**+1.6**
LVC				S	**Sn**	**20 18 34.4**	**-1.1**
LVC	**Limon Verde**	**5.03**	**173**	*e*P	**Pn**	**20 17 39.7**	**+1.6**
LVC				*i* S	**Sn**	**20 18 34.4**	**-1.1**
LVC	**Limon Verde**	**5.03**	**173**	P	**Pn**	**20 17 39.1**	**+1.0**
	comp=N,8.7nm,0.3s,baz=356,slow=8.2,SNR=39						
LVC				S	**Sn**	**20 18 33.9**	**-1.6**
	comp=N,30nm,0.3s,baz=143,slow=19,SNR=27						
SIV	**San Ignacio**	**8.30**	**80**	P	**Pn**	**20 18 20.8**	**-1.0**
SIV				S	**Sn**	**20 19 50.6**	**-3.4**
SIV	**San Ignacio**	**8.30**	**80**	P	**Pn**	**20 18 20.8**	**-1.0**
	comp=N,17nm,0.3s,baz=282,slow=11,SNR=160						
SIV				S	**Sn**	**20 19 50.6**	**-3.4**
	baz=338,slow=19,SNR=4.9						
NNA	**Nana**	**8.97**	**307**	*e*Pn	Pn	20 18 27.3	-3.6
SAML	**Samuel**	**10.60**	**37**	*e*Pn	Pn	20 18 48.7	-4.1
	comp=N,3.5nm,0.5s						
SAML				*e*Sn	Sn	20 20 43.4	-6.5
CFAA	**Coronel Fontan**	**14.00**	**175**	P	**Pn**	**20 19 34.4**	**-2.7**
CFAA	**Coronel Fontan**	**14.00**	**175**	P	**Pn**	**20 19 34.4**	**-2.7**
	comp=N,0.1nm,0.3s,baz=9.3,slow=9.5,SNR=6.7						
CPUP	**Villa Florida**	**14.30**	**130**	P	**Pn**	**20 19 40.9**	**+0.1**
CPUP	**Villa Florida**	**14.30**	**130**	P	**Pn**	**20 19 40.9**	**+0.1**
	comp=N,0.5nm,0.3s,baz=283,slow=12,SNR=4.1						
OTAV	**Otavalo**	**19.76**	**333**	*e*P	**P**	**20 20 46.0**	**+1.3**
	comp=N,1.3nm,0.6s						
BDFB	**Brasilia**	**20.75**	**88**	P	**P**	**20 20 55.5**	**+0.4**
BDFB	**Brasilia**	**20.75**	**88**	P	**P**	**20 20 55.5**	**+0.4**
	comp=N,4.9nm,0.5s,baz=259,slow=9.7,SNR=6.5						
TRQA	**Tornquist**	**21.45**	**163**	*e*P	**P**	**20 21 01.7**	**-0.6**
	comp=N,5.0nm,0.9s						
PLCA	**Paso Flores**	**23.08**	**182**	P	**P**	**20 21 19.9**	**+1.3**
PLCA	**Paso Flores**	**23.08**	**182**	P	**P**	**20 21 19.9**	**+1.3**
	comp=N,3.9nm,0.7s,baz=352,slow=10.0,SNR=12						
OBIP	**Obispado Ponce**	**35.53**	**5**	*e*P	**P**	**20 23 09.6**	**+0.6**
	comp=N,47nm,1.5s						
DBIC	**Dimbokro**	**68.29**	**75**	*e*P	**P**	**20 27 11.0**	**-0.8**
	comp=N,3.4nm,0.4s						
DBIC	**Dimbokro**	**68.29**	**75**	P	**P**	**20 27 11.4**	**-0.4**
	comp=N,3.8nm,0.5s,baz=228,slow=7.1,SNR=12						
QSPA	**South Pole Qui**	**72.58**	**180**	*e*P	**P**	**20 27 36.5**	**-0.7**
	comp=N,2.6nm,1.0s						
TORD	**Torodi Ar. Bea**	**76.67**	**71**	P	**P**	**20 28 01.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**76.67**	**71**	P	**P**	**20 28 01.2**	**-0.3**
	comp=N,1.5nm,0.4s,baz=259,slow=5.0,SNR=20						
YKA	**Yellowknife Ar**	**87.31**	**341**	P	**P**	**20 28 55.8**	**-0.2**
YKA	**Yellowknife Ar**	**87.31**	**341**	P	**P**	**20 28 55.7**	**-0.2**
	comp=N,1.7nm,0.5s,baz=133,slow=4.7,SNR=15						
MAW	**Mawson**	**88.23**	**164**	P	**P**	**20 29 00.8**	**+0.3**
MAW	**Mawson**	**88.23**	**164**	P	**P**	**20 29 00.8**	**+0.3**
	comp=N,1.6nm,0.6s,baz=222,slow=5.7,SNR=12						
ASAR	**Alice Springs**	**133.02**	**210**	PKP	**PKPdf**	**20 35 25.0**	**-0.2**
ASAR	**Alice Springs**	**133.02**	**210**	PKP	**PKPdf**	**20 35 25.0**	**-0.2**
	comp=N,0.4nm,0.6s,baz=146,slow=1.9,SNR=7.0						
WRA	**Warramunga Arr**	**135.93**	**213**	PKP	**PKPdf**	**20 35 30.6**	**-0.1**
WRA	**Warramunga Arr**	**135.93**	**213**	PKP	**PKPdf**	**20 35 30.6**	**-0.1**
	comp=N,0.5nm,0.5s,baz=151,slow=2.0,SNR=6.9						
SONM	**Songino Array**	**149.66**	**5**	PKPbc	**PKPbc**	**20 35 58.9**	**+0.1**
SONM	**Songino Array**	**149.66**	**5**	PKPbc	**PKPbc**	**20 35 58.9**	**+0.1**
	comp=N,0.5nm,0.4s,baz=0.0,slow=1.5,SNR=3.9						

*IDC **02** 20:34:20.7±1.8, 6°12S×130°19E, h0km, mb3.8/2, mb1 4.0/5, mb1mx3.6/19, mbtmp3.8/5, ML3.7/3, Error ellipse: s-maj=80.3km s-min=25.1km az=71.0*
*AUST **02** 20:34:34.0, 6°48S×130°03E, h60km*
*ISCJB **02** 20:34:35.3±0.8, 6°68S±0°06×129°51E±0°09, h146km, mb3.5/2, Error ellipse: s-maj=13.2km s-min=6.8km az=155.1*

ISC 02 20:34:36.4±1.1, 6°77S±0°08×129°5E±0°1, h146km, n12, σ1§92/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.71**	**36**	P	Pn	20 35 38.9	-7.0
	baz=4.2,SNR=4.7						
FAKI				S	Sn	20 36 25.3	-15
	baz=4.2,SNR=13						
MTN	**Manton Dam**	**6.25**	**165**	P	**Pn**	**20 36 08.6**	**+2.2**
	baz=6.5,SNR=23						
MTN				S	**Sn**	**20 37 16.0**	**-0.8**
	baz=6.5,SNR=15						
KDU	**Kakadu**	**6.57**	**154**	P	**Pn**	**20 36 11.0**	**+0.3**
	baz=6.7,SNR=88						
KDU				S	**Sn**	**20 37 21.0**	**-3.6**
	baz=6.7,SNR=11						
LUWI	**Luwuk**	**8.80**	**310**	S	**Sn**	**20 38 16.2**	**-2.0**
	baz=9.1,SNR=5.7						
KNRA	**Kununurra**	**8.88**	**185**	P	Pn	20 36 44.7	+3.1
	baz=9.3,SNR=27						
KNRA				S	**Sn**	**20 38 22.6**	**+2.3**
	baz=9.3,SNR=6.2						
FITZ	**Fitzroy Crossi**	**11.88**	**198**	Pn	P	20 37 24.3	-3.9
	0.3nm,0.3s,baz=31,slow=11,SNR=15						
FITZ				Sn	**Sn**	**20 39 31.8**	**-0.7**
	0.5nm,0.3s,baz=56,slow=20,SNR=7.6						
FITZ	**Fitzroy Crossi**	**11.88**	**198**	P	**P**	**20 37 26.4**	**-1.8**
	baz=12,SNR=8.7						
FITZ				S	**Sn**	**20 39 31.8**	**-0.7**
	baz=12,SNR=5.0						
WRA	**Warramunga Arr**	**13.91**	**161**	Pn	**Pn**	**20 37 46.5**	**-0.9**
	0.3nm,0.3s,baz=342,slow=12,SNR=20						
WRA				Sn	Sn	20 40 13.5	-8.1
	1.0nm,0.3s,baz=342,slow=21,SNR=9.7						
COEN	**Coen**	**15.23**	**119**	P	**Pn**	**20 38 04.0**	**+0.1**
	baz=15,SNR=7.5						
ASAR	**Alice Springs**	**17.33**	**166**	P	**Pn**	**20 38 31.7**	**+2.2**
	0.6nm,0.3s,baz=339,slow=8.6,SNR=34						
ASAR				S	**S**	**20 41 39.8**	**-2.1**
	0.2nm,0.3s,baz=347,slow=22,SNR=4.7						
STKA	**Stephens Creek**	**27.42**	**157**	P	**P**	**20 40 09.4**	**+1.0**
	1.8nm,0.8s,baz=337,slow=8.6,SNR=4.3						
MKAR	**Makanchi Array**	**67.76**	**327**	P	**P**	**20 45 19.5**	**+1.1**
	0.3nm,0.5s,baz=112,slow=8.7,SNR=6.1						

KRSC 02 20:47:28.4±1.4, 49°35N×156°92E, h5km±5km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.43**	**339**	P	Pn	20 47 54.2	-0.8
SKR				*i* S	Sb	20 48 13.1	-1.0
MIPR	**Malaya Ipel'ka**	**2.93**	**358**	P	**Pn**	20 48 18.8	-2.4
ASAK	**Asacha**	**3.10**	**11**	P	Pn	20 48 20.8	+2.7
MTVR	**Mutnovka**	**3.24**	**14**	*e*P	Pn	20 48 22.1	+2.1
MTVR				*e*S	Sn	20 49 00.6	+1.5
RUS	**Russkaya**	**3.25**	**17**	*e*P	Pn	20 48 21.5	+1.6
RUS				*i* S	Sn	20 49 00.2	+1.2
UGLR	**Uglovaya**	**4.04**	**16**	*e*P	Pn	20 48 33.3	+2.2
SPN	**Mys Shipunski**	**4.23**	**26**	*e*P	Pn	20 48 36.6	+3.2
SPN				*e*S	Sn	20 49 25.7	+2.5
MKZ	**Mys Kozlova**	**6.00**	**28**	P	Pn	20 48 59.1	+1.4

IDC 02 20:51:58.3±15.0, 19°37S×178°57W, h650km±150km, mb3.0/4, mb1 3.1/4, mb1mx2.8/19, mbtmp3.0/4, Error ellipse: s-maj=135.5km s-min=75.5km az=104.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.08**	**263**	P	P	20 57 44.3	+0.6
	3.5nm,0.5s,baz=90,slow=12,SNR=6.0						
STKA	**Stephens Creek**	**37.81**	**243**	P	P	20 58 22.1	-0.2
	2.1nm,0.8s,baz=80,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**44.23**	**261**	P	P	20 59 12.6	-0.3
	0.7nm,0.3s,baz=97,slow=7.6,SNR=25						
ASAR	**Alice Springs**	**44.27**	**256**	P	P	20 59 13.4	+0.3
	1.5nm,0.6s,baz=88,slow=7.7,SNR=19						
ASAR				PcP	PcP	21 00 42.7	+0.1
	0.2nm,0.5s,baz=92,slow=4.6,SNR=3.0						
GERES	**GERESS Array B**	**148.97**	**344**	PKPbc	PKPbc	21 10 34.3	-0.5
	0.5nm,0.7s,baz=48,slow=2.0,SNR=4.5						

GUC 02 20:53:14.0±0.8, 20°82S×68°91W, h108km±5km, ML3.7, 4C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.58**	**248**	⇑*i*P	Pn	20 53 31.4	0.0
PB01				*i* S	Sn	20 53 45.0	+0.5
PB01				AML	AML	20 53 46.5	
	comp=E,4μm,0.2s						
PB09	**Plate Boundary**	**1.02**	**198**	⇑*i*P	Pn	20 53 35.9	+0.4
PB09				*i* S	Sn	20 53 53.0	+1.3
PB09				AML	AML	20 53 56.4	
	comp=E,2μm,0.3s						
PB07	**Plate Boundary**	**1.28**	**225**	⇑*i*P	Pn	20 53 38.8	+0.4
PB07				*i* S	Sn	20 53 57.9	+1.0
PB07				AML	AML	20 53 59.0	
	comp=E,3μm,0.3s						
PB04	**Plate Boundary**	**1.53**	**200**	*e*P	Pn	20 53 46.5	+5.4
PB04				*e*S	Sn	20 54 11.8	+10
PB04				AML	AML	20 54 18.5	
	comp=E,516nm,0.4s						
PSGC	**Pisagua**	**1.67**	**317**	⇓*i*P	Pn	20 53 43.7	+0.8
PSGC				*i* S	Sn	20 54 06.0	+1.0
PSGC				AML	AML	20 54 13.4	
	comp=N,434nm,0.2s						
LVC	**Limon Verde**	**1.78**	**180**	⇑*i*P	Pn	20 53 45.0	+0.5
LVC				*i* S	Sn	20 54 09.5	+1.7
MNMC	**Minimini**	**1.80**	**339**	*e*P	Pn	20 53 46.0	+1.1
MNMC				AML	AML	20 54 16.6	
	comp=N,645nm,0.7s						
CEN1	**Los Morros**	**2.82**	**205**	*e*P	Pn	20 54 01.8	+4.1
CEN1				AML	AML	20 54 46.6	
	comp=E,254nm,0.6s						
ANCH	**Antofagasta**	**3.17**	**206**	*e*P	Pn	20 54 03.7	+1.5

WEL 02 20:59:54.4±0.7, 37°67S×175°73E, h271km±7km, ML3.8/13, 1D, Error ellipse: s-maj=10.0km s-min=9.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.24**	**119**	PN	Pn	21 00 32.8	0.0
URZ				SN	S	21 01 03.0	-0.4
MWZ	**Matawai**	**1.57**	**116**	PN	Pn	21 00 35.2	+0.1
MWZ				AML	AML	21 00 35.8	
MWZ				SN	S	21 01 06.5	-0.9
TUVZ	**Tukino**	**1.60**	**182**	PN	Pn	21 00 35.7	+0.2
BKZ	**Black Stump Fm**	**1.61**	**158**	⇓PN	Pn	21 00 35.2	-0.3
PKVZ	**Pokaka**	**1.65**	**190**	PN	Pn	21 00 36.0	+0.3
NMHZ	**Naumai**	**1.66**	**150**	PN	Pn	21 00 36.4	+0.6
MOVZ	**Moawhango**	**1.74**	**179**	PN	Pn	21 00 36.1	-0.4
BHHZ	**Black Hill Sta**	**1.84**	**172**	PN	Pn	21 00 36.7	-0.6
MCHZ	**McNeill Hill**	**1.93**	**157**	PN	Pn	21 00 37.7	-0.2
KNZ	**Kokohu**	**2.04**	**132**	PN	Pn	21 00 38.0	-0.8
PUZ	**Puketiti**	**2.04**	**102**	PN	Pn	21 00 39.2	+0.3
PUZ				SN	S	21 01 12.7	-1.6
PUZ				AML	AML	21 01 35.2	
MXZ	**Matakaoa Point**	**2.05**	**88**	PN	Pn	21 00 39.2	+0.3
CNGZ	**Carnagh Statio**	**2.12**	**113**	PN	Pn	21 00 40.3	+0.8
WAZ	**Wanganui**	**2.17**	**195**	PN	Pn	21 00 39.8	-0.2
MHGZ	**Mahia Peninsul**	**2.27**	**132**	PN	Pn	21 00 40.6	-0.3
PNHZ	**Pukenui**	**2.27**	**171**	PN	Pn	21 00 39.6	-1.4
KAHZ	**Kahuranaki**	**2.31**	**157**	PN	Pn	21 00 40.4	-0.9
TSZ	**Takapari Road**	**2.40**	**176**	PN	Pn	21 00 40.6	-1.5
DVHZ	**Dannevirke**	**2.65**	**173**	PN	Pn	21 00 42.5	-2.1
DVHZ				SN	S	21 01 20.7	-3.8
MRZ	**Mangatainoka R**	**2.99**	**182**	PN	Pn	21 00 46.1	-1.9
MRZ				SN	S	21 01 26.1	-4.6
MRZ				AML	AML	21 01 27.0	
BFZ	**Birch Farm**	**3.04**	**173**	PN	Pn	21 00 46.3	-2.2
BFZ				AML	AML	21 01 29.6	
HOWZ	**Holdsworth Sta**	**3.23**	**183**	PN	Pn	21 00 48.9	-1.7
KIW	**Kapiti Island**	**3.25**	**191**	PN	Pn	21 00 48.3	-2.5
DUWZ	**D'Urville Isla**	**3.43**	**204**	PN	Pn	21 00 50.7	-2.0
MTW	**Mount Morrison**	**3.49**	**183**	PN	Pn	21 00 51.2	-2.1
TCW	**Tory Channel**	**3.72**	**197**	PN	Pn	21 00 52.9	-2.9
TCW				AML	AML	21 01 39.6	
PLWZ	**Palliser**	**3.92**	**185**	PN	Pn	21 00 55.0	-3.1
NNZ	**Nelson**	**3.99**	**206**	PN	Pn	21 00 56.2	-2.7
TUWZ	**Tuamarina**	**4.01**	**200**	PN	Pn	21 00 56.3	-2.7
QRZ	**Quartz Range**	**4.02**	**217**	PN	Pn	21 00 56.0	-3.2
THZ	**Tophouse**	**4.64**	**207**	PN	Pn	21 01 02.8	-3.7
KHZ	**Kahutara**	**5.04**	**199**	PN	Pn	21 01 08.1	-3.0
OXZ	**Oxford**	**6.31**	**205**	PN	Pn	21 01 21.4	-5.3

*IDC **02** 21:06:09.0±2.3, 27°49N×55°67E, h0km, mb3.7/11, mb1 3.8/11, mb1mx3.6/31, mbtmp3.7/11, MS3.1/1, Ms1 3.1/1, ms1mx2.3/48, Error ellipse: s-maj=48.4km s-min=20.3km az=160.0*
*ISCJB **02** 21:06:13.2±0.3, 27°61N±0°03×55°52E±0°05, h15km, mb3.6/12, Error ellipse: s-maj=6.3km s-min=3.8km az=150.8*
*CSEM **02** 21:06:13.7±0.2, 27°58N×55°52E, h2km, ML3.7, Error ellipse: s-maj=5.9km s-min=3.6km az=70.0*
*THR **02** 21:06:15.0±1.1, 27°62N×55°69E, h15km, ML3.6*
*TEH **02** 21:06:15.1, 27°51N×55°52E, h16km, ML3.7*
*OMAN **02** 21:06:39.9±75.0, 25°77N×56°12E, h3km, Error ellipse: s-maj=19.9km s-min=2.9km az=296.0*

ISC 02 21:06:13.6±0.6, 27°56N±0°03×55°53E±0°04, h15km, n58, σ1§60/60, mb3.5/12, 2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.59**	**106**	*e*Pg	**Pg**	**21 06 24.3**	**-1.0**
BNDS				AML	AML	21 06 35.4	
	comp=E,2μm,0.5s						
BNDS	**Bandar-Abbas**	**0.59**	**106**	*e*Pg	**Pg**	**21 06 24.3**	**-1.0**
IBND	**Bandar-abas**	**0.90**	**97**	*e*Pg	**Pg**	**21 06 31.3**	**+0.2**
IBND				*e*Sg	**Sn**	**21 06 44.5**	**0.0**
IBND				*e*		21 06 47.2	
	comp=Z,42μm,0.1s						
IBND	**Bandar-abas**	**0.90**	**97**	*e*Pg	**Pg**	**21 06 31.3**	**+0.2**
IBND				*e*Sg	**Sn**	**21 06 44.5**	**0.0**
BANOM	**Banah**	**1.77**	**157**	⇓P	**Pn**	**21 06 44.1**	**+0.5**

IGAR	**Gharneh**	**5.70**	**329**	*e*Pn	**Pn**	**21 07 39.3**	**+1.4**
IGAR				*e*		21 07 40.0	
	comp=Z,1μm,0.1s						
IKOO	**Kooshah**	**5.71**	**31**	*e*Pn	**Pn**	**21 07 39.1**	**+1.0**
IKOO				*e*		21 09 26.7	
	comp=Z,214nm,0.3s						
IKOO	**Kooshah**	**5.71**	**31**	*e*Pn	**Pn**	**21 07 39.1**	**+1.0**
IZEF	**Zefreh**	**6.00**	**333**	*e*Pn	**Pn**	**21 07 42.4**	**+0.4**
IZEF				*e*		21 07 45.7	
	comp=Z,141nm,0.1s						
IZEF	**Zefreh**	**6.00**	**333**	*e*Pn	**Pn**	**21 07 42.4**	**+0.4**
ITEG	**Tejag**	**6.00**	**27**	*e*Pn	**Pn**	**21 07 43.5**	**+1.4**
ITEG				*e*		21 13 34.4	
	comp=Z,240nm,0.0s						
ITEG	**Tejag**	**6.00**	**27**	*e*Pn	**Pn**	**21 07 43.5**	**+1.4**
IPIR	**Pirpir**	**6.50**	**323**	*e*Pn	**Pn**	**21 07 50.0**	**+1.0**
IPIR				*e*		21 07 52.5	
	comp=Z,290nm,0.2s						
IPIR	**Pirpir**	**6.50**	**323**	*e*Pn	**Pn**	**21 07 50.0**	**+1.0**
IKLH	**Kolahrood**	**6.68**	**330**	*e*Pn	**Pn**	**21 07 52.3**	**+0.9**
IKLH				*e*		21 07 55.2	
	comp=Z,274nm,0.1s						
IKLH	**Kolahrood**	**6.68**	**330**	*e*Pn	**Pn**	**21 07 52.3**	**+0.9**
GNI	**Garni**	**15.41**	**327**	Pn	**P**	**21 09 55.8**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=90,slow=0.2,SNR=6.8						
ASF	**Jabal al Asfar**	**16.80**	**290**	LR	LR	21 17 29.4	
	comp=Z,62nm,18.6s,baz=125,slow=40						
KBZ	**Khabaz**	**19.09**	**331**	P	**Pn**	**21 10 38.0**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=145,slow=4.2,SNR=3.7						
BRTR	**Keskin Array B**	**21.83**	**309**	P	**P**	**21 11 05.2**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=125,slow=12,SNR=9.9						
AKTO	**Aktyubinsk**	**22.92**	**4**	P	**P**	**21 11 15.8**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=156,slow=9.3,SNR=3.5						
BVAR	**Borovoye Array**	**27.73**	**19**	P	**P**	**21 11 58.5**	**-2.8**
	comp=Z,1.1nm,0.6s,baz=190,slow=7.5,SNR=4.2						
MKAR	**Makanchi Array**	**28.47**	**40**	P	P	21 12 05.0	-3.0
	comp=Z,0.2nm,0.6s,baz=231,slow=8.8,SNR=4.7						
KURBB	**Kurchatov Arra**	**28.91**	**31**	P	**P**	**21 12 09.8**	**-2.1**
	comp=Z,0.6nm,0.8s,baz=230,slow=8.6,SNR=8.1						
MLR	**Muntele Rosu**	**29.52**	**315**	P	**P**	**21 12 17.5**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=221,slow=22,SNR=5.0						
AKASG	**Malin Array Be**	**30.54**	**326**	P	**P**	**21 12 24.4**	**-1.9**
	comp=Z,0.8nm,0.4s,baz=134,slow=8.8,SNR=8.4						
ZALV	**Zalesovo Beam**	**34.01**	**31**	P	**P**	**21 12 55.2**	**-1.5**
	comp=Z,2.9nm,0.5s,baz=240,slow=8.8,SNR=15						
GERES	**GERESS Array B**	**38.51**	**315**	P	**P**	**21 13 33.9**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=108,slow=8.6,SNR=6.7						
JOF	**Joensuu**	**38.76**	**343**	*ep*	**P**	**21 13 35.9**	**-1.2**
	comp=Z,0.6nm,0.4s						
NOA	**NORSAR Array B**	**44.67**	**331**	P	P	21 14 23.4	-2.2
	comp=Z,0.3nm,0.7s,baz=119,slow=7.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**52.10**	**265**	P	**P**	**21 15 22.0**	**-1.4**
	comp=Z,1.6nm,0.5s,baz=64,slow=7.5,SNR=26						

SZGRF ***02*** *21:27:35.5, 33˚.44N × 26˚.94E, h33km, mb4.1, Eastern Mediterranean Sea*

IDC ***02*** *21:27:42.4 ± 0.7, 34˚.11N × 25˚.43E, h0km, mb4.1/16, mb1 4.2/24, mb1mx4.1/35, mbtmp4.1/24, ML3.8/6, MS2.8/3, Ms1 2.8/3, ms1mx2.4/42, Error ellipse: s-maj=15.8km s-min=14.4km az=21.0*

ISCJB ***02*** *21:27:44.5 ± 1.0, 33˚.96N ± 0˚.02 × 25˚.51E ± 0˚.03, h33km ± 8km, mb4.1/48, MS3.1/3, Error ellipse: s-maj=4.9km s-min=3.1km az=44.0*

MOS ***02*** *21:27:44.8 ± 1.4, 34˚.05N × 25˚.38E, h27km, mb4.3/16, Error ellipse: s-maj=10.5km s-min=5.0km az=92.1*

ATH ***02*** *21:27:44.1, 34˚.04N × 25˚.40E, h16km ± 1km, MD3.8/19*

CSEM ***02*** *21:27:46.1 ± 0.1, 33˚.99N × 25˚.49E, h30km, mb4.1/38, Ms2.7, Error ellipse: s-maj=5.0km s-min=3.1km az=38.0*

HLW ***02*** *21:27:46.0, 34˚.03N × 25˚.64E, h32km ± 29km, Md2.6, Ml3.2*

THE ***02*** *21:27:48.7, 34˚.33N × 25˚.43E, h1km ± 1km, ML3.2/1, Error ellipse: s-maj=4.0km s-min=1.1km az=195.0*

ISC 02 21:27:44.4 ± 1.1, 33˚.96N ± 0˚.03 × 25˚.40E ± 0˚.04, h16km ± 6km, n277, σ1°15/295, mb4.2/47, MS3.0/3, 1C-3D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.16**	**335**	P		**Pn**	**21 28 05.1**	**-0.9**
SIVA				S		**Sb**	**21 28 18.7**	**-2.2**
SIVA	**Sivas**	**1.16**	**335**	*e*PN		**Pn**	**21 28 05.3**	**-0.7**
SIVA				*e*SN		**Sb**	**21 28 20.1**	**-0.8**
SIVA	**Sivas**	**1.16**	**335**	*e*Pn		**Pn**	**21 28 05.3**	**-0.7**
SIVA				*e*Sn		**Sb**	**21 28 20.1**	**-0.8**
LAST	**Lasithi**	**1.20**	**3**	P		**Pn**	**21 28 05.1**	**-1.5**
LAST	**Lasithi**	**1.20**	**3**	*e*PN		**Pn**	**21 28 05.1**	**-1.5**
LAST	**Lasithi**	**1.20**	**3**	P		**Pn**	**21 28 05.1**	**-1.5**
NPS	**Neapolis**	**1.31**	**8**	P		**Pn**	**21 28 06.9**	**-1.1**
NPS	**Neapolis**	**1.31**	**8**	*e*PN		**Pn**	**21 28 07.0**	**-1.1**
NPS	**Neapolis**	**1.31**	**8**	*e*Pn		**Pn**	**21 28 07.0**	**-1.1**
ZKR	**Zakros**	**1.33**	**30**	P		**Pn**	**21 28 07.6**	**-0.8**
ZKR	**Zakros**	**1.33**	**30**	*e*PN		**Pn**	**21 28 07.5**	**-0.8**
ZKR	**Zakros**	**1.33**	**30**	P		**Pn**	**21 28 07.6**	**-0.8**
IDI	**Anoyia**	**1.39**	**342**	P		**Pn**	**21 28 09.0**	**-0.2**
IDI				S		**Sn**	**21 28 23.6**	**-3.6**
IDI	**Anoyia**	**1.39**	**342**	*e*PN		**Pn**	**21 28 08.6**	**-0.6**
IDI	**Anoyia**	**1.39**	**342**	*e*Pn		**Pn**	**21 28 08.6**	**-0.6**
IDI	**Anoyia**	**1.39**	**342**	P		**Pn**	**21 28 09.0**	**-0.2**
GVD	**Gavdhos**	**1.40**	**309**	*e*PN		**Pb**	**21 28 10.1**	**0.0**
GVD	**Gavdhos**	**1.40**	**309**	*e*Pn		**Pb**	**21 28 10.1**	**0.0**
VAM	**Vamos**	**1.75**	**326**	P		**Pb**	**21 28 15.4**	**-0.7**
VAM	**Vamos**	**1.75**	**326**	*e*PN		**Pb**	**21 28 15.6**	**-0.5**
VAM				*e*SN		**Sb**	**21 28 37.4**	**-0.5**
VAM	**Vamos**	**1.75**	**326**	P		**Pb**	**21 28 15.4**	**-0.7**
VAM				*e*Sn		**Sb**	**21 28 37.4**	**-0.5**
KARP	**Karpathos**	**2.15**	**42**	*e*PN		**Pn**	**21 28 20.6**	**+1.1**
KARP	**Karpathos**	**2.15**	**42**	*e*Pn		**Pn**	**21 28 20.6**	**+1.1**
LTBQ	**Tobruq**	**2.27**	**214**	*i* P		**Pb**	**21 28 23.5**	**-1.5**
	SNR=35							
SLUM		**2.47**	**184**	S		**Sn**	**21 28 54.2**	**+0.5**
	baz=189							
SLUM				AMP			21 29 00.0	
	comp=N,150μm,0.7s,logA/T=5.3,baz=189							
SLUM		**2.47**	**184**	P		**Pn**	**21 28 24.8**	**+0.9**
SLUM				S		**Sn**	**21 28 54.2**	**+0.5**
ANKY	**Antikythira Is**	**2.57**	**318**	*e*PN		**Pn**	**21 28 26.3**	**+1.0**
ANKY	**Antikythira Is**	**2.57**	**318**	*e*Pn		**Pn**	**21 28 26.3**	**+1.0**
APE	**Apeiranthos**	**3.10**	**2**	P		**Pn**	**21 28 33.0**	**+0.3**
APE				S		**Sn**	**21 29 07.2**	**-2.3**
APE	**Apeiranthos**	**3.10**	**2**	*e*PN		**Pn**	**21 28 33.2**	**+0.5**
APE	**Apeiranthos**	**3.10**	**2**	P		**Pn**	**21 28 33.0**	**+0.3**
APE				S		**Sn**	**21 29 07.2**	**-2.3**
ARG	**Arkhangelos**	**3.17**	**44**	P		**Pn**	**21 28 34.8**	**+1.2**
ARG				S		**Sn**	**21 29 10.5**	**-0.5**
ARG	**Arkhangelos**	**3.17**	**44**	*e*PN		**Pn**	**21 28 35.5**	**+1.9**
ARG				*e*SN		**Sn**	**21 29 12.8**	**+1.8**
ARG	**Arkhangelos**	**3.17**	**44**	P		**Pn**	**21 28 34.8**	**+1.2**
ARG	**Arkhangelos**	**3.17**	**44**	*e*Pn		**Pn**	**21 28 35.5**	**+1.9**
ARG				S		**Sn**	**21 29 10.5**	**-0.5**
ARG				*e*Sn		**Sn**	**21 29 12.8**	**+1.8**
HMAT	**Matruh**	**3.20**	**153**	P		**Pn**	**21 28 33.9**	**0.0**
	baz=156							
HMAT				S		**Sn**	**21 29 09.5**	**-2.2**
	baz=156							
HMAT	**Matruh**	**3.20**	**153**	P		**Pn**	**21 28 33.9**	**0.0**
HMAT				S		**Sn**	**21 29 09.5**	**-2.2**
VLI	**Veliai**	**3.41**	**324**	P		**Pn**	**21 28 37.6**	**+0.7**
VLI	**Veliai**	**3.41**	**324**	P		**Pn**	**21 28 37.6**	**+0.7**
DYR	**Agios Nikonas**	**3.76**	**319**	*e*PN		**Pn**	**21 28 43.2**	**+1.6**
DYR	**Agios Nikonas**	**3.76**	**319**	*e*Pn		**Pn**	**21 28 43.2**	**+1.6**
SMG	**Samos**	**3.92**	**17**	*e*PN		**Pn**	**21 28 45.5**	**+1.6**
SMG	**Samos**	**3.92**	**17**	*e*Pn		**Pn**	**21 28 45.5**	**+1.6**
DID	**Didima**	**3.95**	**334**	*e*PN		**Pn**	**21 28 45.5**	**+1.1**
DID	**Didima**	**3.95**	**334**	*e*Pn		**Pn**	**21 28 45.5**	**+1.1**
PYL	**PYLOS**	**4.18**	**315**	*e*PN		**Pn**	**21 28 49.2**	**+1.7**
PYL	**PYLOS**	**4.18**	**315**	*e*Pn		**Pn**	**21 28 49.2**	**+1.7**
VLX	**Vlachokerasia**	**4.20**	**325**	*e*PN		**Pn**	**21 28 48.7**	**+0.9**
VLX	**Vlachokerasia**	**4.20**	**325**	*e*Pn		**Pn**	**21 28 48.7**	**+0.9**
LTK	**Loutraki**	**4.51**	**335**	*e*PN		**Pn**	**21 28 53.9**	**+1.9**
LTK	**Loutraki**	**4.51**	**335**	*e*Pn		**Pn**	**21 28 53.9**	**+1.9**
AMT	**Artemida-Makis**	**4.66**	**321**	*e*PN		**Pn**	**21 28 55.7**	**+1.6**
AMT	**Artemida-Makis**	**4.66**	**321**	*e*Pn		**Pn**	**21 28 55.7**	**+1.6**
GUR	**Goura**	**4.68**	**329**	*e*PN		**Pn**	**21 28 55.8**	**+1.4**
GUR	**Goura**	**4.68**	**329**	*e*Pn		**Pn**	**21 28 55.8**	**+1.4**
LAKA	**Lakka**	**5.09**	**328**	*e*PN		**Pn**	**21 29 01.7**	**+1.7**
LAKA	**Lakka**	**5.09**	**328**	*e*Pn		**Pn**	**21 29 01.7**	**+1.7**
KALE	**Kalithea**	**5.15**	**330**	*e*PN		**Pn**	**21 29 02.4**	**+1.6**
KALE	**Kalithea**	**5.15**	**330**	*e*Pn		**Pn**	**21 29 02.4**	**+1.6**
EFP	**Efpalio**	**5.28**	**329**	*e*PN		**Pn**	**21 29 04.8**	**+2.3**
EFP	**Efpalio**	**5.28**	**329**	*e*Pn		**Pn**	**21 29 04.8**	**+2.3**
GLL	**Jalalah**	**6.92**	**127**	P		**Pn**	**21 29 24.4**	**-0.8**
	baz=129							
GLL	**Jalalah**	**6.92**	**127**	P		**Pn**	**21 29 24.4**	**-0.8**
AMAG	**Maghara**	**7.39**	**114**	P		**Pn**	**21 29 30.4**	**-1.2**
	baz=115							
AMAG	**Maghara**	**7.39**	**114**	P		**Pn**	**21 29 30.4**	**-1.2**
SUZ		**7.53**	**121**	P		**Pn**	**21 29 32.8**	**-0.7**
	baz=122							
SUZ		**7.53**	**121**	P		**Pn**	**21 29 32.8**	**-0.7**
RSH		**7.64**	**111**	P		**Pn**	**21 29 33.1**	**-1.9**
	baz=111							
RSH		**7.64**	**111**	P		**Pn**	**21 29 33.1**	**-1.9**
HNKL	**Nakhl**	**8.32**	**117**	P		**Pn**	**21 29 43.1**	**-1.3**
	baz=117							
HNKL	**Nakhl**	**8.32**	**117**	P		**Pn**	**21 29 43.1**	**-1.3**
MMAI	**Mount Meron Ar**	**8.41**	**94**	Pn		**Pn**	**21 29 44.7**	**-0.9**
	comp=N,2.7nm,0.3s,baz=274,slow=12,SNR=11							
MMAI				Sn		**Sn**	**21 31 17.8**	**-2.4**
	comp=N,3.1nm,0.3s,baz=259,slow=22,SNR=6.3							
GRB	**Gharib**	**8.50**	**130**	P		**Pn**	**21 29 46.2**	**-0.6**
	baz=131							
GRB	**Gharib**	**8.50**	**130**	P		**Pn**	**21 29 46.2**	**-0.6**
BRTR	**Keskin Array B**	**8.75**	**47**	Pn		**Pn**	**21 29 49.9**	**-0.5**
	comp=N,0.1nm,0.3s,baz=234,slow=15,SNR=5.4							
BRTR	**Keskin Array B**	**8.75**	**47**	P		**Pn**	**21 29 49.9**	**-0.5**
HKAT	**Jabal Katrina**	**9.13**	**124**	P		**Pn**	**21 29 54.6**	**-1.1**
	baz=125							
HKAT	**Jabal Katrina**	**9.13**	**124**	P		**Pn**	**21 29 54.6**	**-1.1**
EIL	**Elat**	**9.18**	**115**	Pn		**Pn**	**21 29 55.1**	**-1.1**
	comp=N,1.9nm,0.3s,baz=110,slow=6.7,SNR=17							
EIL				Sn		**Sn**	**21 31 38.8**	**-0.3**
	comp=N,1.2nm,0.3s,baz=335,slow=17,SNR=3.8							
MLR	**Muntele Rosu**	**11.52**	**2**	Pn		**Pn**	**21 30 27.3**	**-1.0**
	comp=N,0.0nm,0.3s,baz=153,slow=7.5,SNR=5.4							
MLR				LR		LR	21 35 18.1	
	comp=N,19nm,18.8s,baz=338,slow=40							
MLR	**Muntele Rosu**	**11.52**	**2**	P		**Pn**	**21 30 27.3**	**-1.0**
KOLS	**Kolonicke sedl**	**15.14**	**352**	*e*P		**Pn**	**21 31 17.4**	**-0.1**
KOLS	**Kolonicke sedl**	**15.14**	**352**	*e*PN		**Pn**	**21 31 17.4**	**-0.1**
KOLS	**Kolonicke sedl**	**15.14**	**352**	*e*P		**P**	**21 31 24.2**	**+1.7**
KOLS	**Kolonicke sedl**	**15.14**	**352**	*e*Pn		**Pn**	**21 31 17.4**	**-0.1**
KOLS	**Kolonicke sedl**	**15.14**	**352**	*e*P		**P**	**21 31 24.2**	**+1.7**
VYHS	**Vyhne**	**15.33**	**343**	*e*P		Pn	21 31 15.0	-4.9
VYHS	**Vyhne**	**15.33**	**343**	*e*		Pn	21 31 15.0	-4.9
VYHS	**Vyhne**	**15.33**	**343**	*e*PN		**P**	**21 31 23.2**	**-1.4**
PGF	**Ploggiola**	**15.46**	**308**	*e*P		**Pn**	**21 31 21.8**	**0.0**
	comp=N,40nm,1.0s							
STHS	**Stebnicka Huta**	**15.75**	**350**	*e*P		**Pn**	**21 31 26.9**	**+1.5**
STHS	**Stebnicka Huta**	**15.75**	**350**	*e*PN		**Pn**	**21 31 26.9**	**+1.5**
STHS	**Stebnicka Huta**	**15.75**	**350**	*e*P		**P**	**21 31 26.9**	**+1.5**
KBA	**Koelnbreinsper**	**15.97**	**329**	*i* P		**P**	**21 31 32.4**	**+0.5**
	comp=N,6.6nm,0.8s							
KBA	**Koelnbreinsper**	**15.97**	**329**	P		**P**	**21 31 32.4**	**+0.5**
	comp=N,6.6nm,0.8s							
ABTA	**Abfaltersbach**	**16.09**	**326**	*i* P		**P**	**21 31 34.3**	**+1.2**
	comp=N,8.6nm,0.6s							
ABTA	**Abfaltersbach**	**16.09**	**326**	P		**P**	**21 31 34.3**	**+1.2**
	comp=N,8.6nm,0.6s							
GNI	**Garni**	**16.61**	**63**	Pn		**Pn**	**21 31 37.7**	**+0.9**
	comp=N,0.5nm,0.3s,baz=188,slow=7.1,SNR=2.7							
GNI	**Garni**	**16.61**	**63**	*e*P		**Pn**	**21 31 36.6**	**-0.1**
	comp=N,9.0nm,1.2s							
VRAC	**Vranov**	**16.67**	**340**	Pn		**Pn**	**21 31 36.7**	**-0.5**
	comp=N,0.2nm,0.3s,baz=138,slow=14,SNR=3.8							
KIV	**Kislovodsk**	**16.71**	**48**	*e*P		**Pn**	**21 31 37.9**	**+0.1**
KIV				pmax		pmax		
	comp=Z,13nm,0.9s							
KIV	**Kislovodsk**	**16.71**	**48**	*e*P		**Pn**	**21 31 37.9**	**+0.1**
	comp=Z,13nm,0.9s							
KBZ	**Khabaz**	**16.73**	**49**	P		**Pn**	**21 31 38.9**	**+1.0**
KBZ	**Khabaz**	**16.73**	**49**	Pn		**Pn**	**21 31 38.9**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=195,slow=5.3,SNR=6.8							
KBZ	**Khabaz**	**16.73**	**49**	P		**Pn**	**21 31 38.9**	**+1.0**
OKC	**Ostrava-Krasne**	**16.75**	**344**	*e*P		**Pn**	**21 31 37.6**	**-0.5**
OKC	**Ostrava-Krasne**	**16.75**	**344**	*e*P		**Pn**	**21 31 37.6**	**-0.5**
ZEI	**Tsey**	**16.94**	**53**	*e*P		**P**	**21 31 44.0**	**+1.3**
ZEI				pmax		pmax		
	comp=Z,25nm,1.1s							
ZEI	**Tsey**	**16.94**	**53**	*e*P		**P**	**21 31 44.0**	**+1.3**
	comp=Z,25nm,1.1s							
AKASG	**Malin Array Be**	**16.96**	**8**	*i* P		**Pn**	**21 31 39.0**	**-1.8**
AKASG				pmax		pmax		
	comp=Z,9.0nm,0.6s							
AKASG	**Malin Array Be**	**16.96**	**8**	Pn		**Pn**	**21 31 40.1**	**-0.8**
	comp=Z,2.7nm,0.3s,baz=200,slow=10,SNR=42							
SBF	**Sospel**	**17.09**	**311**	*e*P		**Pn**	**21 31 42.3**	**-0.3**
GEC2	**GERESS Array S**	**17.24**	**333**	*e*P		**P**	**21 31 45.6**	**-0.3**
	comp=Z,10.0nm,1.2s							
GEC2	**GERESS Array S**	**17.24**	**333**	*e*P		**P**	**21 31 45.6**	**-0.3**
GEC2				pmax		pmax		
	comp=Z,100nm,1.2s							
GEC2	**GERESS Array S**	**17.24**	**333**	*e*P		**P**	**21 31 45.6**	**-0.3**
	comp=Z,100nm,1.2s							
GERES	**GERESS Array B**	**17.24**	**333**	P		**Pn**	**21 31 43.9**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=149,slow=14,SNR=28							
GERES	**GERESS Array B**	**17.24**	**333**	P		**Pn**	**21 31 43.9**	**-0.5**
	comp=Z,1.0nm,0.3s							
LMR	**La Mourre**	**17.44**	**308**	*e*P		**Pn**	**21 31 45.6**	**-1.3**
KHC	**Kasperske Hory**	**17.52**	**333**	*e*P		**P**	**21 31 50.0**	**+1.1**
KHC				*e*S		**S**	**21 35 08.5**	**-1.8**
KHC	**Kasperske Hory**	**17.52**	**333**	*e*P		**P**	**21 31 50.0**	**+1.1**
KHC				*e*pP		**pP**	**21 31 53.6**	**+0.1**
KHC				*e*S		**S**	**21 35 08.5**	**-1.8**
KHC	**Kasperske Hory**	**17.52**	**333**	*e*P		**P**	**21 31 50.0**	**+1.1**
KHC				*e*S		**S**	**21 35 08.5**	**-1.8**
DPC	**Dobruska-Polom**	**17.68**	**341**	*e*P		**Pn**	**21 31 48.9**	**-1.0**
DPC	**Dobruska-Polom**	**17.68**	**341**	*e*P		**Pn**	**21 31 48.9**	**-1.0**
DPC				*e*pP		**P**	**21 31 52.5**	**+1.8**
DPC	**Dobruska-Polom**	**17.68**	**341**	*e*P		**Pn**	**21 31 48.9**	**-1.0**
WET	**Wettzell**	**17.79**	**332**	*e*P		**P**	**21 31 51.7**	**-0.3**
	comp=Z,14nm,1.3s							
WET	**Wettzell**	**17.79**	**332**	*e*P		**P**	**21 31 51.7**	**-0.3**
WET				pmax		pmax		
	comp=Z,195nm,1.3s							
WET	**Wettzell**	**17.79**	**332**	*e*P		**P**	**21 31 51.7**	**-0.3**
	comp=Z,195nm,1.3s							
PRU	**Pruhonice**	**17.90**	**337**	*e*P		**Pn**	**21 31 48.5**	**-4.1**
PRU	**Pruhonice**	**17.90**	**337**	*e*P		**Pn**	**21 31 48.5**	**-4.1**
UPC	**Upice**	**17.91**	**340**	*e*P		**P**	**21 31 53.6**	**+0.4**
UPC	**Upice**	**17.91**	**340**	*e*P		**P**	**21 31 53.6**	**+0.4**
UPC				*e*pP		**pP**	**21 31 57.1**	**-0.8**
UPC	**Upice**	**17.91**	**340**	*e*P		**P**	**21 31 53.6**	**+0.4**
MBDF	**Montbardon**	**17.94**	**312**	*e*P		**P**	**21 31 54.0**	**+0.3**
	comp=Z,9.9nm,0.7s							
MBDF	**Montbardon**	**17.94**	**312**	*e*P		**P**	**21 31 54.0**	**+0.3**
	comp=Z,4.9nm,0.7s							
SMRF	**Simiane la Rot**	**18.34**	**309**	*e*P		**P**	**21 31 58.7**	**+0.7**
	comp=Z,11nm,1.0s							
SMRF	**Simiane la Rot**	**18.34**	**309**	*e*P		**P**	**21 31 58.7**	**+0.7**
	comp=Z,5.7nm,1.0s							
LPG	**La Plagne**	**18.35**	**314**	*e*P		**Pn**	**21 31 59.1**	**+0.7**
LPG	**La Plagne**	**18.35**	**314**	*e*P		**Pn**	**21 31 59.1**	**+0.7**
LPL	**La Plagne**	**18.37**	**314**	*e*P		**Pn**	**21 31 59.4**	**+0.8**
LPL	**La Plagne**	**18.37**	**314**	*e*P		**Pn**	**21 31 59.4**	**+0.8**
ORIF	**Oris-en-Rattie**	**18.58**	**312**	*e*P		**P**	**21 32 00.2**	**-0.5**
	comp=Z,6.5nm,0.9s							
ORIF				*e*R				
	comp=Z,82nm,21.0s							
ORIF	**Oris-en-Rattie**	**18.58**	**312**	*e*P		**P**	**21 32 00.2**	**-0.5**
	comp=Z,3.2nm,0.9s							
MANZ	**Manzenberg**	**18.77**	**333**	*e*P		**P**	**21 32 02.4**	**-0.3**
	comp=Z,16nm,1.6s							
GRA1	**Grafenberg Arr**	**18.89**	**331**	*e*P		**P**	**21 32 03.9**	**-0.1**
GRF	**Grafenberg Arr**	**18.89**	**331**	*e*P		**P**	**21 32 03.9**	**-0.1**
	comp=Z,10.0nm,1.0s							
GRF	**Grafenberg Arr**	**18.89**	**331**	*e*P		**P**	**21 32 03.9**	**-0.1**
WERD	**Werda**	**19.07**	**334**	*e*P		**P**	**21 32 05.8**	**-0.2**
	comp=Z,5.0nm,1.0s							
BFO	**Black Forest**	**19.21**	**323**	*e*P		**Pn**	**21 32 08.2**	**-0.3**
	comp=Z,6.0nm,1.1s							
BFO	**Black Forest**	**19.21**	**323**	*e*P		**Pn**	**21 32 08.2**	**-0.3**
BFO				pmax		pmax		
	comp=Z,41nm,1.1s							
BFO	**Black Forest**	**19.21**	**323**	*e*P		**Pn**	**21 32 08.2**	**-0.3**
	comp=Z,41nm,1.1s							
VIVF	**Saint-Julien-l**	**19.31**	**310**	*e*P		**P**	**21 32 08.3**	**-0.3**
VIVF	**Saint-Julien-l**	**19.31**	**310**	*e*P		**P**	**21 32 08.3**	**-0.3**
CABF	**La Chapelle**	**19.35**	**317**	*e*P		**P**	**21 32 08.1**	**-1.0**
	comp=Z,8.9nm,0.8s							
CABF	**La Chapelle**	**19.35**	**317**	*e*P		**P**	**21 32 08.1**	**-1.0**
	comp=Z,4.4nm,0.8s							
LASF	**Ste Croix**	**19.50**	**308**	*e*P		**P**	**21 32 10.2**	**-0.5**
	comp=Z,10.0nm,0.9s							
LASF	**Ste Croix**	**19.50**	**308**	*e*P		**P**	**21 32 10.2**	**-0.5**
	comp=Z,5.0nm,0.9s							
CLL	**Collm**	**19.54**	**336**	*e*P		**P**	**21 32 11.0**	**-0.1**
CLL				pmax		pmax		
	comp=Z,4.0nm,0.8s							
CLL	**Collm**	**19.54**	**336**	*e*P		**P**	**21 32 11.0**	**-0.1**
	comp=Z,4.0nm,0.8s							
CLL				*e*(PP)			21 32 22.0	
CLL	**Collm**	**19.54**	**336**	*e*P		**P**	**21 32 11.0**	**-0.1**
	comp=Z,4.0nm,0.8s							
HINF	**Hinteralfeld**	**19.64**	**320**	*e*P		**P**	**21 32 12.3**	**+0.1**
	comp=Z,4.2nm,0.5s							
HINF	**Hinteralfeld**	**19.64**	**320**	*e*P		**P**	**21 32 12.3**	**+0.1**
	comp=Z,2.1nm,0.5s							
CDF	**Champ du Feu**	**19.79**	**322**	*e*P		**Pn**	**21 32 14.9**	**-0.6**
	comp=Z,2.2nm,0.4s							
CDF	**Champ du Feu**	**19.79**	**322**	*e*P		**Pn**	**21 32 14.9**	**-0.6**
	comp=Z,1.1nm,0.4s							
NEUB	**Neuenburg**	**19.89**	**334**	*e*P		**P**	**21 32 15.2**	**+0.4**
	comp=Z,12nm,0.9s							
VSR	**Storozhevoye**	**19.94**	**26**	*e*P		**Pn**	**21 32 17.2**	**0.0**
VSR				pmax		pmax		
	comp=Z,10.0nm,0.7s							
VSR				pmax		pmax		
	comp=N,8.0nm,0.6s							
VSR				pmax		pmax		
	comp=E,5.0nm,0.8s							
VSR	**Storozhevoye**	**19.94**	**26**	*e*P		**Pn**	**21 32 17.2**	**0.0**
	comp=E,8.0nm,0.6s							
HAU	**Haudompre**	**20.02**	**320**	*e*P		**P**	**21 32 16.9**	**+0.5**
	comp=E,13nm,0.8s							
HAU				*e*R				
	comp=E,74nm,18.5s							
HAU	**Haudompre**	**20.02**	**320**	*e*P		**P**	**21 32 16.9**	**+0.5**
	comp=E,6.6nm,0.8s							
MTLF	**Montolieu**	**20.33**	**304**	*e*P		**P**	**21 32 20.4**	**+0.6**
MTLF	**Montolieu**	**20.33**	**304**	*e*P		**P**	**21 32 20.4**	**+0.6**
TNS	**Taunus Mts**	**20.47**	**328**	*e*P		Pn	21 32 23.9	+0.4
	comp=Z,8.0nm,1.1s							
TNS	**Taunus Mts**	**20.47**	**328**	*

	comp=Z,9.8nm,0.9s								
HFS	**Hagfors**	**27.29**	**347**	P		**P**		**21 33 25.8**	**-2.0**
	comp=Z,2.1nm,0.6s,baz=144,slow=10,SNR=12								
HFS				LR		LR		21 44 07.3	
	comp=Z,35nm,20.3s,baz=299,slow=36								
HFS	**Hagfors**	**27.29**	**347**	P		**P**		**21 33 25.8**	**-2.0**
	comp=Z,35nm,20.3s								
EVOP	**Sao Brissos**	**27.33**	**289**	*eP*		**P**		**21 33 29.1**	**+0.7**
	comp=Z,4.9nm,0.9s								
FINES	**FINESS Array B**	**27.50**	**1**	P		**P**		**21 33 28.1**	**-1.6**
	comp=Z,2.2nm,0.7s,baz=156,slow=13,SNR=9.9								
FINES	**FINESS Array B**	**27.50**	**1**	P		**P**		**21 33 28.1**	**-1.6**
	comp=Z,2.0nm,0.7s								
NOA	**NORSAR Array B**	**28.61**	**346**	P		**P**		**21 33 38.5**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=160,slow=9.8,SNR=9.5								
NOA	**NORSAR Array B**	**28.61**	**346**	P		**P**		**21 33 38.5**	**-1.2**
	comp=Z,1.0nm,0.6s								
EKA	**Eskdalemuir Ar**	**29.14**	**326**	P		**P**		**21 33 44.4**	**0.0**
	comp=Z,0.8nm,0.7s,baz=126,slow=8.5,SNR=5.6								
EKA	**Eskdalemuir Ar**	**29.14**	**326**	P		**P**		**21 33 44.4**	**0.0**
	comp=Z,1.0nm,0.7s								
JOF	**Joensuu**	**29.22**	**6**	*ep*		**P**		**21 33 42.9**	**-2.1**
	comp=Z,2.0nm,0.6s								
JOF	**Joensuu**	**29.22**	**6**	*eP*		**P**		**21 33 42.9**	**-2.1**
JOF				pmax		pmax			
	comp=Z,2.0nm,0.6s								
JOF	**Joensuu**	**29.22**	**6**	*eP*		**P**		**21 33 42.9**	**-2.1**
	comp=Z,2.0nm,0.6s								
TORD	**Torodi Ar. Bea**	**29.89**	**232**	P		**P**		**21 33 53.2**	**+1.8**
	comp=Z,1.8nm,0.7s,baz=38,slow=8.3,SNR=6.9								
ARU	**Arti**	**31.91**	**35**	*d iP*		**P**		**21 34 09.4**	**+0.6**
ARU								21 35 12.8	
ARU				S		**S**		**21 39 20.9**	**+1.9**
ARU				pmax		pmax			
	comp=Z,6.0nm,2.5s								
ARU	**Arti**	**31.91**	**35**	*i* P		**P**		**21 34 09.4**	**+0.6**
	comp=Z,6.0nm,2.5s								
ARCES	**ARCESS Array B**	**35.63**	**0**	P		**P**		**21 34 38.9**	**-2.1**
	comp=Z,3.8nm,0.8s,baz=183,slow=6.1,SNR=12								
ARCES				LR		LR		21 49 46.9	
	comp=Z,26nm,21.8s,baz=134,slow=37								
ARCES	**ARCESS Array B**	**35.63**	**0**	P		**P**		**21 34 38.9**	**-2.1**
	comp=Z,4.0nm,0.9s								
BRVK	**Borovoye**	**36.98**	**45**	*eP*		**P**		**21 34 54.0**	**+1.2**
BRVK				pmax		pmax			
	comp=Z,9.0nm,2.5s								
BRVK	**Borovoye**	**36.98**	**45**	*eP*		**P**		**21 34 54.0**	**+1.2**
	comp=Z,9.0nm,2.5s								
KURBB	**Kurchatov Arra**	**41.73**	**50**	P		**P**		**21 35 32.9**	**+0.5**
	comp=Z,4.4nm,0.9s,baz=276,slow=8.7,SNR=30								
KURK	**Kurchatov**	**41.79**	**50**	P		**P**		**21 35 32.9**	**0.0**
KURK				pmax		pmax			
	comp=Z,4.0nm,0.9s								
KURK	**Kurchatov**	**41.79**	**50**	P		**P**		**21 35 32.9**	**0.0**
	comp=Z,4.0nm,0.9s								
MKAR	**Makanchi Array**	**44.28**	**56**	P		**P**		**21 35 53.7**	**+0.5**
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.6s								
MKAR	**Makanchi Array**	**44.28**	**56**	P		**P**		**21 35 53.7**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=279,slow=6.7,SNR=23								
MKAR	**Makanchi Array**	**44.28**	**56**	P		**P**		**21 35 53.7**	**+0.5**
	comp=Z,2.0nm,0.6s								
NVS	**Novosibirsk**	**44.80**	**44**	*eP*		**P**		**21 35 57.6**	**+0.4**
NVS				pmax		pmax			
	comp=Z,5.0nm,1.1s								
NVS				pmax		pmax			
	comp=N,1.0nm,0.6s								
NVS				pmax		pmax			
	comp=E,1.0nm,1.0s								
NVS	**Novosibirsk**	**44.80**	**44**	*eP*		**P**		**21 35 57.6**	**+0.4**
	comp=E,1.0nm,0.6s								
ZALV	**Zalesovo Beam**	**45.70**	**45**	*i* P		**P**		**21 36 04.1**	**-0.1**
ZALV				pmax		pmax			
	comp=Z,3.0nm,0.5s								
ZALV	**Zalesovo Beam**	**45.70**	**45**	P		**P**		**21 36 04.2**	**-0.1**
	comp=Z,2.9nm,0.5s,baz=272,slow=8.9,SNR=13								
ZALV	**Zalesovo Beam**	**45.70**	**45**	*i* P		**P**		**21 36 04.1**	**-0.1**
	comp=Z,3.0nm,0.5s								
BOSA	**Boshof**	**62.23**	**180**	P		**P**		**21 38 06.5**	**+1.1**
	comp=Z,2.8nm,0.9s,baz=7.4,slow=9.0,SNR=3.3								
BOSA	**Boshof**	**62.23**	**180**	P		**P**		**21 38 06.5**	**+1.1**
	comp=Z,3.0nm,1.0s								
SCHQ	**Schefferville**	**64.23**	**320**	P		**P**		**21 38 18.8**	**+0.5**
	comp=Z,3.0nm,0.6s,baz=74,slow=6.7,SNR=8.1								
CMAR	**Chiang Mai Arr**	**66.51**	**83**	P		**P**		**21 38 33.7**	**0.0**
	comp=Z,0.6nm,0.4s,baz=302,slow=10,SNR=3.9								
CMAR	**Chiang Mai Arr**	**66.51**	**83**	P		**P**		**21 38 33.7**	**0.0**
	comp=Z,1.0nm,0.4s								
QIZ	**Qiongzhong**	**75.14**	**77**	P		P		21 39 22.4	-3.8
QIZ				S		**S**		**21 49 00.6**	**-3.7**
QIZ				pmax		pmax			
	comp=Z,11nm,1.3s								
USRK	**Ussuriysk Arra**	**77.55**	**45**	P		**P**		**21 39 39.6**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=286,slow=6.9,SNR=5.0								
YKA	**Yellowknife Ar**	**78.65**	**342**	P		**P**		**21 39 45.4**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=34,slow=5.1,SNR=5.3								
YKA	**Yellowknife Ar**	**78.65**	**342**	P		**P**		**21 39 45.4**	**+0.3**
	comp=Z,1.0nm,0.6s								
ILAR	**Eielson Array**	**81.41**	**357**	P		**P**		**21 40 00.9**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=360,slow=3.7,SNR=6.5								
ILAR	**Eielson Array**	**81.41**	**357**	P		**P**		**21 40 01.0**	**+0.9**
	comp=Z,1.0nm,0.8s								

NIED ***02*** *21:32:00,24˚.10N×143˚.70E,h5km,Mw4.3 Best double couple: M₀3.61000×10¹⁵ NP1:φs302.00000°,δ77.00000°, λ-126.00000°. NP2:φs195.00000°,δ38.00000°, λ-22.00000°.*

IDC ***02*** *21:32:33.6±0.5,23˚.69N×142˚.81E,h0km,mb4.2/24, mb1 4.3/26,mb1mx4.3/34,mbtmp4.2/26,ML3.8/2,MS3.2/3, Ms1 3.2/3,ms1mx2.8/46,Error ellipse: s-maj=18.9km s-min=13.4km az=88.0*

ISCJB ***02*** *21:32:37.6±0.3,23˚.72N±0˚.04×142˚.70E±0˚.08,h39km, mb4.2/32,MS3.1/2,Error ellipse: s-maj=10.9km s-min=5.4km az=173.8*

NEIC ***02*** *21:32:39.1±0.3,23˚.70N×142˚.76E,h35km,mb4.5/9, MW4.3(NIED),Error ellipse: s-maj=8.8km s-min=6.6km az=90.0*

JMA ***02*** *21:32:40.1±0.2,24˚.10N×143˚.73E,h91km,M4.1*

ISC 02 21:32:39.3±0.5, 23.72N±0˚.06×142.7E±0˚.1, h39km, n82, σ0s.84/88, mb4.3/32, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**2.94**	**351**	P	**Pn**	**21 33 25.1**	**+1.6**
JHHJ				S	**Sn**	**21 33 58.7**	**+1.1**
CBIJ	**Chichi jima**	**3.40**	**352**	P	**Pn**	**21 33 30.4**	**+0.6**
CBIJ				S	**Sn**	**21 34 09.8**	**+0.9**
BSO1	**Boso 1**	**11.00**	**352**	P	**Pn**	**21 35 13.7**	**+0.1**
BSO1				*eS*	**Sn**	**21 37 13.7**	**-1.4**
BSO3	**Boso 3**	**11.21**	**351**	P	**Pn**	**21 35 16.6**	**-0.1**
BSO3				*eS*	**Sn**	**21 37 18.4**	**-2.2**
JOD2	**Odawara 2**	**11.93**	**345**	P	**Pn**	**21 35 26.1**	**-0.7**
JRY	**Ryogami san**	**12.69**	**346**	P	**Pn**	**21 35 36.3**	**-1.0**
JAG	**Ashikaga**	**12.97**	**348**	P	**Pn**	**21 35 40.2**	**-0.9**
JHO	**Hitachi**	**12.98**	**352**	P	**Pn**	**21 35 40.1**	**-1.1**
MJAR	**Matsushiro Arr**	**13.36**	**344**	Pn	**Pn**	**21 35 45.4**	**-1.0**
MJAR	**Matsushiro Ar**	**13.36**	**344**	Pn	**Pn**	**21 35 45.4**	**-1.0**
	0.4nm,0.3s,baz=157,slow=10,SNR=5.2						
KSRS	**Korea Array**	**18.66**	**321**	P	**Pn**	**21 36 55.1**	**+0.6**
	0.3nm,0.3s,baz=136,slow=11,SNR=8.5						
KSRS				LR	LR	21 43 29.7	
	comp=Z,82nm,18.9s,baz=125,slow=35						
KSAR	**Wonju Array Be**	**18.68**	**320**	P	**Pn**	**21 36 55.1**	**+0.4**
ASAJ	**Asahikawa**	**20.35**	**360**	P	Pn	21 37 13.4	-1.1
ASAJ	**Asahikawa**	**20.35**	**360**	P	Pn	21 37 13.4	-1.1
	6.3nm,1.1s,baz=246,slow=20,SNR=4.5						
USRK	**Ussuriysk Arra**	**22.24**	**339**	P	**P**	**21 37 31.4**	**-1.2**
	5.1nm,0.8s,baz=162,slow=11,SNR=13						
DAV	**Davao City (W)**	**23.34**	**228**	LR	LR	21 45 34.1	
	comp=Z,57nm,21.9s,baz=277,slow=33						
PETK	**Petropavlovsk-**	**31.47**	**17**	LR	LR	21 51 28.8	
	comp=Z,45nm,18.0s,baz=234,slow=36						
ULN	**Ulaanbaatar**	**37.15**	**319**	*eP*	**P**	**21 39 44.9**	**-1.6**
	5.1nm,0.4s						
FX1	**Attu Island--F**	**37.16**	**31**	*eP*	**P**	**21 39 46.2**	**0.0**
FX1	**Attu Island--F**	**37.16**	**31**	P	**P**	**21 39 46.4**	**+0.1**
	4.0nm,0.6s,baz=193,slow=13,SNR=7.6						
CHTO	**Chiang Mai**	**40.97**	**272**	*eP*	**P**	**21 40 16.8**	**-1.9**
WRAB	**Tennant Creek**	**44.15**	**191**	*eP*	**P**	**21 40 44.0**	**-0.3**
	4.1nm,0.6s						
WRA	**Warramunga Arr**	**44.16**	**191**	P	**P**	**21 40 44.4**	**0.0**
WRA				PcP	**PcP**	**21 42 29.4**	**+0.4**
WRA	**Warramunga Ar**	**44.16**	**191**	P	**P**	**21 40 44.4**	**0.0**
	3.0nm,0.5s,baz=19,slow=8.3,SNR=48						
WRA				PcP	**PcP**	**21 42 29.4**	**+0.4**
	1.0nm,0.4s,baz=4.8,slow=3.5,SNR=7.4						
FITZ	**Fitzroy Crossi**	**44.78**	**203**	*eP*	**P**	**21 40 50.2**	**+0.8**
AS31	**Alice Springs**	**47.87**	**191**	*eP*	**P**	**21 41 13.8**	**+0.1**
ASAR	**Alice Springs**	**47.87**	**191**	P	**P**	**21 41 13.3**	**-0.3**
ASAR	**Alice Springs**	**47.87**	**191**	P	**P**	**21 41 13.3**	**-0.3**
	0.7nm,0.4s,baz=12,slow=8.4,SNR=19						
ZALV	**Zalesovo Beam**	**52.37**	**321**	P	**P**	**21 41 48.3**	**+0.9**
ZALV				PcP	**PcP**	**21 42 58.0**	**0.0**
ZALV	**Zalesovo Beam**	**52.37**	**321**	P	**P**	**21 41 48.3**	**+0.9**
	0.7nm,0.4s,baz=107,slow=8.4,SNR=4.6						
ZALV				PcP	**PcP**	**21 42 58.0**	**0.0**
	1.3nm,0.5s,baz=133,slow=4.7,SNR=6.0						
MK31	**Makanchi Array**	**53.03**	**312**	*eP*	**P**	**21 41 52.7**	**+0.3**
MKAR	**Makanchi Array**	**53.03**	**312**	P	**P**	**21 41 53.3**	**+0.9**
MKAR				PcP	**PcP**	**21 43 00.8**	**+0.1**
MKAR	**Makanchi Array**	**53.03**	**312**	P	**P**	**21 41 53.3**	**+0.9**
	0.8nm,0.7s,baz=88,slow=9.2,SNR=10						
MKAR				PcP	**PcP**	**21 43 00.8**	**+0.1**
	0.3nm,0.4s,baz=79,slow=4.5,SNR=4.0						
STKA	**Stephens Creek**	**55.29**	**181**	*eP*	**P**	**21 42 08.6**	**-0.3**
STKA	**Stephens Creek**	**55.29**	**181**	P	**P**	**21 42 08.3**	**-0.6**
	4.3nm,0.9s,baz=138,slow=4.1,SNR=7.0						
KURK	**Kurchatov**	**55.72**	**316**	P	**P**	**21 42 12.7**	**+0.9**
KURBB	**Kurchatov Arra**	**55.77**	**316**	P	**P**	**21 42 12.7**	**+0.5**
	1.3nm,0.5s,baz=92,slow=7.9,SNR=22						
KDAK	**Kodiak Island**	**56.80**	**35**	*eP*	**P**	**21 42 19.3**	**-0.1**
KDAK	**Kodiak Island**	**56.80**	**35**	P	**P**	**21 42 19.0**	**-0.4**
	1.9nm,0.4s,baz=262,slow=9.1,SNR=4.1						
ILAR	**Eielson Array**	**60.45**	**28**	P	**P**	**21 42 44.0**	**-0.8**
ILAR	**Eielson Array**	**60.45**	**28**	P	**P**	**21 42 44.0**	**-0.8**
	2.6nm,0.9s,baz=262,slow=5.8,SNR=17						
KKAR	**Karatay Array**	**61.48**	**307**	*eP*	**P**	**21 42 53.0**	**+0.8**
	1.3nm,0.7s						
KBL	**Kabul**	**64.00**	**298**	*eP*	**P**	**21 43 10.1**	**+0.8**
DLBC	**Dease Lake**	**68.70**	**34**	P	**P**	**21 43 39.5**	**+0.7**
DLBC	**Dease Lake**	**68.70**	**34**	P	**P**	**21 43 39.5**	**+0.7**
	0.9nm,0.3s,baz=294,slow=18,SNR=3.4						
SPITS	**Spitsbergen Ar**	**73.78**	**350**	P	**P**	**21 44 10.6**	**+1.5**
SPITS	**Spitsbergen Ar**	**73.78**	**350**	P	**P**	**21 44 10.6**	**+1.5**
	4.5nm,0.9s,baz=76,slow=7.8,SNR=5.9						
YKA	**Yellowknife Ar**	**74.88**	**28**	P	**P**	**21 44 15.7**	**-0.1**
YKA	**Yellowknife Ar**	**74.88**	**28**	P	**P**	**21 44 15.6**	**-0.1**
	2.2nm,0.7s,baz=294,slow=5.6,SNR=10.0						
ARCES	**ARCESS Array B**	**76.88**	**341**	P	**P**	**21 44 28.4**	**+1.4**
ARCES	**ARCESS Array B**	**76.88**	**341**	P	**P**	**21 44 28.4**	**+1.4**
	1.6nm,0.5s,baz=70,slow=7.9,SNR=17						
YBH	**Yreka Blue Hor**	**77.84**	**50**	P	**P**	**21 44 33.5**	**+0.4**
YBH	**Yreka Blue Hor**	**77.84**	**50**	P	**P**	**21 44 33.5**	**+0.4**
	1.2nm,0.8s,baz=209,slow=5.9,SNR=4.3						
BEKR	**Beckworth**	**80.19**	**51**	*eP*	**P**	**21 44 45.8**	**-0.3**
	1.8nm,0.9s						
KBZ	**Khabaz**	**80.67**	**314**	P	**P**	**21 44 50.2**	**+1.9**
KBZ	**Khabaz**	**80.67**	**314**	P	**P**	**21 44 50.2**	**+1.9**
	8.1nm,0.8s,baz=100,slow=3.8,SNR=18						
CMB	**Columbia Colle**	**80.88**	**53**	*eP*	**P**	**21 44 49.4**	**-0.3**
	2.5nm,0.8s						
FINES	**FINESS Array B**	**81.18**	**334**	P	**P**	**21 44 51.0**	**+0.3**
FINES	**FINESS Array B**	**81.18**	**334**	P	**P**	**21 44 51.0**	**+0.3**
	2.2nm,0.5s,baz=65,slow=5.0,SNR=22						
NVAR	**Mina Array Bea**	**82.23**	**52**	P	**P**	**21 44 57.4**	**+0.4**
NVAR	**Mina Array Bea**	**82.23**	**52**	P	**P**	**21 44 57.4**	**+0.4**
	2.2nm,0.8s,baz=292,slow=4.8,SNR=8.5						
LRM	**Limekiln Ridge**	**83.00**	**43**	*eP*	**P**	**21 45 00.9**	**0.0**
	20nm,0.9s						
FFC	**Flin Flon**	**84.34**	**32**	*eP*	**P**	**21 45 07.2**	**-0.1**
	6.3nm,1.0s						
RLMT	**Red Lodge**	**85.31**	**42**	*eP*	**P**	**21 45 11.0**	**-1.6**
	1.7nm,0.5s						
AKASG	**Malin Array Be**	**85.62**	**324**	P	**P**	**21 45 13.9**	**+0.2**
AKASG	**Malin Array Be**	**85.62**	**324**	P	**P**	**21 45 13.9**	**+0.2**
	0.1nm,0.3s,baz=51,slow=3.1,SNR=5.1						
PDAR	**Pinedale Array**	**86.27**	**45**	P	**P**	**21 45 16.9**	**-0.6**
PDAR	**Pinedale Array**	**86.27**	**45**	P	**P**	**21 45 16.9**	**-0.6**
	0.8nm,0.8s,baz=258,slow=2.9,SNR=5.8						
HFS	**Hagfors**	**86.71**	**337**	P	**P**	**21 45 18.3**	**-0.7**
HFS	**Hagfors**	**86.71**	**337**	P	**P**	**21 45 18.3**	**-0.7**
	0.7nm,0.5s,baz=64,slow=3.4,SNR=6.5						
NB2	**NORSAR Subarra**	**86.91**	**339**	P	**P**	**21 45 19.0**	**-1.0**
	comp=Z,0.1nm,0.7s,baz=51,slow=5.1						
NOA	**NORSAR Array B**	**86.91**	**339**	P	**P**	**21 45 19.4**	**-0.6**
NOA	**NORSAR Array B**	**86.91**	**339**	P	**P**	**21 45 19.4**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=52,slow=4.4,SNR=5.4						
BRTR	**Keskin Array B**	**88.65**	**313**	P	**P**	**21 45 29.1**	**+0.2**
BRTR	**Keskin Array B**	**88.65**	**313**	P	**P**	**21 45 29.1**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=78,slow=3.1,SNR=8.1						
KWP	**Kalwaria Pacla**	**89.67**	**326**	*eP*	**P**	**21 45 33.2**	**0.0**
	comp=Z,3.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**127.13**	**310**	PKP	**PKPdf**	**21 51 39.4**	**-0.9**
TORD	**Torodi Ar. Bea**	**127.13**	**310**	PKP	**PKPdf**	**21 51 39.4**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=23,slow=0.9,SNR=5.4						
PLCA	**Paso Flores**	**147.39**	**129**	PKPbc	**PKPbc**	**21 52 19.2**	**0.0**
PLCA	**Paso Flores**	**147.39**	**129**	PKPbc	**PKPbc**	**21 52 19.2**	**0.0**
	comp=Z,1.3nm,0.7s,baz=248,slow=9.4,SNR=3.3						
LPAZ	**La Paz**	**150.13**	**81**	PKPbc	**PKPbc**	**21 52 27.9**	**+0.4**
LPAZ	**La Paz**	**150.13**	**81**	PKPbc	**PKPbc**	**21 52 27.9**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=230,slow=2.7,SNR=4.8						

IDC 02 21:57:45.1±10.0, 23.92S×179.14E, h610km±113km, mb3.0/5,mb1 3.2/5,mb1mx2.9/19,mbtmp3.0/5,Error ellipse: s-maj=165.4km s-min=51.1km az=161.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**30.69**	**271**	P	P	22 03 13.3	+0.8
	1.8nm,0.3s,baz=100,slow=12,SNR=3.7						
ASAR	**Alice Springs**	**41.26**	**261**	P	P	22 04 38.3	-0.9
	0.3nm,0.3s,baz=94,slow=7.4,SNR=11						
WRA	**Warramunga Arr**	**41.62**	**266**	P	P	22 04 41.7	-0.3
	0.8nm,0.3s,baz=102,slow=8.2,SNR=16						
FITZ	**Fitzroy Crossi**	**50.05**	**266**	P	P	22 05 46.0	+0.3
	1.0nm,0.6s,baz=110,slow=14,SNR=2.7						
TXAR	**Lajitas Array**	**91.11**	**58**	P	P	22 09 46.1	-0.3
	0.4nm,0.6s,baz=202,slow=6.2,SNR=4.6						
NOA	**NORSAR Array B**	**141.97**	**350**	PKP	PKPdf	22 16 07.6	-0.7
	0.7nm,0.7s,baz=14,slow=2.4,SNR=4.6						
HFS	**Hagfors**	**142.41**	**348**	PKP	PKPdf	22 16 08.9	-0.1
	1.6nm,0.4s,baz=46,slow=4.2,SNR=20						

DDA ***02*** *22:07:23.9,35˚.74N×36˚.37E,h28km,ML3.8*

ISK ***02*** *22:07:23.7,35˚.67N×36˚.13E,h10km,MD3.4*

CSEM ***02*** *22:07:24.0±0.2,35˚.69N×36˚.11E,h2km,MD3.4,Error ellipse: s-maj=5.9km s-min=3.6km az=109.0*

ISC 02 22:07:23.9±1.4, 35.67N±0˚.03×36.32E±0˚.04, h21km±4km, n45, σ1s21/55, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAYL	**Yayladag**	**0.40**	**335**	*i* P	**Pb**	**22 07 32.1**	**-0.1**
YAYL				*i* S	**Sb**	**22 07 38.5**	**+0.6**
HTY	**Hatay**	**0.47**	**342**	PG	**Pb**	**22 07 33.0**	**-0.4**
HTY				*e*SG	**Sb**	**22 07 39.9**	**0.0**
HTY	**Hatay**	**0.47**	**342**	*i* Pg	**Pb**	**22 07 33.0**	**-0.4**
HTY				*e*Sg	**Sb**	**22 07 39.9**	**0.0**
COBT	**Iskenderun**	**0.85**	**357**	*i* P	**Pb**	**22 07 39.1**	**-0.9**
COBT				*i* S	**Sb**	**22 07 50.4**	**-0.6**
COBT	**Iskenderun**	**0.85**	**357**	*i* P	**Pb**	**22 07 40.0**	**0.0**
COBT				*i* S	**Sb**	**22 07 51.3**	**+0.2**
COBT	**Iskenderun**	**0.85**	**357**	*i* P	**Pb**	**22 07 39.1**	**-0.9**
COBT				*i* S	**Sb**	**22 07 50.4**	**-0.6**
KRTS	**Karatas**	**1.18**	**320**	*e*PN	**Pb**	**22 07 45.1**	**-0.4**
KRTS	**Karatas**	**1.18**	**320**	*e*Pn	**Pb**	**22 07 45.1**	**-0.4**
KUZU	**Kuzuini**	**1.26**	**29**	*i* P	**Pn**	**22 07 45.8**	**-0.5**
KUZU				*i* S	**Sn**	**22 08 01.5**	**-1.2**
YURE	**YUREGIR**	**1.28**	**335**	*i* P	**Pb**	**22 07 47.7**	**+0.5**
YURE				*i* S	**Sb**	**22 08 05.9**	**+2.7**
CEYT	**Ceyhan**	**1.41**	**341**	*e*PN	**Pb**	**22 07 49.5**	**0.0**
CEYT	**Ceyhan**	**1.41**	**341**	*e*Pn	**Pb**	**22 07 49.5**	**0.0**
HWQ	**Hawqa**	**1.42**	**192**	*e*P	**Pb**	**22 07 50.2**	**+0.4**
HWQ	**Hawqa**	**1.42**	**192**	*e*P	**Pb**	**22 07 50.2**	**+0.4**
AYKD	**Aykdinkavak**	**1.78**	**13**	*e*P	**Pb**	**22 07 57.6**	**+1.7**
AYKD				*i* S	**Sn**	**22 08 15.0**	**-0.5**
BHL	**Bhannes**	**1.85**	**197**	*e*P	**Pb**	**22 07 56.9**	**-0.1**
BHL	**Bhannes**	**1.85**	**197**	*e*P	**Pb**	**22 07 56.9**	**-0.1**
KOZT	**Kozan**	**1.85**	**348**	*e*PN	**Pb**	**22 07 56.1**	**-0.8**
KOZT	**Kozan**	**1.85**	**348**	*e*Pn	**Pb**	**22 07 56.1**	**-0.8**
KARA	**Karaisali**	**1.88**	**328**	*e*PN	**Pn**	**22 07 55.7**	**+0.9**
KARA	**Karaisali**	**1.88**	**328**	*e*Pn	**Pn**	**22 07 55.7**	**+0.9**
KMRS	**Kahramanmaras**	**1.89**	**14**	*e*PN	**Pb**	**22 07 57.6**	**-0.1**
KMRS	**Kahramanmaras**	**1.89**	**14**	*e*Pn	**Pb**	**22 07 57.6**	**-0.1**
KIZK	**Mersin**	**1.94**	**295**	*i* P	**Pb**	**22 07 57.3**	**-1.1**
KIZK				*i* S	**Sb**	**22 08 22.8**	**+0.8**
GZT	**Gaziantep**	**1.96**	**31**	*i* P	**Pb**	**22 07 59.9**	**+1.0**
GZT				*i* S	**Sb**	**22 08 24.0**	**+1.0**
GULE	**Gulek**	**2.03**	**323**	*i* P	**Pb**	**22 07 59.7**	**-0.4**
GULE				*i* S	**Sb**	**22 08 26.6**	**+1.5**
IKL	**Isikli**	**2.21**	**286**	*e*PN	**Pn**	**22 07 59.4**	**+0.1**
IKL	**Isikli**	**2.21**	**286**	*e*Pn	**Pn**	**22 07 59.4**	**+0.1**
CSS	**Prodhromos**	**2.54**	**255**	*e*PN	**Pn**	**22 08 04.3**	**+0.4**
CSS	**Prodhromos**	**2.54**	**255**	*e*Pn	**Pn**	**22 08 04.3**	**+0.4**
URFA	**Urfa**	**2.68**	**48**	*e*PN	**Pb**	**22 08 09.8**	**-1.4**
URFA	**Urfa**	**2.68**	**48**	*e*Pn	**Pb**	**22 08 09.8**	**-1.4**
SARI	**SarD1z-Kayseri**	**2.73**	**2**	*e*Pn	**Pn**	**22 08 08.8**	**+2.2**
NIG	**Nigde**	**2.79**	**331**	*e*PN	**Pn**	**22 08 08.7**	**+1.2**
NIG	**Nigde**	**2.79**	**331**	*e*Pn	**Pn**	**22 08 08.7**	**+1.2**
ERMK	**Ermenek**	**2.92**	**290**	*i* P	**Pb**	**22 08 12.8**	**-2.5**
ERMK				*i* S	**Sb**	**22 08 49.1**	**-1.5**
DARE	**Darende-Malaty**	**3.04**	**18**	*e*PN	Pb	22 08 13.8	-3.5
MALT	**Malatya**	**3.13**	**32**	*e*PN	**Pb**	**22 08 16.0**	**-2.9**
MALT	**Malatya**	**3.13**	**32**	*e*Pn	**Pb**	**22 08 16.0**	**-2.9**
BNN	**Bunyan**	**3.20**	**353**	*e*PN	**Pn**	**22 08 15.3**	**+2.4**
BNN	**Bunyan**	**3.20**	**353**	*e*Pn	**Pn**	**22 08 15.4**	**+2.4**
HDMB	**Hadim**	**3.35**	**294**	*e*PN	**Pn**	**22 08 15.8**	**+0.6**
HDMB	**Hadim**	**3.35**	**294**	*e*Pn	**Pn**	**22 08 15.8**	**+0.6**
SVRC	**Sivrice-ELAZID**	**3.61**	**41**	*e*PN	Pb	22 08 22.8	-4.2
SVRC	**Sivrice-ELAZID**	**3.61**	**41**	*e*Pn	Pb	22 08 22.8	-4.2

ROM 02 22:07:57.5±0.1, 42.57N×13.22E, h12km±1km, Md1.8/4, Ml1.3/1,1C,Error ellipse: s-maj=1.3km s-min=0.8km az=2.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.14**	**285**	*i* Pg	Pg	22 08 01.4	+0.4
LNSS				Sg	Sg	22 08 03.9	+0.5
	67nm,0.2s						
NRCA	**Norcia**	**0.28**	**344**	Pg	Pg	22 08 03.8	+0.4
NRCA				Sg	Sg	22 08 08.1	+0.8
	3.0nm,0.2s						
TERO	**Teramo**	**0.29**	**79**	Pg	Pg	22 08 03.9	+0.4
TERO				Sg	Sg	22 08 08.5	+0.9

ISK ***02*** *22:14:02.9,39˚.02N×41˚.88E,h5km,MD3.8*

CSEM ***02*** *22:14:04.9±0.1,39˚.02N×41˚.87E,h2km,MD3.4,Error

CORM	**Corum**	**5.71**	**284**	*e*PN	**Pn**	**22 15 32.0**	**+1.1**
CORM	**Corum**	**5.71**	**284**	*e*Pn	**Pn**	**22 15 32.0**	**+1.1**

ISCJB ***02*** *22:15:28.3±0.5, 41°.85S±0°.08×42°.4E±0°.1, h10km, mb3.9/14, MS4.4/20, Error ellipse: s-maj=14.2km s-min=8.2km az=137.3*

IDC ***02*** *22:15:28.6±0.6, 41°.83S×42°.48E, h0km, mb3.8/12, mb1 4.0/14, mb1mx3.9/26, mbtmp3.9/14, ML4.3/2, MS4.3/22, Ms1 4.3/22, ms1mx4.2/34, Error ellipse: s-maj=22.8km s-min=15.4km az=61.0*

NEIC ***02*** *22:15:29.9±0.4, 41°.78S×42°.46E, h10km, mb4.3/4, Error ellipse: s-maj=13.5km s-min=9.1km az=54.0*

GCMT ***02*** *22:15:34.4±0.1, 41°.71S×42°.68E, h25km, MW5.3, Moment Tensor Solution. s59,c95; s97,c168; Moment tensor: Scale 10¹⁷Nm; Mrr-0.14±.03; Mθθ 0.37±.03; Mϕϕ-0.24±.02; Mrθ 0.06±.05; Mϕθ 1.21±.02; Mϕr-0.35±.05; Best double couple: Mo1.30000×10¹⁷ NP1:ϕ₁=276.00000°, δ74.00000°, λ-6.00000°. NP2:ϕ₂=8.00000°, δ84.00000°, λ-164.00000°. Principal axes: T 1.3400, Plg7.0000°, Azm141.0000°; N -0.0700, Plg73.0000°, Azm29.0000°; P -1.2700, Plg16.0000°, Azm233.0000°; Data Used: IU II CN G IC.*

ISC 02 22:15:29.8±0.5, 41°.83S±0°.09×42°.4E±0°.1, h10km, n70, σ1§10/49, mb3.9/13, MS4.4/20, 1C, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUFB	**Buffelsbos**	**15.88**	**293**	*e*P	**Pn**	**22 19 11.0**	**-2.4**
BUFB				AMB	AMB	22 19 11.8	
	comp=Z,36nm,4.0s						
POGA	**Pongola**	**16.92**	**325**	*e*P	**Pn**	**22 19 25.2**	**-1.5**
POGA				AMB	AMB	22 19 28.1	
	comp=Z,62nm,3.1s						
BOSA	**Boshof**	**19.20**	**308**	*e*P	**Pn**	**22 19 56.0**	**+1.2**
BOSA				AMB	AMB	22 19 58.9	
	comp=Z,39nm,5.3s						
BOSA	**Boshof**	**19.20**	**308**	*e*P	**P**	**22 19 52.9**	**-1.0**
	comp=Z,11nm,1.0s						
BOSA	**Boshof**	**19.20**	**308**	P	**Pn**	**22 19 55.9**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=145,slow=14,SNR=11						
BOSA				LR	LR	22 25 48.9	
	comp=Z,1μm,18.9s,baz=139,slow=32						
ERPM	**east rand prop**	**19.36**	**318**	*e*P	**Pn**	**22 19 59.3**	**+2.5**
ERPM				AMB	AMB	22 20 01.4	
	comp=Z,30nm,8.3s						
SUR	**Sutherland**	**19.60**	**292**	*e*P	**Pn**	**22 20 00.6**	**+0.9**
SUR	**Sutherland**	**19.60**	**292**	P	**Pn**	**22 20 00.8**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=125,slow=9.1,SNR=12						
SUR				LR	LR	22 25 35.3	
	comp=Z,1μm,21.5s,baz=309,slow=31						
KLOF	**Kloof**	**19.67**	**317**	*e*P	**P**	**22 19 59.5**	**+0.4**
KLOF				AMB	AMB	22 20 02.6	
	comp=Z,35nm,3.0s						
SLR	**Silverton**	**19.85**	**320**	*e*P	**Pn**	**22 20 02.4**	**-0.1**
SLR				AMB	AMB	22 20 04.4	
	comp=Z,30nm,2.4s						
SWZ	**Schweizer**	**20.23**	**311**	*e*P	Pn	22 20 07.5	+0.3
SWZ				AMB	AMB	22 20 14.7	
	comp=Z,34nm,3.9s						
CVNA	**Calvinia**	**20.85**	**292**	*e*P	**P**	**22 20 12.4**	**+0.6**
CVNA				AMB	AMB	22 20 13.9	
	comp=Z,56nm,3.9s						
LBTB	**Lobatse**	**21.80**	**315**	*e*P	**P**	**22 20 20.6**	**-1.5**
LBTB				AMB	AMB	22 20 22.5	
	comp=Z,21nm,2.1s						
LBTB	**Lobatse**	**21.80**	**315**	*e*P	**P**	**22 20 22.1**	**0.0**
	comp=Z,8.5nm,0.6s						
LBTB	**Lobatse**	**21.80**	**315**	P	**P**	**22 20 22.4**	**+0.4**
	comp=Z,6.7nm,1.0s,baz=163,slow=14,SNR=5.5						
LBTB				LR	LR	22 27 29.8	
	comp=Z,705nm,19.7s,baz=146,slow=33						
ABPO	**Ambohimpanom**	**23.10**	**12**	P	**P**	**22 20 34.6**	**-1.4**
OPO	**Ambohidratompo**	**23.54**	**11**	LR	LR	22 28 41.0	
	comp=Z,3μm,19.0s,baz=179,slow=34						
SYO	**Syowa Base**	**27.29**	**182**	*e*P	**P**	**22 21 11.8**	**-2.2**
MAW	**Mawson**	**28.11**	**163**	LR	LR	22 29 41.5	
	comp=Z,457nm,19.1s,baz=331,slow=30						
LSZ	**Lusaka**	**29.17**	**331**	*e*P	**P**	**22 21 30.8**	**-0.7**
LSZ	**Lusaka**	**29.17**	**331**	P	**P**	**22 21 31.3**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=159,slow=11,SNR=3.7						
TSUM	**Tsumeb**	**30.88**	**309**	*e*P	**P**	**22 21 46.8**	**+0.2**
TSUM	**Tsumeb**	**30.88**	**309**	*e*P	**P**	**22 21 46.6**	**0.0**
	comp=Z,3.7nm,0.7s						
SNAA	**Sanae**	**37.18**	**202**	*e*P	**P**	**22 22 42.8**	**+2.2**
SNAA	**Sanae**	**37.18**	**202**	*e*P	**P**	**22 22 41.7**	**+1.1**
SNAA	**Sanae**	**37.18**	**202**	*e*P	**P**	**22 22 41.9**	**+1.3**
	comp=Z,13nm,1.2s						
SNAA	**Sanae**	**37.18**	**202**	P	**P**	**22 22 41.6**	**+0.9**
	comp=Z,2.2nm,0.9s,baz=72,slow=6.2,SNR=22						
VNA1	**Neumayer--Stat**	**38.35**	**205**	*e*P	P	22 22 58.2	+7.8
KMBO	**Kilima Mbogo**	**40.78**	**352**	LR	LR	22 38 37.2	
	comp=Z,580nm,18.0s,baz=118,slow=34						
QSPA	**South Pole Qui**	**48.38**	**180**	P	**P**	**22 24 11.2**	**-0.4**
QSPA	**South Pole Qui**	**48.38**	**180**	P	**P**	**22 24 11.2**	**-0.4**
	comp=Z,24nm,1.2s,baz=258,slow=4.5,SNR=20						
VNDA	**Vanda**	**55.35**	**167**	P	**P**	**22 25 02.9**	**-0.3**
VNDA	**Vanda**	**55.35**	**167**	P	**P**	**22 25 02.9**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=252,slow=7,SNR=7.1						
VNDA				LR	LR	22 45 56.5	
	comp=Z,282nm,18.3s,baz=229,slow=33						
NWAO	**Narrogin (SRO)**	**58.40**	**108**	LR	LR	22 44 14.8	
	comp=Z,294nm,20.9s,baz=244,slow=30						
PMSA	**Palmer Station**	**59.37**	**209**	LR	LR	22 47 07.1	
	comp=Z,188nm,18.6s,baz=156,slow=32						
DBIC	**Dimbokro**	**64.72**	**306**	LR	LR	22 49 58.5	
	comp=Z,307nm,21.5s,baz=300,slow=32						
TORD	**Torodi Ar. Bea**	**66.32**	**316**	P	**P**	**22 26 18.9**	**+0.3**
TORD	**Torodi Ar. Bea**	**66.32**	**316**	P	**P**	**22 26 18.9**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=131,slow=5.6,SNR=7.1						
STKA	**Stephens Creek**	**75.66**	**120**	LR	LR	22 52 57.7	
	comp=Z,558nm,20.7s,baz=217,slow=30						
ASAR	**Alice Springs**	**75.68**	**109**	P	**P**	**22 27 17.4**	**+1.9**
ASAR	**Alice Springs**	**75.68**	**109**	P	**P**	**22 27 17.4**	**+1.9**
	comp=Z,0.4nm,0.8s,baz=226,slow=5.9,SNR=2.8						
ASAR				LR	LR	22 54 51.1	
	comp=Z,386nm,20.3s,baz=231,slow=31						
KAPI	**Kappang**	**77.24**	**85**	LR	LR	22 58 41.9	
	comp=Z,191nm,18.6s,baz=64,slow=34						
PLCA	**Paso Flores**	**77.86**	**226**	LR	LR	22 57 54.5	
	comp=Z,76nm,19.1s,baz=136,slow=33						
BBTS	**Babate**	**78.11**	**302**	LR	LR	23 00 37.7	
	comp=Z,277nm,19.6s,baz=152,slow=35						
WRA	**Warramunga Arr**	**78.36**	**106**	P	**P**	**22 27 31.4**	**+0.8**
WRA	**Warramunga Arr**	**78.36**	**106**	P	**P**	**22 27 31.4**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=222,slow=4.5,SNR=2.4						
WRAB	**Tennant Creek**	**78.38**	**106**	*e*P	**P**	**22 27 30.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**79.50**	**54**	P	**P**	**22 27 36.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**79.50**	**54**	P	**P**	**22 27 36.0**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=236,slow=5.3,SNR=3.3						
CMAR				LR	LR	22 59 13.6	
	comp=Z,112nm,18.8s,baz=235,slow=33						
CPUP	**Villa Florida**	**79.66**	**244**	LR	LR	22 55 01.4	
	comp=Z,115nm,20.1s,baz=272,slow=30						
BDFB	**Brasilia**	**80.06**	**258**	LR	LR	22 55 23.1	
	comp=Z,249nm,21.1s,baz=269,slow=30						
BRTR	**Keskin Array B**	**81.56**	**353**	P	**P**	**22 27 48.9**	**+1.5**
BRTR	**Keskin Array B**	**81.56**	**353**	P	**P**	**22 27 48.9**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=160,slow=8.9,SNR=3.0						
KEST	**Kesra**	**82.92**	**333**	*e*P	**P**	**22 27 54.4**	**-0.1**
KEST	**Kesra**	**82.92**	**333**	P	**P**	**22 27 54.8**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=53,slow=18,SNR=4.2						
CFAA	**Coronel Fontan**	**83.02**	**234**	LR	LR	23 00 07.1	
	comp=Z,20nm,20.3s,baz=125,slow=32						
LVC	**Limon Verde**	**89.84**	**239**	LR	LR	23 01 22.9	
	comp=Z,156nm,20.6s,baz=270,slow=31						
BUR08	**Bucovina Ar. S**	**90.39**	**348**	*e*P	**P**	**22 28 30.5**	**-0.3**
ESDC	**Sonseca Array**	**91.41**	**326**	LR	LR	23 10 22.2	
	comp=Z,147nm,18.2s,baz=131,slow=36						
LPAZ	**La Paz**	**93.83**	**244**	LR	LR	23 06 07.1	
	comp=Z,158nm,18.8s,baz=119,slow=32						
MKAR	**Makanchi Array**	**95.09**	**26**	P	**P**	**22 28 52.2**	**-0.2**
MKAR	**Makanchi Array**	**95.09**	**26**	P	**P**	**22 28 52.2**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=211,slow=1.7,SNR=5.3						
BVAR	**Borovoye Array**	**97.51**	**17**	P	Pdif	22 29 03.7	+0.3
BVAR	**Borovoye Array**	**97.51**	**17**	P	Pdif	22 29 03.7	+0.3
	comp=Z,0.2nm,0.5s,baz=204,slow=3.2,SNR=2.7						
TBI	**Tubuai**	**114.23**	**168**	*e*LR	LR	23 08 25.2	
	comp=Z,230nm,39.5s						
JFWS	**Jewell Farm**	**145.37**	**288**	*e*PKPdf	**PKPbc**	**22 35 07.0**	**-0.4**
TXAR	**Lajitas Array**	**149.93**	**256**	PKPbc	**PKPbc**	**22 35 19.4**	**-1.0**
TXAR	**Lajitas Array**	**149.93**	**256**	PKPbc	**PKPbc**	**22 35 19.4**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=134,slow=5.4,SNR=8.6						

ECSD	**EROS Data Cent**	**150.08**	**288**	*e*PKPdf	**PKPdf**	**22 35 15.8**	**+0.5**
MSO	**Missoula**	**162.39**	**294**	*e*PKPdf	**PKPdf**	**22 35 30.9**	**-0.4**

DJA ***02*** *22:36:33.8±1.1, 33°.N±12°×2°.4E±1°.5, h10km, M4.7/10, mB5.1/3, mb4.7/10, Mw(mB)4.5/3*

ISCJB ***02*** *22:36:40.3±0.5, 33°.98N±0°.01×25°.57E±0°.01, h3km±3km, mb4.6/123, MS4.1/13, Error ellipse: s-maj=2.6km s-min=1.7km az=27.6*

ATH ***02*** *22:36:40.3, 33°.90N×25°.48E, h10km±1km, MD4.2/48, ML4.2*

IDC ***02*** *22:36:42.0±0.5, 34°.17N×25°.58E, h0km, mb4.5/29, mb1 4.6/39, mb1mx4.5/44, mbtmp4.5/39, ML4.1/8, MS4.2/8, Ms1 4.2/8, ms1mx3.6/39, Error ellipse: s-maj=11.9km s-min=10.2km az=148.0*

BJI ***02*** *22:36:41.1, 33°.90N×25°.24E, h25km, mB4.9/10, mb4.7/24, Ms4.6/7, Ms7 4.5/4*

HLW ***02*** *22:36:42.2, 34°.31N×25°.59E, h32km±27km, Md4.1, Ml4.2*

TEH ***02*** *22:36:42.6, 33°.92N×25°.58E, h10km, ML4.6*

NEIC ***02*** *22:36:43.1±1.4, 34°.09N×25°.61E, h7km±9km, mb4.6/39, ML4.2(ATH), ML4.3(ISK), Error ellipse: s-maj=5.9km s-min=3.6km az=189.0*

SZGRF ***02*** *22:36:43.3, 34°.03N×26°.29E, h33km, mb4.4, Crete, Greece*

BKK ***02*** *22:36:43.6±1.7, 34°.N±19°×2°.5E±2°.6, h10km, M4.8/15, mB5.3/3, mb4.8/15, Mw(mB)4.7/3*

CSEM ***02*** *22:36:44.6±0.1, 34°.01N×25°.58E, h20km, mb4.7/56, Ms3.8, Mw3.8, Error ellipse: s-maj=3.7km s-min=2.3km az=23.0*

MOS ***02*** *22:36:45.0±1.1, 34°.21N×25°.53E, h29km, mb4.8/59, Error ellipse: s-maj=5.5km s-min=2.8km az=99.0*

NIC ***02*** *22:36:47.7±0.2, 33°.51N×26°.05E, h51km, mb4.5, ML4.0, MW3.8*

DDA ***02*** *22:37:05.9, 35°.57N×26°.98E, h15km, ML4.1*

ISC 02 22:36:44.1±0.5, 34°.04N±0°.03×25°.58E±0°.03, h16km±2km, n946, σ1§39/1013, mb4.6/123, MS4.1/13, 40C-21D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**1.13**	**356**	*e*PN	**Pb**	**22 37 03.5**	**-1.8**
LAST				*e*SB	**Sg**	**22 37 22.0**	**+1.4**
LAST	**Lasithi**	**1.13**	**356**	*e*Pn	**Pb**	**22 37 03.5**	**-1.8**
LAST				*e*Sb	**Sg**	**22 37 22.0**	**+1.4**
SIVA	**Sivas**	**1.17**	**327**	*e*PG	**Pn**	**22 37 03.4**	**-2.4**
SIVA				*e*SB	**Sn**	**22 37 21.0**	**-0.4**
SIVA	**Sivas**	**1.17**	**327**	*e*Pg	**Pn**	**22 37 03.4**	**-2.4**
SIVA				*e*Sb	**Sn**	**22 37 21.0**	**-0.4**
ZKR	**Zakros**	**1.20**	**26**	*e*PB	**Pn**	**22 37 05.8**	**-0.4**
ZKR				*e*SB	**Sg**	**22 37 24.3**	**+1.4**
ZKR	**Zakros**	**1.20**	**26**	*e*Pb	**Pn**	**22 37 05.8**	**-0.4**
ZKR				*e*Sb	**Sg**	**22 37 24.3**	**+1.4**
ZKR	**Zakros**	**1.20**	**26**	*e*Pb	**Pn**	**22 37 05.8**	**-0.4**
ZKR				*e*Sb	**Sg**	**22 37 24.3**	**+1.4**
NPS	**Neapolis**	**1.23**	**1**	*e*PB	**Pn**	**22 37 05.5**	**-1.1**
NPS				*e*SB	**Sg**	**22 37 24.5**	**+0.8**
NPS	**Neapolis**	**1.23**	**1**	*e*Pb	**Pn**	**22 37 05.5**	**-1.1**
NPS				*e*Sb	**Sg**	**22 37 24.5**	**+0.8**
IDI	**Anoyia**	**1.37**	**336**	*e*PG	**Pn**	**22 37 07.4**	**-1.3**
IDI				*e*SB	**Sb**	**22 37 27.6**	**+0.8**
IDI	**Anoyia**	**1.37**	**336**	*e*Pn	**Pn**	**22 37 07.1**	**-1.6**
IDI	**Anoyia**	**1.37**	**336**	*e*Pn	**Pn**	**22 37 07.1**	**-1.6**
IDI	**Anoyia**	**1.37**	**336**	*e*Pg	**Pn**	**22 37 07.4**	**-1.3**
IDI				*e*Sb	**Sb**	**22 37 27.6**	**+0.8**
GVD	**Gavdhos**	**1.47**	**303**	*e*PB	**Pn**	**22 37 09.3**	**-0.7**
GVD				*e*SB	**Sn**	**22 37 28.5**	**-0.4**
GVD	**Gavdhos**	**1.47**	**303**	*e*Pn	**Pn**	**22 37 09.5**	**-0.4**
GVD	**Gavdhos**	**1.47**	**303**	*e*Pn	**Pn**	**22 37 09.5**	**-0.4**
GVD				*e*Sb	**Sn**	**22 37 28.5**	**-0.4**
VAM	**Vamos**	**1.78**	**321**	*e*PN	**Pn**	**22 37 14.3**	**+0.1**
VAM				*e*SN	**Sb**	**22 37 39.4**	**+1.0**
VAM	**Vamos**	**1.78**	**321**	*e*Pn	**Pn**	**22 37 14.3**	**+0.1**
VAM				*e*Sn	**Sb**	**22 37 39.4**	**+1.0**
KARP	**Karpathos**	**1.99**	**40**	*e*PG	**Pb**	**22 37 19.7**	**-0.3**
KARP				*e*SN	**Sb**	**22 37 46.5**	**+1.9**
KARP	**Karpathos**	**1.99**	**40**	*e*Pg	**Pb**	**22 37 19.7**	**-0.3**
KARP				*e*Sn	**Sb**	**22 37 46.5**	**+1.9**
SANT	**Santorini**	**2.33**	**358**	*e*PN	**Pn**	**22 37 23.5**	**+1.6**
SANT				*e*SN	**Sb**	**22 37 54.7**	**+0.3**
SANT	**Santorini**	**2.33**	**358**	*e*Pn	**Pn**	**22 37 22.4**	**+0.6**
SANT	**Santorini**	**2.33**	**358**	*e*Pn	**Pn**	**22 37 23.5**	**+1.6**
LTBQ	**Tobrug**	**2.42**	**216**	*i* P	**Pn**	**22 37 24.0**	**+1.0**
	SNR=42						
SLUM		**2.56**	**187**	P	**Pn**	**22 37 24.9**	**0.0**
NIS1	**Nisyros Isl.**	**2.88**	**27**	*e*PN	**Pn**	**22 37 30.8**	**+1.5**
NIS1	**Nisyros Isl.**	**2.88**	**27**	*e*Pn	**Pn**	**22 37 30.8**	**+1.5**
ARG	**Arkhangelos**	**3.02**	**43**	*e*PB	**Pn**	**22 37 33.4**	**+2.2**
ARG				*e*SN	**Sb**	**22 38 10.7**	**-3.3**
ARG	**Arkhangelos**	**3.02**	**43**	*e*Pb	**Pn**	**22 37 33.4**	**+2.2**
ARG				*e*Sn	**Sb**	**22 38 10.7**	**-3.3**
MATC	**Matruh**	**3.02**	**152**	P	**Pn**	**22 37 31.1**	**-0.1**
	baz=154						
APE	**Apeiranthos**	**3.03**	**359**	*e*PN	**Pn**	**22 37 31.5**	**+0.1**
APE				*e*SN	**Sn**	**22 38 09.7**	**+2.3**
APE	**Apeiranthos**	**3.03**	**359**	*e*Pn	**Pn**	**22 37 32.0**	**+0.6**
APE				*e*SN	**Sn**	**22 38 10.9**	**+3.5**
APE	**Apeiranthos**	**3.03**	**359**	*e*Pn	**Pn**	**22 37 32.0**	**+0.6**
APE				*e*Sn	**Sn**	**22 38 10.9**	**+3.5**
KYTH	**Kithira**	**3.06**	**318**	*e*PB	**Pn**	**22 37 33.2**	**+1.4**
KYTH	**Kithira**	**3.06**	**318**	*e*Pb	**Pn**	**22 37 33.2**	**+1.4**
DAT	**Datca**	**3.15**	**31**	*e*PN	**Pn**	**22 37 33.2**	**+0.1**
DAT				*e*SN	**Sn**	**22 38 12.9**	**+2.5**
HMAT	**Matruh**	**3.20**	**156**	P	**Pn**	**22 37 33.7**	**-0.1**
	baz=158						
HMAT				AMP		22 38 00.0	
	comp=N,750μm,0.5s,logA/T=6.2,baz=158						
HMAT	**Matruh**	**3.20**	**156**	P	**Pn**	**22 37 31.2**	**-2.6**
BODT	**Bodrum**	**3.33**	**25**	*e*PN	**Pn**	**22 37 35.9**	**+0.2**
VLI	**Veliai**	**3.44**	**322**	*e*PN	**Pn**	**22 37 37.1**	**+0.1**
VLI				*e*SN	**Sn**	**22 38 18.1**	**+0.7**
VLI	**Veliai**	**3.44**	**322**	*e*Pn	**Pn**	**22 37 37.1**	**+0.1**
VLI				*e*Sn	**Sn**	**22 38 18.1**	**+0.7**
MLSB	**Milas**	**3.71**	**28**	*e*PN	**Pn**	**22 37 41.0**	**+0.1**
DALY	**Dalyan (Mu˘la**	**3.74**	**41**	*e*PN	**Pn**	**22 37 41.5**	**+0.3**
DYR	**Agios Nikonas**	**3.80**	**317**	*e*PB	**Pn**	**22 37 44.0**	**+2.0**
DYR	**Agios Nikonas**	**3.80**	**317**	*e*Pb	**Pn**	**22 37 44.0**	**+2.0**
YER	**Yerkesik**	**3.80**	**35**	*e*PN	**Pn**	**22 37 42.5**	**+0.4**
SMG	**Samos**	**3.81**	**15**	*e*PN	**Pn**	**22 37 43.2**	**+1.1**
SMG	**Samos**	**3.81**	**15**	*e*Pn	**Pn**	**22 37 43.2**	**+1.1**
FETY	**Fethiye**	**3.87**	**47**	*e*PN	**Pn**	**22 37 43.0**	**+0.1**
KSL	**Kastellorizon**	**3.90**	**56**	*e*PN	**Pn**	**22 37 44.6**	**+1.2**
DID	**Didima**	**3.95**	**332**	*e*PN	**Pn**	**22 37 43.9**	**-0.2**
DID				*e*SN	**Sn**	**22 38 31.6**	**+1.4**
DID	**Didima**	**3.95**	**332**	*e*Pn	**Pn**	**22 37 43.9**	**-0.2**
DID				*e*Sn	**Sn**	**22 38 31.6**	**+1.4**
AKAS	**Kas**	**3.96**	**55**	*i* P	**Pn**	**22 37 45.2**	**+0.8**
AKAS	**Kas**	**3.96**	**55**	*i* P	**Pn**	**22 37 45.2**	**+0.8**
AYDN	**Tasoluk**	**4.07**	**27**	*i* P	**Pn**	**22 37 47.6**	**+1.8**
AYDN	**Tasoluk**	**4.07**	**27**	*i* P	**Pn**	**22 37 47.6**	**+1.8**
NAIG	**Nisos Aigina**	**4.08**	**336**	*e*PN	**Pn**	**22 37 47.6**	**+1.7**
NAIG	**Nisos Aigina**	**4.08**	**336**	*e*Pn	**Pn**	**22 37 47.6**	**+1.7**
ATH	**Athens Observa**	**4.21**	**340**	*e*PN	**Pn**	**22 37 49.3**	**+1.7**
ATH	**Athens Observa**	**4.21**	**340**	*e*Pn	**Pn**	**22 37 49.3**	**+1.7**
VLX	**Vlachokerasia**	**4.22**	**323**	*e*PN	**Pn**	**22 37 48.4**	**+0.5**
VLX				*e*SN	**Sn**	**22 38 38.5**	**+1.5**
VLX	**Vlachokerasia**	**4.22**	**323**	*e*Pn	**Pn**	**22 37 48.4**	**+0.5**
VLX				*e*Sn	**Sn**	**22 38 38.5**	**+1.5**
PYL	**PYLOS**	**4.24**	**313**	*e*PN	**Pn**	**22 37 49.2**	**+1.2**
PYL				*e*SN	**Sn**	**22 38 38.1**	**+1.0**
PYL	**PYLOS**	**4.24**	**313**	*e*Pn	**Pn**	**22 37 49.2**	**+1.2**
PYL				*e*Sn	**Sn**	**22 38 38.1**	**+1.0**
PTL	**Penteli**	**4.24**	**341**	*e*PN	**Pn**	**22 37 48.8**	**+0.7**
PTL	**Penteli**	**4.24**	**341**	*e*Pn	**Pn**	**22 37 48.8**	**+0.7**
ITM	**Ithomi**	**4.32**	**318**	*e*PN	**Pn**	**22 37 49.8**	**+0.6**
ITM	**Ithomi**	**4.32**	**318**	*e*Pn	**Pn**	**22 37 49.8**	**+0.6**
CHOS	**Chios island**	**4.36**	**5**	*e*PN	**Pn**	**22 37 50.8**	**+1.0**
CHOS	**Chios island**	**4.36**	**5**	*e*Pn	**Pn**	**22 37 50.8**	**+1.0**
ELL	**Elmali**	**4.45**	**51**	*e*PN	**Pn**	**22 37 50.9**	**-0.2**
BLCB	**Balcova**	**4.50**	**15**	*e*PN	**Pn**	**22 37 52.2**	**+0.6**
LTK	**Loutraki**	**4.51**	**333**	*e*PN	**Pn**	**22 37 52.4**	**+0.7**
LTK	**Loutraki**	**4.51**	**333**	*e*Pn	**Pn**	**22 37 52.4**	**+0.7**
GOLH	**Golhisar**	**4.55**	**44**	*i* P	**Pn**	**22 37 54.9**	**+2.5**
GOLH	**Golhisar**	**4.55**	**44**	*i* P	**Pn**	**22 37 54.9**	**+2.5**
IZM	**Izmir**	**4.56**	**17**	*e*PN	**Pn**	**22 37 53.3**	**+0.8**
DNZL	**Cakiroluk**	**4.61**	**37**	*i* P	Pn	22 37 57.1	+3.8
DNZL	**Cakiroluk**	**4.61**	**37**	*i* P	Pn	22 37 57.1	+3.8
DENT	**Denizli**	**4.65**	**36**	*e*PN	**Pn**	**22 37 54.6**	**+0.9**
GUR	**Goura**	**4.69**	**327**	*e*PN	**Pn**	**22 37 54.9**	**+0.5**
GUR				*e*SN	**Sn**	**22 38 50.5**	**+1.9**
GUR	**Goura**	**4.69**	**327**	*e*Pn	**Pn**	**22 37 54.9**	**+0.5**
AMT	**Artemida-Makis**	**4.70**	**319**	*e*PN	**Pn**	**22 37 55.7**	**+1.3**
AMT	**Artemida-Makis**	**4.70**	**319**	*e*Pn	**Pn**	**22 37 55.7**	**+1.3**
SWA2		**4.78**	**181**	P	**Pn**	**22 37 55.6**	**+0.1**
	baz=182						
SWA2				AMP		22 39 00.0	
	comp=N,620μm,0.6s,logA/T=6.0,baz=182						
SWA2		**4.78**	**181**	P	**Pn**	**22 37 55.6**	**+0.1**
KLV	**Kalavryta, Ach**	**4.87**	**326**	*e*PN	**Pn**	**22 37 57.2**	**+0.5**
KLV	**Kalavryta, Ach**	**4.87**	**326**	*e*Pn	**Pn**	**22 37 57.2**	**+0.5**
KORT	**Korkueli**	**4.89**	**51**	*i* P	**Pn**	**22 37 58.7**	**+1.6**
KORT	**Korkueli**	**4.89**	**51**	*i* P	**Pn**	**22 37 58.7**	**+1.6**
ANTB	**Antalya**	**5.03**	**54**	*e*PN	**Pn**	**22 37 59.5**	**+0.6**
LKR	**Lokris**	**5.05**	**336**	*e*PN	**Pn**	**22 37 59.6**	**+0.4**
LKR	**Lokris**	**5.05**	**336**	*e*Pn	**Pn**	**22 37 59.6**	**+0.4**
MANT	**Manisa**	**5.06**	**28**	*i* P	**Pn**	**22 37 59.9**	**+0.5**
MANT	**Manisa**	**5.06**	**28**	*i* P	**Pn**	**22 37 59.9**	**+0.5**
LAKA	**Lakka**	**5.11**	**326**	*e*PN	**Pn**	**22 38 00.5**	**+0.5**
LAKA	**Lakka**	**5.11**	**326**	*e*Pn	**Pn**	**22 38 00.5**	**+0.5**
KULA	**Kula-Manisa**	**5.12**	**28**	*e*PN	**Pn**	**22 38 00.6**	**+0.4**
AKHS	**Akhisar**	**5.16**	**20**	*i* P	**Pn**	**22 38 01.1**	**+0.4**
AKHS	**Akhisar**	**5.16**	**20**	*i* P	**Pn**	**22 38 01.1**	**+0.4**
KALE	**Kalithea**	**5.16**	**328**	*e*PN	**Pn**	**22 38 02.5**	**+1.8**
KALE	**Kalithea**	**5.16**	**328**	*e*Pn	**Pn**	**22 38 02.5**	**+1.8**
TRIZ	**Trizonia**	**5.17**	**328**	*e*PN	**Pn**	**22 38 02.8**	**+2.0**
TRIZ				*e*SN	**Sn**	**22 39 02.5**	**+2.5**
TRIZ	**Trizonia**	**5.17**	**328**	*e*Pn	**Pn**	**22 38 02.8**	**+2.0**
TRIZ				*e*Sn	**Sn**	**22 39 02.5**	**+2.5**
RLS	**Riolos of Patr**	**5.21**	**321**	*e*PN	**Pn**	**22 38 03.4**	**+2.0**
RLS	**Riolos of Patr**	**5.21**	**321**	*e*Pn	**Pn**	**22 38 03.4**	**+2.0**
PRK	**Paraskevi**	**5.23**	**6**	*e*PN	**Pn**	**22 38 02.9**	**+1.3**
PRK	**Paraskevi**	**5.23**	**6**	*e*Pn	**Pn**	**22 38 02.9**	**+1.3**
EFP	**Efpalio**	**5.29**	**327**	*e*PN	**Pn**	**22 38 04.1**	**+1.6**
EFP	**Efpalio**	**5.29**	**327**	*e*Pn	**Pn**	**22 38 04.1**	**+1.6**
AOS	**Alonnisos**	**5.30**	**346**	*e*PN	**Pn**	**22 38 03.5**	**+0.8**
AOS	**Alonnisos**	**5.30**	**346**	*e*Pn	**Pn**	**22 38 03.5**	**+0.8**
BCK	**Bucak**	**5.32**	**49**	*e*PN	**Pn**	**22 38 04.0**	**+1.1**
KHL	**Karahalli**	**5.34**	**36**	*e*PN	**Pn**	**22 38 04.5**	**+1.3**
**K

comp=N,7.9nm,0.3s,baz=270,slow=12,SNR=16
MMAI Sn **Sn** **22 40 14.9 -1.7**
comp=N,17nm,0.3s,baz=254,slow=24,SNR=9.6
MMAI Mount Meron Ar 8.27 94 Pn **Pn** **22 38 41.5 -1.9**
MMAI Sn **Sn** **22 40 14.9 -1.7**
KARA Karaisali 8.36 65 *e*PN **Pn** **22 38 44.0 -0.6**
NIG Nigde 8.37 58 *e*PN **Pn** **22 38 44.7 -0.2**
BHL Bhannes 8.37 88 *e*P **Pn** **22 38 46.1 +1.2**
KRTS Karatas 8.40 70 *e*PN **Pn** **22 38 44.3 -0.8**
KAMT Kaman 8.43 48 *e*PN **Pn** **22 38 45.7 +0.1**
GRB Gharib 8.43 131 P **Pn** **22 38 44.9 -0.8**
baz=132
SKO Skopje 8.57 339 *e*Pn Pn 22 38 40.6 -6.9
TIR Tirane 8.59 330 *e*P **Pn** **22 38 47.5 -0.2**
TIR *e* 22 40 19.8
TIR Tirane 8.59 330 *e*Pn **Pn** **22 38 47.5 -0.2**
TIR *e*Sn **Sn** **22 40 19.8 -4.5**
TIR Tirane 8.59 330 *e*Pn **Pn** **22 38 47.5 -0.2**
TIR *e*Sn **Sn** **22 40 19.8 -4.5**
BRTR Keskin Array B 8.60 46 Pn **Pn** **22 38 48.3 +0.3**
BRTR Sn **Sn** **22 40 23.9 -0.8**
BRTR Keskin Array B 8.60 46 Pn **Pn** **22 38 48.3 +0.3**
comp=N,1.3nm,0.3s,baz=226,slow=15,SNR=31
BRTR Sn **Sn** **22 40 23.9 -0.8**
comp=N,0.3nm,0.3s,baz=201,slow=20,SNR=3.5
BRTR Keskin Array B 8.60 46 Pn **Pn** **22 38 48.3 +0.3**
BRTR Sn **Sn** **22 40 23.9 -0.8**
BR131 Keskin Array S 8.60 46 *e*Pn **Pn** **22 38 48.9 +0.9**
comp=N,4.0nm,0.5s
BR131 *e*Sn **Sn** **22 40 25.3 +0.5**
BR131 Keskin Array S 8.60 46 *e*Pn **Pn** **22 38 48.9 +0.9**
comp=N,4.0nm,0.5s
BR131 *e*Sn **Sn** **22 40 25.3 +0.5**
HWQ Hawqa 8.60 85 *e*P **Pn** **22 38 47.1 -0.9**
VTS Vitosha 8.74 348 ⇓P **Pn** **22 38 50.5 +0.5**
VTS Vitosha 8.74 348 ⇓*i*P **Pn** **22 38 50.5 +0.5**
VTS Vitosha 8.74 348 ⇓*i*P **Pn** **22 38 50.5 +0.5**
TIP Timpagrande 8.75 308 *e*Pn **Pn** **22 38 48.8 -1.3**
TIP *e*Sn **Sn** **22 40 24.2 -4.2**
TIP Timpagrande 8.75 308 *e*Pn **Pn** **22 38 48.8 -1.3**
TIP *e*Sn **Sn** **22 40 24.2 -4.2**
CEYT Ceyhan 8.81 67 *e*PN **Pn** **22 38 49.9 -0.8**
CEL Celeste 8.89 301 *e*Pn **Pn** **22 38 50.5 -1.5**
CEL *e*Sn **Sn** **22 40 26.9 -5.0**
CEL Celeste 8.89 301 *e*Pn **Pn** **22 38 50.5 -1.5**
CEL *e*Sn **Sn** **22 40 26.9 -5.0**
HTY Hatay 8.90 74 *e*PN **Pn** **22 38 50.8 -1.3**
TR2 8.96 127 P **Pn** **22 38 52.3 -0.7**
baz=128
CDAG Cicekdag 8.99 49 *i* P **Pn** **22 38 54.7 +1.4**
KOZT Kozan 9.01 65 *e*PN **Pn** **22 38 52.8 -0.8**
HKAT Jabal Katrina 9.06 125 P **Pn** **22 38 53.8 -0.6**
baz=126
EIL Elat 9.08 116 Pn **Pn** **22 38 54.0 -0.5**
EIL Sn **Sn** **22 40 33.5 -3.0**
EIL Elat 9.08 116 Pn **Pn** **22 38 54.0 -0.5**
comp=N,3.3nm,0.3s,baz=313,slow=7.7,SNR=51
EIL Sn **Sn** **22 40 33.5 -3.0**
comp=N,3.5nm,0.3s,baz=14,slow=4.2,SNR=3.4
EIL Elat 9.08 116 Pn **Pn** **22 38 54.0 -0.5**
EIL Sn **Sn** **22 40 33.5 -3.0**
WDD Wield Dalam 9.26 285 *e*Pn **Pn** **22 38 55.9 -1.0**
WDD Wield Dalam 9.26 285 *e*Pn **Pn** **22 38 55.9 -1.0**
TR1 9.36 128 P **Pn** **22 38 58.2 -0.3**
baz=129
HDHB Dhahab 9.37 122 P **Pn** **22 38 58.2 -0.2**
baz=123
CORM Corum 9.48 47 *e*PN **Pn** **22 39 00.0 0.0**
BNN Bunyan 9.56 57 *e*PN **Pn** **22 39 00.3 -0.9**
HHRG Al Ghardaqah 9.67 133 P **Pn** **22 39 02.8 +0.2**
baz=133
ASF Jabal al Asfar 9.68 98 Pn **Pn** **22 39 00.2 -2.6**
ASF Jabal al Asfar 9.68 98 Pn **Pn** **22 39 00.2 -2.6**
CUC Castrocucco 9.81 310 *e*Pn **Pn** **22 39 04.2 -0.3**
CUC *e*Sn **Sn** **22 40 53.5 -0.9**
CUC Castrocucco 9.81 310 *e*Pn **Pn** **22 39 04.2 -0.3**
CUC *e*Sn **Sn** **22 40 53.5 -0.9**
TIRR Tirgusor 10.64 11 *e*P **Pn** **22 39 18.8 +3.0**
TIRR Tirgusor 10.64 11 *e*Pn **Pn** **22 39 18.8 +3.0**
TIRR Tirgusor 10.64 11 ⇑*i*P Pn 22 39 20.7 +4.9
TIRR Tirgusor 10.64 11 *e*Pn **Pn** **22 39 18.8 +3.0**
STON Ston 10.76 327 *e*Pn Pn 22 39 13.5 -4.0
STON Sn Sn 22 41 06.6 -11
ERBA Erbaa 11.09 50 *i* P Pn 22 39 25.4 +3.3
ISR Istrita 11.09 4 ⇑P **Pn** **22 39 24.3 +2.2**
ISR Istrita 11.09 4 ⇑*i*P **Pn** **22 39 24.3 +2.2**
ISR Istrita 11.09 4 ⇑*i*P **Pn** **22 39 24.3 +2.2**
MALT Malatya 11.23 64 *e*P **Pn** **22 39 23.2 -0.8**
MALT Malatya 11.23 64 *e*Pn **Pn** **22 39 23.2 -0.8**
MALT Malatya 11.23 64 ⇑*i*P Px 22 39 37.6
MALT Malatya 11.23 64 *e*Pn **Pn** **22 39 23.2 -0.8**
CFR Carcaliu 11.30 9 ⇑P Pn 22 39 31.1 +6.2
CFR Carcaliu 11.30 9 ⇑*i*P Pn 22 39 31.1 +6.2
ARR Arges 11.34 357 ⇑P Pn 22 39 28.7 +3.2
VOIR 11.39 358 ⇑P **Pn** **22 39 27.7 +1.5**
VOIR 11.39 358 ⇑*i*P **Pn** **22 39 27.7 +1.5**
VOIR 11.39 358 ⇑*i*P **Pn** **22 39 27.7 +1.5**
MLR Muntele Rosu 11.45 1 Pn **Pn** **22 39 27.0 +0.1**
MLR Muntele Rosu 11.45 1 ⇑*i*P **Pn** **22 39 29.8 +2.8**
MLR Muntele Rosu 11.45 1 Pn **Pn** **22 39 27.0 +0.1**
comp=N,0.1nm,0.3s,baz=232,slow=7.9,SNR=10
MLR Muntele Rosu 11.45 1 Pn **Pn** **22 39 27.0 +0.1**
MLR Muntele Rosu 11.45 1 ⇑*i*P **Pn** **22 39 29.8 +2.8**
LOT Lotru 11.48 354 ⇓*i*P **Pn** **22 39 29.0 +1.5**
GZR Gura Zlata 11.55 350 ⇑P **Pn** **22 39 29.6 +1.3**
GZR Gura Zlata 11.55 350 ⇑*i*P **Pn** **22 39 29.6 +1.3**
GZR Gura Zlata 11.55 350 ⇑*i*P **Pn** **22 39 29.6 +1.3**
PLOR Plostina 11.83 4 ⇑P Pn 22 39 36.4 +4.2
PLOR Plostina 11.83 4 ⇑*i*P Pn 22 39 36.4 +4.2
VRI Vrincioaia 11.85 4 ⇑P Pn 22 39 35.8 +3.4
VRI Vrincioaia 11.85 4 ⇑*i*P Pn 22 39 35.8 +3.4
VRI Vrincioaia 11.85 4 ⇑*i*P Pn 22 39 35.8 +3.4
BZS Buzias 11.96 346 ⇓P **Pn** **22 39 34.0 +0.1**
BZS Buzias 11.96 346 ⇓*i*P **Pn** **22 39 34.0 +0.1**
BZS Buzias 11.96 346 ⇓*i*P **Pn** **22 39 34.0 +0.1**
TESR Tescani 12.49 3 ⇑*i*P **Pn** **22 39 43.4 +2.3**
AQU L'Aquila 12.67 315 *e*Pn **Pn** **22 39 43.1 -0.5**
AQU *e*Sn **Sn** **22 42 01.7 -2.6**
AQU L'Aquila 12.67 315 *e*Pn **Pn** **22 39 43.1 -0.5**
AQU *e*Sn **Sn** **22 42 01.7 -2.6**
SIM Simferopol' 12.73 29 P Pn 22 39 48.0 +3.6
SIM S **Sn** **22 42 08.0 +2.3**
SIM pmax pmax
comp=Z,10.0nm,0.9s
SIM MLR MLR
comp=Z,450nm,14.7s
UDBI Udbina 12.93 327 *e*Pn **Pn** **22 39 44.9 -2.4**
UDBI Sn Sn 22 42 00.8 -10
KIS Kishinev 13.18 10 *e*P **Pn** **22 39 50.0 -0.5**
KIS *e*S **Sn** **22 42 20.0 +3.3**
KIS LRM MLR 22 45 40.0
comp=Z,600nm,11.0s
KIS Kishinev 13.18 10 *e*P **Pn** **22 39 50.0 -0.5**
KIS MLR MLR
comp=Z,1μm,12.0s
KIS MLR MLR
comp=N,600nm,11.0s
KIS MLR MLR
comp=E,500nm,10.0s
KIS MLR MLR
comp=Z,700nm,12.0s
KIS Kishinev 13.18 10 *e*P **Pn** **22 39 50.0 -0.5**
PKSM Moragy 13.26 339 ⇓P **Pn** **22 39 48.6 -3.0**
PKSM Moragy 13.26 339 ⇓*i*P **Pn** **22 39 48.6 -3.0**
NVLJ Novalja 13.38 325 *e*Pn **Pn** **22 39 50.6 -2.6**
NVLJ Sn Sn 22 42 11.4 -10
KEST Kesra 13.44 282 *e*Pn **Pn** **22 39 56.0 +1.9**
KEST Kesra 13.44 282 Pn **Pn** **22 39 55.5 +1.4**
comp=Z,0.0nm,0.3s,baz=31,slow=5.9,SNR=3.4
KEST Kesra 13.44 282 *e*Pn **Pn** **22 39 56.0 +1.9**
BUR08 Bucovina Ar. S 13.60 359 *e*Pn **Pn** **22 39 58.7 +2.3**
BUR08 Bucovina Ar. S 13.60 359 *e*Pn **Pn** **22 39 58.7 +2.3**
BOJS Bojanci 13.92 328 *i* Pn **Pn** **22 39 58.2 -2.5**
BOJS *i* Sn Sn 22 42 23.7 -11
VSL Villasalto 14.08 297 *e*Pn **Pn** **22 40 03.5 +0.6**
comp=Z,15nm,1.1s
VSL Villasalto 14.08 297 *e*Pn **Pn** **22 40 03.5 +0.6**
comp=Z,15nm,1.1s
CRES Cresnjev 14.09 330 *i* Pn **Pn** **22 40 00.3 -2.7**
ANN Anapa 14.11 37 *e*P **Pn** **22 40 02.0 -1.2**
ANN *e*S **Sn** **22 42 41.3 +1.9**
ANN pmax pmax
comp=Z,27nm,1.1s
ANN MLR MLR
comp=Z,233nm,12.0s
VISS Visnje 14.34 328 *i* Pn **Pn** **22 40 03.6 -2.8**
VISS *i* Sn Sn 22 42 37.0 -8.0
PKST T˜'s 14.39 339 *ep*Pn **P** **22 40 14.9 +0.9**
PKSG 14.40 340 *e*P **P** **22 40 15.3 +1.2**
CSKK Cs˜ŧkako 14.41 340 *e*P **P** **22 40 15.5 +1.3**
PSZ Piszkesteto 14.51 345 ⇑P **Pn** **22 40 08.5 -0.3**
PSZ Piszkesteto 14.51 345 *e*Pn **Pn** **22 40 08.3 -0.5**
PSZ Piszkesteto 14.51 345 ⇑*i*P **Pn** **22 40 08.5 -0.3**
PSZ Piszkesteto 14.51 345 ⇓*i*Pn **Pn** **22 40 08.2 -0.6**
PSZ Piszkesteto 14.51 345 *e*Pn **Pn** **22 40 08.3 -0.5**
SOC Sochi 14.55 45 *e*P **Pn** **22 40 10.3 +0.9**
SOC *e* 22 42 51.7
SOC pmax pmax
comp=Z,29nm,1.0s
SOC MLR MLR
comp=Z,365nm,15.0s
JAVS Javornik 14.75 327 *i* Pn **Pn** **22 40 08.9 -3.2**
JAVS *i* Sn Sn 22 42 43.6 -12
TRI Trieste 14.75 326 *e*P **Pn** **22 40 09.6 -2.4**
TRI Trieste 14.75 326 *e*Pn **Pn** **22 40 09.6 -2.4**
TRI Trieste 14.75 326 *e*Pn **Pn** **22 40 09.6 -2.4**
UZH Uzhgorod 14.79 351 *e*P **P** **22 40 21.4 +3.0**
UZH *e* 22 42 53.8
UZH MLR MLR
comp=N,700nm,10.0s
UZH MLR MLR
comp=E,400nm,10.0s
UZH MLR MLR
comp=Z,200nm,10.0s
PERS Pernice 14.88 331 *i* Pn Pn 22 40 10.4 -3.4
KECS Kecovo 14.93 347 *e*P Pn 22 40 11.0 -3.4
KECS Kecovo 14.93 347 *e*PN Pn 22 40 11.0 -3.4
VOJS Vojsko 14.94 327 *i* Pn Pn 22 40 11.2 -3.4
SOKA Soboth 14.95 331 ⇓*i*Pn Pn 22 40 11.2 -3.6
comp=Z,16nm,0.7s
CMAH Djebel Manchou 15.05 285 P **P** **22 40 21.0 -0.4**
CMAH Djebel Manchou 15.05 285 P **P** **22 40 21.0 -0.4**
KOLS Kolonicke sedl 15.09 352 *e*P **Pn** **22 40 16.4 -0.1**
KOLS Kolonicke sedl 15.09 352 *e*PN **Pn** **22 40 16.4 -0.1**
VYHS Vyhne 15.30 343 *e*P **Pn** **22 40 17.6 -1.7**
VYHS Vyhne 15.30 343 *e*PN **Pn** **22 40 17.6 -1.7**
VYHS Vyhne 15.30 343 *e*P **P** **22 40 23.0 -1.1**
PGF Pioggiola 15.53 308 *e*P **Pn** **22 40 22.3 -0.1**
comp=Z,68nm,1.0s
PGF Pioggiola 15.53 308 *e*P **Pn** **22 40 22.3 -0.1**
comp=Z,34nm,1.0s
CHVG Ch'k'valeri 15.56 51 P **P** **22 40 25.9 -1.1**
CKFL Kef-Lekhel 15.59 284 P **P** **22 40 29.0 +1.4**
CKFL Kef-Lekhel 15.59 284 P **P** **22 40 29.0 +1.4**
STHS Stebnicka Huta 15.70 349 *e*P **P** **22 40 29.4 +0.9**
STHS Stebnicka Huta 15.70 349 *e*P **P** **22 40 29.4 +0.9**
KWP Kalwaria Pacla 15.73 353 *e*P **Pn** **22 40 21.9 -3.0**
KWP pmax pmax
comp=Z,24nm,1.3s
KWP Kalwaria Pacla 15.73 353 *e*Pn **Pn** **22 40 21.9 -3.0**
comp=Z,24nm,1.3s
KWP Kalwaria Pacla 15.73 353 ⇓*i*P **Pn** **22 40 25.1 +0.2**
KWP Kalwaria Pacla 15.73 353 *e*Pn **Pn** **22 40 21.9 -3.0**
comp=Z,24nm,1.3s
CASM Ain Smara 15.77 284 P **P** **22 40 32.0 +2.5**
CASM Ain Smara 15.77 284 P **P** **22 40 32.0 +2.5**
LVV L'vov 15.81 356 *e*P **P** **22 40 29.8 0.0**
LVV *e*S **Sn** **22 43 23.2 +2.3**
LVV MLR MLR
comp=E,500nm,10.0s
LVV MLR MLR
comp=N,300nm,12.0s
LVV MLR MLR
comp=Z,300nm,11.0s
CTEI Djebel Teioual 15.83 283 P P 22 40 36.0 +5.8
CTEI Djebel Teioual 15.83 283 P P 22 40 36.0 +5.8
NIE Niedzica 15.86 347 *e*P **P** **22 40 28.4 -1.9**
NIE Niedzica 15.86 347 *e*P **P** **22 40 28.4 -1.9**
AKH Akhalkalaki 15.96 57 P **Pn** **22 40 29.6 +1.5**
KBA Koelnbreinsper 15.98 328 ⇑*i*P **P** **22 40 30.6 -1.2**
comp=Z,26nm,0.7s,SNR=21
ABTA Abfaltersbach 16.10 326 ⇑*i*Pn **Pn** **22 40 27.3 -2.5**
comp=Z,52nm,0.8s,SNR=28
MOA Molln 16.21 332 ⇓*i*Pn **Pn** **22 40 31.9 +0.8**
comp=Z,19nm,0.8s,SNR=14
GNI Garni 16.45 63 *e*Pn **P** **22 40 35.8 -1.3**
comp=Z,83nm,1.3s
GNI Garni 16.45 63 Pn **P** **22 40 36.3 -0.8**
comp=Z,1.8nm,0.3s,baz=317,slow=3.7,SNR=14
GNI LR LR 22 48 42.2
comp=Z,582nm,18.1s,baz=271,slow=44
GNI Garni 16.45 63 *e*Pn **P** **22 40 35.8 -1.3**
comp=Z,83nm,1.3s
KIV Kislovodsk 16.55 48 *e*P **P** **22 40 38.5 +0.4**
KIV *e*S **Sn** **22 43 43.2 +4.1**
KIV pmax pmax
comp=Z,75nm,1.1s
KIV MLR MLR
comp=Z,97nm,13.0s
CKHR Kef el Ahmar 16.56 283 P **P** **22 40 38.0 -0.2**
CKHR Kef el Ahmar 16.56 283 P **P** **22 40 38.0 -0.2**
KBZ Khabaz 16.57 49 P **Pn** **22 40 36.6 +0.9**
KBZ Khabaz 16.57 49 Pn **Pn** **22 40 36.6 +0.9**
KBZ Khabaz 16.57 49 Pn **Pn** **22 40 36.6 +0.9**
comp=Z,0.3nm,0.3s,baz=250,slow=9.1,SNR=24
KBZ Khabaz 16.57 49 Pn **Pn** **22 40 36.6 +0.9**
SET Setif 16.65 283 P **P** **22 40 41.0 +1.7**
SET Setif 16.65 283 P **P** **22 40 41.0 +1.7**
VRAC Vranov 16.65 339 Pn **Pn** **22 40 35.6 -1.1**
VRAC Vranov 16.65 339 Pn **Pn** **22 40 35.6 -1.1**
comp=Z,1.0nm,0.3s,baz=146,slow=9.3,SNR=18
VRAC Vranov 16.65 339 Pn **Pn** **22 40 35.6 -1.1**
OKC Ostrava-Krasne 16.71 343 *e*P **Pn** **22 40 35.8 -1.7**
OKC MLR MLR
comp=Z,700nm,10.5s
OKC Ostrava-Krasne 16.71 343 *e*P **Pn** **22 40 35.8 -1.7**
OKC *ep*P **P** **22 40 40.1 +0.4**
OKC *e*S **S** **22 43 48.5 -5.2**
OKC AMS AMS 22 48 20.0
comp=Z,700nm,10.5s
OJC Ojcow 16.72 347 *e*P **Pn** **22 40 35.7 -1.9**
OJC Ojcow 16.72 347 *e*P **Pn** **22 40 35.7 -1.9**
ZEI Tsey 16.78 53 *e*P **P** **22 40 42.0 +1.3**
ZEI pmax pmax
comp=Z,110nm,1.4s
MORC Moravsky Berou 16.81 342 *e*P **Pn** **22 40 36.2 -2.6**
MORC pmax pmax
comp=Z,9.0nm,1.0s
MORC Moravsky Berou 16.81 342 *e*Pn **Pn** **22 40 36.2 -2.6**
comp=Z,9.5nm,1.0s
MORC Moravsky Berou 16.81 342 *e*Pn **Pn** **22 40 36.2 -2.6**
comp=Z,9.5nm,1.0s
AK02 Malin Array Si 16.82 8 *e*Pn **Pn** **22 40 38.1 -0.7**
AK02 Malin Array Si 16.82 8 *e*Pn **Pn** **22 40 38.1 -0.7**
AK01 Malin Array Si 16.86 8 *e*Pn **Pn** **22 40 38.6 -0.6**
AK01 Malin Array Si 16.86 8 *e*Pn **Pn** **22 40 38.7 -0.6**
KIEV Kiev 16.86 8 *e*P **Pn** **22 40 38.3 -1.0**
KIEV *e* 22 43 49.6
KIEV pmax pmax
comp=Z,46nm,0.9s
KIEV Kiev 16.86 8 *e*Pn **Pn** **22 40 38.3 -1.0**
comp=Z,46nm,0.9s
KIEV *e*Sn **Sn** **22 43 49.6 +3.4**
KIEV Kiev 16.86 8 *e*Pn **Pn** **22 40 38.3 -1.0**
comp=Z,46nm,0.9s
KIEV *e*Sn **Sn** **22 43 49.6 +3.4**
AKASG Malin Array Be 16.87 8 *ce*P **Pn** **22 40 38.5 -0.9**
AKASG pmax pmax
comp=Z,37nm,0.6s
AKASG Malin Array Be 16.87 8 Pn **Pn** **22 40 38.5 -0.9**
AKASG Malin Array Be 16.87 8 Pn **Pn** **22 40 38.5 -0.9**
comp=Z,8.5nm,0.3s,baz=198,slow=10,SNR=59
AKASG Malin Array Be 16.87 8 Pn **Pn** **22 40 38.5 -0.9**
TBLG Delisi 16.94 57 *e*P **Pn** **22 40 41.2 +0.7**
TBLG Delisi 16.94 57 P **Pn** **22 40 41.3 +0.7**
TREC Trest 16.98 337 *e*P **Pn** **22 40 39.1 -1.8**
TREC *e*S **Sn** **22 43 50.1 +0.8**
TREC MLR MLR
comp=Z,400nm,11.2s
TREC Trest 16.98 337 *e*P **Pn** **22 40 39.1 -1.8**
TREC *ep*P **P** **22 40 42.1 -0.7**
TREC *e*S **Sn** **22 43 50.1 +0.8**
TREC *ex* x 22 44 16.7
TREC AMS AMS 22 49 10.0
comp=Z,400nm,11.2s
FUORN Ofenpass-Fuorn 17.12 322 *e*P **P** **22 40 45.2 +0.7**
comp=Z,39nm,0.8s
FUORN Ofenpass-Fuorn 17.12 322 *e*P **P** **22 40 45.2 +0.7**
comp=Z,39nm,0.8s
SAOF Saorge 17.14 311 *e*P **Pn** **22 40 42.6 -0.3**
SAOF Saorge 17.14 311 *e*P **Pn** **22 40 42.6 -0.3**
SAOF Saorge 17.14 311 *e*P **Pn** **22 40 42.6 -0.3**
SAOF Saorge 17.14 311 *e*P **Pn** **22 40 42.6 -0.3**
SBF Sospel 17.16 310 *e*P **Pn** **22 40 43.3 +0.1**
comp=Z,49nm,0.9s
SBF Sospel 17.16 310 *e*P **Pn** **22 40 43.3 +0.1**
comp=Z,25nm,0.9s
IDHR Dehrash 17.20 82 *e*P **P** **22 40 45.6 +0.2**
IDHR Dehrash 17.20 82 *e*P **P** **22 40 45.6 +0.2**
MOTA Moosalm 17.20 325 ⇓*i*Pn **Pn** **22 40 41.8 -2.0**
comp=Z,15nm,0.9s,SNR=11
AUTN L'Aution 17.23 311 *e*P **P** **22 40 46.2 +0.5**
AUTN L'Aution 17.23 311 *e*P **P** **22 40 46.2 +0.5**
AUTN L'Aution 17.23 311 *e*P **P** **22 40 46.2 +0.5**
AUTN L'Aution 17.23 311 *e*P **P** **22 40 46.2 +0.5**
GEC2 GERESS Array S 17.24 333 *e*P **Pn** **22 40 42.9 -1.3**
comp=Z,16nm,0.7s
GEC2 GERESS Array S 17.24 333 *e*P **Pn** **22 40 42.9 -1.3**
GEC2 pmax pmax
comp=Z,10.0nm,0.7s
GEC2 GERESS Array S 17.24 333 *e*Pn **Pn** **22 40 42.9 -1.3**
GEC2 GERESS Array S 17.24 333 *e*Pn **Pn** **22 40 42.8 -1.4**
GERES GERESS Array B 17.24 333 Pn **Pn** **22 40 42.8 -1.4**
GERES GERESS Array B 17.24 333 Pn **Pn** **22 40 42.8 -1.4**
comp=Z,0.2nm,0.3s,baz=148,slow=13,SNR=26
GERES GERESS Array B 17.24 333 Pn **Pn** **22 40 42.8 -1.4**
DGRG David-gareji 17.30 59 P **P** **22 40 46.8 +0.4**
TOUF Mont Tournerai 17.35 310 *e*P **Pn** **22 40 45.8 +0.1**
TOUF Mont Tournerai 17.35 310 *e*P **Pn** **22 40 45.8 +0.1**
TOUF Mont Tournerai 17.35 310 *e*P **Pn** **22 40 45.8 +0.1**
TOUF Mont Tournerai 17.35 310 *e*P **Pn** **22 40 45.8 +0.1**
MVIF Mont Vial 17.35 310 *e*P **P** **22 40 47.1 +0.1**
MVIF Mont Vial 17.35 310 *e*P **P** **22 40 47.1 +0.1**
MVIF Mont Vial 17.35 310 *e*P **P** **22 40 47.1 +0.1**
MVIF Mont Vial 17.35 310 *e*P **P** **22 40 47.1 +0.1**
DAVOX Davos/Dischmat 17.42 322 Pn **Pn** **22 40 47.0 +0.4**
DAVOX Davos/Dischmat 17.42 322 Pn **Pn** **22 40 47.0 +0.4**
comp=Z,0.6nm,0.3s,baz=141,slow=14,SNR=18
DAVOX Davos/Dischmat 17.42 322 Pn **Pn** **22 40 47.0 +0.4**
CALN Calern 17.45 309 *e*P **P** **22 40 49.1 +1.0**
CALN Calern 17.45 309 *e*P **P** **22 40 49.1 +1.0**
CALN Calern 17.45 309 *e*P **P** **22 40 49.1 +1.0**
CALN Calern 17.45 309 *e*P **P** **22 40 49.1 +1.0**
RETA Reutte 17.47 325 ⇑*i*P **P** **22 40 47.8 -0.4**
comp=Z,11nm,0.7s,SNR=16
TUE Stuetta 17.50 320 *e*Pn **Pn** **22 40 46.2 -1.4**
comp=Z,13nm,0.8s
TUE *e*Sn Sn 22 43 51.4 -11
TUE Stuetta 17.50 320 *e*Pn **Pn** **22 40 46.2 -1.4**
comp=Z,13nm,0.8s
TUE *e*Sn Sn 22 43 51.3 -11
LMR La Mourre 17.51 308 *e*P **Pn** **22 40 47.6 +0.1**
comp=Z,32nm,1.1s
LMR La Mourre 17.51 308 *e*P **Pn** **22 40 47.6 +0.1**
comp=Z,16nm,1.1s
KHC Kasperske Hory 17.52 333 *e*P **Pn** **22 40 46.2 -1.4**
KHC MLR MLR
comp=Z,600nm,12.8s
KHC Kasperske Hory 17.52 333 *e*P **Pn** **22 40 46.2 -1.4**
KHC *ep*P **P** **22 40 48.9 +0.2**
KHC *ex* x 22 41 02.5
KHC *e*S **S** **22 44 07.6 -2.5**
KHC *ex* x 22 44 25.3
KHC AMS AMS 22 48 30.0
comp=Z,600nm,12.8s
KHC Kasperske Hory 17.52 333 *e*Pn **Pn** **22 40 46.0 -1.6**
comp=Z,15nm,0.8s
KHC Kasperske Hory 17.52 333 *e*Pn **Pn** **22 40 46.0 -1.6**
comp=Z,15nm,0.8s
DPC Dobruska-Polom 17.66 340 *e*P **Pn** **22 40 47.9 -1.5**
DPC *e*S **Sn** **22 44 07.9 +2.1**
DPC Dobruska-Polom 17.66 340 *e*P **Pn** **22 40 47.9 -1.5**
DPC *ep*P **P** **22 40 49.9 -0.4**
DPC *e*S **Sn** **22 44 07.9 +2.1**
DPC *ex* x 22 44 28.2
FUR Furstenfeldbru 17.72 327 *e*P **Pn** **22 40 48.9 -1.2**
comp=Z,45nm,0.8s
FUR Furstenfeldbru 17.72 327 *e*P **Pn** **22 40 48.9 -1.2**
FUR pmax pmax
comp=Z,185nm,0.8s
DAVA Damuels 17.76 323 ⇑*i*Pn **Pn** **22 40 50.0 -0.7**
comp=Z,16nm,0.8s,SNR=12
WET Wettzell 17.80 332 *e*P **Pn** **22 40 50.2 -0.9**
comp=Z,18nm,0.9s
WET Wettzell 17.80 332 *e*P **Pn** **22 40 50.2 -0.9**
WET pmax pmax
comp=Z,14nm,0.9s
UPC Upice 17.89 340 *e*P **Pn** **22 40 50.2 -2.0**
UPC Upice 17.89 340 *e*P **Pn** **22 40 50.2 -2.0**
UPC *ep*P **P** **22 40 52.9 +0.1**
UPC *es*P **sP** **22 40 55.4 -3.9**
PRU Pruhonice 17.89 336 *e*P **Pn** **22 40 50.0 -2.2**
PRU *e*S **Sn** **22 44 10.3 -1.0**
PRU MLR MLR
comp=Z,400nm,10.0s
PRU Pruhonice 17.89 336 *e*P **Pn** **22 40 50.0 -2.2**
PRU *ep*P **P** **22 40 52.3 -0.5**
PRU *e*S **Sn** **22 44 10.3 -1.0**
PRU *ex* x 22 44 31.8
PRU AMS AMS 22 49 40.0
comp=Z,400nm,10.0s
MBDF Montbardon 18.00 312 *e*P **Pn** **22 40 53.1 -0.6**
comp=Z,32nm,1.0s
MBDF Montbardon 18.00 312 *e*P **Pn** **22 40 53.1 -0.6**
comp=Z,16nm,1.0s
PRA Prague 18.00 336 P **Pn** **22 40 50.0 -3.5**
KSP Ksiaz 18.11 341 *e*P **Pn** **22 40 53.0 -1.9**
KSP *e*S **Sn** **22 44 18.0 +1.4**
IKOM Komasi 18.16 83 *e*P **Pn** **22 40 55.7 -0.1**
IKOM Komasi 18.16 83 *e*P **Pn** **22 40 55.7 -0.1**
PVCC Panska Ves 18.35 337 *e*P **Pn** **22 40 54.9 -2.9**
PVCC MLR MLR
comp=Z,500nm,10.5s
PVCC Panska Ves 18.35 337 *e*P **Pn** **22 40 54.9 -2.9**
PVCC *ep*P **P** **22 40 57.7 -0.1**
PVCC *es*P **sP** **22 40 59.1 -5.2**
PVCC AMS AMS 22 50 10.0
comp=Z,500nm,10.5s
SMRF Simiane la Rot 18.40 309 *e*P **Pn** **22 40 59.2 +0.7**
comp=Z,12nm,0.8s
SMRF Simiane la Rot 18.40 309 *e*P **Pn** **22 40 59.2 +0.7**
comp=Z,6.2nm,0.8s
LPG La Plagne 18.40 314 *e*P **P** **22 40 58.2 -0.6**
comp=Z,11nm,0.6s
LPG La Plagne 18.40 314 *e*P **P** **22 40 58.2 -0.6**
comp=Z,5.4nm,0.6s
LPL La Plagne 18.42 314 *e*P **P** **22 40 58.5 -0.4**
comp=Z,31nm,1.1s
LPL La Plagne 18.42 314 *e*P **P** **22 40 58.5 -0.4**
comp=Z,16nm,1.1s
ROTZ Rotzenmuhle 18.56 332 *e*P **P** **22 40 58.8 -1.3**
comp=Z,5.0nm,0.7s
SENIN Lac Senin/Sane 18.56 317 *e*P **P** **22 40 60.0 -0.4**
comp=Z,11nm,0.9s
SENIN Lac Senin/Sane 18.56 317 *e*P **P** **22 41 00.0 -0.4**
comp=Z,11nm,0.9s
ORIF Oris-en-Rattie 18.64 311 *e*P **P** **22 41 00.9 -0.3**
ORIF *e*R
comp=Z,685nm,20.0s
ORIF Oris-en-Rattie 18.64 311 *e*P **P** **22 41 00.9 -0.3**
MANZ Manzenberg 18.77 332 *e*P **P** **22 41 01.3 -1.2**
comp=Z,13nm,0.6s
BRG Berggiesshubel 18.85 337 *e*P **P** **22 41 02.4 -0.9**
comp=Z,3.7nm,0.6s
BRG S **S** **22 44 38.0 +1.0**
BRG
comp=N,482nm,14.2s
BRG
comp=E,480nm,15.0s
BRG
comp=Z,443nm,11.9s
BRG Berggiesshubel 18.85 337 *e*P **P** **22 41 02.4 -0.9**
BRG pmax pmax
comp=Z,4.0nm,0.6s
BRG MLR MLR
comp=N,482nm,14.2s
BRG MLR MLR
comp=E,480nm,15.0s
BRG MLR MLR
comp=Z,443nm,11.9s

SPAK **Spaichingen-Ko** 18.86 323 eP **Pn** 22 41 04.6 +0.5
SPAK **Spaichingen-Ko** 18.86 323 eP **Pn** 22 41 04.6 +0.5
GRF **Grafenberg Arr** 18.89 330 eP **P** 22 41 03.9 +0.1
comp=Z,20nm,0.8s
GRF **Grafenberg Arr** 18.89 330 eP **P** 22 41 03.9 +0.1
GRF pmax pmax
comp=Z,10.0nm,0.8s
GRFO **Grafenberg** 18.89 330 eP **Pn** 22 41 04.1 -0.4
GRFO pmax pmax
comp=Z,38nm,0.9s
GRFO **Grafenberg** 18.89 330 eP **Pn** 22 41 04.0 -0.4
comp=Z,38nm,0.9s
GRFO **Grafenberg** 18.89 330 eP **Pn** 22 41 04.1 -0.4
comp=Z,38nm,0.9s
WERN **Wernitzgruen** 18.91 333 eP **P** 22 41 03.1 -0.9
MIB **Mutribah** 18.94 97 eP **Pn** 22 41 04.9 -0.2
MIB AMb AMB 22 41 09.8
comp=Z,45nm,0.8s
GUNZ **Gunzen** 18.99 333 eP **Pn** 22 41 05.8 +0.2
NAY **Al-Naaiem** 19.04 99 eP **Pn** 22 41 06.7 +0.3
NAY AMb AMB 22 41 09.5
comp=Z,41nm,1.8s
WERD **Werda** 19.07 333 eP **P** 22 41 05.4 -0.3
FBE **Freiberg** 19.09 336 eP **P** 22 41 05.3 -0.6
BBS **Basel-Blauen** 19.10 320 eP **P** 22 41 06.3 +0.1
BBS **Basel-Blauen** 19.10 320 eP **P** 22 41 06.3 +0.1
BBS **Basel-Blauen** 19.10 320 eP **P** 22 41 06.3 +0.1
FELD **Feldberg im Sc** 19.10 322 eP **P** 22 41 06.1 -0.2
FELD **Feldberg im Sc** 19.10 322 eP **P** 22 41 06.1 -0.2
STU **Stuttgart** 19.12 325 eP **P** 22 41 05.7 -0.5
STU pmax pmax
comp=Z,25nm,0.9s
STU **Stuttgart** 19.12 325 eP **P** 22 41 05.7 -0.5
comp=Z,25nm,0.9s
STU **Stuttgart** 19.12 325 eP **P** 22 41 05.7 -0.5
comp=Z,25nm,0.9s
BFO **Black Forest** 19.23 323 eP **P** 22 41 07.9 +0.3
comp=Z,10.0nm,0.8s
BFO **Black Forest** 19.23 323 eP **P** 22 41 07.8 +0.2
BFO pmax pmax
comp=Z,18nm,1.0s
BFO **Black Forest** 19.23 323 eP **P** 22 41 07.8 +0.2
comp=Z,18nm,1.0s
BFO **Black Forest** 19.23 323 eP **P** 22 41 07.8 +0.2
comp=Z,18nm,1.0s
MAK **Makhachkala** 19.30 56 eP **Pn** 22 41 08.8 -0.5
MAK eS **S** 22 44 46.0 -0.1
MAK pmax pmax
comp=Z,452nm,1.4s
MAK MLR MLR
comp=Z,190nm,10.0s
UMR **Umm Al-Rimmam** 19.33 97 eP **P** 22 41 09.1 +0.4
UMR AMb AMB 22 41 17.8
comp=Z,68nm,0.9s
VIVF **Saint-Julien-l** 19.37 310 eP **P** 22 41 07.6 -1.5
comp=Z,19nm,1.0s
VIVF **Saint-Julien-l** 19.37 310 eP **P** 22 41 07.6 -1.5
comp=Z,9.5nm,1.0s
CABF **La Chapelle** 19.39 316 eP **P** 22 41 07.7 -1.7
comp=Z,15nm,0.7s
CABF **La Chapelle** 19.39 316 eP **P** 22 41 07.7 -1.7
comp=Z,7.3nm,0.7s
LOMF **Lomont** 19.40 319 eP **P** 22 41 09.8 +0.3
LOMF **Lomont** 19.40 319 eP **P** 22 41 09.8 +0.3
LOMF **Lomont** 19.40 319 eP **P** 22 41 09.8 +0.3
LOMF **Lomont** 19.40 319 eP **P** 22 41 09.8 +0.3
MOX **Moxa** 19.49 333 eP **P** 22 41 10.1 -0.2
comp=Z,11nm,0.7s
MOX **Moxa** 19.49 333 eP **P** 22 41 10.1 -0.2
MOX pmax pmax
comp=Z,1.0nm,0.7s
CLL **Collm** 19.53 336 eP **P** 22 41 10.4 -0.4
comp=Z,8.0nm,0.6s
CLL **Collm** 19.53 336 *i* P **P** 22 41 09.6 -1.2
CLL eS **S** 22 44 49.0 -1.8
CLL pmax pmax
comp=Z,15nm,1.1s
CLL **Collm** 19.53 336 *i* P **P** 22 41 09.6 -1.2
comp=Z,15nm,1.1s
CLL *i* sP **sP** 22 41 14.3 -3.0
CLL *i* sPP 22 41 30.8
CLL eS **S** 22 44 49.0 -1.8
CLL *i* 22 44 59.0
CLL ePcP **PcP** 22 45 30.0 -0.7
CLL *e* 22 46 07.0
CLL Lmax 22 50 00.0
MOF **Molkenrain** 19.54 320 eP **P** 22 41 09.2 -1.8
MOF **Molkenrain** 19.54 320 eP **P** 22 41 09.2 -1.8
MOF **Molkenrain** 19.54 320 eP **P** 22 41 09.2 -1.8
MOF **Molkenrain** 19.54 320 eP **P** 22 41 09.2 -1.8
LASF **Ste Croix** 19.57 307 eP **P** 22 41 10.3 -1.0
comp=Z,44nm,1.4s
LASF **Ste Croix** 19.57 307 eP **P** 22 41 10.3 -1.0
comp=Z,22nm,1.4s
SSB **Saint Sauveur** 19.65 311 eP **P** 22 41 11.3 -0.8
SSB pmax pmax
comp=Z,6.0nm,0.9s
SSB **Saint Sauveur** 19.65 311 eP **P** 22 41 11.3 -0.8
comp=Z,6.1nm,0.9s
SSB **Saint Sauveur** 19.65 311 eP **P** 22 41 11.3 -0.8
comp=Z,6.1nm,0.9s
VORD **Divnogorie** 19.66 26 eP **P** 22 41 11.5 -0.6
VORD eS S 22 44 44.7 -8.5
VORD pmax pmax
comp=Z,40nm,1.6s
VORD pmax pmax
comp=N,20nm,1.3s
VORD pmax pmax
comp=E,40nm,0.6s
HINF **Hinteralfeld** 19.67 320 eP **P** 22 41 12.9 +0.5
comp=E,19nm,0.8s
HINF **Hinteralfeld** 19.67 320 eP **P** 22 41 12.9 +0.5
comp=E,9.4nm,0.8s
ECH **Echery** 19.76 321 eP **P** 22 41 13.9 +0.6
ECH pmax pmax
comp=Z,11nm,0.9s
ECH **Echery** 19.76 321 eP **P** 22 41 13.9 +0.6
comp=Z,12nm,0.9s
ECH **Echery** 19.76 321 eP **Pn** 22 41 14.3 -0.5
ECH **Echery** 19.76 321 eP **Pn** 22 41 14.3 -0.5
VSR **Storozhevoye** 19.81 26 eP **P** 22 41 13.0 -0.8
VSR eS S 22 44 48.5 -7.9
VSR pmax pmax
comp=N,30nm,1.4s
VSR pmax pmax
comp=E,30nm,1.4s
VSR pmax pmax
comp=Z,30nm,1.4s
VSR smax smax
comp=Z,130nm,8.7s
VSR smax smax
comp=N,20nm,6.0s
VSR smax smax
comp=E,80nm,7.0s
CDF **Champ du Feu** 19.82 322 eP **P** 22 41 14.0 -0.1
comp=E,19nm,0.9s
CDF **Champ du Feu** 19.82 322 eP **P** 22 41 14.0 -0.1
comp=E,9.6nm,0.9s
NEUB **Neuenburg** 19.88 334 eP **P** 22 41 15.0 +0.4
comp=Z,19nm,0.6s
TOD **Tromm** 19.89 326 eP **Pn** 22 41 16.7 +0.4
TOD **Tromm** 19.89 326 eP **Pn** 22 41 16.7 +0.4
TOD **Tromm** 19.89 326 eP **Pn** 22 41 16.7 +0.4
FILF **Fillols** 19.93 302 eP **Pn** 22 41 17.9 +1.0
FILF **Fillols** 19.93 302 eP **Pn** 22 41 17.9 +1.0
FILF **Fillols** 19.93 302 eP **Pn** 22 41 17.9 +1.0
LANF **Langenberg** 19.93 324 eP **Pn** 22 41 15.9 -0.9
LANF **Langenberg** 19.93 324 eP **Pn** 22 41 15.9 -0.9
LANF **Langenberg** 19.93 324 eP **Pn** 22 41 15.9 -0.9
LANF **Langenberg** 19.93 324 eP **Pn** 22 41 15.9 -0.9
KTD **Kalmit** 20.02 325 eP Pn 22 41 18.7 +0.7
KTD **Kalmit** 20.02 325 eP Pn 22 41 18.7 +0.7
KTD **Kalmit** 20.02 325 eP Pn 22 41 18.7 +0.7
SUW **Suwalki** 20.04 356 eP **P** 22 41 15.6 -0.7
SUW eS **S** 22 44 56.6 -4.3
SUW pmax pmax
comp=Z,83nm,0.7s
SUW **Suwalki** 20.04 356 eP **P** 22 41 15.6 -0.7
comp=Z,83nm,0.7s
SUW eS **S** 22 44 56.6 -4.3
SUW **Suwalki** 20.04 356 eP **P** 22 41 15.6 -0.7
comp=Z,83nm,0.7s
SUW eS **S** 22 44 56.6 -4.3
HAU **Haudompre** 20.05 320 eP **P** 22 41 17.1 +0.6
comp=Z,34nm,0.8s
HAU eR
comp=Z,488nm,20.5s
HAU **Haudompre** 20.05 320 eP **P** 22 41 17.1 +0.6
comp=Z,17nm,0.8s
IRAZ **Razeghan** 20.05 79 eP **P** 22 41 17.3 +0.4
IRAZ **Razeghan** 20.05 79 eP **P** 22 41 17.3 +0.4
RAYN **Ar Rayn** 20.33 116 ePn Pn 22 41 22.1 +0.3
comp=Z,16nm,1.1s
RAYN **Ar Rayn** 20.33 116 ePn Pn 22 41 22.1 +0.3
comp=Z,16nm,1.1s
THEF **They Montfort** 20.38 320 eP **P** 22 41 20.2 +0.1
THEF **They Montfort** 20.38 320 eP **P** 22 41 20.2 +0.1
THEF **They Montfort** 20.38 320 eP **P** 22 41 20.2 +0.1
THEF **They Montfort** 20.38 320 eP **P** 22 41 20.2 +0.1
MTLF **Montolieu** 20.41 304 eP **P** 22 41 19.8 -0.6
comp=Z,35nm,1.2s
MTLF **Montolieu** 20.41 304 eP **P** 22 41 19.8 -0.6
comp=Z,17nm,1.2s
LBL **Lubilhac** 20.45 310 eP Pn 22 41 23.3 +0.3
LBL **Lubilhac** 20.45 310 eP Pn 22 41 23.3 +0.3
LBL **Lubilhac** 20.45 310 eP Pn 22 41 23.3 +0.3
LBL **Lubilhac** 20.45 310 eP Pn 22 41 23.3 +0.3
TNS **Taunus Mts** 20.49 327 eP Pn 22 41 22.3 -1.2
comp=Z,24nm,0.6s
TNS **Taunus Mts** 20.49 327 eP Pn 22 41 22.3 -1.2
TNS pmax pmax
comp=Z,8.0nm,0.6s
MNK **Minsk** 20.52 4⇑ eP **P** 22 41 21.0 -0.5
MNK pmax pmax
comp=Z,110nm,0.5s
PAGF **Fort de Pagny** 20.72 320 eP **P** 22 41 24.6 +0.9
comp=Z,19nm,0.9s,baz=137
PAGF **Fort de Pagny** 20.72 320 eP **P** 22 41 24.6 +0.9
comp=Z,9.6nm,0.9s
SMF **Signal de Mont** 20.73 314 eP **P** 22 41 22.3 -1.6
comp=Z,18nm,0.9s
SMF **Signal de Mont** 20.73 314 eP **P** 22 41 22.3 -1.6
comp=Z,8.8nm,0.9s
RUP **Ruppelstein** 20.77 324 eP **P** 22 41 24.7 +0.4
RUP **Ruppelstein** 20.77 324 eP **P** 22 41 24.7 +0.4
RUP **Ruppelstein** 20.77 324 eP **P** 22 41 24.7 +0.4
PYM **Petit Puy Mans** 20.82 311 eP **P** 22 41 23.6 -1.3
PYM **Petit Puy Mans** 20.82 311 eP **P** 22 41 23.6 -1.3
PYM **Petit Puy Mans** 20.82 311 eP **P** 22 41 23.6 -1.3
PYM **Petit Puy Mans** 20.82 311 eP **P** 22 41 23.6 -1.3
TAM **Tamanrasset** 20.86 243 eP Pn 22 41 26.9 -1.2
TAM pmax pmax
comp=Z,28nm,1.0s
TAM **Tamanrasset** 20.86 243 eP Pn 22 41 26.9 -1.2
comp=Z,28nm,1.0s
TAM **Tamanrasset** 20.86 243 eP Pn 22 41 26.9 -1.2
comp=Z,28nm,1.0s
NACGM **Naroch** 20.88 2 *e* **P** 22 41 26.0 +0.7
AGO **Saint Agoulin** 20.88 312 eP **P** 22 41 25.4 -0.1
AGO **Saint Agoulin** 20.88 312 eP **P** 22 41 25.4 -0.1
AGO **Saint Agoulin** 20.88 312 eP **P** 22 41 25.4 -0.1
SFTF **Sexfontaines** 20.88 319 eP **P** 22 41 25.1 -0.4
comp=Z,52nm,0.9s,baz=128
SFTF **Sexfontaines** 20.88 319 eP **P** 22 41 25.1 -0.4
comp=Z,26nm,0.9s
CLZ **Clausthal** 20.91 333 eP **P** 22 41 25.3 -0.5
comp=Z,20nm,0.8s
CLZ **Clausthal** 20.91 333 eP **P** 22 41 25.3 -0.5
CLZ pmax pmax
comp=Z,88nm,0.8s
IR3 **Iran Long-Peri** 20.94 79 eP **P** 22 41 27.1 +0.7
IR3 **Iran Long-Peri** 20.94 79 eP **P** 22 41 27.1 +0.7
LOR **Lormes** 21.04 315 eP **P** 22 41 26.1 -1.1
comp=Z,16nm,0.7s,baz=127
LOR eR
comp=Z,608nm,22.5s
LOR **Lormes** 21.04 315 eP **P** 22 41 26.1 -1.1
comp=Z,7.8nm,0.7s
MEZF **Maizieres J'vi** 21.05 320 eP **P** 22 41 26.9 -0.3
comp=Z,49nm,0.8s,baz=117
MEZF **Maizieres J'vi** 21.05 320 eP **P** 22 41 26.9 -0.3
comp=Z,24nm,0.8s
CAF **Calviac** 21.08 308 eP **P** 22 41 27.1 -0.6
comp=Z,17nm,0.9s
CAF **Calviac** 21.08 308 eP **P** 22 41 27.1 -0.6
comp=Z,8.4nm,0.9s
AVF **Avril sur Loir** 21.09 314 eP **P** 22 41 27.3 -0.5
comp=Z,15nm,0.9s
AVF **Avril sur Loir** 21.09 314 eP **P** 22 41 27.3 -0.5
comp=Z,7.6nm,0.9s
IPIR **Pirpir** 21.18 87 eP **P** 22 41 31.0 +1.9
IPIR **Pirpir** 21.18 87 eP **P** 22 41 31.0 +1.9
WLF **Walferdange** 21.19 323 P **P** 22 41 32.7 +3.9
comp=Z,24nm,1.2s
WLF **Walferdange** 21.19 323 eP **P** 22 41 28.0 -0.8
WLF pmax pmax
comp=Z,28nm,0.8s
WLF **Walferdange** 21.19 323 eP **P** 22 41 28.0 -0.8
comp=Z,28nm,0.8s
WLF **Walferdange** 21.19 323 eP **P** 22 41 28.0 -0.8
comp=Z,28nm,0.8s
BGF **Bois d'Agland** 21.29 313 eP **P** 22 41 29.3 -0.6
comp=Z,33nm,0.7s
BGF **Bois d'Agland** 21.29 313 eP **P** 22 41 29.3 -0.6
comp=Z,16nm,0.7s
NRDL **Niedersach Rie** 21.53 334 eP **P** 22 41 31.6 -0.7
comp=Z,13nm,0.8s
IVRN **Varamin** 21.55 80 eP **P** 22 41 33.6 +0.7
IVRN **Varamin** 21.55 80 eP **P** 22 41 33.6 +0.7
TCF **Toulx Ste Croi** 21.56 312 eP **P** 22 41 32.4 -0.4
comp=Z,58nm,1.2s
TCF **Toulx Ste Croi** 21.56 312 eP **P** 22 41 32.4 -0.4
comp=Z,29nm,1.2s
RESF **Ens** 21.57 301 eP **P** 22 41 34.7 +1.7
RESF **Ens** 21.57 301 eP **P** 22 41 34.7 +1.7
RESF **Ens** 21.57 301 eP **P** 22 41 34.7 +1.7
RJF **Les Rejaudoux** 21.59 309 eP **P** 22 41 32.6 -0.5
comp=Z,56nm,1.1s
RJF eR
comp=Z,432nm,19.8s
RJF **Les Rejaudoux** 21.59 309 eP **P** 22 41 32.6 -0.5
comp=Z,28nm,1.1s
EPF **Esparros** 21.62 302 eP **P** 22 41 32.8 -0.8
EPF **Esparros** 21.62 302 eP **P** 22 41 32.8 -0.8
IKLH **Kolahrood** 21.64 85 eP **P** 22 41 35.5 +1.5
IKLH **Kolahrood** 21.64 85 eP **P** 22 41 35.5 +1.5
BUG **Bochum--Univer** 21.88 328 eP **P** 22 41 36.3 +0.2
comp=Z,18nm,0.6s
MEM **Membach** 21.88 325 P **P** 22 41 36.7 +0.5
comp=Z,23nm,1.1s
LFF **La Frestale** 21.96 307 eP **P** 22 41 36.6 -0.5
comp=Z,20nm,0.8s
LFF **La Frestale** 21.96 307 eP **P** 22 41 36.6 -0.5
comp=Z,10nm,0.8s
IPRN **Peran** 21.97 77 eP **P** 22 41 37.0 -0.5
HGN **Heimansgroeve** 22.02 325 eP **P** 22 41 40.3 +2.6
comp=Z,13nm,0.8s
HGN eS **S** 22 45 42.4 +2.4
HGN eL L 22 51 40.7
comp=Z,316nm,18.2s
GIVF **Givet** 22.14 323 eP **P** 22 41 37.9 -1.0
comp=Z,44nm,0.8s
GIVF **Givet** 22.14 323 eP **P** 22 41 37.9 -1.0
comp=Z,22nm,0.8s
BEBN **Eben Emael** 22.17 325 AP pP 22 41 43.9 +0.2
IGAR **Gharneh** 22.18 87 eP **P** 22 41 41.2 +1.4
ETSF **Etsaut** 22.23 301 eP **P** 22 41 39.5 -0.6
ETSF **Etsaut** 22.23 301 eP **P** 22 41 39.5 -0.6
DOU **Dourbes** 22.25 322 P **P** 22 41 39.7 -0.4
comp=Z,15nm,1.3s
IZEF **Zefreh** 22.33 85 eP **P** 22 41 42.0 +0.5
IZEF **Zefreh** 22.33 85 eP **P** 22 41 42.0 +0.5
BSD **Bornholm Skovb** 22.35 344 *i* P **P** 22 41 38.6 -2.6
BSD pmax pmax
comp=Z,4.0nm,0.9s
BSD MLR MLR
comp=Z,440nm,12.0s
BSD **Bornholm Skovb** 22.35 344 *i* P **P** 22 41 38.6 -2.6
comp=Z,4.0nm,0.9s
BSD
comp=Z,440nm,12.0s
BAIF **Baives** 22.42 322 eP **P** 22 41 40.2 -1.8
comp=Z,35nm,0.7s
BAIF **Baives** 22.42 322 eP **P** 22 41 40.2 -1.8
comp=Z,17nm,0.7s
OBN **Obninsk** 22.43 17⇑ eP **P** 22 41 40.6 -1.4
OBN *e* 22 42 06.5
OBN *i* S **S** 22 45 47.7 +0.2
OBN pmax pmax
comp=Z,64nm,1.7s
OBN MLR MLR
comp=Z,200nm,18.0s
WTSB **Winterswijk** 22.46 329 eP **P** 22 41 42.7 +0.3
comp=Z,25nm,0.8s
ILAS **Lasjerd** 22.53 79 eP **P** 22 41 44.4 +0.9
ILAS **Lasjerd** 22.53 79 eP **P** 22 41 44.4 +0.9
BSEG **Bad Segeberg** 22.63 336 eP **P** 22 41 42.0 -2.1
comp=Z,19nm,0.7s
BSEG **Bad Segeberg** 22.63 336 eP **P** 22 41 42.0 -2.1
BSEG pmax pmax
comp=Z,16nm,0.7s
SJPF **Ste Jean** 22.75 301 eP **P** 22 41 43.7 -1.9
comp=Z,22nm,0.9s
SJPF **Ste Jean** 22.75 301 eP **P** 22 41 43.7 -1.9
comp=Z,11nm,0.9s
ISHM **Shahmirzad** 22.77 78 eP **P** 22 41 46.7 +0.6
ISHM **Shahmirzad** 22.77 78 eP **P** 22 41 46.7 +0.6
IKIA **Kiasar** 23.06 77 eP **P** 22 41 45.5 -3.6
IKIA **Kiasar** 23.06 77 eP **P** 22 41 45.5 -3.6
IGLO **Ghaloghah** 23.17 76 eP **P** 22 41 45.9 -4.3
MFF **Saint Martin d** 23.17 310 eP **P** 22 41 49.1 -0.7
comp=Z,52nm,1.1s
MFF **Saint Martin d** 23.17 310 eP **P** 22 41 49.1 -0.7
comp=Z,26nm,1.1s
LLD **Lille Linde** 23.24 340 *i* P **P** 22 41 50.0 -0.4
LLD pmax pmax
comp=Z,26nm,0.8s
LLD **Lille Linde** 23.24 340 *i* P **P** 22 41 50.0 -0.4
comp=Z,26nm,0.7s
MOS **Moscow** 23.25 17 eP P 22 41 45.7 -4.9
MOS *e* 22 41 51.1
MOS ePPP PPP 22 42 20.9
MOS eS **S** 22 45 56.0 -6.0
MOS pmax pmax
comp=Z,37nm,1.1s
ISAD **Sadrabad** 23.65 87 eP **P** 22 41 55.7 +0.6
ISAD **Sadrabad** 23.65 87 eP **P** 22 41 55.7 +0.6
ISRV **Sarvestan** 23.85 94 eP **P** 22 41 57.7 +0.6
ISRV **Sarvestan** 23.85 94 eP **P** 22 41 57.7 +0.6
LDF **La Druitiere** 24.02 315 eP **P** 22 41 56.9 -1.2
comp=Z,18nm,0.8s
LDF **La Druitiere** 24.02 315 eP **P** 22 41 56.9 -1.2
comp=Z,9.2nm,0.8s
ICHK **Chekchek** 24.18 86 eP **P** 22 42 00.5 +0.5
ICHK **Chekchek** 24.18 86 eP **P** 22 42 00.5 +0.5
ESDC **Sonseca Array** 24.24 292 P **P** 22 42 00.7 +0.4
ESDC **Sonseca Array** 24.24 292 P **P** 22 42 00.7 +0.4
comp=Z,4.1nm,0.8s,baz=85,slow=9.0,SNR=31
ESDC **Sonseca Array** 24.24 292 P **P** 22 42 00.7 +0.4
ESLA **Sonseca Array** 24.24 292 eP **P** 22 41 59.7 -0.6
comp=Z,14nm,1.4s
ESLA **Sonseca Array** 24.24 292 eP **P** 22 41 59.7 -0.6
comp=Z,14nm,1.4s
FLN **La Foliniere** 24.31 315 eP **P** 22 41 59.7 -1.1
comp=Z,29nm,0.9s,baz=126
FLN eR
comp=Z,571nm,21.0s
FLN **La Foliniere** 24.31 315 eP **P** 22 41 59.7 -1.1
comp=Z,15nm,0.9s
GRR **Gorron** 24.36 314 eP **P** 22 42 00.3 -1.0
comp=Z,20nm,0.8s
GRR **Gorron** 24.36 314 eP **P** 22 42 00.3 -1.0
comp=Z,9.9nm,0.8s
VSU **Vasula** 24.45 1 eP **P** 22 42 00.9 -1.0
VSU pmax pmax
comp=Z,45nm,0.8s
PAB **San Pablo** 24.52 292 eP **P** 22 42 03.4 +0.4
PAB pmax pmax
comp=Z,81nm,1.9s
PAB **San Pablo** 24.52 292 eP **P** 22 42 03.4 +0.4
comp=Z,81nm,1.9s
PAB **San Pablo** 24.52 292 eP **P** 22 42 03.4 +0.4
comp=Z,81nm,1.9s
IMEH **Mehriz** 24.54 88 eP **P** 22 42 04.6 +1.2
IMEH **Mehriz** 24.54 88 eP **P** 22 42 04.6 +1.2
MUD **Monsted U'grnd** 25.09 338 *i* P **P** 22 42 06.7 -1.0
MUD pmax pmax
comp=Z,11nm,0.8s
MUD MLR MLR
comp=Z,280nm,11.0s
MUD **Monsted U'grnd** 25.09 338 *i* P **P** 22 42 06.7 -1.0
comp=Z,11nm,0.7s
MUD
comp=Z,280nm,11.0s
MDT **Midelt** 25.19 276 P **P** 22 42 10.0 +0.9
MDT **Midelt** 25.19 276 P **P** 22 42 10.0 +0.9
comp=Z,8.6nm,0.9s,baz=88,slow=11,SNR=13
MDT **Midelt** 25.19 276 P **P** 22 42 10.0 +0.9
IBAF **Bafgh** 25.28 87 eP **P** 22 42 11.2 +1.2
IBAF **Bafgh** 25.28 87 eP **P** 22 42 11.2 +1.2
SGMF **Saint Gilles** 25.33 313 eP **P** 22 42 10.3 +0.2
comp=Z,72nm,1.2s
SGMF **Saint Gilles** 25.33 313 eP **P** 22 42 10.3 +0.2
comp=Z,36nm,1.2s
QUIF **Quistinic** 25.57 311 eP **P** 22 42 11.2 -1.1
comp=Z,30nm,0.7s
QUIF **Quistinic** 25.57 311 eP **P** 22 42 11.2 -1.1
comp=Z,15nm,0.7s
ROSF **Rostrenen** 25.80 312 eP **P** 22 42 12.8 -1.5
comp=Z,13nm,0.7s
ROSF **Rostrenen** 25.80 312 eP **P** 22 42 12.8 -1.5
comp=Z,6.7nm,0.7s
PBRG **Braganca** 26.53 297 eP **P** 22 42 21.4 +0.3
comp=Z,22nm,1.3s
PBRG **Braganca** 26.53 297 eP **P** 22 42 21.4 +0.3
comp=Z,22nm,1.3s
PBAR **Barrancos** 26.60 288 eP **P** 22 42 21.7 +0.1
comp=Z,37nm,2.0s
PBAR **Barrancos** 26.60 288 eP **P** 22 42 21.7 +0.1
comp=Z,37nm,2.0s
MVO **Moncorvo** 26.69 295 eP **P** 22 42 23.0 +0.5
comp=Z,30nm,1.2s
MVO eS S 22 46 27.8 -30
MVO eLR LR 22 51 29.2
comp=Z,156nm,18.0s
MVO **Moncorvo** 26.69 295 eP **P** 22 42 23.0 +0.5
comp=Z,30nm,1.2s
MVO eS S 22 46 27.8 -30
PMRV **Marv??o** 26.87 291 eP **P** 22 42 24.3 +0.2
comp=Z,28nm,1.3s
PMRV **Marv??o** 26.87 291 eP **P** 22 42 24.3 +0.2
comp=Z,28nm,1.3s
PESTR **Estremoz** 27.02 290 eP **P** 22 42 26.1 +0.6
comp=Z,28nm,1.4s
PESTR **Estremoz** 27.02 290 eP **P** 22 42 26.1 +0.6
comp=Z,28nm,1.4s
MTE **Manteigas** 27.02 293 eP **P** 22 42 25.8 +0.2
comp=Z,22nm,1.3s
MTE **Manteigas** 27.02 293 eP **P** 22 42 25.8 +0.2
comp=Z,22nm,1.3s
IAKL **Akhelmad** 27.12 75 eP **P** 22 42 24.4 -2.3
PVAQ **Vaqueiros** 27.16 287 eP **P** 22 42 27.8 +1.1
comp=Z,24nm,1.3s
PVAQ **Vaqueiros** 27.16 287 eP **P** 22 42 27.8 +1.1
comp=Z,24nm,1.3s
HFS **Hagfors** 27.25 347 P **P** 22 42 26.3 -1.0
HFS **Hagfors** 27.25 347 P **P** 22 42 26.3 -1.0
comp=Z,5.2nm,0.7s,baz=163,slow=11,SNR=25
HFS **Hagfors** 27.25 347 P **P** 22 42 26.3 -1.0
POLO **Lamas de Olo** 27.28 295 eP **P** 22 42 28.4 +0.5
comp=Z,9.4nm,1.7s
POLO **Lamas de Olo** 27.28 295 eP **P** 22 42 28.4 +0.5
comp=Z,9.4nm,1.7s
PVIS **Viseu** 27.31 294 eP **P** 22 42 28.4 +0.3
comp=Z,32nm,1.9s
PVIS **Viseu** 27.31 294 eP **P** 22 42 28.4 +0.3
comp=Z,32nm,1.9s
PBDV **Barranco-do-Ve** 27.34 286 eP **P** 22 42 29.4 +1.0
comp=Z,63nm,1.3s
PBDV **Barranco-do-Ve** 27.34 286 eP **P** 22 42 29.4 +1.0
comp=Z,63nm,1.3s
EVO **Evora** 27.36 289⇑ *i* P **P** 22 42 30.0 +1.5
comp=Z,34nm,1.3s
EVO eR
comp=Z,213nm,22.5s
PCVE **Castro Verde** 27.41 287 eP **P** 22 42 29.9 +1.0
comp=Z,31nm,1.7s
PCVE **Castro Verde** 27.41 287 eP **P** 22 42 29.9 +1.0
comp=Z,31nm,1.7s
FINES **FINESS Array B** 27.43 1 P **P** 22 42 27.4 -1.4
FINES PcP **PcP** 22 45 47.8 +0.7
FINES **FINESS Array B** 27.43 1 P **P** 22 42 27.4 -1.4
comp=Z,5.2nm,0.7s,baz=162,slow=11,SNR=23
FINES PcP **PcP** 22 45 47.8 +0.7
comp=Z,1.1nm,0.7s,baz=116,slow=4.4,SNR=3.9
FINES **FINESS Array B** 27.43 1 P **P** 22 42 27.4 -1.4

FINES	**FINES Array B**	**27.43**	**1**	PcP	**PcP**	**22 45 47.8**	**+0.7**			
FIA1	**FINES Array S**	**27.43**	**1**	*e*P	**P**	**22 42 27.5**	**-1.3**			
FIA1	**FINES Array S**	**27.43**	**1**	*e*P	**P**	**22 42 27.5**	**-1.3**			
EVOP	**Sao Brissos**	**27.44**	**289**	⇑*i*P	**P**	**22 42 30.0**	**+0.8**			
	comp=Z,17nm,1.3s									
PMTG	**Montargil**	**27.52**	**290**	*e*P	**P**	**22 42 29.6**	**-0.3**			
	comp=Z,14nm,1.6s									
PMTG	**Montargil**	**27.52**	**290**	*e*P	**P**	**22 42 29.6**	**-0.3**			
	comp=Z,14nm,1.6s									
IMOG	**Moghan**	**27.63**	**76**	*e*P	**P**	**22 42 30.8**	**-0.5**			
IMOG	**Moghan**	**27.63**	**76**	*e*P	**P**	**22 42 30.8**	**-0.5**			
PGAV	**Gavieira, Arco**	**27.69**	**297**	*e*P	**P**	**22 42 33.4**	**+1.9**			
	comp=Z,25nm,1.8s									
PGAV				*e*S	S	22 46 41.6	-32			
PGAV	**Gavieira, Arco**	**27.69**	**297**	*e*P	**P**	**22 42 33.4**	**+1.9**			
	comp=Z,25nm,1.8s									
PGAV				*e*S	S	22 46 41.6	-32			
KONO	**Kongsberg**	**27.70**	**342**	*e*P	**P**	**22 42 30.3**	**-1.0**			
KONO				pmax	pmax					
	comp=Z,12nm,1.3s									
KONO	**Kongsberg**	**27.70**	**342**	*e*P	**P**	**22 42 30.3**	**-1.0**			
	comp=Z,12nm,1.3s									
KONO	**Kongsberg**	**27.70**	**342**	*e*P	**P**	**22 42 30.3**	**-1.0**			
	comp=Z,12nm,1.3s									
KAF	**Kangasniemi**	**28.10**	**1**	*e*p	**P**	**22 42 33.0**	**-1.8**			
	comp=Z,3.8nm,0.6s									
KAF	**Kangasniemi**	**28.10**	**1**	*e*P	**P**	**22 42 33.0**	**-1.8**			
KAF				pmax	pmax					
	comp=Z,4.0nm,0.6s									
IMYA	**Miami**	**28.22**	**75**	*e*P	**P**	**22 42 35.3**	**-1.2**			
IMYA	**Miami**	**28.22**	**75**	*e*P	**P**	**22 42 35.3**	**-1.2**			
NAO01	**NORSAR Array S**	**28.46**	**345**	*e*P	**P**	**22 42 36.8**	**-1.3**			
	comp=Z,12nm,0.7s									
NAO01	**NORSAR Array S**	**28.46**	**345**	*e*P	**P**	**22 42 36.8**	**-1.3**			
	comp=Z,12nm,0.7s									
NB2	**NORSAR Subarra**	**28.57**	**345**	P	**P**	**22 42 38.1**	**-1.0**			
	comp=Z,5.7nm,0.9s,baz=158,slow=9.3									
NB2	**NORSAR Subarra**	**28.57**	**345**	P	**P**	**22 42 38.1**	**-1.0**			
	comp=Z,5.7nm,0.9s,SNR=8.6									
NOA	**NORSAR Array B**	**28.57**	**345**	P	**P**	**22 42 37.6**	**-1.5**			
NOA	**NORSAR Array B**	**28.57**	**345**	P	**P**	**22 42 37.6**	**-1.5**			
	comp=Z,4.1nm,0.7s,baz=174,slow=10,SNR=28									
NOA	**NORSAR Array B**	**28.57**	**345**	P	**P**	**22 42 37.6**	**-1.5**			
AKTO	**Aktyubinsk**	**28.78**	**45**	*i* P	**P**	**22 42 40.0**	**-1.0**			
AKTO				pmax	pmax					
	comp=Z,13nm,0.9s									
AKTO	**Aktyubinsk**	**28.78**	**45**	P	**P**	**22 42 40.9**	**-0.1**			
AKTO	**Aktyubinsk**	**28.78**	**45**	P	**P**	**22 42 40.9**	**-0.1**			
	comp=Z,5.6nm,0.7s,baz=252,slow=10,SNR=16									
AKTO	**Aktyubinsk**	**28.78**	**45**	P	**P**	**22 42 40.9**	**-0.1**			
EKA	**Eskdalemuir Ar**	**29.16**	**326**	P	**P**	**22 42 44.2**	**-0.1**			
EKA	**Eskdalemuir Ar**	**29.16**	**326**	P	**P**	**22 42 44.2**	**-0.1**			
	comp=Z,4.6nm,0.6s,baz=127,slow=9.5,SNR=36									
EKA	**Eskdalemuir Ar**	**29.16**	**326**	P	**P**	**22 42 44.2**	**-0.1**			
ESK	**Eskdalemuir**	**29.17**	**326**	*i* P	**P**	**22 42 45.1**	**+0.7**			
ESK	**Eskdalemuir**	**29.17**	**326**	*e*P	**P**	**22 42 44.0**	**-0.5**			
	comp=Z,8.1nm,0.9s									
ESK	**Eskdalemuir**	**29.17**	**326**	*e*P	**P**	**22 42 44.0**	**-0.5**			
	comp=Z,8.1nm,0.9s									
AB31	**Akbulak array**	**29.54**	**49**	*ce*P	**P**	**22 42 47.9**	**+0.1**			
AB31				pmax	pmax					
	comp=Z,3.0nm,0.4s									
ABKAR	**Akbulak array**	**29.54**	**49**	*e*P	**P**	**22 42 48.3**	**+0.5**			
ABKAR	**Akbulak array**	**29.54**	**49**	*e*P	**P**	**22 42 48.3**	**+0.5**			
TOA0	**Torodi Ar. Sit**	**30.05**	**232**	*e*P	**P**	**22 42 53.3**	**+0.7**			
TOA0	**Torodi Ar. Sit**	**30.05**	**232**	*e*P	**P**	**22 42 53.3**	**+0.7**			
TORD	**Torodi Ar. Bea**	**30.05**	**232**	P	**P**	**22 42 53.3**	**+0.7**			
TORD	**Torodi Ar. Bea**	**30.05**	**232**	P	**P**	**22 42 53.3**	**+0.7**			
	comp=Z,1.5nm,0.4s,baz=34,slow=8.7,SNR=52									
TORD	**Torodi Ar. Bea**	**30.05**	**232**	P	**P**	**22 42 53.3**	**+0.7**			
ARU	**Arti**	**31.77**	**35**	*d* i P	**P**	**22 43 07.0**	**-0.3**			
ARU						22 44 11.2				
ARU				S	**S**	**22 48 18.8**	**+2.2**			
ARU				SS	**SnSn**	**22 50 03.1**	**-0.7**			
ARU				pmax	pmax					
	comp=Z,18nm,1.7s									
ARU				MLR	MLR					
	comp=Z,194nm,19.0s									
SOKR	**Solikamsk**	**32.75**	**29**	*c i*P	**P**	**22 43 15.4**	**-0.5**			
SOKR				pmax	pmax					
	comp=Z,20nm,1.3s									
ARCES	**ARCESS Array B**	**35.55**	**360**	P	**P**	**22 43 37.6**	**-2.5**			
ARCES	**ARCESS Array B**	**35.55**	**360**	P	**P**	**22 43 37.6**	**-2.5**			
	comp=Z,2.5nm,0.6s,baz=169,slow=8.5,SNR=11									
ARE0	**ARCESS Array S**	**35.55**	**360**	*e*P	**P**	**22 43 38.9**	**-1.3**			
ARE0	**ARCESS Array S**	**35.55**	**360**	*e*P	**P**	**22 43 38.9**	**-1.3**			
KK31	**Karatay Array**	**35.91**	**62**	*i* P	**P**	**22 43 43.0**	**-0.6**			
KK31				pmax	pmax					
	comp=Z,28nm,1.5s									
KKAR	**Karatay Array**	**35.91**	**62**	*e*P	**P**	**22 43 44.4**	**+0.8**			
KKAR	**Karatay Array**	**35.91**	**62**	*e*P	**P**	**22 43 44.4**	**+0.8**			
KKAR	**Karatay Array**	**35.91**	**62**	*e*P	**P**	**22 43 44.4**	**+0.8**			
KMBO	**Kilima Mbogo**	**36.66**	**160**	LR	LR	22 58 31.6				
	comp=Z,240nm,21.0s,baz=276,slow=36									
BRVK	**Borovoye**	**36.83**	**45**	*i* P	**P**	**22 43 51.1**	**-0.2**			
BRVK				pmax	pmax					
	comp=Z,37nm,1.4s									
BRVK	**Borovoye**	**36.83**	**45**	*e*P	**P**	**22 43 51.7**	**+0.5**			
	comp=Z,15nm,1.1s									
BRVK	**Borovoye**	**36.83**	**45**	*e*P	**P**	**22 43 51.7**	**+0.5**			
	comp=Z,15nm,1.1s									
BVAR	**Borovoye Array**	**36.88**	**45**	P	**P**	**22 43 50.7**	**-1.0**			
BVAR				pmax	pmax					
	comp=Z,7.0nm,1.1s									
BVAR	**Borovoye Array**	**36.88**	**45**	P	**P**	**22 43 50.7**	**-1.0**			
BVAR	**Borovoye Array**	**36.88**	**45**	P	**P**	**22 43 50.7**	**-1.0**			
	comp=Z,7.2nm,1.1s,baz=243,slow=6.5,SNR=30									
BVAR	**Borovoye Array**	**36.88**	**45**	P	**P**	**22 43 50.7**	**-1.0**			
EKS2	**Erkin-Say**	**38.33**	**62**	*e*P	**P**	**22 44 04.5**	**+0.2**			
EKS2				pmax	pmax					
	comp=Z,15nm,1.5s									
EKS2	**Erkin-Say**	**38.33**	**62**	*e*P	**P**	**22 44 04.5**	**+0.2**			
	comp=Z,15nm,1.5s									
EKS2	**Erkin-Say**	**38.33**	**62**	*e*P	**P**	**22 44 04.5**	**+0.2**			
	comp=Z,15nm,1.5s									
AAK	**Ala-Archa**	**38.86**	**62**	*ce*P	**P**	**22 44 09.7**	**+0.9**			
AAK				pmax	pmax					
	comp=Z,38nm,1.7s									
AAK	**Ala-Archa**	**38.86**	**62**	*e*P	**P**	**22 44 10.2**	**+1.4**			
	comp=Z,18nm,1.5s									
AAK	**Ala-Archa**	**38.86**	**62**	P	**P**	**22 44 10.2**	**+1.4**			
	comp=Z,2.6nm,0.7s,baz=243,slow=11,SNR=12									
AAK	**Ala-Archa**	**38.86**	**62**	*e*P	**P**	**22 44 10.2**	**+1.4**			
	comp=Z,18nm,1.5s									
FRU	**Bishkek**	**38.94**	**62**	*e*P	**P**	**22 44 10.5**	**+1.2**			
FRU				pmax	pmax					
	comp=Z,50nm,1.8s									
DBIC	**Dimbokro**	**39.15**	**233**	P	**P**	**22 44 13.8**	**+2.6**			
DBIC	**Dimbokro**	**39.15**	**233**	P	**P**	**22 44 13.8**	**+2.6**			
	comp=Z,2.4nm,0.8s,baz=88,slow=4.3,SNR=4.7									
DBIC				LR	LR	23 03 55.6				
	comp=Z,518nm,18.0s,baz=20,slow=42									
TKM2	**Tokmak 2**	**39.65**	**62**	*e*P	**P**	**22 44 15.9**	**+0.5**			
TKM2				pmax	pmax					
	comp=Z,5.0nm,0.9s									
TKM2	**Tokmak 2**	**39.65**	**62**	*e*P	**P**	**22 44 15.8**	**+0.5**			
	comp=Z,4.8nm,0.9s									
TKM2	**Tokmak 2**	**39.65**	**62**	*e*P	**P**	**22 44 15.9**	**+0.5**			
	comp=Z,4.8nm,0.9s									
KURBB	**Kurchatov Arra**	**41.57**	**50**	P	**P**	**22 44 31.4**	**+0.5**			
	comp=Z,10nm,0.6s,baz=275,slow=8.9,SNR=82									
KURK	**Kurchatov**	**41.63**	**50**	P	**P**	**22 44 31.4**	**0.0**			
KURK				pmax	pmax					
	comp=Z,10.0nm,0.6s									
KURK	**Kurchatov**	**41.63**	**50**	P	**P**	**22 44 31.4**	**0.0**			
KURK	**Kurchatov**	**41.63**	**50**	P	**P**	**22 44 31.4**	**0.0**			
MK31	**Makanchi Array**	**44.12**	**56**	*ce*P	**P**	**22 44 51.7**	**0.0**			
MK31				pmax	pmax					
	comp=Z,10.0nm,0.5s									
MK31	**Makanchi Array**	**44.12**	**56**	*e*P	**P**	**22 44 52.1**	**+0.4**			
MK31	**Makanchi Array**	**44.12**	**56**	*e*P	**P**	**22 44 52.1**	**+0.4**			
MKAR	**Makanchi Array**	**44.12**	**56**	P	**P**	**22 44 52.1**	**+0.4**			
MKAR				pmax	pmax					
	comp=Z,10.0nm,0.6s									
MKAR	**Makanchi Array**	**44.12**	**56**	*e*P	**P**	**22 44 52.1**	**+0.4**			
MKAR	**Makanchi Array**	**44.12**	**56**	P	**P**	**22 44 52.0**	**+0.4**			
	comp=Z,9.6nm,0.6s,baz=272,slow=6.9,SNR=76									
MKAR	**Makanchi Array**	**44.12**	**56**	*e*P	**P**	**22 44 52.1**	**+0.4**			
NVS	**Novosibirsk**	**44.65**	**44**	⇑*i*P	**P**	**22 44 56.2**	**+0.5**			
NVS				*e*		22 46 39.5				
NVS				*e*S	**S**	**22 51 31.3**	**+0.1**			
NVS				*e*		22 54 55.6				
NVS				pmax	pmax					
	comp=N,8.0nm,1.3s									
NVS				pmax	pmax					
	comp=E,9.0nm,1.3s									
NVS				pmax	pmax					
	comp=Z,28nm,1.3s									
NVS				smax	smax					
	comp=N,7.0nm,1.7s									
NVS				smax	smax					
	comp=E,3.0nm,1.5s									
ZAA0	**Zalesovo Array**	**45.54**	**45**	*e*P	**P**	**22 45 02.5**	**-0.3**			
ZAA0	**Zalesovo Array**	**45.54**	**45**	*e*P	**P**	**22 45 02.5**	**-0.3**			
ZALV	**Zalesovo Beam**	**45.54**	**45**	*i* P	**P**	**22 45 02.5**	**-0.3**			
ZALV				pmax	pmax					
	comp=Z,4.0nm,0.4s									
ZALV	**Zalesovo Beam**	**45.54**	**45**	P	**P**	**22 45 02.6**	**-0.3**			
ZALV	**Zalesovo Beam**	**45.54**	**45**	P	**P**	**22 45 02.6**	**-0.3**			
	comp=Z,4.1nm,0.4s,baz=268,slow=8.7,SNR=31									
ZALV	**Zalesovo Beam**	**45.54**	**45**	P	**P**	**22 45 02.6**	**-0.3**			
DAG	**Danmarks Havn**	**47.22**	**347**	*i* P	**P**	**22 45 15.2**	**-0.5**			
DAG				pmax	pmax					
	comp=Z,3.0nm,0.7s									
DAG	**Danmarks Havn**	**47.22**	**347**	*i* P	**P**	**22 45 15.2**	**-0.5**			
	comp=Z,4.3nm,0.7s									
WMQ	**Urumqi**	**48.28**	**59**	P	**P**	**22 45 23.2**	**-1.3**			
PYUN	**Piuthan**	**48.99**	**81**	*e*P	**P**	**22 45 31.1**	**+0.7**			
	comp=Z,37nm,0.8s									
LSZ	**Lusaka**	**49.10**	**177**	P	**P**	**22 45 31.9**	**+0.9**			
LSZ	**Lusaka**	**49.10**	**177**	P	**P**	**22 45 31.9**	**+0.9**			
	comp=Z,1.5nm,0.6s,baz=42,slow=5.8,SNR=4.0									
LSZ	**Lusaka**	**49.10**	**177**	P	**P**	**22 45 31.9**	**+0.9**			
DANN	**Dangsing**	**49.53**	**80**	*e*P	**P**	**22 45 35.4**	**+0.8**			
	comp=Z,40nm,0.6s									
KOLN	**Koldanda**	**49.62**	**81**	*e*P	**P**	**22 45 35.4**	**+0.3**			
	comp=Z,12nm,0.7s									
KRAR	**Krasnoyarsk**	**50.13**	**42**	*e*P	**P**	**22 45 38.7**	**+0.3**			
KRAR				pmax	pmax					
	comp=Z,22nm,1.2s									
SUMG	**Summit**	**50.15**	**339**	*i* P	**P**	**22 45 38.8**	**0.0**			
SUMG				pmax	pmax					
	comp=Z,4.0nm,0.9s									
SUMG	**Summit**	**50.15**	**339**	*i* P	**P**	**22 45 38.8**	**0.0**			
	comp=Z,3.9nm,0.9s									
DMN	**Daman**	**50.91**	**80**	*e*P	**P**	**22 45 45.6**	**+0.6**			
	comp=Z,44nm,1.0s									
KKN	**Kakani**	**50.98**	**80**	*e*P	**P**	**22 45 45.7**	**+0.2**			
	comp=Z,37nm,0.9s									
PKIN	**Phulchoki**	**51.16**	**80**	*e*P	**P**	**22 45 47.0**	**+0.1**			
	comp=Z,26nm,0.9s									
PKI	**Pulchoki**	**51.17**	**80**	*e*P	**P**	**22 45 47.1**	**0.0**			
	comp=Z,36nm,1.0s									
GUN	**Gumba**	**51.43**	**80**	*e*P	**P**	**22 45 49.4**	**+0.4**			
	comp=Z,28nm,0.6s									
JIRN	**Jiri**	**51.78**	**80**	*e*P	**P**	**22 45 51.7**	**0.0**			
RAMN	**Ramite**	**52.39**	**80**	*e*P	**P**	**22 45 55.5**	**-0.6**			
	comp=Z,47nm,1.2s									
ODAN	**Odare**	**53.07**	**80**	*e*P	**P**	**22 46 00.8**	**-0.3**			
	comp=Z,18nm,0.8s									
TAPN	**Taplejung**	**53.14**	**79**	*e*P	**P**	**22 46 01.5**	**-0.2**			
	comp=Z,45nm,1.0s									
TSUM	**Tsumeb**	**53.49**	**189**	P	**P**	**22 46 04.8**	**+0.9**			
TSUM	**Tsumeb**	**53.49**	**189**	P	**P**	**22 46 04.8**	**+0.9**			
	comp=Z,4.0nm,0.7s,baz=85,slow=11,SNR=4.0									
TSUM	**Tsumeb**	**53.49**	**189**	P	**P**	**22 46 04.8**	**+0.9**			
LSA	**Lhasa**	**55.01**	**75**	*e*P	**P**	**22 46 16.1**	**+0.6**			
LSA				pmax	pmax					
	comp=Z,38nm,1.8s									
LSA	**Lhasa**	**55.01**	**75**	*e*P	**P**	**22 46 16.1**	**+0.6**			
	comp=Z,38nm,1.8s									
LSA	**Lhasa**	**55.01**	**75**	*e*P	**P**	**22 46 16.1**	**+0.6**			
	comp=Z,38nm,1.8s									
TLY	**Talaya**	**57.12**	**46**	*e*P	**P**	**22 46 29.3**	**-0.4**			
TLY				pmax	pmax					
	comp=Z,18nm,1.5s									
TLY				MLR	MLR					
	comp=Z,146nm,17.0s									
ZAK	**Zakamensk**	**57.23**	**48**	⇓*e*P	**P**	**22 46 31.3**	**+0.6**			
ZAK				pmax	pmax					
	comp=Z,10.0nm,1.3s									
GTA	**Gaotai**	**58.19**	**61**	*e*P	**P**	**22 46 37.4**	**-0.2**			
GTA				pP	**pP**	**22 46 44.7**	**+2.0**			
GTA				sP	**sP**	**22 46 48.2**	**+3.6**			
GTA				pmax	pmax					
	comp=Z,7.0nm,1.4s									
SONM	**Songino Array**	**59.94**	**50**	P	**P**	**22 46 49.4**	**-0.2**			
SONM	**Songino Array**	**59.94**	**50**	P	**P**	**22 46 49.4**	**-0.2**			
	comp=Z,4.1nm,0.7s,baz=280,slow=7.6,SNR=14									
SONM				LR	LR	23 15 48.8				
	comp=Z,210nm,19.7s,baz=75,slow=39									
SONM	**Songino Array**	**59.94**	**50**	P	**P**	**22 46 49.4**	**-0.2**			
ULN	**Ulaanbaatar**	**60.34**	**50**	*e*P	**P**	**22 46 52.9**	**+0.5**			
	comp=Z,21nm,1.4s									
ULN	**Ulaanbaatar**	**60.34**	**50**	P	**P**	**22 46 53.3**	**+0.9**			
	comp=Z,13nm,1.4s,comp=Z,184nm									
ULN	**Ulaanbaatar**	**60.34**	**50**	*e*P	**P**	**22 46 52.9**	**+0.5**			
	comp=Z,21nm,1.4s									
BOSA	**Boshof**	**62.31**	**180**	P	**P**	**22 47 06.7**	**+1.0**			
BOSA	**Boshof**	**62.31**	**180**	P	**P**	**22 47 06.7**	**+1.0**			
	comp=Z,3.0nm,0.8s,baz=42,slow=9.4,SNR=4.7									
BOSA				LR	LR	23 15 08.7				
	comp=Z,181nm,18.5s,baz=357,slow=37									
BOSA	**Boshof**	**62.31**	**180**	P	**P**	**22 47 06.7**	**+1.0**			
SCHQ	**Schefferville**	**64.27**	**320**	*e*P	**P**	**22 47 18.4**	**0.0**			
	comp=Z,11nm,0.6s									
SCHQ	**Schefferville**	**64.27**	**320**	P	**P**	**22 47 17.1**	**-1.2**			
	comp=Z,10nm,0.6s,baz=57,slow=5.7,SNR=32									
SCHQ	**Schefferville**	**64.27**	**320**	*e*P	**P**	**22 47 18.4**	**0.0**			
	comp=Z,11nm,0.6s									
CD2	**Chengdu**	**64.47**	**69**	P	**P**	**22 47 19.6**	**-0.5**			
CD2				pP	**pP**	**22 47 24.3**	**-0.9**			
CD2				PcP	**PcP**	**22 47 53.8**	**-0.6**			
CD2				PP	**PP**	**22 49 43.1**	**+1.3**			
CD2				S	**S**	**22 55 56.6**	**-2.1**			
CD2				SKS	**SKSac**	**22 57 11.2**	**-2.9**			
CD2				SS	**SS**	**23 00 08.1**	**-0.5**			
CD2				pmax	pmax					
	comp=Z,10.0nm,0.5s									
CD2				pmax	pmax					
	comp=Z,120nm,5.4s									
CHTO	**Chiang Mai**	**66.19**	**83**	*e*P	**P**	**22 47 30.4**	**-1.0**			
CHTO				pmax	pmax					
	comp=Z,12nm,1.3s									
CHTO	**Chiang Mai**	**66.19**	**83**	*e*P	**P**	**22 47 30.4**	**-1.0**			
	comp=Z,12nm,1.3s									
CHTO	**Chiang Mai**	**66.19**	**83**	P	**P**	**22 47 32.3**	**+0.9**			
	comp=Z,8.9nm,1.4s									
CHTO	**Chiang Mai**	**66.19**	**83**	*e*P	**P**	**22 47 30.4**	**-1.0**			
	comp=Z,12nm,1.3s									
CHTO	**Chiang Mai**	**66.19**	**83**	P	**P**	**22 47 31.8**	**+0.4**			
	comp=Z,8.9nm,1.4s									
CMMT	**Chiang Mai**	**66.19**	**83**	P	**P**	**22 47 31.8**	**+0.4**			
	comp=Z,8.0nm,1.3s,comp=Z,302nm									
CMMT	**Chiang Mai**	**66.19**	**83**	P	**P**	**22 47 31.8**	**+0.4**			
	comp=Z,8.0nm,1.3s,comp=Z,302nm									
KMI	**Kunming**	**66.27**	**75**	P	**P**	**22 47 31.9**	**-0.2**			
KMI				pmax	pmax					
	comp=Z,8.0nm,0.7s									
CMAR	**Chiang Mai Arr**	**66.36**	**83**	P	**P**	**22 47 32.7**	**+0.2**			
CMAR	**Chiang Mai Arr**	**66.36**	**83**	P	**P**	**22 47 32.7**	**+0.2**			
	comp=Z,1.0nm,0.4s,baz=303,slow=7.9,SNR=15									
CMAR				LR	LR	23 19 56.2				
	comp=Z,114nm,20.8s,baz=305,slow=39									
CMAR	**Chiang Mai Arr**	**66.36**	**83**	P	**P**	**22 47 32.7**	**+0.2**			
LAMP	**Lampang**	**66.90**	**83**	P	**P**	**22 47 37.7**	**+1.8**			
	comp=Z,4.5nm,1.3s									
LOEI	**Loei**	**68.75**	**83**	P	**P**	**22 47 50.2**	**+2.6**			
	comp=Z,207nm,1.0s									
PBKT	**Sadao Pong**	**68.98**	**84**	P	**P**	**22 47 50.6**	**+1.6**			
PBKT	**Sadao Pong**	**68.98**	**84**	P	**P**	**22 47 50.6**	**+1.6**			
	comp=Z,6.2nm,1.2s									
CHAI	**Chaiyaphum**	**70.16**	**84**	P	**P**	**22 47 58.1**	**+1.8**			
	comp=Z,2.8nm,1.1s									
NAYO	**Nakonayok**	**70.42**	**86**	P	**P**	**22 47 59.0**	**+1.1**			
	comp=Z,288nm,0.7s									
SKNT	**Sakolnakorn**	**71.25**	**82**	P	**P**	**22 48 03.9**	**+0.9**			
BILL	**Bilibino**	**74.07**	**14**	⇓*e*P	**P**	**22 48 19.6**	**+0.7**			
BILL				*e*		22 51 00.9				
BILL				*e*S	**S**	**22 57 51.2**	**+0.5**			
BILL				pmax	pmax					
	comp=Z,4.0nm,1.2s									
KLR	**Kul'dur**	**74.39**	**41**	*e*P	P	22 48 17.2	-3.9			
KLR				pmax	pmax					
	comp=Z,33nm,1.4s									
QIZ	**Qiongzhong**	**74.99**	**77**	P	**P**	**22 48 22.0**	**-3.0**			
QIZ				S	**S**	**22 58 00.7**	**-1.8**			
QIZ				pmax	pmax					
	comp=Z,8.0nm,1.4s									
HABR	**Khabarovsk**	**76.61**	**40**	*e*P	**P**	**22 48 32.1**	**-1.7**			
HABR				*e*S	**S**	**22 58 19.7**	**+0.3**			
HABR				*e*		22 58 48.0				
HABR				*e*SS	**SS**	**23 03 15.9**	**+2.1**			
HABR				pmax	pmax					
	comp=N,9.0nm,0.7s									
HABR				pmax	pmax					
	comp=E,44nm,1.0s									
HABR				pmax	pmax					
	comp=Z,19nm,1.0s									
HABR				MLR	MLR					
	comp=Z,95nm,19.0s									
USRK	**Ussuriysk Arra**	**77.40**	**45**	P	**P**	**22 48 38.4**	**+0.1**			
	comp=Z,3.3nm,0.6s,baz=290,slow=5.5,SNR=11									
YKA	**Yellowknife Ar**	**78.62**	**342**	P	**P**	**22 48 44.7**	**-0.1**			
YKA	**Yellowknife Ar**	**78.62**	**342**	P	**P**	**22 48 44.7**	**-0.1**			
	comp=Z,3.5nm,0.6s,baz=31,slow=5.5,SNR=25									
YKA	**Yellowknife Ar**	**78.62**	**342**	P	**P**	**22 48 44.7**	**-0.1**			
KSAR	**Wonju Array Be**	**78.67**	**52**	P	**P**	**22 48 45.4**	**-0.2**			
KSAR	**Wonju Array Be**	**78.67**	**52**	P	**P**	**22 48 45.3**	**-0.2**			
KSRS	**Korea Array**	**78.69**	**52**	P	**P**	**22 48 45.4**	**-0.3**			
	comp=Z,1.4nm,0.6s,baz=302,slow=4.9,SNR=11									
COLD	**Coldfoot**	**79.00**	**358**	*e*P	**P**	**22 48 47.7**	**+0.9**			
	comp=Z,5.6nm,1.0s									
COLD	**Coldfoot**	**79.00**	**358**	*e*P	**P**	**22 48 47.7**	**+0.9**			
	comp=Z,5.6nm,1.0s									
FFC	**Flin Flon**	**80.78**	**332**	*ce*P	**P**	**22 48 57.9**	**+1.2**			
FFC	**Flin Flon**	**80.78**	**332**	*e*P	**P**	**22 48 56.9**	**+0.2**			
	comp=Z,6.3nm,0.9s									
FFC	**Flin Flon**	**80.78**	**332**	*e*P	**P**	**22 48 56.9**	**+0.2**			
	comp=Z,6.3nm,0.9s									
COWI	**Conover**	**80.88**	**320**	*e*P	**P**	**22 48 58.0**	**+0.6**			
	comp=Z,9.5nm,0.8s									
COWI	**Conover**	**80.88**	**320**	*e*P	**P**	**22 48 58.0**	**+0.6**			
	comp=Z,9.5nm,0.8s									
HUMP	**Col San Antoni**	**81.21**	**286**	*e*P	**P**	**22 48 59.2**	**-0.4**			
HUMP	**Col San Antoni**	**81.21**	**286**	*e*P	**P**	**22 48 59.2**	**-0.4**			
ILAR	**Eielson Array**	**81.34**	**357**	P	**P**	**22 48 59.5**	**0.0**			
ILAR	**Eielson Array**	**81.34**	**357**	P	**P**	**22 48 59.5**	**0.0**			
	comp=Z,2.4nm,0.7s,baz=349,slow=3.7,SNR=18									
ILAR	**Eielson Array**	**81.34**	**357**	P	**P**	**22 48 59.5**	**0.0**			
MCK	**McKinley**	**82.47**	**358**	*e*P	**P**	**22 49 04.9**	**-0.6**			
MCK				pmax	pmax					
	comp=Z,8.0nm,0.9s									
MCK	**McKinley**	**82.47**	**358**	*e*P	**P**	**22 49 04.9**	**-0.6**			
	comp=Z,7.8nm,0.9s									
MCK	**McKinley**	**82.47**	**358**	*e*P	**P**	**22 49 04.

PGC	**Sidney**	**0.97**	**325**	⇑P	**Pn**	**22 40 27.1**	**-1.1**
PGC				⇑S	**Sb**	**22 40 39.6**	**-1.6**
PGC	**Sidney**	**0.97**	**325**	*e*Pg	**Pn**	**22 40 27.2**	**-1.1**
PGC				*e*Sg	**Sb**	**22 40 40.6**	**-0.7**
SNB	**Saturna Island**	**1.00**	**338**	P	**Pn**	**22 40 28.2**	**-0.3**
SNB				⇓S	**Sb**	**22 40 41.1**	**-0.8**
GPW	**Glacier Peak**	**1.03**	**74**	P	**Pn**	**22 40 28.8**	**-0.4**
MBW	**Mount Baker**	**1.05**	**27**	⇓P	**Pn**	**22 40 29.3**	**-0.1**
LZB	**Mount Lazard**	**1.11**	**314**	⇑P	**Pn**	**22 40 29.1**	**-1.1**
LZB				⇓S	**Sn**	**22 40 43.6**	**-1.0**
VDB	**Vedder Mountai**	**1.22**	**16**	⇓P	**Pn**	**22 40 32.0**	**+0.3**
VDB				⇑S	**Sn**	**22 40 48.0**	**+0.8**
LON	**Longmire**	**1.23**	**153**	*e*Pn	**Pn**	**22 40 31.2**	**-0.6**
LON				*e*Sn	**Sn**	**22 40 47.5**	**0.0**
GOBB	**Galiano Island**	**1.25**	**332**	⇑P	**Pn**	**22 40 32.0**	**0.0**
BPCB	**Bare Point**	**1.30**	**326**	⇑P	**Pn**	**22 40 32.2**	**-0.4**
BPCB				⇓S	**Sn**	**22 40 48.6**	**-0.4**
PFB	**Port Renfrew**	**1.42**	**301**	⇓P	**Pn**	**22 40 33.9**	**-0.5**
PFB				⇑S	**Sn**	**22 40 52.2**	**+0.1**
BMW	**Boistfort Moun**	**1.44**	**197**	*e*Pn	**Pn**	**22 40 35.0**	**+0.3**
GLK	**Glacier Lake**	**1.46**	**152**	P	**Pn**	**22 40 35.6**	**+0.6**
ETW	**Entiat**	**1.56**	**98**	*e*Pn	**Pn**	**22 40 37.4**	**+1.0**
BIB	**Bowen Island**	**1.62**	**344**	⇓P	**Pn**	**22 40 37.9**	**+0.8**
BIB				⇓S	**Sn**	**22 40 57.5**	**+0.5**
NAC	**Naches**	**1.65**	**132**	P	**Pn**	**22 40 38.9**	**+1.3**
NLLB	**Nanaimo Lost L**	**1.65**	**327**	⇑P	**Pn**	**22 40 37.9**	**+0.3**
NLLB				⇑S	**Sn**	**22 40 58.8**	**+1.0**
FL2	**Flat Top 2**	**1.67**	**174**	P	**Pn**	**22 40 38.2**	**+0.4**
HOPB	**Hope**	**1.73**	**27**	⇓P	**Pn**	**22 40 39.0**	**+0.4**
HOPB				⇓S	**Sb**	**22 41 02.3**	**-0.5**
MGB	**Mount Grey**	**1.80**	**310**	⇓P	**Pn**	**22 40 40.1**	**+0.4**
MGB				⇑S	**Sn**	**22 41 02.0**	**+0.8**
GHNB	**Nanoose**	**1.81**	**324**	⇓P	**Pn**	**22 40 39.9**	**+0.2**
GHNB				⇑S	**Sn**	**22 41 02.6**	**+0.9**
WPB	**Watts Point**	**1.85**	**348**	⇑P	**Pn**	**22 40 41.1**	**+0.8**
SHB	**Sechelt**	**1.94**	**335**	⇑P	**Pn**	**22 40 42.4**	**+0.8**
SHB				⇑S	**Sn**	**22 41 06.9**	**+1.9**
ALB	**Alberni**	**2.05**	**315**	⇑P	**Pn**	**22 40 44.0**	**+1.0**
ALB				⇓S	**Sn**	**22 41 09.1**	**+1.7**
TXB	**Texada**	**2.21**	**328**	⇓P	**Pn**	**22 40 46.4**	**+1.2**
OZB	**Mount Ozzard**	**2.22**	**301**	⇑P	**Pn**	**22 40 47.0**	**+1.6**
WSLR	**Whistler**	**2.29**	**355**	⇑P	**Pn**	**22 40 47.8**	**+1.4**
PNT	**Penticton**	**2.47**	**53**	⇑P	**Pn**	**22 40 49.7**	**+0.8**
BTB	**Buttle Lake**	**2.52**	**311**	⇑P	**Pn**	**22 40 51.7**	**+2.1**
HAWA	**Hanford**	**2.56**	**124**	*e*Pn	**Pn**	**22 40 51.6**	**+1.5**
HAWA				*e*Sb	**Sb**	**22 41 24.2**	**-2.5**
LLLB	**Lillooet**	**2.80**	**10**	⇓P	**Pn**	**22 40 54.3**	**+0.9**
COR	**Corvallis**	**3.30**	**189**	*e*Pn	**Pn**	**22 41 01.1**	**+0.9**
NEW	**Newport**	**3.71**	**82**	*e*Pn	**Pn**	**22 41 06.0**	**+0.2**
MAYB	**Maynard**	**3.93**	**312**	⇓P	Pn	22 41 12.6	+3.8
HOLB	**Holberg**	**4.57**	**310**	⇑P	Pn	22 41 21.6	+4.0
BMO	**Blue Mountains**	**4.74**	**127**	*e*Pn	**Pn**	**22 41 21.2**	**+1.0**
UBRB	**Upper Baezaeko**	**5.13**	**350**	⇑P	**Pn**	**22 41 27.3**	**+1.9**
HUMO	**Hull Mountain**	**5.25**	**183**	*e*Pn	**Pn**	**22 41 26.5**	**-0.5**
BSMT	**Bassoo Peak**	**5.27**	**87**	*e*Pn	**Pn**	**22 41 26.9**	**-0.5**
BSMT				*e*Sb	**Sb**	**22 42 46.8**	**+2.1**
JTMT	**Jette**	**5.62**	**88**	Pn	**Pn**	**22 41 32.1**	**0.0**
JTMT				*e*Sn	**Sn**	**22 42 34.7**	**-1.0**
WALA	**Waterton Lakes**	**5.91**	**75**	*e*Pn	Pn	22 41 32.7	-3.5
WALA				*e*Sn	**Sn**	**22 42 42.8**	**-0.2**
CHMT	**Chamberlain Mo**	**6.43**	**95**	*e*Pn	**Pn**	**22 41 45.5**	**+2.2**
CHMT				*e*Sn	**Sn**	**22 42 55.0**	**-0.8**
LRM	**Limekiln Ridge**	**7.26**	**102**	*e*Pn	**Pn**	**22 41 54.2**	**-0.6**
WDC	**Whiskeytown Da**	**7.27**	**180**	*e*Pn	**Pn**	**22 41 53.7**	**-1.1**
MCMT	**McKenzie Canyo**	**7.40**	**111**	*e*Pn	**Pn**	**22 41 55.1**	**-1.7**
QLMT	**Earthquake Lak**	**8.31**	**107**	*e*Pn	Pn	22 42 05.5	-3.6
BMN	**Battle Mountai**	**8.37**	**150**	*e*Pn	**Pn**	**22 42 11.8**	**+1.9**

PGC 02 22:49:07.5±1.5,**50°59N**×**130°38W**,**h10**km,**ML3.0**/11,
Mw3.6, 10D, 209km west of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.44**	**87**	⇓*i*Pn	Pn	22 49 31.4	-2.3
HOLB				⇓Sn	Sn	22 49 48.2	-4.4
BPBC	**Brooks Peninsu**	**1.73**	**103**	⇑*i*Pn	Pn	22 49 34.8	-2.9
PHC	**Port Hardy**	**1.88**	**85**	*i*Pn	Pn	22 49 37.8	-1.9
PHC				⇓Sn	Sn	22 49 59.3	-4.1
MAYB	**Maynard**	**2.06**	**94**	⇓*i*Pn	Pn	22 49 40.1	-2.2
BBB	**Bella Bella**	**2.14**	**41**	*i*Pn	Pn	22 49 41.8	-1.5
BBB				⇓Sn	Sn	22 50 06.2	-3.7
BNB	**Barry Inlet**	**2.17**	**337**	⇓*i*Pn	Pn	22 49 41.9	-1.9
BNB				⇑Sn	Sn	22 50 07.9	-2.9
EDB	**Eliza Dome**	**2.21**	**108**	⇓*i*Pn	Pn	22 49 41.9	-2.4
MOBC	**Moresby Island**	**2.74**	**340**	*i*Pn	Pn	22 49 49.7	-2.0
MOBC				⇓Sn	Sn	22 50 21.9	-3.0
GDR	**Gold River**	**2.91**	**104**	⇓*i*Pn	Pn	22 49 51.9	-1.9
DIB	**Dawson Inlet,**	**2.92**	**334**	⇓*i*Pn	Pn	22 49 52.4	-1.6
DIB				⇑Sn	Sn	22 50 27.0	-2.2
BTB	**Buttle Lake**	**3.33**	**108**	⇑*i*Pn	Pn	22 49 58.1	-1.8
NDB	**Naden**	**3.72**	**336**	⇑*i*Pn	Pn	22 50 03.7	-1.3
PFB	**Port Renfrew**	**4.36**	**115**	⇓*i*Pn	Pn	22 50 13.6	-0.2

MEX 02 23:23:17.6±0.8,**16°82N**×**94°14W**,**h203**km±15km,**MD3.9,**
Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.42**	**141**	*e*P	Pn	23 23 50.0	-1.0
PCIG				*i*S	S	23 24 13.9	-2.5
HUIG	**Huatulco**	**2.16**	**241**	*i*P	Pn	23 23 56.5	-1.6
HUIG				*i*S	S	23 24 28.1	-1.0
VHO	**Vista Hermosa**	**2.50**	**276**	*i*P	Pn	23 24 00.7	-1.2
VHO				*i*S	S	23 24 34.2	-1.7
UTMO	**Huajuapan**	**3.64**	**286**	*i*P	Pn	23 24 14.6	-0.8
PNIG	**Pinotepa**	**3.85**	**264**	*e*P	Pn	23 24 16.0	-1.7
PNIG				*i*S	S	23 25 02.4	-1.9

IDC 02 23:24:43.7±4.3,**17°71S**×**66°07E**,**h0**km,**mb3.8**/5,
mb1 4.1/5,**mb1mx3.7**/25,**mbtmp3.8**/5,**MS3.8**/2,**Ms1 3.8**/2,
ms1mx3.0/43,**Error ellipse: s-maj=124.0km**
s-min=32.0km az=61.0,**Mauritius - Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**32.76**	**297**	LR	LR	23 42 15.6	
	comp=Z,109nm,18.0s,baz=96,slow=32						
CMAR	**Chiang Mai Arr**	**48.34**	**44**	P	P	23 33 27.2	-0.2
	0.6nm,0.3s,baz=237,slow=9.1,SNR=5.6						
FITZ	**Fitzroy Crossi**	**56.46**	**100**	LR	LR	23 52 53.9	
	comp=Z,107nm,21.0s,baz=296,slow=30						
ASAR	**Alice Springs**	**63.23**	**108**	P	P	23 35 14.1	-0.4
	1.0nm,0.7s,baz=269,slow=6.3,SNR=9.7						
WRA	**Warramunga Arr**	**64.25**	**104**	P	P	23 35 21.6	+0.4
	0.7nm,0.3s,baz=265,slow=6.0,SNR=7.3						
MKAR	**Makanchi Array**	**65.85**	**12**	P	P	23 35 31.2	+0.3
	0.4nm,0.4s,baz=203,slow=4.9,SNR=7.0						
ZALV	**Zalesovo Beam**	**73.16**	**11**	P	P	23 36 15.6	-0.3
	0.4nm,0.4s,baz=219,slow=3.7,SNR=3.5						

WEL ***02*** *23:36:13.9±0.4,36°74S×177°44E,h5km,ML4.4/22,Error ellipse: s-maj=3.5km s-min=2.5km az=0.0*
NEIC ***02*** *23:36:14.9,36°81S×177°45E,h5km,ML4.3(WEL),After WEL.*
ISCJB ***02*** *23:36:15.0±0.6,36°96S±0°04×177°34E±0°04,h5km, mb4.1/3,MS3.4/1,Error ellipse: s-maj=6.4km s-min=3.6km az=41.7*
IDC ***02*** *23:36:17.7±3.6,39°23S×178°18E,h84km±27km,mb3.9/3, mb1 4.1/3,mb1mx3.6/17,mbtmp3.9/3,MS3.5/1,Ms1 3.5/1, ms1mx2.9/27,Error ellipse: s-maj=58.3km s-min=36.1km az=25.0*

ISC 02 23:36:13.9±0.9,**36°85S**±0°05×**177°43E**±0°04,**h5**km,**n96,**
σ1**§50**/99,**mb4.0**/3,**5D,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.71**	**195**	P*	**Pg**	**23 36 28.9**	**+1.4**
WIZ				S*	**Sg**	**23 36 37.9**	**+1.2**
WIZ	**White Island**	**0.71**	**195**	P*	**Pg**	**23 36 28.9**	**+1.4**
MXZ	**Matakaoa Point**	**1.00**	**136**	P*	**Pg**	**23 36 33.0**	**-0.2**
MXZ				S*	**Sg**	**23 36 45.5**	**-0.7**
MXZ	**Matakaoa Point**	**1.00**	**136**	⇓P*	**Pg**	**23 36 33.0**	**-0.2**
MXZ				S*	**Sg**	**23 36 45.7**	**-0.5**
MXZ				AML	AML	23 36 46.8	
MXZ				AML	AML	23 36 46.8	
MXZ				AML	AML	23 36 55.0	
MYRZ	**Mayor Island**	**1.04**	**245**	P*	**Pn**	**23 36 35.1**	**-0.2**
OPRZ	**Ohinepanea**	**1.22**	**215**	P*	**Pn**	**23 36 36.8**	**-0.8**
OPRZ	**Ohinepanea**	**1.22**	**215**	P*	**Pn**	**23 36 36.8**	**-0.8**
KUZ	**Kuaotunu**	**1.37**	**274**	Pn	**Pb**	**23 36 39.2**	**-0.9**
KUZ	**Kuaotunu**	**1.37**	**274**	⇓PN	**Pb**	**23 36 39.2**	**-0.9**
KUZ				S*	**Sb**	**23 36 56.7**	**-1.2**
KUZ				AML	AML	23 37 02.8	
KUZ				AML	AML	23 37 02.8	
KUZ				AML	AML	23 37 03.3	
PUZ	**Puketiti**	**1.39**	**152**	Pn	**Pn**	**23 36 40.6**	**+0.6**
PUZ				Sn	**Sg**	**23 37 00.8**	**+2.1**
PUZ	**Puketiti**	**1.39**	**152**	PN	**Pn**	**23 36 40.6**	**+0.6**
PUZ				SN	**Sg**	**23 37 00.8**	**+2.1**
PUZ				AML	AML	23 37 04.6	
URZ	**Urewera**	**1.43**	**190**	*e*Pn	**Pn**	**23 36 40.0**	**-0.6**
URZ				*e*Sn	**Sn**	**23 36 56.7**	**-3.1**
URZ	**Urewera**	**1.43**	**190**	P	**Pn**	**23 36 40.1**	**-0.4**
	65nm,0.3s,baz=352,slow=6.6,SNR=191						
URZ				S	**Sn**	**23 36 57.2**	**-2.6**
	106nm,0.3s,baz=256,slow=19,SNR=19						
URZ	**Urewera**	**1.43**	**190**	⇓P*	**Pn**	**23 36 40.1**	**-0.5**
URZ				AML	AML	23 37 01.2	
URZ				AML	AML	23 37 07.1	
MWZ	**Matawai**	**1.49**	**177**	P*	**Pn**	**23 36 40.5**	**-0.9**
MWZ	**Matawai**	**1.49**	**177**	P*	**Pn**	**23 36 40.5**	**-0.9**
MWZ				AML	AML	23 37 06.8	
MWZ				AML	AML	23 37 06.9	
MWZ				AML	AML	23 37 30.8	
MWZ				AML	AML	23 37 30.8	
KARZ	**Kaharoa**	**1.50**	**218**	P*	**Pn**	**23 36 41.5**	**-0.1**
KARZ	**Kaharoa**	**1.50**	**218**	P*	**Pn**	**23 36 41.5**	**-0.1**
CNGZ	**Carnagh Statio**	**1.75**	**159**	Pn	**Pb**	**23 36 46.7**	**+0.2**
CNGZ	**Carnagh Statio**	**1.75**	**159**	PN	**Pb**	**23 36 46.7**	**+0.2**
TOZ	**Tahuroa Road**	**1.77**	**240**	P*	**Pn**	**23 36 45.5**	**+0.4**
TOZ				P*	**Pn**	**23 36 45.7**	**+0.5**
TOZ	**Tahuroa Road**	**1.77**	**240**	P*	**Pn**	**23 36 45.7**	**+0.5**
TOZ				S*	**Sn**	**23 37 06.0**	**-2.0**
TOZ				AML	AML	23 37 16.0	
TOZ				AML	AML	23 37 18.1	
MKAZ	**Moumakai**	**1.83**	**261**	Pn	**Pn**	**23 36 46.3**	**+0.3**
MKAZ	**Moumakai**	**1.83**	**261**	PN	**Pn**	**23 36 46.3**	**+0.3**
MKAZ				AML	AML	23 37 09.2	
MKAZ				AML	AML	23 37 10.2	
KBAZ	**Karaka Road Bo**	**2.05**	**262**	PN	**Pb**	**23 36 50.4**	**-1.1**
ABAZ	**Army Bay**	**2.10**	**276**	PN	**Pb**	**23 36 50.5**	**-1.9**
TLZ	**Tolley Road**	**2.11**	**225**	P*	**Pn**	**23 36 50.4**	**+0.6**
KNZ	**Kokohu**	**2.18**	**175**	Pn	**Pn**	**23 36 51.9**	**+1.1**
KNZ	**Kokohu**	**2.18**	**175**	PN	**Pn**	**23 36 51.9**	**+1.1**
KNZ				AML	AML	23 37 50.0	
KNZ				AML	AML	23 37 52.5	
KAAZ	**Kauri Point**	**2.18**	**270**	Pn	**Pb**	**23 36 52.6**	**-1.3**
KAAZ	**Kauri Point**	**2.18**	**270**	PN	**Pb**	**23 36 52.6**	**-1.3**
RVAZ	**Riverhead Bore**	**2.29**	**271**	PN	**Pb**	**23 36 53.4**	**-2.2**
WTAZ	**Waiatarua**	**2.29**	**267**	Pn	**Pb**	**23 36 53.7**	**-2.0**
WTAZ	**Waiatarua**	**2.29**	**267**	PN	**Pb**	**23 36 53.7**	**-2.0**
NMHZ	**Naumai**	**2.30**	**192**	Pn	**Pn**	**23 36 53.3**	**+0.7**
NMHZ	**Naumai**	**2.30**	**192**	PN	**Pn**	**23 36 53.3**	**+0.7**
MHGZ	**Mahia Peninsul**	**2.33**	**171**	Pn	**Pn**	**23 36 54.1**	**+1.1**
MHGZ	**Mahia Peninsul**	**2.33**	**171**	PN	**Pn**	**23 36 54.1**	**+1.1**
BKZ	**Black Stump Fm**	**2.43**	**197**	P*	**Pn**	**23 36 54.8**	**+0.4**
BKZ	**Black Stump Fm**	**2.43**	**197**	P*	**Pn**	**23 36 54.8**	**+0.4**
BKZ				AML	AML	23 37 37.2	
BKZ				AML	AML	23 37 43.5	
HIZ	**Hauiti**	**2.63**	**230**	⇓Pn	**Pn**	**23 36 58.1**	**+1.0**
HIZ	**Hauiti**	**2.63**	**230**	⇓PN	**Pn**	**23 36 58.1**	**+1.0**
HIZ				AML	AML	23 37 30.4	
HIZ				AML	AML	23 37 48.8	
WCZ	**Waipu Caves**	**2.65**	**289**	Pn	**Pn**	**23 36 58.2**	**+0.9**
WCZ	**Waipu Caves**	**2.65**	**289**	PN	**Pn**	**23 36 58.2**	**+0.9**
WCZ				AML	AML	23 37 30.4	
WCZ				AML	AML	23 37 58.2	
MCHZ	**McNeill Hill**	**2.66**	**192**	Pn	**Pn**	**23 37 00.0**	**+2.6**
MCHZ	**McNeill Hill**	**2.66**	**192**	PN	**Pn**	**23 36 60.0**	**+2.6**
OTVZ	**Oturere**	**2.70**	**210**	P*	**Pb**	**23 37 01.4**	**-1.5**
OTVZ	**Oturere**	**2.70**	**210**	P*	**Pb**	**23 37 01.4**	**-1.5**
OTVZ				AML	AML	23 37 16.5	
OTVZ				AML	AML	23 38 00.5	
NGZ	**Ngauruhoe**	**2.74**	**211**	*e*P*	**Pn**	**23 37 01.7**	**+3.1**
NGZ	**Ngauruhoe**	**2.74**	**211**	*e*P*	**Pn**	**23 37 01.7**	**+3.1**
NGZ				AML	AML	23 37 17.7	
NGZ				AML	AML	23 38 00.4	
TUVZ	**Tukino**	**2.79**	**209**	P*	**Pn**	**23 37 02.1**	**+2.7**
TUVZ	**Tukino**	**2.79**	**209**	P*	**Pn**	**23 37 02.1**	**+2.7**
FWVZ	**Far West T-bar**	**2.82**	**211**	P*	**Pn**	**23 37 01.5**	**+1.6**
FWVZ	**Far West T-bar**	**2.82**	**211**	P*	**Pn**	**23 37 01.5**	**+1.6**
FWVZ				AML	AML	23 37 35.2	
FWVZ				AML	AML	23 37 40.8	
WHVZ	**Whangaehu Hut**	**2.83**	**210**	P*	**Pn**	**23 37 01.9**	**+1.9**
WNVZ	**Wahianoa**	**2.87**	**210**	AML	AML	23 37 18.9	
WNVZ				AML	AML	23 37 50.3	
MOVZ	**Moawhango**	**2.88**	**207**	P*	**Pn**	**23 37 01.9**	**+1.4**
MOVZ	**Moawhango**	**2.88**	**207**	P*	**Pn**	**23 37 01.9**	**+1.4**
MOVZ				AML	AML	23 37 41.4	
MOVZ				AML	AML	23 37 42.3	
MTVZ	**Mangateitei**	**2.97**	**211**	P*	**Pn**	**23 37 04.7**	**+2.9**
MTVZ				AML	AML	23 37 56.0	
MTVZ				AML	AML	23 37 58.1	
VRZ	**Vera Road**	**3.10**	**222**	P*	**Pn**	**23 37 05.1**	**+1.6**
VRZ	**Vera Road**	**3.10**	**222**	P*	**Pn**	**23 37 05.1**	**+1.6**
VRZ				AML	AML	23 37 21.0	
PNHZ	**Pukenui**	**3.21**	**197**	Pn	**Pn**	**23 37 05.5**	**+0.4**
PNHZ	**Pukenui**	**3.21**	**197**	PN	**Pn**	**23 37 05.4**	**+0.4**
TSZ	**Takapari Road**	**3.41**	**199**	AML	AML	23 37 58.8	
TSZ				AML	AML	23 38 05.7	
WAZ	**Wanganui**	**3.48**	**213**	*e*Pn	**Pn**	**23 37 11.4**	**+2.7**
WAZ	**Wanganui**	**3.48**	**213**	*e*PN	**Pn**	**23 37 11.4**	**+2.7**
WAZ				AML	AML	23 37 59.3	
OUZ	**Omahuta**	**3.50**	**296**	*e*Pn	**Pn**	**23 37 10.4**	**+1.4**
OUZ	**Omahuta**	**3.50**	**296**	PN	**Pn**	**23 37 10.4**	**+1.4**
NEZ	**North Egmont**	**3.57**	**226**	Pn	**Pn**	**23 37 12.9**	**+2.8**
NEZ	**North Egmont**	**3.57**	**226**	PN	**Pn**	**23 37 12.9**	**+2.8**
KHEZ	**Kahui Hut**	**3.63**	**227**	PN	**Pn**	**23 37 14.1**	**+3.2**
BFZ	**Birch Farm**	**3.94**	**193**	Pn	**Pn**	**23 37 15.4**	**+0.4**
BFZ	**Birch Farm**	**3.94**	**193**	PN	**Pn**	**23 37 15.4**	**+0.4**
BFZ				AML	AML	23 38 04.8	
MRZ	**Mangatainoka R**	**4.07**	**200**	*e*Pn	**Pn**	**23 37 17.0**	**+0.1**
MRZ	**Mangatainoka R**	**4.07**	**200**	*e*PN	**Pn**	**23 37 17.0**	**+0.1**
MRZ				AML	AML	23 38 11.5	
MRZ				AML	AML	23 39 07.2	
HOWZ	**Holdsworth Sta**	**4.31**	**200**	Pn	**Pn**	**23 37 19.6**	**-0.6**
HOWZ	**Holdsworth Sta**	**4.31**	**200**	PN	**Pn**	**23 37 19.6**	**-0.6**
OGWZ	**Otaki Gorge**	**4.34**	**203**	*e*Pn	**Pn**	**23 37 20.5**	**0.0**
OGWZ	**Otaki Gorge**	**4.34**	**203**	*e*PN	**Pn**	**23 37 20.5**	**0.0**
KIW	**Kapiti Island**	**4.46**	**205**	*e*Pn	**Pn**	**23 37 22.1**	**-0.2**
KIW	**Kapiti Island**	**4.46**	**205**	*e*PN	**Pn**	**23 37 22.1**	**-0.2**
MTW	**Mount Morrison**	**4.56**	**199**	*e*Pn	**Pn**	**23 37 22.8**	**-0.7**
MTW	**Mount Morrison**	**4.56**	**199**	*e*PN	**Pn**	**23 37 22.8**	**-0.7**
SNZO	**South Karori**	**4.93**	**205**	*e*Pn	**Pn**	**23 37 28.2**	**-0.5**
QRZ	**Quartz Range**	**5.51**	**222**	Pn	**Pn**	**23 37 38.0**	**+1.3**
STKA	**Stephens Creek**	**29.88**	**269**	LR	LR	23 53 12.2	
	comp=Z,92nm,19.0s,baz=24,slow=33						
ASAR	**Alice Springs**	**39.50**	**277**	P	P	23 43 48.4	+2.8
ASAR	**Alice Springs**	**39.50**	**277**	P	P	23 43 48.4	+2.8
	2.6nm,0.7s,baz=120,slow=8.3,SNR=30						
WRA	**Warramunga Arr**	**41.10**	**282**	P	**P**	**23 44 00.8**	**+1.9**
WRA	**Warramunga Arr**	**41.10**	**282**	P	**P**	**23 44 00.8**	**+1.9**
	1.7nm,0.7s,baz=121,slow=7.7,SNR=7.6						
FITZ	**Fitzroy Crossi**	**48.98**	**278**	P	**P**	**23 45 03.5**	**+1.9**
FITZ	**Fitzroy Crossi**	**48.98**	**278**	P	**P**	**23 45 03.5**	**+1.9**
	2.5nm,0.6s,baz=150,slow=6.9,SNR=8.9						
FINES	**FINESS Array B**	**149.53**	**333**	PKPbc	**PKPbc**	**23 56 02.3**	**-1.2**
FINES	**FINESS Array B**	**149.53**	**333**	PKPbc	**PKPbc**	**23 56 02.3**	**-1.2**
	0.9nm,0.5s,baz=46,slow=5.5,SNR=15						
TORD	**Torodi Ar. Bea**	**156.09**	**190**	PKPab	PKPdf	23 56 19.6	+10
TORD	**Torodi Ar. Bea**	**156.09**	**190**	PKPab	PKPdf	23 56 19.6	+10
	0.3nm,0.8s,baz=160,slow=4.1,SNR=7.2						

IDC ***02*** *23:38:52.1±1.2,36°29N×21°65E,h0km,mb3.7/9, mb1 3.7/16,mb1mx3.7/36,mbtmp3.6/16,ML3.6/5,Error ellipse: s-maj=21.9km s-min=17.0km az=160.0*
CSEM ***02*** *23:38:53.8±0.2,36°16N×21°36E,h10km,MD3.9,Mw3.7, Error ellipse: s-maj=5.5km s-min=3.4km az=64.0*
ATH ***02*** *23:38:56.3,36°23N×21°49E,h31km±1km,MD3.9/33, ML3.9*
PDG ***02*** *23:38:58.9±0.3,36°59N×21°35E,h21km±2km,ML4.1/8, Error ellipse: s-maj=3.3km s-min=1.2km az=90.0*
HLW ***02*** *23:39:03.1,35°93N×22°28E,h31km±27km,Md3.6,Ml3.4*
ISC 02 23:38:54.7±1.3,**36°22N**±0°04×**21°35E**±0°04,**h29**km±10km,
n204,σ1**§83**/216,**mb3.7**/10,**17C-19D,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.74**	**25**	*e*PN	**Pn**	**23 39 10.7**	**+1.5**
PYL				*e*SN	**Sn**	**23 39 20.5**	**+0.9**
PYL	**PYLOS**	**0.74**	**25**	P	**Pn**	**23 39 10.4**	**+1.2**
PYL	**PYLOS**	**0.74**	**25**	*e*Pn	**Pn**	**23 39 10.7**	**+1.5**
PYL				S	**Sn**	**23 39 19.9**	**+0.3**
PYL				*e*Sn	**Sn**	**23 39 20.5**	**+0.9**
DYR	**Agios Nikonas**	**0.96**	**56**	*e*PN	**Pb**	**23 39 12.9**	**+0.2**
DYR				*e*SN	**Sn**	**23 39 25.7**	**+0.8**
DYR	**Agios Nikonas**	**0.96**	**56**	P	**Pb**	**23 39 12.9**	**+0.2**
DYR				*e*Sn	**Sn**	**23 39 25.7**	**+0.8**
ITM	**Ithomi**	**1.06**	**26**	*e*PN	**Pb**	**23 39 15.7**	**+1.2**
ITM				*e*SN	**Sn**	**23 39 29.0**	**+1.5**
ITM	**Ithomi**	**1.06**	**26**	P	**Pb**	**23 39 15.1**	**+0.6**
ITM	**Ithomi**	**1.06**	**26**	*e*Pn	**Pb**	**23 39 15.7**	**+1.2**
ITM				S	**Sn**	**23 39 28.6**	**+1.1**
ITM				*e*Sn	**Sn**	**23 39 29.0**	**+1.5**
AMT	**Artemida-Makis**	**1.34**	**12**	*e*PN	**Pb**	**23 39 20.0**	**+0.8**
AMT				*e*SN	**Sb**	**23 39 38.2**	**+2.3**
AMT	**Artemida-Makis**	**1.34**	**12**	*e*Pn	**Pb**	**23 39 20.0**	**+0.8**
AMT				*e*Sn	**Sb**	**23 39 38.2**	**+2.3**
AMT				S	Sn	23 39 40.5	+6.2
KYTH	**Kithira**	**1.36**	**87**	*e*PN	**Pb**	**23 39 19.7**	**+0.1**
KYTH	**Kithira**	**1.36**	**87**	P	**Pb**	**23 39 19.7**	**+0.1**
VLI	**Veliai**	**1.37**	**68**	*e*PN	**Pb**	**23 39 19.9**	**+0.2**
VLI				*e*SN	**Sb**	**23 39 36.4**	**-0.4**
VLI	**Veliai**	**1.37**	**68**	P	**Pb**	**23 39 19.2**	**-0.5**
VLI	**Veliai**	**1.37**	**68**	*e*Pn	**Pb**	**23 39 19.9**	**+0.2**
VLI				*e*Sn	**Sb**	**23 39 36.4**	**-0.4**
VLI				S	**Sn**	**23 39 37.8**	**+2.7**
VLX	**Vlachokerasia**	**1.41**	**36**	*e*PN	**Pb**	**23 39 20.6**	**+0.2**
VLX				*e*SN	**Sb**	**23 39 38.8**	**+0.7**
VLX	**Vlachokerasia**	**1.41**	**36**	*e*Pn	**Pb**	**23 39 20.6**	**+0.2**
VLX				*e*Sn	**Sb**	**23 39 38.8**	**+0.7**
VLX				S	**Sn**	**23 39 39.5**	**+3.3**
ANKY	**Antikythira Is**	**1.62**	**102**	*e*PN	**Pb**	**23 39 23.4**	**-0.5**
ANKY				*e*SN	**Sb**	**23 39 43.4**	**-0.6**
ANKY	**Antikythira Is**	**1.62**	**102**	P	**Pb**	**23 39 22.7**	**-1.2**
ANKY	**Antikythira Is**	**1.62**	**102**	*e*Pn	**Pb**	**23 39 23.4**	**-0.5**
ANKY				*e*Sn	**Sb**	**23 39 43.4**	**-0.6**
RLS	**Riolos of Patr**	**1.83**	**3**	*e*PB	**Pb**	**23 39 27.

VTS	**Vitosha**	**6.52**	**12**	⇑	*i*P	Pn	23 40 31.8	+3.0	
VTS	**Vitosha**	**6.52**	**12**		P	**Pn**	**23 40 31.5**	**+2.7**	
BARS	**Barje**	**6.59**	**3**		*e*Pn	**Pn**	**23 40 31.2**	**+1.5**	
HCY	**Herceg Novi**	**6.60**	**341**	⇑	*i*Pn	**Pn**	**23 40 30.7**	**+1.0**	
HCY					*e*Sn	**Sn**	**23 41 40.5**	**-3.4**	
HCY	**Herceg Novi**	**6.60**	**341**	⇑	*i*Pn	**Pn**	**23 40 30.7**	**+1.0**	
BEY	**Berane**	**6.73**	**351**	⇓	*i*Pn	**Pn**	**23 40 33.9**	**+2.2**	
IVA	**Berane**	**6.73**	**351**	⇓	*i*Pn	**Pn**	**23 40 33.9**	**+2.2**	
IVA					*e*Sn	**Sn**	**23 41 44.7**	**-2.7**	
MS1	**Monte Sant'Ang**	**6.91**	**324**		*e*Pn	**Pn**	**23 40 36.1**	**+2.1**	
HMAT	**Matruh**	**7.01**	**135**		P	**Pn**	**23 40 34.4**	**-1.0**	
	baz=138								
HMAT					S	Sn	23 41 42.7	-11	
	baz=138								
HMAT	**Matruh**	**7.01**	**135**		P	**Pn**	**23 40 34.4**	**-1.0**	
HMAT					S	Sn	23 41 42.7	-11	
BRY	**Bratogost**	**7.01**	**343**	⇓	*i*Pn	**Pn**	**23 40 37.5**	**+2.0**	
BRY					*e*Sn	**Sn**	**23 41 50.9**	**-3.5**	
BRY	**Bratogost**	**7.01**	**343**	⇓	*i*Pn	**Pn**	**23 40 37.5**	**+2.0**	
STON	**Ston**	**7.21**	**338**		*e*Pn	**Pn**	**23 40 38.2**	**+0.1**	
STON					Sn	Sn	23 41 52.9	-6.1	
STON	**Ston**	**7.21**	**338**		*e*Pn	**Pn**	**23 40 38.2**	**+0.1**	
UPM	**Unac-Piva**	**7.22**	**346**	⇓	*i*Pn	**Pn**	**23 40 40.9**	**+2.5**	
UPM					*e*Sn	**Sn**	**23 41 55.9**	**-3.6**	
UPM	**Unac-Piva**	**7.22**	**346**	⇓	*i*Pn	**Pn**	**23 40 40.9**	**+2.5**	
MPEP	**Malo Peshtene**	**7.36**	**14**		P	Pn	23 40 43.8	+3.7	
BOLS	**Boljevac**	**7.61**	**3**		*e*Pn	**Pn**	**23 40 43.8**	**+0.2**	
SWA2		**7.77**	**152**		P	**Pn**	**23 40 46.5**	**+0.7**	
	baz=157								
SWA2		**7.77**	**152**		P	**Pn**	**23 40 46.5**	**+0.7**	
BBLS	**Lazići**	**7.78**	**350**		*e*Pn	**Pn**	**23 40 47.5**	**+1.5**	
DIVS	**Divibare**	**7.93**	**353**	⇑	*i*Pn	**Pn**	**23 40 48.6**	**+0.5**	
TEKS	**Tekeris**	**8.43**	**351**	⇑	*i*Pn	**Pn**	**23 40 55.9**	**+1.0**	
GZR	**Gura Zlata**	**9.22**	**6**	⇓	*i*P	**Pn**	**23 41 07.9**	**+2.1**	
GZR	**Gura Zlata**	**9.22**	**6**	⇓	*i*P	**Pn**	**23 41 07.9**	**+2.1**	
UDBI	**Udbina**	**9.32**	**335**		*e*Pn	Pn	23 41 10.1	+2.9	
UDBI					Sn	**Sn**	**23 42 46.6**	**-4.4**	
UDBI	**Udbina**	**9.32**	**335**		*e*Pn	Pn	23 41 10.0	+2.9	
BZS	**Buzias**	**9.39**	**1**	⇑	*i*P	**Pn**	**23 41 07.2**	**-0.7**	
ARR	**Arges**	**9.47**	**14**	⇑	*i*P	**Pn**	**23 41 10.6**	**+1.5**	
ARR	**Arges**	**9.47**	**14**	⇑	*i*P	**Pn**	**23 41 10.6**	**+1.5**	
VOIR		**9.62**	**16**	⇓	*i*P	**Pn**	**23 41 13.9**	**+2.7**	
VOIR		**9.62**	**16**	⇓	*i*P	**Pn**	**23 41 13.9**	**+2.7**	
NVLJ	**Novalja**	**9.68**	**331**		*e*Pn	**Pn**	**23 41 13.0**	**+1.0**	
NVLJ					Sn	Sn	23 42 53.3	-6.4	
NVLJ	**Novalja**	**9.68**	**331**		*e*Pn	**Pn**	**23 41 12.9**	**+1.0**	
KEST	**Kesra**	**9.74**	**271**		Pn	Pn	23 41 17.8	+4.8	
	comp=N,0.0nm,0.3s,baz=137,slow=19,SNR=3.5								
KEST					Sn	**Sn**	**23 43 02.2**	**+0.7**	
	comp=N,0.1nm,0.3s,baz=255,slow=20,SNR=6.2								
TIRR	**Tirgusor**	**9.83**	**31**	⇑	*i*P	Pn	23 41 21.4	+7.4	
MLR	**Muntele Rosu**	**9.89**	**19**	⇓	*i*P	Pn	23 41 18.1	+3.2	
MLR	**Muntele Rosu**	**9.89**	**19**		Pn	**Pn**	**23 41 15.7**	**+0.7**	
	baz=104,slow=8.3								
MLR	**Muntele Rosu**	**9.89**	**19**	⇓	*i*P	Pn	23 41 18.1	+3.2	
AWBH		**10.14**	**139**		P	**Pn**	**23 41 17.5**	**-0.9**	
	baz=141								
AWBH		**10.14**	**139**		P	**Pn**	**23 41 17.5**	**-0.9**	
BRTR	**Keskin Array B**	**10.31**	**67**		Pn	**Pn**	**23 41 18.5**	**-2.3**	
	comp=N,0.1nm,0.3s,baz=281,slow=15,SNR=2.5								
VRI	**Vrincioaia**	**10.45**	**21**	⇑	*i*P	Pn	23 41 25.8	+3.3	
VRI	**Vrincioaia**	**10.45**	**21**	⇑	*i*P	Pn	23 41 25.8	+3.3	
HFRF	**Wahat Farafira**	**10.81**	**145**		P	**Pn**	**23 41 27.4**	**-0.1**	
	baz=148								
HFRF	**Wahat Farafira**	**10.81**	**145**		P	**Pn**	**23 41 27.4**	**-0.1**	
GLL	**Jalalah**	**10.94**	**124**		P	**Pn**	**23 41 28.0**	**-1.3**	
	baz=126								
GLL	**Jalalah**	**10.94**	**124**		P	**Pn**	**23 41 28.0**	**-1.3**	
TESR	**Tescani**	**11.02**	**19**	⇓	*i*P	**Pn**	**23 41 31.8**	**+1.5**	
TESR	**Tescani**	**11.02**	**19**	⇓	*i*P	**Pn**	**23 41 31.8**	**+1.5**	
VOY	**Vojsko**	**11.29**	**332**		*e*Pn	**Pn**	**23 41 36.6**	**+2.5**	
VOY					*e*		23 41 39.4		
VOY					*e*Sn	**Sn**	**23 43 33.7**	**-5.6**	
AMAG	**Maghara**	**11.36**	**116**		P	**Pn**	**23 41 33.9**	**-1.2**	
	baz=116								
AMAG	**Maghara**	**11.36**	**116**		P	**Pn**	**23 41 33.9**	**-1.2**	
OBKA	**Obir**	**11.47**	**336**	⇓	*i*Pn	**Pn**	**23 41 37.2**	**+0.6**	
OBKA	**Obir**	**11.47**	**336**		Sn	Sn	23 43 37.9	-5.8	
OBKA	**Obir**	**11.47**	**336**		Pn	**Pn**	**23 41 37.2**	**+0.6**	
PSZ	**Piszkesteto**	**11.74**	**355**	⇑	*i*P	**Pn**	**23 41 41.8**	**+1.6**	
PSZ	**Piszkesteto**	**11.74**	**355**	⇑	*i*P	**Pn**	**23 41 41.8**	**+1.6**	
MMAI	**Mount Meron Ar**	**12.01**	**101**		Pn	**Pn**	**23 41 42.0**	**-2.0**	
	comp=N,0.3nm,0.3s,baz=297,slow=9.5,SNR=2.8								
KECS	**Kecovo**	**12.27**	**357**		*e*PN	**Pn**	**23 41 45.7**	**-1.7**	
VYHS	**Vyhne**	**12.40**	**352**		*e*PN	**Pn**	**23 41 49.1**	**-0.1**	
VYHS	**Vyhne**	**12.40**	**352**		*e*SN	Sn	23 43 58.7	-7.6	
VYHS	**Vyhne**	**12.40**	**352**		*e*Pn	**Pn**	**23 41 49.1**	**-0.1**	
KOLS	**Kolonicke sedl**	**12.72**	**3**		*e*	**P**	**23 42 05.8**	**+1.4**	
STHS	**Stebnicka Huta**	**13.19**	**360**		*e*PN	Pn	23 42 03.2	+3.3	
STHS	**Stebnicka Huta**	**13.19**	**360**		*e*Pn	Pn	23 42 03.3	+3.3	
DAVOX	**Davos/Dischmat**	**13.59**	**324**		Sn	**Sn**	**23 44 32.3**	**-3.3**	
	comp=N,0.3nm,0.3s,baz=325,slow=17,SNR=4.4								
GERES	**GERESS Array B**	**13.81**	**338**		Pn	**Pn**	**23 42 09.5**	**+1.1**	
	comp=N,0.1nm,0.3s,baz=162,slow=14,SNR=5.4								
GERES					Sn	Sn	23 44 34.2	-6.5	
	comp=N,0.3nm,0.3s,baz=154,slow=23,SNR=5.7								
KHC	**Kasperske Hory**	**14.10**	**339**		*e*P	P	23 42 25.0	+5.3	
AKASG	**Malin Array Be**	**15.54**	**19**		Pn	**Pn**	**23 42 30.7**	**-1.0**	
	comp=N,0.6nm,0.3s,baz=209,slow=11,SNR=3.5								
CDF	**Champ du Feu**	**15.99**	**324**		*e*P	**Pn**	**23 42 36.5**	**-1.0**	
	comp=N,9.0nm,0.9s								
CLL	**Collm**	**16.22**	**341**		*e*PP	P	23 42 51.0	+7.8	
KBZ	**Khabaz**	**18.11**	**59**		P	**Pn**	**23 43 03.4**	**-0.5**	
	comp=N,0.3nm,0.3s,baz=274,slow=5.5,SNR=5.8								
LDF	**La Druitiere**	**20.02**	**315**		*e*P	Pn	23 43 31.0	+4.0	
	comp=N,7.8nm,0.8s								
ESDC	**Sonseca Array**	**20.24**	**287**		P	Pn	23 43 32.4	+2.7	
	comp=N,0.2nm,0.4s,baz=83,slow=11,SNR=6.6								
HFS	**Hagfors**	**24.43**	**351**		P	**P**	**23 44 11.8**	**+1.2**	
	comp=N,1.0nm,0.4s,baz=153,slow=10.0,SNR=20								
EKA	**Eskdalemuir Ar**	**25.41**	**326**		P	**P**	**23 44 22.0**	**+2.5**	
	comp=N,0.6nm,0.5s,baz=131,slow=9.3,SNR=7.6								
FINES	**FINESS Array B**	**25.42**	**5**		P	**P**	**23 44 20.3**	**+0.9**	
	comp=N,1.2nm,0.5s,baz=159,slow=12,SNR=16								
NB2	**NORSAR Subarra**	**25.66**	**349**		P	**P**	**23 44 23.1**	**+1.3**	
	comp=Z,0.8nm,0.6s,baz=156,slow=9.3								
NB2	**NORSAR Subarra**	**25.66**	**349**		P	**P**	**23 44 23.1**	**+1.3**	
	comp=Z,0.8nm,0.6s,SNR=6.1								
NOA	**NORSAR Array B**	**25.66**	**349**		P	**P**	**23 44 22.8**	**+1.1**	
	comp=Z,0.7nm,0.6s,baz=157,slow=9.2,SNR=6.4								
KAF	**Kangasniemi**	**26.10**	**5**		*ep*	**P**	**23 44 26.8**	**+1.2**	
	comp=Z,0.9nm,0.5s								
KAF	**Kangasniemi**	**26.10**	**5**		*eP*	**P**	**23 44 26.8**	**+1.2**	
	comp=Z,0.9nm,0.5s								
JOF	**Joensuu**	**27.42**	**10**		*ep*	**P**	**23 44 38.1**	**+0.5**	
	comp=Z,1.4nm,0.7s								
JOF	**Joensuu**	**27.42**	**10**		*eP*	**P**	**23 44 38.1**	**+0.5**	
	comp=Z,1.4nm,0.7s								
TORD	**Torodi Ar. Bea**	**28.98**	**223**		P	P	23 44 55.4	+3.5	
	comp=Z,0.7nm,0.6s,baz=29,slow=8.9,SNR=6.0								
ARCES	**ARCESS Array B**	**33.45**	**3**		P	**P**	**23 45 31.0**	**+0.3**	
	comp=Z,1.6nm,0.5s,baz=187,slow=8.6,SNR=10								
LIC	**Lamto**	**38.41**	**225**		*eP*	P	23 46 25.2	+11	
MKAR	**Makanchi Array**	**45.78**	**57**		P	**P**	**23 47 13.3**	**-0.4**	
	comp=Z,0.8nm,0.4s,baz=269,slow=7.6,SNR=20								
ZALV	**Zalesovo Beam**	**46.52**	**47**		P	**P**	**23 47 18.5**	**-0.8**	
	comp=Z,1.6nm,0.5s,baz=296,slow=7.2,SNR=6.1								

*CSEM **02** 23:44:15.0, 33.92N×25.45E, h5km, MD3.8, After ATH*
*ATH **02** 23:44:15.0, 33.92N×25.45E, h5km±4km, MD3.8/17*
*ISCJB **02** 23:44:16.6±0.6, 33.88N±0.05×25.60E±0.05, h17km, mb3.5/10, Error ellipse: s-maj=7.9km s-min=5.0km az=27.5*
*IDC **02** 23:44:16.5±1.1, 34.07N×25.55E, h0km, mb3.7/10, mb1 3.7/16, mb1mx3.7/33, mbtmp3.6/16, ML3.7/6, Error ellipse: s-maj=24.6km s-min=16.8km az=176.0*

ISC 02 23:44:19.2±0.8, 34.07N±0.07×25.53E±0.04, h17km, n59, σ1.38/56, mb3.7/10, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.09**	**358**		*e*PN	**Pb**	**23 44 38.0**	**-1.6**
LAST	**Lasithi**	**1.09**	**358**		*e*Pn	**Pb**	**23 44 38.0**	**-1.6**
SIVA	**Sivas**	**1.11**	**328**		*e*PB	**Pb**	**23 44 38.6**	**-1.4**
SIVA					*e*SB	**Sg**	**23 44 56.2**	**+0.9**
SIVA	**Sivas**	**1.11**	**328**		*e*Pb	**Pb**	**23 44 38.6**	**-1.4**
SIVA					*e*Sb	**Sg**	**23 44 56.2**	**+0.9**
ZKR	**Zakros**	**1.19**	**29**		*e*PB	**Pn**	**23 44 41.1**	**+0.1**
ZKR					*e*SB	**Sg**	**23 44 59.5**	**+1.9**
ZKR	**Zakros**	**1.19**	**29**		*e*Pb	**Pn**	**23 44 41.1**	**+0.1**
ZKR					*e*Sb	**Sg**	**23 44 59.5**	**+1.9**
NPS	**Neapolis**	**1.19**	**3**		*e*PB	**Pn**	**23 44 40.3**	**-0.8**
NPS	**Neapolis**	**1.19**	**3**		*e*Pb	**Pn**	**23 44 40.3**	**-0.8**
IDI	**Anoyia**	**1.32**	**337**		*e*PG	**Pn**	**23 44 42.0**	**-1.0**
IDI	**Anoyia**	**1.32**	**337**		*e*Pg	**Pn**	**23 44 42.0**	**-1.0**
VAM	**Vamos**	**1.72**	**321**		*e*PN	**Pb**	**23 44 49.1**	**-1.3**
VAM	**Vamos**	**1.72**	**321**		*e*Pn	**Pb**	**23 44 49.1**	**-1.3**
KARP	**Karpathos**	**1.99**	**42**		*e*PG	**Pb**	**23 44 54.9**	**-0.1**
KARP	**Karpathos**	**1.99**	**42**		*e*Pg	**Pb**	**23 44 54.9**	**-0.1**
SANT	**Santorini**	**2.29**	**359**		*e*PN	**Pb**	**23 44 58.4**	**-1.8**
SANT	**Santorini**	**2.29**	**359**		*e*Pn	**Pb**	**23 44 58.4**	**-1.8**
KYTH	**Kithira**	**3.00**	**318**		*e*PN	Pb	23 45 08.5	-3.7
KYTH	**Kithira**	**3.00**	**318**		*e*Pn	Pb	23 45 08.5	-3.7
ARG	**Arkhangelos**	**3.02**	**44**		*e*PN	**Pn**	**23 45 08.6**	**+2.4**
ARG	**Arkhangelos**	**3.02**	**44**		*e*Pn	**Pn**	**23 45 08.6**	**+2.4**
VLI	**Veliai**	**3.38**	**322**		*e*PN	**Pn**	**23 45 12.2**	**+1.0**
VLI	**Veliai**	**3.38**	**322**		*e*Pn	**Pn**	**23 45 12.2**	**+1.0**
DYR	**Agios Nikonas**	**3.74**	**317**		*e*PN	**Pn**	**23 45 18.3**	**+2.1**
DYR	**Agios Nikonas**	**3.74**	**317**		*e*Pn	**Pn**	**23 45 18.3**	**+2.1**
DID	**Didima**	**3.90**	**332**		*e*PN	**Pn**	**23 45 18.8**	**+0.4**
DID	**Didima**	**3.90**	**332**		*e*Pn	**Pn**	**23 45 18.8**	**+0.4**
VLX	**Vlachokerasia**	**4.17**	**323**		*e*PB	Pn	23 45 25.8	+3.7
VLX	**Vlachokerasia**	**4.17**	**323**		*e*Pb	Pn	23 45 25.8	+3.7
PYL	**PYLOS**	**4.18**	**313**		*e*PN	**Pn**	**23 45 23.5**	**+1.3**
PYL	**PYLOS**	**4.18**	**313**		*e*Pn	**Pn**	**23 45 23.5**	**+1.3**
ITM	**Ithomi**	**4.27**	**318**		*e*PN	**Pn**	**23 45 24.5**	**+1.1**
ITM	**Ithomi**	**4.27**	**318**		*e*Pn	**Pn**	**23 45 24.5**	**+1.1**
GUR	**Goura**	**4.64**	**327**		*e*PN	**Pn**	**23 45 29.8**	**+1.2**
GUR	**Goura**	**4.64**	**327**		*e*Pn	**Pn**	**23 45 29.8**	**+1.2**
AMT	**Artemida-Makis**	**4.64**	**319**		*e*PN	Pn	23 45 32.0	+3.4
AMT	**Artemida-Makis**	**4.64**	**319**		*e*Pn	Pn	23 45 32.0	+3.4
KLV	**Kalavryta, Ach**	**4.81**	**326**		*e*PN	**Pn**	**23 45 33.2**	**+2.2**
KLV	**Kalavryta, Ach**	**4.81**	**326**		*e*Pn	**Pn**	**23 45 33.2**	**+2.2**
LAKA	**Lakka**	**5.05**	**326**		*e*PN	**Pn**	**23 45 36.3**	**+2.1**
LAKA	**Lakka**	**5.05**	**326**		*e*Pn	**Pn**	**23 45 36.3**	**+2.1**
KALE	**Kalithea**	**5.11**	**329**		*e*PN	Pn	23 45 37.9	+2.9
KALE	**Kalithea**	**5.11**	**329**		*e*Pn	Pn	23 45 37.9	+2.9
MMAI	**Mount Meron Ar**	**8.31**	**95**		Pn	**Pn**	**23 46 17.2**	**-1.8**
	0.5nm,0.3s,baz=270,slow=9.8,SNR=3.4							
MMAI					Sn	**Sn**	**23 47 49.8**	**-2.8**
	1.4nm,0.3s,baz=260,slow=23,SNR=5.4							
BRTR	**Keskin Array B**	**8.60**	**47**		Pn	**Pn**	**23 46 22.5**	**-0.5**
	0.1nm,0.3s,baz=222,slow=14,SNR=4.2							
EIL	**Elat**	**9.13**	**116**		Pn	**Pn**	**23 46 28.4**	**-1.9**
	0.6nm,0.3s,baz=19,slow=19,SNR=7.4							
KBZ	**Khabaz**	**16.58**	**49**		Pn	**P**	**23 48 14.0**	**+0.8**
	0.1nm,0.3s,baz=248,slow=9.3,SNR=4.7							
AKASG	**Malin Array Be**	**16.84**	**8**		Pn	**Pn**	**23 48 14.4**	**+0.4**
	1.6nm,0.3s,baz=199,slow=11,SNR=7.9							
GERES	**GERESS Array B**	**17.18**	**333**		P	**P**	**23 48 19.7**	**-0.3**
	0.2nm,0.3s,baz=142,slow=12,SNR=9.6							
ESDC	**Sonseca Array**	**24.18**	**292**		P	**P**	**23 49 35.7**	**+0.9**
	0.1nm,0.3s,baz=72,slow=8.5,SNR=3.5							
HFS	**Hagfors**	**27.20**	**347**		P	**P**	**23 50 01.0**	**-0.7**
	0.3nm,0.3s,baz=159,slow=8.7,SNR=4.9							
FINES	**FINESS Array B**	**27.39**	**1**		P	**P**	**23 50 01.6**	**-1.8**
	1.4nm,0.8s,baz=176,slow=9.8,SNR=4.6							
EKA	**Eskdalemuir Ar**	**29.10**	**326**		P	**P**	**23 50 19.0**	**+0.2**
	0.7nm,0.7s,baz=122,slow=12,SNR=3.6							
TORD	**Torodi Ar. Bea**	**30.04**	**232**		P	**P**	**23 50 27.8**	**+0.3**
	0.3nm,0.7s,baz=37,slow=8.8,SNR=5.2							
CHCP	**Chirah Chowk**	**39.35**	**77**	⇓	P	**P**	**23 51 48.5**	**+0.7**
KURBB	**Kurchatov Arra**	**41.58**	**56**		P	**P**	**23 52 06.4**	**+0.5**
	0.8nm,0.4s,baz=286,slow=10.0,SNR=6.7							
MKAR	**Makanchi Array**	**44.13**	**56**		P	**P**	**23 52 26.9**	**+0.2**
	0.8nm,0.5s,baz=264,slow=7.6,SNR=13							
ZALV	**Zalesovo Beam**	**45.54**	**45**		P	**P**	**23 52 37.5**	**-0.3**
	0.7nm,0.4s,baz=278,slow=8.2,SNR=3.5							
SCHQ	**Schefferville**	**64.21**	**320**		P	**P**	**23 54 52.5**	**-0.4**
	1.2nm,0.5s,baz=80,slow=12,SNR=5.3							
YKA	**Yellowknife Ar**	**78.57**	**342**		P	**P**	**23 56 19.6**	**+0.2**
	0.5nm,0.6s,baz=22,slow=6.5,SNR=3.1							

*BGS **02** 23:50:23.4±1.9, 35.59N×73.90E, h45km±999km, mb4.6*
*DJA **02** 23:50:44.8±0.4, 37.N±6.×7.3E±.°, h10km, M5.5/5, mB5.7/2, mb4.9/5, MLv5.8/2, Mw(mB)5.2/2*
*BJI **02** 23:50:44.6, 37.44N×71.52E, h98km, mB4.8/24, mb4.7/35*
*ISCJB **02** 23:50:45.4±0.3, 37.37N±0.02×71.76E±0.02, h93km±3km, mb4.7/188, Error ellipse: s-maj=2.8km s-min=2.5km az=16.8*
*TEH **02** 23:50:47.0, 37.49N×71.72E, h88km, ML4.8*
*MOS **02** 23:50:48.2±1.0, 37.44N×71.78E, h116km, mb4.7/60, Error ellipse: s-maj=5.2km s-min=3.4km az=110.5*
*SZGRF **02** 23:50:48.1, 37.17N×72.05E, h122km, mb4.9, Tajikistan*
*BKK **02** 23:50:49.8±0.6, 37.N±6.×7.2E±.°, h111km±9km, M5.2/13, mB5.4/1, mb4.8/13, MLv5.5/2, Mw(mB)4.8/1*
*NEIC **02** 23:50:50.5±0.2, 37.47N×71.78E, mb4.7/27, Error ellipse: s-maj=4.9km s-min=3.8km az=181.0*
NEIC Felt at Dushanbe.
*IDC **02** 23:50:50.2±0.5, 37.34N×71.72E, h124km±4km, mb4.2/38, mb1 4.3/40, mb1mx4.3/43, mbtmp4.2/40, MS3.5/5, Ms1 3.4/5, ms1mx3.0/35, Error ellipse: s-maj=10.7km s-min=7.4km az=8.0*
*NNC **02** 23:50:54.8±2.4, 37.90N×71.80E, h170km±24km, mb4.2, mpv5.2, Error ellipse: s-maj=22.1km s-min=10.6km az=6.0*
*GCMT **02** 23:50:54.0±0.3, 37.40N×71.52E, h132km±3km, MW5.0, Moment Tensor Solution. s22,c26; s71,c119; Moment tensor: Scale 10¹⁶Nm; Mrr0.37±.13; Mθθ2.53±.15; Mϕϕ-2.90±.14; Mrθ-1.46±.09; Mθϕ0.74±.14; Mϕr-1.94±.09; Best double couple: M0 3.70000×10¹⁶ NP1:ϕs309.00000°, δ49.00000°, λ5.00000°. NP2:ϕs215.00000°, δ86.00000°, λ139.00000°. Principal axes: T 3.6500, Plg31.0000°, Azm163.0000°; N 0.1500, Plg49.0000°, Azm31.0000°; P -3.8000, Plg25.0000°, Azm269.0000°; Data Used: II IU CN G IC.*

ISC 02 23:50:49.1±0.3, 37.37N±0.03×71.81E±0.03, h113km±2km, h112km; pP-P, n584, σ1956/652, mb4.7/188, 43C-40D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.54**	**179**	⇓	P	**Pn**	**23 51 43.3**	**+0.9**
CEP					S	**Sn**	**23 52 27.0**	**+3.4**
KBL	**Kabul**	**3.60**	**219**		*e*PN	**Pn**	**23 51 44.0**	**+0.6**
KBL					*e*		23 52 27.1	
KBL	**Kabul**	**3.60**	**219**		*e*Pn	**Pn**	**23 51 44.0**	**+0.6**
KBL					*e*Sn	**Sn**	**23 52 27.1**	**+1.7**
KSH	**Kashi**	**3.91**	**55**	⇓	*i*P	Pn	23 51 43.5	-3.9
KSH					S	Sn	23 52 24.1	-8.4
KSH					smax	smax		
	comp=N,11μm,0.5s							
KSH					smax	smax		
	comp=E,8μm,0.4s							
THW	**Thamme Wali**	**4.56**	**181**		P	**Pn**	**23 51 56.4**	**+0.3**
AML	**Almayashu**	**4.98**	**16**	*i*	PN	**Pn**	**23 52 01.6**	**-0.3**
AML	**Almayashu**	**4.98**	**16**		P	**Pn**	**23 52 01.6**	**-0.3**
	SNR=419							
JMU	**Jammu**	**5.28**	**150**		*e*P	**Pn**	**23 52 08.0**	**+2.2**
JMU					*e*S	**Sn**	**23 53 03.0**	**-2.5**
UCH	**Uchtor**	**5.28**	**22**	*i*	PN	**Pn**	**23 52 06.3**	**+0.2**
UCH	**Uchtor**	**5.28**	**22**		P	**Pn**	**23 52 06.3**	**+0.2**
	SNR=17							
KZA	**Kyzart**	**5.40**	**28**	*i*	PN	**Pn**	**23 52 07.8**	**+0.1**
KZA	**Kyzart**	**5.40**	**28**		P	**Pn**	**23 52 07.8**	**+0.1**
	SNR=78							
SARP	**Sargodha**	**5.48**	**172**		P	Pn	**23 52 08.3**	**-0.1**
EKS2	**Erkin-Say**	**5.50**	**15**		*e*PN	**Pn**	**23 52 08.5**	**-0.3**
EKS2	**Erkin-Say**	**5.50**	**15**		P	**Pn**	**23 52 08.6**	**-0.1**
	SNR=224							
EKS2	**Erkin-Say**	**5.50**	**15**		*e*Pn	**Pn**	**23 52 08.5**	**-0.3**
EKS2					*e*Sn	**Sn**	**23 53 08.4**	**-2.4**
AAK	**Ala-Archa**	**5.65**	**21**		PN	**Pn**	**23 52 11.0**	**+0.2**
AAK					pmax	pmax		
	comp=Z,62nm,0.3s							
AAK	**Ala-Archa**	**5.65**	**21**		Pn	**Pn**	**23 52 11.2**	**+0.4**
	SNR=82							
AAK	**Ala-Archa**	**5.65**	**21**		P	**Pn**	**23 52 11.1**	**+0.2**
	SNR=166							
AAK	**Ala-Archa**	**5.65**	**21**		*e*Pn	**Pn**	**23 52 10.9**	**0.0**
AAK					*e*Sn	**Sn**	**23 53 11.9**	**-2.6**
AAK	**Ala-Archa**	**5.65**	**21**		P	**Pn**	**23 52 11.0**	**+0.2**
	comp=Z,62nm,0.3s,baz=177,slow=6.9,SNR=240							
AAK					S	**Sn**	**23 53 11.3**	**-3.3**
	comp=Z,26nm,0.3s,baz=166,slow=9.3,SNR=4.0							
KBK	**Karagaybulak**	**5.81**	**23**	*i*	PN	**Pn**	**23 52 13.3**	**+0.3**
KBK	**Karagaybulak**	**5.81**	**23**		P	**Pn**	**23 52 13.2**	**+0.3**
	SNR=69							
KK31	**Karatay Array**	**5.82**	**351**	⇑	P	**Pn**	**23 52 11.7**	**-1.3**
	comp=Z,142nm,0.3s,baz=177,slow=12							
KK31				⇑	S	**Sn**	**23 53 13.9**	**-4.4**
	comp=Z,191nm,0.4s,baz=174,slow=19,SNR=14							
KK31	**Karatay Array**	**5.82**	**351**	*ce*	PN	**Pn**	**23 52 11.7**	**-1.3**
KK31					pmax	pmax		
	comp=Z,484nm,0.3s							
KKAR	**Karatay Array**	**5.82**	**351**		*e*PN	**Pn**	**23 52 11.7**	**-1.3**
KKAR	**Karatay Array**	**5.82**	**351**		*e*Pn	**Pn**	**23 52 11.7**	**-1.3**
KKAR					*e*Sn	**Sn**	**23 53 13.6**	**-4.8**
FRU	**Bishkek**	**5.87**	**21**	⇑	*i*PN	**Pn**	**23 52 13.5**	**-0.2**
FRU					*i* S	**Sn**	**23 53 19.0**	**-0.6**
FRU					pmax	pmax		
	comp=Z,630nm,2.0s							
FRU					smax	smax		
	comp=E,2μm,1.9s							
THN	**Thein Dam**	**5.87**	**146**		*e*P	Pn	23 52 10.4	-3.3
THN					*e*S	**Sn**	**23 53 14.4**	**-5.3**
DLH	**Dalhousie**	**5.90**	**143**		*e*P	**Pn**	**23 52 14.0**	**-0.3**
DLH					*e*S	**Sn**	**23 53 18.0**	**-2.7**
ULHL	**Ulahol**	**5.95**	**34**	*i*	PN	**Pn**	**23 52 14.5**	**-0.4**
ULHL	**Ulahol**	**5.95**	**34**		P	**Pn**	**23 52 14.5**	**-0.4**
	SNR=48							
CHMS	**Chumysh**	**6.06**	**21**	*i*	PN	**Pn**	**23 52 16.3**	**0.0**
CHMS	**Chumysh**	**6.06**	**21**		P	**Pn**	**23 52 16.2**	**0.0**
	SNR=177							
USP	**Ospenovka**	**6.24**	**18**	*i*	PN	**Pn**	**23 52 18.2**	**-0.5**
USP	**Ospenovka**	**6.24**	**18**		P	**Pn**	**23 52 18.2**	**-0.5**
	SNR=65							
TKM2	**Tokmak 2**	**6.26**	**26**	⇑	P	**Pn**	**23 52 19.1**

AKTO Aktyubinsk 16.38 327 P **Pn** **23 54 30.3 -1.9**
AKTO S Sn 23 57 21.9 -12
AKTO Aktyubinsk 16.38 327 P **Pn** **23 54 30.3 -1.9**
comp=Z,32nm,0.3s,baz=130,slow=11,SNR=170
AKTO S Sn 23 57 21.9 -12
comp=Z,2.9nm,0.3s,baz=108,slow=20,SNR=9.4
IVRN Varamin 16.39 268 *e*P **Pn** **23 54 29.4 -3.2**
IZEF Zefreh 16.55 260 *e*P **Pn** **23 54 32.6 -2.1**
TAPN Taplejung 16.71 122 *e*P **Pn** **23 54 33.6 -3.2**
comp=Z,134nm,0.4s
ODAN Odare 16.82 124 *e*P **Pn** **23 54 35.5 -2.6**
comp=Z,217nm,0.6s
IR3 Iran Long-Peri 16.84 270 *e*P **Pn** **23 54 34.0 -4.1**
IGAR Gharneh 16.95 259 *e*P **Pn** **23 54 37.8 -1.8**
IKLH Kolahrood 16.99 262 *e*P **Pn** **23 54 38.6 -1.5**
BANOM Banah 17.43 234 ⇑P **P** **23 54 43.0 -1.8**
SNR=6.5
ISRV Sarvestan 17.51 248 *e*P **P** **23 54 44.6 -1.4**
IPIR Pirpir 17.75 261 *e*P **P** **23 54 48.9 +0.3**
LSA Lhasa 17.82 110 *e*P **Pn** **23 54 50.5 +0.1**
LSA pmax pmax
comp=Z,41nm,0.8s
LSA Lhasa 17.82 110 *e*P **Pn** **23 54 50.5 +0.1**
comp=Z,41nm,0.8s
BOK Bokaro 18.13 134 *e*P **P** **23 54 50.8 -1.7**
BOK *e*4 23 57 57.1
ASHO Ashiyiah 18.46 231 ⇓P **P** **23 54 56.1 -0.1**
SNR=22
POO Poona 18.85 174 ⇓ *i*P **P** **23 54 57.0 -3.4**
ZAA0 Zalesovo Array 18.86 24 *e*P **P** **23 54 59.6 -0.6**
ZALV Zalesovo Beam 18.86 24 *i*P **P** **23 54 59.7 -0.4**
ZALV pmax pmax
comp=Z,19nm,0.5s
ZALV Zalesovo Beam 18.86 24 P **P** **23 54 59.8 -0.4**
ZALV Zalesovo Beam 18.86 24 P **P** **23 54 59.8 -0.4**
comp=Z,5.1nm,0.3s,baz=220,slow=11,SNR=74
ISRB Sarab 19.13 279 *e*P **P** **23 55 03.6 0.0**
NVS Novosibirsk 19.14 20 ⇑ *i*P **P** **23 55 02.2 -1.1**
NVS *e*S **S** **23 58 29.2 -4.9**
NVS pmax pmax
comp=N,10.0nm,0.5s
NVS pmax pmax
comp=E,7.0nm,0.5s
NVS pmax pmax
comp=Z,12nm,0.5s
NVS smax smax
comp=N,19nm,1.3s
NVS smax smax
comp=E,12nm,1.3s
ARQ Araqi 19.19 228 P **Pn** **23 55 08.1 +1.9**
SNR=5.5
LATR Latur 19.33 166 *ex* P 23 54 57.8 -7.8
LATR *e*4 x 23 58 23.4
MAK Makhachkala 19.37 294 *e*P **P** **23 55 04.2 -1.6**
MAK *e*S **S** **23 58 35.7 -3.1**
MAK pmax pmax
comp=Z,128nm,0.9s
MAK MLR MLR
comp=Z,563nm,17.0s
IKOM Komasi 19.96 268 *e*P **P** **23 55 12.4 -0.1**
ITBZ Tabriz 20.29 280 *e*P **P** **23 55 16.7 +0.7**
IVIS Veis 20.39 270 *e*P **P** **23 55 15.4 -1.7**
IDHR Dehrash 20.72 270 *e*P **P** **23 55 20.2 -0.5**
SHL Shillong 20.72 119 ⇑ *i*P **P** **23 55 20.0 -0.8**
SHL *e*4 23 59 01.0
HYB Hyderabad 20.74 162 *i*P Pn 23 55 23.0 -1.3
HYB *e*S **S** **23 59 07.0 +0.8**
HYB Hyderabad 20.74 162 P Pn 23 55 23.0 -1.3
HYB *e*S **S** **23 59 07.0 +0.8**
HYB Hyderabad 20.74 162 P Pn 23 55 23.0 -1.3
HYB *e*S **S** **23 59 07.0 +0.8**
DGRG David-gareji 20.80 290 P **P** **23 55 22.3 +0.9**
SVE Sverdlovsk 20.85 343 ⇑ *e*P **P** **23 55 20.4 -1.3**
SVE *e* 23 55 50.3
SVE *e*S **S** **23 59 08.6 +0.8**
SVE pmax pmax
comp=Z,53nm,1.2s
ARU Arti 21.04 339 *d i*P **P** **23 55 22.8 -0.9**
ARU 23 55 51.1
ARU PPP PPP 23 56 03.5
ARU S **S** **23 59 10.2 -1.2**
ARU SS **SnSn** **23 59 47.8 +4.4**
ARU pmax pmax
comp=Z,66nm,1.2s
GNI Garni 21.27 286 P **P** **23 55 28.6 +2.1**
SNR=20
GNI Garni 21.27 286 *e*P **P** **23 55 27.7 +1.2**
comp=Z,92nm,0.8s
GNI Garni 21.27 286 P **P** **23 55 27.7 +1.2**
comp=Z,80nm,0.6s,baz=0.3,slow=1.8,SNR=97
TBLG Delisi 21.29 290 *e*P **P** **23 55 26.8 +0.3**
TBLG Delisi 21.29 290 P **P** **23 55 26.9 +0.3**
UMR Umm Al-Rimmam 21.52 256 *e*P **P** **23 55 27.9 -1.2**
UMR AMb AMB 23 55 36.0
comp=Z,148nm,1.0s
MIB Mutribah 21.70 257 *e*P **P** **23 55 29.9 -1.1**
MIB AMb AMB 23 55 37.0
comp=Z,127nm,0.7s
KBD Kabd 21.72 255 *e*P **P** **23 55 30.2 -0.9**
KBD AMb AMB 23 55 37.5
comp=Z,87nm,0.6s
RDF Al-Radifah 21.95 255 *e*P **P** **23 55 32.1 -1.5**
RDF AMb AMB 23 55 40.1
comp=Z,91nm,1.1s
ZEI Tsey 21.98 293 *e*P **P** **23 55 31.8 -2.3**
ZEI pmax pmax
comp=Z,18nm,0.6s
GTA Gaotai 22.01 76 *e*P **P** **23 55 35.0 +0.6**
GTA pP **pP** **23 55 51.3 -4.4**
GTA S **S** **23 59 32.0 +1.9**
GTA sS sS 00 00 00.5 -6.1
GTA SS SnSn 00 00 18.8 +11
GTA pmax pmax
comp=Z,43nm,1.3s
GTA pmax pmax
comp=Z,140nm,6.4s
GTA LR LR
comp=N,140nm,10.2s
GTA LR LR
comp=E,130nm,13.8s
GTA LR LR
comp=Z,130nm,11.9s
NAY Al-Naaiem 22.03 256 *e*P **P** **23 55 32.9 -1.6**
NAY AMb AMB 23 55 36.7
comp=Z,55nm,0.6s
VIS Vishakhapatnam 22.04 150 *i* 4 Sn 23 59 45.6 -4.1
AKH Akhalkalaki 22.21 289 P **P** **23 55 37.4 +0.9**
IMP Imphal 22.66 117 *e*4 P 23 55 50.0 +9.0
IMP *e*S **S** **23 59 42.0 +1.2**
KBZ Khabaz 22.80 295 P **P** **23 55 40.8 -1.3**
KBZ pmax pmax
comp=Z,13nm,1.0s
KBZ Khabaz 22.80 295 P **P** **23 55 40.8 -1.3**
KBZ Khabaz 22.80 295 P **P** **23 55 40.8 -1.3**
comp=Z,13nm,1.0s,baz=114,slow=9.9,SNR=20
KIV Kislovodsk 22.98 296 *e*P **P** **23 55 43.8 -0.2**
KIV *e**SP sP 23 56 13.2 -6.8
KIV *e*S **S** **23 59 46.6 +0.9**
KIV pmax pmax
comp=Z,22nm,0.6s
KIV MLR MLR
comp=Z,132nm,15.0s
CHVG Ch'k'valeri 23.31 293 P **P** **23 55 48.9 +1.9**
SOKR Solikamsk 24.23 341 *c i*P **P** **23 55 55.8 +0.7**
SOKR pmax pmax
comp=Z,30nm,1.4s
SOKR MLR MLR
comp=Z,180nm,13.0s
MOY Mondy 25.04 46 *e*P **P** **23 56 05.1 +2.4**
MOY pmax pmax
comp=Z,18nm,1.7s
SOC Sochi 25.09 294 *e*P **P** **23 56 02.5 -0.6**
SOC *e*S **S** **00 00 23.7 +4.4**
SOC *e*SS SnSn 00 01 05.4 -16
SOC pmax pmax
comp=Z,22nm,0.5s
SOC MLR MLR
comp=Z,115nm,16.0s
LZH Lanzhou 25.64 83 *e*P **P** **23 56 09.7 +1.3**
LZH pP **pP** **23 56 30.0 -2.9**
LZH sP sP 23 56 39.2 -6.7
LZH *e*S **S** **00 00 32.1 +3.6**
LZH SS **SnSn** **00 01 40.1 +4.4**
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.0s
ZAK Zakamensk 25.93 50 *e*P **P** **23 56 11.3 +0.5**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
RAYN Ar Rayn 26.44 246 *e*P **P** **23 56 14.3 -1.2**
comp=Z,18nm,0.9s
TLY Talaya 26.57 47 *e*P **P** **23 56 17.8 +1.4**
VORD Divnogorie 26.75 311 *e*P **P** **23 56 15.9 -2.1**
VORD pmax pmax
comp=Z,8.0nm,0.9s
VORD pmax pmax
comp=N,30nm,0.7s
VORD pmax pmax
comp=E,30nm,0.8s
ANN Anapa 26.81 297 *e*P **P** **23 56 17.4 -1.1**
ANN *e*S **S** **00 00 46.4 +0.1**
ANN pmax pmax
comp=Z,29nm,0.7s
VSR Storozhevoye 26.90 311 *e*P **P** **23 56 18.3 -1.0**
VSR *e*S **S** **00 00 45.4 -2.3**
VSR pmax pmax
comp=E,20nm,0.7s
VSR pmax pmax
comp=Z,30nm,0.7s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR smax smax
comp=Z,10.0nm,1.3s
VSR smax smax
comp=N,60nm,2.7s
VSR smax smax
comp=E,80nm,3.0s
CD2 Chengdu 27.13 94 P **P** **23 56 23.9 +2.2**
CD2 pP **pP** **23 56 43.9 -2.3**
CD2 sP **sP** **23 56 54.7 -4.6**
CD2 PP **PnPn** **23 57 13.9 +2.4**
CD2 PcP **PcP** **23 59 42.5 +3.0**
CD2 S **S** **00 00 54.2 +2.4**
CD2 sS sS 00 01 29.1 -5.7
CD2 SS **SnSn** **00 02 15.9 +4.2**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.2s
SONM Songino Array 27.31 56 P **P** **23 56 24.1 +0.8**
SONM Songino Array 27.31 56 P **P** **23 56 24.1 +0.8**
comp=Z,2.8nm,0.5s,baz=278,slow=9.3,SNR=3.9
ULN Ulaanbaatar 27.75 57 *e*P **P** **23 56 28.1 +0.9**
ULN Ulaanbaatar 27.75 57 P **P** **23 56 28.2 +1.0**
comp=Z,6.2nm,0.7s
KMI Kunming 28.99 106 P **P** **23 56 39.5 +1.1**
KMI pmax pmax
comp=Z,9.0nm,1.2s
MOS Moscow 29.41 320 *e*P P 23 56 37.5 -4.1
MOS *e**PP pP 23 57 01.1 -5.2
MOS *e* 23 57 38.9
MOS pmax pmax
comp=Z,27nm,1.0s
OBN Obninsk 29.72 318 ⇑ *e*P **P** **23 56 43.8 -0.5**
OBN *e**PP **pP** **23 57 12.0 +3.0**
OBN *e* 23 57 42.4
OBN *e*S **S** **00 01 29.9 -1.9**
OBN pmax pmax
comp=Z,39nm,1.7s
OBN MLR MLR
comp=Z,100nm,19.0s
BR131 Keskin Array S 29.80 286 *e*P **P** **23 56 45.4 0.0**
comp=Z,5.8nm,0.6s
BRTR Keskin Array B 29.80 286 P **P** **23 56 45.6 +0.2**
BRTR Keskin Array B 29.80 286 P **P** **23 56 45.6 +0.2**
comp=Z,6.7nm,0.6s,baz=104,slow=9.4,SNR=55
MMAI Mount Meron Ar 29.95 273 P **P** **23 56 47.4 +0.7**
MMAI Mount Meron Ar 29.95 273 P **P** **23 56 47.4 +0.7**
comp=Z,3.6nm,0.8s,baz=50,slow=6.6,SNR=4.0
CHTO Chiang Mai 30.07 120 *e*P **P** **23 56 48.6 +0.8**
CHTO pmax pmax
comp=Z,18nm,1.4s
CHTO Chiang Mai 30.07 120 *e*P **P** **23 56 48.6 +0.8**
comp=Z,18nm,1.4s
CHTO Chiang Mai 30.07 120 P **P** **23 56 48.8 +1.0**
CHTO Chiang Mai 30.07 120 P **P** **23 56 50.3 +2.5**
comp=Z,13nm,0.8s
CMMT Chiang Mai 30.08 120 P **P** **23 56 48.8 +0.9**
CMMT Chiang Mai 30.08 120 P **P** **23 56 50.3 +2.4**
comp=Z,10nm,1.3s
XAN Xi'an 30.19 85 P **P** **23 56 49.0 +0.2**
XAN pmax pmax
comp=Z,4.0nm,1.2s
CMAR Chiang Mai Arr 30.32 121 P **P** **23 56 50.2 +0.3**
CMAR Chiang Mai Arr 30.32 121 P **P** **23 56 50.2 +0.3**
comp=Z,3.2nm,0.6s,baz=311,slow=9.2,SNR=19
LAMP Lampang 30.75 120 P **P** **23 56 54.3 +0.5**
comp=Z,3.8nm,1.1s
HHC Hu-ho-hao-te 30.86 71 *e*P **P** **23 56 55.7 +1.0**
HHC PP **PnPn** **23 58 00.1 +0.2**
HHC PcP **PcP** **23 59 51.3 +2.4**
HHC S **S** **00 01 50.8 +0.5**
HHC sS **sS** **00 02 28.9 -4.6**
HHC ScP **ScP** **00 03 23.3 +2.1**
HHC PcS **PcS** **00 03 33.3 +0.3**
HHC ScS **ScS** **00 07 18.4 +0.2**
HHC pmax pmax
comp=Z,30nm,0.6s
HHC pmax pmax
comp=Z,330nm,6.3s
HHC LR LR
comp=N,190nm,11.8s
HHC LR LR
comp=E,290nm,12.4s
HHC LR LR
comp=Z,260nm,11.9s
NANT Nan 31.30 118 P **P** **23 56 58.1 -0.5**
comp=Z,27nm,1.3s
GYA Guiyang 31.36 100 P **P** **23 57 01.0 +1.8**
GYA pP **pP** **23 57 22.4 -1.7**
GYA sP **sP** **23 57 32.8 -4.2**
GYA PP **PnPn** **23 58 07.6 +1.2**
GYA S **S** **00 02 01.3 +3.0**
GYA sS **sS** **00 02 37.5 -4.1**
GYA ScP **ScP** **00 03 25.8 +2.7**
GYA ScS **ScS** **00 07 23.0 +1.9**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.6s
GYA LR LR
comp=N,480nm,17.9s
GYA LR LR
comp=E,340nm,18.7s
GYA LR LR
comp=Z,450nm,17.8s
EIL Elat 31.52 267 P **P** **23 56 59.5 -1.0**
EIL Elat 31.52 267 P **P** **23 56 59.5 -1.0**
comp=Z,4.5nm,0.8s,baz=10,slow=10,SNR=4.8
ENH Enshi 31.93 92 *e*P **P** **23 57 03.9 -0.2**
comp=Z,16nm,1.2s
LOEI Loei 32.57 119 P **P** **23 57 12.1 +2.4**
comp=Z,149nm,1.0s
AKASG Malin Array Be 32.92 308 P **P** **23 57 11.8 -0.7**
AKASG pmax pmax
comp=Z,16nm,0.6s
AKASG Malin Array Be 32.92 308 P **P** **23 57 11.8 -0.7**
AKASG Malin Array Be 32.92 308 P **P** **23 57 11.8 -0.7**
comp=Z,16nm,0.6s,baz=82,slow=7.1,SNR=64
AK01 Malin Array Si 32.93 308 *e*P **P** **23 57 11.8 -0.8**
AK02 Malin Array Si 32.93 308 *e*P **P** **23 57 11.8 -0.7**
KIEV Kiev 32.93 308 *e*P **P** **23 57 11.9 -0.7**
KIEV pmax pmax
comp=Z,24nm,0.7s
KIEV Kiev 32.93 308 *e*P **P** **23 57 11.9 -0.7**
comp=Z,24nm,0.7s
TIRR Tirgusor 33.24 296 ⇑P **P** **23 57 15.7 +0.4**
TIRR Tirgusor 33.24 296 ⇑ *i*P **P** **23 57 15.7 +0.4**
CFR Carcaliu 33.41 297 ⇑ *i*P **P** **23 57 17.3 +0.6**
TMCR Tamitsa 33.55 334 *e*P **P** **23 57 17.7 0.0**
TMCR pmax pmax
comp=Z,20nm,0.7s
CHAI Chaiyaphum 34.18 121 P **P** **23 57 25.1 +1.4**
comp=Z,5.1nm,1.7s
VRI Vrincioaia 34.37 299 ⇑P **P** **23 57 26.3 +1.1**
VRI Vrincioaia 34.37 299 ⇑ *i*P **P** **23 57 26.3 +1.1**
MNK Minsk 34.38 314 *e*P P 23 57 14.0 -11
TESR Tescani 34.41 300 ⇓ *i*P **P** **23 57 25.7 +0.3**
PLOR Plostina 34.43 299 ⇑P **P** **23 57 26.9 +1.2**
PLOR Plostina 34.43 299 ⇑ *i*P **P** **23 57 26.9 +1.2**
ISR Istrita 34.54 297 ⇑P **P** **23 57 28.5 +1.9**
ISR Istrita 34.54 297 ⇑ *i*P **P** **23 57 28.5 +1.9**
SKNT Sakolnakorn 34.84 117 P **P** **23 57 29.7 +0.3**
comp=Z,47nm,1.3s
MLR Muntele Rosu 34.94 298 P **P** **23 57 30.5 +0.3**
MLR Muntele Rosu 34.94 298 ⇑ *i*P **P** **23 57 31.8 +1.6**
MLR Muntele Rosu 34.94 298 P **P** **23 57 30.5 +0.3**
comp=Z,5.7nm,0.8s,baz=90,slow=0.5,SNR=69
NACGM Naroch 35.06 315 *e* **P** **23 57 28.0 -2.9**
BUR08 Bucovina Ar. S 35.38 302 *e*P **P** **23 57 33.8 -0.1**
JOF Joensuu 35.45 329 *ep* **P** **23 57 32.9 -1.3**
comp=Z,12nm,0.5s
JOF Joensuu 35.45 329 *e*P **P** **23 57 32.9 -1.3**
JOF pmax pmax
comp=Z,12nm,0.5s
VOIR 35.57 298 ⇑P **P** **23 57 36.0 +0.5**
VOIR 35.57 298 ⇑ *i*P **P** **23 57 36.0 +0.5**
WHN Wuhan 35.70 88 P **P** **23 57 38.0 +1.3**
ARR Arges 35.87 298 ⇑ *i*P **P** **23 57 38.8 +0.8**
LVV L'vov 36.18 306 *e*P **P** **23 57 40.4 -0.1**
LOT Lotru 36.47 298 ⇑ *i*P **P** **23 57 44.1 +0.9**
ATD Arta Tunnel 36.56 233 P **P** **23 57 44.0 -0.3**
ATD Arta Tunnel 36.56 233 P **P** **23 57 44.0 -0.3**
comp=Z,13nm,1.0s,baz=307,slow=23,SNR=4.9
SUW Suwalki 37.00 313 *e*P **P** **23 57 46.9 -0.6**
SUW pmax pmax
comp=Z,22nm,0.6s
SUW Suwalki 37.00 313 *e*P **P** **23 57 46.9 -0.6**
comp=Z,22nm,0.6s
SUW Suwalki 37.00 313 *e*P **P** **23 57 46.7 -0.7**
KWP Kalwaria Pacla 37.03 305 ⇑P **P** **23 57 48.2 +0.4**
KWP Kalwaria Pacla 37.03 305 *e*P **P** **23 57 47.4 -0.4**
comp=Z,73nm,0.5s
KWP Kalwaria Pacla 37.03 305 ⇑ *i*P **P** **23 57 48.2 +0.4**
KWP Kalwaria Pacla 37.03 305 *e*P **P** **23 57 48.1 +0.3**
APA Apatity 37.09 337 ⇑ *e*P **P** **23 57 49.0 +0.9**
APA MLR MLR
comp=Z,400nm,10.0s
FIA1 FINESS Array S 37.14 325 *e*P **P** **23 57 47.8 -0.7**
FINES FINESS Array B 37.14 325 P **P** **23 57 48.1 -0.4**
FINES pP **pP** **23 58 15.3 +1.5**
FINES FINESS Array B 37.14 325 P **P** **23 57 48.1 -0.4**
comp=Z,11nm,0.6s,baz=116,slow=9.3,SNR=79
FINES pP **pP** **23 58 15.3 +1.5**
comp=Z,11nm,0.7s,baz=108,slow=11,SNR=6.9
TRPA Tarpa 37.16 303 ⇓ *i*P **P** **23 57 50.5 +1.6**
GZR Gura Zlata 37.17 298 ⇓P **P** **23 57 49.2 +0.1**
GZR Gura Zlata 37.17 298 ⇓ *i*P **P** **23 57 49.2 +0.1**
VTS Vitosha 37.20 294 ⇓P **P** **23 57 50.2 +0.7**
VTS Vitosha 37.20 294 ⇓ *i*P **P** **23 57 50.2 +0.7**
KAF Kangasniemi 37.26 326 *ep* **P** **23 57 48.3 -1.2**
comp=Z,3.2nm,0.5s
KAF Kangasniemi 37.26 326 *e*P **P** **23 57 48.3 -1.2**
KAF pmax pmax
comp=Z,3.0nm,0.5s
UZH Uzhgorod 37.31 304 *e*P **P** **23 57 50.0 -0.2**
UZH *e* 23 58 14.8
KOLS Kolonicke sedl 37.32 304 *e*P **P** **23 57 50.0 -0.3**
KOLS pmax pmax
comp=Z,11nm,1.4s
KOLS Kolonicke sedl 37.32 304 *e*P **P** **23 57 50.0 -0.3**
KOLS *e*PP **PP** **23 59 14.5 -2.9**
VAY Valandovo 37.88 292 *i*P **P** **23 57 53.9 -1.1**
BZS Buzias 37.96 299 ⇓P **P** **23 57 56.4 +0.7**
BZS Buzias 37.96 299 ⇓ *i*P **P** **23 57 56.4 +0.7**
STHS Stebnicka Huta 37.99 305 *e*P **P** **23 57 55.8 -0.1**
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 37.99 305 *e*P **P** **23 57 55.8 -0.1**
STHS *e*PP **PP** **23 59 23.7 -1.0**
BEL Belsk 38.29 309 *e*P **P** **23 57 58.1 -0.2**
KECS Kecovo 38.52 303 *e*P **P** **23 58 00.6 +0.3**
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS Kecovo 38.52 303 *e*P **P** **23 58 00.6 +0.3**
KECS *e*PP **PP** **23 59 28.5 -2.0**
NIE Niedzica 38.60 305 *e*P **P** **23 58 03.2 +2.2**
NIE *e* 23 59 34.2
NIE Niedzica 38.60 305 *e*P **P** **23 58 03.2 +2.2**
NIE *e*PP **PnPn** **23 59 34.2 -0.4**
NJ2 Nanjing 38.72 83 *e*P **P** **23 58 02.6 +0.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
TRTT Trang 38.77 132 P **P** **23 58 03.7 +1.0**
BIA Bitola 38.86 292 *e*P **P** **23 58 01.8 -1.6**
OJC Ojcow 38.91 306 *e*P **P** **23 58 03.3 -0.3**
OJC *e* 23 59 33.3
OJC Ojcow 38.91 306 *e*P **P** **23 58 03.3 -0.3**
OJC *e*PP **PP** **23 59 33.5 -1.2**
PSZ Piszkesteto 38.95 303 ⇑P **P** **23 58 04.7 +0.7**
PSZ Piszkesteto 38.95 303 *e*P **P** **23 58 04.5 +0.5**
comp=Z,8.6nm,0.9s
PSZ Piszkesteto 38.95 303 ⇑ *i*P **P** **23 58 04.7 +0.7**
PSZ Piszkesteto 38.95 303 ⇓ *e*P **P** **23 58 04.3 +0.3**
VYHS Vyhne 39.62 304 *e*P **P** **23 58 09.9 +0.5**
VYHS pmax pmax
comp=Z,8.0nm,1.5s
VYHS Vyhne 39.62 304 *e*P **P** **23 58 09.9 +0.5**
VYHS *e*PP **PP** **23 59 40.6 -1.8**
PKSM Moragy 39.96 300 ⇑P **P** **23 58 13.7 +1.4**
PKSM Moragy 39.96 300 ⇑ *i*P **P** **23 58 13.7 +1.4**
PKSM Moragy 39.96 300 ⇓ *e*P **P** **23 58 12.5 +0.2**
OKC Ostrava-Krasne 39.99 306 *e*P **P** **23 58 12.5 0.0**
OKC Ostrava-Krasne 39.99 306 *e*P **P** **23 58 12.5 0.0**
PKSG 40.01 302 ⇓ *e*P **P** **23 58 14.6 +2.0**
PKS9 Tamasi 40.17 301 ⇓ *e*P **P** **23 58 14.3 +0.3**
KEV Kevo 40.24 338 *ep* **P** **23 58 13.5 -0.8**
comp=Z,5.3nm,0.6s
KEV Kevo 40.24 338 *e*P **P** **23 58 13.5 -0.8**
KEV pmax pmax
comp=Z,5.0nm,0.6s
MORC Moravsky Berou 40.38 306 *e*P **P** **23 58 15.6 -0.2**
MORC pmax pmax
comp=Z,7.0nm,0.9s
MORC Moravsky Berou 40.38 306 *e*P **P** **23 58 15.6 -0.2**
comp=Z,7.2nm,0.9s
GKP Gorka Klasztor 40.49 311 *e*P **P** **23 58 16.5 0.0**
SMOL Smolenice 40.55 304 *e*P **P** **23 58 17.8 +0.7**
SMOL Smolenice 40.55 304 *e*P **P** **23 58 17.8 +0.7**
ARCES ARCESS Array B 40.60 337 P **P** **23 58 17.1 -0.2**
ARCES pP **pP** **23 58 44.2 +1.3**
ARCES sP **sP** **23 59 00.1 +4.3**
ARCES ARCESS Array B 40.60 337 P **P** **23 58 17.1 -0.2**
comp=Z,9.4nm,0.8s,baz=118,slow=8.6,SNR=36
ARCES pP **pP** **23 58 44.2 +1.3**
comp=Z,9.7nm,0.7s,baz=113,slow=9.3,SNR=5.1
ARCES sP **sP** **23 59 00.1 +4.3**
comp=Z,7.8nm,0.7s,baz=118,slow=9.8,SNR=3.0
ARE0 ARCESS Array S 40.60 337 *e*P **P** **23 58 16.1 -1.2**
VRAC Vranov 41.03 305 P **P** **23 58 20.6 -0.5**
VRAC pP **pP** **23 58 48.7 +1.9**
VRAC Vranov 41.03 305 P **P** **23 58 20.6 -0.5**
comp=Z,10nm,0.8s,baz=86,slow=8.8,SNR=22
VRAC pP **pP** **23 58 48.7 +1.9**
comp=Z,5.6nm,0.9s,baz=76,slow=6.2,SNR=3.5
KTK1 Kautokeino 41.09 336 *e*P **P** **23 58 20.9 -0.4**
KSP Ksiaz 41.12 307 *e*P **P** **23 58 21.3 -0.5**
DPC Dobruska-Polom 41.13 307 *e*P **P** **23 58 22.5 +0.5**
DPC *e* 23 58 49.9
DPC Dobruska-Polom 41.13 307 *e*P **P** **23 58 22.5 +0.5**
DPC *ex* x 23 58 26.6
DPC *ex* x 23 58 37.1
DPC *e*pP **pP** **23 58 49.9 +2.3**
UPC Upice 41.32 307 *e*P **P** **23 58 23.9 +0.5**
UPC *e* 23 58 52.5
UPC Upice 41.32 307 *e*P **P** **23 58 23.9 +0.5**
UPC *ex* x 23 58 28.2
UPC *e*pP **pP** **23 58 52.5 +3.4**
CONA Conrad Observa 41.65 303 *i*P **P** **23 58 26.6 +0.3**
comp=Z,18nm,0.9s,SNR=17
TREC Trest 41.75 305 *e*P **P** **23 58 25.0 -2.0**
TREC Trest 41.75 305 *e*P **P** **23 58 25.0 -2.0**
TREC *ex* x 23 58 27.8
BSD Bornholm Skovb 41.87 314 ⇓ *i*P **P** **23 58 26.3 -1.5**
BSD pmax pmax
comp=Z,9.0nm,0.8s
BSD Bornholm Skovb 41.87 314 ⇓ *i*P **P** **23 58 26.3 -1.5**
comp=Z,8.8nm,0.8s
GCIS Gornji Cirnik 42.09 300 *i* ScP **ScP** **00 04 02.4 +0.1**
PVCC Panska Ves 42.24 307 *e*P **P** **23 58 31.5 +0.6**
PVCC Panska Ves 42.24 307 *e*P **P** **23 58 31.5 +0.6**

PRU	**Pruhonice**	**42.30**	**306**	*e*P		**P**	**23 58 31.6**	**+0.2**
PRU				*e*			23 58 58.7		
PRU	**Pruhonice**	**42.30**	**306**	*e*P		**P**	**23 58 31.6**	**+0.2**
PRU				*ex*		x	23 58 35.8		
PRU				*e*pP		**pP**	**23 58 58.7**	**+1.5**
PRA	**Prague**	**42.36**	**306**	P		**P**	**23 58 32.0**	**+0.1**
SOKA	**Soboth**	**42.37**	**301**	⇓*i*P		**P**	**23 58 32.4**	**+0.3**
	comp=Z,17nm,1.1s								
BOJS	**Bojanci**	**42.41**	**300**	⇓*i*P		**P**	**23 58 32.5**	**+0.2**
PSI	**Prapat**	**42.46**	**138**	P		**P**	**23 58 33.6**	**+0.4**
PSI	**Prapat**	**42.46**	**138**	P		**P**	**23 58 33.6**	**+0.4**
	comp=Z,6.8nm,0.5s,baz=285,slow=10,SNR=11								
BRG	**Berggiesshubel**	**42.61**	**308**	*i* P		**P**	**23 58 34.1**	**+0.3**
	comp=Z,12nm,0.6s								
BRG				*i*			23 59 01.5		
	comp=Z,10nm,1.1s								
BRG	**Berggiesshubel**	**42.61**	**308**	*e*P		**P**	**23 58 34.2**	**+0.3**
	comp=Z,18nm,0.8s								
BRG				*e*pP		**pP**	**23 59 01.6**	**+1.9**
BRG	**Berggiesshubel**	**42.61**	**308**	*i* P		**P**	**23 58 34.1**	**+0.3**
BRG				*i*			23 59 01.5		
BRG				pmax	pmax				
	comp=Z,12nm,0.6s								
VISS	**Visnje**	**42.64**	**300**	⇓*i*P		**P**	**23 58 34.5**	**+0.2**
VISS				*e*ScP		**ScP**	**00 04 04.3**	**-0.3**
TIP	**Timpagrande**	**42.70**	**290**	*e*P		**P**	**23 58 34.0**	**-0.9**
	comp=Z,8.9nm,1.0s								
MOA	**Molln**	**42.72**	**303**	*i* P		**P**	**23 58 34.8**	**-0.1**
	comp=Z,12nm,0.9s,SNR=10								
OBKA	**Obir**	**42.73**	**301**	⇓*i*P		**P**	**23 58 35.4**	**+0.4**
	comp=Z,16nm,1.6s,SNR=7.3								
TRO	**Tromso**	**42.74**	**336**	*e*P		**P**	**23 58 32.3**	**-2.4**
HFS	**Hagfors**	**42.80**	**321**	P		**P**	**23 58 34.7**	**-0.6**
HFS				pP		**pP**	**23 59 03.3**	**+2.2**
HFS	**Hagfors**	**42.80**	**321**	P		**P**	**23 58 34.7**	**-0.6**
	comp=Z,33nm,0.6s,baz=103,slow=11,SNR=312								
HFS				pP		**pP**	**23 59 03.3**	**+2.2**
	comp=Z,15nm,0.7s,baz=95,slow=11,SNR=3.9								
HFS				LR		LR	00 17 48.4		
	comp=Z,87nm,18.3s,baz=90,slow=38								
RGN	**Rugen**	**42.80**	**313**	*e*P		**P**	**23 58 35.8**	**+0.5**
	comp=Z,59nm,0.9s								
LJU	**Ljubljana**	**42.82**	**300**	⇓*i*P		**P**	**23 58 36.1**	**+0.4**
LJU				*e*			23 59 03.8		
LJU				*e*			23 59 17.8		
LJU				*e*ScP		**ScP**	**00 04 05.3**	**0.0**
GEC2	**GERESS Array S**	**42.97**	**305**	*e*P		**P**	**23 58 37.3**	**+0.3**
GEC2	**GERESS Array S**	**42.97**	**305**	*e*P		**P**	**23 58 37.3**	**+0.3**
GERES	**GERESS Array B**	**42.97**	**305**	P		**P**	**23 58 36.9**	**-0.1**
GERES				PP		**PP**	**00 00 19.9**	**+1.2**
GERES	**GERESS Array B**	**42.97**	**305**	P		**P**	**23 58 36.9**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=78,slow=7.3,SNR=25								
GERES				PP		**PP**	**00 00 19.9**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=91,slow=6.8,SNR=3.6								
FBE	**Freiberg**	**42.97**	**308**	*e*P		**P**	**23 58 37.4**	**+0.6**
	comp=Z,22nm,0.8s								
FBE				*e*pP		**pP**	**23 59 04.7**	**+2.0**
KHC	**Kasperske Hory**	**43.02**	**305**	*e*P		**P**	**23 58 37.8**	**+0.5**
KHC				*e*			23 59 04.2		
KHC	**Kasperske Hory**	**43.02**	**305**	*e*P		**P**	**23 58 37.8**	**+0.5**
KHC				*ex*		x	23 58 41.0		
KHC				*e*pP		**pP**	**23 59 04.2**	**+1.1**
KHC	**Kasperske Hory**	**43.02**	**305**	*e*P		**P**	**23 58 37.8**	**+0.5**
	comp=Z,7.1nm,0.7s								
CLL	**Collm**	**43.16**	**308**	*e*P		**P**	**23 58 38.0**	**-0.3**
	comp=Z,14nm,0.8s								
CLL	**Collm**	**43.16**	**308**	⇓*i*P		**P**	**23 58 38.1**	**-0.3**
CLL				*e*			23 59 07.0		
CLL				pmax	pmax				
	comp=Z,14nm,0.8s								
CLL	**Collm**	**43.16**	**308**	⇓*i*P		**P**	**23 58 38.1**	**-0.3**
	comp=Z,14nm,0.8s								
CLL				*e*pP		**pP**	**23 59 07.0**	**+2.8**
CLL				*e*			23 59 19.0		
CLL				*e*(PP)			00 00 26.0		
CLL				*e*SS		SS	00 08 12.0	-0.9	
CLL				LmV			00 19 00.0		
	comp=Z,100nm,18.0s								
CUC	**Castrocucco**	**43.18**	**291**	*e*P		**P**	**23 58 38.8**	**0.0**
	comp=Z,25nm,0.6s								
COP	**Copenhagen**	**43.29**	**315**	*e*P		**P**	**23 58 38.9**	**-0.4**
COP				pmax	pmax				
	comp=Z,7.0nm,0.8s								
COP	**Copenhagen**	**43.29**	**315**	*i* P		**P**	**23 58 38.9**	**-0.4**
	comp=Z,6.5nm,0.8s								
MOR8	**Moi Rana**	**43.39**	**330**	*e*P		**P**	**23 58 38.9**	**-1.1**
MOR8				AMB		AMB	23 58 39.6		
	comp=Z,39nm,0.4s								
MOR8				*e*pP		**pP**	**23 59 07.1**	**+1.3**
TRI	**Trieste**	**43.40**	**300**	*e*P		**P**	**23 58 39.4**	**-0.9**
TRI				pmax	pmax				
	comp=Z,12nm,0.7s								
TRI	**Trieste**	**43.40**	**300**	*e*P		**P**	**23 58 39.4**	**-0.9**
	comp=Z,12nm,0.7s								
MDJ	**Mudanjiang**	**43.41**	**62**	P		P	23 58 36.1	-4.4	
MDJ				pmax	pmax				
	comp=Z,10.0nm,0.6s								
MDJ				pmax	pmax				
	comp=Z,37nm,5.4s								
LLD	**Lille Linde**	**43.42**	**314**	*i* P		**P**	**23 58 40.2**	**-0.1**
LLD				pmax	pmax				
	comp=Z,17nm,0.8s								
LLD	**Lille Linde**	**43.42**	**314**	*i* P		**P**	**23 58 40.2**	**-0.1**
	comp=Z,17nm,0.7s								
WET	**Wettzell**	**43.47**	**305**	*e*P		**P**	**23 58 40.8**	**-0.1**
	comp=Z,7.0nm,1.1s								
WET	**Wettzell**	**43.47**	**305**	*e*P		**P**	**23 58 40.8**	**-0.1**
WET				pmax	pmax				
	comp=Z,18nm,1.1s								
WERN	**Wernitzgruen**	**43.66**	**307**	*e*pP		pP	23 59 09.7	+1.4	
GUNZ	**Gunzen**	**43.68**	**307**	*e*P		**P**	**23 58 42.7**	**+0.1**
	comp=Z,11nm,1.0s								
WERD	**Werda**	**43.68**	**307**	*e*P		**P**	**23 58 42.7**	**+0.1**
	comp=Z,13nm,1.3s								
ROTZ	**Rotzenmuhle**	**43.83**	**306**	*e*P		**P**	**23 58 44.2**	**+0.5**
	comp=Z,14nm,1.2s								
ROTZ				*e*pP		**pP**	**23 59 13.2**	**+3.5**
MANZ	**Manzenberg**	**43.86**	**306**	*e*P		**P**	**23 58 44.4**	**+0.4**
	comp=Z,10.0nm,1.1s								
NC602	**NORSAR Array S**	**43.91**	**322**	*e*P		**P**	**23 58 42.2**	**-2.0**
NEUB	**Neuenburg**	**43.94**	**308**	*e*P		**P**	**23 58 44.7**	**+0.1**
	comp=Z,17nm,0.8s								
SSLB	**Suanglung**	**43.96**	**94**	*e*P		**P**	**23 58 47.0**	**+1.9**
	comp=Z,13nm,0.8s								
KSAR	**Wonju Array Be**	**43.96**	**72**	P		**P**	**23 58 45.1**	**+0.2**
KSAR				pP		**pP**	**23 59 14.8**	**+3.9**
KSRS	**Korea Array**	**43.99**	**72**	P		**P**	**23 58 45.1**	**0.0**
	comp=Z,2.2nm,0.6s,baz=285,slow=6.9,SNR=11								
KSRS				pP		**pP**	**23 59 14.8**	**+3.7**
	comp=Z,1.4nm,0.8s,baz=274,slow=8.5,SNR=2.0								
NB2	**NORSAR Subarra**	**44.09**	**322**	P		**P**	**23 58 44.7**	**-1.0**
	comp=Z,11nm,0.6s,baz=93,slow=7.9								
NB2	**NORSAR Subarra**	**44.09**	**322**	P		**P**	**23 58 44.7**	**-1.0**
	baz=93,slow=7.9								
NOA	**NORSAR Array B**	**44.09**	**322**	P		**P**	**23 58 44.7**	**-1.0**
NOA				pP		**pP**	**23 59 13.5**	**+1.8**
NOA				PP		**PcP**	**00 00 27.4**	**-1.5**
NOA	**NORSAR Array B**	**44.09**	**322**	P		**P**	**23 58 44.7**	**-1.0**
	comp=Z,11nm,0.7s,baz=94,slow=7.8,SNR=98								
NOA				pP		**pP**	**23 59 13.5**	**+1.8**
	comp=Z,6.3nm,0.7s,baz=95,slow=8.0,SNR=4.7								
NOA				PP		**PcP**	**00 00 27.4**	**-1.5**
	comp=Z,3.9nm,0.8s,baz=93,slow=10,SNR=4.2								
NOA				LR		LR	00 19 43.0		
	comp=Z,61nm,18.1s,baz=85,slow=39								
MOX	**Moxa**	**44.10**	**307**	*e*P		**P**	**23 58 46.1**	**+0.2**
	comp=Z,14nm,1.1s								
MOX	**Moxa**	**44.10**	**307**	*e*P		**P**	**23 58 46.1**	**+0.2**
MOX				pmax	pmax				
	comp=Z,11nm,1.1s								
KLR	**Kul'dur**	**44.11**	**55**	*e*P		P	23 58 42.0	-4.0	
NAO01	**NORSAR Array S**	**44.23**	**322**	*e*P		**P**	**23 58 45.6**	**-1.2**
	comp=Z,6.0nm,0.7s								
AQU	**L'Aquila**	**44.36**	**295**	*e*P		**P**	**23 58 48.3**	**+0.2**
	comp=Z,35nm,0.8s								
GRF	**Grafenberg Arr**	**44.47**	**306**	*e*P		**P**	**23 58 49.6**	**+0.7**
	comp=Z,34nm,1.4s								
GRF	**Grafenberg Arr**	**44.47**	**306**	*e*P		**P**	**23 58 49.6**	**+0.7**
GRF				pmax	pmax				
	comp=Z,20nm,1.4s								
GRFO	**Grafenberg**	**44.47**	**306**	*e*P		**P**	**23 58 50.2**	**+1.3**
GRFO	**Grafenberg**	**44.47**	**306**	*e*P		**P**	**23 58 50.1**	**+1.3**
TWG	**Pinlang**	**44.53**	**95**	*e*P		**P**	**23 58 52.6**	**+3.0**
	comp=Z,512nm,1.8s								
BSEG	**Bad Segeberg**	**44.59**	**312**	*e*P		**P**	**23 58 50.1**	**+0.4**
	comp=Z,40nm,0.8s								
BSEG	**Bad Segeberg**	**44.59**	**312**	*e*P		**P**	**23 58 50.1**	**+0.4**
BSEG				pmax	pmax				
	comp=Z,19nm,0.8s								
FUR	**Furstenfeldbru**	**44.66**	**304**	*e*P		**P**	**23 58 49.5**	**-1.0**
	comp=Z,17nm,1.0s								
FUR	**Furstenfeldbru**	**44.66**	**304**	*e*P		**P**	**23 58 49.4**	**-1.0**
FUR				pmax	pmax				
	comp=Z,45nm,1.0s								
TIXI	**Tiksi**	**44.73**	**22**	*e*P		**P**	**23 58 52.6**	**+2.1**
TIXI				pmax	pmax				
	comp=Z,7.0nm,1.2s								
CLZ	**Clausthal**	**44.74**	**309**	*e*P		**P**	**23 58 51.2**	**+0.2**
	comp=Z,12nm,0.8s								
CLZ				*e*pP		**pP**	**23 59 18.8**	**+1.8**
CLZ	**Clausthal**	**44.74**	**309**	*e*P		**P**	**23 58 51.2**	**+0.2**
CLZ				pmax	pmax				
	comp=Z,20nm,0.8s								
KONO	**Kongsberg**	**44.83**	**320**	*e*P		**P**	**23 58 49.0**	**-2.5**
KONO	**Kongsberg**	**44.83**	**320**	*e*P		**P**	**23 58 50.7**	**-0.8**
KONO				pmax	pmax				
	comp=Z,17nm,0.7s								
KONO	**Kongsberg**	**44.83**	**320**	*e*P		**P**	**23 58 50.7**	**-0.8**
	comp=Z,17nm,0.7s								
MOTA	**Moosalm**	**44.92**	**303**	⇓*i*P		**P**	**23 58 51.5**	**-1.1**
	comp=Z,3.8nm,0.6s								
RETA	**Reutte**	**45.12**	**303**	⇑*i*P		**P**	**23 58 53.3**	**-0.8**
	comp=Z,5.8nm,0.9s								
USRK	**Ussuriysk Arra**	**45.19**	**62**	P		**P**	**23 58 56.6**	**+2.0**
	comp=Z,2.7nm,0.5s,baz=274,slow=7.1,SNR=11								
FETA	**Feichten**	**45.23**	**302**	⇓*i*P		**P**	**23 58 54.1**	**-0.9**
	comp=Z,6.1nm,0.9s,SNR=5.1								
FUORN	**Ofenpass-Fuorn**	**45.62**	**302**	*e*P		**P**	**23 58 58.0**	**-0.3**
	comp=Z,7.9nm,0.6s								
DAVA	**Damuels**	**45.74**	**303**	*i* P		**P**	**23 58 58.6**	**-0.6**
	comp=Z,20nm,0.5s,SNR=24								
DAVOX	**Davos/Dischmat**	**45.84**	**302**	P		**P**	**23 58 59.1**	**-0.9**
DAVOX	**Davos/Dischmat**	**45.84**	**302**	P		**P**	**23 58 59.1**	**-0.9**
	comp=Z,15nm,0.6s,baz=105,slow=6.4,SNR=35								
TOD	**Tromm**	**46.04**	**306**	*e*P		**P**	**23 59 01.7**	**+0.5**
TOD	**Tromm**	**46.04**	**306**	*e*P		**P**	**23 59 01.7**	**+0.5**
TUE	**Stuetta**	**46.27**	**302**	*e*P		**P**	**23 59 02.5**	**-0.8**
IBBN	**Ibbenburen**	**46.29**	**310**	*e*P		**P**	**23 59 03.3**	**+0.2**
	comp=Z,24nm,0.8s								
SPAK	**Spaichingen-Ko**	**46.31**	**304**	*e*P		**P**	**23 59 03.4**	**-0.1**
HABR	**Khabarovsk**	**46.38**	**55**	*e*P		**P**	**23 59 03.6**	**-0.3**
HABR							00 00 37.0		
HABR				*e*PPP		PPP	00 01 39.1		
HABR				*e*			00 08 49.5		
HABR				*e*SSS		SSS	00 10 17.8		
HABR				pmax	pmax				
	comp=N,22nm,2.2s								
HABR				pmax	pmax				
	comp=Z,29nm,2.2s								
HABR				pmax	pmax				
	comp=E,14nm,0.8s								
HABR				MLR	MLR				
	comp=Z,46nm,17.0s								
BFO	**Black Forest**	**46.57**	**305**	*e*P		**P**	**23 59 05.0**	**-0.4**
	comp=Z,9.0nm,1.0s								
BFO	**Black Forest**	**46.57**	**305**	*e*P		**P**	**23 59 05.1**	**-0.4**
BFO	**Black Forest**	**46.57**	**305**	*e*P		**P**	**23 59 05.1**	**-0.4**
LANF	**Langenberg**	**46.79**	**306**	*e*P		**P**	**23 59 07.5**	**+0.4**
LANF	**Langenberg**	**46.79**	**306**	*e*P		**P**	**23 59 07.5**	**+0.4**
LANF	**Langenberg**	**46.79**	**306**	*e*P		**P**	**23 59 07.5**	**+0.4**
SPITS	**Spitsbergen Ar**	**46.80**	**347**	P		**P**	**23 59 06.7**	**-0.1**
SPITS	**Spitsbergen Ar**	**46.80**	**347**	P		**P**	**23 59 06.7**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=140,slow=11,SNR=6.5								
FELD	**Feldberg im Sc**	**46.88**	**304**	*e*P		**P**	**23 59 07.5**	**-0.5**
RUP	**Ruppelstein**	**47.14**	**307**	*e*P		**P**	**23 59 10.3**	**+0.5**
RUP	**Ruppelstein**	**47.14**	**307**	*e*P		**P**	**23 59 10.3**	**+0.5**
CDF	**Champ du Feu**	**47.24**	**305**	*e*P		**P**	**23 59 10.6**	**-0.1**
	comp=Z,12nm,0.7s								
BBS	**Basel-Blauen**	**47.29**	**304**	*e*P		**P**	**23 59 10.7**	**-0.3**
BBS	**Basel-Blauen**	**47.29**	**304**	*e*P		**P**	**23 59 10.7**	**-0.3**
MOF	**Molkenrain**	**47.45**	**304**	*e*P		**P**	**23 59 12.1**	**-0.3**
MOF	**Molkenrain**	**47.45**	**304**	*e*P		**P**	**23 59 12.1**	**-0.3**
MOF	**Molkenrain**	**47.45**	**304**	*e*P		**P**	**23 59 12.1**	**-0.3**
PGF	**Pioggiola**	**47.46**	**297**	*e*P		**P**	**23 59 11.7**	**-0.8**
	comp=Z,21nm,0.7s								
MEM	**Membach**	**47.64**	**308**	P		**P**	**23 59 13.6**	**-0.1**
HINF	**Hinteralfeld**	**47.65**	**304**	*e*P		**P**	**23 59 13.2**	**-0.6**
	comp=Z,12nm,0.7s								
SENIN	**Lac Senin/Sane**	**47.67**	**302**	*e*P		**P**	**23 59 13.6**	**-0.6**
	comp=Z,14nm,0.9s								
WLF	**Walferdange**	**47.72**	**307**	P		**P**	**23 59 15.1**	**+0.8**
	comp=Z,14nm,1.3s								
WLF	**Walferdange**	**47.72**	**307**	*e*P		**P**	**23 59 14.7**	**+0.4**
	comp=Z,22nm,0.8s								
JNU	**Nakatsue**	**47.75**	**77**	*e*P		**P**	**23 59 16.2**	**+1.4**
JNU	**Nakatsue**	**47.75**	**77**	P		**P**	**23 59 15.8**	**+0.9**
	comp=Z,10nm,0.6s,baz=341,slow=5.8,SNR=9.5								
KBS	**Kingsbay**	**47.91**	**347**	*ce*P		**P**	**23 59 16.5**	**+1.1**
KBS				pmax	pmax				
	comp=Z,25nm,1.7s								
HAU	**Haudompre**	**47.94**	**305**	*e*P		**P**	**23 59 15.6**	**-0.4**
	comp=Z,14nm,0.8s								
HAU				*e*pP		**pP**	**23 59 43.5**	**+1.2**
HAU				*e*R					
	comp=Z,60nm,18.2s								
VSL	**Villasalto**	**48.08**	**293**	*e*P		**P**	**23 59 15.9**	**-1.3**
	comp=Z,5.7nm,0.7s								
SAOF	**Saorge**	**48.09**	**299**	*e*P		**P**	**23 59 17.6**	**+0.4**
SAOF	**Saorge**	**48.09**	**299**	*e*P		**P**	**23 59 17.6**	**+0.4**
SAOF	**Saorge**	**48.09**	**299**	*e*P		**P**	**23 59 17.6**	**+0.4**
THEF	**They Montfort**	**48.12**	**305**	*e*P		**P**	**23 59 16.8**	**-0.7**
THEF	**They Montfort**	**48.12**	**305**	*e*P		**P**	**23 59 16.8**	**-0.7**
THEF	**They Montfort**	**48.12**	**305**	*e*P		**P**	**23 59 16.8**	**-0.7**
AUTN	**L'Aution**	**48.17**	**299**	*e*P		**P**	**23 59 19.0**	**+0.9**
AUTN	**L'Aution**	**48.17**	**299**	*e*P		**P**	**23 59 19.0**	**+0.9**
AUTN	**L'Aution**	**48.17**	**299**	*e*P		**P**	**23 59 19.0**	**+0.9**
SBF	**Sospel**	**48.20**	**299**	*e*P		**P**	**23 59 18.0**	**-0.2**
	comp=Z,57nm,0.8s								
PAGF	**Fort de Pagny**	**48.22**	**305**	*e*P		**P**	**23 59 18.5**	**+0.3**
	comp=Z,4.1nm,0.5s								
LPG	**La Plagne**	**48.25**	**301**	*e*P		**P**	**23 59 18.6**	**-0.2**
	comp=Z,13nm,0.7s								
LPL	**La Plagne**	**48.26**	**301**	*e*P		**P**	**23 59 18.6**	**-0.2**
	comp=Z,12nm,0.5s								
TOUF	**Mont Tournerai**	**48.29**	**299**	*e*P		**P**	**23 59 19.4**	**+0.4**
TOUF	**Mont Tournerai**	**48.29**	**299**	*e*P		**P**	**23 59 19.4**	**+0.4**
TOUF	**Mont Tournerai**	**48.29**	**299**	*e*P		**P**	**23 59 19.4**	**+0.4**
MVIF	**Mont Vial**	**48.39**	**299**	*e*P		**P**	**23 59 20.0**	**+0.3**
MVIF	**Mont Vial**	**48.39**	**299**	*e*P		**P**	**23 59 20.0**	**+0.3**
MVIF	**Mont Vial**	**48.39**	**299**	*e*P		**P**	**23 59 20.0**	**+0.3**
CABF	**La Chapelle**	**48.43**	**303**	*e*P		**P**	**23 59 20.1**	**+0.2**
	comp=Z,23nm,0.7s								
MBDF	**Montbardon**	**48.44**	**300**	*e*P		**P**	**23 59 19.3**	**-0.8**
	comp=Z,16nm,0.7s								
CALN	**Calern**	**48.61**	**299**	*e*P		**P**	**23 59 21.7**	**+0.3**
CALN	**Calern**	**48.61**	**299**	*e*P		**P**	**23 59 21.7**	**+0.3**
CALN	**Calern**	**48.61**	**299**	*e*P		**P**	**23 59 21.7**	**+0.3**
DOU	**Dourbes**	**48.62**	**308**	P		**P**	**23 59 21.8**	**+0.6**
MEZF	**Maizieres J'vi**	**48.67**	**306**	*e*P		**P**	**23 59 21.7**	**+0.1**
	comp=Z,12nm,0.6s								
SFTF	**Sexfontaines**	**48.75**	**305**	*e*P		**P**	**23 59 21.9**	**-0.3**
	comp=Z,8.2nm,0.5s								
BAIF	**Baives**	**48.88**	**308**	*e*P		**P**	**23 59 23.4**	**+0.3**
	comp=Z,36nm,1.0s								
LMR	**La Mourre**	**48.99**	**299**	*e*P		**P**	**23 59 23.5**	**-0.7**
	comp=Z,11nm,0.8s								
ORIF	**Oris-en-Rattie**	**49.00**	**301**	*e*P		**P**	**23 59 24.2**	**-0.1**
	comp=Z,6.1nm,0.7s								
ORIF				*e*R					
	comp=Z,69nm,20.5s								
KEST	**Kesra**	**49.38**	**288**	*e*P		**P**	**23 59 27.4**	**+0.1**
KEST	**Kesra**	**49.38**	**288**	P		**P**	**23 59 27.6**	**+0.2**
	comp=Z,3.3nm,0.5s,baz=12,slow=1.2,SNR=36								
SMRF	**Simiane la Rot**	**49.46**	**300**	*e*P		**P**	**23 59 27.6**	**-0.2**
	comp=Z,19nm,0.8s								
LOR	**Lormes**	**49.75**	**304**	*e*P		**P**	**23 59 28.9**	**-0.9**
	comp=Z,10nm,0.8s,baz=82								
LOR				*e*pP		**pP**	**23 59 57.2**	**+0.9**
LOR				*e*R					
	comp=Z,70nm,20.8s								
SSB	**Saint Sauveur**	**49.81**	**302**	*e*P		**P**	**23 59 30.0**	**-0.4**
SSB				pmax	pmax				
	comp=Z,5.0nm,0.6s								
SSB	**Saint Sauveur**	**49.81**	**302**	*e*P		**P**	**23 59 29.9**	**-0.4**
	comp=Z,5.1nm,0.6s								
VIVF	**Saint-Julien-l**	**49.84**	**301**	*e*P		**P**	**23 59 30.3**	**-0.3**
	comp=Z,18nm,0.7s								
VIVF				*e*pP		**pP**	**23 59 59.3**	**+2.2**
KMBO	**Kilima Mbogo**	**49.89**	**228**	P		**P**	**23 59 31.9**	**+0.3**
KMBO	**Kilima Mbogo**	**49.89**	**228**	P		**P**	**23 59 31.9**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=42,slow=17,SNR=8.0								
SMF	**Signal de Mont**	**49.92**	**303**	*e*P		**P**	**23 59 30.6**	**-0.5**
	comp=Z,26nm,0.7s								
AVF	**Avril sur Loir**	**50.20**	**304**	*e*P		**P**	**23 59 32.7**	**-0.6**
	comp=Z,41nm,0.8s								
HYF	**Humbligny**	**50.55**	**304**	*e*P		**P**	**23 59 35.8**	**-0.1**
AGO	**Saint Agoulin**	**50.55**	**303**	*e*P		**P**	**23 59 35.3**	**-0.6**
AGO	**Saint Agoulin**	**50.55**	**303**	*e*P		**P**	**23 59 35.3**	**-0.6**
BGF	**Bois d'Agland**	**50.60**	**304**	*e*P		**P**	**23 59 35.6**	**-0.7**
	comp=Z,7.4nm,0.6s								
LASF	**Ste Croix**	**50.62**	**300**	*e*P		**P**	**23 59 36.5**	**0.0**
	comp=Z,30nm,0.9s								
LBL	**Lubilhac**	**50.70**	**302**	*e*P		**P**	**23 59 37.3**	**+0.1**
LBL	**Lubilhac**	**50.70**	**302**	*e*P		**P**	**23 59 37.3**	**+0.1**
LBL	**Lubilhac**	**50.70**	**302**	*e*P		**P**	**23 59 37.3**	**+0.1**
PYM	**Petit Puy Mans**	**50.72**	**302**	*e*P		**P**	**23 59 37.4**	**+0.1**
PYM	**Petit Puy Mans**	**50.72**	**302**	*e*P		**P**	**23 59 37.4**	**+0.1**
PYM	**Petit Puy Mans**	**50.72**	**302**	*e*P		**P**	**23 59 37.4**	**+0.1**
TCF	**Toulx Ste Croi**	**51.10**	**303**	*e*P		**P**	**23 59 39.9**	**-0.2**
	comp=Z,18nm,0.7s								
CAF	**Calviac**	**51.59**	**302**	*e*P		**P**	**23 59 43.7**	**-0.1**
	comp=Z,7.1nm,0.6s								
SKP1	**Kophill**	**51.60**	**311**	*e*P		**P**	**23 59 42.8**	**-0.8**
ESY	**Stoneypath**	**51.69**	**316**	⇓*e*P		**P**	**23 59 43.2**	**-1.0**
MCD	**Coleburn Disti**	**51.70**	**318**	⇓*e*P		**P**	**23 59 43.7**	**-0.6**
RJF	**Les Rejaudoux**	**51.85**	**302**	*e*P		**P**	**23 59 45.7**	**+0.1**
RJF				*e*R					
	comp=Z,57nm,19.8s								
LDF	**La Druitiere**	**51.98**	**307**	*e*P		**P**	**23 59 45.7**	**-0.8**
	comp=Z,26nm,0.7s								
MTLF	**Montolieu**	**51.98**	**300**	*e*P		**P**	**23 59 46.4**	**-0.2**
	comp=Z,14nm,0.8s								
MAJO	**Matsushiro**	**52.03**	**69**	*e*P		**P**	**23 59 47.6**	**+0.5**
MAJO				pmax	pmax				
	comp=Z,8.0nm,0.5s								
MAJO	**Matsushiro**	**52.03**	**69**	*e*P		**P**	**23 59 47.6**	**+0.5**
	comp=Z,8.0nm,0.5s								
MAT	**Matsushiro**	**52.03**	**69**	P		**P**	**23 59 45.1**	**-2.0**
MJAR	**Matsushiro Arr**	**52.03**	**69**	P		**P**	**23 59 49.1**	**+1.9**
MJAR	**Matsushiro Arr**	**52.03**	**69**	P		**P**	**23 59 49.1**	**+1.9**
	comp=Z,3.2nm,0.6s,baz=288,slow=9.7,SNR=12								
EKA	**Eskdalemuir Ar**	**52.12**	**316**	P		**P**	**23 59 46.7**	**-0.7**
EKA	**Eskdalemuir Ar**	**52.12**	**316**	P		**P**	**23 59 46.7**	**-0.7**
	comp=Z,5.0nm,0.5s,baz=85,slow=7.5,SNR=55								
ECK	**Cauldkaine Hil**	**52.14**	**315**	⇓*e*P		**P**	**23 59 46.5**	**-1.1**
ESK	**Eskdalemuir**	**52.15**	**316**	*e*P		**P**	**23 59 46.7**	**-1.0**
ESK				AMB		AMB	23 59 48.3		
	comp=Z,10nm,1.9s								
ESK	**Eskdalemuir**	**52.15**	**316**	*i* P		**P**	**23 59 48.5**	**+0.8**
ESK	**Eskdalemuir**	**52.15**	**316**	*e*P		**P**	**23 59 46.7**	**-1.0**
	comp=Z,9.0nm,0.9s						

PAX	Paxson	75.64	17	*e*P		P	00 02 21.4	-0.1
PAX	Paxson	75.64	17	*e*P		P	00 02 21.4	-0.1
SML	Sawmill	75.96	18	*e*P		P	00 02 21.6	-1.7
SML	Sawmill	75.96	18	*e*P		P	00 02 21.6	-1.7
TSUM	Tsumeb	75.96	232	P		P	00 02 23.1	-0.9
TSUM	Tsumeb	75.96	232	P		P	00 02 23.1	-0.9
	comp=Z,0.9nm,0.6s,baz=23,slow=9.7,SNR=4.7							
BOSA	Boshof	78.83	221	P		P	00 02 39.0	-0.7
BOSA	Boshof	78.83	221	P		P	00 02 38.9	-0.7
	comp=Z,2.1nm,0.7s,baz=115,slow=14,SNR=3.5							
BBTS	Babate	79.97	281	P		P	00 02 46.6	+0.5
BBTS	Babate	79.97	281	P		P	00 02 46.6	+0.5
	comp=Z,21nm,0.6s,baz=265,slow=2.4,SNR=4.4							
YKA	Yellowknife Ar	80.35	3	P		P	00 02 47.1	-0.2
YKA				pP		pP	00 03 19.3	+3.2
YKA	Yellowknife Ar	80.35	3	P		P	00 02 47.1	-0.2
	comp=Z,4.3nm,0.6s,baz=350,slow=5.4,SNR=22							
YKA				pP		pP	00 03 19.3	+3.2
	comp=Z,3.1nm,0.8s,baz=350,slow=5.5,SNR=2.1							
YKA				LR		LR	00 39 29.7	
	comp=Z,3.8nm,21.7s,baz=315,slow=36							
SCHQ	Schefferville	81.55	337	P		P	00 02 53.2	-0.7
SCHQ				pP		pP	00 03 25.6	+2.8
SCHQ	Schefferville	81.55	337	P		P	00 02 53.2	-0.7
	comp=Z,2.0nm,0.5s,baz=331,slow=2.3,SNR=9.0							
SCHQ				pP		pP	00 03 25.6	+2.8
	comp=Z,2.9nm,0.7s,baz=56,slow=8.8,SNR=3.6							
SCHQ				LR		LR	00 38 22.0	
	comp=Z,51nm,19.4s,baz=63,slow=35							
WRA	Warramunga Arr	81.90	123	P		P	00 02 55.9	-0.4
WRA	Warramunga Arr	81.90	123	P		P	00 02 55.9	-0.4
	comp=Z,1.5nm,0.6s,baz=322,slow=4.9,SNR=8.7							
ASAR	Alice Springs	84.22	125	P		P	00 03 06.5	-1.6
ASAR	Alice Springs	84.22	125	P		P	00 03 06.5	-1.6
	comp=Z,0.4nm,0.7s,baz=312,slow=4.9,SNR=6.6							
FFC	Flin Flon	88.12	356	*ce*P		P	00 03 28.7	+1.9

CSEM ***02*** *23:55:54.5, 34.02N×25.54E, h15km, MD3.3, After ATH*
ATH ***02*** *23:55:54.5, 34.02N×25.54E, h15km±4km, MD3.3/3*
IDC ***02*** *23:55:56.8±4.8, 34.17N×25.93E, h0km, mb3.7/2, mb1 3.8/7, mb1mx3.7/30, mbtmp3.7/7, ML3.7/5, MS3.3/1, Ms1 3.3/1, ms1mx2.3/39, Error ellipse: s-maj=82.7km s-min=30.4km az=47.0*

ISC 02 23:55:57.3±1.3, 34.2N±0.1×25.7E±0.1, h17km, n26, σ0.9s91/27, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	Neapolis	1.08	354	*e*PN	Pn	23 56 17.6	-0.1
NPS	Neapolis	1.08	354	*e*Pn	Pn	23 56 17.6	-0.1
SIVA	Sivas	1.13	318	*e*PN	Pn	23 56 16.5	-1.9
SIVA	Sivas	1.13	318	*e*Pn	Pn	23 56 16.5	-1.9
IDI	Anoyia	1.31	328	*e*PN	Pn	23 56 19.8	-1.0
IDI				*e*SN	Sg	23 56 39.4	-0.2
IDI	Anoyia	1.31	328	*e*Pn	Pn	23 56 19.8	-1.0
IDI				*e*Sn	Sg	23 56 39.4	-0.2
VAM	Vamos	1.76	314	*e*PN	Pn	23 56 26.7	-0.3
VAM	Vamos	1.76	314	*e*Pn	Pn	23 56 26.7	-0.3
KYTH	Kithira	3.05	314	*e*PB	Pn	23 56 45.5	+0.8
KYTH	Kithira	3.05	314	*e*Pb	Pn	23 56 45.5	+0.8
VLI	Veliai	3.41	319	*e*PN	Pn	23 56 50.9	+1.2
VLI	Veliai	3.41	319	*e*Pn	Pn	23 56 50.9	+1.2
DYR	Agios Nikonas	3.79	314	*e*PN	Pn	23 56 54.8	-0.1
DYR	Agios Nikonas	3.79	314	*e*Pn	Pn	23 56 54.8	-0.1
PYL	PYLOS	4.20	311	*e*PN	Pn	23 57 01.8	+0.7
PYL	PYLOS	4.24	311	*e*Pn	Pn	23 57 01.8	+0.7
ITM	Ithomi	4.31	315	*e*PN	Pn	23 57 02.2	+0.1
ITM	Ithomi	4.31	315	*e*Pn	Pn	23 57 02.2	+0.1
MMAI	Mount Meron Ar	8.14	96	Pn	Pn	23 57 55.0	+0.2
	0.3nm,0.3s,baz=277,slow=12,SNR=3.1						
EIL	Elat	9.03	117	Pn	Pn	23 58 05.9	-0.9
	0.1nm,0.3s,baz=332,slow=18,SNR=5.5						
KBZ	Khabaz	16.37	49	Pn	P	23 59 47.9	-1.1
	0.1nm,0.3s,baz=242,slow=15,SNR=2.5						
AKASG	Malin Array Be	16.71	8	Pn	P	23 59 52.8	+0.1
	1.1nm,0.3s,baz=198,slow=11,SNR=4.8						
GERES	GERESS Array B	17.17	332	P	P	23 59 58.0	+0.1
	0.2nm,0.3s,baz=148,slow=13,SNR=4.2						
KURBB	Kurchatov Arra	41.37	50	P	P	00 03 43.3	+1.0
	0.8nm,0.7s,baz=279,slow=8.4,SNR=4.1						
MKAR	Makanchi Array	43.92	56	P	P	00 04 04.5	+1.4
	0.7nm,0.6s,baz=280,slow=7.8,SNR=5.3						
ZALV	Zalesovo Beam	45.34	45	LR	LR	00 29 40.6	
	comp=Z,33nm,18.7s,baz=340,slow=45						

IDC ***02*** *23:57:02.7±4.0, 34.02N×25.47E, h0km, mb4.1/4, mb1 4.0/9, mb1mx3.8/31, mbtmp4.0/9, ML3.8/5, MS3.4/2, Ms1 3.4/2, ms1mx2.6/41, Error ellipse: s-maj=79.5km s-min=23.3km az=35.0*
CSEM ***02*** *23:57:16.4, 35.05N×25.28E, h50km, MD3.4, After ATH*
ATH ***02*** *23:57:16.4, 35.05N×25.28E, h50km±3km, MD3.4/5*

ISC 02 23:57:08.1±1.7, 34.5N±0.1×25.51E±0.09, h15km, n23, σ0.9s69/21, mb4.0/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	Neapolis	0.78	6	*e*P	Pn	23 57 26.0	+1.4
NPS				*e*S	Sb	23 57 33.0	-0.8
NPS	Neapolis	0.78	6	*e*P	Pn	23 57 26.0	+1.4
NPS				*e*S	Sb	23 57 33.0	-0.8
IDI	Anoyia	0.95	328	*e*P	Pn	23 57 27.1	+0.1
IDI	Anoyia	0.95	328	*e*P	Pn	23 57 27.1	+0.1
VAM	Vamos	1.42	311	*e*P	Pb	23 57 34.6	+0.4
VAM	Vamos	1.42	311	*e*P	Pb	23 57 34.6	+0.4
SANT	Santorini	1.88	359	*e*P	Pn	23 57 39.6	-0.2
SANT	Santorini	1.88	359	*e*P	Pn	23 57 39.6	-0.2
KYTH	Kithira	2.70	312	*e*P	Pn	23 57 50.9	-0.1
KYTH	Kithira	2.70	312	*e*P	Pn	23 57 50.9	-0.1
VLI	Veliai	3.06	317	*e*P	Pn	23 57 56.5	+0.6
VLI	Veliai	3.06	317	*e*P	Pn	23 57 56.5	+0.6
MMAI	Mount Meron Ar	8.37	97	Pn	Pn	23 59 05.4	-3.5
	1.3nm,0.3s,baz=275,slow=12,SNR=6.4						
EIL	Elat	9.34	118	Pn	Pn	23 59 16.6	-5.5
	0.5nm,0.3s,baz=312,slow=12,SNR=5.2						
ASF	Jabal al Asfar	9.80	100	LR	LR	00 03 38.9	
	comp=Z,108nm,19.2s,baz=209,slow=41						
AKASG	Malin Array Be	16.43	8	Pn	P	00 01 00.8	+0.1
	1.5nm,0.3s,baz=199,slow=10,SNR=4.4						
GERES	GERESS Array B	16.81	332	P	P	00 01 05.2	+0.1
	0.2nm,0.3s,baz=150,slow=11,SNR=9.8						
DAVOX	Davos/Dischmat	17.04	321	P	P	00 01 08.6	+0.9
	0.1nm,0.3s,baz=137,slow=18,SNR=2.2						
HFS	Hagfors	26.80	347	P	P	00 02 47.4	0.0
	2.1nm,0.7s,baz=161,slow=9.2,SNR=3.2						
KURBB	Kurchatov Arra	41.32	50	P	P	00 04 52.2	-0.8
	2.1nm,0.9s,baz=275,slow=8.5,SNR=5.0						
MKAR	Makanchi Array	43.91	56	P	P	00 05 13.3	-0.8
	1.9nm,0.5s,baz=272,slow=7.0,SNR=19						
ZALV	Zalesovo Beam	45.26	46	P	P	00 05 24.3	-0.5
	1.3nm,0.4s,baz=265,slow=8.3,SNR=4.7						
PDAR	Pinedale Array	92.83	329	LR	LR	00 49 58.4	
	comp=Z,34nm,19.9s,baz=254,slow=34						

NIED ***02*** *23:58:00, 24.90N×126.90E, h29km, Mw3.9 Best double couple: M08.77000×10^14 NP1:φ=254.00000°, δ71.00000°, λ99.00000°. NP2:φ=48.00000°, δ21.00000°, λ66.00000°.*
IDC ***02*** *23:58:50.2±2.3, 24.91N×126.80E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/25, mbtmp3.8/6, Error ellipse: s-maj=157.8km s-min=19.5km az=66.0*
ISCJB ***02*** *23:58:52.2±0.6, 24.81N±0.06×127.03E±0.05, h28km, mb3.7/6, Error ellipse: s-maj=9.8km s-min=4.8km az=149.6*
JMA ***02*** *23:58:52.6±0.3, 24.93N×126.87E, h7km, M3.5*

ISC 02 23:58:53.3±0.9, 24.88N±0.07×126.96E±0.05, h28km, n18, σ1.8s34/21, mb3.7/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	1.42	266	P	Pb	23 59 17.6	-1.5
JOGS				*e*S	Sb	23 59 35.5	-1.3
JJT2	Tamagusuku 2	1.44	29	*e*S	Sb	23 59 37.8	+0.3
JKE	Kume jima 2	1.45	354	P	Pb	23 59 18.3	-1.4
JMJ	Miyako jima 2	1.52	268	P	Pb	23 59 19.0	-1.8
JAGN	Aguni-jima	1.72	8	P	Pb	23 59 22.7	-1.6
JOW	Kunigami	2.28	31	P	Pb	23 59 31.7	-2.0
JIJ	Ishigaki jima	2.62	259	P	Pn	23 59 33.3	-0.4
IRIF	Iriomote-Funau	2.99	260	P	Pn	23 59 40.2	+1.4
JTK	Tokunoshima	3.40	31	P	Pn	23 59 46.1	+1.6
JTK				*e*S	Sn	00 00 24.4	+0.5
JAMN	Amaminishikomi	3.89	30	P	Pn	23 59 54.0	+2.8
JMZ	Minamidaito 2	3.96	75	P	Pn	23 59 51.8	-0.4
JMZ				S	Sn	00 00 35.8	-2.0
JAM	Amami Oshima	4.24	33	P	Pn	23 59 56.8	+0.8
JAM				*e*S	Sn	00 00 43.3	-1.3
MKAR	Makanchi Array	41.60	313	P	P	00 06 39.0	+0.1
	1.4nm,0.6s,baz=98,slow=11,SNR=13						
ZALV	Zalesovo Beam	42.65	324	P	P	00 06 46.9	-0.3
	0.5nm,0.4s,baz=112,slow=8.7,SNR=3.1						
KURBB	Kurchatov Arra	45.06	318	P	P	00 07 06.7	+0.1
	0.4nm,0.4s,baz=108,slow=9.5,SNR=6.5						
WRA	Warramunga Arr	45.12	170	P	P	00 07 08.7	+1.3
	0.4nm,0.4s,baz=352,slow=8.6,SNR=3.0						
ASAR	Alice Springs	48.72	172	P	P	00 07 37.1	+1.6
	0.4nm,0.9s,baz=3.0,slow=8.8,SNR=2.9						
FINES	FINESS Array B	73.47	331	P	P	00 10 24.1	+1.1
	3.4nm,1.0s,baz=64,slow=4.4,SNR=5.8						

MEX 03 00:13:51.6±0.9, 16.84N×99.38W, h14km±8km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.46	274	*i* P	Pg	00 13 55.2	-5.6
ACX				*i* S	Sg	00 14 01.3	-5.7
CAIG	El Cayaco	0.87	284	*e*P	Pb	00 14 05.2	-3.3
CAIG				*i* S	Sg	00 14 16.4	-3.6
MEIG	Mezcala	1.11	348	*i* P	Pb	00 14 08.5	-4.2
MEIG				*i* S	Sb	00 14 21.9	-5.2
PNIG	Pinotepa	1.28	110	*e*P	Pn	00 14 11.2	-3.9
PNIG				*i* S	Sb	00 14 27.1	-4.8
PLIG	Platanillo	1.55	356	*e*P	Pn	00 14 16.2	-2.7
PLIG				*i* S	Sn	00 14 33.5	-5.5
ARIG	Puente Sto Nin	1.71	327	*e*P	Pn	00 14 17.8	-3.1
ARIG				*i* S	Sn	00 14 38.4	-4.2
UTMO	Huajuapan	1.80	57	*i* P	Pn	00 14 19.2	-3.3
UTMO				*i* S	Sn	00 14 40.6	-4.8
YAIG	Yautepec	2.04	8	*i* P	Pn	00 14 22.6	-3.1
YAIG				*i* S	Sn	00 14 46.0	-5.0

NDI ***03*** *00:21:21.3±2.5, 34.79N×73.06E, h33km, ML3.5*
IDC ***03*** *00:21:21.1±1.3, 34.48N×73.96E, h0km, mb3.8/4, mb1 3.7/7, mb1mx3.5/30, mbtmp3.7/7, ML3.4/3, Error ellipse: s-maj=31.4km s-min=26.5km az=88.0*
ISCJB ***03*** *00:21:23.0±0.5, 34.55N±0.04×73.87E±0.09, h26km, mb3.8/3, Error ellipse: s-maj=11.9km s-min=4.0km az=157.0*
NNC ***03*** *00:21:30.9±2.2, 35.16N×72.94E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=19.2km s-min=18.7km az=150.0*

ISC 03 00:21:24.8±0.7, 34.60N±0.06×73.8E±0.1, h26km, n41, σ1.9s55/44, mb3.8/3, 5C-4D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	Thein Dam	2.69	143	*e*P	Pb	00 22 11.0	-1.3
THN				*e*S	Sb	00 22 45.8	+0.9
SDNR	Sundarnagar	4.08	138	*ex*	Pb	00 22 38.0	+2.0
KKR	Kurukshetra	5.29	150	*ex*	Sb	00 23 56.5	-3.0
KALG	Kalgarh	6.60	139	*e*P	Pn	00 23 00.8	+0.8
KALG				*ex*	x	00 23 09.1	
AYAN	Aya Nagar	6.73	154	*e*S	Sn	00 24 18.4	+0.8
KUDL	Kundal	6.83	159	*e*P	Pn	00 23 05.4	+2.1
KUDL				*e*S	Sn	00 24 18.2	-2.1
KUDL				AML	AML	00 24 25.4	
	comp=E,22nm,0.5s						
KUDL				AML	AML	00 24 26.3	
	comp=N,13nm,0.5s						
AGRA	Agra	8.16	153	*e*S	Sn	00 24 52.3	-0.7
AGRA				AML	AML	00 25 54.3	
	comp=E,47nm,0.3s						
AGRA				AML	AML	00 25 57.1	
	comp=N,48nm,0.5s						
TKM2	Tokmak 2	8.43	9	⇓P	Pn	00 23 29.1	+3.7
	comp=N,1.1nm,0.5s						
TKM2				⇓S	Sn	00 25 01.7	+1.8
	comp=N,3.3nm,0.8s						
KK31	Karatay Array	8.87	344	⇑P	Pn	00 23 30.5	-0.7
	comp=N,0.9nm,0.3s,baz=154,slow=11,SNR=33						
KK31				⇓S	Sn	00 25 04.9	-5.5
	comp=N,1.9nm,0.4s,baz=163,slow=25,SNR=5.2						
PYUN	Piuthan	10.19	127	*e*P	Pn	00 23 50.6	+1.0
	comp=N,13nm,0.4s						
DANN	Dangsing	10.55	123	*e*P	Pn	00 23 55.4	+0.9
	comp=N,15nm,0.4s						
DANN	Dangsing	10.55	123	*e*P	Pn	00 23 55.6	+1.1
	comp=N,15nm,0.4s						
KOLN	Koldanda	10.81	126	*e*P	Pn	00 23 58.3	+0.2
	comp=N,6.1nm,0.3s						
KOLN	Koldanda	10.81	126	*e*P	Pn	00 23 59.4	+1.3
	comp=N,6.1nm,0.3s						
DMN	Daman	11.94	123	*e*P	Pn	00 24 13.4	-0.2
	comp=N,11nm,0.4s						
DMN	Daman	11.94	123	*e*P	Pn	00 24 13.7	+0.1
	comp=N,11nm,0.4s						
PKIN	Phulchoki	12.16	122	*e*P	Pn	00 24 15.9	-0.7
	comp=N,11nm,0.6s						
PKIN	Phulchoki	12.16	122	*e*P	Pn	00 24 16.2	-0.4
	comp=N,8.7nm,0.4s						
PKI	Pulchoki	12.17	122	*e*P	Pn	00 24 16.3	-0.5
	comp=N,8.4nm,0.5s						
PKI	Pulchoki	12.17	122	*e*P	Pn	00 24 16.6	-0.2
	comp=N,12nm,0.6s						
GUN	Gumba	12.30	120	*e*P	Pn	00 24 18.3	-0.3
	comp=N,12nm,0.4s						
JIRN	Jiri	12.67	120	*e*P	Pn	00 24 23.0	-0.7
	comp=N,41nm,0.4s						
RAMN	Ramite	13.39	121	*e*P	Pn	00 24 31.3	-2.1
	comp=N,7.0nm,0.3s						
RAMN	Ramite	13.39	121	*e*P	Pn	00 24 32.4	-1.0
	comp=N,7.0nm,0.3s						
MK31	Makanchi Array	13.78	25	⇑P	P	00 24 45.1	-1.5
	comp=N,2.2nm,1.2s,baz=206,slow=12,SNR=4.3						
MKAR	Makanchi Array	13.78	25	Pn	Pn	00 24 39.6	+1.3
	comp=N,0.0nm,0.3s,baz=186,slow=8.4,SNR=2.3						
TAPN	Taplejung	13.95	117	*e*P	Pn	00 24 39.2	-1.9
	comp=N,12nm,0.5s						
TAPN	Taplejung	13.95	117	*e*P	Pn	00 24 40.0	-1.1
	comp=N,12nm,0.5s						
ODAN	Odare	14.01	120	*e*P	Pn	00 24 39.0	-2.8
	comp=N,9.4nm,0.6s						
ODAN	Odare	14.01	120	*e*P	Pn	00 24 40.8	-1.0
	comp=N,9.4nm,0.6s						
KURBB	Kurchatov Arra	16.39	11	Pn	P	00 25 15.1	-0.5
	comp=N,0.0nm,0.3s,baz=200,slow=10,SNR=5.1						
AB31	Akbulak array	17.86	329	⇑P	Pn	00 25 30.3	-1.0
	comp=N,0.2nm,0.3s,baz=164,slow=10,SNR=10						
AB31				⇓S	Sn	00 28 40.8	-8.8
	comp=N,0.4nm,0.5s						
BVA0	Borovoye Array	18.58	354	P	Pn	00 25 41.0	+0.9
	comp=N,0.9nm,0.5s,baz=159,slow=9.4,SNR=9.9						
BVAR	Borovoye Array	18.58	354	P	Pn	00 25 40.8	+0.7
	comp=N,0.4nm,0.3s,baz=158,slow=9.5,SNR=13						
BRVK	Borovoye	18.62	353	⇑P	Pn	00 25 41.3	+0.7
	comp=N,1.6nm,0.7s						
AKTO	Aktyubinsk	19.57	329	⇑P	Pn	00 25 51.7	-0.4
	comp=N,2.8nm,1.1s						
AKTO	Aktyubinsk	19.57	329	P	Pn	00 25 53.3	+1.3
	comp=N,0.2nm,0.3s,baz=148,slow=9.5,SNR=3.4						
ZALV	Zalesovo Beam	20.85	19	P	P	00 26 04.1	-0.3
	comp=N,1.9nm,0.5s,baz=210,slow=10,SNR=8.5						
FINES	FINESS Array B	40.32	327	P	P	00 29 01.7	+2.0
	comp=N,2.1nm,1.0s,baz=146,slow=13,SNR=3.0						
TORD	Torodi Ar. Bea	67.98	271	P	P	00 32 22.9	+1.0
	comp=N,1.0nm,0.7s,baz=45,slow=5.4,SNR=13						
ASAR	Alice Springs	81.30	126	P	P	00 33 38.8	-0.2
	comp=N,0.4nm,0.6s,baz=310,slow=5.2,SNR=7.3						

ATH ***03*** *00:22:53.2, 37.94N×21.76E, h28km, MD2.9/19*
ISCJB ***03*** *00:22:54.2±0.3, 37.93N±0.02×21.77E±0.03, h28km±3km, Error ellipse: s-maj=3.9km s-min=3.3km az=0.1*
CSEM ***03*** *00:22:54.1±0.1, 37.93N×21.76E, h20km, MD2.9, Error ellipse: s-maj=2.1km s-min=1.7km az=89.0*
THE ***03*** *00:22:54.4, 37.92N×21.78E, h16km, ML2.1/5, Error ellipse: s-maj=0.5km s-min=0.3km az=329.0*

ISC 03 00:22:54.3±1.0, 37.93N±0.02×21.78E±0.02, h21km±1km, n72, σ0.8s48/114, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.28	299	P	Pb	00 23 00.4	-0.3
RLS				S	Sb	00 23 05.1	-0.1

RLS	Riolos of Patr	0.28	299	*e*PB		Pb	00 23 00.4	-0.3
RLS	Riolos of Patr	0.28	299	P		Pb	00 23 00.4	-0.3
RLS				S		Sb	00 23 05.1	-0.1
KLV	Kalavryta, Ach	0.32	68	P		Pb	00 23 00.9	-0.4
KLV				S		Sb	00 23 06.1	-0.1
KLV	Kalavryta, Ach	0.32	68	*e*PB		Pb	00 23 01.0	-0.4
KLV				*e*SB		Sb	00 23 06.5	+0.3
KLV	Kalavryta, Ach	0.32	68	*e*Pb		Pb	00 23 01.0	-0.4
KLV				S		Sb	00 23 06.1	-0.1
LAKA	Lakka	0.35	27	P		Pb	00 23 01.4	-0.4
LAKA				S		Sb	00 23 07.1	+0.1
LAKA	Lakka	0.35	27	*e*PB		Pb	00 23 01.5	-0.4
LAKA				*e*SB		Sb	00 23 07.5	+0.5
LAKA	Lakka	0.35	27	*e*Pb		Pb	00 23 01.5	-0.4
LAKA				S		Sb	00 23 07.1	+0.1
AMT	Artemida-Makis	0.40	188	P		Pb	00 23 02.6	+0.1
AMT				S		Sb	00 23 08.5	+0.4
AMT	Artemida-Makis	0.40	188	*e*PB		Pb	00 23 02.6	+0.1
AMT				*e*SB		Sb	00 23 09.1	+1.0
AMT	Artemida-Makis	0.40	188	P		Pb	00 23 02.6	+0.1
AMT				S		Sb	00 23 08.5	+0.4
AMT				*e*Sb		Sb	00 23 09.1	+1.0
AXS	Araxos	0.41	311	P		Pb	00 23 02.5	-0.3
AXS				S		Sb	00 23 09.4	+0.7
AXS	Araxos	0.41	311	P		Pb	00 23 02.5	-0.3
AXS				S		Sb	00 23 09.4	+0.7
GUR	Goura	0.45	88	P		Pb	00 23 02.9	-0.6
GUR				S		Sb	00 23 10.0	+0.2
GUR	Goura	0.45	88	*e*PB		Pb	00 23 02.8	-0.7
GUR				*e*SB		Sb	00 23 10.0	+0.2
GUR	Goura	0.45	88	P		Pb	00 23 02.9	-0.6
GUR				S		Sb	00 23 10.0	+0.2
TRIZ	Trizonia	0.50	28	P		Pb	00 23 03.9	-0.5
TRIZ				S		Sb	00 23 11.9	+0.7
TRIZ	Trizonia	0.50	28	*e*PB		Pb	00 23 03.9	-0.5
TRIZ				*e*SB		Sb	00 23 11.9	+0.7
TRIZ	Trizonia	0.50	28	P		Pb	00 23 03.9	-0.5
TRIZ				S		Sb	00 23 11.9	+0.7
EFP	Efpalio	0.51	12	P		Pb	00 23 04.1	-0.5
EFP				S		Sb	00 23 12.3	+0.7
EFP	Efpalio	0.51	12	*e*PN		Pb	00 23 04.7	+0.1
EFP				*e*SN		Sb	00 23 11.6	0.0
EFP	Efpalio	0.51	12	P		Pb	00 23 04.1	-0.5
EFP	Efpalio	0.51	12	*e*Pn		Pb	00 23 04.7	+0.1
EFP				*e*Sn		Sb	00 23 11.6	0.0
EFP				S		Sb	00 23 12.3	+0.7
KALE	Kalithea	0.55	32	P		Pb	00 23 04.7	-0.6
KALE				S		Sb	00 23 13.3	+0.5
KALE	Kalithea	0.55	32	*e*PN		Pb	00 23 04.3	-0.6
KALE				*e*SN		Sb	00 23 12.7	-0.1
KALE	Kalithea	0.55	32	P		Pb	00 23 04.7	-0.6
KALE				*e*Sn		Sb	00 23 12.7	-0.1
KALE				S		Sb	00 23 13.3	+0.5
THAL	Thalero	0.71	81	P		Pb	00 23 07.7	-0.3
THAL	Thalero	0.71	81	P		Pb	00 23 07.7	-0.3
VLX	Vlachokerasia	0.73	139	P		Pb	00 23 07.9	-0.5
VLX				S		Sn	00 23 19.2	-0.8
VLX	Vlachokerasia	0.73	139	*e*PN		Pb	00 23 07.7	-0.7
VLX	Vlachokerasia	0.73	139	P		Pb	00 23 07.9	-0.5
VLX				S		Sn	00 23 19.2	-0.8
ITM	Ithomi	0.75	171	P		Pb	00 23 08.3	-0.4
ITM				S		Sn	00 23 19.7	-0.7
ITM	Ithomi	0.75	171	*e*PN		Pb	00 23 08.2	-0.4
ITM	Ithomi	0.75	171	P		Pb	00 23 08.3	-0.4
ITM				S		Sn	00 23 19.7	-0.7
DSF	Desfina	0.77	50	P		Pb	00 23 08.9	-0.1
DSF				S		Sn	00 23 20.2	-0.7
DSF	Desfina	0.77	50	P		Pb	00 23 08.9	-0.1
DSF				S		Sn	00 23 20.2	-0.7
KFL	Anninata	0.80	284	P		Pb	00 23 09.2	-0.3
KFL				S		Sn	00 23 21.5	-0.1
KFL	Anninata	0.80	284	P		Pb	00 23 09.2	-0.3
KFL				S		Sn	00 23 21.5	-0.1
LTK	Loutraki	0.95	84	P		Pb	00 23 11.8	-0.2
LTK				S		Sn	00 23 25.7	+0.5
LTK	Loutraki	0.95	84	*e*PN		Pb	00 23 11.8	-0.2
LTK	Loutraki	0.95	84	P		Pb	00 23 11.8	-0.2
LTK				S		Sn	00 23 25.7	+0.5
VLS	Valsamata	0.97	285	*e*PN		Pb	00 23 11.3	-1.1
VLS	Valsamata	0.97	285	*e*Pn		Pb	00 23 11.3	-1.1
EVR	Evrytania	0.99	2	P		Pb	00 23 12.4	-0.4
EVR				S		Sn	00 23 26.9	+0.4
EVR	Evrytania	0.99	2	*e*PN		Pb	00 23 12.3	-0.5
EVR	Evrytania	0.99	2	P		Pb	00 23 12.4	-0.4
EVR

VLS	**Valsamata**	**0.98**	**285**	*e*PN	Pn	00 23 57.6	+0.9
VLS	**Valsamata**	**0.98**	**285**	*e*Pn	Pn	00 23 57.6	+0.9
EVR	**Evrytania**	**0.98**	**1**	*e*PN	Pn	00 23 57.4	+0.4
EVR	**Evrytania**	**0.98**	**1**	*e*Pn	Pn	00 23 57.4	+0.4
PYL	**PYLOS**	**1.03**	**182**	*e*PN	Pn	00 23 58.1	+0.6
PYL				*e*SN	Sn	00 24 13.0	+1.7
PYL	**PYLOS**	**1.03**	**182**	*e*Pn	Pn	00 23 58.1	+0.6
PYL				*e*Sn	Sn	00 24 13.0	+1.7
AGG	**Agios Georgios**	**1.17**	**21**	*e*PN	Pb	00 24 00.5	+0.7
AGG	**Agios Georgios**	**1.17**	**21**	*e*Pn	Pb	00 24 00.5	+0.7
LKR	**Lokris**	**1.19**	**53**	*e*PN	Pb	00 24 00.9	+0.8
LKR	**Lokris**	**1.19**	**53**	*e*Pn	Pb	00 24 00.9	+0.8
DID	**Didima**	**1.22**	**110**	*e*PN	Pb	00 24 02.2	+1.5
DID	**Didima**	**1.22**	**110**	*e*Pn	Pb	00 24 02.2	+1.5
LKD2	**Lefkada island**	**1.24**	**314**	*e*PN	Pb	00 24 01.0	+0.1
LKD2	**Lefkada island**	**1.24**	**314**	*e*Pn	Pb	00 24 01.0	+0.1
VLI	**Veliai**	**1.52**	**143**	*e*PN	Pb	00 24 06.6	+1.0
VLI	**Veliai**	**1.52**	**143**	*e*Pn	Pb	00 24 06.6	+1.0
NEO	**Neokhori**	**1.77**	**39**	*e*PN	Pb	00 24 10.4	+0.3
NEO	**Neokhori**	**1.77**	**39**	*e*Pn	Pb	00 24 10.4	+0.3

IDC 03 00:38:01.2±6.2, 1°43S×149°01E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.4/18, mbtmp3.6/2, Error ellipse: s-maj=273.6km s-min=46.5km az=106.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.33**	**217**	P	P	00 43 11.3	0.0
	1.2nm,0.5s,baz=39,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**26.52**	**212**	P	P	00 43 40.8	+0.1
	0.8nm,0.7s,baz=45,slow=8.5,SNR=9.2						
TORD	**Torodi Ar. Bea**	**145.61**	**291**	PKPbc	PKPdf	00 57 41.8	-0.9
	0.7nm,0.8s,baz=59,slow=2.0,SNR=7.8						

*ISCJB **03** 00:38:26.4±0.3, 36°18N±0°03×28°84E±0°02, h70km±6km, Error ellipse: s-maj=4.3km s-min=3.3km az=172.8*
*ISK **03** 00:38:26.3, 36°17N×28°87E, h30km, MD3.6*
*CSEM **03** 00:38:27.8±0.1, 36°21N×28°85E, h60km, Mw3.2, Error ellipse: s-maj=3.0km s-min=2.6km az=159.0*
*ATH **03** 00:38:28.4, 36°30N×28°67E, h60km±2km*
*DDA **03** 00:38:30.1, 36°59N×28°96E, h6km, MD3.0*
*NIC **03** 00:38:33.3±0.1, 36°32N×29°38E, h36km, ML3.1, MW3.2*
ISC 03 00:38:27.4±1.1, 36°21N±0°03×28°84E±0°02, h61km±8km, n105, σ1s06/131, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.47**	**25**	*e*PG	Pn	00 38 37.7	-1.5
ARG	**Arkhangelos**	**0.58**	**271**	*e*P	Pn	00 38 40.2	-0.1
ARG				*e*S	Sn	00 38 49.3	-0.4
ARG	**Arkhangelos**	**0.58**	**271**	*e*P	Pn	00 38 40.2	-0.1
ARG				*e*S	Sn	00 38 49.3	-0.4
AKAS	**Kas**	**0.62**	**87**	*i* P	Pn	00 38 41.7	+0.8
AKAS				*i* S	Sn	00 38 51.8	+1.0
AKAS	**Kas**	**0.62**	**87**	*i* P	Pn	00 38 41.7	+0.8
AKAS				*i* S	Sn	00 38 51.8	+1.0
DALY	**Dalyan (Mu¨la**	**0.63**	**346**	*e*PG	Pn	00 38 40.3	-0.6
DALY				*e*SG	Sn	00 38 49.6	-1.0
DALY	**Dalyan (Mu¨la**	**0.63**	**346**	*e*Pg	Pn	00 38 41.3	-0.6
DALY				*e*Sg	Sn	00 38 49.7	-1.0
TURN	**Turunc**	**0.69**	**344**	*i* P	Pn	00 38 42.4	+0.7
TURN				*i* S	Sn	00 38 52.5	+0.5
TURN	**Turunc**	**0.69**	**344**	*i* P	Pn	00 38 42.4	+0.7
TURN				*i* S	Sn	00 38 52.5	+0.5
ELL	**Elmali**	**1.02**	**58**	*e*PG	Pn	00 38 45.2	-0.7
ELL	**Elmali**	**1.02**	**58**	*e*Pg	Pn	00 38 45.2	-0.7
YER	**Yerkesik**	**1.03**	**334**	*e*PG	Pn	00 38 46.1	+0.1
YER	**Yerkesik**	**1.03**	**334**	*e*Pg	Pn	00 38 46.1	+0.1
DAT	**Datca**	**1.14**	**298**	*e*PN	Pn	00 38 47.1	-0.4
GOLH	**Golhisar**	**1.18**	**29**	*i* P	Pn	00 38 49.7	+1.7
GOLH				*i* S	Sn	00 39 05.2	+1.9
GOLH	**Golhisar**	**1.18**	**29**	*i* P	Pn	00 38 49.7	+1.7
GOLH				*i* S	Sn	00 39 05.2	+1.9
MLSB	**Milas**	**1.38**	**322**	*e*PN	Pn	00 38 50.9	+0.3
NIS1	**Nisyros Isl.**	**1.40**	**287**	*e*P	Pn	00 38 51.0	+0.2
KORT	**Korkueli**	**1.45**	**56**	*i* P	Pn	00 38 53.6	+2.0
KORT				*i* S	Sn	00 39 13.4	+3.6
KORT	**Korkueli**	**1.45**	**56**	*i* P	Pn	00 38 53.6	+2.0
DNZL	**Cakiroluk**	**1.49**	**6**	*i* P	Pn	00 38 52.6	+0.4
DNZL				*i* S	Sn	00 39 09.9	-0.9
DNZL	**Cakiroluk**	**1.49**	**6**	*i* P	Pn	00 38 52.6	+0.4
DNZL				*i* S	Sn	00 39 09.9	-0.9
BODT	**Bodrum**	**1.50**	**305**	*e*PN	Pn	00 38 51.9	-0.2
KARP	**Karpathos**	**1.51**	**245**	*e*P	Pn	00 38 53.5	+1.1
KARP				*e*S	Sn	00 39 12.1	+1.0
KARP	**Karpathos**	**1.51**	**245**	*e*P	Pn	00 38 53.5	+1.1
KARP				*e*S	Sn	00 39 12.1	+1.0
DENT	**Denizli**	**1.55**	**6**	*e*PN	Pn	00 38 52.7	-0.3
ANTB	**Antalya**	**1.62**	**64**	*e*PN	Pn	00 38 53.2	-0.5
ANTB	**Antalya**	**1.62**	**64**	*e*Pn	Pn	00 38 53.2	-0.5
AYDN	**Tasoluk**	**1.64**	**332**	*i* P	Pn	00 38 54.5	+0.3
AYDN				*i* S	Sn	00 39 12.8	-1.5
AYDN	**Tasoluk**	**1.64**	**332**	*i* P	Pn	00 38 54.5	+0.3
AYDN				*i* S	Sn	00 39 12.8	-1.5
BCK	**Bucak**	**1.88**	**48**	*e*PN	Pn	00 38 56.9	-0.5
BCK	**Bucak**	**1.88**	**48**	*e*Pn	Pn	00 38 56.9	-0.5
ISP	**Isparta**	**2.10**	**39**	*e*PN	Pn	00 39 00.5	+0.1
ISP	**Isparta**	**2.10**	**39**	*e*Pn	Pn	00 39 00.5	+0.1
SUTC	**Sutluce-Ispart**	**2.15**	**53**	*e*PN	Pn	00 39 00.9	-0.1
SUTC	**Sutluce-Ispart**	**2.15**	**53**	*e*Pn	Pn	00 39 00.9	-0.1
KHL	**Karahalli**	**2.18**	**14**	*e*PN	Pn	00 39 01.5	0.0
SMG	**Samos**	**2.20**	**314**	*e*P	Pn	00 39 01.7	+0.1
SMG				*e*S	Sn	00 39 25.9	-1.8
KULA	**Kula-Manisa**	**2.31**	**357**	*e*PN	Pn	00 39 02.9	-0.3
BLCB	**Balcova**	**2.61**	**327**	*e*PN	Pn	00 39 07.9	+0.7
SHUT	**Suhut-Afyon**	**2.71**	**30**	*e*PN	Pn	00 39 08.9	+0.2
SHUT	**Suhut-Afyon**	**2.71**	**30**	*e*Pn	Pn	00 39 08.9	+0.2
NPS	**Neapolis**	**2.79**	**251**	*e*P	Pn	00 39 10.3	+0.6
NPS	**Neapolis**	**2.79**	**251**	*e*P	Pn	00 39 10.3	+0.6
AKHS	**Akhisar**	**2.79**	**343**	*e*P	Pn	00 39 09.0	-0.7
AKHS	**Akhisar**	**2.79**	**343**	*e*P	Pn	00 39 09.0	-0.7
APE	**Apeiranthos**	**2.80**	**289**	*e*P	Pn	00 39 09.9	+0.1
APE	**Apeiranthos**	**2.80**	**289**	*e*P	Pn	00 39 09.9	+0.1
LAST	**Lasithi**	**2.93**	**250**	*e*P	Pn	00 39 12.7	+1.1
LAST				*e*S	Sn	00 39 45.2	-0.5
LAST	**Lasithi**	**2.93**	**250**	*e*P	Pn	00 39 12.7	+1.1
LAST				*e*S	Sn	00 39 45.2	-0.5
ALT	**Altintas**	**3.02**	**19**	*e*PN	Pn	00 39 13.4	+0.5
ALT	**Altintas**	**3.02**	**19**	*e*Pn	Pn	00 39 13.4	+0.5
HDMB	**Hadim**	**3.03**	**74**	*e*PN	Pn	00 39 13.3	+0.2
HDMB	**Hadim**	**3.03**	**74**	*e*Pn	Pn	00 39 13.4	+0.2
AKMC	**Akamas**	**3.08**	**111**	P	Pn	00 39 14.4	+0.8
AKMC	**Akamas**	**3.08**	**111**	P	Pn	00 39 14.4	+0.8
CHOS	**Chios island**	**3.11**	**315**	*e*P	Pn	00 39 14.4	+0.3
PPCY	**Paphos**	**3.15**	**114**	P	Pn	00 39 15.7	+1.2
PPCY	**Paphos**	**3.15**	**114**	P	Pn	00 39 15.7	+1.2
ALFC	**Alevga**	**3.23**	**108**	P	Pn	00 39 16.2	+0.4
	3.0nm,0.1s						
ALFC				S	Sn	00 39 50.3	-2.8
ALFC	**Alevga**	**3.23**	**108**	P	Pn	00 39 16.2	+0.4
	3.0nm,0.1s						
ALFC				S	Sn	00 39 50.3	-2.8
TVSB	**Tavsanli**	**3.28**	**8**	*e*PN	Pn	00 39 17.0	+0.6
TVSB	**Tavsanli**	**3.28**	**8**	*e*Pn	Pn	00 39 17.0	+0.6
KONT	**Konya--Tatoy**	**3.31**	**57**	*e*PN	Pn	00 39 17.4	+0.6
KONT	**Konya--Tatoy**	**3.31**	**57**	*e*Pn	Pn	00 39 17.4	+0.6
IDI	**Anoyia**	**3.34**	**255**	*e*P	Pn	00 39 18.7	+1.4
IDI				*e*S	Sn	00 39 54.7	-1.1
IDI	**Anoyia**	**3.34**	**255**	*e*P	Pn	00 39 18.7	+1.4
IDI				*e*S	Sn	00 39 54.7	-1.1
DST	**Dursunbey**	**3.40**	**357**	*e*PN	Pn	00 39 19.1	+1.1
LADK	**Ladik-KONYA**	**3.45**	**54**	*e*PN	Pn	00 39 19.4	+0.6
LADK	**Ladik-KONYA**	**3.45**	**54**	*e*Pn	Pn	00 39 19.4	+0.6
LEF	**Lefka**	**3.47**	**107**	*e*PN	Pn	00 39 18.6	-0.4
LEF	**Lefka**	**3.47**	**107**	*e*Pn	Pn	00 39 18.6	-0.4
SIVA	**Sivas**	**3.49**	**251**	*e*P	Pn	00 39 21.2	+2.0
SIVA	**Sivas**	**3.49**	**251**	*e*P	Pn	00 39 21.2	+2.0
KIZT	**Kizilcal**	**3.60**	**41**	*e*PN	Pn	00 39 21.8	+1.0
KIZT	**Kizilcal**	**3.60**	**41**	*e*Pn	Pn	00 39 21.8	+1.0
MAMC	**Mammari**	**3.71**	**105**	P	Pn	00 39 22.8	+0.5
MAMC	**Mammari**	**3.71**	**105**	P	Pn	00 39 22.8	+0.5
VAM	**Vamos**	**3.85**	**259**	*e*P	Pn	00 39 25.7	+1.5
VAM	**Vamos**	**3.85**	**259**	*e*P	Pn	00 39 25.7	+1.5
CSS	**Prodhromos**	**3.86**	**107**	P	Pn	00 39 25.1	+0.7
	0.6nm,0.3s						
CSS				S	Sn	00 40 05.6	-2.9
CSS	**Prodhromos**	**3.86**	**107**	*e*PN	Pn	00 39 25.0	+0.7
CSS	**Prodhromos**	**3.86**	**107**	*e*Pn	Pn	00 39 25.0	+0.7
CSS				S	Sn	00 40 05.6	-2.9
IKL	**Isikli**	**3.92**	**88**	*e*PN	Pn	00 39 25.9	+0.8
IKL	**Isikli**	**3.92**	**88**	*e*Pn	Pn	00 39 25.9	+0.8
LFK	**Lefkose**	**3.93**	**102**	*e*PN	Pn	00 39 25.7	+0.4
LFK	**Lefkose**	**3.93**	**102**	*e*Pn	Pn	00 39 25.7	+0.4
GONE	**Gonen-Balikesi**	**3.94**	**347**	*e*PN	Pn	00 39 26.6	+1.2
CAVI	**Cavuskoy**	**4.07**	**11**	*e*PN	Pn	00 39 28.2	+1.1
CAVI	**Cavuskoy**	**4.07**	**11**	*e*Pn	Pn	00 39 28.3	+1.1
VLI	**Veliai**	**4.79**	**278**	*e*P	Pn	00 39 38.4	+1.4
VLI	**Veliai**	**4.79**	**278**	*e*P	Pn	00 39 38.4	+1.4
HMAT	**Matruh**	**5.30**	**196**	P	Pn	00 39 44.1	0.0
SLUM		**5.59**	**214**	P	Pn	00 39 48.2	+0.2
BHL	**Bhannes**	**6.04**	**110**	*e*P	Pn	00 39 53.0	-1.3
BHL	**Bhannes**	**6.04**	**110**	*e*P	Pn	00 39 53.0	-1.3
HWQ	**Hawqa**	**6.12**	**106**	*e*P	Pn	00 39 55.6	+0.2
HWQ	**Hawqa**	**6.12**	**106**	*e*P	Pn	00 39 55.6	+0.2
RCY	**Rachaya**	**6.35**	**113**	*e*P	Pn	00 39 58.6	0.0
RCY	**Rachaya**	**6.35**	**113**	*e*P	Pn	00 39 58.6	0.0
KOT	**Kottamia**	**6.74**	**157**	P	Pn	00 40 03.8	-0.1
HSAF	**As Saff**	**6.95**	**160**	P	Pn	00 40 06.6	-0.1
GLL	**Jalalah**	**7.04**	**159**	P	Pn	00 40 07.8	-0.1
SWA2		**7.50**	**203**	P	Pn	00 40 14.7	+0.5
AWBH		**7.86**	**180**	P	Pn	00 40 18.9	-0.2

LJU 03 00:43:36.1, 46°39N×15°07E, h0km Rockburst, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PERS	**Pernice**	**0.25**	**7**	*e*Pg	Pg	00 43 41.1	+0.1
GROS	**Grobnik**	**0.31**	**76**	*e*Pg	Pg	00 43 41.9	-0.3
VNDS	**Vrh nad Dolski**	**0.39**	**222**	*e*Pg	Pg	00 43 43.9	+0.3

*CSEM **03** 00:43:46.4, 37°94N×21°76E, h27km, MD2.8, After ATH*
ATH 03 00:43:46.4, 37°94N×21°76E, h27km±1km, MD2.8/14, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.26**	**297**	*e*PB	Pb	00 43 53.5	+0.5
RLS	**Riolos of Patr**	**0.26**	**297**	*e*Pb	Pb	00 43 53.5	+0.5
KLV	**Kalavryta, Ach**	**0.33**	**71**	*e*PB	Pb	00 43 53.8	-0.3
KLV				*e*SB	Sb	00 43 59.3	0.0
KLV	**Kalavryta, Ach**	**0.33**	**71**	*e*Pb	Pb	00 43 53.8	-0.3
KLV				*e*Sb	Sb	00 43 59.3	0.0
LAKA	**Lakka**	**0.35**	**30**	*e*PB	Pb	00 43 54.5	+0.2
LAKA				*e*SB	Sb	00 44 00.6	+0.9
LAKA	**Lakka**	**0.35**	**30**	*e*Pb	Pb	00 43 54.5	+0.2
LAKA				*e*Sb	Sb	00 44 00.6	+0.9
AMT	**Artemida-Makis**	**0.41**	**186**	*e*PB	Pb	00 43 55.7	+0.4
AMT				*e*SB	Sb	00 44 02.1	+0.8
AMT	**Artemida-Makis**	**0.41**	**186**	*e*Pb	Pb	00 43 55.7	+0.4
AMT				*e*Sb	Sb	00 44 02.1	+0.8
GUR	**Goura**	**0.46**	**90**	*e*PB	Pb	00 43 55.7	-0.5
GUR				*e*SB	Sb	00 44 03.0	+0.1
GUR	**Goura**	**0.46**	**90**	*e*Pb	Pb	00 43 55.7	-0.5
GUR				*e*Sb	Sb	00 44 03.0	+0.1
TRIZ	**Trizonia**	**0.49**	**30**	*e*PB	Pb	00 43 56.8	+0.2
TRIZ				*e*SB	Sn	00 44 04.8	-0.5
TRIZ	**Trizonia**	**0.49**	**30**	*e*Pb	Pb	00 43 56.8	+0.2
TRIZ				*e*Sb	Sn	00 44 04.8	-0.5
EFP	**Efpalio**	**0.50**	**13**	*e*PN	Pb	00 43 57.2	+0.5
EFP				*e*SN	Sn	00 44 05.1	-0.4
EFP	**Efpalio**	**0.50**	**13**	*e*Pn	Pb	00 43 57.2	+0.5
EFP				*e*Sn	Sn	00 44 05.1	-0.4
KALE	**Kalithea**	**0.54**	**33**	*e*PN	Pb	00 43 57.8	+0.3
KALE				*e*SN	Sn	00 44 06.7	0.0
KALE	**Kalithea**	**0.54**	**33**	*e*Pn	Pb	00 43 57.8	+0.3
KALE				*e*Sn	Sn	00 44 06.7	0.0
VLX	**Vlachokerasia**	**0.75**	**139**	*e*PN	Pn	00 44 01.5	+0.1
VLX	**Vlachokerasia**	**0.75**	**139**	*e*Pn	Pn	00 44 01.5	+0.1
ITM	**Ithomi**	**0.77**	**170**	*e*PN	Pb	00 44 01.1	-0.2
ITM	**Ithomi**	**0.77**	**170**	*e*Pn	Pb	00 44 01.1	-0.2
VLS	**Valsamata**	**0.95**	**285**	*e*PB	Pn	00 44 04.2	+0.1
VLS	**Valsamata**	**0.95**	**285**	*e*Pb	Pn	00 44 04.2	+0.1
LTK	**Loutraki**	**0.96**	**85**	*e*PN	Pb	00 44 04.8	+0.4
LTK	**Loutraki**	**0.96**	**85**	*e*Pn	Pb	00 44 04.8	+0.4
EVR	**Evrytania**	**0.98**	**2**	*e*PN	Pb	00 44 05.3	+0.4
EVR	**Evrytania**	**0.98**	**2**	*e*Pn	Pb	00 44 05.3	+0.4
AGG	**Agios Georgios**	**1.17**	**22**	*e*PN	Pb	00 44 08.8	+0.8
AGG	**Agios Georgios**	**1.17**	**22**	*e*Pn	Pb	00 44 08.8	+0.8
LKD2	**Lefkada island**	**1.21**	**315**	*e*PN	Pb	00 44 09.3	+0.6
LKD2	**Lefkada island**	**1.21**	**315**	*e*Pn	Pb	00 44 09.3	+0.6
DID	**Didima**	**1.25**	**110**	*e*PN	Pb	00 44 10.2	+0.8
DID	**Didima**	**1.25**	**110**	*e*Pn	Pb	00 44 10.2	+0.8
DYR	**Agios Nikonas**	**1.26**	**159**	*e*PN	Pb	00 44 10.7	+1.1
DYR	**Agios Nikonas**	**1.26**	**159**	*e*Pn	Pb	00 44 10.7	+1.1
VLI	**Veliai**	**1.54**	**142**	*e*PN	Pb	00 44 13.9	-0.4
VLI	**Veliai**	**1.54**	**142**	*e*Pn	Pb	00 44 13.9	-0.4

*ISCJB **03** 00:55:24.2±1.3, 36°67N±0°08×70°53E±0°09, h88km, mb3.4/3, Error ellipse: s-maj=12.1km s-min=9.5km az=32.1*
*IDC **03** 00:55:24.2±5.7, 36°41N×71°13E, h165km±57km, mb3.2/3, mb1 3.1/8, mb1mx2.9/31, mbtmp3.1/8, Error ellipse: s-maj=63.3km s-min=41.3km az=122.0*
*NNC **03** 00:55:32.5±4.6, 37°02N×70°81E, h193km±48km, mb3.0, mpv4.1, Error ellipse: s-maj=40.6km s-min=27.3km az=30.0*
ISC 03 00:55:24.2±1.3, 36°64N±0°09×70°4E±0°1, h88km, n21, σ2s22/21, mb3.3/3, 3C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.04**	**24**	P	Pn	00 56 53.9	+2.5
	SNR=75						
THN	**Thein Dam**	**6.07**	**132**	*e*P	Pn	00 56 52.5	+1.2
THN				*e*S	Pn	00 56 56.0	+4.7
UCH	**Uchtor**	**6.42**	**28**	P	Sn	00 58 07.0	-1.4
	SNR=9.8						
KK31	**Karatay Array**	**6.45**	**1**	P	Pn	00 57 01.4	+4.8
	5.4nm,0.3s,baz=180,slow=12,SNR=305						
KK31				⇓S	Sn	00 58 10.8	+2.1
	3.2nm,0.3s,baz=188,slow=26,SNR=7.5						
EKS2	**Erkin-Say**	**6.55**	**22**	P	Pn	00 57 00.6	+2.7
	SNR=12						
AAK	**Ala-Archa**	**6.76**	**27**	P	Pn	00 57 02.4	+1.5
	2.7nm,0.3s,baz=298,slow=22,SNR=12						
AAK				S	Sn	00 58 15.2	-1.3
	1.4nm,0.3s,baz=136,slow=23,SNR=1.8						
KBK	**Karagaybulak**	**6.95**	**29**	P	Pn	00 57 05.8	+2.3
	SNR=6.2						
CHMS	**Chumysh**	**7.17**	**26**	P	Pn	00 57 08.3	+1.9
	SNR=6.5						
USP	**Uspenovka**	**7.32**	**24**	P	Pn	00 57 09.6	+1.1
	SNR=6.8						
TKM2	**Tokmak 2**	**7.43**	**31**	⇑P	Pn	00 57 11.5	+1.4
	8.6nm,0.5s						
TKM2				⇑S	Sn	00 58 31.4	-1.5
	3.7nm,0.7s						
TKM2	**Tokmak 2**	**7.43**	**31**	P	Pn	00 57 11.7	+1.6
	SNR=13						
MKAR	**Makanchi Array**	**13.46**	**37**	P	Pn	00 58 27.2	-4.2
	0.1nm,0.3s,baz=224,slow=10,SNR=5.7						
AB31	**Akbulak array**	**14.73**	**332**	⇓P	Pn	00 58 49.0	+1.1
	0.7nm,0.4s,baz=145,slow=11,SNR=47						
AB31				⇓S	Sn	01 01 32.4	+2.4
	0.3nm,0.3s,baz=151,slow=24,SNR=3.2						
KURBB	**Kurchatov Arra**	**15.15**	**20**	P	Pn	00 58 49.0	-4.1
	0.0nm,0.3s,baz=209,slow=10,SNR=4.9						
BVAR	**Borovoye Array**	**16.38**	**360**	P	Pn	00 59 06.0	-2.5
	0.3nm,0.3s,baz=162,slow=10.0,SNR=5.4						
AKTO	**Aktyubinsk**	**16.42**	**331**	⇑P	P	00 59 10.3	-0.1
	1.3nm,0.5s						
AKTO				⇓S	Sn	01 02 09.4	-1.4
	1.6nm,0.9s						
ZALV	**Zalesovo Beam**	**19.99**	**25**	P	P	00 59 43.4	-6.0
	0.3nm,0.3s,baz=212,slow=11,SNR=4.6						
FINES	**FINESS Array B**	**37.10**	**326**	P	P	01 02 23.1	-2.5
	1.9nm,1.0s,baz=98,slow=10.0,SNR=3.9						
NB2	**NORSAR Subarra**	**43.98**	**323**	P	P	01 03 19.6	-2.8
	comp=Z,0.1nm,0.5s,baz=94,slow=8.6						
NOA	**NORSAR Array B**	**43.98**	**323**	P	P	01 03 19.2	-3.1
	comp=Z,0.6nm,0.6s,baz=97,slow=7.7,SNR=5.1						
TORD	**Torodi Ar. Bea**	**65.25**	**268**	P	P	01 05 51.6	-5.1
	comp=Z,0.3nm,0.8s,baz=48,slow=5.6,SNR=8.3						

IDC 03 01:02:14.2±4.3, 17°00S×70°75W, h76km±31km, mb3.3/4, mb1 3.4/7, mb1mx3.3/22, mbtmp3.3/7, MS2.8/1, Ms1 2.8/1, ms1mx2.4/7, Error ellipse: s-maj=51.2km s-min=23.6km az=120.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.61**	**75**	P	Pn	01 02 55.9	+0.9
	1.7nm,0.3s,baz=253,slow=13,SNR=24						
LVC	**Limon Verde**	**5.85**	**163**	P	Pn	01 03 38.0	-0.7
	0.9nm,0.3s,baz=338,slow=7.9,SNR=16						
LVC				S	Sn	01 04 41.0	-3.6
	1.9nm,0.3s,baz=294,slow=20,SNR=1.6						
SIV	**San Ignacio**	**9.34**	**85**	P	Pn	01 04 24.2	-1.9
	0.4nm,0.3s,baz=276,slow=12,SNR=11						
SIV				LR	LR	01 08 42.5	
	comp=Z,54nm,18.3s,slow=42						
BDFB	**Brasilia**	**21.86**	**90**	P	P	01 07 02.8	+1.8
	0.9nm,0.4s,baz=308,slow=13,SNR=3.2						
PLCA	**Paso Flores**	**23.66**	**180**	P	P	01 07 17.9	-0.9
	2.1nm,0.9s,baz=331,slow=13,SNR=3.2						
SNAA	**Sanae**	**67.08**	**161**	P	P	01 13 00.2	+1.0
	0.3nm,0.9s,baz=301,slow=12,SNR=5.0						
TORD	**Torodi Ar. Bea**	**77.56**	**72**	P	P	01 14 01.6	-0.9
	0.7nm,0.6s,baz=259,slow=5.4,SNR=16						
MJAR	**Matsushiro Arr**	**147.83**	**313**	PKPbc	PKPbc	01 21 50.9	-0.1
	0.8nm,0.5s,baz=77,slow=1.5,SNR=4.1						

*IDC **03** 01:03:40.5±0.6, 24°90S×69°98E, h0km, mb4.1/17, mb1 4.3/17, mb1mx4.1/31, mbtmp4.1/17, MS3.8/9, Ms1 3.8/9, ms1mx3.5/31, Error ellipse: s-maj=23.5km s-min=15.6km az=75.0*
*ISCJB **03** 01:03:41.7±0.4, 24°96S±0°08×70°13E±0°09, h19km, mb4.3/31, MS3.9/9, Error ellipse: s-maj=12.9km s-min=10.0km az=40.1*
*NEIC **03** 01:03:42.1±0.3, 24°92S×70°07E, h10km, mb4.6/16, Error ellipse: s-maj=9.4km s-min=7.1km az=212.0*
ISC 03 01:03:43.5±0.5, 25°05S±0°1×70°1E±0°1, h19km, n75, σ0s73/69, mb4.3/31, MS3.9/9, 7C-1D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**22.16**	**282**	P	P	01 08 40.3	+1.6
OPO	**Ambohidratompo**	**22.16**	**282**	P	P	01 08 40.3	+1.6
	7.3nm,1.0s,baz=89,slow=12,SNR=3.0						
OPO				LR	LR	01 15 23.2	
	comp=Z,152nm,18.7s,baz=274,slow=32						
KMBO	**Kilima Mbogo**	**39.57**	**302**	*e*P	P	01 11 14.5	+0.4
	5.5nm,1.0s						
KMBO	**Kilima Mbogo**	**39.57**	**302**	LR	LR	01 23 46.8	
	comp=Z,77nm,19.5s,baz=100,slow=31						
BOSA	**Boshof**	**39.98**	**255**	LR	LR	01 24 14.1	
	comp=Z,180nm,19.7s,baz=144,slow=31						
LSZ	**Lusaka**	**40.34**	**276**	*e*P	P	01 11 20.1	-0.3
	2.4nm,0.9s						
MAW	**Mawson**	**42.86**	**184**	LR	LR	01 24 56.7	
	comp=Z,110nm,20.7s,baz=182,slow=30						
SYO	**Syowa Base**	**47.65**	**194**	⇓*e*P	P	01 12 16.0	-2.1
CMAR	**Chiang Mai Arr**	**51.53**	**36**	P	P	01 12 49.6	+1.3
CMAR	**Chiang Mai Arr**	**51.53**	**36**	P	P	01 12 49.6	+1.3
	2.1nm,1.0s,baz=224,slow=7.7,SNR=6.8						
ASAR	**Alice Springs**	**57.69**

IDC ***03*** *01:11:51.5±0.6,21°.69S×174°.02W,h0km,mb4.2/11, mb1 4.4/13,mb1mx4.3/23,mbtmp4.3/13,ML4.4/1,MS3.7/2, Ms1 3.7/2,ms1mx3.0/21,Error ellipse: s-maj=23.3km s-min=16.7km az=107.0*

AUST ***03*** *01:11:53.0±2.1,21°.74S×173°.42W,h31km,Error ellipse: s-maj=1.5km s-min=1.3km az=329.0*

NEIC ***03*** *01:11:53.5±5.7,21°.68S×174°.03W,h14km±34km,mb4.6/8, Error ellipse: s-maj=12.8km s-min=10.7km az=57.0*

ISCJB ***03*** *01:11:55.7±2.4,22°.10S±0°.08×173°.9W±0°.1,h54km±19km, mb4.4/17,Error ellipse: s-maj=20.1km s-min=12.9km az=10.8*

ISC 03 01:11:58.1±0.5,21°.87S±0°.07×174°.1W±0°.1,h46km,n96, σ1§06/92,mb4.6/17,10C-2D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.79**	**55**	P		Pn		01 12 55.3	-12
	baz=4.2,SNR=9.4								
RAO	**Raoul Island**	**8.13**	**204**	Pn		**Pn**		**01 13 52.1**	**-1.4**
RAO				Sn		**Sn**		**01 15 20.9**	**-3.1**
RAO	**Raoul Island**	**8.13**	**204**	Pn		**Pn**		**01 13 52.1**	**-1.4**
	112nm,0.3s,baz=78,slow=23,SNR=5.2								
RAO				Sn		**Sn**		**01 15 20.9**	**-3.1**
	28nm,0.3s,baz=80,slow=23,SNR=1.8								
AFI	**Afiamalu**	**8.21**	**16**	Sn		Sn		01 15 09.6	-17
	5.3nm,0.3s,baz=24,slow=19,SNR=2.6								
MSVF	**Nonsavu**	**8.47**	**298**	*e*Pn		Pn		01 14 02.2	+3.9
	15nm,0.8s								
RAR	**Rarotonga**	**13.34**	**90**	Pn		Pn		01 14 52.3	-13
RAR				Sn		Sn		01 17 04.2	-28
RAR	**Rarotonga**	**13.34**	**90**	Pn		Pn		01 14 52.3	-13
	4.6nm,0.3s,baz=250,slow=12,SNR=7.6								
RAR				Sn		Sn		01 17 04.1	-28
	2.1nm,0.3s,baz=128,slow=22,SNR=2.1								
RAR				LR		LR		01 18 34.0	
	comp=Z,178nm,19.4s,baz=249,slow=30								
URZ	**Urewera**	**18.01**	**203**	P		**Pn**		**01 16 07.0**	**+2.0**
URZ				S		Sn		01 19 12.8	-12
URZ	**Urewera**	**18.01**	**203**	P		**Pn**		**01 16 07.0**	**+2.0**
	1.3nm,0.3s,baz=34,slow=7.9,SNR=3.7								
URZ				S		Sn		01 19 12.8	-12
	0.4nm,0.3s,baz=171,slow=20,SNR=1.5								
DZM	**Mont Dzumac**	**18.06**	**266**	*e*LR		LR		01 20 38.3	
	132nm,26.4s								
DZM	**Mont Dzumac**	**18.06**	**266**	P		**Pn**		**01 16 06.3**	**+0.5**
DZM	**Mont Dzumac**	**18.06**	**266**	P		**Pn**		**01 16 06.3**	**+0.5**
	0.2nm,0.3s,baz=270,slow=24,SNR=3.9								
TBI	**Tubuai**	**22.78**	**98**	*e*LR		LR		01 21 48.4	
	181nm,32.0s								
PPT2	**Papeete2**	**23.45**	**84**	*e*LR		LR		01 22 19.4	
	150nm,26.5s								
CTAO	**Charters Tower**	**37.01**	**265**	*e*P		**P**		**01 19 03.4**	**-0.1**
	4.8nm,0.6s								
PMG	**Port Moresby**	**39.20**	**282**	*e*P		**P**		**01 19 21.4**	**-0.6**
	19nm,1.1s								
STKA	**Stephens Creek**	**40.53**	**246**	P		**P**		**01 19 33.3**	**+0.3**
STKA	**Stephens Creek**	**40.53**	**246**	P		**P**		**01 19 33.3**	**+0.3**
	2.5nm,0.5s,baz=14,slow=5.6,SNR=6.8								
STKA	**Stephens Creek**	**40.53**	**246**	P		**P**		**01 19 34.0**	**+1.0**
	baz=41,SNR=4.7								
COEN	**Coen**	**41.31**	**274**	*e*P		**P**		**01 19 39.5**	**-0.1**
AS31	**Alice Springs**	**47.77**	**257**	*e*P		**P**		**01 20 30.9**	**-0.2**
ASAR	**Alice Springs**	**47.77**	**257**	P		**P**		**01 20 30.9**	**-0.2**
ASAR	**Alice Springs**	**47.77**	**257**	P		**P**		**01 20 30.9**	**-0.2**
	6.1nm,0.9s,baz=95,slow=7.8,SNR=47								
JAY	**Jayapura**	**47.94**	**287**	P		**P**		**01 20 32.8**	**+0.3**
	baz=48,SNR=3.3								
WRAB	**Tennant Creek**	**48.03**	**262**	*e*P		**P**		**01 20 31.8**	**-1.2**
	7.3nm,0.8s								
WRA	**Warramunga Arr**	**48.04**	**262**	P		**P**		**01 20 32.3**	**-0.9**
WRA	**Warramunga Arr**	**48.04**	**262**	P		**P**		**01 20 32.3**	**-0.9**
	6.1nm,0.7s,baz=99,slow=2,SNR=22								
KDU	**Kakadu**	**51.63**	**271**	P		**P**		**01 21 00.5**	**0.0**
	baz=52,SNR=3.3								
FORT	**Forrest**	**52.13**	**247**	*e*P		**P**		**01 21 04.3**	**+0.3**
	18nm,0.8s								
FORT	**Forrest**	**52.13**	**247**	P		**P**		**01 21 04.7**	**+0.7**
	baz=53,SNR=8.5								
FITZ	**Fitzroy Crossi**	**56.47**	**262**	P		**P**		**01 21 37.1**	**+1.4**
	baz=57,SNR=4.0								
VNDA	**Vanda**	**56.91**	**186**	*e*P		**P**		**01 21 39.9**	**+1.9**
	2.9nm,1.0s								
VNDA	**Vanda**	**56.91**	**186**	P		**P**		**01 21 40.6**	**+2.7**
	1.6nm,0.9s,baz=4.7,slow=7.5,SNR=7.5								
PALU	**Palau**	**58.18**	**294**	P		P		01 21 43.4	-4.4
	baz=59,SNR=4.3								
QSPA	**South Pole Qui**	**68.21**	**180**	P		**P**		**01 22 55.0**	**+1.4**
QSPA	**South Pole Qui**	**68.21**	**180**	P		**P**		**01 22 55.0**	**+1.4**
	6.9nm,0.9s,baz=25,slow=2.8,SNR=18								
MJAR	**Matsushiro Arr**	**73.51**	**322**	P		**P**		**01 23 25.8**	**-0.3**
MJAR	**Matsushiro Arr**	**73.51**	**322**	P		**P**		**01 23 25.8**	**-0.3**
	0.9nm,0.5s,baz=164,slow=6.0,SNR=4.2								
MAJO	**Matsushiro**	**73.51**	**322**	*e*P		**P**		**01 23 24.7**	**-1.4**
	7.0nm,0.9s								
PETK	**Petropavlovsk-**	**78.58**	**343**	P		**P**		**01 23 54.3**	**-0.2**
PETK	**Petropavlovsk-**	**78.58**	**343**	P		**P**		**01 23 54.3**	**-0.2**
	2.8nm,0.6s,baz=134,slow=11,SNR=5.4								
NVAR	**Mina Array Bea**	**79.57**	**41**	P		**P**		**01 23 59.8**	**-0.8**
NVAR	**Mina Array Bea**	**79.57**	**41**	P		**P**		**01 23 59.8**	**-0.8**
	0.7nm,0.6s,baz=214,slow=7.5,SNR=4.3								
USRK	**Ussuriysk Arra**	**82.17**	**324**	P		**P**		**01 24 15.4**	**+1.4**
	0.7nm,0.6s,baz=131,slow=11,SNR=4.2								
PLCA	**Paso Flores**	**85.67**	**132**	LR		LR		01 53 49.4	
	comp=Z,76nm,19.8s,baz=177,slow=29								
SNAA	**Sanae**	**86.51**	**177**	*e*P		**P**		**01 24 36.2**	**+0.4**
	5.3nm,1.3s								
SNAA	**Sanae**	**86.51**	**177**	P		**P**		**01 24 36.2**	**+0.4**
	1.3nm,1.1s,baz=194,slow=6.1,SNR=7.3								
TRF	**Thorofare Moun**	**87.07**	**10**	*e*P		**P**		**01 24 36.5**	**-2.1**
	2.8nm,0.7s								
MCK	**McKinley**	**87.56**	**11**	*e*P		**P**		**01 24 39.2**	**-1.5**
ILAR	**Eielson Array**	**88.88**	**11**	P		**P**		**01 24 44.9**	**-2.0**
ILAR	**Eielson Array**	**88.88**	**11**	P		**P**		**01 24 44.9**	**-2.0**
	0.9nm,1.1s,baz=221,slow=4.9,SNR=4.9								
ZALV	**Zalesovo Beam**	**113.85**	**321**	PKiKP		**PKiKP**		**01 30 30.8**	**-0.6**
ZALV	**Zalesovo Beam**	**113.85**	**321**	PKiKP		**PKiKP**		**01 30 30.8**	**-0.6**
	0.6nm,0.4s,baz=215,slow=4.8,SNR=3.2								
BRVK	**Borovoye**	**122.53**	**320**	*e*PKPdf		**PKPdf**		**01 30 48.0**	**-0.2**
ARCES	**ARCESS Array B**	**130.88**	**351**	PKP		**PKPdf**		**01 31 04.0**	**+0.3**
ARCES	**ARCESS Array B**	**130.88**	**351**	PKP		**PKPdf**		**01 31 04.0**	**+0.3**
	3.5nm,0.9s,baz=68,slow=4.2,SNR=4.4								
FINES	**FINESS Array B**	**138.05**	**346**	PKP		**PKPdf**		**01 31 16.6**	**-0.7**
FINES	**FINESS Array B**	**138.05**	**346**	PKP		**PKPdf**		**01 31 16.6**	**-0.7**
	0.6nm,0.7s,baz=100,slow=7.9,SNR=3.8								
HFS	**Hagfors**	**141.37**	**354**	PKPpre		PKPpre		01 31 15.2	
HFS	**Hagfors**	**141.37**	**354**	PKhKP		PKPpre		01 31 15.2	
	0.6nm,0.5s,baz=64,slow=6.8,SNR=5.3								
SUW	**Suwalki**	**145.33**	**342**	*e*PKPbc		**PKPdf**		**01 31 30.2**	**-0.3**
EKA	**Eskdalemuir Ar**	**145.90**	**9**	PKPbc		**PKPdf**		**01 31 30.8**	**-0.6**
EKA	**Eskdalemuir Ar**	**145.90**	**9**	PKPbc		**PKPdf**		**01 31 30.8**	**-0.6**
	1.4nm,0.8s,baz=354,slow=3.4,SNR=5.3								
AKASG	**Malin Array Be**	**145.92**	**333**	PKPbc		**PKPdf**		**01 31 31.4**	**-0.3**
AKASG	**Malin Array Be**	**145.92**	**333**	PKPbc		**PKPdf**		**01 31 31.4**	**-0.3**
	2.3nm,0.6s,baz=36,slow=5.1,SNR=13								
KIEV	**Kiev**	**145.93**	**333**	*e*PKPbc		**PKPdf**		**01 31 31.6**	**-0.1**
BUR08	**Bucovina Ar. S**	**149.96**	**334**	*e*PKPbc		**PKPbc**		**01 31 44.0**	**+0.5**
CLL	**Collm**	**150.10**	**351**	*i* PKPbc		**PKPbc**		**01 31 43.5**	**0.0**
	comp=Z,9.0nm,1.5s								
CLL				*i* PKiKP		**PKiKP**		**01 31 45.7**	**+1.3**
	comp=Z,6.0nm,1.1s								
CLL				*i* PKPab		**PKPab**		**01 31 48.8**	**-0.7**
UPC	**Upice**	**150.33**	**347**	*e*PKP		**PKPbc**		**01 31 44.7**	**+0.5**
UPC				*e*PKPAB		**PKPab**		**01 31 50.6**	**+0.1**
BRG	**Berggiesshubel**	**150.37**	**350**	*e*P		**PKPbc**		**01 31 44.4**	**+0.2**
	comp=Z,4.6nm,0.8s								
BRG				*e*				01 31 46.4	
	comp=Z,4.9nm,0.9s								
BRG				*e*				01 31 52.5	
	comp=Z,4.2nm,1.1s								
DPC	**Dobruska-Polom**	**150.42**	**346**	*e*PKP		**PKPbc**		**01 31 44.8**	**+0.4**
BR131	**Keskin Array S**	**150.44**	**313**	*e*PKPbc		**PKPbc**		**01 31 44.8**	**-0.2**
BRTR	**Keskin Array B**	**150.44**	**313**	PKPbc		**PKPbc**		**01 31 44.9**	**-0.1**
BRTR	**Keskin Array B**	**150.44**	**313**	PKPbc		**PKPbc**		**01 31 44.9**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=127,slow=4.0,SNR=11								
PVCC	**Panska Ves**	**150.65**	**349**	*e*PKP		**PKPbc**		**01 31 45.0**	**+0.2**
VRI	**Vrincioaia**	**150.65**	**330**	*i* P		**PKPbc**		**01 31 45.4**	**+0.3**
PLOR	**Plostina**	**150.69**	**330**	*i* P		**PKPbc**		**01 31 45.9**	**+0.7**
PRU	**Pruhonice**	**151.12**	**348**	*e*PKP		**PKPbc**		**01 31 45.3**	**-0.7**
MLR	**Muntele Rosu**	**151.29**	**330**	*i* P		**PKPbc**		**01 31 47.9**	**+1.1**
DRGR		**151.65**	**335**	*i* P		**PKPbc**		**01 31 47.9**	**+0.4**
MMAI	**Mount Meron Ar**	**151.66**	**299**	PKPbc		**PKPbc**		**01 31 49.5**	**+1.5**
MMAI	**Mount Meron Ar**	**151.66**	**299**	PKPbc		**PKPbc**		**01 31 49.5**	**+1.5**
	comp=Z,1.6nm,0.5s,baz=97,slow=9.3,SNR=3.7								
PSZ	**Piszkesteto**	**151.68**	**340**	*e*PKPbc		**PKPbc**		**01 31 47.5**	**0.0**
VOIR		**151.75**	**331**	*i* P		**PKPbc**		**01 31 49.3**	**+1.6**
ARR	**Arges**	**151.99**	**331**	*i* P		**PKPbc**		**01 31 49.2**	**+0.9**
KHC	**Kasperske Hory**	**152.12**	**349**	*e*PKP		**PKPbc**		**01 31 48.5**	**+0.1**
KHC				*ep*PKP		**PKiKP**		**01 31 50.6**	**+1.9**
KHC	**Kasperske Hory**	**152.12**	**349**	*e*PKPbc		**PKPbc**		**01 31 48.4**	**0.0**
GERES	**GERESS Array B**	**152.37**	**349**	PKPbc		**PKPbc**		**01 31 48.8**	**-0.2**
GERES	**GERESS Array B**	**152.37**	**349**	PKPbc		**PKPbc**		**01 31 48.8**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=306,slow=1.1,SNR=7.6								
EIL	**Elat**	**152.77**	**293**	PKPbc		**PKPbc**		**01 31 51.3**	**+0.9**
EIL	**Elat**	**152.77**	**293**	PKPbc		**PKPbc**		**01 31 51.3**	**+0.9**
	comp=Z,2.7nm,0.7s,baz=66,slow=10.0,SNR=3.6								
BZS	**Buzias**	**153.05**	**335**	*i* P		**PKPbc**		**01 31 50.8**	**+0.3**
ESDC	**Sonseca Array**	**160.35**	**23**	PKPab		**PKPab**		**01 32 33.1**	**-0.5**
ESDC	**Sonseca Array**	**160.35**	**23**	PKPab		**PKPab**		**01 32 33.1**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=320,slow=6.9,SNR=3.9								
TORD	**Torodi Ar. Bea**	**170.44**	**154**	PKP		**PKPdf**		**01 32 00.4**	**-1.5**
TORD				PKPab		**PKPab**		**01 33 18.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**170.44**	**154**	PKP		**PKPdf**		**01 32 00.4**	**-1.5**
	comp=Z,0.7nm,0.9s,baz=231,slow=2.5,SNR=3.6								
TORD				PKPab		**PKPab**		**01 33 18.3**	**-0.2**
	comp=Z,0.6nm,1.0s,baz=216,slow=7.1,SNR=3.5								

WEL 03 01:12:24.4±0.3,38°.60S×175°.69E,h166km±2km,ML4.0/20, 22C-1D,Error ellipse: s-maj=1.5km s-min=1.4km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.12**	**163**	Pn		Pn		01 12 46.6	+0.1
WHTZ	**Whakaora**	**0.22**	**109**	⇑Pn		Pn		01 12 46.8	+0.1
RATZ	**Rangitukua**	**0.28**	**166**	⇑Pn		Pn		01 12 46.7	-0.2
TLZ	**Tolley Road**	**0.29**	**336**	Pn		Pn		01 12 47.0	0.0
TLZ				Sn		Sn		01 13 03.9	-0.3
KATZ	**Kakaramea**	**0.38**	**179**	Pn		Pn		01 12 47.1	-0.2
RITZ	**Rihia Road**	**0.41**	**161**	Pn		Pn		01 12 47.3	0.0
HATZ	**Hinemaiaia**	**0.43**	**133**	Pn		Pn		01 12 47.0	-0.3
KRVZ	**Karewarewa**	**0.50**	**184**	Pn		Pn		01 12 47.5	-0.2
ALRZ	**Allen Road**	**0.52**	**87**	Pn		Pn		01 12 47.4	-0.3
ALRZ				Sn		Sn		01 13 05.0	-0.5
TWVZ	**Taurewa**	**0.52**	**202**	⇑Pn		Pn		01 12 47.6	-0.2
WTVZ	**West Tongariro**	**0.53**	**188**	Pn		Pn		01 12 47.6	-0.2
WTVZ				Sn		Sn		01 13 05.2	-0.8
OTVZ	**Oturere**	**0.57**	**182**	Pn		Pn		01 12 47.9	-0.2
NGZ	**Ngauruhoe**	**0.58**	**187**	Pn		Pn		01 12 47.9	-0.3
WPVZ	**Whakapapa**	**0.62**	**190**	Pn		Pn		01 12 48.2	-0.2
FWVZ	**Far West T-bar**	**0.67**	**189**	Pn		Pn		01 12 48.5	-0.3
TUVZ	**Tukino**	**0.67**	**182**	Pn		Pn		01 12 48.7	0.0
DRZ	**Dome Shelter**	**0.69**	**188**	Pn		Pn		01 12 48.8	-0.1
WHVZ	**Whangaehu Hut**	**0.69**	**186**	Pn		Pn		01 12 48.5	-0.3
TRVZ	**Turoa**	**0.71**	**189**	Pn		Pn		01 12 48.9	-0.1
WNVZ	**Wahianoa**	**0.73**	**185**	Pn		Pn		01 12 49.1	0.0
PKVZ	**Pokaka**	**0.74**	**201**	⇑Pn		Pn		01 12 48.9	-0.1
MTVZ	**Mangateitei**	**0.81**	**192**	Pn		Pn		01 12 49.2	-0.2
MOVZ	**Moawhango**	**0.81**	**176**	⇑Pn		Pn		01 12 49.1	-0.3
BKZ	**Black Stump Fm**	**0.85**	**133**	Pn		Pn		01 12 49.4	-0.3
BKZ				AML		AML		01 13 07.7	
BKZ				AML		AML		01 13 08.0	
TOZ	**Tahuroa Road**	**0.88**	**350**	PN		Pn		01 12 50.0	+0.2
VRZ	**Vera Road**	**0.90**	**234**	PN		Pn		01 12 49.8	-0.1
VRZ				SN		Sn		01 13 09.6	0.0
BHHZ	**Black Hill Sta**	**0.94**	**162**	⇑PN		Pn		01 12 50.0	-0.3
NMHZ	**Naumai**	**1.01**	**120**	⇑PN		Pn		01 12 51.5	+0.7
RAHZ	**Arahi**	**1.14**	**107**	Pn		Pn		01 12 52.3	+0.4
RAHZ				SN		Sn		01 13 12.4	-0.6
MCHZ	**McNeill Hill**	**1.16**	**137**	⇑PN		Pn		01 12 52.8	+0.8
URZ	**Urewera**	**1.17**	**74**	⇑Pn		Pn		01 12 51.4	-0.6
URZ				AML		AML		01 13 11.3	
URZ				AML		AML		01 13 12.2	
MHEZ	**Mangahewa**	**1.17**	**245**	PN		Pn		01 12 52.4	+0.4
RAEZ	**Rainy Point**	**1.22**	**235**	PN		Pn		01 12 52.8	+0.2
WAZ	**Wanganui**	**1.28**	**205**	PN		Pn		01 12 52.9	-0.2
PNHZ	**Pukenui**	**1.38**	**163**	⇑PN		Pn		01 12 53.8	-0.2
NEZ	**North Egmont**	**1.41**	**241**	⇓PN		Pn		01 12 54.8	+0.4
DFE	**Dawson Falls**	**1.44**	**239**	PN		Pn		01 12 54.8	+0.2
PKE	**Pukeiti**	**1.46**	**245**	PN		Pn		01 12 54.8	+0.1
MWZ	**Matawai**	**1.47**	**80**	PN		Pn		01 12 54.6	-0.4
MWZ				AML		AML		01 13 18.6	
MWZ				AML		AML		01 13 18.7	
MWZ				AML		AML		01 13 19.2	
MWZ				AML		AML		01 13 19.2	
TSZ	**Takapari Road**	**1.48**	**172**	PN		Pn		01 12 54.7	-0.3
TSZ				AML		AML		01 12 55.2	
TSZ				AML		AML		01 12 55.7	
KHEZ	**Kahui Hut**	**1.48**	**241**	PN		Pn		01 12 55.1	+0.1
KAHZ	**Kahuranaki**	**1.51**	**143**	⇑PN		Pn		01 12 55.7	+0.3
CKHZ	**Cape Kidnapper**	**1.52**	**135**	PN		Pn		01 12 55.7	+0.4
MKAZ	**Moumakai**	**1.54**	**344**	PN		Pn		01 12 55.8	+0.2
NWEZ	**Newall Road**	**1.57**	**244**	PN		Pn		01 12 55.9	0.0
WPHZ	**Waipukurau**	**1.58**	**159**	⇑PN		Pn		01 12 55.9	-0.1
KNZ	**Kokohu**	**1.61**	**106**	PN		Pn		01 12 56.3	+0.1
KNZ				AML		AML		01 13 19.8	
KNZ				AML		AML		01 13 21.2	
NMEZ	**Namu Road**	**1.63**	**239**	PN		Pn		01 12 56.4	0.0
PXZ	**Pawanui**	**1.70**	**148**	PN		Pn		01 12 57.0	-0.2
PXZ				AML		AML		01 13 21.7	
PXZ				AML		AML		01 13 21.8	
PXZ				AML		AML		01 13 23.3	
DVHZ	**Dannevirke**	**1.74**	**168**	PN		Pn		01 12 57.0	-0.7
PRGZ	**Paritu Road**	**1.75**	**102**	PN		Pn		01 12 57.9	+0.2
POWZ	**Post Office Ro**	**1.80**	**178**	⇑PN		Pn		01 12 57.5	-0.7
MHGZ	**Mahia Peninsul**	**1.82**	**109**	Pn		Pn		01 12 58.9	+0.4
PRHZ	**Porangahau**	**1.82**	**157**	Pn		Pn		01 12 58.5	-0.3
ANWZ	**Angora Road**	**1.96**	**162**	PN		Pn		01 12 59.7	-0.3
PRWZ	**Pori Road**	**1.97**	**174**	⇑PN		Pn		01 12 59.5	-0.6
CNGZ	**Carnagh Statio**	**1.98**	**88**	PN		Pn		01 13 00.5	+0.2
MRZ	**Mangatainoka R**	**2.07**	**182**	PN		Pn		01 13 00.1	-1.1
MRZ				AML		AML		01 13 28.9	
MRZ				AML		AML		01 13 28.9	
PUZ	**Puketiti**	**2.09**	**76**	PN		Pn		01 13 00.9	-0.6
PUZ				AML		AML		01 13 30.1	
PUZ				AML		AML		01 13 30.9	
BFZ	**Birch Farm**	**2.13**	**168**	PN		Pn		01 13 01.0	-1.0
BFZ				AML		AML		01 13 30.3	
BFZ				AML		AML		01 13 30.6	
BFZ				AML		AML		01 13 30.6	
TIWZ	**Tintock**	**2.19**	**176**	PN		Pn		01 13 01.5	-1.1
OGWZ	**Otaki Gorge**	**2.26**	**190**	⇑PN		Pn		01 13 02.3	-1.1
HOWZ	**Holdsworth Sta**	**2.31**	**183**	⇑PN		Pn		01 13 02.5	-1.5
MXZ	**Matakaoa Point**	**2.31**	**64**	PN		Pn		01 13 03.4	-0.6
MXZ				AML		AML		01 13 35.4	
KIW	**Kapiti Island**	**2.34**	**195**	PN		Pn		01 13 02.9	-1.5
KIW				AML		AML		01 13 03.3	
KIW				AML		AML		01 13 03.3	
TMWZ	**Te Maipa**	**2.52**	**176**	PN		Pn		01 13 04.9	-1.5
MTW	**Mount Morrison**	**2.56**	**183**	⇑PN		Pn		01 13 05.2	-1.8
MTW				AML		AML		01 13 38.2	
MTW				AML		AML		01 13 38.9	
DUWZ	**D'Urville Isla**	**2.59**	**211**	PN		Pn		01 13 05.5	-1.9
WEL	**Wellington**	**2.78**	**194**	PN		Pn		01 13 07.8	-1.8
PAWZ	**Paruwai Farm**	**2.79**	**184**	⇑PN		Pn		01 13 07.8	-2.0
PAWZ				AML		AML		01 13 43.2	
PAWZ				AML		AML		01 13 43.6	
TRWZ	**Traveller**	**2.80**	**180**	PN		Pn		01 13 08.0	-1.9
TRWZ				AML		AML		01 13 44.0	
TRWZ				AML		AML		01 13 44.3	
SNZO	**South Karori**	**2.81**	**195**	⇑PN		Pn		01 13 08.0	-2.0
SNZO				AML		AML		01 13 10.6	
SNZO				AML		AML		01 13 10.7	
SNZO				AML		AML		01 13 43.6	
SNZO				AML		AML		01 13 44.3	
TCW	**Tory Channel**	**2.83**	**202**	PN		Pn		01 13 08.4	-1.9
TCW				AML		AML		01 13 43.7	
TCW				AML		AML		01 13 44.5	
MSWZ	**Moikau Station**	**2.84**	**187**	⇑PN		Pn		01 13 08.3	-2.0
MSWZ				AML		AML		01 13 43.5	
MSWZ				AML		AML		01 13 44.0	
BHW	**Baring Head**	**2.88**	**192**	⇑PN		Pn		01 13 08.7	-2.1
BHW				AML		AML		01 13 09.2	
BHW				AML		AML		01 13 45.6	
PLWZ	**Palliser**	**2.99**	**186**	⇑PN		Pn		01 13 09.9	-2.4
TUWZ	**Tuamarina**	**3.13**	**205**	PN		Pn		01 13 11.5	-2.4
TUWZ				AML		AML		01 13 50.2	
TUWZ				AML		AML		01 13 50.9	
NNZ	**Nelson**	**3.16**	**213**	PN		Pn		01 13 11.9	-2.5
QRZ	**Quartz Range**	**3.30**	**227**	PN		Pn		01 13 13.3	-2.8
CMWZ	**Cape Campbell**	**3.35**	**199**	PN		Pn		01 13 15.3	-1.4
BSWZ	**Blackbirch Sta**	**3.41**	**203**	PN		Pn		01 13 15.2	-2.2
THZ	**Tophouse**	**3.81**	**213**	PN		Pn		01 13 19.6	-3.1
KHZ	**Kahutara**	**4.15**	**203**	PN		Pn		01 13 24.5	-2.5
KHZ				AML		AML		01 14 12.8	
KHZ				AML		AML		01 14 13.2	
LTZ	**Lake Taylor**	**4.92**	**211**	PN		Pn		01 13 32.9	-4.1
OXZ	**Oxford**	**5.47**	**209**	PN		Pn		01 13 39.0	-5.2
MQZ	**McQueen's Vall**	**5.60**	**203**	PN		Pn		01 13 41.3	-4.5
WVZ	**Waitaha Valley**	**5.84**	**218**	PN		Pn		01 13 44.8	-4.2
RPZ	**Rata Peaks**	**6.20**	**213**	PN		Pn		01 13 49.9	-3.8
FOZ	**Fox Glacier**	**6.72**	**220**	PN		Pn		01 13 55.4	-5.2
LBZ	**Lake Benmore**	**7.11**	**214**	PN		Pn		01 14 01.7	-4.1
JCZ	**Jackson Bay**	**7.56**	**221**	PN		Pn		01 14 08.1	-3.8
TUZ	**Tuapeka**	**8.61**	**209**	PN		Pn		01 14 22.6	-3.1

ISCJB ***03*** *01:14:06.8±0.2,42°.34N±0°.01×13°.34E±0°.02,h11km±2km, mb3.5/3,Error ellipse: s-maj=2.8km s-min=2.1km az=44.0*

IDC ***03*** *01:14:06.9±1.2,42°.42N×13°.53E,h0km,mb3.4/4, mb1 3.7/8,mb1mx3.6/29,mbtmp3.5/8,ML3.6/4,Error ellipse: s-maj=29.5km s-min=15.6km az=98.0*

ROM ***03*** *01:14:07.2±0.1,42°.32N×13°.37E,h11km,Ml3.6/37,Error ellipse: s-maj=0.9km s-min=0.7km az=72.0*

PDG ***03*** *01:14:07.8±0.9,42°.36N×13°.39E,h9km±1km,ML3.5/6, Error ellipse: s-maj=0.7km s-min=1.0km az=0.0*

CSEM ***03*** *01:14:07.2±0.1,42°.33N×13°.35E,h2km,ML4.2/7,Error ellipse: s-maj=2.1km s-min=1.8km az=36.0*

BEO ***03*** *01:14:08.3±1.1,42°.29N×13°.12E,h21km±5km,ML3.7/8*

PRU ***03*** *01:14:08.9,42°.40N×13°.46E,h1km*

ISC 03 01:14:07.8±0.6,42°.32N±0°.02×13°.36E±0°.02,h9km±4km, n201,σ1§25/236,mb4.3/13,28C-18D,Central Italy

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

SNTG	**Esanatoglia**	**0.98**	**342**	Pg	**Pg**	**01 14 25.3**	**-1.4**
SNTG	**Esanatoglia**	**0.98**	**342**	Pg	**Pg**	**01 14 25.3**	**-1.4**
FRES	**Fresagrandinar** 2µm,0.9s	**1.04**	**109**	Pg	**Pg**	**01 14 26.2**	**-1.5**
FRES	**Fresagrandinar** 2µm,0.9s	**1.04**	**109**	Pg	**Pg**	**01 14 26.2**	**-1.5**
TOLF	**Tolfa**	**1.04**	**256**	Pg	**Pg**	**01 14 26.6**	**-1.2**
TOLF	**Tolfa**	**1.04**	**256**	Pg	**Pg**	**01 14 26.6**	**-1.2**
CING	**Cingoli** 1µm,0.4s	**1.06**	**354**	Pg	**Pg**	**01 14 26.6**	**-1.6**
CING	**Cingoli** 1µm,0.4s	**1.06**	**354**	Pg	**Pg**	**01 14 26.6**	**-1.6**
MGAB	**Montegabbione** 2µm,0.6s	**1.09**	**303**	Pg	**Pg**	**01 14 28.1**	**-0.7**
MGAB	**Montegabbione** 2µm,0.6s	**1.09**	**303**	Pg	**Pg**	**01 14 28.1**	**-0.7**
VAGA	**Valle Agricola** 511nm,0.6s	**1.12**	**144**	Pg	**Pg**	**01 14 27.9**	**-1.4**
VAGA	**Valle Agricola** 511nm,0.6s	**1.12**	**144**	Pg	**Pg**	**01 14 27.9**	**-1.4**
MURB	**Monte Urbino** 4µm,0.4s	**1.12**	**327**	Pg	**Pg**	**01 14 28.3**	**-1.1**
MURB	**Monte Urbino** 4µm,0.4s	**1.12**	**327**	Pg	**Pg**	**01 14 28.3**	**-1.1**
SACS	**San Casciano d** 2µm,1.2s	**1.19**	**297**	Pg	**Pb**	**01 14 30.1**	**-0.5**
BSSO	**Busso** 966nm,1.2s	**1.21**	**130**	Pg	**Pb**	**01 14 29.4**	**-1.5**
BSSO	**Busso** 966nm,1.2s	**1.21**	**130**	Pg	**Pb**	**01 14 29.4**	**-1.5**
ARVD	**Arcevia** 1µm,1.0s	**1.21**	**346**	Pg	**Pb**	**01 14 29.4**	**-1.6**
ARVD	**Arcevia** 1µm,1.0s	**1.21**	**346**	Pg	**Pb**	**01 14 29.4**	**-1.6**
AOI	**Ancona** 863nm,0.7s	**1.24**	**8**	Pg	**Pn**	**01 14 30.3**	**-1.1**
AOI	**Ancona** 863nm,0.7s	**1.24**	**8**	Pg	**Pn**	**01 14 30.3**	**-1.1**
NVLJ	**Novalja**	**2.50**	**26**	*e*Pn	**Pn**	**01 14 48.7**	**+0.1**
NVLJ				Sn	**Sn**	**01 15 19.5**	**+0.3**
NVLJ	**Novalja**	**2.50**	**26**	*e*Pn	**Pn**	**01 14 48.7**	**+0.1**
NVLJ				Sn	**Sn**	**01 15 19.4**	**+0.3**
UDBI	**Udbina**	**2.82**	**38**	*i* Pn	**Pn**	**01 14 54.3**	**+1.2**
UDBI				Sn	**Sn**	**01 15 28.6**	**+1.4**
UDBI	**Udbina**	**2.82**	**38**	*i* Pn	**Pn**	**01 14 54.3**	**+1.2**
UDBI				Sn	**Sn**	**01 15 28.5**	**+1.4**
OSPF	**L'Ospedale**	**3.17**	**259**	P	**Pn**	**01 14 57.6**	**-0.4**
STON	**Ston**	**3.25**	**79**	*e*Pn	**Pn**	**01 14 59.1**	**+0.1**
STON				Sn	**Sn**	**01 15 37.4**	**-0.4**
STON	**Ston**	**3.25**	**79**	*e*Pn	**Pn**	**01 14 59.0**	**+0.1**
STON				Sn	**Sn**	**01 15 37.4**	**-0.4**
VOY	**Vojsko**	**3.73**	**6**	*e*Pn	**Pn**	**01 15 05.4**	**-0.2**
VOY				*e*Sn	**Sn**	**01 15 48.8**	**-0.9**
VOY	**Vojsko**	**3.73**	**6**	*e*Pn	**Pn**	**01 15 05.4**	**-0.2**
VOY				*e*Sn	**Sn**	**01 15 48.8**	**-0.9**
HCY	**Herceg Novi**	**3.81**	**86**	⇑*i* Pn	**Pn**	**01 15 07.0**	**+0.4**
HCY				*e*Sn	**Sn**	**01 15 53.5**	**+2.0**
HCY	**Herceg Novi**	**3.81**	**86**	⇑*i* Pn	**Pn**	**01 15 07.0**	**+0.4**
HCY				*e*Sn	**Sn**	**01 15 53.5**	**+2.0**
BRY	**Bratogost**	**3.87**	**80**	*e*Pn	**Pn**	**01 15 08.1**	**+0.5**
BRY				*e*Sn	**Sn**	**01 15 54.5**	**+1.3**
BRY	**Bratogost**	**3.87**	**80**	*e*Pn	**Pn**	**01 15 08.1**	**+0.5**
BRY				*e*Sn	**Sn**	**01 15 54.5**	**+1.3**
BUM	**Brajici-Budva**	**4.11**	**88**	⇓*i* Pn	**Pn**	**01 15 11.2**	**+0.4**
BUM				*e*Sn	**Sn**	**01 15 59.7**	**+0.7**
BUM	**Brajici-Budva**	**4.11**	**88**	⇓*i* Pn	**Pn**	**01 15 11.2**	**+0.4**
BUM				*e*Sn	**Sn**	**01 15 59.7**	**+0.7**
UPM	**Unac-Piva**	**4.18**	**76**	⇓*i* Pn	**Pn**	**01 15 12.2**	**+0.3**
UPM				*e*Sn	**Sn**	**01 16 01.4**	**+0.5**
UPM	**Unac-Piva**	**4.18**	**76**	⇓*i* Pn	**Pn**	**01 15 12.2**	**+0.3**
UPM				*e*Sn	**Sn**	**01 16 01.4**	**+0.5**
MYKA	**Terra Mystica**	**4.31**	**3**	⇑*i* Pn	**Pn**	**01 15 13.5**	**-0.1**
MYKA	**Terra Mystica**	**4.31**	**3**	Pn	**Pn**	**01 15 13.5**	**-0.1**
PDG	**Podgorica**	**4.37**	**87**	*e*Pn	**Pn**	**01 15 15.4**	**+1.0**
PDG				*e*Sn	**Sn**	**01 16 07.5**	**+2.1**
PDG	**Podgorica**	**4.37**	**87**	⇓*i* Pn	**Pn**	**01 15 15.3**	**+0.9**
PDG				*e*Sn	**Sn**	**01 16 06.1**	**+0.7**
TTG	**Podgorica**	**4.37**	**87**	⇓*i* Pn	**Pn**	**01 15 15.3**	**+0.9**
TTG				*e*Sn	**Sn**	**01 16 06.1**	**+0.7**
ULC	**Ulcinj**	**4.39**	**93**	⇓*i* Pn	**Pn**	**01 15 15.4**	**+0.7**
ULC				*e*Sn	**Sn**	**01 16 06.5**	**+0.5**
ULC	**Ulcinj**	**4.39**	**93**	⇓*i* Pn	**Pn**	**01 15 15.4**	**+0.7**
ULC				*e*Sn	**Sn**	**01 16 06.5**	**+0.5**
ABTA	**Abfaltersbach** SNR=46	**4.46**	**353**	⇓*i* Pn	**Pn**	**01 15 16.5**	**+0.8**
ABTA	**Abfaltersbach** SNR=46	**4.46**	**353**	Pn	**Pn**	**01 15 16.5**	**+0.8**
SOKA	**Soboth**	**4.52**	**15**	⇓*i* Pn	**Pn**	**01 15 17.2**	**+0.7**
SOKA	**Soboth**	**4.52**	**15**	Pn	**Pn**	**01 15 17.2**	**+0.7**
SAOF	**Saorge**	**4.56**	**293**	P	**Pn**	**01 15 17.8**	**+0.8**
REVF	**Revere**	**4.61**	**290**	P	**Pn**	**01 15 17.2**	**-0.6**
AUTN	**L'Aution**	**4.65**	**293**	P	**Pn**	**01 15 19.3**	**+0.9**
BBLS	**Lazići**	**4.69**	**69**	*e*Pn	**Pn**	**01 15 20.7**	**+1.9**
BBLS	**Lazići**	**4.69**	**69**	*e*Pn	**Pn**	**01 15 20.7**	**+1.9**
TOUF	**Mont Tournerai**	**4.78**	**293**	P	**Pn**	**01 15 21.1**	**+1.0**
MVIF	**Mont Vial**	**4.81**	**291**	P	**Pn**	**01 15 20.9**	**+0.4**
BEHE	**Becsehely**	**4.81**	**29**	*e*	**Pn**	01 15 23.7	+3.2
BEHE	**Becsehely**	**4.81**	**29**	*e*P	Pn	01 15 23.7	+3.2
BEY	**Berane**	**4.86**	**81**	⇓*i* Pn	**Pn**	**01 15 22.7**	**+1.6**
BEY				*e*Sn	**Sn**	**01 16 17.8**	**+0.3**
IVA	**Berane**	**4.86**	**81**	⇓*i* Pn	**Pn**	**01 15 22.7**	**+1.6**
IVA				*e*Sn	**Sn**	**01 16 17.8**	**+0.3**
PVY	**Plav**	**4.89**	**85**	⇓*i* Pn	**Pn**	**01 15 22.4**	**+0.7**
PVY				*e*Sn	**Sn**	**01 16 18.8**	**+0.4**
CALN	**Calern**	**4.95**	**289**	P	**Pn**	**01 15 22.7**	**+0.2**
SJES	**Sjenica**	**4.96**	**77**	*e*Pn	**Pn**	**01 15 23.4**	**+0.8**
SJES				*e*Sn	**Sn**	**01 16 20.6**	**+0.5**
TIR	**Tirane**	**4.96**	**99**	*e*Pn	**Pn**	**01 15 23.3**	**+0.8**
TIR	**Tirane**	**4.96**	**99**	*e*Pn	**Pn**	**01 15 23.3**	**+0.8**
WTTA	**Wattenberg** SNR=8.2	**5.09**	**347**	⇑*i* Pn	**Pn**	**01 15 24.7**	**+0.3**
WTTA	**Wattenberg** SNR=8.2	**5.09**	**347**	Pn	**Pn**	**01 15 24.7**	**+0.3**
DAVOX	**Davos/Dischmat** 1.4nm,0.3s,baz=162,slow=18,SNR=13	**5.10**	**332**	Pn	**Pn**	**01 15 26.5**	**+1.9**
DAVOX				Sn	**Sn**	**01 16 23.7**	**-0.1**
	baz=125,slow=23,SNR=1.4						
DIVS	**Divibare**	**5.16**	**68**	⇑*i* Pn	**Pn**	**01 15 26.6**	**+1.3**
DIVS	**Divibare**	**5.16**	**68**	⇑*i* Pn	**Pn**	**01 15 26.6**	**+1.3**
PKSM	**Moragy**	**5.43**	**42**	⇑*i* P	Pg	01 16 00.3	+8.5
PKSM	**Moragy**	**5.43**	**42**	*e*	**Pn**	**01 15 29.7**	**+0.8**
PKSM	**Moragy**	**5.43**	**42**	*e*P	**Pn**	**01 15 29.7**	**+0.8**
TRUS	**Trudelj**	**5.49**	**67**	*e*Pn	**Pn**	**01 15 29.9**	**+0.2**
TRUS	**Trudelj**	**5.49**	**67**	*e*Pn	**Pn**	**01 15 29.9**	**+0.2**
KEK	**Kerkira**	**5.53**	**116**	*e*P	**Pn**	**01 15 32.0**	**+1.8**
DAVA	**Damuels**	**5.54**	**335**	⇑*i* Pn	**Pn**	**01 15 30.1**	**-0.6**
DAVA	**Damuels**	**5.54**	**335**	Pn	**Pn**	**01 15 30.1**	**-0.6**
MOA	**Molln** SNR=14	**5.56**	**6**	⇑*i* Pn	**Pn**	**01 15 31.3**	**+0.5**
MOA	**Molln** SNR=14	**5.56**	**6**	Pn	**Pn**	**01 15 31.3**	**+0.5**
CONA	**Conrad Observa** SNR=12	**5.88**	**17**	⇓*i* Pn	**Pn**	**01 15 35.1**	**-0.1**
CONA	**Conrad Observa** SNR=12	**5.88**	**17**	Pn	**Pn**	**01 15 35.1**	**-0.1**
PKST	**T"s**	**5.95**	**32**	*e*	**Pn**	**01 15 33.8**	**-2.3**
PKST	**T"s**	**5.95**	**32**	*e*P	**Pn**	**01 15 33.8**	**-2.3**
BIA	**Bitola**	**6.11**	**100**	*i* Pn	**Pn**	**01 15 39.3**	**+1.0**
BIA	**Bitola**	**6.11**	**100**	*i* Pn	**Pn**	**01 15 39.3**	**+1.0**
PKSG		**6.20**	**33**	*e*	Pn	01 15 43.5	+4.0
JAN	**Janina**	**6.26**	**113**	*e*P	**Pn**	**01 15 42.5**	**+2.1**
BARS	**Barje**	**6.26**	**83**	⇑*i* Pn	**Pn**	**01 15 41.0**	**+0.6**
BARS				*e*Sn	**Sn**	**01 16 51.0**	**-1.1**
BARS	**Barje**	**6.26**	**83**	⇑*i* Pn	**Pn**	**01 15 41.0**	**+0.6**
BARS				*e*Sn	**Sn**	**01 16 51.0**	**-1.1**
GERES	**GERESS Array B** 0.8nm,0.3s,baz=174,slow=13,SNR=14	**6.53**	**2**	Pn	**Pn**	**01 15 43.7**	**-0.4**
GERES				Sn	Sn	01 16 49.8	-8.9
	0.5nm,0.3s,baz=184,slow=19,SNR=2.3						
LKD2	**Lefkada island**	**6.58**	**120**	*e*P	**Pn**	**01 15 47.0**	**+2.2**
KZN	**Kozani**	**6.65**	**105**	*e*P	**Pn**	**01 15 47.0**	**+1.3**
FELD	**Feldberg im Sc**	**6.72**	**328**	P	**Pn**	**01 15 46.4**	**-0.4**
BZS	**Buzias**	**6.81**	**58**	⇑*i* P	**Pn**	**01 15 50.2**	**+2.4**
BZS	**Buzias**	**6.81**	**58**	⇑*i* P	**Pn**	**01 15 50.2**	**+2.4**
KHC	**Kasperske Hory**	**6.81**	**1**	*e*PN	**Pn**	**01 15 47.5**	**-0.4**
KHC				*e*SN	**Pn**	**01 17 02.1**	**-3.5**
KHC	**Kasperske Hory**	**6.81**	**1**	Pn	**Pn**	**01 15 47.5**	**-0.4**
LOMF	**Lomont**	**6.84**	**320**	P	**Pn**	**01 15 48.7**	**+0.3**
ZAPS	**Zavoj**	**6.89**	**79**	⇑*i* Pn	**Pn**	**01 15 51.0**	**+2.0**
VLS	**Valsamata**	**6.91**	**124**	*e*P	**Pn**	**01 15 51.5**	**+2.2**
VAY	**Valandovo**	**6.96**	**95**	*i* Pn	**Pn**	**01 15 50.4**	**+0.5**
VAY	**Valandovo**	**6.96**	**95**	*i* Pn	**Pn**	**01 15 50.4**	**+0.5**
MOF	**Molkenrain**	**7.07**	**324**	P	**Pn**	**01 15 51.3**	**-0.2**
THL	**Klokotos Trika**	**7.11**	**110**	*e*P	**Pn**	**01 15 54.0**	**+2.0**
TREC	**Trest**	**7.13**	**11**	*e*PN	**Pn**	**01 15 51.7**	**-0.6**
TREC	**Trest**	**7.13**	**11**	Pn	**Pn**	**01 15 51.7**	**-0.6**
PSZ	**Piszkesteto**	**7.26**	**37**	⇓*i* P	Pn	01 15 59.0	+4.9
EVR	**Evrytania**	**7.27**	**115**	*e*P	Pn	01 15 57.5	+3.2
VYHS	**Vyhne**	**7.27**	**30**	*e*PN	**Pn**	**01 15 55.0**	**+0.7**
VYHS				*e*SN	**Sn**	**01 17 13.3**	**-3.6**
KEST	**Kesra**	**7.28**	**207**	Pn	Pn	01 15 58.7	+4.2
	0.8nm,0.3s,baz=302,slow=4.3,SNR=69						
VTS	**Vitosha**	**7.29**	**85**	⇓*i* P	**Pn**	**01 15 56.7**	**+2.1**
VTS	**Vitosha**	**7.29**	**85**	*e*Pn	**Pn**	**01 15 56.1**	**+1.5**
VTS	**Vitosha**	**7.29**	**85**	*e*Pn	**Pn**	**01 15 56.1**	**+1.5**
VTS	**Vitosha**	**7.29**	**85**	⇓*i* P	**Pn**	**01 15 56.7**	**+2.1**
ECH	**Echery**	**7.34**	**326**	P	**Pn**	**01 15 54.4**	**-0.7**
VRAC	**Vranov**	**7.34**	**17**	Pn	**Pn**	**01 15 54.2**	**-1.0**
	0.3nm,0.3s,baz=197,slow=15,SNR=3.8						
RLS	**Riolos of Patr**	**7.53**	**122**	*e*P	**Pn**	**01 16 00.5**	**+2.8**
AGG	**Agios Georgios**	**7.57**	**113**	*e*P	**Pn**	**01 16 01.0**	**+2.6**
EFP	**Efpalio**	**7.60**	**118**	*e*P	**Pn**	**01 15 56.5**	**-2.2**
LANF	**Langenberg**	**7.71**	**332**	P	**Pn**	**01 16 00.3**	**+0.1**
PRU	**Pruhonice**	**7.71**	**6**	*e*PN	**Pn**	**01 15 59.5**	**-0.7**
PRU				*e*SN	**Sn**	**01 17 22.9**	**-4.7**
PRU	**Pruhonice**	**7.71**	**6**	Pn	**Pn**	**01 15 59.5**	**-0.7**
KLV	**Kalavryta, Ach**	**7.97**	**120**	*e*P	Pn	01 16 07.5	+3.6
DRGR		**8.03**	**53**	⇓*i* P	Pn	01 16 09.2	+4.5
NEO	**Neokhori**	**8.07**	**109**	*e*P	**Pn**	**01 16 07.0**	**+1.9**
GUR	**Goura**	**8.16**	**120**	*e*P	Pn	01 16 10.0	+3.5
PYL	**PYLOS**	**8.44**	**127**	*e*P	**Pn**	**01 16 12.5**	**+2.3**
VLX	**Vlachokerasia**	**8.52**	**123**	*e*P	Pn	01 16 15.0	+3.6
AOS	**Alonnisos**	**8.59**	**108**	*e*P	**Pn**	**01 16 13.0**	**+0.8**
STHS	**Stebnicka Huta**	**8.97**	**35**	*e*PN	Pn	01 16 20.5	+3.0
CLL	**Collm**	**8.99**	**359**	*e*Sn	**Sn**	**01 18 03.0**	**+3.9**
CLL				*e*Sg	**Sg**	**01 19 02.0**	**+5.8**
KOLS	**Kolonicke sedl**	**9.09**	**40**	*e*PN	**Pn**	**01 16 16.9**	**-2.2**
KOLS	**Kolonicke sedl**	**9.09**	**40**	*e*Pn	**Pn**	**01 16 16.9**	**-2.2**
VLI	**Veliai**	**9.28**	**124**	*e*P	Pn	01 16 26.0	+4.3
FINES	**FINESS Array B** 2.1nm,0.7s,baz=212,slow=6.8,SNR=6.8	**20.62**	**17**	P	**P**	**01 18 46.4**	**-0.7**
KBZ	**Khabaz** 1.9nm,1.0s,baz=252,slow=3.2,SNR=2.4	**21.59**	**76**	P	**P**	**01 18 57.5**	**-0.2**
TORD	**Torodi Ar. Bea** 0.3nm,0.5s,baz=14,slow=8.7,SNR=6.2	**30.78**	**203**	P	**P**	**01 20 24.1**	**+0.4**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=277,slow=8.3,SNR=4.3	**47.89**	**60**	P	**P**	**01 22 45.6**	**-0.5**

MEX 03 01:30:16.9±1.0, 16.65N×99.37W, h12km±11km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.52**	**295**	*e*P	Pg	01 30 21.6	-5.6
ACX				*i* S	Sg	01 30 28.9	-5.3
CAIG	**El Cayaco**	**0.95**	**295**	*e*P	Pg	01 30 32.5	-2.8
CAIG				*i* S	Sg	01 30 44.1	-3.6
PNIG	**Pinotepa**	**1.21**	**102**	*i* P	Pn	01 30 36.2	-3.6
PNIG				*i* S	Sb	01 30 50.4	-5.2
MEIG	**Mezcala**	**1.29**	**349**	*e*P	Pn	01 30 36.3	-4.7
MEIG				*i* S	Sb	01 30 52.4	-5.7
PLIG	**Platanillo**	**1.74**	**356**	*e*P	Pn	01 30 44.2	-3.0
PLIG				*i* S	Sn	01 31 04.6	-4.8
ARIG	**Puente Sto Nin**	**1.88**	**330**	*i* P	Pn	01 30 46.0	-2.9
ARIG				*i* S	Sn	01 31 08.2	-4.4
UTMO	**Huajuapan**	**1.90**	**52**	*e*P	Pn	01 30 45.2	-4.3
UTMO				*i* S	Sn	01 31 09.4	-4.2
YAIG	**Yautepec**	**2.22**	**7**	*i* P	Pn	01 30 51.9	-1.9
YAIG				*i* S	Sn	01 31 17.7	-3.7
ZIIG	**Zihuatanejo**	**2.22**	**296**	*i* P	Pn	01 30 49.1	-4.6
ZIIG				*i* S	Sn	01 31 16.1	-5.0
PPM	**Popocatepetl**	**2.51**	**16**	*e*P	Pn	01 30 55.1	-3.1

*IDC **03** 01:44:32.6±13.0, 36.97N×73.77E, h396km±328km, mb2.8/1, mb1 2.5/3, mb1mx2.3/28, mbtmp2.5/3, Error ellipse: s-maj=694.6km s-min=88.3km az=125.0*

ISC 03 01:44:13.8±2.0, 37.3N±0.2×72.1E±0.2, h130km, n5, σ0.6 72/5, 3C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.89**	**348**	⇓Pn	Pn	01 45 42.9	+4.1
	0.4nm,0.4s,baz=157,slow=11,SNR=7.2						
KK31				⇑Sn	**Sn**	**01 46 45.1**	**-0.1**
	4.5nm,0.5s,baz=162,slow=22,SNR=5.7						
TKM2	**Tokmak 2**	**6.17**	**24**	⇑Pn	Pn	01 45 46.7	+4.0
	2.4nm,0.7s						
TKM2				⇑Sn	**Sn**	**01 46 51.9**	**-0.3**
MKAR	**Makanchi Array**	**12.08**	**35**	P	**P**	**01 47 08.8**	**-0.1**
	0.1nm,0.3s,baz=215,slow=11,SNR=4.3						
ZALV	**Zalesovo Beam**	**18.78**	**24**	P	**P**	**01 48 23.6**	**+0.9**
	0.4nm,0.3s,baz=215,slow=9.8,SNR=9.1						
TORD	**Torodi Ar. Bea**	**66.65**	**269**	P	**P**	**01 54 50.6**	**-0.2**
	0.2nm,0.4s,baz=44,slow=5.7,SNR=6.3						

*ISCJB **03** 01:54:54.8±0.8, 33.93N±0.08×25.41E±0.07, h17km, mb3.2/4, Error ellipse: s-maj=12.1km s-min=6.2km az=28.1*
*IDC **03** 01:54:54.4±1.2, 33.99N×25.28E, h0km, mb3.5/4, mb1 3.6/8, mb1mx3.5/29, mbtmp3.5/8, ML3.7/4, Error ellipse: s-maj=27.1km s-min=21.8km az=176.0*
*CSEM **03** 01:55:00.0, 34.29N×25.37E, h39km, MD3.6, After ATH*
*ATH **03** 01:55:00.0, 34.29N×25.37E, h39km±4km, MD3.6/10*
ISC 03 01:54:57.6±1.2, 34.1N±0.1×25.41E±0.07, h17km, n30, σ0.6 77/30, mb3.3/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.03**	**332**	*e*PN	**Pb**	**01 55 16.6**	**-0.5**
SIVA	**Sivas**	**1.03**	**332**	*e*Pn	**Pb**	**01 55 16.6**	**-0.5**
LAST	**Lasithi**	**1.05**	**3**	*e*PN	**Pb**	**01 55 17.2**	**-0.3**
LAST	**Lasithi**	**1.05**	**3**	*e*Pn	**Pb**	**01 55 17.2**	**-0.3**
NPS	**Neapolis**	**1.16**	**8**	*e*PN	**Pn**	**01 55 18.6**	**-0.6**
NPS	**Neapolis**	**1.16**	**8**	*e*Pn	**Pn**	**01 55 18.6**	**-0.6**
ZKR	**Zakros**	**1.21**	**33**	*e*PN	**Pn**	**01 55 20.1**	**+0.4**
ZKR	**Zakros**	**1.21**	**33**	*e*Pn	**Pn**	**01 55 20.1**	**+0.4**
IDI	**Anoyia**	**1.25**	**340**	*e*PN	**Pn**	**01 55 19.8**	**-0.7**
IDI	**Anoyia**	**1.25**	**340**	*e*Pn	**Pn**	**01 55 19.8**	**-0.7**
VAM	**Vamos**	**1.64**	**323**	*e*PN	**Pn**	**01 55 26.1**	**+0.4**
VAM	**Vamos**	**1.64**	**323**	*e*Pn	**Pn**	**01 55 26.1**	**+0.4**
KYTH	**Kithira**	**2.91**	**319**	*e*PN	**Pn**	**01 55 44.3**	**+1.1**
KYTH	**Kithira**	**2.91**	**319**	*e*Pn	**Pn**	**01 55 44.3**	**+1.1**
VLI	**Veliai**	**3.30**	**323**	*e*PN	**Pn**	**01 55 49.2**	**+0.7**
VLI	**Veliai**	**3.30**	**323**	*e*Pn	**Pn**	**01 55 49.2**	**+0.7**
DID	**Didima**	**3.82**	**333**	*e*PN	**Pn**	**01 55 55.8**	**0.0**
DID	**Didima**	**3.82**	**333**	*e*Pn	**Pn**	**01 55 55.8**	**0.0**
ITM	**Ithomi**	**4.18**	**318**	*e*PN	**Pn**	**01 56 01.4**	**+0.8**
ITM	**Ithomi**	**4.18**	**318**	*e*Pn	**Pn**	**01 56 01.4**	**+0.8**
GUR	**Goura**	**4.56**	**328**	*e*PN	**Pn**	**01 56 06.8**	**+0.9**
GUR	**Goura**	**4.56**	**328**	*e*Pn	**Pn**	**01 56 06.8**	**+0.9**
MMAI	**Mount Meron Ar** 0.7nm,0.3s,baz=266,slow=12,SNR=5.1	**8.41**	**95**	Pn	**Pn**	**01 56 60.0**	**+1.1**
MMAI				Sn	**Sn**	**01 58 33.3**	**-0.1**
	0.6nm,0.3s,baz=264,slow=23,SNR=1.7						
EIL	**Elat**	**9.24**	**116**	Pn	**Pn**	**01 57 09.1**	**-1.0**
	0.4nm,0.3s,baz=304,slow=12,SNR=4.8						
AKASG	**Malin Array Be** 1.0nm,0.3s,baz=202,slow=10,SNR=5.3	**16.82**	**8**	Pn	**Pn**	**01 58 52.6**	**+0.4**
GERES	**GERESS Array B** 0.1nm,0.3s,baz=149,slow=13,SNR=10	**17.11**	**333**	P	**Pn**	**01 58 57.1**	**+1.2**
ESDC	**Sonseca Array** 0.2nm,0.5s,baz=79,slow=7.7,SNR=4.3	**24.08**	**292**	P	**P**	**02 00 10.4**	**-1.8**
HFS	**Hagfors** 0.3nm,0.5s,baz=144,slow=8.5,SNR=4.4	**27.14**	**347**	P	**P**	**02 00 39.9**	**+0.2**
TORD	**Torodi Ar. Bea** 0.4nm,0.8s,baz=31,slow=8.6,SNR=7.2	**29.98**	**232**	P	P	02 01 03.6	-1.8
MKAR	**Makanchi Array** 1.0nm,0.6s,baz=279,slow=6.8,SNR=14	**44.19**	**56**	P	**P**	**02 03 06.0**	**+0.4**

*ISCJB **03** 01:57:39.6±0.8, 33.97N±0.08×25.63E±0.08, h17km, mb3.4/3, Error ellipse: s-maj=13.2km s-min=8.0km az=33.6*
*IDC **03** 01:57:39.1±1.5, 34.00N×25.56E, h0km, mb3.5/3, mb1 3.4/8, mb1mx3.3/29, mbtmp3.4/8, ML3.4/5, Error ellipse: s-maj=31.7km s-min=25.9km az=150.0*
*CSEM **03** 01:57:43.9, 34.30N×25.50E, h25km, MD3.5, After ATH*
*ATH **03** 01:57:43.9, 34.30N×25.50E, h25km±4km, MD3.5/7*
ISC 03 01:57:41.7±1.0, 34.1N±0.07×25.56E±0.08, h17km, n24, σ1 22/26, mb3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.02**	**356**	*e*Pn	**Pb**	**01 58 00.6**	**-0.4**
LAST	**Lasithi**	**1.02**	**356**	*e*Pn	**Pb**	**01 58 00.6**	**-0.4**
SIVA	**Sivas**	**1.07**	**325**	*e*PN	**Pb**	**01 58 01.0**	**-0.8**
SIVA	**Sivas**	**1.07**	**325**	*e*Pn	**Pb**	**01 58 01.0**	**-0.8**
ZKR	**Zakros**	**1.11**	**29**	*e*PN	**Pn**	**01 58 02.9**	**+0.4**
ZKR	**Zakros**	**1.11**	**29**	*e*Pn	**Pn**	**01 58 02.9**	**+0.4**
NPS	**Neapolis**	**1.12**	**2**	*e*PN	**Pb**	**01 58 02.7**	**+0.1**
NPS				*e*SN	**Sb**	**01 58 15.2**	**-1.8**
NPS	**Neapolis**	**1.12**	**2**	*e*Pn	**Pb**	**01 58 02.7**	**+0.1**
NPS				*e*Sn	**Sb**	**01 58 15.2**	**-1.8**
IDI	**Anoyia**	**1.27**	**334**	*e*PN	**Pn**	**01 58 05.4**	**+0.6**
IDI	**Anoyia**	**1.27**	**334**	*e*Pn	**Pn**	**01 58 05.4**	**+0.6**
VAM	**Vamos**	**1.69**	**319**	*e*PN	**Pn**	**01 58 11.4**	**+0.9**
VAM	**Vamos**	**1.69**	**319**	*e*Pn	**Pn**	**01 58 11.4**	**+0.9**
KYTH	**Kithira**	**2.97**	**317**	*e*PN	**Pn**	**01 58 30.2**	**+2.1**
KYTH	**Kithira**	**2.97**	**317**	*e*Pn	**Pn**	**01 58 30.2**	**+2.1**
VLI	**Veliai**	**3.35**	**321**	*e*PN	**Pn**	**01 58 35.2**	**+1.9**
VLI	**Veliai**	**3.35**	**321**	*e*Pn	**Pn**	**01 58 35.2**	**+1.9**
MMAI	**Mount Meron Ar** 0.3nm,0.3s,baz=244,slow=9.5,SNR=2.7	**8.29**	**95**	Pn	**Pn**	**01 59 41.9**	**+0.7**
BRTR	**Keskin Array B** 0.1nm,0.3s,baz=210,slow=12,SNR=3.8	**8.53**	**47**	Pn	**Pn**	**01 59 46.2**	**+1.5**
EIL	**Elat** 0.2nm,0.3s,baz=8.8,slow=19,SNR=4.8	**9.14**	**117**	Pn	**Pn**	**01 59 51.6**	**-1.3**
EIL				Sn	Sn	02 01 28.4	-6.8
	0.2nm,0.3s,baz=22,slow=21,SNR=1.4						
AKASG	**Malin Array Be** 0.7nm,0.3s,baz=198,slow=10,SNR=4.9	**16.77**	**8**	Pn	**Pn**	**02 01 37.1**	**+1.5**
GERES	**GERESS Array B** 0.1nm,0.3s,baz=144,slow=12,SNR=6.1	**17.14**	**333**	P	**P**	**02 01 42.6**	**+0.6**
TORD	**Torodi Ar. Bea** 0.3nm,0.9s,baz=38,slow=10,SNR=2.7	**30.11**	**232**	P	**P**	**02 03 49.8**	**-0.8**
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=276,slow=5.8,SNR=5.9	**44.06**	**56**	P	**P**	**02 05 49.0**	**+0.3**
ZALV	**Zalesovo Beam** 0.6nm,0.5s,baz=327,slow=6.9,SNR=2.5	**45.47**	**45**	P	**P**	**02 05 59.2**	**-0.5**

MEX 03 02:14:12.6±1.1, 16.42N×96.64W, h20km±89km, MD3.7, Oaxaca

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

ZKR	**Zakros**	1.20	26	*e*Pb		**Pn**	02 37 55.8	-0.1
NPS	**Neapolis**	1.22	2	P		**Pn**	02 37 55.3	-0.9
NPS				S		**Sb**	02 38 12.8	+0.1
NPS	**Neapolis**	1.22	2	*e*PG		**Pn**	02 37 55.4	-0.8
NPS	**Neapolis**	1.22	2	*e*Pg		**Pn**	02 37 55.4	-0.8
NPS				S		**Sb**	02 38 12.8	+0.1
IDI	**Anoyia**	1.36	336	P		**Pn**	02 37 57.1	-1.1
IDI	**Anoyia**	1.36	336	*e*PG		**Pn**	02 37 57.3	-0.9
IDI	**Anoyia**	1.36	336	*e*Pg		**Pn**	02 37 57.3	-0.9
GVD	**Gavdhos**	1.46	303	P		**Pn**	02 37 59.5	0.0
GVD				S		**Sb**	02 38 20.1	+0.5
GVD	**Gavdhos**	1.46	303	*e*PG		**Pn**	02 37 57.4	-2.1
GVD	**Gavdhos**	1.46	303	*e*Pg		**Pn**	02 37 57.4	-2.1
GVD	**Gavdhos**	1.46	303	P		**Pn**	02 37 59.5	0.0
GVD				S		**Sb**	02 38 20.1	+0.5
VAM	**Vamos**	1.77	321	P		**Pn**	02 38 03.9	+0.2
VAM				S		**Sb**	02 38 29.7	+1.2
VAM	**Vamos**	1.77	321	*e*PG		**Pn**	02 38 04.2	+0.5
VAM	**Vamos**	1.77	321	P		**Pn**	02 38 03.9	+0.2
VAM	**Vamos**	1.77	321	*e*Pg		**Pn**	02 38 04.2	+0.5
KARP	**Karpathos**	1.99	41	P		**Pb**	02 38 09.4	-1.2
KARP	**Karpathos**	1.99	41	*e*PG		**Pb**	02 38 09.8	-0.8
KARP	**Karpathos**	1.99	41	P		**Pb**	02 38 09.4	-1.2
KARP	**Karpathos**	1.99	41	*e*Pg		**Pb**	02 38 09.8	-0.8
SLUM	baz=189	2.56	187	S		**Sn**	02 38 44.0	-0.8
SLUM		2.56	187	P		**Pn**	02 38 14.0	-0.6
SLUM				S		**Sn**	02 38 44.0	-0.8
ANKY	**Antikythira Is**	2.61	315	P		**Pn**	02 38 18.0	+2.8
ANKY	**Antikythira Is**	2.61	315	*e*PN		**Pn**	02 38 16.9	+1.7
ANKY	**Antikythira Is**	2.61	315	*e*Pn		**Pn**	02 38 16.9	+1.7
ANKY	**Antikythira Is**	2.61	315	P		**Pn**	02 38 18.0	+2.8
ARG	**Arkhangelos**	3.02	43	*e*PN		**Pn**	02 38 23.7	+2.8
ARG				*e*SN		**Sb**	02 39 01.4	-3.0
ARG	**Arkhangelos**	3.02	43	*e*Pn		**Pn**	02 38 23.7	+2.8
ARG				*e*Sn		**Sb**	02 39 01.4	-3.0
APE	**Apeiranthos**	3.02	359	P		**Pn**	02 38 22.5	+1.5
APE				S		**Sn**	02 39 00.0	+3.7
APE	**Apeiranthos**	3.02	359	*e*PB		**Pn**	02 38 23.0	+2.0
APE	**Apeiranthos**	3.02	359	P		**Pn**	02 38 22.5	+1.5
APE	**Apeiranthos**	3.02	359	*e*Pb		**Pn**	02 38 23.0	+2.0
APE				S		**Sn**	02 39 00.0	+3.7
KYTH	**Kithira**	3.05	318	P		**Pn**	02 38 21.5	+0.1
KYTH	**Kithira**	3.05	318	*e*PN		**Pn**	02 38 22.8	+1.4
KYTH	**Kithira**	3.05	318	P		**Pn**	02 38 21.5	+0.1
KYTH	**Kithira**	3.05	318	*e*Pn		**Pn**	02 38 22.8	+1.4
HMAT	**Matruh**	3.21	156	P		**Pn**	02 38 23.1	-0.4
HMAT	baz=156			S		**Sn**	02 38 58.6	-2.3
HMAT	baz=156			AMP			02 39 00.0	
	comp=E,300µm,0.7s,logA/T=5.6,baz=156							
HMAT	**Matruh**	3.21	156	P		**Pn**	02 38 23.2	-0.4
HMAT				S		**Sn**	02 38 58.6	-2.3
VLI	**Veliai**	3.43	322	P		**Pn**	02 38 26.4	-0.2
VLI				S		**Sn**	02 39 07.4	+1.1
VLI	**Veliai**	3.43	322	*e*PN		**Pn**	02 38 27.6	+1.0
VLI	**Veliai**	3.43	322	P		**Pn**	02 38 26.4	-0.2
VLI	**Veliai**	3.43	322	*e*Pn		**Pn**	02 38 27.6	+1.0
VLI				S		**Sn**	02 39 07.4	+1.1
TURN	**Turunc**	3.76	40	*e*P		**Pn**	02 38 27.9	-3.2
TURN				*e*S		Sn	02 39 09.2	-5.2
TURN	**Turunc**	3.76	40	*e*P		Pn	02 38 27.9	-3.2
DYR	**Agios Nikonas**	3.79	317	*e*PN		**Pn**	02 38 33.7	+2.2
DYR	**Agios Nikonas**	3.79	317	*e*Pn		**Pn**	02 38 33.7	+2.2
SMG	**Samos**	3.80	15	*e*PN		**Pn**	02 38 34.3	+2.6
SMG	**Samos**	3.80	15	*e*Pn		**Pn**	02 38 34.3	+2.6
AKAS	**Kas**	3.97	55	*i* P		**Pn**	02 38 35.0	+0.9
AKAS				*e*S		Sn	02 39 11.9	-7.8
AKAS	**Kas**	3.97	55	*i* P		**Pn**	02 38 35.0	+0.9
AYDN	**Tasoluk**	4.07	27	*e*P		**Pn**	02 38 37.3	+1.9
AYDN				*e*S		**Sn**	02 39 18.2	-4.0
AYDN	**Tasoluk**	4.07	27	*e*P		**Pn**	02 38 37.3	+1.9
PYL	**PYLOS**	4.23	313	*e*PN		**Pn**	02 38 39.5	+2.0
PYL	**PYLOS**	4.23	313	*e*Pn		**Pn**	02 38 39.5	+2.0
ITM	**Ithomi**	4.31	318	*e*PN		**Pn**	02 38 39.7	+1.0
ITM	**Ithomi**	4.31	318	*e*Pn		**Pn**	02 38 39.7	+1.0
GOLH	**Golhisar**	4.55	44	*i* P		**Pn**	02 38 44.0	+1.9
GOLH				*i* S		**Sn**	02 39 31.9	-2.3
GOLH	**Golhisar**	4.55	44	*i* P		**Pn**	02 38 44.0	+1.9
GOLH				*i* S		**Sn**	02 39 31.9	-2.3
DNZL	**Cakiroluk**	4.61	37	*e*P		**Pn**	02 38 45.5	+2.6
DNZL				*e*S		Sn	02 39 26.4	-9.3
DNZL	**Cakiroluk**	4.61	37	*e*P		**Pn**	02 38 45.5	+2.6
GUR	**Goura**	4.69	327	*e*PN		**Pn**	02 38 45.7	+1.8
GUR	**Goura**	4.69	327	*e*Pn		**Pn**	02 38 45.7	+1.8
SWA2	baz=183	4.78	181	P		**Pn**	02 38 45.0	-0.2
SWA2		4.78	181	P		**Pn**	02 38 45.0	-0.2
KORT	**Korkueli**	4.89	51	*i* P		**Pn**	02 38 48.4	+1.5
KORT				*i* S		**Sn**	02 39 42.1	-0.5
KORT	**Korkueli**	4.89	51	*i* P		**Pn**	02 38 48.3	+1.5
KORT				*i* S		**Sn**	02 39 42.1	-0.5
KHAL	**Karahalli**	5.36	35	*i* P		**Pn**	02 38 53.6	+0.4
KHAL				*e*S		Sn	02 39 48.4	-5.6
KHAL	**Karahalli**	5.36	35	*i* P		**Pn**	02 38 53.6	+0.4
GAZI	**Gazipasa**	5.95	66	*i* P		**Pn**	02 39 00.7	-0.5
GAZI				*e*S		Sn	02 40 00.2	-8.2
GAZI	**Gazipasa**	5.95	66	*i* P		**Pn**	02 39 00.7	-0.5
ERMK	**Ermenek**	6.54	65	*i* P		**Pn**	02 39 10.5	+1.0
ERMK				*e*S		Sn	02 40 14.8	-8.4
ERMK	**Ermenek**	6.54	65	*i* P		**Pn**	02 39 10.5	+1.0
HSAF	**As Saff**	6.73	129	P		**Pn**	02 39 11.9	-0.1
HSAF	baz=129 **As Saff**	6.73	129	P		**Pn**	02 39 11.9	-0.1
GLL	**Jalalah**	6.86	129	P		**Pn**	02 39 13.6	-0.2
GLL	baz=129 **Jalalah**	6.86	129	P		**Pn**	02 39 13.6	-0.2
KDHN	**Kadinhani**	6.92	48	*i* P		**Pn**	02 39 15.8	+1.1
KDHN				*e*S		**Sn**	02 40 28.0	-4.5
KDHN	**Kadinhani**	6.92	48	*i* P		**Pn**	02 39 15.8	+1.1
HFRF	**Wahat Farafira**	7.26	160	P		**Pn**	02 39 19.2	0.0
HFRF	baz=160 **Wahat Farafira**	7.26	160	P		**Pn**	02 39 19.2	0.0
AMAG	**Maghara**	7.30	116	P		**Pn**	02 39 19.2	-0.6
AMAG	baz=115 **Maghara**	7.30	116	P		**Pn**	02 39 19.2	-0.6
MMAI	**Mount Meron Ar**	8.28	94	Pn		**Pn**	02 39 33.3	+0.1
MMAI	comp=E,1.2nm,0.3s,baz=274,slow=13,SNR=5.9			Sn		**Sn**	02 41 04.1	-1.7
BRTR	comp=E,1.3nm,0.3s,baz=260,slow=23,SNR=3.4 **Keskin Array B**	8.60	46	Pn		**Pn**	02 39 40.0	+2.3
EIL	comp=E,0.2nm,0.3s,baz=226,slow=14,SNR=12 **Elat**	9.09	116	Pn		**Pn**	02 39 43.5	-0.8
EIL	comp=E,0.9nm,0.3s,baz=299,slow=10,SNR=20			Sn		Sn	02 41 18.8	-7.0
PGF	comp=E,0.4nm,0.3s,baz=270,slow=20,SNR=2.1 **Pioggiola**	15.52	308	*e*P		**Pn**	02 41 10.3	-1.6
KBZ	**Khabaz**	16.57	49	Pn		**Pn**	02 41 26.2	+1.0
AKASG	comp=E,0.2nm,0.3s,baz=243,slow=11,SNR=3.2 **Malin Array Be**	16.86	8	Pn		**Pn**	02 41 29.6	+0.8
GERES	comp=E,2.0nm,0.3s,baz=199,slow=10.0,SNR=10 **GERESS Array B**	17.23	333	Pn		**Pn**	02 41 33.2	-0.4
LPG	comp=E,0.4nm,0.3s,baz=148,slow=12,SNR=26 **La Plagne**	18.39	314	*e*P		**P**	02 41 47.6	-0.4
LPG	**La Plagne**	18.39	314	*e*P		**P**	02 41 47.6	-0.4
LPL	**La Plagne**	18.42	314	*e*P		**P**	02 41 47.9	-0.3
LPL	**La Plagne**	18.42	314	*e*P		**P**	02 41 47.9	-0.3
CABF	**La Chapelle**	19.39	316	*e*P		**P**	02 41 57.5	-1.2
CABF	comp=E,6.5nm,0.8s **La Chapelle**	19.39	316	*e*P		**P**	02 41 57.5	-1.2
CDF	comp=E,6.0nm,0.8s **Champ du Feu**	19.81	322	*e*P		**P**	02 42 04.0	+0.7
CDF	comp=E,4.2nm,0.7s **Champ du Feu**	19.81	322	*e*P		**P**	02 42 04.0	+0.7
SMF	comp=E,4.0nm,0.7s **Signal de Mont**	20.72	314	*e*P		**P**	02 42 12.0	-1.1
SMF	**Signal de Mont**	20.72	314	*e*P		**P**	02 42 12.0	-1.1
AVF	**Avril sur Loir**	21.09	314	*e*P		**P**	02 42 16.1	-0.9
AVF	**Avril sur Loir**	21.09	314	*e*P		**P**	02 42 16.1	-0.9
BGF	**Bois d'Agland**	21.28	313	*e*P		**P**	02 42 19.5	+0.4
BGF	comp=E,5.5nm,0.7s **Bois d'Agland**	21.28	313	*e*P		**P**	02 42 19.5	+0.4
MFF	comp=E,6.0nm,0.7s **Saint Martin d**	23.16	310	*e*P		**P**	02 42 39.2	+0.1
MFF	**Saint Martin d**	23.16	310	*e*P		**P**	02 42 39.2	+0.1
LDF	**La Druitiere**	24.01	315	*e*P		**P**	02 42 46.4	-0.9
LDF	**La Druitiere**	24.01	315	*e*P		**P**	02 42 46.4	-0.9
ESDC	**Sonseca Array**	24.23	292	P		**P**	02 42 50.3	+0.9
HFS	comp=E,0.5nm,0.5s,baz=79,slow=9.2,SNR=7.8 **Hagfors**	27.24	347	P		**P**	02 43 15.5	-0.9
	comp=E,0.6nm,0.5s,baz=154,slow=8.0,SNR=5.5							
FINES	**FINES Array B**	27.42	1	P		**P**	02 43 16.7	-1.3
NB2	comp=E,1.1nm,0.7s,baz=163,slow=10,SNR=5.4 **NORSAR Subarra**	28.57	345	P		**P**	02 43 27.7	-0.6
NB2	comp=Z,0.5nm,0.6s,baz=157,slow=9.3 **NORSAR Subarra**	28.57	345	P		**P**	02 43 27.7	-0.6
NOA	comp=Z,0.5nm,0.6s,SNR=4.0 **NORSAR Array B**	28.57	345	P		**P**	02 43 27.6	-0.7
AKTO	comp=Z,0.6nm,0.7s,baz=147,slow=9.1,SNR=4.4 **Aktyubinsk**	28.78	45	P		**P**	02 43 30.2	-0.1
EKA	comp=Z,1.0nm,0.6s,baz=245,slow=9.8,SNR=5.2 **Eskdalemuir Ar**	29.15	326	P		**P**	02 43 33.7	+0.3
TORD	comp=Z,1.0nm,0.7s,baz=114,slow=10,SNR=6.8 **Torodi Ar. Bea**	30.05	232	P		**P**	02 43 42.8	+1.0
ARCES	comp=Z,0.4nm,0.6s,baz=31,slow=9.0,SNR=15 **ARCESS Array B**	35.55	360	P		**P**	02 44 27.9	-1.4
MKAR	comp=Z,3.4nm,0.9s,baz=190,slow=9.1,SNR=5.3 **Makanchi Array**	44.12	56	P		**P**	02 45 41.9	+1.1
ZALV	comp=Z,2.9nm,0.6s,baz=271,slow=6.9,SNR=36 **Zalesovo Beam**	45.54	45	P		**P**	02 45 52.3	+0.2
SONM	comp=Z,2.0nm,0.4s,baz=275,slow=7.1,SNR=5.5 **Songino Array**	59.94	50	P		**P**	02 47 39.6	+0.9
SCHQ	comp=Z,0.7nm,0.5s,baz=294,slow=7.7,SNR=2.9 **Schefferville**	64.26	320	P		**P**	02 48 07.6	+0.2
YKA	comp=Z,1.3nm,0.4s,baz=74,slow=7.4,SNR=6.8 **Yellowknife Ar**	78.61	342	P		**P**	02 49 32.9	-0.9
ILAR	comp=Z,0.5nm,0.6s,baz=30,slow=5.7,SNR=3.5 **Eielson Array**	81.34	357	P		**P**	02 49 49.3	+0.8
	comp=Z,0.3nm,0.6s,baz=345,slow=4.0,SNR=4.5							

IDC ***03*** *02:39:03.5±1.2,9°.02S×124°.85E, h0km, mb4.1/3, mb1 4.2/7, mb1mx3.9/22, mbtmp4.1/7, ML4.1/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/28, Error ellipse: s-maj=78.6km s-min=22.7km az=63.0*

DJA ***03*** *02:39:27.8±0.5, 9°.5S±4°×12°.2E±°, h27km±6km, M4.0/7, mb4.8/1, MLv3.7/7*

ISC 03 02:39:09.7±0.9, 9°.67S±0°.09×124°.1E±0°.1, h66km, n15, σ2§09/13, mb4.0/3, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**2.09**	**299**	P		Pn		02 39 38.0	-4.5
MMRI				S		Sn		02 39 48.5	-19
BASI	**Baing, Sumba**	**3.49**	**261**	P		**Pn**		**02 39 59.7**	**-1.9**
WSI	**Waingapu**	**3.73**	**270**	P		Pn		02 39 56.5	-8.3
WSI				S		Sn		02 40 20.5	-27
BBSI	**Bau Bau**	**4.42**	**340**	P		Pn		02 40 22.3	+8.0
BSSI	**Bau Bau, Buton**	**4.99**	**314**	P		**Pn**		**02 40 19.0**	**-3.1**
BKSI	**Bulukumba**	**5.84**	**318**	P		**Pn**		**02 40 31.5**	**-2.2**
KAPI	**Kappang**	**6.31**	**317**	P		**Pn**		**02 40 37.5**	**-2.7**
KAPI	**Kappang**	**6.31**	**317**	Pn		**Pn**		**02 40 40.9**	**+0.7**
FITZ	1.1nm,0.3s,baz=139,slow=11,SNR=4.3 **Fitzroy Crossi**	**8.51**	**170**	Pn		Pn		02 41 13.8	+3.4
FITZ	2.7nm,0.3s,baz=2.2,slow=11,SNR=67			Sn		**Sn**		**02 42 46.1**	**+1.2**
FITZ	1.0nm,0.3s,baz=319,slow=20,SNR=5.5			LR		LR		02 44 35.3	
WRA	comp=Z,84nm,18.2s,baz=324,slow=37 **Warramunga Arr**	**14.23**	**137**	Pn		**Pn**		**02 42 28.2**	**+0.2**
WRA	1.0nm,0.3s,baz=320,slow=13,SNR=9.2			Sn		**Sn**		**02 45 01.8**	**-2.6**
ASAR	0.6nm,0.3s,baz=319,slow=25,SNR=6.7 **Alice Springs**	**16.79**	**147**	Pn		**P**		**02 43 03.1**	**+1.3**
ASAR	1.1nm,0.3s,baz=322,slow=12,SNR=55			Sn		**Sn**		**02 46 05.1**	**-1.4**
MKAR	0.2nm,0.3s,baz=316,slow=21,SNR=11 **Makanchi Array**	**67.43**	**330**	P		**P**		**02 50 00.3**	**+2.0**
ZALV	1.2nm,0.5s,baz=133,slow=7.7,SNR=17 **Zalesovo Beam**	**71.54**	**337**	P		**P**		**02 50 24.1**	**+0.6**
AKTO	1.1nm,0.5s,baz=130,slow=6.2,SNR=4.8 **Aktyubinsk**	**82.67**	**324**	P		**P**		**02 51 27.4**	**+1.3**
TORD	0.5nm,0.4s,baz=72,slow=5.1,SNR=3.8 **Torodi Ar. Bea**	**123.51**	**279**	PKP		PKPdf		02 58 05.2	+4.6
	0.5nm,0.7s,baz=103,slow=1.1,SNR=6.4								

DDA ***03*** *02:42:00.7, 33°.28N×24°.26E, h20km, MD3.8*

IDC ***03*** *02:42:17.8±1.0, 34°.14N×25°.51E, h0km, mb3.8/13, mb1 3.9/20, mb1mx3.8/34, mbtmp3.8/20, ML4.0/6, MS2.4/1, Ms1 2.4/1, ms1mx2.1/51, Error ellipse: s-maj=22.1km s-min=15.9km az=175.0*

THE ***03*** *02:42:19.3, 34°.13N×25°.63E, h0km±1km, ML3.4/2, Error ellipse: s-maj=2.4km s-min=0.5km az=159.0*

ISCJB ***03*** *02:42:20.2±0.3, 34°.00N±0°.02×25°.66E±0°.03, h38km±5km, mb3.7/14, Error ellipse: s-maj=4.4km s-min=3.1km az=141.7*

HLW ***03*** *02:42:21.0, 34°.05N×25°.63E, h32km±24km, Md3.1, Ml3.5*

CSEM ***03*** *02:42:22.2±0.2, 34°.04N×25°.59E, h40km, MD3.8, Error ellipse: s-maj=6.3km s-min=3.8km az=43.0*

ATH ***03*** *02:42:22.7, 34°.30N×25°.49E, h25km±1km, MD3.8/13*

ISC 03 02:42:20.6±1.8, 34°.02N±0°.03×25°.64E±0°.03, h23km±14km, n126, σ1§24/143, mb3.8/14, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.14**	**354**	P		Pn		02 42 39.5	-1.8
LAST				S		**Sn**		**02 42 54.9**	**-1.5**
LAST	**Lasithi**	**1.14**	**354**	P		Pn		02 42 39.5	-1.8
LAST				S		**Sn**		**02 42 54.9**	**-1.5**
ZKR	**Zakros**	**1.19**	**24**	P		Pn		02 42 40.1	-1.8
ZKR				S		**Sn**		**02 42 56.6**	**-0.8**
SIVA	**Sivas**	**1.21**	**326**	P		Pn		02 42 40.1	-2.0
SIVA				S		**Sn**		**02 42 56.8**	**-0.9**
SIVA	**Sivas**	**1.21**	**326**	P		Pn		02 42 40.1	-2.0
SIVA				S		**Sn**		**02 42 56.8**	**-0.9**
NPS	**Neapolis**	**1.24**	**359**	P		Pn		02 42 40.5	-2.1
NPS				S		**Sn**		**02 42 57.3**	**-1.3**
NPS	**Neapolis**	**1.24**	**359**	*e*PN		Pn		02 42 41.0	-1.6
NPS	**Neapolis**	**1.24**	**359**	P		Pn		02 42 40.5	-2.1
NPS	**Neapolis**	**1.24**	**359**	*e*Pn		Pn		02 42 41.0	-1.6
NPS				S		**Sn**		**02 42 57.3**	**-1.3**
IDI	**Anoyia**	**1.41**	**334**	P		Pn		02 42 43.5	-1.4
IDI				S		**Sn**		**02 43 02.1**	**-0.7**
IDI	**Anoyia**	**1.41**	**334**	P		Pn		02 42 43.5	-1.4
IDI				S		**Sn**		**02 43 02.1**	**-0.7**
GVD	**Gavdhos**	**1.52**	**303**	P		**Pn**		**02 42 45.5**	**-0.9**
GVD				S		**Sn**		**02 43 06.0**	**+0.6**
GVD	**Gavdhos**	**1.52**	**303**	P		**Pn**		**02 42 45.5**	**-0.9**
GVD				S		**Sn**		**02 43 06.0**	**+0.6**
VAM	**Vamos**	**1.82**	**320**	P		**Pn**		**02 42 49.4**	**-1.1**
VAM				S		**Sn**		**02 43 13.0**	**+0.1**
VAM	**Vamos**	**1.82**	**320**	*e*PN		**Pn**		**02 42 50.1**	**-0.4**
VAM	**Vamos**	**1.82**	**320**	P		**Pn**		**02 42 49.4**	**-1.1**
VAM	**Vamos**	**1.82**	**320**	*e*Pn		**Pn**		**02 42 50.1**	**-0.4**
VAM				S		**Sn**		**02 43 13.0**	**+0.1**
KARP	**Karpathos**	**1.97**	**39**	*e*PN		**Pb**		**02 42 55.3**	**-0.6**
KARP	**Karpathos**	**1.97**	**39**	*e*Pn		**Pb**		**02 42 55.3**	**-0.6**
SLUM	baz=188	**2.55**	**188**	S		**Sn**		**02 43 30.1**	**-0.8**
SLUM		**2.55**	**188**	P		**Pn**		**02 43 00.0**	**-0.6**
SLUM				S		**Sn**		**02 43 30.1**	**-0.8**
ANKY	**Antikythira Is**	**2.66**	**314**	*e*PN		**Pn**		**02 43 02.6**	**+0.5**
ANKY	**Antikythira Is**	**2.66**	**314**	*e*Pn		**Pn**		**02 43 02.6**	**+0.5**
ARG	**Arkhangelos**	**2.99**	**42**	*e*PN		**Pn**		**02 43 09.4**	**+2.7**
ARG	**Arkhangelos**	**2.99**	**42**	*e*Pn		**Pn**		**02 43 09.4**	**+2.7**
APE	**Apeiranthos**	**3.04**	**358**	P		**Pn**		**02 43 06.5**	**-0.9**
APE				S		**Sn**		**02 43 42.7**	**-0.4**
APE	**Apeiranthos**	**3.04**	**358**	*e*PN		**Pn**		**02 43 07.6**	**+0.2**
APE	**Apeiranthos**	**3.04**	**358**	P		**Pn**		**02 43 06.5**	**-0.9**
APE	**Apeiranthos**	**3.04**	**358**	*e*Pn		**Pn**		**02 43 07.6**	**+0.2**
APE				S		**Sn**		**02 43 42.7**	**-0.4**
KYTH	**Kithira**	**3.10**	**317**	P		**Pn**		**02 43 08.4**	**+0.2**
KYTH	**Kithira**	**3.10**	**317**	*e*PN		**Pn**		**02 43 08.4**	**+0.2**
KYTH	**Kithira**	**3.10**	**317**	P		**Pn**		**02 43 07.1**	**-1.1**
KYTH	**Kithira**	**3.10**	**317**	*e*Pn		**Pn**		**02 43 08.4**	**+0.2**
HMAT	**Matruh**	**3.17**	**157**	P		**Pn**		**02 43 09.0**	**-0.1**
HMAT	baz=156			S		**Sn**		**02 43 44.9**	**-1.3**
HMAT	baz=156			P		**Pn**		**02 43 09.0**	**-0.1**
HMAT	**Matruh**	**3.17**	**157**	S		**Sn**		**02 43 44.9**	**-1.3**
HMAT				P		**Pn**		**02 43 12.4**	**-1.0**
VLI	**Veliai**	**3.48**	**321**	S		**Sn**		**02 43 53.5**	**-0.3**
VLI				*e*PN		**Pn**		**02 43 13.7**	**+0.3**
VLI	**Veliai**	**3.48**	**321**	P		**Pn**		**02 43 12.4**	**-1.0**
VLI	**Veliai**	**3.48**	**321**	*e*Pn		**Pn**		**02 43 13.7**	**+0.3**
VLI				S		**Sn**		**02 43 53.5**	**-0.3**
TURN	**Turunc**	**3.74**	**40**	*i* P		Pn		02 43 15.8	-1.1
TURN				*e*S		Sn		02 43 52.4	-7.8
TURN	**Turunc**	**3.74**	**40**	*i* P		**Pn**		**02 43 15.8**	**-1.1**
SMG	**Samos**	**3.81**	**15**	*e*PN		**Pn**		**02 43 19.6**	**+1.7**
SMG	**Samos**	**3.81**	**15**	*e*Pn		**Pn**		**02 43 19.6**	**+1.7**
DYR	**Agios Nikonas**	**3.84**	**316**	*e*PN		**Pn**		**02 43 19.8**	**+1.4**
DYR	**Agios Nikonas**	**3.84**	**316**	*e*Pn		**Pn**		**02 43 19.8**	**+1.4**
AKAS	**Kas**	**3.93**	**55**	*i* P		**Pn**		**02 43 20.4**	**+0.7**
AKAS				*e*S		Sn		02 43 59.9	-5.3
AKAS	**Kas**	**3.93**	**55**	*i* P		**Pn**		**02 43 20.4**	**+0.7**
DID	**Didima**	**3.99**	**331**	*e*PN		**Pn**		**02 43 20.8**	**+0.4**
DID				*e*SN		**Sn**		**02 44 03.5**	**-2.9**
DID	**Didima**	**3.99**	**331**	*e*Pn		**Pn**		**02 43 20.8**	**+0.4**
AYDN	**Tasoluk**	**4.06**	**26**	*i* P		**Pn**		**02 43 22.1**	**+0.6**
AYDN				*e*S		Sn		02 44 01.5	-6.9
AYDN	**Tasoluk**	**4.06**	**26**	*i* P		**Pn**		**02 43 22.1**	**+0.6**
VLX	**Vlachokerasia**	**4.26**	**323**	*e*PN		**Pn**		**02 43 24.7**	**+0.5**
VLX	**Vlachokerasia**	**4.26**	**323**	*e*Pn		**Pn**		**02 43 24.7**	**+0.5**
PYL	**PYLOS**	**4.28**	**313**	*e*PN		**Pn**		**02 43 26.2**	**+1.8**
PYL	**PYLOS**	**4.28**	**313**	*e*Pn		**Pn**		**02 43 26.2**	**+1.8**
GOLH	**Golhisar**	**4.53**	**44**	*i* P		**Pn**		**02 43 29.6**	**+1.7**
GOLH				*i* S		**Sn**		**02 44 20.8**	**+0.9**
GOLH	**Golhisar**	**4.53**	**44**	*i* P		**Pn**		**02 43 29.6**	**+1.7**
GOLH				*i* S		**Sn**		**02 44 20.8**	**+0.9**
LTK	**Loutraki**	**4.54**	**332**	*e*PN		**Pn**		**02 43 28.5**	**+0.5**
LTK	**Loutraki**	**4.54**	**332**	*e*Pn		**Pn**		**02 43 28.5**	**+0.5**
DNZL	**Cakiroluk**	**4.59**	**36**	*e*P		Pn		02 43 32.3	+3.5
DNZL				*e*S		**Sn**		**02 44 21.3**	**-0.2**
DNZL	**Cakiroluk**	**4.59**	**36**	*e*P		Pn		02 43 32.3	+3.5
DNZL				*e*S		**Sn**		**02 44 21.3**	**-0.2**
GUR	**Goura**	**4.73**	**327**	*e*PN		**Pn**		**02 43 31.7**	**+1.0**
GUR	**Goura**	**4.73**	**327**	*e*Pn		**Pn**		**02 43 31.7**	**+1.0**
AMT	**Artemida-Makis**	**4.74**	**319**	*e*PN		**Pn**		**02 43 31.8**	**+1.1**
AMT	**Artemida-Makis**	**4.74**	**319**	*e*Pn		**Pn**		**02 43 31.8**	**+1.1**
SWA2	baz=182	**4.77**	**182**	P		**Pn**		**02 43 30.8**	**-0.2**
SWA2				AMP				02 44 00.0	
	comp=N,90µm,0.4s,logA/T=5.4,baz=182								
KORT	**Korkueli**	**4.86**	**51**	*e*P		**Pn**		**02 43 33.1**	**+0.6**
KORT				*e*S		**Sn**		**02

NPS				*e*Sb		**Sn**	**02 46 07.7 +0.4**
IDI	**Anoyia**	**1.39**	**336**	*e*PB		**Pn**	**02 45 51.6 -0.6**
IDI				*e*SB		**Sg**	**02 46 11.3 +0.8**
IDI	**Anoyia**	**1.39**	**336**	*e*Pb		**Pn**	**02 45 51.6 -0.6**
IDI				*e*Sb		**Sg**	**02 46 11.3 +0.8**
VAM	**Vamos**	**1.80**	**321**	*e*PG		**Pb**	**02 45 58.1 -1.2**
VAM				*e*SN		**Sg**	**02 46 24.0 +0.5**
VAM	**Vamos**	**1.80**	**321**	*e*Pg		**Pb**	**02 45 58.1 -1.2**
VAM				*e*Sn		**Sg**	**02 46 24.0 +0.5**
APE	**Apeiranthos**	**3.04**	**359**	*e*PB		**Pn**	**02 46 17.0 +2.2**
APE	**Apeiranthos**	**3.04**	**359**	*e*Pb		**Pn**	**02 46 17.0 +2.2**
KYTH	**Kithira**	**3.08**	**318**	*e*PB		**Pn**	**02 46 16.7 +1.4**
KYTH	**Kithira**	**3.08**	**318**	*e*Pb		**Pn**	**02 46 16.7 +1.4**
VLI	**Veliai**	**3.46**	**322**	*e*PN		**Pn**	**02 46 21.3 +0.8**
VLI	**Veliai**	**3.46**	**322**	*e*Pn		**Pn**	**02 46 21.3 +0.8**
AKASG	**Malin Array Be**	**16.88**	**8**	Pn		**P**	**02 49 24.0 -1.1**
	0.9nm,0.3s,baz=199,slow=11,SNR=4.9						
GERES	**GERESS Array B**	**17.25**	**333**	P		**P**	**02 49 29.4 +0.1**
	0.1nm,0.3s,baz=146,slow=13,SNR=4.9						
TORD	**Torodi Ar. Bea**	**30.05**	**232**	P		**P**	**02 51 36.8 +0.5**
	0.4nm,0.9s,baz=37,slow=8.2,SNR=3.5						
MKAR	**Makanchi Array**	**44.11**	**56**	P		**P**	**02 53 35.4 +0.1**
	0.5nm,0.6s,baz=271,slow=5.7,SNR=5.5						

*BJI **03** 03:06:36.6, 53˚.80N × 131˚.40W, h7km, mb4.9/5*
*IDC **03** 03:06:39.5±0.7, 53˚.64N × 131˚.55W, h0km, mb4.0/3, mb1 3.7/9, mb1mx3.5/30, mbtmp3.5/9, ML3.5/6, MS3.0/4, Ms1 3.1/4, ms1mx2.5/50, Error ellipse: s-maj=10.9km s-min=7.6km az=55.0*
*ISCJB **03** 03:06:40.3±0.8, 53˚.81N±0˚.02 × 131˚.40W±0˚.04, h13km±6km, mb4.3/8, MS3.8/1, Error ellipse: s-maj=4.2km s-min=3.5km az=150.0*
*NEIC **03** 03:06:41.6, 53˚.80N × 131˚.40W, h7km, mb3.6/5, ML3.8(AEIC), ML4.0(PGC), After PGC.*
NEIC Felt at Masset, Queen Charlotte City and Sandspit.
*PGC **03** 03:06:41.6, 53˚.80N × 131˚.40W, h7km, ML4.0/6, 54km Ese of Masset, Bc Queen Charlotte Islands Region*

ISC 03 03:06:41.7±0.7, 53˚.78N±0˚.02 × 131˚.48W±0˚.03, h13km±4km, n62, σ1°68/79, mb4.0/8, 8D, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MASB	**Masset**	**0.40**	**306**	P	**Pb**	**03 06 49.6**	**-0.9**
MASB				S	**Sb**	**03 06 55.8**	**-0.8**
BNAB	**Bonilla**	**0.58**	**120**	⇓P	**Pg**	**03 06 52.0**	**-0.9**
BNAB				⇓S	**Sg**	**03 06 59.5**	**-1.0**
BNAB	**Bonilla**	**0.58**	**120**	P	**Pg**	**03 06 52.0**	**-0.9**
MOBC	**Moresby Island**	**0.70**	**205**	P	**Pb**	**03 06 54.8**	**-1.1**
MOBC				⇓S	**Sb**	**03 07 05.0**	**-0.4**
MOBC	**Moresby Island**	**0.70**	**205**	P	**Pb**	**03 06 55.1**	**-0.8**
MOBC				S	**Sb**	**03 07 05.2**	**-0.2**
DIB	**Dawson Inlet,**	**0.83**	**226**	⇓P	**Pb**	**03 06 57.2**	**-0.8**
DIB				⇓S	**Sb**	**03 07 08.8**	**-0.3**
DIB	**Dawson Inlet,**	**0.83**	**226**	P	**Pb**	**03 06 57.2**	**-0.8**
DIB				S	**Sb**	**03 07 08.8**	**-0.3**
DIB	**Dawson Inlet,**	**0.83**	**226**	Pn	**Pb**	**03 06 57.1**	**-0.8**
DIB				Sn	**Sb**	**03 07 08.8**	**-0.7**
NDB	**Naden**	**0.88**	**282**	⇑P	**Pg**	**03 06 57.5**	**-1.3**
NDB				⇑S	**Sn**	**03 07 10.8**	**-1.8**
NDB	**Naden**	**0.88**	**282**	P	**Pb**	**03 06 57.8**	**-1.1**
RUBB	**Prince Rupert**	**0.90**	**53**	⇓P	**Pg**	**03 06 57.2**	**-1.9**
RUBB				⇓S	**Sg**	**03 07 08.2**	**-2.7**
RUBB	**Prince Rupert**	**0.90**	**53**	P	**Pg**	**03 06 57.2**	**-1.9**
RUBB				S	**Sg**	**03 07 08.2**	**-2.7**
BNB	**Barry Inlet**	**1.22**	**188**	⇓P	**Pn**	**03 07 03.5**	**-1.0**
BNB				⇓S	**Sg**	**03 07 20.3**	**-0.7**
BNB	**Barry Inlet**	**1.22**	**188**	P	**Pn**	**03 07 03.7**	**-0.8**
BNB				S	**Sn**	**03 07 20.7**	**-0.2**
CRAG	**Craig**	**1.94**	**331**	P	**Pn**	**03 07 13.2**	**-1.2**
CRAG				S	**Sn**	**03 07 37.3**	**-1.3**
BBB	**Bella Bella**	**2.59**	**127**	P	**Pn**	**03 07 21.7**	**-1.5**
BBB				Pg	**Pb**	**03 07 25.3**	**-2.6**
BBB				S	**Sn**	**03 07 53.7**	**-0.8**
BBB				Lg	Lg	03 07 59.6	
BBB	**Bella Bella**	**2.59**	**127**	Pn	**Pn**	**03 07 21.7**	**-1.5**
	8.6nm,0.3s,baz=304,slow=13,SNR=132						
BBB				Pg	**Pb**	**03 07 25.3**	**-2.6**
	38nm,0.3s,baz=310,slow=16,SNR=62						
BBB				Lg	Lg	03 07 59.6	
	155nm,0.3s,baz=72,slow=20,SNR=16						
WRAK	**Wrangell Islan**	**2.69**	**350**	P	**Pn**	**03 07 23.6**	**-1.0**
SIT	**Sitka**	**3.95**	**328**	P	**Pn**	**03 07 41.1**	**-0.7**
DLBC	**Dease Lake**	**4.74**	**9**	Pn	**Pn**	**03 07 53.5**	**+0.7**
DLBC				Pg	**Pb**	**03 08 05.2**	**+0.7**
DLBC				Lg	Lg	03 09 07.3	
DLBC	**Dease Lake**	**4.74**	**9**	Pn	**Pn**	**03 07 53.5**	**+0.7**
	3.2nm,0.3s,baz=197,slow=13,SNR=42						
DLBC				Pg	**Pb**	**03 08 05.2**	**+0.7**
	5.6nm,0.3s,baz=195,slow=14,SNR=19						
DLBC				Lg	Lg	03 09 07.3	
	10nm,0.3s,baz=0.0,slow=20,SNR=8.8						
DLBC				LR	LR	03 09 40.0	
	comp=Z,137nm,18.6s,baz=330,slow=37						
BESE	**Bessie Mountai**	**5.16**	**340**	P	**Pn**	**03 07 57.6**	**-1.1**
SKAG	**Skagway**	**6.07**	**341**	*e*Pn	**Pn**	**03 08 12.5**	**+1.4**
SKAG				*e*Sn	**Sn**	**03 09 21.8**	**+1.4**
SKAG				*e*Sg	**Sg**	**03 09 50.9**	**-5.6**
WHY	**Whitehorse**	**7.14**	**346**	P	**Pn**	**03 08 25.7**	**-0.1**
PNL	**Peninsula**	**7.33**	**327**	*e*Pn	**Pn**	**03 08 26.4**	**-2.0**
PNL				*e*Sg	**Sg**	**03 10 32.1**	**-4.5**
NLWA	**Neilton Lookou**	**8.02**	**140**	Pn	**Pn**	**03 08 39.0**	**+1.1**
LON	**Longmire**	**9.37**	**135**	*e*Pn	**Pn**	**03 08 56.8**	**+0.4**
NEW	**Newport**	**10.59**	**116**	Lg	Lg	03 12 07.6	
	0.0nm,0.3s,baz=74,slow=8.2,SNR=8.8						
HAWA	**Hanford**	**10.65**	**129**	*e*Pn	**Pn**	**03 09 13.9**	**+0.1**
EGAK	**Eagle**	**12.06**	**340**	*e*Pn	**Pn**	**03 09 33.9**	**+0.8**
	1.8nm,0.6s						
YKA	**Yellowknife Ar**	**12.44**	**39**	Pn	**Pn**	**03 09 38.1**	**-0.1**
YKA				Lg	Lg	03 13 11.1	
YKA	**Yellowknife Ar**	**12.44**	**39**	Pn	**Pn**	**03 09 38.1**	**-0.1**
	0.1nm,0.3s,baz=227,slow=12,SNR=3.4						
YKA				Lg	Lg	03 13 11.1	
	0.1nm,0.3s,baz=232,slow=28,SNR=3.8						
HUMO	**Hull Mountain**	**12.53**	**150**	*e*Pn	**Pn**	**03 09 39.9**	**+0.3**
BMO	**Blue Mountains**	**12.84**	**128**	*e*Pn	**Pn**	**03 09 43.9**	**+0.1**
YBH	**Yreka Blue Hor**	**13.41**	**151**	*e*Pn	**Pn**	**03 09 51.8**	**+0.2**
YBH	**Yreka Blue Hor**	**13.41**	**151**	LR	LR	03 14 12.0	
	comp=Z,41nm,20.1s,baz=3.5,slow=34						
ILAR	**Eielson Array**	**13.49**	**331**	Pn	**Pn**	**03 09 54.3**	**+1.7**
ILAR				Lg	Lg	03 13 54.0	
ILAR	**Eielson Array**	**13.49**	**331**	Pn	**Pn**	**03 09 54.3**	**+1.7**
	0.0nm,0.3s,baz=144,slow=13,SNR=5.7						
ILAR				Lg	Lg	03 13 54.0	
	0.0nm,0.3s,baz=110,slow=25,SNR=4.2						
ILAR				LR	LR	03 14 39.7	
	comp=Z,31nm,19.8s,baz=78,slow=35						
MOD	**Modoc**	**14.03**	**143**	*e*Pn	**Pn**	**03 10 00.2**	**-0.1**
INK	**Inuvik**	**14.61**	**357**	Lg	Lg	03 14 28.4	
	0.1nm,0.3s,baz=94,slow=23,SNR=6.8						
CHGN	**Chignik**	**15.60**	**290**	*e*Pn	**Pn**	**03 10 21.2**	**+0.2**
COLD	**Coldfoot**	**16.22**	**333**	*e*Pn	**Pn**	**03 10 25.1**	**-3.9**
NVAR	**Mina Array Bea**	**17.82**	**144**	P	**Pn**	**03 10 47.2**	**-2.2**
NVAR	**Mina Array Bea**	**17.82**	**144**	P	**Pn**	**03 10 47.2**	**-2.2**
	0.1nm,0.3s,baz=15,slow=1.8,SNR=2.7						
BW06	**Boulder Array**	**18.20**	**118**	*e*P	**P**	**03 10 57.6**	**+3.2**
	2.4nm,0.9s						
PDAR	**Pinedale Array**	**18.20**	**118**	P	**Pn**	**03 10 52.7**	**-1.5**
PDAR	**Pinedale Array**	**18.20**	**118**	P	**Pn**	**03 10 52.7**	**-1.5**
	0.0nm,0.3s,baz=311,slow=10,SNR=2.5						
MVU	**Marysvale**	**20.19**	**131**	*e*P	Pn	03 11 22.4	+4.2
	3.5nm,1.3s						
SRU	**San Rafael**	**20.47**	**127**	*e*P	Pn	03 11 22.8	+1.4
	2.7nm,0.8s						
PHWY	**Pilot Hill**	**21.41**	**115**	*e*P	**P**	**03 11 31.4**	**+2.1**
	2.3nm,0.6s						
ECSD	**EROS Data Cent**	**24.85**	**100**	*e*P	**P**	**03 12 05.1**	**+1.5**
	2.4nm,0.7s						
SCHQ	**Schefferville**	**36.53**	**61**	P	**P**	**03 13 47.9**	**+1.3**
SCHQ	**Schefferville**	**36.53**	**61**	P	**P**	**03 13 47.9**	**+1.3**
	2.4nm,0.8s,baz=282,slow=9.0,SNR=3.7						
CN2	**Changchun**	**62.74**	**307**	*e*P	P	03 17 02.3	-3.9
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PPT	**Papeete**	**72.75**	**198**	LR	LR	03 43 21.2	
	comp=Z,53nm,20.7s,baz=292,slow=30						
MKAR	**Makanchi Array**	**75.77**	**337**	P	**P**	**03 18 27.5**	**+0.7**
MKAR	**Makanchi Array**	**75.77**	**337**	P	**P**	**03 18 27.5**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=33,slow=6.2,SNR=10						
AKTO	**Aktyubinsk**	**75.85**	**354**	P	**P**	**03 18 28.1**	**+0.8**
AKTO	**Aktyubinsk**	**75.85**	**354**	P	**P**	**03 18 28.1**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=0.0,slow=7.1,SNR=3.6						
WMQ	**Urumqi**	**77.15**	**332**	*e*P	**P**	**03 18 36.1**	**+1.3**
WMQ				pP	**pP**	**03 18 40.8**	**+1.9**
WMQ				sP	**sP**	**03 18 43.1**	**+2.6**
WMQ				PP	**PP**	**03 21 31.5**	**+3.7**
GYA	**Guiyang**	**85.65**	**310**	*e*P	**P**	**03 19 21.2**	**+1.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI	**Kunming**	**88.55**	**313**	P	**P**	**03 19 33.7**	**-0.7**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s						

*IDC **03** 03:22:50.8±0.8, 13˚.54N × 146˚.29E, h0km, mb4.0/13, mb1 4.2/13, mb1mx4.0/25, mbtmp4.0/13, Error ellipse: s-maj=27.4km s-min=18.5km az=90.0*
*ISCJB **03** 03:22:52.7±0.5, 13˚.52N±0˚.07 × 146˚.3E±0˚.1, h26km, mb4.1/18, Error ellipse: s-maj=16.2km s-min=9.9km az=177.0*
*NEIC **03** 03:22:52.7±6.8, 13˚.53N × 146˚.28E, h13km±41km, mb4.5/5, Error ellipse: s-maj=16.7km s-min=8.3km az=77.0*

ISC 03 03:22:54.8±0.6, 13˚.5N±0˚.1 × 146˚.3E±0˚.1, h26km, n41, σ0°90/43, mb4.2/18, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.37**	**273**	*e*Pn	**Pn**	**03 23 18.4**	**+0.1**
PMG	**Port Moresby**	**22.80**	**178**	*e*P	**P**	**03 27 55.6**	**-0.2**
	14nm,0.9s						
MJAR	**Matsushiro Arr**	**24.03**	**344**	P	**P**	**03 28 06.7**	**-1.1**
MJAR	**Matsushiro Arr**	**24.03**	**344**	P	**P**	**03 28 06.7**	**-1.1**
	0.7nm,0.6s,baz=169,slow=9.8,SNR=3.0						
KSRS	**Korea Array**	**28.91**	**329**	P	**P**	**03 28 51.5**	**-0.2**
	1.3nm,0.5s,baz=142,slow=10,SNR=10.0						
KSAR	**Wonju Array Be**	**28.92**	**329**	P	**P**	**03 28 51.5**	**-0.3**
WRAB	**Tennant Creek**	**35.26**	**200**	*e*P	**P**	**03 29 46.8**	**-0.7**
	5.7nm,0.8s						
WRA	**Warramunga Arr**	**35.27**	**200**	P	**P**	**03 29 46.6**	**-1.0**
WRA	**Warramunga Arr**	**35.27**	**200**	P	**P**	**03 29 46.6**	**-1.0**
	2.7nm,0.8s,baz=20,slow=9.5,SNR=7.2						
AS31	**Alice Springs**	**38.89**	**198**	*e*P	**P**	**03 30 17.8**	**-0.6**
ASAR	**Alice Springs**	**38.90**	**198**	P	**P**	**03 30 17.7**	**-0.7**
ASAR	**Alice Springs**	**38.90**	**198**	P	**P**	**03 30 17.7**	**-0.7**
	0.9nm,0.7s,baz=22,slow=8.4,SNR=10						
CMAR	**Chiang Mai Arr**	**45.67**	**283**	P	**P**	**03 31 15.1**	**+1.3**
CMAR	**Chiang Mai Arr**	**45.67**	**283**	P	**P**	**03 31 15.1**	**+1.3**
	1.8nm,0.4s,baz=92,slow=6.3,SNR=8.5						
SONM	**Songino Array**	**47.58**	**324**	P	**P**	**03 31 28.4**	**-0.1**
SONM				PcP	**PcP**	**03 32 59.9**	**+1.8**
SONM	**Songino Array**	**47.58**	**324**	P	**P**	**03 31 28.4**	**-0.1**
	1.1nm,0.7s,baz=115,slow=6.5,SNR=3.5						
SONM				PcP	**PcP**	**03 32 59.9**	**+1.8**
	1.4nm,0.9s,baz=126,slow=2.0,SNR=3.5						
ZAA0	**Zalesovo Array**	**62.47**	**324**	*e*P	**P**	**03 33 15.2**	**-0.7**
ZALV	**Zalesovo Beam**	**62.47**	**324**	P	**P**	**03 33 15.3**	**-0.6**
ZALV	**Zalesovo Beam**	**62.47**	**324**	P	**P**	**03 33 15.3**	**-0.6**
	2.2nm,0.6s,baz=105,slow=6.4,SNR=7.2						
MK31	**Makanchi Array**	**62.49**	**316**	*e*P	**P**	**03 33 16.1**	**0.0**
MKAR	**Makanchi Array**	**62.49**	**316**	P	**P**	**03 33 15.9**	**-0.2**
MKAR	**Makanchi Array**	**62.49**	**316**	P	**P**	**03 33 15.9**	**-0.2**
	1.5nm,0.7s,baz=95,slow=7.9,SNR=15						
ILAR	**Eielson Array**	**68.04**	**25**	P	**P**	**03 33 50.6**	**-1.1**
ILAR	**Eielson Array**	**68.04**	**25**	P	**P**	**03 33 50.6**	**-1.1**
	0.3nm,0.6s,baz=254,slow=5.3,SNR=5.7						
BRVK	**Borovoye**	**70.89**	**322**	*e*P	**P**	**03 34 08.8**	**-0.7**
	2.0nm,0.6s						
ABKAR	**Akbulak array**	**77.51**	**318**	*e*P	**P**	**03 34 47.4**	**-0.8**
	2.2nm,0.8s						
YKA	**Yellowknife Ar**	**82.28**	**28**	P	**P**	**03 35 13.7**	**-0.1**
YKA	**Yellowknife Ar**	**82.28**	**28**	P	**P**	**03 35 13.7**	**-0.1**
	0.4nm,0.5s,baz=283,slow=5.7,SNR=2.6						
NVAR	**Mina Array Bea**	**85.89**	**52**	P	**P**	**03 35 34.5**	**+1.5**
NVAR	**Mina Array Bea**	**85.89**	**52**	P	**P**	**03 35 34.5**	**+1.5**
	0.6nm,0.7s,baz=284,slow=4.5,SNR=4.2						
BSMT	**Basoo Peak**	**85.98**	**42**	*e*P	**P**	**03 35 34.1**	**+0.9**
	2.9nm,0.8s						
ARCES	**ARCESS Array B**	**87.56**	**342**	P	**P**	**03 35 40.0**	**-0.3**
ARCES	**ARCESS Array B**	**87.56**	**342**	P	**P**	**03 35 40.0**	**-0.3**
	1.3nm,0.6s,baz=36,slow=7.9,SNR=4.6						
FINES	**FINESS Array B**	**91.79**	**335**	P	**P**	**03 35 58.8**	**-1.4**
FINES	**FINESS Array B**	**91.79**	**335**	P	**P**	**03 35 58.8**	**-1.4**
	0.9nm,0.6s,baz=73,slow=4.8,SNR=4.5						
TORD	**Torodi Ar. Bea**	**136.02**	**306**	PKP	**PKPdf**	**03 42 15.3**	**+0.7**
TORD	**Torodi Ar. Bea**	**136.02**	**306**	PKP	**PKPdf**	**03 42 15.3**	**+0.7**
	0.5nm,1.0s,baz=48,slow=2.1,SNR=3.4						
DBIC	**Dimbokro**	**145.01**	**303**	PKPbc	**PKPdf**	**03 42 31.2**	**+0.4**
DBIC	**Dimbokro**	**145.01**	**303**	PKPbc	**PKPdf**	**03 42 31.2**	**+0.4**
	4.0nm,0.9s,baz=90,slow=3.0,SNR=3.4						
LPAZ	**La Paz**	**146.66**	**99**	PKPbc	**PKPab**	**03 42 36.7**	**-0.4**
LPAZ	**La Paz**	**146.66**	**99**	PKPbc	**PKPab**	**03 42 36.7**	**-0.4**
	1.0nm,0.6s,baz=289,slow=3.1,SNR=4.6						

IDC 03 03:25:19.9±5.8, 24˚.53N × 109˚.03W, h0km, mb3.6/3, mb1 4.0/7, mb1mx3.7/26, mbtmp3.7/7, ML3.5/4, MS3.7/15, Ms1 3.6/15, ms1mx3.5/37, Error ellipse: s-maj=87.6km s-min=63.7km az=5.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANMO	**Albuquerque**	**10.62**	**12**	Pn	Pn	03 27 55.2	+1.6
	0.1nm,0.3s,baz=203,slow=13,SNR=11						
ANMO				Lg	Lg	03 30 49.2	
	0.1nm,0.3s,baz=99,slow=19,SNR=3.4						
ANMO				LR	LR	03 31 24.3	
	comp=Z,437nm,21.1s,baz=196,slow=34						
PFO	**Pinyon Flat Ob**	**11.13**	**326**	Pn	Pn	03 28 03.0	+2.4
	0.2nm,0.3s,baz=141,slow=14,SNR=3.7						
PFO				LR	LR	03 32 25.9	
	comp=Z,368nm,18.2s,baz=256,slow=38						
NVAR	**Mina Array Bea**	**15.94**	**333**	Pn	P	03 29 08.3	-1.4
	0.1nm,0.3s,baz=156,slow=12,SNR=7.3						
NVAR				LR	LR	03 34 32.8	
	comp=Z,106nm,18.9s,baz=120,slow=35						
PDAR	**Pinedale Array**	**18.20**	**359**	P	Pn	03 29 33.2	-1.1
	0.1nm,0.3s,baz=171,slow=10,SNR=14						
PDAR				LR	LR	03 36 25.0	
	comp=Z,336nm,20.9s,baz=177,slow=36						
TKL	**Tuckaleechee C**	**24.44**	**57**	LR	LR	03 40 38.0	
	comp=Z,205nm,18.5s,baz=86,slow=38						
NEW	**Newport**	**24.54**	**347**	P	P	03 30 40.2	-1.1
	3.0nm,0.9s,baz=172,slow=13,SNR=7.3						
NEW				LR	LR	03 40 55.3	
	comp=Z,136nm,18.1s,baz=59,slow=38						
ULM	**Lac du Bonnet**	**27.64**	**18**	LR	LR	03 41 44.2	
	comp=Z,116nm,21.4s,baz=166,slow=36						
SADO	**Sadowa**	**31.54**	**43**	LR	LR	03 44 07.5	
	comp=Z,169nm,19.5s,baz=340,slow=36						
YKA	**Yellowknife Ar**	**38.14**	**356**	P	P	03 32 40.3	-0.3
	0.3nm,0.7s,baz=171,slow=8.1,SNR=2.8						
YKA				LR	LR	03 48 38.0	
	comp=Z,26nm,19.1s,baz=300,slow=37						
ROSC	**El Rosal**	**38.66**	**115**	LR	LR	03 47 07.9	
	comp=Z,96nm,21.9s,baz=331,slow=34						
SCHQ	**Schefferville**	**43.35**	**34**	LR	LR	03 52 23.6	
	comp=Z,150nm,18.9s,baz=32,slow=37						
ILAR	**Eielson Array**	**47.06**	**339**	P	P	03 33 53.8	+0.7
	1.1nm,0.9s,baz=153,slow=7.5,SNR=9.5						
ILAR				LR	LR	03 53 26.9	
	comp=Z,62nm,19.5s,baz=73,slow=36						
BDFB	**Brasilia**	**71.66**	**117**	LR	LR	04 07 57.5	
	comp=Z,73nm,19.4s,baz=353,slow=36						
AFI	**Afiamalu**	**72.16**	**245**	LR	LR	04 02 23.0	
	comp=Z,79nm,18.7s,baz=78,slow=31						
PETK	**Petropavlovsk-**	**72.66**	**321**	LR	LR	04 01 50.9	
	comp=Z,32nm,21.6s,baz=118,slow=30						

FUNV 03 03:28:30.2, 9˚.08N × 73˚.22W, h64km, MW3.6, 3C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.50**	**143**	⇑*i*P	Pn	03 28 54.9	-0.4
CAPV				*e*S	Sn	03 29 12.6	-1.5
VIGV	**El Vigia**	**1.84**	**97**	⇓*e*P	Pn	03 29 00.0	+0.3
VIGV				*e*S	Sn	03 29 20.4	-1.6
SOCV	**Socops**	**2.46**	**108**	⇑*e*P	Pn	03 29 07.9	-0.2
SOCV				*e*S	Sn	03 29 34.3	-2.8
QARV	**Quebrada Arrib**	**2.88**	**67**	*e*P	Pn	03 29 13.3	-0.6
QARV				*e*S	Sn	03 29 44.8	-2.7
DABV	**Dabajuro**	**3.13**	**54**	*e*P	Pn	03 29 15.6	-1.6
DABV				*e*S	Sn	03 29 49.8	-3.7
CURV	**Curarigua**	**3.34**	**74**	*e*P	Pn	03 29 18.7	-1.5
CURV				*e*S	Sn	03 29 55.7	-3.1
SANV	**Sanarito**	**3.66**	**83**	*e*P	Pn	03 29 23.2	-1.4
SANV				*e*S	Sn	03 30 02.8	-3.8
SIQV	**Siquisique**	**3.71**	**65**	*e*S	Sn	03 30 03.9	-3.7
ELOV	**Elorza**	**4.23**	**119**	⇑*e*P	Pn	03 29 30.7	-1.6
ELOV				*e*S	Sn	03 30 15.7	-4.7
MONV	**Montecano**	**4.29**	**48**	*e*S	Sn	03 30 17.1	-4.7

IDC 03 03:28:37.6±2.5, 23˚.80S × 175˚.31W, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.1/19, mbtmp4.0/9, Error ellipse: s-maj=93.4km s-min=27.3km az=150.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.90**	**272**	*e*LR	LR	03 36 39.7	
	108nm,24.2s						
TBI	**Tubuai**	**23.69**	**94**	*e*LR	LR	03 39 21.8	
	126nm,23.5s						
PPT2	**Papeete2**	**24.83**	**80**	*e*LR	LR	03 39 55.9	
	109nm,22.2s						
CTA	**Charters Tower**	**35.77**	**268**	P	P	03 35 39.0	+0.3
	2.1nm,0.4s,baz=90,slow=8.1,SNR=4.1						
ASAR	**Alice Springs**	**46.28**	**259**	P	P	03 37 05.5	+0.2
	1.2nm,0.9s,baz=93,slow=7.9,SNR=7.0						
WRA	**Warramunga Arr**	**46.70**	**265**	P	P	03 37 07.2	-1.4
	0.6nm,0.3s,baz=100,slow=8.4,SNR=4.8						
PETK	**Petropavlovsk-**	**80.10**	**344**	P	P	03 40 50.0	+1.0
	3.0nm,0.9s,baz=134,slow=8.5,SNR=4.0						
KSRS	**Korea Array**	**81.00**	**318**	P	P	03 40 52.9	-1.3
	0.3nm,0.3s,baz=126,slow=6.2,SNR=4.0						
NVAR	**Mina Array Bea**	**81.76**	**42**	P	P	03 40 57.9	-0.6
	0.2nm,0.3s,baz=241,slow=7.0,SNR=3.5						
USRK	**Ussuriysk Arra**	**83.08**	**325**	P	P	03 41 04.6	-0.3
	2.4nm,0.8s,baz=116,slow=4.5,SNR=5.1						
ILAR	**Eielson Array**	**90.99**	**12**	P	P	03 41 43.5	+0.5
	0.1nm,0.6s,baz=211,slow=6.3,SNR=4.2						
CMAR	**Chiang Mai Arr**	**93.55**	**288**	P	P	03 41 57.5	+1.6
	1.1nm,0.3s,baz=110,slow=4.4,SNR=6.5						
BRTR	**Keskin Array B**	**150.88**	**310**	PKPbc	PKPbc	03 48 32.0	-0.5
	0.6nm,0.8s,baz=130,slow=2.3,SNR=3.9						

CASC 03 03:39:56.8±2.5, 10˚.44N × 83˚.13W, h12km±12km, MD3.9, 3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URSC	**Urasca**	**0.88**	**227**	⇓*e*P	Pg	03 40 13.1	-1.0
SJS	**Escuela Geolog**	**1.04**	**241**	*e*P	Pb	03 40 16.1	-0.9
BUS	**Buena Vista**	**1.08**	**215**	⇓*e*P	Pb	03 40 16.6	-1.4
BUS				*e*S	Sb	03 40 32.5	0.0
CGA2	**Cerro Gallo 2**	**1.39**	**252**	*e*P	Pn	03 40 21.1	-1.0
CGA2				*e*S	Sn	03 40 38.6	-1.9
QCR	**Quepos**	**1.44**	**225**	⇓*e*P	Pn	03 40 22.2	-0.5
QCR				*e*S	Sb	03 40 42.2	+0.4
BRU2	**Volcan**	**1.69**	**165**	*e*S	Sn	03 40 48.1	-0.1
TBS2		**1.70**	**164**	*e*S	Sn	03 40 47.6	-0.9
ACR	**Cerro Adams**	**1.78**	**181**	*e*P	Pn	03 40 27.9	+0.4
ACR				*e*S	Sb	03 40 52.3	+0.5
JCR	**Jicaral**	**2.04**	**253**	*e*P	Pn	03 40 31.4	+0.3
BCIP	**Isla Barro Col**	**3.48**	**111**	*e*P	Pg	03 41 23.3	+20

*IDC **03** 03:41:14.6±1.1, 34˚.11N × 25˚.31E, h0km, mb3

PGF	**Pioggiola**	**15.43**	**308**	*eP*		**Pn**	**03 44 54.2**	**-0.1**
	28nm,1.1s								
KBZ	**Khabaz**	**16.66**	**49**	Pn		**Pn**	**03 45 12.0**	**+2.0**
	0.1nm,0.3s,baz=252,slow=6.7,SNR=5.3								
AKASG	**Malin Array Be**	**16.88**	**8**	Pn		**Pn**	**03 45 13.1**	**+0.3**
	2.1nm,0.3s,baz=202,slow=10,SNR=15								
GERES	**GERESS Array B**	**17.18**	**333**	P		**Pn**	**03 45 16.3**	**-0.3**
	0.5nm,0.3s,baz=145,slow=12,SNR=21								
LPG	**La Plagne**	**18.32**	**314**	*eP*		**Pn**	**03 45 30.9**	**0.0**
LPG	**La Plagne**	**18.32**	**314**	*eP*		**Pn**	**03 45 30.9**	**0.0**
LPL	**La Plagne**	**18.34**	**314**	*eP*		**Pn**	**03 45 31.3**	**+0.2**
	2.6nm,0.6s								
LPL	**La Plagne**	**18.34**	**314**	*eP*		**Pn**	**03 45 31.3**	**+0.2**
	2.0nm,0.6s								
HINF	**Hinteralfeld**	**19.59**	**320**	*eP*		**P**	**03 45 44.3**	**-0.4**
	3.6nm,0.6s								
HINF	**Hinteralfeld**	**19.59**	**320**	*eP*		**P**	**03 45 44.3**	**-0.4**
	3.0nm,0.6s								
LOR	**Lormes**	**20.95**	**316**	*eP*		**P**	**03 45 59.2**	**-0.2**
	6.4nm,0.8s								
LOR	**Lormes**	**20.95**	**316**	*eP*		**P**	**03 45 59.2**	**-0.2**
	6.0nm,0.8s								
CAF	**Calviac**	**20.99**	**308**	*eP*		**P**	**03 46 00.3**	**+0.4**
CAF	**Calviac**	**20.99**	**308**	*eP*		**P**	**03 46 00.3**	**+0.4**
AVF	**Avril sur Loir**	**21.01**	**314**	*eP*		**P**	**03 45 59.5**	**-0.5**
AVF	**Avril sur Loir**	**21.01**	**314**	*eP*		**P**	**03 45 59.5**	**-0.5**
BGF	**Bois d'Agland**	**21.20**	**313**	*eP*		**P**	**03 46 02.3**	**+0.2**
	11nm,0.7s								
BGF	**Bois d'Agland**	**21.20**	**313**	*eP*		**P**	**03 46 02.3**	**+0.2**
	11nm,0.7s								
TCF	**Toulx Ste Croi**	**21.47**	**312**	*eP*		**P**	**03 46 04.6**	**-0.4**
	9.2nm,1.0s								
TCF	**Toulx Ste Croi**	**21.47**	**312**	*eP*		**P**	**03 46 04.6**	**-0.4**
	9.0nm,1.0s								
BAIF	**Baives**	**22.34**	**322**	*eP*		**P**	**03 46 13.7**	**-0.7**
	6.1nm,0.6s								
BAIF	**Baives**	**22.34**	**322**	*eP*		**P**	**03 46 13.7**	**-0.7**
	6.0nm,0.6s								
MFF	**Saint Martin d**	**23.07**	**311**	*eP*		**P**	**03 46 22.4**	**+0.3**
	7.1nm,0.8s								
MFF	**Saint Martin d**	**23.07**	**311**	*eP*		**P**	**03 46 22.4**	**+0.3**
	7.0nm,0.8s								
LDF	**La Druitiere**	**23.93**	**315**	*eP*		**P**	**03 46 29.8**	**-0.8**
LDF	**La Druitiere**	**23.93**	**315**	*eP*		**P**	**03 46 29.8**	**-0.8**
ESDC	**Sonseca Array**	**24.12**	**292**	P		**P**	**03 46 32.0**	**-0.5**
	0.4nm,0.4s,baz=82,slow=9.6,SNR=8.4								
FLN	**La Foliniere**	**24.22**	**315**	*eP*		**P**	**03 46 32.7**	**-0.6**
	8.1nm,0.7s								
FLN	**La Foliniere**	**24.22**	**315**	*eP*		**P**	**03 46 32.7**	**-0.6**
	8.0nm,0.7s								
GRR	**Gorron**	**24.27**	**314**	*eP*		**P**	**03 46 31.4**	**-2.3**
GRR	**Gorron**	**24.27**	**314**	*eP*		**P**	**03 46 31.4**	**-2.3**
QUIF	**Quistinic**	**25.48**	**312**	*eP*		**P**	**03 46 43.9**	**-0.8**
QUIF	**Quistinic**	**25.48**	**312**	*eP*		**P**	**03 46 43.9**	**-0.8**
ROSF	**Rostrenen**	**25.71**	**312**	*eP*		**P**	**03 46 46.0**	**-0.8**
ROSF	**Rostrenen**	**25.71**	**312**	*eP*		**P**	**03 46 46.0**	**-0.8**
HFS	**Hagfors**	**27.22**	**347**	P		**P**	**03 46 58.7**	**-1.6**
	0.9nm,0.6s,baz=150,slow=12,SNR=5.7								
FINES	**FINESS Array B**	**27.43**	**1**	P		**P**	**03 46 59.3**	**-2.7**
	1.5nm,0.9s,baz=173,slow=12,SNR=3.9								
NOA	**NORSAR Array B**	**28.54**	**346**	P		P	03 47 10.0	-2.1
	0.5nm,0.7s,baz=149,slow=8.6,SNR=3.5								
EKA	**Eskdalemuir Ar**	**29.09**	**326**	P		P	03 47 15.1	-1.9
	0.7nm,0.6s,baz=133,slow=10.0,SNR=5.7								
TORD	**Torodi Ar. Bea**	**29.95**	**232**	P		P	03 47 24.4	-0.7
	0.5nm,0.7s,baz=34,slow=9.0,SNR=7.8								
MKAR	**Makanchi Array**	**44.22**	**56**	P		**P**	**03 49 26.4**	**+0.7**
	1.5nm,0.5s,baz=278,slow=6.9,SNR=24								
SCHQ	**Schefferville**	**64.19**	**320**	P		**P**	**03 51 50.3**	**-0.8**
	1.1nm,0.5s,baz=55,slow=8.0,SNR=4.0								
ILAR	**Eielson Array**	**81.33**	**357**	P		**P**	**03 53 32.4**	**-0.4**
	0.3nm,0.6s,baz=357,slow=3.6,SNR=5.3								

ROM 03 03:49:28.5±0.1, 42.58N×13.21E, h11km, Md1.3/3, Ml0.8/1, Error ellipse: s-maj=1.8km s-min=0.5km az=166.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNSS	**Leonessa**	**0.12**	**280**	Pg	Pg	03 49 31.9	+0.2
LNSS				Sg	Sg	03 49 34.6	+0.7
	25nm,0.2s						
NRCA	**Norcia**	**0.26**	**345**	Pg	Pg	03 49 34.4	+0.4
NRCA				Sg	Sg	03 49 38.8	+1.1

CASC 03 03:55:10.9±1.2, 7.63N×82.60W, h6km±26km, MD3.5, 1C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBS2		**1.16**	**357**	*eP*	Pg	03 55 32.8	-0.5
TBS2				*eS*	Sg	03 55 48.0	-0.5
BRU2	**Volcan**	**1.16**	**355**	*eP*	Pg	03 55 31.6	-1.8
BRU2				*eS*	Sb	03 55 49.0	0.0
ACR	**Cerro Adams**	**1.16**	**331**	*eP*	Pg	03 55 32.1	-1.3
BUS	**Buena Vista**	**2.23**	**329**	*eP*	Pn	03 55 48.6	-0.3
BUS				*eS*	Sn	03 56 18.0	+0.7
QCR	**Quepos**	**2.36**	**319**	*eP*	Pn	03 55 49.7	-0.5
URSC	**Urasca**	**2.48**	**332**	*eP*	Pn	03 55 52.3	+0.3
URSC				*eS*	Sn	03 56 23.7	+0.8

ISCJB ***03*** *04:16:43.1±0.8,34.01N±0.02×25.65E±0.02,h11km±5km, mb4.3/85,MS4.1/4,Error ellipse: s-maj=3.0km s-min=2.3km az=22.7*

IDC ***03*** *04:16:43.4±0.6,34.09N×25.57E,h0km,mb4.2/25, mb1 4.3/35,mb1mx4.3/41,mbtmp4.2/35,ML3.9/7,MS3.9/1, Ms1 3.9/1,ms1mx2.9/33,Error ellipse: s-maj=15.4km s-min=11.5km az=174.0*

BJI ***03*** *04:16:45.1,34.00N×25.60E,h25km, mB5.0/7,mb4.7/11, Ms4.8/4,Ms7 4.3/4*

CSEM ***03*** *04:16:45.4±0.1,34.02N×25.60E,h15km,mb4.3/65,Error ellipse: s-maj=3.5km s-min=2.4km az=29.0*

MOS ***03*** *04:16:46.4±1.1,34.10N×25.56E,h29km,mb4.4/30,Error ellipse: s-maj=8.0km s-min=4.3km az=98.2*

NEIC ***03*** *04:16:46.5±1.3,34.03N×25.60E,h21km±9km,mb4.3/24, ML3.9(ISK),Error ellipse: s-maj=6.3km s-min=3.9km az=193.0*

THE ***03*** *04:16:47.5,34.20N×25.52E,h0km,ML3.6/2,Error ellipse: s-maj=1.4km s-min=0.4km az=170.0*

ATH ***03*** *04:16:49.5,34.37N×25.48E,h29km±5km*

ISC 03 04:16:47.3±0.5, 34.06N±0.03×25.60E±0.03, h26km±3km, h26km:pP-P,n612,σ1§08/624,mb4.3/85,MS4.1/4,4C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**1.11**	**355**	P	Pn	**04 17 05.9**	**-1.3**
LAST				S	Sn	**04 17 20.7**	**-1.0**
LAST	**Lasithi**	**1.11**	**355**	*ePN*	Pn	**04 17 05.1**	**-2.1**
LAST	**Lasithi**	**1.11**	**355**	*ePn*	Pn	**04 17 05.1**	**-2.1**
LAST	**Lasithi**	**1.11**	**355**	*ePn*	Pn	**04 17 05.1**	**-2.1**
LAST	**Lasithi**	**1.11**	**355**	P	Pn	**04 17 05.9**	**-1.3**
LAST				S	Sn	**04 17 20.7**	**-1.0**
SIVA	**Sivas**	**1.16**	**326**	P	Pn	**04 17 06.6**	**-1.3**
SIVA				S	Sn	**04 17 21.7**	**-1.2**
SIVA	**Sivas**	**1.16**	**326**	*ePN*	Pn	**04 17 05.6**	**-2.3**
SIVA	**Sivas**	**1.16**	**326**	*ePn*	Pn	**04 17 05.6**	**-2.3**
SIVA	**Sivas**	**1.16**	**326**	*ePn*	Pn	**04 17 05.6**	**-2.3**
SIVA	**Sivas**	**1.16**	**326**	P	Pn	**04 17 06.6**	**-1.3**
SIVA				S	Sn	**04 17 21.7**	**-1.2**
ZKR	**Zakros**	**1.17**	**25**	P	Pn	**04 17 07.7**	**-0.3**
ZKR				S	Sb	**04 17 23.9**	**+0.2**
ZKR	**Zakros**	**1.17**	**25**	*ePB*	Pn	**04 17 06.9**	**-1.1**
ZKR	**Zakros**	**1.17**	**25**	*ePb*	Pn	**04 17 06.9**	**-1.1**
ZKR	**Zakros**	**1.17**	**25**	P	Pn	**04 17 07.7**	**-0.3**
ZKR				S	Sb	**04 17 23.9**	**+0.2**
NPS	**Neapolis**	**1.20**	**0**	P	Pn	**04 17 07.5**	**-1.0**
NPS				S	Sn	**04 17 23.1**	**-0.9**
NPS	**Neapolis**	**1.20**	**0**	*eP*	Pn	**04 17 06.9**	**-1.6**
NPS	**Neapolis**	**1.20**	**0**	*ePN*	Pn	**04 17 06.9**	**-1.6**
NPS	**Neapolis**	**1.20**	**0**	*ePn*	Pn	**04 17 06.9**	**-1.6**
NPS	**Neapolis**	**1.20**	**0**	*ePn*	Pn	**04 17 06.9**	**-1.6**
NPS	**Neapolis**	**1.20**	**0**	P	Pn	**04 17 07.5**	**-1.0**
NPS				S	Sn	**04 17 23.1**	**-0.9**
IDI	**Anoyia**	**1.36**	**335**	P	Pn	**04 17 10.0**	**-0.7**
IDI				S	Sn	**04 17 27.1**	**-0.9**
IDI	**Anoyia**	**1.36**	**335**	*ePN*	Pn	**04 17 09.3**	**-1.4**
IDI	**Anoyia**	**1.36**	**335**	*ePn*	Pn	**04 17 09.3**	**-1.4**
IDI	**Anoyia**	**1.36**	**335**	*ePn*	Pn	**04 17 09.3**	**-1.4**
IDI	**Anoyia**	**1.36**	**335**	P	Pn	**04 17 10.0**	**-0.7**
IDI				S	Sn	**04 17 27.1**	**-0.9**
GVD	**Gavdhos**	**1.48**	**302**	P	Pn	**04 17 12.0**	**-0.2**
GVD				S	Sn	**04 17 31.0**	**+0.3**
GVD	**Gavdhos**	**1.48**	**302**	*ePB*	Pn	**04 17 11.4**	**-0.8**
GVD	**Gavdhos**	**1.48**	**302**	*ePn*	Pn	**04 17 10.8**	**-1.4**
GVD	**Gavdhos**	**1.48**	**302**	*ePn*	Pn	**04 17 10.8**	**-1.4**
GVD	**Gavdhos**	**1.48**	**302**	*ePb*	Pn	**04 17 11.4**	**-0.8**
GVD	**Gavdhos**	**1.48**	**302**	P	Pn	**04 17 12.0**	**-0.2**
GVD				S	Sn	**04 17 31.0**	**+0.3**
VAM	**Vamos**	**1.77**	**320**	P	Pn	**04 17 15.8**	**-0.5**
VAM				S	Sn	**04 17 38.0**	**-0.1**
VAM	**Vamos**	**1.77**	**320**	*ePN*	Pn	**04 17 15.8**	**-0.5**
VAM	**Vamos**	**1.77**	**320**	P	Pn	**04 17 15.8**	**-0.5**
VAM				S	Sn	**04 17 38.0**	**-0.1**
KARP	**Karpathos**	**1.96**	**40**	P	Pn	**04 17 19.8**	**+0.8**
KARP				S	Sb	**04 17 45.1**	**-1.4**
KARP	**Karpathos**	**1.96**	**40**	*ePN*	Pb	**04 17 21.6**	**-0.8**
KARP	**Karpathos**	**1.96**	**40**	P	Pn	**04 17 19.8**	**+0.8**
KARP	**Karpathos**	**1.96**	**40**	*ePn*	Pb	**04 17 21.6**	**-0.8**
KARP				S	Sb	**04 17 45.1**	**-1.4**
SANT	**Santorini**	**2.31**	**357**	P	Pn	**04 17 23.2**	**-0.6**
SANT	**Santorini**	**2.31**	**357**	*ePn*	Pn	**04 17 25.3**	**+1.6**
SANT	**Santorini**	**2.31**	**357**	P	Pn	**04 17 23.2**	**-0.6**
SANT	**Santorini**	**2.31**	**357**	*ePn*	Pn	**04 17 25.3**	**+1.6**
LTBQ	**Tobrug**	**2.44**	**216**	*iP*	Pn	**04 17 24.8**	**-0.8**
	SNR=35						
SLUM		**2.58**	**187**	P	Pn	**04 17 26.1**	**-1.3**
ANKY	**Antikythira Is**	**2.62**	**314**	*ePB*	Pn	**04 17 29.3**	**+1.4**
ANKY	**Antikythira Is**	**2.62**	**314**	*ePb*	Pn	**04 17 29.3**	**+1.4**
APE	**Apeiranthos**	**3.01**	**359**	*ePN*	Pn	**04 17 31.8**	**-1.5**
APE				*eSN*	Sn	**04 18 07.9**	**-0.6**
APE	**Apeiranthos**	**3.01**	**359**	P	Pn	**04 17 33.6**	**+0.3**
APE				S	Sn	**04 18 08.8**	**+0.3**
APE	**Apeiranthos**	**3.01**	**359**	P	Pn	**04 17 33.6**	**+0.3**
APE				S	Sn	**04 18 08.8**	**+0.3**
KYTH	**Kithira**	**3.06**	**317**	P	Pn	**04 17 33.8**	**-0.2**
KYTH	**Kithira**	**3.06**	**317**	*ePN*	Pn	**04 17 35.0**	**+1.0**
KYTH	**Kithira**	**3.06**	**317**	P	Pn	**04 17 33.8**	**-0.2**
KYTH	**Kithira**	**3.06**	**317**	*ePn*	Pn	**04 17 35.0**	**+1.0**
DAT	**Datca**	**3.12**	**31**	*ePn*	Pn	**04 17 33.3**	**-1.6**
DAT				*eSN*	Sn	**04 18 10.8**	**-0.5**
HMAT	**Matruh**	**3.21**	**156**	P	Pn	**04 17 35.4**	**-0.7**
HMAT				S	Sn	**04 18 12.7**	**-0.8**
BODT	**Bodrum**	**3.31**	**24**	*ePN*	Pn	**04 17 35.9**	**-1.5**
VLI	**Veliai**	**3.43**	**321**	P	Pn	**04 17 38.9**	**-0.3**
VLI				S	Sn	**04 18 19.0**	**0.0**
VLI	**Veliai**	**3.43**	**321**	*ePN*	Pn	**04 17 38.7**	**-0.5**
VLI	**Veliai**	**3.43**	**321**	*ePn*	Pn	**04 17 38.7**	**-0.5**
VLI				S	Sn	**04 18 19.0**	**0.0**
MLSB	**Milas**	**3.68**	**28**	*ePN*	Pn	**04 17 41.4**	**-1.2**
DALY	**Dalyan (Mu˘la**	**3.71**	**41**	*ePN*	Pn	**04 17 41.7**	**-1.3**
YER	**Yerkesik**	**3.77**	**35**	*ePN*	Pn	**04 17 42.4**	**-1.4**
SMG	**Samos**	**3.78**	**15**	*ePN*	Pn	**04 17 44.4**	**+0.5**
SMG	**Samos**	**3.78**	**15**	*ePn*	Pn	**04 17 44.4**	**+0.5**
DYR	**Agios Nikonas**	**3.80**	**316**	*ePN*	Pn	**04 17 45.2**	**+1.0**
DYR	**Agios Nikonas**	**3.80**	**316**	*ePn*	Pn	**04 17 45.2**	**+1.0**
FETY	**Fethiye**	**3.83**	**47**	*ePN*	Pn	**04 17 43.4**	**-1.3**
AKAS	**Kas**	**3.93**	**55**	*iP*	Pn	**04 17 45.4**	**-0.8**
AKAS				*iS*	Sn	**04 18 36.9**	**+5.4**
AKAS	**Kas**	**3.93**	**55**	*iP*	Pn	**04 17 45.4**	**-0.8**
DID	**Didima**	**3.94**	**331**	*ePN*	Pn	**04 17 45.6**	**-0.6**
DID	**Didima**	**3.94**	**331**	*ePn*	Pn	**04 17 45.6**	**-0.6**
AYDN	**Tasoluk**	**4.04**	**27**	*iP*	Pn	**04 17 48.6**	**+1.0**
AYDN				*iS*	Sb	**04 18 57.5**	**+11**
AYDN	**Tasoluk**	**4.04**	**27**	*iP*	Pn	**04 17 48.6**	**+1.0**
VLX	**Vlachokerasia**	**4.22**	**322**	*ePN*	Pn	**04 17 50.5**	**+0.4**
VLX	**Vlachokerasia**	**4.22**	**322**	*ePn*	Pn	**04 17 50.5**	**+0.4**
ELL	**Elmali**	**4.42**	**51**	*ePN*	Pn	**04 17 52.0**	**-0.8**
BLCB	**Balcova**	**4.47**	**15**	*ePN*	Pn	**04 17 52.5**	**-0.9**
LTK	**Loutraki**	**4.50**	**332**	*ePN*	Pn	**04 17 53.8**	**0.0**
LTK	**Loutraki**	**4.50**	**332**	*ePn*	Pn	**04 17 53.8**	**0.0**
GOLH	**Golhisar**	**4.52**	**44**	*iP*	Pn	**04 17 55.7**	**+1.5**
GOLH				*iS*	Sb	**04 19 07.2**	**+7.0**
GOLH	**Golhisar**	**4.52**	**44**	*iP*	Pn	**04 17 55.7**	**+1.5**
IZM	**Izmir**	**4.54**	**17**	*ePN*	Pn	**04 17 53.6**	**-0.7**
DENT	**Denizli**	**4.62**	**36**	*ePN*	Pn	**04 17 54.4**	**-1.1**
GUR	**Goura**	**4.69**	**327**	*ePN*	Pn	**04 17 56.1**	**-0.4**
GUR	**Goura**	**4.69**	**327**	*ePn*	Pn	**04 17 56.1**	**-0.4**
AMT	**Artemida-Makis**	**4.70**	**319**	*ePN*	Pn	**04 17 58.5**	**+2.0**
AMT	**Artemida-Makis**	**4.70**	**319**	*ePn*	Pn	**04 17 58.5**	**+2.0**
SWA2		**4.80**	**182**	P	Pn	**04 17 56.8**	**-1.1**
KORT	**Korkueli**	**4.86**	**51**	*iP*	Pn	**04 17 59.8**	**+1.9**
KORT				*iS*	Sn	**04 19 01.4**	**+7.0**
KORT	**Korkueli**	**4.86**	**51**	*iP*	Pn	**04 18 00.8**	**+1.9**
ANTB	**Antalya**	**5.00**	**54**	*ePN*	Pn	**04 17 59.5**	**-1.1**
KULA	**Kula-Manisa**	**5.09**	**28**	*ePN*	Pn	**04 18 01.5**	**-0.5**
BCK	**Bucak**	**5.29**	**49**	*ePN*	Pn	**04 18 04.0**	**-0.7**
KHL	**Karahalli**	**5.31**	**36**	*ePN*	Pn	**04 18 04.5**	**-0.5**
KHAL	**Karahalli**	**5.33**	**35**	*iP*	Pn	**04 18 04.7**	**-0.6**
KHAL				*iS*	Sn	**04 19 09.1**	**+3.2**
KHAL	**Karahalli**	**5.33**	**35**	*iP*	Pn	**04 18 04.7**	**-0.6**
KHAL				*iS*	Sn	**04 19 09.1**	**+3.2**
ISP	**Isparta**	**5.48**	**45**	*ePN*	Pn	**04 18 07.5**	**+0.1**
SUTC	**Sutluce-Ispart**	**5.56**	**51**	*ePN*	Pn	**04 18 08.2**	**-0.2**
BALB	**Balikesir**	**5.86**	**17**	*ePN*	Pn	**04 18 12.4**	**-0.1**
GAZI	**Gazipasa**	**5.91**	**67**	*iP*	Pn	**04 18 11.8**	**-1.4**
GAZI				*iS*	Sn	**04 19 19.4**	**-0.7**
GAZI	**Gazipasa**	**5.91**	**67**	*iP*	Pn	**04 18 11.8**	**-1.4**
GAZI				*iS*	Sn	**04 19 19.4**	**-0.7**
SHUT	**Suhut-Afyon**	**6.01**	**40**	*ePN*	Pn	**04 18 14.1**	**-0.5**
DST	**Dursunbey**	**6.04**	**23**	*ePN*	Pn	**04 18 14.7**	**-0.3**
LEF	**Lefka**	**6.10**	**78**	*ePN*	Pn	**04 18 13.8**	**-2.0**
ALT	**Altintas**	**6.17**	**35**	*ePN*	Pn	**04 18 16.6**	**-0.2**
GONE	**Gonen-Balikesi**	**6.21**	**15**	*ePN*	Pn	**04 18 17.1**	**-0.1**
TVSB	**Tavsanli**	**6.21**	**29**	*ePN*	Pn	**04 18 17.4**	**+0.1**
HDMB	**Hadim**	**6.32**	**61**	*ePN*	Pn	**04 18 18.7**	**-0.3**
GELI	**Tayfur-Gelibol**	**6.37**	**6**	*ePN*	Pn	**04 18 19.3**	**-0.2**
AWBH		**6.38**	**153**	P	Pn	**04 18 19.1**	**-0.5**
AYT	**Al 'Ayyat**	**6.41**	**131**	P	Pn	**04 18 19.5**	**-0.6**
CSS	**Prodhromos**	**6.44**	**80**	*ePN*	Pn	**04 18 20.1**	**-0.3**
CSS	**Prodhromos**	**6.44**	**80**	*ePn*	Pn	**04 18 20.2**	**-0.3**
CSS	**Prodhromos**	**6.44**	**80**	*ePn*	Pn	**04 18 20.2**	**-0.3**
ERMK	**Ermenek**	**6.50**	**65**	*iP*	Pn	**04 18 21.4**	**-0.1**
ERMK				*iS*	Sn	**04 19 32.3**	**-2.7**
ERMK	**Ermenek**	**6.50**	**65**	*iP*	Pn	**04 18 21.4**	**-0.1**
ERMK				*iS*	Sn	**04 19 32.3**	**-2.7**
KCTX	**Karacabey (Bur**	**6.58**	**19**	*ePN*	Pn	**04 18 22.1**	**-0.2**
LFK	**Lefkose**	**6.65**	**77**	*ePN*	Pn	**04 18 22.6**	**-0.7**
KOT	**Kottamia**	**6.70**	**126**	P	Pn	**04 18 23.1**	**-1.0**
KONT	**Konya--Tatoy**	**6.71**	**53**	*ePN*	Pn	**04 18 23.9**	**-0.3**
HSAF	**As Saff**	**6.72**	**130**	P	Pn	**04 18 23.2**	**-1.2**
RKY	**Sarkoy-Tekirda**	**6.74**	**10**	*ePN*	Pn	**04 18 24.5**	**-0.1**
MFT	**Murefte**	**6.85**	**11**	*ePN*	Pn	**04 18 25.9**	**-0.2**
IKL	**Isikli**	**6.97**	**70**	*ePN*	Pn	**04 18 26.8**	**-1.0**
KIZT	**Kizilcal**	**6.98**	**45**	*ePN*	Pn	**04 18 27.6**	**-0.4**
ARMT	**Armutlu**	**7.00**	**21**	*ePN*	Pn	**04 18 27.3**	**-0.8**
YLV	**Yalova**	**7.16**	**24**	*ePN*	Pn	**04 18 30.2**	**-0.1**
ADVT	**Abdulvahap**	**7.17**	**26**	*ePN*	Pn	**04 18 29.9**	**-0.5**
EREN	**Erenkoy**	**7.20**	**76**	*ePN*	Pn	**04 18 30.1**	**-0.8**
HFRF	**Wahat Farafira**	**7.27**	**161**	P	Pn	**04 18 30.7**	**-1.2**
AMAG	**Maghara**	**7.28**	**116**	P	Pn	**04 18 30.3**	**-1.7**
RSH		**7.52**	**112**	P	Pn	**04 18 33.5**	**-1.8**
CTKS	**Kestanelik-??a**	**7.53**	**17**	*ePN*	Pn	**04 18 35.0**	**-0.4**
SULT	**Sultanhani-AKS**	**7.62**	**55**	*ePN*	Pn	**04 18 36.0**	**-0.8**
VALY	**Valandovo**	**7.64**	**343**	*ePn*	Pn	**04 18 46.3**	**+9.4**
MMB	**Musomiste**	**7.66**	**349**	*iP*	Pn	**04 18 41.0**	**+3.7**
KKB	**Krupnik**	**8.05**	**346**	*iP*	Pn	**04 18 51.0**	**+8.5**
AFSR	**Af˘ar-Bala (A**	**8.05**	**46**	*ePN*	Pn	**04 18 42.0**	**-0.7**
GULE	**Gulek**	**8.13**	**64**	*iP*	Pn	**04 18 44.6**	**+0.8**
GULE	**Gulek**	**8.13**	**64**	*iP*	Pn	**04 18 44.6**	**+0.8**
HNKL	**Nakhl**	**8.22**	**118**	P	Pn	**04 18 43.2**	**-1.7**
MMAI	**Mount Meron Ar**	**8.25**	**95**	Pn	Pn	**04 18 43.5**	**-1.9**
MMAI	**Mount Meron Ar**	**8.25**	**95**	Pn	Pn	**04 18 43.5**	**-1.9**
	2.5nm,0.3s,baz=289,slow=9.0,SNR=4.3						
MMAI	**Mount Meron Ar**	**8.25**	**95**	Pn	Pn	**04 18 43.5**	**-1.9**
KARA	**Karaisali**	**8.33**	**65**	*ePN*	Pn	**04 18 45.4**	**-1.0**
NIG	**Nigde**	**8.34**	**58**	*ePN*	Pn	**04 18 45.6**	**-1.1**
BR131	**Keskin Array S**	**8.57**	**46**	*ePn*	Pn	**04 18 51.2**	**+1.4**
	4.5nm,0.7s						
BR131	**Keskin Array S**	**8.57**	**46**	*ePn*	Pn	**04 18 51.2**	**+1.4**
	4.5nm,0.7s						
BRTR	**Keskin Array B**	**8.57**	**46**	Pn	Pn	**04 18 50.0**	**+0.2**
BRTR	**Keskin Array B**	**8.57**	**46**	Pn	Pn	**04 18 50.0**	**+0.2**
	0.5nm,0.3s,baz=224,slow=13,SNR=25						
BRTR	**Keskin Array B**	**8.57**	**46**	Pn	Pn	**04 18 50.0**	**+0.2**
BRTR	**Keskin Array B**	**8.57**	**46**	*iP*	Pn	**04 18 51.0**	**+1.2**
	5.0nm,0.6s						
ARNB	**Al Arnab**	**8.70**	**75**	*eP*	Pn	04 18 46.0	-5.5
ARNB				AML	AML	04 20 07.3	
	comp=N,48nm,0.5s						
ARNB				AML	AML	04 20 20.8	
	comp=E,54nm,0.6s						
ARNB	**Al Arnab**	**8.70**	**75**	*eP*	Pn	04 18 46.0	-5.5
	SNR=121						
VTS	**Vitosha**	**8.73**	**348**	*i* P	Pn	04 19 01.6	+10
TIP	**Timpagrande**	**8.76**	**308**	*ePn*	Pn	**04 18 50.3**	**-2.0**
TIP	**Timpagrande**	**8.76**	**308**	*ePn*	Pn	**04 18 50.3**	**-2.0**
CEYT	**Ceyhan**	**8.78**	**68**	*ePN*	Pn	**04 18 51.5**	**-1.0**
SLNF	**Slenfeh**	**8.87**	**77**	*eP*	Pn	04 18 47.1	-6.8
SLNF				AML	AML	04 20 12.6	
	comp=E,124nm,0.5s						
SLNF				AML	AML	04 20 24.0	
	comp=N,148nm,0.7s						
SLNF	**Slenfeh**	**8.87**	**77**	*eP*	Pn	04 18 47.1	-6.8
	SNR=120						
HTY	**Hatay**	**8.88**	**74**	*ePN*	**Pn**	**04 18 52.5**	**-1.4**
CEL	**Celeste**	**8.90**	**301**	*ePn*	**Pn**	**04 18 52.8**	**-1.5**
CEL	**Celeste**	**8.90**	**301**	*ePn*	**Pn**	**04 18 52.8**	**-1.5**
HAWK	**Haweek**	**8.95**	**84**	*eP*	Pn	04 18 51.1	-3.9
HAWK				AML	AML	04 20 08.3	
	comp=E,27nm,0.5s						
HAWK				AML	AML	04 20 44.7	
	comp=N,46nm,0.6s						
HAWK	**Haweek**	**8.95**	**84**	*eP*	Pn	04 18 51.1	-3.9
	SNR=119						
KOZT	**Kozan**	**8.98**	**65**	*ePN*	**Pn**	**04 18 54.3**	**-1.1**
HKAT	**Jabal Katrina**	**9.05**	**125**	P	**Pn**	**04 18 55.6**	**-0.9**
EIL	**Elat**	**9.07**	**116**	Pn	**Pn**	**04 18 55.4**	**-1.2**
EIL	**Elat**	**9.07**	**116**	Pn	**Pn**	**04 18 55.4**	**-1.2**
	comp=N,1.3nm,0.3s,baz=338,slow=10,SNR=20						
EIL	**Elat**	**9.07**	**116**	Pn	**Pn**	**04 18 55.4**	**-1.2**
BTCH	**Batrach**	**9.12**	**74**	*eP*	Pn	04 18 51.6	-5.6
BTCH				AML	AML	04 20 21.2	
	comp=N,83nm,0.5s						
BTCH				AML	AML	04 20 37.3	
	comp=E,80nm,0.6s						
BTCH	**Batrach**	**9.12**	**74**	*eP*	Pn	04 18 51.7	-5.6
	SNR=119						
BARS	**Barje**	**9.23**	**342**	*ePn*	**Pn**	**04 18 59.7**	**+0.9**
DRWC	**Darouich**	**9.39**	**71**	*eP*	Pn	04 18 55.2	-5.8
DRWC				AML	AML	04 20 32.4	
	comp=Z,46nm,0.6s

FETA **Feichten** 17.15 323 ⇑ *i*Pn P 04 20 47.1 +0.4
comp=Z,3.4nm,0.5s,SNR=6.0
FETA **Feichten** 17.15 323 P P 04 20 47.1 +0.4
comp=Z,3.4nm,0.5s,SNR=6.0
SBF **Sospel** 17.16 310 *e*P Pn 04 20 44.8 -0.5
comp=Z,52nm,1.1s
SBF **Sospel** 17.16 310 *e*P Pn 04 20 44.8 -0.5
comp=Z,26nm,1.1s
MOTA **Moosalm** 17.20 325 ⇓ *i*Pn Pn 04 20 45.5 -0.3
comp=Z,2.4nm,0.4s
MOTA **Moosalm** 17.20 325 P Pn 04 20 45.5 -0.3
comp=Z,2.4nm,0.4s
GEC2 **GERESS Array S** 17.23 333 *e*P P 04 20 47.1 -0.4
GEC2 **GERESS Array S** 17.23 333 *e*Pn P 04 20 47.1 -0.4
GEC2 **GERESS Array S** 17.23 333 *e*P P 04 20 47.1 -0.4
GERES **GERESS Array B** 17.23 333 P P 04 20 47.6 +0.2
GERES **GERESS Array B** 17.23 333 P P 04 20 47.6 +0.2
comp=Z,0.7nm,0.3s,baz=146,slow=12,SNR=26
GERES **GERESS Array B** 17.23 333 P P 04 20 47.7 +0.2
comp=Z,1.0nm,0.3s
DAVOX **Davos/Dischmat** 17.42 322 P P 04 20 49.4 -0.3
DAVOX **Davos/Dischmat** 17.42 322 P P 04 20 49.4 -0.3
comp=Z,0.4nm,0.3s,baz=139,slow=16,SNR=6.6
DAVOX **Davos/Dischmat** 17.42 322 P P 04 20 49.4 -0.3
TUE **Stuetta** 17.50 320 *e*Pn P 04 20 51.4 +0.8
comp=Z,8.1nm,0.6s
TUE **Stuetta** 17.50 320 *e*Pn P 04 20 51.4 +0.8
comp=Z,8.1nm,0.6s
KHC **Kasperske Hory** 17.51 333 *e*P Pn 04 20 49.4 -0.2
KHC pmax pmax
comp=Z,5.0nm,0.8s
KHC **Kasperske Hory** 17.51 333 *e*P P 04 20 50.9 +0.4
KHC **Kasperske Hory** 17.51 333 *e*Pn Pn 04 20 49.4 -0.2
comp=Z,5.0nm,0.8s
KHC **Kasperske Hory** 17.51 333 *e*Pn Pn 04 20 49.3 -0.2
comp=Z,5.0nm,0.8s
LMR **La Mourre** 17.52 308 *e*P Pn 04 20 48.2 -1.4
comp=Z,19nm,1.1s
LMR **La Mourre** 17.52 308 *e*P Pn 04 20 48.2 -1.4
comp=Z,9.5nm,1.1s
DPC **Dobruska-Polom** 17.65 340 *e*P Pn 04 20 50.8 -0.5
DPC **Dobruska-Polom** 17.65 340 *e*P Pn 04 20 50.8 -0.5
DPC **Dobruska-Polom** 17.65 340 P Pn 04 20 50.8 -0.5
UPC **Upice** 17.88 340 *e*P P 04 20 55.5 +0.9
UPC **Upice** 17.88 340 *e*P P 04 20 55.5 +0.9
UPC **Upice** 17.88 340 P P 04 20 55.5 +0.9
PRU **Pruhonice** 17.88 336 *e*P Pn 04 20 52.1 -2.0
PRU **Pruhonice** 17.88 336 *e*P Pn 04 20 52.1 -2.0
PRU **Pruhonice** 17.88 336 P Pn 04 20 52.1 -2.0
MBDF **Montbardon** 18.00 312 *e*P P 04 20 56.1 0.0
comp=Z,11nm,0.6s
MBDF **Montbardon** 18.00 312 *e*P P 04 20 56.1 0.0
comp=Z,5.4nm,0.6s
LPG **La Plagne** 18.40 314 *e*P Pn 04 21 01.7 +0.9
comp=Z,10nm,0.8s
LPG **La Plagne** 18.40 314 *e*P Pn 04 21 01.7 +0.9
comp=Z,5.1nm,0.8s
SMRF **Simiane la Rot** 18.41 308 *e*P Pn 04 21 01.5 +0.9
comp=Z,12nm,0.9s
SMRF **Simiane la Rot** 18.41 308 *e*P Pn 04 21 01.5 +0.9
comp=Z,6.2nm,0.9s
LPL **La Plagne** 18.43 314 *e*P Pn 04 21 01.4 +0.4
comp=Z,7.9nm,0.7s
LPL **La Plagne** 18.43 314 *e*P Pn 04 21 01.4 +0.4
comp=Z,4.0nm,0.7s
SENIN **Lac Senin/Sane** 18.56 317 *e*Pn Pn 04 21 05.2 +2.5
comp=Z,6.9nm,0.8s
SENIN **Lac Senin/Sane** 18.56 317 *e*Pn Pn 04 21 05.2 +2.5
comp=Z,6.9nm,0.8s
BRG **Berggiesshubel** 18.84 337 *e*P Pn 04 21 13.7 +8.0
comp=Z,3.6nm,1.0s
BRG MLR MLR
comp=N,570nm,14.8s
BRG MLR MLR
comp=E,625nm,23.3s
BRG MLR MLR
comp=Z,519nm,14.7s
BRG **Berggiesshubel** 18.84 337 *e*P Pn 04 21 13.7 +8.0
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG MLR MLR
comp=N,570nm,14.8s
BRG MLR MLR
comp=E,625nm,23.3s
BRG MLR MLR
comp=Z,519nm,14.7s
SPAK **Spaichingen-Ko** 18.85 323 *e*P Pn 04 21 07.8 +1.8
SPAK **Spaichingen-Ko** 18.85 323 *e*P Pn 04 21 07.8 +1.8
GRA1 **Grafenberg Arr** 18.89 330 *e*P P 04 21 06.0 +0.3
comp=Z,34nm,0.6s
GRF **Grafenberg Arr** 18.89 330 *e*P P 04 21 06.0 +0.3
comp=Z,4.0nm,0.6s
GRF **Grafenberg Arr** 18.89 330 *e*P P 04 21 06.0 +0.3
GRF pmax pmax
comp=Z,34nm,0.6s
GRFO **Grafenberg** 18.89 330 *e*P P 04 21 05.3 -0.4
GRFO pmax pmax
comp=Z,15nm,0.9s
GRFO **Grafenberg** 18.89 330 *e*P P 04 21 05.3 -0.4
comp=Z,15nm,0.9s
GRFO **Grafenberg** 18.89 330 *e*P P 04 21 05.3 -0.4
comp=Z,15nm,0.9s
FELD **Feldberg im Sc** 19.10 322 *e*P P 04 21 08.5 +0.3
FELD **Feldberg im Sc** 19.10 322 *e*P P 04 21 08.5 +0.3
BBS **Basel-Blauen** 19.10 320 *e*P P 04 21 04.8 -3.3
BBS **Basel-Blauen** 19.10 320 *e*P P 04 21 04.8 -3.3
BBS **Basel-Blauen** 19.10 320 *e*P P 04 21 04.8 -3.3
BFO **Black Forest** 19.23 323 *e*P P 04 21 09.4 -0.1
BFO pmax pmax
comp=Z,10.0nm,1.2s
BFO **Black Forest** 19.23 323 *e*P P 04 21 09.4 -0.1
comp=Z,10nm,1.2s
BFO **Black Forest** 19.23 323 *e*P P 04 21 09.4 -0.1
comp=Z,10.0nm,1.2s
VIVF **Saint-Julien-l** 19.37 310 *e*P Pn 04 21 12.6 +0.3
VIVF **Saint-Julien-l** 19.37 310 *e*P Pn 04 21 12.6 +0.3
CABF **La Chapelle** 19.39 316 *e*P P 04 21 10.3 -1.0
comp=Z,14nm,0.8s
CABF **La Chapelle** 19.39 316 *e*P P 04 21 10.3 -1.0
comp=Z,6.9nm,0.8s
LOMF **Lomont** 19.40 319 *e*P Pn 04 21 13.4 +0.8
LOMF **Lomont** 19.40 319 *e*P Pn 04 21 13.4 +0.8
LOMF **Lomont** 19.40 319 *e*P Pn 04 21 13.4 +0.8
LOMF **Lomont** 19.40 319 *e*P Pn 04 21 13.4 +0.8
CLL **Collm** 19.52 336 *e*P P 04 21 13.0 +0.4
CLL pmax pmax
comp=Z,4.0nm,0.6s
CLL **Collm** 19.52 336 *e*P P 04 21 13.0 +0.4
comp=Z,4.0nm,0.6s
CLL *es*P sP 04 21 22.0 -1.0
CLL **Collm** 19.52 336 *e*P P 04 21 13.0 +0.4
comp=Z,4.0nm,0.6s
MOF **Molkenrain** 19.54 320 *e*P Pn 04 21 14.8 +0.5
MOF **Molkenrain** 19.54 320 *e*P Pn 04 21 14.8 +0.5
MOF **Molkenrain** 19.54 320 *e*P Pn 04 21 14.8 +0.5
MOF **Molkenrain** 19.54 320 *e*P Pn 04 21 14.8 +0.5
LASF **Ste Croix** 19.57 307 *e*P P 04 21 12.9 -0.4
comp=Z,8.7nm,0.8s
LASF **Ste Croix** 19.57 307 *e*P P 04 21 12.9 -0.4
comp=Z,4.3nm,0.8s
VORD **Divnogorie** 19.63 26 *e*P P 04 21 13.2 -0.5
VORD pmax pmax
comp=Z,10.0nm,0.7s
VORD pmax pmax
comp=N,40nm,0.8s
VORD pmax pmax
comp=E,30nm,0.9s
VORD **Divnogorie** 19.63 26 *e*P P 04 21 13.2 -0.5
comp=E,40nm,0.8s
HINF **Hinteralfeld** 19.67 320 *e*P P 04 21 14.4 +0.1
comp=E,7.7nm,0.6s
HINF **Hinteralfeld** 19.67 320 *e*P P 04 21 14.4 +0.1
comp=E,3.8nm,0.6s
ECH **Echery** 19.75 321 *e*P Pn 04 21 16.3 -0.5
ECH pmax pmax
comp=Z,7.0nm,0.9s
ECH **Echery** 19.75 321 *e*P Pn 04 21 16.2 -0.5
comp=Z,6.7nm,0.9s
ECH **Echery** 19.75 321 *e*P Pn 04 21 19.5 +2.7
ECH **Echery** 19.75 321 *e*P Pn 04 21 16.2 -0.5
comp=Z,6.7nm,0.9s
VSR **Storozhevoye** 19.78 26 *e*P Pn 04 21 17.4 +0.4
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR **Storozhevoye** 19.78 26 *e*P Pn 04 21 17.4 +0.4
comp=E,20nm,0.9s
CDF **Champ du Feu** 19.82 322 *e*P P 04 21 16.2 +0.3
comp=E,11nm,0.7s
CDF **Champ du Feu** 19.82 322 *e*P P 04 21 16.2 +0.3
comp=E,5.4nm,0.7s
TOD **Tromm** 19.88 326 *e*P Pn 04 21 18.7 +0.4
TOD **Tromm** 19.88 326 *e*P Pn 04 21 18.7 +0.4
TOD **Tromm** 19.88 326 *e*P Pn 04 21 18.7 +0.4
LANF **Langenberg** 19.92 324 *e*P Pn 04 21 19.6 +0.8
LANF **Langenberg** 19.92 324 *e*P Pn 04 21 19.6 +0.8
LANF **Langenberg** 19.92 324 *e*P Pn 04 21 19.6 +0.8
LANF **Langenberg** 19.92 324 *e*P Pn 04 21 19.6 +0.8
SUW **Suwalki** 20.02 356 *e*P P 04 21 18.0 0.0
SUW pmax pmax
comp=Z,30nm,0.7s
SUW **Suwalki** 20.02 356 *e*P P 04 21 18.0 0.0
comp=Z,30nm,0.7s
SUW **Suwalki** 20.02 356 *e*P P 04 21 18.7 +0.7
SUW **Suwalki** 20.02 356 *e*P P 04 21 18.0 0.0
comp=Z,30nm,0.7s
HAU **Haudompre** 20.05 320 *e*P P 04 21 17.8 -0.6
comp=Z,13nm,0.6s
HAU **Haudompre** 20.05 320 *e*P P 04 21 17.8 -0.6
comp=Z,6.6nm,0.6s
RAYN **Ar Rayn** 20.32 116 *e*Pn Pn 04 21 23.6 0.0
comp=Z,21nm,1.8s
RAYN **Ar Rayn** 20.32 116 *e*Pn Pn 04 21 23.6 -0.1
comp=Z,21nm,1.8s
THEF **They Montfort** 20.38 320 *e*P P 04 21 22.8 +0.8
THEF **They Montfort** 20.38 320 *e*P P 04 21 22.8 +0.8
THEF **They Montfort** 20.38 320 *e*P P 04 21 22.8 +0.8
THEF **They Montfort** 20.38 320 *e*P P 04 21 22.8 +0.8
LBL **Lubilhac** 20.45 310 *e*P Pn 04 21 24.1 -1.0
LBL **Lubilhac** 20.45 310 *e*P Pn 04 21 24.1 -1.0
LBL **Lubilhac** 20.45 310 *e*P Pn 04 21 24.1 -1.0
LBL **Lubilhac** 20.45 310 *e*P Pn 04 21 24.1 -1.0
SMF **Signal de Mont** 20.73 314 *e*P P 04 21 25.1 -0.7
comp=Z,7.6nm,0.7s
SMF **Signal de Mont** 20.73 314 *e*P P 04 21 25.1 -0.7
comp=Z,3.8nm,0.7s
RUP **Ruppelstein** 20.77 324 *e*P P 04 21 26.3 +0.1
RUP **Ruppelstein** 20.77 324 *e*P P 04 21 26.3 +0.1
RUP **Ruppelstein** 20.77 324 *e*P P 04 21 26.3 +0.1
PYM **Petit Puy Mans** 20.82 311 *e*P P 04 21 27.0 +0.1
PYM **Petit Puy Mans** 20.82 311 *e*P P 04 21 27.0 +0.1
PYM **Petit Puy Mans** 20.82 311 *e*P P 04 21 27.0 +0.1
PYM **Petit Puy Mans** 20.82 311 *e*P P 04 21 27.0 +0.1
SFTF **Sexfontaines** 20.88 319 *e*P P 04 21 28.1 +0.7
comp=Z,10nm,0.6s,baz=140
SFTF **Sexfontaines** 20.88 319 *e*P P 04 21 28.1 +0.7
comp=Z,5.2nm,0.6s,baz=140
TAM **Tamanrasset** 20.89 243 *e*P P 04 21 28.2 +0.4
TAM pmax pmax
comp=Z,5.0nm,0.6s
TAM **Tamanrasset** 20.89 243 *e*P P 04 21 28.2 +0.4
comp=Z,4.9nm,0.6s
TAM **Tamanrasset** 20.89 243 *e*P P 04 21 28.2 +0.4
comp=Z,5.0nm,0.6s
LOR **Lormes** 21.04 315 *e*P P 04 21 29.1 0.0
comp=Z,6.3nm,0.5s,baz=131
LOR **Lormes** 21.04 315 *e*P P 04 21 29.1 0.0
comp=Z,3.2nm,0.5s,baz=131
MEZF **Maizieres J'vi** 21.05 319 *e*P P 04 21 28.5 -0.6
comp=Z,7.7nm,0.3s
MEZF **Maizieres J'vi** 21.05 319 *e*P P 04 21 28.5 -0.6
comp=Z,3.8nm,0.3s
CAF **Calviac** 21.09 308 *e*P P 04 21 29.4 -0.3
comp=Z,9.4nm,0.8s
CAF **Calviac** 21.09 308 *e*P P 04 21 29.4 -0.3
comp=Z,4.7nm,0.8s
AVF **Avril sur Loir** 21.10 314 *e*P P 04 21 29.1 -0.6
comp=Z,7.3nm,0.8s
AVF **Avril sur Loir** 21.10 314 *e*P P 04 21 29.1 -0.6
comp=Z,3.7nm,0.8s
WLF **Walferdange** 21.19 323 P P 04 21 32.5 +1.9
comp=Z,7.2nm,1.1s
WLF **Walferdange** 21.19 323 *e*P P 04 21 30.5 -0.2
WLF pmax pmax
comp=Z,8.0nm,0.7s
WLF **Walferdange** 21.19 323 *e*P P 04 21 30.5 -0.2
comp=Z,8.4nm,0.7s
WLF **Walferdange** 21.19 323 *e*P P 04 21 30.5 -0.2
comp=Z,8.0nm,0.7s
BGF **Bois d'Agland** 21.29 313 *e*P P 04 21 31.6 -0.2
comp=Z,26nm,0.7s
BGF **Bois d'Agland** 21.29 313 *e*P P 04 21 31.6 -0.2
comp=Z,13nm,0.7s
TCF **Toulx Ste Croi** 21.56 311 *e*P P 04 21 35.0 +0.3
comp=Z,15nm,0.8s
TCF **Toulx Ste Croi** 21.56 311 *e*P P 04 21 35.0 +0.3
comp=Z,7.4nm,0.8s
RJF **Les Rejaudoux** 21.59 308 *e*P P 04 21 34.5 -0.6
comp=Z,29nm,1.1s
RJF **Les Rejaudoux** 21.59 308 *e*P P 04 21 34.5 -0.6
comp=Z,15nm,1.1s
EPF **Esparros** 21.63 302 *e*P P 04 21 36.5 +0.9
EPF **Esparros** 21.63 302 *e*P P 04 21 36.5 +0.9
MEM **Membach** 21.88 325 P P 04 21 38.2 +0.2
comp=Z,8.5nm,1.0s
MEM **Membach** 21.88 325 P P 04 21 38.2 +0.2
comp=Z,8.5nm,1.0s
LFF **La Frestale** 21.96 307 *e*P P 04 21 39.9 +0.9
LFF **La Frestale** 21.96 307 *e*P P 04 21 39.9 +0.9
HGN **Heimansgroeve** 22.02 325 *e*P P 04 21 41.1 +1.6
comp=Z,7.9nm,1.0s
GIVF **Givet** 22.13 323 *e*P P 04 21 42.1 +1.3
comp=Z,27nm,0.9s
GIVF **Givet** 22.13 323 *e*P P 04 21 42.1 +1.3
comp=Z,13nm,0.9s
ETSF **Etsaut** 22.23 301 *e*P P 04 21 40.6 -1.5
comp=Z,8.5nm,0.9s
ETSF **Etsaut** 22.23 301 *e*P P 04 21 40.6 -1.5
comp=Z,4.2nm,0.9s
DOU **Dourbes** 22.24 322 P P 04 21 49.2 +7.2
comp=Z,10.0nm,1.3s
BSD **Bornholm Skovb** 22.34 344 *e*P P 04 21 45.6 +2.7
BSD **Bornholm Skovb** 22.34 344 *i*P P 04 21 45.6 +2.7
BSD **Bornholm Skovb** 22.34 344 *e*P P 04 21 45.6 +2.7
OBN **Obninsk** 22.40 17 *e*P P 04 21 46.0 +2.4
OBN pmax pmax
comp=Z,28nm,1.6s
OBN MLR MLR
comp=Z,200nm,14.0s
OBN **Obninsk** 22.40 17 *e*P P 04 21 46.0 +2.4
comp=Z,200nm,14.0s
BAIF **Baives** 22.42 322 *e*P P 04 21 44.1 +0.3
comp=Z,22nm,0.7s
BAIF **Baives** 22.42 322 *e*P P 04 21 44.1 +0.3
comp=Z,11nm,0.7s
WTSB **Winterswijk** 22.46 329 *e*P P 04 21 44.8 +0.6
WTSB **Winterswijk** 22.46 329 *e*P P 04 21 44.8 +0.6
SJPF **Ste Jean** 22.76 301 *e*P P 04 21 47.8 +0.2
comp=Z,16nm,0.8s
SJPF **Ste Jean** 22.76 301 *e*P P 04 21 47.8 +0.2
comp=Z,8.1nm,0.8s
MFF **Saint Martin d** 23.17 310 *e*P P 04 21 51.3 -0.5
comp=Z,12nm,0.6s
MFF **Saint Martin d** 23.17 310 *e*P P 04 21 51.3 -0.5
comp=Z,6.2nm,0.6s
LDF **La Druitiere** 24.02 315 *e*P P 04 21 59.1 -0.8
comp=Z,15nm,0.7s
LDF **La Druitiere** 24.02 315 *e*P P 04 21 59.1 -0.8
comp=Z,7.7nm,0.7s
ESDC **Sonseca Array** 24.25 292 P P 04 22 01.5 -0.7
ESDC **Sonseca Array** 24.25 292 P P 04 22 01.5 -0.7
comp=Z,2.8nm,0.6s,baz=83,slow=9.6,SNR=13
ESDC **Sonseca Array** 24.25 292 P P 04 22 01.5 -0.7
ESLA **Sonseca Array** 24.25 292 *e*P P 04 22 01.8 -0.4
comp=Z,0.7nm,0.8s
ESLA **Sonseca Array** 24.25 292 *e*P P 04 22 01.8 -0.4
comp=Z,0.7nm,0.8s
FLN **La Foliniere** 24.31 315 *e*P P 04 22 01.6 -1.0
comp=Z,15nm,0.7s,baz=121
FLN **La Foliniere** 24.31 315 *e*P P 04 22 01.6 -1.0
comp=Z,7.3nm,0.7s,baz=121
GRR **Gorron** 24.36 314 *e*P P 04 22 02.0 -1.1
comp=Z,10nm,0.6s
GRR **Gorron** 24.36 314 *e*P P 04 22 02.0 -1.1
comp=Z,5.1nm,0.6s
PAB **San Pablo** 24.54 292 *e*P P 04 22 04.2 -0.7
PAB pmax pmax
comp=Z,6.0nm,1.0s
PAB **San Pablo** 24.54 292 *e*P P 04 22 04.2 -0.7
comp=Z,6.0nm,1.0s
PAB **San Pablo** 24.54 292 *e*P P 04 22 04.2 -0.7
comp=Z,6.1nm,1.0s
PAB **San Pablo** 24.54 292 *e*P P 04 22 04.2 -0.7
comp=Z,6.0nm,1.0s
TZK **Tazeka** 24.64 279 *i*P P 04 22 05.0 -1.0
ZFT **Errachidia** 25.15 274 *i*P P 04 22 10.0 -0.7
MDT **Midelt** 25.21 276 P P 04 22 11.0 0.0
MDT **Midelt** 25.21 276 P P 04 22 11.0 0.0
comp=Z,6.7nm,0.8s,baz=86,slow=12,SNR=10
MDT **Midelt** 25.21 276 P P 04 22 11.0 0.0
SGMF **Saint Gilles** 25.33 313 *e*P P 04 22 11.7 -0.2
comp=Z,18nm,0.7s
SGMF **Saint Gilles** 25.33 313 *e*P P 04 22 11.7 -0.2
comp=Z,8.8nm,0.7s
CZD **Col de Zad** 25.52 276 *i*P P 04 22 16.0 +1.9
QUIF **Quistinic** 25.58 311 *e*P P 04 22 13.0 -1.1
comp=Z,31nm,0.9s
QUIF **Quistinic** 25.58 311 *e*P P 04 22 13.0 -1.1
comp=Z,15nm,0.9s
ROSF **Rostrenen** 25.80 312 *e*P P 04 22 14.4 -1.8
comp=Z,24nm,1.0s
ROSF **Rostrenen** 25.80 312 *e*P P 04 22 14.4 -1.8
comp=Z,12nm,1.0s
PBRG **Braganca** 26.54 296 *e*P P 04 22 22.6 -0.4
comp=Z,14nm,1.1s
PBRG **Braganca** 26.54 296 *e*P P 04 22 22.6 -0.4
comp=Z,14nm,1.1s
PBAR **Barrancos** 26.61 288 *e*P P 04 22 23.1 -0.5
comp=Z,13nm,1.4s
PBAR **Barrancos** 26.61 288 *e*P P 04 22 23.1 -0.5
comp=Z,13nm,1.4s
MVO **Moncorvo** 26.70 295 *e*P P 04 22 24.0 -0.4
comp=Z,23nm,0.8s
MVO **Moncorvo** 26.70 295 *e*P P 04 22 24.0 -0.4
comp=Z,23nm,0.8s
PMRV **Marv??o** 26.89 291 *e*P P 04 22 24.7 -1.4
comp=Z,9.8nm,1.4s
PMRV **Marv??o** 26.89 291 *e*P P 04 22 24.7 -1.4
comp=Z,9.8nm,1.4s
PESTR **Estremoz** 27.03 290 *e*P P 04 22 26.5 -0.9
comp=Z,11nm,1.1s
PESTR **Estremoz** 27.03 290 *e*P P 04 22 26.5 -0.9
comp=Z,11nm,1.1s
PVAQ **Vaqueiros** 27.18 287 *e*P P 04 22 28.2 -0.5
comp=Z,35nm,1.4s
PVAQ **Vaqueiros** 27.18 287 *e*P P 04 22 28.2 -0.5
comp=Z,35nm,1.4s
PVRL **Vila Real** 27.22 295 *e*P P 04 22 28.1 -1.0
comp=Z,13nm,1.8s
PVRL **Vila Real** 27.22 295 *e*P P 04 22 28.1 -1.0
comp=Z,13nm,1.8s
HFS **Hagfors** 27.23 347 P P 04 22 28.1 -0.8
HFS **Hagfors** 27.23 347 P P 04 22 28.1 -0.8
comp=Z,2.1nm,0.5s,baz=159,slow=9.5,SNR=12
HFS **Hagfors** 27.23 347 P P 04 22 28.1 -0.8
comp=Z,2.0nm,0.5s
PBDV **Barranco-do-Ve** 27.35 286 *e*P P 04 22 30.1 -0.2
comp=Z,40nm,2.2s
PBDV **Barranco-do-Ve** 27.35 286 *e*P P 04 22 30.1 -0.2
comp=Z,40nm,2.2s
EVO **Evora** 27.37 289 *e*P P 04 22 31.1 +0.7
comp=Z,6.6nm,0.7s
EVO **Evora** 27.37 289 *e*P P 04 22 29.8 -0.6
comp=Z,9.2nm,0.8s
EVO **Evora** 27.37 289 *e*P P 04 22 29.8 -0.6
comp=Z,9.2nm,0.8s
FINES **FINESS Array B** 27.41 0 P P 04 22 29.5 -0.9
FINES **FINESS Array B** 27.41 0 P P 04 22 29.5 -0.9
comp=Z,2.6nm,0.7s,baz=163,slow=12,SNR=7.3
FINES **FINESS Array B** 27.41 0 P P 04 22 29.5 -0.9
comp=Z,3.0nm,0.7s
FIA1 **FINESS Array S** 27.41 0 *e*P P 04 22 30.3 -0.1
FIA1 **FINESS Array S** 27.41 0 *e*P P 04 22 30.3 -0.1
EVOP **Sao Brissos** 27.45 289 *e*P P 04 22 31.1 0.0
comp=Z,3.3nm,0.7s
PCAB **Cabril** 27.49 296 *e*P P 04 22 31.4 -0.1
comp=Z,13nm,1.6s
PCAB **Cabril** 27.49 296 *e*P P 04 22 31.4 -0.1
comp=Z,13nm,1.6s
NAO01 **NORSAR Array S** 28.45 345 *e*P P 04 22 39.0 -0.8
comp=Z,3.2nm,0.5s
NAO01 **NORSAR Array S** 28.45 345 *e*P P 04 22 39.0 -0.8
comp=Z,3.2nm,0.5s
NB2 **NORSAR Subarra** 28.56 345 P P 04 22 39.3 -1.5
comp=Z,0.2nm,0.5s,baz=155,slow=11
NOA **NORSAR Array B** 28.56 345 P P 04 22 39.6 -1.1
NOA **NORSAR Array B** 28.56 345 P P 04 22 39.6 -1.1
comp=Z,1.0nm,0.7s,baz=151,slow=11,SNR=11
NOA **NORSAR Array B** 28.56 345 P P 04 22 39.7 -1.1
comp=Z,1.0nm,0.7s
AKTK **Aktyubinsk** 28.75 45 P P 04 22 42.5 -0.1
comp=Z,2.0nm,0.7s
AKTO **Aktyubinsk** 28.75 45 P P 04 22 42.5 -0.1
AKTO pmax pmax
comp=Z,2.0nm,0.7s
AKTO **Aktyubinsk** 28.75 45 P P 04 22 42.5 -0.1
AKTO **Aktyubinsk** 28.75 45 P P 04 22 42.5 -0.1
comp=Z,2.2nm,0.7s,baz=257,slow=7.4,SNR=8.1
AKTO **Aktyubinsk** 28.75 45 P P 04 22 42.5 -0.1
EKA **Eskdalemuir Ar** 29.15 326 P P 04 22 45.4 -0.7
EKA **Eskdalemuir Ar** 29.15 326 P P 04 22 45.4 -0.7
comp=Z,3.1nm,0.7s,baz=127,slow=9.8,SNR=17
EKA **Eskdalemuir Ar** 29.15 326 P P 04 22 45.4 -0.7
comp=Z,3.0nm,0.7s
ABKAR **Akbulak array** 29.51 49 *e*P P 04 22 49.8 +0.4
ABKAR **Akbulak array** 29.51 49 *e*P P 04 22 49.8 +0.4
TOA0 **Torodi Ar. Sit** 30.08 232 *e*P P 04 22 54.5 -0.2
TOA0 **Torodi Ar. Sit** 30.08 232 *e*P P 04 22 54.5 -0.2
TORD **Torodi Ar. Bea** 30.08 232 P P 04 22 54.1 -0.5
TORD **Torodi Ar. Bea** 30.08 232 P P 04 22 54.1 -0.5
comp=Z,1.8nm,0.7s,baz=34,slow=8.4,SNR=21
TORD **Torodi Ar. Bea** 30.08 232 P P 04 22 54.2 -0.5
ARCES **ARCESS Array B** 35.53 360 P P 04 23 39.7 -2.0
ARCES **ARCESS Array B** 35.53 360 P P 04 23 39.7 -2.0
comp=Z,1.2nm,0.5s,baz=168,slow=6.9,SNR=6.1
ARCES **ARCESS Array B** 35.53 360 P P 04 23 39.7 -2.0
comp=Z,1.0nm,0.5s
KKAR **Karatay Array** 35.88 62 *e*P P 04 23 45.5 +0.4
KKAR pmax pmax
comp=Z,6.0nm,1.0s
KKAR **Karatay Array** 35.88 62 *e*P P 04 23 45.5 +0.4
comp=Z,5.5nm,1.0s
KKAR **Karatay Array** 35.88 62 *e*P P 04 23 45.5 +0.4
comp=Z,6.0nm,1.0s
BRVK **Borovoye** 36.80 45 *e*P P 04 23 56.8 +4.0
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK **Borovoye** 36.80 45 *e*P P 04 23 52.4 -0.4
comp=Z,10.0nm,1.1s
BRVK **Borovoye** 36.80 45 *e*P P 04 23 52.4 -0.4
comp=Z,10.0nm,1.1s
BVAR **Borovoye Array** 36.85 45 P P 04 23 53.7 +0.4
BVAR pmax pmax
comp=Z,2.0nm,0.8s
BVAR **Borovoye Array** 36.85 45 P P 04 23 53.7 +0.4
BVAR **Borovoye Array** 36.85 45 P P 04 23 53.7 +0.4
comp=Z,2.2nm,0.8s,baz=235,slow=7.0,SNR=6.9
BVAR **Borovoye Array** 36.85 45 P P 04 23 53.7 +0.4
comp=Z,2.0nm,0.8s
TKM2 **Tokmak 2** 39.62 62 *e*P P 04 24 17.1 +0.2
TKM2 pmax pmax
comp=Z,3.0nm,0.9s
TKM2 **Tokmak 2** 39.62 62 *e*P P 04 24 17.1 +0.2
comp=Z,3.0nm,0.9s
TKM2 **Tokmak 2** 39.62 62 *e*P P 04 24 17.1 +0.2
comp=Z,3.0nm,0.9s
LIC **Lamto** 39.62 233 *e*P P 04 24 16.9 -0.1
comp=Z,4.3nm,0.6s
LIC **Lamto** 39.62 233 *e*P P 04 24 16.9 -0.1
comp=Z,2.2nm,0.6s
KURBB **Kurchatov Arra** 41.54 50 P P 04 24 32.8 +0.4
comp=Z,4.2nm,0.5s,baz=278,slow=8.6,SNR=22
KURK **Kurchatov** 41.60 50 P P 04 24 32.8 -0.1
KURK pmax pmax
comp=Z,4.0nm,0.5s
KURK **Kurchatov** 41.60 50 P P 04 24 32.8 -0.1
KURK **Kurchatov** 41.60 50 P P 04 24 32.8 -0.1
comp=Z,4.0nm,0.5s
MK31 **Makanchi Array** 44.09 56 *e*P P 04 24 53.6 +0.4
MK31 **Makanchi Array** 44.09 56 *e*P P 04 24 53.6 +0.4
MK31 **Makanchi Array** 44.09 56 *e*P P 04 24 53.6 +0.4
MKAR **Makanchi Array** 44.09 56 *i*P P 04 24 53.9 +0.7
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR **Makanchi Array** 44.09 56 P P 04 24 53.6 +0.4
MKAR **Makanchi Array** 44.09 56 P P 04 24 53.6 +0.4
comp=Z,4.6nm,0.6s,baz=278,slow=6.5,SNR=37
MKAR **Makanchi Array** 44.09 56 P P 04 24 53.6 +0.4

ZAA0	Zalesovo Array	45.51	45	eP		P	04 25 03.7	-0.6
ZAA0	Zalesovo Array	45.51	45	eP		P	04 25 03.7	-0.6
ZALV	Zalesovo Beam	45.51	45	i P		P	04 25 04.1	-0.2
ZALV				pmax	pmax			
	comp=Z,3.0nm,0.4s							
ZALV	Zalesovo Beam	45.51	45	P		P	04 25 04.2	-0.1
ZALV	Zalesovo Beam	45.51	45	P		P	04 25 04.2	-0.1
	comp=Z,2.7nm,0.5s,baz=264,slow=9.3,SNR=13							
ZALV	Zalesovo Beam	45.51	45	P		P	04 25 04.2	-0.1
DAG	Danmarks Havn	47.20	347	i P		P	04 25 17.0	-0.3
DAG				pmax	pmax			
	comp=Z,1.0nm,0.7s							
DAG	Danmarks Havn	47.20	347	i P		P	04 25 17.0	-0.3
	comp=Z,2.0nm,0.7s							
WMQ	Urumqi	48.25	59	eP		P	04 25 28.1	+2.1
WMQ				pP		pP	04 25 35.1	+1.1
WMQ				sP		sP	04 25 38.4	+1.3
WMQ				PP		PP	04 27 19.7	+1.4
WMQ				pmax	pmax			
	comp=Z,14nm,1.1s							
ZAK	Zakamensk	57.20	48	eP		P	04 26 32.5	+0.3
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.1s							
ZAK	Zakamensk	57.20	48	eP		P	04 26 32.5	+0.3
	comp=Z,2.0nm,1.1s							
SONM	Songino Array	59.91	50	P		P	04 26 51.6	+0.6
SONM	Songino Array	59.91	50	P		P	04 26 51.6	+0.6
	comp=Z,1.3nm,0.8s,baz=289,slow=4.5,SNR=6.8							
SONM	Songino Array	59.91	50	P		P	04 26 51.6	+0.6
	comp=Z,1.0nm,0.8s							
BOSA	Boshof	62.33	180	P		P	04 27 08.4	+0.9
BOSA	Boshof	62.33	180	P		P	04 27 08.4	+0.9
	comp=Z,2.7nm,1.0s,baz=29,slow=8.1,SNR=3.1							
BOSA	Boshof	62.33	180	P		P	04 27 08.4	+0.9
SCHQ	Schefferville	64.26	320	eP		P	04 27 19.3	-0.7
	comp=Z,5.3nm,0.7s							
SCHQ	Schefferville	64.26	320	P		P	04 27 19.9	-0.2
	comp=Z,6.0nm,0.6s,baz=60,slow=5.7,SNR=19							
SCHQ	Schefferville	64.26	320	eP		P	04 27 19.3	-0.7
	comp=Z,5.2nm,0.7s							
HHC	Hu-ho-hao-te	65.95	56	eP		P	04 27 31.1	-0.2
HHC				PcP		PcP	04 28 02.0	0.0
HHC				PP		PP	04 29 58.3	+2.0
HHC				ScP			04 32 02.3	
HHC				PcS			04 32 04.4	
HHC				S		S	04 36 14.3	-3.0
HHC				sS		sS	04 36 27.3	-3.6
HHC				ScS		SKSac	04 37 21.2	-4.5
HHC				SS		SS	04 40 30.4	-1.7
HHC				pmax	pmax			
	comp=Z,35nm,0.7s							
HHC				pmax	pmax			
	comp=Z,190nm,5.9s							
HHC				LR	LR			
	comp=N,230nm,16.6s							
HHC				LR	LR			
	comp=E,200nm,17.1s							
HHC				LR	LR			
	comp=Z,230nm,16.7s							
KMI	Kunming	66.24	75	P		P	04 27 34.4	+0.8
KMI				pP		pP	04 27 42.5	+0.7
KMI				sP		sP	04 27 45.6	+0.7
KMI				pmax	pmax			
	comp=Z,6.0nm,1.1s							
CMAR	Chiang Mai Arr	66.34	83	P		P	04 27 34.1	+0.1
CMAR	Chiang Mai Arr	66.34	83	P		P	04 27 34.1	+0.1
	comp=Z,0.5nm,0.3s,baz=288,slow=7.5,SNR=4.1							
CMAR	Chiang Mai Arr	66.34	83	P		P	04 27 34.1	+0.1
	comp=Z,1.0nm,0.3s							
GYA	Guiyang	68.73	72	eP		P	04 27 49.8	+0.6
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
BJI	Beijing	69.46	55	P		P	04 27 53.0	-0.3
BJI				S		S	04 36 59.2	+0.1
BJI				SS		SS	04 41 27.0	+0.9
BJI				pmax	pmax			
	comp=Z,10.0nm,0.5s							
BJI				pmax	pmax			
	comp=Z,64nm,3.6s							
BJI				LR	LR			
	comp=N,180nm,16.6s							
BJI				LR	LR			
	comp=E,140nm,19.2s							
BJI				LR	LR			
	comp=Z,62nm,21.6s							
CN2	Changchun	73.64	48	eP		P	04 28 15.6	-2.9
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
USRK	Ussuriysk Arra	77.37	45	P		P	04 28 38.6	-1.2
	comp=Z,2.8nm,0.8s,baz=276,slow=7.5,SNR=5.0							
YKA	Yellowknife Ar	78.61	342	P		P	04 28 46.3	-0.1
YKA	Yellowknife Ar	78.61	342	P		P	04 28 46.3	-0.1
	comp=Z,2.0nm,0.6s,baz=30,slow=5.5,SNR=15							
YKA	Yellowknife Ar	78.61	342	P		P	04 28 46.3	-0.1
	comp=Z,2.0nm,0.6s							
KSAR	Wonju Array Be	78.64	52	P		P	04 28 47.8	+0.7
KSAR	Wonju Array Be	78.64	52	P		P	04 28 47.8	+0.7
KSRS	Korea Array	78.66	52	P		P	04 28 47.8	+0.7
	comp=Z,0.8nm,0.4s,baz=318,slow=5.1,SNR=3.9							
KSRS	Korea Array	78.66	52	P		P	04 28 47.8	+0.7
	comp=Z,1.0nm,0.4s							
COLD	Coldfoot	78.98	358	eP		P	04 28 48.5	+0.1
	comp=Z,3.2nm,1.0s							
COLD	Coldfoot	78.98	358	eP		P	04 28 48.5	+0.1
	comp=Z,3.2nm,1.0s							
FFC	Flin Flon	80.77	332	i P		P	04 28 59.7	+1.4
FFC	Flin Flon	80.77	332	eP		P	04 28 58.4	+0.1
	comp=Z,3.6nm,0.8s							
FFC	Flin Flon	80.77	332	eP		P	04 28 58.4	+0.1
	comp=Z,3.6nm,0.8s							
EGAK	Eagle	80.94	354	eP		P	04 28 59.4	+0.4
	comp=Z,2.7nm,0.8s							
EGAK	Eagle	80.94	354	eP		P	04 28 59.4	+0.4
	comp=Z,2.7nm,0.8s							
ILAR	Eielson Array	81.32	357	P		P	04 29 01.6	+0.5
ILAR	Eielson Array	81.32	357	P		P	04 29 01.6	+0.5
	comp=Z,0.9nm,0.7s,baz=352,slow=3.7,SNR=15							
ILAR	Eielson Array	81.32	357	P		P	04 29 01.6	+0.5
	comp=Z,1.0nm,0.7s							
TRF	Thorofare Moun	82.77	358	eP		P	04 29 08.5	-0.4
	comp=Z,6.9nm,1.1s							
TRF	Thorofare Moun	82.77	358	eP		P	04 29 08.5	-0.4
	comp=Z,6.9nm,1.1s							
SML	Sawmill	84.35	357	eP		P	04 29 16.4	-0.5
SML				pmax	pmax			
	comp=Z,2.0nm,0.8s							
SML	Sawmill	84.35	357	eP		P	04 29 16.4	-0.5
	comp=Z,1.9nm,0.8s							
SML	Sawmill	84.35	357	eP		P	04 29 16.4	-0.5
	comp=Z,2.0nm,0.8s							
PMR	Palmer	84.59	357	eP		P	04 29 16.4	-1.6
PMR				pmax	pmax			
	comp=Z,5.0nm,0.9s							
PMR	Palmer	84.59	357	eP		P	04 29 16.4	-1.6
	comp=Z,4.6nm,0.9s							
PMR	Palmer	84.59	357	eP		P	04 29 16.4	-1.6
	comp=Z,5.0nm,0.9s							
BDFB	Brasilia	85.63	248	P		P	04 29 25.2	+1.2
BDFB	Brasilia	85.63	248	P		P	04 29 25.2	+1.2
	comp=Z,1.6nm,0.5s,baz=88,slow=9.4,SNR=4.1							
BDFB	Brasilia	85.63	248	P		P	04 29 25.2	+1.2
	comp=Z,2.0nm,0.5s							
MJAR	Matsushiro Arr	85.79	48	P		P	04 29 25.1	+0.6
MJAR	Matsushiro Arr	85.79	48	P		P	04 29 25.1	+0.6
	comp=Z,0.5nm,0.3s,baz=298,slow=4.7,SNR=4.1							
MJAR	Matsushiro Arr	85.79	48	P		P	04 29 25.1	+0.6
	comp=Z,1.0nm,0.3s							
SIUC	Southern Illin	86.38	314	eP		P	04 29 27.3	-0.1
SIUC	Southern Illin	86.38	314	eP		P	04 29 27.3	-0.1
ECSD	EROS Data Cent	86.38	322	eP		P	04 29 27.2	-0.1
	comp=Z,2.1nm,0.6s							
ECSD	EROS Data Cent	86.38	322	eP		P	04 29 27.2	-0.1
	comp=Z,2.1nm,0.6s							
WVT	Waverly	86.56	312	eP		P	04 29 27.8	-0.5
WVT				pmax	pmax			
	comp=Z,3.0nm,0.7s							
WVT	Waverly	86.56	312	eP		P	04 29 27.8	-0.5
	comp=Z,2.5nm,0.7s							
WVT	Waverly	86.56	312	eP		P	04 29 27.8	-0.5
	comp=Z,3.0nm,0.7s							
FX1	Attu Island--F	88.92	19	LR		LR	05 11 42.8	
	comp=Z,71nm,21.9s,baz=69,slow=37							
YBMT	Yellow Bay	90.79	334	eP		P	04 29 47.1	-1.2
YBMT	Yellow Bay	90.79	334	eP		P	04 29 47.1	-1.2
JTMT	Jette	90.98	334	eP		P	04 29 49.0	-0.2
JTMT	Jette	90.98	334	eP		P	04 29 49.0	-0.2
SWMT	Swartz Lake	91.08	334	eP		P	04 29 50.7	+1.0
SWMT	Swartz Lake	91.08	334	eP		P	04 29 50.7	+1.0
NEW	Newport	91.53	336	eP		P	04 29 51.6	0.0
NEW	Newport	91.53	336	P		P	04 29 52.6	+1.0
	comp=Z,0.9nm,0.5s,baz=46,slow=10.0,SNR=4.3							
NEW	Newport	91.53	336	eP		P	04 29 51.6	0.0
PDAR	Pinedale Array	93.23	329	P		P	04 29 59.3	-0.6
PDAR	Pinedale Array	93.23	329	P		P	04 29 59.3	-0.6
	comp=Z,0.4nm,0.8s,baz=58,slow=7.6,SNR=3.0							
PDAR	Pinedale Array	93.23	329	P		P	04 29 59.3	-0.6
HWUT	Hardware Ranch	95.04	329	eP		P	04 30 07.9	-0.2
	comp=Z,2.5nm,1.0s							
HWUT	Hardware Ranch	95.04	329	eP		P	04 30 07.9	-0.2
	comp=Z,2.5nm,1.0s							
SDCO	Great Sand Dun	95.33	323	eP		P	04 30 10.0	+0.4
SDCO	Great Sand Dun	95.33	323	eP		P	04 30 10.0	+0.4

BJI ***03*** *04:17:53.8, 33.91N×24.96E, h33km, mB5.0/26, mb4.8/33, Ms4.7/19, Ms7 4.4/19*
ISK ***03*** *04:17:54.8, 34.01N×25.75E, h17km, ML4.4*
IDC ***03*** *04:17:54.2±0.4, 34.14N×25.55E, h0km, mb4.5/31, mb1 4.5/43, mb1mx4.5/47, mbtmp4.5/43, ML4.3/8, MS4.1/8, Ms1 4.1/8, ms1mx3.6/37, Error ellipse: s-maj=10.7km s-min=10.1km az=125.0*
ISCJB ***03*** *04:17:55.0±0.6, 34.09N±0.0, 25.59E±0.0, h15km±3km, mb4.6/134, MS4.2/18, Error ellipse: s-maj=3.9km s-min=2.3km az=3.3*
PDG ***03*** *04:17:56.3±0.3, 34.07N×24.96E, h11km±8km, ML4.4/7, Error ellipse: s-maj=9.4km s-min=4.7km az=90.0*
MOS ***03*** *04:17:56.5±1.2, 34.16N×25.54E, h21km, mb4.8/57, Error ellipse: s-maj=5.8km s-min=3.2km az=96.4*
THE ***03*** *04:17:57.5, 34.19N×25.46E, h1km±2km, Error ellipse: s-maj=5.3km s-min=1.2km az=166.0*
NEIC ***03*** *04:17:57.8±1.0, 34.09N×25.60E, h21km±7km, mb4.7/46, ML4.4(ISK), Error ellipse: s-maj=5.1km s-min=3.3km az=191.0*
CSEM ***03*** *04:17:58.1±0.1, 34.18N×25.55E, h20km, mb4.6/99, Ms3.9, Error ellipse: s-maj=4.6km s-min=2.7km az=4.0*
ATH ***03*** *04:17:59.2, 34.28N×25.57E, h29km±4km, MD3.8/9*
ISC 03 04:17:59.4±0.4, 34.18N±0.0, 25.55E±0.0, h30km±2km, h30km:pP-P, n784, σ1s34/859, mb4.7/130, MS4.2/18, 25C-22D, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
LAST	Lasithi	0.98	357	P	Pn	04	18 15.6	-1.6
LAST				S	Sb	04	18 30.4	-0.2
LAST	Lasithi	0.98	357	ePN	Pn	04	18 16.6	-0.6
LAST	Lasithi	0.98	357	ePn	Pn	04	18 16.6	-0.6
LAST	Lasithi	0.98	357	P	Pn	04	18 15.6	-1.6
LAST	Lasithi	0.98	357	ePn	Pn	04	18 16.6	-0.6
SIVA	Sivas	1.04	324	P	Pn	04	18 16.9	-0.9
SIVA				S	Sn	04	18 31.1	-0.2
SIVA	Sivas	1.04	324	ePB	Pn	04	18 17.3	-0.5
SIVA	Sivas	1.04	324	ePb	Pn	04	18 17.3	-0.5
SIVA	Sivas	1.04	324	P	Pn	04	18 16.9	-0.9
SIVA	Sivas	1.04	324	ePb	Pn	04	18 17.3	-0.5
SIVA				S	Sn	04	18 31.1	-0.2
NPS	Neapolis	1.08	3	P	Pn	04	18 18.0	-0.5
NPS	Neapolis	1.08	3	eP	Pn	04	18 18.3	-0.2
NPS	Neapolis	1.08	3	ePN	Pn	04	18 18.3	-0.2
NPS	Neapolis	1.08	3	ePn	Pn	04	18 18.3	-0.2
NPS	Neapolis	1.08	3	P	Pn	04	18 18.0	-0.5
NPS	Neapolis	1.08	3	ePn	Pn	04	18 18.3	-0.2
ZKR	Zakros	1.08	30	P	Pn	04	18 17.9	-0.6
ZKR				S	Sb	04	18 35.0	+1.6
ZKR	Zakros	1.08	30	ePN	Pn	04	18 18.2	-0.3
ZKR	Zakros	1.08	30	ePn	Pn	04	18 18.2	-0.3
ZKR	Zakros	1.08	30	P	Pn	04	18 17.9	-0.6
ZKR	Zakros	1.08	30	ePn	Pn	04	18 18.2	-0.3
IDI	Anoyia	1.23	334	P	Pn	04	18 21.1	+0.5
IDI				S	Sb	04	18 40.2	+2.5
IDI	Anoyia	1.23	334	ePN	Pn	04	18 20.6	0.0
IDI	Anoyia	1.23	334	ePn	Pb	04	18 22.2	+0.1
IDI	Anoyia	1.23	334	P	Pn	04	18 21.1	+0.5
IDI	Anoyia	1.23	334	ePn	Pb	04	18 22.2	+0.1
GVD	Gavdhos	1.38	299	P	Pn	04	18 21.6	-0.9
GVD				S	Sn	04	18 39.8	+0.1
GVD	Gavdhos	1.38	299	ePN	Pb	04	18 24.3	-0.2
GVD	Gavdhos	1.38	299	ePn	Pn	04	18 21.9	-0.6
GVD	Gavdhos	1.38	299	P	Pn	04	18 21.6	-0.9
GVD	Gavdhos	1.38	299	ePn	Pn	04	18 21.9	-0.6
GVD				S	Sn	04	18 39.8	+0.1
VAM	Vamos	1.65	318	P	Pn	04	18 26.5	+0.2
VAM				S	Sb	04	18 49.6	-0.1
VAM	Vamos	1.65	318	ePN	Pb	04	18 27.8	-1.4
VAM	Vamos	1.65	318	P	Pn	04	18 26.5	+0.2
VAM	Vamos	1.65	318	ePn	Pb	04	18 27.8	-1.4
KARP	Karpathos	1.90	44	P	Pn	04	18 29.6	-0.2
KARP				S	Sn	04	18 54.0	+1.2
KARP	Karpathos	1.90	44	P	Pn	04	18 29.6	-0.2
KARP				S	Sn	04	18 54.0	+1.2
SANT	Santorini	2.19	358	ePn	Pb	04	18 36.5	-1.8
SANT	Santorini	2.19	358	ePn	Pb	04	18 36.5	-1.8
KYTH	Kithira	2.94	316	ePN	Pn	04	18 45.4	+1.4
KYTH	Kithira	2.94	316	ePn	Pn	04	18 45.4	+1.4
DAT	Datca	3.04	32	ePN	Pn	04	18 44.5	-1.0
DAT				eSN	Sn	04	19 20.5	-0.4
DAT	Datca	3.04	32	ePn	Pn	04	18 44.5	-1.0
MLSB	Milas	3.60	30	ePN	Pn	04	18 52.5	-0.6
MLSB	Milas	3.60	30	eSN	Sn	04	19 34.9	+0.2
MLSB	Milas	3.60	30	ePn	Pn	04	18 52.5	-0.6
DALY	Dalyan (Mu˘la	3.65	43	ePN	Pn	04	18 52.6	-1.1
DALY	Dalyan (Mu˘la	3.65	43	ePn	Pn	04	18 52.7	-1.1
SMG	Samos	3.67	16	ePN	Pn	04	18 55.5	+1.4
YER	Yerkesik	3.70	36	ePN	Pn	04	18 53.6	-0.9
YER	Yerkesik	3.70	36	ePn	Pn	04	18 53.6	-0.9
FETY	Fethiye	3.79	49	ePN	Pn	04	18 54.1	-1.6
FETY	Fethiye	3.79	49	ePn	Pn	04	18 54.1	-1.6
KSL	Kastellorizon	3.85	58	ePN	Pn	04	18 58.2	+1.7
BLCB	Balcova	4.37	16	ePN	Pn	04	19 04.0	+0.3
BLCB	Balcova	4.37	16	ePn	Pn	04	19 04.0	+0.3
ELL	Elmali	4.39	53	ePN	Pn	04	19 02.6	-1.4
ELL	Elmali	4.39	53	ePn	Pn	04	19 02.6	-1.4
IZM	Izmir	4.43	18	ePN	Pn	04	19 05.3	+0.7
IZM	Izmir	4.43	18	ePn	Pn	04	19 05.3	+0.7
ANTB	Antalya	4.97	55	ePN	Pn	04	19 10.7	-1.2
ANTB	Antalya	4.97	55	ePn	Pn	04	19 10.7	-1.2
KULA	Kula-Manisa	5.00	29	ePN	Pn	04	19 12.6	+0.1
KULA	Kula-Manisa	5.00	29	ePn	Pn	04	19 12.6	+0.1
KHL	Karahalli	5.24	37	ePN	Pn	04	19 15.6	-0.1
KHL	Karahalli	5.24	37	ePn	Pn	04	19 15.6	-0.1
BCK	Bucak	5.24	50	ePN	Pn	04	19 14.9	-0.9
BCK	Bucak	5.24	50	ePn	Pn	04	19 14.9	-0.9
ISP	Isparta	5.43	47	ePN	Pn	04	19 17.5	-0.8
ISP	Isparta	5.43	47	iP	Pb	04	19 55.7	+22
ISP	Isparta	5.43	47	ePn	Pn	04	19 17.5	-0.8
SUTC	Sutluce-Ispart	5.52	52	ePN	Pn	04	19 18.7	-0.9
SUTC	Sutluce-Ispart	5.52	52	ePn	Pn	04	19 18.7	-0.9
SHUT	Suhut-Afyon	5.95	41	ePN	Pn	04	19 25.5	0.0
SHUT	Suhut-Afyon	5.95	41	ePn	Pn	04	19 25.5	0.0
LEF	Lefka	6.12	79	ePN	Pn	04	19 24.9	-2.9
HDMB	Hadim	6.30	62	ePN	Pn	04	19 29.3	-1.1
HDMB	Hadim	6.30	62	ePn	Pn	04	19 29.3	-1.1
CSS	Prodhromos	6.47	81	ePN	Pn	04	19 30.8	-1.8
CSS	Prodhromos	6.47	81	ePn	Pn	04	19 32.2	-0.3
CSS				eSn	Sn	04	20 45.4	+0.1
CSS	Prodhromos	6.47	81	ePn	Pn	04	19 32.2	-0.3
CSS				eSn	Sn	04	20 45.4	+0.1
LFK	Lefkose	6.67	78	ePN	Pn	04	19 33.3	-2.0
KONT	Konya--Tatoy	6.68	54	ePN	Pn	04	19 34.7	-0.7
KONT	Konya--Tatoy	6.68	54	ePn	Pn	04	19 34.7	-0.7
LADK	Ladik-KONYA	6.82	52	ePN	Pn	04	19 36.8	-0.6
LADK	Ladik-KONYA	6.82	52	ePn	Pn	04	19 36.8	-0.6
IKL	Isikli	6.97	71	ePN	Pn	04	19 37.8	-1.6
EREN	Erenkoy	7.21	77	ePN	Pn	04	19 40.9	-1.9
VAY	Valandovo	7.51	343	ePn	Pb	04	20 01.2	-7.7
SULT	Sultanhani-AKS	7.59	56	ePN	Pn	04	19 47.0	-1.0
SULT	Sultanhani-AKS	7.59	56	ePn	Pn	04	19 47.0	-1.0
ANTO	Ankara	8.11	43	iP	Pn	04	19 57.0	+1.9
ANTO	Ankara	8.11	43	P	Pn	04	19 57.0	+1.9
	SNR=1.0							
GULE	Gulek	8.12	65	i S	Pn	04	19 55.5	+0.2
MMAI	Mount Meron Ar	8.30	95	Pn	Pn	04	19 54.4	-3.4
MMAI				Sn	Sn	04	21 25.9	-4.7
MMAI	Mount Meron Ar	8.30	95	Pn	Pn	04	19 54.4	-3.4
	4.5nm,0.3s,baz=286,slow=13,SNR=3.7							
MMAI				Sn	Sn	04	21 25.9	-4.7
	14nm,0.3s,baz=277,slow=24,SNR=7.1							
MMAI	Mount Meron Ar	8.30	95	Pn	Pn	04	19 54.4	-3.4
MMAI				Sn	Sn	04	21 25.9	-4.7
KARA	Karaisali	8.32	66	ePN	Pn	04	19 56.3	-1.7
KRTS	Karatas	8.37	71	ePN	Pn	04	19 56.9	-1.8
TIR	Tirane	8.45	330	eP	Pn	04	20 00.6	+0.9
TIR				e		04	21 34.4	
TIR	Tirane	8.45	330	ePn	Pn	04	20 00.6	+0.9
TIR				eSn	Sn	04	21 34.4	+0.3
TIR	Tirane	8.45	330	eP	Pn	04	20 00.6	+0.9
TIR				eS	Sn	04	21 34.4	+0.3
BR131	Keskin Array S	8.52	47	ePn	Pn	04	20 02.9	+2.1
BR131	Keskin Array S	8.52	47	Pn	Pn	04	20 02.8	+2.1
	SNR=1.0							
BRTR	Keskin Array B	8.52	47	Pn	Pn	04	19 59.4	-1.4
BRTR				Sn	Sn	04	21 35.6	-0.3
BRTR	Keskin Array B	8.52	47	Pn	Pn	04	19 59.4	-1.4
	0.7nm,0.3s,baz=221,slow=14,SNR=10							
BRTR				Sn	Sn	04	21 35.6	-0.3
	0.3nm,0.3s,baz=211,slow=25,SNR=3.5							
BRTR	Keskin Array B	8.52	47	Pn	Pn	04	19 59.4	-1.4
BRTR	Keskin Array B	8.52	47	P	Pn	04	20 03.0	+2.2
	11nm,0.9s,SNR=1.0							
BRTR				Sn	Sn	04	21 35.6	-0.3
VTS	Vitosha	8.60	348	iP	Pn	04	20 14.6	+13
VTS	Vitosha	8.60	348	iP	Pn	04	20 14.6	+13
VTS	Vitosha	8.60	348	P	Pn	04	20 14.6	+13
TIP	Timpagrande	8.64	308	ePn	Pn	04	20 01.9	-0.5
TIP	Timpagrande	8.64	308	ePn	Pn	04	20 01.9	-0.5
ARNB	Al Arnab	8.71	76	i S	Pn	04	19 51.5	-12
ARNB	Al Arnab	8.71	76	i S	Pn	04	19 51.5	-12
	54nm,0.6s,SNR=121							
CEYT	Ceyhan	8.78	68	ePN	Pn	04	20 01.9	-2.3
CEL	Celeste	8.80	300	ePn	Pn	04	20 04.1	-0.4
CEL	Celeste	8.80	300	ePn	Pn	04	20 04.1	-0.4
SLNF	Slenfeh	8.88	78	eS	Pn	04	19 54.8	-11
	148nm,0.7s,SNR=120							
SLNF	Slenfeh	8.88	78	eS	Pn	04	19 54.8	-11
HTY	Hatay	8.89	74	ePN	Pn	04	20 03.3	-2.4
KOZT	Kozan	8.97	66	ePN	Pn	04	20 05.1	-1.8
HAWK	Haweek	8.98	85	eS	Pn	04	19 58.8	-8.4
HAWK	Haweek	8.98	85	eS	Pn	04	19 58.8	-8.4
	46nm,0.6s,SNR=119							
BTCH	Batrach	9.13	75	eS	Pn	04	19 59.2	-10
	80nm,0.6s,SNR=119							
BTCH	Batrach	9.13	75	eS	Pn	04	19 59.2	-10
EIL	Elat	9.17	117	Pn	Pn	04	20 07.2	-2.3
EIL				Sn	Sn	04	21 45.1	-6.6
EIL	Elat	9.17	117	Pn	Pn	04	20 07.2	-2.3
	5.7nm,0.3s,baz=339,slow=9.7,SNR=9.1							
EIL				Sn	Sn	04	21 45.1	-6.6
	2.1nm,0.3s,baz=306,slow=19,SNR=2.6							
EIL	Elat	9.17	117	Pn	Pn	04	20 07.2	-2.3
EIL				Sn	Sn	04	21 45.1	-6.6
ULC	Ulcinj	9.22	329	iPn	Pn	04	20 08.6	-1.7
ULC				eSn	Sn	04	21 48.9	-4.1
ULC	Ulcinj	9.22	329	iPn	Pn	04	20 08.6	-1.7
ULC				Sn	Sn	04	21 48.9	-4.1
	SNR=1.0							
DRWC	Darouich	9.40	72	eS	Pn	04	20 05.1	-7.7
DRWC	Darouich	9.40	72	eS	Pn	04	20 05.1	-7.7
	46nm,0.6s,SNR=118							
PVY	Plav	9.48	334	iPn	Pn	04	20 13.6	-0.3
PVY				eSn	Sn	04	21 56.1	-3.3
PVY	Plav	9.48	334	iPn	Pn	04	20 13.6	-0.3
PVY				Sn	Sn	04	21 56.1	-3.3
	SNR=1.0							
PDG	Podgorica	9.61	331	iPn	Pn	04	20 14.1	-1.4
PDG				Sn	Sn	04	21 58.3	-4.1
	SNR=1.0							
TTG	Podgorica	9.61	331	iPn	Pn	04	20 14.1	-1.4
TTG				eSn	Sn	04	21 58.3	-4.1
BUM	Brajici-Budva	9.65	329	iPn	Pn	04	20 14.4	-1.8
BUM				eSn	Sn	04	21 59.4	-4.1
BUM	Brajici-Budva	9.65	329	iPn	Pn	04	20 14.4	-1.8
BUM				Sn	Sn	04

PSZ	Piszkesteto	14.37	345	eP		Pn	04 21 20.4	-0.3
SOC	Sochi	14.47	45	d iP		Pn	04 21 22.6	+0.6
SOC				i			04 24 04.7	
SOC					pmax	pmax		
	comp=Z,25nm,0.9s							
SOC					MLR	MLR		
	comp=Z,379nm,12.0s							
SOC	Sochi	14.47	45	i P		Pn	04 21 22.6	+0.6
	comp=Z,25nm,0.9s							
SOC				i S		Sn	04 24 04.7	+3.3
	comp=Z,379nm,12.0s							
VOY	Vojsko	14.80	327	eSn		Pn	04 21 31.3	+4.7
KOLS	Kolonicke sedl	14.94	352	eP		Pn	04 21 28.5	+0.1
KOLS	Kolonicke sedl	14.94	352	ePN		Pn	04 21 28.5	+0.1
KOLS	Kolonicke sedl	14.94	352	ePn		Pn	04 21 28.5	+0.1
VYHS	Vyhne	15.16	343	eP		Pn	04 21 29.3	-1.9
VYHS	Vyhne	15.16	343	ePN		Pn	04 21 29.3	-1.9
VYHS	Vyhne	15.16	343	eP		P	04 21 36.2	+0.2
VYHS				e			04 21 49.3	
VYHS	Vyhne	15.16	343	eP		P	04 21 36.2	+0.2
ZST	Bratislava	15.37	338	e		P	04 21 51.9	+14
PGF	Pioggiola	15.42	308	eP		Pn	04 21 36.6	+1.8
	comp=Z,49nm,0.8s							
PGF	Pioggiola	15.42	308	eP		Pn	04 21 36.6	+1.8
	comp=Z,24nm,0.8s							
CHVG	Ch'k'valeri	15.49	52	P		P	04 21 54.0	+14
STHS	Stebnicka Huta	15.56	349	eP		P	04 21 40.2	-0.2
STHS	Stebnicka Huta	15.56	349	eP		P	04 21 40.2	-0.2
STHS	Stebnicka Huta	15.56	349	eP		P	04 21 40.2	-0.2
KBA	Koelnbreinsper	15.84	328	f iP		P	04 21 43.5	-0.3
	comp=Z,26nm,0.6s							
KBA	Koelnbreinsper	15.84	328	P		P	04 21 43.5	-0.3
	comp=Z,26nm,0.6s,SNR=1.0							
AKH	Akhalkalaki	15.90	58	P		P	04 21 43.8	-0.7
AKH	Akhalkalaki	15.90	58	P		P	04 21 43.8	-0.7
ABTA	Abfaltersbach	15.97	326	f iPn		P	04 21 43.6	-1.5
	comp=Z,53nm,0.7s							
ABTA	Abfaltersbach	15.97	326	P		P	04 21 43.6	-1.5
	comp=Z,53nm,0.7s							
GNI	Garni	16.41	63	ePn		Pn	04 21 48.4	+0.8
	comp=Z,88nm,1.3s							
GNI	Garni	16.41	63	Pn		Pn	04 21 47.8	+0.2
	comp=Z,0.7nm,0.3s,baz=309,slow=6.5,SNR=4.9							
GNI					LR	LR	04 29 54.4	
	comp=Z,595nm,19.7s,baz=270,slow=44							
GNI	Garni	16.41	63	eP		Pn	04 21 48.4	+0.8
	comp=Z,88nm,1.3s							
KIV	Kislovodsk	16.48	49	↓ iP		P	04 21 50.6	-0.2
KIV					pmax	pmax		
	comp=Z,89nm,1.3s							
KIV					MLR	MLR		
	comp=Z,100nm,13.0s							
KIV	Kislovodsk	16.48	49	i P		P	04 21 50.6	-0.2
	comp=Z,100nm,13.0s							
KBZ	Khabaz	16.50	50	P		Pn	04 21 49.3	+0.8
KBZ	Khabaz	16.50	50	Pn		Pn	04 21 49.3	+0.8
KBZ	Khabaz	16.50	50	Pn		Pn	04 21 49.3	+0.8
	comp=Z,0.3nm,0.3s,baz=256,slow=8.0,SNR=20							
KBZ	Khabaz	16.50	50	P		Pn	04 21 49.3	+0.8
VRAC	Vranov	16.51	339	Pn		P	04 21 49.9	-1.1
VRAC	Vranov	16.51	339	Pn		P	04 21 49.9	-1.1
	comp=Z,1.0nm,0.3s,baz=139,slow=9.2,SNR=8.0							
VRAC	Vranov	16.51	339	P		P	04 21 49.9	-1.1
	comp=Z,1.0nm,0.3s							
OKC	Ostrava-Krasne	16.57	343		AMS	AMS	04 29 20.0	
	comp=Z,900nm,10.7s							
MORC	Moravsky Berou	16.67	342	eP		Pn	04 21 48.6	-2.1
MORC					pmax	pmax		
	comp=Z,6.0nm,0.8s							
MORC	Moravsky Berou	16.67	342	ePn		Pn	04 21 48.6	-2.1
	comp=Z,6.2nm,0.8s							
AK02	Malin Array Si	16.68	8	ePn		P	04 21 51.9	-1.0
AK02	Malin Array Si	16.68	8	ePn		P	04 21 51.9	-1.0
ZEI	Tsey	16.71	54	eP		P	04 21 54.9	+1.4
ZEI					pmax	pmax		
	comp=Z,147nm,1.4s							
ZEI	Tsey	16.71	54	eP		P	04 21 54.9	+1.4
	comp=Z,147nm,1.4s							
AK01	Malin Array Si	16.72	8	ePn		P	04 21 52.6	-0.7
AK01	Malin Array Si	16.72	8	ePn		P	04 21 52.6	-0.7
KIEV	Kiev	16.72	8	eP		P	04 21 52.6	-0.7
KIEV					pmax	pmax		
	comp=Z,39nm,0.7s							
KIEV	Kiev	16.72	8	ePn		P	04 21 52.6	-0.7
	comp=Z,39nm,0.7s							
KIEV	Kiev	16.72	8	eP		P	04 21 52.6	-0.7
	comp=Z,39nm,0.7s							
AKASG	Malin Array Be	16.73	8	ceP		P	04 21 52.7	-0.7
AKASG					pmax	pmax		
	comp=Z,36nm,0.6s							
AKASG	Malin Array Be	16.73	8	Pn		Pn	04 21 51.0	-0.4
AKASG				Sn		S	04 25 02.8	-3.7
AKASG	Malin Array Be	16.73	8	Pn		Pn	04 21 51.0	-0.4
	comp=Z,8.2nm,0.3s,baz=199,slow=10,SNR=17							
AKASG				Sn		S	04 25 02.8	-3.7
	baz=190,slow=21,SNR=9.2							
AKASG	Malin Array Be	16.73	8	Pn		Pn	04 21 51.0	-0.4
AKASG	Malin Array Be	16.73	8	eP		P	04 21 52.7	-0.7
	comp=Z,36nm,0.6s							
AKASG				Sn		S	04 25 02.8	-3.7
NAX	Nakhchivan	16.75	67	P		P	04 21 55.8	+2.0
	SNR=4.7							
NAX	Nakhchivan	16.75	67	Pn		P	04 21 55.8	+2.0
	SNR=4.7							
NAX	Nakhchivan	16.75	67	P		P	04 21 55.8	+2.0
	SNR=4.7							
TREC	Trest	16.84	337	eP		Pn	04 21 51.6	-1.2
TREC				eS		Sn	04 24 59.4	+0.4
TREC					MLR	MLR		
	comp=Z,500nm,11.8s							
TREC	Trest	16.84	337	eP		Pn	04 21 51.6	-1.2
TREC				epP		P	04 21 57.6	+2.9
TREC				eS		Sn	04 24 59.4	+0.4
TREC					AMS	AMS	04 30 20.0	
	comp=Z,500nm,11.8s							
TREC	Trest	16.84	337	P		Pn	04 21 51.6	-1.2
	SNR=1.0							
TREC				eS		Sn	04 24 59.4	+0.4
	comp=Z,500nm,11.8s							
FETA	Feichten	17.03	323	↓ iPn		P	04 21 57.7	+0.7
	comp=Z,22nm,0.8s							
SAOF	Saorge	17.03	310	eP		Pn	04 21 54.1	-1.1
SAOF	Saorge	17.03	310	eP		Pn	04 21 54.1	-1.1
SAOF	Saorge	17.03	310	eP		Pn	04 21 54.1	-1.1
SAOF	Saorge	17.03	310	eP		Pn	04 21 54.1	-1.1
SBF	Sospel	17.05	310	eP		Pn	04 21 55.4	-0.1
	comp=Z,72nm,1.0s							
SBF	Sospel	17.05	310	eP		Pn	04 21 55.4	-0.1
	comp=Z,36nm,1.0s							
MOTA	Moosalm	17.07	325	↓ iPn		Pn	04 21 55.0	-0.9
	comp=Z,13nm,0.8s							
MOTA	Moosalm	17.07	325	P		Pn	04 21 55.0	-0.9
	comp=Z,13nm,0.8s,SNR=1.0							
GEC2	GERESS Array S	17.10	333	eP		Pn	04 21 56.7	+0.6
GEC2	GERESS Array S	17.10	333	ePn		Pn	04 21 56.7	+0.6
GEC2	GERESS Array S	17.10	333	eP		Pn	04 21 56.7	+0.6
GERES	GERESS Array B	17.10	333	P		Pn	04 21 54.7	-1.4
GERES				S		S	04 25 14.4	+0.2
GERES	GERESS Array B	17.10	333	P		Pn	04 21 54.7	-1.4
	comp=Z,1.6nm,0.3s,baz=150,slow=12,SNR=18							
GERES				S		S	04 25 14.4	+0.2
	comp=Z,0.2nm,0.3s,baz=146,slow=11,SNR=2.7							
GERES	GERESS Array B	17.10	333	P		Pn	04 21 54.7	-1.4
	comp=Z,2.0nm,0.3s							
GERES				S		S	04 25 14.4	+0.2
TOUF	Mont Tournerai	17.24	310	eP		P	04 22 00.0	+0.7
TOUF	Mont Tournerai	17.24	310	eP		P	04 22 00.0	+0.7
TOUF	Mont Tournerai	17.24	310	eP		P	04 22 00.0	+0.7
TOUF	Mont Tournerai	17.24	310	eP		P	04 22 00.0	+0.7
MVIF	Mont Vial	17.24	310	eP		P	04 21 59.6	+0.3
MVIF	Mont Vial	17.24	310	eP		P	04 21 59.6	+0.3
MVIF	Mont Vial	17.24	310	eP		P	04 21 59.6	+0.3
MVIF	Mont Vial	17.24	310	eP		P	04 21 59.6	+0.3
DGRG	David-gareji	17.25	59	P		Pn	04 21 48.0	-10
DAVOX	Davos/Dischmat	17.30	321	P		P	04 21 59.4	-0.5
DAVOX				S		S	04 25 19.6	+1.2
DAVOX	Davos/Dischmat	17.30	321	P		P	04 21 59.4	-0.5
	comp=Z,0.7nm,0.3s,baz=138,slow=13,SNR=10							
DAVOX				S		S	04 25 19.6	+1.2
	comp=Z,0.2nm,0.3s,baz=99,slow=19,SNR=2.6							
DAVOX	Davos/Dischmat	17.30	321	P		P	04 21 59.4	-0.5
	comp=Z,1.0nm,0.3s							
DAVOX				S		S	04 25 19.6	+1.2
CALN	Calern	17.34	309	eP		P	04 22 00.6	+0.2
CALN	Calern	17.34	309	eP		P	04 22 00.6	+0.2
CALN	Calern	17.34	309	eP		P	04 22 00.6	+0.2
CALN	Calern	17.34	309	eP		P	04 22 00.6	+0.2
TUE	Stuetta	17.38	320	ePn		P	04 22 01.0	+0.2
	comp=Z,16nm,0.9s							
TUE	Stuetta	17.38	320	ePn		P	04 22 01.0	+0.2
	comp=Z,16nm,0.9s							
KHC	Kasperske Hory	17.38	333	eP		P	04 22 01.1	+0.4
KHC				eS		Sn	04 25 15.4	+3.4
KHC					MLR	MLR		
	comp=Z,1μm,12.3s							
KHC	Kasperske Hory	17.38	333	eP		P	04 22 01.1	+0.4
KHC				epP		pP	04 22 08.7	0.0
KHC				eS		Sn	04 25 15.4	+3.4
KHC					AMS	AMS	04 29 40.0	
	comp=Z,1μm,12.3s							
KHC	Kasperske Hory	17.38	333	ePn		P	04 22 00.8	+0.1
	comp=Z,14nm,0.8s							
KHC	Kasperske Hory	17.38	333	ePn		P	04 22 00.8	+0.1
	comp=Z,14nm,0.8s							
KHC	Kasperske Hory	17.38	333	P		P	04 22 01.1	+0.4
KHC				S		Sn	04 25 15.4	+3.4
LMR	La Mourre	17.41	307	eP		Pn	04 21 59.5	-0.4
	comp=Z,17nm,0.9s							
LMR	La Mourre	17.41	307	eP		Pn	04 21 59.5	-0.4
	comp=Z,8.6nm,0.9s							
DPC	Dobruska-Polom	17.52	340	eP		P	04 22 02.2	0.0
DPC	Dobruska-Polom	17.52	340	eP		P	04 22 02.2	0.0
DPC				epP		pP	04 22 08.6	-1.6
DPC	Dobruska-Polom	17.52	340	P		P	04 22 02.2	0.0
	SNR=1.0							
GANJ	Ganja	17.70	63	P		P	04 22 04.0	-0.3
	SNR=14							
GANJ	Ganja	17.70	63	Pn		P	04 22 04.0	-0.3
	SNR=14							
GANJ	Ganja	17.70	63	P		P	04 22 04.0	-0.3
	SNR=14							
UPC	Upice	17.75	340	eP		Pn	04 22 02.8	-1.3
UPC	Upice	17.75	340	eP		Pn	04 22 02.8	-1.3
UPC				epP		pP	04 22 10.9	-1.8
UPC	Upice	17.75	340	P		Pn	04 22 02.8	-1.3
	SNR=1.0							
PRU	Pruhonice	17.75	336	eP		Pn	04 22 02.0	-2.1
PRU				eS		Sn	04 25 17.7	-3.3
PRU					MLR	MLR		
	comp=Z,500nm,8.9s							
PRU	Pruhonice	17.75	336	eP		Pn	04 22 02.0	-2.1
PRU				eS		Sn	04 25 17.7	-3.3
PRU					AMS	AMS	04 31 40.0	
	comp=Z,500nm,8.9s							
PRU	Pruhonice	17.75	336	P		Pn	04 22 02.0	-2.1
	comp=Z,500nm,8.9s,SNR=1.0							
PRU				eS		Sn	04 25 17.7	-3.3
PRA	Prague	17.86	336	P		Pn	04 22 03.0	-2.4
MBDF	Montbardon	17.88	312	eP		Pn	04 22 06.1	+0.2
	comp=Z,35nm,0.9s							
MBDF	Montbardon	17.88	312	eP		Pn	04 22 06.1	+0.2
	comp=Z,18nm,0.9s							
KSP	Ksiaz	17.97	341	eP		Pn	04 22 05.7	-1.1
KSP				eS		S	04 25 30.0	-1.8
KSP	Ksiaz	17.97	341	eP		Pn	04 22 05.8	-1.1
KSP	Ksiaz	17.97	341	eP		Pn	04 22 05.7	-1.1
KSP				eS		S	04 25 30.0	-1.8
PVCC	Panska Ves	18.21	337	AMS		AMS	04 31 20.0	
	comp=Z,700nm,11.0s							
LPG	La Plagne	18.29	314	eP		P	04 22 10.6	-0.4
LPG	La Plagne	18.29	314	eP		P	04 22 10.6	-0.4
SMRF	Simiane la Rot	18.30	308	eP		Pn	04 22 11.4	+0.5
	comp=Z,49nm,1.4s							
SMRF	Simiane la Rot	18.30	308	eP		Pn	04 22 11.4	+0.5
	comp=Z,25nm,1.4s							
LPL	La Plagne	18.31	314	eP		P	04 22 09.9	-1.2
LPL	La Plagne	18.31	314	eP		P	04 22 09.9	-1.2
SENIN	Lac Senin/Sane	18.44	317	ePn		Pn	04 22 14.1	+1.3
	comp=Z,15nm,0.8s							
SENIN	Lac Senin/Sane	18.44	317	ePn		Pn	04 22 14.1	+1.3
	comp=Z,15nm,0.8s							
SEKA	Sheki	18.49	61	P		Pn	04 22 13.6	+0.3
	SNR=4.6							
SEKA	Sheki	18.49	61	P		Pn	04 22 13.6	+0.3
	SNR=4.6							
SEKA	Sheki	18.49	61	P		Pn	04 22 13.6	+0.3
	SNR=4.6							
ORIF	Oris-en-Rattie	18.53	311	eP		P	04 22 12.7	-0.7
	comp=Z,16nm,0.9s							
ORIF				eR				
	comp=Z,860nm,19.8s							
ORIF	Oris-en-Rattie	18.53	311	eP		P	04 22 12.7	-0.7
	comp=Z,8.2nm,0.9s							
SPAK	Spaichingen-Ko	18.73	323	eP		Pn	04 22 15.9	-0.2
SPAK	Spaichingen-Ko	18.73	323	eP		Pn	04 22 15.9	-0.2
GRA1	Grafenberg Arr	18.76	330	eP		Pn	04 22 16.5	+0.1
	comp=Z,19μm,20.9s							
GRF	Grafenberg Arr	18.76	330	eP		Pn	04 22 16.5	+0.1
	comp=Z,19nm,1.1s							
GRF				eL		L	04 30 14.3	
	comp=Z,423nm,20.9s							
GRF	Grafenberg Arr	18.76	330	eP		Pn	04 22 16.5	+0.1
GRF					pmax	pmax		
	comp=Z,4.0nm,1.1s							
GRF					MLR	MLR		
	comp=Z,19μm,20.9s							
GRFO	Grafenberg	18.76	330	eP		Pn	04 22 16.3	-0.1
GRFO					pmax	pmax		
	comp=Z,153nm,1.7s							
GRFO	Grafenberg	18.76	330	eP		Pn	04 22 16.3	-0.1
	comp=Z,153nm,1.7s							
GRFO	Grafenberg	18.76	330	eP		Pn	04 22 16.3	-0.1
	comp=Z,153nm,1.7s							
FELD	Feldberg im Sc	18.98	321	eP		P	04 22 18.0	-0.4
FELD	Feldberg im Sc	18.98	321	eP		P	04 22 18.0	-0.4
BBS	Basel-Blauen	18.98	320	eP		P	04 22 18.2	-0.1
BBS	Basel-Blauen	18.98	320	eP		P	04 22 18.2	-0.1
BBS	Basel-Blauen	18.98	320	eP		P	04 22 18.2	-0.1
GLBA	Cilalabad	18.98	68	P		Pn	04 22 20.6	+1.4
	SNR=4.7							
GLBA	Cilalabad	18.98	68	P		Pn	04 22 20.6	+1.4
	SNR=4.7							
GLBA	Cilalabad	18.98	68	P		Pn	04 22 20.6	+1.4
	SNR=4.7							
STU	Stuttgart	18.99	325	eP		P	04 22 18.6	+0.3
STU					pmax	pmax		
	comp=Z,31nm,0.8s							
STU	Stuttgart	18.99	325	eP		P	04 22 18.6	+0.3
	comp=Z,31nm,0.8s							
STU	Stuttgart	18.99	325	eP		P	04 22 18.6	+0.3
	comp=Z,31nm,0.8s							
BFO	Black Forest	19.11	323	eP		Pn	04 22 21.2	+0.5
BFO					pmax	pmax		
	comp=Z,24nm,1.0s							
BFO	Black Forest	19.11	323	eP		Pn	04 22 21.2	+0.5
	comp=Z,24nm,1.0s							
BFO	Black Forest	19.11	323	eP		Pn	04 22 21.2	+0.5
	comp=Z,24nm,1.0s							
IML	Ismayilli	19.11	63	P		Pn	04 22 20.7	-0.1
	SNR=3.9							
IML	Ismayilli	19.11	63	P		Pn	04 22 20.7	-0.1
	SNR=3.9							
IML	Ismayilli	19.11	63	P		Pn	04 22 20.7	-0.1
	SNR=3.9							
MAK	Makhachkala	19.24	56	d iP		Pn	04 22 23.1	+0.9
MAK				eS		S	04 25 59.3	+2.2
MAK					pmax	pmax		
	comp=Z,714nm,1.5s							
MAK	Makhachkala	19.24	56	P		Pn	04 22 23.1	+0.9
	comp=Z,714nm,1.5s,SNR=1.0							
MAK				eS		S	04 25 59.3	+2.2
VIVF	Saint-Julien-l	19.26	310	eP		P	04 22 21.1	-0.3
VIVF	Saint-Julien-l	19.26	310	eP		P	04 22 21.1	-0.3
CABF	La Chapelle	19.27	316	eP		P	04 22 21.9	+0.3
	comp=Z,20nm,0.6s							
CABF	La Chapelle	19.27	316	eP		P	04 22 21.9	+0.3
	comp=Z,9.9nm,0.6s							
LOMF	Lomont	19.28	319	eP		Pn	04 22 23.7	+0.9
LOMF	Lomont	19.28	319	eP		Pn	04 22 23.7	+0.9
LOMF	Lomont	19.28	319	eP		Pn	04 22 23.7	+0.9
LOMF	Lomont	19.28	319	eP		Pn	04 22 23.7	+0.9
CLL	Collm	19.39	336	↓ iP		P	04 22 22.1	-0.6
CLL				eS		S	04 26 00.0	-0.2
CLL					pmax	pmax		
	comp=Z,13nm,0.6s							
CLL	Collm	19.39	336	↓ iP		P	04 22 22.1	-0.6
	comp=Z,13nm,0.6s							
CLL				epP		Pn	04 22 26.0	+2.0
CLL				ePP		PnPn	04 22 37.0	-0.4
CLL				e			04 22 42.0	
CLL				eS		S	04 26 00.0	-0.2
CLL				i sS		sS	04 26 11.2	-2.0
CLL				eSSS		SSS	04 26 32.0	
CLL					Lmax		04 32 36.0	
CLL	Collm	19.39	336	i P		P	04 22 22.1	-0.6
	comp=Z,13nm,0.6s							
CLL				eS		S	04 26 00.0	-0.2
PQL	Pirkuli	19.41	63	P		Pn	04 22 24.7	+0.2
	SNR=5.9							
PQL	Pirkuli	19.41	63	P		Pn	04 22 24.7	+0.2
	SNR=5.9							
PQL	Pirkuli	19.41	63	P		Pn	04 22 24.7	+0.2
	SNR=5.9							
MOF	Molkenrain	19.42	320	eP		P	04 22 23.7	+0.6
MOF	Molkenrain	19.42	320	eP		P	04 22 23.7	+0.6
MOF	Molkenrain	19.42	320	eP		P	04 22 23.7	+0.6
MOF	Molkenrain	19.42	320	eP		P	04 22 23.7	+0.6
LASF	Ste Croix	19.46	307	eP		P	04 22 22.8	-0.8
	comp=Z,58nm,1.3s							
LASF	Ste Croix	19.46	307	eP		P	04 22 22.8	-0.8
	comp=Z,29nm,1.3s							
QUBA	Quba, Azerbaij	19.47	62	P		Pn	04 22 25.5	+0.4
	SNR=4.0							
QUBA	Quba, Azerbaij	19.47	62	P		Pn	04 22 25.5	+0.4
	SNR=4.0							
QUBA	Quba, Azerbaij	19.47	62	P		Pn	04 22 25.5	+0.4
	SNR=4.0							
VORD	Divnogorie	19.54	27	eP		P	04 22 23.9	-0.4
VORD				eS		S	04 25 55.6	-7.5
VORD					pmax	pmax		
	comp=Z,30nm,0.9s							
VORD					pmax	pmax		
	comp=N,70nm,1.0s							
VORD					pmax	pmax		
	comp=E,100nm,1.3s							
VORD					smax	smax		
	comp=Z,120nm,6.8s							
VORD					smax	smax		
	comp=N,150nm,7.6s							
VORD					smax	smax		
	comp=E,240nm,9.2s							
VORD	Divnogorie	19.54	27	eP		P	04 22 23.9	-0.4
	comp=E,70nm,1.0s							
VORD				eS		S	04 25 55.6	-7.5
	comp=E,150nm,7.6s							
HINF	Hinteralfeld	19.55	320	eP		Pn	04 22 26.4	+0.5
	comp=E,19nm,0.7s							
HINF	Hinteralfeld	19.55	320	eP		Pn	04 22 26.4	+0.5
	comp=E,9.4nm,0.7s							
ALIB	Äli-Bayra	19.56	66	P		Pn	04 22 28.1	+2.0
	SNR=4.6							
ALIB	Äli-Bayra	19.56	66	P		Pn	04 22 28.1	+2.0
	SNR=4.6							
ALIB	Äli-Bayra	19.56	66	P		Pn	04 22 28.1	+2.0
	SNR=4.6							
ECH	Echery	19.63	321	eP		Pn	04 22 28.6	+1.7
ECH	Echery	19.63	321	eP		Pn	04 22 28.6	+1.7
ECH	Echery	19.63	321	eP		Pn	04 22 28.6	+1.7
ECH	Echery	19.63	321	eP		Pn	04 22 28.6	+1.7
CDF	Champ du Feu	19.70	322	eP		P	04 22 26.9	+0.7
	comp=E,38nm,1.0s							
CDF	Champ du Feu	19.70	322	eP		P	04 22 26.9	+0.7
	comp=E,19nm,1.0s							
VSR	Storozhevoye	19.70	26	eP		Pn	04 22 28.3	+0.7
VSR				eS		S	04 26 01.3	-5.1
VSR					pmax	pmax		
	comp=E,70nm,1.2s							
VSR					pmax	pmax		
	comp=Z,80nm,1.2s							
VSR					pmax	pmax		
	comp=N,100nm,1.1s							
VSR					smax	smax		
	comp=Z,80nm,6.1s							
VSR					smax	smax		
	comp=N,100nm,8.3s							
VSR					smax	smax		
	comp=E,100nm,8.6s							
VSR	Storozhevoye	19.70	26	eP		Pn	04 22 28.3	+0.7
	comp=E,100nm,1.1s							
VSR					S	S	04 26 01.3	-5.1
	comp=E,100nm,8.3s,SNR=1.0							
SIZA	Siyzn	19.70	63	P		Pn	04 22 27.9	0.0
	SNR=8.1							
SIZA	Siyzn	19.70	63	P		Pn	04 22 27.9	0.0
	SNR=8.1							
SIZA	Siyzn	19.70	63	P		Pn	04 22 27.9	0.0
	SNR=8.1							
TOD	Tromm	19.75	326	eP		P	04 22 27.3	+0.6
TOD	Tromm	19.75	326	eP		P	04 22 27.3	+0.6
TOD	Tromm	19.75	326	eP		P	04 22 27.3	+0.6
LANF	Langenberg	19.80	324	eP		P	04 22 28.0	+0.8
LANF	Langenberg	19.80	324	eP		P	04 22 28.0	+0.8
LANF	Langenberg	19.80	324	eP		P	04 22 28.0	+0.8
LANF	Langenberg	19.80	324	eP		P	04 22 28.0	+0.8
KTD	Kalmit	19.89	325	eP		Pn	04 22 30.4	+0.4
KTD	Kalmit	19.89	325	eP		Pn	04 22 30.4	+0.4
KTD	Kalmit	19.89	325	eP		Pn	04 22 30.4	+0.4
SUW	Suwalki	19.90	356	eP		P	04 22 28.4	+0.2
SUW					pmax	pmax		
	comp=Z,81nm,0.8s							
SUW	Suwalki	19.90	356	eP		P	04 22 28.4	+0.2
	comp=Z,81nm,0.8s							
SUW	Suwalki	19.90	356	eP		P	04 22 28.1	-0.1
SUW				eS		S	04 26 08.4	-2.1
SUW	Suwalki	19.90	356	eP		P	04 22 28.4	+0.2
	comp=Z,81nm,0.8s							
HAU	Haudompre	19.93	320	eP		Pn	04 22 30.1	-0.4
	comp=Z,38nm,0.7s							
HAU				eR				
	comp=Z,573nm,18.0s							
HAU	Haudompre	19.93	320	eP		Pn	04 22 30.1	-0.4
	comp=Z,19nm,0.7s							
GOBA	Gobu	20.19	65	P		Pn	04 22 34.5	+0.9
	SNR=5.8							
GOBA	Gobu	20.19	65

comp=Z,27nm,1.4s
LOR Lormes 20.92 315 *e*P **P 04 22 38.8 -0.6**
comp=Z,17nm,0.8s,baz=128
LOR *e*R
comp=Z,752nm,22.8s
LOR Lormes 20.92 315 *e*P **P 04 22 38.8 -0.6**
comp=Z,8.6nm,0.8s
MEZF Maizieres J'vi 20.92 319 *e*P **P 04 22 39.6 +0.2**
comp=Z,52nm,0.8s,baz=115
MEZF Maizieres J'vi 20.92 319 *e*P **P 04 22 39.6 +0.2**
comp=Z,26nm,0.8s
CAF Calviac 20.98 308 *e*P **P 04 22 40.2 +0.1**
comp=Z,32nm,1.1s
CAF Calviac 20.98 308 *e*P **P 04 22 40.2 +0.1**
comp=Z,16nm,1.1s
AVF Avril sur Loir 20.98 314 *e*P **P 04 22 40.2 +0.2**
comp=Z,10nm,0.7s
AVF Avril sur Loir 20.98 314 *e*P **P 04 22 40.2 +0.2**
comp=Z,5.1nm,0.7s
WLF Walferdange 21.07 323 *e*P **P 04 22 42.0 +1.1**
WLF pmax pmax
comp=Z,29nm,0.8s
WLF Walferdange 21.07 323 *e*P **P 04 22 42.0 +1.1**
comp=Z,29nm,0.8s
WLF Walferdange 21.07 323 *e*P **P 04 22 42.0 +1.1**
comp=Z,29nm,0.8s
BGF Bois d'Agland 21.18 313 *e*P **P 04 22 42.4 +0.3**
comp=Z,42nm,0.8s
BGF Bois d'Agland 21.18 313 *e*P **P 04 22 42.4 +0.3**
comp=Z,21nm,0.8s
TCF Toulx Ste Croi 21.45 311 *e*P **P 04 22 45.1 0.0**
comp=Z,31nm,1.0s
TCF Toulx Ste Croi 21.45 311 *e*P **P 04 22 45.1 0.0**
comp=Z,15nm,1.0s
RJF Les Rejaudoux 21.48 308 *e*P **P 04 22 45.3 -0.1**
comp=Z,70nm,1.2s
RJF *e*R
comp=Z,557nm,19.5s
RJF Les Rejaudoux 21.48 308 *e*P **P 04 22 45.3 -0.1**
comp=Z,35nm,1.2s
EPF Esparros 21.53 302 *e*P **P 04 22 46.3 +0.3**
comp=Z,35nm,1.4s
EPF Esparros 21.53 302 *e*P **P 04 22 46.3 +0.3**
comp=Z,18nm,1.4s
LFF La Frestale 21.86 307 *e*P **P 04 22 51.0 +1.6**
comp=Z,35nm,1.0s
LFF La Frestale 21.86 307 *e*P **P 04 22 51.0 +1.6**
comp=Z,18nm,1.0s
HGN Heimansgroeve 21.89 325 *e*P **P 04 22 51.6 +1.9**
comp=Z,15nm,0.8s
HGN Heimansgroeve 21.89 325 *e*P **P 04 22 51.6 +1.9**
comp=Z,15nm,0.8s
GIVF Givet 22.01 323 *e*P **P 04 22 52.4 +1.4**
comp=Z,51nm,0.8s
GIVF Givet 22.01 323 *e*P **P 04 22 52.4 +1.4**
comp=Z,25nm,0.8s
ETSF Etsaut 22.13 301 *e*P **P 04 22 53.9 +1.4**
comp=Z,21nm,0.9s
ETSF Etsaut 22.13 301 *e*P **P 04 22 53.9 +1.4**
comp=Z,10nm,0.9s
BSD Bornholm Skovb 22.21 344 *e*P **P 04 22 51.5 -1.6**
BSD pmax pmax
comp=Z,6.0nm,0.9s
BSD Bornholm Skovb 22.21 344 *i* P **P 04 22 51.5 -1.6**
comp=Z,6.3nm,0.9s
BSD Bornholm Skovb 22.21 344 *e*P **P 04 22 51.5 -1.6**
comp=Z,6.3nm,0.9s
BAIF Baives 22.30 322 *e*P **P 04 22 54.4 +0.3**
comp=Z,38nm,0.7s
BAIF Baives 22.30 322 *e*P **P 04 22 54.4 +0.3**
comp=Z,19nm,0.7s
OBN Obninsk 22.30 17⇑ *i*P **P 04 22 55.2 +1.2**
OBN *i* S **S 04 26 56.8 -0.6**
OBN pmax pmax
comp=Z,14nm,0.6s
OBN MLR MLR
comp=Z,200nm,17.0s
OBN Obninsk 22.30 17 *i* P **P 04 22 55.2 +1.2**
comp=Z,14nm,0.6s
OBN *i* S **S 04 26 56.8 -0.6**
comp=Z,200nm,17.0s
WTSB Winterswijk 22.33 328 *e*P **P 04 22 55.1 +0.7**
comp=Z,32nm,0.8s
WTSB Winterswijk 22.33 328 *e*P **P 04 22 55.1 +0.7**
comp=Z,32nm,0.8s
SJPF Ste Jean 22.66 301 *e*P **P 04 22 57.8 -0.3**
comp=Z,19nm,0.8s
SJPF Ste Jean 22.66 301 *e*P **P 04 22 57.8 -0.3**
comp=Z,9.4nm,0.8s
MFF Saint Martin d 23.06 310 *e*P **P 04 23 02.3 +0.1**
comp=Z,42nm,0.9s
MFF Saint Martin d 23.06 310 *e*P **P 04 23 02.3 +0.1**
comp=Z,21nm,0.9s
LLD Lille Linde 23.10 340 *e*P **P 04 23 04.1 +1.7**
LLD Lille Linde 23.10 340 *i* P **P 04 23 04.1 +1.7**
LLD Lille Linde 23.10 340 *e*P **P 04 23 04.1 +1.7**
MOS Moscow 23.12 18 *e*P P 04 22 57.6 -5.1
MOS *e* 04 23 35.9
MOS *e*S **S 04 27 06.7 -5.2**
LDF La Druitiere 23.90 315 *e*P **P 04 23 08.8 -1.5**
comp=Z,22nm,0.7s
LDF La Druitiere 23.90 315 *e*P **P 04 23 08.8 -1.5**
comp=Z,11nm,0.7s
ESDC Sonseca Array 24.16 292 P **P 04 23 12.1 -0.8**
ESDC Sonseca Array 24.16 292 P **P 04 23 12.1 -0.8**
comp=Z,2.7nm,0.6s,baz=86,slow=9.3,SNR=7.1
ESDC LR LR 04 33 00.7
comp=Z,102nm,18.4s,baz=100,slow=38
ESDC Sonseca Array 24.16 292 P **P 04 23 12.1 -0.8**
ESLA Sonseca Array 24.16 292 *e*P **P 04 23 12.8 -0.1**
comp=Z,14nm,1.5s
ESLA Sonseca Array 24.16 292 *e*P **P 04 23 12.8 -0.1**
comp=Z,14nm,1.5s
FLN La Foliniere 24.19 315 *e*P **P 04 23 12.8 -0.2**
baz=111
FLN *e*R
comp=Z,724nm,21.5s
FLN La Foliniere 24.19 315 *e*P **P 04 23 12.8 -0.2**
GRR Gorron 24.25 314 *e*P **P 04 23 13.1 -0.4**
comp=Z,19nm,0.7s
GRR Gorron 24.25 314 *e*P **P 04 23 13.1 -0.4**
comp=Z,9.3nm,0.7s
VSU Vasula 24.30 2 *e*P **P 04 23 14.2 +0.3**
VSU pmax pmax
comp=Z,23nm,0.7s
VSU Vasula 24.30 2 *e*P **P 04 23 14.2 +0.3**
comp=Z,23nm,0.7s
PAB San Pablo 24.45 291 *e*P **P 04 23 15.3 -0.3**
PAB pmax pmax
comp=Z,37nm,1.5s
PAB San Pablo 24.45 291 *e*P **P 04 23 15.3 -0.3**
comp=Z,37nm,1.5s
PAB San Pablo 24.45 291 *e*P **P 04 23 15.3 -0.3**
comp=Z,37nm,1.5s
MUD Monsted U'grnd 24.95 338 *i* P **P 04 23 20.6 +0.8**
MUD pmax pmax
comp=Z,16nm,0.8s
MUD Monsted U'grnd 24.95 338 *i* P **P 04 23 20.6 +0.8**
comp=Z,16nm,0.7s
MUD Monsted U'grnd 24.95 338 *i* P **P 04 23 20.6 +0.8**
comp=Z,16nm,0.8s
MDT Midelt 25.15 275 P **P 04 23 21.7 -0.3**
MDT S S 04 27 59.4 +14
MDT Midelt 25.15 275 P **P 04 23 21.7 -0.3**
comp=Z,6.0nm,0.8s,baz=62,slow=8.8,SNR=6.2
MDT S S 04 27 59.4 +14
comp=Z,1.5nm,0.3s,baz=37,slow=19,SNR=17
MDT Midelt 25.15 275 P **P 04 23 21.7 -0.3**
MDT S S 04 27 59.4 +14
SGMF Saint Gilles 25.22 312 *e*P **P 04 23 21.7 -0.6**
comp=Z,44nm,1.0s
SGMF Saint Gilles 25.22 312 *e*P **P 04 23 21.7 -0.6**
comp=Z,22nm,1.0s
QUIF Quistinic 25.46 311 *e*P **P 04 23 24.0 -0.6**
comp=Z,28nm,0.8s
QUIF Quistinic 25.46 311 *e*P **P 04 23 24.0 -0.6**
comp=Z,14nm,0.8s
ROSF Rostrenen 25.69 312 *e*P **P 04 23 25.4 -1.2**
comp=Z,17nm,0.6s
ROSF Rostrenen 25.69 312 *e*P **P 04 23 25.4 -1.2**
comp=Z,8.5nm,0.6s
PBRG Braganca 26.45 296 *e*P **P 04 23 35.3 +1.7**
comp=Z,21nm,1.4s
PBRG Braganca 26.45 296 *e*P **P 04 23 35.3 +1.7**
comp=Z,21nm,1.4s
PBAR Barrancos 26.53 288 *e*P **P 04 23 35.0 +0.7**
comp=Z,28nm,1.4s
PBAR Barrancos 26.53 288 *e*P **P 04 23 35.0 +0.7**
comp=Z,28nm,1.4s
MVO Moncorvo 26.61 295 *e*P **P 04 23 35.7 +0.6**
comp=Z,30nm,1.0s
MVO Moncorvo 26.61 295 *e*P **P 04 23 35.7 +0.6**
comp=Z,30nm,1.0s
PMRV Marv??o 26.80 291 *e*P **P 04 23 36.9 +0.1**
comp=Z,26nm,1.5s
PMRV Marv??o 26.80 291 *e*P **P 04 23 36.9 +0.1**
comp=Z,26nm,1.5s
PESTR Estremoz 26.95 290 *e*P **P 04 23 38.0 -0.2**
comp=Z,28nm,1.7s
PESTR Estremoz 26.95 290 *e*P **P 04 23 38.0 -0.2**
comp=Z,28nm,1.7s
HFS Hagfors 27.10 347 P **P 04 23 37.9 -1.4**
HFS Hagfors 27.10 347 P **P 04 23 37.9 -1.4**
comp=Z,4.6nm,0.7s,baz=155,slow=8.2,SNR=7.0
HFS Hagfors 27.10 347 P **P 04 23 37.9 -1.4**
comp=Z,5.0nm,0.7s
PVIS Viseu 27.23 294 *e*P **P 04 23 42.7 +2.0**
comp=Z,16nm,1.8s
PVIS Viseu 27.23 294 *e*P **P 04 23 42.7 +2.0**
comp=Z,16nm,1.8s
PBDV Barranco-do-Ve 27.28 286 *e*P **P 04 23 41.5 +0.4**
comp=Z,47nm,1.4s
PBDV Barranco-do-Ve 27.28 286 *e*P **P 04 23 41.5 +0.4**
comp=Z,47nm,1.4s
FINES FINESS Array B 27.29 1 P **P 04 23 39.4 -1.4**
FINES PcP **PcP 04 26 59.9 +0.1**
FINES FINESS Array B 27.29 1 P **P 04 23 39.4 -1.4**
comp=Z,4.9nm,0.7s,baz=150,slow=13,SNR=6.2
FINES PcP **PcP 04 26 59.9 +0.1**
comp=Z,0.7nm,0.5s,baz=150,slow=3.1,SNR=4.0
FINES FINESS Array B 27.29 1 P **P 04 23 39.4 -1.4**
comp=Z,5.0nm,0.7s
FINES FINESS Array B 27.29 1 PcP **PcP 04 26 59.9 +0.1**
EVO Evora 27.29 289 *e*P **P 04 23 40.3 -0.8**
comp=Z,8.3nm,0.7s
EVO *e*R
comp=Z,226nm,20.5s
FIA1 FINESS Array S 27.29 1 *e*P **P 04 23 42.7 +1.8**
FIA1 FINESS Array S 27.29 1 *e*P **P 04 23 42.7 +1.8**
PCVE Castro Verde 27.34 287 *e*P **P 04 23 43.7 +2.1**
comp=Z,21nm,1.2s
PCVE Castro Verde 27.34 287 *e*P **P 04 23 43.7 +2.1**
comp=Z,21nm,1.2s
EVOP Sao Brissos 27.37 289 *e*P **P 04 23 40.3 -1.6**
comp=Z,4.2nm,0.7s
PCAB Cabril 27.40 296 *e*P **P 04 23 43.2 +1.0**
comp=Z,25nm,1.6s
PCAB Cabril 27.40 296 *e*P **P 04 23 43.2 +1.0**
comp=Z,25nm,1.6s
KAF Kangasniemi 27.96 1 *e*p **P 04 23 45.1 -1.8**
comp=Z,5.1nm,0.6s
KAF Kangasniemi 27.96 1 *e*P **P 04 23 45.1 -1.8**
KAF pmax pmax
comp=Z,5.0nm,0.6s
KAF Kangasniemi 27.96 1 *e*P **P 04 23 45.1 -1.8**
comp=Z,5.0nm,0.6s
NAO01 NORSAR Array S 28.32 345 *e*P **P 04 23 49.6 -0.6**
comp=Z,8.7nm,0.7s
NAO01 NORSAR Array S 28.32 345 *e*P **P 04 23 49.6 -0.6**
comp=Z,8.6nm,0.7s
NOA NORSAR Array B 28.43 345 P **P 04 23 50.6 -0.6**
NOA S **S 04 28 38.7 +2.5**
NOA NORSAR Array B 28.43 345 P **P 04 23 50.6 -0.6**
comp=Z,3.2nm,0.7s,baz=159,slow=9.8,SNR=12
NOA S **S 04 28 38.7 +2.5**
comp=Z,0.4nm,0.7s,baz=122,slow=10,SNR=2.4
NOA NORSAR Array B 28.43 345 P **P 04 23 50.6 -0.6**
comp=Z,3.0nm,0.7s
NOA S **S 04 28 38.7 +2.5**
AKTK Aktyubinsk 28.69 46 P **P 04 23 52.6 -1.0**
comp=Z,11nm,0.9s
AKTO Aktyubinsk 28.69 46 P **P 04 23 52.6 -1.0**
AKTO pmax pmax
comp=Z,11nm,0.9s
AKTO Aktyubinsk 28.69 46 P **P 04 23 52.5 -1.0**
AKTO Aktyubinsk 28.69 46 P **P 04 23 52.5 -1.0**
comp=Z,10nm,0.9s,baz=242,slow=9.9,SNR=12
AKTO Aktyubinsk 28.69 46 P **P 04 23 52.5 -1.0**
JOF Joensuu 28.99 5 *e*p **P 04 23 53.6 -2.4**
comp=Z,6.8nm,0.6s
JOF Joensuu 28.99 5 *e*P **P 04 23 53.6 -2.4**
JOF pmax pmax
comp=Z,7.0nm,0.6s
JOF Joensuu 28.99 5 P **P 04 23 53.6 -2.4**
comp=Z,6.8nm,0.6s,SNR=1.0
EKA Eskdalemuir Ar 29.03 326 P **P 04 23 56.3 -0.2**
EKA Eskdalemuir Ar 29.03 326 P **P 04 23 56.3 -0.2**
comp=Z,5.3nm,0.7s,baz=125,slow=9.4,SNR=11
EKA Eskdalemuir Ar 29.03 326 P **P 04 23 56.3 -0.2**
comp=Z,5.0nm,0.7s
ESK Eskdalemuir 29.04 325 *e*P **P 04 23 56.7 +0.1**
ESK pmax pmax
comp=Z,12nm,1.0s
ESK Eskdalemuir 29.04 325 *e*P **P 04 23 56.7 +0.1**
comp=Z,12nm,1.0s
ESK Eskdalemuir 29.04 325 *e*P **P 04 23 56.7 +0.1**
comp=Z,12nm,1.0s
AB31 Akbulak array 29.46 49 *i* P **P 04 24 00.4 0.0**
AB31 pmax pmax
comp=Z,1.0nm,0.3s
AB31 Akbulak array 29.46 49 *i* P **P 04 24 00.4 0.0**
comp=Z,1.0nm,0.3s
ABKAR Akbulak array 29.46 49 *e*P **P 04 24 00.7 +0.3**
ABKAR Akbulak array 29.46 49 *e*P **P 04 24 00.7 +0.3**
TOA0 Torodi Ar. Sit 30.12 232 *e*P **P 04 24 06.2 -0.3**
TOA0 Torodi Ar. Sit 30.12 232 *e*P **P 04 24 06.2 -0.3**
TORD Torodi Ar. Bea 30.12 232 P **P 04 24 05.4 -1.1**
TORD Torodi Ar. Bea 30.12 232 P **P 04 24 05.4 -1.1**
comp=Z,0.9nm,0.3s,baz=32,slow=8.9,SNR=7.0
TORD LR LR 04 38 46.4
comp=Z,924nm,18.5s,baz=35,slow=42
TORD Torodi Ar. Bea 30.12 232 P **P 04 24 05.4 -1.1**
ARU Arti 31.66 35*d i*P **P 04 24 19.3 -0.4**
ARU 04 25 18.4
ARU S **S 04 29 29.2 +2.2**
ARU pmax pmax
comp=Z,15nm,1.2s
ARU Arti 31.66 35 *i* P **P 04 24 19.3 -0.4**
comp=Z,15nm,1.2s
ARU S **S 04 29 29.2 +2.2**
SVE Sverdlovsk 32.86 36‖ *e*P **P 04 24 30.9 +0.7**
SVE pmax pmax
comp=Z,16nm,0.9s
SVE Sverdlovsk 32.86 36 *e*P **P 04 24 30.9 +0.7**
comp=Z,16nm,0.9s
APA Apatity 33.74 5⇑ *i*P **P 04 24 36.2 -1.6**
APA MLR MLR
comp=Z,500nm,13.0s
APA Apatity 33.74 5 *i* P **P 04 24 36.2 -1.6**
comp=Z,500nm,13.0s
ARCES ARCESS Array B 35.41 360 P **P 04 24 51.1 -1.1**
ARCES ARCESS Array B 35.41 360 P **P 04 24 51.1 -1.1**
comp=Z,5.0nm,0.7s,baz=176,slow=8.5,SNR=8.7
ARCES ARCESS Array B 35.41 360 P **P 04 24 51.1 -1.1**
comp=Z,5.0nm,0.7s
KBL Kabul 35.70 77 *e*P **P 04 24 56.0 +0.6**
KBL pmax pmax
comp=Z,6.0nm,0.7s
KBL Kabul 35.70 77 *e*P **P 04 24 56.0 +0.6**
comp=Z,5.8nm,0.7s
KBL Kabul 35.70 77 *e*P **P 04 24 56.0 +0.6**
comp=Z,6.0nm,0.7s
KK31 Karatay Array 35.87 62 *i* P **P 04 24 55.2 -1.3**
KK31 pmax pmax
comp=Z,8.0nm,0.9s
KK31 Karatay Array 35.87 62 *i* P **P 04 24 55.2 -1.3**
comp=Z,8.0nm,0.9s
KKAR Karatay Array 35.87 62 *e*P **P 04 24 56.5 0.0**
KKAR pmax pmax
comp=Z,7.0nm,0.9s
KKAR Karatay Array 35.87 62 *e*P **P 04 24 56.5 0.0**
comp=Z,6.7nm,0.9s
KKAR Karatay Array 35.87 62 *e*P **P 04 24 56.5 0.0**
comp=Z,7.0nm,0.9s
ZRNK Zerenda 35.97 45 P **P 04 24 57.4 +0.2**
ZRNK pmax pmax
comp=Z,33nm,1.2s
ZRNK Zerenda 35.97 45 P **P 04 24 57.4 +0.2**
comp=Z,33nm,1.2s
BRVK Borovoye 36.74 45 *e*P **P 04 25 04.9 +1.1**
BRVK pmax pmax
comp=Z,19nm,1.0s
BRVK Borovoye 36.74 45 *e*P **P 04 25 03.5 -0.3**
comp=Z,20nm,1.1s
BRVK Borovoye 36.74 45 *e*P **P 04 25 03.5 -0.3**
comp=Z,20nm,1.1s
BVAR Borovoye Array 36.80 45 P **P 04 25 03.9 -0.4**
BVAR pmax pmax
comp=Z,14nm,1.1s
BVAR MLR MLR
comp=Z,223nm,20.5s
BVAR Borovoye Array 36.80 45 P **P 04 25 03.9 -0.4**
BVAR Borovoye Array 36.80 45 P **P 04 25 03.9 -0.4**
comp=Z,14nm,1.1s,baz=246,slow=5.8,SNR=16
BVAR LR LR 04 42 56.1
comp=Z,223nm,20.4s,baz=264,slow=41
BVAR Borovoye Array 36.80 45 P **P 04 25 03.9 -0.4**
comp=Z,223nm,20.5s
VOSK Vostochnaya 37.09 46 P **P 04 25 06.6 -0.2**
VOSK pmax pmax
comp=Z,28nm,1.2s
VOSK Vostochnaya 37.09 46 P **P 04 25 06.6 -0.2**
comp=Z,28nm,1.2s
EKS2 Erkin-Say 38.28 63 *e*P **P 04 25 17.4 +0.2**
EKS2 pmax pmax
comp=Z,27nm,1.5s
EKS2 Erkin-Say 38.28 63 *e*P **P 04 25 17.4 +0.2**
comp=Z,27nm,1.5s
EKS2 Erkin-Say 38.28 63 *e*P **P 04 25 17.4 +0.2**
comp=Z,27nm,1.5s
AAK Ala-Archa 38.81 63 *e*P **P 04 25 22.8 +1.1**
AAK pmax pmax
comp=Z,46nm,1.7s
AAK Ala-Archa 38.81 63 *e*P **P 04 25 21.5 -0.2**
comp=Z,32nm,1.7s
AAK Ala-Archa 38.81 63 P **P 04 25 21.8 +0.1**
comp=Z,1.4nm,0.3s,baz=224,slow=7.7,SNR=8.8
AAK Ala-Archa 38.81 63 *e*P **P 04 25 21.5 -0.2**
comp=Z,32nm,1.7s
FRU Bishkek 38.89 62 *e*P **P 04 25 22.0 -0.1**
FRU pmax pmax
comp=Z,57nm,1.8s
FRU Bishkek 38.89 62 *e*P **P 04 25 22.0 -0.1**
comp=Z,57nm,1.8s
DBIC Dimbokro 39.22 233 *e*P **P 04 25 24.6 -0.4**
comp=Z,4.7nm,0.7s
DBIC Dimbokro 39.22 233 P **P 04 25 23.6 -1.4**
comp=Z,1.8nm,0.6s,baz=114,slow=12,SNR=2.9
DBIC LR LR 04 43 37.2
comp=Z,386nm,18.5s,baz=20,slow=39
DBIC Dimbokro 39.22 233 *e*P **P 04 25 24.6 -0.4**
comp=Z,4.7nm,0.7s
TKM2 Tokmak 2 39.60 62 *e*P **P 04 25 28.8 +0.5**
TKM2 pmax pmax
comp=Z,5.0nm,0.9s
TKM2 Tokmak 2 39.60 62 *e*P **P 04 25 28.8 +0.5**
comp=Z,5.4nm,0.9s
TKM2 Tokmak 2 39.60 62 *e*P **P 04 25 28.8 +0.5**
comp=Z,5.0nm,0.9s
LIC Lamto 39.66 232 *e*P **P 04 25 29.0 +0.2**
comp=Z,22nm,0.8s
LIC *e*R
comp=Z,677nm,20.0s
LIC Lamto 39.66 232 *e*P **P 04 25 29.0 +0.2**
comp=Z,11nm,0.8s
KSH Kashi 40.27 67 *e*P **P 04 25 33.0 -0.8**
KSH pP **pP 04 25 43.5 +0.7**
KSH sP **sP 04 25 46.8 +0.4**
KSH PP **PnPn 04 27 08.9 -1.5**
KSH S **S 04 31 37.0 -2.4**
KSH sS **sS 04 31 53.5 -0.7**
KSH pmax pmax
comp=Z,53nm,3.6s
KSH LR LR
comp=N,150nm,8.7s
KSH LR LR
comp=E,110nm,8.3s
KURBB Kurchatov Arra 41.50 50 P **P 04 25 44.2 +0.7**
comp=E,21nm,0.9s,baz=276,slow=8.8,SNR=33
KURK Kurchatov 41.56 50 P **P 04 25 44.2 +0.2**
KURK pmax pmax
comp=Z,21nm,0.9s
KURK Kurchatov 41.56 50 P **P 04 25 44.2 +0.2**
KURK Kurchatov 41.56 50 P **P 04 25 44.2 +0.2**
comp=Z,21nm,0.9s
MK31 Makanchi Array 44.05 56 *e*P **P 04 26 04.8 +0.4**
MK31 Makanchi Array 44.05 56 *e*P **P 04 26 04.8 +0.4**
MK31 Makanchi Array 44.05 56 *e*P **P 04 26 04.8 +0.4**
MKAR Makanchi Array 44.05 56*ce*P **P 04 26 04.9 +0.5**
MKAR pmax pmax
comp=Z,15nm,0.8s
MKAR Makanchi Array 44.05 56 P **P 04 26 04.3 -0.1**
MKAR Makanchi Array 44.05 56 P **P 04 26 04.3 -0.1**
comp=Z,15nm,0.8s,baz=282,slow=6.1,SNR=17
MKAR Makanchi Array 44.05 56 P **P 04 26 04.3 -0.1**
SPITS Spitsbergen Ar 44.28 357 P **P 04 26 05.5 -0.3**
SPITS Spitsbergen Ar 44.28 357 P **P 04 26 05.5 -0.3**
comp=Z,7.1nm,0.8s,baz=138,slow=10,SNR=6.3
SPITS Spitsbergen Ar 44.28 357 P **P 04 26 05.5 -0.3**
comp=Z,7.0nm,0.8s
ZAA0 Zalesovo Array 45.46 45 *e*P **P 04 26 15.1 -0.3**
ZAA0 Zalesovo Array 45.46 45 *e*P **P 04 26 15.1 -0.3**
ZALV Zalesovo Beam 45.46 45 P **P 04 26 14.9 -0.5**
ZALV pmax pmax
comp=Z,8.0nm,0.6s
ZALV Zalesovo Beam 45.46 45 P **P 04 26 14.9 -0.5**
ZALV Zalesovo Beam 45.46 45 P **P 04 26 14.9 -0.5**
comp=Z,8.4nm,0.6s,baz=266,slow=9.3,SNR=15
ZALV Zalesovo Beam 45.46 45 P **P 04 26 14.9 -0.5**
comp=Z,8.0nm,0.6s
WMQ Urumqi 48.23 59 P **P 04 26 39.0 +1.7**
WMQ pP **pP 04 26 46.0 -0.4**
WMQ sP **sP 04 26 49.3 -0.7**
WMQ PcP **PcP 04 28 03.6 -0.5**
WMQ PP **PP 04 28 30.6 +1.0**
WMQ S **S 04 33 36.4 +1.6**
WMQ pmax pmax
comp=Z,19nm,1.1s
WMQ pmax pmax
comp=Z,62nm,4.8s
WMQ LR LR
comp=N,280nm,20.2s
WMQ LR LR
comp=E,190nm,22.6s
WMQ LR LR
comp=Z,150nm,24.1s
LSZ Lusaka 49.24 177 *e*P **P 04 26 44.2 -1.1**
comp=Z,2.4nm,0.7s
LSZ Lusaka 49.24 177 P **P 04 26 44.6 -0.7**
comp=Z,0.6nm,0.4s,baz=65,slow=15,SNR=2.4
LSZ Lusaka 49.24 177 *e*P **P 04 26 44.2 -1.1**
comp=Z,2.4nm,0.7s
TSUM Tsumeb 53.62 189 *e*P **P 04 27 17.3 -0.8**
comp=Z,3.2nm,0.7s
TSUM Tsumeb 53.62 189 P **P 04 27 17.5 -0.5**
comp=Z,3.1nm,0.9s,baz=20,slow=8.0,SNR=3.5
TSUM Tsumeb 53.62 189 *e*P **P 04 27 17.3 -0.8**
comp=Z,3.2nm,0.7s
MOY Mondy 55.44 47 *e*P **P 04 27 32.5 +1.4**
MOY Mondy 55.44 47 *e*P **P 04 27 32.5 +1.4**
TLY Talaya 57.04 47 *e*P **P 04 27 44.5 +2.2**
TLY pmax pmax
comp=Z,17nm,1.2s
TLY MLR MLR
comp=Z,132nm,21.0s
TLY Talaya 57.04 47 *e*P **P 04 27 44.5 +2.2**
comp=Z,132nm,21.0s
GTA Gaotai 58.15 61 *e*P **P 04 27 50.6 +0.1**
GTA pP **pP 04 28 01.0 +1.3**
GTA sP **sP 04 28 05.3 +2.0**
GTA PP **PP 04 30 00.6 +1.4**
GTA S **S 04 35 45.9 -4.1**
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA pmax pmax
comp=Z,59nm,7.6s
GTA LR LR
comp=N,130nm,19.0s
GTA LR LR
comp=E,120nm,18.5s
GTA LR LR
comp=Z,110nm,18.0s
SONM Songino Array 59.86 50 P **P 04 28 02.5 +0.3**
SONM Songino Array 59.86 50 P **P 04 28 02.5 +0.3**
comp=Z,6.5nm,0.9s,baz=275,slow=8.5,SNR=18
SONM Songino Array 59.86 50 P **P 04 28 02.5 +0.3**
comp=Z,7.0nm,1.0s
ULN Ulaanbaatar 60.27 50 *e*P **P 04 28 06.0 +0.9**
comp=Z,14nm,1.0s

ULN	**Ulaanbaatar**	**60.27**	**50**	*e*P		**P**	**04 28 06.0**	**+0.9**
	comp=Z,14nm,1.0s							
TIXI	**Tiksi**	**61.97**	**20**	*e*P		**P**	**04 28 16.7**	**+0.7**
TIXI				pmax	pmax			
	comp=Z,4.0nm,0.8s							
TIXI	**Tiksi**	**61.97**	**20**	*e*P		**P**	**04 28 16.7**	**+0.7**
	comp=Z,4.0nm,0.8s							
LZH	**Lanzhou**	**62.34**	**64**	*e*P		**P**	**04 28 20.0**	**+0.7**
LZH				pP		**pP**	**04 28 30.7**	**+2.1**
LZH				sP		**sP**	**04 28 35.8**	**+3.6**
LZH				PcP		**PcP**	**04 28 59.4**	**+0.6**
LZH				*e*S		**S**	**04 36 41.1**	**-2.9**
LZH				pmax	pmax			
	comp=Z,44nm,1.3s							
LZH				pmax	pmax			
	comp=Z,90nm,4.5s							
LZH				LR	LR			
	comp=N,1μm,15.0s							
LZH				LR	LR			
	comp=E,1μm,11.3s							
LZH				LR	LR			
	comp=Z,2μm,15.4s							
BOSA	**Boshof**	**62.45**	**180**	*e*P		**P**	**04 28 19.6**	**-0.2**
	comp=Z,14nm,1.3s							
BOSA	**Boshof**	**62.45**	**180**	P		**P**	**04 28 18.4**	**-1.4**
	comp=Z,1.8nm,0.8s,baz=342,slow=20,SNR=3.8							
BOSA	**Boshof**	**62.45**	**180**	*e*P		**P**	**04 28 19.6**	**-0.2**
	comp=Z,14nm,1.3s							
SCHQ	**Schefferville**	**64.14**	**320**	P		**P**	**04 28 30.4**	**-0.3**
SCHQ	**Schefferville**	**64.14**	**320**	P		**P**	**04 28 30.4**	**-0.3**
	comp=Z,8.4nm,0.6s,baz=78,slow=4.7,SNR=11							
SCHQ	**Schefferville**	**64.14**	**320**	P		**P**	**04 28 30.4**	**-0.3**
CD2	**Chengdu**	**64.44**	**69**	P		**P**	**04 28 35.0**	**+1.9**
CD2				pP		**pP**	**04 28 42.3**	**-0.2**
CD2				sP		**sP**	**04 28 45.4**	**-0.6**
CD2				PcP		**PcP**	**04 29 09.4**	**+2.1**
CD2				PP		**PP**	**04 30 58.4**	**+3.6**
CD2				PcS			04 33 11.9	
CD2				S		**S**	**04 37 10.2**	**+0.1**
CD2				SS		**SS**	**04 41 21.5**	**+1.4**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,120nm,5.6s							
HHC	**Hu-ho-hao-te**	**65.92**	**56**	*e*P		**P**	**04 28 43.2**	**+0.6**
HHC				PcP		**PcP**	**04 29 13.4**	**+0.1**
HHC				PP		**PP**	**04 31 10.8**	**+3.2**
HHC				ScP			04 33 14.3	
HHC				PcS			04 33 17.0	
HHC				S		**S**	**04 37 26.3**	**-1.7**
HHC				ScS		**SKSac**	**04 38 33.8**	**-2.7**
HHC				SS		**SS**	**04 41 42.8**	**+0.1**
HHC				pmax	pmax			
	comp=Z,50nm,0.7s							
HHC				pmax	pmax			
	comp=Z,270nm,6.8s							
HHC				LR	LR			
	comp=N,320nm,16.3s							
HHC				LR	LR			
	comp=E,300nm,16.3s							
HHC				LR	LR			
	comp=Z,250nm,17.0s							
CHTO	**Chiang Mai**	**66.19**	**83**	*e*P		**P**	**04 28 44.0**	**-0.6**
CHTO	**Chiang Mai**	**66.19**	**83**	*e*P		**P**	**04 28 44.0**	**-0.6**
CHTO	**Chiang Mai**	**66.19**	**83**	*e*P		**P**	**04 28 44.0**	**-0.6**
CHTO	**Chiang Mai**	**66.19**	**83**	P		**P**	**04 28 44.7**	**+0.1**
	comp=Z,11nm,1.4s							
CMMT	**Chiang Mai**	**66.20**	**83**	P		**P**	**04 28 44.6**	**0.0**
	comp=Z,16nm,0.8s,comp=Z,451nm							
KMI	**Kunming**	**66.25**	**75**	P		**P**	**04 28 43.6**	**-1.5**
KMI				pP		**pP**	**04 28 51.7**	**-2.8**
KMI				sP		**sP**	**04 28 57.1**	**-1.0**
KMI				pmax	pmax			
	comp=Z,6.0nm,1.5s							
KMI				pmax	pmax			
	comp=Z,53nm,6.4s							
KMI				LR	LR			
	comp=Z,82nm,21.4s							
CMAR	**Chiang Mai Arr**	**66.37**	**83**	P		**P**	**04 28 45.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**66.37**	**83**	P		**P**	**04 28 45.0**	**-0.7**
	comp=Z,2.5nm,0.8s,baz=299,slow=7.3,SNR=11							
CMAR				LR	LR		05 01 33.3	
	comp=Z,83nm,19.3s,baz=285,slow=40							
CMAR	**Chiang Mai Arr**	**66.37**	**83**	P		**P**	**04 28 45.0**	**-0.7**
	comp=Z,83nm,19.3s							
LAMP	**Lampang**	**66.90**	**83**	P		**P**	**04 28 50.2**	**+1.1**
	comp=Z,4.9nm,1.2s							
NANT	**Nan**	**67.64**	**82**	P		**P**	**04 28 54.3**	**+0.5**
	comp=Z,20nm,1.3s							
GYA	**Guiyang**	**68.74**	**72**	*e*P		**P**	**04 29 01.4**	**+0.7**
GYA				pP		**pP**	**04 29 11.6**	**+1.4**
GYA				PP		**PP**	**04 31 35.0**	**+2.5**
GYA				S		**S**	**04 38 01.0**	**-1.4**
GYA				sS		**sS**	**04 38 16.7**	**-1.3**
GYA				SKS		**SKiKP**	**04 38 53.4**	**+2.5**
GYA				SS		**SS**	**04 42 27.6**	**+0.5**
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
GYA				pmax	pmax			
	comp=Z,80nm,5.0s							
GYA				LR	LR			
	comp=N,380nm,19.9s							
GYA				LR	LR			
	comp=E,240nm,20.7s							
GYA				LR	LR			
	comp=Z,350nm,18.8s							
LOEI	**Loei**	**68.75**	**83**	P		**P**	**04 29 02.3**	**+1.5**
	comp=Z,8.8nm,1.4s							
PBKT	**Sadao Pong**	**68.98**	**84**	P		**P**	**04 29 03.0**	**+0.8**
	comp=Z,8.4nm,1.5s							
BJI	**Beijing**	**69.43**	**55**	P		**P**	**04 29 04.2**	**-0.4**
BJI				S		**S**	**04 38 09.1**	**-0.7**
BJI				pmax	pmax			
	comp=Z,6.0nm,0.6s							
BJI				pmax	pmax			
	comp=Z,99nm,5.4s							
BJI				LR	LR			
	comp=N,180nm,17.9s							
BJI				LR	LR			
	comp=E,150nm,22.1s							
BJI				LR	LR			
	comp=Z,110nm,21.5s							
CHAI	**Chaiyaphum**	**70.16**	**84**	P		**P**	**04 29 09.8**	**+0.3**
	comp=Z,4.0nm,1.0s							
NAYO	**Nakonayok**	**70.43**	**86**	P		**P**	**04 29 11.3**	**+0.2**
	comp=Z,60nm,0.7s							
SKNT	**Sakolnakorn**	**71.26**	**82**	P		**P**	**04 29 17.0**	**+0.9**
CN2	**Changchun**	**73.59**	**48**	*e*P		**P**	**04 29 28.4**	**-1.2**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
BILL	**Bilibino**	**73.94**	**14**	*e*P		**P**	**04 29 31.3**	**+0.1**
BILL				*i*			04 29 39.3	
BILL				pmax	pmax			
	comp=Z,27nm,1.6s							
BILL				MLR	MLR			
	comp=Z,100nm,19.0s							
BILL	**Bilibino**	**73.94**	**14**	*e*P		**P**	**04 29 31.3**	**+0.1**
	comp=Z,27nm,1.6s							
KLR	**Kul'dur**	**74.30**	**41**	*e*P		P	04 29 29.7	-4.0
QIZ	**Qiongzhong**	**74.98**	**77**	P		**P**	**04 29 37.0**	**-1.1**
QIZ				S		**S**	**04 39 12.7**	**-1.4**
QIZ				pmax	pmax			
	comp=Z,29nm,1.7s							
NJ2	**Nanjing**	**75.24**	**61**	*e*P		**P**	**04 29 39.1**	**-0.3**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.9s							
MDJ	**Mudanjiang**	**75.66**	**46**	P		**P**	**04 29 41.1**	**-0.5**
MDJ				pmax	pmax			
	comp=Z,5.0nm,1.2s							
MDJ				pmax	pmax			
	comp=Z,30nm,6.4s							
USRK	**Ussuriysk Arra**	**77.31**	**45**	P		**P**	**04 29 50.5**	**-0.5**
	comp=Z,4.2nm,0.6s,baz=286,slow=4.9,SNR=11							
USRK				LR	LR		05 07 55.8	
	comp=Z,121nm,20.5s,baz=108,slow=39							
YKW3	**Yellowknife Ar**	**78.42**	**342**	*e*P		**P**	**04 29 56.5**	**-0.3**
YKW3	**Yellowknife Ar**	**78.42**	**342**	*e*P		**P**	**04 29 56.5**	**-0.3**
YKA	**Yellowknife Ar**	**78.48**	**342**	P		**P**	**04 29 56.8**	**-0.3**
YKA	**Yellowknife Ar**	**78.48**	**342**	P		**P**	**04 29 56.8**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=33,slow=6.0,SNR=13							
YKA	**Yellowknife Ar**	**78.48**	**342**	P		**P**	**04 29 56.8**	**-0.3**
	comp=Z,3.0nm,0.7s							
KSAR	**Wonju Array Be**	**78.61**	**52**	P		**P**	**04 29 58.5**	**+0.2**
KSAR	**Wonju Array Be**	**78.61**	**52**	P		**P**	**04 29 58.5**	**+0.2**
KSRS	**Korea Array**	**78.63**	**52**	P		**P**	**04 29 58.5**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=303,slow=4.9,SNR=9.9							
KSRS	**Korea Array**	**78.63**	**52**	P		**P**	**04 29 58.5**	**+0.1**
	comp=Z,3.0nm,0.7s							
COLD	**Coldfoot**	**78.86**	**358**	*e*P		**P**	**04 30 00.4**	**+1.3**
	comp=Z,8.9nm,1.1s							
COLD	**Coldfoot**	**78.86**	**358**	*e*P		**P**	**04 30 00.4**	**+1.3**
	comp=Z,8.9nm,1.1s							
FFC	**Flin Flon**	**80.65**	**332**	*ce*P		**P**	**04 30 10.2**	**+1.1**
FFC	**Flin Flon**	**80.65**	**332**	*e*P		**P**	**04 30 09.1**	**0.0**
	comp=Z,5.6nm,0.8s							
FFC	**Flin Flon**	**80.65**	**332**	*e*P		**P**	**04 30 09.1**	**0.0**
	comp=Z,5.6nm,0.8s							
EGAK	**Eagle**	**80.82**	**354**	*e*P		**P**	**04 30 11.0**	**+1.2**
	comp=Z,6.8nm,1.0s							
EGAK	**Eagle**	**80.82**	**354**	*e*P		**P**	**04 30 11.0**	**+1.2**
	comp=Z,6.8nm,1.0s							
COLA	**College**	**81.14**	**357**	*e*P		**P**	**04 30 12.0**	**+0.5**
COLA				pmax	pmax			
	comp=Z,5.0nm,0.9s							
COLA	**College**	**81.14**	**357**	*e*P		**P**	**04 30 12.0**	**+0.5**
	comp=Z,4.9nm,0.9s							
COLA	**College**	**81.14**	**357**	*e*P		**P**	**04 30 12.0**	**+0.5**
	comp=Z,5.0nm,0.9s							
ILAR	**Eielson Array**	**81.20**	**357**	P		**P**	**04 30 11.9**	**+0.1**
ILAR	**Eielson Array**	**81.20**	**357**	P		**P**	**04 30 11.9**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=353,slow=3.9,SNR=17							
ILAR	**Eielson Array**	**81.20**	**357**	P		**P**	**04 30 11.9**	**+0.1**
	comp=Z,3.0nm,0.8s							
ULM	**Lac du Bonnet**	**81.30**	**326**	LR		LR	05 06 51.0	
	comp=Z,170nm,20.8s,baz=343,slow=36							
YSS	**Yuzh-Sakhalins**	**81.51**	**38**	*e*P		**P**	**04 30 14.9**	**+1.1**
YSS	**Yuzh-Sakhalins**	**81.51**	**38**	*e*P		**P**	**04 30 14.9**	**+1.1**
MCK	**McKinley**	**82.32**	**358**	*e*P		**P**	**04 30 18.5**	**+0.7**
MCK				pmax	pmax			
	comp=Z,10.0nm,0.9s							
MCK	**McKinley**	**82.32**	**358**	*e*P		**P**	**04 30 18.5**	**+0.7**
	comp=Z,10nm,0.9s							
MCK	**McKinley**	**82.32**	**358**	*e*P		**P**	**04 30 18.5**	**+0.7**
	comp=Z,10.0nm,0.9s							
TRF	**Thorofare Moun**	**82.65**	**358**	*e*P		**P**	**04 30 19.5**	**-0.2**
	comp=Z,5.4nm,0.8s							
TRF	**Thorofare Moun**	**82.65**	**358**	*e*P		**P**	**04 30 19.5**	**-0.2**
	comp=Z,5.4nm,0.8s							
PETK	**Petropavlovsk-**	**83.64**	**27**	P		**P**	**04 30 24.5**	**-0.3**
PETK				pmax	pmax			
	comp=Z,1.0nm,0.4s							
PETK	**Petropavlovsk-**	**83.64**	**27**	P		**P**	**04 30 24.5**	**-0.3**
PETK	**Petropavlovsk-**	**83.64**	**27**	P		**P**	**04 30 24.5**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=328,slow=2.2,SNR=3.2							
PETK	**Petropavlovsk-**	**83.64**	**27**	P		**P**	**04 30 24.5**	**-0.3**
	comp=Z,1.0nm,0.4s							
WCI	**Wyandotte Cave**	**84.17**	**313**	*e*P		**P**	**04 30 28.7**	**+0.9**
WCI				pmax	pmax			
	comp=Z,8.0nm,1.0s							
WCI	**Wyandotte Cave**	**84.17**	**313**	*e*P		**P**	**04 30 28.7**	**+0.9**
	comp=Z,8.4nm,1.0s							
WCI	**Wyandotte Cave**	**84.17**	**313**	*e*P		**P**	**04 30 28.7**	**+0.9**
	comp=Z,8.0nm,1.0s							
SML	**Sawmill**	**84.22**	**357**	*e*P		**P**	**04 30 28.5**	**+0.8**
SML				pmax	pmax			
	comp=Z,2.0nm,0.8s							
SML	**Sawmill**	**84.22**	**357**	*e*P		**P**	**04 30 28.5**	**+0.8**
	comp=Z,2.0nm,0.8s							
SML	**Sawmill**	**84.22**	**357**	*e*P		**P**	**04 30 28.5**	**+0.8**
	comp=Z,2.0nm,0.8s							
PMR	**Palmer**	**84.47**	**357**	*e*P		**P**	**04 30 29.8**	**+1.0**
PMR				pmax	pmax			
	comp=Z,12nm,1.0s							
PMR	**Palmer**	**84.47**	**357**	*e*P		**P**	**04 30 29.8**	**+1.0**
	comp=Z,12nm,1.0s							
PMR	**Palmer**	**84.47**	**357**	*e*P		**P**	**04 30 29.8**	**+1.0**
	comp=Z,12nm,1.0s							
BDFB	**Brasilia**	**85.63**	**248**	P		**P**	**04 30 35.0**	**-0.5**
BDFB	**Brasilia**	**85.63**	**248**	P		**P**	**04 30 35.0**	**-0.5**
	comp=Z,3.8nm,0.9s,baz=209,slow=7.7,SNR=3.8							
BDFB	**Brasilia**	**85.63**	**248**	P		**P**	**04 30 35.0**	**-0.5**
	comp=Z,4.0nm,1.0s							
MAJO	**Matsushiro**	**85.74**	**48**	*e*P		**P**	**04 30 35.5**	**-0.2**
MAJO				pmax	pmax			
	comp=Z,10.0nm,1.0s							
MAJO	**Matsushiro**	**85.74**	**48**	*e*P		**P**	**04 30 35.5**	**-0.2**
	comp=Z,10nm,1.0s							
MAJO	**Matsushiro**	**85.74**	**48**	*e*P		**P**	**04 30 35.5**	**-0.2**
	comp=Z,10.0nm,1.0s							
MJAR	**Matsushiro Arr**	**85.74**	**48**	P		**P**	**04 30 35.6**	**-0.1**
MJAR	**Matsushiro Arr**	**85.74**	**48**	P		**P**	**04 30 35.6**	**-0.1**
	comp=Z,4.4nm,0.9s,baz=303,slow=5.5,SNR=9.4							
MJAR	**Matsushiro Arr**	**85.74**	**48**	P		**P**	**04 30 35.7**	**-0.1**
	comp=Z,4.0nm,0.9s							
ECSD	**EROS Data Cent**	**86.26**	**322**	*e*P		**P**	**04 30 38.5**	**+0.4**
	comp=Z,4.2nm,0.8s							
ECSD	**EROS Data Cent**	**86.26**	**322**	*e*P		**P**	**04 30 38.5**	**+0.4**
	comp=Z,4.2nm,0.8s							
SIUC	**Southern Illin**	**86.26**	**314**	*e*P		**P**	**04 30 38.7**	**+0.5**
	comp=Z,12nm,0.9s							
SIUC	**Southern Illin**	**86.26**	**314**	*e*P		**P**	**04 30 38.7**	**+0.5**
	comp=Z,12nm,0.9s							
WVT	**Waverly**	**86.45**	**312**	*e*P		**P**	**04 30 39.4**	**+0.2**
WVT				pmax	pmax			
	comp=Z,5.0nm,0.9s							
WVT	**Waverly**	**86.45**	**312**	*e*P		**P**	**04 30 39.4**	**+0.2**
	comp=Z,5.4nm,0.9s							
WVT	**Waverly**	**86.45**	**312**	*e*P		**P**	**04 30 39.4**	**+0.2**
	comp=Z,5.0nm,0.9s							
KDAK	**Kodiak Island**	**88.38**	**359**	P		**P**	**04 30 48.3**	**+0.3**
KDAK	**Kodiak Island**	**88.38**	**359**	P		**P**	**04 30 48.3**	**+0.3**
	comp=Z,7.2nm,0.9s,baz=0,slow=4.0,SNR=3.2							
KDAK	**Kodiak Island**	**88.38**	**359**	P		**P**	**04 30 48.3**	**+0.3**
	comp=Z,7.0nm,0.9s							
RSSD	**Black Hills**	**89.57**	**326**	*e*P		**P**	**04 30 54.6**	**+0.3**
RSSD				pmax	pmax			
	comp=Z,5.0nm,1.1s							
RSSD	**Black Hills**	**89.57**	**326**	*e*P		**P**	**04 30 54.6**	**+0.3**
	comp=Z,5.2nm,1.1s							
RSSD	**Black Hills**	**89.57**	**326**	*e*P		**P**	**04 30 54.6**	**+0.3**
	comp=Z,5.0nm,1.1s							
JTMT	**Jette**	**90.85**	**334**	*e*P		**P**	**04 31 00.9**	**+0.8**
	comp=Z,3.8nm,1.0s							
JTMT	**Jette**	**90.85**	**334**	*e*P		**P**	**04 31 00.9**	**+0.8**
	comp=Z,3.8nm,1.0s							
SWMT	**Swartz Lake**	**90.95**	**334**	*e*P		**P**	**04 31 01.3**	**+0.8**
	comp=Z,4.6nm,1.1s							
SWMT	**Swartz Lake**	**90.95**	**334**	*e*P		**P**	**04 31 01.3**	**+0.8**
	comp=Z,4.6nm,1.1s							
NEW	**Newport**	**91.40**	**336**	*e*P		**P**	**04 31 03.5**	**+1.0**
	comp=Z,4.0nm,1.0s							
NEW	**Newport**	**91.40**	**336**	P		**P**	**04 31 02.4**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=32,slow=7.7,SNR=5.1							
NEW	**Newport**	**91.40**	**336**	*e*P		**P**	**04 31 03.5**	**+1.0**
	comp=Z,4.0nm,1.0s							
BOZ	**Bozeman (W)**	**91.61**	**332**	*e*P		**P**	**04 31 04.5**	**+0.9**
BOZ				pmax	pmax			
	comp=Z,3.0nm,1.3s							
BOZ	**Bozeman (W)**	**91.61**	**332**	*e*P		**P**	**04 31 04.5**	**+0.9**
	comp=Z,3.4nm,1.3s							
BOZ	**Bozeman (W)**	**91.61**	**332**	*e*P		**P**	**04 31 04.5**	**+0.9**
	comp=Z,3.0nm,1.3s							
BW06	**Boulder Array**	**93.11**	**329**	*e*P		**P**	**04 31 09.9**	**-0.8**
	comp=Z,3.0nm,1.2s							
BW06	**Boulder Array**	**93.11**	**329**	*e*P		**P**	**04 31 09.9**	**-0.8**
	comp=Z,3.0nm,1.2s							
PDAR	**Pinedale Array**	**93.11**	**329**	P		**P**	**04 31 09.3**	**-1.3**
PDAR	**Pinedale Array**	**93.11**	**329**	P		**P**	**04 31 09.3**	**-1.3**
	comp=Z,0.9nm,1.0s,baz=117,slow=1.7,SNR=5.5							
PDAR	**Pinedale Array**	**93.11**	**329**	P		**P**	**04 31 09.4**	**-1.3**
TPAW	**Teton Pass**	**93.11**	**330**	*e*P		**P**	**04 31 11.5**	**+0.8**
TPAW	**Teton Pass**	**93.11**	**330**	*e*P		**P**	**04 31 11.5**	**+0.8**
HWUT	**Hardware Ranch**	**94.91**	**329**	*e*P		**P**	**04 31 19.4**	**+0.4**
	comp=Z,3.2nm,1.0s							
HWUT	**Hardware Ranch**	**94.91**	**329**	*e*P		**P**	**04 31 19.4**	**+0.4**
	comp=Z,3.2nm,1.0s							
SDCO	**Great Sand Dun**	**95.20**	**323**	*e*P		**P**	**04 31 20.4**	**-0.1**
	comp=Z,4.6nm,1.4s							
SDCO	**Great Sand Dun**	**95.20**	**323**	*e*P		**P**	**04 31 20.4**	**-0.1**
	comp=Z,4.6nm,1.4s							
WRA	**Warramunga Arr**	**116.16**	**97**	PKP		**PKPdf**	**04 36 38.4**	**-1.6**
WRA	**Warramunga Arr**	**116.16**	**97**	PKP		**PKPdf**	**04 36 38.4**	**-1.6**
	comp=Z,0.4nm,0.8s,baz=313,slow=2.0,SNR=2.6							
WRA	**Warramunga Arr**	**116.16**	**97**	PKIKP		**PKPdf**	**04 36 38.4**	**-1.6**
ASAR	**Alice Springs**	**117.55**	**101**	PKP		**PKPdf**	**04 36 41.7**	**-0.9**
ASAR	**Alice Springs**	**117.55**	**101**	PKP		**PKPdf**	**04 36 41.7**	**-0.9**
	comp=Z,0.8nm,0.9s,baz=300,slow=1.0,SNR=5.3							
ASAR	**Alice Springs**	**117.55**	**101**	PKIKP		**PKPdf**	**04 36 41.7**	**-0.9**

***IDC* 03 04:18:17.1±7.8, 24°.84N×109°.19W, *h*0^{km}, mb3.5/2,**
mb1 3.8/5, mb1mx3.6/25, mbtmp3.5/5, ML3.5/3, MS2.8/6,
Ms1 2.8/6, ms1mx2.7/27, Error ellipse: s-maj=114.7km
s-min=82.9km az=145.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ANMO	**Albuquerque**	**10.34**	**13**	Pn		Pn	04 20 47.9	+0.9
	0.1nm,0.3s,baz=210,slow=15,SNR=3.3							
ANMO				Lg		Lg	04 23 35.5	
	0.0nm,0.3s,baz=300,slow=16,SNR=2.2							
ANMO				LR		LR	04 25 44.8	
	comp=Z,34nm,19.2s,baz=352,slow=43							
PFO	**Pinyon Flat Ob**	**10.79**	**326**	LR		LR	04 24 28.4	
	comp=Z,65nm,18.5s,baz=242,slow=34							
NVAR	**Mina Array Bea**	**15.60**	**332**	Pn		P	04 22 01.7	-1.3
	0.1nm,0.3s,baz=153,slow=10,SNR=11							
PDAR	**Pinedale Array**	**17.88**	**359**	P		Pn	04 22 26.9	-0.6
	0.0nm,0.3s,baz=167,slow=9.1,SNR=6.7							
NEW	**Newport**	**24.20**	**347**	P		P	04 23 34.5	-0.8
	2.0nm,0.7s,baz=135,slow=14,SNR=2.4							
NEW				LR		LR	04 33 31.9	
	comp=Z,39nm,20.1s,baz=181,slow=38							
TKL	**Tuckaleechee C**	**24.39**	**58**	LR		LR	04 34 49.1	
	comp=Z,13nm,19.6s,baz=271,slow=41							
ULM	**Lac du Bonnet**	**27.39**	**19**	LR		LR	04 34 38.8	
	comp=Z,45nm,21.3s,baz=293,slow=36							
YKA	**Yellowknife Ar**	**37.81**	**356**	LR		LR	04 41 32.0	
	comp=Z,8.4nm,18.0s,baz=300,slow=37							
ILAR	**Eielson Array**	**46.72**	**339**	P		P	04 26 47.8	+0.3
	0.2nm,0.6s,baz=140,slow=5.1,SNR=4.6							

ISCJB ***03*** *04:29:33.8±0.4, 39°.99N±0°.02×28°.17E±0°.03, h3*^{km}*±4km,*
Error ellipse: s-maj=3.6km s-min=3.3km az=44.2
DDA ***03*** *04:29:33.7, 39°.95N×28°.19E, h7*^{km}*, MD3.0*
ISK ***03*** *04:29:33.2, 39°.98N×28°.16E, h3*^{km}*, MD3.2*
CSEM ***03*** *04:29:34.1±0.1, 39°.99N×28°.16E, h5*^{km}*, MD3.2, Error*
ellipse: s-maj=2.1km s-min=1.9km az=172.0
ISC 03 04:29:34.2±0.9, 39°.99N±0°.02×28°.16E±0°.02, h11^{km}**±8km,**
n91, σ0°64/102, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KCTX	**Karacabey (Bur**	**0.32**	**28**	PG		**Pg**	**04 29 40.6**	**-0.1**
KCTX				*e*SG		**Sg**	**04 29 45.2**	**+0.3**
KCTX	**Karacabey (Bur**	**0.32**	**28**	*i* Pg		**Pg**	**04 29 40.6**	**-0.1**
KCTX				*e*Sg		**Sg**	**04 29 45.2**	**+0.3**
GONE	**Gonen-Balikesi**	**0.37**	**280**	PG		**Pg**	**04 29 41.2**	**-0.4**
GONE				*e*SG		**Sb**	**04 29 47.4**	**-1.1**
GONE	**Gonen-Balikesi**	**0.37**	**280**	*i* Pg		**Pg**	**04 29 41.2**	**-0.4**
GONE				*e*Sg		**Sb**	**04 29 47.4**	**-1.1**
BALB	**Balikesir**	**0.41**	**212**	PG		**Pg**	**04 29 42.1**	**-0.1**
BALB				*e*SG		**Sg**	**04 29 47.9**	**+0.3**
BALB	**Balikesir**	**0.41**	**212**	*i* Pg		**Pg**	**04 29 42.1**	**-0.1**
BALB				*e*Sg		**Sg**	**04 29 47.9**	**+0.3**
BNT	**Bandirma**	**0.41**	**334**	*e*PG		**Pg**	**04 29 42.5**	**+0.1**
BNT	**Bandirma**	**0.41**	**334**	*e*Pg		**Pg**	**04 29 42.5**	**+0.1**
DURS	**Dursunbey**	**0.45**	**148**	*i* P		**Pg**	**04 29 42.6**	**-0.6**
DURS				*i* S		**Sg**	**04 29 48.6**	**-0.6**
DURS	**Dursunbey**	**0.45**	**148**	*i* P		**Pg**	**04 29 42.6**	**-0.6**
DURS				*i* S		**Sg**	**04 29 48.6**	**-0.6**
BALY	**Balya**	**0.48**	**240**	*i* P		**Pg**	**04 29 43.3**	**-0.4**
BALY				*i* S		**Sg**	**04 29 50.6**	**+0.5**
BALY	**Balya**	**0.48**	**240**	*i* P		**Pg**	**04 29 43.3**	**-0.4**
BALY				*i* S		**Sg**	**04 29 50.6**	**+0.5**
DST	**Dursunbey**	**0.52**	**137**	*e*PG		**Pg**	**04 29 44.0**	**-0.4**
DST	**Dursunbey**	**0.52**	**137**	*e*Pg		**Pg**	**04 29 44.0**	**-0.4**
ORLT	**Orhaneli**	**0.57**	**84**	*e*PG		**Pg**	**04 29 45.1**	**-0.2**
ORLT	**Orhaneli**	**0.57**	**84**	*e*Pg		**Pg**	**04 29 45.1**	**-0.2**
MDNY	**Mudanya-Bursa**	**0.67**	**55**	*e*PG		**Pg**	**04 29 46.9**	**-0.4**
MDNY	**Mudanya-Bursa**	**0.67**	**55**	*e*Pg		**Pg**	**04 29 46.9**	**-0.4**
KRBG	**Karabiga-Canak**	**0.78**	**302**	*e*PG		**Pg**	**04 29 48.5**	**-0.7**
KRBG	**Karabiga-Canak**	**0.78**	**302**	*e*Pg		**Pg**	**04 29 48.5**	**-0.7**
ARMT	**Armutlu**	**0.79**	**43**	*e*PG		**Pg**	**04 29 49.4**	**-0.1**
ARMT	**Armutlu**	**0.79**	**43**	*e*Pg		**Pg**	**04 29 49.4**	**-0.1**
GEMT	**Gemlik**	**0.91**	**60**	*e*PG		**Pg**	**04 29 51.6**	**-0.1**
GEMT	**Gemlik**	**0.91**	**60**	*e*Pg

SIVA	**Sivas**	**1.20**	**329**	*e*P	**Pn**	**04 30 52.7**	**-1.4**
SIVA				*e*S	**Sg**	**04 31 10.6**	**-0.3**
ZKR	**Zakros**	**1.24**	**25**	*e*P	**Pn**	**04 30 54.0**	**-0.7**
ZKR				*e*S	**Sg**	**04 31 12.1**	**-0.2**
NPS	**Neapolis**	**1.27**	**2**	*e*P	**Pn**	**04 30 54.0**	**-1.0**
IDI	**Anoyia**	**1.41**	**337**	*e*P	**Pn**	**04 30 56.7**	**-0.3**
VAM	**Vamos**	**1.80**	**322**	*e*P	**Pn**	**04 31 02.4**	**0.0**
VAM				*e*S	**Sb**	**04 31 26.7**	**-0.3**
KARP	**Karpathos**	**2.03**	**40**	*e*P	**Pn**	**04 31 04.0**	**-1.6**
KYTH	**Kithira**	**3.08**	**318**	*e*P	**Pn**	**04 31 19.6**	**-0.4**
VLI	**Veliai**	**3.46**	**322**	*e*P	**Pn**	**04 31 24.5**	**-0.8**
BRTR	**Keskin Array B**	**8.63**	**46**	Pn	**Pn**	**04 32 38.4**	**+2.0**
	baz=219,slow=11,SNR=2.8						
BRTR				Sn	**Sn**	**04 34 12.5**	**-0.9**
	0.1nm,0.3s,baz=217,slow=26,SNR=2.6						
MLR	**Muntele Rosu**	**11.48**	**1**	Pn	**Pn**	**04 33 16.5**	**+1.1**
	0.0nm,0.3s,baz=169,slow=16,SNR=1.9						
KBZ	**Khabaz**	**16.60**	**49**	Pn	**Pn**	**04 34 24.7**	**+0.7**
	0.1nm,0.3s,baz=220,slow=9.8,SNR=3.9						
AKASG	**Malin Array Be**	**16.91**	**8**	Pn	**Pn**	**04 34 27.5**	**-0.3**
	1.0nm,0.3s,baz=201,slow=10,SNR=5.3						
GERES	**GERESS Array B**	**17.27**	**333**	P	**P**	**04 34 34.4**	**+0.5**
	0.1nm,0.3s,baz=148,slow=13,SNR=4.5						
EKA	**Eskdalemuir Ar**	**29.19**	**326**	P	**P**	**04 36 32.3**	**-0.1**
	0.5nm,0.6s,baz=130,slow=11,SNR=3.7						
TORD	**Torodi Ar. Bea**	**30.02**	**232**	P	**P**	**04 36 39.5**	**-0.7**
	0.5nm,1.1s,baz=32,slow=8.5,SNR=3.8						
MKAR	**Makanchi Array**	**44.15**	**56**	P	**P**	**04 38 40.7**	**+0.9**
	0.9nm,0.7s,baz=279,slow=6.4,SNR=11						

IDC 03 04:37:38.7±1.8,34°08.N×25°70.E,h0km,mb3.4/2,
mb1 3.5/3,mb1mx3.4/25,mbtmp3.4/3,ML3.7/1,Error
ellipse: s-maj=60.1km s-min=32.3km az=142.0,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
GERES	**GERESS Array B**	**17.25**	**332**	P	Pn	04	41	41.0	+0.1
	0.1nm,0.3s,baz=155,slow=13,SNR=4.7								
TORD	**Torodi Ar. Bea**	**30.15**	**232**	P	P	04	43	50.5	0.0
	0.2nm,0.9s,baz=38,slow=8.2,SNR=2.4								
MKAR	**Makanchi Array**	**44.01**	**56**	P	P	04	45	47.7	-0.2
	0.5nm,0.5s,baz=282,slow=6.3,SNR=6.3								

*PDG **03** 04:42:25.2±0.8,34°.26N×23°.63E,h11km±1km,ML4.5/9,*
Error ellipse: s-maj=2.1km s-min=1.6km az=90.0
*ISCJB **03** 04:42:29.9±0.2,34°.41N±0°.01×24°.18E±0°.02,h35km±2km,*
mb4.6/112,MS3.9/6,Error ellipse: s-maj=2.7km
s-min=1.8km az=34.7
*MOS **03** 04:42:29.9±1.1,34°.48N×24°.15E,h29km,mb4.8/48,Error*
ellipse: s-maj=6.4km s-min=3.2km az=92.5
*BJI **03** 04:42:30.4,34°.50N×24°.10E,h40km,mB4.9/14,mb4.8/26,*
Ms4.7/9,Ms7 4.4/7
*HLW **03** 04:42:30.3,34°.58N×24°.25E,h33km±42km,Md4.2,Ml4.3*
*IDC **03** 04:42:31.8±2.0,34°.53N×24°.12E,h32km±14km,mb4.5/27,*
mb1 4.5/37,mb1mx4.4/43,mbtmp4.4/37,ML4.5/8,MS3.4/5,
Ms1 3.4/5,ms1mx2.9/43,Error ellipse: s-maj=13.1km
s-min=10.4km az=158.0
*CSEM **03** 04:42:32.0±0.1,34°.41N×24°.13E,h40km,mb4.6/88,Mw3.6,*
Error ellipse: s-maj=3.0km s-min=1.9km az=35.0
*NEIC **03** 04:42:32.3±0.5,34°.44N×24°.16E,h38km±4km,mb4.6/32,*
ML3.9(ATH),ML4.3(ISK),Error ellipse: s-maj=5.9km
s-min=4.0km az=196.0
*NIC **03** 04:42:35.8±0.3,34°.16N×24°.78E,h106km,mb4.6,ML4.0,*
MW3.6
*ATH **03** 04:42:37.2,34°.92N×24°.20E,h53km±5km,MD4.0/41,*
ML3.9
*THE **03** 04:42:37.0,34°.74N×24°.16E,h66km±1km,ML4.2/6,Error*
ellipse: s-maj=1.7km s-min=0.4km az=46.0

ISC 03 04:42:33.9±0.5,34°66N±0°05×24°13E±0°03,h46km±3km,
h46km:pP-P,n935,σ1§40/901,mb4.6/109,MS3.7/6,
28C-27D,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
GVD	**Gavdhos**	**0.18**	**350**	*e*Pn	Pn	04	42	41.4	-0.3
GVD				*e*Sn	**Sn**	**04**	**42**	**47.8**	**+0.6**
GVD	**Gavdhos**	**0.18**	**350**	*e*Pn	Pn	04	42	41.4	-0.3
GVD				*e*Sn	**Sn**	**04**	**42**	**47.8**	**+0.6**
SIVA	**Sivas**	**0.67**	**57**	P	**Pn**	**04**	**42**	**49.5**	**+2.5**
SIVA				S	**Sn**	**04**	**43**	**00.1**	**+3.6**
SIVA	**Sivas**	**0.67**	**57**	*e*P	**Pn**	**04**	**42**	**49.2**	**+2.2**
SIVA	**Sivas**	**0.67**	**57**	*e*P	**Pn**	**04**	**42**	**49.2**	**+2.2**
SIVA	**Sivas**	**0.67**	**57**	*e*P	**Pn**	**04**	**42**	**49.2**	**+2.2**
SIVA				S	**Sn**	**04**	**43**	**00.1**	**+3.6**
VAM	**Vamos**	**0.75**	**5**	P	**Pn**	**04**	**42**	**50.7**	**+2.6**
VAM				S	**Sn**	**04**	**43**	**01.6**	**+3.1**
VAM	**Vamos**	**0.75**	**5**	*e*P	**Pn**	**04**	**42**	**49.8**	**+1.7**
VAM	**Vamos**	**0.75**	**5**	*e*P	**Pn**	**04**	**42**	**49.8**	**+1.7**
VAM	**Vamos**	**0.75**	**5**	*e*P	**Pn**	**04**	**42**	**49.8**	**+1.7**
VAM	**Vamos**	**0.75**	**5**	*e*P	**Pn**	**04**	**42**	**49.8**	**+1.7**
VAM				S	**Sn**	**04**	**43**	**01.6**	**+3.1**
IDI	**Anoyia**	**0.89**	**45**	P	**Pn**	**04**	**42**	**52.7**	**+2.7**
IDI				S	**Sn**	**04**	**43**	**04.6**	**+2.7**
IDI	**Anoyia**	**0.89**	**45**	*e*P	**Pn**	**04**	**42**	**51.9**	**+1.9**
IDI				*e*S	**Sn**	**04**	**43**	**01.0**	**-0.9**
IDI	**Anoyia**	**0.89**	**45**	*e*Pn	**Pn**	**04**	**42**	**52.2**	**+2.2**
IDI	**Anoyia**	**0.89**	**45**	*e*P	**Pn**	**04**	**42**	**51.9**	**+1.9**
IDI	**Anoyia**	**0.89**	**45**	*e*Pn	**Pn**	**04**	**42**	**52.2**	**+2.2**
IDI				*e*S	**Sn**	**04**	**43**	**01.0**	**-0.9**
LAST	**Lasithi**	**1.22**	**65**	P	**Pn**	**04**	**42**	**57.1**	**+2.6**
LAST				S	**Sn**	**04**	**43**	**12.8**	**+2.9**
LAST	**Lasithi**	**1.22**	**65**	*e*P	**Pn**	**04**	**42**	**57.2**	**+2.7**
LAST	**Lasithi**	**1.22**	**65**	*e*P	**Pn**	**04**	**42**	**57.2**	**+2.7**
LAST	**Lasithi**	**1.22**	**65**	*e*P	**Pn**	**04**	**42**	**57.2**	**+2.7**
LAST				S	**Sn**	**04**	**43**	**12.8**	**+2.9**
NPS	**Neapolis**	**1.36**	**63**	P	**Pn**	**04**	**42**	**59.4**	**+3.0**
NPS				S	**Sn**	**04**	**43**	**15.9**	**+2.6**
NPS	**Neapolis**	**1.36**	**63**	*e*P	**Pn**	**04**	**42**	**59.3**	**+2.9**
NPS	**Neapolis**	**1.36**	**63**	*e*P	**Pn**	**04**	**42**	**59.3**	**+2.9**
NPS				S	**Sn**	**04**	**43**	**15.9**	**+2.6**
ANKY	**Antikythira Is**	**1.38**	**331**	P	**Pn**	**04**	**42**	**59.6**	**+2.8**
ANKY				S	**Sn**	**04**	**43**	**16.6**	**+2.8**
ANKY	**Antikythira Is**	**1.38**	**331**	*e*P	**Pn**	**04**	**42**	**59.5**	**+2.8**
ANKY	**Antikythira Is**	**1.38**	**331**	*e*P	**Pn**	**04**	**42**	**59.5**	**+2.8**
ANKY	**Antikythira Is**	**1.38**	**331**	*e*P	**Pn**	**04**	**42**	**59.5**	**+2.8**
ANKY				S	**Sn**	**04**	**43**	**16.6**	**+2.8**
ZKR	**Zakros**	**1.78**	**75**	P	**Pn**	**04**	**43**	**04.5**	**+2.3**
ZKR				S	**Sn**	**04**	**43**	**26.3**	**+2.8**
ZKR	**Zakros**	**1.78**	**75**	*e*P	**Pn**	**04**	**43**	**04.4**	**+2.3**
ZKR	**Zakros**	**1.78**	**75**	*e*P	**Pn**	**04**	**43**	**04.4**	**+2.3**
ZKR				S	**Sn**	**04**	**43**	**26.3**	**+2.8**
KYTH	**Kithira**	**1.85**	**331**	P	**Pn**	**04**	**43**	**05.8**	**+2.7**
KYTH	**Kithira**	**1.85**	**331**	*e*P	**Pn**	**04**	**43**	**05.8**	**+2.7**
KYTH	**Kithira**	**1.85**	**331**	*e*P	**Pn**	**04**	**43**	**05.8**	**+2.7**
SANT	**Santorini**	**2.02**	**32**	P	**Pn**	**04**	**43**	**07.5**	**+2.0**
SANT	**Santorini**	**2.02**	**32**	*e*P	**Pn**	**04**	**43**	**07.5**	**+2.0**
SANT	**Santorini**	**2.02**	**32**	*e*Pn	**Pn**	**04**	**43**	**07.6**	**+2.0**
SANT	**Santorini**	**2.02**	**32**	*e*P	**Pn**	**04**	**43**	**07.5**	**+2.0**
THR1	**Thera Island**	**2.02**	**32**	P	**Pn**	**04**	**43**	**07.5**	**+2.0**
THR1	**Thera Island**	**2.02**	**32**	P	**Pn**	**04**	**43**	**07.5**	**+2.0**
THR3	**Thira Island,**	**2.03**	**30**	P	**Pn**	**04**	**43**	**08.0**	**+2.4**
THR3	**Thira Island,**	**2.03**	**30**	P	**Pn**	**04**	**43**	**08.0**	**+2.4**
VLI	**Veliai**	**2.27**	**335**	P	**Pn**	**04**	**43**	**11.2**	**+2.3**
VLI	**Veliai**	**2.27**	**335**	*e*P	**Pn**	**04**	**43**	**11.8**	**+2.9**
VLI	**Veliai**	**2.27**	**335**	*e*P	**Pn**	**04**	**43**	**11.8**	**+2.9**
DYR	**Agios Nikonas**	**2.56**	**326**	P	**Pn**	**04**	**43**	**15.0**	**+2.2**
DYR	**Agios Nikonas**	**2.56**	**326**	*e*P	**Pn**	**04**	**43**	**15.6**	**+2.8**
DYR	**Agios Nikonas**	**2.56**	**326**	*e*P	**Pn**	**04**	**43**	**15.6**	**+2.8**
LTBQ	**Tobruq**	**2.60**	**184**	*i* P	Pn	04	43	09.8	-3.6
	436nm,0.6s,SNR=76								
LTBQ				*e*S	Sn	04	43	37.4	-6.4
	384nm,0.4s,SNR=76								
KARP	**Karpathos**	**2.64**	**70**	P	**Pn**	**04**	**43**	**16.5**	**+2.5**
KARP				S	**Sn**	**04**	**43**	**47.2**	**+2.4**
KARP	**Karpathos**	**2.64**	**70**	*e*P	**Pn**	**04**	**43**	**16.5**	**+2.5**
KARP	**Karpathos**	**2.64**	**70**	P	**Pn**	**04**	**43**	**16.5**	**+2.5**
KARP				S	**Sn**	**04**	**43**	**47.2**	**+2.4**
APE	**Apeiranthos**	**2.66**	**25**	*e*PN	**Pn**	**04**	**43**	**15.3**	**+1.0**
APE				*e*SN	Sn	04	43	50.9	+5.5
APE	**Apeiranthos**	**2.66**	**25**	P	**Pn**	**04**	**43**	**15.9**	**+1.6**
APE				S	**Sn**	**04**	**43**	**47.1**	**+1.8**
APE	**Apeiranthos**	**2.66**	**25**	*e*P	**Pn**	**04**	**43**	**15.9**	**+1.6**
APE	**Apeiranthos**	**2.66**	**25**	*e*P	**Pn**	**04**	**43**	**15.9**	**+1.6**
APE				S	**Sn**	**04**	**43**	**47.1**	**+1.8**
DID	**Didima**	**2.93**	**346**	P	**Pn**	**04**	**43**	**19.8**	**+1.8**
DID				S	**Sn**	**04**	**43**	**53.1**	**+1.1**
DID	**Didima**	**2.93**	**346**	*e*P	**Pn**	**04**	**43**	**19.6**	**+1.6**
DID	**Didima**	**2.93**	**346**	P	**Pn**	**04**	**43**	**19.8**	**+1.8**
DID				S	**Sn**	**04**	**43**	**53.1**	**+1.1**
PYL	**PYLOS**	**2.96**	**320**	*e*P	**Pn**	**04**	**43**	**19.6**	**+1.3**
PYL	**PYLOS**	**2.96**	**320**	*e*P	**Pn**	**04**	**43**	**19.6**	**+1.3**
VLX	**Vlachokerasia**	**3.06**	**333**	P	**Pn**	**04**	**43**	**21.8**	**+2.1**
VLX				S	**Sn**	**04**	**43**	**56.8**	**+1.7**
VLX	**Vlachokerasia**	**3.06**	**333**	*e*P	**Pn**	**04**	**43**	**22.5**	**+2.8**
VLX	**Vlachokerasia**	**3.06**	**333**	P	**Pn**	**04**	**43**	**21.8**	**+2.1**
VLX				S	**Sn**	**04**	**43**	**56.8**	**+1.7**
ITM	**Ithomi**	**3.09**	**325**	P	**Pn**	**04**	**43**	**22.9**	**+2.8**
ITM	**Ithomi**	**3.09**	**325**	*e*P	**Pn**	**04**	**43**	**21.8**	**+1.7**
ITM	**Ithomi**	**3.09**	**325**	*e*P	**Pn**	**04**	**43**	**21.8**	**+1.7**
NAIG	**Nisos Aigina**	**3.14**	**351**	*e*P	**Pn**	**04**	**43**	**22.5**	**+1.7**
NAIG	**Nisos Aigina**	**3.14**	**351**	*e*P	**Pn**	**04**	**43**	**22.5**	**+1.7**
NIS1	**Nisyros Isl.**	**3.15**	**51**	P	**Pn**	**04**	**43**	**23.7**	**+2.7**
NIS1				S	**Sn**	**04**	**43**	**59.2**	**+1.8**
NIS1	**Nisyros Isl.**	**3.15**	**51**	*e*P	**Pn**	**04**	**43**	**23.3**	**+2.3**
NIS1	**Nisyros Isl.**	**3.15**	**51**	*e*P	**Pn**	**04**	**43**	**23.3**	**+2.3**
NIS1				S	**Sn**	**04**	**43**	**59.2**	**+1.8**
SLUM		**3.29**	**164**	S	**Sn**	**04**	**43**	**54.0**	**-6.7**
	baz=165								
SLUM		**3.29**	**164**	P	Pn	04	43	18.3	-4.5
SLUM				S	Sn	04	43	54.0	-6.7
ATH	**Athens Observa**	**3.32**	**354**	*e*P	**Pn**	**04**	**43**	**25.1**	**+1.8**
ATH	**Athens Observa**	**3.32**	**354**	*e*P	**Pn**	**04**	**43**	**25.1**	**+1.8**
PTL	**Penteli**	**3.39**	**356**	P	**Pn**	**04**	**43**	**25.9**	**+1.6**
PTL	**Penteli**	**3.39**	**356**	*e*P	**Pn**	**04**	**43**	**25.9**	**+1.6**
PTL	**Penteli**	**3.39**	**356**	*e*P	**Pn**	**04**	**43**	**25.9**	**+1.6**
AMT	**Artemida-Makis**	**3.47**	**326**	*e*P	**Pn**	**04**	**43**	**28.5**	**+3.1**
AMT	**Artemida-Makis**	**3.47**	**326**	*e*P	**Pn**	**04**	**43**	**28.5**	**+3.1**
DAT	**Datca**	**3.49**	**53**	*e*PN	**Pn**	**04**	**43**	**26.5**	**+0.8**
DAT	**Datca**	**3.49**	**53**	*e*SN	**Sn**	**04**	**44**	**09.3**	**+3.6**
LTK	**Loutraki**	**3.49**	**345**	P	**Pn**	**04**	**43**	**27.3**	**+1.7**
LTK	**Loutraki**	**3.49**	**345**	*e*P	**Pn**	**04**	**43**	**27.3**	**+1.7**
LTK	**Loutraki**	**3.49**	**345**	*e*P	**Pn**	**04**	**43**	**27.3**	**+1.7**
BODT	**Bodrum**	**3.53**	**46**	*e*PN	**Pn**	**04**	**43**	**27.0**	**+0.9**
GUR	**Goura**	**3.58**	**337**	P	**Pn**	**04**	**43**	**28.7**	**+1.8**
GUR				S	**Sn**	**04**	**44**	**09.9**	**+2.0**
GUR	**Goura**	**3.58**	**337**	*e*P	**Pn**	**04**	**43**	**28.6**	**+1.7**
GUR	**Goura**	**3.58**	**337**	*e*P	**Pn**	**04**	**43**	**28.6**	**+1.7**
GUR				S	**Sn**	**04**	**44**	**09.9**	**+2.0**
VIL2	**Platees**	**3.61**	**349**	P	**Pn**	**04**	**43**	**29.1**	**+1.8**
ARG	**Arkhangelos**	**3.62**	**63**	P	**Pn**	**04**	**43**	**29.4**	**+2.1**
ARG				S	**Sn**	**04**	**44**	**10.2**	**+1.4**
ARG	**Arkhangelos**	**3.62**	**63**	*e*P	**Pn**	**04**	**43**	**29.2**	**+1.9**
ARG	**Arkhangelos**	**3.62**	**63**	*e*P	**Pn**	**04**	**43**	**29.2**	**+1.9**
ARG				S	**Sn**	**04**	**44**	**10.2**	**+1.4**
KLV	**Kalavryta, Ach**	**3.74**	**335**	P	**Pn**	**04**	**43**	**31.2**	**+2.1**
KLV	**Kalavryta, Ach**	**3.74**	**335**	*e*P	**Pn**	**04**	**43**	**31.2**	**+2.1**
KLV	**Kalavryta, Ach**	**3.74**	**335**	*e*P	**Pn**	**04**	**43**	**31.2**	**+2.1**
SMG	**Samos**	**3.75**	**35**	*e*P	**Pn**	**04**	**43**	**31.7**	**+2.5**
SMG	**Samos**	**3.75**	**35**	*e*P	**Pn**	**04**	**43**	**31.7**	**+2.5**
MLSB	**Milas**	**3.96**	**47**	*e*PN	**Pn**	**04**	**43**	**33.2**	**+1.1**
MLSB	**Milas**	**3.96**	**47**	*e*SN	Sn	04	44	21.9	+4.6
DSF	**Desfina**	**3.96**	**341**	P	**Pn**	**04**	**43**	**33.9**	**+1.8**
DSF				S	**Sn**	**04**	**44**	**19.3**	**+2.0**
DSF	**Desfina**	**3.96**	**341**	P	**Pn**	**04**	**43**	**33.9**	**+1.8**
DSF				S	**Sn**	**04**	**44**	**19.3**	**+2.0**
LAKA	**Lakka**	**3.97**	**335**	P	**Pn**	**04**	**43**	**34.3**	**+2.0**
LAKA				S	**Sn**	**04**	**44**	**19.3**	**+1.7**
LAKA	**Lakka**	**3.97**	**335**	*e*P	**Pn**	**04**	**43**	**34.1**	**+1.8**
LAKA	**Lakka**	**3.97**	**335**	*e*P	**Pn**	**04**	**43**	**34.1**	**+1.8**
LAKA				S	**Sn**	**04**	**44**	**19.3**	**+1.7**
RLS	**Riolos of Patr**	**4.01**	**328**	P	**Pn**	**04**	**43**	**35.4**	**+2.6**
RLS	**Riolos of Patr**	**4.01**	**328**	*e*P	**Pn**	**04**	**43**	**35.2**	**+2.4**
RLS	**Riolos of Patr**	**4.01**	**328**	*e*P	**Pn**	**04**	**43**	**35.2**	**+2.4**
CHOS	**Chios island**	**4.03**	**22**	*e*P	**Pn**	**04**	**43**	**35.0**	**+1.9**
CHOS	**Chios island**	**4.03**	**22**	*e*P	**Pn**	**04**	**43**	**35.0**	**+1.9**
TRIZ	**Trizonia**	**4.05**	**336**	P	**Pn**	**04**	**43**	**35.1**	**+1.8**
TRIZ	**Trizonia**	**4.05**	**336**	*e*P	**Pn**	**04**	**43**	**35.1**	**+1.8**
TRIZ	**Trizonia**	**4.05**	**336**	*e*P	**Pn**	**04**	**43**	**35.1**	**+1.8**
KALE	**Kalithea**	**4.05**	**337**	P	**Pn**	**04**	**43**	**35.3**	**+1.9**
KALE	**Kalithea**	**4.05**	**337**	*e*P	**Pn**	**04**	**43**	**35.0**	**+1.6**
KALE	**Kalithea**	**4.05**	**337**	*e*P	**Pn**	**04**	**43**	**35.0**	**+1.6**
LKR	**Lokris**	**4.09**	**348**	*e*P	**Pn**	**04**	**43**	**35.0**	**+1.2**
LKR	**Lokris**	**4.09**	**348**	*e*P	**Pn**	**04**	**43**	**35.0**	**+1.2**
EFP	**Efpalio**	**4.17**	**335**	*e*P	**Pn**	**04**	**43**	**35.7**	**+0.8**
EFP	**Efpalio**	**4.17**	**335**	*e*P	**Pn**	**04**	**43**	**35.7**	**+0.8**
AXS	**Araxos**	**4.17**	**329**	P	**Pn**	**04**	**43**	**37.3**	**+2.4**
AXS				S	**Sn**	**04**	**44**	**24.5**	**+2.1**
AXS	**Araxos**	**4.17**	**329**	P	**Pn**	**04**	**43**	**37.3**	**+2.4**
AXS				S	**Sn**	**04**	**44**	**24.5**	**+2.1**
YER	**Yerkesik**	**4.18**	**53**	*e*PN	**Pn**	**04**	**43**	**36.5**	**+1.3**
MATC	**Matruh**	**4.21**	**141**	P	Pn	04	43	31.4	-4.1
	baz=141								
DALY	**Dalyan (Mu¨la**	**4.26**	**58**	*e*PN	**Pn**	**04**	**43**	**37.6**	**+1.4**
HMAT	**Matruh**	**4.34**	**144**	P	Pn	04	43	33.0	-4.4
HMAT				S	Sn	04	44	19.9	-6.9
HMAT	**Matruh**	**4.34**	**144**	P	Pn	04	43	33.0	-4.4
	baz=144								
HMAT				S	Sn	04	44	19.8	-6.9
	baz=144								
HMAT	**Matruh**	**4.34**	**144**	P	Pn	04	43	33.0	-4.4
HMAT				S	Sn	04	44	19.9	-6.9
BLDB	**Balcova**	**4.40**	**31**	*e*PN	**Pn**	**04**	**43**	**41.0**	**+1.9**
FETY	**Fethiye**	**4.49**	**63**	*e*PN	**Pn**	**04**	**43**	**40.0**	**+0.6**
IZM	**Izmir**	**4.50**	**33**	*e*PN	**Pn**	**04**	**43**	**41.5**	**+1.9**
AOS	**Alonnisos**	**4.51**	**358**	*e*P	**Pn**	**04**	**43**	**40.7**	**+1.1**
AOS	**Alonnisos**	**4.51**	**358**	*e*P	**Pn**	**04**	**43**	**40.7**	**+1.1**
AGG	**Agios Georgios**	**4.59**	**342**	*e*P	**Pn**	**04**	**43**	**41.5**	**+0.8**
AGG	**Agios Georgios**	**4.59**	**342**	*e*P	**Pn**	**04**	**43**	**41.5**	**+0.8**
EVR	**Evrytania**	**4.64**	**337**	P	**Pn**	**04**	**43**	**43.8**	**+2.3**
EVR				S	**Sn**	**04**	**44**	**35.3**	**+1.2**
EVR	**Evrytania**	**4.64**	**337**	*e*P	**Pn**	**04**	**43**	**43.6**	**+2.1**
EVR	**Evrytania**	**4.64**	**337**	*e*P	**Pn**	**04**	**43**	**43.6**	**+2.1**
EVR				S	**Sn**	**04**	**44**	**35.3**	**+1.2**
NEO	**Neokhori**	**4.70**	**351**	*e*P	**Pn**	**04**	**43**	**43.6**	**+1.4**
NEO	**Neokhori**	**4.70**	**351**	*e*P	**Pn**	**04**	**43**	**43.6**	**+1.4**
PRK	**Paraskevi**	**4.89**	**20**	*e*P	**Pn**	**04**	**43**	**46.3**	**+1.5**
PRK	**Paraskevi**	**4.89**	**20**	*e*P	**Pn**	**04**	**43**	**46.3**	**+1.5**
LKD2	**Lefkada island**	**4.98**	**327**	*e*P	**Pn**	**04**	**43**	**48.8**	**+2.8**
LKD2	**Lefkada island**	**4.98**	**327**	*e*P	**Pn**	**04**	**43**	**48.8**	**+2.8**
LJBD	**Adjabya**	**4.99**	**223**	*i* P	Pn	04	43	42.7	-3.5
	SNR=76								
DENT	**Denizli**	**5.03**	**51**	*e*PN	**Pn**	**04**	**43**	**48.0**	**+1.3**
ELL	**Elmali**	**5.14**	**64**	*e*PN	**Pn**	**04**	**43**	**49.0**	**+0.6**
THL	**Klokotos Trika**	**5.18**	**342**	*e*P	**Pn**	**04**	**43**	**50.5**	**+1.7**
THL	**Klokotos Trika**	**5.18**	**342**	*e*P	**Pn**	**04**	**43**	**50.5**	**+1.7**
KULA	**Kula-Manisa**	**5.30**	**42**	*e*PN	**Pn**	**04**	**43**	**52.1**	**+1.5**
EZN	**Ezine**	**5.45**	**18**	*e*PN	**Pn**	**04**	**43**	**53.6**	**+1.2**
SWA2		**5.52**	**168**	P	Pn	04	43	48.9	-4.5
	baz=168								
SWA2		**5.52**	**168**	P	Pn	04	43	48.9	-4.5
JAN	**Janina**	**5.63**	**333**	*e*P	**Pn**	**04**	**43**	**57.4**	**+2.3**
JAN	**Janina**	**5.63**	**333**	*e*P	**Pn**	**04**	**43**	**57.4**	**+2.3**
KHL	**Karahalli**	**5.68**	**48**	*e*PN	**Pn**	**04**	**43**	**57.1**	**+1.3**
ANTB	**Antalya**	**5.76**	**66**	*e*PN	**Pn**	**04**	**44**	**01.1**	**+0.4**
BALB	**Balikesir**	**5.80**	**30**	*e*PN	**Pn**	**04**	**43**	**58.9**	**+1.5**
BCK	**Bucak**	**5.93**	**60**	*e*PN	**Pn**	**04**	**43**	**59.6**	**+0.4**
LUJL	**Ujela**	**6.02**	**204**	*i* P	Pn	04	43	55.8	-4.6
	1µm,0.7s,SNR=70								
GELI	**Tayfur-Gelibol**	**6.03**	**17**	*e*PN	**Pn**	**04**	**44**	**01.3**	**+0.9**
ISP	**Isparta**	**6.06**	**57**	*e*PN	**Pn**	**04**	**44**	**01.6**	**+0.7**
LPK	**Lapseki**	**6.08**	**19**	*e*PN	**Pn**	**04**	**44**	**02.5**	**+1.4**
GONE	**Gonen-Balikesi**	**6.08**	**27**	*e*PN	**Pn**	**04**	**44**	**02.5**	**+1.4**
DST	**Dursunbey**	**6.10**	**35**	*e*PN	**Pn**	**04**	**44**	**02.9**	**+1.4**
SRN	**Sarande**	**6.16**	**329**	*e*PN	**Pn**	**04**	**44**	**04.2**	**+1.9**
SRN				*i* PN	**Sn**	**04**	**45**	**12.2**	**+0.8**
SRN	**Sarande**	**6.16**	**329**	*e*Pn	**Pn**	**04**	**44**	**04.2**	**+1.9**
SUTC	**Sutluce-Ispart**	**6.24**	**61**	*e*PN	**Pn**	**04**	**44**	**03.6**	**+0.2**
KRBG	**Karabiga-Canak**	**6.25**	**23**	*e*PN	**Pn**	**04**	**44**	**04.7**	**+1.2**
ENEZ	**Enez**	**6.28**	**14**	*e*PN	**Pn**	**04**	**44**	**04.6**	**+0.8**
TVSB	**Tavsanli**	**6.41**	**40**	*e*PN	**Pn**	**04**	**44**	**06.4**	**+0.7**
SHUT	**Suhut-Afyon**	**6.46**	**51**	*e*PN	**Pn**	**04**	**44**	**07.2**	**+0.6**
RKY	**Sarkoy-Tekirda**	**6.49**	**21**	*e*PN	**Pn**	**04**	**44**	**08.1**	**+1.3**
ALT	**Altintas**	**6.50**	**46**	*e*PN	**Pn**	**04**	**44**	**08.0**	**+0.9**
KBN	**Korca**	**6.52**	**337**	*e*PN	**Pn**	**04**	**44**	**09.5**	**+2.3**
KBN	**Korca**	**6.52**	**337**	*e*Pn	**Pn**	**04**	**44**	**09.5**	**+2.3**
KCTX	**Karacabey (Bur**	**6.53**	**30**	*e*PN	**Pn**	**04**	**44**	**08.4**	**+1.1**
ORLT	**Orhaneli**	**6.58**	**34**	*e*PN	**Pn**	**04**	**44**	**09.4**	**+1.3**
MFT	**Murefte**	**6.61**	**21**	*e*PN	**Pn**	**04**	**44**	**09.9**	**+1.5**
BIA	**Bitola**	**6.73**	**342**	*e*Pn	**Pn**	**04**	**44**	**09.5**	**-0.5**
BIA	**Bitola**	**6.73**	**342**	*e*Pn	**Pn**	**04**	**44**	**09.5**	**-0.5**
AKMC	**Akamas**	**6.75**	**85**	P	Pn	04	44	07.7	-2.7
AKMC	**Akamas**	**6.75**	**85**	P	Pn	04	44	07.7	-2.7
VAY	**Valandovo**	**6.76**	**350**	*e*Pn	**Pn**	**04**	**44**	**11.4**	**+0.9**
VAY	**Valandovo**	**6.76**	**350**	*e*Pn	**Pn**	**04**	**44**	**11.4**	**+0.9**
PPCY	**Paphos**	**6.77**	**86**	P	Pn	04	44	08.5	-2.1
PPCY	**Paphos**	**6.77**	**86**	P	Pn	04	44	08.5	-2.1
MDNY	**Mudanya-Bursa**	**6.84**	**32**	*e*PN	**Pn**	**04**	**44**	**12.7**	**+1.2**
MMB	**Musomiste**	**6.93**	**358**	*e*P	**Pn**	**04**	**44**	**13.9**	**+1.1**
MMB	**Musomiste**	**6.93**	**358**	*e*P	**Pn**	**04**	**44**	**13.9**	**+1.1**
ALFC	**Alevga**	**6.98**	**84**			P	Pn

MMAI Sn Sn 04 46 26.1 -8.1
MMAI Mount Meron Ar 9.52 97 Pn Pn 04 44 44.5 -3.9
comp=N,9.1nm,0.3s,baz=274,slow=11,SNR=16
MMAI Sn Sn 04 46 26.1 -8.1
comp=N,23nm,0.3s,baz=261,slow=27,SNR=10
MMAI Mount Meron Ar 9.52 97 Pn Pn 04 44 44.5 -3.9
MMAI Sn Sn 04 46 26.0 -8.2
LSHF Shwairf 9.57 244 *i* P Pn 04 44 42.5 -6.5
SNR=70
HNKL Nakhl 9.58 117 P Pn 04 44 45.1 -4.0
baz=116
HNKL Nakhl 9.58 117 P Pn 04 44 45.1 -4.0
RTMI Retamim 9.58 109 Pn Pn 04 44 45.4 -3.8
STON Ston 9.61 330 *e*Pn **Pn 04 44 47.6 -1.9**
STON Sn Sn 04 46 29.6 -6.5
MMLI Mount Malkishu 9.68 100 Pn Pn 04 44 46.0 -4.6
CEYT Ceyhan 9.72 73 *e*PN **Pn 04 44 49.5 -1.6**
GRB Gharib 9.75 128 P Pn 04 44 48.0 -3.6
baz=128
GRB Gharib 9.75 128 P Pn 04 44 48.0 -3.6
HWQ Hawqa 9.77 89 *e*P Pn 04 44 49.1 -2.7
HWQ Hawqa 9.77 89 *e*P Pn 04 44 49.1 -2.7
RCY Rachaya 9.78 94 *e*P Pn 04 44 48.1 -3.9
YTIR Yattir 9.79 107 Pn Pn 04 44 49.2 -3.0
HMDT Nahal Hemdat 9.82 101 Pn Pn 04 44 49.1 -3.3
KOZT Kozan 9.88 70 *e*PN **Pn 04 44 52.0 -1.3**
DSI Dead Sea 9.93 105 Pn Pn 04 44 50.1 -3.8
CORM Corum 10.00 54 *e*PN **Pn 04 44 54.6 -0.4**
MZDA Masada 10.01 106 Pn Pn 04 44 51.0 -4.0
KRMI Paran Flat 10.04 114 Pn Pn 04 44 51.8 -3.6
PRNI Paran 10.14 112 Pn Pn 04 44 53.0 -3.8
ZFRI Zfri 10.18 111 Pn Pn 04 44 52.8 -4.5
HRFI Mount Harif 10.31 114 Pn Pn 04 44 55.4 -3.8
TIRR Tirgusor 10.33 17 *e*P **Pn 04 45 00.1 +0.8**
TIRR pmax pmax
comp=Z,6.0nm,0.9s
TIRR Tirgusor 10.33 17 *e*Pn **Pn 04 45 00.1 +0.8**
comp=Z,6.1nm,0.9s
TIRR Tirgusor 10.33 17 ⇓*i*P **Pn 04 45 00.9 +1.6**
TIRR Tirgusor 10.33 17 *e*Pn **Pn 04 45 00.1 +0.8**
comp=Z,6.1nm,0.9s
TIRR Tirgusor 10.33 17 ⇓*i*P **Pn 04 45 00.9 +1.6**
MBRI Mt Berech 10.34 115 Pn Pn 04 44 56.8 -2.8
EIL Elat 10.43 115 Pn Pn 04 44 56.6 -4.2
EIL Sn Sn 04 46 45.8 -11
EIL Elat 10.43 115 Pn Pn 04 44 56.6 -4.2
comp=Z,3.6nm,0.3s,baz=229,slow=5.1,SNR=30
EIL Sn Sn 04 46 45.8 -11
comp=Z,7.2nm,0.3s,baz=299,slow=9.6,SNR=7.3
EIL Elat 10.43 115 Pn Pn 04 44 56.9 -3.9
EIL Sn Sn 04 46 45.8 -11
LKFR Kufra 10.49 185 *i* P Pn 04 44 55.2 -6.5
comp=Z,18nm,0.9s,SNR=70
HBST Basata 10.51 118 P Pn 04 44 58.3 -3.7
baz=118
HBST Basata 10.51 118 P Pn 04 44 58.3 -3.7
ARR Arges 10.70 2 ⇓*i*P **Pn 04 45 06.7 +2.2**
ARR Arges 10.70 2 ⇓*i*P **Pn 04 45 06.7 +2.2**
LOT Lotru 10.78 359 ⇓*i*P **Pn 04 45 07.4 +1.8**
LOT Lotru 10.78 359 ⇓*i*P **Pn 04 45 07.4 +1.8**
VOIR 10.79 3 ⇓P Pn 04 45 08.5 +2.8
VOIR 10.79 3 ⇓*i*P Pn 04 45 08.4 +2.8
VOIR 10.79 3 P Pn 04 45 08.5 +2.8
MLR Muntele Rosu 10.91 7 Pn **Pn 04 45 08.4 +1.0**
MLR Muntele Rosu 10.91 7 ⇑*i*P **Pn 04 45 09.4 +2.0**
MLR Muntele Rosu 10.91 7 Pn **Pn 04 45 08.4 +1.0**
comp=Z,0.1nm,0.3s,baz=178,slow=11,SNR=12
MLR LR LR 04 48 28.9
comp=Z,24nm,21.2s,baz=186,slow=32
MLR Muntele Rosu 10.91 7 Pn **Pn 04 45 08.4 +1.0**
MLR Muntele Rosu 10.91 7 ⇑*i*P **Pn 04 45 09.4 +2.0**
CFR Carcaliu 10.95 15 ⇑P Pn 04 45 12.0 +4.3
CFR Carcaliu 10.95 15 ⇑*i*P Pn 04 45 12.0 +4.3
CFR Carcaliu 10.95 15 ⇑*i*P Pn 04 45 12.0 +4.3
ASF Jabal al Asfar 10.96 100 Pn Pn 04 45 03.4 -4.6
ASF Jabal al Asfar 10.96 100 Pn Pn 04 45 03.4 -4.6
VRI Vrincioaia 11.37 9 ⇑*i*P Pn 04 45 25.0 +11
UDBI Udbina 11.77 329 *e*Pn **Pn 04 45 18.3 -0.8**
UDBI Sn Sn 04 47 23.4 -5.6
UDBI Udbina 11.77 329 *e*Pn **Pn 04 45 18.3 -0.8**
TESR Tescani 11.99 8 ⇑*i*P Pn 04 45 25.8 +3.7
TESR Tescani 11.99 8 ⇑*i*P Pn 04 45 25.8 +3.7
MALT Malatya 12.07 68 ⇑*i*P Pn 04 45 36.6 +13
KEST Kesra 12.14 279 Pn Pn 04 45 23.9 -0.3
KEST Sn Sn 04 47 34.3 -3.9
KEST Kesra 12.14 279 Pn Pn 04 45 23.9 -0.3
comp=Z,0.0nm,0.3s,baz=82,slow=14,SNR=3.3
KEST Sn Sn 04 47 34.3 -3.9
comp=Z,0.1nm,0.3s,baz=68,slow=19,SNR=3.9
KEST Kesra 12.14 279 Pn Pn 04 45 24.0 -0.3
KEST Sn Sn 04 47 34.3 -3.9
NVLJ Novalja 12.19 327 *e*Pn **Pn 04 45 23.3 -1.4**
NVLJ Sn Sn 04 47 31.9 -7.2
PKSM Moragy 12.27 342 ⇓*i*P **Pn 04 45 24.0 -1.8**
BUR08 Bucovina Ar. S 13.00 3 *e*Pn Pn 04 45 39.6 +3.7
BUR08 Bucovina Ar. S 13.00 3 *e*Pn Pn 04 45 39.6 +3.7
PSZ Piszkesteto 13.62 348 *e*P **Pn 04 45 46.0 +1.6**
PSZ Piszkesteto 13.62 348 *e*Pn **Pn 04 45 46.0 +1.6**
PSZ Piszkesteto 13.62 348 ⇑*i*P **Pn 04 45 44.3 -0.1**
PSZ Piszkesteto 13.62 348 *e*P **Pn 04 45 46.0 +1.6**
KECS Kecovo 14.08 350 *e*P **P 04 45 57.0 -0.1**
KECS Kecovo 14.08 350 *e*PN **P 04 45 57.0 -0.1**
KECS Kecovo 14.08 350 *e*P **P 04 45 57.0 -0.1**
PGF Pioggiola 14.20 308 *e*P **Pn 04 45 53.4 +1.2**
comp=Z,19nm,0.8s
KOLS Kolonicke sedl 14.33 355 *e*P **P 04 45 59.0 -0.9**
KOLS Kolonicke sedl 14.33 355 *e*PN **P 04 45 59.0 -0.9**
KOLS Kolonicke sedl 14.33 355 *e*P **P 04 45 59.0 -0.9**
VYHS Vyhne 14.37 346 *e*P **P 04 46 02.0 +1.6**
VYHS Vyhne 14.37 346 *e*PN **P 04 46 02.0 +1.6**
VYHS Vyhne 14.37 346 *e*P **P 04 46 02.0 +1.6**
ANN Anapa 14.38 41 *e*P **Pn 04 45 55.9 +1.4**
ANN *e*S Sn 04 48 35.9 +3.3
ANN pmax pmax
comp=Z,20nm,1.0s
ANN Anapa 14.38 41 *e*P **Pn 04 45 55.9 +1.4**
comp=Z,20nm,1.0s
ANN *e*S Sn 04 48 35.9 +3.3
STHS Stebnicka Huta 14.90 353 *e*P **P 04 46 08.2 +1.9**
STHS Stebnicka Huta 14.90 353 *e*PN **P 04 46 08.2 +1.9**
STHS Stebnicka Huta 14.90 353 *e*P **P 04 46 08.2 +1.9**
MOA Molln 15.10 334 ⇓*i*Pn **Pn 04 46 03.8 -0.3**
comp=Z,27nm,0.4s,SNR=10
MOA Molln 15.10 334 Pn **Pn 04 46 03.8 -0.3**
comp=Z,27nm,0.4s,SNR=10
LVV L'vov 15.15 360 *e*P **P 04 46 10.4 +1.4**
LVV L'vov 15.15 360 *e*P **P 04 46 10.4 +1.4**
VRAC Vranov 15.66 341 Pn **P 04 46 13.4 -1.3**
VRAC Vranov 15.66 341 Pn **P 04 46 13.4 -1.3**
comp=Z,2.9nm,0.3s,baz=164,slow=9.7,SNR=18
VRAC Vranov 15.66 341 Pn **P 04 46 13.4 -1.3**
VRAC Vranov 15.66 341 *e*P **P 04 46 16.1 +1.4**
OKC Ostrava-Krasne 15.79 346 *e*P **P 04 46 17.8 +1.7**
OKC MLR MLR
comp=Z,200nm,19.2s
OKC Ostrava-Krasne 15.79 346 *e*P **P 04 46 17.8 +1.7**
OKC AMS AMS 04 53 30.0
comp=Z,200nm,19.2s
OKC Ostrava-Krasne 15.79 346 P **P 04 46 17.8 +1.7**
REVF Revere 15.82 310 *e*P **Pn 04 46 15.2 +1.8**
REVF Revere 15.82 310 *e*P **Pn 04 46 15.2 +1.8**
SAOF Saorge 15.83 311 *e*P **Pn 04 46 15.0 +1.5**
SAOF Saorge 15.83 311 *e*P **Pn 04 46 15.0 +1.5**
SBF Sospel 15.84 310 *e*P **Pn 04 46 15.5 +1.8**
comp=Z,30nm,0.9s
SBF Sospel 15.84 310 *e*P **Pn 04 46 15.5 +1.8**
comp=Z,15nm,0.9s
MORC Moravsky Berou 15.87 344 *e*P **P 04 46 17.3 +0.3**
MORC pmax pmax
comp=Z,8.0nm,0.8s
MORC Moravsky Berou 15.87 344 *e*Pn **P 04 46 17.3 +0.3**
comp=Z,7.6nm,0.8s
MORC Moravsky Berou 15.87 344 *e*Pn **P 04 46 17.3 +0.3**
comp=Z,7.6nm,0.8s
MORC Moravsky Berou 15.87 344 *e*P **P 04 46 17.6 +0.6**
FUORN Ofenpass-Fuorn 15.89 323 *e*P **P 04 46 18.5 +0.9**
comp=Z,23nm,0.6s
FUORN Ofenpass-Fuorn 15.89 323 *e*P **P 04 46 18.5 +0.9**
comp=Z,23nm,0.6s
TREC Trest 15.96 339 *e*P **P 04 46 19.3 +1.3**
TREC MLR MLR
comp=Z,200nm,15.4s
TREC Trest 15.96 339 *e*P **P 04 46 19.3 +1.3**

TREC AMS AMS 04 53 50.0
comp=Z,200nm,15.4s
TREC Trest 15.96 339 P **P 04 46 19.3 +1.3**
TOUF Mont Tournerai 16.03 311 *e*P **Pn 04 46 16.9 +0.7**
MVIF Mont Vial 16.03 310 *e*P **Pn 04 46 18.0 +1.8**
MVIF Mont Vial 16.03 310 *e*P **Pn 04 46 18.0 +1.8**
GEC2 GERESS Array S 16.15 335 *e*P **Pn 04 46 17.8 +0.2**
GEC2 GERESS Array S 16.15 335 *e*Pn **Pn 04 46 17.8 +0.2**
GEC2 GERESS Array S 16.15 335 *e*P **Pn 04 46 17.8 +0.2**
GERES GERESS Array B 16.15 335 Pn **Pn 04 46 17.7 +0.2**
GERES ScP **ScP 04 54 41.5 +0.1**
GERES GERESS Array B 16.15 335 Pn **Pn 04 46 17.7 +0.2**
comp=Z,1.5nm,0.3s,baz=152,slow=12,SNR=26
GERES ScP **ScP 04 54 41.5 +0.1**
comp=Z,0.2nm,0.3s,baz=146,slow=2.6,SNR=19
GERES GERESS Array B 16.15 335 P **Pn 04 46 17.7 +0.2**
comp=Z,2.0nm,0.3s
GERES ScP **ScP 04 54 41.5 +0.1**
DAVOX Davos/Dischmat 16.19 323 Pn **Pn 04 46 19.2 +0.9**
DAVOX Sn **Sn 04 49 12.4 -4.5**
DAVOX Davos/Dischmat 16.19 323 Pn **Pn 04 46 19.2 +0.9**
comp=Z,1.7nm,0.3s,baz=141,slow=14,SNR=11
DAVOX Sn **Sn 04 49 12.4 -4.5**
comp=Z,0.2nm,0.3s,baz=144,slow=19,SNR=2.6
DAVOX Davos/Dischmat 16.19 323 P **Pn 04 46 19.2 +0.9**
comp=Z,2.0nm,0.3s
DAVOX S **Sn 04 49 12.4 -4.5**
TUE Stuetta 16.26 321 *e*Pn **P 04 46 21.8 +0.2**
comp=Z,16nm,1.0s
TUE Stuetta 16.26 321 *e*Pn **P 04 46 21.8 +0.2**
comp=Z,16nm,1.0s
AK02 Malin Array Si 16.41 12 *e*Pn **Pn 04 46 20.5 -0.3**
AK02 Malin Array Si 16.41 12 *e*Pn **Pn 04 46 20.5 -0.3**
KHC Kasperske Hory 16.43 335 *e*P **P 04 46 24.6 +1.3**
KHC pmax pmax
comp=Z,23nm,0.7s
KHC Kasperske Hory 16.43 335 *e*P **Pn 04 46 20.5 -0.6**
KHC *ex* x 04 46 25.3
KHC AMS AMS 04 54 00.0
comp=Z,100nm,14.9s
KHC Kasperske Hory 16.43 335 *e*Pn **P 04 46 24.6 +1.3**
comp=Z,23nm,0.7s
KHC Kasperske Hory 16.43 335 *e*P **P 04 46 24.6 +1.3**
comp=Z,23nm,0.7s
AK01 Malin Array Si 16.45 11 *e*Pn **Pn 04 46 20.8 -0.4**
AK01 Malin Array Si 16.45 11 *e*Pn **Pn 04 46 20.8 -0.4**
KIEV Kiev 16.45 11 *e*P **Pn 04 46 19.8 -1.5**
KIEV pmax pmax
comp=Z,17nm,0.6s
KIEV Kiev 16.45 11 *e*Pn **Pn 04 46 19.8 -1.5**
comp=Z,17nm,0.6s
KIEV Kiev 16.45 11 *e*P **Pn 04 46 19.8 -1.5**
comp=Z,17nm,0.6s
AKASG Malin Array Be 16.46 12 *ce*P **Pn 04 46 20.7 -0.7**
AKASG pmax pmax
comp=Z,20nm,0.5s
AKASG Malin Array Be 16.46 12 Pn **Pn 04 46 19.9 -1.5**
AKASG Sn **S 04 49 29.9 -3.2**
AKASG ScP **ScP 04 54 41.6 -0.1**
AKASG Malin Array Be 16.46 12 Pn **Pn 04 46 19.9 -1.5**
comp=Z,13nm,0.3s,baz=202,slow=10,SNR=42
AKASG Sn **S 04 49 29.9 -3.2**
comp=Z,0.1nm,0.3s,baz=197,slow=22,SNR=2.7
AKASG ScP **ScP 04 54 41.6 -0.1**
baz=233,slow=0.8,SNR=6.9
AKASG Malin Array Be 16.46 12 Pn **Pn 04 46 19.9 -1.5**
AKASG Malin Array Be 16.46 12 *e*P **Pn 04 46 20.7 -0.7**
comp=Z,20nm,0.5s
AKASG Sn **S 04 49 30.0 -3.2**
DAVA Damuels 16.55 324 *i* Pn **P 04 46 24.9 +0.2**
comp=Z,8.9nm,0.5s,SNR=6.7
DAVA Damuels 16.55 324 P **P 04 46 24.9 +0.2**
comp=Z,8.9nm,0.5s,SNR=6.7
DPC Dobruska-Polom 16.69 342 *e*P **P 04 46 26.6 +0.5**
DPC Dobruska-Polom 16.69 342 *e*P **P 04 46 26.6 +0.5**
DPC Dobruska-Polom 16.69 342 P **P 04 46 26.6 +0.5**
MBDF Montbardon 16.69 312 *e*P **Pn 04 46 25.6 +1.1**
comp=Z,15nm,0.7s
MBDF Montbardon 16.69 312 *e*P **Pn 04 46 25.6 +1.1**
comp=Z,7.4nm,0.7s
PRU Pruhonice 16.86 338 *e*P **P 04 46 28.2 +0.3**
PRU MLR MLR
comp=Z,200nm,22.2s
PRU Pruhonice 16.86 338 *e*P **P 04 46 28.2 +0.3**
PRU *ex* x 04 46 33.9
PRU AMS AMS 04 53 50.0
comp=Z,200nm,22.2s
PRU Pruhonice 16.86 338 P **P 04 46 28.2 +0.3**
UPC Upice 16.91 342 *e*P **P 04 46 29.6 +1.1**
UPC Upice 16.91 342 *e*P **P 04 46 29.6 +1.1**
UPC Upice 16.91 342 P **P 04 46 29.6 +1.1**
PRA Prague 16.96 338 P **P 04 46 29.0 -0.1**
KIV Kislovodsk 17.07 52 *c i*P **P 04 46 30.8 +0.3**
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,100nm,16.0s
KIV Kislovodsk 17.07 52 *i* P **P 04 46 30.8 +0.3**
comp=Z,100nm,16.0s
SMRF Simiane la Rot 17.08 309 *e*P **Pn 04 46 30.8 +1.6**
comp=Z,2.0nm,0.8s
SMRF Simiane la Rot 17.08 309 *e*P **Pn 04 46 30.8 +1.6**
comp=Z,4.6nm,0.8s
KBZ Khabaz 17.11 52 P **P 04 46 30.8 +0.1**
KBZ pmax pmax
comp=Z,1.0nm,0.3s
KBZ Khabaz 17.11 52 P **P 04 46 30.8 +0.1**
KBZ Khabaz 17.11 52 P **P 04 46 30.8 +0.1**
comp=Z,0.8nm,0.3s,baz=247,slow=9.2,SNR=20
KBZ Khabaz 17.11 52 P **P 04 46 30.8 +0.1**
comp=Z,1.0nm,0.3s
LPG La Plagne 17.11 314 *e*P **Pn 04 46 30.9 +1.0**
comp=Z,11nm,0.7s
LPG La Plagne 17.11 314 *e*P **Pn 04 46 30.9 +1.0**
comp=Z,5.6nm,0.7s
LPL La Plagne 17.13 314 *e*P **Pn 04 46 31.2 +1.1**
comp=Z,10nm,0.4s
LPL La Plagne 17.13 314 *e*P **Pn 04 46 31.2 +1.1**
comp=Z,5.2nm,0.4s
KSP Ksiaz 17.15 343 *e*P **P 04 46 32.7 +1.5**
KSP Ksiaz 17.15 343 *e*P **P 04 46 32.7 +1.5**
KSP Ksiaz 17.15 343 *e*P **P 04 46 32.7 +1.5**
GNI Garni 17.26 65 P **Pn 04 46 29.8 -1.9**
GNI Garni 17.26 65 P **Pn 04 46 29.8 -1.9**
comp=Z,0.8nm,0.3s,baz=355,slow=19,SNR=2.1
GNI LR LR 04 54 41.0
comp=Z,299nm,20.4s,baz=274,slow=42
GNI Garni 17.26 65 P **Pn 04 46 29.8 -1.9**
comp=Z,299nm,20.4s
SENIN Lac Senin/Sane 17.29 318 *e*Pn **Pn 04 46 32.9 +0.9**
comp=Z,5.3nm,0.6s
SENIN Lac Senin/Sane 17.29 318 *e*Pn **Pn 04 46 32.9 +0.9**
comp=Z,5.3nm,0.6s
PVCC Panska Ves 17.33 339 *e*P **P 04 46 34.5 +1.4**
PVCC Panska Ves 17.33 339 *e*P **P 04 46 34.5 +1.4**
PVCC Panska Ves 17.33 339 P **P 04 46 34.5 +1.4**
ORIF Oris-en-Rattie 17.33 312 *e*P **Pn 04 46 33.5 +1.1**
comp=Z,10.0nm,0.8s
ORIF Oris-en-Rattie 17.33 312 *e*P **Pn 04 46 33.5 +1.1**
comp=Z,5.0nm,0.8s
ZEI Tsey 17.40 56 *e*P **Pn 04 46 33.7 +0.3**
ZEI pmax pmax
comp=Z,8.0nm,0.4s
ZEI Tsey 17.40 56 *e*P **Pn 04 46 33.7 +0.3**
comp=Z,8.0nm,0.4s
OG01 Vacheresse 17.62 317 *e*P **P 04 46 37.4 +0.9**
OG01 Vacheresse 17.62 317 *e*P **P 04 46 37.4 +0.9**
SPAK Spaichingen-Ko 17.64 324 *e*P **Pn 04 46 36.7 +0.5**
SPAK Spaichingen-Ko 17.64 324 *e*P **Pn 04 46 36.7 +0.5**
GRFO Grafenberg 17.77 332 *e*P **P 04 46 39.7 +1.7**
GRFO pmax pmax
comp=Z,56nm,1.3s
GRFO Grafenberg 17.77 332 *e*Pn **P 04 46 39.7 +1.7**
comp=Z,56nm,1.3s
GRFO Grafenberg 17.77 332 *e*P **P 04 46 39.7 +1.7**
comp=Z,56nm,1.3s
GRA1 Grafenberg Arr 17.77 332 *e*P **P 04 46 40.3 +2.3**
GRF Grafenberg Arr 17.77 332 *e*P **P 04 46 40.3 +2.3**
comp=Z,25nm,0.7s
GRF *e*L L 04 55 10.2
comp=Z,180nm,21.4s
GRF Grafenberg Arr 17.77 332 *e*P **P 04 46 40.3 +2.3**
BRG Berggiesshubel 17.82 339 *e*P **P 04 46 39.6 +1.1**
comp=Z,10nm,0.8s
BRG Berggiesshubel 17.82 339 *e*P **P 04 46 39.6 +1.1**

BRG pmax pmax
comp=Z,10.0nm,0.8s
BRG Berggiesshubel 17.82 339 *e*P **P 04 46 39.6 +1.1**
comp=Z,10.0nm,0.8s
BBS Basel-Blauen 17.86 321 *e*P **Pn 04 46 38.6 -0.2**
BBS Basel-Blauen 17.86 321 *e*P **Pn 04 46 38.6 -0.2**
BBS Basel-Blauen 17.86 321 *e*P **Pn 04 46 38.6 -0.2**
FELD Feldberg im Sc 17.88 322 *e*P **P 04 46 40.3 +0.9**
FELD Feldberg im Sc 17.88 322 *e*P **P 04 46 40.3 +0.9**
BFO Black Forest 18.02 324 *e*P **P 04 46 43.8 +3.0**
BFO pmax pmax
comp=Z,6.0nm,0.6s
BFO Black Forest 18.02 324 *e*P **P 04 46 43.8 +3.0**
comp=Z,6.0nm,0.6s
BFO Black Forest 18.02 324 *e*P **P 04 46 43.8 +3.0**
comp=Z,6.0nm,0.6s
VIVF Saint-Julien-l 18.05 310 *e*P **Pn 04 46 41.4 +0.2**
comp=Z,6.6nm,0.5s
VIVF Saint-Julien-l 18.05 310 *e*P **Pn 04 46 41.4 +0.2**
comp=Z,3.3nm,0.5s
OG35 Corcelles 18.10 314 *e*P **P 04 46 41.1 -0.7**
CABF La Chapelle 18.12 317 *e*P **P 04 46 40.9 -1.1**
comp=Z,9.8nm,0.5s
CABF La Chapelle 18.12 317 *e*P **P 04 46 40.9 -1.1**
comp=Z,4.9nm,0.5s
LOMF Lomont 18.15 320 *e*P **P 04 46 42.7 +0.4**
LOMF Lomont 18.15 320 *e*P **P 04 46 42.7 +0.4**
LOMF Lomont 18.15 320 *e*P **P 04 46 42.7 +0.4**
LOMF Lomont 18.15 320 *e*P **P 04 46 42.7 +0.4**
LASF Ste Croix 18.24 307 *e*P **P 04 46 43.6 +0.3**
comp=Z,20nm,1.1s
LASF Ste Croix 18.24 307 *e*P **P 04 46 43.6 +0.3**
comp=Z,10nm,1.1s
MOF Molkenrain 18.30 321 *e*P **Pn 04 46 45.8 +1.5**
MOF Molkenrain 18.30 321 *e*P **Pn 04 46 45.8 +1.5**
MOF Molkenrain 18.30 321 *e*P **Pn 04 46 45.8 +1.5**
MOF Molkenrain 18.30 321 *e*P **Pn 04 46 45.8 +1.5**
MOX Moxa 18.39 334 *e*L L 04 56 11.6
comp=Z,198nm,19.2s
HINF Hinteralfeld 18.43 321 *e*P **P 04 46 46.0 +0.7**
comp=Z,11nm,0.5s
HINF Hinteralfeld 18.43 321 *e*P **P 04 46 46.0 +0.7**
comp=Z,5.4nm,0.5s
CLL Collm 18.49 338 *i* P **Pn 04 46 47.1 +0.7**
CLL pmax pmax
comp=Z,21nm,0.6s
CLL Collm 18.49 338 *i* P **Pn 04 46 47.1 +0.7**
comp=Z,21nm,0.6s
CLL *i* 04 46 48.6
CLL *e*(PP) 04 47 02.0
CLL Collm 18.49 338 *i* P **Pn 04 46 47.1 +0.7**
comp=Z,21nm,0.6s
ECH Echery 18.53 322 *e*P **P 04 46 47.4 +1.0**
ECH pmax pmax
comp=Z,6.0nm,0.8s
ECH Echery 18.53 322 *e*P **P 04 46 47.4 +1.0**
comp=Z,5.9nm,0.8s
ECH Echery 18.53 322 *e*P **Pn 04 46 48.0 +1.1**
ECH Echery 18.53 322 *e*P **P 04 46 47.3 +0.9**
comp=Z,5.9nm,0.8s
CDF Champ du Feu 18.60 323 *e*P **Pn 04 46 48.9 +1.1**
comp=Z,7.4nm,0.4s
CDF Champ du Feu 18.60 323 *e*P **Pn 04 46 48.9 +1.1**
comp=Z,3.7nm,0.4s
TOD Tromm 18.71 328 *e*P **Pn 04 46 50.7 +1.5**
TOD Tromm 18.71 328 *e*P **Pn 04 46 50.7 +1.5**
TOD Tromm 18.71 328 *e*P **Pn 04 46 50.7 +1.5**
LANF Langenberg 18.72 325 *e*P **Pn 04 46 51.7 +2.4**
LANF Langenberg 18.72 325 *e*P **Pn 04 46 51.7 +2.4**
LANF Langenberg 18.72 325 *e*P **Pn 04 46 51.7 +2.4**
LANF Langenberg 18.72 325 *e*P **Pn 04 46 51.7 +2.4**
HAU Haudompre 18.81 321 *e*P **Pn 04 46 51.8 +1.4**
comp=Z,22nm,0.5s
HAU Haudompre 18.81 321 *e*P **Pn 04 46 51.8 +1.4**
comp=Z,11nm,0.5s
THEF They Montfort 19.14 321 *e*P **Pn 04 46 55.9 +1.6**
THEF They Montfort 19.14 321 *e*P **Pn 04 46 55.9 +1.6**
THEF They Montfort 19.14 321 *e*P **Pn 04 46 55.9 +1.6**
THEF They Montfort 19.14 321 *e*P **Pn 04 46 55.9 +1.6**
GKP Gorka Klasztor 19.24 347 *e*P **Pn 04 46 55.6 +0.2**
GKP Gorka Klasztor 19.24 347 *e*P **Pn 04 46 55.7 +0.3**
SUW Suwalki 19.36 358 *e*P **P 04 46 55.5 +0.1**
SUW pmax pmax
comp=Z,89nm,0.5s
SUW Suwalki 19.36 358 *e*P **P 04 46 55.5 +0.1**
comp=Z,89nm,0.5s
SUW Suwalki 19.36 358 *e*P **P 04 46 55.4 +0.1**
SUW Suwalki 19.36 358 *e*P **P 04 46 55.5 +0.1**
SMF Signal de Mont 19.44 314 *e*P **P 04 46 55.9 -0.4**
comp=Z,15nm,0.9s
SMF Signal de Mont 19.44 314 *e*P **P 04 46 55.9 -0.4**
comp=Z,7.7nm,0.9s
PAGF Fort de Pagny 19.48 321 *e*P **Pn 04 46 59.6 +1.3**
comp=Z,9.7nm,1.0s,baz=122
PAGF Fort de Pagny 19.48 321 *e*P **Pn 04 46 59.6 +1.3**
comp=Z,4.8nm,1.0s,baz=122
RUP Ruppelstein 19.57 325 *e*P **Pn 04 47 00.0 +0.5**
RUP Ruppelstein 19.57 325 *e*P **Pn 04 47 00.0 +0.5**
RUP Ruppelstein 19.57 325 *e*P **Pn 04 47 00.0 +0.5**
SFTF Sexfontaines 19.63 319 *e*P **Pn 04 47 00.3 +0.2**
comp=Z,28nm,0.7s,baz=135
SFTF Sexfontaines 19.63 319 *e*P **Pn 04 47 00.3 +0.2**
comp=Z,14nm,0.7s,baz=135
VORD Divnogorie 19.67 29 *e*P **P 04 46 59.2 +0.4**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.9s
VORD Divnogorie 19.67 29 *e*P **P 04 46 59.2 +0.4**
comp=E,10.0nm,0.6s
LOR Lormes 19.75 316 *e*P **P 04 47 00.6 +0.8**
comp=E,11nm,0.4s,baz=124
LOR Lormes 19.75 316 *e*P **P 04 47 00.6 +0.8**
comp=E,5.6nm,0.4s,baz=124
CAF Calviac 19.76 308 *e*P **P 04 47 01.4 +1.5**
comp=E,8.6nm,0.7s
CAF Calviac 19.76 308 *e*P **P 04 47 01.4 +1.5**
comp=E,4.3nm,0.7s
MEZF Maizieres J'vi 19.80 320 *e*P **Pn 04 47 02.4 +0.3**
comp=E,40nm,0.6s,baz=129
MEZF Maizieres J'vi 19.80 320 *e*P **Pn 04 47 02.4 +0.3**
comp=E,20nm,0.6s,baz=129
AVF Avril sur Loir 19.80 314 *e*P **P 04 47 00.9 +0.6**
AVF Avril sur Loir 19.80 314 *e*P **P 04 47 00.9 +0.6**
VSR Storozhevoye 19.81 29 *e*P **P 04 47 00.3 0.0**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,20nm,1.2s
VSR pmax pmax
comp=E,5.0nm,0.5s
VSR Storozhevoye 19.81 29 *e*P **P 04 47 00.3 0.0**
comp=E,20nm,1.2s
WLF Walferdange 19.98 324 P **Pn 04 47 05.1 +0.8**
comp=Z,37nm,1.2s
WLF Walferdange 19.98 324 *e*P **Pn 04 47 04.8 +0.6**
WLF pmax pmax
comp=Z,64nm,1.1s
WLF Walferdange 19.98 324 *e*P **Pn 04 47 04.8 +0.6**
comp=Z,64nm,1.1s
WLF Walferdange 19.98 324 *e*P **Pn 04 47 04.8 +0.6**
comp=Z,64nm,1.1s
BGF Bois d'Agland 19.99 313 *e*P **P 04 47 03.0 +0.7**
comp=Z,16nm,0.6s
BGF Bois d'Agland 19.99 313 *e*P **P 04 47 03.0 +0.7**
comp=Z,7.8nm,0.6s
MNK Minsk 20.01 6 *e*P **P 04 47 01.0 -1.5**
MNK Minsk 20.01 6 *e*P **P 04 47 01.0 -1.5**
MICGM Minsk 20.01 6 *e*P **P 04 47 01.0 -1.5**
TAM Tamanrasset 20.11 239 *e*P P 04 47 03.1 -0.9
TAM pmax pmax
comp=Z,6.0nm,1.0s
TAM Tamanrasset 20.11 239 *e*P P 04 47 03.1 -0.9
comp=Z,6.0nm,1.0s
TAM Tamanrasset 20.11 239 *e*P P 04 47 03.1 -0.9
comp=Z,6.0nm,1.0s
MIB Mutribah 20.21 97 *e*P **P 04 47 04.1 -0.8**
MIB AMb AMB 04 47 05.0
comp=Z,72nm,0.5s
MIB Mutribah 20.21 97 *e*P **P 04 47 04.1 -0.8**
comp=Z,72nm,0.5s
TCF Toulx Ste Croi 20.25 312 *e*P **P 04 47 05.7 +0.5**
comp=Z,15nm,1.0s
TCF Toulx Ste Croi 20.25 312 *e*P **P 04 47 05.7 +0.5**

RJF **Les Rejaudoux** 20.26 308 *e*P P 04 47 06.5 +1.2
comp=Z,15nm,0.6s
RJF **Les Rejaudoux** 20.26 308 *e*P P 04 47 06.5 +1.2
comp=Z,7.4nm,0.6s
NAY **Al-Naaiem** 20.32 99 *e*P P 04 47 05.4 -0.7
NAY AMb AMB 04 47 06.6
comp=Z,32nm,0.4s
NAY **Al-Naaiem** 20.32 99 *e*P P 04 47 05.4 -0.7
comp=Z,32nm,0.4s
NACGM **Naroch** 20.32 4 *e*P P 04 47 03.0 -2.9
UMR **Umm Al-Rimmam** 20.60 98 *e*P P 04 47 08.4 -0.7
UMR AMb AMB 04 47 09.9
comp=Z,114nm,0.5s
UMR **Umm Al-Rimmam** 20.60 98 *e*P P 04 47 08.4 -0.7
comp=Z,114nm,0.5s
LFF **La Frestale** 20.63 307 *e*P P 04 47 10.1 +0.8
comp=Z,17nm,0.5s
LFF **La Frestale** 20.63 307 *e*P P 04 47 10.1 +0.8
comp=Z,8.6nm,0.5s
MEM **Membach** 20.69 326 P P 04 47 11.7 +1.8
comp=Z,8.7nm,1.2s
MEM **Membach** 20.69 326 P P 04 47 11.7 +1.8
comp=Z,8.7nm,1.2s
RDF **Al-Radifah** 20.69 100 *e*P P 04 47 09.8 -0.2
RDF AMb AMB 04 47 11.2
comp=Z,17nm,0.3s
RDF **Al-Radifah** 20.69 100 *e*P P 04 47 09.9 -0.2
comp=Z,17nm,0.3s
HGN **Heimansgroeve** 20.83 326 *e*P Pn 04 47 16.3 +2.0
comp=Z,29nm,1.1s
ETSF **Etsaut** 20.88 301 *e*P P 04 47 13.6 +1.5
comp=Z,6.1nm,0.5s
ETSF **Etsaut** 20.88 301 *e*P P 04 47 13.6 +1.5
comp=Z,3.0nm,0.5s
GIVF **Givet** 20.92 323 *e*P P 04 47 13.4 +1.0
comp=Z,20nm,0.4s
GIVF **Givet** 20.92 323 *e*P P 04 47 13.4 +1.0
comp=Z,9.9nm,0.4s
DOU **Dourbes** 21.03 323 P P 04 47 14.6 +1.0
comp=Z,12nm,0.9s
DOU **Dourbes** 21.03 323 P P 04 47 14.5 +1.0
comp=Z,12nm,0.9s
BAIF **Baives** 21.20 323 *e*P P 04 47 16.2 +0.9
comp=Z,44nm,0.5s
BAIF **Baives** 21.20 323 *e*P P 04 47 16.2 +0.9
comp=Z,22nm,0.5s
RGN **Rugen** 21.27 342 *e*P P 04 47 16.2 +0.1
comp=Z,76nm,0.8s
RGN **Rugen** 21.27 342 *e*P P 04 47 16.2 +0.1
comp=Z,76nm,0.8s
WTSB **Winterswijk** 21.31 330 *e*P P 04 47 17.8 +1.2
comp=Z,28nm,1.3s
WTSB **Winterswijk** 21.31 330 *e*P P 04 47 17.8 +1.2
comp=Z,28nm,1.3s
SJPF **Ste Jean** 21.41 301 *e*P P 04 47 18.3 +0.6
comp=Z,41nm,1.3s
SJPF **Ste Jean** 21.41 301 *e*P P 04 47 18.3 +0.6
comp=Z,20nm,1.3s
BSD **Bornholm Skovb** 21.43 345⇑ *i*P P 04 47 16.2 -1.6
BSD pmax pmax
comp=Z,13nm,0.7s
BSD **Bornholm Skovb** 21.43 345⇑ *i*P P 04 47 16.2 -1.6
comp=Z,13nm,0.7s
BSD **Bornholm Skovb** 21.43 345 *i*P P 04 47 16.2 -1.6
comp=Z,13nm,0.7s
MFF **Saint Martin d** 21.85 310 *e*P P 04 47 22.9 +0.5
comp=Z,23nm,0.7s
MFF **Saint Martin d** 21.85 310 *e*P P 04 47 22.9 +0.5
comp=Z,11nm,0.7s
OBN **Obninsk** 22.21 19*de*P P 04 47 27.2 +1.1
OBN *i* 04 47 32.4
OBN *i* 04 47 39.1
OBN *i* 04 47 57.6
OBN pmax pmax
comp=Z,83nm,1.4s
OBN MLR MLR
comp=Z,100nm,16.0s
OBN **Obninsk** 22.21 19 *e*P P 04 47 27.2 +1.1
comp=Z,83nm,1.4s
LLD **Lille Linde** 22.26 342 *i*P P 04 47 26.6 -0.1
LLD *i* 04 47 39.1
LLD pmax pmax
comp=Z,35nm,0.6s
LLD **Lille Linde** 22.26 342 *i*P P 04 47 26.6 -0.1
comp=Z,35nm,0.6s
LLD *i* 04 47 39.1
LLD **Lille Linde** 22.26 342 *i*P P 04 47 26.6 -0.1
comp=Z,35nm,0.6s
COP **Copenhagen** 22.52 343 *e*P P 04 47 29.8 +0.3
COP pmax pmax
comp=Z,11nm,0.7s
COP **Copenhagen** 22.52 343 *i*P P 04 47 29.8 +0.3
comp=Z,11nm,0.7s
COP **Copenhagen** 22.52 343 *e*P P 04 47 29.8 +0.3
comp=Z,11nm,0.7s
LDF **La Druitiere** 22.73 315 *e*P P 04 47 31.7 -0.1
comp=Z,27nm,0.5s
LDF **La Druitiere** 22.73 315 *e*P P 04 47 31.7 -0.1
comp=Z,14nm,0.5s
ESDC **Sonseca Array** 22.89 291 P P 04 47 33.1 -0.5
ESDC **Sonseca Array** 22.89 291 P P 04 47 33.1 -0.5
comp=Z,1.1nm,0.4s,baz=83,slow=9.5,SNR=14
ESDC **Sonseca Array** 22.89 291 P P 04 47 33.2 -0.5
ESLA **Sonseca Array** 22.89 291 *e*P P 04 47 34.3 +0.7
comp=Z,2.3nm,1.0s
ESLA **Sonseca Array** 22.89 291 *e*P P 04 47 34.3 +0.7
comp=Z,2.3nm,1.0s
FLN **La Foliniere** 23.02 315 *e*P P 04 47 34.7 -0.1
comp=Z,29nm,0.4s,baz=123
FLN **La Foliniere** 23.02 315 *e*P P 04 47 34.7 -0.1
comp=Z,14nm,0.4s,baz=123
MOS **Moscow** 23.05 20 *e*P P 04 47 30.5 -4.4
MOS *e* 04 48 07.2
MOS pmax pmax
comp=Z,38nm,0.7s
MOS **Moscow** 23.05 20 *e*P P 04 47 30.5 -4.4
comp=Z,38nm,0.7s
GRR **Gorron** 23.07 314 *e*P P 04 47 35.4 +0.2
comp=Z,11nm,0.4s
GRR **Gorron** 23.07 314 *e*P P 04 47 35.4 +0.2
comp=Z,5.4nm,0.4s
PAB **San Pablo** 23.18 291 *e*P P 04 47 36.5 -0.1
PAB pmax pmax
comp=Z,9.0nm,1.1s
PAB **San Pablo** 23.18 291 *e*P P 04 47 36.5 -0.1
comp=Z,9.2nm,1.1s
PAB **San Pablo** 23.18 291 *e*P P 04 47 36.5 -0.1
comp=Z,9.0nm,1.1s
VSU **Vasula** 23.88 3*d*P P 04 47 42.1 -0.7
VSU pmax pmax
comp=Z,30nm,0.5s
VSU **Vasula** 23.88 3 *i*P P 04 47 42.1 -0.7
comp=Z,30nm,0.5s
MDT **Midelt** 23.94 274 P P 04 47 43.6 -0.2
MDT **Midelt** 23.94 274 P P 04 47 43.6 -0.2
comp=Z,2.4nm,0.7s,baz=76,slow=12,SNR=9.5
MDT **Midelt** 23.94 274 P P 04 47 43.6 -0.2
SGMF **Saint Gilles** 24.03 313 *e*P P 04 47 44.3 0.0
comp=Z,86nm,1.2s
SGMF **Saint Gilles** 24.03 313 *e*P P 04 47 44.3 0.0
comp=Z,43nm,1.2s
MUD **Monsted U'grnd** 24.08 339 *e*P P 04 47 44.8 +0.1
MUD **Monsted U'grnd** 24.08 339 *i*P P 04 47 44.8 +0.1
MUD **Monsted U'grnd** 24.08 339 *e*P P 04 47 44.8 +0.1
QUIF **Quistinic** 24.26 311 *e*P P 04 47 46.8 +0.3
comp=Z,22nm,0.5s
QUIF **Quistinic** 24.26 311 *e*P P 04 47 46.8 +0.3
comp=Z,11nm,0.5s
ROSF **Rostrenen** 24.50 312 *e*P P 04 47 48.4 -0.2
comp=Z,24nm,0.5s
ROSF **Rostrenen** 24.50 312 *e*P P 04 47 48.4 -0.2
comp=Z,12nm,0.5s
PBRG **Braganca** 25.18 296 *e*P P 04 47 55.1 +0.1
comp=Z,13nm,2.1s
PBRG **Braganca** 25.18 296 *e*P P 04 47 55.1 +0.1
comp=Z,13nm,2.1s
PBAR **Barrancos** 25.26 287 *e*P P 04 47 56.1 +0.4
comp=Z,15nm,1.6s
PBAR **Barrancos** 25.26 287 *e*P P 04 47 56.1 +0.4
comp=Z,15nm,1.6s
MVO **Moncorvo** 25.34 294 *e*P P 04 47 56.4 0.0
comp=Z,16nm,1.1s
MVO **Moncorvo** 25.34 294 *e*P P 04 47 56.4 0.0
comp=Z,16nm,1.1s
PUL **Pulkovo** 25.45 7*c* *i*P P 04 47 58.1 +1.0
PUL **Pulkovo** 25.45 7 *i*P P 04 47 58.1 +1.0

PMRV **Marv??o** 25.53 290 *e*P P 04 47 58.0 -0.1
comp=Z,9.8nm,1.1s
PMRV **Marv??o** 25.53 290 *e*P P 04 47 58.0 -0.1
comp=Z,9.8nm,1.1s
PCBR **Castelo Branco** 25.61 291 *e*P P 04 47 59.6 +0.8
comp=Z,9.5nm,1.1s
PCBR **Castelo Branco** 25.61 291 *e*P P 04 47 59.6 +0.8
comp=Z,9.5nm,1.1s
PESTR **Estremoz** 25.68 289 *e*P P 04 48 00.1 +0.6
comp=Z,14nm,1.7s
PESTR **Estremoz** 25.68 289 *e*P P 04 48 00.1 +0.6
comp=Z,14nm,1.7s
PVIS **Viseu** 25.96 293 *e*P P 04 48 00.6 -1.5
comp=Z,17nm,1.3s
PVIS **Viseu** 25.96 293 *e*P P 04 48 00.6 -1.5
comp=Z,17nm,1.3s
EVO **Evora** 26.02 288 *e*P P 04 48 03.3 +0.7
comp=Z,15nm,1.1s
PCVE **Castro Verde** 26.08 286 *e*P P 04 48 01.6 -1.5
comp=Z,17nm,1.8s
PCVE **Castro Verde** 26.08 286 *e*P P 04 48 01.6 -1.5
comp=Z,17nm,1.8s
EVOP **Sao Brissos** 26.11 288 *e*P P 04 48 03.3 0.0
comp=Z,7.6nm,1.1s
PCAB **Cabril** 26.13 295 *e*P P 04 48 03.9 +0.3
comp=Z,16nm,1.3s
PCAB **Cabril** 26.13 295 *e*P P 04 48 03.9 +0.3
comp=Z,16nm,1.3s
PMTG **Montargil** 26.18 289 *e*P P 04 48 02.6 -1.4
comp=Z,17nm,1.3s
PMTG **Montargil** 26.18 289 *e*P P 04 48 02.6 -1.4
comp=Z,17nm,1.3s
HFS **Hagfors** 26.38 348 P P 04 48 05.4 -0.2
HFS **Hagfors** 26.38 348 P P 04 48 05.4 -0.2
comp=Z,30nm,0.5s,baz=153,slow=10.0,SNR=13
HFS **Hagfors** 26.38 348 P P 04 48 05.4 -0.2
comp=Z,31nm,0.5s
KONO **Kongsberg** 26.76 344 *e*P P 04 48 08.8 -0.2
KONO **Kongsberg** 26.76 344 *e*P P 04 48 08.4 -0.6
KONO pmax pmax
comp=Z,4.0nm,0.5s
KONO **Kongsberg** 26.76 344 *e*P P 04 48 08.4 -0.6
comp=Z,4.1nm,0.5s
KONO **Kongsberg** 26.76 344 *e*P P 04 48 08.8 -0.2
SNR=41
FINES **FINESS Array B** 26.83 2 P P 04 48 09.0 -0.6
FINES **FINESS Array B** 26.83 2 P P 04 48 09.0 -0.6
comp=Z,6.7nm,0.5s,baz=159,slow=11,SNR=43
FINES LR LR 05 00 17.7
comp=Z,110nm,20.2s,baz=53,slow=40
FINES **FINESS Array B** 26.83 2 P P 04 48 09.0 -0.6
comp=Z,110nm,20.2s
FIA1 **FINESS Array S** 26.83 2 *e*P P 04 48 09.2 -0.4
FIA1 **FINESS Array S** 26.83 2 *e*P P 04 48 09.2 -0.4
NC602 **NORSAR Array S** 27.33 347 *e*P P 04 48 14.1 0.0
NC602 **NORSAR Array S** 27.33 347 *e*P P 04 48 14.1 0.0
SNR=41
KAF **Kangasniemi** 27.51 2 *e*p P 04 48 15.3 -0.4
KAF **Kangasniemi** 27.51 2 *e*P P 04 48 15.3 -0.4
KAF pmax pmax
comp=Z,8.0nm,0.5s
KAF **Kangasniemi** 27.51 2 *e*P P 04 48 15.3 -0.4
comp=Z,8.4nm,0.5s
NAO01 **NORSAR Array S** 27.56 346 *e*P P 04 48 16.1 -0.1
comp=Z,10.0nm,0.4s
NAO01 **NORSAR Array S** 27.56 346 *e*P P 04 48 16.1 -0.1
comp=Z,10.0nm,0.4s
NB2 **NORSAR Subarra** 27.68 346 P P 04 48 17.0 -0.2
comp=Z,5.0nm,0.6s,baz=159,slow=9.3
NB2 **NORSAR Subarra** 27.68 346 P P 04 48 17.0 -0.2
baz=159,slow=9.3
NB2 **NORSAR Subarra** 27.68 346 P P 04 48 17.0 -0.2
comp=Z,5.0nm,0.6s,baz=159,slow=9.1,SNR=4.1
NOA **NORSAR Array B** 27.68 346 P P 04 48 17.1 -0.2
NOA **NORSAR Array B** 27.68 346 P P 04 48 17.1 -0.2
comp=Z,8.8nm,0.5s,baz=149,slow=9.5,SNR=52
NOA **NORSAR Array B** 27.68 346 P P 04 48 17.1 -0.2
comp=Z,9.0nm,0.5s
EKA **Eskdalemuir Ar** 27.97 326 P P 04 48 20.4 +0.6
EKA **Eskdalemuir Ar** 27.97 326 P P 04 48 20.4 +0.6
comp=Z,2.6nm,0.4s,baz=122,slow=8.1,SNR=19
EKA **Eskdalemuir Ar** 27.97 326 P P 04 48 20.5 +0.6
comp=Z,3.0nm,0.4s
ESK **Eskdalemuir** 27.98 326 *e*P P 04 48 20.8 +0.8
ESK pmax pmax
comp=Z,12nm,1.3s
ESK **Eskdalemuir** 27.98 326 *e*P P 04 48 20.8 +0.8
comp=Z,12nm,1.3s
ESK **Eskdalemuir** 27.98 326 *e*P P 04 48 20.8 +0.8
comp=Z,12nm,1.3s
JOF **Joensuu** 28.64 7 *e*p P 04 48 24.7 -1.0
comp=Z,3.3nm,0.3s
JOF **Joensuu** 28.64 7 *e*P P 04 48 24.7 -1.0
JOF pmax pmax
comp=Z,3.0nm,0.3s
JOF **Joensuu** 28.64 7 *e*P P 04 48 24.7 -1.0
comp=Z,3.0nm,0.3s
AKTK **Aktyubinsk** 29.21 47 P P 04 48 31.1 +0.1
comp=Z,4.0nm,0.5s
AKTO **Aktyubinsk** 29.21 47 P P 04 48 31.1 +0.1
AKTO pmax pmax
comp=Z,4.0nm,0.5s
AKTO **Aktyubinsk** 29.21 47 P P 04 48 31.1 +0.1
AKTO **Aktyubinsk** 29.21 47 P P 04 48 31.1 +0.1
comp=Z,4.4nm,0.5s,baz=252,slow=8.1,SNR=22
AKTO **Aktyubinsk** 29.21 47 P P 04 48 31.1 +0.1
TOA0 **Torodi Ar. Sit** 29.52 229 *e*P P 04 48 32.0 -2.0
TOA0 **Torodi Ar. Sit** 29.52 229 *e*P P 04 48 32.0 -2.0
TORD **Torodi Ar. Bea** 29.52 229 P P 04 48 31.9 -2.1
TORD **Torodi Ar. Bea** 29.52 229 P P 04 48 31.9 -2.1
comp=Z,13nm,0.6s,baz=37,slow=7.2,SNR=170
TORD **Torodi Ar. Bea** 29.52 229 P P 04 48 31.9 -2.1
AB31 **Akbulak array** 30.05 50 *i*P P 04 48 39.5 +1.1
AB31 pmax pmax
comp=Z,1.0nm,0.3s
AB31 **Akbulak array** 30.05 50 *i*P P 04 48 39.5 +1.1
comp=Z,1.0nm,0.3s
ABKAR **Akbulak array** 30.05 50 *e*P P 04 48 38.8 +0.5
ABKAR **Akbulak array** 30.05 50 *e*P P 04 48 38.8 +0.5
ARU **Arti** 31.96 36*d*P P 04 48 54.7 -0.5
ARU S S 04 54 03.9 +0.8
ARU pmax pmax
comp=Z,35nm,0.6s
ARU **Arti** 31.96 36 *i*P P 04 48 54.7 -0.5
comp=Z,35nm,0.6s
ARU S S 04 54 03.9 +0.8
MOR8 **Moi Rana** 32.07 353 *e*P P 04 48 56.9 +0.8
MOR8 AMB AMB 04 48 58.2
comp=Z,12nm,0.5s
MOR8 **Moi Rana** 32.07 353 *e*P P 04 48 56.8 +0.8
comp=Z,12nm,0.5s,SNR=40
FLOS **Flostrand** 32.35 352 *e*P P 04 48 59.7 +1.3
SVE **Sverdlovsk** 33.16 37 *e*P P 04 49 06.6 +0.9
SVE pmax pmax
comp=Z,62nm,0.6s
SVE **Sverdlovsk** 33.16 37 *e*P P 04 49 06.6 +0.9
comp=Z,62nm,0.6s
APA **Apatity** 33.39 6⇑ *e*P P 04 49 11.0 +3.5
APA MLR MLR
comp=Z,300nm,11.0s
APA **Apatity** 33.39 6 *e*P P 04 49 11.0 +3.5
comp=Z,300nm,11.0s
KTK1 **Kautokeino** 34.41 359 *e*P P 04 49 15.8 -0.5
KTK1 **Kautokeino** 34.41 359 *e*P P 04 49 15.8 -0.5
SNR=39
ARCES **ARCESS Array B** 34.94 1 P P 04 49 20.4 -0.5
ARCES **ARCESS Array B** 34.94 1 P P 04 49 20.4 -0.5
comp=Z,8.5nm,0.6s,baz=179,slow=8.7,SNR=61
ARCES **ARCESS Array B** 34.94 1 P P 04 49 20.5 -0.5
comp=Z,9.0nm,0.6s
ARE0 **ARCESS Array S** 34.94 1 *e*P P 04 49 20.2 -0.7
ARE0 **ARCESS Array S** 34.94 1 *e*P P 04 49 20.2 -0.7
ARE0 **ARCESS Array S** 34.94 1 *e*P P 04 49 20.2 -0.7
SNR=39
TRO **Tromso** 35.15 357 *e*P P 04 49 22.8 +0.1
TRO **Tromso** 35.15 357 *e*P P 04 49 22.8 +0.1
SNR=39
KEV **Kevo** 35.19 2 *e*p P 04 49 23.5 +0.5
comp=Z,6.6nm,0.6s
KEV **Kevo** 35.19 2 *e*P P 04 49 23.5 +0.5
KEV pmax pmax
comp=Z,7.0nm,0.6s
KEV **Kevo** 35.19 2 *e*P P 04 49 23.5 +0.5
comp=Z,6.6nm,0.6s
ZRNK **Zerenda** 36.47 46 P P 04 49 34.6 +0.3

ZRNK pmax pmax
comp=Z,5.0nm,0.6s
ZRNK **Zerenda** 36.47 46 P P 04 49 34.6 +0.3
comp=Z,5.0nm,0.6s
KK31 **Karatay Array** 36.69 63 *e*P P 04 49 36.5 +0.2
KK31 pmax pmax
comp=Z,12nm,0.6s
KK31 **Karatay Array** 36.69 63 *e*P P 04 49 36.5 +0.2
comp=Z,12nm,0.6s
KKAR **Karatay Array** 36.69 63 *e*P P 04 49 36.8 +0.5
KKAR **Karatay Array** 36.69 63 *e*P P 04 49 36.8 +0.5
KKAR **Karatay Array** 36.69 63 *e*P P 04 49 36.8 +0.5
BRVK **Borovoye** 37.25 46⇓ *e*P P 04 49 41.7 +0.8
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BRVK **Borovoye** 37.25 46 *e*P P 04 49 41.5 +0.6
comp=Z,5.6nm,0.7s
BRVK **Borovoye** 37.25 46 *e*P P 04 49 41.5 +0.6
comp=Z,5.6nm,0.7s
BVA0 **Borovoye Array** 37.31 46 *i*P P 04 49 42.3 +0.9
BVA0 pmax pmax
comp=Z,4.0nm,0.5s
BVA0 **Borovoye Array** 37.31 46 *i*P P 04 49 42.3 +0.9
comp=Z,4.0nm,0.5s
KMBO **Kilima Mbogo** 37.66 158 LR LR 05 06 40.0
comp=Z,59nm,18.2s,baz=149,slow=39
DBIC **Dimbokro** 38.59 230 *e*P P 04 49 49.7 -2.9
comp=Z,6.0nm,0.7s
DBIC **Dimbokro** 38.59 230 P P 04 49 50.3 -2.3
comp=Z,6.1nm,0.5s,baz=28,slow=11,SNR=15
DBIC **Dimbokro** 38.59 230 P P 04 49 50.3 -2.3
comp=Z,6.0nm,0.5s
LIC **Lamto** 39.04 230 *e*P P 04 49 54.1 -2.2
comp=Z,20nm,0.6s
LIC **Lamto** 39.04 230 *e*P P 04 49 54.1 -2.2
comp=Z,9.8nm,0.6s
EKS2 **Erkin-Say** 39.11 63 *e*P P 04 49 58.3 +1.4
EKS2 pmax pmax
comp=Z,7.0nm,0.6s
EKS2 **Erkin-Say** 39.11 63 *e*P P 04 49 58.2 +1.4
comp=Z,6.7nm,0.6s
EKS2 **Erkin-Say** 39.11 63 *e*P P 04 49 58.2 +1.4
comp=Z,6.7nm,0.6s
AAK **Ala-Archa** 39.64 63*c* *i*P P 04 50 02.3 +1.0
AAK *i* *PP pP 04 50 12.0 -1.7
AAK pmax pmax
comp=Z,21nm,1.3s
AAK **Ala-Archa** 39.64 63 *e*P P 04 50 02.5 +1.2
comp=Z,5.5nm,0.8s
AAK **Ala-Archa** 39.64 63 *e*P P 04 50 02.5 +1.2
comp=Z,5.5nm,0.8s
TKM2 **Tokmak 2** 40.42 62 *e*P P 04 50 08.7 +0.9
TKM2 pmax pmax
comp=Z,6.0nm,0.6s
TKM2 **Tokmak 2** 40.42 62 *e*P P 04 50 08.7 +0.9
comp=Z,5.5nm,0.6s
TKM2 **Tokmak 2** 40.42 62 *e*P P 04 50 08.7 +0.9
comp=Z,6.0nm,0.6s
KSH **Kashi** 41.17 68 *e*P P 04 50 13.6 -0.4
KSH pP pP 04 50 24.1 -2.3
KSH sP sP 04 50 29.3 -2.5
KSH PP PP 04 51 50.7 +1.2
KSH S S 04 56 21.0 -3.3
KSH sS sS 04 56 41.6 -3.5
KSH SS SS 04 59 18.6 -10
KSH pmax pmax
comp=Z,120nm,5.6s
KSH LR LR
comp=N,120nm,7.2s
KSH LR LR
comp=E,130nm,6.1s
BBTS **Babate** 41.62 252 P P 04 50 17.6 0.0
BBTS **Babate** 41.62 252 P P 04 50 17.6 0.0
comp=E,34nm,1.0s,baz=27,slow=0.7,SNR=3.0
BBTS **Babate** 41.62 252 P P 04 50 17.6 0.0
SCO **Scoresbysund** 43.50 339 *i*P P 04 50 34.5 +2.2
SCO pmax pmax
comp=Z,6.0nm,0.7s
SCO **Scoresbysund** 43.50 339 *i*P P 04 50 34.5 +2.2
comp=Z,5.9nm,0.7s
SCO **Scoresbysund** 43.50 339 *i*P P 04 50 34.5 +2.2
comp=Z,6.0nm,0.7s
SPA0 **Spitsbergen Ar** 43.75 358 *e*P P 04 50 35.1 +0.9
SPA0 **Spitsbergen Ar** 43.75 358 *e*P P 04 50 35.1 +0.9
SNR=36
KBS **Kingsbay** 44.67 357 *e*P P 04 50 42.2 +0.7
KBS **Kingsbay** 44.67 357 *d* *i*P P 04 50 42.3 +0.8
KBS pmax pmax
comp=Z,46nm,2.5s
KBS **Kingsbay** 44.67 357 *e*P P 04 50 42.7 +1.2
KBS **Kingsbay** 44.67 357 *e*P P 04 50 42.7 +1.2
MK31 **Makanchi Array** 44.76 56 *e*P P 04 50 43.2 +0.5
MK31 pmax pmax
comp=Z,15nm,0.5s
MK31 **Makanchi Array** 44.76 56 *e*P P 04 50 43.4 +0.7
MK31 *e*PcP PcP 04 52 24.4 +0.1
MK31 **Makanchi Array** 44.76 56 *e*P P 04 50 43.4 +0.7
MKAR **Makanchi Array** 44.76 56 P P 04 50 43.5 +0.8
MKAR 04 52 25.0
MKAR pmax pmax
comp=Z,11nm,0.4s
MKAR **Makanchi Array** 44.76 56 *e*P P 04 50 43.5 +0.8
MKAR PcP PcP 04 52 25.0 +0.8
MKAR ScP ScP 04 56 13.0 +0.3
MKAR **Makanchi Array** 44.76 56 P P 04 50 43.5 +0.8
comp=Z,10nm,0.4s,baz=278,slow=7.0,SNR=157
MKAR PcP PcP 04 52 25.0 +0.8
comp=Z,1.4nm,0.4s,baz=283,slow=2.2,SNR=5.9
MKAR ScP ScP 04 56 13.0 +0.3
comp=Z,0.4nm,0.6s,baz=267,slow=3.5,SNR=3.6
MKAR **Makanchi Array** 44.76 56 P P 04 50 43.5 +0.8
comp=Z,11nm,0.4s
MKAR **Makanchi Array** 44.76 56 PcP PcP 04 52 25.0 +0.8
ZAA0 **Zalesovo Array** 45.96 46 *e*P P 04 50 51.8 -0.3
ZAA0 **Zalesovo Array** 45.96 46 *e*P P 04 50 51.8 -0.3
ZALV **Zalesovo Beam** 45.96 46 *i*P P 04 50 52.0 0.0
ZALV pmax pmax
comp=Z,21nm,0.4s
ZALV **Zalesovo Beam** 45.96 46 P P 04 50 52.1 0.0
ZALV **Zalesovo Beam** 45.96 46 P P 04 50 52.1 0.0
comp=Z,20nm,0.4s,baz=269,slow=8.9,SNR=38
ZALV **Zalesovo Beam** 45.96 46 P P 04 50 52.1 0.0
DAG **Danmarks Havn** 46.35 348⇑ *i*P P 04 50 55.5 +0.6
DAG pmax pmax
comp=Z,2.0nm,0.6s
DAG **Danmarks Havn** 46.35 348⇑ *i*P P 04 50 55.5 +0.6
comp=Z,3.5nm,0.6s
WMQ **Urumqi** 48.99 59 P P 04 51 18.1 +2.2
WMQ pP pP 04 51 28.0 -0.6
WMQ sP sP 04 51 31.9 -2.0
WMQ PP PP 04 53 11.9 +2.5
WMQ pmax pmax
comp=Z,11nm,0.5s
WMQ pmax pmax
comp=Z,160nm,5.8s
SUMG **Summit** 49.14 339 *i*P P 04 51 18.1 +1.1
SUMG pmax pmax
comp=Z,4.0nm,0.8s
SUMG **Summit** 49.14 339 *i*P P 04 51 18.1 +1.1
comp=Z,4.1nm,0.8s
SUMG **Summit** 49.14 339 *i*P P 04 51 18.1 +1.1
comp=Z,4.0nm,0.8s
PYUN **Piuthan** 50.07 80 *e*P P 04 51 24.7 +0.2
comp=Z,27nm,0.6s
DANN **Dangsing** 50.60 80 *e*P P 04 51 29.0 +0.4
comp=Z,27nm,0.4s
KOLN **Koldanda** 50.70 81 *e*P P 04 51 29.0 -0.2
comp=Z,11nm,0.8s
DMN **Daman** 51.99 80 *e*P P 04 51 39.0 +0.1
comp=Z,8.5nm,0.3s
KKN **Kakani** 52.05 80 *e*P P 04 51 39.3 -0.1
comp=Z,18nm,0.5s
PKIN **Phulchoki** 52.23 80 *e*P P 04 51 40.8 0.0
comp=Z,6.7nm,0.4s
PKI **Pulchoki** 52.25 80 *e*P P 04 51 40.6 -0.4
comp=Z,7.4nm,0.4s
GUN **Gumba** 52.49 79 *e*P P 04 51 42.8 0.0
comp=Z,26nm,0.4s
JIRN **Jiri** 52.84 79 *e*P P 04 51 45.1 -0.3
RAMN **Ramite** 53.47 80 *e*P P 04 51 50.0 +0.1
comp=Z,5.0nm,0.3s
ZAK **Zakamensk** 57.71 48⇓ *e*P P 04 52 20.6 +0.8
ZAK pmax pmax
comp=Z,3.0nm,1.3s
ZAK **Zakamensk** 57.71 48 *e*P P 04 52 20.6 +0.8
comp=Z,3.0nm,1.3s

GTA	**Gaotai**	**58.95**	**61**	*e*P		**P**		**04 52 29.6**	**+0.9**
GTA				pP		**pP**		**04 52 40.4**	**-1.3**
GTA				sP		**sP**		**04 52 45.5**	**-1.4**
GTA				pmax		pmax			
	comp=Z,6.0nm,0.9s								
SONM	**Songino Array**	**60.46**	**50**	P		**P**		**04 52 39.7**	**+0.8**
SONM	**Songino Array**	**60.46**	**50**	P		**P**		**04 52 39.7**	**+0.8**
	comp=Z,6.7nm,0.5s,baz=287,slow=7.0,SNR=29								
SONM	**Songino Array**	**60.46**	**50**	P		**P**		**04 52 39.7**	**+0.8**
	comp=Z,7.0nm,0.5s								
ULN	**Ulaanbaatar**	**60.86**	**50**	*e*P		**P**		**04 52 42.6**	**+0.9**
	comp=Z,7.1nm,0.5s								
ULN	**Ulaanbaatar**	**60.86**	**50**	*e*P		**P**		**04 52 42.6**	**+0.9**
	comp=Z,7.0nm,0.5s								
TIXI	**Tiksi**	**61.93**	**20**	ǁ*e*P		**P**		**04 52 48.7**	**+0.4**
TIXI				pmax		pmax			
	comp=Z,9.0nm,1.2s								
TIXI	**Tiksi**	**61.93**	**20**	*e*P		**P**		**04 52 48.7**	**+0.4**
	comp=Z,9.0nm,1.2s								
BOSA	**Boshof**	**62.94**	**179**	P		P		04 52 54.5	-1.1
BOSA	**Boshof**	**62.94**	**179**	P		P		04 52 54.5	-1.1
	comp=Z,2.0nm,0.5s,baz=339,slow=9.3,SNR=5.9								
BOSA	**Boshof**	**62.94**	**179**	P		P		04 52 54.5	-1.1
	comp=Z,2.0nm,0.5s								
SCHQ	**Schefferville**	**63.02**	**320**	*e*P		**P**		**04 52 56.6**	**+0.7**
	comp=Z,3.2nm,0.5s								
SCHQ	**Schefferville**	**63.02**	**320**	P		**P**		**04 52 56.4**	**+0.6**
	comp=Z,4.4nm,0.4s,baz=74,slow=4.7,SNR=32								
SCHQ	**Schefferville**	**63.02**	**320**	*e*P		**P**		**04 52 56.6**	**+0.7**
	comp=Z,3.2nm,0.5s								
LZH	**Lanzhou**	**63.18**	**63**	*e*P		P		04 53 01.0	+3.5
LZH				pP		pP		04 53 08.1	-2.5
LZH				sP		sP		04 53 12.7	-3.1
LZH				pmax		pmax			
	comp=Z,14nm,1.0s								
HHC	**Hu-ho-hao-te**	**66.62**	**56**	*e*P		**P**		**04 53 19.6**	**-0.1**
HHC				PcP		**PcP**		**04 53 48.7**	**0.0**
HHC				PP		**PP**		**04 55 47.8**	**+1.3**
HHC				ScP				04 57 48.0	
HHC				PcS				04 57 51.7	
HHC				S		**S**		**05 02 07.0**	**-0.8**
HHC				sS		sS		05 02 24.1	-5.7
HHC				ScS		**SKSac**		**05 03 10.1**	**-2.6**
HHC				SS		**SS**		**05 06 25.8**	**+0.7**
HHC				pmax		pmax			
	comp=Z,34nm,0.8s								
HHC				pmax		pmax			
	comp=Z,160nm,6.4s								
HHC				LR		LR			
	comp=N,360nm,17.5s								
HHC				LR		LR			
	comp=E,370nm,16.8s								
HHC				LR		LR			
	comp=Z,230nm,16.9s								
KMI	**Kunming**	**67.26**	**74**	P		**P**		**04 53 24.0**	**-0.1**
KMI				pP		**pP**		**04 53 35.3**	**-2.0**
KMI				sP		sP		04 53 39.0	-3.6
KMI				pmax		pmax			
	comp=Z,8.0nm,0.6s								
CHTO	**Chiang Mai**	**67.30**	**82**	*e*P		**P**		**04 53 24.4**	**+0.2**
CHTO				pmax		pmax			
	comp=Z,3.0nm,0.6s								
CHTO	**Chiang Mai**	**67.30**	**82**	*e*P		**P**		**04 53 24.4**	**+0.2**
	comp=Z,2.6nm,0.6s								
CHTO	**Chiang Mai**	**67.30**	**82**	*e*P		**P**		**04 53 24.4**	**+0.2**
	comp=Z,3.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**67.47**	**83**	P		**P**		**04 53 25.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**67.47**	**83**	P		**P**		**04 53 25.2**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=295,slow=7.0,SNR=4.5								
CMAR	**Chiang Mai Arr**	**67.47**	**83**	P		**P**		**04 53 25.2**	**-0.1**
	comp=Z,1.0nm,0.4s								
GYA	**Guiyang**	**69.70**	**71**	*e*P		**P**		**04 53 38.8**	**-0.5**
GYA				pP		**pP**		**04 53 51.2**	**-1.3**
GYA				sP		**sP**		**04 53 57.8**	**+0.1**
GYA				S		S		**05 02 43.5**	**-1.4**
GYA				sS		**sS**		**05 03 10.0**	**+2.9**
GYA				SKS		**SKSac**		**05 03 31.2**	**-5.4**
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
BJI	**Beijing**	**70.11**	**55**	P		**P**		**04 53 40.7**	**-0.7**
BJI				S		**S**		**05 02 48.6**	**-0.4**
BJI				SS		**SS**		**05 07 19.7**	**+0.9**
BJI				pmax		pmax			
	comp=Z,22nm,0.5s								
BJI				pmax		pmax			
	comp=Z,64nm,5.0s								
BJI				LR		LR			
	comp=N,80nm,16.0s								
BJI				LR		LR			
	comp=E,97nm,16.1s								
BJI				LR		LR			
	comp=Z,54nm,19.3s								
BILL	**Bilibino**	**73.76**	**14**	*e*P		**P**		**04 54 02.2**	**-0.5**
BILL				*i*				04 54 16.9	
BILL				*i*				04 56 51.3	
BILL				pmax		pmax			
	comp=Z,5.0nm,1.1s								
BILL	**Bilibino**	**73.76**	**14**	*e*P		**P**		**04 54 02.2**	**-0.5**
	comp=Z,5.0nm,1.1s								
BILL	**Bilibino**	**73.76**	**14**	*i* PcP		**PcP**		**04 54 16.9**	**-1.3**
CN2	**Changchun**	**74.14**	**48**	*e*P		P		04 54 03.2	-2.2
QIZ	**Qiongzhong**	**76.01**	**76**	P		P		04 54 14.4	-2.2
QIZ				S		**S**		**05 03 55.9**	**-0.7**
NJ2	**Nanjing**	**76.04**	**61**	*e*P		**P**		**04 54 15.7**	**-0.8**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
YKW3	**Yellowknife Ar**	**77.61**	**342**	*e*P		**P**		**04 54 25.4**	**+0.7**
YKW3	**Yellowknife Ar**	**77.61**	**342**	*e*P		**P**		**04 54 25.5**	**+0.7**
YKA	**Yellowknife Ar**	**77.66**	**342**	P		**P**		**04 54 25.8**	**+0.7**
YKA	**Yellowknife Ar**	**77.66**	**342**	P		**P**		**04 54 25.7**	**+0.7**
	comp=Z,1.4nm,0.4s,baz=32,slow=5.3,SNR=16								
YKA	**Yellowknife Ar**	**77.66**	**342**	P		**P**		**04 54 25.8**	**+0.7**
USRK	**Ussuriysk Arra**	**77.80**	**44**	P		**P**		**04 54 26.5**	**+0.3**
	comp=Z,6.1nm,0.6s,baz=296,slow=5.0,SNR=14								
COLD	**Coldfoot**	**78.34**	**358**	*e*P		**P**		**04 54 29.7**	**+0.9**
	comp=Z,5.3nm,1.2s								
COLD	**Coldfoot**	**78.34**	**358**	*e*P		**P**		**04 54 29.7**	**+0.9**
	comp=Z,5.2nm,1.2s								
KSAR	**Wonju Array Be**	**79.24**	**52**	P		**P**		**04 54 35.0**	**+0.7**
KSAR	**Wonju Array Be**	**79.24**	**52**	P		**P**		**04 54 35.0**	**+0.7**
KSRS	**Korea Array**	**79.26**	**52**	P		**P**		**04 54 35.0**	**+0.6**
	comp=Z,9.3nm,0.5s,baz=310,slow=4.8,SNR=42								
KSRS	**Korea Array**	**79.26**	**52**	P		**P**		**04 54 35.0**	**+0.6**
	comp=Z,9.0nm,0.5s								
FFC	**Flin Flon**	**79.67**	**332**	*i* P		**P**		**04 54 37.8**	**+1.5**
FFC	**Flin Flon**	**79.67**	**332**	*i* P		**P**		**04 54 37.8**	**+1.5**
EGAK	**Eagle**	**80.22**	**354**	*e*P		**P**		**04 54 39.1**	**0.0**
	comp=Z,2.2nm,0.9s								
EGAK	**Eagle**	**80.22**	**354**	*e*P		**P**		**04 54 39.1**	**0.0**
	comp=Z,2.2nm,0.9s								
ULM	**Lac du Bonnet**	**80.25**	**326**	P		**P**		**04 54 39.8**	**+0.3**
ULM	**Lac du Bonnet**	**80.25**	**326**	P		**P**		**04 54 39.8**	**+0.3**
	comp=Z,2.7nm,0.4s,baz=38,slow=6.6,SNR=3.8								
ULM	**Lac du Bonnet**	**80.25**	**326**	P		**P**		**04 54 39.8**	**+0.3**
	comp=Z,3.0nm,0.4s								
ILAR	**Eielson Array**	**80.65**	**356**	P		**P**		**04 54 42.6**	**+1.3**
ILAR	**Eielson Array**	**80.65**	**356**	P		**P**		**04 54 42.6**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=358,slow=4.0,SNR=7.0								
ILAR	**Eielson Array**	**80.65**	**356**	P		**P**		**04 54 42.7**	**+1.3**
	comp=Z,1.0nm,0.7s								
MCK	**McKinley**	**81.79**	**357**	*e*P		**P**		**04 54 48.2**	**+0.7**
MCK				pmax		pmax			
	comp=Z,4.0nm,0.8s								
MCK	**McKinley**	**81.79**	**357**	*e*P		**P**		**04 54 48.2**	**+0.7**
	comp=Z,4.2nm,0.8s								
MCK	**McKinley**	**81.79**	**357**	*e*P		**P**		**04 54 48.2**	**+0.7**
	comp=Z,4.0nm,0.8s								
TRF	**Thorofare Moun**	**82.12**	**357**	*e*P		**P**		**04 54 49.6**	**+0.2**
	comp=Z,3.3nm,0.8s								
TRF	**Thorofare Moun**	**82.12**	**357**	*e*P		**P**		**04 54 49.6**	**+0.2**
	comp=Z,3.3nm,0.8s								
WCI	**Wyandotte Cave**	**82.97**	**312**	*e*P		**P**		**04 54 54.5**	**+0.3**
WCI				pmax		pmax			
	comp=Z,5.0nm,0.7s								
WCI	**Wyandotte Cave**	**82.97**	**312**	*e*P		**P**		**04 54 54.5**	**+0.3**
	comp=Z,4.8nm,0.7s								
WCI	**Wyandotte Cave**	**82.97**	**312**	*e*P		**P**		**04 54 54.5**	**+0.3**
	comp=Z,5.0nm,0.7s								
SML	**Sawmill**	**83.68**	**356**	*e*P		**P**		**04 54 58.1**	**+0.7**
SML	**Sawmill**	**83.68**	**356**	*e*P		**P**		**04 54 58.1**	**+0.7**
SML	**Sawmill**	**83.68**	**356**	*e*P		**P**		**04 54 58.1**	**+0.7**
JNU	**Nakatsue**	**83.77**	**54**	P		**P**		**04 54 59.0**	**+0.6**
JNU	**Nakatsue**	**83.77**	**54**	P		**P**		**04 54 59.0**	**+0.6**
	comp=Z,4.4nm,0.6s,baz=0.3,slow=2.6,SNR=4.5								
JNU	**Nakatsue**	**83.77**	**54**	P		**P**		**04 54 59.0**	**+0.6**

PMR	**Palmer**	**83.93**	**357**	*e*P		**P**		**04 54 59.1**	**+0.5**
PMR				pmax		pmax				
	comp=Z,3.0nm,0.6s									
PMR	**Palmer**	**83.93**	**357**	*e*P		**P**		**04 54 59.1**	**+0.5**
	comp=Z,2.8nm,0.6s									
PMR	**Palmer**	**83.93**	**357**	*e*P		**P**		**04 54 59.1**	**+0.5**
	comp=Z,3.0nm,0.6s									
ECSD	**EROS Data Cent**	**85.15**	**321**	*e*P		**P**		**04 55 05.6**	**+0.5**
	comp=Z,3.1nm,0.6s									
ECSD	**EROS Data Cent**	**85.15**	**321**	*e*P		**P**		**04 55 05.6**	**+0.5**
	comp=Z,3.1nm,0.6s									
WVT	**Waverly**	**85.25**	**311**	*e*P		**P**		**04 55 05.5**	**-0.3**
WVT				pmax		pmax				
	comp=Z,4.0nm,1.0s									
WVT	**Waverly**	**85.25**	**311**	*e*P		**P**		**04 55 05.5**	**-0.3**
	comp=Z,4.0nm,1.0s									
WVT	**Waverly**	**85.25**	**311**	*e*P		**P**		**04 55 05.5**	**-0.3**
	comp=Z,4.0nm,1.0s									
MJAR	**Matsushiro Arr**	**86.29**	**47**	P		**P**		**04 55 11.7**	**+0.8**
MJAR	**Matsushiro Arr**	**86.29**	**47**	P		**P**		**04 55 11.7**	**+0.8**
	comp=Z,3.4nm,0.9s,baz=305,slow=4.5,SNR=8.5									
MJAR	**Matsushiro Arr**	**86.29**	**47**	P		**P**		**04 55 11.7**	**+0.8**
	comp=Z,3.0nm,0.9s									
LRAL	**Lakeview Retre**	**86.70**	**308**	*e*P		**P**		**04 55 13.6**	**+0.6**
	comp=Z,3.3nm,0.5s									
LRAL	**Lakeview Retre**	**86.70**	**308**	*e*P		**P**		**04 55 13.6**	**+0.6**
	comp=Z,3.3nm,0.5s									
KDAK	**Kodiak Island**	**87.87**	**358**	P		**P**		**04 55 19.5**	**+1.4**
KDAK	**Kodiak Island**	**87.87**	**358**	P		**P**		**04 55 19.5**	**+1.4**
	comp=Z,4.2nm,0.7s,baz=82,slow=7.1,SNR=3.8									
KDAK	**Kodiak Island**	**87.87**	**358**	P		**P**		**04 55 19.5**	**+1.4**
	comp=Z,4.0nm,0.7s									
ATTU	**Attu Island--F**	**88.75**	**18**	P		**P**		**04 55 22.3**	**-0.1**
	comp=Z,3.0nm,0.4s									
FX1	**Attu Island--F**	**88.75**	**18**	*e*P		**P**		**04 55 22.1**	**-0.3**
FX1	**Attu Island--F**	**88.75**	**18**	P		**P**		**04 55 22.3**	**-0.1**
	comp=Z,2.5nm,0.4s,baz=345,slow=16,SNR=6.0									
FX1	**Attu Island--F**	**88.75**	**18**	*e*P		**P**		**04 55 22.1**	**-0.3**
JTMT	**Jette**	**89.91**	**333**	*e*P		**P**		**04 55 29.2**	**+1.1**
	comp=Z,2.5nm,0.9s									
JTMT	**Jette**	**89.91**	**333**	*e*P		**P**		**04 55 29.2**	**+1.1**
	comp=Z,2.5nm,0.9s									
SWMT	**Swartz Lake**	**90.00**	**333**	*e*P		**P**		**04 55 28.9**	**+0.4**
SWMT	**Swartz Lake**	**90.00**	**333**	*e*P		**P**		**04 55 28.9**	**+0.4**
NEW	**Newport**	**90.48**	**335**	*e*P		**P**		**04 55 31.6**	**+1.0**
	comp=Z,1.6nm,0.5s									
NEW	**Newport**	**90.48**	**335**	*e*P		**P**		**04 55 31.6**	**+1.0**
	comp=Z,2.0nm,0.5s									
BOZ	**Bozeman (W)**	**90.62**	**331**	*e*P		**P**		**04 55 31.8**	**+0.3**
BOZ	**Bozeman (W)**	**90.62**	**331**	*e*P		**P**		**04 55 31.8**	**+0.3**
BOZ	**Bozeman (W)**	**90.62**	**331**	*e*P		**P**		**04 55 31.8**	**+0.3**
PDAR	**Pinedale Array**	**92.08**	**328**	P		**P**		**04 55 38.8**	**+0.3**
PDAR	**Pinedale Array**	**92.08**	**328**	P		**P**		**04 55 38.8**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=84,slow=7.6,SNR=4.7									
PDAR	**Pinedale Array**	**92.08**	**328**	P		**P**		**04 55 38.8**	**+0.3**
HWUT	**Hardware Ranch**	**93.89**	**328**	*e*P		**P**		**04 55 47.0**	**+0.2**
	comp=Z,4.2nm,1.0s									
HWUT	**Hardware Ranch**	**93.89**	**328**	*e*P		**P**		**04 55 47.0**	**+0.2**
	comp=Z,4.2nm,1.0s									
SDCO	**Great Sand Dun**	**94.11**	**322**	*e*P		**P**		**04 55 47.8**	**-0.2**
	comp=Z,4.0nm,1.3s									
SDCO	**Great Sand Dun**	**94.11**	**322**	*e*P		**P**		**04 55 47.8**	**-0.2**
	comp=Z,4.0nm,1.3s									
WRA	**Warramunga Arr**	**117.38**	**96**	PKP		**PKPdf**		**05 01 13.0**	**-1.7**
WRA	**Warramunga Arr**	**117.38**	**96**	PKP		**PKPdf**		**05 01 13.0**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=317,slow=1.2,SNR=3.9									
WRA	**Warramunga Arr**	**117.38**	**96**	PKIKP		**PKPdf**		**05 01 13.0**	**-1.7**
DZM	**Mont Dzumac**	**144.75**	**79**	PKP		**PKPab**		**05 02 05.2**	**+0.2**
DZM	**Mont Dzumac**	**144.75**	**79**	PKP		**PKPab**		**05 02 05.2**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=90,slow=24,SNR=3.7									
DZM	**Mont Dzumac**	**144.75**	**79**	PKIKP		**PKPab**		**05 02 05.2**	**+0.2**

*CSEM **03** 04:51:26.2, 33°.92N×25°.49E, h11km, MD3.5, After ATH*
*ATH **03** 04:51:26.2, 33°.92N×25°.49E, h11km±1km, MD3.5/8*
*ISCJB **03** 04:51:27.2±0.8, 33°.89N±0°.06×25°.52E±0°.07, h17km, mb3.2/3, Error ellipse: s-maj=8.8km s-min=7.1km az=135.1*
*IDC **03** 04:51:27.2±1.3, 34°.00N×25°.48E, h0km, mb3.3/3, mb1 3.5/7, mb1mx3.4/28, mbtmp3.3/7, ML3.4/3, Error ellipse: s-maj=33.0km s-min=24.3km az=139.0*

ISC 03 04:51:29.1±0.9, 34°.06N±0°.07×25°.43E±0°.04, h17km, n23, σ1§16/29, mb3.1/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.09**	**332**	*e*PB	**Pb**	**04 51 49.6**	**+0.1**
SIVA				*e*SB	**Sg**	**04 52 06.3**	**+1.9**
SIVA	**Sivas**	**1.09**	**332**	*e*Pb	**Pb**	**04 51 49.6**	**+0.1**
SIVA				*e*Sb	**Sg**	**04 52 06.3**	**+1.9**
LAST	**Lasithi**	**1.10**	**2**	*e*PG	**Pn**	**04 51 49.2**	**-0.7**
LAST	**Lasithi**	**1.10**	**2**	*e*Pg	**Pn**	**04 51 49.2**	**-0.7**
NPS	**Neapolis**	**1.21**	**7**	*e*PB	**Pn**	**04 51 51.0**	**-0.3**
NPS	**Neapolis**	**1.21**	**7**	*e*Pb	**Pn**	**04 51 51.0**	**-0.3**
ZKR	**Zakros**	**1.24**	**31**	*e*PB	**Pb**	**04 51 51.5**	**-0.5**
ZKR				*e*SB	**Sg**	**04 52 09.6**	**+0.4**
ZKR	**Zakros**	**1.24**	**31**	*e*Pb	**Pb**	**04 51 51.5**	**-0.5**
ZKR				*e*Sb	**Sg**	**04 52 09.6**	**+0.4**
IDI	**Anoyia**	**1.31**	**340**	*e*PB	**Pg**	**04 51 53.7**	**-0.7**
IDI	**Anoyia**	**1.31**	**340**	*e*Pb	**Pg**	**04 51 53.7**	**-0.7**
GVD	**Gavdhos**	**1.36**	**305**	*e*PB	**Pb**	**04 51 54.0**	**-0.1**
GVD	**Gavdhos**	**1.36**	**305**	*e*Pb	**Pb**	**04 51 54.0**	**-0.1**
VAM	**Vamos**	**1.69**	**323**	*e*PN	**Pn**	**04 51 59.5**	**-0.2**
VAM				*e*SN	**Sg**	**04 52 24.5**	**+1.0**
VAM	**Vamos**	**1.69**	**323**	*e*Pn	**Pb**	**04 51 59.5**	**-0.2**
VAM				*e*Sn	**Sg**	**04 52 24.5**	**+1.0**
KYTH	**Kithira**	**2.96**	**319**	*e*PB	**Pb**	**04 52 18.8**	**-2.7**
KYTH	**Kithira**	**2.96**	**319**	*e*Pb	**Pb**	**04 52 18.8**	**-2.7**
BRTR	**Keskin Array B**	**8.67**	**47**	Pn	**Pn**	**04 53 36.0**	**+2.1**
	0.1nm,0.3s,baz=221,slow=14,SNR=3.1						
EIL	**Elat**	**9.20**	**116**	Pn	**Pn**	**04 53 39.7**	**-1.3**
	0.3nm,0.3s,baz=33,slow=17,SNR=6.3						
AKASG	**Malin Array Be**	**16.86**	**8**	Pn	**P**	**04 55 25.8**	**-0.4**
	0.7nm,0.3s,baz=198,slow=10,SNR=4.2						
GERES	**GERESS Array B**	**17.16**	**333**	P	**P**	**04 55 29.0**	**-0.7**
	0.1nm,0.3s,baz=148,slow=13,SNR=4.2						
TORD	**Torodi Ar. Bea**	**29.97**	**232**	P	**P**	**04 57 37.9**	**+1.2**
	0.1nm,0.3s,baz=39,slow=7.4,SNR=3.9						
MKAR	**Makanchi Array**	**44.20**	**56**	P	**P**	**04 59 37.8**	**+0.6**
	0.6nm,0.5s,baz=269,slow=7.1,SNR=9.2						
ILAR	**Eielson Array**	**81.31**	**357**	P	**P**	**05 03 44.7**	**+0.5**
	0.1nm,0.6s,baz=14,slow=4.0,SNR=3.5						

*IDC **03** 04:53:32.4±1.4, 18°.13S×178°.16W, h548km±18km, mb3.4/12, mb1 3.7/14, mb1mx3.5/21, mbtmp3.4/14, Error ellipse: s-maj=22.8km s-min=11.8km az=137.0*
*ISCJB **03** 04:53:33.2±0.7, 18°.3S±0°.1×178°.0W±0°.1, h590km, mb3.8/11, Error ellipse: s-maj=22.7km s-min=9.4km az=145.4*

ISC 03 04:53:34.5±0.8, 18°.3S±0°.2×177°.9W±0°.1, h590km, n26, σ1§35/28, mb3.9/11, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.29**	**54**	P	**P**	**04 55 24.9**	**-2.1**
	6.4nm,0.3s,baz=51,slow=8.4,SNR=7.2						
AFI				S	**S**	**04 56 56.7**	**-2.3**
	3.1nm,0.3s,baz=287,slow=20,SNR=3.1						
DZM	**Mont Dzumac**	**15.20**	**253**	P	**P**	**04 56 42.4**	**-2.5**
	0.5nm,0.3s,baz=90,slow=20,SNR=4.8						
URZ	**Urewera**	**20.39**	**191**	P	**P**	**04 57 31.3**	**-0.7**
	5.3nm,0.4s,baz=319,slow=3.4,SNR=10						
STKA	**Stephens Creek**	**38.90**	**242**	P	**P**	**05 00 11.0**	**+0.2**
	3.3nm,0.5s,baz=39,slow=6.9,SNR=7.6						
WRA	**Warramunga Arr**	**45.06**	**260**	P	**P**	**05 00 57.7**	**-1.6**
	0.2nm,0.3s,baz=90,slow=8.2,SNR=4.3						
WRA				PcP	**PcP**	**05 02 28.3**	**+1.1**
	1.2nm,0.9s,baz=90,slow=3.7,SNR=2.9						
ASAR	**Alice Springs**	**45.18**	**255**	P	**P**	**05 00 59.5**	**-0.6**
	3.6nm,0.5s,baz=88,slow=8.7,SNR=81						
ASAR				PcP	**PcP**	**05 02 28.6**	**+1.0**
	1.2nm,0.7s,baz=97,slow=4.4,SNR=8.1						
MJAR	**Matsushiro Arr**	**58.50**	**323**	P	**P**	**05 03 37.6**	**-1.3**
	3.1nm,0.6s,baz=170,slow=6.8,SNR=11						
PETK	**Petropavlovsk-**	**74.16**	**345**	P	**P**	**05 04 11.6**	**+0.1**
	3.9nm,0.6s,baz=144,slow=8.6,SNR=11						
KSRS	**Korea Array**	**75.31**	**318**	P	**P**	**05 04 17.8**	**-0.4**
	0.6nm,0.4s,baz=111,slow=6.4,SNR=3.7						
NVAR	**Mina Array Bea**	**79.34**	**44**	P	P	05 04 43.8	+3.5
	1.7nm,0.7s,baz=223,slow=8.2,SNR=11						
ILAR	**Eielson Array**	**86.13**	**13**	P	**P**	**05 05 13.7**	**+0.3**
	1.1nm,0.4s,baz=222,slow=5.1,SNR=26						
PDAR	**Pinedale Array**	**87.27**	**43**	P	**P**	**05 05 22.4**	**+2.8**
	1.5nm,0.6s,baz=218,slow=2.6,SNR=16						
CMAR	**Chiang Mai Arr**	**89.48**	**290**	P	**P**	**05 05 31.6**	**+1.4**
	0.7nm,0.3s,baz=111,slow=3.1,SNR=4.3						
YKA	**Yellowknife Ar**	**94.45**	**25**	P	**P**	**05 05 53.5**	**+1.6**
	0.3nm,0.5s,baz=236,slow=4.4,SNR=3.6						
MKAR	**Makanchi Array**	**109.75**	**314**	PKiKP	**PKiKP**	**05 10 59.5**	**+0.3**
	0.4nm,0.5s,baz=124,slow=0.9,SNR=6.9						
ARCES	**ARCESS Array B**	**126.76**	**350**	PKP	**PKPdf**	**05 11 31.2**	**+0.1**
	4.0nm,0.9s,baz=29,slow=2.8,SNR=3.9						
FINES	**FINESS Array B**	**133.67**	**344**	PKP	**PKPdf**	**05 11 44.8**	**+0.5**
	3.0nm,1.0s,baz=90,slow=2.8,SNR=3.3						
BRTR	**Keskin Array B**	**145.40**	**315**	PKPbc	**PKPbc**	**05 12 07.8**	**+0.1**
	2.0nm,0.7s,baz=113,slow=3.2,SNR=11						
CLL	**Collm**	**145.93**	**348**	ǁ*i* PKP	**PKPab**	**05 12 09.7**	**-1.0**
	comp=Z,12nm,0.8s						
CLL				*i*		05 13 39.0	
UPC	**Upice**	**145.98**	**344**	*e*P	**PKPab**	**05 12 10.4**	**-0.6**
UPC				*ex*	x	05 12 12.3	
DPC	**Dobruska-Polom**	**146.04**	**344**	*e*P	**PKPab**	**05 12 10.8**	**-0.5**
DPC				*ex*	x	05 12 12.4	
BRG	**Berggiesshubel**	**146.14**	**347**	*e*PKP	**PKPab**	**05 12 10.9**	**-0.7**
	comp=Z,4.9nm,0.8s						
PVCC	**Panska Ves**	**146.31**	**346**	*e*P	**PKPab**	**05 12 11.3**	**-1.0**
PRU	**Pruhonice**	**146.82**	**345**	*e*P	**PKPab**	**05 12 12.8**	**-1.6**
KHC	**Kasperske Hory**	**147.85**	**346**	*e*P	**PKPbc**	**05 12 15.5**	**+1.6**
KHC				*ex*	x	05 12 18.9	
GERES	**GERESS Array B**	**148.09**	**345**	PKPbc	**PKPbc**	**05 12 16.0**	**+1.4**
	comp=Z,3.3nm,0.6s,baz=28,slow=3.2,SNR=24						

*CSEM **03** 04:53:49.6, 33°.83N×25°.41E, h7km, MD3.9, After ATH*
*ATH **03** 04:53:49.6, 33°.83N×25°.41E, h7km, MD3.9/12*
*ISCJB **03** 04:53:51.9±1.1, 33°.88N±0°.08×25°.37E±0°.09, h17km, mb3.3/3, Error ellipse: s-maj=12.9km s-min=8.7km az=144.9*
*IDC **03** 04:53:51.3±1.6, 34°.02N×25°.44E, h0km, mb3.5/3, mb1 3.5/6, mb1mx3.4/27, mbtmp3.4/6, ML3.7/3, Error ellipse: s-maj=41.6km s-min=23.5km az=143.0*

ISC 03 04:53:54.0±1.2, 34°.08N±0°.09×25°.27E±0°.06, h17km, n30, σ1§10/30, mb3.4/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.01**	**338**	*e*PB	**Pg**	**04 54 14.6**	**+1.0**
SIVA	**Sivas**	**1.01**	**338**	*e*Pb	**Pg**	**04 54 14.6**	**+1.0**
LAST	**Lasithi**	**1.09**	**9**	*e*PG	**Pn**	**04 54 14.2**	**-0.5**
LAST	**Lasithi**	**1.09**	**9**	*e*Pg	**Pn**	**04 54 14.2**	**-0.5**
NPS	**Neapolis**	**1.22**	**13**	*e*PG	**Pn**	**04 54 16.5**	**+0.2**
NPS	**Neapolis**	**1.22**	**13**	*e*Pg	**Pn**	**04 54 16.5**	**+0.2**
IDI	**Anoyia**	**1.25**	**346**	*e*PB	**Pg**	**04 54 19.0**	**+0.9**
IDI	**Anoyia**	**1.25**	**346**	*e*Pb	**Pg**	**04 54 19.0**	**+0.9**
ZKR	**Zakros**	**1.

baz=22,SNR=8.6
KDU Kakadu 22.67 252 P P 05 24 01.2 +15
baz=22,SNR=3.1
KDU S **S** 05 27 49.5 -0.8
baz=22,SNR=9.6
WRAB Tennant Creek 23.86 233 *e*P **P** 05 23 57.8 -0.2
25nm,1.0s
WRA Warramunga Arr 23.88 233 P **P** 05 23 57.8 -0.4
WRA PcP **PcP** 05 27 40.1 +0.4
WRA ScP **ScP** 05 31 15.8 +3.1
WRA Warramunga Arr 23.88 233 P **P** 05 23 57.8 -0.4
10nm,0.6s,baz=58,slow=9.8,SNR=59
WRA PcP **PcP** 05 27 40.1 +0.4
5.5nm,0.5s,baz=60,slow=2.4,SNR=18
WRA ScP **ScP** 05 31 15.8 +3.1
0.3nm,0.3s,baz=58,slow=3.4,SNR=5.9
WRA LR LR 05 32 34.0
comp=Z,265nm,21.8s,baz=60,slow=35
PALU Palau 24.15 304 P P 05 24 07.1 +6.5
baz=24,SNR=3.7
ARMA Armidale 24.19 186 *e*P **P** 05 24 02.1 +1.1
16nm,0.9s
AS31 Alice Springs 26.33 227 *e*P **P** 05 24 19.4 -1.1
ASAR Alice Springs 26.33 227 P **P** 05 24 19.7 -0.7
ASAR PcP **PcP** 05 27 45.9 +0.6
ASAR ScP **ScP** 05 31 22.3 +2.6
ASAR Alice Springs 26.33 227 P **P** 05 24 19.7 -0.7
2.6nm,0.4s,baz=57,slow=9.0,SNR=47
ASAR PcP **PcP** 05 27 45.9 +0.6
5.7nm,0.8s,baz=56,slow=2.3,SNR=15
ASAR ScP **ScP** 05 31 22.3 +2.6
1.1nm,0.8s,baz=60,slow=3.6,SNR=5.2
ASAR LR LR 05 33 33.6
comp=Z,288nm,20.6s,baz=146,slow=34
STKA Stephens Creek 28.22 204 *e*P **P** 05 24 36.2 -1.0
1.9nm,1.0s
STKA PcP **PcP** 05 27 49.5 0.0
STKA Stephens Creek 28.22 204 P **P** 05 24 35.9 -1.3
4.2nm,0.7s,baz=50,slow=19,SNR=4.2
STKA PcP **PcP** 05 27 49.5 0.0
4.6nm,0.7s,baz=67,slow=3.9,SNR=5.5
STKA LR LR 05 36 01.1
comp=Z,246nm,18.0s,baz=144,slow=37
FITZ Fitzroy Crossi 30.55 245 *e*P **P** 05 24 57.7 -0.3
5.0nm,0.8s
FITZ PcP **PcP** 05 27 56.3 +0.6
FITZ Fitzroy Crossi 30.55 245 P **P** 05 24 56.5 -1.5
5.5nm,0.8s,baz=65,slow=7.8,SNR=9.7
FITZ PcP **PcP** 05 27 56.3 +0.6
8.2nm,1.0s,baz=132,slow=4.6,SNR=3.8
FITZ LR LR 05 36 42.6
comp=Z,222nm,20.4s,baz=76,slow=35
FITZ Fitzroy Crossi 30.55 245 P P 05 25 12.4 +14
baz=30,SNR=3.9
AFI Afiamalu 33.99 106 LR LR 05 36 55.5
comp=Z,223nm,18.8s,baz=9,2,slow=32
WSI Waingapu 34.07 262 P **P** 05 25 29.3 +0.4
baz=34,SNR=4.2
RAO Raoul Island 34.63 135 LR LR 05 37 57.4
comp=Z,255nm,18.0s,baz=276,slow=33
URZ Urewera 37.87 151 P **P** 05 26 01.8 +0.7
URZ Urewera 37.87 151 P **P** 05 26 01.8 +0.7
5.8nm,0.4s,baz=243,slow=4.6,SNR=7.6
URZ LR LR 05 38 02.8
comp=Z,41nm,19.4s,baz=343,slow=30
MEEK Meekatharra 39.75 235 P **P** 05 26 16.5 -0.5
baz=39,SNR=8.1
RPZ Rata Peaks 40.04 161 P **P** 05 26 20.0 +0.8
RPZ Rata Peaks 40.04 161 P **P** 05 26 20.0 +0.8
12nm,0.7s,baz=37,slow=8.4,SNR=4.3
KLBR Kellerberrin 42.62 229 P **P** 05 26 39.8 -0.7
baz=42,SNR=5.4
MORW Morawa 42.83 233 P **P** 05 26 41.7 -0.5
baz=42,SNR=5.1
JNU Nakatsue 45.15 332 *e*P **P** 05 27 01.0 +0.2
4.2nm,0.9s
JNU Nakatsue 45.15 332 P **P** 05 26 57.7 -3.0
4.4nm,0.5s,baz=204,slow=1.7,SNR=4.2
XMIS Christmas Isla 48.51 262 *e*P **P** 05 27 26.1 -1.2
991nm,1.5s
PMBI Palembang 49.70 271 P **P** 05 27 37.5 +1.1
baz=49,SNR=4.0
KSRS Korea Array 50.08 332 P **P** 05 27 37.6 -1.1
2.5nm,0.9s,baz=151,slow=8.7,SNR=7.0
KSRS LR LR 05 44 54.7
comp=Z,62nm,19.2s,baz=8.6,slow=31
KSAR Wonju Array Be 50.08 332 P **P** 05 27 37.6 -1.2
PPT2 Papeete2 55.65 107 *e*LR LR 05 44 12.3
94nm,24.0s
CN2 Changchun 56.33 335 *e*P **P** 05 28 25.1 +0.4
TBI Tubuai 56.39 114 *e*LR LR 05 44 32.8
247nm,28.2s
GYA Guiyang 56.65 307 *e*P **P** 05 28 28.3 +0.9
GYA pP **pP** 05 28 45.3 +1.0
GYA sP **sP** 05 28 53.0 +1.4
GYA ScP **ScP** 05 33 15.6 -1.5
GYA S **S** 05 36 14.5 -0.7
GYA sS **sS** 05 36 42.8 -1.0
GYA pmax pmax
comp=Z,10.0nm,1.0s
PETK Petropavlovsk- 59.20 2 P **P** 05 28 44.6 0.0
PETK Petropavlovsk- 59.20 2 P **P** 05 28 44.6 0.0
comp=Z,0.8nm,0.5s,baz=188,slow=8.7,SNR=3.0
PETK LR LR 05 50 19.2
comp=Z,105nm,20.6s,baz=213,slow=32
KMI Kunming 59.23 304 P **P** 05 28 46.2 +0.6
KMI pP **pP** 05 29 01.8 -0.8
KMI sP **sP** 05 29 09.4 -0.5
KMI S **S** 05 36 47.8 -1.4
KMI pmax pmax
comp=Z,20nm,1.0s
KMI LR LR
comp=Z,130nm,25.7s
CMAR Chiang Mai Arr 60.06 295 P **P** 05 28 51.5 +0.3
CMAR Chiang Mai Arr 60.06 295 P **P** 05 28 51.5 +0.3
comp=Z,2.3nm,0.6s,baz=116,slow=5.3,SNR=10
CMAR LR LR 05 53 33.6
comp=Z,74nm,18.7s,baz=95,slow=35
FX1 Attu Island--F 61.00 13 *e*P **P** 05 28 57.5 +0.6
HHC Hu-ho-hao-te 61.23 324 *e*P **P** 05 29 00.8 +1.9
HHC PcP **PcP** 05 29 41.9 +0.9
HHC PP **PP** 05 31 18.0 +3.5
HHC ScP **ScP** 05 33 37.5 +0.4
HHC PcS **PcS** 05 33 44.7 +0.8
HHC S **S** 05 37 15.1 +1.0
HHC sS **sS** 05 37 42.6 -0.5
HHC ScS **SKKSac** 05 38 43.1 -1.5
HHC SS **SS** 05 41 17.2 +1.7
HHC pmax pmax
comp=Z,35nm,0.6s
HHC pmax pmax
comp=Z,260nm,6.8s
HHC LR LR
comp=N,290nm,17.7s
HHC LR LR
comp=E,320nm,16.2s
HHC LR LR
comp=Z,260nm,16.8s
CASY Casey 67.15 198 *e*P **P** 05 29 36.5 -0.6
comp=Z,4.4nm,0.7s
GTA Gaotai 67.89 317 *e*P **P** 05 29 43.0 +0.6
GTA pP **pP** 05 30 00.6 +0.8
GTA sP **sP** 05 30 07.5 +0.5
GTA pmax pmax
comp=Z,3.0nm,1.3s
SONM Songino Array 68.47 327 P **P** 05 29 44.8 -1.0
SONM Songino Array 68.47 327 P **P** 05 29 44.8 -1.0
comp=Z,1.8nm,0.9s,baz=116,slow=6.8,SNR=4.7
LSA Lhasa 70.48 304 P **P** 05 29 59.5 +0.5
LSA Lhasa 70.48 304 *e*P **P** 05 29 59.0 0.0
comp=Z,19nm,0.9s
VNDA Vanda 71.33 178 *e*P **P** 05 30 03.7 +0.9
comp=Z,9.6nm,1.3s
VNDA Vanda 71.33 178 P **P** 05 30 03.5 +0.8
comp=Z,3.4nm,1.0s,baz=333,slow=6.5,SNR=8.5
SBA Scott Base 71.85 177 *e*P **P** 05 30 07.7 +1.8
comp=Z,5.9nm,1.1s
TAPN Taplejung 72.63 301 *e*P **P** 05 30 12.1 +0.3
comp=Z,34nm,0.8s
ODAN Odare 72.77 300 *e*P **P** 05 30 12.7 +0.1
comp=Z,91nm,0.8s
RAMN Ramite 73.47 300 *e*P **P** 05 30 16.7 0.0
comp=Z,25nm,0.6s
JIRN Jiri 74.02 301 *e*P **P** 05 30 20.2 +0.1
comp=Z,43nm,0.7s
GUN Gumba 74.35 301 *e*P **P** 05 30 22.2 +0.2
comp=Z,83nm,0.8s
PKI Pulchoki 74.66 301 *e*P **P** 05 30 23.6 -0.1
comp=Z,83nm,1.1s
KKN Kakani 74.83 301 *e*P **P** 05 30 24.6 0.0
comp=Z,42nm,0.9s
DMN Daman 74.93 301 *e*P **P** 05 30 25.6 +0.4
comp=Z,140nm,0.9s
KOLN Koldanda 76.26 300 *e*P **P** 05 30 32.4 -0.4
comp=Z,61nm,0.7s
DANN Dangsing 76.27 301 *e*P **P** 05 30 32.5 -0.4
comp=Z,52nm,0.7s
PYUN Piuthan 76.86 301 *e*P **P** 05 30 35.7 -0.5
comp=Z,127nm,0.9s
WMQ Urumqi 77.98 317 P **P** 05 30 42.9 +1.0
WMQ pP **pP** 05 30 59.6 0.0
WMQ sP **sP** 05 31 06.4 -0.3
WMQ PP **PP** 05 33 41.1 +2.3
WMQ pmax pmax
comp=Z,6.0nm,0.4s
WMQ LR LR
comp=Z,510nm,18.8s
PMR Palmer 80.30 24 *e*P **P** 05 30 52.9 -1.1
comp=Z,4.8nm,0.9s
SML Sawmill 80.74 24 *e*P **P** 05 30 56.2 -0.3
comp=Z,3.5nm,0.9s
TRF Thorofare Moun 80.89 22 *e*P **P** 05 30 56.2 -1.2
comp=Z,3.8nm,0.8s
MCK McKinley 81.54 22 *e*P **P** 05 30 59.6 -1.1
comp=Z,11nm,1.0s
MKAR Makanchi Array 82.55 319 P **P** 05 31 05.7 -0.7
MKAR Makanchi Array 82.55 319 P **P** 05 31 05.7 -0.7
comp=Z,1.2nm,0.7s,baz=93,slow=8.8,SNR=5.6
MKAR LR LR 06 05 58.7
comp=Z,60nm,18.1s,baz=174,slow=34
ILAR Eielson Array 82.86 22 P **P** 05 31 05.6 -1.9
ILAR Eielson Array 82.86 22 P **P** 05 31 05.6 -1.9
comp=Z,1.9nm,0.9s,baz=255,slow=5.1,SNR=22
ZALV Zalesovo Beam 83.32 326 P **P** 05 31 08.7 -1.4
ZALV Zalesovo Beam 83.32 326 P **P** 05 31 08.7 -1.4
comp=Z,1.1nm,0.3s,baz=116,slow=6.9,SNR=3.5
QSPA South Pole Qui 83.72 180 *e*P **P** 05 31 12.4 +0.3
comp=Z,10nm,0.7s
MAW Mawson 84.90 203 P **P** 05 31 17.8 -0.1
MAW Mawson 84.90 203 P **P** 05 31 17.8 -0.1
comp=Z,5.2nm,0.7s,baz=84,slow=8.2,SNR=15
MAW Mawson 84.90 203 P **P** 05 31 18.1 +0.2
baz=84,SNR=9.7
EGAK Eagle 85.01 23 *e*P **P** 05 31 18.5 0.0
comp=Z,4.7nm,0.9s
BBB Bella Bella 87.20 37 LR LR 06 02 48.0
comp=Z,82nm,21.7s,baz=249,slow=30
DLBC Dease Lake 87.74 31 LR LR 06 04 06.7
comp=Z,115nm,19.7s,baz=154,slow=31
CMB Columbia Colle 89.94 52 *e*P **P** 05 31 42.8 -0.1
comp=Z,1.9nm,0.8s
BEKR Beckworth 90.22 50 *e*P **P** 05 31 44.5 +0.1
comp=Z,1.2nm,0.9s
MTUM Tungsten Hills 91.29 53 *e*P **P** 05 31 50.5 +1.1
MWC Mount Wilson 91.33 56 *e*P **P** 05 31 49.9 +0.2
comp=Z,21nm,1.0s
NVAR Mina Array Bea 91.62 52 P **P** 05 31 51.6 +0.7
NVAR Mina Array Bea 91.62 52 P **P** 05 31 51.6 +0.7
comp=Z,7.3nm,0.9s,baz=252,slow=6.5,SNR=38
NV11 Mina Array Sit 91.74 52 *e*P **P** 05 31 51.3 -0.1
PFO Pinyon Flat Ob 92.59 57 *e*P **P** 05 31 56.6 +1.2
comp=Z,6.9nm,0.8s
PFO Pinyon Flat Ob 92.59 57 LR LR 06 09 51.9
comp=Z,84nm,19.0s,baz=285,slow=33
NEW Newport 93.51 42 LR LR 06 07 41.3
comp=Z,221nm,20.2s,baz=322,slow=31
LDFC Landfair 93.84 55 *e*P **P** 05 32 02.1 +1.0
comp=Z,11nm,1.1s
SHPR Sheep Range 93.92 54 *e*P **P** 05 32 03.1 +1.6
CCUT Cedar City 95.43 53 *e*P **P** 05 32 09.4 +1.0
comp=Z,1.9nm,0.9s
YKA Yellowknife Ar 95.90 28 P **P** 05 32 08.8 -0.9
YKA Yellowknife Ar 95.90 28 P **P** 05 32 08.8 -0.9
comp=Z,0.8nm,0.8s,baz=275,slow=4.5,SNR=5.6
PDAR Pinedale Array 98.54 48 P **P** 05 32 21.2 -1.2
PDAR Pinedale Array 98.54 48 P **P** 05 32 21.2 -1.2
comp=Z,1.1nm,0.6s,baz=238,slow=2.9,SNR=12
PDAR LR LR 06 09 16.9
comp=Z,93nm,21.6s,baz=267,slow=31
AKASG Malin Array Be 116.68 324 PKP **PKPdf** 05 37 26.8 -0.5
AKASG Malin Array Be 116.68 324 PKP **PKPdf** 05 37 26.8 -0.5
comp=Z,0.1nm,0.3s,baz=50,slow=2.4,SNR=4.3
PLCA Paso Flores 117.58 143 PKP **PKPdf** 05 37 29.0 -0.5
PLCA Paso Flores 117.58 143 PKP **PKPdf** 05 37 29.0 -0.5
comp=Z,1.4nm,0.6s,baz=289,slow=1.6,SNR=3.1
BOSA Boshof 120.12 232 *e*PKPdf **PKPdf** 05 37 33.8 -0.9
BOSA PKP **PKPdf** 05 37 34.6 -0.2
BOSA Boshof 120.12 232 PKP **PKPdf** 05 37 34.6 -0.2
comp=Z,4.2nm,0.6s,baz=124,slow=4.9,SNR=14
LBTB Lobatse 121.42 236 *e*PKPdf **PKPdf** 05 37 37.1 -0.3
LSZ Lusaka 122.71 247 *e*PKPdf **PKPdf** 05 37 40.0 0.0
CFAA Coronel Fontan 124.48 135 PKP **PKPdf** 05 37 42.0 -1.0
CFAA Coronel Fontan 124.48 135 PKP **PKPdf** 05 37 42.0 -1.0
comp=Z,0.2nm,0.5s,baz=220,slow=6.4,SNR=6.1
GERES GERESS Array B 126.19 329 PKP **PKPdf** 05 37 46.0 +0.3
GERES GERESS Array B 126.19 329 PKP **PKPdf** 05 37 46.0 +0.3
comp=Z,0.4nm,0.6s,baz=46,slow=2.8,SNR=5.1
TSUM Tsumeb 130.63 238 *e*PKPdf **PKPdf** 05 37 56.0 +0.9
ROSC El Rosal 131.35 89 PKP **PKPdf** 05 37 57.5 +0.5
ROSC El Rosal 131.35 89 PKP **PKPdf** 05 37 57.5 +0.5
comp=Z,2.8nm,0.4s,baz=256,slow=19,SNR=2.8
LPAZ La Paz 132.21 119 *e*PKPdf **PKPdf** 05 37 58.1 -0.6
LPAZ PKP **PKPdf** 05 37 58.9 +0.1
LPAZ La Paz 132.21 119 PKP **PKPdf** 05 37 58.9 +0.1
comp=Z,1.6nm,0.8s,baz=265,slow=6.2,SNR=4.7
CPUP Villa Florida 135.23 138 PKP **PKPdf** 05 38 03.2 -0.2
CPUP Villa Florida 135.23 138 PKP **PKPdf** 05 38 03.2 -0.2
comp=Z,1.1nm,0.7s,baz=181,slow=16,SNR=4.7
TAM Tamanrasset 145.91 302 *e*PKPdf **PKPab** 05 38 24.2 0.0
MDT Midelt 147.21 326 PKPbc **PKPbc** 05 38 26.2 -0.9
MDT Midelt 147.21 326 PKPbc **PKPbc** 05 38 26.2 -0.9
comp=Z,0.6nm,0.4s,baz=39,slow=6.5,SNR=2.4
BDFB Brasilia 148.82 134 PKPbc **PKPbc** 05 38 30.9 -0.9
BDFB Brasilia 148.82 134 PKPbc **PKPbc** 05 38 30.9 -0.9
comp=Z,3.3nm,0.5s,baz=198,slow=0.4,SNR=11
TOA0 Torodi Ar. Sit 152.39 286 *e*PKPbc **PKPbc** 05 38 38.8 -1.4
TOA0 *e*PKPab **PKPab** 05 38 49.8 -0.6
TORD Torodi Ar. Bea 152.39 286 PKP **PKPdf** 05 38 31.8 -1.5
TORD PKPbc **PKPbc** 05 38 39.0 -1.1
TORD PKPab **PKPab** 05 38 49.9 -0.6
TORD Torodi Ar. Bea 152.39 286 PKP **PKPdf** 05 38 31.8 -1.5
comp=Z,0.9nm,1.0s,baz=11,slow=0.7,SNR=3.4
TORD PKPbc **PKPbc** 05 38 39.0 -1.1
comp=Z,6.4nm,0.6s,baz=72,slow=1.4,SNR=104
TORD PKPab **PKPab** 05 38 49.9 -0.6
comp=Z,1.3nm,0.6s,baz=90,slow=2.8,SNR=4.3

*ISCJB **03** 05:20:33.6±0.6, 20.°08S±0.°05×69.°1W±0.°1, h116km±11km, mb3.8/2, Error ellipse: s-maj=20.7km s-min=7.6km az=175.4*
*GUC **03** 05:20:35.3±0.7, 20.°13S×69.°22W, h101km±6km, ML3.9*
*IDC **03** 05:20:37.2±1.9, 20.°19S×68.°85W, h120km±16km, mb3.5/3, mb1 3.6/7, mb1mx3.4/20, mbtmp3.5/7, MS4.0/1, Ms1 4.0/1, ms1mx2.6/25, Error ellipse: s-maj=41.9km s-min=15.2km az=102.0*

ISC 03 05:20:34.4±0.9, 20.°04S±0.°05×69.°2W±0.°1, h106km±13km, n15, σ1s76/20, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
HMBC	**Humberstone**	**0.74**	**251**	↑*iP*		**Pn**	**05 20 52.6**	**-0.3**
HMBC				*i* S		**Sn**	**05 21 05.9**	**-0.9**
HMBC					AML	AML	05 21 07.2	
	comp=E,6μm,0.2s							
MNMC	**Minimini**	**1.00**	**335**	*e*P		**Pn**	**05 20 57.2**	**+1.6**
MNMC				*i* S		**Sn**	**05 21 14.1**	**+2.5**
MNMC					AML	AML	05 21 15.5	
	comp=E,8μm,0.3s							
PB01	**Plate Boundary**	**1.05**	**198**	↑*iP*		**Pn**	**05 20 55.7**	**-0.3**
PB01				*i* S		**Sn**	**05 21 11.0**	**-1.2**
PB01					AML	AML	05 21 12.5	
	comp=E,4μm,0.4s							
PB09	**Plate Boundary**	**1.75**	**183**	*e*P		**Pn**	**05 21 04.6**	**+0.3**
PB09				*i* S		**Sn**	**05 21 26.9**	**-0.1**
PB07	**Plate Boundary**	**1.82**	**202**	*e*P		**Pn**	**05 21 04.7**	**-0.5**
PB07				*i* S		**Sn**	**05 21 28.1**	**-0.4**
PB07					AML	AML	05 21 33.8	
	comp=N,860nm,0.2s							
PB04	**Plate Boundary**	**2.24**	**188**	↓*iP*		Pn	05 21 13.9	+3.6
PB04				*i* S		**Sn**	**05 21 43.5**	**+5.7**
PB04					AML	AML	05 21 53.5	
	comp=N,610nm,0.7s							
LVC	**Limon Verde**	**2.57**	**175**	*e*P		**Pn**	**05 21 15.8**	**+0.8**
LVC				*e*S		**Sn**	**05 21 46.3**	**+0.4**
LVC	**Limon Verde**	**2.57**	**175**	P		**Pn**	**05 21 15.6**	**+0.7**
	comp=N,24nm,0.3s,baz=353,slow=8.7,SNR=215							
LVC				S		**Sn**	**05 21 46.6**	**+0.6**
	comp=N,32nm,0.3s,baz=60,slow=20,SNR=24							
LPAZ	**La Paz**	**3.85**	**15**	P		Pn	05 21 37.1	+4.8
	comp=N,2.6nm,0.3s,baz=194,slow=7.0,SNR=111							
SIV	**San Ignacio**	**8.67**	**64**	P		**Pn**	**05 22 36.6**	**-0.5**
	comp=N,1.7nm,0.3s,baz=260,slow=13,SNR=38							
CPUP	**Villa Florida**	**12.54**	**122**	P		**Pn**	**05 23 27.6**	**-1.4**
	comp=N,0.6nm,0.3s,baz=290,slow=12,SNR=9.0							
BDFB	**Brasilia**	**20.58**	**81**	P		**P**	**05 25 04.0**	**-1.1**
	comp=N,1.4nm,0.5s,baz=261,slow=10,SNR=4.8							
USHA	**Ushuaia**	**34.74**	**179**	LR		LR	05 40 24.3	
	comp=N,260nm,21.2s,baz=137,slow=34							
DBIC	**Dimbokro**	**68.54**	**74**	P		**P**	**05 31 26.4**	**+0.3**
	comp=N,2.5nm,0.7s,baz=220,slow=7.9,SNR=3.0							
TORD	**Torodi Ar. Bea**	**77.08**	**71**	P		**P**	**05 32 16.5**	**-0.1**
	comp=N,0.4nm,0.4s,baz=250,slow=5.6,SNR=15							

*NIED **03** 05:20:00,24.°10N×122.°20E, h29km, Mw4.7 Best double couple: M0 1.23000×10^16 NP1:φs 71.00000°, δ 83.00000°, λ 72.00000°. NP2:φs 320.00000°, δ 20.00000°, λ 158.00000°.*
*BKK **03** 05:20:49.6±1.1,24.°N±9.°×12.°3E±1.°3, h10km, M4.6/11, mB5.0/3, mb4.4/11, MLv4.8/1, Mw(mB)4.3/3*
*BJI **03** 05:20:49.0,24.°06N×122.°18E, h10km, mB4.6/24, mb4.4/34, ML4.3/7, Ms4.4/47, Ms7 4.4/42*
*MOS **03** 05:20:50.8±0.8,24.°13N×122.°34E, h33km, mb4.8/32, Error ellipse: s-maj=13.9km s-min=6.4km az=124.1*
*NEIC **03** 05:20:50.7±1.6,24.°07N×122.°32E, h21km±11km, mb4.7/19, ML4.8(TAP), Error ellipse: s-maj=8.0km s-min=6.0km az=74.0*
NEIC Recorded [1 TAP] in Hua-lien, I-lan, Nan-t'ou and T'ai-tung.
*TAP **03** 05:20:51.4,24.°03N×122.°28E, h21km, ML4.8, C*
*IDC **03** 05:20:51.3±4.3,24.°15N×122.°34E, h24km±27km, mb4.3/18, mb1 4.4/19, mb1mx4.3/26, mbtmp4.2/19, ML3.8/1, MS4.1/20, Ms1 4.1/20, ms1mx3.8/49, Error ellipse: s-maj=22.4km s-min=14.1km az=68.0*
*JMA **03** 05:20:51.8±0.2,24.°13N×122.°23E, h25km, M4.8*
*ISCJB **03** 05:20:52.4±0.2,24.°01N±0.°01×122.°29E±0.°02, h47km±2km, mb4.5/75, MS4.1/24, Error ellipse: s-maj=2.7km s-min=2.1km az=140.2*
*DJA **03** 05:20:55.8±1.5,24.°N±7.°×12.°2E±.°, h35km±12km, M4.6/7, mB4.9/1, mb4.7/7, MLv4.5/1, Mw(mB)4.2/1*

ISC 03 05:20:50.4±0.4, 23.°98N±0.°02×122.°36E±0.°02, h17km±2km, n267, σ1s71/366, mb4.6/75, MS4.2/26, 14C-17D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
EHP	**Heping Village**	**0.66**	**301**	*e*P		**Pg**	**05 21 03.1**	**-0.3**
	baz=300							
EHP				*e*S		**Sn**	**05 21 13.9**	**-1.0**
	baz=300							
HWA	**Hwalien**	**0.69**	**270**	*e*P		**Pb**	**05 21 03.8**	**-0.1**
	baz=251							
HWA				*e*S		**Sb**	**05 21 13.1**	**-0.1**
	baz=251							
TWD	**Chiawan**	**0.71**	**279**	↓*iP*		**Pb**	**05 21 03.6**	**-0.6**
	baz=275							
TWD				*i* S		**Sb**	**05 21 12.8**	**-0.9**
	baz=275							
ENA	**Nanau**	**0.72**	**309**	↑P		**Pb**	**05 21 03.6**	**-1.0**
	baz=319							
NACB	**Ninganchiao**	**0.73**	**286**	*e*Pg		**Pb**	**05 21 03.7**	**-0.9**
NACB				*e*Sg		**Sb**	**05 21 09.7**	**-4.5**
YOJ	**Yonaguni jima**	**0.77**	**51**	↓*iP*		**Pn**	**05 21 06.9**	**+0.5**
	baz=56							
YOJ				*e*S		**Sn**	**05 21 16.7**	**-0.8**
	baz=56							
YOJ	**Yonaguni jima**	**0.77**	**51**	P		**Pn**	**05 21 06.4**	**0.0**
YOJ				S		**Sn**	**05 21 16.7**	**-0.8**
TWC	**Suao**	**0.78**	**324**	↑*iP*		**Pb**	**05 21 04.5**	**-1.1**
	baz=334							
TWC				*e*S		**Sb**	**05 21 14.1**	**-1.8**
	baz=334							
ESF	**Shoufeng Towns**	**0.79**	**262**	*e*P		**Pn**	**05 21 06.2**	**-0.5**
	baz=246							
ESF				*e*S		**Sb**	**05 21 15.0**	**-1.0**
	baz=246							
TEGC	**Jichi Village**	**0.80**	**251**	*e*P		**Pb**	**05 21 05.0**	**-0.8**
	baz=245							
TEGC				*e*S		**Sb**	**05 21 16.0**	**-0.3**
	baz=245							
ESL	**Shilin**	**0.86**	**259**	*e*P		**Pb**	**05 21 05.8**	**-1.1**
	baz=243							
ESL				*e*S		**Sb**	**05 21 16.1**	**-2.1**
	baz=243							
ILA	**Ilan**	**0.96**	**325**	*e*P		**Pb**	**05 21 08.3**	**-0.3**
	baz=326							
ILA				*e*S		**Sb**	**05 21 21.1**	**0.0**
	baz=326							
TWE	**Neicheng**	**0.97**	**320**	*e*P		**Pb**	**05 21 08.1**	**-0.7**
	baz=328							
TWE				*e*S		**Sb**	**05 21 21.3**	**-0.1**
	baz=328							
NNS	**Nan Shan**	**1.01**	**297**	↓*iP*		**Pb**	**05 21 08.8**	**-0.7**
	baz=296							
NNS				*e*S		**Sb**	**05 21 22.0**	**-0.6**
	baz=296							
WHF	**Hehuan Shan**	**1.01**	**280**	↓P		**Pb**	**05 21 08.7**	**-1.1**
	baz=277							
WHF				S		**Sb**	**05 21 21.2**	**-1.8**
	baz=277							
EHY	**Hungye**	**1.06**	**244**	↑*e*P		**Pb**	**05 21 09.1**	**-1.2**
	baz=240							
EHY				*e*S		**Sb**	**05 21 22.1**	**-1.7**
	baz=240							
TWT	**Tachien**	**1.12**	**285**	↓*e*P		**Pb**	**05 21 10.6**	**-0.8**
	baz=271							
TWT				*e*S		**Sb**	**05 21 24.0**	**-1.7**
	baz=271							
YHNB	**Yeheng**	**1.13**	**308**	*e*Pn		**Pn**	**05 21 10.4**	**-1.2**
YULB	**Yu-li**	**1.14**	**239**	*e*Pg		**Pn**	**05 21 09.9**	**-1.6**
YULB				*e*Sg		**Sb**	**05 21 23.6**	**-2.4**
NSK	**Sanguang**	**1.15**	**307**	↓P		**Pn**	**05 21 11.0**	**-0.8**
	baz=307							
NSK				*e*S		**Sb**	**05 21 25.5**	**-1.0**
	baz=307							
TWF1	**Yuli**	**1.16**	**238**	↑*iP*		**Pn**	**05 21 11.0**	**-0.8**
	baz=221							
TWF1				*e*S		**Sb**	**05 21 25.8**	**-0.9**
	baz=221							
NWF	**Wu-fen Shan**	**1.21**	**334**	↓P		**Pn**	**05 21 12.3**	**-0.3**
	baz=335							
NWF				*e*S		**Sb**	**05 21 27.5**	**-0.8**
	baz=335							
TWA	**Mucha**	**1.22**	**325**	*e*P		**Pb**	**05 21 13.0**	**-0.1**
	baz=325							
TWA				*e*S		**Sn**	**05 21 28.6**	**-0.3**
	baz=325							
CHKT	**Chengkung**	**1.26**	**226**	P		Pn	**05 21 11.8**	**-1.5**
	baz=210							
CHKT				*e*S		**Sb**	**05 21 26.5**	**-3.2**
	baz=210							
TATO	**Taipei**	**1.27**	**322**	*e*Pn		**Pn**	**05 21 13.1**	**-0.3**
IRIF	**Iriomote-Funau**	**1.30**	**74**	P		**Pg**	**05 21 15.6**	**+0.1**
IRIF				S		**Sg**	**05 21 33.4**	**+0.9**
SSLB	**Suanglung**	**1.30**	**262**	*e*Pn		**Pn**	**05 21 13.0**	**-0.8**
TAP1	**Taipei**	**1.30**	**324**	*e*P		**Pn**	**05 21 13.8**	**0.0**
	baz=324							
TAP1				*e*S		**Sb**	**05 21 31.0**	**+0.2**
	baz=324							
TAP	**Taipei**	**1.31**	**324**	*e*P		**Pb**	**05 21 14.2**	**-0.4**
	baz=324							
TAP				*e*S		**Sb**	**05 21 31.4**	**+0.2**
	baz=324							
HATJ	**Hateruma jima**	**1.32**	**86**	P		**Pg**	**05 21 16.4**	**+0.4**
HATJ				S		**Sg**	**05 21 35.5**	**+2.2**
SMLT	**Sun Moon Lake**	**1.34**	**266**	↓*iP*		**Pn**	**05 21 14.0**	**-0.5**
	baz=252							
SMLT				*e*S		**Sn**	**05 21 29.6**	**-2.3**
	baz=252							
TYC	**Yuchr**	**1.38**	**267**	↓*iP*		**Pn**	**05 21 14.4**	**-0.4**
	baz=265							
TYC				*e*S		**Sn**	**05 21 30.1**	**-2.5**
	baz=265							
YUS	**Yu-Shan**	**1.38**	**250**	*e*P		**Pn**	**05 21 14.8**	**-0.5**

baz=247
YUS eS Sn 05 21 30.9 -2.5
baz=247
NSTT Nanjuang 1.40 298 ⇓*i*P **Pn 05 21 15.5 +0.3**
baz=284
NSTT S Sn 05 21 32.7 -0.6
baz=284
TWS1 Kuangyinshan 1.41 323 *e*P **Pn 05 21 15.6 +0.3**
baz=335
TWS1 eS Sb 05 21 34.0 +0.1
baz=335
NCU National Centr 1.46 313 *e*P **Pn 05 21 15.4 -0.5**
baz=313
ELDTW Lidau 1.46 238 *e*P **Pn 05 21 15.1 -1.0**
baz=235
ELDTW eS Sn 05 21 32.0 -2.8
baz=235
TWY Chenhua 1.47 332 *e*P **Pn 05 21 16.3 +0.2**
baz=349
TWQ1 Liyutan 1.50 285 ⇓P **Pb 05 21 17.2 -0.5**
baz=283
TWQ1 eS Sn 05 21 34.8 -0.8
baz=283
ALS Alishan 1.50 252 ⇓P **Pn 05 21 17.1 +0.3**
baz=250
ALS eS Sn 05 21 34.0 -2.0
baz=250
HSN Hsinchu 1.51 303 *e*P **Pn 05 21 17.0 +0.4**
baz=303
HSN eS Sb 05 21 36.6 -0.2
baz=303
NSY Sanyi 1.52 287 *e*P **Pb 05 21 17.8 -0.4**
baz=285
NSY eS Sb 05 21 37.2 0.0
baz=285
JKRS Kuro-shima 1.53 80 P **Pg 05 21 19.9 0.0**
JKRS S **Sg 05 21 40.7 +0.9**
WNT Mingjian 1.54 267 *e*P **Pb 05 21 17.7 -0.7**
baz=265
WNT eS Sn 05 21 36.5 -0.1
baz=265
TCU Taichung 1.55 277 ⇓P **Pb 05 21 18.3 -0.3**
baz=275
TCU S Sb 05 21 37.4 -0.5
baz=275
CHN5 Tsauling 1.59 257 *e*P **Pn 05 21 18.3 +0.5**
baz=242
CHN5 eS Sn 05 21 38.0 +0.1
baz=242
TTN Taitung 1.65 223 *e*P **Pn 05 21 18.1 -0.5**
baz=221
TTN eS Sn 05 21 38.3 -1.0
baz=221
TWG Pinlang 1.65 226 *e*P **Pn 05 21 17.4 -1.3**
baz=237
TWG eS Sn 05 21 36.7 -2.7
baz=237
TWG Pinlang 1.65 226 *e*Pn **Pn 05 21 17.2 -1.4**
TWG *e*Sn **Sn 05 21 37.8 -1.6**
PCYT Pengchaiyu 1.67 351 *e*P **Pn 05 21 18.7 -0.1**
baz=352
WGK Gukeng 1.67 260 *e*P **Pb 05 21 20.4 -0.4**
baz=259
JIJ Ishigaki jima 1.67 76 P **Pb 05 21 21.3 +0.6**
JIJ S **Sg 05 21 43.4 -1.0**
TPUB Ta-pu 1.72 247 *e*Pn **Pn 05 21 20.4 +0.7**
TPUB *e*Sn **Sn 05 21 41.7 +0.5**
WTP Ta-pu 1.76 246 *e*P **Pb 05 21 21.2 -1.1**
baz=244
WTP eS Sn 05 21 42.8 +0.7
baz=244
CHY Chiayi 1.84 255 *e*P **Pb 05 21 22.7 -0.8**
baz=254
CHY eS Sn 05 21 44.3 +0.3
baz=254
CHN1 Nanshi 1.86 245 *e*P **Pb 05 21 22.6 -1.2**
baz=244
CHN1 eS Sb 05 21 46.2 -0.6
baz=244
TWK Hsinying 1.86 248 *e*P **Pn 05 21 22.5 +1.0**
baz=246
TWK eS Sn 05 21 45.5 +0.9
baz=246
SGST Jiashian 1.86 242 *e*P **Pn 05 21 22.0 +0.6**
baz=228
SGST eS Sb 05 21 46.1 -0.8
baz=228
ECL Taimali 1.89 224⇑ *e*P **Pn 05 21 20.5 -1.3**
baz=233
WTCT Ta-ch'eng 1.91 267 *e*P **Pn 05 21 23.1 +1.0**
baz=265
WTCT eS Sn 05 21 46.8 +1.1
baz=265
WSF Szhu 1.99 261 *e*P **Pn 05 21 24.3 +1.1**
baz=259
WSF eS Sn 05 21 48.9 +1.2
baz=259
CHN3 Shinhua 2.04 244 *e*P **Pb 05 21 26.1 -0.9**
baz=243
CHN8 Yiju 2.07 253 *e*P **Pb 05 21 25.8 -1.6**
baz=251
CHN8 eS Sn 05 21 50.5 +0.9
baz=251
TAW Tawu 2.10 220 *e*P **Pn 05 21 24.4 -0.3**
baz=218
EAST Anshuo 2.11 222 *e*P **Pn 05 21 24.2 -0.8**
baz=219
TWM1 Shoushan 2.12 238 *e*P **Pb 05 21 27.9 -0.5**
baz=235
SGLT Jiouru 2.12 234 *e*P **Pb 05 21 26.9 -1.5**
baz=233
SCLT Jiali 2.14 249 *e*P **Pn 05 21 26.8 +1.4**
baz=247
SCLT eS Sn 05 21 53.0 +1.5
baz=247
TAI1 Yung-k'ang 2.17 245 *e*P **Pb 05 21 29.0 -0.1**
baz=243
JTJ Tarama 2.24 72 P **Pb 05 21 29.4 -0.9**
JTJ S **Sb 05 21 57.1 -0.6**
SCZT Fangliau 2.26 225 *e*P **Pn 05 21 27.6 +0.6**
baz=217
SCZT eS Sn 05 21 55.0 +0.5
baz=217
KAU Kaohsiung 2.35 234 *e*P **Pn 05 21 29.0 +0.8**
baz=232
TWP Hsiaoliuchiu 2.45 229 *e*P **Pb 05 21 33.4 -0.6**
baz=228
HEN Hengchun 2.47 218 *e*P **Pn 05 21 31.0 +1.1**
baz=217
HEN eS Sn 05 22 00.6 +1.0
baz=217
TSEB Hengchuen, Pin 2.47 213 *e*P **Pn 05 21 30.2 +0.4**
baz=214
TSEB eS Sn 05 21 59.3 -0.3
baz=214
TWK1 Hengchun 2.48 216 *e*P **Pn 05 21 30.0 0.0**
baz=215
TWK1 eS Sn 05 21 59.4 -0.5
baz=215
PNG Penghu 2.60 262 *e*P **Pn 05 21 31.5 -0.1**
baz=260
PNG eS Sn 05 22 02.1 -0.7
baz=260
JMJ Miyako jima 2 2.80 72 *e*P **Pn 05 21 36.9 +2.5**
baz=75
JMJ Miyako jima 2 2.80 72 *e*S **Sb 05 22 11.1 -2.9**
JOGS Gusukube 2.88 74 P **Pb 05 21 38.7 -2.7**
JOGS *e*S **Sb 05 22 13.6 -2.8**
QZH Quanzhou 3.57 286⇑ *i*Pn **Pn 05 21 43.8 -1.1**
QZH smax smax
comp=N,1μm,1.0s
QZH smax smax
comp=E,1μm,1.0s
QZH LR LR
comp=E,5μm,7.9s
QZH LR LR
comp=Z,7μm,11.2s
KNM Kinmen 3.61 278 *e*P **Pn 05 21 47.0 +1.4**
baz=276
SSE Sheshan 7.17 352 P **Pn 05 22 34.0 -0.4**
SSE S **Sn 05 23 58.1 +2.7**
SSE pmax pmax
comp=Z,23nm,0.8s
SSE pmax pmax
comp=Z,40nm,3.2s
SSE LR LR
comp=N,2μm,14.4s
SSE LR LR
comp=E,400nm,14.6s
SSE LR LR
comp=Z,2μm,11.9s
NJ2 Nanjing 8.62 340 *e*P **Pn 05 22 54.2 -0.1**
NJ2 pP 05 22 58.5
NJ2 sP 05 23 01.9
NJ2 S **Sn 05 24 35.0 +3.8**
NJ2 sS 05 24 40.1
NJ2 pmax pmax
comp=Z,20nm,0.7s
NJ2 smax smax
comp=N,240nm,1.5s
NJ2 smax smax
comp=E,170nm,1.2s
NJ2 LR LR
comp=N,2μm,12.8s
NJ2 LR LR
comp=E,1μm,10.2s
NJ2 LR LR
comp=Z,3μm,12.9s
WHN Wuhan 9.67 314 P Pn 05 23 05.5 -3.3
WHN S **Sn 05 24 55.8 -1.2**
WHN LR LR
comp=N,4μm,12.3s
WHN LR LR
comp=E,2μm,5.0s
WHN LR LR
comp=Z,4μm,12.8s
JNU Nakatsue 11.79 37 LR LR 05 29 14.6
comp=Z,566nm,18.2s,baz=224,slow=43
QIZ Qiongzhong 12.65 249 P **Pn 05 23 50.4 +0.8**
QIZ S **Sn 05 26 13.0 +2.9**
QIZ pmax pmax
comp=Z,24nm,1.5s
QIZ LR LR
comp=N,640nm,17.9s
QIZ LR LR
comp=E,250nm,19.2s
KSAR Wonju Array Be 14.23 18 Pn **Pn 05 24 14.2 +3.0**
KSRS Korea Array 14.26 18 Pn **Pn 05 24 14.2 +2.8**
comp=E,0.6nm,0.3s,baz=194,slow=11,SNR=12
KSRS LR LR 05 30 12.7
comp=E,434nm,19.7s,baz=198,slow=40
GYA Guiyang 14.42 283 *e*P **Pn 05 24 15.2 +1.3**
GYA S **Sn 05 26 49.3 -4.2**
GYA SS **S 05 27 12.0 -1.3**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,80nm,4.3s
GYA LR LR
comp=N,930nm,10.6s
GYA LR LR
comp=E,1μm,14.9s
GYA LR LR
comp=Z,1μm,12.7s
DL2 Dalian 14.90 358 P **P 05 24 24.2 -1.6**
DL2 pmax pmax
comp=Z,18nm,0.9s
DL2 pmax pmax
comp=Z,140nm,4.7s
DL2 LR LR
comp=N,690nm,12.9s
DL2 LR LR
comp=Z,860nm,13.3s
XAN Xi'an 15.44 314 P **Pn 05 24 26.7 -0.7**
XAN S Sn 05 27 10.8 -7.3
XAN LR LR
comp=N,380nm,12.4s
XAN LR LR
comp=E,290nm,14.0s
XAN LR LR
comp=Z,320nm,12.2s
BJI Beijing 16.84 343 P **Pn 05 24 44.8 -0.6**
BJI S **Sn 05 27 53.5 +1.4**
BJI pmax pmax
comp=Z,4.0nm,0.6s
BJI pmax pmax
comp=Z,220nm,6.1s
BJI LR LR
comp=N,1μm,13.3s
BJI LR LR
comp=E,690nm,21.5s
BJI LR LR
comp=Z,470nm,17.5s
KDM Kudat 17.77 198 P **P 05 25 00.5 +2.7**
SNY Shenyang 17.83 3 ⇑P **Pn 05 24 57.8 +0.2**
SNY S **Sn 05 28 10.1 -5.9**
SNY pmax pmax
comp=Z,190nm,5.1s
SNY LR LR
comp=N,830nm,12.8s
SNY LR LR
comp=E,350nm,10.5s
SNY LR LR
comp=Z,970nm,12.7s
CD2 Chengdu 17.89 297 P **Pn 05 24 58.2 -0.3**
CD2 pP **pP 05 25 01.8 -2.2**
CD2 sP **sP 05 25 05.2 -1.0**
CD2 PP **PnPn 05 25 13.0 +3.6**
CD2 S **Sn 05 28 15.1 -2.5**
CD2 sS **S 05 28 20.5 -3.5**
CD2 SS **SnSn 05 28 37.7 +6.5**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,150nm,5.8s
CD2 LR LR
comp=N,1μm,7.8s
CD2 LR LR
comp=E,1μm,14.7s
CD2 LR LR
comp=Z,2μm,15.6s
KMI Kunming 17.89 278 P **P 05 25 01.1 +1.8**
KMI pP **pP 05 25 04.2 0.0**
KMI sP **sP 05 25 05.3 -1.2**
KMI PP **PnPn 05 25 14.8 +5.2**
KMI S **Sn 05 28 18.3 +0.3**
KMI sS **S 05 28 22.5 -1.9**
KMI pmax pmax
comp=Z,8.0nm,1.6s
KMI pmax pmax
comp=Z,90nm,3.1s
KMI LR LR
comp=N,190nm,9.3s
KMI LR LR
comp=E,1μm,12.6s
KMI LR LR
comp=Z,1μm,14.3s
MJAR Matsushiro Arr 18.52 44 P **Pn 05 25 06.4 +0.2**
MJAR Matsushiro Arr 18.52 44 P **Pn 05 25 06.4 +0.2**
comp=Z,0.3nm,0.3s,baz=238,slow=8.8,SNR=2.8
KKM Kota Kinabalu 18.78 199 P **Pn 05 25 14.2 +4.6**
MYLDM Lahad Datu 19.05 192 P **PnPn 05 25 26.0 +0.5**
HHC Hu-ho-hao-te 19.11 334 *e*P **Pn 05 25 13.3 0.0**
HHC PP **PnPn 05 25 29.8 +3.7**
HHC S **Sn 05 28 42.8 -4.2**
HHC sS **S 05 28 49.0 +0.4**
HHC SS **SnSn 05 29 08.6 +7.3**
HHC PcP **PcP 05 29 37.8 +1.3**
HHC ScP **ScP 05 33 11.6 0.0**
HHC PcS **PcS 05 33 12.6 -1.0**
HHC pmax pmax
comp=Z,39nm,0.7s
HHC LR LR
comp=N,2μm,13.3s
HHC LR LR
comp=E,1μm,14.0s
HHC LR LR
comp=Z,3μm,14.3s
BTO Baotou 19.55 331 *e*P **P 05 25 14.8 -2.6**
CN2 Changchun 19.94 7 *e*P **P 05 25 20.5 -0.9**
CN2 eS **Sn 05 29 09.0 +2.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,1μm,14.0s
CN2 LR LR
comp=E,400nm,14.0s
CN2 LR LR
comp=Z,1μm,14.0s
LZH Lanzhou 20.03 311 *e*P Pn 05 25 24.3 -0.2
LZH pP pP 05 25 28.0 +0.4
LZH sP sP 05 25 29.8 0.0
LZH *e*S **S 05 29 04.7 -2.6**
LZH sS Sn 05 29 09.5 +0.1
LZH SS **SnSn 05 29 32.4 +8.5**
LZH pmax pmax
comp=Z,27nm,1.1s
LZH pmax pmax
comp=Z,170nm,5.8s
LZH LR LR
comp=N,750nm,11.1s
LZH LR LR
comp=E,500nm,11.9s
LZH LR LR
comp=Z,1μm,14.7s
TSM Tawau 20.04 193 P Pn 05 25 26.5 +2.0
LOEI Loei 20.74 256 P Pn 05 25 37.0 +4.2
comp=Z,16nm,1.4s,comp=Z,562nm
PBKT Sadao Pong 21.36 254 P P 05 25 44.5 +7.5
comp=Z,1nm,1.3s
PBKT Sadao Pong 21.36 254 P P 05 25 45.0 +8.0
comp=Z,11nm,0.9s
MDJ Mudanjiang 21.42 14 P **P 05 25 37.1 -0.3**
MDJ S **S 05 29 35.6 +1.1**
MDJ PcP **PcP 05 29 40.5 -0.1**
MDJ ScP **ScP 05 33 18.8 +1.9**
MDJ ScS **ScS 05 37 03.1 +2.3**
MDJ pmax pmax
comp=Z,5.0nm,0.7s
MDJ pmax pmax
comp=Z,64nm,6.2s
MDJ LR LR
comp=N,420nm,16.8s
MDJ LR LR
comp=E,550nm,15.6s
MDJ LR LR
comp=Z,770nm,13.2s
USRK Ussuriysk Arra 21.66 19 P **P 05 25 38.7 -1.3**
comp=Z,2.9nm,0.8s,baz=194,slow=9.1,SNR=7.7
USRK LR LR 05 34 45.2
comp=Z,344nm,18.6s,baz=192,slow=39
CMAI Chiengmai2 21.99 264 P **P 05 25 47.9 +4.0**
comp=Z,11nm,1.1s,comp=Z,814nm
CMMT Chiang Mai 22.39 261 P **P 05 25 50.2 +2.1**
CMMT Chiang Mai 22.39 261 P **P 05 25 50.4 +2.3**
comp=Z,16nm,1.0s
CHTO Chiang Mai 22.39 261 *e*P **P 05 25 49.4 +1.3**
CHTO pmax pmax
comp=Z,8.0nm,1.0s
CHTO Chiang Mai 22.39 261 *e*P **P 05 25 49.4 +1.3**
comp=Z,7.7nm,1.0s
CHTO Chiang Mai 22.39 261 P **P 05 25 50.2 +2.1**
comp=Z,13nm,1.2s
CHTO Chiang Mai 22.39 261 P **P 05 25 50.5 +2.4**
comp=Z,13nm,1.2s
CMAR Chiang Mai Arr 22.50 260 P **P 05 25 50.2 +1.0**
CMAR Chiang Mai Arr 22.50 260 P **P 05 25 50.2 +1.0**
comp=Z,3.3nm,0.9s,baz=58,slow=8.3,SNR=19
CMAR LR LR 05 33 55.0
comp=Z,74nm,19.4s,baz=65,slow=35
GTOI Gorontalo 23.21 178 P **P 05 26 01.1 +4.5**
comp=Z,51nm,1.1s
GTA Gaotai 24.50 314 *e*P **P 05 26 08.9 0.0**
GTA pP **pP 05 26 12.4 -1.8**
GTA sP **sP 05 26 15.3 -1.1**
GTA PP **PnPn 05 26 46.5 +6.6**
GTA S **S 05 30 30.6 +2.0**
GTA sS **sS 05 30 37.9 +0.6**
GTA pmax pmax
comp=Z,10.0nm,0.9s
GTA pmax pmax
comp=Z,130nm,5.2s
GTA LR LR
comp=N,230nm,15.7s
GTA LR LR
comp=E,580nm,13.8s
GTA LR LR
comp=Z,640nm,15.2s
LBMI Labuha 24.97 168 P P 05 26 21.9 +8.7
comp=Z,78nm,1.0s
ASAJ Asahikawa 26.04 35 LR LR 05 37 06.6
comp=Z,206nm,18.1s,baz=199,slow=38
ULN Ulaanbaatar 26.77 337 *e*P **P 05 26 28.1 -1.4**
comp=Z,22nm,0.8s
ULN Ulaanbaatar 26.77 337 P **P 05 26 27.1 -2.3**
comp=Z,32nm,1.0s,comp=Z,273nm
SONM Songino Array 26.98 336 P **P 05 26 30.0 -1.4**
SONM Songino Array 26.98 336 P **P 05 26 30.0 -1.4**
comp=Z,35nm,0.9s,baz=151,slow=9.1,SNR=76
SONM LR LR 05 38 20.5
comp=Z,842nm,18.2s,baz=360,slow=39
KAPI Kappang 28.93 185 LR LR 05 38 22.7
comp=Z,143nm,18.9s,baz=46,slow=36
ZAK Zakamensk 30.25 335⇑ *e*P **P 05 26 57.9 -2.4**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
TLY Talaya 31.17 337 *e*P **P 05 27 07.3 -1.1**
TLY *e*S **S 05 32 17.7 +4.2**
TLY *e*SS SS 05 34 12.6 -14
TLY pmax pmax
comp=Z,15nm,0.8s
TLY MLR MLR
comp=Z,668nm,15.0s
MOY Mondy 32.15 335 *e*P **P 05 27 15.7 -1.4**
WMQ Urumqi 34.58 313 P **P 05 27 40.0 +1.7**
WMQ pP **pP 05 27 44.4 +0.7**
WMQ sP **sP 05 27 47.0 +1.2**
WMQ PP **PP 05 28 56.0 -0.7**
WMQ pmax pmax
comp=Z,6.0nm,0.4s
MK31 Makanchi Array 39.23 316 *e*P **P 05 28 16.5 -1.4**
MK31 pmax pmax
comp=Z,2.0nm,0.4s
MK31 Makanchi Array 39.23 316 *e*P **P 05 28 16.2 -1.6**
MKAR Makanchi Array 39.23 316 *i*P **P 05 28 16.6 -1.2**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 39.23 316 *e*P **P 05 28 16.7 -1.2**
MKAR PcP **PcP 05 30 26.4 -0.3**
MKAR ScP **ScP 05 34 13.2 -1.4**
MKAR Makanchi Array 39.23 316 P **P 05 28 16.6 -1.2**
comp=Z,2.7nm,0.5s,baz=102,slow=9.5,SNR=41
MKAR PcP **PcP 05 30 26.4 -0.3**
comp=Z,0.7nm,0.8s,baz=88,slow=6.5,SNR=2.8
MKAR ScP **ScP 05 34 13.2 -1.4**
comp=Z,0.5nm,0.8s,baz=100,slow=3.5,SNR=4.1
MKAR LR LR 05 45 58.3
comp=Z,303nm,19.0s,baz=257,slow=38
ZAA0 Zalesovo Array 41.00 327 *e*P **P 05 28 29.9 -2.5**
ZALV Zalesovo Beam 41.00 327 P **P 05 28 30.1 -2.3**
ZALV Zalesovo Beam 41.00 327 P **P 05 28 30.1 -2.3**
ZALV Zalesovo Beam 41.00 327 P **P 05 28 30.1 -2.3**
comp=Z,10nm,0.7s,baz=111,slow=8.1,SNR=27
ZALV LR LR 05 46 49.0
comp=Z,486nm,18.1s,baz=250,slow=38
KSH Kashi 41.91 303 P **P 05 28 43.1 +2.9**
KSH pP **pP 05 28 45.9 +0.3**
KSH sP **sP 05 28 49.0 +1.2**
KSH PP **PnPn 05 30 22.7 +0.4**
KSH S **S 05 35 01.3 +3.4**
KSH sS **sS 05 35 07.5 +0.7**
KSH SS **SS 05 38 01.6 -2.9**
KSH ScS **ScS 05 38 44.3 +1.7**
KSH pmax pmax
comp=Z,65nm,6.6s
KSH LR LR
comp=N,98nm,10.2s
KSH LR LR
comp=E,110nm,11.1s
KSH LR LR
comp=Z,420nm,22.7s
NVS Novosibirsk 42.26 327 *e*P **P 05 28 40.1 -2.5**
NVS pmax pmax
comp=Z,9.0nm,1.0s
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=E,5.0nm,0.8s
TKM2 Tokmak 2 42.74 308 P **P 05 28 46.8 -0.2**
TKM2 pmax pmax
comp=Z,10.0nm,0.8s
TKM2 Tokmak 2 42.74 308 *e*P **P 05 28 47.0 0.0**
comp=Z,10nm,0.8s
COEN Coen 42.84 150 *e*P **P 05 28 48.8 +1.1**
comp=Z,140nm,0.9s
AAK Ala-Archa 43.48 307*c e*P **P 05 28 53.0 0.0**
AAK pmax pmax
comp=Z,7.0nm,0.8s
AAK Ala-Archa 43.48 307 *e*P **P 05 28 53.3 +0.3**

comp=Z,2.2nm,0.6s
AAK Ala-Archa 43.48 307 LR LR 05 48 08.2
comp=Z,87nm,21.1s,baz=327,slow=38
EKS2 Erkin-Say 44.01 307 *e*P **P** **05 28 56.7 -0.5**
EKS2 pmax pmax
comp=Z,3.0nm,0.8s
EKS2 Erkin-Say 44.01 307 *e*P **P** **05 28 56.7 -0.5**
comp=Z,3.1nm,0.8s
WRAB Tennant Creek 45.18 164 *e*P **P** **05 29 06.8 +0.3**
WRAB Tennant Creek 45.18 164 *e*P **P** **05 29 06.8 +0.3**
WRA Warramunga Arr 45.19 164 P **P** **05 29 06.7 +0.1**
WRA Warramunga Arr 45.19 164 P **P** **05 29 06.7 +0.1**
comp=Z,6.5nm,0.8s,baz=347,slow=8.5,SNR=12
KK31 Karatay Array 46.45 307 *i* P **P** **05 29 16.1 -0.3**
KK31 pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 46.45 307 *e*P **P** **05 29 16.4 0.0**
KKAR pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 46.45 307 *e*P **P** **05 29 16.4 0.0**
comp=Z,1.6nm,0.4s
KBL Kabul 47.22 296 *e*P **P** **05 29 22.9 +0.1**
KBL pmax pmax
comp=Z,11nm,1.0s
KBL Kabul 47.22 296 *e*P **P** **05 29 22.9 +0.1**
comp=Z,11nm,1.0s
TIXI Tiksi 47.84 3⇓ *e*P P 05 29 22.9 -3.9
TIXI pmax pmax
comp=Z,7.0nm,1.2s
BRVK Borovoye 48.59 321 *d i*P **P** **05 29 31.8 -1.0**
BRVK pmax pmax
comp=Z,18nm,2.5s
BRVK Borovoye 48.59 321 *e*P **P** **05 29 31.6 -1.2**
comp=Z,4.3nm,0.6s
ASAR Alice Springs 48.67 166 P **P** **05 29 35.0 +1.3**
ASAR Alice Springs 48.67 166 P **P** **05 29 35.0 +1.3**
comp=Z,3.9nm,0.9s,baz=348,slow=6.7,SNR=14
AB31 Akbulak array 54.35 314 *i* P **P** **05 30 15.0 -1.1**
AB31 pmax pmax
comp=Z,9.0nm,0.7s
ABKAR Akbulak array 54.35 314 *e*P **P** **05 30 15.2 -0.9**
comp=Z,7.0nm,0.6s
AKTO Aktyubinsk 55.67 316 LR LR 05 55 52.2
comp=Z,137nm,19.5s,baz=257,slow=38
ARU Arti 55.92 323 *d i*P **P** **05 30 25.2 -2.0**
ARU 05 32 28.1
ARU S **S** **05 38 13.2 -0.9**
ARU SS SS 05 41 50.7 -9.0
ARU pmax pmax
comp=Z,12nm,1.2s
STKA Stephens Creek 58.51 161 P **P** **05 30 47.0 +1.3**
STKA Stephens Creek 58.51 161 P **P** **05 30 47.0 +1.3**
comp=Z,2.2nm,0.7s,baz=323,slow=7.1,SNR=5.3
ZEI Tsey 65.91 308 *e*P **P** **05 31 34.0 -1.7**
ZEI pmax pmax
comp=Z,14nm,1.2s
KBZ Khabaz 66.45 309 P **P** **05 31 38.4 -0.4**
KBZ Khabaz 66.45 309 P **P** **05 31 38.4 -0.4**
KBZ Khabaz 66.45 309 P **P** **05 31 38.4 -0.4**
comp=Z,4.1nm,0.9s,baz=79,slow=6.5,SNR=9.5
KBZ LR LR 06 04 16.9
comp=Z,123nm,18.7s,baz=69,slow=39
KIV Kislovodsk 66.55 309 *e i*P **P** **05 31 39.2 -0.5**
KIV *i* 05 32 08.5
KIV pmax pmax
comp=Z,30nm,1.3s
KIV MLR MLR
comp=Z,100nm,17.0s
OBN Obninsk 68.33 322⇑ *e*P **P** **05 31 49.0 -1.5**
OBN pmax pmax
comp=Z,12nm,1.0s
OBN MLR MLR
comp=Z,100nm,20.0s
JOF Joensuu 69.41 331 *e*p **P** **05 31 55.5 -1.6**
comp=Z,1.1nm,0.3s
JOF Joensuu 69.41 331 *e*P **P** **05 31 55.5 -1.6**
JOF pmax pmax
comp=Z,1.0nm,0.3s
RAYN Ar Rayn 69.44 287 *e*P **P** **05 31 57.9 -0.2**
KEV Kevo 69.57 338 *e*p **P** **05 31 56.9 -1.1**
comp=Z,0.8nm,0.3s
KEV Kevo 69.57 338 *e*P **P** **05 31 56.9 -1.1**
KEV pmax pmax
comp=Z,1.0nm,0.3s
ANN Anapa 70.04 311 *e*P **P** **05 31 59.7 -1.6**
ANN pmax pmax
comp=Z,26nm,1.0s
ARCES ARCESS Array B 70.13 338 P **P** **05 31 60.0 -1.5**
ARCES ARCESS Array B 70.13 338 P **P** **05 31 60.0 -1.5**
comp=Z,3.5nm,0.8s,baz=46,slow=6.9,SNR=6.5
ARCES LR LR 06 07 38.5
comp=Z,95nm,19.2s,baz=63,slow=40
FINES FINESS Array B 72.17 330 P **P** **05 32 13.4 -0.5**
FINES FINESS Array B 72.17 330 P **P** **05 32 13.4 -0.5**
comp=Z,2.9nm,0.8s,baz=67,slow=6.4,SNR=14
FINES LR LR 06 07 12.0
comp=Z,375nm,18.6s,baz=211,slow=39
SIM Simferopol' 72.28 312 *e*P **P** **05 32 14.0 -0.9**
SIM pmax pmax
comp=Z,17nm,0.9s
AKASG Malin Array Be 73.74 319 P **P** **05 32 22.3 -1.1**
AKASG Malin Array Be 73.74 319 P **P** **05 32 22.3 -1.1**
AKASG Malin Array Be 73.74 319 P **P** **05 32 22.3 -1.1**
comp=Z,1.8nm,0.4s,baz=57,slow=6.7,SNR=13
KIEV Kiev 73.75 319 *e*P **P** **05 32 21.6 -1.9**
KIEV pmax pmax
comp=Z,1.0nm,0.5s
KIEV Kiev 73.75 319 *e*P **P** **05 32 21.6 -1.9**
comp=Z,1.4nm,0.5s
BR131 Keskin Array S 74.16 307 *e*P **P** **05 32 25.5 -0.8**
comp=Z,9.6nm,1.0s
BRTR Keskin Array B 74.16 307 P **P** **05 32 25.6 -0.7**
BRTR Keskin Array B 74.16 307 P **P** **05 32 25.6 -0.7**
comp=Z,9.5nm,1.0s,baz=103,slow=5.5,SNR=37
BRTR LR LR 06 10 49.6
comp=Z,38nm,18.0s,baz=175,slow=40
SUW Suwalki 76.11 323 *e*P **P** **05 32 36.4 -0.7**
KWP Kalwaria Pacla 78.04 319 *e*P **P** **05 32 47.2 -0.9**
KWP pmax pmax
comp=Z,9.0nm,0.9s
KWP Kalwaria Pacla 78.04 319 *e*P **P** **05 32 47.2 -0.9**
comp=Z,8.9nm,0.9s
KWP Kalwaria Pacla 78.04 319 *e*P **P** **05 32 46.7 -1.4**
HFS Hagfors 78.27 331 LR LR 06 10 41.3
comp=Z,335nm,20.1s,baz=68,slow=38
KOLS Kolonicke sedl 78.57 319 *e*P **P** **05 32 49.5 -1.5**
KOLS pmax pmax
comp=Z,3.0nm,1.1s
KOLS Kolonicke sedl 78.57 319 *e*P **P** **05 32 49.5 -1.5**
NB2 NORSAR Subarra 78.91 332 P **P** **05 32 50.0 -2.6**
comp=Z,5.0nm,1.1s,baz=53,slow=5.9
NOA NORSAR Array B 78.91 332 P **P** **05 32 50.1 -2.6**
NOA NORSAR Array B 78.91 332 P **P** **05 32 50.1 -2.6**
comp=Z,0.8nm,0.5s,baz=54,slow=5.8,SNR=5.0
NOA LR LR 06 11 32.3
comp=Z,270nm,18.6s,baz=65,slow=39
STHS Stebnicka Huta 79.00 319 *e*P **P** **05 32 52.9 -0.5**
STHS pmax pmax
comp=Z,6.0nm,1.7s
STHS Stebnicka Huta 79.00 319 *e*P **P** **05 32 52.9 -0.5**
JMIC Jan Mayen 79.30 345 LR LR 06 12 12.1
comp=Z,140nm,19.4s,baz=261,slow=39
OJC Ojcow 79.52 320 *e*P **P** **05 32 55.0 -1.2**
OJC Ojcow 79.52 320 *e*P **P** **05 32 55.0 -1.2**
KECS Kecovo 79.84 319 *e*P **P** **05 32 56.5 -1.4**
KECS pmax pmax
comp=Z,3.0nm,1.2s
KECS Kecovo 79.84 319 *e*P **P** **05 32 56.5 -1.4**
VYHS Vyhne 80.83 319 *e*P **P** **05 33 02.8 -0.5**
VYHS pmax pmax
comp=Z,6.0nm,1.0s
VYHS Vyhne 80.83 319 *e*P **P** **05 33 02.8 -0.5**
MORC Moravsky Berou 81.03 321 *e*P **P** **05 33 03.3 -1.1**
MORC pmax pmax
comp=Z,7.0nm,1.2s
MORC Moravsky Berou 81.03 321 *e*P **P** **05 33 03.3 -1.1**
comp=Z,7.1nm,1.2s
DPC Dobruska-Polom 81.47 321 *e*P **P** **05 33 06.3 -0.4**
DPC Dobruska-Polom 81.47 321 *e*P **P** **05 33 06.3 -0.4**
PRU Pruhonice 82.65 322 *e*P **P** **05 33 12.2 -0.6**
PRU Pruhonice 82.65 322 *e*P **P** **05 33 12.2 -0.6**
YKA Yellowknife Ar 82.74 23 P **P** **05 33 11.7 -1.3**
YKA Yellowknife Ar 82.74 23 P **P** **05 33 11.7 -1.3**
comp=Z,2.1nm,0.8s,baz=312,slow=5.1,SNR=14
SUMG Summit 82.82 354 *e*P **P** **05 33 12.9 -0.9**
SUMG pmax pmax
comp=Z,3.0nm,0.7s
SUMG Summit 82.82 354 *e*P **P** **05 33 12.9 -0.9**
comp=Z,3.0nm,0.7s
CONA Conrad Observa 82.86 319⇑ *i*P **P** **05 33 13.2 -0.9**
comp=Z,6.6nm,1.2s
CLL Collm 82.86 323 *e*P **P** **05 33 12.0 -1.9**
CLL Collm 82.86 323 *e*P **P** **05 33 12.0 -1.9**
CLL Lm MLR 06 14 00.0
comp=Z,200nm,18.7s
KHC Kasperske Hory 83.61 321 *e*P **P** **05 33 17.1 -0.8**
KHC Kasperske Hory 83.61 321 *e*P **P** **05 33 17.1 -0.8**
GERES GERESS Array B 83.68 321 P **P** **05 33 17.4 -0.9**
GERES GERESS Array B 83.68 321 P **P** **05 33 17.4 -0.9**
comp=Z,2.3nm,0.8s,baz=57,slow=4.9,SNR=17
GERES LR LR 06 14 40.7
comp=Z,122nm,18.3s,baz=65,slow=39
SOKA Soboth 83.95 319⇓ *i*P **P** **05 33 18.3 -1.5**
comp=Z,4.3nm,1.0s
WTTA Wattenberg 85.67 320⇑ *i*P **P** **05 33 26.6 -2.0**
comp=Z,7.7nm,1.1s
FETA Feichten 86.33 320⇑ *i*P **P** **05 33 29.9 -1.9**
comp=Z,4.9nm,1.1s
CEL Celeste 87.42 311 *e*P **P** **05 33 36.1 -1.0**
comp=Z,12nm,1.0s
CDF Champ du Feu 87.54 323 *e*P **P** **05 33 35.6 -1.9**
LON Longmire 88.89 38 *e*P **P** **05 33 43.4 -0.6**
LON pmax pmax
comp=Z,5.0nm,1.1s
LON Longmire 88.89 38 *e*P **P** **05 33 43.4 -0.6**
comp=Z,5.5nm,1.1s
LPG La Plagne 89.47 321 *e*P **P** **05 33 45.3 -1.7**
comp=Z,11nm,0.9s
LPL La Plagne 89.47 321 *e*P **P** **05 33 45.1 -1.8**
PGF Pioggiola 89.76 317 *e*P **P** **05 33 46.4 -1.8**
MBDF Montbardon 89.90 320 *e*P **P** **05 33 48.1 -0.7**
SBF Sospel 89.99 319 *e*P **P** **05 33 47.7 -1.5**
LOR Lormes 90.08 323 *e*P **P** **05 33 47.1 -2.3**
ORIF Oris-en-Rattie 90.31 321 *e*P **P** **05 33 48.8 -1.9**
comp=Z,6.4nm,0.9s
SMF Signal de Mont 90.46 323 *e*P **P** **05 33 49.3 -1.9**
comp=Z,19nm,1.2s
NEW Newport 90.56 35 *e*P **P** **05 33 51.3 -0.4**
comp=Z,7.6nm,1.0s
AVF Avril sur Loir 90.64 323 *e*P **P** **05 33 49.9 -2.1**
comp=Z,14nm,1.1s
LMR La Mourre 90.84 319 *e*P **P** **05 33 51.1 -1.9**
TCF Toulx Ste Croi 91.57 323 *e*P **P** **05 33 54.6 -1.8**
WALA Waterton Lakes 91.70 33 *e*P **P** **05 33 57.1 0.0**
comp=Z,0.2nm,1.1s
LASF Ste Croix 91.98 321 *e*P **P** **05 33 56.7 -1.6**
BSMT Basso Peak 92.04 34 *e*P **P** **05 33 58.5 -0.3**
CAF Calviac 92.49 322 *e*P **P** **05 33 59.3 -1.4**
comp=Z,20nm,1.2s
RJF Les Rejaudoux 92.56 323 *e*P **P** **05 33 59.7 -1.3**
comp=Z,32nm,1.2s
FFC Flin Flon 92.89 24 *i* P **P** **05 34 01.7 -0.6**
FFC Flin Flon 92.89 24 *e*P **P** **05 34 00.5 -1.7**
comp=Z,3.1nm,0.7s
KEST Kesra 93.21 311 P **P** **05 34 03.2 -1.0**
KEST Kesra 93.21 311 P **P** **05 34 03.2 -1.0**
comp=Z,1.2nm,0.9s,baz=266,slow=6.3,SNR=4.9
CMB Columbia Colle 94.75 45 *e*P **P** **05 34 10.2 -1.1**
CMB pmax pmax
comp=Z,2.0nm,0.9s
CMB Columbia Colle 94.75 45 *e*P **P** **05 34 10.2 -1.1**
comp=Z,1.7nm,0.9s
PPT Papeete 95.26 107 LR LR 06 12 20.0
comp=Z,86nm,20.4s,baz=306,slow=32
NVAR Mina Array Bea 95.85 43 P **P** **05 34 16.8 +0.3**
NVAR Mina Array Bea 95.85 43 P **P** **05 34 16.8 +0.3**
comp=Z,0.6nm,0.6s,baz=289,slow=5.4,SNR=4.6
LPAZ La Paz 167.53 54 *e*PKPdf **PKPdf** **05 40 57.4 +0.2**

TAP 03 05:21:28.8,24.08N×122.26E,h46km±1km, ML4.6, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.59**	**306**	*e*P	Pn	05 21 41.5	+0.6
	baz=311						
ENA				*e*S	Sn	05 21 50.3	+0.6
	baz=311						
TWD	**Chiawan**	**0.60**	**270**	*e*P	Pn	05 21 41.1	0.0
	baz=269						
TWD				*i* S	Sn	05 21 49.8	-0.3
	baz=269						
TWC	**Suao**	**0.65**	**325**	*e*P	Pn	05 21 41.6	-0.1
	baz=330						
TWC				*e*S	Sn	05 21 50.1	-0.9
	baz=330						
TEGC	**Jichi Village**	**0.75**	**241**	*e*P	Pn	05 21 42.7	-0.4
	baz=234						
TEGC				*e*S	Sn	05 21 53.2	-0.3
	baz=234						
YOJ	**Yonaguni jima**	**0.79**	**61**	P	Pn	05 21 43.9	+0.4
	baz=61						
YOJ				S	Sn	05 21 55.2	+0.9
	baz=61						
TWE	**Neicheng**	**0.84**	**320**	*e*P	Pn	05 21 45.2	+1.0
	baz=320						
WHF	**Hehuan Shan**	**0.91**	**274**	*e*P	Pn	05 21 46.1	+0.3
	baz=273						
WHF				*e*S	Sn	05 21 58.2	0.0
	baz=273						
EHY	**Hungye**	**1.03**	**237**	*e*P	Pn	05 21 46.5	-0.4
	baz=246						
EHY				*e*S	Sn	05 21 59.4	-0.8
	baz=246						
NWF	**Wu-fen Shan**	**1.08**	**336**	*e*P	Pn	05 21 48.4	+0.7
	baz=348						
TWF1	**Yuli**	**1.14**	**231**	*e*P	Pn	05 21 48.8	+0.4
	baz=243						
TWF1				*e*S	Sn	05 22 02.6	-0.3
	baz=243						
CHKT	**Chengkung**	**1.27**	**220**	*e*P	Pn	05 21 50.7	+0.6
	baz=213						
CHKT				*e*S	Sn	05 22 04.1	-2.0
	baz=213						
ELDTW	**Lidau**	**1.44**	**232**	*e*P	Pn	05 21 53.0	+0.4
	baz=223						
ELDTW				*e*S	Sn	05 22 09.0	-1.5
	baz=223						
WGK	**Gukeng**	**1.60**	**256**	*e*P	Pn	05 21 55.1	+0.5
	baz=256						
WGK				*e*S	Sn	05 22 17.2	+3.1
	baz=256						
TWG	**Pinlang**	**1.66**	**221**	*e*P	Pn	05 21 56.9	+1.5
	baz=230						
TWG				*e*S	Sn	05 22 14.8	-0.8
	baz=230						
WTP	**Ta-pu**	**1.72**	**242**	*e*P	Pn	05 21 57.3	+0.9
	baz=241						
WTP				*e*S	Sn	05 22 19.8	+2.6
	baz=241						
TWK	**Hsinying**	**1.81**	**244**	*e*P	Pn	05 21 58.6	+1.0
	baz=243						
TWK				*e*S	Sn	05 22 22.3	+2.8
	baz=243						
CHN1	**Nanshi**	**1.82**	**241**	*e*P	Pn	05 21 58.7	+1.0
	baz=241						
CHN1				*e*S	Sn	05 22 22.4	+2.8
	baz=241						
WTCT	**Ta-ch'eng**	**1.82**	**264**	*e*P	Pn	05 21 57.8	+0.2
	baz=275						
WTCT				*e*S	Sn	05 22 22.7	+3.2
	baz=275						
SGST	**Jiashian**	**1.83**	**237**	*e*P	Pn	05 21 58.8	+1.0
	baz=237						
SGST				*e*S	Sn	05 22 22.4	+2.6
	baz=237						
WSF	**Szhu**	**1.92**	**257**	*e*P	Pn	05 22 00.1	+1.1
	baz=256						
WSF				*e*S	Sn	05 22 25.0	+3.2
	baz=256						
CHN8	**Yiju**	**2.01**	**249**	*e*P	Pn	05 22 00.3	+0.1
	baz=249						
CHN8				*e*S	Sn	05 22 26.1	+1.9
	baz=249						
SCLT	**Jiali**	**2.10**	**245**	*e*P	Pn	05 22 02.2	+0.8
	baz=245						
SCLT				*e*S	Sn	05 22 28.7	+2.4
	baz=245						
SCZT	**Fangliau**	**2.27**	**222**	*e*P	Pn	05 22 06.3	+2.5
	baz=220						
SCZT				*e*S	Sn	05 22 34.0	+3.4
	baz=220						
HEN	**Hengchun**	**2.49**	**214**	*e*P	Pn	05 22 07.8	+0.9
	baz=208						
HEN				*e*S	Sn	05 22 36.1	0.0
	baz=208						
PNG	**Penghu**	**2.53**	**259**	*e*P	Pn	05 22 08.6	+1.3
	baz=271						
PNG				*e*S	Sn	05 22 38.6	+1.7
	baz=271						

*CSEM **03** 05:21:47.6,33.97N×25.52E,h10km,MD3.9,After ATH*
ATH 03 05:21:47.6,33.97N×25.52E,h10km,MD3.9/6,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**1.19**	**358**	*e*PB	Pg	05 22 10.6	0.0
LAST				*e*SB	Sg	05 22 26.2	0.0
LAST	**Lasithi**	**1.19**	**358**	*e*Pb	Pg	05 22 10.6	0.0
LAST				*e*Sb	Sg	05 22 26.2	0.0
SIVA	**Sivas**	**1.20**	**331**	*e*PN	Pb	05 22 09.6	-0.8
SIVA				*e*SB	Sn	05 22 26.8	0.0
SIVA	**Sivas**	**1.20**	**331**	*e*Pn	Pb	05 22 09.6	-0.8
SIVA				*e*Sb	Sn	05 22 26.8	0.0
ZKR	**Zakros**	**1.28**	**27**	*e*PB	Pb	05 22 11.8	0.0
ZKR	**Zakros**	**1.28**	**27**	*e*Pb	Pb	05 22 11.8	0.0
IDI	**Anoyia**	**1.41**	**339**	*e*PB	Pg	05 22 15.2	+0.3
IDI	**Anoyia**	**1.41**	**339**	*e*Pb	Pg	05 22 15.2	+0.3
VAM	**Vamos**	**1.80**	**323**	*e*PB	Pn	05 22 19.2	+0.5
VAM				*e*SN	Sg	05 22 51.8	+6.3
VAM	**Vamos**	**1.80**	**323**	*e*Pb	Pn	05 22 19.2	+0.5
VAM				*e*Sn	Sg	05 22 51.8	+6.3
KYTH	**Kithira**	**3.08**	**319**	*e*PB	Pb	05 22 39.4	-3.1
KYTH	**Kithira**	**3.08**	**319**	*e*Pb	Pb	05 22 39.4	-3.1

*IDC **03** 05:34:34.0±2.7,27.40N×55.59E,h0km,mb3.7/7, mb1 3.7/7,mb1mx3.5/30,mbtmp3.7/7,Error ellipse: s-maj=70.3km s-min=25.7km az=147.0*
*ISCJB **03** 05:34:37.2±0.5,27.73N±0.03×55.75E±0.06,h15km, mb3.6/7,Error ellipse: s-maj=7.2km s-min=4.9km az=177.1*
*THR **03** 05:34:40.3±0.7,27.70N×55.81E,h14km±6km,ML3.5*
*CSEM **03** 05:34:41.4±0.2,27.54N×55.86E,h20km,mL3.5/2,Error ellipse: s-maj=6.3km s-min=5.1km az=90.0*
ISC 03 05:34:38.9±0.8,27.60N±0.05×55.94E±0.05,h15km,n19, σ1§37/23,mb3.6/7,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.29**	**134**	*e*Pg	**Pn**	**05 34 49.3**	**+0.5**
BNDS	**Bandar-Abbas**	**0.29**	**134**	*e*Pg	**Pn**	**05 34 49.3**	**+0.5**
BANOM	**Banah**	**1.70**	**169**	P	**Pn**	**05 35 08.8**	**+0.7**
	SNR=66						
BANOM				S	**Sn**	**05 35 30.6**	**+1.0**
KRBR	**Kerman**	**2.48**	**17**	*e*Pn	**Pb**	**05 35 22.1**	**-1.3**
KRBR				*e*Sg	**Sb**	**05 35 56.4**	**+2.5**
KRBR				AML	AML	05 36 00.7	
	comp=N,309nm,0.6s						
KRBR	**Kerman**	**2.48**	**17**	*e*Pn	**Pb**	**05 35 22.1**	**-1.3**
KRBR				*e*Sg	**Sb**	**05 35 56.4**	**+2.5**
NAZ	**Nazwa, Dubai**	**2.61**	**186**	P	**Pn**	**05 35 21.7**	**+1.1**
GHIR	**Ghir-Karzin**	**2.70**	**285**	*e*Pn	**Pn**	**05 35 23.2**	**+1.3**
GHIR				*e*Sg	**Sb**	**05 36 00.8**	**+0.8**
GHIR				AML	AML	05 36 13.9	
	comp=N,164nm,0.5s						
GHIR				AML	AML	05 36 21.9	
	comp=E,166nm,0.6s						
GHIR	**Ghir-Karzin**	**2.70**	**285**	*e*Pn	**Pn**	**05 35 23.2**	**+1.3**
GHIR				*e*Sg	**Sb**	**05 36 00.8**	**+0.8**
HATD	**Hatta, Dubai**	**2.77**	**176**	P	**Pn**	**05 35 23.8**	**+1.0**
FAQ	**Al Faqa, Dubai**	**2.86**	**186**	P	**Pn**	**05 35 24.8**	**+0.8**
ASHO	**Ashiyiah**	**2.91**	**178**	P	**Pn**	**05 35 25.5**	**+0.8**
	SNR=10						
ASUD	**Al Ashush, Dub**	**3.01**	**191**	P	**Pn**	**05 35 27.2**	**+1.1**
AKTO	**Aktyubinsk**	**22.86**	**3**	P	**P**	**05 39 41.6**	**+0.1**
	comp=E,0.8nm,0.4s,baz=160,slow=12,SNR=3.6						
BVAR	**Borovoye Array**	**27.58**	**19**	P	**P**	**05 40 25.6**	**+0.3**
	comp=E,0.6nm,0.5s,baz=220,slow=13,SNR=3.1						
MKAR	**Makanchi Array**	**28.21**	**40**	P	**P**	**05 40 31.7**	**+0.7**
	comp=E,0.4nm,0.7s,baz=230,slow=8.7,SNR=4.0						
KURBB	**Kurchatov Arra**	**28.70**	**31**	P	**P**	**05 40 35.3**	**0.0**
	comp=E,0.4nm,0.4s,baz=229,slow=8.7,SNR=4.6						
ZALV	**Zalesovo Beam**	**33.79**	**31**	P	**P**	**05 41 20.0**	**-0.1**
	comp=E,2.0nm,0.5s,baz=239,slow=8.3,SNR=5.6						
HFS	**Hagfors**	**43.30**	**331**	P	**P**	**05 42 36.8**	**-3.0**
	comp=E,0.4nm,0.5s,baz=124,slow=8.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**52.46**	**266**	P	P	05 43 46.6	-4.9
	comp=E,0.3nm,0.4s,baz=65,slow=8.1,SNR=7.5						

*CSEM **03** 05:36:34.3,33.93N×25.53E,h5km,MD3.7,After ATH*
*ATH **03** 05:36:34.3,33.93N×25.53E,h5km,MD3.7/12*
*ISCJB **03** 05:36:35.7±0.8,33.94N±0.06×25.45E±0.08,h17km, mb3.2/2,Error ellipse: s-maj=10.5km s-min=8.1km az=140.7*
*IDC **03** 05:36:35.9±1.4,34.03N×25.52E,h0km,mb3.4/2, mb1 3.6/7,mb1mx3.4/29,mbtmp3.4/7,ML3.5/5,Error ellipse: s-maj=34.7km s-min=23.0km az=139.0*
ISC 03 05:36:36.3±1.2,34.02N±0.08×25.28E±0.07,h17km,n31, σ1§30/28,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**1.07**	**339**	*e*PB	**Pg**	**05 36 57.8**	**+0.7**
SIVA	**Sivas**	**1.07**	**339**	*e*Pb	**Pg**	**05 36 57.8**	**+0.7**
LAST	**Lasithi**	**1.15**	**8**	*e*PN	**Pn**	**05 36 56.9**	**-0.9**
LAST				*e*SB	**Sg**	**05 37 15.0**	**+1.2**
LAST	**Lasithi**	**1.15**	**8**	*e*Pn	**Pn**	**05 36 56.9**	**-0.9**
LAST				*e*Sb	**Sg**	**05 37 15.0**	**+1.2**
NPS	**Neapolis**	**1.27**	**12**	*e*PB	**Pg**	**05 37 00.7**	**-0.2**
NPS	**Neapolis**	**1.27**	**12**	*e*Pb	**Pg**	**05 37 00.7**	**-0.2**
IDI	**Anoyia**	**1.31**	**346**	*e*PG	**Pg**	**05 37 01.1**	**-0.5**
IDI	**Anoyia**	**1.31**	**346**	*e*Pg	**Pg**	**05 37 01.1**	**-0.5**
ZKR	**Zakros**	**1.34**	**35**	*e*PG	**Pn**	**05 36 58.9**	**-1.4**
ZKR	**Zakros**	**1.34**	**35**	*e*Pg	**Pn**	**05 36 58.9**	**-1.4**
VAM	**Vamos**	**1.65**	**328**	*e*PN	**Pg**	**05 37 08.9**	**+0.9**
VAM	**Vamos**	**1.65**	**328**	*e*Pn	**Pg**	**05 37 08.9**	**+0.9**
KYTH	**Kithira**	**2.91**	**321**	*e*PB	**Pb**	**05 37 26.8**	**-1.0**
KYTH	**Kithira**	**2.91**	**321**	*e*Pb	**Pb**	**05 37 26.8**	**-1.0**
VLI	**Veliai**	**3.31**	**325**	*e*PB	**Pb**	**05 37 33.4**	**-1.1**
VLI	**Veliai**	**3.31**	**325**	*e*Pb	**Pb**	**05 37 33.4**	**-1.1**
DYR	**Agios Nikonas**	**3.65**	**320**	*e*PN	**Pb**	**05 37 37.7**	**-2.6**
DYR	**Agios Nikonas**	**3.65**	**320**	*e*Pn	**Pb**	**05 37 37.7**	**-2.6**
PYL	**PYLOS**	**4.07**	**316**	*e*PB	**Pb**	**05 37 46.2**	**-1.4**
PYL	**PYLOS**	**4.07**	**316**	*e*Pb	**Pb**	**05 37 46.2**	**-1.4**
VLX	**Vlachokerasia**	**4.09**	**326**	*e*PN	Pb	05 37 43.2	-4.8
VLX	**Vlachokerasia**	**4.09**	**326**	*e*Pn	Pb	05 37 43.2	-4.8
GUR	**Goura**	**4.58**	**329**	*e*PB	Pb	05 37 52.5	-3.8
GUR	**Goura**	**4.58**	**329**	*e*Pb	Pb	05 37 52.5	-3.8
BRTR	**Keskin Array B**	**8.79**	**47**	Pn	**Pn**	**05 38 43.0**	**+0.3**
	0.1nm,0.3s,baz=206,slow=11,SNR=3.7						
EIL	**Elat**	**9.30**	**115**	Pn	**Pn**	**05 38 49.7**	**+0.1**
	0.4nm,0.3s,baz=12,slow=17,SNR=3.8						
KBZ	**Khabaz**	**16.77**	**50**	Pn	**P**	**05 40 34.0**	**+1.6**
	0.1nm,0.3s,baz=284,slow=12,SNR=2.2						
AKASG	**Malin Array Be**	**16.92**	**9**	Pn	**P**	**05 40 33.0**	**-1.0**
	0.7nm,0.3s,baz=200,slow=11,SNR=7.9						
GERES	**GERESS Array B**	**17.14**	**333**	P	**P**	**05 40 38.9**	**+2.2**
	0.1nm,0.3s,baz=159,slow=13,SNR=4.5						
TORD	**Torodi Ar. Bea**	**29.84**	**232**	P	P	05 42 46.5	+3.6
	0.2nm,0.5s,baz=44,slow=8.9,SNR=2.6						
MKAR	**Makanchi Array**	**44.33**	**56**	P	**P**	**05 44 45.5**	**+0.1**
	0.3nm,0.6s,baz=272,slow=7.4,SNR=2.2						

IDC 03 05:39:09.3±1.9,24.36S×66.80W,h135km±24km,mb3.4/2, mb1 3.3/6,mb1mx3.2/18,mbtmp3.1/6,Error ellipse: s-maj=25.5km s-min=19.9km az=113.0,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.60**	**311**	P	Pn	05 39 52.2	+0.8
	2.1nm,0.3s,baz=135,slow=9.6,SNR=25						
LVC				S	Sn	05 40 23.7	0.0
	10.0nm,0.3s,baz=102,slow=20,SNR=61						
CFAA	**Coronel Fontan**	**7.33**	**190**	P	Pn	05 40 51.9	-1.8
	0.0nm,0.3s,baz=18,slow=13,SNR=4.0						
CFAA				S	Sn	05 42 09.3	-6.2
	0.0nm,0.3s,baz=116,slow=16,SNR=6.2						
LPAZ	**La Paz**	**8.13**	**351**	P	Pn	05 41 06.7	+1.4

0.3nm,0.3s,baz=179,slow=8.8,SNR=9.3
SIV San Ignacio 9.91 34 P Pn 05 41 29.4 +1.0
0.1nm,0.3s,baz=235,slow=14,SNR=4.6
BDFB Brasilia 19.65 67 P P 05 43 29.1 +1.2
0.2nm,0.3s,baz=236,slow=11,SNR=3.5
VNDA Vanda 74.38 190 P P 05 50 33.2 +1.4
1.2nm,0.7s,baz=107,slow=9.3,SNR=6.2
TORD Torodi Ar. Bea 76.53 69 P P 05 50 43.1 -1.9
0.3nm,0.5s,baz=256,slow=4.9,SNR=6.2

*CSEM **03** 05:43:51.9,33°.82N×25°.43E,h12km,MD3.9,After ATH*
*ATH **03** 05:43:51.9,33°.82N×25°.43E,h12km±7km,MD3.9/7*
*IDC **03** 05:43:55.0±9.1,34°.01N×25°.67E,h0km,mb3.7/1,*
mb1 3.6/3,mb1mx3.3/26,mbtmp3.5/3,ML3.8/2,Error
ellipse: s-maj=163.9km s-min=50.5km az=36.0
ISC 03 05:43:54.0±1.8,33°.9N±0°.1×25°.30E±0°.07,h17km,n17,
σ1s03/21,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.18**	**340**	*e*PN	**Pn**	**05 44 15.7**	**-0.1**
SIVA	**Sivas**	**1.18**	**340**	*e*Pn	**Pn**	**05 44 15.7**	**-0.1**
LAST	**Lasithi**	**1.26**	**7**	*e*PB	**Pg**	**05 44 17.9**	**-0.6**
LAST				*e*SB	**Sg**	**05 44 35.6**	**+0.6**
LAST	**Lasithi**	**1.26**	**7**	*e*Pb	**Pg**	**05 44 17.9**	**-0.6**
LAST				*e*Sb	**Sg**	**05 44 35.6**	**+0.6**
NPS	**Neapolis**	**1.38**	**11**	*e*PG	**Pb**	**05 44 19.2**	**-0.2**
NPS	**Neapolis**	**1.38**	**11**	*e*Pg	**Pb**	**05 44 19.2**	**-0.2**
IDI	**Anoyia**	**1.42**	**347**	*e*PG	**Pb**	**05 44 19.9**	**-0.2**
IDI	**Anoyia**	**1.42**	**347**	*e*Pg	**Pb**	**05 44 19.9**	**-0.2**
ZKR	**Zakros**	**1.43**	**32**	*e*PN	**Pn**	**05 44 18.0**	**-1.2**
ZKR	**Zakros**	**1.43**	**32**	*e*Pn	**Pn**	**05 44 18.0**	**-1.2**
VAM	**Vamos**	**1.75**	**329**	*e*PN	**Pb**	**05 44 26.1**	**+0.4**
VAM				*e*SN	**Sg**	**05 44 50.5**	**0.0**
VAM	**Vamos**	**1.75**	**329**	*e*Pn	**Pb**	**05 44 26.1**	**+0.4**
VAM				*e*Sn	**Sg**	**05 44 50.5**	**0.0**
KYTH	**Kithira**	**3.01**	**323**	*e*PB	**Pb**	**05 44 45.3**	**-1.9**
KYTH	**Kithira**	**3.01**	**323**	*e*Pb	**Pb**	**05 44 45.3**	**-1.9**
AKASG	**Malin Array Be**	**17.03**	**9**	Pn	**P**	**05 47 52.2**	**-0.8**
	0.7nm,0.3s,baz=194,slow=9.1,SNR=3.0						
GERES	**GERESS Array B**	**17.25**	**333**	P	**P**	**05 47 58.0**	**+2.4**
	0.1nm,0.3s,baz=148,slow=11,SNR=5.6						
MKAR	**Makanchi Array**	**44.38**	**55**	P	**P**	**05 52 04.5**	**+1.0**
	0.6nm,0.6s,baz=281,slow=6.3,SNR=8.4						

WEL 03 05:46:06.6±0.2,42°.11S×173°.98E,h26km±2km,ML2.8/7,
Error ellipse: s-maj=1.6km s-min=1.2km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.40**	**349**	P*	Pb	05 46 15.0	-0.2
BSWZ				S*	Sb	05 46 21.4	+0.3
BSWZ				AML	AML	05 46 23.9	
CMWZ	**Cape Campbell**	**0.40**	**27**	P*	Pn	05 46 16.2	-0.5
CMWZ				AML	AML	05 46 27.7	
CMWZ				AML	AML	05 46 27.7	
KHZ	**Kahutara**	**0.45**	**226**	P*	Pb	05 46 16.2	+0.1
KHZ				S*	Sb	05 46 23.4	+0.9
KHZ				AML	AML	05 46 23.7	
TUWZ	**Tuamarina**	**0.67**	**358**	P*	Pb	05 46 19.5	-0.3
TUWZ				SG	Sb	05 46 29.0	+0.3
TUWZ				AML	AML	05 46 30.0	
TUWZ	**Tuamarina**	**0.67**	**358**	P*	Pb	05 46 19.5	-0.3
TUWZ				S*	Sb	05 46 29.0	+0.3
TUWZ				AML	AML	05 46 30.0	
THZ	**Tophouse**	**0.87**	**293**	P*	Pb	05 46 21.9	-1.3
THZ				S*	Sb	05 46 33.9	-0.7
THZ				AML	AML	05 46 34.6	
TCW	**Tory Channel**	**0.92**	**14**	P*	Pn	05 46 23.3	-0.6
TCW				SG	Sb	05 46 35.7	-0.1
TCW				AML	AML	05 46 37.0	
TCW	**Tory Channel**	**0.92**	**14**	P*	Pn	05 46 23.3	-0.6
TCW				S*	Sb	05 46 35.7	-0.1
TCW				AML	AML	05 46 37.0	
BHW	**Baring Head**	**0.96**	**44**	P*	Pn	05 46 24.2	-0.3
BHW				SG	Sn	05 46 37.5	+0.2
BHW	**Baring Head**	**0.96**	**44**	P*	Pn	05 46 24.2	-0.3
BHW				S*	Sn	05 46 37.5	+0.2
NNZ	**Nelson**	**0.99**	**333**	P*	Pn	05 46 24.3	-0.5
NNZ	**Nelson**	**0.99**	**333**	PN	Pn	05 46 24.3	-0.5
PLWZ	**Palliser**	**1.09**	**61**	P*	Pn	05 46 25.8	-0.6
PLWZ	**Palliser**	**1.09**	**61**	P*	Pn	05 46 25.8	-0.6
MSWZ	**Moikau Station**	**1.18**	**55**	P*	Pn	05 46 26.8	-0.7
MSWZ				S*	Sn	05 46 42.7	0.0
MSWZ	**Moikau Station**	**1.18**	**55**	P*	Pn	05 46 26.8	-0.7
MSWZ				S*	Sn	05 46 42.7	0.0
CAW	**Cannon Point**	**1.29**	**40**	P*	Pn	05 46 28.6	-0.4
CAW				AML	AML	05 46 45.8	
CAW				AML	AML	05 46 46.1	
CAW	**Cannon Point**	**1.29**	**40**	P*	Pn	05 46 28.6	-0.4
CAW				AML	AML	05 46 45.8	
CAW				AML	AML	05 46 46.1	
DUWZ	**D'Urville Isla**	**1.30**	**358**	P*	Pn	05 46 28.9	-0.3
DUWZ	**D'Urville Isla**	**1.30**	**358**	P*	Pn	05 46 28.9	-0.3
KIW	**Kapiti Island**	**1.43**	**30**	P*	Pn	05 46 30.8	0.0
KIW	**Kapiti Island**	**1.43**	**30**	PN	Pn	05 46 30.8	0.0
LTZ	**Lake Taylor**	**1.43**	**241**	PN	Pn	05 46 30.4	-0.6
OGWZ	**Otaki Gorge**	**1.57**	**35**	PN	Pn	05 46 32.0	-0.8
OGWZ	**Otaki Gorge**	**1.57**	**35**	PN	Pn	05 46 32.0	-0.8
DSZ	**Denniston Nort**	**1.66**	**282**	PN	Pn	05 46 34.7	+0.6
DSZ	**Denniston Nort**	**1.66**	**282**	PN	Pn	05 46 34.7	+0.6
QRZ	**Quartz Range**	**1.68**	**319**	PN	Pn	05 46 34.6	+0.2
QRZ	**Quartz Range**	**1.68**	**319**	PN	Pn	05 46 34.6	+0.2
MQZ	**McQueen's Vall**	**1.87**	**211**	PN	Pn	05 46 35.3	-1.7
OXZ	**Oxford**	**1.88**	**229**	PN	Pn	05 46 35.4	-1.7

*ISCJB **03** 06:03:34.7±0.3,11°.70S±0°.05×14°.08W±0°.06,h7km,*
mb4.6/65,MS3.9/27,Error ellipse: s-maj=9.1km
s-min=5.8km az=32.6
*BJI **03** 06:03:35.7,11°.70S×14°.10W,h12km,mB5.5/4,Ms5.1/2,*
Ms7 4.7/2
*IDC **03** 06:03:35.3±0.4,11°.71S×14°.10W,h0km,mb4.3/31,*
mb1 4.4/31,mb1mx4.4/33,mbtmp4.3/31,MS3.8/22,
Ms1 3.8/22,ms1mx3.7/34,Error ellipse: s-maj=16.0km
s-min=10.6km az=125.0
*NEIC **03** 06:03:37.0±0.2,11°.71S×14°.07W,h10km,mb4.8/24,Error*
ellipse: s-maj=6.6km s-min=5.1km az=131.0
ISC 03 06:03:36.2±0.3,11°.71S±0°.06×14°.07W±0°.06,h7km,n148,
σ1s28/150,mb4.8/65,MS3.9/27,5C-4D,Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**3.77**	**356**	*e*Pn	**Pn**	**06 04 33.6**	**-1.1**
SHEL	**Horse Pasture**	**9.12**	**119**	*e*Pn	**Pn**	**06 05 46.8**	**-1.6**
	81nm,0.7s						
LIC	**Lamto**	**19.96**	**27**	*e*P	**P**	**06 08 10.0**	**+0.9**
	41nm,0.8s,baz=216						
LIC				*e*R			
	370nm,18.2s						
DBIC	**Dimbokro**	**20.43**	**27**	*e*P	**P**	**06 08 14.5**	**+0.3**
	25nm,0.9s						
DBIC	**Dimbokro**	**20.43**	**27**	P	**P**	**06 08 14.7**	**+0.5**
	27nm,1.0s,baz=183,slow=10,SNR=12						
DBIC				LR	LR	06 14 35.0	
	comp=Z,209nm,18.2s,baz=171,slow=32						
RCBR	**Riachuelo**	**22.34**	**283**	*e*P	**P**	**06 08 36.5**	**+1.6**
	90nm,1.4s						
RCBR	**Riachuelo**	**22.34**	**283**	P	**P**	**06 08 34.6**	**-0.4**
	28nm,1.0s,baz=118,slow=9.7,SNR=7.3						
RCBR				LR	LR	06 15 07.0	
	comp=Z,306nm,19.6s,baz=88,slow=31						
BBTS	**Babate**	**26.32**	**355**	LR	LR	06 17 47.6	
	comp=Z,236nm,18.2s,baz=78,slow=32						
TOA0	**Torodi Ar. Sit**	**29.23**	**33**	*e*P	**P**	**06 09 38.8**	**-0.2**
TORD	**Torodi Ar. Bea**	**29.23**	**33**	P	**P**	**06 09 38.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**29.23**	**33**	P	**P**	**06 09 38.7**	**-0.2**
	4.9nm,0.9s,baz=218,slow=9.2,SNR=17						
TORD				LR	LR	06 19 13.5	
	comp=Z,261nm,20.3s,baz=175,slow=32						
BDFB	**Brasilia**	**33.19**	**259**	P	**P**	**06 10 14.4**	**+0.4**
BDFB	**Brasilia**	**33.19**	**259**	P	**P**	**06 10 14.4**	**+0.4**
	2.0nm,0.5s,baz=48,slow=7.2,SNR=5.5						
SUR	**Sutherland**	**38.06**	**128**	LR	LR	06 23 01.5	
	comp=Z,313nm,19.8s,baz=239,slow=31						
TAM	**Tamanrasset**	**39.30**	**29**	*e*P	**P**	**06 11 06.7**	**+0.5**
	4.6nm,1.1s						

BOSA	**Boshof**	**40.34**	**121**	P	**P**	**06 11 14.9**	**+0.1**
BOSA	**Boshof**	**40.34**	**121**	P	**P**	**06 11 14.9**	**+0.1**
	3.6nm,1.0s,baz=304,slow=3.6,SNR=2.9						
BOSA				LR	LR	06 25 16.6	
	comp=Z,258nm,18.1s,baz=15,slow=32						
LSZ	**Lusaka**	**41.20**	**100**	*e*P	**P**	**06 11 23.4**	**+1.3**
	10nm,1.0s						
LSZ	**Lusaka**	**41.20**	**100**	P	**P**	**06 11 23.2**	**+1.1**
	4.7nm,0.9s,baz=352,slow=10,SNR=6.5						
CPUP	**Villa Florida**	**43.19**	**244**	P	**P**	**06 11 38.4**	**+0.4**
CPUP				PcP	**PcP**	**06 13 26.9**	**-0.7**
CPUP	**Villa Florida**	**43.19**	**244**	P	**P**	**06 11 38.4**	**+0.4**
	3.4nm,0.8s,baz=76,slow=6.0,SNR=12						
CPUP				PcP	**PcP**	**06 13 26.9**	**-0.7**
	1.3nm,0.8s,baz=49,slow=3.6,SNR=3.4						
CPUP				LR	LR	06 26 01.6	
	comp=Z,105nm,20.3s,baz=70,slow=31						
MDT	**Midelt**	**45.19**	**11**	P	**P**	**06 11 52.9**	**-1.1**
MDT	**Midelt**	**45.19**	**11**	P	**P**	**06 11 52.9**	**-1.1**
	6.4nm,1.2s,baz=228,slow=12,SNR=3.7						
MDT				LR	LR	06 29 31.4	
	comp=Z,101nm,18.4s,baz=16,slow=34						
SIV	**San Ignacio**	**45.76**	**259**	P	**P**	**06 11 59.6**	**+0.8**
SIV	**San Ignacio**	**45.76**	**259**	P	**P**	**06 11 59.6**	**+0.8**
	0.8nm,0.7s,baz=114,slow=12,SNR=4.1						
SAML	**Samuel**	**48.35**	**268**	*e*P	**P**	**06 12 19.5**	**+0.5**
	3.3nm,0.9s						
TRQA	**Tornquist**	**50.05**	**230**	*e*P	**P**	**06 12 31.7**	**-0.1**
	18nm,1.2s						
ESDC	**Sonseca Array**	**51.98**	**10**	P	**P**	**06 12 46.1**	**0.0**
ESDC	**Sonseca Array**	**51.98**	**10**	P	**P**	**06 12 46.1**	**0.0**
	0.2nm,0.3s,baz=195,slow=6.6,SNR=6.8						
KMBO	**Kilima Mbogo**	**51.98**	**82**	*e*P	**P**	**06 12 48.2**	**+1.3**
	14nm,1.3s						
KEST	**Kesra**	**52.12**	**24**	*e*P	**P**	**06 12 49.5**	**+2.2**
KEST	**Kesra**	**52.12**	**24**	P	**P**	**06 12 48.9**	**+1.6**
	2.9nm,0.9s,baz=217,slow=2.3,SNR=8.5						
KEST				LR	LR	06 33 59.2	
	comp=Z,66nm,18.4s,baz=202,slow=35						
LPAZ	**La Paz**	**52.53**	**258**	*e*P	**P**	**06 12 52.3**	**+0.9**
	1.6nm,0.8s						
LPAZ	**La Paz**	**52.53**	**258**	P	**P**	**06 12 51.1**	**-0.2**
	0.8nm,0.6s,baz=166,slow=4.2,SNR=3.3						
EFI	**East Falkland**	**53.38**	**213**	*e*P	**P**	**06 12 56.6**	**+0.3**
	42nm,0.7s						
CFAA	**Coronel Fontan**	**53.53**	**239**	P	**P**	**06 12 58.0**	**+0.1**
CFAA	**Coronel Fontan**	**53.53**	**239**	P	**P**	**06 12 58.0**	**+0.1**
	0.9nm,1.0s,baz=66,slow=9.2,SNR=11						
VSL	**Vilksalto**	**55.42**	**22**	*e*P	**P**	**06 13 12.9**	**+1.5**
	8.5nm,1.2s						
ETSF	**Etsaut**	**55.73**	**12**	*e*P	**P**	**06 13 14.7**	**+1.1**
	24nm,1.4s						
SJPF	**Ste Jean**	**55.81**	**11**	*e*P	**P**	**06 13 15.2**	**+1.2**
	18nm,1.0s						
PLCA	**Paso Flores**	**57.17**	**229**	P	**P**	**06 13 23.8**	**-0.2**
PLCA	**Paso Flores**	**57.17**	**229**	P	**P**	**06 13 23.8**	**-0.2**
	1.8nm,0.8s,baz=101,slow=5.2,SNR=3.1						
PLCA				LR	LR	06 35 13.0	
	comp=Z,82nm,18.3s,baz=174,slow=33						
LASF	**Ste Croix**	**57.87**	**15**	*e*P	**P**	**06 13 29.2**	**+0.5**
LFF	**La Frestale**	**57.96**	**12**	*e*P	**P**	**06 13 30.1**	**+0.9**
	33nm,1.2s						
CAF	**Calviac**	**58.23**	**13**	*e*P	**P**	**06 13 31.5**	**+0.3**
RJF	**Les Rejaudoux**	**58.47**	**13**	*e*P	**P**	**06 13 33.3**	**+0.5**
	17nm,1.0s						
RJF				*e*R			
	168nm,20.0s						
VIVF	**Saint-Julien-l**	**58.81**	**15**	*e*P	**P**	**06 13 36.1**	**+0.9**
VNA1	**Neumayer-Stat**	**59.01**	**178**	*e*P	**P**	**06 13 37.3**	**+1.1**
ORIF	**Oris-en-Rattie**	**59.19**	**16**	*e*P	**P**	**06 13 39.3**	**+1.3**
ORIF				*e*R			
	204nm,17.2s						
MBDF	**Montbardon**	**59.27**	**17**	*e*P	**P**	**06 13 40.0**	**+1.4**
	27nm,1.2s						
MFF	**Saint Martin d**	**59.38**	**11**	*e*P	**P**	**06 13 39.7**	**+0.6**
TCF	**Toulx Ste Croi**	**59.56**	**13**	*e*P	**P**	**06 13 41.3**	**+0.9**
	34nm,1.4s						
LPG	**La Plagne**	**59.97**	**17**	*e*P	**P**	**06 13 44.6**	**+1.1**
	20nm,1.1s						
LPL	**La Plagne**	**59.98**	**17**	*e*P	**P**	**06 13 44.7**	**+1.2**
SMF	**Signal de Mont**	**60.27**	**14**	*e*P	**P**	**06 13 45.8**	**+0.5**
	16nm,1.1s						
AVF	**Avril sur Loir**	**60.29**	**14**	*e*P	**P**	**06 13 46.0**	**+0.6**
SNAA	**Sanae**	**60.31**	**176**	*e*P	**P**	**06 13 46.0**	**+0.7**
SNAA	**Sanae**	**60.31**	**176**	*e*P	**P**	**06 13 45.2**	**-0.2**
	22nm,1.1s						
SNAA	**Sanae**	**60.31**	**176**	P	**P**	**06 13 45.2**	**-0.2**
	7.0nm,1.1s,baz=329,slow=5.7,SNR=52						
ROSF	**Rostrenen**	**60.54**	**8**	*e*P	**P**	**06 13 47.5**	**+0.4**
CABF	**La Chapelle**	**60.81**	**16**	*e*P	**P**	**06 13 49.4**	**+0.4**
	19nm,0.9s						
GRR	**Gorron**	**60.97**	**10**	*e*P	**P**	**06 13 50.4**	**+0.4**
ROSC	**El Rosal**	**62.15**	**282**	P	**P**	**06 13 58.2**	**-0.9**
ROSC	**El Rosal**	**62.15**	**282**	P	**P**	**06 13 58.2**	**-0.9**
	2.1nm,0.5s,baz=100,slow=19,SNR=2.4						
ROSC				LR	LR	06 37 48.4	
	comp=Z,115nm,21.2s,baz=321,slow=33						
HAU	**Haudompre**	**62.16**	**15**	*e*P	**P**	**06 13 58.3**	**+0.2**
	32nm,1.3s						
HAU				*e*R			
	105nm,19.2s						
DAVA	**Damuels**	**62.51**	**18**	*i*P	**P**	**06 14 00.4**	**-0.1**
	12nm,1.1s						
FETA	**Feichten**	**62.53**	**19**	*i*P	**P**	**06 14 00.4**	**-0.3**
	12nm,1.1s						
EIL	**Elat**	**62.63**	**48**	LR	LR	06 40 36.9	
	comp=Z,68nm,18.9s,baz=275,slow=36						
CEY	**Cerknica**	**62.69**	**22**	*e*P	**P**	**06 14 03.3**	**+1.7**
VISS	**Visnje**	**62.89**	**22**	*i*P	**P**	**06 14 04.1**	**+1.1**
RETA	**Reutte**	**62.96**	**19**	*i*P	**P**	**06 14 03.2**	**-0.3**
	7.6nm,1.0s						
BFO	**Black Forest**	**62.99**	**17**	*e*P	**P**	**06 14 04.1**	**+0.5**
	7.5nm,0.9s						
WTTA	**Wattenberg**	**63.04**	**19**	*i*P	**P**	**06 14 04.3**	**+0.1**
	15nm,1.2s						
SOKA	**Soboth**	**63.70**	**22**	*i*P	**P**	**06 14 08.6**	**+0.1**
	8.6nm,1.3s						
CONA	**Conrad Observa**	**65.06**	**22**	*i*P	**P**	**06 14 17.5**	**+0.2**
	9.1nm,1.2s						
GERES	**GERESS Array B**	**65.10**	**20**	P	**P**	**06 14 17.4**	**-0.1**
GERES				PP	**PP**	**06 16 38.1**	**-2.9**
GERES	**GERESS Array B**	**65.10**	**20**	P	**P**	**06 14 17.4**	**-0.1**
	0.5nm,0.3s,baz=190,slow=4.1,SNR=12						
GERES				PP	**PP**	**06 16 38.1**	**-2.9**
	2.2nm,0.9s,baz=209,slow=11,SNR=7.7						
GERES				LR	LR	06 42 32.6	
	comp=Z,90nm,19.6s,baz=247,slow=36						
KHC	**Kasperske Hory**	**65.30**	**20**	*e*P	**P**	**06 14 19.1**	**+0.3**
KHC				*ex*	x	06 14 28.7	
KHC				AMS	AMS	06 42 40.0	
	comp=Z,100nm,17.2s						
ASF	**Jabal al Asfar**	**65.40**	**46**	LR	LR	06 41 18.7	
	comp=Z,62nm,18.4s,baz=96,slow=35						
TREC	**Trest**	**66.09**	**21**	AMS	AMS	06 41 20.0	
	comp=Z,200nm,28.7s						
PRU	**Pruhonice**	**66.36**	**20**	*e*P	**P**	**06 14 26.1**	**+0.5**
PRU				AMS	AMS	06 41 40.0	
	comp=Z,100nm,14.5s						
SYO	**Syowa Base**	**66.59**	**162**	*e*P	**P**	**06 14 25.2**	**-1.6**
SYO	**Syowa Base**	**66.59**	**162**	*e*pP	pP	06 14 28.9	-0.2
VYHS	**Vyhne**	**66.65**	**23**	*e*P	**P**	**06 14 29.0**	**+1.6**
PVCC	**Panska Ves**	**66.83**	**19**	*e*P	**P**	**06 14 30.4**	**+1.8**
BRG	**Berggiesshubel**	**66.93**	**19**	*e*P	**P**	**06 14 29.5**	**+0.3**
	3.4nm,0.8s						
CLL	**Collm**	**67.02**	**18**	*i*PKP		06 21 06.6	
	comp=Z,6.0nm,0.9s						
MORC	**Moravsky Berou**	**67.22**	**22**	*e*P	**P**	**06 14 31.7**	**+0.6**
	comp=Z,11nm,1.4s						
KECS	**Kecovo**	**67.29**	**24**	*e*P	**P**	**06 14 33.1**	**+1.6**
MLR	**Muntele Rosu**	**67.40**	**29**	P	**P**	**06 14 32.6**	**+0.2**
MLR	**Muntele Rosu**	**67.40**	**29**	P	**P**	**06 14 32.6**	**+0.2**
	comp=Z,4.8nm,1.2s,baz=156,slow=6.4,SNR=12						
EKA	**Eskdalemuir Ar**	**67.42**	**7**	P	**P**		
EKA	**Eskdalemuir Ar**	**67.42**	**7**	P	**P**	**06 14 31.0**	**-1.1**
	comp=Z,4.4nm,1.0s,baz=187,slow=5.0,SNR=7.3						
BRTR	**Keskin Array B**	**67.67**	**38**	P	**P**	**06 14 35.6**	**+1.3**
BRTR	**Keskin Array B**	**67.67**	**38**	P	**P**	**06 14 35.6**	**+1.3**
	comp=Z,1.8nm,0.9s,baz=229,slow=4.7,SNR=9.1						
BRTR				LR	LR	06 41 00.7	
	comp=Z,41nm,21.5s,baz=47,slow=33						
KOLS	**Kolonicke sedl**	**68.37**	**25**	*e*P	**P**	**06 14 40.3**	**+2.0**
AK02	**Malin Array Si**	**72.64**	**27**	*e*P	**P**	**06 15 04.5**	**+0.2**
AK01	**Malin Array Si**	**72.67**	**27**	*e*P	**P**	**06 15 04.6**	**+0.1**
KIEV	**Kiev**	**72.67**	**27**	*e*P	**P**	**06 15 04.9**	**+0.3**
	comp=Z,20nm,1.2s						
AKASG	**Malin Array Be**	**72.68**	**27**	P	**P**	**06 15 04.3**	**-0.3**

AKASG	**Malin Array Be**	**72.68**	**27**	P	**P**	**06 15 04.3**	**-0.3**
	comp=Z,7.7nm,0.9s,baz=225,slow=6.8,SNR=27						
MAW	**Mawson**	**74.27**	**157**	P	**P**	**06 15 13.0**	**-0.8**
MAW	**Mawson**	**74.27**	**157**	P	**P**	**06 15 13.0**	**-0.8**
	comp=Z,7.8nm,0.8s,baz=278,slow=8.7,SNR=14						
MAW				LR	LR	06 41 06.9	
	comp=Z,68nm,18.9s,baz=194,slow=30						
GNI	**Garni**	**74.97**	**43**	LR	LR	06 48 10.9	
	comp=Z,34nm,18.1s,baz=222,slow=36						
HFS	**Hagfors**	**74.98**	**14**	P	**P**	**06 15 18.6**	**+0.7**
HFS	**Hagfors**	**74.98**	**14**	P	**P**	**06 15 18.6**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=177,slow=3.0,SNR=5.3						
NOA	**NORSAR Array B**	**75.23**	**12**	P	**P**	**06 15 20.1**	**+0.7**
NOA	**NORSAR Array B**	**75.23**	**12**	P	**P**	**06 15 20.1**	**+0.7**
	comp=Z,2.3nm,1.1s,baz=203,slow=6.3,SNR=3.2						
NOA				LR	LR	06 51 08.6	
	comp=Z,28nm,19.4s,baz=100,slow=38						
KBZ	**Khabaz**	**75.63**	**39**	P	**P**	**06 15 23.2**	**+1.3**
KBZ	**Khabaz**	**75.63**	**39**	P	**P**	**06 15 23.2**	**+1.3**
	comp=Z,6.2nm,1.1s,baz=230,slow=5.2,SNR=5.6						
QSPA	**South Pole Qui**	**78.43**	**180**	*e*P	**P**	**06 15 38.8**	**+1.1**
	comp=Z,29nm,1.0s						
QSPA	**South Pole Qui**	**78.43**	**180**	P	**P**	**06 15 38.7**	**+1.1**
	comp=Z,17nm,0.7s,baz=214,slow=2.8,SNR=136						
FINES	**FINESS Array B**	**79.46**	**18**	P	**P**	**06 15 43.5**	**+0.5**
FINES	**FINESS Array B**	**79.46**	**18**	P	**P**	**06 15 43.5**	**+0.5**
	comp=Z,2.8nm,0.7s,baz=215,slow=3.6,SNR=12						
FINES				LR	LR	06 50 35.1	
	comp=Z,74nm,20.7s,baz=217,slow=36						
SCHQ	**Schefferville**	**79.72**	**332**	*e*P	**P**	**06 15 44.9**	**+0.2**
	comp=Z,4.0nm,0.8s						
SCHQ	**Schefferville**	**79.72**	**332**	P	**P**	**06 15 45.0**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=207,slow=7.5,SNR=5.0						
TKL	**Tuckaleechee C**	**80.81**	**309**	*e*P	**P**	**06 15 51.4**	**+0.4**
JMIC	**Jan Mayen**	**82.59**	**2**	LR	LR	06 49 39.5	
	comp=Z,34nm,19.3s,baz=255,slow=34						
WVT	**Waverly**	**84.06**	**309**	*e*P	**P**	**06 16 07.7**	**-0.2**
	comp=Z,9.9nm,1.3s						
OLIL	**Olney**	**85.12**	**311**	*e*P	**P**	**06 16 12.9**	**-0.2**
	comp=Z,29nm,1.2s						
ARCES	**ARCESS Array B**	**85.60**	**13**	P	**P**	**06 16 14.6**	**-0.3**
ARCES	**ARCESS Array B**	**85.60**	**13**	P	**P**	**06 16 14.6**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=224,slow=8.5,SNR=4.6						
ARCES				LR	LR	06 53 37.9	
	comp=Z,55nm,18.2s,baz=104,slow=35						
SUMG	**Summit**	**85.61**	**353**	*e*P	**P**	**06 16 16.9**	**+1.4**
	comp=Z,7.7nm,1.1s						
SIUC	**Southern Illin**	**85.62**	**310**	*e*P	**P**	**06 16 15.0**	**-0.7**
	comp=Z,3.7nm,0.6s						
GNAR	**Gosnell**	**85.70**	**308**	*e*P	**P**	**06 16 15.8**	**-0.3**
	comp=Z,640nm,1.3s						
AKTO	**Aktyubinsk**	**87.84**	**38**	P	**P**	**06 16 27.1**	**+0.8**
AKTO	**Aktyubinsk**	**87.84**	**38**	P	**P**	**06 16 27.1**	**+0.8**
	comp=Z,2.7nm,0.7s,baz=246,slow=6.5,SNR=6.9						
JFWS	**Jewell Farm**	**87.99**	**314**	*e*P	**P**	**06 16 27.2**	**+0.1**
	comp=Z,5.5nm,0.7s						
ABKAR	**Akbulak array**	**88.60**	**39**	*e*P	**P**	**06 16 30.9**	**+1.0**
	comp=Z,5.4nm,1.1s						
SBA	**Scott Base**	**90.59**	**180**	*e*P	**P**	**06 16 40.1**	**+1.3**
	comp=Z,33nm,1.6s						
VNDA	**Vanda**	**90.90**	**179**	P	**P**	**06 16 40.0**	**-0.3**
VNDA	**Vanda**	**90.90**	**179**	P	**P**	**06 16 40.0**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=228,slow=5.3,SNR=7.1						
VNDA				LR	LR	06 54 38.7	
	comp=Z,54nm,20.7s,baz=347,slow=34						
ECSD	**EROS Data Cent**	**92.68**	**314**	*e*P	**P**	**06 16 49.3**	**+0.2**
	comp=Z,3.3nm,0.9s						
KSH	**Kashi**	**97.38**	**51**	*e*P	Pdif	06 17 11.6	+0.7
KSH				sP	sP	06 17 17.2	+3.2
CD2	**Chengdu**	**119.74**	**61**	PKP	**PKPdf**	**06 22 27.6**	**-0.2**
CD2				PP	**PP**	**06

KARP	Karpathos	2.07	39	ePN	Pb	06 07 10.6	+0.4
KARP	Karpathos	2.07	39	ePn	Pb	06 07 10.6	+0.4
SANT	Santorini	2.43	358	ePG	Pb	06 07 16.4	+0.1
SANT	Santorini	2.43	358	ePg	Pb	06 07 16.4	+0.1
SLUM		2.46	187	P	Pn	06 07 13.9	+0.9
SLUM				S	Sn	06 07 42.6	-0.9
ANKY	Antikythira Is	2.68	316	ePN	Pn	06 07 17.4	+1.4
ANKY	Antikythira Is	2.68	316	ePn	Pn	06 07 17.4	+1.4
ARG	Arkhangelos	3.09	42	ePN	Pb	06 07 25.4	-2.2
ARG	Arkhangelos	3.09	42	ePn	Pb	06 07 25.4	-2.2
HMAT	Matruh	3.12	155	P	Pn	06 07 24.7	+2.7
HMAT				S	Sn	06 08 00.9	+1.2
APE	Apeiranthos	3.12	359	ePB	Pn	06 07 24.3	+2.2
APE	Apeiranthos	3.12	359	ePb	Pn	06 07 24.3	+2.2
KYTH	Kithira	3.13	319	ePN	Pn	06 07 23.6	+1.4
KYTH	Kithira	3.13	319	ePn	Pn	06 07 23.6	+1.4
VLI	Veliai	3.51	323	ePN	Pn	06 07 28.3	+0.9
VLI	Veliai	3.51	323	ePn	Pn	06 07 28.3	+0.9
DYR	Agios Nikonas	3.86	318	ePB	Pn	06 07 34.8	+2.5
DYR	Agios Nikonas	3.86	318	ePb	Pn	06 07 34.8	+2.5
DID	Didima	4.03	333	ePN	Pn	06 07 36.4	+1.7
DID	Didima	4.03	333	ePn	Pn	06 07 36.4	+1.7
SWA2		4.69	181	P	Pn	06 07 45.3	+1.7
SWA2				S	Sn	06 08 36.7	-1.7
GUR	Goura	4.77	328	ePN	Pn	06 07 45.5	+0.6
GUR	Goura	4.77	328	ePn	Pn	06 07 45.5	+0.6
AGG	Agios Georgios	5.70	334	ePN	Pn	06 07 59.3	+1.7
AGG	Agios Georgios	5.70	334	ePn	Pn	06 07 59.3	+1.7
MMAI	Mount Meron Ar	8.26	94	Pn	Pn	06 08 33.2	+0.4
	1.3nm,0.3s,baz=294,slow=14,SNR=3.0						
MMAI				Sn	Sn	06 10 04.8	-1.8
	2.4nm,0.3s,baz=259,slow=15,SNR=2.9						
BRTR	Keskin Array B	8.66	46	Pn	Pn	06 08 39.9	+1.6
	0.1nm,0.3s,baz=221,slow=14,SNR=2.6						
BRTR				Sn	Sn	06 10 16.6	0.0
	0.1nm,0.3s,baz=210,slow=17,SNR=2.6						
EIL	Elat	9.04	116	Pn	Pn	06 08 44.7	+1.3
	0.3nm,0.3s,baz=342,slow=3.2,SNR=1.7						
EIL				Sn	Sn	06 10 21.7	-4.1
	0.4nm,0.3s,baz=251,slow=16,SNR=2.6						
KBZ	Khabaz	16.64	49	Pn	P	06 10 29.9	+1.3
	0.1nm,0.3s,baz=270,slow=7.1,SNR=2.5						
AKASG	Malin Array Be	16.96	8	Pn	Pn	06 10 30.4	+0.3
	0.8nm,0.3s,baz=200,slow=11,SNR=6.6						
GERES	GERESS Array B	17.32	333	Pn	P	06 10 35.7	-0.5
	0.2nm,0.3s,baz=152,slow=12,SNR=13						
ESDC	Sonseca Array	24.27	292	P	P	06 11 50.4	0.0
	0.5nm,0.5s,baz=70,slow=8.3,SNR=3.8						
HFS	Hagfors	27.34	347	P	P	06 12 16.2	-1.7
	0.7nm,0.6s,baz=152,slow=9.6,SNR=3.8						
NOA	NORSAR Array B	28.66	345	P	P	06 12 27.7	-2.1
	0.4nm,0.5s,baz=146,slow=8.8,SNR=3.6						
EKA	Eskdalemuir Ar	29.23	326	P	P	06 12 34.4	-0.4
	0.6nm,0.7s,baz=131,slow=8.6,SNR=2.9						
TORD	Torodi Ar. Bea	29.99	232	P	P	06 12 42.4	+0.5
	0.9nm,0.9s,baz=32,slow=8.1,SNR=3.4						
MKAR	Makanchi Array	44.17	56	P	P	06 14 42.8	+0.9
	0.6nm,0.7s,baz=277,slow=7.1,SNR=6.4						
ZALV	Zalesovo Beam	45.61	45	P	P	06 14 52.9	-0.3
	0.6nm,0.4s,baz=258,slow=7.2,SNR=2.4						
SCHQ	Schefferville	64.33	320	P	P	06 17 08.6	-0.1
	1.4nm,0.7s,baz=91,slow=19,SNR=14						
SCHQ				LR	LR	06 44 08.6	
	comp=Z,58nm,21.6s,baz=6.2,slow=35						
YKA	Yellowknife Ar	78.71	342	P	P	06 18 35.5	+0.2
	0.2nm,0.5s,baz=28,slow=5.0,SNR=3.9						
ILAR	Eielson Array	81.44	357	P	P	06 18 50.4	+0.4
	0.3nm,0.9s,baz=359,slow=3.6,SNR=3.3						
ULM	Lac du Bonnet	81.51	326	LR	LR	06 53 05.9	
	comp=Z,69nm,19.2s,baz=333,slow=34						
PETK	Petropavlovsk-	83.84	27	LR	LR	06 58 48.1	
	comp=Z,39nm,19.6s,baz=153,slow=37						
BDFB	Brasilia	85.56	248	LR	LR	06 59 16.8	
	comp=Z,73nm,20.8s,baz=15,slow=37						

IDC 03 06:12:21.2±12.0, 20.64N×146.31E, h60km±116km, mb3.4/6, mb1 3.7/6, mb1mx3.4/25, mbtmp3.4/6, Error ellipse: s-maj=57.6km s-min=21.2km az=98.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	23.15	320	P	P	06 17 24.2	+1.7
	0.6nm,0.5s,baz=151,slow=9.2,SNR=3.5						
WRA	Warramunga Arr	42.00	197	P	P	06 20 06.4	-0.5
	0.5nm,0.6s,baz=0.8,slow=9.0,SNR=7.6						
ASAR	Alice Springs	45.67	196	P	P	06 20 36.0	-0.3
	0.3nm,0.7s,baz=17,slow=10,SNR=4.2						
ILAR	Eielson Array	61.66	27	P	P	06 22 31.6	-1.1
	1.3nm,0.8s,baz=265,slow=5.6,SNR=18						
NVAR	Mina Array Bea	81.50	52	P	P	06 24 34.1	+1.4
	0.2nm,0.4s,baz=275,slow=8.3,SNR=4.0						
FINES	FINESS Array B	85.37	335	P	P	06 24 50.9	-0.9
	1.8nm,0.8s,baz=66,slow=7.1,SNR=5.2						
LPAZ	La Paz	147.08	88	PKPbc	PKPbc	06 31 59.8	+0.6
	0.9nm,1.0s,baz=259,slow=3.0,SNR=2.0						

IDC 03 06:14:01.5±0.8, 12.41N×143.81E, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.0/26, mbtmp4.1/10, MS3.1/3, Ms1 3.1/3, ms1mx2.8/38, Error ellipse: s-maj=38.6km s-min=20.0km az=100.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	24.55	349	LR	LR	06 28 29.3	
	comp=Z,53nm,18.9s,baz=105,slow=35						
ASAJ	Asahikawa	31.61	358	LR	LR	06 32 07.2	
	comp=Z,24nm,19.2s,baz=193,slow=34						
WRA	Warramunga Arr	33.47	196	P	P	06 20 42.6	-0.1
	2.0nm,0.6s,baz=21,slow=9.8,SNR=17						
ASAR	Alice Springs	37.14	195	P	P	06 21 14.0	-0.2
	0.4nm,0.5s,baz=16,slow=10,SNR=7.4						
MKAR	Makanchi Array	61.62	317	P	P	06 24 22.2	+1.0
	0.6nm,0.6s,baz=91,slow=7.7,SNR=7.0						
ZALV	Zalesovo Beam	61.98	325	P	P	06 24 23.7	+0.3
	0.6nm,0.4s,baz=101,slow=7.5,SNR=3.2						
ILAR	Eielson Array	70.07	25	P	P	06 25 14.4	-0.8
	0.3nm,0.3s,baz=253,slow=5.6,SNR=15						
YKA	Yellowknife Ar	84.38	27	P	P	06 26 36.3	+0.7
	0.8nm,0.4s,baz=289,slow=5.4,SNR=11						
YKA				LR	LR	07 00 08.6	
	comp=Z,9.4nm,20.2s,baz=140,slow=33						
ARCES	ARCESS Array B	87.88	342	P	P	06 26 52.4	-0.4
	2.9nm,0.8s,baz=65,slow=6.6,SNR=9.9						
NVAR	Mina Array Bea	88.46	51	P	P	06 26 57.5	+1.1
	0.5nm,0.5s,baz=266,slow=5.4,SNR=6.5						
JOF	Joensuu	88.92	335	ep	P	06 26 56.5	-1.3
	0.6nm,0.4s						
KAF	Kangasniemi	91.36	335	ep	P	06 27 07.9	-1.2
	0.8nm,0.4s						
FINES	FINESS Array B	91.79	335	P	P	06 27 10.1	-1.1
	2.2nm,0.5s,baz=64,slow=4.4,SNR=20						
HFS	Hagfors	97.48	337	P	P	06 27 36.0	-1.2
	0.7nm,0.6s,baz=130,slow=2.3,SNR=4.6						

IDC 03 06:22:09.4±1.8, 0.59N×126.13E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/22, mbtmp3.9/5, Error ellipse: s-maj=156.9km s-min=24.8km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.94	159	P	P	06 27 05.2	+0.4
	1.6nm,0.3s,baz=337,slow=11,SNR=28						
ASAR	Alice Springs	25.27	163	P	P	06 27 38.0	+0.4
	2.6nm,0.6s,baz=344,slow=11,SNR=25						
STKA	Stephens Creek	35.46	157	P	P	06 29 06.4	-1.3
	1.5nm,0.5s,baz=344,slow=8.6,SNR=5.0						
MKAR	Makanchi Array	59.80	327	P	P	06 32 16.4	-0.1
	0.3nm,0.4s,baz=116,slow=6.6,SNR=4.8						
VNDA	Vanda	80.41	173	P	P	06 34 22.8	+0.4
	0.5nm,0.5s,baz=342,slow=6.3,SNR=4.1						

KRSC 03 06:41:38.9±0.7, 52.56N×159.73E, h33km±33km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.57	18	P	Pn	06 41 51.1	+0.5
SPN				i S	Sn	06 41 59.7	+0.8
NLC	Nalytchevo	0.66	339	eP	Pb	06 41 52.3	+0.3
NLC				i S	Sn	06 42 02.0	+1.0
RUS	Russkaya	0.76	261	P	Pn	06 41 52.7	-0.5
RUS				i S	Sn	06 42 03.0	-0.5
PET	Petropavlovsk	0.80	306	P	Pn	06 41 53.9	0.0
PET				i S	Sn	06 42 04.4	-0.2
UGLR	Uglovaya	0.85	320	P	Pb	06 41 55.2	-0.2
UGLR				i S	Sb	06 42 07.1	+0.4
SDLR	Sedlovina	0.88	325	P	Pn	06 41 55.4	+0.2
SDLR				i S	Sn	06 42 06.8	-0.2
SMAR	Somma	0.90	322	P	Pn	06 41 55.7	+0.2
SMAR				i S	Sb	06 42 08.0	-0.3
AVH	Avacha	0.93	320	P	Pb	06 41 56.3	-0.4
AVH				i S	Sb	06 42 08.6	-0.2
MTVR	Mutnovka	0.95	266	eP	Pn	06 41 55.8	-0.3
MTVR				i S	Sn	06 42 07.6	-1.0
KRER	Koryakskii	0.95	322	P	Pn	06 41 56.7	+0.5
KRER				i S	Sb	06 42 09.4	-0.4
KOK	Koryaka	0.99	318	P	Pn	06 41 57.1	+0.5
KOK				i S	Sb	06 42 10.4	-0.1
GRL	Gorelyy	1.01	270	iP	Pn	06 41 57.4	+0.5
GRL				i S	Sb	06 42 10.9	-0.3
ASAK	Asacha	1.13	262	P	Pn	06 41 58.9	+0.3
ASAK				i S	Sn	06 42 12.7	-0.3
KII	Karymskiy	1.49	354	eP	Pn	06 42 04.7	+1.3
KII				i S	Sb	06 42 23.6	-1.1
GNL	Ganaly	1.57	317	eP	Pn	06 42 05.7	+1.1
GNL				i S	Sn	06 42 25.1	+1.3
APC	Apacha	1.61	284	iP	Pn	06 42 06.1	+1.2
APC				i S	Sb	06 42 26.2	-1.6
PAU	Pauzhetka	2.11	240	eP	Pn	06 42 13.2	+1.4
MKZ	Mys Kozlova	2.33	30	eP	Pn	06 42 15.4	+0.6
MKZ				i S	Sn	06 42 42.3	0.0
TUMR	Tumrok	2.74	5	eP	Pn	06 42 23.1	+2.4
TUMR				i S	Sn	06 42 54.8	+2.1
KMNR	Kamenistaya	3.22	5	P	Pn	06 42 30.4	+3.2
BZGR	Bezymyannyi-Gr	3.43	9	P	Pn	06 42 33.4	+3.2
ZLN	Zelenaya	3.52	10	P	Pn	06 42 33.4	+2.0
KRSR	Krestovskiy	3.70	7	P	Pn	06 42 36.3	+2.5
SRDR	Sredinnyy	3.77	360	P	Pn	06 42 36.8	+2.1
BDR	Baidarnaya	4.11	11	P	Pn	06 42 42.0	+2.6
SMKR	Semkarok	4.16	13	P	Pn	06 42 42.8	+2.7
SRKR	Sorokina	4.19	11	P	Pn	06 42 43.8	+3.3
BKI	Bering	4.54	52	P	Pn	06 42 45.8	+0.6
BKI				i S	Sn	06 43 33.2	-3.7

IDC 03 06:46:52.8±3.8, 23.79S×177.37W, h139km±33km, mb3.7/5, mb1 3.9/7, mb1mx3.6/21, mbtmp3.8/7, MS3.1/1, Ms1 3.1/1, ms1mx2.1/31, Error ellipse: s-maj=32.6km s-min=21.1km az=144.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.46	185	LR	LR	06 49 51.5	
	comp=Z,207nm,20.1s,baz=14,slow=33						
AFI	Afiamalu	11.16	29	P	Pn	06 49 28.4	-0.1
	8.6nm,0.3s,baz=201,slow=2.3,SNR=20						
AFI				S	Sn	06 51 20.0	-12
	3.2nm,0.3s,baz=148,slow=15,SNR=3.5						
URZ	Urewera	15.18	197	P	Pn	06 50 19.2	-0.6
	1.4nm,0.3s,baz=110,slow=3.0,SNR=9.3						
URZ				S	Sn	06 52 59.2	-9.0
	1.2nm,0.3s,baz=340,slow=13,SNR=5.9						
CTA	Charters Tower	33.89	269	P	P	06 53 23.5	+1.0
	2.7nm,0.3s,baz=96,slow=12,SNR=4.3						
PMG	Port Moresby	36.75	287	P	P	06 53 48.3	+1.2
	5.6nm,0.5s,baz=116,slow=18,SNR=3.2						
ASAR	Alice Springs	44.43	260	P	P	06 54 49.0	-1.1
	0.4nm,0.4s,baz=84,slow=8.4,SNR=9.1						
ASAR				PcP	PcP	06 56 31.0	-0.4
	0.4nm,0.7s,baz=108,slow=4.2,SNR=5.0						
WRA	Warramunga Arr	44.82	265	P	P	06 54 52.6	-0.6
	0.4nm,0.3s,baz=95,slow=8.3,SNR=14						
ILAR	Eielson Array	91.38	13	P	P	06 59 42.0	-0.3
	0.2nm,0.5s,baz=215,slow=4.4,SNR=4.2						
AKASG	Malin Array Be	146.14	329	PKPbc	PKPdf	07 06 15.7	+0.5
	1.8nm,0.4s,baz=40,slow=4.7,SNR=15						
BRTR	Keskin Array B	149.41	309	PKPbc	PKPbc	07 06 24.9	-0.8
	1.3nm,0.7s,baz=130,slow=3.5,SNR=6.1						
GERES	GERESS Array B	153.51	343	PKPbc	PKPbc	07 06 34.1	-0.7
	0.3nm,0.5s,baz=355,slow=4.1,SNR=2.4						
TORD	Torodi Ar. Bea	169.38	175	PKPab	PKPab	07 07 58.0	+0.6
	0.9nm,0.9s,baz=183,slow=4.3,SNR=3.5						

IDC 03 06:48:49.1±2.5, 8.19S×108.99E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.8/23, mbtmp3.9/5, ML3.7/1, MS3.6/1, Ms1 3.6/1, ms1mx2.1/46, Error ellipse: s-maj=129.9km s-min=24.3km az=50.0

ISCJB 03 06:48:57.3±0.6, 8.55S±0.08×109.11E±0.04, h60km±13km, mb3.8/4, Error ellipse: s-maj=13.4km s-min=5.7km az=172.5

AUST 03 06:48:57.8±0.0, 8.49S×108.98E, h66km, Error ellipse: s-maj=1.9km s-min=0.7km az=340.0

DJA 03 06:48:57.9±0.9, 9°S±5°×10°9E±°, h7km±7km, M4.3/14, mb4.5/1, MLv4.1/14

ISC 03 06:48:58.5±1.7, 8.63S±0.07×109.07E±0.04, h36km±2km, n36, σ1s75/35, mb3.9/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPJI	Karang Pucung	1.30	354	P	Pn	06 49 26.6	+6.5
BJII	Banjamegara	1.44	26	P	Pn	06 49 20.1	-2.0
YOGI	Yogyakarta	1.46	56	P	Pn	06 49 20.8	-1.5
YOGI				S	Sn	06 49 35.8	-4.4
UGM	Wanagama	1.61	64	P	Pn	06 49 23.4	-1.0
UGM				S	Sn	06 49 41.0	-2.9
UGM	Wanagama	1.61	64	P	Pn	06 49 23.2	-1.2
	baz=1.6,SNR=54						
UGM				S	Sn	06 49 40.5	-3.4
	baz=1.6,SNR=11						
CISI	Cisompet, Garu	1.64	311	P	Pn	06 49 23.9	-1.0
CISI				S	Sn	06 49 52.9	+8.2
CISI	Cisompet, Garu	1.64	311	P	Pn	06 49 23.9	-1.0
	baz=1.5,SNR=47						
TGJI	Tegal	1.75	2	P	Pn	06 49 23.3	-3.1
SMRI	Semarang	2.08	41	P	Pn	06 49 33.7	+2.9
SMRI	Semarang	2.08	41	S	Sn	06 49 54.3	-1.2
	baz=2.0,SNR=4.5						
PCJI	Pacitan	2.13	78	P	Pn	06 49 31.7	+0.2
PCJI				S	Sn	06 49 55.3	-1.5
LEM	Lembang	2.30	321	P	Pn	06 49 35.2	+1.2
LEM				S	Sn	06 50 10.2	+9.0
LEM	Lembang	2.30	321	P	Pn	06 49 34.2	+0.2
	baz=2.1,SNR=8.9						
CNJI	Cibinong	2.33	304	P	Pn	06 49 33.6	-0.7
PWJI	Pagerwojo	2.77	78	P	Pn	06 49 40.1	-0.3
PWJI				S	Sn	06 50 11.4	-1.2
SJI	Sawahan	2.81	72	P	Pn	06 49 40.9	-0.2
GRJI	Gresik	3.79	63	P	Pn	06 49 53.8	-0.5
GRJI				S	Sn	06 50 34.9	-2.7
XMI	Christmas Isla	3.79	241	P	Pn	06 49 55.4	+1.0
	baz=3.8,SNR=3.2						
XMI				S	Sn	06 50 35.2	-2.6
	baz=3.8,SNR=8.2						
XMIS	Christmas Isla	3.84	241	P	Pn	06 49 55.9	+0.8
	baz=3.8,SNR=10						
XMIS				S	Sn	06 50 35.0	-4.0
	baz=3.8,SNR=4.8						
GMJI	Gumukmas	4.34	86	P	Pn	06 50 02.2	+0.2
JAGI	Jajag, Banyuwa	5.03	89	P	Pn	06 50 11.8	+0.3
JAGI	Jajag, Banyuwa	5.03	89	P	Pn	06 50 11.8	+0.3
	baz=5.1,SNR=8.3						
SRBI	Singaraja	6.10	85	P	Pn	06 50 27.6	+1.4
LUWI	Luwuk	15.59	62	S	S	06 55 41.9	+0.1
	baz=16,SNR=5.1						
FITZ	Fitzroy Crossi	18.65	122	P	P	06 53 12.8	-0.6
	0.2nm,0.3s,baz=306,slow=9.9,SNR=5.4						
FITZ				S	Sn	06 56 26.0	-16
	0.1nm,0.3s,baz=330,slow=20,SNR=2.3						
FITZ	Fitzroy Crossi	18.65	122	P	P	06 53 13.2	-0.2
	baz=19,SNR=5.5						
MEEK	Meekatharra	20.07	154	P	Pn	06 53 36.4	+5.5
	baz=20,SNR=3.8						
MEEK				S	S	06 57 04.7	-7.9
	baz=20,SNR=8.0						
BNDI	Bandanaira	21.09	80	P	P	06 53 50.0	+10
	baz=21,SNR=9.7						
MTN	Manton Dam	22.07	103	P	P	06 53 51.8	+1.2
	baz=22,SNR=3.8						
WRA	Warramunga Arr	26.90	117	P	P	06 54 34.2	-2.3
	1.2nm,0.5s,baz=290,slow=11,SNR=12						
ASAR	Alice Springs	28.08	125	P	P	06 54 45.5	-1.5
	0.8nm,0.5s,baz=304,slow=9.5,SNR=14						
PALU	Palau	29.88	59	S	S	06 59 34.8	-23
	baz=30,SNR=7.4						
STKA	Stephens Creek	38.03	132	P	P	06 56 12.1	-1.4
	3.1nm,0.9s,baz=318,slow=9.5,SNR=4.1						
AAK	Ala-Archa	59.98	331	LR	LR	07 26 20.6	
	comp=Z,42nm,18.3s,baz=258,slow=38						
MKAR	Makanchi Array	60.12	339	P	P	06 58 55.3	-7.0
	0.5nm,0.4s,baz=150,slow=7.5,SNR=6.3						
MAW	Mawson	66.42	198	P	P	06 59 36.6	-7.1
	baz=67,SNR=15						

IDC 03 06:54:00.4±7.6, 8.14S×156.41E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=233.5km s-min=42.1km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.38	239	P	P	06 59 20.4	-0.2
	0.7nm,0.5s,baz=65,slow=9.4,SNR=6.3						
ASAR	Alice Springs	26.52	232	P	P	06 59 40.3	+0.3
	0.3nm,0.8s,baz=78,slow=8.0,SNR=4.1						
MKAR	Makanchi Array	85.19	318	P	P	07 06 38.8	-0.1
	0.9nm,0.7s,baz=98,slow=5.4,SNR=8.8						

MEX 03 07:02:12.8±0.5, 15.49N×99.74W, h16km±18km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	1.38	355	iP	Pn	07 02 33.7	-3.7
ACX				i S	Sn	07 02 50.0	-5.4
CAIG	El Cayaco	1.63	342	iP	Pn	07 02 37.5	-3.4
CAIG				i S	Sn	07 02 56.6	-5.0
PNIG	Pinotepa	1.80	60	eP	Pn	07 02 39.6	-3.6
PNIG				i S	Sn	07 03 00.3	-5.4
MEIG	Mezcala	2.43	3	eP	Pn	07 02 48.8	-3.2
MEIG				i S	Sn	07 03 17.0	-4.5
ARIG	Puente Sto Nin	2.84	348	iP	Pn	07 02 53.9	-3.7
ARIG				i S	Sn	07 03 26.8	-4.6
PLIG	Platanillo	2.90	5	eP	Pn	07 02 55.3	-3.1
PLIG				i S	Sn	07 03 28.2	-4.9
UTMO	Huajuapan	2.98	38	iP	Pn	07 02 57.5	-2.2
UTMO				i S	Sn	07 03 31.7	-3.7
YAIG	Yautepec	3.42	11	iP	Pn	07 03 03.5	-2.2
YAIG				i S	Sn	07 03 41.3	-4.7
PPM	Popocatepetl	3.72	17	iP	Pn	07 03 07.7	-2.6
PPM				i S	Sn	07 03 50.7	-3.5

CSEM 03 07:05:52.3, 33.85N×25.48E, h22km, MD3.7, After ATH

ATH 03 07:05:52.3, 33.85N×25.48E, h22km±2km, MD3.7/8, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	Khrisi	1.04	10	ePN	Pb	07 06 12.0	+0.4
XRY	Khrisi	1.04	10	ePn	Pb	07 06 12.0	+0.4
SIVA	Sivas	1.29	335	ePN	Pb	07 06 17.5	+1.6
SIVA				eSN	Sb	07 06 34.7	+2.7
SIVA	Sivas	1.29	335	ePn	Pb	07 06 17.5	+1.6
SIVA				eSn	Sb	07 06 34.7	+2.7
LAST	Lasithi	1.31	360	ePN	Pb	07 06 16.5	+0.2
LAST	Lasithi	1.31	360	ePn	Pb	07 06 16.5	+0.2
ZKR	Zakros	1.40	26	ePN	Pb	07 06 18.8	+1.0
ZKR				eSN	Sb	07 06 37.3	+2.0
ZKR	Zakros	1.40	26	ePn	Pb	07 06 18.8	+1.0
ZKR				eSn	Sb	07 06 37.3	+2.0
NPS	Neapolis	1.41	4	ePN	Pb	07 06 18.3	+0.3
NPS				eSN	Sb	07 06 38.0	+2.4
NPS	Neapolis	1.41	4	ePn	Pb	07 06 18.3	+0.3
NPS				eSn	Sb	07 06 38.0	+2.4
IDI	Anoyia	1.52	341	ePN	Pb	07 06 21.2	+1.4
IDI	Anoyia	1.52	341	ePn	Pb	07 06 21.2	+1.4
VAM	Vamos	1.88	326	ePB	Pn	07 06 24.5	+1.4
VAM				eSN	Sb	07 06 49.2	+0.2
VAM	Vamos	1.88	326	ePb	Pn	07 06 24.5	+1.4
VAM				eSn	Sb	07 06 49.2	+0.2
KYTH	Kithira	3.15	321	ePB	Pb	07 06 47.1	-0.5
KYTH	Kithira	3.15	321	ePb	Pb	07 06 47.1	-0.5

ISCJB 03 07:07:38.7±0.2, 4.72N±0.03×123.13E±0.04, h582km, mb3.9/26, Error ellipse: s-maj=5.8km s-min=4.1km az=153.1

IDC 03 07:07:40.0±0.7, 4.62N×123.10E, h583km±8km, mb3.4/24, mb1 3.5/25, mb1mx3.4/32, mbtmp3.4/25, Error ellipse: s-maj=16.3km s-min=6.4km az=66.0

AUST 03 07:07:41.7, 4.50N×123.00E, h600km

DJA 03 07:07:41.0±0.7, 5°N±9°×12°3E±°, h562km±4km, M4.7/39, mB5.5/7, mb4.4/39, MLv4.6/10, Mw(mB)5.0/7

ISC 03 07:07:40.1±0.4, 4.70N±0.06×123.05E±0.07, h582km, n105, σ1s24/117, mb4.0/25, 1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	2.78	25	iP	P	07 08 55.4	-1.1
DAV	Davao City (W)	3.45	47	P	P	07 08 59.1	-1.4
	101nm,0.3s,baz=220,slow=19,SNR=3.8						
DAV				S	S	07 10 06.7	+0.7
	93nm,0.3s,baz=235,slow=13,SNR=6.8						
MNI	Manado	3.69	151	P	P	07 09 00.5	-1.7
GTOI	Gorontalo	4.03	181	P	P	07 09 02.0	-2.5
KMSI	Cibinong	4.20	167	P	P	07 09 04.4	-1.3
MRSI	Marisa	4.33	195	P	P	07 09 05.3	-1.4
MYLDM	Lahad Datu	4.56	276	P	P	07 09

BASI	**Baing, Sumba** 125nm,1.2s	**15.02**	**189**	P	**P**	07 10 49.5	+0.5
BLJI	**Banyuglugur** 50nm,0.8s,3µm	**15.55**	**217**	P	**P**	07 10 55.4	+1.3
JAGI	**Jajag, Banyuwa** 55nm,0.8s	**15.80**	**214**	P	**P**	07 10 56.8	+0.3
GMJI	**Gumukmas** 36nm,1.5s	**16.05**	**217**	P	**P**	07 10 59.7	+0.9
PWJI	**Pagerwojo** 38nm,2.0s	**16.89**	**222**	P	**P**	07 11 05.6	-0.9
TPI	**Tanjungpandan** 13nm,1.1s	**17.07**	**245**	P	**P**	07 11 09.2	+1.1
SMRI	**Semarang** 52nm,0.7s	**17.16**	**227**	P	**P**	07 11 08.4	-0.5
PCJI	**Pacitan** 68nm,1.8s	**17.44**	**223**	P	**P**	07 11 12.4	+0.9
UGM	**Wanagama** 121nm,1.8s	**17.69**	**225**	P	**P**	07 11 15.0	+1.2
YOGI	**Yogyakarta** 357nm,1.5s	**17.79**	**226**	P	**P**	07 11 16.1	+1.4
BJII	**Banjamegara** 60nm,1.2s	**17.89**	**228**	P	**P**	07 11 17.2	+1.6
TGJI	**Tegal** 28nm,1.1s	**18.03**	**231**	P	**P**	07 11 18.4	+1.5
KPJI	**Karang Pucung** 2µm,0.8s,82µm	**18.47**	**230**	P	**P**	07 11 21.8	+0.9
JAY	**Jayapura** baz=19,SNR=9.3	**19.04**	**112**	P	**P**	07 11 28.8	+2.7
MTN	**Manton Dam** baz=19,SNR=3.3	**19.19**	**155**	P	**P**	07 11 30.3	+3.0
MTN	baz=19,SNR=3.6			S	**S**	07 14 35.4	+3.8
KDU	**Kakadu** baz=20,SNR=8.0	**19.64**	**152**	P	**P**	07 11 31.0	-0.5
KTGM	**Kuala Trenggan**	**19.85**	**273**	P	**P**	07 11 34.1	+0.7
FITZ	**Fitzroy Crossi** 1.5nm,0.6s,baz=359,slow=9.0,SNR=9.4	**22.80**	**174**	P	**P**	07 11 59.2	-0.5
FITZ	1.7nm,0.9s,baz=11,slow=19,SNR=2.5			S	**S**	07 15 27.3	-1.3
FITZ	3.8nm,0.7s,baz=347,slow=4.2,SNR=11			ScP	**ScP**	07 18 12.7	+0.2
FITZ	**Fitzroy Crossi** baz=23,SNR=5.6	**22.80**	**174**	P	**P**	07 11 59.0	-0.7
PSI	**Prapat** 13nm,0.7s,baz=88,slow=5.5,SNR=8.7	**24.15**	**266**	P	**P**	07 12 11.6	-0.4
WRA	**Warramunga Arr** 3.4nm,0.3s,baz=334,slow=9.9,SNR=23	**26.88**	**156**	P	**P**	07 12 35.0	-0.8
WRA	1.3nm,0.9s,baz=315,slow=3.0,SNR=3.9			PcP	**PcP**	07 15 37.8	-0.7
WRA	1.5nm,0.7s,baz=336,slow=15,SNR=7.2			S	**S**	07 16 28.3	-4.4
WRA	1.2nm,0.6s,baz=342,slow=3.2,SNR=8.6			ScP	**ScP**	07 18 24.0	-0.2
CMAR	**Chiang Mai Arr** 1.5nm,0.3s,baz=118,slow=7.1,SNR=9.3	**27.24**	**302**	P	**P**	07 12 40.3	+1.3
COEN	**Coen** baz=27,SNR=7.5	**27.24**	**133**	P	**P**	07 12 38.1	-0.9
PMG	**Port Moresby** 7.9nm,0.7s,baz=283,slow=10,SNR=4.0	**27.81**	**120**	P	**P**	07 12 44.2	+0.1
ASAR	**Alice Springs** 1.2nm,0.3s,baz=339,slow=7.5,SNR=41	**30.11**	**160**	P	**P**	07 13 03.9	+0.1
ASAR	0.6nm,0.6s,baz=346,slow=4.0,SNR=5.8			PcP	**PcP**	07 15 46.8	+0.1
ASAR	7.8nm,0.9s,baz=350,slow=21,SNR=31			S	**S**	07 17 20.4	-2.3
ASAR	3.5nm,0.5s,baz=342,slow=3.0,SNR=28			ScP	**ScP**	07 18 34.6	+0.1
MTSU	**Mount Surprise** baz=31,SNR=6.9	**30.90**	**138**	P	**P**	07 13 11.6	+1.0
MEEK	**Meekatharra** baz=31,SNR=12	**31.44**	**188**	P	**P**	07 13 14.3	-0.8
KSRS	**Korea Array** 0.7nm,0.5s,baz=194,slow=9.8,SNR=2.5	**32.91**	**7**	P	**P**	07 13 29.1	+1.7
MORW	**Morawa** baz=34,SNR=10	**34.24**	**191**	P	**P**	07 13 38.1	-0.5
MJAR	**Matsushiro Arr** 1.4nm,0.5s,baz=205,slow=9.5,SNR=6.4	**34.62**	**22**	P	**P**	07 13 41.4	-0.4
FORT	**Forrest** baz=36,SNR=13	**35.60**	**173**	P	**P**	07 13 50.1	+0.3
KMBL	**Kambalda** baz=36,SNR=8.2	**35.88**	**182**	P	**P**	07 13 52.0	-0.2
KLBR	**Kellerberrin** baz=36,SNR=15	**36.44**	**188**	P	**P**	07 13 56.1	-0.7
STKA	**Stephens Creek** 4.8nm,1.0s,baz=329,slow=11,SNR=6.5	**40.43**	**155**	P	**P**	07 14 29.4	+0.4
TAPN	**Taplejung** 18nm,0.6s	**40.51**	**308**	*eP*	**P**	07 14 30.8	+0.7
ODAN	**Odare** 38nm,0.8s	**40.54**	**307**	*eP*	**P**	07 14 30.9	+0.6
RAMN	**Ramite** 28nm,0.7s	**41.21**	**306**	*eP*	**P**	07 14 36.4	+0.7
JIRN	**Jiri** 40nm,0.7s	**41.85**	**307**	*eP*	**P**	07 14 41.6	+0.8
GUN	**Gumba** 60nm,0.6s	**42.21**	**307**	*eP*	**P**	07 14 44.1	+0.5
PKI	**Pulchoki** 11nm,0.5s	**42.44**	**307**	*eP*	**P**	07 14 45.5	+0.1
KKN	**Kakani** 16nm,0.5s	**42.63**	**307**	*eP*	**P**	07 14 47.1	+0.3
DMN	**Daman** 32nm,0.9s	**42.69**	**306**	*eP*	**P**	07 14 47.6	+0.3
KOLN	**Koldanda** 72nm,0.6s	**43.97**	**306**	*eP*	**P**	07 14 57.9	+0.7
DANN	**Dangsing** 75nm,0.6s	**44.09**	**307**	*eP*	**P**	07 14 58.5	+0.4
PYUN	**Piuthan** 69nm,0.6s	**44.60**	**306**	*eP*	**P**	07 15 02.8	+0.8
MKAR	**Makanchi Array** 3.2nm,0.4s,baz=123,slow=8.0,SNR=58	**54.70**	**327**	P	**P**	07 16 16.3	+0.9
MKAR	3.2nm,0.6s,baz=126,slow=3.8,SNR=17			PcP	**PcP**	07 17 09.1	0.0
MKAR	0.8nm,0.5s,baz=128,slow=4.6,SNR=8.8			ScP	**ScP**	07 20 12.8	+0.6
AAK	**Ala-Archa** 1.0nm,0.3s,baz=124,slow=3.6	**57.20**	**319**	P	**P**	07 16 34.8	+1.9
AAK	2.1nm,0.5s,baz=174,slow=9.2,SNR=3.5			PcP	**PcP**	07 17 19.9	+0.8
ZALV	**Zalesovo Beam** 1.3nm,0.3s,baz=134,slow=8.3,SNR=3.0	**58.10**	**334**	P	**P**	07 16 38.2	-0.4
KURBB	**Kurchatov Arra** 5.3nm,0.7s,baz=129,slow=6.2,SNR=65	**58.98**	**329**	P	**P**	07 16 44.9	+0.5
BVAR	**Borovoye Array** 2.1nm,0.6s,baz=134,slow=8.5,SNR=16	**64.53**	**328**	P	**P**	07 17 20.7	+0.2
AKTO	**Aktyubinsk** 5.3nm,0.6s,baz=95,slow=11,SNR=9.7	**70.64**	**322**	P	**P**	07 17 57.5	-0.2
KBZ	**Khabaz** 0.7nm,0.4s,baz=80,slow=6.1,SNR=3.1	**79.65**	**313**	P	**P**	07 18 47.0	-1.0
MAW	**Mawson** 1.5nm,0.7s,baz=39,slow=13,SNR=3.9	**83.41**	**200**	P	**P**	07 19 07.1	+0.5
VNDA	**Vanda** 1.0nm,1.0s,baz=325,slow=3.4,SNR=4.0	**84.86**	**172**	P	**P**	07 19 13.9	+0.3
BRTR	**Keskin Array B** 0.7nm,0.4s,baz=126,slow=9.6,SNR=4.3	**86.58**	**309**	P	**P**	07 19 21.9	-0.8
JOF	**Joensuu** 1.8nm,0.3s	**86.65**	**333**	*ep*	**P**	07 19 20.9	-1.5
ARCES	**ARCESS Array B** 1.5nm,0.6s,baz=81,slow=7.5,SNR=5.6	**88.28**	**340**	P	**P**	07 19 28.9	-1.0
AKASG	**Malin Array Be** 1.4nm,0.6s,baz=66,slow=5.4,SNR=4.7	**88.83**	**321**	P	**P**	07 19 31.4	-1.4
KAF	**Kangasniemi** 3.7nm,0.5s	**89.04**	**332**	*ep*	**P**	07 19 32.4	-1.2
FINES	**FINESS Array B** 2.5nm,0.5s,baz=56,slow=5.4,SNR=14	**89.25**	**332**	P	**P**	07 19 33.8	-0.7
NOA	**NORSAR Array B** 0.6nm,0.7s,baz=70,slow=4.6,SNR=3.4	**96.28**	**333**	P	**P**	07 20 05.3	-1.4
GERES	**GERESS Array B** 0.2nm,0.3s,baz=54,slow=5.0,SNR=2.5	**99.04**	**321**	P	**Pdif**	07 20 19.1	-0.3
TORD	**Torodi Ar. Bea** 1.5nm,0.6s,baz=82,slow=1.5,SNR=11	**119.13**	**288**	PKP	**PKPdf**	07 25 23.6	-1.0
SCHQ	**Schefferville** 1.7nm,0.9s,baz=270,slow=20,SNR=3.4	**120.12**	**7**	PKP	**PKPdf**	07 25 25.2	-0.2
DBIC	**Dimbokro** 2.2nm,0.7s,baz=95,slow=11,SNR=2.5	**126.79**	**282**	PKP	**PKPdf**	07 25 38.9	-0.5
TKL	**Tuckaleechee C** 1.4nm,0.5s,baz=236,slow=4.1,SNR=6.2	**132.62**	**30**	SKPbc	**SKPbc**	07 28 24.0	+0.7

WEL 03 07:16:00.2±0.1, 41°.42S×172°.34E, h5km, ML3.5/21, 1C, Error ellipse: s-maj=1.3km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSZ	**Denniston Nort**	**0.52**	**230**	⇑P	Pg	07 16 10.4	+0.1
DSZ				SG	Sg	07 16 17.3	+0.2
DSZ				AML	AML	07 16 26.8	
THZ	**Tophouse**	**0.55**	**129**	PG	Pg	07 16 10.7	-0.1
THZ				SG	Sg	07 16 18.2	+0.1
THZ				AML	AML	07 16 18.3	
QRZ	**Quartz Range**	**0.61**	**14**	P*	Pg	07 16 12.2	+0.4
QRZ				SG	Sg	07 16 20.6	+0.8
QRZ				AML	AML	07 16 22.6	
NNZ	**Nelson**	**0.81**	**76**	P*	Pg	07 16 15.4	-0.3
NNZ				AML	AML	07 16 32.1	
NNZ				AML	AML	07 16 35.2	
BSWZ	**Blackbirch Sta**	**1.19**	**105**	P*	Pg	07 16 23.1	0.0
BSWZ				AML	AML	07 16 42.0	
BSWZ				AML	AML	07 16 42.6	
TUWZ	**Tuamarina**	**1.21**	**91**	P*	Pg	07 16 22.4	-1.0
TUWZ				AML	AML	07 16 41.8	
TUWZ				AML	AML	07 16 43.0	
KHZ	**Kahutara**	**1.34**	**138**	P*	Pg	07 16 26.2	+0.3
DUWZ	**D'Urville Isla**	**1.34**	**63**	PN	Pn	07 16 24.9	-0.7
DUWZ				AML	AML	07 16 46.4	
DUWZ				AML	AML	07 16 47.9	
LTZ	**Lake Taylor**	**1.36**	**182**	PN	Pn	07 16 26.1	+0.1
LTZ				AML	AML	07 16 46.1	
LTZ				AML	AML	07 16 46.3	
CMWZ	**Cape Campbell**	**1.45**	**104**	PN	Pg	07 16 28.4	+0.5
CMWZ				AML	AML	07 16 49.1	
CMWZ				AML	AML	07 17 00.6	
TCW	**Tory Channel**	**1.47**	**83**	PN	Pn	07 16 27.3	0.0
TCW				AML	AML	07 16 49.8	
TCW				AML	AML	07 16 49.8	
SNZO	**South Karori**	**1.79**	**87**	PN	Pb	07 16 32.7	-0.7
SNZO				AML	AML	07 16 59.8	
SNZO				AML	AML	07 17 00.3	
WEL	**Wellington**	**1.83**	**87**	PN	Pb	07 16 34.0	-0.1
BHW	**Baring Head**	**1.91**	**91**	PN	Pb	07 16 34.6	-0.8
BHW				AML	AML	07 17 03.7	
OXZ	**Oxford**	**1.92**	**187**	PN	Pn	07 16 33.3	-0.3
KIW	**Kapiti Island**	**2.02**	**75**	PN	Pb	07 16 36.7	-0.7
KIW				AML	AML	07 17 07.5	
KIW				AML	AML	07 17 07.8	
WVZ	**Waitaha Valley**	**2.04**	**215**	PN	Pn	07 16 34.5	-0.6
WVZ				AML	AML	07 17 12.8	
WVZ				AML	AML	07 17 14.9	
CAW	**Cannon Point**	**2.08**	**82**	PN	Pb	07 16 37.3	-1.2
CAW				AML	AML	07 17 07.9	
CAW				AML	AML	07 17 08.0	
MSWZ	**Moikau Station**	**2.19**	**91**	PN	Pn	07 16 37.8	+0.5
MSWZ				AML	AML	07 17 06.9	
PLWZ	**Palliser**	**2.20**	**95**	PN	Pn	07 16 37.7	+0.3
OGWZ	**Otaki Gorge**	**2.22**	**75**	PN	Pb	07 16 39.5	-1.3
MQZ	**McQueen's Vall**	**2.30**	**174**	PN	Pn	07 16 38.2	-0.5
NMEZ	**Namu Road**	**2.32**	**31**	PN	Pn	07 16 40.3	+1.3
PAWZ	**Paruwai Farm**	**2.32**	**90**	PN	Pn	07 16 39.5	+0.4
MTW	**Mount Morrison**	**2.40**	**85**	PN	Pn	07 16 40.5	+0.4
MTW				AML	AML	07 17 12.1	
NWEZ	**Newall Road**	**2.44**	**29**	PN	Pn	07 16 41.6	+0.9
HOWZ	**Holdsworth Sta**	**2.45**	**79**	PN	Pn	07 16 41.9	+1.0
KHEZ	**Kahui Hut**	**2.48**	**32**	PN	Pn	07 16 42.3	+1.0
DFE	**Dawson Falls**	**2.48**	**33**	PN	Pn	07 16 42.7	+1.3
NEZ	**North Egmont**	**2.53**	**33**	PN	Pn	07 16 43.4	+1.4
PKE	**Pukeiti**	**2.55**	**30**	PN	Pn	07 16 43.6	+1.3
PKE				AML	AML	07 17 33.6	
MRZ	**Mangatainoka R**	**2.56**	**74**	PN	Pn	07 16 43.0	+0.5
MRZ				AML	AML	07 17 24.0	
MRZ				AML	AML	07 17 26.0	
WAZ	**Wanganui**	**2.61**	**51**	PN	Pn	07 16 45.3	+2.2
FOZ	**Fox Glacier**	**2.91**	**222**	PN	Pn	07 16 45.2	-1.8
FOZ				AML	AML	07 17 03.5	
FOZ				AML	AML	07 17 30.7	
VRZ	**Vera Road**	**2.94**	**40**	PN	Pn	07 16 48.6	+1.0
PKVZ	**Pokaka**	**3.13**	**48**	PN	Pn	07 16 51.7	+1.4
FWVZ	**Far West T-bar**	**3.27**	**50**	PN	Pn	07 16 53.6	+1.2
FWVZ				AML	AML	07 17 47.4	
WHVZ	**Whangaehu Hut**	**3.27**	**50**	PN	Pn	07 16 54.8	+2.4
WPVZ	**Whakapapa**	**3.30**	**49**	PN	Pn	07 16 54.2	+1.5
TUVZ	**Tukino**	**3.32**	**51**	PN	Pn	07 16 56.1	+3.1
TWVZ	**Taurewa**	**3.33**	**46**	PN	Pb	07 16 56.7	-3.2
LBZ	**Lake Benmore**	**3.36**	**207**	PN	Pn	07 16 54.9	+1.5
HIZ	**Hauiti**	**3.48**	**35**	PN	Pn	07 16 55.2	+0.2
JCZ	**Jackson Bay**	**3.74**	**224**	PN	Pn	07 16 57.8	-0.9
ODZ	**Otahua Downs**	**3.83**	**198**	PN	Pn	07 16 58.8	-1.0
TLZ	**Tolley Road**	**3.95**	**40**	PN	Pn	07 17 01.9	+0.5
TOZ	**Tahuroa Road**	**4.42**	**35**	PN	Pn	07 17 08.3	+0.5
MKAZ	**Moumakai**	**4.83**	**28**	PN	Pn	07 17 14.7	+1.2
WCZ	**Waipu Caves**	**5.69**	**17**	PN	Pn	07 17 25.5	+0.1

*ISCJB **03** 07:18:28.4±0.6, 24°.97N±0°.05×109°.21W±0°.05, h17km, mb3.4/2, MS3.0/6, Error ellipse: s-maj=6.5km s-min=6.0km az=178.1*

*IDC **03** 07:18:28.9±6.6, 24°.97N×109°.67W, h0km, mb3.4/2, mb1 3.7/6, mb1mx3.6/26, mbtmp3.4/6, ML3.3/4, MS3.1/7, Ms1 3.1/7, ms1mx2.9/22, Error ellipse: s-maj=92.5km s-min=66.5km az=180.0*

*MEX **03** 07:18:31.2±0.5, 24°.98N×109°.18W, h10km, MD3.8*

ISC 03 07:18:29.7±0.9, 24°.91N±0°.07×109°.27W±0°.06, h17km, n15, σ1§31/14, MS3.0/6, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.24**	**230**	*i* P	**Pn**	**07 18 51.9**	**-0.4**
LPIG				*e*S	**Sg**	**07 19 09.4**	**-0.5**
SRIG	**Santa Rosalia**	**3.59**	**313**	*e*P	**Pn**	**07 19 25.1**	**+0.5**
SRIG				*e*S	**Sn**	**07 20 05.3**	**-1.2**
HPIG		**3.82**	**57**	*e*P	**Pn**	**07 19 27.5**	**-0.5**
HPIG				*i* S	**Sn**	**07 20 09.8**	**-2.8**
ANIG	**Ahuacatlan**	**5.82**	**130**	*i* P	**Pn**	**07 19 54.8**	**-0.6**
ANIG				*i* S	**Sn**	**07 21 03.1**	**+1.3**
ANMO	**Albuquerque** 0.1nm,0.3s,baz=192,slow=18,SNR=1.7	**10.29**	**13**	Pn	**Pn**	**07 20 58.5**	**+1.7**
ANMO	0.1nm,0.3s,baz=170,slow=17,SNR=2.5			Lg	Lg	07 23 45.1	
PFO	**Pinyon Flat Ob** 0.2nm,0.3s,baz=213,slow=4.4,SNR=1.9	**10.70**	**326**	Pn	**Pn**	**07 21 01.8**	**-0.4**
PFO	comp=Z,56nm,18.6s,baz=260,slow=36			LR	LR	07 24 49.3	
NVAR	**Mina Array Bea** 0.0nm,0.3s,baz=154,slow=13,SNR=7.0	**15.50**	**333**	Pn	**Pn**	**07 22 09.1**	**+1.4**
PDAR	**Pinedale Array** 0.0nm,0.3s,baz=163,slow=12,SNR=3.9	**17.81**	**359**	P	**Pn**	**07 22 36.9**	**-0.1**
YBH	**Yreka Blue Hor** comp=Z,41nm,21.2s,baz=328,slow=34	**20.14**	**330**	LR	LR	07 29 35.7	
NEW	**Newport** 1.4nm,0.6s,baz=151,slow=13,SNR=2.6	**24.12**	**347**	P	**P**	**07 23 45.7**	**+1.2**
NEW	comp=Z,43nm,19.1s,baz=87,slow=40			LR	LR	07 34 36.6	
TKL	**Tuckaleechee C** comp=Z,73nm,20.5s,baz=80,slow=38	**24.42**	**58**	LR	LR	07 34 07.4	
YKA	**Yellowknife Ar** comp=Z,7.2nm,19.3s,baz=110,slow=36	**37.74**	**356**	LR	LR	07 41 12.4	
ILAR	**Eielson Array** 0.3nm,0.7s,baz=155,slow=6.8,SNR=6.2	**46.63**	**339**	P	**P**	**07 26 56.8**	**+0.1**
SFJD	**Kangerlussuaq** comp=Z,51nm,19.2s,baz=228,slow=36	**55.19**	**24**	LR	LR	07 51 39.5	
PETK	**Petropavlovsk-** comp=Z,18nm,19.1s,baz=205,slow=33	**72.23**	**321**	LR	LR	07 57 31.6	

NEIC 03 07:24:12.0±0.3, 41°.62N×107°.39W, h5km, ML3.7, MW3.2(USGS), 22C-37D, Error ellipse: s-maj=4.9km s-min=3.8km az=53.0, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M21A	**Separation Pea** baz=0.1,SNR=1000	**0.03**	**126**	⇓P	Pg	07 24 16.9	+3.5
M21A	baz=0.1			S	Sg	07 24 20.7	+6.4
L21A	**Rawlins** baz=0.4,SNR=517	**0.34**	**3**	⇑P	Pb	07 24 21.0	+0.1
L21A	baz=0.4			⇓S	Sb	07 24 27.5	+0.5
M20A	**Sweetwater, Wa** baz=0.6,SNR=625	**0.61**	**258**	P	Pb	07 24 25.4	-0.1
M20A	baz=0.6			⇑S	Sb	07 24 34.3	-0.3
M22A	**Cedar Creek Ra** baz=0.6	**0.64**	**110**	⇑P	Pg	07 24 23.8	-0.8
M22A	baz=0.6			⇑S	Sg	07 24 32.2	-0.9
L20A	**Wamsutter** baz=0.9,SNR=680	**0.81**	**299**	P	Pb	07 24 29.1	+0.2
L20A	baz=0.9			⇑S	Sb	07 24 41.1	+0.8
L22A	**Ellis Ranch, M** baz=0.8,SNR=1000	**0.82**	**60**	⇓P	Pb	07 24 29.2	0.0
N21A	**Black Mountain** baz=0.8	**0.87**	**186**	⇑P	Pg	07 24 28.2	-0.7
N21A	baz=0.8			⇑S	Sg	07 24 39.0	-1.4
N20A	**Spence Gulch,** baz=1.0,SNR=1000	**1.02**	**220**	⇓P	Pg	07 24 31.7	-0.3
N22A	**Wattenberg Ran** baz=1.0	**1.08**	**139**	⇓P	Pg	07 24 31.3	-1.8
N22A	baz=1.0			⇓S	Sg	07 24 44.4	-3.1
K22A	**Casper** baz=1.2,SNR=1000	**1.21**	**32**	⇓Pb	Pg	07 24 35.4	-0.2
K22A	baz=1.2			⇑Sb	Sb	07 24 51.8	-0.1
K20A	**Yellowstone Ra** baz=1.3,SNR=1000	**1.25**	**326**	Pb	Pn	07 24 36.6	+0.2
K20A	baz=1.3			⇑Sb	Sn	07 24 54.5	+0.6
N23A	**Red Feather La** baz=1.2	**1.31**	**123**	⇑P	Pn	07 24 35.1	-2.3
N23A	baz=1.2			⇓Sb	Sg	07 24 51.4	-3.4
M19A	**Rock Springs** baz=1.4,SNR=129	**1.33**	**266**	⇓Pb	Pn	07 24 37.0	-0.6
M19A	baz=1.4			⇓Sb	Sg	07 24 54.9	-0.4
L23A	**Garrett** baz=1.3,SNR=1000	**1.35**	**68**	⇑Pb	Pn	07 24 36.9	-1.0
L23A	baz=1.3			⇓Sb	Sb	07 24 54.7	-1.4
O21A	**Pagoda** baz=1.3,SNR=76	**1.41**	**182**	⇓Pb	Pn	07 24 37.0	-1.7
O21A	baz=1.3			⇓Sb	Sb	07 24 54.7	-2.9
PHWY	**Pilot Hill**	**1.49**	**102**	*e*Pn	Pn	07 24 38.1	-1.7
PHWY				*e*Sn	Sn	07 24 56.6	-3.4
L19A	**Farson** baz=1.6,SNR=663	**1.54**	**289**	⇑Pb	Pb	07 24 41.6	+0.2
L19A	baz=1.6			⇓Sb	Sg	07 25 02.8	+0.6
O22A	**Kremmling** baz=1.5,SNR=257	**1.59**	**156**	⇓Pb	Pn	07 24 39.8	-1.5
O22A	baz=1.5			⇓Sb	Sn	07 24 59.8	-2.8
K19A	**Absolon Red Bu** baz=1.7,SNR=443	**1.62**	**319**	⇓P	Pn	07 24 41.0	-0.5
K19A	baz=1.7			⇑Sb	Sg	07 25 04.3	-0.2
O20A	**White River Ci** baz=1.6,SNR=690	**1.62**	**204**	⇑Pb	Pn	07 24 41.0	-0.5
O20A	baz=1.6			⇓Sb	Sn	07 25 01.8	-1.2
J21A	**Lysite** baz=1.8	**1.72**	**359**	⇓Pb	Pb	07 24 44.7	+0.3
J21A	baz=1.8			⇓Sb	Sg	07 25 08.4	+0.5
K23A	**Bowen Ranch, D** baz=1.7,SNR=55	**1.73**	**49**	⇓Pb	Pn	07 24 43.5	+0.5
K23A	baz=1.7			⇓Sb	Sb	07 25 06.5	-0.4
O23A	**Lake Granby, G** baz=1.7,SNR=316	**1.80**	**141**	⇑Pb	Pn	07 24 43.9	-0.1
O23A	baz=1.7			⇓Sb	Sn	07 25 06.3	-1.3
J20A	**Shoshoni** baz=1.9	**1.80**	**344**	⇓P	Pb	07 24 45.4	-0.3
J20A	baz=1.9			⇓Sb	Sg	07 25 10.9	+0.6
O19A	**Miners Draw (B** baz=1.8,SNR=170	**1.86**	**225**	⇓P	Pn	07 24 44.2	-0.6
O19A	baz=1.8			⇓Sb	Sn	07 25 09.1	+0.2
L24A	**Wheatland** baz=1.9,SNR=140	**1.89**	**76**	⇓P	Pn	07 24 44.7	-0.3
L24A	baz=1.9			⇓Sb	Sn	07 25 09.7	+0.3
J22A	**Midwest** baz=2.0,SNR=604	**1.91**	**20**	⇑P	Pn	07 24 46.5	+1.0
J22A	baz=2.0			⇓Sb	Sb	07 25 12.2	+0.2
M24A	**Cheyenne** baz=1.9,SNR=269	**1.93**	**94**	⇓Pb	Pn	07 24 46.3	+0.5
M24A	baz=1.9			⇓Sb	Sn	07 25 11.4	+0.7
BW06	**Boulder Array**	**1.98**	**306**	*e*Pn	Pn	07 24 45.9	-0.6
BW06				*e*Sn	Sb	07 25 14.3	+0.4
L18A	**Fontenelle, Gr** baz=2.0	**2.00**	**280**	⇓Sb	Sg	07 25 15.8	-1.0
N24A	**Carr** baz=2.0,SNR=73	**2.05**	**112**	⇑Pb	Pn	07 24 47.6	+0.2
N24A	baz=2.0			⇓Sb	Sn	07 25 14.1	+0.5
P22A	**Eagle** baz=2.0,SNR=36	**2.08**	**166**	⇑Pb	Pn	07 24 48.1	+0.2
P22A	baz=2.0			⇑Sb	Sn	07 25 14.8	+0.4
K24A	**Anderson Ranch** baz=2.2	**2.21**	**59**	⇓Sb	Sb	07 25 19.1	-1.3
J23A	**Dilts Ranch, B** baz=2.3	**2.24**	**37**	⇓Sb	Sb	07 25 22.2	+0.8
P20A	**De Beque** baz=2.2	**2.25**	**200**	⇓Sb	Sn	07 25 19.4	+0.9
ISCO	**Idaho Springs**	**2.27**	**143**	*e*Pn	Pn	07 24 49.9	-0.6
ISCO				*e*Sg	Sn	07 25 20.1	+0.9
ISCO	**Idaho Springs** baz=2.2	**2.27**	**143**	⇑Sb	Sn	07 25 19.7	+0.5
O24A	**Longmont** baz=2.2	**2.31**	**130**	Sb	Sn	07 25 21.3	+1.4
P19A	**Cripple Cowboy** baz=2.3	**2.33**	**212**	⇑Sb	Sn	07 25 21.9	+1.5
I22A	**9 Mile Ranch,** baz=2.4	**2.37**	**16**	⇑Sb	Sb	07 25 26.0	+1.0
SMCO	**Snowmass**	**2.46**	**172**	*e*Pn	Pn	07 24 53.9	+0.6
SMCO				*e*Sg	Sn	07 25 25.9	+1.7
M25A	**Palm-Egli Farm** baz=2.5	**2.51**	**93**	Sb	Sb	07 25 28.0	-1.3
P23A	**Jefferson** baz=2.5	**2.54**	**152**	Sb	Sb	07 25 29.7	-0.6
SNOW	**Snow King Moun**	**3.09**	**308**	*e*Pn	Pn	07 25 01.3	-0.5
SNOW				*e*Pg	Pg	07 25 10.4	-1.3
SNOW				*e*Sg	Sg	07 25 49.1	-2.8
LOHW	**Long Hollow**	**3.09**	**311**	*e*Pn	Pn	07 25 01.8	-0.1
LOHW				*e*Sg	Sb	07 25 47.0	+0.9
REDW	**Red Top Meadow**	**3.09**	**305**	*e*Pn	Pn	07 25 01.6	-0.1
REDW				*e*Pg	Pg	07 25 09.8	-1.8
REDW				*e*Sg	Sg	07 25 50.5	-1.4
HWUT	**Hardware Ranch**	**3.13**	**271**	*e*Pn	Pn	07 25 01.6	-0.6
HWUT				*e*Pg	Pg	07 25 11.3	-0.9
HWUT				*e*Sg	Sg	07 25 50.7	-2.3
DAU	**Daniels Canyon**	**3.16**	**249**	*e*Pn	Pn	07 25 03.4	+0.5
DAU				*e*Pg	Pg	07 25 11.6	-1.5
DAU				*e*Sn	Sn	07 25 43.3	+2.0
TPAW	**Teton Pass**	**3.23**	**307**	*e*Pn	Pn	07 25 03.3	-0.3
TPAW				*e*Pg	Pb	07 25 11.1	+1.0
TPAW				*e*Sg	Sg	07 25 53.2	-3.1
MOOW	**Moose Ponds**	**3.26**	**312**	*e*Pn	Pn	07 25 03.6	-0.5
MOOW				*e*Sg	Sg	07 25

TMUT				eSg		Sb	07 26 07.5	+3.1
RLMT	**Red Lodge**	**3.76**	**339**	*e*Pn		Pn	07 25 12.1	+1.2
RLMT				*e*Pg		Pg	07 25 22.0	-2.3
RLMT				eSg		Sg	07 26 11.4	-1.8
YFT	**Old Faithful**	**3.79**	**319**	*e*Pg		Pb	07 25 19.6	-0.1
NLU	**North Lily Min**	**3.93**	**246**	*e*Pn		Pn	07 25 13.0	-0.3
NLU				eSg		Sb	07 26 13.0	+3.0
YMR	**Madison River**	**4.01**	**321**	*e*Pn		Pn	07 25 17.9	+3.4
HVU	**Hansel Valley**	**4.03**	**274**	*e*Pn		Pn	07 25 13.7	-0.9
HVU				*e*Pg		Pb	07 25 25.7	+2.0
HVU				eSg		Sg	07 26 17.6	-4.3
OGNE	**Ogallala**	**4.09**	**98**	*e*Pn		Pn	07 25 16.8	+1.4
OGNE				eSg		Sg	07 26 19.9	-3.9
SDCO	**Great Sand Dun**	**4.14**	**159**	*e*Pn		Pn	07 25 15.7	-0.6
SDCO				*e*Pg		Pb	07 25 27.7	+2.0
SDCO				eSg		Sg	07 26 21.4	-4.2
BGU	**Big Grassy Mou**	**4.30**	**263**	*e*Pn		Pn	07 25 17.8	-0.6
BGU				eSg		Sg	07 26 28.2	-2.5
DUG	**Dugway**	**4.35**	**253**	*e*Pn		Pn	07 25 18.7	-0.3
DUG				*e*Pg		Pg	07 25 33.8	-1.7
DUG				eSg		Sb	07 26 26.6	+4.6
QLMT	**Earthquake Lak**	**4.36**	**319**	*e*Pg		Pb	07 25 30.2	+0.9
GCMT	**Greycliff**	**4.48**	**339**	*e*Pg		Pb	07 25 32.0	+0.6
GCMT				eSg		Sg	07 26 31.9	-4.4
MVCO	**Mesa Verde**	**4.49**	**191**	Pn		Pn	07 25 25.2	+4.3
MVU	**Marysvale**	**4.83**	**231**	*e*Pn		Pn	07 25 26.5	+0.8
MVU				eSg		Sg	07 26 42.2	-5.7
BOZ	**Bozeman (W)**	**5.06**	**324**	*e*Pn		Pn	07 25 28.4	-0.3
MCMT	**McKenzie Canyo**	**5.11**	**311**	*e*Pn		Pn	07 25 32.2	+2.6
	1.9nm,0.4s							
DLMT	**Dillon**	**5.32**	**316**	*e*Pn		Pn	07 25 34.2	+1.9
LRM	**Limekiln Ridge**	**5.57**	**321**	*e*Pn		Pn	07 25 37.7	+1.8
CCUT	**Cedar City**	**6.15**	**231**	*e*Pn		Pn	07 25 44.5	+0.7
MFID	**Camas Ranch**	**6.49**	**289**	*e*Pn		Pn	07 25 49.8	+1.6
EGMT	**Eagleton**	**6.62**	**346**	*e*Pn		Pn	07 25 52.7	+2.6
WUAZ	**Wupatki**	**6.85**	**208**	Pn		Pn	07 26 00.8	+7.5
	16nm,0.8s							
DGMT	**Dagmar**	**7.21**	**17**	*e*Pn		Pn	07 25 59.2	+1.1
DGMT				eSg		Sg	07 27 58.0	-5.6
ECSD	**EROS Data Cent**	**8.22**	**72**	*e*Pn		Pn	07 26 09.9	-2.0
ECSD				*e*S		Sb	07 28 24.2	+11

IDC 03 07:27:01.9±8.0, 23°02S×177°31W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/17, mbtmp3.8/2, Error ellipse: s-maj=423.4km s-min=72.0km az=153.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.62**	**259**	P	P	07 35 16.0	-0.5
	0.8nm,0.7s,baz=97,slow=7.6,SNR=7.7						
WRA	**Warramunga Arr**	**44.94**	**264**	P	P	07 35 19.2	+0.2
	0.4nm,0.3s,baz=102,slow=8.3,SNR=5.3						
BRTR	**Keskin Array B**	**148.97**	**310**	PKPbc	PKPbc	07 46 51.6	-0.6
	0.3nm,0.4s,baz=93,slow=2.9,SNR=2.7						

CASC 03 07:27:36.1±1.8, 13°73N×90°94W, h36km±999km, MD3.6, ML3.5, 2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.72**	**7**	⇓*e*P	Pn	07 27 50.0	0.0
PCG	**Pacaya**	**0.73**	**26**	*e*P	Pn	07 27 50.8	+0.6
JAT	**Jato**	**0.89**	**311**	*e*P	Pn	07 27 51.2	-0.9
NBG	**Las Nubes**	**1.02**	**34**	*e*P	Pn	07 27 55.6	+1.3
RTR	**El Retiro**	**1.27**	**82**	*e*P	Pn	07 27 58.1	+0.6
RTR				eS	Sn	07 28 14.1	+0.7
RBDL	**Robledal**	**1.27**	**73**	*e*P	Pn	07 27 58.1	+0.5
RBDL				eS	Sn	07 28 14.3	+0.7
SBLS	**San Blas**	**1.28**	**85**	*e*P	Pn	07 27 58.1	+0.2
SBLS				eS	Sn	07 28 14.6	+0.6
SNJE	**San Jose**	**1.30**	**84**	*e*P	Pn	07 27 58.4	+0.4
SNJE				eS	Sn	07 28 15.5	+1.1
BOQS	**Boqueron**	**1.61**	**90**	*e*P	Pn	07 28 02.7	+0.3
BOQS				eS	Sn	07 28 22.6	+0.5
SNET	**Serv Nac Est T**	**1.66**	**91**	AML	AML	07 28 28.8	
	comp=Z,559nm,0.3s						
MRL	**Marmol**	**1.79**	**42**	⇓*e*P	Pn	07 28 05.8	+1.0
LFRS	**El Faro**	**1.83**	**93**	*e*P	Pn	07 28 05.7	+0.5
LFRS				eS	Sn	07 28 26.7	-0.5
SNVI	**San Vicente**	**2.04**	**93**	*e*P	Pn	07 28 09.0	+0.8
CNCH	**Conchagua**	**3.05**	**98**	*e*P	Pn	07 28 22.7	+0.7

*ATH **03** 07:31:19.0, 33°25N×25°96E, h31km, MD3.7/9*
*IDC **03** 07:31:30.6±1.5, 34°15N×25°61E, h0km, mb3.4/3, mb1 3.7/7, mb1mx3.5/28, mbtmp3.5/7, ML3.8/4, Error ellipse: s-maj=34.2km s-min=27.7km az=139.0*

ISC 03 07:31:35.5±2.0, 34°2N±0°2×25°49E±0°09, h35km, n16, σ1s00/14, mb3.3/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.65**	**15**	*e*PN	**Pn**	**07 31 47.7**	**-0.6**
LAST	**Lasithi**	**0.92**	**359**	*e*PB	**Pn**	**07 31 53.0**	**+1.0**
LAST				*e*SN	Sn	07 32 16.0	+12
SIVA	**Sivas**	**0.95**	**324**	*e*PN	**Pn**	**07 31 50.9**	**-1.5**
NPS	**Neapolis**	**1.02**	**6**	*e*PN	**Pn**	**07 31 52.1**	**-1.3**
IDI	**Anoyia**	**1.15**	**335**	*e*PN	**Pn**	**07 31 56.0**	**+0.7**
GVD	**Gavdhos**	**1.30**	**298**	*e*PB	**Pn**	**07 31 56.9**	**-0.3**
GVD				eSN	Sn	07 32 22.6	+9.2
VAM	**Vamos**	**1.57**	**318**	*e*PN	**Pn**	**07 32 00.1**	**-0.9**
KYTH	**Kithira**	**2.86**	**316**	*e*PN	**Pn**	**07 32 18.7**	**+0.1**
VLI	**Veliai**	**3.23**	**321**	*e*PN	**Pn**	**07 32 24.6**	**+0.9**
EIL	**Elat**	**9.24**	**117**	Pn	Pn	07 33 43.5	-2.8
	0.2nm,0.3s,baz=250,slow=15,SNR=2.6						
KBZ	**Khabaz**	**16.49**	**50**	Pn	**P**	**07 35 27.3**	**+0.9**
	0.2nm,0.3s,baz=214,slow=3.6,SNR=2.1						
AKASG	**Malin Array Be**	**16.67**	**8**	Pn	**P**	**07 35 27.2**	**-1.1**
	1.2nm,0.3s,baz=201,slow=10,SNR=4.3						
GERES	**GERESS Array B**	**17.02**	**333**	P	**Pn**	**07 35 31.1**	**+0.4**
	0.2nm,0.3s,baz=140,slow=10,SNR=5.6						
TORD	**Torodi Ar. Bea**	**30.12**	**232**	P	P	07 37 42.7	+0.6
	0.4nm,0.9s,baz=34,slow=9.9,SNR=2.3						
MKAR	**Makanchi Array**	**44.06**	**56**	P	**P**	**07 39 39.3**	**-0.7**
	0.5nm,0.6s,baz=271,slow=7.1,SNR=4.7						
ILAR	**Eielson Array**	**81.13**	**357**	P	**P**	**07 43 47.8**	**+0.9**
	0.2nm,0.6s,baz=358,slow=3.7,SNR=3.2						

NNC 03 07:32:32.9±3.0, 59°88N×61°11E, h0km, mb4.0, mpv3.9, 10C-4D, Error ellipse: s-maj=23.8km s-min=16.3km az=168.0, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRNK	**Zerenda**	**8.20**	**144**	⇓Pn	Pn	07 34 33.4	+0.3
	1.7nm,0.8s						
ZRNK				⇑Sn	Sn	07 36 06.8	+0.4
	4.0nm,0.9s						
BRVK	**Borovoye**	**8.51**	**139**	⇑Pn	Pn	07 34 38.0	+0.7
	6.5nm,0.6s						
BRVK				⇑Sn	Sn	07 36 14.6	+0.7
	10nm,0.6s						
BVA0	**Borovoye Array**	**8.57**	**139**	⇑Pn	Pn	07 34 38.8	+0.6
	4.8nm,0.6s,baz=329,slow=14,SNR=31						
BVA0				⇓Sn	Sn	07 36 17.2	+1.7
	9.8nm,0.5s,baz=330,slow=24,SNR=9.9						
VOSK	**Vostochnaya**	**9.02**	**138**	⇑Pn	Pn	07 34 45.2	+0.9
	1.7nm,0.5s						
VOSK				⇑Sn	Sn	07 36 27.8	+1.3
	6.0nm,0.8s						
AKTO	**Aktyubinsk**	**9.62**	**192**	⇑Pn	Pn	07 34 53.5	+0.9
	1.7nm,1.0s						
AKTO				⇑Sn	Sn	07 36 41.5	+0.2
	1.1nm,0.6s						
AKTO				⇑Lg	Lg	07 37 40.5	
	4.5nm,1.0s						
AB31	**Akbulak array**	**10.66**	**184**	⇑Pn	Pn	07 35 03.6	-3.2
	0.7nm,0.5s						
AB31				⇓Sn	Sn	07 37 09.0	+2.2
	1.4nm,0.8s						
AB31				⇓Lg	Lg	07 38 11.4	
	3.7nm,0.7s						

JMA 03 07:35:52.9±0.3, 44°09N×148°20E, h0km, M3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.92**	**249**	P	Pn	07 36 27.3	+0.5
NEM2				*e*S	Sn	07 36 52.4	+0.7
JRA	**Rausu**	**2.23**	**267**	P	Pn	07 36 31.8	+0.8
JRA				*e*S	Sn	07 37 00.5	+1.3
JNK	**Nakash**	**2.57**	**260**	P	Pn	07 36 36.8	+1.0
JNK				*e*S	Sn	07 37 08.4	+0.7
JAK	**Akkeshi**	**2.77**	**248**	P	Pn	07 36 39.5	+1.0
JAK				*e*S	Sn	07 37 13.9	+1.2
JTKR	**Abashiri--Toko**	**3.10**	**269**	P	Pn	07 36 44.9	+1.9
JAR	**Ashorobuto**	**3.31**	**258**	P	Pn	07 36 48.7	+2.8
JAR				*e*S	Sn	07 37 28.7	+2.7
JCH	**Churui**	**3.82**	**249**	P	Pn	07 36 55.2	+2.2
JCH				*e*S	Sn	07 37 40.9	+2.3
JNBK	**Urakawa-nobuka**	**4.38**	**247**	P	Pn	07 37 02.6	+2.0
JKB	**Kayabe**	**5.70**	**250**	P	Pn	07 37 20.4	+1.7
JKB				*e*S	Sn	07 38 26.0	+1.2
JANG	**Nango**	**6.20**	**235**	*e*S	Sn	07 38 36.0	-1.2

*TEH **03** 07:36:25.4, 34°51N×52°06E, h4km, ML3.5*
*CSEM **03** 07:36:26.2±0.2, 34°56N×52°03E, h20km, ML3.5, Error ellipse: s-maj=5.7km s-min=4.1km az=83.0*

ISC 03 07:36:25.1±1.2, 34°53N±0°02×52°03E±0°03, h12km±13km, n48, σ0s74/63, 2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVRN	**Varamin**	**0.52**	**332**	⇓*e*Pg	**Pg**	**07 36 35.6**	**+0.3**
IVRN				eSg	**Sb**	**07 36 43.6**	**-0.2**
IVRN				*e*		07 36 44.8	
	comp=Z,48μm,0.0s						
IVRN	**Varamin**	**0.52**	**332**	⇓*e*Pg	**Pg**	**07 36 35.6**	**+0.3**
IVRN				eSg	**Sb**	**07 36 43.6**	**-0.2**
GHVR	**GHOM**	**0.61**	**265**	*e*Pg	**Pb**	**07 36 37.9**	**+0.2**
IDMV	**Damavand**	**1.04**	**0**	*e*Pg	**Pb**	**07 36 44.3**	**-0.9**
IDMV				eSg	**Sg**	**07 36 59.0**	**+0.2**
IDMV				*e*		07 37 07.6	
	comp=Z,11μm,0.1s						
IDMV	**Damavand**	**1.04**	**0**	*e*Pg	**Pb**	**07 36 44.3**	**-0.9**
IDMV				eSg	**Sg**	**07 36 59.0**	**+0.2**
DAMV	**Damavand**	**1.09**	**358**	*e*Pg	**Pb**	**07 36 45.0**	**-1.1**
ILAS	**Lasjerd**	**1.14**	**42**	*e*Pg	**Pb**	**07 36 46.2**	**-0.7**
ILAS				eSg	**Sb**	**07 37 02.1**	**+0.3**
ILAS				*e*		07 37 06.5	
	comp=Z,16μm,0.1s						
ILAS	**Lasjerd**	**1.14**	**42**	*e*Pg	**Pb**	**07 36 46.2**	**-0.7**
ILAS				eSg	**Sb**	**07 37 02.1**	**+0.3**
IR3	**Iran Long-Peri**	**1.25**	**319**	*e*Pn	**Pn**	**07 36 48.1**	**-0.4**
IR3	**Iran Long-Peri**	**1.25**	**319**	*e*Pn	**Pn**	**07 36 48.1**	**-0.4**
IFIR	**Firoozkooh**	**1.25**	**28**	*e*Pg	**Pn**	**07 36 47.4**	**-1.3**
IFIR				eSg	**Sb**	**07 37 04.7**	**-0.4**
IFIR				*e*		07 37 12.2	
	comp=Z,11μm,0.1s						
IFIR	**Firoozkooh**	**1.25**	**28**	*e*Pg	**Pn**	**07 36 47.4**	**-1.3**
IFIR				eSg	**Sb**	**07 37 04.7**	**-0.4**
IKLH	**Kolahrood**	**1.27**	**197**	*e*Pg	**Pn**	**07 36 47.7**	**-1.2**
IKLH				eSg	**Sb**	**07 37 05.4**	**-0.1**
IKLH				*e*		07 37 05.8	
	comp=Z,13μm,0.1s						
IKLH	**Kolahrood**	**1.27**	**197**	*e*Pg	**Pn**	**07 36 47.7**	**-1.2**
IKLH				eSg	**Sb**	**07 37 05.4**	**-0.1**
IR5	**Iran Long-Peri**	**1.37**	**300**	*e*Pg	**Pn**	**07 36 49.2**	**-1.0**
IR5	**Iran Long-Peri**	**1.37**	**300**	*e*Pg	**Pn**	**07 36 49.2**	**-1.0**
CHTH	**Charan**	**1.56**	**332**	*e*Pg	**Pn**	**07 36 52.9**	**0.0**
IMHD	**Mahdasht**	**1.60**	**316**	*e*Pn	**Pn**	**07 36 53.5**	**+0.2**
IMHD				*e*		07 37 20.1	
	comp=Z,8μm,0.1s						
IMHD	**Mahdasht**	**1.60**	**316**	*e*Pn	**Pn**	**07 36 53.5**	**+0.2**
ISHM	**Shahmirzad**	**1.64**	**39**	*e*Pn	**Pn**	**07 36 53.8**	**-0.2**
ISHM				*e*		07 37 20.2	
	comp=Z,22μm,0.2s						
ISHM	**Shahmirzad**	**1.64**	**39**	*e*Pn	**Pn**	**07 36 53.8**	**-0.2**
ASAO	**Ashtian**	**1.65**	**271**	*e*Pg	**Pn**	**07 36 54.9**	**+0.7**
IZEF	**Zefreh**	**1.65**	**171**	*e*Pn	**Pn**	**07 36 54.5**	**+0.3**
IZEF				eSg	**Sb**	**07 37 16.6**	**0.0**
IZEF				*e*		07 37 25.1	
	comp=Z,9μm,0.3s						
IZEF	**Zefreh**	**1.65**	**171**	*e*Pn	**Pn**	**07 36 54.5**	**+0.3**
IZEF				eSg	**Sb**	**07 37 16.6**	**0.0**
THKV	**Tehran--Karaj**	**1.67**	**326**	*e*Pg	**Pn**	**07 36 55.4**	**+1.1**
IALA	**Alasht**	**1.67**	**22**	*e*Pn	**Pb**	**07 36 55.7**	**-0.3**
IALA				eSg	**Sg**	**07 37 18.6**	**-0.4**
IALA				*e*		07 37 21.7	
	comp=Z,13μm,0.1s						
IALA	**Alasht**	**1.67**	**22**	*e*Pn	**Pb**	**07 36 55.7**	**-0.3**
IALA				eSg	**Sg**	**07 37 18.6**	**-0.4**
IPRN	**Peran**	**1.72**	**8**	*e*Pn	**Pb**	**07 36 56.3**	**-0.5**
IPRN				*e*		07 37 23.5	
	comp=Z,7μm,0.1s						
IANJ	**Anjilo**	**1.81**	**58**	*e*Pn	**Pn**	**07 36 56.4**	**+0.1**
IANJ				*e*		07 37 24.6	
	comp=Z,9μm,0.1s						
IANJ	**Anjilo**	**1.81**	**58**	*e*Pn	**Pn**	**07 36 56.4**	**+0.1**
NASN	**Na'in**	**1.85**	**159**	*e*Pg	**Pn**	**07 36 57.8**	**+0.9**
KHMZ	**Khomeyn**	**1.89**	**246**	*e*Pg	**Pb**	**07 36 59.0**	**-0.6**
IRAZ	**Razeghan**	**1.93**	**297**	*e*Pn	**Pn**	**07 36 59.2**	**+1.3**
IRAZ				*e*		07 37 38.1	
	comp=Z,5μm,0.2s						
IRAZ	**Razeghan**	**1.93**	**297**	*e*Pn	**Pn**	**07 36 59.2**	**+1.3**
IPIR	**Pirpir**	**2.07**	**207**	*e*		07 37 07.6	
	comp=Z,2μm,0.3s						
IPIR				*e*Pn	**Pb**	**07 37 02.3**	**-0.6**
IGAR	**Gharneh**	**2.12**	**180**	*e*Pn	**Pb**	**07 37 02.6**	**-1.1**
IGAR				*e*		07 37 37.0	
	comp=Z,1μm,0.2s						
IKIA	**Kiasar**	**2.15**	**39**	*e*Pn	**Pn**	**07 37 02.0**	**+1.0**
IKIA				eSg	**Sb**	**07 37 32.1**	**+1.3**
IKIA				*e*		07 37 35.7	
	comp=Z,2μm,0.2s						
IKIA	**Kiasar**	**2.15**	**39**	*e*Pn	**Pn**	**07 37 02.0**	**+1.0**
IGZV	**Ghazvin**	**2.36**	**322**	*e*		07 37 07.1	
	comp=Z,3μm,0.2s						
IGZV				*e*Pn	**Pn**	**07 37 05.4**	**+1.5**
IGLO	**Ghaloghah**	**2.45**	**36**	*e*Pn	**Pn**	**07 37 06.5**	**+1.3**
ISAD	**Sadrabad**	**2.96**	**152**	*e*Pn	**Pn**	**07 37 12.9**	**+0.7**
ISAD				*e*		07 37 59.2	
	comp=Z,2μm,0.2s						
ISAD	**Sadrabad**	**2.96**	**152**	*e*Pn	**Pn**	**07 37 12.9**	**+0.7**
ICHK	**Chekchek**	**3.03**	**138**	*e*Pn	**Pn**	**07 37 13.6**	**+0.5**
ICHK	**Chekchek**	**3.03**	**138**	*e*Pn	**Pn**	**07 37 13.6**	**+0.5**
IMEH	**Mehriz**	**3.82**	**145**	*e*Pn	**Pn**	**07 37 24.3**	**+0.4**
IMEH				*e*		07 38 34.7	
	comp=Z,731nm,0.3s						
IMEH	**Mehriz**	**3.82**	**145**	*e*Pn	**Pn**	**07 37 24.3**	**+0.4**
IBAF	**Bafgh**	**4.18**	**134**	*e*Pn	**Pn**	**07 37 29.6**	**+0.8**
IBAF				*e*		07 38 51.1	
	comp=Z,264nm,0.4s						
IBAF	**Bafgh**	**4.18**	**134**	*e*Pn	**Pn**	**07 37 29.6**	**+0.8**

IDC 03 07:42:25.2±1.9, 34°05N×25°28E, h0km, mb3.3/2, mb1 3.3/3, mb1mx3.2/25, mbtmp3.3/3, ML4.1/1, Error ellipse: s-maj=83.3km s-min=30.7km az=133.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**16.89**	**9**	Pn	Pn	07 46 22.5	-0.3
	0.7nm,0.3s,baz=204,slow=9.7,SNR=3.1						
TORD	**Torodi Ar. Bea**	**29.87**	**232**	P	P	07 48 34.5	0.0
	0.3nm,0.5s,baz=34,slow=8.7,SNR=2.5						
MKAR	**Makanchi Array**	**44.30**	**56**	P	P	07 50 36.7	-0.1
	0.1nm,0.4s,baz=258,slow=9.7,SNR=4.0						

CASC 03 07:43:13.2±1.9, 9°17N×83°87W, h13km±14km, MD4.1, 1C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QCR	**Quepos**	**0.39**	**311**	⇑*e*P	Pb	07 43 21.6	-0.4
BUS	**Buena Vista**	**0.40**	**15**	⇓*i*P	Pb	07 43 22.3	-0.4
BUS				eS	Sb	07 43 28.6	-0.6
URSC	**Urasca**	**0.67**	**7**	⇓*i*P	Pg	07 43 26.1	-0.4
SJS	**Escuela Geolog**	**0.79**	**346**	⇓*e*P	Pg	07 43 28.1	-0.7
SJS				eS	Sg	07 43 39.2	-0.1
ACR	**Cerro Adams**	**0.86**	**127**	*e*P	Pg	07 43 28.5	-1.5
CGA2	**Cerro Gallo 2**	**1.03**	**325**	⇓*e*P	Pb	07 43 31.9	-1.2
CGA2				eS	Sb	07 43 45.5	-1.2
BRU2	**Volcan**	**1.22**	**108**	*e*P	Pn	07 43 34.4	-1.8
BRU2				*e*P	Pb	07 43 35.2	-1.1
TBS2		**1.25**	**107**	*e*P	Pn	07 43 36.2	-0.5
TBS2				eS	Sb	07 43 52.9	-0.2
JCR	**Jicaral**	**1.40**	**299**	*e*P	Pn	07 43 36.5	-2.1
JCR				*e*S	Sn	07 43 55.4	-1.6
CEDE	**Laguna Cede˜–o**	**1.55**	**328**	*i*P	Pn	07 43 40.3	-0.3
CEDE				*i*S	Sb	07 44 01.8	+0.3
CHPA	**Chiripa**	**1.63**	**321**	*i*P	Pn	07 43 41.6	-0.3
AMAS	**Alto Masis**	**1.81**	**322**	*i*P	Pn	07 43 44.6	+0.3
PTEN	**Parque Tenorio**	**1.89**	**324**	*i*P	Pn	07 43 45.8	+0.4
CUI	**Cuipilapa**	**1.96**	**319**	*i*P	Pn	07 43 45.9	-0.3
CUI				*i*S	Sn	07 44 11.0	+0.3
VCR	**Vista de Mar**	**1.98**	**299**	*e*P	Pb	07 43 49.7	+0.3
COLC	**Colonia**	**1.99**	**319**	*i*P	Pn	07 43 46.4	-0.2
GPS3	**Bodega del ICE**	**2.16**	**317**	*i*P	Pn	07 43 49.9	+0.9
NY14	**Universidad de**	**2.21**	**312**	*i*P	Pn	07 43 49.8	+0.3
LAPC	**Finca la Perla**	**2.21**	**316**	*i*P	Pn	07 43 49.0	-0.8
GB1A	**Borinquen Arri**	**2.23**	**318**	*i*P	Pn	07 43 51.0	+1.0
GBS2	**Las Lilas**	**2.28**	**317**	*i*P	Pn	07 43 50.4	-0.2
BCIP	**Isla Barro Col**	**3.98**	**90**	*e*P	Pn	07 44 14.0	+0.1

MEX 03 07:47:45.6±1.2, 14°89N×96°37W, h10km, MD3.7, Off coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.91**	**16**	*i*P	Pg	07 48 01.2	-1.9
HUIG				*i*S	Sg	07 48 11.6	-3.6
VHO	**Vista Hermosa**	**2.20**	**351**	*i*P	Pn	07 48 18.9	-3.6
VHO				*i*S	Sn	07 48 44.7	-5.4
PNIG	**Pinotepa**	**2.26**	**312**	*i*P	Pn	07 48 19.0	-4.1
PNIG				*i*S	Sn	07 48 47.7	-3.4

IDC 03 08:02:02.7±9.6, 13°57N×92°57W, h53km±69km, mb3.4/5, mb1 3.9/6, mb1mx3.5/23, mbtmp3.6/6, ML4.5/1, MS2.8/2, Ms1 2.8/2, ms1mx2.3/17, Error ellipse: s-maj=76.5km s-min=49.7km az=166.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**7.79**	**31**	P	Pn	08 03 53.1	-0.3
	7.4nm,0.3s,baz=201,slow=5.5,SNR=37						
TEIG				S	Sn	08 05 21.7	+1.4
	1.5nm,0.3s,baz=17,slow=19,SNR=3.4						
TEIG				LR	LR	08 06 41.2	
	comp=Z,49nm,20.4s,baz=217,slow=36						
TKL	**Tuckaleechee C**	**23.37**	**18**	P	P	08 07 06.5	-0.2
	2.9nm,0.7s,baz=206,slow=13,SNR=5.3						
TKL				LR	LR	08 17 45.3	
	comp=Z,38nm,19.6s,baz=40,slow=40						
PDAR	**Pinedale Array**	**32.58**	**336**	P	P	08 08 30.3	+0.9
	0.3nm,0.7s,baz=139,slow=7.0,SNR=3.4						
NVAR	**Mina Array Bea**	**33.66**	**322**	P	P	08 08 38.7	-0.1
	1.0nm,0.9s,baz=136,slow=8.4,SNR=6.9						
YKA	**Yellowknife Ar**	**51.31**	**347**	P	P	08 11 00.7	-0.6
	1.0nm,0.7s,baz=152,slow=7.3,SNR=9.7						
ILAR	**Eielson Array**	**63.01**	**337**	P	P	08 12 23.5	-0.4
	0.9nm,1.1s,baz=130,slow=3.8,SNR=6.2						
CMAR	**Chiang Mai Arr**	**146.21**	**340**	PKPbc	PKPbc	08 21 37.8	-0.3
	0.7nm,0.3s,baz=352,slow=5.9,SNR=4.7						

*SFS **03** 08:55:15.0, 31°92N×7°62W, h0km, ML4.6*
*CSEM **03** 08:55:16.2±0.2, 31°94N×7°67W, h10km, MD3.7, Error ellipse: s-maj=5.1km s-min=3.6km az=123.0*
*ISCJB **03** 08:55:16.3±0.4, 32°18N±0°03×7°75W±0°03, h10km, Error ellipse: s-maj=3.9km s-min=3.7km az=2.1*
*IGIL **03** 08:55:16.8, 31°92N×7°62W, h2km, ML3.0*
*CNRM **03** 08:55:18.3, 31°81N×7°59W, h9km, MD3.7*
*INMG **03** 08:55:18.6±1.8, 32°08N×7°34W, h11km±19km, ML3.1, Error ellipse: s-maj=14.1km s-min=11.8km az=155.0*
*LDG **03** 08:55:19.7±0.8, 32°12N×6°73W, h10km, Ml3.6/3, Error ellipse: s-maj=15.1km s-min=12.0km az=17.0*

ISC 03 08:55:15.3±0.8, 31°97N±0°03×7°71W±0°03, h10km, n63, σ1s73/98, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUK	**Oukaimeden**	**0.77**	**190**	*i*P	**Pg**	**08 55 29.8**	**-0.4**
OUK				*i*S	**Sg**	**08 55 39.0**	**-1.3**
CIA	**Chichaoua**	**0.98**	**246**	*i*P	**Pn**	**08 55 36.0**	**+0.9**
CIA				*i*S	**Sn**	**08 55 50.0**	**+0.9**
TZC	**Tazercounte**	**1.05**	**80**	*i*P	**Pg**	**08 55 36.0**	**+0.4**
TZC				*i*S	**Sb**	**08 55 50.0**	**+0.2**
KIB	**El Ksiba**	**1.54**	**66**	*i*P	**Pb**	**08 55 44.0**	**-0.1**
KIB				*i*S	**Sg**	**08 56 05.0**	**0.0**
RTC	**Rabat Centre**	**2.14**	**19**	*i*P	**Pb**	**08 55 56.0**	**+1.8**
RTC				*i*S	**Sb**	**08 56 21.0**	**+0.2**
AFS	**Agadir Fac de**	**2.17**	**225**	*e*P	**Pb**	**08 55 54.0**	**-0.8**
AFS				*i*S	**Sn**	**08 56

PBAR	**Barrancos**	**6.22**	**5**	*e*Pn	**Pn**	**08 56 48.2**	**+1.1**
EVO	**Evora**	**6.55**	**358**	*e*Pn	**Pn**	**08 56 52.6**	**+0.8**
EVO				*e*Sn	**Sn**	**08 58 04.2**	**-2.4**
	comp=N,12nm,0.2s						
EVO	**Evora**	**6.55**	**358**	*e*Pn	**Pn**	**08 56 52.9**	**+1.1**
EVO				A	A	08 58 15.0	
	comp=N,9.0nm,0.2s						
EVO	**Evora**	**6.55**	**358**	*e*Pn	**Pn**	**08 56 52.9**	**+1.1**
	comp=N,9.0nm,0.2s						
EVOP	**Sao Brissos**	**6.55**	**357**	*e*Pn	**Pn**	**08 56 52.6**	**+0.8**
EVOP				*e*Sn	**Sn**	**08 58 04.2**	**-2.3**
	comp=N,5.9nm,0.2s						
MOE	**Montemor**	**6.56**	**356**	*e*Pn	**Pn**	**08 56 53.6**	**+1.7**
MOE				*e*Sn	**Sn**	**08 58 04.6**	**-2.1**
MOE	**Montemor**	**6.56**	**356**	*e*Pn	**Pn**	**08 56 53.6**	**+1.7**
MOE				*e*Sn	**Sn**	**08 58 04.6**	**-2.1**
PESTR	**Estremoz**	**6.88**	**1**	*e*Pn	**Pn**	**08 56 57.7**	**+1.4**
PESTR				*e*Sn	**Sn**	**08 58 11.9**	**-2.8**
PESTR				A	A	08 58 28.7	
	comp=N,6.7nm,0.4s						
PESTR	**Estremoz**	**6.88**	**1**	*e*Pn	**Pn**	**08 56 57.7**	**+1.4**
PESTR				*e*Sn	**Sn**	**08 58 11.9**	**-2.8**
	comp=N,6.7nm,0.4s						
PMAFR	**Mafra**	**7.09**	**350**	*e*Pn	**Pn**	**08 57 01.5**	**+2.4**
PMAFR	**Mafra**	**7.09**	**350**	*e*Pn	**Pn**	**08 57 01.5**	**+2.4**
PMTG	**Montargil**	**7.10**	**357**	*e*Pn	**Pn**	**08 57 00.5**	**+1.3**
PMTG				*e*Sn	**Sn**	**08 58 17.5**	**-2.4**
PMTG				A	A	08 58 32.7	
	comp=N,3.3nm,0.1s						
PMTG	**Montargil**	**7.10**	**357**	*e*Pn	**Pn**	**08 57 00.5**	**+1.3**
PMTG				*e*Sn	**Sn**	**08 58 17.5**	**-2.4**
	comp=N,3.3nm,0.1s						
PMRV	**Marv??o**	**7.45**	**2**	*e*Pn	**Pn**	**08 57 05.2**	**+1.1**
PMRV				A	A	08 58 56.8	
	comp=N,6.7nm,0.6s						
PMRV	**Marv??o**	**7.45**	**2**	*e*Pn	**Pn**	**08 57 05.2**	**+1.1**
	comp=N,6.7nm,0.6s						
PCBR	**Castelo Branco**	**7.86**	**1**	*e*Pn	**Pn**	**08 57 11.0**	**+1.3**
PCBR				*e*Sn	Sn	08 58 33.8	-4.8
PCBR				A	A	08 58 43.0	
	comp=N,5.6nm,0.3s						
PCBR	**Castelo Branco**	**7.86**	**1**	*e*Pn	**Pn**	**08 57 11.0**	**+1.3**
MTE	**Manteigas**	**8.41**	**1**	*e*Pn	**Pn**	**08 57 18.9**	**+1.5**
MTE	**Manteigas**	**8.41**	**1**	*e*Pn	**Pn**	**08 57 18.9**	**+1.5**
MVO	**Moncorvo**	**9.19**	**3**	*e*Pn	**Pn**	**08 57 29.0**	**+0.9**
MVO				*e*Sn	Sn	08 59 06.3	-5.3
MVO				A	A	08 59 19.8	
	comp=N,4.5nm,0.4s						
MVO	**Moncorvo**	**9.19**	**3**	*e*Pn	**Pn**	**08 57 29.0**	**+0.9**
POLO	**Lamas de Olo**	**9.39**	**360**	*e*Pn	**Pn**	**08 57 31.9**	**+1.2**
POLO				*e*Sn	**Sn**	**08 59 12.6**	**-3.8**
POLO				A	A	08 59 29.4	
	comp=N,1.8nm,0.3s						
POLO	**Lamas de Olo**	**9.39**	**360**	*e*Pn	**Pn**	**08 57 31.9**	**+1.2**
PGAV	**Gavieira, Arco**	**9.99**	**358**	*e*Pn	**Pn**	**08 57 40.5**	**+1.5**
PGAV				A	A	08 59 41.2	
	comp=N,3.2nm,0.6s						
PGAV	**Gavieira, Arco**	**9.99**	**358**	*e*Pn	**Pn**	**08 57 40.5**	**+1.5**
	comp=N,3.2nm,0.6s						
SJPF	**Ste Jean**	**12.25**	**23**	*e*Pn	Pn	08 58 04.7	-5.2
SJPF	**Ste Jean**	**12.25**	**23**	*e*P	**Pn**	**08 58 11.0**	**+1.1**
SJPF				*e*Sn	Sn	09 00 08.7	-18
	comp=N,1.1nm,0.3s						
SJPF	**Ste Jean**	**12.25**	**23**	*e*P	**Pn**	**08 58 11.0**	**+1.1**
ETSF	**Etsaut**	**12.30**	**25**	*e*Pn	Pn	08 58 05.4	-5.1
ETSF	**Etsaut**	**12.30**	**25**	*e*P	**Pn**	**08 58 11.3**	**+0.8**
ETSF				*e*Sn	Sn	09 00 07.9	-20
	comp=N,0.6nm,0.3s						
ETSF	**Etsaut**	**12.30**	**25**	*e*P	**Pn**	**08 58 11.3**	**+0.8**
EPF	**Esparros**	**12.75**	**28**	*e*Pn	Pn	08 58 11.5	-5.2

*ISCJB **03** 09:00:18.4±0.6, 64°.81N±0°.03×30°.7E±0°.1, h0km, Error ellipse: s-maj=6.5km s-min=3.7km az=5.0*
*IDC **03** 09:00:19.0±3.0, 64°.65N×31°.58E, h0km, mb1 3.0/4, mb1mx2.9/28, mbtmp3.0/4, ML2.5/4, Error ellipse: s-maj=45.0km s-min=11.2km az=108.0*
*HEL **03** 09:00:20.0±0.1, 64°.80N×30°.73E, h0km, ML2.1, ML1.7(UPP), Explosion*
*NAO **03** 09:00:20.3±2.0, 64°.78N×30°.76E, ML2.0*
*BER **03** 09:00:20.9±4.1, 64°.76N×30°.80E, h0km, ML2.0(NAO), Suspected explosion*
*CSEM **03** 09:00:20.0±0.3, 64°.82N×30°.67E, h2km, ML2.1, Error ellipse: s-maj=6.3km s-min=3.5km az=95.0, Mining explosion.*
*UPP **03** 09:00:27.3, 64°.95N×29°.51E, h0km, ML1.7, Suspected Mining explosion.*

ISC 03 09:00:19.0±1.0, 64°.81N±0°.03×30°.64E±0°.05, h0km, n52, σ1s16/74, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.26**	**346**	*e*P	**Pg**	**09 00 43.2**	**+0.1**
KU6				*e*S	**Sg**	**09 00 59.4**	**-0.1**
KU6	**Riekki**	**1.26**	**346**	P	**Pg**	**09 00 43.2**	**+0.1**
KU6				S	**Sg**	**09 00 59.4**	**-0.1**
MSF	**Maaselka**	**1.29**	**330**	*e*P	**Pg**	**09 00 43.9**	**+0.2**
MSF				*e*S	**Sg**	**09 01 00.8**	**+0.2**
MSF	**Maaselka**	**1.29**	**330**	P	**Pg**	**09 00 43.9**	**+0.2**
MSF				S	**Sg**	**09 01 00.7**	**+0.2**
KJN	**Kajaani**	**1.46**	**242**	*e*P	**Pn**	**09 00 46.7**	**+0.2**
KJN				*e*S	**Sg**	**09 01 05.7**	**-0.1**
KJN				MSG		09 01 10.7	
	comp=Z,28nm,0.1s						
KJN	**Kajaani**	**1.46**	**242**	P	**Pn**	**09 00 46.7**	**+0.2**
KJN				S	**Sg**	**09 01 05.7**	**-0.1**
JOF	**Joensuu**	**1.92**	**171**	*e*P	**Pn**	**09 00 53.5**	**+0.7**
JOF				*e*S	**Sn**	**09 01 17.6**	**-0.1**
JOF				MSG		09 01 22.4	
	comp=Z,14nm,0.1s						
JOF	**Joensuu**	**1.92**	**171**	P	**Pn**	**09 00 53.5**	**+0.7**
JOF				S	**Sn**	**09 01 17.6**	**-0.1**
OUL	**Oulu**	**2.04**	**280**	*e*P	**Pn**	**09 00 56.5**	**+2.0**
OUL				*e*S	**Sb**	**09 01 22.6**	**0.0**
OUL	**Oulu**	**2.04**	**280**	P	**Pn**	**09 00 56.4**	**+2.0**
RNF	**Rovaniemi**	**2.63**	**315**	*e*PB	**Pb**	**09 01 06.0**	**-1.0**
RNF				*e*SB	**Sb**	**09 01 39.5**	**-0.2**
RNF	**Rovaniemi**	**2.63**	**315**	Pb	**Pb**	**09 01 05.9**	**-1.0**
RNF				Sb	**Sb**	**09 01 39.5**	**-0.2**
APA0	**Apatity Array**	**2.97**	**18**	Pn	**Pn**	**09 01 08.2**	**+1.0**
	baz=181,slow=14						
APA0				Sn	**Sn**	**09 01 43.5**	**0.0**
	baz=175,slow=28						
APA0	**Apatity Array**	**2.97**	**18**	Pn	**Pn**	**09 01 08.2**	**+1.0**
	baz=181,slow=14						
APA0				Sn	**Sn**	**09 01 43.5**	**0.0**
	baz=175,slow=28						
APA0	**Apatity Array**	**2.97**	**18**	Pn	**Pn**	**09 01 08.2**	**+1.0**
	baz=181,slow=13,SNR=50						
APA0				Sn	**Sn**	**09 01 43.5**	**0.0**
	baz=175,slow=24,SNR=50						
VRF	**Varrio**	**2.98**	**352**	*e*P	**Pn**	**09 01 08.8**	**+1.4**
VRF				*e*SB	**Sb**	**09 01 50.1**	**+0.2**
VRF	**Varrio**	**2.98**	**352**	P	**Pn**	**09 01 08.8**	**+1.4**
VRF				Sb	**Sb**	**09 01 50.0**	**+0.2**
SGF	**Sodankyl**	**3.13**	**330**	*e*P	**Pn**	**09 01 10.5**	**+1.1**
SGF				*e*S	**Sn**	**09 01 48.1**	**+0.7**
SGF	**Sodankyl**	**3.13**	**330**	P	**Pn**	**09 01 10.5**	**+1.1**
SGF				S	**Sn**	**09 01 48.1**	**+0.7**
KALU	**Kalix**	**3.23**	**292**	*e*P	**Pn**	**09 01 12.7**	**+1.8**
KALU	**Kalix**	**3.23**	**292**	P	**Pn**	**09 01 12.6**	**+1.8**
PAJU	**Pajala**	**3.80**	**309**	*e*P	**Pn**	**09 01 19.9**	**+1.1**
PAJU	**Pajala**	**3.80**	**309**	P	**Pn**	**09 01 19.8**	**+1.1**
ERTU	**Ertsjaerv**	**3.91**	**300**	*e*P	**Pn**	**09 01 22.0**	**+1.8**
ERTU	**Ertsjaerv**	**3.91**	**300**	P	**Pn**	**09 01 21.9**	**+1.8**
FIA0	**FINESS Array S**	**3.96**	**214**	Pn	**Pn**	**09 01 22.1**	**+1.2**
	baz=32,slow=14						
FIA0	**FINESS Array S**	**3.96**	**214**	Pn	**Pn**	**09 01 22.1**	**+1.2**
	baz=32,slow=14						
FIA0	**FINESS Array S**	**3.96**	**214**	Pn	**Pn**	**09 01 22.0**	**+1.2**
	baz=32,slow=13,SNR=50						
FINES	**FINESS Array B**	**3.96**	**214**	Pn	**Pn**	**09 01 22.3**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=38,slow=13,SNR=16						
FINES				Lg	Lg	09 02 24.4	
	comp=Z,0.6nm,0.3s,baz=31,slow=28,SNR=9.1						
BURU	**Burvik**	**3.98**	**271**	*e*P	**Pn**	**09 01 22.0**	**+0.8**
BURU	**Burvik**	**3.98**	**271**	P	**Pn**	**09 01 22.0**	**+0.8**
HARU	**Harads**	**4.25**	**293**	*e*P	**Pn**	**09 01 25.6**	**+0.8**
HARU	**Harads**	**4.25**	**293**	P	**Pn**	**09 01 25.6**	**+0.8**
LILU	**Lilltraesk**	**4.60**	**281**	*e*P	**Pn**	**09 01 30.4**	**+0.8**
LILU	**Lilltraesk**	**4.60**	**281**	P	**Pn**	**09 01 30.4**	**+0.8**
DUNU	**Dundret**	**4.73**	**304**	*e*P	**Pn**	**09 01 33.5**	**+2.1**
DUNU	**Dundret**	**4.73**	**304**	P	**Pn**	**09 01 33.5**	**+2.1**
LANU	**Lannavaara**	**4.76**	**317**	*e*P	**Pn**	**09 01 33.5**	**+1.6**
LANU	**Lannavaara**	**4.76**	**317**	P	**Pn**	**09 01 33.4**	**+1.6**
ARA0	**ARCESS Array S**	**5.15**	**339**	Pn	**Pn**	**09 01 37.8**	**+0.6**
	baz=154,slow=14						
ARA0				Sn	**Sn**	**09 02 36.1**	**-1.1**
	baz=161,slow=28						
ARA0				Lg	Lg	09 03 00.8	
	baz=146,slow=37						
ARA0	**ARCESS Array S**	**5.15**	**339**	Pn	**Pn**	**09 01 37.8**	**+0.6**
	baz=154,slow=14						
ARA0				Sn	**Sn**	**09 02 36.1**	**-1.1**
	baz=161,slow=28						
ARA0				Lg	Lg	09 03 00.8	
	baz=146,slow=37						
ARA0	**ARCESS Array S**	**5.15**	**339**	Pn	**Pn**	**09 01 37.8**	**+0.6**
	baz=154,slow=14,SNR=50						
ARA0				Sn	**Sn**	**09 02 36.2**	**-1.1**
	baz=161,slow=24,SNR=50						
ARA0				Lg	Lg	09 03 00.8	
	baz=146,slow=34,SNR=4.4						
ARCES	**ARCESS Array B**	**5.15**	**339**	Pn	**Pn**	**09 01 38.0**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=156,slow=12,SNR=41						
ARCES				Sn	**Sn**	**09 02 34.1**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=160,slow=25,SNR=2.8						
HUSU	**Husum**	**5.22**	**259**	*e*P	**Pn**	**09 01 40.6**	**+2.4**
HUSU	**Husum**	**5.22**	**259**	P	**Pn**	**09 01 40.5**	**+2.4**
SALU	**Saltoluokta**	**5.56**	**303**	*e*P	**Pn**	**09 01 44.7**	**+1.8**
SALU	**Saltoluokta**	**5.56**	**303**	P	**Pn**	**09 01 44.7**	**+1.8**
HFS	**Hagfors**	**9.12**	**247**	Pn	**Pn**	**09 02 33.2**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=60,slow=15,SNR=7.8						
NB2	**NORSAR Subarra**	**9.61**	**256**	Pn	**Pn**	**09 02 38.4**	**-0.1**
	baz=59,slow=14						
NB2	**NORSAR Subarra**	**9.61**	**256**	Pn	**Pn**	**09 02 38.4**	**-0.1**
	baz=59,slow=14						
NB2	**NORSAR Subarra**	**9.61**	**256**	Pn	**Pn**	**09 02 38.3**	**-0.1**
	baz=59,slow=13,SNR=50						
NOA	**NORSAR Array B**	**9.61**	**256**	Pn	**Pn**	**09 02 39.0**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=68,slow=17,SNR=3.1						

IDC 03 09:02:20.9±1.9, 20°.40S×177°.91W, h522km±23km, mb3.3/13, mb1 3.5/16, mb1mx3.4/21, mbtmp3.4/16, Error ellipse: s-maj=22.1km s-min=12.7km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.71**	**43**	P	P	09 04 24.4	-0.9
	3.2nm,0.3s,baz=225,slow=4.3,SNR=7.0						
AFI				S	S	09 06 02.9	-4.5
	5.9nm,0.3s,baz=49,slow=24,SNR=7.7						
DZM	**Mont Dzumac**	**14.69**	**261**	P	P	09 05 28.5	+0.9
	0.5nm,0.3s,baz=270,slow=24,SNR=5.7						
URZ	**Urewera**	**18.32**	**193**	P	P	09 06 01.8	-1.0
	0.9nm,0.3s,baz=350,slow=11,SNR=7.0						
RPZ	**Rata Peaks**	**25.02**	**199**	P	P	09 07 05.9	+2.9
	15nm,0.9s,baz=347,slow=14,SNR=4.4						
PPT	**Papeete**	**26.93**	**89**	P	P	09 07 21.0	+0.8
	11nm,0.4s,baz=193,slow=19,SNR=4.7						
STKA	**Stephens Creek**	**37.91**	**244**	P	P	09 08 53.8	+0.3
	0.5nm,0.4s,baz=90,slow=13,SNR=4.2						
ASAR	**Alice Springs**	**44.62**	**257**	P	P	09 09 46.9	0.0
	4.0nm,0.7s,baz=96,slow=7.6,SNR=62						
ASAR				PcP	PcP	09 11 17.6	-0.9
	0.4nm,0.5s,baz=103,slow=4.0,SNR=4.5						
ASAR				S	S	09 15 41.5	-3.5
	1.3nm,0.8s,baz=91,slow=15,SNR=8.9						
WRA	**Warramunga Arr**	**44.70**	**262**	P	P	09 09 46.9	-0.5
	1.8nm,0.7s,baz=96,slow=7.7,SNR=77						
FITZ	**Fitzroy Crossi**	**53.12**	**262**	P	P	09 10 49.9	0.0
	0.8nm,0.5s,baz=91,slow=5.3,SNR=4.5						
MJAR	**Matsushiro Arr**	**70.18**	**324**	P	P	09 12 40.7	-0.2
	4.4nm,0.5s,baz=159,slow=6.2,SNR=15						
MAT	**Matsushiro**	**70.18**	**324**	P	P	09 12 40.6	-0.3
PETK	**Petropavlovsk-**	**76.19**	**345**	P	P	09 13 14.6	-0.4
	3.2nm,0.7s,baz=154,slow=8.6,SNR=8.3						
KSRS	**Korea Array**	**76.87**	**319**	P	P	09 13 19.3	+0.3
	1.2nm,0.6s,baz=130,slow=6.1,SNR=6.3						
USRK	**Ussuriysk Arra**	**78.92**	**326**	P	P	09 13 30.7	+0.8
	3.6nm,0.8s,baz=134,slow=4.5,SNR=9.6						
NVAR	**Mina Array Bea**	**80.89**	**43**	P	P	09 13 42.1	+1.4
	0.2nm,0.5s,baz=234,slow=7.7,SNR=2.8						
ILAR	**Eielson Array**	**88.20**	**13**	P	P	09 14 14.3	-1.3
	0.6nm,0.4s,baz=219,slow=5.0,SNR=12						
PDAR	**Pinedale Array**	**88.83**	**43**	P	P	09 14 19.7	+0.3
	0.3nm,0.6s,baz=189,slow=5.1,SNR=3.3						
CMAR	**Chiang Mai Arr**	**90.16**	**290**	P	P	09 14 27.0	+1.2
	0.8nm,0.3s,baz=119,slow=2.6,SNR=5.8						
MKAR	**Makanchi Array**	**111.19**	**313**	PKiKP	PKiKP	09 19 53.2	-1.8
	0.3nm,0.6s,baz=105,slow=1.2,SNR=4.6						
FINES	**FINESS Array B**	**135.70**	**344**	PKhKP	PKPpre	09 20 38.9	
	0.9nm,0.6s,baz=338,slow=35,SNR=4.1						
AKASG	**Malin Array Be**	**142.96**	**331**	PKhKP	PKPpre	09 20 50.8	
	5.1nm,0.5s,baz=44,slow=4.1,SNR=27						
EKA	**Eskdalemuir Ar**	**144.89**	**5**	PKP	PKPdf	09 20 58.0	0.0
	0.9nm,0.5s,baz=347,slow=2.9,SNR=4.2						
BRTR	**Keskin Array B**	**146.83**	**312**	PKPbc	PKPbc	09 21 03.9	-0.9
	1.0nm,0.6s,baz=131,slow=5.6,SNR=6.5						
MMAI	**Mount Meron Ar**	**147.84**	**300**	PKPbc	PKPbc	09 21 07.6	+0.1
	2.5nm,0.4s,baz=122,slow=4.0,SNR=4.6						
GERES	**GERESS Array B**	**150.12**	**345**	PKPbc	PKPbc	09 21 11.6	-1.0
	0.4nm,0.4s,baz=64,slow=3.4,SNR=6.7						
GERES				PKPab	PKPab	09 21 19.3	-1.5
	0.3nm,0.4s,baz=27,slow=3.6,SNR=3.8						

IDC 03 09:13:49.2±3.5, 5°.71S×153°.58E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/18, mbtmp3.4/2, Error ellipse: s-maj=160.4km s-min=49.1km az=124.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.45**	**231**	P	P	09 19 00.3	-0.2
	1.2nm,0.7s,baz=57,slow=9.8,SNR=10.0						
ASAR	**Alice Springs**	**26.02**	**225**	P	P	09 19 24.4	+0.1
	0.2nm,0.5s,baz=55,slow=9.5,SNR=6.3						
TORD	**Torodi Ar. Bea**	**151.32**	**287**	PKPbc	PKPbc	09 33 45.9	-0.2
	0.3nm,0.4s,baz=69,slow=1.7,SNR=5.0						
TORD				pPKPbc	PKPab	09 33 58.1	+4.1
	0.4nm,0.4s,baz=60,slow=2.2,SNR=4.9						

*IDC **03** 09:22:05.6±1.0, 34°.11N×25°.55E, h0km, mb4.0/16, mb1 4.1/21, mb1mx4.0/33, mbtmp4.0/21, ML3.7/5, MS3.1/3, Ms1 3.1/3, ms1mx2.6/56, Error ellipse: s-maj=22.0km s-min=14.7km az=175.0*
*ISCJB **03** 09:22:06.5±0.7, 34°.03N±0°.02×25°.67E±0°.03, h22km±6km, mb3.9/20, MS3.1/1, Error ellipse: s-maj=4.3km s-min=3.7km az=178.4*
*CSEM **03** 09:22:06.9±0.2, 34°.08N×25°.53E, h10km, mb4.0/15, Mw4.3, Error ellipse: s-maj=6.0km s-min=4.9km az=94.0*
*MOS **03** 09:22:08.7±1.5, 34°.10N×25°.40E, h33km, mb4.2/15, Error ellipse: s-maj=15.6km s-min=7.1km az=62.3*
*THE **03** 09:22:08.3, 34°.20N×25°.53E, h0km±1km, Error ellipse: s-maj=3.7km s-min=0.7km az=171.0*
*HLW **03** 09:22:10.3, 33°.97N×25°.68E, h32km±24km, Md3.5, Ml3.5*

ISC 03 09:22:06.2±1.8, 34°.06N±0°.03×25°.56E±0°.04, h6km±11km, n117, σ1s28/137, mb4.0/20, 1C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.10**	**357**	P	**Pb**	**09 22 26.8**	**-0.9**
LAST				S	**Sg**	**09 22 41.4**	**-0.3**
LAST	**Lasithi**	**1.10**	**357**	P	**Pb**	**09 22 26.8**	**-0.9**
LAST				S	**Sg**	**09 22 41.4**	**-0.3**
SIVA	**Sivas**	**1.14**	**327**	P	**Pb**	**09 22 27.6**	**-0.7**
SIVA				S	**Sb**	**09 22 42.8**	**-0.5**
SIVA	**Sivas**	**1.14**	**327**	P	**Pb**	**09 22 27.6**	**-0.7**
SIVA				S	**Sb**	**09 22 42.8**	**-0.5**
ZKR	**Zakros**	**1.19**	**27**	P	**Pb**	**09 22 28.8**	**-0.3**
ZKR				S	**Sg**	**09 22 44.8**	**+0.4**
ZKR	**Zakros**	**1.19**	**27**	P	**Pb**	**09 22 28.8**	**-0.3**
ZKR				S	**Sg**	**09 22 44.8**	**+0.4**
IDI	**Anoyia**	**1.34**	**336**	P	**Pn**	**09 22 30.6**	**-1.0**
IDI				S	**Sb**	**09 22 48.7**	**-0.6**
IDI	**Anoyia**	**1.34**	**336**	P	**Pn**	**09 22 30.6**	**-1.0**
IDI				S	**Sb**	**09 22 48.7**	**-0.6**
VAM	**Vamos**	**1.75**	**321**	P	**Pn**	**09 22 37.2**	**+0.1**
VAM				S	**Sn**	**09 22 59.4**	**-0.2**
VAM	**Vamos**	**1.75**	**321**	P	**Pn**	**09 22 37.2**	**+0.1**
VAM				S	**Sn**	**09 22 59.4**	**-0.2**

LTBQ	**Tobruq**	**2.42**	**215**	*i* P	**Pn**	**09 22 48.4**	**+2.1**
	SNR=90							
SLUM		**2.58**	**187**	P	**Pn**	**09 22 48.3**	**-0.1**
	baz=190							
SLUM				AMP		09 23 00.0		
	comp=N,240μm,0.9s,logA/T=5.4,baz=190							
SLUM		**2.58**	**187**	P	**Pn**	**09 22 48.3**	**-0.1**
SLUM				S	**Sn**	**09 23 17.5**	**-2.5**
APE	**Apeiranthos**	**3.00**	**360**	*e*PN	**Pn**	**09 22 54.5**	**+0.2**
APE				*e*SN	**Sn**	**09 23 31.1**	**+0.4**
DAT	**Datca**	**3.14**	**31**	*e*PN	**Pn**	**09 22 55.8**	**-0.5**
HMAT	**Matruh**	**3.23**	**156**	P	**Pn**	**09 22 57.3**	**-0.1**
	baz=156							
HMAT				AMP		09 23 00.0		
	comp=E,290μm,0.6s,logA/T=5.7,baz=156							
HMAT				S	**Sn**	**09 23 32.1**	**-4.0**
	baz=156							
HMAT	**Matruh**	**3.23**	**156**	P	**Pn**	**09 22 57.3**	**-0.1**
HMAT				S	**Sn**	**09 23 32.1**	**-4.0**
BODT	**Bodrum**	**3.32**	**25**	*e*PN	**Pn**	**09 22 58.5**	**-0.2**
DALY	**Dalyan (Mu¨la**	**3.74**	**42**	*e*PN	**Pn**	**09 23 03.8**	**-0.6**
TURN	**Turunc**	**3.75**	**41**	*e*Pn	**Pn**	**09 23 03.3**	**-1.3**
TURN				*e*Sn	**Sn**	**09 23 45.1**	**-4.0**
YER	**Yerkesik**	**3.79**	**35**	*e*PN	**Pn**	**09 23 04.8**	**-0.3**
FETY	**Fethiye**	**3.86**	**47**	*e*PN	**Pn**	**09 23 05.3**	**-0.8**
AKAS	**Kas**	**3.96**	**56**	*e*Pn	**Pn**	**09 23 08.6**	**+1.0**
AKAS				*e*Sn	**Sn**	**09 23 53.1**	**-1.4**
AYDN	**Tasoluk**	**4.06**	**27**	*e*Pn	**Pn**	**09 23 10.3**	**+1.4**
AYDN				*e*Sn	**Sn**	**09 23 57.5**	**+0.8**
URLA	**Izmir**	**4.38**	**11**	*e*Pn	Pn	09 23 08.8	-4.4
URLA				*e*Sn	**Sb**	**09 24 11.4**	**-5.1**
GOLH	**Golhisar**	**4.55**	**45**	*e*Pn	**Pn**	**09 23 18.0**	**+2.3**
GOLH				*e*Sn	**Sn**	**09 24 09.3**	**+0.4**
DNZL	**Cakiroluk**	**4.60**	**37**	*e*Pn	Pn	09 23 19.8	+3.4
DNZL				*e*Sn	**Sn**	**09 24 14.0**	**+3.7**
SWA2		**4.80**	**181**	P	**Pn**	**09 23 19.1**	**+0.1**
	baz=183							
SWA2		**4.80**	**181**	P	**Pn**	**09 23 19.1**	**+0.1**
KORT	**Korkueli**	**4.89**	**52**	*e*Pn	Pn	09 23 24.4	+4.0
KORT				*e*Sn	**Sn**	**09 24 15.8**	**-1.5**
KULA	**Kula-Manisa**	**5.11**	**29**	*e*PN	**Pn**	**09 23 23.4**	**+0.1**
BCK	**Bucak**	**5.32**	**49**	*e*PN	**Pn**	**09 23 25.8**	**-0.4**
KHL	**Karahalli**	**5.33**	**36**	*e*PN	**Pn**	**09 23 26.2**	**-0.1**
KHAL	**Karahalli**	**5.35**	**35**	*e*Pn	**Pn**	**09 23 28.6**	**+1.9**
KHAL				*e*Sn	**Sn**	**09 24 26.8**	**-1.9**
LJBD	**Adjabya**	**5.51**	**237**	*i* P	**Pn**	**09 23 30.7**	**+2.0**
	SNR=76							
LJBD				*e*S	**Sn**	**09 24 29.6**	**-2.7**
	SNR=76							
SUTC	**Sutluce-Ispart**	**5.59**	**51**	*e*PN	**Pn**	**09 23 29.5**	**-0.4**
HDMB	**Hadim**	**6.35**	**61**	*e*PN	**Pn**	**09 23 39.2**	**-1.3**
KONT	**Konya--Tatoy**	**6.74**	**53**	*e*PN	**Pn**	**09 23 44.9**	**-0.8**
GLL	**Jalalah**	**6.88**	**129**	P	**Pn**	**09 23 47.5**	**-0.1**
	baz=128							
GLL	**Jalalah**	**6.88**	**129**	P	**Pn**	**09 23 47.5**	**-0.1**
IKL	**Isikli**	**7.01**	**70**	*e*PN	**Pn**	**09 23 47.6**	**-1.6**
KIZT	**Kizilcal**	**7.01**	**45**	*e*PN	**Pn**	**09 23 48.8**	**-0.6**
SUZ		**7.48**	**122**	P	**Pn**	**09 23 55.6**	**-0.2**
	baz=122							
SUZ		**7.48**	**122**	P	**Pn**	**09 23 55.6**	**-0.2**
MMAI	**Mount Meron Ar**	**8.29**	**94**	Pn	**Pn**	**09 24 09.3**	**+2.3**
	comp=E,1.6nm,0.3s,baz=254,slow=10,SNR=2.7							
MMAI				Sn	**Sn**	**09 25 40.2**	**-0.7**
	comp=E,2.8nm,0.3s,baz=262,slow=26,SNR=3.5							
KARA	**Karaisali**	**8.36**	**65**	*e*PN	**Pn**	**09 24 06.2**	**-1.8**
BRTR	**Keskin Array B**	**8.60**	**47**	Pn	**Pn**	**09 24 12.6**	**+1.3**
	comp=E,0.1nm,0.3s,baz=230,slow=10,SNR=14							
BRTR				Sn	**Sn**	**09 25 47.2**	**-1.3**
	baz=208,slow=21,SNR=2.8							
BRTR	**Keskin Array B**	**8.60**	**47**	P	**Pn**	**09

	comp=Z,1.0nm,0.7s								
TORD	**Torodi Ar. Bea**	30.05	232	P		P		09 28 16.3	+0.1
	comp=Z,0.4nm,0.4s,baz=36,slow=7.9,SNR=11								
ARCES	**ARCESS Array B**	35.53	360	P		P		09 29 03.7	+0.2
	comp=Z,2.3nm,0.9s,baz=188,slow=7.4,SNR=3.8								
ARCES	**ARCESS Array B**	35.53	360	P		P		09 29 03.7	+0.2
	comp=Z,2.0nm,0.9s								
BRVK	**Borovoye**	36.83	45	*d* iP		P		09 29 15.6	+0.8
BRVK				pmax	pmax				
	comp=Z,5.0nm,1.0s								
BRVK	**Borovoye**	36.83	45	*i* P		P		09 29 15.6	+0.8
	comp=Z,5.0nm,1.0s								
BVAR	**Borovoye Array**	36.88	45	P		P		09 29 15.5	+0.2
BVAR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
BVAR	**Borovoye Array**	36.88	45	P		P		09 29 15.5	+0.2
	comp=Z,1.7nm,0.9s,baz=245,slow=6.4,SNR=6.8								
BVAR	**Borovoye Array**	36.88	45	P		P		09 29 15.5	+0.2
	comp=Z,2.0nm,0.9s								
AAK	**Ala-Archa**	38.87	62	*de*P		P		09 29 33.2	+0.8
AAK				pmax	pmax				
	comp=Z,9.0nm,1.4s								
AAK	**Ala-Archa**	38.87	62	*e*P		P		09 29 33.2	+0.8
	comp=Z,9.0nm,1.4s								
MKAR	**Makanchi Array**	44.12	56	P		P		09 30 15.6	+0.3
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
MKAR	**Makanchi Array**	44.12	56	P		P		09 30 15.6	+0.3
	comp=Z,3.1nm,0.7s,baz=276,slow=6.0,SNR=18								
MKAR	**Makanchi Array**	44.12	56	P		P		09 30 15.6	+0.3
	comp=Z,3.0nm,0.7s								
NVS	**Novosibirsk**	44.64	44	*e*P		P		09 30 18.3	-1.0
NVS	**Novosibirsk**	44.64	44	*e*P		P		09 30 18.3	-1.0
ZALV	**Zalesovo Beam**	45.54	45	P		P		09 30 26.1	-0.3
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.4s								
ZALV	**Zalesovo Beam**	45.54	45	P		P		09 30 26.1	-0.3
	comp=Z,1.5nm,0.4s,baz=262,slow=10,SNR=7.9								
ZALV	**Zalesovo Beam**	45.54	45	P		P		09 30 26.1	-0.3
	comp=Z,2.0nm,0.4s								
TLY	**Talaya**	57.12	47	*e*P		P		09 31 55.3	+2.0
TLY				pmax	pmax				
	comp=Z,4.0nm,1.5s								
TLY	**Talaya**	57.12	47	*e*P		P		09 31 55.3	+2.0
	comp=Z,4.0nm,1.5s								
ZAK	**Zakamensk**	57.23	48	*e*P		P		09 31 54.7	+0.4
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.0s								
ZAK	**Zakamensk**	57.23	48	*e*P		P		09 31 54.7	+0.4
	comp=Z,2.0nm,1.0s								
SONM	**Songino Array**	59.94	50	P		P		09 32 13.9	+0.7
	comp=Z,1.2nm,0.9s,baz=286,slow=7.6,SNR=6.2								
SONM	**Songino Array**	59.94	50	P		P		09 32 13.9	+0.7
	comp=Z,1.0nm,0.9s								
SCHQ	**Schefferville**	64.24	320	P		P		09 32 41.7	-0.1
	comp=Z,1.6nm,0.6s,baz=56,slow=7.3,SNR=3.8								
USRK	**Ussuriysk Arra**	77.39	45	P		P		09 34 01.4	-0.5
	comp=Z,1.7nm,0.8s,baz=312,slow=6.4,SNR=5.4								
YKA	**Yellowknife Ar**	78.59	342	P		P		09 34 08.4	+0.1
	comp=Z,0.7nm,0.6s,baz=28,slow=5.7,SNR=8.0								
YKA	**Yellowknife Ar**	78.59	342	P		P		09 34 08.4	+0.1
	comp=Z,1.0nm,0.6s								
ILAR	**Eielson Array**	81.32	357	P		P		09 34 23.6	+0.6
	comp=Z,0.4nm,0.4s,baz=343,slow=2.8,SNR=9.1								
ILAR	**Eielson Array**	81.32	357	P		P		09 34 23.7	+0.6

*ISCJB **03** 09:33:57.9±0.4,25.01N±0.03×109.71W±0.04,h10km, mb3.9/10,MS3.3/5,Error ellipse: s-maj=5.7km s-min=4.6km az=176.4*
*NEIC **03** 09:33:59.9±0.8,25.02N×109.77W,h10km,mb4.0/24, Error ellipse: s-maj=12.4km s-min=8.3km az=122.0*
*IDC **03** 09:33:59.9±4.2,25.23N×109.80W,h0km,mb3.4/3, mb1 3.8/7,mb1mx3.7/26,mbtmp3.5/7,ML3.3/4,MS3.4/9, Ms1 3.4/9,ms1mx3.2/29,Error ellipse: s-maj=62.3km s-min=45.4km az=132.0*
*MEX **03** 09:34:02.2±0.3,25.02N×109.78W,h15km±7km,MD4.2*
ISC 03 09:33:58.7±0.6,24.96N±0.04×109.82W±0.06,h10km, n266,σ1$52/240,mb3.9/10,MS3.3/5,94C-108D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LPIG	**La Paz**	0.96	208	*e*P			Pn	09 34 18.6	+0.3
LPIG				*i* S			Sb	09 34 31.0	+0.8
LPIG	**La Paz**	0.96	208	P			Pn	09 34 20.0	+1.7
LPIG				S			Sn	09 34 32.0	+0.1
SRIG	**Santa Rosalia**	3.21	318	*e*P			Pn	09 34 49.0	-0.2
SRIG				*i* S			Sn	09 35 26.0	-1.4
SRIG	**Santa Rosalia**	3.21	318	P			Pn	09 34 49.0	-0.2
SRIG				S			Sn	09 35 05.5	-22
HPIG		4.23	61	*e*P			Pn	09 35 03.1	-0.3
HPIG				*i* S			Sn	09 35 50.2	-2.8
ANIG	**Ahuacatlan**	6.24	127	*i* P			Pn	09 35 32.2	+1.2
ANIG				*i* S			Sn	09 36 42.4	0.0
319A	**Douglas** baz=6.4	6.41	4	⇑P			Pn	09 35 29.2	-4.1
320A	**Kipp Ranch, An** baz=6.4	6.46	10	⇓P			Pn	09 35 30.7	-3.3
626A	**Big Bend Ranch** baz=6.8	6.83	47	⇓P			Pn	09 35 35.8	-3.2
220A	**Playas Peak, P** baz=7.0	7.02	9	⇓P			Pn	09 35 38.6	-3.1
526A	**Mary Lane Ranc** baz=7.1	7.19	44	⇓P			Pn	09 35 42.7	-1.4
425A	**Indio Mountain** baz=7.2	7.21	35	⇓P			Pn	09 35 42.9	-1.5
221A	**Mesquite Ranch** baz=7.2	7.25	14	⇑P			Pn	09 35 43.7	-1.2
TUC	**Tucson** 3.8nm,0.8s	7.38	354	*e*Pn			Pn	09 35 44.0	-2.6
TUC				*e*Sn			Sn	09 37 14.4	+4.0
214A	**Organ Pipe Nat** baz=7.4	7.45	340	⇓P			Pn	09 35 45.9	-1.7
324A	**Moseley Ranch,** baz=7.5	7.51	30	⇑P			Pn	09 35 45.1	-3.4
222A	**Williams Famil** baz=7.5	7.51	18	⇓P			Pn	09 35 46.6	-1.9
527A	**Woodward Ranch** baz=7.5	7.55	45	⇑P			Pn	09 35 47.9	-1.2
120A	**U Bar Ranch, L** baz=7.6	7.63	8	⇑P			Pn	09 35 45.5	-4.7
628A	**Black Gap, Mar** baz=7.6	7.64	52	⇓P			Pn	09 35 49.0	-1.3
426A	**McDonald Obser** baz=7.6	7.66	41	⇑P			Pn	09 35 47.5	-3.1
121A	**Cookes Peak, D** baz=7.7,SNR=18	7.76	13	⇑P			Pn	09 35 50.4	-1.5
MNTX	**Cornudas Mount** 7.9nm,1.1s	7.77	29	*e*Pn			Pn	09 35 50.5	-1.5
224A	**Cornudas Mount** baz=8.0	8.04	27	⇓P			Pn	09 35 51.5	-4.3
Z20A	**Nine Sixteen R** baz=8.2,SNR=10	8.20	7	⇓P			Pn	09 35 56.3	-1.6
225A	**Deer Hill, Car** baz=8.3	8.37	31	⇓P			Pn	09 35 56.5	-3.9
Z21A	**St. Cloud Mine** baz=8.5,SNR=12	8.53	12	⇑P			Pn	09 36 01.9	-0.7
428A	**Kincaid Ranch,** baz=8.5	8.54	46	⇓P			Pn	09 36 06.0	+3.5
124A	**Stringfield Ra** baz=8.6	8.61	25	⇑P			Pn	09 36 03.8	+0.1
226B	**Tecolote Peak,** baz=8.6	8.66	34	⇓P			Pn	09 36 03.2	-1.1
Z23A	**Rita Site, Whi** baz=8.8	8.85	20	⇓P			Pn	09 36 04.0	-2.8
125A	**Gardner Draw,** baz=8.9	8.91	29	⇑P			Pn	09 36 04.8	-2.8
Y20A	**Horse Springs,** baz=9.0	9.01	8	⇓P			Pn	09 36 05.5	-3.6
530A	**J-C Ranch, Com** baz=9.1	9.13	54	⇓P			Pn	09 36 14.6	+4.0
Z24A	**Sheeppen Canyo** baz=9.2	9.21	24	⇓P			Pn	09 36 10.5	-1.3
Y21A	**Point of Rocks** baz=9.2,SNR=10.0	9.21	11	⇑P			Pn	09 36 11.5	-0.5
Y22A	**Socorro** baz=9.2,SNR=8.2	9.29	15	⇓P			Pn	09 36 12.6	-0.3
631A	**Perdido Creek** baz=9.3	9.35	60	⇑P			Pn	09 36 17.9	+4.3
Z25A	**Roswell** baz=9.4	9.42	27	⇓P			Pn	09 36 13.8	-0.8
Y23A	**Lovelace Mesa,** baz=9.5,SNR=11	9.53	19	⇑P			Pn	09 36 16.9	+0.7
X16A	**Lo Mia Camp, P** baz=9.5,SNR=10	9.53	352	⇓P			Pn	09 36 14.8	-1.4
X18A	**Snowflake** baz=9.5	9.54	359	⇑P			Pn	09 36 14.4	-1.9
BNM	**Barren Site** 9.3nm,1.3s	9.57	16	*e*Pn			Pn	09 36 17.6	+0.7
BNM				*e*Sn			Sn	09 38 07.1	+2.4
X21A	**Alamocita Cree** baz=9.6,SNR=8.2	9.62	10	⇓P			Pn	09 36 17.5	0.0
X20A	**Quemado** baz=9.6	9.62	7	⇓P			Pn	09 36 16.8	-0.7
LAZ	**Ladron** 1.5nm,0.9s	9.70	13	*e*Pn			Pn	09 36 19.5	+1.0
Y24A	**Capitan** baz=9.7	9.72	22	⇓P			Pn	09 36 17.9	-0.9
MONP	**Monument Peak** baz=9.8	9.79	325	⇑P			Pn	09 36 17.4	-2.4
X22A	**Bernardo** baz=9.8	9.82	14	⇑P			Pn	09 36 20.5	+0.3
431A	**Sonora** baz=9.9	9.95	53	⇓P			Pn	09 36 25.7	+3.8
BC3	**Big Chuckawall** baz=10.0	9.96	332	⇓P			Pn	09 36 20.8	-1.3
330A	**Mertzon** baz=9.9	9.97	48	⇑P			Pn	09 36 28.1	+5.9
Y25A	**Mesa, Roswell** baz=9.9	9.99	25	⇓P			Pn	09 36 22.5	+0.1
W18A	**Petrified Fore** baz=10	10.13	0	⇓P			Pn	09 36 22.0	-2.4
Z27A	**Tatum** baz=10	10.13	33	⇑P			Pn	09 36 26.6	+2.2
W20A	**Ramah** baz=10	10.20	6	⇑P			Pn	09 36 24.6	-0.9
W21A	**San Fidel** baz=10	10.30	10	⇓P			Pn	09 36 24.6	-2.2
ANMO	**Albuquerque**	10.37	16	*e*Pn			Pn	09 36 27.8	0.0
ANMO				Lg			Lg	09 39 19.9	
ANMO	**Albuquerque** 0.1nm,0.3s,baz=186,slow=15,SNR=9.8	10.37	16	Pn			Pn	09 36 28.3	+0.5
ANMO				Lg			Lg	09 39 19.9	
ANMO	0.1nm,0.3s,baz=285,slow=22,SNR=3.3			LR			LR	09 40 13.9	
ANMO	comp=Z,323nm,19.7s,baz=196,slow=37			LR				09 40 57.5	
PFO	**Pinyon Flat Ob**	10.38	328	Pn			Pn	09 36 29.2	+1.4
PFO	**Pinyon Flat Ob** 0.1nm,0.3s,baz=142,slow=18,SNR=2.7	10.38	328	Pn			Pn	09 36 29.2	+1.4
PFO	comp=Z,238nm,18.4s,baz=208,slow=41			LR			LR	09 40 57.5	
331A	**San Angelo** baz=10	10.43	51	⇓P			Pn	09 36 32.4	+4.0
WUAZ	**Wupatki** 4.6nm,0.9s	10.61	353	*e*Pn			Pn	09 36 32.2	+1.2
WUAZ	**Wupatki** baz=11	10.61	353	⇑P			Pn	09 36 29.8	-1.2
Y27A	**Causey** baz=11	10.62	32	⇓P			Pn	09 36 33.1	+2.0
W23A	**Werner Place,** baz=11	10.65	16	⇑P			Pn	09 36 31.8	+0.1
W13A	**Hualapai Mount** baz=11	10.70	342	⇓P			Pn	09 36 31.7	-0.6
V20A	**Brimhall** baz=11,SNR=8.1	10.87	6	⇓P			Pn	09 36 34.6	0.0
W24A	**Lazy 6 Ranch,** baz=11,SNR=8.5	10.91	19	⇓P			Pn	09 36 36.3	+1.1
332A	**Millersview** baz=11	10.95	52	⇓P			Pn	09 36 41.0	+5.4
Y28A	**McKinney Farm,** baz=11	11.09	35	⇑P			Pn	09 36 40.5	+3.0
V23A	**Ortiz Mt. (NFS** baz=11,SNR=6.9	11.20	15	⇑P			Pn	09 36 39.7	+0.5
V22A	**San Miguel Ran** baz=11	11.21	12	⇓P			Pn	09 36 39.5	+0.3
V24A	**Rampart Ranch,** baz=11	11.43	19	⇓P			Pn	09 36 43.4	+1.2
U20A	**Neomb** baz=11	11.44	5	⇓P			Pn	09 36 42.1	-0.3
U21A	**Nageezi** baz=12,SNR=6.4	11.59	9	⇓P			Pn	09 36 45.4	+1.0
U15A	**North Rim** baz=12,SNR=7.6	11.63	350	⇑P			Pn	09 36 44.3	-0.8
U22A	**Llaves** baz=12	11.67	12	⇓P			Pn	09 36 46.9	+1.4
V25A	**Rancho No Teng** baz=12	11.74	21	⇓P			Pn	09 36 46.6	+0.1
U23A	**El Rito** baz=12	11.76	15	⇓P			Pn	09 36 48.4	+1.7
MVCO	**Mesa Verde** 44nm,1.5s	12.27	5	*e*Pn			Pn	09 36 54.0	+0.3
MVCO	**Mesa Verde** baz=12	12.27	5	⇓P			Pn	09 36 53.3	-0.4
Z32A	**Haskell** baz=12	12.28	45	⇑P			Pn	09 36 55.8	+2.1
U25A	**Circle Dot Ran** baz=12,SNR=7.9	12.32	21	⇓P			Pn	09 36 55.7	+1.3
T23A	**Casias Ranch,** baz=12,SNR=6.2	12.47	14	⇑P			Pn	09 36 57.2	+0.6
U26A	**Atchley Ranch,** baz=12	12.54	23	⇓P			Pn	09 36 58.9	+1.5
SBC	**Santa Barbara** baz=13	12.77	320	⇑P			Pn	09 36 57.7	-2.7
S21A	**Coal Bank Pass** baz=13	12.79	7	⇓P			Pn	09 37 00.7	-0.2
MPMC	**Manual Prospec** baz=13	12.88	331	⇓P			Pn	09 37 02.5	+0.4
U27A	**Thompson Grove** baz=13	12.91	26	⇑P			Pn	09 37 04.9	+2.4
CCUT	**Cedar City** 11nm,1.4s	12.91	347	*e*Pn			Pn	09 37 04.8	+2.2
FURC	**Furnace Creek,** baz=13	12.97	334	⇓P			Pn	09 37 02.0	-1.1
ISA	**Isabella**	13.02	327	*e*Pn			Pn	09 37 05.2	+1.4
PKM	**Peak Mountain** baz=13	13.15	321	⇑P			Pn	09 37 05.1	-0.8
ARUT	**Antelope Range** 1.1nm,0.3s	13.16	347	*e*Pn			Pn	09 37 05.8	-0.1
S24A	**Houchin Ranch,** baz=13	13.24	16	⇑P			Pn	09 37 08.9	+1.8
R20A	**Redvale** baz=13	13.25	5	⇑P			Pn	09 37 06.8	-0.3
SDCO	**Great Sand Dun** 5.2nm,1.6s	13.27	15	*e*Pn			Pn	09 37 09.2	+1.7
T26A	**Comanche Natio** baz=13	13.29	22	⇓P			Pn	09 37 08.5	+0.8
R22A	**Saguache, Gunn** baz=14	13.49	10	⇓P			Pn	09 37 10.5	+0.1
R23A	**Moffat** baz=14	13.62	13	⇓P			Pn	09 37 12.1	-0.2
WMOK	**Wichita Mounta** 3.5nm,1.0s	13.66	42	*e*Pn			Pn	09 37 13.4	+0.9
MSU	**Marysvale** 3.4nm,0.5s	13.66	352	*e*Pn			Pn	09 37 15.1	+2.3
V31A	**Spring Creek L** baz=14	13.79	36	⇑P			Pn	09 37 16.4	+2.1
T28A	**Walsh** baz=14	13.80	27	⇑P			Pn	09 37 16.5	+2.0
Q16A	**Castle Valley** baz=14	13.97	356	⇑P			Pn	09 37 17.7	+0.8
R25A	**Fountain Ranch** baz=14	13.97	18	⇓P			Pn	09 37 17.9	+1.0
Q20A	**Ridgley Place,** baz=14	14.02	5	⇓P			Pn	09 37 16.7	-0.8
SRU	**San Rafael** 17nm,1.6s	14.13	358	*e*Pn			Pn	09 37 19.2	+0.1
SMCO	**Snowmass** 10nm,1.2s	14.38	9	*e*Pn			Pn	09 37 20.6	-2.2
R27A	**Eads** baz=14	14.57	22	⇓P			Pn	09 37 25.4	+0.3
P19A	**Cripple Cowboy** baz=15	14.65	3	⇓P			Pn	09 37 26.9	+0.6
NV11	**Mina Array Sit**	15.18	334	*e*Pn			P	09 37 35.4	-3.1
O20A	**White River Ci** baz=15,SNR=7.2	15.19	5	⇓P			Pn	09 37 33.9	+0.4
ISCO	**Idaho Springs** 8.4nm,1.2s	15.22	12	*e*Pn			P	09 37 36.6	-2.5
NVAR	**Mina Array Bea**	15.24	334	Pn			Pn	09 37 35.4	+1.2
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=151,slow=11,SNR=8.4	15.24	334	Pn			Pn	09 37 35.4	+1.2
O19A	**Miners Draw (B** baz=15	15.31	2	⇑P			P	09 37 38.7	-1.2
R29A	**Marienthal** baz=15	15.31	27	⇑P			P	09 37 40.5	+0.7
DUG	**Dugway** 15nm,1.3s	15.40	351	*e*P			P	09 37 42.3	+1.4
DUG	**Dugway** baz=15,SNR=8.5	15.40	351	⇑P			Pn	09 37 36.7	+0.4
O22A	**Kremmling** baz=15	15.41	9	⇓P			P	09 37 40.7	-0.5
DAU	**Daniels Canyon** 34nm,2.0s	15.46	356	*e*Pn			Pn	09 37 38.2	+1.0
P26A	**Davis Ranch, A** baz=16	15.55	19	⇓P			P	09 37 41.1	-1.4
O23A	**Lake Granby, G** baz=16	15.56	11	⇑P			Pn	09 37 40.0	+1.5
R30A	**Dighton** baz=16,SNR=8.1	15.56	29	⇓P			P	09 37 41.9	-0.7
Q28A	**Sharon Springs** baz=16	15.60	24	⇓P			Pn	09 37 38.9	+0.1
O24A	**Longmont** baz=16	15.64	14	⇑P			P	09 37 41.2	-2.3
P27A	**Ficken Ranch,** baz=16	15.78	21	⇑P			P	09 37 43.3	-1.9
O25A	**Wiggins** baz=16,SNR=6.2	15.85	16	⇓P			Pn	09 37 41.4	-0.7
N21A	**Black Mountain** baz=16,SNR=5.8	15.88	6	⇑P			Pn	09 37 42.7	+0.2
N20A	**Spence Gulch,** baz=16,SNR=5.8	15.89	4	⇓P			Pn	09 37 43.3	+0.7
R31A	**Burdett** baz=16	15.91	31	⇓P			P	09 37 47.1	+0.6
N22A	**Wattenberg Ran** baz=16,SNR=7.4	16.05	9	⇓P			Pn	09 37 45.1	+0.3
P28A	**Saint Francis** baz=16	16.08	23	⇑P			P	09 37 46.8	-1.6
Q30A	**Quinter** baz=16,SNR=5.8	16.16	28	⇑P			P	09 37 49.1	-0.2
ELK	**Elko** 13nm,1.5s	16.38	345	*e*Pn			P	09 37 49.7	-2.2
O27A	**Beecher Island** baz=16	16.39	20	⇓P			P	09 37 51.6	-0.2
O28A	**Krutsinger Ran** baz=16	16.57	22	⇑P			P	09 37 54.0	+0.3
P30A	**Selden** baz=17,SNR=5.4	16.63	27	⇑P			P	09 37 54.8	+0.4
HWUT	**Hardware Ranch** 15nm,1.2s	16.67	355	*e*Pn			Pn	09 37 52.8	+0.2
M21A	**Separation Pea** baz=17	16.73	6	⇑P			Pn	09 37 53.6	+0.2
N26A	**Koester Ranch,** baz=17,SNR=6.0	16.76	18	⇑P			Pn	09 37 54.5	+0.8
O29A	**4D Ranch, Culb** baz=17	16.91	24	⇑P			Pn	09 37 54.2	-1.4
N27A	**Anderson Farm,** baz=17	16.94	19	⇑P			Pn	09 37 55.7	-0.3
HVU	**Hansel Valley** 16nm,1.3s	16.96	352	*e*Pn			P	09 37 56.9	-1.3
HVU				*e*Sn			Sn	09 41 03.0	-1.8
P31A	**Stockton** baz=17	16.98	29	⇑P			P	09 37 57.7	-0.6
L19A	**Farson** baz=17	17.11	1	⇓P			Pn	09 37 55.7	-2.4
BEKR	**Beckworth** 4.1nm,1.1s	17.30	332	*e*Pn			P	09 38 02.1	0.0
L23A	**Garrett** baz=17	17.45	10	⇑P			P	09 38 03.0	-0.7
K20A	**Yellowstone Ra** baz=18	17.70	4	⇓P			Pn	09 38 04.8	-0.7
BW06	**Boulder Array** 28nm,1.8s	17.77	1	*e*Pn			Pn	09 38 05.2	-1.2
PDAR	**Pinedale Array**	17.77	1	P			Pn	09 38 05.5	-0.9
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=176,slow=13,SNR=12	17.77	1	P			Pn	09 38 05.5	-0.9
PDAR				LR			LR	09 44 57.4	
	comp=Z,254nm,21.3s,baz=180,slow=38								
K19A	**Absolon Red Bu** baz=18	17.84	2	⇓P			Pn	09 38 03.3	-3.9
K22A	**Casper** baz=18	17.86	8	⇑P			Pn	09 38 04.0	-3.5
J19A	**Crowheart** baz=18	18.27	2	⇓P			Pn	09 38 08.1	-4.5
J20A	**Shoshoni** baz=18,SNR=7.7	18.41	4	⇑P			Pn	09 38 12.6	-1.5
SNOW	**Snow King Moun** 15nm,1.4s	18.48	358	*e*P			Pn	09 38 17.2	+2.1
J22A	**Midwest** baz=19,SNR=6.6	18.61	8	⇓P			Pn	09 38 16.4	-0.3
DCID1	**Drake Creek** 13nm,0.3s	18.63	357	*e*P			Pn	09 38 17.3	+0.4
I18A	**Diamond G Ranc** baz=19	18.70	0	⇑P			P	09 38 16.0	-1.4
K27A	**Flueckinger Fa** baz=19	18.77	18	⇑P			P	09 38 17.1	-1.1
J24A	**Dixon Ranch, L** baz=19	18.81	12	⇑P			P	09 38 15.3	-3.2
WVOR	**Wild Horse Val** 8.9nm,1.4s	18.89	339	*e*P			Pn	09 38 21.3	+1.3
IMW	**Indian Meadow** 7.1nm,1.1s	18.92	358	*e*P			Pn	09 38 20.4	-0.1
I16A	**Newdale** baz=19,SNR=5.7	18.92	356	⇓P			P	09 38 19.4	-0.4
I21A	**Big Trails, Te** baz=19	18.92	6	⇑P			P	09 38 16.7	-3.1
I20A	**Worland** baz=19,SNR=7.9	19.00	4	⇓P			Pn	09 38 20.9	-0.4
MOD	**Modoc** 8.4nm,1.4s	19.00	335	*e*P			Pn	09 38 21.9	+0.4
K28A	**Ten Mile Ranch** baz=19	19.04	19	⇓P			P	09 38 17.8	-3.2
I19A	**Meeteetse** baz=19	19.05	2	⇓P			P	09 38 17.3	-4.0
MFID	**Camas Ranch** baz=19	19.06	346	⇑P			P	09 38 17.2	-4.1
I14A	**Mackay** baz=19,SNR=7.8	19.16	352	⇑P			Pn	09 38 22.9	-0.4
H20A	**Greybull** baz=20	19.54	4	⇑P			Pn	09 38 26.8	-1.0
H18A	**Shoshone NF, C** baz=20	19.68	0	⇓P			P	09 38 24.1	-4.1
H19A	**Powell** baz=20	19.68	2	⇑P			P	09 38 24.8	-3.3
J28A	**Allard Ranch,** baz=20	19.72	19	⇑P			P	09 38 27.6	-0.9
H16A	**Russell Place,** baz=20	19.74	357	⇑P			P	09 38 25.1	-3.7
YBH	**Yreka Blue Hor** comp=Z,88nm,21.4s,baz=323,slow=33	19.86	331	LR			LR	09 44 40.1	
H12A	**Diamond D Ranc** baz=20	19.97	349	⇑P			P	09 38 29.0	-2.3
MCMT	**McKenzie Canyo** 2.4nm,1.0s	19.98	354	*e*P			Pn	09 38 32.9	-0.3
H24A	**Dirks Ranch, A** baz=20	20.20	11	⇑P			P	09 38 33.4	-0.4
H25A	**Fruitdale** baz=20	20.26	13	⇓P			Pn	09 38 35.8	-0.6
G18A	**Lazy EL Ranch,** baz=20	20.32	1	⇓P			P	09 38 33.9	-1.1
G17A	**Pierce Place,** baz=20	20.33	358	⇓P			P	09 38 32.8	-2.4
G22A	**Birney** baz=20	20.42	7	⇑P			P	09 38 36.0	-0.1
H26A	**Fairpoint** baz=20	20.43	15	⇑P			Pn	09 38 37.8	-0.5
G23A	**Biddle** baz=20	20.52	9	⇓P			P	09 38 37.2	0.0
G12A	**Big Creek, Yel** baz=21	20.61	349	⇑P			Pn	09 38 39.1	-1.5
H27A	**Howes** baz=21	20.62	16	⇓P			P	09 38 38.2	0.0
BOZ	**Bozeman (W)** 6.4nm,1.5s	20.70	356	*e*P			P	09 38 39.5	+0.3
BMO	**Blue Mountains** 15nm,1.6s	20.76	345	*e*P			Pn	09 38 40.1	-2.1
G24A	**Alzada** baz=21	20.79	11	⇑P			Pn	09 38 41.0	-1.5
F16A	**Kennard Place,** baz=21	20.83	356	⇑P			P	09 38 40.7	+0.1
F20A	**Billings** baz=21	20.84	3	⇓P			P	09 38 41.0	+0.3
F19A	**Roth Farm, Mol** baz=21	20.86	2	⇓P			P	09 38 41.1	+0.1
F18A	**Big Timber** baz=21	20.90	0	⇑P			P	09 38 39.1	-2.2
F17A	**Fitzpatrick Pl** baz=21,SNR=5.8	20.91	358	⇓P			P	09 38 41.5	0.0
LRM	**Limeki

E17A	Martinsdale	21.48	358	⇓P		P	09 38 41.3	-6.3
	baz=22							
E20A	Meyer Farm, Mu	21.55	3	⇓P		P	09 38 46.3	-1.9
	baz=22							
E18A	Harlowton	21.57	360	⇓P		P	09 38 48.6	+0.2
	baz=22							
E16A	East Helena	21.58	357	⇓P		P	09 38 46.3	-2.4
	baz=22							
ECSD	EROS Data Cent	21.62	27	*e*P		P	09 38 51.3	+2.2
	16nm,1.5s							
E21A	Keefer Ranch,	21.65	5	⇓P		P	09 38 48.7	-0.7
	baz=22							
HRY	Holter Researc	21.77	356	*e*P		P	09 38 51.3	+0.6
	3.3nm,0.6s							
E23A	Ismay	21.80	8	⇑P		P	09 38 48.8	-2.1
	baz=22							
E12A	Beaver Dam Sad	21.90	349	⇓P		P	09 38 51.2	-0.9
	baz=22,SNR=7.9							
E24A	Baker	22.01	10	⇑P		P	09 38 53.9	+0.8
	baz=22							
D16A	Dana Ranch, Ca	22.07	357	⇑P		P	09 38 53.2	-0.7
	baz=22,SNR=6.0							
MSO	Missoula	22.07	352	*e*P		P	09 38 54.1	+0.1
	5.0nm,1.1s							
MSO	Missoula	22.07	352	⇓P		P	09 38 53.2	-0.7
	baz=22,SNR=8.3							
CHMT	Chamberlain Mo	22.08	354	*e*P		P	09 38 54.0	-0.2
	5.8nm,1.1s							
D15A	Lincoln	22.15	355	⇑P		P	09 38 54.5	-0.2
	baz=22							
D17A	Six Diamond Ra	22.16	358	⇑P		P	09 38 55.0	+0.1
	baz=22,SNR=11							
D19A	Cripps Ranch,	22.18	2	⇑P		P	09 38 54.3	-0.7
	baz=22,SNR=5.0							
D21A	La Casta Ranch	22.18	5	⇓P		P	09 38 53.2	-1.8
	baz=22							
D18A	Linhart Farms,	22.20	0	⇓P		P	09 38 54.2	-1.0
	baz=22							
D14A	Greenough	22.27	353	⇑P		P	09 38 55.7	-0.4
	baz=22,SNR=20							
D22A	Cohagen	22.34	7	⇑P		P	09 38 55.5	-1.1
	baz=22							
D13A	Huson	22.40	352	⇑P		P	09 38 55.4	-2.0
	baz=22							
SLMT	Seeley Lake	22.43	353	*e*P		P	09 38 57.5	-0.3
	14nm,1.3s							
D23A	Lindsay	22.48	8	⇑P		P	09 38 57.1	-1.1
	baz=22							
D12A	Red Ives Fores	22.49	350	⇓P		P	09 38 57.4	-1.0
	baz=22							
C17A	Wharram Farm,	22.64	358	⇑P		P	09 38 57.2	-2.8
	baz=23							
SWMT	Swartz Lake	22.75	353	*e*P		P	09 39 00.6	-0.5
	8.8nm,1.5s							
C20A	Veseth Ranch,	22.76	3	⇑P		P	09 39 00.4	-0.8
	baz=23							
C16A	Fuhringer Ranc	22.85	357	⇑P		P	09 39 01.0	-1.2
	baz=23							
C15A	Salmond Ranch,	22.88	355	⇓P		P	09 39 00.1	-2.4
	baz=23							
C21A	Desert Coulee	22.93	5	⇓P		P	09 39 01.1	-1.8
	baz=23							
C14A	Swan Lake	22.98	353	⇓P		P	09 39 02.2	-1.3
	baz=23							
C13A	Hot Springs	22.99	352	⇑P		P	09 39 02.8	-0.8
	baz=23							
EGMT	Eagleton	23.02	0	*e*P		P	09 39 03.4	-0.6
	21nm,1.6s							
EGMT	Eagleton	23.02	0	⇑P		P	09 39 03.6	-0.4
	baz=23							
C12B	Naegeli Ranch,	23.15	350	⇓P		P	09 39 03.9	-1.3
	baz=23							
B18A	Beardsley Farm	23.39	0	⇓P		P	09 39 05.8	-1.9
	baz=23							
C11A	Tepee Creek (N	23.40	349	⇓P		P	09 39 07.2	-0.6
	baz=23							
B15A	Bradely Ranch,	23.41	355	⇑P		P	09 39 07.0	-0.9
	baz=23,SNR=6.7							
B13A	Whitefish	23.66	352	⇓P		P	09 39 06.5	-3.8
	baz=24							
B23A	Brockton	23.77	8	⇑P		P	09 39 09.7	-1.7
	baz=24							
B12A	Libby	23.91	351	⇓P		P	09 39 10.2	-2.5
	baz=24							
A18A	Metzger Ranch,	23.92	360	⇑P		P	09 39 10.8	-2.0
	baz=24							
A20A	Cobblestone Ra	23.93	3	⇓P		P	09 39 11.0	-1.9
	baz=24							
A19A	Klindworth Far	23.94	2	⇑P		P	09 39 12.8	-0.2
	baz=24							
A17A	Triple J Farms	23.95	359	⇓P		P	09 39 12.6	-0.5
	baz=24							
NEW	Newport	23.97	348	P		P	09 39 12.9	-0.4
NEW	Newport	23.97	348	P		P	09 39 12.9	-0.4
	2.4nm,0.9s,baz=164,slow=11,SNR=7.5							
NEW				LR		LR	09 49 27.7	
	comp=Z,100nm,19.7s,baz=172,slow=39							
NEW	Newport	23.97	348	⇓P		P	09 39 12.7	-0.6
	baz=24,SNR=6.1							
A16A	West Butte Ran	23.99	357	⇓P		P	09 39 13.0	-0.5
	baz=24							
A15A	Johnson Ranch,	24.09	355	⇑P		P	09 39 12.7	-1.7
	baz=24							
A14A	Double T Ranch	24.14	354	⇑P		P	09 39 14.8	-0.2
	baz=24,SNR=7.2							
WALA	Waterton Lakes	24.27	353	*e*P		P	09 39 16.2	+0.1
TKL	Tuckaleechee C	24.82	58	LR		LR	09 49 32.8	
	comp=Z,104nm,21.9s,baz=82,slow=38							
ULM	Lac du Bonnet	27.47	20	LR		LR	09 50 17.3	
	comp=Z,101nm,21.8s,baz=153,slow=36							
BBB	Bella Bella	30.54	338	LR		LR	09 52 39.7	
	comp=Z,91nm,18.8s,baz=148,slow=37							
YKA	Yellowknife Ar	37.66	356	P		P	09 41 14.3	+0.5
YKA	Yellowknife Ar	37.66	356	P		P	09 41 14.3	+0.5
	0.1nm,0.2s,baz=161,slow=7.8,SNR=4.4							
YKA				LR		LR	09 57 10.5	
	comp=Z,19nm,18.7s,baz=135,slow=37							
ILAR	Eielson Array	46.41	339	P		P	09 42 25.6	+0.4
ILAR	Eielson Array	46.41	339	P		P	09 42 25.6	+0.4
	0.5nm,0.9s,baz=152,slow=6.4,SNR=8.1							

IDC ***03*** *09:36:10.9±0.9,34°09'N×25°56'E,h0km,mb4.0/16, mb1 4.1/22,mb1mx4.1/34,mbtmp4.0/22,ML4.1/5,MS3.6/8, Ms1 3.6/8,ms1mx3.1/60,Error ellipse: s-maj=21.1km s-min=15.2km az=1.0*

ISCJB ***03*** *09:36:12.3±0.6,33°91'N±0°02'×25°71'E±0°02,h27km±5km, mb3.9/23,MS3.5/6,Error ellipse: s-maj=3.5km s-min=2.4km az=37.1*

THE ***03*** *09:36:12.3,33°79'N×25°64'E,h1km±2km,ML3.7/1,Error ellipse: s-maj=4.6km s-min=0.7km az=178.0*

CSEM ***03*** *09:36:13.7±0.1,33°93'N×25°64'E,h20km,mb4.1/8,Ms3.3, Error ellipse: s-maj=4.6km s-min=2.8km az=41.0*

HLW ***03*** *09:36:15.8,33°91'N×25°81'E,h31km±26km,Md3.3,Ml3.4*

ATH ***03*** *09:36:17.9,34°23'N×25°55'E,h37km±5km,MD4.0/31*

NEIC ***03*** *09:36:17.9,34°23'N×25°55'E,h37km,mb4.0/4, MD4.0(ATH),After ATH.*

ISC 03 09:36:14.5±0.8,33°93'N±0°04'×25°69'E±0°03,h31km±5km, n369,σ1°26/387,mb3.9/23,MS3.5/6,1C-1D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	Lasithi	1.24	352	P	Pb	09 36 37.1	-0.4
LAST				S	Sb	09 36 56.1	+2.9
LAST	Lasithi	1.24	352	*e*PB	Pn	09 36 35.2	-0.7
LAST	Lasithi	1.24	352	*e*Pb	Pn	09 36 35.2	-0.7
LAST	Lasithi	1.24	352	P	Pb	09 36 37.1	-0.4
LAST				S	Sb	09 36 56.1	+2.9
ZKR	Zakros	1.26	20	P	Pb	09 36 37.2	-0.6
ZKR				S	Sb	09 36 57.4	+3.7
ZKR	Zakros	1.26	20	*e*PN	Pb	09 36 38.0	+0.2
ZKR	Zakros	1.26	20	P	Pb	09 36 37.2	-0.6
ZKR	Zakros	1.26	20	*e*Pn	Pb	09 36 38.0	+0.2
SIVA	Sivas	1.31	327	P	Pn	09 36 37.3	+0.6
SIVA				S	Sb	09 36 57.2	+2.3
SIVA	Sivas	1.31	327	*e*PN	Pn	09 36 37.2	+0.6
SIVA	Sivas	1.31	327	*e*Pn	Pn	09 36 37.2	+0.6
SIVA				S	Sb	09 36 57.2	+2.3
NPS	Neapolis	1.33	357	P	Pb	09 36 38.3	-0.7
NPS				S	Sb	09 36 58.8	+3.1
NPS	Neapolis	1.33	357	*e*PN	Pn	09 36 36.9	-0.2
NPS	Neapolis	1.33	357	*e*Pn	Pn	09 36 36.9	-0.2
NPS	Neapolis	1.33	357	P	Pb	09 36 38.3	-0.7
NPS				S	Sb	09 36 58.8	+3.1
IDI	Anoyia	1.51	334	P	Pn	09 36 40.4	+0.9
IDI				S	Sb	09 37 02.8	+2.1
IDI	Anoyia	1.51	334	*e*PN	Pn	09 36 40.3	+0.8
IDI	Anoyia	1.51	334	*e*Pn	Pn	09 36 39.6	+0.1
IDI				*e*Sn	Sn	09 36 52.0	-6.1
IDI	Anoyia	1.51	334	*e*Pn	Pn	09 36 40.3	+0.8
IDI				S	Sb	09 37 02.8	+2.1
GVD	Gavdhos	1.60	305	*e*PB	Pn	09 36 41.4	+0.6
GVD	Gavdhos	1.60	305	*e*Pn	Pn	09 36 41.3	+0.5
GVD				*e*Sn	Sn	09 36 58.1	-2.3
GVD	Gavdhos	1.60	305	*e*Pn	Pn	09 36 41.3	+0.5
GVD				*e*Sn	Sn	09 36 58.1	-2.3
VAM	Vamos	1.92	321	P	Pn	09 36 46.0	+0.9
VAM				S	Sb	09 37 11.8	-0.6
VAM	Vamos	1.92	321	*e*PB	Pn	09 36 46.5	+1.4
VAM	Vamos	1.92	321	P	Pn	09 36 46.0	+0.9
VAM	Vamos	1.92	321	*e*Pb	Pn	09 36 46.5	+1.4
VAM				S	Sb	09 37 11.8	-0.6
KARP	Karpathos	2.02	37	P	Pn	09 36 48.2	+1.7
KARP				S	Sb	09 37 15.6	+0.2
KARP	Karpathos	2.02	37	*e*PN	Pb	09 36 49.2	-1.5
KARP	Karpathos	2.02	37	P	Pn	09 36 48.2	+1.7
KARP	Karpathos	2.02	37	*e*Pn	Pb	09 36 49.2	-1.5
KARP				S	Sb	09 37 15.6	+0.2
LTBQ	Tobruq	2.38	219	*i* P	Pn	09 36 52.8	+1.3
	SNR=91						
LTBQ				*e*S	Sn	09 37 22.0	+2.4
	119nm,0.4s,SNR=91						
SANT	Santorini	2.45	356	*e*PB	Pn	09 36 54.1	+1.7
SANT	Santorini	2.45	356	*e*Pn	Pn	09 36 52.5	+0.2
SANT				*e*Sn	Sn	09 37 14.2	-7.0
SANT	Santorini	2.45	356	*e*Pn	Pn	09 36 52.5	+0.2
SANT	Santorini	2.45	356	*e*Pb	Pn	09 36 54.1	+1.7
SLUM		2.46	189	S	Sn	09 37 22.4	+0.9
	baz=192						
SLUM		2.46	189	P	Pn	09 36 52.9	+0.4
SLUM				S	Sn	09 37 22.4	+0.9
ANKY	Antikythira Is	2.75	315	*e*PB	Pn	09 36 59.3	+2.7
ANKY	Antikythira Is	2.75	315	*e*Pb	Pn	09 36 59.3	+2.7
ARG	Arkhangelos	3.04	41	*e*PN	Pn	09 37 03.1	+2.7
ARG	Arkhangelos	3.04	41	*e*Pn	Pn	09 37 03.1	+2.7
HMAT	Matruh	3.07	157	P	Pn	09 37 01.1	+0.2
	baz=158						
HMAT				AMP		09 37 00.0	
	comp=E,210μm,0.6s,logA/T=5.5,baz=158						
HMAT				S	Sn	09 37 34.9	-1.6
	baz=158						
HMAT	Matruh	3.07	157	P	Pn	09 37 01.1	+0.2
HMAT				S	Sn	09 37 34.9	-1.6
APE	Apeiranthos	3.14	358	*e*PN	Pn	09 37 01.9	0.0
APE				*e*SN	Sn	09 37 40.8	+2.4
APE	Apeiranthos	3.14	358	*e*PN	Pn	09 37 02.0	+0.1
APE	Apeiranthos	3.14	358	*e*Pn	Pn	09 37 02.0	+0.1
DAT	Datca	3.19	28	*e*PN	Pn	09 37 02.3	-0.4
KYTH	Kithira	3.20	318	P	Pn	09 37 03.6	+0.9
KYTH	Kithira	3.20	318	*e*PN	Pn	09 37 03.2	+0.5
KYTH	Kithira	3.20	318	*e*Pn	Pn	09 37 03.2	+0.5
KYTH	Kithira	3.20	318	P	Pn	09 37 03.6	+0.9
BODT	Bodrum	3.40	23	*e*PN	Pn	09 37 05.4	0.0
VLI	Veliai	3.58	322	*e*PN	Pn	09 37 07.8	-0.1
VLI	Veliai	3.58	322	*e*Pn	Pn	09 37 07.8	-0.1
DALY	Dalyan (Mu˘la	3.77	39	*e*PN	Pn	09 37 09.9	-0.6
MLSB	Milas	3.77	26	*e*PN	Pn	09 37 10.6	+0.1
TURN	Turunc	3.78	38	*e*Pn	Pn	09 37 08.6	-2.1
YER	Yerkesik	3.84	33	*e*PN	Pn	09 37 11.5	0.0
FETY	Fethiye	3.88	45	*e*PN	Pn	09 37 11.7	-0.3
DYR	Agios Nikonas	3.94	317	*e*PN	Pn	09 37 15.2	+2.3
DYR	Agios Nikonas	3.94	317	*e*Pn	Pn	09 37 15.2	+2.3
AKAS	Kas	3.95	53	*e*Pn	Pn	09 37 14.2	+1.0
DID	Didima	4.09	332	*e*PN	Pn	09 37 14.5	-0.5
DID	Didima	4.09	332	*e*Pn	Pn	09 37 14.5	-0.5
AYDN	Tasoluk	4.13	25	*e*Pn	Pn	09 37 15.6	+0.1
VLX	Vlachokerasia	4.37	323	*e*PN	Pn	09 37 19.9	+1.1
VLX	Vlachokerasia	4.37	323	*e*Pn	Pn	09 37 19.9	+1.1
PYL	PYLOS	4.38	314	*e*PN	Pn	09 37 20.4	+1.6
PYL	PYLOS	4.38	314	*e*Pn	Pn	09 37 20.4	+1.6
ELL	Elmali	4.45	50	*e*PN	Pn	09 37 19.6	-0.4
ITM	Ithomi	4.46	318	*e*PN	Pn	09 37 21.5	+1.4
ITM	Ithomi	4.46	318	*e*Pn	Pn	09 37 21.5	+1.4
GOLH	Golhisar	4.57	43	*e*Pn	Pn	09 37 22.8	+1.2
DNZL	Cakiroluk	4.64	35	*e*Pn	Pn	09 37 23.2	+0.5
LTK	Loutraki	4.64	332	*e*PN	Pn	09 37 22.4	-0.2
LTK	Loutraki	4.64	332	*e*Pn	Pn	09 37 22.4	-0.2
SWA2		4.67	182	P	Pn	09 37 23.6	+0.7
	baz=184						
SWA2		4.67	182	P	Pn	09 37 23.6	+0.7
GUR	Goura	4.83	327	*e*PN	Pn	09 37 25.4	+0.2
GUR	Goura	4.83	327	*e*Pn	Pn	09 37 25.4	+0.2
AMT	Artemida-Makis	4.84	319	*e*PN	Pn	09 37 25.4	+0.2
AMT	Artemida-Makis	4.84	319	*e*Pn	Pn	09 37 25.4	+0.2
KORT	Korkueli	4.89	50	*e*Pn	Pn	09 37 28.6	+2.5
KLV	Kalavryta, Ach	5.01	326	*e*PN	Pn	09 37 29.9	+2.3
KLV	Kalavryta, Ach	5.01	326	*e*Pn	Pn	09 37 29.9	+2.3
LKR	Lokris	5.19	336	*e*PN	Pn	09 37 29.6	-0.4
LKR	Lokris	5.19	336	*e*Pn	Pn	09 37 29.6	-0.4
AKHS	Akhisar	5.23	19	*e*Pn	Pn	09 37 30.5	-0.1
LAKA	Lakka	5.25	326	*e*PN	Pn	09 37 32.3	+1.4
LAKA	Lakka	5.25	326	*e*Pn	Pn	09 37 32.3	+1.4
KALE	Kalithea	5.30	328	*e*PN	Pn	09 37 34.3	+2.7
KALE	Kalithea	5.30	328	*e*Pn	Pn	09 37 34.3	+2.7
TRIZ	Trizonia	5.31	328	*e*PN	Pn	09 37 34.4	+2.8
TRIZ	Trizonia	5.31	328	*e*Pn	Pn	09 37 34.4	+2.8
BCK	Bucak	5.33	47	*e*PN	Pn	09 37 32.1	+0.1
KHAL	Karahalli	5.40	34	*e*Pn	Pn	09 37 33.4	+0.4
LJBD	Adjabya	5.53	239	*i* P	Pn	09 37 35.2	+0.5
	SNR=70						
LJBD				*e*S	Sn	09 38 36.8	-0.4
	SNR=70						
SUTC	Sutluce-Ispart	5.59	49	*e*PN	Pn	09 37 35.8	+0.2
EVR	Evrytania	5.88	329	*e*PN	Pn	09 37 41.9	+2.3
EVR	Evrytania	5.88	329	*e*Pn	Pn	09 37 41.9	+2.3
VLS	Valsamata	5.92	317	*e*PN	Pn	09 37 43.1	+3.0
VLS	Valsamata	5.92	317	*e*Pn	Pn	09 37 43.1	+3.0
BALY	Balya	6.01	14	*e*Pn	Pn	09 37 41.3	+0.1
LUJL	Ujela	6.08	219	*i* P	Pn	09 37 42.3	0.0
	SNR=70						
AWBH		6.23	153	P	Pn	09 37 44.8	+0.4
	baz=153						
AWBH		6.23	153	P	Pn	09 37 44.8	+0.4
HDMB	Hadim	6.32	59	*e*PN	Pn	09 37 45.5	-0.4
CSS	Prodhromos	6.40	79	*e*PN	Pn	09 37 46.0	-0.7
ERMK	Ermenek	6.50	63	*e*Pn	Pn	09 37 49.5	+1.2
KOT	Kottamia	6.57	126	P	Pn	09 37 49.3	+0.3
	baz=126						
KOT	Kottamia	6.57	126	P	Pn	09 37 49.3	+0.3
HSAF	As Saff	6.59	129	P	Pn	09 37 49.4	+0.1
	baz=129						
HSAF	As Saff	6.59	129	P	Pn	09 37 49.4	+0.1
PLG	Polygyros	6.68	345	*e*PN	Pn	09 37 49.7	-0.8
PLG	Polygyros	6.68	345	*e*Pn	Pn	09 37 49.7	-0.8
GLL	Jalalah	6.71	129	P	Pn	09 37 52.0	+0.9
	baz=129						
GLL	Jalalah	6.71	129	P	Pn	09 37 51.9	+0.9
KONT	Konya--Tatoy	6.74	52	*e*PN	Pn	09 37 51.6	+0.3
HHAG	Hagoal	6.74	124	P	Pn	09 37 51.5	+0.1
	baz=124						
HHAG	Hagoal	6.74	124	P	Pn	09 37 51.5	+0.1
IKL	Isikli	6.95	68	*e*PN	Pn	09 37 53.2	-1.0
KIZT	Kizilcal	7.03	44	*e*PN	Pn	09 37 55.8	+0.4
HFRF	Wahat Farafira	7.12	161	P	Pn	09 37 57.6	+1.0
	baz=161						
HFRF	Wahat Farafira	7.12	161	P	Pn	09 37 57.6	+1.0
AMAG	Maghara	7.16	115	P	Pn	09 37 57.7	+0.5
	baz=115						
AMAG	Maghara	7.16	115	P	Pn	09 37 57.7	+0.5
EREN	Erenkoy	7.17	75	*e*PN	Pn	09 37 55.8	-1.4
RSH		7.41	111	P	Pn	09 38 00.9	+0.4
	baz=111						
RSH		7.41	111	P	Pn	09 38 00.9	+0.4
KEK	Kerkira	7.46	322	*e*PN	Pn	09 38 00.4	-0.8
KEK	Kerkira	7.46	322	*e*Pn	Pn	09 38 00.4	-0.8
KBN	Korca	7.74	331	*e*PN	Pn	09 38 09.0	+3.9
KZIT	Kziot	7.96	110	Pn	Pn	09 38 08.5	+0.4
SLTI	Sal'it	8.03	100	Pn	Pn	09 38 09.5	+0.5
HNKL	Nakhl	8.10	117	P	Pn	09 38 10.3	+0.4
	baz=117						
HNKL	Nakhl	8.10	117	P	Pn	09 38 10.4	+0.4
RTMI	Retamim	8.13	108	Pn	Pn	09 38 11.1	+0.7
MMAI	Mount Meron Ar	8.17	94	Pn	Pn	09 38 12.3	+1.3
MMAI				Sn	Sn	09 39 41.9	-0.5
MMAI	Mount Meron Ar	8.17	94	Pn	Pn	09 38 12.3	+1.3
	comp=E,4.5nm,0.3s,baz=264,slow=12,SNR=8.9						
MMAI				Sn	Sn	09 39 41.9	-0.5
	comp=E,5.4nm,0.3s,baz=257,slow=21,SNR=5.6						
MMAI	Mount Meron Ar	8.17	94	Pn	Pn	09 38 12.3	+1.3
MMAI				Sn	Sn	09 39 41.9	-0.5
GRB	Gharib	8.29	131	P	Pn	09 38 13.6	+0.9
	baz=131						
GRB	Gharib	8.29	131	P	Pn	09 38 13.6	+0.9
KARA	Karaisali	8.32	64	*e*PN	Pn	09 38 12.1	-1.0
HMDT	Nahal Hemdat	8.42	99	Pn	Pn	09 38 14.9	+0.4
DSI	Dead Sea	8.50	103	Pn	Pn	09 38 15.7	+0.2
KRMI	Paran Flat	8.56	114	Pn	Pn	09 38 16.3	-0.1
MZDA	Masada	8.57	105	Pn	Pn	09 38 17.0	+0.6
BRTR	Keskin Array B	8.61	45	Pn	Pn	09 38 19.6	+2.5
BRTR				Sn	Sn	09 39 51.2	-2.0
BRTR	Keskin Array B	8.61	45	Pn	Pn	09 38 19.6	+2.5
	comp=E,0.2nm,0.3s,baz=227,slow=13,SNR=9.4						
BRTR				Sn	Sn	09 39 51.2	-2.0
	comp=E,0.1nm,0.3s,baz=220,slow=20,SNR=2.6						
BRTR	Keskin Array B	8.61	45	Pn	Pn	09 38 19.6	+2.5
BRTR				Sn	Sn	09 39 51.2	-2.0
PRNI	Paran	8.67	112	Pn	Pn	09 38 17.7	-0.1
LZLA	Zalla	8.78	235	*i* P	Pn	09 38 17.5	-1.8
	SNR=70						
HRFI	Mount Harif	8.84	113	Pn	Pn	09 38 20.8	+0.6
MBRI	Mt Berech	8.86	115	Pn	Pn	09 38 20.8	+0.2
TIP	Timpagrande	8.89	309	*e*Pn	Pn	09 38 19.1	-1.7
	comp=E,8.8nm,0.4s						
TIP				*e*Sn	Sn	09 39 55.3	-4.7
TIP	Timpagrande	8.89	309	*e*Pn	Pn	09 38 19.1	-1.7
	comp=E,8.8nm,0.4s						
HKAT	Jabal Katrina	8.92	125	P	Pn	09 38 22.4	+1.0
	baz=125						
HKAT	Jabal Katrina	8.92	125	P	Pn	09 38 22.4	+1.0
EIL	Elat	8.95	116	Pn	Pn	09 38 22.8	+1.1
EIL				Sn	Sn	09 39 58.5	-3.1
EIL	Elat	8.95	116	Pn	Pn	09 38 22.8	+1.1
	comp=E,1.3nm,0.3s,baz=328,slow=9.6,SNR=11						
EIL				Sn	Sn	09 39 58.5	-3.1
	comp=E,2.6nm,0.3s,baz=333,slow=16,SNR=4.4						
EIL	Elat	8.95	116	Pn	Pn	09 38 22.6	+0.9
KOZT	Kozan	8.98	64	*e*PN	Pn	09 38 20.8	-1.2
CEL	Celeste	9.03	301	*e*Pn	Pn	09 38 21.4	-1.3
	comp=E,24nm,0.5s						
CEL				*e*Sn	Sn	09 39 50.3	-13
CEL	Celeste	9.03	301	*e*Pn	Pn	09 38 21.4	-1.3
	comp=E,24nm,0.5s						
PUK	Puka	9.30	332	*e*PN	Pn	09 38 25.7	-0.8
PUK	Puka	9.30	332	*e*Pn	Pn	09 38 25.7	-0.8
GTR	Jabal at Tayr	9.39	152	P	Pn	09 38 29.0	+1.2
	baz=152						
GTR	Jabal at Tayr	9.39	152	P	Pn	09 38 29.0	+1.2
LJFR	Jufra	9.70	243	*i* P	Pn	09 38 30.4	-1.6
	SNR=70						
CUC	Castrocucco	9.95	310	*e*Pn	Pn	09 38 34.2	-1.1
	comp=E,9.4nm,0.4s						
CUC				*e*Sn	Sn	09 40 19.7	-6.2
CUC	Castrocucco	9.95	310	*e*Pn	Pn	09 38 34.2	-1.1
	comp=E,9.4nm,0.4s						
MLR	Muntele Rosu	11.55	1	Pn	Pn	09 39 00.0	+2.7
MLR	Muntele Rosu	11.55	1	Pn	Pn	09 39 00.0	+2.7
	comp=E,0.0nm,0.3s,baz=203,slow=5.5,SNR=4.8						
MLR				LR	LR	09 44 15.8	
	comp=E,125nm,19.6s,baz=184,slow=43						
MLR	Muntele Rosu	11.55	1	Pn	Pn	09 39 00.0	+2.7
PGF	Pioggiola	15.66	308	*e*P	Pn	09 39 51.8	-1.2
ABTA	Abfaltersbach	16.24	326	⇑*i*Pn	P	09 40 02.7	-0.5
	comp=E,10nm,0.6s						
ABTA	Abfaltersbach	16.24	326	P	P	09 40 02.7	-0.5
	comp=E,10nm,0.6s						
GNI	Garni	16.42	62	LR	LR	09 48 13.9	
	comp=E,288nm,18.5s,baz=259,slow=44						
KBZ	Khabaz	16.57	49	Pn	P	09 40 07.0	+0.2
KBZ	Khabaz	16.57	49	Pn	P	09 40 07.0	+0.2
	comp=E,0.0nm,0.3s,baz=260,slow=7.8,SNR=9.8						
KBZ	Khabaz	16.57	49	Pn	P	09 40 07.0	+0.2
VRAC	Vranov	16.78	339	Pn	Pn	09 40 06.9	-0.3
VRAC	Vranov	16.78	339	Pn	Pn	09 40 06.9	-0.3
	baz=134,slow=14,SNR=5.1						
VRAC	Vranov	16.78	339	Pn	Pn	09 40 06.9	-0.3
AK02	Malin Array Si	16.92	8	*e*Pn	Pn	09 40 08.6	-0.2
AK02	Malin Array Si	16.92	8	*e*Pn	Pn	09 40 08.6	-0.2

MOF	Molkenrain	19.68	320	eP		Pn	09 40 42.1	-0.6	
MOF	Molkenrain	19.68	320	eP		Pn	09 40 42.1	-0.6	
LASF	Ste Croix	19.71	307	eP		P	09 40 42.0	+0.7	
	comp=Z,34nm,1.2s								
LASF	Ste Croix	19.71	307	eP		P	09 40 42.0	+0.7	
	comp=Z,17nm,1.2s								
HINF	Hinteralfeld	19.81	320	eP		P	09 40 42.7	+0.3	
HINF	Hinteralfeld	19.81	320	eP		P	09 40 42.7	+0.3	
ECH	Echery	19.90	321	eP		Pn	09 40 45.6	+0.5	
ECH	Echery	19.90	321	eP		Pn	09 40 45.6	+0.5	
ECH	Echery	19.90	321	eP		Pn	09 40 45.6	+0.5	
TOD	Tromm	20.03	327	eP		Pn	09 40 46.9	+0.2	
TOD	Tromm	20.03	327	eP		Pn	09 40 46.9	+0.2	
LANF	Langenberg	20.07	324	eP		Pn	09 40 47.3	+0.1	
LANF	Langenberg	20.07	324	eP		Pn	09 40 47.3	+0.1	
LANF	Langenberg	20.07	324	eP		Pn	09 40 47.3	+0.1	
KTD	Kalmit	20.16	325	eP		Pn	09 40 49.1	+0.8	
HAU	Haudompre	20.20	320	eP		P	09 40 47.2	+0.6	
HAU				eR					
	comp=Z,170nm,17.2s								
HAU	Haudompre	20.20	320	eP		P	09 40 47.2	+0.6	
THEF	They Montfort	20.52	320	eP		P	09 40 49.9	-0.2	
THEF	They Montfort	20.52	320	eP		P	09 40 49.9	-0.2	
THEF	They Montfort	20.52	320	eP		P	09 40 49.9	-0.2	
MTLF	Montolieu	20.55	304	eP		P	09 40 49.8	-0.6	
MTLF	Montolieu	20.55	304	eP		P	09 40 49.8	-0.6	
PAGF	Fort de Pagny	20.86	320	eP		P	09 40 54.5	+0.7	
	comp=Z,5.9nm,0.7s								
PAGF	Fort de Pagny	20.86	320	eP		P	09 40 54.5	+0.7	
	comp=Z,3.0nm,0.7s								
SMF	Signal de Mont	20.87	314	eP		P	09 40 54.6	+0.7	
SMF	Signal de Mont	20.87	314	eP		P	09 40 54.6	+0.7	
TAM	Tamanrasset	20.89	243	eP		Pn	09 40 57.6	+0.6	
	comp=Z,8.8nm,1.2s								
RUP	Ruppelstein	20.91	324	eP		Pn	09 40 56.9	-0.2	
RUP	Ruppelstein	20.91	324	eP		Pn	09 40 56.9	-0.2	
SFTF	Sexfontaines	21.02	319	eP		P	09 40 59.4	+3.9	
LOR	Lormes	21.18	315	eP		P	09 40 57.5	+0.3	
LOR				eR					
	comp=Z,125nm,22.0s								
LOR	Lormes	21.18	315	eP		P	09 40 57.5	+0.3	
MEZF	Maizieres J'vi	21.19	320	eP		P	09 41 00.1	+2.8	
CAF	Calviac	21.22	308	eP		P	09 40 57.6	-0.1	
CAF	Calviac	21.22	308	eP		P	09 40 57.6	-0.1	
AVF	Avril sur Loir	21.23	314	eP		P	09 40 57.2	-0.6	
	comp=Z,4.5nm,0.7s								
AVF	Avril sur Loir	21.23	314	eP		P	09 40 57.2	-0.6	
	comp=Z,2.2nm,0.7s								
SSF	Saint Saulge	21.28	315	eP		P	09 40 58.0	-0.3	
SSF	Saint Saulge	21.28	315	eP		P	09 40 58.0	-0.3	
BGF	Bois d'Agland	21.43	313	eP		P	09 40 59.8	-0.1	
	comp=Z,23nm,0.8s								
BGF	Bois d'Agland	21.43	313	eP		P	09 40 59.8	-0.1	
	comp=Z,12nm,0.8s								
TCF	Toulx Ste Croi	21.70	312	eP		P	09 41 02.4	-0.4	
	comp=Z,24nm,1.0s								
TCF	Toulx Ste Croi	21.70	312	eP		P	09 41 02.4	-0.4	
	comp=Z,12nm,1.0s								
RJF	Les Rejaudoux	21.73	309	eP		P	09 41 03.0	-0.1	
RJF				eR					
	comp=Z,116nm,17.8s								
RJF	Les Rejaudoux	21.73	309	eP		P	09 41 03.0	-0.1	
EPF	Esparros	21.76	302	eP		P	09 41 04.1	+0.6	
EPF	Esparros	21.76	302	eP		P	09 41 04.1	+0.6	
LFF	La Frestale	22.10	307	eP		P	09 41 08.7	+1.6	
	comp=Z,8.4nm,0.4s								
LFF	La Frestale	22.10	307	eP		P	09 41 08.7	+1.6	
	comp=Z,4.2nm,0.4s								
GIVF	Givet	22.28	323	eP		P	09 41 09.9	+0.9	
GIVF	Givet	22.28	323	eP		P	09 41 09.9	+0.9	
ETSF	Etsaut	22.36	301	eP		P	09 41 08.7	-1.3	
ETSF	Etsaut	22.36	301	eP		P	09 41 08.7	-1.3	
BAIF	Baives	22.56	322	eP		P	09 41 12.6	+0.6	
BAIF	Baives	22.56	322	eP		P	09 41 12.6	+0.6	
SJPF	Ste Jean	22.89	302	eP		P	09 41 15.0	-0.5	
SJPF	Ste Jean	22.89	302	eP		P	09 41 15.0	-0.5	
MFF	Saint Martin d	23.31	311	eP		P	09 41 17.6	-2.1	
MFF	Saint Martin d	23.31	311	eP		P	09 41 17.6	-2.1	
LDF	La Druitiere	24.16	315	eP		P	09 41 27.1	-0.7	
LDF	La Druitiere	24.16	315	eP		P	09 41 27.1	-0.7	
ESDC	Sonseca Array	24.36	292	P		P	09 41 29.4	-0.4	
ESDC	Sonseca Array	24.36	292	P		P	09 41 29.4	-0.4	
	comp=Z,0.3nm,0.2s,baz=86,slow=9.7,SNR=12								
ESDC	Sonseca Array	24.36	292	P		P	09 41 29.4	-0.4	
FLN	La Foliniere	24.45	315	eP		P	09 41 29.6	-0.8	
FLN				eR					
	comp=Z,100nm,21.0s								
FLN	La Foliniere	24.45	315	eP		P	09 41 29.6	-0.8	
GRR	Gorron	24.50	314	eP		P	09 41 30.4	-0.5	
GRR	Gorron	24.50	314	eP		P	09 41 30.4	-0.5	
SGMF	Saint Gilles	25.47	313	eP		P	09 41 40.0	+0.3	
	comp=Z,62nm,1.5s								
SGMF	Saint Gilles	25.47	313	eP		P	09 41 40.0	+0.3	
	comp=Z,31nm,1.5s								
QUIF	Quistinic	25.71	312	eP		P	09 41 42.3	+0.4	
QUIF	Quistinic	25.71	312	eP		P	09 41 42.3	+0.4	
ROSF	Rostrenen	25.94	312	eP		P	09 41 45.0	+1.0	
ROSF	Rostrenen	25.94	312	eP		P	09 41 45.0	+1.0	
HFS	Hagfors	27.37	347	P		P	09 41 55.5	-1.3	
HFS	Hagfors	27.37	347	P		P	09 41 55.5	-1.3	
	comp=Z,0.6nm,0.3s,baz=168,slow=8.8,SNR=7.2								
HFS	Hagfors	27.37	347	P		P	09 41 55.5	-1.3	
FINES	FINESS Array B	27.53	0	P		P	09 41 56.4	-1.7	
FINES	FINESS Array B	27.53	0	P		P	09 41 56.4	-1.7	
	comp=Z,1.0nm,0.4s,baz=161,slow=12,SNR=9.7								
FINES				LR		LR	09 53 49.0		
	comp=Z,69nm,19.1s,baz=180,slow=39								
FINES	FINESS Array B	27.53	0	P		P	09 41 56.4	-1.7	
KAF	Kangasniemi	28.21	1	eP		P	09 42 02.5	-1.7	
	comp=Z,0.5nm,0.4s								
KAF	Kangasniemi	28.21	1	eP		P	09 42 02.5	-1.7	
	comp=Z,0.5nm,0.4s								
NB2	NORSAR Subarra	28.70	345	P		P	09 42 08.5	-0.1	
	comp=Z,3.2nm,1.2s,baz=156,slow=9.3								
NB2	NORSAR Subarra	28.70	345	P		P	09 42 08.5	-0.1	
	comp=Z,3.2nm,1.2s,baz=156,slow=9.0,SNR=3.9								
NOA	NORSAR Array B	28.70	345	P		P	09 42 08.3	-0.3	
NOA	NORSAR Array B	28.70	345	P		P	09 42 08.3	-0.3	
	comp=Z,0.2nm,0.4s,baz=158,slow=7.2,SNR=4.0								
NOA	NORSAR Array B	28.70	345	P		P	09 42 08.3	-0.3	
AKTO	Aktyubinsk	28.79	45	P		P	09 42 09.9	+0.4	
AKTO	Aktyubinsk	28.79	45	P		P	09 42 09.9	+0.4	
	comp=Z,1.5nm,0.6s,baz=265,slow=8.3,SNR=6.6								
AKTO				LR		LR	09 57 57.9		
	comp=Z,68nm,19.1s,baz=116,slow=46								
AKTO	Aktyubinsk	28.79	45	P		P	09 42 09.9	+0.4	
JOF	Joensuu	29.23	5	eP		P	09 42 11.4	-1.8	
	comp=Z,0.7nm,0.3s								
JOF	Joensuu	29.23	5	eP		P	09 42 12.5	-0.7	
	comp=Z,0.7nm,0.3s								
JOF	Joensuu	29.23	5	eP		P	09 42 11.4	-1.8	
	comp=Z,0.7nm,0.3s								
EKA	Eskdalemuir Ar	29.30	326	P		P	09 42 13.2	-0.7	
EKA	Eskdalemuir Ar	29.30	326	P		P	09 42 13.2	-0.7	
	comp=Z,0.9nm,0.5s,baz=131,slow=8.9,SNR=7.5								
EKA	Eskdalemuir Ar	29.30	326	P		P	09 42 13.2	-0.7	
TORD	Torodi Ar. Bea	30.05	232	P		P	09 42 21.9	+0.9	
TORD	Torodi Ar. Bea	30.05	232	P		P	09 42 21.9	+0.9	
	comp=Z,1.2nm,0.6s,baz=35,slow=7.6,SNR=20								
TORD				LR		LR	09 56 58.9		
	comp=Z,197nm,18.4s,baz=45,slow=42								
TORD	Torodi Ar. Bea	30.05	232	P		P	09 42 21.9	+0.9	
ARCES	ARCESS Array B	35.66	360	P		P	09 43 07.7	-1.7	
ARCES	ARCESS Array B	35.66	360	P		P	09 43 07.7	-1.7	
	comp=Z,1.6nm,0.6s,baz=184,slow=9.6,SNR=8.0								
ARCES				LR		LR	09 59 41.7		
	comp=Z,65nm,19.1s,baz=257,slow=40								
ARCES	ARCESS Array B	35.66	360	P		P	09 43 07.7	-1.7	
KMBO	Kilima Mbogo	36.53	160	LR		LR	10 01 25.8		
	comp=Z,80nm,19.2s,baz=222,slow=41								
DBIC	Dimbokro	39.16	233	LR		LR	10 02 21.8		
	comp=Z,143nm,19.2s,baz=32,slow=40								
KURBB	Kurchatov Arra	41.57	50	P		P	09 44 00.7	+1.5	
	comp=Z,2.0nm,0.7s,baz=276,slow=8.8,SNR=16								
KURK	Kurchatov	41.63	50	P		P	09 44 00.7	+1.0	
KURK	Kurchatov	41.63	50	P		P	09 44 00.7	+1.0	
MK31	Makanchi Array	44.10	56	eP		P	09 44 20.7	+0.8	
MK31	Makanchi Array	44.10	56	eP		P	09 44 20.7	+0.8	
MKAR	Makanchi Array	44.10	56	P		P	09 44 21.2	+1.3	
MKAR	Makanchi Array	44.10	56	P		P	09 44 21.2	+1.3	
	comp=Z,1.8nm,0.8s,baz=282,slow=5.7,SNR=5.9								
MKAR	Makanchi Array	44.10	56	P		P	09 44 21.2	+1.3	
ZALV	Zalesovo Beam	45.55	45	P		P	09 44 31.6	+0.4	
ZALV	Zalesovo Beam	45.55	45	P		P	09 44 31.6	+0.4	
	comp=Z,1.9nm,0.4s,baz=268,slow=8.8,SNR=6.8								
ZALV	Zalesovo Beam	45.55	45	P		P	09 44 31.6	+0.4	
SONM	Songino Array	59.94	50	P		P	09 46 18.7	+0.9	
SONM	Songino Array	59.94	50	P		P	09 46 18.7	+0.9	
	comp=Z,0.3nm,0.4s,baz=290,slow=11,SNR=5.1								
SONM	Songino Array	59.94	50	P		P	09 46 18.7	+0.9	
SCHQ	Schefferville	64.41	320	P		P	09 46 47.8	+0.3	
SCHQ	Schefferville	64.41	320	P		P	09 46 47.8	+0.3	
	comp=Z,3.3nm,0.8s,baz=70,slow=7.6,SNR=8.6								
SCHQ	Schefferville	64.41	320	P		P	09 46 47.8	+0.3	
KSAR	Wonju Array Be	78.67	53	P		P	09 48 15.2	+1.5	
KSAR	Wonju Array Be	78.67	53	P		P	09 48 15.2	+1.5	
KSRS	Korea Array	78.69	52	P		P	09 48 15.2	+1.4	
	comp=Z,0.6nm,0.6s,baz=263,slow=4.6,SNR=5.1								
YKA	Yellowknife Ar	78.75	342	P		P	09 48 13.9	+0.2	
YKA	Yellowknife Ar	78.75	342	P		P	09 48 13.9	+0.2	
	comp=Z,0.3nm,0.5s,baz=32,slow=5.5,SNR=6.1								
YKA	Yellowknife Ar	78.75	342	P		P	09 48 13.9	+0.2	
ILAR	Eielson Array	81.45	357	P		P	09 48 28.8	+0.6	
ILAR	Eielson Array	81.45	357	P		P	09 48 28.8	+0.6	
	comp=Z,0.3nm,0.4s,baz=355,slow=5.1,SNR=6.6								
ILAR	Eielson Array	81.45	357	P		P	09 48 28.8	+0.6	

*ISCJB **03** 09:43:53.5±0.2, 42°.32N±0°.02×13°.36E±0°.02, h11km±2km, Error ellipse: s-maj=3.0km s-min=2.9km az=139.9*
*CSEM **03** 09:43:53.9±0.1, 42°.33N×13°.37E, h5km, ML4.1/7, Error ellipse: s-maj=2.9km s-min=2.6km az=65.0*
*ROM **03** 09:43:53.8±0.1, 42°.32N×13°.38E, h10km, Ml3.6/11, Error ellipse: s-maj=0.8km s-min=0.7km az=106.0*
*LDG **03** 09:43:53.6±0.1, 42°.32N×13°.32E, h2km, Ml3.2/5, Error ellipse: s-maj=3.3km s-min=2.0km az=43.0*

ISC 03 09:43:54.2±0.8, 42°.33N±0°.02×13°.36E±0°.02, h12km±4km, n115, σ1§26/140, 2C-1D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
AQU	L'Aquila	0.04	50	Pg	Pg	09	43	56.3	-0.2
AQU				Sg	Sg	09	43	57.7	-0.4
	61μm,0.3s								
AQU	L'Aquila	0.04	50	Pg	Pg	09	43	56.3	-0.2
AQU				Sg	Sg	09	43	57.7	-0.4
	61μm,0.3s								
FIAM	Fiamignano	0.19	252	Pg	Pg	09	43	58.8	+0.3
FIAM				Sg	Sg	09	44	02.1	+0.7
	16μm,0.5s								
FIAM	Fiamignano	0.19	252	Pg	Pg	09	43	58.8	+0.3
FIAM				Sg	Sg	09	44	02.1	+0.7
	16μm,0.5s								
PTQR	Pietraquaria	0.31	175	⇑iPg	Pg	09	44	00.5	0.0
PTQR	Pietraquaria	0.31	175	⇑iPg	Pg	09	44	00.5	0.0
TERO	Teramo	0.34	31	Pg	Pg	09	44	00.5	-0.7
TERO				Sg	Sg	09	44	06.9	+1.1
	10μm,0.6s								
TERO	Teramo	0.34	31	Pg	Pg	09	44	00.5	-0.7
TERO				Sg	Sg	09	44	06.9	+1.1
	10μm,0.6s								
VCEL	Villa Celiera	0.36	79	Pg	Pg	09	44	01.1	-0.4
	9μm,0.6s								
VCEL	Villa Celiera	0.36	79	Pg	Pg	09	44	01.1	-0.4
	9μm,0.6s								
LNSS	Leonessa	0.36	319	Pg	Pg	09	44	01.5	0.0
LNSS				Sg	Sg	09	44	07.6	+1.2
	3μm,0.3s								
LNSS	Leonessa	0.36	319	Pg	Pg	09	44	01.5	0.0
LNSS				Sg	Sg	09	44	07.6	+1.2
	3μm,0.3s								
CERT	Cerreto	0.47	217	Pg	Pg	09	44	03.4	-0.1
CERT				Sg	Sg	09	44	10.9	+1.1
	6μm,0.3s								
CERT	Cerreto	0.47	217	Pg	Pg	09	44	03.4	-0.1
CERT				Sg	Sg	09	44	10.9	+1.1
	6μm,0.3s								
VVLD	Villa Vallelon	0.50	157	Pg	Pg	09	44	03.4	-0.6
	2μm,0.5s								
VVLD	Villa Vallelon	0.50	157	Pg	Pg	09	44	03.4	-0.6
	2μm,0.5s								
MNS	Montasola	0.51	277	Pg	Pg	09	44	03.8	-0.4
	2μm,0.5s								
MNS	Montasola	0.51	277	Pg	Pg	09	44	03.8	-0.4
	2μm,0.5s								
INTR	Introdacqua	0.51	128	Pg	Pg	09	44	03.8	-0.5
INTR				Sg	Sg	09	44	11.8	+0.7
	3μm,0.7s								
INTR	Introdacqua	0.51	128	Pg	Pg	09	44	03.8	-0.5
INTR				Sg	Sg	09	44	11.8	+0.7
	3μm,0.7s								
GUAR	Guarcino	0.54	184	Pg	Pg	09	44	04.2	-0.5
	2μm,0.5s								
GUAR	Guarcino	0.54	184	Pg	Pg	09	44	04.2	-0.5
	2μm,0.5s								
NRCA	Norcia	0.54	340	Pg	Pg	09	44	04.3	-0.5
NRCA				Sg	Sg	09	44	12.8	+0.9
	2μm,0.1s								
NRCA	Norcia	0.54	340	Pg	Pg	09	44	04.3	-0.5
NRCA				Sg	Sg	09	44	12.8	+0.9
	2μm,0.1s								
MTCE	Montecelio	0.55	237	Pg	Pg	09	44	04.8	-0.2
MTCE				Sg	Sg	09	44	12.9	+0.6
MTCE	Montecelio	0.55	237	Pg	Pg	09	44	04.8	-0.2
MTCE				Sg	Sg	09	44	12.9	+0.6
TRTR	Tortoreto Alta	0.63	40	Pg	Pg	09	44	06.8	+0.3
TRTR	Tortoreto Alta	0.63	40	Pg	Pg	09	44	06.8	+0.3
CESX	Cesi	0.64	296	Pg	Pg	09	44	06.5	-0.2
CESX	Cesi	0.64	296	Pg	Pg	09	44	06.5	-0.2
OFFI	Offida	0.65	21	Pg	Pg	09	44	07.0	+0.1
OFFI	Offida	0.65	21	Pg	Pg	09	44	07.0	+0.1
POFI	Posta Fibreno	0.66	157	Pg	Pg	09	44	06.7	-0.4
POFI	Posta Fibreno	0.66	157	Pg	Pg	09	44	06.7	-0.4
LPEL	Lama dei Pelig	0.67	114	Pg	Pg	09	44	06.4	-0.9
LPEL				Sg	Sg	09	44	16.5	+0.4
LPEL	Lama dei Pelig	0.67	114	Pg	Pg	09	44	06.4	-0.9
LPEL				Sg	Sg	09	44	16.5	+0.4
SDI	San Donato	0.70	151	Pg	Pg	09	44	07.0	-0.9
SDI	San Donato	0.70	151	Pg	Pg	09	44	07.0	-0.9
RMP	Rome, Mte Porz	0.71	224	Pg	Pg	09	44	07.5	-0.5
RMP	Rome, Mte Porz	0.71	224	Pg	Pg	09	44	07.5	-0.5
FDMO	Fiordimonte	0.74	344	Pg	Pg	09	44	07.7	-0.8
FDMO	Fiordimonte	0.74	344	Pg	Pg	09	44	07.7	-0.8
CAFR	Castel Frentan	0.74	98	Pg	Pg	09	44	08.1	-0.4
CAFR	Castel Frentan	0.74	98	Pg	Pg	09	44	08.1	-0.4
RDP	Rocca di Papa	0.74	220	Pg	Pg	09	44	08.3	-0.4
RDP	Rocca di Papa	0.74	220	Pg	Pg	09	44	08.3	-0.4
CESI	CESI - Serrava	0.76	334	Pg	Pg	09	44	08.5	-0.4
CESI	CESI - Serrava	0.76	334	Pg	Pg	09	44	08.5	-0.4
GIUL	Giuliano Di Ro	0.77	186	Pg	Pg	09	44	08.5	-0.7
GIUL	Giuliano Di Ro	0.77	186	Pg	Pg	09	44	08.5	-0.7
ROM9	Roma	0.80	232	Pg	Pg	09	44	09.7	-0.1
ROM9	Roma	0.80	232	Pg	Pg	09	44	09.7	-0.1
LAV9	Lanuvio	0.82	217	Pg	Pg	09	44	09.7	-0.3
LAV9	Lanuvio	0.82	217	Pg	Pg	09	44	09.7	-0.3
GUMA	Gualdo di Mace	0.85	30	Pg	Pg	09	44	07.9	-2.7
GUMA	Gualdo di Mace	0.85	30	Pg	Pg	09	44	07.9	-2.7
RNI2	Rionero Sannit	0.86	136	Pg	Pg	09	44	10.3	-0.5
RNI2	Rionero Sannit	0.86	136	Pg	Pg	09	44	10.3	-0.5
CERA	Filignano	0.88	146	Pg	Pg	09	44	10.0	-1.2
CERA	Filignano	0.88	146	Pg	Pg	09	44	10.0	-1.2
ASSB	Assisi San Ben	0.88	324	Pg	Pg	09	44	10.7	-0.6
ASSB	Assisi San Ben	0.88	324	Pg	Pg	09	44	10.7	-0.6
MIDA	Miranda	0.96	136	Pg	Pg	09	44	11.1	-1.6
MIDA	Miranda	0.96	136	Pg	Pg	09	44	11.1	-1.6
SNTG	Esanatoglia	0.98	342	Pg	Pg	09	44	11.9	-1.2
SNTG	Esanatoglia	0.98	342	Pg	Pg	09	44	11.9	-1.2
TOLF	Tolfa	1.04	256	Pg	Pb	09	44	13.6	-0.7
TOLF	Tolfa	1.04	256	Pg	Pb	09	44	13.6	-0.7
CING	Cingoli	1.05	353	Pg	Pb	09	44	13.3	-1.2
CING	Cingoli	1.05	353	Pg	Pb	09	44	13.3	-1.2
MGAB	Montegabbione	1.09	303	Pg	Pb	09	44	14.9	-0.2
MGAB	Montegabbione	1.09	303	Pg	Pb	09	44	14.9	-0.2
SACS	San Casciano d	1.19	296	Pg	Pb	09	44	17.1	+0.3
ARVD	Arcevia	1.21	345	Pg	Pn	09	44	16.1	-0.9
ARVD	Arcevia	1.21	345	Pg	Pn	09	44	16.1	-0.9
AOI	Ancona	1.23	8	Pg	Pn	09	44	16.9	-0.5
AOI	Ancona	1.23	8	Pg	Pn	09	44	16.9	-0.5
NVLJ	Novalja	2.49	26	ePn	Pn	09	44	35.3	+0.7
NVLJ				Sn	Sn	09	45	05.9	+1.0
NVLJ	Novalja	2.49	26	ePn	Pn	09	44	35.2	+0.7
NVLJ				Sn	Sn	09	45	05.9	+1.0
UDBI	Udbina	2.81	38	iPn	Pn	09	44	40.8	+1.7
UDBI				Sn	Sn	09	45	15.7	+2.8
UDBI	Udbina	2.81	38	iPn	Pn	09	44	40.8	+1.7
UDBI				Sn	Sn	09	45	15.7	+2.8
PGF	Pioggiola	3.24	275	eP	Pn	09	44	46.0	+1.0
PGF				eSn	Sn	09	45	18.9	-4.6
	5.9nm,0.4s								
PGF	Pioggiola	3.24	275	eP	Pn	09	44	46.0	+1.0
STON	Ston	3.25	79	iPn	Pn	09	44	46.2	+1.2
STON				Sn	Sn	09	45	25.2	+1.5
STON	Ston	3.25	79	iPn	Pn	09	44	46.2	+1.2
STON				Sn	Sn	09	45	25.1	+1.5
VOY	Vojsko	3.72	6	e	Pn	09	44	53.8	+2.2
VOY				e		09	45	08.0	
VOY				eSn	Sn	09	45	36.8	+1.3
ABTA	Abfaltersbach	4.46	352	⇓iPn	Pn	09	45	03.2	+1.4
ABTA	Abfaltersbach	4.46	352	Pn	Pn	09	45	03.2	+1.4
SBF	Sospel	4.60	291	ePn	Pn	09	45	01.2	-2.5
SBF	Sospel	4.60	291	eP	Pn	09	45	05.0	+1.3
SBF				eSn	Sn	09	45	51.0	-6.1
	5.1nm,0.5s								
SBF	Sospel	4.60	291	ePn	Pn	09	45	01.2	-2.5
SBF	Sospel	4.60	291	eP	Pn	09	45	05.0	+1.3
BBLS	Lazići	4.69	69	ePn	Pn	09	45	08.3	+3.5
LMR	La Mourre	5.14	284	ePn	Pn	09	45	09.5	-1.5
LMR	La Mourre	5.14	284	ePn	Pn	09	45	09.5	-1.5
DIVS	Divibare	5.16	68	ePn	Pn	09	45	10.7	-0.7
MBDF	Montbardon	5.36	299	ePn	Pn	09	45	11.7	-2.5
MBDF	Montbardon	5.36	299	eP	Pn	09	45	16.3	+2.1
MBDF	Montbardon	5.36	299	ePn	Pn	09	45	11.7	-2.5
MBDF	Montbardon	5.36	299	eP	Pn	09	45	16.3	+2.1
TRUS	Trudelj	5.48	67	ePn	Pn	09	45	16.5	+0.8
LPG	La Plagne	5.73	306	eP	Pn	09	45	21.6	+2.2
LPG	La Plagne	5.73	306	eP	Pn	09	45	21.6	+2.2
SELS	Selova	5.78	79	ePn	Pn	09	45	21.6	+1.8
SMRF	Simiane la Rot	5.93	289	ePn	Pn	09	45	19.5	-2.4
SMRF	Simiane la Rot	5.93	289	eP	Pn	09	45	23.9	+2.0
SMRF	Simiane la Rot	5.93	289	eP	Pn	09	45	23.9	+2.0
VIVF	Saint-Julien-l	6.79	295	eP	Pn	09	45	36.1	+2.3
VIVF	Saint-Julien-l	6.79	295	eP	Pn	09	45	36.1	+2.3
HINF	Hinteralfeld	7.16	322	ePn	Pn	09	45	37.0	-1.8
HINF				eSn	Sn	09	46	52.9	-7.2
	5.5nm,0.5s								
HINF	Hinteralfeld	7.16	322	ePn	Pn	09	45	37.0	-1.8
CDF	Champ du Feu	7.44	327	ePn	Pn	09	45	42.0	-0.7
CDF				eSn	Sn	09	46	59.5	-7.5
	3.3nm,0.4s								
CDF	Champ du Feu

baz=322
TAP eS Sb 09 51 16.4 +2.2
baz=322
CHKT Chengkung 1.27 224 P Pn 09 50 56.0 -1.5
baz=212
CHKT eS Sn 09 51 11.0 -2.7
baz=212
SSLB Suanglung 1.27 260 ePn Pn 09 50 56.8 -0.8
SSLB eSn Sn 09 51 14.4 +0.4
SMLT Sun Moon Lake 1.31 264⇓*i*P Pn 09 50 58.2 0.0
baz=252
SMLT eS Sn 09 51 13.8 -1.2
baz=252
IRIF Iriomote-Funau 1.32 76 P Pb 09 50 59.6 +0.1
IRIF S Sb 09 51 17.6 +1.6
TYC Yuchr 1.35 265⇓*i*P Pn 09 50 58.5 0.0
baz=265
TYC eS Sn 09 51 14.3 -1.3
baz=265
NSTT Nanjuang 1.35 297⇓*i*P Pb 09 50 59.7 -0.3
baz=296
NSTT S Sn 09 51 16.6 +0.7
baz=296
HATJ Hateruma jima 1.35 88 P Pb 09 50 59.7 -0.3
HATJ S Sb 09 51 18.8 +1.9
TWS1 Kuangyinshan 1.36 323⇓*i*P Pb 09 50 59.6 -0.5
baz=322
YUS Yu-Shan 1.36 248 P Pn 09 50 58.9 -0.3
baz=247
YUS eS Sn 09 51 15.3 -1.5
baz=247
NCU National Centr 1.41 313 eP Pn 09 50 59.9 +0.5
baz=312
TWY Chenhua 1.42 332 eP Pn 09 50 59.9 +0.4
baz=347
TWQ1 Liyutan 1.46 283⇓*i*P Pb 09 51 01.5 -0.2
baz=282
TWQ1 eS Sn 09 51 19.4 +1.0
baz=282
ELDTW Lidau 1.46 236⇑P Pn 09 50 59.1 -1.0
baz=235
HSN Hsinchu 1.46 303 eP Pn 09 51 00.9 +0.8
baz=302
HSN eS Sb 09 51 20.5 +0.5
baz=302
ALS Alishan 1.48 250⇑P Pn 09 51 01.0 +0.3
baz=250
ALS eS Sn 09 51 18.9 -0.5
baz=250
NSY Sanyi 1.48 286⇓*i*P Pb 09 51 02.0 -0.2
baz=285
WNT Mingjian 1.51 265 eP Pb 09 51 02.0 -0.7
baz=264
WNT eS Sb 09 51 21.0 -0.4
baz=264
TCU Taichung 1.51 275⇓*i*P Pb 09 51 02.4 -0.3
baz=274
TCU eS Sb 09 51 21.9 +0.4
baz=274
JKRS Kuro-shima 1.55 82 P Pb 09 51 02.7 -0.7
JKRS S Sb 09 51 24.0 +1.3
CHN5 Tsauling 1.56 255 eP Pn 09 51 02.5 +0.8
baz=243
CHN5 eS Sn 09 51 22.1 +0.9
baz=243
PCYT Pengchaiyu 1.62 352⇓P Pn 09 51 02.6 +0.2
baz=351
WGK Gukeng 1.65 259 eP Pb 09 51 04.7 -0.3
baz=258
WGK eS Sb 09 51 24.7 -0.6
baz=258
TWG Pinlang 1.66 224 ePn Pn 09 51 01.3 -1.5
TWG eSn Sn 09 51 22.1 -1.2
TTN Taitung 1.66 221 eP Pn 09 51 01.9 -1.0
baz=221
TTN eS Sn 09 51 23.2 -0.2
baz=221
JIJ Ishigaki jima 1.70 78 P Pn 09 51 04.0 +0.6
JIJ S Sb 09 51 26.0 -0.7
TPUB Ta-pu 1.71 246 ePn Pn 09 51 04.3 +0.7
TPUB eSn Sn 09 51 26.3 +1.6
WTP Ta-pu 1.75 244⇑P Pn 09 51 05.0 +0.9
baz=244
WTP S Sn 09 51 27.1 +1.5
baz=244
CHY Chiayi 1.82 254 eP Pb 09 51 06.8 -1.0
baz=253
CHY eS Sb 09 51 29.3 -0.9
baz=253
TWK Hsinying 1.84 246 eP Pn 09 51 06.9 +1.4
baz=246
TWK S Sb 09 51 30.2 -0.9
baz=246
CHN1 Nanshi 1.84 244⇑*e*P Pn 09 51 06.8 +1.3
baz=243
CHN1 eS Sb 09 51 30.5 -0.6
baz=243
SGST Jiashian 1.85 240 eP Pn 09 51 06.6 +1.1
baz=229
SGST eS Sb 09 51 30.8 -0.5
baz=229
WTCT Ta-ch'eng 1.88 266 eP Pn 09 51 07.4 +1.5
baz=265
WTCT eS Sb 09 51 30.8 -1.1
baz=265
ECL Taimali 1.89 222 eP Pn 09 51 04.6 -1.5
baz=233
WSF Szhu 1.96 259 eP Pn 09 51 08.7 +1.7
baz=259
WSF eS Sb 09 51 33.7 -0.8
baz=259
CHN3 Shinhua 2.03 243 eP Pn 09 51 09.3 +1.4
baz=243
CHN8 Yiju 2.05 251 eP Pn 09 51 09.5 +1.3
baz=251
CHN8 S Sn 09 51 35.2 +2.2
baz=251
LAY Lan-yu 2.10 200 eP Pn 09 51 07.2 -1.7
baz=200
TAW Tawu 2.11 219 eP Pn 09 51 08.1 -1.0
baz=219
TWM1 Shoushan 2.11 236 eP Pb 09 51 12.2 -0.7
baz=235
EAST Anshuo 2.12 220⇑P Pn 09 51 08.3 -0.9
baz=220
SGLT Jiouru 2.12 233 eP Pb 09 51 12.0 -1.0
baz=233
SCLT Jiali 2.13 247 eP Pn 09 51 10.3 +1.0
baz=247
SCLT eS Sn 09 51 36.9 +2.0
baz=247
TAI1 Yung-k'ang 2.16 244 eP Pn 09 51 11.7 +2.1
baz=244
TAI1 eS Sn 09 51 38.0 +2.4
baz=244
JTJ Tarama 2.26 74 P Pn 09 51 12.8 +1.8
JTJ S Sb 09 51 40.3 -2.6
SCZT Fangliau 2.27 224 eP Pn 09 51 11.6 +0.4
baz=218
SCZT eS Sn 09 51 40.0 +1.6
baz=218
TWP Hsiaoliuchiu 2.46 228 eP Pb 09 51 17.0 -1.8
baz=229
TWP eS Sb 09 51 48.4 -0.2
baz=229
HEN Hengchun 2.48 216 eP Pn 09 51 14.2 0.0
baz=217
HEN eS Sn 09 51 43.8 +0.2
baz=217
TSEB Hengchuen, Pin 2.48 212 eP Pn 09 51 13.5 -0.7
baz=215
TSEB eS Sn 09 51 43.6 -0.1
baz=215
TWK1 Hengchun 2.50 214⇑eP Pn 09 51 14.1 -0.2
baz=214
PNG Penghu 2.58 261⇓eP Pn 09 51 15.8 +0.4
baz=260
PNG eS Sn 09 51 46.2 +0.2
baz=260
JMJ Miyako jima 2 2.82 73 eP Pn 09 51 19.8 +0.9
baz=76
JMJ Miyako jima 2 2.82 73 P Pn 09 51 21.3 +2.5
JMJ S Sn 09 51 54.3 +2.3
JOGS Gusukube 2.91 75 P Pb 09 51 23.2 -3.3
JOGS S Sb 09 51 57.5 -4.1
QZH Quanzhou 3.52 286⇑*i*Pn Pn 09 51 27.9 -0.6
QZH Sn Sn 09 52 04.1 -5.3

QZH smax smax
comp=N,1μm,1.0s
QZH smax smax
comp=E,1μm,1.1s
QZH LR LR
comp=N,3μm,8.2s
QZH LR LR
comp=E,4μm,7.8s
QZH LR LR
comp=Z,6μm,12.0s
KNM Kinmen 3.58 277 eP Pn 09 51 30.1 +0.9
baz=276
JKE Kume jima 2 4.65 59 P Pn 09 51 44.9 +0.9
JIH Iheya 5.92 58 P Pn 09 52 01.6 +0.2
JOW Kunigami 6.07 61 eP Pn 09 52 03.0 -0.5
baz=66
JOW Kunigami 6.07 61 ePn Pn 09 52 02.9 -0.6
comp=Z,13nm,0.4s
JOW eSn Sn 09 53 09.4 -2.7
JOW Kunigami 6.07 61 P Pn 09 52 03.0 -0.5
JOW eS Sn 09 53 12.9 +0.8
JTK Tokunoshima 7.05 56 P Pn 09 52 16.0 -0.9
JAMN Amaminishikomi 7.46 54 P Pn 09 52 21.3 -1.2
JAM Amami Oshima 7.87 55 P Pn 09 52 26.9 -1.3
NJ2 Nanjing 8.57 340 eP Pn 09 52 38.1 +0.3
NJ2 pP 09 52 44.1
NJ2 sP 09 52 47.8
NJ2 S Sn 09 54 11.8 -1.9
NJ2 sS 09 54 18.3
NJ2 pmax pmax
comp=Z,20nm,0.8s
NJ2 smax smax
comp=N,130nm,1.0s
NJ2 smax smax
comp=E,180nm,1.2s
NJ2 LR LR
comp=N,2μm,12.9s
NJ2 LR LR
comp=E,1μm,11.4s
NJ2 LR LR
comp=Z,3μm,13.2s
WHN Wuhan 9.62 314 P Pn 09 52 53.5 +1.3
WHN S Sn 09 54 43.1 +3.6
WHN LR LR
comp=N,3μm,12.0s
WHN LR LR
comp=E,2μm,9.1s
WHN LR LR
comp=Z,4μm,13.4s
JNU Nakatsue 11.77 38 LR LR 09 58 14.8
comp=Z,544nm,18.7s,baz=216,slow=40
QIZ Qiongzhong 12.63 249 P Pn 09 53 37.6 +4.1
QIZ S Sn 09 56 01.5 +8.1
QIZ pmax pmax
comp=Z,11nm,1.0s
QIZ LR LR
comp=N,580nm,19.1s
QIZ LR LR
comp=E,250nm,18.6s
QIZ LR LR
comp=Z,300nm,19.3s
KSAR Wonju Array Be 14.21 18 Pn Pn 09 53 57.1 +2.2
KSRS Korea Array 14.23 18 Pn Pn 09 53 57.1 +1.9
comp=Z,0.9nm,0.3s,baz=197,slow=12,SNR=29
KSRS LR LR 09 59 56.8
comp=Z,438nm,19.9s,baz=331,slow=40
GYA Guiyang 14.38 283 P Pn 09 53 57.7 +0.2
GYA S Sn 09 56 30.4 -5.9
GYA pmax pmax
comp=Z,20nm,0.8s
GYA LR LR
comp=N,580nm,10.6s
GYA LR LR
comp=E,1μm,14.0s
GYA LR LR
comp=Z,420nm,15.0s
XAN Xi'an 15.38 313 P P 09 54 16.4 +1.1
XAN sP sP 09 54 30.0 +4.7
XAN pmax pmax
comp=Z,7.0nm,1.1s
XAN pmax pmax
comp=Z,27nm,10.5s
DAV Davao City (W) 17.14 169 LR LR 10 01 08.8
comp=Z,364nm,19.9s,baz=355,slow=37
SNY Shenyang 17.79 3⇑P P 09 54 43.7 +1.9
SNY pmax pmax
comp=Z,5.0nm,0.5s
SNY pmax pmax
comp=Z,250nm,12.8s
SNY LR LR
comp=N,860nm,12.4s
SNY LR LR
comp=E,320nm,10.1s
SNY LR LR
comp=Z,960nm,12.9s
CD2 Chengdu 17.84 297 P P 09 54 43.3 +0.8
CD2 PP PnPn 09 55 00.1 +7.2
CD2 S Sn 09 57 57.5 -2.7
CD2 SS SnSn 09 58 22.7 +8.9
CD2 pmax pmax
comp=Z,60nm,0.5s
CD2 pmax pmax
comp=Z,460nm,5.4s
CD2 LR LR
comp=N,870nm,10.6s
CD2 LR LR
comp=E,1μm,13.2s
CD2 LR LR
comp=Z,1μm,15.2s
MJAR Matsushiro Arr 18.52 44 P P 09 54 49.2 -0.7
MJAR Matsushiro Arr 18.52 44 P P 09 54 49.2 -0.7
baz=230,slow=10,SNR=3.6
MJAR LR LR 10 02 34.6
comp=Z,137nm,19.6s,baz=235,slow=39
BTO Baotou 19.50 331 eP Pn 09 55 01.6 -0.5
CN2 Changchun 19.90 7 eP P 09 55 05.2 +0.3
CN2 eS Sn 09 58 52.6 +2.9
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,7.0s
CN2 LR LR
comp=N,1μm,13.0s
CN2 LR LR
comp=E,300nm,13.0s
CN2 LR LR
comp=Z,1μm,14.0s
LZH Lanzhou 19.97 311 eP Pn 09 55 08.5 +0.7
LZH pP pP 09 55 10.8 -2.0
LZH sP sP 09 55 12.2 -3.9
LZH PP PnPn 09 55 28.4 +6.2
LZH eS S 09 58 45.3 -4.3
LZH sS Sn 09 58 51.1 -0.8
LZH SS SnSn 09 59 15.3 +8.9
LZH pmax pmax
comp=Z,50nm,1.2s
LZH pmax pmax
comp=Z,120nm,4.3s
LZH LR LR
comp=N,650nm,10.3s
LZH LR LR
comp=E,590nm,12.5s
LZH LR LR
comp=Z,1μm,14.7s
CRAI Chiangrai 20.68 264 P Pn 09 55 20.0 +4.0
comp=Z,72μm,1.2s
LOEI Loei 20.72 256 P Pn 09 55 16.8 +0.3
comp=Z,14nm,1.1s
CHAI Chaiyaphum 20.73 251 P Pn 09 55 18.7 +2.0
comp=Z,5.0nm,1.0s
PBKT Sadao Pong 21.34 254 P P 09 55 23.0 +2.3
comp=Z,11nm,1.7s
PBKT Sadao Pong 21.34 254 P P 09 55 28.5 +7.8
comp=Z,11nm,1.7s
PAYA Payao 21.37 262 P P 09 55 36.7 +16
USRK Ussuriysk Arra 21.64 19 P P 09 55 22.2 -1.5
comp=Z,5.2nm,0.7s,baz=206,slow=10,SNR=14
USRK LR LR 10 04 20.1
comp=Z,301nm,19.1s,baz=203,slow=38
LAMP Lampang 21.83 260 P P 09 55 29.5 +3.5
comp=Z,4.2nm,0.9s
CMAI Chiengmai2 21.96 264 P P 09 55 32.1 +4.5
comp=Z,25nm,0.9s,comp=Z,1μm
CHBT CHBT 22.00 243 P P 09 55 31.3 +3.4
comp=Z,14nm,1.2s
CMMT Chiang Mai 22.36 261 P P 09 55 34.2 +2.5

comp=Z,11nm,1.2s,comp=Z,906nm
CMMT Chiang Mai 22.36 261 P P 09 55 34.2 +2.5
comp=Z,11nm,1.2s,comp=Z,906nm
CHTO Chiang Mai 22.36 261 eP P 09 55 34.4 +2.6
CHTO pmax pmax
comp=Z,9.0nm,1.1s
CHTO Chiang Mai 22.36 261 eP P 09 55 34.4 +2.6
comp=Z,8.8nm,1.1s
CHTO Chiang Mai 22.36 261 P P 09 55 34.1 +2.3
comp=Z,12nm,1.2s
CHTO Chiang Mai 22.36 261 P P 09 55 34.3 +2.5
comp=Z,13nm,1.5s
CMAR Chiang Mai Arr 22.47 260 P P 09 55 34.4 +1.5
CMAR ScP ScP 10 03 02.7 -0.2
CMAR Chiang Mai Arr 22.47 260 P P 09 55 34.4 +1.5
comp=Z,2.9nm,0.8s,baz=56,slow=8.4,SNR=16
CMAR ScP ScP 10 03 02.7 -0.2
comp=Z,1.2nm,0.6s,baz=150,slow=3.8,SNR=5.1
MNI Manado 22.57 173 P P 09 55 38.8 +4.8
comp=Z,72nm,0.6s
GAMI Galela, Maluku 22.67 166 P P 09 55 38.2 +3.2
comp=Z,80nm,1.1s,comp=Z,5μm
GTOI Gorontalo 23.25 178 P P 09 55 45.7 +4.7
comp=Z,75nm,1.2s
KMSI Cibinong 23.36 176 P P 09 55 46.8 +4.8
comp=Z,135nm,0.5s
MRSI Marisa 23.40 181 P P 09 55 47.2 +4.7
comp=Z,21nm,0.8s,comp=Z,801nm
TNTI Ternate 23.62 167 P P 09 55 48.8 +4.2
comp=Z,94nm,1.0s,comp=Z,2μm
GTA Gaotai 24.44 314 eP P 09 55 53.1 +0.8
GTA pP pP 09 56 00.0 +0.3
GTA sP sP 09 56 02.5 -0.3
GTA S S 10 00 13.1 +2.1
GTA sS sS 10 00 20.7 -2.4
GTA pmax pmax
comp=Z,9.0nm,1.0s
GTA pmax pmax
comp=Z,100nm,6.2s
GTA LR LR
comp=N,230nm,16.6s
GTA LR LR
comp=E,510nm,15.2s
GTA LR LR
comp=Z,580nm,15.2s
SGKI Sangatta, Kali 24.83 191 P P 09 56 00.3 +4.5
comp=Z,169nm,1.0s
LBMI Labuha 25.02 168 P P 09 55 59.7 +2.2
comp=Z,126nm,1.0s,comp=Z,1μm
BKB Balikpapan 25.68 193 P P 09 56 07.7 +4.3
comp=Z,100nm,1.4s
ASAJ Asahikawa 26.02 35 P P 09 56 04.1 -2.3
ASAJ Asahikawa 26.02 35 P P 09 56 04.1 -2.3
comp=Z,1.9nm,0.4s,baz=242,slow=14,SNR=6.1
ASAJ LR LR 10 06 32.5
comp=Z,252nm,19.4s,baz=350,slow=37
STKI Sintang 26.03 205 P P 09 56 11.1 +4.4
KLR Kul'dur 26.23 14 eP P 09 56 16.3 +8.1
KLR MLR MLR
comp=Z,4μm,12.0s
HABR Khabarovsk 26.40 19 P P 09 56 04.7 -5.1
HABR *PP pP 09 56 21.4 +4.3
HABR *e* 09 56 46.9
HABR *e* 09 59 29.7
HABR *eS* S 10 00 32.2 -9.5
HABR *e* 10 06 53.1
HABR MLR MLR
comp=Z,327nm,18.0s
ULN Ulaanbaatar 26.72 337 eP P 09 56 12.0 -0.8
comp=Z,32nm,0.8s
ULN Ulaanbaatar 26.72 337 P P 09 56 10.8 -2.0
comp=Z,44nm,0.9s,comp=Z,437nm
SONM Songino Array 26.93 336 P P 09 56 13.9 -0.9
SONM PcP PcP 09 59 36.0 -0.3
SONM ScP ScP 10 03 14.0 -1.0
SONM Songino Array 26.93 336 P P 09 56 13.9 -0.9
comp=Z,42nm,0.8s,baz=150,slow=9.4,SNR=183
SONM PcP PcP 09 59 36.0 -0.3
comp=Z,1.6nm,0.8s,baz=126,slow=2.5,SNR=5.5
SONM ScP ScP 10 03 14.0 -1.0
comp=Z,1.8nm,1.0s,baz=128,slow=2.4,SNR=7.7
SONM LR LR 10 08 04.3
comp=Z,824nm,18.4s,baz=104,slow=39
TTSI Tana Toraja 27.01 186 P P 09 56 20.2 +4.7
comp=Z,14nm,0.9s,comp=Z,1μm
RKPI Ransiki, Papua 27.87 154 P P 09 56 26.8 +3.6
comp=Z,27nm,1.3s,comp=Z,7μm
YSS Yuzh-Sakhalins 28.13 30 eP P 09 56 39.5 +14
YSS MLR MLR
comp=Z,300nm,15.0s
YSS MLR MLR
comp=N,200nm,16.0s
KAPI Kappang 28.96 185 LR LR 10 07 33.1
comp=N,164nm,20.9s,baz=199,slow=35
ZAK Zakamensk 30.20 335 eP P 09 56 41.9 -1.8
ZAK pmax pmax
comp=Z,6.0nm,1.1s
PSI Prapat 30.92 231 LR LR 10 08 10.8
comp=Z,188nm,20.6s,baz=18,slow=34
TLY Talaya 31.12 337 eP P 09 56 50.9 -0.9
TLY *e* 09 58 07.1
TLY eS S 10 01 59.8 +3.9
TLY eSS SnSn 10 03 40.6 +2.3
TLY pmax pmax
comp=Z,24nm,0.8s
TLY MLR MLR
comp=Z,630nm,14.0s
MK31 Makanchi Array 39.18 316 eP P 09 58 00.3 -1.0
MK31 Makanchi Array 39.18 316 eP P 09 58 00.3 -1.0
MKAR Makanchi Array 39.18 316 P P 09 58 00.7 -0.6
MKAR 10 00 09.6
MKAR 10 03 56.4
MKAR Makanchi Array 39.18 316 P P 09 58 00.7 -0.6
MKAR PcP PcP 10 00 09.6 -0.7
MKAR ScP ScP 10 03 56.4 -0.8
MKAR Makanchi Array 39.18 316 P P 09 58 00.7 -0.6
comp=Z,4.6nm,0.6s,baz=104,slow=10,SNR=55
MKAR PcP PcP 10 00 09.6 -0.7
comp=Z,1.4nm,0.8s,baz=100,slow=6.7,SNR=3.6
MKAR ScP ScP 10 03 56.4 -0.8
comp=Z,0.5nm,0.8s,baz=115,slow=5.5,SNR=3.8
MKAR LR LR 10 15 42.4
comp=Z,305nm,18.4s,baz=251,slow=38
PETK Petropavlovsk- 39.43 33 PcP PcP 10 00 10.0 -0.9
PETK Petropavlovsk- 39.43 33 PcP PcP 10 00 10.0 -0.9
comp=Z,1.9nm,0.9s,baz=224,slow=8.1,SNR=3.7
ZAA0 Zalesovo Array 40.95 327 eP P 09 58 14.0 -1.8
ZALV Zalesovo Beam 40.95 327 P P 09 58 14.1 -1.7
ZALV Zalesovo Beam 40.95 327 P P 09 58 14.1 -1.7
ZALV Zalesovo Beam 40.95 327 P P 09 58 14.1 -1.7
comp=Z,22nm,0.9s,baz=111,slow=8.1,SNR=31
ZALV LR LR 10 16 32.9
comp=Z,467nm,18.2s,baz=70,slow=38
PMG Port Moresby 41.14 141 P P 09 58 17.5 -0.2
comp=Z,21nm,1.4s
PMG Port Moresby 41.14 141 LR LR 10 15 01.8
comp=Z,157nm,19.2s,baz=355,slow=36
NVS Novosibirsk 42.21 327 eP P 09 58 23.4 -2.6
NVS pmax pmax
comp=N,4.0nm,1.0s
NVS pmax pmax
comp=E,7.0nm,1.0s
NVS pmax pmax
comp=Z,11nm,1.0s
TKM2 Tokmak 2 42.69 308 eP P 09 58 31.0 +0.6
TKM2 *e* 10 00 22.0
TKM2 pmax pmax
comp=Z,16nm,0.9s
TKM2 Tokmak 2 42.69 308 eP P 09 58 31.0 +0.6
comp=Z,16nm,0.9s
TKM2 ePcP PcP 10 00 22.0 0.0
KURK Kurchatov 42.89 320 P P 09 58 30.0 -1.7
KURK 10 00 20.7
KURK Kurchatov 42.89 320 P P 09 58 30.0 -1.7
KURK PcP PcP 10 00 20.7 -1.5
KURK ScP ScP 10 04 09.5 -2.2
COEN Coen 42.89 149 eP P 09 58 33.3 +1.3
comp=Z,182nm,0.9s
KURBB Kurchatov Arra 42.91 320 P P 09 58 30.0 -1.8
comp=Z,2.8nm,0.6s,baz=114,slow=7.6,SNR=23
KURBB PcP PcP 10 00 20.7 -1.6
comp=Z,1.5nm,0.8s,baz=96,slow=3.6,SNR=5.7
KURBB ScP ScP 10 04 09.5 -2.3
comp=Z,0.4nm,0.4s,baz=100,slow=3.4,SNR=4.9
PALK Pallekele 43.19 254 P P 09 58 37.5 +2.9
comp=Z,27nm,1.4s

AAK	**Ala-Archa**	**43.44**	**307**	*c*	*i*	P	**P**	**09 58 36.8 +0.4**
AAK						pmax	pmax	
	comp=Z,13nm,0.8s							
AAK	**Ala-Archa**	**43.44**	**307**			P	**P**	**09 58 37.4 +1.0**
AAK	**Ala-Archa**	**43.44**	**307**			P	**P**	**09 58 37.4 +1.0**
	comp=Z,2.1nm,0.3s,baz=106,slow=5.3,SNR=7.4							
AAK						LR	LR	10 19 41.1
	comp=Z,280nm,18.3s,baz=269,slow=40							
COCO	**West Island**	**43.77**	**217**			P	P	09 58 42.7 +3.6
	comp=Z,128nm,1.8s							
EKS2	**Erkin-Say**	**43.96**	**307**		*e*	P	**P**	**09 58 41.0 +0.4**
EKS2						pmax	pmax	
	comp=Z,6.0nm,0.8s							
EKS2	**Erkin-Say**	**43.96**	**307**		*e*	P	**P**	**09 58 41.0 +0.4**
	comp=Z,5.5nm,0.8s							
WRAB	**Tennant Creek**	**45.23**	**164**		*e*	P	**P**	**09 58 51.1 +0.4**
WRAB						pmax	pmax	
	comp=Z,12nm,0.8s							
WRAB	**Tennant Creek**	**45.23**	**164**		*e*	P	**P**	**09 58 51.1 +0.4**
	comp=Z,12nm,0.8s							
WRA	**Warramunga Arr**	**45.24**	**164**			P	**P**	**09 58 50.7 -0.1**
WRA	**Warramunga Arr**	**45.24**	**164**			P	**P**	**09 58 50.7 -0.1**
	comp=Z,12nm,0.8s,baz=346,slow=8.9,SNR=65							
KK31	**Karatay Array**	**46.40**	**307**		*e*	P	**P**	**09 58 58.8 -1.0**
KK31						pmax	pmax	
	comp=Z,2.0nm,0.4s							
KKAR	**Karatay Array**	**46.40**	**307**		*e*	P	**P**	**09 58 59.8 -0.1**
KKAR						pmax	pmax	
	comp=Z,6.0nm,0.8s							
KKAR	**Karatay Array**	**46.40**	**307**		*e*	P	**P**	**09 58 59.8 -0.1**
	comp=Z,6.3nm,0.8s							
KBL	**Kabul**	**47.17**	**296**		*e*	P	**P**	**09 59 07.0 +0.7**
KBL						pmax	pmax	
	comp=Z,17nm,1.2s							
KBL	**Kabul**	**47.17**	**296**		*e*	P	**P**	**09 59 07.0 +0.7**
	comp=Z,17nm,1.2s							
TIXI	**Tiksi**	**47.80**	**3**	*c*	*e*	P	**P**	**09 59 09.0 -1.3**
TIXI						pmax	pmax	
	comp=Z,6.0nm,0.8s							
BVA0	**Borovoye Array**	**48.46**	**321**			P	**P**	**09 59 13.6 -2.1**
BVA0						pmax	pmax	
	comp=Z,5.0nm,0.6s							
BVAR	**Borovoye Array**	**48.46**	**321**			P	**P**	**09 59 14.8 -0.9**
BVAR								10 00 40.7
BVAR	**Borovoye Array**	**48.46**	**321**			P	**P**	**09 59 14.8 -0.9**
BVAR						PcP	**PcP**	**10 00 40.7 -0.9**
BVAR	**Borovoye Array**	**48.46**	**321**			P	**P**	**09 59 14.8 -0.9**
	comp=Z,6.9nm,0.8s,baz=102,slow=8.7,SNR=20							
BVAR						PcP	**PcP**	**10 00 40.7 -0.9**
	comp=Z,3.7nm,0.8s,baz=108,slow=4.8,SNR=7.7							
BVAR						LR	LR	10 22 22.7
	comp=Z,100nm,18.9s,baz=262,slow=39							
BRVK	**Borovoye**	**48.53**	**321**	*c*	*i*	P	**P**	**09 59 15.4 -0.8**
BRVK						pmax	pmax	
	comp=Z,12nm,0.8s							
BRVK	**Borovoye**	**48.53**	**321**		*e*	P	**P**	**09 59 15.7 -0.5**
	comp=Z,11nm,0.8s							
AS31	**Alice Springs**	**48.71**	**166**		*e*	P	**P**	**09 59 19.1 +1.2**
ASAR	**Alice Springs**	**48.71**	**166**			P	**P**	**09 59 18.8 +0.9**
ASAR	**Alice Springs**	**48.71**	**166**			P	**P**	**09 59 18.8 +0.9**
	comp=Z,6.6nm,0.9s,baz=342,slow=6.4,SNR=33							
ZRNK	**Zerenda**	**49.25**	**320**			P	**P**	**09 59 20.5 -1.3**
ZRNK						pmax	pmax	
	comp=Z,14nm,0.9s							
BILL	**Bilibino**	**51.49**	**19**		*e*	P	**P**	**09 59 37.5 -0.9**
BILL					*i*			10 00 45.7
BILL					*i*			10 01 39.1
BILL						pmax	pmax	
	comp=Z,7.0nm,1.6s							
BILL						MLR	MLR	
	comp=Z,100nm,19.0s							
AB31	**Akbulak array**	**54.30**	**314**	*i*		P	**P**	**09 59 58.8 -0.7**
AB31						pmax	pmax	
	comp=Z,21nm,0.9s							
ABKAR	**Akbulak array**	**54.30**	**314**		*e*	P	**P**	**09 59 58.9 -0.6**
	comp=Z,17nm,0.8s							
SVE	**Sverdlovsk**	**54.79**	**324**		*e*	P	**P**	**10 00 02.4 -0.5**
SVE						pmax	pmax	
	comp=Z,13nm,0.9s							
AKTO	**Aktyubinsk**	**55.62**	**316**			P	**P**	**10 00 08.5 -0.5**
AKTO	**Aktyubinsk**	**55.62**	**316**			P	**P**	**10 00 08.5 -0.5**
AKTO	**Aktyubinsk**	**55.62**	**316**			P	**P**	**10 00 08.5 -0.5**
	comp=Z,7.0nm,1.1s,baz=88,slow=4.4,SNR=11							
ARU	**Arti**	**55.87**	**323**	*c*	*i*	P	**P**	**10 00 09.3 -1.4**
ARU								10 01 07.4
ARU								10 02 09.6
ARU						S	**S**	**10 07 52.1 -4.4**
ARU						pmax	pmax	
	comp=Z,9.0nm,1.0s							
STKA	**Stephens Creek**	**58.55**	**161**			P	**P**	**10 00 30.6 +0.8**
STKA	**Stephens Creek**	**58.55**	**161**			P	**P**	**10 00 30.6 +0.8**
	comp=Z,4.0nm,0.7s,baz=353,slow=8.7,SNR=12							
ZEI	**Tsey**	**65.86**	**308**		*e*	P	**P**	**10 01 17.9 -1.3**
ZEI						pmax	pmax	
	comp=Z,16nm,1.0s							
KBZ	**Khabaz**	**66.39**	**309**			P	**P**	**10 01 22.4 +0.1**
KBZ	**Khabaz**	**66.39**	**309**			P	**P**	**10 01 22.4 +0.1**
KBZ	**Khabaz**	**66.39**	**309**			P	**P**	**10 01 22.4 +0.1**
	comp=Z,7.2nm,0.9s,baz=103,slow=5.7,SNR=13							
KIV	**Kislovodsk**	**66.50**	**309**	*c*	*i*	P	**P**	**10 01 22.8 -0.3**
KIV					*i*			10 01 47.8
KIV						pmax	pmax	
	comp=Z,30nm,1.2s							
KIV						MLR	MLR	
	comp=Z,100nm,17.0s							
RSO	**Redoubt South**	**66.94**	**32**		*e*	P	**P**	**10 01 25.6 -0.2**
	comp=Z,36nm,0.9s							
VORD	**Divnogorie**	**67.44**	**317**		*e*	P	**P**	**10 01 27.5 -1.3**
VORD						pmax	pmax	
	comp=Z,20nm,0.3s							
VORD						pmax	pmax	
	comp=N,120nm,0.7s							
VORD						pmax	pmax	
	comp=E,140nm,0.6s							
VSR	**Storozhevoye**	**67.47**	**317**		*e*	P	**P**	**10 01 27.9 -1.1**
VSR						pmax	pmax	
	comp=Z,20nm,1.0s							
VSR						pmax	pmax	
	comp=N,20nm,1.7s							
VSR						pmax	pmax	
	comp=E,10.0nm,0.6s							
OBN	**Obninsk**	**68.28**	**322**	*c*	*e*	P	**P**	**10 01 32.4 -1.6**
OBN						pmax	pmax	
	comp=Z,15nm,1.2s							
ILAR	**Eielson Array**	**68.88**	**27**			P	**P**	**10 01 36.1 -1.5**
ILAR	**Eielson Array**	**68.88**	**27**			P	**P**	**10 01 36.1 -1.5**
	comp=Z,0.9nm,0.8s,baz=290,slow=8.5,SNR=13							
JOF	**Joensuu**	**69.36**	**331**		*ep*		**P**	**10 01 40.0 -0.6**
	comp=Z,2.1nm,0.3s							
JOF	**Joensuu**	**69.36**	**331**		*e*	P	**P**	**10 01 40.0 -0.6**
JOF						pmax	pmax	
	comp=Z,2.0nm,0.3s							
SPITS	**Spitsbergen Ar**	**69.87**	**348**			P	**P**	**10 01 42.5 -1.0**
SPITS	**Spitsbergen Ar**	**69.87**	**348**			P	**P**	**10 01 42.6 -1.0**
	comp=Z,3.9nm,0.5s,baz=72,slow=6.3,SNR=14							
ANN	**Anapa**	**69.99**	**311**		*e*	P	**P**	**10 01 42.8 -2.0**
ANN						pmax	pmax	
	comp=Z,49nm,0.9s							
ARCES	**ARCESS Array B**	**70.08**	**338**			P	**P**	**10 01 44.2 -0.8**
ARCES	**ARCESS Array B**	**70.08**	**338**			P	**P**	**10 01 44.2 -0.8**
	comp=Z,4.6nm,0.9s,baz=42,slow=5.7,SNR=7.8							
MENT	**Mentasta**	**70.67**	**29**		*e*	P	**P**	**10 01 48.1 -0.5**
MALT	**Malatya**	**70.95**	**304**	⇑	*i*	P	**PcP**	**10 02 08.7 -2.7**
KAF	**Kangasniemi**	**71.81**	**331**		*ep*		P	10 01 45.0 -11
	comp=Z,0.6nm,0.3s							
KAF	**Kangasniemi**	**71.81**	**331**		*e*	P		10 01 45.0 -11
KAF						pmax	pmax	
	comp=Z,1.0nm,0.3s							
FINES	**FINESS Array B**	**72.11**	**330**			P	**P**	**10 01 56.0 -1.4**
FINES	**FINESS Array B**	**72.11**	**330**			P	**P**	**10 01 56.0 -1.4**
	comp=Z,1.2nm,0.4s,baz=47,slow=8.0,SNR=17							
SIM	**Simferopol'**	**72.22**	**312**		*e*	P	**P**	**10 01 58.1 -0.3**
SIM						pmax	pmax	
	comp=Z,22nm,0.7s							
AKASG	**Malin Array Be**	**73.69**	**319**			P	**P**	**10 02 05.6 -1.3**
AKASG	**Malin Array Be**	**73.69**	**319**			P	**P**	**10 02 05.6 -1.3**
AKASG	**Malin Array Be**	**73.69**	**319**			P	**P**	**10 02 05.6 -1.3**
	comp=Z,2.3nm,0.4s,baz=56,slow=6.8,SNR=24							
AKBB	**Malin Array Si**	**73.69**	**319**		*e*	P	**P**	**10 02 04.3 -2.6**
AKBB	**Malin Array Si**	**73.69**	**319**		*e*	P	**P**	**10 02 04.2 -2.6**
AK02	**Malin Array Si**	**73.71**	**319**		*e*	P	**P**	**10 02 05.8 -1.3**
NAC6M	**Naroch**	**73.78**	**323**		*e*		**P**	**10 02 05.0 -2.4**
BR131	**Keskin Array S**	**74.11**	**307**		*e*	P	**P**	**10 02 09.6 -0.2**
	comp=Z,12nm,0.9s							
BRTR	**Keskin Array B**	**74.11**	**307**			P	**P**	**10 02 09.6 -0.2**
BRTR	**Keskin Array B**	**74.11**	**307**			P	**P**	**10 02 09.6 -0.2**
	comp=Z,11nm,0.9s,baz=101,slow=6.4,SNR=50							
ANTO	**Ankara**	**74.68**	**307**		*e*	P	**P**	**10 02 12.8 -0.3**
ANTO						pmax	pmax	
	comp=Z,3.0nm,0.4s							
ANTO	**Ankara**	**74.68**	**307**		*e*	P	**P**	**10 02 12.8 -0.3**
	comp=Z,3.3nm,0.4s							
ANTO	**Ankara**	**74.68**	**307**	⇑	*i*	P	**P**	**10 02 12.4 -0.7**
KIS	**Kishinev**	**75.12**	**315**		*e*	P	P	10 02 05.0 -10
KIS	**Kishinev**	**75.12**	**315**		*e*	P	P	10 02 05.0 -10
CFR	**Carcaliu**	**76.18**	**313**	⇓	P		**P**	**10 02 20.9 -0.5**
CFR	**Carcaliu**	**76.18**	**313**	⇓	*i*	P	**P**	**10 02 20.9 -0.5**
TIRR	**Tirgusor**	**76.24**	**313**	⇑	P		**P**	**10 02 21.3 -0.5**
TIRR	**Tirgusor**	**76.24**	**313**		*e*	P	**P**	**10 02 21.0 -0.8**
	comp=Z,1.7nm,0.6s							
TIRR	**Tirgusor**	**76.24**	**313**	⇑	*i*	P	**P**	**10 02 21.3 -0.5**
DAG	**Danmarks Havn**	**76.69**	**351**	⇑	*i*	P	**P**	**10 02 21.6 -2.1**
DAG						pmax	pmax	
	comp=Z,4.0nm,0.9s							
DAG	**Danmarks Havn**	**76.69**	**351**	⇑	*i*	P	**P**	**10 02 21.6 -2.1**
	comp=Z,4.3nm,0.9s							
VRI	**Vrincioaia**	**76.87**	**314**	⇑	P		**P**	**10 02 25.8 +0.4**
VRI	**Vrincioaia**	**76.87**	**314**	⇑	*i*	P	**P**	**10 02 25.8 +0.4**
BURAR	**Bucovina Array**	**77.20**	**316**	⇑	*i*	P	**P**	**10 02 26.9 -0.4**
MLR	**Muntele Rosu**	**77.51**	**314**			P	**P**	**10 02 29.2 0.0**
MLR	**Muntele Rosu**	**77.51**	**314**	⇑	*i*	P	**P**	**10 02 29.1 0.0**
MLR	**Muntele Rosu**	**77.51**	**314**			P	**P**	**10 02 29.2 0.0**
	comp=Z,1.8nm,0.9s,baz=63,slow=16,SNR=11							
KWP	**Kalwaria Pacla**	**77.98**	**319**	⇓	P		**P**	**10 02 31.1 -0.4**
KWP	**Kalwaria Pacla**	**77.98**	**319**	⇓	*i*	P	**P**	**10 02 31.1 -0.4**
HFS	**Hagfors**	**78.22**	**331**			P	**P**	**10 02 31.4 -1.2**
HFS	**Hagfors**	**78.22**	**331**			P	**P**	**10 02 31.4 -1.2**
	comp=Z,2.6nm,0.7s,baz=90,slow=4.4,SNR=9.3							
NB2	**NORSAR Subarra**	**78.86**	**332**			P	**P**	**10 02 34.4 -1.8**
	comp=Z,6.4nm,1.1s,baz=61,slow=5.3							
NOA	**NORSAR Array B**	**78.86**	**332**			P	**P**	**10 02 34.7 -1.5**
NOA	**NORSAR Array B**	**78.86**	**332**			P	**P**	**10 02 34.7 -1.5**
	comp=Z,3.4nm,0.9s,baz=60,slow=5.5,SNR=7.9							
STHS	**Stebnicka Huta**	**78.95**	**319**		*e*	P	**P**	**10 02 36.6 -0.3**
STHS						pmax	pmax	
	comp=Z,4.0nm,0.9s							
STHS	**Stebnicka Huta**	**78.95**	**319**		*e*	P	**P**	**10 02 36.6 -0.3**
LOT	**Lotru**	**78.95**	**315**	⇑	*i*	P	**P**	**10 02 36.6 -0.5**
BSD	**Bornholm Skovb**	**79.97**	**326**	⇓	*i*	P	**P**	**10 02 41.3 -1.0**
BSD						pmax	pmax	
	comp=Z,4.0nm,1.1s							
BSD	**Bornholm Skovb**	**79.97**	**326**	⇓	*i*	P	**P**	**10 02 41.3 -1.0**
	comp=Z,4.4nm,1.0s							
URZ	**Urewera**	**80.47**	**139**			LR	LR	10 33 27.6
	comp=Z,36nm,18.9s,baz=76,slow=32							
VYHS	**Vyhne**	**80.77**	**319**		*e*	P	**P**	**10 02 46.4 -0.4**
VYHS						pmax	pmax	
	comp=Z,10.0nm,1.3s							
VYHS	**Vyhne**	**80.77**	**319**		*e*	P	**P**	**10 02 46.4 -0.4**
DPC	**Dobruska-Polom**	**81.42**	**321**		*e*	P	**P**	**10 02 50.0 -0.2**
DPC	**Dobruska-Polom**	**81.42**	**321**		*e*	P	**P**	**10 02 50.0 -0.2**
VRAC	**Vranov**	**81.74**	**320**			P	**P**	**10 02 51.5 -0.4**
VRAC	**Vranov**	**81.74**	**320**			P	**P**	**10 02 51.5 -0.4**
	comp=Z,3.2nm,0.5s,baz=48,slow=9.9,SNR=5.7							
BRG	**Berggiesshubel**	**82.51**	**323**		*e*	P	**P**	**10 02 57.8 +2.0**
	comp=Z,1.7nm,0.2s							
BRG	**Berggiesshubel**	**82.51**	**323**		*e*	P	**P**	**10 02 57.8 +2.0**
BRG						pmax	pmax	
	comp=Z,2.0nm,0.2s							
YKA	**Yellowknife Ar**	**82.72**	**23**			P	**P**	**10 02 55.8 -0.9**
YKA	**Yellowknife Ar**	**82.72**	**23**			P	**P**	**10 02 55.8 -0.9**
	comp=Z,3.6nm,0.8s,baz=314,slow=4.9,SNR=44							
SUMG	**Summit**	**82.77**	**354**	*i*		P	**P**	**10 02 54.8 -2.5**
SUMG						pmax	pmax	
	comp=Z,4.0nm,0.9s							
SUMG	**Summit**	**82.77**	**354**	*i*		P	**P**	**10 02 54.8 -2.5**
	comp=Z,4.4nm,0.9s							
CLL	**Collm**	**82.81**	**323**		*e*	P	**P**	**10 02 56.0 -1.4**
CLL						pmax	pmax	
	comp=Z,8.0nm,1.2s							
CLL	**Collm**	**82.81**	**323**		*e*	P	**P**	**10 02 56.0 -1.4**
	comp=Z,8.0nm,1.2s							
KHC	**Kasperske Hory**	**83.56**	**321**		*e*	P	**P**	**10 03 00.8 -0.6**
KHC	**Kasperske Hory**	**83.56**	**321**		*e*	P	**P**	**10 03 00.8 -0.6**
KHC	**Kasperske Hory**	**83.56**	**321**		*e*	P	**P**	**10 03 00.6 -0.8**
	comp=Z,2.4nm,0.8s							
GERES	**GERESS Array B**	**83.63**	**321**			P	**P**	**10 03 01.2 -0.6**
GERES	**GERESS Array B**	**83.63**	**321**			P	**P**	**10 03 01.2 -0.6**
	comp=Z,3.8nm,0.8s,baz=64,slow=4.6,SNR=28							
PERS	**Pernice**	**83.86**	**319**		*e*	P	**P**	**10 03 02.0 -1.1**
PDKS	**Podkum**	**84.21**	**318**		*i*	P	**P**	**10 03 03.9 -0.8**
BOJS	**Bojanci**	**84.32**	**318**		*i*	P	**P**	**10 03 04.6 -0.7**
KMBO	**Kilima Mbogo**	**85.95**	**267**			P	**P**	**10 03 15.3 +1.0**
KMBO	**Kilima Mbogo**	**85.95**	**267**			P	**P**	**10 03 15.3 +1.0**
	comp=Z,3.9nm,0.9s,baz=66,slow=12,SNR=5.9							
CDF	**Champ du Feu**	**87.48**	**323**		*e*	P	**P**	**10 03 19.8 -1.2**
BAIF	**Baives**	**88.18**	**325**		*e*	P	**P**	**10 03 22.9 -1.3**
HAU	**Haudompre**	**88.23**	**323**		*e*	P	**P**	**10 03 22.7 -1.8**
HAU						eR		
	comp=Z,1μm,18.8s							
SFTF	**Sexfontaines**	**88.83**	**324**		*e*	P	**P**	**10 03 25.7 -1.6**
	comp=Z,14nm,0.8s							
LPG	**La Plagne**	**89.42**	**321**		*e*	P	**P**	**10 03 29.3 -1.2**
	comp=Z,12nm,0.8s							
LPL	**La Plagne**	**89.42**	**321**		*e*	P	**P**	**10 03 29.2 -1.2**
MBDF	**Montbardon**	**89.85**	**320**		*e*	P	**P**	**10 03 30.2 -2.1**
SBF	**Sospel**	**89.94**	**319**		*e*	P	**P**	**10 03 31.7 -1.0**
	comp=Z,12nm,0.7s							
LOR	**Lormes**	**90.03**	**323**		*e*	P	**P**	**10 03 31.2 -1.7**
LOR						eR		
	comp=Z,682nm,19.2s							
ORIF	**Oris-en-Rattie**	**90.26**	**320**		*e*	P	**P**	**10 03 32.3 -1.9**
ORIF						eR		
	comp=Z,984nm,17.2s							
SSF	**Saint Saulge**	**90.34**	**323**		*e*	P	**P**	**10 03 32.9 -1.5**
SMF	**Signal de Mont**	**90.41**	**323**		*e*	P	**P**	**10 03 33.2 -1.5**
	comp=Z,22nm,1.1s							
AVF	**Avril sur Loir**	**90.59**	**323**		*e*	P	**P**	**10 03 34.0 -1.5**
	comp=Z,15nm,1.0s							
VIVF	**Saint-Julien-l**	**90.99**	**321**		*e*	P	**P**	**10 03 36.1 -1.4**
BGF	**Bois d'Agland**	**91.01**	**323**		*e*	P	**P**	**10 03 36.1 -1.4**
TCF	**Toulx Ste Croi**	**91.52**	**323**		*e*	P	**P**	**10 03 38.7 -1.2**
LASF	**Ste Croix**	**91.92**	**321**		*e*	P	**P**	**10 03 40.7 -1.1**
CAF	**Calviac**	**92.44**	**322**		*e*	P	**P**	**10 03 43.5 -0.7**
	comp=Z,11nm,0.9s							
RJF	**Les Rejaudoux**	**92.51**	**323**		*e*	P	**P**	**10 03 43.7 -0.8**
	comp=Z,29nm,1.1s							
RJF						eR		
	comp=Z,690nm,21.0s							
MTLF	**Montolieu**	**93.32**	**321**		*e*	P	**P**	**10 03 47.1 -1.2**
	comp=Z,6.2nm,1.0s							
NVAR	**Mina Array Bea**	**95.84**	**43**			P	**P**	**10 04 00.2 0.0**
NVAR	**Mina Array Bea**	**95.84**	**43**			P	**P**	**10 04 00.2 0.0**
	comp=Z,1.1nm,0.8s,baz=285,slow=3.5,SNR=4.5							

MAN 03 09:55:34, 9.15N×122.04E, h26km, mb5.0, ML3.9, MS4.0, 3C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**1.19**	**80**	⇑	*e*	P	n 09 55 40.2	-15
SNPH					*i*	S	n 09 56 01.1	-9.5
DCPH	**Dipolog City**	**1.41**	**113**	⇓	*e*	P	n 09 55 57.7	-0.3
IPIL	**Ipil**	**1.45**	**159**		*e*	P	n 09 55 58.6	+0.1
IPIL					*e*	S	n 09 56 05.0	-12
PAGZ	**Pagadian**	**1.85**	**134**		*e*	P	n 09 56 05.5	+1.4
PAGZ					*e*	S	n 09 56 16.3	-10
TBP	**Tagbilaran**	**1.88**	**73**		*e*	P	n 09 56 05.1	+0.7
LLP	**Lapu-Lapu**	**2.23**	**58**	⇑	*e*	P	n 09 56 11.1	+1.9
LLP					*e*	S	n 09 56 37.3	+1.4
RCP	**Roxas**	**2.50**	**16**	⇑	*e*	P	n 09 56 13.9	+0.9

*MEX **03** 09:56:54.4±0.4, 25.45N×109.75W, h10km, MD5.0*
*IDC **03** 09:56:59.1±0.6, 25.44N×109.71W, h0km, mb4.3/23, mb1 4.5/28, mb1mx4.4/34, mbtmp4.3/28, ML3.7/5, MS4.7/24, Ms1 4.7/24, ms1mx4.6/34, Error ellipse: s-maj=22.6km s-min=10.5km az=62.0*
*ISCJB **03** 09:57:00.3±0.3, 25.44N±0.03×109.67W±0.03, h11km, mb4.7/109, MS4.8/31, Error ellipse: s-maj=4.6km s-min=3.3km az=140.2*
*BJI **03** 09:57:00.0, 25.50N×109.70W, h10km, mB5.6/13, mb5.2/10, Ms5.2/13, Ms7 4.8/15*
*NEIC **03** 09:57:01.6±0.3, 25.39N×109.69W, h10km, mb4.9/99, Error ellipse: s-maj=6.2km s-min=3.9km az=40.0*
NEIC Felt [IV] at Culiacan, Sinaloa. Also felt at Los Mochis. Felt at Navajoa, Sonora.
*GCMT **03** 09:57:02.5±0.2, 25.25N×109.89W, h17km, MW5.3, Moment Tensor Solution. s63,c90; s99,c177; Moment tensor: Scale 10^17Nm; Mrr0.03±.02; Mθθ-1.25±.02; Mφφ 1.23±.02; Mrθ-0.07±.05; Mθφ 0.01±.02; Mφr-0.08±.06; Best double couple: M0 1.20000×10^17 NP1:φs 135.00000°, δ85.00000°, λ180.00000°. NP2:φs 225.00000°, δ90.00000°, λ5.00000°. Principal axes: T 1.2400, Plg4.0000°, Azm90.0000°; N 0.0300, Plg85.0000°, Azm230.0000°; P -1.2500, Plg3.0000°, Azm0.0000°; Data Used: II IU CN G IC.*

ISC 03 09:57:01.2±0.3, 25.37N±0.04×109.62W±0.05, h11km, n654, σ1°§45/635, mb4.8/109, MS4.8/32, 182C-168D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.41**	**207**		*e*	P	n 09 57 17.3	-10
LPIG					*i*	S	n 09 57 34.1	-11
LPIG	**La Paz**	**1.41**	**207**		*e*	P	n 09 57 17.3	-10
LPIG					*i*	S	n 09 57 34.1	-11
SRIG	**Santa Rosalia**	**3.05**	**310**		*i*	P	n 09 57 37.5	-12
SRIG					*i*	S	n 09 58 12.1	-14
SRIG	**Santa Rosalia**	**3.05**	**310**		*i*	P	n 09 57 37.5	-12
SRIG					*i*	S	n 09 58 12.1	-14
HSIG		**3.82**	**342**		*e*	P	n 09 57 49.9	-10
HSIG					*i*	S	n 09 58 31.6	-13
HSIG		**3.82**	**342**		*e*	P	n 09 57 49.9	-10
HSIG					*i*	S	n 09 58 31.6	-13
HPIG		**3.88**	**65**		*e*	P	n 09 57 53.0	-8.0
HPIG					*i*	S	n 09 58 38.2	-8.5
HPIG		**3.88**	**65**		*e*	P	n 09 57 53.0	-8.0
HPIG					*i*	S	n 09 58 38.2	-8.5
CGIG		**5.18**	**16**		*i*	P	n 09 58 09.3	-10
CGIG					*i*	S	n 09 59 06.9	-12
CGIG		**5.18**	**16**		*i*	P	n 09 58 09.3	-10
CGIG					*i*	S	n 09 59 06.9	-12
319A	**Douglas** baz=6.0,SNR=43	**5.99**	**3**	⇓	P		**n**	**09 58 26.9 -3.1**
320A	**Kipp Ranch, An** baz=6.0,SNR=26	**6.02**	**9**	⇑	P		**n**	**09 58 27.8 -2.6**
ANIG	**Ahuacatlan**	**6.36**	**131**		*e*	P	n	09 58 27.1 -7.8
ANIG					*i*	S	n	09 59 41.2 -6.5
ANIG	**Ahuacatlan**	**6.36**	**131**		*e*	P	n	09 58 27.1 -7.8
ANIG					*i*	S	n	09 59 41.2 -6.5
626A	**Big Bend Ranch** baz=6.5,SNR=17	**6.41**	**48**	⇑	P		**n**	**09 58 33.0 -2.7**
220A	**Playas Peak, P** baz=6.6,SNR=25	**6.58**	**8**	⇓	P		**n**	**09 58 35.5 -2.6**
526A	**Mary Lane Ranc** baz=6.8	**6.77**	**45**	⇓	P		**n**	**09 58 38.5 -2.1**
425A	**Indio Mountain** baz=6.8,SNR=12	**6.77**	**36**	⇑	P		**n**	**09 58 38.6 -2.1**
221A	**Mesquite Ranch** baz=6.8,SNR=20	**6.81**	**13**	⇓	P		**n**	**09 58 39.0 -2.2**
627A	**Terlingua Ranc** baz=6.9	**6.87**	**52**	⇓	P		**n**	**09 58 40.9 -1.1**
ZAIG	**Zacatecas**	**6.94**	**110**		*e*	P	n	09 58 36.0 -7.2
ZAIG					*i*	S	**Sn**	**09 59 57.2 -5.2**
ZAIG	**Zacatecas**	**6.94**	**110**		*e*	P	n	09 58 36.0 -7.2
ZAIG					*i*	S	**Sn**	**09 59 57.2 -5.2**
TUC	**Tucson** 43nm,0.9s	**6.99**	**352**		*e*	Pn	**Pn**	**09 58 40.6 -3.0**
TUC					*e*	Sn	**Sn**	**10 00 03.0 -0.2**
324A	**Moseley Ranch,** baz=7.1,SNR=8.5	**7.06**	**30**	⇑	P		**Pn**	**09 58 43.1 -1.6**
222A	**Williams Famil** baz=7.1,SNR=32	**7.06**	**18**	⇓	P		**Pn**	**09 58 42.9 -1.8**
527A	**Woodward Ranch** baz=7.2	**7.13**	**47**	⇑	P		**Pn**	**09 58 44.0 -1.7**
214A	**Organ Pipe Nat** baz=7.1,SNR=17	**7.14**	**338**	⇓	P		**Pn**	**09 58 42.4 -3.2**
223A	**Chaparral, Ant** baz=7.2	**7.18**	**22**	⇑	P		**Pn**	**09 58 45.0 -1.3**
120A	**U Bar Ranch, L** baz=7.2,SNR=47	**7.20**	**7**	⇓	P		**Pn**	**09 58 44.1 -2.5**
426A	**McDonald Obser** baz=7.3,SNR=21	**7.23**	**42**	⇑	P		**Pn**	**09 58 45.7 -1.3**
121A	**Cookes Peak, D** baz=7.3,SNR=103	**7.31**	**12**	⇑	P		**Pn**	**09 58 45.9 -2.3**
MNTX	**Cornudas Mount** 78nm,1.0s	**7.32**	**30**	

LAZ Ladron 9.25 13 ePn Pn 09 59 15.8 +1.0
28nm,1.2s
Y24A Capitan 9.27 22 ⇑P Pn 09 59 15.8 +0.8
baz=9.3,SNR=19
SWSC Sam W. Stewart 9.28 326 ⇓P Pn 09 59 15.3 +0.4
baz=9.2
Z26A Caprock 9.28 31 ⇑P Pn 09 59 15.6 +0.5
baz=9.3
531A Rocksprings 9.34 57 ⇑P Pn 09 59 15.6 -0.3
baz=9.4,SNR=8.0
Y12C Blythe 9.38 334 ⇓P Pn 09 59 16.4 +0.1
baz=9.4,SNR=15
X22A Bernardo 9.38 13 ⇓P Pn 09 59 17.8 +1.3
baz=9.4
Y25A Mesa, Roswell 9.54 26 ⇑P Pn 09 59 18.8 +0.1
baz=9.6,SNR=8.3
128A Castleberry Fa 9.54 39 ⇓P Pn 09 59 18.8 0.0
baz=9.6
BAR Barrett 9.55 321 ePn Pn 09 59 18.5 -0.2
27nm,0.9s
431A Sonora 9.55 54 ⇓P Pn 09 59 19.9 +1.1
baz=9.6,SNR=28
330A Mertzon 9.56 49 ⇑P Pn 09 59 20.0 +1.1
baz=9.6
MONP Monument Peak 9.56 323 ⇑P Pn 09 59 18.4 -0.7
baz=9.5,SNR=12
X23A Hourglass Bar 9.65 17 ⇑P Pn 09 59 21.3 +1.1
baz=9.7,SNR=16
632A Uvalde 9.65 63 ⇑P Pn 09 59 21.7 +1.5
baz=9.7
Z27A Tatum 9.69 34 ⇓P Pn 09 59 21.3 +0.7
baz=9.7,SNR=9.7
BC3 Big Chuckawall 9.69 330 ⇓P Pn 09 59 20.5 -0.3
baz=9.7,SNR=9.1
W18A Petrified Fore 9.72 359 ⇑P Pn 09 59 21.7 +0.6
baz=9.7,SNR=13
PDMCI Parker Dam,Lak 9.73 337 ⇓P Pn 09 59 21.0 0.0
baz=9.7
W20A Ramah 9.77 5 ⇓P Pn 09 59 22.7 +0.7
baz=9.8,SNR=22
532A Rocksprings 9.82 59 ⇑P Pn 09 59 22.1 -0.3
baz=9.9
W21A San Fidel 9.86 9 ⇓P Pn 09 59 24.5 +1.3
baz=9.9,SNR=9.1
230A Sterling City 9.89 47 ⇓P Pn 09 59 25.0 +1.6
baz=9.9,SNR=5.4
129A Stewart Farms, 9.91 41 ⇓P Pn 09 59 24.3 +0.6
baz=10.0
ANMO Albuquerque 9.93 15 Pn Pn 09 59 22.2 -1.8
ANMO ePn Pn 09 59 25.2 +1.1
ANMO eSn Sn 10 01 15.7 +0.2
ANMO Lg Lg 10 02 11.1
ANMO Albuquerque 9.93 15 Pn Pn 09 59 22.2 -1.8
0.1nm,0.3s,baz=205,slow=13,SNR=23
ANMO Lg Lg 10 02 11.1
0.2nm,0.3s,baz=335,slow=17,SNR=2.4
ANMO LR LR 10 02 56.3
comp=Z,6μm,22.0s,baz=193,slow=36
109C Camp Elliot, M 9.95 321 ⇓P Pn 09 59 22.4 -1.8
baz=9.9
IRM Iron Mountain 9.99 333 ⇓P Pn 09 59 24.1 -0.6
baz=10.0,SNR=20
331A San Angelo 10.02 52 ⇓P Pn 09 59 25.8 +0.5
baz=10,SNR=12
JCT Junction City 10.06 57 ePn Pn 09 59 25.3 -0.4
21nm,0.8s
JCT Junction City 10.06 57 ⇓P Pn 09 59 26.7 +1.0
baz=10,SNR=7.2
Z28A Tucker Farm, M 10.10 37 ⇑P Pn 09 59 26.7 +0.4
baz=10
PFO Pinyon Flat Ob 10.14 326 Pn Pn 09 59 25.8 -1.1
PFO ePn 09 59 27.3
PFO Pinyon Flat Ob 10.14 326 Pn Pn 09 59 25.8 -1.1
0.2nm,0.3s,baz=158,slow=13,SNR=11
PFO LR LR 10 02 16.8
comp=Z,859nm,20.8s,baz=316,slow=32
PFO Pinyon Flat Ob 10.14 326 ⇑P Pn 09 59 26.4 -0.5
baz=10,SNR=9.7
Y27A Causey 10.17 32 ⇓P Pn 09 59 27.9 +0.6
baz=10,SNR=12
W23A Werner Place, 10.21 16 ⇑P Pn 09 59 27.6 -0.3
baz=10,SNR=17
WUAZ Wupatki 10.23 352 ePn Pn 09 59 28.1 0.0
36nm,0.9s
WUAZ Wupatki 10.23 352 ⇓P Pn 09 59 28.0 -0.1
baz=10,SNR=36
BELC Belle Mtn. Jos 10.23 329 ⇓P Pn 09 59 26.2 -1.9
baz=10
432A Menard 10.26 55 ⇓P Pn 09 59 29.3 +0.9
baz=10
NEE2 Needles Airpor 10.32 336 ⇑P Pn 09 59 29.0 -0.2
baz=10
W13A Hualapai Mount 10.37 340 ⇓P Pn 09 59 29.8 -0.4
baz=10,SNR=28
MSTX Muleshoe 10.43 33 ⇑P Pn 09 59 31.9 +1.0
baz=10
X26A CR and CF Fran 10.44 27 ⇑P Pn 09 59 32.1 +1.1
baz=10
V20A Brimhall 10.44 5 ⇑P Pn 09 59 31.5 +0.4
baz=10,SNR=22
Z29A Hungry Hill Ra 10.46 39 ⇓P Pn 09 59 30.4 -0.8
baz=10
W24A Lazy 6 Ranch, 10.46 19 ⇓P Pn 09 59 32.7 +1.4
baz=10,SNR=34
231A Bronte 10.46 49 ⇓P Pn 09 59 32.6 +1.4
baz=10
MURC Murrieta 10.53 323 ⇓P Pn 09 59 32.4 +0.3
baz=10
V21A Milan 10.54 9 ⇑P Pn 09 59 33.0 +0.6
baz=11
332A Millersview 10.55 53 ⇓P Pn 09 59 33.2 +0.7
baz=11,SNR=17
Y28A McKinney Farm, 10.65 35 ⇓P Pn 09 59 34.2 +0.3
baz=11
GMRC Granite Mounta 10.74 332 ⇓P Pn 09 59 35.5 +0.4
baz=11,SNR=9.1
V23A Ortiz Mt. (NFS 10.75 15 ⇑P Pn 09 59 36.1 +0.7
baz=11,SNR=18
V22A San Miguel Ran 10.76 12 ⇓P Pn 09 59 36.0 +0.5
baz=11,SNR=32
W25A X Bar L Ranch, 10.78 23 ⇓P Pn 09 59 36.6 +1.0
baz=11,SNR=11
LDFC Landfair 10.78 335 ePn Pn 09 59 35.2 -0.4
Z30A Sanderson Ranc 10.81 41 ⇑P Pn 09 59 37.5 +1.5
baz=11
X27A F and S Farms, 10.83 30 ⇑P Pn 09 59 37.7 +1.4
baz=11
131A Roby 10.87 46 ⇑P Pn 09 59 38.3 +1.6
baz=11
BBRC Big Bear Solar 10.89 326 ⇑P Pn 09 59 37.5 +0.2
baz=11
232A Coleman 10.90 51 ⇑P Pn 09 59 37.9 +0.7
baz=11,SNR=11
Y29A Porterfield Fa 10.92 37 ⇓P Pn 09 59 38.2 +0.6
baz=11
W26A Owens Ranch, T 10.92 26 ⇑P Pn 09 59 38.2 +0.6
baz=11
V24A Rampart Ranch, 10.98 19 ⇑P Pn 09 59 38.2 -0.3
baz=11
U20A Newcomb 11.01 5 ⇑P Pn 09 59 39.4 +0.6
baz=11,SNR=16
U21A Nageezi 11.15 8 ⇓P Pn 09 59 41.9 +1.1
baz=11,SNR=31
W27A Bowe Ranch, En 11.20 29 ⇓P Pn 09 59 42.3 +1.0
baz=11
U22A Llaves 11.22 12 ⇑P Pn 09 59 42.7 +0.9
baz=11,SNR=15
U15A North Rim 11.26 349 ⇑P Pn 09 59 43.1 +0.7
baz=11,SNR=38
V25A Rancho No Teng 11.28 21 ⇓P Pn 09 59 43.7 +1.1
baz=11,SNR=17
U23A El Rito 11.31 14 ⇓P Pn 09 59 44.2 +1.2
baz=11,SNR=13
ABTX Abilene, Hawle 11.33 48 ⇑P Pn 09 59 43.3 +0.2
baz=11
X29A Tulia 11.35 35 ⇓P Pn 09 59 43.8 +0.4
baz=11
TUQ Turquoise Moun 11.41 333 ⇓P Pn 09 59 45.3 +1.0
baz=11,SNR=8.2
Z31A Sharp Cattle R 11.44 44 ⇓P Pn 09 59 46.5 +1.9
baz=12
MWC Mount Wilson 11.47 322 Pn Pn 09 59 42.8 -2.3
V26A Tequesquite Ra 11.54 24 ⇑P Pn 09 59 47.4 +1.4
baz=12
U24A Moreno Valley 11.61 18 ⇑P Pn 09 59 48.6 +1.4
baz=12
GSC Goldstone 11.68 330 ePn Pn 09 59 47.9 -0.1
GSC Goldstone 11.68 330 ⇑P Pn 09 59 48.8 +0.9
baz=12
AMTX Amarillo 11.70 34 ePn Pn 09 59 47.9 -0.3
T21A Navajo Lake 11.72 8 ⇑P Pn 09 59 50.0 +1.3
baz=12
X30A Coker Ranch, T 11.80 38 ⇑P Pn 09 59 50.3 +0.8
baz=12,SNR=14
Y31A Rekieta Farm, 11.80 41 ⇑P Pn 09 59 52.0 +2.4
baz=12
T22A Edith 11.84 11 ⇓P Pn 09 59 51.8 +1.6
baz=12,SNR=19
MVCO Mesa Verde 11.84 4 ePn Pn 09 59 50.8 +0.6
MVCO Mesa Verde 11.84 4 ⇓P Pn 09 59 50.3 0.0
baz=12,SNR=21
Z32A Haskell 11.86 46 ⇑P Pn 09 59 51.8 +1.5
baz=12,SNR=5.9
U25A Circle Dot Ran 11.87 21 ⇑P Pn 09 59 52.5 +1.9
baz=12,SNR=35
V27A Dan Oppiter Fa 11.88 28 ⇑P Pn 09 59 52.1 +1.4
baz=12
EDW2 Edwards Air Fo 11.93 325 ⇑P Pn 09 59 51.5 +0.3
baz=12
SHOC Shoshone 11.96 333 ⇓P Pn 09 59 52.4 +0.7
baz=12
T23A Casias Ranch, 12.02 14 ⇑P Pn 09 59 54.3 +1.5
baz=12,SNR=28
U26A Atchley Ranch, 12.09 23 ⇓P Pn 09 59 54.7 +1.1
baz=12,SNR=9.8
LRMC Laurel Mountai 12.24 327 ⇑P Pn 09 59 54.7 -0.9
baz=12
Y32A R-V Farms, Ver 12.33 43 ⇓P Pn 09 59 57.6 +0.8
baz=12
S21A Coal Bank Pass 12.35 7 ⇓P Pn 09 59 57.6 +0.3
baz=12,SNR=17
X31A McDonald Ranch 12.44 40 ⇑P Pn 09 59 58.4 +0.1
baz=12
U27A Thompson Grove 12.46 26 ⇑P Pn 09 59 59.1 +0.5
baz=12
S20A Disappointment 12.47 5 ⇓P Pn 09 59 58.5 -0.3
baz=12,SNR=7.8
CCUT Cedar City 12.55 346 ePn Pn 10 00 00.9 +0.8
ARVC Arvin 12.56 323 ⇓P Pn 09 59 58.3 -1.6
baz=12
S22A 4UR Ranch, Cre 12.56 10 ⇓P Pn 10 00 01.2 +1.0
baz=13
MPMC Manual Prospec 12.62 329 ⇓P Pn 10 00 00.8 -0.1
baz=13,SNR=21
U28A Mallet 12.67 28 ⇑P Pn 10 00 01.1 -0.4
baz=13
S23A Nye Farm, Mont 12.68 13 ⇓P Pn 10 00 00.4 -1.3
baz=13
FURC Furnace Creek, 12.69 332 ⇓P Pn 10 00 01.5 -0.1
baz=13,SNR=14
PV01 Paradox Valley 12.76 4 Pn Pn 10 00 02.6 -0.2
ISA Isabella 12.78 325 ePn Pn 10 00 00.8 -2.1
ISA Isabella 12.78 325 ⇑P Pn 10 00 02.3 -0.7
baz=13
S24A Houchin Ranch, 12.79 16 ⇓P Pn 10 00 03.6 +0.3
baz=13
ARUT Antelope Range 12.80 346 ePn Pn 10 00 05.3 +2.0
R20A Redvale 12.82 4 ⇑P Pn 10 00 03.9 +0.2
baz=13,SNR=23
SDCO Great Sand Dun 12.82 15 ePn Pn 10 00 05.6 +1.8
T26A Comanche Natio 12.84 22 ⇑P Pn 10 00 04.7 +0.8
baz=13,SNR=12
W31A Holland Ranch, 12.86 38 ⇓P Pn 10 00 04.7 +0.7
baz=13
PKM Peak Mountain 12.96 319 ⇑P Pn 10 00 04.4 -1.1
baz=13
PV04 Paradox Valley 13.00 2 ePn Pn 10 00 06.3 +0.3
S25A Robets Cordova 13.02 19 ⇓P Pn 10 00 07.5 +1.2
baz=13
R22A Saguache, Gunn 13.05 10 ⇓P Pn 10 00 07.9 +1.1
baz=13
T27A Campo 13.06 25 ⇓P Pn 10 00 08.2 +1.4
baz=13
R21A Cimarron 13.08 7 ⇓P Pn 10 00 08.1 +1.0
baz=13
R23A Moffat 13.18 13 ⇑P Pn 10 00 08.9 +0.3
baz=13
CWC Cottonwood Cre 13.20 329 ⇓P Pn 10 00 08.6 -0.2
baz=13
WMOK Wichita Mounta 13.23 43 ePn Pn 10 00 08.3 -0.7
VES Vestal, Richgr 13.23 324 ⇓P Pn 10 00 08.8 -0.3
baz=13
MVU Marysvale 13.28 351 ePn Pn 10 00 11.3 +1.4
MSU Marysvale 13.28 351 ePn Pn 10 00 10.7 +0.8
S26A Kim 13.29 22 ⇓P Pn 10 00 09.8 -0.1
baz=13
V31A Spring Creek L 13.35 37 ⇑P Pn 10 00 10.1 -0.6
baz=13
T28A Walsh 13.35 27 ⇑P Pn 10 00 10.4 -0.4
baz=13
GRAC Grapevine Rang 13.35 332 ⇓P Pn 10 00 11.6 +0.9
baz=13,SNR=36
R24A Sanders Place, 13.38 16 ⇑P Pn 10 00 10.0 -1.2
baz=13
R25A Fountain Ranch 13.52 18 ⇑P Pn 10 00 14.2 +1.1
baz=14
Q21A Lamborn Mesa, 13.54 7 ⇑P Pn 10 00 13.5 +0.2
baz=14
Q16A Castle Valley 13.57 355 ⇑P Pn 10 00 14.7 +0.8
baz=14,SNR=29
Q20A Ridgley Place, 13.59 4 ⇓P Pn 10 00 14.1 0.0
baz=14
RCTC Rector, Farmer 13.67 325 ⇓P Pn 10 00 14.5 -0.6
baz=14
SRU San Rafael 13.72 357 ePn Pn 10 00 15.2 -0.8
S28A Manter 13.84 26 ⇑P Pn 10 00 18.1 +0.6
baz=14
R26A Arlington 13.91 21 ⇑P Pn 10 00 19.1 +0.7
baz=14
SMCO Snowmass 13.95 9 Pn Pn 10 00 22.2 +3.1
46nm,1.1s
TMUT Trail Mountain 13.95 355 ePn Pn 10 00 20.5 +1.4
132nm,1.7s
R27A Eads 14.11 23 ⇓P Pn 10 00 22.3 +1.1
baz=14,SNR=16
P20A De Beque 14.13 4 ⇓P Pn 10 00 21.3 -0.1
baz=14
P19A Cripple Cowboy 14.23 2 ⇓P Pn 10 00 22.1 -0.8
baz=14
P23A Jefferson 14.32 12 ⇑P Pn 10 00 25.0 +0.7
baz=14
MPU Maple Canyon 14.70 354 ePn Pn 10 00 30.6 +1.3
75nm,1.4s
O20A White River Ci 14.77 4 ⇓P Pn 10 00 29.6 -0.7
baz=15,SNR=9.7
ISCO Idaho Springs 14.78 12 ePn Pn 10 00 31.2 +0.8
48nm,1.4s
ISCO Idaho Springs 14.78 12 ⇑P Pn 10 00 29.9 -0.5
baz=15
R29A Marienthal 14.86 27 ⇑P Pn 10 00 31.5 +0.1
baz=15
O19A Miners Draw (B 14.89 1 ⇓P Pn 10 00 32.1 +0.2
baz=15
NV11 Mina Array Sit 14.89 333 ePn Pn 10 00 32.0 +0.1
NVAR Mina Array Bea 14.95 333 Pn Pn 10 00 32.0 -0.8
NVAR Mina Array Bea 14.95 333 Pn Pn 10 00 32.0 -0.8
0.1nm,0.3s,baz=145,slow=12,SNR=24
NVAR LR LR 10 07 07.1
comp=Z,2μm,18.3s,baz=216,slow=41
O22A Kremmling 14.97 9 ⇑P Pn 10 00 33.4 +0.3
baz=15,SNR=19
DUG Dugway 15.02 351 ePn Pn 10 00 35.4 +1.7
53nm,1.1s
DUG Dugway 15.02 351 ⇑P Pn 10 00 33.8 +0.2
baz=15,SNR=44
DAU Daniels Canyon 15.06 355 ePn Pn 10 00 34.1 -0.2
55nm,1.1s
P26A Davis Ranch, A 15.10 19 ⇑P Pn 10 00 34.4 -0.2
baz=15,SNR=15
R30A Dighton 15.11 29 ⇑P Pn 10 00 35.5 +0.7
baz=15,SNR=29
O23A Lake Granby, G 15.12 11 ⇓P Pn 10 00 35.2 +0.2
baz=15,SNR=14
Q28A Sharon Springs 15.15 24 ⇓P Pn 10 00 35.4 +0.1
baz=15,SNR=16
SAO San Andreas Ge 15.21 321 ePn Pn 10 00 36.2 +0.2
25nm,1.2s
P27A Ficken Ranch, 15.33 21 ⇓P Pn 10 00 38.1 +0.5
baz=15,SNR=11
CTU Camp Tracy 15.38 354 ePn P 10 00 40.5 -2.6
39nm,1.1s
O25A Wiggins 15.40 16 ⇓P Pn 10 00 39.2 +0.5
baz=15,SNR=27
N21A Black Mountain 15.45 6 ⇓P Pn 10 00 39.7 +0.4
baz=16,SNR=39
R31A Burdett 15.46 31 ⇑P Pn 10 00 40.0 +0.8
baz=16
N20A Spence Gulch, 15.46 4 ⇑P Pn 10 00 40.0 +0.5
baz=16,SNR=36
CMB Columbia Colle 15.59 327 ePn Pn 10 00 40.6 -0.3
73nm,1.4s
N22A Wattenberg Ran 15.61 9 ⇑P Pn 10 00 42.1 +0.5
baz=16,SNR=49
P28A Saint Francis 15.63 23 ⇑P Pn 10 00 41.8 +0.3
baz=16,SNR=14
Q30A Quinter 15.71 28 ⇑P Pn 10 00 42.7 +0.1
baz=16,SNR=15
O26A Horse Wrangler 15.74 18 ⇑P Pn 10 00 42.0 -1.1
baz=16
N23A Red Feather La 15.78 10 ⇓P Pn 10 00 43.1 -0.5
baz=16,SNR=9.5
TUL1 Tulsa 15.85 45 ⇑P Pn 10 00 43.2 -1.1
baz=16
O27A Beecher Island 15.94 20 ⇓P Pn 10 00 44.9 -0.6
baz=16
P29A Atwood 15.96 25 ⇓P Pn 10 00 45.6 -0.2
baz=16,SNR=11
ELK Elko 16.03 344 ePn Pn 10 00 46.7 -0.2
29nm,1.0s
M17A Scullys Gap (B 16.08 357 ⇓P Pn 10 00 46.7 -0.8
baz=16
M19A Rock Springs 16.10 1 ⇑P Pn 10 00 46.2 -1.5
baz=16
Q31A Ellis 16.10 30 ⇑P Pn 10 00 46.6 -1.0
baz=16
O28A Krutsinger Ran 16.11 22 ⇑P Pn 10 00 47.2 -0.6
baz=16
M20A Sweetwater, Wa 16.12 4 ⇑P Pn 10 00 47.7 -0.3
baz=16,SNR=8.2
P30A Selden 16.18 27 ⇓P Pn 10 00 48.6 0.0
baz=16,SNR=13
M22A Cedar Creek Ra 16.19 8 ⇑P Pn 10 00 47.5 -1.4
baz=16
PHWY Pilot Hill 16.26 11 ePn P 10 00 51.3 -1.6
26nm,1.2s
HWUT Hardware Ranch 16.27 355 ePn Pn 10 00 50.0 0.0
270nm,1.9s
M21A Separation Pea 16.30 6 ⇓P Pn 10 00 50.2 -0.2
baz=16,SNR=7.1
BMN Battle Mountai 16.31 339 ePn P 10 00 51.5 -1.9
60nm,1.2s
N26A Koester Ranch, 16.31 18 ⇓P Pn 10 00 50.9 +0.6
baz=16,SNR=9.9
O29A 4D Ranch, Culb 16.46 25 ⇑P Pn 10 00 51.9 -0.3
baz=16
N27A Anderson Farm, 16.49 19 ⇓P Pn 10 00 52.3 -0.3
baz=16
P31A Stockton 16.53 29 ⇑P Pn 10 00 52.6 -0.5
baz=17
M24A Cheyenne 16.54 13 ⇑P Pn 10 00 53.5 +0.2
baz=17
HVU Hansel Valley 16.57 352 ePn Pn 10 00 53.9 +0.2
137nm,1.6s
MIAR Mount Ida 16.62 53 ePn Pn 10 00 54.7 +0.5
160nm,1.8s
L20A Wamsutter 16.63 3 ⇑P Pn 10 00 53.9 -0.6
baz=17
L21A Rawlins 16.66 6 ⇑P Pn 10 00 54.4 -0.4
baz=17,SNR=20
L19A Farson 16.69 1 ⇓P Pn 10 00 54.4 -0.8
baz=17,SNR=18
N28A Pribbeno Ranch 16.69 22 ⇑P Pn 10 00 54.1 -1.1
baz=17
OGNE Ogallala 16.77 20 ePn Pn 10 00 56.9 +0.8
227nm,1.7s
OGNE Ogallala 16.77 20 ⇓P Pn 10 00 55.8 -0.3
baz=17
O30A MW Ranch, Wils 16.80 26 ⇑P Pn 10 00 56.1 -0.4
baz=17,SNR=12
L22A Ellis Ranch, M 16.82 8 ⇓P Pn 10 00 55.1 -1.8
baz=17
M26A McRoberts Ranc 16.93 17 ⇑P Pn 10 00 57.1 -1.0
baz=17
MCCM Marconi Confer 16.99 322 ePn Pn 10 00 58.8 0.0
175nm,1.6s
L23A Garrett 17.01 10 ⇑P Pn 10 00 58.7 -0.6
baz=17,SNR=16
BEKR Beckworth 17.03 331 ePn Pn 10 00 59.3 -0.2
108nm,1.6s
N29A Votaw Ranch, W 17.13 24 ⇓P Pn 10 01 00.0 -0.7
baz=17
M27A Reverse DX Ran 17.19 19 ⇑P Pn 10 01 00.1 -1.4
baz=17
K20A Yellowstone Ra 17.28 3 ⇑P Pn 10 01 01.2 -1.4
baz=17,SNR=19
BW06 Boulder Array 17.35 0 ePn Pn 10 01 02.6 -1.0
115nm,1.6s
PDAR Pinedale Array 17.35 0 P Pn 10 01 02.6 -1.0
PDAR Pinedale Array 17.35 0 P Pn 10 01 02.6 -1.0
0.2nm,0.3s,baz=168,slow=8.3,SNR=27
PDAR LR LR 10 07 56.2
comp=Z,4μm,21.4s,baz=191,slow=38
K19A Absolon Red Bu 17.42 2 ⇓P Pn 10 01 02.9 -1.5
baz=17,SNR=10
K22A Casper 17.42 8 ⇑P Pn 10 01 03.2 -1.2
baz=18,SNR=9.6
L26A Underwood Farm 17.48 16 ⇓P Pn 10 01 03.2 -1.9
baz=18
KSU1 Kansas State U 17.54 36 eP P 10 01 08.2 +1.4
50nm,1.0s
UALR University of 17.62 54 eP P 10 01 08.8 +1.1
29nm,0.9s
K23A Bowen Ranch, D 17.65 10 ⇑P Pn 10 01 05.9 -1.3
baz=18
M29A Burnside Ranch 17.66 23 ⇑P Pn 10 01 06.1 -1.2
baz=18
HOPS Hopland 17.70 323 ePn Pn 10 01 07.0 -0.7
60nm,1.4s
J19A Crowheart 17.86 1 ⇑P Pn 10 01 08.3 -1.5
baz=18,SNR=7.7
J20A Shoshoni 17.98 4 ⇓P Pn 10 01 10.7 -0.6
baz=18,SNR=40
RRI2 Red Ridge 17.99 356 eP P 10 01 12.0 -0.1
192nm,2.0s
J21A Lysite 18.02 5 ⇑P Pn 10 01 09.9 -2.0
baz=18,SNR=16
M30A Dale-Ortello V 18.04 24 ⇑P Pn 10 01 10.6 -1.3
baz=18
VBMS Vicksburg 18.06 63 eP P 10 01 12.8 +0.2
99nm,1.1s
SNOW Snow King Moun 18.07 357 eP P 10 01 12.9 0.0
228nm,2.0s
K26A Motz Farm, Whi 18.08 15 ⇑P Pn 10 01 11.5 -1.0
baz=18
TPAW Teton Pass 18.11 357 eP P 10 01 13.6 +0.2
110nm,1.6s
J22A Midwest 18.18 7 ⇓P Pn 10 01 13.4 -0.4
baz=18,SNR=40
LOHW Long Hollow 18.22 358 eP P 10 01 14.2 -0.2
144nm,2.0s
DCID1 Drake Creek 18.23 356 eP P 10 01 15.1 +0.5
157nm,1.4s
I18A Diamond G Ranc 18.29 360 ⇓P Pn 10 01 14.3 -0.8
baz=18,SNR=19
J23A Dilts Ranch, B 18.30 9 ⇓P Pn 10 01 13.7 -1.5
baz=18
K27A Flueckinger Fa 18.32 18 ⇓P Pn 10 01 14.0 -1.5
baz=18
MOOW Moose Ponds 18.36 357 eP Pn 10 01 15.4 -0.6
170nm,2.0s
J24A Dixon Ranch, L 18.37 12 ⇑P Pn 10 01 15.0 -1.1
baz=18
KCPM Cahto Peak 18.47 324 eP Pn 10 01 17.7 +0.4
140nm,1.8s
I21A Big Trails, Te 18.50 5 ⇓P Pn 10 01 17.6 0.0
baz=18,SNR=31
KIPM Iron Peak 18.51 324 eP Pn 10 01 20.7 +3.0
127nm,1.5s
IMW Indian Meadow 18.51 357 eP P 10 01 17.4 -0.4
23nm,0.9s
I17A Pilgrim Ck. 18.52 358 ⇑P P 10 01 16.5 -1.4
baz=18
I16A Newdale 18.52 356 ⇓P Pn 10 01 17.8 -0.2
baz=18,SNR=25
WVOR Wild Horse Val 18.57 339 eP P 10 01 17.9 -0.4
289nm,2.1s
I20A Worland 18.57 3 ⇓P P 10 01 18.0 -0.3
baz=19,SNR=14
K28A Ten Mile Ranch 18.58 19 ⇑P P 10 01 17.4 -1.0
baz=19
J25A Sunshine Ranch 18.59 13 ⇑P P 10 01 17.7 -0.8
baz=19
BGNE Belgrade 18.61 28 ⇑P P 10 01 17.9 -0.8
baz=19

WDC Whiskeytown Da 18.61 328 eP P 10 01 18.2 -0.4
54nm,1.3s
I22A 9 Mile Ranch, 18.65 7 ⇓P Pn 10 01 19.4 -0.1
baz=19,SNR=9.3
MFID Camas Ranch 18.70 346 eP Pn 10 01 20.3 +0.2
204nm,2.0s
MFID Camas Ranch 18.70 346 ⇓P P 10 01 18.8 -1.0
baz=19
MOD Modoc 18.71 334 eP P 10 01 19.5 -0.3
37nm,1.0s
I14A Mackay 18.78 351 ⇑P Pn 10 01 20.5 -0.5
baz=19,SNR=23
I24A Kuemmerle Ranc 18.89 11 ⇑P P 10 01 20.4 -1.4
baz=19
I12A Atlanta 18.92 348 ⇑P P 10 01 21.8 -0.4
baz=19,SNR=11
H17A Grant Village 19.00 358 ⇑P P 10 01 22.0 -1.1
baz=19
YFT Old Faithful 19.06 357 P Pn 10 01 24.5 -0.1
26nm,1.0s
H20A Greybull 19.12 4 ⇑P P 10 01 23.6 -0.7
baz=19
LKWY Lake 19.16 358 eP Pn 10 01 27.6 +1.8
36nm,1.0s
RSSD Black Hills 19.25 12 eP Pn 10 01 27.2 +0.3
6.3nm,0.8s
RSSD ePcP PcP 10 05 53.1 +4.4
H18A Shoshone NF, C 19.26 360 ⇓P P 10 01 25.6 -0.4
baz=19,SNR=7.2
H19A Powell 19.26 1 ⇑P P 10 01 24.0 -1.9
baz=19
J28A Allard Ranch, 19.27 19 ⇓P P 10 01 25.3 -0.6
baz=19,SNR=6.8
YMR Madison River 19.29 357 eP P 10 01 26.1 -0.1
126nm,1.7s
H21A Big Horn, Sher 19.33 6 ⇓P P 10 01 24.9 -1.7
baz=19
H16A Russell Place, 19.34 356 ⇑P P 10 01 26.2 -0.5
baz=19,SNR=14
KHMM Horse Mountain 19.42 326 eP P 10 01 27.8 +0.1
89nm,1.2s
QLMT Earthquake Lak 19.47 356 eP Pn 10 01 29.6 +0.2
3.9nm,1.1s
MCMT McKenzie Canyo 19.59 353 P Pn 10 01 30.3 -0.6
YBH Yreka Blue Hor 19.59 330 P P 10 01 27.0 -2.5
YBH eP Pn 10 01 30.5 -0.3
YBH Yreka Blue Hor 19.59 330 P P 10 01 27.0 -2.5
0.0nm,0.3s,baz=124,slow=11,SNR=4.0
H12A Diamond D Ranc 19.60 349 ⇓P P 10 01 28.8 -0.8
baz=20,SNR=11
RLMT Red Lodge 19.71 1 eP P 10 01 30.1 -0.8
95nm,1.9s
H24A Dirks Ranch, A 19.76 11 ⇑P P 10 01 29.5 -1.8
baz=20
H25A Fruitdale 19.82 13 ⇑P P 10 01 30.5 -1.4
baz=20
G20A Bridger 19.84 3 ⇑P P 10 01 31.4 -0.7
baz=20,SNR=5.5
GNAR Gosnell 19.86 53 eP Pn 10 01 34.5 +0.6
1μm,1.1s
G18A Lazy EL Ranch, 19.90 0 ⇑P P 10 01 32.0 -0.9
baz=20,SNR=7.2
G21A Lodge Grass 19.91 5 ⇑P P 10 01 32.3 -0.5
baz=20,SNR=11
G17A Pierce Place, 19.93 358 ⇓P P 10 01 32.2 -0.9
baz=20,SNR=9.4
G22A Birney 19.99 7 ⇓P P 10 01 32.1 -1.6
baz=20,SNR=12
H26A Fairpoint 19.99 14 ⇓P P 10 01 32.3 -1.4
baz=20
KRMB Red Mountain 20.00 327 eP Pn 10 01 34.6 -1.0
51nm,1.3s
G23A Biddle 20.08 9 ⇓P P 10 01 33.0 -1.7
baz=20,SNR=8.6
DLMT Dillon 20.09 354 eP P 10 01 34.9 0.0
51nm,1.3s
H27A Howes 20.17 16 ⇑P P 10 01 34.7 -1.0
baz=20
G12A Big Creek, Yel 20.25 348 ⇑P P 10 01 35.3 -1.3
baz=20,SNR=56
BOZ Bozeman (W) 20.30 356 eP P 10 01 35.7 -1.5
57nm,1.5s
TEIG Tepich 20.32 100 P Pn 10 01 41.0 +1.5
TEIG Tepich 20.32 100 P Pn 10 01 41.0 +1.5
6.5nm,0.7s,baz=298,slow=13,SNR=3.5
TEIG LR LR 10 11 35.5
comp=Z,2μm,19.4s,baz=288,slow=43
G24A Alzada 20.35 11 ⇓P P 10 01 37.7 0.0
baz=20
PARMO Parma 20.37 52 eP Pn 10 01 40.1 +0.3
GCMT Greycliff 20.38 360 eP P 10 01 37.1 -1.0
26nm,1.1s
HUMO Hull Mountain 20.40 331 eP P 10 01 38.5 +0.4
15nm,1.2s
BMO Blue Mountains 20.41 344 eP P 10 01 37.3 -1.1
241nm,1.8s
F20A Billings 20.42 3 ⇑P P 10 01 38.5 +0.1
baz=20,SNR=5.3
F16A Kennard Place, 20.43 356 ⇓P P 10 01 38.7 +0.1
baz=20,SNR=15
F19A Roth Farm, Mol 20.45 1 ⇓P P 10 01 37.7 -1.1
baz=20,SNR=7.3
H28A Mission Ridge 20.48 18 ⇑P P 10 01 38.2 -0.8
baz=20
F18A Big Timber 20.49 360 ⇑P P 10 01 38.3 -1.0
baz=20,SNR=24
LCCM Lewis and Clar 20.50 355 P P 10 01 39.5 0.0
F17A Fitzpatrick Pl 20.51 358 ⇑P P 10 01 38.9 -0.5
baz=20,SNR=19
LRM Limekiln Ridge 20.54 354 eP P 10 01 39.7 -0.1
164nm,1.0s
F22A Rosebud 20.54 7 ⇑P P 10 01 38.3 -1.5
baz=21,SNR=13
F15A Butte 20.56 354 ⇓P P 10 01 38.9 -1.2
baz=21,SNR=13
F23A Volborg 20.59 8 ⇓P P 10 01 39.0 -1.2
baz=21,SNR=42
F14A Wisdom 20.62 353 ⇑P P 10 01 39.7 -1.0
baz=21,SNR=8.2
BRAL Brewton 20.65 69 eP Pn 10 01 43.3 +0.1
130nm,1.1s
F24A Ekalaka 20.85 10 ⇓P P 10 01 42.3 -0.8
baz=21,SNR=15
UTMT University of 20.86 53 eP Pn 10 01 45.1 -0.6
143nm,1.1s
G27A Dupree 20.90 15 ⇑P P 10 01 39.7 -3.9
baz=21
BRSD Miller 20.91 22 ⇓P P 10 01 42.6 -1.0
baz=21,SNR=15
SLM Saint Louis 21.04 46 eP P 10 01 47.3 +2.2
162nm,1.2s
E19A Rath Farm, Rou 21.06 2 ⇑P P 10 01 43.8 -1.5
baz=21,SNR=18
E17A Martinsdale 21.07 358 ⇓P P 10 01 44.6 -0.9
baz=21,SNR=10
VIPM Ingram Point 21.08 338 P P 10 01 48.2 +2.5
E20A Meyer Farm, Mu 21.12 3 ⇓P P 10 01 45.0 -1.0
baz=21,SNR=20
LRAL Lakeview Retre 21.14 64 eP P 10 01 46.4 +0.2
76nm,1.5s
E18A Harlowton 21.15 359 ⇓P P 10 01 45.2 -1.2
baz=21,SNR=29
ECSD EROS Data Cent 21.17 27 eP P 10 01 48.1 +1.6
41nm,1.1s
E16A East Helena 21.18 356 ⇑P P 10 01 45.5 -1.3
baz=21,SNR=27
E21A Keefer Ranch, 21.22 5 ⇓P P 10 01 45.8 -1.3
baz=21,SNR=34
E22A Miles City 21.23 7 ⇓P P 10 01 45.9 -1.2
baz=21
KEBM Edson Butte 21.23 329 eP P 10 01 48.9 +1.6
454nm,1.8s
SIUC Southern Illin 21.25 50 eP P 10 01 49.4 +2.1
71nm,1.2s
SCIA State Center 21.35 35 eP P 10 01 50.4 +1.9
166nm,1.4s
E23A Ismay 21.36 8 ⇑P P 10 01 47.3 -1.3
baz=21,SNR=26
HRY Holter Researc 21.37 356 eP P 10 01 48.2 -0.5
49nm,1.1s
WVT Waverly 21.53 55 eP P 10 01 49.8 -0.6
56nm,1.1s
E12A Beaver Dam Sad 21.53 349 ⇑P P 10 01 48.9 -1.6
baz=22,SNR=22
E24A Baker 21.57 10 ⇓P P 10 01 49.4 -1.4
baz=22,SNR=12
E25A Miller Ranch, 21.66 12 ⇓P P 10 01 49.1 -2.8
baz=22

D16A Dana Ranch, Ca 21.67 356 ⇑P P 10 01 50.3 -1.6
baz=22,SNR=46
MSO Missoula 21.69 352 eP P 10 01 51.2 -1.0
38nm,1.1s
MSO Missoula 21.69 352 ⇑P P 10 01 50.4 -1.8
baz=22,SNR=24
CHMT Chamberlain Mo 21.70 353 eP P 10 01 49.3 -3.0
D15A Lincoln 21.75 355 ⇓P P 10 01 51.5 -1.3
baz=22,SNR=14
D21A La Casta Ranch 21.75 5 ⇓P P 10 01 51.7 -1.1
baz=22,SNR=15
D17A Six Diamond Ra 21.75 358 ⇑P P 10 01 51.8 -1.1
baz=22,SNR=59
D19A Cripps Ranch, 21.76 1 ⇓P P 10 01 51.8 -1.0
baz=22,SNR=25
D18A Linhart Farms, 21.78 360 ⇓P P 10 01 52.2 -0.9
baz=22,SNR=11
E26A Carlson Angus 21.82 13 ⇑P P 10 01 52.6 -0.9
baz=22,SNR=12
D14A Greenough 21.89 353 ⇓P P 10 01 53.1 -1.2
baz=22,SNR=93
D22A Cohagen 21.91 6 ⇓P P 10 01 53.2 -1.2
baz=22,SNR=16
D13A Huson 22.02 351 ⇓P P 10 01 54.4 -1.3
baz=22,SNR=14
D23A Lindsay 22.04 8 ⇑P P 10 01 54.2 -1.7
baz=22,SNR=23
SLMT Seeley Lake 22.04 353 eP P 10 01 55.5 -0.5
108nm,1.6s
SSOR Sweet Springs 22.05 335 P P 10 01 58.1 +2.1
D24A Glendive 22.11 10 ⇑P P 10 01 55.4 -1.2
baz=22,SNR=5.7
D12A Red Ives Fores 22.11 350 ⇑P P 10 01 55.0 -1.7
baz=22
C17A Wharram Farm, 22.24 358 ⇑P P 10 01 56.5 -1.5
baz=22,SNR=27
C19A Slick Wire Ran 22.32 1 ⇑P P 10 01 57.4 -1.5
baz=22,SNR=11
C20A Veseth Ranch, 22.34 3 ⇓P P 10 01 57.9 -1.1
baz=22,SNR=19
SWMT Swartz Lake 22.37 352 eP P 10 01 56.4 -3.1
39nm,1.1s
HAWA Hanford 22.43 342 eP P 10 02 00.6 +0.7
65nm,1.6s
USIN University of 22.44 51 eP P 10 02 01.9 +1.7
80nm,1.3s
C16A Fuhringer Ranc 22.45 356 ⇓P P 10 01 58.3 -2.0
baz=22,SNR=23
C15A Salmond Ranch, 22.49 355 ⇓P P 10 01 58.9 -1.8
baz=22,SNR=8.4
C24A Savage 22.50 9 ⇑P P 10 01 59.3 -1.4
baz=22,SNR=6.8
C21A Desert Coulee 22.50 4 ⇓P P 10 01 58.7 -2.1
baz=22
OLIL Olney 22.52 49 eP P 10 02 02.9 +1.9
64nm,1.0s
C22A Vida 22.53 7 ⇑P P 10 01 59.5 -1.6
baz=23,SNR=16
C14A Swan Lake 22.59 353 ⇑P P 10 01 60.0 -1.8
baz=23,SNR=15
C13A Hot Springs 22.61 351 ⇑P P 10 02 00.3 -1.7
baz=23
EGMT Eagleton 22.61 360 eP P 10 02 01.0 -0.9
54nm,1.1s
EGMT Eagleton 22.61 360 ⇑P P 10 02 00.2 -1.8
baz=23,SNR=16
JTMT Jette 22.64 352 eP P 10 02 01.8 -0.5
22nm,1.2s
C23A Lambert 22.66 8 ⇑P P 10 02 00.9 -1.6
baz=23,SNR=11
YBMT Yellow Bay 22.72 352 eP P 10 02 03.3 +0.1
24nm,1.2s
C12B Naegeli Ranch, 22.77 350 ⇑P P 10 02 01.9 -1.8
baz=23,SNR=21
BSMT Bassoo Peak 22.81 351 eP P 10 02 03.4 -0.8
16nm,1.1s
B17A L&G Farms, Che 22.90 358 ⇓P P 10 02 03.5 -1.4
baz=23,SNR=8.6
BLMT Blacktail Moun 22.91 352 eP P 10 02 05.9 +0.7
19nm,1.0s
B18A Beardsley Farm 22.98 360 ⇓P P 10 02 04.6 -1.3
baz=23,SNR=10
B15A Bradley Ranch, 23.02 355 ⇓P P 10 02 04.5 -1.7
baz=23,SNR=28
C11A Tepee Creek (N 23.03 349 ⇑P P 10 02 04.2 -2.2
baz=23
B19A Brinkman Farms 23.05 1 ⇑P P 10 02 04.4 -2.1
baz=23
B16A M & M Farms, S 23.06 356 ⇓P P 10 02 04.9 -1.8
baz=23
B20A Solberg Farm, 23.06 3 ⇑P P 10 02 04.6 -2.1
baz=23
B22A Reddig Ranch S 23.06 6 ⇓P P 10 02 04.7 -2.0
baz=23,SNR=12
B21A Ellsworth Farm 23.11 4 ⇓P P 10 02 05.4 -1.6
baz=23
B14A Marquette Ranc 23.13 354 ⇓P P 10 02 05.4 -2.0
baz=23,SNR=17
OD2 Odessa Site #2 23.13 344 P P 10 02 07.4 0.0
B13A Whitefish 23.28 352 ⇓P P 10 02 06.7 -2.2
baz=23
B23A Brockton 23.34 8 ⇓P P 10 02 08.0 -1.4
baz=23,SNR=12
LON Longmire 23.45 339 eP P 10 02 09.6 -1.0
236nm,2.0s
DGMT Dagmar 23.45 9 eP P 10 02 11.8 +1.2
69nm,1.2s
DGMT Dagmar 23.45 9 ⇑P P 10 02 09.0 -1.6
baz=24
A20A Cobblestone Ra 23.50 3 ⇑P P 10 02 09.6 -1.5
baz=24,SNR=10.0
A18A Metzger Ranch, 23.51 360 ⇑P P 10 02 09.5 -1.7
baz=24
A19A Klindworth Far 23.53 1 ⇓P P 10 02 09.3 -2.0
baz=24,SNR=13
WCI Wyandotte Cave 23.53 51 eP P 10 02 12.7 +1.3
18nm,0.8s
B12A Libby 23.53 350 ⇑P P 10 02 09.5 -1.9
baz=24,SNR=10
A17A Triple J Farms 23.55 358 ⇑P P 10 02 10.3 -1.3
baz=24
A16A West Butte Ran 23.59 357 ⇑P P 10 02 10.7 -1.4
baz=24
NEW Newport 23.60 347 eP P 10 02 09.0 -3.1
94nm,1.4s
NEW PcP PcP 10 06 01.3 +4.4
NEW Newport 23.60 347 P P 10 02 09.1 -3.1
19nm,0.9s,baz=165,slow=11,SNR=25
NEW PcP PcP 10 06 01.3 +4.4
3.1nm,0.8s,baz=150,slow=5.1,SNR=4.3
NEW LR LR 10 12 26.8
comp=Z,2μm,18.6s,baz=171,slow=39
NEW Newport 23.60 347 ⇑P P 10 02 10.1 -2.0
baz=24,SNR=39
JFWS Jewell Farm 23.64 37 eP P 10 02 13.1 +0.7
36nm,1.0s
TIGA Tifton 23.65 69 ⇑P P 10 02 11.7 -0.9
baz=24
A21A Bergtoll Ranch 23.67 4 ⇓P P 10 02 10.1 -2.7
baz=24
A15A Johnson Ranch, 23.69 355 ⇓P P 10 02 11.0 -2.0
baz=24,SNR=12
A14A Double T Ranch 23.75 354 ⇑P P 10 02 11.8 -1.8
baz=24,SNR=31
A22A Carney Farms, 23.76 6 ⇑P P 10 02 11.8 -1.8
baz=24,SNR=13
MDND Maddock 23.79 17 ⇑P P 10 02 12.8 -1.0
baz=24
CPCT Cooper Cave 23.80 59 eP P 10 02 13.0 -1.1
BLO Bloomington 23.80 49 eP P 10 02 14.8 +0.7
53nm,1.2s
TGUH Tegucigalpa,Un 23.81 114 eP P 10 02 15.3 +1.0
A13A Flathead Natio 23.82 352 ⇓P P 10 02 12.8 -1.5
baz=24
A23A Redstone 23.84 8 ⇓P P 10 02 13.5 -0.9
baz=24
WALA Waterton Lakes 23.88 353 eP P 10 02 13.2 -1.7
3.9nm,1.1s
A24A Westby 23.92 9 ⇑P P 10 02 14.1 -1.0
baz=24,SNR=10
A12A Yaak River Ran 23.99 350 ⇓P P 10 02 14.1 -1.8
baz=24,SNR=7.4
SFIN Scholer Farm 24.02 46 ⇑P P 10 02 14.6 -1.5
baz=24,SNR=12
SOR Soroa 24.41 90 e P 10 02 17.7 -2.2
SOR Soroa 24.41 90 e P 10 02 17.7 -2.2
TKL Tuckaleechee C 24.45 59 P P 10 02 19.3 -0.8
TKL Tuckaleechee C 24.45 59 P P 10 02 19.3 -0.8
7.5nm,1.0s,baz=260,slow=12,SNR=5.6
TKL LR LR 10 12 09.3
comp=Z,3μm,18.3s,baz=254,slow=37
TZTN Tazewell 24.90 57 eP P 10 02 27.6 +3.4
47nm,1.1s
PGC Sidney 25.65 339 eP P 10 02 31.1 +0.3
3.0nm,1.3s
EYMN Ely 26.68 28 eP P 10 02 39.8 -0.5
21nm,1.1s
ACSO Alum Creek Sta 26.72 50 eP P 10 02 42.7 +2.1
33nm,1.2s
ULM Lac du Bonnet 27.02 20 P P 10 02 43.8 +0.6
ULM eP pP 10 02 45.1 -1.5
ULM Lac du Bonnet 27.02 20 P P 10 02 43.8 +0.6
8.3nm,0.9s,baz=212,slow=8.4,SNR=4.5
ULM LR LR 10 15 23.8
comp=Z,380nm,18.6s,baz=13,slow=41
BLA Blacksburg 27.49 58 eP P 10 02 49.9 +2.2
24nm,1.0s
FFC Flin Flon 29.86 9 eP P 10 03 08.3 -0.2
15nm,1.1s
BBB Bella Bella 30.23 337 P P 10 03 17.3 +5.6
BBB Bella Bella 30.23 337 P P 10 03 17.3 +5.6
9.3nm,0.8s,baz=164,slow=7.4,SNR=2.7
BBB LR LR 10 14 53.9
comp=Z,2μm,21.1s,baz=163,slow=36
SADO Sadowa 31.30 44 P P 10 03 26.4 +5.1
SADO Sadowa 31.30 44 P P 10 03 26.4 +5.1
2.6nm,0.6s,baz=260,slow=7.2,SNR=2.9
BINY Binghamton 32.34 50 eP P 10 03 32.6 +2.0
39nm,1.3s
MSNY Massena 34.14 46 eP P 10 03 48.1 +2.0
255nm,0.9s
NCB Newcomb 34.18 48 eP P 10 03 47.7 +1.1
25nm,1.1s
FRNY Flat Rock 34.92 47 eP P 10 03 53.6 +0.7
8.5nm,0.9s
WRAK Wrangell Islan 35.12 338 eP P 10 03 55.6 +1.2
20nm,0.8s
YKA Yellowknife Ar 37.26 356 P P 10 04 11.7 -1.0
YKA Yellowknife Ar 37.26 356 P P 10 04 11.7 -1.0
3.4nm,0.9s,baz=170,slow=8.0,SNR=18
YKW3 Yellowknife Ar 37.33 356 eP P 10 04 13.1 -0.2
0.2nm,0.9s
OTAV Otavalo 39.12 125 eP P 10 04 32.4 +2.9
24nm,1.3s
ROSC El Rosal 39.49 115 P P 10 04 37.4 +4.8
ROSC El Rosal 39.49 115 LR LR 10 22 56.1
comp=Z,513nm,19.7s,baz=360,slow=39
SCHQ Schefferville 42.97 35 eP P 10 05 00.4 +0.2
14nm,1.0s
SCHQ Schefferville 42.97 35 P P 10 05 00.2 -0.1
4.8nm,0.9s,baz=282,slow=2.1,SNR=6.6
SCHQ LR LR 10 23 54.8
comp=Z,2μm,18.7s,baz=63,slow=38
MENT Mentasta 43.82 338 eP P 10 05 08.4 +1.4
EGAK Eagle 44.33 341 eP P 10 05 12.1 +1.1
10.0nm,0.9s
ATAH Atahualpa 44.34 133 P P 10 05 14.2 +2.0
ATAH Atahualpa 44.34 133 P P 10 05 14.2 +2.0
3.5nm,0.6s,baz=23,slow=7.7,SNR=2.5
KDAK Kodiak Island 44.40 329 P P 10 05 13.0 +1.3
KDAK eP pP 10 05 13.5 -1.6
KDAK Kodiak Island 44.40 329 P P 10 05 13.0 +1.3
10.0nm,0.9s,baz=124,slow=7.4,SNR=3.9
PAX Paxson 44.44 338 eP P 10 05 12.9 +1.0
5.7nm,0.8s
SML Sawmill 44.75 335 eP P 10 05 15.7 +1.2
4.3nm,0.8s
PMR Palmer 44.93 334 eP P 10 05 16.3 +0.5
26nm,1.2s
RSO Redoubt South 45.79 332 eP P 10 05 24.4 +1.5
41nm,0.9s
ILAR Eielson Array 46.09 339 P P 10 05 23.5 -1.5
ILAR Eielson Array 46.09 339 P P 10 05 23.5 -1.5
8.5nm,1.1s,baz=151,slow=6.8,SNR=47
ILAR LR LR 10 24 39.4
comp=Z,809nm,18.0s,baz=332,slow=36
MCK McKinley 46.13 337 eP P 10 05 26.4 +1.1
17nm,0.9s
TRF Thorofare Moun 46.45 336 eP P 10 05 27.4 -0.7
62nm,0.9s
COLA College 46.47 339 eP P 10 05 28.3 +0.3
11nm,0.8s
COLD Coldfoot 48.70 340 eP P 10 05 46.9 +1.6
29nm,1.5s
RKT Rikitea 54.11 209 eS S 10 14 02.8 -0.1
470nm,30.2s
RKT eLR LR 10 22 04.0
1μm,25.0s,baz=25
SFJD Kangerlussuaq 54.90 24 eP P 10 06 32.3 +0.8
50nm,1.3s
SFJD Kangerlussuaq 54.90 24 i P P 10 06 33.5 +2.0
SFJD i 10 06 39.3
SAML Samuel 56.62 121 eP P 10 06 42.7 -1.9
27nm,1.4s
PPT Papeete 57.75 226 LR LR 10 24 25.4
comp=Z,489nm,18.7s,baz=6.6,slow=28
PPT2 Papeete2 57.76 226 eS S 10 14 49.7 -2.2
367nm,27.2s
PPT2 eLQ LQ 10 21 19.9
767nm,24.5s
PPT2 eLR LR 10 23 31.2
800nm,28.2s,baz=42
LPAZ La Paz 57.85 131 P P 10 06 58.2 +4.2
LPAZ La Paz 57.85 131 P P 10 06 58.2 +4.2
1.2nm,0.9s,baz=326,slow=6.4,SNR=5.2
SUMG Summit 60.37 19 eP P 10 07 09.9 -0.6
47nm,1.2s
SUMG Summit 60.37 19 i P P 10 07 10.1 -0.4
SUMG i 10 07 17.3
LVC Limon Verde 61.91 137 P P 10 07 20.3 -1.1
LVC Limon Verde 61.91 137 P P 10 07 20.3 -1.1
2.1nm,0.8s,baz=260,slow=13,SNR=2.4
TBI Tubuai 61.94 222 eLQ LQ 10 22 58.2
791nm,38.8s
TBI eLR LR 10 25 33.6
191nm,24.5s,baz=37
FX1 Attu Island--F 62.60 318 LR LR 10 33 47.0
comp=Z,236nm,18.6s,baz=308,slow=35
SIV San Ignacio 62.65 126 P P 10 07 25.8 -0.4
SIV San Ignacio 62.65 126 P P 10 07 25.8 -0.4
5.1nm,1.0s,baz=330,slow=6.6,SNR=13
SCO Scoresbysund 65.56 22 i P P 10 07 43.8 -0.7
9.5nm,1.2s
DAG Danmarks Havn 65.72 15 i P P 10 07 43.5 -1.9
DAG i 10 07 51.3
RAR Rarotonga 67.20 231 LR LR 10 28 52.3
comp=Z,432nm,18.9s,baz=86,slow=28
CFAA Coronel Fontan 69.08 143 P P 10 08 07.8 +0.5
CFAA Coronel Fontan 69.08 143 P P 10 08 07.8 +0.5
0.1nm,0.4s,baz=280,slow=7.3,SNR=3.2
PEA0B Petropavlovsk- 71.67 321 eP P 10 08 22.1 -0.9
PETK Petropavlovsk- 71.67 321 P P 10 08 22.3 -0.7
PETK Petropavlovsk- 71.67 321 P P 10 08 22.3 -0.7
11nm,1.0s,baz=85,slow=7.7,SNR=9.5
PETK LR LR 10 33 43.8
comp=Z,312nm,21.0s,baz=287,slow=31
CPUP Villa Florida 72.02 132 P P 10 08 25.2 -0.1
CPUP Villa Florida 72.02 132 P P 10 08 25.2 -0.1
2.1nm,0.6s,baz=300,slow=8.1,SNR=6.2
AFI Afiamalu 72.03 245 LR LR 10 31 15.8
comp=Z,507nm,20.6s,baz=68,slow=29
BDFB Brasilia 72.52 117 P P 10 08 28.7 0.0
BDFB Brasilia 72.52 117 P P 10 08 28.7 0.0
1.0nm,0.3s,baz=256,slow=12,SNR=2.7
BDFB LR LR 10 45 21.5
comp=Z,424nm,19.6s,baz=145,slow=40
PLCA Paso Flores 75.12 150 eP P 10 08 41.1 -2.3
20nm,1.5s
PLCA Paso Flores 75.12 150 P P 10 08 44.0 +0.6
2.0nm,0.8s,baz=348,slow=9.3,SNR=3.1
PLCA LR LR 10 35 28.3
comp=Z,614nm,18.8s,baz=94,slow=31
RCBR Riachuelo 77.91 102 P P 10 09 03.0 +3.2
RCBR Riachuelo 77.91 102 P P 10 09 03.0 +3.2
18nm,1.1s,baz=304,slow=7.3,SNR=2.4
EKA Eskdalemuir Ar 78.27 34 P P 10 09 01.1 +0.1
EKA Eskdalemuir Ar 78.27 34 P P 10 09 01.1 +0.1
0.7nm,0.6s,baz=304,slow=5.1,SNR=3.3
ARCES ARCESS Array B 80.01 15 P P 10 09 09.9 -0.4
ARCES ARCESS Array B 80.01 15 P P 10 09 09.9 -0.4
4.2nm,0.9s,baz=309,slow=4.3,SNR=2.7
ARCES LR LR 10 46 53.6
comp=Z,766nm,18.3s,baz=332,slow=37
ROSF Rostrenen 81.52 40 eP P 10 09 18.6 -0.2
16nm,0.8s

NB2	**NORSAR Subarra**	**81.57**	**25**	P		**P**	**10 09 19.0**	**+0.1**
	comp=Z,14nm,1.1s,baz=307,slow=4.8							
NB2	**NORSAR Subarra**	**81.57**	**25**	P		**P**	**10 09 19.0**	**+0.1**
	baz=307,slow=4.8							
NOA	**NORSAR Array B**	**81.57**	**25**	P		**P**	**10 09 18.8**	**0.0**
NOA	**NORSAR Array B**	**81.57**	**25**	P		**P**	**10 09 18.8**	**0.0**
	comp=Z,0.5nm,0.7s,baz=310,slow=5.2,SNR=3.5							
QUIF	**Quistinic**	**81.78**	**41**	*e*P		**P**	**10 09 21.2**	**+1.1**
	comp=Z,54nm,1.1s							
KONO	**Kongsberg**	**81.79**	**27**	*e*P		**P**	**10 09 19.1**	**-0.9**
	comp=Z,34nm,1.4s							
POLO	**Lamas de Olo**	**81.89**	**48**	*e*P		P	10 09 24.6	+3.6
	comp=Z,16nm,1.4s							
SGMF	**Saint Gilles**	**81.97**	**40**	*e*P		**P**	**10 09 22.3**	**+1.1**
PVIS	**Viseu**	**82.11**	**49**	*e*P		**P**	**10 09 24.4**	**+2.2**
	comp=Z,21nm,1.2s							
MTE	**Manteigas**	**82.50**	**49**	P		**P**	**10 09 26.5**	**+2.4**
	comp=Z,17nm,0.9s							
MVO	**Moncorvo**	**82.50**	**48**	*e*P		**P**	**10 09 27.0**	**+2.8**
	comp=Z,13nm,2.0s							
PMTG	**Montargil**	**82.62**	**50**	*e*P		**P**	**10 09 27.5**	**+2.7**
	comp=Z,18nm,1.0s							
GRR	**Gorron**	**82.89**	**39**	*e*P		**P**	**10 09 26.1**	**+0.1**
	comp=Z,28nm,0.9s							
FLN	**La Foliniere**	**82.92**	**39**	*e*P		**P**	**10 09 27.6**	**+1.5**
	comp=Z,85nm,1.3s,baz=319							
FLN				*e*R				
	comp=Z,1μm,22.0s							
EVO	**Evora**	**83.01**	**51**	*e*P		**P**	**10 09 25.8**	**-1.0**
	comp=Z,32nm,1.3s							
EVO				*e*R				
	comp=Z,1μm,21.5s							
HFS	**Hagfors**	**83.09**	**25**	P		**P**	**10 09 27.4**	**+0.6**
HFS	**Hagfors**	**83.09**	**25**	P		**P**	**10 09 27.4**	**+0.6**
	comp=Z,4.1nm,0.7s,baz=308,slow=7.3,SNR=6.1							
LDF	**La Druitiere**	**83.21**	**39**	*e*P		**P**	**10 09 28.5**	**+0.9**
	comp=Z,51nm,1.3s							
PCVE	**Castro Verde**	**83.40**	**52**	*e*P		**P**	**10 09 30.6**	**+1.8**
	comp=Z,22nm,0.2s							
MUD	**Monsted U'grnd**	**83.54**	**29**	*i* P		**P**	**10 09 29.9**	**+0.8**
MUD				*e*			10 09 36.2	
MFF	**Saint Martin d**	**84.22**	**41**	*e*P		**P**	**10 09 33.4**	**+0.6**
ASAJ	**Asahikawa**	**84.46**	**316**	*e*P		**P**	**10 09 34.6**	**+0.5**
	comp=Z,9.8nm,0.9s							
ASAJ	**Asahikawa**	**84.46**	**316**	P		**P**	**10 09 34.6**	**+0.5**
	comp=Z,16nm,0.8s,baz=101,slow=5.2,SNR=14							
BAIF	**Baives**	**84.82**	**36**	*e*P		**P**	**10 09 35.8**	**0.0**
	comp=Z,18nm,1.1s							
PAB	**San Pablo**	**85.06**	**48**	*e*P		**P**	**10 09 38.1**	**+0.7**
	comp=Z,5.1nm,0.8s							
ESDC	**Sonseca Array**	**85.26**	**48**	P		**P**	**10 09 38.9**	**+0.6**
ESDC	**Sonseca Array**	**85.26**	**48**	P		**P**	**10 09 38.9**	**+0.6**
	comp=Z,0.2nm,0.2s,baz=298,slow=2.8,SNR=3.7							
TCF	**Toulx Ste Croi**	**85.77**	**40**	*e*P		**P**	**10 09 40.1**	**-0.6**
	comp=Z,14nm,1.0s							
ETSF	**Etsaut**	**85.87**	**44**	*e*P		**P**	**10 09 40.3**	**-1.0**
	comp=Z,7.9nm,0.8s							
RJF	**Les Rejaudoux**	**85.89**	**41**	*e*P		**P**	**10 09 42.2**	**+0.9**
	comp=Z,12nm,0.8s							
RJF				*e*R				
	comp=Z,690nm,21.0s							
BGF	**Bois d'Agland**	**85.99**	**40**	*e*P		**P**	**10 09 40.1**	**-1.6**
SSF	**Saint Saulge**	**86.09**	**39**	*e*P		**P**	**10 09 41.7**	**-0.5**
	comp=Z,22nm,1.1s							
AVF	**Avril sur Loir**	**86.16**	**39**	*e*P		**P**	**10 09 41.7**	**-0.8**
	comp=Z,15nm,1.1s							
LOR	**Lormes**	**86.18**	**39**	*e*P		**P**	**10 09 42.3**	**-0.4**
	comp=Z,20nm,1.0s							
LOR				*e*R				
	comp=Z,890nm,20.8s							
EPF	**Esparros**	**86.37**	**44**	*e*P		**P**	**10 09 43.3**	**-0.4**
	comp=Z,6.0nm,0.7s							
FINES	**FINESS Array B**	**86.41**	**20**	P		**P**	**10 09 43.7**	**+0.3**
FINES	**FINESS Array B**	**86.41**	**20**	P		**P**	**10 09 43.7**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=352,slow=2.8,SNR=2.8							
FINES				LR		LR	10 47 44.6	
	comp=Z,694nm,19.0s,baz=119,slow=35							
CAF	**Calviac**	**86.42**	**41**	*e*P		**P**	**10 09 43.3**	**-0.6**
	comp=Z,7.2nm,1.0s							
SMF	**Signal de Mont**	**86.52**	**39**	*e*P		**P**	**10 09 43.4**	**-0.9**
USHA	**Ushuaia**	**87.34**	**158**	P		**P**	**10 09 50.2**	**+2.4**
USHA	**Ushuaia**	**87.34**	**158**	P		**P**	**10 09 50.2**	**+2.4**
	comp=Z,9.5nm,1.2s,baz=326,slow=3.6,SNR=3.1							
MTLF	**Montolieu**	**87.37**	**43**	*e*P		**P**	**10 09 47.5**	**-1.0**
	comp=Z,12nm,1.0s							
CLL	**Collm**	**88.53**	**32**	*e*(S)		S	10 20 33.0	-6.9
CLL				*e*SS		**SS**	**10 26 36.0**	**+6.8**
CLL				*e*SSS		SSS	10 30 12.0	
CLL				*e*SSSS			10 33 24.0	
CLL				Lm		MLR	10 48 00.0	
	comp=N,600nm,20.1s							
CLL				Lm		MLR	10 48 00.0	
	comp=E,800nm,18.8s							
CLL				Lm		MLR	10 48 00.0	
	comp=Z,1μm,20.2s							
LPG	**La Plagne**	**88.83**	**39**	*e*P		**P**	**10 09 56.1**	**+0.3**
SMRF	**Simiane la Rot**	**89.03**	**41**	*e*P		**P**	**10 09 57.1**	**+0.6**
	comp=Z,7.1nm,0.8s							
PVCC	**Panska Ves**	**89.79**	**32**	AMS		AMS	10 48 50.0	
	comp=Z,1μm,18.9s							
PRU	**Pruhonice**	**90.14**	**32**	AMS		AMS	10 52 10.0	
	comp=Z,700nm,16.4s							
KHC	**Kasperske Hory**	**90.23**	**33**	AMS		AMS	10 48 40.0	
	comp=Z,1μm,19.0s							
GERES	**GERESS Array B**	**90.48**	**34**	P		**P**	**10 10 01.8**	**-1.5**
GERES	**GERESS Array B**	**90.48**	**34**	P		**P**	**10 10 01.8**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=345,slow=3.0,SNR=2.1							
GERES				LR		LR	10 49 16.9	
	comp=Z,921nm,19.5s,baz=34,slow=35							
DPC	**Dobruska-Polom**	**90.74**	**31**	AMS		AMS	10 50 00.0	
USRK	**Ussuriysk Arra**	**90.77**	**321**	P		**P**	**10 10 03.7**	**-0.8**
	comp=Z,2.8nm,1.0s,baz=77,slow=4.2,SNR=3.6							
TREC	**Trest**	**91.06**	**32**	AMS		AMS	10 52 50.0	
	comp=Z,700nm,17.2s							
MJAR	**Matsushiro Arr**	**91.28**	**312**	P		**P**	**10 10 05.8**	**-1.4**
MJAR	**Matsushiro Arr**	**91.28**	**312**	P		**P**	**10 10 05.7**	**-1.4**
	comp=Z,4.3nm,1.1s,baz=29,slow=2.4,SNR=7.0							
MAJO	**Matsushiro**	**91.28**	**312**	*e*P		**P**	**10 10 07.6**	**+0.5**
	comp=Z,7.1nm,0.8s							
MDJ	**Mudanjiang**	**91.86**	**322**	P		**P**	**10 10 09.6**	**0.0**
MDJ				PP		**PP**	**10 13 46.0**	**-2.0**
MDJ				S		**S**	**10 21 09.4**	**-1.5**
MDJ				ScS		**ScS**	**10 21 12.0**	**-1.5**
MDJ				SS		**SS**	**10 27 13.2**	**-4.5**
MDJ				pmax		pmax		
	comp=Z,3.0nm,0.4s							
MDJ				pmax		pmax		
	comp=Z,110nm,10.3s							
MDJ				LR		LR		
	comp=N,280nm,25.6s							
MDJ				LR		LR		
	comp=E,170nm,25.6s							
MDJ				LR		LR		
	comp=Z,190nm,31.6s							
OKC	**Ostrava-Krasne**	**91.95**	**31**	AMS		AMS	10 52 10.0	
	comp=Z,600nm,15.3s							
DZM	**Mont Dzumac**	**94.05**	**248**	*e*S		S	10 21 24.1	-7.0
	comp=Z,226nm,24.8s							
DZM	**Mont Dzumac**	**94.05**	**248**	*e*LR		LR	10 40 34.4	
	comp=Z,1μm,24.4s							
CN2	**Changchun**	**94.66**	**323**	*e*P		P	10 10 17.9	-4.6
CN2				*e*S		S	10 21 26.1	-10
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CN2				pmax		pmax		
	comp=Z,200nm,5.0s							
CN2				LR		LR		
	comp=N,300nm,19.0s							
CN2				LR		LR		
	comp=E,200nm,19.0s							
CN2				LR		LR		
	comp=Z,300nm,20.0s							
AKASG	**Malin Array Be**	**95.98**	**25**	LR		LR	10 53 16.4	
	comp=Z,854nm,20.9s,baz=295,slow=35							
ZALV	**Zalesovo Beam**	**100.03**	**351**	LR		LR	10 57 47.5	
	comp=Z,362nm,18.4s,baz=70,slow=36							
BRTR	**Keskin Array B**	**106.73**	**29**	PKiKP		**PKiKP**	**10 15 30.9**	**+3.8**
BRTR	**Keskin Array B**	**106.73**	**29**	PKiKP		**PKiKP**	**10 15 30.9**	**+3.8**
	comp=Z,0.4nm,0.4s,baz=122,slow=1.9,SNR=3.8							
MKAR	**Makanchi Array**	**107.37**	**351**	PKiKP		PKiKP	10 15 32.8	+4.8
MKAR	**Makanchi Array**	**107.37**	**351**	PKiKP		PKiKP	10 15 32.8	+4.8
	comp=Z,0.4nm,0.8s,baz=27,slow=0.3,SNR=3.6							
WMQ	**Urumqi**	**109.34**	**347**	Pdif		**Pdif**	**10 11 32.1**	**+3.9**
WMQ				PP		PP	10 16 08.4	+8.5
WMQ				S		**Sdif**	**10 23 40.0**	**+0.6**
WMQ				LR		LR		
	comp=N,630nm,19.0s							
WMQ				LR		LR		
	comp=E,430nm,19.0s							
WMQ				LR		LR		
	comp=Z,310nm,30.6s							
GTA	**Gaotai**	**109.94**	**336**	*e*PKP		**PKiKP**	**10 15 28.9**	**-4.2**
GTA				PP		**PP**	**10 16 07.1**	**+2.5**
LZH	**Lanzhou**	**111.19**	**331**	*e*PKP		**PKiKP**	**10 15 32.0**	**-3.6**
LZH				sPKP			10 15 42.7	
CD2	**Chengdu**	**115.56**	**328**	PKP		**PKPdf**	**10 15 44.0**	**0.0**
CD2				PP		**PP**	**10 16 49.0**	**+4.1**
CD2				PKS		**PKSdf**	**10 19 19.4**	**-1.4**
CD2				SKS		**SKSdf**	**10 22 53.8**	**-2.6**
CD2				SKKS		**SKKSac**	**10 23 40.8**	**-6.8**
CD2				SS		**SS**	**10 32 42.1**	**-1.5**
CD2				AMB		AMB		
	comp=Z,150nm,5.5s							
GYA	**Guiyang**	**117.70**	**323**	Pdif		**Pdif**	**10 12 05.6**	**-0.3**
GYA				PKP		**PKiKP**	**10 15 48.7**	**+0.4**
GYA				PP		**PP**	**10 17 04.3**	**+4.2**
GYA				PKS		**PKSdf**	**10 19 24.0**	**-1.3**
GYA				SKKS			10 23 55.6	
GYA				SS		**SS**	**10 33 11.0**	**-1.1**
GYA				AMB		AMB		
	comp=Z,140nm,7.8s							
GYA				LR		LR		
	comp=N,180nm,21.6s							
GYA				LR		LR		
	comp=E,150nm,22.9s							
GYA				LR		LR		
	comp=Z,170nm,21.7s							
KMI	**Kunming**	**120.85**	**326**	PKP		**PKPdf**	**10 15 54.7**	**+0.2**
KMI				sPKP			10 15 59.4	
KMI				PP		PP	10 17 28.5	+6.6
KMI				SS		SS	10 33 51.6	-1.2
KMI				AMB		AMB		
	comp=Z,150nm,9.1s							
KMI				LR		LR		
	comp=N,200nm,15.8s							
KMI				LR		LR		
	comp=E,120nm,16.6s							
KMI				LR		LR		
	comp=Z,250nm,18.2s							
WRA	**Warramunga Arr**	**121.21**	**261**	PKP		**PKPdf**	**10 15 57.8**	**+2.9**
WRA	**Warramunga Arr**	**121.21**	**261**	PKP		**PKPdf**	**10 15 57.8**	**+2.9**
	comp=Z,2.2nm,0.8s,baz=62,slow=1.5,SNR=12							
QIZ	**Qiongzhong**	**121.51**	**315**	PKP		**PKPdf**	**10 15 55.3**	**-0.3**
QIZ				PP		**PP**	**10 17 26.1**	**-0.4**
QIZ				SS		SS	10 34 00.9	-0.5
QIZ				LR		LR		
	comp=Z,330nm,36.8s							
CMAR	**Chiang Mai Arr**	**128.32**	**325**	PKP		**PKPdf**	**10 16 12.4**	**+3.8**
CMAR	**Chiang Mai Arr**	**128.32**	**325**	PKP		**PKPdf**	**10 16 12.4**	**+3.8**
	comp=Z,0.6nm,0.3s,baz=348,slow=2.0,SNR=5.0							

IDC ***03*** *10:04:53.6±2.3, 3.79N×75.66W, h21km±14km, mb4.5/34, mb1 4.6/35, mb1mx4.6/38, mbtmp4.5/35, ML4.1/1, MS4.3/2, Ms1 4.4/2, ms1mx3.5/35, Error ellipse: s-maj=13.5km s-min=9.2km az=79.0*

ISCJB ***03*** *10:04:55.9±0.5, 3.74N±0.02×75.73W±0.03, h48km±4km, mb5.0/181, MS5.0/10, Error ellipse: s-maj=4.3km s-min=4.1km az=145.7*

MOS ***03*** *10:04:55.9±1.0, 3.84N×75.70W, h45km, mb5.3/36, Error ellipse: s-maj=11.8km s-min=5.9km az=112.2*

NEIC ***03*** *10:04:57.6±0.4, 3.74N×75.64W, h52km±3km, mb5.2/116, Error ellipse: s-maj=4.1km s-min=3.0km az=64.0*

NEIC Felt [II] at Bogota and Cali. Also felt at Armenia, Ibague, Medellin, Neiva, Pereira and San Juanito.

BJI ***03*** *10:04:57.7, 3.70N×75.60W, h45km, mB5.2/11, Ms5.5/10, Ms7 5.2/9*

ISC 03 10:04:57.3±0.5, 3°68N±0.03×75°65W±0.04, h52km±4km, n803, σ1s16/876, mb5.0/184, MS5.1/10, 194C-222D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BETC	**Betania**	**1.01**	**168**	*i*P	**Pn**	**10 05 12.5**	**-2.7**
BETC				*e*S	**Sn**	**10 05 26.4**	**-2.1**
MALC	**Bahia Malaga**	**1.71**	**281**	*e*P	**Pn**	**10 05 23.7**	**-1.0**
MALC				*e*S	**Sn**	**10 05 48.3**	**+2.8**
ROSC	**El Rosal**	**1.76**	**48**	*e*Pn	**Pn**	**10 05 25.0**	**-0.8**
ROSC				*e*Sn	**Sn**	**10 05 46.2**	**-1.1**
ROSC				Lg	Lg	10 05 49.0	
ROSC				Rg	Rg	10 05 59.9	
ROSC	**El Rosal**	**1.76**	**48**	Pg	**Pn**	**10 05 25.0**	**-0.8**
	435nm,0.3s,baz=282,slow=3.8,SNR=394						
ROSC				Sn	**Sn**	**10 05 45.4**	**-2.0**
	1μm,0.3s,baz=94,slow=22,SNR=8.7						
ROSC				Lg	Lg	10 05 49.0	
	3μm,0.3s,baz=107,slow=19,SNR=46						
ROSC				Rg	Rg	10 05 59.9	
	5μm,0.6s,baz=274,slow=23,SNR=7.6						
CHIC	**Chingaza**	**2.14**	**64**	*e*P	**Pn**	**10 05 30.4**	**-0.6**
CHIC				*e*S	**Sn**	**10 05 58.7**	**+2.1**
TUMC	**Tumaco**	**3.57**	**239**	*e*P	**Pn**	**10 05 49.9**	**-0.3**
TUMC				*e*S	**Sn**	**10 06 34.3**	**+3.0**
OTAV	**Otavalo**	**4.41**	**219**	*e*Pn	**Pn**	**10 06 03.5**	**+1.3**
OTAV				*e*Sn	**Sn**	**10 06 53.6**	**+1.0**
BCIP	**Isla Barro Col**	**6.86**	**323**	*e*Pn	**Pn**	**10 06 34.3**	**-1.0**
	56nm,0.7s						
BCIP				*e*Sn	**Sn**	**10 07 50.9**	**-1.2**
ATAH	**Atahualpa**	**11.08**	**194**	Pn	**Pn**	**10 07 34.1**	**+0.6**
ATAH				Sn	**Sn**	**10 09 31.4**	**-5.0**
ATAH				Lg	Lg	10 10 30.8	
ATAH	**Atahualpa**	**11.08**	**194**	Pn	**Pn**	**10 07 34.1**	**+0.6**
	1.2nm,0.3s,baz=29,slow=6.8,SNR=12						
ATAH				Sn	**Sn**	**10 09 31.4**	**-5.0**
	1.4nm,0.3s,baz=69,slow=18,SNR=1.5						
ATAH				Lg	Lg	10 10 30.8	
	0.8nm,0.3s,baz=271,slow=21,SNR=4.1						
MTDJ	**Mount Denham**	**14.58**	**353**	Pn	**Pn**	**10 08 18.6**	**-2.2**
MTDJ				*e*Sn	**Sn**	**10 11 02.5**	**+1.4**
TGUH	**Tegucigalpa,Un**	**15.43**	**313**	*e*Pn	**Pn**	**10 08 32.6**	**+0.9**
	65nm,1.2s						
NNA	**Nana**	**15.61**	**184**	*e*Pn	**P**	**10 08 36.2**	**-1.2**
NNA				*e*S	**S**	**10 11 38.6**	**-0.5**
SDDR	**Presa de Saban**	**15.80**	**15**	*e*Pn	**Pn**	**10 08 36.3**	**-0.3**
	108nm,1.0s						
GTBY	**Guantanamo Bay**	**16.16**	**2**	*e*Pn	**Pn**	**10 08 41.0**	**0.0**
	45nm,0.8s						
LSP	**Las Mesas**	**16.67**	**30**	*e*Pn	**Pn**	**10 08 46.8**	**-0.8**
LSP				*e*Sn	**Sn**	**10 11 49.4**	**-2.6**
CELP	**Cerrillos**	**16.84**	**31**	*e*Pn	**Pn**	**10 08 48.7**	**-1.0**
LRS	**Lares**	**16.89**	**30**	*e*P	**P**	**10 08 52.6**	**+0.9**
CBYP	**Canovanas**	**17.39**	**33**	*e*P	**P**	**10 08 57.9**	**+0.7**
	38nm,0.9s						
SAML	**Samuel**	**17.66**	**135**	*e*P	**Pn**	**10 08 59.1**	**-0.7**
	1.5nm,1.1s						
SAML				*e*S	**S**	**10 12 24.6**	**+3.7**
ARE	**Arequipa**	**20.43**	**168**	*e*P	Pn	10 09 33.0	-0.3
ARE	**Arequipa**	**20.43**	**168**	*e*P	Pn	10 09 33.0	-0.3
TEIG	**Tepich**	**20.55**	**324**	*e*P	**P**	**10 09 32.0**	**+0.3**
TEIG				PcP	**PcP**	**10 13 46.5**	**+5.0**
TEIG	**Tepich**	**20.55**	**324**	P	**P**	**10 09 31.3**	**-0.4**
	6.0nm,0.6s,baz=191,slow=5.2,SNR=3.9						
TEIG				PcP	**PcP**	**10 13 46.5**	**+5.0**
	13nm,0.9s,baz=115,slow=1.9,SNR=3.5						
LPAZ	**La Paz**	**21.18**	**160**	*e*P	**P**	**10 09 38.3**	**-0.9**
	0.4nm,0.4s						
LPAZ				S	Sn	10 13 48.5	+6.6
LPAZ				Lg	Lg	10 16 03.6	
LPAZ	**La Paz**	**21.18**	**160**	P	**P**	**10 09 38.3**	**-0.9**
	6.8nm,0.8s,baz=343,slow=12,SNR=13						
LPAZ				S	Sn	10 13 48.5	+6.6
	5.1nm,0.9s,baz=21,slow=17,SNR=3.0						
LPAZ				Lg	Lg	10 16 03.6	
	16nm,0.8s,baz=109,slow=0.8,SNR=3.8						
SIV	**San Ignacio**	**24.29**	**144**	P	**P**	**10 10 10.4**	**+0.3**
SIV				Lg	Lg	10 17 29.1	
SIV	**San Ignacio**	**24.29**	**144**	P	**P**	**10 10 10.4**	**+0.3**
	26nm,0.8s,baz=331,slow=11,SNR=40						
SIV				Lg	Lg	10 17 29.1	
	38nm,1.0s,baz=60,slow=17,SNR=4.3						
SIV				LR	LR	10 19 22.3	
	comp=Z,272nm,20.3s,slow=36						
LVC	**Limon Verde**	**26.94**	**166**	*e*P	**P**	**10 10 35.6**	**+1.3**
	96nm,1.2s						
LVC	**Limon Verde**	**26.94**	**166**	P	**P**	**10 10 36.1**	**+1.8**
	28nm,1.1s,baz=347,slow=7.6,SNR=14						
LRAL	**Lakeview Retre**	**31.08**	**341**	*e*P	**P**	**10 11 11.4**	**+0.7**
	72nm,1.2s						
VBMS	**Vicksburg**	**31.64**	**336**	*e*P	**P**	**10 11 15.9**	**+0.3**

	24nm,0.6s							
KMSC	**Kings Mountain**	**31.75**	**351**	⇓P		**P**	**10 11 17.6**	**+1.0**
	baz=32							
CPCT	**Cooper Cave**	**32.67**	**347**	*e*P		**P**	**10 11 25.4**	**+0.8**
TKL	**Tuckaleechee C**	**32.70**	**348**	*e*P		**P**	**10 11 26.0**	**+1.1**
TKL	**Tuckaleechee C**	**32.70**	**348**	P		**P**	**10 11 22.5**	**-2.4**
	11nm,1.1s,baz=161,slow=10,SNR=4.1							
BDFB	**Brasilia**	**33.41**	**126**	P		**P**	**10 11 32.4**	**+0.9**
BDFB				Lg		Lg	10 22 27.9	
BDFB	**Brasilia**	**33.41**	**126**	P		**P**	**10 11 32.4**	**+0.9**
	12nm,1.1s,baz=257,slow=5.6,SNR=5.1							
BDFB				Lg		Lg	10 22 27.9	
	16nm,1.0s,baz=14,slow=22,SNR=3.8							
TZTN	**Tazewell**	**33.51**	**348**	*e*P		**P**	**10 11 33.2**	**+1.2**
	54nm,1.3s							
BLA	**Blacksburg**	**33.66**	**353**	*e*P		P	10 11 38.1	+4.8
BLA				pmax		pmax		
	comp=Z,23nm,1.0s							
BLA	**Blacksburg**	**33.66**	**353**	*e*P		P	10 11 38.1	+4.8
	comp=Z,23nm,1.0s							
732A	**Laxson Ranch,**	**33.99**	**320**	⇓P		**P**	**10 11 34.5**	**-1.7**
	baz=34,SNR=12							
WVT	**Waverly**	**34.20**	**342**	*e*P		**P**	**10 11 37.2**	**-0.7**
WVT				pmax		pmax		
	comp=Z,20nm,0.9s							
WVT	**Waverly**	**34.20**	**342**	*e*P		**P**	**10 11 37.2**	**-0.7**
	comp=Z,20nm,0.9s							
632A	**Uvalde**	**34.40**	**321**	⇓P		**P**	**10 11 39.2**	**-0.6**
	baz=34,SNR=31							
UALR	**University of**	**34.61**	**335**	*e*P		**P**	**10 11 40.7**	**-0.8**
	comp=Z,42nm,1.2s							
HBAR	**Harrisburg**	**34.63**	**338**	*e*P		**P**	**10 11 41.2**	**-0.4**
UTMT	**University of**	**34.72**	**341**	*e*P		**P**	**10 11 42.5**	**+0.1**
	comp=Z,55nm,0.9s							
GNAR	**Gosnell**	**34.76**	**339**	*e*P		**P**	**10 11 42.7**	**-0.1**
	comp=Z,1μm,1.2s							
WHTX	**Lake Whitney**	**34.83**	**326**	⇓P		**P**	**10 11 42.6**	**-0.8**
	baz=35,SNR=12							
631A	**Perdido Creek**	**34.84**	**320**	⇓P		**P**	**10 11 42.7**	**-0.8**
	baz=35,SNR=9.8							
532A	**Rocksprings**	**34.91**	**322**	⇓P		**P**	**10 11 43.5**	**-0.7**
	baz=35,SNR=27							
MIAR	**Mount Ida**	**34.94**	**334**	*e*P		**P**	**10 11 43.1**	**-1.2**
MIAR				pmax		pmax		
	comp=Z,18nm,1.1s							
MIAR	**Mount Ida**	**34.94**	**334**	*e*P		**P**	**10 11 43.1**	**-1.2**
	comp=Z,18nm,1.1s							
JCT	**Junction City**	**35.09**	**322**	*e*P		**P**	**10 11 44.5**	**-1.3**
JCT				pmax		pmax		
	comp=Z,14nm,1.1s							
JCT	**Junction City**	**35.09**	**322**	*e*P		**P**	**10 11 44.5**	**-1.3**
	comp=Z,14nm,1.1s							
JCT	**Junction City**	**35.09**	**322**	⇓P		**P**	**10 11 44.7**	**-1.1**
	baz=35,SNR=7.3							
PARMO	**Parma**	**35.30**	**340**	*e*P		**P**	**10 11 47.4**	**-0.1**
531A	**Rocksprings**	**35.33**	**321**	⇑P		**P**	**10 11 47.1**	**-0.8**
	baz=35,SNR=18							
432A	**Menard**	**35.36**	**323**	⇑P		**P**	**10 11 46.5**	**-1.6**
	baz=35,SNR=6.6							
332A	**Millersview**	**35.69**	**323**	⇑P		**P**	**10 11 49.6**	**-1.3**
	baz=36,SNR=14							
431A	**Sonora**	**35.73**	**322**	⇓P		**P**	**10 11 50.4**	**-0.9**
	baz=36,SNR=19							
WCI	**Wyandotte Cave**	**35.74**	**346**	*e*P		**P**	**10 11 51.5**	**+0.3**
WCI				pmax		pmax		
	comp=Z,46nm,1.3s							
WCI	**Wyandotte Cave**	**35.74**	**346**	*e*P		**P**	**10 11 51.5**	**+0.3**
	comp=Z,46nm,1.3s							
CFAA	**Coronel Fontan**	**35.79**	**169**	P		**P**	**10 11 53.1**	**+1.4**
CFAA	**Coronel Fontan**	**35.79**	**169**	P		**P**	**10 11 53.1**	**+1.4**
	comp=Z,1.1nm,1.0s,baz=343,slow=9.1,SNR=11							
530A	**J-C Ranch, Com**	**35.82**	**320**	⇓P		**P**	**10 11 51.8**	**-0.3**
	baz=36,SNR=19							
USIN	**University of**	**35.85**	**344**	*e*P		**P**	**10 11 51.7**	**-0.5**
	comp=Z,187nm,1.2s							
232A	**Coleman**	**36.00**	**324**	⇑P		**P**	**10 11 52.5**	**-1.1**
	baz=36,SNR=20							
331A	**San Angelo**	**36.05**	**322**	⇓P		**P**	**10 11 52.9**	**-1.1**
	baz=36,SNR=18							
SIUC	**Southern Illin**	**36.09**	**342**	*e*P		**P**	**10 11 53.5**	**-0.7**
	comp=Z,70nm,1.0s							
430A	**Baggett Ranch,**	**36.19**	**321**	⇓P		**P**	**10 11 54.1**	**-1.1**
	baz=36,SNR=6.0							
529A	**Stev Forest Ra**	**36.38**	**319**	⇑P		**P**	**10 11 56.0**	**-0.8**
	baz=36,SNR=13							
628A	**Black Gap, Mar**	**36.41**	**318**	⇓P		**P**	**10 11 57.1**	**0.0**
	baz=36,SNR=12							
231A	**Bronte**	**36.43**	**323**	⇑P		**P**	**10 11 55.7**	**-1.6**
	baz=36,SNR=9.7							
429A	**Davenport Ranc**	**36.50**	**320

baz=39,SNR=30
Z28A **Tucker Farm, M** 38.62 323 ⇓P P 10 12 14.8 -1.0
baz=39,SNR=6.3
425A **Indio Mountain** 38.63 318 ⇑P P 10 12 15.4 -0.6
baz=39,SNR=10
127A **Arkansas Junct** 38.80 321 ⇓P P 10 12 16.1 -1.3
baz=39
226B **Tecolote Peak,** 38.91 320 ⇑P P 10 12 18.3 0.0
baz=39,SNR=14
W30A **Crocket Farms** 38.94 327 ⇓P P 10 12 17.9 -0.5
baz=39,SNR=7.4
Y28A **McKinney Farm,** 38.97 324 ⇑P P 10 12 17.7 -1.0
baz=39,SNR=15
V31A **Spring Creek L** 38.98 328 ⇑P P 10 12 18.5 -0.2
baz=39,SNR=24
X29A **Tulia** 39.03 325 ⇑P P 10 12 18.1 -1.2
baz=39
GDL2 **Guadalupe Moun** 39.12 320 *e*P P 10 12 20.3 +0.3
comp=Z,3.6nm,0.7s
Z27A **Tatum** 39.14 322 ⇑P P 10 12 18.6 -1.6
baz=39,SNR=16
126A **Clayton Basin,** 39.19 321 ⇑P P 10 12 19.5 -1.1
baz=39
MSTX **Muleshoe** 39.32 323 ⇓P P 10 12 20.8 -0.9
baz=39,SNR=32
AMTX **Amarillo** 39.33 325 *e*P P 10 12 21.2 -0.6
comp=Z,50nm,1.1s
AMTX *e*PcP PcP 10 14 30.6 +1.0
225A **Deer Hill, Car** 39.36 319 ⇑P P 10 12 22.2 0.0
baz=39,SNR=10
324A **Moseley Ranch,** 39.38 318 ⇑P P 10 12 21.8 -0.5
baz=39,SNR=23
V30A **Spur Ranch, Mi** 39.43 327 ⇓P P 10 12 22.1 -0.5
baz=40
U31A **Nine Bar Ranch** 39.44 329 ⇓P P 10 12 21.9 -0.7
baz=40,SNR=8.7
MNTX **Cornudas Mount** 39.47 318 *e*P P 10 12 22.5 -0.3
comp=Z,33nm,1.3s
MNTX *e*PcP PcP 10 14 31.1 +1.1
W29A **Amraillo** 39.49 326 ⇑P P 10 12 22.2 -0.9
baz=40,SNR=12
Y27A **Causey** 39.50 323 ⇓P P 10 12 22.1 -1.1
baz=40,SNR=31
Z26A **Caprock** 39.58 321 ⇓P P 10 12 23.0 -0.8
baz=40,SNR=7.5
125A **Gardner Draw,** 39.61 320 ⇑P P 10 12 23.4 -0.7
baz=40
224A **Cornudas Mount** 39.80 319 ⇓P P 10 12 25.3 -0.5
baz=40,SNR=10
W28A **Vega** 39.90 325 ⇓P P 10 12 25.7 -0.8
baz=40
T31A **Randall Ranch,** 39.91 330 ⇓P P 10 12 25.7 -0.8
baz=40,SNR=13
Y26A **Elida** 39.93 322 ⇓P P 10 12 25.8 -1.0
baz=40,SNR=7.6
V29A **Stinnett** 39.96 327 ⇑P P 10 12 26.8 -0.2
baz=40,SNR=14
U30A **WK&E Inc. Balk** 39.98 328 ⇑P P 10 12 26.7 -0.4
baz=40,SNR=12
X27A **F and S Farms,** 39.99 324 ⇓P P 10 12 26.8 -0.4
baz=40,SNR=11
Z25A **Roswell** 40.05 321 ⇑P P 10 12 27.7 -0.1
baz=40,SNR=9.5
KSU1 **Kansas State U** 40.08 334 *e*P P 10 12 26.4 -1.4
comp=Z,77nm,1.1s
124A **Stringfield Ra** 40.15 319 ⇓P P 10 12 28.8 +0.1
baz=40,SNR=18
S31A **Mullinville** 40.22 330 ⇑P P 10 12 28.6 -0.4
baz=40,SNR=28
U29A **Oasis Ranch, S** 40.26 327 ⇑P P 10 12 29.2 -0.2
baz=40
W27A **Bowe Ranch, En** 40.26 324 ⇑P P 10 12 28.8 -0.7
baz=40,SNR=24
V28A **Channing** 40.27 326 ⇓P P 10 12 29.0 -0.5
baz=40
T30A **Plains** 40.31 329 ⇓P P 10 12 29.7 -0.2
baz=40,SNR=10.0
X26A **CR and CF Fran** 40.34 323 ⇓P P 10 12 29.7 -0.5
baz=40,SNR=9.0
Y25A **Mesa, Roswell** 40.46 322 ⇓P P 10 12 31.0 -0.2
baz=40,SNR=16
Z24A **Sheeppen Canyo** 40.49 320 ⇑P P 10 12 31.5 0.0
baz=40,SNR=12
V27A **Dan Oppiter Fa** 40.62 325 ⇑P P 10 12 32.0 -0.4
baz=41,SNR=13
123A **Bell Site, Whi** 40.63 319 ⇓P P 10 12 33.8 +1.1
baz=41,SNR=8.8
W26A **Owens Ranch, T** 40.69 324 ⇑P P 10 12 32.5 -0.5
baz=41
U28A **Mallet** 40.72 326 ⇑P P 10 12 32.7 -0.5
baz=41
S30A **Montezuma** 40.73 329 ⇓P P 10 12 33.0 -0.3
baz=41,SNR=7.6
R31A **Burdett** 40.76 331 ⇑P P 10 12 32.5 -1.0
baz=41,SNR=12
T29A **Hugoton** 40.79 328 ⇑P P 10 12 33.9 0.0
baz=41,SNR=7.4
X25A **Clemmons Ranch** 40.84 322 ⇑P P 10 12 34.8 +0.4
baz=41,SNR=8.7
222A **Williams Famil** 40.87 317 ⇓P P 10 12 34.9 +0.3
baz=41,SNR=8.3
Y24A **Capitan** 40.93 321 ⇑P P 10 12 35.5 +0.4
baz=41,SNR=22
Z23A **Rita Site, Whi** 41.01 319 ⇑P P 10 12 36.7 +1.0
baz=41,SNR=13
FRNY **Flat Rock** 41.03 2 *e*P P 10 12 36.5 +1.0
SADO **Sadowa** 41.04 356 P P 10 12 35.6 0.0
SADO **Sadowa** 41.04 356 P P 10 12 35.6 0.0
comp=Z,9.9nm,0.6s,baz=216,slow=3.8,SNR=12
S29A **Ulysses** 41.05 329 ⇓P P 10 12 35.8 -0.1
baz=41,SNR=12
U27A **Thompson Grove** 41.09 326 ⇓P P 10 12 36.0 -0.3
baz=41,SNR=21
R30A **Dighton** 41.13 330 ⇓P P 10 12 36.3 -0.3
baz=41,SNR=44
122A **Conniff Cattle** 41.16 318 ⇓P P 10 12 37.4 +0.4
baz=41
JFWS **Jewell Farm** 41.18 344 *e*P P 10 12 35.1 -1.6
JFWS pmax pmax
comp=Z,45nm,1.3s
JFWS **Jewell Farm** 41.18 344 *e*P P 10 12 35.1 -1.6
comp=Z,45nm,1.3s
SCIA **State Center** 41.19 340 *e*P P 10 12 35.5 -1.4
comp=Z,47nm,1.1s
SCIA *e*PcP PcP 10 14 35.9 +0.6
W25A **X Bar L Ranch,** 41.19 323 ⇑P P 10 12 37.2 0.0
baz=41,SNR=27
V26A **Tequesquite Ra** 41.19 324 ⇓P P 10 12 37.1 -0.1
baz=41,SNR=46
T28A **Walsh** 41.20 327 ⇑P P 10 12 36.5 -0.8
baz=41
Q31A **Ellis** 41.27 332 ⇓P P 10 12 36.5 -1.1
baz=41,SNR=9.4
221A **Mesquite Ranch** 41.27 317 ⇑P P 10 12 39.1 +1.2
baz=41,SNR=13
Y23A **Lovelace Mesa,** 41.32 320 ⇓P P 10 12 38.1 -0.3
baz=41,SNR=9.2
X24A **Lazy VL Ranch,** 41.34 322 ⇓P P 10 12 39.1 +0.6
baz=41
320A **Kipp Ranch, An** 41.40 315 ⇓P P 10 12 40.1 +1.1
baz=41,SNR=9.5
S28A **Manter** 41.44 328 ⇑P P 10 12 38.9 -0.2
baz=42,SNR=33
Z22A **Elephant Butte** 41.48 319 ⇓P P 10 12 40.5 +0.8
baz=42,SNR=10
T27A **Campo** 41.49 327 ⇓P P 10 12 38.9 -0.7
baz=42,SNR=13
U26A **Atchley Ranch,** 41.59 325 ⇑P P 10 12 40.3 -0.2
baz=42,SNR=35
121A **Cookes Peak, D** 41.59 317 ⇑P P 10 12 41.6 +1.0
baz=42,SNR=35
Q30A **Quinter** 41.64 331 ⇑P P 10 12 40.0 -0.7
baz=42,SNR=28
P31A **Stockton** 41.67 332 ⇑P P 10 12 39.6 -1.3
baz=42,SNR=12
R29A **Marienthal** 41.67 329 ⇓P P 10 12 40.7 -0.3
baz=42,SNR=43
V25A **Rancho No Teng** 41.71 324 ⇑P P 10 12 41.8 +0.3
baz=42,SNR=32
220A **Playas Peak, P** 41.73 316 ⇑P P 10 12 42.5 +0.9
baz=42,SNR=34
W24A **Lazy 6 Ranch,** 41.76 322 ⇓P P 10 12 42.0 +0.1
baz=42,SNR=15
BNM **Barren Site** 41.83 320 *e*P P 10 12 42.9 +0.4
comp=Z,7.8nm,0.8s
Y22A **Socorro** 41.91 320 ⇓P P 10 12 43.7 +0.6
baz=42,SNR=16
319A **Douglas** 41.95 315 ⇓P P 10 12 44.4 +0.9
baz=42,SNR=11
R28A **Tribune** 41.95 329 ⇑P P 10 12 43.1 -0.2
baz=42,SNR=51
U25A **Circle Dot Ran** 41.97 325 ⇑P P 10 12 43.9 +0.3
baz=42,SNR=23
Z21A **St. Cloud Mine** 41.98 318 ⇑P P 10 12 44.7 +0.9
baz=42,SNR=13
V24A **Rampart Ranch,** 42.02 323 ⇓P P 10 12 44.4 +0.3
baz=42,SNR=19
S27A **Las Animas** 42.04 327 ⇑P P 10 12 43.4 -0.7
baz=42
T26A **Comanche Natio** 42.05 326 ⇑P P 10 12 44.1 -0.1
baz=42,SNR=8.2
LENM **Lemitar** 42.06 320 *e*P P 10 12 45.3 +0.9
comp=Z,8.5nm,0.9s
LENM *e*PcP PcP 10 14 41.1 +2.6
P30A **Selden** 42.10 331 ⇓P P 10 12 43.5 -1.0
baz=42,SNR=9.8
120A **U Bar Ranch, L** 42.17 317 ⇓P P 10 12 46.3 +1.0
baz=42,SNR=20
W23A **Werner Place,** 42.18 322 ⇑P P 10 12 45.8 +0.5
baz=42,SNR=9.9
ANMO **Albuquerque** 42.23 321 *e*P P 10 12 45.7 -0.1
comp=Z,30nm,0.9s
X22A **Bernardo** 42.30 320 ⇓P P 10 12 47.3 +1.0
baz=42,SNR=16
S26A **Kim** 42.31 327 ⇑P P 10 12 46.6 +0.3
baz=42,SNR=31
LAZ **Ladron** 42.31 320 *e*P P 10 12 47.3 +0.9
comp=Z,30nm,1.1s
Y21A **Point of Rocks** 42.41 319 ⇓P P 10 12 48.7 +1.4
baz=42,SNR=9.3
R27A **Eads** 42.43 328 ⇓P P 10 12 46.7 -0.5
baz=42,SNR=38
P29A **Atwood** 42.47 331 ⇓P P 10 12 46.9 -0.6
baz=42,SNR=18
Z20A **Nine Sixteen R** 42.48 317 ⇑P P 10 12 48.7 +0.9
baz=42,SNR=17
U24A **Moreno Valley** 42.49 324 ⇓P P 10 12 48.9 +0.9
baz=42,SNR=20
T25A **Trinidad** 42.49 325 ⇓P P 10 12 48.5 +0.7
baz=43,SNR=20
Q28A **Sharon Springs** 42.51 329 ⇑P P 10 12 47.4 -0.5
baz=43,SNR=21
O30A **MW Ranch, Wils** 42.51 332 ⇑P P 10 12 46.3 -1.5
baz=43,SNR=16
W22A **Albuquerque** 42.57 321 ⇑P P 10 12 48.9 +0.3
baz=43,SNR=7.4
V23A **Ortiz Mt. (NFS** 42.58 322 ⇓P P 10 12 49.5 +0.9
baz=43,SNR=32
BGNE **Belgrade** 42.65 335 ⇓P P 10 12 47.5 -1.4
baz=43
X21A **Alamocita Cree** 42.76 320 ⇑P P 10 12 50.7 +0.6
baz=43,SNR=33
R26A **Arlington** 42.79 327 ⇓P P 10 12 49.9 -0.3
baz=43,SNR=24
Y20A **Horse Springs,** 42.81 319 ⇓P P 10 12 51.2 +0.6
baz=43,SNR=20
O29A **4D Ranch, Culb** 42.81 331 ⇓P P 10 12 49.4 -0.9
baz=43
P28A **Saint Francis** 42.86 330 ⇑P P 10 12 50.5 -0.2
baz=43,SNR=43
S25A **Robets Cordova** 42.87 326 ⇑P P 10 12 51.3 +0.3
baz=43,SNR=32
KSCO **Kaye Shedlock'** 42.88 329 ⇑P P 10 12 50.7 -0.1
baz=43,SNR=16
U23A **El Rito** 42.98 323 ⇑P P 10 12 52.4 +0.6
baz=43,SNR=50
N30A **Hueftle Ranch,** 43.02 333 ⇓P P 10 12 50.8 -1.1
baz=43,SNR=8.8
W21A **San Fidel** 43.09 321 ⇓P P 10 12 53.1 +0.3
baz=43
R25A **Fountain Ranch** 43.13 326 ⇓P P 10 12 52.9 -0.1
baz=43,SNR=24
V22A **San Miguel Ran** 43.14 322 ⇓P P 10 12 53.9 +0.7
baz=43,SNR=33
P27A **Ficken Ranch,** 43.26 329 ⇑P P 10 12 53.8 -0.1
baz=43,SNR=30
N29A **Votaw Ranch, W** 43.28 332 ⇑P P 10 12 52.8 -1.2
baz=43,SNR=8.8
X20A **Quemado** 43.28 319 ⇑P P 10 12 55.6 +1.3
baz=43
Q26A **Hugo** 43.28 328 ⇓P P 10 12 54.3 +0.2
baz=43,SNR=20
O28A **Krutsinger Ran** 43.29 331 ⇑P P 10 12 53.7 -0.4
baz=43,SNR=22
S24A **Houchin Ranch,** 43.30 325 ⇑P P 10 12 54.9 +0.4
baz=43,SNR=22
T23A **Casias Ranch,** 43.36 324 ⇑P P 10 12 55.7 +0.7
baz=43,SNR=46
U22A **Llaves** 43.41 323 ⇓P P 10 12 55.5 +0.2
baz=44,SNR=22
TRQA **Tornquist** 43.41 164 *e*P P 10 12 55.8 +0.8
comp=Z,38nm,1.5s
V21A **Milan** 43.52 321 ⇓P P 10 12 57.2 +0.9
baz=44,SNR=10
TUC **Tucson** 43.53 315 *e*P P 10 12 56.5 +0.3
TUC **Tucson** 43.53 315 *e*P P 10 12 56.5 +0.3
SDCO **Great Sand Dun** 43.53 325 *e*P P 10 12 57.1 +0.7
comp=Z,74nm,1.4s
SDCO *e*PcP PcP 10 14 44.8 +1.2
N28A **Pribbeno Ranch** 43.61 331 ⇓P P 10 12 55.4 -1.3
baz=44,SNR=7.5
W20A **Ramah** 43.64 320 ⇓P P 10 12 57.8 +0.6
baz=44,SNR=42
R24A **Sanders Place,** 43.65 326 ⇓P P 10 12 57.7 +0.4
baz=44,SNR=18
P26A **Davis Ranch, A** 43.66 329 ⇓P P 10 12 57.1 0.0
baz=44,SNR=6.3
Q25A **Bedland, Calha** 43.66 327 ⇑P P 10 12 57.0 -0.3
baz=44,SNR=13
O27A **Beecher Island** 43.69 330 ⇑P P 10 12 57.0 -0.3
baz=44,SNR=43
S23A **Nye Farm, Mont** 43.80 325 ⇓P P 10 12 59.2 +0.7
baz=44
M29A **Burnside Ranch** 43.80 333 ⇓P P 10 12 57.0 -1.2
baz=44,SNR=6.4
T22A **Edith** 43.86 323 ⇓P P 10 12 59.2 +0.2
baz=44,SNR=6.8
U21A **Nageezi** 43.93 322 ⇓P P 10 12 60.0 +0.4
baz=44,SNR=20
ECSD **EROS Data Cent** 44.00 338 *e*P P 10 12 57.7 -1.9
comp=Z,45nm,1.1s
ECSD *e*PcP PcP 10 14 45.1 +0.4
R23A **Moffat** 44.03 325 ⇓P P 10 13 00.8 +0.5
baz=44,SNR=25
SPMN **St. Paul** 44.03 343 ⇑P P 10 12 58.2 -1.7
baz=44,SNR=12
V20A **Brimhall** 44.04 321 ⇑P P 10 13 00.9 +0.6
baz=44,SNR=12
OGNE **Ogallala** 44.04 331 *e*P P 10 13 00.6 +0.4
comp=Z,115nm,1.3s
OGNE *e*PcP PcP 10 14 45.8 +0.8
OGNE **Ogallala** 44.04 331 ⇓P P 10 13 00.4 +0.2
baz=44
P25A **Willow Gulch B** 44.05 328 ⇓P P 10 13 00.6 +0.2
baz=44,SNR=47
O26A **Horse Wrangler** 44.15 329 ⇑P P 10 13 00.6 -0.5
baz=44,SNR=11
N27A **Anderson Farm,** 44.18 330 ⇓P P 10 13 00.8 -0.6
baz=44,SNR=15
Q24A **Divide** 44.19 327 ⇑P P 10 13 01.0 -0.7
baz=44,SNR=7.8
L29A **Maesberg Ranch** 44.20 333 ⇑P P 10 13 00.4 -1.0
baz=44
T21A **Navajo Lake** 44.22 323 ⇑P P 10 13 02.4 +0.6
baz=44,SNR=5.9
X18A **Snowflake** 44.23 318 ⇓P P 10 13 02.7 +0.8
baz=44,SNR=24
S22A **4UR Ranch, Cre** 44.30 324 ⇓P P 10 13 03.0 +0.4
baz=44,SNR=30
U20A **Newcomb** 44.43 321 ⇑P P 10 13 03.7 +0.2
baz=44,SNR=8.5
W18A **Petrified Fore** 44.44 319 ⇓P P 10 13 04.3 +0.8
baz=44,SNR=18
PLCA **Paso Flores** 44.44 174 P P 10 13 04.8 +1.5
PLCA PP PP 10 14 48.2 +0.3
PLCA **Paso Flores** 44.44 174 P P 10 13 04.8 +1.5
comp=Z,7.3nm,1.1s,baz=16,slow=7.2,SNR=6.0
PLCA PP PP 10 14 48.2 +0.3
comp=Z,4.0nm,0.9s,baz=11,slow=5.0,SNR=3.3
P24A **Kohler Place,** 44.45 327 ⇓P P 10 13 04.1 +0.5
baz=44
O25A **Wiggins** 44.47 329 ⇓P P 10 13 03.7 +0.1
baz=44
N26A **Koester Ranch,** 44.54 330 ⇓P P 10 13 04.1 -0.1
baz=45
R22A **Saguache, Gunn** 44.59 325 ⇓P P 10 13 05.2 +0.4
baz=45,SNR=19
M27A **Reverse DX Ran** 44.66 331 ⇓P P 10 13 05.2 +0.1
baz=45
K29A **Lazy Trails An** 44.69 334 ⇑P P 10 13 05.6 +0.3
baz=45
214A **Organ Pipe Nat** 44.80 313 ⇑P P 10 13 07.0 +0.7
baz=45,SNR=21
S21A **Coal Bank Pass** 44.82 323 ⇓P P 10 13 06.6 -0.1
baz=45,SNR=30
P23A **Jefferson** 44.86 326 ⇑P P 10 13 07.4 +0.4
baz=45,SNR=11
MVCO **Mesa Verde** 44.95 322 *e*P P 10 13 07.8 +0.1
comp=Z,59nm,1.3s
MVCO *e*PcP PP 10 14 53.5 -0.1
MVCO **Mesa Verde** 44.95 322 ⇑P P 10 13 07.9 +0.1
baz=45,SNR=34
N25A **Grover** 44.97 329 ⇓P P 10 13 08.0 +0.3
baz=45
O24A **Longmont** 44.98 328 ⇑P P 10 13 08.3 +0.5
baz=45,SNR=15
M26A **McRoberts Ranc** 44.98 331 ⇓P P 10 13 07.7 0.0
baz=45
ISCO **Idaho Springs** 45.03 327 *e*P P 10 13 08.5 +0.1
ISCO pmax pmax
comp=Z,61nm,1.3s
ISCO **Idaho Springs** 45.03 327 *e*P P 10 13 08.5 +0.1
comp=Z,60nm,1.3s
ISCO **Idaho Springs** 45.03 327 ⇑P P 10 13 08.5 +0.1
baz=45,SNR=36
Q22A **Crested Butte,** 45.10 325 ⇓P P 10 13 09.4 +0.4
baz=45,SNR=17
K28A **Ten Mile Ranch** 45.11 333 ⇓P P 10 13 07.8 -0.9
baz=45,SNR=12
R21A **Cimarron** 45.14 324 ⇓P P 10 13 09.0 -0.2
baz=45,SNR=16
X16A **Lo Mia Camp, P** 45.17 317 ⇑P P 10 13 10.1 +0.7
baz=45,SNR=22
S20A **Disappointment** 45.27 323 ⇓P P 10 13 10.6 +0.4
baz=45,SNR=41
SMCO **Snowmass** 45.36 325 *e*P P 10 13 11.6 +0.6
comp=Z,24nm,1.1s
SMCO *e*PcP PcP 10 14 51.3 +1.4
L26A **Underwood Farm** 45.38 331 ⇑P P 10 13 10.7 -0.2
baz=46
N24A **Carr** 45.38 329 ⇓P P 10 13 11.5 +0.5
baz=46,SNR=39
M25A **Palm-Egli Farm** 45.41 330 ⇓P P 10 13 11.2 +0.1
baz=46
Q21A **Lamborn Mesa,** 45.47 325 ⇑P P 10 13 11.7 0.0
baz=46,SNR=11
O23A **Lake Granby, G** 45.49 327 ⇓P P 10 13 12.1 +0.1
baz=46,SNR=24
BRSD **Miller** 45.50 337 ⇓P P 10 13 09.4 -2.2
baz=46,SNR=9.2
K27A **Fluecknger Fa** 45.50 332 ⇓P P 10 13 10.8 -1.0
baz=46,SNR=16
R20A **Redvale** 45.51 323 ⇓P P 10 13 12.8 +0.7
baz=46,SNR=41
P22A **Eagle** 45.52 326 ⇓P P 10 13 12.1 -0.1
baz=46,SNR=21
PV01 **Paradox Valley** 45.59 323 *e*P P 10 13 13.4 +0.7
J28A **Allard Ranch,** 45.62 334 ⇑P P 10 13 10.8 -1.8
baz=46,SNR=15
Z14A **Wintersburg** 45.63 315 ⇑P P 10 13 13.5 +0.6
baz=46,SNR=8.9
WUAZ **Wupatki** 45.75 318 *e*P P 10 13 14.5 +0.5
comp=Z,40nm,1.0s
WUAZ *e*PcP PcP 10 14 52.5 +1.5
WUAZ **Wupatki** 45.75 318 ⇓P P 10 13 14.7 +0.8
baz=46,SNR=28
O22A **Kremmling** 45.80 327 ⇓P P 10 13 14.3 -0.2
baz=46,SNR=38
M24A **Cheyenne** 45.82 329 ⇓P P 10 13 14.7 +0.3
baz=46,SNR=8.1
L25A **Engebretsen Ra** 45.91 331 ⇑P P 10 13 14.9 -0.1
baz=46
113A **Mohawk Valley,** 45.91 314 ⇓P P 10 13 15.7 +0.6
baz=46,SNR=16
K26A **Motz Farm, Whi** 45.94 332 ⇓P P 10 13 15.1 -0.2
baz=46
PV04 **Paradox Valley** 45.96 323 *e*P P 10 13 16.2 +0.6
PV04 *e*PcP PcP 10 14 56.6 +4.9
Q20A **Ridgley Place,** 45.97 324 ⇓P P 10 13 16.0 +0.4
baz=46,SNR=19
Y14A **Wickenburg** 45.98 315 ⇓P P 10 13 16.1 +0.5
baz=46,SNR=6.3
N23A **Red Feather La** 45.99 328 ⇓P P 10 13 16.3 +0.4
baz=46,SNR=28
PHWY **Pilot Hill** 46.03 329 *e*P P 10 13 16.2 0.0
comp=Z,58nm,1.3s
PHWY *e*PcP PcP 10 14 51.6 -0.5
EYMN **Ely** 46.16 345 *e*P P 10 13 15.4 -1.4
comp=Z,48nm,1.2s
EYMN *e*PcP PcP 10 14 51.5 -0.5
N22A **Wattenberg Ran** 46.20 327 ⇑P P 10 13 17.8 +0.3
baz=46,SNR=9.8
L24A **Wheatland** 46.30 330 ⇑P P 10 13 18.0 -0.1
baz=46,SNR=16
O21A **Pagoda** 46.35 326 ⇓P P 10 13 19.0 +0.4
baz=46,SNR=11
P20A **De Beque** 46.38 325 ⇓P P 10 13 18.8 -0.1
baz=46,SNR=12
M22A **Cedar Creek Ra** 46.70 328 ⇓P P 10 13 21.6 +0.2
baz=47,SNR=12
O20A **White River Ci** 46.72 325 ⇓P P 10 13 21.6 +0.1
baz=47,SNR=11
L23A **Garrett** 46.74 329 ⇓P P 10 13 21.3 -0.4
baz=47,SNR=30
K24A **Anderson Ranch** 46.75 330 ⇓P P 10 13 21.5 -0.1
baz=47
N21A **Black Mountain** 46.75 327 ⇑P P 10 13 21.9 +0.2
baz=47,SNR=11
J25A **Sunshine Ranch** 46.76 332 ⇓P P 10 13 21.6 -0.1
baz=47
P19A **Cripple Cowboy** 46.81 324 ⇑P P 10 13 22.1 -0.3
baz=47,SNR=17
GLA **Glamis** 46.82 313 *e*P P 10 13 23.2 +1.0
GLA pmax pmax
comp=Z,46nm,1.4s
GLA **Glamis** 46.82 313 *e*P P 10 13 23.2 +1.0
comp=Z,46nm,1.4s
GLA **Glamis** 46.82 313 ⇑P P 10 13 22.5 +0.3
baz=47,SNR=7.8
U15A **North Rim** 46.88 319 ⇓P P 10 13 23.5 +0.5
baz=47,SNR=20
H27A **Howes** 46.95 334 ⇑P P 10 13 21.8 -1.3
baz=47
Y12C **Blythe** 46.96 314 ⇓P P 10 13 23.9 +0.6
baz=47,SNR=12
PDMCI **Parker Dam,Lak** 46.97 315 ⇑P P 10 13 23.8 +0.4
baz=47
L22A **Ellis Ranch, M** 47.06 329 ⇑P P 10 13 24.9 +0.7
baz=47,SNR=20
J24A **Dixon Ranch, L** 47.13 331 ⇑P P 10 13 24.7 +0.2
baz=47,SNR=8.6
K23A **Bowen Ranch, D** 47.17 330 ⇓P P 10 13 24.9 0.0
baz=47,SNR=11
N20A **Spence Gulch,** 47.21 326 ⇑P P 10 13 25.4 0.0
baz=47,SNR=19
I25A **Rochford** 47.21 332 ⇑P P 10 13 25.4 +0.1
baz=47
W13A **Hualapai Mount** 47.22 316 ⇓P P 10 13 26.1 +0.5
baz=47,SNR=17
H26A **Fairpoint** 47.24 334 ⇑P P 10 13 23.8 -1.6
baz=47
M21A **Separation Pea** 47.25 328 ⇑P P 10 13 25.6 -0.1
baz=47,SNR=14
O19A **Miners Draw (B** 47.34 325 ⇓P P 10 13 25.9 -0.4
baz=47,SNR=18
SRU **San Rafael** 47.39 323 *e*P P 10 13 26.8 0.0
SRU *e* 10 15 01.6
SRU pmax pmax
comp=Z,49nm,1.1s
SRU **San Rafael** 47.39 323 *e*P P 10 13 26.8 0.0
comp=Z,48nm,1.1s
SRU *e*PcP PcP 10 15 01.6 +4.8
SWSC **Sam W. Stewart** 47.47 313 ⇑P P 10 13 27.2 0.0
baz=48
L21A **Rawlins** 47.51 328 ⇓P P 10 13 27.4 -0.3
baz=48,SNR=15
I24A **Kuemmerle Ranc** 47.51 332 ⇓P P 10 13 27.4 -0.1
baz=48,SNR=9.2
K22A **Casper** 47.55 329 ⇓P P 10 13 27.9 -0.1
baz=48,SNR=17
BC3 **Big Chuckawall** 47.58 314 ⇓P P 10 13 28.8 +0.6
baz=48,SNR=13
IRM **Iron Mountain** 47.61 314 ⇓P P 10 13 29.3 +0.9
baz=48,SNR=26

H25A **Fruitdale** 47.61 333 ⇑P P 10 13 27.3 -1.0
baz=48
J23A **Dilts Ranch, B** 47.61 331 ⇑P P 10 13 28.7 +0.4
baz=48,SNR=11
M20A **Sweetwater, Wa** 47.62 327 ⇓P P 10 13 28.6 0.0
baz=48,SNR=16
Q16A **Castle Valley** 47.66 322 ⇑P P 10 13 29.1 +0.2
baz=48,SNR=10
AGMN **Agassiz Nation** 47.72 342 eP P 10 13 27.2 -1.7
comp=Z,78nm,1.4s
AGMN ePcP PcP 10 14 57.1 -0.4
MONP **Monument Peak** 47.91 312 ⇑P P 10 13 31.0 +0.1
baz=48
TMUT **Trail Mountain** 47.92 323 eP P 10 13 31.6 +0.5
comp=Z,40nm,1.3s
TMUT ePcP PcP 10 14 59.6 +0.7
MSU **Marysvale** 48.04 321 eP P 10 13 32.3 +0.4
MSU pmax pmax
comp=Z,27nm,1.1s
MSU **Marysvale** 48.04 321 eP P 10 13 32.3 +0.4
comp=Z,27nm,1.1s
L20A **Wamsutter** 48.05 327 ⇓P P 10 13 31.7 -0.2
baz=48,SNR=13
MVU **Marysvale** 48.06 321 eP P 10 13 32.6 +0.6
comp=Z,39nm,1.1s
LDFC **Landfair** 48.06 316 eP P 10 13 33.5 +1.6
comp=Z,66nm,1.4s
J22A **Midwest** 48.08 330 ⇓P P 10 13 31.7 -0.3
baz=48,SNR=36
BELC **Belle Mtn. Jos** 48.14 314 ⇓P P 10 13 33.2 +0.6
baz=48,SNR=23
H24A **Dirks Ranch, A** 48.15 332 ⇓P P 10 13 31.6 -0.8
baz=48,SNR=25
M19A **Rock Springs** 48.16 326 ⇑P P 10 13 32.0 -0.7
baz=48
CCUT **Cedar City** 48.23 319 eP P 10 13 33.8 +0.5
comp=Z,14nm,1.0s
CCUT ePcP PcP 10 15 01.7 +1.8
PFO **Pinyon Flat Ob** 48.28 313 eP P 10 13 34.7 +1.0
comp=Z,31nm,1.5s
PFO ePcP PcP 10 15 01.4 +1.4
PFO **Pinyon Flat Ob** 48.28 313 ⇓P P 10 13 33.1 -0.5
baz=48,SNR=8.8
GMRC **Granite Mounta** 48.29 315 ⇑P P 10 13 33.9 +0.1
baz=48,SNR=13
H23A **Clabaugh Cattl** 48.40 332 ⇓P P 10 13 33.2 -1.2
baz=48
109C **Camp Elliot, M** 48.41 312 ⇑P P 10 13 34.3 -0.3
baz=48
ARUT **Antelope Range** 48.42 320 eP P 10 13 35.6 +0.9
ARUT pmax pmax
comp=Z,19nm,0.8s
ARUT **Antelope Range** 48.42 320 eP P 10 13 35.6 +0.9
comp=Z,19nm,0.8s
I22A **9 Mile Ranch,** 48.43 330 ⇓P P 10 13 34.2 -0.5
baz=48,SNR=20
K20A **Yellowstone Ra** 48.51 328 ⇑P P 10 13 34.8 -0.5
baz=49,SNR=27
J21A **Lysite** 48.52 329 ⇓P P 10 13 35.2 -0.2
baz=49,SNR=32
G24A **Alzada** 48.53 333 ⇓P P 10 13 33.9 -1.4
baz=49
E26A **Carlson Angus** 48.58 335 ⇓P P 10 13 34.1 -1.5
baz=49,SNR=10
MDND **Maddock** 48.59 339 ⇓P P 10 13 33.9 -1.8
baz=49,SNR=6.5
MPU **Maple Canyon** 48.63 323 eP P 10 13 36.5 +0.2
comp=Z,49nm,1.1s
DAU **Daniels Canyon** 48.65 324 eP P 10 13 37.2 +0.6
DAU e 10 15 06.8
DAU pmax pmax
comp=Z,73nm,1.2s
DAU **Daniels Canyon** 48.65 324 eP P 10 13 37.2 +0.6
comp=Z,72nm,1.2s
DAU ePcP PcP 10 15 06.8 +5.3
L19A **Farson** 48.67 327 ⇓P P 10 13 36.2 -0.4
baz=49,SNR=19
I21A **Big Trails, Te** 48.78 330 ⇓P P 10 13 36.4 -0.9
baz=49,SNR=27
HEC **Hector,Ludlow** 48.79 315 ⇑P P 10 13 38.0 +0.4
baz=49,SNR=6.5
TUQ **Turquoise Moun** 48.81 315 ⇓P P 10 13 38.0 +0.2
baz=49,SNR=10.0
MURC **Murrieta** 48.82 313 ⇓P P 10 13 38.0 +0.3
baz=49
J20A **Shoshoni** 48.86 329 ⇓P P 10 13 38.3 +0.3
baz=49,SNR=40
G23A **Biddle** 48.88 332 ⇓P P 10 13 37.2 -0.8
baz=49,SNR=16
H22A **Clearmont** 48.88 331 ⇓P P 10 13 37.6 -0.5
baz=49,SNR=7.6
K19A **Absolon Red Bu** 48.89 328 ⇑P P 10 13 37.5 -0.8
baz=49,SNR=20
L18A **Fontenelle, Gr** 48.93 326 ⇓P P 10 13 38.3 -0.3
baz=49
BBRC **Big Bear Solar** 48.94 314 ⇓P P 10 13 39.8 +0.9
baz=49,SNR=11
F24A **Ekalaka** 48.94 333 ⇑P P 10 13 37.2 -1.3
baz=49,SNR=9.7
M17A **Scullys Gap (B** 48.99 325 ⇑P P 10 13 38.5 -0.6
baz=49,SNR=14
E25A **Miller Ranch,** 48.99 335 ⇑P P 10 13 38.0 -0.8
baz=49,SNR=8.7
BW06 **Boulder Array** 49.23 327 eP P 10 13 40.6 -0.3
comp=Z,44nm,1.3s
PDAR **Pinedale Array** 49.23 327 P P 10 13 40.4 -0.6
PDAR PcP PcP 10 15 03.7 +0.3
PDAR ScP ScP 10 18 59.4 +4.9
PDAR **Pinedale Array** 49.23 327 P P 10 13 40.4 -0.6
comp=Z,9.0nm,0.6s,baz=129,slow=8.7,SNR=71
PDAR PcP PcP 10 15 03.7 +0.3
comp=Z,2.2nm,0.7s,baz=129,slow=8.3,SNR=2.2
PDAR ScP ScP 10 18 59.4 +4.9
comp=Z,0.7nm,0.8s,baz=123,slow=3.3,SNR=4.6
H21A **Big Horn, Sher** 49.24 331 ⇓P P 10 13 39.7 -1.1
baz=49,SNR=8.0
F23A **Volborg** 49.28 333 ⇑P P 10 13 40.2 -0.9
baz=49,SNR=34
I20A **Worland** 49.30 329 ⇑P P 10 13 41.3 0.0
baz=49
SHOC **Shoshone** 49.30 316 ⇑P P 10 13 41.8 +0.5
baz=49,SNR=6.0
J19A **Crowheart** 49.30 328 ⇑P P 10 13 41.0 -0.4
baz=49,SNR=19
G22A **Birney** 49.31 332 ⇓P P 10 13 40.9 -0.4
baz=49,SNR=31
GSC **Goldstone** 49.37 315 eP P 10 13 42.7 +0.8
GSC pmax pmax
comp=Z,26nm,1.2s
GSC **Goldstone** 49.37 315 eP P 10 13 42.7 +0.8
comp=Z,26nm,1.2s
GSC **Goldstone** 49.37 315 ⇑P P 10 13 42.3 +0.4
baz=49,SNR=10
E24A **Baker** 49.43 334 ⇓P P 10 13 41.2 -1.0
baz=50,SNR=10.0
DUG **Dugway** 49.45 322 eP P 10 13 43.1 +0.6
DUG e 10 15 05.3
DUG pmax pmax
comp=Z,73nm,1.3s
DUG **Dugway** 49.45 322 eP P 10 13 43.1 +0.6
comp=Z,73nm,1.3s
DUG ePcP PcP 10 15 05.3 +1.1
DUG **Dugway** 49.45 322 ⇓P P 10 13 42.7 +0.2
baz=50,SNR=43
BFSC **Mount Baldy Ra** 49.46 313 ⇑P P 10 13 43.0 +0.3
baz=50
ULM **Lac du Bonnet** 49.46 343 P P 10 13 40.4 -1.8
ULM PcP PcP 10 15 02.6 -1.1
ULM **Lac du Bonnet** 49.46 343 P P 10 13 40.4 -1.8
comp=Z,12nm,0.8s,baz=153,slow=6.8,SNR=6.1
ULM PcP PcP 10 15 02.6 -1.1
comp=Z,5.9nm,0.9s,baz=138,slow=7.4,SNR=3.0
HWUT **Hardware Ranch** 49.59 325 eP P 10 13 43.3 -0.3
comp=Z,14nm,0.7s
H20A **Greybull** 49.62 330 ⇑P P 10 13 42.6 -1.1
baz=50
F22A **Rosebud** 49.72 332 ⇑P P 10 13 43.4 -1.0
baz=50,SNR=7.1
G21A **Lodge Grass** 49.76 331 ⇓P P 10 13 43.7 -1.1
baz=50,SNR=9.5
I19A **Meeteetse** 49.80 329 ⇓P P 10 13 44.9 -0.4
baz=50,SNR=25
PASC **Pasadena Art C** 49.81 313 eP P 10 13 45.9 +0.7
comp=Z,26nm,1.4s
E23A **Ismay** 49.82 333 ⇓P P 10 13 44.1 -1.1
baz=50,SNR=13
D24A **Glendive** 49.87 335 ⇑P P 10 13 45.2 -0.3
baz=50,SNR=23
DECC **Green Verdugo** 49.95 313 ⇑P P 10 13 46.4 +0.1
baz=50
FURC **Furnace Creek,** 49.99 316 ⇓P P 10 13 47.4 +0.8
baz=50,SNR=25
EDW2 **Edwards Air Fo** 50.01 314 ⇓P P 10 13 46.9 +0.2
baz=50,SNR=9.4
I18A **Diamond G Ranc** 50.01 328 ⇓P P 10 13 46.4 -0.5
baz=50,SNR=7.1
LRMC **Laurel Mountai** 50.08 315 ⇑P P 10 13 47.5 +0.1
baz=50
MPMC **Manual Prospec** 50.23 315 ⇓P P 10 13 48.5 -0.1
baz=50,SNR=12
C24A **Savage** 50.24 335 ⇓P P 10 13 47.6 -0.7
baz=50,SNR=18
H19A **Powell** 50.24 329 ⇓P P 10 13 47.7 -0.8
baz=50,SNR=10
G20A **Bridger** 50.25 330 ⇓P P 10 13 47.5 -1.0
baz=50,SNR=12
D23A **Lindsay** 50.30 334 ⇓P P 10 13 48.5 -0.2
baz=50,SNR=28
REDW **Red Top Meadow** 50.33 327 eP P 10 13 49.6 +0.2
comp=Z,1.6nm,1.3s
SNOW **Snow King Moun** 50.35 327 eP P 10 13 49.3 -0.2
comp=Z,51nm,1.1s
LOHW **Long Hollow** 50.37 327 eP P 10 13 49.1 -0.5
comp=Z,65nm,1.3s
HVU **Hansel Valley** 50.40 324 eP P 10 13 49.6 -0.2
HVU pmax pmax
comp=Z,19nm,1.1s
HVU **Hansel Valley** 50.40 324 eP P 10 13 49.6 -0.2
comp=Z,19nm,1.1s
TPAW **Teton Pass** 50.47 327 eP P 10 13 50.1 -0.3
comp=Z,24nm,0.8s
MOOW **Moose Ponds** 50.53 327 eP P 10 13 50.5 -0.3
comp=Z,32nm,1.0s
I17A **Pilgrim Ck.** 50.56 328 ⇓P P 10 13 50.8 -0.2
baz=51
RRI2 **Red Ridge** 50.58 327 eP P 10 13 51.5 +0.3
comp=Z,35nm,0.9s
H18A **Shoshone NF, C** 50.59 329 ⇑P P 10 13 50.0 -1.3
baz=51,SNR=13
GRAC **Grapevine Rang** 50.62 316 ⇓P P 10 13 52.0 +0.7
baz=51,SNR=6.5
F20A **Billings** 50.63 331 ⇓P P 10 13 50.8 -0.6
baz=51,SNR=12
E21A **Keefer Ranch,** 50.66 332 ⇓P P 10 13 51.3 -0.3
baz=51,SNR=7.5
DCID1 **Drake Creek** 50.67 327 eP P 10 13 51.8 0.0
comp=Z,32nm,0.8s
RLMT **Red Lodge** 50.70 330 eP P 10 13 51.9 -0.2
comp=Z,30nm,1.0s
RLMT ePcP PcP 10 15 13.2 +4.5
D22A **Cohagen** 50.71 333 ⇑P P 10 13 51.4 -0.5
baz=51,SNR=52
ISA **Isabella** 50.73 314 eP P 10 13 53.1 +0.9
ISA pmax pmax
comp=Z,26nm,1.5s
ISA **Isabella** 50.73 314 eP P 10 13 53.1 +0.9
comp=Z,26nm,1.5s
ISA **Isabella** 50.73 314 ⇓P P 10 13 52.2 0.0
baz=51,SNR=9.5
ARVC **Arvin** 50.73 314 ⇑P P 10 13 52.7 +0.6
baz=51,SNR=8.1
IMW **Indian Meadow** 50.74 327 eP P 10 13 52.1 -0.3
comp=Z,24nm,0.5s
C23A **Lambert** 50.77 335 ⇑P P 10 13 51.2 -1.1
baz=51,SNR=11
CWC **Cottonwood Cre** 50.83 315 ⇑P P 10 13 52.5 -0.6
baz=51
H17A **Grant Village** 50.88 328 ⇓P P 10 13 53.6 +0.1
baz=51
DGMT **Dagmar** 50.88 336 eP P 10 13 52.4 -0.7
comp=Z,72nm,1.2s
DGMT **Dagmar** 50.88 336 ⇑P P 10 13 52.2 -0.9
baz=51,SNR=12
G18A **Lazy EL Ranch,** 50.99 330 ⇓P P 10 13 53.3 -0.8
baz=51,SNR=15
D21A **La Casta Ranch** 51.01 333 ⇑P P 10 13 53.7 -0.5
baz=51,SNR=23
I16A **Newdale** 51.02 327 ⇓P P 10 13 54.2 -0.2
baz=51,SNR=30
C22A **Vida** 51.03 334 ⇓P P 10 13 53.8 -0.4
baz=51,SNR=18
YFT **Old Faithful** 51.05 328 eP P 10 13 56.0 +1.3
comp=Z,51nm,1.2s
F19A **Roth Farm, Mol** 51.06 330 ⇓P P 10 13 53.8 -0.7
baz=51,SNR=15
E20A **Meyer Farm, Mu** 51.13 332 ⇑P P 10 13 54.9 -0.2
baz=51,SNR=32
A24A **Westby** 51.16 336 ⇑P P 10 13 55.0 -0.1
baz=51,SNR=18
B23A **Brockton** 51.20 335 ⇑P P 10 13 55.6 +0.1
baz=51,SNR=15
VES **Vestal, Richgr** 51.25 314 ⇓P P 10 13 56.9 +0.9
baz=51,SNR=13
YMR **Madison River** 51.27 328 eP P 10 13 57.1 +0.8
comp=Z,36nm,0.8s
PKM **Peak Mountain** 51.34 313 ⇑P P 10 13 57.5 +0.5
baz=51,SNR=7.7
GCMT **Greycliff** 51.37 330 eP P 10 13 56.5 -0.4
comp=Z,43nm,0.8s
E19A **Rath Farm, Rou** 51.41 331 ⇑P P 10 13 56.9 -0.3
baz=52,SNR=30
H16A **Russell Place,** 51.44 328 ⇑P P 10 13 57.9 +0.3
baz=52,SNR=20
F18A **Big Timber** 51.48 330 ⇓P P 10 13 57.5 -0.3
baz=52,SNR=67
SCHQ **Schefferville** 51.50 7 eP P 10 13 57.7 +0.1
SCHQ **Schefferville** 51.50 7 P P 10 13 57.0 -0.6
comp=Z,8.5nm,0.8s,baz=184,slow=5.3,SNR=8.9
B22A **Reddig Ranch S** 51.50 334 ⇑P P 10 13 57.7 -0.1
baz=52,SNR=7.8
A23A **Redstone** 51.55 336 ⇓P P 10 13 58.0 0.0
baz=52,SNR=10.0
RCTC **Rector, Farmer** 51.58 315 ⇑P P 10 13 58.0 -0.5
baz=52
G17A **Pierce Place,** 51.59 329 ⇑P P 10 13 59.1 +0.4
baz=52,SNR=10.0
QLMT **Earthquake Lak** 51.62 328 eP P 10 13 59.9 +1.0
comp=Z,6.9nm,1.1s
C21A **Desert Coulee** 51.63 333 ⇓P P 10 13 58.3 -0.5
baz=52
SMMC **Simmler** 51.66 313 ⇓P P 10 13 59.3 +0.1
baz=52,SNR=10.0
NV11 **Mina Array Sit** 51.89 318 eP P 10 14 01.4 +0.4
NV11 ePcP PcP 10 15 18.1 +4.9
F17A **Fitzpatrick Pl** 51.95 329 ⇓P P 10 14 01.2 -0.1
baz=52,SNR=33
C20A **Vesuvius Ranch,** 51.95 333 ⇑P P 10 14 00.6 -0.6
baz=52,SNR=14
D19A **Cripps Ranch,** 51.96 332 ⇓P P 10 14 01.0 -0.3
baz=52,SNR=43
NVAR **Mina Array Bea** 51.98 318 P P 10 14 02.4 +0.6
NVAR PcP PcP 10 15 14.5 +0.8
NVAR **Mina Array Bea** 51.98 318 P P 10 14 02.4 +0.6
comp=Z,18nm,0.8s,baz=130,slow=6.8,SNR=149
NVAR PcP PcP 10 15 14.5 +0.8
comp=Z,1.9nm,0.5s,baz=118,slow=4.6,SNR=9.8
A22A **Carey Farms,** 52.00 335 ⇑P P 10 14 01.4 -0.1
baz=52,SNR=22
E18A **Harlowton** 52.04 330 ⇓P P 10 14 01.6 -0.3
baz=52,SNR=20
B21A **Ellsworth Farm** 52.04 334 ⇑P P 10 14 01.7 -0.1
baz=52
I14A **Mackay** 52.14 326 ⇑P P 10 14 03.1 +0.3
baz=52,SNR=24
BOZ **Bozeman (W)** 52.27 329 eP P 10 14 03.4 -0.3
BOZ pmax pmax
comp=Z,26nm,1.0s
BOZ **Bozeman (W)** 52.27 329 eP P 10 14 03.4 -0.3
comp=Z,26nm,1.0s
F16A **Kennard Place,** 52.37 329 ⇓P P 10 14 03.9 -0.4
baz=52,SNR=19
MCMT **McKenzie Canyo** 52.38 327 eP P 10 14 05.6 +1.0
comp=Z,25nm,1.3s
D18A **Linhart Farms,** 52.43 331 ⇓P P 10 14 04.4 -0.3
baz=52,SNR=14
A21A **Bergtoll Ranch** 52.43 334 ⇓P P 10 14 04.5 -0.2
baz=52,SNR=14
E17A **Martinsdale** 52.43 330 ⇑P P 10 14 04.3 -0.6
baz=52,SNR=24
C19A **Slack Wire Ran** 52.45 332 ⇑P P 10 14 04.5 -0.4
baz=52,SNR=24
B20A **Solberg Farm,** 52.50 333 ⇑P P 10 14 04.8 -0.4
baz=53,SNR=25
DLMT **Dillon** 52.59 328 eP P 10 14 06.5 +0.4
comp=Z,45nm,1.4s
A20A **Cobblestone Ra** 52.78 334 ⇓P P 10 14 06.7 -0.6
baz=53,SNR=17
LRM **Limekiln Ridge** 52.82 328 eP P 10 14 07.7 -0.1
comp=Z,140nm,0.7s
D17A **Six Diamond Ra** 52.83 331 ⇑P P 10 14 07.3 -0.4
baz=53,SNR=28
F15A **Butte** 52.85 328 ⇑P P 10 14 07.9 -0.2
baz=53,SNR=30
E16A **East Helena** 52.90 329 ⇓P P 10 14 07.6 -0.7
baz=53,SNR=22
B19A **Brinkman Farms** 52.93 333 ⇓P P 10 14 07.7 -0.6
baz=53,SNR=12
EGMT **Eagleton** 52.99 332 eP P 10 14 08.5 -0.4
comp=Z,21nm,1.1s
EGMT **Eagleton** 52.99 332 ⇑P P 10 14 08.2 -0.7
baz=53,SNR=9.7
I12A **Atlanta** 53.01 325 ⇓P P 10 14 09.4 +0.1
baz=53,SNR=60
HRY **Holter Researc** 53.09 329 eP P 10 14 09.7 0.0
comp=Z,23nm,0.9s
D16A **Dana Ranch, Ca** 53.17 330 ⇑P P 10 14 10.2 0.0
baz=53,SNR=20
A19A **Klindworth Far** 53.18 333 ⇑P P 10 14 09.9 -0.4
baz=53,SNR=10
MFID **Camas Ranch** 53.19 324 eP P 10 14 10.6 +0.2
comp=Z,53nm,0.9s
MFID **Camas Ranch** 53.19 324 ⇑P P 10 14 10.8 +0.3
baz=53,SNR=43
C17A **Wharram Farm,** 53.20 331 ⇑P P 10 14 09.9 -0.5
baz=53,SNR=44
B18A **Beardsley Farm** 53.27 332 ⇓P P 10 14 10.4 -0.5
baz=53,SNR=30
F14A **Wisdom** 53.30 328 ⇑P P 10 14 11.0 -0.3
baz=53,SNR=16
H12A **Diamond D Ranc** 53.31 326 ⇑P P 10 14 11.2 -0.2
baz=53,SNR=48
D15A **Lincoln** 53.67 329 ⇓P P 10 14 13.5 -0.5
baz=54,SNR=16
A18A **Metzger Ranch,** 53.68 333 ⇑P P 10 14 12.7 -1.1
baz=54,SNR=22
B17A **L&G Farms, Che** 53.68 331 ⇑P P 10 14 12.7 -1.2
baz=54,SNR=7.9
C16A **Fuhringer Ranc** 53.79 331 ⇑P P 10 14 14.3 -0.5
baz=54,SNR=18
G12A **Big Creek, Yel** 53.93 326 ⇓P P 10 14 15.8 -0.2
baz=54,SNR=50
CHMT **Chamberlain Mo** 53.96 329 eP P 10 14 16.0 -0.2
comp=Z,3.2nm,0.9s
BEKR **Beckworth** 54.09 318 eP P 10 14 17.2 0.0
comp=Z,8.2nm,1.3s
A17A **Triple J Farms** 54.09 332 ⇑P P 10 14 16.0 -0.9
baz=54,SNR=28
B16A **M & M Farms, S** 54.20 331 ⇓P P 10 14 16.6 -1.1
baz=54,SNR=15
D14A **Greenough** 54.20 329 ⇓P P 10 14 16.1 -1.7
baz=54,SNR=11
C15A **Salmond Ranch,** 54.20 330 ⇓P P 10 14 17.9 +0.1
baz=54,SNR=18
MSO **Missoula** 54.26 328 ⇓P P 10 14 17.9 -0.3
baz=54,SNR=22
SLMT **Seeley Lake** 54.30 329 eP P 10 14 18.4 -0.2
comp=Z,7.8nm,0.8s
WVOR **Wild Horse Val** 54.32 322 eP P 10 14 18.6 -0.2
WVOR **Wild Horse Val** 54.32 322 eP P 10 14 18.6 -0.2
comp=Z,102nm,1.3s
A16A **West Butte Ran** 54.51 332 ⇑P P 10 14 19.4 -0.6
baz=55
B15A **Bradely Ranch,** 54.54 331 ⇓P P 10 14 19.5 -0.8
baz=55
D13A **Huson** 54.70 328 ⇑P P 10 14 21.4 0.0
baz=55,SNR=33
SWMT **Swartz Lake** 54.73 329 eP P 10 14 21.7 0.0
comp=Z,7.1nm,0.9s
SWMT ePcP PcP 10 15 24.1 +0.4
C14A **Swan Lake** 54.77 329 ⇑P P 10 14 22.0 +0.1
baz=55,SNR=14
E12A **Beaver Dam Sad** 54.87 327 ⇑P P 10 14 21.6 -1.0
baz=55,SNR=26
BMO **Blue Mountains** 54.89 325 eP P 10 14 21.2 -1.6
BMO pmax pmax
comp=Z,20nm,1.2s
BMO **Blue Mountains** 54.89 325 eP P 10 14 21.2 -1.6
comp=Z,20nm,1.2s
B14A **Marquette Ranc** 54.93 330 ⇓P P 10 14 22.6 -0.4
baz=55,SNR=33
YBMT **Yellow Bay** 54.97 329 eP P 10 14 23.7 +0.4
comp=Z,14nm,1.0s
JTMT **Jette** 55.03 329 eP P 10 14 24.1 +0.3
comp=Z,22nm,1.2s
A15A **Johnson Ranch,** 55.08 331 ⇑P P 10 14 23.4 -0.8
baz=55,SNR=18
C13A **Hot Springs** 55.14 329 ⇑P P 10 14 24.5 0.0
baz=55,SNR=28
D12A **Red Ives Fores** 55.15 328 ⇓P P 10 14 24.3 -0.3
baz=55
FFC **Flin Flon** 55.20 342 P P 10 14 23.4 -1.3
comp=Z,82nm,1.0s,SNR=5.8
FFC **Flin Flon** 55.20 342 i P P 10 14 23.5 -1.3
FFC **Flin Flon** 55.20 342 eP P 10 14 23.6 -1.1
comp=Z,38nm,1.4s
LBCM **Butte Creek Ri** 55.23 319 P P 10 14 25.4 0.0
BLMT **Blacktail Moun** 55.24 329 eP P 10 14 26.1 +0.6
comp=Z,50nm,1.3s
BSMT **Bassoo Peak** 55.36 329 P P 10 14 26.4 +0.1
A14A **Double T Ranch** 55.41 331 ⇑P P 10 14 25.5 -1.0
baz=56
B13A **Whitefish** 55.53 330 ⇑P P 10 14 27.5 +0.1
baz=56
C12B **Naegeli Ranch,** 55.63 328 ⇓P P 10 14 28.3 +0.2
baz=56,SNR=29
WALA **Waterton Lakes** 55.71 330 eP P 10 14 28.0 -0.7
comp=Z,0.2nm,0.9s
A13A **Flathead Natio** 55.87 330 ⇓P P 10 14 29.7 -0.2
baz=56
C11A **Tepee Creek (N** 56.12 328 ⇓P P 10 14 31.4 -0.2
baz=56
B12A **Libby** 56.17 329 ⇑P P 10 14 31.5 -0.4
baz=56
KIPM **Iron Peak** 56.17 317 eP P 10 14 33.2 +1.1
comp=Z,32nm,0.9s
KCPM **Cahto Peak** 56.19 316 eP P 10 14 33.7 +1.4
comp=Z,27nm,1.2s
A12A **Yaak River Ran** 56.50 329 ⇑P P 10 14 34.2 0.0
baz=56,SNR=11
YBH **Yreka Blue Hor** 56.56 319 P P 10 14 33.1 -1.7
YBH **Yreka Blue Hor** 56.56 319 P P 10 14 33.2 -1.7
comp=Z,7.3nm,0.8s,baz=113,slow=4.2,SNR=16
VIPM **Ingram Point** 56.66 323 P P 10 14 36.0 +0.4
VIPM **Ingram Point** 56.66 323 P P 10 14 36.0 +0.4
KHMM **Horse Mountain** 56.83 318 eP P 10 14 37.6 +0.7
comp=Z,41nm,1.0s
NEW **Newport** 56.84 328 eP P 10 14 36.3 -0.4
NEW **Newport** 56.84 328 P P 10 14 36.0 -0.6
comp=Z,15nm,0.9s,baz=137,slow=6.8,SNR=24
NEW **Newport** 56.84 328 ⇑P P 10 14 35.9 -0.8
baz=57,SNR=26
HAWA **Hanford** 57.06 325 eP P 10 14 38.1 -0.1
comp=Z,35nm,1.3s
OD2 **Odessa Site #2** 57.17 326 P P 10 14 39.1 +0.1
DPW **Davenport** 57.18 327 P P 10 14 39.4 +0.3
DPW **Davenport** 57.18 327 P P 10 14 39.4 +0.3
KRMB **Red Mountain** 57.25 318 eP P 10 14 40.2 +0.4
comp=Z,45nm,1.4s
KBO **Bosley Butte** 57.78 319 eP P 10 14 43.9 +0.5
comp=Z,129nm,1.4s
WTV **Waterville** 58.04 326 P P 10 14 45.5 +0.3
TBM **Table Mountain** 58.10 325 P P 10 14 46.4 +0.8
ASR **Mount Adams--S** 58.12 324 P P 10 14 46.4 +0.7
ETW **Entiat** 58.19 326 P P 10 14 46.4 +0.1
WPW **White Pass** 58.38 325 P P 10 14 48.0 +0.4
LON **Longmire** 58.56 324 eP P 10 14 48.7 -0.1
LON pmax pmax
comp=Z,23nm,0.9s
LON **Longmire** 58.56 324 eP P 10 14 48.7 -0.1
comp=Z,23nm,0.9s
USHA **Ushuaia** 58.61 175 P P 10 14 50.2 +1.4
USHA **Ushuaia** 58.61 175 P P 10 14 50.2 +1.4
comp=Z,2.8nm,0.8s,baz=348,slow=8.1,SNR=2.9
BMW **Boistfort Moun** 59.25 324 P P 10 14 53.5 -0.1
BMW **Boistfort Moun** 59.25 324 P P 10 14 53.5 -0.1
HDW **Hoodsport** 59.76 325 P P 10 14 57.0 -0.1
NLWA **Neilton Lookou** 60.10 324 eP P 10 14 59.9 +0.5
comp=Z,76nm,1.2s
PGC **Sidney** 60.51 326 eP P 10 15 02.4 +0.3
comp=Z,8.7nm,1.6s
BBB **Bella Bella** 64.88 327 P P 10 15 31.8 +0.7
BBB **Bella Bella** 64.88 327 P P 10 15 31.8 +0.7

comp=Z,20nm,0.9s,baz=144,slow=4.6,SNR=5.8
YKA Yellowknife Ar 65.37 341 P **P** **10 15 32.4 -1.7**
YKA Yellowknife Ar 65.37 341 P **P** **10 15 32.4 -1.7**
comp=Z,7.7nm,0.7s,baz=134,slow=6.2,SNR=84
YKW3 Yellowknife Ar 65.42 341 *eP* **P** **10 15 32.6 -1.8**
comp=Z,0.4nm,1.0s
WRAK Wrangell Islan 69.06 330 *eP* **P** **10 15 54.5 -3.0**
comp=Z,34nm,1.6s
MORF Marmelete 69.55 52 *eP* P 10 16 05.4 +4.3
comp=Z,37nm,1.5s
PNCL Nicolau / Gran 69.81 51 *eP* **P** **10 16 04.9 +2.3**
comp=Z,27nm,1.5s
PCVE Castro Verde 70.09 51 *eP* P 10 16 08.0 +3.6
PMTG Montargil 70.23 50 *eP* **P** **10 16 07.6 +2.4**
comp=Z,9.6nm,1.1s
EVO Evora 70.29 50⇑*iP* **P** **10 16 08.3 +2.8**
comp=Z,18nm,0.9s
LIC Lamto 70.36 85 *eP* **P** **10 16 08.6 +2.1**
comp=Z,27nm,0.8s,baz=266
DBIC Dimbokro 70.52 84 P **P** **10 16 06.6 -0.8**
DBIC Dimbokro 70.52 84 P **P** **10 16 06.6 -0.8**
comp=Z,18nm,0.9s,baz=251,slow=6.4,SNR=8.9
PESTR Estremoz 70.68 50 *eP* P 10 16 11.2 +3.3
comp=Z,29nm,1.2s
PGAV Gavieira, Arco 70.81 47 *eP* **P** **10 16 11.9 +3.1**
comp=Z,25nm,1.5s
PVIS Viseu 70.82 48 *eP* **P** **10 16 11.8 +3.0**
comp=Z,16nm,1.2s
PMRV Marv??o 70.94 50 *eP* **P** **10 16 09.2 -0.3**
comp=Z,10.0nm,1.2s
PCBR Castelo Branco 70.95 49 *eP* **P** **10 16 12.2 +2.6**
comp=Z,18nm,1.2s
PBAR Barrancos 70.97 51 *eP* **P** **10 16 12.1 +2.4**
comp=Z,10nm,1.8s
POLO Lamas de Olo 71.03 47 *eP* **P** **10 16 10.8 +0.7**
comp=Z,15nm,1.7s
MVO Moncorvo 71.55 48 *eP* **P** **10 16 16.0 +2.7**
comp=Z,26nm,1.3s
SKAG Skagway 71.82 332 *eP* **P** **10 16 14.2 -0.1**
comp=Z,25nm,1.3s
PBRG Braganca 71.89 47 *eP* **P** **10 16 16.3 +1.0**
comp=Z,15nm,1.7s
SUMG Summit 72.53 11 *eP* **P** **10 16 18.3 -0.6**
SUMG pmax pmax
comp=Z,28nm,0.9s
SUMG Summit 72.53 11 *eP* **P** **10 16 18.3 -0.6**
comp=Z,28nm,0.9s
PAB San Pablo 73.28 50 *eP* **P** **10 16 23.2 -0.4**
PAB pmax pmax
comp=Z,6.0nm,0.8s
PAB San Pablo 73.28 50 *eP* **P** **10 16 23.2 -0.4**
comp=Z,6.2nm,0.8s
ESDC Sonseca Array 73.59 50 P **P** **10 16 25.2 -0.2**
ESDC Sonseca Array 73.59 50 P **P** **10 16 25.2 -0.2**
comp=Z,4.2nm,0.8s,baz=254,slow=6.5,SNR=14
ESDC LR LR 10 44 27.5
comp=Z,470nm,20.4s,baz=285,slow=32
ROSF Rostrenen 75.58 41 *eP* **P** **10 16 36.6 -0.1**
comp=Z,11nm,0.7s
SGMF Saint Gilles 76.04 41 *eP* **P** **10 16 39.1 -0.1**
SJPF Ste Jean 76.14 47 *eP* **P** **10 16 40.3 +0.3**
comp=Z,38nm,1.0s
EGAK Eagle 76.42 336 *eP* **P** **10 16 40.1 -0.9**
comp=Z,37nm,0.9s
TOAO Torodi Ar. Sit 76.86 77 *eP* **P** **10 16 47.0 +2.5**
TORD Torodi Ar. Bea 76.86 77 P **P** **10 16 43.2 -1.3**
TORD Torodi Ar. Bea 76.86 77 P **P** **10 16 43.2 -1.3**
comp=Z,5.3nm,0.9s,baz=282,slow=6.0,SNR=19
MENT Mentasta 76.87 334 *eP* **P** **10 16 43.5 -0.2**
EKA Eskdalemuir Ar 77.07 34 P **P** **10 16 44.2 -0.8**
EKA Eskdalemuir Ar 77.07 34 P **P** **10 16 44.2 -0.8**
comp=Z,2.2nm,0.5s,baz=250,slow=4.6,SNR=9.6
GRR Gorron 77.18 41 *eP* **P** **10 16 45.5 -0.2**
comp=Z,45nm,1.2s
EPF Esparros 77.27 47 *eP* **P** **10 16 46.7 +0.3**
comp=Z,36nm,1.2s
MFF Saint Martin d 77.39 43 *eP* **P** **10 16 47.2 +0.3**
comp=Z,16nm,0.7s
FLN La Foliniere 77.48 41 *eP* **P** **10 16 47.4 0.0**
comp=Z,19nm,0.8s
PAX Paxson 77.65 334 *eP* **P** **10 16 47.4 -0.8**
PAX pmax pmax
comp=Z,20nm,1.0s
PAX Paxson 77.65 334 *eP* **P** **10 16 47.4 -0.8**
comp=Z,20nm,1.0s
LDF La Druitiere 77.69 41 *eP* **P** **10 16 48.4 -0.2**
comp=Z,14nm,0.7s
SML Sawmill 78.63 332 *eP* **P** **10 16 53.2 -0.4**
SML pmax pmax
comp=Z,4.0nm,0.9s
SML Sawmill 78.63 332 *eP* **P** **10 16 53.2 -0.4**
comp=Z,3.6nm,0.9s
MTLF Montolieu 78.66 47 *eP* **P** **10 16 54.6 +0.5**
comp=Z,30nm,1.2s
ILAR Eielson Array 78.75 336 P **P** **10 16 53.0 -1.1**
ILAR PP **PP** **10 19 50.8 -2.0**
ILAR Eielson Array 78.75 336 P **P** **10 16 53.0 -1.1**
comp=Z,12nm,0.7s,baz=120,slow=4.0,SNR=162
ILAR PP **PP** **10 19 50.8 -2.0**
comp=Z,5.6nm,1.1s,baz=109,slow=6.6,SNR=6.2
COLA College 79.17 336 *eP* **P** **10 16 56.0 -0.4**
COLA pmax pmax
comp=Z,20nm,1.0s
COLA College 79.17 336 *eP* **P** **10 16 56.0 -0.4**
comp=Z,20nm,1.0s
MCK McKinley 79.35 334 *eP* **P** **10 16 57.4 -0.1**
MCK pmax pmax
comp=Z,27nm,0.9s
MCK McKinley 79.35 334 *eP* **P** **10 16 57.4 -0.1**
comp=Z,28nm,0.9s
TRF Thorofare Moun 79.88 334 *eP* **P** **10 16 59.2 -1.3**
comp=Z,19nm,0.9s
TAM Tamanrasset 80.45 68 *eP* **P** **10 17 05.8 +1.4**
TAM pmax pmax
comp=Z,11nm,1.0s
TAM Tamanrasset 80.45 68 *eP* **P** **10 17 05.8 +1.4**
comp=Z,11nm,1.0s
RSO Redoubt South 80.46 331 *eP* **P** **10 17 03.4 -0.3**
comp=Z,30nm,0.8s
COLD Coldfoot 80.67 338 *eP* **P** **10 17 04.7 +0.2**
comp=Z,18nm,1.0s
DOU Dourbes 80.93 40 P P 10 17 10.1 +3.9
comp=Z,3.4nm,1.1s
WLF Walferdange 81.90 41 P **P** **10 17 12.9 +1.5**
comp=Z,11nm,0.9s
WLF Walferdange 81.90 41 *eP* **P** **10 17 11.9 +0.6**
WLF pmax pmax
comp=Z,17nm,0.8s
WLF Walferdange 81.90 41 *eP* **P** **10 17 11.9 +0.6**
comp=Z,17nm,0.8s
MBDF Montbardon 82.04 46 *eP* **P** **10 17 12.7 +0.3**
comp=Z,12nm,1.0s
ECH Echery 82.48 42 *eP* **P** **10 17 14.9 +0.5**
ECH pmax pmax
comp=Z,8.0nm,0.8s
ECH Echery 82.48 42 *eP* **P** **10 17 14.9 +0.5**
comp=Z,8.3nm,0.8s
CDF Champ du Feu 82.57 42 *eP* **P** **10 17 14.8 -0.2**
KEST Kesra 83.81 55 *eP* **P** **10 17 23.3 +1.6**
KEST Kesra 83.81 55 P **P** **10 17 23.4 +1.8**
comp=Z,1.5nm,0.9s,baz=142,slow=8.2,SNR=5.1
VSL Villasalto 83.84 51 *eP* **P** **10 17 22.1 +0.5**
comp=Z,22nm,0.9s
TUE Stuetta 83.91 44 *eP* **P** **10 17 22.4 +0.3**
comp=Z,12nm,0.9s
DAVOX Davos/Dischmat 84.28 44 P **P** **10 17 25.4 +1.5**
DAVOX Davos/Dischmat 84.28 44 P **P** **10 17 25.4 +1.5**
comp=Z,12nm,0.7s,baz=286,slow=4.2,SNR=17
DAVA Damuels 84.28 43⇑*iPcP* **PcP** **10 17 27.4 -0.2**
comp=Z,18nm,0.8s
NAO01 NORSAR Array S 85.12 29 *eP* **P** **10 17 25.5 -2.2**
comp=Z,5.8nm,0.9s
NB2 NORSAR Subarra 85.29 29 P **P** **10 17 28.7 +0.2**
comp=Z,0.6nm,0.8s,baz=269,slow=4.8
NOA NORSAR Array B 85.29 29 P **P** **10 17 29.1 +0.5**
NOA NORSAR Array B 85.29 29 P **P** **10 17 29.1 +0.5**
comp=Z,5.0nm,0.8s,baz=270,slow=4.9,SNR=14
KBS Kingsbay 85.95 11⇑*eP* **P** **10 17 31.4 0.0**
KBS pmax pmax
comp=Z,11nm,1.2s
ABTA Abfaltersbach 86.09 44⇑*iP* **P** **10 17 32.7 -0.2**
comp=Z,12nm,0.9s
CLL Collm 86.31 39 *eP* **P** **10 17 34.0 +0.3**
CLL *e* 10 17 47.0
CLL MLR MLR
comp=Z,1μm,20.2s
CLL Collm 86.31 39 *eP* **P** **10 17 34.0 +0.3**
CLL *e*(PcP) **PcP** **10 17 38.0 +1.8**
CLL *eP* **pP** **10 17 47.0 -1.8**
HFS Hagfors 86.51 30 P **P** **10 17 34.5 -0.1**
HFS Hagfors 86.51 30 P **P** **10 17 34.5 -0.1**
comp=Z,5.1nm,0.8s,baz=205,slow=3.1,SNR=10.0
KBA Koelnbreinsper 86.65 43⇑*iPcP* **P** **10 17 36.5 +0.8**
comp=Z,11nm,0.8s
KHC Kasperske Hory 86.74 41 *eP* **P** **10 17 35.7 -0.3**
KHC *e* 10 17 50.5
KHC Kasperske Hory 86.74 41 *eP* **P** **10 17 35.7 -0.3**
KHC *eP* **pP** **10 17 50.5 -0.5**
SPITS Spitsbergen Ar 86.84 12 P **P** **10 17 36.0 +0.2**
SPITS Spitsbergen Ar 86.84 12 P **P** **10 17 36.0 +0.2**
comp=Z,5.9nm,0.8s,baz=168,slow=4.3,SNR=6.8
MYKA Terra Mystica 86.87 44⇑*iP* **P** **10 17 36.8 +0.1**
comp=Z,10nm,0.7s
JAVS Javornik 87.19 44 *eP* **P** **10 17 38.6 +0.3**
JAVS Javornik 87.19 44 P **P** **10 17 38.6 +0.3**
MOA Molln 87.25 42⇑*iPcP* **P** **10 17 39.4 +0.9**
comp=Z,12nm,1.0s
PRA Prague 87.26 40 P **P** **10 17 39.0 +0.6**
PVCC Panska Ves 87.33 40 *eP* **P** **10 17 41.1 +2.4**
PVCC Panska Ves 87.33 40 *eP* **P** **10 17 41.1 +2.4**
PRU Pruhonice 87.34 40 *eP* **P** **10 17 38.7 -0.1**
PRU Pruhonice 87.34 40 *eP* **P** **10 17 38.7 -0.1**
VNDS Vrh nad Dolski 87.62 44 *eP* **P** **10 17 40.7 +0.4**
SOKA Soboth 87.82 44⇓*iP* **P** **10 17 40.8 -0.5**
comp=Z,3.1nm,1.0s
SNAA Sanae 88.11 162 *eP* **P** **10 17 42.9 +0.8**
SNAA Sanae 88.11 162 P **P** **10 17 41.5 -0.6**
comp=Z,2.5nm,1.0s,baz=305,slow=3.5,SNR=16
UPC Upice 88.25 40 *eP* **P** **10 17 44.5 +1.4**
UPC Upice 88.25 40 *eP* **P** **10 17 44.5 +1.4**
CONA Conrad Observa 88.31 42⇑*iPcP* **P** **10 17 44.0 +0.4**
comp=Z,7.7nm,0.7s
DPC Dobruska-Polom 88.46 40 *eP* **P** **10 17 45.4 +1.2**
DPC Dobruska-Polom 88.46 40 *eP* **P** **10 17 45.4 +1.2**
VYHS Vyhne 90.25 42 *eP* **P** **10 17 53.1 +0.5**
VYHS pmax pmax
comp=Z,8.0nm,1.7s
VYHS Vyhne 90.25 42 *eP* **P** **10 17 53.1 +0.5**
ARCES ARCESS Array B 90.48 20 P **P** **10 17 52.7 -0.4**
ARCES ARCESS Array B 90.48 20 P **P** **10 17 52.7 -0.4**
comp=Z,1.9nm,0.6s,baz=320,slow=3.6,SNR=6.0
CRVS Cervenica-Dubn 91.93 41 *eP* **P** **10 17 58.8 -1.6**
CRVS pmax pmax
comp=Z,8.0nm,1.4s
CRVS Cervenica-Dubn 91.93 41 *eP* **P** **10 17 58.8 -1.6**
FINES FINESS Array B 92.39 28 P **P** **10 18 01.7 -0.4**
FINES FINESS Array B 92.39 28 P **P** **10 18 01.7 -0.4**
comp=Z,3.8nm,0.7s,baz=228,slow=2.3,SNR=8.7
KOLS Kolonicke sedl 92.46 41 *eP* P 10 18 09.4 +6.6
KOLS pmax pmax
comp=Z,4.0nm,1.3s
KOLS Kolonicke sedl 92.46 41 *eP* P 10 18 09.4 +6.6
QSPA South Pole Qui 93.71 180 P **P** **10 18 10.1 +1.8**
QSPA South Pole Qui 93.71 180 P **P** **10 18 10.0 +1.8**
comp=Z,6.8nm,1.0s,baz=157,slow=3.6,SNR=8.6
BUR08 Bucovina Ar. S 94.60 42 *eP* **P** **10 18 14.4 +1.6**
MLR Muntele Rosu 95.50 44 P **P** **10 18 18.0 +1.0**
MLR Muntele Rosu 95.50 44 P **P** **10 18 18.0 +1.0**
comp=Z,0.3nm,0.4s,baz=299,slow=3.5,SNR=6.8
AKASG Malin Array Be 96.53 38 P **P** **10 18 22.1 +0.7**
AKASG Malin Array Be 96.53 38 P **P** **10 18 22.1 +0.7**
AKASG Malin Array Be 96.53 38 P **P** **10 18 22.1 +0.7**
comp=Z,0.3nm,0.3s,baz=277,slow=3.5,SNR=4.0
BILL Bilibino 96.76 340 *eP* **P** **10 18 23.8 +1.7**
BILL pmax pmax
comp=Z,11nm,1.6s
ZALV Zalesovo Beam 120.31 13 PKIKP **PKPdf** **10 23 41.8 -0.9**
ZALV Zalesovo Beam 120.31 13 PKP **PKPdf** **10 23 41.8 -0.9**
ZALV Zalesovo Beam 120.31 13 PKP **PKPdf** **10 23 41.8 -0.9**
comp=Z,3.0nm,0.8s,baz=302,slow=3.3,SNR=7.0
ASAJ Asahikawa 121.36 329 PKP **PKPdf** **10 23 45.1 +0.1**
ASAJ Asahikawa 121.36 329 PKP **PKPdf** **10 23 45.1 +0.1**
comp=Z,7.9nm,0.9s,baz=336,slow=5.5,SNR=5.2
KURK Kurchatov 121.49 19 PKIKP **PKPdf** **10 23 44.8 -0.3**
KURK Kurchatov 121.49 19 PKP **PKPdf** **10 23 44.8 -0.3**
KURBB Kurchatov Arra 121.54 19 PKP **PKPdf** **10 23 44.8 -0.4**
comp=Z,2.2nm,0.8s,baz=324,slow=2.3,SNR=7.0
MK31 Makanchi Array 126.10 19 *e*PKIKP **PKPdf** **10 23 53.2 -1.0**
MK31 Makanchi Array 126.10 19 *e*PKPdf **PKPdf** **10 23 53.1 -1.0**
MKAR Makanchi Array 126.10 19 PKIKP **PKPdf** **10 23 53.0 -1.2**
MKAR Makanchi Array 126.10 19 PKP **PKPdf** **10 23 53.0 -1.2**
MKAR Makanchi Array 126.10 19 PKP **PKPdf** **10 23 53.0 -1.2**
comp=Z,2.9nm,0.9s,baz=338,slow=2.6,SNR=12
ZAK Zakamensk 126.15 1 *e*PKIKP **PKPdf** **10 23 53.8 -0.4**
EKS2 Erkin-Say 126.22 28 *e*PKIKP **PKPdf** **10 23 55.3 +0.6**
EKS2 Erkin-Say 126.22 28 *e*PKPdf **PKPdf** **10 23 55.3 +0.6**
USRK Ussuriysk Arra 126.27 336 PKP **PKPdf** **10 23 54.4 -0.1**
comp=Z,7.5nm,0.9s,baz=39,slow=0.9,SNR=9.4
AAK Ala-Archa 126.57 27*d* *i*PKIKP **PKPdf** **10 23 55.7 +0.3**
AAK pmax pmax
comp=Z,28nm,1.7s
AAK Ala-Archa 126.57 27 PKP **PKPdf** **10 23 55.9 +0.5**
AAK *e*PKPdf **PKiKP** **10 23 56.4 +0.6**
AAK Ala-Archa 126.57 27 PKP **PKPdf** **10 23 55.9 +0.5**
comp=Z,1.7nm,0.3s,baz=209,slow=2.4,SNR=8.0
TKM2 Tokmak 2 126.83 26 *e*PKIKP **PKPdf** **10 23 56.1 +0.2**
TKM2 Tokmak 2 126.83 26 *e*PKPdf **PKPdf** **10 23 56.1 +0.2**
MDJ Mudanjiang 126.88 338 PKP **PKPdf** **10 23 55.4 -0.3**
SONM Songino Array 128.68 358 PKP **PKPdf** **10 23 58.8 -0.4**
SONM Songino Array 128.68 358 PKP **PKPdf** **10 23 58.8 -0.4**
comp=Z,2.7nm,0.9s,baz=288,slow=0.6,SNR=9.5
MJAR Matsushiro Arr 129.02 325 PKP **PKPdf** **10 23 59.9 -0.1**
MJAR Matsushiro Arr 129.02 325 PKP **PKPdf** **10 23 59.9 -0.1**
comp=Z,11nm,0.8s,baz=79,slow=0.9,SNR=22
MAJO Matsushiro 129.03 325 *e*PKIKP **PKPdf** **10 24 00.0 -0.1**
MAJO Matsushiro 129.03 325 *e*PKPdf **PKPdf** **10 23 60.0 -0.1**
MAT Matsushiro 129.03 325 PKP **PKPdf** **10 23 59.7 -0.3**
CN2 Changchun 129.07 340 *e*PKP **PKPdf** **10 24 00.8 +0.9**
KSH Kashi 129.71 29 *e*PKP **PKPdf** **10 24 02.1 +0.7**
KSH sPKP 10 24 20.0
KSH PKS **PKSdf** **10 27 36.6 -1.4**
KSH SKS **SKSdf** **10 31 06.0 -3.1**
KSH SKKS **SKKSac** **10 33 01.7 -3.6**
KSH AMB AMB
comp=Z,81nm,6.3s
KSH LR LR
comp=N,170nm,8.0s
KSH LR LR
comp=E,160nm,8.2s
WMQ Urumqi 130.40 16 PKP **PKPdf** **10 24 01.9 -0.6**
KSRS Korea Array 133.58 334 PKP **PKPdf** **10 24 08.5 -0.1**
comp=E,0.8nm,0.7s,baz=8.9,slow=1.2,SNR=4.4
KSAR Wonju Array Be 133.61 334 PKP **PKPdf** **10 24 08.4 -0.2**
BJI Beijing 135.16 347 PKP **PKPdf** **10 24 11.0 -0.5**
BJI SS SS 10 44 35.7 -0.3
BJI LR LR
comp=N,160nm,15.4s
BJI LR LR
comp=E,200nm,19.5s
BJI LR LR
comp=Z,95nm,23.1s
HHC Hu-ho-hao-te 135.20 352 *e*PKP **PKPdf** **10 24 09.2 -2.5**
HHC PP **PP** **10 26 48.9 +2.7**
HHC PKS **PKSdf** **10 27 43.9 -4.2**
HHC SKS **SKSdf** **10 31 15.0 -3.8**
HHC SKKS **SKKSac** **10 33 34.8 -3.8**
HHC SS **SS** **10 44 36.9 +0.3**
HHC AMB AMB
comp=Z,120nm,9.6s
HHC LR LR
comp=N,610nm,21.2s
HHC LR LR
comp=E,350nm,20.6s
HHC LR LR
comp=Z,540nm,21.1s
GTA Gaotai 136.92 5 PKP **PKPdf** **10 24 15.6 +0.6**
GTA SKS **SKSdf** **10 31 16.6 -5.3**
GTA SKKS **SKKSac** **10 33 47.6 -1.4**
GTA SS **SS** **10 44 55.6 -1.6**
GTA AMB AMB
comp=Z,130nm,9.0s
GTA LR LR
comp=N,490nm,17.6s
GTA LR LR
comp=E,270nm,15.2s
GTA LR LR
comp=Z,710nm,19.0s
LZH Lanzhou 140.44 1 *e*PKP **PKPdf** **10 24 22.1 +0.5**
LZH sPKP 10 24 38.6
LZH PP **PP** **10 27 20.8 +1.9**
LZH PKS **PKSdf** **10 27 59.2 +1.5**
LZH SKS **SKSdf** **10 31 23.6 -4.4**
LZH SKKS **SKKSac** **10 34 10.0 +0.1**
LZH SS **SS** **10 45 45.5 +6.8**
LZH AMB AMB
comp=Z,94nm,4.5s
LZH LR LR
comp=N,190nm,14.0s
LZH LR LR
comp=E,250nm,13.3s
LZH LR LR
comp=Z,290nm,16.1s
NJ2 Nanjing 141.89 340 *e*PKP **PKPdf** **10 24 22.7 -1.3**
PYUN Piuthan 142.30 32 *eP* PKPdf 10 24 18.8 -6.4
comp=Z,46nm,1.1s
DANN Dangsing 142.50 31 *eP* PKPdf 10 24 19.6 -6.0
comp=Z,27nm,0.9s
KKN Kakani 143.72 29 *eP* PKPab 10 24 24.2 -0.3
comp=Z,44nm,1.0s
DMN Daman 143.78 30 *eP* PKPab 10 24 24.7 -0.1
comp=Z,45nm,0.7s
GUN Gumba 143.91 28 *eP* PKPab 10 24 25.2 -0.2
comp=Z,170nm,1.1s
PKIN Phulchoki 143.95 29 *eP* PKPab 10 24 24.7 -0.7
comp=Z,11nm,0.5s
PKI Pulchoki 143.96 29 *eP* PKPab 10 24 24.8 -0.8
comp=Z,34nm,0.8s
JIRN Jiri 144.26 28 *eP* **PKPab** **10 24 26.0 -0.7**
comp=Z,38nm,0.9s
WHN Wuhan 144.66 345 PKP **PKPab** **10 24 26.0 -1.6**
RAMN Ramite 145.06 28 *eP* **PKPbc** **10 24 28.4 -1.1**
comp=Z,39nm,0.8s
AS31 Alice Springs 145.22 232 *e*PKPbc **PKPbc** **10 24 29.4 -0.4**
ASAR Alice Springs 145.22 232 PKPbc **PKPbc** **10 24 29.2 -0.6**
ASAR Alice Springs 145.22 232 PKPbc **PKPbc** **10 24 29.2 -0.6**
comp=Z,3.0nm,0.5s,baz=118,slow=3.8,SNR=32
TAPN Taplejung 145.22 27 *eP* **PKPbc** **10 24 29.3 -0.8**
comp=Z,54nm,0.8s
ODAN Odare 145.50 27 *eP* **PKPdf** **10 24 30.0 -0.8**
comp=Z,102nm,1.2s
CD2 Chengdu 145.60 1 PKPbc **PKPdf** **10 24 28.9 -1.8**
CD2 PKPab **PKPbc** **10 24 31.0 +0.1**
CD2 pPKP **pPKPdf** **10 24 44.5 -1.8**
CD2 sPKP 10 24 50.5
CD2 PP **PP** **10 27 52.8 +3.0**
CD2 PKS **PKSdf** **10 28 03.0 -3.3**
CD2 SKS **SKSdf** **10 31 30.7 -5.2**
CD2 SKKS **SKKSac** **10 34 35.7 -3.8**
CD2 SS **SS** **10 46 37.2 -0.9**
CD2 AMB AMB
comp=Z,240nm,5.6s
CD2 LR LR
comp=N,1μm,22.5s
CD2 LR LR
comp=E,2μm,19.1s
CD2 LR LR
comp=Z,3μm,20.1s
ENH Enshi 145.89 352 *e*PKPdf **PKPdf** **10 24 31.2 0.0**
WRAB Tennant Creek 146.58 239 *e*PKP2 **PKPbc** **10 24 34.1 0.0**
WRAB Tennant Creek 146.58 239 *e*PKPbc **PKPbc** **10 24 34.1 0.0**
WRA Warramunga Arr 146.59 239 PKPbc **PKPdf** **10 24 33.2 +0.6**
WRA Warramunga Arr 146.59 239 PKPbc **PKPdf** **10 24 33.2 +0.6**
comp=Z,2.4nm,0.7s,baz=111,slow=2.7,SNR=18
NACB Ninganchiao 147.63 330 *e*PKPbc **PKPbc** **10 24 36.8 0.0**
SSLB Suanglung 148.27 330 *e*PKPdf **PKPdf** **10 24 35.7 +0.5**
SSLB *e*PKPbc **PKPbc** **10 24 38.9 +0.2**
SSLB *e*PKPab **PKPab** **10 24 42.7 +1.0**
TPUB Ta-pu 148.84 330 *e*PKPbc **PKPbc** **10 24 40.8 +0.7**
TPUB *e*PKPab **PKPab** **10 24 44.6 +0.7**
TWG Pinlang 149.01 329 *e*PKPdf **PKPdf** **10 24 36.0 -0.5**
TWG *e*PKPbc **PKPbc** **10 24 40.4 -0.2**
TWG *e*PKPab **PKPab** **10 24 44.6 -0.1**
GYA Guiyang 149.96 356 PKPbc **PKPbc** **10 24 41.5 -1.5**
GYA PKPab **PKPab** **10 24 49.8 +1.3**
GYA sPKP 10 24 58.6
GYA PKS **PKSdf** **10 28 10.5 -2.7**
GYA PP **PP** **10 28 19.2 +3.8**
GYA SKKS 10 35 01.0
GYA SS **SS** **10 47 27.9 +0.6**
GYA AMB AMB
comp=Z,130nm,7.9s
GYA LR LR
comp=N,130nm,24.0s
GYA LR LR
comp=E,120nm,23.3s
GYA LR LR
comp=Z,140nm,24.0s
KMI Kunming 151.33 3 PKPbc **PKPdf** **10 24 41.7 +1.3**
KMI pPKP **pPKPdf** **10 24 55.8 -0.2**
KMI sPKP 10 25 02.7
KMI PP **PP** **10 28 26.7 +3.3**
KMI SS SS 10 47 42.6 -0.2
KMI AMB AMB
comp=Z,100nm,7.1s
KMI LR LR
comp=N,150nm,20.2s
KMI LR LR
comp=E,140nm,21.9s
KMI LR LR
comp=Z,310nm,17.5s
FITZ Fitzroy Crossi 154.70 234 PKPbc **PKPbc** **10 24 53.9 +0.3**
FITZ Fitzroy Crossi 154.70 234 PKPbc **PKPbc** **10 24 53.9 +0.3**
comp=Z,2.3nm,0.9s,baz=157,slow=4.0,SNR=3.1
CMAR Chiang Mai Arr 157.37 13 PKP **PKPdf** **10 24 48.7 +0.1**
CMAR PKPab **PKPab** **10 25 18.9 -1.0**
CMAR Chiang Mai Arr 157.37 13 PKP **PKPdf** **10 24 48.7 +0.1**
comp=Z,1.5nm,0.6s,baz=311,slow=2.2,SNR=5.0
CMAR PKPab **PKPab** **10 25 18.9 -1.0**
comp=Z,1.4nm,0.5s,baz=339,slow=4.7,SNR=3.0

IDC ***03*** *10:06:00.1±0.8, 49.65S×6.71W, h0km, mb4.3/7, mb1 4.3/7, mb1mx4.1/18, mbtmp4.3/7, MS4.1/6, Ms1 4.0/6, ms1mx3.7/27, Error ellipse: s-maj=43.8km s-min=18.6km az=82.0*

ISCJB ***03*** *10:06:01.2±0.8, 49.88S±0.09×7.1W±0.3, h10km, mb4.3/11, MS4.1/6, Error ellipse: s-maj=27.5km s-min=13.3km az=178.9*

NEIC ***03*** *10:06:02.2±0.6, 49.73S×6.98W, h10km, mb4.6/5, Error ellipse: s-maj=30.1km s-min=14.2km az=89.0*

ISC 03 10:06:01.8±0.6, 49.87S±0.08×7.1W±0.2, h10km, n33, σ2 13/29, mb4.3/11, MS3.8/6, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae** 32nm,1.4s	**21.96**	**176**	*eP*	**P**	**10 10 57.3**	**+1.9**
SNAA				S	**S**	**10 14 52.4**	**-5.2**
SNAA	**Sanae** 6.8nm,1.2s,baz=3.8,slow=10.0,SNR=14	**21.96**	**176**	P	**P**	**10 10 57.2**	**+1.8**
SNAA	0.4nm,1.0s,baz=16,slow=9.9,SNR=1.7			S	**S**	**10 14 52.4**	**-5.2**
SUR	**Sutherland** comp=Z,280nm,19.9s,baz=257,slow=31	**27.09**	**60**	LR	LR	10 19 52.2	
BOSA	**Boshof** comp=Z,196nm,20.9s,baz=166,slow=32	**32.44**	**61**	LR	LR	10 22 55.2	
PMSA	**Palmer Station** comp=Z,144nm,20.8s,baz=32,slow=30	**32.86**	**221**	LR	LR	10 22 36.6	
TSUM	**Tsumeb**	**36.38**	**42**	P	**P**	**10 13 07.7**	**+1.3**
TSUM	**Tsumeb** 2.8nm,0.9s,baz=262,slow=14,SNR=3.3	**36.38**	**42**	P	**P**	**10 13 07.7**	**+1.3**
MAW	**Mawson**	**37.88**	**144**	P	**P**	**10 13 18.4**	**0.0**
MAW	**Mawson** 3.0nm,1.1s,baz=248,slow=19,SNR=2.8	**37.88**	**144**	P	**P**	**10 13 18.4**	**0.0**
MAW	comp=Z,86nm,21.5s,baz=58,slow=31			LR	LR	10 25 49.9	
QSPA	**South Pole Qui** 11nm,1.3s	**40.39**	**180**	*eP*	**P**	**10 13 40.8**	**+1.1**
QSPA	**South Pole Qui** 5.8nm,1.1s,baz=236,slow=5.8,SNR=6.3	**40.39**	**180**	P	**P**	**10 13 40.2**	**+0.6**
LSZ	**Lusaka**	**44.80**	**52**	P	P	10 14 21.6	+5.7
LSZ	**Lusaka** 2.6nm,0.7s,baz=165,slow=9.0,SNR=5.9	**44.80**	**52**	P	P	10 14 21.6	+5.7
BDFB	**Brasilia**	**47.53**	**301**	P	**P**	**10 14 37.8**	**+0.3**
BDFB	**Brasilia** 4.5nm,0.8s,baz=135,slow=2.9,SNR=3.2	**47.53**	**301**	P	**P**	**10 14 37.8**	**+0.3**
SBA	**Scott Base** 8.8nm,1.1s	**52.49**	**178**	*eP*	**P**	**10 15 16.9**	**+2.6**
VNDA	**Vanda** 18nm,1.8s	**52.70**	**177**	*eP*	**P**	**10 15 17.3**	**+1.5**
VNDA	**Vanda** 4.8nm,1.2s,baz=203,slow=10,SNR=5.8	**52.70**	**177**	P	**P**	**10 15 16.7**	**+0.9**
DBIC	**Dimbokro** 13nm,1.1s	**56.34**	**3**	*eP*	**P**	**10 15 40.8**	**-2.0**

DBIC	**Dimbokro**	**56.34**	**3**	P	**P**	**10 15 39.7**	**-3.1**
	15nm,1.2s,baz=135,slow=8.6,SNR=3.0							
TORD	**Torodi Ar. Bea**	**63.21**	**10**	P	**P**	**10 16 27.6**	**-2.6**
TORD	**Torodi Ar. Bea**	**63.21**	**10**	P	**P**	**10 16 27.6**	**-2.6**
	2.9nm,1.1s,baz=182,slow=4.9,SNR=6.9							
STKA	**Stephens Creek**	**93.99**	**154**	LR	LR	11 00 34.6		
	comp=Z,339nm,18.6s,baz=24,slow=35							
BRTR	**Keskin Array B**	**96.14**	**30**	P	**P**	**10 19 30.9**	**+1.4**
BRTR	**Keskin Array B**	**96.14**	**30**	P	**P**	**10 19 30.9**	**+1.4**
	0.2nm,0.3s,baz=149,slow=3.0,SNR=2.6							
BRTR				LR	LR	11 01 38.6		
	comp=Z,376nm,19.0s,baz=95,slow=35							
MKAR	**Makanchi Array**	**123.30**	**55**	PKP	**PKPdf**	**10 24 58.2**	**0.0**
MKAR	**Makanchi Array**	**123.30**	**55**	PKP	**PKPdf**	**10 24 58.2**	**0.0**
	0.5nm,0.7s,baz=198,slow=0.9,SNR=2.7							
KSAR	**Wonju Array Be**	**145.63**	**94**	PKPbc	**PKPdf**	**10 25 38.6**	**-1.2**
KSRS	**Korea Array**	**145.67**	**94**	PKPbc	**PKPdf**	**10 25 38.6**	**-1.2**
	2.0nm,0.8s,baz=248,slow=3.6,SNR=8.6							
MJAR	**Matsushiro Arr**	**151.68**	**105**	PKPbc	**PKPbc**	**10 25 56.3**	**+0.3**
MJAR	**Matsushiro Arr**	**151.68**	**105**	PKPbc	**PKPbc**	**10 25 56.3**	**+0.3**
	1.8nm,1.0s,baz=244,slow=3.4,SNR=2.4							
ILAR	**Eielson Array**	**154.25**	**320**	PKPbc	**PKPbc**	**10 26 02.6**	**+1.8**
ILAR	**Eielson Array**	**154.25**	**320**	PKPbc	**PKPbc**	**10 26 02.6**	**+1.8**
	0.4nm,0.8s,baz=342,slow=0.6,SNR=4.3							

IDC 03 10:06:51.3±1.1, 16°02S×173°38W, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.9/21, mbtmp3.9/6, ML2.0/1, MS3.9/1, Ms1 3.9/1, ms1mx2.8/39, Error ellipse: s-maj=57.3km s-min=21.1km az=130.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.60**	**37**	Pn	Pn	10 07 32.6	-2.2
	17nm,0.3s,baz=82,slow=1.3,SNR=35						
AFI				Sn	Sn	10 08 00.4	-6.9
	36nm,0.3s,baz=231,slow=21,SNR=12						
URZ	**Urewera**	**23.69**	**199**	P	P	10 12 04.4	-0.3
	9.5nm,1.0s,baz=19,slow=18,SNR=3.3						
ASAR	**Alice Springs**	**49.95**	**252**	P	P	10 15 46.9	-0.6
	2.6nm,0.8s,baz=88,slow=8.3,SNR=33						
NWAO	**Narrogin (SRO)**	**64.34**	**241**	LR	LR	10 42 10.5	
	comp=Z,76nm,18.2s,baz=156,slow=33						
NVAR	**Mina Array Bea**	**74.77**	**42**	P	P	10 18 34.4	+0.7
	0.6nm,0.7s,baz=228,slow=9.4,SNR=4.8						
PDAR	**Pinedale Array**	**82.71**	**42**	P	P	10 19 17.5	+0.2
	0.8nm,0.8s,baz=222,slow=3.6,SNR=4.0						
ILAR	**Eielson Array**	**83.04**	**11**	P	P	10 19 18.4	+0.1
	0.3nm,0.6s,baz=234,slow=6.0,SNR=5.0						
BRTR	**Keskin Array B**	**146.65**	**320**	PKPbc	PKPbc	10 26 35.5	0.0
	0.4nm,0.4s,baz=5.7,slow=1.4,SNR=2.8						

IDC 03 10:10:26.2±1.5, 3°76N×127°97E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.8/25, mbtmp4.1/6, Error ellipse: s-maj=90.6km s-min=19.2km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.84**	**186**	P	P	10 15 21.7	+1.2
	2.0nm,0.7s,baz=4.4,slow=13,SNR=8.6						
WRA	**Warramunga Arr**	**24.37**	**165**	P	P	10 15 46.0	-0.2
	6.7nm,0.4s,baz=344,slow=10,SNR=94						
ASAR	**Alice Springs**	**27.86**	**168**	P	P	10 16 17.6	-0.3
	1.0nm,0.3s,baz=349,slow=7.3,SNR=24						
STKA	**Stephens Creek**	**37.73**	**161**	P	P	10 17 43.3	-0.5
	1.8nm,0.3s,baz=324,slow=14,SNR=4.3						
MKAR	**Makanchi Array**	**58.24**	**325**	P	P	10 20 22.9	+0.3
	0.5nm,0.4s,baz=111,slow=8.2,SNR=5.9						
KURBB	**Kurchatov Arra**	**62.39**	**327**	P	P	10 20 50.3	-0.5
	0.2nm,0.4s,baz=132,slow=5.8,SNR=4.2						

*ISCJB **03** 10:13:02.5±0.5, 18°64S±0°07×169°28E±0°08, h240km, mb4.0/20, Error ellipse: s-maj=12.9km s-min=7.6km az=38.6*
*AUST **03** 10:13:03.5±1.8, 19°11S×168°76E, h169km, Error ellipse: s-maj=2.2km s-min=1.4km az=252.0*
*IDC **03** 10:13:04.6±1.9, 18°78S×169°29E, h252km±17km, mb3.8/17, mb1 4.0/19, mb1mx3.8/26, mbtmp3.8/19, Error ellipse: s-maj=17.9km s-min=14.3km az=152.0*
*NEIC **03** 10:13:05.0±1.0, 18°78S×169°27E, h258km±9km, mb4.4/6, Error ellipse: s-maj=12.8km s-min=10.1km az=147.0*
ISC 03 10:13:03.1±0.6, 18°72S±0°09×169°39E±0°10, h240km, n71, σ1§00/71, mb4.0/20, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.33**	**219**	P	**Pn**	**10 14 11.1**	**+0.6**
DZM				S	**S**	**10 15 04.4**	**+0.4**
DZM	**Mont Dzumac**	**4.33**	**219**	P	**Pn**	**10 14 11.1**	**+0.6**
	11nm,0.3s,baz=270,slow=24,SNR=65						
DZM				S	**S**	**10 15 04.4**	**+0.4**
	6.2nm,0.3s,baz=90,slow=24,SNR=3.8						
LASL	**Noumea**	**4.40**	**217**	*e*P	**Pn**	**10 14 11.7**	**+0.5**
NOUC	**Port Laguerre**	**4.44**	**220**	*e*P	**Pn**	**10 14 12.3**	**+0.6**
HNR	**Honiara**	**12.99**	**314**	*e*Pn	**Pn**	**10 15 59.9**	**+0.4**
HNR	**Honiara**	**12.99**	**314**	P	**Pn**	**10 15 59.8**	**+0.4**
	9.2nm,0.3s,baz=159,slow=3.1,SNR=10						
EIDS	**Eidsvold**	**18.20**	**245**	P	**P**	**10 17 00.0**	**+1.4**
	baz=18,SNR=7.0						
RMQ	**Roma**	**20.54**	**244**	P	**P**	**10 17 25.0**	**+1.3**
	baz=20,SNR=6.5						
CTA	**Charters Tower**	**21.86**	**263**	P	**P**	**10 17 36.9**	**+0.1**
CTA	**Charters Tower**	**21.86**	**263**	P	**P**	**10 17 36.9**	**+0.1**
	5.3nm,0.5s,baz=92,slow=13,SNR=12						
CTAO	**Charters Tower**	**21.86**	**263**	*e*P	**P**	**10 17 37.2**	**+0.4**
	5.1nm,0.5s						
PMG	**Port Moresby**	**23.44**	**290**	*e*P	**P**	**10 17 51.4**	**+0.2**
	38nm,0.9s						
PMG	**Port Moresby**	**23.44**	**290**	P	**P**	**10 17 51.5**	**+0.3**
	41nm,0.8s,baz=111,slow=5.4,SNR=11						
MTSU	**Mount Surprise**	**23.79**	**267**	P	**P**	**10 17 55.2**	**+0.8**
	baz=23,SNR=18						
QLP	**Quilpie**	**24.46**	**247**	P	**P**	**10 18 00.8**	**+0.3**
	baz=24,SNR=5.3						
STKA	**Stephens Creek**	**28.24**	**237**	*e*P	**P**	**10 18 34.2**	**+0.1**
	1.1nm,0.6s						
STKA	**Stephens Creek**	**28.24**	**237**	P	**P**	**10 18 34.4**	**+0.3**
	6.3nm,0.6s,baz=59,slow=7.6,SNR=8.8						
STKA	**Stephens Creek**	**28.24**	**237**	P	**P**	**10 18 35.0**	**+0.8**
	baz=28,SNR=7.3						
WRAB	**Tennant Creek**	**33.05**	**262**	*e*P	**P**	**10 19 15.0**	**-1.5**
	7.2nm,0.8s						
WRA	**Warramunga Arr**	**33.06**	**262**	P	**P**	**10 19 14.9**	**-1.6**
WRA	**Warramunga Arr**	**33.06**	**262**	P	**P**	**10 19 14.9**	**-1.6**
	2.9nm,0.3s,baz=82,slow=6.6,SNR=72						
AS31	**Alice Springs**	**33.39**	**255**	*e*P	**P**	**10 19 18.6**	**-0.9**
ASAR	**Alice Springs**	**33.39**	**255**	P	**P**	**10 19 18.6**	**-0.8**
ASAR	**Alice Springs**	**33.39**	**255**	P	**P**	**10 19 18.6**	**-0.8**
	37nm,0.5s,baz=82,slow=8.8,SNR=445						
MTN	**Manton Dam**	**37.22**	**273**	P	**P**	**10 19 51.7**	**-0.3**
	baz=37,SNR=3.4						
KNRA	**Kununurra**	**38.87**	**268**	P	**P**	**10 20 04.7**	**-1.0**
	baz=38,SNR=11						
FITZ	**Fitzroy Crossi**	**41.43**	**264**	*e*P	**P**	**10 20 26.4**	**-0.3**
	12nm,0.6s						
FITZ	**Fitzroy Crossi**	**41.43**	**264**	P	**P**	**10 20 26.5**	**-0.3**
	13nm,0.6s,baz=106,slow=6.8,SNR=50						
FITZ	**Fitzroy Crossi**	**41.43**	**264**	P	**P**	**10 20 26.5**	**-0.3**
	baz=41,SNR=17						
MBWA	**Marble Bar**	**46.59**	**258**	*e*P	**P**	**10 21 07.3**	**-0.3**
	11nm,0.4s						
MEEK	**Meekatharra**	**47.26**	**251**	P	**P**	**10 21 12.3**	**-0.5**
	baz=46,SNR=13						
KLBR	**Kellerberrin**	**48.06**	**244**	P	**P**	**10 21 17.7**	**-1.1**
	baz=47,SNR=7.7						
WSI	**Waingapu**	**48.30**	**274**	S	S	10 27 52.5	-10
	baz=48,SNR=9.1						
NWAO	**Narrogin (SRO)**	**48.57**	**242**	P	**P**	**10 21 22.0**	**-0.7**
NWAO	**Narrogin (SRO)**	**48.57**	**242**	P	**P**	**10 21 22.0**	**-0.7**
	6.6nm,0.8s,baz=75,slow=12,SNR=3.4						
MORW	**Morawa**	**49.49**	**247**	P	**P**	**10 21 29.1**	**-0.6**
	baz=49,SNR=4.0						
QSPA	**South Pole Qui**	**71.33**	**180**	*e*P	**P**	**10 23 57.0**	**+0.3**
QSPA	**South Pole Qui**	**71.33**	**180**	P	**P**	**10 23 56.7**	**0.0**
	2.7nm,1.0s,baz=3.4,slow=5.0,SNR=5.7						
FX1	**Attu Island--F**	**71.37**	**2**	P	**P**	**10 23 57.1**	**+0.3**
FX1	**Attu Island--F**	**71.37**	**2**	P	**P**	**10 23 57.1**	**+0.3**
	1.9nm,0.5s,baz=252,slow=9.6,SNR=3.8						
PETK	**Petropavlovsk-**	**72.24**	**353**	P	**P**	**10 24 02.8**	**+0.9**
PETK	**Petropavlovsk-**	**72.24**	**353**	P	**P**	**10 24 02.8**	**+0.9**
	1.2nm,0.6s,baz=150,slow=6.7,SNR=4.9						
LHMI	**Lhok Sumawe**	**75.17**	**281**	P	P	10 24 26.1	+6.3
	baz=75,SNR=3.4						
CMAR	**Chiang Mai Arr**	**78.42**	**294**	P	**P**	**10 24 38.9**	**+1.0**
	0.8nm,0.4s,baz=141,slow=4.2,SNR=4.6						
SONM	**Songino Array**	**86.89**	**323**	P	**P**	**10 25 20.4**	**-0.4**
SONM	**Songino Array**	**86.89**	**323**	P	**P**	**10 25 20.5**	**-0.4**
	0.2nm,0.4s,baz=149,slow=6.7,SNR=3.5						
NVAR	**Mina Array Bea**	**88.35**	**48**	P	**P**	**10 25 29.2**	**+1.0**
NVAR	**Mina Array Bea**	**88.35**	**48**	P	**P**	**10 25 29.2**	**+1.0**
	0.9nm,0.7s,baz=231,slow=8.2,SNR=8.0						
SNAA	**Sanae**	**89.69**	**182**	P	**P**	**10 25 33.0**	**-0.7**
SNAA	**Sanae**	**89.69**	**182**	P	**P**	**10 25 33.0**	**-0.7**
	0.4nm,0.7s,baz=193,slow=6.5,SNR=3.8						
ILAR	**Eielson Array**	**89.69**	**17**	P	**P**	**10 25 32.2**	**-1.3**
ILAR	**Eielson Array**	**89.69**	**17**	P	**P**	**10 25 32.2**	**-1.3**
	0.7nm,0.4s,baz=238,slow=4.9,SNR=27						
ANMO	**Albuquerque**	**95.89**	**55**	P	**P**	**10 26 04.1**	**+1.1**
ANMO	**Albuquerque**	**95.89**	**55**	P	**P**	**10 26 04.1**	**+1.1**
	0.3nm,0.4s,baz=6.7,slow=6.4,SNR=3.7						
PDAR	**Pinedale Array**	**96.16**	**47**	P	**P**	**10 26 05.8**	**+1.7**
PDAR	**Pinedale Array**	**96.16**	**47**	P	**P**	**10 26 05.8**	**+1.7**
	0.2nm,0.4s,baz=177,slow=6.0,SNR=2.2						
TXAR	**Lajitas Array**	**96.40**	**61**	P	**P**	**10 26 06.8**	**+1.4**
TXAR	**Lajitas Array**	**96.40**	**61**	P	**P**	**10 26 06.8**	**+1.4**
	0.8nm,0.9s,baz=221,slow=6.6,SNR=7.4						
YKA	**Yellowknife Ar**	**100.14**	**27**	P	**Pdif**	**10 26 21.6**	**+0.5**
YKA	**Yellowknife Ar**	**100.14**	**27**	P	**Pdif**	**10 26 21.6**	**+0.5**
	0.4nm,0.5s,baz=254,slow=4.7,SNR=6.8						
ARCES	**ARCESS Array B**	**124.60**	**345**	PKP	**PKPdf**	**10 31 32.6**	**-0.7**
ARCES	**ARCESS Array B**	**124.60**	**345**	PKP	**PKPdf**	**10 31 32.6**	**-0.7**
	1.6nm,0.6s,baz=20,slow=3.9,SNR=5.5						
FINES	**FINESS Array B**	**130.16**	**338**	SKPbc	**SKPbc**	**10 34 41.8**	**-2.5**
FINES	**FINESS Array B**	**130.16**	**338**	SKPbc	**SKPbc**	**10 34 41.8**	**-2.5**
	1.2nm,0.7s,baz=68,slow=6.6,SNR=3.7						
GERES	**GERESS Array B**	**144.10**	**332**	PKP	**PKPab**	**10 32 08.8**	**+0.3**
GERES	**GERESS Array B**	**144.10**	**332**	PKP	**PKPab**	**10 32 08.8**	**+0.3**
	0.6nm,0.8s,baz=31,slow=4.6,SNR=4.1						
DAVOX	**Davos/Dischmat**	**147.33**	**334**	PKPbc	**PKPbc**	**10 32 18.7**	**0.0**
DAVOX	**Davos/Dischmat**	**147.33**	**334**	PKPbc	**PKPbc**	**10 32 18.7**	**0.0**
	3.3nm,0.5s,baz=174,slow=1.9,SNR=5.9						
TORD	**Torodi Ar. Bea**	**166.93**	**247**	PKP	**PKPdf**	**10 32 38.6**	**-2.3**
TORD	**Torodi Ar. Bea**	**166.93**	**247**	PKP	**PKPdf**	**10 32 38.6**	**-2.3**
	0.9nm,1.0s,baz=48,slow=2.2,SNR=4.1						

*ISCJB **03** 10:20:21.7±0.5, 34°03N±0°04×25°60E±0°07, h17km, mb3.6/5, Error ellipse: s-maj=8.6km s-min=4.7km az=158.7*
*CSEM **03** 10:20:21.8±0.3, 34°11N×25°60E, h10km, MD3.3, Error ellipse: s-maj=15.0km s-min=5.9km az=67.0*
*IDC **03** 10:20:21.4±1.4, 34°07N×25°59E, h0km, mb3.8/5, mb1 3.9/11, mb1mx3.8/31, mbtmp3.8/11, ML4.0/5, Error ellipse: s-maj=26.8km s-min=24.2km az=163.0*
*HLW **03** 10:20:22.6, 34°13N×25°63E, h19km±24km, Md3.2, Ml3.2*
*ATH **03** 10:20:27.0, 34°41N×25°47E, h32km±8km, MD3.3/6*
ISC 03 10:20:22.8±0.7, 34°12N±0°05×25°49E±0°05, h17km, n30, σ1§37/36, mb3.8/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.04**	**360**	*e*PN	**Pn**	**10 20 42.0**	**-0.7**
LAST				*e*SN	**Sb**	**10 20 52.7**	**-3.1**
LAST	**Lasithi**	**1.04**	**360**	*e*Pn	**Pn**	**10 20 42.0**	**-0.7**
SIVA	**Sivas**	**1.06**	**328**	*e*Pn	**Pg**	**10 20 42.7**	**-0.6**
SIVA				*e*SN	**Sb**	**10 20 54.6**	**-1.6**
SIVA	**Sivas**	**1.06**	**328**	*e*Pn	**Pg**	**10 20 42.7**	**-0.6**
NPS	**Neapolis**	**1.14**	**5**	*e*PN	**Pb**	**10 20 43.5**	**-0.7**
NPS	**Neapolis**	**1.14**	**5**	*e*Pn	**Pb**	**10 20 43.5**	**-0.7**
ZKR	**Zakros**	**1.16**	**31**	*e*Pn	**Pg**	**10 20 44.5**	**-0.7**
ZKR				*e*SN	**Sb**	**10 20 58.3**	**-0.9**
ZKR	**Zakros**	**1.16**	**31**	*e*Pn	**Pg**	**10 20 44.5**	**-0.7**
ZKR				*e*Sn	**Sb**	**10 20 58.3**	**-0.9**
IDI	**Anoyia**	**1.27**	**337**	*e*PN	**Pg**	**10 20 46.8**	**-0.5**
IDI	**Anoyia**	**1.27**	**337**	*e*Pn	**Pg**	**10 20 46.8**	**-0.5**
VAM	**Vamos**	**1.67**	**321**	*e*PN	**Pb**	**10 20 52.8**	**-0.2**
VAM	**Vamos**	**1.67**	**321**	*e*Pn	**Pb**	**10 20 52.8**	**-0.2**
HMAT	**Matruh**	**3.31**	**155**	S	**Sn**	**10 21 49.9**	**-2.9**
	baz=157						
HMAT				AMP		10 21 00.0	
	comp=N,110μm,0.5s,logA/T=5.3,baz=157						
HMAT	**Matruh**	**3.31**	**155**	P	**Pn**	**10 21 13.1**	**-0.7**
HMAT				S	**Sn**	**10 21 49.9**	**-2.9**
SWA2		**4.86**	**180**	P	**Pn**	**10 21 34.6**	**-0.6**
	baz=182						
SWA2		**4.86**	**180**	P	**Pn**	**10 21 34.6**	**-0.6**
HBRG	**Burj al 'Arab**	**5.10**	**133**	P	**Pn**	**10 21 36.8**	**-1.7**
	baz=133						
GLL	**Jalalah**	**6.96**	**129**	P	**Pn**	**10 22 02.3**	**-1.8**
	baz=129						
GLL	**Jalalah**	**6.96**	**129**	P	**Pn**	**10 22 02.3**	**-1.8**
BRTR	**Keskin Array B**	**8.59**	**47**	Pn	**Pn**	**10 22 28.5**	**+2.0**
	comp=N,0.0nm,0.3s,baz=230,slow=14,SNR=4.3						
EIL	**Elat**	**9.18**	**116**	Pn	**Pn**	**10 22 33.5**	**-1.0**
	comp=N,0.5nm,0.3s,baz=288,slow=13,SNR=4.6						
EIL				Sn	**Sn**	**10 24 20.0**	**+2.5**
	comp=N,0.4nm,0.3s,baz=341,slow=17,SNR=2.8						
VRAC	**Vranov**	**16.55**	**339**	Pn	**P**	**10 24 17.0**	**+0.5**
	comp=N,0.6nm,0.3s,baz=148,slow=19,SNR=2.3						
KBZ	**Khabaz**	**16.57**	**50**	Pn	**P**	**10 24 17.7**	**+1.0**
	comp=N,0.1nm,0.3s,baz=202,slow=5.4,SNR=3.1						
AKASG	**Malin Array Be**	**16.79**	**8**	Pn	**P**	**10 24 18.8**	**-0.3**
	comp=N,1.5nm,0.3s,baz=199,slow=10,SNR=7.0						
GERES	**GERESS Array B**	**17.13**	**333**	P	**P**	**10 24 23.5**	**+0.5**
	comp=N,0.1nm,0.3s,baz=154,slow=13,SNR=10						
TORD	**Torodi Ar. Bea**	**30.04**	**232**	P	**P**	**10 26 32.9**	**+1.8**
	comp=N,0.1nm,0.4s,baz=36,slow=8.4,SNR=3.0						
KURBB	**Kurchatov Arra**	**41.57**	**50**	P	**P**	**10 28 10.0**	**+0.6**
	comp=N,0.6nm,0.3s,baz=278,slow=8.9,SNR=5.6						
MKAR	**Makanchi Array**	**44.13**	**56**	P	**P**	**10 28 30.9**	**+0.6**
	comp=N,1.1nm,0.6s,baz=280,slow=6.1,SNR=11						
ZALV	**Zalesovo Beam**	**45.53**	**45**	P	**P**	**10 28 41.7**	**+0.4**
	comp=N,0.7nm,0.5s,baz=278,slow=6.8,SNR=1.8						
SONM	**Songino Array**	**59.94**	**50**	P	**P**	**10 30 29.1**	**+1.0**
	comp=N,0.4nm,0.5s,baz=285,slow=7.3,SNR=2.8						

*CSEM **03** 10:23:27.6, 46°04N×14°88E, h0km, ML0.5, After LJU*
LJU 03 10:23:27.6, 46°04N×14°88E, h0km, ML0.5, 5C Artificial, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDKS	**Podkum**	**0.09**	**75**	⇑*i*Pg	Pg	10 23 29.2	-0.2
PDKS				*i* Sg	Sg	10 23 31.0	+0.4
PDKS							
	comp=Z,41nm,0.2s						
PDKS	**Podkum**	**0.09**	**75**	⇑*i*Pg	Pg	10 23 29.2	-0.2
PDKS				*i* Sg	Sg	10 23 31.0	+0.4
	comp=Z,41nm,0.2s						
VNDS	**Vrh nad Dolski**	**0.14**	**298**	⇑*i*Pg	Pg	10 23 30.1	-0.3
VNDS				*e*Sg	Sg	10 23 32.5	+0.3
VISS	**Visnje**	**0.24**	**186**	⇑*i*Pg	Pg	10 23 32.1	-0.1
VISS				*i* Sg	Sg	10 23 36.0	+0.7
VISS							
	comp=Z,10.0nm,0.2s						
VISS	**Visnje**	**0.24**	**186**	⇑*i*Pg	Pg	10 23 32.1	-0.1
VISS				*i* Sg	Sg	10 23 36.0	+0.7
	comp=Z,10.0nm,0.2s						
LEGS	**Legarje**	**0.32**	**106**	*e*Pg	Pg	10 23 33.8	0.0
LEGS	**Legarje**	**0.32**	**106**	*e*Pg	Pg	10 23 33.8	0.0
GOLS	**Golise**	**0.52**	**93**	*i* Pg	Pg	10 23 37.7	+0.1
GOLS	**Golise**	**0.52**	**93**	*i* Pg	Pg	10 23 37.7	0.0

*BJI **03** 10:26:26.1, 3°52S×102°09E, h150km, mB4.9/24, mb5.0/47*
*ISCJB **03** 10:26:34.8±0.2, 2°67S±0°02×102°17E±0°02, h167km±2km, mb4.9/106, Error ellipse: s-maj=4.6km s-min=2.6km az=139.4*
*BKK **03** 10:26:35.6±0.3, 3°S±3°×10°2E±°, h143km±3km, M4.9/42, mB5.3/22, mb5.0/42, MLv5.5/7, Mw(mB)4.8/22*
*IDC **03** 10:26:35.5±0.5, 2°54S×102°38E, h157km±4km, mb4.5/38, mb1 4.6/40, mb1mx4.6/41, mbtmp4.6/40, MS3.5/1, Ms1 3.5/1, ms1mx2.3/41, Error ellipse: s-maj=10.0km s-min=6.3km az=58.0*
*MOS **03** 10:26:35.3±1.1, 2°46S×102°41E, h166km, mb4.9/34, Error ellipse: s-maj=10.6km s-min=5.9km az=112.5*
*DJA **03** 10:26:35.9±0.1, 3°S±2°×10°2E±°, h156km±2km, M5.1/77, mb5.3/77, mB5.6/43, MLv5.3/22, Mw(mB)5.0/43*
*NEIC **03** 10:26:36.1±1.0, 2°58S×102°30E, h164km±8km, mb4.9/32, Error ellipse: s-maj=7.8km s-min=4.8km az=56.0*
*AUST **03** 10:26:38.0±0.3, 2°46S×102°40E, h179km, Error ellipse: s-maj=1.1km s-min=0.5km az=42.0*
*GCMT **03** 10:26:38.2±0.4, 2°65S×102°30E, h162km±4km, MW5.0, Moment Tensor Solution. s18,c19; s51,c81; Moment tensor: Scale 10¹⁶Nm; Mrr1.77±.18; Mθθ-2.12±.20; Mφφ0.35±.23; Mrθ-0.40±.15; Mθφ-2.68±.18; Mφr-2.50±.16; Best double couple: M₀4.20000×10¹⁶ NP1:ϕs95.00000°, δ45.00000°, λ156.00000°. NP2:ϕs202.00000°, δ73.00000°, λ47.00000°. Principal axes: T 3.9900, Plg45.0000°, Azm70.0000°; N 0.3600, Plg40.0000°, Azm217.0000°; P -4.3400, Plg17.0000°, Azm322.0000°; Data Used: II IU CN G IC.*

ISC 03 10:26:35.2±0.3, 2°64S±0°03×102°23E±0°04, h159km±2km, h159km:pP-P, n426, σ1§50/560, mb4.9/106, 12C-11D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.07**	**160**	P	**Pn**	**10 27 02.4**	**+0.9**
KSI				S	**Sn**	**10 27 23.5**	**+1.7**
MBSI	**MBSI**	**1.12**	**178**	P	**Pn**	**10 27 02.6**	**+0.7**
MBSI				S	**Sn**	**10 27 22.8**	**+0.4**
LHSI	**Lahat**	**1.75**	**133**	P	**Pn**	**10 27 08.8**	**+0.7**
MNAI	**Manna**	**1.86**	**157**	P	**Pn**	**10 27 10.1**	**+0.8**
MNAI				S	**Sn**	**10 27 36.4**	**+0.7**
MNAI	**Manna**	**1.86**	**157**	P	**Pn**	**10 27 10.1**	**+0.8**
	baz=2.0,SNR=356						
MNAI				S	**Sn**	**10 27 36.7**	**+1.0**
	baz=2.0,SNR=10						
RGRI	**Rengat**	**2.28**	**3**	P	**Pn**	**10 27 15.5**	**+1.3**
PMBI	**Palembang**	**2.55**	**97**	P	**Pn**	**10 27 17.3**	**-0.1**
PMBI	**Palembang**	**2.55**	**97**	P	**Pn**	**10 27 17.5**	**0.0**
	baz=2.4,SNR=19						
PPI	**Padang Panjang**	**2.84**	**320**	P	**Pn**	**10 27 21.6**	**+0.6**
PPI				S	**Sn**	**10 27 57.1**	**+0.6**
PPI	**Padang Panjang**	**2.84**	**320**	P	**Pn**	**10 27 22.0**	**+1.0**
	baz=2.8,SNR=89						
PPI				S	**Sn**	**10 27 57.5**	**+1.0**
	baz=2.8,SNR=6.2						
LWLI	**Liwa**	**2.98**	**142**	P	**Pn**	**10 27 23.7**	**+0.8**
BKNI	**Bangkinang**	**3.18**	**338**	P	**Pn**	**10 27 26.3**	**+1.0**
BKNI	**Bangkinang**	**3.18**	**338**	P	**Pn**	**10 27 26.3**	**+1.0**
	baz=3.1,SNR=58						
SISI	**Saibi**	**3.40**	**292**	P	**Pn**	**10 27 28.5**	**+0.4**
KASI	**Kota Agung**	**3.65**	**142**	P	**Pn**	**10 27 30.8**	**-0.4**
PPBI	**Pangkal Pinang**	**3.93**	**83**	P	**Pn**	**10 27 36.0**	**+1.2**
BLSI	**Bandar Lampung**	**4.05**	**132**	P	**Pn**	**10 27 37.0**	**+0.6**
TPRI	**Tanjung Pinang**	**4.21**	**33**	P	**Pn**	**10 27 40.8**	**+2.3**
BTDF	**Bukit Timah Da**	**4.26**	**21**	P	**Pn**	**10 27 39.9**	**+0.7**
BTDF	**Bukit Timah Da**	**4.26**	**21**	S	**Sn**	**10 28 29.1**	**+0.1**
	baz=4.1,SNR=11						
BTDF				S	**Sn**	**10 28 29.1**	**+0.1**
	baz=4.1,SNR=11						
MNSI	**Mandailing Nat**	**4.32**	**322**	P	**Pn**	**10 27 40.4**	**+0.5**
MYKOM	**Kota Tinggi**	**4.69**	**20**	P	**Pn**	**10 27 45.5**	**+0.8**
PBSI	**Pulau Batu**	**4.71**	**303**	P	**Pn**	**10 27 45.0**	**-0.1**
KGM	**Kluang**	**4.75**	**13**	P	**Pn**	**10 27 46.4**	**+0.9**
SBJI	**Serang**	**5.20**	**132**	P	**Pn**	**10 27 52.0**	**+0.5**
TPI	**Tanjungpandan**	**5.42**	**91**	P	**Pn**	**10 27 55.8**	**+1.5**
	187nm,1.0s,2μm0.6nm						
TNG	**Tangerang**	**5.63**	**129**	P	**Pn**	**10 27 58.1**	**+1.0**
	3μm,0.6s,9.3nm						
FRIM	**Kepong**	**5.87**	**354**	P	**Pn**	**10 28 01.1**	**+0.8**
DBJI	**Dramaga**	**5.95**	**131**	P	**Pn**	**10 28 01.4**	**0.0**
SKJI	**Sukabumi**	**6.11**	**135**	P	**Pn**	**10 28 01.2**	**-2.4**
	789nm,0.9s,14μm3.9nm						
PSI	**Prapat**	**6.34**	**328**	P	**Pn**	**10 28 05.8**	**-0.8**
PSI

KKM **Kota Kinabalu** 16.41 58 P Pn 10 30 18.3 +1.5
NAYO **Nakonayok** 16.87 357 P Pn 10 30 22.4 +0.3
91nm,0.8s,950nm
SDKM **Sandakan** 17.06 61 P Pn 10 30 26.2 +1.7
TSM **Tawau** 17.08 66 P Pn 10 30 26.5 +1.8
KDM **Kudat** 17.39 57 P Pn 10 30 29.6 +1.2
KDM **Kudat** 17.39 57 P Pn 10 30 29.8 +1.3
BMNI **Bima** 17.39 110 P Pn 10 30 30.1 +1.6
SPSI **Sidrap Palu** 17.56 95 P Pn 10 30 30.6 +0.2
116nm,0.8s,1µm
TTSI **Tana Toraja** 17.57 92 P Pn 10 30 32.4 +1.8
202nm,0.8s
KAPI **Kappang** 17.64 98 eP Pn 10 30 30.6 -0.8
534nm,1.0s
KAPI S S 10 33 44.5 -0.8
KAPI ScP ScP 10 38 20.3 -1.4
KAPI **Kappang** 17.64 98 P Pn 10 30 31.2 -0.2
470nm,1.1s,3µm
KAPI **Kappang** 17.64 98 P Pn 10 30 30.6 -0.8
14nm,0.3s,baz=286,slow=11,SNR=40
KAPI S S 10 33 44.5 -0.8
0.4nm,0.3s,baz=282,slow=9.3,SNR=1.8
KAPI ScP ScP 10 38 20.3 -1.4
1.5nm,0.3s,baz=209,slow=0.6,SNR=5.8
MYLDM **Lahad Datu** 18.01 64 P Pn 10 30 37.2 +1.4
MYLDM **Lahad Datu** 18.01 64 P Pn 10 30 37.3 +1.4
BKSI **Bulukumba** 18.04 99 P Pn 10 30 36.3 +0.1
630nm,0.9s,5µm
UBPT **Khong Chiam** 18.09 10 P Pn 10 30 36.4 -0.3
102nm,0.9s,924nm
UBPT **Khong Chiam** 18.09 10 P Pn 10 30 36.3 -0.4
102nm,0.9s,924nm
WBSI **Waikabubak, Su** 18.41 113 P P 10 30 36.5 -2.1
513nm,0.8s,3µm
CHAI **Chaiyaphum** 18.42 359 P Pn 10 30 40.0 -0.6
21nm,0.9s,345nm
BSSI **Bau Bau, Buton** 18.53 101 P Pn 10 30 41.1 -0.8
223nm,1.4s,2µm
SKSI **Soroako, Sulaw** 19.08 90 P Pn 10 30 47.4 -1.1
106nm,0.9s,1µm
PBKT **Sadao Pong** 19.13 356 P P 10 30 46.8 +0.6
58nm,1.0s
PBKT **Sadao Pong** 19.13 356 P P 10 30 46.7 +0.6
58nm,1.0s
WSI **Waingapu** 19.26 112 P P 10 30 46.4 -1.3
476nm,0.8s,6µm
SKNT **Sakolnakorn** 19.56 5 P Pn 10 30 52.9 -1.1
31nm,1.0s,6µm
BASI **Baing, Sumba** 19.71 113 P P 10 30 52.0 -0.6
430nm,0.8s
PANO **Nakornpanom** 19.80 7 P P 10 30 54.7 +1.2
131nm,0.9s,1µm
MRSI **Marisa** 19.94 81 P Pn 10 30 56.7 -1.8
373nm,0.8s,3µm
LOEI **Loei** 20.04 357 P P 10 30 55.9 -0.2
73nm,1.2s
BBSI **Bau Bau** 20.48 99 P Pn 10 31 04.8 -0.2
202nm,1.1s,2µm
LUWI **Luwuk** 20.59 86 P Pn 10 31 04.0 -2.3
488nm,1.2s,5µm
LUWI **Luwuk** 20.59 86 P Pn 10 31 04.9 -1.4
baz=20,SNR=5.8
MMRI **Maumere** 20.77 107 P P 10 31 04.1 +0.1
132nm,0.8s,1µm
GTOI **Gorontalo** 21.02 81 P P 10 31 06.5 -0.2
457nm,1.3s,4µm
LAMP **Lampang** 21.18 353 P P 10 31 10.0 +1.7
11nm,1.1s,102nm
CM31 **Chiang Mai Arr** 21.21 351 eP P 10 31 07.4 -1.2
43nm,0.9s
CMAR **Chiang Mai Arr** 21.21 351 P P 10 31 07.6 -1.0
CMAR S S 10 34 55.6 +0.4
CMAR PcP PcP 10 35 08.5 +0.9
CMAR ScP ScP 10 38 29.0 -0.7
CMAR **Chiang Mai Arr** 21.21 351 P P 10 31 07.6 -1.0
22nm,0.8s,baz=184,slow=9.1,SNR=60
CMAR S S 10 34 55.6 +0.4
0.7nm,0.3s,baz=307,slow=36,SNR=1.7
CMAR PcP PcP 10 35 08.5 +0.9
2.7nm,0.7s,baz=199,slow=3.1,SNR=6.5
CMAR ScP ScP 10 38 29.0 -0.7
4.8nm,0.8s,baz=209,slow=3.5,SNR=10
CMMT **Chiang Mai** 21.56 352 P P 10 31 11.9 -0.4
21nm,1.0s,646nm
CMMT **Chiang Mai** 21.56 352 P P 10 31 11.8 -0.5
21nm,1.0s,646nm
CHTO **Chiang Mai** 21.56 351 eP P 10 31 11.3 -1.0
CHTO pmax pmax
comp=Z,16nm,0.9s
CHTO **Chiang Mai** 21.56 351 eP P 10 31 11.3 -1.0
comp=Z,16nm,0.9s
CHTO **Chiang Mai** 21.56 351 P P 10 31 12.3 0.0
comp=Z,23nm,1.0s,comp=Z,675nm
CHTO **Chiang Mai** 21.56 351 P P 10 31 11.9 -0.4
comp=Z,23nm,1.0s,comp=Z,677nm
KMSI **Cibinong** 21.97 82 P P 10 31 15.5 -1.2
comp=Z,432nm,1.5s,comp=Z,6µm
PAYA **Payao** 22.05 354 P P 10 31 17.0 +0.3
comp=Z,11nm,0.9s,comp=Z,112nm
CMAI **Chiengmai2** 22.65 352 P P 10 31 23.1 -0.1
comp=Z,36nm,1.5s
QIZ **Qiongzhong** 22.80 19 P P 10 31 26.5 +2.1
QIZ pP pP 10 31 51.8 -2.1
QIZ sP sP 10 32 11.7 -2.0
QIZ S S 10 35 23.4 +1.9
QIZ pmax pmax
comp=Z,42nm,1.5s
QIZ pmax pmax
comp=Z,160nm,8.8s
MNI **Manado** 22.96 80 P P 10 31 28.2 +2.1
comp=Z,524nm,0.9s,comp=Z,4µm
PALK **Pallekele** 23.64 295 P P 10 31 37.3 +5.1
comp=Z,67nm,1.1s
CTBH **Cotabato--PC H** 24.05 66⇑ eP P 10 31 37.8 +1.8
RCP **Roxas** 24.80 55⇑ eP P 10 31 44.8 +2.0
TGY **Tagaytay City** 24.91 48 P P 10 31 45.8 +2.0
TGY **Tagaytay City** 24.91 48 P P 10 31 45.8 +2.0
comp=Z,155nm,0.3s,baz=190,slow=7.8,SNR=3.7
MBWA **Marble Bar** 25.08 139 eP P 10 31 45.4 +0.1
comp=Z,19nm,0.6s
DAV **Davao City (W)** 25.22 67 P P 10 31 49.0 +2.4
DAV **Davao City (W)** 25.22 67 P P 10 31 49.0 +2.4
comp=Z,179nm,0.4s,baz=349,slow=2.9,SNR=7.1
LBMI **Labuha** 25.33 86 P P 10 31 48.8 +1.2
comp=Z,368nm,1.1s,comp=Z,3µm
TNTI **Ternate** 25.35 83 P P 10 31 48.6 +0.8
comp=Z,134nm,0.9s
GAMI **Galela, Maluku** 25.93 80 P P 10 31 55.1 +2.1
comp=Z,89nm,1.3s,comp=Z,6µm
KMI **Kunming** 27.60 1 P P 10 32 10.5 +2.5
KMI pmax pmax
comp=Z,28nm,0.8s
FITZ **Fitzroy Crossi** 27.62 125 eP P 10 32 07.3 -0.7
comp=Z,26nm,0.7s
FITZ PcP PcP 10 35 22.3 +0.7
FITZ S S 10 36 31.1 -7.0
FITZ ScS ScS 10 42 38.5 -1.4
FITZ **Fitzroy Crossi** 27.62 125 P P 10 32 07.2 -0.8
comp=Z,30nm,0.8s,baz=282,slow=4.2,SNR=43
FITZ PcP PcP 10 35 22.3 +0.7
comp=Z,8.1nm,0.6s,baz=223,slow=3.2,SNR=5.5
FITZ S S 10 36 31.1 -7.0
comp=Z,4.4nm,0.9s,baz=161,slow=15,SNR=2.5
FITZ ScS ScS 10 42 38.5 -1.4
comp=Z,1.0nm,0.8s,baz=259,slow=24,SNR=1.0
FITZ LR LR 10 45 09.5
comp=Z,104nm,19.5s,baz=336,slow=40
FITZ **Fitzroy Crossi** 27.62 125 P P 10 32 07.4 -0.7
baz=28,SNR=30
MEEK **Meekatharra** 28.57 148 P P 10 32 17.8 +1.3
baz=29,SNR=8.4
KNRA **Kununurra** 29.16 118 P P 10 32 19.5 -2.2
baz=29,SNR=46
GYA **Guiyang** 29.24 8⇑ iP P 10 32 24.1 +1.6
GYA pP pP 10 32 57.6 +1.7
GYA sP sP 10 33 15.0 +0.8
GYA PP PnPn 10 33 26.8 +2.7
GYA S S 10 37 05.6 +1.9
GYA sS sS 10 38 02.7 +0.1
GYA ScS ScS 10 42 47.5 +0.1
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
MORW **Morawa** 29.39 155 P P 10 32 25.5 +1.9
baz=30,SNR=7.1

FAKI **Fak Fak** 29.98 91 P P 10 32 30.6 +1.5
comp=Z,171nm,1.1s,comp=Z,1µm
FAKI **Fak Fak** 29.98 91 P P 10 32 29.7 +0.6
baz=30,SNR=12
BLDU **Ballidu** 31.02 155 P P 10 32 39.7 +1.8
baz=31,SNR=14
KDU **Kakadu** 31.55 110 P P 10 32 41.4 -1.4
baz=32,SNR=6.6
RKPI **Ransiki, Papua** 31.94 89 P P 10 32 47.0 +0.7
comp=Z,60nm,0.8s,comp=Z,3µm
KLBR **Kellerberrin** 32.30 155 P P 10 32 51.0 +1.7
baz=32,SNR=21
ODAN **Odare** 32.64 335 eP P 10 32 52.4 -0.1
comp=Z,51nm,0.7s
TAPN **Taplejung** 32.94 336 eP P 10 32 55.3 +0.2
comp=Z,157nm,0.9s
RAMN **Ramite** 33.06 334 eP P 10 32 56.4 +0.3
comp=Z,22nm,0.5s
NWAO **Narrogin (SRO)** 33.25 157 eP P 10 32 59.2 +1.8
comp=Z,18nm,0.8s
NWAO ScP ScP 10 39 04.7 -1.1
NWAO **Narrogin (SRO)** 33.25 157 P P 10 32 59.0 +1.5
comp=Z,20nm,0.7s,baz=313,slow=12,SNR=25
NWAO ScP ScP 10 39 04.7 -1.1
comp=Z,7.9nm,0.8s,baz=331,slow=11,SNR=4.6
CD2 **Chengdu** 33.39 2 P P 10 33 00.2 +1.5
CD2 pP pP 10 33 32.7 +0.2
CD2 sP sP 10 33 50.2 -0.6
CD2 PP PP 10 34 18.0 +0.3
CD2 PcP PcP 10 35 37.7 +1.0
CD2 S S 10 38 09.9 +1.8
CD2 sS sS 10 39 06.8 -0.7
CD2 PcS PcS 10 39 22.5 -0.1
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,180nm,5.8s
CD2 LR LR
comp=N,320nm,19.1s
CD2 LR LR
comp=E,400nm,20.5s
CD2 LR LR
comp=Z,350nm,18.1s
ENH **Enshi** 33.45 11 eP P 10 32 59.2 0.0
comp=Z,19nm,0.8s
PALU **Palau** 33.67 73 P P 10 33 00.5 -0.8
baz=34,SNR=9.0
JIRN **Jiri** 33.86 334 eP P 10 33 03.3 +0.1
LSA **Lhasa** 33.86 343 eP P 10 33 03.8 +0.5
LSA pmax pmax
comp=Z,13nm,0.8s
LSA **Lhasa** 33.86 343 eP P 10 33 03.8 +0.5
comp=Z,13nm,0.8s
KMBL **Kambalda** 34.06 149 P P 10 33 05.8 +1.3
baz=34,SNR=6.6
PKI **Pulchoki** 34.13 333 eP P 10 33 05.1 -0.4
comp=Z,8.3nm,0.4s
GUN **Gumba** 34.21 334 eP P 10 33 06.3 +0.1
comp=Z,68nm,0.5s
DMN **Daman** 34.30 332 eP P 10 33 06.5 -0.4
comp=Z,15nm,0.4s
KKN **Kakani** 34.38 333 eP P 10 33 07.2 -0.3
comp=Z,68nm,0.9s
RKGY **Rocky Gully** 34.65 158 P P 10 33 12.1 +2.7
baz=35,SNR=9.1
WHN **Wuhan** 34.96 18 P P 10 33 14.0 +1.8
WHN pmax pmax
comp=Z,82nm,0.9s
KOLN **Koldanda** 35.16 331 eP P 10 33 14.0 -0.1
comp=Z,80nm,1.0s
DANN **Dangsing** 35.56 331 eP P 10 33 17.6 -0.1
comp=Z,144nm,1.0s
PYUN **Piuthan** 35.73 330 eP P 10 33 19.1 0.0
comp=Z,138nm,1.1s
WRA **Warramunga Arr** 35.75 121 P P 10 33 17.8 -1.4
WRA PcP PcP 10 35 44.0 +0.2
WRA S S 10 38 36.7 -8.0
WRA ScP ScP 10 39 13.9 -1.2
WRA ScS ScS 10 43 17.6 -3.2
WRA **Warramunga Arr** 35.75 121 P P 10 33 17.8 -1.4
comp=Z,52nm,1.0s,baz=301,slow=11,SNR=172
WRA PcP PcP 10 35 44.0 +0.2
comp=Z,18nm,0.7s,baz=306,slow=2.4,SNR=19
WRA S S 10 38 36.7 -8.0
comp=Z,4.4nm,0.8s,baz=292,slow=17,SNR=7.2
WRA ScP ScP 10 39 13.9 -1.2
comp=Z,4.2nm,0.7s,baz=309,slow=2.9,SNR=9.1
WRA ScS ScS 10 43 17.6 -3.2
comp=Z,1.8nm,0.9s,baz=313,slow=4.0,SNR=4.9
WRAB **Tennant Creek** 35.76 121 eP P 10 33 18.3 -0.9
WRAB pmax pmax
comp=Z,62nm,0.9s
WRAB **Tennant Creek** 35.76 121 eP P 10 33 18.3 -0.9
comp=Z,62nm,0.9s
XAN **Xi'an** 37.02 9 P P 10 33 30.4 +0.7
XAN pmax pmax
comp=Z,11nm,0.7s
XAN pmax pmax
comp=Z,15nm,13.5s
ASAR **Alice Springs** 37.08 127 P P 10 33 29.8 -0.7
ASAR PP PP 10 34 56.5 -1.8
ASAR PcP PcP 10 35 47.9 +0.2
ASAR S S 10 38 57.8 -7.1
ASAR ScP ScP 10 39 19.1 -0.8
ASAR ScS ScS 10 43 23.3 -4.8
ASAR **Alice Springs** 37.08 127 P P 10 33 29.8 -0.7
comp=Z,42nm,0.8s,baz=299,slow=7.5,SNR=206
ASAR PP PP 10 34 56.5 -1.8
comp=Z,8.0nm,0.8s,baz=312,slow=12,SNR=4.6
ASAR PcP PcP 10 35 47.9 +0.2
comp=Z,22nm,0.7s,baz=312,slow=2.6,SNR=30
ASAR S S 10 38 57.8 -7.1
comp=Z,5.4nm,0.8s,baz=296,slow=15,SNR=11
ASAR ScP ScP 10 39 19.1 -0.8
comp=Z,7.3nm,0.6s,baz=297,slow=3.8,SNR=4.4
ASAR ScS ScS 10 43 23.3 -4.8
comp=Z,1.8nm,0.8s,baz=294,slow=6.2,SNR=6.9
AS31 **Alice Springs** 37.08 127 eP P 10 33 29.8 -0.6
FORT **Forrest** 37.14 142 eP P 10 33 32.1 +1.4
comp=Z,147nm,0.6s
FORT **Forrest** 37.14 142 P P 10 33 32.1 +1.4
baz=37,SNR=23
NJ2 **Nanjing** 37.94 23 eP P 10 33 39.4 +2.0
NJ2 pmax pmax
comp=Z,30nm,1.0s
JAY **Jayapura** 38.43 91 P P 10 33 42.0 +0.1
comp=Z,50nm,0.8s,comp=Z,7µm
JAY **Jayapura** 38.43 91 P P 10 33 40.9 -1.0
baz=38,SNR=10
LZH **Lanzhou** 38.55 2 eP P 10 33 43.3 +0.6
LZH pP pP 10 34 17.4 +0.2
LZH sP sP 10 34 31.8 -3.5
LZH PP PP 10 35 15.6 +1.2
LZH eS S 10 39 29.3 +2.4
LZH pmax pmax
comp=Z,27nm,1.2s
LZH pmax pmax
comp=Z,59nm,4.6s
LZH LR LR
comp=N,170nm,14.8s
LZH LR LR
comp=E,230nm,11.8s
LZH LR LR
comp=Z,1µm,19.3s
NDI **New Delhi** 39.33 324 eP P 10 33 48.0 -1.0
NDI eS S 10 39 32.0 -6.4
QIS **Mount Isa** 40.54 119 P P 10 34 00.0 +0.8
baz=40,SNR=6.4
GTA **Gaotai** 41.90 357 eP P 10 34 11.7 +1.6
GTA pP pP 10 34 45.3 +0.2
GTA sP sP 10 35 04.1 +1.0
GTA PcP PcP 10 36 02.3 -0.5
GTA ScP ScP 10 39 36.5 -1.9
GTA S S 10 40 22.2 +5.7
GTA ScS ScS 10 43 53.1 -3.0
GTA pmax pmax
comp=Z,19nm,0.7s
GTA LR LR
comp=N,280nm,19.0s
GTA LR LR
comp=E,240nm,16.6s
GTA LR LR
comp=Z,310nm,16.6s
COEN **Coen** 41.97 108 eP P 10 34 10.6 -0.3
comp=Z,48nm,0.7s
COEN **Coen** 41.97 108 P P 10 34 10.8 -0.1
baz=42,SNR=4.1
BBOO **Buckleboo** 43.66 137 P P 10 34 24.6 +0.4
baz=44,SNR=19
MTSU **Mount Surprise** 44.01 113 P P 10 34 28.2 +0.9
baz=44,SNR=11
HHC **Hu-ho-hao-te** 44.11 10 eP P 10 34 29.4 +1.5
HHC pP pP 10 35 02.9 -0.2
HHC sP sP 10 35 19.1 -1.9
HHC PcP PcP 10 36 11.8 +1.6
HHC PP PP 10 36 16.1 +2.1
HHC PcS PcS 10 40 04.2 +0.6
HHC S S 10 40 51.9 +3.3
HHC ScS SS 10 44 11.0 -1.2
HHC pmax pmax
comp=Z,54nm,0.7s
HHC pmax pmax
comp=Z,210nm,5.8s
BJT **Baijiatuao** 44.33 15 eP P 10 34 31.3 +1.8
comp=Z,23nm,0.4s
BJI **Beijing** 44.35 15 P P 10 34 30.9 +1.3
BJI S S 10 40 52.0 +0.1
BJI SS SS 10 44 20.3 +4.2
BJI pmax pmax
comp=Z,36nm,0.6s
BJI pmax pmax
comp=Z,120nm,3.9s
BJI LR LR
comp=N,260nm,16.5s
BJI LR LR
comp=E,350nm,20.7s
BJI LR LR
comp=Z,310nm,22.6s
JNU **Nakatsue** 44.70 35 eP P 10 34 33.8 +1.2
comp=Z,29nm,1.0s
JNU **Nakatsue** 44.70 35 P P 10 34 33.3 +0.8
comp=Z,54nm,1.0s,baz=174,slow=1.5,SNR=14
PMG **Port Moresby** 45.14 101 eP P 10 34 36.9 +0.6
comp=Z,41nm,1.0s
PMG **Port Moresby** 45.14 101 P P 10 34 36.6 +0.3
comp=Z,44nm,1.1s
PMG **Port Moresby** 45.14 101 P P 10 34 35.7 -0.7
comp=Z,33nm,0.9s,baz=317,slow=3.8,SNR=7.0
CTA **Charters Tower** 46.31 115 P P 10 34 44.3 -1.1
CTA PcP PcP 10 36 18.7 +0.5
CTA **Charters Tower** 46.31 115 P P 10 34 44.3 -1.1
comp=Z,9.5nm,0.7s,baz=291,slow=9.6,SNR=11
CTA PcP PcP 10 36 18.7 +0.5
comp=Z,8.5nm,0.6s,baz=257,slow=2.6,SNR=6.0
CTAO **Charters Tower** 46.31 115 eP P 10 34 44.5 -0.9
CTAO pmax pmax
comp=Z,21nm,0.9s
CTAO **Charters Tower** 46.31 115 eP P 10 34 44.5 -0.9
comp=Z,21nm,0.9s
KSAR **Wonju Array Be** 46.44 28 P P 10 34 46.8 +0.6
KSAR PcP PcP 10 36 18.7 +0.5
KSRS **Korea Array** 46.47 28 P P 10 34 46.8 +0.4
comp=Z,20nm,1.0s,baz=212,slow=8.4,SNR=49
KSRS PcP PcP 10 36 18.7 +0.4
comp=Z,2.6nm,0.8s,baz=223,slow=3.5,SNR=4.9
QLP **Quilpie** 46.75 125 P P 10 34 49.4 +0.6
baz=47,SNR=13
STKA **Stephens Creek** 47.07 133 eP P 10 34 51.3 +0.2
comp=Z,7.6nm,0.8s
STKA ScP ScP 10 39 59.9 +0.3
STKA S S 10 41 27.0 -4.1
STKA **Stephens Creek** 47.07 133 P P 10 34 51.3 +0.2
comp=Z,35nm,0.7s,baz=309,slow=7.7,SNR=43
STKA ScP ScP 10 39 59.9 +0.3
comp=Z,2.7nm,0.6s,baz=256,slow=3.0,SNR=3.7
STKA S S 10 41 27.0 -4.1
comp=Z,2.4nm,0.5s,baz=101,slow=15,SNR=5.2
STKA **Stephens Creek** 47.07 133 P P 10 34 51.6 +0.5
baz=47,SNR=23
WMQ **Urumqi** 48.06 346 P P 10 35 00.5 +1.9
WMQ pP pP 10 35 32.5 -1.9
WMQ sP sP 10 35 48.5 -3.7
WMQ PP PP 10 36 53.8 +1.4
WMQ S S 10 41 46.5 +1.6
WMQ ScS ScS 10 44 36.1 +0.8
WMQ SS SS 10 45 13.0 -3.2
WMQ pmax pmax
comp=Z,44nm,0.8s
WMQ pmax pmax
comp=Z,260nm,4.0s
WMQ LR LR
comp=N,640nm,19.6s
WMQ LR LR
comp=E,440nm,17.5s
WMQ LR LR
comp=Z,320nm,26.7s
KBL **Kabul** 48.37 323 eP P 10 35 01.7 +0.3
KBL pmax pmax
comp=Z,35nm,1.1s
KBL **Kabul** 48.37 323 eP P 10 35 01.7 +0.3
comp=Z,35nm,1.1s
KBL **Kabul** 48.37 323 P P 10 35 01.7 +0.3
baz=48,SNR=5.2
KSH **Kashi** 48.40 333 P P 10 35 00.3 -1.1
KSH pP pP 10 35 37.4 +0.2
KSH PP PP 10 36 54.8 -0.8
KSH S S 10 41 49.5 -0.3
KSH sS sS 10 42 48.0 -4.2
KSH SS SS 10 45 18.1 -3.8
KSH pmax pmax
comp=Z,15nm,3.8s
KSH LR LR
comp=N,120nm,6.9s
KSH LR LR
comp=E,150nm,5.8s
KSH LR LR
comp=Z,130nm,9.5s
ARPS **Mount Arapiles** 49.81 138 P P 10 35 13.4 +1.4
baz=50,SNR=10.0
CMSA **Cobar Meteorol** 49.99 130 P P 10 35 14.0 +0.6
baz=50,SNR=60
SONM **Songino Array** 50.40 4 P P 10 35 17.5 +1.2
SONM PcP PcP 10 36 32.9 +0.4
SONM ScP ScP 10 40 11.9 -1.7
SONM S S 10 42 15.0 -2.5
SONM **Songino Array** 50.40 4 P P 10 35 17.5 +1.2
comp=Z,40nm,0.8s,baz=184,slow=9.7,SNR=63
SONM PcP PcP 10 36 32.9 +0.4
comp=Z,6.7nm,0.6s,baz=184,slow=3.9,SNR=8.3
SONM ScP ScP 10 40 11.9 -1.7
comp=Z,1.1nm,0.7s,baz=188,slow=6.0,SNR=3.6
SONM S S 10 42 15.0 -2.5
comp=Z,1.6nm,1.0s,baz=202,slow=15,SNR=4.5
ULN **Ulaanbaatar** 50.47 4 eP P 10 35 18.4 +1.5
comp=Z,23nm,1.0s
RMQ **Roma** 50.48 123 P P 10 35 17.8 +0.4
baz=50,SNR=22
CN2 **Changchun** 50.71 22 eP P 10 35 19.3 +0.7
CN2 epP pP 10 35 51.5 -3.3
CN2 eS S 10 42 22.9 +1.2
CN2 pmax pmax
comp=Z,50nm,0.7s
CN2 pmax pmax
comp=Z,400nm,6.0s
TKM2 **Tokmak 2** 51.33 335 eP P 10 35 24.1 +0.6
TKM2 pmax pmax
comp=Z,11nm,0.4s
TKM2 **Tokmak 2** 51.33 335 eP P 10 35 24.1 +0.6
comp=Z,11nm,0.4s
MAJO **Matsushiro** 51.40 37 eP P 10 35 23.6 -0.3
MAJO pmax pmax
comp=Z,43nm,1.2s
MAJO **Matsushiro** 51.40 37 eP P 10 35 23.6 -0.3
comp=Z,43nm,1.2s
MAT **Matsushiro** 51.40 37 P P 10 35 23.5 -0.4
MJAR **Matsushiro Arr** 51.40 37 P P 10 35 23.4 -0.5
MJAR PcP PcP 10 36 36.8 +0.5
MJAR ScP ScP 10 40 15.3 -2.7
MJAR **Matsushiro Arr** 51.40 37 P P 10 35 23.4 -0.5
comp=Z,27nm,0.9s,baz=219,slow=7.9,SNR=48
MJAR PcP PcP 10 36 36.8 +0.5
comp=Z,4.3nm,0.9s,baz=218,slow=4.8,SNR=4.7
MJAR ScP ScP 10 40 15.3 -2.7
comp=Z,2.5nm,1.0s,baz=226,slow=6.0,SNR=5.7
AAK **Ala-Archa** 51.57 334 P P 10 35 25.4 +0.2
AAK 10 36 38.0
AAK S S 10 42 30.8 -3.0
AAK **Ala-Archa** 51.57 334 P P 10 35 25.4 +0.2
AAK PcP PcP 10 36 38.0 +1.0
AAK ScP ScP 10 40 18.2 -0.6
AAK S S 10 42 30.8 -3.0

AAK	**Ala-Archa**	**51.57**	**334**	P		**P**	**10 35 25.4**	**+0.2**		
	comp=Z,2.6nm,0.5s,baz=160,slow=11,SNR=6.9									
AAK				PcP		**PcP**	**10 36 38.0**	**+1.0**		
	comp=Z,2.2nm,0.3s,baz=171,slow=9.9,SNR=4.0									
AAK				ScP		**ScP**	**10 40 18.2**	**-0.6**		
	comp=Z,7.6nm,1.1s,baz=196,slow=8.7,SNR=5.0									
AAK				S		**S**	**10 42 30.8**	**-3.0**		
	comp=Z,1.3nm,0.3s,baz=179,slow=3.2,SNR=1.7									
FRU	**Bishkek**	**51.67**	**334**	*e*P		**P**	**10 35 25.0**	**-0.9**		
FRU				*e*			10 42 52.0			
FRU				pmax		pmax				
	comp=Z,45nm,1.8s									
EKS2	**Erkin-Say**	**51.91**	**333**	*e*P		**P**	**10 35 28.2**	**+0.5**		
EKS2				pmax		pmax				
	comp=Z,20nm,0.8s									
EKS2	**Erkin-Say**	**51.91**	**333**	*e*P		**P**	**10 35 28.2**	**+0.5**		
	comp=Z,20nm,0.8s									
EIDS	**Eidsvold**	**52.11**	**120**	*e*P		**P**	**10 35 29.3**	**-0.1**		
	comp=Z,25nm,0.7s									
EIDS	**Eidsvold**	**52.11**	**120**	P		**P**	**10 35 29.2**	**-0.2**		
	baz=52,SNR=12									
MK31	**Makanchi Array**	**52.27**	**343**	*e*P		**P**	**10 35 30.3**	**+0.1**		
MK31	**Makanchi Array**	**52.27**	**343**	*e*P		**P**	**10 35 30.3**	**+0.1**		
MKAR	**Makanchi Array**	**52.27**	**343**	*ce*P		**P**	**10 35 30.1**	**-0.1**		
MKAR				pmax		pmax				
	comp=Z,7.0nm,0.4s									
MKAR	**Makanchi Array**	**52.27**	**343**	P		**P**	**10 35 29.9**	**-0.3**		
MKAR				ScP		**ScP**	**10 40 20.2**	**-1.4**		
MKAR				S		**S**	**10 42 39.5**	**-3.4**		
MKAR	**Makanchi Array**	**52.27**	**343**	P		**P**	**10 35 29.9**	**-0.3**		
	comp=Z,7.4nm,0.4s,baz=152,slow=7.5,SNR=64									
MKAR				ScP		**ScP**	**10 40 20.2**	**-1.4**		
	comp=Z,0.9nm,0.7s,baz=145,slow=7.0,SNR=3.8									
MKAR				S		**S**	**10 42 39.5**	**-3.4**		
	comp=Z,1.0nm,0.8s,baz=165,slow=15,SNR=5.5									
TOO	**Toolangi**	**52.71**	**137**	P		**P**	**10 35 35.8**	**+2.1**		
	baz=53,SNR=8.1									
ZAK	**Zakamensk**	**52.82**	**1**	*e*P		**P**	**10 35 35.2**	**+0.9**		
MDJ	**Mudanjiang**	**53.01**	**24**	P		**P**	**10 35 36.6**	**+0.9**		
MDJ				pmax		pmax				
	comp=Z,12nm,0.8s									
MDJ				pmax		pmax				
	comp=Z,28nm,3.2s									
YNG	**Young**	**53.24**	**132**	P		**P**	**10 35 38.4**	**+0.7**		
	baz=53,SNR=8.2									
USRK	**Ussuriysk Arra**	**53.71**	**26**	P		**P**	**10 35 41.3**	**+0.6**		
	comp=Z,47nm,0.7s,baz=222,slow=5.9,SNR=73									
KK31	**Karatay Array**	**53.76**	**331**	P		**P**	**10 35 40.6**	**-0.6**		
KK31				pmax		pmax				
	comp=Z,1.0nm,0.3s									
KKAR	**Karatay Array**	**53.76**	**331**	*e*P		**P**	**10 35 41.3**	**+0.1**		
KKAR				pmax		pmax				
	comp=Z,2.0nm,0.4s									
KKAR	**Karatay Array**	**53.76**	**331**	*e*P		**P**	**10 35 41.3**	**+0.1**		
	comp=Z,2.0nm,0.4s									
ARMA	**Armidale**	**54.22**	**126**	*e*P		P	10 35 48.5	+3.7		
	comp=Z,24nm,0.8s									
ARMA	**Armidale**	**54.22**	**126**	P		P	10 35 48.6	+3.7		
	baz=54,SNR=10.0									
IMOG	**Moghan**	**55.54**	**318**	*e*P		**P**	**10 35 53.5**	**-1.0**		
IBAF	**Bafgh**	**55.86**	**311**	*e*P		**P**	**10 35 57.0**	**+0.3**		
IKRD	**Kardeh**	**56.47**	**318**	*e*P		P	10 35 55.9	-5.1		
KURBB	**Kurchatov Arra**	**56.81**	**342**	P		**P**	**10 36 02.5**	**-0.3**		
	comp=Z,15nm,0.8s,baz=159,slow=6.8,SNR=58									
KURBB				ScP		**ScP**	**10 40 40.0**	**-1.3**		
	comp=Z,2.1nm,0.8s,baz=157,slow=3.4,SNR=5.8									
KURBB				S		S	10 43 36.1	-7.4		
	comp=Z,0.8nm,0.7s,baz=145,slow=16,SNR=4.9									
KURK	**Kurchatov**	**56.87**	**342**	P		**P**	**10 36 02.5**	**-0.7**		
KURK				ScP		**ScP**	**10 40 40.0**	**-1.6**		
KURK				S		S	10 43 36.1	-8.1		
IPAR	**Pars**	**57.00**	**308**	*e*P		P	**10 36 05.2**	**+0.2**		
KLR	**Kul'dur**	**57.63**	**22**	*e*P		P	10 36 05.2	-3.4		
KLR				pmax		pmax				
	comp=E,35nm,1.8s									
KLR				pmax		pmax				
	comp=Z,88nm,1.8s									
ZALV	**Zalesovo Beam**	**58.23**	**348**	*i* P		**P**	**10 36 12.6**	**-0.1**		
ZALV				pmax		pmax				
	comp=Z,30nm,0.7s									
ZALV	**Zalesovo Beam**	**58.23**	**348**	P		**P**	**10 36 12.0**	**-0.7**		
ZALV				PcP		**PcP**	**10 37 04.0**	**+1.8**		
ZALV				S		**S**	**10 43 58.1**	**-3.8**		
ZALV	**Zalesovo Beam**	**58.23**	**348**	P		P	**10 36 12.0**	**-0.7**		
	comp=Z,30nm,0.8s,baz=164,slow=4.8,SNR=37									
ZALV				PcP		**PcP**	**10 37 04.0**	**+1.8**		
	comp=Z,2.6nm,0.4s,baz=164,slow=5.7,SNR=2.5									
ZALV				S		**S**	**10 43 58.1**	**-3.8**		
	comp=Z,1.7nm,0.6s,baz=149,slow=21,SNR=4.2									
HABR	**Khabarovsk**	**58.36**	**25**	*e*P		**P**	**10 36 13.1**	**-0.6**		
HABR				*e**SP		sP	10 37 02.5	-5.7		
HABR				*e*			10 45 45.4			
HABR				pmax		pmax				
	comp=Z,26nm,1.1s									
HABR				pmax		pmax				
	comp=E,17nm,1.5s									
HABR				pmax		pmax				
	comp=N,22nm,2.2s									
HABR				MLR		MLR				
	comp=Z,107nm,17.0s									
ASAJ	**Asahikawa**	**58.90**	**33**	*e*P		**P**	**10 36 17.5**	**0.0**		
	comp=Z,7.8nm,0.8s									
ASAJ	**Asahikawa**	**58.90**	**33**	P		**P**	**10 36 17.9**	**+0.3**		
	comp=Z,18nm,0.8s,baz=237,slow=9.7,SNR=19									
IFIR	**Firoozkooh**	**59.86**	**314**	*e*P		**P**	**10 36 25.4**	**+0.8**		
IVRN	**Varamin**	**60.30**	**313**	*e*P		**P**	**10 36 27.1**	**-0.3**		
YSS	**Yuzh-Sakhalins**	**60.86**	**31⇑**	*e*P		**P**	**10 36 32.4**	**+1.6**		
YSS				*e*			10 37 10.3			
YSS				pmax		pmax				
	comp=Z,90nm,1.0s									
IR3	**Iran Long-Peri**	**61.03**	**313**	*e*P		**P**	**10 36 33.1**	**+0.8**		
IR5	**Iran Long-Peri**	**61.23**	**313**	*e*P		**P**	**10 36 34.4**	**+0.6**		
BVAR	**Borovoye Array**	**61.57**	**339**	P		**P**	**10 36 35.5**	**0.0**		
BVAR				S		**S**	**10 44 40.7**	**-3.9**		
BVAR	**Borovoye Array**	**61.57**	**339**	P		**P**	**10 36 35.5**	**0.0**		
BVAR				ScP		**ScP**	**10 41 00.9**	**-1.5**		
BVAR				S		**S**	**10 44 40.7**	**-3.9**		
BVAR	**Borovoye Array**	**61.57**	**339**	P		**P**	**10 36 35.5**	**0.0**		
	comp=Z,4.4nm,0.3s,baz=127,slow=7.9,SNR=21									
BVAR				ScP		**ScP**	**10 41 00.9**	**-1.5**		
	comp=Z,0.5nm,0.4s,baz=145,slow=5.4,SNR=3.7									
BVAR				S		**S**	**10 44 40.7**	**-3.9**		
	comp=Z,1.0nm,0.6s,baz=190,slow=33,SNR=3.5									
IRAZ	**Razeghan**	**61.80**	**313**	*e*P		**P**	**10 36 38.3**	**+0.6**		
AB31	**Akbulak array**	**63.28**	**330**	P		**P**	**10 36 46.3**	**-0.6**		
AB31				pmax		pmax				
	comp=Z,4.0nm,0.3s									
ABKAR	**Akbulak array**	**63.28**	**330**	*e*P		**P**	**10 36 46.4**	**-0.5**		
	comp=Z,21nm,0.7s									
ILIN	**Lien**	**63.79**	**311**	*e*P		**P**	**10 36 50.9**	**0.0**		
IGHG	**Ghaleghazi**	**63.86**	**310**	*e*P		**P**	**10 36 51.0**	**-0.3**		
IDHR	**Dehrash**	**64.14**	**311**	*e*P		**P**	**10 36 52.2**	**-0.9**		
KMBO	**Kilima Mbogo**	**64.96**	**270**	P		**P**	**10 37 01.1**	**+2.2**		
KMBO	**Kilima Mbogo**	**64.96**	**270**	P		**P**	**10 37 01.1**	**+2.2**		
	comp=Z,1.0nm,0.7s,baz=68,slow=12,SNR=5.1									
AKTO	**Aktyubinsk**	**65.00**	**331**	P		**P**	**10 36 57.5**	**-0.6**		
AKTO				S		S	10 45 20.5	-6.8		
AKTO	**Aktyubinsk**	**65.00**	**331**	P		**P**	**10 36 57.5**	**-0.6**		
AKTO				S		S	10 45 20.5	-6.8		
AKTO	**Aktyubinsk**	**65.00**	**331**	P		**P**	**10 36 57.5**	**-0.6**		
	comp=Z,3.9nm,0.3s,baz=145,slow=7.7,SNR=27									
AKTO				S		S	10 45 20.5	-6.8		
	comp=Z,1.9nm,0.8s,baz=319,slow=20,SNR=12									
GNI	**Garni**	**67.53**	**316**	P		**P**	**10 37 15.8**	**+1.1**		
GNI	**Garni**	**67.53**	**316**	P		**P**	**10 37 15.8**	**+1.1**		
	comp=Z,3.5nm,0.3s,baz=122,slow=18,SNR=3.6									
DGRG	**David-gareji**	**67.64**	**317**	P		**P**	**10 37 16.7**	**+1.5**		
YAK	**Yakutsk**	**67.81**	**14**	*e*P		**P**	**10 37 15.1**	**-0.6**		
YAK				pmax		pmax				
	comp=Z,62nm,0.9s									
YAK				pmax		pmax				
	comp=N,16nm,1.2s									
YAK				pmax		pmax				
	comp=E,13nm,1.4s									
SVE	**Sverdlovsk**	**68.13**	**337**	*e*P		**P**	**10 37 20.3**	**+2.5**		
TBLG	**Delisi**	**68.19**	**317**	*e*P		P	10 37 15.4	-3.2		
TBLG	**Delisi**	**68.19**	**317**	P		P	10 37 15.5	-3.2		
ARU	**Arti**	**68.69**	**336**	*d* iP		**P**	**10 37 22.6**	**+1.3**		
ARU							10 39 54.7			
ARU				S		**S**	**10 46 14.6**	**+3.2**		
ARU				SS		**SS**	**10 50 32.4**	**-7.0**		
ARU				pmax		pmax				
	comp=Z,18nm,1.0s									
ZEI	**Tsey**	**69.19**	**318**	*e*P		**P**	**10 37 25.0**	**0.0**		
ZEI				pmax		pmax				
	comp=Z,29nm,0.9s									
MAW	**Mawson**	**70.23**	**195**	P		P	10 37 33.8	+3.2		
MAW	**Mawson**	**70.23**	**195**	P		P	10 37 33.8	+3.2		
	comp=Z,12nm,0.9s,baz=38,slow=6.9,SNR=20									
MAW	**Mawson**	**70.23**	**195**	P		P	10 37 33.8	+3.2		
	baz=70,SNR=14									
KBZ	**Khabaz**	**70.25**	**319**	P		**P**	**10 37 31.7**	**+0.5**		
KBZ				*PP		**pP**	**10 38 08.5**	**-1.1**		
KBZ	**Khabaz**	**70.25**	**319**	P		**P**	**10 37 31.7**	**+0.5**		
KBZ				pP		**pP**	**10 38 08.5**	**-1.1**		
KBZ	**Khabaz**	**70.25**	**319**	P		**P**	**10 37 31.7**	**+0.5**		
	comp=Z,19nm,0.8s,baz=119,slow=5.2,SNR=45									
KBZ				pP		**pP**	**10 38 08.5**	**-1.1**		
	comp=Z,6.4nm,1.0s,baz=170,slow=1.5,SNR=2.0									
KIV	**Kislovodsk**	**70.49**	**319**	*d* iP		**P**	**10 37 33.0**	**+0.3**		
KIV				*i*			10 37 50.3			
KIV				*i* *PP		**pP**	**10 38 09.9**	**-1.3**		
KIV				*i*			10 40 09.6			
KIV				pmax		pmax				
	comp=Z,30nm,1.2s									
ASF	**Jabal al Asfar**	**70.78**	**305**	P		**P**	**10 37 36.1**	**+1.4**		
ASF				pP		**pP**	**10 38 13.9**	**+0.7**		
ASF	**Jabal al Asfar**	**70.78**	**305**	P		**P**	**10 37 36.1**	**+1.4**		
	comp=Z,8.5nm,0.9s									
ASF				pP		**pP**	**10 38 13.9**	**+0.7**		
MALT	**Malatya**	**71.42**	**312**	⇓*i* P		**PcP**	**10 37 57.1**	**-0.1**		
EIL	**Elat**	**71.75**	**302**	P		**P**	**10 37 41.2**	**+0.7**		
EIL	**Elat**	**71.75**	**302**	P		**P**	**10 37 41.2**	**+0.7**		
	comp=Z,9.7nm,0.8s,baz=313,slow=4.5,SNR=6.2									
EIL	**Elat**	**71.75**	**302**	P		**P**	**10 37 42.1**	**+1.6**		
	baz=72,SNR=4.6									
PETK	**Petropavlovsk-**	**72.25**	**31**	P		**P**	**10 37 43.1**	**+0.1**		
PETK	**Petropavlovsk-**	**72.25**	**31**	P		**P**	**10 37 43.1**	**+0.1**		
PETK	**Petropavlovsk-**	**72.25**	**31**	P		**P**	**10 37 43.1**	**+0.1**		
	comp=Z,20nm,0.7s,baz=207,slow=6.3,SNR=20									
PET	**Petropavlovsk**	**72.70**	**32**	*e*P		**P**	**10 37 46.1**	**+0.5**		
PET				pmax		pmax				
	comp=Z,110nm,0.7s									
RPZ	**Rata Peaks**	**72.95**	**135**	*e*P		**P**	**10 37 48.1**	**+0.7**		
	comp=Z,70nm,0.6s									
RPZ	**Rata Peaks**	**72.95**	**135**	P		**P**	**10 37 47.9**	**+0.4**		
	comp=Z,75nm,0.6s,baz=255,slow=2.4,SNR=62									
ANN	**Anapa**	**74.30**	**318**	*e*P		P	10 37 49.9	-5.2		
ANN				pmax		pmax				
	comp=Z,32nm,1.0s									
BR131	**Keskin Array S**	**75.40**	**312**	*e*P		**P**	**10 38 01.6**	**-0.2**		
	comp=Z,14nm,0.8s									
BRTR	**Keskin Array B**	**75.40**	**312**	P		**P**	**10 38 01.4**	**-0.5**		
BRTR				pP		**pP**	**10 38 39.1**	**-1.6**		
BRTR				PP		**PP**	**10 40 53.8**	**+0.8**		
BRTR	**Keskin Array B**	**75.40**	**312**	P		**P**	**10 38 01.4**	**-0.5**		
	comp=Z,17nm,0.8s,baz=129,slow=7.3,SNR=78									
BRTR				pP		**pP**	**10 38 39.1**	**-1.6**		
	comp=Z,2.9nm,0.9s,baz=109,slow=6.7,SNR=1.8									
BRTR				PP		**PP**	**10 40 53.8**	**+0.8**		
	comp=Z,1.0nm,0.9s,baz=100,slow=6.0,SNR=2.2									
TIXI	**Tiksi**	**76.14**	**8**	*ce*P		**P**	**10 38 04.2**	**-1.0**		
TIXI				pmax		pmax				
	comp=Z,13nm,1.0s									
SIM	**Simferopol'**	**76.57**	**317**	*e*P		**P**	**10 38 07.9**	**-0.3**		
SIM				pmax		pmax				
	comp=Z,16nm,0.6s									
BOSA	**Boshof**	**77.31**	**241**	P		**P**	**10 38 15.3**	**+2.5**		
BOSA	**Boshof**	**77.31**	**241**	P		**P**	**10 38 15.3**	**+2.5**		
	comp=Z,5.9nm,0.8s,baz=82,slow=5.5,SNR=7.2									
OBN	**Obninsk**	**78.52**	**328**	⇑*e*P		**P**	**10 38 20.4**	**+1.7**		
OBN				*i*			10 38 57.4			
OBN				*e*			10 41 19.7			
OBN				pmax		pmax				
	comp=Z,7.0nm,0.4s									
TIRR	**Tirgusor**	**80.36**	**316**	⇓P		**P**	**10 38 29.9**	**+1.0**		
TIRR	**Tirgusor**	**80.36**	**316**	*e*P		**P**	**10 38 29.4**	**+0.5**		
	comp=Z,5.1nm,0.8s									
TIRR	**Tirgusor**	**80.36**	**316**	⇓*i* P		**P**	**10 38 29.9**	**+1.0**		
VNDA	**Vanda**	**81.11**	**169**	*e*P		**P**	**10 38 33.7**	**+1.4**		
	comp=Z,27nm,1.5s									
VNDA	**Vanda**	**81.11**	**169**	P		**P**	**10 38 33.8**	**+1.4**		
	comp=Z,5.9nm,0.6s,baz=310,slow=5.2,SNR=32									
AKASG	**Malin Array Be**	**81.35**	**322**	P		**P**	**10 38 33.7**	**-0.3**		
AKASG				*PP		**pP**	**10 39 11.7**	**-1.8**		
AKASG	**Malin Array Be**	**81.35**	**322**	P		**P**	**10 38 33.7**	**-0.3**		
AKASG				pP		**pP**	**10 39 11.7**	**-1.8**		
AKASG	**Malin Array Be**	**81.35**	**322**	P		**P**	**10 38 33.7**	**-0.3**		
	comp=Z,1.5nm,0.3s,baz=100,slow=5.1,SNR=11									
AKASG				pP		**pP**	**10 39 11.7**	**-1.8**		
	comp=Z,1.5nm,0.6s,baz=93,slow=4.3,SNR=2.4									
TMCR	**Tamitsa**	**81.41**	**336**	*e*P		**P**	**10 38 35.9**	**+1.9**		
TMCR				pmax		pmax				
	comp=Z,18nm,0.7s									
VRI	**Vrincioaia**	**81.84**	**317**	⇑P		**P**	**10 38 38.2**	**+1.5**		
VRI	**Vrincioaia**	**81.84**	**317**	⇑*i* P		**P**	**10 38 38.2**	**+1.5**		
TESR	**Tescani**	**82.03**	**318**	⇑*i* P		**P**	**10 38 38.9**	**+1.2**		
SBA	**Scott Base**	**82.20**	**169**	*e*P		**P**	**10 38 40.2**	**+2.2**		
SBA				pmax		pmax				
	comp=Z,10.0nm,0.8s									
SBA	**Scott Base**	**82.20**	**169**	*e*P		**P**	**10 38 40.2**	**+2.2**		
	comp=Z,10nm,0.8s									
MLR	**Muntele Rosu**	**82.30**	**316**	⇓*i* P		**P**	**10 38 40.4**	**+1.1**		
VOIR		**82.90**	**316**	⇓P		**P**	**10 38 42.8**	**+0.4**		
VOIR		**82.90**	**316**	⇓*i* P		**P**	**10 38 42.8**	**+0.4**		
BILL	**Bilibino**	**82.98**	**20**	*d* iP		**P**	**10 38 42.2**	**0.0**		
BILL				pmax		pmax				
	comp=Z,14nm,1.6s									
VTS	**Vitosha**	**83.71**	**313**	⇑P		**P**	**10 38 47.4**	**+0.8**		
VTS	**Vitosha**	**83.71**	**313**	⇑*i* P		**P**	**10 38 47.4**	**+0.8**		
LOT	**Lotru**	**83.79**	**316**	⇓*i* P		**P**	**10 38 47.9**	**+0.9**		
VSU	**Vasula**	**84.69**	**329**	⇑*e*P		**P**	**10 38 51.2**	**+0.2**		
VSU				pmax		pmax				
	comp=Z,17nm,0.7s									
FINES	**FINESS Array B**	**85.71**	**332**	P		**P**	**10 38 56.2**	**+0.2**		
FINES	**FINESS Array B**	**85.71**	**332**	P		**P**	**10 38 56.2**	**+0.2**		
	comp=Z,7.7nm,0.6s,baz=115,slow=5.1,SNR=5.7									
ARCES	**ARCESS Array B**	**87.83**	**340**	P		**P**	**10 39 06.4**	**+0.3**		
ARCES	**ARCESS Array B**	**87.83**	**340**	P		**P**	**10 39 06.4**	**+0.3**		
	comp=Z,3.5nm,0.4s,baz=102,slow=5.2,SNR=14									
HFS	**Hagfors**	**91.54**	**330**	P		**P**	**10 39 23.8**	**+0.1**		
HFS				PP		**PP**	**10 43 03.4**	**-0.5**		
HFS	**Hagfors**	**91.54**	**330**	P		**P**	**10 39 23.8**	**+0.1**		
	comp=Z,2.6nm,0.4s,baz=134,slow=4.3,SNR=8.8									
HFS				PP		**PP**	**10 43 03.3**	**-0.5**		
	comp=Z,3.2nm,1.0s,baz=107,slow=14,SNR=9.4									
CLL	**Collm**	**91.56**	**321**	*e*pP		**pP**	**10 40 03.0**	**-1.1**		
CLL				*e*PP		**PP**	**10 43 08.0**	**+3.8**		
NB2		**NORSAR Subarra**	**92.78**	**331**	P		**P**	**10 39 29.2**	**-0.2**	
	comp=Z,1.0nm,0.7s,baz=96,slow=4.6									
NOA	**NORSAR Array B**	**92.78**	**331**	P		**P**	**10 39 29.5**	**+0.1**		
NOA				pP		**pP**	**10 40 08.2**	**-1.4**		
NOA				PP		**PP**	**10 43 13.4**	**-0.2**		
NOA	**NORSAR Array B**	**92.78**	**331**	P		**P**	**10 39 29.5**	**+0.1**		
	comp=Z,1.3nm,0.8s,baz=93,slow=4.6,SNR=4.3									
NOA				pP		**pP**	**10 40 08.2**	**-1.4**		
	comp=Z,1.3nm,1.0s,baz=68,slow=1.0,SNR=2.4									
NOA				PP		**PP**	**10 43 13.4**	**-0.2**		
	comp=Z,2.3nm,1.0s,baz=95,slow=7.7,SNR=3.3									
DAVOX	**Davos/Dischmat**	**93.52**	**317**	P		**P**	**10 39 33.3**	**-0.1**		
DAVOX				pP		**pP**	**10 40 12.2**	**-1.4**		
DAVOX	**Davos/Dischmat**	**93.52**	**317**	P		**P**	**10 39 33.3**	**-0.1**		
	comp=Z,5.0nm,0.6s,baz=57,slow=7.9,SNR=4.9									
DAVOX				pP		**pP**	**10 40 12.2**	**-1.4**		
	comp=Z,0.7nm,0.3s,baz=212,slow=1.7,SNR=2.2									
KEST	**Kesra**	**93.87**	**305**	P		**P**	**10 39 37.5**	**+2.4**		
KEST	**Kesra**	**93.87**	**305**	P		**P**	**10 39 37.5**	**+2.4**		
	comp=Z,0.6nm,0.6s,baz=238,slow=4.8,SNR=4.2									
ILAR	**Eielson Array**	**101.18**	**24**	PP		PP	10 44 04.4	-13		
ILAR				PKKPbc		**PKKPbc**	**10 56 17.8**	**-2.1**		
ILAR	**Eielson Array**	**101.18**	**24**	PP		PP	10 44 04.4	-13		
	comp=Z,0.2nm,0.6s,baz=286,slow=5.5,SNR=3.6									
ILAR				PKKPbc		**PKKPbc**	**10 56 17.8**	**-2.1**		
	comp=Z,0.8nm,0.6s,baz=134,slow=2.2,SNR=16									
YKA	**Yellowknife Ar**	**114.31**	**18**	PKP		PKPdf	10 44 54.6	-1.0		
YKA				SKP			10 48 14.2			
YKA	**Yellowknife Ar**	**114.31**	**18**	PKP		PKPdf	10 44 54.6	-1.0		
	comp=Z,0.1nm,0.3s,baz=311,slow=1.7,SNR=3.9									
YKA				SKP			10 48 14.2			
	comp=Z,0.3nm,0.7s,baz=349,slow=2.2,SNR=5.5									
NEW	**Newport**	**123.38**	**30**	PKP		**PKPdf**	**10 45 13.2**	**-0.5**		
NEW	**Newport**	**123.38**	**30**	PKP		**PKPdf**	**10 45 13.2**	**-0.5**		
	comp=Z,0.7nm,0.6s,baz=257,slow=3.1,SNR=3.7									
FFC	**Flin Flon**	**124.45**	**17**	*i* PKIKP		**PKPdf**	**10 45 15.5**	**+0.1**		
BSMT	**Bassoo Peak**	**124.82**	**30**	*e*PKPdf		**PKPdf**	**10 45 16.4**	**-0.3**		
MOD	**Modoc**	**125.44**	**38**	*e*PKPdf		**PKPdf**	**10 45 18.6**	**+0.6**		
MSO	**Missoula**	**125.94**	**30**	*e*PKPdf		**PKPdf**	**10 45 18.3**	**-0.4**		
EGMT	**Eagleton**	**127.06**	**26**	*e*PKPdf		**PKPdf**	**10 45 20.9**	**+0.1**		
MFID	**Camas Ranch**	**127.19**	**34**	*e*PKPdf		**PKPdf**	**10 45 22.0**	**+0.8**		

SCHQ	**Schefferville**	**127.21**	**352**	PKP		**PKPdf**	**10 45 20.4**	**-0.3**		
SCHQ	**Schefferville**	**127.21**	**352**	PKP		**PKPdf**	**10 45 20.4**	**-0.3**		
	comp=Z,2.8nm,0.9s,baz=88,slow=1.0,SNR=4.0									
DLMT	**Dillon**	**127.63**	**31**	*e*PKPdf		**PKPdf**	**10 45 22.6**	**+0.6**		
BOZ	**Bozeman (W)**	**127.91**	**30**	*e*PKIKP		**PKPdf**	**10 45 23.1**	**+0.5**		
BOZ	**Bozeman (W)**	**127.91**	**30**	*e*PKPdf		**PKPdf**	**10 45 23.1**	**+0.5**		
NVAR	**Mina Array Bea**	**128.65**	**41**	PKP		**PKPdf**	**10 45 24.8**	**+0.5**		
NVAR				PP		PP	10 47 22.8	-8.8		
NVAR				SKPbc		SKiKP	10 48 29.4	-17		
NVAR				SKP			10 48 45.8			
NVAR	**Mina Array Bea**	**128.65**	**41**	PKP		**PKPdf**	**10 45 24.7**	**+0.5**		
	comp=Z,1.5nm,0.8s,baz=283,slow=2.0,SNR=12									
NVAR				PP		PP	10 47 22.7	-8.8		
	comp=Z,0.8nm,1.0s,baz=310,slow=4.6,SNR=2.6									
NVAR				SKPbc		SKiKP	10 48 29.4	-17		
	comp=Z,1.1nm,0.7s,baz=287,slow=3.5,SNR=6.8									
NVAR				SKP			10 48 45.8			
	comp=Z,1.2nm,0.7s,baz=285,slow=2.5,SNR=4.1									
DUG	**Dugway**	**130.98**	**36**	*e*PKIKP		**PKPdf**	**10 45 30.2**	**+1.6**		
DUG	**Dugway**	**130.98**	**36**	*e*PKPdf		**PKPdf**	**10 45 30.1**	**+1.6**		
PDAR	**Pinedale Array**	**131.01**	**31**	PKP		**PKPdf**	**10 45 27.7**	**-0.9**		
PDAR				SKPbc		**SKPbc**	**10 48 34.9**	**-3.5**		
PDAR	**Pinedale Array**	**131.01**	**31**	PKP		**PKPdf**	**10 45 27.7**	**-0.9**		
	comp=Z,0.7nm,0.7s,baz=325,slow=1.8,SNR=5.2									
PDAR				SKPbc		**SKPbc**	**10 48 34.9**	**-3.5**		
	comp=Z,2.9nm,0.8s,baz=317,slow=0.8,SNR=16									
MVU	**Marysvale**	**132.43**	**37**	*e*PKPdf		**PKPdf**	**10 45 33.7**	**+2.2**		
RSSD	**Black Hills**	**132.60**	**26**	*e*PKIKP		**PKPdf**	**10 45 31.5**	**-0.1**		
RSSD	**Black Hills**	**132.60**	**26**	*e*PKPdf		**PKPdf**	**10 45 31.5**	**-0.1**		
PLCA	**Paso Flores**	**136.34**	**188**	PKP

BZWR *i* S **Sn** **10 29 27.6 -1.6**
SPN **Mys Shipunski** **5.36 267** PN **Pn** **10 28 27.7 -1.2**
SPN **Mys Shipunski** **5.36 267** *i* P **Pn** **10 28 27.7 -1.2**
SPN *i* S **Sn** **10 29 24.0 -5.3**
KLY **Klyuchi** **5.40 302** PN **Pn** **10 28 29.0 -0.4**
KLY **Klyuchi** **5.40 302** *i* P **Pn** **10 28 29.0 -0.4**
KLY *i* S **Sn** **10 29 27.0 -3.3**
KRSR **Krestovskiy** **5.41 301** *e*P **Pn** **10 28 30.0 +0.4**
KRSR *i* S **Sn** **10 29 28.5 -2.1**
KMNR **Kamenistaya** **5.41 295** *i* P **Pn** **10 28 29.9 +0.2**
KMNR *i* S **Sn** **10 29 28.9 -1.9**
KIRR **Kirishev** **5.42 297** *i* P **Pn** **10 28 30.4 +0.5**
KIRR *e*S **Sn** **10 29 29.1 -2.0**
KPT **Kopyto** **5.49 297** *i* P **Pn** **10 28 31.3 +0.5**
KPT *e*S **Sn** **10 29 30.8 -1.9**
KII **Karymskiy** **5.61 277** *e*P **Pn** **10 28 31.6 -0.8**
KII *i* S **Sn** **10 29 30.8 -4.8**
KOZR **Kozyr** **5.70 298** PN **Pn** **10 28 34.5 +1.0**
KOZ **Kozyrevsk** **5.71 298** *i* P **Pn** **10 28 34.5 +0.8**
KOZ *i* S **Sn** **10 29 35.6 -2.3**
NLC **Nalytchevo** **5.75 268** PN **Pn** **10 28 33.1 -1.1**
NLC **Nalytchevo** **5.75 268** *e*P **Pn** **10 28 33.1 -1.1**
NLC *i* S **Sn** **10 29 33.9 -5.0**
SRDR **Sredinnyy** **5.88 300** *i* P **Pn** **10 28 36.9 +0.8**
SRDR *i* S **Sn** **10 29 40.6 -1.7**
SDLR **Sedlovina** **6.01 270** *i* P **Pn** **10 28 37.0 -0.9**
SDLR *i* S **Sn** **10 29 40.9 -4.5**
UGLR **Uglovaya** **6.05 269** *i* P **Pn** **10 28 37.9 -0.6**
UGLR *i* S **Sn** **10 29 41.8 -4.8**
SMAR **Somma** **6.06 269** *e*P **Pn** **10 28 37.9 -0.8**
SMAR *i* S **Sn** **10 29 41.4 -5.4**
LSNW **Little Sitkin** **6.08 103** P **Pn** **10 28 37.9 -1.0**
KRER **Koryakskii** **6.08 270** *i* P **Pn** **10 28 38.5 -0.5**
KRER *e*S **Sn** **10 29 43.0 -4.4**
AVH **Avacha** **6.09 270** *i* P **Pn** **10 28 38.6 -0.5**
AVH *i* S **Sn** **10 29 43.7 -3.9**
KOK **Koryaka** **6.15 270** *i* P **Pn** **10 28 39.2 -0.7**
KOK *i* S **Sn** **10 29 44.5 -4.5**
PET **Petropavlovsk** **6.19 267** *e*PN **Pn** **10 28 39.3 -0.9**
PET pmax pmax
comp=Z,131nm,0.4s
PET MLR MLR
comp=Z,900nm,20.0s
PET MLR MLR
comp=Z,600nm,15.0s
PET **Petropavlovsk** **6.19 267** *e*P **Pn** **10 28 40.2 0.0**
PET *i* S **Sn** **10 29 45.0 -4.7**
RUS **Russkaya** **6.41 262** PN **Pn** **10 28 42.3 -1.0**
RUS **Russkaya** **6.41 262** *e*P **Pn** **10 28 42.3 -1.0**
RUS *i* S Sn 10 29 49.1 -6.0
GNL **Ganaly** **6.52 274** *i* P **Pn** **10 28 45.2 +0.3**
GNL *i* S **Sn** **10 29 55.3 -2.7**
MTVR **Mutnovka** **6.59 263** *e*P **Pn** **10 28 44.8 -1.1**
MTVR *i* S **Sn** **10 29 53.9 -5.9**
GRL **Gorelyy** **6.63 264** P **Pn** **10 28 47.3 +0.8**
GRL *i* S **Sn** **10 29 58.4 -2.5**
CETU **Semis' Tuman** **6.65 101** P **Pn** **10 28 46.2 -0.4**
CEAP **Semis' Anvil P** **6.69 101** P **Pn** **10 28 46.8 -0.3**
CESW **Semis' Southwe** **6.71 102** P **Pn** **10 28 47.5 +0.1**
PETK **Petropavlovsk-** **6.74 269** PN **Pn** **10 28 47.3 -0.5**
PETK pmax pmax
comp=Z,17nm,0.3s
PETK **Petropavlovsk-** **6.74 269** Pn **Pn** **10 28 47.3 -0.5**
PETK Sn **Sn** **10 30 00.8 -2.5**
PETK **Petropavlovsk-** **6.74 269** Pn **Pn** **10 28 47.3 -0.5**
comp=Z,17nm,0.3s,baz=94,slow=17,SNR=198
PETK Sn **Sn** **10 30 00.8 -2.5**
comp=Z,32nm,0.3s,baz=94,slow=39,SNR=2.3
AMKA **Amchitka** **6.76 106** P **Pn** **10 28 47.1 -1.0**
CERAA **Semis' Rag'd T** **6.78 101** P **Pn** **10 28 47.6 -0.8**
ASAK **Asacha** **6.78 263** *e*P **Pn** **10 28 48.3 -0.2**
ASAK *i* S **Sn** **10 29 59.4 -5.1**
APC **Apacha** **7.09 268** *e*P **Pn** **10 28 53.0 +0.3**
APC *i* S **Sn** **10 30 08.6 -3.4**
MIPR **Malaya Ipel'ka** **7.49 264** P **Pn** **10 28 57.5 -0.6**
PAU **Pauzhetka** **7.72 258** PN **Pn** **10 29 01.4 +0.1**
PAU **Pauzhetka** **7.72 258** *e*P **Pn** **10 29 01.4 +0.1**
PAU *i* S **Sn** **10 30 21.6 -5.8**
SKR **Severo-Kuril's** **8.44 254** *e*PN Pn 10 29 07.5 -3.6
SKR pmax pmax
comp=E,60nm,0.5s
SKR pmax pmax
comp=Z,80nm,0.5s
SKR MLR MLR
comp=N,1μm,14.0s
SKR MLR MLR
comp=E,1μm,14.0s
SKR MLR MLR
comp=Z,1μm,14.0s
BILL **Bilibino** **14.39 356**⇓ *i*P **Pn** **10 30 33.7 +1.3**
BILL pmax pmax
comp=Z,29nm,1.0s
YSS **Yuzh-Sakhalins** **17.96 258**⇓ *e*P **P** **10 31 19.4 +0.9**
ASAJ **Asahikawa** **19.69 251** *e*P **Pn** **10 31 40.1 +1.0**
comp=Z,6.0nm,0.9s
ASAJ **Asahikawa** **19.69 251** P **P** **10 31 38.2 +0.8**
comp=Z,0.8nm,0.3s,baz=24,slow=5.9,SNR=8.1
SVW2 **Sparrevohn** **20.26 55** *e*Pn **P** **10 31 43.5 -0.1**
comp=Z,23nm,1.3s
ERM **Erimo** **20.76 246**⇑ *e*P **P** **10 31 49.2 +0.1**
ERM pmax pmax
comp=Z,39nm,1.7s
OHAK **Old Harbor** **21.50 65** *e*P **P** **10 31 55.5 -1.5**
comp=Z,82nm,1.4s
RSO **Redoubt South** **21.61 57** *e*P **P** **10 31 56.6 -1.7**
HABR **Khabarovsk** **21.77 270** *e*P **P** **10 32 00.4 +0.6**
HABR *e*PP **pP** **10 32 06.8 -2.2**
HABR *e* 10 32 19.6
HABR *e*S **S** **10 36 00.2 +1.7**
HABR *e* 10 43 15.9
HABR pmax pmax
comp=Z,53nm,1.8s
HABR pmax pmax
comp=N,10.0nm,1.4s
HABR pmax pmax
comp=E,39nm,1.8s
HABR MLR MLR
comp=Z,276nm,18.0s
KDAK **Kodiak Island** **21.82 64** *e*P **P** **10 32 00.0 -0.3**
comp=Z,8.6nm,0.7s
KDAK **Kodiak Island** **21.82 64** P **P** **10 32 00.3 0.0**
comp=Z,4.5nm,0.5s,baz=333,slow=4.9,SNR=6.3
KDAK S **S** **10 35 56.6 -2.8**
comp=Z,1.7nm,0.6s,baz=295,slow=23,SNR=1.7
SPU **Mount Spurr** **21.98 55** *e*P **P** **10 32 00.1 -1.9**
YAK **Yakutsk** **22.12 308** *e*P **P** **10 32 01.3 -2.2**
YAK *e*PP **pP** **10 32 09.5 -3.2**
YAK *e*S **S** **10 36 02.9 -2.1**
YAK pmax pmax
comp=Z,108nm,0.9s
YAK pmax pmax
comp=E,47nm,1.3s
YAK pmax pmax
comp=N,12nm,1.2s
YAK smax smax
comp=N,39nm,3.1s
YAK smax smax
comp=E,35nm,2.5s
YAK MLR MLR
comp=E,340nm,16.0s
YAK MLR MLR
comp=N,226nm,16.0s
YAK MLR MLR
comp=Z,358nm,16.0s
TRF **Thorofare Moun** **22.96 49** *e*P **P** **10 32 10.9 -1.6**
comp=Z,24nm,1.0s
PMR **Palmer** **23.39 54** *e*P **P** **10 32 15.5 -1.2**
PMR pmax pmax
comp=Z,5.0nm,0.7s
PMR **Palmer** **23.39 54** *e*P **P** **10 32 15.5 -1.2**
comp=Z,5.2nm,0.7s
KLR **Kul'dur** **23.39 274** *e*P **P** **10 32 12.8 -4.1**
MCK **McKinley** **23.59 48** *e*P **P** **10 32 18.5 -0.1**
MCK pmax pmax
comp=Z,14nm,0.9s
MCK **McKinley** **23.59 48** *e*P **P** **10 32 18.5 -0.1**
comp=Z,14nm,0.9s
COLD **Coldfoot** **23.67 39** *e*P **P** **10 32 18.1 -1.3**
comp=Z,11nm,0.8s
SML **Sawmill** **23.77 53** *e*P **P** **10 32 18.4 -2.1**
SML pmax pmax
comp=Z,5.0nm,0.7s
SML **Sawmill** **23.77 53** *e*P **P** **10 32 18.4 -2.1**
comp=Z,5.1nm,0.7s

COLA **College** **24.18 46** *e*P **P** **10 32 22.7 -1.4**
COLA pmax pmax
comp=Z,29nm,0.6s
COLA **College** **24.18 46** *e*P **P** **10 32 22.7 -1.4**
comp=Z,29nm,0.6s
ILAR **Eielson Array** **24.57 46** P **P** **10 32 25.4 -2.4**
ILAR **Eielson Array** **24.57 46** P **P** **10 32 25.4 -2.4**
comp=Z,7.3nm,0.6s,baz=253,slow=7.2,SNR=181
TIXI **Tiksi** **24.89 331** *c i*P **P** **10 32 29.9 -0.6**
TIXI pmax pmax
comp=Z,107nm,0.8s
PAX **Paxson** **25.11 50** *e*P **P** **10 32 31.7 -1.0**
PAX pmax pmax
comp=Z,13nm,0.9s
PAX **Paxson** **25.11 50** *e*P **P** **10 32 31.7 -1.0**
comp=Z,12nm,0.9s
USRK **Ussuriysk Arra** **25.78 263** P **P** **10 32 37.7 -1.1**
comp=Z,4.2nm,0.8s,baz=60,slow=11,SNR=8.6
USRK LR LR 10 42 31.7
comp=Z,257nm,21.2s,baz=42,slow=36
MENT **Mentasta** **25.91 50** *e*P **P** **10 32 39.0 -1.0**
MDJ **Mudanjiang** **26.97 266** P **P** **10 32 50.4 +0.8**
MDJ pmax pmax
comp=Z,15nm,0.8s
MDJ pmax pmax
comp=Z,48nm,5.3s
MDJ **Mudanjiang** **26.97 266** *e*P **P** **10 32 51.0 +1.4**
comp=Z,13nm,0.9s
EGAK **Eagle** **27.03 46** *e*P **P** **10 32 47.6 -2.3**
comp=Z,20nm,0.8s
MAJO **Matsushiro** **27.36 244** *e*P **P** **10 32 55.1 +1.9**
MAJO pmax pmax
comp=Z,13nm,0.8s
MAJO **Matsushiro** **27.36 244** *e*P **P** **10 32 55.1 +1.9**
comp=Z,13nm,0.8s
MAT **Matsushiro** **27.36 244** P **P** **10 32 54.7 +1.5**
MJAR **Matsushiro Arr** **27.36 244** P **P** **10 32 54.5 +1.4**
MJAR **Matsushiro Arr** **27.36 244** P **P** **10 32 54.5 +1.4**
comp=Z,2.4nm,0.8s,baz=31,slow=7.6,SNR=8.1
CN2 **Changchun** **29.89 268** *e*P **P** **10 33 15.0 -0.6**
CN2 *e*S **S** **10 38 08.9 -1.4**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,400nm,17.0s
CN2 LR LR
comp=E,200nm,17.0s
CN2 LR LR
comp=Z,200nm,18.0s
INK **Inuvik** **30.08 39** P **P** **10 33 16.1 -0.9**
INK **Inuvik** **30.08 39** P **P** **10 33 16.1 -0.9**
comp=Z,5.8nm,0.7s,baz=276,slow=9.7,SNR=20
KSRS **Korea Array** **32.45 257** P **P** **10 33 39.7 +1.6**
comp=Z,5.4nm,0.9s,baz=47,slow=8.7,SNR=25
KSAR **Wonju Array Be** **32.48 257** P **P** **10 33 39.7 +1.3**
BJI **Beijing** **37.67 271** P **P** **10 34 23.6 +0.5**
BJI S **S** **10 40 10.4 -0.1**
BJI pmax pmax
comp=Z,11nm,0.5s
BJI pmax pmax
comp=Z,120nm,4.7s
BJI LR LR
comp=N,270nm,27.4s
BJI LR LR
comp=E,350nm,17.6s
BJI LR LR
comp=Z,320nm,21.6s
TLY **Talaya** **38.35 294** *e*P **P** **10 34 29.1 +0.4**
TLY pmax pmax
comp=Z,10.0nm,0.9s
TLY MLR MLR
comp=Z,440nm,21.0s
ULN **Ulaanbaatar** **38.43 287** *e*P **P** **10 34 30.1 +0.5**
comp=Z,25nm,1.1s
SONM **Songino Array** **38.82 288** P **P** **10 34 33.4 +0.5**
SONM **Songino Array** **38.82 288** P **P** **10 34 33.4 +0.5**
comp=Z,16nm,0.7s,baz=60,slow=8.2,SNR=81
YKW3 **Yellowknife Ar** **38.98 46** *e*P **P** **10 34 33.0 -0.8**
comp=Z,0.1nm,0.7s
YKA **Yellowknife Ar** **39.01 46** P **P** **10 34 33.1 -1.0**
YKA **Yellowknife Ar** **39.01 46** P **P** **10 34 33.1 -1.0**
comp=Z,3.9nm,0.7s,baz=294,slow=7.8,SNR=37
YKA LR LR 10 50 46.2
comp=Z,18nm,19.1s,baz=30,slow=37
ZAK **Zakamensk** **39.20 293**⇑ *i*P **P** **10 34 36.0 0.0**
ZAK *e* 10 36 41.3
ZAK pmax pmax
comp=Z,6.0nm,1.0s
HHC **Hu-ho-hao-te** **39.89 275** *e*P **P** **10 34 44.6 +2.7**
HHC PP **PnPn** **10 36 21.1 +3.9**
HHC PcP **PcP** **10 36 50.9 +4.0**
HHC ScP **ScP** **10 40 35.9 +2.9**
HHC PcS **PcS** **10 40 40.5 +3.3**
HHC S **S** **10 40 46.4 +2.1**
HHC sS **sS** **10 41 03.0 +2.1**
HHC SS **SS** **10 43 37.4 -3.8**
HHC ScS **ScS** **10 44 47.4 +1.3**
HHC pmax pmax
comp=Z,26nm,0.7s
HHC pmax pmax
comp=Z,140nm,6.0s
HHC LR LR
comp=N,560nm,15.1s
HHC LR LR
comp=E,660nm,15.7s
HHC LR LR
comp=Z,610nm,15.7s
NJ2 **Nanjing** **41.53 259** *e*P **P** **10 34 56.1 +0.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NEW **Newport** **44.91 65** *e*P **P** **10 35 22.0 -0.5**
comp=Z,3.4nm,0.8s
NEW **Newport** **44.91 65** P **P** **10 35 21.6 -0.9**
comp=Z,2.1nm,0.8s,baz=280,slow=12,SNR=4.5
WHN **Wuhan** **45.26 262** P **P** **10 35 26.2 +0.8**
YBH **Yreka Blue Hor** **45.78 76** *e*P **P** **10 35 30.7 +1.2**
comp=Z,7.3nm,1.1s
YBH **Yreka Blue Hor** **45.78 76** P **P** **10 35 30.2 +0.7**
comp=Z,1.7nm,0.6s,baz=349,slow=6.2,SNR=8.6
WALA **Waterton Lakes** **46.15 63** *e*P **P** **10 35 31.7 -0.7**
comp=Z,1.2nm,1.4s
BSMT **Bassoo Peak** **46.41 65** *e*P **P** **10 35 34.4 -0.2**
BLMT **Blacktail Moun** **46.54 64** *e*P **P** **10 35 35.6 +0.1**
JTMT **Jette** **46.74 64** *e*P **P** **10 35 38.3 +1.2**
comp=Z,13nm,1.4s
JTMT *e*pP **pP** **10 35 46.9 -0.4**
JTMT *e*sP **sP** **10 35 51.6 +0.2**
ZAA0 **Zalesovo Array** **46.76 306** *e*P **P** **10 35 35.6 -1.3**
ZALV **Zalesovo Beam** **46.76 306** P **P** **10 35 35.6 -1.3**
ZALV pmax pmax
comp=Z,7.0nm,0.9s
ZALV **Zalesovo Beam** **46.76 306** P **P** **10 35 35.6 -1.3**
ZALV **Zalesovo Beam** **46.76 306** P **P** **10 35 35.6 -1.3**
comp=Z,7.3nm,0.9s,baz=41,slow=6.8,SNR=13
YBMT **Yellow Bay** **46.82 64** *e*P **P** **10 35 37.4 -0.2**
comp=Z,7.1nm,0.6s
KBS **Kingsbay** **46.86 354**⇓ *e*P **P** **10 35 35.1 -2.3**
KBS pmax pmax
comp=Z,54nm,2.4s
BMO **Blue Mountains** **46.88 69** *e*P **P** **10 35 37.6 -0.5**
comp=Z,3.0nm,1.0s
BMO *e*pP **pP** **10 35 49.5 +1.2**
NVS **Novosibirsk** **46.99 308** *e*P **P** **10 35 37.5 -1.2**
NVS *e* 10 37 22.8
NVS pmax pmax
comp=Z,20nm,1.4s
NVS pmax pmax
comp=N,4.0nm,0.8s
NVS pmax pmax
comp=E,22nm,1.5s
SWMT **Swartz Lake** **47.04 65** *e*P **P** **10 35 38.8 -0.6**
comp=E,1.6nm,0.5s
SWMT *e*pP **pP** **10 35 50.4 +0.8**
MOD **Modoc** **47.05 74** *e*P **P** **10 35 40.2 +0.6**
comp=E,6.8nm,0.9s
SLMT **Seeley Lake** **47.48 65** *e*P **P** **10 35 42.4 -0.4**
MSO **Missoula** **47.49 65** *e*P **P** **10 35 42.1 -0.7**
comp=E,11nm,1.6s
LZH **Lanzhou** **47.58 276** *e*P **P** **10 35 45.0 +1.2**
LZH pP **pP** **10 35 53.8 -0.2**
LZH sP **sP** **10 35 58.0 -0.1**
LZH PP **PP** **10 37 33.0 -2.3**
LZH *e*S **S** **10 42 35.0 -1.7**
LZH sS **sS** **10 42 51.1 -2.4**

LZH SS **SS** **10 46 00.1 -4.4**
LZH pmax pmax
comp=Z,37nm,1.0s
LZH pmax pmax
comp=Z,92nm,4.0s
LZH LR LR
comp=N,1μm,15.6s
LZH LR LR
comp=E,1μm,12.7s
LZH LR LR
comp=Z,1μm,16.0s
WVOR **Wild Horse Val** **47.66 73** *e*P **P** **10 35 44.1 -0.2**
WVOR pmax pmax
comp=Z,1.0nm,0.6s
WVOR **Wild Horse Val** **47.66 73** *e*P **P** **10 35 44.1 -0.2**
comp=Z,1.0nm,0.6s
GTA **Gaotai** **47.71 282**⇑ P **P** **10 35 45.4 +0.7**
GTA pP **pP** **10 35 50.7 -4.3**
GTA sP **sP** **10 35 54.7 -4.4**
GTA pmax pmax
comp=Z,31nm,0.9s
CHMT **Chamberlain Mo** **47.81 65** *e*P **P** **10 35 44.5 -1.0**
comp=Z,1.6nm,0.7s
OHCM **Honcut** **48.05 78** *e*P **P** **10 35 47.2 +0.1**
ENH **Enshi** **48.33 266** *e*P **P** **10 35 50.0 +0.6**
comp=Z,20nm,1.1s
MFID **Camas Ranch** **48.61 70** *e*P **P** **10 35 51.2 -0.4**
comp=Z,2.7nm,0.7s
FFC **Flin Flon** **48.64 51** *e*P **P** **10 35 50.8 -0.7**
FFC pmax pmax
comp=Z,5.0nm,1.0s
FFC **Flin Flon** **48.64 51** *e*P **P** **10 35 50.8 -0.7**
comp=Z,5.0nm,1.0s
HRY **Holter Researc** **48.70 64** P **P** **10 35 52.2 0.0**
LRM **Limekiln Ridge** **48.93 65** *e*P **P** **10 35 53.3 -0.8**
LRM *e*pP **pP** **10 36 03.8 -0.6**
LRM *e*sP **sP** **10 36 08.5 0.0**
EGMT **Eagleton** **48.97 62** *e*P **P** **10 35 53.1 -1.1**
comp=Z,6.7nm,0.8s
MCMT **McKenzie Canyo** **49.35 67** *e*P **P** **10 35 56.5 -0.8**
comp=Z,1.3nm,0.6s
MCMT *e*pP **pP** **10 36 07.5 -0.2**
MCMT *e*sP **sP** **10 36 12.0 +0.3**
BOZ **Bozeman (W)** **49.48 65** *e*P **P** **10 35 58.1 -0.2**
BOZ pmax pmax
comp=Z,3.0nm,0.8s
BOZ **Bozeman (W)** **49.48 65** *e*P **P** **10 35 58.0 -0.2**
comp=Z,2.9nm,0.8s
BOZ *e*pP **pP** **10 36 08.8 +0.3**
BOZ *e*sP **sP** **10 36 12.4 -0.2**
CMB **Columbia Colle** **49.56 78** *e*P **P** **10 35 59.2 +0.4**
CMB *e**PP **pP** **10 36 08.2 -0.9**
CMB pmax pmax
comp=Z,3.0nm,0.9s
CMB **Columbia Colle** **49.56 78** *e*P **P** **10 35 59.2 +0.4**
comp=Z,2.8nm,0.9s
CMB *e*pP **pP** **10 36 08.2 -0.9**
CMB *e*sP **sP** **10 36 14.3 +1.2**
DAG **Danmarks Havn** **49.66 2** *i* P **P** **10 35 57.5 -1.4**
DAG pmax pmax
comp=Z,4.0nm,0.8s
DAG **Danmarks Havn** **49.66 2** *i* P **P** **10 35 57.5 -1.4**
comp=Z,5.6nm,0.8s
WAKR **Walker** **49.79 77** *e*P **P** **10 36 01.7 +0.9**
QLMT **Earthquake Lak** **50.12 66** *e*pP pP 10 36 15.1 +1.6
comp=Z,1.0nm,0.7s
NVAR **Mina Array Bea** **50.50 76** P **P** **10 36 06.5 +0.4**
NVAR **Mina Array Bea** **50.50 76** P **P** **10 36 06.5 +0.4**
comp=Z,1.8nm,0.8s,baz=300,slow=7.5,SNR=13
IMW **Indian Meadow** **50.99 66** *e*P **P** **10 36 09.9 0.0**
comp=Z,4.1nm,0.8s
IMW *e*pP **pP** **10 36 19.1 -1.1**
IMW *e*sP **sP** **10 36 24.5 +0.2**
RLMT **Red Lodge** **51.09 64** *e*P **P** **10 36 10.5 0.0**
comp=Z,7.7nm,0.8s
RLMT *e*pP **pP** **10 36 19.5 -1.4**
RLMT *e*sP **sP** **10 36 25.1 +0.2**
CD2 **Chengdu** **51.27 271** P **P** **10 36 13.0 +1.2**
CD2 pP **pP** **10 36 23.3 +1.2**
CD2 sP **sP** **10 36 27.5 +1.3**
CD2 PcP **PcP** **10 37 28.3 +1.8**
CD2 PP **PP** **10 38 10.6 +1.9**
CD2 PcS **PcS** **10 41 24.5 +0.1**
CD2 S **S** **10 43 27.4 -0.8**
CD2 sS **sS** **10 43 44.7 -0.5**
CD2 SS **SS** **10 47 00.7 -2.9**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.6s
CD2 LR LR
comp=N,320nm,19.1s
CD2 LR LR
comp=E,400nm,20.5s
CD2 LR LR
comp=Z,350nm,18.2s
LOHW **Long Hollow** **51.36 66** *e*P **P** **10 36 11.6 -1.0**
comp=Z,12nm,1.6s
WMQ **Urumqi** **51.63 294** P **P** **10 36 16.0 +1.6**
WMQ pP **pP** **10 36 26.0 +1.3**
WMQ sP **sP** **10 36 29.9 +1.1**
WMQ PcP **PcP** **10 37 29.7 +2.0**
WMQ PP **PP** **10 38 14.2 +2.5**
WMQ ScP **ScP** **10 41 22.3 +0.8**
WMQ S **S** **10 43 33.2 +0.3**
WMQ sS **sS** **10 43 49.8 -0.1**
WMQ ScS **ScS** **10 46 00.5 -1.1**
WMQ SS **SS** **10 47 07.4 -1.4**
WMQ pmax pmax
comp=Z,17nm,0.8s
WMQ LR LR
comp=N,640nm,18.5s
WMQ LR LR
comp=E,440nm,18.5s
WMQ LR LR
comp=Z,320nm,29.8s
KURK **Kurchatov** **51.75 306** P **P** **10 36 15.0 -0.1**
KURK pmax pmax
comp=Z,24nm,0.8s
KURK **Kurchatov** **51.75 306** P **P** **10 36 15.0 -0.1**
KURBB **Kurchatov Arra** **51.85 306** P **P** **10 36 15.0 -0.8**
comp=Z,24nm,0.8s,baz=54,slow=7.7,SNR=40
DUG **Dugway** **52.43 71** *e*P **P** **10 36 20.5 0.0**
DUG *e**PP **pP** **10 36 29.5 -1.3**
DUG pmax pmax
comp=Z,12nm,1.6s
DUG **Dugway** **52.43 71** *e*P **P** **10 36 20.4 0.0**
comp=Z,12nm,1.6s
DUG *e*pP **pP** **10 36 29.5 -1.3**
BW06 **Boulder Array** **52.50 67** *e*P **P** **10 36 21.0 -0.1**
comp=Z,9.7nm,1.2s
PDAR **Pinedale Array** **52.50 67** P **P** **10 36 20.4 -0.7**
PDAR **Pinedale Array** **52.50 67** P **P** **10 36 20.4 -0.7**
comp=Z,2.0nm,0.9s,baz=300,slow=4.1,SNR=14
MKAR **Makanchi Array** **52.51 300** P **P** **10 36 19.3 -1.5**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR **Makanchi Array** **52.51 300** P **P** **10 36 19.3 -1.5**
MKAR **Makanchi Array** **52.51 300** P **P** **10 36 19.3 -1.5**
comp=Z,6.3nm,0.7s,baz=46,slow=8.0,SNR=9.5
SUMG **Summit** **52.53 10** *i* P **P** **10 36 20.3 -0.8**
SUMG pmax pmax
comp=Z,6.0nm,1.0s
SUMG **Summit** **52.53 10** *e*P **P** **10 36 20.3 -0.8**
comp=Z,11nm,1.1s
SUMG **Summit** **52.53 10** *i* P **P** **10 36 20.3 -0.8**
comp=Z,6.3nm,1.0s
GYA **Guiyang** **52.81 265** *e*P **P** **10 36 25.0 +1.6**
GYA pP **pP** **10 36 35.8 +2.0**
GYA sP **sP** **10 36 41.2 +3.3**
GYA PP **PP** **10 38 26.0 +3.2**
GYA ScP **ScP** **10 41 27.4 +0.5**
GYA S **S** **10 43 50.6 +1.0**
GYA sS **sS** **10 44 05.7 -1.0**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.4s
GSC **Goldstone** **53.52 78** *e*P **P** **10 36 29.1 +0.6**
GSC *e**PP **pP** **10 36 38.2 -0.7**
GSC pmax pmax
comp=Z,8.0nm,1.1s
GSC **Goldstone** **53.52 78** *e*P **P** **10 36 29.1 +0.6**
comp=Z,7.9nm,1.1s
GSC *e*pP **pP** **10 36 38.2 -0.7**

KEV Kevo 53.73 345 *ep* **P 10 36 29.4 0.0**
comp=Z,1.1nm,0.4s
KEV Kevo 53.73 345 *eP* **P 10 36 29.4 0.0**
KEV pmax pmax
comp=Z,1.0nm,0.4s
BVA0 Borovoye Array 53.98 312 P **P 10 36 30.4 -1.1**
BVA0 pmax pmax
comp=Z,41nm,0.9s
BVAR Borovoye Array 53.98 312 P **P 10 36 30.6 -0.9**
BVAR Borovoye Array 53.98 312 P **P 10 36 30.6 -0.9**
comp=Z,20nm,0.7s,baz=50,slow=8.0,SNR=94
LVZ Lovozero 53.99 340⇓ *eP* **P 10 36 30.4 -1.0**
LVZ pmax pmax
comp=Z,104nm,2.5s
BRVK Borovoye 54.01 312 *eP* **P 10 36 30.9 -0.8**
BRVK pmax pmax
comp=Z,39nm,0.6s
BRVK Borovoye 54.01 312 *eP* **P 10 36 30.9 -0.8**
comp=Z,39nm,0.6s
ARCES ARCESS Array B 54.16 345 P **P 10 36 31.6 -1.1**
ARCES ARCESS Array B 54.16 345 P **P 10 36 31.6 -1.1**
comp=Z,9.2nm,0.8s,baz=21,slow=8.5,SNR=19
ULM Lac du Bonnet 54.39 52 P **P 10 36 32.2 -2.3**
ULM Lac du Bonnet 54.39 52 P **P 10 36 32.2 -2.3**
comp=Z,3.6nm,0.8s,baz=298,slow=4.9,SNR=3.0
SRU San Rafael 54.46 71 *eP* **P 10 36 36.0 +0.6**
SRU *e**PP **pP 10 36 45.2 -0.6**
SRU pmax pmax
comp=Z,9.0nm,0.7s
SRU San Rafael 54.46 71 *eP* **P 10 36 36.0 +0.6**
comp=Z,8.6nm,0.7s
SRU *ep*P **pP 10 36 45.2 -0.6**
SRU *es*P **sP 10 36 50.4 +0.5**
APA Apatity 54.52 341⇓ *eP* **pP 10 36 47.6 +2.0**
APA MLR MLR
comp=Z,300nm,14.0s
RSSD Black Hills 54.53 62 *eP* **P 10 36 35.2 -0.7**
RSSD pmax pmax
comp=Z,5.0nm,0.6s
RSSD Black Hills 54.53 62 *eP* **P 10 36 35.2 -0.7**
comp=Z,5.3nm,0.6s
LDFC Landfair 54.66 77 *eP* **P 10 36 37.0 +0.1**
comp=Z,11nm,0.9s
LDFC *ep*P **pP 10 36 46.3 -0.9**
LDFC *es*P **sP 10 36 51.2 -0.1**
SVE Sverdlovsk 55.27 321 *eP* **P 10 36 40.5 -0.3**
SVE pmax pmax
comp=Z,18nm,0.8s
PV04 Paradox Valley 55.87 70 *eP* **P 10 36 47.1 +1.5**
KMI Kunming 56.14 267 P **P 10 36 49.7 +2.0**
KMI pP **pP 10 36 59.9 +1.7**
KMI sP **sP 10 37 04.9 +2.7**
KMI PP **PP 10 38 56.8 +4.0**
KMI S **S 10 44 34.4 -0.2**
KMI SS **SS 10 48 21.3 +0.4**
KMI pmax pmax
comp=Z,13nm,0.7s
KMI pmax pmax
comp=Z,77nm,4.2s
KMI LR LR
comp=N,220nm,20.6s
KMI LR LR
comp=E,160nm,19.1s
KMI LR LR
comp=Z,220nm,27.9s
PV01 Paradox Valley 56.23 70 *eP* **P 10 36 48.5 +0.2**
comp=Z,308nm,0.6s
PV01 *ep*P **pP 10 36 58.9 +0.2**
PV01 *es*P **sP 10 37 02.9 +0.1**
ARU Arti 56.34 321 *d iP* **P 10 36 47.4 -1.1**
ARU 10 37 43.5
ARU S **S 10 44 35.5 -0.5**
ARU pmax pmax
comp=Z,27nm,0.8s
SMCO Snowmass 56.38 68 *eP* **P 10 36 49.7 +0.1**
comp=Z,6.3nm,1.2s
SMCO *ep*P **pP 10 36 59.5 -0.5**
TMCR Tamitsa 56.43 337 *eP* **P 10 36 47.9 -1.1**
TMCR pmax pmax
comp=Z,97nm,1.4s
QIZ Qiongzhong 56.67 256 P **P 10 36 53.2 +1.9**
QIZ S **S 10 44 43.9 +2.7**
QIZ pmax pmax
comp=Z,14nm,1.1s
QIZ LR LR
comp=Z,330nm,36.8s
ISCO Idaho Springs 56.69 67 *eP* **P 10 36 52.6 +1.0**
ISCO *e**PP **pP 10 37 01.8 -0.2**
ISCO pmax pmax
comp=Z,29nm,1.8s
ISCO Idaho Springs 56.69 67 *eP* **P 10 36 52.6 +1.0**
comp=Z,29nm,1.8s
ISCO *ep*P **pP 10 37 01.8 -0.2**
EYMN Ely 58.05 51 *eP* **P 10 36 59.9 -0.8**
comp=Z,8.6nm,0.8s
ECSD EROS Data Cent 58.62 58 *eP* **P 10 37 03.6 -1.2**
comp=Z,8.7nm,1.3s
ECSD *ep*P **pP 10 37 13.0 -2.2**
JOF Joensuu 59.03 339 *ep* **P 10 37 07.4 +0.2**
comp=Z,24nm,0.5s
JOF Joensuu 59.03 339 *eP* **P 10 37 07.4 +0.2**
JOF pmax pmax
comp=Z,24nm,0.5s
TUC Tucson 59.15 76 *eP* **P 10 37 09.6 +0.9**
TUC Tucson 59.15 76 *eP* **P 10 37 09.6 +0.9**
AAK Ala-Archa 59.39 301 *c iP* **P 10 37 09.6 -0.7**
AAK pmax pmax
comp=Z,25nm,0.8s
AAK Ala-Archa 59.39 301 *eP* **P 10 37 09.8 -0.4**
comp=Z,16nm,1.1s
AAK Ala-Archa 59.39 301 P **P 10 37 09.7 -0.6**
comp=Z,7.0nm,0.6s,baz=97,slow=1.9,SNR=6.6
LSA Lhasa 59.60 280 *eP* **P 10 37 12.9 +0.7**
LSA pmax pmax
comp=Z,17nm,0.9s
LSA Lhasa 59.60 280 *eP* **P 10 37 12.9 +0.7**
comp=Z,17nm,0.9s
ANMO Albuquerque 59.70 71 P **P 10 37 12.8 +0.2**
ANMO Albuquerque 59.70 71 P **P 10 37 12.8 +0.2**
comp=Z,1.0nm,0.7s,baz=305,slow=7.6,SNR=3.6
KAF Kangasniemi 60.78 341 *ep* **P 10 37 18.7 -0.5**
comp=Z,6.0nm,0.4s
KAF Kangasniemi 60.78 341 *eP* **P 10 37 18.7 -0.5**
KAF pmax pmax
comp=Z,6.0nm,0.4s
KSH Kashi 60.90 298 P **P 10 37 23.5 +2.9**
KSH pP **pP 10 37 34.1 +3.0**
KSH sP **sP 10 37 39.1 +3.9**
KSH PP PP 10 39 41.5 +6.9
KSH S **S 10 45 40.5 +4.4**
KSH sS **sS 10 45 57.2 +3.8**
KSH ScS SKKSac 10 47 08.6 -0.2
KSH SS SS 10 49 42.9 +8.0
KSH pmax pmax
comp=Z,93nm,8.2s
KSH LR LR
comp=N,340nm,12.8s
KSH LR LR
comp=E,370nm,12.5s
KSH LR LR
comp=Z,230nm,11.9s
KKAR Karatay Array 61.04 304 *eP* **P 10 37 20.3 -1.1**
KKAR *e**PP **pP 10 37 30.0 -1.9**
KKAR Karatay Array 61.04 304 *eP* **P 10 37 20.3 -1.1**
KKAR *ep*P **pP 10 37 30.0 -1.9**
KKAR *es*P **sP 10 37 34.0 -2.0**
AKTO Aktyubinsk 61.12 317 P **P 10 37 21.3 -0.4**
AKTO pmax pmax
comp=Z,17nm,0.8s
AKTO Aktyubinsk 61.12 317 P **P 10 37 21.3 -0.4**
AKTO Aktyubinsk 61.12 317 P **P 10 37 21.3 -0.4**
comp=Z,17nm,0.8s,baz=50,slow=5.9,SNR=20
FINES FINESS Array B 61.43 341 P **P 10 37 22.8 -0.8**
FINES FINESS Array B 61.43 341 P **P 10 37 22.8 -0.8**
comp=Z,13nm,0.7s,baz=23,slow=7.8,SNR=32
SCIA State Center 61.66 57 *eP* **P 10 37 25.3 -0.3**
comp=Z,21nm,1.0s
SCHQ Schefferville 62.43 33 *eP* **P 10 37 29.5 -1.0**
comp=Z,15nm,1.1s
SCHQ Schefferville 62.43 33 P **P 10 37 29.2 -1.3**
comp=Z,9.4nm,0.9s,baz=322,slow=6.1,SNR=9.5
CHTO Chiang Mai 63.22 265 *eP* **P 10 37 37.0 +0.7**
CHTO pmax pmax
comp=Z,9.0nm,0.9s
CHTO Chiang Mai 63.22 265 *eP* **P 10 37 37.0 +0.7**
comp=Z,9.0nm,0.9s
CHTO *ep*P **pP 10 37 47.7 +0.8**
TAPN Taplejung 63.36 280 *eP* **P 10 37 37.4 -0.1**
comp=Z,43nm,0.6s
CMAR Chiang Mai Arr 63.50 265 P **P 10 37 38.9 +0.8**
CMAR Chiang Mai Arr 63.50 265 P **P 10 37 38.9 +0.8**
comp=Z,4.8nm,0.7s,baz=26,slow=6.7,SNR=16
ODAN Odare 63.91 280 *eP* **P 10 37 40.8 -0.2**
comp=Z,20nm,0.8s
GUN Gumba 64.00 282 *eP* **P 10 37 41.5 -0.3**
comp=Z,59nm,0.5s
JIRN Jiri 64.01 282 *eP* **P 10 37 41.7 -0.1**
comp=Z,38nm,0.7s
VSU Vasula 64.03 339 *d iP* **P 10 37 40.8 -0.2**
VSU pmax pmax
comp=Z,44nm,0.6s
WMOK Wichita Mounta 64.10 66 *eP* **P 10 37 41.7 -0.2**
WMOK *e**PP **pP 10 37 51.3 -1.2**
WMOK pmax pmax
comp=Z,4.0nm,0.7s
WMOK Wichita Mounta 64.10 66 *eP* **P 10 37 41.7 -0.2**
comp=Z,3.9nm,0.7s
WMOK *ep*P **pP 10 37 51.3 -1.2**
NB2 NORSAR Subarra 64.19 348 P **P 10 37 41.1 -0.9**
comp=Z,7.4nm,0.6s,baz=16,slow=6.9
NOA NORSAR Array B 64.19 348 P **P 10 37 41.2 -0.9**
NOA NORSAR Array B 64.19 348 P **P 10 37 41.2 -0.9**
comp=Z,6.1nm,0.6s,baz=17,slow=6.6,SNR=44
RAMN Ramite 64.31 281 *eP* **P 10 37 43.3 -0.3**
comp=Z,89nm,0.5s
KKN Kakani 64.44 283 *eP* **P 10 37 44.3 -0.2**
comp=Z,41nm,0.8s
PKI Pulchoki 64.53 282 *eP* **P 10 37 44.8 -0.4**
comp=Z,72nm,0.8s
PKIN Phulchoki 64.53 282 *eP* **P 10 37 44.9 -0.2**
comp=Z,31nm,0.7s
OBN Obninsk 64.62 332⇓ *iP* **P 10 37 44.7 -0.2**
OBN *e* 10 37 50.0
OBN *e* 10 38 18.4
OBN pmax pmax
comp=Z,10.0nm,0.4s
OBN MLR MLR
comp=Z,200nm,19.0s
DMN Daman 64.68 283 *eP* **P 10 37 45.9 -0.2**
comp=Z,12nm,0.3s
HFS Hagfors 64.74 347 P **P 10 37 44.4 -1.2**
HFS Hagfors 64.74 347 P **P 10 37 44.4 -1.2**
comp=Z,6.1nm,0.5s,baz=42,slow=4.6,SNR=44
DANN Dangsing 64.90 284 *eP* **P 10 37 47.3 -0.2**
comp=Z,47nm,0.8s
KOLN Koldanda 65.43 284 *eP* **P 10 37 50.4 -0.5**
comp=Z,16nm,0.6s
TXAR Lajitas Array 65.45 74 P **P 10 37 50.5 -0.3**
TXAR Lajitas Array 65.45 74 P **P 10 37 50.5 -0.3**
comp=Z,1.3nm,0.5s,baz=309,slow=4.5,SNR=33
PYUN Piuthan 65.53 284 *eP* **P 10 37 50.9 -0.6**
comp=Z,73nm,1.0s
JCT Junction City 66.76 70 *eP* **P 10 37 58.8 -0.4**
JCT pmax pmax
comp=Z,8.0nm,0.9s
JCT Junction City 66.76 70 *eP* **P 10 37 58.8 -0.4**
comp=Z,7.5nm,0.9s
JCT *ep*P **pP 10 38 10.9 +1.1**
VSR Storozhevoye 67.25 328 *eP* **P 10 38 01.2 -0.7**
VSR pmax pmax
comp=Z,20nm,1.1s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,9.0nm,0.5s
VORD Divnogorie 67.43 328 *eP* **P 10 38 01.9 -1.1**
VORD pmax pmax
comp=Z,20nm,1.2s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
KBL Kabul 68.28 299 *eP* **pP 10 38 20.3 +0.7**
KBL pmax pmax
comp=Z,3.0nm,0.6s
KBL Kabul 68.28 299 *epP* pP 10 38 20.3 +0.7
comp=Z,3.5nm,0.6s
WVT Waverly 68.77 58 *eP* **P 10 38 11.0 -0.7**
WVT *e**PP **pP 10 38 21.0 -1.4**
WVT pmax pmax
comp=Z,3.0nm,0.6s
WVT Waverly 68.77 58 *eP* **P 10 38 11.0 -0.7**
comp=Z,2.5nm,0.6s
WVT *ep*P **pP 10 38 21.0 -1.4**
BSD Bornholm Skovb 69.40 344⇓ *iP* **P 10 38 14.7 -0.6**
BSD pmax pmax
comp=Z,6.0nm,0.6s
BSD Bornholm Skovb 69.40 344⇓ *iP* **P 10 38 14.7 -0.6**
comp=Z,6.1nm,0.6s
AKASG Malin Array Be 70.55 334 P **P 10 38 21.6 -0.8**
AKASG pmax pmax
comp=Z,11nm,0.7s
AKASG Malin Array Be 70.55 334 P **P 10 38 21.6 -0.8**
AKASG Malin Array Be 70.55 334 P **P 10 38 21.6 -0.8**
comp=Z,11nm,0.7s,baz=26,slow=6.0,SNR=30
KIEV Kiev 70.56 334 *eP* **P 10 38 22.2 -0.3**
KIEV pmax pmax
comp=Z,14nm,0.9s
KIEV Kiev 70.56 334 *eP* **P 10 38 22.2 -0.3**
comp=Z,14nm,0.9s
KIEV *ep*P **pP 10 38 33.8 +0.7**
EKA Eskdalemuir Ar 71.08 355 P **P 10 38 24.8 -0.8**
EKA Eskdalemuir Ar 71.08 355 P **P 10 38 24.8 -0.8**
comp=Z,4.1nm,0.8s,baz=5.7,slow=4.9,SNR=8.2
TKL Tuckaleechee C 71.15 55 P **P 10 38 25.4 -1.0**
TKL Tuckaleechee C 71.15 55 P **P 10 38 25.4 -1.0**
comp=Z,2.2nm,0.7s,baz=45,slow=2.9,SNR=3.3
KIV Kislovodsk 72.36 322⇑ *eP* **P 10 38 33.8 +0.2**
KBZ Khabaz 72.48 322 P **P 10 38 34.2 +0.1**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 72.48 322 P **P 10 38 34.2 +0.1**
KBZ Khabaz 72.48 322 P **P 10 38 34.2 +0.1**
comp=Z,10.0nm,0.9s,baz=347,slow=1.9,SNR=4.2
LVV L'vov 72.64 337 *eP* **P 10 38 34.2 -0.8**
KWP Kalwaria Pacla 73.12 338 *eP* **P 10 38 38.8 +0.9**
KWP pmax pmax
comp=Z,44nm,1.1s
KWP Kalwaria Pacla 73.12 338 *eP* **P 10 38 38.8 +0.9**
comp=Z,44nm,1.1s
KWP Kalwaria Pacla 73.12 338⇑ *iP* **P 10 38 38.6 +0.7**
KWP Kalwaria Pacla 73.12 338 *eP* **P 10 38 38.6 +0.7**
OJC Ojcow 73.19 340 *eP* **P 10 38 38.9 +0.6**
OJC pmax pmax
comp=Z,21nm,0.8s
OJC Ojcow 73.19 340 *eP* **P 10 38 38.9 +0.6**
comp=Z,21nm,0.8s
OJC Ojcow 73.19 340 *eP* **P 10 38 38.8 +0.5**
KSP Ksiaz 73.27 342 *eP* **P 10 38 38.9 +0.2**
CLL Collm 73.38 344 *eP* **P 10 38 39.0 -0.4**
CLL *e* 10 38 47.0
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 73.38 344 *eP* **P 10 38 39.0 -0.4**
comp=Z,6.0nm,0.8s
CLL *e*(pP) **pP 10 38 47.0 -3.1**
UPC Upice 73.64 342 *i P* **P 10 38 41.3 +0.3**
UPC Upice 73.64 342 *i P* **P 10 38 41.3 +0.3**
STHS Stebnicka Huta 73.65 339 *eP* **P 10 38 42.3 +1.3**
STHS pmax pmax
comp=Z,7.0nm,0.8s
STHS Stebnicka Huta 73.65 339 *eP* **P 10 38 42.3 +1.3**
BRG Berggiesshubel 73.65 344 *eP* **P 10 38 40.4 -0.5**
comp=Z,5.2nm,0.8s
BRG *e* 10 38 54.5
comp=Z,5.4nm,1.0s
BRG
comp=N,880nm,21.7s
BRG
comp=E,811nm,16.8s
BRG
comp=Z,1μm,18.9s
BRG Berggiesshubel 73.65 344 *eP* **P 10 38 40.4 -0.5**
BRG *e* 10 38 54.5
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG MLR MLR
comp=N,5μm,21.7s
BRG MLR MLR
comp=E,880nm,16.8s
BRG MLR MLR
comp=Z,811nm,18.9s
DPC Dobruska-Polom 73.74 342 *i* P **P 10 38 41.8 +0.2**
DPC *e* 10 38 55.4
DPC Dobruska-Polom 73.74 342 *i* P **P 10 38 41.8 +0.2**
DPC *ep*P **PcP 10 38 55.4 -1.7**
KOLS Kolonicke sedl 73.88 338 *eP* **P 10 38 42.6 +0.2**
KOLS pmax pmax
comp=Z,10.0nm,1.2s
KOLS Kolonicke sedl 73.88 338 *eP* **P 10 38 42.6 +0.2**
KIS Kishinev 74.05 333 *eP* P 10 38 52.0 +8.6
KIS Kishinev 74.05 333 *eP* P 10 38 52.0 +8.6
MORC Moravsky Berou 74.06 341 *eP* **P 10 38 43.5 0.0**
MORC pmax pmax
comp=Z,6.0nm,0.7s
MORC Moravsky Berou 74.06 341 *eP* **P 10 38 43.5 0.0**
comp=Z,6.2nm,0.7s
CRVS Cervenica-Dubn 74.08 338 *eP* **P 10 38 41.1 -2.5**
CRVS pmax pmax
comp=Z,7.0nm,1.1s
CRVS Cervenica-Dubn 74.08 338 *eP* **P 10 38 41.1 -2.5**
BUR08 Bucovina Ar. S 74.39 335 *eP* **P 10 38 45.5 0.0**
PRU Pruhonice 74.40 343 *i P* **P 10 38 45.4 0.0**
PRU Pruhonice 74.40 343 *i P* **P 10 38 45.4 0.0**
BURAR Bucovina Array 74.42 335⇑ *iP* **P 10 38 45.8 +0.2**
TRPA Tarpa 74.57 337⇑ *iP* **P 10 38 47.2 +0.8**
VRAC Vranov 74.69 342 P **P 10 38 47.2 +0.2**
VRAC Vranov 74.69 342 P **P 10 38 47.2 +0.2**
comp=Z,7.4nm,0.8s,baz=342,slow=6.4,SNR=10
VYHS Vyhne 75.03 340 *eP* **P 10 38 49.8 +0.7**
VYHS pmax pmax
comp=Z,5.0nm,0.8s
VYHS Vyhne 75.03 340 *eP* **P 10 38 49.8 +0.7**
GRF Grafenberg Arr 75.23 345 *eP* **P 10 38 50.5 +0.4**
comp=Z,7.0nm,0.8s
GRF Grafenberg Arr 75.23 345 *eP* **P 10 38 50.6 +0.4**
PSZ Piszkesteto 75.35 339⇓ *iP* **P 10 38 52.4 +1.4**
PSZ Piszkesteto 75.35 339⇓ *iP* **P 10 38 52.4 +1.4**
KHC Kasperske Hory 75.39 344 *eP* **P 10 38 51.7 +0.5**
KHC pmax pmax
comp=Z,11nm,1.0s
KHC Kasperske Hory 75.39 344 *i* P **P 10 38 51.5 +0.3**
KHC *ep*P **pP 10 39 00.6 -1.3**
KHC Kasperske Hory 75.39 344 *eP* **P 10 38 51.7 +0.5**
comp=Z,11nm,1.0s
GEC2 GERESS Array S 75.65 343 *eP* **P 10 38 53.1 +0.4**
GEC2 GERESS Array S 75.65 343 *eP* **P 10 38 53.1 +0.4**
GERES GERESS Array B 75.65 343 P **P 10 38 52.4 -0.3**
GERES GERESS Array B 75.65 343 P **P 10 38 52.4 -0.3**
comp=Z,5.0nm,0.6s,baz=33,slow=8.0,SNR=33
CONA Conrad Observa 76.15 342⇓ *iP* **P 10 38 56.5 +0.9**
comp=Z,8.0nm,0.7s
TIRR Tirgusor 76.50 332 *eP* **P 10 38 58.0 +0.5**
TIRR *e**PP **pP 10 39 07.7 -0.6**
TIRR pmax pmax
comp=Z,26nm,1.6s
TIRR Tirgusor 76.50 332 *eP* **P 10 38 58.0 +0.5**
comp=Z,26nm,1.6s
TIRR *ep*P **pP 10 39 07.7 -0.6**
MOA Molln 76.51 343⇑ *iP* **P 10 38 57.9 +0.3**
comp=Z,3.5nm,0.7s
ARSA Arzberg 76.86 342⇑ *iP* **P 10 39 00.5 +0.9**
comp=Z,5.3nm,0.6s
KBA Koelnbreinsper 77.42 343⇑ *iP* **P 10 39 03.9 +1.0**
comp=Z,17nm,0.8s
FLN La Foliniere 77.47 353 *eP* **P 10 39 02.2 -0.7**
comp=Z,9.7nm,0.7s
SOKA Soboth 77.51 342⇑ *iP* **P 10 39 03.8 +0.6**
comp=Z,4.4nm,0.5s
WTTA Wattenberg 77.52 344⇑ *iP* **P 10 39 03.7 +0.3**
comp=Z,8.0nm,0.6s
MOTA Moosalm 77.53 345⇓ *iP* **P 10 39 03.3 -0.1**
comp=Z,6.3nm,0.8s
PERS Pernice 77.53 342 *i P* **P 10 39 04.0 +0.6**
LDF La Druitiere 77.61 353 *eP* **P 10 39 02.9 -0.7**
comp=Z,10nm,0.8s
OBKA Obir 77.76 342⇑ *iP* **P 10 39 05.3 +0.6**
comp=Z,14nm,0.6s
GRR Gorron 77.87 353 *eP* **P 10 39 04.6 -0.5**
comp=Z,26nm,0.9s
ABTA Abfaltersbach 77.88 344⇑ *iP* **P 10 39 05.6 +0.2**
comp=Z,7.3nm,0.8s
FETA Feichten 77.90 345⇑ *iP* **P 10 39 05.8 +0.2**
comp=Z,6.0nm,1.0s
GOLS Golise 78.04 341 *i P* **P 10 39 06.5 +0.4**
GOLS *i* 10 39 16.1
GOLS *i* 10 39 54.3
ROSF Rostrenen 78.07 355 *eP* **P 10 39 05.8 -0.4**
comp=Z,5.5nm,0.6s
SGMF Saint Gilles 78.11 354 *eP* **P 10 39 06.0 -0.5**
comp=Z,5.4nm,0.5s
DAVOX Davos/Dischmat 78.27 345 P **P 10 39 08.1 +0.5**
DAVOX Davos/Dischmat 78.27 345 P **P 10 39 08.1 +0.5**
comp=Z,5.1nm,0.6s,baz=345,slow=9.6,SNR=8.7
FUORN Ofenpass-Fuorn 78.36 345 *eP* **P 10 39 08.4 +0.2**
comp=Z,5.4nm,0.8s
VISS Visnje 78.39 342 *i P* **P 10 39 07.8 -0.2**
VISS *i* 10 39 56.7
LOR Lormes 78.56 350 *eP* **P 10 39 08.5 -0.5**
comp=Z,12nm,0.8s,baz=12
BOJS Bojanci 78.60 341 *eP* **P 10 39 09.5 +0.3**
BOJS *e* 10 39 55.1
SSF Saint Saulge 78.80 350 *eP* **P 10 39 09.9 -0.4**
comp=Z,7.9nm,0.8s
AVF Avril sur Loir 79.08 350 *eP* **P 10 39 11.5 -0.3**
comp=Z,19nm,0.9s
SMF Signal de Mont 79.17 350 *eP* **P 10 39 11.9 -0.5**
comp=Z,9.5nm,0.7s
BRTR Keskin Array B 79.24 326 P **P 10 39 12.9 -0.1**
BRTR Keskin Array B 79.24 326 P **P 10 39 12.9 -0.1**
comp=Z,10.0nm,0.8s,baz=50,slow=3.9,SNR=5.3
BGF Bois d'Agnon 79.36 350 *eP* **P 10 39 13.1 -0.3**
comp=Z,4.1nm,0.5s
PPT2 Papeete2 79.48 140 *e*LR LR 11 03 33.5
comp=Z,178nm,24.2s
MFF Saint Martin d 79.59 352 *eP* **P 10 39 14.3 -0.3**
LPL La Plagne 79.94 347 *eP* **P 10 39 17.4 +0.6**
comp=Z,9.2nm,0.8s
LPG La Plagne 79.96 347 *eP* **P 10 39 17.7 +0.7**
comp=Z,17nm,1.0s
FITZ Fitzroy Crossi 80.64 221 P **P 10 39 21.0 +0.6**
FITZ Fitzroy Crossi 80.64 221 P **P 10 39 21.0 +0.6**
comp=Z,4.2nm,0.8s,baz=346,slow=4.2,SNR=2.0
ORIF Oris-en-Rattie 80.64 348 *eP* **P 10 39 21.0 +0.6**
comp=Z,11nm,0.8s
MBDF Montbardon 80.72 347 *eP* **P 10 39 21.3 +0.4**
comp=Z,9.5nm,0.7s
RJF Les Rejaudoux 80.73 351 *eP* **P 10 39 21.6 +0.8**
comp=Z,3.7nm,0.5s
VIVF Saint-Julien-l 80.85 349 *eP* **P 10 39 21.7 +0.2**
CAF Calviac 81.06 351 *eP* **P 10 39 22.9 +0.3**
comp=Z,16nm,0.9s
LFF La Frestale 81.17 352 *eP* **P 10 39 23.3 +0.2**
SMRF Simiane la Rot 81.61 348 *eP* **P 10 39 25.5 0.0**
LASF Ste Croix 81.71 349 *eP* **P 10 39 26.5 +0.5**
comp=Z,5.2nm,0.7s
LMR La Mourre 82.12 347 *eP* **P 10 39 28.3 +0.2**
comp=Z,8.7nm,0.7s
PGF Pioggiola 82.53 345 *eP* **P 10 39 29.9 -0.6**
comp=Z,6.8nm,0.6s
MTLF Montolieu 82.61 350 *eP* **P 10 39 31.2 +0.5**
comp=Z,6.0nm,0.7s
ASAR Alice Springs 82.83 212 P **P 10 39 32.9 +0.9**
ASAR Alice Springs 82.83 212 P **P 10 39 32.9 +0.9**
comp=Z,2.3nm,0.6s,baz=19,slow=4.9,SNR=4.8
EPF Esparros 83.09 352 *eP* **P 10 39 33.7 +0.4**
SJPF Ste Jean 83.14 353 *eP* **P 10 39 34.2 +0.7**
comp=Z,9.6nm,0.7s
ETSF Etsaut 83.30 352 *eP* **P 10 39 34.9 +0.5**
comp=Z,8.8nm,0.6s
TIP Timpagrande 84.37 339 *eP* **P 10 39 40.4 +0.4**
comp=Z,18nm,1.3s
PBRG Braganca 84.74 357 *eP* **P 10 39 41.9 +0.1**
comp=Z,9.4nm,1.0s
TBI Tubuai 84.78 142 *e*LR LR 11 06 01.0
comp=Z,116nm,26.0s,baz=335
ASF Jabal al Asfar 84.88 321 P **P 10 39 42.6 0.0**
ASF Jabal al Asfar 84.88 321 P **P 10 39 42.6 0.0**
comp=Z,3.2nm,0.6s
POLO Lamas de Olo 85.21 358 *eP* **P 10 39 44.4 +0.3**
comp=Z,9.9nm,1.4s
PVRL Vila Real 85.30 357 *eP* **P 10 39 44.9 +0.3**
comp=Z,21nm,1.1s
MVO Moncorvo 85.39 357 *eP* **P 10 39 45.5 +0.5**
comp=Z,20nm,1.4s
PVIS Viseu 85.86 358 *eP* **P 10 39 46.7 -0.7**
comp=Z,20nm,1.5s

GVD	**Gavdhos**	**86.66**	**332**	*e*P	P	10 39 57.4	+6.1
	comp=Z,290nm,1.0s							
PCBR	**Castelo Branco**	**86.73**	**357**	*e*P	**P**	**10 39 51.4**	**-0.1**
	comp=Z,10nm,2.3s							
ESDC	**Sonseca Array**	**86.74**	**355**	P	**P**	**10 39 51.3**	**-0.4**
ESDC	**Sonseca Array**	**86.74**	**355**	P	**P**	**10 39 51.3**	**-0.4**
	comp=Z,2.7nm,0.6s,baz=354,slow=4.2,SNR=11							
EIL	**Elat**	**87.86**	**321**	P	**P**	**10 39 57.0**	**-0.1**
EIL	**Elat**	**87.86**	**321**	P	**P**	**10 39 57.0**	**-0.1**
	comp=Z,4.2nm,0.6s,baz=12,slow=6.1,SNR=5.0							
PBAR	**Barrancos**	**88.38**	**357**	*e*P	**P**	**10 39 58.8**	**-0.7**
	comp=Z,9.8nm,1.8s							
RAYN	**Ar Rayn**	**88.90**	**310**	*e*P	**P**	**10 40 01.9**	**-0.4**
	comp=Z,6.3nm,0.9s							
RKT	**Rikitea**	**90.53**	**130**	*e*LR	LR	11 08 39.8		
	comp=Z,125nm,32.8s							
MAW	**Mawson**	**143.71**	**218**	PKP	**PKPdf**	**10 46 41.3**	**+0.3**
MAW	**Mawson**	**143.71**	**218**	PKP	**PKPdf**	**10 46 41.3**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=180,slow=1.0,SNR=4.3							
SNAA	**Sanae**	**161.66**	**188**	PKP	**PKPdf**	**10 47 09.8**	**+2.7**
SNAA				PKPab	**PKPab**	**10 47 52.3**	**-0.2**
SNAA	**Sanae**	**161.66**	**188**	PKP	**PKPdf**	**10 47 09.8**	**+2.7**
	comp=Z,0.4nm,1.0s,baz=258,slow=15,SNR=2.1							
SNAA				PKPab	**PKPab**	**10 47 52.3**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=207,slow=9.0,SNR=2.0							

ISCJB ***03*** *10:27:32.9±0.6,25.35N±0.03×109.85W±0.05,h10km, mb3.4/2,Error ellipse: s-maj=6.0km s-min=5.0km az=2.7*
MEX ***03*** *10:27:37.2±0.7,25.32N×109.87W,h10km±12km,MD4.3*
IDC ***03*** *10:27:37.3±3.9,25.38N×109.66W,h0km,mb3.4/2, mb1 3.8/6,mb1mx3.7/26,mbtmp3.4/6,ML3.2/4,MS3.4/1, Ms1 3.4/1,ms1mx2.9/25,Error ellipse: s-maj=52.1km s-min=22.4km az=165.0*

ISC 03 10:27:34.5±1.0,25°29N±0°05×109°90W±0°05,h10km,n12, σ1§55/17,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.23**	**197**	*i*P	**Pn**	**10 27 57.0**	**-0.8**
LPIG				*i*S	**Sb**	**10 28 13.6**	**-0.3**
SRIG	**Santa Rosalia**	**2.92**	**315**	*i*P	**Pn**	**10 28 20.9**	**0.0**
SRIG				*i*S	**Sn**	**10 28 54.0**	**-2.1**
MAIG	**Mazatlaan**	**3.80**	**123**	*i*P	**Pn**	**10 28 33.3**	**+0.2**
MAIG				*i*S	**Sn**	**10 29 16.4**	**-1.5**
HSIG		**3.83**	**346**	*i*P	**Pn**	**10 28 33.9**	**+0.3**
HSIG				*i*S	**Sn**	**10 29 16.6**	**-2.1**
HPIG		**4.15**	**66**	*i*P	**Pn**	**10 28 38.2**	**+0.1**
HPIG				*i*S	**Sn**	**10 29 25.4**	**-1.4**
CGIG		**5.34**	**18**	*i*P	**Pn**	**10 28 53.6**	**-0.9**
CGIG				*i*S	**Sn**	**10 29 53.8**	**-2.3**
TXAR	**Lajitas Array**	**6.86**	**53**	Pn	**Pn**	**10 29 14.7**	**-0.6**
	0.2nm,0.3s,baz=230,slow=14,SNR=14						
TXAR				Sn	**Sn**	**10 30 32.1**	**-1.4**
	0.4nm,0.3s,baz=287,slow=31,SNR=2.1						
TXAR				Lg	Lg	10 31 07.5	
	0.4nm,0.3s,baz=264,slow=31,SNR=2.6						
ANMO	**Albuquerque**	**10.08**	**16**	Pn	Pn	10 30 03.6	+4.1
	0.0nm,0.3s,baz=199,slow=12,SNR=8.7						
ANMO				Lg	Lg	10 32 51.5	
	0.1nm,0.3s,baz=215,slow=22,SNR=2.1						
ANMO				LR	LR	10 34 08.9	
	comp=Z,187nm,18.4s,baz=194,slow=39						
NVAR	**Mina Array Bea**	**14.91**	**334**	Pn	**P**	**10 31 11.8**	**+0.5**
	0.0nm,0.3s,baz=155,slow=12,SNR=5.7						
PDAR	**Pinedale Array**	**17.44**	**1**	P	**P**	**10 31 41.5**	**+2.1**
	0.0nm,0.3s,baz=172,slow=12,SNR=13						
NEW	**Newport**	**23.63**	**348**	P	**P**	**10 32 48.4**	**+2.6**
	0.7nm,0.5s,baz=180,slow=13,SNR=3.6						
ILAR	**Eielson Array**	**46.07**	**339**	P	P	10 36 04.1	+5.7
	0.5nm,1.0s,baz=148,slow=5.3,SNR=3.1						

CSEM ***03*** *10:33:05.6,42.32N×13.38E,h10km,MD1.8/8,After ROM*
ROM 03 10:33:05.6±0.1,42°32N×13°38E,h10km,Md1.8/8,Ml1.4/5, Error ellipse: s-maj=1.9km s-min=1.1km az=125.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.04**	**27**	Pg	Pg	10 33 08.1	+0.5
AQU				Sg	Sg	10 33 09.3	+0.3
	701nm,0.1s						
AQU	**L'Aquila**	**0.04**	**27**	Pg	Pg	10 33 08.1	+0.5
AQU				Sg	Sg	10 33 09.3	+0.3
	701nm,0.1s						
FIAM	**Fiamignano**	**0.20**	**254**	Pg	Pg	10 33 10.6	+0.6
FIAM				Sg	Sg	10 33 14.0	+1.0
	59nm,0.5s						
FIAM	**Fiamignano**	**0.20**	**254**	Pg	Pg	10 33 10.6	+0.6
FIAM				Sg	Sg	10 33 14.0	+1.0
	59nm,0.5s						
PTQR	**Pietraquaria**	**0.30**	**177**	Pg	Pg	10 33 12.5	+0.7
PTQR				Sg	Sb	10 33 17.2	-1.1
	14nm,0.5s						
PTQR	**Pietraquaria**	**0.30**	**177**	Pg	Pg	10 33 12.5	+0.7
PTQR				Sg	Sb	10 33 17.2	-1.1
	14nm,0.5s						
TERO	**Teramo**	**0.34**	**29**	Pg	Pg	10 33 12.3	-0.2
TERO				Sg	Sb	10 33 18.5	-1.0
	50nm,0.3s						
TERO	**Teramo**	**0.34**	**29**	Pg	Pg	10 33 12.3	-0.2
TERO				Sg	Sb	10 33 18.5	-1.0
	50nm,0.3s						
LNSS	**Leonessa**	**0.38**	**318**	Pg	Pg	10 33 13.9	+0.7
	26nm,0.5s						
LNSS	**Leonessa**	**0.38**	**318**	Pg	Pg	10 33 13.9	+0.7
	26nm,0.5s						
NRCA	**Norcia**	**0.55**	**339**	Pg	Pg	10 33 16.5	+0.1
	14nm,0.1s						
NRCA	**Norcia**	**0.55**	**339**	Pg	Pg	10 33 16.5	+0.1
	14nm,0.1s						

IDC 03 10:35:37.0±2.4,6°26S×154°36E,h0km,mb4.0/3, mb1 4.2/4,mb1mx3.7/20,mbtmp4.0/4,ML3.1/1,MS3.0/1, Ms1 3.0/1,ms1mx2.4/32,Error ellipse: s-maj=103.5km s-min=36.8km az=142.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.79**	**246**	Pn	Pn	10 37 33.6	+1.9
	1.4nm,0.3s,baz=68,slow=12,SNR=3.7						
PMG				Sn	Sn	10 39 01.8	+1.1
	0.7nm,0.3s,baz=351,slow=19,SNR=1.5						
PMG				LR	LR	10 40 32.2	
	comp=Z,88nm,18.4s,baz=83,slow=38						
WRA	**Warramunga Arr**	**23.73**	**233**	P	P	10 40 50.7	-0.3
	8.3nm,1.1s,baz=57,slow=9.9,SNR=8.6						
ASAR	**Alice Springs**	**26.20**	**227**	P	P	10 41 13.8	+0.1
	0.4nm,0.5s,baz=61,slow=9.6,SNR=3.7						
FITZ	**Fitzroy Crossi**	**30.39**	**245**	P	P	10 41 50.4	-0.7
	2.6nm,0.9s,baz=67,slow=11,SNR=4.5						
TORD	**Torodi Ar. Bea**	**152.22**	**286**	PKPbc	PKPbc	10 55 35.8	0.0
	1.2nm,0.6s,baz=95,slow=1.3,SNR=11						
TORD				pPKPbc	PKPab	10 55 47.3	+1.8
	1.4nm,0.6s,baz=52,slow=1.5,SNR=9.4						

ISCJB ***03*** *10:37:31.3±0.7,25.60N±0.04×110.32W±0.05,h10km, mb3.5/1,Error ellipse: s-maj=7.0km s-min=5.4km az=170.3*
IDC ***03*** *10:37:35.9±5.3,24.87N×109.44W,h0km,mb3.1/1, mb1 3.7/5,mb1mx3.6/25,mbtmp3.3/5,ML3.6/3,Error ellipse: s-maj=77.7km s-min=24.5km az=161.0*
MEX ***03*** *10:37:36.3±0.5,25.59N×110.35W,h15km,MD4.2*
ISC 03 10:37:32.0±1.3,25°55N±0°05×110°40W±0°06,h10km,n11, σ1§47/13,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.44**	**177**	*e*P	**Pn**	**10 37 59.3**	**+1.1**
LPIG				*i*S	**Sn**	**10 38 15.8**	**-1.4**
SRIG	**Santa Rosalia**	**2.42**	**317**	*i*P	**Pn**	**10 38 11.8**	**+0.2**
SRIG				*i*S	**Sn**	**10 38 40.7**	**-0.6**
HSIG		**3.49**	**352**	*i*P	**Pn**	**10 38 27.3**	**+0.9**
HSIG				*i*S	**Sn**	**10 39 07.1**	**-0.8**
MAIG	**Mazatlaan**	**4.32**	**122**	*i*P	**Pn**	**10 38 38.3**	**+0.6**
HPIG		**4.47**	**71**	*i*P	**Pn**	**10 38 41.1**	**+1.0**
HPIG				*i*S	**Sn**	**10 39 30.2**	**-2.0**
CGIG		**5.26**	**23**	*i*P	**Pn**	**10 38 52.4**	**+1.6**
CGIG				*i*S	**Sn**	**10 39 49.5**	**-2.0**
TXAR	**Lajitas Array**	**7.07**	**56**	Pn	**Pn**	**10 39 17.5**	**+1.8**
	0.3nm,0.3s,baz=229,slow=15,SNR=2.3						
TXAR				Sn	**Sn**	**10 40 34.9**	**-1.2**
	1.5nm,0.3s,baz=239,slow=23,SNR=4.0						
TXAR				Lg	Lg	10 41 10.2	
	1.3nm,0.3s,baz=264,slow=26,SNR=2.9						
ANMO	**Albuquerque**	**9.97**	**19**	Pn	Pn	10 40 07.5	+12
	0.1nm,0.3s,baz=193,slow=11,SNR=4.7						
NVAR	**Mina Array Bea**	**14.48**	**334**	Pn	P	10 41 19.4	+15
	baz=155,slow=13,SNR=5.3						
PDAR	**Pinedale Array**	**17.19**	**2**	P	P	10 41 44.6	+11
	0.1nm,0.3s,baz=168,slow=11,SNR=10						
ILAR	**Eielson Array**	**45.67**	**339**	P	P	10 46 05.4	+13
	0.7nm,1.1s,baz=148,slow=7.4,SNR=3.8						

MEX 03 10:49:04.6±0.3,24°11N×108°65W,h17km±38km,MD4.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.52**	**270**	*i*P	Pn	10 49 27.7	-3.3
LPIG				*i*S	Sn	10 49 45.4	-4.9
SRIG	**Santa Rosalia**	**4.55**	**315**	*i*P	Pn	10 50 09.9	-2.8
SRIG				*i*S	Sn	10 51 02.5	-2.7
ANIG	**Ahuacatlan**	**4.88**	**128**	*i*P	Pn	10 50 14.7	-2.6
ANIG				*i*S	Sn	10 51 10.8	-2.8
HSIG		**5.30**	**338**	*i*P	Pn	10 50 21.6	-1.5
HSIG				*i*S	Sn	10 51 21.1	-2.7
CGIG		**6.26**	**5**	*i*P	Pn	10 50 33.6	-2.7
CGIG				*i*S	Sn	10 51 44.5	-3.2

MEX ***03*** *11:00:12.2±1.9,25.21N×109.42W,h15km,MD5.4*
IDC ***03*** *11:00:13.4±0.5,25.25N×109.85W,h0km,mb4.6/29, mb1 4.6/34,mb1mx4.6/35,mbtmp4.5/34,ML4.0/5,MS5.5/49, Ms1 5.5/49,ms1mx5.5/54,Error ellipse: s-maj=17.8km s-min=10.3km az=60.0*
ISCJB ***03*** *11:00:14.0±0.2,25.27N±0.03×109.69W±0.03,h10km, mb5.1/167,MS5.7/208,Error ellipse: s-maj=4.1km s-min=2.9km az=38.1*
NEIC ***03*** *11:00:14.6±0.3,25.13N×109.75W,h10km,mb5.3/126, MS5.7/126,MW5.8,MW6.0,Error ellipse: s-maj=4.9km s-min=3.3km az=33.0,Moment Tensor Solution. s27 Moment tensor: Scale 10¹⁷Nm; Mrr=0.50; Mθθ=5.81; Mϕϕ6.32; Mrθ0.14; Mθϕ=-0.10; Mϕr=1.80; Best double couple: M₀6.30000×10¹⁷ NP1:ϕs225.00000°,δ79.00000°, λ9.00000°. NP2:ϕs134.00000°,δ81.00000°,λ169.00000°. Principal axes: T 6.7700, Plg13.0000°, Azm89.0000°; N -0.9500, Plg76.0000°, Azm275.0000°; P -5.8100, Plg1.0000°, Azm179.0000°;*
NEIC Felt [IV] at Los Mochis, Sinaloa. Also felt at Culiacan. Felt at Guaymas and Hermosillo, Sonora and at La Paz, Baja California Sur.
MOS ***03*** *11:00:14.2±1.5,25.27N×109.74W,h10km,mb5.5/38, MS5.8/25 Error ellipse: s-maj=7.4km s-min=3.8km az=97.2*
BJI ***03*** *11:00:14.7,24.91N×110.47W,h9km,mB5.7/23,mb5.2/13, Ms5.9/24,Ms7 5.6/24*
GCMT ***03*** *11:00:17.8±0.1,25.20N×109.87W,h14km,MW5.9, Moment Tensor Solution. s102,c198; s79,c99; Moment tensor: Scale 10¹⁷Nm; Mrr0.65±.07; Mθθ-9.76±.09; Mϕϕ9.11±.09; Mrθ-0.41±.15; Mθϕ0.45±.07; Mϕr0.23±.15; Best double couple: M₀9.50000×10¹⁷ NP1:ϕs46.00000°, δ87.00000°,λ-1.00000°. NP2:ϕs136.00000°,δ89.00000°, λ-177.00000°. Principal axes: T 9.1300, Plg1.0000°, Azm271.0000°; N 0.6600, Plg87.0000°, Azm148.0000°; P -9.7900, Plg2.0000°, Azm1.0000°; Data Used: II IU CN IC G. Surface waves: sta=107, comp=234, per= 50.*
NEIC ***03*** *11:00:39.5±0.0,25.71N×109.49W,h10km,Moment Tensor Solution. s148 Moment tensor: Scale 10¹⁸Nm; Mrr0.00; Mθθ0.00; Mϕϕ0.00; Mrθ0.00; Mθϕ0.00; Mϕr0.00; Best double couple: M₀1.30000×10¹⁸ NP1:ϕs225.00000°, δ36.00000°,λ-1.00000°. NP2:ϕs317.00000°,δ89.00000°, λ-125.00000°. Principal axes: T 1.2400, Plg33.0000°, Azm77.0000°; N 0.0900, Plg36.0000°, Azm318.0000°; P -1.3300, Plg35.0000°, Azm196.0000°;*

ISC 03 11:00:16.4±0.3,25°22N±0°03×109°62W±0°03,h17km, n1048,σ1§61/900,mb5.2/166,MS5.7/208,221C-208D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.28**	**210**	*e*P	Pn	11 00 33.2	-6.2
LPIG				*i*S	Sb	11 00 49.1	-7.0
LPIG	**La Paz**	**1.28**	**210**	*e*P	Pn	11 00 33.2	-6.2
LPIG				*i*S	Sb	11 00 49.1	-7.0
SRIG	**Santa Rosalia**	**3.15**	**312**	*i*P	Pn	11 01 00.6	-4.6
SRIG				*i*S	**Sn**	**11 01 37.5**	**-4.9**
SRIG	**Santa Rosalia**	**3.15**	**312**	*i*P	Pn	11 01 00.6	-4.6
SRIG				*i*S	**Sn**	**11 01 37.5**	**-4.9**
MAIG	**Mazatlaan**	**3.55**	**124**	*i*P	Pn	11 01 02.2	-8.5
MAIG				*i*S	Sn	11 01 40.7	-12
MAIG	**Mazatlaan**	**3.55**	**124**	*i*P	Pn	11 01 02.2	-8.5
MAIG				*i*S	Sn	11 01 40.7	-12
HPIG		**3.94**	**63**	*e*P	Pn	11 01 07.6	-8.8
HPIG				*i*S	Sn	11 01 51.1	-11
HPIG		**3.94**	**63**	*e*P	Pn	11 01 07.6	-8.8
HPIG				*i*S	Sn	11 01 51.1	-11
HSIG		**3.97**	**343**	*e*P	Pn	11 01 10.8	-5.6
HSIG				*i*S	Sn	11 01 57.0	-5.6
HSIG		**3.97**	**343**	*e*P	Pn	11 01 10.8	-5.6
HSIG				*i*S	Sn	11 01 57.0	-5.6
CGIG		**5.33**	**15**	*e*P	Pn	11 01 29.2	-6.1
CGIG				*i*S	Sn	11 02 28.2	-8.2
CGIG		**5.33**	**15**	*e*P	Pn	11 01 29.2	-6.1
CGIG				*i*S	Sn	11 02 28.2	-8.2
319A	**Douglas**	**6.14**	**3**	⇓P	Pn	11 01 42.6	-3.9
	baz=6.3,SNR=61						
320A	**Kipp Ranch, An**	**6.17**	**9**	⇓P	Pn	11 01 43.8	-3.0
	baz=6.3,SNR=37						
ANIG	**Ahuacatlan**	**6.26**	**130**	*i*P	Pn	11 01 39.7	-8.4
ANIG				*i*S	Sn	11 02 48.8	-11
ANIG	**Ahuacatlan**	**6.26**	**130**	*i*P	Pn	11 01 39.7	-8.4
ANIG				*i*S	Sn	11 02 48.8	-11
626A	**Big Bend Ranch**	**6.51**	**47**	⇓P	Pn	11 01 47.6	-4.0
	baz=6.7,SNR=37						
H06S		**6.58**	**191**	*i*P	Pn	11 01 47.0	-5.4
H06S				*i*S	**Sn**	**11 03 01.6**	**-5.4**
TXAR	**Lajitas Array**	**6.70**	**51**	Pn	**Pn**	**11 01 51.3**	**-2.8**
TXAR				Lg	Lg	11 03 48.9	
TXAR	**Lajitas Array**	**6.70**	**51**	Pn	**Pn**	**11 01 51.3**	**-2.8**
	3.6nm,0.3s,baz=228,slow=14,SNR=79						
TXAR				Lg	Lg	11 03 48.9	
	11nm,0.3s,baz=237,slow=16,SNR=2.9						
220A	**Playas Peak, P**	**6.73**	**8**	⇑P	Pn	11 01 51.8	-2.8
	baz=6.9,SNR=54						
526A	**Mary Lane Ranc**	**6.88**	**44**	⇑P	Pn	11 01 53.2	-3.4
	baz=7.0						
425A	**Indio Mountain**	**6.89**	**35**	⇑P	**Pn**	**11 01 53.9**	**-2.8**
	baz=7.0,SNR=51						
ZAIG	**Zacatecas**	**6.89**	**109**	*e*P	Pn	11 01 49.5	-7.4
ZAIG				*i*S	Sn	11 03 04.9	-10
ZAIG	**Zacatecas**	**6.89**	**109**	*e*P	Pn	11 01 49.5	-7.4
ZAIG				*i*S	Sn	11 03 04.9	-10
221A	**Mesquite Ranch**	**6.96**	**13**	⇑P	Pn	11 01 54.6	-3.0
	baz=7.1,SNR=35						
627A	**Terlingua Ranc**	**6.96**	**51**	⇓P	Pn	11 01 54.1	-3.6
	baz=7.1,SNR=8.7						
CJM	**Chamela**	**7.09**	**142**	*i*P	Pn	11 01 51.2	-8.2
CJM				*i*S	Sn	11 03 10.6	-9.2
CJM	**Chamela**	**7.09**	**142**	*i*P	Pn	11 01 51.2	-8.2
CJM				*i*S	Sn	11 03 10.6	-9.2
TUC	**Tucson**	**7.14**	**352**	*e*P	Pn	11 01 56.3	-3.8
TUC				pmax	pmax		
	comp=Z,71nm,0.8s						
TUC	**Tucson**	**7.14**	**352**	*e*Pn	Pn	11 01 56.2	-3.8
	comp=Z,71nm,0.8s						
TUC				*e*Sg	**Sg**	**11 04 01.2**	**-4.2**
324A	**Moseley Ranch,**	**7.19**	**29**	⇑P	**Pn**	**11 01 58.5**	**-2.4**
	baz=7.3,SNR=28						
222A	**Williams Famil**	**7.21**	**17**	⇓P	**Pn**	**11 01 58.7**	**-2.4**
	baz=7.4,SNR=72						
527A	**Woodward Ranch**	**7.24**	**46**	⇓P	Pn	11 01 57.9	-3.7
	baz=7.4,SNR=28						
214A	**Organ Pipe Nat**	**7.28**	**338**	⇑P	Pn	11 01 58.1	-3.9
	baz=7.3,SNR=30						
223A	**Chaparral, Ant**	**7.32**	**22**	⇑P	**Pn**	**11 02 01.2**	**-1.4**
	baz=7.5						
628A	**Black Gap, Mar**	**7.34**	**53**	⇓P	Pn	11 01 59.0	-3.8
	baz=7.5,SNR=27						
426A	**McDonald Obser**	**7.34**	**41**	⇓P	**Pn**	**11 02 00.4**	**-2.6**
	baz=7.5,SNR=67						
120A	**U Bar Ranch, L**	**7.35**	**7**	⇑P	Pn	11 02 00.3	-2.9
	baz=7.5,SNR=40						
MNTX	**Cornudas Mount**	**7.45**	**29**	*e*Pn	**Pn**	**11 02 02.2**	**-2.2**
	comp=Z,67nm,0.6s						
MNTX				*e*Sn	**Sn**	**11 03 28.8**	**+0.2**
121A	**Cookes Peak, D**	**7.46**	**12**	P	**Pn**	**11 02 02.3**	**-2.3**
	baz=7.6,SNR=81						
224A	**Cornudas Mount**	**7.72**	**27**	⇓P	Pn	11 02 06.0	-2.2
	baz=7.9,SNR=32						
SPIG	**San Pedro Mart**	**7.77**	**320**	*e*P	Pn	11 02 05.9	-3.0
SPIG				*i*S	**Sn**	**11 03 34.2**	**-2.5**
SPIG	**San Pedro Mart**	**7.77**	**320**	*e*P	Pn	11 02 05.9	-3.0
SPIG				*i*S	**Sn**	**11 03 34.2**	**-2.5**
122A	**Conniff Cattle**	**7.80**	**16**	⇑P	**Pn**	**11 02 07.7**	**-1.5**
	baz=7.9,SNR=25						
326A	**Caldwell Ranch**	**7.85**	**38**	⇓P	**Pn**	**11 02 07.7**	**-2.2**
	baz=8.0,SNR=51						
Z20A	**Nine Sixteen R**	**7.92**	**6**	⇓P	Pn	11 02 08.1	-2.7
	baz=8.0,SNR=60						
123A	**Bell Site, Whi**	**7.95**	**21**	⇓P	**Pn**	**11 02 09.3**	**-2.0**
	baz=8.1						
225A	**Deer Hill, Car**	**8.05**	**30**	⇑P	**Pn**	**11 02 10.9**	**-1.8**
	baz=8.2,SNR=57						
327A	**Balmorhea Ranc**	**8.16**	**40**	⇓P	**Pn**	**11 02 11.6**	**-2.6**
	baz=8.3						
529A	**Stev Forest Ra**	**8.18**	**52**	⇑P	Pn	11 02 10.2	-4.1
	baz=8.3						
428A	**Kincaid Ranch,**	**8.22**	**47**	⇓P	**Pn**	**11 02 13.2**	**-1.8**
	baz=8.4,SNR=26						
Z21A	**St. Cloud Mine**	**8.24**	**11**	⇓P	**Pn**	**11 02 13.6**	**-1.7**
	baz=8.4,SNR=80						
124A	**Stringfield Ra**	**8.30**	**25**	⇑P	**Pn**	**11 02 15.7**	**-0.5**
	baz=8.5,SNR=49						
Z22A	**Elephant Butte**	**8.34**	**16**	⇑P	**Pn**	**11 02 15.4**	**-1.2**
	baz=8.5,SNR=73						
226B	**Tecolote Peak,**	**8.34**	**34**	⇑P	**Pn**	**11 02 14.7**	**-1.9**
	baz=8.5,SNR=26						
GDL2	**Guadalupe Moun**	**8.34**	**32**	*e*Pn	**Pn**	**11 02 15.5**	**-1.2**
	comp=Z,18nm,0.4s						
GDL2				*e*Sn	**Sn**	**11 03 48.4**	**-2.2**
GVA	**Apache Junctio**	**8.35**	**349**	P	**Pn**	**11 02 15.0**	**-1.6**
GVA				S	Sb	11 04 22.2	+2.5
113A	**Mohawk Valley,**	**8.35**	**335**	⇑P	**Pn**	**11 02 14.1**	**-2.5**
	baz=8.4,SNR=5.8						
Z23A	**Rita Site, Whi**	**8.54**	**19**	⇑P	**Pn**	**11 02 18.1**	**-1.3**
	baz=8.7,SNR=32						
328A	**Wristen Ranch,**	**8.58**	**43**	⇑P	**Pn**	**11 02 17.8**	**-2.2**
	baz=8.7						
125A	**Gardner Draw,**	**8.59**	**29**	⇓P	**Pn**	**11 02 19.5**	**-0.5**
	baz=8.7,SNR=31						
Z14A	**Wintersburg**	**8.62**	**341**	⇓P	Pn	11 02 17.3	-3.1
	baz=8.7,SNR=16						
CLNB	**Carlsbad**	**8.64**	**34**	*e*Pn	**Pn**	**11 02 21.7**	**+1.0**
	comp=Z,7.3nm,0.6s						
CLNB				Sn	**Sn**	**11 03 55.1**	**-2.7**
429A	**Davenport Ranc**	**8.70**	**50**	⇑P	**Pn**	**11 02 19.2**	**-2.2**
	baz=8.9,SNR=29						
Y20A	**Horse Springs,**	**8.73**	**7**	⇑P	**Pn**	**11 02 19.8**	**-2.2**
	baz=8.9,SNR=55						
227A	**Bennet, Jal**	**8.76**	**38**	⇓P	**Pn**	**11 02 22.5**	**+0.2**
	baz=8.9						
530A	**J-C Ranch, Com**	**8.83**	**54**	⇓P	**Pn**	**11 02 21.6**	**-1.7**
	baz=9.0,SNR=21						
IGIG	**Irapuato, Guan**	**8.84**	**119**	*i*P	Pn	11 02 16.6	-6.9
IGIG				*i*S	Sn	11 03 52.6	-10
126A	**Clayton Basin,**	**8.88**	**32**	P	**Pn**	**11 02 23.7**	**-0.3**
	baz=9.0,SNR=19						
Z24A	**Sheeppen Canyo**	**8.89**	**24**	⇓P	**Pn**	**11 02 22.2**	**-2.1**
	baz=9.0,SNR=38						
Y21A	**Point of Rocks**	**8.92**	**10**	⇓P	**Pn**	**11 02 24.8**	**+0.1**
	baz=9.1,SNR=65						
Y22A	**Socorro**	**8.99**	**14**	P	**Pn**	**11 02 25.5**	**-0.1**
	baz=9.1,SNR=56						
GLA	**Glamis**	**9.03**	**331**	*e*P	**Pn**	**11 02 23.9**	**-2.2**
GLA				*e*		11 04 08.2	
GLA				pmax	pmax		
	comp=Z,82nm,1.1s						
GLA	**Glamis**	**9.03**	**331**	*e*Pn	**Pn**	**11 02 23.9**	**-2.2**
	comp=Z,82nm,1.1s						
GLA				*e*Sn	**Sn**	**11 04 08.2**	**+0.7**
GLA	**Glamis**	**9.03**	**331**	⇓P	Pn	11 02 22.9	-3.1
	baz=9.1						
631A	**Perdido Creek**	**9.06**	**61**	⇓P	**Pn**	**11 02 23.6**	**-2.9**
	baz=9.2,SNR=18						
Z25A	**Roswell**	**9.10**	**27**	⇓P	**Pn**	**11 02 26.3**	**-0.8**
	baz=9.3,SNR=37						
Y22D	**IRIS PASSCAL I**	**9.13**	**14**	⇓P	**Pn**	**11 02 27.6**	**+0.1**
	baz=9.3						
Y14A	**Wickenburg**	**9.17**	**342**	P	**Pn**	**11 02 25.9**	**-2.1**
	baz=9.2,SNR=71						
329A	**Wagon Wheel Ra**	**9.18**	**45**	⇑P	**Pn**	**11 02 25.5**	**-2.6**
	baz=9.3,SNR=6.1						
LENM	**Lemitar**	**9.21**	**14**	*e*Pn	**Pn**	**11 02 28.6**	**0.0**
	comp=Z,2.8nm,0.7s						
LENM				*e*Sn	**Sn**	**11 04 12.0**	**+0.2**
LNIG	**Linares**	**9.21**	**90**	*i*P	Pn	11 02 22.0	-6.5
LNIG				*i*S	Sn	11 04 03.4	-8.5
LNIG	**Linares**	**9.21**	**90**	*i*P	Pn	11 02 22.0	-6.5
LNIG				*i*S	Sn	11 04 03.4	-8.5

532A **Rocksprings** 9.90 58 ⇑P Pn 11 02 34.6 -3.4
baz=10.0,SNR=17
W20A **Ramah** 9.92 5 ⇑P Pn 11 02 38.1 -0.3
baz=10,SNR=47
X24A **Lazy VL Ranch,** 9.99 20 ⇓P Pn 11 02 39.8 +0.4
baz=10,SNR=14
230A **Sterling City** 10.00 46 ⇑P Pn 11 02 37.2 -2.1
baz=10,SNR=41
W21A **San Fidel** 10.01 9 ⇓P Pn 11 02 38.6 -1.0
baz=10,SNR=9.2
129A **Stewart Farms,** 10.03 41 ⇑P Pn 11 02 38.6 -1.1
baz=10,SNR=7.4
Y26A **Elida** 10.03 29 ⇑P Pn 11 02 40.4 +0.6
baz=10
109C **Camp Elliot, M** 10.06 321 ⇑P Pn 11 02 39.2 -1.0
baz=10
ANMO **Albuquerque** 10.07 15 *e*Pn Pn 11 02 41.0 +0.6
comp=Z,149nm,1.3s
ANMO *e*Sn Sn 11 04 47.9 +15
ANMO Lg Lg 11 05 37.0
ANMO **Albuquerque** 10.07 15 Pn Pn 11 02 41.3 +0.8
comp=Z,0.3nm,0.3s,baz=204,slow=12,SNR=71
ANMO Lg Lg 11 05 37.0
comp=Z,0.7nm,0.3s,baz=284,slow=17,SNR=2.4
ANMO LR LR 11 07 16.6
comp=Z,24µm,21.0s,baz=193,slow=42
W22A **Albuquerque** 10.10 13 ⇑P Pn 11 02 41.3 +0.4
baz=10
331A **San Angelo** 10.12 51 ⇑P Pn 11 02 39.1 -1.8
baz=10,SNR=23
IRM **Iron Mountain** 10.12 333 ⇑P Pn 11 02 38.5 -2.5
baz=10,SNR=14
JCT **Junction City** 10.14 57 *e*P Pn 11 02 43.4 +2.1
JCT pmax pmax
comp=Z,44nm,0.8s
JCT **Junction City** 10.14 57 *e*Pn Pn 11 02 43.4 +2.1
comp=Z,44nm,0.8s
JCT **Junction City** 10.14 57 ⇑P Pn 11 02 39.2 -2.1
baz=10,SNR=25
Z28A **Tucker Farm, M** 10.22 36 ⇑P Pn 11 02 40.3 -2.1
baz=10
X25A **Clemmons Ranch** 10.22 24 ⇓P Pn 11 02 41.8 -0.7
baz=10
PFO **Pinyon Flat Ob** 10.26 326 *e*Pn Pn 11 02 43.0 0.0
comp=Z,74nm,1.3s
PFO *e*Sn Sn 11 04 35.8 -1.9
PFO **Pinyon Flat Ob** 10.26 326 Pn Pn 11 02 42.8 -0.2
comp=Z,0.3nm,0.3s,baz=152,slow=11,SNR=24
PFO LR LR 11 06 13.2
comp=Z,13µm,21.4s,baz=144,slow=36
PFO **Pinyon Flat Ob** 10.26 326 ⇑P Pn 11 02 41.0 -2.1
baz=10,SNR=16
Y27A **Causey** 10.30 32 ⇑P Pn 11 02 42.3 -1.2
baz=10,SNR=14
432A **Menard** 10.34 55 ⇓P Pn 11 02 40.3 -3.8
baz=10,SNR=36
W23A **Werner Place,** 10.35 16 ⇓P Pn 11 02 44.3 0.0
baz=10,SNR=68
BELC **Belle Mtn. Jos** 10.36 329 ⇓P Pn 11 02 43.5 -0.9
baz=10,SNR=14
WUAZ **Wupatki** 10.38 352 *e*Pn Pn 11 02 44.5 -0.1
comp=Z,242nm,1.6s
WUAZ **Wupatki** 10.38 352 ⇓P Pn 11 02 43.3 -1.3
baz=10,SNR=44
NEE2 **Needles Airpor** 10.45 337 ⇑P Pn 11 02 44.9 -0.6
baz=10
W13A **Hualapai Mount** 10.51 340 ⇓P Pn 11 02 45.2 -1.3
baz=11,SNR=27
130A **Snyder** 10.55 44 ⇓P Pn 11 02 44.5 -2.5
baz=11,SNR=9.9
MSTX **Muleshoe** 10.56 33 ⇓P Pn 11 02 46.3 -0.7
baz=11,SNR=15
231A **Bronte** 10.56 49 ⇑P Pn 11 02 45.5 -1.6
baz=11,SNR=28
X26A **CR and CF Fran** 10.57 27 ⇑P Pn 11 02 46.9 -0.4
baz=11,SNR=17
Z29A **Hungry Hill Ra** 10.57 39 ⇓P Pn 11 02 45.6 -1.6
baz=11,SNR=16
V20A **Brimhall** 10.59 5 ⇓P Pn 11 02 47.9 +0.3
baz=11,SNR=52
W24A **Lazy 6 Ranch,** 10.60 19 ⇑P Pn 11 02 48.8 +1.1
baz=11,SNR=66
MURC **Murrieta** 10.65 323 ⇑P Pn 11 02 46.0 -2.2
baz=11,SNR=10
332A **Millersview** 10.65 53 ⇓P Pn 11 02 47.8 -0.4
baz=11,SNR=47
V21A **Milan** 10.69 9 ⇑P Pn 11 02 49.7 +0.8
baz=11,SNR=24
ZIIG **Zihuatanejo** 10.72 133 *i* P Pn 11 02 42.0 -7.2
ZIIG *i* S Sn 11 04 39.4 -9.5
ZIIG **Zihuatanejo** 10.72 133 *i* P Pn 11 02 42.0 -7.2
ZIIG *i* S Sn 11 04 39.4 -9.5
Y28A **McKinney Farm,** 10.77 35 ⇑P Pn 11 02 49.8 -0.2
baz=11,SNR=10
GMRC **Granite Mounta** 10.87 333 ⇓P Pn 11 02 50.6 -0.7
baz=11
V23A **Ortiz Mt. (NFS** 10.90 15 ⇑P Pn 11 02 53.0 +1.2
baz=11,SNR=55
LDFC **Landfair** 10.91 336 *e*Pn Pn 11 02 52.8 +0.9
comp=Z,94nm,1.0s
V22A **San Miguel Ran** 10.91 12 P Pn 11 02 53.4 +1.4
baz=11,SNR=83
W25A **X Bar L Ranch,** 10.91 23 ⇑P Pn 11 02 53.4 +1.4
baz=11,SNR=18
Z30A **Sanderson Ranc** 10.93 41 ⇑P Pn 11 02 49.8 -2.3
baz=11
X27A **F and S Farms,** 10.96 29 ⇑P Pn 11 02 52.1 -0.5
baz=11
131A **Roby** 10.97 45 ⇑P Pn 11 02 52.6 0.0
baz=11,SNR=7.5
SCI **San Clemente I** 10.98 317 ⇓P Pn 11 02 51.1 -1.7
baz=11
232A **Coleman** 10.99 51 ⇑P Pn 11 02 51.3 -1.7
baz=11,SNR=25
BBRC **Big Bear Solar** 11.02 327 ⇑P Pn 11 02 53.3 -0.1
baz=11,SNR=21
ARIG **Puente Sto Nin** 11.04 127 *i* P Pn 11 02 46.8 -6.8
ARIG *i* S Sn 11 04 46.5 -10
Y29A **Porterfield Fa** 11.04 37 ⇓P Pn 11 02 53.5 -0.2
baz=11,SNR=22
W26A **Owens Ranch, T** 11.06 26 ⇓P Pn 11 02 53.1 -0.8
baz=11
V24A **Rampart Ranch,** 11.12 19 ⇑P Pn 11 02 56.0 +1.2
baz=11,SNR=58
U20A **Newcomb** 11.16 5 ⇓P Pn 11 02 55.9 +0.6
baz=11,SNR=34
CIS **Catalina Islan** 11.19 319 ⇑P Pn 11 02 57.7 +2.1
baz=11
HEC **Hector,Ludlow** 11.20 330 ⇑P Pn 11 02 55.0 -0.8
baz=11,SNR=9.5
X28A **Dimmitt** 11.28 33 ⇑P Pn 11 02 56.3 -0.6
baz=11
U21A **Nageezi** 11.30 8 ⇓P Pn 11 02 58.7 +1.4
baz=11,SNR=59
W27A **Bowe Ranch, En** 11.33 28 ⇑P Pn 11 02 57.5 -0.1
baz=12,SNR=13
FMP **Fort Macarthur** 11.34 320 ⇑P Pn 11 02 55.0 -2.6
baz=11
U22A **Llaves** 11.37 11 ⇓P Pn 11 02 59.6 +1.3
baz=12,SNR=17
BFSC **Mount Baldy Ra** 11.38 324 ⇑P Pn 11 02 58.2 -0.1
baz=11,SNR=7.1
U15A **North Rim** 11.41 349 P Pn 11 02 59.7 +0.9
baz=12,SNR=85
V25A **Rancho No Teng** 11.43 21 ⇓P Pn 11 03 00.6 +1.6
baz=12,SNR=59
ABTX **Abilene, Hawle** 11.43 48 ⇓P Pn 11 02 57.2 -1.7
baz=12,SNR=28
U23A **El Rito** 11.46 14 ⇑P Pn 11 03 00.5 +1.1
baz=12,SNR=46
X29A **Tulia** 11.47 35 ⇓P Pn 11 02 59.1 -0.4
baz=12,SNR=12
Y30A **Stafford Cattl** 11.49 39 ⇑P Pn 11 02 58.4 -1.3
baz=12
TUQ **Turquoise Moun** 11.54 333 ⇑P Pn 11 03 00.4 -0.1
baz=12,SNR=30
Z31A **Sharp Cattle R** 11.55 44 ⇑P Pn 11 03 00.9 +0.4
baz=12,SNR=19
RRX **Edison Barstow** 11.55 328 ⇓P Pn 11 03 00.0 -0.5
baz=12
MWC **Mount Wilson** 11.58 323 *e*P Pn 11 03 02.3 +1.1
MWC pmax pmax
comp=Z,64nm,1.3s
MWC **Mount Wilson** 11.58 323 *e*Pn Pn 11 03 02.3 +1.1
comp=Z,64nm,1.3s
PASC **Pasadena Art C** 11.62 322 *e*Pn Pn 11 03 01.2 -0.2
comp=Z,70nm,1.4s
V26A **Tequesquite Ra** 11.68 24 ⇑P Pn 11 03 03.4 +1.1
baz=12,SNR=15
DECC **Green Verdugo** 11.75 322 ⇑P Pn 11 03 02.7 -0.6
baz=12
U24A **Moreno Valley** 11.76 17 ⇓P Pn 11 03 05.3 +1.7
baz=12,SNR=16
GSC **Goldstone** 11.81 330 *e*P Pn 11 03 03.1 -1.0
GSC pmax pmax
comp=Z,88nm,1.4s
GSC **Goldstone** 11.81 330 *e*Pn Pn 11 03 03.1 -1.0
comp=Z,88nm,1.4s
GSC **Goldstone** 11.81 330 ⇓P Pn 11 03 03.5 -0.6
baz=12,SNR=22
AMTX **Amarillo** 11.83 34 *e*Pn Pn 11 03 03.9 -0.5
comp=Z,37nm,0.8s
T21A **Navajo Lake** 11.87 8 ⇑P Pn 11 03 06.5 +1.4
baz=12,SNR=16
W28A **Vega** 11.88 31 ⇓P Pn 11 03 04.1 -1.0
baz=12
X30A **Coker Ranch, T** 11.92 37 ⇓P Pn 11 03 04.9 -0.7
baz=12,SNR=15
Y31A **Rekieta Farm,** 11.92 41 ⇑P Pn 11 03 04.6 -1.0
baz=12,SNR=20
Z32A **Haskell** 11.96 45 ⇓P Pn 11 03 05.6 -0.6
baz=12,SNR=33
T22A **Edith** 11.98 11 ⇑P Pn 11 03 08.0 +1.3
baz=12,SNR=21
MVCO **Mesa Verde** 11.99 4 *e*Pn Pn 11 03 06.7 0.0
comp=Z,29nm,0.8s
MVCO **Mesa Verde** 11.99 4 P Pn 11 03 07.0 +0.2
baz=12,SNR=55
U25A **Circle Dot Ran** 12.01 21 ⇑P Pn 11 03 08.7 +1.8
baz=12,SNR=105
V27A **Dan Oppiter Fa** 12.02 27 ⇓P Pn 11 03 06.8 -0.2
baz=12
W29A **Amraillo** 12.03 33 ⇑P Pn 11 03 05.9 -1.3
baz=12
EDW2 **Edwards Air Fo** 12.05 325 ⇑P Pn 11 03 07.3 -0.1
baz=12,SNR=8.7
EDW2 ⇑S Sn 11 05 25.8 +4.4
baz=12
EDW2 ⇑S Sn 11 05 25.8 +4.4
baz=12
EDW2 ⇑S Sn 11 05 25.8 +4.4
baz=12
SHOC **Shoshone** 12.09 333 ⇓P Pn 11 03 07.5 -0.4
baz=12
T23A **Casias Ranch,** 12.17 14 ⇑P Pn 11 03 10.6 +1.4
baz=12,SNR=65
U26A **Atchley Ranch,** 12.22 23 ⇑P Pn 11 03 11.0 +1.1
baz=12,SNR=40
OSI **Osito Adit** 12.24 322 ⇓P Pn 11 03 09.5 -0.5
baz=12
V28A **Channing** 12.28 29 ⇓P Pn 11 03 09.4 -1.1
baz=12
LRMC **Laurel Mountai** 12.37 328 ⇓P Pn 11 03 11.8 0.0
baz=12,SNR=15
Y32A **R-V Farms, Ver** 12.44 43 ⇓P Pn 11 03 10.9 -1.8
baz=13,SNR=5.9
S21A **Coal Bank Pass** 12.50 7 ⇑P Pn 11 03 14.4 +0.6
baz=13,SNR=54
X31A **McDonald Ranch** 12.56 39 P Pn 11 03 13.8 -0.5
baz=13,SNR=14
U27A **Thompson Grove** 12.59 26 ⇑P Pn 11 03 15.6 +0.7
baz=13,SNR=28
S20A **Disappointment** 12.62 5 ⇓P Pn 11 03 15.3 0.0
baz=13,SNR=17
W30A **Crocket Farms** 12.63 36 ⇓P Pn 11 03 13.5 -1.9
baz=13
WHTX **Lake Whitney** 12.63 55 ⇑P Pn 11 03 13.0 -2.3
baz=13,SNR=13
ARVC **Arvin** 12.68 323 ⇑P Pn 11 03 16.0 0.0
baz=13,SNR=19
T25A **Trinidad** 12.69 19 ⇑P Pn 11 03 17.1 +0.9
baz=13,SNR=11
SBC **Santa Barbara** 12.69 319 ⇓P Pn 11 03 15.0 -1.0
baz=13
V29A **Stinnett** 12.70 31 ⇑P Pn 11 03 15.1 -1.2
baz=13
CCUT **Cedar City** 12.70 346 *e*Pn Pn 11 03 18.1 +1.6
comp=Z,16nm,1.2s
S22A **4UR Ranch, Cre** 12.71 10 ⇓P Pn 11 03 18.1 +1.5
baz=13,SNR=9.0
MPMC **Manual Prospec** 12.75 330 ⇑P Pn 11 03 17.4 +0.3
baz=13,SNR=34
U28A **Mallet** 12.80 28 ⇓P Pn 11 03 18.2 +0.4
baz=13,SNR=12
FURC **Furnace Creek,** 12.82 333 ⇑P Pn 11 03 18.4 +0.6
baz=13,SNR=27
S23A **Nye Farm, Mont** 12.82 13 ⇓P Pn 11 03 19.7 +1.6
baz=13,SNR=13
ISA **Isabella** 12.90 326 *e*P Pn 11 03 19.2 +0.1
ISA pmax pmax
comp=Z,151nm,1.6s
ISA **Isabella** 12.90 326 *e*Pn Pn 11 03 19.2 +0.1
comp=Z,151nm,1.6s
ISA **Isabella** 12.90 326 ⇓P Pn 11 03 19.0 -0.1
baz=13,SNR=20
PV01 **Paradox Valley** 12.91 4 *e*Pn Pn 11 03 19.6 +0.3
comp=Z,289nm,0.6s
S24A **Houchin Ranch,** 12.94 16 ⇓P Pn 11 03 20.7 +1.0
baz=13,SNR=19
ARUT **Antelope Range** 12.95 346 *e*P Pn 11 03 20.9 +1.2
ARUT pmax pmax
comp=Z,10µm,1.1s
ARUT **Antelope Range** 12.95 346 *e*Pn Pn 11 03 20.9 +1.2
comp=Z,11µm,1.1s
SDCO **Great Sand Dun** 12.97 15 *e*Pn Pn 11 03 21.2 +1.0
comp=Z,70nm,1.1s
R20A **Redvale** 12.97 4 ⇑P Pn 11 03 19.6 -0.5
baz=13,SNR=38
W31A **Holland Ranch,** 12.98 38 ⇑P Pn 11 03 20.0 -0.1
baz=13,SNR=12
T26A **Comanche Natio** 12.98 22 ⇑P Pn 11 03 21.4 +1.1
baz=13,SNR=41
V30A **Spur Ranch, Mi** 13.02 34 ⇓P Pn 11 03 19.7 -1.0
baz=13
PKM **Peak Mountain** 13.07 320 ⇓P Pn 11 03 20.8 -0.7
baz=13,SNR=13
PV04 **Paradox Valley** 13.15 2 *e*Pn Pn 11 03 22.5 0.0
S25A **Robets Cordova** 13.16 18 ⇑P Pn 11 03 23.4 +0.7
baz=13,SNR=15
T27A **Campo** 13.19 25 ⇑P Pn 11 03 23.6 +0.6
baz=13,SNR=17
R22A **Saguache, Gunn** 13.20 10 ⇑P Pn 11 03 24.6 +1.3
baz=13,SNR=30
R21A **Cimarron** 13.23 7 ⇓P Pn 11 03 24.0 +0.3
baz=13,SNR=14
U29A **Oasis Ranch, S** 13.29 31 ⇓P Pn 11 03 22.9 -1.4
baz=13
R23A **Moffat** 13.33 13 ⇑P Pn 11 03 26.3 +1.2
baz=14,SNR=36
CWC **Cottonwood Cre** 13.33 329 ⇓P Pn 11 03 25.5 +0.6
baz=13
WMOK **Wichita Mounta** 13.34 42 *e*P Pn 11 03 23.7 -1.3
WMOK pmax pmax
comp=Z,219nm,0.4s
WMOK **Wichita Mounta** 13.34 42 *e*Pn Pn 11 03 23.7 -1.3
comp=Z,219nm,0.4s
VES **Veal, Richgr** 13.36 325 ⇑P Pn 11 03 24.8 -0.4
baz=13,SNR=17
MVU **Marysvale** 13.43 351 *e*Pn Pn 11 03 26.9 +0.6
comp=Z,20nm,1.0s
S26A **Kim** 13.43 21 ⇑P Pn 11 03 27.1 +0.9
baz=14,SNR=28
MSU **Marysvale** 13.43 351 *e*P Pn 11 03 27.2 +0.8
MSU pmax pmax
comp=Z,44nm,0.7s
MSU **Marysvale** 13.43 351 *e*Pn Pn 11 03 27.2 +0.8
comp=Z,44nm,0.7s
SMMC **Simmler** 13.47 321 ⇑P Pn 11 03 26.5 -0.2
baz=14
V31A **Spring Creek L** 13.47 36 ⇓P Pn 11 03 25.7 -1.1
baz=14,SNR=12
GRAC **Grapevine Rang** 13.48 332 ⇑P Pn 11 03 27.6 +0.7
baz=14,SNR=30
T28A **Walsh** 13.48 27 ⇓P Pn 11 03 27.4 +0.4
baz=14
R24A **Sanders Place,** 13.53 15 ⇓P Pn 11 03 29.2 +1.6
baz=14,SNR=9.6
U30A **WK&E Inc. Balk** 13.64 32 ⇑P Pn 11 03 27.7 -1.5
baz=14,SNR=7.5
R25A **Fountain Ranch** 13.66 18 ⇓P Pn 11 03 30.7 +1.2
baz=14,SNR=9.6
S27A **Las Animas** 13.68 23 ⇑P Pn 11 03 30.2 +0.5
baz=14,SNR=6.6
Q21A **Lamborn Mesa,** 13.69 7 ⇑P Pn 11 03 30.4 +0.6
baz=14
Q16A **Castle Valley** 13.72 355 ⇑P Pn 11 03 31.0 +0.6
baz=14,SNR=56
Q20A **Ridgley Place,** 13.74 4 ⇑P Pn 11 03 30.4 -0.1
baz=14,SNR=9.4
Q22A **Crested Butte,** 13.79 9 ⇑P Pn 11 03 31.4 -0.1
baz=14,SNR=9.1
RCTC **Rector, Farmer** 13.80 326 ⇑P Pn 11 03 31.3 +0.1
baz=14
T29A **Hugoton** 13.86 29 ⇓P Pn 11 03 31.4 -0.7
baz=14,SNR=6.8
SRU **San Rafael** 13.87 357 *e*P Pn 11 03 33.2 +0.8
SRU pmax pmax
comp=Z,3.0nm,0.2s
SRU **San Rafael** 13.87 357 *e*Pn Pn 11 03 33.2 +0.8
comp=Z,2.7nm,0.2s
TIN **Tinemaha** 13.90 330 ⇑P Pn 11 03 33.7 +0.9
baz=14
U31A **Nine Bar Ranch** 13.92 35 ⇑P Pn 11 03 32.7 -0.2
baz=14,SNR=6.1
S28A **Manter** 13.97 26 ⇑P Pn 11 03 33.5 -0.2
baz=14
Q23A **Hartsel** 14.01 12 ⇓P Pn 11 03 35.1 +0.6
baz=14
R26A **Arlington** 14.05 20 ⇑P Pn 11 03 35.3 +0.5
baz=14,SNR=24
SMCO **Snowmass** 14.10 8 *e*Pn Pn 11 03 36.6 +1.0
comp=Z,6.4nm,1.3s
TMUT **Trail Mountain** 14.10 355 *e*Pn Pn 11 03 36.6 +1.0
comp=Z,3.6nm,0.2s
T30A **Plains** 14.12 31 ⇑P Pn 11 03 34.4 -1.3
baz=14
Q24A **Divide** 14.21 14 ⇑P Pn 11 03 37.7 +0.5
baz=14
R27A **Eads** 14.25 22 ⇑P Pn 11 03 37.8 +0.2
baz=14,SNR=60
P20A **De Beque** 14.28 4 ⇑P Pn 11 03 37.8 -0.2
baz=14,SNR=25
S29A **Ulysses** 14.32 28 ⇓P Pn 11 03 37.6 -0.8
baz=14
P19A **Cripple Cowboy** 14.38 2 ⇑P Pn 11 03 38.9 -0.5
baz=14,SNR=8.3
Q25A **Bedland, Calha** 14.39 17 ⇑P Pn 11 03 39.5 0.0
baz=14,SNR=11
P23A **Jefferson** 14.47 12 ⇓P Pn 11 03 41.0 +0.3
baz=15,SNR=18
P22A **Eagle** 14.54 9 ⇓P Pn 11 03 41.5 0.0
baz=15,SNR=12
T31A **Randall Ranch,** 14.57 33 ⇓P Pn 11 03 41.5 -0.3
baz=15,SNR=13
Q26A **Hugo** 14.60 19 ⇓P Pn 11 03 42.2 -0.2
baz=15,SNR=7.5
S30A **Montezuma** 14.63 30 ⇓P Pn 11 03 41.7 -0.9
baz=15,SNR=12
MLAC **Mammoth Lakes** 14.65 330 ⇓P Pn 11 03 43.9 +0.8
baz=15
R28A **Tribune** 14.66 25 ⇓P Pn 11 03 42.6 -0.5
baz=15,SNR=13
P24A **Kohler Place,** 14.79 14 ⇓P Pn 11 03 45.5 +0.5
baz=15
MPU **Maple Canyon** 14.85 354 *e*Pn Pn 11 03 44.7 -1.0
comp=Z,123nm,1.2s
O20A **White River Ci** 14.92 4 ⇑P Pn 11 03 46.6 -0.1
baz=15,SNR=19
ISCO **Idaho Springs** 14.92 12 *e*P Pn 11 03 48.0 +1.1
ISCO pmax pmax
comp=Z,109nm,1.2s
ISCO **Idaho Springs** 14.92 12 *e*Pn Pn 11 03 48.0 +1.1
comp=Z,109nm,1.2s
ISCO **Idaho Springs** 14.92 12 ⇓P Pn 11 03 47.9 +1.1
baz=15,SNR=37
KSCO **Kaye Shedlock'** 14.96 22 ⇓P Pn 11 03 47.1 -0.1
baz=15
P25A **Willow Gulch B** 14.97 17 ⇑P Pn 11 03 47.3 -0.1
baz=15,SNR=41
R29A **Marienthal** 15.00 27 ⇑P Pn 11 03 47.2 -0.5
baz=15,SNR=14
NV11 **Mina Array Sit** 15.03 333 *e*Pn Pn 11 03 47.9 -0.2
O19A **Miners Draw (B** 15.04 1 ⇑P Pn 11 03 47.8 -0.5
baz=15,SNR=21
O21A **Pagoda** 15.06 6 ⇑P Pn 11 03 49.4 +0.7
baz=15,SNR=8.9
S31A **Mullinville** 15.07 32 ⇑P Pn 11 03 47.7 -0.9
baz=15,SNR=29
NVAR **Mina Array Bea** 15.09 333 Pn Pn 11 03 48.4 -0.6
NVAR **Mina Array Bea** 15.09 333 Pn Pn 11 03 48.4 -0.6
comp=Z,0.2nm,0.3s,baz=149,slow=12,SNR=32
NVAR LR LR 11 09 11.8
comp=Z,11µm,20.6s,baz=217,slow=36
O22A **Kremmling** 15.12 9 ⇓P Pn 11 03 50.0 +0.5
baz=15,SNR=53
DUG **Dugway** 15.17 351 *e*P Pn 11 03 50.9 +0.9
DUG pmax pmax
comp=Z,132nm,1.2s
DUG **Dugway** 15.17 351 *e*Pn Pn 11 03 50.9 +0.9
comp=Z,132nm,1.2s
DUG **Dugway** 15.17 351 ⇓P Pn 11 03 50.4 +0.4
baz=15,SNR=76
DAU **Daniels Canyon** 15.21 355 *e*P Pn 11 03 50.2 -0.5
DAU pmax pmax
comp=Z,2µm,1.6s
DAU **Daniels Canyon** 15.21 355 *e*Pn Pn 11 03 50.2 -0.5
comp=Z,2µm,1.6s
P26A **Davis Ranch, A** 15.24 19 ⇑P Pn 11 03 50.7 -0.2
baz=15,SNR=28
R30A **Dighton** 15.24 29 ⇑P Pn 11 03 49.8 -1.1
baz=15,SNR=28
O23A **Lake Granby, G** 15.27 11 ⇓P Pn 11 03 51.8 +0.4
baz=15,SNR=32
Q28A **Sharon Springs** 15.29 24 ⇓P Pn 11 03 51.1 -0.4
baz=15,SNR=30
SAO **San Andreas Ge** 15.32 321 *e*P Pn 11 03 49.9 -2.0
SAO pmax pmax
comp=Z,146nm,1.6s
SAO **San Andreas Ge** 15.32 321 *e*Pn Pn 11 03 49.9 -2.0
comp=Z,146nm,1.6s
O24A **Longmont** 15.34 13 ⇓P Pn 11 03 52.2 0.0
baz=16,SNR=7.1
P27A **Ficken Ranch,** 15.47 21 ⇓P Pn 11 03 53.8 -0.1
baz=16,SNR=15
CTU **Camp Tracy** 15.53 354 *e*Pn Pn 11 03 55.4 +0.7
comp=Z,153nm,1.3s
O25A **Wiggins** 15.55 16 ⇑P Pn 11 03 54.4 -0.6
baz=16,SNR=22
R31A **Burdett** 15.59 31 ⇓P Pn 11 03 53.8 -1.5
baz=16,SNR=16
N21A **Black Mountain** 15.60 6 ⇑P Pn 11 03 56.1 +0.4
baz=16,SNR=46
N20A **Spence Gulch,** 15.61 4 ⇓P Pn 11 03 55.8 0.0
baz=16,SNR=69
CMB **Columbia Colle** 15.71 327 *e*P Pn 11 03 55.5 -1.5
CMB pmax pmax
comp=Z,214nm,1.4s
CMB **Columbia Colle** 15.71 327 *e*Pn Pn 11 03 55.5 -1.5
comp=Z,214nm,1.4s
N22A **Wattenberg Ran** 15.76 9 ⇑P Pn 11 03 58.1 +0.3
baz=16,SNR=60
P28A **Saint Francis** 15.77 23 ⇑P Pn 11 03 57.7 -0.1
baz=16,SNR=33
Q30A **Quinter** 15.85 28 ⇓P Pn 11 03 58.1 -0.6
baz=16,SNR=41
O26A **Horse Wrangler** 15.88 18 ⇓P Pn 11 03 58.0 -1.3
baz=16,SNR=20
N23A **Red Feather La** 15.93 10 ⇓P Pn 11 03 59.9 -0.1
baz=16,SNR=14
TUL1 **Tulsa** 15.96 45 ⇑P Pn 11 03 58.7 -1.5
baz=16,SNR=7.8
N24A **Carr** 16.06 13 ⇓P Pn 11 04 01.8 +0.3
baz=16,SNR=18
O27A **Beecher Island** 16.08 20 ⇑P Pn 11 04 01.2 -0.6
baz=16,SNR=30
P29A **Atwood** 16.09 25 ⇓P Pn 11 04 01.8 -0.1
baz=16,SNR=35
ELK **Elko** 16.18 345 *e*Pn Pn 11 04 03.3 +0.2
comp=Z,417nm,1.9s
ELK *e*PcP PcP 11 09 01.3 +3.4
N25A **Grover** 16.22 15 ⇑P Pn 11 04 02.7 -0.9
baz=16
Q31A **Ellis** 16.23 30 ⇑P Pn 11 04 02.0 -1.6
baz=16,SNR=23
M17A **Scullys Gap (B** 16.23 357 ⇑P Pn 11 04 03.3 -0.6
baz=16,SNR=37
M19A **Rock Springs** 16.25 1 ⇑P Pn 11 04 03.2 -0.8
baz=16
O28A **Krutsinger Ran** 16.25 22 ⇓P Pn 11 04 03.5 -0.5
baz=16,SNR=34
M20A **Sweetwater, Wa** 16.27 4 ⇓P Pn 11 04 03.8 -0.5
baz=16,SNR=41
P30A **Selden** 16.31 27 ⇓P Pn 11 04 03.7 -1.0
baz=16,SNR=23

M22A Cedar Creek Ra 16.34 8 ⇓P Pn 11 04 05.2 0.0
baz=16,SNR=11
PHWY Pilot Hill 16.41 11 *e*Pn Pn 11 04 05.7 -0.5
comp=Z,158nm,1.5s
HWUT Hardware Ranch 16.42 355 *e*Pn Pn 11 04 06.9 +0.7
comp=Z,128nm,1.2s
BMN Battle Mountai 16.45 339 *e*P Pn 11 04 06.8 +0.3
BMN pmax pmax
comp=Z,429nm,1.8s
BMN Battle Mountai 16.45 339 *e*Pn Pn 11 04 06.8 +0.3
comp=Z,429nm,1.8s
SAC San Andreas 16.45 322 *e*P Pn 11 04 06.5 +0.1
SAC pmax pmax
comp=Z,197nm,1.5s
SAC San Andreas 16.45 322 *e*Pn Pn 11 04 06.5 +0.1
comp=Z,197nm,1.5s
M21A Separation Pea 16.45 6 ⇑P Pn 11 04 05.4 -1.2
baz=17,SNR=36
N26A Koester Ranch, 16.46 17 ⇑P Pn 11 04 06.1 -0.5
baz=17,SNR=20
O29A 4D Ranch, Culb 16.60 24 ⇓P Pn 11 04 08.1 -0.3
baz=17
N27A Anderson Farm, 16.63 19 ⇓P Pn 11 04 08.0 -0.7
baz=17,SNR=34
P31A Stockton 16.66 29 ⇓P Pn 11 04 07.8 -1.3
baz=17,SNR=23
L18A Fontenelle, Gr 16.66 359 ⇓P Pn 11 04 08.6 -0.8
baz=17
M24A Cheyenne 16.69 13 ⇑P Pn 11 04 09.5 -0.1
baz=17,SNR=6.9
MIAR Mount Ida 16.72 52 *e*P P 11 04 11.1 -0.9
MIAR *e* 11 07 14.8
MIAR pmax pmax
comp=Z,108nm,1.0s
MIAR Mount Ida 16.72 52 *e*Pn P 11 04 11.1 -0.9
comp=Z,108nm,1.0s
MIAR *e*Sn Sn 11 07 14.8 -0.3
HVU Hansel Valley 16.72 352 *e*P Pn 11 04 10.2 +0.2
HVU pmax pmax
comp=Z,367nm,1.6s
HVU Hansel Valley 16.72 352 *e*Pn Pn 11 04 10.2 +0.2
comp=Z,367nm,1.6s
L20A Wamsutter 16.78 3 ⇓P Pn 11 04 09.3 -1.5
baz=17,SNR=22
L21A Rawlins 16.80 6 ⇓P Pn 11 04 09.2 -1.9
baz=17,SNR=46
M25A Palm-Egli Farm 16.82 15 ⇑P Pn 11 04 10.6 -0.6
baz=17
N28A Pribbeno Ranch 16.84 22 ⇑P Pn 11 04 10.0 -1.3
baz=17,SNR=16
L19A Farson 16.84 1 ⇓P Pn 11 04 10.6 -1.0
baz=17,SNR=47
OGNE Ogallala 16.91 20 *e*Pn Pn 11 04 12.4 +0.1
comp=Z,373nm,1.4s
OGNE *e*Sn Sn 11 07 17.6 -2.2
OGNE Ogallala 16.91 20 ⇓P Pn 11 04 11.2 -1.1
baz=17,SNR=5.5
O30A MW Ranch, Wils 16.93 26 ⇓P Pn 11 04 11.7 -0.8
baz=17,SNR=22
L22A Ellis Ranch, M 16.97 8 ⇓P P 11 04 14.0 -1.1
baz=17,SNR=15
M26A McRoberts Ranc 17.07 17 ⇓P Pn 11 04 13.7 -0.7
baz=17
MCCM Marconi Confer 17.11 322 *e*Pn Pn 11 04 14.1 -0.5
comp=Z,432nm,1.6s
L23A Garrett 17.16 10 ⇑P Pn 11 04 14.8 -0.7
baz=17,SNR=25
BEKR Beckworth 17.16 331 *e*Pn Pn 11 04 15.4 -0.2
comp=Z,133nm,1.4s
L24A Wheatland 17.22 12 ⇑P Pn 11 04 15.5 -0.7
baz=17
N29A Votaw Ranch, W 17.27 24 ⇓P Pn 11 04 16.0 -0.8
baz=17
M27A Reverse DX Ran 17.34 18 ⇓P Pn 11 04 16.4 -1.2
baz=18
K20A Yellowstone Ra 17.43 3 ⇑P Pn 11 04 17.2 -1.6
baz=18,SNR=46
N30A Hueftle Ranch, 17.45 25 ⇑P P 11 04 18.8 -1.4
baz=18
BW06 Boulder Array 17.50 0 *e*Pn Pn 11 04 18.2 -1.6
comp=Z,351nm,1.5s
PDAR Pinedale Array 17.50 0 Pn Pn 11 04 19.7 -0.2
PDAR Lg Lg 11 09 25.8
PDAR Pinedale Array 17.50 0 Pn Pn 11 04 19.7 -0.2
comp=Z,0.3nm,0.3s,baz=171,slow=10,SNR=83
PDAR Lg Lg 11 09 25.8
comp=Z,0.0nm,0.3s,baz=73,slow=37,SNR=3.3
PDAR LR LR 11 11 13.1
comp=Z,33μm,20.7s,baz=190,slow=38
L25A Engebretsen Ra 17.53 14 ⇓P Pn 11 04 18.8 -1.3
baz=18
K19A Absolon Red Bu 17.57 2 ⇓P Pn 11 04 18.9 -1.8
baz=18,SNR=35
K22A Casper 17.57 8 ⇓P Pn 11 04 20.0 -0.6
baz=18,SNR=28
L26A Underwood Farm 17.62 16 ⇑P Pn 11 04 20.1 -1.2
baz=18
KSU1 Kansas State U 17.66 35 *e*Pn P 11 04 22.8 +0.3
comp=Z,138nm,1.0s
UALR University of 17.71 53 *e*Pn P 11 04 22.7 -0.3
comp=Z,176nm,1.0s
K23A Bowen Ranch, D 17.80 10 ⇓P Pn 11 04 22.7 -0.7
baz=18,SNR=21
M29A Burnside Ranch 17.80 22 ⇓P Pn 11 04 22.0 -1.4
baz=18,SNR=14
HOPS Hopland 17.82 324 *e*Pn P 11 04 23.9 -0.3
comp=Z,144nm,1.4s
L27A T5 Ranch, Ells 17.87 18 ⇓P Pn 11 04 23.2 -1.1
baz=18
K24A Anderson Ranch 17.90 12 ⇑P Pn 11 04 24.1 -0.6
baz=18
K25A Mack Ranch, Ha 17.98 14 ⇓P Pn 11 04 24.6 -1.1
baz=18
J19A Crowheart 18.01 1 P Pn 11 04 25.6 -0.5
baz=18,SNR=31
L28A Connealy Angus 18.04 20 ⇓P Pn 11 04 24.8 -1.5
baz=18
REDW Red Top Meadow 18.13 357 *e*Pn Pn 11 04 27.1 -0.5
comp=Z,1.8nm,1.4s
J20A Shoshoni 18.13 4 ⇑P Pn 11 04 26.5 -1.1
baz=18,SNR=107
VBMS Vicksburg 18.13 63 P P 11 04 28.5 +0.8
comp=Z,476nm,1.3s
RRI2 Red Ridge 18.14 356 *e*Pn P 11 04 28.0 0.0
comp=Z,549nm,1.8s
J21A Lysite 18.17 5 P Pn 11 04 27.6 -0.5
baz=18,SNR=24
M30A Dale-Ortello V 18.17 24 ⇓P Pn 11 04 26.8 -1.2
baz=18
SNOW Snow King Moun 18.22 357 *e*Pn Pn 11 04 28.4 -0.4
comp=Z,613nm,1.9s
K26A Motz Farm, Whi 18.23 15 ⇑P Pn 11 04 27.0 -1.6
baz=18,SNR=6.6
TPAW Teton Pass 18.26 357 *e*Pn P 11 04 29.2 -0.1
comp=Z,158nm,1.4s
J22A Midwest 18.33 7 ⇑P P 11 04 28.9 -1.1
baz=18,SNR=42
LOHW Long Hollow 18.37 358 *e*Pn Pn 11 04 30.1 -0.3
comp=Z,159nm,1.7s
DCID1 Drake Creek 18.38 356 *e*P Pn 11 04 31.4 +0.8
comp=Z,116nm,1.1s
L29A Maesberg Ranch 18.42 22 ⇓P P 11 04 29.8 -1.1
baz=19
I18A Diamond G Ranc 18.44 360 ⇑P P 11 04 30.8 -0.4
baz=19,SNR=40
J23A Dilts Ranch, B 18.44 9 ⇑P P 11 04 30.5 -0.7
baz=19
K27A Flueckinger Fa 18.47 17 ⇓P P 11 04 30.6 -0.8
baz=19,SNR=17
MOOW Moose Ponds 18.51 357 *e*P P 11 04 31.0 -1.0
comp=Z,371nm,2.0s
J24A Dixon Ranch, L 18.52 11 ⇓P P 11 04 31.3 -0.7
baz=19
KCPM Cahto Peak 18.59 324 *e*P Pn 11 04 33.6 +0.5
comp=Z,205nm,1.6s
CCIG Comitan 18.59 115 *i* P P 11 04 26.0 -7.0
CCIG *i* S Sn 11 07 53.0 -8.1
CCIG Comitan 18.59 115 *i* P P 11 04 26.0 -7.0
CCIG *i* S Sn 11 07 53.0 -8.1
I21A Big Trails, Te 18.65 5 P P 11 04 32.9 -0.6
baz=19,SNR=48
IMW Indian Meadow 18.66 357 *e*P P 11 04 33.2 -0.6
comp=Z,23nm,0.7s
I17A Pilgrim Ck. 18.67 358 ⇑P Pn 11 04 34.1 -0.1
baz=19,SNR=12
I16A Newdale 18.67 356 ⇓P Pn 11 04 33.9 -0.2
baz=19,SNR=105
WVOR Wild Horse Val 18.71 339 *e*P P 11 04 34.0 -0.1
WVOR pmax pmax
comp=Z,527nm,1.8s
WVOR Wild Horse Val 18.71 339 *e*P P 11 04 34.0 -0.1
comp=Z,527nm,1.8s
I20A Worland 18.73 3 ⇓P P 11 04 33.9 -0.3
baz=19,SNR=53
K28A Ten Mile Ranch 18.73 19 ⇓P Pn 11 04 34.0 -0.7
baz=19,SNR=12
WDC Whiskeytown Da 18.74 328 *e*P P 11 04 32.9 -1.4
WDC pmax pmax
comp=Z,111nm,1.4s
WDC Whiskeytown Da 18.74 328 *e*P P 11 04 32.9 -1.4
comp=Z,111nm,1.4s
J25A Sunshine Ranch 18.74 13 ⇑P P 11 04 33.9 -0.6
baz=19
BGNE Belgrade 18.75 28 ⇑P Pn 11 04 34.2 -0.7
baz=19,SNR=6.7
I19A Meeteetse 18.78 1 ⇑P P 11 04 34.4 -0.6
baz=19,SNR=32
I22A 9 Mile Ranch, 18.80 7 P Pn 11 04 35.1 -0.6
baz=19,SNR=19
MOD Modoc 18.84 335 *e*P P 11 04 35.6 0.0
comp=Z,159nm,1.4s
MFID Camas Ranch 18.85 346 *e*P P 11 04 35.4 -0.2
comp=Z,186nm,1.6s
MFID Camas Ranch 18.85 346 ⇑P Pn 11 04 35.7 -0.5
baz=19,SNR=65
I14A Mackay 18.93 351 P Pn 11 04 37.3 +0.1
baz=19,SNR=52
I23A Meade Ranch, G 19.00 9 ⇑P Pn 11 04 37.5 -0.6
baz=19
I24A Kuemmerle Ranc 19.04 11 ⇑P Pn 11 04 37.6 -0.8
baz=19
I12A Atlanta 19.07 348 ⇑P Pn 11 04 38.3 -0.7
baz=19
K29A Lazy Trails An 19.10 21 ⇓P Pn 11 04 38.1 -1.0
baz=19
H17A Grant Village 19.15 358 ⇑P P 11 04 38.8 -0.3
baz=19,SNR=18
YFT Old Faithful 19.21 357 *e*P Pn 11 04 43.5 +2.8
comp=Z,496nm,1.9s
H20A Greybull 19.27 4 ⇓P P 11 04 39.6 -0.7
baz=19
HBAR Harrisburg 19.30 53 *e*P Pn 11 04 43.5 +1.9
LKWY Lake 19.31 358 *e*P Pn 11 04 44.7 +2.8
LKWY pmax pmax
comp=Z,577nm,1.9s
LKWY Lake 19.31 358 *e*P Pn 11 04 44.7 +2.8
comp=Z,577nm,1.9s
I25A Rochford 19.36 13 ⇑P P 11 04 41.0 -0.3
baz=20
RSSD Black Hills 19.40 12 *e*P P 11 04 41.2 -0.6
RSSD pmax pmax
comp=Z,73nm,1.6s
RSSD Black Hills 19.40 12 *e*P P 11 04 41.2 -0.6
comp=Z,73nm,1.6s
H18A Shoshone NF, C 19.41 360 ⇑P P 11 04 41.5 -0.4
baz=20,SNR=28
H19A Powell 19.41 1 ⇑P P 11 04 41.8 0.0
baz=20,SNR=48
J28A Allard Ranch, 19.41 19 ⇑P Pn 11 04 42.2 -0.8
baz=20,SNR=12
YMR Madison River 19.44 357 *e*P Pn 11 04 43.1 -0.2
comp=Z,242nm,1.7s
H21A Big Horn, Sher 19.48 6 ⇓P P 11 04 41.8 -0.7
baz=20
H16A Russell Place, 19.48 357 ⇑P P 11 04 42.8 +0.1
baz=20,SNR=40
H22A Clearmont 19.51 7 ⇓P P 11 04 42.5 -0.4
baz=20
KHMM Horse Mountain 19.55 326 *e*P P 11 04 42.9 -0.5
comp=Z,248nm,1.4s
I26A New Underwood 19.56 15 ⇑P P 11 04 43.1 -0.3
baz=20
H23A Clabaugh Cattl 19.60 9 ⇓P P 11 04 43.2 -0.6
baz=20
QLMT Earthquake Lak 19.62 356 *e*P Pn 11 04 45.1 -0.5
comp=Z,32nm,1.6s
MET Memphis--Engin 19.64 55 *e*P Pn 11 04 49.0 +3.4
comp=Z,1μm,1.4s
YBH Yreka Blue Hor 19.72 330 *e*P P 11 04 43.4 -1.7
YBH Yreka Blue Hor 19.72 330 P P 11 04 43.0 -2.2
comp=Z,0.1nm,0.3s,baz=116,slow=6.1,SNR=9.1
YBH LR LR 11 11 08.9
comp=Z,9μm,21.8s,baz=325,slow=34
MCMT McKenzie Canyo 19.74 353 *e*P Pn 11 04 46.2 -0.8
comp=Z,51nm,1.1s
H12A Diamond D Ranc 19.75 349 P P 11 04 45.9 +0.3
baz=20,SNR=30
I27A Quinn 19.79 16 ⇑P Pn 11 04 46.0 -1.4
baz=20
RLMT Red Lodge 19.86 1 *e*P P 11 04 47.1 +0.3
comp=Z,307nm,1.8s
H24A Dirks Ranch, A 19.91 11 ⇓P P 11 04 46.1 -1.1
baz=20,SNR=22
GNAR Gosnell 19.95 53 *e*P Pn 11 04 50.2 +0.9
comp=Z,5μm,1.3s
H25A Fruitdale 19.96 13 ⇑P P 11 04 47.3 -0.5
baz=20
G20A Bridger 19.99 3 ⇓P P 11 04 46.8 -1.3
baz=20,SNR=32
G18A Lazy EL Ranch, 20.05 0 ⇓P P 11 04 48.3 -0.5
baz=20,SNR=67
G21A Lodge Grass 20.06 5 ⇓P P 11 04 47.4 -1.4
baz=20,SNR=11
G17A Pierce Place, 20.08 358 ⇑P Pn 11 04 50.4 -0.6
baz=20,SNR=31
KRMB Red Mountain 20.12 327 *e*P P 11 04 50.0 +0.4
comp=Z,86nm,1.4s
G22A Birney 20.14 7 ⇓P P 11 04 48.9 -0.7
baz=20,SNR=20
H26A Fairpint 20.14 14 ⇓P P 11 04 49.5 -0.1
baz=20
G23A Biddle 20.23 9 ⇑P P 11 04 49.6 -1.1
baz=20,SNR=26
DLMT Dillon 20.24 354 *e*P Pn 11 04 51.9 -1.1
comp=Z,69nm,1.0s
TEIG Tepich 20.30 100 *e*P Pn 11 04 52.5 -1.0
comp=Z,60nm,1.0s
TEIG LR LR
comp=Z,23μm,21.0s
TEIG Tepich 20.30 100 P Pn 11 04 52.7 -0.8
comp=Z,26nm,0.9s,baz=286,slow=7.7,SNR=7.1
H27A Howes 20.31 16 ⇑P P 11 04 51.1 -0.4
baz=20
G12A Big Creek, Yel 20.39 348 P P 11 04 52.1 -0.4
baz=20,SNR=75
BOZ Bozeman (W) 20.45 356 *e*P P 11 04 52.6 -0.5
BOZ pmax pmax
comp=Z,36nm,1.0s
BOZ MLR MLR
comp=Z,31μm,19.0s
BOZ Bozeman (W) 20.45 356 *e*P P 11 04 52.6 -0.5
comp=Z,36nm,1.0s
BOZ LR LR
comp=Z,31μm,19.0s
PARMO Parma 20.46 51 *e*P Pn 11 04 55.5 +0.1
G24A Alzada 20.50 11 ⇓P P 11 04 53.1 -0.5
baz=21,SNR=12
GCMT Greycliff 20.53 360 *e*P P 11 04 54.1 +0.2
comp=Z,54nm,1.1s
HUMO Hull Mountain 20.53 331 *e*P P 11 04 54.8 +1.0
comp=Z,22nm,1.0s
BMO Blue Mountains 20.55 344 *e*P P 11 04 53.6 -0.6
comp=Z,141nm,1.3s
BMO LR LR
comp=Z,27μm,19.0s
F20A Billings 20.57 3 ⇑P P 11 04 53.0 -1.4
baz=21,SNR=57
F16A Kennard Place, 20.58 356 ⇓P P 11 04 54.4 -0.1
baz=21,SNR=27
F19A Roth Farm, Mol 20.60 1 ⇑P P 11 04 53.7 -1.0
baz=21,SNR=34
GLAT Glass 20.61 53 *e*P Pn 11 04 57.3 +0.2
H28A Mission Ridge 20.63 18 ⇓P P 11 04 54.0 -1.0
baz=21
F18A Big Timber 20.64 360 ⇓P P 11 04 54.9 -0.3
baz=21,SNR=68
F21A Absaloka Mine, 20.66 5 ⇑P P 11 04 53.8 -1.5
baz=21
F17A Fitzpatrick Pl 20.66 358 ⇓P Pn 11 04 56.2 -1.6
baz=21,SNR=33
LRM Limekiln Ridge 20.68 354 *e*P P 11 04 56.0 +0.2
comp=Z,748nm,1.2s
F22A Rosebud 20.69 7 ⇑P P 11 04 54.3 -1.3
baz=21,SNR=13
BRAL Brewton 20.70 69 *e*P Pn 11 04 56.4 -1.9
comp=Z,423nm,1.2s
BRAL LR LR
comp=Z,12μm,22.0s
F15A Butte 20.71 354 ⇑P P 11 04 55.1 -0.8
baz=21,SNR=24
F23A Volborg 20.74 8 P P 11 04 55.3 -0.9
baz=21,SNR=33
F14A Wisdom 20.77 353 ⇓P P 11 04 55.8 -0.8
baz=21
KBO Bosley Butte 20.80 328 *e*P Pn 11 04 58.5 -0.9
comp=Z,260nm,1.4s
UTMT University of 20.95 53 *e*P Pn 11 05 00.3 -0.8
comp=Z,708nm,1.1s
F24A Ekalaka 21.00 10 ⇑P P 11 04 57.9 -1.1
baz=21,SNR=22
BRSD Miller 21.05 22 ⇓P P 11 04 59.4 0.0
baz=21,SNR=23
SLM Saint Louis 21.15 46 *e*P P 11 05 01.8 +1.3
SLM pmax pmax
comp=Z,267nm,1.1s
SLM Saint Louis 21.15 46 *e*P P 11 05 01.8 +1.3
comp=Z,267nm,1.1s
E19A Rath Farm, Rou 21.21 2 ⇓P P 11 05 00.1 -1.1
baz=21,SNR=26
LRAL Lakeview Retre 21.21 63 *e*P P 11 05 02.3 +1.0
comp=Z,224nm,1.3s
VIPM Ingram Point 21.22 338 P P 11 05 00.5 -1.0
VIPM Ingram Point 21.22 338 P P 11 05 00.5 -1.0
E17A Martinsdale 21.22 358 ⇓P P 11 05 01.0 -0.5
baz=21,SNR=43
E20A Meyer Farm, Mu 21.27 3 ⇑P P 11 05 00.8 -1.1
baz=21,SNR=44
E18A Harlowton 21.30 359 ⇑P P 11 05 01.8 -0.5
baz=21,SNR=51
ECSD EROS Data Cent 21.31 27 *e*P P 11 05 01.3 -1.0
comp=Z,1.7nm,0.7s
ECSD LR LR
comp=Z,35μm,22.0s
E16A East Helena 21.33 356 ⇓P P 11 05 02.2 -0.4
baz=22,SNR=50
SIUC Southern Illin 21.34 49 *e*P P 11 05 03.7 +1.0
comp=Z,268nm,1.1s
KEBM Edson Butte 21.36 329 *e*P P 11 05 01.8 -1.1
comp=Z,443nm,1.3s
E21A Keefer Ranch, 21.37 5 P P 11 05 02.0 -1.0
baz=22,SNR=43
E22A Miles City 21.38 7 ⇑P P 11 05 01.4 -1.6
baz=22
G08A Pilot Rock 21.40 342 P P 11 05 02.1 -1.2
BKCOR Black Crater 21.42 336 P P 11 05 05.3 +1.7
SCIA State Center 21.47 35 *e*P P 11 05 04.2 +0.2
comp=Z,539nm,1.5s
SCIA LR LR
comp=Z,17μm,20.0s
E23A Ismay 21.51 8 ⇑P P 11 05 03.3 -1.2
baz=22,SNR=31
HRY Holter Researc 21.52 356 *e*P P 11 05 05.2 +0.5
comp=Z,424nm,1.3s
WVT Waverly 21.62 55 *e*P P 11 05 06.0 +0.3
WVT pmax pmax
comp=Z,366nm,1.3s
WVT Waverly 21.62 55 *e*P P 11 05 06.0 +0.3
comp=Z,366nm,1.3s
E12A Beaver Dam Sad 21.68 349 ⇓P P 11 05 05.1 -1.3
baz=22,SNR=87
E24A Baker 21.72 10 ⇑P P 11 05 05.3 -1.4
baz=22,SNR=13
E25A Miller Ranch, 21.81 12 ⇑P P 11 05 06.4 -1.3
baz=22,SNR=12
D16A Dana Ranch, Ca 21.82 356 ⇑P P 11 05 06.9 -0.9
baz=22,SNR=68
MSO Missoula 21.84 352 *e*P P 11 05 07.3 -0.7
comp=Z,302nm,1.8s
MSO LR LR
comp=Z,15μm,21.0s
MSO Missoula 21.84 352 ⇓P P 11 05 07.0 -1.1
baz=22,SNR=94
CHMT Chamberlain Mo 21.84 353 *e*P P 11 05 07.4 -0.8
comp=Z,191nm,0.5s
D15A Lincoln 21.90 355 ⇑P P 11 05 07.8 -1.0
baz=22,SNR=47
D21A La Casta Ranch 21.90 5 ⇑P P 11 05 07.8 -0.8
baz=22,SNR=46
D17A Six Diamond Ra 21.91 358 ⇑P P 11 05 08.0 -0.8
baz=22,SNR=107
D19A Cripps Ranch, 21.91 1 ⇑P P 11 05 07.7 -1.1
baz=22,SNR=76
D18A Linhart Farms, 21.93 360 ⇑P P 11 05 08.1 -0.9
baz=22,SNR=25
E26A Carlson Angus 21.97 13 ⇓P P 11 05 08.5 -0.9
baz=22,SNR=14
D14A Greenough 22.04 353 ⇑P P 11 05 09.1 -1.1
baz=22,SNR=188
D22A Cohagen 22.06 6 ⇑P P 11 05 09.3 -1.0
baz=22,SNR=34
D13A Huson 22.17 351 ⇑P P 11 05 10.2 -1.4
baz=22,SNR=35
D23A Lindsay 22.19 8 ⇓P P 11 05 10.8 -0.9
baz=22,SNR=28
SLMT Seeley Lake 22.19 353 *e*P P 11 05 11.7 -0.2
comp=Z,11nm,0.3s
D24A Glendive 22.25 10 ⇓P P 11 05 11.2 -1.3
baz=22,SNR=10
D12A Red Ives Fores 22.26 350 ⇓P P 11 05 11.3 -1.2
baz=22
COR Corvallis 22.29 334 *e*P P 11 05 13.4 +0.7
COR pmax pmax
comp=Z,252nm,1.5s
COR Corvallis 22.29 334 *e*P P 11 05 13.4 +0.7
comp=Z,252nm,1.5s
C17A Wharram Farm, 22.39 358 ⇓P P 11 05 12.8 -1.1
baz=22,SNR=49
C19A Slack Wire Ran 22.48 1 ⇑P P 11 05 14.2 -0.7
baz=23,SNR=19
C20A Veseth Ranch, 22.49 3 ⇑P P 11 05 13.9 -1.0
baz=23,SNR=55
SWMT Swartz Lake 22.52 352 *e*P P 11 05 14.7 -0.6
comp=Z,164nm,0.3s
USIN University of 22.54 50 *e*P P 11 05 17.7 +2.2
comp=Z,418nm,1.3s
HAWA Hanford 22.57 342 P P 11 05 13.7 -2.1
HAWA LR LR
comp=Z,3μm,21.0s
C16A Fuhringer Ranc 22.60 356 P P 11 05 15.2 -1.0
baz=23,SNR=42
OLIL Olney 22.62 48 *e*P P 11 05 19.4 +3.1
comp=Z,311nm,1.3s
C15A Salmond Ranch, 22.64 355 ⇑P P 11 05 15.1 -1.5
baz=23,SNR=23
C24A Savage 22.64 9 ⇓P P 11 05 14.8 -1.8
baz=23,SNR=14
C21A Desert Coulee 22.65 4 ⇑P P 11 05 15.3 -1.4
baz=23,SNR=10
C22A Vida 22.68 7 ⇑P P 11 05 15.9 -1.1
baz=23,SNR=15
C13A Hot Springs 22.76 351 ⇓P P 11 05 15.9 -1.9
baz=23,SNR=16
EGMT Eagleton 22.76 360 *e*P P 11 05 17.4 -0.5
comp=Z,536nm,1.8s
EGMT LR LR
comp=Z,18μm,21.0s
EGMT Eagleton 22.76 360 ⇓P P 11 05 16.6 -1.3
baz=23,SNR=37
JTMT Jette 22.79 352 *e*P P 11 05 17.4 -0.7
comp=Z,112nm,1.7s
C23A Lambert 22.81 8 ⇑P P 11 05 17.6 -0.8
baz=23,SNR=16
YBMT Yellow Bay 22.87 352 *e*P P 11 05 18.5 -0.5
comp=Z,140nm,1.7s
C12B Naegeli Ranch, 22.92 350 ⇓P P 11 05 17.7 -1.8
baz=23,SNR=22
BSMT Bassoo Peak 22.96 351 *e*P P 11 05 18.9 -1.1
comp=Z,34nm,1.2s
B17A L&G Farms, Che 23.05 358 ⇓P P 11 05 19.1 -1.7
baz=23,SNR=25
BLMT Blacktail Moun 23.05 352 *e*P P 11 05 19.9 -1.1
comp=Z,303nm,2.0s
B18A Beardsley Farm 23.13 360 ⇓P P 11 05 20.5 -1.2
baz=23,SNR=26
B15A Bradely Ranch, 23.17 355 P P 11 05 20.7 -1.4
baz=23,SNR=73
C11A Tepee Creek (N 23.18 349 ⇓P P 11 05 20.4 -1.8
baz=23
B19A Brinkman Farms 23.20 1 ⇑P P 11 05 20.7 -1.7
baz=23,SNR=17
B16A M & M Farms, S 23.21 356 ⇓P P 11 05 20.8 -1.7
baz=23
B20A Solberg Farm, 23.21 3 ⇓P P 11 05 21.2 -1.2
baz=23,SNR=22

B22A Reddig Ranch S 23.21 6 ⇓P P 11 05 21.4 -1.1
baz=23,SNR=20

B21A Ellsworth Farm 23.26 4 ⇑P P 11 05 21.5 -1.4
baz=23,SNR=13

B14A Marquette Ranc 23.28 354 ⇓P P 11 05 21.8 -1.4
baz=23,SNR=42

B13A Whitefish 23.43 352 ⇓P P 11 05 23.0 -1.6
baz=24

WPW White Pass 23.45 339 P P 11 05 24.5 -0.5

B23A Brockton 23.49 8 ⇓P P 11 05 24.5 -0.7
baz=24,SNR=29

LON Longmire 23.59 339 P P 11 05 24.8 -1.4

LON Longmire 23.59 339 P P 11 05 24.8 -1.4

DGMT Dagmar 23.60 9 *eP* P 11 05 26.2 -0.1
comp=Z,611nm,1.8s

DGMT LR LR
comp=Z,17µm,22.0s

DGMT Dagmar 23.60 9 ⇓P P 11 05 25.0 -1.2
baz=24,SNR=13

WCI Wyandotte Cave 23.62 51 *eP* P 11 05 26.8 +0.2

WCI pmax pmax
comp=Z,225nm,1.4s

WCI Wyandotte Cave 23.62 51 *eP* P 11 05 26.8 +0.2
comp=Z,225nm,1.4s

A20A Cobblestone Ra 23.66 3 ⇓P P 11 05 25.8 -1.0
baz=24,SNR=31

A18A Metzger Ranch, 23.66 360 ⇑P P 11 05 25.4 -1.5
baz=24,SNR=18

A19A Klindworth Far 23.68 1 ⇑P P 11 05 26.2 -0.9
baz=24,SNR=34

B12A Libby 23.68 350 ⇓P P 11 05 25.6 -1.4
baz=24,SNR=17

A17A Triple J Farms 23.70 358 ⇓P P 11 05 25.6 -1.7
baz=24,SNR=25

TIGA Tifton 23.70 69 ⇓P P 11 05 25.0 -2.4
baz=24,SNR=7.6

A16A West Butte Ran 23.74 357 ⇑P P 11 05 25.4 -2.4
baz=24

NEW Newport 23.75 347 *eP* P 11 05 26.8 -1.0
comp=Z,655nm,2.0s

NEW Newport 23.75 347 P P 11 05 25.6 -2.2
comp=Z,38nm,1.0s,baz=164,slow=10,SNR=41

NEW LR LR 11 15 45.2
comp=Z,10µm,20.7s,baz=171,slow=39

NEW Newport 23.75 347 ⇑P P 11 05 25.5 -2.2
baz=24,SNR=72

TGUH Tegucigalpa,Un 23.75 114 ⇑ *iP* P 11 05 29.0 +0.9
comp=Z,91nm,1.1s

TGUH LR LR
comp=Z,25µm,21.0s

JFWS Jewell Farm 23.76 37 *eP* P 11 05 26.5 -1.4

JFWS pmax pmax
comp=Z,81nm,1.1s

JFWS MLR MLR
comp=Z,4µm,20.0s

JFWS Jewell Farm 23.76 37 *eP* P 11 05 26.5 -1.4
comp=Z,81nm,1.1s

JFWS LR LR
comp=Z,4µm,20.0s

A21A Bergtoll Ranch 23.82 4 ⇓P P 11 05 27.2 -1.3
baz=24

BMW Boistfort Moun 23.84 336 P P 11 05 28.3 -0.4

BMW Boistfort Moun 23.84 336 P P 11 05 28.3 -0.4

A15A Johnson Ranch, 23.84 355 P P 11 05 27.3 -1.4
baz=24,SNR=25

CPCT Cooper Cave 23.88 59 *eP* P 11 05 29.2 +0.1

A14A Double T Ranch 23.90 354 ⇓P P 11 05 27.8 -1.5
baz=24,SNR=47

ETW Entiat 23.90 342 P P 11 05 28.3 -1.0

BLO Bloomington 23.90 49 *eP* P 11 05 30.0 +0.7

BLO pmax pmax
comp=Z,74nm,0.9s

BLO Bloomington 23.90 49 *eP* P 11 05 29.9 +0.7
comp=Z,74nm,0.9s

A22A Carney Farms, 23.91 6 ⇓P P 11 05 28.2 -1.0
baz=24,SNR=15

MDND Maddock 23.93 17 ⇑P P 11 05 27.9 -1.6
baz=24

A13A Flathead Natio 23.97 352 ⇑P P 11 05 28.3 -1.6
baz=24

A23A Redstone 23.99 8 ⇑P P 11 05 29.2 -0.8
baz=24

WALA Waterton Lakes 24.03 353 *eP* P 11 05 30.0 -0.5
comp=Z,5.5nm,1.3s

A24A Westby 24.07 9 ⇓P P 11 05 29.8 -1.0
baz=24,SNR=14

SFIN Scholer Farm 24.13 46 ⇓P P 11 05 29.5 -1.9
baz=24,SNR=37

SPMN St. Paul 24.14 30 ⇑P P 11 05 30.4 -1.0
baz=24,SNR=6.1

A12A Yaak River Ran 24.14 350 ⇑P P 11 05 29.4 -2.1
baz=24,SNR=19

SOR Soroa 24.42 90 *e* P 11 05 32.6 -1.6

TKL Tuckaleechee C 24.52 59 *eP* P 11 05 36.5 +1.4

TKL Tuckaleechee C 24.52 59 P P 11 05 36.0 +0.9
comp=Z,48nm,1.0s,baz=244,slow=5.8,SNR=14

TKL LR LR 11 15 25.2
comp=Z,19µm,18.2s,baz=254,slow=37

NLWA Neilton Lookou 24.85 337 *eP* P 11 05 38.0 +0.1
comp=Z,95nm,1.6s

NLWA LR LR
comp=Z,16µm,19.0s

TZTN Tazewell 24.98 57 *eP* P 11 05 40.4 +1.2
comp=Z,7.4nm,0.9s

AGMN Agassiz Nation 25.46 22 *eP* P 11 05 42.5 -0.8
comp=Z,163nm,1.7s

AGMN LR LR
comp=Z,28µm,19.0s

PGC Sidney 25.79 339 *eP* P 11 05 47.2 +1.0
comp=Z,3.4nm,1.1s

KMSC Kings Mountain 26.30 61 ⇑P P 11 05 48.7 -2.4
baz=26,SNR=9.1

ACSO Alum Creek Sta 26.82 50 *eP* P 11 05 56.5 +0.8
comp=Z,127nm,1.1s

ACSO LR LR
comp=Z,16µm,20.0s

EYMN Ely 26.82 28 *eP* P 11 05 54.2 -1.5
comp=Z,40nm,1.0s

EYMN LR LR
comp=Z,16µm,20.0s

NHSC New Hope 26.82 66 *eP* P 11 06 02.5 +6.7
comp=Z,122nm,1.0s

NHSC LR LR
comp=Z,13µm,20.0s

ULM Lac du Bonnet 27.16 20 *eP* P 11 05 59.2 +0.5
comp=Z,31nm,1.1s

ULM Lac du Bonnet 27.16 20 P P 11 05 56.8 -1.9
comp=Z,9.5nm,1.0s,baz=203,slow=8.1,SNR=7.3

ULM LR LR 11 18 40.7
comp=Z,3µm,19.9s,baz=104,slow=41

BLA Blacksburg 27.57 57 *eP* P 11 06 05.0 +2.4

BLA pmax pmax
comp=Z,73nm,1.1s

BLA MLR MLR
comp=Z,11µm,21.0s

BLA Blacksburg 27.57 57 *eP* P 11 06 05.0 +2.4
comp=Z,74nm,1.1s

BLA LR LR
comp=Z,11µm,21.0s

GLMI Grayling 28.13 40 *eP* P 11 06 09.5 +2.0
comp=Z,91nm,0.9s

GLMI LR LR
comp=Z,6µm,19.0s

CNNC Cliffs of the 29.07 62 *eP* P 11 06 17.5 +1.6
comp=Z,90nm,1.4s

CNNC LR LR
comp=Z,47µm,20.0s

ALLY Alegheny Colle 29.36 49 *eP* P 11 06 19.9 +1.4
comp=Z,152nm,1.4s

JSRW J. Sargeant Re 29.65 58 *eP* P 11 06 20.7 -0.4

FFC Flin Flon 30.01 9 *iP* P 11 06 23.1 -0.9

FFC Flin Flon 30.01 9 *eP* P 11 06 22.5 -1.5
comp=Z,42nm,1.3s

FFC LR LR
comp=Z,23µm,20.0s

CBN Corbin 30.17 57 *eP* P 11 06 25.4 -0.3
comp=Z,61nm,1.1s

CBN LR LR
comp=Z,16µm,20.0s

BBB Bella Bella 30.37 337 LR LR 11 18 11.5
comp=Z,11µm,21.4s,baz=152,slow=36

LMGC Las Mercedes 30.49 93 *e* P 11 06 31.5 +2.9

MTDJ Mount Denham 30.55 97 PFAKE 11 06 40.0 +11

MTDJ LR LR
comp=Z,12µm,20.0s

SDMD Soldier's Deli 30.91 55 *eP* P 11 06 34.7 +2.4
comp=Z,13nm,0.8s

SADO Sadowa 31.41 44 P P 11 06 36.8 +0.3

SADO Sadowa 31.41 44 P P 11 06 36.8 +0.3
comp=Z,16nm,0.9s,baz=268,slow=8.7,SNR=3.1

RCC Rio Carpintero 31.69 92 *e* P 11 06 39.9 +0.6

PAYG Puerto Ayora 31.82 141 PFAKE 11 06 50.0 +10

PAYG LR LR
comp=Z,5µm,22.0s

GTBY Guantanamo Bay 32.24 92 PFAKE 11 07 00.0 +16

GTBY LR LR
comp=Z,12µm,20.0s

BINY Binghamton 32.44 50 *eP* P 11 06 45.5 -0.1
comp=Z,155nm,1.2s

BINY LR LR
comp=Z,10µm,21.0s

BCIP Isla Barro Col 32.51 114 PFAKE 11 07 00.0 +14

BCIP LR LR
comp=Z,8µm,20.0s

MASC Masc 32.97 91 *e* Px 11 07 31.0

TRY Troy 34.23 50 *eP* P 11 07 02.6 +1.4
comp=Z,285nm,1.4s

MSNY Massena 34.25 46 *eP* P 11 07 02.6 +1.3
comp=Z,979nm,1.0s

NCB Newcomb 34.28 48 *eP* P 11 07 02.3 +0.7
comp=Z,167nm,1.2s

NCB LR LR
comp=Z,691nm,20.0s

LONY Lake Ozonia 34.28 47 *eP* P 11 07 01.3 -0.4
comp=Z,97nm,1.1s

LONY LR LR
comp=Z,18µm,21.0s

ACCN Adirondack Com 34.45 49 *eP* P 11 07 04.6 +1.4
comp=Z,71nm,1.4s

WRAK Wrangell Islan 35.26 338 *eP* P 11 07 09.9 0.0
comp=Z,79nm,1.3s

WRAK LR LR
comp=Z,10µm,19.0s

GRTK Grand Turk 35.44 88 PFAKE 11 07 20.0 +8.1

GRTK LR LR
comp=Z,13µm,21.0s

HNH Hanover 35.51 49 *eP* P 11 07 13.3 +1.1
comp=Z,45nm,1.1s

HRV Adam Dziewonsk 35.65 51 *eP* P 11 07 12.4 -1.0

HRV pmax pmax
comp=Z,172nm,1.4s

HRV Adam Dziewonsk 35.65 51 *eP* P 11 07 12.4 -1.0
comp=Z,172nm,1.4s

LBNH Lisbon 35.92 49 *eP* P 11 07 16.9 +1.1

LBNH pmax pmax
comp=Z,156nm,1.4s

LBNH MLR MLR
comp=Z,12µm,19.0s

LBNH Lisbon 35.92 49 *eP* P 11 07 16.9 +1.1
comp=Z,156nm,1.4s

LBNH LR LR
comp=Z,12µm,19.0s

SDDR Presa de Saban 35.96 92 PFAKE 11 07 30.0 +13

SDDR LR LR
comp=Z,6µm,22.0s

DLBC Dease Lake 36.20 342 LR LR 11 22 45.9
comp=Z,15µm,18.9s,baz=152,slow=38

YKA Yellowknife Ar 37.41 356 P P 11 07 26.4 -1.8

YKA PP **PnPn** 11 08 58.3 +4.0

YKA Yellowknife Ar 37.41 356 P P 11 07 26.4 -1.8
comp=Z,13nm,1.1s,baz=172,slow=7.7,SNR=29

YKA PP **PnPn** 11 08 58.3 +4.0
comp=Z,2.7nm,1.0s,baz=189,slow=11,SNR=2.6

YKA LR LR 11 23 25.3
comp=Z,3µm,20.0s,baz=170,slow=37

OTAV Otavalo 39.03 125 *eP* P 11 07 43.5 +0.5
comp=Z,67nm,1.4s

OTAV LR LR
comp=Z,3µm,21.0s

PQI Presque Isle 39.31 46 *eP* P 11 07 45.1 +0.7
comp=Z,389nm,1.3s

ROSC El Rosal 39.43 115 P P 11 07 48.8 +2.5

ROSC El Rosal 39.43 115 P P 11 07 48.8 +2.5
comp=Z,5.4nm,0.4s,baz=95,slow=22,SNR=1.4

ROSC LR LR 11 26 10.6
comp=Z,5µm,18.4s,baz=350,slow=39

BBSR BB Station 39.78 69 *eP* P 11 07 49.0 +0.5

BBSR LR LR
comp=Z,5µm,20.0s

PNL Peninsula 40.17 337 *eP* P 11 07 53.6 +2.1
comp=Z,54nm,1.2s

SJG San Juan 40.88 91 P P 11 07 57.9 +0.1
comp=Z,70nm,0.9s

SJG LR LR
comp=Z,8µm,22.0s

SCHQ Schefferville 43.09 35 *eP* P 11 08 16.4 +0.9
comp=Z,82nm,1.3s

SCHQ PP **PP** 11 09 56.6 +1.1

SCHQ Schefferville 43.09 35 P P 11 08 16.6 +1.1
comp=Z,50nm,1.2s,baz=244,slow=6.6,SNR=13

SCHQ PP **PP** 11 09 56.6 +1.1
comp=Z,2.5nm,0.8s,baz=236,slow=11,SNR=1.7

SCHQ LR LR 11 27 10.8
comp=Z,14µm,18.3s,baz=63,slow=37

DIV Divide 43.49 335 *eP* P 11 08 19.1 +0.5
comp=Z,18nm,1.1s

MENT Mentasta 43.96 338 *eP* P 11 08 21.9 -0.4

ATAH Atahualpa 44.24 132 P P 11 08 27.6 +2.0

ATAH Atahualpa 44.24 132 P P 11 08 27.6 +2.0
comp=Z,7.9nm,1.0s,baz=354,slow=10,SNR=2.7

ATAH LR LR 11 23 09.3
comp=Z,6µm,21.7s,baz=312,slow=31

KIP Kipapa 44.42 275 PFAKE 11 08 40.0 +13

KIP LR LR
comp=Z,7µm,21.0s

EGAK Eagle 44.47 341 *eP* P 11 08 25.3 -1.0
comp=Z,29nm,1.2s

EGAK LR LR
comp=Z,4µm,19.0s

KDAK Kodiak Island 44.53 329 P P 11 08 27.1 +0.2

KDAK Kodiak Island 44.53 329 P P 11 08 27.1 +0.2
comp=Z,9.4nm,0.7s,baz=59,slow=3.6,SNR=6.6

KDAK LR LR 11 24 52.8
comp=Z,6µm,19.1s,baz=131,slow=33

PAX Paxson 44.57 338 *eP* P 11 08 29.1 +1.8

PAX pmax pmax
comp=Z,14nm,1.1s

PAX Paxson 44.57 338 *eP* P 11 08 29.1 +1.8
comp=Z,14nm,1.1s

SML Sawmill 44.88 335 *eP* P 11 08 30.2 +0.5

SML pmax pmax
comp=Z,15nm,1.2s

SML Sawmill 44.88 335 *eP* P 11 08 30.2 +0.5
comp=Z,15nm,1.2s

ANWB Willy Bob 44.96 90 PFAKE 11 08 40.0 +9.1

ANWB LR LR
comp=Z,5µm,22.0s

INK Inuvik 45.47 348 LR LR 11 29 12.5
comp=Z,13µm,19.6s,baz=153,slow=38

RSO Redoubt South 45.93 332 *eP* P 11 08 37.8 -0.4
comp=Z,26nm,0.4s

ILAR Eielson Array 46.23 339 P P 11 08 39.0 -1.3

ILAR Eielson Array 46.23 339 P P 11 08 39.0 -1.3
comp=Z,8.6nm,0.8s,baz=150,slow=6.1,SNR=37

ILAR LR LR 11 29 17.9
comp=Z,5µm,19.6s,baz=144,slow=38

MCK McKinley 46.27 337 *eP* P 11 08 41.3 +0.7

MCK pmax pmax
comp=Z,72nm,1.3s

MCK McKinley 46.27 337 *eP* P 11 08 41.3 +0.7
comp=Z,72nm,1.3s

TRF Thorofare Moun 46.59 336 *eP* P 11 08 41.9 -1.5
comp=Z,63nm,1.0s

COLA College 46.61 339 *eP* P 11 08 42.9 -0.4

COLA pmax pmax
comp=Z,65nm,1.5s

COLA MLR MLR
comp=Z,8µm,20.0s

COLA College 46.61 339 *eP* P 11 08 42.9 -0.4
comp=Z,65nm,1.5s

COLA LR LR
comp=Z,8µm,20.0s

FRB Frobisher Bay 46.90 24 LR LR 11 28 56.4
comp=Z,24µm,19.0s,baz=234,slow=37

GRGR Grenville 47.03 97 PFAKE 11 09 00.0 +13

GRGR LR LR
comp=Z,6µm,22.0s

BBGH Gun Hill 48.53 95 PFAKE 11 09 10.0 +11

BBGH LR LR
comp=Z,8µm,20.0s

COLD Coldfoot 48.84 340 *eP* P 11 09 00.1 -0.5
comp=Z,205nm,2.0s

NNA Nana 48.87 135 PFAKE 11 09 10.0 +8.5

NNA LR LR
comp=Z,3µm,21.0s

RES Resolute Bay 50.11 5 P P 11 09 08.8 -1.3

RES Resolute Bay 50.11 5 P P 11 09 08.8 -1.3
comp=Z,26nm,1.0s,baz=173,slow=11,SNR=4.7

RES LR LR 11 33 49.2
comp=Z,7µm,19.4s,baz=113,slow=40

XMAS Kiritimati 51.48 251 PFAKE 11 09 30.0 +8.7

XMAS LR LR
comp=Z,11µm,19.0s

RPN Rapa Nui 52.04 180 PFAKE 11 09 40.0 +15

RPN LR LR
comp=Z,12µm,20.0s

RKT Rikitea 53.98 209 *eS* S 11 17 15.8 +1.1
comp=Z,3µm,29.2s

RKT *eLQ* LQ 11 23 09.9
comp=Z,3µm,29.5s

RKT *eLR* LR 11 25 30.1
comp=Z,9µm,25.5s,baz=23

SFJD Kangerlussuaq 55.04 24 *eP* P 11 09 48.3 +1.6
comp=Z,159nm,1.5s

SFJD Kangerlussuaq 55.04 24 ⇓ *iP* P 11 09 47.4 +0.7
comp=Z,14nm,1.5s

SFJD *i* S S 11 17 24.9 -3.1
SFJD
comp=Z,12µm,14.0s

SFJD Kangerlussuaq 55.04 24 P P 11 09 46.6 -0.1
comp=Z,21nm,1.2s,baz=270,slow=11,SNR=9.8

SFJD LR LR 11 33 17.8
comp=Z,13µm,19.9s,baz=247,slow=36

SAML Samuel 56.55 121 *eP* P 11 09 55.7 -2.6
comp=Z,58nm,1.4s

SAML LR LR
comp=Z,3µm,19.0s

PPT Papeete 57.64 226 LR LR 11 30 32.8
comp=Z,761nm,18.0s,baz=30,slow=32

PPT2 Papeete2 57.66 226 *eS* S 11 18 03.5 -0.6
comp=Z,2µm,25.2s

PPT2 *eLQ* LQ 11 24 38.8
comp=Z,5µm,24.0s

PPT2 *eLR* LR 11 26 47.2
comp=Z,5µm,28.2s,baz=32

LPAZ La Paz 57.76 131 *eP* P 11 10 10.1 +2.6
comp=Z,20nm,1.5s

LPAZ La Paz 57.76 131 P P 11 10 10.2 +2.8
comp=Z,3.8nm,0.9s,baz=330,slow=5.6,SNR=10

MIDW Midway 59.87 289 PFAKE 11 10 30.0 +8.6

MIDW LR LR
comp=Z,4µm,19.0s

SUMG Summit 60.52 19 *i* P P 11 10 25.1 -0.5
comp=Z,32nm,0.9s

SUMG *i* S S 11 18 36.8 -3.7
SUMG
comp=Z,9µm,12.0s

LVC Limon Verde 61.80 137 P P 11 10 32.9 -2.0
comp=Z,65nm,1.6s

LVC Limon Verde 61.80 137 LR LR 11 34 16.8
comp=Z,1µm,20.8s,baz=204,slow=33

TBI Tubuai 61.82 222 *eS* S 11 19 01.8 +4.3
comp=Z,331nm,32.2s

TBI *eLQ* LQ 11 26 12.7
comp=Z,6µm,38.2s

TBI *eLR* LR 11 28 59.0
comp=Z,1µm,24.0s,baz=40

SIV San Ignacio 62.57 126 LR LR 11 35 34.3
comp=Z,3µm,21.9s,slow=34

BILL Bilibino 64.69 336 *d iP* P 11 10 51.4 -1.6

BILL *i* 11 11 30.2

BILL *e* 11 13 13.3

BILL *i* S S 11 19 37.9 +5.7

BILL pmax pmax
comp=Z,65nm,1.7s

LCO Las Campanas 65.62 143 PFAKE 11 11 10.0 +10

LCO LR LR
comp=Z,2µm,19.0s

SCO Scoresbysund 65.70 22 *i* P P 11 11 03.2 +3.6

SCO pmax pmax
comp=Z,16nm,1.1s

SCO MLR MLR
comp=Z,8µm,15.0s

SCO Scoresbysund 65.70 22 *i* P P 11 11 03.2 +3.6
comp=Z,16nm,1.1s

SCO
comp=Z,8µm,15.0s

DAG Danmarks Havn 65.87 15 *i* P P 11 10 59.0 -1.6

DAG pmax pmax
comp=Z,14nm,1.0s

DAG MLR MLR
comp=Z,12µm,17.0s

DAG Danmarks Havn 65.87 15 *i* P P 11 10 59.0 -1.6
comp=Z,14nm,1.0s

DAG
comp=Z,12µm,16.0s

BORG Borgarnes 66.77 28 PFAKE 11 11 20.0 +13

BORG LR LR
comp=Z,4µm,19.0s

RAR Rarotonga 67.10 231 LR LR 11 32 31.4
comp=Z,2µm,18.6s,baz=91,slow=29

ROSA Rosais 68.27 56 *e*PKiKP **PKiKP** 11 17 40.0 +2.0

PGRA Graciosa 68.39 56 *e*PKiKP **PKiKP** 11 17 40.0 +1.8

CFAA Coronel Fontan 68.97 143 LR LR 11 37 09.8
comp=Z,144nm,20.0s,baz=204,slow=32

JMIC Jan Mayen 69.93 20 LR LR 11 42 32.4
comp=Z,5µm,19.2s,baz=296,slow=36

PSET Sete Cidades 70.43 57 *e*PKiKP **PKiKP** 11 17 43.0 +1.9

CMLA Cha da Macela 70.59 57 PFAKE 11 11 40.0 +9.1

CMLA LR LR
comp=Z,4µm,19.0s

BART Pico Bartolome 70.86 57 *e*PKiKP **PKiKP** 11 17 43.0 +1.2

KBS Kingsbay 71.09 10 ⇑ *eP* P 11 11 35.7 +2.5

KBS pmax pmax
comp=Z,46nm,1.8s

KBS Kingsbay 71.09 10 PFAKE 11 11 50.0 +17

KBS LR LR
comp=Z,11µm,20.0s

PSMN Pico do Norte, 71.17 57 *e*PKiKP **PKiKP** 11 17 43.0 +0.9

PET Petropavlovsk 71.27 320 *eP* P 11 11 34.7 +0.1

PET *eS* S 11 20 42.9 -8.4

PET *ePS* **PnS** 11 21 11.7 -8.5

PET *ePPS* PPS 11 21 20.9

PET *eSS* **SS** 11 25 22.5 -2.3

PET pmax pmax
comp=Z,31nm,1.1s

PEA0B Petropavlovsk- 71.79 321 *eP* P 11 11 37.9 0.0

PETK Petropavlovsk- 71.79 321 P P 11 11 36.5 -1.4

PETK Petropavlovsk- 71.79 321 P P 11 11 36.5 -1.4

PETK Petropavlovsk- 71.79 321 P P 11 11 36.5 -1.4
comp=Z,9.7nm,0.9s,baz=82,slow=11,SNR=20

PETK LR LR 11 37 12.2
comp=Z,915nm,21.2s,baz=269,slow=31

CPUP Villa Florida 71.92 132 P P 11 11 38.2 -0.7

CPUP Villa Florida 71.92 132 P P 11 11 38.2 -0.7
comp=Z,6.2nm,0.7s,baz=302,slow=7.1,SNR=14

CPUP LR LR 11 42 58.8
comp=Z,757nm,18.6s,baz=318,slow=36

AFI Afiamalu 71.97 245 LR LR 11 35 06.6
comp=Z,3µm,21.0s,baz=59,slow=29

SPITS Spitsbergen Ar 72.25 10 LR LR 11 44 22.7
comp=Z,17µm,18.4s,baz=315,slow=37

BDFB Brasilia 72.45 117 P P 11 11 42.3 -0.2

BDFB Brasilia 72.45 117 P P 11 11 42.3 -0.2
comp=Z,1.5nm,0.3s,baz=236,slow=9.6,SNR=3.9

BDFB LR LR 11 46 21.9
comp=Z,3µm,18.0s,baz=297,slow=38

SKR Severo-Kuril's 73.50 319 *eP* P 11 11 46.0 -2.0

SKR *e* 11 11 54.0

SKR *ePPP* PPP 11 16 20.0

SKR *eS* **SKiKP** 11 21 19.0 +1.1

SKR *e* 11 21 44.0

SKR *ePS* **PnS** 11 21 56.0 +6.3

SKR *eSS* **SS** 11 25 54.0 -4.9

SKR *eSSS* SSS 11 29 12.0

SKR pmax pmax
comp=Z,900nm,4.0s

SKR smax smax
comp=N,2µm,12.0s

SKR smax smax
comp=E,1µm,12.0s

SKR MLR MLR
comp=N,1µm,16.0s

SKR MLR MLR
comp=E,1µm,16.0s

SKR MLR MLR
comp=Z,1µm,16.0s

PLCA Paso Flores 74.99 150 P P 11 11 56.6 -0.2
comp=Z,22nm,1.1s

PLCA Paso Flores 74.99 150 P P 11 11 57.8 +1.0

comp=Z,6.8nm,0.8s,baz=332,slow=9.3,SNR=11
PLCA LR LR 11 38 42.4
comp=Z,5µm,18.2s,baz=326,slow=31
TIXI Tiksi 75.41 344 ⇓ *e*P **P 11 11 58.8 +0.1**
TIXI pmax pmax
comp=Z,44nm,1.2s
VAL Valentia 76.03 39 ⇑ *i*SS SS 11 26 41.7 +4.4
VAL Valentia 76.03 39 *e*S **S 11 21 49.4 +4.3**
WAKE Wake Island 76.55 285 PFAKE 11 12 20.0 +14
WAKE LR LR
comp=Z,5µm,20.0s
FUNA Funafuti 76.91 254 PFAKE 11 12 20.0 +12
FUNA LR LR
comp=Z,6µm,21.0s
TRQA Tornquist 77.19 143 *e*P **P 11 12 07.6 -1.7**
comp=Z,36nm,1.6s
TRQA LR LR
comp=Z,2µm,19.0s
RCBR Riachuelo 77.88 102 PFAKE 11 12 30.0 +16
RCBR LR LR
comp=Z,4µm,22.0s
TARA Tarawa 78.08 266 PFAKE 11 12 30.0 +15
TARA LR LR
comp=Z,7µm,20.0s
ESK Eskdalemuir 78.38 34 PFAKE 11 12 30.0 +14
ESK LR LR
comp=Z,3µm,19.0s
EKA Eskdalemuir Ar 78.40 34 P **P 11 12 17.6 +1.7**
EKA Eskdalemuir Ar 78.40 34 P **P 11 12 17.6 +1.7**
comp=Z,0.4nm,0.3s,baz=283,slow=4.7,SNR=9.8
EKA LR LR 11 46 10.5
comp=Z,4µm,18.0s,baz=280,slow=35
PMOZ Porto Moniz, M 78.67 59 *e*pP x 11 12 40.2
PMOZ *e*S **S 11 22 18.8 +4.0**
PMOZ Porto Moniz, M 78.67 59 *e*LR LR 11 37 44.0
comp=Z,2µm,21.6s
PMOZ *e*LQ LQ 11 38 51.5
ARCES ARCESS Array B 80.16 15 P **P 11 12 27.0 +1.7**
ARCES ARCESS Array B 80.16 15 P **P 11 12 27.0 +1.7**
comp=Z,13nm,1.0s,baz=329,slow=4.2,SNR=5.5
ARCES LR LR 11 50 10.4
comp=Z,5µm,18.1s,baz=329,slow=37
KEV Kevo 80.32 14 PFAKE 11 12 40.0 +14
KEV LR LR
comp=Z,4µm,19.0s
KUR Kuril'sk 80.73 316 *e*P **P 11 12 28.4 -0.3**
KUR *e* 11 15 32.5
KUR *i* S **S 11 22 31.4 -4.4**
YAK Yakutsk 81.04 336 *e*P **P 11 12 30.8 +0.7**
YAK *e* 11 12 38.3
YAK *e* 11 15 40.7
YAK *e*S **S 11 22 35.7 -2.8**
YAK *e*SS **SS 11 27 54.2 +2.1**
YAK pmax pmax
comp=E,25nm,1.5s
YAK pmax pmax
comp=Z,50nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.5s
YAK pmax pmax
comp=Z,9.0nm,0.6s
YAK pmax pmax
comp=E,4.0nm,0.5s
YAK pmax pmax
comp=N,3.0nm,0.6s
YAK smax smax
comp=N,1µm,15.6s
YAK smax smax
comp=E,508nm,10.3s
YAK MLR MLR
comp=N,929nm,14.0s
YAK MLR MLR
comp=Z,2µm,18.0s
YAK MLR MLR
comp=E,1µm,18.0s
PGAV Gavieira, Arco 81.41 48 *e*pP x 11 12 52.8
PGAV *e*S **S 11 22 45.0 +1.7**
PGAV Gavieira, Arco 81.41 48 *e*LQ LQ 11 37 51.1
PGAV *e*LR LR 11 39 49.0
comp=E,4µm,21.1s
ROSF Rostrenen 81.63 40 *e*P **P 11 12 33.0 -0.5**
comp=E,32nm,1.0s
PCAB Cabril 81.68 48 *e*P P 11 12 40.3 +6.3
comp=E,43nm,2.3s
NAO01 NORSAR Array S 81.70 25 *e*P **P 11 12 35.4 +1.7**
comp=E,30nm,1.2s
NB2 NORSAR Subarra 81.71 25 P **P 11 12 31.8 -1.9**
comp=Z,85nm,2.0s,baz=304,slow=5.1
NB2 NORSAR Subarra 81.71 25 P **P 11 12 31.8 -1.9**
baz=304,slow=5.1
NOA NORSAR Array B 81.71 25 P **P 11 12 33.7 0.0**
NOA NORSAR Array B 81.71 25 P **P 11 12 33.7 0.0**
comp=Z,8.5nm,1.0s,baz=307,slow=4.9,SNR=8.9
NOA LR LR 11 48 38.3
comp=Z,3µm,18.9s,baz=295,slow=36
QUIF Quistinic 81.90 41 *e*P **P 11 12 34.6 -0.3**
comp=Z,64nm,1.1s
KONO Kongsberg 81.92 27 *e*P **P 11 12 34.4 -0.4**
KONO pmax pmax
comp=Z,84nm,1.3s
KONO MLR MLR
comp=Z,8µm,22.0s
KONO Kongsberg 81.92 27 *e*P **P 11 12 34.4 -0.4**
comp=Z,84nm,1.3s
KONO LR LR
comp=Z,8µm,22.0s
POLO Lamas de Olo 81.99 48 *e*P P 11 12 40.2 +4.5
comp=Z,19nm,1.4s
POLO *e*pP pP 11 12 41.6 +0.3
POLO Lamas de Olo 81.99 48 *e*S **S 11 22 49.5 +0.2**
PMAFR Mafra 82.03 51 *e*pP x 11 13 00.8
SGMF Saint Gilles 82.09 40 *e*P **P 11 12 35.3 -0.6**
comp=Z,156nm,1.8s
LIS Lisbon 82.23 51 *e*P P 11 12 39.8 +2.9
LIS *e*SS SS 11 28 15.0 +4.0
LIS AMS AMS 11 45 57.9
comp=Z,6µm,18.3s
LIS Lisbon 82.23 51 *e*P P 11 12 39.8 +2.9
LIS Lisbon 82.23 51 *e*SS SS 11 28 15.0 +4.0
LIS A A 11 45 57.9
comp=Z,6µm,18.3s
LIS Lisbon 82.23 51 *e*P P 11 12 39.8 +2.9
LIS *e*SS SS 11 28 15.0 +4.0
MSVF Nonsavu 82.31 246 PFAKE 11 12 50.0 +12
MSVF LR LR
comp=Z,6µm,20.0s
PBRG Braganca 82.50 47 *e*P **P 11 12 37.5 -0.8**
comp=Z,23nm,1.5s
YUK Yuzh-Kuril'sk 82.55 315 *c i*P P 11 12 34.3 -4.1
YUK *i* 11 12 42.0
YUK *i* 11 15 49.1
YUK *i* PPP PPP 11 17 36.0
YUK *i* S S 11 22 48.0 -6.7
YUK *i* SS **SS 11 28 10.8 -4.6**
YUK *i* SSS SSS 11 31 40.1
MTE Manteigas 82.59 49 *e*P P 11 12 42.0 +3.2
comp=Z,44nm,1.1s
MTE *e*pP x 11 12 57.7
MTE Manteigas 82.59 49 *e*S **S 11 22 58.2 +2.7**
MTE Manteigas 82.59 49 *e*LQ LQ 11 38 16.1
MTE *e*LR LR 11 40 55.9
comp=Z,5µm,18.5s
MTE Manteigas 82.59 49 *e*P **P 11 12 38.7 -0.1**
comp=Z,34nm,1.0s
MTE LR LR
comp=Z,6µm,20.0s
MVO Moncorvo 82.60 48 *e*P **P 11 12 40.0 +1.1**
comp=Z,54nm,1.7s
MVO *e*pP x 11 12 55.8
MVO Moncorvo 82.60 48 *e*S **S 11 22 57.0 +1.5**
MVO Moncorvo 82.60 48 *e*LQ LQ 11 38 37.5
MVO *e*LR LR 11 40 43.1
comp=Z,4µm,15.6s
PMTG Montargil 82.72 50 *e*P **P 11 12 39.9 +0.5**
comp=Z,34nm,1.8s
PMTG *e*pP x 11 13 00.8
PCBR Castelo Branco 82.89 49 *e*P **P 11 12 42.0 +1.7**
comp=Z,34nm,1.5s
PNCL Nicolau / Gran 82.93 51 *e*P P 11 12 43.2 +2.7
comp=Z,24nm,1.4s
GRR Gorron 83.01 39 *e*P **P 11 12 39.6 -1.1**
comp=Z,137nm,1.4s
FLN La Foliniere 83.04 39 *e*P **P 11 12 41.1 +0.2**
comp=Z,204nm,1.3s,baz=307
FLN *e*R
comp=Z,7µm,21.2s

YSS Yuzh-Sakhalins 83.06 319 *e*P **P 11 12 40.9 -0.1**
YSS *e* 11 12 47.0
YSS *e* 11 15 54.0
YSS *e*S **S 11 23 00.0 +0.2**
YSS *e*PS **PnS 11 23 46.0 -5.0**
EVO Evora 83.11 51 *e*P **P 11 12 41.4 -0.1**
comp=Z,116nm,1.5s
EVO *e*R
comp=Z,10µm,22.0s
EVO Evora 83.11 51 *e*P **P 11 12 41.3 -0.2**
comp=Z,47nm,2.0s
PMRV Marv??o 83.14 50 *e*P **P 11 12 42.5 +0.9**
comp=Z,43nm,2.0s
PMRV *e*pP x 11 12 48.6
PMRV Marv??o 83.14 50 *e*S **S 11 23 04.2 +3.2**
PMRV Marv??o 83.14 50 *e*LQ LQ 11 38 06.4
PMRV *e*LR LR 11 41 20.3
comp=Z,7µm,17.6s
MORF Marmelete 83.20 52 *e*P **P 11 12 42.7 +0.7**
comp=Z,50nm,1.2s
MORF *e*pP x 11 12 52.5
MORF Marmelete 83.20 52 *e*S S 11 23 06.8 +5.0
MORF Marmelete 83.20 52 *e*P P 11 12 44.6 +2.6
MORF *e*S **S 11 23 04.6 +2.8**
HFS Hagfors 83.23 25 P **P 11 12 41.9 +0.3**
HFS Hagfors 83.23 25 P **P 11 12 41.9 +0.3**
comp=Z,4.5nm,0.9s,baz=300,slow=3.3,SNR=6.8
HFS LR LR 11 49 32.5
comp=Z,5µm,19.5s,baz=300,slow=36
PESTR Estremoz 83.25 50 *e*P **P 11 12 42.6 +0.4**
comp=Z,47nm,1.8s
PESTR *e*pP x 11 13 02.6
MESJ Messejana 83.27 51 *e*P P 11 12 45.1 +2.8
MESJ *e*S **S 11 23 05.4 +3.1**
MESJ *e*SS **SS 11 28 30.4 +3.8**
MESJ AMS AMS 11 46 28.7
comp=Z,5µm,18.2s
MESJ Messejana 83.27 51 *e*P P 11 12 45.1 +2.8
MESJ Messejana 83.27 51 *e*S **S 11 23 05.4 +3.1**
MESJ *e*SS **SS 11 28 30.4 +3.8**
MESJ A A 11 46 28.7
comp=Z,5µm,18.2s
MESJ Messejana 83.27 51 *e*P P 11 12 45.1 +2.8
MESJ *e*S **S 11 23 05.4 +3.1**
MESJ *e*SS **SS 11 28 30.4 +3.8**
LDF La Druitiere 83.33 39 *e*P **P 11 12 42.6 +0.2**
comp=Z,124nm,1.3s
APA Apatity 83.48 13 ⇓ *e*P P 11 12 45.6 +2.8
APA *i* S **S 11 23 08.0 +4.7**
APA *i* SS **SS 11 28 26.0 -1.9**
APA MLR MLR
comp=Z,2µm,24.0s
PCVE Castro Verde 83.49 52 *e*P **P 11 12 44.3 +0.8**
comp=Z,51nm,1.7s
PCVE *e*pP x 11 12 53.0
PCVE Castro Verde 83.49 52 *e*S S 11 23 09.6 +5.0
MUD Monsted U'grnd 83.67 29 *e*P P 11 12 50.2 +6.3
MUD pmax pmax
comp=Z,15nm,1.0s
MUD MLR MLR
comp=Z,4µm,15.0s
MUD Monsted U'grnd 83.67 29 *i* P P 11 12 50.2 +6.3
comp=Z,15nm,1.0s
MUD
comp=Z,4µm,15.0s
PBDV Barranco-do-Ve 83.75 52 *e*P P 11 12 48.6 +3.8
comp=Z,66nm,1.1s
PBDV *e*pP x 11 13 03.9
PVAQ Vaqueiros 83.83 52 *e*P **P 11 12 46.1 +0.9**
comp=Z,47nm,1.6s
PVAQ *e*pP x 11 13 03.5
PVAQ Vaqueiros 83.83 52 *e*S **S 11 23 11.4 +3.5**
PVAQ Vaqueiros 83.83 52 *e*LQ LQ 11 38 01.7
PVAQ *e*LR LR 11 41 20.7
comp=Z,5µm,18.5s
PBAR Barrancos 83.95 51 *e*P **P 11 12 46.8 +1.0**
comp=Z,40nm,1.7s
PBAR *e*pP x 11 12 52.5
PBAR Barrancos 83.95 51 *e*S **S 11 23 09.1 -0.1**
MFF Saint Martin d 84.33 41 *e*P **P 11 12 46.2 -1.4**
comp=Z,60nm,1.3s
ASAJ Asahikawa 84.57 316 *e*P **P 11 12 48.5 -0.3**
comp=Z,18nm,1.3s
ASAJ *e*PcP x 11 12 54.9
BAIF Baives 84.94 36 *e*P **P 11 12 49.4 -1.2**
comp=Z,42nm,1.1s
RAO Raoul Island 85.03 235 PFAKE 11 13 00.0 +8.8
RAO LR LR
comp=Z,3µm,21.0s
DOU Dourbes 85.13 36 P P 11 12 58.7 +7.2
comp=Z,12nm,1.8s
PAB San Pablo 85.17 48 *e*P **P 11 12 53.1 +1.1**
PAB pmax pmax
comp=Z,32nm,1.4s
PAB MLR MLR
comp=Z,4µm,20.0s
PAB San Pablo 85.17 48 *e*P **P 11 12 53.1 +1.1**
comp=Z,32nm,1.4s
PAB LR LR
comp=Z,4µm,20.0s
GIVF Givet 85.25 36 *e*P **P 11 12 50.9 -1.2**
comp=Z,130nm,1.6s
ERM Erimo 85.26 314 *ce*P **P 11 12 53.2 +0.9**
ERM pmax pmax
comp=Z,55nm,1.7s
ERM Erimo 85.26 314 PFAKE 11 13 00.0 +7.7
ERM LR LR
comp=Z,2µm,20.0s
ESDC Sonseca Array 85.36 48 P **P 11 12 53.7 +0.7**
ESDC Sonseca Array 85.36 48 P **P 11 12 53.7 +0.7**
comp=Z,0.3nm,0.3s,baz=297,slow=4.0,SNR=4.2
ESLA Sonseca Array 85.36 48 *e*P P 11 12 55.2 +2.3
comp=Z,1.7nm,1.0s
SJPF Ste Jean 85.45 44 *e*P **P 11 12 52.2 -1.1**
MEM Membach 85.58 35 P P 11 12 59.4 +5.6
comp=Z,16nm,1.8s
LFF La Frestale 85.73 42 *e*P **P 11 12 54.3 -0.3**
comp=Z,16nm,0.8s
TCF Toulx Ste Croi 85.89 40 *e*P **P 11 12 54.9 -0.5**
comp=Z,23nm,1.0s
ETSF Etsaut 85.98 44 *e*P **P 11 12 54.9 -1.1**
comp=Z,22nm,1.2s
RJF Les Rejaudoux 86.00 41 *e*P **P 11 12 55.6 -0.4**
comp=Z,21nm,1.0s
RJF *e*R
comp=Z,5µm,20.8s
RTC Rabat Centre 86.01 54 PFAKE 11 13 10.0 +14
RTC LR LR
comp=Z,4µm,20.0s
BGF Bois d'Agland 86.11 40 *e*P **P 11 12 54.8 -1.7**
comp=Z,35nm,1.1s
WLF Walferdange 86.20 36 PFAKE 11 13 10.0 +13
WLF LR LR
comp=Z,6µm,21.0s
SSF Saint Saulge 86.21 39 *e*P **P 11 12 55.5 -1.5**
comp=Z,40nm,1.1s
AVF Avril sur Loir 86.27 39 *e*P **P 11 12 55.4 -1.9**
comp=Z,29nm,1.1s
LOR Lormes 86.30 39 *e*P **P 11 12 56.0 -1.4**
comp=Z,25nm,0.9s
LOR *e*R
comp=Z,7µm,20.8s
CAF Calviac 86.53 41 *e*P **P 11 12 57.1 -1.5**
comp=Z,22nm,1.2s
FINES FINESS Array B 86.55 20 P **P 11 12 58.3 0.0**
FINES FINESS Array B 86.55 20 P **P 11 12 58.3 0.0**
comp=Z,2.5nm,0.8s,baz=322,slow=8.8,SNR=4.3
FINES LR LR 11 51 01.0
comp=Z,6µm,19.4s,baz=326,slow=35
BBTS Babate 86.59 76 LR LR 11 52 18.0
comp=Z,4µm,19.1s,baz=124,slow=36
PAGF Fort de Pagny 86.61 37 *e*P **P 11 12 57.7 -1.2**
SMF Signal de Mont 86.63 39 *e*P **P 11 12 57.1 -2.0**
comp=Z,40nm,1.4s
HABR Khabarovsk 86.65 323 *ce*P **P 11 12 58.3 -0.8**
HABR *e* 11 13 00.3
HABR *e**PP **pP 11 13 04.9 +0.2**
HABR *e* 11 16 18.9
HABR *e*PPP PPP 11 18 12.5
HABR S **SKSac 11 23 22.4 -2.7**
HABR *e**SS **SKKSac 11 23 33.9 +0.6**
HABR *e*SS **SS 11 29 12.9 -2.6**
HABR *e*SSS SSS 11 32 44.7
HABR MLR MLR
comp=Z,880nm,18.0s

BSD Bornholm Skovb 87.03 28 *e*P P 11 13 08.8 +8.0
BSD pmax pmax
comp=Z,6.0nm,1.1s
BSD MLR MLR
comp=Z,4µm,20.0s
BSD Bornholm Skovb 87.03 28 *i* P P 11 13 08.8 +8.0
comp=Z,5.7nm,1.0s
BSD
comp=Z,4µm,19.0s
USHA Ushuaia 87.20 158 LR LR 11 43 41.1
comp=Z,3µm,21.8s,baz=290,slow=30
MTLF Montolieu 87.48 43 *e*P **P 11 13 01.7 -1.5**
comp=Z,24nm,1.2s
ECH Echery 87.59 37 PFAKE 11 13 10.0 +6.3
ECH LR LR
comp=Z,5µm,22.0s
SSB Saint Sauveur 87.80 40 PFAKE 11 13 20.0 +15
SSB LR LR
comp=Z,3µm,19.0s
KLR Kul'dur 87.97 325 *e*P P 11 13 00.0 -5.4
LASF Ste Croix 88.07 41 *e*P **P 11 13 04.9 -1.2**
comp=Z,39nm,1.3s
VIVF Saint-Julien-l 88.12 40 *e*P **P 11 13 05.1 -1.2**
comp=Z,43nm,1.5s
BFO Black Forest 88.15 36 PFAKE 11 13 20.0 +14
BFO LR LR
comp=Z,5µm,19.0s
MDT Midelt 88.22 54 LR LR 11 52 06.8
comp=Z,4µm,18.5s,baz=335,slow=35
CLL Collm 88.66 32 *e*P P 11 13 12.0 +3.3
CLL *e* 11 13 16.0
CLL *e*S **ScS 11 23 57.0 -3.1**
CLL pmax pmax
comp=Z,12nm,1.4s
CLL MLR MLR
comp=Z,8µm,20.3s
CLL Collm 88.66 32 *e*(P) P 11 13 12.0 +3.3
comp=Z,12nm,1.4s
CLL *e* 11 13 16.0
CLL *e*SKSac **SKSac 11 23 41.0 +3.8**
CLL *e*S **ScS 11 23 57.0 -3.1**
CLL *e*SP **SP 11 24 56.0 -1.1**
CLL *e*(PPS) 11 26 00.0
CLL *e*SS **SS 11 29 42.0 -2.6**
CLL *e*SSS SSS 11 33 24.0
CLL *e*SSSS 11 36 36.0
CLL Lm MLR 11 51 00.0
comp=N,4µm,20.5s
CLL Lm MLR 11 51 00.0
comp=E,6µm,18.8s
CLL Lm MLR 11 51 00.0
comp=Z,8µm,20.3s
GRF Grafenberg Arr 88.81 34 *e*P P 11 13 14.6 +5.1
GRF pmax pmax
comp=Z,7.0nm,1.5s
EFI East Falkland 88.91 151 PFAKE 11 13 20.0 +11
EFI LR LR
comp=Z,1µm,22.0s
LPL La Plagne 88.93 39 *e*P **P 11 13 09.4 -1.0**
LPG La Plagne 88.95 39 *e*P **P 11 13 09.7 -0.8**
comp=Z,6.2nm,0.8s
VSU Vasula 89.08 21 ⇓ *e*P P 11 13 13.3 +2.8
VSU pmax pmax
comp=Z,41nm,1.2s
SMRF Simiane la Rot 89.15 41 *e*P **P 11 13 10.4 -0.8**
comp=Z,23nm,1.2s
BNI Bardonecchia 89.17 39 PFAKE 11 13 20.0 +8.6
BNI LR LR
comp=Z,6µm,20.0s
BRG Berggiesshubel 89.39 32 *e*P P 11 13 16.9 +4.9
comp=Z,10nm,1.5s
BRG S **SKSac 11 23 42.0 +0.4**
BRG SS SS 11 29 16.0 -39
BRG
comp=N,6µm,20.3s
BRG
comp=E,6µm,17.1s
BRG
comp=Z,9µm,19.4s
BRG Berggiesshubel 89.39 32 *e*P P 11 13 17.0 +4.9
BRG S **SKSac 11 23 42.0 +0.4**
BRG pmax pmax
comp=Z,19nm,1.5s
BRG MLR MLR
comp=N,10µm,20.3s
BRG MLR MLR
comp=E,6µm,17.1s
BRG MLR MLR
comp=Z,6µm,19.4s
MBDF Montbardon 89.42 40 *e*P **P 11 13 11.3 -1.3**
DAVA Damuels 89.61 36 ⇓ *i*pP pP 11 13 15.4 -3.7
TUE Stuetta 89.82 37 PFAKE 11 13 30.0 +15
TUE LR LR
comp=Z,9µm,19.0s
PVCC Panska Ves 89.92 32 *e*SKS **SKSac 11 23 47.7 +3.0**
PVCC AMS AMS 11 52 10.0
comp=Z,8µm,19.3s
DAVOX Davos/Dischmat 89.92 37 P P 11 13 17.5 +2.6
DAVOX Davos/Dischmat 89.92 37 P P 11 13 17.5 +2.6
comp=Z,1.3nm,0.4s,baz=7.7,slow=21,SNR=4.0
DAVOX LR LR 11 53 24.3
comp=Z,9µm,18.0s,baz=301,slow=35
PRA Prague 90.16 32 P P 11 13 21.0 +5.3
PRA AMS AMS 11 56 00.0
FETA Feichten 90.23 36 ⇑ *i*PcP **PcP 11 13 16.6 -0.9**
comp=Z,5.7nm,1.5s
PRU Pruhonice 90.27 32 *e*P P 11 13 20.2 +4.0
PRU *e* 11 13 29.1
PRU *e*S **S 11 24 10.9 +1.3**
PRU *e* 11 25 15.4
PRU *e*SS **SS 11 30 07.5 -0.5**
PRU MLR MLR
comp=Z,5µm,15.5s
PRU Pruhonice 90.27 32 *e*P P 11 13 20.2 +4.0
PRU *ex* x 11 13 29.1
PRU *ex* x 11 23 36.8
PRU *e*S **S 11 24 10.9 +1.3**
PRU *e*SP **SP 11 25 15.4 +0.4**
PRU *e*SS **SS 11 30 07.5 -0.5**
PRU AMS AMS 11 55 40.0
comp=Z,5µm,15.5s
KHC Kasperske Hory 90.36 33 *e*P P 11 13 21.0 +4.3
KHC *e* 11 23 50.7
KHC *e*S **ScS 11 24 13.1 -1.3**
KHC *e* 11 25 19.1
KHC MLR MLR
comp=Z,8µm,19.0s
KHC Kasperske Hory 90.36 33 *e*P P 11 13 21.0 +4.3
KHC *e*SKS **SKSac 11 23 50.7 +3.3**
KHC *e*S **ScS 11 24 13.1 -1.3**
KHC *e*SP **SP 11 25 19.1 +3.0**
KHC AMS AMS 11 52 00.0
comp=Z,8µm,19.0s
GERES GERESS Array B 90.61 34 P **P 11 13 17.3 -0.6**
GERES GERESS Array B 90.61 34 P **P 11 13 17.3 -0.6**
comp=Z,0.2nm,0.2s,baz=284,slow=4.0,SNR=3.2
GERES LR LR 11 52 33.1
comp=Z,7µm,19.4s,baz=36,slow=35
DPC Dobruska-Polom 90.87 31 *e*P P 11 13 23.2 +4.1
DPC *e* 11 13 31.9
DPC *e* 11 23 51.5
DPC *e* 11 25 25.5
DPC *e*SS SS 11 30 16.4 -0.4
DPC Dobruska-Polom 90.87 31 *e*P P 11 13 23.2 +4.1
DPC *ex* x 11 13 31.9
DPC *e*SKS **SKSac 11 23 51.5 +1.2**
DPC *e*SP **SPn 11 25 25.5 +3.5**
DPC *e*SS **SS 11 30 16.4 -0.4**
DPC AMS AMS 11 53 00.0
USRK Ussuriysk Arra 90.88 321 P **P 11 13 19.9 +0.7**
comp=Z,4.4nm,0.9s,baz=58,slow=5.1,SNR=4.4
USRK LR LR 11 57 10.9
comp=Z,1µm,18.0s,baz=182,slow=38
TREC Trest 91.19 32 *e*SKS **SKSac 11 23 53.9 +1.8**
TREC AMS AMS 11 54 10.0
comp=Z,5µm,16.5s
MJAR Matsushiro Arr 91.38 312 P **P 11 13 19.8 -2.0**
MJAR Matsushiro Arr 91.38 312 P **P 11 13 19.7 -2.0**
comp=Z,3.5nm,1.0s,baz=62,slow=3.6,SNR=8.4
MJAR LR LR 11 48 17.7
comp=Z,2µm,20.6s,baz=65,slow=32
MAJO Matsushiro 91.38 312 *e*P **P 11 13 21.5 -0.2**
MAJO pmax pmax
comp=Z,28nm,1.4s
MAJO MLR MLR

comp=Z,3μm,20.0s
MAJO Matsushiro 91.38 312 *e*P **P 11 13 21.5 -0.2**
comp=Z,28nm,1.4s
MAJO LR LR
comp=Z,3μm,20.0s
MAT Matsushiro 91.38 312 P **P 11 13 21.0 -0.7**
MAT S **S 11 24 21.8 +1.4**
VRAC Vranov 91.71 32 LR LR 11 55 43.6
comp=Z,5μm,18.4s,baz=308,slow=36
VLC Villacollemand 91.82 39 PFAKE 11 13 30.0 +6.4
VLC LR LR
comp=Z,3μm,19.0s
MDJ Mudanjiang 91.98 322 PFAKE 11 13 30.0 +5.7
MDJ LR LR
comp=Z,1μm,22.0s
OKC Ostrava-Krasne 92.08 31 *e*SKS **SKSac 11 24 01.4 +4.3**
OKC *e*S **ScS 11 24 32.7 +4.1**
OKC AMS AMS 11 55 20.0
comp=Z,4μm,15.8s
CONA Conrad Observa 92.29 33⇑ *i*sP sP 11 13 29.4 -4.1
comp=Z,3.0nm,0.9s
SOKA Soboth 92.71 35⇓ *i*sP sP 11 13 31.1 -4.3
comp=Z,7.3nm,1.3s
HIA Hailar 93.80 330 PFAKE 11 13 40.0 +7.4
HIA LR LR
comp=Z,2μm,19.0s
DZM Mont Dzumac 93.99 248 *e*S **S 11 24 45.0 +1.0**
comp=Z,1μm,27.2s
DZM *e*SS **SS 11 31 08.1 +3.7**
comp=Z,2μm,27.4s
DZM *e*LQ LQ 11 39 55.8
comp=Z,2μm,29.1s
DZM *e*LR LR 11 43 53.5
comp=Z,7μm,25.2s
VSL Villasalto 94.09 43 PFAKE 11 13 50.0 +16
VSL LR LR
comp=Z,2μm,19.0s
PSZ Piszkesteto 94.25 31 PFAKE 11 13 50.0 +15
PSZ LR LR
comp=Z,6μm,20.0s
KWP Kalwaria Pacla 94.28 29 PFAKE 11 13 50.0 +15
KWP LR LR
comp=Z,6μm,22.0s
HNR Honiara 94.35 262 PFAKE 11 13 50.0 +14
HNR LR LR
comp=Z,5μm,20.0s
MOS Moscow 94.67 18 *e*P P 11 13 28.5 -7.9
MOS MLR MLR
comp=Z,4μm,18.0s
AQU L'Aquila 94.67 39 PFAKE 11 13 50.0 +13
AQU LR LR
comp=Z,1μm,19.0s
CN2 Changchun 94.78 323 *e*P **P 11 13 38.5 +1.3**
CN2 *e*S **S 11 24 45.3 -4.9**
CN2 SS **SS 11 31 13.5 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,700nm,17.0s
CN2 LR LR
comp=E,1μm,17.0s
CN2 LR LR
comp=Z,1μm,20.0s
UZH Uzhgorod 94.84 30 *e*P P 11 13 29.8 -7.5
OBN Obninsk 94.91 19⇑ *e*P **P 11 13 38.4 +0.9**
OBN *e* 11 17 29.0
OBN *i* 11 24 18.9
OBN *i* PS **PS 11 26 08.1 -0.4**
OBN *i* SS SS 11 31 13.6 -0.3
OBN pmax pmax
comp=Z,14nm,0.6s
OBN MLR MLR
comp=Z,4μm,19.0s
AKASG Malin Array Be 96.12 25 P **P 11 13 44.3 +1.1**
AKASG 11 17 38.5
AKASG Malin Array Be 96.12 25 P **P 11 13 44.3 +1.1**
AKASG PP **PP 11 17 38.5 +3.3**
AKASG Malin Array Be 96.12 25 P **P 11 13 44.3 +1.1**
comp=Z,0.4nm,0.4s,baz=308,slow=3.0,SNR=8.7
AKASG PP **PP 11 17 38.5 +3.3**
comp=Z,0.2nm,0.2s,baz=331,slow=7.4,SNR=6.3
AKASG LR LR 11 56 32.9
comp=Z,6μm,20.9s,baz=320,slow=35
KIEV Kiev 96.12 25 PFAKE 11 13 50.0 +6.9
KIEV LR LR
comp=Z,6μm,20.0s
SNZO South Karori 96.31 227 PFAKE 11 13 50.0 +6.0
SNZO LR LR
comp=Z,2μm,19.0s
KEST Kesra 96.34 46 P **P 11 13 44.9 +0.3**
KEST PP **PP 11 17 38.3 +0.7**
KEST Kesra 96.34 46 P P 11 13 47.5 +2.9
comp=Z,0.6nm,0.7s,baz=249,slow=17,SNR=3.6
KEST PP **PP 11 17 38.3 +0.7**
comp=Z,2.2nm,1.1s,baz=245,slow=8.8,SNR=6.5
KEST LR LR 11 56 33.5
comp=Z,1μm,18.6s,baz=260,slow=35
PMSA Palmer Station 96.38 162 LR LR 11 47 26.1
comp=Z,1μm,21.6s,baz=321,slow=29
SNY Shenyang 97.12 323⇑ P P 11 13 40.2 -7.7
IRK Irkutsk 97.36 340 *e*P Pdif 11 13 50.6 +1.7
IRK pmax pmax
comp=Z,15nm,0.8s
KSRS Korea Array 97.48 317 P Pdif 11 13 50.6 +0.9
comp=Z,0.4nm,0.5s,baz=149,slow=38,SNR=3.8
KSRS LR LR 11 56 22.7
comp=Z,942nm,20.4s,baz=45,slow=35
KSAR Wonju Array Be 97.52 317 P Pdif 11 13 50.6 +0.8
CUC Castrococco 97.59 39 PFAKE 11 14 00.0 +10
CUC LR LR
comp=Z,3μm,19.0s
GUMO Guam 97.85 289 PFAKE 11 14 00.0 +8.3
GUMO LR LR
comp=Z,2μm,22.0s
TLY Talaya 98.05 340 *e*P Pdif 11 13 56.4 +4.5
TLY *e* 11 26 43.1
TLY *e*SS SS 11 31 55.0 -3.5
TLY pmax pmax
comp=Z,12nm,1.8s
TLY MLR MLR
comp=Z,2μm,20.0s
ARU Arti 98.06 7*d i*P Pdif 11 13 53.5 +1.7
ARU 11 17 51.2
ARU S **SKSac 11 24 29.6 +0.8**
ARU SP **SP 11 26 44.6 +4.4**
ARU SS **SS 11 31 56.9 -1.3**
ARU pmax pmax
comp=Z,17nm,1.7s
ASCN Ascension 98.07 95 PFAKE 11 14 00.0 +7.3
ASCN LR LR
comp=Z,485nm,19.0s
INCN Inchon 98.25 318 PFAKE 11 14 00.0 +6.9
INCN LR LR
comp=Z,2μm,20.0s
TIP Timpagrande 98.68 39 PFAKE 11 14 10.0 +15
TIP LR LR
comp=Z,6μm,22.0s
CEL Celeste 98.79 40 PFAKE 11 14 10.0 +14
CEL LR LR
comp=Z,3μm,19.0s
MLR Muntele Rosu 98.84 30 LR LR 12 02 35.0
comp=Z,2μm,18.1s,baz=159,slow=38
TIR Tirane 98.90 36 PFAKE 11 14 10.0 +14
TIR LR LR
comp=Z,3μm,22.0s
VSR Storozhevoye 99.08 19 *e*P **Pdif 11 13 59.0 +2.5**
VSR pmax pmax
comp=Z,10.0nm,1.3s
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,5.0nm,0.6s
VSR MLR MLR
comp=Z,3μm,15.0s
VSR MLR MLR
comp=N,2μm,14.0s
VSR MLR MLR
comp=E,1μm,14.0s
ZAK Zakamensk 99.29 339 *e*P **Pdif 11 14 00.8 +3.2**
ZAK pmax pmax
comp=Z,3.0nm,1.7s
VORD Divnogorie 99.33 19 *e*P **Pdif 11 13 54.5 -3.1**
VORD pmax pmax
comp=Z,6.0nm,0.4s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD MLR MLR
comp=Z,4μm,17.0s
VORD MLR MLR
comp=N,2μm,14.0s
VORD MLR MLR
comp=E,2μm,15.0s
WDD Wield Dalam 99.54 43 PFAKE 11 14 10.0 +11
WDD LR LR
comp=Z,4μm,22.0s
ULN Ulaanbaatar 100.13 336 PFAKE 11 14 10.0 +8.5
ULN LR LR
comp=Z,4μm,20.0s
ZALV Zalesovo Beam 100.18 351 P **Pdif 11 14 04.1 +2.8**
ZALV 11 18 09.8
ZALV Zalesovo Beam 100.18 351 P **Pdif 11 14 04.1 +2.8**
ZALV PP **PP 11 18 09.8 +3.9**
ZALV Zalesovo Beam 100.18 351 P **Pdif 11 14 04.1 +2.8**
comp=Z,0.5nm,0.4s,baz=324,slow=7.1,SNR=2.7
ZALV PP **PP 11 18 09.8 +3.9**
comp=Z,0.6nm,0.5s,baz=28,slow=6.7,SNR=3.9
SONM Songino Array 100.40 336 P **Pdif 11 14 03.7 +1.1**
SONM PP **PP 11 18 09.0 +0.9**
SONM Songino Array 100.40 336 P **Pdif 11 14 03.7 +1.1**
comp=Z,2.6nm,1.2s,baz=338,slow=1.6,SNR=6.9
SONM PP **PP 11 18 09.0 +0.9**
comp=Z,0.2nm,0.3s,baz=64,slow=3.4,SNR=3.0
TAM Tamanrasset 101.06 58 PFAKE 11 14 20.0 +14
TAM LR LR
comp=Z,4μm,20.0s
BRVK Borovoye 102.06 0 PFAKE 11 14 20.0 +10
BRVK LR LR
comp=Z,6μm,19.0s
BJI Beijing 102.32 326 P **Pdif 11 14 12.3 +1.2**
BJI S **Sdif 11 25 53.8 -0.4**
BJI SS **SS 11 32 58.2 -0.4**
BJI pmax pmax
comp=Z,20nm,0.6s
BJI pmax pmax
comp=Z,100nm,6.1s
BJI LR LR
comp=N,1μm,25.8s
BJI LR LR
comp=E,1μm,20.6s
BJI LR LR
comp=Z,2μm,22.6s
BJT Baijiatuau 102.34 326 PFAKE 11 14 20.0 +8.8
BJT LR LR
comp=Z,2μm,20.0s
TORD Torodi Ar. Bea 103.00 69 Pdif **Pdif 11 14 15.2 +0.6**
TORD PP **PP 11 18 27.9 -1.1**
TORD Torodi Ar. Bea 103.00 69 Pdiff **Pdif 11 14 15.2 +0.6**
comp=Z,1.1nm,1.1s,baz=264,slow=2.8,SNR=3.2
TORD PP **PP 11 18 27.9 -1.1**
comp=Z,1.8nm,1.1s,baz=289,slow=7.0,SNR=4.8
AKTO Aktyubinsk 103.89 8 PP PP 11 18 37.4 +3.5
AKTO Aktyubinsk 103.89 8 PP PP 11 18 37.4 +3.5
comp=Z,0.9nm,0.7s,baz=14,slow=7.8,SNR=4.6
HHC Hu-ho-hao-te 103.95 329 *e*P **Pdif 11 14 19.6 +1.1**
HHC PP **PKiKP 11 18 38.0 +2.0**
HHC Hu-ho-hao-te 103.95 329 S **Sdif 11 26 04.2 -3.9**
HHC Hu-ho-hao-te 103.95 329 SS SS 11 33 19.9 -1.4
HHC pmax pmax
comp=Z,54nm,0.8s
HHC pmax pmax
comp=Z,300nm,8.2s
HHC LR LR
comp=N,2μm,18.5s
HHC LR LR
comp=E,2μm,18.8s
HHC LR LR
comp=Z,2μm,18.4s
ANN Anapa 104.10 24 *i* P **Pdif 11 14 10.7 -8.2**
ANN pmax pmax
comp=Z,54nm,1.1s
ANN MLR MLR
comp=N,2μm,19.0s
ANN MLR MLR
comp=E,1μm,19.0s
ANN MLR MLR
comp=Z,5μm,19.0s
SANT Santorini 105.51 36 PFAKE 11 18 50.0
SANT LR LR
comp=Z,2μm,19.0s
PMG Port Moresby 105.86 267 PFAKE 11 18 50.0
PMG LR LR
comp=Z,4μm,21.0s
SSE Sheshan 105.86 316 SS SS 11 33 50.1 +2.2
SSE LR LR
comp=N,330nm,25.7s
SSE LR LR
comp=E,960nm,25.7s
SSE LR LR
comp=Z,880nm,22.9s
ANTO Ankara 106.37 29 PFAKE 11 18 50.0
ANTO LR LR
comp=Z,3μm,19.0s
KIV Kislovodsk 106.63 21 *e*P **Pdif 11 14 30.0 -0.3**
KIV *e*S **SKSac 11 25 14.4 +4.4**
KIV *i* PS **PS 11 28 16.6 +2.5**
KIV *i* SS **SS 11 33 54.9 -2.4**
KIV pmax pmax
comp=Z,6.0nm,0.9s
NJ2 Nanjing 106.63 318 *e*Pdif **Pdif 11 14 31.9 +1.5**
NJ2 PP **PP 11 18 56.0 +1.0**
NJ2 SKS **SKSac 11 25 13.0 +2.8**
NJ2 SS **SS 11 33 58.5 +0.3**
NJ2 AMB AMB
comp=Z,100nm,8.5s
NJ2 LR LR
comp=N,2μm,27.7s
NJ2 LR LR
comp=E,1μm,31.6s
NJ2 LR LR
comp=Z,1μm,26.8s
BRTR Keskin Array B 106.86 29 PP PP 11 18 58.0 +1.5
BRTR Keskin Array B 106.86 29 PP PP 11 18 58.0 +1.5
comp=Z,0.8nm,0.8s,baz=305,slow=4.4,SNR=6.6
ISP Isparta 106.97 32 PFAKE 11 18 50.0
ISP LR LR
comp=Z,4μm,21.0s
MKAR Makanchi Array 107.52 351 PP PP 11 19 02.8 +2.0
MKAR PKKP **PKKPdf 11 30 08.6 -1.3**
MKAR Makanchi Array 107.52 351 PP PP 11 19 02.7 +2.0
comp=Z,1.5nm,1.0s,baz=20,slow=3.9,SNR=6.7
MKAR PKKP **PKKPdf 11 30 08.6 -1.3**
comp=Z,0.5nm,0.9s,baz=180,slow=1.4,SNR=3.7
AKH Akhalkalaki 109.17 21 P **PS 11 28 44.7 +4.4**
TBLG Delisi 109.28 20 P **PS 11 28 43.7 +2.6**
WMQ Urumqi 109.48 347 Pdif **Pdif 11 14 47.1 +4.1**
WMQ PP PP 11 19 23.4 +8.2
WMQ S **Sdif 11 26 55.0 +0.9**
WMQ SS **SS 11 34 40.8 +5.1**
WMQ LR LR
comp=N,2μm,28.4s
WMQ LR LR
comp=E,2μm,27.0s
WMQ LR LR
comp=Z,2μm,31.2s
DGRG David-gareji 109.73 20 P **PS 11 28 47.8 +2.0**
TATO Taipei 109.77 311 PFAKE 11 19 00.0
TATO LR LR
comp=Z,2μm,21.0s
YHNB Yeheng 110.05 311 PFAKE 11 19 00.0
YHNB LR LR
comp=Z,2μm,21.0s
MALT Malatya 110.06 26 PFAKE 11 19 00.0
MALT LR LR
comp=Z,2μm,20.0s
GTA Gaotai 110.07 336 SS SS 11 34 23.5 -21
GTA AMB AMB
comp=Z,190nm,9.0s
GTA LR LR
comp=N,2μm,17.1s
GTA LR LR
comp=E,2μm,19.0s
GTA LR LR
comp=Z,2μm,17.6s
CTAO Charters Tower 110.64 257 PFAKE 11 19 00.0
CTAO LR LR
comp=Z,2μm,19.0s
GNI Garni 110.72 21 PFAKE 11 19 00.0
GNI LR LR
comp=Z,4μm,22.0s
LZH Lanzhou 111.32 331 *e*PKP PKiKP 11 18 42.8 -7.2
LZH sPKP 11 18 53.4
LZH PP **PP 11 19 28.3 -0.6**
LZH AMB AMB
comp=Z,120nm,4.2s
LZH LR LR
comp=N,2μm,14.4s
LZH LR LR
comp=E,1μm,14.6s
LZH LR LR
comp=Z,3μm,18.0s
QZH Quanzhou 111.73 313 *i* PKP 11 18 46.0
QZH SS SS 11 35 08.4 +1.1
QZH AMB AMB
comp=Z,590nm,3.5s
QZH LR LR
comp=N,760nm,16.4s
QZH LR LR
comp=E,1μm,14.3s
QZH LR LR
comp=Z,4μm,26.8s
TKM2 Tokmak 2 112.03 356 PFAKE 11 19 00.0
TKM2 LR LR
comp=Z,6μm,19.0s
AAK Ala-Archa 112.38 357 PFAKE 11 19 00.0
AAK LR LR
comp=Z,5μm,19.0s
EKS2 Erkin-Say 112.39 357 PFAKE 11 19 00.0
EKS2 LR LR
comp=Z,5μm,21.0s
CAN Canberra 112.96 241 PFAKE 11 19 00.0
CAN LR LR
comp=Z,2μm,20.0s
SBA Scott Base 113.13 193 PFAKE 11 19 00.0
SBA LR LR
comp=Z,3μm,21.0s
ENH Enshi 113.30 324 PFAKE 11 19 00.0
ENH LR LR
comp=Z,2μm,21.0s
QSPA South Pole Qui 115.09 180 PFAKE 11 19 10.0 +14
QSPA LR LR
comp=Z,3μm,22.0s
KSH Kashi 115.39 355 *e*PKPbc PKPdf 11 18 49.7 -7.9
CD2 Chengdu 115.69 328 PKP **PKPdf 11 18 59.0 +0.7**
CD2 PP **PP 11 20 04.1 +4.2**
CD2 PKS **PKSdf 11 22 34.4 -0.8**
CD2 SKKS 11 26 55.9
CD2 SS **SS 11 35 57.5 -1.4**
CD2 AMB AMB
comp=Z,260nm,9.8s
CD2 LR LR
comp=N,1μm,22.5s
CD2 LR LR
comp=E,2μm,19.1s
CD2 LR LR
comp=Z,3μm,20.1s
DAV Davao City (W) 117.47 293 PFAKE 11 19 10.0 +7.9
DAV LR LR
comp=Z,3μm,21.0s
GYA Guiyang 117.82 323 Pdif **Pdif 11 15 22.0 +1.5**
GYA PKP **PKiKP 11 19 05.6 +2.9**
GYA PP PP 11 20 19.8 +4.7
GYA PKS **PKSdf 11 22 40.4 +0.8**
GYA SKKS 11 27 11.2
GYA AMB AMB
comp=Z,190nm,7.8s
GYA LR LR
comp=N,460nm,25.2s
GYA LR LR
comp=E,380nm,24.3s
GYA LR LR
comp=Z,540nm,25.0s
KMI Kunming 120.97 326 PKP **PKPdf 11 19 07.8 -1.1**
KMI PP PP 11 20 42.2 +5.3
KMI SS SS 11 37 08.0 0.0
KMI AMB AMB
comp=Z,140nm,9.9s
KMI LR LR
comp=N,1μm,20.3s
KMI LR LR
comp=E,870nm,16.9s
KMI LR LR
comp=Z,1μm,19.2s
WRAB Tennant Creek 121.17 261 PFAKE 11 19 20.0 +11
WRAB LR LR
comp=Z,2μm,20.0s
WRA Warramunga Arr 121.19 261 PKP **PKPdf 11 19 06.4 -2.6**
WRA Warramunga Arr 121.19 261 PKP **PKPdf 11 19 06.4 -2.6**
comp=Z,0.5nm,0.5s,baz=70,slow=2.4,SNR=12
QIZ Qiongzhong 121.62 315 PKP **PKPdf 11 19 11.3 +1.4**
QIZ PP **PP 11 20 42.3 +0.9**
QIZ SS SS 11 37 17.4 +1.0
QIZ LR LR
comp=N,1μm,21.1s
QIZ LR LR
comp=E,460nm,20.3s
QIZ LR LR
comp=Z,2μm,29.2s
QIZ Qiongzhong 121.62 315 PFAKE 11 19 20.0 +10
QIZ LR LR
comp=Z,1μm,19.0s
LSA Lhasa 121.87 339 PFAKE 11 19 20.0 +9.2
LSA LR LR
comp=Z,2μm,22.0s
ASAR Alice Springs 122.64 257 PKP **PKPdf 11 19 09.9 -1.9**
ASAR PKKPbc **PKKPab 11 29 06.8 +1.9**
ASAR Alice Springs 122.64 257 PKP **PKPdf 11 19 09.9 -1.9**
comp=Z,0.4nm,0.5s,baz=82,slow=2.2,SNR=9.7
ASAR PKKPbc **PKKPab 11 29 06.8 +1.9**
comp=Z,1.4nm,1.0s,baz=253,slow=4.7,SNR=5.1
CHTO Chiang Mai 128.15 325 PFAKE 11 19 30.0 +7.5
CHTO LR LR
comp=Z,1μm,20.0s
CMAR Chiang Mai Arr 128.45 325 PKP **PKPdf 11 19 22.5 -0.6**
CMAR Chiang Mai Arr 128.45 325 PKP **PKPdf 11 19 22.5 -0.6**
comp=Z,0.5nm,0.3s,baz=356,slow=1.7,SNR=5.3
KAPI Kappang 128.64 285 PFAKE 11 19 30.0 +6.5
KAPI LR LR
comp=Z,902nm,19.0s
TSUM Tsumeb 131.00 94 PFAKE 11 19 40.0 +12
TSUM LR LR
comp=Z,1μm,20.0s
CASY Casey 131.88 201 PFAKE 11 19 40.0 +12
CASY LR LR
comp=Z,3μm,20.0s
MBAR Mbarara 134.58 64 PFAKE 11 19 50.0 +15
MBAR LR LR
comp=Z,651nm,19.0s
MBWA Marble Bar 134.65 265 PFAKE 11 19 50.0 +15
MBWA LR LR
comp=Z,4μm,21.0s
SUR Sutherland 136.29 111 PFAKE 11 19 50.0 +12
SUR LR LR
comp=Z,2μm,19.0s
NWAO Narrogin (SRO) 138.61 248 PFAKE 11 19 50.0 +8.4
NWAO LR LR
comp=Z,3μm,21.0s
LSZ Lusaka 139.34 84 PFAKE 11 20 00.0 +16
LSZ LR LR
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 140.06 58 PFAKE 11 20 00.0 +15
KMBO LR LR
comp=Z,2μm,19.0s
COCO West Island 151.86 293 PFAKE 11 20 20.0 -0.1
COCO LR LR
comp=Z,2μm,21.0s
MSEY Mahe Island 155.06 37 PFAKE 11 20 20.0 +11
MSEY LR LR
comp=Z,2μm,22.0s
ABPO Ambohimpanom 157.69 79 PFAKE 11 20 20.0 +7.2
ABPO LR LR
comp=Z,2μm,20.0s
DGAR Diego Garcia 162.18 353 PFAKE 11 20 30.0 +12
DGAR LR LR
comp=Z,4μm,21.0s

*ISCJB **03** 11:03:07.5±0.2, 42.°41N±0.°01×13.°35E±0.°02, h4km±2km, mb4.1/16, MS5.3/1, Error ellipse: s-maj=2.4km s-min=1.7km az=34.6*
*NEIC **03** 11:03:07.0, 42.°41N×13.°39E, h9km, mb3.9/1, ML4.0(STR), ML4.1(ROM), After ROM.*

ROM ***03*** *11:03:07.5±0.1, 42°.39N×13°.38E, h10km, Ml4.1/12, Error ellipse: s-maj=1.0km s-min=0.7km az=51.0*
LDG ***03*** *11:03:07.8±0.1, 42°.41N×13°.32E, h2km, Ml3.8/7, Error ellipse: s-maj=2.7km s-min=1.8km az=39.0*
BEO ***03*** *11:03:07.3±0.8, 42°.46N×13°.09E, h10km±1km, ML4.0/1*
PRU ***03*** *11:03:08.8, 42°.40N×13°.47E, h1km, M3.9*
PDG ***03*** *11:03:08.3±0.8, 42°.42N×13°.34E, h5km±1km, ML3.9/7, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
CSEM ***03*** *11:03:08.4±0.1, 42°.39N×13°.33E, h2km, mb4.2/7, ML4.5/8, Error ellipse: s-maj=2.8km s-min=2.2km az=31.0*
IDC ***03*** *11:03:08.5±0.9, 42°.52N×13°.21E, h0km, mb3.8/9, mb1 3.8/17, mb1mx3.7/35, mbtmp3.7/17, ML3.8/8, MS3.0/2, Ms1 3.1/2, ms1mx2.7/57, Error ellipse: s-maj=16.8km s-min=13.5km az=89.0*
MOS ***03*** *11:03:09.2±1.0, 42°.52N×13°.35E, h10km, mb4.3/8, Error ellipse: s-maj=6.1km s-min=4.5km az=93.7*

ISC 03 11:03:09.2±0.8, 42°.40N±0°.02×13°.36E±0°.02, h6km±4km, n423, σ1$48/474, mb4.0/16, 29C-29D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.06**	**147**	⇑*i*	*e*	**Pg**	**11 03 09.7**	**-1.1**
AQU						**Sg**	**11 03 11.1**	**-0.8**
AQU	**L'Aquila**	**0.06**	**147**	⇑*i*	*e*	**Pg**	**11 03 09.7**	**-1.1**
AQU						**Sg**	**11 03 11.1**	**-0.8**
FIAM	**Fiamignano**	**0.22**	**233**	⇑*e*	*e*	**Pg**	**11 03 13.1**	**-0.6**
FIAM						**Sg**	**11 03 16.9**	**+0.2**
	73µm,0.6s							
FIAM	**Fiamignano**	**0.22**	**233**	⇑*e*	*e*	**Pg**	**11 03 13.1**	**-0.6**
FIAM						Sg	**Sg**	**11 03 16.9**	**+0.2**
	73µm,0.6s							
TERO	**Teramo**	**0.28**	**40**	⇑*i*	*e*	**Pg**	**11 03 13.6**	**-1.2**
TERO						Sg	**Sg**	**11 03 18.1**	**-0.5**
	29µm,0.8s							
TERO	**Teramo**	**0.28**	**40**	⇑*i*	*e*	**Pg**	**11 03 13.6**	**-1.2**
TERO						Sg	**Sg**	**11 03 18.1**	**-0.5**
	29µm,0.8s							
LNSS	**Leonessa**	**0.31**	**310**	Pg		**Pg**	**11 03 14.6**	**-0.7**
LNSS				Sg		**Sg**	**11 03 19.9**	**+0.5**
	40µm,0.5s							
LNSS	**Leonessa**	**0.31**	**310**	Pg		**Pg**	**11 03 14.6**	**-0.7**
LNSS				Sg		**Sg**	**11 03 19.9**	**+0.5**
	40µm,0.5s							
VCEL	**Villa Celiera**	**0.36**	**91**	⇑*e*	*e*	**Pg**	**11 03 14.9**	**-1.3**
VCEL						Sg	**Sg**	**11 03 19.9**	**-1.0**
	29µm,0.7s							
VCEL	**Villa Celiera**	**0.36**	**91**	⇑*e*	*e*	**Pg**	**11 03 14.9**	**-1.3**
VCEL						Sg	**Sg**	**11 03 19.9**	**-1.0**
	29µm,0.7s							
PTQR	**Pietraquaria**	**0.38**	**175**	⇑*i*	*e*	**Pg**	**11 03 15.4**	**-1.3**
PTQR	**Pietraquaria**	**0.38**	**175**	⇑*i*	*e*	**Pg**	**11 03 15.4**	**-1.3**
GAVE	**Gavelli**	**0.45**	**310**	Pg		**Pg**	**11 03 17.2**	**-0.7**
GAVE	**Gavelli**	**0.45**	**310**	Pg		**Pg**	**11 03 17.2**	**-0.7**
NRCA	**Norcia**	**0.47**	**337**	Pg		**Pg**	**11 03 17.1**	**-1.2**
NRCA				Sg		**Sg**	**11 03 24.8**	**+0.4**
	11µm,0.4s							
NRCA	**Norcia**	**0.47**	**337**	Pg		**Pg**	**11 03 17.1**	**-1.2**
NRCA				Sg		**Sg**	**11 03 24.8**	**+0.4**
	11µm,0.4s							
MNS	**Montasola**	**0.50**	**268**	⇓*i*	*e*	**Pg**	**11 03 17.8**	**-1.1**
	11µm,0.9s							
MNS	**Montasola**	**0.50**	**268**	⇓*i*	*e*	**Pg**	**11 03 17.8**	**-1.1**
	11µm,0.9s							
CERT	**Cerreto**	**0.53**	**212**	Pg		**Pg**	**11 03 18.1**	**-1.4**
CERT				Sg		**Sg**	**11 03 27.1**	**+0.6**
	17µm,0.4s							
CERT	**Cerreto**	**0.53**	**212**	Pg		**Pg**	**11 03 18.1**	**-1.4**
CERT				Sg		**Sg**	**11 03 27.1**	**+0.6**
	17µm,0.4s							
INTR	**Introdacqua**	**0.56**	**134**	Pg		**Pg**	**11 03 18.4**	**-1.7**
INTR				Sg		**Sg**	**11 03 27.1**	**-0.3**
	19µm,0.8s							
INTR	**Introdacqua**	**0.56**	**134**	Pg		**Pg**	**11 03 18.4**	**-1.7**
INTR				Sg		**Sg**	**11 03 27.1**	**-0.3**
	19µm,0.8s							
VVLD	**Villa Vallelon**	**0.57**	**160**	Pg		**Pg**	**11 03 18.3**	**-1.9**
	9µm,1.1s							
VVLD	**Villa Vallelon**	**0.57**	**160**	Pg		**Pg**	**11 03 18.3**	**-1.9**
	9µm,1.1s							
TRTR	**Tortoreto Alta**	**0.58**	**45**	Pg		**Pg**	**11 03 20.0**	**-0.3**
TRTR	**Tortoreto Alta**	**0.58**	**45**	Pg		**Pg**	**11 03 20.0**	**-0.3**
OFFI	**Offida**	**0.58**	**24**	Pg		**Pg**	**11 03 19.9**	**-0.6**
OFFI	**Offida**	**0.58**	**24**	Pg		**Pg**	**11 03 19.9**	**-0.6**
MTCE	**Montecelio**	**0.59**	**230**	Pg		**Pg**	**11 03 19.3**	**-1.4**
	6µm,0.9s							
MTCE	**Montecelio**	**0.59**	**230**	Pg		**Pg**	**11 03 19.3**	**-1.4**
	6µm,0.9s							
GUAR	**Guarcino**	**0.61**	**183**	Pg		**Pg**	**11 03 19.2**	**-1.8**
	5µm,0.4s							
GUAR	**Guarcino**	**0.61**	**183**	Pg		**Pg**	**11 03 19.2**	**-1.8**
	5µm,0.4s							
CESX	**Cesi**	**0.61**	**290**	Pg		**Pg**	**11 03 19.6**	**-1.4**
CESX	**Cesi**	**0.61**	**290**	Pg		**Pg**	**11 03 19.6**	**-1.4**
FDMO	**Fiordimonte**	**0.66**	**343**	Pg		**Pg**	**11 03 20.5**	**-1.5**
FDMO				Sg		**Sg**	**11 03 30.8**	**+0.2**
FDMO	**Fiordimonte**	**0.66**	**343**	Pg		**Pg**	**11 03 20.5**	**-1.5**
FDMO				Sg		**Sg**	**11 03 30.8**	**+0.2**
CESI	**CESI - Serrava**	**0.69**	**331**	Pg		**Pg**	**11 03 21.1**	**-1.4**
CESI				Sg		**Sb**	**11 03 32.4**	**-1.1**
CESI	**CESI - Serrava**	**0.69**	**331**	Pg		**Pg**	**11 03 21.1**	**-1.4**
CESI				Sg		**Sb**	**11 03 32.4**	**-1.1**
LPEL	**Lama dei Pelig**	**0.71**	**120**	Pg		**Pg**	**11 03 20.8**	**-2.1**
LPEL				Sg		**Sg**	**11 03 31.6**	**-0.5**
LPEL	**Lama dei Pelig**	**0.71**	**120**	Pg		**Pg**	**11 03 20.8**	**-2.1**
LPEL				Sg		**Sg**	**11 03 31.6**	**-0.5**
POFI	**Posta Fibreno**	**0.73**	**159**	Pg		**Pg**	**11 03 21.0**	**-2.3**
POFI	**Posta Fibreno**	**0.73**	**159**	Pg		**Pg**	**11 03 21.0**	**-2.3**
CAFR	**Castel Frentan**	**0.75**	**103**	Pg		**Pg**	**11 03 22.2**	**-1.5**
CAFR	**Castel Frentan**	**0.75**	**103**	Pg		**Pg**	**11 03 22.2**	**-1.5**
RMP	**Rome, Mte Porz**	**0.77**	**220**	Pg		**Pg**	**11 03 22.4**	**-1.6**
RMP	**Rome, Mte Porz**	**0.77**	**220**	Pg		**Pg**	**11 03 22.4**	**-1.6**
SDI	**San Donato**	**0.77**	**154**	Pg		**Pg**	**11 03 21.6**	**-2.4**
SDI	**San Donato**	**0.77**	**154**	Pg		**Pg**	**11 03 21.6**	**-2.4**
GUMA	**Gualdo di Mace**	**0.78**	**103**	Pg		**Pg**	**11 03 20.8**	**-3.5**
RDP	**Rocca di Papa**	**0.80**	**217**	Pg		**Pg**	**11 03 23.1**	**-1.5**
RDP	**Rocca di Papa**	**0.80**	**217**	Pg		**Pg**	**11 03 23.1**	**-1.5**
ASSB	**Assisi San Ben**	**0.82**	**321**	Pg		**Pg**	**11 03 23.5**	**-1.5**
ASSB	**Assisi San Ben**	**0.82**	**321**	Pg		**Pg**	**11 03 23.5**	**-1.5**
GIUL	**Giuliano Di Ro**	**0.85**	**185**	Pg		**Pg**	**11 03 23.4**	**-2.1**
GIUL	**Giuliano Di Ro**	**0.85**	**185**	Pg		**Pg**	**11 03 23.4**	**-2.1**
SNTG	**Esanatoglia**	**0.91**	**340**	Pg		**Pg**	**11 03 24.8**	**-1.8**
SNTG	**Esanatoglia**	**0.91**	**340**	Pg		**Pg**	**11 03 24.8**	**-1.8**
RNI2	**Rionero Sannit**	**0.92**	**140**	Pg		**Pg**	**11 03 25.0**	**-1.8**
RNI2	**Rionero Sannit**	**0.92**	**140**	Pg		**Pg**	**11 03 25.0**	**-1.8**
CERA	**Filignano**	**0.94**	**148**	Pg		**Pg**	**11 03 24.8**	**-2.5**
CERA	**Filignano**	**0.94**	**148**	Pg		**Pg**	**11 03 24.8**	**-2.5**
CING	**Cingoli**	**0.98**	**353**	Pg		**Pg**	**11 03 26.0**	**-2.0**
CING	**Cingoli**	**0.98**	**353**	Pg		**Pg**	**11 03 26.0**	**-2.0**
MIDA	**Miranda**	**1.01**	**138**	Pg		**Pg**	**11 03 25.8**	**-2.9**
MIDA	**Miranda**	**1.01**	**138**	Pg		**Pg**	**11 03 25.8**	**-2.9**
MGAB	**Montegabbione**	**1.05**	**299**	Pg		**Pg**	**11 03 27.7**	**-1.7**
MGAB	**Montegabbione**	**1.05**	**299**	Pg		**Pg**	**11 03 27.7**	**-1.7**
MURB	**Monte Urbino**	**1.05**	**325**	Pg		**Pg**	**11 03 28.1**	**-1.4**
MURB	**Monte Urbino**	**1.05**	**325**	Pg		**Pg**	**11 03 28.1**	**-1.4**
TOLF	**Tolfa**	**1.06**	**252**	Pg		**Pg**	**11 03 27.8**	**-1.8**
TOLF	**Tolfa**	**1.06**	**252**	Pg		**Pg**	**11 03 27.8**	**-1.8**
ARVD	**Arcevia**	**1.14**	**345**	Pg		**Pg**	**11 03 28.9**	**-2.1**
ARVD	**Arcevia**	**1.14**	**345**	Pg		**Pg**	**11 03 28.9**	**-2.1**
SACS	**San Casciano d**	**1.16**	**293**	Pg		**Pg**	**11 03 29.6**	**-1.9**
AOI	**Ancona**	**1.16**	**9**	Pg		**Pg**	**11 03 29.4**	**-2.1**
AOI	**Ancona**	**1.16**	**9**	Pg		**Pg**	**11 03 29.4**	**-2.1**
LATE	**Laterza**	**1.17**	**281**	Pg		**Pg**	**11 03 30.1**	**-1.5**
LATE	**Laterza**	**1.17**	**281**	Pg		**Pg**	**11 03 30.1**	**-1.5**
VAGA	**Valle Agricola**	**1.18**	**146**	Pg		**Pg**	**11 03 29.2**	**-2.7**
VAGA	**Valle Agricola**	**1.18**	**146**	Pg		**Pg**	**11 03 29.2**	**-2.7**
PIEI	**Pieia**	**1.28**	**332**	Pn		**Pg**	**11 03 31.6**	**-2.3**
PIEI	**Pieia**	**1.28**	**332**	Pn		**Pg**	**11 03 31.6**	**-2.3**
FSSB	**Fossombrone**	**1.36**	**342**	Pg		**Pn**	**11 03 32.9**	**-1.9**
FSSB	**Fossombrone**	**1.36**	**342**	Pg		**Pn**	**11 03 32.9**	**-1.9**
PARC	**Parchiule**	**1.49**	**327**	Pg		**Pn**	**11 03 35.4**	**-1.3**
PARC	**Parchiule**	**1.49**	**327**	Pg		**Pn**	**11 03 35.4**	**-1.3**
NVLJ	**Novalja**	**2.42**	**27**	*e*	Pn	**Pn**	**11 03 48.3**	**-1.1**
NVLJ					Sn	**Sn**	**11 04 19.5**	**+0.1**
NVLJ	**Novalja**	**2.42**	**27**	*e*	Pn	**Pn**	**11 03 48.3**	**-1.1**
NVLJ					Sn	**Sn**	**11 04 19.4**	**+0.1**
UDBI	**Udbina**	**2.75**	**39**	*i*	Pn	**Pn**	**11 03 54.2**	**+0.1**
UDBI					Sn	**Sn**	**11 04 28.7**	**+1.0**
UDBI	**Udbina**	**2.75**	**39**	*i*	Pn	**Pn**	**11 03 54.1**	**+0.1**
UDBI					Sn	**Sn**	**11 04 28.6**	**+1.0**
VLC	**Villacollemand**	**2.79**	**310**	*e*	Pn	**Pn**	**11 03 52.4**	**-2.1**
VLC					Sn	**Sn**	**11 04 24.4**	**-4.1**
VLC	**Villacollemand**	**2.79**	**310**	*e*	Pn	**Pn**	**11 03 52.4**	**-2.1**
VLC					Sn	**Sn**	**11 04 24.4**	**-4.1**
BAI	**Bari**	**2.94**	**115**	*e*	Pn	**Pn**	**11 03 56.8**	**+0.4**
CUC	**Castrocucco**	**3.04**	**142**		Pn	**Pn**	**11 03 55.2**	**-2.8**
CUC	**Castrocucco**	**3.04**	**142**		Pn	**Pn**	**11 03 55.2**	**-2.8**
SKDS	**Skadanscina**	**3.18**	**8**	*i*	Pn	**Pn**	**11 03 58.4**	**-1.4**
SKDS					Sn	**Sn**	**11 04 37.1**	**-1.0**
SKDS								
	comp=Z,91nm,0.3s							
SKDS	**Skadanscina**	**3.18**	**8**		Pn	**Pn**	**11 03 58.4**	**-1.4**
SKDS					Sn	**Sn**	**11 04 37.1**	**-1.0**
	comp=Z,91nm,0.3s							
OSPF	**L'Ospedale**	**3.19**	**258**		P	**Pn**	**11 03 58.7**	**-1.4**
OSPF	**L'Ospedale**	**3.19**	**258**		P	**Pn**	**11 03 58.7**	**-1.4**
PGF	**Pioggiola**	**3.23**	**274**	*e*	P	**Pn**	**11 04 00.1**	**-0.5**
PGF						Sn	**Sn**	**11 04 34.8**	**-4.6**
	comp=Z,58nm,0.7s							
PGF	**Pioggiola**	**3.23**	**274**	*e*	P	**Pn**	**11 04 00.1**	**-0.5**
PGF						Sn	**Sn**	**11 04 34.8**	**-4.6**
	comp=Z,29nm,0.7s							
STON	**Ston**	**3.24**	**80**	*e*	Pn	**Pn**	**11 04 00.2**	**-0.5**
STON					Sn	**Sn**	**11 04 36.9**	**-2.6**
STON	**Ston**	**3.24**	**80**	*e*	Pn	**Pn**	**11 04 00.1**	**-0.5**
TRI	**Trieste**	**3.32**	**5**	*e*	P	**Pn**	**11 04 01.1**	**-0.6**
TRI	**Trieste**	**3.32**	**5**	*e*	Pn	**Pn**	**11 04 01.1**	**-0.6**
TRI	**Trieste**	**3.32**	**5**	*e*	P	**Pn**	**11 04 01.1**	**-0.6**
BOJS	**Bojanci**	**3.39**	**23**	*e*	Pn	**Pn**	**11 04 01.8**	**-0.9**
BOJS					Sn	**Sn**	**11 04 40.4**	**-2.8**
BOJS	**Bojanci**	**3.39**	**23**	*e*	Pn	**Pn**	**11 04 01.8**	**-0.9**
BOJS					Sn	**Sn**	**11 04 40.4**	**-2.8**
PE1	**Pezze di Greco**	**3.44**	**116**	*e*	Pn	**Pn**	**11 04 03.3**	**-0.1**
TAR1	**Taranto**	**3.50**	**121**	*e*	Pn	**Pn**	**11 04 05.3**	**+1.1**
VOY	**Vojsko**	**3.65**	**6**	*e*	Pn	**Pn**	**11 04 04.8**	**-1.6**
VOY				*e*			11 04 09.0	
VOY				*e*			11 04 53.0	
VOY	**Vojsko**	**3.65**	**6**	*e*	Pn	**Pn**	**11 04 04.8**	**-1.6**
VOY					Sn	**Sn**	**11 04 53.0**	**+3.2**
LJU	**Ljubljana**	**3.73**	**13**	*e*	Pn	**Pn**	**11 04 07.0**	**-0.5**
LJU				*e*			11 04 18.0	
LJU					Sn	**Sn**	**11 04 51.5**	**-0.3**
SISC	**Sisak**	**3.76**	**34**	*e*	Pn	**Pn**	**11 04 06.6**	**-1.2**
SISC	**Sisak**	**3.76**	**34**	*e*	Pn	**Pn**	**11 04 06.6**	**-1.2**
HCY	**Herceg Novi**	**3.80**	**88**	⇓*i*	Pn	**Pn**	**11 04 08.3**	**-0.1**
HCY					Sn	**Sn**	**11 04 55.2**	**+1.8**
HCY	**Herceg Novi**	**3.80**	**88**	⇓*i*	Pn	**Pn**	**11 04 08.3**	**-0.1**
BRY	**Bratogost**	**3.85**	**81**	*e*	Pn	**Pn**	**11 04 09.6**	**+0.4**
BRY					Sn	**Sn**	**11 04 56.4**	**+1.5**
BRY	**Bratogost**	**3.85**	**81**	*e*	Pn	**Pn**	**11 04 09.6**	**+0.4**
BUM	**Brajici-Budva**	**4.10**	**90**	⇓*i*	Pn	**Pn**	**11 04 13.0**	**+0.4**
BUM					Sn	**Sn**	**11 05 02.5**	**+1.5**
BUM	**Brajici-Budva**	**4.10**	**90**	⇓*i*	Pn	**Pn**	**11 04 13.0**	**+0.4**
VSL	**Villasalto**	**4.19**	**227**	*e*	Pn	**Pn**	**11 04 12.8**	**-0.8**
VSL	**Villasalto**	**4.19**	**227**	*e*	Pn	**Pn**	**11 04 12.9**	**-0.8**
OBKA	**Obir**	**4.19**	**11**	⇑*i*	Pn	**Pn**	**11 04 12.9**	**-0.9**
OBKA	**Obir**	**4.19**	**11**		Pn	**Pn**	**11 04 12.9**	**-0.9**
MYKA	**Terra Mystica**	**4.23**	**3**	⇓*i*	Pn	**Pn**	**11 04 12.8**	**-1.6**
MYKA	**Terra Mystica**	**4.23**	**3**		Pn	**Pn**	**11 04 12.8**	**-1.6**
PDG	**Podgorica**	**4.37**	**88**	*e*	Pn	**Pn**	**11 04 17.0**	**+0.8**
PDG					Sn	**Sn**	**11 05 09.1**	**+1.8**
PDG	**Podgorica**	**4.37**	**88**	⇑*i*	Pn	**Pn**	**11 04 17.0**	**+0.8**
PDG					Sn	**Sn**	**11 05 09.1**	**+1.8**
TTG	**Podgorica**	**4.37**	**88**	⇑*i*	Pn	**Pn**	**11 04 16.9**	**+0.8**
TTG					Sn	**Sn**	**11 05 08.8**	**+1.5**
ABTA	**Abfaltersbach**	**4.38**	**352**	⇑*i*	Pn	**Pn**	**11 04 16.1**	**-0.4**
ABTA	**Abfaltersbach**	**4.38**	**352**		Pn	**Pn**	**11 04 16.1**	**-0.4**
ULC	**Ulcinj**	**4.40**	**94**	⇓*i*	Pn	**Pn**	**11 04 16.6**	**0.0**
ULC					Sn	**Sn**	**11 05 09.1**	**+1.0**
ULC	**Ulcinj**	**4.40**	**94**	⇓*i*	Pn	**Pn**	**11 04 16.6**	**0.0**
PLE	**Pljevlja**	**4.53**	**76**	⇓*i*	Pn	**Pn**	**11 04 19.1**	**+0.6**
PLE					Sn	**Sn**	**11 05 12.8**	**+1.3**
PLE	**Pljevlja**	**4.53**	**76**	⇓*i*	Pn	**Pn**	**11 04 19.1**	**+0.6**
PLE					Sn	**Sn**	**11 05 12.8**	**+1.3**
SAOF	**Saorge**	**4.53**	**292**		P	**Pn**	**11 04 19.3**	**+0.9**
SAOF	**Saorge**	**4.53**	**292**		P	**Pn**	**11 04 19.3**	**+0.9**
SAOF	**Saorge**	**4.53**	**292**		P	**Pn**	**11 04 19.3**	**+0.9**
CEL	**Celeste**	**4.57**	**154**	*e*	Pn	**Pn**	**11 04 20.3**	**+1.3**
CEL	**Celeste**	**4.57**	**154**	*e*	Pn	**Pn**	**11 04 20.3**	**+1.3**
SBF	**Sospel**	**4.57**	**291**	*e*	P	**Pn**	**11 04 19.0**	**-0.1**
SBF					Sn	**Sn**	**11 05 06.1**	**-6.5**
	comp=Z,44nm,0.5s							
SBF	**Sospel**	**4.57**	**291**	*e*	P	**Pn**	**11 04 19.0**	**-0.1**
REVF	**Revere**	**4.59**	**289**		P	**Pn**	**11 04 20.5**	**+1.3**
REVF	**Revere**	**4.59**	**289**		P	**Pn**	**11 04 20.5**	**+1.3**
REVF	**Revere**	**4.59**	**289**		P	**Pn**	**11 04 20.5**	**+1.3**
AUTN	**L'Aution**	**4.62**	**292**		P	**Pn**	**11 04 20.8**	**+1.0**
AUTN	**L'Aution**	**4.62**	**292**		P	**Pn**	**11 04 20.8**	**+1.0**
AUTN	**L'Aution**	**4.62**	**292**		P	**Pn**	**11 04 20.8**	**+1.0**
BBLS	**Lazići**	**4.66**	**70**	*e*	Pn	**Pn**	**11 04 20.8**	**+0.5**
BBLS	**Lazići**	**4.66**	**70**	*e*	Pn	**Pn**	**11 04 20.8**	**+0.5**
KBA	**Koelnbreinsper**	**4.67**	**360**	⇑*i*	Pn	**Pn**	**11 04 20.1**	**-0.5**
KBA	**Koelnbreinsper**	**4.67**	**360**		Pn	**Pn**	**11 04 20.1**	**-0.5**
TOUF	**Mont Tournerai**	**4.75**	**292**		P	**Pn**	**11 04 21.9**	**+0.3**
TOUF	**Mont Tournerai**	**4.75**	**292**		P	**Pn**	**11 04 21.9**	**+0.3**
TOUF	**Mont Tournerai**	**4.75**	**292**		P	**Pn**	**11 04 21.9**	**+0.3**
BEY	**Berane**	**4.84**	**82**	⇓*i*	Pn	**Pn**	**11 04 23.9**	**+1.1**
IVA	**Berane**	**4.84**	**82**	⇓*i*	Pn	**Pn**	**11 04 23.9**	**+1.1**
IVA					Sn	**Sn**	**11 05 20.3**	**+1.1**
PVY	**Plav**	**4.88**	**86**	⇓*i*	Pn	**Pn**	**11 04 24.6**	**+1.2**
PVY					Sn	**Sn**	**11 05 21.2**	**+0.9**
CALN	**Calern**	**4.93**	**288**		P	**Pn**	**11 04 23.7**	**-0.3**
CALN	**Calern**	**4.93**	**288**		P	**Pn**	**11 04 23.7**	**-0.3**
CALN	**Calern**	**4.93**	**288**		P	**Pn**	**11 04 23.7**	**-0.3**
SJES	**Sjenica**	**4.94**	**78**	*e*	Pn	**Pn**	**11 04 24.1**	**0.0**
TIR	**Tirane**	**4.97**	**100**	*e*	P	**Pn**	**11 04 24.3**	**-0.2**
TIR							11 05 22.9	
TIR	**Tirane**	**4.97**	**100**	*e*	Pn	**Pn**	**11 04 24.3**	**-0.2**
TIR					Sn	**Sn**	**11 05 22.9**	**+0.6**
TIR	**Tirane**	**4.97**	**100**	*e*	Pn	**Pn**	**11 04 24.7**	**+0.2**
TIR	**Tirane**	**4.97**	**100**	*e*	P	**Pn**	**11 04 24.3**	**-0.2**
TEKS	**Tekeris**	**4.98**	**62**	*e*	Pn	**Pn**	**11 04 24.1**	**-0.4**
TEKS	**Tekeris**	**4.98**	**62**	*e*	Pn	**Pn**	**11 04 24.1**	**-0.4**
TUE	**Stuetta**	**4.98**	**326**	*e*	Pn	**Pn**	**11 04 23.9**	**-0.9**
TUE					Sn	**Sn**	**11 05 19.2**	**-3.6**
TUE	**Stuetta**	**4.98**	**326**	*e*	Pn	**Pn**	**11 04 23.9**	**-0.9**
TUE					Sn	**Sn**	**11 05 19.2**	**-3.6**
FETA	**Feichten**	**4.98**	**339**	⇓*i*	Pn	**Pn**	**11 04 24.7**	**0.0**
	SNR=26							
FETA	**Feichten**	**4.98**	**339**		Pn	**Pn**	**11 04 24.7**	**0.0**
	SNR=26							
WTTA	**Wattenberg**	**5.01**	**346**	⇑*i*	Pn	**Pn**	**11 04 26.0**	**+0.8**
	SNR=11							
WTTA	**Wattenberg**	**5.01**	**346**		Pn	**Pn**	**11 04 26.0**	**+0.8**
	SNR=11							
DAVOX	**Davos/Dischmat**	**5.03**	**332**		Pn	**Pn**	**11 04 26.7**	**+1.2**
DAVOX					Sn	**Sn**	**11 05 25.0**	**+1.0**
DAVOX	**Davos/Dischmat**	**5.03**	**332**		Pn	**Pn**	**11 04 26.7**	**+1.2**
	comp=Z,8.3nm,0.3s,baz=157,slow=18,SNR=27							
DAVOX					Sn	**Sn**	**11 05 25.0**	**+1.0**
	comp=Z,3.2nm,0.3s,baz=8.7,slow=22,SNR=2.0							
DAVOX	**Davos/Dischmat**	**5.03**	**332**		P	**Pn**	**11 04 26.7**	**+1.2**
	comp=Z,8.0nm,0.3s							
DAVOX					S	**Sn**	**11 05 25.0**	**+1.0**
	comp=Z,3.0nm,0.3s							
ARSA	**Arzberg**	**5.08**	**17**	⇓*i*	Pn	**Pn**	**11 04 24.4**	**-1.6**
	SNR=7.2							
ARSA	**Arzberg**	**5.08**	**17**		Pn	**Pn**	**11 04 24.4**	**-1.6**
	SNR=7.2							
WATA	**Walderalm**	**5.09**	**346**	⇓*i*	Pn	**Pn**	**11 04 27.7**	**+1.5**
	SNR=10							
WATA	**Walderalm**	**5.09**	**346**		Pn	**Pn**	**11 04 27.7**	**+1.5**
	SNR=10							
LMR	**La Mourre**	**5.12**	**283**	*e*	Pn	**Pn**	**11 04 23.9**	**-2.6**
LMR	**La Mourre**	**5.12**	**283**	*e*	Pn	**Pn**	**11 04 23.9**	**-2.6**
DIVS	**Divibare**	**5.13**	**68**	*e*	Pn	**Pn**	**11 04 26.3**	**-0.5**
DIVS	**Divibare**	**5.13**	**68**	*e*	Pn	**Pn**	**11 04 26.3**	**-0.5**
MOTA	**Moosalm**	**5.19**	**343**	⇓*i*	Pn	**Pn**	**11 04 28.5**	**+0.8**
	SNR=13							
MOTA	**Moosalm**	**5.19**	**343**		Pn	**Pn**	**11 04 28.5**	**+0.8**
	SNR=13							
MBDF	**Montbardon**	**5.32**	**298**	*e*	P	**Pn**	**11 04 29.8**	**+0.4**
MBDF	**Montbardon**	**5.32**	**298**	*e*	P	**Pn**	**11 04 29.8**	**+0.4**
PKSM	**Moragy**	**5.37**	**43**	⇓*i*	P	**Pn**	**11 04 32.6**	**+2.7**
PKSM	**Moragy**	**5.37**	**43**	⇓*i*	P	**Pn**	**11 04 32.6**	**+2.7**
RETA	**Reutte**	**5.41**	**341**	⇑*i*	Pn	**Pn**	**11 04 30.6**	**+0.1**
	SNR=13							
RETA	**Reutte**	**5.41**	**341**		Pn	**Pn**	**11 04 30.6**	**+0.1**
	SNR=13							
TRUS	**Trudelj**	**5.45**	**68**	*e*	Pn	**Pn**	**11 04 30.1**	**-1.0**
TRUS					Sn	**Sn**	**11 05 34.9**	**+0.7**
TRUS	**Trudelj**	**5.45**	**68**	*e*	Pn	**Pn**	**11 04 30.1**	**-1.0**
TRUS					Sn	**Sn**	**11 05 34.9**	**+0.7**
MOA	**Molln**	**5.48**	**6**	⇑*i*	Pn	**Pn**	**11 04 31.5**	**0.0**
	SNR=15							
MOA	**Molln**	**5.48**	**6**		Pn	**Pn**	**11 04 31.5**	**0.0**
	SNR=15							
BNI	**Bardonecchia**	**5.52**	**301**	*e*	P	**Pn**	**11 04 32.6**	**+0.5**
BNI				*e*			11 05 35.7	
BNI					pmax	pmax		
	comp=Z,6.0nm,0.8s							
BNI	**Bardonecchia**	**5.52**	**301**	*e*	Pn	**Pn**	**11 04 32.6**	**+0.5**
	comp=Z,6.1nm,0.8s							
BNI					Sn	**Sn**	**11 05 35.7**	**-0.2**
BNI	**Bardonecchia**	**5.52**	**301**	*e*	P	**Pn**	**11 04 32.6**	**+0.5**
	comp=Z,6.0nm,0.8s							
BNI				*e*	S	**Sn**	**11 05 35.7**	**-0.2**
KEK	**Kerkira**	**5.56**	**117**	*e*	P	**Pn**	**11 04 33.4**	**+0.8**
LPG	**La Plagne**	**5.68**	**305**	*e*	P	**Pn**	**11 04 35.9**	**+1.4**
LPG					Sn	Sn	11 05 33.0	-7.2
	comp=Z,27nm,0.7s							
LPG	**La Plagne**	**5.68**	**305**	*e*	P	**Pn**	**11 04 35.9**	**+1.4**
LPL	**La Plagne**	**5.71**	**305**	*e*	P	**Pn**	**11 04 35.7**	**+1.0**
LPL	**La Plagne**	**5.71**	**305**	*e*	P	**Pn**	**11 04

LBL	Lubilhac	7.84	295	P		Pn	11 05 06.4	+2.5
LBL	Lubilhac	7.84	295	P		Pn	11 05 06.4	+2.5
NVR	Nevrokopi	7.91	94	*e*P		Pn	11 05 05.3	+0.5
PGB	Panagyurishte	7.99	85	*i* P		Pn	11 05 07.7	+1.7
PGB	Panagyurishte	7.99	85	*i* P		Pn	11 05 07.7	+1.7
KLV	Kalavryta, Ach	8.01	120	*e*P		Pn	11 05 08.9	+2.6
SMF	Signal de Mont	8.01	305	*e*P		Pn	11 05 07.5	+1.3
SMF	Signal de Mont	8.01	305	*e*P		Pn	11 05 07.5	+1.3
PYM	Petit Puy Mans	8.17	298	P		Pn	11 05 10.2	+1.8
PYM	Petit Puy Mans	8.17	298	P		Pn	11 05 10.2	+1.8
GUR	Goura	8.20	120	*e*P		Pn	11 05 11.4	+2.6
LOR	Lormes	8.32	309	*e*Pn		Pn	11 05 07.8	-2.6
LOR	Lormes	8.32	309	*e*Pn		Pn	11 05 07.8	-2.6
BRG	Berggiesshubel	8.48	3	PN		Pn	11 05 14.0	+1.4
BRG				*e*			11 06 42.9	
BRG				*i*			11 06 58.2	
BRG				*i*			11 07 11.9	
	comp=Z,18nm,1.3s							
BRG	Berggiesshubel	8.48	3	P		Pn	11 05 14.0	+1.4
BRG				*e*			11 06 42.9	
BRG				pmax	pmax			
	comp=Z,1.0nm,1.3s							
RZN	Rozhen	8.48	91	*i* P		Pn	11 05 14.5	+1.7
RZN	Rozhen	8.48	91	*i* P		Pn	11 05 14.5	+1.7
PYL	PYLOS	8.49	128	*e*P		Pn	11 05 13.8	+1.1
CAF	Calviac	8.57	291	*e*P		Pn	11 05 14.8	+1.0
CAF	Calviac	8.57	291	*e*P		Pn	11 05 14.8	+1.0
ARR	Arges	8.66	66	⇑P		Pn	11 05 21.1	+5.9
CLL	Collm	8.91	359	*e*P		Pn	11 05 11.0	-7.5
CLL	Collm	8.91	359	*e*Pn		Pn	11 05 11.0	-7.5
CLL				*i* Pg		Pg	11 05 52.7	-7.1
CLL				*e*			11 06 41.0	
CLL				*e*Sn		Sn	11 06 48.0	-11
CLL				*e*Sb		Sg	11 07 28.0	-27
CLL				*e*Sg		Sg	11 07 55.0	-0.1
CLL				*i*			11 08 16.4	
DYR	Agios Nikonas	8.93	126	*e*P		Pn	11 05 19.9	+1.1
VOIR		8.97	66	⇑P		Pn	11 05 21.0	+1.6
VOIR		8.97	66	⇑*i* P		Pn	11 05 21.0	+1.6
VOIR		8.97	66	P		Pn	11 05 21.0	+1.6
DID	Didima	9.02	120	*e*P		Pn	11 05 22.7	+2.6
MLR	Muntele Rosu	9.59	67	Pn		Pn	11 05 29.4	+1.5
MLR	Muntele Rosu	9.59	67	⇓*i* P		Pn	11 05 29.5	+1.6
MLR	Muntele Rosu	9.59	67	Pn		Pn	11 05 29.4	+1.5
	comp=Z,0.1nm,0.3s,baz=147,slow=13,SNR=9.7							
MLR	Muntele Rosu	9.59	67	P		Pn	11 05 29.4	+1.5
KWP	Kalwaria Pacla	9.72	39	⇑P		Pn	11 05 33.5	+3.9
KWP	Kalwaria Pacla	9.72	39	⇑*i* P		Pn	11 05 33.5	+3.9
KWP	Kalwaria Pacla	9.72	39	*e*P		Pn	11 05 34.0	+4.4
VRI	Vrincioaia	10.21	66	⇓P		Pn	11 05 38.1	+1.7
VRI	Vrincioaia	10.21	66	⇓*i* P		Pn	11 05 38.1	+1.7
VRI	Vrincioaia	10.21	66	P		Pn	11 05 38.1	+1.7
LVV	L'vov	10.47	41	*e*P		Pn	11 05 43.4	+3.5
ESDC	Sonseca Array	13.36	264	Pn		Pn	11 06 17.5	-1.9
ESDC	Sonseca Array	13.36	264	Pn		Pn	11 06 17.5	-1.9
	comp=Z,0.4nm,0.3s,baz=67,slow=15,SNR=4.2							
ESDC	Sonseca Array	13.36	264	Pn		Pn	11 06 17.5	-1.9
BRTR	Keskin Array B	15.53	93	Pn		Pn	11 06 50.6	+1.7
BRTR	Keskin Array B	15.53	93	Pn		Pn	11 06 50.6	+1.7
	comp=Z,0.1nm,0.3s,baz=301,slow=12,SNR=3.2							
BRTR	Keskin Array B	15.53	93	Pn		Pn	11 06 50.6	+1.7
EKA	Eskdalemuir Ar	16.84	326	Pn		Pn	11 07 03.8	-1.6
EKA	Eskdalemuir Ar	16.84	326	Pn		Pn	11 07 03.8	-1.6
	baz=138,slow=14,SNR=2.6							
EKA	Eskdalemuir Ar	16.84	326	Pn		Pn	11 07 03.8	-1.6
HFS	Hagfors	17.76	1	P		Pn	11 07 16.2	-0.7
HFS	Hagfors	17.76	1	P		Pn	11 07 16.2	-0.7
	comp=Z,0.1nm,0.3s,baz=165,slow=6.2,SNR=4.3							
HFS	Hagfors	17.76	1	P		Pn	11 07 16.2	-0.7
VSU	Vasula	18.14	23	⇓*e*P		P	11 07 22.9	+1.0
VSU				pmax	pmax			
	comp=Z,34nm,1.0s							
VSU	Vasula	18.14	23	*e*P		P	11 07 22.9	+1.0
	comp=Z,34nm,1.0s							
NAO01	NORSAR Array S	18.53	356	*e*P		Pn	11 07 26.9	+0.5
	comp=Z,8.9nm,1.0s							
NAO01	NORSAR Array S	18.53	356	*e*P		Pn	11 07 26.9	+0.5
	comp=Z,8.9nm,1.0s							
NB2	NORSAR Subarra	18.71	357	P		P	11 07 27.1	-1.2
	comp=Z,1.6nm,0.8s,baz=185,slow=10							
NB2	NORSAR Subarra	18.71	357	P		P	11 07 27.1	-1.2
	comp=Z,1.8nm,0.8s,baz=185,slow=10.0,SNR=5.7							
NOA	NORSAR Array B	18.71	357	P		P	11 07 26.5	-1.8
NOA	NORSAR Array B	18.71	357	P		P	11 07 26.5	-1.8
	comp=Z,0.2nm,0.3s,baz=176,slow=11,SNR=5.9							
NOA				LR		LR	11 14 35.2	
	comp=Z,44nm,19.5s,baz=185,slow=37							
NOA	NORSAR Array B	18.71	357	P		P	11 07 26.5	-1.8
VSR	Storozhevoye	19.66	54	*e*P		P	11 07 38.6	-0.1
VSR				pmax	pmax			
	comp=Z,3.0nm,0.9s							
VSR				pmax	pmax			
	comp=N,10.0nm,0.7s							
VSR				pmax	pmax			
	comp=E,10.0nm,0.7s							
VSR	Storozhevoye	19.66	54	*e*P		P	11 07 38.6	-0.1
	comp=E,3.0nm,0.9s							
VORD	Divnogorie	19.66	55	*e*P		P	11 07 35.1	-3.6
VORD				pmax	pmax			
	comp=Z,8.0nm,0.3s							
VORD				pmax	pmax			
	comp=N,10.0nm,0.4s							
VORD				pmax	pmax			
	comp=E,10.0nm,0.7s							
OBN	Obninsk	19.78	42	⇓*e*P		P	11 07 39.6	-0.3
OBN				pmax	pmax			
	comp=Z,6.0nm,0.4s							
OBN	Obninsk	19.78	42	*e*P		P	11 07 39.6	-0.3
	comp=Z,6.0nm,0.4s							
FINES	FINESS Array B	20.55	18	P		P	11 07 47.6	-0.6
FINES	FINESS Array B	20.55	18	P		P	11 07 47.6	-0.6
	comp=Z,10.0nm,0.9s,baz=193,slow=7.6,SNR=9.8							
FINES	FINESS Array B	20.55	18	P		P	11 07 47.6	-0.6
	comp=Z,10.0nm,0.9s							
KAF	Kangasniemi	21.19	17	*e*p		P	11 07 55.7	+0.5
	comp=Z,4.1nm,0.5s							
KAF	Kangasniemi	21.19	17	*e*P		P	11 07 55.7	+0.5
KAF				pmax	pmax			
	comp=Z,4.0nm,0.5s							
KAF	Kangasniemi	21.19	17	*e*P		P	11 07 55.7	+0.5
	comp=Z,4.0nm,0.5s							
KIV	Kislovodsk	21.40	76	*e*P		P	11 07 59.6	+1.9
KIV				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KIV	Kislovodsk	21.40	76	*e*P		P	11 07 59.6	+1.9
	comp=Z,9.0nm,1.0s							
JOF	Joensuu	23.09	21	*e*p		P	11 08 18.7	+3.2
	comp=Z,0.6nm,0.3s							
JOF	Joensuu	23.09	21	*e*P		P	11 08 18.7	+3.2
JOF				pmax	pmax			
	comp=Z,1.0nm,0.3s							
TORD	Torodi Ar. Bea	30.86	203	P		P	11 09 26.1	-0.2
TORD	Torodi Ar. Bea	30.86	203	P		P	11 09 26.1	-0.2
	comp=Z,1.8nm,0.8s,baz=19,slow=8.2,SNR=12							
TORD	Torodi Ar. Bea	30.86	203	P		P	11 09 26.1	-0.2
AKTK	Aktyubinsk	31.41	60	P		P	11 09 31.3	+0.3
AKTO	Aktyubinsk	31.41	60	P		P	11 09 31.3	+0.3
AKTO	Aktyubinsk	31.41	60	P		P	11 09 31.3	+0.3
AKTO	Aktyubinsk	31.41	60	P		P	11 09 31.3	+0.3
	comp=Z,0.4nm,0.3s,baz=284,slow=8.3,SNR=2.2							
AKTO	Aktyubinsk	31.41	60	P		P	11 09 31.3	+0.3
ARU	Arti	31.94	48	*d i* P		P	11 09 35.5	-0.1
ARU							11 10 38.2	
ARU				S		S	11 14 47.5	+0.5
ARU				pmax	pmax			
	comp=Z,14nm,1.2s							
ARU	Arti	31.94	48	*i* P		P	11 09 35.5	-0.1
	comp=Z,14nm,1.2s							
ARU				S		S	11 14 47.5	+0.5
BRVK	Borovoye	38.77	54	⇓*e*P		P	11 10 35.8	+1.5
BRVK				pmax	pmax			
	comp=Z,4.0nm,1.2s							
BRVK	Borovoye	38.77	54	*e*P		P	11 10 35.8	+1.5
	comp=Z,4.0nm,1.2s							
AAK	Ala-Archa	44.17	68	⇑*i* P		P	11 11 20.1	+1.1
AAK				pmax	pmax			
	comp=Z,7.0nm,1.2s							
AAK	Ala-Archa	44.17	68	*i* P		P	11 11 20.1	+1.1
	comp=Z,7.0nm,1.2s							
ZALV	Zalesovo Beam	47.07	50	*i* P		P	11 11 43.0	+1.5
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ZALV	Zalesovo Beam	47.07	50	P		P	11 11 42.5	+1.0
ZALV	Zalesovo Beam	47.07	50	P		P	11 11 42.5	+1.0
	comp=Z,1.6nm,0.9s,baz=282,slow=7.4,SNR=3.6							
ZALV	Zalesovo Beam	47.07	50	P		P	11 11 42.5	+1.0
MKAR	Makanchi Array	47.85	60	P		P	11 11 48.1	+0.3
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MKAR	Makanchi Array	47.85	60	P		P	11 11 48.1	+0.3
MKAR	Makanchi Array	47.85	60	P		P	11 11 48.1	+0.3
	comp=Z,1.2nm,0.6s,baz=287,slow=6.6,SNR=14							
MKAR	Makanchi Array	47.85	60	P		P	11 11 48.1	+0.3
	comp=Z,1.0nm,0.6s							
SONM	Songino Array	61.96	50	P		P	11 13 29.9	-0.1
SONM	Songino Array	61.96	50	P		P	11 13 29.8	-0.1
	comp=Z,0.9nm,0.7s,baz=283,slow=8.3,SNR=7.8							
SONM	Songino Array	61.96	50	P		P	11 13 29.9	-0.1
YKA	Yellowknife Ar	67.45	337	P		P	11 14 05.0	-0.4
YKA	Yellowknife Ar	67.45	337	P		P	11 14 05.0	-0.4
	comp=Z,0.3nm,0.6s,baz=39,slow=5.8,SNR=5.6							
YKA	Yellowknife Ar	67.45	337	P		P	11 14 05.0	-0.4
ILAR	Eielson Array	72.04	351	P		P	11 14 33.6	-0.1
ILAR	Eielson Array	72.04	351	P		P	11 14 33.6	-0.1
	comp=Z,0.2nm,0.7s,baz=10,slow=5.5,SNR=4.0							
ILAR	Eielson Array	72.04	351	P		P	11 14 33.6	-0.1
SNY	Shenyang	75.22	46	S		S	11 24 31.1	-0.9
SNY				pmax	pmax			
	comp=Z,100nm,2.5s							
SNY				pmax	pmax			
	comp=Z,150nm,5.2s							
SNY				LR	LR			
	comp=N,820nm,21.0s							
SNY				LR	LR			
	comp=E,1μm,20.8s							
SNY				LR	LR			
	comp=Z,2μm,22.8s							
DL2	Dalian	76.17	50	SKS		S	11 24 40.4	-2.2
DL2	Dalian	76.17	50	S		SKSac	11 25 07.4	-2.3
DL2				pmax	pmax			
	comp=Z,15nm,0.8s							
DL2				pmax	pmax			
	comp=Z,180nm,3.9s							
DL2				LR	LR			
	comp=E,730nm,15.7s							
DL2				LR	LR			
	comp=Z,660nm,21.8s							
KSAR	Wonju Array Be	80.67	47	P		P	11 15 24.0	+0.9
KSAR	Wonju Array Be	80.67	47	P		P	11 15 24.0	+0.9
KSRS	Korea Array	80.69	47	P		P	11 15 24.0	+0.9
	comp=Z,0.7nm,0.8s,baz=306,slow=4.4,SNR=3.0							
KSRS	Korea Array	80.69	47	P		P	11 15 24.0	+0.9
	comp=Z,1.0nm,0.8s							

IDC 03 11:14:43.2±3.5, 33°.98N×25°.61E, h0km, mb3.3/2, mb1 3.4/4, mb1mx3.2/26, mbtmp3.3/4, ML3.5/2, Error ellipse: s-maj=78.2km s-min=38.3km az=42.0, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EIL	Elat	9.03	116	Pn		Pn	Pn	11 16 55.1	+0.2
	0.2nm,0.3s,baz=327,slow=17,SNR=4.1								
EIL				Sn		Sn	Sn	11 18 33.9	-3.4
	0.1nm,0.3s,baz=76,slow=14,SNR=2.1								
AKASG	Malin Array Be	16.92	8	Pn		Pn	Pn	11 18 41.4	+0.2
	0.4nm,0.3s,baz=198,slow=11,SNR=4.1								
MKAR	Makanchi Array	44.13	56	P		P	P	11 22 53.0	-0.4
	0.4nm,0.5s,baz=284,slow=7.5,SNR=4.6								
YKA	Yellowknife Ar	78.69	342	P		P	P	11 26 46.9	0.0
	0.1nm,0.5s,baz=33,slow=5.9,SNR=3.3								

IDC 03 11:16:23.2±5.0, 24°.60N×109°.34W, h0km, mb3.3/2, mb1 3.7/5, mb1mx3.5/25, mbtmp3.3/5, ML3.5/3, Error ellipse: s-maj=74.4km s-min=24.7km az=160.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	6.92	46	Pn		Pn	Pn	11 18 07.0	+0.9
	0.1nm,0.3s,baz=226,slow=13,SNR=6.7								
TXAR				Sn		Sn	Sn	11 19 25.1	-0.6
	0.6nm,0.3s,baz=223,slow=25,SNR=5.8								
TXAR				Lg		Lg		11 20 01.6	
	0.7nm,0.3s,baz=103,slow=33,SNR=4.8								
NVAR	Mina Array Bea	15.75	333	Pn		P		11 20 10.2	-0.7
	0.1nm,0.3s,baz=165,slow=13,SNR=11								
PDAR	Pinedale Array	18.12	359	P		Pn		11 20 36.9	+0.2
	0.0nm,0.3s,baz=157,slow=12,SNR=6.1								
NEW	Newport	24.41	347	P		P		11 21 42.7	-0.7
	0.4nm,0.3s,baz=129,slow=14,SNR=1.9								
ILAR	Eielson Array	46.90	339	P		P		11 24 55.3	+0.2
	0.2nm,0.6s,baz=147,slow=6.9,SNR=4.4								

*JMA **03** 11:21:37.1±0.3, 23°.30N×122°.13E, h67km, M2.8*
*TAP **03** 11:21:37.2, 23°.29N×122°.08E, h30km, ML3.4, C*
ISC 03 11:21:36.3±1.2, 23°.29N±0°.03×122°.07E±0°.03, h24km±13km, n50, σ 92/88, 5C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TEGC	Jichi Village	0.64	311	*e*P		Pb	Pb	11 21 48.5	-0.4
	baz=310								
TEGC				*e*S		Sb	Sb	11 21 57.7	+0.2
	baz=310								
CHKT	Chengkung	0.68	254	⇑*i* P		Pb	Pb	11 21 49.1	-0.4
	baz=247								
CHKT				S		Sb	Sb	11 21 57.5	-1.0
	baz=247								
TWF1	Yuli	0.72	275	⇑*i* P		Pb	Pb	11 21 50.1	0.0
	baz=274								
TWF1				*e*S		Sb	Sb	11 21 59.8	+0.2
	baz=274								
EHY	Hungye	0.72	287	*i* P		Pb	Pb	11 21 50.2	-0.1
	baz=287								
EHY				S		Sb	Sb	11 22 00.3	+0.5
	baz=287								
ESL	Shilin	0.79	312	P		Pn	Pn	11 21 50.8	-1.1
	baz=311								
ESL				*e*S		Sb	Sb	11 22 00.3	-1.3
	baz=311								
HWA	Hwalien	0.81	328	P		Pn	Pn	11 21 51.3	-0.9
	baz=327								
HWA				*e*S		Sb	Sb	11 22 02.3	+0.1
	baz=327								
TWD	Chiawan	0.90	331	⇓*i* P		Pn	Pn	11 21 52.7	-0.8
	baz=330								
TWD				S		Sn	Sn	11 22 03.8	-1.9
	baz=330								
ELDTW	Lidau	0.98	264	P		Pn	Pn	11 21 53.7	-0.9
	baz=264								
ELDTW				*e*S		Sn	Sn	11 22 05.2	-2.5
	baz=264								
TTN	Taitung	1.01	238	*e*P		Pn	Pn	11 21 54.7	-0.1
	baz=238								
TTN				*e*S		Sn	Sn	11 22 07.4	-0.9
	baz=238								
TWG	Pinlang	1.03	243	*e*P		Pn	Pn	11 21 54.5	-0.8
	baz=236								
YUS	Yu-Shan	1.05	281	*i* P		Pn	Pn	11 21 56.0	+0.1
	baz=291								
YUS				*e*S		Sn	Sn	11 22 08.9	-1.1
	baz=291								
WHF	Hehuan Shan	1.13	319	*e*P		Pn	Pn	11 21 56.4	-0.6
	baz=318								
WHF				*e*S		Sn	Sn	11 22 10.0	-1.9
	baz=318								
ENA	Nanau	1.17	345	⇓P		Pn	Pn	11 21 57.0	-0.2
	baz=344								
ENA				*e*S		Sn	Sn	11 22 11.7	-0.8
	baz=344								
ALS	Alishan	1.19	281	⇑*i* P		Pn	Pn	11 21 58.3	+0.7
	baz=280								
ALS				*e*S		Sn	Sn	11 22 12.9	-0.3
	baz=280								
SMLT	Sun Moon Lake	1.23	299	*e*P		Pn	Pn	11 21 58.3	+0.2
	baz=305								
SMLT				*e*S		Sn	Sn	11 22 13.4	-0.5
	baz=305								
ECL	Taimali	1.24	236	*e*P		Pn	Pn	11 21 56.7	-1.4
	baz=249								
ECL				*e*S		Sn	Sn	11 22 11.2	-2.9
	baz=249								
TWT	Tachien	1.26	320	P		Pn	Pn	11 21 59.2	+0.6
	baz=318								
TWT				*e*S		Sn	Sn	11 22 13.7	-1.2
	baz=318								
TYC	Yuchr	1.27	299	*e*P		Pn	Pn	11 21 59.2	+0.6
	baz=298								
TYC				*e*S		Sn	Sn	11 22 15.4	+0.6
	baz=298								
NNS	Nan Shan	1.31	331	*i* P		Pn	Pn	11 21 59.6	+0.3
	baz=330								
NNS				*e*S		Sn	Sn	11 22 15.1	-1.0
	baz=330								
CHN5	Tsauling	1.32	284	⇑P		Pb	Pb	11 22 00.6	+0.2
	baz=289								
CHN5				S		Sb	Sb	11 22 17.4	+0.5
	baz=289								
TWC	Suao	1.33	351	⇓P		Pn	Pn	11 21 59.9	+0.6
	baz=2.0								
TWC				*e*S		Sn	Sn	11 22 16.8	+0.5
	baz=2.0								
WTP	Ta-pu	1.34	268	⇑*i* P		Pb	Pb	11 22 00.8	0.0
	baz=261								
WTP				*e*S		Sb	Sb	11 22 18.0	+0.4
	baz=261								
SGST	Jiashian	1.39	262	*e*P		Pn	Pn	11 22 01.4	+1.2
	baz=261								
SGST				*e*S		Sb	Sb	11 22 20.0	+1.2
	baz=261								
WNT	Mingjian	1.40	295	*e*P		Pb	Pb	11 22 01.8	0.0
	baz=294								
ENTT	Nioudou	1.42	341	*e*P		Pn	Pn	11 22 01.0	+0.4
	baz=340								
ENTT				*e*S		Sn	Sn	11 22 18.8	+0.2
	baz=340								
CHN1	Nanshi	1.43	266	P		Pb	Pb	11 22 02.2	0.0
	baz=259								
CHN1				*e*S		Sb	Sb	11 22 20.5	+0.6
	baz=259								
WGK	Gukeng	1.44	286	*e*P		Pn	Pn	11 22 01.8	+0.9
	baz=285								
WGK				*e*S		Sb	Sb	11 22 20.4	0.0
	baz=285								
EAST	Anshuo	1.45	232	*e*P		Pn	Pn	11 21 59.9	-1.1
	baz=241								
YOJ	Yonaguni jima	1.45	36	P		Pn	Pn	11 22 01.2	+0.2
YOJ				*e*S		Sn	Sn	11 22 18.8	-0.4
TWK	Hsinying	1.46	269	*e*P		Pb	Pb	11 22 02.8	0.0
	baz=269								
TWK				*e*S		Sb	Sb	11 22 21.1	+0.1
	baz=269								
TWE	Neicheng	1.47	345	*e*P		Pn	Pn	11 22 01.8	+0.5
	baz=337								
TWE				*e*S		Sn	Sn	11 22 20.1	+0.3
	baz=337								
NSK	Sanguang	1.53	335	*e*P		Pn	Pn	11 22 02.8	+0.7
	baz=333								
NSK				*e*S		Sn	Sn	11 22 19.8	-1.5
	baz=333								
TCU	Taichung	1.54	304	*e*P		Pb	Pb	11 22 04.3	+0.2
	baz=303								
CHN3	Shinhua	1.59	263	*e*P		Pb	Pb	11 22 05.7	+0.8
	baz=262								
TWM1	Shoushan	1.59	253	*e*P		Pb	Pb	11 22 04.7	-0.3
	baz=253								
TWQ1	Liyutan	1.59	312	*e*P		Pb	Pb	11 22 04.8	-0.2
	baz=310								
TWQ1				*e*S		Sn	Sn	11 22 24.1	+1.3
	baz=310								
SCZT	Fangliau	1.62	236	*e*P		Pn	Pn	11 22 04.8	+1.5
	baz=236								
SCZT				*e*S		Sn	Sn	11 22 24.4	+0.8
	baz=236								
NSY	Sanyi	1.64	313	*e*P		Pb	Pb	11 22 05.7	-0.2
	baz=312								
NSTT	Nanjuang	1.66	324	*e*P		Pn	Pn	11 22 05.2	+1.4
	baz=322								
NSTT				*e*S		Sn	Sn	11 22 25.6	+1.2
	baz=322								
CHN8	Yiju	1.71	272	*e*P		Pn	Pn	11 22 05.8	+1.2
	baz=272								
TWA	Mucha	1.74	345	*e*P		Pn	Pn	11 22 05.6	+0.5
	baz=344								
TSEB	Hengchuen, Pin	1.76	218	*e*P		Pn	Pn	11 22 06.4	+1.2
	baz=231								
TSEB				*e*S		Sn	Sn	11 22 28.4	+1.5
	baz=231								
HATJ	Hateruma jima	1.76	64	P		Pn	Pn	11 22 05.2	-0.1
HATJ				S		Sn	Sn	11 22 26.1	-0.8
TWK1	Hengchun	1.78	221	*e*P		Pn	Pn	11 22 06.7	+1.2
	baz=221								
NWF	Wu-fen Shan	1.79	351	*e*P		Pn	Pn	11 22 07.0	+1.2
	baz=350								
NWF				*e*S		Sn	Sn	11 22 28.4	+0.5
	baz=350								
IRIF	Iriomote-Funau	1.84	55	S		Sn	Sn	11 22 29.3	+0.4
TWS1	Kuangyinshan	1.90	342	*e*P		Pn	Pn	11 22 08.4	+1.3
	baz=341								
JKRS	Kuro-shima	2.01	62	P		Pn	Pn	11 22 09.0	+0.3
JKRS				S		Sn	Sn	11 22 32.3	-0.7
JIJ	Ishigaki jima	2.18	60	P		Pn	Pn	11 22 10.9	-0.1
JIJ				S		Sn	Sn	11 22 36.1	-1.1
JTJ	Tarama	2.75	60	P		Pn	Pn	11 22 19.1	+0.2
JTJ				S		Sn	Sn	11 22 50.9	-0.6

*IDC **03** 11:26:35.6±3.0, 24°.12S×66°.92W, h180km±24km, mb3.4/2, mb1 3.6/6, mb1mx3.4/19, mbtmp3.4/6, Error ellipse: s-maj=47.8km s-min=21.1km az=168.0*
*ISCJB **03** 11:26:36.0±1.1, 24°.03S±0°.09×67°.1W±0°.1, h201km±14km, mb3.4/2, Error ellipse: s-maj=17.9km s-min=13.5km az=17.4*
*GUC **03** 11:26:37.4±0.4, 23°.95S×67°.48W, h224km±7km, ML4.7*
ISC 03 11:26:37.1±1.4, 24°.0S±0°.1×67°.1W±0°.1, h202km±13km, n18, σ 1§07/25, 5C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.16	310	⇑*i* P		Pn	Pn	11 27 18.4	+0.6
LVC				*i* S		S	S	11 27 49.5	+0.8
LVC	Limon Verde	2.16	310	P		Pn	Pn	11 27 18.3	+0.6
	17nm,0.3s,baz=135,slow

*NEIC **03** 11:29:40.1±0.4,24.19S×66.85W,h171km±3km,mb4.4/40, Error ellipse: s-maj=7.1km s-min=5.0km az=62.0*
*IDC **03** 11:29:40.4±0.9,24.15S×66.90W,h175km±7km,mb4.1/14, mb1 4.2/20,mb1mx4.1/25,mbtmp4.1/20,Error ellipse: s-maj=13.4km s-min=10.0km az=43.0*
*GUC **03** 11:29:41.9±0.6,24.05S×67.44W,h219km±13km,ML5.4*
ISC 03 11:29:39.9±0.6,24°24.S±0.04×66°.94W±0.06,h173km±5km, n452,σ1°13/478,mb4.4/53,159C-173D,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.43**	**311**	*e*Pn		**Pn**	**Pn**	**11 30 23.3**	**+1.7**
LVC				eSn			Sn	11 30 55.6	+1.5
LVC	**Limon Verde**	**2.43**	**311**	⇓*i*P		**Pn**	**Pn**	**11 30 23.2**	**+1.5**
LVC				*i* S			Sn	11 30 55.1	+1.0
LVC	**Limon Verde**	**2.43**	**311**	P		**Pn**	**Pn**	**11 30 23.4**	**+1.7**
	335nm,0.3s,baz=133,slow=6.9,SNR=86								
LVC				S			Sn	11 30 54.4	+0.4
	110nm,0.3s,baz=240,slow=6.5,SNR=6.4								
PB04	**Plate Boundary**	**3.06**	**309**	⇑*i*P		Pn	Pn	11 30 35.0	+6.0
PB04				*i* S			Sn	11 31 15.3	+8.2
PB04	**Plate Boundary**	**3.06**	**309**	⇑*i*P		Pn	Pn	11 30 35.0	+6.0
PB04				*i* S			Sn	11 31 15.3	+8.2
PB04					AML	AML		11 31 18.6	
	comp=E,3μm,0.7s								
CEN1	**Los Morros**	**3.10**	**285**	P		**Pn**	**Pn**	**11 30 32.6**	**+2.9**
CEN1				*i* S			Sn	11 31 08.1	-0.3
CEN1	**Los Morros**	**3.10**	**285**	⇓*i*P		**Pn**	**Pn**	**11 30 32.6**	**+2.9**
CEN1				*i* S			Sn	11 31 08.1	-0.3
CEN1					AML	AML		11 31 11.4	
	comp=E,3μm,0.6s								
ANCH	**Antofagasta**	**3.22**	**279**	⇑*i*P		**Pn**	**Pn**	**11 30 31.7**	**+0.6**
ANCH				*i* S			Sn	11 31 08.9	-1.9
ANCH	**Antofagasta**	**3.22**	**279**	⇑*i*P		**Pn**	**Pn**	**11 30 31.7**	**+0.6**
ANCH				*i* S			Sn	11 31 08.9	-1.9
ANCH					AML	AML		11 31 12.1	
	comp=E,5μm,0.6s								
PB09	**Plate Boundary**	**3.23**	**318**	⇑*i*P		**Pn**	**Pn**	**11 30 32.6**	**+1.4**
PB09				*i* S			Sn	11 31 11.1	-0.2
PB09	**Plate Boundary**	**3.23**	**318**	⇑*i*P		**Pn**	**Pn**	**11 30 32.6**	**+1.4**
PB09				*i* S			Sn	11 31 11.1	-0.2
PB09					AML	AML		11 31 13.1	
	comp=N,12μm,0.4s								
PB07	**Plate Boundary**	**3.69**	**312**	⇑*i*P		**Pn**	**Pn**	**11 30 37.4**	**+0.2**
PB07	**Plate Boundary**	**3.69**	**312**	⇑*i*P		**Pn**	**Pn**	**11 30 37.4**	**+0.2**
PB07					AML	AML		11 31 21.2	
	comp=N,4μm,0.6s								
PB01	**Plate Boundary**	**3.96**	**323**	⇑*i*P		**Pn**	**Pn**	**11 30 40.3**	**-0.1**
PB01				*i* S			Sn	11 31 25.1	-2.5
PB01	**Plate Boundary**	**3.96**	**323**	⇑*i*P		**Pn**	**Pn**	**11 30 40.3**	**-0.1**
PB01				*i* S			Sn	11 31 25.1	-2.5
PB01					AML	AML		11 31 27.7	
	comp=N,3μm,0.2s								
HMBC	**Humberstone**	**4.79**	**325**	⇑*i*P		**Pn**	**Pn**	**11 30 49.7**	**-1.6**
HMBC				*i* S			Sn	11 31 42.5	-4.6
HMBC	**Humberstone**	**4.79**	**325**	⇑*i*P		**Pn**	**Pn**	**11 30 49.7**	**-1.6**
HMBC				*i* S			Sn	11 31 42.5	-4.6
LCO	**Las Campanas**	**5.83**	**214**	*e*Pn		**Pn**	**Pn**	**11 31 05.1**	**+0.3**
CFAA	**Coronel Fontan**	**7.43**	**189**	P		**Pn**	**Pn**	**11 31 26.0**	**+0.3**
CFAA				S			Sn	11 32 44.3	-5.0
CFAA	**Coronel Fontan**	**7.43**	**189**	P		**Pn**	**Pn**	**11 31 26.0**	**+0.3**
	comp=N,0.5nm,0.3s,baz=14,slow=13,SNR=8.9								
CFAA				S			Sn	11 32 44.3	-5.0
	comp=N,1.5nm,0.3s,baz=130,slow=20,SNR=13								
LPAZ	**La Paz**	**7.99**	**352**	*e*Pn		**Pn**	**Pn**	**11 31 33.5**	**-0.2**
LPAZ				eSn			Sn	11 33 05.1	+1.5
LPAZ	**La Paz**	**7.99**	**352**	P		**Pn**	**Pn**	**11 31 34.1**	**+0.4**
	comp=N,5.8nm,0.3s,baz=158,slow=8.9,SNR=36								
LPAZ				S			Sn	11 33 00.5	-3.1
	comp=N,0.4nm,0.3s,baz=154,slow=13,SNR=1.2								
ARE	**Arequipa**	**8.83**	**330**	*e*P			Pn	11 31 42.0	-2.6
ARE				*i* S			Sn	11 33 16.1	-7.3
CPUP	**Villa Florida**	**8.94**	**105**	P		**Pn**	**Pn**	**11 31 46.7**	**+1.1**
CPUP	**Villa Florida**	**8.94**	**105**	P		**Pn**	**Pn**	**11 31 46.7**	**+1.1**
	comp=N,0.9nm,0.3s,baz=272,slow=12,SNR=19								
SIV	**San Ignacio**	**9.88**	**35**	P		**Pn**	**Pn**	**11 31 57.4**	**-0.7**
SIV				S			Sn	11 33 47.1	-0.9
SIV	**San Ignacio**	**9.88**	**35**	P		**Pn**	**Pn**	**11 31 57.4**	**-0.7**
	comp=N,2.5nm,0.3s,baz=226,slow=14,SNR=26								
SIV				S			Sn	11 33 47.1	-0.9
	comp=N,0.3nm,0.3s,baz=250,slow=12,SNR=1.9								
TRQA	**Tornquist**	**14.41**	**164**	*e*Pn		**Pn**	**Pn**	**11 32 56.0**	**0.0**
SAML	**Samuel**	**15.62**	**14**	*e*Pn		**Pn**	**Pn**	**11 33 10.3**	**-0.8**
	comp=N,8.6nm,0.8s								
PLCA	**Paso Flores**	**16.73**	**190**	P		**P**	**P**	**11 33 24.7**	**+1.1**
PLCA	**Paso Flores**	**16.73**	**190**	P		**P**	**P**	**11 33 24.7**	**+1.1**
	comp=N,0.3nm,0.3s,baz=8.9,slow=13,SNR=4.4								
BDFB	**Brasilia**	**19.72**	**68**	P		**P**	**P**	**11 33 57.1**	**+0.7**
BDFB	**Brasilia**	**19.72**	**68**	P		**P**	**P**	**11 33 57.1**	**+0.7**
	comp=N,5.0nm,0.3s,baz=240,slow=11,SNR=61								
TEIG	**Tepich**	**48.84**	**333**	*e*P		**P**	**P**	**11 38 07.8**	**-0.1**
	comp=N,5.4nm,0.5s								
TEIG	**Tepich**	**48.84**	**333**	P		**P**	**P**	**11 38 07.6**	**-0.3**
	comp=N,5.2nm,0.5s,baz=162,slow=1.4,SNR=5.2								
SNAA	**Sanae**	**59.11**	**161**	*e*P		**P**	**P**	**11 39 22.7**	**+0.9**
	comp=N,5.6nm,0.7s								
KMSC	**Kings Mountain**	**60.61**	**346**	⇓P		**P**	**P**	**11 39 32.6**	**+0.2**
	baz=61								
732A	**Laxson Ranch,**	**61.51**	**327**	⇑P		**P**	**P**	**11 39 39.0**	**+0.5**
	baz=62								
TKL	**Tuckaleechee C**	**61.66**	**344**	P		**P**	**P**	**11 39 38.6**	**-0.8**
TKL	**Tuckaleechee C**	**61.66**	**344**	P		**P**	**P**	**11 39 38.6**	**-0.8**
	comp=N,3.2nm,0.4s,baz=176,slow=9.6,SNR=6.8								
632A	**Uvalde**	**62.06**	**328**	⇑P		**P**	**P**	**11 39 42.8**	**+0.5**
	baz=62								
631A	**Perdido Creek**	**62.38**	**327**	⇑P		**P**	**P**	**11 39 44.8**	**+0.5**
	baz=63								
532A	**Rocksprings**	**62.63**	**328**	⇑P		**P**	**P**	**11 39 46.6**	**+0.5**
	baz=63								
JCT	**Junction City**	**62.88**	**328**	*e*P		**P**	**P**	**11 39 48.0**	**+0.3**
	comp=N,11nm,0.7s								
JCT	**Junction City**	**62.88**	**328**	⇓P		**P**	**P**	**11 39 47.5**	**-0.2**
	baz=63								
531A	**Rocksprings**	**62.98**	**327**	⇓P		**P**	**P**	**11 39 49.0**	**+0.6**
	baz=63								
WHTX	**Lake Whitney**	**63.06**	**331**	⇓P		**P**	**P**	**11 39 48.9**	**+0.1**
	baz=63								
432A	**Menard**	**63.20**	**328**	⇑P		**P**	**P**	**11 39 49.8**	**+0.1**
	baz=64,SNR=5.1								
530A	**J-C Ranch, Com**	**63.36**	**327**	⇓P		**P**	**P**	**11 39 51.4**	**+0.5**
	baz=64								
431A	**Sonora**	**63.43**	**328**	⇓P		**P**	**P**	**11 39 51.4**	**+0.1**
	baz=64								
332A	**Millersview**	**63.60**	**329**	⇓P		**P**	**P**	**11 39 52.5**	**+0.2**
	baz=64,SNR=8.6								
628A	**Black Gap, Mar**	**63.61**	**325**	⇓P		**P**	**P**	**11 39 53.3**	**+0.8**
	baz=64,SNR=5.9								
MIAR	**Mount Ida**	**63.70**	**336**	*e*P		**P**	**P**	**11 39 52.5**	**-0.4**
	comp=N,8.8nm,1.2s								
529A	**Stev Forest Ra**	**63.78**	**326**	⇑P		**P**	**P**	**11 39 54.0**	**+0.4**
	baz=64,SNR=5.4								
430A	**Baggett Ranch,**	**63.83**	**327**	⇑P		**P**	**P**	**11 39 54.2**	**+0.3**
	baz=64								
627A	**Terlingua Ranc**	**63.85**	**325**	⇑P		**P**	**P**	**11 39 54.6**	**+0.5**
	baz=64,SNR=5.1								
331A	**San Angelo**	**63.86**	**328**	⇓P		**P**	**P**	**11 39 54.1**	**0.0**
	baz=64,SNR=5.0								
TXAR	**Lajitas Array**	**63.90**	**324**	P		**P**	**P**	**11 39 54.9**	**+0.4**
TXAR	**Lajitas Array**	**63.90**	**324**	P		**P**	**P**	**11 39 54.9**	**+0.4**
	comp=N,1.7nm,0.7s,baz=160,slow=7.6,SNR=5.0								
232A	**Coleman**	**63.97**	**329**	⇑P		**P**	**P**	**11 39 54.9**	**+0.1**
	baz=64,SNR=11								
429A	**Davenport Ranc**	**64.02**	**327**	⇓P		**P**	**P**	**11 39 55.7**	**+0.5**
	baz=64								
330A	**Mertzon**	**64.30**	**328**	⇑P		**P**	**P**	**11 39 57.1**	**+0.1**
	baz=65								
626A	**Big Bend Ranch**	**64.33**	**324**	⇑P		**P**	**P**	**11 39 58.0**	**+0.8**
	baz=65,SNR=9.9								
231A	**Bronte**	**64.33**	**329**	⇓P		**P**	**P**	**11 39 57.2**	**+0.1**
	baz=65								
428A	**Kincaid Ranch,**	**64.50**	**326**	⇑P		**P**	**P**	**11 39 58.9**	**+0.6**
	baz=65								
527A	**Woodward Ranch**	**64.52**	**325**	⇑P		**P**	**P**	**11 39 59.1**	**+0.5**
	baz=65								
ABTX	**Abilene, Hawle**	**64.58**	**330**	⇑P		**P**	**P**	**11 39 59.0**	**+0.2**
	baz=65								
230A	**Sterling City**	**64.67**	**328**	⇑P		**P**	**P**	**11 39 60.0**	**+0.6**
	baz=65								
526A	**Mary Lane Ranc**	**64.70**	**325**	⇓P		**P**	**P**	**11 40 00.5**	**+0.8**
	baz=65								
WCI	**Wyandotte Cave**	**64.74**	**343**	*e*P		**P**	**P**	**11 39 58.4**	**-1.3**
	comp=N,8.9nm,0.6s								
329A	**Wagon Wheel Ra**	**64.76**	**327**	⇑P		**P**	**P**	**11 40 00.4**	**+0.4**
	baz=65,SNR=5.1								
131A	**Roby**	**64.97**	**329**	⇑P		**P**	**P**	**11 40 01.7**	**+0.4**
	baz=65								
229A	**Bryant Ranch,**	**65.07**	**328**	⇓P		**P**	**P**	**11 40 02.5**	**+0.5**
	baz=65								
Z32A	**Haskell**	**65.08**	**330**	⇓P		**P**	**P**	**11 40 01.9**	**0.0**
	baz=65								
328A	**Wristen Ranch,**	**65.09**	**326**	⇑P		**P**	**P**	**11 40 02.4**	**+0.3**
	baz=65,SNR=7.1								
426A	**McDonald Obser**	**65.15**	**325**	⇓P		**P**	**P**	**11 40 03.4**	**+0.7**
	baz=65								
130A	**Snyder**	**65.18**	**329**	⇑P		**P**	**P**	**11 40 02.7**	**+0.1**
	baz=66,SNR=7.0								
Z31A	**Sharp Cattle R**	**65.39**	**330**	⇓P		**P**	**P**	**11 40 04.1**	**+0.1**
	baz=66,SNR=7.0								
228A	**UT Block 9, Go**	**65.58**	**327**	⇓P		**P**	**P**	**11 40 05.4**	**+0.1**
	baz=66								
326A	**Caldwell Ranch**	**65.64**	**326**	⇑P		**P**	**P**	**11 40 06.3**	**+0.6**
	baz=66,SNR=5.0								
Y32A	**R-V Farms, Ver**	**65.65**	**331**	⇓P		**P**	**P**	**11 40 06.3**	**+0.8**
	baz=66								
425A	**Indio Mountain**	**65.75**	**324**	⇓P		**P**	**P**	**11 40 06.9**	**+0.4**
	baz=66,SNR=6.4								
TUL1	**Tulsa**	**65.75**	**335**	⇓P		**P**	**P**	**11 40 06.6**	**+0.4**
	baz=66								
Z30A	**Sanderson Ranc**	**65.83**	**329**	⇓P		**P**	**P**	**11 40 06.9**	**+0.2**
	baz=66								
227A	**Bennet, Jal**	**65.84**	**327**	⇓P		**P**	**P**	**11 40 07.6**	**+0.6**
	baz=66								
128A	**Castleberry Fa**	**65.93**	**327**	⇓P		**P**	**P**	**11 40 07.7**	**+0.1**
	baz=66								
Y31A	**Rekieta Farm,**	**65.98**	**330**	⇓P		**P**	**P**	**11 40 07.8**	**+0.1**
	baz=66,SNR=7.1								
Z29A	**Hungry Hill Ra**	**66.08**	**328**	⇑P		**P**	**P**	**11 40 08.4**	**0.0**
	baz=66								
Y30A	**Stafford Cattl**	**66.21**	**329**	⇑P		**P**	**P**	**11 40 09.7**	**+0.5**
	baz=66								
226B	**Tecolote Peak,**	**66.34**	**326**	⇑P		**P**	**P**	**11 40 11.4**	**+1.3**
	baz=67,SNR=5.7								
127A	**Arkansas Junct**	**66.41**	**327**	⇓P		**P**	**P**	**11 40 10.6**	**0.0**
	baz=67								
X31A	**McDonald Ranch**	**66.42**	**331**	⇓P		**P**	**P**	**11 40 10.5**	**+0.1**
	baz=67,SNR=12								
Z28A	**Tucker Farm, M**	**66.43**	**328**	⇓P		**P**	**P**	**11 40 10.4**	**-0.2**
	baz=67								
324A	**Moseley Ranch,**	**66.53**	**325**	⇓P		**P**	**P**	**11 40 11.0**	**-0.4**
	baz=67,SNR=5.4								
Y29A	**Porterfield Fa**	**66.55**	**329**	⇓P		**P**	**P**	**11 40 11.5**	**0.0**
	baz=67,SNR=6.1								
X30A	**Coker Ranch, T**	**66.67**	**330**	⇑P		**P**	**P**	**11 40 12.1**	**0.0**
	baz=67,SNR=5.2								
225A	**Deer Hill, Car**	**66.70**	**325**	⇓P		**P**	**P**	**11 40 12.8**	**+0.2**
	baz=67,SNR=7.5								
126A	**Clayton Basin,**	**66.72**	**326**	⇑P		**P**	**P**	**11 40 12.8**	**+0.2**
	baz=67,SNR=5.9								
Z27A	**Tatum**	**66.85**	**327**	⇑P		**P**	**P**	**11 40 13.4**	**0.0**
	baz=67								
W31A	**Holland Ranch,**	**66.86**	**331**	⇑P		**P**	**P**	**11 40 12.9**	**-0.4**
	baz=67								
Y28A	**McKinney Farm,**	**66.87**	**328**	⇓P		**P**	**P**	**11 40 13.3**	**-0.1**
	baz=67								
SFIN	**Scholer Farm**	**66.97**	**343**	⇓P		**P**	**P**	**11 40 12.5**	**-1.3**
	baz=67								
224A	**Cornudas Mount**	**67.04**	**325**	⇑P		**P**	**P**	**11 40 14.8**	**+0.2**
	baz=67,SNR=8.6								
X29A	**Tulia**	**67.05**	**329**	⇑P		**P**	**P**	**11 40 14.6**	**0.0**
	baz=67								
125A	**Gardner Draw,**	**67.05**	**326**	⇓P		**P**	**P**	**11 40 14.5**	**-0.1**
	baz=67								
MSTX	**Muleshoe**	**67.17**	**328**	⇓P		**P**	**P**	**11 40 15.7**	**+0.3**
	baz=67,SNR=7.3								
Z26A	**Caprock**	**67.20**	**327**	⇑P		**P**	**P**	**11 40 15.8**	**+0.2**
	baz=68,SNR=8.2								
Y27A	**Causey**	**67.29**	**328**	⇓P		**P**	**P**	**11 40 15.9**	**-0.3**
	baz=68,SNR=6.0								
V31A	**Spring Creek L**	**67.31**	**331**	⇑P		**P**	**P**	**11 40 16.5**	**+0.4**
	baz=68								
X28A	**Dimmitt**	**67.34**	**329**	⇑P		**P**	**P**	**11 40 16.6**	**+0.2**
	baz=68								
124A	**Stringfield Ra**	**67.50**	**325**	⇓P		**P**	**P**	**11 40 18.1**	**+0.5**
	baz=68,SNR=8.4								
Z25A	**Roswell**	**67.58**	**326**	⇑P		**P**	**P**	**11 40 17.9**	**0.0**
	baz=68								
W29A	**Amraillo**	**67.58**	**330**	⇑P		**P**	**P**	**11 40 18.0**	**+0.1**
	baz=68								
Y26A	**Elida**	**67.64**	**327**	⇑P		**P**	**P**	**11 40 18.6**	**+0.2**
	baz=68								
DBIC	**Dimbokro**	**67.82**	**71**	P		**P**	**P**	**11 40 19.3**	**-0.4**
DBIC	**Dimbokro**	**67.82**	**71**	P		**P**	**P**	**11 40 19.3**	**-0.4**
	comp=N,5.0nm,0.9s,baz=228,slow=5.6,SNR=6.1								
Z24A	**Sheeppen Canyo**	**67.95**	**326**	⇓P			**P**	**11 40 20.8**	**+0.4**
	baz=68,SNR=12								
W28A	**Vega**	**67.95**	**329**	⇓P		**P**	**P**	**11 40 21.0**	**+0.8**
	baz=68								
Y25A	**Mesa, Roswell**	**68.08**	**327**	⇑P		**P**	**P**	**11 40 21.4**	**+0.3**
	baz=68								
320A	**Kipp Ranch, An**	**68.10**	**322**	⇑P		**P**	**P**	**11 40 22.3**	**+1.0**
	baz=68								
X26A	**CR and CF Fran**	**68.14**	**328**	⇑P		**P**	**P**	**11 40 21.9**	**+0.4**
	baz=68								
W27A	**Bowe Ranch, En**	**68.20**	**329**	⇑P		**P**	**P**	**11 40 22.4**	**+0.6**
	baz=68								
122A	**Conniff Cattle**	**68.31**	**324**	⇑P		**P**	**P**	**11 40 24.1**	**+1.6**
	baz=69								
Z23A	**Rita Site, Whi**	**68.34**	**325**	⇓P		**P**	**P**	**11 40 23.7**	**+1.0**
	baz=69,SNR=5.6								
T31A	**Randall Ranch,**	**68.36**	**332**	⇑P		**P**	**P**	**11 40 23.1**	**+0.5**
	baz=69								
220A	**Playas Peak, P**	**68.53**	**323**	⇑P		**P**	**P**	**11 40 25.2**	**+1.2**
	baz=69,SNR=5.1								
319A	**Douglas**	**68.55**	**322**	⇑P		**P**	**P**	**11 40 25.4**	**+1.3**
	baz=69								
W26A	**Owens Ranch, T**	**68.55**	**328**	⇓P		**P**	**P**	**11 40 24.9**	**+0.9**
	baz=69								
121A	**Cookes Peak, D**	**68.60**	**324**	⇑P		**P**	**P**	**11 40 25.8**	**+1.4**
	baz=69								
T30A	**Plains**	**68.69**	**332**	⇓P		**P**	**P**	**11 40 26.5**	**+1.8**
	baz=69								
Z22A	**Elephant Butte**	**68.72**	**325**	⇑P		**P**	**P**	**11 40 26.6**	**+1.5**
	baz=69,SNR=22								
S31A	**Mullinville**	**68.72**	**333**	⇓P		**P**	**P**	**11 40 26.0**	**+1.2**
	baz=69								
Y23A	**Lovelace Mesa,**	**68.77**	**326**	⇓P		**P**	**P**	**11 40 26.6**	**+1.1**
	baz=69								
U28A	**Mallet**	**68.88**	**330**	⇓P		**P**	**P**	**11 40 26.6**	**+0.6**
	baz=69								
W25A	**X Bar L Ranch,**	**68.99**	**328**	⇓P		**P**	**P**	**11 40 27.3**	**+0.5**
	baz=69								
120A	**U Bar Ranch, L**	**69.08**	**323**	⇑P		**P**	**P**	**11 40 28.5**	**+1.2**
	baz=69								
T29A	**Hugoton**	**69.11**	**331**	⇑P		**P**	**P**	**11 40 28.3**	**+1.0**
	baz=69								
V26A	**Tequesquite Ra**	**69.14**	**329**	⇑P		**P**	**P**	**11 40 28.1**	**+0.5**
	baz=69								
Z21A	**St. Cloud Mine**	**69.14**	**324**	⇑P		**P**	**P**	**11 40 29.2**	**+1.4**
	baz=69,SNR=6.3								
S30A	**Montezuma**	**69.15**	**332**	⇑P		**P**	**P**	**11 40 28.1**	**+0.6**
	baz=69								
U27A	**Thompson Grove**	**69.19**	**330**	⇑P		**P**	**P**	**11 40 28.7**	**+0.7**
	baz=70								
BNM	**Barren Site**	**69.24**	**326**	*e*P		**P**	**P**	**11 40 29.9**	**+1.5**
	comp=N,11nm,1.3s								
R31A	**Burdett**	**69.31**	**333**	⇓P		**P**	**P**	**11 40 29.3**	**+0.8**
	baz=70								
X23A	**Hourglass Bar**	**69.35**	**326**	⇓P		**P**	**P**	**11 40 29.9**	**+0.9**
	baz=70								
S29A	**Ulysses**	**69.42**	**332**	⇓P		**P**	**P**	**11 40 30.0**	**+0.8**
	baz=70								
T28A	**Walsh**	**69.44**	**331**	⇓P		**P**	**P**	**11 40 29.8**	**+0.4**
	baz=70								
W24A	**Lazy 6 Ranch,**	**69.45**	**327**	⇑P		**P**	**P**	**11 40 30.4**	**+0.8**
	baz=70								
Z20A	**Nine Sixteen R**	**69.48**	**323**	⇑P		**P**	**P**	**11 40 31.2**	**+1.4**
	baz=70								
V25A	**Rancho No Teng**	**69.57**	**328**	⇑P		**P**	**P**	**11 40 31.3**	**+1.0**
	baz=70								
SADO	**Sadowa**	**69.57**	**351**	P		**P**	**P**	**11 40 29.6**	**-0.3**
SADO	**Sadowa**	**69.57**	**351**	P		**P**	**P**	**11 40 29.6**	**-0.3**
	comp=N,1.5nm,0.3s,baz=233,slow=3.3,SNR=3.0								
U26A	**Atchley Ranch,**	**69.60**	**329**	⇑P		**P**	**P**	**11 40 31.3**	**+0.8**
	baz=70,SNR=8.9								
T27A	**Campo**	**69.67**	**330**	⇓P		**P**	**P**	**11 40 31.1**	**+0.3**
	baz=70,SNR=7.0								
Y21A	**Point of Rocks**	**69.68**	**325**	⇓P		**P**	**P**	**11 40 32.7**	**+1.6**
	baz=70								
X22A	**Bernardo**	**69.71**	**325**	⇑P		**P**	**P**	**11 40 32.4**	**+1.2**
	baz=70								
S28A	**Manter**	**69.74**	**331**	⇓P		**P**	**P**	**11 40 32.0**	**+0.8**
	baz=70								
ANMO	**Albuquerque**	**69.77**	**326**	*e*P		**P**	**P**	**11 40 32.5**	**+0.9**
	comp=N,7.7nm,0.9s								
W23A	**Werner Place,**	**69.79**	**326**	⇑P		**P**	**P**	**11 40 32.8**	**+1.1**
	baz=70,SNR=5.2								
V24A	**Rampart Ranch,**	**69.80**	**327**	⇑P		**P**	**P**	**11 40 32.7**	**+0.9**
	baz=70								
Q31A	**Ellis**	**69.86**	**334**	⇓P		**P**	**P**	**11 40 33.0**	**+1.1**
	baz=70								
U25A	**Circle Dot Ran**	**69.92**	**328**	⇑P		**P**	**P**	**11 40 33.5**	**+1.0**
	baz=70								
Y20A	**Horse Springs,**	**69.97**	**324**	⇑P		**P**	**P**	**11 40 34.3**	**+1.4**
	baz=70,SNR=6.1								
X21A	**Alamocita Cree**	**70.07**	**325**	⇓P		**P**	**P**	**11 40 35.1**	**+1.6**
	baz=70								
W22A	**Albuquerque**	**70.08**	**326**	⇑P		**P**	**P**	**11 40 34.7**	**+1.2**
	baz=70								
R29A	**Marienthal**	**70.10**	**332**	⇓P		**P**	**P**	**11 40 34.0**	**+0.7**
	baz=70								
TUC	**Tucson**	**70.10**	**321**	*e*P		**P**	**P**	**11 40 34.8**	**+1.3**
	comp=N,5.9nm,1.3s								
T26A	**Comanche Natio**	**70.16**	**330**	⇑P		**P**	**P**	**11 40 34.6**	**+0.6**
	baz=70,SNR=8.3								
Q30A	**Quinter**	**70.18**	**333**	⇑P		**P**	**P**	**11 40 34.8**	**+1.0**
	baz=70								
JFWS	**Jewell Farm**	**70.19**	**342**	*e*P		**P**	**P**	**11 40 32.9**	**-0.8**
	comp=N,18nm,0.6s								
V23A	**Ortiz Mt. (NFS**	**70.26**	**327**	⇓P		**P**	**P**	**11 40 35.2**	**+0.6**
	baz=70								
P31A	**Stockton**	**70.30**	**334**	⇓P		**P**	**P**	**11 40 35.2**	**+0.7**
	baz=71								
R28A	**Tribune**	**70.32**	**331**	⇓P		**P**	**P**	**11 40 35.6**	**+0.9**
	baz=71								
S26A	**Kim**	**70.47**	**330**	⇓P		**P**	**P**	**11 40 36.8**	**+1.1**
	baz=71,SNR=11								
T25A	**Trinidad**	**70.52**	**329**	⇓P		**P**	**P**	**11 40 37.4**	**+1.3**
	baz=71								
W21A	**San Fidel**	**70.52**	**325**	⇑P		**P**	**P**	**11 40 37.6**	**+1.4**
	baz=71								
X20A	**Quemado**	**70.52**	**324**	⇓P		**P**	**P**	**11 40 37.5**	**+1.3**
	baz=71								
P30A	**Selden**	**70.67**	**333**	⇓P		**P**	**P**	**11 40 37.0**	**+0.2**
	baz=71								
R27A	**Eads**	**70.71**	**331**	⇓P		**P**	**P**	**11 40 37.6**	**+0.5**
	baz=71								
U23A	**El Rito**	**70.73**	**327**	⇑P		**P**	**P**	**11 40 38.6**	**+1.2**
	baz=71								
V22A	**San Miguel Ran**	**70.76**	**326**	⇑P		**P**	**P**	**11 40 39.0**	**+1.4**
	baz=71								
S25A	**Robets Cordova**	**70.95**	**329**	⇑P		**P**	**P**	**11 40 39.9**	**+1.2**
	baz=71,SNR=12								
W20A	**Ramah**	**70.97**	**325**	⇓P		**P**	**P**	**11 40 40.4**	**+1.5**
	baz=71,SNR=6.0								
R26A	**Arlington**	**71.01**	**330**	⇓P		**

PFO	Pinyon Flat Ob	74.35	319	⇓P		P	11 41 00.4 +1.6
	baz=75						
BRSD	Miller	74.36	337	⇓P		P	11 40 58.9 +0.4
	baz=75						
N22A	Wattenberg Ran	74.40	330	⇓P		P	11 41 00.7 +1.6
	baz=75						
O21A	Pagoda	74.41	329	⇑P		P	11 41 00.7 +1.6
	baz=75						
P19A	Cripple Cowboy	74.68	328	⇑P		P	11 41 02.5 +1.8
	baz=75						
GMRC	Granite Mounta	74.70	320	⇑P		P	11 41 02.5 +1.7
	baz=75,SNR=12						
O20A	White River Ci	74.71	328	⇓P		P	11 41 02.1 +1.3
	baz=75,SNR=6.4						
MURC	Murrieta	74.80	318	⇑P		P	11 41 02.5 +1.2
	baz=75						
I28A	Midland	74.81	335	⇓P		P	11 41 01.8 +0.8
	baz=75						
BBRC	Big Bear Solar	75.08	319	⇑P		P	11 41 04.6 +1.5
	baz=75						
L23A	Garrett	75.11	331	⇓P		P	11 41 04.2 +1.1
	baz=75						
HEC	Hector,Ludlow	75.13	320	⇓P		P	11 41 04.8 +1.7
	baz=75,SNR=7.1						
EYMN	Ely	75.17	343	*e*P		P	11 41 02.2 -0.8
	comp=N,9.3nm,1.0s						
I27A	Quinn	75.21	335	⇑P		P	11 41 04.1 +0.7
	baz=76						
Q16A	Castle Valley	75.23	326	⇓P		P	11 41 05.2 +1.4
	baz=76						
O19A	Miners Draw (B	75.27	328	⇑P		P	11 41 04.9 +1.0
	baz=76,SNR=5.4						
N20A	Spence Gulch,	75.27	329	⇑P		P	11 41 05.2 +1.2
	baz=76						
TUQ	Turquoise Moun	75.31	320	⇓P		P	11 41 06.2 +1.9
	baz=76						
H28A	Mission Ridge	75.32	336	⇓P		P	11 41 05.0 +1.1
	baz=76						
CCUT	Cedar City	75.38	323	*e*P		P	11 41 06.8 +2.1
	comp=N,11nm,0.8s						
MSU	Marysvale	75.45	325	*e*P		P	11 41 06.9 +1.8
M21A	Separation Pea	75.46	330	⇑P		P	11 41 06.4 +1.3
	baz=76						
MVU	Marysvale	75.47	325	*e*P		P	11 41 06.8 +1.6
	comp=N,8.1nm,0.9s						
I26A	New Underwood	75.49	334	⇓P		P	11 41 06.2 +1.2
	baz=76						
BFSC	Mount Baldy Ra	75.51	319	⇑P		P	11 41 07.0 +1.6
	baz=76						
ARUT	Antelope Range	75.60	324	*e*P		P	11 41 08.0 +2.1
	comp=N,9.4nm,1.0s						
K23A	Bowen Ranch, D	75.60	332	⇑P		P	11 41 06.6 +0.8
	baz=76,SNR=5.1						
SHPR	Sheep Range	75.63	322	*e*P		P	11 41 07.3 +1.3
J24A	Dixon Ranch, L	75.65	333	⇓P		P	11 41 07.2 +1.2
	baz=76						
H27A	Howes	75.69	335	⇓P		P	11 41 07.2 +1.1
	baz=76						
GSC	Goldstone	75.73	320	*e*P		P	11 41 08.3 +1.7
	comp=N,4.4nm,0.9s						
GSC	Goldstone	75.73	320	⇑P		P	11 41 08.0 +1.4
	baz=76						
L21A	Rawlins	75.74	330	⇓P		P	11 41 07.3 +0.7
	baz=76,SNR=6.9						
M20A	Sweetwater, Wa	75.75	329	⇓P		P	11 41 07.7 +1.0
	baz=76						
I25A	Rochford	75.84	334	⇑P		P	11 41 08.0 +0.9
	baz=76						
K22A	Casper	75.91	331	⇓P		P	11 41 08.7 +1.2
	baz=76						
H26A	Fairpoint	75.95	334	⇑P		P	11 41 09.0 +1.4
	baz=76						
RSSD	Black Hills	76.04	333	*e*P		P	11 41 08.6 +0.3
	comp=N,4.6nm,1.1s						
EDW2	Edwards Air Fo	76.15	319	⇓P		P	11 41 10.5 +1.6
	baz=76						
L20A	Wamsutter	76.22	330	⇓P		P	11 41 10.6 +1.2
	baz=76						
MPU	Maple Canyon	76.30	326	*e*P		P	11 41 10.6 +0.7
	comp=N,8.3nm,1.2s						
LRMC	Laurel Mountai	76.38	319	⇑P		P	11 41 11.5 +1.2
	baz=77						
DAU	Daniels Canyon	76.40	327	*e*P		P	11 41 11.9 +1.4
J22A	Midwest	76.50	332	⇓P		P	11 41 11.5 +0.7
	baz=77,SNR=6.4						
FURC	Furnace Creek,	76.58	321	⇑P		P	11 41 12.9 +1.8
	baz=77,SNR=6.0						
TOA0	Torodi Ar. Sit	76.60	69	*e*P		P	11 41 11.6 -0.3
TORD	Torodi Ar. Bea	76.60	69	P		P	11 41 11.3 -0.5
TORD	Torodi Ar. Bea	76.60	69	P		P	11 41 11.3 -0.5
	comp=N,2.8nm,0.4s,baz=269,slow=6.0,SNR=59						
MPMC	Manual Prospec	76.66	320	⇓P		P	11 41 13.0 +1.0
	baz=77						
K20A	Yellowstone Ra	76.73	330	⇑P		P	11 41 12.7 +0.5
	baz=77,SNR=6.7						
H24A	Dirks Ranch, A	76.77	333	⇓P		P	11 41 12.7 +0.4
	baz=77,SNR=6.7						
L19A	Farson	76.77	329	⇓P		P	11 41 13.3 +0.9
	baz=77						
J21A	Lysite	76.87	331	⇑P		P	11 41 14.0 +1.0
	baz=77						
I22A	9 Mile Ranch,	76.89	332	⇓P		P	11 41 14.3 +1.3
	baz=77						
L18A	Fontenelle, Gr	76.96	328	⇓P		P	11 41 14.7 +1.2
	baz=77						
H23A	Clabaugh Cattl	76.97	333	⇓P		P	11 41 14.3 +1.0
	baz=77						
ISA	Isabella	76.97	319	⇑P		P	11 41 14.7 +1.2
	baz=77,SNR=5.9						
DUG	Dugway	77.03	326	*e*P		P	11 41 15.2 +1.3
	comp=N,6.3nm,1.1s						
DUG	Dugway	77.03	326	⇓P		P	11 41 15.0 +1.1
	baz=77,SNR=6.1						
K19A	Absolon Red Bu	77.09	330	⇓P		P	11 41 15.0 +0.8
	baz=77						
J20A	Shoshoni	77.16	331	⇓P		P	11 41 15.6 +1.1
	baz=77						
I21A	Big Trails, Te	77.17	331	⇓P		P	11 41 15.3 +0.7
	baz=78,SNR=14						
PKM	Peak Mountain	77.27	318	⇑P		P	11 41 16.7 +1.3
	baz=78						
PDAR	Pinedale Array	77.38	329	P		P	11 41 15.9 0.0
PDAR	Pinedale Array	77.38	329	P		P	11 41 15.9 0.0
	comp=N,1.5nm,0.7s,baz=127,slow=8.2,SNR=11						
E26A	Carlson Angus	77.38	336	⇑P		P	11 41 16.6 +1.0
	baz=78						
HWUT	Hardware Ranch	77.46	327	*e*P		P	11 41 17.1 +0.9
	comp=N,4.1nm,0.7s						
VES	Vestal, Richgr	77.46	319	⇓P		P	11 41 17.4 +1.3
	baz=78						
G23A	Biddle	77.48	333	⇑P		P	11 41 16.6 +0.4
	baz=78,SNR=5.4						
MDND	Maddock	77.53	338	⇓P		P	11 41 17.0 +0.7
	baz=78,SNR=5.6						
J19A	Crowheart	77.53	330	⇓P		P	11 41 17.6 +1.0
	baz=78						
F24A	Ekalaka	77.63	334	⇑P		P	11 41 17.4 +0.4
	baz=78						
I20A	Worland	77.65	331	⇑P		P	11 41 17.9 +0.8
	baz=78,SNR=5.0						
SMMC	Simmler	77.66	318	⇓P		P	11 41 18.6 +1.3
	baz=78						
BGU	Big Grassy Mou	77.68	326	*e*P		P	11 41 18.2 +0.7
	comp=N,7.0nm,1.2s						
H21A	Big Horn, Sher	77.72	332	⇓P		P	11 41 17.9 +0.4
	baz=78,SNR=5.4						
F23A	Volborg	77.91	334	⇓P		P	11 41 18.9 +0.3
	baz=78,SNR=5.3						
H20A	Greybull	78.02	331	⇓P		P	11 41 19.5 +0.3
	baz=78						
I19A	Meeteetse	78.11	330	⇓P		P	11 41 20.7 +0.9
	baz=78,SNR=6.2						
E24A	Baker	78.16	335	⇓P		P	11 41 20.9 +1.0
	baz=78						
HVU	Hansel Valley	78.19	327	*e*P		P	11 41 20.9 +0.7
	comp=N,4.4nm,0.9s						
I18A	Diamond G Ranc	78.22	330	⇑P		P	11 41 21.5 +1.0
	baz=78						
G21A	Lodge Grass	78.26	332	⇓P		P	11 41 21.3 +0.8
	baz=78						
F22A	Rosebud	78.31	333	⇓P		P	11 41 21.0 +0.3
	baz=79,SNR=7.1						
ULM	Lac du Bonnet	78.47	342	P		P	11 41 20.6 -0.7
ULM	Lac du Bonnet	78.47	342	P		P	11 41 20.6 -0.7
	comp=N,7.8nm,0.8s,baz=152,slow=6.2,SNR=6.6						
SNOW	Snow King Moun	78.47	329	*e*P		P	11 41 22.7 +0.7
	comp=N,4.6nm,0.8s						
LOHW	Long Hollow	78.52	329	*e*P		P	11 41 22.9 +0.8
	comp=N,4.2nm,0.8s						
H19A	Powell	78.60	331	⇑P		P	11 41 23.5 +1.0
	baz=79						
D24A	Glendive	78.63	335	⇓P		P	11 41 23.4 +1.0
	baz=79						
MOOW	Moose Ponds	78.69	329	*e*P		P	11 41 23.3 +0.2
	comp=N,24nm,2.0s						
G20A	Bridger	78.69	332	⇑P		P	11 41 23.3 +0.4
	baz=79						
ELK	Elko	78.70	325	*e*P		P	11 41 24.4 +1.3
	comp=N,4.4nm,0.9s						
I17A	Pilgrim Ck.	78.74	329	⇓P		P	11 41 24.5 +1.2
	baz=79						
SCHQ	Schefferville	78.74	0	P		P	11 41 22.4 -0.4
SCHQ	Schefferville	78.74	0	P		P	11 41 22.4 -0.4
	comp=N,1.8nm,0.6s,baz=181,slow=4.1,SNR=6.2						
NVAR	Mina Array Bea	78.76	321	P		P	11 41 24.6 +1.1
NVAR	Mina Array Bea	78.76	321	P		P	11 41 24.6 +1.1
	comp=N,1.6nm,0.7s,baz=156,slow=6.4,SNR=12						
IMW	Indian Meadow	78.89	329	*e*P		P	11 41 24.4 +0.2
	comp=N,7.3nm,0.9s						
H18A	Shoshone NF, C	78.91	330	⇑P		P	11 41 24.8 +0.6
	baz=79,SNR=5.9						
C24A	Savage	79.01	335	⇓P		P	11 41 25.5 +1.0
	baz=79,SNR=5.5						
D23A	Lindsay	79.02	335	⇑P		P	11 41 25.4 +0.9
	baz=79						
RLMT	Red Lodge	79.08	331	*e*P		P	11 41 25.9 +0.8
	comp=N,2.2nm,0.6s						
I16A	Newdale	79.13	329	⇓P		P	11 41 26.6 +1.2
	baz=79						
E21A	Keefer Ranch,	79.26	333	⇑P		P	11 41 26.9 +1.0
	baz=80						
G18A	Lazy EL Ranch,	79.36	331	⇓P		P	11 41 27.6 +1.0
	baz=80						
D22A	Cohagen	79.39	334	⇑P		P	11 41 27.5 +1.0
	baz=80						
WAKR	Walker	79.46	321	*e*P		P	11 41 28.9 +1.6
F19A	Roth Farm, Mol	79.51	332	⇓P		P	11 41 27.8 +0.5
	baz=80,SNR=8.0						
C23A	Lambert	79.52	335	⇑P		P	11 41 28.1 +0.9
	baz=80						
D21A	La Casta Ranch	79.65	333	⇑P		P	11 41 28.6 +0.6
	baz=80,SNR=8.0						
H16A	Russell Place,	79.65	330	⇑P		P	11 41 29.8 +1.6
	baz=80						
E20A	Meyer Farm, Mu	79.67	332	⇓P		P	11 41 29.0 +0.9
	baz=80,SNR=11						
DGMT	Dagmar	79.70	336	*e*P		P	11 41 29.1 +0.9
	comp=N,30nm,1.1s						
DGMT	Dagmar	79.70	336	⇓P		P	11 41 29.3 +1.1
	baz=80						
C22A	Vida	79.75	334	⇓P		P	11 41 29.4 +0.9
	baz=80						
GCMT	Greycliff	79.77	331	*e*P		P	11 41 29.8 +1.0
	comp=N,5.3nm,0.9s						
F18A	Big Timber	79.88	331	⇓P		P	11 41 30.1 +0.8
	baz=80,SNR=9.6						
E19A	Rath Farm, Rou	79.92	332	⇓P		P	11 41 30.1 +0.6
	baz=80,SNR=12						
B23A	Brockton	79.99	335	⇑P		P	11 41 31.0 +1.2
	baz=80						
A24A	Westby	80.00	336	⇓P		P	11 41 31.1 +1.3
	baz=80						
I14A	Mackay	80.11	328	⇑P		P	11 41 31.6 +0.9
	baz=80,SNR=11						
PAHR	Pah Rah Range	80.24	322	*e*P		P	11 41 32.8 +1.3
	comp=N,13nm,0.9s						
C21A	Desert Coulee	80.30	334	⇓P		P	11 41 32.0 +0.6
	baz=81						
E18A	Harlowton	80.48	332	⇓P		P	11 41 33.2 +0.7
	baz=81						
MCMT	McKenzie Canyo	80.49	329	*e*P		P	11 41 34.5 +1.7
	comp=N,4.3nm,0.9s						
D19A	Cripps Ranch,	80.51	332	⇑P		P	11 41 32.5 -0.1
	baz=81,SNR=6.9						
BOSA	Boshof	80.58	117	P		P	11 41 34.2 +0.6
BOSA	Boshof	80.58	117	P		P	11 41 34.2 +0.6
	comp=N,4.1nm,0.4s,baz=275,slow=3.4,SNR=22						
C20A	Veseth Ranch,	80.58	333	⇓P		P	11 41 32.7 -0.1
	baz=81,SNR=5.6						
B21A	Ellsworth Farm	80.75	334	⇑P		P	11 41 34.3 +0.5
	baz=81,SNR=5.1						
A22A	Carney Farms,	80.78	335	⇑P		P	11 41 34.5 +0.6
	baz=81,SNR=5.9						
E17A	Martinsdale	80.82	331	⇓P		P	11 41 35.2 +0.8
	baz=81,SNR=6.7						
I12A	Atlanta	80.84	327	⇓P		P	11 41 35.7 +1.2
	baz=81						
MFID	Camas Ranch	80.92	326	⇑P		P	11 41 36.0 +1.1
	baz=81						
D18A	Linhart Farms,	80.92	332	⇓P		P	11 41 35.7 +0.9
	baz=81						
C19A	Slack Wire Ran	81.03	333	⇑P		P	11 41 35.8 +0.5
	baz=81						
LRM	Limekiln Ridge	81.05	330	*e*P		P	11 41 36.9 +1.2
F15A	Butte	81.09	330	⇓P		P	11 41 36.7 +0.9
	baz=81,SNR=7.7						
B20A	Solberg Farm,	81.16	334	⇑P		P	11 41 36.9 +1.0
	baz=81						
MAW	Mawson	81.19	163	P		P	11 41 37.1 +1.2
MAW	Mawson	81.19	163	P		P	11 41 37.1 +1.2
	comp=N,4.1nm,0.6s,baz=215,slow=6.3,SNR=15						
E16A	East Helena	81.24	331	⇑P		P	11 41 37.5 +1.0
	baz=82						
H12A	Diamond D Ranc	81.25	328	⇓P		P	11 41 38.1 +1.4
	baz=82,SNR=7.3						
D17A	Six Diamond Ra	81.27	331	⇓P		P	11 41 37.6 +0.9
	baz=82,SNR=13						
A20A	Cobblestone Ra	81.47	334	⇓P		P	11 41 38.2 +0.6
	baz=82,SNR=7.7						
EGMT	Eagleton	81.55	333	*e*P		P	11 41 38.2 +0.1
	comp=N,8.6nm,1.0s						
EGMT	Eagleton	81.55	333	⇓P		P	11 41 38.4 +0.4
	baz=82						
B19A	Brinkman Farms	81.55	333	⇑P		P	11 41 39.0 +1.0
	baz=82						
D16A	Dana Ranch, Ca	81.56	331	⇓P		P	11 41 39.2 +1.0
	baz=82,SNR=16						
C17A	Wharram Farm,	81.68	332	⇑P		P	11 41 39.0 +0.2
	baz=82,SNR=7.0						
A19A	Klindworth Far	81.84	334	⇓P		P	11 41 39.9 +0.4
	baz=82						
B18A	Beardsley Farm	81.85	333	⇑P		P	11 41 40.2 +0.6
	baz=82,SNR=12						
G12A	Big Creek, Yel	81.91	328	⇓P		P	11 41 40.9 +0.8
	baz=82						
D15A	Lincoln	82.00	330	⇓P		P	11 41 41.6 +1.1
	baz=82,SNR=6.9						
B17A	L&G Farms, Che	82.20	332	⇑P		P	11 41 41.7 +0.3
	baz=82						
C16A	Fuhringer Ranc	82.23	331	⇑P		P	11 41 42.0 +0.3
	baz=82						
LBTB	Lobatse	82.24	114	*e*P		P	11 41 42.8 +0.4
	comp=N,54nm,2.1s						
A18A	Metzger Ranch,	82.29	333	⇓P		P	11 41 42.4 +0.6
	baz=83						
D14A	Greenough	82.48	330	⇓P		P	11 41 43.7 +0.7
	baz=83						
MSO	Missoula	82.49	330	⇓P		P	11 41 43.9 +0.9
	baz=83						
SLMT	Seeley Lake	82.59	330	*e*P		P	11 41 44.5 +0.9
C15A	Salmond Ranch,	82.59	331	⇑P		P	11 41 44.3 +0.7
	baz=83,SNR=12						
A17A	Triple J Farms	82.66	333	⇓P		P	11 41 44.1 +0.3
	baz=83,SNR=5.4						
B16A	M & M Farms, S	82.68	332	⇑P		P	11 41 44.4 +0.4
	baz=83						
BMO	Blue Mountains	82.69	326	*e*P		P	11 41 44.8 +0.7
	comp=N,8.4nm,1.5s						
D13A	Huson	82.93	329	⇓P		P	11 41 45.9 +0.7
	baz=83,SNR=7.4						
E12A	Beaver Dam Sad	82.95	328	⇑P		P	11 41 45.7 +0.2
	baz=83,SNR=7.7						
B15A	Bradely Ranch,	82.98	331	⇑P		P	11 41 45.6 +0.1
	baz=83						
SWMT	Swartz Lake	83.02	330	*e*P		P	11 41 46.7 +0.9
A16A	West Butte Ran	83.04	332	⇑P		P	11 41 46.6 +0.7
	baz=83						
D12A	Red Ives Fores	83.31	329	⇓P		P	11 41 48.0 +0.8
	baz=84						
B14A	Marquette Ranc	83.33	331	⇑P		P	11 41 47.8 +0.5
	baz=84						
C13A	Hot Springs	83.41	330	⇑P		P	11 41 48.5 +0.8
	baz=84						
BSMT	Bassoo Peak	83.63	330	*e*P		P	11 41 49.8 +0.8
A14A	Double T Ranch	83.85	331	⇓P		P	11 41 50.0 0.0
	baz=84						
B13A	Whitefish	83.87	330	⇑P		P	11 41 50.8 +0.8
	baz=84						
FFC	Flin Flon	84.20	340	*e*P		P	11 41 51.4 0.0
	comp=N,59nm,3.0s						
A13A	Flathead Natio	84.26	331	⇑P		P	11 41 53.1 +1.0
	baz=84,SNR=9.2						
C11A	Tepee Creek (N	84.31	329	⇓P		P	11 41 52.4 +0.2
	baz=85						
TAM	Tamanrasset	84.45	62	*e*P		P	11 41 55.0 +1.3
PAB	San Pablo	86.21	43	*e*P		P	11 42 02.4 +0.5
	comp=N,1.4nm,0.5s						
YKA	Yellowknife Ar	94.36	340	P		P	11 42 39.0 -0.3
YKA	Yellowknife Ar	94.36	340	P		P	11 42 39.0 -0.3
	comp=N,1.7nm,0.6s,baz=130,slow=4.5,SNR=37						
DLBC	Dease Lake	97.46	332	P		P	11 42 54.3 +0.7
DLBC	Dease Lake	97.46	332	P		P	11 42 54.3 +0.7
	comp=N,1.9nm,0.8s,baz=90,slow=1.0,SNR=4.3						
BFO	Black Forest	98.58	41	*e*P		P	11 42 55.5 -3.3
	comp=N,5.0nm,0.6s						
KIEV	Kiev	112.16	43	*e*Pdif		Pdif	11 44 01.8 +2.7
ASAR	Alice Springs	128.26	205	PKP		PKPdf	11 48 26.0 -0.4
ASAR	Alice Springs	128.26	205	PKP		PKPdf	11 48 26.0 -0.4
	comp=N,1.3nm,0.7s,baz=134,slow=1.8,SNR=20						
WRA	Warramunga Arr	131.44	207	PKP		PKPdf	11 48 31.7 -0.8
WRA				SKPbc		SKPbc	11 51 40.5 -1.1
WRA	Warramunga Arr	131.44	207	PKP		PKPdf	11 48 31.7 -0.8
	comp=N,1.0nm,0.4s,baz=154,slow=2.0,SNR=42						
WRA				SKPbc		SKPbc	11 51 40.5 -1.1
	comp=N,1.9nm,0.8s,baz=150,slow=3.6,SNR=12						
PETK	Petropavlovsk-	135.83	323	PKP		PKPdf	11 48 40.3 +0.6
PETK	Petropavlovsk-	135.83	323	PKP		PKPdf	11 48 40.3 +0.6
	comp=N,0.9nm,0.7s,baz=140,slow=3.3,SNR=4.2						
BVAR	Borovoye Array	136.95	37	PKP		PKPdf	11 48 42.9 +1.2
BVAR	Borovoye Array	136.95	37	PKP		PKPdf	11 48 42.9 +1.2
	comp=N,0.2nm,0.4s,baz=183,slow=3.0,SNR=3.8						
KURBB	Kurchatov Arra	142.53	36	PKhKP		PKPpre	11 48 48.0
	comp=N,0.7nm,0.6s,baz=312,slow=3.0,SNR=4.0						
KURBB				PKP		PKPdf	11 48 52.4 +0.5
	comp=N,0.8nm,0.6s,baz=299,slow=2.8,SNR=6.5						
KURK	Kurchatov	142.53	36	PKPpre		PKPpre	11 48 48.0
KURK				PKP		PKPdf	11 48 52.4 +0.5
ZAA0	Zalesovo Array	143.57	28	*e*PKPdf		PKPbc	11 48 52.2 +0.6
ZALV	Zalesovo Beam	143.57	28	PKP		PKPab	11 48 51.7 +1.1
ZALV				SKPbc		SKPbc	11 52 16.3 +0.4
ZALV	Zalesovo Beam	143.57	28	PKP		PKPab	11 48 51.7 +1.1
	comp=N,4.6nm,0.5s,baz=308,slow=4.3,SNR=20						
ZALV				SKPbc		SKPbc	11 52 16.3 +0.4
	comp=N,0.5nm,0.4s,baz=343,slow=4.5,SNR=2.9						
MK31	Makanchi Array	146.67	40	*e*PKPdf		PKPdf	11 49 00.1 +0.8
MK31				*e*PKPbc		PKPbc	11 49 01.8 +0.6
MKAR	Makanchi Array	146.67	40	PKPbc		PKPdf	11 48 59.8 +0.5
MKAR				SKPbc		SKPbc	11 52 23.2 -0.2
MKAR	Makanchi Array	146.67	40	PKPbc		PKPdf	11 48 59.8 +0.5
	comp=N,4.9nm,0.4s,baz=337,slow=2.8,SNR=35						
MKAR				SKPbc		SKPbc	11 52 23.2 -0.2
	comp=N,0.3nm,0.6s,baz=288,slow=1.4,SNR=2.6						
MJAR	Matsushiro Arr	155.16	305	PKPab		PKPab	11 49 37.3 -0.9
MJAR	Matsushiro Arr	155.16	305	PKPab		PKPab	11 49 37.3 -0.9
	comp=N,3.5nm,0.9s,baz=86,slow=1.3,SNR=11						
SONM	Songino Array	155.86	11	PKP		PKPdf	11 49 13.1 -0.2
SONM				PKPab		PKPab	11 49 40.2 -0.7
SONM	Songino Array	155.86	11	PKP		PKPdf	11 49 13.1 -0.2
	comp=N,0.5nm,0.7s,baz=117,slow=0.6,SNR=3.9						
SONM				PKPab		PKPab	11 49 40.2 -0.7
	comp=N,0.9nm,0.7s,baz=323,slow=4.3,SNR=5.3						
KSRS	Korea Array	161.69	319	PKPab		PKPab	11 50 07.1 +0.7
	comp=N,1.7nm,1.1s,baz=44,slow=4.4,SNR=5.3						
KSAR	Wonju Array Be	161.72	320	PKPab		PKPab	11 50 07.1 +0.5
HHC	Hu-ho-hao-te	163.39	4	*e*PKP		PKPdf	11 49 20.2 -1.9
HHC				PKS		PKSdf	11 52 53.2 -1.9
HHC				PP		PP	11 53 59.7 +1.3
HHC				SKS		SKSdf	11 56 06.4 -4.1
HHC				SKKS		SKKSac	12 00 29.6 -0.8
HHC				SS		SS	12 14 08.7 -0.9

IDC ***03*** *11:33:58.2±5.1,25°.29N×109°.54W,h0km,mb3.0/1, mb1 3.7/4,mb1mx3.5/24,mbtmp3.2/4,ML3.4/1,Error ellipse: s-maj=73.9km s-min=23.3km az=166.0*

ISC 03 11:34:00.2±2.1,25°.2N±0°.1×109°.57W±0°.08,h17km,n66, σ0°89/77,28C-44D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
319A	Douglas	6.15	2	⇓P		Pn	11 35 28.4	-2.1
	baz=5.9							
319A				⇓S		Sn	11 36 39.0	-1.6
	baz=5.9							
319A	Douglas	6.15	2	⇓P		Pn	11 35 28.4	-2.1
	baz=5.9							
319A				⇓S		Sn	11 36 39.0	-1.6
	baz=5.9							
320A	Kipp Ranch, An	6.18	8	⇓P		Pn	11 35 29.7	-1.1
	baz=5.9							
320A	Kipp Ranch, An	6.18	8	⇓P		Pn	11 35 29.7	-1.1
	baz=5.9							
626A	Big Bend Ranch	6.49	47	⇓P		Pn	11 35 33.7	-1.4
	baz=6.3							
626A				⇓S		Sn	11 36 47.8	-1.1
	baz=6.3							
626A	Big Bend Ranch	6.49	47	⇓P		Pn	11 35 33.7	-1.4
	baz=6.3							
626A				⇓S		Sn	11 36 47.8	-1.1
	baz=6.3							
TXAR	Lajitas Array	6.67	51	Pn		Pn	11 35 36.8	-0.8
	0.2nm,0.3s,baz=228,slow=13,SNR=7.1							
TXAR					Sn	Sn	11 36 52.5	-0.8
	1.2nm,0.3s,baz=245,slow=28,SNR=12							
TXAR					Lg	Lg	11 37 25.7	
	baz=225,slow=14,SNR=3.1							
220A	Playas Peak, P	6.74	8	⇑P		Pn	11 35 37.1	-1.5
	baz=6.5							

326A	**Caldwell Ranch**	**7.83**	**38**	⇓S	**Sn**	**11 37 21.6**	**-0.3**
	baz=7.6							
326A	**Caldwell Ranch**	**7.83**	**38**	⇓S	**Sn**	**11 37 21.6**	**-0.3**
	baz=7.6							
Z20A	**Nine Sixteen R**	**7.93**	**6**	⇓P	**Pn**	**11 35 54.6**	**-0.3**
	baz=7.6,SNR=5.3							
Z20A	**Nine Sixteen R**	**7.93**	**6**	⇓P	**Pn**	**11 35 54.6**	**-0.3**
	baz=7.6,SNR=5.3							
Z21A	**St. Cloud Mine**	**8.24**	**11**	⇑P	**Pn**	**11 35 59.5**	**+0.3**
	baz=8.0,SNR=6.9							
Z21A	**St. Cloud Mine**	**8.24**	**11**	⇑P	**Pn**	**11 35 59.5**	**+0.3**
	baz=8.0,SNR=6.9							
124A	**Stringfield Ra**	**8.29**	**25**	⇓P	**Pn**	**11 35 59.9**	**-0.1**
	baz=8.0							
124A	**Stringfield Ra**	**8.29**	**25**	⇓P	**Pn**	**11 35 59.9**	**-0.1**
	baz=8.0							
Z22A	**Elephant Butte**	**8.34**	**15**	⇑P	**Pn**	**11 36 00.8**	**+0.3**
	baz=8.1,SNR=11							
Z22A	**Elephant Butte**	**8.34**	**15**	⇑P	**Pn**	**11 36 00.8**	**+0.3**
	baz=8.1,SNR=11							
Z23A	**Rita Site, Whi**	**8.54**	**19**	⇓P	**Pn**	**11 36 05.2**	**+1.9**
	baz=8.3,SNR=5.8							
Z23A	**Rita Site, Whi**	**8.54**	**19**	⇓P	**Pn**	**11 36 05.2**	**+1.9**
	baz=8.3,SNR=5.8							
Y21A	**Point of Rocks**	**8.93**	**10**	⇓P	**Pn**	**11 36 09.8**	**+1.2**
	baz=8.6,SNR=7.5							
Y21A	**Point of Rocks**	**8.93**	**10**	⇓P	**Pn**	**11 36 09.8**	**+1.2**
	baz=8.6,SNR=7.5							
Z25A	**Roswell**	**9.09**	**27**	⇓P	**Pn**	**11 36 11.8**	**+0.9**
	baz=8.8							
Z25A	**Roswell**	**9.09**	**27**	⇓P	**Pn**	**11 36 11.8**	**+0.9**
	baz=8.8							
Y23A	**Lovelace Mesa,**	**9.22**	**19**	⇑P	**Pn**	**11 36 12.7**	**+0.1**
	baz=8.9,SNR=6.8							
Y23A	**Lovelace Mesa,**	**9.22**	**19**	⇑P	**Pn**	**11 36 12.7**	**+0.1**
	baz=8.9,SNR=6.8							
X18A	**Snowflake**	**9.30**	**358**	⇓P	**Pn**	**11 36 12.9**	**-0.8**
	baz=9.0							
X18A	**Snowflake**	**9.30**	**358**	⇓P	**Pn**	**11 36 12.9**	**-0.8**
	baz=9.0							
X16A	**Lo Mia Camp, P**	**9.32**	**350**	⇓P	**Pn**	**11 36 14.2**	**+0.1**
	baz=9.1,SNR=9.0							
X16A	**Lo Mia Camp, P**	**9.32**	**350**	⇓P	**Pn**	**11 36 14.2**	**+0.1**
	baz=9.1,SNR=9.0							
X21A	**Alamocita Cree**	**9.34**	**9**	⇑P	**Pn**	**11 36 15.5**	**+1.2**
	baz=9.1							
X21A	**Alamocita Cree**	**9.34**	**9**	⇑P	**Pn**	**11 36 15.5**	**+1.2**
	baz=9.1							
NVAR	**Mina Array Bea**	**15.12**	**333**	Pn	**Pn**	**11 37 35.1**	**+1.9**
	baz=146,slow=15,SNR=7.0							
PDAR	**Pinedale Array**	**17.52**	**0**	P	**Pn**	**11 38 03.9**	**-0.1**
	0.0nm,0.3s,baz=165,slow=11,SNR=9.4							
J20A	**Shoshoni**	**18.14**	**3**	⇑P	**P**	**11 38 12.8**	**+1.0**
	baz=18							
J20A	**Shoshoni**	**18.14**	**3**	⇑P	**P**	**11 38 12.8**	**+1.0**
	baz=18							
J22A	**Midwest**	**18.34**	**7**	⇓P	**Pn**	**11 38 14.7**	**+0.7**
	baz=18							
J22A	**Midwest**	**18.34**	**7**	⇓P	**Pn**	**11 38 14.7**	**+0.7**
	baz=18							
I20A	**Worland**	**18.74**	**3**	⇑P	**Pn**	**11 38 19.4**	**+0.7**
	baz=18							
I20A	**Worland**	**18.74**	**3**	⇑P	**Pn**	**11 38 19.4**	**+0.7**
	baz=18							
H20A	**Greybull**	**19.28**	**3**	⇑P	**Pn**	**11 38 25.3**	**0.0**
	baz=19							
H20A	**Greybull**	**19.28**	**3**	⇑P	**Pn**	**11 38 25.3**	**0.0**
	baz=19							
D14A	**Greenough**	**22.06**	**353**	⇓P	**P**	**11 38 54.2**	**-0.1**
	baz=22							
D14A	**Greenough**	**22.06**	**353**	⇓P	**P**	**11 38 54.2**	**-0.1**
	baz=22							
ILAR	**Eielson Array**	**46.26**	**339**	P	**P**	**11 42 24.4**	**-0.1**
	0.2nm,0.8s,baz=143,slow=6.9,SNR=2.9							

*IDC **03** 11:40:02.6±1.4,33°.83N×25°.68E,h0km,mb3.7/4, mb1 3.7/7,mb1mx3.5/28,mbtmp3.6/7,ML4.0/2,Error ellipse: s-maj=36.7km s-min=22.9km az=153.0*
*ISCJB **03** 11:40:03.6±0.8,33°.90N±0°.06×25°.79E±0°.09,h17km, mb3.6/4,Error ellipse: s-maj=11.4km s-min=7.0km az=150.4*
*HLW **03** 11:40:08.8,33°.86N×25°.81E,h31km±11km,Md3.1,Ml3.0*

ISC 03 11:40:05.2±1.0,33°92N±0°.08×25°73E±0°.09,h17km,n10, σ1§19/13,mb3.6/4,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HMAT	**Matruh**	**3.04**	**157**	P	**Pn**	**11 40 53.5**	**+0.9**
	baz=158						
HMAT				AMP		11 41 00.0	
	comp=E,80μm,0.8s,logA/T=5.0,baz=158						
HMAT				S	**Sn**	**11 41 27.2**	**-1.4**
	baz=158						
HBRG	**Burj al 'Arab**	**4.82**	**133**	P	**Pn**	**11 41 18.0**	**+1.0**
	baz=132						
HBRG				S	**Sn**	**11 42 10.8**	**-1.6**
	baz=132						
GLL	**Jalalah**	**6.68**	**129**	P	**Pn**	**11 41 43.7**	**+1.1**
	baz=128						
MMAI	**Mount Meron Ar**	**8.14**	**94**	Pn	**Pn**	**11 42 01.4**	**-1.2**
	comp=E,1.3nm,0.3s,baz=263,slow=11,SNR=4.2						
MMAI				Sn	**Sn**	**11 43 34.5**	**+0.3**
	comp=E,1.7nm,0.3s,baz=266,slow=26,SNR=2.4						
AKASG	**Malin Array Be**	**16.97**	**8**	P	**Pn**	**11 44 01.1**	**-0.5**
	comp=E,0.8nm,0.3s,baz=200,slow=10,SNR=7.8						
GERES	**GERESS Array B**	**17.40**	**333**	P	**Pn**	**11 44 06.7**	**-0.4**
	baz=159,slow=13,SNR=3.9						
TORD	**Torodi Ar. Bea**	**30.07**	**232**	P	**P**	**11 46 13.0**	**-0.7**
	comp=E,0.7nm,0.5s,baz=34,slow=8.8,SNR=7.5						
KURBB	**Kurchatov Arra**	**41.55**	**50**	P	**P**	**11 47 51.9**	**+0.3**
	comp=E,0.7nm,0.6s,baz=277,slow=8.8,SNR=6.5						
MKAR	**Makanchi Array**	**44.08**	**56**	P	**P**	**11 48 13.6**	**+1.3**
	comp=E,0.2nm,0.4s,baz=262,slow=2.9,SNR=3.4						
ZALV	**Zalesovo Beam**	**45.54**	**45**	P	**P**	**11 48 25.2**	**+1.5**
	comp=E,0.6nm,0.3s,baz=260,slow=8.2,SNR=3.1						

*ATH **03** 11:45:23.4,33°.79N×25°.62E,h9km±2km,MD3.6/10*
*ISCJB **03** 11:45:28.6±0.3,34°.05N±0°.03×25°.69E±0°.04,h17km, mb3.7/11,Error ellipse: s-maj=6.1km s-min=3.7km az=139.0*
*CSEM **03** 11:45:28.1±0.2,34°.08N×25°.63E,h2km,MD3.6,Error ellipse: s-maj=7.9km s-min=4.4km az=63.0*
*IDC **03** 11:45:28.6±1.1,34°.19N×25°.70E,h0km,mb3.8/11, mb1 3.9/16,mb1mx3.8/32,mbtmp3.8/16,ML3.9/5,Error ellipse: s-maj=24.0km s-min=17.2km az=2.0*
*HLW **03** 11:45:31.3,33°.95N×25°.63E,h12km±19km,Md3.3,Ml3.3*

ISC 03 11:45:29.9±0.6,34°07N±0°.04×25°59E±0°.04,h17km,n61, σ1§10/67,mb3.8/11,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.80**	**6**	*e*PN	**Pb**	**11 45 44.5**	**-0.9**
XRY	**Khrisi**	**0.80**	**6**	*e*Pn	**Pb**	**11 45 44.5**	**-0.9**
LAST	**Lasithi**	**1.09**	**355**	*e*PG	**Pb**	**11 45 48.7**	**-1.7**
LAST	**Lasithi**	**1.09**	**355**	*e*Pg	**Pb**	**11 45 48.7**	**-1.7**
SIVA	**Sivas**	**1.14**	**326**	*e*PG	**Pn**	**11 45 49.0**	**-2.1**
SIVA	**Sivas**	**1.14**	**326**	*e*Pg	**Pn**	**11 45 49.0**	**-2.1**
ZKR	**Zakros**	**1.16**	**26**	*e*PB	**Pn**	**11 45 50.7**	**-0.7**
ZKR				*e*SB	**Sg**	**11 46 09.2**	**+1.7**
ZKR	**Zakros**	**1.16**	**26**	*e*Pb	**Pn**	**11 45 50.7**	**-0.7**
NPS	**Neapolis**	**1.19**	**1**	*e*PG	**Pn**	**11 45 50.9**	**-0.9**
NPS	**Neapolis**	**1.19**	**1**	*e*Pg	**Pn**	**11 45 50.9**	**-0.9**
IDI	**Anoyia**	**1.34**	**335**	*e*PG	**Pn**	**11 45 53.5**	**-0.5**
IDI	**Anoyia**	**1.34**	**335**	*e*Pg	**Pn**	**11 45 53.5**	**-0.5**
GVD	**Gavdhos**	**1.46**	**302**	*e*PB	**Pn**	**11 45 54.7**	**-0.8**
GVD				*e*SB	**Sg**	**11 46 16.6**	**-0.5**
GVD	**Gavdhos**	**1.46**	**302**	*e*Pb	**Pn**	**11 45 54.7**	**-0.8**
GVD				*e*Sb	**Sg**	**11 46 16.6**	**-0.5**
VAM	**Vamos**	**1.76**	**320**	*e*PN	**Pn**	**11 45 59.9**	**+0.3**
VAM				*e*SN	**Sg**	**11 46 26.8**	**+0.2**
VAM	**Vamos**	**1.76**	**320**	*e*Pn	**Pn**	**11 45 59.9**	**+0.3**
KARP	**Karpathos**	**1.96**	**41**	*e*PN	**Pn**	**11 46 01.2**	**-1.2**
KARP	**Karpathos**	**1.96**	**41**	*e*Pn	**Pn**	**11 46 01.2**	**-1.2**
SLUM		**2.59**	**187**	P	**Pn**	**11 46 10.7**	**-0.4**
APE	**Apeiranthos**	**2.99**	**359**	*e*PN	**Pn**	**11 46 17.5**	**+0.9**
APE	**Apeiranthos**	**2.99**	**359**	*e*Pn	**Pn**	**11 46 17.5**	**+0.9**
KYTH	**Kithira**	**3.04**	**317**	*e*PN	**Pn**	**11 46 17.9**	**+0.6**
KYTH	**Kithira**	**3.04**	**317**	*e*Pn	**Pn**	**11 46 17.9**	**+0.6**
HMAT	**Matruh**	**3.23**	**156**	P	**Pn**	**11 46 19.6**	**-0.2**
	baz=156						
HMAT				AMP		11 46 00.0	
	comp=E,130μm,0.5s,logA/T=5.4,baz=156						
HMAT				S	**Sn**	**11 46 56.2**	**-1.7**
	baz=156						
HMAT	**Matruh**	**3.23**	**156**	P	**Pn**	**11 46 19.6**	**-0.2**
HMAT				S	**Sn**	**11 46 56.2**	**-1.7**
VLI	**Veliai**	**3.42**	**321**	*e*PN	**Pn**	**11 46 22.5**	**+0.1**
VLI	**Veliai**	**3.42**	**321**	*e*Pn	**Pn**	**11 46 22.5**	**+0.1**
DYR	**Agios Nikonas**	**3.78**	**316**	*e*PN	**Pn**	**11 46 28.8**	**+1.4**
DYR	**Agios Nikonas**	**3.78**	**316**	*e*Pn	**Pn**	**11 46 28.8**	**+1.4**
DID	**Didima**	**3.92**	**331**	*e*PN	**Pn**	**11 46 29.6**	**+0.2**
DID	**Didima**	**3.92**	**331**	*e*Pn	**Pn**	**11 46 29.6**	**+0.2**
ITM	**Ithomi**	**4.30**	**317**	*e*PN	**Pn**	**11 46 36.0**	**+1.4**
ITM	**Ithomi**	**4.30**	**317**	*e*Pn	**Pn**	**11 46 36.0**	**+1.4**
GUR	**Goura**	**4.67**	**327**	*e*PN	**Pn**	**11 46 40.0**	**+0.3**
GUR	**Goura**	**4.67**	**327**	*e*Pn	**Pn**	**11 46 40.0**	**+0.3**
SWA2		**4.82**	**181**	P	**Pn**	**11 46 41.6**	**-0.1**
	baz=182						
SWA2		**4.82**	**181**	P	**Pn**	**11 46 41.6**	**-0.1**
HBRG	**Burj al 'Arab**	**5.01**	**133**	P	**Pn**	**11 46 44.7**	**+0.4**
	baz=132						
AGG	**Agios Georgios**	**5.59**	**333**	*e*PN	**Pn**	**11 46 53.4**	**+1.0**
AGG	**Agios Georgios**	**5.59**	**333**	*e*Pn	**Pn**	**11 46 53.4**	**+1.0**
KOT	**Kottamia**	**6.72**	**126**	P	**Pn**	**11 47 08.0**	**+0.2**
	baz=125						
KOT	**Kottamia**	**6.72**	**126**	P	**Pn**	**11 47 08.0**	**+0.2**
MMAI	**Mount Meron Ar**	**8.26**	**95**	Pn	**Pn**	**11 47 29.4**	**+0.4**
	comp=E,1.0nm,0.3s,baz=255,slow=16,SNR=3.2						
MMAI				Sn	**Sn**	**11 49 00.2**	**-1.7**
	comp=E,1.7nm,0.3s,baz=266,slow=22,SNR=1.6						
BRTR	**Keskin Array B**	**8.56**	**46**	Pn	**Pn**	**11 47 35.5**	**+2.3**
	comp=E,0.1nm,0.3s,baz=222,slow=14,SNR=6.4						
EIL	**Elat**	**9.09**	**116**	Pn	**Pn**	**11 47 40.0**	**-0.3**
	comp=E,0.4nm,0.3s,baz=36,slow=2.4,SNR=8.6						
EIL				Sn	**Sn**	**11 49 18.5**	**-3.7**
	comp=E,0.5nm,0.3s,baz=22,slow=14,SNR=1.4						
ABTA	**Abfaltersbach**	**16.08**	**326**	P	**P**	**11 49 19.5**	**+1.0**
	comp=E,3.5nm,0.6s						
KBZ	**Khabaz**	**16.54**	**49**	Pn	**P**	**11 49 22.1**	**-1.3**
	comp=E,0.1nm,0.3s,baz=271,slow=7.2,SNR=5.3						
AKASG	**Malin Array Be**	**16.83**	**8**	Pn	**P**	**11 49 25.3**	**-1.4**
	comp=E,2.0nm,0.3s,baz=199,slow=11,SNR=5.8						
FETA	**Feichten**	**17.13**	**323**	P	P	11 49 35.5	+5.3
	comp=E,6.7nm,1.3s						
GERES	**GERESS Array B**	**17.21**	**333**	P	**P**	**11 49 31.5**	**+0.5**
	comp=E,0.2nm,0.3s,baz=145,slow=14,SNR=8.2						
HFS	**Hagfors**	**27.21**	**347**	P	**P**	**11 51 13.1**	**+0.5**
	comp=E,2.3nm,1.1s,baz=162,slow=11,SNR=2.6						
NOA	**NORSAR Array B**	**28.54**	**345**	P	**P**	**11 51 26.0**	**+1.6**
	comp=E,0.2nm,0.5s,baz=149,slow=7.8,SNR=2.3						
AKTO	**Aktyubinsk**	**28.74**	**45**	P	**P**	**11 51 26.2**	**-0.1**
	comp=E,1.1nm,0.7s,baz=239,slow=12,SNR=3.1						
TORD	**Torodi Ar. Bea**	**30.08**	**232**	P	P	11 51 42.3	+3.7
	comp=E,0.4nm,0.7s,baz=30,slow=7.4,SNR=3.1						
KURBB	**Kurchatov Arra**	**41.53**	**50**	P	**P**	**11 53 16.8**	**+0.6**
	comp=E,1.8nm,0.6s,baz=276,slow=8.7,SNR=16						
MKAR	**Makanchi Array**	**44.08**	**56**	P	**P**	**11 53 37.7**	**+0.6**
	comp=E,1.1nm,0.5s,baz=276,slow=7.3,SNR=10						
ZALV	**Zalesovo Beam**	**45.50**	**45**	P	**P**	**11 53 47.6**	**-0.5**
	comp=E,1.1nm,0.5s,baz=282,slow=8.1,SNR=4.9						
SONM	**Songino Array**	**59.90**	**50**	P	**P**	**11 55 35.9**	**+1.0**
	comp=E,0.3nm,0.4s,baz=258,slow=7.3,SNR=3.2						
SCHQ	**Schefferville**	**64.25**	**320**	P	**P**	**11 56 03.8**	**-0.1**
	comp=E,1.9nm,0.7s,baz=51,slow=5.4,SNR=7.8						
YKA	**Yellowknife Ar**	**78.59**	**342**	P	**P**	**11 57 30.0**	**-0.2**
	comp=E,0.3nm,0.5s,baz=32,slow=5.1,SNR=7.1						
ILAR	**Eielson Array**	**81.31**	**357**	P	**P**	**11 57 45.1**	**+0.2**
	comp=E,0.4nm,0.8s,baz=355,slow=3.2,SNR=5.6						

MEX 03 12:01:39.9±0.3,26°29N×109°49W,h12km±7km,MD4.3, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**2.30**	**199**	*i* P	Pn	12 02 14.3	-3.2
LPIG				*i* S	Sn	12 02 41.4	-4.3
SRIG	**Santa Rosalia**	**2.67**	**293**	*i* P	Pn	12 02 19.8	-2.8
SRIG				*i* S	Sn	12 02 50.9	-3.9
HSIG		**3.02**	**335**	*i* P	Pn	12 02 24.6	-2.9
HSIG				*i* S	Sn	12 02 59.4	-4.1
HPIG		**3.48**	**78**	*i* P	Pn	12 02 31.0	-3.2
HPIG				*i* S	Sn	12 03 12.3	-3.2
CGIG		**4.28**	**18**	*i* P	Pn	12 02 42.2	-2.8
CGIG				*i* S	Sn	12 03 31.3	-3.7
ANIG	**Ahuacatlan**	**6.92**	**138**	*i* P	Pn	12 03 20.3	-1.0
ANIG				*i* S	Sn	12 04 37.1	-2.9

*ATH **03** 12:02:21.2,33°.95N×25°.50E,h10km±2km,MD3.4/6*
*CSEM **03** 12:02:21.2,33°.95N×25°.50E,h10km,MD3.4,After ATH*
*ISCJB **03** 12:02:22.6±1.0,33°.96N±0°.07×25°.58E±0°.08,h17km, mb3.2/3,Error ellipse: s-maj=10.5km s-min=9.5km az=39.1*
*IDC **03** 12:02:22.4±1.5,34°.05N×25°.59E,h0km,mb3.4/3, mb1 3.5/5,mb1mx3.4/27,mbtmp3.4/5,ML3.7/2,Error ellipse: s-maj=53.5km s-min=23.9km az=142.0*

ISC 03 12:02:24.8±1.2,34°10N±0°.09×25°48E±0°.06,h17km,n17, σ0§92/21,mb3.4/3,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**1.06**	**0**	*e*PB	**Pn**	**12 02 43.9**	**-1.0**
LAST	**Lasithi**	**1.06**	**0**	*e*Pb	**Pn**	**12 02 43.9**	**-1.0**
SIVA	**Sivas**	**1.07**	**329**	*e*PB	**Pn**	**12 02 44.0**	**-1.0**
SIVA				*e*SB	**Sg**	**12 03 00.5**	**+1.1**
SIVA	**Sivas**	**1.07**	**329**	*e*Pb	**Pn**	**12 02 44.0**	**-1.0**
SIVA				*e*Sb	**Sg**	**12 03 00.5**	**+1.1**
NPS	**Neapolis**	**1.16**	**5**	*e*PN	**Pn**	**12 02 45.0**	**-1.3**
NPS	**Neapolis**	**1.16**	**5**	*e*Pn	**Pn**	**12 02 45.0**	**-1.3**
ZKR	**Zakros**	**1.18**	**31**	*e*PB	**Pn**	**12 02 45.8**	**-0.8**
ZKR				*e*SB	**Sg**	**12 03 03.9**	**+0.8**
ZKR	**Zakros**	**1.18**	**31**	*e*Pb	**Pn**	**12 02 45.8**	**-0.8**
ZKR				*e*Sb	**Sg**	**12 03 03.9**	**+0.8**
IDI	**Anoyia**	**1.28**	**338**	*e*PB	**Pb**	**12 02 48.1**	**-0.4**
IDI	**Anoyia**	**1.28**	**338**	*e*Pb	**Pb**	**12 02 48.1**	**-0.4**
VAM	**Vamos**	**1.67**	**321**	*e*PN	**Pb**	**12 02 54.6**	**-0.6**
VAM	**Vamos**	**1.67**	**321**	*e*Pn	**Pb**	**12 02 54.6**	**-0.6**
BRTR	**Keskin Array B**	**8.61**	**47**	Pn	**Pn**	**12 04 28.5**	**-0.3**
	0.1nm,0.3s,baz=221,slow=19,SNR=2.4						
GERES	**GERESS Array B**	**17.14**	**333**	Pn	**P**	**12 06 26.4**	**+1.2**
	0.3nm,0.3s,baz=176,slow=8.4,SNR=6.0						
TORD	**Torodi Ar. Bea**	**30.02**	**232**	P	**P**	**12 08 33.5**	**+0.6**
	0.1nm,0.4s,baz=24,slow=8.6,SNR=3.1						
KURBB	**Kurchatov Arra**	**41.59**	**50**	P	**P**	**12 10 11.2**	**-0.4**
	0.5nm,0.6s,baz=276,slow=8.6,SNR=3.8						
MKAR	**Makanchi Array**	**44.15**	**56**	P	**P**	**12 10 32.1**	**-0.3**
	0.4nm,0.7s,baz=267,slow=9.5,SNR=3.5						

*IDC **03** 12:08:32.8±7.4,25°.08N×108°.57W,h0km,mb3.4/2, mb1 3.7/5,mb1mx3.5/26,mbtmp3.3/5,ML2.9/1,Error ellipse: s-maj=110.0km s-min=83.9km az=140.0*

ISC 03 12:08:32.3±2.3,25°0N±0°.1×108°4W±0°.2,h10km,n9, σ1§19/8,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**1.94**	**244**	*i* S	**Pn**	**12 09 05.2**	**-0.1**
SRIG	**Santa Rosalia**	**4.16**	**305**	*i* S	**Pn**	**12 09 36.2**	**+0.3**
CGIG		**5.38**	**4**	*i* S	**Sb**	**12 11 11.0**	**-0.1**
TXAR	**Lajitas Array**	**6.05**	**43**	Pn	Pn	12 09 52.8	-9.1
	0.1nm,0.3s,baz=205,slow=19,SNR=4.2						
TXAR				Sn	Sn	12 10 49.1	-22
	0.3nm,0.3s,baz=234,slow=14,SNR=2.4						
ANMO	**Albuquerque**	**10.07**	**9**	Pn	**Pn**	**12 10 56.4**	**-0.8**
	0.1nm,0.3s,baz=246,slow=20,SNR=1.6						
NVAR	**Mina Array Bea**	**15.82**	**330**	Pn	**P**	**12 12 17.6**	**-1.6**
	0.1nm,0.3s,baz=162,slow=12,SNR=7.9						
PDAR	**Pinedale Array**	**17.77**	**357**	P	**P**	**12 12 42.2**	**+1.4**
	0.1nm,0.3s,baz=175,slow=12,SNR=4.6						
NEW	**Newport**	**24.24**	**346**	P	**P**	**12 13 50.4**	**+1.1**
	1.1nm,0.7s,baz=130,slow=11,SNR=4.0						
ILAR	**Eielson Array**	**46.85**	**339**	P	**P**	**12 17 02.8**	**+0.6**
	0.3nm,0.7s,baz=143,slow=7.7,SNR=7.5						

*AUST **03** 12:29:10.1±20.0,22°.48S×178°.64W,h545km±3km,Error ellipse: s-maj=9.4km s-min=2.7km az=236.0*
*ISCJB **03** 12:29:16.3±0.7,23°.34S±0°.09×179°.8W±0°.1,h526km, mb3.8/10,Error ellipse: s-maj=13.3km s-min=11.7km az=10.1*
*IDC **03** 12:29:16.8±4.6,23°.31S×179°.77W,h521km±52km, mb3.4/10,mb1 3.6/11,mb1mx3.3/22,mbtmp3.4/11,Error ellipse: s-maj=22.7km s-min=19.3km az=48.0*

ISC 03 12:29:17.2±0.8,23°5S±0°.1×179°7W±0°.1,h526km,n27, σ1§04/27,mb3.9/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.98**	**190**	P	**P**	**12 32 26.8**	**+0.2**
	1.9nm,0.3s,baz=7.4,slow=1.9,SNR=15						
URZ				S	**S**	**12 35 00.4**	**-2.4**
	0.6nm,0.3s,baz=145,slow=22,SNR=5.8						
MGCD	**Mangrove Creek**	**27.35**	**243**	P	**P**	**12 34 22.2**	**+2.3**
	baz=29,SNR=6.6						
MILA	**Mila**	**29.93**	**236**	S	S	12 39 21.2	+18
	baz=31,SNR=5.2						
CMSA	**Cobar Meteorol**	**31.59**	**248**	P	**P**	**12 34 57.8**	**+1.1**
	baz=33,SNR=16						
QLP	**Quilpie**	**32.72**	**257**	P	**P**	**12 35 07.1**	**+0.7**
	baz=34,SNR=27						
TOO	**Toolangi**	**32.88**	**237**	P	**P**	**12 35 09.1**	**+1.4**
	baz=34,SNR=7.4						
MTSU	**Mount Surprise**	**33.96**	**272**	P	**P**	**12 35 17.5**	**+0.5**
	baz=35,SNR=11						
PMG	**Port Moresby**	**34.58**	**288**	P	**P**	**12 35 21.8**	**-0.4**
	14nm,0.9s,baz=141,slow=10,SNR=3.2						
STKA	**Stephens Creek**	**35.10**	**248**	P	**P**	**12 35 27.2**	**+0.9**
	2.9nm,0.5s,baz=106,slow=10,SNR=14						
STKA	**Stephens Creek**	**35.10**	**248**	P	**P**	**12 35 27.3**	**+0.9**
	baz=36,SNR=12						
ASAR	**Alice Springs**	**42.34**	**260**	P	**P**	**12 36 24.9**	**-0.2**
	6.0nm,0.7s,baz=102,slow=6.8,SNR=81						
WRA	**Warramunga Arr**	**42.67**	**266**	P	**P**	**12 36 26.7**	**-1.1**
	3.1nm,0.3s,baz=92,slow=8.5,SNR=168						
KDU	**Kakadu**	**46.49**	**275**	P	**P**	**12 36 56.2**	**-1.1**
	baz=47,SNR=5.3						
FORT	**Forrest**	**46.68**	**249**	P	**P**	**12 36 58.2**	**-0.3**
	baz=48,SNR=12						
KNRA	**Kununurra**	**48.93**	**269**	P	**P**	**12 37 15.0**	**-0.5**
	baz=50,SNR=5.7						
KNRA				S	S	12 44 04.5	+24
	baz=50,SNR=4.3						
FITZ	**Fitzroy Crossi**	**51.10**	**265**	P	**P**	**12 37 31.2**	**-0.3**
	3.0nm,0.4s,baz=89,slow=6.4,SNR=29						
FITZ	**Fitzroy Crossi**	**51.10**	**265**	P	**P**	**12 37 31.3**	**-0.2**
	baz=52,SNR=13						
KLBR	**Kellerberrin**	**55.37**	**247**	P	**P**	**12 38 01.2**	**-0.4**
	baz=57,SNR=6.9						
MEEK	**Meekatharra**	**55.46**	**253**	P	**P**	**12 38 01.4**	**-1.0**
	baz=57,SNR=7.5						
BLDU	**Ballidu**	**56.40**	**248**	P	**P**	**12 38 08.2**	**-0.7**
	baz=58,SNR=12						
MORW	**Morawa**	**57.24**	**250**	P	**P**	**12 38 14.2**	**-0.4**
	baz=58,SNR=6.8						
QSPA	**South Pole Qui**	**66.60**	**180**	P	**P**	**12 39 16.4**	**+1.4**
	1.5nm,0.6s,baz=320,slow=2.4,SNR=18						
MAW	**Mawson**	**78.22**	**200**	P	**P**	**12 40 22.4**	**+0.5**
	0.7nm,0.5s,baz=118,slow=8.2,SNR=5.4						
NVAR	**Mina Array Bea**	**84.29**	**44**	P	**P**	**12 40 53.5**	**-0.4**
	0.3nm,0.8s,baz=213,slow=6.5,SNR=3.7						
TXAR	**Lajitas Array**	**90.01**	**58**	P	**P**	**12 41 21.3**	**+0.4**
	0.3nm,0.5s,baz=213,slow=6.1,SNR=4.0						
PDAR	**Pinedale Array**	**92.22**	**44**	P	**P**	**12 41 29.8**	**-1.3**
	0.3nm,0.6s,baz=236,slow=6.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**169.63**	**188**	PKPab	**PKPab**	**12 49 42.2**	**0.0**
	0.5nm,1.0s,baz=170,slow=6.4,SNR=3.2						

*IDC **03** 12:32:43.2±2.4,36°.31N×21°.67E,h0km,mb3.6/3, mb1 3.6/3,mb1mx3.3/27,mbtmp3.6/3,Error ellipse: s-maj=373.6km s-min=29.2km az=137.0*
*ATH **03** 12:32:46.7,36°.17N×21°.46E,h35km±3km,MD3.7/22, ML3.4*
*ISCJB **03** 12:32:47.3±0.7,36°.21N±0°.03×21°.46E±0°.04,h24km±5km, mb3.6/3,Error ellipse: s-maj=6.1km s-min=4

LTK	**Loutraki**	**2.15**	**32**	*e*PN	**Pn**	**12 33 22.2**	**-0.4**
LTK	**Loutraki**	**2.15**	**32**	*e*Pn	**Pn**	**12 33 22.2**	**-0.4**
LTK	**Loutraki**	**2.15**	**32**	P	**Pn**	**12 33 22.7**	**+0.1**
TRIZ	**Trizonia**	**2.19**	**12**	P	**Pn**	**12 33 24.3**	**+1.1**
TRIZ				S	**Sn**	**12 33 49.2**	**-0.3**
TRIZ	**Trizonia**	**2.19**	**12**	*e*PB	**Pn**	**12 33 25.0**	**+1.8**
TRIZ	**Trizonia**	**2.19**	**12**	P	**Pn**	**12 33 24.3**	**+1.1**
TRIZ	**Trizonia**	**2.19**	**12**	*e*Pb	**Pn**	**12 33 25.0**	**+1.8**
TRIZ				S	**Sn**	**12 33 49.2**	**-0.3**
KALE	**Kalithea**	**2.23**	**13**	P	**Pn**	**12 33 25.2**	**+1.4**
KALE				S	**Sn**	**12 33 50.9**	**+0.3**
KALE	**Kalithea**	**2.23**	**13**	*e*PN	**Pn**	**12 33 24.5**	**+0.7**
KALE	**Kalithea**	**2.23**	**13**	*e*Pn	**Pn**	**12 33 24.5**	**+0.7**
KALE	**Kalithea**	**2.23**	**13**	P	**Pn**	**12 33 25.2**	**+1.4**
KALE				S	**Sn**	**12 33 50.9**	**+0.3**
EFP	**Efpalio**	**2.23**	**8**	*e*PB	**Pn**	**12 33 25.0**	**+1.2**
EFP	**Efpalio**	**2.23**	**8**	*e*Pb	**Pn**	**12 33 25.0**	**+1.2**
VAM	**Vamos**	**2.33**	**109**	P	**Pn**	**12 33 25.9**	**+0.8**
VAM	**Vamos**	**2.33**	**109**	*e*PN	**Pn**	**12 33 25.3**	**+0.2**
VAM	**Vamos**	**2.33**	**109**	P	**Pn**	**12 33 25.9**	**+0.8**
DSF	**Desfina**	**2.34**	**20**	P	**Pn**	**12 33 25.3**	**0.0**
DSF				S	**Sn**	**12 33 52.2**	**-1.0**
DSF	**Desfina**	**2.34**	**20**	P	**Pn**	**12 33 25.3**	**0.0**
DSF				S	**Sn**	**12 33 52.2**	**-1.0**
ATH	**Athens Observa**	**2.48**	**44**	*e*PN	**Pn**	**12 33 27.0**	**-0.3**
ATH	**Athens Observa**	**2.48**	**44**	*e*Pn	**Pn**	**12 33 27.0**	**-0.3**
PTL	**Penteli**	**2.62**	**45**	*e*PN	**Pn**	**12 33 29.4**	**+0.2**
PTL	**Penteli**	**2.62**	**45**	*e*Pn	**Pn**	**12 33 29.4**	**+0.2**
LKD2	**Lefkada island**	**2.66**	**345**	P	**Pn**	**12 33 31.1**	**+1.3**
LKD2	**Lefkada island**	**2.66**	**345**	*e*PN	**Pn**	**12 33 31.0**	**+1.3**
LKD2	**Lefkada island**	**2.66**	**345**	*e*Pn	**Pn**	**12 33 31.0**	**+1.3**
LKR	**Lokris**	**2.70**	**25**	*e*PN	**Pn**	**12 33 29.7**	**-0.6**
LKR	**Lokris**	**2.70**	**25**	*e*Pn	**Pn**	**12 33 29.7**	**-0.6**
AXAR	**Agios Charalam**	**2.71**	**19**	P	**Pn**	**12 33 31.0**	**+0.7**
AXAR	**Agios Charalam**	**2.71**	**19**	P	**Pn**	**12 33 31.0**	**+0.7**
EVR	**Evrytania**	**2.71**	**5**	P	**Pn**	**12 33 32.1**	**+1.7**
EVR	**Evrytania**	**2.71**	**5**	*e*PN	**Pn**	**12 33 31.4**	**+1.0**
EVR				*e*SN	**Sn**	**12 34 02.2**	**-0.2**
EVR	**Evrytania**	**2.71**	**5**	*e*Pn	**Pn**	**12 33 31.4**	**+1.0**
EVR	**Evrytania**	**2.71**	**5**	P	**Pn**	**12 33 32.1**	**+1.7**
EVR				*e*Sn	**Sn**	**12 34 02.2**	**-0.2**
MAKR	**Makrakomi, Fth**	**2.84**	**10**	P	**Pn**	**12 33 33.2**	**+1.0**
MAKR	**Makrakomi, Fth**	**2.84**	**10**	P	**Pn**	**12 33 33.2**	**+1.0**
AGG	**Agios Georgios**	**2.88**	**13**	P	**Pn**	**12 33 33.5**	**+0.8**
AGG	**Agios Georgios**	**2.88**	**13**	*e*PN	**Pn**	**12 33 33.3**	**+0.6**
AGG	**Agios Georgios**	**2.88**	**13**	*e*Pn	**Pn**	**12 33 33.3**	**+0.6**
IDI	**Anoyia**	**2.90**	**108**	P	**Pn**	**12 33 32.7**	**-0.3**
IDI	**Anoyia**	**2.90**	**108**	*e*PN	**Pn**	**12 33 31.6**	**-1.4**
IDI	**Anoyia**	**2.90**	**108**	P	**Pn**	**12 33 32.7**	**-0.3**
APE	**Apeiranthos**	**3.34**	**74**	*e*PN	**Pn**	**12 33 37.5**	**-1.6**
APE	**Apeiranthos**	**3.34**	**74**	*e*Pn	**Pn**	**12 33 37.5**	**-1.6**
THL	**Klokotos Trika**	**3.37**	**7**	P	**Pn**	**12 33 40.0**	**+0.6**
THL	**Klokotos Trika**	**3.37**	**7**	*e*PN	**Pn**	**12 33 39.9**	**+0.6**
THL				*e*SN	**Sn**	**12 34 18.4**	**-0.1**
THL	**Klokotos Trika**	**3.37**	**7**	P	**Pn**	**12 33 40.0**	**+0.6**
THL				*e*Sn	**Sn**	**12 34 18.4**	**-0.1**
NEO	**Neokhori**	**3.37**	**23**	*e*PN	**Pn**	**12 33 39.0**	**-0.5**
NEO	**Neokhori**	**3.37**	**23**	*e*Pn	**Pn**	**12 33 39.0**	**-0.5**
LAST	**Lasithi**	**3.39**	**107**	*e*PN	**Pn**	**12 33 39.7**	**-0.2**
LAST	**Lasithi**	**3.39**	**107**	*e*Pn	**Pn**	**12 33 39.7**	**-0.2**
XOR	**Xorichti**	**3.42**	**22**	P	**Pn**	**12 33 41.2**	**+1.1**
XOR	**Xorichti**	**3.42**	**22**	P	**Pn**	**12 33 41.2**	**+1.1**
KEK	**Kerkira**	**3.75**	**339**	P	**Pn**	**12 33 44.4**	**-0.2**
KEK	**Kerkira**	**3.75**	**339**	*e*PN	**Pn**	**12 33 44.4**	**-0.2**
KEK	**Kerkira**	**3.75**	**339**	P	**Pn**	**12 33 44.4**	**-0.2**
KNS	**Konitsa**	**3.88**	**351**	P	**Pn**	**12 33 47.1**	**+0.5**
KNS	**Konitsa**	**3.88**	**351**	P	**Pn**	**12 33 47.1**	**+0.5**
LIT	**Litokhoron**	**3.96**	**11**	*e*PN	**Pn**	**12 33 48.2**	**+0.7**
LIT	**Litokhoron**	**3.96**	**11**	*e*Pn	**Pn**	**12 33 48.2**	**+0.7**
KZN	**Kozani**	**4.09**	**3**	*e*PN	**Pn**	**12 33 51.3**	**+1.9**
KZN	**Kozani**	**4.09**	**3**	*e*Pn	**Pn**	**12 33 51.3**	**+1.9**
NEST	**Nestorio**	**4.21**	**355**	P	**Pn**	**12 33 52.4**	**+1.3**
NEST	**Nestorio**	**4.21**	**355**	P	**Pn**	**12 33 52.4**	**+1.3**
PLG	**Polygyros**	**4.42**	**20**	*e*PN	**Pn**	**12 33 54.8**	**+0.9**
PLG	**Polygyros**	**4.42**	**20**	*e*Pn	**Pn**	**12 33 54.8**	**+0.9**
FNA	**Florina**	**4.56**	**359**	*e*PN	**Pn**	**12 33 56.0**	**+0.1**
FNA	**Florina**	**4.56**	**359**	*e*Pn	**Pn**	**12 33 56.0**	**+0.1**
LTBQ	**Tobruq** SNR=48	**4.60**	**154**	*i* P	**Pn**	**12 33 57.1**	**+0.7**
LTBQ				*e*S	Sn	12 34 45.1	-4.0
	20nm,0.9s,SNR=48						
TORD	**Torodi Ar. Bea** 0.4nm,1.0s,baz=42,slow=10,SNR=3.4	**29.07**	**223**	P	**P**	**12 38 46.8**	**-0.1**
MKAR	**Makanchi Array** 0.5nm,0.4s,baz=270,slow=8.5,SNR=4.8	**45.68**	**57**	P	P	12 41 04.4	-2.6
ZALV	**Zalesovo Beam** 0.7nm,0.4s,baz=254,slow=9.0,SNR=3.8	**46.43**	**47**	P	P	12 41 09.9	-2.9

DJA 03 12:38:56.3±0.3, 2°S±3′×12°1E±′, h10km, M3.6/8, MLv3.6/8, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKSI	**Soroako, Sulaw**	**0.19**	**140**	P	Pg	12 38 59.1	-1.4
SKSI				S	Sg	12 39 02.3	-1.1
TTSI	**Tana Toraja**	**1.54**	**245**	P	Pn	12 39 22.1	-1.7
TTSI				S	Sb	12 39 44.4	-0.1
LUWI	**Luwuk**	**2.05**	**50**	P	Pn	12 39 31.4	+0.5
LUWI				S	Sb	12 39 59.2	0.0
SPSI	**Sidrap Palu**	**2.13**	**222**	P	Pn	12 39 34.0	-1.1
SPSI				S	Sb	12 40 01.6	0.0
MRSI	**Marisa**	**2.93**	**14**	P	Pn	12 39 44.2	+1.2
KAPI	**Kappang**	**2.99**	**209**	P	Pn	12 39 44.8	+0.9
BKSI	**Bulukumba**	**3.12**	**200**	P	Pn	12 39 48.5	+2.9
GTOI	**Gorontalo**	**3.50**	**31**	P	Pn	12 39 52.3	+1.5

*IDC **03** 12:40:20.1±1.3,57.°68S×25.°75W, h0km, mb3.8/2, mb1 3.8/2, mb1mx3.6/17, mbtmp3.8/2, Error ellipse: s-maj=105.8km s-min=32.6km az=99.0*
*NEIC **03** 12:40:21.4±0.7,57.°73S×25.°98W, h10km, mb4.0/3, Error ellipse: s-maj=26.0km s-min=14.0km az=67.0*
*ISCJB **03** 12:40:26.0±1.1,57.°8S±0.°2×26.°0W±0.°4, h65km, mb3.8/4, Error ellipse: s-maj=32.5km s-min=18.9km az=154.6*
ISC 03 12:40:28.3±0.9, 57.°8S±0.°1×26.°0W±0.°2, h65km, n11, σ1°9/11, mb3.8/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**16.84**	**155**	*e*Pn	**Pn**	**12 44 18.0**	**-1.6**
QSPA	**South Pole Qui** 1.1nm,0.7s	**32.42**	**180**	*e*P	**P**	**12 46 53.0**	**+1.2**
QSPA	**South Pole Qui** 0.9nm,0.7s,baz=229,slow=7.4,SNR=7.5	**32.42**	**180**	P	**P**	**12 46 52.7**	**+0.9**
PLCA	**Paso Flores** 1.9nm,0.9s	**33.00**	**282**	*e*P	**P**	**12 46 55.8**	**-1.1**
SBA	**Scott Base** 5.4nm,1.4s	**44.35**	**184**	*e*P	**P**	**12 48 31.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**74.29**	**28**	P	**P**	**12 51 58.0**	**-0.4**
TORD	**Torodi Ar. Bea** 0.5nm,0.5s,baz=199,slow=6.9,SNR=7.9	**74.29**	**28**	P	**P**	**12 51 58.0**	**-0.4**
YKA	**Yellowknife Ar**	**137.93**	**316**	PKP	**PKPdf**	**12 59 44.8**	**+1.0**
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=132,slow=1.8,SNR=3.6	**137.93**	**316**	PKP	**PKPdf**	**12 59 44.8**	**+1.0**
ILAR	**Eielson Array**	**151.78**	**309**	PKPbc	**PKPbc**	**13 00 14.8**	**+0.9**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=100,slow=2.7,SNR=4.4	**151.78**	**309**	PKPbc	**PKPbc**	**13 00 14.8**	**+0.9**

*ISCJB **03** 13:01:42.2±0.3, 38.°39N±0.°01×21.°88E±0.°02, h5km±2km, mb3.5/6, Error ellipse: s-maj=2.5km s-min=2.4km az=2.4*
*CSEM **03** 13:01:42.4±0.1, 38.°39N×21.°91E, h5km, MD3.1, Error ellipse: s-maj=2.3km s-min=2.0km az=81.0*
*ATH **03** 13:01:42.2, 38.°36N×21.°89E, h13km±1km, MD3.1/22, ML3.0*
*THE **03** 13:01:42.6, 38.°39N×21.°90E, h0km±1km, ML3.3/7, Error ellipse: s-maj=1.2km s-min=0.4km az=246.0*
*IDC **03** 13:01:51.3±4.8, 38.°55N×21.°71E, h84km±47km, mb3.2/6, mb1 3.2/7, mb1mx3.1/29, mbtmp3.2/7, ML3.0/1, Error ellipse: s-maj=33.1km s-min=25.8km az=124.0*
ISC 03 13:01:42.8±0.8, 38.°39N±0.°01×21.°91E±0.°01, h10km±5km, n119, σ0°81/180, mb3.6/6, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.13**	**102**	P	**Pg**	**13 01 45.6**	**-0.1**
TRIZ				S	**Sg**	**13 01 48.1**	**+0.3**
TRIZ	**Trizonia**	**0.13**	**102**	*e*PG	**Pg**	**13 01 45.7**	**0.0**
TRIZ				*e*SG	**Sg**	**13 01 48.3**	**+0.5**
TRIZ	**Trizonia**	**0.13**	**102**	P	**Pg**	**13 01 45.6**	**-0.1**
TRIZ				S	**Sg**	**13 01 48.1**	**+0.3**
LAKA	**Lakka**	**0.16**	**161**	P	**Pg**	**13 01 46.0**	**-0.3**
LAKA				S	**Sg**	**13 01 48.6**	**-0.1**
LAKA	**Lakka**	**0.16**	**161**	*e*PG	**Pg**	**13 01 46.2**	**-0.1**
LAKA				*e*SG	**Sg**	**13 01 48.2**	**-0.5**
LAKA	**Lakka**	**0.16**	**161**	P	**Pg**	**13 01 46.0**	**-0.3**
LAKA				*e*Sg	**Sg**	**13 01 48.2**	**-0.5**
KALE	**Kalithea**	**0.18**	**91**	P	**Pg**	**13 01 46.4**	**-0.2**
KALE				S	**Sg**	**13 01 49.7**	**+0.4**
KALE	**Kalithea**	**0.18**	**91**	*e*PG	**Pg**	**13 01 46.5**	**-0.2**
KALE				*e*SG	**Sg**	**13 01 49.9**	**+0.6**
KALE	**Kalithea**	**0.18**	**91**	P	**Pg**	**13 01 46.4**	**-0.2**
KALE				S	**Sg**	**13 01 49.7**	**+0.4**
KLV	**Kalavryta, Ach**	**0.40**	**152**	P	**Pg**	**13 01 50.0**	**-0.5**
KLV				S	**Sg**	**13 01 56.7**	**+0.9**
KLV	**Kalavryta, Ach**	**0.40**	**152**	*e*PB	**Pg**	**13 01 50.1**	**-0.5**
KLV				*e*SB	**Sg**	**13 01 54.9**	**-0.9**
KLV	**Kalavryta, Ach**	**0.40**	**152**	*e*Pb	**Pg**	**13 01 50.1**	**-0.5**
KLV				*e*Sb	**Sg**	**13 01 54.9**	**-0.9**
KLV				S	**Sg**	**13 01 56.7**	**+0.9**
AXS	**Araxos**	**0.47**	**245**	P	**Pg**	**13 01 51.6**	**-0.2**
AXS				S	**Sg**	**13 01 58.7**	**+0.8**
AXS	**Araxos**	**0.47**	**245**	P	**Pg**	**13 01 51.6**	**-0.2**
AXS				S	**Sg**	**13 01 58.7**	**+0.8**
DSF	**Desfina**	**0.48**	**88**	P	**Pg**	**13 01 51.3**	**-0.9**
DSF				S	**Sg**	**13 01 59.4**	**+0.8**
DSF	**Desfina**	**0.48**	**88**	P	**Pg**	**13 01 51.3**	**-0.9**
DSF				S	**Sg**	**13 01 59.4**	**+0.8**
RLS	**Riolos of Patr**	**0.48**	**226**	P	**Pg**	**13 01 51.9**	**-0.2**
RLS				S	**Sg**	**13 01 59.4**	**+0.8**
RLS	**Riolos of Patr**	**0.48**	**226**	*e*PB	**Pg**	**13 01 52.0**	**-0.2**
RLS	**Riolos of Patr**	**0.48**	**226**	P	**Pg**	**13 01 51.9**	**-0.2**
RLS				S	**Sg**	**13 01 59.4**	**+0.8**
EVR	**Evrytania**	**0.53**	**351**	P	**Pg**	**13 01 52.5**	**-0.6**
EVR				S	**Sg**	**13 02 01.2**	**+1.1**
EVR	**Evrytania**	**0.53**	**351**	*e*PG	**Pg**	**13 01 52.8**	**-0.3**
EVR				*e*SB	**Sb**	**13 02 01.6**	**-0.4**
EVR	**Evrytania**	**0.53**	**351**	P	**Pg**	**13 01 52.5**	**-0.6**
EVR	**Evrytania**	**0.53**	**351**	*e*Pg	**Pg**	**13 01 52.8**	**-0.3**
EVR				S	**Sg**	**13 02 01.2**	**+1.1**
GUR	**Goura**	**0.57**	**143**	P	**Pg**	**13 01 53.0**	**-0.8**
GUR				S	**Sg**	**13 02 01.3**	**0.0**
GUR	**Goura**	**0.57**	**143**	*e*PB	**Pg**	**13 01 53.0**	**-0.8**
GUR	**Goura**	**0.57**	**143**	P	**Pg**	**13 01 53.0**	**-0.8**
GUR				S	**Sg**	**13 02 01.3**	**0.0**
MAKR	**Makrakomi, Fth**	**0.64**	**16**	P	**Pg**	**13 01 55.0**	**-0.2**
MAKR				S	**Sg**	**13 02 04.8**	**+1.1**
MAKR	**Makrakomi, Fth**	**0.64**	**16**	P	**Pg**	**13 01 55.0**	**-0.2**
MAKR				S	**Sg**	**13 02 04.8**	**+1.1**
THAL	**Thalero**	**0.69**	**121**	P	**Pg**	**13 01 54.7**	**-0.4**
THAL				S	**Sb**	**13 02 06.3**	**-0.2**
THAL	**Thalero**	**0.69**	**121**	P	**Pg**	**13 01 55.7**	**-0.4**
THAL				S	**Sb**	**13 02 06.3**	**-0.2**
AXAR	**Agios Charalam**	**0.69**	**57**	P	**Pg**	**13 01 55.2**	**-1.0**
AXAR				S	**Sb**	**13 02 07.2**	**+0.5**
AXAR	**Agios Charalam**	**0.69**	**57**	P	**Pg**	**13 01 55.2**	**-1.0**
AXAR				S	**Sb**	**13 02 07.2**	**+0.5**
AGG	**Agios Georgios**	**0.71**	**27**	P	**Pg**	**13 01 55.6**	**-0.9**
AGG				S	**Sg**	**13 02 05.9**	**+0.2**
AGG	**Agios Georgios**	**0.71**	**27**	*e*PB	**Pg**	**13 01 55.5**	**-0.9**
AGG				*e*SB	**Sb**	**13 02 07.1**	**0.0**
AGG	**Agios Georgios**	**0.71**	**27**	P	**Pg**	**13 01 55.6**	**-0.9**
AGG				S	**Sg**	**13 02 05.9**	**+0.2**
AGG				*e*Sb	**Sb**	**13 02 07.1**	**0.0**
AMT	**Artemida-Makis**	**0.87**	**191**	*e*PB	**Pg**	**13 01 59.0**	**-0.6**
AMT	**Artemida-Makis**	**0.87**	**191**	*e*Pb	**Pg**	**13 01 59.0**	**-0.6**
LKR	**Lokris**	**0.89**	**73**	*e*PB	**Pg**	**13 01 58.7**	**-1.2**
LKR	**Lokris**	**0.89**	**73**	*e*Pb	**Pg**	**13 01 58.7**	**-1.2**
LTK	**Loutraki**	**0.91**	**114**	P	**Pg**	**13 02 00.2**	**-0.1**
LTK				S	**Sb**	**13 02 13.9**	**+1.0**
LTK	**Loutraki**	**0.91**	**114**	*e*PB	**Pg**	**13 01 59.9**	**-0.4**
LTK	**Loutraki**	**0.91**	**114**	*e*Pb	**Pg**	**13 01 59.9**	**-0.4**
LTK	**Loutraki**	**0.91**	**114**	P	**Pg**	**13 02 00.2**	**-0.1**
LTK				S	**Sb**	**13 02 13.9**	**+1.0**
KFL	**Anninata**	**0.93**	**253**	P	**Pg**	**13 02 00.0**	**-0.6**
KFL				S	**Sb**	**13 02 13.7**	**+0.3**
KFL	**Anninata**	**0.93**	**253**	P	**Pg**	**13 02 00.0**	**-0.6**
KFL				S	**Sb**	**13 02 13.7**	**+0.3**
LKD2	**Lefkada island**	**1.06**	**292**	P	**Pg**	**13 02 02.4**	**-0.7**
LKD2				S	**Sb**	**13 02 18.0**	**+0.8**
LKD2	**Lefkada island**	**1.06**	**292**	*e*PB	**Pg**	**13 02 02.4**	**-0.7**
LKD2	**Lefkada island**	**1.06**	**292**	*e*Pb	**Pg**	**13 02 02.4**	**-0.7**
LKD2				S	**Sb**	**13 02 18.0**	**+0.8**
VLS	**Valsamata**	**1.06**	**259**	P	**Pg**	**13 02 01.9**	**-1.3**
VLS	**Valsamata**	**1.06**	**259**	*e*PG	**Pg**	**13 02 01.9**	**-1.3**
VLS	**Valsamata**	**1.06**	**259**	*e*Pg	**Pg**	**13 02 01.9**	**-1.3**
VIL2	**Platees**	**1.08**	**99**	P	**Pb**	**13 02 03.9**	**+0.3**
VIL2				S	**Sn**	**13 02 19.3**	**+0.1**
VLX	**Vlachokerasia**	**1.09**	**160**	P	**Pg**	**13 02 02.4**	**-1.2**
VLX	**Vlachokerasia**	**1.09**	**160**	*e*PB	**Pg**	**13 02 02.4**	**-1.2**
VLX	**Vlachokerasia**	**1.09**	**160**	P	**Pg**	**13 02 02.4**	**-1.2**
SMIA	**Simia**	**1.13**	**64**	P	**Pb**	**13 02 03.8**	**-0.6**
SMIA				S	**Sn**	**13 02 20.5**	**+0.3**
SMIA	**Simia**	**1.13**	**64**	P	**Pb**	**13 02 03.8**	**-0.6**
SMIA				S	**Sn**	**13 02 20.5**	**+0.3**
THL	**Klokotos Trika**	**1.17**	**4**	P	**Pb**	**13 02 04.5**	**-0.6**
THL				S	**Sn**	**13 02 21.5**	**+0.2**
THL	**Klokotos Trika**	**1.17**	**4**	*e*PB	**Pb**	**13 02 05.1**	**0.0**
THL	**Klokotos Trika**	**1.17**	**4**	P	**Pb**	**13 02 04.5**	**-0.6**
THL	**Klokotos Trika**	**1.17**	**4**	*e*Pb	**Pb**	**13 02 05.1**	**0.0**
THL				S	**Sn**	**13 02 21.5**	**+0.2**
ITM	**Ithomi**	**1.21**	**179**	P	**Pb**	**13 02 08.4**	**-1.0**
ITM				S	**Sn**	**13 02 22.7**	**+0.4**
ITM	**Ithomi**	**1.21**	**179**	*e*PB	**Pb**	**13 02 04.8**	**-1.0**
ITM	**Ithomi**	**1.21**	**179**	P	**Pb**	**13 02 04.8**	**-1.0**
ITM				S	**Sn**	**13 02 22.7**	**+0.4**
MRKA	**Markates**	**1.35**	**76**	P	**Pn**	**13 02 07.4**	**-0.3**
MRKA				S	**Sg**	**13 02 27.2**	**+1.0**
MRKA	**Markates**	**1.35**	**76**	P	**Pn**	**13 02 07.4**	**-0.3**
MRKA				S	**Sg**	**13 02 27.2**	**+1.0**
DID	**Didima**	**1.37**	**130**	P	**Pb**	**13 02 08.6**	**0.0**
DID				S	**Sg**	**13 02 28.7**	**+1.8**
DID	**Didima**	**1.37**	**130**	*e*PB	**Pb**	**13 02 08.6**	**0.0**
DID	**Didima**	**1.37**	**130**	P	**Pb**	**13 02 08.6**	**0.0**
DID				S	**Sg**	**13 02 28.7**	**+1.8**
NEO	**Neokhori**	**1.37**	**48**	P	**Pn**	**13 02 08.1**	**0.0**
NEO	**Neokhori**	**1.37**	**48**	*e*PG	**Pn**	**13 02 08.1**	**0.0**
NEO	**Neokhori**	**1.37**	**48**	P	**Pn**	**13 02 08.1**	**0.0**
DIDY	**Didyma**	**1.38**	**131**	P	**Pb**	**13 02 08.7**	**0.0**
DIDY				S	**Sg**	**13 02 28.6**	**+1.5**
DIDY	**Didyma**	**1.38**	**131**	P	**Pb**	**13 02 08.7**	**0.0**
DIDY				S	**Sg**	**13 02 28.6**	**+1.5**
XOR	**Xorichti**	**1.39**	**45**	P	**Pn**	**13 02 08.6**	**+0.2**
XOR	**Xorichti**	**1.39**	**45**	P	**Pn**	**13 02 08.6**	**+0.2**
NAIG	**Nisos Aigina**	**1.40**	**116**	*e*PB	**Pb**	**13 02 09.4**	**+0.4**
NAIG	**Nisos Aigina**	**1.40**	**116**	*e*Pb	**Pb**	**13 02 09.4**	**+0.4**
SKIA	**Skiathos**	**1.44**	**57**	P	**Pn**	**13 02 08.4**	**-0.6**
SKIA				S	**Sg**	**13 02 30.7**	**+1.6**
SKIA	**Skiathos**	**1.44**	**57**	P	**Pn**	**13 02 08.4**	**-0.6**
SKIA				S	**Sg**	**13 02 30.7**	**+1.6**
ATH	**Athens Observa**	**1.48**	**106**	*e*PG	**Pn**	**13 02 10.0**	**+0.5**
ATH	**Athens Observa**	**1.48**	**106**	*e*Pg	**Pn**	**13 02 10.0**	**+0.5**
PYL	**PYLOS**	**1.50**	**185**	P	**Pn**	**13 02 09.7**	**-0.1**
PYL	**PYLOS**	**1.50**	**185**	*e*PG	**Pn**	**13 02 09.7**	**-0.1**
PYL	**PYLOS**	**1.50**	**185**	P	**Pn**	**13 02 09.7**	**-0.1**
ATHU	**Athens Univers**	**1.54**	**106**	P	**Pn**	**13 02 10.8**	**+0.5**
ATHU				S	**Sb**	**13 02 31.2**	**+0.3**
ATHU	**Athens Univers**	**1.54**	**106**	P	**Pn**	**13 02 10.8**	**+0.5**
ATHU				S	**Sb**	**13 02 31.2**	**+0.3**
PTL	**Penteli**	**1.58**	**102**	*e*PB	**Pn**	**13 02 11.5**	**+0.6**
PTL	**Penteli**	**1.58**	**102**	*e*Pb	**Pn**	**13 02 11.5**	**+0.6**
DYR	**Agios Nikonas**	**1.66**	**168**	P	**Pn**	**13 02 12.4**	**+0.4**
DYR	**Agios Nikonas**	**1.66**	**168**	*e*PG	**Pn**	**13 02 12.7**	**+0.7**
DYR	**Agios Nikonas**	**1.66**	**168**	P	**Pn**	**13 02 12.4**	**+0.4**
DYR	**Agios Nikonas**	**1.66**	**168**	*e*Pg	**Pn**	**13 02 12.7**	**+0.7**
AOS	**Alonnisos**	**1.72**	**63**	P	**Pn**	**13 02 12.4**	**-0.4**
AOS	**Alonnisos**	**1.72**	**63**	P	**Pn**	**13 02 12.4**	**-0.4**
LIT	**Litokhoron**	**1.76**	**15**	P	**Pn**	**13 02 13.8**	**+0.4**
LIT				S	**Sb**	**13 02 37.2**	**-0.3**
LIT	**Litokhoron**	**1.76**	**15**	P	**Pn**	**13 02 13.8**	**+0.4**
LIT				S	**Sb**	**13 02 37.2**	**-0.3**
VLI	**Veliai**	**1.86**	**154**	P	**Pn**	**13 02 15.6**	**+0.9**
VLI	**Veliai**	**1.86**	**154**	*e*PN	**Pn**	**13 02 15.9**	**+1.2**
VLI	**Veliai**	**1.86**	**154**	P	**Pn**	**13 02 15.6**	**+0.9**
VLI	**Veliai**	**1.86**	**154**	*e*Pn	**Pn**	**13 02 15.9**	**+1.2**
KZN	**Kozani**	**1.91**	**357**	P	**Pn**	**13 02 16.0**	**+0.4**
KZN				S	**Sn**	**13 02 41.1**	**+1.3**
KZN	**Kozani**	**1.91**	**357**	P	**Pn**	**13 02 16.0**	**+0.4**
KZN				S	**Sn**	**13 02 41.1**	**+1.3**
SRN	**Sarande**	**2.10**	**316**	P	**Pn**	**13 02 19.4**	**+1.4**
SRN	**Sarande**	**2.10**	**316**	P	**Pn**	**13 02 19.4**	**+1.4**
KEK	**Kerkira**	**2.11**	**309**	P	**Pn**	**13 02 19.4**	**+1.3**
KEK	**Kerkira**	**2.11**	**309**	P	**Pn**	**13 02 19.4**	**+1.3**
GRG	**Griva**	**2.59**	**8**	P	**Pn**	**13 02 25.8**	**+1.0**
GRG	**Griva**	**2.59**	**8**	P	**Pn**	**13 02 25.8**	**+1.0**
VAY	**Valandovo**	**2.97**	**10**	*e*Pn	**Pn**	**13 02 29.2**	**-0.7**
VAY				*e*Sn	**Sn**	**13 03 01.2**	**-4.4**
MLR	**Muntele Rosu** 0.1nm,0.3s,baz=203,slow=19,SNR=3.3	**7.70**	**22**	P	Pn	13 03 39.8	+4.7
HFS	**Hagfors** 1.1nm,0.5s,baz=159,slow=13,SNR=5.3	**22.38**	**349**	P	**P**	**13 06 39.6**	**-1.3**
FINES	**FINESS Array B** 1.2nm,0.6s,baz=179,slow=9.7,SNR=5.7	**23.22**	**5**	P	**P**	**13 06 49.8**	**+0.1**
NB2	**NORSAR Subarra** comp=Z,0.7nm,0.6s,baz=159,slow=9.3	**23.64**	**347**	P	**P**	**13 06 53.7**	**-0.3**
NB2	**NORSAR Subarra** comp=Z,0.7nm,0.6s,SNR=4.1	**23.64**	**347**	P	**P**	**13 06 53.7**	**-0.3**
NOA	**NORSAR Array B** comp=Z,0.8nm,0.6s,baz=156,slow=12,SNR=4.1	**23.64**	**347**	P	**P**	**13 06 53.2**	**-0.8**
EKA	**Eskdalemuir Ar** comp=Z,1.8nm,0.9s,baz=124,slow=10,SNR=3.9	**23.90**	**323**	P	**P**	**13 06 55.5**	**-1.0**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.8s,baz=24,slow=8.1,SNR=3.2	**30.90**	**221**	P	**P**	**13 08 00.1**	**+0.4**
MKAR	**Makanchi Array** comp=Z,0.8nm,0.5s,baz=270,slow=8.1,SNR=8.6	**44.26**	**59**	P	**P**	**13 09 52.6**	**+0.3**

*IDC **03** 13:02:49.5±0.8, 10.°99N×62.°41W, h0km, mb3.9/12, mb1 4.1/12, mb1mx3.9/27, mbtmp3.9/12, Error ellipse: s-maj=26.8km s-min=20.2km az=33.0*
*ISCJB **03** 13:02:58.5±0.2, 10.°73N±0.°03×62.°43W±0.°02, h89km±3km, mb3.8/12, Error ellipse: s-maj=4.8km s-min=3.0km az=153.7*
*FUNV **03** 13:03:01.4, 10.°65N×62.°36W, h68km, MW4.1*
*TRN **03** 13:03:01.4, 10.°81N×62.°31W, h82km, MD3.8*
ISC 03 13:02:59.0±0.7, 10.°75N±0.°03×62.°42W±0.°03, h81km±6km, n60, σ1°49/85, mb3.8/12, 10C-4D, Near coast of Venezuela

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

DRGR		**1.19**	**35**	S		Sn	13 03 39.9 +0.3
LOT	**Lotru**	**1.48**	**104**	*i* P		Pg	13 03 28.4 +0.3
LOT				*i* S		Sg	13 03 49.9 +2.5
LOT	**Lotru**	**1.48**	**104**	*i* P		Pg	13 03 28.4 +0.3
VOIR		**2.36**	**98**	*i* S		Sb	13 04 11.0 -1.2
VOIR		**2.36**	**98**	S		Sb	13 04 11.0 -1.2

*ISCJB **03** 13:21:02.7±0.4,3°.54S±0°.04×130°.96E±0°.06,h30km, mb3.8/9,Error ellipse: s-maj=8.8km s-min=5.9km az=178.7*

*DJA **03** 13:21:03.4±0.4,3°.5±5°×13°.1E±°,h10km,M4.5/7,mb4.8/1, mB5.1/1,MLv4.3/7,Mw(mB)4.4/1*

*AUST **03** 13:21:04.2±2.5,3°.78S×131°.30E,h0km,Error ellipse: s-maj=1.8km s-min=1.1km az=7.0*

*IDC **03** 13:21:17.2±4.0,3°.67S×130°.86E,h151km±38km,mb3.5/10, mb1 3.6/11,mb1mx3.5/21,mbtmp3.5/11,Error ellipse: s-maj=29.9km s-min=11.1km az=72.0*

ISC 03 13:21:04.6±0.6,**3°.53S**±0°.06×**131°.04E**±0°.05,**h30km**,**n28,** **σ1§94/30**,**mb3.9/9**,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.36**	**63**	P	**Pn**	**13 21 26.7**	**-0.8**
FAKI	**Fak Fak** baz=1.3,SNR=62	**1.36**	**63**	P	**Pn**	**13 21 27.7**	**+0.2**
BNDI	**Bandanaira**	**1.50**	**229**	P	**Pb**	**13 21 32.8**	**+1.0**
BNDI				S	Sb	13 21 58.9	+8.5
BNDI	**Bandanaira** baz=1.6,SNR=10	**1.50**	**229**	P	**Pb**	**13 21 33.8**	**+2.0**
MSAI	**Masohi**	**2.11**	**275**	P	**Pn**	**13 21 39.0**	**+1.1**
RKPI	**Ransiki, Papua**	**3.73**	**57**	P	**Pn**	**13 21 59.4**	**-0.7**
LBMI	**Labuha**	**4.55**	**309**	P	**Pn**	**13 22 09.6**	**-1.9**
BAKI	**Biak**	**5.58**	**65**	P	**Pn**	**13 22 26.4**	**+0.8**
KDU	**Kakadu** baz=9.0,SNR=34	**9.21**	**171**	P	**Pn**	**13 23 15.8**	**+0.4**
KDU	baz=9.0,SNR=5.6			S	**Sn**	**13 24 55.4**	**-2.7**
MTN	**Manton Dam** baz=9.1,SNR=37	**9.25**	**179**	P	**Pn**	**13 23 17.0**	**+0.9**
MTN	baz=9.1,SNR=9.6			S	**Sn**	**13 25 00.0**	**+0.8**
KAPI	**Kappang** 1.5nm,0.3s,baz=137,slow=5.4,SNR=8.2	**11.35**	**262**	P	Pn	13 23 51.7	+6.9
KNRA	**Kununurra** baz=12,SNR=35	**12.28**	**190**	P	**Pn**	**13 23 55.9**	**-1.6**
KNRA	baz=12,SNR=4.9			S	**Sn**	**13 26 10.3**	**-3.1**
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=51,slow=9.7,SNR=16	**15.41**	**200**	P	**Pn**	**13 24 39.1**	**-1.0**
FITZ	0.2nm,0.3s,baz=269,slow=18,SNR=2.2			S	Sn	13 27 19.1	-11
COEN	**Coen** baz=16,SNR=5.8	**15.84**	**132**	P	**P**	**13 24 47.4**	**-1.7**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=342,slow=13,SNR=15	**16.63**	**169**	P	**Pn**	**13 24 55.0**	**-0.6**
WRA	0.5nm,0.3s,baz=354,slow=22,SNR=5.4			S	Sn	13 27 51.7	-7.8
MTSU	**Mount Surprise** baz=19,SNR=4.6	**19.49**	**139**	P	**Pn**	**13 25 32.6**	**+1.8**
ASAR	**Alice Springs** 8.9nm,0.7s,baz=349,slow=10,SNR=92	**20.21**	**172**	P	Pn	13 25 39.4	+0.1
ASAR	1.1nm,0.8s,baz=356,slow=28,SNR=3.3			S	**S**	**13 29 16.5**	**-6.1**
CTA	**Charters Tower** 4.4nm,0.9s,baz=22,slow=6.9,SNR=3.6	**22.16**	**139**	P	**P**	**13 26 00.8**	**+2.5**
MEEK	**Meekatharra** baz=26,SNR=3.3	**25.87**	**206**	P	**P**	**13 26 36.6**	**+2.7**
STKA	**Stephens Creek** 1.5nm,0.6s,baz=342,slow=17,SNR=5.6	**29.89**	**162**	P	**P**	**13 27 11.3**	**+1.6**
STKA	**Stephens Creek** baz=30,SNR=4.8	**29.89**	**162**	P	**P**	**13 27 11.9**	**+2.1**
NWAO	**Narrogin (SRO)** 6.5nm,1.0s,baz=23,slow=13,SNR=2.0	**31.97**	**202**	P	**P**	**13 27 27.8**	**-0.3**
CMAR	**Chiang Mai Arr** 0.9nm,0.7s,baz=123,slow=6.9,SNR=7.6	**38.43**	**306**	P	**P**	**13 28 23.8**	**-0.1**
KSRS	**Korea Array** 0.5nm,0.5s,baz=181,slow=9.7,SNR=2.7	**40.88**	**356**	P	**P**	**13 28 43.9**	**-0.1**
SONM	**Songino Array** 0.8nm,1.0s,baz=157,slow=8.0,SNR=5.8	**55.53**	**340**	P	**P**	**13 30 37.5**	**+0.4**
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=110,slow=8.7,SNR=7.7	**65.94**	**326**	P	**P**	**13 31 47.9**	**-0.1**
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=101,slow=4.6,SNR=3.1	**68.97**	**333**	P	**P**	**13 32 05.5**	**-1.4**
ILAR	**Eielson Array** 0.1nm,0.4s,baz=261,slow=4.8,SNR=5.2	**89.79**	**25**	P	**P**	**13 33 59.4**	**-0.6**

*NEIC **03** 13:26:59.2±0.3,3°.44S×131°.22E,h10km,mb5.0/34,Error ellipse: s-maj=9.7km s-min=6.3km az=71.0*

*IDC **03** 13:26:59.7±0.4,3°.32S×131°.06E,h0km,mb4.7/21, mb1 4.8/22,mb1mx4.7/24,mbtmp4.7/22,ML4.4/1,MS4.5/13, Ms1 4.5/13,ms1mx4.2/31,Error ellipse: s-maj=17.6km s-min=9.4km az=70.0*

*MOS **03** 13:27:00.9±1.4,3°.49S×131°.25E,h33km,mb5.1/29, MS4.3/7,Error ellipse: s-maj=11.9km s-min=6.0km az=106.3*

*ISCJB **03** 13:27:02.0±0.5,3°.45S±0°.02×131°.10E±0°.03,h35km±4km, mb5.0/101,MS4.6/40,Error ellipse: s-maj=4.7km s-min=3.6km az=159.0*

*BJI **03** 13:27:01.6,3°.57S×131°.25E,h45km,mB5.1/36,mb4.9/48, Ms4.8/49,MS7 4.6/44*

*BKK **03** 13:27:03.2±0.2,3°.5±3°×13°.1E±°,h10km,M5.2/34, mB5.6/17,mb5.2/34,MLv5.4/3,Mw(mB)5.1/17*

*GCMT **03** 13:27:04.0±0.2,3°.33S×130°.93E,h16km,MW5.2,Moment Tensor Solution. s57,c80; s94,c166; Moment tensor: Scale 10¹⁶Nm; Mrr2.72±.17; Mθθ-0.53±.14; Mφφ-2.19±.17; Mrθ-4.80±.54; Mrφ7.66±.14; Mθφ3.28±.46; Best double couple: Mₒ9.20000×10¹⁶ NP1:ϕs186.00000°,δ53.00000°, λ174.00000°. NP2:ϕs279.00000°,δ85.00000°,λ38.00000°. Principal axes: T 7.1000, Plg29.0000°, Azm149.0000°; N 4.2000, Plg52.0000°, Azm285.0000°; P -11.4000, Plg22.0000°, Azm46.0000°; Data Used: IU II G CN IC.*

*AUST **03** 13:27:04.9±0.2,3°.53S×130°.98E,h41km Error ellipse: s-maj=0.6km s-min=0.6km az=8.0*

*DJA **03** 13:27:04.3±0.7,3°.5±3°×13°.1E±°,h18km±8km,M5.1/37, mB5.6/27,mb5.2/37,MLv5.3/9,Mw(mB)5.0/27*

ISC 03 13:27:04.8±0.3,**3°.47S**±0°.03×**131°.10E**±0°.04,**h46**km±2km, **h46**km:**pP-P**,**n317**,**σ1§84**/369,**mb5.0**/100,**MS4.5**/40,**5C-7D**, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.27**	**65**	P	**Pn**	**13 27 26.4**	**+0.3**
FAKI				S	**Sn**	**13 27 43.6**	**+1.5**
FAKI	**Fak Fak** baz=1.4,SNR=371	**1.27**	**65**	P	**Pn**	**13 27 26.5**	**+0.3**
BNDI	**Bandanaira**	**1.59**	**229**	P	**Pn**	**13 27 31.8**	**+1.3**
BNDI	**Bandanaira** baz=1.5,SNR=124	**1.59**	**229**	P	**Pn**	**13 27 31.4**	**+0.9**
MSAI	**Masohi**	**2.17**	**273**	P	**Pn**	**13 27 38.7**	**+0.2**
RKPI	**Ransiki, Papua**	**3.64**	**58**	P	**Pn**	**13 27 59.4**	**+0.7**
LBMI	**Labuha**	**4.56**	**308**	P	**Pn**	**13 28 08.9**	**-2.5**
BAKI	**Biak** 1µm,0.9s,8µm3.4nm	**5.49**	**66**	P	**Pn**	**13 28 25.2**	**+1.1**
TNTI	**Ternate** 491nm,1.1s,4µm1.7nm	**5.63**	**318**	P	Pn	13 28 22.5	-3.5
GAMI	**Galela, Maluku** 242nm,1.3s,4µm	**6.22**	**328**	P	**Pn**	**13 28 32.7**	**-1.5**
MNI	**Manado** 304nm,0.8s,3µm	**7.93**	**308**	P	**Pn**	**13 28 56.6**	**-1.1**
KMSI	**Cibinong** 467nm,0.6s,2.7nm	**8.17**	**299**	P	**Pn**	**13 28 58.5**	**-2.4**
LUWI	**Luwuk** 356nm,1.2s,3µm	**8.66**	**286**	P	Pn	13 29 04.3	-3.3
LUWI	**Luwuk** baz=8.6,SNR=4.5	**8.66**	**286**	P	Pn	13 29 04.3	-3.3
BBSI	**Bau Bau** 396nm,1.8s,7µm	**8.73**	**256**	P	**Pn**	**13 29 11.4**	**+2.8**
GTOI	**Gorontalo** 450nm,0.9s,4µm	**9.05**	**297**	P	**Pn**	**13 29 13.0**	**0.0**
KDU	**Kakadu** baz=9.3,SNR=205	**9.26**	**172**	P	**Pn**	**13 29 14.4**	**-1.4**
KDU	baz=9.3,SNR=5.7			S	**Sn**	**13 30 58.6**	**-0.1**
MTN	**Manton Dam** baz=9.3,SNR=314	**9.32**	**180**	P	**Pn**	**13 29 15.2**	**-1.4**
MTN	baz=9.3,SNR=11			S	**Sn**	**13 30 59.0**	**-1.1**
JAY	**Jayapura** 51nm,1.0s	**9.64**	**85**	P	Pn	13 29 25.1	+4.0
JAY	**Jayapura** baz=9.8,SNR=14	**9.64**	**85**	P	**Pn**	**13 29 22.9**	**+1.8**
SKSI	**Soroako, Sulaw** 85nm,0.9s,1µm	**9.79**	**275**	P	**Pn**	**13 29 22.8**	**-0.4**
MRSI	**Marisa** 152nm,0.9s,2µm	**9.96**	**293**	P	Pn	13 29 21.3	-4.1
MMRI	**Maumere** 329nm,1.8s,6µm	**10.20**	**239**	P	Pn	13 29 31.8	+3.1
BSSI	**Bau Bau, Buton** 237nm,1.0s,5µm	**10.90**	**255**	P	**Pn**	**13 29 41.0**	**+2.7**
BKSI	**Bulukumba** 171nm,2.0s,3µm	**11.10**	**260**	P	**Pn**	**13 29 43.1**	**+2.1**
PALU	**Palau** baz=11,SNR=20	**11.26**	**17**	P	**Pn**	**13 29 44.3**	**+1.2**
TTSI	**Tana Toraja** 69nm,1.3s,2µm	**11.27**	**272**	P	**Pn**	**13 29 44.0**	**+0.7**
SPSI	**Sidrap Palu** 118nm,1.8s,2µm	**11.32**	**267**	P	**Pn**	**13 29 45.8**	**+1.8**
KAPI	**Kappang** 890nm,0.7s,SNR=9.8	**11.42**	**262**	Pn	**Pn**	**13 29 46.7**	**+1.3**
KAPI	**Kappang**	**11.42**	**262**	*e*Pn	**Pn**	**13 29 45.2**	**-0.2**
KAPI	**Kappang** 224nm,1.2s,2µm	**11.42**	**262**	P	**Pn**	**13 29 45.2**	**-0.2**
KAPI	**Kappang** 2.7nm,0.3s,baz=135,slow=7.4,SNR=14	**11.42**	**262**	Pn	**Pn**	**13 29 45.6**	**+0.2**
KNRA	**Kununurra** baz=12,SNR=217	**12.35**	**191**	P	Pn	13 29 54.5	-3.6
KNRA	baz=12,SNR=5.8			S	Sn	13 32 07.1	-7.2
WSI	**Waingapu** baz=12,SNR=4.0	**12.37**	**240**	S	**Sn**	**13 32 12.4**	**-2.4**
BASI	**Baing, Sumba**	**12.41**	**237**	P	**P**	**13 30 09.9**	**+0.1**
CTBH	**Cotabato--PC H**	**12.63**	**327**	*i* P	**Pn**	**13 29 59.8**	**-2.1**
MYLDM	**Lahad Datu**	**15.24**	**304**	P	**Pn**	**13 30 35.6**	**-1.5**
TSM	**Tawau**	**15.30**	**300**	P	**Pn**	**13 30 33.2**	**-4.7**
FITZ	**Fitzroy Crossi** 32nm,0.9s	**15.50**	**200**	*e*Pn	Pn	13 30 35.4	-5.0
FITZ				Sn	Sn	13 33 16.8	-14
FITZ	**Fitzroy Crossi** 4.7nm,0.3s,baz=33,slow=9.8,SNR=41	**15.50**	**200**	Pn	**Pn**	**13 30 37.0**	**-3.4**
FITZ	1.4nm,0.3s,baz=104,slow=13,SNR=4.4			Sn	Sn	13 33 16.8	-14
FITZ	**Fitzroy Crossi** baz=16,SNR=49	**15.50**	**200**	P	**Pn**	**13 30 37.0**	**-3.4**
COEN	**Coen** 425nm,0.8s	**15.84**	**132**	*e*Pn	**Pn**	**13 30 41.6**	**-3.1**
COEN				*e*Sn	Sn	13 33 30.0	-9.3
COEN	**Coen** baz=16,SNR=25	**15.84**	**132**	P	**Pn**	**13 30 44.0**	**-0.8**
COEN	baz=16,SNR=4.6			S	Sn	13 33 31.6	-7.8
KHKI	**Kahang-Kahang** 107nm,1.0s,2µm	**16.15**	**252**	P	**P**	**13 30 51.0**	**-0.4**
BBKI	**Banjar Baru**	**16.23**	**270**	P	**P**	**13 30 54.2**	**+1.9**
MTKI	**Muara Teweh, K**	**16.38**	**278**	P	**P**	**13 30 57.9**	**+3.9**
SDKM	**Sandakan**	**16.57**	**303**	P	**Pn**	**13 30 53.0**	**-1.2**
WRAB	**Tennant Creek** 674nm,0.8s,SNR=12	**16.67**	**169**	Pn	Pn	13 30 50.0	-5.3
WRAB	**Tennant Creek**	**16.67**	**169**	*e*P	Pn	13 30 50.4	-4.9
WRAB				*e*		13 33 47.8	
WRAB	comp=Z,91nm,0.8s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,91nm,0.8s	**16.67**	**169**	*e*Pn	Pn	13 30 50.4	-4.9
WRAB				*e*Sn	Sn	13 33 47.8	-12
WRA	**Warramunga Arr**	**16.68**	**169**	Pn	**Pn**	**13 30 50.6**	**-4.8**
WRA				Sn	Sn	13 33 49.0	-11
WRA	**Warramunga Arr** comp=Z,2.0nm,0.3s,baz=357,slow=14,SNR=33	**16.68**	**169**	Pn	**Pn**	**13 30 50.6**	**-4.8**
WRA	comp=Z,5.2nm,0.3s,baz=351,slow=22,SNR=6.8			Sn	Sn	13 33 49.0	-11
PMG	**Port Moresby** comp=Z,74nm,0.9s	**17.01**	**111**	*e*Pn	**Pn**	**13 30 55.3**	**-4.3**
PMG	**Port Moresby** comp=Z,73nm,1.1s,comp=Z,1µm	**17.01**	**111**	P	**P**	**13 31 02.3**	**+1.4**
PMG	**Port Moresby** comp=Z,0.9nm,0.3s,baz=291,slow=9.0,SNR=11	**17.01**	**111**	P	**Pn**	**13 30 58.0**	**-1.6**
RCP	**Roxas**	**17.09**	**331**	*e*P	**P**	**13 31 02.3**	**+0.5**
JAGI	**Jajag, Banyuwa**	**17.57**	**253**	P	P	13 31 17.5	+10
JAGI	**Jajag, Banyuwa** baz=17,SNR=18	**17.57**	**253**	P	**Pn**	**13 31 05.0**	**-1.5**
KKM	**Kota Kinabalu**	**17.61**	**302**	P	**Pn**	**13 31 06.0**	**-1.1**
BLJI	**Banyuglugur** comp=Z,249nm,1.0s,comp=Z,3µm	**17.93**	**256**	P	**P**	**13 31 12.9**	**+1.8**
GMJI	**Gumukmas** comp=Z,116nm,1.6s,comp=Z,2µm	**18.19**	**254**	P	**Pn**	**13 31 17.4**	**+3.2**
QIS	**Mount Isa** baz=19,SNR=13	**18.90**	**155**	P	**Pn**	**13 31 23.0**	**+0.3**
BTM	**Bintulu**	**19.18**	**290**	P	**P**	**13 31 24.8**	**-0.1**
PBKI	**Pangkalan Bun** comp=Z,198nm,1.2s,comp=Z,2µm	**19.41**	**272**	P	**Pn**	**13 31 30.6**	**+1.7**
MTSU	**Mount Surprise** baz=20,SNR=51	**19.50**	**139**	P	**Pn**	**13 31 31.3**	**+1.5**
SJI	**Sawahan** comp=Z,138nm,1.3s	**19.70**	**257**	P	**Pn**	**13 31 32.2**	**-0.1**
PWJI	**Pagerwojo** comp=Z,70nm,1.1s	**19.72**	**256**	P	**Pn**	**13 31 33.3**	**+0.8**
SBUM	**Sibu**	**19.76**	**287**	P	**P**	**13 31 32.0**	**+0.8**
AS31	**Alice Springs**	**20.26**	**173**	*e*P	Pn	13 31 37.7	-1.2
ASAR	**Alice Springs**	**20.26**	**173**	P	Pn	13 31 38.5	-0.4
ASAR				S	**S**	**13 35 16.5**	**-5.0**
ASAR	**Alice Springs** comp=Z,99nm,0.7s,baz=350,slow=10,SNR=255	**20.26**	**173**	P	Pn	13 31 38.5	-0.4
ASAR	comp=Z,14nm,0.8s,baz=353,slow=26,SNR=6.0			S	**S**	**13 35 16.5**	**-5.0**
MBWA	**Marble Bar** comp=Z,42nm,0.8s	**20.77**	**211**	*e*P	**P**	**13 31 40.4**	**-1.7**
UGM	**Wanagama** comp=Z,293nm,1.4s	**20.94**	**257**	*e*P	**P**	**13 31 43.9**	**-0.1**
UGM	**Wanagama** baz=21,SNR=6.4	**20.94**	**257**	P	**P**	**13 31 42.0**	**-2.1**
BALP	**Baler**	**21.29**	**334**	*e*P	**P**	**13 31 46.8**	**-0.8**
KSM	**Kuching**	**21.35**	**283**	P	**P**	**13 31 48.6**	**+0.2**
BJII	**Banjamegara** comp=Z,124nm,1.3s,comp=Z,2µm	**21.63**	**259**	P	**P**	**13 31 54.3**	**+2.8**
GUMO	**Guam**	**21.77**	**39**	*e*P	**P**	**13 31 50.7**	**-2.1**
SCZP	**Santa Cruz**	**22.09**	**330**	*e*P	**P**	**13 31 55.0**	**-1.3**
TGJI	**Tegal** comp=Z,80nm,0.9s	**22.14**	**260**	P	**P**	**13 31 55.5**	**-1.4**
CTA	**Charters Tower**	**22.17**	**139**	P	**P**	**13 31 59.6**	**+2.5**
CTA				S	Sn	13 36 06.6	-5.5
CTA	**Charters Tower** comp=Z,21nm,0.7s,baz=321,slow=12,SNR=25	**22.17**	**139**	P	**P**	**13 31 59.6**	**+2.5**
CTA	comp=Z,2.6nm,0.6s,baz=301,slow=19,SNR=2.7			S	Sn	13 36 06.6	-5.5
CTAO	**Charters Tower** comp=Z,57nm,1.0s	**22.17**	**139**	*e*P	**P**	**13 31 54.8**	**-2.3**
CTAO				pmax	pmax		
CTAO	**Charters Tower** comp=Z,57nm,1.0s	**22.17**	**139**	*e*P	**P**	**13 31 54.8**	**-2.3**
CAUP	**Cauayan**	**22.25**	**336**	*e*P	**P**	**13 31 58.3**	**+0.3**
BCPH	**Baguio City Da**	**22.30**	**332**	*i* P	**P**	**13 31 57.1**	**-1.6**
BOLP	**Bolinao**	**22.61**	**331**	*e*P	**P**	**13 32 00.7**	**-1.2**
APYP	**Conner**	**23.32**	**336**	*e*P	**P**	**13 32 07.7**	**-1.3**
CISI	**Cisompet, Garu** comp=Z,152nm,0.9s,comp=Z,2µm	**23.52**	**259**	P	**P**	**13 32 08.9**	**-2.3**
CISI	**Cisompet, Garu** baz=23,SNR=9.9	**23.52**	**259**	P	**P**	**13 32 08.6**	**-2.5**
LEM	**Lembang** comp=Z,60nm,0.9s	**23.62**	**261**	P	**P**	**13 32 11.7**	**-0.5**
PPBI	**Pangkal Pinang**	**24.96**	**272**	P	**P**	**13 32 26.4**	**+2.1**
MEEK	**Meekatharra** baz=26,SNR=37	**25.96**	**206**	P	**P**	**13 32 32.1**	**-1.2**
XMI	**Christmas Isla** baz=26,SNR=3.6	**26.14**	**253**	S	S	13 36 55.7	-8.2
QLP	**Quilpie** baz=26,SNR=25	**26.20**	**153**	P	**P**	**13 32 37.8**	**+2.4**
FORT	**Forrest** comp=Z,69nm,0.7s	**27.32**	**186**	*e*P	**P**	**13 32 44.5**	**-0.9**
FORT	**Forrest** baz=27,SNR=42	**27.32**	**186**	P	**P**	**13 32 46.5**	**+1.2**
MYKOM	**Kota Tinggi**	**27.73**	**280**	P	**P**	**13 32 49.5**	**+0.2**
KGM	**Kluang**	**28.30**	**281**	P	**P**	**13 32 54.6**	**+0.2**
RMQ	**Roma** baz=29,SNR=5.4	**28.46**	**145**	P	**P**	**13 32 58.5**	**+2.8**
SSLB	**Suanglung** comp=Z,22nm,1.0s	**28.84**	**340**	*e*P	**P**	**13 32 56.5**	**-2.6**
EIDS	**Eidsvold** comp=Z,32nm,1.3s	**29.04**	**140**	*e*P	**P**	**13 32 60.0**	**-0.9**
EIDS	**Eidsvold** baz=29,SNR=3.4	**29.04**	**140**	P	P	13 33 04.0	+3.2
KMBL	**Kambalda** baz=29,SNR=21	**29.08**	**196**	P	**P**	**13 33 01.2**	**+0.1**
MORW	**Morawa** baz=29,SNR=22	**29.20**	**208**	P	**P**	**13 33 01.5**	**-0.7**
KTGM	**Kuala Trenggan**	**29.27**	**287**	P	**P**	**13 33 03.0**	**0.0**
BBOO	**Buckleboo** baz=30,SNR=8.0	**29.56**	**172**	P	**P**	**13 33 07.2**	**+1.9**
STKA	**Stephens Creek** comp=Z,2.4nm,0.6s	**29.93**	**162**	*e*P	**P**	**13 33 08.4**	**-0.3**
STKA	**Stephens Creek** comp=Z,6.2nm,0.4s,baz=341,slow=7.9,SNR=37	**29.93**	**162**	P	**P**	**13 33 10.7**	**+2.1**
STKA	**Stephens Creek** baz=30,SNR=35	**29.93**	**162**	P	**P**	**13 33 10.4**	**+1.8**
FRIM	**Kepong**	**30.20**	**282**	P	**P**	**13 33 12.1**	**+0.9**
BLDU	**Balidu** baz=30,SNR=33	**30.23**	**205**	P	**P**	**13 33 11.0**	**-0.3**
QIZ	**Qiongzhong**	**30.62**	**318**	P	**P**	**13 33 13.8**	**-1.0**
QIZ				S	**S**	**13 38 15.0**	**+0.9**
QIZ				sS	**sS**	**13 38 37.0**	**+2.6**
QIZ	comp=Z,26nm,2.4s			pmax	pmax		
QIZ	comp=N,850nm,20.1s			LR	LR		
QIZ	comp=E,520nm,19.4s			LR	LR		
QIZ	comp=Z,920nm,28.8s			LR	LR		
KLBR	**Kellerberrin** baz=31,SNR=45	**30.67**	**203**	P	**P**	**13 33 14.7**	**-0.5**
PPI	**Padang Panjang** baz=31,SNR=4.2	**30.82**	**275**	P	**P**	**13 33 17.3**	**+0.5**
IPM	**Ipoh**	**31.07**	**285**	P	**P**	**13 33 19.5**	**+0.6**
CMSA	**Cobar Meteorol** baz=31,SNR=9.8	**31.12**	**155**	P	P	13 33 22.7	+3.6
KULM	**Kulim**	**31.64**	**286**	P	**P**	**13 33 24.2**	**+0.3**
NWAO	**Narrogin (SRO)**	**32.05**	**202**	P	**P**	**13 33 27.4**	**+0.1**
NWAO	**Narrogin (SRO)** comp=Z,11nm,0.4s,baz=41,slow=8.0,SNR=26	**32.05**	**202**	P	**P**	**13 33 27.4**	**+0.1**
PSI	**Prapat**	**32.76**	**281**	P	**P**	**13 33 33.9**	**0.0**
PSI	**Prapat** comp=Z,7.6nm,0.5s,baz=97,slow=8.4,SNR=7.6	**32.76**	**281**	P	**P**	**13 33 33.9**	**0.0**
PSI	**Prapat** baz=33,SNR=4.3	**32.76**	**281**	P	**P**	**13 33 33.2**	**-0.7**
CHBT	**CHBT** comp=Z,59nm,1.1s,comp=Z,956nm	**32.81**	**300**	P	**P**	**13 33 35.1**	**+1.0**
ARMA	**Armidale** baz=33,SNR=7.6	**33.09**	**146**	P	P	13 33 40.0	+3.4
PANO	**Nakornpanom** comp=Z,45nm,1.4s,comp=Z,11µm	**33.22**	**309**	P	**P**	**13 33 38.1**	**+0.4**
TRTT	**Trang** comp=Z,39nm,1.3s	**33.28**	**290**	P	**P**	**13 33 40.7**	**+2.3**
SKNT	**Sakolnakorn** comp=Z,37nm,1.3s	**33.61**	**308**	P	**P**	**13 33 41.2**	**0.0**
RKGY	**Rocky Gully** baz=34,SNR=13	**33.65**	**201**	P	**P**	**13 33 42.5**	**+1.2**
NAYO	**Nakonayok** comp=Z,39nm,1.3s	**34.40**	**302**	P	**P**	**13 33 48.8**	**+0.8**
ARPS	**Mount Arapiles** baz=35,SNR=10.0	**34.58**	**165**	P	**P**	**13 33 52.2**	**+2.9**
CHAI	**Chaiyaphum** comp=Z,17nm,1.1s	**34.64**	**305**	P	**P**	**13 33 50.1**	**0.0**
YNG	**Young** baz=35,SNR=24	**34.64**	**154**	P	P	13 33 53.2	+3.3
PHET	**Kaeng Krachan** comp=Z,56nm,1.3s	**35.23**	**298**	P	**P**	**13 33 58.1**	**+2.9**
CAN	**Canberra**	**35.77**	**155**	*e*P	**P**	**13 33 56.9**	**-2.8**
CAN	comp=Z,55nm,1.0s			pmax	pmax		
CAN	**Canberra** comp=Z,55nm,1.0s	**35.77**	**155**	*e*P	**P**	**13 33 56.9**	**-2.8**
PBKT	**Sadao Pong** comp=Z,21nm,1.4s,comp=Z,1µm	**35.81**	**305**	P	**P**	**13 34 01.5**	**+1.3**
CNB	**Canberra Magne** baz=36,SNR=7.6	**35.92**	**154**	P	P	13 34 04.6	+3.6
LOEI	**Loei** comp=Z,101nm,1.2s	**36.07**	**306**	P	**P**	**13 33 59.8**	**-2.6**
JNU	**Nakatsue**	**36.39**	**360**	P	**P**	**13 34 04.4**	**-0.5**
JNU	**Nakatsue** comp=Z,14nm,1.0s,baz=215,slow=4.1,SNR=5.2	**36.39**	**360**	P	**P**	**13 34 04.4**	**-0.5**
TOO	**Toolangi** baz=36,SNR=5.4	**36.42**	**161**	P	P	13 34 09.0	+3.9
NJ2	**Nanjing**	**37.19**	**343**	*e*P	**P**	**13 34 12.8**	**+1.1**
NJ2				pP	**pP**	**13 34 24.1**	**+0.1**
NJ2				sP	**sP**	**13 34 29.1**	**-0.3**
NJ2				S	**S**	**13 39 59.0**	**+3.6**
NJ2				sS	**ScP**	**13 40 14.0**	**-0.6**
NJ2	comp=Z,10.0nm,0.7s			pmax	pmax		
NJ2	comp=Z,40nm,10.0s			pmax	pmax		
NJ2	comp=N,950nm,24.6s			LR	LR		
NJ2	comp=E,1µm,25.7s			LR	LR		
NJ2	comp=Z,1µm,24.0s			LR	LR		
NANT	**Nan** comp=Z,91nm,1.0s	**37.22**	**308**	P	**P**	**13 34 13.0**	**+0.9**
WHN	**Wuhan**	**37.41**	**336**	P	**P**	**13 34 14.2**	**+0.6**
WHN	comp=Z,58nm,0.8s			pmax	pmax		
WHN	comp=N,2µm,22.7s			LR	LR		
WHN	comp=E,8µm,29.1s			LR	LR		
WHN	comp=Z,2µm,22.4s			LR	LR		
LAMP	**Lampang** comp=Z,7.9nm,0.9s,comp=Z,142nm	**37.92**	**306**	P	**P**	**13 34 19.5**	**+1.4**
GYA	**Guiyang**	**38.00**	**323**	*i* P	**P**	**13 34 18.3**	**-0.5**
GYA				pP	**pP**	**13 34 32.6**	**+1.5**
GYA				sP	**sP**	**13 34 37.9**	**+1.4**
GYA				PP	**PnPn**	**13 35 51.2**	**+3.2**
GYA				PcP	**PcP**	**13 36 35.9**	**+2.1**
GYA				S	S	**13 40 12.0**	**+3.9**
GYA				ScP	**ScP**	**13 40 19.4**	**+1.5**
GYA				sS	**sS**	**13 40 30.6**	**+1.9**
GYA				SS	**SnSn**	**13 42 50.4**	**-3.1**
GYA	comp=Z,20nm,0.8s			pmax	pmax		
GYA	comp=Z,130nm,5.0s			pmax	pmax		
GYA	comp=N,660nm,18.2s			LR	LR		
GYA	comp=E,580nm,17.3s			LR	LR		
GYA	comp=Z,640nm,18.0s			LR	LR		
CM31	**Chiang Mai Arr** comp=Z,71nm,1.1s	**38.44**	**306**	*e*P	**P**	**13 34 21.4**	**-1.1**
CMAR	**Chiang Mai Arr**	**38.44**	**306**	P	**P**	**13 34 23.0**	**+0.5**
CMAR	**Chiang Mai Arr** comp=Z,6.1nm,0.6s,baz=130,slow=6.7,SNR=30	**38.44**	**306**	P	**P**	**13 34 23.0**	**+0.5**
CMMT	**Chiang Mai** comp=Z,70nm,1.2s,comp=Z,684nm	**38.62**	**306**	P	**P**	**13 34 24.2**	**+0.2**
CHTO	**Chiang Mai**	**38.63**	**306**	*e*P	**P**	**13 34 23.8**	**-0.3**
CHTO	comp=Z,77nm,1.1s			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,77nm,1.1s	**38.63**	**306**	*e*P	**P**	**13 34 23.8**	**-0.3**
CHTO	**Chiang Mai** comp=Z,78nm,1.2s,comp=Z,661nm	**38.63**	**306**	P	**P**	**13 34 24.2**	**+0.2**

MJAR Matsushiro Arr 40.35 9 P P 13 34 36.1 -2.0
MJAR Matsushiro Arr 40.35 9 P P 13 34 36.1 -2.0
comp=Z,6.4nm,0.8s,baz=188,slow=8.9,SNR=14
KSAR Wonju Array Be 40.81 356 P P 13 34 42.2 +0.3
KSRS Korea Array 40.82 356 P P 13 34 42.2 +0.3
comp=Z,5.5nm,0.6s,baz=176,slow=9.4,SNR=35
KSRS LR LR 13 50 35.3
comp=Z,691nm,21.1s,baz=180,slow=35
XAN Xi'an 42.77 333 P P 13 34 57.1 -0.9
XAN pP **pP** 13 35 08.8 -1.7
XAN sP **sP** 13 35 14.7 -1.2
XAN PP **PP** 13 36 37.8 -0.2
XAN S **S** 13 41 16.8 -2.2
XAN SS SS 13 44 21.4 -10
XAN ScS **ScS** 13 44 54.9 -0.6
XAN pmax pmax
comp=Z,7.0nm,0.9s
XAN pmax pmax
comp=Z,36nm,8.9s
XAN LR LR
comp=N,630nm,27.3s
XAN LR LR
comp=E,360nm,30.4s
CD2 Chengdu 43.00 325 P P 13 35 01.8 +1.9
CD2 pP **pP** 13 35 13.1 +0.7
CD2 sP **sP** 13 35 17.9 +0.1
CD2 PP **PP** 13 36 44.8 +4.3
CD2 PcP **PcP** 13 36 51.2 +1.4
CD2 PcS **PcS** 13 40 42.5 +0.2
CD2 S **S** 13 41 25.3 +2.9
CD2 sS **sS** 13 41 44.3 +1.0
CD2 SS **SS** 13 44 32.3 -3.5
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,190nm,6.4s
CD2 LR LR
comp=N,970nm,25.5s
CD2 LR LR
comp=E,980nm,26.5s
CD2 LR LR
comp=Z,1μm,24.5s
DL2 Dalian 43.06 349 P P 13 35 00.7 +0.5
DL2 S **S** 13 41 24.1 +1.2
DL2 pmax pmax
comp=Z,37nm,0.9s
DL2 pmax pmax
comp=Z,170nm,3.9s
DL2 LR LR
comp=E,690nm,20.2s
DL2 LR LR
comp=Z,400nm,15.2s
BJT Baijiatuau 45.40 344 *e*P **P 13 35 17.7 -1.2**
BJI Beijing 45.41 344 P **P 13 35 19.6 +0.6**
BJI S **S** 13 42 00.8 +3.7
BJI pmax pmax
comp=Z,27nm,1.1s
BJI pmax pmax
comp=Z,83nm,3.6s
BJI LR LR
comp=N,490nm,21.2s
BJI LR LR
comp=E,730nm,25.4s
BJI LR LR
comp=Z,490nm,27.5s
SNY Shenyang 45.60 352 ||P **P 13 35 20.8 +0.3**
SNY S **S** 13 42 04.3 +4.6
SNY pmax pmax
comp=Z,11nm,0.7s
SNY pmax pmax
comp=Z,200nm,12.0s
SNY LR LR
comp=N,240nm,23.6s
SNY LR LR
comp=E,1μm,23.4s
SNY LR LR
comp=Z,530nm,28.4s
VLA Vladivostok 46.38 1||*e*P **P 13 35 26.5 -0.1**
VLA pmax pmax
comp=Z,39nm,2.5s
LZH Lanzhou 46.88 329 *e*P **P 13 35 31.3 +0.4**
LZH pP **pP** 13 35 43.6 +0.1
LZH sP **sP** 13 35 47.5 -1.3
LZH PcP **PcP** 13 36 59.0 -4.2
LZH *e*S **S** 13 42 19.1 +0.4
LZH sS **sS** 13 42 37.0 -2.7
LZH SS SS 13 45 35.0 -11
LZH pmax pmax
comp=Z,24nm,1.1s
LZH pmax pmax
comp=Z,120nm,4.5s
LZH LR LR
comp=N,550nm,15.1s
LZH LR LR
comp=E,750nm,15.7s
LZH LR LR
comp=Z,810nm,17.7s
CN2 Changchun 47.33 354 *e*P **P 13 35 35.3 +1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=N,500nm,20.0s
CN2 LR LR
comp=E,400nm,20.0s
CN2 LR LR
comp=Z,400nm,21.0s
USRK Ussuriysk Arra 47.46 1 P **P 13 35 35.5 +0.6**
comp=Z,5.0nm,0.6s,baz=184,slow=8.3,SNR=20
HHC Hu-ho-hao-te 47.59 340 *e*P **P 13 35 36.6 +0.4**
HHC PcP **PcP** 13 37 05.6 +0.1
HHC PP **PP** 13 37 28.2 0.0
HHC ScP **ScP** 13 40 54.5 -1.7
HHC PcS **PcS** 13 40 59.0 -2.0
HHC S **S** 13 42 28.8 +0.3
HHC sS **sS** 13 42 50.0 +0.4
HHC ScS **ScS** 13 45 23.5 -2.7
HHC SS **SS** 13 45 52.2 -5.0
HHC pmax pmax
comp=Z,63nm,0.7s
HHC pmax pmax
comp=Z,260nm,6.6s
HHC LR LR
comp=N,770nm,16.4s
HHC LR LR
comp=E,1μm,16.5s
HHC LR LR
comp=Z,870nm,16.2s
SHL Shillong 47.72 309 *e*P **P 13 35 37.5 -0.1**
MDJ Mudanjiang 47.89 359 P **P 13 35 39.1 +0.7**
MDJ pP **pP** 13 35 50.4 -0.6
MDJ sP **sP** 13 35 55.6 -0.7
MDJ PcP **PcP** 13 37 06.4 0.0
MDJ PP **PP** 13 37 30.0 -0.7
MDJ ScP **ScP** 13 40 57.5 +0.3
MDJ PcS **PcS** 13 41 02.2 +0.3
MDJ S **S** 13 42 35.4 +3.0
MDJ ScS **ScS** 13 45 28.0 +0.2
MDJ pmax pmax
comp=Z,9.0nm,0.7s
MDJ pmax pmax
comp=Z,140nm,11.3s
MDJ LR LR
comp=N,290nm,24.1s
MDJ LR LR
comp=E,310nm,28.1s
MDJ LR LR
comp=Z,490nm,20.1s
MDJ Mudanjiang 47.89 359 *e*P **P 13 35 37.2 -1.2**
comp=Z,14nm,0.9s
ASAJ Asahikawa 48.48 11 P **P 13 35 42.7 -0.3**
ASAJ Asahikawa 48.48 11 P **P 13 35 42.7 -0.3**
comp=Z,4.8nm,0.9s,baz=220,slow=8.7,SNR=5.9
YUK Yuzh-Kuril'sk 49.11 14*c i*P **P 13 35 45.3 -2.5**
YUK *i* 13 37 36.3
YUK *i* PPP PPP 13 38 27.7
YUK *i* S **S** **13 42 46.5 -3.2**
YUK *i* 13 45 27.0
YUK *i* SSS SSS 13 47 43.2
YUK MLR MLR
comp=E,274nm,18.0s
YUK MLR MLR
comp=Z,362nm,18.0s
YUK MLR MLR
comp=N,84nm,18.0s
LSA Lhasa 50.49 314 P **P 13 35 59.4 +0.3**
LSA Lhasa 50.49 314 *e*P **P 13 35 57.6 -1.5**
LSA pmax pmax
comp=Z,31nm,0.9s
LSA Lhasa 50.49 314 *e*P **P 13 35 57.6 -1.5**
comp=Z,31nm,0.9s
YSS Yuzh-Sakhalins 51.25 10 *e*P **P 13 36 04.0 +0.1**
YSS *e* 13 36 09.0
YSS *e* 13 48 22.0
YSS MLR MLR
comp=N,500nm,20.0s
YSS MLR MLR
comp=Z,500nm,20.0s
GTA Gaotai 51.47 329 *e*P **P 13 36 06.1 +0.2**
GTA pP **pP** 13 36 17.9 -0.8
GTA sP **sP** 13 36 23.4 -0.6
GTA PP **PP** 13 38 05.0 +1.4
GTA S **S** 13 43 21.9 -1.1
GTA sS **sS** 13 43 41.8 -2.5
GTA SS **SS** 13 46 54.7 -4.9
GTA pmax pmax
comp=Z,11nm,1.2s
GTA pmax pmax
comp=Z,170nm,7.6s
GTA LR LR
comp=N,510nm,20.9s
GTA LR LR
comp=E,480nm,20.4s
GTA LR LR
comp=Z,530nm,19.9s
HABR Khabarovsk 51.84 3 *e*P **P 13 36 07.4 -0.9**
HABR *e**PP pP 13 36 15.4 -5.7
HABR *e**SP sP 13 36 19.5 -6.9
HABR 13 37 18.3
HABR 13 38 03.4
HABR *e*PPP PPP 13 39 04.8
HABR *e*S **S** **13 43 27.7 +0.3**
HABR *e**SS sS 13 43 42.8 -5.9
HABR *e* 13 45 52.8
HABR *e*SS **SS** **13 47 04.2 -0.6**
HABR *e*SSS SSS 13 48 45.6
HABR pmax pmax
comp=Z,46nm,2.0s
HABR MLR MLR
comp=Z,400nm,16.0s
TAPN Taplejung 51.85 309 *e*P **P 13 36 08.9 -0.2**
comp=Z,30nm,0.4s
ODAN Odare 51.86 308 *e*P **P 13 36 08.6 -0.6**
comp=Z,83nm,0.9s
KLR Kul'dur 52.49 1 *e*P P 13 36 07.8 -5.3
RAMN Ramite 52.52 308 *e*P **P 13 36 13.9 -0.2**
comp=Z,123nm,0.6s
JIRN Jiri 53.18 309 *e*P **P 13 36 18.7 -0.4**
comp=Z,37nm,0.6s
GUN Gumba 53.54 309 *e*P **P 13 36 21.5 -0.2**
comp=Z,163nm,1.2s
PKI Pulchoki 53.75 308 *e*P **P 13 36 22.5 -0.7**
comp=Z,24nm,0.5s
PKIN Phulchoki 53.76 308 *e*P **P 13 36 23.4 +0.2**
comp=Z,21nm,0.6s
KKN Kakani 53.95 308 *e*P **P 13 36 24.3 -0.3**
comp=Z,58nm,0.9s
DMN Daman 54.01 308 *e*P **P 13 36 24.5 -0.5**
comp=Z,80nm,1.0s
KOLN Koldanda 55.27 307 *e*P **P 13 36 34.0 -0.1**
comp=Z,95nm,1.0s
ULN Ulaanbaatar 55.29 341 *e*P **P 13 36 32.1 -1.8**
comp=Z,12nm,0.9s
DANN Dangsing 55.40 308 *e*P **P 13 36 34.6 -0.6**
comp=Z,55nm,0.7s
SONM Songino Array 55.49 340 P **P 13 36 36.1 +0.8**
SONM Songino Array 55.49 340 P **P 13 36 36.1 +0.8**
comp=Z,3.2nm,0.9s,baz=162,slow=6.7,SNR=26
HYB Hyderabad 55.83 294 *i* P **P 13 36 38.0 -0.1**
PYUN Piuthan 55.90 307 *e*P **P 13 36 38.4 -0.2**
comp=Z,283nm,1.1s
AFI Afiamalu 57.28 104 LR LR 13 59 02.2
comp=Z,366nm,20.4s,baz=276,slow=34
ZAK Zakamensk 58.73 340||*i*P **P 13 36 58.0 -0.1**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
TLY Talaya 59.70 341 *e*P **P 13 37 06.4 +1.7**
TLY *e*S S 13 45 26.8 +15
TLY pmax pmax
comp=Z,5.0nm,1.3s
TLY MLR MLR
comp=Z,303nm,21.0s
IRK Irkutsk 59.98 341 *e*P P 13 37 10.1 +3.6
IRK pmax pmax
comp=Z,28nm,1.6s
CLNS Chul'man 60.32 356 *e*P P 13 37 15.1 +6.3
CLNS *e* 13 37 58.3
CLNS *e* 13 39 25.5
CLNS *e*PPP PPP 13 40 49.7
CLNS *e*S S 13 45 29.8 +10
CLNS pmax pmax
comp=Z,6.0nm,0.8s
CLNS pmax pmax
comp=N,13nm,0.9s
CLNS pmax pmax
comp=E,3.0nm,1.0s
CLNS pmax pmax
comp=E,3.0nm,0.8s
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=Z,5.0nm,0.9s
CLNS smax smax
comp=N,62nm,12.8s
CLNS smax smax
comp=E,170nm,14.8s
CLNS MLR MLR
comp=Z,146nm,14.0s
CLNS MLR MLR
comp=N,119nm,14.0s
CLNS MLR MLR
comp=E,228nm,15.0s
MOY Mondy 60.61 339 *e*P **P 13 37 12.5 +1.5**
MOY pmax pmax
comp=Z,42nm,2.7s
PETK Petropavlovsk- 60.65 18 P **P 13 37 12.0 +0.9**
PETK Petropavlovsk- 60.65 18 P **P 13 37 12.0 +0.9**
PETK Petropavlovsk- 60.65 18 P **P 13 37 12.0 +0.9**
comp=Z,1.7nm,0.6s,baz=191,slow=6.8,SNR=6.5
PETK LR LR 14 00 03.1
comp=Z,381nm,21.3s,baz=199,slow=33
WMQ Urumqi 61.09 325 P **P 13 37 15.2 +0.9**
WMQ pP **pP** 13 37 25.3 -2.1
WMQ sP **sP** 13 37 29.2 -3.4
WMQ PcP **PcP** 13 37 57.7 +0.7
WMQ PP **PP** 13 39 31.7 +2.3
WMQ ScP **ScP** 13 41 55.2 +0.2
WMQ S **S** 13 45 29.7 -0.5
WMQ sS **sS** 13 45 47.1 -4.9
WMQ ScS **SKKSac** 13 47 00.0 -1.8
WMQ SS **SS** 13 49 31.7 +0.9
WMQ pmax pmax
comp=Z,19nm,1.2s
WMQ pmax pmax
comp=Z,130nm,4.0s
WMQ LR LR
comp=N,960nm,32.2s
WMQ LR LR
comp=E,380nm,16.9s
WMQ LR LR
comp=Z,540nm,28.2s
CASY Casey 64.34 189 *e*P **P 13 37 35.5 0.0**
comp=Z,32nm,1.4s
YAK Yakutsk 65.33 359 *e*P **P 13 37 42.0 +0.1**
YAK *e**PP **pP** 13 37 52.9 -2.1
YAK *e* 13 38 14.5
YAK *e*S **S** **13 46 24.0 +1.8**
YAK *e*SS **SS** **13 50 32.1 -4.0**
YAK pmax pmax
comp=Z,58nm,0.9s
YAK pmax pmax
comp=N,11nm,1.3s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK smax smax
comp=N,172nm,3.0s
YAK smax smax
comp=E,44nm,2.5s
YAK MLR MLR
comp=Z,248nm,25.0s
YAK MLR MLR
comp=N,130nm,20.0s
YAK MLR MLR
comp=E,214nm,23.0s
MK31 Makanchi Array 65.92 326 *e*P **P 13 37 46.0 -0.2**
MK31 Makanchi Array 65.92 326 *e*P **P 13 37 46.0 -0.2**
MKAR Makanchi Array 65.92 326 P **P 13 37 46.7 +0.6**
MKAR Makanchi Array 65.92 326 P **P 13 37 46.7 +0.6**
MKAR Makanchi Array 65.92 326 P **P 13 37 46.7 +0.6**
comp=E,4.2nm,0.6s,baz=114,slow=8.6,SNR=68
MKAR LR LR 14 05 50.4
comp=E,189nm,21.2s,baz=252,slow=35
KSH Kashi 66.21 316 P **P 13 37 49.7 +1.4**
KSH pP **pP** 13 38 03.0 +1.6
KSH sP **sP** 13 38 08.1 +1.5
KSH PP PP 13 40 19.9 +5.3
KSH S **S** 13 46 37.4 +3.2
KSH sS **sS** 13 46 58.7 +2.5
KSH SS **SS** 13 50 55.6 +4.6
KSH pmax pmax
comp=Z,190nm,4.9s
KSH LR LR
comp=N,160nm,7.5s
KSH LR LR
comp=E,88nm,4.9s
FX1 Attu Island--F 66.34 26 *e*P **P 13 37 47.0 -1.6**
TKM2 Tokmak 2 68.00 319 *e*P **P 13 37 58.0 -1.7**
TKM2 pmax pmax
comp=Z,10.0nm,0.8s
TKM2 Tokmak 2 68.00 319 *e*P **P 13 37 58.0 -1.7**
comp=Z,9.6nm,0.8s
MIR Mirnyy 68.32 195 *e*P P 13 38 05.0 +4.1
MIR *e* 13 38 26.0
MIR pmax pmax
comp=Z,56nm,1.5s
AAK Ala-Archa 68.60 319 *e*P **P 13 38 01.1 -2.3**
AAK pmax pmax
comp=Z,17nm,1.2s
AAK Ala-Archa 68.60 319 *e*P **P 13 38 01.1 -2.3**
comp=Z,17nm,1.2s
FRU Bishkek 68.61 319 *e*P P 13 37 57.0 -6.3
ZAA0 Zalesovo Array 68.94 333 *e*P **P 13 38 03.3 -1.8**
ZALV Zalesovo Beam 68.94 333 *i* P **P 13 38 05.0 0.0**
ZALV pmax pmax
comp=Z,4.0nm,0.6s
ZALV Zalesovo Beam 68.94 333 P **P 13 38 04.1 -0.9**
ZALV Zalesovo Beam 68.94 333 P **P 13 38 04.1 -0.9**
comp=Z,3.6nm,0.6s,baz=102,slow=5.7,SNR=16
ZALV LR LR 14 10 24.9
comp=Z,264nm,21.6s,baz=70,slow=38
EKS2 Erkin-Say 69.08 318 *e*P **P 13 38 05.6 -0.8**
EKS2 pmax pmax
comp=Z,15nm,1.0s
EKS2 Erkin-Say 69.08 318 *e*P **P 13 38 05.6 -0.8**
comp=Z,15nm,1.0s
KBL Kabul 69.38 309 *e*P **P 13 38 06.9 -1.5**
KBL pmax pmax
comp=Z,8.0nm,0.8s
KBL Kabul 69.38 309 *e*P **P 13 38 06.9 -1.5**
comp=Z,7.6nm,0.8s
KURK Kurchatov 70.12 328 P **P 13 38 11.1 -1.2**
comp=Z,101nm,0.6s,SNR=5.4
NVS Novosibirsk 70.22 333 *e*P **P 13 38 12.3 -0.6**
NVS pmax pmax
comp=Z,30nm,1.7s
NVS pmax pmax
comp=N,17nm,2.1s
NVS pmax pmax
comp=E,15nm,1.8s
KK31 Karatay Array 71.45 318 *i* P **P 13 38 20.7 0.0**
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 71.45 318 *e*P **P 13 38 19.4 -1.3**
KKAR *e* 13 38 38.2
KKAR pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 71.45 318 *e*P **P 13 38 19.4 -1.3**
comp=Z,5.0nm,0.7s
KKAR *e*PcP **PcP** **13 38 38.2 -1.9**
TIXI Tiksi 74.99 359||*e*P **P 13 38 40.7 -0.2**
TIXI pmax pmax
comp=Z,9.0nm,1.2s
BILL Bilibino 75.45 13 *e*P **P 13 38 44.4 +0.8**
BILL *e* 13 38 54.7
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,100nm,20.0s
BVA0 Borovoye Array 75.69 327 *i* P **P 13 38 45.2 -0.2**
BVA0 pmax pmax
comp=Z,34nm,1.1s
BRVK Borovoye 75.77 327 P **P 13 38 46.3 +0.5**
comp=Z,96nm,0.7s,SNR=7.5
BRVK Borovoye 75.77 327*c e*P **P 13 38 45.7 -0.1**
BRVK pmax pmax
comp=Z,30nm,1.7s
BRVK Borovoye 75.77 327 *e*P **P 13 38 44.5 -1.2**
comp=Z,25nm,0.9s
VNDA Vanda 75.80 173 *e*P **P 13 38 44.2 -1.4**
comp=Z,9.2nm,1.1s
VNDA Vanda 75.80 173 P **P 13 38 47.6 +2.0**
comp=Z,4.2nm,0.7s,baz=320,slow=6.1,SNR=13
VNDA LR LR 14 14 02.1
comp=Z,746nm,19.1s,baz=343,slow=37
ZRNK Zerenda 76.42 327 P **P 13 38 49.3 -0.2**
ZRNK pmax pmax
comp=Z,28nm,1.3s
SBA Scott Base 76.67 173 *e*P **P 13 38 48.4 -2.1**
SBA pmax pmax
comp=Z,9.0nm,1.1s
SBA Scott Base 76.67 173 *e*P **P 13 38 48.4 -2.1**
comp=Z,8.9nm,1.1s
MAW Mawson 78.62 201 P **P 13 39 03.9 +2.5**
MAW Mawson 78.62 201 P **P 13 39 03.9 +2.5**
comp=Z,7.1nm,0.6s,baz=86,slow=6.7,SNR=24
MAW LR LR 14 11 56.7
comp=Z,552nm,21.8s,baz=70,slow=34
MAW Mawson 78.62 201 P **P 13 39 03.8 +2.3**
baz=78,SNR=29
PPT2 Papeete2 78.79 107 *e*LR LR 14 03 36.1
comp=Z,643nm,24.0s
TBI Tubuai 78.94 113 *e*LR LR 14 03 41.7
comp=Z,652nm,33.0s
AB31 Akbulak array 80.45 321 *i* P **P 13 39 14.2 +2.4**
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 80.45 321 *e*P **P 13 39 11.6 -0.3**
comp=Z,4.8nm,0.6s
ABKAR *e*PcP **PcP** **13 39 17.2 -1.4**
SVE Sverdlovsk 82.34 328 *e*P **pP** **13 39 38.5 +3.4**
SVE pmax pmax
comp=Z,19nm,1.1s
ARU Arti 83.31 328*d i*P **P 13 39 26.6 -0.1**
ARU 13 42 33.2
ARU S **S** **13 49 45.3 +1.4**
ARU pmax pmax
comp=Z,9.0nm,1.7s
UMR Umm Al-Rimmam 85.94 300 *e*P **P 13 39 41.4 +0.8**
UMR AMb AMB 13 39 54.8
comp=Z,47nm,1.2s
RDF Al-Radifah 86.02 299 *e*P **P 13 39 41.3 +0.3**
RDF AMb AMB 13 39 55.0
comp=Z,39nm,1.3s
NAY Al-Naaiem 86.32 299 *e*P **P 13 39 42.6 +0.2**
NAY AMb AMB 13 39 45.1
comp=Z,31nm,0.7s
SYO Syowa Base 87.33 201||*e*P **P 13 39 47.4 +0.9**
RAYN Ar Rayn 87.33 294 P **P 13 39 48.5 +0.9**
comp=Z,100nm,1.0s,SNR=7.7
PMR Palmer 88.17 28 *e*P **P 13 39 49.9 -0.7**
PMR pmax pmax
comp=Z,15nm,1.0s
PMR Palmer 88.17 28 *e*P **P 13 39 49.9 -0.7**
comp=Z,14nm,1.0s
SML Sawmill 88.58 28 *e*P **P 13 39 51.7 -1.0**
SML pmax pmax
comp=Z,4.0nm,0.8s
SML Sawmill 88.58 28 *e*P **P 13 39 51.7 -1.0**
comp=Z,3.9nm,0.8s
MCK McKinley 88.65 26 *e*P **P 13 39 51.1 -1.8**
MCK pmax pmax
comp=Z,8.0nm,1.0s
MCK McKinley 88.65 26 *e*P **P 13 39 51.1 -1.8**
comp=Z,7.6nm,1.0s
COLD Coldfoot 88.81 22 *e*P **P 13 39 51.0 -2.6**

comp=Z,4.9nm,0.9s
ILAR Eielson Array 89.71 25 P P 13 39 57.7 -0.1
ILAR Eielson Array 89.71 25 P P 13 39 57.7 -0.1
comp=Z,0.8nm,0.5s,baz=260,slow=4.5,SNR=24
ILAR LR LR 14 18 45.1
comp=Z,257nm,20.5s,baz=66,slow=35
ZEI Tsey 90.27 313 *e*P P 13 40 10.6 +9.3
ZEI pmax pmax
comp=Z,9.0nm,0.5s
KBZ Khabaz 91.07 314 P P 13 40 07.5 +2.9
KBZ Khabaz 91.07 314 P P 13 40 07.5 +2.9
KBZ Khabaz 91.07 314 P P 13 40 07.5 +2.9
comp=Z,0.9nm,0.5s,baz=108,slow=3.8,SNR=3.0
KBZ LR LR 14 28 41.4
comp=Z,110nm,19.0s,baz=298,slow=41
EGAK Eagle 92.15 25 *e*P **P 13 40 09.8 +0.7**
comp=Z,6.1nm,1.1s
RKT Rikitea 92.26 113 *e*LR LR 14 09 51.5
comp=Z,560nm,25.8s
KMBO Kilima Mbogo 93.77 269 P P 13 40 19.4 +1.2
KMBO Kilima Mbogo 93.77 269 P P 13 40 19.4 +1.2
comp=Z,2.6nm,0.7s,baz=43,slow=17,SNR=3.9
KMBO LR LR 14 19 14.2
comp=Z,822nm,21.6s,baz=96,slow=33
INK Inuvik 95.20 22 LR LR 14 23 19.2
comp=Z,296nm,21.7s,baz=36,slow=36
BRTR Keskin Array B 97.94 309 LR LR 14 25 47.9
comp=Z,88nm,19.6s,baz=294,slow=36
ARCES ARCESS Array B 98.66 340 P Pdif 13 40 38.9 0.0
ARCES ARCESS Array B 98.66 340 P Pdif 13 40 38.8 0.0
comp=Z,3.1nm,0.7s,baz=69,slow=5.9,SNR=11
ARCES LR LR 14 30 46.4
comp=Z,267nm,21.0s,baz=253,slow=39
BOSA Boshof 102.18 240 P Pdif 13 40 56.5 +1.0
BOSA Boshof 102.18 240 P Pdif 13 40 56.5 +1.0
comp=Z,3.8nm,0.7s,baz=144,slow=6.0,SNR=7.9
YKA Yellowknife Ar 104.12 26 Pdif **Pdif 13 41 04.8 +1.6**
YKA Yellowknife Ar 104.12 26 Pdiff **Pdif 13 41 04.8 +1.6**
comp=Z,0.2nm,0.8s,baz=293,slow=4.2,SNR=3.5
NOA NORSAR Array B 107.13 334 Pdif **Pdif 13 41 14.9 -1.7**
NOA NORSAR Array B 107.13 334 Pdiff **Pdif 13 41 14.9 -1.7**
comp=Z,0.3nm,0.5s,baz=63,slow=2.9,SNR=2.8
NVAR Mina Array Bea 108.24 51 Pdif **Pdif 13 41 24.9 +2.5**
NVAR Mina Array Bea 108.24 51 Pdiff **Pdif 13 41 24.9 +2.5**
comp=Z,0.1nm,0.3s,baz=259,slow=3.2,SNR=2.2
DPC Dobruska-Polom 108.31 322 AMS AMS 14 44 50.0
TREC Trest 109.14 321 AMS AMS 14 37 00.0
comp=Z,200nm,16.6s
PVCC Panska Ves 109.32 323 AMS AMS 14 33 40.0
comp=Z,400nm,20.5s
PRU Pruhonice 109.51 322 AMS AMS 14 34 00.0
comp=Z,300nm,18.8s
KHC Kasperske Hory 110.38 322 AMS AMS 14 37 50.0
comp=Z,300nm,21.1s
GERES GERESS Array B 110.40 321 Pdif **Pdif 13 41 32.5 +0.9**
GERES GERESS Array B 110.40 321 Pdiff **Pdif 13 41 32.5 +0.9**
comp=Z,0.1nm,0.2s,baz=72,slow=4.9,SNR=2.3
TXAR Lajitas Array 122.15 57 PKP **PKPdf 13 45 57.3 +1.9**
TXAR Lajitas Array 122.15 57 PKP **PKPdf 13 45 57.3 +1.9**
comp=Z,0.2nm,0.5s,baz=211,slow=6.3,SNR=3.3
TORD Torodi Ar. Bea 129.11 284 PKP **PKPdf 13 46 10.3 +1.4**
TORD Torodi Ar. Bea 129.11 284 PKP **PKPdf 13 46 10.3 +1.4**
comp=Z,2.2nm,0.6s,baz=68,slow=1.6,SNR=15
PLCA Paso Flores 131.76 158 PKP **PKPdf 13 46 17.1 +3.7**
PLCA Paso Flores 131.76 158 PKP **PKPdf 13 46 17.1 +3.7**
comp=Z,2.5nm,0.7s,baz=305,slow=2.9,SNR=4.4
DBIC Dimbokro 136.02 276 PKP **PKPdf 13 46 21.3 -0.7**
DBIC Dimbokro 136.02 276 PKP **PKPdf 13 46 21.3 -0.7**
comp=Z,2.0nm,0.6s,baz=98,slow=7.1,SNR=2.7
LVC Limon Verde 147.53 144 *e*PKPab **PKPab 13 46 46.8 -0.5**
CPUP Villa Florida 149.28 165 PKPbc **PKPab 13 46 51.9 -1.9**
CPUP Villa Florida 149.28 165 PKPbc **PKPab 13 46 51.9 -1.9**
comp=Z,3.2nm,0.6s,baz=141,slow=0.4,SNR=19
LPAZ La Paz 152.67 136 *e*PKPdf **PKPdf 13 46 50.3 -1.0**
LPAZ PKP **PKPbc 13 46 54.9 -3.4**
LPAZ PKPbc **PKiKP 13 47 01.1 +2.5**
LPAZ La Paz 152.67 136 PKP **PKPbc 13 46 54.9 -3.4**
comp=Z,1.5nm,0.8s,baz=192,slow=0.6,SNR=4.8
LPAZ PKPbc **PKiKP 13 47 01.1 +2.5**
comp=Z,7.8nm,0.7s,baz=205,slow=0.8,SNR=28

BJI ***03*** *14:02:09.2,2˚.52S×139˚.59E,h33km,mB5.1/30,mb4.9/42, Ms4.7/35,Ms7 4.4/32*

ISCJB ***03*** *14:02:10.3±1.1,2˚.35S±0˚.03×139˚.26E±0˚.03,h23km±8km, mb4.9/83,MS4.4/31,Error ellipse: s-maj=5.8km s-min=4.9km az=153.2*

MOS ***03*** *14:02:11.4±0.9,2˚.37S×139˚.17E,h33km,mb5.1/28,Error ellipse: s-maj=12.3km s-min=6.2km az=108.3*

NEIC ***03*** *14:02:13.3±0.2,2˚.34S×139˚.15E,h35km,mb4.9/30,Error ellipse: s-maj=8.8km s-min=5.3km az=80.0*

BKK ***03*** *14:02:13.2±0.4,2˚.S±7˚×13˚9E±˚,h10km,M5.1/24,mB5.6/5, mb5.1/24,Mw(mB)5.1/5*

AUST ***03*** *14:02:13.1±1.2,2˚.39S×139˚.12E,h26km,Error ellipse: s-maj=0.9km s-min=0.8km az=22.0*

IDC ***03*** *14:02:14.1±3.7,2˚.38S×138˚.92E,h29km±25km,mb4.4/21, mb1 4.4/24,mb1mx4.4/26,mbtmp4.4/24,ML4.0/3,MS4.4/20, Ms1 4.4/20,ms1mx4.2/29,Error ellipse: s-maj=14.2km s-min=8.6km az=90.0*

DJA ***03*** *14:02:15.3±0.3,3˚S±6˚×13˚9E±˚,h15km,M4.9/14, mB5.3/11,mb5.0/14,MLv5.1/2,Mw(mB)4.8/11*

GCMT ***03*** *14:02:16.5±0.2,2˚.17S×139˚.21E,h26km,MW5.1,Moment Tensor Solution. s34,c42; s75,c109; Moment tensor: Scale 10^16^Nm; Mrr3.92±.24; Mθθ-2.97±.16; Mϕϕ-0.95±.18; Mrθ-1.65±.26; Mrϕ3.93±.10; Mθϕ3.01±.37; Best double couple: Mo6.20000×10^16^ NP1:ϕs103.00000°,δ34.00000°, λ51.00000°. NP2:ϕs327.00000°,δ64.00000°,λ113.00000°. Principal axes: T 5.3600, Plg63.0000°, Azm274.0000°; N 1.5800, Plg20.0000°, Azm137.0000°; P -6.9500, Plg16.0000°, Azm40.0000°; Data Used: II IU IC G CN.*

ISC 03 14:02:14.1±0.3,2˚.36S±0˚.04×139˚.20E±0˚.04,h35km±3km, h36km:pP-P,n247,σ1s55/314,mb4.9/82,MS4.4/32,5C-2D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.52**	**96**	P	Pn	14 02 35.6	-3.1
JAY				S	**Sn**	**14 02 54.8**	**-2.5**
JAY	**Jayapura**	**1.52**	**96**	P	Pn	14 02 35.6	-3.1
	baz=1.6,SNR=1000						
JAY				S	**Sn**	**14 02 57.3**	**0.0**
	baz=1.6,SNR=5.2						
BAKI	**Biak**	**3.30**	**291**	P	**Pn**	**14 03 02.7**	**-0.6**
RKPI	**Ransiki, Papua**	**5.09**	**279**	P	Pn	14 03 33.1	+5.3
	333nm,0.8s,5μm2.0nm						
FAKI	**Fak Fak**	**6.96**	**265**	S	**Sn**	**14 05 11.2**	**-0.4**
	baz=6.9,SNR=10						
PMG	**Port Moresby**	**10.57**	**132**	*e*Pn	**Pn**	**14 04 42.3**	**-0.8**
PMG	**Port Moresby**	**10.57**	**132**	P	**Pn**	**14 04 45.4**	**+2.3**
	88nm,1.2s,741nm						
PMG	**Port Moresby**	**10.57**	**132**	Pn	**Pn**	**14 04 45.3**	**+2.2**
	0.9nm,0.3s,baz=310,slow=7.5,SNR=8.5						
PALU	**Palau**	**10.73**	**334**	P	**Pn**	**14 04 45.8**	**+0.4**
	baz=11,SNR=34						
LBMI	**Labuha**	**11.81**	**278**	P	Pn	14 05 10.3	+10
	136nm,1.5s,2μm						
GAMI	**Galela, Maluku**	**12.14**	**290**	P	P	14 05 12.5	-4.4
	115nm,1.1s,4μm						
COEN	**Coen**	**12.17**	**161**	*e*Pn	**Pn**	**14 05 04.3**	**-0.8**
COEN	**Coen**	**12.17**	**161**	P	**Pn**	**14 05 05.3**	**+0.2**
	baz=12,SNR=14						
KDU	**Kakadu**	**12.23**	**213**	P	**Pn**	**14 05 04.6**	**-1.3**
	baz=12,SNR=17						
MTN	**Manton Dam**	**13.12**	**217**	P	**Pn**	**14 05 19.5**	**+1.4**
	baz=13,SNR=7.4						
GTOI	**Gorontalo**	**16.45**	**280**	P	**P**	**14 06 07.4**	**+2.6**
	140nm,1.1s,2μm						
MTSU	**Mount Surprise**	**16.46**	**163**	P	**P**	**14 06 05.2**	**+0.3**
	baz=17,SNR=7.0						
LUWI	**Luwuk**	**16.47**	**274**	P	**P**	**14 06 07.1**	**+2.1**
	182nm,1.0s,2μm						
DAV	**Davao City (W)**	**16.51**	**305**	LR	LR	14 12 38.3	
	comp=Z,836nm,19.7s,baz=130,slow=38						
KNRA	**Kununurra**	**16.76**	**217**	P	Pn	14 06 00.6	-5.6
	baz=17,SNR=8.2						
KNRA				S	**Sn**	**14 09 06.7**	**-4.6**
	baz=17,SNR=3.9						
BBSI	**Bau Bau**	**16.87**	**259**	P	P	14 06 20.2	+11
MRSI	**Marisa**	**17.48**	**279**	P	**P**	**14 06 16.9**	**+0.7**
	51nm,1.5s,594nm						
SKSI	**Soroako, Sulaw**	**17.84**	**269**	P	P	14 06 25.6	+5.3
	62nm,1.4s,1μm						
QIS	**Mount Isa**	**18.09**	**179**	P	**Pn**	**14 06 21.6**	**-1.1**
	baz=18,SNR=13						
WRAB	**Tennant Creek**	**18.09**	**195**	*e*P	**Pn**	**14 06 20.4**	**-2.4**
WRAB				pmax	pmax		
	comp=Z,78nm,1.2s						
WRAB	**Tennant Creek**	**18.09**	**195**	*e*Pn	**Pn**	**14 06 20.4**	**-2.4**
	comp=Z,78nm,1.2s						
WRA	**Warramunga Arr**	**18.11**	**195**	P	**Pn**	**14 06 21.9**	**-1.0**
WRA				S	Sn	14 09 32.1	-12
WRA	**Warramunga Arr**	**18.11**	**195**	P	**Pn**	**14 06 21.9**	**-1.0**
	comp=Z,2.3nm,0.3s,baz=18,slow=12,SNR=63						
WRA				S	Sn	14 09 32.1	-12
	comp=Z,0.4nm,0.3s,baz=12,slow=22,SNR=4.7						
CTA	**Charters Tower**	**18.92**	**159**	P	**Pn**	**14 06 32.9**	**0.0**
CTA	**Charters Tower**	**18.92**	**159**	P	**Pn**	**14 06 32.9**	**0.0**
	comp=Z,0.2nm,0.3s,baz=351,slow=13,SNR=6.1						
CTAO	**Charters Tower**	**18.92**	**159**	*e*P	**P**		
CTAO				pmax	pmax	**14 06 31.6**	**-0.4**
	comp=Z,56nm,1.5s						
CTAO	**Charters Tower**	**18.92**	**159**	*e*P	**P**	**14 06 31.6**	**-0.4**
	comp=Z,56nm,1.5s						
BSSI	**Bau Bau, Buton**	**19.02**	**258**	P	Pn	14 06 43.0	+8.9
BKSI	**Bulukumba**	**19.25**	**261**	P	**Pn**	**14 06 40.8**	**+3.9**
	comp=Z,28nm,1.1s						
TTSI	**Tana Toraja**	**19.37**	**268**	P	**Pn**	**14 06 40.4**	**+2.2**
	comp=Z,110nm,1.5s,comp=Z,2μm						
SPSI	**Sidrap Palu**	**19.46**	**265**	P	**Pn**	**14 06 41.8**	**+2.4**
	comp=Z,79nm,1.1s,comp=Z,892nm						
KAPI	**Kappang**	**19.58**	**262**	*e*P	**P**	**14 06 39.0**	**-0.3**
	comp=Z,27nm,1.0s						
WSI	**Waingapu**	**20.14**	**248**	P	P	14 06 35.0	-10
	baz=20,SNR=3.5						
FITZ	**Fitzroy Crossi**	**20.53**	**219**	*e*P	**P**	**14 06 49.1**	**-0.4**
FITZ				S	**S**	**14 10 32.8**	**-4.7**
FITZ	**Fitzroy Crossi**	**20.53**	**219**	P	**P**	**14 06 49.3**	**-0.2**
	comp=Z,19nm,1.1s,baz=37,slow=10,SNR=15						
FITZ				S	**S**	**14 10 32.8**	**-4.7**
	comp=Z,14nm,0.8s,baz=199,slow=12,SNR=4.3						
FITZ				LR	LR	14 15 42.8	
	comp=Z,3μm,18.5s,baz=43,slow=40						
AS31	**Alice Springs**	**21.79**	**193**	*e*P	**P**	**14 07 02.1**	**-1.0**
ASAR	**Alice Springs**	**21.79**	**193**	P	**P**	**14 07 02.7**	**-0.4**
ASAR				S	**S**	**14 11 03.9**	**+1.5**
ASAR	**Alice Springs**	**21.79**	**193**	P	**P**	**14 07 02.7**	**-0.4**
	comp=Z,15nm,0.8s,baz=17,slow=10.0,SNR=80						
ASAR				S	**S**	**14 11 03.9**	**+1.5**
	comp=Z,7.8nm,1.0s,baz=14,slow=28,SNR=5.4						
HNR	**Honiara**	**21.79**	**110**	P	**P**	**14 07 06.0**	**+2.8**
HNR	**Honiara**	**21.79**	**110**	P	**P**	**14 07 06.0**	**+2.8**
	comp=Z,61nm,0.8s,baz=277,slow=7.1,SNR=3.2						
MYLDM	**Lahad Datu**	**21.99**	**290**	P	**P**	**14 07 07.7**	**+2.4**
TSM	**Tawau**	**22.31**	**287**	P	**P**	**14 07 09.9**	**+1.2**
SDKM	**Sandakan**	**23.37**	**290**	P	**P**	**14 07 20.3**	**+0.5**
KDM	**Kudat**	**24.15**	**293**	P	**P**	**14 07 26.4**	**-0.7**
KHKI	**Kahang-Kahang**	**24.22**	**255**	P	**P**	**14 07 30.5**	**+2.7**
TGY	**Tagaytay City**	**24.40**	**313**	P	**P**	**14 07 26.8**	**-2.7**
TGY	**Tagaytay City**	**24.40**	**313**	P	**P**	**14 07 26.8**	**-2.7**
	comp=Z,63nm,0.4s,baz=158,slow=19,SNR=1.9						
KKM	**Kota Kinabalu**	**24.42**	**290**	P	**P**	**14 07 30.4**	**+0.7**
QLP	**Quilpie**	**24.56**	**169**	P	**P**	**14 07 31.6**	**+0.9**
	baz=25,SNR=13						
EIDS	**Eidsvold**	**25.58**	**154**	*e*P	**P**	**14 07 39.6**	**-0.4**
	comp=Z,134nm,1.1s						
EIDS	**Eidsvold**	**25.58**	**154**	P	**P**	**14 07 42.7**	**+2.7**
	baz=26,SNR=15						
RMQ	**Roma**	**25.68**	**160**	P	**P**	**14 07 43.1**	**+2.2**
	baz=26,SNR=17						
MBWA	**Marble Bar**	**26.62**	**224**	*e*P	**P**	**14 07 49.0**	**-0.5**
	comp=Z,40nm,1.1s						
BTM	**Bintulu**	**26.68**	**282**	P	**P**	**14 07 52.1**	**+2.0**
SBUM	**Sibu**	**27.39**	**280**	P	**P**	**14 07 57.7**	**+1.3**
STKA	**Stephens Creek**	**29.45**	**176**	*e*P	**P**	**14 08 14.5**	**0.0**
STKA	**Stephens Creek**	**29.45**	**176**	P	**P**	**14 08 14.3**	**-0.3**
	comp=Z,11nm,1.1s,baz=311,slow=5.5,SNR=7.5						
STKA				LR	LR	14 21 31.6	
	comp=Z,2μm,18.2s,baz=350,slow=39						
STKA	**Stephens Creek**	**29.45**	**176**	P	**P**	**14 08 14.6**	**0.0**
	baz=30,SNR=4.8						
CMSA	**Cobar Meteorol**	**29.66**	**169**	P	**P**	**14 08 18.0**	**+1.5**
	baz=30,SNR=7.9						
FORT	**Forrest**	**30.16**	**199**	*e*P	**P**	**14 08 19.5**	**-1.5**
	comp=Z,40nm,0.8s						
FORT	**Forrest**	**30.16**	**199**	P	**P**	**14 08 21.8**	**+0.8**
	baz=30,SNR=11						
BBOO	**Buckleboo**	**30.43**	**185**	*e*P	**P**	**14 08 22.0**	**-1.3**
	comp=Z,1μm,1.4s						
MEEK	**Meekatharra**	**31.19**	**217**	P	**P**	**14 08 30.0**	**-0.1**
	baz=31,SNR=6.7						
YNG	**Young**	**32.91**	**166**	P	**P**	**14 08 47.0**	**+1.9**
	baz=33,SNR=7.4						
DZM	**Mont Dzumac**	**32.94**	**129**	*e*LR	LR	14 17 34.1	
	comp=Z,1μm,25.1s						
ARPS	**Mount Arapiles**	**34.33**	**176**	P	**P**	**14 08 58.4**	**+1.0**
	baz=34,SNR=6.3						
MORW	**Morawa**	**34.51**	**217**	P	**P**	**14 08 59.3**	**+0.2**
	baz=35,SNR=6.4						
BLDU	**Ballidu**	**35.25**	**215**	P	**P**	**14 09 06.2**	**+0.7**
	baz=35,SNR=4.9						
KLBR	**Kellerberrin**	**35.41**	**213**	P	**P**	**14 09 08.0**	**+1.1**
	baz=36,SNR=3.9						
MYKOM	**Kota Tinggi**	**35.58**	**276**	P	**P**	**14 09 11.1**	**+2.6**
QIZ	**Qiongzhong**	**35.84**	**308**	P	**P**	**14 09 10.2**	**-0.5**
QIZ				S	**S**	**14 14 46.8**	**+0.5**
QIZ				pmax	pmax		
	comp=Z,24nm,1.9s						
QIZ				LR	LR		
	comp=N,360nm,20.4s						
QIZ				LR	LR		
	comp=E,200nm,19.5s						
QIZ				LR	LR		
	comp=Z,600nm,20.7s						
JNU	**Nakatsue**	**36.16**	**348**	*e*P	**P**	**14 09 11.1**	**-2.2**
	comp=Z,11nm,1.1s						
JNU	**Nakatsue**	**36.16**	**348**	P	**P**	**14 09 12.8**	**-0.4**
	comp=Z,19nm,1.1s,baz=140,slow=4.6,SNR=6.3						
JNU				LR	LR	14 23 04.2	
	comp=Z,511nm,18.5s,baz=340,slow=35						
NWAO	**Narrogin (SRO)**	**36.73**	**212**	P	**P**	**14 09 18.7**	**+0.6**
NWAO	**Narrogin (SRO)**	**36.73**	**212**	P	**P**	**14 09 18.7**	**+0.6**
	comp=Z,7.4nm,0.7s,baz=86,slow=7.9,SNR=6.3						
NWAO				LR	LR	14 25 35.6	
	comp=Z,3μm,20.4s,baz=35,slow=38						
KTGM	**Kuala Trenggan**	**36.82**	**282**	P	**P**	**14 09 19.4**	**+0.2**
UBPT	**Khong Chiam**	**37.69**	**299**	P	**P**	**14 09 26.7**	**+0.2**
	comp=Z,30nm,1.1s,comp=Z,540nm						
FRIM	**Kepong**	**37.96**	**278**	P	**P**	**14 09 28.9**	**+0.1**
RKGY	**Rocky Gully**	**38.18**	**210**	P	**P**	**14 09 32.8**	**+2.5**
	baz=38,SNR=3.9						
MJAR	**Matsushiro Arr**	**38.72**	**359**	P	**P**	**14 09 35.0**	**+0.2**
MJAR				PcP	**PcP**	**14 11 46.4**	**+0.1**
MJAR	**Matsushiro Arr**	**38.72**	**359**	P	**P**	**14 09 35.0**	**+0.2**
	comp=Z,2.6nm,0.6s,baz=177,slow=10,SNR=11						
MJAR				PcP	**PcP**	**14 11 46.4**	**+0.1**
	comp=Z,2.7nm,0.9s,baz=182,slow=2.6,SNR=7.5						
MJAR				LR	LR	14 24 29.3	
	comp=Z,318nm,18.2s,baz=165,slow=34						
MAJO	**Matsushiro**	**38.72**	**359**	*e*P	**P**	**14 09 34.3**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MAJO	**Matsushiro**	**38.72**	**359**	*e*P	**P**	**14 09 34.3**	**-0.5**
	comp=Z,5.7nm,0.7s						
IPM	**Ipoh**	**38.74**	**280**	P	**P**	**14 09 34.9**	**-0.5**
PANO	**Nakornpanom**	**39.24**	**301**	P	**P**	**14 09 39.8**	**+0.3**
	comp=Z,42nm,1.3s						
KULM	**Kulim**	**39.25**	**281**	P	**P**	**14 09 39.4**	**-0.2**
KULM	**Kulim**	**39.25**	**281**	P	**P**	**14 09 39.5**	**-0.1**
NJ2	**Nanjing**	**39.29**	**332**	*e*P	**P**	**14 09 40.3**	**+0.6**
NJ2				pP	**pP**	**14 09 49.0**	**-1.0**
NJ2				sP	**sP**	**14 09 52.8**	**-1.4**
NJ2				PP	**PP**	**14 11 11.4**	**+1.1**
NJ2				S	**S**	**14 15 40.0**	**+1.7**
NJ2				sS	**sS**	**14 15 55.0**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,100nm,9.0s						
NJ2				LR	LR		
	comp=N,450nm,22.0s						
NJ2				LR	LR		
	comp=E,420nm,18.7s						
NJ2				LR	LR		
	comp=Z,500nm,21.6s						
SKNT	**Sakolnakorn**	**39.71**	**300**	P	**P**	**14 09 43.1**	**-0.3**
	comp=Z,38nm,1.1s						
PSI	**Prapat**	**40.58**	**277**	P	**P**	**14 09 49.9**	**-1.0**
PSI	**Prapat**	**40.58**	**277**	P	**P**	**14 09 49.9**	**-1.0**
	comp=Z,35nm,0.8s,baz=92,slow=5.1,SNR=31						
PSI	**Prapat**	**40.58**	**277**	P	**P**	**14 09 49.9**	**-1.0**
	baz=40,SNR=22						
TRTT	**Trang**	**40.69**	**285**	P	**P**	**14 09 51.8**	**+0.2**
	comp=Z,35nm,1.1s						
KSAR	**Wonju Array Be**	**40.97**	**346**	P	**P**	**14 09 53.5**	**0.0**
KSAR				PcP	**PcP**	**14 11 54.2**	**+0.8**
KSRS	**Korea Array**	**40.97**	**346**	P	**P**	**14 09 53.5**	**0.0**
	comp=Z,1.1nm,0.7s,baz=172,slow=9.6,SNR=8.9						
KSRS				PcP	**PcP**	**14 11 54.2**	**+0.9**
	comp=Z,3.1nm,1.0s,baz=169,slow=3.9,SNR=12						
KSRS				LR	LR	14 25 52.2	
	comp=Z,345nm,19.1s,baz=166,slow=35						
CHAI	**Chaiyaphum**	**41.01**	**298**	P	**P**	**14 09 53.8**	**-0.4**
	comp=Z,7.1nm,0.9s						
NAYO	**Nakonayok**	**41.02**	**295**	P	**P**	**14 09 57.0**	**+2.7**
	comp=Z,28nm,0.7s,comp=Z,2μm						
PHET	**Kaeng Krachan**	**42.10**	**292**	P	**P**	**14 10 04.4**	**+1.2**
	comp=Z,61nm,0.9s						
PBKT	**Sadao Pong**	**42.17**	**298**	P	**P**	**14 10 03.9**	**+0.2**
	comp=Z,9.2nm,1.6s						
LOEI	**Loei**	**42.29**	**299**	P	**P**	**14 10 01.6**	**-3.0**
	comp=Z,52nm,1.0s						
GYA	**Guiyang**	**42.52**	**314**	P	**P**	**14 10 06.8**	**+0.2**
GYA				pP	**pP**	**14 10 17.0**	**0.0**
GYA				PP	**PP**	**14 11 49.2**	**+3.6**
GYA				PcP	**PcP**	**14 11 57.8**	**-1.1**
GYA				ScP	**ScP**	**14 15 45.6**	**-1.6**
GYA				S	**S**	**14 16 27.4**	**+0.6**
GYA				sS	**sS**	**14 16 44.0**	**0.0**
GYA				SS	SS	14 19 30.2	-7.2
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=N,550nm,18.6s						
GYA				LR	LR		
	comp=E,480nm,17.9s						
GYA				LR	LR		
	comp=Z,510nm,18.2s						
ENH	**Enshi**	**43.09**	**321**	*e*P	**P**	**14 10 09.5**	**-1.5**
NANT	**Nan**	**43.31**	**301**	P	**P**	**14 10 13.1**	**+0.2**
	comp=Z,71nm,1.0s						
LAMP	**Lampang**	**44.12**	**300**	P	**P**	**14 10 20.0**	**+0.6**
	comp=Z,9.6nm,0.8s,comp=Z,86nm						
DL2	**Dalian**	**44.14**	**340**	P	**P**	**14 10 20.4**	**+1.2**
DL2				S	**S**	**14 16 54.7**	**+4.8**
DL2				pmax	pmax		
	comp=Z,140nm,8.0s						
DL2				LR	LR		
	comp=N,130nm,18.0s						
DL2				LR	LR		
	comp=E,110nm,20.6s						
DL2				LR	LR		
	comp=Z,160nm,19.6s						
KMI	**Kunming**	**44.67**	**310**	P	**P**	**14 10 24.0**	**0.0**
KMI				pP	**pP**	**14 10 35.9**	**+1.5**
KMI				sP	**sP**	**14 10 39.7**	**+1.0**
KMI				S	**S**	**14 16 58.6**	**+0.2**
KMI				sS	**sS**	**14 17 15.9**	**+0.3**
KMI				SS	SS	14 20 09.0	-11
KMI				pmax	pmax		
	comp=Z,13nm,1.3s						
KMI				pmax	pmax		
	comp=Z,110nm,3.4s						
KMI				LR	LR		
	comp=N,210nm,22.8s						
KMI				LR	LR		
	comp=E,290nm,19.9s						
KMI				LR	LR		
	comp=Z,510nm,21.4s						
CM31	**Chiang Mai Arr**	**44.69**	**299**	*e*P	**P**	**14 10 22.9**	**-1.1**
	comp=Z,18nm,0.8s						
CMAR	**Chiang Mai Arr**	**44.69**	**299**	P	**P**	**14 10 24.2**	**+0.2**
CMAR				PcP	**PP**	**14 12 07.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**44.69**	**299**	P	**P**	**14 10 24.2**	**+0.2**
	comp=Z,14nm,0.9s,baz=120,slow=6.6,SNR=62						
CMAR				PcP	**PP**	**14 12 07.8**	**-1.0**
	comp=Z,1.5nm,0.9s,baz=114,slow=4.3,SNR=4.3						
CMAR				LR	LR	14 27 51.4	
	comp=Z,256nm,19.8s,baz=309,slow=35						
CMMT	**Chiang Mai**	**44.83**	**300**	P	**P**	**14 10 25.1**	**0.0**
	comp=Z,17nm,1.2s						
CHTO	**Chiang Mai**	**44.83**	**300**	*e*P	**P**	**14 10 23.9**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,13nm,0.9s						
CHTO	**Chiang Mai**	**44.83**	**300**	*e*P	**P**	**14 10 23.9**	**-1.2**
	comp=Z,13nm,0.9s						
CHTO	**Chiang Mai**	**44.83**	**300**	P	**P**	**14 10 25.1**	**0.0**
	comp=Z,19nm,1.2s						
CMAI	**Chiengmai2**	**45.20**	**301**	P	**P**	**14 10 28.5**	**+0.3**
	comp=Z,56nm,0.8s,comp=Z,6μm						
VLA	**Vladivostok**	**45.75**	**353**	*de*P	**P**	**14 10 31.5**	**-0.5**
VLA				pmax	pmax		
	comp=Z,31nm,1.2s						
ASAJ	**Asahikawa**	**46.37**	**3**	*e*P	**P**	**14 10 36.1**	**-0.7**
	comp=Z,16nm,1.4s						
ASAJ	**Asahikawa**	**46.37**	**3**	P	**P**	**14 10 38.0**	**+1.2**
	comp=Z,7.7nm,1.1s,baz=112,slow=20,SNR=5.8						
USRK	**Ussuriysk Arra**	**46.80**	**353**	P	**P**	**14 10 40.6**	**+0.4**
	comp=Z,5.8nm,1.0s,baz=163,slow=9.4,SNR=8.7						
USRK				LR	LR	14 26 59.6	
	comp=Z,460nm,21.3s,baz=318,slow=32						
CD2	**Chengdu**	**47.25**	**317**	P	**P**	**14 10 45.4**	**+1.3**
CD2				pP	**pP**	**14 10 55.7**	**+1.1**
CD2				sP	**sP**	**14 10 59.9**	**+1.1**
CD2				PcP	**PcP**	**14 12 16.3**	**+1.3**
CD2				PP	**PP**	**14 12 36.0**	**+0.5**
CD2				PcS	**PcS**	**14 16 10.2**	**-0.2**
CD2				S	**S**	**14 17 35.9**	**+0.8**
CD2				sS	**sS**	**14 17 53.1

HHC				SS	**SS**	**14 21 40.9**	**-3.8**	
HHC				pmax	pmax			
	comp=Z,49nm,0.7s							
HHC				pmax	pmax			
	comp=Z,310nm,6.3s							
HHC				LR	LR			
	comp=N,520nm,16.4s							
HHC				LR	LR			
	comp=E,530nm,16.4s							
HHC				LR	LR			
	comp=Z,610nm,17.0s							
LZH	**Lanzhou**	**50.50**	**323**	*e*P	**P**	**14 11 11.6**	**+2.5**	
LZH				pP	**pP**	**14 11 20.1**	**+0.5**	
LZH				sP	**sP**	**14 11 24.0**	**+0.2**	
LZH				PcP	**PcP**	**14 12 28.2**	**+1.4**	
LZH				PP	**PP**	**14 13 10.1**	**+5.0**	
LZH				*e*S	**S**	**14 18 23.4**	**+2.5**	
LZH				sS	**sS**	**14 18 37.4**	**-0.9**	
LZH				SS	**SS**	**14 21 49.6**	**-5.8**	
LZH				pmax	pmax			
	comp=Z,29nm,1.0s							
LZH				pmax	pmax			
	comp=Z,150nm,4.0s							
LZH				LR	LR			
	comp=N,1μm,16.2s							
LZH				LR	LR			
	comp=E,1μm,14.4s							
LZH				LR	LR			
	comp=Z,2μm,17.2s							
HABR	**Khabarovsk**	**50.76**	**356**	*e*P	**P**	**14 11 09.3**	**-1.2**	
HABR				*e**PP	**pP**	**14 11 18.6**	**-2.5**	
HABR				*e**SP	**sP**	**14 11 22.8**	**-2.5**	
HABR						14 12 24.9		
HABR				*e*		14 13 04.9		
HABR				S	**S**	**14 18 22.5**	**-1.1**	
HABR				*e**SS	**sS**	**14 18 39.5**	**-1.6**	
HABR				*e*		14 20 56.6		
HABR				*e*SS	**SS**	**14 21 58.7**	**+0.1**	
HABR				*e*SSS	SSS	14 23 30.5		
HABR				MLR	MLR			
	comp=Z,190nm,20.0s							
KLR	**Kul'dur**	**51.79**	**354**	*e*P	P	14 11 14.2	-4.1	
SHL	**Shillong**	**53.54**	**304**	*e*P	**P**	**14 11 30.2**	**-1.7**	
GTA	**Gaotai**	**55.08**	**323**	*e*P	**P**	**14 11 43.4**	**+0.6**	
GTA				pP	**pP**	**14 11 54.1**	**+0.6**	
GTA				sP	**sP**	**14 11 57.7**	**0.0**	
GTA				PP	**PP**	**14 13 48.5**	**+2.1**	
GTA				S	**S**	**14 19 25.3**	**+2.0**	
GTA				sS	**sS**	**14 19 41.0**	**+0.2**	
GTA				pmax	pmax			
	comp=Z,8.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,170nm,4.3s							
GTA				LR	LR			
	comp=N,190nm,17.1s							
GTA				LR	LR			
	comp=E,190nm,16.6s							
GTA				LR	LR			
	comp=Z,240nm,16.2s							
LSA	**Lhasa**	**55.88**	**309**	P	**P**	**14 11 49.8**	**+0.7**	
LSA	**Lhasa**	**55.88**	**309**	*e*P	**P**	**14 11 47.1**	**-2.0**	
LSA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
LSA	**Lhasa**	**55.88**	**309**	*e*P	**P**	**14 11 47.1**	**-2.0**	
	comp=Z,10nm,0.9s							
ULN	**Ulaanbaatar**	**57.36**	**335**	*e*P	**P**	**14 11 57.5**	**-1.5**	
	comp=Z,4.8nm,0.8s							
PETK	**Petropavlovsk-**	**57.41**	**13**	P	**P**	**14 11 59.7**	**+0.7**	
PETK	**Petropavlovsk-**	**57.41**	**13**	P	**P**	**14 11 59.7**	**+0.7**	
PETK	**Petropavlovsk-**	**57.41**	**13**	P	**P**	**14 11 59.7**	**+0.7**	
	comp=Z,1.2nm,0.6s,baz=166,slow=2.8,SNR=4.7							
PETK				LR	LR	14 33 11.3		
	comp=Z,169nm,19.2s,baz=197,slow=32							
SONM	**Songino Array**	**57.62**	**334**	P	**P**	**14 12 01.3**	**+0.5**	
SONM	**Songino Array**	**57.62**	**334**	P	**P**	**14 12 01.3**	**+0.5**	
	comp=Z,1.5nm,0.6s,baz=106,slow=4.8,SNR=7.3							
SONM				LR	LR	14 38 20.3		
	comp=Z,610nm,18.6s,baz=142,slow=38							
TAPN	**Taplejung**	**57.68**	**305**	*e*P	**P**	**14 12 02.0**	**+0.3**	
	comp=Z,94nm,1.1s							
ODAN	**Odare**	**57.76**	**304**	*e*P	**P**	**14 12 02.5**	**+0.3**	
	comp=Z,77nm,0.9s							
RAMN	**Ramite**	**58.45**	**304**	*e*P	**P**	**14 12 07.5**	**+0.4**	
	comp=Z,90nm,1.0s							
JIRN	**Jiri**	**59.04**	**304**	*e*P	**P**	**14 12 11.7**	**+0.3**	
	comp=Z,86nm,0.9s							
GUN	**Gumba**	**59.39**	**304**	*e*P	**P**	**14 12 14.1**	**+0.3**	
	comp=Z,111nm,1.0s							
PKI	**Pulchoki**	**59.66**	**304**	*e*P	**P**	**14 12 15.6**	**0.0**	
	comp=Z,51nm,1.0s							
PKIN	**Phulchoki**	**59.67**	**304**	*e*P	**P**	**14 12 15.6**	**0.0**	
KKN	**Kakani**	**59.84**	**304**	*e*P	**P**	**14 12 16.9**	**+0.2**	
	comp=Z,77nm,0.9s							
DMN	**Daman**	**59.92**	**304**	*e*P	**P**	**14 12 17.6**	**+0.3**	
	comp=Z,109nm,0.9s							
ZAK	**Zakamensk**	**60.88**	**335**	⇑*i*P	**P**	**14 12 23.5**	**+0.3**	
ZAK				pmax	pmax			
	comp=Z,12nm,1.3s							
KOLN	**Koldanda**	**61.23**	**303**	*e*P	**P**	**14 12 26.4**	**+0.2**	
	comp=Z,52nm,0.8s							
DANN	**Dangsing**	**61.30**	**304**	*e*P	**P**	**14 12 26.8**	**+0.1**	
	comp=Z,77nm,0.9s							
TLY	**Talaya**	**61.70**	**336**	*e*P	**P**	**14 12 29.5**	**+0.9**	
TLY				pmax	pmax			
	comp=Z,11nm,1.1s							
PYUN	**Piuthan**	**61.85**	**304**	*e*P	**P**	**14 12 30.6**	**+0.2**	
	comp=Z,241nm,0.9s							
RAR	**Rarotonga**	**62.21**	**113**	P	P	14 12 36.4	+3.8	
RAR	**Rarotonga**	**62.21**	**113**	P	P	14 12 36.4	+3.8	
	baz=270,slow=10							
RAR				LR	LR	14 36 29.0		
	comp=Z,216nm,20.6s,baz=271,slow=33							
MOY	**Mondy**	**62.81**	**334**	*e*P	**P**	**14 12 37.6**	**+1.4**	
MOY				pmax	pmax			
	comp=Z,28nm,2.4s							
YAK	**Yakutsk**	**64.63**	**355**	*e*P	**P**	**14 12 47.4**	**-0.4**	
YAK				*e**PP	**pP**	**14 12 54.3**	**-4.3**	
YAK				*e*		14 13 20.6		
YAK				*e*S	**S**	**14 21 24.7**	**-0.3**	
YAK				pmax	pmax			
	comp=Z,16nm,1.2s							
YAK				pmax	pmax			
	comp=N,8.0nm,1.4s							
YAK				pmax	pmax			
	comp=E,3.0nm,1.1s							
YAK				smax	smax			
	comp=N,60nm,5.3s							
YAK				smax	smax			
	comp=E,121nm,6.4s							
WMQ	**Urumqi**	**65.04**	**321**	P	**P**	**14 12 51.9**	**+0.9**	
WMQ				pP	**pP**	**14 13 02.2**	**+0.3**	
WMQ				sP	**sP**	**14 13 06.1**	**+0.1**	
WMQ				PcP	**PcP**	**14 13 24.6**	**+0.9**	
WMQ				PP	**PP**	**14 15 16.9**	**+2.5**	
WMQ				ScP		14 17 23.5		
WMQ				PcS		14 17 27.3		
WMQ				S	**S**	**14 21 30.0**	**-1.0**	
WMQ				sS	**sS**	**14 21 47.0**	**-1.9**	
WMQ				ScS	**SKSac**	**14 22 40.4**	**-3.0**	
WMQ				SS	**SS**	**14 25 44.0**	**+0.4**	
WMQ				pmax	pmax			
	comp=Z,36nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,170nm,5.8s							
WMQ				LR	LR			
	comp=N,160nm,9.6s							
WMQ				LR	LR			
	comp=E,140nm,14.5s							
WMQ				LR	LR			
	comp=Z,180nm,19.6s							
MK31	**Makanchi Array**	**69.81**	**322**	*e*P	**P**	**14 13 21.2**	**+0.2**	
MK31	**Makanchi Array**	**69.81**	**322**	*e*P	**P**	**14 13 21.2**	**+0.2**	
MKAR	**Makanchi Array**	**69.81**	**322**	P	**P**	**14 13 21.5**	**+0.4**	
MKAR	**Makanchi Array**	**69.81**	**322**	P	**P**	**14 13 21.5**	**+0.4**	
MKAR	**Makanchi Array**	**69.81**	**322**	P	**P**	**14 13 21.5**	**+0.4**	
	comp=Z,32nm,1.0s,baz=111,slow=7.4,SNR=137							
KSH	**Kashi**	**71.20**	**313**	P	**P**	**14 13 31.4**	**+1.6**	
KSH				pP	**pP**	**14 13 42.0**	**+1.2**	
KSH				sP	**sP**	**14 13 46.8**	**+1.9**	
KSH				PcP	**PcP**	**14 13 54.7**	**+5.0**	
KSH				PP	PP	14 16 13.9	+5.8	
KSH				S	**S**	**14 22 45.4**	**+0.6**	
KSH				sS	**sS**	**14 23 03.9**	**+1.0**	
KSH				ScS	**SKSac**	**14 23 29.2**	**-1.2**	
KSH				SS	**SS**	**14 27 23.6**	**+4.4**	
KSH				pmax	pmax			
	comp=Z,62nm,2.2s							
KSH				LR	LR			
	comp=N,95nm,5.4s							
KSH				LR	LR			
	comp=E,130nm,6.6s							
PPT2	**Papeete2**	**71.40**	**108**	*e*LR	LR	14 35 25.0		
	comp=E,219nm,24.2s							
ZAA0	**Zalesovo Array**	**71.88**	**330**	*e*P	**P**	**14 13 31.9**	**-1.5**	
ZALV	**Zalesovo Beam**	**71.88**	**330**	*i* P	**P**	**14 13 32.5**	**-0.9**	
ZALV				pmax	pmax			
	comp=Z,5.0nm,0.5s							
ZALV	**Zalesovo Beam**	**71.88**	**330**	P	**P**	**14 13 33.1**	**-0.3**	
ZALV	**Zalesovo Beam**	**71.88**	**330**	P	**P**	**14 13 33.1**	**-0.3**	
	comp=Z,4.6nm,0.5s,baz=104,slow=6.3,SNR=22							
ZALV				LR	LR	14 44 35.9		
	comp=Z,233nm,21.9s,baz=249,slow=35							
TBI	**Tubuai**	**71.95**	**114**	*e*LR	LR	14 35 39.0		
	comp=Z,280nm,27.8s							
KZA	**Kyzart**	**72.58**	**315**	P	**P**	**14 13 39.8**	**+1.4**	
	SNR=51							
TKM2	**Tokmak 2**	**72.63**	**316**	P	**P**	**14 13 38.6**	**+0.2**	
TKM2				pmax	pmax			
	comp=Z,20nm,1.1s							
TKM2	**Tokmak 2**	**72.63**	**316**	P	**P**	**14 13 39.0**	**+0.6**	
	SNR=13							
TKM2	**Tokmak 2**	**72.63**	**316**	*e*P	**P**	**14 13 37.5**	**-0.9**	
	comp=Z,19nm,1.0s							
KBK	**Karagaybulak**	**72.99**	**316**	P	**P**	**14 13 41.6**	**+1.1**	
	SNR=11							
NVS	**Novosibirsk**	**73.14**	**330**	⇑*i* P	**P**	**14 13 40.2**	**-0.7**	
NVS				pmax	pmax			
	comp=E,15nm,1.2s							
NVS				pmax	pmax			
	comp=Z,28nm,1.2s							
NVS				pmax	pmax			
	comp=N,12nm,1.3s							
CHMS	**Chumysh**	**73.24**	**316**	P	**P**	**14 13 42.3**	**+0.5**	
	SNR=7.1							
FRU	**Bishkek**	**73.28**	**316**	*e*P	**P**	**14 13 41.0**	**-1.0**	
AAK	**Ala-Archa**	**73.29**	**316**	*c i*P	**P**	**14 13 42.8**	**+0.5**	
AAK				pmax	pmax			
	comp=Z,26nm,1.0s							
AAK	**Ala-Archa**	**73.29**	**316**	*e*P	**P**	**14 13 40.4**	**-1.9**	
	comp=Z,22nm,1.1s							
AAK				*e*PP	**PP**	**14 16 23.3**	**-2.7**	
USP	**Ospenovka**	**73.50**	**316**	P	**P**	**14 13 43.8**	**+0.5**	
	SNR=18							
AML	**Almayashu**	**73.69**	**315**	P	**P**	**14 13 46.0**	**+1.0**	
	SNR=28							
EKS2	**Erkin-Say**	**73.80**	**316**	*e*P	**P**	**14 13 43.9**	**-1.4**	
EKS2				pmax	pmax			
	comp=Z,17nm,1.0s							
EKS2	**Erkin-Say**	**73.80**	**316**	P	**P**	**14 13 46.1**	**+0.9**	
	SNR=12							
EKS2	**Erkin-Say**	**73.80**	**316**	*e*P	**P**	**14 13 43.9**	**-1.4**	
	comp=Z,17nm,1.0s							
KBL	**Kabul**	**75.11**	**307**	*e*P	**P**	**14 13 51.0**	**-2.2**	
KBL				pmax	pmax			
	comp=Z,12nm,0.8s							
KBL	**Kabul**	**75.11**	**307**	*e*P	**P**	**14 13 51.0**	**-2.2**	
	comp=Z,12nm,0.8s							
VNDA	**Vanda**	**76.08**	**175**	*e*P	**P**	**14 13 56.0**	**-1.6**	
	comp=Z,3.1nm,0.7s							
VNDA	**Vanda**	**76.08**	**175**	P	**P**	**14 13 58.0**	**+0.4**	
	comp=Z,1.0nm,0.5s,baz=327,slow=5.2,SNR=7.2							
VNDA				LR	LR	14 47 23.7		
	comp=Z,534nm,18.0s,baz=350,slow=36							
KK31	**Karatay Array**	**76.22**	**315**	*i* P	**P**	**14 13 58.7**	**-0.4**	
KK31				pmax	pmax			
	comp=Z,3.0nm,0.6s							
KKAR	**Karatay Array**	**76.22**	**315**	*e*P	**P**	**14 13 58.2**	**-0.9**	
KKAR				pmax	pmax			
	comp=Z,8.0nm,0.8s							
KKAR	**Karatay Array**	**76.22**	**315**	*e*P	**P**	**14 13 58.1**	**-0.9**	
	comp=Z,8.0nm,0.8s							
BVA0	**Borovoye Array**	**79.31**	**325**	*i* P	**P**	**14 14 15.8**	**-0.2**	
BVA0				pmax	pmax			
	comp=Z,46nm,1.1s							
BRVK	**Borovoye**	**79.38**	**325**	*c i*P	**P**	**14 14 16.3**	**-0.1**	
BRVK				pmax	pmax			
	comp=Z,53nm,1.7s							
BRVK	**Borovoye**	**79.38**	**325**	*e*P	**P**	**14 14 14.4**	**-1.9**	
	comp=Z,30nm,1.0s							
KDAK	**Kodiak Island**	**80.56**	**30**	*e*P	**P**	**14 14 21.2**	**-1.4**	
	comp=Z,7.3nm,0.8s							
KDAK				*e*PcP	**PcP**	**14 14 29.1**	**-0.3**	
KDAK	**Kodiak Island**	**80.56**	**30**	P	**P**	**14 14 23.0**	**+0.4**	
	comp=Z,4.8nm,0.7s,baz=267,slow=6.1,SNR=4.8							
KDAK				LR	LR	14 46 19.8		
	comp=Z,308nm,20.8s,baz=260,slow=33							
MAW	**Mawson**	**82.63**	**202**	P	**P**	**14 14 34.0**	**+0.6**	
MAW	**Mawson**	**82.63**	**202**	P	**P**	**14 14 34.0**	**+0.6**	
	comp=Z,1.4nm,0.2s,baz=80,slow=6.1,SNR=4.4							
MAW				LR	LR	14 49 10.4		
	comp=Z,584nm,19.2s,baz=75,slow=34							
PMR	**Palmer**	**83.44**	**27**	*e*P	**P**	**14 14 35.7**	**-2.0**	
PMR				pmax	pmax			
	comp=Z,14nm,1.1s							
PMR	**Palmer**	**83.44**	**27**	*e*P	**P**	**14 14 35.7**	**-2.0**	
	comp=Z,14nm,1.1s							
TRF	**Thorofare Moun**	**83.50**	**25**	*e*P	P	14 14 35.1	-3.1	
	comp=Z,21nm,1.6s							
SML	**Sawmill**	**83.86**	**27**	*e*P	**P**	**14 14 37.3**	**-2.6**	
SML				pmax	pmax			
	comp=Z,4.0nm,1.0s							
SML	**Sawmill**	**83.86**	**27**	*e*P	**P**	**14 14 37.3**	**-2.6**	
	comp=Z,4.4nm,1.0s							
MCK	**McKinley**	**84.16**	**25**	*e*P	**P**	**14 14 40.8**	**-0.6**	
MCK				pmax	pmax			
	comp=Z,29nm,1.4s							
MCK	**McKinley**	**84.16**	**25**	*e*P	**P**	**14 14 40.8**	**-0.6**	
	comp=Z,29nm,1.4s							
MCK				*e*PcP	**PcP**	**14 14 44.0**	**-1.2**	
COLD	**Coldfoot**	**84.75**	**22**	*e*P	**P**	**14 14 43.9**	**-0.4**	
	comp=Z,8.2nm,0.9s							
AB31	**Akbulak array**	**84.77**	**320**	*i* P	**P**	**14 14 44.3**	**-0.5**	
AB31				pmax	pmax			
	comp=Z,6.0nm,0.7s							
ABKAR	**Akbulak array**	**84.77**	**320**	*e*P	**P**	**14 14 43.7**	**-1.0**	
	comp=Z,12nm,0.9s							
DIV	**Divide**	**84.87**	**28**	*e*P	**P**	**14 14 43.9**	**-1.2**	
	comp=Z,11nm,0.6s							
COLA	**College**	**84.95**	**24**	*e*P	**P**	**14 14 42.6**	**-2.7**	
COLA				pmax	pmax			
	comp=Z,7.0nm,1.0s							
COLA	**College**	**84.95**	**24**	*e*P	**P**	**14 14 42.6**	**-2.7**	
	comp=Z,6.9nm,1.0s							
RKT	**Rikitea**	**85.25**	**113**	*e*LR	LR	14 41 43.3		
	comp=Z,267nm,33.2s							
ILAR	**Eielson Array**	**85.32**	**24**	P	**P**	**14 14 46.1**	**-1.1**	
ILAR	**Eielson Array**	**85.32**	**24**	P	**P**	**14 14 46.1**	**-1.1**	
	comp=Z,7.2nm,1.0s,baz=262,slow=4.4,SNR=42							
ILAR				LR	LR	14 48 38.1		
	comp=Z,107nm,19.7s,baz=291,slow=33							
SVE	**Sverdlovsk**	**85.71**	**327**	*e*P	**P**	**14 14 49.4**	**+0.1**	
SVE				pmax	pmax			
	comp=Z,12nm,1.2s							
AKTO	**Aktyubinsk**	**86.19**	**321**	P	P	14 14 48.5	-3.3	
AKTO				pmax	pmax			
	comp=Z,9.0nm,1.3s							
ARU	**Arti**	**86.77**	**327**	*c i*P	**P**	**14 14 53.0**	**-1.5**	
ARU				S	S	14 25 15.8	-14	
ARU				pmax	pmax			
	comp=Z,15nm,1.0s							
SKAG	**Skagway**	**89.71**	**31**	*e*P	**P**	**14 15 07.7**	**-0.7**	
	comp=Z,15nm,1.2s							
INK	**Inuvik**	**91.17**	**22**	P	**P**	**14 15 16.2**	**+1.2**	
INK	**Inuvik**	**91.17**	**22**	P	**P**	**14 15 16.2**	**+1.2**	
	comp=Z,2.2nm,0.8s,baz=239,slow=7.3,SNR=3.4							
KBZ	**Khabaz**	**96.18**	**314**	LR	LR	15 03 52.6		
	comp=Z,96nm,21.4s,baz=152,slow=38							
YKA	**Yellowknife Ar**	**99.54**	**27**	P	**Pdif**	**14 15 53.4**	**+0.1**	
YKA	**Yellowknife Ar**	**99.54**	**27**	P	**Pdif**	**14 15 53.4**	**+0.1**	
	comp=Z,0.4nm,0.7s,baz=294,slow=4.6,SNR=7.3							
YKA				LR	LR	14 57 38.1		
	comp=Z,18nm,19.3s,baz=140,slow=33							
ARCES	**ARCESS Array B**	**100.34**	**341**	P	**Pdif**	**14 15 55.2**	**-1.6**	
ARCES	**ARCESS Array B**	**100.34**	**341**	P	**Pdif**	**14 15 55.2**	**-1.6**	
	comp=Z,2.8nm,0.7s,baz=56,slow=6.5,SNR=11							
NVAR	**Mina Array Bea**	**101.26**	**51**	P	**Pdif**	**14 16 03.6**	**+1.8**	
NVAR	**Mina Array Bea**	**101.26**	**51**	P	**Pdif**	**14 16 03.6**	**+1.8**	
	comp=Z,0.3nm,0.8s,baz=223,slow=2.1,SNR=2.9							
FINES	**FINESS Array B**	**102.97**	**333**	Pdif	**Pdif**	**14 16 08.5**	**0.0**	
FINES	**FINESS Array B**	**102.97**	**333**	Pdiff	**Pdif**	**14 16 08.5**	**0.0**	
	comp=Z,1.9nm,0.9s,baz=103,slow=6.1,SNR=6.3							
KIS	**Kishinev**	**105.54**	**318**	LRM	MLR	14 31 40.0		
	comp=Z,300nm,19.0s							
NOA	**NORSAR Array B**	**109.57**	**336**	Pdif	**Pdif**	**14 16 37.2**	**-0.9**	
NOA	**NORSAR Array B**	**109.57**	**336**	Pdiff	**Pdif**	**14 16 37.2**	**-0.9**	
	comp=Z,0.5nm,0.8s,baz=60,slow=4.7,SNR=1.9							
GERES	**GERESS Array B**	**114.45**	**324**	PKP	PKPdf	14 20 51.7	+1.1	
GERES	**GERESS Array B**	**114.45**	**324**	PKP	PKPdf	14 20 51.7	+1.1	
	comp=Z,0.1nm,0.3s,baz=73,slow=2.0,SNR=3.2							
TORD	**Torodi Ar. Bea**	**136.62**	**287**	PKPpre	PKPpre	14 21 23.5		
TORD				PKP	**PKPdf**	**14 21 33.5**	**-0.1**	
TORD	**Torodi Ar. Bea**	**136.62**	**287**	PKhKP	PKPpre	14 21 23.5		
	comp=Z,0.5nm,0.9s,baz=62,slow=1.8,SNR=2.8							
TORD				PKP	**PKPdf**	**14 21 33.5**	**-0.1**	
	comp=Z,2.8nm,1.0s,baz=72,slow=1.8,SNR=8.4							
DBIC	**Dimbokro**	**143.92**	**278**	PKPpre	PKPpre	14 21 44.0		
DBIC	**Dimbokro**	**143.92**	**278**	PKhKP	PKPpre	14 21 44.0		
	comp=Z,8.1nm,0.7s,baz=108,slow=4.9,SNR=10							
ROSC	**El Rosal**	**146.45**	**85**	PKPbc	**PKPab**	**14 21 55.9**	**+1.8**	
	comp=Z,5.2nm,0.4s,baz=167,slow=8.0,SNR=4.3							
LPAZ	**La Paz**	**147.25**	**125**	*e*PKPdf	**PKPdf**	**14 21 51.2**	**-2.1**	
LPAZ				PKP	**PKPdf**	**14 21 53.1**	**-0.2**	
LPAZ				PKPbc	**PKPab**	**14 21 56.9**	**-0.5**	
LPAZ	**La Paz**	**147.25**	**125**	PKP	**PKPdf**	**14 21 53.1**	**-0.2**	
	comp=Z,3.0nm,1.0s,baz=257,slow=5.0,SNR=5.7							
LPAZ				PKPbc	**PKPab**	**14 21 56.9**	**-0.5**	
	comp=Z,2.5nm,0.8s,baz=221,slow=4.7,SNR=5.5							
CPUP	**Villa Florida**	**147.31**	**152**	PKPbc	**PKPbc**	**14 21 54.8**	**+0.1**	
CPUP	**Villa Florida**	**147.31**	**152**	PKPbc	**PKPbc**	**14 21 54.8**	**+0.1**	
	comp=Z,2.1nm,0.7s,baz=171,slow=2.7,SNR=5.0							

IDC ***03*** *14:11:40.4±0.7, 3.°48S×130.°80E, h0km, mb4.0/12, mb1 4.2/13, mb1mx4.1/22, mbtmp4.1/13, ML4.3/1, Error ellipse: s-maj=32.0km s-min=14.5km az=69.0*

ISCJB ***03*** *14:11:43.0±0.4, 3.°56S±0.°05×131.°06E±0.°06, h30km, mb3.9/11, Error ellipse: s-maj=8.1km s-min=6.6km az=20.1*

DJA ***03*** *14:11:48.2±1.4, 4.°5S±19.°5×13.°1E±.°, h22km±15km, M4.6/4, mb4.8/4, MLv4.5/3*

AUST ***03*** *14:11:50.9±1.4, 4.°11S×130.°98E, h49km, Error ellipse: s-maj=2.5km s-min=0.9km az=25.0*

ISC 03 14:11:44.9±0.5, 3.°68S±0.°06×131.°14E±0.°05, h30km, n44, σ2s29/37, mb4.0/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.34**	**56**	P	**Pn**	**14 12 06.8**	**-0.8**
BNDI	**Bandanaira**	**1.49**	**236**	P	**Pb**	**14 12 11.8**	**-0.3**
MSAI	**Masohi**	**2.23**	**278**	P	**Pn**	**14 12 21.2**	**+1.3**
RKPI	**Ransiki, Papua**	**3.72**	**55**	P	**Pn**	**14 12 39.8**	**-0.5**
LBMI	**Labuha**	**4.73**	**310**	P	Pn	14 12 50.2	-4.0
BAKI	**Biak**	**5.54**	**64**	P	**Pn**	**14 13 06.1**	**+0.7**
	166nm,1.1s,0.5nm						
KDU	**Kakadu**	**9.05**	**172**	P	**Pn**	**14 13 54.8**	**+1.2**
	baz=8.7,SNR=66						
MTN	**Manton Dam**	**9.11**	**180**	P	**Pn**	**14 13 56.2**	**+1.8**
	baz=8.7,SNR=21						
GTOI	**Gorontalo**	**9.19**	**298**	P	Pn	14 14 04.4	+8.9
MRSI	**Marisa**	**10.08**	**294**	P	Pn	14 14 14.1	+6.4
	32nm,1.3s						
BKSI	**Bulukumba**	**11.11**	**261**	P	Pn	14 14 30.4	+8.6
	29nm,0.9s						
SPSI	**Sidrap Palu**	**11.35**	**268**	P	Pn	14 14 37.5	+12
KAPI	**Kappang**	**11.44**	**263**	P	Pn	14 14 31.6	+5.3
KAPI	**Kappang**	**11.44**	**263**	Pn	**Pn**	**14 14 29.5**	**+3.1**
	2.7nm,0.3s,baz=138,slow=8.6,SNR=16						
KAPI				Sn	**Sn**	**14 16 30.3**	**-2.9**
	0.3nm,0.3s,baz=66,slow=20,SNR=2.3						
KNRA	**Kununurra**	**12.15**	**191**	P	**Pn**	**14 14 35.0**	**-1.2**
	baz=12,SNR=22						
KNRA				S	**Sn**	**14 16 48.7**	**-2.0**
	baz=12,SNR=4.3						
FITZ	**Fitzroy Crossi**	**15.32**	**200**	Pn	**Pn**	**14 15 17.4**	**-1.8**
	1.0nm,0.3s,baz=31,slow=12,SNR=23						
FITZ				Sn	**Sn**	**14 18 01.6**	**-6.3**
	0.5nm,0.3s,baz=11,slow=16,SNR=3.6						
COEN	**Coen**	**15.67**	**131**	P	**P**	**14 15 26.7**	**-0.8**
	baz=16,SNR=4.2						
WRA	**Warramunga Arr**	**16.47**	**169**	Pn	**Pn**	**14 15 30.7**	**-3.3**
	0.5nm,0.3s,baz=354,slow=13,SNR=18						
WRA				Sn	**Sn**	**14 18 31.1**	**-4.8**
	1.1nm,0.3s,baz=357,slow=23,SNR=7.2						
PMG	**Port Moresby**	**16.89**	**110**	Pn	P	14 15 49.5	+8.3
	0.6nm,0.3s,baz=289,slow=5.7,SNR=3.8						
JAGI	**Jajag, Banyuwa**	**17.55**	**253**	P	**Pn**	**14 15 47.5**	**0.0**
	baz=17,SNR=5.8						
MTSU	**Mount Surprise**	**19.31**	**139**	P	**Pn**	**14 16 11.4**	**+2.4**
	baz=19,SNR=5.1						
ASAR	**Alice Springs**	**20.05**	**173**	P	Pn	14 16 18.2	+0.4
	13nm,0.6s,baz=350,slow=10,SNR=76						
ASAR				S	**S**	**14 19 56.0**	**-3.8**
	2.2nm,0.8s,baz=357,slow=26,SNR=5.0						
CTA	**Charters Tower**	**21.98**	**139**	P	**P**	**14 16 40.1**	**+3.5**
	0.7nm,0.9s,baz=322,slow=12,SNR=3.7						
CISI	**Cisompet, Garu**	**23.53**	**260**	P	**P**	**14 16 55.0**	**+2.1**
	baz=23,SNR=6.7						
MEEK	**Meekatharra**	**25.79**	**207**	P	**P**	**14 17 12.8**	**-0.7**
	baz=25,SNR=7.0						
FORT	**Forrest**	**27.12**	**186**	P	**P**	**14 17 27.6**	**+2.2**
	baz=27,SNR=6.4						

NOUC	**Port Laguerre**	**11.06**	**174**	*e*P	**Pn**	**14 26 22.4**	**+2.5**
NOUC				*e*S	**Sn**	**14 28 20.4**	**-2.2**
CTA	**Charters Tower**	**20.25**	**241**	P	**P**	**14 28 16.2**	**-0.5**
	3.7nm,0.9s,baz=51,slow=6.5,SNR=2.2						
URZ	**Urewera**	**29.16**	**160**	P	**P**	**14 29 43.7**	**+1.4**
	3.7nm,0.4s,baz=158,slow=6.5,SNR=8.4						
STKA	**Stephens Creek**	**30.02**	**223**	P	**P**	**14 29 50.2**	**+0.3**
	4.6nm,1.1s,baz=109,slow=19,SNR=3.1						
STKA				LR	LR	14 40 04.0	
	comp=Z,202nm,20.9s,baz=24,slow=33						
WRA	**Warramunga Arr**	**30.89**	**250**	P	**P**	**14 29 57.3**	**-0.5**
	0.7nm,0.6s,baz=80,slow=9.0,SNR=5.5						
ASAR	**Alice Springs**	**32.23**	**243**	P	**P**	**14 30 09.2**	**-0.5**
	1.7nm,0.7s,baz=65,slow=10,SNR=21						
MJAR	**Matsushiro Arr**	**53.67**	**333**	P	**P**	**14 33 00.7**	**-1.9**
	2.1nm,0.8s,baz=168,slow=8.4,SNR=7.9						
JNU	**Nakatsue**	**54.70**	**325**	P	**P**	**14 33 08.7**	**-1.6**
	6.9nm,0.9s,baz=51,slow=10,SNR=4.1						
ASAJ	**Asahikawa**	**58.58**	**341**	P	**P**	**14 33 37.9**	**+0.3**
	6.4nm,0.7s,baz=206,slow=11,SNR=12						
ASAJ				LR	LR	14 54 30.5	
	comp=Z,92nm,19.8s,baz=174,slow=32						
KSRS	**Korea Array**	**59.51**	**326**	P	**P**	**14 33 44.1**	**-0.1**
	1.0nm,0.8s,baz=141,slow=6.7,SNR=7.8						
USRK	**Ussuriysk Arra**	**62.65**	**334**	P	**P**	**14 34 04.6**	**-0.7**
	0.9nm,0.5s,baz=120,slow=9.7,SNR=4.0						
PETK	**Petropavlovsk-**	**64.20**	**355**	P	**P**	**14 34 15.5**	**+0.1**
	1.5nm,0.7s,baz=188,slow=7.3,SNR=7.8						
PETK				LR	LR	14 55 50.4	
	comp=Z,49nm,21.9s,baz=255,slow=30						
VNDA	**Vanda**	**66.49**	**181**	P	**P**	**14 34 31.5**	**+1.5**
	5.0nm,1.1s,baz=346,slow=5.4,SNR=8.9						
SONM	**Songino Array**	**78.28**	**324**	P	**P**	**14 35 41.2**	**+0.3**
	0.3nm,0.4s,baz=133,slow=8.1,SNR=3.4						
DIB	**Dawson Inlet,**	**83.02**	**32**	T	T	16 07 20.2	
ILAR	**Eielson Array**	**83.71**	**19**	P	**P**	**14 36 09.2**	**-0.1**
	0.7nm,0.7s,baz=227,slow=6.1,SNR=11						
NVAR	**Mina Array Bea**	**86.50**	**50**	P	**P**	**14 36 24.8**	**+0.6**
	0.4nm,0.8s,baz=226,slow=6.1,SNR=3.2						
MKAR	**Makanchi Array**	**93.08**	**317**	P	**P**	**14 36 53.6**	**-1.0**
	0.8nm,0.7s,baz=98,slow=6.7,SNR=10						
ZALV	**Zalesovo Beam**	**93.18**	**324**	P	**P**	**14 36 53.0**	**-1.8**
	0.3nm,0.4s,baz=195,slow=8.5,SNR=2.7						
YKA	**Yellowknife Ar**	**95.26**	**27**	P	**P**	**14 37 02.7**	**-1.6**
	0.1nm,0.4s,baz=256,slow=5.2,SNR=4.7						
FINES	**FINES Array B**	**121.53**	**338**	PKP	**PKPdf**	**14 42 36.3**	**+2.4**
	2.5nm,0.9s,baz=55,slow=2.1,SNR=2.5						

IDC 03 14:44:17.1±2.2,5.29N×125.83E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.5/4, 1C, Error ellipse: s-maj=145.4km s-min=25.5km az=69.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**2.48**	**321**	*i*P	Pb	14 45 01.6	-1.0
FITZ	**Fitzroy Crossi**	**23.24**	**180**	P	P	14 49 26.3	+0.1
	1.6nm,0.8s,baz=9.5,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**26.43**	**162**	P	P	14 49 55.0	-0.9
	0.9nm,1.0s,baz=340,slow=9.5,SNR=3.4						
ASAR	**Alice Springs**	**29.84**	**165**	P	P	14 50 27.1	+0.8
	0.3nm,0.9s,baz=347,slow=7.3,SNR=2.8						
MKAR	**Makanchi Array**	**55.77**	**325**	P	P	14 53 55.9	-0.1
	0.5nm,0.4s,baz=123,slow=8.1,SNR=6.6						

IDC 03 14:48:27.4±5.1,3.72S×130.30E, h52km±43km, mb3.3/2, mb1 3.6/4, mb1mx3.2/20, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=80.7km s-min=15.9km az=76.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.01**	**197**	P	Pn	14 51 57.2	+0.9
	0.1nm,0.3s,baz=28,slow=12,SNR=7.3						
FITZ				S	Sn	14 54 42.5	+0.9
	0.1nm,0.3s,baz=17,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**16.60**	**167**	P	Pn	14 52 14.8	-2.0
	0.2nm,0.3s,baz=348,slow=13,SNR=11						
ASAR	**Alice Springs**	**20.13**	**170**	P	P	14 52 58.0	+0.6
	3.5nm,0.8s,baz=348,slow=11,SNR=26						
ASAR				S	S	14 56 41.4	+0.6
	0.2nm,0.6s,baz=358,slow=28,SNR=3.8						
MKAR	**Makanchi Array**	**65.68**	**326**	P	P	14 59 06.4	0.0
	0.2nm,0.5s,baz=111,slow=7.9,SNR=2.3						

IDC 03 14:59:42.5±6.1,16.12S×71.78W, h150km±41km, mb3.8/3, mb1 3.7/5, mb1mx3.4/21, mbtmp3.6/5, MS3.7/2, Ms1 3.7/2, ms1mx3.0/30, Error ellipse: s-maj=67.5km s-min=24.0km az=130.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.51**	**93**	P	Pn	15 00 36.4	-0.8
	19nm,0.3s,baz=287,slow=8.9,SNR=368						
LPAZ				S	Sn	15 01 20.2	+0.6
	0.9nm,0.3s,baz=176,slow=23,SNR=6.9						
LVC	**Limon Verde**	**7.00**	**158**	P	Pn	15 01 17.5	-5.5
	5.1nm,0.3s,baz=342,slow=9.0,SNR=37						
LVC				S	Sn	15 02 32.6	-9.2
	10nm,0.3s,baz=154,slow=19,SNR=15						
SIV	**San Ignacio**	**10.30**	**91**	P	Pn	15 02 02.2	-4.4
	0.9nm,0.3s,baz=283,slow=14,SNR=18						
SIV				LR	LR	15 06 37.0	
	comp=Z,197nm,20.5s,slow=40						
CFAA	**Coronel Fontan**	**15.75**	**169**	P	Pn	15 03 14.4	-1.9
	0.1nm,0.3s,baz=349,slow=12,SNR=5.3						
BDFB	**Brasilia**	**22.86**	**92**	P	P	15 04 33.4	0.0
	3.8nm,0.4s,baz=270,slow=9.3,SNR=6.2						
PLCA	**Paso Flores**	**24.55**	**178**	P	P	15 04 48.8	+0.3
	6.3nm,1.0s,baz=351,slow=11,SNR=6.3						
TORD	**Torodi Ar. Bea**	**78.23**	**73**	P	P	15 11 25.9	-0.3
	0.6nm,0.4s,baz=250,slow=4.3,SNR=14						
MAW	**Mawson**	**90.23**	**164**	LR	LR	15 55 48.8	
	comp=Z,87nm,19.2s,baz=95,slow=37						
ASAR	**Alice Springs**	**133.16**	**213**	PKP	PKPdf	15 18 42.2	+0.8
	0.3nm,0.8s,baz=148,slow=1.9,SNR=3.3						
WRA	**Warramunga Arr**	**135.92**	**217**	PKP	PKPdf	15 18 46.8	+0.2
	0.3nm,0.5s,baz=145,slow=2.0,SNR=7.2						

IDC ***03*** *15:03:35.0±1.1,33.99N×25.42E, h0km, mb3.8/11, mb1 3.8/16, mb1mx3.7/30, mbtmp3.7/16, ML3.6/4, MS2.8/1, Ms1 2.8/1, ms1mx2.2/54, Error ellipse: s-maj=24.6km s-min=19.4km az=2.0*
ISCJB ***03*** *15:03:36.4±0.4,33.98N±0.03×25.61E±0.05, h17km, mb3.6/11, Error ellipse: s-maj=6.3km s-min=3.8km az=157.2*
CSEM ***03*** *15:03:36.2±0.2,34.01N×25.53E, h5km, MD3.4, Error ellipse: s-maj=6.7km s-min=2.8km az=65.0*
ATH ***03*** *15:03:36.8,34.02N×25.45E, h14km±8km, MD3.4/6*
HLW ***03*** *15:03:38.6,34.09N×25.59E, h31km±25km, Md3.2, Ml3.2*

ISC 03 15:03:37.6±0.6, 34.04N±0.04×25.51E±0.05, h17km, n55, σ1s06/56, mb3.7/11, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**1.12**	**359**	*e*PG	**Pn**	**15 03 58.1**	**-0.5**
LAST	**Lasithi**	**1.12**	**359**	*e*Pg	**Pn**	**15 03 58.1**	**-0.5**
SIVA	**Sivas**	**1.14**	**330**	*e*PB	**Pn**	**15 03 58.1**	**-0.6**
SIVA	**Sivas**	**1.14**	**330**	*e*Pb	**Pn**	**15 03 58.1**	**-0.6**
ZKR	**Zakros**	**1.22**	**28**	*e*PB	**Pg**	**15 04 00.5**	**-0.7**
ZKR	**Zakros**	**1.22**	**28**	*e*Pb	**Pg**	**15 04 00.5**	**-0.7**
NPS	**Neapolis**	**1.23**	**4**	*e*PG	**Pb**	**15 04 00.4**	**+0.1**
NPS	**Neapolis**	**1.23**	**4**	*e*Pg	**Pb**	**15 04 00.4**	**+0.1**
IDI	**Anoyia**	**1.35**	**338**	*e*PB	**Pb**	**15 04 02.1**	**-0.3**
IDI	**Anoyia**	**1.35**	**338**	*e*Pb	**Pb**	**15 04 02.1**	**-0.3**
VAM	**Vamos**	**1.74**	**322**	*e*PN	**Pb**	**15 04 08.7**	**-0.4**
VAM	**Vamos**	**1.74**	**322**	*e*Pn	**Pb**	**15 04 08.7**	**-0.4**
SLUM		**2.55**	**186**	S	**Sn**	**15 04 48.2**	**-0.6**
	baz=188						
SLUM		**2.55**	**186**	P	**Pn**	**15 04 18.2**	**+0.1**
SLUM				S	**Sn**	**15 04 48.2**	**-0.6**
APE	**Apeiranthos**	**3.03**	**0**	*e*P	**Pn**	**15 04 24.3**	**-0.4**
DAT	**Datca**	**3.17**	**32**	*e*P	**Pn**	**15 04 26.1**	**-0.7**
HMAT	**Matruh**	**3.22**	**155**	P	**Pn**	**15 04 27.6**	**+0.2**
	baz=156						
HMAT				AMP		15 05 00.0	
	comp=N,100μm,0.7s,logA/T=5.1,baz=156						
HMAT				S	**Sn**	**15 05 04.0**	**-1.4**
	baz=156						
HMAT	**Matruh**	**3.22**	**155**	P	**Pn**	**15 04 27.6**	**+0.2**
HMAT				S	**Sn**	**15 05 04.0**	**-1.4**
DALY	**Dalyan (Mu˘la**	**3.78**	**42**	*e*P	**Pn**	**15 04 35.7**	**+0.7**
FETY	**Fethiye**	**3.91**	**47**	*e*P	**Pn**	**15 04 39.2**	**+2.4**
HBRG	**Burj al 'Arab**	**5.03**	**132**	P	**Pn**	**15 04 52.0**	**-0.3**
	baz=133						
SUTC	**Sutluce-Ispart**	**5.63**	**51**	*e*P	Pn	15 04 56.3	-4.3
HDMB	**Hadim**	**6.39**	**61**	*e*P	Pn	15 05 14.4	+3.2
KOT	**Kottamia**	**6.75**	**126**	P	**Pn**	**15 05 16.1**	**+0.2**
	baz=126						
KOT	**Kottamia**	**6.75**	**126**	P	**Pn**	**15 05 16.1**	**+0.2**
HSAF	**As Saff**	**6.77**	**129**	P	**Pn**	**15 05 16.2**	**+0.1**
	baz=129						
HSAF	**As Saff**	**6.77**	**129**	P	**Pn**	**15 05 16.2**	**+0.1**
GLL	**Jalalah**	**6.90**	**128**	P	**Pn**	**15 05 17.5**	**-0.4**
	baz=129						
GLL	**Jalalah**	**6.90**	**128**	P	**Pn**	**15 05 17.5**	**-0.4**
IKL	**Isikli**	**7.05**	**70**	*e*P	**Pn**	**15 05 20.3**	**+0.4**
AMAG	**Maghara**	**7.34**	**115**	P	**Pn**	**15 05 23.8**	**-0.2**
	baz=116						
AMAG	**Maghara**	**7.34**	**115**	P	**Pn**	**15 05 23.8**	**-0.2**
SUZ		**7.50**	**122**	P	**Pn**	**15 05 25.9**	**-0.2**
	baz=122						
SUZ		**7.50**	**122**	P	**Pn**	**15 05 25.9**	**-0.2**
RSH		**7.58**	**112**	P	**Pn**	**15 05 26.8**	**-0.5**
	baz=112						
RSH		**7.58**	**112**	P	**Pn**	**15 05 26.8**	**-0.5**
HNKL	**Nakhl**	**8.28**	**117**	P	**Pn**	**15 05 36.5**	**-0.4**
	baz=118						
HNKL	**Nakhl**	**8.28**	**117**	P	**Pn**	**15 05 36.5**	**-0.4**
MMAI	**Mount Meron Ar**	**8.32**	**94**	Pn	**Pn**	**15 05 36.6**	**-0.9**
	comp=N,1.2nm,0.3s,baz=265,slow=11,SNR=6.8						
MMAI				Sn	**Sn**	**15 07 10.1**	**-1.0**
	comp=N,4.0nm,0.3s,baz=258,slow=26,SNR=6.3						
BRTR	**Keskin Array B**	**8.64**	**47**	Pn	**Pn**	**15 05 43.7**	**+1.9**
	comp=N,0.0nm,0.3s,baz=253,slow=15,SNR=3.4						
EIL	**Elat**	**9.13**	**116**	Pn	**Pn**	**15 05 48.6**	**+0.1**
	comp=N,1.4nm,0.3s,baz=242,slow=16,SNR=15						
EIL				Sn	**Sn**	**15 07 25.1**	**-5.8**
	comp=N,1.6nm,0.3s,baz=73,slow=18,SNR=5.6						
ASF	**Jabal al Asfar**	**9.73**	**98**	LR	LR	15 10 50.2	
	comp=N,59nm,21.6s,baz=197,slow=44						
MLR	**Muntele Rosu**	**11.45**	**2**	Pn	Pn	15 06 23.7	+3.4
	comp=N,0.0nm,0.3s,baz=230,slow=7.1,SNR=3.5						
GERES	**GERESS Array B**	**17.21**	**333**	P	**P**	**15 07 38.6**	**0.0**
	comp=N,0.1nm,0.3s,baz=134,slow=11,SNR=9.2						
FINES	**FINESS Array B**	**27.43**	**1**	P	**P**	**15 09 22.0**	**-0.1**
	comp=N,1.8nm,0.8s,baz=160,slow=12,SNR=3.5						
NOA	**NORSAR Array B**	**28.56**	**345**	P	**P**	**15 09 31.9**	**-0.4**
	comp=N,0.3nm,0.4s,baz=154,slow=8.2,SNR=4.4						
AKTO	**Aktyubinsk**	**28.81**	**45**	P	**P**	**15 09 35.5**	**+0.8**
	comp=N,0.3nm,0.3s,baz=247,slow=13,SNR=2.3						
TORD	**Torodi Ar. Bea**	**30.01**	**232**	P	**P**	**15 09 45.7**	**+0.2**
	comp=N,0.6nm,0.9s,baz=35,slow=8.5,SNR=4.6						
MKAR	**Makanchi Array**	**44.16**	**56**	P	**P**	**15 11 46.7**	**+1.4**
	comp=N,1.4nm,0.6s,baz=276,slow=6.9,SNR=26						
ZALV	**Zalesovo Beam**	**45.58**	**45**	P	**P**	**15 11 57.1**	**+0.7**
	comp=N,1.7nm,0.5s,baz=268,slow=8.9,SNR=8.7						
SONM	**Songino Array**	**59.98**	**50**	P	**P**	**15 13 43.9**	**+0.7**
	comp=N,0.3nm,0.4s,baz=290,slow=6.6,SNR=3.9						
SCHQ	**Schefferville**	**64.23**	**320**	P	**P**	**15 14 10.9**	**-0.5**
	comp=N,1.0nm,0.5s,baz=53,slow=11,SNR=4.5						
YKA	**Yellowknife Ar**	**78.61**	**342**	P	**P**	**15 15 37.8**	**-0.2**
	comp=N,0.4nm,0.6s,baz=31,slow=5.6,SNR=5.3						
KSRS	**Korea Array**	**78.73**	**52**	P	**P**	**15 15 39.6**	**+0.5**
	comp=N,0.3nm,0.4s,baz=301,slow=6.3,SNR=4.9						
ILAR	**Eielson Array**	**81.34**	**357**	P	**P**	**15 15 53.6**	**+0.9**
	comp=N,0.3nm,0.7s,baz=349,slow=3.9,SNR=5.7						

IDC 03 15:24:07.1±1.3,1.18N×126.18E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/23, mbtmp3.7/7, ML3.3/1, Error ellipse: s-maj=109.3km s-min=17.2km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.17**	**182**	P	Pn	15 28 32.8	-0.4
	0.1nm,0.3s,baz=13,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**22.47**	**160**	P	P	15 29 07.7	-0.5
	1.1nm,0.4s,baz=337,slow=10,SNR=21						
ASAR	**Alice Springs**	**25.82**	**164**	P	P	15 29 40.2	-0.1
	0.3nm,0.5s,baz=344,slow=8.2,SNR=13						
MKAR	**Makanchi Array**	**59.34**	**326**	P	P	15 34 11.3	+0.2
	0.5nm,0.6s,baz=117,slow=8.0,SNR=8.1						
ZALV	**Zalesovo Beam**	**62.60**	**334**	P	P	15 34 32.7	-0.4
	0.4nm,0.3s,baz=116,slow=6.6,SNR=2.3						
KURBB	**Kurchatov Arra**	**63.59**	**328**	P	P	15 34 38.8	-0.9
	0.5nm,0.6s,baz=129,slow=5.9,SNR=7.2						
AKTO	**Aktyubinsk**	**75.31**	**322**	P	P	15 35 53.8	+1.6
	0.3nm,0.3s,baz=106,slow=7.4,SNR=3.5						

IDC 03 15:36:38.1±2.6,5.54S×130.85E, h0km, mb3.1/1, mb1 3.4/4, mb1mx3.2/19, mbtmp3.2/4, ML2.7/3, Error ellipse: s-maj=119.5km s-min=28.3km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.48**	**202**	Pn	Pn	15 39 50.2	-0.6
	0.0nm,0.3s,baz=0.0,slow=20,SNR=2.5						
FITZ				Sn	Sn	15 42 12.3	-9.2
	0.1nm,0.3s,baz=191,slow=10,SNR=2.3						
WRA	**Warramunga Arr**	**14.71**	**167**	Pn	Pn	15 40 08.4	+0.7
	0.0nm,0.3s,baz=350,slow=13,SNR=2.8						
WRA				Sn	Sn	15 42 57.8	+6.1
	0.1nm,0.3s,baz=332,slow=23,SNR=4.0						
ASAR	**Alice Springs**	**18.26**	**171**	P	Pn	15 40 52.8	-0.4
	0.0nm,0.3s,baz=347,slow=10,SNR=5.1						
MKAR	**Makanchi Array**	**67.48**	**326**	P	P	15 47 36.1	+0.1
	0.2nm,0.8s,baz=112,slow=6.4,SNR=2.7						

IDC 03 15:39:52.5±1.5,34.85N×25.02E, h0km, mb3.2/4, mb1 3.2/4, mb1mx3.1/27, mbtmp3.2/4, Error ellipse: s-maj=516.0km s-min=24.8km az=141.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**30.20**	**230**	P	P	15 46 04.8	0.0
	0.1nm,0.3s,baz=42,slow=9.8,SNR=2.7						
KURBB	**Kurchatov Arra**	**41.41**	**51**	P	P	15 47 40.4	0.0
	0.4nm,0.7s,baz=277,slow=8.5,SNR=4.5						
MKAR	**Makanchi Array**	**44.04**	**56**	P	P	15 48 01.8	-0.2
	0.3nm,0.5s,baz=274,slow=7.2,SNR=6.1						
SONM	**Songino Array**	**59.77**	**50**	P	P	15 49 59.3	-0.1
	0.1nm,0.4s,baz=270,slow=7.2,SNR=2.1						

IDC ***03*** *15:49:47.2±1.2,33.98N×25.43E, h0km, mb3.4/4, mb1 3.5/8, mb1mx3.3/28, mbtmp3.3/8, ML3.1/4, MS2.8/1, Ms1 2.8/1, ms1mx1.9/34, Error ellipse: s-maj=31.0km s-min=22.5km az=160.0*
CSEM ***03*** *15:50:02.3,34.88N×25.23E, h35km, MD3.2, After ATH*
ATH ***03*** *15:50:02.3,34.88N×25.23E, h35km±5km, MD3.2/4*

ISC 03 15:49:51.6±1.0, 34.20N±0.08×25.51E±0.08, h30km, n17, σ2s09/18, mb3.4/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**0.96**	**359**	*e*PB	**Pb**	**15 50 11.0**	**+1.2**
LAST				*e*SB	**Sn**	**15 50 17.5**	**-4.4**
LAST	**Lasithi**	**0.96**	**359**	*e*Pb	**Pb**	**15 50 11.0**	**+1.2**
LAST				*e*Sb	**Sn**	**15 50 17.5**	**-4.4**
SIVA	**Sivas**	**1.00**	**325**	*e*PB	**Pb**	**15 50 11.4**	**+1.0**
SIVA	**Sivas**	**1.00**	**325**	*e*Pb	**Pb**	**15 50 11.4**	**+1.0**
IDI	**Anoyia**	**1.20**	**335**	*e*PB	**Pn**	**15 50 13.0**	**+0.6**
IDI	**Anoyia**	**1.20**	**335**	*e*Pb	**Pn**	**15 50 13.0**	**+0.6**
VAM	**Vamos**	**1.62**	**319**	*e*PN	**Pb**	**15 50 21.6**	**+0.8**
VAM	**Vamos**	**1.62**	**319**	*e*Pn	**Pb**	**15 50 21.6**	**+0.8**
MMAI	**Mount Meron Ar**	**8.34**	**95**	Pn	**Pn**	**15 51 49.0**	**-1.5**
	0.2nm,0.3s,baz=292,slow=7.6,SNR=2.3						
BRTR	**Keskin Array B**	**8.53**	**47**	Pn	**Pn**	**15 51 54.8**	**+1.6**
	0.0nm,0.3s,baz=240,slow=16,SNR=2.6						
EIL	**Elat**	**9.21**	**117**	Pn	**Pn**	**15 52 00.8**	**-1.6**
	0.2nm,0.3s,baz=328,slow=9.5,SNR=4.2						
GERES	**GERESS Array B**	**17.07**	**333**	Pn	**P**	**15 53 49.8**	**+0.3**
	0.1nm,0.3s,baz=150,slow=11,SNR=5.7						
DAVOX	**Davos/Dischmat**	**17.28**	**321**	LR	LR	16 00 58.9	
	comp=Z,27nm,18.1s,baz=105,slow=39						
TORD	**Torodi Ar. Bea**	**30.10**	**232**	P	**P**	**15 55 56.8**	**-1.8**
	0.1nm,0.4s,baz=37,slow=7.4,SNR=2.0						
MKAR	**Makanchi Array**	**44.07**	**56**	P	**P**	**15 57 58.6**	**+1.8**
	0.3nm,0.6s,baz=280,slow=7.6,SNR=5.3						
ZALV	**Zalesovo Beam**	**45.47**	**45**	P	**P**	**15 58 09.3**	**+1.5**
	0.2nm,0.3s,baz=248,slow=6.1,SNR=2.9						
YKA	**Yellowknife Ar**	**78.45**	**342**	P	**P**	**16 01 51.2**	**+2.0**
	0.2nm,0.4s,baz=27,slow=5.8,SNR=4.2						

IDC 03 15:51:16.4±48.0, 19.72S×175.00W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/20, mbtmp3.9/3, Error ellipse: s-maj=901.1km s-min=161.7km az=83.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.66**	**244**	P	P	15 58 58.1	-0.5
	1.0nm,0.5s,baz=83,slow=6.8,SNR=3.0						
ASAR	**Alice Springs**	**47.44**	**256**	P	P	15 59 53.2	-0.1
	1.5nm,0.5s,baz=92,slow=8.2,SNR=54						
WRA	**Warramunga Arr**	**47.50**	**261**	P	P	15 59 53.9	+0.1
	0.4nm,0.3s,baz=97,slow=7.2,SNR=38						

MAN 03 15:51:50, 18.16N×120.98E, h34km, mb3.7, ML2.4, MS2.0, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.38**	**296**	*i*P	Pn	15 52 00.8	+1.6
APYP	**Conner**	**0.39**	**140**	*e*P	Pn	15 52 01.2	+1.9
APYP				*e*S	Sn	15 52 08.0	+2.6
ABRA	**Dolores**	**0.57**	**207**	*e*P	Pb	15 52 03.1	+1.4
ABRA				*e*S	Sn	15 52 11.7	+1.9

IDC ***03*** *16:04:54.0±1.0,34.06N×25.46E, h0km, mb3.8/13, mb1 3.9/19, mb1mx3.9/32, mbtmp3.8/19, ML4.1/5, MS3.3/1, Ms1 3.3/1, ms1mx2.2/43, Error ellipse: s-maj=22.9km s-min=16.6km az=2.0*
ATH ***03*** *16:04:53.2,33.87N×25.44E, h4km±3km, MD3.4/9*
CSEM ***03*** *16:04:55.3±0.2,33.97N×25.53E, h2km, MD3.4, Error ellipse: s-maj=6.9km s-min=2.9km az=52.0*
ISCJB ***03*** *16:04:55.8±0.7,33.93N±0.03×25.63E±0.04, h26km±6km, mb3.6/13, MS3.2/1, Error ellipse: s-maj=6.7km s-min=3.2km az=137.8*
THE ***03*** *16:04:56.6,33.99N×25.49E, h0km±2km, Error ellipse: s-maj=6.4km s-min=0.9km az=170.0*
HLW ***03*** *16:05:00.3,33.86N×25.67E, h33km±26km, Md4.0, Ml3.2*

ISC 03 16:04:57.7±1.3, 33.97N±0.04×25.57E±0.05, h29km±10km, n101, σ1s06/120, mb3.6/13, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**1.19**	**356**	P	**Pn**	**16 05 17.9**	**-0.6**
LAST				S	**Sb**	**16 05 35.6**	**+0.8**
LAST	**Lasithi**	**1.19**	**356**	*e*PG	**Pn**	**16 05 17.0**	**-1.5**
LAST				*e*SB	**Sb**	**16 05 35.4**	**+0.6**
LAST	**Lasithi**	**1.19**	**356**	*e*Pg	**Pn**	**16 05 17.0**	**-1.5**
LAST	**Lasithi**	**1.19**	**356**	P	**Pn**	**16 05 17.9**	**-0.6**
LAST				*e*Sb	**Sb**	**16 05 35.4**	**+0.6**
SIVA	**Sivas**	**1.22**	**329**	P	**Pn**	**16 05 17.8**	**-1.0**
SIVA				S	**Sb**	**16 05 36.0**	**+0.5**
SIVA	**Sivas**	**1.22**	**329**	*e*PB	**Pn**	**16 05 17.3**	**-1.5**
SIVA				*e*SB	**Sn**	**16 05 33.8**	**-0.5**
SIVA	**Sivas**	**1.22**	**329**	*e*Pb	**Pn**	**16 05 17.3**	**-1.5**
SIVA	**Sivas**	**1.22**	**329**	P	**Pn**	**16 05 17.8**	**-1.0**
SIVA				*e*Sb	**Sn**	**16 05 33.8**	**-0.5**
SIVA				S	**Sb**	**16 05 36.0**	**+0.5**
ZKR	**Zakros**	**1.26**	**25**	P	**Pn**	**16 05 19.9**	**+0.5**
ZKR	**Zakros**	**1.26**	**25**	*e*PG	**Pn**	**16 05 19.3**	**-0.1**
ZKR	**Zakros**	**1.26**	**25**	*e*Pg	**Pn**	**16 05 19.3**	**-0.1**
ZKR	**Zakros**	**1.26**	**25**	P	**Pn**	**16 05 19.9**	**+0.5**
NPS	**Neapolis**	**1.29**	**2**	P	**Pb**	**16 05 20.7**	**-0.7**
NPS				S	**Sb**	**16 05 38.7**	**+1.1**
NPS	**Neapolis**	**1.29**	**2**	*e*PG	**Pn**	**16 05 19.2**	**-0.6**
NPS	**Neapolis**	**1.29**	**2**	*e*Pg	**Pn**	**16 05 19.2**	**-0.6**
NPS	**Neapolis**	**1.29**	**2**	P	**Pb**	**16 05 20.7**	**-0.7**
NPS				S	**Sb**	**16 05 38.7**	**+1.1**
IDI	**Anoyia**	**1.43**	**337**	P	**Pn**	**16 05 21.9**	**+0.1**
IDI				S	**Sb**	**16 05 41.7**	**+0.1**
IDI	**Anoyia**	**1.43**	**337**	*e*PB	**Pn**	**16 05 21

VRAC Vranov 16.71 339 Pn **Pn** **16 08 50.5 +0.9**
comp=N,0.9nm,0.3s,baz=170,slow=18,SNR=3.3
GERES GERESS Array B 17.29 333 P **Pn** **16 08 55.5 -1.4**
comp=N,0.2nm,0.3s,baz=152,slow=12,SNR=20
ESDC Sonseca Array 24.26 292 P **P** **16 10 12.4 +0.1**
comp=N,0.2nm,0.3s,baz=85,slow=10.0,SNR=8.9
HFS Hagfors 27.31 347 P **P** **16 10 38.8 -0.8**
comp=N,1.0nm,0.7s,baz=163,slow=11,SNR=4.4
FINES FINESS Array B 27.49 1 P **P** **16 10 40.3 -0.9**
comp=N,2.2nm,0.8s,baz=157,slow=10,SNR=3.5
NB2 NORSAR Subarra 28.64 345 P **P** **16 10 50.7 -0.7**
comp=Z,0.9nm,0.7s,baz=159,slow=9.3
NB2 NORSAR Subarra 28.64 345 P **P** **16 10 50.7 -0.7**
comp=Z,0.9nm,0.7s,SNR=4.6
NOA NORSAR Array B 28.64 345 P **P** **16 10 50.8 -0.7**
comp=Z,0.4nm,0.7s,baz=150,slow=11,SNR=4.1
EKA Eskdalemuir Ar 29.21 326 P **P** **16 10 56.5 0.0**
comp=Z,0.8nm,0.7s,baz=126,slow=9.6,SNR=4.2
TORD Torodi Ar. Bea 30.00 232 P **P** **16 11 04.2 +0.2**
comp=Z,0.4nm,0.7s,baz=33,slow=10,SNR=3.2
TORD LR LR 16 24 36.3
comp=Z,59nm,19.6s,baz=105,slow=39
ARCES ARCESS Array B 35.62 360 P **P** **16 11 51.4 -1.1**
comp=Z,3.7nm,0.9s,baz=178,slow=8.1,SNR=3.3
MKAR Makanchi Array 44.16 56 P **P** **16 13 04.3 +0.6**
comp=Z,0.7nm,0.6s,baz=277,slow=6.4,SNR=12
ZALV Zalesovo Beam 45.59 45 P **P** **16 13 15.5 +0.6**
comp=Z,0.9nm,0.5s,baz=269,slow=9.7,SNR=5.2
SONM Songino Array 59.98 50 P **P** **16 15 03.3 +1.8**
comp=Z,0.2nm,0.5s,baz=252,slow=7.4,SNR=2.6
SCHQ Schefferville 64.31 320 P **P** **16 15 30.8 +0.5**
comp=Z,1.3nm,0.4s,baz=58,slow=5.0,SNR=4.0
YKA Yellowknife Ar 78.69 342 P **P** **16 16 57.4 +0.7**
comp=Z,0.5nm,0.6s,baz=27,slow=5.6,SNR=7.0
ILAR Eielson Array 81.41 357 P **P** **16 17 10.5 -0.9**
comp=Z,0.3nm,0.7s,baz=326,slow=4.6,SNR=3.4

*BJI **03** 16:14:35.0, 49.˚80N× 155.˚80E, h51km, mB4.4/6, mb4.2/8*
*KRSC **03** 16:14:35.8± 0.3, 49.˚79N× 156.˚48E, h5km± 5km, ML5.0*
*MOS **03** 16:14:35.4± 1.3, 49.˚79N× 155.˚92E, h69km, mb4.4/24, Error ellipse: s-maj=9.7km s-min=5.6km az=67.2*
*NEIC **03** 16:14:35.0± 1.2, 49.˚71N× 155.˚83E, h51km± 11km, mb4.5/12, Error ellipse: s-maj=14.7km s-min=7.4km az=144.0*
*ISCJB **03** 16:14:36.0± 0.5, 49.˚73N± 0.˚04× 155.˚93E± 0.˚06, h70km± 3km, mb4.2/51, Error ellipse: s-maj=8.8km s-min=3.4km az=41.6*
*IDC **03** 16:14:38.9± 2.4, 49.˚83N× 155.˚74E, h77km± 22km, mb3.8/21, mb1 4.0/24, mb1mx4.0/31, mbtmp3.8/24, MS3.4/15, Ms1 3.4/15, ms1mx3.0/41, Error ellipse: s-maj=16.0km s-min=10.1km az=140.0*
ISC 03 16:14:36.6± 0.6, 49.˚78N± 0.˚06× 155.˚84E± 0.˚05, h61km± 4km, n168, σ1§41/206, mb4.3/51, 4C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.92**	**11**	*i*P	**Pn**	**16 14 51.4**	**-2.2**
SKR				*i*S	**Sn**	**16 15 04.0**	**-2.2**
SKR				pmax	pmax		
	comp=N,600nm,0.5s						
SKR				pmax	pmax		
	comp=Z,1μm,0.5s						
SKR				pmax	pmax		
	comp=Z,1μm,1.0s						
SKR				smax	smax		
	comp=N,9μm,0.5s						
SKR				smax	smax		
	comp=E,5μm,0.5s						
SKR				smax	smax		
	comp=N,14μm,1.6s						
SKR				smax	smax		
	comp=E,12μm,1.6s						
SKR	**Severo-Kuril's**	**0.92**	**11**	*i*P	**Pn**	**16 14 54.1**	**+0.5**
SKR				*i*S	**Sn**	**16 15 07.1**	**+0.9**
PAU	**Pauzhetka**	**1.80**	**20**	PN	**Pn**	**16 15 06.2**	**+0.9**
PAU				S	**Sn**	**16 15 28.1**	**+1.0**
PAU	**Pauzhetka**	**1.80**	**20**	*i*P	**Pn**	**16 15 06.2**	**+0.9**
PAU				*i*S	**Sn**	**16 15 28.1**	**+1.0**
MIPR	**Malaya Ipel'ka**	**2.57**	**13**	*e*P	**Pn**	**16 15 16.9**	**+1.1**
MIPR				*e*S	**Sn**	**16 15 46.3**	**+0.5**
ASAK	**Asacha**	**2.92**	**26**	*i*P	**Pn**	**16 15 22.0**	**+1.4**
ASAK				*e*S	**Sn**	**16 15 56.0**	**+1.6**
MTVR	**Mutnovka**	**3.09**	**28**	*e*P	**Pn**	**16 15 24.3**	**+1.4**
MTVR				*i*S	**Sn**	**16 15 59.9**	**+1.2**
GRL	**Gorelyy**	**3.11**	**26**	P	**Pn**	**16 15 25.3**	**+2.0**
GRL				*i*S	**Sn**	**16 16 00.2**	**+0.9**
RUS	**Russkaya**	**3.15**	**31**	PN	**Pn**	**16 15 23.1**	**-0.5**
RUS				S	**Sn**	**16 15 58.0**	**-2.0**
RUS	**Russkaya**	**3.15**	**31**	*e*P	**Pn**	**16 15 23.1**	**-0.5**
RUS				*i*S	**Sn**	**16 15 58.0**	**-2.0**
APC	**Apacha**	**3.26**	**14**	*e*P	**Pn**	**16 15 27.8**	**+2.6**
APC				*e*S	**Sn**	**16 16 05.6**	**+2.9**
PEA0B	**Petropavlovsk-**	**3.53**	**19**	*e*Pn	**Sn**	**16 15 29.1**	**+0.2**
PETK	**Petropavlovsk-**	**3.53**	**19**	PN	**Pn**	**16 15 31.0**	**+2.0**
PETK				pmax	pmax		
	comp=Z,9.0nm,0.3s						
PETK	**Petropavlovsk-**	**3.53**	**19**	P	**Pn**	**16 15 30.9**	**+2.0**
PETK				S	Sn	16 16 18.2	+8.8
PETK	**Petropavlovsk-**	**3.53**	**19**	P	**Pn**	**16 15 30.9**	**+2.0**
	comp=Z,9.3nm,0.3s,baz=188,slow=14,SNR=289						
PETK				S	Sn	16 16 18.2	+8.8
	comp=Z,6.6nm,0.3s,baz=209,slow=26,SNR=3.7						
PETK				LR	LR	16 17 05.4	
	comp=Z,327nm,21.3s,baz=226,slow=42						
PET	**Petropavlovsk**	**3.70**	**27**	*e*PN	**Pn**	**16 15 32.3**	**+1.1**
PET				*e*S	**Sn**	**16 16 15.3**	**+1.9**
PET				pmax	pmax		
	comp=Z,59nm,0.4s						
PET				smax	smax		
	comp=E,688nm,0.5s						
PET				smax	smax		
	comp=N,468nm,0.6s						
PET	**Petropavlovsk**	**3.70**	**27**	*e*P	**Pn**	**16 15 32.4**	**+1.2**
PET				*i*S	**Sn**	**16 16 13.8**	**+0.4**
UGLR	**Uglovaya**	**3.91**	**27**	*e*P	**Pn**	**16 15 36.2**	**+2.0**
UGLR				*i*S	**Sn**	**16 16 20.4**	**+1.6**
KOK	**Koryaka**	**3.93**	**25**	*e*P	**Pn**	**16 15 37.2**	**+2.8**
KOK				*i*S	**Sn**	**16 16 21.6**	**+2.3**
AVH	**Avacha**	**3.93**	**26**	*e*P	**Pn**	**16 15 36.9**	**+2.4**
AVH				*i*S	**Sn**	**16 16 20.8**	**+1.4**
SMAR	**Somma**	**3.95**	**27**	*e*P	**Pn**	**16 15 37.1**	**+2.3**
SMAR				*e*S	**Sn**	**16 16 21.4**	**+1.4**
KRER	**Koryakskii**	**3.97**	**26**	*e*P	**Pn**	**16 15 37.4**	**+2.3**
KRER				*i*S	**Sn**	**16 16 21.8**	**+1.3**
SDLR	**Sedlovina**	**3.99**	**27**	*e*P	**Pn**	**16 15 36.6**	**+1.3**
SDLR				*i*S	**Sn**	**16 16 21.0**	**+0.2**
GNL	**Ganaly**	**4.13**	**18**	*e*P	**Pn**	**16 15 39.7**	**+2.4**
SPN	**Mys Shipunski**	**4.23**	**37**	PN	**Pn**	**16 15 38.6**	**+0.1**
SPN				S	**Sn**	**16 16 24.6**	**-1.9**
SPN	**Mys Shipunski**	**4.23**	**37**	*e*P	**Pn**	**16 15 38.6**	**+0.1**
SPN				*e*S	**Sn**	**16 16 24.6**	**-1.9**
KII	**Karymskiy**	**4.81**	**26**	P	**Pn**	**16 15 49.0**	**+2.5**
KII				*i*S	**Sn**	**16 16 43.2**	**+2.2**
MKZ	**Mys Kozlova**	**6.00**	**35**	PN	**Pn**	**16 16 02.1**	**-0.6**
MKZ				S	**Sn**	**16 17 07.5**	**-2.4**
MKZ	**Mys Kozlova**	**6.00**	**35**	*e*P	**Pn**	**16 16 02.1**	**-0.6**
MKZ				*i*S	**Sn**	**16 17 07.5**	**-2.4**
TUMR	**Tumrok**	**6.11**	**24**	P	**Pn**	**16 16 07.0**	**+2.8**
KMNR	**Kamenistaya**	**6.55**	**22**	*e*P	**Pn**	**16 16 13.4**	**+3.1**
KPT	**Kopyto**	**6.74**	**21**	P	**Pn**	**16 16 15.1**	**+2.2**
KOZ	**Kozyrevsk**	**6.75**	**20**	P	**Pn**	**16 16 14.6**	**+1.7**
KOZR	**Kozyr**	**6.76**	**20**	PN	**Pn**	**16 16 14.6**	**+1.5**
BZGR	**Bezymyannyi-Gr**	**6.84**	**24**	P	**Pn**	**16 16 15.5**	**+1.3**
KRSR	**Krestovskiy**	**7.05**	**22**	P	**Pn**	**16 16 18.1**	**+1.0**
KUR	**Kuril'sk**	**7.05**	**233**	*i*PN	**Pn**	**16 16 19.9**	**+2.8**
KUR				*i*S	**Sn**	**16 17 40.1**	**+4.3**
KUR				pmax	pmax		
	comp=Z,23nm,0.9s						
KUR				pmax	pmax		
	comp=E,8.0nm,0.2s						
KUR				pmax	pmax		
	comp=N,11nm,0.9s						
KUR				smax	smax		
	comp=E,18nm,0.9s						
KUR				smax	smax		
	comp=N,26nm,0.9s						
YUK	**Yuzh-Kuril'sk**	**8.92**	**234**	*c* iPN	**Pn**	**16 16 43.2**	**+0.6**
YUK				*i*S	**Sn**	**16 18 24.6**	**+3.1**
YUK				pmax	pmax		
	comp=Z,76nm,0.4s						
YUK				pmax	pmax		
	comp=E,14nm,0.4s						
YUK				pmax	pmax		
	comp=N,67nm,0.4s						
YUK				pmax	pmax		
	comp=Z,217nm,3.2s						
YUK				smax	smax		
	comp=E,495nm,4.4s						
YUK				smax	smax		
	comp=N,460nm,4.4s						
YUK				MLR	MLR		
	comp=Z,213nm,5.0s						
YUK				MLR	MLR		
	comp=E,271nm,5.0s						
YSS	**Yuzh-Sakhalins**	**9.15**	**257**	*e*PN	Pn	16 16 49.8	+4.0
ASAJ	**Asahikawa**	**10.67**	**243**	*e*Pn	Pn	16 17 02.9	-3.7
ASAJ	**Asahikawa**	**10.67**	**243**	P	**Pn**	**16 17 09.2**	**+2.7**
	comp=E,2.3nm,0.3s,baz=77,slow=13,SNR=42						
ASAJ				LR	LR	16 20 53.8	
	comp=E,148nm,18.5s,baz=359,slow=35						
FX1	**Attu Island--F**	**11.28**	**67**	P	Pn	16 17 12.4	-2.4
FX1				S	Sn	16 19 08.9	-10
FX1	**Attu Island--F**	**11.28**	**67**	P	Pn	16 17 12.4	-2.4
	comp=E,2.6nm,0.3s,baz=49,slow=1.9,SNR=14						
FX1				S	Sn	16 19 08.9	-10
	comp=E,6.6nm,0.3s,baz=109,slow=20,SNR=9.3						
FX1				LR	LR	16 21 05.7	
	comp=E,76nm,20.1s,baz=257,slow=34						
ERM	**Erimo**	**11.75**	**233**	*de*PN	**Pn**	**16 17 22.2**	**+1.0**
HABR	**Khabarovsk**	**13.67**	**272**	*e*P	**Pn**	**16 17 45.4**	**-2.0**
HABR				S	**Sn**	**16 20 15.6**	**-1.8**
HABR				pmax	pmax		
	comp=E,27nm,2.8s						
HABR				pmax	pmax		
	comp=Z,35nm,3.3s						
HABR				pmax	pmax		
	comp=N,14nm,2.2s						
KLR	**Kul'dur**	**15.64**	**277**	*e*P	**P**	**16 18 16.2**	**+0.1**
USRK	**Ussuriysk Arra**	**17.16**	**260**	LR	LR	16 24 54.4	
	comp=N,63nm,18.3s,baz=62,slow=36						
VLA	**Vladivostok**	**17.75**	**257**	*e*P	**Pn**	**16 18 38.0**	**-1.3**
VLA				pmax	pmax		
	comp=Z,15nm,1.2s						
MJAR	**Matsushiro Arr**	**18.39**	**231**	P	**P**	**16 18 46.4**	**-0.1**
MJAR	**Matsushiro Arr**	**18.39**	**231**	P	**P**	**16 18 46.4**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=29,slow=10,SNR=12						
MAJO	**Matsushiro**	**18.39**	**231**	*e*P	**P**	**16 18 43.1**	**-3.4**
MAJO				pmax	pmax		
	comp=Z,11nm,1.1s						
MAJO	**Matsushiro**	**18.39**	**231**	*e*Pn	**P**	**16 18 43.1**	**-3.4**
	comp=Z,11nm,1.1s						
MAT	**Matsushiro**	**18.39**	**231**	P	**P**	**16 18 46.7**	**+0.2**
YAK	**Yakutsk**	**18.95**	**320**	*e*P	**P**	**16 18 52.1**	**-0.3**
YAK				*e*S	**S**	**16 22 23.2**	**-0.9**
YAK				pmax	pmax		
	comp=E,12nm,1.1s						
YAK				pmax	pmax		
	comp=Z,24nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				smax	smax		
	comp=N,19nm,2.3s						
YAK				smax	smax		
	comp=E,32nm,3.6s						
YAK				MLR	MLR		
	comp=Z,98nm,21.0s						
BILL	**Bilibino**	**19.04**	**12**	*e*P	**P**	**16 18 54.1**	**+0.8**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KSRS	**Korea Array**	**23.52**	**249**	P	**P**	**16 19 41.7**	**+0.7**
	comp=Z,7.4nm,0.9s,baz=47,slow=9.7,SNR=37						
KSRS				PcP	**PcP**	**16 23 25.4**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=353,slow=0.6,SNR=4.6						
KSRS				LR	LR	16 27 14.3	
	comp=Z,53nm,21.8s,baz=155,slow=32						
KSAR	**Wonju Array Be**	**23.55**	**249**	P	**P**	**16 19 41.7**	**+0.4**
KSAR				PcP	**PcP**	**16 23 25.4**	**+0.5**
JNU	**Nakatsue**	**24.86**	**237**	P	**P**	**16 19 54.5**	**+1.1**
JNU	**Nakatsue**	**24.86**	**237**	P	**P**	**16 19 54.5**	**+1.1**
	comp=Z,14nm,1.0s,baz=84,slow=2.9,SNR=8.0						
TIXI	**Tiksi**	**25.15**	**340**	*c* iP	**P**	**16 19 56.0**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TRF	**Thorofare Moun**	**31.58**	**44**	*e*P	**P**	**16 20 52.1**	**-1.0**
	comp=Z,6.1nm,1.0s						
SONM	**Songino Array**	**32.15**	**286**	P	**P**	**16 20 57.5**	**-0.8**
SONM				PcP	**PcP**	**16 23 46.4**	**+0.5**
SONM	**Songino Array**	**32.15**	**286**	P	**P**	**16 20 57.5**	**-0.8**
	comp=Z,0.1nm,0.5s,baz=74,slow=11,SNR=2.6						
SONM				PcP	**PcP**	**16 23 46.4**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=97,slow=2.5,SNR=6.9						
SONM				LR	LR	16 33 52.9	
	comp=Z,62nm,20.9s,baz=48,slow=36						
MCK	**McKinley**	**32.18**	**43**	*e*P	**P**	**16 20 56.0**	**-2.2**
MCK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MCK	**McKinley**	**32.18**	**43**	*e*P	**P**	**16 20 56.0**	**-2.2**
	comp=Z,6.7nm,1.0s						
TLY	**Talaya**	**32.52**	**294**	*e*P	**P**	**16 21 02.0**	**+0.7**
SML	**Sawmill**	**32.54**	**47**	*e*P	**P**	**16 20 59.5**	**-2.0**
SML				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SML	**Sawmill**	**32.54**	**47**	*e*P	**P**	**16 20 59.5**	**-2.0**
	comp=Z,5.3nm,0.8s						
COLA	**College**	**32.64**	**41**	*e*P	**P**	**16 21 00.3**	**-1.9**
COLA				pmax	pmax		
	comp=Z,14nm,0.8s						
COLA	**College**	**32.64**	**41**	*e*P	**P**	**16 21 00.3**	**-1.9**
	comp=Z,14nm,0.8s						
ILAR	**Eielson Array**	**33.06**	**41**	P	**P**	**16 21 06.0**	**+0.1**
ILAR	**Eielson Array**	**33.06**	**41**	P	**P**	**16 21 06.0**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=256,slow=6.9,SNR=37						
ZAK	**Zakamensk**	**33.15**	**292**	*e*P	**P**	**16 21 08.4**	**+1.5**
ZALV	**Zalesovo Beam**	**42.37**	**304**	*i*P	**P**	**16 22 24.6**	**+0.2**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**42.37**	**304**	P	**P**	**16 22 24.4**	**-0.1**
ZALV				PcP	**PcP**	**16 24 17.1**	**+0.5**
ZALV	**Zalesovo Beam**	**42.37**	**304**	P	**P**	**16 22 24.4**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=60,slow=7.5,SNR=4.9						
ZALV				PcP	**PcP**	**16 24 17.1**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=49,slow=2.9,SNR=6.0						
NVS	**Novosibirsk**	**42.84**	**306**	*e*P	**P**	**16 22 28.5**	**+0.3**
CD2	**Chengdu**	**42.98**	**264**	P	**P**	**16 22 29.1**	**-0.6**
CD2				pP	**pP**	**16 22 44.5**	**-0.7**
CD2				sP	**sP**	**16 22 51.7**	**-0.5**
CD2				PP	**PP**	**16 24 11.9**	**+1.6**
CD2				PcP	**PcP**	**16 24 19.7**	**+0.5**
CD2				ScP	**ScP**	**16 28 04.2**	**-0.5**
CD2				S	**S**	**16 28 48.8**	**-1.8**
CD2				sS	**sS**	**16 29 15.2**	**-1.5**
CD2				SS	SS	16 31 55.2	-8.9
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,5.2s						
MKAR	**Makanchi Array**	**47.20**	**296**	P	**P**	**16 23 02.7**	**-0.3**
MKAR						16 24 34.3	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,96nm,19.0s						
MKAR	**Makanchi Array**	**47.20**	**296**	P	**P**	**16 23 02.7**	**-0.3**
MKAR				PcP	**PcP**	**16 24 34.2**	**+0.7**
MKAR	**Makanchi Array**	**47.20**	**296**	P	**P**	**16 23 02.7**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=56,slow=7.2,SNR=17						
MKAR				PcP	**PcP**	**16 24 34.2**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=45,slow=1.9,SNR=3.6						
MKAR				LR	LR	16 44 15.1	
	comp=Z,96nm,19.0s,baz=346,slow=38						
YKA	**Yellowknife Ar**	**47.41**	**39**	P	**P**	**16 23 05.2**	**+0.9**
YKA				PcP	**PcP**	**16 24 32.6**	**-1.3**
YKA	**Yellowknife Ar**	**47.41**	**39**	P	**P**	**16 23 05.2**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=299,slow=7.7,SNR=22						
YKA				PcP	**PcP**	**16 24 32.6**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=322,slow=3.6,SNR=3.2						
QIZ	**Qiongzhong**	**47.71**	**247**	P	**P**	**16 23 04.1**	**-3.1**
QIZ				S	**S**	**16 29 57.1**	**-1.8**
QIZ				pmax	pmax		
	comp=Z,23nm,1.8s						
BRVK	**Borovoye**	**50.40**	**309**	*d* iP	**P**	**16 23 27.4**	**0.0**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRVK	**Borovoye**	**50.40**	**309**	*e*P	**P**	**16 23 25.8**	**-1.6**
	comp=Z,5.1nm,1.0s						
ARU	**Arti**	**54.02**	**317**	*c* iP	**P**	**16 23 53.1**	**-1.0**
ARU						16 25 54.1	
ARU				S	**S**	**16 31 24.4**	**-0.9**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AAK	**Ala-Archa**	**54.14**	**296**	*e*P	**P**	**16 23 56.2**	**+0.8**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CHTO	**Chiang Mai**	**54.59**	**257**	*e*P	**P**	**16 23 57.4**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CHTO	**Chiang Mai**	**54.59**	**257**	*e*P	**P**	**16 23 57.4**	**-1.3**
	comp=Z,3.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**54.85**	**257**	P	**P**	**16 24 01.9**	**+1.3**
CMAR	**Chiang Mai Arr**	**54.85**	**257**	P	**P**	**16 24 01.9**	**+1.3**
	comp=Z,1.2nm,0.4s,baz=31,slow=6.8,SNR=11						
ARCES	**ARCESS Array B**	**55.58**	**341**	LR	LR	16 50 44.5	
	comp=Z,48nm,20.1s,baz=359,slow=39						
FFC	**Flin Flon**	**57.26**	**42**	*i*P	**P**	**16 24 19.1**	**+1.7**
SUMG	**Summit**	**57.54**	**5**	*e*P	**P**	**16 24 19.5**	**-0.1**
SUMG				pmax	pmax		
	comp=Z,11nm,1.0s						
SUMG	**Summit**	**57.54**	**5**	*e*P	**P**	**16 24 19.5**	**-0.1**
	comp=Z,11nm,1.0s						
ABKAR	**Akbulak array**	**57.89**	**310**	*e*P	**P**	**16 24 19.5**	**-2.3**
AKTO	**Aktyubinsk**	**58.06**	**312**	P	**P**	**16 24 22.8**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTO				MLR	MLR		
	comp=Z,33nm,19.9s						
AKTO	**Aktyubinsk**	**58.06**	**312**	P	**P**	**16 24 22.8**	**-0.3**
AKTO	**Aktyubinsk**	**58.06**	**312**	P	**P**	**16 24 22.8**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=63,slow=8.7,SNR=4.9						
AKTO				LR	LR	16 50 34.8	
	comp=Z,33nm,19.9s,baz=196,slow=37						
BOZ	**Bozeman (W)**	**58.50**	**55**	*e*P	**P**	**16 24 25.2**	**-1.2**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BOZ	**Bozeman (W)**	**58.50**	**55**	*e*P	**P**	**16 24 25.2**	**-1.2**
	comp=Z,1.0nm,0.3s						
JMIC	**Jan Mayen**	**59.02**	**354**	LR	LR	16 49 07.5	
	comp=Z,14nm,21.1s,baz=60,slow=35						
NVAR	**Mina Array Bea**	**59.47**	**65**	P	**P**	**16 24 34.5**	**+1.2**
NVAR	**Mina Array Bea**	**59.47**	**65**	P	**P**	**16 24 34.5**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=287,slow=7.0,SNR=7.3						
PDAR	**Pinedale Array**	**61.52**	**57**	P	**P**	**16 24 48.3**	**+1.0**
PDAR	**Pinedale Array**	**61.52**	**57**	P	**P**	**16 24 48.3**	**+1.0**
	comp=Z,2.6nm,0.9s,baz=313,slow=2.4,SNR=16						
FINES	**FINESS Array B**	**62.06**	**335**	P	**P**	**16 24 49.6**	**-0.7**
FINES	**FINESS Array B**	**62.06**	**335**	P	**P**	**16 24 49.6**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=38,slow=6.8,SNR=12						
FINES				LR	LR	16 54 48.4	
	comp=Z,36nm,18.4s,baz=358,slow=39						
SRU	**San Rafael**	**63.49**	**60**	*e*P	**P**	**16 25 02.1**	**+1.7**
SRU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SRU	**San Rafael**	**63.49**	**60**	*e*P	**P**	**16 25 02.1**	**+1.7**
	comp=Z,3.7nm,0.8s						
RSSD	**Black Hills**	**63.50**	**52**	*e*P	**P**	**16 24 57.7**	**-2.7**
RSSD				pmax	pmax		
	comp=Z,40nm,1.9s						
RSSD	**Black Hills**	**63.50**	**52**	*e*P	**P**	**16 24 57.7**	**-2.7**
	comp=Z,40nm,1.9s						
ISCO	**Idaho Springs**	**65.72**	**57**	*e*P	**P**	**16 25 16.5**	**+1.5**
ISCO	**Idaho Springs**	**65.72**	**57**	*e*P	**P**	**16 25 16.5**	**+1.5**
NOA	**NORSAR Array B**	**65.93**	**342**	P	**P**	**16 25 15.4**	**-0.2**
NOA	**NORSAR Array B**	**65.93**	**342**	P	**P**	**16 25 15.4**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=24,slow=6.2,SNR=3.7						
NOA				LR	LR	16 59 01.8	
	comp=Z,27nm,19.5s,baz=20,slow=40						
HFS	**Hagfors**	**66.23**	**340**	P	**P**	**16 25 17.4**	**-0.1**
HFS	**Hagfors**	**66.23**	**340**	P	**P**	**16 25 17.4**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=55,slow=4.4,SNR=8.8						
ECSD	**EROS Data Cent**	**67.49**	**48**	*e*P	**P**	**16 25 23.9**	**-2.0**
	comp=Z,3.9nm,0.9s						
SCHQ	**Schefferville**	**69.80**	**25**	P	**P**	**16 25 40.6**	**+0.5**
SCHQ	**Schefferville**	**69.80**	**25**	P	**P**	**16 25 40.6**	**+0.5**
	comp=Z,2.0nm,0.4s,baz=332,slow=6.1,SNR=14						
KBZ	**Khabaz**	**70.04**	**315**	P	**P**	**16 25 42.2**	**+0.5**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KBZ				MLR	MLR		
	comp=Z,34nm,21.0s						
KBZ	**Khabaz**	**70.04**	**315**	P	**P**	**16 25 42.2**	**+0.5**
KBZ	**Khabaz**	**70.04**	**315**	P	**P**	**16 25 42.2**	**+0.5**
	comp=Z,2.3nm,0.9s,baz=88,slow=4.5,SNR=4.4						
KBZ				LR	LR	17 01 60.0	
	comp=Z,34nm,21.0s,baz=21,slow=41						
GNI	**Garni**	**71.93**	**311**	LR	LR	16 59 36.0	
	comp=Z,29nm,20.4s,baz=249,slow=38						
WRA	**Warramunga Arr**	**71.98**	**201**	P	**P**	**16 25 53.5**	**0.0**
WRA	**Warramunga Arr**	**71.98**	**201**	P	**P**	**16 25 53.5**	**0.0**
	comp=Z,3.2nm,0.9s,baz=18,slow=6.2,SNR=14						
FITZ	**Fitzroy Crossi**	**72.68**	**210**	P	**P**	**16 25 58.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**72.68**	**210**	P	**P**	**16 25 58.0**	**+0.2**
	comp=Z,1.3nm,0.9s,baz=3.2,slow=5.3,SNR=4.0						
EKA	**Eskdalemuir Ar**	**73.80**	**348**	P	**P**	**16 26 04.0**	**+0.1**
EKA	**Eskdalemuir Ar**	**73.80**	**348**	P	**P**	**16 26 04.0**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=20,slow=4.8,SNR=6.4						
TXAR	**Lajitas Array**	**74.46**	**63**	P	**P**	**16 26 09.3**	**+0.9**
TXAR	**Lajitas Array**	**74.46**	**63**	P	**P**	**16 26 09.3**	**+0.9**
	comp=Z,3.6nm,0.7s,baz=299,slow=4.5,SNR=25						
**AS

ISC 03 16:33:35.1±1.1, 52.0°N±0.4×175.29°W±0.07, h226km, n20, σ0§88/20, mb3.3/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.70**	**74**	P	**Pn**	**16 34 05.2**	**-0.6**
ATKA				S	**S**	**16 34 28.6**	**-1.3**
KOWE	**Korovin West**	**0.73**	**60**	P	**Pn**	**16 34 05.8**	**-0.3**
KOKL	**Mount Kliuchef**	**0.74**	**64**	P	**Pn**	**16 34 06.4**	**+0.3**
KOKL				S	**S**	**16 34 30.8**	**+0.4**
KOKV	**Korovin Volcan**	**0.78**	**63**	P	**Pn**	**16 34 06.2**	**-0.1**
KOKV				S	**S**	**16 34 32.4**	**+1.6**
KOFP	**Korovin Flat P**	**0.78**	**70**	P	**Pn**	**16 34 06.6**	**+0.3**
KOSE	**Korovin Southe**	**0.83**	**66**	P	**Pn**	**16 34 06.5**	**0.0**
CERAA	**Semis' Rag'd T**	**3.11**	**270**	P	**Pn**	**16 34 28.0**	**+0.7**
CESW	**Semis' Southwe**	**3.19**	**270**	P	**Pn**	**16 34 28.6**	**+0.5**
AMKA	**Amchitka**	**3.42**	**262**	*e*Pn	**Pn**	**16 34 31.6**	**+0.7**
AMKA				*e*Sn	**S**	**16 35 13.5**	**-1.2**
LSSA	**Little Sitkin**	**3.83**	**272**	P	**Pn**	**16 34 36.5**	**+0.7**
NIKH	**Nikolski High**	**4.05**	**74**	P	**Pn**	**16 34 37.7**	**-0.6**
FX1	**Attu Island--F**	**7.11**	**282**	P	**Pn**	**16 35 15.7**	**-1.1**
	0.8nm,0.3s,baz=80,slow=15,SNR=13						
FX1				S	S	16 36 31.0	-7.0
	1.6nm,0.3s,baz=74,slow=18,SNR=12						
KDAK	**Kodiak Island**	**14.25**	**57**	P	Pn	16 36 40.6	-6.2
	3.6nm,0.3s,baz=220,slow=5.2,SNR=18						
PETK	**Petropavlovsk-**	**16.43**	**285**	P	**P**	**16 37 11.9**	**+0.1**
	0.1nm,0.3s,baz=67,slow=4.8,SNR=3.2						
ILAR	**Eielson Array**	**19.39**	**38**	P	P	16 37 38.2	-5.6
	baz=228,slow=11,SNR=2.6						
YKA	**Yellowknife Ar**	**33.20**	**48**	P	P	16 39 46.3	-3.9
	0.4nm,0.5s,baz=281,slow=8.6,SNR=7.2						
NVAR	**Mina Array Bea**	**41.32**	**86**	P	**P**	**16 40 60.0**	**+1.2**
	0.5nm,0.6s,baz=294,slow=7.4,SNR=5.6						
PDAR	**Pinedale Array**	**44.03**	**75**	P	**P**	**16 41 19.2**	**-1.4**
	0.9nm,0.4s,baz=319,slow=2.8,SNR=10.0						
SONM	**Songino Array**	**48.30**	**298**	P	P	16 41 51.1	-2.4
	0.3nm,0.6s,baz=58,slow=8.7,SNR=2.8						
TXAR	**Lajitas Array**	**56.41**	**84**	P	**P**	**16 42 53.2**	**+0.1**
	0.7nm,0.6s,baz=308,slow=5.1,SNR=9.9						

RSPR 03 16:43:13.3, 18°24N×66°89W, h11km±1km, 7C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LRS	**Lares**	**0.06**	**38⇓**	*e*P	Pg	16 43 15.8	+0.2
LRS				*e*S	Sg	16 43 17.6	+0.2
LRS	**Lares**	**0.06**	**38⇓**	*e*P	Pg	16 43 15.8	+0.2
LRS				*e*S	Sg	16 43 17.5	+0.2
AOPR	**Arecibo Observ**	**0.16**	**50**	*e*S	Sg	16 43 19.8	+0.2
AOPR	**Arecibo Observ**	**0.16**	**50**	*e*S	Sg	16 43 19.8	+0.2
LSP	**Las Mesas**	**0.20**	**251⇑**	*e*P	Pb	16 43 18.5	-0.6
LSP				*e*S	Sg	16 43 21.4	+0.8
GBPR	**Guanica, Bosqu**	**0.27**	**179**	*e*S	Sg	16 43 23.4	+1.0
CRPR	**Cabo Rojo, PR**	**0.32**	**222⇑**	*e*P	Pg	16 43 20.1	+0.4
CRPR	**Cabo Rojo, PR**	**0.32**	**222**	*e*S	Sg	16 43 24.4	+0.5
CRPR	**Cabo Rojo, PR**	**0.32**	**222⇑**	*e*P	Pg	16 43 19.7	0.0
CRPR	**Cabo Rojo, PR**	**0.32**	**222**	*e*S	Sg	16 43 24.5	+0.5
OBIP	**Obispado Ponce**	**0.33**	**127⇑**	*e*P	Pg	16 43 20.0	+0.1
OBIP	**Obispado Ponce**	**0.33**	**127**	*e*S	Sg	16 43 24.6	+0.2
OBIP	**Obispado Ponce**	**0.33**	**127⇑**	*e*P	Pg	16 43 20.1	+0.1
OBIP	**Obispado Ponce**	**0.33**	**127**	*e*S	Sg	16 43 25.0	+0.6
CELP	**Cerrillos**	**0.34**	**120⇑**	*e*P	Pg	16 43 20.1	+0.1
CELP				*e*S	Sg	16 43 25.1	+0.5
CELP	**Cerrillos**	**0.34**	**120⇑**	*e*P	Pg	16 43 20.2	+0.1
CELP				*e*S	Sg	16 43 25.1	+0.5

*IDC **03** 16:48:18.1±1.3, 0.1°S×123.20°E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.2/21, mbtmp3.2/4, MS3.2/1, Ms1 3.2/1, ms1mx2.3/9, Error ellipse: s-maj=151.6km s-min=22.1km az=65.0*

*ISCJB **03** 16:48:26.5±0.7, 0.3°S±0.6×122.87°E±0.9, h78km, mb3.1/4, Error ellipse: s-maj=13.8km s-min=7.9km az=25.7*

*DJA **03** 16:48:29.4±0.5, 0.5°S±5°×12.3E±°, h50km±8km, M4.1/4, MLv4.1/4*

ISC 03 16:48:27.7±1.0, 0.3°S±0.7×122.86E±0.9, h78km, n10, σ1§07/11, mb3.2/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.72**	**187**	P	**Pn**	**16 48 42.6**	**-0.8**
LUWI				S	**Sn**	**16 48 55.8**	**+0.7**
GTOI	**Gorontalo**	**0.97**	**9**	P	**Pn**	**16 48 46.1**	**-0.2**
MNI	**Manado**	**2.64**	**48**	P	Pn	16 49 12.3	+4.0
SKSI	**Soroako, Sulaw**	**2.67**	**215**	P	**Pn**	**16 49 09.2**	**+0.6**
SKSI				S	**Sn**	**16 49 40.2**	**+0.1**
TTSI	**Tana Toraja**	**4.07**	**228**	P	**Pn**	**16 49 28.6**	**+1.0**
LBMI	**Labuha**	**4.65**	**94**	P	**Pn**	**16 49 36.7**	**+1.2**
WRA	**Warramunga Arr**	**22.50**	**151**	P	**P**	**16 53 18.9**	**-2.2**
	0.6nm,0.8s,baz=334,slow=10.0,SNR=7.8						
ASAR	**Alice Springs**	**25.56**	**156**	P	**P**	**16 53 49.5**	**0.0**
	0.3nm,0.9s,baz=341,slow=15,SNR=7.8						
ASAR				LR	LR	17 02 55.0	
	comp=Z,58nm,19.7s,baz=319,slow=34						
SONM	**Songino Array**	**50.06**	**346**	P	**P**	**16 57 14.8**	**0.0**
	0.3nm,0.7s,baz=169,slow=8.5,SNR=3.7						
MKAR	**Makanchi Array**	**58.82**	**329**	P	**P**	**16 58 18.2**	**+0.1**
	0.2nm,0.4s,baz=110,slow=7.8,SNR=4.7						

*ISCJB **03** 17:02:03.2±0.4, 43.83°N±0.05°×144.80°E±0.05, h141km±3km, mb3.4/5, Error ellipse: s-maj=8.2km s-min=5.7km az=162.9*

*MOS **03** 17:02:03.3±0.8, 43.90°N×144.71°E, h147km, mb4.0/2, Error ellipse: s-maj=32.7km s-min=14.8km az=47.7*

*JMA **03** 17:02:03.6±0.1, 43.83°N×144.81°E, h143km±1km, M3.0*

*IDC **03** 17:02:05.3±1.6, 43.92°N×144.64°E, h150km±15km, mb3.2/6, mb1 3.3/9, mb1mx3.1/27, mbtmp3.1/9, Error ellipse: s-maj=34.3km s-min=19.1km az=151.0*

ISC 03 17:02:04.0±0.7, 43.80°N±0.06×144.76°E±0.04, h139km±6km, n28, σ1§08/44, mb3.5/5, 1C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNK	**Nakash**	**0.21**	**189**	P	**Pn**	**17 02 23.0**	**+0.1**
JNK				*e*S	**Sn**	**17 02 37.6**	**+0.4**
JRA	**Rausu**	**0.30**	**61**	P	**Pn**	**17 02 23.2**	**+0.1**
JRA				*e*S	**Sn**	**17 02 38.0**	**+0.4**
JTKR	**Abashiri--Toko**	**0.64**	**286**	P	**Pn**	**17 02 25.0**	**+0.2**
JTKR				*e*S	**Sn**	**17 02 40.7**	**+0.1**
JAK	**Akkeshi**	**0.80**	**184**	P	**Pn**	**17 02 26.0**	**0.0**
JAK				*e*S	**Sn**	**17 02 43.2**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**0.83**	**73**	*i* PN	**Pn**	**17 02 26.4**	**+0.2**
YUK				*i* S	**Sn**	**17 02 43.7**	**+0.7**
YUK				pmax	pmax		
	comp=N,17nm,0.2s						
YUK				pmax	pmax		
	comp=E,54nm,0.2s						
YUK				pmax	pmax		
	comp=Z,621nm,0.2s						
YUK				smax	smax		
	comp=N,191nm,0.6s						
YUK				smax	smax		
	comp=E,217nm,0.6s						
NEM2	**Nemuro 2**	**0.83**	**121**	P	**Pn**	**17 02 25.7**	**-0.5**
NEM2				*e*S	**Sn**	**17 02 41.9**	**-1.2**
JAR	**Ashorobuto**	**0.88**	**236**	P	**Pn**	**17 02 27.5**	**+0.9**
JAR				*e*S	**Sn**	**17 02 45.1**	**+1.3**
JMP	**Maruseppu**	**1.04**	**282**	P	**Pn**	**17 02 28.0**	**0.0**
JMP				*e*S	**Sn**	**17 02 46.1**	**-0.2**
JOB	**Onbets**	**1.12**	**218**	P	**Pn**	**17 02 29.6**	**+0.8**
JOB				*e*S	**Sn**	**17 02 49.2**	**+1.6**
JKK2	**Kamakawa 2**	**1.46**	**274**	P	**Pn**	**17 02 32.7**	**+0.5**
JKK2				*e*S	**Sn**	**17 02 54.7**	**+0.9**
JCH	**Churui**	**1.56**	**221**	P	**Pn**	**17 02 33.9**	**+0.5**
JCH				*e*S	**Sn**	**17 02 56.3**	**+0.5**
ASAJ	**Asahikawa**	**1.60**	**282**	P	**Pn**	**17 02 34.6**	**+0.9**
ASAJ				*e*S	**Sn**	**17 02 57.8**	**+1.3**
ASAJ	**Asahikawa**	**1.60**	**282**	P	**Pn**	**17 02 34.6**	**+0.9**
	comp=E,11nm,0.3s,baz=140,slow=5.6,SNR=241						
ASAJ				S	**Sn**	**17 02 57.4**	**+0.9**
	comp=E,3.1nm,0.3s,baz=42,slow=32,SNR=17						
JFR	**Furan**	**1.70**	**249**	P	**Pn**	**17 02 35.8**	**+0.9**
JAB	**Ashibetsu**	**1.87**	**262**	P	**Pn**	**17 02 38.3**	**+1.5**
JSE	**Soyaes**	**1.95**	**307**	P	**Pn**	**17 02 37.6**	**-0.1**
JSE				*e*S	**Sn**	**17 03 02.8**	**-0.8**
JNBK	**Urakawa-nobuka**	**2.11**	**225**	P	**Pn**	**17 02 39.9**	**+0.1**
JNBK				*e*S	**Sn**	**17 03 07.4**	**+0.2**
KUR	**Kuril'sk**	**2.64**	**56**	*i* PN	**Pn**	**17 02 46.5**	**+0.2**
KUR				*i* S	**Sn**	**17 03 23.6**	**+4.7**
KUR				pmax	pmax		
	comp=Z,35nm,0.6s						
KUR				pmax	pmax		
	comp=E,9.0nm,0.6s						
KUR				pmax	pmax		
	comp=N,8.0nm,0.2s						
KUR				smax	smax		
	comp=E,8.0nm,0.2s						
KUR				smax	smax		
	comp=N,23nm,0.2s						
MJAR	**Matsushiro Arr**	**8.81**	**217**	P	**Pn**	**17 04 10.1**	**+1.8**
	comp=N,0.2nm,0.3s,baz=31,slow=13,SNR=2.9						
PETK	**Petropavlovsk-**	**12.65**	**38**	PN	**Pn**	**17 04 58.3**	**-0.6**
PETK	**Petropavlovsk-**	**12.65**	**38**	P	**Pn**	**17 04 58.2**	**-0.6**
	comp=N,0.3nm,0.3s,baz=214,slow=10.0,SNR=6.1						
KSRS	**Korea Array**	**14.26**	**249**	P	**Pn**	**17 05 18.6**	**-0.9**
	comp=N,0.1nm,0.3s,baz=62,slow=11,SNR=5.4						
FX1	**Attu Island--F**	**20.83**	**54**	P	**P**	**17 06 35.2**	**+0.8**
	comp=N,1.9nm,0.5s,baz=177,slow=18,SNR=2.6						
SONM	**Songino Array**	**26.86**	**292**	P	**P**	**17 07 30.9**	**-0.7**
	comp=N,0.2nm,0.5s,baz=88,slow=10,SNR=4.2						
ILAR	**Eielson Array**	**42.47**	**36**	P	**P**	**17 09 44.2**	**-0.6**
	comp=N,1.4nm,0.6s,baz=265,slow=6.9,SNR=20						
YKA	**Yellowknife Ar**	**56.72**	**33**	P	**P**	**17 11 32.2**	**-0.4**
	comp=N,0.3nm,0.5s,baz=306,slow=6.1,SNR=3.9						
NVAR	**Mina Array Bea**	**59.01**	**57**	P	**P**	**17 12 55.2**	**+0.6**
	comp=N,0.5nm,0.8s,baz=343,slow=4.6,SNR=3.7						
PDAR	**Pinedale Array**	**71.19**	**49**	P	**P**	**17 13 08.0**	**+0.1**
	comp=N,0.5nm,0.6s,baz=332,slow=0.6,SNR=4.7						

IDC 03 17:17:59.3±1.1, 1.45N×122.13E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/23, mbtmp3.6/6, ML3.7/1, Error ellipse: s-maj=118.8km s-min=18.1km az=67.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.73**	**170**	P	P	17 22 31.0	+0.3
	0.2nm,0.3s,baz=6.3,slow=12,SNR=5.7						
WRA	**Warramunga Arr**	**24.40**	**151**	P	P	17 23 19.6	0.0
	1.1nm,0.7s,baz=337,slow=9.3,SNR=11						
ASAR	**Alice Springs**	**27.46**	**156**	P	P	17 23 46.9	-0.4
	0.2nm,0.4s,baz=342,slow=16,SNR=9.0						
STKA	**Stephens Creek**	**37.94**	**153**	P	P	17 25 18.6	0.0
	1.1nm,0.8s,baz=342,slow=6.4,SNR=2.0						
SONM	**Songino Array**	**48.18**	**346**	P	P	17 26 42.0	+0.5
	0.7nm,0.7s,baz=162,slow=9.2,SNR=7.3						
MKAR	**Makanchi Array**	**56.93**	**328**	P	P	17 27 45.9	-0.4
	0.2nm,0.4s,baz=134,slow=8.2,SNR=3.7						

*IDC **03** 17:34:59.9±10.0, 14.45N×93.89W, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.6/23, mbtmp3.6/4, ML3.9/2, Error ellipse: s-maj=179.9km s-min=48.6km az=172.0*

*ISCJB **03** 17:35:15.8±1.3, 15.5N±0.2×94.00W±0.0/4, h76km±10km, mb3.5/2, Error ellipse: s-maj=28.6km s-min=6.6km az=1.8*

*MEX **03** 17:35:18.0±0.4, 15.52N×94.01W, h69km±8km, MD4.0*

ISC 03 17:35:17.3±1.4, 15.7N±0.2×93.97W±0.04, h70km±14km, n9, σ1§51/15, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.72**	**90**	*e*P	**Pn**	**17 35 32.5**	**+0.1**
PCIG				*i* S	**Sn**	**17 35 43.6**	**0.0**
CCIG	**Comitan**	**1.85**	**72**	*e*P	**Pn**	**17 35 47.5**	**+0.3**
CCIG				*i* S	**Sn**	**17 36 11.1**	**+1.3**
HUIG	**Huatulco**	**2.06**	**272**	*e*P	**Pn**	**17 35 49.0**	**-0.9**
HUIG				*e*S	**Sn**	**17 36 12.6**	**-2.1**
VHO	**Vista Hermosa**	**2.98**	**298**	*e*P	**Pn**	**17 36 03.0**	**+0.5**
VHO				*e*S	**Sn**	**17 36 37.4**	**+0.1**
UTMO	**Huajuapan**	**4.24**	**300**	*e*P	**Pn**	**17 36 20.9**	**+1.2**
UTMO				*e*S	**Sn**	**17 37 09.4**	**+1.3**
TEIG	**Tepich**	**7.04**	**49**	Pn	**Pn**	**17 36 56.8**	**-1.0**
	1.8nm,0.3s,baz=215,slow=6.8,SNR=14						
TEIG				Sn	**Sn**	**17 38 12.9**	**-3.4**
	5.0nm,0.3s,baz=154,slow=23,SNR=17						
TXAR	**Lajitas Array**	**16.24**	**328**	P	**P**	**17 39 03.4**	**+0.2**
	0.1nm,0.3s,baz=148,slow=12,SNR=4.8						
NVAR	**Mina Array Bea**	**31.16**	**321**	P	**P**	**17 41 31.3**	**+1.4**
	0.4nm,0.7s,baz=145,slow=6.4,SNR=4.6						
YKA	**Yellowknife Ar**	**48.95**	**347**	P	**P**	**17 43 55.6**	**-0.7**
	0.5nm,0.6s,baz=151,slow=7.3,SNR=5.2						

IDC 03 17:47:58.2±2.0, 2.68N×125.33E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/22, mbtmp3.4/4, Error ellipse: s-maj=137.5km s-min=24.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.65**	**179**	P	P	17 52 40.0	+0.3
	1.5nm,0.3s,baz=8.1,slow=9.1,SNR=15						
WRA	**Warramunga Arr**	**24.16**	**159**	P	P	17 53 16.4	+0.1
	0.5nm,0.6s,baz=336,slow=9.8,SNR=8.1						
ASAR	**Alice Springs**	**27.49**	**163**	P	P	17 53 46.0	-0.5
	0.1nm,0.3s,baz=336,slow=9.3,SNR=3.7						
MKAR	**Makanchi Array**	**57.63**	**326**	P	P	17 57 50.4	+0.1
	0.1nm,0.3s,baz=123,slow=7.9,SNR=4.5						

*ISCJB **03** 18:09:40.8±0.6, 24.86N±0.03×121.86E±0.03, h110km±4km, Error ellipse: s-maj=5.1km s-min=3.2km az=150.0*

*JMA **03** 18:09:41.3±0.3, 24.96N×121.91E, h105km, M2.7*

*TAP **03** 18:09:41.1, 24.86N×121.83E, h107km, ML3.5, C*

ISC 03 18:09:41.0±1.6, 24.87N±0.05×121.85E±0.03, h110km±8km, n52, σ0§56/98, 4C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILA	**Ilan**	**0.14**	**223**	*e*P	**Pn**	**18 09 56.3**	**0.0**
	baz=197						
ILA				*e*S	**Sn**	**18 10 08.4**	**+0.7**
	baz=197						
NWF	**Wu-fen Shan**	**0.21**	**342**	*e*P	**Pn**	**18 09 56.3**	**-0.3**
	baz=354						
NWF				*e*S	**Sn**	**18 10 07.3**	**-1.0**
	baz=354						
TWE	**Neicheng**	**0.22**	**229**	*i* P	**Pn**	**18 09 56.8**	**+0.3**
	baz=237						
TWE				S	**Sn**	**18 10 08.7**	**+0.6**
	baz=237						
TWC	**Suao**	**0.26**	**181⇑**	*i* P	**Pn**	**18 09 57.1**	**+0.4**
	baz=164						
TWC				*e*S	**Sn**	**18 10 09.4**	**+1.1**
	baz=164						
TWA	**Mucha**	**0.27**	**295**	P	**Pn**	**18 09 56.8**	**+0.1**
	baz=298						
TWA				*e*S	**Sn**	**18 10 08.6**	**+0.1**
	baz=298						
TAP1	**Taipei**	**0.34**	**300**	*e*P	**Pn**	**18 09 56.8**	**-0.2**
	baz=294						
TAP1				*e*S	**Sn**	**18 10 08.2**	**-0.7**
	baz=294						
ENTT	**Nioudou**	**0.35**	**229⇑**	*i*P	**Pn**	**18 09 57.2**	**+0.1**
	baz=236						
ENTT				*e*S	**Sn**	**18 10 10.0**	**+1.0**
	baz=236						
TAP	**Taipei**	**0.36**	**298**	P	**Pn**	**18 09 57.0**	**0.0**
	baz=294						
TAP				*e*S	**Sn**	**18 10 08.9**	**-0.2**
	baz=294						
ENA	**Nanau**	**0.45**	**193**	*e*P	**Pn**	**18 09 57.9**	**+0.3**
	baz=177						
ENA				*e*S	**Sn**	**18 10 11.1**	**+1.1**
	baz=177						
TWS1	**Kuangyinshan**	**0.46**	**300**	*i* P	**Pn**	**18 09 57.7**	**+0.1**
	baz=292						
TWS1				S	**Sn**	**18 10 09.9**	**-0.1**
	baz=292						
TWY	**Chenhua**	**0.47**	**331**	P	**Pn**	**18 09 57.3**	**-0.3**
	baz=329						
TWY				S	**Sn**	**18 10 10.2**	**0.0**
	baz=329						
NSK	**Sanguang**	**0.49**	**247⇑**	*i*P	**Pn**	**18 09 57.6**	**-0.3**
	baz=236						
NSK				*e*S	**Sn**	**18 10 09.2**	**-1.3**
	baz=236						
NNS	**Nan Shan**	**0.61**	**226**	*e*P	**Pn**	**18 09 58.9**	**0.0**
	baz=226						
NNS				*e*S	**Sn**	**18 10 12.3**	**0.0**
	baz=226						
NCU	**National Centr**	**0.61**	**280**	P	**Pn**	**18 09 58.8**	**+0.1**
	baz=280						
NCU				S	**Sn**	**18 10 11.9**	**-0.1**
	baz=280						
PCYT	**Pengchaiyu**	**0.78**	**15**	*e*P	**Pn**	**18 09 59.9**	**-0.2**
	baz=15						
PCYT				*e*S	**Sn**	**18 10 14.7**	**+0.1**
	baz=15						
HSN	**Hsinchu**	**0.81**	**265**	*e*P	**Pn**	**18 10 00.1**	**-0.2**
	baz=267						
HSN				*e*S	**Sn**	**18 10 14.1**	**-0.8**
	baz=267						
NSTT	**Nanjuang**	**0.81**	**253⇑**	*i*P	**Pn**	**18 10 00.4**	**0.0**
	baz=247						
NSTT				*e*S	**Sn**	**18 10 14.2**	**-0.7**
	baz=247						
TWD	**Chiawan**	**0.82**	**197**	*e*P	**Pn**	**18 09 60.0**	**-0.5**
	baz=199						
TWD				*e*S	**Sn**	**18 10 13.9**	**-1.2**
	baz=199						
TWT	**Tachien**	**0.87**	**225**	*e*P	**Pn**	**18 10 01.8**	**+0.7**
	baz=223						
TWT				*e*S	**Sn**	**18 10 16.9**	**+0.7**
	baz=223						
WHF	**Hehuan Shan**	**0.90**	**217**	*e*P	**Pn**	**18 10 02.1**	**+0.4**
	baz=212						
WHF				*e*S	**Sn**	**18 10 17.2**	**0.0**
	baz=212						
HWA	**Hwalien**	**0.92**	**194**	*e*P	**Pn**	**18 10 00.7**	**-0.7**
	baz=200						
NSY	**Sanyi**	**1.09**	**246**	*e*P	**Pn**	**18 10 03.6**	**+0.4**
	baz=245						
NSY				*e*S	**Sn**	**18 10 20.0**	**0.0**
	baz=245						
TWQ1	**Liyutan**	**1.11**	**242**	*e*P	**Pn**	**18 10 03.5**	**+0.1**
	baz=242						
TWQ1				*e*S	**Sn**	**18 10 20.1**	**-0.2**
	baz=242						
ESL	**Shilin**	**1.12**	**200**	*e*P	**Pn**	**18 10 03.2**	**-0.3**
	baz=191						
ESL				*e*S	**Sn**	**18 10 19.4**	**-1.1**
	baz=191						
YOJ	**Yonaguni jima**	**1.13**	**111**	P	**Pn**	**18 10 03.5**	**-0.1**
YOJ				S	**Sn**	**18 10 20.7**	**+0.1**
TCU	**Taichung**	**1.29**	**236**	*e*P	**Pn**	**18 10 06.0**	**+0.6**
	baz=244						
SMLT	**Sun Moon Lake**	**1.31**	**222**	*e*P	**Pn**	**18 10 06.2**	**+0.4**
	baz=227						
SMLT				*e*S	**Sn**	**18 10 24.4**	**-0.1**
	baz=227						
TYC	**Yuchr**	**1.32**	**224**	P	**Pn**	**18 10 06.1**	**+0.3**
	baz=221						
TYC				*e*S	**Sn**	**18 10 24.2**	**-0.3**
	baz=221						
EHY	**Hungye**	**1.44**	**200**	*e*P	**Pn**	**18 10 07.9**	**+0.7**
	baz=188						
EHY				*e*S	**Sn**	**18 10 26.3**	**-0.7**
	baz=188						
WNT	**Mingjian**	**1.45**	**227**	*e*P	**Pn**	**18 10 07.8**	**+0.5**
	baz=227						
TWF1	**Yuli**	**1.59**	**199**	*e*P	**Pn**	**18 10 08.5**	**-0.6**
	baz=195						
TWF1				*e*S	**Sn**	**18 10 29.3**	**-0.9**
	baz=195						
YUS	**Yu-Shan**	**1.60**	**211**	*e*P	**Pn**	**18 10 10.2**	**+0.6**
	baz=219						
YUS				*e*S	**Sn**	**18 10 32.1**	**+1.0**
	baz=219						
ALS	**Alishan**	**1.66**	**215**	*e*P	**Pn**	**18 10 10.5**	**+0.5**
	baz=221						
ALS				*e*S	**Sn**	**18 10 32.5**	**+0.4**
	baz=221						
CHN5	**Tsauling**	**1.66**	**220**	P	**Pn**	**18 10 10.3**	**+0.4**
	baz=229						
CHN5				*e*S	**Sn**	**18 10 32.3**	**+0.5**
	baz=229						
WGK	**Gukeng**	**1.67**	**225**	P	**Pn**	**18 10 10.3**	**+0.5**
	baz=233						
WGK				*e*S	**Sn**	**18 10 31.9**	**+0.1**
	baz=233						
IRIF	**Iriomote-Funau**	**1.79**	**107**	P	**Pn**	**18 10 11.3**	**-0.1**
IRIF				S	**Sn**	**18 10 33.8**	**-0.7**
CHKT	**Chengkung**	**1.82**	**194**	*e*P	**Pn**	**18 10 11.7**	**0.0**
	baz=181						
CHKT				*e*S	**Sn**	**18 10 34.5**	**-0.6**
	baz=181						
ELDTW	**Lidau**	**1.84**	**205**	*e*P	**Pn**	**18 10 12.6**	**+0.4**
	baz=190						
ELDTW				*e*S	**Sn**	**18 10 36.5**	**+0.7**
	baz=190						
CHY	**Chiayi**	**1.89**	**224**	*e*P	**Pn**	**18 10 12.4**	**-0.2**
	baz=232						
HATJ	**Hateruma jima**	**1.96**	**114**	P	**Pn**	**18 10 14.0**	**+0.6**
HATJ				*e*S	**Sn**	**18 10 38.6**	**+0.4**
WTP	**Ta-pu**	**1.97**	**215**	P	**Pn**	**18 10 13.7**	**0.0**
	baz=212						
WTP				S	**Sn**	**18 10 39.0**	**+0.3**
	baz=212						
TWK	**Hsinying**	**2.02**	**218**	*e*P	**Pn**	**18 10 14.4**	**0.0**
	baz=215						
TWK				*e*S	**Sn**	**18 10 39.1**	**-0.8**
	baz=215						
JKRS	**Kuro-shima**	**2.06**	**107**	P	**Pn**	**18 10 15.1**	**+0.3**
JKRS				*e*S	**Sn**	**18 10 40.4**	**-0.2**
CHN1	**Nanshi**	**2.07**	**216**	*e*P	**Pn**	**18 10 15.0**	**0.0**
	baz=213						
CHN1				S	**Sn**	**18 10 40.8**	**0.0**
	baz=213						
SGST	**Jiashian**	**2.12**	**213**	*e*P	**Pn**	**18 10 15.8**	**+0.1**
	baz=217						
SGST				*e*S	**Sn**	**18 10 41.9**	**-0.2**
	baz=217						
JIJ	**Ishigaki jima**	**2.15**	**103**	P	**Pn**	**18 10 15.9**	**0.0**
JIJ				S	**Sn**	**18 10 41.8**	**-0.7**
TWG	**Pinlang**	**2.16**	**199**	*e*P	**Pn**	**18 10 15.7**	**-0.5**
	baz=185						
TWG				*e*S	**Sn**	**18 10 41.4**	**-1.5**
	baz=185						
CHN3	**Shinhua**	**2.24**	**218**	*e*P	**Pn**	**18 10 17.8**	**+0.7**
	baz=

		baz=1.0								
I22A	9 Mile Ranch,	0.91 279	⇑P	Pg	18 12 18.6	-0.1	E22A	Miles City	2.73 350	P
	baz=1.0,SNR=1000							baz=2.7,SNR=20		
I22A			⇑S	Sg	18 12 30.2	-0.2	E22A	Miles City	2.73 350	P
	baz=1.0							baz=2.7,SNR=20		
J22A	Midwest	0.96 249	P	Pg	18 12 19.0	-0.6	E23A	Ismay	2.74 359	⇓P
	baz=1.0,SNR=202							baz=2.7		
J22A	Midwest	0.96 249	P	Pg	18 12 19.0	-0.6	E23A	Ismay	2.74 359	⇓P
	baz=1.0,SNR=202							baz=2.7		
K23A	Bowen Ranch, D	1.04 196	⇑P	Pg	18 12 20.9	-0.3	J19A	Crowheart	2.81 261	⇓P
	baz=1.1,SNR=16							baz=2.9		
K23A	Bowen Ranch, D	1.04 196	⇑P	Pg	18 12 20.9	-0.3	J19A	Crowheart	2.81 261	⇓P
	baz=1.1,SNR=16							baz=2.9		
K24A	Anderson Ranch	1.08 163	P	Pg	18 12 22.1	+0.1	H19A	Powell	2.84 290	⇓P
	baz=1.1,SNR=230							baz=2.9,SNR=49		
K24A	Anderson Ranch	1.08 163	P	Pg	18 12 22.1	+0.1	H19A	Powell	2.84 290	⇓P
	baz=1.1,SNR=230							baz=2.9,SNR=49		
H24A	Dirks Ranch, A	1.11 27	⇑P	Pg	18 12 22.7	+0.1	L20A	Wamsutter	2.87 233	⇑P
	baz=1.1							baz=2.9		
H24A	Dirks Ranch, A	1.11 27	⇑P	Pg	18 12 22.7	+0.1	L20A	Wamsutter	2.87 233	⇑P
	baz=1.1							baz=2.9		
J25A	Sunshine Ranch	1.11 109	P	Pg	18 12 22.9	+0.3	E24A	Baker	2.88 13	⇑P
	baz=1.0							baz=2.9,SNR=41		
J25A	Sunshine Ranch	1.11 109	P	Pg	18 12 22.9	+0.3	E24A	Baker	2.88 13	⇑P
	baz=1.0							baz=2.9,SNR=41		
I25A	Rochford	1.13 76	⇓P	Pg	18 12 23.3	+0.4	N23A	Red Feather La	2.91 190	⇑P
	baz=1.0							baz=2.9		
I25A	Rochford	1.13 76	⇓P	Pg	18 12 23.3	+0.4	N23A	Red Feather La	2.91 190	⇑P
	baz=1.0							baz=2.9		
H22A	Clearmont	1.16 317	⇑P	Pg	18 12 23.5	+0.1	F20A	Billings	2.91 316	P
	baz=1.2							baz=3.0,SNR=84		
H22A	Clearmont	1.16 317	⇑P	Pg	18 12 23.5	+0.1	F20A	Billings	2.91 316	P
	baz=1.2							baz=3.0,SNR=84		
K22A	Casper	1.45 221	P	Pn	18 12 27.9	-1.0	E21A	Keefer Ranch,	3.07 336	⇓P
	baz=1.5,SNR=148							baz=3.1,SNR=17		
K22A	Casper	1.45 221	P	Pn	18 12 27.9	-1.0	E21A	Keefer Ranch,	3.07 336	⇓P
	baz=1.5,SNR=148							baz=3.1,SNR=17		
G23A	Biddle	1.45 356	⇓P	Pn	18 12 28.6	-0.3	RLMT	Red Lodge	3.19 297	ePn
	baz=1.4						RLMT			eSn
G23A	Biddle	1.45 356	⇓P	Pn	18 12 28.6	-0.3	N26A	Koester Ranch,	3.29 152	⇓P
	baz=1.4							baz=3.3,SNR=13		
H25A	Fruitdale	1.47 53	P	Pg	18 12 29.7	+0.2	N26A	Koester Ranch,	3.29 152	⇓P
	baz=1.4,SNR=292							baz=3.3,SNR=13		
H25A	Fruitdale	1.47 53	P	Pg	18 12 29.7	+0.2	PDAR	Pinedale Array	3.30 254	Pn
	baz=1.4,SNR=292						PDAR			Lg
I21A	Big Trails, Te	1.48 273	⇓P	Pn	18 12 27.9	-1.5	PDAR	Pinedale Array	3.30 254	Pn
	baz=1.6,SNR=483							5.3nm,0.3s,baz=71,slow=16,SNR=74		
I21A	Big Trails, Te	1.48 273	⇓P	Pn	18 12 27.9	-1.5	PDAR			Pg
	baz=1.6,SNR=483							10nm,0.3s,baz=75,slow=17,SNR=78		
K25A	Mack Ranch, Ha	1.52 138	⇑Pb	Pb	18 12 30.5	-0.1	PDAR			Lg
	baz=1.5,SNR=50							13nm,0.3s,baz=69,slow=28,SNR=11		
K25A	Mack Ranch, Ha	1.52 138	⇑Pb	Pb	18 12 30.5	-0.1	BW06	Boulder Array	3.30 254	ePn
	baz=1.5,SNR=50						BW06			eSn
H21A	Big Horn, Sher	1.56 305	⇓Pb	Pn	18 12 30.4	0.0	H18A	Shoshone NF, C	3.31 288	⇓P
	baz=1.6,SNR=99							baz=3.4,SNR=20		
H21A	Big Horn, Sher	1.56 305	⇓Pb	Pn	18 12 30.4	0.0	H18A	Shoshone NF, C	3.31 288	⇓P
	baz=1.6,SNR=99							baz=3.4,SNR=20		
G22A	Birney	1.64 333	⇑Pb	Pn	18 12 32.1	+0.5	G28A	Parade	3.37 65	⇑P
	baz=1.7							baz=3.3,SNR=8.8		
G22A	Birney	1.64 333	⇑Pb	Pn	18 12 32.1	+0.5	G28A	Parade	3.37 65	⇑P
	baz=1.7							baz=3.3,SNR=8.8		
J21A	Lysite	1.65 256	P	Pn	18 12 30.9	-0.9	D23A	Lindsay	3.42 0	⇓P
	baz=1.7,SNR=221							baz=3.4,SNR=31		
J21A	Lysite	1.65 256	P	Pn	18 12 30.9	-0.9	D23A	Lindsay	3.42 0	⇓P
	baz=1.7,SNR=221							baz=3.4,SNR=31		
L23A	Garrett	1.67 192	⇑Pb	Pn	18 12 31.9	-0.2	D24A	Glendive	3.42 11	⇑P
	baz=1.7,SNR=1000							baz=3.4,SNR=29		
L23A			⇑S	Sn	18 12 54.8	+0.4	D24A	Glendive	3.42 11	⇑P
	baz=1.7							baz=3.4,SNR=29		
L23A	Garrett	1.67 192	⇑Pb	Pn	18 12 31.9	-0.2	E20A	Meyer Farm, Mu	3.42 324	⇑P
	baz=1.7,SNR=1000							baz=3.5,SNR=19		
L23A			⇑S	Sn	18 12 54.8	+0.4	E20A	Meyer Farm, Mu	3.42 324	⇑P
	baz=1.7							baz=3.5,SNR=19		
G24A	Alzada	1.68 20	⇓Pb	Pb	18 12 33.0	-0.2	D22A	Cohagen	3.46 349	⇑P
	baz=1.6,SNR=28							baz=3.5,SNR=21		
G24A	Alzada	1.68 20	⇓Pb	Pb	18 12 33.0	-0.2	D22A	Cohagen	3.46 349	⇑P
	baz=1.6,SNR=28							baz=3.5,SNR=21		
L24A	Wheatland	1.73 172	⇓Pb	Pn	18 12 33.0	+0.3	G18A	Lazy EL Ranch,	3.46 298	⇑P
	baz=1.7							baz=3.5,SNR=50		
L24A	Wheatland	1.73 172	⇓Pb	Pn	18 12 33.0	+0.3	G18A	Lazy EL Ranch,	3.46 298	⇑P
	baz=1.7							baz=3.5,SNR=50		
K26A	Motz Farm, Whi	1.84 124	⇓Pb	Pb	18 12 35.3	-0.7	D21A	La Casta Ranch	3.53 340	⇑P
	baz=1.8,SNR=194							baz=3.5,SNR=28		
K26A	Motz Farm, Whi	1.84 124	⇓Pb	Pb	18 12 35.3	-0.7	D21A	La Casta Ranch	3.53 340	⇑P
	baz=1.8,SNR=194							baz=3.5,SNR=28		
L25A	Engebretsen Ra	1.86 149	⇓Pb	Pb	18 12 36.2	0.0	N27A	Anderson Farm,	3.57 145	⇑P
	baz=1.8							baz=3.5,SNR=30		
L25A	Engebretsen Ra	1.86 149	⇓Pb	Pb	18 12 36.2	0.0	N27A	Anderson Farm,	3.57 145	⇑P
	baz=1.8							baz=3.5,SNR=30		
L22A	Ellis Ranch, M	1.93 207	Pb	Pn	18 12 36.3	+0.7	OGNE	Ogallala	3.68 139	ePn
	baz=2.0,SNR=87						OGNE	Ogallala	3.68 139	⇑P
L22A			Sb	Sb	18 13 02.2	-0.1		baz=3.6,SNR=20		
	baz=2.0						OGNE	Ogallala	3.68 139	⇑P
L22A	Ellis Ranch, M	1.93 207	Pb	Pn	18 12 36.3	+0.7		baz=3.6,SNR=20		
	baz=2.0,SNR=87						E19A	Rath Farm, Rou	3.69 318	P
L22A			Sb	Sb	18 13 02.2	-0.1		baz=3.7,SNR=24		
	baz=2.0						E19A	Rath Farm, Rou	3.69 318	P
F23A	Volborg	1.97 357	⇑P	Pn	18 12 36.7	+0.7		baz=3.7,SNR=24		
	baz=2.0						GCMT	Greycliff	3.75 304	ePn
F23A	Volborg	1.97 357	⇑P	Pn	18 12 36.7	+0.7	GCMT			eSn
	baz=2.0						LKWY	Lake	3.79 284	ePn
G21A	Lodge Grass	2.03 317	⇓P	Pn	18 12 37.3	+0.4	LKWY			ePg
	baz=2.1,SNR=93						LKWY			eSn
G21A	Lodge Grass	2.03 317	⇓P	Pn	18 12 37.3	+0.4	LKWY			eSg
	baz=2.1,SNR=93						O26A	Horse Wrangler	3.79 157	⇑P
I20A	Worland	2.09 276	Pb	Pn	18 12 38.4	+0.7		baz=3.8,SNR=12		
	baz=2.2,SNR=524						O26A	Horse Wrangler	3.79 157	⇑P
I20A	Worland	2.09 276	Pb	Pn	18 12 38.4	+0.7		baz=3.8,SNR=12		
	baz=2.2,SNR=524						C24A	Savage	3.82 8	⇓P
J20A	Shoshoni	2.10 260	⇓Pb	Pb	18 12 39.5	-0.9		baz=3.8,SNR=51		
	baz=2.2						C24A	Savage	3.82 8	⇓P
J20A			Sb	Sb	18 13 08.0	+0.9		baz=3.8,SNR=51		
	baz=2.2						F18A	Big Timber	3.84 306	⇑P
J20A	Shoshoni	2.10 260	⇓Pb	Pb	18 12 39.5	-0.9		baz=3.9,SNR=109		
	baz=2.2						F18A	Big Timber	3.84 306	⇑P
J20A			Sb	Sb	18 13 08.0	+0.9		baz=3.9,SNR=109		
	baz=2.2						LOHW	Long Hollow	3.89 270	ePn
H20A	Greybull	2.11 291	⇑P	Pn	18 12 37.9	-0.1	LOHW			ePg
	baz=2.2,SNR=72						LOHW			eSn
H20A	Greybull	2.11 291	⇑P	Pn	18 12 37.9	-0.1	ISCO	Idaho Springs	3.96 184	ePn
	baz=2.2,SNR=72						ISCO			ePg
F22A	Rosebud	2.15 341	⇑P	Pn	18 12 38.9	+0.5	ISCO			eSn
	baz=2.2						MOOW	Moose Ponds	3.98 272	ePn
F22A	Rosebud	2.15 341	⇑P	Pn	18 12 38.9	+0.5	MOOW			ePg
	baz=2.2						MOOW			eSn
M24A	Cheyenne	2.31 172	⇑Pb	Pb	18 12 44.1	+0.2	SNOW	Snow King Moun	4.01 268	ePn
	baz=2.3						SNOW			eSg
M24A			Sb	Sg	18 13 14.8	-0.6	C23A	Lambert	4.05 1	⇓P
	baz=2.3							baz=4.0,SNR=79		
M24A	Cheyenne	2.31 172	⇑Pb	Pb	18 12 44.1	+0.2	C23A	Lambert	4.05 1	⇓P
	baz=2.3							baz=4.0,SNR=79		
M24A			Sb	Sg	18 13 14.8	-0.6	YFT	Old Faithful	4.08 282	ePn
	baz=2.3						YFT			eSn
L21A	Rawlins	2.37 222	⇑P	Pn	18 12 42.5	+0.8	O27A	Beecher Island	4.12 149	⇓P
	baz=2.4							baz=4.1,SNR=33		
L21A	Rawlins	2.37 222	⇑P	Pn	18 12 42.5	+0.8	O27A	Beecher Island	4.12 149	⇓P
	baz=2.4							baz=4.1,SNR=33		
K27A	Flueckinger Fa	2.44 114	⇑P	Pn	18 12 43.7	+1.2	IMW	Indian Meadow	4.12 274	ePn
	baz=2.4,SNR=64						IMW			ePg
K27A	Flueckinger Fa	2.44 114	⇑P	Pn	18 12 43.7	+1.2	IMW			eSn
	baz=2.4,SNR=64						IMW			eSg
F21A	Absaloka Mine,	2.46 328	⇑P	Pn	18 12 42.9	+0.1	TPAW	Teton Pass	4.15 268	ePn
	baz=2.5,SNR=24						G17A	Pierce Place,	4.23 294	⇓P
F21A	Absaloka Mine,	2.46 328	⇑P	Pn	18 12 42.9	+0.1		baz=4.3,SNR=11		
	baz=2.5,SNR=24						G17A	Pierce Place,	4.23 294	⇓P
M25A	Palm-Egli Farm	2.48 159	⇓P	Pn	18 12 44.8	+1.7		baz=4.3,SNR=11		
	baz=2.5						C21A	Desert Coulee	4.27 343	⇑P
M25A	Palm-Egli Farm	2.48 159	⇓P	Pn	18 12 44.8	+1.7		baz=4.3,SNR=20		
	baz=2.5						C21A	Desert Coulee	4.27 343	⇑P
K20A	Yellowstone Ra	2.51 245	⇑P	Pn	18 12 44.6	+1.0		baz=4.3,SNR=20		
	baz=2.6						E18A	Harlowton	4.33 312	⇓P
K20A	Yellowstone Ra	2.51 245	⇑P	Pn	18 12 44.6	+1.0		baz=4.4,SNR=23		
	baz=2.6						E18A	Harlowton	4.33 312	⇓P
M22A	Cedar Creek Ra	2.55 203	⇑P	Pn	18 12 45.7	+1.5		baz=4.4,SNR=23		
	baz=2.6						C20A	Veseth Ranch,	4.40 335	⇓P
M22A	Cedar Creek Ra	2.55 203	⇑P	Pn	18 12 45.7	+1.5		baz=4.4,SNR=17		
	baz=2.6						C20A	Veseth Ranch,	4.40 335	⇓P
G20A	Bridger	2.58 306	P	Pn	18 12 44.3	-0.2		baz=4.4,SNR=17		
	baz=2.6,SNR=526						RRI2	Red Ridge	4.43 267	ePn
G20A	Bridger	2.58 306	P	Pn	18 12 44.3	-0.2	RRI2			ePg
	baz=2.6,SNR=526						B22A	Reddig Ranch S	4.58 354	⇓P
M21A	Separation Pea	2.65 217	⇑P	Pn	18 12 47.2	+1.6		baz=4.6,SNR=23		
	baz=2.7						B22A	Reddig Ranch S	4.58 354	⇓P
M21A	Separation Pea	2.65 217	⇑P	Pn	18 12 47.2	+1.6		baz=4.6,SNR=23		
	baz=2.7						BRSD	Miller	4.58 79	P
I19A	Meeteetse	2.72 277	⇑P	Pn	18 12 47.4	+0.9		baz=4.5,SNR=10.0		
	baz=2.8						BRSD	Miller	4.58 79	P
I19A	Meeteetse	2.72 277	⇑P	Pn	18 12 47.4	+0.9		baz=4.5,SNR=10.0		
	baz=2.8									

E22A	Miles City	2.73 350	P	Pn	18 12 46.4	0.0	P27A	Ficken Ranch,	4.65 154	⇓P
	baz=2.7,SNR=20							baz=4.6,SNR=56		
E22A	Miles City	2.73 350	P	Pn	18 12 46.4	0.0	P27A	Ficken Ranch,	4.65 154	⇓P
	baz=2.7,SNR=20							baz=4.6,SNR=56		
E23A	Ismay	2.74 359	⇓P	Pn	18 12 47.1	+0.5	B23A	Brockton	4.71 2	⇓P
	baz=2.7							baz=4.7,SNR=20		
E23A	Ismay	2.74 359	⇓P	Pn	18 12 47.1	+0.5	B23A	Brockton	4.71 2	⇓P
	baz=2.7							baz=4.7,SNR=20		
J19A	Crowheart	2.81 261	⇓P	Pn	18 12 49.3	+1.6	SMCO	Snowmass	4.75 196	ePn
	baz=2.9						DGMT	Dagmar	4.77 8	ePn
J19A	Crowheart	2.81 261	⇓P	Pn	18 12 49.3	+1.6	DGMT			ePg
	baz=2.9						DGMT	Dagmar	4.77 8	⇑P
H19A	Powell	2.84 290	⇓P	Pn	18 12 48.6	+0.6		baz=4.7,SNR=37		
	baz=2.9,SNR=49						DGMT	Dagmar	4.77 8	⇑P
H19A	Powell	2.84 290	⇓P	Pn	18 12 48.6	+0.6		baz=4.7,SNR=37		
	baz=2.9,SNR=49						E17A	Martinsdale	4.80 306	⇓P
L20A	Wamsutter	2.87 233	⇑P	Pn	18 12 50.3	+1.8		baz=4.9,SNR=31		
	baz=2.9						E17A	Martinsdale	4.80 306	⇓P
L20A	Wamsutter	2.87 233	⇑P	Pn	18 12 50.3	+1.8		baz=4.9,SNR=31		
	baz=2.9						BOZ	Bozeman (W)	4.93 295	ePn
E24A	Baker	2.88 13	⇑P	Pn	18 12 49.9	+1.4		7.9nm,0.3s		
	baz=2.9,SNR=41						BOZ			ePg
E24A	Baker	2.88 13	⇑P	Pn	18 12 49.9	+1.4	P28A	Saint Francis	4.93 147	⇓P
	baz=2.9,SNR=41							baz=4.9,SNR=20		
N23A	Red Feather La	2.91 190	⇑P	Pn	18 12 50.4	+1.3	P28A	Saint Francis	4.93 147	⇓P
	baz=2.9							baz=4.9,SNR=20		
N23A	Red Feather La	2.91 190	⇑P	Pn	18 12 50.4	+1.3	B20A	Solberg Farm,	5.07 339	⇓P
	baz=2.9							baz=5.1,SNR=19		
F20A	Billings	2.91 316	P	Pn	18 12 48.9	0.0	B20A	Solberg Farm,	5.07 339	⇓P
	baz=3.0,SNR=84							baz=5.1,SNR=19		
F20A	Billings	2.91 316	P	Pn	18 12 48.9	0.0	D17A	Six Diamond Ra	5.12 313	⇓P
	baz=3.0,SNR=84							baz=5.2,SNR=54		
E21A	Keefer Ranch,	3.07 336	⇓P	Pn	18 12 50.6	-0.6	D17A	Six Diamond Ra	5.12 313	⇓P
	baz=3.1,SNR=17							baz=5.2,SNR=54		
E21A	Keefer Ranch,	3.07 336	⇓P	Pn	18 12 50.6	-0.6	HWUT	Hardware Ranch	5.13 247	ePn
	baz=3.1,SNR=17							8.0nm,0.3s		
RLMT	Red Lodge	3.19 297	ePn	Pn	18 12 52.6	-0.3	KSCO	Kaye Shedlock'	5.13 157	⇓P
RLMT			eSn	Sn	18 13 33.2	+1.5		baz=5.1,SNR=9.4		
N26A	Koester Ranch,	3.29 152	⇓P	Pn	18 12 55.1	+1.0	KSCO	Kaye Shedlock'	5.13 157	⇓P
	baz=3.3,SNR=13							baz=5.1,SNR=9.4		
N26A	Koester Ranch,	3.29 152	⇓P	Pn	18 12 55.1	+1.0	A24A	Westby	5.24 9	P
	baz=3.3,SNR=13							baz=5.2,SNR=18		
PDAR	Pinedale Array	3.30 254	Pn	Pn	18 12 55.3	+0.9	A24A	Westby	5.24 9	P
PDAR			Lg	Lg	18 13 40.6			baz=5.2,SNR=18		
PDAR	Pinedale Array	3.30 254	Pn	Pn	18 12 55.3	+0.9	EGMT	Eagleton	5.30 325	ePn
	5.3nm,0.3s,baz=71,slow=16,SNR=74							19nm,0.4s		
PDAR			Pg	Pb	18 12 59.2	-1.6	E16A	East Helena	5.33 304	⇑P
	10nm,0.3s,baz=75,slow=17,SNR=78							baz=5.4,SNR=12		
PDAR			Lg	Lg	18 13 40.6		E16A	East Helena	5.33 304	⇑P
	13nm,0.3s,baz=69,slow=28,SNR=11							baz=5.4,SNR=12		
BW06	Boulder Array	3.30 254	ePn	Pn	18 12 55.4	+0.9	Q28A	Sharon Springs	5.35 150	⇓P
BW06			eSn	Sn	18 13 36.2	+1.7		baz=5.3,SNR=7.3		
H18A	Shoshone NF, C	3.31 288	⇓P	Pn	18 12 54.5	0.0	Q28A	Sharon Springs	5.35 150	⇓P
	baz=3.4,SNR=20							baz=5.3,SNR=7.3		
H18A	Shoshone NF, C	3.31 288	⇓P	Pn	18 12 54.5	0.0	DLMT	Dillon	5.49 290	ePn
	baz=3.4,SNR=20							4.9nm,0.3s		
G28A	Parade	3.37 65	⇑P	Pn	18 12 56.6	+1.3	D16A	Dana Ranch, Ca	5.51 309	⇓P
	baz=3.3,SNR=8.8							baz=5.6,SNR=22		
G28A	Parade	3.37 65	⇑P	Pn	18 12 56.6	+1.3	D16A	Dana Ranch, Ca	5.51 309	⇓P
	baz=3.3,SNR=8.8							baz=5.6,SNR=22		
D23A	Lindsay	3.42 0	⇓P	Pn	18 12 57.1	+1.1	LRM	Limekiln Ridge	5.53 294	ePn
	baz=3.4,SNR=31							27nm,0.4s		
D23A	Lindsay	3.42 0	⇓P	Pn	18 12 57.1	+1.1	MCMT	McKenzie Canyo	5.56 284	ePn
	baz=3.4,SNR=31							2.4nm,0.4s		
D24A	Glendive	3.42 11	⇑P	Pn	18 12 57.5	+1.5	R26A	Arlington	5.62 165	⇓P
	baz=3.4,SNR=29							baz=5.6,SNR=26		
D24A	Glendive	3.42 11	⇑P	Pn	18 12 57.5	+1.5	R26A	Arlington	5.62 165	⇓P
	baz=3.4,SNR=29							baz=5.6,SNR=26		
E20A	Meyer Farm, Mu	3.42 324	⇑P	Pn	18 12 55.2	-0.7	R25A	Fountain Ranch	5.65 172	⇑P
	baz=3.5,SNR=19							baz=5.7,SNR=6.6		
E20A	Meyer Farm, Mu	3.42 324	⇑P	Pn	18 12 55.2	-0.7	R25A	Fountain Ranch	5.65 172	⇑P
	baz=3.5,SNR=19							baz=5.7,SNR=6.6		
D22A	Cohagen	3.46 349	⇑P	Pn	18 12 57.0	+0.5	MDND	Maddock	5.69 42	P
	baz=3.5,SNR=21							baz=5.8,SNR=9.6		
D22A	Cohagen	3.46 349	⇑P	Pn	18 12 57.0	+0.5	MDND	Maddock	5.69 42	P
	baz=3.5,SNR=21							baz=5.6,SNR=9.6		
G18A	Lazy EL Ranch,	3.46 298	⇑P	Pn	18 12 57.0	+0.4	A19A	Klindworth Far	5.71 336	P
	baz=3.5,SNR=50							baz=5.7,SNR=10		
G18A	Lazy EL Ranch,	3.46 298	⇑P	Pn	18 12 57.0	+0.4	A19A	Klindworth Far	5.71 336	P
	baz=3.5,SNR=50							baz=5.7,SNR=10		
D21A	La Casta Ranch	3.53 340	⇑P	Pn	18 12 57.7	+0.2	HVU	Hansel Valley	5.88 253	ePn
	baz=3.5,SNR=28							5.7nm,0.4s		
D21A	La Casta Ranch	3.53 340	⇑P	Pn	18 12 57.7	+0.2	B17A	L&G Farms, Che	5.96 322	⇑P
	baz=3.5,SNR=28							baz=6.0,SNR=7.5		
N27A	Anderson Farm,	3.57 145	⇑P	Pn	18 12 59.2	+1.2	B17A	L&G Farms, Che	5.96 322	⇑P
	baz=3.5,SNR=30							baz=6.0,SNR=7.5		
N27A	Anderson Farm,	3.57 145	⇑P	Pn	18 12 59.2	+1.2	R28A	Tribune	6.00 153	⇑P
	baz=3.5,SNR=30							baz=6.0,SNR=9.4		
OGNE	Ogallala	3.68 139	ePn	Pn	18 12 57.7	-1.9	R28A	Tribune	6.00 153	⇑P
OGNE	Ogallala	3.68 139	⇑P	Pn	18 13 00.6	+1.0		baz=6.0,SNR=9.4		
	baz=3.6,SNR=20						PV04	Paradox Valley	6.03 209	ePn
OGNE	Ogallala	3.68 139	⇑P	Pn	18 13 00.6	+1.0	C16A	Fuhringer Ranc	6.08 314	⇓P
	baz=3.6,SNR=20							baz=6.1,SNR=10		
E19A	Rath Farm, Rou	3.69 318	P	Pn	18 12 59.5	-0.2	C16A	Fuhringer Ranc	6.08 314	⇓P
	baz=3.7,SNR=24							baz=6.1,SNR=10		
E19A	Rath Farm, Rou	3.69 318	P	Pn	18 12 59.5	-0.2	SRU	San Rafael	6.10 222	ePn
	baz=3.7,SNR=24							15nm,0.3s		
GCMT	Greycliff	3.75 304	ePn	Pn	18 13 00.6	+0.1	S25A	Robets Cordova	6.12 174	⇑P
GCMT			eSn	Sn	18 13 45.4	-0.1		baz=6.1,SNR=12		
LKWY	Lake	3.79 284	ePn	Pn	18 13 01.8	+0.6	S25A	Robets Cordova	6.12 174	⇑P
LKWY			ePg	Pg	18 13 15.1	+1.0		baz=6.1,SNR=12		
LKWY			eSn	Sn	18 13 47.9	+1.2	ECSD	EROS Data Cent	6.25 87	ePn
LKWY			eSg	Sg	18 14 05.2	+2.0		12nm,0.3s		
O26A	Horse Wrangler	3.79 157	⇑P	Pn	18 13 02.1	+1.0	S26A	Kim	6.27 167	⇑P
	baz=3.8,SNR=12							baz=6.3,SNR=12		
O26A	Horse Wrangler	3.79 157	⇑P	Pn	18 13 02.1	+1.0	S26A	Kim	6.27 167	⇑P
	baz=3.8,SNR=12							baz=6.3,SNR=12		
C24A	Savage	3.82 8	⇓P	Pn	18 13 02.9	+1.5	TMUT	Trail Mountain	6.31 227	ePn
	baz=3.8,SNR=51							11nm,0.4s		
C24A	Savage	3.82 8	⇓P	Pn	18 13 02.9	+1.5	CHMT	Chamberlain Mo	6.46 302	ePn
	baz=3.8,SNR=51							2.0nm,0.3s		
F18A	Big Timber	3.84 306	⇑P	Pn	18 13 02.2	+0.5	B16A	M & M Farms, S	6.47 318	⇑P
	baz=3.9,SNR=109							baz=6.5,SNR=5.8		
F18A	Big Timber	3.84 306	⇑P	Pn	18 13 02.2	+0.5	B16A	M & M Farms, S	6.47 318	⇑P
	baz=3.9,SNR=109							baz=6.5,SNR=5.8		
LOHW	Long Hollow	3.89 270	ePn	Pn	18 13 03.0	+0.5	C15A	Salmond Ranch,	6.53 311	⇑P
LOHW			ePg	Pg	18 13 16.9	+1.1		baz=6.6,SNR=7.3		
LOHW			eSn	Sn	18 13 48.8	-0.2	C15A	Salmond Ranch,	6.53 311	⇑P
ISCO	Idaho Springs	3.96 184	ePn	Pn	18 13 03.3	-0.4		baz=6.6,SNR=7.3		
ISCO			ePg	Pg	18 13 17.1	-0.1	S28A	Manter	6.66 156	⇓P
ISCO			eSn	Sn	18 13 51.0	0.0		baz=6.6,SNR=5.2		
MOOW	Moose Ponds	3.98 272	ePn	Pn	18 13 03.4	-0.4	S28A	Manter	6.66 156	⇓P
MOOW			ePg	Pg	18 13 18.2	+0.6		baz=6.6,SNR=5.2		
MOOW			eSn	Sn	18 13 52.2	+0.9	DUG	Dugway	6.67 240	ePn
SNOW	Snow King Moun	4.01 268	ePn	Pn	18 13 04.4	+0.1		4.3nm,0.4s		
SNOW			eSg	Sg	18 14 12.5	+2.4	D14A	Greenough	6.70 303	⇓P
C23A	Lambert	4.05 1	⇓P	Pn	18 13 06.1	+1.6		baz=6.7,SNR=15		
	baz=4.0,SNR=79						D14A	Greenough	6.70

*NNC **03** 18:26:42.3±5.8, 38.49N×71.14E, h0km, mb3.8, mpv3.1, Error ellipse: s-maj=60.4km s-min=40.3km az=97.0*

ISC 03 18:26:30.6±1.2, 37.6N±0.1×71.5E±0.3, h109km, n9, σ2§84/10, 2C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.58**	**353**	Pn	**Pn**	**18 27 53.9**	**+2.8**
	0.9nm,0.2s,baz=143,slow=10,SNR=122						
KK31				⇑Sn	**Sn**	**18 28 49.5**	**-4.4**
	16nm,0.4s,baz=160,slow=26,SNR=49						
THN	**Thein Dam**	**6.20**	**144**	*eP*	Pn	18 28 05.1	+5.4
THN				*e*4	**Sn**	**18 29 07.5**	**-1.7**
DLH	**Dalhousie**	**6.23**	**142**	*eP*	Pn	18 28 10.0	+10
DLH				*eS*	**Sn**	**18 29 13.0**	**+2.7**
KALG	**Kalgarh**	**10.09**	**141**	*e*4	x	18 30 16.6	
AYAN	**Aya Nagar**	**10.23**	**151**	*eS*	**Sn**	**18 30 45.8**	**-1.4**
AYAN				AML	AML	18 31 03.8	
	comp=Z,19nm,0.1s						
KUDL	**Kundal**	**10.31**	**154**	*eP*	Pn	18 29 01.0	+5.6
KUDL				*eS*	**Sn**	**18 30 47.2**	**-1.7**
KUDL				AML	AML	18 30 51.6	
	comp=E,7.6nm,0.3s						
KUDL				AML	AML	18 30 52.3	
	comp=N,4.5nm,0.2s						
AGRA	**Agra**	**11.67**	**150**	*eS*	**Sn**	**18 31 19.8**	**-2.2**
AGRA				AML	AML	18 32 12.9	
	comp=N,65nm,0.5s						
AGRA				AML	AML	18 32 15.1	
	comp=E,48nm,0.2s						
AB31	**Akbulak array**	**14.35**	**328**	⇓Pn	**P**	**18 29 54.2**	**+2.0**
	comp=E,0.5nm,0.4s,baz=139,slow=12,SNR=19						
AB31				⇑Sn	**Sn**	**18 32 24.4**	**-2.1**
	comp=E,1.3nm,0.6s,baz=131,slow=24,SNR=9.1						
AKTO	**Aktyubinsk**	**16.05**	**328**	⇓Pn	P	18 30 17.1	+5.9
	comp=E,2.5nm,0.5s						
AKTO				⇓Sn	**Sn**	**18 33 06.5**	**-1.2**
	comp=E,2.0nm,0.7s						

IDC 03 18:41:18.4±2.1, 1°41N×126°22E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.2/20, mbtmp3.2/3, Error ellipse: s-maj=191.2km s-min=25.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.67**	**160**	P	P	18 46 20.7	-0.9
	0.6nm,0.5s,baz=338,slow=10,SNR=8.8						
ASAR	**Alice Springs**	**26.02**	**164**	P	P	18 46 54.0	+0.6
	0.1nm,0.5s,baz=334,slow=8.2,SNR=4.7						
MKAR	**Makanchi Array**	**59.17**	**326**	P	P	18 51 21.3	0.0
	0.1nm,0.5s,baz=118,slow=8.4,SNR=2.4						

IDC 03 18:48:39.4±1.1, 7°04S×156°09E, h55km±5km, mb3.9/10, mb1 4.0/10, mb1mx3.8/19, mbtmp3.9/10, MS3.4/6, Ms1 3.5/6, ms1mx3.2/25, Error ellipse: s-maj=36.4km s-min=18.0km az=88.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.50**	**122**	P	Pn	18 49 51.4	+6.4
	5.0nm,0.3s,baz=341,slow=4.6,SNR=6.5						
HNR				S	Sn	18 50 42.8	+6.8
	6.8nm,0.3s,baz=307,slow=20,SNR=3.9						
HNR				LR	LR	18 51 31.7	
	comp=Z,212nm,20.1s,baz=277,slow=38						
PMG	**Port Moresby**	**9.15**	**255**	P	Pn	18 50 54.9	+6.2
	5.1nm,0.3s,baz=61,slow=8.9,SNR=19						
PMG				S	Sn	18 52 36.1	+5.7
	1.6nm,0.3s,baz=352,slow=18,SNR=4.6						
PMG				LR	LR	18 54 19.3	
	comp=Z,211nm,19.2s,baz=45,slow=37						
CTA	**Charters Tower**	**16.10**	**215**	P	P	18 52 26.5	+1.8
	0.3nm,0.3s,baz=49,slow=16,SNR=3.1						
WRA	**Warramunga Arr**	**24.69**	**237**	P	P	18 53 55.5	+0.1
	7.0nm,0.7s,baz=60,slow=9.7,SNR=38						
ASAR	**Alice Springs**			P	P	18 54 15.3	-0.7
	0.4nm,0.3s,baz=60,slow=9.8,SNR=24						
ASAR				PcP	PcP	18 57 37.0	+0.1
	1.0nm,1.0s,baz=85,slow=3.0,SNR=4.4						
ASAR				pPcP		18 57 51.3	
	0.3nm,0.6s,baz=64,slow=2.4,SNR=5.4						
STKA	**Stephens Creek**	**28.17**	**207**	pP	pP	18 54 41.2	+0.7
	1.8nm,0.5s,baz=45,slow=9.0,SNR=2.1						
STKA				LR	LR	19 05 11.3	
	comp=Z,139nm,18.1s,baz=28,slow=35						
KSRS	**Korea Array**	**51.49**	**331**	P	P	18 57 40.0	+0.6
	0.7nm,0.6s,baz=156,slow=8.2,SNR=6.5						
KSRS				LR	LR	19 16 16.3	
	comp=Z,30nm,18.4s,baz=160,slow=32						
PETK	**Petropavlovsk-**	**59.93**	**1**	LR	LR	19 20 36.7	
	comp=Z,32nm,21.4s,baz=286,slow=32						
CMAR	**Chiang Mai Arr**	**61.79**	**295**	P	P	18 58 53.2	+0.3
	2.5nm,0.9s,baz=117,slow=4.7,SNR=12						
CMAR				pP	pP	18 59 08.7	+0.7
	1.6nm,0.9s,baz=113,slow=5.6,SNR=5.8						
SONM	**Songino Array**	**69.97**	**327**	P	P	18 59 46.0	+0.9
	1.7nm,0.6s,baz=144,slow=6.5,SNR=12						
SONM				pP	pP	19 00 00.5	+0.1
	1.2nm,0.7s,baz=158,slow=6.0,SNR=4.4						
QSPA	**South Pole Qui**	**82.94**	**180**	P	P	19 00 58.6	+0.3
	1.7nm,0.6s,baz=12,slow=3.8						
QSPA				pP	pP	19 01 14.9	+1.0
	1.9nm,0.5s,baz=312,slow=3.5,SNR=3.7						
ILAR	**Eielson Array**	**83.02**	**21**	LR	LR	19 32 24.0	
	comp=Z,39nm,19.4s,baz=174,slow=32						
MKAR	**Makanchi Array**	**84.16**	**318**	P	P	19 01 04.9	+0.2
	2.0nm,0.8s,baz=98,slow=5.7,SNR=20						
MKAR				pP	pP	19 01 20.1	-0.4
	1.8nm,0.7s,baz=99,slow=5.5,SNR=8.7						
MAW	**Mawson**	**84.77**	**203**	P	P	19 01 07.5	+0.2
	2.3nm,0.9s,baz=71,slow=4.4,SNR=4.1						
ZALV	**Zalesovo Beam**	**84.83**	**326**	P	P	19 01 07.0	-0.8
	1.0nm,0.4s,baz=110,slow=5.1,SNR=6.6						
ZALV				pP	pP	19 01 23.4	-0.2
	0.8nm,0.4s,baz=114,slow=6.6,SNR=2.9						
KURBB	**Kurchatov Arra**	**87.57**	**321**	P	P	19 01 20.5	-1.0
	0.5nm,0.5s,baz=96,slow=5.2,SNR=12						
KURBB				pP	pP	19 01 36.0	-1.3
	0.2nm,0.4s,baz=94,slow=5.4,SNR=2.2						
TORD	**Torodi Ar. Bea**	**154.09**	**286**	PKPbc	PKPbc	19 08 32.9	-1.2
	1.4nm,1.1s,baz=39,slow=3.1,SNR=4.2						
TORD				PKPab	PKPab	19 08 47.7	0.0
	0.9nm,0.7s,baz=32,slow=2.7,SNR=4.7						

*NNC **03** 18:50:13.2±1.7, 39.42N×74.03E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=14.4km s-min=8.4km az=5.0*
*IDC **03** 18:50:17.4±1.0, 39.37N×73.72E, h0km, mb3.6/4, mb1 3.6/9, mb1mx3.4/31, mbtmp3.5/9, ML3.2/6, MS2.6/1, Ms1 2.6/1, ms1mx1.9/33, Error ellipse: s-maj=21.0km s-min=15.7km az=97.0*

ISC 03 18:50:21.0±1.2, 39.65N±0.10×74.00E±0.07, h28km, n27, σ1§60/28, mb3.7/4, 5C-5D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**2.49**	**355**	P	**Pn**	**18 51 02.1**	**+2.0**
	SNR=47						
KZA	**Kyzart**	**2.61**	**21**	P	**Pb**	**18 51 07.6**	**+0.2**
	SNR=87						
UCH	**Uchtor**	**2.61**	**8**	P	**Pb**	**18 51 08.6**	**+1.3**
	SNR=9.6						
AAK	**Ala-Archa**	**3.01**	**7**	P	**Pb**	**18 51 13.3**	**-0.7**
	SNR=28						
AAK	**Ala-Archa**	**3.01**	**7**	Pn	**Pb**	**18 51 13.0**	**-1.0**
	12nm,0.3s,baz=157,slow=7.3,SNR=46						
AAK				Pg	Pn	18 51 15.0	+8.0
	12nm,0.3s,baz=176,slow=8.9,SNR=46						
AAK				Lg	Lg	18 51 59.6	
	7.6nm,0.3s,baz=310,slow=19,SNR=10						
EKS2	**Erkin-Say**	**3.02**	**357**	P	**Pb**	**18 51 15.1**	**+1.0**
	SNR=20						
KBK	**Karagaybulak**	**3.09**	**13**	P	**Pb**	**18 51 15.1**	**-0.4**
	SNR=13						
ULHL	**Ulahol**	**3.10**	**32**	P	**Pb**	**18 51 15.6**	**0.0**
	SNR=34						
CHMS	**Chumysh**	**3.40**	**9**	P	**Pb**	**18 51 18.4**	**-2.1**
	SNR=13						
TKM2	**Tokmak 2**	**3.49**	**20**	⇓Pg	**Pb**	**18 51 20.0**	**-2.2**
	14nm,0.9s						
TKM2				⇓Lg	Lg	18 52 11.1	
	11nm,0.4s						
TKM2	**Tokmak 2**	**3.49**	**20**	P	**Pb**	**18 51 20.3**	**-1.8**
	SNR=10						
USP	**Ospenovka**	**3.64**	**6**	P	**Pb**	**18 51 23.6**	**-1.1**
	SNR=6.8						
KK31	**Karatay Array**	**4.34**	**324**	Pn	**Pn**	**18 51 23.1**	**-2.0**
	2.5nm,0.3s,baz=140,slow=16,SNR=179						
KK31				⇓Pg	**Pb**	**18 51 35.8**	**-0.7**
	2.6nm,0.3s,baz=150,slow=17,SNR=4.3						
KK31				⇓Sn	**Sn**	**18 52 18.6**	**+3.9**
	3.0nm,0.3s						
KK31				⇓Lg	Lg	18 52 35.7	
	9.8nm,0.5s,baz=144,slow=28,SNR=4.9						
MK31	**Makanchi Array**	**9.36**	**38**	⇑Pn	**Pn**	**18 52 32.4**	**-1.7**
	0.6nm,0.7s,baz=223,slow=14,SNR=5.6						
MKAR	**Makanchi Array**	**9.36**	**38**	Pn	Pn	18 52 39.6	+5.6
	0.0nm,0.3s,baz=243,slow=40,SNR=2.0						
MKAR				Lg	Lg	18 55 12.8	
	0.2nm,0.3s,baz=189,slow=24,SNR=6.1						
KURBB	**Kurchatov Arra**	**11.43**	**15**	Pn	Pn	18 53 07.0	+4.7
	0.0nm,0.3s,baz=205,slow=11,SNR=5.2						
KURBB				Lg	Lg	18 56 22.4	
	0.0nm,0.3s,baz=209,slow=33,SNR=4.6						
BVA0	**Borovoye Array**	**13.61**	**351**	⇑Pn	**Pn**	**18 53 31.1**	**-0.9**
	1.0nm,0.5s,baz=167,slow=14,SNR=10						
BVAR	**Borovoye Array**	**13.61**	**351**	Pn	**Pn**	**18 53 32.2**	**+0.2**
	0.2nm,0.3s,baz=178,slow=14,SNR=7.4						
BRVK	**Borovoye**	**13.65**	**350**	⇑Pn	**Pn**	**18 53 31.2**	**-1.4**
	4.7nm,0.7s						
AB31	**Akbulak array**	**13.87**	**318**	Pn	**Pn**	**18 53 33.0**	**-2.7**
	0.6nm,0.6s,baz=125,slow=13,SNR=18						
AB31				⇑Sn	**Sn**	**18 56 07.8**	**-0.8**
	0.2nm,0.3s						
AKTO	**Aktyubinsk**	**15.58**	**319**	⇑Pn	**Pn**	**18 53 56.8**	**-1.8**
	1.9nm,0.8s						
AKTO	**Aktyubinsk**	**15.58**	**319**	Pn	**Pn**	**18 53 57.8**	**-0.8**
	0.1nm,0.3s,baz=122,slow=13,SNR=7.0						
ZALV	**Zalesovo Beam**	**16.08**	**24**	Pn	**P**	**18 54 08.2**	**+0.1**
	0.2nm,0.3s,baz=197,slow=15,SNR=3.6						
ZALV				LR	LR	19 00 35.0	
	comp=Z,20nm,19.6s,baz=71,slow=38						
FINES	**FINESS Array B**	**36.30**	**323**	P	**P**	**18 57 23.2**	**+1.5**
	0.9nm,0.6s,baz=120,slow=11,SNR=4.4						
TORD	**Torodi Ar. Bea**	**68.14**	**269**	P	**P**	**19 01 18.0**	**-0.9**
	0.2nm,0.4s,baz=35,slow=5.6,SNR=3.1						
WRA	**Warramunga Arr**	**81.72**	**124**	P	**P**	**19 02 38.1**	**+1.0**
	0.3nm,0.4s,baz=324,slow=4.8,SNR=8.2						
ASAR	**Alice Springs**	**84.19**	**127**	P	**P**	**19 02 50.9**	**+1.0**
	0.6nm,1.1s,baz=318,slow=4.8,SNR=3.4						

*ISCJB **03** 19:01:14.1±0.4, 49.66S±0.08×8.2W±0.1, h10km, mb4.5/18, MS4.2/19, Error ellipse: s-maj=12.6km s-min=10.9km az=163.6*
*IDC **03** 19:01:14.3±0.5, 49.66S×8.12W, h0km, mb4.3/15, mb1 4.4/15, mb1mx4.2/23, mbtmp4.3/15, MS4.2/19, Ms1 4.2/19, ms1mx4.1/25, Error ellipse: s-maj=16.5km s-min=15.4km az=81.0*
*NEIC **03** 19:01:15.8±0.2, 49.65S×8.13W, h10km, mb4.9/8, Error ellipse: s-maj=7.9km s-min=7.1km az=73.0*
*GCMT **03** 19:01:16.4±0.3, 49.91S×7.67W, h12km±1km, MW4.9, Moment Tensor Solution. s21,c29; s73,c87; Moment tensor: Scale 10^16 Nm; Mrr-2.52±.17; Mθθ 0.52±.12; Mφφ 2.00±.12; Mrθ-0.69±.43; Mθφ-0.34±.09; Mφr-0.62±.29; Best double couple: Mo 2.40000×10^16 NP1:φ 156.00000°, δ 41.00000°, λ -111.00000°. NP2:φ 3.00000°, δ 53.00000°, λ -73.00000°. Principal axes: T 2.1200, Plg 6.0000°, Azm 80.0000°; N 0.6400, Plg 14.0000°, Azm 172.0000°; P -2.7700, Plg 75.0000°, Azm 327.0000°; Data Used: II IU IC G CN.*

ISC 03 19:01:15.8±0.4, 49.66S±0.09×8.2W±0.1, h10km, n72, σ0§54/58, mb4.5/18, MS4.2/19, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**22.22**	**176**	*eP*	**P**	**19 06 12.1**	**0.0**
	106nm,1.5s						
SNAA	**Sanae**	**22.22**	**176**	P	**P**	**19 06 12.1**	**0.0**
	7.5nm,1.0s,baz=359,slow=10,SNR=31						
SNAA				LR	LR	19 12 59.1	
	comp=Z,66nm,18.2s,baz=351,slow=32						
SUR	**Sutherland**	**27.60**	**62**	LR	LR	19 15 07.6	
	comp=Z,807nm,19.8s,baz=218,slow=30						
PMSA	**Palmer Station**	**32.56**	**221**	LR	LR	19 18 34.8	
	comp=Z,402nm,21.8s,baz=233,slow=32						
BOSA	**Boshof**	**32.96**	**63**	LR	LR	19 18 41.4	
	comp=Z,1μm,18.4s,baz=196,slow=32						
LBTB	**Lobatse**	**35.91**	**59**	*eP*	**P**	**19 08 15.5**	**-0.8**
LBTB	**Lobatse**	**35.91**	**59**	P	**P**	**19 08 16.3**	**0.0**
	5.5nm,1.0s,baz=206,slow=10,SNR=4.7						
TSUM	**Tsumeb**	**36.70**	**43**	*eP*	**P**	**19 08 22.8**	**-0.3**
	7.9nm,1.3s						
TSUM	**Tsumeb**	**36.70**	**43**	P	**P**	**19 08 22.8**	**-0.3**
	5.9nm,1.0s,baz=201,slow=7.9,SNR=4.9						
MAW	**Mawson**	**38.46**	**144**	P	**P**	**19 08 37.5**	**+0.3**
MAW	**Mawson**	**38.46**	**144**	P	**P**	**19 08 37.5**	**+0.3**
	1.9nm,0.8s,baz=242,slow=8.7,SNR=2.7						
MAW				LR	LR	19 21 15.4	
	comp=Z,434nm,21.4s,baz=260,slow=31						
TRQA	**Tornquist**	**39.71**	**266**	*eP*	**P**	**19 08 46.3**	**-1.8**
QSPA	**South Pole Qui**	**40.59**	**180**	*eP*	**P**	**19 08 55.5**	**+0.1**
	85nm,1.8s						
QSPA	**South Pole Qui**	**40.59**	**180**	P	**P**	**19 08 55.4**	**+0.1**
	8.7nm,1.1s,baz=213,slow=4.6,SNR=12						
PLCA	**Paso Flores**	**43.71**	**257**	LR	LR	19 24 28.4	
	comp=Z,301nm,20.3s,baz=178,slow=32						
CPUP	**Villa Florida**	**44.23**	**283**	P	**P**	**19 09 25.4**	**+0.2**
CPUP	**Villa Florida**	**44.23**	**283**	P	**P**	**19 09 25.4**	**+0.2**
	2.7nm,0.8s,baz=130,slow=7.9,SNR=7.7						
CPUP				LR	LR	19 24 17.5	
	comp=Z,318nm,20.5s,baz=176,slow=31						
BDFB	**Brasilia**	**46.83**	**302**	P	**P**	**19 09 46.2**	**+0.2**
BDFB	**Brasilia**	**46.83**	**302**	P	**P**	**19 09 46.2**	**+0.2**
	3.7nm,0.8s,baz=150,slow=8.1,SNR=5.6						
BDFB				LR	LR	19 25 29.2	
	comp=Z,282nm,18.8s,baz=319,slow=31						
CFAA	**Coronel Fontan**	**47.71**	**269**	P	**P**	**19 09 52.8**	**+0.1**
CFAA	**Coronel Fontan**	**47.71**	**269**	P	**P**	**19 09 52.8**	**+0.1**
	0.8nm,0.9s,baz=126,slow=7.0,SNR=13						
SBA	**Scott Base**	**52.72**	**179**	*eP*	**P**	**19 10 30.9**	**+1.0**
	29nm,1.5s						
VNDA	**Vanda**	**52.94**	**177**	*eP*	**P**	**19 10 31.6**	**+0.1**
	29nm,1.8s						
VNDA	**Vanda**	**52.94**	**177**	P	**P**	**19 10 31.7**	**+0.1**
	3.8nm,1.0s,baz=208,slow=8.3,SNR=8.5						
VNDA				LR	LR	19 31 24.6	
	comp=Z,230nm,20.6s,baz=178,slow=34						
LVC	**Limon Verde**	**54.28**	**277**	*eP*	**P**	**19 10 43.6**	**+1.3**
	12nm,0.8s						
LVC	**Limon Verde**	**54.28**	**277**	P	**P**	**19 10 42.6**	**+0.2**
	9.6nm,0.8s,baz=135,slow=6.3,SNR=13						
CASY	**Casey**	**55.33**	**154**	*eP*	**P**	**19 10 48.8**	**-0.3**
	27nm,1.7s						
DBIC	**Dimbokro**	**56.17**	**4**	P	**P**	**19 10 55.8**	**+0.2**
DBIC	**Dimbokro**	**56.17**	**4**	P	**P**	**19 10 55.8**	**+0.2**
	9.4nm,0.9s,baz=173,slow=8.1,SNR=6.7						
DBIC				LR	LR	19 28 28.0	
	comp=Z,141nm,20.9s,baz=130,slow=29						
LPAZ	**La Paz**	**58.40**	**282**	P	**P**	**19 11 12.4**	**+0.2**
LPAZ	**La Paz**	**58.40**	**282**	P	**P**	**19 11 12.4**	**+0.2**
	1.5nm,0.7s,baz=133,slow=7.8,SNR=4.9						
LPAZ				LR	LR	19 34 01.1	
	comp=Z,233nm,20.7s,baz=121,slow=34						
MBAR	**Mbarara**	**59.09**	**47**	LR	LR	19 34 04.3	
	comp=Z,243nm,18.2s,baz=201,slow=33						
SAML	**Samuel**	**60.96**	**292**	*eP*	**P**	**19 11 28.9**	**-0.2**
	6.5nm,1.0s						
KMBO	**Kilima Mbogo**	**61.90**	**54**	LR	LR	19 36 38.6	
	comp=Z,388nm,19.3s,baz=95,slow=34						
TORD	**Torodi Ar. Bea**	**63.13**	**11**	P	**P**	**19 11 43.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**63.13**	**11**	P	**P**	**19 11 43.5**	**-0.1**
	5.2nm,1.1s,baz=199,slow=7.3,SNR=16						
TORD				LR	LR	19 32 59.0	
	comp=Z,106nm,19.0s,baz=160,slow=30						
ROSC	**El Rosal**	**78.61**	**292**	LR	LR	19 46 05.8	
	comp=Z,219nm,18.7s,baz=87,slow=34						
EIL	**Elat**	**87.79**	**37**	LR	LR	19 48 59.1	
	comp=Z,118nm,21.0s,baz=93,slow=33						
ESDC	**Sonseca Array**	**89.03**	**3**	P	**P**	**19 14 11.5**	**+1.0**
ESDC	**Sonseca Array**	**89.03**	**3**	P	**P**	**19 14 11.5**	**+1.0**
	0.2nm,0.3s,baz=193,slow=3.9,SNR=4.5						
RKT	**Rikitea**	**93.55**	**228**	*eLR*	LR	19 44 34.2	
	178nm,32.5s						
AQU	**L'Aquila**	**93.56**	**16**	*eP*	**P**	**19 14 31.3**	**-0.2**
STKA	**Stephens Creek**	**94.48**	**155**	LR	LR	19 54 52.6	
	comp=Z,95nm,19.3s,baz=25,slow=34						
BRTR	**Keskin Array B**	**96.32**	**31**	P	**P**	**19 14 45.1**	**+0.9**
BRTR	**Keskin Array B**	**96.32**	**31**	P	**P**	**19 14 45.1**	**+0.9**
	1.8nm,1.1s,baz=180,slow=3.7,SNR=6.5						
BRTR				LR	LR	19 54 42.0	
	comp=Z,44nm,21.9s,baz=16,slow=33						
ASAR	**Alice Springs**	**99.58**	**145**	LR	LR	19 54 06.7	
	comp=Z,137nm,18.5s,baz=110,slow=32						
TBI	**Tubuai**	**99.59**	**216**	*eLR*	LR	19 47 28.4	
	93nm,23.5s						
PPT2	**Papeete2**	**104.85**	**218**	*eLR*	LR	19 49 54.2	
	156nm,25.8s						
DZM	**Mont Dzumac**	**108.43**	**175**	*eLR*	LR	19 51 25.3	
	118nm,23.9s						
BVAR	**Borovoye Array**	**121.85**	**44**	PKP	**PKPdf**	**19 20 09.4**	**+0.3**
BVAR	**Borovoye Array**	**121.85**	**44**	PKP	**PKPdf**	**19 20 09.4**	**+0.3**
	1.1nm,0.6s,baz=258,slow=2.7,SNR=5.2						
MKAR	**Makanchi Array**	**123.76**	**56**	PKP	**PKPdf**	**19 20 12.4**	**-0.6**
MKAR	**Makanchi Array**	**123.76**	**56**	PKP	**PKPdf**	**19 20 12.4**	**-0.6**
	0.5nm,0.8s,baz=218,slow=1.6,SNR=6.2						
KURBB	**Kurchatov Arra**	**124.19**	**50**	PKP	**PKPdf**	**19 20 13.0**	**-0.6**
	0.6nm,0.7s,baz=232,slow=2.4,SNR=8.1						
KURK	**Kurchatov**	**124.29**	**50**	PKP	**PKPdf**	**19 20 13.0**	**-0.8**
PDAR	**Pinedale Array**	**127.51**	**294**	PKP	**PKPdf**	**19 20 19.9**	**-0.7**
PDAR	**Pinedale Array**	**127.51**	**294**	PKP	**PKPdf**	**19 20 19.9**	**-0.7**
	0.6nm,0.8s,baz=108,slow=2.9,SNR=4.5						
ZALV	**Zalesovo Beam**	**129.27**	**50**	PKP	**PKPdf**	**19 20 23.1**	**-0.1**
ZALV	**Zalesovo Beam**	**129.27**	**50**	PKP	**PKPdf**	**19 20 23.1**	**-0.1**
	0.4nm,0.3s,baz=263,slow=2.5,SNR=3.7						
NVAR	**Mina Array Bea**	**130.27**	**285**	PKP	**PKPdf**	**19 20 26.3**	**+0.3**
NVAR	**Mina Array Bea**	**130.27**	**285**	PKP	**PKPdf**	**19 20 26.3**	**+0.3**
	0.4nm,0.8s,baz=143,slow=3.3,SNR=4.1						
SONM	**Songino Array**	**138.03**	**66**	PKP	**PKPdf**	**19 20 40.2**	**+0.2**
SONM	**Songino Array**	**138.03**	**66**	PKP	**PKPdf**	**19 20 40.2**	**+0.2**
	0.5nm,0.7s,baz=222,slow=1.9,SNR=3.7						
YKA	**Yellowknife Ar**	**139.35**	**317**	PKP	**PKPdf**	**19 20 41.4**	**-0.4**
YKA	**Yellowknife Ar**	**139.35**	**317**	PKP	**PKPdf**	**19 20 41.4**	**-0.4**
	0.6nm,0.7s,baz=110,slow=1.6,SNR=5.4						
KSAR	**Wonju Array Be**	**146.35**	**94**	PKPbc	**PKPbc**	**19 20 55.7**	**-0.6**
KSRS	**Korea Array**	**146.38**	**94**	PKPbc	**PKPbc**	**19 20 55.7**	**-0.6**
	2.5nm,0.8s,baz=247,slow=4.2,SNR=17						
MJAR	**Matsushiro Arr**	**152.41**	**106**	PKPbc	**PKPbc**	**19 21 11.6**	**0.0**
MJAR	**Matsushiro Arr**	**152.41**	**106**	PKPbc	**PKPbc**	**19 21 11.6**	**0.0**
	1.4nm,0.9s,baz=244,slow=2.2,SNR=12						
USRK	**Ussuriysk Arra**	**152.48**	**86**	PKPbc	**PKPbc**	**19 21 10.8**	**-0.7**
	1.1nm,0.6s,baz=168,slow=3.8,SNR=4.4						
ILAR	**Eielson Array**	**153.65**	**320**	PKPbc	**PKPbc**	**19 21 12.9**	**-0.5**
ILAR	**Eielson Array**	**153.65**	**320**	PKPbc	**PKPbc**	**19 21 12.9**	**-0.5**
	0.8nm,0.8s,baz=48,slow=1.3,SNR=9.1						

*IDC **03** 19:18:29.9±0.7, 35.29N×69.81E, h0km, mb4.0/15, mb1 4.2/19, mb1mx4.0/31, mbtmp4.1/19, ML4.5/5, MS2.9/2, Ms1 2.9/2, ms1mx2.2/47, Error ellipse: s-maj=17.4km s-min=14.6km az=16.0*
*ISCJB **03** 19:18:40.7±0.2, 35.72N±0.02×70.12E±0.03, h87km, mb4.0/27, Error ellipse: s-maj=4.1km s-min=2.7km az=158.5*
*MOS **03** 19:18:41.1±1.1, 35.69N×70.01E, h96km, mb4.2/14, Error ellipse: s-maj=10.7km s-min=5.2km az=79.0*
*NEIC **03** 19:18:41.7±0.8, 35.70N×69.90E, h95km±8km, mb4.2/3, Error ellipse: s-maj=9.0km s-min=8.2km az=137.0*
*NNC **03** 19:18:44.6±2.6, 36.06N×69.56E, h108km±30km, mb4.1, mpv4.9, Error ellipse: s-maj=18.1km s-min=14.5km az=29.0*
*BJI **03** 19:18:49.4, 35.55N×70.77E, h90km, mb3.8/4*

ISC 03 19:18:40.9±0.4, 35.71N±0.04×69.92E±0.04, h87km, n143, σ1§87/146, mb4.1/27, 10C-17D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**1.37**	**212**	*e*PN	**Pn**	**19 19 06.6**	**+1.5**
KBL				*e*		19 19 25.7	
KBL	**Kabul**	**1.37**	**212**	*e*Pn	**Pn**	**19 19 06.6**	**+1.5**
KBL				*e*Sn	**Sn**	**19 19 25.7**	**+2.4**
CEP	**Cherat**	**2.49**	**138**	⇓P	**Pn**	**19 19 22.2**	**+2.5**
CEP				S	**Sn**	**19 19 54.0**	**+4.6**
THW	**Thamme Wali**	**3.27**	**152**	P	**Pn**	**19 19 31.5**	**+1.4**
CHCP	**Chirah Chowk**	**3.43**	**126**	⇑P	**Pn**	**19 19 34.6**	**+2.4**
SARP	**Sargodha**	**4.42**	**148**	P	**Pn**	**19 19 46.4**	**+0.8**
THN	**Thein Dam**	**5.81**	**123**	*eP*	**Pn**	**19 20 04.0**	**-0.6**
THN				*ex*	**Sn**	**19 21 06.0**	**-3.8**
**DL

TKM2	**Tokmak 2**	**8.44**	**30**	*e*Pn	**Pn**	**19 20 41.9 +1.3**
TKM2				*e*Sn	**Sn**	**19 22 14.8 +0.7**
DDI	**Dehra Dun**	**8.69**	**126**	*e*P	**Pn**	**19 20 44.9 +1.1**
DDI				*e*S	**Sn**	**19 22 17.0 -3.1**
KNDC	**Almaty**	**9.27**	**34**	⇓P	**Pn**	**19 20 54.3 +2.6**
	comp=E,19nm,0.7s					
KNDC				⇓S	**Sn**	**19 22 36.3 +2.2**
	comp=E,21nm,0.7s					
AJM	**Ajmer**	**10.05**	**155**	*e*P	**Pn**	**19 21 02.0 -0.4**
AJM				*i* S	Sn	19 22 45.0 -8.3
PYUN	**Piuthan**	**13.44**	**121**	*e*P	Pn	19 21 44.8 -3.4
	comp=E,41nm,0.3s					
DANN	**Dangsing**	**13.83**	**118**	*e*P	**Pn**	**19 21 50.7 -2.8**
	comp=E,42nm,0.5s					
BHPL	**Bhopal**	**14.03**	**150**	*e*P	**Pn**	**19 21 56.2 +0.5**
BHPL				*ex*	x	19 24 19.7
KOLN	**Koldanda**	**14.06**	**120**	*e*P	Pn	19 21 53.4 -3.0
	comp=E,37nm,0.5s					
MK31	**Makanchi Array**	**14.45**	**36**	P	**Pn**	**19 22 01.5 +0.5**
	comp=E,5.3nm,0.8s,baz=224,slow=9.6,SNR=46					
MK31	**Makanchi Array**	**14.45**	**36**	*e*P	**Pn**	**19 22 01.2 +0.2**
MK31	**Makanchi Array**	**14.45**	**36**	*e*Pn	**Pn**	**19 22 01.2 +0.2**
MKAR	**Makanchi Array**	**14.45**	**36**	*i* P	**Pn**	**19 22 01.0 0.0**
MKAR				pmax	pmax	
	comp=Z,2.0nm,0.7s					
MKAR	**Makanchi Array**	**14.45**	**36**	Pn	**Pn**	**19 22 01.1 +0.2**
MKAR	**Makanchi Array**	**14.45**	**36**	Pn	**Pn**	**19 22 01.2 +0.2**
	comp=Z,0.3nm,0.3s,baz=224,slow=14,SNR=16					
DMN	**Daman**	**15.23**	**118**	*e*P	**Pn**	**19 22 08.5 -2.9**
	comp=Z,52nm,0.6s					
JBP	**Jabalpur**	**15.25**	**142**	*e*P	**P**	**19 22 14.3 0.0**
JBP				*e*4	x	19 24 45.9
KKN	**Kakani**	**15.25**	**117**	*e*P	**Pn**	**19 22 09.0 -2.6**
	comp=Z,77nm,0.7s					
AB31	**Akbulak array**	**15.39**	**335**	⇓P	**Pn**	**19 22 10.5 -2.5**
	comp=Z,3.9nm,0.5s,baz=149,slow=12,SNR=182					
AB31				⇓S	Sn	19 24 53.5 -9.2
	comp=Z,4.8nm,0.6s,baz=163,slow=23,SNR=11					
ABKAR	**Akbulak array**	**15.39**	**335**	*e*Pn	**Pn**	**19 22 10.8 -2.1**
	comp=Z,5.3nm,0.4s					
ABKAR				*e*Sn	Sn	19 24 49.3 -13
PKIN	**Phulchoki**	**15.46**	**117**	*e*P	**Pn**	**19 22 11.7 -2.6**
	comp=Z,37nm,0.4s					
PKI	**Pulchoki**	**15.47**	**117**	*e*P	**Pn**	**19 22 11.7 -2.8**
	comp=Z,102nm,0.6s					
GUN	**Gumba**	**15.62**	**115**	*e*P	**Pn**	**19 22 14.3 -2.2**
	comp=Z,43nm,0.4s					
JIRN	**Jiri**	**15.99**	**116**	*e*P	**Pn**	**19 22 18.6 -2.5**
	comp=Z,47nm,0.4s					
KURBB	**Kurchatov Arra**	**16.16**	**20**	⇓P	**Pn**	**19 22 19.3 -3.3**
KURBB				⇑S	**Sn**	**19 25 19.3 -1.9**
	comp=Z,20nm,1.2s					
KURBB	**Kurchatov Arra**	**16.16**	**20**	Pn	**Pn**	**19 22 20.7 -1.9**
	comp=Z,0.1nm,0.3s,baz=213,slow=12,SNR=74					
KURK	**Kurchatov**	**16.27**	**20**	P	**Pn**	**19 22 20.7 -3.2**
KURK	**Kurchatov**	**16.27**	**20**	Pn	**Pn**	**19 22 20.7 -3.2**
RAMN	**Ramite**	**16.69**	**117**	*e*P	**Pn**	**19 22 26.8 -2.9**
	comp=Z,32nm,0.4s					
VOSK	**Vostochnaya**	**17.03**	**2**	⇑P	**Pn**	**19 22 32.0 -1.4**
	comp=Z,4.9nm,0.6s					
VOSK				⇓S	**Sn**	**19 25 37.7 -4.5**
	comp=Z,4.7nm,0.9s					
AKTO	**Aktyubinsk**	**17.06**	**333**	⇑P	**Pn**	**19 22 31.8 -2.0**
	comp=Z,15nm,0.6s					
AKTO				⇓S	Sn	19 25 35.5 -7.6
	comp=Z,21nm,1.4s					
AKTO	**Aktyubinsk**	**17.06**	**333**	P	**Pn**	**19 22 33.3 -0.5**
AKTO				S	Sn	19 25 34.7 -8.4
AKTO				pmax	pmax	
	comp=Z,2.0nm,0.3s					
AKTO	**Aktyubinsk**	**17.06**	**333**	P	**Pn**	**19 22 33.3 -0.5**
AKTO				S	Sn	19 25 34.6 -8.4
AKTO	**Aktyubinsk**	**17.06**	**333**	P	**Pn**	**19 22 33.3 -0.5**
	comp=Z,2.3nm,0.3s,baz=140,slow=13,SNR=58					
AKTO				S	Sn	19 25 34.6 -8.4
	comp=Z,0.4nm,0.3s,baz=240,slow=20,SNR=6.2					
ZRNK	**Zerenda**	**17.25**	**358**	⇓P	**Pn**	**19 22 34.6 -1.4**
	comp=Z,7.2nm,0.7s					
ZRNK				⇓S	**Sn**	**19 25 42.7 -4.9**
	comp=Z,5.8nm,0.9s					
TAPN	**Taplejung**	**17.29**	**114**	*e*P	**Pn**	**19 22 34.9 -2.1**
	comp=Z,38nm,0.4s					
BVA0	**Borovoye Array**	**17.32**	**1**	P	**Pn**	**19 22 35.6 -1.3**
	comp=Z,12nm,0.8s,baz=178,slow=12,SNR=64					
BVAR	**Borovoye Array**	**17.32**	**1**	P	**Pn**	**19 22 36.5 -0.4**
BVAR				pmax	pmax	
	comp=Z,3.0nm,0.3s					
BVAR	**Borovoye Array**	**17.32**	**1**	P	**Pn**	**19 22 36.5 -0.4**
BVAR	**Borovoye Array**	**17.32**	**1**	P	**Pn**	**19 22 36.5 -0.4**
	comp=Z,2.9nm,0.3s,baz=175,slow=11,SNR=39					
BVAR				LR	LR	19 30 10.1
	comp=Z,50nm,20.3s,baz=128,slow=40					
ODAN	**Odare**	**17.32**	**116**	*e*P	**Pn**	**19 22 35.2 -2.2**
	comp=Z,67nm,0.8s					
BRVK	**Borovoye**	**17.35**	**1**	⇑P	**Pn**	**19 22 35.9 -1.4**
	comp=Z,12nm,0.6s					
BRVK	**Borovoye**	**17.35**	**1**	⇓*e*P	**P**	**19 22 38.2 +0.8**
BRVK				pmax	pmax	
	comp=Z,17nm,1.2s					
BRVK	**Borovoye**	**17.35**	**1**	*e*Pn	**P**	**19 22 37.5 +0.1**
	comp=Z,8.2nm,0.5s					
LSA	**Lhasa**	**18.83**	**103**	P	**Pn**	**19 22 57.3 +1.5**
LSA	**Lhasa**	**18.83**	**103**	*e*P	**Pn**	**19 22 57.2 +1.5**
LSA				pmax	pmax	
	comp=Z,7.0nm,0.5s					
LSA	**Lhasa**	**18.83**	**103**	*e*Pn	**Pn**	**19 22 57.2 +1.5**
	comp=Z,6.9nm,0.5s					
GNI	**Garni**	**20.33**	**290**	P	**P**	**19 23 08.8 -1.4**
GNI	**Garni**	**20.33**	**290**	P	**P**	**19 23 08.8 -1.4**
	comp=Z,1.7nm,0.3s,baz=320,slow=11,SNR=2.6					
ZAA0	**Zalesovo Array**	**21.00**	**25**	*e*P	**P**	**19 23 17.6 +0.5**
ZALV	**Zalesovo Beam**	**21.00**	**25**	*i* P	**P**	**19 23 17.7 +0.6**
ZALV				pmax	pmax	
	comp=Z,11nm,0.5s					
ZALV	**Zalesovo Beam**	**21.00**	**25**	P	**P**	**19 23 18.1 +1.1**
ZALV	**Zalesovo Beam**	**21.00**	**25**	P	**P**	**19 23 18.1 +1.1**
	comp=Z,11nm,0.5s,baz=222,slow=11,SNR=66					
NVS	**Novosibirsk**	**21.24**	**22**	⇓*i* P	**P**	**19 23 20.7 +1.1**
NVS				*e*S	**S**	**19 27 10.1 -0.5**
NVS				pmax	pmax	
	comp=Z,30nm,1.3s					
NVS				pmax	pmax	
	comp=N,22nm,1.2s					
NVS				smax	smax	
	comp=N,10.0nm,1.7s					
SVE	**Sverdlovsk**	**22.04**	**346**	⇓*i* P	**P**	**19 23 29.6 +1.5**
SVE				*e*S	**S**	**19 27 29.5 +3.7**
SVE				pmax	pmax	
	comp=Z,10.0nm,0.9s					
ARU	**Arti**	**22.12**	**343**	*d i* P	**P**	**19 23 29.9 +0.9**
ARU						19 24 02.5
ARU				S	**S**	**19 27 26.6 -0.6**
ARU				SS	**SnSn**	**19 28 06.8 +5.3**
ARU				pmax	pmax	
	comp=Z,14nm,1.2s					
KBZ	**Khabaz**	**22.21**	**299**	P	**P**	**19 23 30.8 +0.7**
KBZ				pmax	pmax	
	comp=Z,4.0nm,0.9s					
KBZ	**Khabaz**	**22.21**	**299**	P	**P**	**19 23 30.8 +0.7**
KBZ	**Khabaz**	**22.21**	**299**	P	**P**	**19 23 30.8 +0.7**
	comp=Z,4.4nm,0.9s,baz=117,slow=11,SNR=7.0					
KIV	**Kislovodsk**	**22.40**	**300**	*e*P	**P**	**19 23 35.2 +2.9**
KIV				pmax	pmax	
	comp=Z,6.0nm,0.7s					
KIV				pmax	pmax	
	comp=Z,4.0nm,1.0s					
GTA	**Gaotai**	**23.93**	**72**	*e*P	**P**	**19 23 49.4 +2.4**
GTA				pmax	pmax	
	comp=Z,3.0nm,0.8s					
VSR	**Storozhevoye**	**26.92**	**315**	⇓*e*P	**P**	**19 24 17.6 +3.9**
BRTR	**Keskin Array B**	**28.85**	**289**	P	**P**	**19 24 31.6 +0.3**
BRTR	**Keskin Array B**	**28.85**	**289**	P	**P**	**19 24 31.6 +0.3**
	comp=Z,0.4nm,0.8s,baz=95,slow=9.3,SNR=3.0					
OBN	**Obninsk**	**29.98**	**321**	⇑*e*P	P	19 24 44.4 +3.5
OBN				*i* *PP	pP	19 25 02.5 +1.7
OBN				pmax	pmax	
	comp=Z,14nm,1.6s					
CMAR	**Chiang Mai Arr**	**30.87**	**116**	P	**P**	**19 24 47.3 -1.8**
CMAR	**Chiang Mai Arr**	**30.87**	**116**	P	**P**	**19 24 47.3 -1.8**
	comp=Z,0.9nm,0.7s,baz=296,slow=8.1,SNR=7.1					
KIEV	**Kiev**	**32.78**	**310**	*i* P	**P**	**19 25 08.2 +2.7**
FINES	**FINESS Array B**	**37.66**	**327**	P	**P**	**19 25 48.6 +1.3**
FINES	**FINESS Array B**	**37.66**	**327**	P	**P**	**19 25 48.6 +1.3**
	comp=Z,1.5nm,0.6s,baz=132,slow=8.0,SNR=7.6					
QIZ	**Qiongzhong**	**38.85**	**105**	P	P	19 26 01.4 +3.7
QIZ				pmax	pmax	
	comp=Z,20nm,1.6s					
ARCES	**ARCESS Array B**	**41.55**	**338**	P	**P**	**19 26 19.6 +0.2**
ARCES	**ARCESS Array B**	**41.55**	**338**	P	**P**	**19 26 19.7 +0.2**
	comp=Z,3.1nm,0.9s,baz=99,slow=7.5,SNR=4.6					
GERES	**GERESS Array B**	**42.68**	**306**	P	**P**	**19 26 30.9 +1.8**
GERES	**GERESS Array B**	**42.68**	**306**	P	**P**	**19 26 30.9 +1.8**
	comp=Z,0.4nm,0.6s,baz=81,slow=7.0,SNR=3.8					
CLL	**Collm**	**43.02**	**310**	*e*P	P	19 26 36.0 +4.4
NB2	**NORSAR Subarra**	**44.49**	**324**	P	**P**	**19 26 41.9 -1.4**
	comp=Z,1.7nm,0.6s,baz=98,slow=7.9					
NOA	**NORSAR Array B**	**44.49**	**324**	P	**P**	**19 26 45.3 +2.0**
NOA	**NORSAR Array B**	**44.49**	**324**	P	**P**	**19 26 45.3 +2.0**
	comp=Z,1.4nm,0.6s,baz=98,slow=8.0,SNR=8.1					
YAK	**Yakutsk**	**45.12**	**35**	⇑*e*P	P	19 26 53.3 +5.1
LPL	**La Plagne**	**47.83**	**302**	*e*P	P	19 27 14.5 +4.5
	comp=Z,4.2nm,0.7s					
MBDF	**Montbardon**	**47.97**	**301**	*e*P	P	19 27 16.8 +5.9
SMF	**Signal de Mont**	**49.57**	**304**	*e*P	P	19 27 27.2 +4.2
	comp=Z,11nm,0.9s					
AVF	**Avril sur Loir**	**49.87**	**304**	*e*P	P	19 27 29.4 +4.2
	comp=Z,8.5nm,0.8s					
LASF	**Ste Croix**	**50.15**	**301**	*e*P	P	19 27 33.0 +5.6
TCF	**Toulx Ste Croi**	**50.75**	**304**	*e*P	P	19 27 36.6 +4.7
	comp=Z,4.3nm,0.7s					
CAF	**Calviac**	**51.18**	**302**	*e*P	P	19 27 40.0 +4.8
	comp=Z,2.0nm,0.5s					
RJF	**Les Rejaudoux**	**51.46**	**303**	*e*P	P	19 27 42.2 +5.0
LFF	**La Frestale**	**52.09**	**303**	*e*P	P	19 27 46.6 +4.7
	comp=Z,5.6nm,0.6s					
MFF	**Saint Martin d**	**52.25**	**305**	*e*P	P	19 27 48.8 +5.7
	comp=Z,4.4nm,0.8s					
ROSF	**Rostrenen**	**53.86**	**308**	*e*P	P	19 27 58.7 +3.9
ESDC	**Sonseca Array**	**57.05**	**298**	P	**P**	**19 28 18.0 0.0**
ESDC	**Sonseca Array**	**57.05**	**298**	P	**P**	**19 28 18.0 0.0**
	comp=Z,0.9nm,0.6s,baz=56,slow=7.5,SNR=7.4					
TORD	**Torodi Ar. Bea**	**64.82**	**268**	P	**P**	**19 29 09.7 -1.2**
TORD	**Torodi Ar. Bea**	**64.82**	**268**	P	**P**	**19 29 09.7 -1.2**
	comp=Z,1.9nm,0.4s,baz=48,slow=6.2,SNR=57					
DBIC	**Dimbokro**	**73.78**	**267**	P	**P**	**19 30 05.3 -0.8**
DBIC	**Dimbokro**	**73.78**	**267**	P	**P**	**19 30 05.3 -0.8**
	comp=Z,5.0nm,1.0s,baz=63,slow=5.6,SNR=4.3					
YKA	**Yellowknife Ar**	**82.07**	**2**	P	P	19 30 54.9 +3.6
YKA	**Yellowknife Ar**	**82.07**	**2**	P	P	19 30 54.9 +3.6
	comp=Z,0.2nm,0.4s,baz=346,slow=5.7,SNR=3.9					
WRA	**Warramunga Arr**	**82.32**	**121**	P	**P**	**19 30 52.9 -0.3**
WRA	**Warramunga Arr**	**82.32**	**121**	P	**P**	**19 30 52.9 -0.3**
	comp=Z,1.0nm,0.5s,baz=326,slow=4.7,SNR=14					
ASAR	**Alice Springs**	**84.53**	**124**	P	**P**	**19 31 04.4 -0.1**
ASAR	**Alice Springs**	**84.53**	**124**	P	**P**	**19 31 04.4 -0.1**
	comp=Z,1.4nm,0.7s,baz=310,slow=5.4,SNR=15					

WEL 03 19:43:52.7±0.3, 36.88S×177.50E, h33km, ML3.8/7, Error ellipse: s-maj=2.6km s-min=1.7km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.70**	**201**	P*	Pn	19 44 04.7	-1.5
WIZ				S*	Sn	19 44 14.3	-1.5
MXZ	**Matakaoa Point**	**0.94**	**137**	P*	Pn	19 44 08.7	-0.9
MXZ				S*	Sn	19 44 20.6	-1.3
MXZ				AML	AML	19 44 23.9	
MXZ				AML	AML	19 44 23.9	
MXZ				AML	AML	19 44 23.9	
MYRZ	**Mayor Island**	**1.09**	**248**	P*	Pn	19 44 10.4	-1.2
OPRZ	**Ohinepanea**	**1.23**	**218**	P*	Pn	19 44 12.7	-0.8
MARZ	**Manawahe**	**1.29**	**210**	P*	Pn	19 44 13.9	-0.6
PUZ	**Puketiti**	**1.34**	**153**	PN	Pn	19 44 15.2	+0.1
PUZ				AML	AML	19 44 40.3	
PUZ				AML	AML	19 44 46.1	
URZ	**Urewera**	**1.42**	**193**	P*	Pn	19 44 15.6	-0.5
URZ				AML	AML	19 44 37.0	
URZ				AML	AML	19 44 43.7	
KUZ	**Kuaotunu**	**1.43**	**275**	PN	Pn	19 44 15.1	-1.2
KUZ				AML	AML	19 44 39.4	
KUZ				AML	AML	19 44 39.9	
KUZ				AML	AML	19 44 44.0	
KUZ				AML	AML	19 44 44.0	
MWZ	**Matawai**	**1.46**	**179**	P*	Pn	19 44 16.5	-0.3
MWZ				AML	AML	19 44 42.6	
MWZ				AML	AML	19 44 42.6	
MWZ				AML	AML	19 44 49.0	
MWZ				AML	AML	19 44 49.0	
KARZ	**Kaharoa**	**1.52**	**221**	P*	Pn	19 44 17.5	-0.1
CNGZ	**Carnagh Statio**	**1.70**	**161**	PN	Pb	19 44 22.8	-0.6
TOZ	**Tahuroa Road**	**1.81**	**241**	P*	Pn	19 44 21.5	0.0
TOZ				AML	AML	19 44 43.5	
MKAZ	**Moumakai**	**1.88**	**262**	PN	Pn	19 44 22.3	-0.2
MKAZ				AML	AML	19 44 45.4	
MKAZ				AML	AML	19 44 45.9	
ABAZ	**Army Bay**	**2.16**	**276**	PN	Pn	19 44 26.7	+0.4
KAAZ	**Kauri Point**	**2.24**	**270**	PN	Pn	19 44 29.0	+1.6
MHGZ	**Mahia Peninsul**	**2.30**	**172**	PN	Pn	19 44 30.2	+1.9
WTAZ	**Waiatarua**	**2.35**	**268**	PN	Pn	19 44 29.5	+0.6
BKZ	**Black Stump Fm**	**2.42**	**199**	P*	Pn	19 44 30.5	+0.4
HIZ	**Hauiti**	**2.66**	**231**	PN	Pn	19 44 34.0	+0.7
WCZ	**Waipu Caves**	**2.71**	**289**	PN	Pn	19 44 34.1	+0.2
BHHZ	**Black Hill Sta**	**2.84**	**203**	P*	Pn	19 44 39.2	+3.4
WNVZ	**Wahianoa**	**2.87**	**211**	P*	Pb	19 44 40.3	-3.2
OUZ	**Omahuta**	**3.57**	**296**	PN	Pn	19 44 46.5	+0.9
BFZ	**Birch Farm**	**3.92**	**194**	PN	Pn	19 44 51.9	+1.2
MRZ	**Mangatainoka R**	**4.07**	**201**	PN	Pn	19 44 53.3	+0.7

*NIED **03** 19:44:00.40˚40N×142˚.10E, h65km, Mw3.7 Best double couple: M₀3.77000×10¹⁴ NP1:φ=20.00000°, δ70.00000°, λ92.00000°. NP2:φ=195.00000°, δ20.00000°, λ85.00000°.*
*ISCJB **03** 19:44:37.2±0.8, 40˚.36N±0˚.04×142˚.06E±0˚.09, h59km±6km, mb3.6/5, MS3.8/2, Error ellipse: s-maj=11.8km s-min=6.2km az=5.5*
*JMA **03** 19:44:37.9±0.1, 40˚.35N×142˚.09E, h50km±1km, M3.7*
JMA Felt I J1.
*IDC **03** 19:44:38.7±2.3, 40˚.32N×142˚.29E, h75km±20km, mb3.4/5, mb1 3.5/8, mb1mx3.3/26, mbtmp3.4/8, MS3.8/2, Ms1 3.8/2, ms1mx2.4/33, Error ellipse: s-maj=33.3km s-min=15.6km az=99.0*

ISC 03 19:44:37.8±1.1, 40˚.36N±0˚.04×142˚.04E±0˚.08, h52km±9km, n19,σ1ˢ00/24, mb3.6/5, 1C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JANG	**Nango**	**0.40**	**272**	⇓P	**Pn**	**19 44 48.4**	**+0.3**
JANG				S	**Sn**	**19 44 55.6**	**+0.2**
JTH	**Tanohata**	**0.44**	**197**	⇑P	**Pn**	**19 44 48.5**	**-0.1**
JTH				S	**Sn**	**19 44 56.0**	**-0.2**
JKZ	**Kuzumaki**	**0.66**	**235**	⇓P	**Pn**	**19 44 51.7**	**+0.5**
JKZ				S	**Sn**	**19 45 01.3**	**+0.5**
JTM	**Tenmabayashi**	**0.85**	**300**	⇓P	**Pn**	**19 44 53.7**	**+0.1**
JTM				S	**Sn**	**19 45 04.9**	**-0.3**
JOM	**Ohasama**	**1.05**	**213**	⇓P	**Pn**	**19 44 56.8**	**+0.5**
JOM				S	**Sn**	**19 45 10.3**	**+0.3**
JAH	**Hinai**	**1.08**	**261**	⇓P	**Pn**	**19 44 57.4**	**+0.7**
JAH				S	**Sn**	**19 45 11.6**	**+0.9**
JOT	**Ohata**	**1.27**	**324**	⇓P	**Pn**	**19 44 59.1**	**-0.1**
JOT				*e*S	**Sn**	**19 45 14.8**	**-0.3**
JRG	**Rokugo**	**1.45**	**229**	⇓P	**Pn**	**19 45 02.5**	**+0.9**
JRG				*e*S	**Sn**	**19 45 20.6**	**+1.1**
ASAJ	**Asahikawa**	**3.78**	**6**	P	**Pn**	**19 45 34.7**	**+1.2**
	4.6nm,0.3s,baz=220,slow=9.1,SNR=69						
ASAJ				S	**Sn**	**19 46 19.0**	**+2.4**
	2.6nm,0.3s,baz=109,slow=18,SNR=7.9						
MJAR	**Matsushiro Arr**	**4.85**	**219**	P	**Pn**	**19 45 50.6**	**+2.2**
	0.7nm,0.3s,baz=33,slow=13,SNR=19						
USRK	**Ussuriysk Arra**	**8.37**	**301**	P	Pn	19 46 40.1	+3.7
	0.4nm,0.3s,baz=103,slow=14,SNR=13						
KSRS	**Korea Array**	**11.37**	**260**	P	Pn	19 47 26.8	+9.3
	0.2nm,0.3s,baz=66,slow=14,SNR=6.3						
SONM	**Songino Array**	**26.48**	**298**	P	**P**	**19 50 10.7**	**+0.5**
	0.3nm,0.4s,baz=86,slow=8.8,SNR=2.9						
ZALV	**Zalesovo Beam**	**40.10**	**310**	P	**P**	**19 52 08.0**	**-0.2**
	1.4nm,0.5s,baz=96,slow=8.6,SNR=7.7						
MKAR	**Makanchi Array**	**42.84**	**299**	P	**P**	**19 52 30.5**	**-0.2**
	0.5nm,0.4s,baz=81,slow=9.6,SNR=14						
INK	**Inuvik**	**51.22**	**28**	LR	LR	20 19 10.8	
	comp=Z,103nm,20.6s,baz=72,slow=40						
BBB	**Bella Bella**	**59.37**	**46**	LR	LR	20 23 06.1	
	comp=Z,68nm,18.3s,baz=121,slow=39						
WRA	**Warramunga Arr**	**60.42**	**188**	P	**P**	**19 54 40.2**	**-1.8**
	0.4nm,0.9s,baz=5.7,slow=7.3,SNR=3.2						
FINES	**FINESS Array B**	**66.11**	**332**	P	**P**	**19 55 18.6**	**-0.6**
	0.5nm,0.5s,baz=45,slow=12,SNR=4.8						

WEL 03 19:45:43.7±0.5, 36.92S×177.33E, h12km, ML3.6/5, Error ellipse: s-maj=4.3km s-min=3.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPRZ	**Ohinepanea**	**1.11**	**213**	P*	Pb	19 46 01.8	-3.1
URZ	**Urewera**	**1.35**	**187**	P*	Pn	19 46 06.2	-2.2
URZ				S*	Sb	19 46 21.7	-4.6
URZ				AML	AML	19 47 01.3	
PUZ	**Puketiti**	**1.37**	**148**	PN	Pn	19 46 07.5	-1.1
PUZ				SN	Sn	19 46 25.5	-1.3
PUZ				AML	AML	19 46 28.6	
TOZ	**Tahuroa Road**	**1.67**	**240**	P*	Pn	19 46 11.5	-1.2
CNGZ	**Carnagh Statio**	**1.71**	**156**	PN	Pn	19 46 13.4	0.0
MKAZ	**Moumakai**	**1.74**	**263**	PN	Pn	19 46 12.6	-1.2
MKAZ				*e*SN	Sn	19 46 34.3	-1.6
HIZ	**Hauiti**	**2.53**	**230**	PN	Pn	19 46 23.9	-0.7
WCZ	**Waipu Caves**	**2.60**	**291**	PN	Pn	19 46 24.2	-1.3

CASC 03 19:53:27.0±1.9, 13.57N×90.62W, h28km±6km, MD3.5, ML3.7, 4C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.63**	**15**	*e*P	Pn	19 53 40.3	0.0
IXG				*e*S	Sb	19 53 48.8	+0.5
PCG	**Pacaya**	**0.82**	**1**	⇑*e*P	Pn	19 53 42.9	-0.2
PCG				*e*S	Sb	19 53 52.3	-1.8
FUG	**Fuego 3**	**0.90**	**346**	⇑*e*P	Pn	19 53 44.0	-0.1
RTR	**El Retiro**	**1.00**	**71**	*e*P	Pn	19 53 45.1	-0.4
SBLS	**San Blas**	**1.01**	**74**	*e*P	Pn	19 53 45.0	-0.6
SNJE	**San Jose**	**1.03**	**73**	*e*P	Pn	19 53 45.4	-0.5
NBG	**Las Nubes**	**1.05**	**15**	⇓*e*P	Pb	19 53 47.0	+0.1
NBG				*e*S	Sb	19 54 02.0	+1.4
RBDL	**Robledal**	**1.06**	**59**	*e*P	Pn	19 53 45.9	-0.3
JAT	**Jato**	**1.24**	**307**	⇑*e*P	Pn	19 53 48.7	+0.3
BOQS	**Boqueron**	**1.31**	**82**	*i* P	Pn	19 53 49.7	-0.1
BOQS				⇓*e*P	Pn	19 53 49.7	-0.1
BOQS				*e*S	Sn	19 54 07.0	+0.4
SNET	**Serv Nac Est T**	**1.36**	**85**	AML	AML	19 54 08.1	
	comp=Z,1μm,0.2s						
LFU	**La Fuente**	**1.48**	**83**	*e*P	Pn	19 53 50.9	-1.0
LFRS	**El Faro**	**1.52**	**88**	*e*P	Pn	19 53 52.6	+0.1
LBRS	**Las Brisas**	**1.54**	**83**	*e*P	Pn	19 53 52.6	-0.1
SNVI	**San Vicente**	**1.73**	**88**	*e*P	Pn	19 53 55.8	+0.3
SNVI				*e*S	Sb	19 54 18.6	-1.4
MRL	**Marmol**	**1.74**	**31**	⇑*e*P	Pn	19 53 56.3	+0.7

WEL 03 19:56:54.0±0.4, 35.94S×178.57E, h241km±8km, ML3.5/7, Error ellipse: s-maj=9.9km s-min=8.1km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**2.15**	**187**	PN	Pn	19 57 36.0	-1.1
PUZ				SN	S	19 58 10.1	-0.9
MWZ	**Matawai**	**2.54**	**199**	PN	Pn	19 57 41.1	+0.2
MWZ				*e*SN	S	19 58 17.8	-0.2
CNGZ	**Carnagh Statio**	**2.56**	**186**	PN	Pn	19 57 41.5	+0.4
URZ	**Urewera**	**2.60**	**206**	PN	Pn	19 57 41.5	0.0
URZ				SN	S	19 58 19.0	0.0
KNZ	**Kokohu**	**3.16**	**193**	PN	Pn	19 57 47.7	+0.1
MHGZ	**Mahia Peninsul**	**3.25**	**189**	*e*PN	Pn	19 57 48.5	-0.2
BKZ	**Black Stump Fm**	**3.62**	**207**	PN	Pn	19 57 53.8	+0.8
BHHZ	**Black Hill Sta**	**4.07**	**209**	*e*PN	Pn	19 57 59.1	+0.9
PXZ	**Pawanui**	**4.30**	**198**	PN	Pn	19 58 00.8	-0.2
TSZ	**Takapari Road**	**4.60**	**206**	*e*PN	Pn	19 58 04.6	0.0
BFZ	**Birch Farm**	**5.08**	**200**	PN	Pn	19 58 11.1	+0.8
KIW	**Kapiti Island**	**5.70**	**209**	PN	Pn	19 58 18.3	+0.2
NNZ	**Nelson**	**6.66**	**216**	PN	Pn	19 58 30.5	+0.4

**IDC 03 20:00:59.5±5.0, 24.63N×109.53W, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.6/23, mbtmp3.3/4, ML3.6/3, MS3.1/3, Ms1 3.1/3, ms1mx

KBG	**Krutoberegovo**	**2.29**	**53**	*e*P		Pn	20 26 47.0	+2.0
KBG				*e*S		S	20 27 21.0	+0.1
APC	**Apacha**	**2.41**	**214**	*i* P		Pn	20 26 48.0	+1.8
APC				*e*S		S	20 27 23.9	+0.8
MTVR	**Mutnovka**	**2.56**	**197**	P		Pn	20 26 49.9	+2.0
MTVR				*e*S		S	20 27 26.8	+0.7
RUS	**Russkaya**	**2.56**	**192**	P		Pn	20 26 48.4	+0.7
RUS				*e*S		S	20 27 24.2	-1.5
ASAK	**Asacha**	**2.71**	**200**	P		Pn	20 26 51.1	+1.7
ASAK				S		S	20 27 28.8	+0.1
BKI	**Bering**	**3.78**	**83**	*e*P		Pn	20 27 04.0	+3.1
BKI				*e*S		S	20 27 51.7	+2.0

JMA 03 20:27:08.5±0.2, 36°.61N×137°.57E, h35$^{km}_{\pm 2}$, M0.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
JTT	**Ttatey**	**0.19**	**269**	S		Sn	20 27 19.7	-0.2
JGN	**Niukaw**	**0.44**	**208**	S		Sn	20 27 25.0	-0.2
JNG	**Nsakai**	**0.47**	**115**	S		Sn	20 27 25.7	-0.4
MAT	**Matsushiro**	**0.52**	**97**	S		Sn	20 27 26.3	-0.8

JMA 03 20:27:38.5±0.2, 36°.62N×137°.56E, h37$^{km}_{\pm 1}$, M0.4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
JGN	**Niukaw**	**0.44**	**207**	S		Sn	20 27 54.9	-0.4
JNG	**Nsakai**	**0.48**	**116**	S		Sn	20 27 55.9	-0.4
MAT	**Matsushiro**	**0.53**	**98**	S		Sn	20 27 56.7	-0.6
MAT	**Matsushiro**	**0.53**	**98**	S		Sn	20 27 56.7	-0.6

IDC ***03*** *20:28:13.8±0.4, 49°.66S×8°.04W, h0^{km}, mb4.8/19, mb1 4.9/19, mb1mx4.8/22, mbtmp4.8/19, MS4.8/22, Ms1 4.8/22, ms1mx4.7/27, Error ellipse: s-maj=14.3km s-min=12.5km az=134.0*

ISCJB ***03*** *20:28:14.5±0.2, 49°.78S±0°.05×8°.19W±0°.08, h10^{km}, mb5.4/98, MS4.9/39, Error ellipse: s-maj=8.2km s-min=6.5km az=28.2*

MOS ***03*** *20:28:14.1±1.0, 49°.76S×8°.11W, h10^{km}, mb5.7/20, MS5.0/4, Error ellipse: s-maj=19.0km s-min=10.9km az=84.8*

NEIC ***03*** *20:28:15.0±0.2, 49°.75S×8°.05W, h10^{km}, mb5.5/32, Error ellipse: s-maj=8.3km s-min=6.7km az=138.0*

GCMT ***03*** *20:28:18.1±0.1, 49°.84S×7°.69W, h12^{km}, MW5.3, Moment Tensor Solution. s59,c90; s18,c18; Moment tensor: Scale 10^{17}Nm; M_{rr}-1.02±.02; $M_{\theta\theta}$0.14±.02; $M_{\phi\phi}$0.88±.02; $M_{r\theta}$0.02±.05; $M_{\theta\phi}$-0.08±.01; $M_{r\phi}$0.04±.04; Best double couple: M○0.95000×10^{17} NP1:φ_s353.00000°, δ44.00000°, λ-91.00000°. NP2:φ_s175.00000°, δ46.00000°, λ-89.00000°. Principal axes: T 0.8900, Plg1.0000°, Azm264.0000°; N 0.1300, Plg1.0000°, Azm354.0000°; P -1.0200, Plg88.0000°, Azm125.0000°; Data Used: II IU IC CN G. Surface waves: sta=109, comp=181, per= 50.*

DJA ***03*** *20:28:20.2±0.9, 50°.S±10°.×±2°.2, h15^{km}, M5.2/10, mB5.9/3, mb5.1/10, Mw(mB)5.5/3*

ISC 03 20:28:15.2±0.2, 49°.69S±0°.06×8°.02W±0°.06, h10^{km}, n457, σ1°.55/453, mb5.5/95, MS4.9/40, 6C-3D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
VNA1	**Neumayer--Stat**	**21.03**	**180**	*e*P			20 33 00.6	
VNA1	**Neumayer--Stat**	**21.03**	**180**	*e*SOUTHERN			20 33 03.5	+2.0
VNA1	**Neumayer--Stat**	**21.03**	**180**	*e*pP		pP	20 33 08.3	+6.8
VNA1	**Neumayer--Stat**	**21.03**	**180**	*e*pPn		pPn	20 33 11.5	+7.5
VNA1	**Neumayer--Stat**	**21.03**	**180**	*e*PnPn		**PnPn**	**20 33 18.1**	**+0.7**
SNAA	**Sanae**	**22.19**	**176**	*e*P		**P**	**20 33 10.5**	**-0.7**
	284nm,1.3s							
SNAA				*e*S		S	20 37 06.1	-9.1
SNAA				PcP		**PcP**	**20 37 07.0**	**-0.3**
SNAA	**Sanae**	**22.19**	**176**	P		**P**	**20 33 11.7**	**+0.5**
	34nm,1.1s,baz=357,slow=10,SNR=65							
SNAA				PcP		**PcP**	**20 37 07.0**	**-0.3**
	2.0nm,1.0s,baz=29,slow=1.9,SNR=5.4							
SNAA				LR		LR	20 39 58.5	
	comp=Z,263nm,18.5s,baz=190,slow=32							
MAIT	**Maitri**	**23.09**	**163**	*e*P		P	20 33 11.4	-9.2
SUR	**Sutherland**	**27.54**	**62**	*e*P		**P**	**20 34 02.2**	**0.0**
	54nm,1.2s							
SUR	**Sutherland**	**27.54**	**62**	P		**P**	**20 34 02.4**	**+0.2**
	25nm,1.1s,baz=229,slow=11,SNR=4.3							
SUR				LR		LR	20 42 18.7	
	comp=Z,4μm,20.0s,baz=218,slow=31							
SYO	**Syowa Base**	**29.88**	**148**	‖ *e*pP		pP	20 34 26.0	+0.5
SYO	**Syowa Base**	**29.88**	**148**	‖ *e*sP		sP	20 34 30.2	+3.5
EFI	**East Falkland**	**31.27**	**247**	*e*P		P	20 34 29.3	-5.5
EFI				pmax		pmax		
	comp=Z,209nm,1.2s							
EFI	**East Falkland**	**31.27**	**247**	*e*P		P	20 34 29.3	-5.5
	comp=Z,209nm,1.2s							
PMSA	**Palmer Station**	**32.59**	**221**	*e*P		**P**	**20 34 47.2**	**+0.9**
	comp=Z,43nm,1.0s							
PMSA	**Palmer Station**	**32.59**	**221**	P		**P**	**20 34 46.6**	**+0.4**
	comp=Z,12nm,0.8s,baz=71,slow=10.0,SNR=3.2							
BOSA	**Boshof**	**32.90**	**63**	P		**P**	**20 34 48.9**	**-0.6**
BOSA	**Boshof**	**32.90**	**63**	P		**P**	**20 34 48.9**	**-0.6**
	comp=Z,17nm,1.1s,baz=220,slow=7.7,SNR=8.3							
BOSA				LR		LR	20 45 41.2	
	comp=Z,5μm,19.2s,baz=223,slow=32							
LBTB	**Lobatse**	**35.86**	**59**	*e*P		**P**	**20 35 14.3**	**-0.8**
	comp=Z,152nm,1.6s							
LBTB				*e*PcP		**PcP**	**20 37 43.3**	**+0.9**
LBTB	**Lobatse**	**35.86**	**59**	P		**P**	**20 35 14.6**	**-0.6**
	comp=Z,34nm,1.2s,baz=236,slow=9.1,SNR=13							
LBTB				PcP		**PcP**	**20 37 42.8**	**+0.4**
	comp=Z,21nm,1.3s,baz=234,slow=4.0,SNR=4.5							
USHA	**Ushuaia**	**36.32**	**238**	P		**P**	**20 35 18.7**	**0.0**
USHA	**Ushuaia**	**36.32**	**238**	P		**P**	**20 35 18.7**	**0.0**
	comp=Z,8.4nm,0.9s,baz=76,slow=8.3,SNR=2.3							
TSUM	**Tsumeb**	**36.67**	**43**	*e*P		**P**	**20 35 22.2**	**+0.1**
	comp=Z,81nm,1.4s							
TSUM				*e*PcP		**PcP**	**20 37 45.6**	**+0.7**
MAW	**Mawson**	**38.39**	**144**	P		**P**	**20 35 36.3**	**+0.2**
MAW				PcP		**PcP**	**20 37 49.5**	**+0.3**
MAW	**Mawson**	**38.39**	**144**	P		**P**	**20 35 36.3**	**+0.2**
	comp=Z,6.6nm,0.5s,baz=266,slow=15,SNR=33							
MAW				PcP		**PcP**	**20 37 49.5**	**+0.3**
	comp=Z,6.9nm,1.1s,baz=297,slow=2.3,SNR=4.4							
MAW				LR		LR	20 48 14.9	
	comp=Z,2μm,21.4s,baz=267,slow=31							
CAM4	**Nova Friburgo**	**38.48**	**302**	‖ *i* P		**P**	**20 35 38.2**	**+0.6**
CAM4				*i*			20 35 43.6	
CAM4				*i*			20 35 48.5	
CAM4				*i*			20 35 53.2	
CAM4				*i*			20 35 58.1	
CAM4				*i*			20 36 07.7	
CAM4				*i*			20 36 55.5	
CAM4				*i*			20 37 06.4	
CAM4				*i*			20 37 36.4	
TRQA	**Tornquist**	**39.78**	**266**	*e*P		**P**	**20 35 47.9**	**-0.2**
	comp=Z,76nm,1.4s							
QSPA	**South Pole Qui**	**40.57**	**180**	P		**P**	**20 35 55.0**	**+0.5**
QSPA	**South Pole Qui**	**40.57**	**180**	P		**P**	**20 35 55.0**	**+0.5**
	comp=Z,40nm,1.1s,baz=213,slow=5.6,SNR=53							
PLCA	**Paso Flores**	**43.78**	**257**	*e*P		**P**	**20 36 20.5**	**-0.4**
PLCA	**Paso Flores**	**43.78**	**257**	P		**P**	**20 36 21.2**	**+0.3**
	comp=Z,8.7nm,1.2s,baz=137,slow=7.3,SNR=3.6							
PLCA				LR		LR	20 54 15.2	
	comp=Z,1μm,18.3s,baz=136,slow=36							
CPUP	**Villa Florida**	**44.32**	**283**	P		**P**	**20 36 25.2**	**0.0**
CPUP	**Villa Florida**	**44.32**	**283**	P		**P**	**20 36 25.2**	**0.0**
	comp=Z,3.2nm,0.7s,baz=110,slow=7.5,SNR=8.3							
CPUP				LR		LR	20 51 50.6	
	comp=Z,942nm,20.4s,baz=138,slow=32							
LSZ	**Lusaka**	**45.18**	**53**	P		**P**	**20 36 32.8**	**+0.5**
	SNR=9.8							
LSZ	**Lusaka**	**45.18**	**53**	*e*P		**P**	**20 36 31.4**	**-1.0**
	comp=Z,52nm,1.3s							
BDFB	**Brasilia**	**46.91**	**302**	P		**P**	**20 36 46.2**	**+0.2**
BDFB	**Brasilia**	**46.91**	**302**	P		**P**	**20 36 46.2**	**+0.2**
	comp=Z,42nm,1.3s,baz=131,slow=7.0,SNR=20							
BDFB				LR		LR	20 53 07.5	
	comp=Z,1μm,18.9s,baz=204,slow=32							
CFAA	**Coronel Fontan**	**47.79**	**269**	P		**P**	**20 36 52.2**	**-0.4**
CFAA	**Coronel Fontan**	**47.79**	**269**	P		**P**	**20 36 52.2**	**-0.4**
	comp=Z,2.7nm,1.1s,baz=131,slow=8.7,SNR=22							
MIR	**Mirnyy**	**49.68**	**149**	‖ *i* P		**P**	**20 37 08.0**	**+1.4**
MIR				pmax		pmax		
	comp=Z,90nm,2.0s							
LCO	**Las Campanas**	**51.10**	**269**	*e*P		**P**	**20 37 17.0**	**-1.1**
	comp=Z,32nm,0.9s							
SBA	**Scott Base**	**52.69**	**179**	*e*P		**P**	**20 37 29.6**	**+0.6**
SBA				pmax		pmax		
	comp=Z,137nm,1.6s							
SBA	**Scott Base**	**52.69**	**179**	*e*P		**P**	**20 37 29.6**	**+0.6**
	comp=Z,137nm,1.6s							
VNDA	**Vanda**	**52.91**	**177**	*e*P		**P**	**20 37 31.2**	**+0.5**
	comp=Z,114nm,1.6s							
VNDA	**Vanda**	**52.91**	**177**	P		**P**	**20 37 31.4**	**+0.7**
	comp=Z,21nm,1.1s,baz=214,slow=8.4,SNR=36							
VNDA				LR		LR	20 58 34.5	
	comp=Z,834nm,20.4s,baz=180,slow=34							
ABPO	**Ambohimpanom**	**53.38**	**76**	P		**P**	**20 37 33.6**	**-1.5**
ABPO	**Ambohimpanom**	**53.38**	**76**	P		**P**	**20 37 33.6**	**-1.5**
OPO	**Ambohidratompo**	**53.69**	**75**	LR		LR	20 58 29.9	
	comp=Z,1μm,18.2s,baz=174,slow=34							
LVC	**Limon Verde**	**54.36**	**277**	*e*P		**P**	**20 37 43.4**	**+1.0**
	comp=Z,110nm,1.1s							
CASY	**Casey**	**55.27**	**154**	*e*P		**P**	**20 37 48.2**	**+0.2**
	comp=Z,86nm,1.6s							
CASY				*e*PP		**PP**	**20 39 53.4**	**+2.3**
LIC	**Lamto**	**55.74**	**4**	*e*P		**P**	**20 37 52.0**	**+0.1**
	comp=Z,149nm,1.1s							
LIC				*e*R				
	comp=Z,967nm,22.5s							
DBIC	**Dimbokro**	**56.19**	**4**	*e*P		**P**	**20 37 55.4**	**+0.2**
	comp=Z,130nm,1.3s							
DBIC	**Dimbokro**	**56.19**	**4**	P		**P**	**20 37 55.2**	**+0.1**
	comp=Z,76nm,1.2s,baz=159,slow=8.5,SNR=20							
DBIC				LR		LR	20 57 25.2	
	comp=Z,415nm,18.4s,baz=136,slow=31							
LPAZ	**La Paz**	**58.48**	**282**	*e*P		**P**	**20 38 11.1**	**-1.1**
	comp=Z,47nm,1.6s							
LPAZ	**La Paz**	**58.48**	**282**	P		**P**	**20 38 11.5**	**-0.7**
	comp=Z,6.3nm,1.1s,baz=133,slow=6.1,SNR=16							
LPAZ				LR		LR	21 01 44.1	
	comp=Z,1μm,20.4s,baz=110,slow=34							
MBAR	**Mbarara**	**59.05**	**47**	LR		LR	21 01 24.3	
	comp=Z,1μm,18.9s,baz=211,slow=34							
ARE	**Arequipa**	**60.49**	**279**	*e*P		**P**	**20 38 26.0**	**+0.3**
ARE	**Arequipa**	**60.49**	**279**	*e*P		**P**	**20 38 26.0**	**+0.3**
SAML	**Samuel**	**61.05**	**292**	*e*P		**P**	**20 38 28.6**	**-0.5**
	comp=Z,35nm,1.2s							
DRV	**Dumont d'Urvil**	**61.45**	**166**	S		S	20 46 25.0	-27
DRV				SS		SS	20 51 18.0	+27
DRV				L		L	20 53 00.0	
DRV				R			20 57 00.0	
KMBO	**Kilima Mbogo**	**61.85**	**54**	*e*P		**P**	**20 38 37.0**	**+2.2**
	comp=Z,81nm,2.0s							
KMBO	**Kilima Mbogo**	**61.85**	**54**	LR		LR	21 03 48.2	
	comp=Z,2μm,19.6s,baz=158,slow=34							
TOA0	**Torodi Ar. Sit**	**63.14**	**11**	*e*P		**P**	**20 38 42.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**63.14**	**11**	P		**P**	**20 38 43.0**	**0.0**
TORD				P'P'ab		P'P'ab	21 07 56.9	+8.7
TORD	**Torodi Ar. Bea**	**63.14**	**11**	P		**P**	**20 38 43.0**	**0.0**
	comp=Z,39nm,1.3s,baz=191,slow=5.8,SNR=64							
TORD				LR		LR	20 59 57.8	
	comp=Z,377nm,21.5s,baz=175,slow=30							
TORD				PKP2ab			21 07 56.9	
	comp=Z,0.9nm,1.0s,baz=348,slow=3.7,SNR=3.6							
ATAH	**Atahualpa**	**71.92**	**281**	LR		LR	21 11 04.8	
	comp=Z,507nm,18.1s,baz=166,slow=36							
TAM	**Tamanrasset**	**73.15**	**13**	*e*P		**P**	**20 39 47.3**	**+1.4**
TAM				pmax		pmax		
	comp=Z,41nm,1.4s							
TAM	**Tamanrasset**	**73.15**	**13**	*e*P		**P**	**20 39 47.3**	**+1.4**
	comp=Z,41nm,1.4s							
ATD	**Arta Tunnel**	**75.48**	**52**	LR		LR	21 13 50.0	
	comp=Z,732nm,18.4s,baz=30,slow=36							
OTAV	**Otavalo**	**77.62**	**285**	*e*P		**P**	**20 40 12.9**	**+0.6**
	comp=Z,27nm,1.3s							
DGAR	**Diego Garcia**	**78.23**	**88**	‖ *e*P		**P**	**20 40 16.1**	**+1.0**
ROSC	**El Rosal**	**78.69**	**291**	LR		LR	21 13 06.0	
	comp=Z,937nm,19.4s,baz=19,slow=34							
KEST	**Kesra**	**86.43**	**14**	*e*P		**P**	**20 40 59.0**	**+1.5**
KEST	**Kesra**	**86.43**	**14**	P		**P**	**20 40 58.9**	**+1.4**
	comp=Z,10nm,1.3s,baz=173,slow=3.0,SNR=30							
PFVI	**Vila Bisbo**	**86.45**	**359**	*e*P		**P**	**20 40 59.2**	**+1.8**
	comp=Z,76nm,1.6s							
PBDV	**Barranco-do-Ve**	**86.55**	**0**	*e*P		**P**	**20 40 59.6**	**+1.6**
	comp=Z,59nm,2.2s							
MORF	**Marmelete**	**86.62**	**359**	*e*P		**P**	**20 41 00.1**	**+1.8**
	comp=Z,47nm,1.7s							
MORF	**Marmelete**	**86.62**	**359**	*e*P		**P**	**20 40 58.9**	**+0.6**
PVAQ	**Vaqueiros**	**86.72**	**0**	*e*P		**P**	**20 41 00.1**	**+1.4**
	comp=Z,81nm,2.0s							
PVAQ	**Vaqueiros**	**86.72**	**0**	*e*LQ		LQ	21 10 00.9	
PVAQ				*e*LR		LR	21 12 51.5	
	comp=Z,474nm,20.0s							
PTEO	**Sao Teotonio**	**86.86**	**359**	*e*P		**P**	**20 41 01.8**	**+2.4**
	comp=Z,66nm,1.4s							
PCVE	**Castro Verde**	**86.94**	**360**	*e*P		**P**	**20 41 01.1**	**+1.3**
	comp=Z,51nm,1.6s							
RAYN	**Ar Rayn**	**86.98**	**48**	P		**P**	**20 41 02.0**	**+1.5**
	comp=Z,418nm,1.4s,SNR=34							
PBEJ	**Beja**	**87.34**	**0**	*e*P		**P**	**20 41 02.9**	**+1.2**
	comp=Z,56nm,1.8s							
PNCL	**Nicolau / Gran**	**87.42**	**360**	*e*P		**P**	**20 41 03.1**	**+1.0**
	comp=Z,50nm,1.6s							
PBAR	**Barrancos**	**87.49**	**1**	*e*P		**P**	**20 41 04.1**	**+1.6**
	comp=Z,81nm,1.7s							
EIL	**Elat**	**87.76**	**36**	LR		LR	21 20 41.2	
	comp=Z,502nm,18.2s,baz=201,slow=36							
EVO	**Evora**	**87.84**	**0**	*e*P		**P**	**20 41 05.8**	**+1.7**
	comp=Z,142nm,1.8s							
EVO				*e*R				
	comp=Z,976nm,21.5s							
EVO	**Evora**	**87.84**	**0**	*e*P		**P**	**20 41 06.2**	**+2.1**
	comp=Z,46nm,2.1s							
LIS	**Lisbon**	**88.03**	**359**	*e*P		**P**	**20 41 05.9**	**+0.9**
LIS				AMb		AMb	20 41 11.5	
	comp=Z,102nm,2.7s							
LIS	**Lisbon**	**88.03**	**359**	*e*P		**P**	**20 41 05.9**	**+0.9**
	comp=Z,102nm,2.7s							
LIS	**Lisbon**	**88.03**	**359**	*e*P		**P**	**20 41 05.9**	**+0.9**
PESTR	**Estremoz**	**88.18**	**0**	*e*P		**P**	**20 41 07.5**	**+1.7**
	comp=Z,74nm,1.9s							
PMAFR	**Mafra**	**88.27**	**359**	*e*P		**P**	**20 41 07.8**	**+1.6**
	comp=Z,160nm,1.6s							
PMTG	**Montargil**	**88.38**	**360**	*e*P		**P**	**20 41 08.3**	**+1.6**
	comp=Z,83nm,1.8s							
PMRV	**Marv??o**	**88.74**	**0**	*e*P		**P**	**20 41 09.8**	**+1.4**
	comp=Z,110nm,1.7s							
PMRV	**Marv??o**	**88.74**	**0**	*e*LQ		LQ	21 09 06.1	
PMRV				*e*LR		LR	21 11 08.3	
	comp=Z,547nm,18.0s							
PAB	**San Pablo**	**88.91**	**3**	*e*P		**P**	**20 41 10.5**	**+1.2**
PAB				pmax		pmax		
	comp=Z,56nm,1.8s							
PAB	**San Pablo**	**88.91**	**3**	*e*P		**P**	**20 41 10.5**	**+1.2**
	comp=Z,56nm,1.8s							
ESDC	**Sonseca Array**	**89.05**	**3**	P		**P**	**20 41 11.0**	**+1.1**
ESDC	**Sonseca Array**	**89.05**	**3**	P		**P**	**20 41 11.0**	**+1.1**
	comp=Z,10nm,1.4s,baz=181,slow=4.5,SNR=18							
ESDC				LR		LR	21 17 43.5	
	comp=Z,230nm,18.6s,baz=280,slow=33							
ESLA	**Sonseca Array**	**89.05**	**3**	*e*P		**P**	**20 41 11.0**	**+1.0**
	comp=Z,30nm,1.8s							
PCBR	**Castelo Branco**	**89.15**	**0**	*e*P		**P**	**20 41 12.1**	**+1.8**
	comp=Z,39nm,1.8s							
MTE	**Manteigas**	**89.71**	**0**	*e*P		**P**	**20 41 14.9**	**+1.9**
	comp=Z,52nm,1.8s							
MTE	**Manteigas**	**89.71**	**0**	*e*LQ		LQ	21 09 44.8	
MTE				*e*LR		LR	21 11 23.6	
	comp=Z,560nm,20.0s							
MTE	**Manteigas**	**89.71**	**0**	*e*P		**P**	**20 41 14.3**	**+1.3**
	comp=Z,98nm,1.9s							
PVIS	**Viseu**	**90.02**	**0**	*e*P		**P**	**20 41 16.1**	**+1.7**
	comp=Z,33nm,1.8s							
CEL	**Celeste**	**90.08**	**19**	*e*P		**P**	**20 41 16.1**	**+1.3**
	comp=Z,106nm,1.4s							
VSL	**Villasalto**	**90.12**	**13**	*e*P		**P**	**20 41 16.1**	**+1.2**
	comp=Z,90nm,1.4s							
PYL	**PYLOS**	**90.15**	**23**	P		**P**	**20 41 17.2**	**+2.2**
MVO	**Moncorvo**	**90.47**	**1**	*e*P		**P**	**20 41 17.8**	**+1.3**
	comp=Z,51nm,1.6s							
MVO	**Moncorvo**	**90.47**	**1**	*e*LQ		LQ	21 09 01.6	
MVO				*e*LR		LR	21 11 11.0	
	comp=Z,578nm,20.0s							
PVRL	**Vila Real**	**90.58**	**0**	*e*P		**P**	**20 41 18.6**	**+1.6**
	comp=Z,29nm,1.9s							
SANT	**Santorini**	**90.67**	**26**	P		**P**	**20 41 19.8**	**+2.2**
POLO	**Lamas de Olo**	**90.68**	**0**	*e*P		**P**	**20 41 18.6**	**+1.1**
	comp=Z,17nm,2.0s							
ASF	**Jabal al Asfar**	**90.74**	**37**	LR		LR	21 19 53.5	
	comp=Z,416nm,20.3s,baz=72,slow=34							
VLX	**Vlachokerasia**	**90.76**	**24**	P		**P**	**20 41 20.8**	**+2.8**
MMAI	**Mount Meron Ar**	**90.92**	**35**	LR		LR	21 21 56.0	
	comp=Z,395nm,19.0s,baz=210,slow=35							
PCAB	**Cabril**	**91.02**	**360**	*e*P		**P**	**20 41 20.8**	**+1.8**
	comp=Z,48nm,1.6s							
PBRG	**Braganca**	**91.12**	**1**	*e*P		**P**	**20 41 21.3**	**+1.8**
	comp=Z,41nm,1.7s							
TIP	**Timpagrande**	**91.15**	**19**	P		**P**	**20 41 21.1**	**+1.4**
RLS	**Riolos of Patr**	**91.17**	**23**	P		**P**	**20 41 22.8**	**+3.0**
PGAV	**Gavieira, Arco**	**91.27**	**360**	*e*P		**P**	**20 41 21.1**	**+0.8**
	comp=Z,42nm,1.8s							
PGAV	**Gavieira, Arco**	**91.27**	**360**	*e*LQ		LQ	21 07 58.1	
PGAV				*e*LR		LR	21 10 17.1	
	comp=Z,439nm,18.0s							
EFP	**Efpalio**	**91.64**	**23**	P		**P**	**20 41 24.8**	**+2.9**
CUC	**Castrocucco**	**91.74**	**18**	*e*P		**P**	**20 41 22.6**	**+0.2**
	comp=Z,38nm,1.4s							
PTL	**Penteli**	**91.79**	**25**	P		**P**	**20 41 25.6**	**+2.9**
CSS	**Prodhromos**	**91.91**	**33**	*e*P		**P**	**20 41 25.3**	**+2.0**
	comp=Z,83nm,1.4s							
EVR	**Evrytania**	**92.07**	**23**	P		**P**	**20 41 26.6**	**+2.5**
MAKR	**Makrakomi, Fth**	**92.25**	**23**	P		**P**	**20 41 27.8**	**+3.0**
AGG	**Agios Georgios**	**92.31**	**23**	P		**P**	**20 41 25.9**	**+0.8**
FILF	**Fillols**	**92.33**	**8**	*e*P		**P**	**20 41 26.4**	**+1.3**
FILF	**Fillols**	**92.33**	**8**	*e*P		**P**	**20 41 26.4**	**+1.3**
BSY	**Bisya**	**92.35**	**57**	P		**P**	**20 41 27.4**	**+1.7**
	SNR=8.8							
ETSF	**Etsaut**	**92.44**	**5**	*e*P		**P**	**20 41 27.2**	**+1.6**
	comp=Z,102nm,1.7s							
CARF	**Carcanieres**	**92.45**	**7**	*e*P		**P**	**20 41 27.4**	**+1.7**
CARF	**Carcanieres**	**92.45**	**7**	*e*P		**P**	**20 41 27.4**	**+1.7**
ARQ	**Araqi**	**92.46**	**56**	P		**P**	**20 41 28.3**	**+2.1**
	SNR=8.4							
MELF	**Melles**	**92.50**	**6**	*e*P		**P**	**20 41 28.0**	**+2.1**
MELF	**Melles**	**92.50**	**6**	*e*P		**P**	**20 41 28.0**	**+2.1**
MLS	**Moulis**	**92.61**	**7**	*e*P		**P**	**20 41 28.0**	**+1.7**
MLS	**Moulis**	**92.61**	**7**	*e*P		**P**	**20 41 28.0**	**+1.7**
SJPF	**Ste Jean**	**92.61**	**5**	*e*P		**P**	**20 41 27.9**	**+1.6**
	comp=Z,151nm,1.9s							
ATE	**Arette**	**92.61**	**5**	*e*P		**P**	**20 41 28.3**	**+2.0**
ATE	**Arette**	**92.61**	**5**	*e*P		**P**	**20 41 28.3**	**+2.0**
REYF	**Montagne du Re**	**92.62**	**6**	*e*P		**P**	**20 41 28.5**	**+2.0**
REYF	**Montagne du Re**	**92.62**	**6**	*e*P		**P**	**20 41 28.5**	**+2.0**
EPF	**Esparros**	**92.63**	**6**	*e*P		**P**	**20 41 27.9**	**+1.4**
	comp=Z,98nm,1.6s							
NAY	**Al-Naaiem**	**92.65**	**46**	*e*P		**P**	**20 41 27.8**	**+1.0**
NAY				AMb		AMb	20 41 31.1	
	comp=Z,34nm,2.0s							
THL	**Klokotos Trika**	**92.74**	**23**	P		**P**	**20 41 29.1**	**+2.1**
KBD	**Kabd**	**92.80**	**46**	*e*P		**P**	**20 41 29.1**	**+1.5**
KBD				AMb		AMb	20 41 36.1	
	comp=Z,56nm,1.2s							
PGF	**Pioggiola**	**93.06**	**13**	*e*P		**P**	**20 41 28.8**	**+0.3**
	comp=Z,49nm,1.2s							
MTLF	**Montolieu**	**93.08**	**7**	*e*P		**P**	**20 41 28.8**	**+0.3**
	comp=Z,46nm,1.7s							
HOQ	**Hoqain**	**93.08**	**57**	P		**P**	**20 41 30.2**	**+1.2**
	SNR=9.3							
UMR	**Umm Al-Rimmam**	**93.13**	**46**	*e*P		**P**	**20 41 30.5**	**+1.4**
UMR				AMb		AMb	20 41 37.6	
	comp=Z,71nm,1.3s							
MIB	**Mutribah**	**93.16**	**46**	*e*P		**P**	**20 41 30.7**	**+1.5**
MIB				AMb		AMb	20 41 33.4	
	comp=Z,87nm,1.7s							
ASHO	**Ashiyiah**	**93.30**	**55**	P		**P**	**20 41 31.6**	**+1.6**
	SNR=11							
NEST	**Nestorio**	**93.30**	**22**	P		P	20 41 34.3	+4.6
LIT	**Litokhoron**	**93.36**	**23**	P		**P**	**20 41 31.2**	**+1.3**
LMR	**La Mourre**	**93.51**	**11**	*e*P		**P**	**20 41 31.3**	**+0.9**
	comp=Z,94nm,1.7s							
RKT	**Rikitea**	**93.59**

MEZF **Maizieres J'vi** 98.45 9 *e*P Pdif 20 41 53.5 +0.7
PAGF **Fort de Pagny** 98.58 9 *e*P Pdif 20 41 54.5 +1.1
comp=Z,2.9nm,0.9s
CDF **Champ du Feu** 98.61 10 *e*P Pdif 20 41 54.1 +0.5
TEIG **Tepich** 99.09 290 LR LR 21 23 54.4
comp=Z,416nm,21.7s,baz=245,slow=34
MLR **Muntele Rosu** 99.30 23 LR LR 21 24 34.6
comp=Z,31nm,21.8s,baz=174,slow=34
ASAR **Alice Springs** 99.52 145 PP PP 20 46 01.2 0.0
ASAR **Alice Springs** 99.52 145 PP PP 20 46 01.2 0.0
comp=Z,0.8nm,1.0s,baz=205,slow=5.5,SNR=5.2
TBI **Tubuai** 99.62 216 *e*LR LR 21 14 22.5
comp=Z,414nm,23.5s
BAIF **Baives** 99.92 8 *e*P **Pdif** **20 42 00.1 +0.8**
GERES **GERESS Array B** 99.92 14 PP PP 20 46 04.8 -0.3
GERES **GERESS Array B** 99.92 14 PP PP 20 46 04.8 -0.3
comp=Z,0.4nm,0.7s,baz=234,slow=8.1,SNR=3.8
KHC **Kasperske Hory** 100.18 14 *e*P **Pdif** **20 42 01.8 +1.3**
KHC *e* 20 46 06.5
KHC MLR MLR
comp=Z,500nm,16.1s
KHC **Kasperske Hory** 100.18 14 *e*PDIFF **Pdif** **20 42 01.8 +1.3**
KHC *ex* x 20 42 08.9
KHC *e*PP **PP** **20 46 06.5 -0.5**
KHC AMS AMS 21 24 10.0
comp=Z,500nm,16.1s
GRFO **Grafenberg** 100.37 13 *e*P **Pdif** **20 42 03.8 +2.5**
GRFO pmax pmax
comp=Z,51nm,1.8s
GRFO **Grafenberg** 100.37 13 *e*Pdif **Pdif** **20 42 03.8 +2.5**
comp=Z,51nm,1.8s
VYHS **Vyhne** 100.50 18 *e*P **Pdif** **20 42 03.7 +1.7**
VYHS **Vyhne** 100.50 18 PDIF **Pdif** **20 42 03.7 +1.7**
TREC **Trest** 100.65 15 AMS AMS 21 31 00.0
comp=Z,400nm,18.6s
PRU **Pruhonice** 101.16 15 *e*P **Pdif** **20 42 11.5 +6.7**
PRU *e* 20 46 13.5
PRU MLR MLR
comp=Z,400nm,19.1s
PRU **Pruhonice** 101.16 15 *e*PDIFF **Pdif** **20 42 11.5 +6.7**
PRU *e*PP **PP** **20 46 13.5 -0.9**
PRU AMS AMS 21 25 40.0
comp=Z,400nm,19.1s
PRA **Prague** 101.22 15 PDIFF **Pdif** **20 42 12.0 +6.9**
PRA PP **PP** **20 46 14.0 -0.8**
PRA AMS AMS 21 26 00.0
OKC **Ostrava-Krasne** 101.66 17 *e*PP PP 20 46 24.5 +6.4
OKC AMS AMS 21 25 50.0
comp=Z,300nm,18.0s
PVCC **Panska Ves** 101.69 15 *e*PP PP 20 46 24.3 +5.9
DPC **Dobruska-Polom** 101.81 16 *e*P **Pdif** **20 42 09.2 +1.4**
DPC **Dobruska-Polom** 101.81 16 *e*PDIFF **Pdif** **20 42 09.2 +1.4**
DPC *e*PP PP 20 46 11.5 -7.9
DPC AMS AMS 21 24 40.0
UPC **Upice** 101.91 15 *e*P **Pdif** **20 42 13.4 +5.2**
UPC **Upice** 101.91 15 *e*PDIFF **Pdif** **20 42 13.4 +5.2**
UPC *ex* x 20 42 20.3
BRG **Berggiesshubel** 101.92 14 *e*PDIF Pdif 20 41 57.6 -11
comp=Z,1.4nm,0.7s
BRG **Berggiesshubel** 101.92 14 *e*P Pdif 20 41 57.6 -11
BRG pmax pmax
comp=Z,2.0nm,0.7s
CLL **Collm** 102.20 13 *e*P **Pdif** **20 42 07.0 -2.4**
CLL MLR MLR
comp=Z,500nm,19.7s
CLL **Collm** 102.20 13 *e*Pdif **Pdif** **20 42 11.0 +1.6**
CLL *e*PP **PP** **20 46 18.0 -4.2**
CLL *e*PPPP 20 50 30.0
CLL *e*PPS PPS 20 56 18.0
CLL *e*SS SS 21 01 06.0 +7.4
CLL Lm MLR 21 21 00.0
comp=N,300nm,20.3s
CLL Lm MLR 21 21 00.0
comp=E,300nm,19.3s
CLL Lm MLR 21 21 00.0
comp=Z,500nm,19.7s
KIV **Kislovodsk** 103.23 35 *e*P **Pdif** **20 42 16.8 +2.5**
KIV *i* 20 46 27.9
KIV pmax pmax
comp=Z,3.0nm,1.3s
KIV MLR MLR
comp=Z,400nm,20.0s
PPT2 **Papeete2** 104.88 218 *e*SS SS 21 01 40.3 +5.9
comp=Z,205nm,26.0s
PPT2 **Papeete2** 104.88 218 *e*LR LR 21 16 53.7
comp=Z,750nm,25.5s
FINES **FINESS Array B** 114.11 17 PKiKP PKPdf 20 46 52.9 -0.4
FINES **FINESS Array B** 114.11 17 PKiKP PKPdf 20 46 52.9 -0.4
comp=Z,0.8nm,0.6s,baz=201,slow=3.3,SNR=4.7
CMAR **Chiang Mai Arr** 114.78 90 PKP PKPdf 20 46 56.0 0.0
CMAR **Chiang Mai Arr** 114.78 90 PKP PKPdf 20 46 56.0 0.0
comp=Z,0.7nm,0.8s,baz=216,slow=3.9,SNR=5.4
TXAR **Lajitas Array** 115.24 286 PKP **PKPdf** **20 46 57.1 +0.5**
TXAR **Lajitas Array** 115.24 286 PKP **PKPdf** **20 46 57.1 +0.5**
comp=Z,0.9nm,0.9s,baz=169,slow=0.9,SNR=3.6
KSH **Kashi** 115.43 58 PKP **PKPdf** **20 46 57.1 +0.4**
KSH sPKP 20 47 14.2
KSH PP **PP** **20 48 00.2 +1.3**
KSH SKS **SKSdf** **20 54 04.3 -4.4**
KSH SKKS SKKSac 20 54 51.5 -8.0
KSH SS **SS** **21 03 53.4 -4.2**
KSH AMB AMB
comp=Z,110nm,5.9s
KSH LR LR
comp=N,1μm,14.2s
KSH LR LR
comp=E,320nm,10.2s
KSH LR LR
comp=Z,290nm,20.0s
AAK **Ala-Archa** 116.79 55*c* *i*PKiKP **PKPdf** **20 46 59.3 0.0**
ARU **Arti** 119.27 36 *i* PKiKP **PKPdf** **20 47 03.5 +0.2**
ARU 20 48 24.5
Y24A **Capitan** 119.48 289 P **PKPdf** **20 47 04.5 -0.3**
baz=120
W25A **X Bar L Ranch,** 119.75 290 P **PKPdf** **20 47 04.8 -0.5**
baz=120
Y23A **Lovelace Mesa,** 119.86 288 P **PKPdf** **20 47 05.5 0.0**
baz=120
SVE **Sverdlovsk** 120.35 36 *e*PKIKP **PKPdf** **20 47 06.1 +0.7**
SVE pmax pmax
comp=Z,21nm,1.4s
Y22A **Socorro** 120.43 288 P **PKPdf** **20 47 06.4 -0.2**
baz=121
S25A **Robets Cordova** 121.34 293 P **PKPdf** **20 47 08.5 +0.3**
baz=122
ARCES **ARCESS Array B** 121.42 13 PKP **PKPdf** **20 47 07.0 -0.2**
ARCES **ARCESS Array B** 121.42 13 PKP **PKPdf** **20 47 07.0 -0.2**
comp=Z,3.1nm,0.7s,baz=318,slow=2.6,SNR=5.2
U23A **El Rito** 121.53 290 P **PKPdf** **20 47 09.6 +0.9**
baz=122
V22A **San Miguel Ran** 121.70 289 P **PKPdf** **20 47 09.7 +0.6**
baz=122
TUC **Tucson** 121.73 284 *e*PKIKP **PKPdf** **20 47 07.6 -1.4**
TUC **Tucson** 121.73 284 *e*PKPdf **PKPdf** **20 47 07.6 -1.4**
X20A **Quemado** 121.78 287 P **PKPdf** **20 47 09.2 0.0**
baz=122
BRVK **Borovoye** 121.79 44*c* *i*PKIKP **PKPdf** **20 47 08.6 +0.2**
BRVK **Borovoye** 121.79 44 PKPdf **PKPdf** **20 47 08.5 +0.2**
SNR=6.2
BRVK **Borovoye** 121.79 44 *e*PKPdf **PKPdf** **20 47 08.4 +0.1**
KMI **Kunming** 121.99 88 PKP **PKPdf** **20 47 09.9 0.0**
KMI sPKP 20 47 25.9
KMI PP PP 20 48 49.7 +5.2
KMI SS SS 21 05 22.7 -0.2
KMI AMB AMB
comp=Z,67nm,4.9s
KMI LR LR
comp=N,160nm,18.1s
KMI LR LR
comp=E,290nm,18.1s
KMI LR LR
comp=Z,300nm,29.3s
V21A **Milan** 122.08 289 P **PKPdf** **20 47 10.0 +0.2**
baz=122
W20A **Ramah** 122.16 288 P **PKPdf** **20 47 10.6 +0.6**
baz=122
QIZ **Qiongzhong** 122.25 99 PKP **PKPdf** **20 47 10.3 0.0**
QIZ PP **PP** **20 48 46.6 +0.7**
QIZ SS SS 21 05 26.1 +0.5
QIZ LR LR
comp=N,280nm,24.7s
QIZ LR LR
comp=E,180nm,24.7s
QIZ LR LR
comp=Z,470nm,23.3s

T22A **Edith** 122.41 290 P **PKPdf** **20 47 10.4 0.0**
baz=123
U21A **Nageezi** 122.49 289 P **PKPdf** **20 47 10.4 -0.2**
baz=123
X18A **Snowflake** 122.67 286 P **PKPdf** **20 47 10.9 0.0**
baz=123
S22A **4UR Ranch, Cre** 122.84 291 P **PKPdf** **20 47 09.9 -1.4**
baz=123
U20A **Newcomb** 122.99 289 P **PKPdf** **20 47 10.4 -1.1**
baz=123
J28A **Allard Ranch,** 123.18 300 P **PKPdf** **20 47 11.1 -0.4**
baz=123
S21A **Coal Bank Pass** 123.37 291 P **PKPdf** **20 47 12.6 +0.3**
baz=124
X16A **Lo Mia Camp, P** 123.53 285 P **PKPdf** **20 47 12.4 -0.2**
baz=124
Q22A **Crested Butte,** 123.61 292 P **PKPdf** **20 47 13.2 +0.5**
baz=124
R21A **Cimarron** 123.68 291 P **PKPdf** **20 47 13.0 +0.2**
baz=124
MK31 **Makanchi Array** 123.70 56 *e*PKIKP **PKPdf** **20 47 10.8 -1.5**
MK31 **Makanchi Array** 123.70 56 *e*PKPdf **PKPdf** **20 47 10.8 -1.5**
MKAR **Makanchi Array** 123.70 56 PKIKP **PKPdf** **20 47 12.3 0.0**
MKAR **Makanchi Array** 123.70 56 PKP **PKPdf** **20 47 12.3 0.0**
MKAR PKKPbc **PKKPbc** **20 56 58.6 -0.4**
MKAR **Makanchi Array** 123.70 56 PKP **PKPdf** **20 47 12.3 0.0**
comp=Z,1.7nm,0.8s,baz=232,slow=1.4,SNR=18
MKAR PKKPbc **PKKPbc** **20 56 58.6 -0.4**
comp=Z,0.4nm,0.8s,baz=42,slow=4.5,SNR=4.7
Z14A **Wintersburg** 123.79 283 P **PKPdf** **20 47 12.7 -0.1**
baz=124
SUMG **Summit** 123.80 349 *e*PKIKP **PKPdf** **20 47 13.0 +0.8**
SUMG *i* 20 47 19.3
SUMG pmax pmax
comp=Z,6.0nm,1.0s
SUMG **Summit** 123.80 349 *e*PKPdf **PKPdf** **20 47 12.2 0.0**
SUMG **Summit** 123.80 349 *i* P **PKPdf** **20 47 13.0 +0.8**
comp=Z,6.3nm,1.0s
SUMG *i* 20 47 19.3
113A **Mohawk Valley,** 123.92 282 P **PKPdf** **20 47 13.0 0.0**
baz=124
R20A **Redvale** 124.07 291 P **PKPdf** **20 47 13.6 +0.1**
baz=124
Y14A **Wickenburg** 124.20 284 P **PKPdf** **20 47 13.4 -0.3**
baz=124
O22A **Kremmling** 124.21 294 P **PKPdf** **20 47 13.2 -0.6**
baz=124
Q20A **Ridgley Place,** 124.50 291 P **PKPdf** **20 47 14.2 0.0**
baz=125
J25A **Sunshine Ranch** 124.62 298 P **PKPdf** **20 47 13.5 -0.8**
baz=125
G27A **Dupree** 124.79 301 P **PKPdf** **20 47 14.1 -0.4**
baz=125
H26A **Fairpoint** 124.80 300 P **PKPdf** **20 47 14.4 -0.1**
baz=125
WMQ **Urumqi** 124.85 61 P **PKPdf** **20 47 14.8 +0.2**
WMQ **Urumqi** 124.85 61 PKP **PKPdf** **20 47 15.0 +0.4**
P20A **De Begue** 124.90 292 P **PKPdf** **20 47 14.5 -0.5**
baz=125
Y12C **Blythe** 125.04 283 P **PKPdf** **20 47 15.3 +0.1**
baz=125
N21A **Black Mountain** 125.16 294 P **PKPdf** **20 47 15.6 0.0**
baz=125
P19A **Cripple Cowboy** 125.34 292 P **PKPdf** **20 47 15.4 -0.5**
baz=126
U15A **North Rim** 125.36 287 P **PKPdf** **20 47 16.3 +0.2**
baz=126
GYA **Guiyang** 125.46 90 Pdif **Pdif** **20 43 54.6 +0.9**
GYA PKP **PKPdf** **20 47 15.8 -0.6**
GYA sPKP 20 47 31.9
GYA PP **PP** **20 49 11.0 +3.3**
GYA PKS **PKSdf** **20 50 51.4 -1.8**
GYA SKKS 20 56 01.2
GYA SS **SS** **21 06 05.8 -0.8**
GYA AMB AMB
comp=Z,170nm,7.8s
GYA LR LR
comp=N,250nm,21.6s
GYA LR LR
comp=E,180nm,22.9s
GYA LR LR
comp=Z,210nm,21.2s
W13A **Hualapai Mount** 125.51 284 P **PKPdf** **20 47 16.5 +0.1**
baz=126
BC3 **Big Chuckawall** 125.57 282 P **PKPdf** **20 47 16.8 +0.4**
baz=126
M21A **Separation Pea** 125.59 294 P **PKPdf** **20 47 15.9 -0.5**
baz=126
N20A **Spence Gulch,** 125.65 293 P **PKPdf** **20 47 16.2 -0.3**
baz=126
IRM **Iron Mountain** 125.70 283 P **PKPdf** **20 47 16.4 -0.1**
baz=126
E26A **Carlson Angus** 125.75 302 P **PKPdf** **20 47 15.9 -0.3**
baz=126
L21A **Rawlins** 125.82 295 P **PKPdf** **20 47 16.6 -0.1**
baz=126
O19A **Miners Draw (B** 125.84 292 P **PKPdf** **20 47 16.1 -0.6**
baz=126
H24A **Dirks Ranch, A** 125.88 299 P **PKPdf** **20 47 15.8 -0.8**
baz=126
SRU **San Rafael** 125.95 290 PKIKP **PKPdf** **20 47 15.6 -1.5**
SRU **San Rafael** 125.95 290 PKPdf **PKPdf** **20 47 15.6 -1.5**
J22A **Midwest** 126.18 297 P **PKPdf** **20 47 16.0 -1.3**
baz=126
DAG **Danmarks Havn** 126.36 357 *e*PKIKP **PKPdf** **20 47 16.6 +0.2**
DAG *i* 20 47 22.4
DAG pmax pmax
comp=Z,6.0nm,1.4s
DAG **Danmarks Havn** 126.36 357 *i* P **PKPdf** **20 47 16.6 +0.2**
comp=Z,2.5nm,1.4s
DAG *i* 20 47 22.4
L20A **Wamsutter** 126.42 294 P **PKPdf** **20 47 17.6 -0.2**
baz=127
GMRC **Granite Mounta** 126.42 283 P **PKPdf** **20 47 17.7 -0.3**
baz=127
CD2 **Chengdu** 126.57 84 PKP **PKPdf** **20 47 18.1 -0.2**
CD2 sPKP 20 47 33.1
CD2 PP **PP** **20 49 19.1 +4.1**
CD2 PKS **PKSdf** **20 50 53.3 -1.7**
CD2 SKS **SKSdf** **20 54 24.5 -5.5**
CD2 SKKS **SKKSac** **20 56 06.9 -5.5**
CD2 SS **SS** **21 06 19.9 -0.4**
CD2 AMB AMB
comp=Z,120nm,6.3s
CD2 LR LR
comp=N,360nm,19.6s
CD2 LR LR
comp=E,380nm,21.1s
CD2 LR LR
comp=Z,400nm,20.1s
MSU **Marysvale** 126.59 289 *e*PKIKP **PKPdf** **20 47 17.9 -0.5**
MSU **Marysvale** 126.59 289 *e*PKPdf **PKPdf** **20 47 17.9 -0.5**
CCUT **Cedar City** 126.73 287 *e*PKPdf **PKPdf** **20 47 18.9 +0.3**
K20A **Yellowstone Ra** 126.81 295 P **PKPdf** **20 47 18.7 +0.2**
baz=127
D24A **Glendive** 127.16 302 P **PKPdf** **20 47 19.2 +0.3**
baz=127
DAU **Daniels Canyon** 127.19 291 *e*PKIKP **PKPdf** **20 47 17.4 -2.2**
DAU **Daniels Canyon** 127.19 291 *e*PKPdf **PKPdf** **20 47 17.4 -2.2**
K19A **Absolon Red Bu** 127.21 295 P **PKPdf** **20 47 17.8 -1.5**
baz=127
GSC **Goldstone** 127.48 283 *e*PKIKP **PKPdf** **20 47 19.3 -0.7**
GSC **Goldstone** 127.48 283 *e*PKPdf **PKPdf** **20 47 19.3 -0.7**
M17A **Scullys Gap (B** 127.48 292 P **PKPdf** **20 47 19.2 -0.7**
baz=128
BW06 **Boulder Array** 127.59 294 *e*PKPdf **PKPdf** **20 47 18.8 -1.4**
PDAR **Pinedale Array** 127.59 294 PKP **PKPdf** **20 47 19.2 -0.9**
PDAR **Pinedale Array** 127.59 294 PKP **PKPdf** **20 47 19.2 -0.9**
comp=Z,1.0nm,0.9s,baz=146,slow=2.9,SNR=6.2
EDW2 **Edwards Air Fo** 127.97 281 P **PKPdf** **20 47 20.7 -0.1**
baz=128
DUG **Dugway** 128.01 290 P **PKPdf** **20 47 20.9 0.0**
baz=128
I19A **Meeteetse** 128.01 296 P **PKPdf** **20 47 20.9 +0.1**
baz=128
HWUT **Hardware Ranch** 128.10 292 *e*PKPdf **PKPdf** **20 47 20.3 -0.8**
D22A **Cohagen** 128.21 301 P **PKPdf** **20 47 21.2 +0.3**
baz=128
FURC **Furnace Creek,** 128.25 284 P **PKPdf** **20 47 22.1 +0.8**
baz=128
MPMC **Manual Prospec** 128.39 283 P **PKPdf** **20 47 22.3 +0.5**
baz=128
D21A **La Casta Ranch** 128.62 300 P **PKPdf** **20 47 21.7 0.0**
baz=129
LOHW **Long Hollow** 128.71 295 *e*PKPdf **PKPdf** **20 47 21.4 -0.8**
B22A **Reddig Ranch S** 128.77 302 P **PKPdf** **20 47 22.4 +0.4**
baz=129
TPAW **Teton Pass** 128.84 294 *e*PKPdf **PKPdf** **20 47 22.1 -0.5**
MOOW **Moose Ponds** 128.87 295 *e*PKPdf **PKPdf** **20 47 21.5 -1.0**
NVS **Novosibirsk** 128.94 48 *i*/*e*PKIKP **PKPdf** **20 47 22.0 +0.1**
NVS 20 49 32.8
NVS pmax pmax
comp=Z,51nm,1.7s
NVS pmax pmax
comp=N,14nm,1.6s
NVS pmax pmax
comp=E,16nm,1.8s
E20A **Meyer Farm, Mu** 128.94 299 P **PKPdf** **20 47 22.8 +0.4**
baz=129
F19A **Roth Farm, Mol** 129.04 298 P **PKPdf** **20 47 22.8 +0.2**
baz=129
IMW **Indian Meadow** 129.07 295 *e*PKPdf **PKPdf** **20 47 22.7 -0.2**
G18A **Lazy EL Ranch,** 129.09 297 P **PKPdf** **20 47 22.6 -0.2**
baz=129
A22A **Carney Farms,** 129.11 303 P **PKPdf** **20 47 22.6 0.0**
baz=129
ZAA0 **Zalesovo Array** 129.22 50 *e*PKPdf **PKPdf** **20 47 21.3 -1.2**
ZALV **Zalesovo Beam** 129.22 50 PKIKP **PKPdf** **20 47 22.2 -0.3**
ZALV **Zalesovo Beam** 129.22 50 PKP **PKPdf** **20 47 22.2 -0.3**
ZALV **Zalesovo Beam** 129.22 50 PKP **PKPdf** **20 47 22.2 -0.3**
comp=E,4.7nm,1.1s,baz=242,slow=3.2,SNR=15
E19A **Rath Farm, Rou** 129.29 299 P **PKPdf** **20 47 22.8 -0.2**
baz=130
GTA **Gaotai** 129.41 73 *e*PKP **PKPdf** **20 47 23.6 0.0**
GTA sPKP 20 47 38.8
GTA PP **PP** **20 49 36.2 +2.4**
GTA SKS **SKSdf** **20 54 31.2 -3.9**
GTA SKKS **SKKSac** **20 56 24.8 -5.3**
GTA SS **SS** **21 06 51.9 -3.8**
GTA AMB AMB
comp=Z,77nm,6.7s
GTA LR LR
comp=N,270nm,20.0s
GTA LR LR
comp=E,320nm,20.9s
GTA LR LR
comp=Z,230nm,20.4s
F18A **Big Timber** 129.51 298 P **PKPdf** **20 47 22.8 -0.7**
baz=130
C20A **Veseth Ranch,** 129.55 300 P **PKPdf** **20 47 23.7 +0.2**
baz=130
D19A **Cripps Ranch,** 129.74 299 P **PKPdf** **20 47 24.3 +0.4**
baz=130
QLMT **Earthquake Lak** 129.90 296 *e*PKPdf **PKPdf** **20 47 25.1 +0.7**
LZH **Lanzhou** 129.93 79 *e*PKP **PKPdf** **20 47 26.4 +1.7**
LZH sPKP 20 47 39.1
LZH PP **PP** **20 49 40.6 +3.4**
LZH PKS **PKSdf** **20 51 02.1 +0.8**
LZH SKS SKSdf 20 54 28.3 -7.9
LZH AMB AMB
comp=Z,62nm,4.0s
LZH LR LR
comp=N,410nm,19.3s
LZH LR LR
comp=E,690nm,18.6s
LZH LR LR
comp=Z,720nm,20.0s
B20A **Solberg Farm,** 129.97 301 P **PKPdf** **20 47 25.2 +1.0**
baz=130
E18A **Harlowton** 130.00 298 P **PKPdf** **20 47 25.1 +0.7**
baz=130
F17A **Fitzpatrick Pl** 130.05 297 P **PKPdf** **20 47 25.2 +0.6**
baz=130
A20A **Cobblestone Ra** 130.16 302 P **PKPdf** **20 47 24.0 -0.5**
baz=130
FFC **Flin Flon** 130.19 311 *e*PKIKP **PKPdf** **20 47 23.1 -1.2**
FFC **Flin Flon** 130.19 311 *e*PKPdf **PKPdf** **20 47 23.1 -1.2**
NVAR **Mina Array Bea** 130.35 285 PKP **PKPdf** **20 47 25.9 +0.4**
NVAR **Mina Array Bea** 130.35 285 PKP **PKPdf** **20 47 25.9 +0.4**
comp=Z,1.1nm,0.8s,baz=139,slow=3.5,SNR=13
E17A **Martinsdale** 130.48 298 P **PKPdf** **20 47 25.5 +0.1**
baz=131
B19A **Brinkman Farms** 130.49 301 P **PKPdf** **20 47 25.8 +0.6**
baz=131
F16A **Kennard Place,** 130.55 296 P **PKPdf** **20 47 26.0 +0.5**
baz=131
A19A **Klindworth Far** 130.63 301 P **PKPdf** **20 47 25.7 +0.2**
baz=131
EGMT **Eagleton** 130.71 300 *e*PKPdf **PKPdf** **20 47 25.4 -0.2**
EGMT **Eagleton** 130.71 300 P **PKPdf** **20 47 25.9 +0.2**
baz=131
D17A **Six Diamond Ra** 130.76 298 P **PKPdf** **20 47 25.4 -0.5**
baz=131
DLMT **Dillon** 130.88 296 *e*PKPdf **PKPdf** **20 47 26.7 +0.5**
B18A **Beardsley Farm** 130.92 300 P **PKPdf** **20 47 25.9 -0.1**
baz=131
LRM **Limekiln Ridge** 131.05 296 *e*PKPdf **PKPdf** **20 47 26.8 +0.2**
C17A **Wharram Farm,** 131.07 299 P **PKPdf** **20 47 26.2 -0.2**
baz=131
F15A **Butte** 131.08 296 P **PKPdf** **20 47 26.4 -0.2**
baz=131
A18A **Metzger Ranch,** 131.24 301 P **PKPdf** **20 47 26.5 -0.1**
baz=132
B17A **L&G Farms, Che** 131.44 300 P **PKPdf** **20 47 27.5 +0.5**
baz=132
I12A **Atlanta** 131.51 292 P **PKPdf** **20 47 28.2 +0.7**
baz=132
MFID **Camas Ranch** 131.72 292 P **PKPdf** **20 47 27.8 0.0**
baz=132
C16A **Fuhringer Ranc** 131.72 299 P **PKPdf** **20 47 28.1 +0.4**
baz=132
A17A **Triple J Farms** 131.73 300 P **PKPdf** **20 47 28.1 +0.5**
baz=132
D15A **Lincoln** 131.75 297 P **PKPdf** **20 47 28.7 +0.9**
baz=132
H12A **Diamond D Ranc** 131.76 293 P **PKPdf** **20 47 27.9 0.0**
baz=132
B16A **M & M Farms, S** 132.02 299 P **PKPdf** **20 47 28.4 +0.2**
baz=132
CHMT **Chamberlain Mo** 132.11 297 *e*PKPdf **PKPdf** **20 47 28.2 -0.4**
D14A **Greenough** 132.34 297 P **PKPdf** **20 47 29.2 +0.3**
baz=133
G12A **Big Creek, Yel** 132.36 294 P **PKPdf** **20 47 28.8 -0.2**
baz=133
MSO **Missoula** 132.46 296 P **PKPdf** **20 47 28.9 -0.2**
baz=133
BEKR **Beckworth** 132.49 285 *e*PKPdf **PKPdf** **20 47 29.6 +0.1**
C14A **Swan Lake** 132.84 298 P **PKPdf** **20 47 29.5 -0.2**
baz=133
B14A **Marquette Ranc** 132.88 299 P **PKPdf** **20 47 29.8 0.0**
baz=133
D13A **Huson** 132.90 297 P **PKPdf** **20 47 29.5 -0.3**
baz=133
A14A **Double T Ranch** 133.28 299 P **PKPdf** **20 47 30.3 -0.3**
baz=134
BMO **Blue Mountains** 133.39 292 *e*PKIKP **PKPdf** **20 47 30.8 -0.1**
BMO **Blue Mountains** 133.39 292 *e*PKPdf **PKPdf** **20 47 30.8 -0.1**
D12A **Red Ives Fores** 133.40 296 P **PKPdf** **20 47 31.1 +0.3**
baz=134
B13A **Whitefish** 133.57 298 P **PKPdf** **20 47 31.3 +0.2**
baz=134
MOY **Mondy** 136.61 59 *e*PKHKP PKPpre 20 47 27.8
MOY pmax pmax
comp=Z,40nm,1.9s
ZAK **Zakamensk** 137.32 62 *e*PKHKP PKPpre 20 47 27.0
ZAK pmax pmax
comp=Z,9.0nm,1.6s
HHC **Hu-ho-hao-te** 137.62 78 *e*PKP **PKPdf** **20 47 38.3 -0.6**
HHC sPKP 20 47 53.1
HHC PP **PP** **20 50 29.8 +3.7**
HHC PKS **PKSdf** **20 51 12.3 -2.8**
HHC SKS **SKSdf** **20 54 44.0 -5.5**
HHC SKKS **SKKSac** **20 57 16.1 -3.8**
HHC SS **SS** **21 08 34.1 -0.9**
HHC AMB AMB
comp=Z,78nm,9.8s
HHC LR LR
comp=N,310nm,20.2s
HHC LR LR
comp=E,560nm,20.2s
HHC LR LR
comp=Z,620nm,21.0s
SONM **Songino Array** 137.97 66 PKPpre PKPpre 20 47 31.2
SONM PKP **PKPdf** **20 47 38.9 -0.5**
SONM PP **PP** **20 50 28.9 +0.7**
SONM **Songino Array** 137.97 66 PKhKP PKPpre 20 47 31.2
comp=Z,1.1nm,1.1s,baz=242,slow=3.1,SNR=2.5
SONM PKP **PKPdf** **20 47 38.9 -0.5**
comp=Z,0.5nm,0.6s,baz=275,slow=2.3,SNR=6.5
SONM PP **PP** **20 50 28.9 +0.7**
comp=Z,0.4nm,0.8s,baz=235,slow=5.1,SNR=3.6
TLY **Talaya** 138.10 60 *e*PKIKP **PKPdf** **20 47 34.4 -4.9**

TLY				*i*			20 47 39.4		
TLY					pmax	pmax			
	comp=Z,19nm,1.5s								
ULN	**Ulaanbaatar**	**138.38**	**67**	PKPpre	PKPpre		20 47 32.5		
YKA	**Yellowknife Ar**	**139.42**	**317**	PKP	**PKPdf**		**20 47 40.8**	**-0.5**	
YKA				PP	**PP**		**20 50 36.9**	**+0.3**	
YKA	**Yellowknife Ar**	**139.42**	**317**	PKP	**PKPdf**		**20 47 40.8**	**-0.5**	
	comp=Z,3.3nm,1.1s,baz=102,slow=2.3,SNR=12								
YKA				PP	**PP**		**20 50 36.9**	**+0.3**	
	comp=Z,0.1nm,0.3s,baz=106,slow=6.5,SNR=3.0								
YKW3	**Yellowknife Ar**	**139.44**	**317**	*e*PKPdf	**PKPdf**		**20 47 40.6**	**-0.7**	
BJI	**Beijing**	**140.13**	**82**	PKP	**PKPdf**		**20 47 44.2**	**+0.9**	
BJI				SS	SS		21 09 05.6	+1.3	
BJI				LR	LR				
	comp=N,180nm,17.3s								
BJI				LR	LR				
	comp=E,170nm,23.2s								
BJI				LR	LR				
	comp=Z,220nm,24.0s								
CIT	**Chita**	**143.90**	**63**	*e*PKIKP	PKPbc		20 47 48.2	+0.6	
CIT				*e*			20 47 53.6		
CIT				pmax	pmax				
	comp=Z,302nm,1.8s								
INCN	**Inchon**	**145.48**	**93**	PKPdf	**PKPab**		**20 47 53.2**	**0.0**	
	SNR=19								
INCN	**Inchon**	**145.48**	**93**	*e*PKPdf	**PKPdf**		**20 47 52.4**	**-0.5**	
JNU	**Nakatsue**	**145.51**	**103**	*e*PKPdf	**PKPdf**		**20 47 52.1**	**-1.0**	
JNU				PKPbc	**PKPdf**		**20 47 52.8**	**-0.4**	
JNU	**Nakatsue**	**145.51**	**103**	PKPbc	**PKPdf**		**20 47 52.8**	**-0.4**	
	comp=Z,6.3nm,0.7s,baz=223,slow=1.9,SNR=6.6								
KSAR	**Wonju Array Be**	**146.26**	**94**	PKPbc	**PKPbc**		**20 47 55.1**	**-0.3**	
KSRS	**Korea Array**	**146.30**	**94**	PKPbc	**PKPbc**		**20 47 55.1**	**-0.4**	
	comp=Z,26nm,1.2s,baz=246,slow=3.9,SNR=61								
WRAK	**Wrangell Islan**	**146.69**	**303**	*e*PKPdf	**PKPdf**		**20 47 54.5**	**+0.2**	
CN2	**Changchun**	**148.00**	**82**	PKPbc	**PKPdf**		**20 47 56.6**	**-0.3**	
CN2				PP	PP		20 51 34.0	+5.4	
CN2				SS	SS		21 10 33.9	-0.8	
CN2				AMB	AMB				
	comp=Z,100nm,8.0s								
CN2				LR	LR				
	comp=N,200nm,19.0s								
CN2				LR	LR				
	comp=E,200nm,19.0s								
CN2				LR	LR				
	comp=Z,300nm,20.0s								
SKAG	**Skagway**	**148.73**	**308**	*e*PKPdf	**PKPdf**		**20 47 58.5**	**+0.9**	
MDJ	**Mudanjiang**	**151.03**	**84**	PKPbc	**PKPdf**		**20 48 01.7**	**0.0**	
MDJ				pPKP	**PKPab**		**20 48 12.4**	**-2.8**	
MDJ				sPKP			20 48 15.9		
MDJ				PP	**PP**		**20 51 47.5**	**+1.4**	
MDJ				SKS	**SKSdf**		**20 55 07.5**	**-1.6**	
MDJ				AMB	AMB				
	comp=Z,72nm,6.1s								
MDJ				LR	LR				
	comp=N,100nm,24.4s								
MDJ				LR	LR				
	comp=E,98nm,24.4s								
MDJ				LR	LR				
	comp=Z,270nm,22.2s								
EGAK	**Eagle**	**151.32**	**319**	*e*PKPdf	**PKPdf**		**20 48 01.6**	**0.0**	
EGAK				*e*PKPbc	**PKPbc**		**20 48 06.8**	**-0.8**	
MAJO	**Matsushiro**	**152.32**	**105**	*e*PKIKP	**PKPbc**		**20 48 09.4**	**-1.4**	
MAJO	**Matsushiro**	**152.32**	**105**	*e*PKPbc	**PKPbc**		**20 48 09.4**	**-1.4**	
MAT	**Matsushiro**	**152.32**	**105**	PKP	**PKPbc**		**20 48 10.6**	**-0.2**	
MJAR	**Matsushiro Arr**	**152.32**	**105**	PKPbc	**PKPbc**		**20 48 10.9**	**+0.1**	
MJAR	**Matsushiro Arr**	**152.32**	**105**	PKPbc	**PKPbc**		**20 48 10.9**	**+0.1**	
	comp=Z,7.4nm,1.1s,baz=232,slow=2.8,SNR=25								
USRK	**Ussuriysk Arra**	**152.40**	**86**	PKP	**PKPdf**		**20 48 03.5**	**-0.3**	
	comp=Z,0.5nm,0.5s,baz=242,slow=4.2,SNR=2.9								
USRK				PKPbc	**PKPbc**		**20 48 10.2**	**-0.4**	
	comp=Z,1.6nm,0.6s,baz=264,slow=1.9,SNR=13								
ILAR	**Eielson Array**	**153.72**	**320**	PKP	**PKPdf**		**20 48 03.8**	**-1.3**	
ILAR				PKPbc	**PKPbc**		**20 48 12.6**	**-0.4**	
ILAR				PP	**PP**		**20 51 58.2**	**-2.7**	
ILAR	**Eielson Array**	**153.72**	**320**	PKP	**PKPdf**		**20 48 03.8**	**-1.3**	
	comp=Z,1.0nm,1.0s,baz=336,slow=2.0,SNR=8.6								
ILAR				PKPbc	**PKPbc**		**20 48 12.6**	**-0.4**	
	comp=Z,1.2nm,0.8s,baz=48,slow=1.3,SNR=12								
ILAR				PP	**PP**		**20 51 58.2**	**-2.7**	
	comp=Z,0.5nm,0.9s,baz=73,slow=4.3,SNR=4.9								
YAK	**Yakutsk**	**153.77**	**46**	*e*PKIKP	**PKPdf**		**20 48 08.3**	**+3.1**	
YAK				*e*			20 48 26.1		
YAK				pmax	pmax				
	comp=Z,25nm,0.9s								
YAK				pmax	pmax				
	comp=E,17nm,1.6s								
YAK				pmax	pmax				
	comp=N,8.0nm,1.6s								
KLR	**Kul'dur**	**154.06**	**75**	*e*PKIKP	PKPdf		20 47 58.9	-7.2	
COLA	**College**	**154.09**	**321**	PKIKP	**PKPbc**		**20 48 13.7**	**0.0**	
COLA	**College**	**154.09**	**321**	PKPbc	**PKPbc**		**20 48 13.7**	**0.0**	
COLD	**Coldfoot**	**154.17**	**327**	*e*PKPdf	**PKPdf**		**20 48 02.4**	**-3.3**	
SML	**Sawmill**	**155.03**	**314**	*e*PKIKP	**PKPdf**		**20 48 04.4**	**-2.7**	
SML	**Sawmill**	**155.03**	**314**	*e*PKPdf	**PKPdf**		**20 48 04.4**	**-2.7**	
PMR	**Palmer**	**155.44**	**314**	*e*PKIKP	**PKPdf**		**20 48 05.2**	**-2.4**	
PMR	**Palmer**	**155.44**	**314**	*e*PKPdf	**PKPdf**		**20 48 05.2**	**-2.4**	
TRF	**Thorofare Moun**	**155.52**	**318**	*e*PKPdf	**PKPdf**		**20 48 04.8**	**-3.1**	
ASAJ	**Asahikawa**	**159.25**	**94**	*e*PKPbc	**PKPdf**		**20 48 11.9**	**-1.0**	
YSS	**Yuzh-Sakhalins**	**160.43**	**87**	*e*PKIKP	**PKPdf**		**20 48 14.1**	**0.0**	
YSS				*e*			20 48 55.9		
YSS				pmax	pmax				
	comp=Z,80nm,1.8s								
YUK	**Yuzh-Kuril'sk**	**161.32**	**98**	*i* PKIKP	**PKPdf**		**20 48 12.9**	**-2.3**	
YUK				*i*			20 52 41.7		
YUK				*i*			20 55 13.2		
YUK				*i* PPP	PPP		20 56 28.9		
YUK				*i* SS	SS		21 13 02.7	+3.5	
BILL	**Bilibino**	**161.37**	**7⇑**	*i*PKIKP	**PKPdf**		**20 48 12.4**	**-2.1**	
BILL				pmax	pmax				
	comp=Z,41nm,1.7s								
PETK	**Petropavlovsk-**	**170.44**	**64**	PKIKP	**PKPdf**		**20 48 22.1**	**-0.2**	
PETK	**Petropavlovsk-**	**170.44**	**64**	PKP	**PKPdf**		**20 48 22.1**	**-0.2**	
PETK	**Petropavlovsk-**	**170.44**	**64**	PKP	**PKPdf**		**20 48 22.1**	**-0.2**	
	comp=Z,5.8nm,1.1s,baz=163,slow=1.5,SNR=8.1								

IDC ***03*** *20:30:33.8±0.7,25.˙18N×109.˙92W,h0ᵏᵐ,mb4.3/18, mb1 4.5/23,mb1mx4.5/29,mbtmp4.3/23,ML4.2/5,MS4.4/20, Ms1 4.4/20,ms1mx4.3/41,Error ellipse: s-maj=22.1km s-min=13.8km az=55.0*

MOS ***03*** *20:30:34.3±1.4,25.˙28N×109.˙72W,h10ᵏᵐ,mb5.1/24, Error ellipse: s-maj=8.4km s-min=4.3km az=94.7*

ISCJB ***03*** *20:30:34.2±0.3,25.˙27N±0.˙03×109.˙74W±0.˙03,h10ᵏᵐ, mb4.8/123,MS4.7/21,Error ellipse: s-maj=5.2km s-min=3.2km az=41.2*

NEIC ***03*** *20:30:35.4±0.3,25.˙23N×109.˙76W,h10ᵏᵐ,mb4.8/98, MD5.0(MEX),Error ellipse: s-maj=5.2km s-min=3.7km az=213.0*

NEIC Felt at La Paz, Baja California Sur and at Los Mochis, Sinaloa.

BJI ***03*** *20:30:35.0,25.˙30N×109.˙70W,h10ᵏᵐ,mB5.5/5,mb5.2/6, Ms5.2/4,Ms7 4.9/4*

GCMT ***03*** *20:30:37.3±0.2,25.˙31N×109.˙96W,h12ᵏᵐ,MW5.2, Moment Tensor Solution. s44,c59; s84,c148; Moment tensor: Scale 10¹⁶Nm; Mrr-1.10±.16; Mθθ-5.38±.13; Mφφ6.48±.16; Mrθ-1.48±.36; Mrφ2.88±.13; Mθφ-2.08±.43; Best double couple: M₀7.00000×10¹⁶ NP1:φ₁147.00000°, δ71.00000°,λ178.00000°. NP2:φ₂238.00000°,δ88.00000°, λ19.00000°. Principal axes: T 7.7700, Plg15.0000°, Azm104.0000°; N -1.5300, Plg71.0000°, Azm244.0000°; P -6.2400, Plg12.0000°, Azm11.0000°; Data Used: II IU IC G CN.*

MEX ***03*** *20:30:38.9±0.4,25.˙09N×109.˙93W,h10ᵏᵐ,MD5.0*

SZGRF ***03*** *20:30:42.1,23.˙17N×107.˙82W,h33ᵏᵐ,mb4.9,MS4.8,Gulf of California, Mexico*

ISC 03 20:30:36.5±0.4,25˚29N±0˚05×109˚73W±0˚05,h11ᵏᵐ, n748,σ1°25/723,mb4.9/121,MS4.6/21,188C-177D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.29**	**204**	*i*	P		Pn	20 30 55.8	-4.8
LPIG				*e*	S		Sb	20 31 08.0	-9.4
LPIG	**La Paz**	**1.29**	**204**	*i*	P		Pn	20 30 55.8	-4.8
LPIG				*e*	S		Sb	20 31 08.0	-9.4
SRIG	**Santa Rosalia**	**3.03**	**312**	*e*	P		**Pn**	**20 31 23.6**	**-0.8**
SRIG				*i*	S		**Sn**	**20 31 59.9**	**-0.8**
SRIG	**Santa Rosalia**	**3.03**	**312**	*e*	P		**Pn**	**20 31 23.6**	**-0.8**
SRIG				*i*	S		**Sn**	**20 31 59.9**	**-0.8**
MAIG	**Mazatlaan**	**3.67**	**124**	*i*	P		**Pn**	**20 31 32.7**	**-0.5**
MAIG				*i*	S		**Sn**	**20 32 16.0**	**-0.6**
MAIG	**Mazatlaan**	**3.67**	**124**	*i*	P		**Pn**	**20 31 32.7**	**-0.5**
MAIG				*i*	S		**Sn**	**20 32 16.0**	**-0.6**
HSIG		**3.87**	**344**	*i*	S		**Sn**	**20 32 24.4**	**+2.9**
HSIG		**3.87**	**344**	*i*	S		**Sn**	**20 32 24.4**	**+2.9**
HPIG		**4.00**	**65**	*i*	P		Pb	20 31 42.5	-4.7
HPIG				*e*	S		**Sb**	**20 32 31.6**	**-4.3**
HPIG		**4.00**	**65**	*i*	P		Pb	20 31 42.5	-4.7
HPIG				*e*	S		**Sb**	**20 32 31.6**	**-4.3**
CGIG		**5.29**	**17**	*i*	P		Pn	20 32 00.6	+4.9
CGIG				*i*	S		**Sn**	**20 33 00.8**	**+4.1**
CGIG		**5.29**	**17**	*i*	P		Pn	20 32 00.6	+4.9
CGIG				*i*	S		**Sn**	**20 33 00.8**	**+4.1**
319A	**Douglas**	**6.08**	**4**	⇑	P		**Pn**	**20 32 03.5**	**-3.0**
	baz=6.2,SNR=125								
320A	**Kipp Ranch, An**	**6.12**	**10**	⇓	P		**Pn**	**20 32 04.4**	**-2.7**
	baz=6.2,SNR=25								
626A	**Big Bend Ranch**	**6.54**	**48**	⇓	P		**Pn**	**20 32 10.4**	**-2.4**
	baz=6.6,SNR=31								
220A	**Playas Peak, P**	**6.67**	**9**	P			**Pn**	**20 32 11.9**	**-2.8**
	baz=6.8,SNR=80								
TXAR	**Lajitas Array**	**6.73**	**52**	Pn			**Pn**	**20 32 13.1**	**-2.3**
TXAR	**Lajitas Array**	**6.73**	**52**	Pn			**Pn**	**20 32 13.1**	**-2.3**
	1.3nm,0.3s,baz=228,slow=1.4,SNR=38								
425A	**Indio Mountain**	**6.90**	**36**	⇑	P		**Pn**	**20 32 16.4**	**-1.3**
	baz=7.0,SNR=104								
526A	**Mary Lane Ranc**	**6.90**	**45**	⇓	P		**Pn**	**20 32 15.5**	**-2.2**
	baz=7.0,SNR=42								
221A	**Mesquite Ranch**	**6.91**	**14**	⇓	P		**Pn**	**20 32 15.7**	**-2.3**
	baz=7.0,SNR=33								
627A	**Terlingua Ranc**	**7.00**	**52**	⇓	P		**Pn**	**20 32 16.4**	**-2.7**
	baz=7.1,SNR=8.2								
TUC	**Tucson**	**7.06**	**353**	*e*	P		**Pn**	**20 32 16.8**	**-3.1**
TUC					pmax		pmax		
	comp=Z,41nm,0.8s								
TUC	**Tucson**	**7.06**	**353**	*e*	Pn		**Pn**	**20 32 16.8**	**-3.1**
	comp=Z,41nm,0.8s								
TUC				*e*	Pg		**Pg**	**20 32 52.1**	**+0.4**
222A	**Williams Famil**	**7.17**	**18**	⇑	P		**Pn**	**20 32 19.6**	**-1.9**
	baz=7.3,SNR=26								
214A	**Organ Pipe Nat**	**7.17**	**339**	⇓	P		**Pn**	**20 32 19.1**	**-2.4**
	baz=7.2,SNR=13								
324A	**Moseley Ranch,**	**7.18**	**30**	⇑	P		**Pn**	**20 32 19.5**	**-2.2**
	baz=7.3,SNR=31								
527A	**Woodward Ranch**	**7.27**	**47**	⇑	P		**Pn**	**20 32 20.3**	**-2.5**
	baz=7.3,SNR=27								
223A	**Chaparral, Ant**	**7.29**	**23**	⇓	P		**Pn**	**20 32 21.5**	**-1.7**
	baz=7.4								
120A	**U Bar Ranch, L**	**7.29**	**7**	⇓	P		**Pn**	**20 32 21.0**	**-2.2**
	baz=7.4,SNR=77								
426A	**McDonald Obser**	**7.36**	**42**	⇑	P		**Pn**	**20 32 22.7**	**-1.4**
	baz=7.4,SNR=68								
628A	**Black Gap, Mar**	**7.38**	**54**	⇓	P		**Pn**	**20 32 21.7**	**-2.6**
	baz=7.4,SNR=9.6								
121A	**Cookes Peak, D**	**7.42**	**13**	P			**Pn**	**20 32 22.8**	**-2.1**
	baz=7.5,SNR=282								
MNTX	**Cornudas Mount**	**7.44**	**30**	*e*	Pn		**Pn**	**20 32 23.0**	**-2.1**
	comp=Z,48nm,0.8s								
SPIG	**San Pedro Mart**	**7.65**	**320**	*i*	P		**Pn**	**20 32 28.1**	**-0.1**
SPIG	**San Pedro Mart**	**7.65**	**320**	*i*	P		**Pn**	**20 32 28.1**	**-0.1**
224A	**Cornudas Mount**	**7.71**	**28**	P			**Pn**	**20 32 27.1**	**-1.7**
	baz=7.8,SNR=46								
122A	**Cowiff Cattle**	**7.76**	**17**	⇑	P		**Pn**	**20 32 28.2**	**-1.4**
	baz=7.9,SNR=49								
326A	**Caldwell Ranch**	**7.86**	**39**	⇓	P		**Pn**	**20 32 29.4**	**-1.4**
	baz=7.9,SNR=12								
Z20A	**Nine Sixteen R**	**7.86**	**7**	⇓	P		**Pn**	**20 32 29.3**	**-1.7**
	baz=8.0,SNR=168								
123A	**Bell Site, Whi**	**7.92**	**22**	⇑	P		**Pn**	**20 32 30.0**	**-1.8**
	baz=8.0								
225A	**Deer Hill, Car**	**8.05**	**31**	⇓	P		**Pn**	**20 32 32.2**	**-1.4**
	baz=8.1,SNR=87								
Z21A	**St. Cloud Mine**	**8.19**	**12**	⇓	P		**Pn**	**20 32 33.8**	**-1.7**
	baz=8.3,SNR=127								
529A	**Stev Forest Ra**	**8.21**	**52**	⇑	P		**Pn**	**20 32 32.8**	**-2.9**
	baz=8.3,SNR=15								
113A	**Mohawk Valley,**	**8.25**	**336**	⇑	P		**Pn**	**20 32 33.8**	**-2.3**
	baz=8.3								
428A	**Kincaid Ranch,**	**8.25**	**47**	⇓	P		**Pn**	**20 32 34.4**	**-1.9**
	baz=8.3,SNR=11								
124A	**Stringfield Ra**	**8.28**	**26**	⇓	P		**Pn**	**20 32 36.0**	**-0.8**
	baz=8.4,SNR=105								
Z22A	**Elephant Butte**	**8.30**	**16**	P			**Pn**	**20 32 35.7**	**-1.3**
	baz=8.4,SNR=124								
GDL2	**Guadalupe Moun**	**8.34**	**33**	*e*	Pn		**Pn**	**20 32 37.0**	**-0.6**
	comp=Z,27nm,0.7s								
226B	**Tecolote Peak,**	**8.34**	**35**	⇑	P		**Pn**	**20 32 36.8**	**-0.8**
	baz=8.4,SNR=26								
Z23A	**Rita Site, Whi**	**8.51**	**20**	⇓	P		**Pn**	**20 32 39.5**	**-0.4**
	baz=8.6,SNR=109								
Z14A	**Wintersburg**	**8.52**	**342**	⇓	P		**Pn**	**20 32 39.0**	**-0.9**
	baz=8.6								
125A	**Gardner Draw,**	**8.58**	**30**	P			**Pn**	**20 32 40.4**	**-0.5**
	baz=8.7,SNR=34								
328A	**Wristen Ranch,**	**8.60**	**44**	⇑	P		**Pn**	**20 32 40.0**	**-1.1**
	baz=8.7,SNR=8.2								
CLNB	**Carlsbad**	**8.64**	**35**	*e*	Pn		**Pn**	**20 32 41.5**	**-0.1**
	comp=Z,8.2nm,0.8s								
Y20A	**Horse Springs,**	**8.67**	**7**	⇓	P		**Pn**	**20 32 41.4**	**-0.8**
	baz=8.8,SNR=37								
429A	**Davenport Ranc**	**8.73**	**51**	⇓	P		**Pn**	**20 32 41.8**	**-1.1**
	baz=8.8,SNR=13								
227A	**Bennet, Jal**	**8.76**	**39**	⇑	P		**Pn**	**20 32 42.8**	**-0.5**
	baz=8.8,SNR=5.7								
Z24A	**Sheeppen Canyo**	**8.87**	**24**	P			**Pn**	**20 32 44.1**	**-0.8**
	baz=9.0,SNR=61								
126A	**Clayton Basin,**	**8.87**	**33**	P			**Pn**	**20 32 44.4**	**-0.4**
	baz=9.0,SNR=7.5								
530A	**J-C Ranch, Com**	**8.87**	**55**	⇑	P		**Pn**	**20 32 44.3**	**-0.5**
	baz=8.9,SNR=6.9								
Y21A	**Point of Rocks**	**8.87**	**11**	P			**Pn**	**20 32 45.2**	**+0.2**
	baz=9.0,SNR=123								
GLA	**Glamis**	**8.93**	**331**	*e*	P		**Pn**	**20 32 43.0**	**-2.5**
GLA					pmax		pmax		
	comp=Z,55nm,1.1s								
GLA	**Glamis**	**8.93**	**331**	*e*	Pn		**Pn**	**20 32 43.0**	**-2.5**
	comp=Z,55nm,1.1s								
GLA	**Glamis**	**8.93**	**331**	⇑	P		**Pn**	**20 32 43.5**	**-2.0**
	baz=9.0								
Y22A	**Socorro**	**8.95**	**15**	⇑	P		**Pn**	**20 32 44.7**	**-1.2**
	baz=9.0,SNR=68								
Y14A	**Wickenburg**	**9.08**	**342**	P			**Pn**	**20 32 46.6**	**-0.9**
	baz=9.2,SNR=25								
Z25A	**Roswell**	**9.08**	**28**	⇓	P		**Pn**	**20 32 47.8**	**+0.1**
	baz=9.2,SNR=22								
Y22D	**IRIS PASSCAL I**	**9.09**	**15**	⇑	P		**Pn**	**20 32 47.8**	**0.0**
	baz=9.2								
631A	**Perdido Creek**	**9.12**	**61**	⇑	P		**Pn**	**20 32 47.4**	**-0.7**
	baz=9.2,SNR=6.7								
LENM	**Lemitar**	**9.16**	**14**	*e*	Pn		**Pn**	**20 32 47.4**	**-1.5**
	comp=Z,29nm,0.7s								
Y23A	**Lovelace Mesa,**	**9.19**	**20**	P			**Pn**	**20 32 48.4**	**-0.8**
	baz=9.3,SNR=119								
329A	**Wagon Wheel Ra**	**9.20**	**46**	⇓	P		**Pn**	**20 32 49.1**	**-0.2**
	baz=9.3								
X18A	**Snowflake**	**9.21**	**359**	⇑	P		**Pn**	**20 32 47.9**	**-1.6**
	baz=9.3,SNR=27								
X16A	**Lo Mia Camp, P**	**9.22**	**351**	⇓	P		**Pn**	**20 32 48.3**	**-1.4**
	baz=9.3,SNR=72								
DVTC	**Desert V Tower**	**9.22**	**324**	⇑	P		**Pn**	**20 32 48.9**	**-0.7**
	baz=9.3,SNR=8.1								
BNM	**Barren Site**	**9.23**	**16**	*e*	Pn		**Pn**	**20 32 49.0**	**-0.8**
	comp=Z,8.2nm,0.6s								
127A	**Arkansas Junct**	**9.23**	**36**	⇓	P		**Pn**	**20 32 49.1**	**-0.7**
	baz=9.3,SNR=6.1								
228A	**UT Block 9, Go**	**9.25**	**41**	⇑	P		**Pn**	**20 32 49.4**	**-0.5**
	baz=9.3								
X21A	**Alamocita Cree**	**9.28**	**10**	⇓	P		**Pn**	**20 32 50.3**	**-0.2**
	baz=9.4,SNR=119								
X20A	**Quemado**	**9.28**	**6**	⇑	P		**Pn**	**20 32 51.0**	**+0.4**
	baz=9.4,SNR=36								
SWSC	**Sam W. Stewart**	**9.29**	**327**	⇑	P		**Pn**	**20 32 50.4**	**0.0**
	baz=9.3,SNR=12								
430A	**Baggett Ranch,**	**9.29**	**52**	⇓	P		**Pn**	**20 32 50.1**	**-0.4**
	baz=9.4								
732A	**Laxson Ranch,**	**9.35**	**66**	⇓	P		**Pn**	**20 32 50.7**	**-0.6**
	baz=9.4								
LAZ	**Ladron**	**9.36**	**13**	*e*	Pn		**Pn**	**20 32 50.4**	**-1.1**
	comp=Z,22nm,0.9s								
Y24A	**Capitan**	**9.38**	**22**	⇓	P		**Pn**	**20 32 51.7**	**-0.2**
	baz=9.5,SNR=61								
LPM	**Los Pinos Moun**	**9.38**	**16**	*e*	Pn		**Pn**	**20 32 51.6**	**-0.3**
	comp=Z,65nm,1.4s								
Z26A	**Caprock**	**9.40**	**31**	⇑	P		**Pn**	**20 32 51.9**	**-0.2**
	baz=9.5,SNR=10								
Y12C	**Blythe**	**9.41**	**335**	⇑	P		**Pn**	**20 32 51.9**	**-0.2**
	baz=9.5								
531A	**Rocksprings**	**9.47**	**57**	⇑	P		**Pn**	**20 32 52.7**	**-0.3**
	baz=9.5,SNR=11								
X22A	**Bernardo**	**9.48**	**14**	⇑	P		**Pn**	**20 32 52.9**	**-0.3**
	baz=9.6,SNR=20								
BAR	**Barrett**	**9.55**	**322**	*e*	Pn		**Pn**	**20 32 53.3**	**-0.7**
	comp=Z,60nm,1.4s								
MONP	**Monument Peak**	**9.57**	**324**	⇑	P		**Pn**	**20 32 54.4**	**0.0**
	baz=9.6,SNR=23								
229A	**Bryant Ranch,**	**9.62**	**44**	⇓	P		**Pn**	**20 32 55.1**	**0.0**
	baz=9.7								
Y25A	**Mesa, Roswell**	**9.65**	**26**	⇓	P		**Pn**	**20 32 55.9**	**+0.4**
	baz=9.7,SNR=45								
128A	**Castleberry Fa**	**9.67**	**39**	P			**Pn**	**20 32 55.4**	**-0.4**
	baz=9.8,SNR=23								
431A	**Sonora**	**9.69**	**54**	⇓	P		**Pn**	**20 32 56.3**	**+0.4**
	baz=9.7,SNR=21								
330A	**Mertzon**	**9.69**	**49**	⇓	P		**Pn**	**20 32 56.7**	**+0.7**
	baz=9.8,SNR=7.1								
BC3	**Big Chuckawall**	**9.71**	**330**	⇓	P		**Pn**	**20 32 56.0**	**-0.3**
	baz=9.8,SNR=15								
X23A	**Hourglass Bar**	**9.76**	**18**	⇓	P		**Pn**	**20 32 57.4**	**+0.4**
	baz=9.9								
PDMCI	**Parker Dam,Lak**	**9.76**	**338**	⇑	P		**Pn**	**20 32 56.6**	**-0.3**
	baz=9.8								
632A	**Uvalde**	**9.78**	**62**	⇓	P		**Pn**	**20 32 57.2**	**0.0**
	baz=9.8								
W18A	**Petrified Fore**	**9.80**	**360**	⇓	P		**Pn**	**20 32 57.7**	**+0.1**
	baz=9.9,SNR=11								
Z27A	**Tatum**	**9.81**	**34**	⇑	P		**Pn**	**20 32 57.4**	**-0.3**
	baz=9.9,SNR=12								
W20A	**Ramah**	**9.86**	**6**	⇓	P		**Pn**	**20 32 59.4**	**+0.9**
	baz=10.0,SNR=35								
109C	**Camp Elliot, M**	**9.94**	**321**	⇑	P		**Pn**	**20 32 59.3**	**-0.1**
	baz=10.0								
532A	**Rocksprings**	**9.95**	**59**	⇑	P		**Pn**	**20 32 59.2**	**-0.4**
	baz=10.0								
W21A	**San Fidel**	**9.96**	**10**	⇓	P		**Pn**	**20 33 01.2**	**+1.3**
	baz=10,SNR=21								
X24A	**Lazy VL Ranch,**	**9.96**	**21**	⇑	P		**Pn**	**20 33 01.8**	**+2.0**
	baz=10								
IRM	**Iron Mountain**	**10.02**	**333**	⇓	P		**Pn**	**20 33 00.5**	**+0.1**
	baz=10								
Y26A	**Elida**	**10.02**	**29**	⇓	P		**Pn**	**20 33 00.4**	**-0.2**
	baz=10								
230A	**Sterling City**	**10.03**	**47**	⇑	P		**Pn**	**20 33 00.2**	**-0.4**
	baz=10,SNR=5.5								
ANMO	**Albuquerque**	**10.03**	**16**	*e*	Pn		**Pn**	**20 32 59.8**	**-1.0**
	comp=Z,83nm,1.4s								
ANMO	**Albuquerque**	**10.03**	**16**		Pn		**Pn**	**20 33 00.9**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=204,slow=13,SNR=64								
ANMO					LR		LR	20 37 17.2	
	comp=Z,3μm,18.7s,baz=194,slow=40								
129A	**Stewart Farms,**	**10.04**	**41**	⇓	P		**Pn**	**20 33 00.4**	**-0.5**
	baz=10								
W22A	**Albuquerque**	**10.06**	**14**	⇓	P		**Pn**	**20 33 02.1**	**+1.0**
	baz=10								
PFO	**Pinyon Flat Ob**	**10.15**	**326**	*e*	Pn		**Pn**	**20 33 02.9**	**+0.6**
	comp=Z,33nm,1.0s								
PFO	**Pin

baz=12
MWC **Mount Wilson** 11.47 323 *e*P Pn 20 33 18.5 -2.0
MWC pmax pmax
comp=Z,38nm,1.3s
MWC **Mount Wilson** 11.47 323 *e*Pn Pn 20 33 18.4 -2.0
comp=Z,38nm,1.3s
X29A **Tulia** 11.48 35 ⇑P Pn 20 33 20.3 -0.2
baz=12
Y30A **Stafford Cattl** 11.50 40 ⇓P Pn 20 33 20.3 -0.5
baz=12
Z31A **Sharp Cattle R** 11.57 44 ⇑P Pn 20 33 21.3 -0.4
baz=12,SNR=11
DECC **Green Verdugo** 11.64 322 ⇑P Pn 20 33 22.2 -0.4
baz=12
V26A **Tequesquite Ra** 11.65 25 ⇑P Pn 20 33 23.6 +0.6
baz=12,SNR=18
GSC **Goldstone** 11.70 330 *e*P Pn 20 33 24.3 +0.8
GSC pmax pmax
comp=Z,39nm,1.3s
GSC **Goldstone** 11.70 330 *e*Pn Pn 20 33 24.3 +0.8
comp=Z,39nm,1.3s
GSC **Goldstone** 11.70 330 ⇓P Pn 20 33 24.0 +0.5
baz=12,SNR=9.6
T21A **Navajo Lake** 11.82 9 ⇓P Pn 20 33 26.0 +0.8
baz=12
AMTX **Amarillo** 11.83 34 *e*Pn Pn 20 33 24.3 -0.9
comp=Z,31nm,0.8s
W28A **Vega** 11.87 31 ⇑P Pn 20 33 26.2 +0.3
baz=12
X30A **Coker Ranch, T** 11.92 38 ⇑P Pn 20 33 26.4 -0.2
baz=12,SNR=8.0
MVCO **Mesa Verde** 11.93 5 *e*Pn Pn 20 33 27.6 +0.8
comp=Z,194nm,1.2s
MVCO **Mesa Verde** 11.93 5 P Pn 20 33 27.6 +0.8
baz=12,SNR=30
EDW2 **Edwards Air Fo** 11.93 325 ⇑P Pn 20 33 26.9 +0.3
baz=12,SNR=11
Y31A **Rekieta Farm,** 11.93 41 ⇑P Pn 20 33 25.8 -0.8
baz=12,SNR=8.0
T22A **Edith** 11.94 11 ⇑P Pn 20 33 28.6 +1.7
baz=12,SNR=24
U25A **Circle Dot Ran** 11.98 21 ⇑P Pn 20 33 28.1 +0.7
baz=12,SNR=33
SHOC **Shoshone** 11.98 334 ⇓P Pn 20 33 27.1 -0.3
baz=12
Z32A **Haskell** 11.99 46 ⇓P Pn 20 33 27.2 -0.2
baz=12
V27A **Dan Oppiter Fa** 12.00 28 ⇑P Pn 20 33 28.3 +0.6
baz=12
W29A **Amraillo** 12.03 34 ⇑P Pn 20 33 29.0 +0.9
baz=12
OSI **Osito Adit** 12.12 322 ⇑P Pn 20 33 29.1 -0.2
baz=12
T23A **Casias Ranch,** 12.13 14 P Pn 20 33 31.7 +2.1
baz=12,SNR=15
U26A **Atchley Ranch,** 12.20 23 P Pn 20 33 32.3 +1.8
baz=12,SNR=28
BSC **Santa Cruz Isl** 12.22 318 ⇓P Pn 20 33 30.7 +0.1
baz=12
LRMC **Laurel Mountai** 12.25 328 ⇓P Pn 20 33 31.8 +0.7
baz=12,SNR=5.5
V28A **Channing** 12.27 30 ⇑P Pn 20 33 31.9 +0.6
baz=12
S21A **Coal Bank Pass** 12.45 7 P Pn 20 33 35.0 +1.1
baz=12,SNR=30
Y32A **R-V Farms, Ver** 12.46 43 ⇑P Pn 20 33 34.1 +0.2
baz=12
S20A **Disappointment** 12.56 5 ⇓P Pn 20 33 35.7 +0.3
baz=13,SNR=9.8
ARVC **Arvin** 12.56 323 ⇓P Pn 20 33 35.2 -0.1
baz=13
X31A **McDonald Ranch** 12.57 40 P Pn 20 33 34.6 -0.7
baz=13,SNR=10
SBC **Santa Barbara** 12.57 319 ⇓P Pn 20 33 35.1 -0.2
baz=13
U27A **Thompson Grove** 12.58 26 ⇓P Pn 20 33 36.7 +1.1
baz=13,SNR=6.5
CCUT **Cedar City** 12.61 347 *e*Pn Pn 20 33 38.4 +2.3
comp=Z,14nm,0.8s
W30A **Crocket Farms** 12.63 37 ⇑P Pn 20 33 36.8 +0.5
baz=13
MPMC **Manual Prospec** 12.64 330 ⇑P Pn 20 33 37.2 +0.7
baz=13,SNR=14
T25A **Trinidad** 12.66 20 ⇑P Pn 20 33 37.9 +1.2
baz=13,SNR=13
S22A **4UR Ranch, Cre** 12.66 11 ⇑P Pn 20 33 37.9 +1.1
baz=13
WHTX **Lake Whitney** 12.68 55 ⇑P Pn 20 33 36.7 -0.1
baz=13
V29A **Stinnett** 12.69 32 ⇑P Pn 20 33 37.1 0.0
baz=13
S23A **Nye Farm, Mont** 12.78 13 ⇓P Pn 20 33 40.5 +2.1
baz=13
ISA **Isabella** 12.79 326 *e*P Pn 20 33 38.2 -0.2
ISA pmax pmax
comp=Z,115nm,1.8s
ISA **Isabella** 12.79 326 *e*Pn Pn 20 33 38.2 -0.2
comp=Z,115nm,1.8s
ISA **Isabella** 12.79 326 ⇑P Pn 20 33 38.6 +0.2
baz=13,SNR=6.2
U28A **Mallet** 12.79 28 ⇑P Pn 20 33 39.3 +0.9
baz=13,SNR=9.7
PV01 **Paradox Valley** 12.85 4 *e*Pn Pn 20 33 40.5 +1.2
comp=Z,47nm,1.1s
ARUT **Antelope Range** 12.85 347 *e*P Pn 20 33 41.6 +2.2
ARUT pmax pmax
comp=Z,16nm,0.8s
ARUT **Antelope Range** 12.85 347 *e*Pn Pn 20 33 41.5 +2.2
comp=Z,16nm,0.8s
S24A **Houchin Ranch,** 12.90 16 ⇓P Pn 20 33 41.5 +1.4
baz=13,SNR=10
R20A **Redvale** 12.91 5 P Pn 20 33 40.8 +0.6
baz=13,SNR=22
SDCO **Great Sand Dun** 12.93 15 *e*Pn Pn 20 33 42.6 +2.1
comp=Z,31nm,1.3s
PKM **Peak Mountain** 12.95 320 ⇑P Pn 20 33 40.5 -0.2
baz=13,SNR=7.9
T26A **Comanche Natio** 12.96 22 ⇑P Pn 20 33 41.5 +0.7
baz=13,SNR=28
W31A **Holland Ranch,** 12.99 38 ⇑P Pn 20 33 41.1 0.0
baz=13,SNR=6.1
V30A **Spur Ranch, Mi** 13.02 35 ⇑P Pn 20 33 41.6 +0.1
baz=13
PV04 **Paradox Valley** 13.08 3 *e*Pn Pn 20 33 42.6 +0.1
S25A **Robets Cordova** 13.13 19 ⇓P Pn 20 33 43.3 +0.1
baz=13,SNR=14
R22A **Saguache, Gunn** 13.15 10 ⇑P Pn 20 33 44.6 +1.1
baz=13
R21A **Cimarron** 13.17 8 ⇓P Pn 20 33 44.6 +0.8
baz=13
T27A **Campo** 13.17 25 ⇓P Pn 20 33 45.1 +1.4
baz=13
CWC **Cottonwood Cre** 13.22 329 ⇑P Pn 20 33 45.3 +1.0
baz=13
VES **Vestal, Richgr** 13.24 325 ⇑P Pn 20 33 44.6 +0.1
baz=13
U29A **Oasis Ranch, S** 13.28 31 ⇑P Pn 20 33 45.8 +0.7
baz=13
R23A **Moffat** 13.28 14 ⇓P Pn 20 33 45.8 +0.5
baz=13
MVU **Marysvale** 13.34 352 *e*Pn Pn 20 33 48.7 +2.6
comp=Z,63nm,1.3s
MSU **Marysvale** 13.35 352 *e*P Pn 20 33 48.3 +2.2
MSU pmax pmax
comp=Z,2μm,1.7s
MSU **Marysvale** 13.35 352 *e*Pn Pn 20 33 48.3 +2.2
comp=Z,2μm,1.7s
SMMC **Simmler** 13.35 321 ⇑P Pn 20 33 46.3 +0.3
baz=13
WMOK **Wichita Mounta** 13.36 43 *e*P Pn 20 33 44.7 -1.4
WMOK pmax pmax
comp=Z,26nm,0.8s
WMOK **Wichita Mounta** 13.36 43 *e*Pn Pn 20 33 44.7 -1.4
comp=Z,26nm,0.8s
GRAC **Grapevine Rang** 13.37 333 ⇑P Pn 20 33 46.7 +0.4
baz=13
S26A **Kim** 13.40 22 ⇓P Pn 20 33 47.8 +1.0
baz=14,SNR=16
T28A **Walsh** 13.47 27 ⇑P Pn 20 33 48.3 +0.7
baz=14,SNR=10
V31A **Spring Creek L** 13.47 37 P Pn 20 33 47.8 0.0
baz=14,SNR=8.1
R24A **Sanders Place,** 13.49 16 ⇑P Pn 20 33 48.9 +0.8
baz=14,SNR=6.9
R25A **Fountain Ranch** 13.63 19 ⇑P Pn 20 33 50.5 +0.6
baz=14
Q21A **Lamborn Mesa,** 13.63 7 ⇓P Pn 20 33 50.6 +0.7
baz=14
U30A **WK&E Inc. Balk** 13.64 33 ⇑P Pn 20 33 49.7 -0.3
baz=14
Q16A **Castle Valley** 13.64 355 ⇑P Pn 20 33 51.0 +0.8
baz=14,SNR=13
S27A **Las Animas** 13.66 24 ⇓P Pn 20 33 51.3 +1.0
baz=14,SNR=5.9
Q20A **Ridgley Place,** 13.68 5 ⇑P Pn 20 33 50.9 +0.3
baz=14,SNR=12
RCTC **Rector, Farmer** 13.68 326 ⇑P Pn 20 33 51.1 +0.6
baz=14
Q22A **Crested Butte,** 13.74 9 ⇑P Pn 20 33 51.9 +0.3
baz=14,SNR=5.7
TIN **Tinemaha** 13.79 330 ⇓P Pn 20 33 53.4 +1.3
baz=14
SRU **San Rafael** 13.80 357 *e*P Pn 20 33 51.8 -0.5
SRU pmax pmax
comp=Z,37nm,1.0s
SRU **San Rafael** 13.80 357 *e*Pn Pn 20 33 51.8 -0.5
comp=Z,37nm,1.0s
T29A **Hugoton** 13.85 29 ⇑P Pn 20 33 52.6 -0.2
baz=14
U31A **Nine Bar Ranch** 13.92 35 ⇑P Pn 20 33 53.7 -0.1
baz=14
S28A **Manter** 13.96 27 ⇓P Pn 20 33 54.1 -0.2
baz=14
Q23A **Hartsel** 13.97 13 ⇓P Pn 20 33 55.4 +0.6
baz=14
TMUT **Trail Mountain** 14.02 355 *e*Pn Pn 20 33 56.0 +0.6
comp=Z,32nm,1.0s
R26A **Arlington** 14.02 21 ⇓P Pn 20 33 55.8 +0.5
baz=14,SNR=9.4
SMCO **Snowmass** 14.04 9 *e*Pn Pn 20 33 56.5 +0.7
comp=Z,101nm,1.1s
T30A **Plains** 14.12 32 ⇑P Pn 20 33 57.1 +0.6
baz=14
Q24A **Divide** 14.17 15 ⇓P Pn 20 33 58.1 +0.5
baz=14
P20A **De Beque** 14.21 4 P Pn 20 33 58.8 +0.8
baz=14,SNR=12
R27A **Eads** 14.23 23 ⇑P Pn 20 33 58.4 +0.3
baz=14,SNR=14
S29A **Ulysses** 14.31 29 ⇓P Pn 20 33 59.1 -0.1
baz=14
P19A **Cripple Cowboy** 14.32 2 ⇑P Pn 20 33 59.4 0.0
baz=14,SNR=7.9
Q25A **Bedland, Calha** 14.35 18 ⇓P Pn 20 34 00.3 +0.4
baz=14
P23A **Jefferson** 14.42 12 ⇓P Pn 20 34 01.8 +0.8
baz=14,SNR=8.2
P22A **Eagle** 14.48 9 ⇑P Pn 20 34 02.6 +0.9
baz=15,SNR=10.0
MLAC **Mammoth Lakes** 14.54 330 ⇓P Pn 20 34 02.0 -0.4
baz=15
T31A **Randall Ranch,** 14.57 34 ⇑P Pn 20 34 03.3 +0.7
baz=15,SNR=9.9
Q26A **Hugo** 14.57 20 ⇑P Pn 20 34 03.0 +0.1
baz=15,SNR=7.4
S30A **Montezuma** 14.62 30 ⇑P Pn 20 34 03.1 -0.4
baz=15
R28A **Tribune** 14.64 25 ⇓P Pn 20 34 03.6 -0.1
baz=15,SNR=8.8
MPU **Maple Canyon** 14.77 354 *e*P P 20 34 12.5 +0.8
comp=Z,79nm,1.2s
O20A **White River Ci** 14.86 4 ⇓P Pn 20 34 07.2 +0.5
baz=15,SNR=11
ISCO **Idaho Springs** 14.88 12 *e*P Pn 20 34 07.6 +0.5
ISCO pmax pmax
comp=Z,33nm,0.8s
ISCO **Idaho Springs** 14.88 12 *e*Pn Pn 20 34 07.6 +0.5
comp=Z,33nm,0.8s
ISCO **Idaho Springs** 14.88 12 ⇓P Pn 20 34 07.8 +0.7
baz=15,SNR=49
P25A **Willow Gulch B** 14.94 17 ⇑P Pn 20 34 08.1 +0.3
baz=15,SNR=24
KSCO **Kaye Shedlock'** 14.94 22 ⇓P Pn 20 34 07.5 -0.2
baz=15
O19A **Miners Draw (B** 14.98 2 ⇑P Pn 20 34 08.6 +0.3
baz=15,SNR=15
NVAR **Mina Array Bea** 14.98 333 Pn Pn 20 34 10.0 +1.6
NVAR **Mina Array Bea** 14.98 333 Pn Pn 20 34 10.0 +1.6
comp=Z,0.7nm,0.3s,baz=150,slow=13,SNR=32
R29A **Marienthal** 14.98 27 ⇓P Pn 20 34 07.8 -0.5
baz=15
O21A **Pagoda** 15.01 7 ⇓P Pn 20 34 09.4 +0.6
baz=15,SNR=6.1
O22A **Kremmling** 15.07 9 ⇑P Pn 20 34 10.1 +0.4
baz=15,SNR=69
S31A **Mullinville** 15.07 33 ⇓P Pn 20 34 10.0 +0.6
baz=15,SNR=11
DUG **Dugway** 15.09 351 *e*P Pn 20 34 10.8 +1.0
DUG pmax pmax
comp=Z,114nm,1.1s
DUG **Dugway** 15.09 351 *e*Pn Pn 20 34 10.8 +1.0
comp=Z,114nm,1.1s
DUG **Dugway** 15.09 351 ⇓P Pn 20 34 10.4 +0.6
baz=15,SNR=74
DAU **Daniels Canyon** 15.14 356 *e*P Pn 20 34 11.0 +0.4
DAU pmax pmax
comp=Z,69nm,1.1s
DAU **Daniels Canyon** 15.14 356 *e*Pn Pn 20 34 10.9 +0.4
comp=Z,69nm,1.1s
SAO **San Andreas Ge** 15.21 322 *e*P Pn 20 34 10.4 -0.8
SAO pmax pmax
comp=Z,16nm,1.2s
SAO **San Andreas Ge** 15.21 322 *e*Pn Pn 20 34 10.4 -0.8
comp=Z,16nm,1.2s
P26A **Davis Ranch, A** 15.21 19 ⇓P Pn 20 34 11.8 +0.4
baz=15,SNR=9.5
O23A **Lake Granby, G** 15.22 11 ⇑P Pn 20 34 12.3 +0.6
baz=15,SNR=29
R30A **Dighton** 15.23 29 ⇑P Pn 20 34 11.8 +0.1
baz=15,SNR=44
Q28A **Sharon Springs** 15.26 24 ⇑P Pn 20 34 12.3 +0.2
baz=15,SNR=9.4
O24A **Longmont** 15.30 14 ⇓P Pn 20 34 13.0 +0.4
baz=15
P27A **Ficken Ranch,** 15.45 21 ⇑P Pn 20 34 14.3 -0.2
baz=16,SNR=11
CTU **Camp Tracy** 15.45 354 *e*P P 20 34 19.4 +0.2
comp=Z,64nm,1.0s
O25A **Wiggins** 15.51 16 ⇓P Pn 20 34 15.2 -0.2
baz=16,SNR=15
N21A **Black Mountain** 15.54 6 ⇓P Pn 20 34 16.6 +0.8
baz=16,SNR=52
N20A **Spence Gulch,** 15.55 4 ⇓P Pn 20 34 16.4 +0.4
baz=16,SNR=55
R31A **Burdett** 15.58 31 ⇓P Pn 20 34 16.7 +0.5
baz=16,SNR=24
CMB **Columbia Colle** 15.60 327 *e*P Pn 20 34 16.0 -0.4
CMB pmax pmax
comp=Z,41nm,1.2s
CMB **Columbia Colle** 15.60 327 *e*Pn Pn 20 34 15.9 -0.4
comp=Z,41nm,1.2s
N22A **Wattenberg Ran** 15.71 9 ⇑P Pn 20 34 18.6 +0.5
baz=16,SNR=86
P28A **Saint Francis** 15.74 23 ⇓P Pn 20 34 18.3 0.0
baz=16,SNR=20
Q30A **Quinter** 15.83 28 ⇑P Pn 20 34 18.6 -0.8
baz=16,SNR=11
O26A **Horse Wrangler** 15.85 18 ⇑P Pn 20 34 19.6 -0.2
baz=16,SNR=6.2
N23A **Red Feather La** 15.88 11 ⇑P Pn 20 34 20.6 +0.3
baz=16,SNR=8.4
TUL1 **Tulsa** 15.98 45 ⇑P Pn 20 34 21.8 +0.4
baz=16
N24A **Carr** 16.02 13 ⇓P Pn 20 34 22.3 +0.4
baz=16,SNR=7.8
O27A **Beecher Island** 16.05 20 ⇑P Pn 20 34 22.1 -0.3
baz=16,SNR=5.0
P29A **Atwood** 16.07 25 ⇑P Pn 20 34 22.2 -0.4
baz=16
ELK **Elko** 16.09 345 *e*Pn Pn 20 34 23.3 +0.4
comp=Z,53nm,1.2s
M17A **Scullys Gap (B** 16.16 357 ⇑P Pn 20 34 23.3 -0.5
baz=16
M19A **Rock Springs** 16.18 2 ⇓P Pn 20 34 23.7 -0.4
baz=16
N25A **Grover** 16.18 16 ⇓P Pn 20 34 23.6 -0.4
baz=16
M20A **Sweetwater, Wa** 16.21 4 ⇓P Pn 20 34 24.0 -0.4
baz=16,SNR=19
Q31A **Ellis** 16.22 30 ⇓P Pn 20 34 24.6 +0.1
baz=16,SNR=8.7
O28A **Krutsinger Ran** 16.23 22 ⇑P Pn 20 34 24.1 -0.5
baz=16,SNR=11
M22A **Cedar Creek Ra** 16.28 8 ⇑P Pn 20 34 25.5 0.0
baz=16
P30A **Selden** 16.30 27 ⇑P Pn 20 34 24.8 -0.6
baz=16,SNR=18
HWUT **Hardware Ranch** 16.35 355 *e*Pn Pn 20 34 26.4 +0.3
comp=Z,96nm,1.3s
BMN **Battle Mountai** 16.35 339 *e*P P 20 34 28.0 -1.1
BMN pmax pmax
comp=Z,20nm,0.9s
BMN **Battle Mountai** 16.35 339 *e*Pn P 20 34 28.0 -1.1
comp=Z,20nm,0.9s
PHWY **Pilot Hill** 16.36 11 *e*Pn Pn 20 34 26.6 +0.2
comp=Z,41nm,1.1s
M21A **Separation Pea** 16.39 6 ⇑P Pn 20 34 26.3 -0.5
baz=16,SNR=17
N26A **Koester Ranch,** 16.42 18 ⇓P Pn 20 34 27.4 +0.4
baz=16,SNR=14
L18A **Fontenelle, Gr** 16.59 359 ⇓P Pn 20 34 28.6 -0.7
baz=17
N27A **Anderson Farm,** 16.60 19 ⇓P Pn 20 34 28.5 -0.8
baz=17
HVU **Hansel Valley** 16.64 352 *e*P P 20 34 31.1 -1.2
HVU pmax pmax
comp=Z,110nm,1.2s
HVU **Hansel Valley** 16.64 352 *e*Pn P 20 34 31.1 -1.2
comp=Z,110nm,1.2s
M24A **Cheyenne** 16.64 13 ⇓P Pn 20 34 30.1 +0.1
baz=17,SNR=5.9
P31A **Stockton** 16.65 29 ⇑P Pn 20 34 28.8 -1.1
baz=17,SNR=8.2
L20A **Wamsutter** 16.71 4 ⇑P Pn 20 34 30.2 -0.7
baz=17,SNR=8.5
L21A **Rawlins** 16.75 6 ⇓P Pn 20 34 31.6 +0.3
baz=17,SNR=24
MIAR **Mount Ida** 16.75 53 *e*P Pn 20 34 31.3 +0.1
MIAR pmax pmax
comp=Z,41nm,1.2s
MIAR **Mount Ida** 16.75 53 *e*Pn Pn 20 34 31.3 +0.1
comp=Z,41nm,1.2s
L19A **Farson** 16.77 1 ⇓P Pn 20 34 31.0 -0.6
baz=17,SNR=16
M25A **Palm-Egli Farm** 16.78 15 ⇑P Pn 20 34 31.3 -0.4
baz=17
OGNE **Ogallala** 16.88 20 ⇑P Pn 20 34 32.1 -0.7
baz=17
O30A **MW Ranch, Wils** 16.91 26 ⇓P Pn 20 34 33.5 +0.3
baz=17,SNR=15
L22A **Ellis Ranch, M** 16.92 8 ⇓P Pn 20 34 34.1 +0.6
baz=17,SNR=31
M26A **McRoberts Ranc** 17.04 17 ⇓P Pn 20 34 34.5 -0.3
baz=17
BEKR **Beckworth** 17.05 331 *e*Pn P 20 34 35.8 -1.2
comp=Z,24nm,1.1s
L23A **Garrett** 17.11 10 ⇓P Pn 20 34 36.0 +0.2
baz=17,SNR=15
L24A **Wheatland** 17.18 12 ⇓P Pn 20 34 36.9 +0.3
baz=17
N29A **Votaw Ranch, W** 17.25 24 ⇓P Pn 20 34 37.0 -0.5
baz=17
M27A **Reverse DX Ran** 17.30 19 ⇓P Pn 20 34 37.7 -0.5
baz=17
K20A **Yellowstone Ra** 17.36 3 ⇓P Pn 20 34 38.1 -0.9
baz=18,SNR=28
N30A **Hueftle Ranch,** 17.43 25 ⇓P Pn 20 34 39.4 -0.3
baz=18
BW06 **Boulder Array** 17.43 0 *e*Pn Pn 20 34 38.9 -1.1
comp=Z,111nm,1.7s
PDAR **Pinedale Array** 17.43 0 P Pn 20 34 39.0 -1.0
PDAR PcP PcP 20 39 22.9 +1.9
PDAR **Pinedale Array** 17.43 0 P Pn 20 34 39.0 -1.0
comp=Z,0.3nm,0.3s,baz=171,slow=12,SNR=67
PDAR PcP PcP 20 39 22.9 +1.9
comp=Z,0.0nm,0.3s,baz=160,slow=4.7,SNR=3.5
PDAR LR LR 20 41 56.5
comp=Z,1μm,18.2s,baz=191,slow=39
L25A **Engebretsen Ra** 17.48 14 ⇓P Pn 20 34 39.6 -0.8
baz=18
K19A **Absolon Red Bu** 17.51 2 ⇑P Pn 20 34 39.5 -1.3
baz=18,SNR=8.9
K22A **Casper** 17.52 8 ⇑P Pn 20 34 40.4 -0.5
baz=18,SNR=30
L26A **Underwood Farm** 17.59 17 ⇑P Pn 20 34 40.6 -1.1
baz=18
KSU1 **Kansas State U** 17.66 36 *e*Pn Pn 20 34 42.0 -0.5
comp=Z,45nm,0.8s
HOPS **Hopland** 17.70 324 *e*Pn Pn 20 34 42.0 -1.0
comp=Z,44nm,1.5s
K23A **Bowen Ranch, D** 17.75 10 ⇑P Pn 20 34 43.1 -0.7
baz=18,SNR=13
UALR **University of** 17.76 54 *e*Pn Pn 20 34 42.7 -1.0
comp=Z,41nm,0.9s
M29A **Burnside Ranch** 17.77 23 ⇑P Pn 20 34 43.4 -0.6
baz=18
L27A **T5 Ranch, Ells** 17.84 18 ⇑P Pn 20 34 44.0 -0.8
baz=18
K24A **Anderson Ranch** 17.86 12 ⇓P Pn 20 34 44.2 -0.9
baz=18
J19A **Crowheart** 17.94 2 ⇑P Pn 20 34 45.3 -0.8
baz=18,SNR=11
K25A **Mack Ranch, Ha** 17.94 14 ⇓P Pn 20 34 45.3 -0.9
baz=18,SNR=5.3
L28A **Connealy Angus** 18.00 20 ⇓P Pn 20 34 46.0 -0.9
baz=18
RRI2 **Red Ridge** 18.06 356 *e*Pn Pn 20 34 46.9 -0.8
comp=Z,28nm,1.0s
J20A **Shoshoni** 18.07 4 ⇑P Pn 20 34 47.3 -0.4
baz=18,SNR=55
J21A **Lysite** 18.11 5 ⇑P Pn 20 34 47.6 -0.7
baz=18,SNR=17
SNOW **Snow King Moun** 18.15 358 *e*Pn Pn 20 34 48.4 -0.4
comp=Z,138nm,1.6s
M30A **Dale-Ortello V** 18.15 24 ⇓P Pn 20 34 47.7 -0.9
baz=18
TPAW **Teton Pass** 18.18 357 *e*Pn P 20 34 49.1 -0.4
comp=Z,46nm,1.1s
K26A **Motz Farm, Whi** 18.19 16 ⇓P Pn 20 34 47.9 -1.2
baz=18,SNR=7.8
J22A **Midwest** 18.27 8 ⇓P Pn 20 34 49.4 -0.8
baz=18,SNR=56
LOHW **Long Hollow** 18.29 358 *e*Pn Pn 20 34 49.1 -1.4
comp=Z,26nm,1.1s
DCID1 **Drake Creek** 18.30 357 *e*Pn P 20 34 50.4 -0.3
comp=Z,40nm,0.8s
I18A **Diamond G Ranc** 18.37 360 ⇓P Pn 20 34 50.8 -0.6
baz=18,SNR=23
J23A **Dilts Ranch, B** 18.39 10 ⇓P P 20 34 51.1 -0.5
baz=18
L29A **Maesberg Ranch** 18.40 22 ⇑P P 20 34 50.9 -0.7
baz=18,SNR=6.8
K27A **Flueckinger Fa** 18.43 18 ⇓P P 20 34 51.0 -1.1
baz=18
MOOW **Moose Ponds** 18.43 358 *e*P Pn 20 34 52.1 -0.1
comp=Z,31nm,1.1s
J24A **Dixon Ranch, L** 18.47 12 ⇓P Pn 20 34 52.2 -0.4
baz=19,SNR=7.7
KCPM **Cahto Peak** 18.48 324 *e*P Pn 20 34 53.1 +0.4
comp=Z,50nm,1.3s
KIPM **Iron Peak** 18.51 325 *e*P Pn 20 34 53.5 +0.4
comp=Z,86nm,1.4s
I21A **Big Trails, Te** 18.59 6 P P 20 34 53.1 -0.7
baz=19,SNR=35
IMW **Indian Meadow** 18.59 357 *e*P Pn 20 34 53.8 -0.4
comp=Z,87nm,1.1s
I16A **Newdale** 18.60 356 ⇑P Pn 20 34 54.2 +0.1
baz=19,SNR=19
I17A **Pilgrim Ck.** 18.60 358 ⇓P Pn 20 34 54.3 +0.1
baz=19,SNR=7.1
WVOR **Wild Horse Val** 18.61 339 *e*P Pn 20 34 54.5 +0.2
WVOR pmax pmax
comp=Z,22nm,1.1s
WVOR **Wild Horse Val** 18.61 339 *e*Pn Pn 20 34 54.5 +0.2
comp=Z,22nm,1.1s
WDC **Whiskeytown Da** 18.62 328 *e*P P 20 34 53.3 -0.8
WDC pmax pmax
comp=Z,18nm,1.1s
WDC **Whiskeytown Da** 18.62 328 *e*P P 20 34 53.3 -0.8
comp=Z,18nm,1.1s
I20A **Worland** 18.66 4 P Pn 20 34 54.7 -0.2
baz=19,SNR=35
K28A **Ten Mile Ranch** 18.69 20 ⇓P Pn 20 34 54.8 -0.5
baz=19,SNR=8.1
I19A **Meeteetse** 18.71 2 ⇑P Pn 20 34 55.3 -0.3
baz=19,SNR=18
BGNE **Belgrade** 18.73 28 ⇓P Pn 20 34 55.3 -0.4
baz=19,SNR=7.0
MOD **Modoc** 18.74 335 *e*P Pn 20 34 55.8 -0.1
comp=Z,23nm,1.1s
MFID **Camas Ranch** 18.76 346 *e*P Pn 20 34 55.8 -0.3
comp=Z,82nm,1.4s
MFID **Camas Ranch** 18.76 346 ⇑P Pn 20 34 56.6 +0.5
baz=19,SNR=6.9

I14A	**Mackay**	18.84	352	⇑P		Pn	20 34 57.3	+0.1		
	baz=19,SNR=9.2									
I23A	**Meade Ranch, G**	18.95	10	⇑P		P	20 34 57.6	-0.2		
	baz=19									
I24A	**Kuemmerle Ranc**	18.99	11	⇓P		P	20 34 57.7	-0.5		
	baz=19,SNR=9.6									
K29A	**Lazy Trails An**	19.07	22	⇓P		P	20 34 59.0	0.0		
	baz=19									
H17A	**Grant Village**	19.07	358	⇓P		P	20 34 58.8	-0.4		
	baz=19									
YFT	**Old Faithful**	19.14	358	eP		Pn	20 35 00.5	-0.3		
	comp=Z,132nm,1.7s									
H20A	**Greybull**	19.20	4	⇓P		P	20 34 60.0	-0.6		
	baz=19,SNR=14									
LKWY	**Lake**	19.24	359	eP		Pn	20 35 02.8	+0.8		
LKWY				pmax		pmax				
	comp=Z,133nm,1.5s									
LKWY	**Lake**	19.24	359	eP		Pn	20 35 02.8	+0.8		
	comp=Z,132nm,1.5s									
H18A	**Shoshone NF, C**	19.34	0	⇓P		P	20 35 01.7	-0.4		
	baz=20,SNR=13									
H19A	**Powell**	19.35	2	⇑P		P	20 35 02.1	0.0		
	baz=20,SNR=19									
RSSD	**Black Hills**	19.35	12	eP		P	20 35 00.7	-1.6		
RSSD				pmax		pmax				
	comp=Z,8.0nm,0.7s									
RSSD	**Black Hills**	19.35	12	eP		P	20 35 00.7	-1.6		
	comp=Z,8.4nm,0.7s									
YMR	**Madison River**	19.36	357	eP		P	20 35 01.6	-0.7		
	comp=Z,29nm,0.3s									
J28A	**Allard Ranch,**	19.38	19	⇓P		P	20 35 02.6	+0.1		
	baz=20,SNR=9.0									
H16A	**Russell Place,**	19.41	357	⇓P		P	20 35 02.9	0.0		
	baz=20,SNR=14									
H21A	**Big Horn, Sher**	19.42	6	⇑P		P	20 35 02.8	-0.1		
	baz=20									
KHMM	**Horse Mountain**	19.43	327	eP		P	20 35 02.3	-0.8		
	comp=Z,53nm,1.2s									
H22A	**Clearmont**	19.46	7	⇑P		P	20 35 03.3	0.0		
	baz=20									
I26A	**New Underwood**	19.52	15	⇑P		P	20 35 04.0	+0.1		
	baz=20									
QLMT	**Earthquake Lak**	19.55	356	eP		P	20 35 04.2	-0.2		
	comp=Z,7.7nm,1.3s									
YBH	**Yreka Blue Hor**	19.61	330	P		P	20 35 03.6	-1.3		
YBH	**Yreka Blue Hor**	19.61	330	P		P	20 35 03.7	-1.3		
	comp=Z,0.2nm,0.3s,baz=129,slow=11,SNR=4.2									
YBH				LR		LR	20 42 08.2			
	comp=Z,1μm,19.2s,baz=152,slow=35									
MCMT	**McKenzie Canyo**	19.66	353	ePn		Pn	20 35 07.0	0.0		
H12A	**Diamond D Ranc**	19.66	349	⇑P		P	20 35 05.8	+0.2		
	baz=20,SNR=22									
RLMT	**Red Lodge**	19.79	1	eP		P	20 35 06.5	-0.6		
	comp=Z,52nm,1.4s									
H24A	**Dirks Ranch, A**	19.86	11	⇓P		P	20 35 07.0	-0.7		
	baz=20,SNR=18									
H25A	**Fruitdale**	19.92	13	⇑P		P	20 35 08.2	-0.1		
	baz=20									
G20A	**Bridger**	19.93	3	⇑P		P	20 35 07.4	-1.0		
	baz=20,SNR=11									
G18A	**Lazy EL Ranch,**	19.98	0	⇑P		P	20 35 08.6	-0.5		
	baz=20,SNR=18									
G21A	**Lodge Grass**	20.00	5	⇑P		P	20 35 08.4	-0.8		
	baz=20,SNR=10									
G17A	**Pierce Place,**	20.00	358	⇓P		P	20 35 09.6	+0.3		
	baz=20,SNR=16									
KRMB	**Red Mountain**	20.01	327	eP		P	20 35 07.9	-1.5		
	comp=Z,15nm,1.1s									
G22A	**Birney**	20.08	7	P		P	20 35 09.6	-0.5		
	baz=20,SNR=16									
H26A	**Fairpoint**	20.09	15	⇑P		P	20 35 10.0	-0.1		
	baz=20									
DLMT	**Dillon**	20.16	354	eP		P	20 35 11.5	+0.4		
	comp=Z,64nm,1.3s									
G23A	**Biddle**	20.18	9	P		P	20 35 10.8	-0.3		
	baz=20,SNR=6.7									
H27A	**Howes**	20.27	16	⇓P		P	20 35 12.3	+0.2		
	baz=20									
G12A	**Big Creek, Yel**	20.31	349	⇑P		P	20 35 12.9	+0.2		
	baz=20									
BOZ	**Bozeman (W)**	20.37	356	eP		P	20 35 13.2	-0.1		
BOZ				pmax		pmax				
	comp=Z,51nm,1.3s									
BOZ	**Bozeman (W)**	20.37	356	eP		P	20 35 13.2	-0.1		
	comp=Z,51nm,1.3s									
TEIG	**Tepich**	20.41	100	eP		P	20 35 14.4	+0.7		
	comp=Z,41nm,1.0s									
TEIG	**Tepich**	20.41	100	P		P	20 35 14.4	+0.7		
	comp=Z,34nm,0.9s,baz=278,slow=11,SNR=15									
TEIG				LR		LR	20 45 33.3			
	comp=Z,2μm,18.1s,baz=76,slow=44									
G24A	**Alzada**	20.45	11	⇑P		P	20 35 13.9	-0.2		
	baz=21,SNR=9.6									
GCMT	**Greycliff**	20.46	0	eP		P	20 35 14.4	+0.1		
	comp=Z,36nm,1.1s									
BMO	**Blue Mountains**	20.46	344	eP		P	20 35 13.3	-0.9		
	comp=Z,73nm,1.5s									
F20A	**Billings**	20.51	3	P		P	20 35 14.3	-0.4		
	baz=21,SNR=23									
F16A	**Kennard Place,**	20.51	356	⇑P		P	20 35 15.2	+0.5		
	baz=21,SNR=15									
F18A	**Big Timber**	20.57	0	P		P	20 35 15.5	+0.1		
	baz=21,SNR=25									
LCCM	**Lewis and Clar**	20.58	356	P		P	20 35 16.1	+0.5		
F17A	**Fitzpatrick Pl**	20.59	358	⇓P		Pn	20 35 16.5	-1.3		
	baz=21,SNR=18									
H28A	**Mission Ridge**	20.59	18	⇑P		P	20 35 15.6	0.0		
	baz=21									
F21A	**Absaloka Mine,**	20.60	5	⇑P		P	20 35 15.0	-0.7		
	baz=21									
LRM	**Limekiln Ridge**	20.61	355	eP		P	20 35 15.8	-0.2		
	comp=Z,320nm,1.0s									
F15A	**Butte**	20.63	355	P		P	20 35 16.4	+0.3		
	baz=21,SNR=20									
F22A	**Rosebud**	20.64	7	P		P	20 35 15.4	-0.7		
	baz=21,SNR=12									
F23A	**Volborg**	20.68	9	P		P	20 35 16.2	-0.3		
	baz=21,SNR=53									
F14A	**Wisdom**	20.69	353	⇑P		P	20 35 16.6	-0.2		
	baz=21									
BRAL	**Brewton**	20.77	69	eP		Pn	20 35 18.9	-1.1		
	comp=Z,176nm,1.1s									
F24A	**Ekalaka**	20.95	10	⇑P		P	20 35 19.1	-0.4		
	baz=21,SNR=8.1									
G28A	**Parade**	20.99	18	⇓P		P	20 35 19.4	-0.5		
	baz=21									
UTMT	**University of**	20.99	53	eP		P	20 35 18.4	-1.5		
	comp=Z,74nm,0.6s									
G27A	**Dupree**	21.01	15	⇓P		P	20 35 17.1	-3.0		
	baz=21									
BRSD	**Miller**	21.02	22	⇓P		P	20 35 20.1	0.0		
	baz=21,SNR=24									
E19A	**Rath Farm, Rou**	21.14	2	P		P	20 35 20.9	-0.6		
	baz=21,SNR=24									
E17A	**Martinsdale**	21.15	358	P		P	20 35 22.0	+0.2		
	baz=21,SNR=23									
SLM	**Saint Louis**	21.17	46	eP		P	20 35 21.3	-0.6		
SLM				pmax		pmax				
	comp=Z,89nm,0.8s									
SLM	**Saint Louis**	21.17	46	eP		P	20 35 21.3	-0.6		
	comp=Z,89nm,0.8s									
E20A	**Meyer Farm, Mu**	21.21	3	P		P	20 35 21.9	-0.3		
	baz=21,SNR=16									
E18A	**Harlowton**	21.23	360	P		P	20 35 22.6	0.0		
	baz=21,SNR=22									
KEBM	**Edson Butte**	21.25	329	eP		P	20 35 22.9	+0.1		
E16A	**East Helena**	21.26	356	P		P	20 35 23.0	+0.1		
	baz=21,SNR=9.4									
LRAL	**Lakeview Retre**	21.27	63	eP		P	20 35 23.4	+0.5		
	comp=Z,41nm,1.1s									
ECSD	**EROS Data Cent**	21.29	27	eP		P	20 35 22.5	-0.6		
	comp=Z,59nm,1.1s									
E21A	**Keefer Ranch,**	21.31	5	P		P	20 35 23.0	-0.4		
	baz=21,SNR=54									
BKCOR	**Black Crater**	21.32	336	P		P	20 35 23.5	0.0		
E22A	**Miles City**	21.32	7	⇓P		P	20 35 22.2	-1.3		
	baz=21,SNR=5.6									
SIUC	**Southern Illin**	21.38	50	eP		P	20 35 24.7	+0.7		
	comp=Z,64nm,0.9s									
HRY	**Holter Researc**	21.44	356	eP		P	20 35 24.6	-0.2		
	comp=Z,106nm,1.2s									
E23A	**Ismay**	21.46	8	⇑P		P	20 35 24.1	-0.8		
	baz=22									
SCIA	**State Center**	21.48	35	eP		P	20 35 25.1	0.0		
	comp=Z,39nm,0.8s									
E12A	**Beaver Dam Sad**	21.59	349	P		P	20 35 25.9	-0.6		
	baz=22,SNR=18									
WVT	**Waverly**	21.66	55	eP		P	20 35 27.5	+0.4		
WVT				pmax		pmax				
	comp=Z,99nm,1.3s									
WVT	**Waverly**	21.66	55	eP		P	20 35 27.5	+0.4		
	comp=Z,99nm,1.3s									
E24A	**Baker**	21.67	10	⇑P		P	20 35 26.3	-0.9		
	baz=22,SNR=21									
D16A	**Dana Ranch, Ca**	21.75	357	⇓P		P	20 35 27.8	-0.3		
	baz=22,SNR=27									
MSO	**Missoula**	21.76	352	eP		P	20 35 27.5	-0.7		
	comp=Z,40nm,1.0s									
MSO	**Missoula**	21.76	352	⇑P		P	20 35 27.6	-0.5		
	baz=22,SNR=50									
CHMT	**Chamberlain Mo**	21.76	353	eP		P	20 35 28.2	-0.2		
	comp=Z,66nm,1.2s									
E25A	**Miller Ranch,**	21.77	12	⇓P		P	20 35 27.5	-0.7		
	baz=22,SNR=10.0									
D15A	**Lincoln**	21.82	355	⇓P		P	20 35 28.5	-0.4		
	baz=22,SNR=10									
D17A	**Six Diamond Ra**	21.83	358	P		P	20 35 28.5	-0.6		
	baz=22,SNR=44									
D21A	**La Casta Ranch**	21.84	5	⇓P		P	20 35 28.5	-0.6		
	baz=22,SNR=19									
D19A	**Cripps Ranch,**	21.84	2	⇓P		P	20 35 28.4	-0.7		
	baz=22,SNR=16									
D18A	**Linhart Farms,**	21.86	360	⇑P		P	20 35 28.6	-0.7		
	baz=22,SNR=9.9									
E26A	**Carlson Angus**	21.92	14	P		P	20 35 29.2	-0.7		
	baz=22,SNR=17									
D14A	**Greenough**	21.96	353	⇑P		P	20 35 30.1	-0.2		
	baz=22,SNR=38									
D22A	**Cohagen**	22.00	6	P		P	20 35 30.4	-0.3		
	baz=22,SNR=22									
D13A	**Huson**	22.09	351	P		P	20 35 30.9	-0.7		
	baz=22,SNR=14									
SLMT	**Seeley Lake**	22.11	353	eP		P	20 35 31.9	-0.2		
	comp=Z,154nm,1.3s									
D23A	**Lindsay**	22.14	8	P		P	20 35 31.8	-0.4		
	baz=22,SNR=16									
D12A	**Red Ives Fores**	22.18	350	P		P	20 35 31.7	-0.9		
	baz=22,SNR=25									
D24A	**Glendive**	22.20	10	P		P	20 35 32.5	-0.4		
	baz=22,SNR=20									
C17A	**Wharram Farm,**	22.32	358	⇓P		P	20 35 33.4	-0.8		
	baz=22,SNR=24									
C19A	**Slack Wire Ran**	22.41	1	⇓P		P	20 35 34.4	-0.7		
	baz=22									
C20A	**Veseth Ranch,**	22.42	3	P		P	20 35 34.7	-0.5		
	baz=22,SNR=33									
SWMT	**Swartz Lake**	22.43	352	eP		P	20 35 34.7	-0.8		
	comp=Z,87nm,1.2s									
HAWA	**Hanford**	22.47	342	eP		P	20 35 34.5	-1.3		
	comp=Z,23nm,1.2s									
C16A	**Fuhringer Ranc**	22.53	356	P		P	20 35 35.4	-1.0		
	baz=23,SNR=19									
C15A	**Salmond Ranch,**	22.56	355	⇑P		P	20 35 35.7	-1.1		
	baz=23,SNR=9.9									
USIN	**University of**	22.58	51	eP		P	20 35 37.4	+0.5		
	comp=Z,91nm,1.1s									
C21A	**Desert Coulee**	22.59	5	⇑P		P	20 35 36.4	-0.6		
	baz=23,SNR=10									
C24A	**Savage**	22.59	9	⇓P		P	20 35 36.1	-0.9		
	baz=23,SNR=7.4									
C22A	**Vida**	22.62	7	⇓P		P	20 35 37.1	-0.2		
	baz=23									
OLIL	**Olney**	22.65	48	eP		P	20 35 38.1	+0.4		
	comp=Z,36nm,0.8s									
C14A	**Swan Lake**	22.66	353	P		P	20 35 37.2	-0.6		
	baz=23,SNR=12									
C13A	**Hot Springs**	22.67	351	⇑P		P	20 35 36.8	-1.2		
	baz=23,SNR=6.0									
EGMT	**Eagleton**	22.69	360	eP		P	20 35 37.0	-1.2		
	comp=Z,70nm,1.1s									
EGMT	**Eagleton**	22.69	360	⇓P		P	20 35 36.9	-1.2		
	baz=23,SNR=13									
JTMT	**Jette**	22.70	352	eP		P	20 35 37.9	-0.4		
	comp=Z,36nm,1.3s									
C23A	**Lambert**	22.76	8	⇑P		P	20 35 38.0	-0.8		
	baz=23,SNR=9.3									
YBMT	**Yellow Bay**	22.78	353	eP		P	20 35 38.7	-0.4		
	comp=Z,24nm,1.1s									
C12B	**Naegeli Ranch,**	22.84	350	⇓P		P	20 35 38.3	-1.3		
	baz=23,SNR=7.2									
HDIL	**Hopedale**	22.86	43	eP		P	20 35 39.5	-0.3		
	comp=Z,84nm,0.9s									
BSMT	**Bassoo Peak**	22.87	351	eP		P	20 35 38.8	-1.4		
	comp=Z,20nm,1.1s									
ASR	**Mount Adams--S**	22.89	338	P		P	20 35 43.0	+2.8		
BLMT	**Blacktail Moun**	22.97	352	eP		P	20 35 40.2	-1.1		
	comp=Z,25nm,1.2s									
B17A	**L&G Farms, Che**	22.98	358	⇓P		P	20 35 39.8	-1.3		
	baz=23,SNR=8.8									
B18A	**Beardsley Farm**	23.06	360	⇓P		P	20 35 40.9	-1.1		
	baz=23,SNR=9.5									
B15A	**Bradely Ranch,**	23.09	355	P		P	20 35 41.0	-1.3		
	baz=23,SNR=20									
B19A	**Brinkman Farms**	23.13	1	⇑P		P	20 35 41.5	-1.2		
	baz=23									
B16A	**M & M Farms, S**	23.13	357	⇓P		P	20 35 41.4	-1.4		
	baz=23									
B20A	**Solberg Farm,**	23.15	3	⇑P		P	20 35 41.7	-1.1		
	baz=23,SNR=18									
B22A	**Reddig Ranch S**	23.16	6	⇑P		P	20 35 41.9	-1.0		
	baz=23,SNR=7.5									
OD2	**Odessa Site #2**	23.18	344	P		P	20 35 41.8	-1.4		
B21A	**Ellsworth Farm**	23.20	5	⇓P		P	20 35 42.0	-1.3		
	baz=23									
B14A	**Marquette Ranc**	23.20	354	⇑P		P	20 35 42.3	-1.2		
	baz=23,SNR=12									
B13A	**Whitefish**	23.34	352	P		P	20 35 43.5	-1.3		
	baz=23,SNR=13									
B23A	**Brockton**	23.43	8	⇑P		P	20 35 45.2	-0.5		
	baz=24,SNR=15									
LON	**Longmire**	23.48	339	eP		P	20 35 45.6	-0.7		
LON				pmax		pmax				
	comp=Z,20nm,0.9s									
LON	**Longmire**	23.48	339	eP		P	20 35 45.6	-0.7		
	comp=Z,20nm,0.9s									
DGMT	**Dagmar**	23.55	9	eP		P	20 35 46.3	-0.5		
	comp=Z,137nm,1.3s									
DGMT	**Dagmar**	23.55	9	⇑P		P	20 35 45.8	-1.1		
	baz=24									
A18A	**Metzger Ranch,**	23.59	360	⇓P		P	20 35 46.0	-1.3		
	baz=24,SNR=7.1									
A20A	**Cobblestone Ra**	23.59	3	P		P	20 35 46.4	-0.9		
	baz=24,SNR=12									
B12A	**Libby**	23.59	350	⇓P		P	20 35 46.2	-1.1		
	baz=24,SNR=7.2									
A19A	**Klindworth Far**	23.61	2	⇑P		P	20 35 46.5	-1.0		
	baz=24,SNR=16									
A17A	**Triple J Farms**	23.63	358	⇓P		P	20 35 46.2	-1.4		
	baz=24,SNR=8.1									
NEW	**Newport**	23.66	348	eP		P	20 35 46.8	-1.2		
	comp=Z,40nm,1.1s									
NEW				PcP		PcP	20 39 36.7	+4.4		
NEW	**Newport**	23.66	348	P		P	20 35 47.5	-0.4		
	comp=Z,14nm,0.7s,baz=158,slow=10,SNR=25									
NEW				PcP		PcP	20 39 36.7	+4.4		
	comp=Z,1.3nm,0.4s,baz=134,slow=1.9,SNR=4.7									
NEW				LR		LR	20 46 02.7			
	comp=Z,792nm,21.4s,baz=170,slow=39									
NEW	**Newport**	23.66	348	⇑P		P	20 35 46.3	-1.7		
	baz=24,SNR=13									
WCI	**Wyandotte Cave**	23.66	51	eP		P	20 35 45.9	-2.2		
WCI				pmax		pmax				
	comp=Z,9.0nm,0.4s									
WCI	**Wyandotte Cave**	23.66	51	eP		P	20 35 45.9	-2.2		
	comp=Z,9.4nm,0.4s									
A21A	**Bergtoll Ranch**	23.76	5	⇑P		P	20 35 47.8	-1.1		
	baz=24									
A15A	**Johnson Ranch,**	23.76	355	P		P	20 35 47.5	-1.5		
	baz=24,SNR=9.7									
JFWS	**Jewell Farm**	23.77	37	eP		P	20 35 48.7	-0.3		
JFWS				pmax		pmax				
	comp=Z,25nm,0.8s									
JFWS	**Jewell Farm**	23.77	37	eP		P	20 35 48.7	-0.3		
	comp=Z,25nm,0.8s									
TIGA	**Tifton**	23.77	69	⇓P		P	20 35 47.5	-1.6		
	baz=24									
A14A	**Double T Ranch**	23.82	354	P		P	20 35 48.4	-1.2		
	baz=24,SNR=25									
A22A	**Carney Farms,**	23.85	6	⇓P		P	20 35 48.9	-0.9		
	baz=24,SNR=5.8									
TGUH	**Tegucigalpa,Un**	23.88	114	eP		P	20 35 53.3	+3.1		
	comp=Z,90nm,1.2s									
MDND	**Maddock**	23.90	17	⇓P		P	20 35 49.3	-0.9		
	baz=24									
A23A	**Redstone**	23.93	8	⇑P		P	20 35 49.8	-0.7		
	baz=24									
BLO	**Bloomington**	23.93	49	eP		P	20 35 50.9	+0.3		
BLO				pmax		pmax				
	comp=Z,23nm,0.8s									
BLO	**Bloomington**	23.93	49	eP		P	20 35 50.9	+0.3		
	comp=Z,23nm,0.8s									
WALA	**Waterton Lakes**	23.95	353	eP		P	20 35 49.9	-1.0		
	comp=Z,4.0nm,1.2s									
A24A	**Westby**	24.02	9	⇓P		P	20 35 50.7	-0.6		
	baz=24									
A12A	**Yaak River Ran**	24.05	350	⇑P		P	20 35 50.6	-1.1		
	baz=24,SNR=5.4									
SFIN	**Scholer Farm**	24.16	46	⇓P		P	20 35 52.4	-0.2		
	baz=24,SNR=13									
TKL	**Tuckaleechee C**	24.58	59	eP		P	20 35 56.5	-0.1		
TKL	**Tuckaleechee C**	24.58	59	P		P	20 35 57.0	+0.4		
	comp=Z,17nm,1.0s,baz=246,slow=8.8,SNR=9.9									
TZTN	**Tazewell**	25.03	57	eP		P	20 36 01.0	+0.3		
	comp=Z,80nm,1.2s									
AGMN	**Agassiz Nation**	25.43	22	eP		P	20 36 03.1	-1.0		
	comp=Z,10nm,0.7s									
PGC	**Sidney**	25.68	339	eP		P	20 36 05.9	-0.5		
	comp=Z,0.7nm,1.0s									
COWI	**Conover**	26.52	33	eP		P	20 36 13.0	-1.1		
	comp=Z,9.6nm,0.9s									
EYMN	**Ely**	26.80	28	eP		P	20 36 14.7	-2.0		
	comp=Z,21nm,1.1s									
ACSO	**Alum Creek Sta**	26.85	50	eP		P	20 36 13.9	-3.2		
	comp=Z,19nm,0.8s									
ULM	**Lac du Bonnet**	27.13	20	P		P	20 36 20.0	+0.5		
ULM				PcP		PcP	20 39 43.9	+3.9		
ULM	**Lac du Bonnet**	27.13	20	P		P	20 36 20.0	+0.5		
	comp=Z,2.2nm,0.5s,baz=203,slow=7.7,SNR=2.3									
ULM				PcP		PcP	20 39 43.9	+3.9		
	comp=Z,6.0nm,0.7s,baz=243,slow=3.5,SNR=5.3									
ULM				LR		LR	20 47 02.0			
	comp=Z,764nm,19.7s,baz=21,slow=36									
FFC	**Flin Flon**	29.96	9	*i* P		P	20 36 43.3	-1.4		
FFC	**Flin Flon**	29.96	9	eP		P	20 36 42.9	-1.8		
	comp=Z,23nm,1.3s									
BBB	**Bella Bella**	30.27	337	LR		LR	20 49 15.4			
	comp=Z,777nm,19.6s,baz=157,slow=37									
SADO	**Sadowa**	31.43	44	PcP		PcP	20 39 55.5	+4.4		
SADO	**Sadowa**	31.43	44	PcP		PcP	20 39 55.5	+4.4		
	comp=Z,5.7nm,0.8s,baz=274,slow=4.2,SNR=3.7									
BINY	**Binghamton**	32.47	50	eP		P	20 37 06.2	-0.8		
	comp=Z,49nm,1.3s									
MSNY	**Massena**	34.27	46	eP		P	20 37 22.2	-0.4		
	comp=Z,15nm,0.9s									
NCB	**Newcomb**	34.31	48	eP		P	20 37 22.2	-0.8		
	comp=Z,26nm,1.0s									
LONY	**Lake Ozonia**	34.31	47	eP		P	20 37 22.2	-0.8		
	comp=Z,29nm,1.4s									
MDV	**Middlebury**	35.02	48	eP		P	20 37 27.7	-1.4		
	comp=Z,67μm,0.8s									
FRNY	**Flat Rock**	35.05	47	eP		P	20 37 28.5	-0.8		
	comp=Z,9.2nm,0.6s									
WRAK	**Wrangell Islan**	35.16	338	eP		P	20 37 30.8	+0.7		
	comp=Z,12nm,0.8s									
DLBC	**Dease Lake**	36.11	342	P		P	20 37 38.7	+0.4		
DLBC	**Dease Lake**	36.11	342	P		P	20 37 38.7	+0.4		
	comp=Z,8.3nm,0.8s,baz=179,slow=8.0,SNR=11									
YKA	**Yellowknife Ar**	37.34	356	P		P	20 37 47.4	-1.3		
YKA				PcP		PcP	20 40 11.1	+3.5		
YKA	**Yellowknife Ar**	37.34	356	P		P	20 37 47.3	-1.3		
	comp=Z,2.3nm,0.8s,baz=174,slow=8.0,SNR=14									
YKA				PcP		PcP	20 40 11.1	+3.5		
	comp=Z,1.4nm,0.7s,baz=160,slow=2.8,SNR=6.0									
YKA				LR		LR	20 53 08.8			
	comp=Z,101nm,18.6s,baz=165,slow=36									
YKW3	**Yellowknife Ar**	37.41	356	eP		P	20 37 47.6	-1.6		
	comp=Z,0.4nm,1.0s									
OTAV	**Otavalo**	39.16	125	eP		P	20 38 06.3	+1.2		
	comp=Z,33nm,1.0s									
ROSC	**El Rosal**	39.55	115	LR		LR	20 56 33.9			
	comp=Z,341nm,18.9s,baz=14,slow=39									
OBIP	**Obispado Ponce**	40.59	91	eP		P	20 38 18.0	+1.5		
	comp=Z,25nm,0.9s									
SJG	**San Juan**	40.98	91	eP		P	20 38 19.2	-0.5		
	comp=Z,35nm,0.9s									
SCHQ	**Schefferville**	43.10	35	P		P	20 38 37.0	+0.5		
SCHQ				PcP		PcP

	comp=E,4.0nm,1.0s									
ROSF	**Rostrenen**	**81.64**	**40**	*e*P		**P**		**20 42 54.0**	**-0.8**	
	comp=E,17nm,0.9s									
NB2	**NORSAR Subarra**	**81.69**	**25**	P		**P**		**20 42 54.3**	**-0.5**	
	comp=Z,7.9nm,1.0s,baz=307,slow=4.8									
NOA	**NORSAR Array B**	**81.69**	**25**	P		**P**		**20 42 54.5**	**-0.3**	
NOA	**NORSAR Array B**	**81.69**	**25**	P		**P**		**20 42 54.5**	**-0.3**	
	comp=Z,0.6nm,0.8s,baz=312,slow=5.7,SNR=3.7									
NOA				LR		LR		21 18 57.9		
	comp=Z,210nm,20.1s,baz=340,slow=36									
KONO	**Kongsberg**	**81.91**	**27**	*e*P		**P**		**20 42 57.3**	**+1.4**	
	comp=Z,46nm,1.3s									
QUIF	**Quistinic**	**81.91**	**41**	*e*P		**P**		**20 42 55.5**	**-0.6**	
	comp=Z,28nm,0.9s									
POLO	**Lamas de Olo**	**82.02**	**48**	*e*P		**P**		**20 42 58.8**	**+1.8**	
	comp=Z,12nm,1.6s									
PVIS	**Viseu**	**82.25**	**49**	*e*P		**P**		**20 42 58.4**	**+0.2**	
	comp=Z,17nm,1.0s									
MTE	**Manteigas**	**82.63**	**49**	*e*P		**P**		**20 43 02.0**	**+1.8**	
	comp=Z,36nm,1.0s									
MTE	**Manteigas**	**82.63**	**49**	*e*P		**P**		**20 42 58.9**	**-1.2**	
	comp=Z,27nm,0.8s									
MVO	**Moncorvo**	**82.63**	**48**	*e*P		**P**		**20 43 02.6**	**+2.4**	
	comp=Z,14nm,2.2s									
PMTG	**Montargil**	**82.75**	**50**	*e*P		**P**		**20 43 02.3**	**+1.5**	
	comp=Z,18nm,1.0s									
PCBR	**Castelo Branco**	**82.92**	**49**	*e*P		**P**		**20 43 03.9**	**+2.3**	
	comp=Z,14nm,1.1s									
YSS	**Yuzh-Sakhalins**	**82.94**	**319**	*e*P		P		20 43 06.1	+4.5	
GRR	**Gorron**	**83.02**	**39**	*e*P		**P**		**20 43 01.6**	**-0.3**	
	comp=Z,65nm,1.1s									
FLN	**La Foliniere**	**83.05**	**39**	*e*P		**P**		**20 43 01.8**	**-0.3**	
	comp=Z,96nm,1.0s									
EVO	**Evora**	**83.14**	**51**	*e*P		**P**		**20 43 02.1**	**-0.7**	
	comp=Z,11nm,0.9s									
PESTR	**Estremoz**	**83.29**	**50**	*e*P		**P**		**20 43 03.1**	**-0.5**	
	comp=Z,18nm,1.5s									
LDF	**La Druitiere**	**83.34**	**39**	*e*P		**P**		**20 43 03.1**	**-0.5**	
	comp=Z,63nm,1.2s									
MUD	**Monsted U'grnd**	**83.66**	**29**	*i* P		P		20 43 11.4	+6.4	
MUD				pmax		pmax				
	comp=Z,17nm,1.0s									
MUD	**Monsted U'grnd**	**83.66**	**29**	*i* P		P		20 43 11.4	+6.4	
	comp=Z,17nm,1.0s									
PBAR	**Barrancos**	**83.99**	**51**	*e*P		**P**		**20 43 07.4**	**+0.3**	
	comp=Z,18nm,1.7s									
MFF	**Saint Martin d**	**84.35**	**41**	*e*P		**P**		**20 43 08.2**	**-0.6**	
	comp=Z,11nm,0.8s									
ASAJ	**Asahikawa**	**84.45**	**316**	*e*P		P		20 43 05.2	-4.1	
	comp=Z,10.0nm,1.4s									
BAIF	**Baives**	**84.95**	**36**	*e*P		**P**		**20 43 10.9**	**-0.8**	
	comp=Z,33nm,1.1s									
WTSB	**Winterswijk**	**85.20**	**34**	*e*P		P		20 43 18.0	+5.0	
	comp=Z,25nm,1.0s									
GIVF	**Givet**	**85.25**	**36**	*e*P		**P**		**20 43 11.7**	**-1.6**	
	comp=Z,33nm,1.0s									
ESDC	**Sonseca Array**	**85.39**	**48**	P		**P**		**20 43 14.2**	**-0.1**	
ESDC	**Sonseca Array**	**85.39**	**48**	P		**P**		**20 43 14.2**	**-0.1**	
	comp=Z,3.6nm,0.9s,baz=303,slow=4.3,SNR=4.2									
BSEG	**Bad Segeberg**	**85.72**	**31**	*e*P		P		20 43 20.9	+5.4	
	comp=Z,34nm,1.0s									
BSEG	**Bad Segeberg**	**85.72**	**31**	*e*P		P		20 43 20.9	+5.4	
BSEG				pmax		pmax				
	comp=Z,40nm,1.0s									
LFF	**La Frestale**	**85.74**	**42**	*e*P		**P**		**20 43 15.1**	**-0.7**	
	comp=Z,19nm,0.9s									
TCF	**Toulx Ste Croi**	**85.90**	**40**	*e*P		**P**		**20 43 15.5**	**-1.1**	
	comp=Z,29nm,0.9s									
ETSF	**Etsaut**	**86.00**	**44**	*e*P		**P**		**20 43 16.6**	**-0.7**	
	comp=Z,15nm,0.9s									
RJF	**Les Rejaudoux**	**86.02**	**41**	*e*P		**P**		**20 43 16.2**	**-1.0**	
	comp=Z,23nm,0.9s									
KAF	**Kangasniemi**	**86.07**	**19**	*e*p		P		20 43 22.3	+5.2	
	comp=Z,6.1nm,0.8s									
BGF	**Bois d'Agland**	**86.12**	**40**	*e*P		**P**		**20 43 16.5**	**-1.2**	
	comp=Z,28nm,1.0s									
WLF	**Walferdange**	**86.21**	**36**	*e*P		P		20 43 21.3	+3.3	
	comp=Z,11nm,1.0s									
SSF	**Saint Saulge**	**86.22**	**39**	*e*P		**P**		**20 43 17.1**	**-1.1**	
	comp=Z,31nm,1.0s									
AVF	**Avril sur Loir**	**86.28**	**39**	*e*P		**P**		**20 43 17.1**	**-1.4**	
	comp=Z,18nm,1.0s									
LOR	**Lormes**	**86.31**	**39**	*e*P		**P**		**20 43 17.6**	**-1.0**	
	comp=Z,22nm,0.9s									
EPF	**Esparros**	**86.50**	**44**	*e*P		**P**		**20 43 18.7**	**-1.0**	
	comp=Z,15nm,0.9s									
NRDL	**Niedersach Rie**	**86.52**	**32**	*e*P		P		20 43 25.1	+5.7	
	comp=Z,10.0nm,0.9s									
FINES	**FINESS Array B**	**86.52**	**20**	P		**P**		**20 43 19.1**	**-0.2**	
FINES	**FINESS Array B**	**86.52**	**20**	P		**P**		**20 43 19.1**	**-0.2**	
	comp=Z,5.1nm,0.8s,baz=1.7,slow=6.3,SNR=3.6									
SMF	**Signal de Mont**	**86.64**	**39**	*e*P		**P**		**20 43 18.9**	**-1.4**	
	comp=Z,19nm,1.1s									
BBTS	**Babate**	**86.68**	**75**	LR		LR		21 26 35.1		
	comp=Z,277nm,18.1s,baz=322,slow=39									
JOF	**Joensuu**	**86.82**	**17**	*e*p		P		20 43 25.4	+4.7	
	comp=Z,4.1nm,0.6s									
CLZ	**Clausthal**	**87.05**	**33**	*e*P		P		20 43 27.1	+4.9	
	comp=Z,17nm,1.1s									
CLZ	**Clausthal**	**87.05**	**33**	*e*P		P		20 43 27.2	+5.0	
CLZ				pmax		pmax				
	comp=Z,12nm,1.1s									
TNS	**Taunus Mts**	**87.08**	**35**	*e*P		P		20 43 26.6	+4.2	
	comp=Z,7.0nm,1.2s									
TNS	**Taunus Mts**	**87.08**	**35**	*e*P		P		20 43 26.6	+4.2	
TNS				pmax		pmax				
	comp=Z,24nm,1.2s									
MTLF	**Montolieu**	**87.50**	**43**	*e*P		**P**		**20 43 23.5**	**-1.0**	
	comp=Z,20nm,1.1s									
CDF	**Champ du Feu**	**87.54**	**36**	*e*P		**P**		**20 43 22.8**	**-1.9**	
	comp=Z,7.6nm,0.9s									
MOX	**Moxa**	**88.41**	**33**	*e*P		P		20 43 33.0	+4.3	
	comp=Z,4.0nm,1.0s									
MOX				*e*L		L		21 21 05.4		
	comp=Z,351nm,22.0s									
MOX	**Moxa**	**88.41**	**33**	*e*P		P		20 43 33.0	+4.3	
MOX				MLR		MLR				
	comp=Z,4μm,22.0s									
CLL	**Collm**	**88.66**	**32**	*e*P		**P**		**20 43 30.0**	**+0.2**	
CLL	**Collm**	**88.66**	**32**	*e*P		**P**		**20 43 30.0**	**+0.2**	
GRF	**Grafenberg Arr**	**88.81**	**34**	*e*P		P		20 43 35.5	+4.9	
	comp=Z,17nm,1.0s									
GRF				*e*L		L		21 23 03.0		
	comp=Z,437nm,20.0s									
GRF	**Grafenberg Arr**	**88.81**	**34**	*e*P		P		20 43 35.6	+4.9	
GRF				pmax		pmax				
	comp=Z,7.0nm,1.0s									
GRF				MLR		MLR				
	comp=Z,17μm,20.0s									
TANN	**Tannenbergstha**	**88.97**	**33**	*e*P		P		20 43 35.3	+3.9	
	comp=Z,4.0nm,0.9s									
FUR	**Furstenfeldbru**	**89.81**	**35**	*e*P		P		20 43 40.0	+4.7	
	comp=Z,10.0nm,0.9s									
FUR	**Furstenfeldbru**	**89.81**	**35**	*e*P		P		20 43 40.0	+4.7	
FUR				pmax		pmax				
	comp=Z,17nm,0.9s									
GEC2	**GERESS Array S**	**90.60**	**33**	*e*P		P		20 43 42.8	+3.7	
	comp=Z,2.0nm,0.8s									
GEC2	**GERESS Array S**	**90.60**	**33**	*e*P		P		20 43 42.8	+3.7	
GEC2				pmax		pmax				
	comp=Z,16nm,0.8s									
GERES	**GERESS Array B**	**90.60**	**33**	P		**P**		**20 43 40.8**	**+1.7**	
GERES	**GERESS Array B**	**90.60**	**33**	P		**P**		**20 43 40.8**	**+1.7**	
	comp=Z,1.5nm,0.8s,baz=343,slow=4.2,SNR=12									
USRK	**Ussuriysk Arra**	**90.76**	**321**	P		**P**		**20 43 38.6**	**-1.2**	
	comp=Z,1.5nm,0.7s,baz=98,slow=2.5,SNR=5.2									
RJOB	**Jochberg**	**90.86**	**35**	*e*P		P		20 43 44.5	+4.2	
	comp=Z,4.0nm,1.0s									
MJAR	**Matsushiro Arr**	**91.26**	**312**	P		**P**		**20 43 40.5**	**-1.8**	
MJAR	**Matsushiro Arr**	**91.26**	**312**	P		**P**		**20 43 40.5**	**-1.8**	
	comp=Z,0.8nm,0.6s,baz=52,slow=5.9,SNR=5.1									
MJAR				LR		LR		21 18 34.9		
	comp=Z,315nm,19.7s,baz=75,slow=32									
VRAC	**Vranov**	**91.71**	**32**	LR		LR		21 24 05.7		
	comp=Z,459nm,19.9s,baz=305,slow=35									
VYHS	**Vyhne**	**93.34**	**31**	*e*P		P		20 43 47.8	-3.9	
VYHS	**Vyhne**	**93.34**	**31**	*e*P		P		20 43 47.8	-3.9	
VYHS				*e*				20 46 05.5		
DZM	**Mont Dzumac**	**93.92**	**248**	*e*LR		LR		21 14 14.2		
	comp=Z,478nm,25.4s									
CN2	**Changchun**	**94.66**	**323**	*e*P		**P**		**20 43 55.1**	**-2.7**	
KSRS	**Korea Array**	**97.36**	**317**	P		Pdif		20 44 10.1	-0.2	
	comp=Z,0.3nm,0.3s,baz=70,slow=6.1,SNR=3.4									
KSRS				LR		LR		21 26 40.3		
	comp=Z,130nm,20.0s,baz=230,slow=35									
KSAR	**Wonju Array Be**	**97.40**	**317**	P		**P**		**20 44 10.1**	**-0.3**	
ARU	**Arti**	**98.00**	**7**	*d* iP		Pdif		20 44 14.4	+1.7	
ARU								20 48 12.9		
ARU				S		**SKSac**		**20 54 52.0**	**+1.7**	
ARU				SP		**SP**		**20 57 06.8**	**+5.4**	
ARU				pmax		pmax				
	comp=Z,6.0nm,1.2s									
ARU				MLR		MLR				
	comp=Z,632nm,21.0s									
TORD	**Torodi Ar. Bea**	**103.07**	**69**	PP		PP		20 48 52.5	+2.0	
TORD	**Torodi Ar. Bea**	**103.07**	**69**	PP		PP		20 48 52.6	+2.0	
	comp=Z,1.3nm,1.1s,baz=294,slow=6.4,SNR=4.3									
BRTR	**Keskin Array B**	**106.85**	**29**	PKiKP		**PKiKP**		**20 49 01.5**	**-1.1**	
BRTR	**Keskin Array B**	**106.85**	**29**	PKiKP		**PKiKP**		**20 49 01.5**	**-1.1**	
	comp=Z,0.2nm,0.6s,baz=281,slow=0.7,SNR=2.3									
WMQ	**Urumqi**	**109.39**	**347**	Pdif		**Pdif**		**20 45 06.5**	**+2.7**	
WMQ	**Urumqi**	**109.39**	**347**	SKS		**SKSdf**		**20 56 20.2**	**+0.8**	
WMQ	**Urumqi**	**109.39**	**347**	S		**Sdif**		**20 57 14.8**	**-0.4**	
WMQ	**Urumqi**	**109.39**	**347**	SS		SS		21 05 00.2	+4.0	
WMQ				AMB		AMB				
	comp=Z,33nm,8.7s									
WMQ				LR		LR				
	comp=N,290nm,16.5s									
WMQ				LR		LR				
	comp=E,340nm,14.5s									
WMQ				LR		LR				
	comp=Z,420nm,29.3s									
LZH	**Lanzhou**	**111.21**	**331**	*e*PKP		PKiKP		20 49 03.4	-7.6	
LZH				sPKP				20 49 11.9		
KSH	**Kashi**	**115.31**	**355**	*e*PKP		**PKPdf**		**20 49 20.9**	**+2.2**	
CD2	**Chengdu**	**115.58**	**328**	PKP		**PKPdf**		**20 49 18.0**	**-1.3**	
CD2				PP		**PP**		**20 50 23.5**	**+3.2**	
CD2				PKS		**PKSdf**		**20 52 53.4**	**-2.8**	
CD2				SKS		**SKSdf**		**20 56 27.8**	**-3.9**	
CD2				SKKS		SKKSac		20 57 15.2	-7.9	
CD2				SS		**SS**		**21 06 17.2**	**-1.9**	
CD2				AMB		AMB				
	comp=Z,100nm,6.6s									
CD2				LR		LR				
	comp=N,360nm,19.6s									
CD2				LR		LR				
	comp=E,380nm,21.1s									
CD2				LR		LR				
	comp=Z,400nm,20.1s									
GYA	**Guiyang**	**117.71**	**323**	*e*Pdif		**Pdif**		**20 45 49.0**	**+7.8**	
GYA				PKP		**PKPdf**		**20 49 22.5**	**-1.1**	
GYA				PP		**PP**		**20 50 38.8**	**+3.4**	
GYA				AMB		AMB				
	comp=Z,90nm,7.9s									
WRA	**Warramunga Arr**	**121.09**	**261**	PKP		**PKPdf**		**20 49 27.8**	**-2.3**	
WRA	**Warramunga Arr**	**121.09**	**261**	PKP		**PKPdf**		**20 49 27.7**	**-2.3**	
	comp=Z,0.7nm,0.7s,baz=77,slow=2.9,SNR=5.5									
ASAR	**Alice Springs**	**122.56**	**257**	PKP		**PKPdf**		**20 49 30.2**	**-2.6**	
ASAR	**Alice Springs**	**122.56**	**257**	PKP		**PKPdf**		**20 49 30.2**	**-2.6**	
	comp=Z,0.5nm,0.7s,baz=74,slow=2.7,SNR=7.4									
CMAR	**Chiang Mai Arr**	**128.33**	**325**	PKP		**PKPdf**		**20 49 43.8**	**-0.2**	
CMAR	**Chiang Mai Arr**	**128.33**	**325**	PKP		**PKPdf**		**20 49 43.8**	**-0.2**	
	comp=Z,0.4nm,1.0s,baz=340,slow=2.3,SNR=3.1									

IDC 03 20:32:28.0±2.7, 3°.49S×130°.77E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.5/20, mbtmpg3.6/4, ML3.0/2, Error ellipse: s-maj=138.9km s-min=27.3km az=75.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.37**	**199**	Pn		Pn	20 36 05.8	-0.5
	0.1nm,0.3s,baz=21,slow=14,SNR=5.8							
FITZ				Sn		Sn	20 38 52.2	-5.2
	0.0nm,0.3s,baz=196,slow=20,SNR=2.7							
WRA	**Warramunga Arr**	**16.72**	**168**	Pn		Pn	20 36 23.0	-0.8
	0.1nm,0.3s,baz=350,slow=13,SNR=5.9							
WRA				Sn		Sn	20 39 20.9	-9.4
	0.1nm,0.3s,baz=350,slow=24,SNR=4.8							
ASAR	**Alice Springs**	**20.28**	**172**	P		P	20 37 05.9	+0.5
	1.7nm,0.6s,baz=350,slow=10,SNR=22							
MKAR	**Makanchi Array**	**65.76**	**326**	P		P	20 43 14.8	0.0
	0.4nm,0.7s,baz=119,slow=7.2,SNR=6.1							

*ATH **03** 20:56:32.7, 38°.69N×20°.64E, h5km±1km, MD3.5/25, ML3.1*
*CSEM **03** 20:56:33.5±0.2, 38°.68N×20°.61E, h2km, ML2.9/10, Error ellipse: s-maj=4.8km s-min=2.7km az=64.0*
*THE **03** 20:56:33.6, 38°.70N×20°.63E, h0km±1km, ML2.9/10, Error ellipse: s-maj=1.4km s-min=0.5km az=259.0*
ISC 03 20:56:32.6±1.0, 38°.68N±0°.01×20°.64E±0.02, h4km±8km, n141, σ1§10/229, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.11**	**6**	P		**Pg**	**20 56 34.9**	**+0.1**
LKD2				S		**Sg**	**20 56 36.7**	**+0.3**
LKD2	**Lefkada island**	**0.11**	**6**	*e*PG		**Pg**	**20 56 35.0**	**+0.1**
LKD2				*e*SG		**Sg**	**20 56 36.6**	**+0.2**
LKD2	**Lefkada island**	**0.11**	**6**	*e*Pg		**Pg**	**20 56 35.0**	**+0.1**
LKD2				*e*Sg		**Sg**	**20 56 36.6**	**+0.2**
VLS	**Valsamata**	**0.50**	**185**	P		**Pg**	**20 56 42.6**	**+0.3**
VLS				S		**Sb**	**20 56 51.2**	**-0.5**
VLS	**Valsamata**	**0.50**	**185**	*e*PG		**Pb**	**20 56 42.8**	**-1.2**
VLS				*e*SB		**Sb**	**20 56 51.2**	**-0.5**
VLS	**Valsamata**	**0.50**	**185**	P		**Pg**	**20 56 42.6**	**+0.3**
VLS				S		**Sb**	**20 56 51.2**	**-0.5**
KFL	**Anninata**	**0.58**	**169**	P		**Pb**	**20 56 44.4**	**-0.9**
KFL				S		**Sb**	**20 56 54.5**	**+0.6**
KFL	**Anninata**	**0.58**	**169**	P		**Pb**	**20 56 44.4**	**-0.9**
KFL				S		**Sb**	**20 56 54.5**	**+0.6**
AXS	**Araxos**	**0.75**	**130**	P		**Pb**	**20 56 47.7**	**-0.5**
AXS				S		**Sb**	**20 56 59.7**	**+0.9**
AXS	**Araxos**	**0.75**	**130**	P		**Pb**	**20 56 47.7**	**-0.5**
AXS				S		**Sb**	**20 56 59.7**	**+0.9**
IGT	**Igoumenitsa**	**0.88**	**344**	P		**Pb**	**20 56 49.4**	**-1.1**
IGT				S		**Sn**	**20 57 03.0**	**-2.2**
IGT	**Igoumenitsa**	**0.88**	**344**	P		**Pb**	**20 56 49.4**	**-1.1**
IGT				S		**Sn**	**20 57 03.0**	**-2.2**
RLS	**Riolos of Patr**	**0.90**	**134**	P		**Pn**	**20 56 50.8**	**-1.2**
RLS				S		**Sn**	**20 57 04.5**	**-0.9**
RLS	**Riolos of Patr**	**0.90**	**134**	*e*PB		**Pb**	**20 56 50.3**	**-0.4**
RLS				*e*SB		**Sb**	**20 57 03.6**	**+0.6**
RLS	**Riolos of Patr**	**0.90**	**134**	*e*Pb		**Pb**	**20 56 50.3**	**-0.4**
RLS	**Riolos of Patr**	**0.90**	**134**	P		**Pn**	**20 56 50.8**	**-1.2**
RLS				*e*Sb		**Sb**	**20 57 03.6**	**+0.6**
RLS				S		**Sn**	**20 57 04.5**	**-0.9**
EVR	**Evrytania**	**0.94**	**75**	P		**Pb**	**20 56 51.1**	**-0.5**
EVR				S		**Sn**	**20 57 05.4**	**-1.3**
EVR	**Evrytania**	**0.94**	**75**	*e*PB		**Pb**	**20 56 50.8**	**-0.8**
EVR				*e*SB		**Sg**	**20 57 03.2**	**+0.3**
EVR	**Evrytania**	**0.94**	**75**	*e*Pb		**Pb**	**20 56 50.8**	**-0.8**
EVR	**Evrytania**	**0.94**	**75**	P		**Pb**	**20 56 51.1**	**-0.5**
EVR				*e*Sb		**Sg**	**20 57 03.2**	**+0.3**
EVR				S		**Sn**	**20 57 05.4**	**-1.3**
JAN	**Janina**	**0.99**	**9**	P		**Pn**	**20 56 52.5**	**-0.8**
JAN				S		**Sb**	**20 57 05.8**	**+0.1**
JAN	**Janina**	**0.99**	**9**	*e*PN		**Pn**	**20 56 52.6**	**-0.8**
JAN				*e*SB		**Sb**	**20 57 05.8**	**+0.1**
JAN	**Janina**	**0.99**	**9**	P		**Pn**	**20 56 52.5**	**-0.8**
JAN				S		**Sb**	**20 57 05.8**	**+0.1**
EFP	**Efpalio**	**1.02**	**104**	P		**Pb**	**20 56 52.6**	**-0.3**
EFP				S		**Sn**	**20 57 08.4**	**-0.1**
EFP	**Efpalio**	**1.02**	**104**	*e*PN		**Pb**	**20 56 52.5**	**-0.3**
EFP				*e*SB		**Sn**	**20 57 07.4**	**-1.1**
EFP	**Efpalio**	**1.02**	**104**	P		**Pb**	**20 56 52.6**	**-0.3**
EFP				*e*Sb		**Sn**	**20 57 07.4**	**-1.1**
EFP				S		**Sn**	**20 57 08.4**	**-0.1**
LAKA	**Lakka**	**1.14**	**112**	P		**Pb**	**20 56 54.0**	**-0.6**
LAKA				S		**Sn**	**20 57 12.3**	**+0.9**
LAKA	**Lakka**	**1.14**	**112**	*e*PN		**Pg**	**20 56 54.1**	**-0.3**
LAKA				*e*SB		**Sn**	**20 57 11.4**	**0.0**
LAKA	**Lakka**	**1.14**	**112**	P		**Pb**	**20 56 54.3**	**-0.6**
LAKA				*e*Sb		**Sn**	**20 57 11.4**	**0.0**
LAKA				S		**Sn**	**20 57 12.3**	**+0.9**
TRIZ	**Trizonia**	**1.17**	**105**	P		**Pn**	**20 56 55.0**	**-0.7**
TRIZ				S		**Sn**	**20 57 12.8**	**+0.8**
TRIZ	**Trizonia**	**1.17**	**105**	*e*PB		**Pn**	**20 56 54.9**	**-0.7**
TRIZ				*e*SB		**Sn**	**20 57 11.2**	**-0.8**
TRIZ	**Trizonia**	**1.17**	**105**	P		**Pn**	**20 56 55.0**	**-0.7**
TRIZ				*e*Sb		**Sn**	**20 57 11.2**	**-0.8**
TRIZ				S		**Sn**	**20 57 12.8**	**+0.8**
KALE	**Kalithea**	**1.21**	**103**	P		**Pn**	**20 56 55.7**	**-0.6**
KALE				S		**Sn**	**20 57 15.0**	**+1.8**
KALE	**Kalithea**	**1.21**	**103**	*e*PB		**Pn**	**20 56 55.8**	**-0.6**
KALE	**Kalithea**	**1.21**	**103**	P		**Pn**	**20 56 55.7**	**-0.6**
KALE				S		**Sn**	**20 57 15.0**	**+1.8**
MAKR	**Makrakomi, Fth**	**1.21**	**74**	P		**Pn**	**20 56 56.1**	**-0.2**
MAKR				S		**Sn**	**20 57 14.4**	**+1.2**
MAKR	**Makrakomi, Fth**	**1.21**	**74**	P		**Pn**	**20 56 56.1**	**-0.2**
MAKR				S		**Sn**	**20 57 14.4**	**+1.2**
KEK	**Kerkira**	**1.22**	**328**	P		**Pn**	**20 56 55.8**	**-0.7**
KEK				S		**Sn**	**20 57 13.5**	**0.0**
KEK	**Kerkira**	**1.22**	**328**	*e*PB		**Pn**	**20 56 56.0**	**-0.5**
KEK				*e*SB		**Sn**	**20 57 12.7**	**-0.8**
KEK	**Kerkira**	**1.22**	**328**	*e*Pb		**Pn**	**20 56 56.0**	**-0.5**
KEK				*e*Sb		**Sn**	**20 57 12.7**	**-0.8**
KEK				S		**Sn**	**20 57 13.5**	**0.0**
SRN	**Sarande**	**1.30**	**338**	P		**Pb**	**20 56 57.6**	**0.0**
SRN				S		**Sn**	**20 57 15.9**	**+0.6**
SRN	**Sarande**	**1.30**	**338**	P		**Pb**	**20 56 57.6**	**0.0**
SRN				S		**Sn**	**20 57 15.9**	**+0.6**
KLV	**Kalavryta, Ach**	**1.34**	**118**	P		**Pg**	**20 56 58.0**	**-0.4**
KLV				S		**Sn**	**20 57 18.4**	**+1.8**
KLV	**Kalavryta, Ach**	**1.34**	**118**	*e*PG		**Pg**	**20 56 58.1**	**-0.4**
KLV	**Kalavryta, Ach**	**1.34**	**118**	P		**Pg**	**20 56 58.0**	**-0.4**
KLV				S		**Sn**	**20 57 18.4**	**+1.8**
AGG	**Agios Georgios**	**1.36**	**75**	P		**Pg**	**20 56 59.2**	**+0.5**
AGG				S		**Sn**	**20 57 19.6**	**+2.6**
AGG	**Agios Georgios**	**1.36**	**75**	*e*PB		**Pg**	**20 56 59.1**	**+0.4**
AGG	**Agios Georgios**	**1.36**	**75**	P		**Pg**	**20 56 59.2**	**+0.5**
AGG				S		**Sn**	**20 57 19.6**	**+2.6**
KNS	**Konitsa**	**1.38**	**4**	P		**Pg**	**20 56 59.3**	**+0.2**
KNS				S		**Sn**	**20 57 18.2**	**+0.7**
KNS	**Konitsa**	**1.38**	**4**	P		**Pg**	**20 56 59.3**	**+0.2**
KNS				S		**Sn**	**20 57 18.2**	**+0.7**
THL	**Klokotos Trika**	**1.39**	**50**	P		**Pg**	**20 56 58.5**	**-0.7**
THL				S		**Sn**	**20 57 20.0**	**+2.5**
THL	**Klokotos Trika**	**1.39**	**50**	*e*PB		**Pg**	**20 56 58.8**	**-0.4**
THL				*e*SB		**Sn**	**20 57 18.2**	**+0.7**
THL	**Klokotos Trika**	**1.39**	**50**	P		**Pg**	**20 56 58.5**	**-0.7**
THL	**Klokotos Trika**	**1.39**	**50**	*e*Pb		**Pg**	**20 56 58.8**	**-0.4**
THL				*e*Sb		**Sn**	**20 57 18.2**	**+0.7**
THL				S		**Sn**	**20 57 20.0**	**+2.5**
AMT	**Artemida-Makis**	**1.42**	**143**	P		**Pg**	**20 57 00.1**	**+0.2**
AMT				S		**Sg**	**20 57 21.1**	**+2.8**
AMT	**Artemida-Makis**	**1.42**	**143**	*e*PB		**Pg**	**20 57 00.8**	**+0.9**
AMT	**Artemida-Makis**	**1.42**	**143**	P		**Pg**	**20 57 00.1**	**+0.2**
AMT	**Artemida-Makis**	**1.42**	**143**	*e*Pb		**Pg**	**20 57 00.8**	**+0.9**
AMT				S		**Sg**	**20 57 21.1**	**+2.8**
DSF	**Desfina**	**1.50**	**100**	P		**Pg**	**20 57 00.8**	**-0.6**
DSF				S		**Sg**	**20 57 22.7**	**+1.8**
DSF	**Desfina**	**1.50**	**100**	P		**Pg**	**20 57 00.8**	**-0.6**
DSF				S		**Sg**	**20 57 22.7**	**+1.8**
GUR	**Goura**	**1.53**	**119**	P		**Pg**	**20 57 01.4**	**-0.5**
GUR				S		**Sg**	**20 57 23.3**	**+1.5**
GUR	**Goura**	**1.53**	**119**	*e*PB		**Pg**	**20 57 01.9**	**0.0**
GUR	**Goura**	**1.53**	**119**	P		**Pg**	**20 57 01.4**	**-0.5**
GUR	**Goura**	**1.53**	**119**	*e*Pb		**Pg**	**20 57 01.9**	**0.0

*ISCJB **03** 21:07:13.7±0.7,33°95N×0°07×25°6E±0°1,h17ᵏᵐ,Error ellipse: s-maj=18.4km s-min=5.6km az=154.0*
*ATH **03** 21:07:14.4,34°04N×25°52E,h20ᵏᵐ×3ᵏᵐ,MD3.5/7*
*CSEM **03** 21:07:15.0±0.3,34°01N×25°66E,h20ᵏᵐ,MD3.5,Error ellipse: s-maj=13.1km s-min=5.8km az=62.0*

ISC 03 21:07:14.6±1.2,**34°02N**±0°06×**25°67E**±0°10,**h17**ᵏᵐ,**n21,** σ0ˢ**65**/26,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.15**	**352**	*e*PN	**Pn**	**21 07 35.4**	**-0.7**
LAST	**Lasithi**	**1.15**	**352**	*e*Pn	**Pn**	**21 07 35.4**	**-0.7**
ZKR	**Zakros**	**1.18**	**22**	*e*PN	**Pb**	**21 07 37.3**	**+0.7**
ZKR	**Zakros**	**1.18**	**22**	*e*Pn	**Pb**	**21 07 37.3**	**+0.7**
SIVA	**Sivas**	**1.23**	**325**	*e*PN	**Pn**	**21 07 36.0**	**-1.0**
SIVA				*e*SN	**Sb**	**21 07 51.7**	**-1.2**
SIVA	**Sivas**	**1.23**	**325**	*e*Pn	**Pn**	**21 07 36.0**	**-1.0**
SIVA				*e*Sn	**Sb**	**21 07 51.7**	**-1.2**
NPS	**Neapolis**	**1.24**	**358**	*e*PN	**Pn**	**21 07 37.3**	**0.0**
NPS	**Neapolis**	**1.24**	**358**	*e*Pn	**Pn**	**21 07 37.3**	**0.0**
IDI	**Anoyia**	**1.42**	**333**	*e*PN	**Pn**	**21 07 39.6**	**-0.2**
IDI				*e*SN	**Sb**	**21 07 58.6**	**0.0**
IDI	**Anoyia**	**1.42**	**333**	*e*Pn	**Pn**	**21 07 39.6**	**-0.2**
IDI				*e*Sn	**Sb**	**21 07 58.6**	**0.0**
VAM	**Vamos**	**1.84**	**319**	*e*PN	**Pn**	**21 07 46.2**	**+0.7**
VAM	**Vamos**	**1.84**	**319**	*e*Pn	**Pn**	**21 07 46.2**	**+0.7**
KYTH	**Kithira**	**3.12**	**317**	*e*PN	**Pn**	**21 08 04.0**	**+0.8**
KYTH	**Kithira**	**3.12**	**317**	*e*Pn	**Pn**	**21 08 04.0**	**+0.8**
HMAT	**Matruh**	**3.15**	**157**	P	**Pn**	**21 08 08.3**	**-0.3**
HMAT				S	**Sn**	**21 08 40.6**	**-0.2**
VLI	**Veliai**	**3.50**	**321**	*e*PN	**Pn**	**21 08 08.3**	**0.0**
VLI	**Veliai**	**3.50**	**321**	*e*Pn	**Pn**	**21 08 08.3**	**0.0**
DID	**Didima**	**4.00**	**331**	*e*PN	**Pn**	**21 08 14.9**	**-0.4**
DID	**Didima**	**4.00**	**331**	*e*Pn	**Pn**	**21 08 14.9**	**-0.4**
GUR	**Goura**	**4.75**	**326**	*e*PN	**Pn**	**21 08 25.9**	**+0.3**
GUR	**Goura**	**4.75**	**326**	*e*Pn	**Pn**	**21 08 25.9**	**+0.3**

*IDC **03** 21:09:14.4±1.5,33°89N×25°39E,h0ᵏᵐ,mb3.5/4, mb1 3.6/5,mb1mx3.4/25,mbtmp3.5/5,ML3.4/1,MS4.3/1, Ms1 4.3/1,ms1mx2.9/29,Error ellipse: s-maj=44.6km s-min=23.6km az=155.0*
*ISCJB **03** 21:09:15.7±1.0,34°00N±0°07×25°4E±0°1,h17ᵏᵐ,mb3.4/4, MS4.3/1,Error ellipse: s-maj=13.7km s-min=10.2km az=0.4*
*CSEM **03** 21:09:16.6,34°10N×25°34E,h19ᵏᵐ,MD3.2,After ATH*
*ATH **03** 21:09:16.6,34°10N×25°34E,h19ᵏᵐ±7ᵏᵐ,MD3.2/5*

ISC 03 21:09:16.9±1.2,**34°08N**±0°07×**25°36E**±0°09,**h17**ᵏᵐ,**n15,** σ0ˢ**58**/19,**mb3.6**/4,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.04**	**334**	*e*PN	**Pb**	**21 09 36.0**	**-0.4**
SIVA	**Sivas**	**1.04**	**334**	*e*Pn	**Pb**	**21 09 36.0**	**-0.4**
LAST	**Lasithi**	**1.08**	**5**	*e*PN	**Pb**	**21 09 36.8**	**-0.4**
LAST				*e*SN	**Sb**	**21 09 51.2**	**+0.1**
LAST	**Lasithi**	**1.08**	**5**	*e*Pn	**Pb**	**21 09 36.8**	**-0.4**
LAST				*e*Sn	**Sb**	**21 09 51.2**	**+0.1**
ZKR	**Zakros**	**1.25**	**34**	*e*PN	**Pg**	**21 09 40.6**	**-0.4**
ZKR	**Zakros**	**1.25**	**34**	*e*Pn	**Pg**	**21 09 40.6**	**-0.4**
IDI	**Anoyia**	**1.26**	**342**	*e*PN	**Pn**	**21 09 39.3**	**-0.5**
IDI				*e*SN	**Sg**	**21 09 58.1**	**+0.3**
IDI	**Anoyia**	**1.26**	**342**	*e*Pn	**Pn**	**21 09 39.3**	**-0.5**
IDI				*e*Sn	**Sg**	**21 09 58.1**	**+0.3**
VAM	**Vamos**	**1.63**	**325**	*e*PN	**Pb**	**21 09 46.3**	**-0.2**
VAM	**Vamos**	**1.63**	**325**	*e*Pn	**Pb**	**21 09 46.3**	**-0.2**
GERES	**GERESS Array B** 0.1nm,0.3s,baz=151,slow=12,SNR=7.5	**17.11**	**333**	P	**P**	**21 13 17.3**	**+0.4**
ESDC	**Sonseca Array** 0.1nm,0.4s,baz=78,slow=9.3,SNR=3.6	**24.05**	**292**	P	**P**	**21 14 32.3**	**+1.1**
TORD	**Torodi Ar. Bea** 0.5nm,0.7s,baz=36,slow=8.7,SNR=6.0	**29.93**	**232**	P	**P**	**21 15 23.4**	**-0.9**
MKAR	**Makanchi Array** 0.7nm,0.5s,baz=277,slow=6.5,SNR=14	**44.24**	**56**	P	**P**	**21 17 26.2**	**+0.9**
ZALV	**Zalesovo Beam** 0.6nm,0.5s,baz=275,slow=6.5,SNR=3.5	**45.64**	**45**	P	**P**	**21 17 37.0**	**+0.8**
ZALV				LR	LR	21 40 25.6	
	comp=Z,385nm,21.8s,baz=251,slow=41						

IDC 03 21:12:19.7±1.2,**1°38N**×**130°06E,h0**ᵏᵐ,**mb3.6**/4, **mb1 3.8**/4,**mb1mx3.5**/20,**mbtmp3.6**/4,**Error ellipse: s-maj=76.4km s-min=21.5km az=79.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.3nm,0.8s,baz=350,slow=11,SNR=5.7	**21.60**	**169**	P	P	21 17 11.5	0.0
ASAR	**Alice Springs** 0.9nm,0.6s,baz=350,slow=10,SNR=18	**25.18**	**172**	P	P	21 17 47.1	0.0
MJAR	**Matsushiro Arr** 0.9nm,0.5s,baz=176,slow=10.0,SNR=4.6	**35.79**	**11**	P	P	21 19 20.7	-0.1
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=114,slow=7.1,SNR=10	**61.37**	**325**	P	P	21 22 37.5	-0.1

*ISCJB **03** 21:21:20.8±0.4,24°96N×0°03×109°65W±0°03,h10ᵏᵐ, mb4.3/16,MS4.2/9,Error ellipse: s-maj=5.0km s-min=4.3km az=13.0*
*NEIC **03** 21:21:22.1±0.6,24°90N×109°74W,h10ᵏᵐ,mb4.3/33, MD4.6(MEX),Error ellipse: s-maj=7.5km s-min=5.8km az=196.0*
NEIC Felt at Los Mochis, Sinaloa.
*MEX **03** 21:21:23.2±0.6,25°05N×109°84W,h10ᵏᵐ,MD4.6*
*IDC **03** 21:21:31.5±2.1,26°14N×109°45W,h0ᵏᵐ,mb4.2/6, mb1 4.5/10,mb1mx4.1/27,mbtmp4.2/10,ML4.3/3,MS4.1/11, Ms1 4.1/11,ms1mx3.6/50,Error ellipse: s-maj=36.5km s-min=22.9km az=175.0*

ISC 03 21:21:21.7±0.5,**24°97N**±0°04×**109°80W**±0°05,**h10**ᵏᵐ, **n465,** σ1ˢ**23**/461,**mb4.3**/16,**MS4.3**/9,**165C-161D,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**0.97**	**208**	*i* P	**Pg**	**21 21 39.7**	**-0.7**
LPIG				*i* S	**Sg**	**21 21 53.1**	**0.0**
LPIG	**La Paz**	**0.97**	**208**	*i* P	**Pg**	**21 21 39.7**	**-0.7**
LPIG				*i* S	**Sg**	**21 21 53.1**	**0.0**
SRIG	**Santa Rosalia**	**3.21**	**317**	*i* P	**Pn**	**21 22 11.0**	**-1.2**
SRIG				*e*S	**Sn**	**21 22 46.6**	**-3.9**
SRIG	**Santa Rosalia**	**3.21**	**317**	*i* P	**Pn**	**21 22 11.0**	**-1.2**
SRIG				*e*S	**Sn**	**21 22 46.6**	**-3.9**
HSIG		**4.17**	**346**	*i* P	Pn	21 22 22.1	-3.2
HSIG				*i* S	**Sn**	**21 23 11.2**	**-2.9**
HSIG		**4.17**	**346**	*i* P	Pn	21 22 22.1	-3.2
HSIG				*i* S	**Sn**	**21 23 11.2**	**-2.9**
HPIG		**4.21**	**61**	*e*P	**Pn**	**21 22 25.5**	**-0.7**
HPIG				*i* S	**Sn**	**21 23 13.1**	**-2.4**
HPIG		**4.21**	**61**	*e*P	**Pn**	**21 22 25.5**	**-0.7**
HPIG				*i* S	**Sn**	**21 23 13.1**	**-2.4**
CGIG		**5.62**	**16**	*i* P	**Pn**	**21 22 45.1**	**-0.3**
CGIG				*i* S	**Sn**	**21 23 48.5**	**-1.7**
CGIG		**5.62**	**16**	*i* P	**Pn**	**21 22 45.1**	**-0.3**
CGIG				*i* S	**Sn**	**21 23 48.5**	**-1.7**
319A	**Douglas** baz=6.5,SNR=45	**6.40**	**4**	⇑P	**Pn**	**21 22 53.8**	**-2.4**
320A	**Kipp Ranch, An** baz=6.5	**6.45**	**10**	⇑P	**Pn**	**21 22 54.8**	**-2.0**
626A	**Big Bend Ranch** baz=6.8,SNR=16	**6.81**	**47**	⇑P	**Pn**	**21 23 00.0**	**-1.7**
ZAIG	**Zacatecas**	**6.97**	**107**	*i* P	**Pn**	**21 23 03.8**	**-0.4**
ZAIG				*i* S	**Sn**	**21 24 23.6**	**-0.2**
ZAIG	**Zacatecas**	**6.97**	**107**	*i* P	**Pn**	**21 23 03.8**	**-0.4**
ZAIG				*i* S	**Sn**	**21 24 21.8**	**-2.1**
TXAR	**Lajitas Array**	**6.99**	**50**	Pn	**Pn**	**21 23 02.7**	**-1.5**
TXAR				Sn	Sn	21 24 13.4	-10
TXAR	**Lajitas Array** 1.1nm,0.3s,baz=229,slow=14,SNR=59	**6.99**	**50**	Pn	**Pn**	**21 23 02.7**	**-1.5**
TXAR	1.3nm,0.3s,baz=232,slow=26,SNR=5.1			Sn	Sn	21 24 13.4	-10
220A	**Playas Peak, P** baz=7.1,SNR=41	**7.00**	**9**	P	**Pn**	**21 23 01.9**	**-2.6**
526A	**Mary Lane Ranc** baz=7.2,SNR=19	**7.18**	**44**	⇓P	**Pn**	**21 23 05.8**	**-1.0**
425A	**Indio Mountain** baz=7.2,SNR=42	**7.20**	**35**	P	**Pn**	**21 23 06.7**	**-0.5**
221A	**Mesquite Ranch** baz=7.3,SNR=16	**7.24**	**14**	⇑P	**Pn**	**21 23 06.0**	**-1.7**
627A	**Terlingua Ranc** baz=7.3	**7.25**	**51**	⇓P	**Pn**	**21 23 06.2**	**-1.6**
TUC	**Tucson**	**7.37**	**354**	*e*Pn	Pn	21 23 06.7	-2.8
214A	**Organ Pipe Nat** baz=7.6	**7.45**	**340**	⇑P	**Pn**	**21 23 09.4**	**-1.2**
324A	**Moseley Ranch,** baz=7.5,SNR=22	**7.49**	**30**	P	**Pn**	**21 23 09.8**	**-1.4**
222A	**Williams Famil** baz=7.6,SNR=71	**7.50**	**18**	P	**Pn**	**21 23 09.8**	**-1.5**
527A	**Woodward Ranch** baz=7.5,SNR=8.2	**7.54**	**45**	⇓P	**Pn**	**21 23 10.2**	**-1.7**
223A	**Chaparral, Ant** baz=7.7	**7.62**	**22**	⇑P	**Pn**	**21 23 11.7**	**-1.2**
120A	**U Bar Ranch, L** baz=7.7,SNR=27	**7.62**	**7**	P	**Pn**	**21 23 10.8**	**-2.2**
628A	**Black Gap, Mar** baz=7.6,SNR=5.7	**7.63**	**52**	⇑P	**Pn**	**21 23 11.2**	**-1.7**
426A	**McDonald Obser** baz=7.7,SNR=36	**7.64**	**41**	⇑P	**Pn**	**21 23 11.4**	**-1.9**
325A	**Bean Ranch, Si** baz=7.7	**7.67**	**33**	⇑P	**Pn**	**21 23 12.0**	**-1.7**
121A	**Cookes Peak, D** baz=7.8,SNR=110	**7.75**	**13**	⇓P	**Pn**	**21 23 12.7**	**-2.0**
MNTX	**Cornudas Mount** 10nm,0.8s	**7.76**	**29**	*e*Pn	**Pn**	**21 23 12.7**	**-2.0**
SPIG	**San Pedro Mart**	**7.86**	**322**	*i* P	**Pn**	**21 23 15.9**	**-0.5**
SPIG				*i* S	**Sn**	**21 24 41.6**	**-3.9**
SPIG	**San Pedro Mart**	**7.86**	**322**	*i* P	**Pn**	**21 23 15.9**	**-0.5**
SPIG				*i* S	**Sn**	**21 24 44.8**	**-0.7**
224A	**Cornudas Mount** baz=8.1,SNR=22	**8.02**	**27**	⇓P	**Pn**	**21 23 17.0**	**-1.5**
122A	**Connell Cattle** baz=8.2,SNR=6.1	**8.09**	**17**	⇓P	**Pn**	**21 23 17.9**	**-1.4**
528A	**Cox Ranch, San** baz=8.1	**8.10**	**49**	⇑P	**Pn**	**21 23 16.9**	**-2.6**
326A	**Caldwell Ranch** baz=8.2,SNR=27	**8.15**	**38**	⇓P	**Pn**	**21 23 18.4**	**-1.8**
Z20A	**Nine Sixteen R** baz=8.3,SNR=70	**8.19**	**7**	⇓P	**Pn**	**21 23 19.6**	**-1.2**
225A	**Deer Hill, Car** baz=8.4,SNR=26	**8.36**	**30**	⇓P	**Pn**	**21 23 22.0**	**-1.1**
327A	**Balmorhea Ranc** baz=8.5	**8.47**	**40**	⇑P	**Pn**	**21 23 23.3**	**-1.2**
529A	**Stev Forest Ra** baz=8.5	**8.47**	**51**	⇑P	**Pn**	**21 23 22.5**	**-2.0**
113A	**Mohawk Valley,** baz=8.6	**8.52**	**337**	⇓P	**Pn**	**21 23 25.2**	**+0.1**
Z21A	**St. Cloud Mine** baz=8.6,SNR=54	**8.52**	**12**	P	**Pn**	**21 23 24.4**	**-1.0**
428A	**Kincaid Ranch,** baz=8.5	**8.52**	**46**	⇓P	**Pn**	**21 23 23.9**	**-1.4**
124A	**Stringfield Ra** baz=8.7,SNR=28	**8.60**	**25**	⇑P	**Pn**	**21 23 25.9**	**-0.5**
Z22A	**Elephant Butte** baz=8.7,SNR=34	**8.63**	**16**	⇑P	**Pn**	**21 23 26.3**	**-0.5**
226B	**Tecolote Peak,** baz=8.7,SNR=10	**8.65**	**34**	⇑P	**Pn**	**21 23 26.2**	**-0.8**
GDL2	**Guadalupe Moun**	**8.65**	**32**	*e*Pn	**Pn**	**21 23 27.2**	**+0.1**
Z14A	**Wintersburg** baz=8.9	**8.81**	**343**	⇓P	**Pn**	**21 23 28.6**	**-0.5**
Z23A	**Rita Site, Whi** baz=8.9,SNR=31	**8.84**	**20**	⇓P	**Pn**	**21 23 29.9**	**+0.2**
328A	**Wristen Ranch,** baz=8.9	**8.88**	**42**	⇓P	**Pn**	**21 23 28.9**	**-1.4**
125A	**Gardner Draw,** baz=8.9,SNR=7.7	**8.89**	**29**	⇑P	**Pn**	**21 23 29.7**	**-0.7**
CLNB	**Carlsbad** 1.9nm,0.5s	**8.94**	**34**	*e*Pn	**Pn**	**21 23 32.2**	**+1.2**
429A	**Davenport Ranc** baz=9.0,SNR=6.0	**8.99**	**49**	⇑P	**Pn**	**21 23 29.8**	**-1.9**
Y20A	**Horse Springs,** baz=9.1,SNR=21	**9.00**	**8**	⇑P	**Pn**	**21 23 31.7**	**-0.3**
GLA	**Glamis**	**9.18**	**333**	*e*Pn	**Pn**	**21 23 33.9**	**-0.3**
GLA	**Glamis** baz=9.3	**9.18**	**333**	⇑P	**Pn**	**21 23 33.8**	**-0.3**
126A	**Clayton Basin,** baz=9.2,SNR=5.1	**9.18**	**32**	⇑P	**Pn**	**21 23 33.7**	**-0.6**
Z24A	**Sheeppen Canyo** baz=9.3,SNR=31	**9.19**	**24**	⇑P	**Pn**	**21 23 34.3**	**-0.3**
Y21A	**Point of Rocks** baz=9.3,SNR=71	**9.20**	**11**	⇓P	**Pn**	**21 23 34.5**	**-0.2**
Y22A	**Socorro** baz=9.4,SNR=38	**9.28**	**15**	P	**Pn**	**21 23 34.4**	**-1.3**
Y14A	**Wickenburg** baz=9.5,SNR=25	**9.37**	**343**	P	**Pn**	**21 23 36.5**	**-0.3**
LNIG	**Linares**	**9.38**	**88**	*i* P	**Pn**	**21 23 38.0**	**+0.9**
LNIG				*i* S	**Sn**	**21 25 20.9**	**-1.8**
LNIG	**Linares**	**9.38**	**88**	*i* P	**Pn**	**21 23 38.0**	**+0.9**
LNIG				*i* S	**Sn**	**21 25 20.9**	**-1.8**
Z25A	**Roswell** baz=9.5,SNR=12	**9.40**	**27**	⇑P	**Pn**	**21 23 36.5**	**-0.8**
LENM	**Lemitar**	**9.49**	**14**	*e*Pn	**Pn**	**21 23 39.1**	**+0.5**
Y23A	**Lovelace Mesa,** baz=9.6,SNR=64	**9.51**	**19**	⇓P	**Pn**	**21 23 37.8**	**-1.1**
X16A	**Lo Mia Camp, P** baz=9.6,SNR=39	**9.53**	**352**	⇓P	**Pn**	**21 23 38.4**	**-0.8**
X18A	**Snowflake** baz=9.6,SNR=22	**9.53**	**359**	⇓P	**Pn**	**21 23 37.9**	**-1.3**
127A	**Arkansas Junct** baz=9.6	**9.54**	**35**	⇑P	**Pn**	**21 23 38.5**	**-0.7**
BNM	**Barren Site** 27nm,1.1s	**9.56**	**16**	*e*Pn	**Pn**	**21 23 38.5**	**-1.2**
X21A	**Alamocita Cree** baz=9.7,SNR=49	**9.61**	**10**	⇓P	**Pn**	**21 23 40.0**	**-0.3**
X20A	**Quemado** baz=9.7,SNR=14	**9.61**	**6**	⇑P	**Pn**	**21 23 40.9**	**+0.6**
Y12C	**Blythe** baz=9.8	**9.67**	**336**	⇑P	**Pn**	**21 23 41.2**	**+0.3**
LAZ	**Ladron** 15nm,1.0s	**9.69**	**13**	*e*Pn	**Pn**	**21 23 40.5**	**-0.9**
Y24A	**Capitan** baz=9.8,SNR=20	**9.71**	**22**	⇑P	**Pn**	**21 23 40.8**	**-0.8**
LPM	**Los Pinos Moun**	**9.71**	**16**	*e*Pn	**Pn**	**21 23 43.6**	**+1.9**
Z26A	**Caprock** baz=9.8,SNR=8.8	**9.71**	**30**	⇑P	**Pn**	**21 23 40.6**	**-1.1**
MONP	**Monument Peak** baz=9.9	**9.79**	**325**	⇓P	**Pn**	**21 23 43.6**	**+0.8**
X22A	**Bernardo** baz=9.9,SNR=13	**9.81**	**14**	⇓P	**Pn**	**21 23 42.6**	**-0.4**
431A	**Sonora** baz=9.9,SNR=7.4	**9.93**	**53**	⇓P	**Pn**	**21 23 44.7**	**+0.1**
BC3	**Big Chuckawall** baz=10,SNR=7.6	**9.96**	**332**	⇓P	**Pn**	**21 23 46.4**	**+1.4**
128A	**Castleberry Fa** baz=10.0,SNR=11	**9.97**	**38**	⇑P	**Pn**	**21 23 44.7**	**-0.3**
Y25A	**Mesa, Roswell** baz=10.0,SNR=22	**9.97**	**25**	⇓P	**Pn**	**21 23 45.9**	**+0.7**
632A	**Uvalde** baz=10.0	**9.99**	**61**	⇓P	**Pn**	**21 23 44.7**	**-0.7**
X23A	**Hourglass Bar** baz=10,SNR=41	**10.08**	**17**	⇑P	**Pn**	**21 23 47.9**	**+1.1**
Z27A	**Tatum** baz=10	**10.12**	**33**	⇑P	**Pn**	**21 23 47.4**	**+0.3**
W18A	**Petrified Fore** baz=10,SNR=12	**10.12**	**0**	⇓P	**Pn**	**21 23 48.6**	**+1.4**
W20A	**Ramah** baz=10,SNR=22	**10.19**	**6**	⇓P	**Pn**	**21 23 49.8**	**+1.5**
IRM	**Iron Mountain** baz=10	**10.28**	**334**	⇓P	**Pn**	**21 23 49.7**	**+0.5**
W21A	**San Fidel** baz=10	**10.29**	**10**	⇑P	**Pn**	**21 23 51.3**	**+1.7**
X24A	**Lazy VL Ranch,** baz=10,SNR=7.1	**10.29**	**21**	⇑P	**Pn**	**21 23 52.0**	**+2.4**
230A	**Sterling City** baz=10	**10.30**	**46**	⇓P	**Pn**	**21 23 50.9**	**+1.3**
ANMO	**Albuquerque**	**10.36**	**15**	*e*Pn	**Pn**	**21 23 50.7**	**+0.1**
ANMO	**Albuquerque** 0.2nm,0.3s,baz=203,slow=13,SNR=38	**10.36**	**15**	Pn	**Pn**	**21 23 50.2**	**-0.4**
ANMO				LR	LR	21 27 19.7	
	comp=Z,617nm,18.3s,baz=318,slow=38						
PFO	**Pinyon Flat Ob**	**10.38**	**328**	*e*Pn	**Pn**	**21 23 53.7**	**+2.8**
PFO	**Pinyon Flat Ob** 0.6nm,0.3s,baz=153,slow=11,SNR=6.4	**10.38**	**328**	Pn	**Pn**	**21 23 52.8**	**+2.0**
PFO				LR	LR	21 27 13.7	
	comp=Z,200nm,19.4s,baz=308,slow=36						
PFO	**Pinyon Flat Ob** baz=10	**10.38**	**328**	⇓P	**Pn**	**21 23 52.9**	**+2.0**
W22A	**Albuquerque** baz=10	**10.39**	**13**	⇓P	**Pn**	**21 23 52.7**	**+1.7**
JCT	**Junction City**	**10.42**	**56**	*e*Pn	**Pn**	**21 23 52.9**	**+1.6**
JCT	**Junction City** baz=10	**10.42**	**56**	⇑P	**Pn**	**21 23 52.8**	**+1.5**
BELC	**Belle Mtn. Jos** baz=11	**10.49**	**331**	⇓P	**Pn**	**21 23 54.5**	**+2.1**
X25A	**Clemmons Ranch** baz=11,SNR=6.3	**10.52**	**24**	⇑P	**Pn**	**21 23 54.2**	**+1.5**
Y27A	**Causey** baz=11	**10.60**	**32**	⇑P	**Pn**	**21 23 54.1**	**+0.2**
WUAZ	**Wupatki** 27nm,1.0s	**10.60**	**353**	*e*Pn	**Pn**	**21 23 56.0**	**+2.1**
WUAZ	**Wupatki** baz=11,SNR=11	**10.60**	**353**	⇑P	**Pn**	**21 23 55.8**	**+2.0**
W23A	**Werner Place,** baz=11,SNR=21	**10.64**	**16**	⇑P	**Pn**	**21 23 55.2**	**+0.7**
W13A	**Hualapai Mount** baz=11,SNR=23	**10.70**	**342**	⇑P	**Pn**	**21 23 57.1**	**+1.9**
130A	**Snyder** baz=11	**10.85**	**44**	⇓P	**Pn**	**21 23 58.6**	**+1.4**
V20A	**Brimhall** baz=11,SNR=16	**10.86**	**6**	⇓P	**Pn**	**21 23 59.5**	**+2.1**
MSTX	**Muleshoe** baz=11	**10.86**	**33**	⇓P	**Pn**	**21 23 58.0**	**+0.7**
X26A	**CR and CF Fran** baz=11,SNR=8.0	**10.88**	**27**	⇑P	**Pn**	**21 23 59.2**	**+1.7**
Z29A	**Hungry Hill Ra** baz=11,SNR=7.2	**10.88**	**39**	⇓P	**Pn**	**21 23 57.0**	**-0.5**
W24A	**Lazy 6 Ranch,** baz=11,SNR=32	**10.90**	**19**	⇓P	**Pn**	**21 24 00.1**	**+2.2**
332A	**Millersview** baz=11	**10.94**	**52**	⇓P	**Pn**	**21 23 59.1**	**+0.8**
V21A	**Milan** baz=11,SNR=9.4	**10.96**	**9**	⇑P	**Pn**	**21 24 00.7**	**+1.8**
GMRC	**Granite Mounta** baz=11	**11.02**	**334**	⇓P	**Pn**	**21 24 01.5**	**+1.9**
V23A	**Ortiz Mt. (NFS** baz=11,SNR=6.8	**11.19**	**15**	⇓P	**Pn**	**21 24 02.8**	**+0.9**
V22A	**San Miguel Ran** baz=11,SNR=36	**11.19**	**12**	⇑P	**Pn**	**21 24 03.9**	**+1.8**
W25A	**X Bar L Ranch,** baz=11	**11.21**	**23**	⇓P	**Pn**	**21 24 03.2**	**+1.0**
Z30A	**Sanderson Ranc** baz=11	**11.23**	**40**	⇑P	**Pn**	**21 24 02.3**	**-0.1**
W26A	**Owens Ranch, T** baz=11	**11.36**	**26**	⇑P	**Pn**	**21 24 05.4**	**+1.2**
V24A	**Rampart Ranch,** baz=12,SNR=13	**11.41**	**19**	⇑P	**Pn**	**21 24 06.6**	**+1.6**
U20A	**Newcomb** baz=12,SNR=23	**11.43**	**5**	P	**Pn**	**21 24 07.0**	**+1.9**
BFSC	**Mount Baldy Ra** baz=12	**11.49**	**325**	⇑P	**Pn**	**21 24 08.2**	**+2.3**
U21A	**Nageezi** baz=12,SNR=34	**11.57**	**9**	⇓P	**Pn**	**21 24 09.6**	**+2.4**
U15A	**North Rim** baz=12,SNR=31	**11.62**	**350**	P	**Pn**	**21 24 09.8**	**+1.9**
W27A	**Bowe Ranch, En** baz=12	**11.63**	**29**	⇑P	**Pn**	**21 24 09.2**	**+1.3**
U22A	**Llaves** baz=12,SNR=13	**11.65**	**12**	⇓P	**Pn**	**21 24 10.4**	**+2.1**
TUQ	**Turquoise Moun** baz=12	**11.70**	**335**	⇓P	Pn	21 24 11.9	+3.1
V25A	**Rancho No Teng** baz=12,SNR=18	**11.72**	**21**	⇑P	**Pn**	**21 24 10.9**	**+1.7**
ABTX	**Abilene, Hawle** baz=12	**11.73**	**47**	⇓P	**Pn**	**21 24 09.8**	**+0.6**
U23A	**El Rito** baz=12,SNR=14	**11.74**	**14**	⇑P	**Pn**	**21 24 11.7**	**+2.2**
X29A	**Tulia** baz=12	**11.78**	**35**	⇑P	**Pn**	**21 24 10.6**	**+0.7**
Y30A	**Stafford Cattl** baz=12	**11.79**	**39**	⇓P	**Pn**	**21 24 09.9**	**-0.1**
Z31A	**Sharp Cattle R** baz=12	**11.85**	**43**	⇑P	**Pn**	**21 24 12.0**	**+1.2**
GSC	**Goldstone**	**11.95**	**331**	*e*Pn	Pn	21 24 16.2	+4.0
GSC	**Goldstone** baz=12,SNR=5.5	**11.95**	**331**	⇓P	**Pn**	**21 24 14.4**	**+2.3**
V26A	**Tequesquite Ra** baz=12	**11.98**	**24**	⇑P	**Pn**	**21 24 13.3**	**+0.6**
U24A	**Moreno Valley** baz=12	**12.05**	**18**	⇑P	**Pn**	**21 24 15.1**	**+1.3**
T21A	**Navajo Lake** baz=12	**12.14**	**9**	⇑P	**Pn**	**21 24 16.9**	**+1.9**
EDW2	**Edwards Air Fo** baz=12	**12.16**	**326**	⇑P	**Pn**	**21 24 17.1**	**+2.0**
X30A	**Coker Ranch, T** baz=12	**12.22**	**37**	⇑P	**Pn**	**21 24 16.7**	**+0.8**
Y31A	**Rekieta Farm,** baz=12	**12.22**	**41**	⇓P	**Pn**	**21 24 16.8**	**+0.9**
SHOC	**Shoshone** baz=12	**12.24**	**334**	⇑P	**Pn**	**21 24 18.2**	**+2.0**
MVCO	**Mesa Verde**	**12.26**	**5**	*e*Pn	**Pn**	**21 24 17.7**	**+1.1**
MVCO	**Mesa Verde** baz=12,SNR=14	**12.26**	**5**	⇓P	**Pn**	**21 24 17.6**	**+1.0**
T22A	**Edith** baz=12,SNR=13	**12.27**	**11**	⇓P	**Pn**	**21 24 18.8**	**+2.1**
U25A	**Circle Dot Ran** baz=12,SNR=36	**12.30**	**21**	⇑P	**Pn**	**21 24 19.1**	**+1.9**
SHPR	**Sheep Range**	**12.39**	**339**	*e*Pn	**Pn**	**21 24 20.5**	**+2.3**
T23A	**Casias Ranch,** baz=12,SNR=8.8	**12.46**	**14**	⇓P	**Pn**	**21 24 20.7**	**+1.4**
LRMC	**Laurel Mountai** baz=13	**12.49**	**329**	⇑P	**Pn**	**21 24 21.6**	**+1.9**
U26A	**Atchley Ranch,** baz=13,SNR=12	**12.52**	**23**	⇓P	**Pn**	**21 24 21.9**	**+1.7**
S21A	**Coal Bank Pass** baz=13,SNR=20	**12.77**	**7**	⇓P	**Pn**	**21 24 24.8**	**+1.1**
X31A	**McDonald Ranch** baz=13	**12.86**	**39**	⇓P	**Pn**	**21 24 25.1**	**+0.5**
MPMC	**Manual Prospec** baz=13,SNR=16	**12.88**	**331**	⇑P	**Pn**	**21 24 26.7**	**+1.6**
S20A	**Disappointment** baz=13	**12.88**	**5**	⇑P	**Pn**	**21 24 26.4**	**+1.2**
U27A	**Thompson Grove** baz=13,SNR=6.6	**12.89**	**26**	⇓P	**Pn**	**21 24 26.5**	**+1.4**
CCUT	**Cedar City**	**12.91**	**347**	*e*Pn	**Pn**	**21 24 28.2**	**+2.7**
FURC	**Furnace Creek,** baz=13,SNR=10	**12.97**	**334**	⇑P	**Pn**	**21 24 28.7**	**+2.7**
T25A	**Trinidad** baz=13,SNR=7.7	**12.98**	**20**	⇑

R26A Arlington 14.35 21 ⇑P Pn 21 24 45.5 +0.5
baz=14
SMCO Snowmass 14.37 9 ePn Pn 21 24 48.1 +2.5
MTUM Tungsten Hills 14.44 331 ePn Pn 21 24 49.6 +3.3
Q24A Divide 14.50 15 ⇑P Pn 21 24 47.8 +0.5
baz=15
P20A De Beque 14.54 4 ⇓P Pn 21 24 47.7 0.0
baz=15,SNR=7.9
R27A Eads 14.55 22 ⇓P Pn 21 24 48.5 +0.7
baz=15
S29A Ulysses 14.63 28 ⇑P Pn 21 24 48.5 -0.4
baz=15
P19A Cripple Cowboy 14.64 3 ⇓P Pn 21 24 49.5 +0.3
baz=15
P23A Jefferson 14.75 12 ⇑P Pn 21 24 52.0 +1.3
baz=15,SNR=10
P22A Eagle 14.81 9 ⇓P Pn 21 24 53.0 +1.6
baz=15,SNR=5.5
T31A Randall Ranch, 14.87 33 ⇑P Pn 21 24 52.3 +0.2
baz=15
Q26A Hugo 14.90 19 ⇓P Pn 21 24 53.3 +0.7
baz=15
NLU North Lily Min 15.07 353 ePn P 21 24 58.4 -1.8
MPU Maple Canyon 15.09 355 ePn Pn 21 24 55.6 +0.5
O20A White River Ci 15.18 5 ⇑P Pn 21 24 56.9 +0.5
baz=15,SNR=6.7
ISCO Idaho Springs 15.21 12 ePn Pn 21 24 58.4 +1.6
ISCO Idaho Springs 15.21 12 ⇓P Pn 21 24 57.9 +1.1
baz=15,SNR=16
NVAR Mina Array Bea 15.24 334 Pn Pn 21 24 59.0 +1.9
NVAR Mina Array Bea 15.24 334 Pn Pn 21 24 59.0 +1.9
baz=153,slow=14,SNR=26
P25A Willow Gulch B 15.26 17 ⇑P Pn 21 24 57.6 +0.1
baz=15,SNR=12
R29A Marienthal 15.30 27 ⇓P Pn 21 24 58.0 +0.1
baz=15
O19A Miners Draw (B 15.30 2 ⇓P Pn 21 24 58.4 +0.5
baz=15,SNR=12
O21A Pagoda 15.33 7 ⇓P Pn 21 24 59.4 +1.0
baz=15
S31A Mullinville 15.38 32 ⇑P Pn 21 24 58.7 -0.1
baz=15,SNR=6.0
DUG Dugway 15.40 351 ePn Pn 21 25 01.1 +1.9
DUG Dugway 15.40 351 ⇓P Pn 21 25 00.6 +1.5
baz=16,SNR=22
O22A Kremmling 15.40 9 ⇑P Pn 21 24 59.6 +0.3
baz=16,SNR=31
DAU Daniels Canyon 15.45 356 ePn Pn 21 25 01.7 +1.6
R30A Dighton 15.55 29 ⇓P Pn 21 25 01.8 +0.7
baz=16,SNR=10
O23A Lake Granby, G 15.55 11 ⇑P Pn 21 25 02.4 +1.1
baz=16,SNR=6.1
Q28A Sharon Springs 15.59 24 ⇑P Pn 21 25 02.1 +0.5
baz=16
O24A Longmont 15.63 14 ⇓P Pn 21 25 02.5 +0.3
baz=16
Q29A Oakley 15.76 26 ⇓P Pn 21 25 04.0 +0.2
baz=16
CTU Camp Tracy 15.77 355 eP P 21 25 09.9 +1.9
34nm,1.1s
WAKR Walker 15.78 331 ePn P 21 25 07.4 -0.7
CMB Columbia Colle 15.83 328 ePn Pn 21 25 06.2 +1.4
11nm,1.2s
N21A Black Mountain 15.87 6 ⇓P Pn 21 25 06.8 +1.4
baz=16,SNR=26
N20A Spence Gulch, 15.88 4 ⇑P Pn 21 25 06.6 +1.1
baz=16,SNR=36
R31A Burdett 15.89 31 ⇓P Pn 21 25 06.0 +0.5
baz=16,SNR=7.3
N22A Wattenberg Ran 16.04 9 ⇓P Pn 21 25 09.0 +1.4
baz=16,SNR=25
P28A Saint Francis 16.07 23 ⇓P Pn 21 25 09.1 +1.3
baz=16
BGU Big Grassy Mou 16.14 351 ePn Pn 21 25 10.8 +2.0
22nm,1.1s
Q30A Quinter 16.15 28 ⇓P Pn 21 25 10.1 +1.3
baz=16
O26A Horse Wrangler 16.18 18 ⇑P Pn 21 25 10.4 +1.2
baz=16,SNR=7.9
N23A Red Feather La 16.21 11 ⇑P Pn 21 25 10.7 +0.9
baz=16
O27A Beecher Island 16.38 20 ⇓P Pn 21 25 12.8 +1.0
baz=16
ELK Elko 16.38 345 ePn Pn 21 25 13.8 +1.9
M17A Scullys Gap (B 16.48 358 ⇑P Pn 21 25 13.7 +0.5
baz=17
M19A Rock Springs 16.50 2 ⇑P Pn 21 25 13.8 +0.3
baz=17
N25A Grover 16.51 15 ⇓P Pn 21 25 12.8 -0.8
baz=17
M20A Sweetwater, Wa 16.54 4 ⇓P Pn 21 25 14.3 +0.3
baz=17
O28A Krutsinger Ran 16.55 22 ⇑P Pn 21 25 14.0 0.0
baz=17,SNR=5.4
M22A Cedar Creek Ra 16.61 8 ⇓P Pn 21 25 15.5 +0.6
baz=17
P30A Selden 16.62 27 ⇓P Pn 21 25 14.7 -0.1
baz=17,SNR=6.2
BMN Battle Mountai 16.63 340 ePn Pn 21 25 17.0 +2.0
21nm,1.0s
HWUT Hardware Ranch 16.66 355 ePn Pn 21 25 16.5 +1.0
25nm,1.1s
PHWY Pilot Hill 16.69 11 ePn P 21 25 17.8 -0.6
M21A Separation Pea 16.72 6 ⇓P Pn 21 25 17.8 +1.5
baz=17,SNR=5.8
N26A Koester Ranch, 16.75 18 ⇑P Pn 21 25 17.8 +1.3
baz=17,SNR=6.5
PAHR Pah Rah Range 16.76 334 ePn P 21 25 19.7 +0.7
17nm,1.1s
O29A 4D Ranch, Culb 16.90 24 ⇑P Pn 21 25 18.9 +0.5
baz=17
N27A Anderson Farm, 16.92 19 ⇑P Pn 21 25 18.7 -0.1
baz=17
HVU Hansel Valley 16.95 352 ePn P 21 25 21.3 +0.2
34nm,1.1s
P31A Stockton 16.96 29 ⇓P Pn 21 25 18.8 -0.4
baz=17
M24A Cheyenne 16.97 13 ⇓P Pn 21 25 20.7 +1.3
baz=17
L20A Wamsutter 17.04 4 ⇑P Pn 21 25 20.1 -0.2
baz=17
L21A Rawlins 17.07 6 ⇑P Pn 21 25 21.6 +0.9
baz=17,SNR=12
L19A Farson 17.10 1 ⇑P Pn 21 25 20.9 0.0
baz=17
M25A Palm-Egli Farm 17.11 15 ⇑P Pn 21 25 22.0 +0.9
baz=17
OGNE Ogallala 17.20 20 ⇓P Pn 21 25 21.6 -0.7
baz=17
O30A MW Ranch, Wils 17.23 26 ⇑P Pn 21 25 22.3 -0.2
baz=17
L22A Ellis Ranch, M 17.25 8 ⇑P Pn 21 25 21.9 -1.0
baz=17
BEKR Beckworth 17.30 332 ePn Pn 21 25 24.1 +0.5
6.8nm,1.1s
M26A McRoberts Ranc 17.36 17 ⇑P Pn 21 25 24.4 +0.2
baz=17
OHCM Honcut 17.39 328 ePn P 21 25 29.4 +3.7
L23A Garrett 17.44 10 ⇑P Pn 21 25 25.4 +0.1
baz=18,SNR=11
N29A Votaw Ranch, W 17.57 24 ⇓P Pn 21 25 26.5 -0.3
baz=18
M27A Reverse DX Ran 17.63 19 ⇓P Pn 21 25 26.6 -1.0
baz=18
K20A Yellowstone Ra 17.69 4 ⇑P Pn 21 25 27.2 -1.1
baz=18,SNR=12
N30A Hueftle Ranch, 17.75 25 ⇓P Pn 21 25 28.0 -0.9
baz=18
BW06 Boulder Array 17.76 1 ePn Pn 21 25 28.8 -0.5
35nm,1.3s
PDAR Pinedale Array 17.76 1 Pn Pn 21 25 29.2 -0.1
PDAR Pinedale Array 17.76 1 Pn Pn 21 25 29.2 -0.1
0.4nm,0.3s,baz=170,slow=9.9,SNR=60
L25A Engebretsen Ra 17.81 14 ⇑P Pn 21 25 28.4 -1.4
baz=18
M28A Bar X Bar Ranc 17.82 21 ⇓P Pn 21 25 29.1 -0.8
baz=18
K19A Absolon Red Bu 17.83 2 ⇑P Pn 21 25 29.5 -0.7
baz=18,SNR=11
K22A Casper 17.85 8 ⇑P Pn 21 25 30.8 +0.5
baz=18,SNR=12
L26A Underwood Farm 17.91 16 ⇑P Pn 21 25 30.7 -0.3
baz=18
KSU1 Kansas State U 17.96 35 ePn P 21 25 32.4 +0.3
23nm,1.0s
K23A Bowen Ranch, D 18.08 10 ⇓P Pn 21 25 33.3 +0.2
baz=18,SNR=7.5
M29A Burnside Ranch 18.10 23 ⇑P Pn 21 25 33.4 +0.1
baz=18
L27A T5 Ranch, Ells 18.16 18 ⇓P Pn 21 25 33.6 -0.6
baz=18
K24A Anderson Ranch 18.18 12 ⇓P Pn 21 25 34.8 +0.4
baz=18
J19A Crowheart 18.27 2 ⇓P Pn 21 25 35.2 -0.2
baz=18,SNR=7.8
K25A Mack Ranch, Ha 18.27 14 ⇑P Pn 21 25 35.3 -0.1
baz=18
L28A Connealy Angus 18.33 20 ⇓P Pn 21 25 36.1 0.0
baz=18
RRI2 Red Ridge 18.38 356 ePn P 21 25 37.8 +0.9
J20A Shoshoni 18.40 4 ⇑P Pn 21 25 37.3 +0.3
baz=18,SNR=15
J21A Lysite 18.44 5 ⇓P P 21 25 37.8 +0.3
baz=18,SNR=8.7
TPAW Teton Pass 18.50 357 eP Pn 21 25 39.2 +0.8
44nm,1.6s
K26A Motz Farm, Whi 18.52 16 ⇓P P 21 25 38.5 +0.3
baz=19
J22A Midwest 18.60 8 P P 21 25 39.8 +0.5
baz=19,SNR=32
LOHW Long Hollow 18.61 358 eP P 21 25 40.0 +0.6
13nm,1.1s
I18A Diamond G Ranc 18.69 360 P Pn 21 25 41.2 +0.5
baz=19,SNR=14
MOOW Moose Ponds 18.75 358 eP Pn 21 25 42.1 +0.6
K27A Flueckinger Fa 18.76 18 ⇑P P 21 25 40.8 -0.1
baz=19
J24A Dixon Ranch, L 18.80 12 ⇓P P 21 25 42.1 +0.7
baz=19,SNR=11
WVOR Wild Horse Val 18.89 339 eP Pn 21 25 44.1 +1.1
41nm,1.4s
IMW Indian Meadow 18.91 357 eP Pn 21 25 44.2 +0.8
18nm,1.1s
I21A Big Trails, Te 18.91 6 P P 21 25 43.0 +0.3
baz=19,SNR=18
I16A Newdale 18.91 356 ⇑P Pn 21 25 44.4 +1.1
baz=19,SNR=13
I17A Pilgrim Ck. 18.92 358 ⇓P Pn 21 25 44.1 +0.7
baz=19
I20A Worland 18.99 4 ⇑P P 21 25 43.8 +0.3
baz=19,SNR=27
MOD Modoc 19.00 335 eP Pn 21 25 45.9 +1.5
K28A Ten Mile Ranch 19.02 19 ⇑P P 21 25 43.7 -0.1
baz=19
I19A Meeteetse 19.04 2 ⇓P P 21 25 44.7 +0.6
baz=19,SNR=20
BGNE Belgrade 19.05 28 ⇓P P 21 25 44.8 +0.7
baz=19
MFID Camas Ranch 19.06 346 eP Pn 21 25 45.9 +0.9
38nm,1.4s
MFID Camas Ranch 19.06 346 ⇓P Pn 21 25 45.7 +0.7
baz=19,SNR=15
I22A 9 Mile Ranch, 19.08 7 ⇓P P 21 25 43.7 -0.7
baz=19
I14A Mackay 19.15 352 ⇑P Pn 21 25 47.0 +0.8
baz=19,SNR=16
I12A Atlanta 19.28 348 ⇓P P 21 25 46.8 0.0
baz=19
H20A Greybull 19.53 4 ⇑P P 21 25 49.6 +0.2
baz=20,SNR=27
I25A Rochford 19.64 13 ⇑P P 21 25 49.2 -1.5
baz=20
H18A Shoshone NF, C 19.67 0 ⇑P P 21 25 51.7 +0.7
baz=20,SNR=12
H19A Powell 19.67 2 ⇑P Pn 21 25 52.4 0.0
baz=20,SNR=12
RSSD Black Hills 19.68 12 eP P 21 25 46.0 -5.2
9.0nm,0.4s
J28A Allard Ranch, 19.71 19 ⇑P P 21 25 51.8 +0.5
baz=20
H16A Russell Place, 19.73 357 ⇑P P 21 25 52.3 +0.6
baz=20,SNR=5.5
H21A Big Horn, Sher 19.75 6 ⇓P P 21 25 52.4 +0.6
baz=20
H22A Clearmont 19.78 7 ⇓P P 21 25 50.6 -1.6
baz=20
QLMT Earthquake Lak 19.86 357 eP P 21 25 54.4 +1.3
H12A Diamond D Ranc 19.97 349 ⇑P P 21 25 55.5 +1.3
baz=20,SNR=14
MCMT McKenzie Canyo 19.97 354 eP Pn 21 25 56.7 +0.7
9.1nm,1.0s
I27A Quinn 20.08 16 ⇓P P 21 25 55.9 +0.5
baz=20
RLMT Red Lodge 20.12 1 eP P 21 25 57.4 +1.4
8.1nm,0.9s
H24A Dirks Ranch, A 20.19 11 ⇑P P 21 25 57.2 +0.6
baz=20
H25A Fruitdale 20.25 13 ⇑P P 21 25 57.2 0.0
baz=20
G20A Bridger 20.25 3 ⇓P P 21 25 57.7 +0.4
baz=20,SNR=11
I28A Midland 20.26 18 ⇑P P 21 25 57.8 +0.6
baz=20
G18A Lazy EL Ranch, 20.31 0 ⇓P P 21 25 58.6 +0.6
baz=20,SNR=12
G21A Lodge Grass 20.32 5 ⇓P P 21 25 58.9 +0.8
baz=20
G17A Pierce Place, 20.32 358 ⇓P P 21 25 59.2 +1.1
baz=20
G22A Birney 20.41 7 P P 21 25 58.4 -0.5
baz=20,SNR=8.8
TEIG Tepich 20.42 99 LR LR 21 36 00.5
comp=Z,290nm,18.5s,baz=258,slow=43
H26A Fairpoint 20.42 15 ⇑P P 21 25 58.7 -0.3
baz=20
DLMT Dillon 20.48 354 eP P 21 26 01.0 +1.2
26nm,1.2s
H27A Howes 20.60 16 ⇓P P 21 26 01.7 +0.7
baz=21
G12A Big Creek, Yel 20.61 349 ⇓P P 21 26 02.6 +1.4
baz=21
BOZ Bozeman (W) 20.69 356 eP P 21 26 03.3 +1.3
18nm,1.3s
BMO Blue Mountains 20.75 345 eP P 21 26 03.9 +1.2
14nm,1.3s
GCMT Greycliff 20.78 0 eP P 21 26 03.8 +0.7
6.1nm,0.7s
F16A Kennard Place, 20.83 356 ⇑P P 21 26 04.9 +1.4
baz=21,SNR=7.9
F20A Billings 20.83 3 ⇑P P 21 26 03.6 +0.1
baz=21,SNR=12
F19A Roth Farm, Mol 20.86 2 ⇓P P 21 26 04.0 +0.2
baz=21
F18A Big Timber 20.89 0 ⇑P P 21 26 04.2 0.0
baz=21,SNR=17
F17A Fitzpatrick Pl 20.91 358 ⇑P P 21 26 06.0 +1.6
baz=21,SNR=27
H28A Mission Ridge 20.92 18 ⇓P P 21 26 04.4 0.0
baz=21
LRM Limekiln Ridge 20.92 355 eP P 21 26 06.4 +1.8
F15A Butte 20.94 355 ⇑P P 21 26 05.9 +1.1
baz=21,SNR=11
F22A Rosebud 20.96 7 ⇑P P 21 26 04.7 -0.2
baz=21
F14A Wisdom 21.00 353 ⇑P P 21 26 05.8 +0.4
baz=21
F23A Volborg 21.01 9 ⇑P P 21 26 05.2 -0.3
baz=21,SNR=16
F24A Ekalaka 21.28 10 ⇓P P 21 26 08.6 +0.3
baz=21
G28A Parade 21.32 18 ⇓P P 21 26 09.2 +0.5
baz=21
G27A Dupree 21.34 15 ⇓P P 21 26 08.9 0.0
baz=21
BRSD Miller 21.34 22 ⇑P P 21 26 09.5 +0.5
baz=21,SNR=8.6
E19A Rath Farm, Rou 21.47 2 ⇑P P 21 26 10.4 +0.1
baz=22,SNR=10
E17A Martinsdale 21.47 358 ⇓P P 21 26 11.2 +0.7
baz=22,SNR=14
LRAL Lakeview Retre 21.48 63 eP P 21 26 15.2 +4.7
5.8nm,1.3s
E20A Meyer Farm, Mu 21.54 3 P P 21 26 11.8 +0.7
baz=22,SNR=16
E18A Harlowton 21.56 360 ⇑P P 21 26 12.3 +0.9
baz=22,SNR=16
E16A East Helena 21.58 356 ⇑P P 21 26 11.7 +0.2
baz=22
ECSD EROS Data Cent 21.61 27 eP P 21 26 13.9 +2.1
26nm,1.2s
E21A Keefer Ranch, 21.64 5 ⇑P P 21 26 12.5 +0.3
baz=22,SNR=12
E22A Miles City 21.65 7 ⇑P P 21 26 11.9 -0.4
baz=22
E23A Ismay 21.79 8 ⇓P P 21 26 13.7 0.0
baz=22,SNR=11
E12A Beaver Dam Sad 21.90 349 ⇓P P 21 26 15.5 +0.4
baz=22,SNR=13
WVT Waverly 21.90 54 eP P 21 26 16.4 +1.4
13nm,1.0s
E24A Baker 22.00 10 ⇑P P 21 26 15.8 -0.2
baz=22,SNR=5.7
D16A Dana Ranch, Ca 22.07 357 ⇓P P 21 26 17.6 +0.8
baz=22,SNR=22
MSO Missoula 22.07 352 eP P 21 26 18.1 +1.2
13nm,1.0s
MSO Missoula 22.07 352 ⇓P P 21 26 17.1 +0.3
baz=22,SNR=16
CHMT Chamberlain Mo 22.08 354 eP P 21 26 18.0 +0.9
E25A Miller Ranch, 22.09 12 ⇓P P 21 26 17.1 +0.1
baz=22
D15A Lincoln 22.14 355 ⇑P P 21 26 18.0 +0.4
baz=22,SNR=6.9
D17A Six Diamond Ra 22.15 358 ⇓P P 21 26 18.2 +0.4
baz=22,SNR=25
D19A Cripps Ranch, 22.17 2 ⇓P P 21 26 18.0 +0.2
baz=22,SNR=19
D21A La Casta Ranch 22.17 5 ⇓P P 21 26 18.1 +0.2
baz=22,SNR=8.2
D18A Linhart Farms, 22.19 0 ⇑P P 21 26 19.0 +0.9
baz=22
E26A Carlson Angus 22.25 13 ⇑P P 21 26 18.8 0.0
baz=22,SNR=7.6
D14A Greenough 22.27 353 ⇓P P 21 26 19.4 +0.4
baz=22,SNR=27
D22A Cohagen 22.33 7 ⇓P P 21 26 20.1 +0.5
baz=22,SNR=9.8
D13A Huson 22.39 352 ⇑P P 21 26 20.8 +0.6
baz=22,SNR=5.1
SLMT Seeley Lake 22.43 353 eP P 21 26 21.9 +1.2
D23A Lindsay 22.46 8 ⇓P P 21 26 21.2 +0.2
baz=23,SNR=8.2
D12A Red Ives Fores 22.48 350 ⇑P P 21 26 21.2 -0.1
baz=23
D24A Glendive 22.53 10 ⇓P P 21 26 21.7 0.0
baz=23,SNR=6.2
C17A Wharram Farm, 22.64 358 ⇑P P 21 26 22.8 -0.1
baz=23,SNR=11
C19A Slack Wire Ran 22.73 1 ⇑P P 21 26 24.4 +0.5
baz=23,SNR=9.7
SWMT Swartz Lake 22.75 353 eP P 21 26 24.8 +0.7
C20A Veseth Ranch, 22.75 3 ⇑P P 21 26 24.2 +0.2
baz=23,SNR=18
HAWA Hanford 22.76 342 eP P 21 26 25.3 +1.2
13nm,1.3s
C16A Fuhringer Ranc 22.84 357 ⇓P P 21 26 25.0 -0.1
baz=23,SNR=15
C15A Salmond Ranch, 22.87 355 ⇓P P 21 26 25.2 -0.2
baz=23
OLIL Olney 22.91 48 eP P 21 26 27.6 +1.9
32nm,1.2s
C21A Desert Coulee 22.92 5 ⇑P P 21 26 26.1 +0.3
baz=23,SNR=8.5
C24A Savage 22.92 9 ⇑P P 21 26 26.0 +0.2
baz=23
C22A Vida 22.95 7 ⇓P P 21 26 25.5 -0.6
baz=23,SNR=7.7
C14A Swan Lake 22.97 353 ⇑P P 21 26 27.0 +0.5
baz=23,SNR=9.2
C13A Hot Springs 22.98 352 ⇓P P 21 26 26.8 +0.3
baz=23
EGMT Eagleton 23.02 0 eP P 21 26 27.5 +0.7
EGMT Eagleton 23.02 0 ⇑P P 21 26 27.0 +0.2
baz=23,SNR=12
C23A Lambert 23.09 8 ⇓P P 21 26 27.6 0.0
baz=23
HDIL Hopedale 23.14 43 eP P 21 26 29.2 +1.1
C12B Naegeli Ranch, 23.14 350 ⇓P P 21 26 28.1 0.0
baz=23
BSMT Bassoo Peak 23.18 351 eP P 21 26 27.8 -0.9
B17A L&G Farms, Che 23.30 358 ⇓P P 21 26 30.3 +0.6
baz=23
B18A Beardsley Farm 23.39 0 ⇑P P 21 26 30.8 +0.2
baz=24
C11A Tepee Creek (N 23.39 349 ⇑P P 21 26 30.7 0.0
baz=24
B15A Bradely Ranch, 23.41 355 ⇑P P 21 26 30.7 -0.1
baz=24,SNR=8.5
B16A M & M Farms, S 23.45 357 ⇓P P 21 26 31.6 +0.4
baz=24
B19A Brinkman Farms 23.46 1 ⇓P P 21 26 31.7 +0.5
baz=24
B20A Solberg Farm, 23.47 3 ⇑P P 21 26 32.1 +0.6
baz=24,SNR=6.3
B22A Reddig Ranch S 23.48 6 ⇓P P 21 26 31.8 +0.2
baz=24
B14A Marquette Ranc 23.51 354 ⇓P P 21 26 32.3 +0.3
baz=24
B21A Ellsworth Farm 23.52 5 ⇑P P 21 26 32.2 +0.3
baz=24
B13A Whitefish 23.65 352 ⇓P P 21 26 33.1 -0.2
baz=24,SNR=6.6
B23A Brockton 23.76 8 ⇓P P 21 26 34.4 +0.2
baz=24
LON Longmire 23.76 339 eP P 21 26 35.8 +1.5
DGMT Dagmar 23.87 9 ⇑P P 21 26 35.7 +0.3
baz=24
B12A Libby 23.90 350 ⇑P P 21 26 35.7 +0.1
baz=24,SNR=6.3
A18A Metzger Ranch, 23.91 360 ⇓P P 21 26 35.9 +0.2
baz=24
A20A Cobblestone Ra 23.92 3 ⇓P P 21 26 35.8 +0.1
baz=24
A19A Klindworth Far 23.93 2 ⇑P P 21 26 36.3 +0.4
baz=24
A17A Triple J Farms 23.95 359 ⇓P P 21 26 35.7 -0.3
baz=24,SNR=6.7
NEW Newport 23.96 348 eP P 21 26 36.6 +0.4
15nm,0.9s
NEW Newport 23.96 348 P P 21 26 37.1 +1.0
9.2nm,0.8s,baz=166,slow=11,SNR=16
NEW Newport 23.96 348 ⇓P P 21 26 36.4 +0.2
baz=24,SNR=10
A16A West Butte Ran 23.98 357 ⇓P P 21 26 36.4 -0.1
baz=24
A15A Johnson Ranch, 24.08 355 ⇑P P 21 26 37.3 0.0
baz=24,SNR=8.5
A21A Bergtoll Ranch 24.09 5 ⇑P P 21 26 37.1 -0.3
baz=24
A14A Double T Ranch 24.13 354 ⇑P P 21 26 37.9 0.0
baz=24,SNR=20
A22A Carney Farms, 24.18 6 ⇓P P 21 26 38.6 +0.4
baz=24
A13A Flathead Natio 24.20 353 ⇓P P 21 26 38.3 -0.2
baz=24
A23A Redstone 24.26 8 ⇓P P 21 26 39.2 +0.3
baz=24
WALA Waterton Lakes 24.27 353 eP P 21 26 39.6 +0.5
1.0nm,1.2s
A24A Westby 24.34 9 ⇓P P 21 26 39.8 +0.1
baz=24
A12A Yaak River Ran 24.36 351 ⇑P P 21 26 40.0 +0.1
baz=24
TKL Tuckaleechee C 24.80 58 LR LR 21 37 16.3
comp=Z,483nm,18.4s,baz=248,slow=40
FFC Flin Flon 30.29 9 eP P 21 27 32.4 -0.5
10nm,1.4s
YKA Yellowknife Ar 37.66 356 P P 21 28 36.9 +0.2
YKA Yellowknife Ar 37.66 356 P P 21 28 36.9 +0.2
2.1nm,0.9s,baz=173,slow=7.9,SNR=16
ILAR Eielson Array 46.41 339 P P 21 29 49.9 +1.8
ILAR Eielson Array 46.41 339 P P 21 29 49.9 +1.8
2.2nm,0.8s,baz=152,slow=6.9,SNR=26
TRF Thorofare Moun 46.75 336 eP P 21 29 51.5 +0.4
27nm,1.4s
SUMG Summit 60.81 19 eP P 21 31 34.4 +0.3
5.7nm,0.8s
SIV San Ignacio 62.56 125 LR LR 21 59 47.4
comp=Z,122nm,18.5s,slow=36
AFI Afiamalu 71.71 245 LR LR 21 58 18.8
comp=Z,162nm,20.5s,baz=61,slow=30
PETK Petropavlovsk- 71.88 321 P P 21 32 53.3 +8.4
PETK Petropavlovsk- 71.88 321 P P 21 32 53.3 +8.4
2.6nm,0.9s,baz=64,slow=10,SNR=4.9
USRK Ussuriysk Arra 90.97 321 P P 21 34 34.8 +8.7
1.9nm,0.8s,baz=52,slow=6.4,SNR=8.8
MJAR Matsushiro Arr 91.42 312 P P 21 34 37.4 +9.0
MJAR Matsushiro Arr 91.42 312 P P 21 34 37.4 +9.0
1.2nm,1.1s,baz=24,slow=3.3,SNR=5.0
MJAR LR LR 22 10 18.9
comp=Z,128nm,21.9s,baz=30,slow=32
VRAC Vranov 92.02 32 LR LR 22 13 06.2
comp=Z,92nm,21.4s,baz=353,slow=34
HNR Honiara 94.14 262 LR LR 22 08 19.2

comp=Z,100nm,20.2s,baz=346,slow=30
PMSA Palmer Station 96.19 162 LR LR 22 07 03.6
comp=Z,169nm,19.2s,baz=74,slow=28
SONM Songino Array 100.56 336 LR LR 22 23 06.6
comp=Z,185nm,18.1s,baz=59,slow=37

*ISCJB **03** 21:37:56.9±0.2, 63°.57N±0°.02×151°.27W±0°.04, h10km, mb3.9/8, Error ellipse: s-maj=3.2km s-min=2.8km az=163.7*
*IDC **03** 21:37:56.9±0.8, 63°.67N×151°.45W, h0km, mb3.9/7, mb1 4.1/11, mb1mx3.8/27, mbtmp3.8/11, ML3.2/4, Error ellipse: s-maj=17.5km s-min=11.1km az=142.0*
*NEIC **03** 21:37:57.2, 63°.54N×151°.25W, h8km, ML3.8(AEIC), After AEIC.*

ISC 03 21:37:57.6±0.6, 63°.56N±0°.03×151°.22W±0°.02, h10km, n91, σ1s23/102, mb3.9/8, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAST	**Castle Rocks**	**0.41**	**251**	P		**Pg**		**21 38 04.5**	**-1.1**
CAST				S		**Sg**		**21 38 09.1**	**-1.9**
TRF	**Thorofare Moun**	**0.43**	**104**	P		**Pg**		**21 38 05.4**	**-0.8**
TRF				S		**Sg**		**21 38 11.2**	**-0.6**
CHUM	**Lake Minchumin**	**0.59**	**305**	P		**Pb**		**21 38 09.2**	**-0.7**
CHUM				S		**Sb**		**21 38 17.0**	**-1.3**
HUR	**Hurricane**	**0.92**	**128**	P		**Pg**		**21 38 14.1**	**-1.2**
BWN	**Browne**	**0.99**	**51**	P		**Pn**		**21 38 18.3**	**+0.7**
MCK	**McKinley**	**1.04**	**79**	P		**Pn**		**21 38 17.4**	**-0.9**
MCK				S		**Sb**		**21 38 31.4**	**+0.2**
RND	**Reindeer**	**1.07**	**97**	P		**Pb**		**21 38 17.3**	**-1.0**
NEN	**Nenana**	**1.39**	**42**	P		**Pn**		**21 38 29.4**	**-0.7**
MLY	**Manley**	**1.50**	**8**	P		**Pn**		**21 38 24.9**	**-0.6**
SKT	**Skwentna**	**1.59**	**185**	P		**Pn**		**21 38 25.2**	**-0.6**
SKT				S		**Sb**		**21 38 46.3**	**-0.8**
WRH	**Wood River Hil**	**1.66**	**55**	P		**Pn**		**21 38 26.2**	**-0.5**
DHY	**Denali Highway**	**1.80**	**104**	P		**Pb**		**21 38 29.5**	**-1.3**
CCB	**Clear Creek Bu**	**1.86**	**52**	P		**Pn**		**21 38 28.9**	**-0.6**
CCB				S		**Sg**		**21 38 57.0**	**-0.3**
MDM	**Murphy Dome**	**1.92**	**42**	P		**Pn**		**21 38 30.0**	**-0.4**
COLA	**College**	**1.98**	**47**	P		**Pn**		**21 38 30.8**	**-0.4**
COLA				S		**Sg**		**21 39 00.5**	**-0.7**
STLK	**Strandline Lak**	**2.08**	**188**	P		**Pn**		**21 38 32.2**	**-0.5**
SUA	**Susitna One**	**2.11**	**174**	P		**Pn**		**21 38 32.8**	**-0.3**
PMR	**Palmer**	**2.20**	**153**	P		**Pn**		**21 38 34.0**	**-0.1**
SML	**Sawmill**	**2.20**	**141**	P		**Pn**		**21 38 33.8**	**-0.4**
GLM	**Gilmore Dome**	**2.21**	**48**	P		**Pn**		**21 38 34.7**	**+0.4**
IL1	**Eielson Array**	**2.26**	**55**	P		**Pn**		**21 38 34.5**	**-0.5**
ILAR	**Eielson Array**	**2.26**	**55**	Pn		**Pn**		**21 38 34.3**	**-0.7**
ILAR				Pg		**Pg**		**21 38 39.1**	**-1.7**
ILAR				Lg		Lg		21 39 07.1	
ILAR	**Eielson Array**	**2.26**	**55**	Pn		**Pn**		**21 38 34.3**	**-0.7**
	2.2nm,0.3s,baz=237,slow=14,SNR=122								
ILAR				Pg		**Pg**		**21 38 39.1**	**-1.7**
	11nm,0.3s,baz=241,slow=20,SNR=62								
ILAR				Lg		Lg		21 39 07.1	
	35nm,0.3s,baz=240,slow=31,SNR=22								
TT01	**Tatalina**	**2.27**	**255**	P		**Pn**		**21 38 34.1**	**-1.0**
CGLM	**Capps Glacier**	**2.29**	**190**	P		**Pn**		**21 38 35.0**	**-0.5**
BGL	**Barrier Glacie**	**2.36**	**194**	P		**Pn**		**21 38 37.0**	**+0.5**
SPU	**Mount Spurr**	**2.41**	**190**	P		**Pn**		**21 38 37.9**	**+0.7**
CKL	**Chakachamna La**	**2.42**	**193**	P		**Pn**		**21 38 37.8**	**+0.4**
SCM	**Sheep Creek Mo**	**2.49**	**132**	P		**Pn**		**21 38 38.5**	**+0.2**
PAX	**Paxson**	**2.67**	**100**	P		**Pn**		**21 38 41.6**	**+0.9**
IM02	**Indian Mountai**	**2.69**	**337**	P		**Pn**		**21 38 41.3**	**+0.3**
GCSA	**Galena City Sc**	**2.75**	**298**	P		**Pn**		**21 38 41.9**	**+0.2**
HARP	**HAARP**	**3.00**	**110**	P		**Pn**		**21 38 47.0**	**+1.9**
DFR	**Drift River**	**3.05**	**194**	P		**Pn**		**21 38 46.5**	**+0.5**
NCT	**North Crescent**	**3.11**	**196**	P		**Pn**		**21 38 48.1**	**+1.3**
RDWB	**Redoubt West**	**3.17**	**195**	P		**Pn**		**21 38 48.8**	**+1.1**
RSO	**Redoubt South**	**3.19**	**194**	*e*Pn		**Pn**		**21 38 45.4**	**-2.6**
SVW2	**Sparrevohn**	**3.20**	**221**	P		**Pn**		**21 38 49.2**	**+1.3**
KLU	**Klutina**	**3.21**	**128**	P		**Pn**		**21 38 49.7**	**+1.5**
VLZ	**Valdez**	**3.33**	**135**	P		**Pn**		**21 38 50.9**	**+1.2**
MENT	**Mentasta**	**3.45**	**97**	*e*Pn		**Pn**		**21 38 53.0**	**+1.6**
MENT				*e*Sg		**Sg**		**21 39 45.7**	**-2.5**
DIV	**Divide**	**3.52**	**131**	P		**Pn**		**21 38 53.2**	**+0.8**
ILW	**Iliamna West**	**3.62**	**195**	P		**Pn**		**21 38 55.6**	**+1.8**
COLD	**Coldfoot**	**3.77**	**66**	P		**Pn**		**21 38 56.1**	**+1.2**
EYAK	**Cordova Ski Ar**	**3.97**	**137**	P		**Pn**		**21 38 59.6**	**+1.2**
CNPM	**China Poot**	**4.04**	**180**	P		**Pn**		**21 39 01.1**	**+1.5**
BCA3	**Beaver Creek A**	**4.29**	**92**	P		**Pn**		**21 39 03.6**	**+0.8**
VRDI	**Verde Repeater**	**4.30**	**119**	P		**Pn**		**21 39 04.8**	**+1.6**
MCARA	**McCarthy VSAT**	**4.38**	**116**	P		**Pn**		**21 39 06.0**	**+1.8**
EGAK	**Eagle**	**4.57**	**70**	*e*Pn		**Pn**		**21 39 07.3**	**+0.5**
EGAK				*e*Pg		**Pg**		**21 39 24.2**	**-0.8**
EGAK				*e*Sg		**Sg**		**21 40 22.3**	**-1.9**
PTPK	**Patty Peak**	**4.72**	**116**	P		**Pn**		**21 39 10.5**	**+1.6**
MID	**Middleton Isla**	**4.76**	**148**	P		**Pn**		**21 39 11.3**	**+2.1**
MID				*e*Sg		**Sg**		**21 40 25.7**	**-4.4**
BM3	**Burnt Mountain**	**4.76**	**32**	P		**Pn**		**21 39 09.1**	**-0.3**
BERG	**Berg Lake**	**4.76**	**128**	P		**Pn**		**21 39 10.9**	**+1.6**
BALM	**Baldy**	**4.85**	**117**	P		**Pn**		**21 39 12.1**	**+1.4**
KIAG	**Kiagna River**	**4.91**	**119**	P		**Pn**		**21 39 12.4**	**+0.8**
BARN	**Barnard Glacie**	**5.12**	**115**	P		**Pn**		**21 39 16.0**	**+1.6**
BARK	**Barkley Ridge**	**5.19**	**124**	P		**Pn**		**21 39 17.4**	**+2.1**
KLT	**Kultieth River**	**5.21**	**126**	P		**Pn**		**21 39 17.1**	**+1.5**
GRNC	**Granite Creek**	**5.27**	**118**	P		**Pn**		**21 39 18.0**	**+1.5**
DAWY	**Dawson**	**5.27**	**79**	P		**Pn**		**21 39 15.2**	**-1.1**
MESA	**MESA**	**5.54**	**123**	P		**Pn**		**21 39 22.2**	**+2.0**
KABR	**Katmai Barrier**	**5.74**	**200**	P		**Pn**		**21 39 23.3**	**+0.4**
KDAK	**Kodiak Island**	**5.83**	**187**	Pn		**Pn**		**21 39 24.0**	**0.0**
KDAK	**Kodiak Island**	**5.83**	**187**	Pn		**Pn**		**21 39 24.0**	**0.0**
	0.4nm,0.3s,baz=23,slow=13,SNR=3.3								
SAMH	**Samovar Hills**	**6.02**	**120**	P		**Pn**		**21 39 28.3**	**+1.6**
OHAK	**Old Harbor**	**6.44**	**190**	P		**Pn**		**21 39 32.7**	**+0.4**
PNL	**Peninsula**	**6.85**	**119**	P		**Pn**		**21 39 39.2**	**+1.2**
TNA	**Tin City**	**7.46**	**293**	P		**Pn**		**21 39 47.3**	**+1.0**
INK	**Inuvik**	**8.64**	**49**	Pn		**Pn**		**21 40 02.2**	**-0.3**
INK	**Inuvik**	**8.64**	**49**	Pn		**Pn**		**21 40 02.2**	**-0.3**
	0.4nm,0.3s,baz=239,slow=13,SNR=5.6								
YKA	**Yellowknife Ar**	**16.50**	**77**	Pn		**Pn**		**21 41 48.5**	**-0.3**
YKA	**Yellowknife Ar**	**16.50**	**77**	Pn		**Pn**		**21 41 48.5**	**-0.3**
	0.1nm,0.3s,baz=290,slow=11,SNR=9.0								
PDAR	**Pinedale Array**	**31.65**	**111**	P		**P**		**21 44 22.4**	**+1.5**
PDAR	**Pinedale Array**	**31.65**	**111**	P		**P**		**21 44 22.4**	**+1.5**
	1.1nm,0.8s,baz=316,slow=6.2,SNR=9.5								
NVAR	**Mina Array Bea**	**31.93**	**126**	P		**P**		**21 44 25.2**	**+1.8**
NVAR	**Mina Array Bea**	**31.93**	**126**	P		**P**		**21 44 25.2**	**+1.8**
	0.6nm,0.8s,baz=321,slow=8.5,SNR=4.4								
TXAR	**Lajitas Array**	**45.60**	**116**	P		**P**		**21 46 19.4**	**+1.6**
TXAR	**Lajitas Array**	**45.60**	**116**	P		**P**		**21 46 19.4**	**+1.6**
	2.2nm,0.6s,baz=327,slow=6.2,SNR=26								
TKL	**Tuckaleechee C**	**48.79**	**91**	P		**P**		**21 46 43.2**	**+0.7**
TKL	**Tuckaleechee C**	**48.79**	**91**	P		**P**		**21 46 43.2**	**+0.7**
	3.1nm,0.6s,baz=322,slow=12,SNR=7.0								
ZALV	**Zalesovo Beam**	**55.01**	**323**	P		**P**		**21 47 29.6**	**+1.0**
ZALV	**Zalesovo Beam**	**55.01**	**323**	P		**P**		**21 47 29.6**	**+1.0**
	0.8nm,0.5s,baz=37,slow=7.4,SNR=6.3								
MKAR	**Makanchi Array**	**62.17**	**321**	P		**P**		**21 48 18.2**	**-0.5**
MKAR	**Makanchi Array**	**62.17**	**321**	P		**P**		**21 48 18.2**	**-0.5**
	0.6nm,0.6s,baz=52,slow=7.0,SNR=7.8								
ESDC	**Sonseca Array**	**73.86**	**26**	P		**P**		**21 49 32.3**	**+0.1**
ESDC	**Sonseca Array**	**73.86**	**26**	P		**P**		**21 49 32.3**	**+0.1**
	0.7nm,0.6s,baz=347,slow=5.7,SNR=8.3								
BRTR	**Keskin Array B**	**76.99**	**356**	P		P		21 49 53.4	+3.1
BRTR	**Keskin Array B**	**76.99**	**356**	P		P		21 49 53.4	+3.1
	0.4nm,0.7s,baz=28,slow=6.5,SNR=3.7								
QSPA	**South Pole Qui**	**153.37**	**180**	PKPbc		**PKPbc**		**21 57 53.4**	**-0.8**
QSPA	**South Pole Qui**	**153.37**	**180**	PKPbc		**PKPbc**		**21 57 53.4**	**-0.8**
	1.3nm,0.6s,baz=296,slow=2.2,SNR=16								

RSPR 03 21:42:48.1, 18°.67N×68°.75W, h166km±1km, MD3.7/14, 16C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.61**	**281**	*e*P			Pn	21 43 11.7	-0.2
DR12				*e*S			Sn	21 43 29.9	-0.1
IMO	**Isla Mona**	**0.98**	**125**	*e*P			Pn	21 43 13.9	-0.3
IMO				*e*S			Sn	21 43 34.4	+0.1
LSP	**Las Mesas**	**1.66**	**107**	*e*P			Pn	21 43 20.8	+0.3
LSP				*e*S			Sn	21 43 41.0	+0.5
CRPR	**Cabo Rojo, PR**	**1.69**	**113**	*e*P			Pn	21 43 21.0	+0.1
CRPR	**Cabo Rojo, PR**	**1.69**	**113**	*e*S			Sn	21 43 46.1	0.0
LRS	**Lares**	**1.85**	**102**	*e*P			Pn	21 43 22.7	+0.1
LRS				*e*S			Sn	21 43 49.5	+0.3
GBPR	**Guanica, Bosqu**	**1.91**	**111**	*i*P			Pn	21 43 23.6	+0.4
GBPR				*e*S			Sn	21 43 50.7	+0.5
AOPR	**Arecibo Observ**	**1.92**	**99**	*e*P			Pn	21 43 23.6	+0.2
AOPR	**Arecibo Observ**	**1.92**	**99**	*e*S			Sn	21 43 51.2	+0.6
OBIP	**Obispado Ponce**	**2.13**	**107**	*i*eP			Pn	21 43 25.7	0.0
OBIP	**Obispado Ponce**	**2.13**	**107**	*e*S			Sn	21 43 55.6	+0.8
CELP	**Cerrillos**	**2.15**	**106**	*i*eP			Pn	21 43 25.7	-0.2
CELP				*e*S			Sn	21 43 55.7	+0.6
SDDR	**Presa de Saban**	**2.42**	**278**	*i*eP			Pn	21 43 29.1	-0.1
SDDR	**Presa de Saban**	**2.42**	**278**	*e*S			Sn	21 44 01.4	+0.5
SJG	**San Juan**	**2.53**	**102**	*i*eP			Pn	21 43 30.8	+0.4
SJG				*e*S			Sn	21 44 03.7	+0.5
SJG	**San Juan**	**2.53**	**102**	*i*eP			Pn	21 43 30.5	+0.1
SJG				*e*S			Sn	21 44 03.9	+0.7
CPD	**Cerro la Pandu**	**2.77**	**103**	*i*eP			Pn	21 43 33.7	+0.4
CPD	**Cerro la Pandu**	**2.77**	**103**	*e*S			Sn	21 44 09.0	+0.7
CBYP	**Canovanas**	**2.78**	**98**	*e*P			Pn	21 43 33.4	0.0
CBYP	**Canovanas**	**2.78**	**98**	*e*S			Sn	21 44 09.7	+1.1
HUMP	**Col San Antoni**	**2.81**	**100**	*i*eP			Pn	21 43 34.4	+0.7
HUMP	**Col San Antoni**	**2.81**	**100**	*e*S			Sn	21 44 09.7	+0.6
MTP	**Monte Pirata**	**3.09**	**100**	*i*eP			Pn	21 43 37.7	+0.4
MTP	**Monte Pirata**	**3.09**	**100**	*e*S			Sn	21 44 16.1	+0.7
STVI	**Saint Thomas**	**3.62**	**94**	*i*eP			Pn	21 43 44.1	+0.2
STVI	**Saint Thomas**	**3.62**	**94**	*e*S			Sn	21 44 27.7	+0.4

IDC 03 21:52:50.1±0.7, 33°.97S×109°.04W, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.1/19, mbtmp4.2/6, MS3.7/6, Ms1 3.7/6, ms1mx3.4/25, Error ellipse: s-maj=68.2km s-min=21.8km az=92.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**25.15**	**289**	*e*LR			LR	22 04 24.7	
	283nm,28.2s								
RKT				*e*LR			LR	22 04 24.7	
	283nm,28.2s								
PLCA	**Paso Flores**	**31.15**	**114**	LR			LR	22 09 30.4	
	comp=Z,114nm,19.2s,baz=192,slow=32								
CFAA	**Coronel Fontan**	**34.23**	**98**	LR			LR	22 10 34.4	
	comp=Z,15nm,21.9s,baz=202,slow=31								
TBI	**Tubuai**	**36.81**	**276**	*e*LR			LR	22 09 48.9	
	441nm,26.8s								
TBI				*e*LR			LR	22 09 48.9	
	441nm,26.8s								
TBI	**Tubuai**	**36.81**	**276**	*e*T			T	22 38 33.3	
	2.3nm,0.2s								
MEH	**Mehetia**	**38.32**	**285**	*e*T			T	22 40 27.6	
	56nm,0.2s								
PPT2	**Papeete2**	**39.69**	**284**	*e*LR			LR	22 11 03.7	
	318nm,25.2s								
PPT2				*e*LR			LR	22 11 03.7	
	318nm,25.2s								
PPT	**Papeete**	**39.70**	**284**	LR			LR	22 12 30.8	
	comp=Z,163nm,20.1s,baz=186,slow=30								
LPAZ	**La Paz**	**40.69**	**75**	LR			LR	22 13 21.7	
	comp=Z,102nm,21.9s,baz=24,slow=30								
CPUP	**Villa Florida**	**44.97**	**95**	LR			LR	22 17 14.2	
	comp=Z,114nm,18.1s,baz=189,slow=33								
QSPA	**South Pole Qui**	**56.23**	**180**	P			P	22 02 33.0	+1.1
	3.5nm,1.0s,baz=108,slow=3.4,SNR=7.4								
BDFB	**Brasilia**	**57.53**	**87**	LR			LR	22 25 01.5	
	comp=Z,178nm,18.9s,baz=158,slow=34								
TXAR	**Lajitas Array**	**63.16**	**5**	P			P	22 03 20.5	+0.6
	0.3nm,0.7s,baz=178,slow=7.2,SNR=4.1								
NVAR	**Mina Array Bea**	**72.54**	**352**	P			P	22 04 20.1	+1.1
	4.3nm,0.8s,baz=185,slow=7.6,SNR=29								
TKL	**Tuckaleechee C**	**73.18**	**21**	P			P	22 04 22.1	-0.5
	1.5nm,0.6s,baz=200,slow=2.5,SNR=3.7								
PDAR	**Pinedale Array**	**76.36**	**360**	P			P	22 04 41.0	-0.2
	1.8nm,0.8s,baz=152,slow=6.7,SNR=14								
MAW	**Mawson**	**78.56**	**177**	P			P	22 04 52.5	-0.4
	1.0nm,0.8s,baz=216,slow=23,SNR=3.9								
MLR	**Muntele Rosu**	**143.96**	**58**	PKP		PKPbc		22 12 25.2	-0.1
	1.7nm,1.1s,baz=138,slow=4.0,SNR=7.8								
BRTR	**Keskin Array B**	**149.74**	**68**	PKPbc		PKPbc		22 12 41.4	-0.6
	3.1nm,1.0s,baz=211,slow=2.2,SNR=14								
SONM	**Songino Array**	**150.13**	**308**	PKPbc		PKPbc		22 12 41.2	-1.5
	2.8nm,1.0s,baz=107,slow=2.9,SNR=11								
CMAR	**Chiang Mai Arr**	**150.65**	**245**	PKPbc		PKPbc		22 12 44.0	-0.6
	5.9nm,0.9s,baz=181,slow=1.5,SNR=30								

IDC 03 22:00:20.6±5.6, 21°.67N×142°.91E, h330km±58km, mb3.0/11, mb1 3.2/12, mb1mx3.1/27, mbtmp3.0/12, Error ellipse: s-maj=25.3km s-min=14.8km az=88.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.37**	**346**	P		P	P	22 03 39.7	-0.4
	0.3nm,0.3s,baz=167,slow=10.0,SNR=4.0								
KSRS	**Korea Array**	**20.38**	**324**	P		P	P	22 04 33.4	0.0
	1.3nm,0.5s,baz=148,slow=9.6,SNR=6.1								
CMAR	**Chiang Mai Arr**	**41.32**	**274**	P		P	P	22 07 35.7	+0.3
	0.4nm,0.4s,baz=74,slow=6.8,SNR=3.7								
WRA	**Warramunga Arr**	**42.20**	**19**	P		P	P	22 07 41.7	-0.5
	0.3nm,0.6s,baz=14,slow=8.2,SNR=7.9								
ASAR	**Alice Springs**	**45.91**	**192**	P		P	P	22 08 11.5	+0.1
	0.2nm,0.3s,baz=15,slow=6.7,SNR=4.8								
ZALV	**Zalesovo Beam**	**54.07**	**322**	P		P	P	22 09 11.5	-0.3
	0.4nm,0.5s,baz=125,slow=9.0,SNR=3.1								
MKAR	**Makanchi Array**	**54.53**	**313**	P		P	P	22 09 15.3	0.0
	0.2nm,0.5s,baz=92,slow=11,SNR=5.3								
ILAR	**Eielson Array**	**62.17**	**27**	P		P	P	22 10 07.0	-0.4
	0.7nm,0.6s,baz=254,slow=5.4,SNR=7.2								
BVAR	**Borovoye Array**	**62.52**	**320**	P		P	P	22 10 09.9	0.0
	1.0nm,0.4s,baz=97,slow=6.3,SNR=8.1								
YKA	**Yellowknife Ar**	**76.59**	**28**	P		P	P	22 11 35.6	+0.6
	0.4nm,0.5s,baz=293,slow=5.7,SNR=3.4								
JOF	**Joensuu**	**80.23**	**334**	*ep*		P	P	22 11 54.4	-0.3
	1.3nm,0.3s								
KAF	**Kangasniemi**	**82.63**	**335**	*ep*		P	P	22 12 06.6	-0.6
	0.3nm,0.3s								
FINES	**FINESS Array B**	**83.09**	**334**	P		P	P	22 12 08.9	-0.6
	1.0nm,0.5s,baz=70,slow=4.1,SNR=16								
NVAR	**Mina Array Bea**	**83.36**	**51**	P		P	P	22 12 12.6	+0.8
	0.3nm,0.5s,baz=272,slow=5.3,SNR=2.7								

IDC 03 22:02:14.5±4.9, 24°.67N×109°.44W, h0km, mb3.3/2, mb1 3.8/5, mb1mx3.6/23, mbtmp3.4/5, ML3.5/2, MS3.2/3, Ms1 3.2/3, ms1mx2.8/21, Error ellipse: s-maj=76.1km s-min=27.0km az=161.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**6.94**	**47**	Pn		Pn	Pn	22 03 57.7	+0.1
	0.3nm,0.3s,baz=228,slow=14,SNR=14								
TXAR				Pg		Pg		22 04 25.5	-2.1
	0.3nm,0.3s,baz=232,slow=14,SNR=6.8								
TXAR				Lg		Lg		22 05 53.1	
	0.5nm,0.3s,baz=246,slow=27,SNR=5.2								
PFO	**Pinyon Flat Ob**	**10.81**	**327**	LR			LR	22 08 54.6	
	comp=Z,82nm,18.9s,baz=128,slow=37								
NVAR	**Mina Array Bea**	**15.65**	**333**	Pn			P	22 05 59.7	-1.3
	0.1nm,0.3s,baz=164,slow=13,SNR=9.5								
PDAR	**Pinedale Array**	**18.05**	**360**	Pn			P	22 06 30.0	+2.3
	baz=165,slow=12,SNR=4.9								
TEIG	**Tepich**	**20.05**	**99**	LR			LR	22 17 06.7	
	comp=Z,46nm,18.9s,baz=100,slow=44								
TKL	**Tuckaleechee C**	**24.68**	**58**	LR			LR	22 18 03.0	
	comp=Z,92nm,18.2s,baz=73,slow=38								
YKA	**Yellowknife Ar**	**37.97**	**356**	P			P	22 09 35.1	+1.3
	0.7nm,0.9s,baz=175,slow=8.1,SNR=5.4								
ILAR	**Eielson Array**	**46.80**	**339**	P			P	22 10 44.5	-1.1
	0.2nm,0.7s,baz=145,slow=6.8,SNR=3.5								

*IDC **03** 22:06:12.3±0.8, 3°.89S×135°.08E, h0km, mb4.1/8, mb1 4.4/11, mb1mx4.1/20, mbtmp4.3/11, ML4.3/3, MS3.7/3, Ms1 3.6/3, ms1mx3.0/28, Error ellipse: s-maj=42.0km s-min=16.8km az=61.0*
*ISCJB **03** 22:06:13.5±0.4, 4°.12S±0°.04×134°.94E±0°.04, h23km, mb4.0/8, MS3.5/2, Error ellipse: s-maj=6.1km s-min=4.9km az=19.3*
*AUST **03** 22:06:18.8, 4°.45S×135°.03E, h20km*
*DJA **03** 22:06:18.9±0.5, 4°.5S±0°.5×13°.5E±°, h45km±22km, M4.9/6, mB6.2/1, mb4.9/6, MLv4.9/5, Mw(mB)5.8/1*

ISC 03 22:06:15.9±0.6, 4°.09S±0°.06×134°.91E±0°.05, h23km, n35, σ2s16/37, mb4.1/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**2.57**	**31**	P		**Pn**		**22 06 53.4**	**-2.8**
RKPI	**Ransiki, Papua**	**2.66**	**344**	P		**Pn**		**22 06 57.0**	**-0.4**
FAKI	**Fak Fak**	**2.89**	**294**	P		**Pn**		**22 07 01.2**	**+0.6**
BAKI	**Biak**	**3.12**	**23**	P		**Pn**		**22 07 00.5**	**-3.2**
BNDI	**Bandanaira**	**5.00**	**265**	S		Sn		22 08 17.5	-9.4
	baz=5.1,SNR=4.9								
JAY	**Jayapura**	**6.00**	**75**	P		**Pn**		**22 07 45.3**	**+2.0**
	37nm,0.7s,18µm1.2nm								
JAY	**Jayapura**	**6.00**	**75**	P		**Pn**		**22 07 44.4**	**+1.1**
	baz=6.0,SNR=8.5								
JAY				S		**Sn**		**22 08 53.8**	**+2.4**
	baz=6.0,SNR=5.4								
LBMI	**Labuha**	**8.15**	**295**	P		**Pn**		**22 08 13.9**	**+1.0**
	68nm,1.2s								
KDU	**Kakadu**	**8.88**	**196**	P		**Pn**		**22 08 24.0**	**+1.2**
	baz=8.6,SNR=21								
KDU				S		**Sn**		**22 10 02.9**	**+0.7**
	baz=8.6,SNR=7.6								
MTN	**Manton Dam**	**9.47**	**203**	P		**Pn**		**22 08 33.6**	**+2.7**
	baz=9.2,SNR=5.3								
MTN				S		**Sn**		**22 10 13.2**	**-3.5**
	baz=9.2,SNR=5.9								
LUWI	**Luwuk**	**12.49**	**284**	S		Sn		22 11 56.5	+26
	baz=13,SNR=4.7								
MANU	**Manus Island**	**12.61**	**81**	P		Pn		22 08 58.6	-15
	baz=13,SNR=4.7								
MANU				S		**Sn**		**22 11 33.5**	**-0.2**
	baz=13,SNR=3.9								
COEN	**Coen**	**12.76**	**141**	P		**Pn**		**22 09 13.3**	**-2.7**
	baz=12,SNR=27								
KNRA	**Kununurra**	**13.01**	**207**	P		**Pn**		**22 09 19.3**	**-0.1**
	baz=13,SNR=27								
KNRA				S		**Sn**		**22 11 40.3**	**-3.2**
	baz=13,SNR=6.8								
PMG	**Port Moresby**	**13.26**	**114**	P		**Pn**		**22 09 26.0**	**+3.1**
	40nm,0.8s								
PMG	**Port Moresby**	**13.26**	**114**	Pn		**Pn**		**22 09 22.4**	**-0.5**
	1.0nm,0.3s,baz=264,slow=19,SNR=2.7								
WRA	**Warramunga Arr**	**15.77**	**182**	Pn		**Pn**		**22 09 52.8**	**-3.8**
	0.8nm,0.3s,baz=6.1,slow=13,SNR=26								
WRA				Sn		Sn		22 12 40.1	-11
	1.5nm,0.3s,baz=2.9,slow=22,SNR=5.6								
FITZ	**Fitzroy Crossi**	**16.62**	**212**	Pn		**Pn**		**22 10 05.8**	**-1.7**
	1.7nm,0.3s,baz=41,slow=9.2,SNR=25								
FITZ				Sn		Sn		22 13 02.0	-10
	2.0nm,0.3s,baz=189,slow=15,SNR=8.2								
FITZ	**Fitzroy Crossi**	**16.62**	**212**	P		**Pn**		**22 10 07.5**	**0.0**
	baz=16,SNR=6.6								
FITZ				S		**Sn**		**22 13 05.0**	**-6.6**
	baz=16,SNR=5.5								
MTSU	**Mount Surprise**	**16.73**	**147**	P		**Pn**		**22 10 07.7**	**-1.2**
	baz=16,SNR=9.8								
QIS	**Mount Isa**	**17.00**	**165**	P		**P**		**22

ATH ***03*** *22:32:38.9, 33°.86N × 25°.31E, h9km ± 4km, MD3.6/7*
ISCJB ***03*** *22:32:39.8 ± 1.2, 33°.96N ± 0°.03 × 25°.39E ± 0°.05, h6km ± 9km, mb3.5/5, Error ellipse: s-maj=7.5km s-min=4.8km az=164.5*
IDC ***03*** *22:32:40.0 ± 1.1, 33°.93N × 25°.26E, h0km, mb3.6/5, mb1 3.6/9, mb1mx3.5/28, mbtmp3.5/9, ML3.2/4, Error ellipse: s-maj=32.1km s-min=19.4km az=164.0*
CSEM ***03*** *22:32:40.9 ± 0.3, 34°.01N × 25°.36E, h2km, MD3.6, Error ellipse: s-maj=9.4km s-min=4.9km az=76.0*
THE ***03*** *22:32:45.2, 34°.09N × 25°.23E, h33km ± 35km, Error ellipse: s-maj=35.3km s-min=2.2km az=349.0*

ISC 03 22:32:40.4 ± 1.5, 34°.00N ± 0°.04 × 25°.32E ± 0°.05, h3km ± 10km, n41, σ 1°.23/58, mb3.7/5, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.10**	**338**	P	**Pb**	**22 33 02.1**	**-0.1**
SIVA				S	**Sg**	**22 33 15.5**	**-0.3**
SIVA	**Sivas**	**1.10**	**338**	*e*PB	**Pb**	**22 33 02.0**	**-0.1**
SIVA				*e*SB	**Sn**	**22 33 19.4**	**+0.9**
SIVA	**Sivas**	**1.10**	**338**	*e*Pb	**Pb**	**22 33 02.0**	**-0.1**
SIVA				S	**Sg**	**22 33 15.5**	**-0.3**
SIVA				*e*Sb	**Sn**	**22 33 19.4**	**+0.9**
LAST	**Lasithi**	**1.17**	**6**	P	**Pn**	**22 33 03.6**	**-0.2**
LAST				S	**Sg**	**22 33 17.7**	**-0.3**
LAST	**Lasithi**	**1.17**	**6**	*e*PG	**Pg**	**22 33 03.0**	**+0.2**
LAST	**Lasithi**	**1.17**	**6**	*e*Pg	**Pg**	**22 33 03.0**	**+0.2**
LAST	**Lasithi**	**1.17**	**6**	P	**Pn**	**22 33 03.6**	**-0.2**
LAST				S	**Sg**	**22 33 17.7**	**-0.3**
NPS	**Neapolis**	**1.28**	**11**	P	**Pn**	**22 33 05.0**	**-0.3**
NPS				S	**Sb**	**22 33 20.1**	**-2.1**
NPS	**Neapolis**	**1.28**	**11**	*e*PB	**Pn**	**22 33 05.2**	**-0.1**
NPS				*e*SB	**Sn**	**22 33 24.4**	**+1.3**
NPS	**Neapolis**	**1.28**	**11**	P	**Pn**	**22 33 05.0**	**-0.3**
NPS				S	**Sb**	**22 33 20.1**	**-2.1**
NPS				*e*Sb	**Sn**	**22 33 24.4**	**+1.3**
IDI	**Anoyia**	**1.33**	**345**	P	**Pn**	**22 33 05.0**	**-1.1**
IDI				S	**Sb**	**22 33 20.0**	**-3.7**
IDI	**Anoyia**	**1.33**	**345**	*e*PB	**Pg**	**22 33 06.5**	**+0.5**
IDI				*e*SB	**Sn**	**22 33 26.9**	**+2.5**
IDI	**Anoyia**	**1.33**	**345**	P	**Pn**	**22 33 05.0**	**-1.1**
IDI	**Anoyia**	**1.33**	**345**	*e*Pb	**Pg**	**22 33 06.5**	**+0.5**
IDI				*e*Sb	**Sn**	**22 33 26.9**	**+2.5**
ZKR	**Zakros**	**1.34**	**33**	P	**Pg**	**22 33 07.0**	**+0.9**
ZKR				S	**Sb**	**22 33 23.1**	**-0.6**
ZKR	**Zakros**	**1.34**	**33**	*e*PB	**Pg**	**22 33 07.0**	**+0.9**
ZKR	**Zakros**	**1.34**	**33**	P	**Pg**	**22 33 07.0**	**+0.9**
ZKR				S	**Sb**	**22 33 23.1**	**-0.6**
VAM	**Vamos**	**1.68**	**327**	P	**Pn**	**22 33 09.8**	**-1.0**
VAM	**Vamos**	**1.68**	**327**	*e*PG	**Pb**	**22 33 12.1**	**+0.1**
VAM	**Vamos**	**1.68**	**327**	P	**Pn**	**22 33 09.8**	**-1.0**
VAM	**Vamos**	**1.68**	**327**	*e*Pg	**Pb**	**22 33 12.1**	**+0.1**
KARP	**Karpathos**	**2.17**	**44**	P	**Pn**	**22 33 17.2**	**-0.3**
KARP	**Karpathos**	**2.17**	**44**	P	**Pn**	**22 33 17.2**	**-0.3**
SLUM		**2.50**	**182**	P	**Pn**	**22 33 23.0**	**+1.0**
HMAT	**Matruh**	**3.26**	**152**	P	**Pn**	**22 33 33.3**	**+0.8**
HMAT				S	**Sn**	**22 34 10.4**	**-1.4**
VLI	**Veliai**	**3.34**	**325**	*e*PN	**Pn**	**22 33 35.9**	**+2.3**
VLI	**Veliai**	**3.34**	**325**	*e*Pn	**Pn**	**22 33 35.9**	**+2.3**
ITM	**Ithomi**	**4.21**	**320**	*e*PN	**Pn**	**22 33 47.7**	**+2.2**
ITM	**Ithomi**	**4.21**	**320**	*e*Pn	**Pn**	**22 33 47.7**	**+2.2**
SWA2		**4.74**	**179**	P	**Pn**	**22 33 54.2**	**+1.4**
AMAG	**Maghara**	**7.47**	**114**	P	**Pn**	**22 34 29.8**	**-0.5**
MMAI	**Mount Meron Ar**	**8.48**	**94**	Pn	**Pn**	**22 34 44.0**	**-0.3**
	0.6nm,0.3s,baz=267,slow=10,SNR=4.0						
MMAI				Sn	**Sn**	**22 36 19.7**	**-0.8**
	1.0nm,0.3s,baz=263,slow=20,SNR=3.8						
BRTR	**Keskin Array B**	**8.78**	**47**	Pn	**Pn**	**22 34 50.0**	**+1.6**
	0.1nm,0.3s,baz=238,slow=14,SNR=3.2						
EIL	**Eilat**	**9.26**	**115**	Pn	**Pn**	**22 34 54.8**	**0.0**
	0.2nm,0.3s,baz=319,slow=11,SNR=4.4						
GERES	**GERESS Array B**	**17.17**	**333**	P	**P**	**22 36 42.1**	**-0.9**
	0.1nm,0.3s,baz=153,slow=12,SNR=12						
CLL	**Collm**	**19.48**	**336**	*e*(P)	**Pn**	**22 37 09.0**	**-0.5**
CLL				*e*		22 37 16.0	
ESDC	**Sonseca Array**	**24.05**	**292**	P	**P**	**22 37 56.4**	**-0.5**
	0.5nm,0.8s,baz=82,slow=8.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**29.86**	**232**	P	**P**	**22 38 48.7**	**-0.5**
	0.5nm,0.7s,baz=33,slow=8.3,SNR=7.9						
MKAR	**Makanchi Array**	**44.31**	**56**	P	**P**	**22 40 52.7**	**+1.1**
	1.3nm,0.5s,baz=277,slow=6.5,SNR=23						
ZALV	**Zalesovo Beam**	**45.72**	**45**	P	**P**	**22 41 02.2**	**-0.4**
	0.5nm,0.4s,baz=268,slow=9.3,SNR=3.3						
SONM	**Songino Array**	**60.12**	**50**	P	**P**	**22 42 50.1**	**+0.8**
	0.4nm,0.6s,baz=270,slow=7.2,SNR=3.2						

CASC 03 22:36:18.4 ± 2.8, 13°.87N × 91°.41W, h21km ± 21km, MD3.5, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.50**	**334**	*e*P	Pn	22 36 30.5	+0.2
FUG	**Fuego 3**	**0.80**	**44**	*e*P	Pb	22 36 33.4	-0.5
PCG	**Pacaya**	**0.94**	**56**	*e*P	Pb	22 36 36.1	-0.2
PCG				*e*S	Sb	22 36 48.6	+0.1
IXG	**Ixpaco**	**0.97**	**72**	*e*P	Pb	22 36 36.8	0.0
IXG				*e*S	Sn	22 36 50.4	0.0
NBG	**Las Nubes**	**1.25**	**55**	*e*P	Pb	22 36 41.6	-0.2
NBG				*e*S	Sb	22 36 58.5	+0.8
RTR	**El Retiro**	**1.71**	**89**	*e*P	Pn	22 36 46.5	-0.7
SBLS	**San Blas**	**1.73**	**91**	*e*P	Pn	22 36 46.9	-0.7
BOQS	**Boqueron**	**2.07**	**93**	*e*P	Pn	22 36 51.9	-0.3
BOQS				*e*S	Sb	22 37 19.9	-1.2
SNVI	**San Vicente**	**2.51**	**95**	*e*P	Pn	22 36 56.7	-1.5
SNVI				*e*S	Sb	22 37 31.4	-2.2

NIED ***03*** *22:46:00, 36°.70N × 141°.30E, h38km, Mw3.9 Best double couple: M0 7.33000 × 10^14 NP1: φ=20.00000°, δ=88.00000°, λ=82.00000°. NP2: φ=275.00000°, δ=8.00000°, λ=165.00000°.*
JMA ***03*** *22:46:38.3 ± 0.1, 36°.69N × 141°.26E, h46km ± 2km, M3.5*
JMA Felt I J1
IDC ***03*** *22:46:41.8 ± 5.7, 35°.23N × 140°.61E, h107km ± 30km, mb3.3/6, mb1 3.3/8, mb1mx3.2/26, mbtmp3.2/8, MS2.9/3, Ms1 2.9/3, ms1mx2.6/23, Error ellipse: s-maj=67.2km s-min=23.8km az=171.0*

ISC 03 22:46:39.0 ± 2.5, 36°.75N ± 0°.08 × 141°.2E ± 0°.1, h27km ± 13km, n15, σ 1°.33/17, mb3.5/5, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.46**	**320**	||P	**Pn**	**22 46 49.7**	**-0.2**
ONAJ				S	**Sn**	**22 46 57.9**	**+0.6**
JHO	**Hitachi**	**0.51**	**254**	||P	**Pn**	**22 46 49.9**	**+0.5**
JHO				S	**Sn**	**22 46 58.4**	**+0.2**
JFK	**Kawauchi**	**0.66**	**339**	||P	**Pn**	**22 46 52.2**	**+0.1**
JFK				S	**Sn**	**22 47 01.9**	**-0.3**
JYT	**Yasato**	**0.94**	**237**	||P	**Pn**	**22 46 55.7**	**-0.8**
JAG	**Ashikaga**	**1.42**	**257**	P	**Pn**	**22 47 03.3**	**+0.3**
MJAR	**Matsushiro Arr**	**2.39**	**266**	P	**Pn**	**22 47 17.9**	**+1.5**
	7.8nm,0.3s,baz=99,slow=9.7,SNR=110						
MJAR				S	**Sb**	**22 47 47.7**	**-2.8**
	5.1nm,0.3s,baz=11,slow=32,SNR=8.1						
MAT	**Matsushiro**	**2.40**	**266**	P	**Pn**	**22 47 18.5**	**+2.1**
MAT				S	**Sb**	**22 47 50.8**	**+0.2**
ASAJ	**Asahikawa**	**7.44**	**8**	LR	LR	22 51 58.4	
	comp=Z,76nm,19.3s,baz=169,slow=35						
KSRS	**Korea Array**	**10.61**	**278**	P	**Pn**	**22 49 10.1**	**+1.0**
	0.0nm,0.3s,baz=89,slow=13,SNR=3.4						
KSRS				LR	LR	22 53 05.9	
	comp=Z,69nm,19.5s,baz=95,slow=37						
PETK	**Petropavlovsk-**	**20.03**	**30**	P	Pn	22 51 22.5	+11
	1.2nm,0.9s,baz=173,slow=13,SNR=2.1						
PETK				LR	LR	22 58 35.3	
	comp=Z,22nm,20.5s,baz=280,slow=33						
SONM	**Songino Array**	**27.79**	**304**	P	**P**	**22 52 24.0**	**-1.7**
	1.5nm,0.7s,baz=105,slow=8.1,SNR=9.0						
ZALV	**Zalesovo Beam**	**41.97**	**313**	P	**P**	**22 54 28.4**	**+1.1**
	0.6nm,0.5s,baz=101,slow=7.0,SNR=3.4						
MKAR	**Makanchi Array**	**44.11**	**302**	P	**P**	**22 54 43.6**	**-1.2**
	0.3nm,0.6s,baz=90,slow=12,SNR=5.3						
ILAR	**Eielson Array**	**49.84**	**32**	P	P	22 55 35.7	+6.4
	0.1nm,0.5s,baz=356,slow=9.1,SNR=4.2						
FINES	**FINESS Array B**	**68.98**	**332**	P	**P**	**22 57 41.5**	**+0.1**
	3.7nm,1.1s,baz=38,slow=7.0,SNR=2.3						

IDC 03 22:49:47.6 ± 3.4, 25°.38N × 109°.51W, h0km, mb3.4/2, mb1 3.9/7, mb1mx3.7/25, mbtmp3.5/7, ML3.2/4, MS3.4/11,
Ms1 3.4/11, ms1mx3.2/27, Error ellipse: s-maj=45.7km s-min=21.9km az=167.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**6.52**	**52**	Pn	Pn	22 51 23.9	-1.1
	0.3nm,0.3s,baz=232,slow=14,SNR=20						
TXAR				Pg	Pg	22 51 52.8	+0.1
	0.3nm,0.3s,baz=222,slow=15,SNR=14						
TXAR				Lg	Lg	22 53 14.2	
	0.4nm,0.3s,baz=228,slow=22,SNR=4.0						
ANMO	**Albuquerque**	**9.89**	**15**	Pn	Pn	22 52 10.9	-0.4
	0.1nm,0.3s,baz=217,slow=15,SNR=9.0						
ANMO				Lg	Lg	22 55 03.6	
	0.1nm,0.3s,baz=150,slow=20,SNR=3.4						
ANMO				LR	LR	22 56 28.9	
	comp=Z,377nm,19.0s,baz=198,slow=41						
PFO	**Pinyon Flat Ob**	**10.19**	**325**	Pn	Pn	22 52 16.4	+1.2
	0.8nm,0.3s,baz=119,slow=8.9,SNR=7.6						
NVAR	**Mina Array Bea**	**14.99**	**332**	Pn	Pn	22 53 22.1	+1.1
	0.0nm,0.3s,baz=139,slow=12,SNR=4.7						
NVAR				LR	LR	22 59 45.5	
	comp=Z,74nm,18.5s,baz=116,slow=40						
PDAR	**Pinedale Array**	**17.34**	**360**	P	Pn	22 53 52.0	+0.6
	baz=169,slow=8.8,SNR=5.9						
YBH	**Yreka Blue Hor**	**19.63**	**329**	LR	LR	23 02 06.4	
	comp=Z,79nm,18.2s,baz=148,slow=38						
TEIG	**Tepich**	**20.23**	**100**	LR	LR	23 03 09.7	
	comp=Z,135nm,20.8s,baz=320,slow=40						
NEW	**Newport**	**23.61**	**347**	LR	LR	23 05 39.9	
	comp=Z,64nm,18.6s,baz=342,slow=40						
TKL	**Tuckaleechee C**	**24.36**	**59**	LR	LR	23 04 56.9	
	comp=Z,122nm,19.1s,baz=80,slow=37						
ULM	**Lac du Bonnet**	**26.98**	**19**	LR	LR	23 06 03.1	
	comp=Z,90nm,21.8s,baz=66,slow=36						
BBB	**Bella Bella**	**30.26**	**337**	LR	LR	23 07 41.2	
	comp=Z,76nm,19.9s,baz=147,slow=36						
DLBC	**Dease Lake**	**36.08**	**342**	LR	LR	23 11 42.9	
	comp=Z,118nm,18.0s,baz=315,slow=36						
YKA	**Yellowknife Ar**	**37.26**	**356**	P	P	22 57 00.8	+0.1
	0.1nm,0.3s,baz=171,slow=8.0,SNR=5.5						
YKA				LR	LR	23 12 22.1	
	comp=Z,14nm,18.8s,baz=305,slow=36						
SCHQ	**Schefferville**	**42.91**	**35**	LR	LR	23 16 41.8	
	comp=Z,72nm,19.3s,baz=54,slow=38						
ILAR	**Eielson Array**	**46.11**	**339**	P	P	22 58 14.1	+0.8
	0.8nm,0.8s,baz=142,slow=7.1,SNR=7.6						

MOS ***03*** *22:58:56.6 ± 1.2, 3°.89N × 126°.72E, h33km, mb4.9/24, Error ellipse: s-maj=14.4km s-min=6.9km az=111.8*
BKK ***03*** *22:58:56.2 ± 0.5, 4°.N ± 4° × 12°.7E ± °, h10km, MS.3/17, mB6.0/4, mb5.0/17, MLv5.3/3, Mw(mB)5.6/4*
NEIC ***03*** *22:58:57.6 ± 3.0, 3°.89N × 126°.72E, h28km ± 21km, mb4.8/23, Error ellipse: s-maj=10.8km s-min=5.4km az=74.0*
BJI ***03*** *22:58:58.6, 4°.00N × 126°.90E, h41km, mB4.9/20, mb4.9/33, Ms4.4/22, Ms7 3.9/22*
AUST ***03*** *22:58:58.8 ± 0.6, 3°.86N × 126°.55E, h41km, Error ellipse: s-maj=1.2km s-min=1.0km az=293.0*
ISCJB ***03*** *22:58:59.3 ± 0.5, 3°.83N ± 0°.03 × 126°.76E ± 0°.04, h56km ± 5km, mb4.7/79, MS3.8/20, Error ellipse: s-maj=6.4km s-min=4.1km az=158.6*
IDC ***03*** *22:59:00.4 ± 1.8, 3°.82N × 126°.59E, h50km ± 17km, mb4.2/29, mb1 4.3/30, mb1mx4.2/34, mbtmp4.2/30, ML4.4/1, MS3.7/14, Ms1 3.7/14, ms1mx3.4/44, Error ellipse: s-maj=18.4km s-min=8.6km az=79.0*
DJA ***03*** *22:59:07.5 ± 1.0, 3°.N ± 10°.× 12°.7E ± °, h15km, M4.9/3, mb4.9/2, mB5.2/2, MLv4.8/3, Mw(mB)4.6/2*

ISC 03 22:58:59.8 ± 0.3, 3°.88N ± 0°.03 × 126°.78E ± 0°.05, h43km ± 2km, h43km: pP-P, n204, σ 1°.77/252, mb4.7/77, MS3.7/21, 2C-4D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**3.09**	**350**	*e*P	Pn	22 59 49.9	+3.8
MNI	**Manado**	**3.10**	**219**	P	**Pn**	**22 59 45.6**	**-0.7**
TNTI	**Ternate**	**3.15**	**169**	P	**Pn**	**22 59 46.5**	**-0.4**
DAV	**Davao City (W)**	**3.38**	**339**	*e*Pn	**Pn**	**22 59 48.0**	**-2.2**
DAV	**Davao City (W)**	**3.38**	**339**	P	Pn	22 59 54.2	+4.1
	47nm,0.3s,baz=63,slow=4.5,SNR=2.8						
DAV				LR	LR	23 01 29.0	
	comp=Z,820nm,20.1s,baz=182,slow=44						
CTBH	**Cotabato--PC H**	**4.17**	**323**	*i* P	**Pn**	**23 00 03.3**	**+2.4**
KMSI	**Cibinong**	**4.32**	**220**	P	**Pn**	**23 00 03.1**	**+0.1**
KMSI				S	Sn	23 00 45.9	-6.2
BUKP	**Musuan**	**4.32**	**337**	*e*P	**Pn**	**23 00 06.1**	**+3.0**
LBMI	**Labuha**	**4.55**	**171**	P	**Pn**	**23 00 07.5**	**+1.3**
GTOI	**Gorontalo**	**4.96**	**230**	P	**Pn**	**23 00 11.5**	**-0.3**
GTOI				S	**Sn**	**23 01 04.9**	**-3.0**
CGP	**Cagayan de Oro**	**4.99**	**336**	*i*,*e*P	Pn	23 00 17.8	+5.5
CGP				*e*S	Sn	23 01 21.9	+13
PAGZ	**Pagadian**	**5.19**	**320**	*e*P	**Pn**	**23 00 16.2**	**+1.2**
IPIL	**Ipil**	**5.71**	**313**	*e*P	Pn	23 00 18.0	-4.1
MRSI	**Marisa**	**5.90**	**235**	P	**Pn**	**23 00 25.7**	**+1.0**
LUWI	**Luwuk**	**6.32**	**219**	P	**Pn**	**23 00 31.8**	**+1.3**
LUWI	**Luwuk**	**6.32**	**219**	P	Pn	23 00 34.5	+4.0
	baz=6.2,SNR=14						
MYLDM	**Lahad Datu**	**8.35**	**279**	P	**Pn**	**23 01 00.7**	**+2.3**
PALU	**Palau**	**8.39**	**65**	P	**Pn**	**23 01 01.5**	**+2.5**
	baz=8.6,SNR=6.2						
FAKI	**Fak Fak**	**8.69**	**141**	P	**Pn**	**23 01 05.3**	**+2.2**
	baz=8.9,SNR=13						
TSM	**Tawau**	**8.89**	**273**	P	**Pn**	**23 01 06.0**	**+0.2**
SDKM	**Sandakan**	**9.71**	**281**	P	**Pn**	**23 01 17.2**	**+0.2**
TTSI	**Tana Toraja**	**9.79**	**225**	P	**Pn**	**23 01 20.3**	**+2.3**
	84nm,1.5s,1μm						
KDM	**Kudat**	**10.35**	**287**	P	**Pn**	**23 01 28.9**	**+3.1**
BAKI	**Biak**	**10.60**	**118**	P	Pn	23 01 35.0	+5.8
KKM	**Kota Kinabalu**	**10.74**	**282**	P	**Pn**	**23 01 33.3**	**+2.1**
KAPI	**Kappang**	**11.29**	**219**	*e*Pn	Pn	23 01 42.4	+3.8
KAPI	**Kappang**	**11.29**	**219**	P	**Pn**	**23 01 38.3**	**-0.3**
	2.8nm,0.3s,baz=161,slow=19,SNR=6.0						
KAPI				LR	LR	23 06 28.5	
	comp=Z,574nm,19.9s,baz=45,slow=40						
BTM	**Bintulu**	**13.69**	**268**	P	**Pn**	**23 02 12.5**	**+1.1**
SBUM	**Sibu**	**14.61**	**265**	P	**Pn**	**23 02 24.2**	**+0.4**
JAY	**Jayapura**	**15.30**	**114**	P	**P**	**23 02 39.4**	**+2.3**
	baz=16,SNR=10						
KSM	**Kuching**	**16.63**	**262**	P	**P**	**23 02 53.4**	**+1.6**
MTN	**Manton Dam**	**17.17**	**165**	P	**Pn**	**23 02 56.3**	**-0.4**
	baz=17,SNR=16						
KDU	**Kakadu**	**17.41**	**161**	P	**Pn**	**23 02 59.1**	**-0.5**
	baz=18,SNR=9.8						
KNRA	**Kununurra**	**19.53**	**174**	P	**P**	**23 03 24.6**	**+0.8**
	baz=20,SNR=6.0						
YULB	**Yu-li**	**20.11**	**345**	*e*P	**P**	**23 03 27.7**	**-2.4**
	18nm,0.9s						
YULB				*e*Sn	**S**	**23 07 14.7**	**+1.0**
TPUB	**Ta-pu**	**20.20**	**343**	*e*P	**P**	**23 03 29.6**	**-1.5**
	41nm,1.1s						
SSLB	**Suanglung**	**20.57**	**345**	*e*P	**P**	**23 03 33.7**	**-1.5**
	17nm,0.8s						
YHNB	**Yeheng**	**21.31**	**346**	*e*P	**P**	**23 03 41.6**	**-1.5**
	14nm,0.4s						
MANU	**Manus Island**	**21.40**	**106**	S	S	23 07 27.4	-12
	baz=22,SNR=4.6						
FITZ	**Fitzroy Crossi**	**21.88**	**183**	*e*P	**P**	**23 03 48.0**	**-1.1**
	16nm,1.0s						
FITZ	**Fitzroy Crossi**	**21.88**	**183**	P	**P**	**23 03 46.9**	**-2.2**
	3.4nm,0.4s,baz=11,slow=7.5,SNR=6.6						
FITZ	**Fitzroy Crossi**	**21.88**	**183**	P	**P**	**23 03 48.5**	**-0.6**
	baz=22,SNR=14						
QIZ	**Qiongzhong**	**22.37**	**314**	P	**P**	**23 03 55.6**	**+1.1**
QIZ				S	**S**	**23 08 00.0**	**+2.2**
QIZ				pmax	pmax		
	comp=Z,23nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,190nm,3.0s						
QIZ				LR	LR		
	comp=Z,230nm,20.6s						
MYKOM	**Kota Tinggi**	**23.00**	**265**	P	**P**	**23 04 03.6**	**+2.5**
KGM	**Kluang**	**23.50**	**266**	P	**P**	**23 04 09.8**	**+3.7**
KTGM	**Kuala Trenggan**	**23.61**	**274**	P	**P**	**23 04 07.7**	**+0.6**
UBPT	**Khong Chiam**	**23.84**	**300**	P	**P**	**23 04 09.1**	**-0.1**
	comp=Z,67nm,1.1s,comp=Z,826nm						
PMG	**Port Moresby**	**24.22**	**123**	LR	LR	23 13 43.5	
	comp=Z,175nm,21.4s,baz=43,slow=36						
WRAB	**Tennant Creek**	**24.81**	**163**	*e*P	**P**	**23 04 17.0**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,25nm,0.8s						
WRAB	**Tennant Creek**	**24.81**	**163**	*e*P	**P**	**23 04 17.0**	**-1.0**
	comp=Z,24nm,0.8s						
WRA	**Warramunga Arr**	**24.82**	**163**	P	**P**	**23 04 16.6**	**-1.5**
WRA	**Warramunga Arr**	**24.82**	**163**	P	**P**	**23 04 16.6**	**-1.5**
	comp=Z,25nm,0.9s,baz=343,slow=10,SNR=43						
FRIM	**Kepong**	**25.11**	**269**	P	**P**	**23 04 23.6**	**+2.7**
PANO	**Nakornpanom**	**25.43**	**303**	P	P	23 04 28.5	+4.8
	comp=Z,259nm,0.7s						
IPM	**Ipoh**	**25.69**	**272**	P	**P**	**23 04 29.2**	**+3.0**
MBWA	**Marble Bar**	**25.83**	**195**	*e*P	**P**	**23 04 27.0**	**-0.2**
	comp=Z,95nm,1.6s						
SKNT	**Sakolnakorn**	**25.88**	**302**	P	**P**	**23 04 29.7**	**+1.9**
	comp=Z,80nm,0.9s						
KULM	**Kulim**	**26.08**	**274**	P	**P**	**23 04 33.8**	**+4.2**
CHAI	**Chaiyaphum**	**27.14**	**298**	P	**P**	**23 04 41.8**	**+2.6**
	comp=Z,5.0nm,0.9s						
NAYO	**Nakonayok**	**27.16**	**294**	P	P	23 04 46.0	+6.7
	comp=Z,486nm,0.7s						
PSI	**Prapat**	**27.83**	**269**	P	**P**	**23 04 47.1**	**+1.5**
PSI	**Prapat**	**27.83**	**269**	P	**P**	**23 04 47.1**	**+1.5**
	comp=Z,4.6nm,0.7s,baz=1.7,slow=2.3,SNR=4.1						
ASAR	**Alice Springs**	**28.25**	**166**	P	**P**	**23 04 49.1**	**+0.1**
ASAR				S	**S**	**23 09 31.4**	**-0.8**
ASAR	**Alice Springs**	**28.25**	**166**	P	**P**	**23 04 49.1**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=342,slow=7.6,SNR=17						
ASAR				S	**S**	**23 09 31.4**	**-0.8**
	comp=Z,1.8nm,1.0s,baz=350,slow=20,SNR=5.2						
PBKT	**Sadao Pong**	**28.30**	**298**	P	P	23 04 53.8	+4.2
	comp=Z,11nm,0.8s						
NJ2	**Nanjing**	**28.99**	**346**	*e*P	**P**	**23 04 55.8**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
JNU	**Nakatsue**	**29.34**	**7**	P	**P**	**23 04 59.1**	**+0.5**
JNU	**Nakatsue**	**29.34**	**7**	P	**P**	**23 04 59.1**	**+0.5**
	comp=Z,8.4nm,1.0s,baz=152,slow=4.0,SNR=3.8						
JNU				LR	LR	23 15 59.8	
	comp=Z,101nm,18.6s,baz=43,slow=35						
NANT	**Nan**	**29.49**	**302**	P	**P**	**23 05 01.0**	**+0.9**
	comp=Z,36nm,0.9s,comp=Z,7μm						
GYA	**Guiyang**	**29.58**	**321**	*e*P	**P**	**23 05 02.4**	**+1.4**
GYA				pP	**pP**	**23 05 15.7**	**+3.1**
GYA				sP	**sP**	**23 05 22.4**	**+4.6**
GYA				PP	**PnPn**	**23 06 01.2**	**+4.2**
GYA				S	**S**	**23 09 53.6**	**+0.2**
GYA				sS	**sS**	**23 10 15.9**	**+3.0**
GYA				ScP	**ScP**	**23 11 41.0**	**-2.9**
GYA				ScS	**ScS**	**23 15 35.6**	**-3.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,450nm,16.6s						
GYA				LR	LR		
	comp=E,380nm,17.9s						
GYA				LR	LR		
	comp=Z,410nm,17.2s						
LAMP	**Lampang**	**30.27**	**301**	P	P	23 05 12.5	+5.4
	comp=Z,6.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**30.84**	**300**	P	**P**	**23 05 11.9**	**-0.1**
CMAR				ScP	**ScP**	**23 11 48.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**30.84**	**300**	P	**P**	**23 05 11.9**	**-0.1**
	comp=Z,5.8nm,0.8s,baz=116,slow=7.6,SNR=25						
CMAR				ScP	**ScP**	**23 11 48.4**	**+0.4**
	comp=Z,1.3nm,1.1s,baz=111,slow=1.9,SNR=5.1						
CMAR				LR	LR	23 18 13.8	
	comp=Z,92nm,19.1s,baz=152,slow=38						
ENH	**Enshi**	**30.92**	**330**	*e*P	**P**	**23 05 11.8**	**-0.8**
	comp=Z,9.7nm,0.7s						
CMMT	**Chiang Mai**	**30.98**	**301**	P	**P**	**23 05 14.2**	**+0.9**
	comp=Z,17nm,0.9s						
CHTO	**Chiang Mai**	**30.99**	**301**	*e*P	**P**	**23 05 12.0**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,12nm,0.9s						
CHTO	**Chiang Mai**	**30.99**	**301**	*e*P	**P**	**23 05 12.0**	**-1.4**
	comp=Z,12nm,0.9s						
CHTO	**Chiang Mai**	**30.99**	**301**	P	P	23 05 16.9	+3.5
	comp=Z,19nm,0.9s						
KMI	**Kunming**	**31.31**	**315**	P	**P**	**23 05 19.1**	**+2.7**
KMI				pP	**pP**	**23 05 29.1**	**+1.0**
KMI				sP	**sP**	**

HHC LR LR
comp=Z,340nm,13.5s
CN2 Changchun 39.77 358 *e*P **P** **23 06 30.5 +2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=N,90nm,16.0s
CN2 LR LR
comp=E,70nm,16.0s
CN2 LR LR
comp=Z,100nm,18.0s
USRK Ussuriysk Arra 40.41 6 P **P** **23 06 34.2 +0.5**
comp=Z,3.1nm,0.6s,baz=172,slow=6.1,SNR=8.5
USRK LR LR 23 20 54.3
comp=Z,86nm,20.4s,baz=304,slow=32
MDJ Mudanjiang 40.64 3 P **P** **23 06 35.6 -0.1**
MDJ pP **pP** **23 06 48.7 +1.1**
MDJ sP **sP** **23 06 54.9 +2.2**
MDJ PP **PP** **23 08 10.0 +0.1**
MDJ PcP **PcP** **23 08 36.1 -0.8**
MDJ ScP **ScP** **23 12 21.3 -1.8**
MDJ PcS **PcS** **23 12 27.2 -0.3**
MDJ S **S** **23 12 42.6 +0.1**
MDJ ScS **ScS** **23 16 36.0 -1.5**
MDJ pmax pmax
comp=Z,19nm,0.8s
MDJ pmax pmax
comp=Z,45nm,6.5s
MDJ LR LR
comp=N,61nm,33.3s
MDJ LR LR
comp=E,46nm,21.2s
ARMA Armidale 41.57 147 P **P** **23 06 45.2 +1.6**
baz=42,SNR=6.7
LSA Lhasa 42.38 311 *e*P **P** **23 06 49.5 -1.2**
LSA pmax pmax
comp=Z,7.0nm,0.6s
LSA Lhasa 42.38 311 *e*P **P** **23 06 49.5 -1.2**
comp=Z,6.8nm,0.6s
ASAJ Asahikawa 42.43 17 *e*P **P** **23 06 48.8 -1.5**
ASAJ Asahikawa 42.43 17 P **P** **23 06 50.9 +0.6**
comp=Z,2.3nm,0.4s,baz=86,slow=21,SNR=5.3
GTA Gaotai 42.99 329 *e*P **P** **23 06 55.0 -0.1**
GTA pP **pP** **23 07 04.6 -2.5**
GTA sP **sP** **23 07 08.0 -4.3**
GTA S **S** **23 13 19.5 +1.8**
GTA sS **sS** **23 13 34.7 -3.1**
GTA pmax pmax
comp=Z,2.0nm,0.5s
GTA LR LR
comp=N,130nm,21.8s
GTA LR LR
comp=E,140nm,18.5s
GTA LR LR
comp=Z,140nm,16.6s
TAPN Taplejung 43.97 306 *e*P **P** **23 07 01.7 -1.7**
comp=Z,25nm,1.0s
ODAN Odare 44.02 305 *e*P **P** **23 07 02.6 -1.2**
comp=Z,26nm,0.7s
RAMN Ramite 44.70 305 *e*P **P** **23 07 07.9 -1.3**
comp=Z,13nm,0.5s
HABR Khabarovsk 44.99 8 *e*P **P** **23 07 10.9 +0.1**
HABR *e**PP **pP** **23 07 19.7 -3.1**
HABR *e**SP **sP** **23 07 23.9 -4.1**
HABR *e* 23 08 50.6
HABR 23 08 55.7
HABR *e*PPP PPP 23 09 34.2
HABR *e*S **S** **23 13 48.3 +2.1**
HABR *e**SS **sS** **23 14 03.3 -3.0**
HABR *e* 23 17 04.2
HABR *e*SSS SSS 23 17 56.9
HABR pmax pmax
comp=N,8.0nm,1.0s
HABR pmax pmax
comp=Z,18nm,1.2s
HABR pmax pmax
comp=E,13nm,1.0s
JIRN Jiri 45.32 306 *e*P **P** **23 07 12.9 -1.4**
comp=E,16nm,0.6s
KLR Kul'dur 45.38 5 *e*P **P** **23 07 10.8 -3.1**
KLR pmax pmax
comp=Z,26nm,1.4s
GUN Gumba 45.68 306 *e*P **P** **23 07 15.3 -1.8**
comp=Z,21nm,0.6s
DZM Mont Dzumac 46.58 125 P **P** **23 07 24.7 +0.7**
DZM Mont Dzumac 46.58 125 P **P** **23 07 24.7 +0.7**
comp=Z,11nm,0.8s,baz=90,slow=20,SNR=3.6
ULN Ulaanbaatar 46.99 342 *e*P **P** **23 07 26.0 -0.8**
comp=Z,11nm,1.3s
SONM Songino Array 47.17 341 P **P** **23 07 28.4 +0.2**
SONM Songino Array 47.17 341 P **P** **23 07 28.4 +0.2**
comp=Z,2.5nm,0.6s,baz=156,slow=8.9,SNR=18
SONM LR LR 23 30 58.4
comp=Z,78nm,19.2s,baz=214,slow=41
KOLN Koldanda 47.48 305 *e*P **P** **23 07 29.5 -1.5**
comp=Z,35nm,0.6s
DANN Dangsing 47.57 305 *e*P **P** **23 07 30.0 -1.8**
comp=Z,39nm,0.6s
PYUN Piuthan 48.10 305 *e*P **P** **23 07 34.4 -1.4**
comp=Z,17nm,0.6s
ZAK Zakamensk 50.40 341 *e*P **P** **23 07 50.9 -2.0**
ZAK *e* 23 09 09.9
WMQ Urumqi 52.63 325 P **P** **23 08 10.4 +0.8**
WMQ pP **pP** **23 08 23.0 +1.1**
WMQ sP **sP** **23 08 28.3 +1.3**
WMQ PcP **PcP** **23 09 20.1 +0.8**
WMQ PP **PP** **23 10 11.0 +1.9**
WMQ ScP **ScP** **23 13 12.1 -1.2**
WMQ S **S** **23 15 32.7 -1.4**
WMQ sS **sS** **23 15 54.0 -0.5**
WMQ ScS **ScS** **23 17 52.9 -3.1**
WMQ SS **SS** **23 19 10.1 -2.9**
WMQ pmax pmax
comp=Z,4.0nm,0.5s
WMQ pmax pmax
comp=Z,120nm,7.0s
WMQ LR LR
comp=N,97nm,11.2s
WMQ LR LR
comp=E,130nm,10.0s
WMQ LR LR
comp=Z,82nm,21.4s
MSVF Nonsavu 54.93 115 *e*P **P** **23 08 25.5 -1.4**
MSVF pmax pmax
comp=Z,21nm,1.0s
MSVF Nonsavu 54.93 115 *e*P **P** **23 08 25.5 -1.4**
comp=Z,21nm,1.0s
PETK Petropavlovsk- 55.27 22 P **P** **23 08 30.4 +1.8**
PETK Petropavlovsk- 55.27 22 P **P** **23 08 30.4 +1.8**
PETK Petropavlovsk- 55.27 22 P **P** **23 08 30.4 +1.8**
comp=Z,7.8nm,0.9s,baz=199,slow=4.4,SNR=14
PETK LR LR 23 34 44.8
comp=Z,31nm,18.5s,baz=16,slow=39
MKAR Makanchi Array 57.46 325 *i*P **P** **23 08 43.4 -1.0**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
MKAR Makanchi Array 57.46 325 *e*P **P** **23 08 43.5 -1.0**
MKAR ScP **ScP** **23 13 31.7 -2.7**
MKAR Makanchi Array 57.46 325 P **P** **23 08 43.4 -1.0**
comp=Z,2.8nm,0.4s,baz=118,slow=7.5,SNR=53
MKAR ScP **ScP** **23 13 31.7 -2.7**
comp=Z,0.5nm,0.8s,baz=130,slow=4.7,SNR=3.5
MKAR LR LR 23 33 28.1
comp=Z,83nm,20.9s,baz=270,slow=36
KSH Kashi 57.97 315 *e*P **P** **23 08 47.2 -1.1**
KSH PcP **PcP** **23 09 39.7 -0.4**
KSH PP PP 23 11 02.5 +5.4
KSH S **S** **23 16 47.0 +1.2**
KSH pmax pmax
comp=Z,2.0nm,0.6s
KSH pmax pmax
comp=Z,56nm,4.6s
KSH LR LR
comp=N,160nm,9.0s
KSH LR LR
comp=E,190nm,6.6s
KSH LR LR
comp=Z,130nm,7.1s
YAK Yakutsk 58.05 2 *e*P P 23 08 58.3 +10
YAK *e* 23 09 08.4
YAK *e* 23 09 12.0
YAK pmax pmax
comp=Z,21nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=N,5.0nm,1.4s
TKM2 Tokmak 2 59.66 318 *e*P **P** **23 09 00.2 +0.1**
TKM2 pmax pmax
comp=Z,4.0nm,0.7s
TKM2 Tokmak 2 59.66 318 *e*P **P** **23 09 00.1 +0.1**
comp=Z,4.0nm,0.7s
AAK Ala-Archa 60.28 318⇓ *e*P **P** **23 09 05.3 +1.1**
AAK pmax pmax
comp=Z,5.0nm,0.7s
AAK Ala-Archa 60.28 318 P **P** **23 09 04.5 +0.2**
AAK Ala-Archa 60.28 318 P **P** **23 09 04.5 +0.2**
comp=Z,1.0nm,0.3s,baz=159,slow=15,SNR=4.2
ZALV Zalesovo Beam 60.48 333 *i*P **P** **23 09 04.6 -0.5**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 60.48 333 P **P** **23 09 03.6 -1.6**
ZALV Zalesovo Beam 60.48 333 P **P** **23 09 03.6 -1.6**
comp=Z,2.1nm,0.5s,baz=122,slow=7.7,SNR=9.6
ZALV LR LR 23 36 59.4
comp=Z,68nm,18.2s,baz=69,slow=38
EKS2 Erkin-Say 60.77 318 *e*P **P** **23 09 07.2 -0.3**
EKS2 pmax pmax
comp=Z,7.0nm,0.7s
EKS2 Erkin-Say 60.77 318 *e*P **P** **23 09 07.2 -0.3**
comp=Z,6.6nm,0.7s
KBL Kabul 61.47 307 *e*P **P** **23 09 11.9 -0.7**
KBL pmax pmax
comp=Z,7.0nm,0.6s
KBL Kabul 61.47 307 *e*P **P** **23 09 11.8 -0.7**
comp=Z,7.0nm,0.6s
KBL Kabul 61.47 307 P **P** **23 09 11.8 -0.8**
baz=61,SNR=5.4
KURBB Kurchatov Arra 61.64 327 P **P** **23 09 10.8 -2.2**
comp=Z,2.3nm,0.5s,baz=130,slow=6.8,SNR=26
KURK Kurchatov 61.64 327 P **P** **23 09 10.9 -2.2**
KURK Kurchatov 61.64 327 P **P** **23 09 10.8 -2.2**
NVS Novosibirsk 61.76 333 *e*P **P** **23 09 11.8 -2.0**
NVS *e**S **S** **23 17 33.3 -0.3**
NVS pmax pmax
comp=Z,5.0nm,0.9s
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=E,3.0nm,0.8s
NVS smax smax
comp=E,5.0nm,1.3s
FX1 Attu Island--F 61.93 30 P **P** **23 09 15.9 +1.0**
FX1 Attu Island--F 61.93 30 P **P** **23 09 15.9 +1.0**
comp=E,17nm,0.8s,baz=55,slow=15,SNR=4.1
URZ Urewera 62.62 137 LR LR 23 36 26.5
comp=E,118nm,19.0s,baz=343,slow=36
KKAR Karatay Array 63.16 317 *e*P **P** **23 09 22.2 -1.2**
KKAR Karatay Array 63.16 317 *e*P **P** **23 09 22.2 -1.2**
BVAR Borovoye Array 67.22 327 P **P** **23 09 49.3 -0.2**
BVAR Borovoye Array 67.22 327 P **P** **23 09 49.3 -0.2**
BVAR Borovoye Array 67.22 327 P **P** **23 09 49.3 -0.2**
comp=E,1.3nm,0.5s,baz=138,slow=9.7,SNR=14
BRVK Borovoye 67.29 327 *de*P **P** **23 09 49.6 -0.4**
BRVK pmax pmax
comp=Z,5.0nm,1.1s
BRVK Borovoye 67.29 327 *e*P **P** **23 09 48.9 -1.1**
comp=Z,6.7nm,0.7s
TIXI Tiksi 67.69 1⇓ *e*P **P** **23 09 51.7 -0.4**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
BILL Bilibino 69.39 15 *e*P **P** **23 10 04.7 +1.8**
BILL *e* 23 10 25.6
BILL pmax pmax
comp=Z,17nm,2.5s
ABKAR Akbulak array 72.06 321 *e*P **P** **23 10 18.1 -1.4**
SVE Sverdlovsk 73.86 328 *e*P **P** **23 10 28.9 -1.0**
SVE pmax pmax
comp=Z,7.0nm,0.8s
ARU Arti 74.83 328 *c i*P **P** **23 10 34.6 -1.0**
ARU 23 13 17.4
ARU S **S** **23 20 08.6 -0.7**
ARU pmax pmax
comp=Z,2.0nm,0.4s
KDAK Kodiak Island 81.73 32 P **P** **23 11 16.1 +2.3**
KDAK Kodiak Island 81.73 32 P **P** **23 11 16.1 +2.3**
comp=Z,5.4nm,0.6s,baz=287,slow=4.2,SNR=6.1
VNDA Vanda 83.57 173 P **P** **23 11 23.4 +0.5**
VNDA Vanda 83.57 173 P **P** **23 11 23.4 +0.5**
comp=Z,1.0nm,0.8s,baz=305,slow=7.2,SNR=4.6
COLD Coldfoot 83.73 23 *e*PcP **PcP** **23 11 26.4 -1.6**
comp=Z,15nm,1.1s
ILAR Eielson Array 84.94 25 P **P** **23 11 30.2 +0.1**
ILAR Eielson Array 84.94 25 P **P** **23 11 30.2 +0.1**
comp=Z,1.1nm,0.8s,baz=241,slow=6.2,SNR=9.9
DIV Divide 85.39 29 *e*PcP **PcP** **23 11 34.5 -1.0**
comp=Z,8.4nm,0.6s
VSR Storozhevoye 85.50 321 *e*P **P** **23 11 33.4 +0.2**
VSR pmax pmax
comp=Z,4.0nm,0.5s
VSR pmax pmax
comp=N,2.0nm,0.6s
VSR pmax pmax
comp=E,6.0nm,1.1s
OBN Obninsk 86.97 325⇑ *e*P **P** **23 11 40.4 +0.1**
OBN *e* 23 11 48.0
OBN pmax pmax
comp=Z,21nm,1.7s
JOF Joensuu 89.07 333 *e*p **P** **23 11 50.1 0.0**
comp=Z,5.5nm,0.6s
JOF Joensuu 89.07 333 *e*P **P** **23 11 50.1 0.0**
JOF pmax pmax
comp=Z,6.0nm,0.6s
KEV Kevo 89.77 340 *e*p pP 23 12 09.1 +2.7
comp=Z,12nm,1.0s
BR131 Keskin Array S 89.96 310 *e*P **P** **23 11 52.5 -2.5**
comp=Z,1.6nm,0.8s
BRTR Keskin Array B 89.96 310 P **P** **23 11 53.5 -1.6**
BRTR Keskin Array B 89.96 310 P **P** **23 11 53.5 -1.6**
comp=Z,1.5nm,0.8s,baz=117,slow=5.7,SNR=9.7
ARCES ARCESS Array B 90.32 340 P **P** **23 11 55.9 0.0**
ARCES ARCESS Array B 90.32 340 P **P** **23 11 55.9 0.0**
comp=Z,2.0nm,0.6s,baz=80,slow=6.5,SNR=7.6
KAF Kangasniemi 91.48 332 *e*p **P** **23 12 01.3 -0.1**
comp=Z,2.1nm,0.5s
KAF Kangasniemi 91.48 332 *e*P **P** **23 12 01.3 -0.1**
KAF pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 91.72 332 P **P** **23 12 01.5 -1.0**
FINES FINESS Array B 91.72 332 P **P** **23 12 01.5 -1.0**
comp=Z,2.4nm,0.7s,baz=77,slow=3.6,SNR=13
HFS Hagfors 97.91 332 P **P** **23 12 30.7 -0.2**
HFS Hagfors 97.91 332 P **P** **23 12 30.7 -0.2**
comp=Z,1.7nm,0.7s,baz=36,slow=12,SNR=7.3
NB2 NORSAR Subarra 98.67 334 P **P** **23 12 32.8 -1.5**
comp=Z,1.2nm,0.8s,baz=71,slow=4.6
NOA NORSAR Array B 98.67 334 P **P** **23 12 32.9 -1.5**
NOA NORSAR Array B 98.67 334 P **P** **23 12 32.9 -1.5**
comp=Z,0.7nm,0.8s,baz=75,slow=4.2,SNR=4.9
NOA LR LR 00 03 47.8
comp=Z,34nm,20.3s,baz=25,slow=39
YKA Yellowknife Ar 99.34 24 P **Pdif** **23 12 37.0 -0.2**
YKA Yellowknife Ar 99.34 24 P **Pdif** **23 12 37.0 -0.2**
comp=Z,0.8nm,0.9s,baz=302,slow=3.7,SNR=4.8
CLL Collm 101.55 324 *e*P **Pdif** **23 12 57.0 +10**
CLL *e* 23 17 00.0
CLL Collm 101.55 324 *es*Pdif sPdif 23 12 57.0 -8.3
CLL *e*PP **PP** **23 17 00.0 +2.7**
CLL *e* 23 18 13.0
TORD Torodi Ar. Bea 122.92 288 PKP **PKPdf** **23 17 52.2 -0.2**
TORD Torodi Ar. Bea 122.92 288 PKP **PKPdf** **23 17 52.2 -0.2**
comp=Z,0.5nm,0.6s,baz=55,slow=1.5,SNR=6.4
CPUP Villa Florida 157.34 170 PKPab **PKPab** **23 19 24.0 +1.1**
CPUP Villa Florida 157.34 170 PKPab **PKPab** **23 19 24.0 +1.1**
comp=Z,1.2nm,0.6s,baz=117,slow=5.0,SNR=4.2

*ISCJB **03** 23:10:13.5±0.6, 39.94N±0.01×24.06E±0.02, h8km±4km, Error ellipse: s-maj=2.4km s-min=2.0km az=155.9*
*ATH **03** 23:10:13.8, 39.95N×24.07E, h28km±1km, MD3.5/33, ML3.2*
*CSEM **03** 23:10:14.0±0.1, 39.94N×24.07E, h10km, ML3.6/7, Error ellipse: s-maj=2.3km s-min=1.9km az=111.0*
*SKO **03** 23:10:14.3, 39.98N×24.06E, h3km, M3.2*
*THE **03** 23:10:14.2, 39.96N×24.06E, h7km, ML3.6/7, Error ellipse: s-maj=0.9km s-min=0.5km az=46.0*
ISC 03 23:10:14.1±1.0, 39.94N±0.02×24.08E±0.01, h8km±9km,

n220, σ0.98/269, 18C-10D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUR	**Ouranopolis**	**0.40**	**349**	P	**Pg**	**23 10 22.3**	**+0.4**
OUR				S	**Sg**	**23 10 28.2**	**+1.0**
OUR	**Ouranopolis**	**0.40**	**349**	P	**Pg**	**23 10 22.3**	**+0.4**
OUR				S	**Sg**	**23 10 28.2**	**+1.0**
PLG	**Polygyros**	**0.65**	**312**	P	**Pg**	**23 10 26.0**	**-0.6**
PLG				S	**Sg**	**23 10 35.1**	**0.0**
PLG	**Polygyros**	**0.65**	**312**	*e*PN	**Pg**	**23 10 26.2**	**-0.4**
PLG				*e*SN	**Sg**	**23 10 35.1**	**0.0**
PLG	**Polygyros**	**0.65**	**312**	P	**Pg**	**23 10 26.0**	**-0.6**
PLG				S	**Sg**	**23 10 35.1**	**0.0**
AOS	**Alonnisos**	**0.79**	**191**	P	**Pg**	**23 10 28.9**	**-0.2**
AOS				S	**Sb**	**23 10 41.5**	**+0.8**
AOS	**Alonnisos**	**0.79**	**191**	*e*PN	**Pg**	**23 10 29.0**	**-0.2**
AOS				*e*SN	**Sb**	**23 10 40.7**	**0.0**
AOS	**Alonnisos**	**0.79**	**191**	P	**Pg**	**23 10 28.9**	**-0.2**
AOS				*e*Sn	**Sb**	**23 10 40.7**	**0.0**
AOS				S	**Sb**	**23 10 41.5**	**+0.8**
LIA	**Limnos Island**	**0.85**	**93**	P	**Pg**	**23 10 30.5**	**+0.1**
LIA				S	**Sb**	**23 10 43.3**	**+0.7**
LIA	**Limnos Island**	**0.85**	**93**	*e*PN	**Pb**	**23 10 30.7**	**-0.3**
LIA				*e*SN	**Sb**	**23 10 43.7**	**+1.1**
LIA	**Limnos Island**	**0.85**	**93**	P	**Pg**	**23 10 30.5**	**+0.1**
LIA				S	**Sb**	**23 10 43.3**	**+0.7**
XOR	**Xorichti**	**0.89**	**230**	P	**Pg**	**23 10 31.3**	**+0.1**
XOR				S	**Sb**	**23 10 44.1**	**+0.3**
XOR	**Xorichti**	**0.89**	**230**	P	**Pg**	**23 10 31.3**	**+0.1**
XOR				S	**Sb**	**23 10 44.1**	**+0.3**
SKIA	**Skiathos**	**0.91**	**212**	P	**Pg**	**23 10 31.5**	**0.0**
SKIA				S	**Sb**	**23 10 44.7**	**+0.5**
SKIA	**Skiathos**	**0.91**	**212**	P	**Pg**	**23 10 31.5**	**0.0**
SKIA				S	**Sb**	**23 10 44.7**	**+0.5**
NEO	**Neokhori**	**0.92**	**226**	P	**Pg**	**23 10 31.5**	**-0.2**
NEO				S	**Sb**	**23 10 44.3**	**-0.2**
NEO	**Neokhori**	**0.92**	**226**	*e*PN	**Pb**	**23 10 31.9**	**-0.3**
NEO				*e*SN	**Sb**	**23 10 44.3**	**-0.2**
NEO	**Neokhori**	**0.92**	**226**	P	**Pg**	**23 10 31.5**	**-0.2**
NEO	**Neokhori**	**0.92**	**226**	*e*Pn	**Pb**	**23 10 31.9**	**-0.3**
NEO				S	**Sb**	**23 10 44.3**	**-0.2**
HORT	**Hortiatis**	**1.00**	**312**	P	**Pg**	**23 10 32.5**	**-0.7**
HORT				S	**Sg**	**23 10 45.7**	**-0.5**
HORT	**Hortiatis**	**1.00**	**312**	P	**Pg**	**23 10 32.5**	**-0.7**
HORT				S	**Sg**	**23 10 45.7**	**-0.5**
THE	**Thessaloniki**	**1.10**	**309**	P	**Pg**	**23 10 34.2**	**-0.9**
THE				S	**Sg**	**23 10 49.4**	**0.0**
THE	**Thessaloniki**	**1.10**	**309**	P	**Pg**	**23 10 34.2**	**-0.9**
THE				S	**Sg**	**23 10 49.4**	**0.0**
KAVA	**Kavala**	**1.11**	**17**	P	**Pg**	**23 10 34.5**	**-0.8**
KAVA				S	**Sb**	**23 10 50.2**	**+0.3**
KAVA	**Kavala**	**1.11**	**17**	P	**Pg**	**23 10 34.5**	**-0.8**
KAVA				S	**Sb**	**23 10 50.2**	**+0.3**
LIT	**Litokhoron**	**1.23**	**278**	P	**Pn**	**23 10 36.6**	**-0.9**
LIT				S	**Sn**	**23 10 54.5**	**+0.2**
LIT	**Litokhoron**	**1.23**	**278**	*e*PN	**Pn**	**23 10 36.6**	**-0.9**
LIT	**Litokhoron**	**1.23**	**278**	P	**Pn**	**23 10 36.6**	**-0.9**
LIT				S	**Sn**	**23 10 54.5**	**+0.2**
SMTH	**Samothraki Isl**	**1.23**	**64**	P	**Pn**	**23 10 36.0**	**-1.5**
SMTH				S	**Sn**	**23 10 54.5**	**+0.2**
SMTH	**Samothraki Isl**	**1.23**	**64**	*e*PB	**Pn**	**23 10 36.1**	**-1.5**
SMTH				*e*SN	**Sg**	**23 10 54.0**	**+0.3**
SMTH	**Samothraki Isl**	**1.23**	**64**	P	**Pn**	**23 10 36.0**	**-1.5**
SMTH				*e*Sn	**Sg**	**23 10 54.0**	**+0.3**
SRS	**Serrai**	**1.23**	**343**	P	**Pn**	**23 10 36.9**	**-0.7**
SRS				S	**Sn**	**23 10 54.1**	**-0.3**
SRS	**Serrai**	**1.23**	**343**	P	**Pn**	**23 10 36.9**	**-0.7**
SRS				S	**Sn**	**23 10 54.1**	**-0.3**
SMIA	**Simia**	**1.26**	**213**	P	**Pn**	**23 10 37.5**	**-0.4**
SMIA	**Simia**	**1.26**	**213**	P	**Pn**	**23 10 37.5**	**-0.4**
MRKA	**Markates**	**1.29**	**197**	P	**Pn**	**23 10 37.4**	**-1.0**
MRKA	**Markates**	**1.29**	**197**	P	**Pn**	**23 10 37.4**	**-1.0**
NVR	**Nevrokopi**	**1.42**	**353**	P	**Pn**	**23 10 39.7**	**-0.4**
NVR	**Nevrokopi**	**1.42**	**353**	*e*PN	**Pn**	**23 10 39.5**	**-0.6**
NVR				*e*SN	**Sn**	**23 10 58.7**	**-0.3**
NVR	**Nevrokopi**	**1.42**	**353**	P	**Pn**	**23 10 39.7**	**-0.4**
NVR				*e*Sn	**Sn**	**23 10 58.7**	**-0.3**
BOZC	**Bozcaada**	**1.52**	**93**	*i*P	**Pn**	**23 10 40.7**	**-0.8**
BOZC				*i*S	**Sn**	**23 11 00.4**	**-1.1**
LKR	**Lokris**	**1.54**	**213**	*e*PB	**Pn**	**23 10 40.9**	**-0.8**
LKR	**Lokris**	**1.54**	**213**	*e*Pb	**Pn**	**23 10 40.9**	**-0.8**
SIGR	**SIGRI**	**1.55**	**117**	P	**Pn**	**23 10 41.3**	**-0.6**
SIGR	**SIGRI**	**1.55**	**117**	P	**Pn**	**23 10 41.3**	**-0.6**
AXAR	**Agios Charalam**	**1.61**	**224**	P	**Pn**	**23 10 42.5**	**-0.2**
AXAR	**Agios Charalam**	**1.61**	**224**	P	**Pn**	**23 10 42.5**	**-0.2**
GRG	**Griva**	**1.63**	**309**	P	**Pn**	**23 10 42.9**	**-0.2**
GRG				S	**Sn**	**23 11 04.0**	**-0.3**
GRG	**Griva**	**1.63**	**309**	*e*PN	**Pn**	**23 10 43.2**	**+0.1**
GRG	**Griva**	**1.63**	**309**	P	**Pn**	**23 10 42.9**	**-0.2**
GRG	**Griva**	**1.63**	**309**	*e*Pn	**Pn**	**23 10 43.2**	**+0.1**
GRG				S	**Sn**	**23 11 04.0**	**-0.3**
AGG	**Agios Georgios**	**1.64**	**236**	P	**Pn**	**23 10 42.5**	**-0.6**
AGG				S	**Sn**	**23 11 04.0**	**-0.3**
AGG	**Agios Georgios**	**1.64**	**236**	*e*PN	**Pn**	**23 10 42.7**	**-0.4**
AGG	**Agios Georgios**	**1.64**	**236**	*e*Pn	**Pn**	**23 10 42.7**	**-0.4**
AGG				S	**Sn**	**23 11 04.0**	**-0.3**
THL	**Klokotos Trika**	**1.64**	**257**	P	**Pn**	**23 10 42.6**	**-0.5**
THL				S	**Sn**	**23 11 04.0**	**-0.2**
THL	**Klokotos Trika**	**1.64**	**257**	*e*PN	**Pn**	**23 10 42.5**	**-0.5**
THL	**Klokotos Trika**	**1.64**	**257**	P	**Pn**	**23 10 42.6**	**-0.5**
THL				S	**Sn**	**23 11 04.0**	**-0.2**
RDO	**Rodhopi**	**1.64**	**42**	*e*PB	**Pn**	**23 10 41.9**	**-1.2**
RDO	**Rodhopi**	**1.64**	**42**	*e*Pb	**Pn**	**23 10 41.9**	**-1.2**
MAKR	**Makrakomi, Fth**	**1.77**	**239**	P	**Pn**	**23 10 45.1**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.77**	**239**	P	**Pn**	**23 10 45.1**	**+0.2**
ENEZ	**Enez**	**1.77**	**63**	*e*P	**Pb**	**23 10 46.0**	**-0.8**
ALN	**Alexandroupoli**	**1.78**	**57**	P	**Pn**	**23 10 44.1**	**-0.9**
ALN	**Alexandroupoli**	**1.78**	**57**	*e*PB	**Pn**	**23 10 44.1**	**-0.9**
ALN	**Alexandroupoli**	**1.78**	**57**	P	**Pn**	**23 10 44.1**	**-0.9**
VAY	**Valandovo**	**1.79**	**321**	*e*Pn	**Pn**	**23 10 44.7**	**-0.5**
VAY				*e*Sg	**Sb**	**23 11 10.3**	**+0.6**
VAY				*e*Lg	Lg	23 11 12.0	
	comp=N,472nm,0.7s						
VAY				*e*Lg	Lg	23 11 13.5	
	comp=E,698nm,1.0s						
VAY	**Valandovo**	**1.79**	**321**	*e*Pn	**Pn**	**23 10 44.7**	**-0.5**
VAY				*e*Sg	**Sb**	**23 11 10.3**	**+0.6**
VAY				*e*Lg	Lg	23 11 13.5	
	comp=E,698nm,1.0s						
KZN	**Kozani**	**1.81**	**282**	*e*PN	**Pn**	**23 10 45.5**	**0.0**
KZN	**Kozani**	**1.81**	**282**	*e*Pn	**Pn**	**23 10 45.5**	**0.0**
PRK	**Paraskevi**	**1.83**	**112**	*e*PN	**Pn**	**23 10 46.0**	**+0.3**
PRK	**Paraskevi**	**1.83**	**112**	*e*Pn	**Pn**	**23 10 46.0**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.89**	**75**	*e*P	**Pb**	**23 10 48.0**	**-0.8**
MRMA	**Marmari**	**1.90**	**173**	P	**Pn**	**23 10 46.8**	**+0.1**
MRMA	**Marmari**	**1.90**	**173**	P	**Pn**	**23 10 46.8**	**+0.1**
PTL	**Penteli**	**1.90**	**185**	*e*PN	**Pn**	**23 10 46.1**	**-0.6**
PTL	**Penteli**	**1.90**	**185**	*e*Pn	**Pn**	**23 10 46.1**	**-0.6**
DSF	**Desfina**	**1.95**	**219**	P	**Pn**	**23 10 46.5**	**-0.9**
DSF	**Desfina**	**1.95**	**219**	P	**Pn**	**23 10 46.5**	**-0.9**
ATH	**Athens Observa**	**1.99**	**188**	*e*PN	**Pn**	**23 10 47.5**	**-0.4**
ATH	**Athens Observa**	**1.99**	**188**	*e*Pn	**Pn**	**23 10 47.5**	**-0.4**
EVR	**Evrytania**	**2.03**	**241**	P	**Pn**	**23 10 48.6**	**-0.1**
EVR				S	**Sn**	**23 11 14.1**	**-0.2**
EVR	**Evrytania**	**2.03**	**241**	*e*PB	**Pn**	**23 10 48.7**	**0.0**
EVR	**Evrytania**	**2.03**	**241**	P	**Pn**	**23 10 48.6**	**-0.1**
EVR				S	**Sn**	**23 11 14.1**	**-0.2**
LPK	**Lapseki**	**2.10**	**77**	*e*P	**Pn**	**23 10 50.9**	**+1.4**
LTK	**Loutraki**	**2.10**	**205**	*e*PN	**Pn**	**23 10 49.0**	**-0.5**
LTK	**Loutraki**	**2.10**	**205**	*e*Pn	**Pn**	**23 10 49.0**	**-0.5**
AYVA	**Ayvalik**	**2.11**	**107**	*i*P	**Pn**	**23 10 49.0**	**-0.7**
AYVA	**Ayvalik**	**2.11**	**107**	*i*P	**Pn**	**23 10 49.0**	**-0.7**
KALE	**Kalithea**	**2.16**	**225**	*e*PN	**Pn**	**23 10 50.3**	**-0.1**
KALE	**Kalithea**	**2.16**	**225**	*e*Pn	**Pn**	**23 10 50.3**	**-0.1**
CHOS	**Chios island**	**2.18**	**135**	*e*PN	**Pn**	**23 10 50.7**	**0.0**
CHOS	**Chios island**	**2.18**	**135**	*e*Pn	**Pn**	**23 10 50.7**	**0.0**
THAL	**Thalero**	**2.20**	**211**	P	**Pn**	**23 10 50.3**	**-0.5**
THAL	**Thalero**	**2.20**	**211**	P	**Pn**	**23 10 50.3**	**-0.5**
PLD	**Plovdiv**	**2.21**	**12**⇑	*i*Pn	**Pn**	**23 10 51.5**	**+0.5**
TRIZ	**Trizonia**	**2.21**	**225**	*e*PN	**Pn**	**23 10 50.9**	**-0.1**
TRIZ	**Trizonia**	**2.21**	**225**	*e*Pn	**Pn**	**23 10 50.9**	**-0.1**
NAIG	**Nisos Aigina**	**2.23**	**192**	*e*PN	**Pn**	**23 10 50.5**	**-0.7**
NAIG	**Nisos Aigina**	**2.23**	**192**	*e*Pn	**Pn**	**23 10 50.5**	**-0.7**
FNA	**Florina**	**2.23**	**293**	P	**Pn**	**23 10 51.4**	**+0.1**
FNA	**Florina**	**2.23**	**293**	*e*PB	**Pn**	**23 10 51.6**	**+0.3**
FNA	**Florina**	**2.23**	**293**	P	**Pn**	**23 10 51.4**	**+0.1**
EFP	**Efpalio**	**2.27**	**229**	P	**Pn**	**23 10 52.0**	**+0.3**
EFP	**Efpalio**	**2.27**	**229**	*e*PB	**Pn**	**23 10 52.0**	**+0.3**
EFP	**Efpalio**	**2.27**	**229**	P	**Pn**	**23 10 52.0**	**+0.3**

LAKA	Lakka	2.36	225	ePN	Pn	23 10 53.0	0.0		
LAKA	Lakka	2.36	225	ePn	Pn	23 10 53.0	0.0		
BIA	Bitola	2.36	298	ePn	Pn	23 10 53.1	-0.1		
BIA	Bitola	2.36	298	ePn	Pn	23 10 53.0	-0.1		
GUR	Goura	2.42	215	ePN	Pn	23 10 53.4	-0.5		
GUR	Goura	2.42	215	ePn	Pn	23 10 53.4	-0.5		
KLV	Kalavryta, Ach	2.42	219	ePN	Pn	23 10 53.6	-0.3		
KLV	Kalavryta, Ach	2.42	219	ePn	Pn	23 10 53.6	-0.3		
RKY	Sarkoy-Tekirda	2.48	72	eP	Pn	23 10 55.6	+0.8		
SART	Tekirdag	2.49	72	iP	Pn	23 10 53.2	-1.6		
SART	Tekirdag	2.49	72	iP	Pn	23 10 53.2	-1.6		
JAN	Janina	2.50	265	ePB	Pn	23 10 56.5	+1.5		
JAN	Janina	2.50	265	ePb	Pn	23 10 56.5	+1.5		
KRBG	Karabiga-Canak	2.51	79	eP	Pn	23 10 56.0	+0.9		
DID	Didima	2.52	195	ePN	Pn	23 10 54.4	-0.9		
DID	Didima	2.52	195	ePn	Pn	23 10 54.4	-0.9		
MFT	Murefte	2.59	70	eP	Pn	23 10 57.0	+0.8		
KBN	Korca	2.61	286	ePN	Pn	23 10 58.4	+1.8		
VTS	Vitosha	2.73	346	⇑iP	Pn	23 10 58.8	+0.5		
VTS	Vitosha	2.73	346	⇑iP	Pn	23 10 58.8	+0.5		
BALY	Balya	2.73	93	iP	Pn	23 10 58.4	+0.2		
BALY				iS	Sn	23 11 31.2	-0.2		
BALY	Balya	2.73	93	iP	Pn	23 10 58.4	+0.2		
BALY				iS	Sn	23 11 31.2	-0.2		
RLS	Riolos of Patr	2.77	228	ePB	Pn	23 10 59.9	+1.2		
RLS	Riolos of Patr	2.77	228	ePb	Pn	23 10 59.9	+1.2		
GONE	Gonen-Balikesi	2.77	87	eP	Pn	23 11 00.1	+1.4		
BLCB	Balcova	2.78	123	eP	Pn	23 10 60.0	+1.2		
TKR	Tekirdag	2.84	67	eP	Pn	23 11 00.7	+1.1		
SKO	Skopje	2.85	316	ePn	Pn	23 11 01.2	+1.5		
SKO	Skopje	2.85	316	ePn	Pn	23 11 01.2	+1.5		
LKD2	Lefkada island	2.89	248	ePB	Pn	23 11 02.6	+2.2		
LKD2	Lefkada island	2.89	248	ePb	Pn	23 11 02.6	+2.2		
VLX	Vlachokerasia	2.89	208	ePN	Pn	23 11 00.5	+0.1		
VLX	Vlachokerasia	2.89	208	ePn	Pn	23 11 00.5	+0.1		
BALB	Balikesir	2.94	95	eP	Pn	23 11 03.3	+2.2		
BNT	Bandirma	2.97	81	eP	Pn	23 11 02.9	+1.4		
AMT	Artemida-Makis	3.04	218	ePN	Pn	23 11 03.5	+1.1		
AMT	Artemida-Makis	3.04	218	ePn	Pn	23 11 03.5	+1.1		
AKHS	Akhisar	3.08	109	iP	Pb	23 11 07.4	-1.7		
AKHS				iS	Sg	23 11 52.5	-0.5		
AKHS	Akhisar	3.08	109	iP	Pb	23 11 07.4	-1.7		
APE	Apeiranthos	3.08	158	eP	Pn	23 11 02.6	-0.4		
APE	Apeiranthos	3.08	158	ePN	Pn	23 11 02.6	-0.4		
APE	Apeiranthos	3.08	158	ePn	Pn	23 11 02.6	-0.4		
SMG	Samos	3.10	135	ePN	Pn	23 11 03.5	+0.3		
SMG	Samos	3.10	135	ePn	Pn	23 11 03.5	+0.3		
SRN	Sarande	3.14	270	ePN	Pn	23 11 06.6	+2.9		
ITM	Ithomi	3.23	212	ePN	Pn	23 11 06.4	+1.3		
ITM	Ithomi	3.23	212	ePn	Pn	23 11 06.4	+1.3		
VLS	Valsamata	3.24	238	ePB	Pn	23 11 07.0	+1.9		
VLS	Valsamata	3.24	238	ePb	Pn	23 11 07.0	+1.9		
PHP	Peshkopia	3.27	303	ePN	Pn	23 11 06.2	+0.6		
KCTX	Karacabey (Bur	3.30	83	eP	Pn	23 11 07.7	+1.7		
KEK	Kerkira	3.30	267	ePB	Pn	23 11 08.7	+2.7		
KEK	Kerkira	3.30	267	ePb	Pn	23 11 08.7	+2.7		
BARS	Barje	3.34	330	⇓iPn	Pn	23 11 06.5	0.0		
VLI	Velíai	3.34	196	ePN	Pn	23 11 06.0	-0.5		
VLI	Veliai	3.34	196	ePn	Pn	23 11 06.0	-0.5		
SLVT	Silivri	3.40	66	eP	Pn	23 11 09.1	+1.8		
DURS	Dursunbey	3.40	94	iP	Pn	23 11 07.4	-0.1		
DURS				iS	Sn	23 11 48.1	0.0		
DURS	Dursunbey	3.40	94	iP	Pn	23 11 07.4	-0.1		
DURS				iS	Sn	23 11 48.1	0.0		
DYR	Agios Nikonas	3.46	204	ePN	Pn	23 11 08.4	+0.2		
DYR	Agios Nikonas	3.46	204	ePn	Pn	23 11 08.4	+0.2		
TIR	Tirane	3.51	295	ePN	Pn	23 11 11.5	+2.8		
DST	Dursunbey	3.52	94	eP	Pn	23 11 11.3	+2.3		
CTYL	Yal??k??y-??at	3.55	63	eP	Pn	23 11 10.6	+1.2		
PYL	PYLOS	3.55	212	ePN	Pn	23 11 11.0	+1.6		
PYL	PYLOS	3.55	212	ePn	Pn	23 11 11.0	+1.6		
CTKS	Kestanelik-??a	3.61	68	eP	Pn	23 11 12.4	+2.2		
DEMI	Demirci	3.70	103	iP	Pn	23 11 11.4	-0.1		
DEMI	Demirci	3.70	103	iP	Pn	23 11 11.4	-0.1		
ORLT	Orhaneli	3.70	87	eP	Pn	23 11 13.5	+2.0		
MDNY	Mudanya-Bursa	3.71	82	eP	Pn	23 11 13.9	+2.3		
ARMT	Armutlu	3.71	79	eP	Pn	23 11 13.5	+1.9		
KYTH	Kithira	3.75	193	ePN	Pn	23 11 12.0	-0.1		
KYTH	Kithira	3.75	193	ePn	Pn	23 11 12.0	-0.1		
PUK	Puka	3.80	305	ePN	Pn	23 11 14.2	+1.3		
BCI	Bajram Curri	3.88	310	ePN	Pn	23 11 14.9	+1.0		
BUY	Buyukada	3.95	75	eP	Pn	23 11 16.8	+1.9		
ISK	Istanbul-Kandi	3.96	72	eP	Pn	23 11 16.4	+1.4		
KLYT	Kilyos	4.00	69	eP	Pn	23 11 17.9	+2.4		
VLV	Yalova	4.10	68	eP	Pn	23 11 19.0	+2.3		
TVSB	Tavsanli	4.18	95	eP	Pn	23 11 20.5	+2.3		
BOLS	Boljevac	4.20	338	ePn	Pn	23 11 16.1	-2.2		
GDZ	Gediz	4.26	100	iP	Pn	23 11 19.5	+0.1		
GDZ	Gediz	4.26	100	iP	Pn	23 11 19.5	+0.1		
ADVT	Abdulvahap	4.36	82	eP	Pn	23 11 22.7	+2.1		
SILT	Sile	4.41	72	eP	Pn	23 11 23.0	+1.9		
KHAL	Karahalli	4.49	109	iP	Pn	23 11 22.7	+0.3		
KHAL	Karahalli	4.49	109	iP	Pn	23 11 22.7	+0.3		
ALT	Altintas	4.75	99	eP	Pn	23 11 28.4	+2.4		
GULT	Gulveren	4.95	82	eP	Pn	23 11 31.1	+2.3		
DIVS	Divibare	5.15	325	⇓iPn	Pn	23 11 31.4	-0.1		
SHUT	Suhut-Afyon	5.21	103	eP	Pn	23 11 34.8	+2.4		
EFOR	EFORIE	5.35	38	⇑iP	Pn	23 11 25.5	-8.6		
ARR	Arges	5.44	4	⇓iP	Pn	23 11 35.7	+0.3		
ARR	Arges	5.44	4	⇓iP	Pn	23 11 35.7	+0.3		
LOT	Lotru	5.51	358	⇓iP	Pn	23 11 36.0	-0.4		
LOT	Lotru	5.51	358	⇓iP	Pn	23 11 36.0	-0.4		
VOIR		5.54	7	⇑iP	Pn	23 11 37.5	+0.7		
VOIR		5.54	7	⇑iP	Pn	23 11 37.5	+0.7		
TIRR	Tirgusor	5.54	34	⇑iP	Pn	23 11 36.2	-0.6		
TIRR	Tirgusor	5.54	34	⇑iP	Pn	23 11 36.2	-0.6		
MLR	Muntele Rosu	5.71	13	⇑iP	Pn	23 11 40.4	+1.1		
MLR	Muntele Rosu	5.71	13	⇑iP	Pn	23 11 40.4	+1.1		
CFR	Carcaliu	6.03	28	⇑iP	Pn	23 11 44.0	+0.6		
CFR	Carcaliu	6.03	28	⇑iP	Pn	23 11 44.0	+0.6		
PLOR	Plostina	6.20	17	⇓iP	Pn	23 11 45.8	-0.1		
PLOR	Plostina	6.20	17	⇓iP	Pn	23 11 45.8	-0.1		
VRI	Vrincioaia	6.23	17	⇓iP	Pn	23 11 48.5	+2.2		
VRI	Vrincioaia	6.23	17	⇓iP	Pn	23 11 48.5	+2.2		
TLCR		6.30	32	⇑iP	Pn	23 11 47.4	+0.3		
TLCR		6.30	32	⇑iP	Pn	23 11 47.4	+0.3		
TESR	Tescani	6.83	15	⇑iP	Pn	23 11 54.7	+0.2		
TESR	Tescani	6.83	15	⇑iP	Pn	23 11 54.7	+0.2		
BURAR	Bucovina Array	7.71	6	⇑iP	Pn	23 12 07.0	+0.3		
BURAR	Bucovina Array	7.71	6	⇑iP	Pn	23 12 07.0	+0.3		

*LDG **03** 23:12:55.5±0.1, 42°.29N×13°.31E, h2km, Ml3.1/4, Error ellipse: s-maj=4.1km s-min=2.7km az=45.0*
*ROM **03** 23:12:55.1±0.1, 42°.29N×13°.39E, h9km, Ml3.3/39, Error ellipse: s-maj=1.0km s-min=0.8km az=81.0*
*CSEM **03** 23:12:55.8±0.1, 42°.29N×13°.37E, h2km, ML4.0/7, Error ellipse: s-maj=2.8km s-min=2.2km az=44.0*
*ISCJB **03** 23:12:55.0±0.2, 42°.30N±0°.02×13°.37E±0°.02, h8km±2km, mb3.6/3, MS3.4/1, Error ellipse: s-maj=3.0km s-min=2.4km az=39.5*
*PRU **03** 23:12:56.1, 42°.25N×13°.39E, h1km*
*IDC **03** 23:12:56.5±1.2, 42°.38N×13°.45E, h0km, mb3.6/4, mb1 3.6/7, mb1mx3.5/29, mbtmp3.6/7, ML3.4/3, MS3.2/2, Ms1 3.2/2, ms1mx2.3/48, Error ellipse: s-maj=32.2km s-min=13.8km az=94.0*

ISC 03 23:12:56.5±0.8, 42°29N±0°.02×13°38E±0°.02, h7km±5km, n166, σ1§32/189, mb3.6/3, 3C-6D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	L'Aquila	0.06	12	Pg	Pg	23 12 57.4	-0.9
AQU				Sg	Sg	23 12 59.1	-0.5
	83µm,0.3s						
AQU	L'Aquila	0.06	12	Pg	Pg	23 12 57.4	-0.9
AQU				Sg	Sg	23 12 59.1	-0.5
	83µm,0.3s						
FIAM	Fiamignano	0.20	263	Pg	Pg	23 13 00.4	-0.2
FIAM				Sg	Sg	23 13 03.9	+0.6
	17µm,1.0s						
FIAM	Fiamignano	0.20	263	Pg	Pg	23 13 00.4	-0.2
FIAM				Sg	Sg	23 13 03.9	+0.6
	17µm,1.0s						
PTQR	Pietraquaria	0.27	177	Pg	Pg	23 13 01.5	-0.4
PTQR	Pietraquaria	0.27	177	Pg	Pg	23 13 01.5	-0.4
VCEL	Villa Celiera	0.35	73	Pg	Pg	23 13 08.9	+0.7
VCEL				Sg	Sg	23 13 08.9	+0.7
	13µm,0.6s						
VCEL	Villa Celiera	0.35	73	Pg	Pg	23 13 02.8	-0.7
TERO	Teramo	0.37	26	⇓iPg	Pg	23 13 02.6	-1.1
TERO				Sg	Sg	23 13 08.5	-0.1
	7µm,0.6s						
TERO	Teramo	0.37	26	⇓iPg	Pg	23 13 02.6	-1.1
TERO				Sg	Sg	23 13 08.5	-0.1
	7µm,0.6s						
LNSS	Leonessa	0.40	321	Pg	Pg	23 13 03.6	-0.8
	4µm,0.6s						
LNSS	Leonessa	0.40	321	Pg	Pg	23 13 03.6	-0.8
	4µm,0.6s						
CERT	Cerreto	0.46	221	Pg	Pg	23 13 04.7	-0.7
	8µm,0.7s						
CERT	Cerreto	0.46	221	Pg	Pg	23 13 04.7	-0.7
	8µm,0.7s						
VVLD	Villa Vallelon	0.46	157	Pg	Pg	23 13 04.5	-0.9
	2µm,0.6s						
VVLD	Villa Vallelon	0.46	157	Pg	Pg	23 13 04.5	-0.9
	2µm,0.6s						
INTR	Introdacqua	0.48	126	⇓ePg	Pg	23 13 04.8	-1.0
INTR				Sg	Sg	23 13 12.8	+0.7
	4µm,0.6s						
INTR	Introdacqua	0.48	126	⇓ePg	Pg	23 13 04.8	-1.0
INTR				Sg	Sg	23 13 12.8	+0.7
	4µm,0.6s						
GUAR	Guarcino	0.50	186	Pg	Pg	23 13 05.4	-0.8
	2µm,0.5s						
GUAR	Guarcino	0.50	186	Pg	Pg	23 13 05.4	-0.8
	2µm,0.5s						
MNS	Montasola	0.53	280	Pg	Pg	23 13 05.8	-1.0
	2µm,0.6s						
MNS	Montasola	0.53	280	Pg	Pg	23 13 05.8	-1.0
	2µm,0.6s						
MTCE	Montecelio	0.55	241	Pg	Pg	23 13 06.3	-0.8
	1µm,0.6s						
MTCE	Montecelio	0.55	241	Pg	Pg	23 13 06.3	-0.8
	1µm,0.6s						
NRCA	Norcia	0.57	340	Pg	Pg	23 13 06.4	-1.3
NRCA				Sg	Sg	23 13 16.0	+0.8
	959nm,0.2s						
NRCA	Norcia	0.57	340	Pg	Pg	23 13 06.4	-1.3
NRCA				Sg	Sg	23 13 16.0	+0.8
	959nm,0.2s						
POFI	Posta Fibreno	0.63	157	Pg	Pg	23 13 07.1	-1.5
POFI	Posta Fibreno	0.63	157	Pg	Pg	23 13 07.1	-1.5
LPEL	Lama dei Pelig	0.64	112	Pg	Pg	23 13 07.7	-1.2
LPEL				Sg	Sg	23 13 17.4	+0.1
	2µm,0.4s						
LPEL	Lama dei Pelig	0.64	112	Pg	Pg	23 13 07.7	-1.2
LPEL				Sg	Sg	23 13 17.4	+0.1
	2µm,0.4s						
TRTR	Tortoreto Alta	0.65	37	Pg	Pg	23 13 09.0	0.0
TRTR	Tortoreto Alta	0.65	37	Pg	Pg	23 13 09.0	0.0
SDI	San Donato	0.67	151	Pg	Pg	23 13 07.9	-1.5
SDI				Sg	Sg	23 13 17.2	-0.8
SDI	San Donato	0.67	151	Pg	Pg	23 13 07.9	-1.5
SDI				Sg	Sg	23 13 17.2	-0.8
CESX	Cesi	0.67	298	Pg	Pg	23 13 08.2	-1.3
	1µm,0.5s						
CESX	Cesi	0.67	298	Pg	Pg	23 13 08.2	-1.3
	1µm,0.5s						
OFFI	Offida	0.68	19	Pg	Pg	23 13 09.2	-0.4
	7µm,0.5s						
OFFI	Offida	0.68	19	Pg	Pg	23 13 09.2	-0.4
	7µm,0.5s						
RMP	Rome, Mte Porz	0.70	227	Pg	Pg	23 13 09.0	-1.0
	2µm,0.6s						
RMP	Rome, Mte Porz	0.70	227	Pg	Pg	23 13 09.0	-1.0
	2µm,0.6s						
CAFR	Castel Frentan	0.72	95	Pg	Pg	23 13 09.6	-0.7
	2µm,0.3s						
CAFR	Castel Frentan	0.72	95	Pg	Pg	23 13 09.6	-0.7
	2µm,0.3s						
RDP	Rocca di Papa	0.73	223	Pg	Pg	23 13 09.7	-0.9
	4µm,0.5s						
RDP	Rocca di Papa	0.73	223	Pg	Pg	23 13 09.7	-0.9
	4µm,0.5s						
GIUL	Giuliano Di Ro	0.74	188	Pg	Pg	23 13 09.5	-1.3
	690nm,0.5s						
GIUL	Giuliano Di Ro	0.74	188	Pg	Pg	23 13 09.5	-1.3
	690nm,0.5s						
FDMO	Fiordimonte	0.77	344	Pg	Pg	23 13 09.9	-1.5
	697nm,0.6s						
FDMO	Fiordimonte	0.77	344	Pg	Pg	23 13 09.9	-1.5
	697nm,0.6s						
CESI	CESI - Serrava	0.79	334	Pg	Pg	23 13 10.3	-1.5
	320nm,0.4s						
CESI	CESI - Serrava	0.79	334	Pg	Pg	23 13 10.3	-1.5
	320nm,0.4s						
RNI2	Rionero Sannit	0.82	136	Pg	Pg	23 13 10.9	-1.5
	4µm,1.4s						
RNI2	Rionero Sannit	0.82	136	Pg	Pg	23 13 10.9	-1.5
	4µm,1.4s						
CERA	Filignano	0.84	146	Pg	Pg	23 13 10.7	-2.0
	2µm,0.9s						
CERA	Filignano	0.84	146	Pg	Pg	23 13 10.7	-2.0
	2µm,0.9s						
MIDA	Miranda	0.92	135	Pg	Pg	23 13 12.2	-2.0
	722nm,0.5s						
MIDA	Miranda	0.92	135	Pg	Pg	23 13 12.2	-2.0
	722nm,0.5s						
ASSB	Assisi San Ben	0.92	325	Pg	Pg	23 13 12.6	-1.6
	971nm,0.7s						
ASSB	Assisi San Ben	0.92	325	Pg	Pg	23 13 12.6	-1.6
	971nm,0.7s						
SNTG	Esanatoglia	1.01	341	Pg	Pg	23 13 14.1	-1.9
	188nm,0.4s						
SNTG	Esanatoglia	1.01	341	Pg	Pg	23 13 14.1	-1.9
	188nm,0.4s						
TOLF	Tolfa	1.05	258	Pg	Pg	23 13 15.2	-1.6
TOLF	Tolfa	1.05	258	Pg	Pg	23 13 15.2	-1.6
VAGA	Valle Agricola	1.08	144	Pg	Pg	23 13 15.3	-2.0
	318nm,0.5s						
VAGA	Valle Agricola	1.08	144	Pg	Pg	23 13 15.3	-2.0
	318nm,0.5s						
CING	Cingoli	1.09	353	Pg	Pg	23 13 15.5	-2.0
	821nm,0.6s						
CING	Cingoli	1.09	353	Pg	Pg	23 13 15.5	-2.0
	821nm,0.6s						
MGAB	Montegabbione	1.12	304	Pg	Pg	23 13 16.7	-1.4
	504nm,0.5s						
MGAB	Montegabbione	1.12	304	Pg	Pg	23 13 16.7	-1.4
	504nm,0.5s						
MURB	Monte Urbino	1.16	327	Pg	Pg	23 13 17.2	-1.6
	2µm,0.7s						
MURB	Monte Urbino	1.16	327	Pg	Pg	23 13 17.2	-1.6
	2µm,0.7s						
BSSO	Busso	1.17	129	Pg	Pg	23 13 16.8	-2.2
	966nm,1.2s						
BSSO	Busso	1.17	129	Pg	Pg	23 13 16.8	-2.2
	966nm,1.2s						
ARVD	Arcevia	1.25	345	Pg	Pg	23 13 18.3	-2.1
	791nm,0.9s						
ARVD	Arcevia	1.25	345	Pg	Pg	23 13 18.3	-2.1
	791nm,0.9s						
AOI	Ancona	1.27	7	Pg	Pn	23 13 19.2	-1.5
	501nm,0.7s						
AOI	Ancona	1.27	7	Pg	Pn	23 13 19.2	-1.5
	501nm,0.7s						
CIGN	Sant'Elia a Pi	1.30	119	Pg	Pn	23 13 19.1	-2.1
	316nm,1.0s						
CIGN	Sant'Elia a Pi	1.30	119	Pg	Pn	23 13 19.1	-2.1
	316nm,1.0s						
PIEI	Pieia	1.39	334	Pg	Pn	23 13 21.3	-1.1
	278nm,0.5s						
PIEI	Pieia	1.39	334	Pg	Pn	23 13 21.3	-1.1
	278nm,0.5s						
FSSB	Fossombrone	1.47	343	Pg	Pn	23 13 22.4	-1.1
	1µm,0.4s						
FSSB	Fossombrone	1.47	343	Pg	Pn	23 13 22.4	-1.1
	1µm,0.4s						
ARCI	Arcidosso	1.52	292	Pg	Pn	23 13 24.1	-0.1
	125nm,1.2s						
ARCI	Arcidosso	1.52	292	Pg	Pn	23 13 24.1	-0.1
	125nm,1.2s						
PARC	Parchiule	1.59	329	Pg	Pn	23 13 25.0	-0.2
	676nm,1.2s						
PARC	Parchiule	1.59	329	Pg	Pn	23 13 25.0	-0.2
	676nm,1.2s						
MAON	Monte Argentar	1.68	275	Pg	Pn	23 13 25.1	-1.2
	67nm,0.4s						
NVLJ	Novalja	2.51	25	ePn	Pn	23 13 37.2	-0.6
NVLJ				Sn	Sn	23 14 06.1	-2.5
NVLJ	Novalja	2.51	25	ePn	Pn	23 13 37.2	-0.6
NVLJ				Sn	Sn	23 14 06.1	-2.5
UDBI	Udbina	2.83	37	iPn	Pn	23 13 43.2	+1.0
UDBI				Sn	Sn	23 14 15.7	-0.8
UDBI	Udbina	2.83	37	iPn	Pn	23 13 43.2	+1.0
UDBI				Sn	Sn	23 14 15.7	-0.8
STON	Ston	3.24	78	iPn	Pn	23 13 47.9	+0.1
STON				Sn	Sn	23 14 25.7	-0.8
STON	Ston	3.24	78	iPn	Pn	23 13 47.8	+0.1
PGF	Pioggiola	3.26	276	eP	Pn	23 13 48.2	+0.1
PGF				eSn	Sn	23 14 22.9	-4.3
	4.3nm,0.3s						
PGF	Pioggiola	3.26	276	eP	Pn	23 13 48.2	+0.1
PGF				eSn	Sn	23 14 22.9	-4.3
	2.2nm,0.3s						
SKDS	Skadanscina	3.28	8	iPn	Pn	23 13 47.9	-0.5
SKDS							
	comp=Z,29nm,0.4s						
SKDS	Skadanscina	3.28	8	iPn	Pn	23 13 47.9	-0.5
	comp=Z,29nm,0.4s						
PE1	Pezze di Greco	3.38	115	ePn	Pn	23 13 50.5	+0.8
VOY	Vojsko	3.75	5	ePn	Pn	23 13 54.7	-0.3
VOY				e		23 13 57.4	
VOY				eSn	Sn	23 14 36.8	-2.7
VOY	Vojsko	3.75	5	ePn	Pn	23 13 54.7	-0.3
VOY				eSn	Sn	23 14 36.8	-2.7
ABTA	Abfaltersbach	4.50	352	⇑iPn	Pn	23 14 05.1	-0.1
	SNR=14						
ABTA	Abfaltersbach	4.50	352	Pn	Pn	23 14 05.1	-0.1
	SNR=14						
SBF	Sospel	4.63	292	eP	Pn	23 14 06.9	-0.1
SBF	Sospel	4.63	292	eP	Pn	23 14 06.9	-0.1
BBLS	Lazići	4.68	68	ePn	Pn	23 14 09.5	+1.8
PUK	Puka	4.84	91	ePN	Pn	23 14 11.5	+1.6
PUK	Puka	4.84	91	ePn	Pn	23 14 11.5	+1.6
TIR	Tirane	4.93	99	ePN	Pn	23 14 11.9	+0.8
TIR	Tirane	4.93	99	ePn	Pn	23 14 11.9	+0.8
BCI	Bajram Curri	4.96	87	ePN	Pn	23 14 13.6	+2.2
BCI	Bajram Curri	4.96	87	ePn	Pn	23 14 13.6	+2.2
FRF	La Foret Royal	5.11	287	eP	Pn	23 14 13.4	0.0
FRF	La Foret Royal	5.11	287	eP	Pn	23 14 13.4	0.0
WTTA	Wattenberg	5.12	347	⇓iPn	Pn	23 14 14.1	+0.3
	SNR=7.4						
WTTA	Wattenberg	5.12	347	Pn	Pn	23 14 14.1	+0.3
	SNR=7.4						
DAVOX	Davos/Dischmat	5.14	332	Pn	Pn	23 14 15.3	+1.2
	comp=Z,1.5nm,0.3s,baz=148,slow=17,SNR=13						
DAVOX				Sn	Sn	23 15 16.6	+2.9
	baz=311,slow=19,SNR=2.6						
DIVS	Divibare	5.16	67	ePn	Pn	23 14 14.9	+0.7
LMR	La Mourre	5.16	284	eP	Pn	23 14 14.3	+0.1
LMR	La Mourre	5.16	284	eP	Pn	23 14 14.3	+0.1
PHP	Peshkopia	5.29	94	ePN	Pn	23 14 17.4	+1.3
PHP	Peshkopia	5.29	94	ePn	Pn	23 14 17.4	+1.3
MOTA	Moosalm	5.30	343	⇓iPn	Pn	23 14 18.2	+1.9
	SNR=12						
MOTA	Moosalm	5.30	343	Pn	Pn	23 14 18.2	+1.9
	SNR=12						
MBDF	Montbardon	5.39	299	eP	Pn	23 14 18.0	+0.5
MBDF	Montbardon	5.39	299	eP	Pn	23 14 18.0	+0.5
MOA	Molln	5.59	6	⇑iPn	Pn	23 14 20.5	+0.4
	SNR=6.7						
MOA	Molln	5.59	6	Pn	Pn	23 14 20.5	+0.4
	SNR=6.7						
LPG	La Plagne	5.76	306	eP	Pn	23 14 23.2	+0.5
LPG				eSn	Sn	23 15 21.3	-7.9
	comp=Z,5.8nm,0.7s						
LPG	La Plagne	5.76	306	eP	Pn	23 14 23.2	+0.5
SELS	Selova	5.77	78	ePn	Pn	23 14 23.6	+1.0
LPL	La Plagne	5.78	306	eP	Pn	23 14 23.2	+0.2
LPL	La Plagne	5.78	306	eP	Pn	23 14 23.2	+0.2
SMRF	Simiane la Rot	5.96	289	eP	Pn	23 14 26.1	+0.9
SMRF	Simiane la Rot	5.96	289	eP	Pn	23 14 26.1	+0.9
ORIF	Oris-en-Rattie	6.05	298	eP	Pn	23 14 28.2	+1.8
ORIF	Oris-en-Rattie	6.05	298	eP	Pn	23 14 28.2	+1.8
BARS	Barje	6.25	82	⇑iPn	Pn	23 14 29.8	+0.7
GERES	GERESS Array B	6.55	2	Pn	Pn	23 14 33.4	0.0
	comp=Z,0.4nm,0.3s,baz=175,slow=13,SNR=11						
GERES				Sn	Sn	23 15 46.5	-2.0
	comp=Z,1.2nm,0.3s,baz=179,slow=23,SNR=6.4						
CABF	La Chapelle	6.77	312	eP	Pn	23 14 36.4	0.0
CABF	La Chapelle	6.77	312	eP	Pn	23 14 36.4	0.0
VI

XOR				S	Sg	23 25 01.0	+0.4		
XOR	**Xorichti**	**0.91**	**231**	P	Pg	23 24 47.9	-0.9		
XOR				S	Sg	23 25 01.0	+0.4		
SKIA	**Skiathos**	**0.92**	**213**	P	Pg	23 24 48.6	-0.4		
SKIA				S	Sg	23 25 01.7	+0.8		
SKIA	**Skiathos**	**0.92**	**213**	P	Pg	23 24 48.6	-0.4		
SKIA				S	Sg	23 25 01.7	+0.8		
NEO	**Neokhori**	**0.93**	**227**	P	Pg	23 24 48.8	-0.4		
NEO				S	Sg	23 25 01.6	+0.3		
NEO	**Neokhori**	**0.93**	**227**	*e*PN	Pg	23 24 49.1	-0.1		
NEO				*e*SN	Sg	23 25 01.5	+0.3		
NEO	**Neokhori**	**0.93**	**227**	P	Pg	23 24 48.8	-0.4		
NEO	**Neokhori**	**0.93**	**227**	*e*Pn	Pg	23 24 49.1	-0.1		
NEO				S	Sg	23 25 01.6	+0.3		
HORT	**Hortiatis**	**1.01**	**311**	P	Pg	23 24 49.0	-1.7		
HORT				S	Sg	23 25 03.3	-0.5		
HORT	**Hortiatis**	**1.01**	**311**	P	Pg	23 24 49.0	-1.7		
HORT				S	Sg	23 25 03.3	-0.5		
KAVA	**Kavala**	**1.10**	**16**	P	Pg	23 24 51.8	-0.5		
KAVA				S	Sb	23 25 07.5	+0.4		
KAVA	**Kavala**	**1.10**	**16**	P	Pg	23 24 51.8	-0.5		
KAVA				S	Sb	23 25 07.5	+0.4		
THE	**Thessaloniki**	**1.11**	**309**	P	Pg	23 24 51.9	-0.7		
THE				S	Sg	23 25 07.3	+0.2		
THE	**Thessaloniki**	**1.11**	**309**	P	Pg	23 24 51.9	-0.7		
THE				S	Sg	23 25 07.3	+0.2		
SMTH	**Samothraki Isl**	**1.21**	**64**	P	Pg	23 24 53.2	-1.2		
SMTH				S	Sg	23 25 10.2	0.0		
SMTH	**Samothraki Isl**	**1.21**	**64**	*e*PN	Pg	23 24 53.3	-1.2		
SMTH				*e*SN	Sb	23 25 10.7	+0.3		
SMTH	**Samothraki Isl**	**1.21**	**64**	*e*Pn	Pg	23 24 53.3	-1.2		
SMTH				S	Sg	23 25 10.2	0.0		
SRS	**Serrai**	**1.24**	**342**	P	Pg	23 24 54.0	-1.0		
SRS				S	Sg	23 25 10.9	-0.2		
SRS	**Serrai**	**1.24**	**342**	P	Pg	23 24 54.0	-1.0		
SRS				S	Sg	23 25 10.9	-0.2		
LIT	**Litokhoron**	**1.25**	**278**	P	Pg	23 24 53.5	-1.7		
LIT	**Litokhoron**	**1.25**	**278**	*e*PN	Pg	23 24 53.6	-1.7		
LIT	**Litokhoron**	**1.25**	**278**	*e*Pn	Pg	23 24 53.6	-1.7		
SMIA	**Simia**	**1.27**	**213**	P	Pg	23 24 54.3	-1.3		
SMIA				S	Sn	23 25 13.6	+0.7		
SMIA	**Simia**	**1.27**	**213**	P	Pg	23 24 54.3	-1.3		
MRKA	**Markates**	**1.30**	**198**	P	Pn	23 24 54.4	-1.5		
MRKA	**Markates**	**1.30**	**198**	P	Pn	23 24 54.4	-1.5		
NVR	**Nevrokopi**	**1.42**	**353**	P	Pn	23 24 56.2	-1.4		
NVR				S	Sb	23 25 15.8	-0.6		
NVR	**Nevrokopi**	**1.42**	**353**	*e*PN	Pn	23 24 56.6	-1.0		
NVR				*e*SN	Sb	23 25 15.5	-0.9		
NVR	**Nevrokopi**	**1.42**	**353**	P	Pn	23 24 56.2	-1.4		
NVR	**Nevrokopi**	**1.42**	**353**	*e*Pn	Pn	23 24 56.6	-1.0		
NVR				*e*Sn	Sb	23 25 15.5	-0.9		
BOZC	**Bozcaada**	**1.50**	**93**	*i* P	Pn	23 24 58.0	-0.7		
BOZC				*i* S	Sn	23 25 16.7	-1.8		
SIGR	**SIGRI**	**1.54**	**118**	P	Pn	23 24 58.5	-0.6		
SIGR	**SIGRI**	**1.54**	**118**	P	Pn	23 24 58.5	-0.6		
LKR	**Lokris**	**1.55**	**214**	*e*PB	Pn	23 24 58.0	-1.3		
LKR	**Lokris**	**1.55**	**214**	*e*Pb	Pn	23 24 58.0	-1.3		
RDO	**Rodhopi**	**1.62**	**42**	*e*PB	Pn	23 24 59.2	-1.1		
RDO	**Rodhopi**	**1.62**	**42**	*e*Pb	Pn	23 24 59.2	-1.1		
AXAR	**Agios Charalam**	**1.63**	**224**	P	Pn	23 24 59.5	-0.9		
AXAR	**Agios Charalam**	**1.63**	**224**	P	Pn	23 24 59.5	-0.9		
GRG	**Griva**	**1.65**	**308**	P	Pn	23 25 00.2	-0.5		
GRG				S	Sn	23 25 21.6	-0.6		
GRG	**Griva**	**1.65**	**308**	*e*PN	Pn	23 25 00.4	-0.3		
GRG				*e*SN	Sn	23 25 21.9	-0.3		
GRG	**Griva**	**1.65**	**308**	P	Pn	23 25 00.2	-0.5		
GRG				S	Sn	23 25 21.6	-0.6		
AGG	**Agios Georgios**	**1.66**	**237**	P	Pn	23 24 59.8	-1.0		
AGG				S	Sn	23 25 21.2	-1.2		
AGG	**Agios Georgios**	**1.66**	**237**	*e*PN	Pn	23 24 59.9	-0.9		
AGG	**Agios Georgios**	**1.66**	**237**	*e*Pn	Pn	23 24 59.9	-0.9		
AGG				S	Sn	23 25 21.2	-1.2		
THL	**Klokotos Trika**	**1.66**	**257**	P	Pn	23 24 59.9	-0.9		
THL	**Klokotos Trika**	**1.66**	**257**	*e*PB	Pn	23 24 59.6	-1.2		
THL	**Klokotos Trika**	**1.66**	**257**	*e*Pb	Pn	23 24 59.6	-1.2		
THL	**Klokotos Trika**	**1.66**	**257**	P	Pn	23 24 59.9	-0.9		
EZN	**Ezine**	**1.71**	**93**	*e*P	Pn	23 25 00.8	-0.7		
ENEZ	**Enez**	**1.75**	**62**	*e*P	Pn	23 25 02.4	+0.3		
ALN	**Alexandroupoli**	**1.76**	**57**	P	Pn	23 25 01.4	-0.8		
ALN	**Alexandroupoli**	**1.76**	**57**	*e*PB	Pn	23 25 01.4	-0.8		
ALN	**Alexandroupoli**	**1.76**	**57**	P	Pn	23 25 01.4	-0.8		
VAY	**Valandovo**	**1.81**	**320**	P	Pn	23 25 01.5	-1.4		
VAY	**Valandovo**	**1.81**	**320**	*i* Pg	Pn	23 25 01.3	-1.5		
VAY				*e*Sg	Sb	23 25 27.9	+0.4		
VAY				*e*Lg	Lg	23 25 32.2			
	comp=E,2µm,1.1s								
VAY				*e*Lg	Lg	23 25 33.5			
	comp=N,2µm,0.7s								
VAY	**Valandovo**	**1.81**	**320**	P	Pn	23 25 01.5	-1.4		
VAY				*e*Sg	Sb	23 25 27.9	+0.4		
VAY				*e*Lg	Lg	23 25 33.4			
	comp=N,2µm,0.7s								
PRK	**Paraskevi**	**1.81**	**112**	P	Pn	23 25 02.5	-0.4		
PRK	**Paraskevi**	**1.81**	**112**	*e*PN	Pn	23 25 02.9	0.0		
PRK	**Paraskevi**	**1.81**	**112**	P	Pn	23 25 02.5	-0.4		
PRK	**Paraskevi**	**1.81**	**112**	*e*Pn	Pn	23 25 02.9	0.0		
KZN	**Kozani**	**1.83**	**282**	P	Pn	23 25 02.4	-0.8		
KZN	**Kozani**	**1.83**	**282**	*e*PN	Pn	23 25 02.7	-0.5		
KZN	**Kozani**	**1.83**	**282**	P	Pn	23 25 02.4	-0.8		
KZN	**Kozani**	**1.83**	**282**	*e*Pn	Pn	23 25 02.7	-0.5		
GELI	**Tayfur-Gelibol**	**1.87**	**75**	*e*P	Pn	23 25 04.1	+0.4		
MRMA	**Marmari**	**1.90**	**173**	P	Pn	23 25 03.6	-0.5		
MRMA	**Marmari**	**1.90**	**173**	P	Pn	23 25 03.6	-0.5		
PTL	**Penteli**	**1.90**	**186**	P	Pn	23 25 03.2	-0.9		
PTL	**Penteli**	**1.90**	**186**	*e*PN	Pn	23 25 03.3	-0.9		
PTL	**Penteli**	**1.90**	**186**	*e*Pn	Pn	23 25 03.3	-0.9		
DSF	**Desfina**	**1.96**	**219**	P	Pn	23 25 03.7	-1.4		
DSF	**Desfina**	**1.96**	**219**	P	Pn	23 25 03.7	-1.4		
ATHU	**Athens Univers**	**1.99**	**187**	P	Pn	23 25 04.2	-1.2		
ATHU	**Athens Univers**	**1.99**	**187**	P	Pn	23 25 04.2	-1.2		
ATH	**Athens Observa**	**1.99**	**189**	P	Pn	23 25 04.5	-0.9		
ATH	**Athens Observa**	**1.99**	**189**	*e*PN	Pn	23 25 04.5	-0.9		
ATH	**Athens Observa**	**1.99**	**189**	P	Pn	23 25 04.5	-0.9		
EVR	**Evrytania**	**2.05**	**241**	P	Pn	23 25 05.7	-0.7		
EVR	**Evrytania**	**2.05**	**241**	*e*PN	Pn	23 25 05.7	-0.7		
EVR	**Evrytania**	**2.05**	**241**	P	Pn	23 25 05.7	-0.7		
LPK	**Lapseki**	**2.08**	**77**	*e*P	Pn	23 25 06.7	+0.1		
AYVA	**Ayvalik**	**2.09**	**107**	*i* P	Pn	23 25 06.6	-0.2		
AYVA	**Ayvalik**	**2.09**	**107**	*i* P	Pn	23 25 06.6	-0.2		
LTK	**Loutraki**	**2.11**	**205**	*e*PN	Pn	23 25 06.1	-1.0		
LTK	**Loutraki**	**2.11**	**205**	*e*Pn	Pn	23 25 06.1	-1.0		
CHOS	**Chios island**	**2.17**	**135**	P	Pn	23 25 07.8	-0.1		
CHOS	**Chios island**	**2.17**	**135**	*e*PN	Pn	23 25 07.8	-0.1		
CHOS	**Chios island**	**2.17**	**135**	P	Pn	23 25 07.8	-0.1		
KALE	**Kalithea**	**2.18**	**225**	P	Pn	23 25 07.2	-0.8		
KALE	**Kalithea**	**2.18**	**225**	*e*PN	Pn	23 25 07.3	-0.8		
KALE	**Kalithea**	**2.18**	**225**	P	Pn	23 25 07.2	-0.8		
THAL	**Thalero**	**2.21**	**211**	P	Pn	23 25 07.5	-0.9		
THAL	**Thalero**	**2.21**	**211**	P	Pn	23 25 07.5	-0.9		
TRIZ	**Trizonia**	**2.23**	**226**	P	Pn	23 25 08.1	-0.6		
TRIZ	**Trizonia**	**2.23**	**226**	*e*PN	Pn	23 25 08.4	-0.3		
TRIZ	**Trizonia**	**2.23**	**226**	P	Pn	23 25 08.1	-0.6		
TRIZ	**Trizonia**	**2.23**	**226**	*e*Pn	Pn	23 25 08.4	-0.3		
NAIG	**Nisos Aigina**	**2.23**	**193**	*e*PN	Pn	23 25 07.9	-0.9		
NAIG	**Nisos Aigina**	**2.23**	**193**	*e*Pn	Pn	23 25 07.9	-0.9		
FNA	**Florina**	**2.25**	**293**	*e*PB	Pn	23 25 08.7	-0.3		
FNA	**Florina**	**2.25**	**293**	*e*Pb	Pn	23 25 08.7	-0.3		
EFP	**Efpalio**	**2.29**	**229**	P	Pn	23 25 09.1	-0.3		
EFP	**Efpalio**	**2.29**	**229**	*e*PN	Pn	23 25 09.1	-0.3		
EFP	**Efpalio**	**2.29**	**229**	P	Pn	23 25 09.1	-0.3		
LAKA	**Lakka**	**2.37**	**225**	*e*PN	Pn	23 25 10.5	-0.2		
LAKA	**Lakka**	**2.37**	**225**	*e*Pn	Pn	23 25 10.5	-0.2		
BIA	**Bitola**	**2.38**	**298**	*e*Pn	Pn	23 25 10.2	-0.7		
BIA	**Bitola**	**2.38**	**298**	*e*Pn	Pn	23 25 10.1	-0.7		
GUR	**Goura**	**2.43**	**215**	P	Pn	23 25 10.6	-1.0		
GUR	**Goura**	**2.43**	**215**	*e*PN	Pn	23 25 10.6	-1.0		
GUR	**Goura**	**2.43**	**215**	P	Pn	23 25 10.6	-1.0		
KLV	**Kalavryta, Ach**	**2.43**	**219**	*e*PN	Pn	23 25 10.7	-0.9		
KLV	**Kalavryta, Ach**	**2.43**	**219**	*e*Pn	Pn	23 25 10.7	-0.9		
RKY	**Sarkoy-Tekirda**	**2.46**	**71**	*e*P	Pn	23 25 12.0	0.0		
SART	**Tekirdag**	**2.46**	**71**	*i* P	Pn	23 25 11.0	-1.0		
SART				*i* S	Sn	23 25 37.7	-4.7		
SART	**Tekirdag**	**2.46**	**71**	*i* P	Pn	23 25 11.0	-1.0		
SART				*i* S	Sn	23 25 37.7	-4.7		
KRBG	**Karabiga-Canak**	**2.49**	**79**	*e*P	Pn	23 25 12.6	+0.4		
URLA	**Izmir**	**2.50**	**128**	*i* P	Pn	23 25 12.0	-0.4		
URLA	**Izmir**	**2.50**	**128**	*i* P	Pn	23 25 12.0	-0.4		
JAN	**Janina**	**2.52**	**265**	*e*PB	Pn	23 25 13.6	+0.8		
JAN	**Janina**	**2.52**	**265**	*e*Pb	Pn	23 25 13.6	+0.8		

DID	**Didima**	**2.53**	**196**	*e*PN	Pn	23 25 11.7	-1.1		
DID	**Didima**	**2.53**	**196**	*e*Pn	Pn	23 25 11.7	-1.1		
MFT	**Murefte**	**2.57**	**70**	*e*P	Pn	23 25 13.1	-0.3		
KBN	**Korca**	**2.63**	**286**	*e*PN	Pn	23 25 14.4	+0.2		
KBN	**Korca**	**2.63**	**286**	*e*Pn	Pn	23 25 14.4	+0.2		
BALY	**Balya**	**2.71**	**93**	*i* P	Pn	23 25 16.1	+0.7		
BALY				*i* S	Sg	23 25 57.2	-1.2		
BALY	**Balya**	**2.71**	**93**	*i* P	Pn	23 25 16.1	+0.7		
VTS	**Vitosha**	**2.73**	**346**	⇑*i* P	Pn	23 25 16.0	+0.3		
VTS	**Vitosha**	**2.73**	**346**	⇑*i* P	Pn	23 25 16.0	+0.3		
GONE	**Gonen-Balikesi**	**2.75**	**87**	*e*P	Pn	23 25 15.8	-0.1		
BLCB	**Balcova**	**2.76**	**123**	*e*P	Pn	23 25 13.9	-2.1		
RLS	**Riolos of Patr**	**2.79**	**228**	*e*PB	Pn	23 25 17.4	+1.0		
RLS	**Riolos of Patr**	**2.79**	**228**	*e*Pb	Pn	23 25 17.4	+1.0		
TKR	**Tekirdag**	**2.82**	**67**	*e*P	Pn	23 25 18.3	+1.6		
SKO	**Skopje**	**2.86**	**316**	*e*Pn	Pn	23 25 17.8	+0.3		
SKO				*e*Sn	Sn	23 25 51.3	-0.8		
SKO				*e*Lg	Lg	23 26 01.2			
	comp=N,207nm,0.9s								
SKO				*e*Lg	Lg	23 26 01.2			
	comp=E,116nm,0.7s								
SKO	**Skopje**	**2.86**	**316**	*e*Pn	Pn	23 25 17.7	+0.3		
SKO				*e*Sn	Sn	23 25 51.3	-0.8		
SKO				*e*Lg	Lg	23 26 01.2			
	comp=E,116nm,0.7s								
IZM	**Izmir**	**2.90**	**121**	*e*P	Pn	23 25 16.1	-1.8		
VLX	**Vlachokerasia**	**2.90**	**208**	*e*PN	Pn	23 25 17.6	-0.5		
VLX	**Vlachokerasia**	**2.90**	**208**	*e*Pn	Pn	23 25 17.6	-0.5		
LKD2	**Lefkada island**	**2.91**	**248**	*e*PB	Pn	23 25 19.8	+1.7		
LKD2	**Lefkada island**	**2.91**	**248**	*e*Pb	Pn	23 25 19.8	+1.7		
BALB	**Balikesir**	**2.92**	**95**	*e*P	Pn	23 25 18.3	+0.1		
BNT	**Bandirma**	**2.95**	**81**	*e*P	Pn	23 25 18.7	0.0		
AMT	**Artemida-Makis**	**3.05**	**219**	*e*PN	Pn	23 25 20.8	+0.8		
AMT	**Artemida-Makis**	**3.05**	**219**	*e*Pn	Pn	23 25 20.8	+0.8		
APE	**Apeiranthos**	**3.08**	**158**	*e*P	Pn	23 25 16.9	-3.5		
APE	**Apeiranthos**	**3.08**	**158**	*e*PN	Pn	23 25 19.5	-1.0		
APE	**Apeiranthos**	**3.08**	**158**	⇑*i* P	Pn	23 25 19.4	-1.0		
APE	**Apeiranthos**	**3.08**	**158**	*e*Pn	Pn	23 25 19.5	-1.0		
SMG	**Samos**	**3.09**	**135**	*e*PN	Pn	23 25 20.5	0.0		
SMG	**Samos**	**3.09**	**135**	*e*Pn	Pn	23 25 20.5	0.0		
SRN	**Sarande**	**3.16**	**270**	*e*PN	Pn	23 25 22.9	+1.5		
SRN	**Sarande**	**3.16**	**270**	*e*Pn	Pn	23 25 22.9	+1.5		
ITM	**Ithomi**	**3.25**	**212**	*e*PN	Pn	23 25 23.4	+0.7		
ITM	**Ithomi**	**3.25**	**212**	*e*Pn	Pn	23 25 23.4	+0.7		
VLS	**Valsamata**	**3.26**	**238**	*e*PN	Pn	23 25 23.7	+0.9		
VLS	**Valsamata**	**3.26**	**238**	*e*Pn	Pn	23 25 23.7	+0.9		
KCTX	**Karacabey (Bur**	**3.27**	**83**	*e*P	Pn	23 25 23.3	+0.2		
PHP	**Peshkopia**	**3.28**	**303**	*e*PN	Pn	23 25 23.6	+0.4		
PHP	**Peshkopia**	**3.28**	**303**	*e*Pn	Pn	23 25 23.6	+0.4		
KEK	**Kerkira**	**3.33**	**267**	*e*PB	Pn	23 25 25.9	+2.1		
KEK	**Kerkira**	**3.33**	**267**	*e*Pb	Pn	23 25 25.9	+2.1		
BARS	**Barje**	**3.35**	**330**	⇓*i* Pn	Pn	23 25 23.7	-0.4		
VLI	**Velíai**	**3.35**	**196**	*e*PN	Pn	23 25 23.2	-0.9		
VLI	**Veliai**	**3.35**	**196**	*e*Pn	Pn	23 25 23.2	-0.9		
SLVT	**Silivri**	**3.38**	**66**	*e*P	Pn	23 25 25.5	+1.0		
DURS	**Dursunbey**	**3.38**	**94**	*i* P	Pn	23 25 24.4	-0.2		
DURS	**Dursunbey**	**3.38**	**94**	*i* P	Pn	23 25 24.4	-0.2		
DYR	**Agios Nikonas**	**3.47**	**204**	*e*PN	Pn	23 25 26.2	+0.5		
DYR	**Agios Nikonas**	**3.47**	**204**	*e*Pn	Pn	23 25 26.2	+0.5		
DST	**Dursunbey**	**3.49**	**94**	*e*P	Pn	23 25 26.0	-0.1		
TIR	**Tirane**	**3.52**	**295**	*e*PN	Pn	23 25 27.9	+1.5		
TIR	**Tirane**	**3.52**	**295**	*e*Pn	Pn	23 25 27.9	+1.5		
CTYL	**Yal??k??y-??at**	**3.53**	**63**	*e*P	Pn	23 25 27.7	+1.2		
PYL	**PYLOS**	**3.56**	**212**	*e*PN	Pn	23 25 28.3	+1.2		
PYL	**PYLOS**	**3.56**	**212**	*e*Pn	Pn	23 25 28.3	+1.2		
CTKS	**Kestanelik-??a**	**3.59**	**68**	*e*P	Pn	23 25 28.9	+1.5		
DEMI	**Demirci**	**3.68**	**103**	*i* P	Pn	23 25 29.3	+0.6		
DEMI				*i* S	Sb	23 26 21.1	-0.4		
DEMI	**Demirci**	**3.68**	**103**	*i* P	Pn	23 25 29.3	+0.6		
ORLT	**Orhaneli**	**3.68**	**87**	*e*P	Pn	23 25 29.2	+0.5		
MDNY	**Mudanya-Bursa**	**3.69**	**82**	*e*P	Pn	23 25 29.5	+0.8		
ARMT	**Armutlu**	**3.69**	**79**	*e*P	Pn	23 25 30.1	+1.3		
KYTH	**Kithira**	**3.75**	**193**	*e*PN	Pn	23 25 29.3	-0.4		
KYTH	**Kithira**	**3.75**	**193**	*e*Pn	Pn	23 25 29.3	-0.4		
KULA	**Kula-Manisa**	**3.81**	**111**	*e*P	Pn	23 25 29.5	-1.0		
PUK	**Puka**	**3.82**	**305**	*e*PN	Pn	23 25 31.2	+0.6		
PUK	**Puka**	**3.82**	**305**	*e*Pn	Pn	23 25 31.2	+0.6		
BODT	**Bodrum**	**3.82**	**138**	*e*P	Pn	23 25 28.2	-2.3		
BCI	**Bajram Curri**	**3.89**	**310**	*e*PN	Pn	23 25 31.9	+0.3		
BCI	**Bajram Curri**	**3.89**	**310**	*e*Pn	Pn	23 25 31.9	+0.3		
MLSB	**Milas**	**3.91**	**131**	*e*P	Pn	23 25 29.8	-1.9		
BUY	**Buyukada**	**3.93**	**75**	*e*P	Pn	23 25 33.6	+1.6		
ISK	**Istanbul-Kandi**	**3.94**	**72**	*e*P	Pn	23 25 33.6	+1.5		
KLYT	**Kilyos**	**3.98**	**69**	*e*P	Pn	23 25 34.3	+1.6		
TVSB	**Tavsanli**	**4.16**	**95**	*e*P	Pn	23 25 35.9	+0.5		
BOLS	**Boljevac**	**4.20**	**338**	*e*Pn	Pn	23 25 33.9	-1.9		
DAT	**Datca**	**4.21**	**139**	*e*P	Pn	23 25 33.3	-2.7		
GDZ	**Gediz**	**4.24**	**100**	*i* P	Pn	23 25 36.6	+0.1		
GDZ	**Gediz**	**4.24**	**100**	*i* P	Pn	23 25 36.6	+0.1		
YER	**Yerkesik**	**4.31**	**129**	*e*Pn	Pn	23 25 35.9	-1.5		
HRT	**Hereke**	**4.34**	**77**	*e*P	Pn	23 25 39.4	+1.7		
ADVT	**Abdulvahap**	**4.34**	**82**	*e*P	Pn	23 25 38.7	+1.0		
SILT	**Sile**	**4.39**	**72**	*e*P	Pn	23 25 40.0	+1.7		
KHL	**Karahalli**	**4.51**	**109**	*e*P	Pn	23 25 39.7	-0.4		
VAM	**Vamos**	**4.53**	**179**	*e*PN	Pn	23 25 41.8	+1.5		
VAM	**Vamos**	**4.53**	**179**	*e*Pn	Pn	23 25 41.8	+1.5		
HUMR	**Humele**	**4.63**	**8**	⇓*i* P	Pn	23 25 41.3	-0.3		
HUMR	**Humele**	**4.63**	**8**	⇓*i* P	Pn	23 25 41.3	-0.3		
ALT	**Altintas**	**4.73**	**99**	*e*P	Pn	23 25 43.4	+0.2		
GULT	**Gulveren**	**4.93**	**82**	*e*P	Pn	23 25 46.7	+0.8		
GOLR		**4.93**	**7**	⇑*i* P	Pn	23 25 46.2	+0.3		
GOLR		**4.93**	**7**	⇑*i* P	Pn	23 25 46.2	+0.3		
SULR		**4.99**	**18**	⇓*i* P	Pn	23 25 47.1	+0.5		
SULR		**4.99**	**18**	⇓*i* P	Pn	23 25 47.1	+0.5		
TRUS	**Trudelj**	**5.09**	**328**	*e*Pn	Pn	23 25 46.3	-1.6		
MANR	**Mangalia**	**5.11**	**39**	⇓*i* P	Pn	23 25 47.9	-0.4		
MANR	**Mangalia**	**5.11**	**39**	⇓*i* P	Pn	23 25 47.9	-0.4		
FETY	**Fethiye**	**5.12**	**129**	*e*P	Pn	23 25 47.0	-1.4		
DIVS	**Divibare**	**5.16**	**325**	*e*Pn	Pn	23 25 48.6	-0.4		
SHUT	**Suhut-Afyon**	**5.19**	**103**	*e*P	Pn	23 25 49.3	-0.3		
ESKT	**Eskisehir**	**5.22**	**92**	*e*P	Pn	23 25 50.7	+0.8		
CVD	**Cernavoda**	**5.25**	**32**	⇑*i* P	Pn	23 25 51.4	+1.2		
CVD	**Cernavoda**	**5.25**	**32**	⇑*i* P	Pn	23 25 51.4	+1.2		
BBLS	**Lazići**	**5.26**	**320**	*e*Pn	Pn	23 25 47.0	-3.4		
SECR		**5.29**	**15**	⇑*i* P	Pn	23 25 53.5	+2.7		
SECR		**5.29**	**15**	⇑*i* P	Pn	23 25 53.5	+2.7		
MTUR	**Matau**	**5.33**	**7**	⇓*i* P	Pn	23 25 51.2	-0.1		
MTUR	**Matau**	**5.33**	**7**	⇓*i* P	Pn	23 25 51.2	-0.1		
ARR	**Arges**	**5.43**	**4**	⇓*i* P	Pn	23 25 52.4	-0.4		
ARR	**Arges**	**5.43**	**4**	⇓*i* P	Pn	23 25 52.4	-0.4		
MDUB	**Mudurnu**	**5.45**	**82**	*e*P	Pn	23 25 54.7	+1.6		
LOT	**Lotru**	**5.51**	**358**	⇑*i* P	Pn	23 25 53.5	-0.3		
LOT	**Lotru**	**5.51**	**358**	⇑*i* P	Pn	23 25 53.5	-0.3		
TIRR	**Tirgusor**	**5.53**	**34**	⇓*i* P	Pn	23 25 53.6	-0.4		
TIRR	**Tirgusor**	**5.53**	**34**	⇓*i* P	Pn	23 25 53.6	-0.4		
VOIR		**5.53**	**7**	⇑*i* P	Pn	23 25 54.5	+0.3		
VOIR		**5.53**	**7**	⇑*i* P	Pn	23 25 54.5	+0.3		
MLR	**Muntele Rosu**	**5.71**	**13**	⇑*i* P	Pn	23 25 57.1	+0.5		
MLR	**Muntele Rosu**	**5.71**	**13**	Pn	Pn	23 25 56.8	+0.2		
	baz=178,slow=11								
MLR				Lg	Lg	23 27 35.2			
	comp=E,0.4nm,0.3s,baz=277,slow=20,SNR=3.1								
MLR	**Muntele Rosu**	**5.71**	**13**	⇑*i* P	Pn	23 25 57.1	+0.5		
SVRH	**Sivrihisar-ESK**	**5.74**	**93**	*e*P	Pn	23 25 58.2	+1.1		
GRER		**5.83**	**20**	⇑*i* P	Pn	23 26 00.9	+2.8		
SUTC	**Sutluce-Ispart**	**5.93**	**112**	*e*P	Pn	23 25 59.8	+0.2		
CFR	**Carcaliu**	**6.02**	**28**	⇓*i* P	Pn	23 26 00.1	-0.6		
CFR	**Carcaliu**	**6.02**	**28**	⇓*i* P	Pn	23 26 00.1	-0.6		
KIZT	**Kizilcal**	**6.11**	**98**	*e*P	Pn	23 26 03.3	+1.1		
PLOR	**Plostina**	**6.19**	**17**	⇓*i* P	Pn	23 26 04.2	+1.0		
PLOR	**Plostina**	**6.19**	**17**	⇓*i* P	Pn	23 26 04.2	+1.0		
MDB	**Medias**	**6.20**	**2**	⇑*i* P	Pn	23 26 04.4	+1.2		
MDB	**Medias**	**6.20**	**2**	⇑*i* P	Pn	23 26 04.4	+1.2		
VRI	**Vrincioaia**	**6.22**	**17**	⇑*i* P	Pn	23 26 04.8	+1.2		
VRI	**Vrincioaia**	**6.22**	**17**	⇑*i* P	Pn	23 26 04.8	+1.2		
TLCR		**6.29**	**32**	⇓*i* P	Pn	23 26 04.4	0.0		
TLCR		**6.29**	**32**	⇓*i* P	Pn	23 26 04.4	0.0		
SAFT	**Safranbolu**	**6.66**	**76**	*e*P	Pn	23 26 11.3	+1.7		
KONT	**Konya--Tatoy**	**6.74**	**105**	*e*P	Pn	23 26 11.3	+0.6		
TESR	**Tescani**	**6.82**	**15**	⇑*i* P	Pn	23 26 12.4	+0.6		
TESR	**Tescani**	**6.82**	**15**	⇑*i* P	Pn	23 26 12.4	+0.6		
AFSR	**Af˘ar-Bala (A**	**6.93**	**91**	*e*P	Pn	23 26 14.4	+1.1		
BRTR	**Keskin Array B**	**7.34**	**89**	Pn	Pn	23 26 19.5	+0.5		
	comp=E,0.6nm,0.3s,baz=266,slow=12,SNR=17								
BRTR				Lg	Lg	23 28 31.2			
	baz=273,slow=25,SNR=7.6								
PKSM	**Moragy**	**7.43

DYR	Agios Nikonas	3.81	316	*e*PN	Pn	23 31 49.4	+1.7
DYR	Agios Nikonas	3.81	316	*e*Pn	Pn	23 31 49.4	+1.7
FETY	Fethiye	3.83	47	*e*PN	Pn	23 31 47.7	-0.3
KSL	Kastellorizon	3.87	56	*e*PN	Pn	23 31 50.6	+2.2
DIDY	Didyma	3.94	331	P	Pn	23 31 49.9	+0.4
DIDY				S	Sn	23 32 36.4	+0.2
DIDY	Didyma	3.94	331	P	Pn	23 31 49.9	+0.4
DIDY				S	Sn	23 32 36.4	+0.2
DID	Didima	3.96	331	P	Pn	23 31 49.6	-0.1
DID				S	Sn	23 32 35.5	-1.0
DID	Didima	3.96	331	*e*PN	Pn	23 31 49.8	+0.1
DID	Didima	3.96	331	*e*Pn	Pn	23 31 49.8	+0.1
DID				S	Sn	23 32 35.5	-1.0
NAIG	Nisos Aigina	4.09	336	*e*PB	Pn	23 31 54.6	+3.2
PTL	Penteli	4.24	341	*e*PN	Pn	23 31 54.6	+1.1
PTL	Penteli	4.24	341	*e*Pn	Pn	23 31 54.6	+1.1
PYL	PYLOS	4.25	313	*e*PN	Pn	23 31 53.6	-0.1
PYL	PYLOS	4.25	313	*e*Pn	Pn	23 31 53.6	-0.1
ITM	Ithomi	4.34	317	*e*PN	Pn	23 31 55.2	+0.3
ITM	Ithomi	4.34	317	*e*Pn	Pn	23 31 55.2	+0.3
CHOS	Chios island	4.34	5	*e*PN	Pn	23 31 56.9	+1.9
CHOS	Chios island	4.34	5	*e*Pn	Pn	23 31 56.9	+1.9
ELL	Elmali	4.42	51	*e*PN	Pn	23 31 55.7	-0.4
GUR	Goura	4.70	327	P	Pn	23 31 59.9	0.0
GUR	Goura	4.70	327	*e*PN	Pn	23 32 00.0	0.0
GUR	Goura	4.70	327	*e*Pn	Pn	23 32 00.0	0.0
AMT	Artemida-Makis	4.71	319	*e*PN	Pn	23 32 01.7	+1.7
AMT	Artemida-Makis	4.71	319	*e*Pn	Pn	23 32 01.7	+1.7
SWA2	baz=182	4.79	182	P	Pn	23 32 01.1	+0.1
SWA2		4.79	182	P	Pn	23 32 01.2	+0.1
ANTB	Antalya	5.00	54	*e*PN	Pn	23 32 04.0	+0.1
LKR	Lokris	5.06	336	*e*PN	Pn	23 32 07.1	+2.4
LKR	Lokris	5.06	336	*e*Pn	Pn	23 32 07.1	+2.4
KULA	Kula-Manisa	5.09	28	*e*PN	Pn	23 32 06.2	+0.9
LAKA	Lakka	5.12	326	*e*PN	Pn	23 32 05.7	+0.1
LAKA	Lakka	5.12	326	*e*Pn	Pn	23 32 05.7	+0.1
KALE	Kalithea	5.17	328	*e*PN	Pn	23 32 07.3	+1.0
KALE	Kalithea	5.17	328	*e*Pn	Pn	23 32 07.3	+1.0
RLS	Riolos of Patr	5.23	321	*e*PN	Pn	23 32 08.2	+1.1
RLS	Riolos of Patr	5.23	321	*e*Pn	Pn	23 32 08.2	+1.1
BCK	Bucak	5.29	48	*e*PN	Pn	23 32 08.4	+0.4
AOS	Alonnisos	5.30	345	*e*PN	Pn	23 32 09.4	+1.3
AOS	Alonnisos	5.30	345	*e*Pn	Pn	23 32 09.4	+1.3
EFP	Efpalio	5.30	327	*e*PN	Pn	23 32 09.4	+1.3
EFP	Efpalio	5.30	327	*e*Pn	Pn	23 32 09.4	+1.3
KHL	Karahalli	5.31	35	*e*PN	Pn	23 32 09.2	+0.9
LJBD	Adjabya	5.54	237	*i* P	Pn	23 32 11.7	+0.3
LJBD	SNR=76			*e*S	Sn	23 33 14.0	-1.5
	SNR=76						
SUTC	Sutluce-Ispart	5.55	50	*e*PN	Pn	23 32 12.3	+0.6
AGG	Agios Georgios	5.63	333	*e*PN	Pn	23 32 15.2	+2.6
AGG	Agios Georgios	5.63	333	*e*Pn	Pn	23 32 15.2	+2.6
EVR	Evrytania	5.75	329	*e*PN	Pn	23 32 16.5	+2.2
EVR	Evrytania	5.75	329	*e*Pn	Pn	23 32 16.5	+2.2
SHUT	Suhut-Afyon	6.01	40	*e*PN	Pn	23 32 18.5	+0.6
DST	Dursunbey	6.04	23	*e*PN	Pn	23 32 19.4	+1.0
LEF	Lefka	6.09	78	*e*PN	Pn	23 32 18.3	-0.7
LUJL	Ujela	6.14	218	*i* P	Pn	23 32 19.6	0.0
	SNR=76						
ALT	Altintas	6.17	35	*e*PN	Pn	23 32 21.0	+0.9
LKD2	Lefkada island	6.20	321	*e*PN	Pn	23 32 21.8	+1.4
LKD2	Lefkada island	6.20	321	*e*Pn	Pn	23 32 21.8	+1.4
TVSB	Tavsanli	6.21	29	*e*PN	Pn	23 32 21.5	+0.8
GONE	Gonen-Balikesi	6.21	15	*e*PN	Pn	23 32 21.7	+1.1
THL	Klokotos Trika	6.22	333	*e*PN	Pn	23 32 21.5	+0.8
THL	Klokotos Trika	6.22	333	*e*Pn	Pn	23 32 21.5	+0.8
HDMB	Hadim	6.31	61	*e*PN	Pn	23 32 22.1	-0.1
GELI	Tayfur-Gelibol	6.38	6	*e*PN	Pn	23 32 23.8	+1.0
CSS	Prodhromos	6.43	80	*e*PN	Pn	23 32 23.6	-0.1
CSS	Prodhromos	6.43	80	P	Pn	23 32 25.0	+1.3
CSS				S	Sn	23 33 35.1	-2.4
CSS	Prodhromos	6.43	80	P	Pn	23 32 25.0	+1.3
LIT	Litokhoron	6.54	338	*e*PN	Pn	23 32 27.6	+2.5
LIT	Litokhoron	6.54	338	*e*Pn	Pn	23 32 27.6	+2.5
LFK	Lefkose	6.64	77	*e*PN	Pn	23 32 26.0	-0.5
KONT	Konya--Tatoy	6.71	53	*e*PN	Pn	23 32 27.6	+0.2
RKY	Sarkoy--Tekirda	6.74	10	*e*PN	Pn	23 32 28.9	+0.9
LADK	Ladik-KONYA	6.85	51	*e*PN	Pn	23 32 29.4	-0.1
IKL	Isikli	6.96	69	*e*PN	Pn	23 32 30.8	-0.1
KIZT	Kizilcal	6.98	44	*e*PN	Pn	23 32 31.5	+0.3
HFRF	Wahat Farafira	7.26	161	P	Pn	23 32 35.5	+0.5
	baz=161						
HFRF	Wahat Farafira	7.26	161	P	Pn	23 32 35.5	+0.5
AMAG	Maghara	7.26	116	P	Pn	23 32 35.0	-0.1
	baz=116						
AMAG	Maghara	7.26	116	P	Pn	23 32 35.0	-0.1
FNA	Florina	7.52	335	*e*PN	Pn	23 32 40.5	+1.9
FNA	Florina	7.52	335	*e*Pn	Pn	23 32 40.5	+1.9
SULT	Sultanhani-AKS	7.61	55	*e*PN	Pn	23 32 39.8	-0.2
MMAI	Mount Meron Ar	8.23	94	Pn	Pn	23 32 48.0	-0.4
	comp=N,1.0nm,0.3s,baz=274,slow=12,SNR=9.6						
MMAI				Sn	Sn	23 34 21.2	-0.7
	comp=N,1.9nm,0.3s,baz=266,slow=39,SNR=4.2						
KARA	Karaisali	8.32	65	*e*PN	Pn	23 32 49.0	-0.6
NIG	Nigde	8.33	58	*e*PN	Pn	23 32 49.3	-0.6
BRTR	Keskin Array B	8.56	46	Pn	Pn	23 32 54.9	+1.8
	comp=N,0.2nm,0.3s,baz=221,slow=13,SNR=13						
BRTR	Keskin Array B	8.56	46	*i* P	Pn	23 32 56.5	+3.5
	comp=N,3.0nm,0.9s						
HTY	Hatay	8.87	74	*e*PN	Pn	23 32 56.0	-1.0
KOZT	Kozan	8.97	65	*e*PN	Pn	23 32 57.7	-0.8
EIL	Elat	9.06	116	Pn	Pn	23 32 59.8	+0.1
	comp=N,1.0nm,0.3s,baz=216,slow=19,SNR=2.0						
GTR	Jabal at Tayr	9.53	152	P	Pn	23 33 07.1	+1.0
	baz=152						
GTR	Jabal at Tayr	9.53	152	P	Pn	23 33 07.1	+1.0
LJFR	Jufra	9.71	242	*i* P	Pn	23 33 07.7	-0.9
	SNR=76						
SARI	SarD1z-Kayseri	9.75	60	*e*PN	Pn	23 33 08.2	-1.1
MLR	Muntele Rosu	11.43	1	LR	LR	23 38 12.8	
	comp=N,21nm,21.2s,baz=189,slow=39						
PGF	Pioggiola	15.54	308	*e*P	Pn	23 34 29.9	+1.7
	comp=N,39nm,1.2s						
GNI	Garni	16.42	63	Pn	P	23 34 42.5	+0.1
	comp=N,0.3nm,0.3s,baz=19,slow=3.4,SNR=5.0						
GNI	Garni	16.42	63	*e*P	P	23 34 44.2	+1.8
	comp=N,8.0nm,1.0s						
KIV	Kislovodsk	16.52	48	*i* P	P	23 34 45.3	+1.9
KIV				pmax	pmax		
	comp=Z,19nm,1.2s						
KIV	Kislovodsk	16.52	48	*i* P	P	23 34 45.3	+1.9
	comp=Z,19nm,1.2s						
KBZ	Khabaz	16.54	49	P	P	23 34 44.2	+0.7
KBZ	Khabaz	16.54	49	Pn	P	23 34 44.1	+0.7
	comp=Z,0.3nm,0.3s,baz=264,slow=6.4,SNR=13						
KBZ	Khabaz	16.54	49	P	P	23 34 44.2	+0.7
VRAC	Vranov	16.65	339	Pn	P	23 34 44.0	-0.8
	comp=Z,0.2nm,0.3s,baz=184,slow=8.3,SNR=4.6						
VRAC	Vranov	16.65	339	P	P	23 34 44.0	-0.8
ZEI	Tsey	16.74	53	*e*P	P	23 34 47.7	+1.7
ZEI				pmax	pmax		
	comp=Z,24nm,1.1s						
ZEI	Tsey	16.74	53	*e*P	P	23 34 47.7	+1.7
	comp=Z,24nm,1.1s						
SBF	Sospel	17.17	310	*e*P	P	23 34 50.5	-0.1
	comp=Z,32nm,1.1s						
SBF	Sospel	17.17	310	*e*P	P	23 34 50.5	-0.1
	comp=Z,32nm,1.1s						
GERES	GERESS Array B	17.24	333	P	Pn	23 34 49.4	-0.4
	comp=Z,0.3nm,0.3s,baz=145,slow=12,SNR=13						
GERES	GERESS Array B	17.24	333	P	Pn	23 34 49.4	-0.4
DAVOX	Davos/Dischmat	17.43	322	P	Pn	23 34 51.7	-0.6
	comp=Z,0.1nm,0.3s,baz=140,slow=17,SNR=1.7						
DAVOX	Davos/Dischmat	17.43	322	P	Pn	23 34 51.7	-0.6
KHC	Kasperske Hory	17.52	333	*e*P	P	23 34 56.2	+1.8
KHC	Kasperske Hory	17.52	333	*e*P	P	23 34 56.2	+1.8
KHC	Kasperske Hory	17.52	333	*e*P	P	23 34 56.2	+1.8
DPC	Dobruska-Polom	17.66	340	*e*P	P	23 34 57.7	+1.7
DPC	Dobruska-Polom	17.66	340	*e*P	P	23 34 57.7	+1.7
DPC	Dobruska-Polom	17.66	340	*e*P	P	23 34 57.7	+1.7
PRU	Pruhonice	17.90	336	*e*P	P	23 35 00.0	+1.5
PRU	Pruhonice	17.90	336	*e*P	P	23 35 00.0	+1.5
PRU	Pruhonice	17.90	336	*e*P	P	23 35 00.0	+1.5
MBDF	Montbardon	18.01	312	*e*P	P	23 35 02.8	+2.8
	comp=Z,9.8nm,0.9s						
LPG	La Plagne	18.42	314	*e*P	P	23 35 07.0	+2.4
LPG	La Plagne	18.42	314	*e*P	P	23 35 07.0	+2.4
SMRF	Simiane la Rot	18.42	308	*e*P	P	23 35 07.9	+3.5
	comp=Z,8.4nm,0.8s						
LPL	La Plagne	18.44	314	*e*P	Pn	23 35 07.2	+2.4
	comp=Z,7.1nm,0.9s						
LPL	La Plagne	18.44	314	*e*P	Pn	23 35 07.2	+2.4
	comp=Z,7.0nm,0.9s						
ORIF	Oris-en-Rattie	18.66	311	*e*P	Pn	23 35 08.5	+1.2
	comp=Z,19nm,1.4s						
ORIF	Oris-en-Rattie	18.66	311	*e*P	Pn	23 35 08.5	+1.2
	comp=Z,18nm,1.4s						
CABF	La Chapelle	19.41	316	*e*P	Pn	23 35 16.0	-0.4
	comp=Z,10nm,0.9s						
CABF	La Chapelle	19.41	316	*e*P	Pn	23 35 16.0	-0.4
	comp=Z,10.0nm,0.9s						
CLL	Collm	19.54	336	*e*P	Pn	23 35 19.0	+1.3
CLL	Collm	19.54	336	*e*(P)	Pn	23 35 19.0	+1.3
CLL	Collm	19.54	336	*e*P	Pn	23 35 19.0	+1.3
VORD	Divnogorie	19.63	26	*e*P	P	23 35 17.2	-0.3
VORD				pmax	pmax		
	comp=Z,10.0nm,1.4s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.9s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.8s						
VORD	Divnogorie	19.63	26	*e*P	P	23 35 17.2	-0.3
	comp=E,10.0nm,0.9s						
HINF	Hinteralfeld	19.68	320	*e*P	Pn	23 35 22.0	+2.4
	comp=E,5.1nm,0.7s						
VSR	Storozhevoye	19.79	26	*e*P	P	23 35 18.4	-0.8
VSR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
VSR				pmax	pmax		
	comp=N,10.0nm,1.0s						
VSR				pmax	pmax		
	comp=E,6.0nm,0.8s						
VSR	Storozhevoye	19.79	26	*e*P	P	23 35 18.4	-0.8
	comp=E,10.0nm,1.0s						
CDF	Champ du Feu	19.83	322	*e*P	Pn	23 35 23.5	+2.1
	comp=E,9.2nm,0.8s						
CAF	Calviac	21.10	308	*e*P	P	23 35 36.8	+3.2
	comp=E,7.3nm,0.9s						
AVF	Avril sur Loir	21.11	314	*e*P	P	23 35 35.4	+1.8
	comp=E,13nm,1.3s						
AVF	Avril sur Loir	21.11	314	*e*P	P	23 35 35.4	+1.8
	comp=E,13nm,1.3s						
BGF	Bois d'Agland	21.31	313	*e*P	P	23 35 38.0	+2.2
	comp=E,25nm,1.2s						
BGF	Bois d'Agland	21.31	313	*e*P	P	23 35 38.0	+2.2
	comp=E,24nm,1.2s						
TCF	Toulx Ste Croi	21.58	311	*e*P	P	23 35 42.3	+3.6
	comp=E,28nm,1.5s						
RJF	Les Rejaudoux	21.61	309	*e*P	P	23 35 39.3	+0.3
	comp=E,18nm,1.3s						
RJF	Les Rejaudoux	21.61	309	*e*P	P	23 35 39.3	+0.3
	comp=E,18nm,1.3s						
LFF	La Frestale	21.98	307	*e*P	P	23 35 45.2	+2.2
	comp=E,15nm,1.1s						
LFF	La Frestale	21.98	307	*e*P	P	23 35 45.2	+2.2
	comp=E,14nm,1.1s						
GIVF	Givet	22.15	323	*e*P	P	23 35 48.0	+3.3
	comp=E,34nm,1.2s						
OBN	Obninsk	22.41	17	*c i*P	P	23 35 47.3	-0.1
OBN				pmax	pmax		
	comp=Z,16nm,2.0s						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s						
OBN	Obninsk	22.41	17	*i* P	P	23 35 47.3	-0.1
	comp=Z,100nm,15.0s						
BAIF	Baives	22.43	322	*e*P	P	23 35 52.1	+4.3
	comp=Z,38nm,1.3s						
MFF	Saint Martin d	23.19	310	*e*P	P	23 35 56.2	+0.5
	comp=Z,5.9nm,0.8s						
MFF	Saint Martin d	23.19	310	*e*P	P	23 35 56.2	+0.5
	comp=Z,5.0nm,0.8s						
LDF	La Druitiere	24.03	315	*e*P	P	23 36 02.9	-1.2
LDF	La Druitiere	24.03	315	*e*P	P	23 36 02.9	-1.2
ESDC	Sonseca Array	24.26	292	P	P	23 36 05.8	-0.6
	comp=Z,1.0nm,0.6s,baz=74,slow=9.2,SNR=6.0						
VSU	Vasula	24.43	1	*c e*P	P	23 36 07.5	-0.1
VSU				pmax	pmax		
	comp=Z,18nm,1.2s						
VSU	Vasula	24.43	1	*e*P	P	23 36 07.5	-0.1
	comp=Z,18nm,1.2s						
SGMF	Saint Gilles	25.35	313	*e*P	P	23 36 17.3	+1.3
SGMF	Saint Gilles	25.35	313	*e*P	P	23 36 17.3	+1.3
ROSF	Rostrenen	25.82	312	*e*P	P	23 36 21.5	+1.2
ROSF	Rostrenen	25.82	312	*e*P	P	23 36 21.5	+1.2
HFS	Hagfors	27.24	347	P	P	23 36 32.3	-0.7
	comp=Z,4.5nm,1.1s,baz=129,slow=15,SNR=5.8						
HFS	Hagfors	27.24	347	P	P	23 36 32.3	-0.7
	comp=Z,5.0nm,1.1s						
FINES	FINESS Array B	27.41	0	P	P	23 36 32.9	-1.6
	comp=Z,1.6nm,0.8s,baz=161,slow=11,SNR=9.8						
FINES	FINESS Array B	27.41	0	P	P	23 36 32.9	-1.6
	comp=Z,2.0nm,0.8s						
NOA	NORSAR Array B	28.57	345	P	P	23 36 44.5	-0.4
	comp=Z,0.3nm,0.5s,baz=147,slow=9.0,SNR=3.4						
NOA	NORSAR Array B	28.57	345	P	P	23 36 44.5	-0.4
AKTK	Aktyubinsk	28.74	45	P	P	23 36 46.8	+0.3
	comp=Z,2.0nm,1.0s						
AKTO	Aktyubinsk	28.74	45	P	P	23 36 46.8	+0.2
AKTO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AKTO	Aktyubinsk	28.74	45	P	P	23 36 46.8	+0.2
	comp=Z,2.4nm,1.0s,baz=245,slow=8.0,SNR=6.8						
EKA	Eskdalemuir Ar	29.17	326	P	P	23 36 48.8	-1.4
	comp=Z,1.7nm,0.8s,baz=130,slow=8.9,SNR=4.3						
EKA	Eskdalemuir Ar	29.17	326	P	P	23 36 48.8	-1.4
	comp=Z,2.0nm,0.8s						
TORD	Torodi Ar. Bea	30.08	232	P	P	23 36 57.8	-1.0
	comp=Z,0.1nm,0.5s,baz=34,slow=8.0,SNR=11						
ARCES	ARCESS Array B	35.54	360	P	P	23 37 43.6	-2.2
	comp=Z,2.9nm,0.9s,baz=170,slow=8.1,SNR=5.0						
BRVK	Borovoye	36.80	45	*d i*P	P	23 37 57.6	+0.8
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRVK	Borovoye	36.80	45	*i* P	P	23 37 57.6	+0.8
	comp=Z,5.0nm,1.0s						
DBIC	Dimbokro	39.18	233	LR	LR	23 57 12.1	
	comp=Z,61nm,20.2s,baz=272,slow=40						
MKAR	Makanchi Array	44.08	56	P	P	23 38 57.8	+0.6
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR	Makanchi Array	44.08	56	P	P	23 38 57.8	+0.6
	comp=Z,3.5nm,0.8s,baz=280,slow=6.1,SNR=39						
MKAR	Makanchi Array	44.08	56	P	P	23 38 57.8	+0.6
	comp=Z,4.0nm,0.8s						
NVS	Novosibirsk	44.62	44	*e*P	P	23 39 01.4	+0.1
NVS				pmax	pmax		
	comp=Z,7.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.9s						
NVS	Novosibirsk	44.62	44	*e*P	P	23 39 01.4	+0.1
	comp=E,7.0nm,1.2s						
ZALV	Zalesovo Beam	45.51	45	P	P	23 39 08.5	+0.1
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	Zalesovo Beam	45.51	45	P	P	23 39 08.5	+0.1
	comp=Z,1.9nm,0.6s,baz=264,slow=9.5,SNR=12						
ZALV	Zalesovo Beam	45.51	45	P	P	23 39 08.5	+0.1
	comp=Z,2.2nm,0.6s						
ZAK	Zakamensk	57.20	48	*e*P	P	23 40 37.2	+0.9
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ZAK	Zakamensk	57.20	48	*e*P	P	23 40 37.2	+0.9
	comp=Z,3.0nm,1.1s						
SONM	Songino Array	59.90	50	P	P	23 40 55.2	0.0
	comp=Z,2.6nm,1.2s,baz=282,slow=7.4,SNR=5.7						
SONM	Songino Array	59.90	50	P	P	23 40 55.2	0.0
	comp=Z,3.0nm,1.2s						
SCHQ	Schefferville	64.28	320	P	P	23 41 24.1	-0.2
	comp=Z,1.6nm,0.6s,baz=97,slow=5.5,SNR=8.4						
YKA	Yellowknife Ar	78.62	342	P	P	23 42 50.3	-0.4
	comp=Z,0.6nm,0.6s,baz=33,slow=6.1,SNR=10.0						
YKA	Yellowknife Ar	78.62	342	P	P	23 42 50.3	-0.4
	comp=Z,1.0nm,0.6s						
KSRS	Korea Array	78.66	52	P	P	23 42 51.0	-0.3
	comp=Z,0.3nm,0.3s,baz=288,slow=4.3,SNR=3.5						
KSRS	Korea Array	78.66	52	P	P	23 42 51.1	-0.3
ILAR	Eielson Array	81.33	357	P	P	23 43 06.0	+0.7
	comp=Z,0.7nm,0.8s,baz=351,slow=3.6,SNR=7.8						
ILAR	Eielson Array	81.33	357	P	P	23 43 06.1	+0.7
	comp=Z,1.0nm,0.8s						
MJAR	Matsushiro Arr	85.78	48	P	P	23 43 28.4	-0.4
	comp=Z,0.7nm,0.4s,baz=307,slow=7.7,SNR=4.4						
MJAR	Matsushiro Arr	85.78	48	P	P	23 43 28.4	-0.4
	comp=Z,1.0nm,0.4s						

CSEM ***03*** *23:33:23.2, 42°.57N×13°.20E, h11km, MD2.0/14, After ROM*

ROM 03 23:33:23.2±0.1, 42°.57N×13°.20E, h11km, Md2.0/14, MI1.4/8, Error ellipse: s-maj=1.2km s-min=1.0km az=51.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.12**	**283**	Pg	Pg	23 33 26.8	+0.4
LNSS				Sg	Sg	23 33 29.1	+0.4
	414nm,0.1s						
LNSS	**Leonessa**	**0.12**	**283**	Pg	Pg	23 33 26.8	+0.4
LNSS				Sg	Sg	23 33 29.1	+0.4
	414nm,0.1s						
AQU	**L'Aquila**	**0.26**	**146**	Pg	Pg	23 33 29.3	+0.6
AQU				Sg	Sg	23 33 33.4	+1.0
AQU	**L'Aquila**	**0.26**	**146**	Pg	Pg	23 33 29.3	+0.6
AQU				Sg	Sg	23 33 33.4	+1.0
NRCA	**Norcia**	**0.27**	**346**	Pg	Pg	23 33 29.0	+0.2
NRCA				Sg	Sg	23 33 33.4	+0.8
	105nm,0.1s						
NRCA	**Norcia**	**0.27**	**346**	Pg	Pg	23 33 29.0	+0.2
NRCA				Sg	Sg	23 33 33.4	+0.8
	105nm,0.1s						
TERO	**Teramo**	**0.30**	**80**	Pg	Pg	23 33 29.4	0.0
TERO				Sg	Sg	23 33 34.0	+0.5
	56nm,0.2s						
TERO	**Teramo**	**0.30**	**80**	Pg	Pg	23 33 29.4	0.0
TERO				Sg	Sg	23 33 34.0	+0.5
	56nm,0.2s						
FIAM	**Fiamignano**	**0.31**	**192**	Pg	Pg	23 33 29.9	+0.2
FIAM				Sg	Sg	23 33 34.7	+0.7
	31nm,0.5s						
FIAM	**Fiamignano**	**0.31**	**192**	Pg	Pg	23 33 29.9	+0.2
FIAM				Sg	Sg	23 33 34.7	+0.7
	31nm,0.5s						
MNS	**Montasola**	**0.43**	**244**	Pg	Pg	23 33 31.8	0.0
MNS				Sg	Sb	23 33 38.6	-0.9
	14nm,0.3s						
MNS	**Montasola**	**0.43**	**244**	Pg	Pg	23 33 31.8	0.0
MNS				Sg	Sb	23 33 38.6	-0.9
	14nm,0.3s						
CESX	**Cesi**	**0.46**	**275**	Pg	Pb	23 33 32.9	-0.5
CESX	**Cesi**	**0.46**	**275**	Pg	Pb	23 33 32.9	-0.5
FDMO	**Fiordimonte**	**0.47**	**350**	Pg	Pg	23 33 32.6	+0.1
FDMO				Sg	Sb	23 33 40.0	-0.6
	11nm,0.2s						
FDMO	**Fiordimonte**	**0.47**	**350**	Pg	Pg	23 33 32.6	+0.1
FDMO				Sg	Sb	23 33 40.0	-0.6
	11nm,0.2s						
CESI	**CESI - Serrava**	**0.48**	**333**	Pg	Pg	23 33 32.8	0.0
CESI				Sg	Sb	23 33 40.6	-0.5
	6.0nm,0.5s						
CESI	**CESI - Serrava**	**0.48**	**333**	Pg	Pg	23 33 32.8	0.0
CESI				Sg	Sb	23 33 40.6	-0.5
	6.0nm,0.5s						
VCEL	**Villa Celiera**	**0.50**	**111**	Pg	Pb	23 33 33.9	-0.4
VCEL				Sg	Sb	23 33 41.8	0.0
VCEL	**Villa Celiera**	**0.50**	**111**	Pg	Pb	23 33 33.9	-0.4
VCEL				Sg	Sb	23 33 41.8	0.0
OFFI	**Offida**	**0.51**	**44**	Pg	Pb	23 33 34.2	0.0
OFFI	**Offida**	**0.51**	**44**	Pg	Pb	23 33 34.2	0.0
ASSB	**Assisi San Ben**	**0.62**	**320**	Pg	Pg	23 33 35.3	0.0
ASSB	**Assisi San Ben**	**0.62**	**320**	Pg	Pg	23 33 35.3	0.0

CSEM ***03*** *23:37:19.5±0.4, 77°.03N×19°.72E, h10km, ML3.9, Error ellipse: s-maj=22.1km s-min=4.8km az=69.0*

ISCJB ***03*** *23:37:20.8±0.6, 76°.88N±0°.05×19°.1E±0°.3, h17km, mb3.5/6, MS2.8/2, Error ellipse: s-maj=9.7km s-min=5.5km az=141.9*

IDC ***03*** *23:37:21.0±0.6, 76°.98N×18°.68E, h0km, mb3.6/6, mb1 3.8/10, mb1mx3.6/27, mbtmp3.6/10, ML3.5/4, MS2.9/4, Ms1 2.9/4, ms1mx2.6/45, Error ellipse: s-maj=22.2km s-min=7.8km az=72.0*

NAO ***03*** *23:37:21.4±1.6, 77°.04N×19°.54E, h13km±17km, ML4.0*

BER ***03*** *23:37:23.7±2.5, 77°.07N×19°.54E, h19km±19km, MD2.6, ML3.9, ML4.0(NAO)*

ISC 03 23:37:22.6±0.6, 76°.89N±0°.04×19°.04E±0°.07, h17km, n43, σ1°.78/52, mb3.5/6, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**0.80**	**280**	*e*P	**Pb**	**23 37 37.0**	**-1.0**
HSP				*e*S	**Sb**	**23 37 47.0**	**-1.5**
SPA0	**Spitsbergen Ar**	**1.42**

FIA0	**FINESS Array S**	**15.70**	**167**	Pn	**Pn**	**23 41 00.7**	**-1.8**
	SNR=62							
FINES	**FINESS Array B**	**15.70**	**167**	Pn	**Pn**	**23 41 01.0**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=7.7,slow=11,SNR=12							
FINES				Sn	Sn	23 43 45.5	-10	
	comp=Z,0.4nm,0.3s,baz=357,slow=21,SNR=4.1							
NB2	**NORSAR Subarra**	**16.14**	**194**	P	**P**	**23 41 11.4**	**0.0**	
	baz=343,slow=8.6							
NB2	**NORSAR Subarra**	**16.14**	**194**	P	**P**	**23 41 13.6**	**+2.2**	
	comp=Z,1.0nm,0.6s,baz=20,slow=6.5							
NB2	**NORSAR Subarra**	**16.14**	**194**	P	**P**	**23 41 11.4**	**0.0**	
	baz=343,slow=8.6							
NB2	**NORSAR Subarra**	**16.14**	**194**	P	**P**	**23 41 11.4**	**0.0**	
	SNR=57							
NOA	**NORSAR Array B**	**16.14**	**194**	Pn	**Pn**	**23 41 07.6**	**-0.7**	
	comp=Z,0.1nm,0.3s,baz=7.5,slow=12,SNR=2.9							
HFS	**Hagfors**	**16.93**	**189**	P	**P**	**23 41 20.9**	**+0.7**	
	baz=10,slow=11							
HFS	**Hagfors**	**16.93**	**189**	P	**P**	**23 41 20.9**	**+0.7**	
	baz=10,slow=11							
HFS	**Hagfors**	**16.93**	**189**	P	**P**	**23 41 20.4**	**+0.3**	
	comp=Z,0.3nm,0.3s,baz=357,slow=8.9,SNR=12							
HFS				LR	LR	23 47 37.7		
	comp=Z,54nm,21.2s,baz=24,slow=36							
HFS	**Hagfors**	**16.93**	**189**	P	**P**	**23 41 20.9**	**+0.7**	
	SNR=57							
GERES	**GERESS Array B**	**28.23**	**187**	P	**P**	**23 43 14.1**	**-0.1**	
	comp=Z,0.5nm,0.9s,baz=8.4,slow=8.0,SNR=4.8							
GERES				LR	LR	23 56 10.5		
	comp=Z,43nm,18.8s,baz=195,slow=40							
MLR	**Muntele Rosu**	**31.63**	**171**	LR	LR	23 56 57.8		
	comp=Z,12nm,19.9s,baz=59,slow=37							
ZALV	**Zalesovo Beam**	**32.79**	**96**	PcP	**PcP**	**23 46 39.8**	**+1.0**	
	comp=Z,0.9nm,0.6s,baz=310,slow=4.3,SNR=3.8							
KURBB	**Kurchatov Arra**	**34.48**	**104**	P	**P**	**23 44 11.0**	**+2.1**	
	comp=Z,0.7nm,0.7s,baz=332,slow=8.5,SNR=6.0							
YKA	**Yellowknife Ar**	**37.90**	**327**	PcP	**PcP**	**23 46 54.6**	**+1.0**	
	comp=Z,0.4nm,0.6s,baz=11,slow=2.9,SNR=4.6							
ILAR	**Eielson Array**	**38.30**	**350**	P	**P**	**23 44 41.4**	**-0.1**	
	comp=Z,0.7nm,0.7s,baz=3.7,slow=7.7,SNR=7.2							
ILAR				PcP	**PcP**	**23 46 55.1**	**+0.2**	
	comp=Z,0.5nm,0.6s,baz=338,slow=4.0,SNR=4.7							
MKAR	**Makanchi Array**	**38.92**	**102**	P	**P**	**23 44 49.1**	**+2.3**	
	comp=Z,0.8nm,0.8s,baz=341,slow=7.0,SNR=10							
TORD	**Torodi Ar. Bea**	**64.38**	**199**	P	**P**	**23 47 58.9**	**+1.6**	
	comp=Z,0.5nm,0.5s,baz=1.4,slow=7.7,SNR=7.4							
TXAR	**Lajitas Array**	**68.48**	**308**	P	**P**	**23 48 23.1**	**-0.4**	
	comp=Z,0.2nm,0.5s,baz=81,slow=3.9,SNR=3.9							
ASAR	**Alice Springs**	**118.47**	**71**	PKP	**PKPdf**	**23 56 08.2**	**-0.2**	
	comp=Z,0.2nm,0.5s,baz=6.4,slow=2.1,SNR=4.7							

*ISCJB **03** 23:41:36.8±1.7, 42°.85N±0°.05×1°.46W±0°.07, h13^{km}±16^{km}, Error ellipse: s-maj=9.1km s-min=7.9km az=42.0*
*CSEM **03** 23:41:37.1±0.1, 42°.85N×1°.48W, h10^{km}, ML1.3, Error ellipse: s-maj=2.8km s-min=2.6km az=26.0*
*LDG **03** 23:41:37.5±0.1, 42°.85N×1°.47W, h2^{km}, Md1.8/2, Ml1.4/1, Error ellipse: s-maj=1.3km s-min=1.2km az=78.0*
*MDD **03** 23:41:38.0±0.1, 42°.85N×1°.48W, h0^{km}, mbLg1.3/7, Error ellipse: s-maj=1.8km s-min=1.1km az=89.0, PRXIMO*

ISC 03 23:41:37.7±1.1, 42°.86N±0°.03×1°.47W±0°.04, h6^{km}±11^{km}, n23, σ0 s38/28, 2C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUNC	**Unciti**	**0.10**	**194**	⇑Pg	**Pg**	**23 41 39.8**	**-0.1**
	12nm,0.1s,SNR=18						
IUNC				Lg	Lg	23 41 41.6	
	34nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**194**	Pg	**Pg**	**23 41 39.8**	**-0.1**
	12nm,0.1s,SNR=18						
IUNC				Lg	Lg	23 41 41.6	
	34nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**327**	⇑Pg	**Pg**	**23 41 39.9**	**-0.1**
	11nm,0.1s,SNR=18						
IUSE				Lg	Lg	23 41 41.8	
	14nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**327**	Pg	**Pg**	**23 41 39.9**	**-0.1**
	11nm,0.1s,SNR=18						
IUSE				Lg	Lg	23 41 41.8	
	14nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.12**	**226**	Pg	**Pg**	**23 41 39.9**	**-0.2**
	5.5nm,0.0s,SNR=14						
EARA				Lg	Lg	23 41 41.9	
	34nm,0.1s,SNR=11						
EARA	**Aranguren**	**0.12**	**226**	Pg	**Pg**	**23 41 39.9**	**-0.2**
	5.5nm,0.0s,SNR=14						
EARA				Lg	Lg	23 41 41.8	
	34nm,0.1s,SNR=11						
IEPA	**Eparoz**	**0.17**	**117**	Pg	**Pg**	**23 41 40.8**	**-0.2**
	2.1nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	23 41 43.0	
	18nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**0.17**	**117**	Pg	**Pg**	**23 41 40.8**	**-0.2**
	2.1nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	23 41 43.0	
	18nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**0.17**	**94**	Pg	**Pg**	**23 41 40.8**	**-0.3**
	3.6nm,0.1s,SNR=7.9						
IELO				Lg	Lg	23 41 44.3	
	16nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.17**	**94**	Pg	**Pg**	**23 41 40.8**	**-0.3**
	3.6nm,0.1s,SNR=7.9						
IELO				Lg	Lg	23 41 44.3	
	16nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.31**	**352**	Pg	**Pg**	**23 41 43.7**	**-0.1**
	1.8nm,0.2s,SNR=8.3						
ELIZ				Lg	Lg	23 41 49.2	
	2.2nm,0.1s,SNR=5.0						
ELIZ	**Elizondo**	**0.31**	**352**	Pg	**Pg**	**23 41 43.7**	**-0.1**
	1.8nm,0.2s,SNR=8.3						
ELIZ				Lg	Lg	23 41 49.2	
	2.2nm,0.1s,SNR=5.0						
SJPF	**Ste Jean**	**0.31**	**34**	*e*Pg	**Pg**	**23 41 43.6**	**-0.2**
SJPF				*e*Sg	**Sg**	**23 41 48.1**	**+0.2**
	3.7nm,0.2s						
SJPF	**Ste Jean**	**0.31**	**34**	Pg	**Pg**	**23 41 43.6**	**-0.2**
SJPF				*e*Sg	**Sg**	**23 41 48.1**	**+0.2**
	1.9nm,0.2s						
SJPF				Lg	Lg	23 41 48.1	
	1.8nm,0.2s						
EALK	**Alkurruntz**	**0.37**	**355**	Pg	**Pg**	**23 41 44.7**	**-0.1**
	0.2nm,0.1s,SNR=7.1						
EALK				Lg	Lg	23 41 49.8	
	1.4nm,0.1s,SNR=4.8						
EALK	**Alkurruntz**	**0.37**	**355**	Pg	**Pg**	**23 41 44.7**	**-0.1**
	0.2nm,0.1s,SNR=7.1						
EALK				Lg	Lg	23 41 49.8	
	1.4nm,0.1s,SNR=4.8						
LARF	**Larrau**	**0.40**	**62**	Pg	**Pg**	**23 41 45.5**	**+0.2**
LARF				Lg	Lg	23 41 51.1	
ETSF	**Etsaut**	**0.67**	**86**	*e*Pg	**Pg**	**23 41 50.3**	**-0.2**
ETSF				*e*Sg	**Sg**	**23 41 59.7**	**+0.5**
	1.4nm,0.3s						
ETSF	**Etsaut**	**0.67**	**86**	Pg	**Pg**	**23 41 50.3**	**-0.2**
ETSF				Lg	Lg	23 41 59.7	
	0.6nm,0.3s						
EBIE	**Bielsa**	**1.20**	**98**	Pg	**Pn**	**23 42 02.0**	**+0.8**
	0.4nm,0.1s,SNR=5.5						
EBIE				Lg	Lg	23 42 18.5	
	0.5nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**1.20**	**98**	Pg	**Pn**	**23 42 02.0**	**+0.8**
	0.4nm,0.1s,SNR=5.5						
EBIE				Lg	Lg	23 42 18.5	
	0.5nm,0.2s,SNR=7.9						
EPF	**Esparros**	**1.34**	**82**	*e*Pg	**Pn**	**23 42 02.2**	**-0.8**
EPF				*e*Sg	**Sb**	**23 42 20.5**	**-0.1**
	0.6nm,0.2s						
EPF	**Esparros**	**1.34**	**82**	Pg	**Pn**	**23 42 02.2**	**-0.8**
EPF				*e*Sg	**Sb**	**23 42 20.5**	**-0.1**
	0.3nm,0.2s						
EPF				Lg	Lg	23 42 20.5	
	0.4nm,0.2s						

*CSEM **03** 23:42:32.8, 42°.86N×1°.48W, h0^{km}, ML0.7, After MDD*

MDD 03 23:42:32.8±0.3, 42°.86N×1°.48W, h0^{km}, mbLg0.7/5, Error ellipse: s-maj=2.8km s-min=2.7km az=29.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUNC	**Unciti**	**0.10**	**189**	Pg	Pg	23 42 34.5	-0.4
	0.5nm,0.0s,SNR=7.9						
IUNC				Lg	Lg	23 42 36.5	
	2.7nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**189**	Pg	Pg	23 42 34.5	-0.4
	0.5nm,0.0s,SNR=7.9						
IUNC				Lg	Lg	23 42 36.5	
	2.7nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.10**	**331**	Pg	Pg	23 42 34.7	-0.3
	1.7nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	23 42 36.6	
	2.7nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.10**	**331**	Pg	Pg	23 42 34.7	-0.3
	1.7nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	23 42 36.6	
	2.7nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.11**	**222**	Pg	Pg	23 42 34.7	-0.3
	0.5nm,0.0s,SNR=7.9						
EARA				Lg	Lg	23 42 36.6	
	4.7nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.11**	**222**	Pg	Pg	23 42 34.7	-0.3
	0.5nm,0.0s,SNR=7.9						
EARA				Lg	Lg	23 42 36.6	
	4.7nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.17**	**116**	Pg	Pg	23 42 35.9	-0.4
	0.1nm,0.0s,SNR=7.9						
IEPA				Lg	Lg	23 42 38.6	
	3.8nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**0.17**	**116**	Pg	Pg	23 42 35.9	-0.4
	0.1nm,0.0s,SNR=7.9						
IEPA				Lg	Lg	23 42 38.6	
	3.8nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**0.18**	**94**	Pg	Pg	23 42 35.8	-0.6
	0.1nm,0.1s,SNR=7.9						
IELO				Lg	Lg	23 42 39.1	
	2.7nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.18**	**94**	Pg	Pg	23 42 35.8	-0.6
	0.1nm,0.1s,SNR=7.9						
IELO				Lg	Lg	23 42 39.1	
	2.7nm,0.1s,SNR=7.9						

*CSEM **03** 23:48:14.6, 33°.96N×25°.40E, h16^{km}, MD3.5, After ATH*

ATH 03 23:48:14.6, 33°.96N×25°.40E, h16^{km}±4^{km}, MD3.5/9, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.16**	**335**	*e*PN	Pg	23 48 36.9	-0.2
SIVA				*e*SN	Sg	23 48 52.9	+0.6
SIVA	**Sivas**	**1.16**	**335**	*e*Pn	Pg	23 48 36.9	-0.2
SIVA				*e*Sn	Sg	23 48 52.9	+0.6
LAST	**Lasithi**	**1.20**	**3**	*e*PN	Pb	23 48 37.4	+0.3
LAST				*e*SN	Sg	23 48 54.2	+0.5
LAST	**Lasithi**	**1.20**	**3**	*e*Pn	Pb	23 48 37.4	+0.3
LAST				*e*Sn	Sg	23 48 54.2	+0.5
NPS	**Neapolis**	**1.31**	**8**	*e*PN	Pb	23 48 38.8	-0.1
NPS	**Neapolis**	**1.31**	**8**	*e*Pn	Pb	23 48 38.8	-0.1
IDI	**Anoyia**	**1.39**	**343**	*e*PN	Pb	23 48 40.8	+0.5
IDI	**Anoyia**	**1.39**	**343**	*e*Pn	Pb	23 48 40.8	+0.5
VAM	**Vamos**	**1.75**	**326**	*e*PN	Pb	23 48 47.2	+0.8
VAM	**Vamos**	**1.75**	**326**	*e*Pn	Pb	23 48 47.2	+0.8
KARP	**Karpathos**	**2.15**	**42**	*e*PN	Pb	23 48 52.0	-1.2
KARP	**Karpathos**	**2.15**	**42**	*e*Pn	Pb	23 48 52.0	-1.2
KYTH	**Kithira**	**3.02**	**321**	*e*PB	Pb	23 49 05.2	-2.8
KYTH	**Kithira**	**3.02**	**321**	*e*Pb	Pb	23 49 05.2	-2.8
APE	**Apeiranthos**	**3.10**	**2**	*e*PN	Pn	23 49 04.1	+1.1
APE	**Apeiranthos**	**3.10**	**2**	*e*Pn	Pn	23 49 04.1	+1.1
ARG	**Arkhangelos**	**3.17**	**44**	*e*PB	Pb	23 49 07.6	-3.0
ARG	**Arkhangelos**	**3.17**	**44**	*e*Pb	Pb	23 49 07.6	-3.0
VLI	**Veliai**	**3.41**	**325**	*e*PN	Pn	23 49 09.6	+2.5
VLI	**Veliai**	**3.41**	**325**	*e*Pn	Pn	23 49 09.6	+2.5
DYR	**Agios Nikonas**	**3.75**	**319**	*e*PN	Pn	23 49 15.1	+3.2
DYR	**Agios Nikonas**	**3.75**	**319**	*e*Pn	Pn	23 49 15.1	+3.2
DID	**Didima**	**3.95**	**334**	*e*PN	Pn	23 49 16.5	+1.9
DID	**Didima**	**3.95**	**334**	*e*Pn	Pn	23 49 16.5	+1.9
GUR	**Goura**	**4.68**	**329**	*e*PN	Pn	23 49 26.9	+2.2
GUR	**Goura**	**4.68**	**329**	*e*Pn	Pn	23 49 26.9	+2.2

MEX 04 00:20:40.4±1.0, 16°.60N×95°.13W, h114^{km}±14^{km}, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.26**	**229**	*e*P	Pn	00 21 02.5	-2.1
HUIG				*i* S	Sn	00 21 21.5	-1.5
VHO	**Vista Hermosa**	**1.61**	**287**	*e*P	Pn	00 21 08.3	-0.7
VHO				*i* S	Sn	00 21 29.5	-1.3
TGIG		**1.93**	**84**	*e*P	Pn	00 21 11.0	-1.7
TGIG				*i* S	Sn	00 21 34.9	-2.6
PCIG		**2.04**	**116**	*e*P	Pn	00 21 13.5	-0.5
PCIG				*i* S	Sn	00 21 38.9	-0.8
TPIG	**Tehuac#an**	**2.80**	**311**	*e*P	Pn	00 21 22.9	-1.1
TPIG				*e*S	Sn	00 21 55.9	-1.8
UTMO	**Huajuapan**	**2.84**	**296**	*e*P	Pn	00 21 23.9	-0.8
UTMO				*i* S	Sn	00 21 56.2	-2.5
PNIG	**Pinotepa**	**2.89**	**266**	*e*P	Pn	00 21 23.8	-1.3
PNIG				*e*S	Sn	00 21 57.0	-2.5
PLIG	**Platanillo**	**4.54**	**294**	*e*P	Pn	00 21 46.2	-1.1
PLIG				*i* S	Sn	00 22 36.9	-2.2
ACX	**Acapulco**	**4.54**	**274**	*e*P	Pn	00 21 47.3	+0.1
ACX				*e*S	Sn	00 22 37.9	-1.1
CAIG	**El Cayaco**	**4.95**	**276**	*e*P	Pn	00 21 51.6	-0.9
CAIG				*i* S	Sn	00 22 46.8	-1.9
ARIG	**Puente Sto Nin**	**5.26**	**289**	*e*P	Pn	00 21 55.8	-1.0
ARIG				*i* S	Sn	00 22 53.6	-2.7

*MOS **04** 00:41:47.7±0.9, 13°.80N×120°.78E, h136^{km}, mb5.1/51, Error ellipse: s-maj=9.3km s-min=4.8km az=117.1*
*NEIC **04** 00:41:48.1±0.2, 13°.64N×120°.74E, mb5.1/32, Error ellipse: s-maj=7.1km s-min=4.9km az=85.0*
NEIC Felt [II PIVS] at Puerto Galera. Also felt at Calapan. Felt [II PIVS] at Batangas, Luzon. Also felt at Manila.
*IDC **04** 00:41:48.4±0.3, 13°.72N×120°.80E, h128^{km}±2^{km}, mb4.4/31, mb1 4.5/32, mb1mx4.4/36, mbtmp4.4/32, MS3.8/12, Ms1 3.8/12, ms1mx3.5/34, Error ellipse: s-maj=11.2km s-min=7.2km az=81.0*
*ISCJB **04** 00:41:49.1±0.3, 13°.77N±0°.02×120°.80E±0°.03, h149^{km}±2^{km}, mb4.9/138, Error ellipse: s-maj=4.8km s-min=3.0km az=7.1*
*MAN **04** 00:41:49, 13°.79N×120°.52E, h94^{km}, mb5.7, ML4.7, MS5.1*
MAN INTENSITY II - BATANGAS CITY; PUERTO GALERA.
*BJI **04** 00:41:50.2, 13°.81N×120°.79E, h157^{km}, mB5.1/33, mb5.1/55*
*GCMT **04** 00:41:50.4±0.2, 13°.80N×120°.61E, h132^{km}±1^{km}, MW5.2, Moment Tensor Solution. s63,c92; s94,c171; Moment tensor: Scale 10^{16}Nm; M$_{rr}$3.66±.15; M$_{\theta\theta}$-3.01±.17; M$_{\phi\phi}$-0.66±.20; M$_{r\theta}$2.24±.11; M$_{\theta\phi}$5.65±.14; M$_{\phi r}$3.73±.13; Best double couple: M$_0$7.90000×10^{16} NP1:ϕ_s94.00000°, δ58.00000°, λ32.00000°. NP2:ϕ_s345.00000°, δ63.00000°, λ143.00000°. Principal axes: T 8.1200, Plg44.0000°, Azm307.0000°; N -0.4800, Plg46.0000°, Azm134.0000°; P -7.6400, Plg4.0000°, Azm40.0000°; Data Used: II IU IC G CN.*
*DJA **04** 00:41:56.2±1.0, 14°.5N×12°.1E±°, h202^{km}±11^{km}, M4.7/32, mB5.2/16, mb4.9/32, Mw(mB)4.6/16*
*BKK **04** 00:41:58.1±1.0, 14°.6N×12°.0E±°, h193^{km}±10^{km}, M4.7/29, mB5.2/20, mb5.2/29, Mw(mB)4.7/20*
*SZGRF **04** 00:42:03.7, 17°.42N×116°.34E, h33^{km}, mb5.2, South China Sea*

ISC 04 00:41:49.2±0.3, 13°.76N±0°.04×120°.75E±0°.04, h138^{km}±2^{km}, h138^{km}:pP-P, n479, σ1s47/589, mb5.1/150, 54C-15D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.33**	**142**	⇑*i*P	**Pn**	**00 42 06.6**	**-1.8**
TGY	**Tagaytay City**	**0.38**	**29**	P	**Pn**	**00 42 08.0**	**-0.7**
TGY				S	**Sn**	**00 42 22.1**	**-1.4**
TGY	**Tagaytay City**	**0.38**	**29**	⇑*i*P	**Pn**	**00 42 08.2**	**-0.5**
TGY	**Tagaytay City**	**0.38**	**29**	P	**Pn**	**00 42 08.0**	**-0.7**
	7μm,0.3s,baz=220,slow=4.4,SNR=295						
TGY				S	**Sn**	**00 42 22.1**	**-1.4**
	8μm,0.3s,baz=198,slow=20,SNR=38						
LQP	**Lukban**	**0.84**	**66**	⇑*i*P	**Pn**	**00 42 12.3**	**+0.6**
GQP	**Guinayangan**	**1.66**	**85**	⇑*e*P	**Pn**	**00 42 21.1**	**+1.5**
BALP	**Baler**	**2.12**	**22**	*e*P	**Pn**	**00 42 26.6**	**+1.5**
SCZP	**Santa Cruz**	**2.16**	**338**	*e*P	**Pn**	**00 42 23.6**	**-1.9**
SCZP				*e*S	Sn	00 42 42.2	-11
BCPH	**Baguio City Da**	**2.61**	**357**	⇓*i*P	**Pn**	**00 42 28.9**	**-2.4**
BOLP	**Bolinao**	**2.72**	**343**	*e*P	**Pn**	**00 42 32.3**	**-0.3**
RCP	**Roxas**	**2.93**	**138**	⇑*e*P	**Pn**	**00 42 36.1**	**+0.8**

CAUP	**Cauayan**	**3.33**	**18**	*e*P	**Pn**	**00 42 41.8**	**+1.5**	
PALP	**Palanan**	**3.66**	**26**	*e*P	**Pn**	**00 42 45.9**	**+1.2**	
ABRA	**Dolores**	**3.86**	**360**	*e*P	**Pn**	**00 42 47.8**	**+0.4**	
APYP	**Conner**	**4.10**	**7**	*e*P	**Pn**	**00 42 52.1**	**+1.6**	
PPR	**Puerto Princes**	**4.43**	**207**	⇓*e*P	**Pn**	**00 42 54.8**	**-0.1**	
PIP	**Pasuquin**	**4.54**	**358**	⇓*e*P	**Pn**	**00 42 56.4**	**+0.2**	
LLP	**Lapu-Lapu**	**4.65**	**137**	⇑*e*P	**Pn**	**00 42 54.8**	**-3.1**	
DCPH	**Dipolog City**	**5.75**	**153**	⇑*e*P	**Pn**	**00 43 13.1**	**+0.7**	
CTBH	**Cotabato--PC H**	**7.36**	**152**	⇓*i*P	**Pn**	**00 43 35.9**	**+1.8**	
KDM	**Kudat**	**7.82**	**210**	P	**Pn**	**00 43 40.6**	**+0.3**	
DAV	**Davao City (W)**	**8.18**	**144**	P	Pn	00 43 48.5	+3.4	
	SNR=9.3							
DAV	**Davao City (W)**	**8.18**	**144**	*e*Pn	**Pn**	**00 43 48.2**	**+3.2**	
DAV	**Davao City (W)**	**8.18**	**144**	P	**Pn**	**00 43 48.2**	**+3.2**	
	81nm,0.3s,baz=249,slow=18,SNR=8.6							
DAV				LR	LR	00 47 41.6		
	comp=Z,551nm,20.4s,baz=323,slow=44							
SDKM	**Sandakan**	**8.80**	**204**	P	**Pn**	**00 43 53.2**	**-0.2**	
MYLDM	**Lahad Datu**	**8.81**	**195**	P	**Pn**	**00 43 56.6**	**+3.0**	
KKM	**Kota Kinabalu**	**8.87**	**211**	P	**Pn**	**00 43 55.2**	**+0.7**	
TPUB	**Ta-pu**	**9.49**	**359**	*e*Pn	**Pn**	**00 44 05.3**	**+2.7**	
YULB	**Yu-li**	**9.59**	**3**	*e*Pn	**Pn**	**00 44 06.2**	**+2.3**	
	37nm,1.1s							
TSM	**Tawau**	**9.83**	**197**	P	**Pn**	**00 44 09.2**	**+2.0**	
SSLB	**Suanglung**	**9.97**	**1**	*e*Pn	**Pn**	**00 44 11.5**	**+2.4**	
YHNB	**Yeheng**	**10.87**	**3**	*e*Pn	**Pn**	**00 44 23.6**	**+2.6**	
	83nm,1.4s							
QIZ	**Qiongzhong**	**11.70**	**298**	P	**Pn**	**00 44 31.9**	**0.0**	
QIZ				pmax	pmax			
	comp=Z,44nm,1.4s							
MNI	**Manado**	**12.89**	**161**	P	**P**	**00 44 53.4**	**+0.4**	
	comp=Z,204nm,0.5s							
BTM	**Bintulu**	**12.94**	**216**	P	**Pn**	**00 44 49.0**	**+0.9**	
GTOI	**Gorontalo**	**13.23**	**170**	P	**Pn**	**00 44 51.8**	**-0.1**	
MRSI	**Marisa**	**13.25**	**175**	P	**Pn**	**00 44 54.1**	**+1.9**	
	comp=Z,105nm,1.2s,comp=Z,1μm							
GAMI	**Galela, Maluku**	**13.74**	**149**	P	P	00 45 07.6	+5.2	
SBUM	**Sibu**	**14.05**	**218**	P	**Pn**	**00 45 03.7**	**+1.4**	
JOW	**Kunigami**	**14.79**	**27**	*e*Pn	**P**	**00 45 13.6**	**-0.3**	
LUWI	**Luwuk**	**14.85**	**172**	P	**P**	**00 45 16.7**	**+2.1**	
	comp=Z,166nm,1.1s,comp=Z,2μm							
UBPT	**Khong Chiam**	**14.87**	**278**	P	**P**	**00 45 14.5**	**-0.3**	
	comp=Z,174nm,1.1s,comp=Z,2μm							
UBPT	**Khong Chiam**	**14.87**	**278**	P	**P**	**00 45 14.6**	**-0.3**	
	comp=Z,174nm,1.1s,comp=Z,2μm							
KSM	**Kuching**	**15.99**	**221**	P	**P**	**00 45 27.7**	**+0.4**	
STKI	**Sintang**	**16.42**	**215**	P	**P**	**00 45 34.0**	**+2.0**	
	comp=Z,92nm,1.3s,comp=Z,14μm							
SKNT	**Sakolnakorn**	**16.48**	**283**	P	**P**	**00 45 35.0**	**+2.3**	
	comp=Z,176nm,1.0s,comp=Z,3μm							
TTSI	**Tana Toraja**	**16.73**	**183**	P	**Pn**	**00 45 37.4**	**+1.9**	
	comp=Z,41nm,1.1s,comp=Z,2μm							
SSE	**Sheshan**	**17.25**	**1**	P	**Pn**	**00 45 42.9**	**+1.1**	
SSE				S	**S**	**00 48 46.8**	**-7.1**	
SSE				pmax	pmax			
	comp=Z,22nm,0.6s							
SSE				pmax	pmax			
	comp=Z,79nm,4.0s							
SPSI	**Sidrap Palu**	**17.64**	**183**	P	**Pn**	**00 45 47.3**	**+0.8**	
	comp=Z,24nm,1.6s,comp=Z,1μm							
WHN	**Wuhan**	**17.71**	**342**	P	**Pn**	**00 45 50.5**	**+3.3**	
WHN				sP	**sP**	**00 46 26.2**	**-1.6**	
WHN				S	**S**	**00 48 59.1**	**-4.0**	
WHN				pmax	pmax			
	comp=Z,210nm,1.4s							
WHN				LR	LR			
	comp=N,1μm,18.2s							
WHN				LR	LR			
	comp=E,640nm,15.3s							
WHN				LR	LR			
	comp=Z,740nm,11.8s							
CHBT	**CHBT**	**17.95**	**269**	P	**Pn**	**00 45 50.8**	**+0.5**	
	comp=Z,171nm,1.2s							
CHBT	**CHBT**	**17.95**	**269**	P	**Pn**	**00 45 50.8**	**+0.5**	
	comp=Z,171nm,1.2s							
BBKI	**Banjar Baru**	**18.09**	**199**	P	**Pn**	**00 45 51.7**	**-0.2**	
	comp=Z,270nm,1.1s							
CHAI	**Chaiyaphum**	**18.26**	**279**	P	**Pn**	**00 45 53.7**	**-0.2**	
	comp=Z,89nm,1.4s,comp=Z,852nm							
GYA	**Guiyang**	**18.26**	**316**	⇑*i*P	**Pn**	**00 45 54.0**	**0.0**	
GYA				PP	**pP**	**00 46 19.4**	**+2.8**	
GYA				sP	sP	00 46 43.0	+8.9	
GYA				S	**S**	**00 49 11.8**	**-2.5**	
GYA				Pc

KULM Kulim 21.52 249 P P 00 46 28.2 +0.8
IPM Ipoh 21.53 246 P P 00 46 27.6 0.0
FRIM Kepong 21.59 243 P P 00 46 30.1 +1.9
CMAI Chiengmai2 21.64 289 P P 00 46 30.3 +1.3
comp=Z,525nm,1.2s
SRBI Singaraja 22.39 195 P P 00 46 36.3 -0.1
comp=Z,105nm0.8s,comp=Z,1μm
KHKI Kahang-Kahang 22.57 193 P P 00 46 38.6 +0.5
comp=Z,88nm,1.0s
TIA Tai'an 22.59 352 P P 00 46 38.3 +0.2
TIA pmax pmax
comp=Z,50nm,1.3s
PKDT Phuket 22.76 257 P P 00 46 40.9 +0.9
comp=Z,97nm,1.3s,comp=Z,2μm
XAN Xi'an 22.86 334 P P 00 46 40.2 -0.6
XAN S S **00 50 37.1 -2.8**
XAN pmax pmax
comp=Z,28nm,0.7s
XAN pmax pmax
comp=Z,73nm,4.4s
XAN LR LR
comp=N,420nm,17.3s
XAN LR LR
comp=E,260nm,17.8s
XAN LR LR
comp=Z,130nm,14.6s
GMJI Gumukmas 23.06 199 P P 00 46 44.8 +2.1
comp=Z,58nm,1.4s
CD2 Chengdu 23.14 320 P P 00 46 44.0 +0.5
CD2 pP **pP 00 47 15.0 +5.1**
CD2 PP **PnPn 00 47 23.0 +4.9**
CD2 sP sP 00 47 33.8 +6.7
CD2 PcP **PcP 00 50 28.8 +0.9**
CD2 S **S 00 50 40.8 -3.7**
CD2 sS **sS 00 51 31.0 -1.5**
CD2 SS **SnSn 00 51 42.0 +6.9**
CD2 pmax pmax
comp=Z,230nm,1.0s
CD2 pmax pmax
comp=Z,570nm,4.3s
CD2 LR LR
comp=N,490nm,11.3s
CD2 LR LR
comp=E,450nm,12.3s
CD2 LR LR
comp=Z,520nm,12.9s
SJI Sawahan 23.14 203 P P 00 46 45.4 +1.8
comp=Z,49nm,1.6s
PWJI Pagerwojo 23.39 203 P P 00 46 46.9 +1.1
comp=Z,58nm,1.1s
BKNI Bangkinang 23.64 237 P P 00 46 48.4 +0.3
comp=Z,258nm,1.0s,comp=Z,2μm
BJII Banjamegara 23.65 208 P P 00 46 49.7 +1.5
comp=Z,54nm,1.6s
KPJI Karang Pucung 24.02 210 P P 00 46 52.2 +0.7
comp=Z,15nm,1.0s,comp=Z,1μm
PSI Prapat 24.16 245 P P 00 46 53.5 +0.6
PSI Prapat 24.16 245 P P 00 46 53.5 +0.6
comp=Z,67nm,0.8s,baz=49,slow=5.3,SNR=50
TSI Tuntungan 24.16 247 P P 00 46 53.9 +1.1
comp=Z,242nm,0.8s
KSAR Wonju Array Be 24.43 14 P P 00 46 55.9 +0.9
KSAR pP **pP 00 47 22.1 -1.4**
KSAR PcP **PcP 00 50 31.1 +0.7**
KSRS Korea Array 24.45 14 P P 00 46 55.9 +0.7
comp=Z,8.9nm,1.1s,baz=190,slow=9.7,SNR=20
KSRS pP **pP 00 47 22.1 -1.5**
comp=Z,2.4nm,0.9s,baz=193,slow=13,SNR=2.2
KSRS PcP **PcP 00 50 31.1 +0.6**
comp=Z,1.5nm,0.8s,baz=186,slow=2.2,SNR=5.7
PPI Padang Panjang 24.62 237 P P 00 46 57.5 +0.6
comp=Z,138nm,1.2s,comp=Z,1μm
KCSI Kotacane, Aceh 24.86 248 P P 00 46 58.3 -0.9
comp=Z,69nm,1.1s
LHMI Lhok Sumawe 24.93 252 P P 00 47 00.6 +0.7
comp=Z,210nm,0.9s
KSI Kapahiang 24.98 227 P P 00 47 02.1 +1.8
comp=Z,110nm,0.8s
KASI Kota Agung 25.05 221 P P 00 47 01.2 +0.4
comp=Z,51nm,0.9s
BSI Banda Aceh 26.38 254 P P 00 47 12.3 -0.6
comp=Z,56nm,1.0s
BJI Beijing 26.48 352 P P 00 47 13.8 +0.3
BJI S **S 00 51 37.4 +0.2**
BJI pmax pmax
comp=Z,20nm,1.8s
BJI pmax pmax
comp=Z,210nm,4.0s
BJI LR LR
comp=N,430nm,15.5s
BJI LR LR
comp=E,450nm,12.6s
BJI LR LR
comp=Z,200nm,17.0s
LZH Lanzhou 26.91 329 *e*P **P 00 47 19.2 +1.5**
LZH pP pP 00 47 54.3 +7.4
LZH sP sP 00 48 14.6 +12
LZH PcP **PcP 00 50 33.2 -3.2**
LZH *e*S **S 00 51 44.1 -0.4**
LZH SS **SnSn 00 53 11.5 +4.8**
LZH pmax pmax
comp=Z,99nm,1.1s
LZH pmax pmax
comp=Z,340nm,5.5s
LZH LR LR
comp=N,1μm,15.8s
LZH LR LR
comp=E,2μm,13.1s
LZH LR LR
comp=Z,2μm,17.7s
MJAR Matsushiro Arr 27.55 31 P P 00 47 22.7 -0.5
MJAR PcP **PcP 00 50 38.2 +0.5**
MJAR Matsushiro Arr 27.55 31 P P 00 47 22.7 -0.5
comp=Z,1.6nm,0.8s,baz=213,slow=9.6,SNR=8.2
MJAR PcP **PcP 00 50 38.2 +0.5**
comp=Z,0.9nm,0.7s,baz=214,slow=1.8,SNR=5.7
HHC Hu-ho-hao-te 28.15 345 *e*P **P 00 47 29.3 +0.7**
HHC pP **pP 00 47 58.9 +0.9**
HHC sP **sP 00 48 15.4 +1.5**
HHC PP **PnPn 00 48 26.2 +1.8**
HHC S **S 00 52 02.3 -1.5**
HHC sS **sS 00 52 55.4 -0.1**
HHC SS **SnSn 00 53 38.0 +1.5**
HHC pmax pmax
comp=Z,36nm,0.9s
HHC pmax pmax
comp=Z,160nm,5.2s
HHC LR LR
comp=N,370nm,11.6s
HHC LR LR
comp=E,330nm,12.4s
HHC LR LR
comp=Z,240nm,13.7s
BTO Baotou 28.34 343 *e*P **P 00 47 29.7 -0.5**
CN2 Changchun 30.20 7 *e*P P 00 47 50.2 +3.7
CN2 *e*S **S 00 52 37.6 +1.9**
CN2 LR LR
comp=N,300nm,16.0s
CN2 LR LR
comp=E,200nm,16.0s
CN2 LR LR
comp=Z,200nm,14.0s
VLA Vladivostok 30.79 16⇑ *e*P **P 00 47 51.3 -0.4**
VLA pmax pmax
comp=Z,32nm,1.7s
GTA Gaotai 31.51 328⇑ *i*P **P 00 47 59.7 +1.4**
GTA pP **pP 00 48 32.5 +4.6**
GTA sP sP 00 48 50.8 +7.0
GTA PcP **PcP 00 50 50.1 +2.2**
GTA S **S 00 52 56.8 +0.3**
GTA sS sS 00 53 54.8 +6.4
GTA ScP **ScP 00 54 19.2 +0.8**
GTA SS **SnSn 00 54 52.2 -5.9**
GTA pmax pmax
comp=Z,110nm,1.1s
GTA pmax pmax
comp=Z,140nm,5.7s
GTA LR LR
comp=N,590nm,17.6s
GTA LR LR
comp=E,450nm,14.2s
GTA LR LR
comp=Z,540nm,14.3s
LSA Lhasa 31.61 305 P **P 00 48 01.0 +1.3**
LSA Lhasa 31.61 305 *e*P **P 00 48 00.8 +1.2**
LSA pmax pmax
comp=Z,45nm,0.7s
LSA Lhasa 31.61 305 *e*P **P 00 48 00.8 +1.2**
comp=Z,45nm,0.7s
MDJ Mudanjiang 31.66 12 P **P 00 48 00.0 +0.7**
MDJ pP **pP 00 48 33.7 +4.7**
MDJ sP sP 00 48 52.3 +7.4
MDJ S **S 00 52 58.7 +0.3**
MDJ sS sS 00 53 57.9 +7.5
MDJ ScP **ScP 00 54 15.9 -2.7**
MDJ PcS **PcS 00 54 32.2 -0.4**
MDJ pmax pmax
comp=Z,7.0nm,1.1s
MDJ pmax pmax
comp=Z,49nm,3.7s
USRK Ussuriysk Arra 31.82 15 P **P 00 48 01.3 +0.6**
comp=Z,5.5nm,1.0s,baz=193,slow=7.8,SNR=12
USRK LR LR 01 00 21.2
comp=Z,169nm,19.4s,baz=345,slow=35
FITZ Fitzroy Crossi 32.03 171 P **P 00 48 02.3 -0.5**
FITZ Fitzroy Crossi 32.03 171 P **P 00 48 02.3 -0.5**
comp=Z,3.7nm,0.9s,baz=349,slow=10
TAPN Taplejung 33.64 299⇑ *i*P **P 00 48 18.0 +0.8**
comp=Z,123nm,0.6s
ODAN Odare 33.77 298⇑ *i*P **P 00 48 18.8 +0.5**
comp=Z,335nm,0.8s
ERM Erimo 34.20 30⇑ *e*P **P 00 48 20.8 -0.7**
ERM pmax pmax
comp=Z,31nm,1.2s
RAMN Ramite 34.47 298⇑ *i*P **P 00 48 25.2 +0.9**
comp=Z,345nm,0.9s
JIRN Jiri 35.02 299⇑ *i*P **P 00 48 30.0 +0.8**
comp=Z,202nm,0.5s
GUN Gumba 35.35 299⇑ *i*P **P 00 48 32.7 +0.7**
comp=Z,179nm,0.5s
ASAJ Asahikawa 35.55 27 *e*P **P 00 48 34.7 +1.7**
comp=Z,3.0nm,0.7s
ASAJ Asahikawa 35.55 27 P **P 00 48 32.5 -0.5**
comp=Z,3.5nm,0.3s,baz=277,slow=32,SNR=5.6
PKI Pulchoki 35.66 298⇑ *i*P **P 00 48 34.7 +0.1**
comp=Z,140nm,0.6s
PKIN Phulchoki 35.67 298 *e*P **P 00 48 34.8 +0.2**
comp=Z,57nm,0.5s
KKN Kakani 35.83 299⇑ *i*P **P 00 48 36.2 +0.3**
comp=Z,104nm,0.6s
ULN Ulaanbaatar 35.86 344 P **P 00 48 36.7 +0.9**
SNR=17
ULN Ulaanbaatar 35.86 344 *e*P **P 00 48 36.6 +0.8**
comp=Z,34nm,1.3s
ULN Ulaanbaatar 35.86 344 P **P 00 48 35.6 -0.2**
comp=Z,31nm,1.5s,comp=Z,488nm
DMN Daman 35.93 298⇑ *i*P **P 00 48 37.1 +0.3**
comp=Z,96nm,0.6s
SONM Songino Array 36.01 343 P **P 00 48 37.6 +0.6**
SONM ScP **ScP 00 54 34.8 +0.7**
SONM Songino Array 36.01 343 P **P 00 48 37.6 +0.6**
comp=Z,12nm,0.6s,baz=164,slow=9.6,SNR=34
SONM ScP **ScP 00 54 34.8 +0.7**
comp=Z,1.1nm,0.8s,baz=180,slow=4.4,SNR=4.5
SONM LR LR 01 04 55.5
comp=Z,157nm,19.8s,baz=126,slow=38
WRAB Tennant Creek 36.06 158 P **P 00 48 37.0 -0.7**
comp=Z,63nm,1.0s,SNR=8.9
WRAB Tennant Creek 36.06 158 *e*P **P 00 48 37.3 -0.4**
WRAB pmax pmax
comp=Z,95nm,1.8s
WRAB Tennant Creek 36.06 158 *e*P **P 00 48 37.3 -0.4**
comp=Z,95nm,1.8s
WRA Warramunga Arr 36.07 158 P **P 00 48 36.5 -1.2**
WRA pP **pP 00 49 05.5 -2.3**
WRA S **S 00 54 01.4 -5.5**
WRA ScP **ScP 00 54 34.7 +0.1**
WRA Warramunga Arr 36.07 158 P **P 00 48 36.5 -1.2**
comp=Z,6.9nm,0.9s,baz=337,slow=9.5,SNR=13
WRA pP **pP 00 49 05.5 -2.3**
comp=Z,10.0nm,0.9s,baz=338,slow=9.3,SNR=4.9
WRA S **S 00 54 01.4 -5.5**
comp=Z,2.7nm,0.8s,baz=341,slow=14,SNR=5.1
WRA ScP **ScP 00 54 34.7 +0.1**
comp=Z,0.7nm,0.5s,baz=345,slow=4.0,SNR=5.4
VIS Vishakhapatnam 36.19 281 *i* P **P 00 48 40.0 +1.2**
KLR Kul'dur 36.51 12 *e*P P 00 48 37.8 -3.3
KLR *e* 00 49 08.2
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,64nm,1.8s
HABR Khabarovsk 36.58 16 *e*P **P 00 48 39.8 -1.9**
HABR *e**PP **pP 00 49 14.0 +2.2**
HABR *e* 00 50 06.2
HABR *e* 00 51 00.2
HABR S **S 00 54 09.9 -4.1**
HABR *e* 00 58 38.0
HABR pmax pmax
comp=Z,41nm,2.8s
HABR pmax pmax
comp=N,30nm,2.8s
HABR pmax pmax
comp=E,35nm,2.8s
HABR MLR MLR
comp=Z,104nm,17.0s
YUK Yuzh-Kuril'sk 37.03 31 *d i*P P 00 48 56.0 +10
YUK *e* 00 50 16.1
YUK *i* S S 00 54 12.5 -8.5
YUK pmax pmax
comp=Z,66nm,0.4s
YUK MLR MLR
comp=Z,276nm,23.0s
KOLN Koldanda 37.26 298⇑ *i*P **P 00 48 48.3 +0.2**
comp=Z,42nm,0.6s
DANN Dangsing 37.27 299⇑ *i*P **P 00 48 48.4 +0.2**
comp=Z,164nm,0.6s
PYUN Piuthan 37.87 298⇑ *i*P **P 00 48 53.6 +0.4**
comp=Z,431nm,0.9s
YSS Yuzh-Sakhalins 37.88 25 *e*P **P 00 48 54.0 +1.3**
YSS *e* 00 49 38.0
ZAK Zakamensk 39.20 342 *e*P **P 00 49 03.6 -0.2**
ZAK *e* 00 49 48.0
ZAK pmax pmax
comp=Z,8.0nm,1.5s
AS31 Alice Springs 39.36 161 *e*P **P 00 49 05.9 +0.5**
ASAR Alice Springs 39.36 161 P **P 00 49 05.3 -0.1**
ASAR pP **pP 00 49 34.6 -1.3**
ASAR sP **sP 00 49 47.3 -4.2**
ASAR ScP **ScP 00 54 47.3 +0.2**
ASAR S **S 00 54 54.7 -1.9**
ASAR Alice Springs 39.36 161 P **P 00 49 05.3 -0.1**
comp=Z,1.9nm,0.4s,baz=336,slow=7.4,SNR=39
ASAR pP **pP 00 49 34.6 -1.3**
comp=Z,14nm,0.9s,baz=340,slow=7.0,SNR=12
ASAR sP **sP 00 49 47.3 -4.2**
comp=Z,4.6nm,0.5s,baz=336,slow=6.4,SNR=3.5
ASAR ScP **ScP 00 54 47.3 +0.2**
comp=Z,1.6nm,0.9s,baz=356,slow=3.3,SNR=7.4
ASAR S **S 00 54 54.7 -1.9**
comp=Z,0.9nm,0.8s,baz=318,slow=12,SNR=6.6
TLY Talaya 40.25 344 *e*P **P 00 49 12.9 +0.5**
TLY pmax pmax
comp=Z,28nm,1.5s
TLY MLR MLR
comp=Z,66nm,13.0s
TLY Talaya 40.25 344 P **P 00 49 13.5 +1.1**
comp=Z,78nm,0.6s,SNR=5.2
IRK Irkutsk 40.59 344 *e*P **P 00 49 14.6 -0.6**
IRK *e* 00 55 16.9
IRK pmax pmax
comp=Z,41nm,1.2s
HYB Hyderabad 40.74 281 *i* P **P 00 49 16.5 -0.5**
MOY Mondy 41.02 341 *e*P **P 00 49 19.4 +0.6**
MOY pmax pmax
comp=Z,36nm,1.5s
WMQ Urumqi 41.18 323 P **P 00 49 21.8 +1.6**
WMQ pP pP 00 49 57.1 +6.2
WMQ sP sP 00 50 15.4 +8.9
WMQ PP **PnPn 00 51 02.4 -1.5**
WMQ PcP **PcP 00 51 18.3 +1.5**
WMQ ScP **ScP 00 54 51.8 -2.2**
WMQ S **S 00 55 22.9 -0.5**
WMQ sS sS 00 56 24.6 +7.9
WMQ SS **SS 00 58 26.8 -5.1**
WMQ ScS **ScS 00 59 06.4 -3.6**
WMQ pmax pmax
comp=Z,54nm,0.8s
WMQ pmax pmax
comp=Z,360nm,4.0s
WMQ LR LR
comp=N,730nm,16.6s
WMQ LR LR
comp=E,590nm,16.4s
WMQ LR LR
comp=Z,270nm,19.7s
FORT Forrest 44.84 171 *e*P **P 00 49 49.4 -0.2**
comp=Z,34nm,1.0s
AJM Ajmer 44.87 294 *i* x **P 00 49 50.0 -0.1**
THN Thein Dam 45.02 302 *ex* **P 00 49 48.0 -3.1**
MK31 Makanchi Array 46.01 324 *i* P **P 00 49 59.6 +0.9**
MK31 pmax pmax
comp=Z,62nm,0.8s
MK31 Makanchi Array 46.01 324 *e*P **P 00 49 59.6 +0.9**
MKAR Makanchi Array 46.01 324 *ce*P **P 00 49 59.7 +1.0**
MKAR pmax pmax
comp=Z,61nm,1.0s
MKAR Makanchi Array 46.01 324 *e*P **P 00 49 59.8 +1.0**
MKAR ScP **ScP 00 55 13.7 +0.1**
MKAR Makanchi Array 46.01 324 P **P 00 49 59.8 +1.1**
comp=Z,61nm,1.0s,baz=123,slow=8.8,SNR=279
MKAR ScP **ScP 00 55 13.7 +0.1**
comp=Z,3.1nm,1.0s,baz=119,slow=4.3,SNR=7.5
NWAO Narrogin (SRO) 46.55 184 *e*P **P 00 50 02.4 -0.6**
KSH Kashi 46.89 312 P **P 00 50 08.4 +2.5**
KSH pP pP 00 50 44.8 +7.5
KSH sP sP 00 51 04.4 +12
KSH PP **PP 00 52 02.7 +5.1**
KSH S **S 00 56 45.8 -0.6**
KSH sS sS 00 57 51.5 +11
KSH ScS **ScS 00 59 43.6 -2.9**
KSH SS **SS 01 00 12.7 -2.2**
KSH pmax pmax
comp=Z,93nm,1.2s
KSH pmax pmax
comp=Z,300nm,5.1s
KSH LR LR
comp=N,120nm,6.8s
KSH LR LR
comp=E,140nm,8.2s
KSH LR LR
comp=Z,190nm,9.2s
ULHL Ulahol 47.71 315 P **P 00 50 14.0 +1.7**
SNR=9.5
KZA Kyzart 48.33 315 P **P 00 50 19.1 +1.8**
SNR=53
TKM2 Tokmak 2 48.41 316 *e*P **P 00 50 18.9 +1.3**
TKM2 pmax pmax
comp=Z,48nm,1.0s
TKM2 Tokmak 2 48.41 316 P **P 00 50 19.0 +1.3**
SNR=38
TKM2 Tokmak 2 48.41 316 *e*P **P 00 50 18.9 +1.3**
comp=Z,48nm,1.0s
BBOO Buckleboo 48.57 163 *e*P **P 00 50 17.5 -1.2**
comp=Z,2μm,1.5s
YAK Yakutsk 48.62 6 *e*P **P 00 50 18.2 -0.4**
YAK *e**PP pP 00 51 01.5 +11
YAK *e* 00 51 40.9
YAK *e*PPP PPP 00 53 08.4
YAK *e*S S 00 57 02.5 -7.4
YAK *e*SS **SS 01 00 36.4 -5.3**
YAK pmax pmax
comp=Z,25nm,1.0s
YAK pmax pmax
comp=N,19nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK smax smax
comp=N,32nm,2.2s
KBK Karagaybulak 48.75 315 P **P 00 50 22.0 +1.8**
SNR=51
UCH Uchtor 48.89 315 P **P 00 50 23.6 +2.0**
SNR=18
PETK Petropavlovsk- 48.95 29 P **P 00 50 22.4 +1.1**
PETK 00 51 43.2
PETK Petropavlovsk- 48.95 29 P **P 00 50 22.4 +1.1**
PETK PcP **PcP 00 51 43.2 -0.2**
PETK Petropavlovsk- 48.95 29 P **P 00 50 22.4 +1.1**
comp=N,32nm,1.4s,baz=205,slow=6.4,SNR=7.1
PETK PcP **PcP 00 51 43.2 -0.2**
comp=N,2.4nm,0.6s,baz=212,slow=5.1,SNR=3.1
CHMS Chumysh 49.01 316 P **P 00 50 23.1 +1.1**
SNR=34
ZAA0 Zalesovo Array 49.02 333 *e*P **P 00 50 21.8 0.0**
ZALV Zalesovo Beam 49.02 333 P **P 00 50 22.1 +0.2**
ZALV S **S 00 57 14.9 -0.8**
ZALV Zalesovo Beam 49.02 333 P **P 00 50 22.1 +0.2**
ZALV S **S 00 57 14.9 -0.8**
ZALV Zalesovo Beam 49.02 333 P **P 00 50 22.1 +0.2**
comp=N,22nm,0.5s,baz=126,slow=6.6,SNR=96
ZALV S **S 00 57 14.9 -0.8**
comp=N,2.0nm,0.9s,baz=114,slow=15,SNR=5.6
ZALV LR LR 01 12 28.4
comp=N,106nm,18.2s,baz=70,slow=38
FRU Bishkek 49.04 315⇑ *i*P **P 00 50 22.0 -0.3**
FRU pmax pmax
comp=Z,95nm,1.8s
AAK Ala-Archa 49.05 315 P **P 00 50 24.6 +2.1**
comp=Z,281nm,1.1s,SNR=7.5
AAK Ala-Archa 49.05 315*c i*P **P 00 50 23.3 +0.8**
AAK pmax pmax
comp=Z,172nm,1.4s
AAK Ala-Archa 49.05 315 P **P 00 50 24.3 +1.8**
SNR=27
AAK Ala-Archa 49.05 315 P **P 00 50 24.6 +2.1**
SNR=15
AAK Ala-Archa 49.05 315 *e*P **P 00 50 23.8 +1.3**
comp=Z,73nm,1.3s
AAK Ala-Archa 49.05 315 P **P 00 50 23.9 +1.3**
comp=Z,24nm,0.8s,baz=101,slow=7.4,SNR=53
USP Ospenovka 49.28 316 P **P 00 50 24.8 +0.7**
SNR=55
AML Almayashu 49.42 314 P **P 00 50 27.1 +1.5**
SNR=67
EKS2 Erkin-Say 49.55 315 *e*P **P 00 50 27.8 +1.5**
EKS2 pmax pmax
comp=Z,81nm,1.1s
EKS2 Erkin-Say 49.55 315 P **P 00 50 27.8 +1.5**
SNR=49
EKS2 Erkin-Say 49.55 315 *e*P **P 00 50 27.8 +1.5**
comp=Z,81nm,1.1s
KURBB Kurchatov Arra 50.16 326 P **P 00 50 31.3 +0.7**
comp=Z,72nm,0.7s,baz=123,slow=7.8,SNR=299
KURK Kurchatov 50.16 326 P **P 00 50 31.6 +1.1**
comp=Z,2μm,0.5s
KURK Kurchatov 50.16 326 P **P 00 50 31.3 +0.8**
KURK Kurchatov 50.16 326 P **P 00 50 31.3 +0.8**
KBL Kabul 50.91 303 *e*P **P 00 50 37.3 +0.6**
KBL pmax pmax
comp=Z,86nm,0.9s
KBL Kabul 50.91 303 *e*P **P 00 50 37.3 +0.6**
comp=Z,86nm,0.9s
KK31 Karatay Array 51.96 314 P **P 00 50 44.4 +0.2**
KK31 pmax pmax
comp=Z,26nm,0.6s
KKAR Karatay Array 51.96 314 *e*P **P 00 50 44.8 +0.6**
KKAR Karatay Array 51.96 314 *e*P **P 00 50 44.8 +0.6**
VOSK Vostochnaya 55.29 326 P **P 00 51 08.0 -0.2**
VOSK pmax pmax
comp=Z,36nm,0.8s
BVA0 Borovoye Array 55.74 326 *i* P **P 00 51 11.3 -0.2**
BVA0 pmax pmax
comp=Z,68nm,1.3s
BVAR Borovoye Array 55.74 326 P **P 00 51 12.3 +0.8**
BVAR Borovoye Array 55.74 326 P **P 00 51 12.3 +0.8**
BVAR Borovoye Array 55.74 326 P **P 00 51 12.3 +0.8**
comp=Z,14nm,0.6s,baz=116,slow=10,SNR=133
BRVK Borovoye 55.82 326 P **P 00 51 12.5 +0.5**
comp=Z,438nm,0.9s,SNR=47
BRVK Borovoye 55.82 326*c i*P **P 00 51 12.5 +0.5**
BRVK pmax pmax
comp=Z,115nm,1.1s
BRVK Borovoye 55.82 326 P **P 00 51 13.0 +1.1**
SNR=51
BRVK Borovoye 55.82 326 *e*P **P 00 51 12.6 +0.7**
FX1 Attu Island--F 56.83 35 P **P 00 51 20.6 +1.5**
FX1 Attu Island--F 56.83 35 P **P 00 51 20.6 +1.5**
comp=Z,4.0nm,0.5s,baz=238,slow=9.5,SNR=5.6
TIXI Tiksi 58.07 3*c i*P **P 00 51 26.6 -0.9**
TIXI pmax pmax
comp=Z,73nm,1.4s
HOQ Hoqain 60.48 289 P **P 00 51 45.0 +0.1**
SNR=9.7
AB31 Akbulak array 60.71 319 *i* P **P 00 51 46.1 0.0**
AB31 pmax pmax
comp=Z,31nm,0.6s
ABKAR Akbulak array 60.71 319 *e*P **P 00 51 46.5 +0.4**

ARQ **Araqi** 61.22 289 P **P** 00 51 49.9 -0.1
SNR=6.3
BILL **Bilibino** 61.63 18⇑*e*P **P** 00 51 52.3 +0.4
BILL *e**PP **PcP** 00 52 36.4 +4.3
BILL pmax pmax
comp=Z,51nm,1.2s
AKTO **Aktyubinsk** 62.20 320 P **P** 00 51 56.2 +0.2
AKTO **Aktyubinsk** 62.20 320 P **P** 00 51 56.2 +0.2
AKTO **Aktyubinsk** 62.20 320 P **P** 00 51 56.2 +0.2
comp=Z,26nm,0.8s,baz=98,slow=8.0,SNR=70
SVE **Sverdlovsk** 62.37 327 *e*P **P** 00 51 57.1 0.0
SVE pmax pmax
comp=Z,82nm,1.1s
ARU **Arti** 63.35 327*c i*P **P** 00 52 03.2 -0.3
ARU 00 52 34.1
ARU 00 54 25.4
ARU S **S** 01 00 24.3 -0.6
ARU pmax pmax
comp=Z,44nm,1.0s
ARU **Arti** 63.35 327 P **P** 00 52 03.7 +0.2
comp=Z,230nm,1.0s,SNR=14
SOKR **Solikamsk** 65.13 330*c i*P **P** 00 52 14.8 -0.2
SOKR pmax pmax
comp=Z,40nm,1.3s
SOKR MLR MLR
comp=Z,270nm,22.0s
KBD **Kabd** 68.75 296 *e*P **P** 00 52 38.5 -0.1
KBD AMb AMB 00 52 39.8
comp=Z,114nm,1.3s
RDF **Al-Radifah** 68.90 296 *e*P **P** 00 52 39.8 +0.3
RDF AMb AMB 00 52 41.5
comp=Z,217nm,1.0s
NAY **Al-Naaiem** 69.14 296 *e*P **P** 00 52 40.6 -0.3
NAY AMb AMB 00 52 41.9
comp=Z,94nm,1.0s
DGRG **David-gareji** 70.10 309 P **P** 00 52 47.3 +0.6
TBLG **Delisi** 70.57 310 *e*P **P** 00 52 49.0 -0.5
TBLG **Delisi** 70.57 310 P **P** 00 52 49.0 -0.5
GNI **Garni** 70.61 308 P **P** 00 52 52.0 +2.0
SNR=13
GNI **Garni** 70.61 308 *e*P **P** 00 52 51.3 +1.3
comp=Z,89nm,1.4s
ZEI **Tsey** 71.17 311 *e*P **P** 00 52 51.7 -1.6
ZEI pmax pmax
comp=Z,55nm,1.4s
RAYN **Ar Rayn** 71.28 290 P **P** 00 52 54.0 -0.1
comp=Z,610nm,0.9s,SNR=54
RAYN **Ar Rayn** 71.28 290 *e*P **P** 00 52 54.4 +0.2
comp=Z,114nm,1.0s
AKH **Akhalkalaki** 71.52 309 P **P** 00 52 56.5 +1.1
KBZ **Khabaz** 71.87 312 P **P** 00 52 57.5 +0.3
KBZ **Khabaz** 71.87 312 P **P** 00 52 57.5 +0.3
KBZ **Khabaz** 71.87 312 P **P** 00 52 57.5 +0.3
comp=Z,24nm,1.0s,baz=102,slow=3.9,SNR=38
KBZ LR LR 01 29 44.7
comp=Z,74nm,19.7s,baz=68,slow=40
KIV **Kislovodsk** 72.02 312*c i*P **P** 00 52 58.5 +0.2
KIV 00 53 14.0
KIV pmax pmax
comp=Z,73nm,1.0s
KIV **Kislovodsk** 72.02 312 P **P** 00 52 58.2 -0.1
comp=Z,417nm,0.8s,SNR=20
VORD **Divnogorie** 74.07 319 *e*P **P** 00 53 09.1 -0.9
VORD pmax pmax
comp=E,40nm,0.9s
VORD pmax pmax
comp=Z,20nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.6s
VSR **Storozhevoye** 74.14 320 *e*P **P** 00 53 09.7 -0.7
VSR pmax pmax
comp=Z,50nm,1.3s
VSR pmax pmax
comp=N,8.0nm,0.8s
VSR pmax pmax
comp=E,30nm,1.1s
SOC **Sochi** 74.19 312*c i*P **P** 00 53 10.1 -0.8
SOC *e*PP **pP** 00 53 47.0 +2.1
SOC *e* 00 55 56.4
SOC *e*PPP PPP 00 57 42.2
SOC *e*S **S** 01 02 29.8 -3.4
SOC pmax pmax
comp=Z,38nm,0.9s
TMCR **Tamitsa** 74.54 333 *e*P **P** 00 53 12.4 -0.1
TMCR *e* 00 53 25.5
TMCR pmax pmax
comp=Z,32nm,1.0s
MOS **Moscow** 74.88 324 *e*P P 00 53 10.3 -4.3
MOS *e* 00 56 01.4
MOS pmax pmax
comp=Z,100nm,1.7s
MOS pmax pmax
comp=Z,67nm,1.3s
OBN **Obninsk** 75.51 324*ce*P **P** 00 53 17.4 -0.8
OBN *e* 00 53 23.9
OBN *e* 00 56 11.5
OBN *e*S **S** 01 02 44.9 -2.5
OBN pmax pmax
comp=Z,71nm,1.5s
ANN **Anapa** 75.72 313 *e*P **P** 00 53 17.3 -2.4
ANN pmax pmax
comp=Z,84nm,1.4s
RSO **Redoubt South** 76.42 31 *e*P **P** 00 53 25.1 +1.5
KDAK **Kodiak Island** 76.71 33 P **P** 00 53 26.1 +1.1
KDAK **Kodiak Island** 76.71 33 P **P** 00 53 26.1 +1.1
comp=Z,13nm,1.0s,baz=264,slow=3.9,SNR=6.9
SPU **Mount Spurr** 76.71 30 *e*P **P** 00 53 26.0 +1.0
TRF **Thorofare Moun** 77.35 27 *e*P **P** 00 53 27.4 -1.3
comp=Z,22nm,1.2s
JOF **Joensuu** 77.61 332 *e*p **P** 00 53 29.3 -0.6
comp=Z,6.4nm,0.3s
JOF **Joensuu** 77.61 332 *e*P **P** 00 53 29.3 -0.6
JOF pmax pmax
comp=Z,6.0nm,0.3s
MCK **McKinley** 77.92 27 *e*P **P** 00 53 31.9 +0.2
MCK pmax pmax
comp=Z,36nm,1.0s
MCK **McKinley** 77.92 27 *e*P **P** 00 53 31.9 +0.2
comp=Z,36nm,1.0s
SIM **Simferopol'** 78.05 314 *e*P **P** 00 53 32.3 -0.4
PMR **Palmer** 78.08 29 *e*P **P** 00 53 32.6 +0.1
PMR **Palmer** 78.08 29 *e*P **P** 00 53 32.6 +0.1
SML **Sawmill** 78.43 29 *e*P **P** 00 53 35.4 +0.9
SML pmax pmax
comp=Z,8.0nm,1.1s
SML **Sawmill** 78.43 29 *e*P **P** 00 53 35.4 +0.9
comp=Z,7.6nm,1.1s
KEV **Kevo** 78.49 339 *e*p **P** 00 53 34.2 -0.4
comp=Z,1.7nm,0.4s
KEV **Kevo** 78.49 339 *e*P **P** 00 53 34.2 -0.4
KEV pmax pmax
comp=Z,2.0nm,0.4s
ILAR **Eielson Array** 78.67 26 P **P** 00 53 35.0 -0.8
ILAR **Eielson Array** 78.67 26 P **P** 00 53 35.0 -0.8
comp=Z,2.4nm,0.8s,baz=252,slow=4.1,SNR=18
ILAR LR LR 01 29 15.6
comp=Z,40nm,18.6s,baz=302,slow=36
ARCES **ARCESS Array B** 79.04 339 P **P** 00 53 37.6 -0.1
ARCES **ARCESS Array B** 79.04 339 P **P** 00 53 37.6 -0.1
comp=Z,6.5nm,0.5s,baz=73,slow=7.0,SNR=45
ARCES LR LR 01 35 23.5
comp=Z,88nm,18.1s,baz=62,slow=41
BRTR **Keskin Array B** 79.14 308 P **P** 00 53 38.9 -0.1
BRTR PP **PP** 00 56 39.4 -0.7
BRTR **Keskin Array B** 79.14 308 P **P** 00 53 38.9 -0.1
comp=Z,7.6nm,0.8s,baz=119,slow=5.2,SNR=52
BRTR PP **PP** 00 56 39.4 -0.7
comp=Z,2.1nm,0.9s,baz=101,slow=6.4,SNR=4.8
PAX **Paxson** 79.57 28 *e*P **P** 00 53 41.8 +1.0
PAX pmax pmax
comp=Z,46nm,1.8s
PAX **Paxson** 79.57 28 *e*P **P** 00 53 41.8 +1.0
comp=Z,46nm,1.8s
ANTO **Ankara** 79.77 309 *e*P **P** 00 53 42.2 -0.1
ANTO pmax pmax
comp=Z,9.0nm,1.0s
ANTO **Ankara** 79.77 309 P **P** 00 53 42.7 +0.4
SNR=7.3
ANTO **Ankara** 79.77 309 *e*P **P** 00 53 42.2 -0.1
comp=Z,8.7nm,1.0s
ANTO **Ankara** 79.77 309⇓*i*P **P** 00 53 42.0 -0.3
KAF **Kangasniemi** 80.02 332 *e*p **P** 00 53 41.7 -1.4
comp=Z,1.2nm,0.4s
KAF **Kangasniemi** 80.02 332 *e*P **P** 00 53 41.7 -1.4
KAF pmax pmax
comp=Z,1.0nm,0.4s
CSS **Prodhromos** 80.16 304 *e*P **P** 00 53 45.0 +0.5
comp=Z,64nm,0.9s
CASY **Casey** 80.17 184 *e*P **P** 00 53 41.1 -2.5
FINES **FINESS Array B** 80.25 331 P **P** 00 53 44.0 -0.3
FINES sP **sP** 00 54 31.1 -2.4
FINES **FINESS Array B** 80.25 331 P **P** 00 53 44.0 -0.3
comp=Z,2.7nm,0.5s,baz=59,slow=5.8,SNR=35
FINES sP **sP** 00 54 31.1 -2.4
comp=Z,1.3nm,0.5s,baz=60,slow=5.9,SNR=1.6
FURI **Furi** 80.28 277 *e*P **P** 00 53 48.8 +2.9
comp=Z,35nm,1.0s
KIEV **Kiev** 80.45 320 *e*P **P** 00 53 44.9 -0.8
KIEV **Kiev** 80.45 320 *e*P **P** 00 53 44.9 -0.8
VSU **Vasula** 80.48 328*c i*P **P** 00 53 44.6 -1.0
VSU pmax pmax
comp=Z,78nm,1.2s
MICGM **Minsk** 80.58 324 *e* P 00 53 40.0 -6.2
MNK **Minsk** 80.61 324 *e*P P 00 53 40.0 -6.4
EGAK **Eagle** 81.08 25 *e*P **P** 00 53 49.7 +1.0
DRV **Dumont d'Urvil** 81.46 172 PP PP 00 56 50.0 -8.7
DRV S S 01 03 26.0 -24
DRV SS SS 01 08 13.0 -57
TIRR **Tirgusor** 82.14 314 *e*P **P** 00 53 54.8 +0.1
TIRR pmax pmax
comp=Z,21nm,1.2s
TIRR **Tirgusor** 82.14 314 *e*P **P** 00 53 54.8 +0.1
comp=Z,21nm,1.2s
TIRR **Tirgusor** 82.14 314⇑*i*P **P** 00 53 54.7 +0.1
CFR **Carcaliu** 82.19 315 ⇓P **P** 00 53 54.5 -0.4
CFR **Carcaliu** 82.19 315 ⇓*i*P **P** 00 53 54.5 -0.4
PSN **Preselentsi** 82.46 313 *i* P **P** 00 53 55.7 -0.7
TESR **Tescani** 82.93 316⇑*i*P **P** 00 53 58.2 -0.6
VRI **Vrincioaia** 83.02 315 ⇑P **P** 00 53 59.3 0.0
VRI **Vrincioaia** 83.02 315⇑*i*P **P** 00 53 59.3 0.0
INK **Inuvik** 83.02 21 P **P** 00 53 58.8 0.0
INK **Inuvik** 83.02 21 P **P** 00 53 58.7 0.0
comp=Z,13nm,0.9s,baz=291,slow=5.5,SNR=16
PLOR **Plostina** 83.07 315 ⇓P **P** 00 54 00.5 +0.9
PLOR **Plostina** 83.07 315 ⇓*i*P **P** 00 54 00.4 +0.9
PRD **Provadia** 83.12 313 *i* P **P** 00 53 59.5 -0.3
SUW **Suwalki** 83.38 324 *e*P **P** 00 54 00.0 -0.8
SUW pmax pmax
comp=Z,68nm,1.3s
SUW **Suwalki** 83.38 324 *e*P **P** 00 53 60.0 -0.8
comp=Z,68nm,1.3s
SUW **Suwalki** 83.38 324 *e*P **P** 00 54 00.1 -0.8
MLR **Muntele Rosu** 83.64 315⇑*i*P **P** 00 54 02.3 -0.3
BURAR **Bucovina Array** 83.64 317⇑*i*P **P** 00 54 02.7 +0.2
BUR08 **Bucovina Ar. S** 83.64 317 *e*P **P** 00 54 02.5 0.0
JMB **Yambol** 83.87 312 *i* P **P** 00 54 03.7 +0.1
KMBO **Kilima Mbogo** 83.94 267 P **P** 00 54 07.3 +2.4
SNR=6.2
KMBO **Kilima Mbogo** 83.94 267 *e*P **P** 00 54 06.5 +1.6
KMBO **Kilima Mbogo** 83.94 267 P **P** 00 54 06.5 +1.6
comp=Z,17nm,0.9s,baz=52,slow=7.7,SNR=33
KMBO LR LR 01 27 04.3
comp=Z,67nm,19.7s,baz=101,slow=32
SZH **Strazhica** 84.15 313 *i* P **P** 00 54 04.5 -0.6
VOIR 84.26 315 ⇓P **P** 00 54 05.6 -0.1
VOIR 84.26 315 ⇓*i*P **P** 00 54 05.6 -0.1
ARR **Arges** 84.56 315⇑*i*P **P** 00 54 07.1 -0.1
DIM **Dimitrovgrad** 84.72 312 *i* P **P** 00 54 08.1 +0.2
BMR **Baia Mare** 84.76 318 ⇑P **P** 00 54 08.3 +0.3
BMR **Baia Mare** 84.76 318⇑*i*P **P** 00 54 08.3 +0.3
KWP **Kalwaria Pacla** 84.76 320 ⇓P **P** 00 54 08.1 +0.1
KWP **Kalwaria Pacla** 84.76 320 *e*P **P** 00 54 07.8 -0.2
comp=Z,77nm,1.4s
KWP *e*PP PP 00 57 18.3 -7.4
KWP **Kalwaria Pacla** 84.76 320 ⇓*i*P **P** 00 54 08.1 +0.1
KWP **Kalwaria Pacla** 84.76 320 *e*P **P** 00 54 08.1 +0.1
KDZ **Kurdzhali** 84.90 311 *i* P **P** 00 54 08.4 -0.5
LOT **Lotru** 85.13 315 ⇓*i*P **P** 00 54 10.1 0.0
SKAG **Skagway** 85.19 30 *e*PcP **PcP** 00 54 11.7 -1.1
comp=Z,14nm,1.1s
KOLS **Kolonicke sedl** 85.22 319 *e*P **P** 00 54 10.6 +0.3
KOLS pmax pmax
comp=Z,14nm,1.5s
KOLS **Kolonicke sedl** 85.22 319 *e*P **P** 00 54 10.6 +0.3
TRPA **Tarpa** 85.26 318⇑*i*P **P** 00 54 10.9 +0.4
UZH **Uzhgorod** 85.29 319*c i*P **P** 00 54 09.5 -1.1
UZH *e**PP **pP** 00 54 45.3 -0.2
BEL **Belsk** 85.34 322 *e*P **P** 00 54 11.3 +0.5
RZN **Rozhen** 85.40 312 *i* P **P** 00 54 10.5 -1.1
MPEP **Malo Peshtene** 85.68 313 *i* P **P** 00 54 12.6 -0.1
STHS **Stebnicka Huta** 85.74 320 *e*P **P** 00 54 13.9 +1.0
STHS pmax pmax
comp=Z,26nm,1.8s
STHS **Stebnicka Huta** 85.74 320 *e*P **P** 00 54 13.9 +1.0
MMB **Musomiste** 86.14 312 *i* P **P** 00 54 13.9 -1.2
VTS **Vitosha** 86.26 313 ⇑P **P** 00 54 15.1 -0.7
VTS **Vitosha** 86.26 313 *i* P **P** 00 54 14.9 -0.9
VTS **Vitosha** 86.26 313⇑*i*P **P** 00 54 15.1 -0.7
NIE **Niedzica** 86.32 320 *e*P **P** 00 54 17.6 +1.8
NIE **Niedzica** 86.32 320 *e*P **P** 00 54 17.6 +1.8
OJC **Ojcow** 86.41 321 *e*P **P** 00 54 16.4 +0.3
OJC pmax pmax
comp=Z,76nm,1.7s
OJC **Ojcow** 86.41 321 *e*P **P** 00 54 16.4 +0.3
comp=Z,76nm,1.7s
OJC **Ojcow** 86.41 321 *e*P **P** 00 54 16.1 0.0
KECS **Kecovo** 86.48 319 *e*P **P** 00 54 16.4 -0.1
KECS pmax pmax
comp=Z,20nm,1.8s
KECS **Kecovo** 86.48 319 *e*P **P** 00 54 16.4 -0.1
KKB **Krupnik** 86.53 312 *i* P **P** 00 54 15.7 -1.3
DAG **Danmarks Havn** 86.55 351⇑*i*P **P** 00 54 14.8 -1.5
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG **Danmarks Havn** 86.55 351⇑*i*P **P** 00 54 14.8 -1.5
comp=Z,4.1nm,0.8s
PSZ **Piszkesteto** 87.03 319 *e*P **P** 00 54 19.2 -0.1
PSZ pmax pmax
comp=Z,30nm,1.7s
PSZ **Piszkesteto** 87.03 319 *e*P **P** 00 54 19.2 -0.1
comp=Z,30nm,1.7s
PSZ **Piszkesteto** 87.03 319⇑*i*P **P** 00 54 18.8 -0.5
NB2 **NORSAR Subarra** 87.22 333 P **P** 00 54 18.5 -1.4
comp=Z,7.7nm,0.8s,baz=68,slow=4.6
NB2 **NORSAR Subarra** 87.22 333 P **P** 00 54 18.5 -1.4
baz=68,slow=4.6
NOA **NORSAR Array B** 87.22 333 P **P** 00 54 18.9 -1.0
NOA sP **sP** 00 55 05.5 -4.0
NOA PP **PP** 00 57 40.2 -5.1
NOA **NORSAR Array B** 87.22 333 P **P** 00 54 18.9 -1.0
comp=Z,7.6nm,0.8s,baz=68,slow=4.6,SNR=23
NOA sP **sP** 00 55 05.5 -4.0
comp=Z,1.4nm,0.6s,baz=68,slow=4.7,SNR=2.3
NOA PP **PP** 00 57 40.2 -5.1
comp=Z,1.2nm,0.8s,baz=72,slow=8.5,SNR=3.5
NOA LR LR 01 36 27.7
comp=Z,113nm,18.4s,baz=90,slow=38
NAO01 **NORSAR Array S** 87.45 333 *e*P **P** 00 54 19.6 -1.3
comp=Z,8.9nm,0.9s
VYHS **Vyhne** 87.53 319 *e*P **P** 00 54 21.1 -0.5
VYHS pmax pmax
comp=Z,13nm,1.8s
VYHS **Vyhne** 87.53 319 *e*P **P** 00 54 21.1 -0.5
OKC **Ostrava-Krasne** 87.54 321 *e*P **P** 00 54 22.1 +0.5
OKC *e* 00 57 50.1
OKC **Ostrava-Krasne** 87.54 321 *e*P **P** 00 54 22.1 +0.5
OKC *e**PP **PP** 00 57 50.1 +2.0
MORC **Moravsky Berou** 87.93 321 *e*P **P** 00 54 23.2 -0.3
MORC *e* 00 57 51.7
MORC **Moravsky Berou** 87.93 321 *e*P **P** 00 54 23.2 -0.3
MORC *e**PP **PP** 00 57 51.6 +0.4
PKSM **Moragy** 88.36 317 ⇑P **P** 00 54 26.6 +1.1
PKSM **Moragy** 88.36 317⇑*i*P **P** 00 54 26.6 +1.1
DPC **Dobruska-Polom** 88.48 322 *e*P **P** 00 54 26.2 +0.1
DPC *e* 00 57 57.4
DPC **Dobruska-Polom** 88.48 322 *e*P **P** 00 54 26.2 +0.1
DPC *e**PP **PP** 00 57 57.4 +1.7
UPC **Upice** 88.61 322 *e*P **P** 00 54 26.7 0.0
UPC *e* 00 57 57.2
UPC **Upice** 88.61 322 *e*P **P** 00 54 26.7 0.0
UPC *e**PP **PP** 00 57 57.2 +0.5
TREC **Trest** 89.35 321 *e*P **P** 00 54 30.2 0.0
TREC *e* 00 57 58.6
TREC **Trest** 89.35 321 *e*P **P** 00 54 30.2 0.0
TREC *e**PP **PP** 00 57 58.6 -4.0
PVCC **Panska Ves** 89.47 322 *e*P **P** 00 54 31.2 +0.5
PVCC *e* 00 58 03.4
PVCC *e**PP **PP** 00 58 03.4 0.0
PRU **Pruhonice** 89.68 322 *e*P **P** 00 54 31.4 -0.3
PRU *e* 00 58 06.5
PRU **Pruhonice** 89.68 322 *e*P **P** 00 54 31.4 -0.3
PRU *e**PP **PP** 00 58 06.5 +1.4
BRG **Berggiesshubel** 89.72 323 *e*P **P** 00 54 31.9 +0.1
comp=Z,34nm,2.0s
BRG *e* 00 58 03.8
comp=Z,7.3nm,1.5s
BRG **Berggiesshubel** 89.72 323 *e*P **P** 00 54 31.9 +0.1
BRG *e* 00 58 03.8
BRG pmax pmax
comp=Z,13nm,2.0s
BRG pmax pmax
comp=Z,34nm,1.5s
PRA **Prague** 89.72 322 P **P** 00 54 32.0 +0.2
MUD **Monsted U'grnd** 90.10 329 *i* P **P** 00 54 32.7 -0.7
MUD pmax pmax
comp=Z,4.0nm,1.0s
MUD **Monsted U'grnd** 90.10 329 *i* P **P** 00 54 32.7 -0.7
comp=Z,4.0nm,1.0s
CLL **Collm** 90.10 323⇑*i*P **P** 00 54 33.0 -0.6
CLL *e*S **SKKSac** 01 05 08.0 +2.3
CLL pmax pmax
comp=Z,26nm,2.1s
CLL **Collm** 90.10 323⇑*i*P **P** 00 54 33.0 -0.6
comp=Z,26nm,2.1s
CLL *e*(sP) sP 00 55 17.0 -6.3
CLL *e*PP **PP** 00 58 06.0 -2.4
CLL *e*SKKSac **SKKSac** 01 05 08.0 +2.3
CLL *e*(SSSS) 01 19 00.0
CLL LmV 01 35 00.0
comp=Z,100nm,21.5s
KHC **Kasperske Hory** 90.58 321 *e*P **P** 00 54 35.4 -0.5
KHC pmax pmax
comp=Z,3.0nm,1.1s
KHC **Kasperske Hory** 90.58 321 *e*P **P** 00 54 35.2 -0.7
KHC *e**PP **PP** 00 58 13.0 +0.7
KHC **Kasperske Hory** 90.58 321 *e*P **P** 00 54 35.4 -0.5
comp=Z,2.8nm,1.1s
GERES **GERESS Array B** 90.61 321 P **P** 00 54 36.4 +0.2
GERES PP **PP** 00 58 15.1 +2.4
GERES **GERESS Array B** 90.61 321 P **P** 00 54 36.4 +0.2
comp=Z,1.7nm,0.8s,baz=72,slow=4.3,SNR=14
GERES PP **PP** 00 58 15.1 +2.4
comp=Z,1.8nm,1.0s,baz=40,slow=5.1,SNR=7.7
GERES LR LR 01 40 15.8
comp=Z,48nm,18.0s,baz=280,slow=39
MAW **Mawson** 91.17 199 P **P** 00 54 38.6 +0.7
MAW **Mawson** 91.17 199 P **P** 00 54 38.6 +0.7
comp=Z,1.5nm,0.5s,baz=21,slow=14,SNR=3.3
GRF **Grafenberg Arr** 91.78 322 *e*P **P** 00 54 41.8 +0.3
comp=Z,38nm,2.0s
GRF **Grafenberg Arr** 91.78 322 *e*P **P** 00 54 41.8 +0.3
YKA **Yellowknife Ar** 92.70 22 P **P** 00 54 45.8 +0.4
YKA pP **pP** 00 55 18.4 -2.2
YKA PKKPbc **PKKPdf** 01 11 55.5 0.0
YKA **Yellowknife Ar** 92.70 22 P **P** 00 54 45.7 +0.4
comp=Z,4.4nm,0.8s,baz=311,slow=4.4,SNR=36
YKA pP **pP** 00 55 18.4 -2.2
comp=Z,2.0nm,1.0s,baz=310,slow=4.2,SNR=3.8
YKA PKKPbc **PKKPdf** 01 11 55.5 0.0
comp=Z,0.6nm,0.6s,baz=130,slow=2.8,SNR=10
YKA LR LR 01 34 31.9
comp=Z,5.2nm,21.1s,baz=290,slow=34
SUMG **Summit** 92.76 354 *i* P **P** 00 54 46.2 +0.2
SUMG pmax pmax
comp=Z,4.0nm,0.9s
SUMG **Summit** 92.76 354 *i* P **P** 00 54 46.2 +0.2
comp=Z,3.5nm,0.9s
CDF **Champ du Feu** 94.68 322 *e*P **P** 00 54 54.3 -0.6
comp=Z,6.0nm,0.9s
LSZ **Lusaka** 95.95 256 *e*P **P** 00 55 01.3 0.0
comp=Z,7.1nm,0.9s
PGF **Pioggiola** 96.13 316 *e*P **P** 00 55 01.7 0.0
comp=Z,30nm,1.1s
LPG **La Plagne** 96.31 320 *e*P **P** 00 55 02.2 -0.4
comp=Z,8.5nm,1.0s
LPL **La Plagne** 96.31 320 *e*P **P** 00 55 02.1 -0.5
comp=Z,3.2nm,0.6s
NVAR **Mina Array Bea** 104.25 44 PP PP 00 59 59.6 +2.1
NVAR **Mina Array Bea** 104.25 44 PP PP 00 59 59.6 +2.1
comp=Z,0.6nm,0.8s,baz=284,slow=7.3,SNR=3.8
ESDC **Sonseca Array** 106.06 319 PP PP 01 00 10.7 +0.1
ESDC **Sonseca Array** 106.06 319 PP PP 01 00 10.7 +0.1
comp=Z,0.3nm,0.5s,baz=55,slow=6.8,SNR=7.6
PDAR **Pinedale Array** 107.28 36 PKKPab PKKPab 01 11 30.6 -2.6
PDAR **Pinedale Array** 107.28 36 PKKPab PKKPab 01 11 30.6 -2.6
comp=Z,1.1nm,0.7s,baz=133,slow=5.2,SNR=10
TORD **Torodi Ar. Bea** 113.96 291 PKP **PKiKP** 01 00 12.3 -0.5
TORD PKKPbc **PKKPbc** 01 10 55.7 +1.3
TORD PKKPab **PKKPab** 01 11 03.1 +0.6
TORD **Torodi Ar. Bea** 113.96 291 PKP **PKiKP** 01 00 12.3 -0.5
comp=Z,0.4nm,0.4s,baz=69,slow=2.1,SNR=16
TORD PKKPbc **PKKPbc** 01 10 55.7 +1.3
comp=Z,2.0nm,1.2s,baz=238,slow=5.1,SNR=3.6
TORD PKKPab **PKKPab** 01 11 03.1 +0.6
comp=Z,0.6nm,0.8s,baz=280,slow=4.2,SNR=4.1
V26A **Tequesquite Ra** 115.18 39 P **PKPdf** 01 00 15.3 +0.4
baz=115
Z24A **Sheeppen Canyo** 115.76 42 P **PKPdf** 01 00 17.0 +0.9
baz=116
Y25A **Mesa, Roswell** 115.82 41 P **PKPdf** 01 00 16.8 +0.7
baz=116
W27A **Bowe Ranch, En** 116.10 39 P **PKPdf** 01 00 17.5 +0.8
baz=116
125A **Gardner Draw,** 116.65 42 P **PKPdf** 01 00 18.4 +0.6
baz=117
324A **Moseley Ranch,** 116.86 44 P **PKPdf** 01 00 18.5 +0.2
baz=117
Z27A **Tatum** 117.16 41 P **PKPdf** 01 00 18.7 -0.1
baz=117
226B **Tecolote Peak,** 117.34 42 P **PKPdf** 01 00 19.2 +0.2
baz=117
Z29A **Hungry Hill Ra** 118.14 40 P **PKPdf** 01 00 20.8 +0.2
baz=118
X31A **McDonald Ranch** 118.26 38 P **PKPdf** 01 00 21.0 +0.3
baz=118
426A **McDonald Obser** 118.31 44 P **PKPdf** 01 00 21.1 -0.1
baz=118
Y31A **Rekieta Farm,** 118.55 38 P **PKPdf** 01 00 21.4 +0.2
baz=118
328A **Wristen Ranch,** 118.67 42 P **PKPdf** 01 00 21.4 -0.2
baz=119
527A **Woodward Ranch** 118.92 44 P **PKPdf** 01 00 22.6 +0.3
baz=119
626A **Big Bend Ranch** 118.94 45 P **PKPdf** 01 00 22.3 0.0
baz=119
428A **Kincaid Ranch,** 119.17 43 P **PKPdf** 01 00 23.2 +0.6
baz=119
131A **Roby** 119.35 40 P **PKPdf** 01 00 23.5 +0.6
baz=119
TXAR **Lajitas Array** 119.39 45 PKP **PKPdf** 01 00 23.4 +0.3
TXAR PKKPab **PKKPbc** 01 10 35.8 -0.2
TXAR **Lajitas Array** 119.39 45 PKP **PKPdf** 01 00 23.4 +0.3
comp=Z,2.6nm,0.8s,baz=221,slow=0.6,SNR=29
TXAR PKKPab **PKKPbc** 01 10 35.8 -0.2
comp=Z,0.7nm,1.0s,baz=142,slow=4.7,SNR=5.4
528A **Cox Ranch, San** 119.47 43 P **PKPdf** 01 00 23.7 +0.4
baz=119
Z32A **Haskell** 119.48 38 P **PKPdf** 01 00 23.6 +0.5
baz=119
627A **Terlingua Ranc** 119.51 44 P **PKPdf** 01 00 23.8 +0.5
baz=119
429A **Davenport Ranc** 119.76 42 P **PKPdf** 01 00 24.0 +0.3
baz=120
628A **Black Gap, Mar** 119.83 44 P **PKPdf** 01 00 24.5 +0.6
baz=120
529A **Stev Forest Ra** 119.86 43 P **PKPdf** 01 00 24.4 +0.4
baz=120
430A **Baggett Ranch,** 120.08 42 P **PKPdf** 01 00 24.8 +0.5
baz=120
331A **San Angelo** 120.25 41 P **PKPdf** 01 00 24.8 +0.2
baz=120
530A **J-C Ranch, Com** 120.43 42 P **PKPdf** 01 00 25.3 +0.3
baz=120
431A **Sonora** 120.55 41 P **PKPdf** 01 00 25.1 -0.2
baz=120
332A **Millersview** 120.63 40 P **PKPdf** 01 00 25.4 +0.1
baz=120
531A **Rocksprings** 120.94 42 P **PKPdf** 01 00 26.1 +0.2
baz=121
432A **Menard** 120.94 41 P **PKPdf** 01 00 26.1 +0.1
baz=121
JCT **Junction City** 121.20 41 *e*PKIKP **PKPdf** 01 00 26.9 +0.4
JCT **Junction City** 121.20 41 *e*PKPdf **PKPdf** 01 00 26.9 +0.4

JCT	**Junction City** baz=121	**121.20**	**41**	P		**PKPdf**	**01 00 26.6**	**+0.1**
532A	**Rocksprings** baz=121	**121.37**	**41**	P		**PKPdf**	**01 00 26.7**	**-0.1**
631A	**Perdido Creek** baz=121	**121.41**	**42**	P		**PKPdf**	**01 00 27.1**	**+0.2**
632A	**Uvalde** baz=122	**121.86**	**42**	P		**PKPdf**	**01 00 28.1**	**+0.3**
732A	**Laxson Ranch,** baz=122	**122.26**	**43**	P		**PKPdf**	**01 00 29.0**	**+0.5**
LIC	**Lamto** comp=Z,38nm,1.3s	**122.63**	**287**	*e*PKIKP		**PKPdf**	**01 00 27.7**	**-1.9**
SDDR	**Presa de Saban**	**145.37**	**20**	*e*PKPdf		**PKPab**	**01 01 12.1**	**0.0**
PLCA	**Paso Flores**	**151.37**	**162**	PKPbc		**PKPbc**	**01 01 27.6**	**+0.6**
PLCA	**Paso Flores** comp=Z,9.0nm,0.8s,baz=173,slow=3.2,SNR=14	**151.37**	**162**	PKPbc		**PKPbc**	**01 01 27.6**	**+0.6**
RCBR	**Riachuelo**	**155.69**	**287**	PKPab		**PKPab**	**01 01 55.5**	**+0.8**
RCBR	**Riachuelo** comp=Z,7.5nm,1.0s,baz=80,slow=6.1,SNR=4.4	**155.69**	**287**	PKPab		**PKPab**	**01 01 55.5**	**+0.8**
ATAH	**Atahualpa**	**160.07**	**73**	PKPab		**PKPab**	**01 02 15.4**	**+1.3**
ATAH	**Atahualpa** comp=Z,13nm,1.1s,baz=274,slow=2.1,SNR=5.5	**160.07**	**73**	PKPab		**PKPab**	**01 02 15.4**	**+1.3**
CFAA	**Coronel Fontan**	**160.42**	**157**	PKP		**PKPdf**	**01 01 32.6**	**-0.5**
CFAA	**Coronel Fontan** comp=Z,0.5nm,0.9s,baz=246,slow=4.4,SNR=6.7	**160.42**	**157**	PKP		**PKPdf**	**01 01 32.6**	**-0.5**
CPUP	**Villa Florida**	**167.37**	**188**	PKP		**PKPdf**	**01 01 38.8**	**-0.7**
CPUP				PKPab		**PKPab**	**01 02 45.0**	**0.0**
CPUP	**Villa Florida** comp=Z,0.2nm,0.3s,baz=343,slow=2.4,SNR=3.6	**167.37**	**188**	PKP		**PKPdf**	**01 01 38.8**	**-0.7**
CPUP				PKPab		**PKPab**	**01 02 45.0**	**0.0**
	comp=Z,0.5nm,0.4s,baz=277,slow=6.8,SNR=2.8							
BDFB	**Brasilia**	**168.97**	**259**	PKP		**PKPdf**	**01 01 40.2**	**-0.8**
BDFB				PKPab		**PKPab**	**01 02 53.0**	**+0.1**
BDFB	**Brasilia** comp=Z,0.9nm,0.5s,baz=67,slow=7.7,SNR=3.4	**168.97**	**259**	PKP		**PKPdf**	**01 01 40.2**	**-0.8**
BDFB				PKPab		**PKPab**	**01 02 53.0**	**+0.1**
	comp=Z,7.2nm,0.9s,baz=111,slow=3.1,SNR=10							
LPAZ	**La Paz**	**171.07**	**107**	*e*PKPdf		**PKPdf**	**01 01 42.4**	**-0.4**
LPAZ				PKP		PKPdf	01 01 42.6	-0.2
LPAZ				PKPab		**PKPab**	**01 03 04.0**	**+1.2**
LPAZ				*e*PKPab		PKPab	01 03 05.2	+2.4
LPAZ	**La Paz** comp=Z,1.6nm,0.8s,baz=38,slow=1.8,SNR=6.8	**171.07**	**107**	PKP		**PKPdf**	**01 01 42.6**	**-0.2**
LPAZ				PKPab		**PKPab**	**01 03 04.0**	**+1.2**
	comp=Z,2.3nm,1.0s,baz=276,slow=3.7,SNR=5.0							
SIV	**San Ignacio**	**177.17**	**142**	PKP		**PKPdf**	**01 01 43.5**	**-0.6**
SIV	**San Ignacio** comp=Z,3.9nm,1.0s,baz=140,slow=2.1,SNR=11	**177.17**	**142**	PKP		**PKPdf**	**01 01 43.5**	**-0.6**

*BJI **04** 01:18:21.8, 4.°79S× 142.°89E, h123km, mB4.9/24, mb4.9/39*
*ISCJB **04** 01:18:22.1±0.7, 4.°72S±0.°03× 142.°27E±0.°03, h97km±6km, mb4.9/61, Error ellipse: s-maj=6.0km s-min=4.9km az=151.3*
*IDC **04** 01:18:23.9±0.7, 4.°72S× 142.°27E, h98km±6km, mb4.3/15, mb1 4.4/19, mb1mx4.4/20, mbtmp4.4/19, MS3.6/8, Ms1 3.5/8, ms1mx3.2/22, Error ellipse: s-maj=13.3km s-min=8.3km az=89.0*
*DJA **04** 01:18:24.4±0.7, 5.°5S± 7.°× 14.°2E± °, h77km± 18km, M5.3/10, mB5.5/6, mb5.4/10, MLv5.5/2, Mw(mB)4.9/6*
*AUST **04** 01:18:24.6, 4.°87S× 142.°06E, h100km*
*NEIC **04** 01:18:24.5±0.2, 4.°71S× 142.°28E, mb5.0/39, Error ellipse: s-maj=7.3km s-min=4.9km az=90.0*
*BKK **04** 01:18:26.1±0.9, 5.°5S±8.°× 14.°2E± °, h114km±11km, M5.3/11, mB5.5/5, mb5.2/11, MLv5.6/1, Mw(mB)5.0/5*

ISC 04 01:18:26.1±0.3, **4.82S**±0.04× **142.33E**±0.05, **h122**km±2km, **h122km:pP-P, n218,** σ1**32**/274, **mb5.0**/69, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h	m	s	Res ISC
JAY	**Jayapura** baz=2.7,SNR=118	**2.80**	**325**	P		Pn		01	19	04.8	-5.1
PMG	**Port Moresby**	**6.62**	**134**	*e*Pn		**Pn**		**01**	**20**	**00.1**	**-0.8**
PMG				*e*Sn		**Sn**		**01**	**21**	**14.9**	**0.0**
PMG				S				01	21	15.2	
PMG	**Port Moresby** 616nm,0.7s,5μm1.9nm	**6.62**	**134**	P		**Pn**		**01**	**19**	**59.7**	**-1.2**
PMG	**Port Moresby** 48nm,0.3s,baz=312,slow=10,SNR=131	**6.62**	**134**	P		**Pn**		**01**	**20**	**00.1**	**-0.8**
PMG				S		**Sn**		**01**	**21**	**15.2**	**+0.3**
	16nm,0.3s,baz=311,slow=19,SNR=12										
PMG				LR		LR		01	22	17.9	
	comp=Z,391nm,20.3s,baz=269,slow=35										
BAKI	**Biak** 254nm,0.7s,2μm1.0nm	**7.18**	**300**	P		Pn		01	20	04.9	-3.6
RKPI	**Ransiki, Papua** 268nm,0.8s	**8.77**	**292**	P		Pn		01	20	25.9	-4.2
COEN	**Coen**	**9.12**	**175**	*e*Pn		**Pn**		**01**	**20**	**36.6**	**+1.8**
COEN	**Coen** baz=9.2,SNR=24	**9.12**	**175**	P		**Pn**		**01**	**20**	**35.5**	**+0.8**
COEN				S		Sn		01	22	24.6	+8.8
	baz=9.2,SNR=4.2										
FAKI	**Fak Fak** 115nm,0.8s,1μm	**10.23**	**280**	P		Pn		01	20	44.6	-5.1
FAKI	**Fak Fak** baz=10.0,SNR=26	**10.23**	**280**	P		Pn		01	20	44.9	-4.8
KDU	**Kakadu** baz=12,SNR=146	**12.49**	**231**	P		Pn		01	21	15.5	-4.1
MTSU	**Mount Surprise** baz=14,SNR=4.6	**13.38**	**172**	P		**Pn**		**01**	**21**	**32.7**	**+1.5**
MTN	**Manton Dam** baz=13,SNR=55	**13.63**	**233**	P		Pn		01	21	31.0	-3.5
MTN				S		Sn		01	23	57.0	-8.0
	baz=13,SNR=6.2										
PALU	**Palau** baz=14,SNR=7.6	**14.40**	**327**	P		**Pn**		**01**	**21**	**44.8**	**+0.5**
LBMI	**Labuha** 135nm,1.3s,2μm	**15.38**	**285**	P		**Pn**		**01**	**21**	**55.9**	**-0.8**
CTA	**Charters Tower**	**15.65**	**166**	P		**P**		**01**	**22**	**01.2**	**-0.4**
CTA	**Charters Tower** 0.4nm,0.3s,baz=341,slow=13,SNR=6.5	**15.65**	**166**	P		**P**		**01**	**22**	**01.2**	**-0.4**
CTAO	**Charters Tower** 26nm,1.2s	**15.65**	**166**	*e*Pn		**P**		**01**	**22**	**00.8**	**-0.8**
TNTI	**Ternate** 408nm,1.1s,4μm	**15.94**	**290**	P		**Pn**		**01**	**22**	**01.4**	**-2.3**
WRAB	**Tennant Creek** 48nm,0.8s	**16.92**	**207**	*e*P		**Pn**		**01**	**22**	**14.3**	**-1.2**
WRAB				*e*Sn		**Sn**		**01**	**25**	**19.1**	**-4.9**
WRA	**Warramunga Arr**	**16.93**	**207**	P		**Pn**		**01**	**22**	**14.5**	**-1.2**
WRA				S		**S**		**01**	**25**	**28.0**	**+2.0**
WRA	**Warramunga Arr** 3.3nm,0.3s,baz=28,slow=13,SNR=33	**16.93**	**207**	P		**Pn**		**01**	**22**	**14.5**	**-1.2**
WRA				S		**S**		**01**	**25**	**28.0**	**+2.0**
	0.5nm,0.3s,baz=24,slow=20,SNR=8.4										
KNRA	**Kununurra** baz=17,SNR=26	**17.15**	**230**	P		**P**		**01**	**22**	**17.9**	**-0.2**
KNRA				S		Sn		01	25	20.8	-9.0
	baz=17,SNR=3.6										
HNR	**Honiara** 221nm,0.9s	**18.07**	**106**	*e*P		**Pn**		**01**	**22**	**29.6**	**+0.1**
HNR	**Honiara** 18nm,0.3s,baz=192,slow=2.1,SNR=9.3	**18.07**	**106**	P		**Pn**		**01**	**22**	**29.9**	**+0.4**
MNI	**Manado**	**18.55**	**289**	P		**P**		**01**	**22**	**32.0**	**-1.5**
PATS	**Pohnpei** baz=20,SNR=3.4	**19.71**	**54**	P		**Pn**		**01**	**22**	**48.7**	**-0.1**
LUWI	**Luwuk** baz=20,SNR=6.3	**19.88**	**280**	P		**P**		**01**	**22**	**49.1**	**+1.0**
AS31	**Alice Springs**	**20.42**	**203**	*e*P		**P**		**01**	**22**	**53.3**	**-0.5**
ASAR	**Alice Springs**	**20.43**	**203**	P		**P**		**01**	**22**	**53.1**	**-0.7**
ASAR				pP		**pP**		**01**	**23**	**13.8**	**-2.4**
ASAR				S		**S**		**01**	**26**	**37.3**	**+1.3**
ASAR	**Alice Springs** 8.3nm,0.6s,baz=31,slow=11,SNR=117	**20.43**	**203**	P		**P**		**01**	**22**	**53.1**	**-0.7**
ASAR				pP		**pP**		**01**	**23**	**13.8**	**-2.4**
	35nm,0.9s,baz=30,slow=9.7,SNR=8.6										
ASAR				S		**S**		**01**	**26**	**37.3**	**+1.3**
	2.9nm,0.8s,baz=23,slow=21,SNR=4.4										
ASAR				LR		LR		01	31	31.7	
	comp=Z,187nm,20.2s,baz=148,slow=38										
FITZ	**Fitzroy Crossi**	**20.99**	**230**	P		**P**		**01**	**22**	**58.1**	**-1.8**
FITZ	**Fitzroy Crossi** 7.4nm,0.6s,baz=53,slow=12,SNR=19	**20.99**	**230**	P		**P**		**01**	**22**	**58.1**	**-1.8**
FITZ				LR		LR		01	32	17.5	
	comp=Z,166nm,18.5s,baz=59,slow=40										
FITZ	**Fitzroy Crossi** baz=21,SNR=7.0	**20.99**	**230**	P		**P**		**01**	**22**	**57.9**	**-2.0**
QLP	**Quilpie** baz=22,SNR=5.2	**21.72**	**175**	P		**P**		**01**	**23**	**09.3**	**+1.7**
EIDS	**Eidsvold** 47nm,0.8s	**22.10**	**159**	*e*P		**P**		**01**	**23**	**13.4**	**+1.9**
EIDS	**Eidsvold** baz=22,SNR=18	**22.10**	**159**	P		**P**		**01**	**23**	**13.7**	**+2.1**
RMQ	**Roma** baz=22,SNR=22	**22.41**	**165**	P		**P**		**01**	**23**	**15.9**	**+1.2**
KAPI	**Kappang** 28nm,0.6s	**22.49**	**269**	*e*P		**P**		**01**	**23**	**15.2**	**-0.4**
KAPI	**Kappang** 23nm,0.5s,baz=110,slow=5.9,SNR=22	**22.49**	**269**	P		**P**		**01**	**23**	**15.0**	**-0.7**
STKA	**Stephens Creek**	**26.93**	**181**	P		**P**		**01**	**23**	**57.3**	**+1.3**
STKA	**Stephens Creek** 3.0nm,0.8s,baz=17,slow=8.3,SNR=4.4	**26.93**	**181**	P		**P**		**01**	**23**	**57.3**	**+1.3**
STKA				LR				01	36	22.4	
	comp=Z,174nm,18.5s,baz=291,slow=40										
MBWA	**Marble Bar** 39nm,1.4s	**27.29**	**231**	*e*P		**P**		**01**	**23**	**59.3**	**-0.1**
MEEK	**Meekatharra** baz=31,SNR=4.9	**31.37**	**224**	P		**P**		**01**	**24**	**35.5**	**0.0**
MORW	**Morawa** baz=34,SNR=6.4	**34.67**	**223**	P		**P**		**01**	**25**	**04.8**	**+0.7**
QIZ	**Qiongzhong**	**39.81**	**307**	P		**P**		**01**	**25**	**47.3**	**-0.3**
QIZ				pP		**pP**		**01**	**26**	**13.6**	**-1.4**
QIZ				sP		**sP**		**01**	**26**	**29.4**	**+0.6**
QIZ				S		**S**		**01**	**31**	**41.9**	**-1.2**
QIZ				pmax		pmax					
	comp=Z,18nm,1.2s										
QIZ				pmax		pmax					
	comp=Z,80nm,3.8s										
MJAR	**Matsushiro Arr**	**41.32**	**355**	P		**P**		**01**	**25**	**57.2**	**-2.6**
MJAR	**Matsushiro Arr** comp=Z,2.9nm,0.5s,baz=176,slow=6.2,SNR=11	**41.32**	**355**	P		**P**		**01**	**25**	**57.2**	**-2.6**
MAJO	**Matsushiro** comp=Z,13nm,1.1s	**41.32**	**355**	*e*P		**P**		**01**	**25**	**56.9**	**-3.0**
MAT	**Matsushiro**	**41.32**	**355**	P		P		01	25	56.5	-3.3
NJ2	**Nanjing**	**42.93**	**330**	*e*P		**P**		**01**	**26**	**12.3**	**-0.6**
NJ2				pmax		pmax					
	comp=Z,20nm,1.0s										
KSAR	**Wonju Array Be**	**44.14**	**343**	P		**P**		**01**	**26**	**21.9**	**-0.6**
KSAR				PcP		**PcP**		**01**	**28**	**06.5**	**+1.1**
KSRS	**Korea Array** comp=Z,5.2nm,0.6s,baz=164,slow=9.8,SNR=22	**44.14**	**343**	P		**P**		**01**	**26**	**21.9**	**-0.6**
KSRS				PcP		**PcP**		**01**	**28**	**06.5**	**+1.1**
	comp=Z,4.9nm,0.9s,baz=164,slow=3.6,SNR=11										
KSRS				LR		LR		01	43	47.1	
	comp=Z,28nm,18.5s,baz=215,slow=35										
URZ	**Urewera**	**45.91**	**141**	P		**P**		**01**	**26**	**37.7**	**+1.1**
URZ	**Urewera** comp=Z,7.6nm,0.6s,baz=287,slow=7.5,SNR=7.3	**45.91**	**141**	P		**P**		**01**	**26**	**37.7**	**+1.1**
GYA	**Guiyang**	**46.46**	**314**	P		**P**		**01**	**26**	**41.2**	**0.0**
GYA				pP		**pP**		**01**	**27**	**11.4**	**+2.1**
GYA				sP		**sP**		**01**	**27**	**25.0**	**+2.0**
GYA				PcP		**PcP**		**01**	**28**	**14.5**	**+0.5**
GYA				PP		**PP**		**01**	**28**	**32.2**	**-0.1**
GYA				ScP		**ScP**		**01**	**31**	**55.6**	**-0.7**
GYA				PcS		**PcS**		**01**	**32**	**08.9**	**-0.2**
GYA				S		**S**		**01**	**33**	**21.0**	**+0.6**
GYA				sS		**sS**		**01**	**34**	**10.4**	**+1.5**
GYA				ScS		**ScS**		**01**	**36**	**22.0**	**-2.4**
GYA				pmax		pmax					
	comp=Z,20nm,1.0s										
GYA				pmax		pmax					
	comp=Z,120nm,4.8s										
ENH	**Enshi** comp=Z,23nm,0.7s	**46.96**	**320**	*e*P		**P**		**01**	**26**	**44.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**48.61**	**300**	P		**P**		**01**	**26**	**58.1**	**+0.3**
CMAR	**Chiang Mai Arr** comp=Z,1.0nm,0.3s,baz=121,slow=6.7,SNR=7.8	**48.61**	**300**	P		**P**		**01**	**26**	**58.1**	**+0.3**
KMI	**Kunming**	**48.63**	**310**	P		**P**		**01**	**27**	**00.5**	**+2.4**
KMI				pP		**pP**		**01**	**27**	**26.3**	**-0.1**
KMI				pmax		pmax					
	comp=Z,9.0nm,0.8s										
ASAJ	**Asahikawa** comp=Z,33nm,1.9s	**48.71**	**0**	*e*P		**P**		**01**	**26**	**57.2**	**-0.9**
USRK	**Ussuriysk Arra** comp=Z,9.2nm,0.9s,baz=172,slow=7.9,SNR=27	**49.67**	**350**	P		**P**		**01**	**27**	**04.8**	**-0.6**
XAN	**Xi'an**	**49.88**	**323**	P		**P**		**01**	**27**	**06.7**	**-0.6**
XAN				pmax		pmax					
	comp=Z,6.0nm,0.8s										
MDJ	**Mudanjiang**	**50.52**	**348**	P		**P**		**01**	**27**	**10.8**	**-1.0**
MDJ				pP		**pP**		**01**	**27**	**38.8**	**-1.5**
MDJ				sP		**sP**		**01**	**27**	**52.6**	**-1.3**
MDJ				ScP		**ScP**		**01**	**32**	**11.9**	**-1.1**
MDJ				PcS		**PcS**		**01**	**32**	**24.8**	**-0.5**
MDJ				S		**S**		**01**	**34**	**15.8**	**-0.8**
MDJ				pmax		pmax					
	comp=Z,7.0nm,1.1s										
MDJ				pmax		pmax					
	comp=Z,37nm,3.7s										
BJI	**Beijing**	**50.71**	**334**	P		**P**		**01**	**27**	**12.4**	**-0.9**
BJI				S		**S**		**01**	**34**	**21.2**	**+1.9**
BJI				pmax		pmax					
	comp=Z,22nm,0.6s										
BJI				pmax		pmax					
	comp=Z,49nm,3.6s										
BJI				LR		LR					
	comp=N,110nm,18.5s										
BJI				LR		LR					
	comp=E,110nm,18.9s										
BJI				LR		LR					
	comp=Z,52nm,21.8s										
CD2	**Chengdu**	**51.17**	**317**	P		**P**		**01**	**27**	**18.2**	**+1.2**
CD2				pP		**pP**		**01**	**27**	**46.6**	**+1.0**
CD2				sP		**sP**		**01**	**28**	**00.4**	**+1.3**
CD2				PcP		**PcP**		**01**	**28**	**31.9**	**+1.0**
CD2				PP		**PP**		**01**	**29**	**17.7**	**+2.6**
CD2				S		**S**		**01**	**34**	**25.8**	**-0.3**
CD2				sS		**sS**		**01**	**35**	**15.4**	**0.0**
CD2				SS		**SS**		**01**	**38**	**00.8**	**-2.4**
CD2				pmax		pmax					
	comp=Z,10.0nm,0.5s										
CD2				pmax		pmax					
	comp=Z,120nm,5.2s										
HHC	**Hu-ho-hao-te**	**53.47**	**331**	*e*P		**P**		**01**	**27**	**36.9**	**+3.0**
HHC				pP		**pP**		**01**	**28**	**03.3**	**+0.6**
HHC				sP		**sP**		**01**	**28**	**16.0**	**-0.2**
HHC				PP		PP		01	29	41.2	+5.5
HHC				S		**S**		**01**	**34**	**19.0**	**+1.7**
HHC				sS		**sS**		**01**	**35**	**46.4**	**-0.5**
HHC				SS		**SS**		**01**	**38**	**41.4**	**+2.0**
HHC				pmax		pmax					
	comp=Z,23nm,1.2s										
HHC				pmax		pmax					
	comp=Z,91nm,5.4s										
LZH	**Lanzhou**	**54.34**	**322**	*e*P		**P**		**01**	**27**	**41.4**	**+1.0**
LZH				pP		**pP**		**01**	**28**	**07.7**	**-1.6**
LZH				sP		**sP**		**01**	**28**	**21.9**	**-0.8**
LZH				PcP		**PcP**		**01**	**28**	**45.0**	**+2.1**
LZH				PP		**PP**		**01**	**29**	**41.4**	**-2.3**
LZH				*e*S		**S**		**01**	**35**	**05.5**	**-3.8**
LZH				sS		**sS**		**01**	**36**	**00.3**	**+1.2**
LZH				SS		**SS**		**01**	**38**	**55.1**	**+1.7**
LZH				pmax		pmax					
	comp=Z,45nm,1.0s										
LZH				pmax		pmax					
	comp=Z,170nm,4.0s										
GTA	**Gaotai**	**58.91**	**322**	*e*P		**P**		**01**	**28**	**13.3**	**+0.6**
GTA				pP		**pP**		**01**	**28**	**43.2**	**+1.3**
GTA				sP		**sP**		**01**	**28**	**55.0**	**-0.3**
GTA				S		**S**		**01**	**36**	**07.2**	**-2.2**
GTA				sS		**sS**		**01**	**37**	**02.3**	**+2.5**
GTA				SS		**SS**		**01**	**40**	**07.1**	**+1.9**
GTA				pmax		pmax					
	comp=Z,28nm,0.8s										
GTA				pmax		pmax					
	comp=Z,88nm,8.1s										
PEA0B	**Petropavlovsk-**	**59.15**	**11**	*e*P		**P**		**01**	**28**	**13.0**	**-0.8**
PETK	**Petropavlovsk-**	**59.15**	**11**	P		**P**		**01**	**28**	**13.4**	**-0.4**
PETK				pP		pP		01	28	36.3	-6.8
PETK	**Petropavlovsk-** comp=Z,13nm,0.7s,baz=179,slow=8.3,SNR=29	**59.15**	**11**	P		**P**		**01**	**28**	**13.4**	**-0.4**
PETK				pP		pP		01	28	36.3	-6.8
	comp=Z,9.6nm,1.0s,baz=176,slow=5.9,SNR=3.5										
PETK				LR		LR		01	49	19.8	
	comp=Z,20nm,21.1s,baz=196,slow=31										
LSA	**Lhasa** comp=Z,11nm,0.8s	**59.84**	**308**	*e*P		**P**		**01**	**28**	**20.6**	**+1.0**
ULN	**Ulaanbaatar** comp=Z,10nm,0.8s	**60.91**	**334**	*e*P		**P**		**01**	**28**	**26.3**	**+0.1**
SONM	**Songino Array**	**61.18**	**333**	P		**P**		**01**	**28**	**28.1**	**+0.1**
SONM	**Songino Array** comp=Z,3.8nm,0.6s,baz=157,slow=7.5,SNR=9.6	**61.18**	**333**	P		**P**		**01**	**28**	**28.1**	**+0.1**
TAPN	**Taplejung** comp=Z,44nm,0.7s	**61.63**	**304**	*e*P		**P**		**01**	**28**	**32.1**	**+0.5**
ODAN	**Odare** comp=Z,44nm,0.8s	**61.71**	**304**	*e*P		**P**		**01**	**28**	**32.5**	**+0.4**
RAMN	**Ramite** comp=Z,31nm,0.7s	**62.40**	**304**	*e*P		**P**		**01**	**28**	**37.2**	**+0.5**
JIRN	**Jiri** comp=Z,33nm,0.6s	**63.00**	**304**	*e*P		**P**		**01**	**28**	**41.3**	**+0.5**
FX1	**Attu Island--F**	**63.12**	**20**	*e*P		**P**		**01**	**28**	**39.8**	**-0.8**
GUN	**Gumba** comp=Z,63nm,0.7s	**63.35**	**304**	*e*P		**P**		**01**	**28**	**43.6**	**+0.5**
PKI	**Pulchoki** comp=Z,25nm,0.8s	**63.61**	**304**	*e*P		**P**		**01**	**28**	**44.8**	**0.0**
PKIN	**Phulchoki** comp=Z,17nm,0.7s	**63.62**	**304**	*e*P		**P**		**01**	**28**	**44.8**	**0.0**
KKN	**Kakani** comp=Z,52nm,0.7s	**63.80**	**304**	*e*P		**P**		**01**	**28**	**46.1**	**+0.2**
DMN	**Damavand** comp=Z,64nm,0.8s	**63.88**	**304**	*e*P		**P**		**01**	**28**	**47.0**	**+0.6**
KOLN	**Koldanda** comp=Z,40nm,0.7s	**65.18**	**303**	*e*P		**P**		**01**	**28**	**55.1**	**+0.2**
CASY	**Casey** comp=Z,9.7nm,1.0s	**65.23**	**194**	*e*P		**P**		**01**	**28**	**54.5**	**+0.3**
DANN	**Dangsing** comp=Z,54nm,0.7s	**65.25**	**304**	*e*P		**P**		**01**	**28**	**55.6**	**+0.2**
PYUN	**Piuthan** comp=Z,64nm,0.8s	**65.80**	**304**	*e*P		**P**		**01**	**28**	**58.8**	**-0.1**
PPT	**Papeete** comp=Z,79nm,19.9s,baz=173,slow=31	**67.69**	**107**	LR		LR		01	53	43.9	
WMQ	**Urumqi**	**68.90**	**321**	P		**P**		**01**	**29**	**17.6**	**-0.3**
WMQ	**Urumqi**	**68.90**	**321**	P		**P**		**01**	**29**	**18.5**	**+0.6**
VNDA	**Vanda** comp=Z,3.2nm,0.7s	**73.40**	**176**	*e*P		**P**		**01**	**29**	**44.5**	**+0.1**
VNDA	**Vanda** comp=Z,3.5nm,0.9s,baz=325,slow=5.1,SNR=8.3	**73.40**	**176**	P		**P**		**01**	**29**	**45.1**	**+0.7**
MK31	**Makanchi Array**	**73.66**	**322**	*e*P		**P**		**01**	**29**	**46.1**	**-0.4**
MKAR	**Makanchi Array**	**73.66**	**322**	*e*P		**P**		**01**	**29**	**46.0**	**-0.4**
MKAR	**Makanchi Array** comp=Z,15nm,0.8s,baz=111,slow=6.8,SNR=124	**73.66**	**322**	P		**P**		**01**	**29**	**46.8**	**+0.4**
KSH	**Kashi**	**75.15**	**313**	P		**P**		**01**	**29**	**56.9**	**+1.6**
KSH				PcP		**PcP**		**01**	**30**	**09.3**	**+1.0**
KSH				pP		**pP**		**01**	**30**	**27.3**	**+1.4**
KSH				sP		sP		01	30	44.1	+5.1
KSH				PP		**PP**		**01**	**32**	**49.2**	**+3.9**
KSH				S		**S**		**01**	**39**	**23.3**	**-1.1**
KSH				SKS		**SKSac**		**01**	**39**	**49.9**	**-3.8**
KSH				sS		**sS**		**01**	**40**	**19.5**	**+2.6**
KSH				SS		**SS**		**01**	**44**	**18.8**	**+2.4**
KSH				pmax		pmax					
	comp=Z,10.0nm,0.9s										
KSH				pmax		pmax					
	comp=Z,66nm,3.2s										
KSH				LR		LR					
	comp=N,140nm,6.0s										
KSH				LR		LR					
	comp=E,130nm,9.7s										
KSH				LR		LR					
	comp=Z,120nm,8.0s										
ZAA0	**Zalesovo Array**	**75.57**	**329**	*e*P		**P**		**01**	**29**	**55.9**	**-1.3**
ZALV	**Zalesovo Beam**	**75.57**	**329**	P		**P**		**01**	**29**	**56.4**	**-0.9**
ZALV	**Zalesovo Beam** comp=Z,12nm,0.6s,baz=111,slow=5.8,SNR=62	**75.57**	**329**	P		**P**		**01**	**29**	**56.4**	**-0.9**
ZALV				LR		LR		02	04	05.0	
	comp=Z,34nm,18.6s,baz=72,slow=36										
KZA	**Kyzart** SNR=12	**76.51**	**315**	P		**P**		**01**	**30**	**04.5**	**+1.1**
TKM2	**Tokmak 2** SNR=8.0	**76.55**	**316**	P		**P**		**01**	**30**	**03.9**	**+0.6**
TKM2	**Tokmak 2** comp=Z,4.6nm,0.8s	**76.55**	**316**	*e*P		**P**		**01**	**30**	**03.2**	**-0.2**
CHMS	**Chumysh** SNR=5.1	**77.16**	**316**	P		**P**		**01**	**30**	**06.6**	**0.0**
AAK	**Ala-Archa** comp=Z,8.4nm,1.0s	**77.22**	**316**	*e*P		**P**		**01**	**30**	**07.4**	**+0.3**
USP	**Ospenovka** SNR=13	**77.42**	**316**	P		**P**		**01**	**30**	**08.2**	**+0.1**
KURK	**Kurchatov** comp=Z,88nm,0.9s,SNR=8.1	**77.51**	**324**	P		**P**		**01**	**30**	**07.9**	**-0.3**
CHGN	**Chignik**	**77.60**	**29**	*e*P		**P**		**01**	**30**	**07.7**	**-0.9**
AML	**Almayashu** SNR=14	**77.62**	**315**	P		**P**		**01**	**30**	**10.2**	**+0.6**
EKS2	**Erkin-Say** SNR=6.9	**77.73**	**315**	P		**P**		**01**	**30**	**10.2**	**+0.3**
EKS2	**Erkin-Say** comp=Z,9.3nm,0.9s	**77.73**	**315**	*e*P		**P**		**01**	**30**	**10.2**	**+0.3**
KBL	**Kabul** comp=Z,4.1nm,0.5s	**79.07**	**306**	*e*P		**P**		**01**	**30**	**15.8**	**-1.8**
KKAR	**Karatay Array** comp=Z,6.7nm,0.8s	**80.16**	**315**	*e*P		**P**		**01**	**30**	**23.1**	**+0.2**
OHAK	**Old Harbor** comp=Z,12nm,0.7s	**80.54**	**30**	*e*P		**P**		**01**	**30**	**24.1**	**-0.5

ANMO	Albuquerque	110.11	55	*e*PKP	PKiKP	01 36 44.1	0.0	
SDCO	Great Sand Dun	110.42	52	*e*PKP	PKiKP	01 36 45.5	+0.7	
SUW	Suwalki	110.72	327	*e*Pdif	Pdif	01 32 43.5	-1.5	
TXAR	Lajitas Array	113.24	60	PKiKP	PKiKP	01 36 50.5	+0.4	
TXAR	Lajitas Array	113.24	60	PKiKP	PKiKP	01 36 50.5	+0.4	
	comp=Z,0.2nm,0.5s,baz=246,slow=4.5,SNR=6.5							
530A	J-C Ranch, Com	115.12	59	P	PKPdf	01 36 53.9	+0.2	
	baz=115							
MORC	Moravsky Berou	115.60	324	*e*PKPdf	PKPdf	01 36 52.2	-1.7	
431A	Sonora	115.66	58	P	PKPdf	01 36 54.9	+0.2	
	baz=116							
231A	Bronte	115.67	57	P	PKPdf	01 36 54.4	-0.3	
	baz=116							
531A	Rocksprings	115.80	59	P	PKPdf	01 36 55.2	+0.2	
	baz=116							
GVD	Gavdhos	115.80	306	*e*PKPdf	PKPdf	01 36 53.3	-1.5	
631A	Perdido Creek	115.90	60	P	PKPdf	01 36 55.1	0.0	
	baz=116							
Z32A	Haskell	116.09	55	P	PKPdf	01 36 55.3	-0.2	
	baz=116							
232A	Coleman	116.24	57	P	PKPdf	01 36 56.1	+0.3	
	baz=116							
WMOK	Wichita Mounta	116.35	54	*e*PKPdf	PKPdf	01 36 55.5	-0.4	
BRG	Berggiesshubel	117.17	326	*e*PKP	PKPdf	01 36 57.4	+0.5	
	comp=Z,2.3nm,0.8s							
BRG								
	comp=N,94nm,10.0s							
BRG								
	comp=E,83nm,10.8s							
BRG								
	comp=Z,144nm,18.1s							
CLL	Collm	117.47	327	*i* PKiKP	PKiKP	01 36 57.7	+0.2	
	comp=Z,3.0nm,0.7s							
KHC	Kasperske Hory	118.20	324	*e*PKP	PKPdf	01 36 59.1	+0.1	
GERES	GERESS Array B	118.26	324	PKP	PKPdf	01 36 59.3	+0.1	
GERES	GERESS Array B	118.26	324	PKP	PKPdf	01 36 59.3	+0.1	
	comp=Z,0.7nm,0.5s,baz=82,slow=1.1,SNR=11							
WLF	Walferdange	122.04	328	*e*PKPdf	PKPdf	01 37 06.0	-0.3	
BNI	Bardonecchia	124.33	323	*e*PKPdf	PKPdf	01 37 11.0	-0.1	
SCHQ	Schefferville	124.86	20	PKP	PKPdf	01 37 11.7	+0.1	
SCHQ	Schefferville	124.86	20	PKP	PKPdf	01 37 11.7	+0.1	
	comp=Z,4.4nm,0.7s,baz=5.5,slow=6.8,SNR=9.8							
PLCA	Paso Flores	125.58	150	*e*PKPdf	PKPdf	01 37 12.6	-0.9	
KEST	Kesra	126.96	312	*e*PKPdf	PKPdf	01 37 17.0	+0.7	
KMSC	Kings Mountain	129.69	47	P	PKPdf	01 37 21.9	+0.5	
	baz=130							
CFAA	Coronel Fontan	133.52	143	PKP	PKPdf	01 37 30.2	+1.3	
CFAA	Coronel Fontan	133.52	143	PKP	PKPdf	01 37 30.2	+1.3	
	comp=Z,0.1nm,0.3s,baz=206,slow=3.2,SNR=3.6							
ESDC	Sonseca Array	133.85	324	PKP	PKPdf	01 37 30.1	+0.9	
ESDC	Sonseca Array	133.85	324	PKP	PKPdf	01 37 30.1	+0.9	
	comp=Z,0.1nm,0.3s,baz=11,slow=3.0,SNR=4.1							
TAM	Tamanrasset	134.63	297	*e*PKPdf	PKPdf	01 37 34.0	+2.7	
LVC	Limon Verde	139.06	133	PKP	PKPdf	01 37 41.6	+1.9	
LVC	Limon Verde	139.06	133	PKP	PKPdf	01 37 41.6	+1.9	
	comp=Z,1.7nm,0.6s,baz=205,slow=2.1,SNR=3.5							
TOA0	Torodi Ar. Sit	140.29	285	*e*PKPdf	PKPdf	01 37 44.0	+2.3	
TORD	Torodi Ar. Bea	140.29	285	PKPpre	PKPpre	01 37 33.1		
TORD				PKP	PKiKP	01 37 43.6	-0.6	
TORD				pPKP	pPKPdf	01 38 09.3	-5.3	
TORD	Torodi Ar. Bea	140.29	285	PKhKP	PKPpre	01 37 33.1		
	comp=Z,0.8nm,0.8s,baz=74,slow=2.7,SNR=5.8							
TORD				PKP	PKiKP	01 37 43.6	-0.6	
	comp=Z,3.6nm,0.7s,baz=64,slow=2.5,SNR=20							
TORD				pPKP	pPKPdf	01 38 09.3	-5.3	
	comp=Z,1.4nm,0.7s,baz=74,slow=2.6,SNR=2.9							
LPAZ	La Paz	143.29	125	*e*PKPdf	PKPbc	01 37 45.4	+0.2	
LPAZ				PKPpre	PKPpre	01 37 46.1		
LPAZ	La Paz	143.29	125	PKhKP	PKPpre	01 37 46.1		
	comp=Z,8.2nm,0.8s,baz=266,slow=1.5,SNR=32							
ROSC	El Rosal	143.48	88	*e*PKPdf	PKPbc	01 37 46.0	+0.5	
ROSC				PKPpre	PKPpre	01 37 46.5		
ROSC	El Rosal	143.48	88	PKhKP	PKPpre	01 37 46.5		
	comp=Z,24nm,0.7s,baz=90,slow=3.8,SNR=13							
CPUP	Villa Florida	143.65	149	PKPpre	PKPpre	01 37 44.3		
CPUP	Villa Florida	143.65	149	PKhKP	PKPpre	01 37 44.3		
	comp=Z,1.6nm,0.5s,baz=281,slow=1.9,SNR=8.0							
SDDR	Presa de Saban	144.32	64	*e*PKPdf	PKPab	01 37 47.1	0.0	
DBIC	Dimbokro	147.30	275	*e*PKPbc	PKPbc	01 37 56.5	0.0	
DBIC	Dimbokro	147.30	275	PKPbc	PKPbc	01 37 57.2	+0.7	
	comp=Z,18nm,0.7s,baz=55,slow=2.5,SNR=28							
CRPR	Cabo Rojo, PR	148.38	63	*e*PKPbc	PKPbc	01 37 58.4	-0.8	
CRPR				*e*PKPab	PKPab	01 38 02.0	-0.7	
LRS	Lares	148.51	62	*e*PKPbc	PKPbc	01 37 59.0	-0.6	
CELP	Cerrillos	148.82	63	*e*PKPbc	PKPbc	01 38 00.1	-0.3	
SIV	San Ignacio	148.96	132	PKP	PKPdf	01 37 57.6	+0.9	
SIV				PKPbc	PKiKP	01 38 02.0	0.0	
SIV				pPKPbc	pPKPbc	01 38 28.9	-4.5	
SIV	San Ignacio	148.96	132	PKPbc	PKPdf	01 37 57.6	+0.9	
	comp=Z,15nm,0.8s,baz=176,slow=3.8,SNR=5.7							
SIV				PKPbc	PKiKP	01 38 02.1	0.0	
	comp=Z,15nm,0.8s,baz=248,slow=2.0,SNR=50							
SIV				pPKPbc	pPKPbc	01 38 28.9	-4.5	
	comp=Z,7.2nm,0.9s,baz=244,slow=4.2,SNR=3.1							
MTP	Monte Pirata	149.72	62	*e*PKPbc	PKPbc	01 38 02.6	+0.1	
MTP				*e*PKPab	PKPab	01 38 07.8	-0.4	
STVI	Saint Thomas	150.15	61	*e*PKPbc	PKPbc	01 38 03.1	-0.5	
STVI				*e*PKPab	PKPab	01 38 09.2	-0.7	
SAML	Samuel	151.12	118	*e*PKPdf	PKPdf	01 38 00.6	+0.5	
SAML				*e*PKPbc	PKPbc	01 38 06.0	0.0	
SAML				*e*PKPab	PKPab	01 38 13.5	-0.6	
BDFB	Brasilia	157.24	153	PKP	PKPdf	01 38 10.0	+1.3	
BDFB	Brasilia	157.24	153	PKP	PKPdf	01 38 10.0	+1.3	
	comp=Z,1.9nm,0.6s,baz=157,slow=1.5,SNR=4.8							

*CSEM **04** 01:35:54.5, 12°.15N×44°.50E, h3km, ML3.7, After DHMR*
DHMR 04 01:35:54.5±1.4, 12°.15N×44°.50E, h3km±11km, ML3.7, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	1.14	341	*i* P		Pg		01 36 16.6	-0.1
TRBA				*i* S		Sg		01 36 31.8	+0.2
TRBA				AML		AML		01 36 39.1	
	comp=E,1μm,0.8s								
LBOS		1.86	23	*i* P		Pn		01 36 27.6	-0.1
LBOS				*i* S		Sg		01 36 54.7	-0.3
UDYN	Al 'Udayn	1.88	344	*i* P		Pn		01 36 28.3	+0.6
UDYN				*i* S		Sg		01 36 54.5	-0.7
UDYN				AML		AML		01 37 00.8	
	comp=E,993nm,0.4s								
UDYN	Al 'Udayn	1.88	344	*i* P		Pn		01 36 28.3	+0.6
UDYN				*i* S		Sg		01 36 54.5	-0.7
	comp=E,446nm,0.3s								
BDHA	Al Bayda'	2.09	30	*i* P		Pn		01 36 31.7	+0.9
BDHA				AML		AML		01 36 38.6	
	comp=N,893nm,0.3s								
BDHA				*i* S		Sg		01 37 01.5	-0.9
BDHA	Al Bayda'	2.09	30	*i* P		Pn		01 36 31.7	+0.9
BDHA				*i* S		Sg		01 37 01.5	-0.9

*CSEM **04** 01:39:51.9±0.2, 33°.95N×25°.65E, h2km, MD3.4, Error ellipse: s-maj=9.5km s-min=4.6km az=66.0*
*ATH **04** 01:39:51.2, 33°.91N×25°.63E, h11km±2km, MD3.4/11*
*IDC **04** 01:39:51.7±1.6, 34°.13N×25°.46E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/25, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=48.7km s-min=27.2km az=131.0*
*ISCJB **04** 01:39:52.4±0.4, 33°.91N±0°.03×25°.71E±0°.06, h17km, mb3.3/3, Error ellipse: s-maj=8.3km s-min=3.7km az=153.3*
ISC 04 01:39:53.4±0.8, 33°.99N±0°.04×25°.67E±0°.04, h17km, n40, σ1s07/47, mb3.3/3, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAST	Lasithi	1.18	352	*e*PB		Pb		01 40 14.9	-0.5
LAST	Lasithi	1.18	352	*e*Pb		Pb		01 40 14.9	-0.5
ZKR	Zakros	1.21	22	*e*PG		Pn		01 40 15.3	-0.3
ZKR	Zakros	1.21	22	*e*Pg		Pn		01 40 15.3	-0.3
SIVA	Sivas	1.24	326	*e*PB		Pb		01 40 15.9	-0.5
SIVA	Sivas	1.24	326	*e*Pb		Pb		01 40 15.9	-0.5
NPS	Neapolis	1.27	358	*e*PB		Pn		01 40 16.2	-0.2
NPS	Neapolis	1.27	358	*e*Pb		Pn		01 40 16.2	-0.2
IDI	Anoyia	1.44	334	*e*PG		Pb		01 40 19.3	-0.6
IDI				*e*SB		Sg		01 40 40.0	-0.1
IDI	Anoyia	1.44	334	*e*Pg		Pb		01 40 19.3	-0.6
IDI				*e*Sb		Sg		01 40 40.0	-0.1
GVD	Gavdhos	1.56	303	*e*PB		Pb		01 40 21.1	-0.7
GVD				*e*SB		Sg		01 40 43.1	-0.5
GVD	Gavdhos	1.56	303	*e*Pb		Pb		01 40 21.1	-0.7
GVD				*e*Sb		Sg		01 40 43.1	-0.5
VAM	Vamos	1.86	320	*e*PN		Pn		01 40 25.1	+0.6
VAM				*e*SN		Sg		01 40 51.5	-1.8
VAM	Vamos	1.86	320	*e*Pn		Pn		01 40 25.1	+0.6
VAM				*e*Sn		Sg		01 40 51.5	-1.8
KARP	Karpathos	1.98	38	*e*PN		Pb		01 40 28.7	-0.3
KARP	Karpathos	1.98	38	*e*Pn		Pb		01 40 28.7	-0.3
SANT	Santorini	2.38	356	*e*PN		Pb		01 40 34.1	-1.7
SANT	Santorini	2.38	356	*e*Pn		Pb		01 40 34.1	-1.7
SLUM		2.52	189	P		Pn		01 40 33.0	-0.6
APE	Apeiranthos	3.07	358	*e*PN		Pn		01 40 42.9	+1.7
APE	Apeiranthos	3.07	358	*e*Pn		Pn		01 40 42.9	+1.7
HMAT	Matruh	3.13	157	P		Pn		01 40 41.8	-0.2
HMAT				S		Sn		01 41 17.3	-1.7
KYTH	Kithira	3.14	317	*e*PN		Pn		01 40 43.0	+0.9
KYTH	Kithira	3.14	317	*e*Pn		Pn		01 40 43.0	+0.9
VLI	Veliai	3.52	321	*e*PN		Pn		01 40 47.7	+0.4
VLI	Veliai	3.52	321	*e*Pn		Pn		01 40 47.7	+0.4
DID	Didima	4.03	331	*e*PN		Pn		01 40 53.4	-0.9
DID	Didima	4.03	331	*e*Pn		Pn		01 40 53.4	-0.9
ITM	Ithomi	4.41	317	*e*PN		Pn		01 41 01.6	+2.1
ITM	Ithomi	4.41	317	*e*Pn		Pn		01 41 01.6	+2.1
SWA2		4.74	182	P		Pn		01 41 03.7	-0.4
GUR	Goura	4.77	327	*e*PN		Pn		01 41 06.6	+2.0
GUR	Goura	4.77	327	*e*Pn		Pn		01 41 06.6	+2.0
AWBH		6.30	153	P		Pn		01 41 25.7	+0.2
HFRF	Wahat Farafira	7.19	161	P		Pn		01 41 38.2	+0.4
AMAG	Maghara	7.20	116	P		Pn		01 41 37.6	-0.4
GERES	GERESS Array B	17.31	333	P		Pn		01 43 53.4	-0.8
	0.1nm,0.3s,baz=149,slow=12,SNR=5.5								
FINES	FINESS Array B	27.47	0	P		P		01 45 37.4	-0.9
	0.5nm,0.4s,baz=158,slow=12,SNR=4.9								
TORD	Torodi Ar. Bea	30.08	232	P		P		01 46 02.3	+0.3
	0.5nm,1.0s,baz=38,slow=9.1,SNR=3.9								
MKAR	Makanchi Array	44.08	56	P		P		01 48 02.1	+1.6
	0.2nm,0.5s,baz=268,slow=7.6,SNR=2.4								

IDC 04 02:21:39.8±2.4, 16°.86S×179°.39W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/19, mbtmp3.7/3, Error ellipse: s-maj=177.1km s-min=32.0km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	43.91	259	P		P		02 29 49.6	+0.9
	0.8nm,1.0s,baz=97,slow=7.5,SNR=3.2								
ASAR	Alice Springs	44.18	253	P		P		02 29 50.4	-0.6
	2.4nm,0.9s,baz=87,slow=8.5,SNR=17								
TXAR	Lajitas Array	86.23	58	P		P		02 34 24.9	+1.0
	0.2nm,0.7s,baz=230,slow=7.0,SNR=3.7								
GERES	GERESS Array B	146.36	344	PKPbc		PKPdf		02 41 20.2	-1.4
	0.3nm,0.6s,baz=5.7,slow=1.3,SNR=4.3								

*ISCJB **04** 02:36:36.3±0.9, 37°.07N±0°.03×9°.22E±0°.05, h2km±7km, mb3.6/3, MS2.9/2, Error ellipse: s-maj=6.1km s-min=5.0km az=170.7*
*CSEM **04** 02:36:38.2±0.3, 37°.03N×9°.30E, h2km, MD3.7, Error ellipse: s-maj=8.3km s-min=5.1km az=78.0*
*CRAAG **04** 02:36:38.6, 36°.98N×9°.27E, Mb3.8*
*IDC **04** 02:36:38.4±1.0, 36°.83N×9°.17E, h0km, mb3.6/3, mb1 3.7/7, mb1mx3.5/31, mbtmp3.5/7, ML3.8/4, MS3.0/5, Ms1 3.0/5, ms1mx2.6/42, Error ellipse: s-maj=10.7km s-min=2.5km az=173.0*
*LDG **04** 02:36:39.9±0.2, 36°.85N×9°.00E, h10km, Ml3.3/9, Error ellipse: s-maj=6.4km s-min=3.1km az=87.0*
*TUN **04** 02:36:39.5, 36°.90N×9°.12E, h4km, MD3.7*
ISC 04 02:36:39.1±1.3, 37°.01N±0°.04×9°.27E±0°.05, h12km±9km, n90, σ1s81/89, mb3.8/3, Tunisia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TAMR	Tamra	0.14	285	*i* P		Pg		02 36 42.3	-0.1
BLIT	Baltah	0.39	221	*i* P		Pg		02 36 44.6	-2.3
KCHT	Kechabta	0.54	79	*i* P		Pn		02 36 53.8	+1.1
KRIT	Krib	0.69	193	*i* P		Pg		02 36 50.3	-2.2
ZGN	Zaghouan	0.92	134	*i* P		Pn		02 36 58.2	+0.3
GHAT	Ghardimaou	0.93	237	*i* P		Pg		02 36 54.7	-2.4
MBZ	Menzel Bouzelf	1.17	106	*i* P		Pn		02 37 05.2	+4.0
I48TN	KESRA INFRASON	1.20	178	*i*				02 42 11.0	
	baz=353,slow=320,SNR=0.9								
KEST	Kesra	1.28	177	Pg		Pn		02 37 00.5	-2.3
	5.9nm,0.3s,baz=294,slow=4.1,SNR=246								
KEST				Lg		Lg		02 37 15.1	
	48nm,0.3s,baz=141,slow=5.4,SNR=18								
THTN	Thala	1.52	198	*i* P		Pn		02 37 03.3	-2.9
CMAH	Djebel Manchou	1.54	256	P		Pn		02 37 02.9	-3.4
ABSA	Djebel Ababsia	1.62	243	P		Pn		02 37 04.1	-3.4
CAEH	'Ain El Ouahch	1.96	264	P		Pb		02 37 15.5	+0.9
CAEH	'Ain El Ouahch	1.96	264	P		Pb		02 37 15.5	+0.9
BTHT	Jabal bu Thady	2.05	156	*i* P		Pn		02 37 13.9	+0.6
CKFL	Kef-Lekhel	2.14	254	*i* P		Pn		02 37 11.9	-2.8
CKFL	Kef-Lekhel	2.14	254	P		Pn		02 37 11.9	-2.8
SYA	Sidi Yaiche	2.30	190	*i* P		Pn		02 37 16.8	0.0
CASM	Ain Smara	2.36	252	P		Pn		02 37 14.9	-2.8
CASM	Ain Smara	2.36	252	P		Pn		02 37 14.9	-2.8
CTEI	Djebel Teioual	2.49	249	P		Pn		02 37 17.3	-2.3
CTEI	Djebel Teioual	2.49	249	P		Pn		02 37 17.3	-2.3
OAR	Oum El Arais	2.58	196	*i* P		Pn		02 37 22.7	+2.1
DFRA	Djebel Bou Aff	2.77	261	P		Pn		02 37 21.2	-2.1
DFRA	Djebel Bou Aff	2.77	261	P		Pn		02 37 21.2	-2.1
BERT	Berda	2.77	184	*i* P		Pn		02 37 23.3	0.0
SET	Setif	3.22	257	P		Pn		02 37 29.0	-0.5
SET	Setif	3.22	257	P		Pn		02 37 29.0	-0.5
PGF	Pioggiola	5.53	358	*e*Pn		Pn		02 38 04.4	+3.1
PGF				*e*Sn		Sn		02 39 04.2	-0.7
	23nm,1.0s								
ETOS	Mallorca	5.77	300	P		Pn		02 38 04.7	+0.2
	1.3nm,0.4s,SNR=12								
ETOS				S		Sn		02 39 12.1	+1.5
	5.1nm,0.6s								
LMR	La Mourre	6.66	342	*e*Pn		Pn		02 38 17.1	+0.4
LMR				*e*Sn		Sn		02 39 29.0	-3.5
	6.4nm,0.4s								
LMR	La Mourre	6.66	342	*e*Pn		Pn		02 38 17.1	+0.4
FRF	La Foret Royal	6.84	344	*e*Pn		Pn		02 38 19.5	+0.3
FRF				*e*Sn		Sn		02 39 33.0	-4.0
	5.1nm,0.5s								
FRF	La Foret Royal	6.84	344	*e*Pn		Pn		02 38 19.5	+0.3
SBF	Sospel	6.99	349	*e*Pn		Pn		02 38 21.9	+0.7
SBF				*e*Sn		Sn		02 39 37.0	-3.6
	6.3nm,0.6s								
SBF	Sospel	6.99	349	*e*Pn		Pn		02 38 21.9	+0.7
CFON	Fontmartina	7.11	314	P		Pn		02 38 22.0	-0.9
	0.7nm,0.2s,SNR=7.9								
EJON	La Jonquera	7.33	320	P		Pn		02 38 24.5	-1.4
	0.7nm,0.2s,SNR=7.9								
SMRF	Simiane la Rot	7.50	339	*e*Pn		Pn		02 38 28.0	-0.3
SMRF				*e*Sn		Sn		02 39 48.8	-4.5
	8.9nm,0.8s								
SMRF	Simiane la Rot	7.50	339	*e*Pn		Pn		02 38 28.0	-0.3
EPOB	Poblet	7.70	307	P		Pn		02 38 30.9	-0.1
	0.4nm,0.3s,SNR=7.9								
EBEN	Beniarda	7.70	286	P		Pn		02 38 32.4	+1.3
	1.2nm,0.3s,SNR=7.9								
EMIR	Miracle	7.74	312	P		Pn		02 38 31.6	+0.1
	1.3nm,0.2s,SNR=5.8								
EMIR				S		Sn		02 40 01.5	+2.4
	2.6nm,0.5s								
MBDF	Montbardon	7.94	347	*e*Pn		Pn		02 38 33.9	-0.5
MBDF				*e*Sn		Sn		02 39 59.5	-4.6
	1.1nm,0.2s								
MBDF	Montbardon	7.94	347	*e*Pn		Pn		02 38 33.9	-0.5
LASF	Ste Croix	8.17	331	*e*Pn		Pn		02 38 36.4	-1.0
LASF				*e*Sn		Sn		02 40 05.0	-4.7
	5.9nm,0.7s								
LASF	Ste Croix	8.17	331	*e*Pn		Pn		02 38 36.4	-1.0
CSOR	Sort	8.25	313	P		Pn		02 38 38.3	-0.3
	1.1nm,0.4s,SNR=9.1								
CSOR				S		Sn		02 40 13.4	+1.7
	3.2nm,0.7s								
ORIF	Oris-en-Rattie	8.30	343	*e*Pn		Pn		02 38 38.9	-0.4
ORIF	Oris-en-Rattie	8.30	343	*e*Pn		Pn		02 38 38.9	-0.4
MTLF	Montolieu	8.31	322	*e*Pn		Pn		02 38 36.7	-2.7
MTLF				*e*Sn		Sn		02 40 09.6	-3.5
	7.3nm,0.8s								
EMOS	Mosqueruela	8.32	297	P		Pn		02 38 40.3	+0.6
	1.4nm,0.3s,SNR=7.8								
EMOS				S		Sn		02 40 16.6	+2.9
	4.4nm,0.7s								
EMUR	La Murta	8.40	279	P		Pn		02 38 41.0	+0.3
	1.1nm,0.3s,SNR=5.9								
ECHE	Chera	8.45	291	P		Pn		02 38 42.7	+1.4
	9.6nm,0.3s,SNR=21								
VIVF	Saint-Julien-l	8.57	338	*e*Pn		Pn		02 38 43.0	0.0
VIVF	Saint-Julien-l	8.57	338	*e*Pn		Pn		02 38 43.0	0.0
ETOB	Tobarra	8.72	284	P		Pn		02 38 46.4	+1.4
	3.0nm,0.3s,SNR=11								
ESAC	San Caprasio	8.89	305	P		Pn		02 38 49.5	+2.2
	6.7nm,0.4s,SNR=7.9								
EPF	Esparros	9.11	314	*e*Pn		Pn		02 38 49.6	-0.8
EPF	Esparros	9.11	314	*e*Pn		Pn		02 38 49.6	-0.8
EVIA	Vianos	9.46	283	P		Pn		02 38 57.8	+2.6
	2.3nm,0.4s								
EHUE	Huescar	9.47	278	P		Pn		02 38 58.3	+2.9
	1.5nm,0.4s,SNR=7.9								
ETSF	Etsaut	9.56	311	*e*Pn		Pn		02 38 54.5	-2.1
CAF	Calviac	9.60	328	*e*Pn		Pn		02 38 56.4	-0.6
CAF				*e*Sn		Sn		02 40 37.6	-7.2
	0.7nm,0.4s								
CAF	Calviac	9.60	328	*e*Pn		Pn		02 38 56.4	-0.6
EBER	Berja	9.74	273	P		Pn		02 38 58.9	-0.2
	0.7nm,0.2s,SNR=4.8								
DAVOX	Davos/Dischmat	9.77	2	Pn		Pn		02 39 06.2	+6.7
	0.1nm,0.3s,baz=37,slow=16,SNR=5.0								
DAVOX				LR		LR		02 43 07.8	
	comp=Z,109nm,18.3s,baz=342,slow=39								
EQES	Quesada	9.85	278	P		Pn		02 39 02.2	+1.6
	3.4nm,0.4s,SNR=33								
EQES				S		Sn		02 40 51.8	+0.6
	3.3nm,0.9s								
IEPA	Eparoz	9.93	309	P		Pn		02 39 02.4	+0.7
	0.6nm,0.3s,SNR=7.9								
IELO	Elcoad	9.95	309	P		Pn		02 39 02.7	+0.8
	0.9nm,0.3s,SNR=7.9								
RJF	Les Rejaudoux	10.13	327	*e*Pn		Pn		02 39 03.4	-1.0
RJF	Les Rejaudoux	10.13	327	*e*Pn		Pn		02 39 03.4	-1.0
ECOG	Cogollos-Vega	10.25	275	P		Pn		02 39 09.7	+3.6
	1.8nm,0.3s,SNR=14								
EGUA	Guajares	10.28	273	P		Pn		02 39 07.9	+1.5
	3.5nm,0.3s,SNR=7.9								
EALK	Alkurruntz	10.32	310	P		Pn		02 39 08.1	+1.3
	1.6nm,0.5s,SNR=6.4								
ERON	Agron	10.46	274	P		Pn		02 39 11.4	+2.5
	3.4nm,0.6s,SNR=7.9								
BGF	Bois d'Agland	10.67	335	*e*Pn		Pn		02 39 11.4	-0.3
BGF	Bois d'Agland	10.67	335	*e*Pn		Pn		02 39 11.4	-0.3
ESDC	Sonseca Array	10.73	288	Pn		Pn		02 39 13.4	+0.9
	0.9nm,0.3s,baz=97,slow=14,SNR=31								
ESDC				LR		LR		02 43 02.3	
	comp=Z,45nm,19.6s,baz=65,slow=36								
ESDC	Sonseca Array	10.73	288	P		Pn		02 39 13.8	+1.2
	2.1nm,0.3s,slow=14,SNR=15								
ELUQ	Luque	10.80	277	P		Pn		02 39 15.3	+1.7
	2.4nm,0.3s,SNR=7.9								
GUD	Guadarrama	11.08	293	P		Pn		02 39 19.8	+2.3
	0.7nm,0.2s,SNR=5.7								
ELAN	Lanestosa	11.54	307	P		Pn		02 39 24.0	+0.5
	1.2nm,0.4s,SNR=6.6								
GERES	GERESS Array B	12.26	14	Pn		Pn		02 39 37.9	+4.4
	0.1nm,0.3s,baz=212,slow=12,SNR=2.8								
GERES				LR		LR		02 44 37.3	
	comp=Z,53nm,18.7s,baz=97,slow=38								
MLR	Muntele Rosu	15.11	51	Pn		P		02 40 17.3	-0.3
	0.1nm,0.3s,baz=196,slow=15,SNR=2.2

AYDN				*i* S	**Sn**	**03 22 17.8**	**+0.4**
AYDN	**Tasoluk**	**2.37**	**346**	*i* P	**Pn**	**03 21 50.5**	**+1.0**
AYDN				*i* S	**Sn**	**03 22 17.8**	**+0.4**
DENT	**Denizli**	**2.41**	**8**	*e*PN	**Pn**	**03 21 50.6**	**+0.5**
DENT	**Denizli**	**2.41**	**8**	*e*Pn	**Pn**	**03 21 50.6**	**+0.5**
NPS	**Neapolis**	**2.44**	**269**	*e*P	**Pn**	**03 21 52.0**	**+1.5**
NPS	**Neapolis**	**2.44**	**269**	*e*P	**Pn**	**03 21 52.0**	**+1.5**
LAST	**Lasithi**	**2.56**	**266**	*e*P	**Pn**	**03 21 53.6**	**+1.4**
LAST	**Lasithi**	**2.56**	**266**	*e*P	**Pn**	**03 21 53.6**	**+1.4**
SMG	**Samos**	**2.74**	**329**	*e*P	**Pn**	**03 21 53.7**	**-0.8**
SMG	**Samos**	**2.74**	**329**	*e*P	**Pn**	**03 21 53.7**	**-0.8**
SANT	**Santorini**	**2.74**	**292**	*e*P	**Pn**	**03 21 54.9**	**+0.3**
SANT	**Santorini**	**2.74**	**292**	*e*P	**Pn**	**03 21 54.9**	**+0.3**
APE	**Apeiranthos**	**3.01**	**305**	*e*PN	**Pn**	**03 21 57.5**	**-0.8**
APE	**Apeiranthos**	**3.01**	**305**	*e*P	**Pn**	**03 21 57.9**	**-0.4**
APE	**Apeiranthos**	**3.01**	**305**	*e*Pn	**Pn**	**03 21 57.5**	**-0.8**
APE	**Apeiranthos**	**3.01**	**305**	*e*P	**Pn**	**03 21 57.9**	**-0.4**
IDI	**Anoyia**	**3.03**	**270**	*e*P	**Pn**	**03 21 59.3**	**+0.7**
IDI				*e*S	**Sn**	**03 22 32.3**	**-1.5**
IDI	**Anoyia**	**3.03**	**270**	*e*P	**Pn**	**03 21 59.3**	**+0.7**
IDI				*e*S	**Sn**	**03 22 32.3**	**-1.5**
KHL	**Karahalli**	**3.05**	**14**	*e*PN	**Pn**	**03 21 59.5**	**+0.7**
KHL	**Karahalli**	**3.05**	**14**	*e*Pn	**Pn**	**03 21 59.5**	**+0.7**
KHAL	**Karahalli**	**3.09**	**13**	*i* P	**Pn**	**03 21 59.4**	**0.0**
KHAL	**Karahalli**	**3.09**	**13**	*i* P	**Pn**	**03 21 59.4**	**0.0**
GAZI	**Gazipasa**	**3.15**	**73**	*i* P	**Pn**	**03 22 00.0**	**-0.1**
GAZI				*i* S	**Sn**	**03 22 35.4**	**-1.1**
GAZI	**Gazipasa**	**3.15**	**73**	*i* P	**Pn**	**03 22 00.0**	**-0.1**
GAZI				*i* S	**Sn**	**03 22 35.4**	**-1.1**
KULA	**Kula-Manisa**	**3.15**	**1**	*e*PN	**Pn**	**03 22 01.0**	**+0.8**
KULA	**Kula-Manisa**	**3.15**	**1**	*e*Pn	**Pn**	**03 22 01.0**	**+0.8**
LEF	**Lefka**	**3.52**	**93**	*e*PN	Pn	03 22 02.0	-3.2
LEF	**Lefka**	**3.52**	**93**	*e*Pn	Pn	03 22 02.1	-3.2
HDMB	**Hadim**	**3.53**	**62**	*e*PN	**Pn**	**03 22 04.6**	**-1.0**
HDMB	**Hadim**	**3.53**	**62**	*e*Pn	**Pn**	**03 22 04.6**	**-1.0**
VAM	**Vamos**	**3.59**	**272**	*e*P	**Pn**	**03 22 08.0**	**+1.8**
VAM	**Vamos**	**3.59**	**272**	*e*P	**Pn**	**03 22 08.0**	**+1.8**
CSS	**Prodhromos**	**3.90**	**95**	*e*PN	Pn	03 22 07.9	-2.6
CSS	**Prodhromos**	**3.90**	**95**	*e*Pn	Pn	03 22 07.9	-2.6
KONT	**Konya--Tatoy**	**3.97**	**48**	*e*PN	**Pn**	**03 22 11.5**	**0.0**
KONT	**Konya--Tatoy**	**3.97**	**48**	*e*Pn	**Pn**	**03 22 11.5**	**0.0**
BALY	**Balya**	**4.44**	**350**	*i* P	**Pn**	**03 22 18.2**	**+0.3**
BALY	**Balya**	**4.44**	**350**	*i* P	**Pn**	**03 22 18.2**	**+0.3**
HMAT	**Matruh**	**4.44**	**197**	P	**Pn**	**03 22 17.9**	**0.0**
HMAT				S	Sn	03 23 03.7	-4.6
KYTH	**Kithira**	**4.61**	**283**	*e*P	**Pn**	**03 22 20.7**	**+0.5**
KYTH	**Kithira**	**4.61**	**283**	*e*P	**Pn**	**03 22 20.7**	**+0.5**
VLI	**Veliai**	**4.78**	**288**	*e*P	**Pn**	**03 22 22.3**	**-0.2**
VLI	**Veliai**	**4.78**	**288**	*e*P	**Pn**	**03 22 22.3**	**-0.2**
SLUM		**4.79**	**217**	P	**Pn**	**03 22 23.7**	**+1.1**
KARA	**Karaisali**	**5.55**	**68**	*e*PN	**Pn**	**03 22 32.3**	**-0.7**
KARA	**Karaisali**	**5.55**	**68**	*e*Pn	**Pn**	**03 22 32.3**	**-0.7**
AMAG	**Maghara**	**6.09**	**139**	P	Pn	03 22 40.1	-0.5
RSH		**6.14**	**134**	P	Pn	03 22 40.4	-0.8
HHAG	**Hagoal**	**6.15**	**150**	P	Pn	03 22 40.8	-0.5
SUZ		**6.56**	**146**	P	Pn	03 22 46.5	-0.5
SWA2		**6.66**	**204**	P	**Pn**	**03 22 48.7**	**+0.5**
AWBH		**7.03**	**178**	P	Pn	03 22 52.8	-0.5
HNKL	**Nakhl**	**7.07**	**139**	P	Pn	03 22 53.3	-0.6
HFRF	**Wahat Farafira**	**8.19**	**182**	P	Pn	03 23 08.8	-0.5
HKAT	**Jabal Katrina**	**8.21**	**145**	P	Pn	03 23 09.1	-0.7

IDC 04 *03:33:12.9±4.0,* **17°.19N×88°.50W,** *h0km,* **mb3.3**/2, **mb1 3.7**/4, **mb1mx3.4**/22, **mbtmp3.3**/3/4, **ML3.5**/2, **MS3.2**/2, **Ms1 3.2**/2, **ms1mx2.6**/19, ***Error ellipse: s-maj=110.1km s-min=28.7km az=104.0,* Belize**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEIG	**Tepich**	**3.03**	**4**	Pn	Pn	03 34 03.2	+1.0
	5.0nm,0.3s,baz=191,slow=2.6,SNR=19						
TEIG				Lg	Lg	03 34 48.6	
	18nm,0.3s,baz=48,slow=20,SNR=16						
TXAR	**Lajitas Array**	**18.42**	**314**	Pn	P	03 37 32.2	+2.2
	0.1nm,0.3s,baz=136,slow=8.2,SNR=11						
TKL	**Tuckaleechee C**	**18.87**	**12**	LR	LR	03 45 36.8	
	comp=Z,23nm,19.4s,baz=67,slow=39						
YKA	**Yellowknife Ar**	**48.80**	**344**	P	P	03 42 00.3	+0.7
	0.2nm,0.6s,baz=138,slow=7.5,SNR=3.2						
BDFB	**Brasilia**	**51.56**	**127**	LR	LR	04 07 14.1	
	comp=Z,70nm,19.1s,baz=360,slow=40						
ILAR	**Eielson Array**	**61.31**	**335**	P	P	03 43 29.0	-1.0
	0.4nm,0.8s,baz=125,slow=4.7,SNR=6.5						

IDC 04 03:35:11.2±1.7,33°.89N×25°.47E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/25, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=57.1km s-min=29.4km az=141.0
ISCJB 04 03:35:13.8±1.1,34°.05N±0°.08×25°.07E±0°.10, h20km, mb3.4/2, Error ellipse: s-maj=12.0km s-min=11.5km az=31.8
CSEM 04 03:35:17.3, 34°.30N×25°.23E, h24km, MD3.4, After ATH
ATH 04 03:35:17.3, 34°.30N×25°.23E, h24km±5km, MD3.4/8
ISC 04 03:35:14.2±1.3, 34°.07N±0°.09×25°.15E±0°.05, h20km, n23, σ1§07/25, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.99**	**343**	*e*PN	**Pn**	**03 35 33.4**	**+0.5**
SIVA	**Sivas**	**0.99**	**343**	*e*Pn	**Pn**	**03 35 33.4**	**+0.5**
LAST	**Lasithi**	**1.12**	**14**	*e*PN	**Pn**	**03 35 34.3**	**-0.5**
LAST	**Lasithi**	**1.12**	**14**	*e*Pn	**Pn**	**03 35 34.3**	**-0.5**
IDI	**Anoyia**	**1.23**	**350**	*e*PB	**Pn**	**03 35 35.8**	**-0.6**
IDI				*e*SN	**Sb**	**03 35 51.7**	**-0.7**
IDI	**Anoyia**	**1.23**	**350**	*e*Pb	**Pn**	**03 35 35.8**	**-0.6**
IDI				*e*SN	**Sb**	**03 35 51.7**	**-0.7**
NPS	**Neapolis**	**1.25**	**18**	*e*PB	**Pn**	**03 35 35.7**	**-0.8**
NPS	**Neapolis**	**1.25**	**18**	*e*Pb	**Pn**	**03 35 35.7**	**-0.8**
ZKR	**Zakros**	**1.36**	**40**	*e*PN	**Pb**	**03 35 39.9**	**+0.9**
ZKR	**Zakros**	**1.36**	**40**	*e*Pn	**Pb**	**03 35 39.9**	**+0.9**
VAM	**Vamos**	**1.55**	**330**	*e*PN	**Pb**	**03 35 43.0**	**+0.8**
VAM	**Vamos**	**1.55**	**330**	*e*Pn	**Pb**	**03 35 43.0**	**+0.8**
KARP	**Karpathos**	**2.21**	**48**	*e*PN	**Pb**	**03 35 52.3**	**-1.2**
KARP	**Karpathos**	**2.21**	**48**	*e*Pn	**Pb**	**03 35 52.3**	**-1.2**
KYTH	**Kithira**	**2.81**	**322**	*e*PB	**Pb**	**03 36 02.4**	**-1.2**
KYTH	**Kithira**	**2.81**	**322**	*e*Pb	**Pb**	**03 36 02.4**	**-1.2**
APE	**Apeiranthos**	**3.01**	**6**	*e*PN	**Pn**	**03 36 02.5**	**+1.8**
APE	**Apeiranthos**	**3.01**	**6**	*e*Pn	**Pn**	**03 36 02.5**	**+1.8**
VLI	**Veliai**	**3.20**	**326**	*e*PN	**Pn**	**03 36 02.3**	**-1.1**
VLI	**Veliai**	**3.20**	**326**	*e*Pn	**Pn**	**03 36 02.3**	**-1.1**
GERES	**GERESS Array B**	**17.05**	**333**	P	**P**	**03 39 14.6**	**+1.5**
	0.1nm,0.3s,baz=148,slow=13,SNR=16						
TORD	**Torodi Ar. Bea**	**29.88**	**231**	P	**P**	**03 41 20.6**	**+0.8**
	0.3nm,0.5s,baz=32,slow=8.6,SNR=6.3						
MKAR	**Makanchi Array**	**44.39**	**56**	P	**P**	**03 43 22.4**	**-0.8**
	0.5nm,0.6s,baz=276,slow=6.7,SNR=8.4						

CSEM 04 03:50:19.5, 38°.82N×23°.42E, h24km, MD2.8, After ATH
ATH 04 03:50:19.5, 38°.82N×23°.42E, h24km±3km, MD2.8/8, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKR	**Lokris**	**0.37**	**243**	*e*PB	Pb	03 50 27.6	+0.1
LKR				*e*SB	Sb	03 50 33.4	+0.4
LKR	**Lokris**	**0.37**	**243**	*e*Pb	Pb	03 50 27.6	+0.1
LKR				*e*Sb	Sb	03 50 33.4	+0.4
AOS	**Alonnisos**	**0.50**	**46**	*e*PB	Pb	03 50 29.8	+0.1
AOS				*e*SB	Sb	03 50 36.8	+0.1
AOS	**Alonnisos**	**0.50**	**46**	*e*Pb	Pb	03 50 29.8	+0.1
AOS				*e*Sb	Sb	03 50 36.8	+0.1
NEO	**Neokhori**	**0.51**	**343**	*e*PN	Pn	03 50 30.9	-0.5
NEO				*e*SN	Sb	03 50 36.8	-0.2
NEO	**Neokhori**	**0.51**	**343**	*e*Pn	Pn	03 50 30.9	-0.5
NEO				*e*Sn	Sb	03 50 36.8	-0.2
LTK	**Loutraki**	**0.87**	**204**	*e*PN	Pn	03 50 36.5	+0.2
LTK	**Loutraki**	**0.87**	**204**	*e*Pn	Pn	03 50 36.5	+0.2
AGG	**Agios Georgios**	**0.87**	**284**	*e*PB	Pb	03 50 35.8	-0.3
AGG				*e*SN	Sn	03 50 49.6	+1.2
AGG	**Agios Georgios**	**0.87**	**284**	*e*Pb	Pb	03 50 35.8	-0.3
AGG				*e*Sn	Sn	03 50 49.6	+1.2
KALE	**Kalithea**	**1.09**	**247**	*e*PN	Pb	03 50 39.7	-0.1
KALE	**Kalithea**	**1.09**	**247**	*e*Pn	Pb	03 50 39.7	-0.1
GUR	**Goura**	**1.22**	**224**	*e*PN	Pb	03 50 43.0	+0.9
GUR				*e*SN	Sb	03 51 00.3	+2.7
GUR	**Goura**	**1.22**	**224**	*e*Pn	Pb	03 50 43.0	+0.9
GUR				*e*Sn	Sb	03 51 00.3	+2.7
KLV	**Kalavryta, Ach**	**1.26**	**233**	*e*PN	Pb	03 50 44.0	+1.3
KLV	**Kalavryta, Ach**	**1.26**	**233**	*e*Pn	Pb	03 50 44.0	+1.3
DID	**Didima**	**1.32**	**186**	*e*PN	Pb	03 50 43.9	+0.2
DID				*e*SN	Sb	03 51 01.7	+1.5
DID	**Didima**	**1.32**	**186**	*e*Pn	Pb	03 50 43.9	+0.2
DID				*e*Sn	Sb	03 51 01.7	+1.5
KYTH	**Kithira**	**2.55**	**187**	*e*PN	Pb	03 51 02.1	-2.6
KYTH	**Kithira**	**2.55**	**187**	*e*Pn	Pb	03 51 02.1	-2.6

IDC 04 03:54:13.6±1.2,34°.10N×25°.33E, h0km, mb3.8/7, mb1 3.8/11, mb1mx3.6/29, mbtmp3.7/11, ML3.5/4, Error ellipse: s-maj=26.5km s-min=19.0km az=174.0
CSEM 04 03:54:23.1, 34°.54N×25°.40E, h45km, MD3.6, After ATH
ATH 04 03:54:23.1, 34°.54N×25°.40E, h45km, MD3.6/14
ISC 04 03:54:19.4±1.1, 34°.28N±0°.09×25°.42E±0°.05, h30km, n49, σ1§70/51, mb3.8/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**0.88**	**3**	*e*P	**Pn**	**03 54 36.5**	**+0.6**
LAST	**Lasithi**	**0.88**	**3**	*e*P	**Pn**	**03 54 36.5**	**+0.6**
SIVA	**Sivas**	**0.89**	**326**	*e*P	**Pn**	**03 54 36.7**	**+0.8**
SIVA				*e*S	**Sn**	**03 54 48.2**	**+0.4**
SIVA	**Sivas**	**0.89**	**326**	*e*P	**Pn**	**03 54 36.7**	**+0.8**
SIVA				*e*S	**Sn**	**03 54 48.2**	**+0.4**
NPS	**Neapolis**	**0.99**	**9**	*e*P	**Pn**	**03 54 37.9**	**+0.5**
NPS	**Neapolis**	**0.99**	**9**	*e*P	**Pn**	**03 54 37.9**	**+0.5**
ZKR	**Zakros**	**1.06**	**38**	*e*P	**Pn**	**03 54 39.2**	**+0.9**
ZKR	**Zakros**	**1.06**	**38**	*e*P	**Pn**	**03 54 39.2**	**+0.9**
IDI	**Anoyia**	**1.10**	**337**	*e*P	**Pn**	**03 54 40.3**	**+1.5**
IDI				*e*S	**Sn**	**03 54 51.6**	**-1.4**
IDI	**Anoyia**	**1.10**	**337**	*e*P	**Pn**	**03 54 40.3**	**+1.5**
IDI				*e*S	**Sn**	**03 54 51.6**	**-1.4**
VAM	**Vamos**	**1.51**	**319**	*e*P	**Pn**	**03 54 46.6**	**+2.2**
VAM	**Vamos**	**1.51**	**319**	*e*P	**Pn**	**03 54 46.6**	**+2.2**
KARP	**Karpathos**	**1.91**	**48**	*e*P	**Pb**	**03 54 53.4**	**-0.3**
KARP	**Karpathos**	**1.91**	**48**	*e*P	**Pb**	**03 54 53.4**	**-0.3**
SANT	**Santorini**	**2.09**	**1**	*e*P	**Pn**	**03 54 53.9**	**+1.5**
SANT	**Santorini**	**2.09**	**1**	*e*P	**Pn**	**03 54 53.9**	**+1.5**
APE	**Apeiranthos**	**2.79**	**2**	*e*P	**Pn**	**03 55 03.7**	**+1.7**
APE	**Apeiranthos**	**2.79**	**2**	*e*P	**Pn**	**03 55 03.7**	**+1.7**
KYTH	**Kithira**	**2.79**	**316**	*e*P	**Pn**	**03 55 05.1**	**+3.0**
KYTH	**Kithira**	**2.79**	**316**	*e*P	**Pn**	**03 55 05.1**	**+3.0**
ARG	**Arkhangelos**	**2.94**	**48**	*e*P	**Pn**	**03 55 07.0**	**+2.9**
ARG	**Arkhangelos**	**2.94**	**48**	*e*P	**Pn**	**03 55 07.0**	**+2.9**
VLI	**Veliai**	**3.17**	**321**	*e*P	**Pn**	**03 55 08.6**	**+1.4**
VLI	**Veliai**	**3.17**	**321**	*e*P	**Pn**	**03 55 08.6**	**+1.4**
DID	**Didima**	**3.68**	**332**	*e*P	**Pn**	**03 55 15.5**	**+1.3**
DID	**Didima**	**3.68**	**332**	*e*P	**Pn**	**03 55 15.5**	**+1.3**
VLX	**Vlachokerasia**	**3.95**	**322**	*e*P	**Pn**	**03 55 20.3**	**+2.2**
VLX	**Vlachokerasia**	**3.95**	**322**	*e*P	**Pn**	**03 55 20.3**	**+2.2**
ITM	**Ithomi**	**4.05**	**317**	*e*P	**Pn**	**03 55 22.5**	**+3.1**
ITM	**Ithomi**	**4.05**	**317**	*e*P	**Pn**	**03 55 22.5**	**+3.1**
GUR	**Goura**	**4.42**	**327**	*e*P	**Pn**	**03 55 25.9**	**+1.4**
GUR	**Goura**	**4.42**	**327**	*e*P	**Pn**	**03 55 25.9**	**+1.4**
KLV	**Kalavryta, Ach**	**4.59**	**326**	*e*P	**Pn**	**03 55 28.3**	**+1.4**
KLV	**Kalavryta, Ach**	**4.59**	**326**	*e*P	**Pn**	**03 55 28.3**	**+1.4**
EFP	**Efpalio**	**5.02**	**327**	*e*P	**Pn**	**03 55 34.2**	**+1.6**
EFP	**Efpalio**	**5.02**	**327**	*e*P	**Pn**	**03 55 34.2**	**+1.6**
AGG	**Agios Georgios**	**5.35**	**333**	*e*P	**Pn**	**03 55 39.1**	**+1.9**
AGG	**Agios Georgios**	**5.35**	**333**	*e*P	**Pn**	**03 55 39.1**	**+1.9**
MMAI	**Mount Meron Ar**	**8.42**	**96**	Pn	Pn	03 56 15.8	-3.7
	1.3nm,0.3s,baz=262,slow=11,SNR=5.8						
BRTR	**Keskin Array B**	**8.53**	**48**	Pn	**Pn**	**03 56 22.8**	**+1.8**
	0.1nm,0.3s,baz=229,slow=14,SNR=3.2						
EIL	**Eilat**	**9.31**	**117**	Pn	Pn	03 56 27.6	-4.0
	0.4nm,0.3s,baz=3.6,slow=21,SNR=11						
GERES	**GERESS Array B**	**16.96**	**333**	Pn	**Pn**	**03 58 14.8**	**+0.3**
	0.1nm,0.3s,baz=143,slow=12,SNR=9.3						
ESDC	**Sonseca Array**	**24.02**	**292**	P	**P**	**03 59 31.0**	**-0.7**
	0.7nm,0.7s,baz=82,slow=9.3,SNR=11						
FINES	**FINESS Array B**	**27.19**	**1**	P	**P**	**03 59 58.9**	**-1.1**
	0.5nm,0.6s,baz=162,slow=9.6,SNR=3.1						
TORD	**Torodi Ar. Bea**	**30.09**	**231**	P	**P**	**04 00 23.3**	**-3.1**
	0.2nm,0.8s,baz=227,slow=3.1,SNR=4.0						
ARCES	**ARCESS Array B**	**35.31**	**0**	P	**P**	**04 01 10.9**	**-0.5**
	3.0nm,1.0s,baz=156,slow=6.9,SNR=3.3						
KURBB	**Kurchatov Arra**	**41.52**	**50**	P	**P**	**04 02 04.4**	**+0.6**
	1.0nm,0.5s,baz=276,slow=8.8,SNR=11						
MKAR	**Makanchi Array**	**44.09**	**56**	P	**P**	**04 02 25.2**	**+0.4**
	1.1nm,0.5s,baz=275,slow=6.9,SNR=17						
ZALV	**Zalesovo Beam**	**45.47**	**46**	P	**P**	**04 02 35.6**	**0.0**
	1.4nm,0.5s,baz=266,slow=8.5,SNR=5.3						

CSEM 04 04:06:30.8±0.2, 46°.79N×20°.97E, h5km, ML2.3/1, Error ellipse: s-maj=6.6km s-min=3.9km az=24.0
ISC 04 04:06:30.6±1.2, 46°.79N±0°.03×20°.95E±0°.02, h4km±11km, n37, σ1§00/53, 27C-6D, Hungary

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PKS6	**Bocsa**	**0.97**	**259**	*e*Pg	**Pb**	**04 06 50.5**	**+0.6**
PKS6				*e*Sg	**Sb**	**04 07 03.3**	**+0.3**
PKS6	**Bocsa**	**0.97**	**259**	*e*Pg	**Pb**	**04 06 50.5**	**+0.6**
PKS6				↑*e*Sg	**Sb**	**04 07 03.3**	**+0.3**
DRGR		**1.21**	**89**	↓*i*P	**Pb**	**04 06 54.1**	**0.0**
DRGR		**1.21**	**89**	S	**Sn**	**04 07 11.2**	**-0.1**
DRGR		**1.21**	**89**	↓*i*Pn	**Pb**	**04 06 54.1**	**0.0**
PKS2	**Kecel**	**1.23**	**256**	*e*Pn	**Pg**	**04 06 53.5**	**-0.6**
PKS2				*e*Sn	**Sg**	**04 07 10.5**	**+0.4**
PKS2	**Kecel**	**1.23**	**256**	*e*Pn	**Pg**	**04 06 53.5**	**-0.6**
PKS2				↑*e*Sn	**Sg**	**04 07 10.5**	**+0.4**
PKS7	**Kunszentmiklos**	**1.25**	**282**	*e*Pn	**Pn**	**04 06 55.4**	**+0.7**
PKS7				*e*Sn	**Sn**	**04 07 12.4**	**+0.4**
PKS7	**Kunszentmiklos**	**1.25**	**282**	*e*Pn	**Pn**	**04 06 55.4**	**+0.7**
PKS7				↑*e*Sn	**Sn**	**04 07 12.4**	**+0.4**
BZS	**Buzias**	**1.27**	**158**	↑*i*P	**Pg**	**04 06 54.9**	**+0.1**
BZS	**Buzias**	**1.27**	**158**	↑*i*P	**Pg**	**04 06 54.9**	**+0.1**
BZS				S	**Sg**	**04 07 10.4**	**-0.8**
PSZ	**Piszkesteto**	**1.33**	**328**	↑*i*P	**Pn**	**04 06 55.3**	**-0.7**
PSZ	**Piszkesteto**	**1.33**	**328**	↑*e*Pn	**Pn**	**04 06 55.2**	**-0.7**
PSZ				*e*Sn	**Sb**	**04 07 13.7**	**+0.1**
PSZ	**Piszkesteto**	**1.33**	**328**	↑*i*P	**Pn**	**04 06 55.3**	**-0.7**
PSZ				↑*e*Sn	**Sb**	**04 07 13.7**	**+0.1**
PSZ				S	Sn	**04 07 15.8**	**+1.6**
PKSM	**Moragy**	**1.69**	**251**	↑*i*P	Pn	**04 07 01.2**	**+0.3**
PKSM	**Moragy**	**1.69**	**251**	↑*e*pn	Pn	**04 06 58.3**	**-2.6**
PKSM				*esn*	**Sb**	**04 07 24.1**	**+0.2**
PKSM	**Moragy**	**1.69**	**251**	↑*i*P	Pn	**04 07 01.2**	**+0.3**
PKSM				S	Sn	**04 07 22.9**	**-0.1**
PKSM				*e*Sn	**Sb**	**04 07 24.1**	**+0.2**
TRPA	**Tarpa**	**1.72**	**38**	↑*i*P	Pg	04 07 08.3	+4.8
TRPA	**Tarpa**	**1.72**	**38**	↑*e*Pn	Pg	04 07 09.7	+6.2
TRPA				*e*Sn	Sg	04 07 33.0	+7.2
CJR	**Cluj-Napoca**	**1.83**	**92**	S	**Sg**	**04 07 28.9**	**-0.3**
PKSG		**1.84**	**290**	↑*e*Pn	**Pg**	**04 07 05.9**	**0.0**
PKSG				*e*Sn	**Sg**	**04 07 31.0**	**+1.2**
PKS9	**Tamasi**	**1.85**	**265**	↑*e*Pn	**Pb**	**04 07 05.3**	**+0.4**
PKS9				*e*Sn	**Sg**	**04 07 30.3**	**+0.4**
PKS9	**Tamasi**	**1.85**	**265**	↑*e*Pn	**Pb**	**04 07 05.3**	**+0.4**
GZR	**Gura Zlata**	**1.89**	**137**	↓*i*P	Pn	**04 07 02.5**	**-1.2**
GZR	**Gura Zlata**	**1.89**	**137**	↓*i*P	Pn	**04 07 02.5**	**-1.2**
GZR				S	**Sn**	**04 07 27.4**	**-0.6**
LOT	**Lotru**	**2.38**	**123**	↑*i*P	Pn	**04 07 10.8**	**+0.4**
LOT	**Lotru**	**2.38**	**123**	S	**Sb**	**04 07 44.5**	**+0.7**
LOT	**Lotru**	**2.38**	**123**	↑*i*P	Pn	**04 07 10.8**	**+0.4**
ARR	**Arges**	**2.94**	**118**	↑*i*P	Pn	**04 07 18.7**	**+0.7**
ARR	**Arges**	**2.94**	**118**	S	**Sg**	**04 08 03.5**	**-1.4**
ARR	**Arges**	**2.94**	**118**	↑*i*P	Pn	**04 07 18.7**	**+0.7**
BURAR	**Bucovina Array**	**3.03**	**73**	S	**Sn**	**04 07 57.5**	**+1.5**
BURAR	**Bucovina Array**	**3.03**	**73**	S	**Sn**	**04 07 57.5**	**+1.5**
VOIR		**3.16**	**114**	↓*i*P	Pn	**04 07 21.6**	**+0.5**
VOIR		**3.16**	**114**	↓*i*P	Pn	**04 07 21.6**	**+0.5**
MORC	**Moravsky Berou**	**3.75**	**324**	*e*Pn	**Pn**	**04 07 29.5**	**+0.3**
MORC				*e*Sg	**Sn**	**04 08 11.2**	**-2.6**
VRAC	**Vranov**	**3.85**	**312**	*e*Pn	**Pn**	**04 07 30.2**	**-0.4**
VRAC				*e*Sg	**Sn**	**04 08 12.7**	**-3.6**

ISCJB 04 04:08:19.7±0.5, 6°.87S±0°.06×125°.09E±0°.08, h543km, mb3.6/6, Error ellipse: s-maj=11.0km s-min=6.6km az=160.2
AUST 04 04:08:19.8±0.0, 6°.93S×125°.03E, h526km, Error ellipse: s-maj=1.7km s-min=1.2km az=347.0
IDC 04 04:08:20.5±1.3, 6°.90S×125°.15E, h533km±17km, mb3.2/6, mb1 3.5/10, mb1mx3.3/22, mbtmp3.3/10, Error ellipse: s-maj=31.9km s-min=10.3km az=66.0
ISC 04 04:08:21.0±0.7, 6°.89S±0°.08×125°.2E±0°.1, h543km, n29, σ1§16/31, mb3.6/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**4.36**	**43**	P	**P**	**04 09 44.7**	**-0.5**
	baz=4.5,SNR=4.4						
WSI	**Waingapu**	**5.58**	**240**	S	S	04 11 03.8	-8.9
	baz=5.4,SNR=8.1						
KAPI	**Kappang**	**5.73**	**289**	P	**P**	**04 09 55.5**	**-1.4**
	8.2nm,0.3s,baz=131,slow=6.8,SNR=28						
FAKI	**Fak Fak**	**8.06**	**61**	P	**P**	**04 10 18.7**	**-0.5**
	baz=8.2,SNR=17						
FAKI				S	S	04 11 44.5	-12
	baz=8.2,SNR=4.5						
MTN	**Manton Dam**	**8.32**	**136**	P	**P**	**04 10 21.3**	**-0.4**
	baz=8.4,SNR=152						
MTN				S	**S**	**04 11 57.6**	**-3.2**
	baz=8.4,SNR=4.5						
KDU	**Kakadu**	**9.20**	**129**	P	**P**	**04 10 29.9**	**-0.7**
	baz=9.3,SNR=12						
KNRA	**Kununurra**	**9.41**	**158**	P	**P**	**04 10 32.4**	**-0.3**
	baz=9.5,SNR=12						
FITZ	**Fitzroy Crossi**	**11.15**	**178**	P	**P**	**04 10 49.7**	**-1.0**
	3.6nm,0.3s,baz=14,slow=8.8,SNR=184						
WRA	**Warramunga Arr**	**15.72**	**147**	P	**P**	**04 11 36.4**	**-1.6**
	2.0nm,0.3s,baz=343,slow=10,SNR=51						
WRA				S	**S**	**04 14 19.4**	**0.0**
	0.1nm,0.3s,baz=318,slow=18,SNR=5.9						
PALU	**Palau**	**16.90**	**33**	P	**P**	**04 11 49.1**	**-0.1**
	baz=17,SNR=7.9						
CISI	**Cisompet, Garu**	**17.25**	**267**	S	S	04 14 07.6	-38
	baz=17,SNR=3.3						
ASAR	**Alice Springs**	**18.66**	**154**	P	**P**	**04 12 06.0**	**+0.7**
	1.6nm,0.3s,baz=345,slow=15,SNR=79						
ASAR				S	**S**	**04 15 08.3**	**+0.5**
	0.1nm,0.3s,baz=335,slow=18,SNR=6.4						
ASAR				ScP	**ScP**	**04 18 51.0**	**+0.6**
	0.1nm,0.3s,baz=352,slow=2.2,SNR=7.5						
COEN	**Coen**	**19.02**	**113**	P	**P**	**04 12 09.0**	**+0.4**
	baz=19,SNR=39						
QIS	**Mount Isa**	**19.48**	**136**	P	**P**	**04 12 15.1**	**+2.3**
	baz=20,SNR=14						
MEEK	**Meekatharra**	**

PETK				pmax	pmax			
	comp=Z,63nm,0.3s							
PETK				smax	smax			
	comp=N,12nm,0.3s							
PETK	**Petropavlovsk-**	**2.15**	**233**	P	**Pn**	**04 36 15.4**	**-0.1**	
	comp=N,63nm,0.3s,baz=74,slow=16,SNR=389							
PETK				S	**Sn**	**04 36 42.8**	**+1.0**	
	comp=N,12nm,0.3s,baz=92,slow=17,SNR=4.1							
BDR	**Baidarnaya**	**2.17**	**10**	*i* P	**Pn**	**04 36 16.3**	**+0.4**	
BDR				*i* S	**Sn**	**04 36 42.7**	**+0.1**	
KBG	**Krutoberegovo**	**2.21**	**33**	PN	**Pn**	**04 36 17.7**	**+1.5**	
KBG				S	**Sn**	**04 36 44.6**	**+1.4**	
KBG	**Krutoberegovo**	**2.21**	**33**	*eP*	**Pn**	**04 36 17.7**	**+1.5**	
KBG				*i* S	**Sn**	**04 36 44.6**	**+1.4**	
SMKR	**Semkarok**	**2.22**	**13**	*i* P	**Pn**	**04 36 16.7**	**+0.2**	
SMKR				*i* S	**Sn**	**04 36 42.9**	**-0.7**	
SRKR	**Sorokina**	**2.25**	**9**	*i* P	**Pn**	**04 36 17.3**	**+0.3**	
SRKR				*eS*	**Sn**	**04 36 43.7**	**-0.8**	
RUS	**Russkaya**	**2.34**	**212**	PN	**Pn**	**04 36 17.9**	**-0.1**	
RUS				S	**Sn**	**04 36 45.0**	**-1.4**	
RUS	**Russkaya**	**2.34**	**212**	P	**Pn**	**04 36 17.9**	**-0.1**	
RUS				*i* S	**Sn**	**04 36 45.0**	**-1.4**	
GRL	**Gorelyy**	**2.39**	**219**	*i* P	**Pn**	**04 36 19.6**	**+0.8**	
GRL				*i* S	**Sn**	**04 36 48.1**	**+0.3**	
MTVR	**Mutnovka**	**2.41**	**217**	*i* P	**Pn**	**04 36 19.7**	**+0.6**	
MTVR				*i* S	**Sn**	**04 36 48.5**	**+0.3**	
APC	**Apacha**	**2.52**	**234**	*i* P	**Pn**	**04 36 20.8**	**+0.5**	
ASAK	**Asacha**	**2.59**	**219**	P	**Pn**	**04 36 22.3**	**+0.9**	
ASAK				*i* S	**Sn**	**04 36 52.6**	**+0.2**	
MIPR	**Malaya Ipel'ka**	**3.13**	**228**	*eP*	**Pn**	**04 36 29.3**	**+0.8**	
BKI	**Bering**	**3.24**	**74**	PN	**Pn**	**04 36 29.8**	**-0.1**	
BKI				S	**Sn**	**04 37 04.8**	**-2.8**	
BKI	**Bering**	**3.24**	**74**	*i* P	**Pn**	**04 36 29.8**	**-0.1**	
BKI				*i* S	**Sn**	**04 37 04.8**	**-2.8**	
SKR	**Severo-Kuril's**	**4.62**	**217**	*eP*	**Pn**	**04 36 46.0**	**-2.6**	
SKR				S	**Sn**	**04 37 39.5**	**-1.6**	
SKR				pmax	pmax			
	comp=Z,80nm,0.4s							
SKR				smax	smax			
	comp=E,150nm,0.5s							
SKR	**Severo-Kuril's**	**4.62**	**217**	P	**Pn**	**04 36 49.1**	**+0.5**	
FX1	**Attu Island--F**	**7.66**	**97**	P	**Pn**	**04 37 29.7**	**-0.1**	
	comp=E,22nm,0.3s,baz=268,slow=4.3,SNR=79							
FX1				S	**Sn**	**04 38 52.0**	**-2.9**	
	comp=E,17nm,0.3s,baz=174,slow=21,SNR=15							
ASAJ	**Asahikawa**	**15.56**	**236**	P	**Pn**	**04 39 14.1**	**-0.6**	
	comp=E,0.7nm,0.3s,baz=68,slow=17,SNR=5.0							
MJAR	**Matsushiro Arr**	**23.60**	**230**	P	**P**	**04 40 42.3**	**-0.4**	
	comp=E,2.8nm,0.6s,baz=16,slow=10,SNR=6.6							
MAT	**Matsushiro**	**23.60**	**230**	P	**P**	**04 40 46.5**	**+3.8**	
ILAR	**Eielson Array**	**27.70**	**47**	P	**P**	**04 41 18.8**	**-0.5**	
	comp=E,1.1nm,0.6s,baz=252,slow=6.0,SNR=22							
KSRS	**Korea Array**	**27.98**	**246**	LR	LR	04 53 49.2		
	comp=E,19nm,18.9s,baz=115,slow=39							
YKA	**Yellowknife Ar**	**42.00**	**44**	P	**P**	**04 43 21.9**	**+0.1**	
	comp=E,0.9nm,0.6s,baz=301,slow=8.2,SNR=8.9							
YKA				PcP	**PcP**	**04 45 13.3**	**-1.6**	
	comp=E,0.3nm,0.5s,baz=305,slow=3.6,SNR=6.8							
KURK	**Kurchatov**	**47.26**	**301**	P	P	04 43 59.2	-4.5	
KURK				*PP	pP	04 44 26.4	-1.0	
KURK				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KURBB	**Kurchatov Arra**	**47.36**	**301**	P	P	04 43 59.1	-5.3	
	comp=Z,0.5nm,0.3s,baz=58,slow=7.6,SNR=4.9							
KURBB				pP	pP	04 44 26.4	-1.8	
	comp=Z,0.5nm,0.4s,baz=58,slow=6.9,SNR=2.8							
MKAR	**Makanchi Array**	**47.82**	**295**	P	P	04 44 03.5	-4.7	
MKAR				*PP	pP	04 44 31.3	-0.6	
MKAR	**Makanchi Array**	**47.82**	**295**	P	P	04 44 03.5	-4.7	
	comp=Z,0.2nm,0.5s,baz=62,slow=6.8,SNR=3.0							
MKAR				pP	pP	04 44 31.3	-0.6	
	comp=Z,0.5nm,0.6s,baz=58,slow=6.6,SNR=3.8							
NVAR	**Mina Array Bea**	**55.05**	**71**	P	**P**	**04 45 04.0**	**+1.6**	
	comp=Z,0.9nm,0.7s,baz=283,slow=7.4,SNR=5.5							
JOF	**Joensuu**	**56.46**	**335**	*ep*	P	04 45 19.6	+7.8	
	comp=Z,0.6nm,0.4s							
JOF	**Joensuu**	**56.46**	**335**	*eP*	P	04 45 19.6	+7.8	
JOF				pmax	pmax			
	comp=Z,1.0nm,0.4s							
PDAR	**Pinedale Array**	**56.65**	**62**	P	**P**	**04 45 14.8**	**+1.0**	
	comp=Z,0.4nm,0.5s,baz=348,slow=4.0,SNR=4.5							
FINES	**FINESS Array B**	**58.99**	**336**	P	**P**	**04 45 27.9**	**-1.6**	
	comp=Z,1.5nm,0.8s,baz=42,slow=8.8,SNR=5.4							
FINES				pP	**pP**	**04 45 53.0**	**-1.1**	
	comp=Z,1.1nm,0.7s,baz=31,slow=12,SNR=1.4							
TXAR	**Lajitas Array**	**69.88**	**68**	P	**P**	**04 46 42.0**	**+1.0**	
	comp=Z,1.5nm,0.5s,baz=297,slow=4.7,SNR=27							
TXAR				pP	**pP**	**04 47 07.2**	**+0.8**	
	comp=Z,0.8nm,0.8s,baz=305,slow=4.4,SNR=3.4							
WRA	**Warramunga Arr**	**77.41**	**205**	P	**P**	**04 47 24.0**	**-0.9**	
	comp=Z,1.7nm,0.4s,baz=20,slow=6.1,SNR=18							
ASAR	**Alice Springs**	**81.09**	**205**	P	**P**	**04 47 44.6**	**-0.2**	
	comp=Z,1.5nm,0.4s,baz=17,slow=4.9,SNR=23							

IDC 04 04:53:11.1±1.7, 20.60S×173.64W, h0km, mb3.9/9, mb1 4.2/9, mb1mx4.1/20, mbtmp3.9/9, MS3.6/5, Ms1 3.6/5, ms1mx3.1/23, Error ellipse: s-maj=88.8km s-min=20.9km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.89**	**15**	Pn	Pn	04 54 45.9	-7.6
	6.4nm,0.3s,baz=64,slow=18,SNR=9.3						
RAR	**Rarotonga**	**12.97**	**95**	Pn	Pn	04 56 09.6	-7.3
	4.1nm,0.3s,baz=271,slow=0.1,SNR=8.3						
DZM	**Mont Dzumac**	**18.61**	**262**	*eLR*	LR	05 01 53.7	
	256nm,23.3s						
DZM	**Mont Dzumac**	**18.61**	**262**	LR	LR	05 03 08.0	
	comp=Z,138nm,19.0s,baz=0.0,slow=32						
TBI	**Tubuai**	**22.58**	**101**	*eLR*	LR	05 03 12.9	
	190nm,29.5s						
PPT2	**Papeete2**	**22.93**	**87**	*eLR*	LR	05 03 31.8	
	188nm,26.2s						
PPT	**Papeete**	**22.93**	**87**	LR	LR	05 04 09.4	
	comp=Z,164nm,19.4s,baz=197,slow=29						
HNR	**Honiara**	**27.77**	**290**	LR	LR	05 08 25.3	
	comp=Z,57nm,18.6s,baz=122,slow=13						
CTA	**Charters Tower**	**37.54**	**264**	P	P	05 00 27.7	+0.4
	2.5nm,0.5s,baz=81,slow=9.6,SNR=4.5						
ASAR	**Alice Springs**	**48.47**	**256**	P	P	05 01 55.5	-0.4
	1.9nm,0.7s,baz=102,slow=7.6,SNR=15						
WRA	**Warramunga Arr**	**48.63**	**261**	P	P	05 01 55.7	-1.5
	1.3nm,0.6s,baz=97,slow=8.6,SNR=9.5						
NVAR	**Mina Array Bea**	**78.35**	**41**	P	P	05 05 13.0	-0.7
	0.6nm,0.8s,baz=224,slow=8.0,SNR=3.6						
KSRS	**Korea Array**	**79.72**	**316**	P	P	05 05 21.4	+0.5
	0.9nm,0.7s,baz=122,slow=5.6,SNR=5.9						
TXAR	**Lajitas Array**	**83.70**	**56**	P	P	05 05 42.9	+0.6
	0.4nm,0.8s,baz=209,slow=10.0,SNR=4.9						
TXAR				LR	LR	05 36 20.5	
	comp=Z,32nm,20.1s,baz=180,slow=31						
PDAR	**Pinedale Array**	**86.28**	**42**	P	P	05 05 55.3	+0.1
	0.5nm,0.8s,baz=270,slow=3.0,SNR=4.2						
ILAR	**Eielson Array**	**87.56**	**11**	P	P	05 05 59.3	-1.3
	0.3nm,0.7s,baz=224,slow=6.3,SNR=5.2						
CMAR	**Chiang Mai Arr**	**94.01**	**288**	P	P	05 06 33.0	+1.3
	0.6nm,0.3s,baz=114,slow=4.0,SNR=2.5						
ULM	**Lac du Bonnet**	**98.09**	**39**	LR	LR	05 46 18.4	
	comp=Z,48nm,18.1s,baz=250,slow=32						
BRTR	**Keskin Array B**	**149.86**	**315**	PKPbc	PKPbc	05 13 03.8	+0.1
	0.6nm,0.8s,baz=182,slow=5.2,SNR=3.2						
GERES	**GERESS Array B**	**151.21**	**350**	PKPbc	PKPbc	05 13 06.6	+0.1
	0.3nm,0.7s,baz=162,slow=0.9,SNR=2.8						

*MAN **04** 05:02:12, 13.73N×120.57E, h98km, mb4.0, ML2.8, MS2.5*
*IDC **04** 05:02:12.2±2.3, 16.09N×120.58E, h0km, mb3.9/4, mb1 3.9/4, mb1mx3.5/24, mbtmp3.9/4, Error ellipse: s-maj=311.8km s-min=23.2km az=63.0*
*ISCJB **04** 05:02:13.2±0.7, 13.75N±0.05×120.55E±0.09, h70km, mb4.1/3, Error ellipse: s-maj=12.8km s-min=6.5km az=176.0*
ISC 04 05:02:14.1±1.5, 13.74N±0.05×120.51E±0.08, h70km, n16, σ1§19/13, mb4.1/4, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.49**	**118**	*ePⁱ*	**Pn**	**05 02 29.4**	**+2.6**
BOAC	**Boac**	**1.33**	**102**	*eP*	**Pn**	**05 02 36.7**	**0.0**
SJMP	**San Jose**	**1.40**	**155**	*eP*	**Pn**	**05 02 38.0**	**+0.3**
SJMP				*eS*	**Sn**	**05 02 54.5**	**-1.0**
BUSP	**Coron**	**1.75**	**190**	*eP*	**Pn**	**05 02 42.4**	**0.0**
BUSP				*eS*	**Sn**	**05 03 05.3**	**+1.4**
OTRP	**Odiongan**	**2.01**	**133**	*eP*	**Pn**	**05 02 44.5**	**-1.4**
SCZP	**Santa Cruz**	**2.11**	**344**	*eP*	**Pn**	**05 02 46.4**	**-0.8**
AUQP	**San Andres**	**2.15**	**101**	*eP*	Pn	05 02 52.6	+4.9
BALP	**Baler**	**2.24**	**27**	*eP*	**Pn**	**05 02 49.2**	**+0.1**
BOLP	**Bolinao**	**2.69**	**348**	*eP*	**Pn**	**05 02 55.1**	**0.0**
ENPP	**El Nido**	**2.73**	**203**	*eP*	**Pn**	**05 02 55.9**	**+0.2**
CUYO	**Cuyo Island**	**2.91**	**170**	*eP*	**Pn**	**05 02 56.9**	**-1.3**
GUIM	**Jordan**	**3.70**	**146**	*eP*	**Pn**	**05 03 08.5**	**-0.4**
WRA	**Warramunga Arr**	**36.13**	**158**	P	P	05 09 34.4	+25
	0.3nm,0.3s,baz=332,slow=9.8,SNR=11						
MKAR	**Makanchi Array**	**45.89**	**324**	P	P	05 10 22.6	-7.0
	0.4nm,0.3s,baz=110,slow=7.8,SNR=9.5						
ZALV	**Zalesovo Beam**	**48.94**	**333**	P	P	05 10 42.7	-10
	1.2nm,0.3s,baz=117,slow=7.1,SNR=4.8						
KURBB	**Kurchatov Arra**	**50.05**	**326**	P	P	05 10 54.2	-7.4
	2.6nm,0.5s,baz=130,slow=8.0,SNR=14						

*IDC **04** 05:54:23.4±1.1, 3.31S×138.93E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.9/16, mbtmp4.0/6, ML3.8/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/18, Error ellipse: s-maj=46.4km s-min=24.9km az=96.0*
*AUST **04** 05:54:34.5, 3.93S×138.53E, h60km*
ISC 04 05:54:24.2±0.9, 3.46S±0.10×139.1E±0.1, h10km, n18, σ1§37/14, mb4.0/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.88**	**60**	P	Pg	05 55 09.3	+9.0
	baz=2.6,SNR=6.6						
FAKI	**Fak Fak**	**6.84**	**274**	P	Pn	05 56 08.1	+3.5
	baz=6.3,SNR=4.4						
PMG	**Port Moresby**	**9.97**	**127**	Pn	Pn	05 56 55.2	+7.6
	1.1nm,0.3s,baz=307,slow=7.8,SNR=6.1						
PMG				LR	LR	06 01 09.2	
	comp=Z,70nm,18.1s,baz=227,slow=40						
COEN	**Coen**	**11.19**	**159**	P	Pn	05 57 10.0	+5.7
	baz=11,SNR=14						
KDU	**Kakadu**	**11.26**	**215**	P	**Pn**	**05 57 05.9**	**+0.6**
	baz=11,SNR=85						
MTN	**Manton Dam**	**12.19**	**220**	P	**Pn**	**05 57 18.4**	**+0.3**
	baz=12,SNR=44						
MTN				S	Sn	05 59 25.4	-8.7
	baz=12,SNR=4.8						
MTSU	**Mount Surprise**	**15.46**	**161**	P	**P**	**05 58 09.7**	**+2.6**
	baz=15,SNR=35						
MTSU				S	**Sn**	**06 00 53.0**	**-1.1**
	baz=15,SNR=6.4						
KNRA	**Kununurra**	**15.82**	**219**	P	**Pn**	**05 58 05.4**	**-1.8**
	baz=15,SNR=6.1						
KNRA				S	Sn	06 00 47.8	-15
	baz=15,SNR=3.7						
WRA	**Warramunga Arr**	**17.02**	**195**	P	**Pn**	**05 58 20.3**	**-2.2**
	0.8nm,0.3s,baz=17,slow=13,SNR=28						
WRA				S	Sn	06 01 19.2	-13
	0.9nm,0.3s,baz=6.8,slow=22,SNR=6.9						
FITZ	**Fitzroy Crossi**	**19.62**	**221**	P	**P**	**05 58 52.5**	**-0.5**
	0.2nm,0.3s,baz=30,slow=18,SNR=5.8						
FITZ				LR	LR	06 06 45.4	
	comp=Z,84nm,18.4s,baz=47,slow=38						
FITZ	**Fitzroy Crossi**	**19.62**	**221**	P	**Pn**	**05 58 52.9**	**-1.5**
	baz=19,SNR=11						
FITZ				S	S	06 02 20.0	-15
	baz=19,SNR=4.5						
WSI	**Waingapu**	**19.64**	**251**	S	**S**	**06 02 35.6**	**+0.6**
	baz=19,SNR=4.4						
ASAR	**Alice Springs**	**20.70**	**194**	P	Pn	05 59 07.2	0.0
	3.6nm,0.6s,baz=20,slow=8.8,SNR=50						
ASAR				S	S	06 02 49.1	-7.0
	0.9nm,0.6s,baz=16,slow=27,SNR=4.4						
MKAR	**Makanchi Array**	**70.60**	**322**	P	**P**	**06 05 40.1**	**+0.3**
	0.6nm,0.5s,baz=109,slow=7.7,SNR=9.6						
ZALV	**Zalesovo Beam**	**72.76**	**330**	P	**P**	**06 05 51.6**	**-1.0**
	0.8nm,0.4s,baz=103,slow=6.2,SNR=3.6						
BVAR	**Borovoye Array**	**80.13**	**325**	P	**P**	**06 06 34.7**	**+0.2**
	0.6nm,0.4s,baz=123,slow=5.5,SNR=6.5						
ILAR	**Eielson Array**	**86.36**	**24**	P	**P**	**06 07 06.3**	**-0.1**
	0.8nm,0.6s,baz=267,slow=4.4,SNR=17						
LPAZ	**La Paz**	**146.71**	**127**	PKPbc	**PKPab**	**06 14 09.3**	**0.0**
	0.9nm,1.0s,baz=250,slow=3.4,SNR=5.0						

*IDC **04** 05:59:35.3±1.5, 34.00N×25.66E, h0km, mb3.4/2, mb1 3.5/6, mb1mx3.4/28, mbtmp3.4/6, ML3.3/4, Error ellipse: s-maj=36.3km s-min=24.1km az=158.0*
*CSEM **04** 05:59:42.1, 34.52N×25.44E, h57km, MD3.3, After ATH*
*ATH **04** 05:59:42.1, 34.52N×25.44E, h57km±22km, MD3.3/5*
ISC 04 05:59:38.0±1.2, 34.23N±0.09×25.53E±0.08, h17km, n16, σ0§98/16, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.93**	**357**	*eP*	**Pb**	**05 59 56.3**	**+0.6**
LAST				*eS*	**Sb**	**06 00 06.1**	**-1.7**
LAST	**Lasithi**	**0.93**	**357**	*eP*	**Pb**	**05 59 56.3**	**+0.6**
SIVA	**Sivas**	**0.98**	**323**	*eP*	**Pb**	**05 59 57.0**	**+0.4**
SIVA	**Sivas**	**0.98**	**323**	*eP*	**Pb**	**05 59 57.0**	**+0.4**
NPS	**Neapolis**	**1.03**	**4**	*eP*	**Pb**	**05 59 58.0**	**+0.6**
NPS	**Neapolis**	**1.03**	**4**	*eP*	**Pb**	**05 59 58.0**	**+0.6**
ZKR	**Zakros**	**1.04**	**32**	*eP*	**Pn**	**05 59 58.8**	**+0.9**
ZKR	**Zakros**	**1.04**	**32**	*eP*	**Pn**	**05 59 58.8**	**+0.9**
IDI	**Anoyia**	**1.18**	**333**	*eP*	**Pn**	**05 59 59.2**	**-0.6**
IDI	**Anoyia**	**1.18**	**333**	*eP*	**Pn**	**05 59 59.2**	**-0.6**
MMAI	**Mount Meron Ar**	**8.32**	**96**	Pn	**Pn**	**06 01 36.4**	**-1.6**
	1.0nm,0.3s,baz=321,slow=14,SNR=4.2						
BRTR	**Keskin Array B**	**8.49**	**47**	Pn	**Pn**	**06 01 41.7**	**+1.4**
	0.1nm,0.3s,baz=232,slow=14,SNR=3.7						
EIL	**Elat**	**9.20**	**117**	Pn	Pn	06 01 46.3	-3.7
	0.2nm,0.3s,baz=297,slow=2.3,SNR=2.7						
GERES	**GERESS Array B**	**17.05**	**332**	P	**P**	**06 03 38.3**	**+1.0**
	0.1nm,0.3s,baz=148,slow=11,SNR=6.0						
TORD	**Torodi Ar. Bea**	**30.14**	**232**	P	**P**	**06 05 46.7**	**-0.5**
	0.1nm,0.3s,baz=29,slow=7.2,SNR=2.3						
MKAR	**Makanchi Array**	**44.03**	**56**	P	**P**	**06 07 44.4**	**-0.3**
	0.3nm,0.6s,baz=287,slow=6.0,SNR=4.4						

*ISCJB **04** 06:00:31.9±0.4, 41.29N±0.01×22.68E±0.02, h3km±3km, Error ellipse: s-maj=2.4km s-min=2.4km az=2.4*
*SKO **04** 06:00:31.2, 41.19N×22.72E, h15km, M2.2, ML2.7*
*TIR **04** 06:00:31.3, 41.44N×22.63E, h6km*
*THE **04** 06:00:32.6, 41.29N×22.70E, h1km±1km, ML3.2/6, Error ellipse: s-maj=1.4km s-min=0.5km az=203.0*
*SOF **04** 06:00:32.7, 41.32N×22.71E, h2km, MD3.1*
*CSEM **04** 06:00:32.7±0.1, 41.28N×22.67E, h5km, ML3.0, Error ellipse: s-maj=2.3km s-min=2.1km az=94.0*
*ATH **04** 06:00:32.1, 41.31N×22.70E, h23km±1km, MD3.5/17*
*BEO **04** 06:00:33.1±0.6, 41.28N×22.62E, h7km±2km, ML3.0/1*
ISC 04 06:00:32.9±0.8, 41.29N±0.02×22.69E±0.01, h6km±6km, n143, σ0§79/198, 8C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.09**	**288**	P	**Pg**	**06 00 34.4**	**-0.5**
VAY				S	**Sg**	**06 00 36.3**	**0.0**
VAY	**Valandovo**	**0.09**	**288**	*i* Pg	**Pg**	**06 00 35.2**	**+0.3**
VAY				*eRg*	Rg	06 00 36.9	
	comp=E,6μm,0.3s						
VAY				*i* Sg	**Sg**	**06 00 36.9**	**+0.6**
VAY				*eRg*	Rg	06 00 37.0	
	comp=N,8μm,0.7s						
VAY	**Valandovo**	**0.09**	**288**	*iⁱ* Pg	**Pg**	**06 00 34.4**	**-0.5**
VAY				*eSg*	**Sg**	**06 00 36.4**	**+0.1**
VAY	**Valandovo**	**0.09**	**288**	P	**Pg**	**06 00 34.4**	**-0.5**
VAY				S	**Sg**	**06 00 36.3**	**0.0**
GRG	**Griva**	**0.40**	**213**	P	**Pg**	**06 00 40.6**	**0.0**
GRG				S	**Sg**	**06 00 46.5**	**+0.7**
GRG	**Griva**	**0.40**	**213**	P	**Pg**	**06 00 40.6**	**0.0**
GRG				S	**Sg**	**06 00 46.5**	**+0.7**
KKB	**Krupnik**	**0.65**	**27**	*i* Pg	**Pg**	**06 00 44.9**	**-0.4**
KKB	**Krupnik**	**0.65**	**27**	*i* Pg	**Pg**	**06 00 44.9**	**-0.4**
THE	**Thessaloniki**	**0.69**	**162**	P	**Pg**	**06 00 45.7**	**-0.5**
THE				S	**Sg**	**06 00 55.5**	**+0.4**
THE	**Thessaloniki**	**0.69**	**162**	P	**Pg**	**06 00 45.7**	**-0.5**
THE				S	**Sg**	**06 00 55.5**	**+0.4**
SRS	**Serrai**	**0.71**	**104**	P	**Pg**	**06 00 45.6**	**-0.8**
SRS	**Serrai**	**0.71**	**104**	P	**Pg**	**06 00 45.6**	**-0.8**
HORT	**Hortiatis**	**0.76**	**156**	P	**Pg**	**06 00 47.1**	**-0.4**
HORT				S	**Sg**	**06 00 58.0**	**+0.6**
HORT	**Hortiatis**	**0.76**	**156**	P	**Pg**	**06 00 47.1**	**-0.4**
HORT				S	**Sg**	**06 00 58.0**	**+0.6**
MMB	**Musomiste**	**0.84**	**69**	*i* Pg	**Pg**	**06 00 48.6**	**-0.3**
MMB	**Musomiste**	**0.84**	**69**	*i* Pg	**Pg**	**06 00 48.6**	**-0.3**
NVR	**Nevrokopi**	**0.89**	**86**	P	**Pg**	**06 00 49.3**	**-0.6**
NVR				S	**Sg**	**06 01 01.4**	**0.0**
NVR	**Nevrokopi**	**0.89**	**86**	*ePN*	**Pg**	**06 00 49.3**	**-0.6**
NVR				*eSN*	**Sg**	**06 01 01.2**	**-0.2**
NVR	**Nevrokopi**	**0.89**	**86**	*ePn*	**Pg**	**06 00 49.3**	**-0.6**
NVR				S	**Sg**	**06 01 01.4**	**0.0**
BIA	**Bitola**	**1.06**	**256**	*ePg*	**Pg**	**06 00 52.6**	**-0.7**
BIA				*eSg*	**Sg**	**06 01 07.0**	**-0.1**
BIA				*eRg*	Rg	06 01 09.2	
	comp=E,169nm,0.4s						
BIA				*eRg*	Rg	06 01 09.4	
	comp=N,108nm,0.5s						
BIA	**Bitola**	**1.06**	**256**	*ePg*	**Pg**	**06 00 52.6**	**-0.7**
BIA				*eSg*	**Sg**	**06 01 07.0**	**-0.1**
PLG	**Polygyros**	**1.08**	**148**	P	**Pg**	**06 00 53.0**	**-0.6**
PLG				S	**Sb**	**06 01 08.7**	**+0.3**
PLG	**Polygyros**	**1.08**	**148**	*ePN*	**Pg**	**06 00 53.0**	**-0.6**
PLG				*eSN*	**Sg**	**06 01 07.3**	**-0.4**
PLG	**Polygyros**	**1.08**	**148**	P	**Pg**	**06 00 53.0**	**-0.6**
PLG				*eSn*	**Sg**	**06 01 07.3**	**-0.4**
PLG				S	**Sb**	**06 01 08.7**	**+0.3**
FNA	**Florina**	**1.11**	**243**	*ePG*	**Pg**	**06 00 53.4**	**-0.7**
FNA				*i* SG	**Sg**	**06 01 06.5**	**-2.2**
FNA	**Florina**	**1.11**	**243**	P	**Pg**	**06 00 53.5**	**-0.7**
FNA				S	**Sb**	**06 01 09.6**	**+0.3**
FNA	**Florina**	**1.11**	**243**	*ePN*	**Pg**	**06 00 53.5**	**-0.7**
FNA				*eSN*	**Sg**	**06 01 08.9**	**+0.2**
FNA	**Florina**	**1.11**	**243**	P	**Pg**	**06 00 53.5**	**-0.7**
FNA				*i* Sg	**Sg**	**06 01 06.5**	**-2.2**
FNA				*eSn*	**Sg**	**06 01 08.9**	**+0.2**
FNA				S	**Sb**	**06 01 09.6**	**+0.3**
SKO	**Skopje**	**1.16**	**306**	P	**Pn**	**06 00 55.8**	**+0.2**
SKO	**Skopje**	**1.16**	**306**	*i* Pn	**Pn**	**06 00 56.3**	**+0.7**
SKO				*i* Sn	**Sb**	**06 01 11.1**	**+0.5**
SKO				*eRg*	Rg	06 01 13.9	
	comp=N,125nm,0.3s						
SKO				*eRg*	Rg	06 01 15.0	
	comp=E,99nm,0.6s						
SKO	**Skopje**	**1.16**	**306**	*iⁱ* Pg	**Pb**	**06 00 55.5**	**+0.3**
SKO	**Skopje**	**1.16**	**306**	*iⁱ* Pg	**Pb**	**06 00 55.5**	**+0.3**
SKO	**Skopje**	**1.16**	**306**	P	**Pn**	**06 00 55.8**	**+0.2**
SKO	**Skopje**	**1.16**	**306**	*i* Pn	**Pn**	**06 00 56.2**	**+0.7**
SKO				*i* Sn	**Sb**	**06 01 11.0**	**+0.5**
LIT	**Litokhoron**	**1.20**	**187**	P	**Pg**	**06 00 54.7**	**-1.2**
LIT	**Litokhoron**	**1.20**	**187**	*ePN*	**Pg**	**06 00 54.6**	**-1.3**
LIT	**Litokhoron**	**1.20**	**187**	P	**Pg**	**06 00 54.7**	**-1.2**
KZN	**Kozani**	**1.21**	**216**	P	**Pg**	**06 00 54.4**	**-1.6**
KZN	**Kozani**	**1.21**	**216**	*ePN*	**Pg**	**06 00 55.2**	**-0.8**
KZN				*eSN*	**Sb**	**06 01 12.8**	**+0.8**
KZN	**Kozani**	**1.21**	**216**	P	**Pg**	**06 00 54.4**	**-1.6**
KZN	**Kozani**	**1.21**	**216**	*ePn*	**Pg**	**06 00 55.2**	**-0.8**
KZN				*eSn*	**Sb**	**06 01 12.8**	**+0.8**
VTS	**Vitosha**	**1.35**	**17**	P	**Pn**	**06 00 58.3**	**-0.2**
VTS				S	**Sb**	**06 01 16.8**	**+0.4**
VTS	**Vitosha**	**1.35**	**17**	*i* P	**Pn**	**06 00 58.6**	**+0.1**
VTS	**Vitosha**	**1.35**	**17**	*iⁱ* P	**Pn**	**06 00 58.3**	**-0.2**
VTS				S	**Sb**	**06 01 16.8**	**+0.4**
VTS	**Vitosha**	**1.35**	**17**	*ePg*	**Pn**	**06 00 58.2**	**-0.2**
VTS				*eSg*	**Sb**	**06 01 16.4**	**0.0**
VTS	**Vitosha**	**1.35**	**17**	P	**Pn**	**06 00 58.3**	**-0.2**
VTS				*eSg*	**Sb**	**06 01 16.4**	**0.0**
OUR	**Ouranopolis**	**1.37**	**134**	P	**Pn**	**06 00 58.1**	**-0.4**
OUR				S	**Sn**	**06 01 18.1**	**+1.1**
OUR	**Ouranopolis**	**1.37**	**134**	P	**Pn**	**06 00 58.1**	**-0.4**
OUR				S	**Sn**	**06 01 18.1**	**+1.1**
KAVA	**Kavala

TRUS	Trudelj	3.38	331	⇓	*i* Pn	Pn	06 01 24.3	-1.8
TRUS	Trudelj	3.38	331	⇓	*i* Pn	Pn	06 01 24.3	-1.8
DIVS	Divibare	3.44	326		*e*Sn	Sn	06 02 06.3	-1.8
DIVS	Divibare	3.44	326		*e*Sn	Sn	06 02 06.3	-1.8
BBLS	Lazi?i	3.53	318		*e*Pn	Pn	06 01 27.6	-0.7
BBLS	Lazi?i	3.53	318		*e*Pn	Pn	06 01 27.6	-0.7
TEKS	Tekeris	4.00	326	⇑	*i* Pn	Pn	06 01 34.7	0.0
TEKS	Tekeris	4.00	326	⇑	*i* Pn	Pn	06 01 34.7	0.0
GZR	Gura Zlata	4.10	1	⇓	*i* P	Pn	06 01 35.5	-0.6
GZR	Gura Zlata	4.10	1	⇓	*i* P	Pn	06 01 35.5	-0.6
BZS	Buzias	4.39	350	⇑	*i* P	Pn	06 01 39.0	-1.1
BZS	Buzias	4.39	350	⇑	*i* P	Pn	06 01 39.0	-1.1
VOIR		4.49	22	⇓	*i* P	Pn	06 01 42.2	+0.8
VOIR		4.49	22	⇓	*i* P	Pn	06 01 42.2	+0.8
MLR	Muntele Rosu	4.82	28	⇓	*i* P	Pn	06 01 48.3	+2.2
MLR	Muntele Rosu	4.82	28	⇓	*i* P	Pn	06 01 48.3	+2.2
PLOR	Plostina	5.39	31	⇓	*i* P	Pn	06 01 55.8	+2.0
PLOR	Plostina	5.39	31	⇓	*i* P	Pn	06 01 55.8	+2.0
VRI	Vrincioaia	5.43	31	⇑	*i* P	Pn	06 01 56.1	+1.7
VRI	Vrincioaia	5.43	31	⇑	*i* P	Pn	06 01 56.1	+1.7

*ATH **04** 06:05:47.7, 41°.32N×22°.67E, h20km±2km, MD3.2/7*
*CSEM **04** 06:05:48.7±0.2, 41°.25N×22°.75E, h2km, ML2.6/7, Error ellipse: s-maj=4.2km s-min=3.8km az=57.0*
*SKO **04** 06:05:48.8, 41°.14N×22°.84E, h1km, M2.0, ML2.2*
*SOF **04** 06:05:48.4, 41°.36N×22°.70E, h2km, MD3.0*
*ISCJB **04** 06:05:48.2±0.4, 41°.25N±0°.02×22°.70E±0°.02, h2km±4km, Error ellipse: s-maj=3.2km s-min=2.7km az=144.2*
*THE **04** 06:05:48.8, 41°.26N×22°.68E, h10km±1km, ML2.6/7, Error ellipse: s-maj=1.5km s-min=1.0km az=249.0*
*BEO **04** 06:05:50.4±0.5, 41°.31N×22°.71E, h0km, 2km, ML2.5/8*

ISC 04 06:05:48.5±0.8, 41°.27N±0°.02×22°.70E±0°.02, h14km±4km, n94, σ1§17/124, 2C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Op	Phase ID	ISC	Time h m s	Res ISC
VAY	Valandovo	0.11	299	P		Pg	06 05 49.8	-2.0
VAY				S		Sg	06 05 54.6	+0.6
VAY	Valandovo	0.11	299	*e*Pg		Pg	06 05 50.4	-1.4
VAY				*e*Lg	Lg	Lg	06 05 52.3	
	comp=E,966nm,0.3s							
VAY				*e*Sg		Sg	06 05 52.3	-1.7
VAY				*e*Lg	Lg	Lg	06 05 52.5	
	comp=N,1μm,0.7s							
VAY	Valandovo	0.11	299	*i* Pg		Pg	06 05 53.6	+1.8
VAY				*e*Lg	Lg	Lg	06 05 55.1	
	comp=E,2μm,0.3s							
VAY				*i* Sg		Sg	06 05 55.2	+1.2
VAY				*e*Lg	Lg	Lg	06 05 55.3	
	comp=N,2μm,0.2s							
VAY	Valandovo	0.11	299	*e*Sg		Sg	06 05 54.3	+0.3
VAY	Valandovo	0.11	299	P		Pg	06 05 49.8	-2.0
VAY	Valandovo	0.11	299	*i* Pg		Pg	06 05 53.6	+1.8
VAY				S		Sg	06 05 54.6	+0.6
VAY				*i* Sg		Sg	06 05 55.1	+1.1
VAY				*e*Lg	Lg	Lg	06 05 55.2	
	comp=N,2μm,0.2s							
GRG	Griva	0.38	216	P		Pg	06 05 56.0	-0.3
GRG	Griva	0.38	216	P		Pg	06 05 56.0	-0.3
KKB	Krupnik	0.66	25	*i* Pg		Pg	06 05 59.8	-1.7
KKB	Krupnik	0.66	25	*i* Pg		Pg	06 05 59.8	-1.7
THE	Thessaloniki	0.66	162	P		Pg	06 06 01.2	-0.3
THE				S		Sb	06 06 10.8	-0.2
THE	Thessaloniki	0.66	162	P		Pg	06 06 01.2	-0.3
THE				S		Sb	06 06 10.8	-0.2
SRS	Serrai	0.69	102	P		Pg	06 06 01.2	-0.7
SRS				S		Sb	06 06 13.6	+1.9
SRS	Serrai	0.69	102	P		Pg	06 06 01.2	-0.7
HORT	Hortiatis	0.73	156	P		Pg	06 06 02.5	-0.3
HORT				S		Sb	06 06 13.7	+0.6
HORT	Hortiatis	0.73	156	P		Pg	06 06 02.5	-0.3
HORT				S		Sb	06 06 13.7	+0.6
MMB	Musomiste	0.84	67	Pg		Pg	06 06 04.5	-0.2
MMB	Musomiste	0.84	67	Pg		Pg	06 06 04.5	-0.2
NVR	Nevrokopi	0.88	84	P		Pg	06 06 04.9	-0.6
NVR				S		Sn	06 06 19.1	-0.1
NVR	Nevrokopi	0.88	84	*e*PN		Pg	06 06 05.4	-0.1
NVR				*e*SN		Sg	06 06 16.8	-0.2
NVR	Nevrokopi	0.88	84	P		Pg	06 06 04.9	-0.6
NVR	Nevrokopi	0.88	84	*e*Pn		Pg	06 06 05.4	-0.1
NVR				*e*Sn		Sg	06 06 16.8	-0.2
PLG	Polygyros	1.05	147	P		Pb	06 06 08.7	+0.1
PLG	Polygyros	1.05	147	*e*PN		Pb	06 06 08.5	-0.1
PLG				*e*SN		Sn	06 06 24.1	+0.6
PLG	Polygyros	1.05	147	P		Pb	06 06 08.7	+0.1
PLG				*e*Sn		Sn	06 06 24.1	+0.6
BIA	Bitola	1.07	257	*e*Pg		Pg	06 06 07.6	-1.5
BIA	Bitola	1.07	257	*e*Pg		Pn	06 06 11.3	+2.0
BIA				*i* Sg		Sn	06 06 25.1	+1.1
BIA				*e*Lg	Lg	Lg	06 06 27.4	
	comp=E,67nm,0.4s							
BIA				*e*Lg	Lg	Lg	06 06 27.6	
	comp=N,31nm,0.2s							
BIA	Bitola	1.07	257	*e*Pg		Pn	06 06 11.2	+2.0
BIA				*i* Sg		Sn	06 06 25.0	+1.1
FNA	Florina	1.11	245	P		Pg	06 06 09.1	-0.9
FNA				S		Sn	06 06 25.5	+0.5
FNA	Florina	1.11	245	*e*PN		Pg	06 06 08.9	-1.1
FNA				*e*SN		Sn	06 06 24.4	-0.6
FNA	Florina	1.11	245	P		Pg	06 06 09.1	-0.9
FNA				*e*Sn		Sn	06 06 24.4	-0.6
FNA				S		Sn	06 06 25.5	+0.5
LIT	Litokhoron	1.18	188	P		Pb	06 06 10.0	-0.7
LIT	Litokhoron	1.18	188	*e*PN		Pg	06 06 10.4	-0.8
LIT	Litokhoron	1.18	188	P		Pb	06 06 10.0	-0.7
LIT	Litokhoron	1.18	188	*e*Pn		Pg	06 06 10.4	-0.8
SKO	Skopje	1.18	307	*e*Sg		Sb	06 06 24.2	-1.7
SKO	Skopje	1.18	307	*i* Pn		Pg	06 06 15.6	+4.4
SKO				*e*Sg		Sn	06 06 29.6	+2.9
SKO				*e*Lg	Lg	Lg	06 06 30.5	
	comp=E,25nm,0.3s							
SKO				*e*Lg	Lg	Lg	06 06 32.1	
	comp=N,47nm,0.3s							
SKO	Skopje	1.18	307	*e*Pg		Pn	06 06 10.5	-0.2
SKO				*e*Sg		Sn	06 06 27.7	+1.1
SKO	Skopje	1.18	307	*e*Pg		Pn	06 06 10.5	-0.2
SKO	Skopje	1.18	307	*i* Pn		Pg	06 06 15.6	+4.4
SKO				*e*Sg		Sn	06 06 29.5	+2.9
KZN	Kozani	1.19	217	*e*PN		Pg	06 06 11.2	-0.3
KZN	Kozani	1.19	217	*e*Pn		Pg	06 06 11.2	-0.3
OUR	Ouranopolis	1.35	133	P		Pg	06 06 13.7	-0.7
OUR				S		Sn	06 06 31.1	+0.5
OUR	Ouranopolis	1.35	133	P		Pg	06 06 13.7	-0.7
OUR				S		Sn	06 06 31.1	+0.5
VTS	Vitosha	1.38	16	*i* P		Pn	06 06 13.6	+0.1
VTS				S		Sn	06 06 32.7	+1.0
VTS	Vitosha	1.38	16	*i* P		Pn	06 06 13.8	+0.3
VTS	Vitosha	1.38	16	⇓	*i* P	Pn	06 06 13.8	+0.3
VTS				S		Sb	06 06 32.2	+0.5
VTS	Vitosha	1.38	16	*e*Pn		Pb	06 06 14.6	+0.4
VTS				*e*Sg		Sb	06 06 32.1	+0.4
VTS	Vitosha	1.38	16	*i* P		Pn	06 06 13.8	+0.3
VTS	Vitosha	1.38	16	*e*Pn		Pb	06 06 14.6	+0.4
VTS				*e*Sg		Sb	06 06 32.1	+0.4
KAVA	Kavala	1.40	101	P		Pn	06 06 13.8	+0.2
KAVA				S		Sg	06 06 33.6	+0.1
KAVA	Kavala	1.40	101	P		Pn	06 06 13.8	+0.2
KAVA				S		Sg	06 06 33.6	+0.1
RZN	Rozhen	1.57	74	P		Pb	06 06 18.1	+0.6
RZN	Rozhen	1.57	74	P		Pb	06 06 18.1	+0.6
BARS	Barje	1.68	337	*e*Pn		Pb	06 06 19.6	+0.3
BARS				*e*Sg		Sg	06 06 42.8	+0.1
BARS	Barje	1.68	337	*e*Pn		Pb	06 06 19.6	+0.3
BARS				*e*Sg		Sg	06 06 42.8	+0.1
PGB	Panagyurishte	1.69	40	Pg		Pb	06 06 19.4	0.0
PGB	Panagyurishte	1.69	40	Pg		Pb	06 06 19.4	0.0
PLD	Plovdiv	1.72	60	*e*Pn		Pg	06 06 21.4	-0.1
PLD	Plovdiv	1.72	60	*e*Pn		Pg	06 06 21.4	-0.1
THL	Klokotos Trika	1.78	197	*e*PN		Pb	06 06 20.4	-0.5
THL	Klokotos Trika	1.78	197	*e*Pn		Pb	06 06 20.4	-0.5
NEO	Neokhori	2.00	168	*e*PB		Pn	06 06 22.1	+0.1
NEO	Neokhori	2.00	168	*e*Pb		Pn	06 06 22.1	+0.1
ZAPS	Zavoj	2.01	359	*e*Pn		Pb	06 06 24.9	0.0
ZAPS				*e*Sg		Sg	06 06 53.2	+0.1
KDZ	Kurdzhali	2.08	78	P		Pb	06 06 25.6	-0.4
KDZ	Kurdzhali	2.08	78	P		Pb	06 06 25.6	-0.4
RDO	Rodhopi	2.14	92	*e*PN		Pn	06 06 25.5	+1.6
RDO	Rodhopi	2.14	92	*e*Pn		Pn	06 06 25.5	+1.6
MPEP	Malo Peshtene	2.23	20	*i* P		Pb	06 06 29.3	+0.7
AGG	Agios Georgios	2.26	187	*e*PN		Pn	06 06 26.5	+0.9
AGG	Agios Georgios	2.26	187	*e*Pn		Pn	06 06 26.5	+0.9
SELS	Selova	2.28	329	*e*Pn		Pb	06 06 28.3	-1.2
SELS				*e*Sg		Sg	06 07 01.1	-0.7
AOS	Alonnisos	2.28	156	*e*PB		Pb	06 06 27.6	-1.9
AOS	Alonnisos	2.28	156	*e*Pb		Pb	06 06 27.6	-1.9
SMTH	Samothraki Isl	2.29	109	*e*PB		Pb	06 06 28.1	-1.5
SMTH	Samothraki Isl	2.29	109	*e*Pb		Pb	06 06 28.1	-1.5
ALN	Alexandroupoli	2.55	97	*e*PN		Pn	06 06 30.6	+1.0
ALN	Alexandroupoli	2.55	97	*e*Pn		Pn	06 06 30.6	+1.0
BOLS	Boljevac	2.62	348	*e*Pn		Pb	06 06 34.3	-1.0
BOLS				*e*Sn		Sb	06 07 06.2	-1.1
BOLS	Boljevac	2.62	348	*e*Pn		Pb	06 06 34.3	-1.0
BOLS				*e*Sn		Sb	06 07 06.2	-1.1
JMB	Yambol	3.14	66	*e*Pn		Pb	06 06 41.0	-3.1
JMB	Yambol	3.14	66	*e*Pn		Pb	06 06 41.0	-3.1
DIVS	Divibare	3.46	326	*e*Sn		Sn	06 07 26.3	+3.2
DIVS	Divibare	3.46	326	*e*Sn		Sn	06 07 26.3	+3.2
GZR	Gura Zlata	4.12	1	⇑	*i* P	Pg	06 07 08.1	+0.6
GZR	Gura Zlata	4.12	1	S		Sg	06 08 01.1	+0.1
BZS	Buzias	4.42	350	⇓	*i* P	Pg	06 07 10.0	-3.1
BZS	Buzias	4.42	350	S		Sg	06 08 08.3	-2.1
VOIR		4.51	22	⇓	*i* P	Pb	06 07 02.4	-5.1
VOIR		4.51	22	⇓	*i* P	Pb	06 07 02.4	-5.1
MLR	Muntele Rosu	4.84	28	⇓	*i* P	Pn	06 07 06.3	+5.2
MLR	Muntele Rosu	4.84	28	⇓	*i* P	Pn	06 07 06.3	+5.2
VRI	Vrincioaia	5.45	31	⇑	*i* P	Pn	06 07 14.3	+4.9

MAN 04 06:34:36, 10°.85N×122°.20E, h34km, mb4.0, ML2.8, MS2.5, 1C, Panay

Code	Station Name	Δ°	AZ°	Op	Phase ID	ISC	Time h m s	Res ISC
GUIM	Jordan	0.45	120	*e*P		Pn	06 34 47.9	+1.8
GUIM				*e*S		Sb	06 34 52.7	+0.1
RCP	Roxas	0.89	37	*e*P		Sn	06 35 06.9	+3.1
CUYO	Cuyo Island	1.16	270	*e*P		Pb	06 34 57.0	-0.5
OTRP	Odiongan	1.51	354	*e*P		Pn	06 35 01.7	+1.0

IDC 04 06:37:48.8±1.5, 7°.40S×128°.09E, h0km, mb4.0/2, mb1 3.9/5, mb1mx3.6/19, mbtmp3.8/5, ML3.7/3, Error ellipse: s-maj=98.2km s-min=19.3km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	Phase ID	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.90	192	Pn		Pn	06 40 27.6	+1.4
	0.3nm,0.3s,baz=32,slow=11,SNR=12							
FITZ				Sn		Sn	06 42 26.6	-2.4
	0.5nm,0.3s,baz=260,slow=19,SNR=3.2							
WRA	Warramunga Arr	13.87	155	Pn		Pn	06 41 08.2	+1.5
	0.5nm,0.3s,baz=327,slow=14,SNR=19							
WRA				Sn		Sn	06 43 37.7	-3.9
	0.6nm,0.3s,baz=326,slow=22,SNR=7.6							
ASAR	Alice Springs	17.11	162	P		P	06 41 50.9	-0.5
	0.3nm,0.3s,baz=333,slow=9.0,SNR=14							
ASAR				S		Sn	06 44 58.9	-1.8
	0.2nm,0.3s,baz=323,slow=16,SNR=5.6							
MKAR	Makanchi Array	67.53	328	P		P	06 48 47.1	+0.1
	0.7nm,0.7s,baz=126,slow=7.7,SNR=9.0							
ZALV	Zalesovo Beam	71.11	335	P		P	06 49 08.5	-0.4
	1.3nm,0.6s,baz=126,slow=4.1,SNR=6.0							

*BJI **04** 06:46:35.1, 23°.99S×178°.99W, h541km, mB5.1/11, mb4.5/19*
*ISCJB **04** 06:46:39.0±0.5, 23°.70S±0°.03×179°.84W±0°.04, h542km±7km, mb4.7/59, Error ellipse: s-maj=6.6km s-min=4.9km az=28.9*
*NEIC **04** 06:46:40.1±0.5, 23°.62S×179°.86W, h544km±6km, mb4.9/38, Error ellipse: s-maj=7.7km s-min=5.8km az=126.0*
*IDC **04** 06:46:40.1±1.3, 23°.55S×179°.85W, h539km±13km, mb4.0/16, mb1 4.1/17, mb1mx4.0/23, mbtmp3.9/17, Error ellipse: s-maj=12.9km s-min=11.5km az=151.0*
*MOS **04** 06:46:41.3±1.3, 23°.46S×179°.83W, h538km, mb5.1/14, Error ellipse: s-maj=12.2km s-min=10.7km az=84.7*
*AUST **04** 06:46:42.4, 23°.62S×179°.63W, h600km*
*BGS **04** 06:46:43.4±4.1, 23°.62S×179°.86W, h544km, mb4.9(NEIC)*

ISC 04 06:46:40.0±0.4, 23°.74S±0°.05×179°.82W±0°.06, h543km±3km, h543km; pP-P, n302, σ1§34/342, mb4.8/59, 31C-9D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	Phase ID	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.75	163	*e*Pn		P	06 48 17.6	+1.9
RAO				S		S	06 49 33.2	-1.0
RAO	Raoul Island	5.75	163	S		S	06 49 33.2	-1.0
	149nm,0.3s,baz=269,slow=23,SNR=7.0							
MSVF	Nonsavu	6.30	341	*e*P		P	06 48 21.0	-0.3
MSVF	Nonsavu	6.30	341	*e*Pn		P	06 48 21.0	-0.3
NIUE	Niue	10.31	65	P		P	06 49 00.7	-0.4
	baz=10,SNR=7.9							
NIUE				S		S	06 51 03.3	+6.3
	baz=10,SNR=8.0							
AFI	Afiamalu	12.39	39	*e*Pn		P	06 49 17.7	-5.0
AFI				*e*Sn		S	06 51 27.7	-8.9
AFI	Afiamalu	12.39	39	P		P	06 49 17.4	-5.3
	4.8nm,0.3s,baz=241,slow=23,SNR=9.9							
AFI				S		S	06 51 27.8	-8.8
	3.2nm,0.3s,baz=62,slow=15,SNR=6.1							
DZM	Mont Dzumac	12.77	275	P		P	06 49 26.1	-0.5
DZM	Mont Dzumac	12.77	275	P		P	06 49 26.1	-0.5
	1.3nm,0.3s,baz=90,slow=24,SNR=11							
MXZ	Matakaoa Point	13.87	186	*e*PN		P	06 49 36.5	-1.1
MKAZ	Moumakai	14.01	197	PN		P	06 49 40.3	+1.3
PUZ	Puketiti	14.38	186	PN		P	06 49 41.4	-1.6
PUZ				SN		S	06 52 07.2	-6.7
URZ	Urewera	14.71	190	*e*Pn		P	06 49 44.9	-1.4
URZ				S		S	06 52 18.8	-1.2
URZ	Urewera	14.71	190	P		P	06 49 44.9	-1.4
	35nm,0.3s,baz=291,slow=3.0,SNR=64							
URZ				S		S	06 52 18.8	-1.2
	13nm,0.3s,baz=64,slow=19,SNR=13							
URZ	Urewera	14.71	190	PN		P	06 49 44.8	-1.5
URZ				SN		S	06 52 14.4	-5.6
MWZ	Matawai	14.72	188	PN		P	06 49 45.2	-1.3
MWZ				SN		S	06 52 16.2	-4.2
CNGZ	Carnagh Statio	14.79	186	PN		P	06 49 47.4	+0.2
FUNA	Funafuti	15.16	356	*e*P		P	06 49 48.9	-2.5
	60nm,0.9s							
RAHZ	Arahi	15.36	189	PN		P	06 49 52.5	-0.6
KNZ	Kokohu	15.38	187	PN		P	06 49 52.8	-0.4
HIZ	Hauiti	15.41	196	PN		P	06 49 55.3	+1.7
NMHZ	Naumai	15.58	190	PN		P	06 49 54.5	-0.9
BKZ	Black Stump Fm	15.70	191	PN		P	06 49 54.4	-2.2
OTVZ	Oturere	15.85	193	PN		P	06 49 56.5	-1.8
MCHZ	McNeill Hill	15.93	190	PN		P	06 49 58.2	-0.7
TUVZ	Tukino	15.95	193	*e*PN		P	06 49 58.1	-1.1
FWVZ	Far West T-bar	15.96	193	PN		P	06 49 57.7	-1.7
WHVZ	Whangaehu Hut	15.98	193	PN		P	06 49 57.5	-2.1
TRVZ	Turoa	16.00	193	PN		P	06 49 58.3	-1.5
BHHZ	Black Hill Sta	16.08	192	PN		P	06 49 57.5	-2.9
RAEZ	Rainy Point	16.26	196	PN		P	06 50 04.4	+2.4
KHEZ	Kahui Hut	16.36	197	PN		P	06 50 07.1	+4.0
PXZ	Pawanui	16.48	189	PN		P	06 50 02.4	-1.7
NMEZ	Namu Road	16.51	197	PN		P	06 50 08.5	+4.1
WAZ	Wanganui	16.56	194	*e*PN		P	06 50 03.6	-1.2
WPHZ	Waipukurau	16.58	190	PN		P	06 50 05.0	0.0
ANWZ	Angora Road	16.96	190	PN		P	06 50 07.3	-1.2
MRZ	Mangatainoka R	17.31	192	PN		P	06 50 09.7	-1.9
HOWZ	Holdsworth Sta	17.55	192	PN		P	06 50 12.5	-1.4
MTW	Mount Morrison	17.81	192	PN		P	06 50 15.2	-1.0
TRWZ	Traveller	18.01	191	PN		P	06 50 17.4	-0.7
SNZO	South Karori	18.11	193	*e*P		P	06 50 20.0	+1.0
	140nm,1.3s							
SNZO	South Karori	18.11	193	PN		P	06 50 19.0	+0.1
QRZ	Quartz Range	18.21	199	PN		P	06 50 21.9	+2.0
PLWZ	Palliser	18.25	192	PN		P	06 50 19.9	-0.4
NNZ	Nelson	18.34	197	PN		P	06 50 20.4	-0.6
TUWZ	Tuamarina	18.40	195	PN		P	06 50 21.0	-0.6
THZ	Tophouse	18.97	197	*e*PN		P	06 50 26.7	-0.2
DSZ	Denniston Nort	19.27	199	PN		P	06 50 31.0	+1.4
KHZ	Kahutara	19.43	195	*e*P		P	06 50 31.1	+0.2
	62nm,0.6s							
KHZ	Kahutara	19.43	195	PN		P	06 50 30.9	0.0
LTZ	Lake Taylor	20.09	197	PN		P	06 50 36.6	-0.5
OXZ	Oxford	20.66	197	PN		P	06 50 42.2	+0.1
WVZ	Waitaha Valley	20.81	200	PN		P	06 50 43.5	0.0
RPZ	Rata Peaks	21.29	198	*e*P		P	06 50 48.7	+0.8
	65nm,0.6s							
RPZ	Rata Peaks	21.29	198	P		P	06 50 48.7	+0.8
	57nm,0.5s,baz=30,slow=1.8,SNR=26							
RPZ	Rata Peaks	21.29	198	PN		P	06 50 47.8	-0.1
FOZ	Fox Glacier	21.58	201	PN		P	06 50 49.8	-0.6
LBZ	Lake Benmore	22.16	199	PN		P	06 50 54.8	-0.9
MLZ	Mavora Lakes	23.66	201	PN		P	06 51 10.0	+1.0
TARA	Tarawa	25.93	343	*e*P		P	06 51 28.0	-1.4
	60nm,0.7s							
EIDS	Eidsvold	26.50	260	P		P	06 51 35.6	+1.2
	baz=27,SNR=10							
PAE	Paea	28.89	84	*e*P		P	06 51 55.6	+0.3
	5.6nm,0.9s							
PPT2	Papeete2	28.91	84	*e*P		P	06 51 56.1	+0.5
	38nm,1.2s							
PPT	Papeete	28.92	83	P		P	06 51 55.4	-0.2
PPT	Papeete	28.92	83	P		P	06 51 55.4	-0.2
	35nm,0.9s,baz=262,slow=24,SNR=3.9							
TIAR	Tiarei	29.13	84	*e*P		P	06 51 57.8	+0.3
	50nm,0.8s							
TVO	Taravao	29.15	84	*e*P		P	06 51 58.0	+0.3
	41nm,0.7s							
MEH	Mehetia	30.21	85	*e*P		P	06 52 07.0	+0.2
	53nm,0.9s							
CTA	Charters Tower	31.64	270	P		P	06 52 20.0	+0.9
CTA	Charters Tower	31.64	270	P		P	06 52 20.0	+0.9
	50nm,0.4s,baz=96,slow=11,SNR=89							
CTAO	Charters Tower	31.64	270	*e*P		P	06 52 19.8	+0.7
CTAO				pmax	pmax			
	comp=Z,47nm,0.6s							
CTAO	Charters Tower	31.64	270	*e*P		P	06 52 19.8	+0.7
	comp=Z,47nm,0.6s							
QLP	Quilpie	32.60	257	P		P	06 52 28.1	+1.1
	baz=33,SNR=6.8							
XMAS	Kiritimati	33.62	43	*e*P		P	06 52 34.8	-1.1
	comp=Z,123nm,0.9s							
MTSU	Mount Surprise	33.90	273	P		P	06 52 39.0	+0.8
	baz=34,SNR=36							
PMG	Port Moresby	34.60	289	*e*P		P	06 52 44.1	-0.1
	comp=Z,72nm,0.8s							
PMG	Port Moresby	34.60	289	P		P	06 52 44.0	-0.1
	comp=Z,69nm,0.7s,baz=103,slow=5.3,SNR=21							
COEN	Coen	36.26	279	*e*P		P	06 52 58.2	+0.3
	comp=Z,40nm,0.5s							
COEN	Coen	36.26	279	P		P	06 52 58.5	+0.6
	baz=36,SNR=14							
BBOO	Buckleboo	39.66	247	P		P	06 53 25.8	+0.5
	baz=40,SNR=10							
AS31	Alice Springs	42.23	260	*e*P		P	06 53 46.0	+0.1
ASAR	Alice Springs	42.23	260	P		P	06 53 46.2	+0.3
ASAR				ScP		ScP	06 58 28.6	+2.2
ASAR				S		S	06 59 25.8	-1.6
ASAR	Alice Springs	42.23	260	P		P	06 53 46.2	+0.3
	comp=Z,6.9nm,0.4s,baz=100,slow=7.0,SNR=109							
ASAR				ScP		ScP	06 58 28.6	+2.2
	comp=Z,5.6nm,0.8s,baz=112,slow=4.0,SNR=20							
ASAR				S		S	06 59 25.8	-1.6
	comp=Z,1.8nm,0.7s,baz=98,slow=14,SNR=10							
WRAB	Tennant Creek	42.58	266	*e*P		P	06 53 48.3	-0.4
WRAB				pmax	pmax			
	comp=Z,12nm,0.8s							
WRAB	Tennant Creek	42.58	266	*e*P		P	06 53 48.2	-0.4
	comp=Z,12nm,0.8s							
WRA	Warramunga Arr	42.59	266	P		P	06 53 48.4	-0.3
WRA				ScP		ScP	06 58 30.6	+2.7
WRA				S		S	06 59 28.4	-4.2
WRA	Warramunga Arr	42.59	266	P		P	06 53 48.4	-0.3
	comp=Z,14nm,0.4s,baz=92,slow=8.5,SNR=263							
WRA				ScP		ScP	06 58 30.6	+2.7
	comp=Z,5.3nm,0.9s,baz=99,slow=4.1,SNR=12							
WRA				S		S	06 59 28.4	-4.2
	comp=Z,3.8nm,1.0s,baz=103,slow=14,SNR=6.0							
JAY	Jayapura	43.61	293	P		P	06 53 56.4	-0.4
	baz=44,SNR=8.4							
KDU	Kakadu	46.44	275	P		P	06 54 17.9	-0.5
	baz=47,S

comp=Z,37nm,1.2s
OHAK Old Harbor 83.68 14 *e*P **P 06 58 10.9 -0.4**
comp=Z,26nm,1.2s
YBH Yreka Blue Hor 83.86 39 *e*P **P 06 58 13.5 +0.8**
comp=Z,52nm,1.0s
HUMO Hull Mountain 84.27 38 *e*P **P 06 58 15.9 +1.3**
comp=Z,498nm,2.5s
KDAK Kodiak Island 84.35 14 *e*P **P 06 58 14.6 0.0**
comp=Z,25nm,1.4s
KDAK Kodiak Island 84.35 14 P **P 06 58 13.2 -1.4**
comp=Z,5.9nm,0.8s,baz=212,slow=4.4,SNR=9.4
RSO Redoubt South 86.75 13 *e*P **P 06 58 25.9 -0.5**
GYA Guiyang 86.81 301 P **P 06 58 27.0 -0.3**
GYA pP **pP 07 00 27.3 +1.5**
GYA sP **sP 07 01 19.8 -0.9**
GYA PP **PP 07 02 01.4 +1.1**
GYA SKS **SKSac 07 08 01.6 -1.3**
GYA S **S 07 08 19.0 -1.2**
GYA sS **sS 07 11 49.5 -1.9**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.3s
LON Longmire 87.53 36 *e*P **P 06 58 30.3 +0.2**
LON pmax pmax
comp=Z,80nm,0.9s
LON Longmire 87.53 36 *e*P **P 06 58 30.3 +0.2**
comp=Z,80nm,0.9s
SPU Mount Spurr 87.55 13 *e*P **P 06 58 28.6 -1.3**
PGC Sidney 87.88 34 *e*P **P 06 58 31.7 +0.1**
comp=Z,1.7nm,0.9s
F07A Phinny Hill Vi 88.02 37 P P 06 58 28.4 -4.0
PMR Palmer 88.55 14 *e*P **P 06 58 33.1 -1.3**
PMR pmax pmax
comp=Z,19nm,0.8s
PMR Palmer 88.55 14 *e*P **P 06 58 33.1 -1.3**
comp=Z,19nm,0.8s
DIV Divide 88.94 16 *e*P **P 06 58 36.2 -0.2**
comp=Z,27nm,1.1s
KMI Kunming 89.34 298 P **P 06 58 42.2 +2.9**
KMI pmax pmax
comp=Z,6.0nm,0.6s
WRAK Wrangell Islan 89.35 24 *e*P **P 06 58 38.9 +0.7**
comp=Z,21nm,0.9s
PNL Peninsula 89.48 19 *e*P **P 06 58 38.6 -0.3**
comp=Z,29nm,0.9s
CMAR Chiang Mai Arr 89.63 290 P **P 06 58 40.8 +0.3**
CMAR Chiang Mai Arr 89.63 290 P **P 06 58 40.8 +0.3**
comp=Z,0.9nm,0.4s,baz=139,slow=2.4,SNR=7.4
TRF Thorofare Moun 89.96 13 *e*P **P 06 58 39.5 -1.7**
comp=Z,18nm,0.8s
TXAR Lajitas Array 90.20 58 P **P 06 58 43.3 +0.2**
TXAR Lajitas Array 90.20 58 P **P 06 58 43.3 +0.2**
comp=Z,9.7nm,0.7s,baz=222,slow=8.8,SNR=8.7
HHC Hu-ho-hao-te 90.43 315 *e*P **P 06 58 45.0 +1.2**
HHC pP **pP 07 00 45.2 +2.0**
HHC sP **sP 07 01 37.0 -0.7**
HHC PP **PP 07 02 32.4 +3.9**
HHC S **S 07 08 53.3 +0.6**
HHC sS **sS 07 12 24.4 -1.7**
HHC SS **SS 07 15 14.2 +3.8**
HHC pmax pmax
comp=Z,42nm,1.1s
HHC pmax pmax
comp=Z,150nm,4.4s
MCK McKinley 90.49 13 *e*P **P 06 58 41.3 -2.1**
MCK pmax pmax
comp=Z,13nm,1.1s
MCK McKinley 90.49 13 *e*P **P 06 58 41.3 -2.1**
comp=Z,13nm,1.1s
PAX Paxson 90.60 15 *e*P **P 06 58 43.2 -0.9**
PAX pmax pmax
comp=Z,18nm,1.8s
PAX Paxson 90.60 15 *e*P **P 06 58 43.1 -0.9**
comp=Z,18nm,1.8s
MENT Mentasta 90.99 16 *e*P **P 06 58 45.2 -0.6**
CD2 Chengdu 91.13 303 P **P 06 58 47.8 +0.6**
CD2 pP **pP 07 00 47.9 +1.2**
CD2 sP **sP 07 01 41.2 0.0**
CD2 PP **PP 07 02 37.0 +2.9**
CD2 SKS **SKSac 07 08 27.7 +0.1**
CD2 S **S 07 08 57.8 -1.5**
CD2 sS **sS 07 12 30.7 -2.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,110nm,5.6s
COLA College 91.72 13 *e*P **P 06 58 48.0 -1.0**
COLA pmax pmax
comp=Z,6.0nm,0.8s
COLA College 91.72 13 *e*P **P 06 58 48.0 -1.0**
comp=Z,5.5nm,0.8s
ILAR Eielson Array 91.84 13 P **P 06 58 48.0 -1.6**
ILAR Eielson Array 91.84 13 P **P 06 58 48.0 -1.6**
comp=Z,2.0nm,0.7s,baz=222,slow=5.9,SNR=32
BILL Bilibino 92.08 355‖ *e*P **P 06 58 49.2 -1.5**
BILL *e*S S 07 09 13.1 +7.2
BILL pmax pmax
comp=Z,9.0nm,0.9s
EGAK Eagle 93.16 16 *e*P **P 06 58 55.1 -0.6**
comp=Z,8.9nm,0.8s
LZH Lanzhou 93.41 308 *e*P **P 06 58 58.5 +0.8**
LZH pP **pP 07 01 01.3 +3.9**
LZH sP **sP 07 01 55.9 +4.1**
LZH pmax pmax
comp=Z,19nm,1.0s
YKW3 Yellowknife Ar 100.18 25 *e*Pdif **Pdif 06 59 28.4 +1.2**
comp=Z,6.7nm,1.2s
ZAA0 Zalesovo Array 111.94 321 ePdif **Pdif 07 00 23.3 +3.6**
ZALV Zalesovo Beam 111.94 321 PKIKP 07 04 11.6
ZALV Zalesovo Beam 111.94 321 PKiKP **PKiKP 07 04 11.6 -1.5**
ZALV Zalesovo Beam 111.94 321 PKiKP **PKiKP 07 04 11.6 -1.5**
comp=Z,1.2nm,0.6s,baz=159,slow=2.1,SNR=5.1
MK31 Makanchi Array 112.17 313 *i* PKIKP **PKiKP 07 04 12.5 -1.4**
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 112.17 313 PKIKP **PKiKP 07 04 12.6 -1.3**
MKAR Makanchi Array 112.17 313 PKiKP **PKiKP 07 04 12.6 -1.3**
MKAR Makanchi Array 112.17 313 PKiKP **PKiKP 07 04 12.6 -1.3**
comp=Z,1.5nm,0.6s,baz=199,slow=0.8,SNR=23
KSH Kashi 115.32 304 *e*PKP **PKPdf 07 04 17.9 -2.4**
KSH PP **PP 07 05 35.1 +3.4**
KSH SKS **SKSdf 07 10 40.6 -0.5**
KSH SKKS **SKKSac 07 11 30.9 -5.2**
KSH AMB AMB
comp=Z,92nm,10.3s
TKM2 Tokmak 2 116.18 308 PKIKP **PKPdf 07 04 20.4 -1.5**
TKM2 pmax pmax
comp=Z,2.0nm,0.7s
KK31 Karatay Array 119.90 307 *i* PKIKP **PKPdf 07 04 27.5 -1.4**
KK31 pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 119.90 307 *e*PKIKP **PKPdf 07 04 28.3 -0.6**
KKAR Karatay Array 119.90 307 *e*PKPdf **PKPdf 07 04 28.3 -0.6**
KBL Kabul 119.92 297 *e*PKIKP **PKPdf 07 04 29.5 +0.1**
KBL Kabul 119.92 297 *e*PKPdf **PKPdf 07 04 29.5 +0.1**
VOSK Vostochnaya 120.07 318 PKIKP **PKPdf 07 04 26.8 -2.0**
VOSK pmax pmax
comp=Z,4.0nm,0.6s
BVA0 Borovoye Array 120.43 319 PKIKP **PKPdf 07 04 27.1 -2.4**
BVA0 pmax pmax
comp=Z,3.0nm,0.5s
BRVK Borovoye 120.50 319 *e*PKIKP **PKPdf 07 04 28.3 -1.3**
BRVK Borovoye 120.50 319 *e*PKPdf **PKPdf 07 04 28.3 -1.3**
ARU Arti 126.86 324 *i* PKIKP **PKPdf 07 04 41.4 -0.3**
ARU 07 06 50.3
ARU 07 10 55.2
ARU SS SS 07 23 40.6 +28
AB31 Akbulak array 127.22 315 PKIKP **PKPdf 07 04 40.9 -1.7**
ABKAR Akbulak array 127.22 315 *e*PKPdf **PKPdf 07 04 42.3 -0.3**
AKTO Aktyubinsk 128.30 316 PKIKP **PKPdf 07 04 43.7 -0.9**
AKTO Aktyubinsk 128.30 316 PKP **PKPdf 07 04 43.7 -0.9**
AKTO Aktyubinsk 128.30 316 PKP **PKPdf 07 04 43.7 -0.9**
comp=Z,3.4nm,0.6s,baz=88,slow=3.8
ARCES ARCESS Array B 131.77 348 PKP **PKPdf 07 04 49.9 -0.8**
ARCES ARCESS Array B 131.77 348 PKP **PKPdf 07 04 49.9 -0.8**
comp=Z,8.5nm,0.8s,baz=23,slow=1.4,SNR=5.6
JOF Joensuu 135.64 340 *ep* **SKPbc 07 07 36.9 -1.8**
comp=Z,0.4nm,0.4s
FINES FINESS Array B 138.35 342 PKPpre PKPpre 07 04 55.5
FINES PKP **PKPdf 07 05 03.9 +0.8**
FINES SKPbc **SKPbc 07 07 46.0 -0.6**
FINES FINESS Array B 138.35 342 PKhKP PKPpre 07 04 55.5
comp=Z,2.8nm,0.7s,baz=58,slow=4.3,SNR=4.8
FINES PKP **PKPdf 07 05 03.9 +0.8**
comp=Z,1.4nm,0.5s,baz=92,slow=2.5,SNR=3.4
FINES SKPbc **SKPbc 07 07 46.0 -0.6**
comp=Z,6.0nm,0.6s,baz=45,slow=4.0,SNR=9.2
NB2 NORSAR Subarra 141.95 351 PKP PKPpre 07 05 04.6
comp=Z,3.7nm,0.7s,baz=16,slow=3.2
NOA NORSAR Array B 141.95 351 PKPpre PKPpre 07 05 04.2
NOA SKPbc **SKPbc 07 07 55.8 -0.4**
NOA NORSAR Array B 141.95 351 PKhKP PKPpre 07 05 04.2
comp=Z,5.9nm,0.7s,baz=16,slow=4.7,SNR=19
NOA SKPbc **SKPbc 07 07 55.8 -0.4**
comp=Z,2.0nm,0.7s,baz=14,slow=4.2,SNR=6.2
KONO Kongsberg 143.51 352 *e*PKHKP PKPpre 07 05 10.0
KONO Kongsberg 143.51 352 *e*PKPdf PKPab 07 05 10.0 -0.9
LRW Lerwick 143.62 1 *e*P PKPab 07 05 10.4 -1.0
KIEV Kiev 144.94 328 *e*PKPdf **PKPdf 07 05 14.5 -0.7**
SUW Suwalki 145.19 336 *e*PKP **PKPbc 07 05 16.3 -0.1**
MVH1 Achvaich 145.70 4 *e*P **PKPdf 07 05 16.8 +0.6**
KAC Achnashellach 146.04 5 *e*P **PKPbc 07 05 18.2 -0.6**
MCD Coleburn Disti 146.10 3 *e*P **PKPdf 07 05 17.9 +1.0**
KPL Plockton 146.17 6 *e*P **PKPbc 07 05 18.4 -0.8**
MDO Dochfour 146.17 4 *e*P **PKPdf 07 05 18.1 +1.0**
KSF Sheil Bridge 146.32 6 *e*P **PKPdf 07 05 18.4 +1.1**
ASF Jabal al Asfar 146.63 293 PKPbc **PKPbc 07 05 21.3 -0.1**
ASF Jabal al Asfar 146.63 293 PKPbc **PKPbc 07 05 21.3 -0.1**
MUD Monsted U'grnd 146.66 351⇑ *i*PKIKP **PKPbc 07 05 19.9 -0.6**
MUD pmax pmax
comp=Z,16nm,1.0s
MUD Monsted U'grnd 146.66 351⇑ *i*P **PKPbc 07 05 19.9 -0.6**
comp=Z,16nm,1.0s
BSD Bornholm Skovb 146.81 345 *i* PKIKP **PKPbc 07 05 20.2 -0.7**
BSD pmax pmax
comp=Z,19nm,0.8s
BSD Bornholm Skovb 146.81 345 *i* P **PKPbc 07 05 20.2 -0.7**
comp=Z,19nm,0.8s
ELO Logie Almond 147.18 4 *e*P **PKPbc 07 05 21.2 -0.8**
LLD Lille Linde 147.21 347 *i* PKIKP **PKPbc 07 05 21.5 -0.5**
LLD pmax pmax
comp=Z,28nm,0.8s
LLD Lille Linde 147.21 347 *i* P **PKPbc 07 05 21.5 -0.5**
comp=Z,28nm,0.7s
EAB Aberfoyle 147.42 5 *e*P **PKPbc 07 05 21.9 -0.7**
BR131 Keskin Array S 147.62 307 *e*PKPbc **PKPbc 07 05 22.9 -0.9**
BRTR Keskin Array B 147.62 307 PKPbc **PKPbc 07 05 22.8 -1.0**
BRTR PKPab **PKPab 07 05 28.1 +0.1**
BRTR Keskin Array B 147.62 307 PKPbc **PKPbc 07 05 22.8 -1.0**
comp=Z,4.5nm,0.6s,baz=143,slow=4.2,SNR=9.9
BRTR PKPab **PKPab 07 05 28.1 +0.1**
comp=Z,5.1nm,0.6s,baz=107,slow=3.4,SNR=10
EDI Edinburgh 147.76 4 *e*P **PKPbc 07 05 22.4 -1.0**
PGBU Glenifferbraes 147.78 5 *e*P **PKPbc 07 05 22.5 -1.0**
MMAI Mount Meron Ar 147.79 295 PKPbc **PKPbc 07 05 24.4 0.0**
MMAI Mount Meron Ar 147.79 295 PKPbc **PKPbc 07 05 24.4 0.0**
comp=Z,14nm,0.5s,baz=76,slow=6.0,SNR=14
ESY Stoneypath 147.79 3 *e*P **PKPbc 07 05 22.8 -0.7**
BEL Belsk 147.80 336 *e*PKP **PKPbc 07 05 23.8 +0.2**
EAU Auchinoon 147.82 4 *e*P **PKPbc 07 05 23.1 -0.5**
ANTO Ankara 148.18 308⇑ PKHKP **PKPbc 07 05 25.1 -0.1**
ANTO Ankara 148.18 308⇑ *i*P **PKPbc 07 05 25.0 -0.1**
ESK Eskdalemuir 148.36 4 *e*P **PKPbc 07 05 23.8 -1.2**
ECK Cauldkaine Hil 148.50 4 *e*P **PKPbc 07 05 24.4 -0.9**
GAL1 Galloway 148.70 5 *e*P **PKPbc 07 05 25.1 -0.7**
CFR Carcaliu 148.82 320⇑ PKHKP **PKPbc 07 05 26.1 -0.3**
CFR Carcaliu 148.82 320⇑ *i*P **PKPbc 07 05 26.1 -0.3**
TESR Tescani 148.88 323‖ *i*P **PKPbc 07 05 25.4 -1.1**
BURAR Bucovina Array 148.93 326⇑ *i*P **PKPbc 07 05 27.0 +0.2**
KESW Keswick, Cumbr 149.09 4 *e*P **PKPbc 07 05 26.0 -0.8**
CSS Prodhromos 149.15 299 *e*PKPbc **PKPbc 07 05 26.6 -1.0**
VRI Vrincioaia 149.23 322⇑ PKHKP **PKPbc 07 05 26.5 -0.9**
VRI Vrincioaia 149.23 322⇑ *i*P **PKPbc 07 05 26.5 -0.9**
MANR Mangalia 149.28 318‖ *i*P **PKPbc 07 05 28.3 +0.7**
KOLS Kolonicke sedl 149.42 331 *e*PKHKP **PKPbc 07 05 27.2 -0.6**
KOLS Kolonicke sedl 149.42 331 *e*PKP **PKPbc 07 05 27.2 -0.6**
STHS Stebnicka Huta 149.50 332 *e*PKHKP **PKPbc 07 05 28.2 +0.2**
STHS Stebnicka Huta 149.50 332 *e*PKP **PKPbc 07 05 28.2 +0.2**
TRPA Tarpa 149.88 329⇑ *i*P **PKPbc 07 05 28.4 -0.4**
MLR Muntele Rosu 149.89 322 PKPbc **PKPbc 07 05 28.6 -0.5**
MLR Muntele Rosu 149.89 322 PKPbc **PKPbc 07 05 28.6 -0.5**
comp=Z,1.9nm,0.6s,baz=14,slow=2.4,SNR=6.1
DOPR Dopca 149.90 324‖ *i*P **PKPbc 07 05 29.6 +0.6**
SECR 150.10 322‖ *i*P **PKPbc 07 05 29.3 -0.2**
WME Myndd Eilian 150.19 5 *e*P **PKPbc 07 05 28.4 -1.0**
KSP Ksiaz 150.20 339⇑ *i*PKHKP **PKPbc 07 05 29.7 +0.2**
KSP Ksiaz 150.20 339 *e*PKP **PKPbc 07 05 29.6 +0.1**
CJR Cluj-Napoca 150.36 326⇑ *i*P **PKPbc 07 05 30.0 -0.1**
WPM1 Penmaenmawr 150.36 5 *e*P **PKPbc 07 05 28.5 -1.4**
OKC Ostrava-Krasne 150.40 336 *e*PKIKP **PKPbc 07 05 30.0 0.0**
OKC Ostrava-Krasne 150.40 336‖ *e*PKP **PKPbc 07 05 30.0 0.0**
VOIR 150.42 323⇑ PKIKP **PKPbc 07 05 30.1 -0.2**
VOIR 150.42 323⇑ *i*P **PKPbc 07 05 30.1 -0.2**
UPC Upice 150.58 339 *e*PKIKP **PKPbc 07 05 30.5 +0.1**
UPC Upice 150.58 339‖ *e*PKP **PKPbc 07 05 30.7 +0.1**
DPC Dobruska-Polom 150.61 339 *e*PKIKP **PKPbc 07 05 30.8 +0.2**
DPC Dobruska-Polom 150.61 339‖ *e*PKP **PKPbc 07 05 30.8 +0.2**
ARR Arges 150.69 323‖ *i*P **PKPbc 07 05 31.9 +1.0**
DRGR 150.75 327⇑ PKIKP **PKPbc 07 05 30.8 -0.2**
DRGR 150.75 327⇑ *i*P **PKPbc 07 05 30.8 -0.2**
CLL Collm 150.75 343⇑ *i*PKIKP **PKPbc 07 05 30.5 -0.3**
CLL *e* 07 05 40.0
CLL *e* 07 07 35.0
CLL pmax pmax
comp=Z,39nm,0.8s
CLL pmax pmax
comp=Z,8.0nm,0.6s
CLL Collm 150.75 343⇑ *i*PKPbc **PKPbc 07 05 30.5 -0.3**
comp=Z,39nm,0.8s
CLL *e*PKPab **PKPab 07 05 40.0 -0.3**
comp=Z,8.0nm,0.6s
CLL *e*PKPbc **pPKPbc 07 07 35.0 -2.2**
CLL *e*PKPab **pPKPab 07 07 43.0 +1.2**
CLL *e*SKPdf **SKPdf 07 08 05.0 -1.8**
FOEL Foel Wylfa 150.78 4 *e*P **PKPbc 07 05 30.0 -0.9**
BRG Berggiesshubel 150.89 342 *e*PKP **PKPbc 07 05 31.0 -0.1**
comp=Z,25nm,0.6s
BRG *e* 07 07 49.8
BRG Berggiesshubel 150.89 342 *e*PKIKP **PKPbc 07 05 31.0 -0.1**
BRG pmax pmax
comp=Z,3.0nm,0.6s
PVCC Panska Ves 151.01 341 *e*PKIKP **PKPbc 07 05 31.5 +0.1**
PVCC Panska Ves 151.01 341‖ *e*PKP **PKPbc 07 05 31.5 +0.1**
HLM1 Long Mynd 151.17 4 *e*P **PKPbc 07 05 30.9 -0.8**
VYHS Vyhne 151.22 334 *e*PKIKP **PKPbc 07 05 31.7 -0.3**
VYHS Vyhne 151.22 334 *e*PKP **PKPbc 07 05 31.7 -0.3**
PSZ Piszkesteto 151.23 332 ‖PKIKP **PKPbc 07 05 30.4 -1.7**
PSZ Piszkesteto 151.23 332‖ *i*P **PKPbc 07 05 30.4 -1.7**
PRA Prague 151.46 341⇑ PKP **PKPbc 07 05 32.0 -0.4**
PRU Pruhonice 151.50 340 *e*PKIKP **PKPbc 07 05 32.3 -0.2**
PRU Pruhonice 151.50 340‖ *e*PKP **PKPbc 07 05 32.3 -0.2**
GZR Gura Zlata 151.67 325⇑ PKIKP **PKPbc 07 05 32.5 -0.7**
GZR Gura Zlata 151.67 325⇑ *i*P **PKPbc 07 05 32.5 -0.7**
MCH1 Michaelchurch 151.68 4 *e*P **PKPbc 07 05 31.5 -1.3**
TREC Trest 151.80 339 *e*PKIKP **PKPbc 07 05 32.7 -0.6**
TREC Trest 151.80 339‖ *e*PKP **PKPbc 07 05 32.7 -0.6**
KHC Kasperske Hory 152.51 341 *e*PKIKP **PKPbc 07 05 34.6 -0.3**
KHC Kasperske Hory 152.55 341‖ *e*PKP **PKPbc 07 05 34.6 -0.3**
GERES GERESS Array B 152.76 340 PKPbc **PKPbc 07 05 34.8 -0.7**
GERES GERESS Array B 152.76 340 PKPbc **PKPbc 07 05 34.8 -0.7**
comp=Z,3.0nm,0.8s,baz=17,slow=2.2,SNR=7.3
PKSM Moragy 153.09 331⇑ PKIKP **PKPbc 07 05 34.3 -1.8**
PKSM Moragy 153.09 331⇑ *i*P **PKPbc 07 05 34.3 -1.8**
VTS Vitosha 153.22 320‖ PKIKP **PKPbc 07 05 36.0 -0.7**
VTS Vitosha 153.22 320‖ *i*P **PKPbc 07 05 36.0 -0.7**
ESDC Sonseca Array 163.73 11 PKPab **PKPab 07 06 36.2 -0.7**
ESDC Sonseca Array 163.73 11 PKPab **PKPab 07 06 36.2 -0.7**
comp=Z,3.3nm,0.9s,baz=344,slow=4.0,SNR=8.0

SZGRF ***04*** *06:49:33.7, 10°.33N×78°.64W, h33km, mb5.9, MS5.8, North of Panama*
BJI ***04*** *06:49:33.7, 9°.60N×79°.00W, h38km, mB5.8/36, Ms6.0/44, Ms7 5.8/44*
ISCJB ***04*** *06:49:34.8±0.3, 9°.76N±0°.02×78°.93W±0°.01, h39km±2km, mb5.8/356, MS5.5/220, Error ellipse: s-maj=3.2km s-min=2.4km az=4.0*
MOS ***04*** *06:49:34.2±0.7, 9°.81N×79°.13W, h37km, mb6.0/79, MS5.5/66, Error ellipse: s-maj=12.7km s-min=5.5km az=56.1*
NEIC ***04*** *06:49:35.5±0.1, 9°.59N×78°.97W, h38km, mb6.0/207, ME6.1, MS5.5/140, MW6.0, MW6.0, Error ellipse: s-maj=3.8km s-min=2.7km az=216.0 Broadband fault plane solution: P waves. NP1:ϕs250.00000°, δ45.00000°, λ40.00000°. NP2:ϕs129.00000°, δ63.00000°, λ127.00000°. Principal axes: T Plg55.0000°, Azm88.0000°; N Plg0.0000°, Azm0.0000°; P Plg10.0000°, Azm193.0000°; Moment Tensor Solution. s58 Moment tensor: Scale 10¹⁸ Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mrφ0.00; Mθφ0.00; Best double couple: M☉1.10000×10¹⁸ NP1: ϕs281.00000°, δ33.00000°, λ59.00000°. NP2: ϕs137.00000°, δ62.00000°, λ109.00000°. Principal axes: T 1.0200, Plg67.0000°, Azm83.0000°; N 0.2400, Plg16.0000°, Azm307.0000°; P -1.2500, Plg14.0000°, Azm213.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC At least 32 people injured and 10 buildings damaged [V] in the Panama City area. Felt [V] at Alcaldediaz, Balboa, Cativa, Cerro Azul, Chame, La Cabima, Las Guias, Margarita, Tocumen and Veracruz; [IV] at Ancon, Anton, Arraijan, Colon, La Chorrera, Las Cumbres, Penonome, Sabanitas and San Miguelito; [III] at Bejuco, Chilibre, Nueva Gorgona, Paraiso, Puerto Pilon, Taboga and Vista Alegre. Felt in much of Panama. Felt [II] at Barranquilla, Colombia. Also felt at Cartagena and Santa Marta. Felt at San Jose, Costa Rica.
CASC ***04*** *06:49:36.2, 9.75N×78.98W, h36km, MD5.5, ML5.6, mb4.8(UCR)*
BGS ***04*** *06:49:36.1±1.2, 10°.33N×79°.30W, h33km, mb5.6, MS5.4*
GCMT ***04*** *06:49:41.2±0.1, 9.82N×78.97W, h43km, MW6.1, Moment Tensor Solution. s104, c235; s82, c126; Moment tensor: Scale 10¹⁸Nm; Mrr0.62±.01; Mθθ-1.45±.01; Mφφ0.83±.01; Mrθ0.54±.01; Mθφ0.29±.01; Mor-0.50±.01; Best double couple: M☉1.50000×10¹⁸ NP1:ϕs237.00000°, δ50.00000°, λ21.00000°. NP2:ϕs133.00000°, δ74.00000°, λ138.00000°. Principal axes: T 1.2500, Plg41.0000°, Azm86.0000°; N 0.4000, Plg45.0000°, Azm296.0000°; P -1.6500, Plg15.0000°, Azm190.0000°; Data Used: II IU CN IC G. Surface waves: sta=114, comp=249, per= 50.*
IDC ***04*** *06:49:41.6±2.2, 9.67N×79.00W, h94km±19km, mb5.2/22, mb1 5.4/24, mb1mx5.4/25, mbtmp5.2/24, MS5.2/28, Ms1 5.5/28, ms1mx5.3/36 Error ellipse: s-maj=15.9km s-min=9.3km az=53.0*
NEIC ***04*** *06:49:57.2±0.0, 10°.01N×78°.63W, h47km, Moment Tensor Solution. s125 Moment tensor: Scale 10¹⁸Nm; Mrr0.59; Mθθ-1.28; Mφφ0.69; Mrθ0.46; Mφφ0.19; Mor-0.33; Best double couple: M☉1.20000×10¹⁸ NP1:ϕs129.00000°, δ72.00000°, λ136.00000°. NP2:ϕs236.00000°, δ49.10000°, λ25.00000°. Principal axes: T 0.9900, Plg43.0000°, Azm83.0000°; N 0.4400, Plg42.0000°, Azm290.0000°; P -1.4200, Plg14.0000°, Azm187.0000°;*
PDG ***04*** *06:50:00.1, 9.70N×78.90W, h40km, mb6.0/6*
ISC 04 06:49:36.7±0.4, 9.75N±0.03×79.02W±0.03, h49km±3km, h48km:pP-P, n1579, σ1952/1661, mb5.8/354, MS5.5/220, 488C-241D, Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
UPIG		**0.91**	**214**	*i* P		**Pn**		**06 49 53.6**	**+0.5**
	baz=42,slow=11								
UPIG				AMP				06 49 55.1	
	comp=Z,1500μm,0.2s								
UPIG				*e*S		**Sn**		**06 50 04.3**	**-0.9**
BCIP	**Isla Barro Col**	**0.99**	**234**	*i* P		**Pn**		**06 49 54.7**	**+0.4**
	baz=50,slow=7.9								
BCIP				*e*S		**Sn**		**06 50 06.7**	**-0.5**
BCIP	**Isla Barro Col**	**0.99**	**234**	*e*Pn		**Pn**		**06 49 54.6**	**+0.3**
BCIP				*e*Sn		**Sn**		**06 50 07.0**	**-0.3**
PINA	**Piqa, Costa Ab**	**1.14**	**244**	*e*P		**Pn**		**06 49 57.1**	**+0.9**
PINA				*e*S		**Sn**		**06 50 10.7**	**-0.1**
BRU	**Baru**	**3.62**	**255**	*e*P		**Pn**		**06 50 31.7**	**+1.1**
TBS2		**3.71**	**255**	*e*P		**Pn**		**06 50 32.9**	**+1.2**
TBS2				*e*S		**Sn**		**06 51 09.7**	**-4.6**
BRU2	**Volcan**	**3.75**	**256**	*e*P		**Pn**		**06 50 33.3**	**+1.2**
ACR	**Cerro Adams**	**4.24**	**255**	*e*P		**Pn**		**06 50 40.5**	**+1.8**
BUS	**Buena Vista**	**4.67**	**268**⇑	*i*P		**Pn**		**06 50 46.3**	**+1.2**
URSC	**Urasca**	**4.69**	**271**	*e*P		**Pn**		**06 50 45.3**	**+0.2**
SJS	**Escuela Geolog**	**4.96**	**273**⇑	*e*P		**Pn**		**06 50 50.1**	**+1.3**
HDC	**Heredia**	**5.02**	**273**⇑	*i*P		**Pn**		**06 50 50.8**	**+1.1**
HDC				*e*S		**Sn**		**06 51 46.5**	**0.0**
QCR	**Quepos**	**5.08**	**267**⇑	*i*P		**Pn**		**06 50 52.1**	**+1.7**
CGA2	**Cerro Gallo 2**	**5.37**	**273**⇑	*e*P		**Pn**		**06 50 55.9**	**+1.5**
CGA2				*e*S		**Sn**		**06 51 53.9**	**-1.2**
OCAC	**Ocana**	**5.83**	**104**	*e*P		**Pn**		**06 50 59.8**	**-0.9**
OCAC				*e*S		**Sn**		**06 52 04.0**	**-2.4**
JTS	**JuntasAbangare**	**5.87**	**276**⇑	*i*P		**Pn**		**06 51 02.8**	**+1.7**
JTS				*e*S		**Sn**		**06 52 05.0**	**-2.2**
JTS	**JuntasAbangare**	**5.87**	**276**	*e*Pn		**Pn**		**06 51 03.5**	**+2.3**
JCR	**Jicaral**	**6.00**	**271**⇑	*e*P		**Pn**		**06 51 05.5**	**+2.4**
VCR	**Vista de Mar**	**6.52**	**274**⇑	*i*P		**Pn**		**06 51 12.5**	**+2.3**
ROSC	**El Rosal**	**6.73**	**136**	*e*P		**Pn**		**06 51 16.1**	**+2.7**
ROSC	**El Rosal**	**6.73**	**136**	*e*Pn		**Pn**		**06 51 16.1**	**+2.7**
ROSC				S		**Sn**		**06 52 32.4**	**+3.5**
ROSC	**El Rosal**	**6.73**	**136**	P		**Pn**		**06 51 16.2**	**+2.9**
	comp=Z,48nm,0.3s,baz=346,slow=2.2,SNR=830								
ROSC				S		**Sn**		**06 52 32.4**	**+3.5**
	comp=Z,47nm,0.3s,baz=92,slow=20,SNR=6.2								
ROSC				LR		LR		06 54 05.9	
	comp=Z,49μm,18.5s,baz=345,slow=40								
PCJ	**Portland Cotta**	**8.14**	**13**	*i* PA		**Pn**		**06 51 32.7**	**+0.4**
MCJ	**Malvern**	**8.23**	**9**	*i* P		**Pn**		**06 51 34.0**	**+0.5**
SDV	**Santo Domingo**	**8.32**	**95**	*e*P		**Pn**		**06 51 33.6**	**-1.4**
SDV	**Santo Domingo**	**8.32**	**95**	*e*Pn		**Pn**		**06 51 33.6**	**-1.4**
SDV				*e*Sn		**Sn**		**06 51 03.0**	**-4.2**
YHJ	**Yallahs**	**8.46**	**17**	*i* P		**Pn**		**06 51 37.5**	**+0.8**
NEJ	**Negril**	**8.47**	**4**	*i* P		**Pn**		**06 51 37.2**	**+0.3**
HOJ	**Hope**	**8.49**	**15**	*i* P		**Pn**		**06 51 38.5**	**+1.4**
CVJ	**Coleyville**	**8.55**	**10**	*i* P		**Pn**		**06 51 38.8**	**+0.8**
MTDJ	**Mount Denham**	**8.55**	**10**‖	*i*P		**Pn**		**06 51 37.0**	**-0.9**
STH	**Stony Hill**	**8.55**	**14**	*i* PA		**Pn**		**06 51 38.1**	**+0.2**
STH				*i* S		Sn		06 53 06.4	-6.7
GWJ	**Greenwich**	**8.57**	**15**	*i* P		**Pn**		**06 51 38.1**	**-0.1**
MBJ	**Montego Bay**	**8.67**	**7**	*i* S		Sn		06 53 08.6	-7.5
BBJ	**Bamboo Saint A**	**8.75**	**11**	*i* P		**Pn**		**06 51 41.0**	**+0.3**
TGUH	**Tegucigalpa,Un**	**9.14**	**299**	*e*P		**Pn**		**06 51 46.6**	**+0.6**
TGUH				*e*S		Sn		06 53 16.1	-11
TGUH	**Tegucigalpa,Un**	**9.14**	**299**	*e*Pn		**Pn**		**06 51 47.8**	**+1.9**
CNCH	**Conchagua**	**9.32**	**293**	*e*P		**Pn**		**06 51 50.7**	**+2.2**
OTAV	**Otavalo**	**9.47**	**177**⇑	*i*P		**Pn**		**06 51 52.6**	**+1.6**
OTAV				*e*P		**Pn**		**06 51 53.2**	**+2.3**
OTAV	**Otavalo**	**9.47**	**177**	*e*Pn		**Pn**		**06 51 53.3**	**+2.3**
LMGC	**Las Mercedes**	**10.44**	**11**	*e*		**Pn**		**06 52 02.6**	**-1.1**
LFRS	**El Faro**	**10.56**	**292**	*e*P		**Pn**		**06 52 08.1**	**+2.5**
RCC	**Rio Carpintero**	**10.68**	**17**	*e*		**Pn**		**06 52 07.5**	**+0.5**
SNET	**Serv Nac Est T**	**10.73**	**292**	AML		AML		06 52 25.8	
	comp=Z,269nm,0.6s								
BOQS	**Boqueron**	**10.79**	**292**	*e*P		**Pn**		**06 52 10.5**	**+1.7**
GTBY	**Guantanamo Bay**	**10.80**	**20**	*e*Pn		**Pn**		**06 52 09.7**	**+1.1**
	comp=Z,8μm,1.3s			

SJG **San Juan** 15.00 55 *e*P Pn 06 53 05.8 +0.2
SJG **San Juan** 15.00 55 *e*Pn Pn 06 53 01.8 -3.9
HUMP **Col San Antoni** 15.26 55 *e*Pn Pn 06 53 04.3 -4.7
comp=Z,5µm,1.6s
PAYG **Puerto Ayora** 15.27 228 *e*P Pn 06 53 09.1 -0.1
PAYG *e*S S 06 56 08.2 -3.7
PAYG **Puerto Ayora** 15.27 228 *e*P P 06 53 15.3 +2.1
comp=Z,1µm,1.6s
CBYP **Canovanas** 15.32 55 *e*Pn Pn 06 53 06.1 -3.8
comp=Z,4µm,1.5s
MTP **Monte Pirata** 15.47 56 *e*Pn Pn 06 53 07.9 -3.9
comp=Z,6µm,1.5s
PTP **Ponta Puerca** 15.49 56 *e*P x 06 50 37.2
CDVI **St. Croix** 15.96 59 *e*Pn Pn 06 53 13.0 -5.0
comp=Z,4µm,1.4s
STVI **Saint Thomas** 16.09 56 *e*Pn Pn 06 53 16.6 -3.1
comp=Z,4µm,1.6s
ATAH **Atahualpa** 16.79 178 P Pn 06 53 29.6 +0.7
ATAH **Atahualpa** 16.79 178 P Pn 06 53 29.6 +0.7
comp=Z,2.5nm,0.3s,baz=353,slow=8.7,SNR=211
ATAH LR LR 07 00 46.0
comp=Z,10µm,20.4s,baz=5.0,slow=40
ALNG **Atlantic LNG** 17.08 87 *e* Pn 06 53 27.9 -4.3
BUAY **Buenos Aires** 17.08 87 *e* Pn 06 53 30.3 -1.9
GRW **Mount Saint Ca** 17.21 80 *e*P Pn 06 53 32.6 -1.3
GRGR **Grenville** 17.22 81 *e*P Pn 06 53 32.3 -1.6
comp=Z,5µm,1.1s
GRHS **Sauteurs** 17.24 80 *e*P Pn 06 53 31.9 -2.3
GRSS **Sisters** 17.27 80 *e*P Pn 06 53 27.9 -6.7
TPP **Pointe-a-Pierr** 17.31 87 *e*P Pn 06 53 34.0 -1.1
TRN **Trinidad (W)** 17.36 86 *e*P P 06 53 37.5 +1.0
NEV **Hard Times** 17.59 64 *e* Pn 06 53 35.9 -2.6
TBH **Brigand Hill** 17.69 86 *e*P Pn 06 53 38.7 -1.0
SVB **Belmont** 17.76 77 *e*P Pn 06 53 36.1 -4.4
BHS **Barnard House** 17.88 77 *e*P P 06 53 48.0 +5.8
HMG **Houelmont** 17.98 68 *e*P Pn 06 53 39.9 -3.4
TBG **Guadaloupe-3** 17.99 69 *e*P P 06 53 44.5 +1.1
PHG **Guadaloupe-2** 18.04 68 *e*P Pn 06 53 45.3 +1.2
BOT **Bacolet** 18.06 84 *e* Pn 06 53 47.6 +3.4
SLB **Belfond** 18.06 75 *e*P Pn 06 53 45.0 +0.7
DSHT **Scott's Head** 18.06 71 *e*P Pn 06 53 46.4 +2.1
DOG **Dongo Capester** 18.07 68 *e*P P 06 53 44.0 -0.4
MDN **Morne-Daniel** 18.07 70 *e*P Pn 06 53 46.2 +1.9
DBCT **Belle View Cho** 18.10 71 *e*P Pn 06 53 46.3 +1.5
MCLT **Moule a Chique** 18.13 76 *e*P P 06 53 44.9 -0.1
FDF **Fort de France** 18.15 72 *e*P P 06 53 41.9 -3.3
FDF **Fort de France** 18.15 72 *e*P P 06 53 44.7 -0.5
BPA **Boggy Peak** 18.19 65 *e*P P 06 53 44.3 -1.4
SLW **Petit Monier** 18.20 75 *e*P P 06 53 44.8 -0.9
TOSP **Speyside** 18.24 84 *e*P P 06 53 42.1 -4.1
SEG **Port Louis** 18.29 67 *e*P Pn 06 53 48.8 +1.8
MGG **Marie-Galante** 18.31 69 *e*P Pn 06 53 49.3 +2.1
ANWB **Willy Bob** 18.49 63 *e*P P 06 53 48.7 -0.2
comp=Z,1µm,1.2s
SFG **Saint Francois** 18.52 68 *e*P Pn 06 53 52.1 +2.3
DEG **La Desirade** 18.67 68 *e*P P 06 53 50.1 -0.8
BBGH **Gun Hill** 19.37 78 *e*P Pn 06 54 00.2 +0.2
comp=Z,3µm,1.3s
NNA **Nana** 21.71 174 *e*P P 06 54 23.9 0.0
comp=Z,3µm,1.4s
NNA LR LR
comp=Z,9µm,20.0s
TIGA **Tifton** 21.99 350 ⇑P P 06 54 29.2 +2.5
baz=22
BRAL **Brewton** 22.44 342 *e*P P 06 54 35.4 +3.9
comp=Z,3µm,1.6s
BRAL LR LR
comp=Z,8µm,20.0s
NHSC **New Hope** 23.27 358 *e*P P 06 54 42.0 +2.0
comp=Z,2µm,1.4s
NHSC LR LR
comp=Z,13µm,19.0s
LRAL **Lakeview Retre** 24.31 344 *e*P P 06 54 51.9 +2.2
comp=Z,374nm,1.3s
LRAL LR LR
comp=Z,11µm,21.0s
SAML **Samuel** 24.37 139 *e*P P 06 54 48.7 -1.7
comp=Z,237nm,0.9s
SAML LR LR
comp=Z,10µm,22.0s
VBMS **Vicksburg** 24.76 336 *e*P P 06 54 56.1 +2.3
comp=Z,2µm,1.5s
VBMS LR LR
comp=Z,5µm,20.0s
KVTX **Kingsville** 25.09 317 *e*P P 06 54 59.5 +2.6
comp=Z,976nm,1.1s
KVTX LR LR
comp=Z,9µm,19.0s
KMSC **Kings Mountain** 25.36 356 ⇓P P 06 55 01.5 +2.3
baz=26,SNR=48
CNNC **Cliffs of the** 25.39 2 *e*P P 06 55 01.8 +2.3
comp=Z,1µm,1.9s
CNNC LR LR
comp=Z,23µm,19.0s
CPCT **Cooper Cave** 26.07 350 *e*P P 06 55 08.4 +2.7
BBSR **BB Station** 26.12 28 *e*P P 06 55 07.2 +1.1
comp=Z,123nm,1.3s
BBSR LR LR
comp=Z,9µm,20.0s
TKL **Tuckaleechee C** 26.15 351 *e*P P 06 55 08.8 +2.3
TKL **Tuckaleechee C** 26.15 351 P P 06 55 08.7 +2.3
comp=Z,37nm,0.8s,baz=165,slow=10,SNR=36
TKL LR LR 07 05 44.6
comp=Z,11µm,18.1s,baz=167,slow=37
TZTN **Tazewell** 26.99 352 *e*P P 06 55 16.4 +2.4
comp=Z,652nm,1.4s
ARE **Arequipa** 27.09 164 ⇓*i*P P 06 55 17.0 +1.6
ARE **Arequipa** 27.09 164 ⇓*i*P P 06 55 17.0 +1.6
732A **Laxson Ranch,** 27.25 317 ⇑P P 06 55 16.9 +0.4
baz=28,SNR=60
732A ⇓S S 06 59 53.4 +1.0
baz=28
732A ⇓S S 06 59 53.4 +1.0
baz=28
732A ⇓S S 06 59 53.4 +1.0
baz=28
BLA **Blacksburg** 27.37 358 *e*P P 06 55 19.9 +2.5
BLA pmax pmax
comp=Z,412nm,1.2s
BLA MLR MLR
comp=Z,17µm,19.0s
BLA **Blacksburg** 27.37 358 *e*P P 06 55 19.9 +2.5
comp=Z,412nm,1.2s
BLA LR LR
comp=Z,17µm,19.0s
WVT **Waverly** 27.45 344 *e*P P 06 55 19.2 +1.1
WVT pmax pmax
comp=Z,195nm,1.2s
WVT **Waverly** 27.45 344 *e*P P 06 55 19.2 +1.1
comp=Z,194nm,1.2s
632A **Uvalde** 27.63 318 ⇑P P 06 55 20.8 +0.9
baz=28,SNR=93
HALT **Halls** 27.68 342 *e*P P 06 55 21.1 +0.9
UALR **University of** 27.73 336 *e*P P 06 55 22.3 +1.7
comp=Z,2µm,2.8s
HBAR **Harrisburg** 27.79 339 *e*P P 06 55 22.8 +1.7
JSRW **J. Sargeant Re** 27.84 2 *e*P P 06 55 23.6 +2.1
UTMT **University of** 27.94 343 *e*P P 06 55 24.1 +1.7
comp=Z,316nm,1.0s
GNAR **Gosnell** 27.95 341 *e*P P 06 55 24.7 +2.2
comp=Z,4µm,1.3s
WHTX **Lake Whitney** 27.95 325 ⇑P P 06 55 23.6 +1.0
baz=28,SNR=10
GLAT **Glass** 28.00 342 *e*P P 06 55 24.5 +1.5
LPAZ **La Paz** 28.03 157 *e*P P 06 55 23.8 -0.3
comp=Z,268nm,1.1s
LPAZ **La Paz** 28.03 157 P P 06 55 23.8 -0.3
comp=Z,146nm,1.1s,baz=339,slow=9.0,SNR=78
LPAZ LR LR 07 07 43.9
comp=Z,13µm,21.6s,baz=89,slow=39
MIAR **Mount Ida** 28.05 334 *e*P P 06 55 24.4 +0.9
MIAR pmax pmax
comp=Z,318nm,1.5s
MIAR MLR MLR
comp=Z,5µm,22.0s
MIAR **Mount Ida** 28.05 334 *e*P P 06 55 24.4 +0.9
comp=Z,318nm,1.5s
MIAR LR LR
comp=Z,5µm,22.0s
631A **Perdido Creek** 28.10 317 ⇑P P 06 55 24.4 +0.4
baz=28,SNR=65
532A **Rocksprings** 28.12 319 ⇑P P 06 55 25.3 +1.0
baz=28,SNR=64
JCT **Junction City** 28.29 320 *e*P P 06 55 26.1 +0.4
JCT pmax pmax
comp=Z,277nm,1.4s
JCT MLR MLR
comp=Z,4µm,20.0s
JCT **Junction City** 28.29 320 *e*P P 06 55 26.1 +0.4
comp=Z,277nm,1.4s
JCT LR LR
comp=Z,4µm,20.0s
JCT **Junction City** 28.29 320 ⇓P P 06 55 26.2 +0.4
baz=28,SNR=14
CBN **Corbin** 28.37 3 *e*P P 06 55 28.4 +2.2
comp=Z,561nm,1.7s
CBN LR LR
comp=Z,9µm,19.0s
PARMO **Parma** 28.50 342 *e*P P 06 55 29.1 +1.6
432A **Menard** 28.55 320 ⇓P P 06 55 28.4 +0.3
baz=29,SNR=16
530A **Rocksprings** 28.56 318 ⇓P P 06 55 29.1 +0.9
baz=29,SNR=45
332A **Millersview** 28.87 321 ⇑P P 06 55 31.2 +0.3
baz=29,SNR=38
431A **Sonora** 28.94 319 ⇑P P 06 55 32.2 +0.6
baz=29,SNR=37
530A **J-C Ranch, Com** 29.08 317 ⇓P P 06 55 34.0 +1.2
baz=29,SNR=98
WCI **Wyandotte Cave** 29.10 348 *e*P P 06 55 34.7 +1.9
WCI pmax pmax
comp=Z,70nm,0.6s
WCI **Wyandotte Cave** 29.10 348 *e*P P 06 55 34.7 +1.9
comp=Z,70nm,0.6s
USIN **University of** 29.15 346 *e*P P 06 55 35.2 +2.0
comp=Z,450nm,0.6s
232A **Coleman** 29.16 322 ⇑P P 06 55 34.1 +0.6
baz=29,SNR=28
331A **San Angelo** 29.24 320 ⇑P P 06 55 34.6 +0.4
baz=30,SNR=71
SIUC **Southern Illin** 29.32 343 *e*P P 06 55 36.2 +1.4
comp=Z,158nm,0.8s
430A **Baggett Ranch,** 29.42 319 ⇓P P 06 55 36.1 +0.3
baz=30,SNR=19
SDMD **Soldier's Deli** 29.60 3 *e*P P 06 55 39.8 +2.6
comp=Z,326nm,1.5s
231A **Bronte** 29.60 321 ⇑P P 06 55 37.6 +0.3
baz=30,SNR=17
529A **Stev Forest Ra** 29.66 316 ⇓P P 06 55 38.6 +0.7
baz=30,SNR=74
ABTX **Abilene, Hawle** 29.68 323 ⇓P P 06 55 38.7 +0.7
baz=30,SNR=28
628A **Black Gap, Mar** 29.73 315 ⇑P P 06 55 40.1 +1.5
baz=30,SNR=103
429A **Davenport Ranc** 29.75 318 ⇑P P 06 55 39.2 +0.5
baz=30,SNR=72
330A **Mertzon** 29.79 320 ⇑P P 06 55 39.1 +0.1
baz=30,SNR=22
OLIL **Olney** 29.98 346 *e*P P 06 55 42.3 +1.7
comp=Z,388nm,1.1s
BLO **Bloomington** 30.05 348 *e*P P 06 55 43.3 +2.1
BLO pmax pmax
comp=Z,344nm,1.0s
BLO **Bloomington** 30.05 348 *e*P P 06 55 43.3 +2.1
comp=Z,344nm,1.0s
627A **Terlingua Ranc** 30.06 314 ⇑P P 06 55 43.0 +1.4
baz=30,SNR=286
528A **Cox Ranch, San** 30.07 316 ⇑P P 06 55 42.5 +0.9
baz=30,SNR=106
230A **Sterling City** 30.07 320 ⇓P P 06 55 42.0 +0.5
baz=30,SNR=18
Z32A **Haskell** 30.07 324 ⇑P P 06 55 42.4 +0.9
baz=30,SNR=64
131A **Roby** 30.16 322 ⇑P P 06 55 43.1 +0.8
baz=30,SNR=16
TUL1 **Tulsa** 30.18 332 ⇑P P 06 55 43.3 +0.9
baz=30,SNR=30
TXAR **Lajitas Array** 30.19 314 P P 06 55 44.0 +1.3
TXAR **Lajitas Array** 30.19 314 P P 06 55 44.0 +1.3
comp=Z,14nm,0.6s,baz=135,slow=8.8,SNR=232
MVL **Millersville** 30.21 4 *e*P P 06 55 45.5 +2.9
comp=Z,439nm,1.6s
428A **Kincaid Ranch,** 30.34 317 ⇓P P 06 55 45.3 +1.3
baz=31,SNR=45
329A **Wagon Wheel Ra** 30.36 319 ⇑P P 06 55 44.6 +0.5
baz=31,SNR=42
130A **Snyder** 30.45 322 ⇓P P 06 55 45.4 +0.5
baz=31,SNR=9.8
Z31A **Sharp Cattle R** 30.47 323 ⇑P P 06 55 45.7 +0.7
baz=31,SNR=24
SLM **Saint Louis** 30.47 343 *e*P P 06 55 46.4 +1.5
SLM pmax pmax
comp=Z,174nm,0.9s
SLM **Saint Louis** 30.47 343 *e*P P 06 55 46.4 +1.5
comp=Z,174nm,0.9s
ACSO **Alum Creek Sta** 30.56 354 *e*P P 06 55 47.8 +2.2
comp=Z,470nm,1.8s
ACSO LR LR
comp=Z,15µm,19.0s
Y32A **R-V Farms, Ver** 30.56 325 ⇑P P 06 55 46.7 +0.9
baz=31,SNR=13
229A **Bryant Ranch,** 30.56 320 ⇓P P 06 55 46.5 +0.6
baz=31,SNR=27
527A **Woodward Ranch** 30.63 315 ⇓P P 06 55 47.6 +1.0
baz=31,SNR=62
626A **Big Bend Ranch** 30.65 314 ⇓P P 06 55 47.9 +1.2
baz=31,SNR=88
WMOK **Wichita Mounta** 30.74 327 *e*P P 06 55 47.5 +0.1
WMOK pmax pmax
comp=Z,133nm,1.2s
WMOK MLR MLR
comp=Z,4µm,19.0s
WMOK **Wichita Mounta** 30.74 327 *e*P P 06 55 47.5 +0.1
comp=Z,133nm,1.2s
WMOK LR LR
comp=Z,4µm,19.0s
328A **Wristen Ranch,** 30.83 318 ⇓P P 06 55 48.8 +0.5
baz=31,SNR=38
526A **Mary Lane Ranc** 30.91 314 ⇓P P 06 55 50.3 +1.2
baz=31,SNR=55
Y31A **Rekieta Farm,** 31.00 324 ⇑P P 06 55 50.8 +1.2
baz=31,SNR=32
Z30A **Sanderson Ranc** 31.03 322 ⇓P P 06 55 50.5 +0.5
baz=31,SNR=34
129A **Stewart Farms,** 31.04 321 ⇓P P 06 55 50.8 +0.7
baz=31,SNR=20
228A **UT Block 9, Go** 31.16 319 ⇓P P 06 55 51.2 0.0
baz=31,SNR=13
426A **McDonald Obser** 31.23 315 ⇓P P 06 55 53.0 +1.0
baz=31,SNR=81
CPNY **Central Park** 31.24 7 *e*P P 06 55 54.1 +2.5
comp=Z,252nm,1.4s
327A **Balmorhea Ranc** 31.28 317 ⇓P P 06 55 53.2 +0.9
baz=32
Y30A **Stafford Cattl** 31.30 323 ⇓P P 06 55 53.2 +0.8
baz=32,SNR=26
X31A **McDonald Ranch** 31.32 325 ⇓P P 06 55 53.1 +0.6
baz=32,SNR=26
SFIN **Scholer Farm** 31.33 348 ⇑P P 06 55 53.5 +1.1
baz=32,SNR=24
Z29A **Hungry Hill Ra** 31.36 322 ⇓P P 06 55 53.5 +0.6
baz=32,SNR=23
128A **Castleberry Fa** 31.42 320 ⇑P P 06 55 54.1 +0.6
baz=32,SNR=23
PAL **Palisades** 31.45 7 *e*P P 06 55 55.9 +2.4
PAL **Palisades** 31.45 7 *e*P P 06 55 55.9 +2.4
comp=Z,2µm,1.7s
227A **Bennet, Jal** 31.55 318 ⇑P P 06 55 55.1 +0.5
baz=32,SNR=14
326A **Caldwell Ranch** 31.58 316 ⇓P P 06 55 55.6 +0.7
baz=32,SNR=35
X30A **Coker Ranch, T** 31.70 324 ⇑P P 06 55 56.8 +1.0
baz=32,SNR=48
W31A **Holland Ranch,** 31.71 326 ⇑P P 06 55 56.4 +0.5
baz=32,SNR=20
Y29A **Porterfield Fa** 31.75 322 ⇓P P 06 55 57.3 +0.9
baz=32,SNR=68
ALLY **Alegheny Colle** 31.79 358 *e*P P 06 55 58.8 +2.4
comp=Z,295nm,1.0s
Z28A **Tucker Farm, M** 31.80 321 ⇓P P 06 55 57.2 +0.4
baz=32,SNR=26
YLE **Yale** 31.89 9 *e*P P 06 55 59.7 +2.3
comp=Z,2µm,1.5s
425A **Indio Mountain** 31.96 315 ⇓P P 06 55 59.1 +0.8
baz=32,SNR=14
HDIL **Hopedale** 32.00 345 *e*P P 06 55 59.2 +0.8
comp=Z,252nm,1.0s
HDIL LR LR
comp=Z,14µm,19.0s
127A **Arkansas Junct** 32.02 319 ⇓P P 06 55 58.7 -0.1
baz=32,SNR=8.7
W30A **Crocket Farms** 32.06 325 ⇑P P 06 55 59.9 +0.9
baz=32
V31A **Spring Creek L** 32.09 327 ⇑P P 06 56 00.5 +1.2
baz=32,SNR=47
Y28A **McKinney Farm,** 32.13 322 ⇓P P 06 56 00.2 +0.5
baz=32,SNR=27
226B **Tecolote Peak,** 32.17 317 ⇓P P 06 56 01.0 +0.9
baz=32,SNR=57
X29A **Tulia** 32.18 323 ⇓P P 06 56 00.8 +0.7
baz=32,SNR=6.3
325A **Bean Ranch, Si** 32.29 316 ⇑P P 06 56 01.9 +0.6
baz=32
Z27A **Tatum** 32.34 320 ⇓P P 06 56 01.8 +0.2
baz=33,SNR=15
126A **Clayton Basin,** 32.43 318 ⇑P P 06 56 02.7 +0.4
baz=33
BINY **Binghamton** 32.43 4 *e*P P 06 56 05.0 +2.9
comp=Z,668nm,1.5s
BINY LR LR
comp=Z,16µm,20.0s
AMTX **Amarillo** 32.47 324 *e*P P 06 56 03.1 +0.4
comp=Z,261nm,1.4s
MSTX **Muleshoe** 32.50 321 ⇓P P 06 56 03.3 +0.4
baz=33,SNR=47
X28A **Dimmitt** 32.52 323 ⇓P P 06 56 03.5 +0.4
baz=33,SNR=14
V30A **Spur Ranch, Mi** 32.54 326 ⇑P P 06 56 04.3 +1.0
baz=33
U31A **Nine Bar Ranch** 32.55 328 ⇑P P 06 56 04.0 +0.7
baz=33
W29A **Amarillo** 32.62 324 ⇓P P 06 56 04.6 +0.6
baz=33,SNR=10
225A **Deer Hill, Car** 32.63 317 ⇓P P 06 56 05.3 +1.1
baz=33,SNR=32
Y27A **Causey** 32.68 321 ⇓P P 06 56 05.0 +0.4
baz=33,SNR=38
324A **Moseley Ranch,** 32.69 315 ⇑P P 06 56 05.6 +0.9
baz=33,SNR=115
BRYW **Bryant College** 32.71 10 *e*P P 06 56 06.9 +2.3
comp=Z,3µm,2.1s
MNTX **Cornudas Mount** 32.77 316 *e*P P 06 56 05.9 +0.7
comp=Z,105nm,1.0s
MNTX LR LR
comp=Z,2µm,21.0s
Z26A **Caprock** 32.80 319 ⇓P P 06 56 05.9 +0.3
baz=33,SNR=23
125A **Gardner Draw,** 32.85 318 ⇓P P 06 56 06.9 +0.8
baz=33,SNR=35
T31A **Randall Ranch,** 33.01 329 ⇑P P 06 56 07.9 +0.6
baz=33,SNR=17
W28A **Vega** 33.04 324 ⇓P P 06 56 07.9 +0.2
baz=33
224A **Cornudas Mount** 33.09 316 ⇑P P 06 56 09.1 +0.9
baz=33,SNR=74
V29A **Stinnett** 33.09 325 ⇓P P 06 56 09.6 +1.5
baz=33,SNR=30
U30A **WK&E Inc. Balk** 33.09 327 ⇓P P 06 56 09.3 +1.2
baz=33,SNR=21
Y26A **Elida** 33.12 320 ⇑P P 06 56 08.9 +0.5
baz=33,SNR=20
X27A **F and S Farms,** 33.15 322 ⇑P P 06 56 09.0 +0.3
baz=33,SNR=16
TRY **Troy** 33.18 7 *e*P P 06 56 11.4 +2.8
comp=Z,1µm,1.5s
KSU1 **Kansas State U** 33.19 335 *e*P P 06 56 09.5 +0.7
comp=Z,361nm,1.0s
KSU1 LR LR
comp=Z,3µm,22.0s
WES **Weston** 33.20 10 *e*P P 06 56 11.7 +2.9
WES pmax pmax
comp=Z,2µm,1.5s
WES **Weston** 33.20 10 *e*P P 06 56 11.7 +2.9
comp=Z,2µm,1.5s
HRV **Adam Dziewonsk** 33.28 10 *e*P P 06 56 12.0 +2.5
HRV pmax pmax
comp=Z,307nm,1.2s
HRV **Adam Dziewonsk** 33.28 10 *e*P P 06 56 12.0 +2.5
comp=Z,306nm,1.2s
Z25A **Roswell** 33.28 319 ⇑P P 06 56 10.8 +1.0
baz=34,SNR=53
S31A **Mullinville** 33.32 330 ⇓P P 06 56 11.1 +1.1
baz=34,SNR=33
U29A **Oasis Ranch, S** 33.37 326 ⇓P P 06 56 11.5 +1.0
baz=34
V28A **Channing** 33.40 324 ⇑P P 06 56 11.5 +0.6
baz=34,SNR=8.8
124A **Stringfield Ra** 33.41 317 ⇑P P 06 56 12.4 +1.3
baz=34,SNR=37
W27A **Bowe Ranch, En** 33.41 323 ⇓P P 06 56 11.4 +0.4
baz=34,SNR=21
T30A **Plains** 33.42 328 ⇓P P 06 56 12.0 +1.1
baz=34,SNR=8.6
X26A **CR and CF Fran** 33.52 321 ⇑P P 06 56 12.6 +0.7
baz=34,SNR=44
LVC **Limon Verde** 33.66 163 *e*P P 06 56 15.0 +1.7
comp=Z,1µm,1.3s
LVC LR LR
comp=Z,7µm,22.0s
223A **Chaparral, Ant** 33.67 315 ⇑P P 06 56 14.0 +0.8
baz=34
Y25A **Mesa, Roswell** 33.67 319 ⇓P P 06 56 14.1 +0.9
baz=34,SNR=41
Z24A **Sheeppen Canyo** 33.74 318 ⇑P P 06 56 15.1 +1.2
baz=34,SNR=30
V27A **Dan Oppiter Fa** 33.76 324 ⇓P P 06 56 14.8 +0.8
baz=34,SNR=59
ACCN **Adirondack Com** 33.83 7 *e*P P 06 56 17.0 +2.7
comp=Z,271nm,1.4s
S30A **Montezuma** 33.83 329 ⇓P P 06 56 15.6 +1.1
baz=34,SNR=28
U28A **Mallet** 33.85 325 ⇓P P 06 56 15.3 +0.6
baz=34,SNR=20
W26A **Owens Ranch, T** 33.85 322 ⇑P P 06 56 15.6 +0.8
baz=34,SNR=19
R31A **Burdett** 33.86 330 ⇑P P 06 56 15.9 +1.2
baz=34,SNR=34
T29A **Hugoton** 33.90 327 ⇑P P 06 56 16.3 +1.2
baz=34,SNR=18
123A **Bell Site, Whi** 33.92 316 ⇑P P 06 56 17.1 +1.7
baz=34,SNR=18
X25A **Clemmons Ranch** 34.04 320 ⇓P P 06 56 17.5 +1.1
baz=34,SNR=40
Y24A **Capitan** 34.15 319 ⇑P P 06 56 18.7 +1.2
baz=34,SNR=56
S29A **Ulysses** 34.15 328 ⇑P P 06 56 18.7 +1.4
baz=34,SNR=26
222A **Williams Famil** 34.20 315 ⇑P P 06 56 18.9 +1.0
baz=34
FFD **Franklin Falls** 34.20 10 *e*P P 06 56 20.4 +2.9
comp=Z,752nm,1.3s
U27A **Thompson Grove** 34.22 325 ⇓P P 06 56 18.9 +1.0
baz=34,SNR=44
R30A **Dighton** 34.23 330 ⇑P P 06 56 19.5 +1.6
baz=34,SNR=66
Z23A **Rita Site, Whi** 34.27 317 ⇑P P 06 56 20.0 +1.6
baz=34,SNR=16
T28A **Walsh** 34.32 326 ⇓P P 06 56 19.6 +0.8
baz=35
HNH **Hanover** 34.33 9 *e*P P 06 56 21.6 +3.0
comp=Z,194nm,1.1s
NCB **Newcomb** 34.34 6 *e*P P 06 56 21.4 +2.7
comp=Z,853nm,1.4s
NCB LR LR
comp=Z,6µm,19.0s
V26A **Tequesquite Ra** 34.34 323 ⇑P P 06 56 20.0 +1.0
baz=35,SNR=46
Q31A **Ellis** 34.36 331 ⇓P P 06 56 20.2 +1.1
baz=35,SNR=24
W25A **X Bar L Ranch,** 34.36 321 ⇓P P 06 56 20.4 +1.1
baz=35,SNR=54
SCIA **State Center** 34.38 341 *e*P P 06 56 19.8 +0.7
comp=Z,310nm,1.0s
SCIA LR LR
comp=Z,3µm,19.0s
JFWS **Jewell Farm** 34.46 345 *e*P P 06 56 20.2 +0.4
JFWS pmax pmax
comp=Z,180nm,0.6s
JFWS MLR MLR
comp=Z,13µm,19.0s
JFWS **Jewell Farm** 34.46 345 *e*P P 06 56 20.2 +0.4
comp=Z,180nm,0.6s
JFWS LR LR
comp=Z,13µm,19.0s
122A **Conniff Cattle** 34.46 316 ⇓P P 06 56 22.2 +2.1
baz=35,SNR=21
MDV **Middlebury** 34.49 7 *e*P P 06 56 22.5 +2.5
S28A **Manter** 34.55 327 ⇓P P 06 56 21.9 +1.2
baz=35,SNR=49
X24A **Lazy VL Ranch,** 34.55 320 ⇑P P 06 56 22.2 +1.3
baz=35,SNR=27
Y23A **Lovelace Mesa,** 34.56 318 ⇑P P 06 56 22.4 +1.4

baz=35,SNR=30
T27A Campo 34.61 326 ⇓P P 06 56 22.0 +0.7
baz=35,SNR=29
221A Mesquite Ranch 34.62 314 ⇑P P 06 56 23.7 +2.2
baz=35,SNR=15
U26A Atchley Ranch, 34.73 324 ⇑P P 06 56 23.7 +1.3
baz=35,SNR=59
Q30A Quinter 34.74 330 ⇓P P 06 56 23.6 +1.3
baz=35,SNR=22
Z22A Elephant Butte 34.76 316 ⇑P P 06 56 24.8 +2.1
baz=35,SNR=79
P31A Stockton 34.77 332 ⇓P P 06 56 23.4 +0.9
baz=35,SNR=41
R29A Marienthal 34.77 329 ⇑P P 06 56 24.1 +1.5
baz=35,SNR=49
320A Kipp Ranch, An 34.80 312 ⇓P P 06 56 25.5 +2.4
baz=35,SNR=71
V25A Rancho No Teng 34.87 322 ⇓P P 06 56 25.2 +1.5
baz=35
LBNH Lisbon 34.91 9 *eP* P 06 56 26.4 +2.8
LBNH pmax pmax
comp=Z,463nm,1.4s
LBNH MLR MLR
comp=Z,9µm,21.0s
LBNH Lisbon 34.91 9 *eP* P 06 56 26.4 +2.8
LBNH comp=Z,463nm,1.4s LR LR
comp=Z,9µm,21.0s
121A Cookes Peak, D 34.91 315 ⇑P P 06 56 26.3 +2.3
baz=35,SNR=62
W24A Lazy 6 Ranch, 34.95 321 ⇓P P 06 56 25.9 +1.6
baz=35,SNR=42
LONY Lake Ozonia 34.95 6 *eP* P 06 56 26.4 +2.4
comp=Z,390nm,1.3s
LONY LR LR
comp=Z,7µm,22.0s
Q29A Oakley 35.05 329 ⇓P P 06 56 26.4 +1.4
baz=35
X23A Hourglass Bar 35.05 319 ⇓P P 06 56 26.7 +1.5
baz=35,SNR=18
R28A Tribune 35.06 328 ⇓P P 06 56 26.5 +1.4
baz=35,SNR=33
BNM Barren Site 35.07 318 *eP* P 06 56 26.4 +0.9
comp=Z,559nm,1.3s
220A Playas Peak, P 35.10 313 ⇓P P 06 56 27.8 +2.2
baz=35,SNR=128
U25A Circle Dot Ran 35.12 323 ⇑P P 06 56 27.3 +1.5
baz=35,SNR=45
S27A Las Animas 35.16 326 ⇑P P 06 56 27.0 +0.9
baz=35
Y22A Socorro 35.16 317 ⇓P P 06 56 27.8 +1.6
baz=35,SNR=42
LPM Los Pinos Moun 35.17 318 *eP* P 06 56 27.8 +1.5
T26A Comanche Natio 35.18 325 ⇑P P 06 56 27.5 +1.2
baz=35,SNR=47
P30A Selden 35.19 331 ⇑P P 06 56 27.4 +1.2
baz=36,SNR=24
V24A Rampart Ranch, 35.20 321 ⇑P P 06 56 28.4 +1.9
baz=35,SNR=79
Y22D IRIS PASSCAL I 35.22 318 ⇓P P 06 56 28.5 +1.8
baz=35
FRNY Flat Rock 35.27 7 *eP* P 06 56 29.3 +2.6
comp=Z,1µm,1.7s
Z21A St. Cloud Mine 35.27 316 ⇑P P 06 56 29.4 +2.2
baz=36,SNR=56
GLMI Grayling 35.28 353 *eP* P 06 56 28.0 +1.2
comp=Z,242nm,0.9s
GLMI LR LR
comp=Z,18µm,19.0s
MSNY Massena 35.30 5 *eP* P 06 56 29.6 +2.6
comp=Z,3µm,1.4s
LENM Lemitar 35.31 318 *eP* P 06 56 29.0 +1.6
319A Douglas 35.37 312 ⇓P P 06 56 30.2 +2.2
baz=36,SNR=61
W23A Werner Place, 35.38 320 ⇑P P 06 56 29.8 +1.7
baz=36,SNR=28
S26A Kim 35.43 325 ⇓P P 06 56 30.0 +1.6
baz=36
ANMO Albuquerque 35.45 319 *eP* P 06 56 30.1 +1.5
comp=Z,176nm,0.9s
ANMO LR LR
comp=Z,3µm,21.0s
120A U Bar Ranch, L 35.52 314 ⇑P P 06 56 31.8 +2.5
baz=36,SNR=107
X22A Bernardo 35.54 318 ⇑P P 06 56 31.7 +2.3
baz=36,SNR=18
R27A Eads 35.54 327 ⇑P P 06 56 30.6 +1.4
baz=36,SNR=47
LAZ Ladron 35.56 318 *eP* P 06 56 31.2 +1.5
comp=Z,51nm,0.9s
P29A Atwood 35.57 330 ⇑P P 06 56 30.5 +1.0
baz=36,SNR=14
O30A MW Ranch, Wils 35.60 332 ⇓P P 06 56 30.4 +0.6
baz=36,SNR=14
Q28A Sharon Springs 35.61 329 ⇓P P 06 56 31.2 +1.4
baz=36,SNR=36
T25A Trinidad 35.63 324 ⇑P P 06 56 32.3 +2.1
baz=36,SNR=56
U24A Moreno Valley 35.65 322 ⇓P P 06 56 33.0 +2.5
baz=36,SNR=14
Y21A Point of Rocks 35.68 317 ⇑P P 06 56 33.0 +2.2
baz=36,SNR=7.2
BGNE Belgrade 35.76 335 ⇓P P 06 56 31.4 +0.3
baz=36,SNR=10
V23A Ortiz Mt. (NFS 35.77 321 ⇓P P 06 56 33.5 +2.1
baz=36,SNR=47
W22A Albuquerque 35.79 319 ⇑P P 06 56 33.5 +1.9
baz=36
Z20A Nine Sixteen R 35.80 315 ⇑P P 06 56 34.0 +2.3
baz=36,SNR=107
R26A Arlington 35.90 326 ⇑P P 06 56 33.9 +1.5
baz=36,SNR=70
O29A 4D Ranch, Culb 35.91 331 ⇓P P 06 56 33.2 +0.8
baz=36
P28A Saint Francis 35.95 329 ⇑P P 06 56 34.3 +1.5
baz=36,SNR=40
KSCO Kaye Shedlock' 35.98 328 ⇑P P 06 56 34.7 +1.6
baz=36,SNR=21
S25A Robets Condova 36.00 325 ⇓P P 06 56 35.5 +2.2
baz=36,SNR=88
X21A Alamocita Cree 36.01 317 ⇓P P 06 56 35.6 +2.0
baz=36,SNR=103
Y20A Horse Springs, 36.10 316 ⇑P P 06 56 36.6 +2.3
baz=36,SNR=33
N30A Hueftle Ranch, 36.12 332 ⇓P P 06 56 34.7 +0.6
baz=36
U23A El Rito 36.15 321 ⇓P P 06 56 37.0 +2.3
baz=36,SNR=107
EMMW East Machias 36.24 14 *eP* P 06 56 37.3 +2.4
comp=Z,1µm,1.4s
R25A Fountain Ranch 36.26 325 ⇓P P 06 56 37.6 +2.1
baz=36,SNR=62
W21A San Fidel 36.32 318 ⇑P P 06 56 38.0 +1.8
baz=36,SNR=12
V22A San Miguel Ran 36.34 320 ⇓P P 06 56 38.1 +1.8
baz=37,SNR=20
P27A Ficken Ranch, 36.36 329 ⇑P P 06 56 38.0 +1.7
baz=37,SNR=44
N29A Votaw Ranch, W 36.38 332 ⇓P P 06 56 37.1 +0.7
baz=37,SNR=13
O28A Krutsinger Ran 36.39 330 ⇓P P 06 56 37.8 +1.4
baz=37,SNR=33
Q26A Hugo 36.39 327 ⇓P P 06 56 38.7 +2.0
baz=37,SNR=39
S24A Houchin Ranch, 36.44 324 ⇑P P 06 56 39.7 +2.5
baz=37,SNR=55
T23A Casias Ranch, 36.52 322 ⇓P P 06 56 40.2 +2.3
baz=37,SNR=65
X20A Quemado 36.55 317 ⇑P P 06 56 40.5 +2.4
baz=37,SNR=79
U22A Llaves 36.59 321 ⇑P P 06 56 40.8 +2.3
baz=37,SNR=89
M30A Dale-Ortello V 36.61 333 ⇑P P 06 56 38.5 +0.1
baz=37
SDCO Great Sand Dun 36.68 324 *eP* P 06 56 41.3 +2.1
comp=Z,3.4nm,0.4s
SDCO LR LR
comp=Z,4µm,21.0s
N28A Pribbeno Ranch 36.70 331 ⇑P P 06 56 40.2 +1.0
baz=37,SNR=13
V21A Milan 36.73 319 ⇑P P 06 56 41.9 +2.3
baz=37,SNR=140
P26A Davis Ranch, A 36.76 328 ⇓P P 06 56 41.4 +1.7
baz=37,SNR=19
Q25A Bedland, Calha 36.78 326 ⇓P P 06 56 41.7 +1.7
baz=37,SNR=18
R24A Sanders Place, 36.78 325 ⇑P P 06 56 42.5 +2.4
baz=37,SNR=165
O27A Beecher Island 36.78 329 ⇓P P 06 56 41.5 +1.6
baz=37,SNR=19
W20A Ramah 36.89 318 ⇓P P 06 56 43.0 +2.0
baz=37,SNR=46
M29A Burnside Ranch 36.90 332 ⇓P P 06 56 41.3 +0.5
baz=37,SNR=29
S23A Nye Farm, Mont 36.94 323 ⇓P P 06 56 44.0 +2.5
baz=37,SNR=15
TUC Tucson 36.94 312 *eP* P 06 56 43.2 +1.8
TUC pmax pmax
comp=Z,109nm,1.0s
TUC MLR MLR
comp=Z,5µm,19.0s
TUC Tucson 36.94 312 *eP* P 06 56 43.1 +1.8
comp=Z,110nm,1.0s
TUC LR LR
comp=Z,5µm,19.0s
T22A Edith 37.03 322 ⇑P P 06 56 44.1 +1.9
baz=37,SNR=26
U21A Nageezi 37.13 320 ⇑P P 06 56 44.9 +1.9
baz=37,SNR=49
OGNE Ogallala 37.14 331 *eP* P 06 56 44.3 +1.4
comp=Z,250nm,1.1s
OGNE LR LR
comp=Z,3µm,22.0s
OGNE Ogallala 37.14 331 ⇑P P 06 56 44.1 +1.2
baz=37,SNR=17
ECSD EROS Data Cent 37.15 339 *eP* P 06 56 42.3 -0.5
comp=Z,197nm,1.1s
ECSD LR LR
comp=Z,3µm,22.0s
P25A Willow Gulch B 37.16 327 ⇑P P 06 56 45.4 +2.2
baz=37,SNR=86
R23A Moffat 37.17 324 ⇑P P 06 56 45.7 +2.3
baz=37,SNR=83
M28A Bar X Bar Ranc 37.18 332 ⇑P P 06 56 44.1 +0.9
baz=37,SNR=9.3
COWI Conover 37.24 348 *eP* P 06 56 43.9 +0.3
comp=Z,136nm,1.2s
COWI LR LR
comp=Z,17µm,20.0s
O26A Horse Wrangler 37.25 329 ⇑P P 06 56 45.5 +1.6
baz=38,SNR=24
V20A Brimhall 37.27 319 ⇑P P 06 56 45.9 +1.7
baz=38,SNR=25
N27A Anderson Farm, 37.28 330 ⇑P P 06 56 45.3 +1.2
baz=38,SNR=18
SPMN St. Paul 37.28 344 ⇑P P 06 56 43.9 0.0
baz=38,SNR=92
L29A Maesberg Ranch 37.30 333 ⇓P P 06 56 44.7 +0.5
baz=38,SNR=27
Q24A Divide 37.31 326 ⇓P P 06 56 46.1 +1.5
baz=38,SNR=26
T21A Navajo Lake 37.41 321 ⇑P P 06 56 47.1 +1.7
baz=38,SNR=16
S22A 4UR Ranch, Cre 37.46 323 ⇑P P 06 56 48.2 +2.2
baz=38,SNR=134
X18A Snowflake 37.53 316 ⇑P P 06 56 48.6 +2.3
baz=38,SNR=72
P24A Kohler Place, 37.56 326 ⇓P P 06 56 48.4 +1.7
baz=38,SNR=7.1
O25A Wiggins 37.57 328 ⇑P P 06 56 48.3 +1.7
baz=38,SNR=8.4
N26A Koester Ranch, 37.64 329 ⇑P P 06 56 48.8 +1.7
baz=38,SNR=29
U20A Newcomb 37.65 319 ⇑P P 06 56 49.0 +1.7
baz=38,SNR=64
Q23A Hartsel 37.66 325 ⇓P P 06 56 49.3 +1.8
baz=38
W18A Petrified Fore 37.71 317 ⇓P P 06 56 50.3 +2.3
baz=38,SNR=33
L28A Connealy Angus 37.73 332 ⇑P P 06 56 48.5 +0.6
baz=38
R22A Saguache, Gunn 37.73 323 ⇓P P 06 56 50.5 +2.2
baz=38,SNR=76
M27A Reverse DX Ran 37.76 331 ⇑P P 06 56 49.3 +1.2
baz=38,SNR=7.3
K29A Lazy Trails An 37.79 334 ⇑P P 06 56 48.7 +0.4
baz=38
PQI Presque Isle 37.97 12 *eP* P 06 56 52.0 +2.4
comp=Z,2µm,1.6s
P23A Jefferson 37.98 325 ⇑P P 06 56 52.7 +2.3
baz=38,SNR=59
S21A Coal Bank Pass 37.99 322 ⇓P P 06 56 52.0 +1.6
baz=38,SNR=53
N25A Grover 38.07 329 ⇓P P 06 56 52.1 +1.3
baz=38
M26A McRoberts Ranc 38.08 330 ⇓P P 06 56 52.2 +1.3
baz=38
O24A Longmont 38.09 327 ⇑P P 06 56 53.0 +2.0
baz=38,SNR=28
MVCO Mesa Verde 38.15 321 *eP* P 06 56 53.1 +1.5
comp=Z,274nm,1.3s
MVCO LR LR
comp=Z,4µm,20.0s
MVCO Mesa Verde 38.15 321 ⇓P P 06 56 53.2 +1.6
baz=38,SNR=40
ISCO Idaho Springs 38.15 326 *eP* P 06 56 53.5 +1.8
ISCO pmax pmax
comp=Z,194nm,1.2s
ISCO MLR MLR
comp=Z,4µm,21.0s
ISCO Idaho Springs 38.15 326 *eP* P 06 56 53.5 +1.8
comp=Z,194nm,1.2s
ISCO LR LR
comp=Z,4µm,21.0s
ISCO Idaho Springs 38.15 326 ⇓P P 06 56 53.6 +1.8
baz=38,SNR=118
L27A T5 Ranch, Ells 38.16 332 ⇓P P 06 56 52.3 +0.8
baz=38
K28A Ten Mile Ranch 38.22 333 ⇓P P 06 56 52.6 +0.7
baz=38
Q22A Crested Butte, 38.25 324 ⇑P P 06 56 54.7 +2.1
baz=38,SNR=59
214A Organ Pipe Nat 38.28 310 ⇑P P 06 56 54.7 +2.2
baz=38,SNR=63
R21A Cimarron 38.30 323 ⇑P P 06 56 54.9 +2.0
baz=38,SNR=29
S20A Disappointment 38.45 321 ⇑P P 06 56 56.0 +1.9
baz=39,SNR=63
L26A Underwood Farm 38.48 331 ⇑P P 06 56 55.2 +1.0
baz=39,SNR=6.4
N24A Carr 38.49 328 ⇓P P 06 56 56.5 +2.1
baz=39,SNR=47
SMCO Snowmass 38.49 324 *eP* P 06 56 56.7 +2.0
comp=Z,366nm,1.5s
X16A Lo Mia Camp, P 38.50 315 ⇑P P 06 56 56.8 +2.2
baz=39,SNR=80
M25A Palm-Egli Farm 38.51 329 ⇑P P 06 56 56.1 +1.5
baz=39,SNR=7.7
K27A Flueckinger Fa 38.60 332 ⇑P P 06 56 56.0 +0.8
baz=39,SNR=24
O23A Lake Granby, G 38.61 326 ⇓P P 06 56 57.6 +2.1
baz=39,SNR=45
Q21A Lamborn Mesa, 38.62 323 ⇓P P 06 56 57.7 +2.2
baz=39,SNR=26
BRSD Miller 38.63 337 ⇓P P 06 56 54.7 -0.6
baz=39,SNR=23
P22A Eagle 38.65 325 ⇑P P 06 56 57.6 +1.8
baz=39,SNR=78
R20A Redvale 38.68 322 ⇓P P 06 56 58.3 +2.2
baz=39,SNR=68
J28A Allard Ranch, 38.73 334 ⇑P P 06 56 56.5 +0.3
baz=39,SNR=65
PV01 Paradox Valley 38.77 322 *eP* P 06 56 58.5 +1.7
comp=Z,2µm,1.1s
O22A Kremmling 38.92 326 ⇓P P 06 56 59.6 +1.4
baz=39,SNR=51
M24A Cheyenne 38.92 329 ⇓P P 06 56 59.9 +1.8
baz=39,SNR=24
L25A Engebretsen Ra 39.00 330 ⇑P P 06 57 00.2 +1.6
baz=39
K26A Motz Farm, Whi 39.04 331 ⇓P P 06 56 59.7 +0.8
baz=39,SNR=12
WUAZ Wupatki 39.04 316 *eP* P 06 57 01.2 +2.1
comp=Z,262nm,1.1s
WUAZ LR LR
comp=Z,2µm,20.0s
WUAZ Wupatki 39.04 316 ⇑P P 06 57 01.3 +2.2
baz=39,SNR=156
Z14A Wintersburg 39.05 312 ⇓P P 06 57 00.9 +2.0
baz=39,SNR=23
N23A Red Feather La 39.10 327 ⇓P P 06 57 01.6 +2.0
baz=39,SNR=25
Q20A Ridgley Place, 39.12 323 ⇑P P 06 57 01.5 +1.8
baz=39,SNR=80
PHWY Pilot Hill 39.13 328 *eP* P 06 57 01.5 +1.6
comp=Z,113nm,1.0s
PV04 Paradox Valley 39.13 322 *eP* P 06 57 01.8 +1.9
I28A Midland 39.16 334 ⇑P P 06 56 59.8 0.0
baz=39
PV10 Paradox Valley 39.20 322 *eP* P 06 57 01.6 +1.1
comp=Z,3µm,0.9s
K25A Mack Ranch, Ha 39.30 331 ⇑P P 06 57 02.4 +1.2
baz=40,SNR=7.4
N22A Wattenberg Ran 39.31 326 ⇑P P 06 57 03.2 +1.9
baz=40,SNR=20
LCO Las Campanas 39.37 168 *eP* P 06 57 03.1 +1.2
comp=Z,571nm,1.5s
LCO LR LR
comp=Z,4µm,20.0s
113A Mohawk Valley, 39.37 311 ⇑P P 06 57 03.3 +1.7
baz=40,SNR=58
Y14A Wickenburg 39.37 313 ⇓P P 06 57 03.4 +1.7
baz=40,SNR=57
L24A Wheatland 39.40 329 ⇑P P 06 57 03.8 +1.9
baz=40,SNR=28
O21A Pagoda 39.47 325 ⇓P P 06 57 05.1 +2.3
baz=40,SNR=20
EYMN Ely 39.50 347 *eP* P 06 57 02.6 +0.1
comp=Z,185nm,1.3s
EYMN LR LR
comp=Z,13µm,20.0s
P20A De Beque 39.53 323 ⇓P P 06 57 05.4 +2.3
baz=40
I27A Quinn 39.60 334 ⇑P P 06 57 03.5 0.0
baz=40
H28A Mission Ridge 39.65 335 ⇑P P 06 57 03.3 -0.6
baz=40
BDFB Brasilia 39.75 129 P P 06 57 05.7 +0.6
BDFB Brasilia 39.75 129 P P 06 57 05.7 +0.6
comp=Z,136nm,0.9s,baz=293,slow=10.0,SNR=220
BDFB LR LR 07 14 55.3
comp=Z,11µm,20.9s,baz=300,slow=38
M22A Cedar Creek Ra 39.81 327 ⇓P P 06 57 07.3 +1.8
baz=40,SNR=12
K24A Anderson Ranch 39.84 330 ⇑P P 06 57 06.9 +1.3
baz=40
L23A Garrett 39.84 329 ⇓P P 06 57 07.3 +1.6
baz=40,SNR=91
J25A Sunshine Ranch 39.86 332 ⇑P P 06 57 06.8 +1.0
baz=40
O20A White River Ci 39.86 324 ⇑P P 06 57 08.0 +2.1
baz=40,SNR=39
N21A Black Mountain 39.87 326 ⇑P P 06 57 08.0 +2.0
baz=40,SNR=50
I26A New Underwood 39.92 333 ⇓P P 06 57 06.7 +0.5
baz=40
G28A Parade 39.93 336 ⇓P P 06 57 05.7 -0.5
baz=40
P19A Cripple Cowboy 39.97 323 ⇑P P 06 57 08.2 +1.4
baz=40,SNR=38
H27A Howes 40.06 334 ⇑P P 06 57 07.4 +0.1
baz=40
U15A North Rim 40.16 317 ⇑P P 06 57 11.0 +2.5
baz=40,SNR=94
L22A Ellis Ranch, M 40.16 328 ⇑P P 06 57 10.7 +2.3
baz=40,SNR=38
J24A Dixon Ranch, L 40.22 331 ⇓P P 06 57 10.2 +1.5
baz=40,SNR=9.2
K23A Bowen Ranch, D 40.27 329 ⇓P P 06 57 10.4 +1.2
baz=40,SNR=26
GLA Glamis 40.29 311 *eP* P 06 57 11.6 +2.2
GLA pmax pmax
comp=Z,387nm,1.1s
GLA Glamis 40.29 311 *eP* P 06 57 11.6 +2.2
comp=Z,387nm,1.1s
GLA Glamis 40.29 311 ⇓P P 06 57 11.6 +2.2
baz=40,SNR=37
I25A Rochford 40.31 332 ⇑P P 06 57 10.8 +1.3
baz=41
N20A Spence Gulch, 40.34 325 ⇑P P 06 57 11.5 +1.6
baz=41,SNR=60
H26A Fairpoint 40.34 334 ⇓P P 06 57 09.9 +0.2
baz=41
M21A Separation Pea 40.36 327 ⇑P P 06 57 11.9 +1.9
baz=41,SNR=39
PDMCI Parker Dam,Lak 40.37 313 ⇑P P 06 57 11.8 +1.8
baz=41,SNR=24
Y12C Blythe 40.39 312 ⇓P P 06 57 12.0 +2.0
baz=41,SNR=14
TLL Tololo Astrono 40.47 169 *i*P P 06 57 13.2 +2.2
TLL Tololo Astrono 40.47 169 *i*P P 06 57 13.2 +2.2
TLL Tololo Astrono 40.47 169 *i*P P 06 57 13.2 +2.2
O19A Miners Draw (B 40.48 324 ⇓P P 06 57 12.5 +1.6
baz=41,SNR=74
RSSD Black Hills 40.53 332 *eP* P 06 57 12.3 +0.9
RSSD pmax pmax
comp=Z,316nm,1.6s
RSSD Black Hills 40.53 332 *eP* P 06 57 12.3 +0.9
comp=Z,316nm,1.6s
SRU San Rafael 40.57 321 *eP* P 06 57 13.3 +1.5
SRU pmax pmax
comp=Z,117nm,0.9s
SRU San Rafael 40.57 321 *eP* P 06 57 13.3 +1.5
comp=Z,117nm,0.9s
W13A Hualapai Mount 40.58 314 ⇓P P 06 57 14.2 +2.3
baz=41,SNR=35
G27A Dupree 40.59 335 ⇑P P 06 57 11.6 -0.1
baz=41
I24A Kuemmerle Ranc 40.60 331 ⇑P P 06 57 13.1 +1.2
baz=41,SNR=6.7
L21A Rawlins 40.61 327 ⇓P P 06 57 13.6 +1.5
baz=41,SNR=42
K22A Casper 40.65 328 ⇑P P 06 57 14.0 +1.6
baz=41,SNR=59
J23A Dilts Ranch, B 40.71 330 ⇓P P 06 57 14.6 +1.8
baz=41,SNR=6.0
H25A Fruitdale 40.71 333 ⇓P P 06 57 13.2 +0.5
baz=41
M20A Sweetwater, Wa 40.73 326 ⇓P P 06 57 14.9 +1.8
baz=41,SNR=101
Q16A Castle Valley 40.86 321 ⇑P P 06 57 15.7 +1.6
baz=41,SNR=41
NEE2 Needles Airpor 40.94 313 ⇑P P 06 57 16.5 +1.9
baz=41
AGMN Agassiz Nation 40.95 343 *eP* P 06 57 14.3 -0.2
comp=Z,323nm,1.5s
AGMN LR LR
comp=Z,7µm,19.0s
SWSC Sam W. Stewart 40.97 310 ⇓P P 06 57 17.0 +2.1
baz=41,SNR=31
BC3 Big Chuckawall 41.03 311 ⇓P P 06 57 17.4 +1.9
baz=41,SNR=58
IRM Iron Mountain 41.04 312 ⇓P P 06 57 17.4 +1.8
baz=41,SNR=78
I23A Meade Ranch, G 41.08 331 ⇑P P 06 57 17.3 +1.4
baz=41
DVTC Desert V Tower 41.08 309 ⇓P P 06 57 18.0 +2.0
baz=41,SNR=8.3
TMUT Trail Mountain 41.11 321 *eP* P 06 57 18.1 +1.8
comp=Z,98nm,1.0s
L20A Wamsutter 41.17 326 ⇑P P 06 57 18.1 +1.4
baz=41,SNR=35
J22A Midwest 41.18 329 ⇑P P 06 57 18.0 +1.3
baz=41,SNR=67
H24A Dirks Ranch, A 41.24 332 ⇓P P 06 57 17.5 +0.4
baz=42,SNR=44
MSU Marysvale 41.26 319 *eP* P 06 57 18.5 +1.0
MSU Marysvale 41.26 319 *eP* P 06 57 18.5 +1.0
MVU Marysvale 41.27 319 *eP* P 06 57 19.8 +2.1
comp=Z,673nm,2.1s
MVU LR LR
comp=Z,5µm,19.0s
M19A Rock Springs 41.29 325 ⇓P P 06 57 18.5 +0.8
baz=42
CMCH Combarbala 41.41 170 *i*P P 06 57 19.3 +0.7
CMCH Combarbala 41.41 170 *i*P P 06 57 19.3 +0.7
MONP Monument Peak 41.42 309 ⇑P P 06 57 20.6 +1.7
baz=42,SNR=35
LDFC Landfair 41.44 313 *eP* P 06 57 21.6 +2.7
comp=Z,232nm,1.0s
CCUT Cedar City 41.49 317 *eP* P 06 57 21.4 +2.0
comp=Z,81nm,1.3s
H23A Clabaugh Cattl 41.50 331 ⇑P P 06 57 20.2 +1.0
baz=42,SNR=8.7
BAR Barrett 41.53 309 *eP* P 06 57 21.3 +1.7
comp=Z,88nm,1.1s
I22A 9 Mile Ranch, 41.53 330 ⇑P P 06 57 20.7 +1.2
baz=42
BELC Belle Mtn. Jos 41.59 311 ⇑P P 06 57 21.9 +1.7
baz=42,SNR=93
CPUP Villa Florida 41.60 150 P P 06 57 16.8 -3.3
CPUP PcP **PcP** 06 59 16.6 0.0
CPUP Villa Florida 41.60 150 P P 06 57 16.8 -3.3
comp=Z,102nm,1.0s,baz=317,slow=8.1,SNR=95

CPUP PcP PcP 06 59 16.6 0.0
comp=Z,44nm,1.0s,baz=302,slow=7.0,SNR=3.2
CPUP LR LR 07 18 13.9
comp=Z,4µm,20.8s,baz=314,slow=41
K20A Yellowstone Ra 41.62 327 ⇓P P 06 57 21.3 +1.0
baz=42,SNR=47
J21A Lysite 41.62 328 ⇑P P 06 57 22.0 +1.7
baz=42,SNR=40
G24A Alzada 41.63 333 ⇓P P 06 57 20.4 +0.1
baz=42,SNR=12
ARUT Antelope Range 41.67 318 eP P 06 57 21.7 +0.9
ARUT Antelope Range 41.67 318 eP P 06 57 21.7 +0.9
E26A Carlson Angus 41.70 336 ⇓P P 06 57 20.7 0.0
baz=42
GMRC Granite Mounta 41.70 312 ⇑P P 06 57 23.0 +1.9
baz=42,SNR=55
MDND Maddock 41.76 339 ⇑P P 06 57 21.3 +0.1
baz=42,SNR=88
PFO Pinyon Flat Ob 41.76 310 eP P 06 57 23.4 +1.9
comp=Z,189nm,1.2s
PFO PcP PcP 06 59 18.4 +1.2
PFO LR LR
comp=Z,3µm,19.0s
PFO Pinyon Flat Ob 41.76 310 P P 06 57 23.6 +2.0
comp=Z,43nm,0.7s,baz=108,slow=7.1,SNR=73
PFO PcP PcP 06 59 18.4 +1.2
comp=Z,47nm,1.2s,baz=70,slow=6.4,SNR=3.7
PFO Pinyon Flat Ob 41.76 310 ⇑P P 06 57 23.4 +1.9
baz=42,SNR=56
L19A Farson 41.79 326 ⇑P P 06 57 23.1 +1.3
baz=42,SNR=29
MPU Maple Canyon 41.80 322 eP P 06 57 23.6 +1.7
comp=Z,226nm,1.2s
DAU Daniels Canyon 41.81 322 eP P 06 57 24.0 +1.9
DAU Daniels Canyon 41.81 322 eP P 06 57 24.0 +1.9
I21A Big Trails, Te 41.88 329 ⇑P P 06 57 23.5 +1.1
baz=42,SNR=49
109C Camp Elliot, M 41.95 309 ⇓P P 06 57 24.7 +1.8
baz=42,SNR=20
J20A Shoshoni 41.96 328 ⇓P P 06 57 25.0 +2.0
baz=42,SNR=42
G23A Biddle 41.98 332 ⇑P P 06 57 24.0 +0.9
baz=42,SNR=52
H22A Clearmont 41.98 331 ⇑P P 06 57 24.1 +0.9
baz=42,SNR=7.4
K19A Absolon Red Bu 42.00 327 ⇓P P 06 57 24.4 +1.0
baz=42,SNR=38
NLU North Lily Min 42.04 321 eP P 06 57 25.7 +1.9
comp=Z,466nm,1.8s
F24A Ekalaka 42.04 333 ⇑P P 06 57 23.7 +0.1
baz=42,SNR=13
L18A Fontenelle, Gr 42.06 325 ⇓P P 06 57 25.4 +1.5
baz=42,SNR=18
E25A Miller Ranch, 42.11 335 ⇑P P 06 57 24.2 +0.1
baz=42,SNR=7.0
M17A Scullys Gap (B 42.13 324 ⇑P P 06 57 25.8 +1.2
baz=42,SNR=109
SHPR Sheep Range 42.18 315 eP P 06 57 26.9 +1.9
TUQ Turquoise Moun 42.20 313 ⇑P P 06 57 26.8 +1.7
baz=42,SNR=7.5
HEC Hector,Ludlow 42.21 312 ⇓P P 06 57 27.5 +2.3
baz=42,SNR=63
CTU Camp Tracy 42.28 322 eP P 06 57 27.6 +1.8
comp=Z,206nm,1.1s
MURC Murrieta 42.32 310 ⇑P P 06 57 28.0 +2.0
baz=42,SNR=55
H21A Big Horn, Sher 42.34 330 ⇑P P 06 57 26.7 +0.6
baz=43,SNR=14
PDAR Pinedale Array 42.35 326 P P 06 57 27.2 +0.9
PDAR PKiKP PKiKP 07 06 23.0 -1.4
PDAR Pinedale Array 42.35 326 P P 06 57 27.2 +0.9
comp=Z,30nm,0.6s,baz=129,slow=9.9,SNR=230
PDAR PKiKP PKiKP 07 06 23.0 -1.4
comp=Z,0.8nm,0.6s,baz=90,slow=5.9,SNR=3.9
PDAR LR LR 07 18 34.3
comp=Z,3µm,19.1s,baz=134,slow=41
BW06 Boulder Array 42.35 326 eP P 06 57 27.2 +0.8
comp=Z,308nm,1.3s
BW06 LR LR
comp=Z,3µm,19.0s
F23A Volborg 42.38 332 ⇓P P 06 57 26.8 +0.4
baz=43,SNR=54
BBRC Big Bear Solar 42.39 311 ⇑P P 06 57 29.1 +2.3
baz=43,SNR=21
CFAA Coronel Fontan 42.40 166 LR LR 07 16 25.2
comp=Z,499nm,21.6s,baz=17,slow=38
I20A Worland 42.40 329 ⇑P P 06 57 28.2 +1.6
baz=43
J19A Crowheart 42.41 327 ⇑P P 06 57 28.0 +1.2
baz=43,SNR=16
G22A Birney 42.41 331 ⇓P P 06 57 27.4 +0.8
baz=43,SNR=25
NOQ North Oquirrh 42.48 322 eP P 06 57 29.4 +2.1
comp=Z,515nm,1.6s
E24A Baker 42.54 334 ⇑P P 06 57 27.9 +0.3
baz=43,SNR=15
DUG Dugway 42.63 321 eP P 06 57 30.5 +1.9
DUG pmax pmax
comp=Z,230nm,1.2s
DUG MLR MLR
comp=Z,4µm,22.0s
DUG Dugway 42.63 321 eP P 06 57 30.5 +1.9
comp=Z,230nm,1.2s
DUG LR LR
comp=Z,4µm,22.0s
DUG Dugway 42.63 321 ⇓P P 06 57 30.4 +1.9
baz=43,SNR=58
SHOC Shoshone 42.67 314 ⇑P P 06 57 30.6 +1.8
baz=43,SNR=41
H20A Greybull 42.71 329 ⇑P P 06 57 30.0 +0.8
baz=43,SNR=13
ULM Lac du Bonnet 42.72 344 eP P 06 57 28.6 -0.4
comp=Z,151nm,0.6s
ULM Lac du Bonnet 42.72 344 P P 06 57 28.6 -0.4
comp=Z,167nm,0.6s,baz=158,slow=8.2,SNR=79
ULM LR LR 07 16 18.1
comp=Z,9µm,18.6s,baz=158,slow=37
RRX Edison Barstow 42.73 312 ⇑P P 06 57 31.5 +2.2
baz=43
HWUT Hardware Ranch 42.74 324 eP P 06 57 30.6 +1.1
comp=Z,606nm,1.4s
HWUT LR LR
comp=Z,5µm,19.0s
GSC Goldstone 42.77 312 eP P 06 57 31.7 +2.0
GSC pmax pmax
comp=Z,169nm,1.1s
GSC Goldstone 42.77 312 eP P 06 57 31.7 +2.0
comp=Z,169nm,1.1s
GSC Goldstone 42.77 312 ⇓P P 06 57 31.8 +2.1
baz=43,SNR=71
F22A Rosebud 42.81 332 ⇓P P 06 57 30.5 +0.7
baz=43,SNR=64
G21A Lodge Grass 42.85 331 ⇓P P 06 57 30.8 +0.5
baz=43,SNR=12
I19A Meeteetse 42.91 328 ⇑P P 06 57 32.4 +1.6
baz=43,SNR=54
E23A Ismay 42.93 333 ⇑P P 06 57 30.8 +0.1
baz=43,SNR=9.7
BFSC Mount Baldy Ra 42.93 311 ⇑P P 06 57 32.5 +1.4
baz=43,SNR=15
D24A Glendive 42.98 335 ⇓P P 06 57 31.9 +0.7
baz=43,SNR=90
SCI San Clemente I 43.09 308 ⇓P P 06 57 33.9 +1.7
baz=43,SNR=7.4
I18A Diamond G Ranc 43.12 327 ⇑P P 06 57 33.9 +1.3
baz=43,SNR=20
CIS Catalina Islan 43.15 309 ⇑P P 06 57 34.7 +2.0
baz=43,SNR=16
E22A Miles City 43.17 333 ⇑P P 06 57 32.9 +0.2
baz=43,SNR=16
FMP Fort Macarthur 43.19 310 ⇑P P 06 57 34.7 +1.7
baz=43
BGU Big Grassy Mou 43.20 322 eP P 06 57 34.7 +1.5
MWC Mount Wilson 43.23 310 eP P 06 57 34.1 +0.6
MWC pmax pmax
comp=Z,249nm,1.5s
MWC Mount Wilson 43.23 310 eP P 06 57 34.1 +0.6
comp=Z,249nm,1.5s
F21A Absaloka Mine, 43.25 331 ⇓P P 06 57 33.9 +0.5
baz=44,SNR=21
PASC Pasadena Art C 43.30 310 eP P 06 57 35.5 +1.5
comp=Z,380nm,1.5s
G20A Bridger 43.34 330 ⇑P P 06 57 34.9 +0.6
baz=44,SNR=20
H19A Powell 43.34 329 ⇑P P 06 57 35.4 +1.2
baz=44,SNR=32
C24A Savage 43.35 335 ⇑P P 06 57 34.7 +0.6
baz=44,SNR=22
FURC Furnace Creek, 43.35 314 ⇑P P 06 57 36.4 +2.2
baz=44,SNR=141
D23A Lindsay 43.40 334 ⇑P P 06 57 35.4 +0.8
baz=44,SNR=67
DECC Green Verdugo 43.44 310 ⇓P P 06 57 36.9 +1.9
baz=44,SNR=16
REDW Red Top Meadow 43.45 326 eP P 06 57 36.9 +1.6
comp=Z,8.6nm,1.3s
EDW2 Edwards Air Fo 43.46 311 ⇓P P 06 57 36.8 +1.6
baz=44,SNR=98
SNOW Snow King Moun 43.47 326 eP P 06 57 36.9 +1.5
comp=Z,370nm,1.2s
LOHW Long Hollow 43.48 326 eP P 06 57 36.8 +1.3
comp=Z,388nm,1.2s
LRMC Laurel Mountai 43.50 312 ⇑P P 06 57 37.3 +1.7
baz=44,SNR=29
HVU Hansel Valley 43.56 323 eP P 06 57 37.3 +1.2
HVU pmax pmax
comp=Z,303nm,1.9s
HVU Hansel Valley 43.56 323 eP P 06 57 37.2 +1.2
comp=Z,303nm,1.9s
TPAW Teton Pass 43.59 326 eP P 06 57 37.9 +1.4
comp=Z,369nm,1.4s
MPMC Manual Prospec 43.62 313 ⇑P P 06 57 38.0 +1.3
baz=44,SNR=44
MOOW Moose Ponds 43.65 326 eP P 06 57 38.0 +1.2
comp=Z,364nm,1.4s
CLCH Cerro Calan 43.66 170 ⇓P P 06 57 38.0 +1.2
I17A Pilgrim Ck. 43.67 327 ⇑P P 06 57 38.9 +1.9
baz=44,SNR=17
H18A Shoshone NF, C 43.70 328 ⇓P P 06 57 37.7 +0.5
baz=44,SNR=21
RRI2 Red Ridge 43.70 326 eP P 06 57 38.9 +1.5
comp=Z,1µm,1.9s
F20A Billings 43.73 330 ⇓P P 06 57 38.3 +1.1
baz=44,SNR=76
E21A Keefer Ranch, 43.76 332 ⇓P P 06 57 38.1 +0.7
baz=44,SNR=17
DCID1 Drake Creek 43.79 326 eP P 06 57 39.9 +2.0
comp=Z,364nm,1.0s
RLMT Red Lodge 43.80 329 eP P 06 57 39.0 +1.0
comp=Z,427nm,1.3s
RLMT LR LR
comp=Z,3µm,19.0s
D22A Cohagen 43.81 333 ⇓P P 06 57 38.9 +1.0
baz=44,SNR=66
IMW Indian Meadow 43.85 327 eP P 06 57 39.9 +1.4
comp=Z,161nm,0.8s
C23A Lambert 43.88 335 ⇓P P 06 57 39.3 +0.9
baz=44,SNR=30
OSI Osito Adit 43.89 311 eP P 06 57 40.2 +1.5
comp=Z,207nm,1.3s
OSI Osito Adit 43.89 311 ⇓P P 06 57 39.9 +1.2
baz=44,SNR=7.6
GRAC Grapevine Rang 43.97 314 ⇓P P 06 57 41.3 +2.0
baz=44,SNR=33
H17A Grant Village 43.99 327 ⇑P P 06 57 41.0 +1.5
baz=44
DGMT Dagmar 44.00 336 eP P 06 57 39.9 +0.6
comp=Z,222nm,1.0s
DGMT LR LR
comp=Z,4µm,20.0s
DGMT Dagmar 44.00 336 ⇑P P 06 57 40.0 +0.7
baz=44,SNR=30
LKWY Lake 44.01 328 eP P 06 57 41.7 +1.9
LKWY pmax pmax
comp=Z,165nm,1.3s
LKWY MLR MLR
comp=Z,5µm,19.0s
LKWY Lake 44.01 328 eP P 06 57 41.6 +1.9
comp=Z,165nm,1.3s
LKWY LR LR
comp=Z,5µm,19.0s
G18A Lac EL Ranch, 44.09 329 ⇑P P 06 57 41.2 +0.9
baz=44,SNR=54
D21A La Casta Ranch 44.11 333 ⇑P P 06 57 41.5 +1.2
baz=44,SNR=40
I16A Newdale 44.14 326 ⇑P P 06 57 42.3 +1.6
baz=44,SNR=57
C22A Vida 44.14 334 ⇑P P 06 57 41.4 +0.9
baz=44,SNR=24
ISA Isabella 44.15 312 eP P 06 57 42.5 +1.6
ISA pmax pmax
comp=Z,66nm,1.0s
ISA Isabella 44.15 312 eP P 06 57 42.5 +1.6
comp=Z,66nm,1.0s
ISA Isabella 44.15 312 ⇓P P 06 57 42.4 +1.6
baz=44,SNR=53
F19A Roth Farm, Mol 44.15 330 ⇓P P 06 57 41.7 +1.0
baz=44,SNR=50
YFT Old Faithful 44.16 327 eP P 06 57 43.2 +2.2
comp=Z,304nm,1.5s
ARVC Arn 44.19 311 ⇓P P 06 57 42.9 +1.9
baz=44,SNR=24
CWC Cottonwood Cre 44.21 313 ⇑P P 06 57 42.9 +1.5
baz=44,SNR=17
E20A Meyer Farm, Mu 44.23 331 ⇓P P 06 57 42.6 +1.4
baz=44,SNR=121
YNR Norris Junctio 44.26 328 eP P 06 57 43.1 +1.4
comp=Z,57nm,1.0s
A24A Westby 44.29 336 ⇑P P 06 57 42.7 +1.0
baz=45,SNR=23
B23A Brockton 44.32 335 ⇓P P 06 57 42.8 +0.9
baz=45,SNR=31
YMR Madison River 44.38 327 eP P 06 57 44.3 +1.7
comp=Z,386nm,1.4s
TPH Tonopah 44.38 316 PFAKE 06 58 00.0 +17
TPH LR LR
comp=Z,5µm,20.0s
ELK Elko 44.47 320 eP P 06 57 44.8 +1.3
comp=Z,152nm,1.4s
GCMT Greycliff 44.47 329 eP P 06 57 44.2 +0.9
comp=Z,205nm,1.4s
E19A Rath Farm, Rou 44.51 331 ⇓P P 06 57 44.7 +1.2
baz=45,SNR=67
H16A Russell Place, 44.55 327 ⇑P P 06 57 45.9 +1.9
baz=45,SNR=34
SBC Santa Barbara 44.56 310 ⇑P P 06 57 45.8 +1.8
baz=45
F18A Big Timber 44.57 329 ⇓P P 06 57 45.4 +1.3
baz=45,SNR=78
TIN Tinemaha 44.60 314 ⇑P P 06 57 46.5 +2.0
baz=45,SNR=13
B22A Reddig Ranch S 44.61 334 ⇓P P 06 57 45.4 +1.1
baz=45,SNR=25
A23A Redstone 44.67 336 ⇑P P 06 57 45.6 +1.0
baz=45,SNR=15
VES Vestal, Richgr 44.68 312 ⇓P P 06 57 46.7 +1.8
baz=45,SNR=54
G17A Pierce Place, 44.70 328 ⇓P P 06 57 47.1 +2.0
baz=45,SNR=17
C21A Desert Coulee 44.73 333 ⇑P P 06 57 46.2 +1.0
baz=45,SNR=21
QLMT Earthquake Lak 44.73 327 eP P 06 57 47.8 +2.3
PKM Peak Mountain 44.83 310 ⇑P P 06 57 47.8 +1.5
baz=45,SNR=34
MTUM Tungsten Hills 44.98 314 eP P 06 57 49.0 +1.5
RCTC Rector, Farmer 44.99 312 ⇓P P 06 57 48.6 +1.2
baz=45,SNR=14
F17A Fitzpatrick Pl 45.05 329 ⇑P P 06 57 49.7 +1.7
baz=45,SNR=70
C20A Veseth Ranch, 45.05 332 ⇓P P 06 57 49.0 +1.3
baz=45,SNR=66
D19A Cripps Ranch, 45.06 331 ⇓P P 06 57 49.3 +1.4
baz=45,SNR=120
A22A Carney Farms, 45.12 335 ⇓P P 06 57 49.5 +1.2
baz=45,SNR=36
SMMC Simmler 45.13 311 ⇑P P 06 57 50.2 +1.6
baz=45,SNR=44
E18A Harlowton 45.13 330 ⇑P P 06 57 49.8 +1.2
baz=45,SNR=28
B21A Ellsworth Farm 45.15 334 ⇑P P 06 57 49.5 +1.0
baz=45,SNR=27
I14A Mackay 45.27 325 ⇑P P 06 57 51.7 +2.0
baz=46,SNR=66
MLAC Mammoth Lakes 45.29 314 ⇑P P 06 57 51.6 +1.6
baz=46,SNR=7.1
NVAR Mina Array Bea 45.30 316 P P 06 57 51.8 +1.7
NVAR PcP PcP 06 59 30.7 +1.4
NVAR P'P' 07 29 06.8
NVAR Mina Array Bea 45.30 316 P P 06 57 51.8 +1.7
comp=Z,42nm,0.7s,baz=127,slow=6.1,SNR=243
NVAR PcP PcP 06 59 30.7 +1.4
comp=Z,8.2nm,0.6s,baz=123,slow=4.4,SNR=11
NVAR LR LR 07 20 21.4
comp=Z,6µm,19.9s,baz=237,slow=41
NVAR PKPPKP P'P'df 07 29 06.8 -20
comp=Z,0.4nm,0.9s,baz=276,slow=1.3,SNR=3.6
BOZ Bozeman (W) 45.38 328 eP P 06 57 51.6 +1.1
BOZ pmax pmax
comp=Z,85nm,0.9s
BOZ MLR MLR
comp=Z,3µm,20.0s
BOZ Bozeman (W) 45.38 328 eP P 06 57 51.6 +1.1
comp=Z,86nm,0.9s
BOZ LR LR
comp=Z,3µm,20.0s
PTRM Twissleman Ran 45.43 311 eP P 06 57 52.8 +1.8
F16A Kennard Place, 45.47 328 ⇑P P 06 57 52.6 +1.4
baz=46,SNR=31
MCMT McKenzie Canyo 45.50 326 eP P 06 57 53.5 +2.0
comp=Z,205nm,1.3s
D18A Linhart Farms, 45.52 331 ⇓P P 06 57 53.1 +1.5
baz=46,SNR=22
E17A Martinsdale 45.53 329 ⇑P P 06 57 53.1 +1.3
baz=46,SNR=57
A21A Bergtoll Ranch 45.54 334 ⇓P P 06 57 53.0 +1.4
baz=46,SNR=48
C19A Slack Wire Ran 45.55 332 ⇑P P 06 57 53.0 +1.2
baz=46,SNR=89
BMN Battle Mountai 45.57 319 eP P 06 57 53.6 +1.5
BMN pmax pmax
comp=Z,319nm,1.2s
BMN MLR MLR
comp=Z,2µm,19.0s
BMN Battle Mountai 45.57 319 eP P 06 57 53.6 +1.5
comp=Z,319nm,1.2s
BMN LR LR
comp=Z,2µm,19.0s
B20A Solberg Farm, 45.60 333 ⇑P P 06 57 53.6 +1.5
baz=46,SNR=165
LCCM Lewis and Clar 45.63 328 P P 06 57 54.0 +1.4
RCBR Riachuelo 45.66 108 eP P 06 57 53.5 +0.4
comp=Z,252nm,1.5s
RCBR LR LR
comp=Z,8µm,20.0s
DLMT Dillon 45.70 327 eP P 06 57 54.6 +1.5
comp=Z,606nm,1.6s
A20A Cobblestone Ra 45.89 334 ⇓P P 06 57 55.9 +1.5
baz=46,SNR=120
D17A Six Diamond Ra 45.92 330 ⇑P P 06 57 55.9 +1.1
baz=46,SNR=69
LRM Limekiln Ridge 45.93 328 eP P 06 57 56.2 +1.2
F15A Butte 45.96 328 ⇓P P 06 57 56.5 +1.3
baz=46,SNR=54
SCHQ Schefferville 45.99 10 eP P 06 57 57.0 +1.9
comp=Z,561nm,0.9s
SCHQ Schefferville 45.99 10 P P 06 57 56.9 +1.8
comp=Z,254nm,0.7s,baz=197,slow=6.4,SNR=412
SCHQ LR LR 07 17 53.5
comp=Z,5µm,19.5s,baz=191,slow=37
E16A East Helena 46.00 329 ⇑P P 06 57 56.6 +1.2
baz=46,SNR=13
B19A Brinkman Farms 46.03 333 ⇑P P 06 57 56.5 +1.1
baz=46,SNR=32
EGMT Eagleton 46.09 332 eP P 06 57 56.6 +0.6
comp=Z,405nm,1.3s
EGMT LR LR
comp=Z,3µm,20.0s
EGMT Eagleton 46.09 332 ⇓P P 06 57 57.1 +1.1
baz=46,SNR=30
WAKR Walker 46.12 315 eP P 06 57 58.3 +1.8
I12A Atlanta 46.15 324 ⇓P P 06 57 58.1 +1.3
baz=46
HRY Holter Researc 46.20 329 eP P 06 57 58.2 +1.3
D16A Dana Ranch, Ca 46.27 329 ⇓P P 06 57 58.7 +1.2
baz=46,SNR=40
A19A Klindworth Far 46.28 333 ⇑P P 06 57 58.7 +1.2
baz=46,SNR=52
C17A Wharram Farm, 46.30 331 ⇓P P 06 57 58.7 +1.0
baz=46,SNR=76
MFID Camas Ranch 46.34 323 eP P 06 57 59.4 +1.3
comp=Z,255nm,1.2s
MFID Camas Ranch 46.34 323 ⇓P P 06 57 59.6 +1.5
baz=47,SNR=133
B18A Beardsley Farm 46.37 332 ⇑P P 06 57 59.4 +1.2
baz=47,SNR=87
F14A Wisdom 46.41 327 ⇓P P 06 57 60.0 +1.3
baz=47,SNR=12
H12A Diamond D Ranc 46.45 325 ⇑P P 06 58 00.3 +1.4
baz=47,SNR=98
CMB Columbia Colle 46.57 314 eP P 06 58 00.7 +0.8
CMB pmax pmax
comp=Z,46nm,1.0s
CMB Columbia Colle 46.57 314 eP P 06 58 00.7 +0.8
comp=Z,46nm,1.0s
PAHR Pah Rah Range 46.65 317 eP P 06 58 02.0 +1.4
comp=Z,123nm,1.2s
D15A Lincoln 46.77 329 ⇓P P 06 58 02.8 +1.4
baz=47,SNR=68
B17A L&G Farms, Che 46.77 331 ⇑P P 06 58 01.9 +0.6
baz=47,SNR=22
A18A Metzger Ranch, 46.78 332 ⇑P P 06 58 02.3 +1.0
baz=47,SNR=23
SAO San Andreas Ge 46.80 312 eP P 06 58 01.7 0.0
comp=Z,75nm,1.0s
C16A Fuhringer Ranc 46.89 330 ⇑P P 06 58 03.3 +1.0
baz=47,SNR=64
RPN Rapa Nui 46.99 218 eP P 06 58 05.1 +1.9
RPN LR LR
comp=Z,9µm,20.0s
CHMT Chamberlain Mo 47.06 328 eP P 06 58 04.5 +0.8
G12A Big Creek, Yel 47.06 325 ⇓P P 06 58 04.8 +1.0
baz=47
A17A Triple J Farms 47.19 332 ⇓P P 06 58 05.4 +0.8
baz=47,SNR=52
B16A M & M Farms, S 47.29 331 ⇑P P 06 58 05.9 +0.5
baz=48,SNR=28
C15A Salmond Ranch, 47.30 329 ⇓P P 06 58 06.8 +1.2
baz=48,SNR=62
D14A Greenough 47.30 328 ⇑P P 06 58 06.1 +0.5
baz=48,SNR=24
MSO Missoula 47.37 328 eP P 06 58 06.8 +0.8
comp=Z,85nm,1.1s
MSO LR LR
comp=Z,2µm,21.0s
MSO Missoula 47.37 328 ⇓P P 06 58 06.9 +0.8
baz=48,SNR=42
BEKR Beckworth 47.38 316 eP P 06 58 07.5 +1.1
comp=Z,105nm,1.7s
SLMT Seeley Lake 47.40 328 eP P 06 58 07.0 +0.6
WVOR Wild Horse Val 47.52 320 eP P 06 58 08.4 +1.0
WVOR pmax pmax
comp=Z,508nm,1.3s
WVOR MLR MLR
comp=Z,3µm,20.0s
WVOR Wild Horse Val 47.52 320 eP P 06 58 08.4 +1.0
comp=Z,508nm,1.3s
WVOR LR LR
comp=Z,3µm,20.0s
A16A West Butte Ran 47.61 331 ⇓P P 06 58 08.6 +0.6
baz=48,SNR=38
B15A Bradely Ranch, 47.64 330 ⇓P P 06 58 08.7 +0.6
baz=48,SNR=31
D13A Huson 47.81 328 ⇑P P 06 58 10.2 +0.8
baz=48,SNR=58
SWMT Swartz Lake 47.83 328 eP P 06 58 10.4 +0.8
SAC San Andreas 47.84 313 eP P 06 58 10.8 +1.1
comp=Z,218nm,1.3s
C14A Swan Lake 47.87 329 ⇓P P 06 58 11.2 +1.3
baz=48
CAM4 Nova Friburgo 47.91 132 ⇑iP P 06 58 09.6 -1.2
CAM4 i 06 58 12.4
CAM4 i 06 58 17.3
CAM4 i 06 58 22.2
CAM4 i 06 58 27.6
CAM4 i 06 58 31.6
CAM4 i 06 58 33.8
CAM4 i 06 58 45.4
CAM4 i 06 58 55.8
CAM4 i 06 59 05.1
CAM4 i 06 59 20.3
CAM4 i 06 59 47.4
CAM4 i 07 00 11.6
J08A Circle Bar Ran 47.91 321 P P 06 58 11.1 +0.8
OHCM Honcut 47.92 315 eP P 06 58 09.2 -1.1
E12A Beaver Dam Sad 47.98 326 ⇓P P 06 58 11.3 +0.4
baz=48,SNR=56
B14A Marquette Ranc 48.02 330 ⇑P P 06 58 11.9 +0.7
baz=48,SNR=24
BMO Blue Mountains 48.04 324 eP P 06 58 11.1 -0.2
comp=Z,176nm,1.5s
BMO LR LR
comp=Z,3µm,21.0s
YBMT Yellow Bay 48.07 329 eP P 06 58 12.4 +0.9

comp=Z,86nm,1.3s
JTMT Jette 48.13 328 *e*P **P 06 58 13.2 +1.2**
A15A Johnson Ranch, 48.17 331 ⇑P **P 06 58 12.8 +0.6**
baz=48,SNR=45
C13A Hot Springs 48.24 328 ⇓P **P 06 58 13.9 +1.1**
baz=48,SNR=30
D12A Red Ives Fores 48.26 327 ⇓P **P 06 58 13.4 +0.5**
baz=48
MOD Modoc 48.32 319 *e*P **P 06 58 13.7 +0.2**
comp=Z,258nm,1.8s
BLMT Blacktail Moun 48.35 329 *e*P **P 06 58 15.1 +1.4**
MCCM Marconi Confer 48.40 313 *e*P **P 06 58 15.2 +1.2**
comp=Z,62nm,0.8s
FFC Flin Flon 48.42 342 *i* P **P 06 58 14.2 +0.3**
FFC Flin Flon 48.42 342 *e*P **P 06 58 14.3 +0.3**
comp=Z,172nm,1.2s
FFC LR LR
comp=Z,5µm,21.0s
BSMT Bassoo Peak 48.46 328 *e*P **P 06 58 15.9 +1.3**
A14A Double T Ranch 48.51 330 ⇓P **P 06 58 15.3 +0.4**
baz=49,SNR=19
B13A Whitefish 48.63 329 ⇓P **P 06 58 17.2 +1.4**
baz=49,SNR=46
F10A Beach Ranch, E 48.64 325 P **P 06 58 16.4 +0.5**
LPA La Plata 48.70 157 *ce*P **P 06 58 15.0 -1.3**
LPA pP pP 06 58 23.0 -6.5
LPA PP **PP 07 00 12.0 +2.2**
LPA PPP PPP 07 00 56.0
LPA SP S 07 05 22.0 +6.6
LPA SCS **ScS 07 08 06.0 +1.3**
LPA SS **SS 07 08 44.0 -2.5**
LPA SSS SSS 07 10 38.0
C12B Naegeli Ranch, 48.73 328 ⇓P **P 06 58 17.9 +1.4**
baz=49,SNR=42
WALA Waterton Lakes 48.80 330 *e*P **P 06 58 17.6 +0.4**
comp=Z,2.9nm,1.3s
A13A Flathead Natio 48.97 330 ⇑P **P 06 58 19.4 +1.0**
baz=49
C11A Tepee Creek (N 49.23 327 ⇓P **P 06 58 21.5 +1.2**
baz=50
G08A Pilot Rock 49.25 323 P **P 06 58 21.1 +0.4**
B12A Libby 49.27 328 ⇑P **P 06 58 21.8 +1.2**
baz=50,SNR=14
E09A Wood Farm, Sta 49.47 325 P **P 06 58 22.6 +0.5**
A12A Yaak River Ran 49.60 329 ⇑P **P 06 58 24.6 +1.5**
baz=50,SNR=16
NEW Newport 49.95 327 *e*P **P 06 58 26.2 +0.5**
comp=Z,148nm,1.0s
NEW LR LR
comp=Z,4µm,19.0s
NEW Newport 49.95 327 ⇑P **P 06 58 26.3 +0.5**
baz=50,SNR=62
KHMM Horse Mountain 50.14 316 *e*P **P 06 58 28.0 +0.5**
comp=Z,73nm,0.8s
TRQA Tornquist 50.16 162 *e*P **P 06 58 27.4 -0.1**
comp=Z,2µm,1.4s
TRQA LR LR
comp=Z,4µm,21.0s
HAWA Hanford 50.19 324 *e*P **P 06 58 28.1 +0.5**
comp=Z,254nm,1.8s
HAWA LR LR
comp=Z,2µm,21.0s
OD2 Odessa Site #2 50.29 326 P **P 06 58 28.9 +0.5**
BKCOR Black Crater 50.39 321 P **P 06 58 30.9 +1.6**
PLCA Paso Flores 50.84 172 *e*P **P 06 58 32.9 +0.3**
comp=Z,446nm,1.4s
PLCA Paso Flores 50.84 172 P **P 06 58 32.8 +0.3**
comp=Z,168nm,1.1s,baz=349,slow=8.7,SNR=72
VLL Laurance Lake 50.97 322 P **P 06 58 35.5 +1.9**
KBO Bosley Butte 51.05 317 *e*P **P 06 58 35.6 +1.3**
comp=Z,613nm,1.1s
KEBM Edson Butte 51.41 318 *e*P **P 06 58 38.1 +1.1**
comp=Z,416nm,1.1s
RNO Roman Nose 51.50 319 P **P 06 58 38.5 +1.0**
COR Corvallis 51.54 320 *e*P **P 06 58 38.5 +0.8**
COR pmax pmax
comp=Z,135nm,1.0s
COR Corvallis 51.54 320 *e*P **P 06 58 38.5 +0.8**
comp=Z,135nm,1.0s
NLWA Neilton Lookou 53.25 323 *e*P **P 06 58 51.8 +1.3**
comp=Z,533nm,1.4s
NLWA LR LR
comp=Z,3µm,20.0s
PGC Sidney 53.65 325 *e*P **P 06 58 54.1 +0.9**
comp=Z,14nm,1.3s
COYC Coyhaique 55.42 174 ⇓*i*P **P 06 59 06.5 +0.4**
COYC Coyhaique 55.42 174 ⇓*i*P **P 06 59 06.5 +0.4**
CMLA Cha da Macela 55.44 51 PFAKE 06 59 20.0 +14
CMLA LR LR
comp=Z,2µm,20.0s
YKA Yellowknife Ar 58.58 342 P **P 06 59 28.1 -0.2**
YKA P'P' 07 29 01.8
YKA Yellowknife Ar 58.58 342 P **P 06 59 28.1 -0.2**
comp=Z,73nm,0.6s,baz=131,slow=7.4,SNR=553
YKA PKPPKP **P'P'df 07 29 01.8 -5.2**
comp=Z,0.7nm,1.1s,baz=336,slow=3.3,SNR=3.8
SFJD Kangerlussuaq 60.30 12 *e*P **P 06 59 39.6 -0.4**
comp=Z,84nm,1.1s
SFJD Kangerlussuaq 60.30 12 ⇑*i*P **P 06 59 39.7 -0.3**
comp=Z,18nm,0.8s
SFJD *i* S **S 07 07 48.6 -1.9**
SFJD
comp=Z,3µm,18.0s
SFJD Kangerlussuaq 60.30 12 LR LR 07 27 25.9
comp=Z,3µm,19.4s,baz=230,slow=38
PMOZ Porto Moniz, M 61.14 58 *i* P **P 06 59 47.2 +0.7**
comp=Z,263nm,1.5s
PMOZ *e*S **S 07 08 08.0 +5.3**
PMOZ *e*LQ LQ 07 15 05.2
PMOZ *e*LR LR 07 17 40.9
comp=Z,1µm,20.0s
PMPST Porto Santo, M 61.89 58 *i* P **P 06 59 52.0 +0.5**
comp=Z,217nm,1.4s
CRAG Craig 62.13 329 *e*P **P 06 59 54.0 +1.4**
comp=Z,126nm,1.4s
WRAK Wrangell Islan 62.16 330 *e*P **P 06 59 53.2 +0.4**
comp=Z,67nm,1.2s
WRAK LR LR
comp=Z,3µm,19.0s
RKT Rikitea 63.74 238 *e*P **P 07 00 05.7 +1.8**
comp=Z,205nm,1.2s
RKT *ep*P **pP 07 00 17.0 -0.6**
comp=Z,100nm,1.0s
RKT *e*S **S 07 08 34.9 -0.5**
comp=Z,867nm,26.0s
RKT *e*LQ LQ 07 16 26.6
comp=Z,3µm,38.0s
RKT *e*LR LR 07 19 08.1
comp=Z,23µm,27.5s,baz=58
EFI East Falkland 63.80 166 P **P 07 00 04.2 +0.6**
comp=Z,952nm,1.0s,SNR=5.1
EFI East Falkland 63.80 166 *e*P **P 07 00 03.5 -0.1**
EFI MLR MLR
comp=Z,2µm,19.0s
EFI East Falkland 63.80 166 *e*P **P 07 00 03.5 -0.1**
comp=Z,701nm,1.3s
EFI LR LR
comp=Z,2µm,19.0s
SKAG Skagway 64.92 332 *e*P **P 07 00 10.9 0.0**
comp=Z,155nm,1.5s
USHA Ushuaia 64.95 173 LR LR 07 29 13.6
comp=Z,3µm,20.8s,baz=126,slow=37
RES Resolute Bay 65.53 355 LR LR 07 29 24.9
comp=Z,6µm,18.2s,baz=161,slow=36
ASCN Ascension 66.75 103 P **P 07 00 25.9 +2.4**
comp=Z,4µm,1.0s,SNR=5.2
ASCN Ascension 66.75 103 *e*P **P 07 00 24.4 +0.9**
comp=Z,2µm,1.3s
ASCN LR LR
comp=Z,669nm,19.0s
PNL Peninsula 66.90 331 *e*P **P 07 00 24.1 +0.4**
comp=Z,103nm,1.3s
SUMG Summit 67.29 12 ⇑*i*P **P 07 00 27.0 +0.6**
SUMG *i* S **S 07 09 16.0 -2.1**
SUMG pmax pmax
comp=Z,110nm,0.8s
SUMG MLR MLR
comp=Z,3µm,19.0s
SUMG Summit 67.29 12 *e*P **P 07 00 26.5 +0.1**
comp=Z,194nm,0.8s
SUMG Summit 67.29 12 ⇑*i*P **P 07 00 27.0 +0.6**
comp=Z,113nm,0.8s
SUMG *i* S **S 07 09 16.0 -2.1**
SUMG
comp=Z,3µm,18.0s
BORG Borgarnes 67.79 23 *e*P **P 07 00 31.0 +1.8**
comp=Z,92nm,1.1s
BORG LR LR
comp=Z,2µm,19.0s
PMAFR Mafra 68.19 52 *i* P **P 07 00 32.7 +0.4**
comp=Z,163nm,1.6s
PMAFR *e*S **S 07 09 31.5 +2.3**
LIS Lisbon 68.27 52 *e*P **P 07 00 33.4 +0.6**
LIS AMb AMb 07 00 36.6
comp=Z,255nm,1.6s
LIS *e*S **S 07 09 32.1 +2.0**
LIS Lisbon 68.27 52 *e*P **P 07 00 33.4 +0.6**
comp=Z,255nm,1.6s
LIS *e*S **S 07 09 32.1 +2.0**
LIS Lisbon 68.27 52 *e*P **P 07 00 33.4 +0.6**
LIS *e*S **S 07 09 32.1 +2.0**
INK Inuvik 68.34 341 P **P 07 00 32.9 +0.3**
INK Inuvik 68.34 341 P **P 07 00 32.9 +0.3**
comp=Z,62nm,0.7s,baz=105,slow=7.2,SNR=117
INK LR LR 07 33 08.2
comp=Z,13µm,18.3s,baz=115,slow=38
PFVI Vila Bisbo 68.40 54 *i* P **P 07 00 34.4 +0.8**
comp=Z,210nm,1.3s
PFVI *e*S **S 07 09 35.1 +3.3**
PTEO Sao Teotonio 68.52 54 *i* P **P 07 00 35.2 +0.9**
comp=Z,194nm,1.9s
MORF Marmelete 68.56 54 *i* P **P 07 00 35.6 +1.0**
comp=Z,297nm,1.7s
MORF *e*S **S 07 09 35.9 +2.2**
MORF Marmelete 68.56 54 *e*P **P 07 00 35.4 +0.8**
MORF *e*S **S 07 09 35.2 +1.5**
PNCL Nicolau / Gran 68.71 53 *i* P **P 07 00 36.0 +0.5**
comp=Z,185nm,1.8s
PNCL *e*S **S 07 09 38.0 +2.6**
PMTG Montargil 69.02 52 *i* P **P 07 00 37.7 +0.3**
comp=Z,177nm,1.6s
PMTG *e*S **S 07 09 40.5 +1.5**
PCVE Castro Verde 69.06 53 *i* P **P 07 00 38.5 +0.8**
comp=Z,142nm,1.4s
PCVE *e*S **S 07 09 41.0 +1.4**
PBDV Barranco-do-Ve 69.12 54 *i* P **P 07 00 39.4 +1.2**
comp=Z,212nm,1.6s
PBDV *e*S **S 07 09 41.5 +1.1**
EVO Evora 69.15 53 ⇑*i*P **P 07 00 38.1 -0.1**
comp=Z,297nm,1.2s
EVO *e*R
comp=Z,2µm,22.5s
EVO Evora 69.15 53 *i* P **P 07 00 38.7 +0.5**
comp=Z,124nm,1.7s
PBEJ Beja 69.23 53 *i* P **P 07 00 39.3 +0.6**
comp=Z,111nm,1.6s
PGAV Gavieira, Arco 69.24 49 *i* P **P 07 00 39.3 +0.4**
comp=Z,158nm,1.6s
PGAV *e*S **S 07 09 42.7 +1.0**
PGAV *e*LQ LQ 07 17 41.5
PGAV *e*LR LR 07 21 43.8
comp=Z,2µm,20.0s
PVAQ Vaqueiros 69.31 54 *i* P **P 07 00 40.1 +0.9**
comp=Z,162nm,1.6s
PVAQ *e*S **S 07 09 45.5 +3.1**
PVAQ *e*LQ LQ 07 17 46.1
PVAQ *e*LR LR 07 21 32.4
comp=Z,2µm,22.0s
VAL Valentia 69.33 38 ⇓*i*P **P 07 00 38.8 -0.2**
VAL Valentia 69.33 38 ⇓*i*S **S 07 09 44.9 +2.8**
PCAB Cabril 69.40 49 *i* P **P 07 00 39.8 0.0**
comp=Z,129nm,1.7s
PVIS Viseu 69.41 50 *i* P **P 07 00 40.0 +0.1**
comp=Z,194nm,1.3s
PESTR Estremoz 69.50 52 *i* P **P 07 00 40.9 +0.5**
comp=Z,300nm,1.4s
PESTR *e*S **S 07 09 46.1 +1.4**
POLO Lamas de Olo 69.54 50 *i* P **P 07 00 41.1 +0.4**
comp=Z,87nm,1.4s
POLO *e*S **S 07 09 47.4 +2.1**
EGAK Eagle 69.55 336 *e*P **P 07 00 40.3 +0.1**
comp=Z,116nm,1.2s
EGAK LR LR
comp=Z,3µm,19.0s
PVRL Vila Real 69.59 50 *i* P **P 07 00 41.3 +0.3**
comp=Z,221nm,1.4s
MTE Manteigas 69.65 51 *i* P **P 07 00 41.6 +0.2**
comp=Z,147nm,1.3s
MTE *e*S **S 07 09 46.5 0.0**
MTE *e*LQ LQ 07 17 30.6
MTE *e*LR LR 07 21 46.3
comp=Z,3µm,22.0s
MTE Manteigas 69.65 51 *e*P **P 07 00 41.2 -0.2**
comp=Z,93nm,1.1s
MTE LR LR
comp=Z,3µm,22.0s
PCBR Castelo Branco 69.66 51 *i* P **P 07 00 41.8 +0.5**
comp=Z,214nm,1.5s
PMRV Marv??o 69.69 52 *i* P **P 07 00 41.6 0.0**
comp=Z,170nm,1.7s
PMRV *e*S **S 07 09 48.0 +1.0**
PMRV *e*LQ LQ 07 17 52.0
PMRV *e*LR LR 07 21 19.3
comp=Z,2µm,22.0s
PBAR Barrancos 69.89 53 *i* P **P 07 00 43.4 +0.6**
comp=Z,188nm,1.8s
PBAR *e*S **S 07 09 50.8 +1.6**
MENT Mentasta 69.98 334 *e*P **P 07 00 43.1 +0.1**
MVO Moncorvo 70.10 50 *i* P **P 07 00 44.5 +0.4**
comp=Z,204nm,1.4s
MVO *e*S **S 07 09 50.9 -0.9**
MVO *e*LQ LQ 07 17 39.4
MVO *e*LR LR 07 21 59.2
comp=Z,2µm,20.0s
SCO Scoresbysund 70.21 17 ⇑*i*P **P 07 00 44.3 +0.2**
SCO *i* S **S 07 09 52.0 +0.2**
SCO pmax pmax
comp=Z,15nm,1.0s
SCO MLR MLR
comp=Z,3µm,18.0s
SCO Scoresbysund 70.21 17 ⇑*i*P **P 07 00 44.3 +0.2**
comp=Z,15nm,1.0s
SCO *i* S **S 07 09 52.0 +0.2**
SCO
comp=Z,3µm,18.0s
PBRG Braganca 70.36 49 *i* P **P 07 00 46.3 +0.6**
comp=Z,119nm,1.6s
PBRG *e*S **S 07 09 56.6 +1.8**
DIV Divide 70.37 332 *e*P **P 07 00 45.7 +0.3**
comp=Z,176nm,1.2s
PAX Paxson 70.75 334 *e*P **P 07 00 47.9 +0.2**
PAX pmax pmax
comp=Z,304nm,1.7s
PAX Paxson 70.75 334 *e*P **P 07 00 47.9 +0.2**
comp=Z,304nm,1.7s
ILAR Eielson Array 71.87 335 P **P 07 00 54.3 0.0**
ILAR Eielson Array 71.87 335 P **P 07 00 54.3 0.0**
comp=Z,22nm,0.8s,baz=106,slow=3.9,SNR=106
ILAR LR LR 07 36 10.8
comp=Z,4µm,18.8s,baz=338,slow=39
PMR Palmer 72.05 332 *e*P **P 07 00 54.7 -0.7**
PMR pmax pmax
comp=Z,205nm,1.4s
PMR Palmer 72.05 332 *e*P **P 07 00 54.7 -0.7**
comp=Z,205nm,1.4s
PAB San Pablo 72.05 52 *e*P **P 07 00 56.2 +0.2**
PAB pmax pmax
comp=Z,176nm,1.4s
PAB MLR MLR
comp=Z,3µm,22.0s
PAB San Pablo 72.05 52 *e*P **P 07 00 56.2 +0.2**
comp=Z,176nm,1.4s
PAB LR LR
comp=Z,3µm,22.0s
GMM Mts of Mourne 72.26 36 ⇑*e*P **P 07 00 56.6 -0.2**
COLA College 72.29 335 *e*P **P 07 00 56.5 -0.3**
COLA pmax pmax
comp=Z,89nm,1.1s
COLA MLR MLR
comp=Z,3µm,19.0s
COLA College 72.29 335 *e*P **P 07 00 56.5 -0.3**
comp=Z,89nm,1.1s
COLA LR LR
comp=Z,3µm,19.0s
ESDC Sonseca Array 72.35 51 P **P 07 00 58.4 +0.6**
ESDC P'P' 07 28 39.8
ESDC Sonseca Array 72.35 51 P **P 07 00 58.4 +0.6**
comp=Z,23nm,0.7s,baz=276,slow=5.5,SNR=167
ESDC LR LR 07 27 23.9
comp=Z,1µm,21.8s,baz=270,slow=31
ESDC PKPPKP P'P'df 07 28 39.8 -5.7
comp=Z,0.7nm,0.7s,baz=57,slow=3.5,SNR=4.8
ESLA Sonseca Array 72.35 51 *e*P **P 07 00 58.2 +0.4**
comp=Z,54nm,1.1s
MCK McKinley 72.46 334 *e*P **P 07 00 58.1 +0.2**
MCK pmax pmax
comp=Z,333nm,1.4s
MCK McKinley 72.46 334 *e*P **P 07 00 58.1 +0.2**
comp=Z,333nm,1.4s
PMOR Pomariorio Ree 72.54 251 *e*P **P 07 01 01.4 +2.3**
comp=Z,94nm,1.0s
PMOR *ep*P **pP 07 01 13.8 +0.7**
comp=Z,928nm,1.3s
HTL Hartland 72.75 40 AMS AMS 07 26 00.1
comp=Z,3µm,24.0s
KPL Plockton 72.88 33 ⇑*e*P **P 07 00 59.9 -0.5**
KPL AMB AMB 07 01 01.0
comp=Z,116nm,1.8s
KPL AMS AMS 07 27 19.0
comp=Z,3µm,20.2s
TRF Thorofare Moun 72.98 334 *e*P **P 07 01 00.7 -0.5**
comp=Z,1.0nm,0.6s
YRE Yr Eifl 73.00 38 ⇑*i*P **P 07 01 01.5 +0.2**
DYA Yadsworthy 73.05 40 *e*P **P 07 01 01.1 -0.5**
DYA AMB AMB 07 01 02.7
comp=Z,119nm,1.9s
KDAK Kodiak Island 73.05 328 *e*P **P 07 01 00.8 -0.6**
comp=Z,241nm,1.6s
KDAK Kodiak Island 73.05 328 P **P 07 01 01.3 -0.1**
comp=Z,11nm,0.6s,baz=74,slow=4.0,SNR=19
KDAK LR LR 07 37 58.1
comp=Z,3µm,18.1s,baz=105,slow=40
WLF1 Llynfaes 73.05 37 ⇑*e*P **P 07 01 01.3 -0.2**
WLF1 AMB AMB 07 01 02.5
comp=Z,109nm,1.9s
WLF1 AMS AMS 07 27 53.1
comp=Z,2µm,20.8s
GAL1 Galloway 73.06 36 *e*P **P 07 01 01.0 -0.5**
GAL1 AMB AMB 07 01 02.4
comp=Z,148nm,1.7s
GAL1 AMS AMS 07 26 04.8
comp=Z,2µm,20.3s
ALE Alert 73.09 2 P **P 07 01 01.0 -0.3**
comp=Z,474nm,1.2s,SNR=27
KAC Achnashellach 73.09 33 ⇑*i*P **P 07 01 01.4 -0.3**
WME Myndd Eilian 73.12 37 ⇑*e*P **P 07 01 01.8 -0.1**
LIC Lamto 73.24 86 ⇑*i*P **P 07 01 03.3 -0.1**
comp=Z,145nm,0.6s,baz=271
LIC *e*R
comp=Z,2µm,21.8s
PGBU Glenifferbraes 73.31 35 ⇑*e*P **P 07 01 02.8 -0.2**
PGBU AMB AMB 07 01 03.9
comp=Z,209nm,1.6s
PGBU AMS AMS 07 29 59.0
comp=Z,2µm,19.9s
ROSF Rostrenen 73.31 42 ⇑*i*P **P 07 01 03.5 +0.3**
comp=Z,306nm,1.5s
WPM1 Penmaenmawr 73.34 37 ⇑*e*P **P 07 01 03.0 -0.3**
OHAK Old Harbor 73.34 327 *e*P **P 07 01 02.8 -0.4**
comp=Z,127nm,1.2s
DBIC Dimbokro 73.35 86 *e*P **P 07 01 03.6 -0.4**
comp=Z,273nm,1.3s
DBIC Dimbokro 73.35 86 P **P 07 01 03.9 -0.1**
comp=Z,98nm,1.0s,baz=269,slow=6.9,SNR=30
QUIF Quistinic 73.35 43 ⇑*i*P **P 07 01 03.9 +0.5**
comp=Z,558nm,1.7s
EAB Aberfoyle 73.43 34 ⇑*e*P **P 07 01 03.3 -0.5**
MEH Mehetia 73.48 248 *e*P **P 07 01 06.8 +2.1**
comp=Z,70nm,0.9s
MEH *ep*P **pP 07 01 19.2 +0.5**
comp=Z,594nm,1.4s
GCD Castle Douglas 73.50 36 ⇑*e*P **P 07 01 03.9 -0.2**
RSO Redoubt South 73.56 330 *e*P **P 07 01 04.4 -0.3**
comp=Z,336nm,1.2s
MDO Dochfour 73.59 33 ⇑*i*P **P 07 01 04.2 -0.5**
FOEL Foel Wylfa 73.73 38 ⇑*e*P **P 07 01 05.4 -0.1**
FOEL AMB AMB 07 01 06.3
comp=Z,131nm,1.6s
FOEL AMS AMS 07 27 10.6
comp=Z,2µm,21.3s
MVH1 Achvaich 73.75 32 ⇑*i*P **P 07 01 05.2 -0.3**
MCH1 Michaelchurch 73.77 39 ⇑*e*P **P 07 01 05.5 -0.4**
MCH1 AMB AMB 07 01 06.4
comp=Z,140nm,1.7s
MCH1 AMS AMS 07 28 36.6
comp=Z,2µm,21.1s
SGMF Saint Gilles 73.78 43 ⇑*i*P **P 07 01 06.2 +0.3**
comp=Z,482nm,1.5s
COLD Coldfoot 73.81 337 *e*P **P 07 01 06.8 +1.0**
comp=Z,219nm,1.3s
HLM1 Long Mynd 73.89 38 ⇑*e*P **P 07 01 06.4 -0.2**
HLM1 AMB AMB 07 01 07.4
comp=Z,170nm,1.6s
KESW Keswick, Cumbr 73.95 36 ⇑*e*P **P 07 01 06.8 0.0**
KESW AMB AMB 07 01 07.8
comp=Z,138nm,1.5s
KESW AMS AMS 07 26 07.3
comp=Z,1µm,25.3s
ESK Eskdalemuir 73.97 35 ⇑*e*P **P 07 01 06.7 -0.2**
ESK AMB AMB 07 01 07.7
comp=Z,161nm,1.8s
ESK Eskdalemuir 73.97 35 *i* P **P 07 01 07.2 +0.3**
ESK Eskdalemuir 73.97 35 *e*P **P 07 01 06.5 -0.4**
comp=Z,199nm,1.4s
ESK LR LR
comp=Z,2µm,20.0s
DAG Danmarks Havn 73.98 12 ⇑*i*P **P 07 01 06.2 -0.4**
DAG *i* S **S 07 10 33.0 -1.9**
DAG pmax pmax
comp=Z,60nm,1.2s
DAG MLR MLR
comp=Z,5µm,19.0s
DAG Danmarks Havn 73.98 12 ⇑*i*P **P 07 01 06.2 -0.4**
comp=Z,38nm,1.2s
DAG *i* S **S 07 10 33.0 -1.9**
DAG
comp=Z,5µm,19.0s
ECK Cauldkaine Hil 74.00 35 ⇑*i*P **P 07 01 06.8 -0.4**
EDI Edinburgh 74.05 35 ⇑*e*P **P 07 01 06.8 -0.5**
EDI AMB AMB 07 01 08.0
comp=Z,123nm,1.7s
EDI AMS AMS 07 30 21.6
comp=Z,2µm,20.2s
JSA Saint Aubin 74.09 42 ⇑*e*P **P 07 01 07.9 +0.2**
JSA AMB AMB 07 01 08.9
comp=Z,107nm,1.7s
EBL Broad Law 74.11 35 ⇑*e*P **P 07 01 07.2 -0.5**
JQE Queens East 74.18 42 ⇑*e*P **P 07 01 08.2 0.0**
MCD Coleburn Disti 74.20 33 ⇑*e*P **P 07 01 08.2 0.0**
MME1 Meikle Cairn 74.32 33 ⇑*i*P **P 07 01 08.3 -0.6**
OLHC Oulhaca 74.34 56 P P 07 01 17.0 +7.4
STNC Stoke 74.35 38 ⇑*e*P **P 07 01 09.4 +0.2**
STNC AMB AMB 07 01 10.4
comp=Z,221nm,1.7s
STNC AMS AMS 07 27 17.9
comp=Z,2µm,21.9s
ESY Stoneypath 74.36 35 ⇑*i*P **P 07 01 09.0 -0.2**
SWN1 Swindon 74.48 39 ⇑*e*P **P 07 01 10.1 +0.1**
SWN1 AMB AMB 07 01 11.0
comp=Z,240nm,1.6s
SWN1 AMS AMS 07 27 03.6
comp=Z,3µm,22.7s
SSW Stow on the Wo 74.48 39 ⇑*e*P **P 07 01 09.8 -0.1**
OSSF Osses 74.48 48 ⇑*e*P **P 07 01 10.4 +0.3**
OSSF Osses 74.48 48 ⇑*e*P **P 07 01 10.4 +0.3**
SJPF Ste Jean 74.50 48 ⇑*i*P **P 07 01 11.1 +0.8**
comp=Z,341nm,1.2s
JMIC Jan Mayen 74.53 19 ⇑*i*P **P 07 01 10.2 +0.3**
JMIC AMB AMB 07 01 13.2
comp=Z,260nm,1.7s
JMIC AMS AMS 07 25 27.9
comp=Z,2µm,34.0s
TVO Taravao 74.54 248 *e*P **P 07 01 12.8 +1.8**
comp=Z,78nm,1.2s
TVO *ep*P **PcP 07 01 25.2 -0.1**
comp=Z,299nm,1.6s
TIAR Tiarei 74.56 249 *e*P **P 07 01 13.1 +2.0**
comp=Z,70nm,1.0s
TIAR *ep*P **PcP 07 01 25.3 0.0**
comp=Z,383nm,1.2s
ORDF Ordiarp 74.72 48 *e*P **P 07 01 11.5 0.0**
ORDF Ordiarp 74.72 48 *e*P **P 07 01 11.5 0.0**
HPK Haverah Park 74.76 37 ⇑*e*P **P 07 01 11.1 -0.4**
HPK AMB AMB 07 01 12.4
comp=Z,136nm,1.7s
HPK AMS AMS 07 28 42.5
comp=Z,2µm,21.9s
KBI1 Birley Grange 74.77 37 ⇑*i*P **P 07 01 11.7 +0.1**
PPT Papeete 74.78 249 LR LR 07 26 38.8

comp=Z,2µm,19.8s,baz=253,slow=30
PPT2 Papeete2 74.78 249 *e*P **P 07 01 14.5 +2.1**
comp=Z,49nm,1.6s
PPT2 *e*pP **pP 07 01 26.7 +0.3**
comp=Z,204nm,1.4s
PPT2 *e*S **S 07 10 43.7 -2.3**
comp=Z,3µm,34.5s
PPT2 Papeete2 74.78 249 *e*LQ LQ 07 21 09.1
comp=Z,2µm,27.2s
PPT2 *e*LR LR 07 24 18.7
comp=Z,6µm,28.2s,baz=72
PAE Paea 74.81 249 *e*P **P 07 01 14.4 +2.0**
comp=Z,15nm,1.1s
PAE *e*pP **pP 07 01 26.7 +0.3**
comp=Z,83nm,1.3s
WOL Wolverton 74.83 39⇑*e*P **P 07 01 11.6 -0.4**
WOL AMB AMB 07 01 12.9
comp=Z,202nm,1.6s
WOL AMS AMS 07 27 15.1
comp=Z,3µm,22.6s
ATE Arette 74.89 48⇑*e*P **P 07 01 13.1 +0.6**
ATE Arette 74.89 48⇑*e*P **P 07 01 13.1 +0.6**
GRR Gorron 74.92 43⇑*i*P **P 07 01 12.9 +0.3**
comp=Z,669nm,1.4s
ETSF Etsaut 74.99 48⇑*i*P **P 07 01 14.0 +0.8**
comp=Z,240nm,1.3s
USTO Oran 75.04 56 P **P 07 01 16.0 +2.5**
REYF Montagne du Re 75.11 48⇑*e*P **P 07 01 14.9 +1.0**
REYF Montagne du Re 75.11 48⇑*e*P **P 07 01 14.9 +1.0**
PMSA Palmer Station 75.17 173 *e*P **P 07 01 13.7 +0.2**
comp=Z,58nm,1.0s
PMSA Palmer Station 75.17 173 LR LR 07 31 39.4
comp=Z,1µm,21.3s,baz=358,slow=34
FLN La Foliniere 75.18 42⇑*i*P **P 07 01 14.6 +0.5**
comp=Z,643nm,1.4s,baz=268
FLN *e*R
comp=Z,6µm,22.2s
MFF Saint Martin d 75.34 44⇑*i*P **P 07 01 15.5 +0.4**
comp=Z,825nm,1.7s
ODJA Bouhanifia 75.38 56 P **P 07 01 18.0 +2.4**
LDF La Druitiere 75.41 42⇑*i*P **P 07 01 15.8 +0.4**
comp=Z,672nm,1.5s
VIEF Viey 75.42 48⇑*e*P **P 07 01 16.7 +1.0**
VIEF Viey 75.42 48⇑*e*P **P 07 01 16.7 +1.0**
LABF Labassere 75.45 48⇑*e*P **P 07 01 16.6 +0.7**
LABF Labassere 75.45 48⇑*e*P **P 07 01 16.6 +0.7**
LRW Lerwick 75.55 30 *e*P **P 07 01 15.6 -0.3**
LRW AMB AMB 07 01 16.6
comp=Z,110nm,1.9s
LRW AMS AMS 07 25 02.2
comp=Z,2µm,42.4s
RESF Ens 75.65 48⇑*e*P **P 07 01 18.2 +1.1**
RESF Ens 75.65 48⇑*e*P **P 07 01 18.2 +1.1**
EPF Esparros 75.65 48⇑*i*P **P 07 01 17.7 +0.7**
comp=Z,561nm,1.6s
HMNX Herstmonceux 75.79 40⇑*e*P **P 07 01 17.5 +0.1**
HMNX AMB AMB 07 01 18.6
comp=Z,208nm,1.7s
LFF La Frestale 75.94 46⇑*i*P **P 07 01 18.9 +0.4**
comp=Z,568nm,1.6s
MELF Melles 75.96 48⇑*e*P **P 07 01 19.5 +0.7**
MELF Melles 75.96 48⇑*e*P **P 07 01 19.5 +0.7**
CHGN Chignik 76.06 326 *e*P **P 07 01 18.5 -0.5**
MLS Moulis 76.20 48⇑*e*P **P 07 01 20.7 +0.6**
MLS Moulis 76.20 48⇑*e*P **P 07 01 20.7 +0.6**
SALF Salau 76.28 48 *e*P **P 07 01 21.7 +1.1**
SALF Salau 76.28 48 *e*P **P 07 01 21.7 +1.1**
TBI Tubuai 76.29 243 *e*P **P 07 01 22.5 +1.7**
comp=Z,106nm,1.2s
TBI *e*pP **pP 07 01 34.8 -0.1**
comp=Z,327nm,1.3s
TBI *e*S **S 07 11 03.3 +1.0**
comp=Z,2µm,26.5s
TBI Tubuai 76.29 243 *e*LQ LQ 07 21 44.8
comp=Z,5µm,38.8s
TBI *e*LR LR 07 24 58.2
comp=Z,3µm,31.5s,baz=65
ELSH Elham, Standar 76.30 40⇑*e*P **P 07 01 20.3 -0.1**
ELSH AMB AMB 07 01 21.6
comp=Z,203nm,1.6s
ELSH AMS AMS 07 28 12.3
comp=Z,3µm,22.9s
KIP Kipapa 76.32 290 *e*P **P 07 01 22.2 +1.1**
KIP pmax pmax
comp=Z,245nm,1.4s
KIP MLR MLR
comp=Z,2µm,22.0s
KIP Kipapa 76.32 290 *e*P **P 07 01 22.2 +1.1**
comp=Z,245nm,1.4s
KIP LR LR
comp=Z,2µm,22.0s
EANR `Ain N'Sour 76.38 55 P **P 07 01 22.0 +0.7**
RJF Les Rejaudoux 76.49 46⇑*i*P **P 07 01 21.9 +0.2**
comp=Z,644nm,1.8s
RJF *e*R
comp=Z,2µm,21.5s
ETRT Tiaret 76.56 56 P **P 07 01 24.0 +1.6**
ECHA Ech Chlef 76.58 55 P **P 07 01 25.0 +2.7**
EBNR Beni Rached 76.71 55 P **P 07 01 24.6 +1.5**
CAF Calviac 76.88 46⇑*i*P **P 07 01 24.2 +0.3**
comp=Z,518nm,1.6s
SHEL Horse Pasture 76.89 109 *e*P **P 07 01 25.8 +1.4**
SHEL pmax pmax
comp=Z,172nm,1.1s
SHEL MLR MLR
comp=Z,2µm,21.0s
SHEL Horse Pasture 76.89 109 *e*P **P 07 01 25.8 +1.4**
comp=Z,172nm,1.1s
SHEL LR LR
comp=Z,2µm,21.0s
VALF Valcebollere 76.89 49⇑*e*P **P 07 01 25.0 +0.8**
VALF Valcebollere 76.89 49⇑*e*P **P 07 01 25.0 +0.8**
CARF Carcanieres 76.95 48⇑*e*P **P 07 01 24.7 +0.3**
CARF Carcanieres 76.95 48⇑*e*P **P 07 01 24.7 +0.3**
TCF Toulx Ste Croi 76.97 45⇑*i*P **P 07 01 24.4 0.0**
comp=Z,351nm,1.6s
MTLF Montolieu 77.02 48⇑*i*P **P 07 01 24.9 +0.2**
comp=Z,289nm,1.3s
SDPT Sand Point 77.19 325 *e*P **P 07 01 25.8 +0.5**
comp=Z,194nm,1.4s
FRNF Fournols 77.23 46⇑*e*P **P 07 01 26.5 +0.6**
FRNF Fournols 77.23 46⇑*e*P **P 07 01 26.5 +0.6**
HYF Humbligny 77.26 44⇑*i*P **P 07 01 26.3 +0.4**
LRDF Laroque-de-Fa 77.26 48⇑*e*P **P 07 01 26.2 +0.1**
LRDF Laroque-de-Fa 77.26 48⇑*e*P **P 07 01 26.2 +0.1**
FILF Fillols 77.29 49⇑*e*P **P 07 01 26.3 0.0**
FILF Fillols 77.29 49⇑*e*P **P 07 01 26.3 0.0**
BGF Bois d'Agland 77.41 44⇑*i*P **P 07 01 26.9 +0.1**
comp=Z,469nm,1.6s
SJAF Saint Jean de 77.53 49⇑*e*P **P 07 01 28.2 +0.6**
SJAF Saint Jean de 77.53 49⇑*e*P **P 07 01 28.2 +0.6**
PYM Petit Puy Mans 77.53 45⇑*e*P **P 07 01 27.9 +0.3**
PYM Petit Puy Mans 77.53 45⇑*e*P **P 07 01 27.9 +0.3**
PYM Petit Puy Mans 77.53 45⇑*e*P **P 07 01 27.9 +0.3**
AGO Saint Agoulin 77.61 45⇑*e*P **P 07 01 28.1 +0.1**
AGO Saint Agoulin 77.61 45⇑*e*P **P 07 01 28.1 +0.1**
LBL Lubilhac 77.72 46 *e*P **P 07 01 29.4 +0.8**
LBL Lubilhac 77.72 46 *e*P **P 07 01 29.4 +0.8**
LBL Lubilhac 77.72 46 *e*P **P 07 01 29.4 +0.8**
AVF Avril sur Loir 77.75 44⇑*i*P **P 07 01 28.5 -0.2**
comp=Z,266nm,1.4s
TRIS Tristan da Cun 77.83 131 PFAKE 07 01 40.0 +11
TRIS LR LR
comp=Z,6µm,19.0s
SSF Saint Saulge 77.85 44⇑*i*P **P 07 01 29.0 -0.2**
comp=Z,327nm,1.4s
EMHD Djebel Mahouad 77.86 55 P **P 07 01 30.0 +0.3**
ABA Alger-Bouzarea 77.89 54 P **P 07 01 30.2 +0.5**
LOR Lormes 78.09 44⇑*i*P **P 07 01 30.4 -0.2**
comp=Z,401nm,1.5s,baz=266
LOR *e*R
comp=Z,4µm,22.8s
SMF Signal de Mont 78.09 44⇑*i*P **P 07 01 30.4 -0.2**
comp=Z,423nm,1.5s
LASF Ste Croix 78.19 47⇑*i*P **P 07 01 32.0 +0.8**
comp=Z,413nm,1.6s
XMAS Kiritimati 78.25 270 PFAKE 07 01 40.0 +7.9
XMAS LR LR
comp=Z,3µm,20.0s
BAIF Baives 78.25 41⇑*i*P **P 07 01 31.5 +0.1**
comp=Z,404nm,1.8s
ADJB Djebel Djouab 78.26 55 P **P 07 01 32.3 +0.4**
UCC Uccle 78.34 40 P **P 07 01 32.1 +0.3**
DOU Dourbes 78.50 41 P **P 07 01 32.9 +0.1**
comp=Z,78nm,1.7s

AKET Djebel Ketaf 78.62 55 P **P 07 01 34.9 +1.0**
SSB Saint Sauveur 78.63 46 *e*P **P 07 01 33.9 +0.3**
SSB pmax pmax
comp=Z,133nm,1.5s
SSB MLR MLR
comp=Z,911nm,20.0s
SSB Saint Sauveur 78.63 46 *e*P **P 07 01 33.9 +0.3**
comp=Z,133nm,1.5s
SSB LR LR
comp=Z,911nm,20.0s
SSB Saint Sauveur 78.63 46⇑*e*P **P 07 01 34.2 +0.6**
GIVF Givet 78.65 41⇑*i*P **P 07 01 33.8 +0.2**
comp=Z,665nm,1.5s
VIVF Saint-Julien-l 78.74 46⇑*i*P **P 07 01 35.1 +0.9**
comp=Z,898nm,1.9s
BER Bergen 78.80 30⇑*i*P **P 07 01 32.6 -1.5**
BER *e*S **S 07 11 28.7 +0.5**
BER AMS AMS 07 29 00.3
comp=Z,2µm,21.4s
MEZF Maizieres J'vi 78.85 42⇑*i*P **P 07 01 35.0 +0.3**
comp=Z,400nm,1.2s,baz=277
SFTF Sexfontaines 78.85 43⇑*i*P **P 07 01 34.7 -0.1**
comp=Z,529nm,1.5s,baz=271
FALS False Pass 78.87 324 *e*P **P 07 01 34.4 -0.3**
comp=Z,229nm,1.2s
TOA0 Torodi Ar. Sit 78.88 78 *e*P **P 07 01 35.1 -0.4**
TORD Torodi Ar. Bea 78.88 78 P **P 07 01 35.1 -0.4**
TORD PKKPbc **PKKPbc 07 20 32.7 +4.2**
TORD Torodi Ar. Bea 78.88 78 P **P 07 01 35.1 -0.4**
comp=Z,23nm,0.5s,baz=287,slow=6.2,SNR=257
TORD PKKPbc **PKKPbc 07 20 32.7 +4.2**
comp=Z,1.1nm,0.8s,baz=146,slow=3.3,SNR=5.4
TORD LR LR 07 33 29.1
comp=Z,1µm,21.3s,baz=265,slow=33
BEBN Eben Emael 79.17 40 P **P 07 01 36.6 +0.3**
comp=Z,45nm,2.0s
HYA Hoyanger 79.22 29 *e*P **P 07 01 36.9 +0.5**
HYA AMB AMB 07 01 39.3
comp=Z,128nm,1.3s
PAGF Fort de Pagny 79.30 42⇑*i*P **P 07 01 37.5 +0.3**
comp=Z,192nm,1.4s,baz=268
OG35 Corcelles 79.31 45⇑*e*P **P 07 01 37.5 +0.1**
HGN Heimansgroew 79.33 40 *i* P **P 07 01 37.4 +0.1**
comp=Z,318nm,1.7s
HGN *e*S **S 07 11 33.1 -1.1**
HGN *e*SS SS 07 16 53.7 +12
MEM Membach 79.39 40 P **P 07 01 38.1 +0.5**
comp=Z,68nm,1.7s
SMRF Simiane la Rot 79.43 47⇑*i*P **P 07 01 39.0 +1.0**
comp=Z,266nm,1.5s
GRN Grenoble 79.48 46⇑*e*P **P 07 01 39.2 +0.9**
GRN Grenoble 79.48 46⇑*e*P **P 07 01 39.2 +0.9**
GRN Grenoble 79.48 46⇑*e*P **P 07 01 39.2 +0.9**
THEF They Montfort 79.49 43⇑*e*P **P 07 01 38.7 +0.5**
THEF They Montfort 79.49 43⇑*e*P **P 07 01 38.7 +0.5**
THEF They Montfort 79.49 43⇑*e*P **P 07 01 38.7 +0.5**
WLF Walferdange 79.53 41 P **P 07 01 38.9 +0.4**
comp=Z,146nm,1.8s
WLF Walferdange 79.53 41 *e*P **P 07 01 38.7 +0.3**
comp=Z,208nm,1.4s
WLF Walferdange 79.53 41 *e*P **P 07 01 38.8 +0.4**
WLF pmax pmax
comp=Z,227nm,1.4s
WLF MLR MLR
comp=Z,4µm,19.0s
WLF Walferdange 79.53 41 *e*P **P 07 01 38.8 +0.4**
comp=Z,227nm,1.4s
WLF LR LR
comp=Z,4µm,19.0s
ORIF Oris-en-Rattie 79.59 46⇑*i*P **P 07 01 39.9 +0.9**
comp=Z,474nm,1.4s
ORIF *e*R
comp=Z,1µm,21.8s
CABF La Chapelle 79.64 44⇑*i*P **P 07 01 39.4 +0.2**
comp=Z,458nm,1.5s
HAU Haudompre 79.74 43⇑*i*P **P 07 01 39.5 -0.1**
comp=Z,236nm,1.4s
HAU *e*R
comp=Z,3µm,22.5s
GDM Grand'Maison 79.74 46 *e*P **P 07 01 40.3 +0.4**
GDM Grand'Maison 79.74 46 *e*P **P 07 01 40.3 +0.4**
WTSB Winterswijk 79.83 39 *i* P **P 07 01 40.3 +0.4**
comp=Z,578nm,1.7s
MOL Molde 79.84 28 *e*S **S 07 11 40.9 +1.8**
CKHR Kef el Ahmar 79.94 55 P **P 07 01 42.2 +1.1**
OG01 Vacheresse 80.07 45⇑*e*P **P 07 01 41.9 +0.4**
OG01 Vacheresse 80.07 45⇑*e*P **P 07 01 41.9 +0.4**
HINF Hinteralfeld 80.09 43⇑*i*P **P 07 01 41.3 -0.2**
comp=Z,244nm,1.4s
LOMF Lomont 80.10 44⇑*e*P **P 07 01 41.9 +0.2**
LOMF Lomont 80.10 44⇑*e*P **P 07 01 41.9 +0.2**
LOMF Lomont 80.10 44⇑*e*P **P 07 01 41.9 +0.2**
RUP Ruppelstein 80.11 41⇑*e*P **P 07 01 42.5 +0.9**
RUP Ruppelstein 80.11 41⇑*e*P **P 07 01 42.5 +0.9**
BUG Bochum--Univer 80.14 39 *e*P **P 07 01 41.7 0.0**
comp=Z,239nm,1.6s
LMR La Mourre 80.15 48⇑*i*P **P 07 01 42.1 +0.2**
comp=Z,483nm,1.8s
BNI Bardonecchia 80.15 46 *e*P **P 07 01 42.7 +0.7**
BNI pmax pmax
comp=Z,126nm,1.4s
BNI MLR MLR
comp=Z,1µm,22.0s
BNI Bardonecchia 80.15 46 *e*P **P 07 01 42.7 +0.7**
comp=Z,126nm,1.4s
BNI LR LR
comp=Z,1µm,22.0s
LPL La Plagne 80.16 45⇑*i*P **P 07 01 42.9 +0.7**
comp=Z,170nm,1.3s
LPG La Plagne 80.17 45⇑*i*P **P 07 01 43.2 +0.9**
comp=Z,190nm,1.4s
DFRA Djebel Bou Aff 80.19 54 P **P 07 01 43.4 +1.0**
MBDF Montbardon 80.24 46⇑*i*P **P 07 01 43.3 +0.8**
comp=Z,365nm,1.3s
ECH Echery 80.27 43⇑*e*P **P 07 01 42.8 +0.3**
ECH Echery 80.27 43⇑*e*P **P 07 01 42.8 +0.3**
ECH Echery 80.27 43⇑*e*P **P 07 01 42.8 +0.3**
MOF Molkenrain 80.28 43⇑*e*P **P 07 01 42.5 -0.1**
MOF Molkenrain 80.28 43⇑*e*P **P 07 01 42.5 -0.1**
MOF Molkenrain 80.28 43⇑*e*P **P 07 01 42.5 -0.1**
SURF Saint Ours 80.28 46⇑*e*P **P 07 01 43.9 +1.0**
SURF Saint Ours 80.28 46⇑*e*P **P 07 01 43.9 +1.0**
CDF Champ du Feu 80.33 42⇑*i*P **P 07 01 42.9 0.0**
comp=Z,484nm,1.6s
CALN Calern 80.39 47⇑*e*P **P 07 01 43.7 +0.3**
CALN Calern 80.39 47⇑*e*P **P 07 01 43.7 +0.3**
CALN Calern 80.39 47⇑*e*P **P 07 01 43.7 +0.3**
IBBN Ibbenburen 80.40 38 *e*P **P 07 01 43.1 +0.1**
comp=Z,231nm,1.6s
ABH Alteburg 80.42 41⇑*e*P **P 07 01 43.9 +0.7**
HOMB Hombosund 80.48 32 *e*S **S 07 11 49.8 +3.8**
BBS Basel-Blauen 80.56 43⇑*e*P **P 07 01 44.1 0.0**
BBS Basel-Blauen 80.56 43⇑*e*P **P 07 01 44.1 0.0**
LIBD Limburg 80.57 43⇑*e*P **P 07 01 44.5 +0.5**
LIBD Limburg 80.57 43⇑*e*P **P 07 01 44.5 +0.5**
MVIF Mont Vial 80.57 47⇑*e*P **P 07 01 44.7 +0.3**
MVIF Mont Vial 80.57 47⇑*e*P **P 07 01 44.7 +0.3**
MVIF Mont Vial 80.57 47⇑*e*P **P 07 01 44.7 +0.3**
TOUF Mont Tournerai 80.63 47⇑*e*P **P 07 01 45.2 +0.5**
TOUF Mont Tournerai 80.63 47⇑*e*P **P 07 01 45.2 +0.5**
TOUF Mont Tournerai 80.63 47⇑*e*P **P 07 01 45.2 +0.5**
LANF Langenberg 80.64 42⇑*e*P **P 07 01 45.1 +0.6**
LANF Langenberg 80.64 42⇑*e*P **P 07 01 45.1 +0.6**
LANF Langenberg 80.64 42⇑*e*P **P 07 01 45.1 +0.6**
CTEI Djebel Teioual 80.66 55 P **P 07 01 45.8 +0.8**
KBS Kingsbay 80.68 11⇑*i*P **P 07 01 45.2 +1.2**
KBS AMB AMB 07 01 47.9
comp=Z,437nm,1.6s
KBS *e*S **S 07 11 43.3 -4.2**
KBS AMS AMS 07 35 26.6
comp=Z,4µm,23.2s
KBS Kingsbay 80.68 11*c i*P **P 07 01 45.2 +1.2**
KBS pmax pmax
comp=Z,371nm,1.7s
KBS Kingsbay 80.68 11 *e*P **P 07 01 44.8 +0.7**
comp=Z,414nm,1.5s
KBS LR LR
comp=Z,4µm,21.0s
CASM Ain Smara 80.71 55 P **P 07 01 46.0 +0.9**
UNV Unalaska Valle 80.72 323 *e*P **P 07 01 44.2 -0.4**
comp=Z,439nm,1.3s
REVF Revere 80.74 47⇑*e*P **P 07 01 45.5 +0.4**
REVF Revere 80.74 47⇑*e*P **P 07 01 45.5 +0.4**
REVF Revere 80.74 47⇑*e*P **P 07 01 45.5 +0.4**
AUTN L'Aution 80.76 47⇑*e*P **P 07 01 45.7 +0.2**

AUTN L'Aution 80.76 47⇑*e*P **P 07 01 45.7 +0.2**
AUTN L'Aution 80.76 47⇑*e*P **P 07 01 45.7 +0.2**
SBF Sospel 80.78 47⇑*i*P **P 07 01 45.5 +0.1**
comp=Z,364nm,1.6s
KTD Kalmit 80.80 41 *e*P **P 07 01 45.6 +0.3**
KTD Kalmit 80.80 41 *e*P **P 07 01 45.6 +0.3**
SAOF Saorge 80.85 47⇑*e*P **P 07 01 46.0 +0.3**
SAOF Saorge 80.85 47⇑*e*P **P 07 01 46.0 +0.3**
SAOF Saorge 80.85 47⇑*e*P **P 07 01 46.0 +0.3**
FELD Feldberg im Sc 80.86 43⇑*e*P **P 07 01 45.8 0.0**
CKFL Kef-Lekhel 80.88 55 P **P 07 01 47.1 +1.0**
CAEH `Ain El Ouahch 80.95 54 P **P 07 01 47.7 +0.7**
MUD Monsted U'grnd 80.95 34⇑*i*P **P 07 01 46.7 +0.8**
MUD *i* S **S 07 11 54.1 +3.1**
MUD pmax pmax
comp=Z,66nm,1.0s
MUD MLR MLR
comp=Z,2µm,20.0s
MUD Monsted U'grnd 80.95 34⇑*i*P **P 07 01 46.7 +0.8**
comp=Z,66nm,1.0s
MUD Monsted U'grnd 80.95 34 *i* S **S 07 11 54.1 +3.1**
MUD
comp=Z,2µm,20.0s
KONO Kongsberg 80.97 31⇑*i*P **P 07 01 45.3 -0.6**
KONO AMB AMB 07 01 48.0
comp=Z,125nm,2.7s
KONO *e*S **S 07 11 51.6 +0.6**
KONO AMS AMS 07 29 38.4
comp=Z,2µm,24.8s
KONO Kongsberg 80.97 31 *e*P **P 07 01 45.8 -0.1**
KONO pmax pmax
comp=Z,147nm,1.6s
KONO MLR MLR
comp=Z,2µm,20.0s
KONO Kongsberg 80.97 31 *e*P **P 07 01 45.8 -0.1**
comp=Z,147nm,1.6s
KONO LR LR
comp=Z,2µm,20.0s
TNS Taunus Mts 80.97 41 *e*P **P 07 01 46.5 +0.3**
comp=Z,205nm,1.6s
TNS Taunus Mts 80.97 41 *e*P **P 07 01 46.5 +0.3**
BFO Black Forest 81.04 42 P **P 07 01 46.3 -0.4**
comp=Z,187nm,1.5s,SNR=16
BFO Black Forest 81.04 42 *e*P **P 07 01 46.2 -0.4**
comp=Z,110nm,1.6s
BFO Black Forest 81.04 42 *e*P **P 07 01 46.2 -0.4**
BFO Black Forest 81.04 42 *e*P **P 07 01 46.0 -0.6**
comp=Z,75nm,1.4s
BFO LR LR
comp=Z,3µm,22.0s
TBLU Trondheim 81.05 27⇑*i*P **P 07 01 47.2 +1.0**
TBLU AMB AMB 07 01 49.1
comp=Z,341nm,3.5s
TOD Tromm 81.25 41⇑*e*P **P 07 01 47.8 +0.1**
TOD Tromm 81.25 41⇑*e*P **P 07 01 47.8 +0.1**
TAM Tamanrasset 81.30 68 *e*P **P 07 01 49.7 +1.1**
TAM pmax pmax
comp=Z,174nm,1.4s
TAM MLR MLR
comp=Z,2µm,20.0s
TAM Tamanrasset 81.30 68 *e*P **P 07 01 49.7 +1.1**
comp=Z,174nm,1.4s
TAM LR LR
comp=Z,2µm,20.0s
SPAK Spaichingen-Ko 81.36 43⇑*e*P **P 07 01 48.4 0.0**
CMAH Djebel Manchou 81.42 54 P **P 07 01 49.1 +0.2**
ABSA Djebel Ababsia 81.50 55 P **P 07 01 49.3 -0.1**
NAO01 NORSAR Array S 81.52 30 *e*P **P 07 01 49.4 +0.5**
comp=Z,213nm,1.3s
STU Stuttgart 81.58 42 *e*P **P 07 01 49.3 -0.2**
comp=Z,169nm,1.5s
STU Stuttgart 81.58 42 *e*P **P 07 01 49.2 -0.2**
STU pmax pmax
comp=Z,140nm,1.4s
STU Stuttgart 81.58 42 *e*P **P 07 01 49.2 -0.2**
comp=Z,140nm,1.4s
HSP Hornsund 81.60 13 *e*P **P 07 01 50.6 +1.7**
SPA0 Spitsbergen Ar 81.63 12 *e*P **P 07 01 48.5 -0.6**
NB2 NORSAR Subarra 81.66 29 P **P 07 01 50.0 +0.4**
comp=Z,265nm,1.4s,baz=274,slow=5.3
NB2 NORSAR Subarra 81.66 29 P **P 07 01 50.0 +0.4**
baz=274,slow=5.3
NOA NORSAR Array B 81.66 29 P **P 07 01 50.3 +0.6**
NOA NORSAR Array B 81.66 29 P **P 07 01 50.3 +0.6**
comp=Z,58nm,1.1s,baz=275,slow=5.3,SNR=47
NOA LR LR 07 34 22.0
comp=Z,2µm,20.4s,baz=275,slow=33
BSEG Bad Segeberg 81.81 37 *e*P **P 07 01 50.7 +0.2**
comp=Z,245nm,1.6s
BSEG Bad Segeberg 81.81 37 *e*P **P 07 01 50.7 +0.2**
BSEG pmax pmax
comp=Z,34nm,1.6s
NRDL Niedersach Rie 81.82 38 *e*P **P 07 01 50.9 +0.4**
comp=Z,165nm,1.5s
NC602 NORSAR Array S 81.85 30⇑*i*P **P 07 01 51.3 +0.8**
NC602 *e*SKS **SKSac 07 12 05.1 -1.5**
TUE Stuetta 81.89 44 *e*P **P 07 01 52.0 +0.6**
comp=Z,267nm,1.7s
TUE LR LR
comp=Z,2µm,21.0s
UBBA Unterbreizbach 81.91 40 *e*P **P 07 01 51.2 +0.2**
comp=Z,125nm,1.7s
PGF Pioggiola 82.04 48⇑*i*P **P 07 01 52.1 0.0**
comp=Z,215nm,1.2s
CLZ Clausthal 82.04 39 *e*P **P 07 01 52.1 +0.3**
comp=Z,159nm,1.4s
CLZ Clausthal 82.04 39 *e*P **P 07 01 52.1 +0.3**
CLZ pmax pmax
comp=Z,17nm,1.4s
DAVA Damuels 82.18 43 *i* P **P 07 01 53.4 +0.6**
SNR=48
DAVOX Davos/Dischmat 82.23 44 LR LR 07 32 31.0
comp=Z,2µm,21.1s,baz=280,slow=31
OSPF L'Ospedale 82.27 49⇑*e*P **P 07 01 53.3 0.0**
OSPF L'Ospedale 82.27 49⇑*e*P **P 07 01 53.3 0.0**
VSL Villasalto 82.65 51 *e*P **P 07 01 55.7 +0.4**
comp=Z,361nm,1.3s
VSL LR LR
comp=Z,2µm,22.0s
RETA Reutte 82.75 43 *i* P **P 07 01 56.2 +0.5**
SNR=33
LLD Lille Linde 82.76 35 *i* P **P 07 01 55.7 +0.3**
LLD pmax pmax
comp=Z,33nm,0.9s
LLD Lille Linde 82.76 35 *i* P **P 07 01 55.7 +0.3**
comp=Z,33nm,0.8s
LLD Lille Linde 82.76 35 *i* P **P 07 01 55.7 +0.3**
comp=Z,33nm,0.9s
FETA Feichten 82.78 44 *i* P **P 07 01 56.4 +0.4**
SNR=20
GRFO Grafenberg 82.80 41 *e*P **P 07 01 56.0 +0.2**
GRFO pmax pmax
comp=Z,188nm,1.5s
GRFO Grafenberg 82.80 41 *e*P **P 07 01 56.0 +0.2**
comp=Z,188nm,1.5s
GRF Grafenberg Arr 82.81 41 *e*P **P 07 01 56.1 +0.3**
comp=Z,206nm,1.7s
GRF *e*L L 07 33 25.4
comp=Z,5µm,21.8s
GRF Grafenberg Arr 82.81 41 *e*P **P 07 01 56.1 +0.3**
GRF pmax pmax
comp=Z,38nm,1.7s
COP Copenhagen 82.85 35⇑*i*P **P 07 01 56.4 +0.6**
COP *i* S **S 07 12 13.6 +3.1**
COP pmax pmax
comp=Z,14nm,0.9s
COP MLR MLR
comp=Z,440nm,22.0s
COP Copenhagen 82.85 35⇑*i*P **P 07 01 56.4 +0.6**
comp=Z,14nm,0.9s
COP Copenhagen 82.85 35 *i* S **S 07 12 13.6 +3.1**
COP
comp=Z,440nm,22.0s
COP Copenhagen 82.85 35⇑*i*P **P 07 01 56.4 +0.6**
comp=Z,14nm,0.9s
VLC Villacollemand 82.87 46 *e*P **P 07 01 54.8 -1.5**
comp=Z,67nm,1.3s
VLC LR LR
comp=Z,1µm,22.0s
MOX Moxa 82.95 40 *e*P **P 07 01 56.6 +0.1**
comp=Z,114nm,1.5s
MOX *e*L L 07 33 20.7
comp=Z,3µm,21.6s
MOX Moxa 82.95 40 *e*P **P 07 01 56.6 +0.1**
HFS Hagfors 82.97 30 LR LR 07 33 20.8
comp=Z,2µm,21.4s,baz=274,slow=32

MOTA	**Moosalm**	**83.00**	**43**	*i* P		**P**	**07 01 57.3**	**+0.3**
	SNR=11								
FUR	**Furstenfeldbru**	**83.02**	**42**	*e*P		**P**	**07 01 57.3**	**+0.3**
	comp=Z,138nm,1.4s								
FUR	**Furstenfeldbru**	**83.02**	**42**	*e*P		**P**	**07 01 57.3**	**+0.3**
FUR					pmax	pmax			
	comp=Z,10.0nm,1.4s								
KEST	**Kesra**	**83.07**	**55**	P		**P**	**07 01 58.2**	**+0.6**
KEST	**Kesra**	**83.07**	**55**	P		**P**	**07 01 58.2**	**+0.6**
	comp=Z,24nm,1.1s,baz=179,slow=1.9,SNR=71								
WTTA	**Wattenberg**	**83.37**	**43**	*i* P		**P**	**07 01 59.2**	**+0.2**
	SNR=22								
ROTZ	**Rotzenmuhle**	**83.43**	**41**	*e*P		**P**	**07 01 59.8**	**+0.7**
	comp=Z,173nm,1.7s								
RGN	**Rugen**	**83.50**	**36**	*e*P		**P**	**07 01 60.0**	**+0.7**
	comp=Z,280nm,1.4s								
TRO	**Tromso**	**83.69**	**20**⇑	*i*P		**P**	**07 01 59.6**	**-0.3**
TRO					AMB	AMB	07 02 04.6		
	comp=Z,241nm,1.4s								
TRO				*e*SKS		**S**	**07 12 18.3**	**-0.3**
TRO				*e*SS		**SS**	**07 17 48.5**	**+2.9**
TRO					AMS	AMS	07 34 25.4		
	comp=Z,2µm,22.6s								
CLL	**Collm**	**83.73**	**39**	*e*P		**P**	**07 02 00.8**	**+0.3**
	comp=Z,153nm,1.5s								
CLL	**Collm**	**83.73**	**39**⇑	*i*P		**P**	**07 02 00.6**	**+0.1**
CLL				*e*			07 02 21.0		
CLL				*e*			07 02 37.0		
CLL				*e*PP		**PP**	**07 05 11.0**	**-2.8**
CLL				*e*PPmax			07 05 19.0		
	comp=Z,139nm,2.1s								
CLL				*e*S		**S**	**07 12 22.0**	**+2.3**
CLL				*e*SP		**SPn**	**07 13 06.0**	**-4.5**
CLL				*e*PPS		PPS	07 13 34.0		
CLL				*e*SS		**SS**	**07 17 54.0**	**+6.8**
CLL				*e*SSSS			07 24 06.0		
CLL				LmV			07 35 00.0		
	comp=Z,2µm,20.4s								
WET	**Wettzell**	**83.95**	**41**	*e*P		**P**	**07 02 02.2**	**+0.5**
	comp=Z,241nm,1.6s								
WET	**Wettzell**	**83.95**	**41**	*e*P		**P**	**07 02 02.2**	**+0.5**
WET					pmax	pmax			
	comp=Z,7.0nm,1.6s								
ABTA	**Abfaltersbach**	**84.03**	**44**	*i* P		**P**	**07 02 02.5**	**+0.2**
	SNR=28								
RUE	**Ruedersdorf**	**84.05**	**38**	*e*P		**P**	**07 02 02.8**	**+0.7**
	comp=Z,64nm,1.0s								
RJOB	**Jochberg**	**84.08**	**43**	*e*P		**P**	**07 02 02.7**	**+0.2**
	comp=Z,98nm,1.4s								
BSD	**Bornholm Skovb**	**84.33**	**35**⇑	*i*P		**P**	**07 02 03.6**	**+0.1**
BSD				*e*S		**S**	**07 12 21.9**	**-3.6**
BSD					pmax	pmax			
	comp=Z,25nm,1.1s								
BSD					MLR	MLR			
	comp=Z,1µm,20.0s								
BSD	**Bornholm Skovb**	**84.33**	**35**⇑	*i*P		**P**	**07 02 03.6**	**+0.1**
	comp=Z,25nm,1.1s								
BSD	**Bornholm Skovb**	**84.33**	**35**	*e*S		**S**	**07 12 21.9**	**-3.6**
BSD									
	comp=Z,1µm,20.0s								
BRG	**Berggiesshubel**	**84.38**	**39**	*e*P		**P**	**07 02 04.3**	**+0.4**
	comp=Z,180nm,1.5s								
BRG				*e*			07 05 15.0		
BRG				S		**S**	**07 12 24.0**	**-2.3**
BRG									
	comp=N,2µm,22.1s								
BRG									
	comp=E,2µm,23.5s								
BRG									
	comp=Z,3µm,21.9s								
BRG	**Berggiesshubel**	**84.38**	**39**	*e*P		**P**	**07 02 04.3**	**+0.4**
	comp=Z,181nm,1.6s								
BRG	**Berggiesshubel**	**84.38**	**39**	*e*P		**P**	**07 02 04.3**	**+0.4**
BRG				*e*			07 05 15.0		
BRG				S		**S**	**07 12 24.0**	**-2.3**
BRG					MLR	MLR			
	comp=E,2µm,23.5s								
BRG					MLR	MLR			
	comp=Z,2µm,21.9s								
KHC	**Kasperske Hory**	**84.40**	**41**⇑	*i*P		**P**	**07 02 04.5**	**+0.4**
KHC				*e*			07 02 24.8		
KHC				*e*			07 05 16.8		
KHC				*e*			07 12 23.6		
KHC				*e*SS		SS	07 18 06.4	+9.1	
KHC					MLR	MLR			
	comp=Z,4µm,23.6s								
KHC	**Kasperske Hory**	**84.40**	**41**⇑	*i*P		**P**	**07 02 04.5**	**+0.4**
KHC				*ex*		x	07 02 24.8		
KHC				*e*PP		**PP**	**07 05 16.8**	**-2.6**
KHC				*e*SKS		**S**	**07 12 23.6**	**-3.1**
KHC				*e*SS		SS	07 18 06.4	+9.1
KHC					AMS	AMS	07 32 20.0		
	comp=Z,4µm,23.6s								
KHC	**Kasperske Hory**	**84.40**	**41**	*e*P		**P**	**07 02 04.3**	**+0.3**
	comp=Z,186nm,1.4s								
GEC2	**GERESS Array S**	**84.53**	**42**	*e*P		**P**	**07 02 04.8**	**0.0**
	comp=Z,134nm,1.5s								
GEC2	**GERESS Array S**	**84.53**	**42**	*e*P		**P**	**07 02 04.8**	**0.0**
GERES	**GERESS Array B**	**84.53**	**42**	P		**P**	**07 02 05.0**	**+0.2**
GERES				PKKPbc		**PKKPbc**	**07 20 19.1**	**+2.2**
GERES	**GERESS Array B**	**84.53**	**42**	P		**P**	**07 02 05.0**	**+0.2**
	comp=Z,34nm,1.1s,baz=264,slow=2.7,SNR=117								
GERES				PKKPbc		**PKKPbc**	**07 20 19.1**	**+2.2**
	comp=Z,1.3nm,0.9s,baz=180,slow=0.9,SNR=5.0								
GERES					LR	LR	07 33 52.5		
	comp=Z,3µm,21.7s,baz=273,slow=31								
KBA	**Koelnbreinsper**	**84.55**	**43**	*i* P		**P**	**07 02 05.3**	**+0.3**
	SNR=39								
PRA	**Prague**	**84.81**	**40**	⇑P		**P**	**07 02 07.0**	**+1.0**
PRA				SKS		**S**	**07 12 28.0**	**-2.6**
PRA					AMS	AMS	07 33 30.0		
PVCC	**Panska Ves**	**84.83**	**40**	*i* P		**P**	**07 02 06.9**	**+0.8**
PVCC				*e*			07 02 26.7		
PVCC					MLR	MLR			
	comp=Z,4µm,22.0s								
PVCC	**Panska Ves**	**84.83**	**40**⇑	*i*P		**P**	**07 02 06.9**	**+0.8**
PVCC				*ex*		x	07 02 26.7		
PVCC				*ex*		x	07 18 31.6		
PVCC					AMS	AMS	07 33 10.0		
	comp=Z,4µm,22.0s								
PRU	**Pruhonice**	**84.89**	**40**⇑	*i*P		**P**	**07 02 07.0**	**+0.5**
PRU				*e*			07 12 27.3		
PRU				*e*SS		SS	07 18 05.8	+1.4	
PRU					MLR	MLR			
	comp=Z,5µm,22.2s								
PRU	**Pruhonice**	**84.89**	**40**⇑	*i*P		**P**	**07 02 07.0**	**+0.5**
PRU				*e*SKS		**S**	**07 12 27.3**	**-4.1**
PRU				*e*SS		**SS**	**07 18 05.8**	**+1.4**
PRU					AMS	AMS	07 33 20.0		
	comp=Z,5µm,22.2s								
RAR	**Rarotonga**	**84.99**	**248**		LR	LR	07 30 23.2		
	comp=Z,2µm,19.7s,baz=86,slow=29								
TRI	**Trieste**	**85.04**	**45**	*e*P		**P**	**07 02 07.3**	**+0.1**
TRI					pmax	pmax			
	comp=Z,305nm,1.6s								
TRI	**Trieste**	**85.04**	**45**	*e*P		**P**	**07 02 07.3**	**+0.1**
	comp=Z,305nm,1.6s								
MOA	**Molln**	**85.05**	**42**	*i* P		**P**	**07 02 07.6**	**+0.3**
	SNR=31								
VOY	**Vojsko**	**85.08**	**44**	*e*P		**P**	**07 02 08.1**	**+0.5**
VOY				*e*			07 02 14.3		
JAVS	**Javornik**	**85.22**	**44**	*i* P		**P**	**07 02 08.9**	**+0.6**
JAVS				*e*S		S	07 12 29.0	-6.0	
SKDS	**Skadanscina**	**85.24**	**45**	*e*P		**P**	**07 02 08.7**	**+0.3**
AQU	**L'Aquila**	**85.29**	**48**	PFAKE			07 02 20.0	+11	
AQU					LR	LR			
	comp=Z,2µm,22.0s								
KTK1	**Kautokeino**	**85.32**	**21**⇑	*i*P		**P**	**07 02 08.4**	**+0.2**
KTK1					AMB	AMB	07 02 10.6		
	comp=Z,2µm,1.4s								
KTK1				*e*SKS		S	07 12 26.0	-8.9	
OBKA	**Obir**	**85.45**	**44**	*i* P		**P**	**07 02 09.5**	**+0.1**
	SNR=37								
LJU	**Ljubljana**	**85.51**	**44**	*e*P		**P**	**07 02 10.0**	**+0.3**
TREC	**Trest**	**85.61**	**41**⇑	*i*P		**P**	**07 02 10.6**	**+0.5**
TREC				*e*			07 05 24.1		
TREC				*e*			07 12 31.0		
TREC					MLR	MLR			
	comp=Z,4µm,21.7s								
TREC	**Trest**	**85.61**	**41**⇑	*i*P		**P**	**07 02 10.6**	**+0.5**
TREC				*e*PP		**PP**	**07 05 24.1**	**-5.1**
TREC				*e*SKS		S	07 12 31.0	-7.6	
TREC					AMS	AMS	07 33 50.0		
	comp=Z,4µm,21.7s								
UPC	**Upice**	**85.74**	**40**⇑	*i*P		**P**	**07 02 11.5**	**+0.8**
UPC				*e*			07 02 31.6		
UPC	**Upice**	**85.74**	**40**⇑	*i*P		**P**	**07 02 11.5**	**+0.8**
UPC				*ex*		x	07 02 31.6		
VISS	**Visnje**	**85.77**	**44**	*i* P		**P**	**07 02 11.2**	**+0.3**
VISS				*e*S		S	07 12 31.9	-8.4	
PERS	**Pernice**	**85.82**	**44**	*i* P		**P**	**07 02 11.0**	**-0.2**
PERS				*e*S		S	07 12 30.3	-11	
KSP	**Ksiaz**	**85.86**	**39**⇑	*e*P		**P**	**07 02 12.0**	**+0.7**
KSP				*e**PP		**pP**	**07 02 23.8**	**-1.8**
KSP				*e*			07 05 28.5		
KSP				*e*			07 12 33.0		
KSP				*e*SS		SS	07 18 15.0	-3.5	
KSP	**Ksiaz**	**85.86**	**39**	*i* P		**P**	**07 02 11.8**	**+0.5**
KSP				*e*pP		**pP**	**07 02 23.7**	**-1.8**
KSP				*e*SKSac		**SKSac**	**07 12 33.1**	**+0.1**
KSP					LMZ	LR	07 32 58.2		
ARCES	**ARCESS Array B**	**85.95**	**20**	P		**P**	**07 02 11.1**	**-0.2**
ARCES	**ARCESS Array B**	**85.95**	**20**	P		**P**	**07 02 11.1**	**-0.2**
	comp=Z,38nm,0.8s,baz=277,slow=3.0,SNR=42								
ARCES					LR	LR	07 36 04.3		
	comp=Z,2µm,20.6s,baz=288,slow=32								
ARE0	**ARCESS Array S**	**85.95**	**20**	*e*P		**P**	**07 02 11.4**	**0.0**
ARE0				*e*SKS		S	07 12 34.6	-6.6	
ARE0				*e*SS		**SS**	**07 18 20.1**	**+1.1**
ARE0	**ARCESS Array S**	**85.95**	**20**	*e*P		**P**	**07 02 10.8**	**-0.5**
DPC	**Dobruska-Polom**	**85.96**	**40**⇑	*i*P		**P**	**07 02 12.7**	**+0.8**
DPC				*e*			07 02 32.8		
DPC				*e*			07 05 27.1		
DPC				*e*			07 12 33.1		
DPC				*e*SS		SS	07 18 26.8	+6.6	
DPC	**Dobruska-Polom**	**85.96**	**40**⇑	*i*P		**P**	**07 02 12.7**	**+0.8**
DPC				*ex*		x	07 02 32.8		
DPC				*e*PP		**PP**	**07 05 27.1**	**-4.9**
DPC				*e*SKS		S	07 12 33.1	-8.9	
DPC				*e*SS		**SS**	**07 18 26.8**	**+6.7**
DPC					AMS	AMS	07 34 50.0		
GKP	**Gorka Klasztor**	**85.99**	**37**	*i* P		**P**	**07 02 12.6**	**+0.8**
GKP				*e*SKSac		**SKSac**	**07 12 34.7**	**+1.0**
GKP					LMZ	LR	07 36 00.5		
ARSA	**Arzberg**	**85.99**	**43**	*i* P		**P**	**07 02 12.0**	**0.0**
	SNR=44								
CONA	**Conrad Observa**	**86.09**	**42**	*i* P		**P**	**07 02 13.0**	**+0.4**
	SNR=39								
BOJS	**Bojanci**	**86.10**	**45**	*i* P		**P**	**07 02 12.9**	**+0.4**
BOJS				*e*S		**SKSac**	**07 12 33.9**	**-0.9**
KEV	**Kevo**	**86.39**	**20**	*e*p		**P**	**07 02 13.4**	**0.0**
	comp=Z,0.8nm,0.4s								
KEV	**Kevo**	**86.39**	**20**	*e*P		**P**	**07 02 13.4**	**0.0**
KEV	**Kevo**	**86.39**	**20**	*e*P		**P**	**07 02 12.7**	**-0.7**
	comp=Z,180nm,1.4s								
KEV					LR	LR			
	comp=Z,2µm,20.0s								
MORC	**Moravsky Berou**	**86.84**	**40**	*e*P		**P**	**07 02 16.5**	**+0.3**
MORC					pmax	pmax			
	comp=Z,176nm,1.5s								
MORC	**Moravsky Berou**	**86.84**	**40**	*e*P		**P**	**07 02 16.5**	**+0.3**
	comp=Z,176nm,1.5s								
ZST	**Bratislava**	**86.86**	**42**	*e*P		**P**	**07 02 16.0**	**-0.3**
ZST	**Bratislava**	**86.86**	**42**	*e*P		**P**	**07 02 16.0**	**-0.3**
BEHE	**Becsehely**	**86.97**	**44**⇓	*e*P		**P**	**07 02 17.7**	**+0.9**
RAC	**Raciborz**	**87.19**	**40**	*e*P		**P**	**07 02 19.4**	**+1.6**
WDD	**Wield Dalam**	**87.21**	**54**	*e*P		**P**	**07 02 18.0**	**-0.2**
	comp=Z,68nm,1.0s								
WDD					LR	LR			
	comp=Z,575nm,19.0s								
OKC	**Ostrava-Krasne**	**87.22**	**40**⇑	*i*P		**P**	**07 02 18.9**	**+1.0**
OKC				*e*			07 12 42.7		
OKC					MLR	MLR			
	comp=Z,4µm,21.5s								
OKC	**Ostrava-Krasne**	**87.22**	**40**⇑	*i*P		**P**	**07 02 18.9**	**+1.0**
OKC				*e*SKS		**SKSac**	**07 12 42.7**	**+1.2**
OKC					AMS	AMS	07 35 40.0		
	comp=Z,4µm,21.5s								
CUC	**Castrocucco**	**87.49**	**50**	*e*P		**P**	**07 02 18.7**	**-0.8**
	comp=Z,73nm,1.2s								
CUC					LR	LR			
	comp=Z,2µm,22.0s								
PKST	**T˜s**	**87.67**	**43**⇓	*e*P		**P**	**07 02 20.3**	**+0.1**
CSKK	**Cs˙‡kako**	**87.80**	**42**⇓	*e*P		**P**	**07 02 21.2**	**+0.4**
CEL	**Celeste**	**87.86**	**52**	PFAKE			07 02 30.0	+8.6	
CEL					LR	LR			
	comp=Z,2µm,22.0s								
PKSG		**87.88**	**42**⇓	*e*P		**P**	**07 02 21.5**	**+0.4**
VYHS	**Vyhne**	**87.94**	**41**	*e*P		**P**	**07 02 21.9**	**+0.5**
VYHS					pmax	pmax			
	comp=Z,80nm,1.6s								
VYHS	**Vyhne**	**87.94**	**41**	*e*P		**P**	**07 02 21.9**	**+0.5**
PKS9	**Tamasi**	**87.97**	**43**⇓	*e*P		**P**	**07 02 22.9**	**+1.3**
OJC	**Ojcow**	**88.17**	**39**⇑	*i*P		**P**	**07 02 23.3**	**+0.8**
OJC				*e**PP		**pP**	**07 02 35.1**	**-1.7**
OJC				*e*			07 05 51.5		
OJC				*e*			07 12 46.5		
OJC				*e*S		**S**	**07 13 06.1**	**+2.8**
OJC	**Ojcow**	**88.17**	**39**	*i* P		**P**	**07 02 23.3**	**+0.8**
OJC				*e*pP		**pP**	**07 02 35.1**	**-1.7**
OJC				*e*PP		**PP**	**07 05 51.5**	**+1.8**
OJC				*e*SKSac		**SKSac**	**07 12 46.5**	**-0.8**
OJC				*e*S		**S**	**07 13 06.1**	**+2.8**
OJC				L		L	07 35 24.7		
	comp=Z,4µm,22.8s								
BUD	**Budapest**	**88.28**	**42**⇑	*e*P		**P**	**07 02 23.5**	**+0.5**
PKSM	**Moragy**	**88.29**	**44**	⇓P		**P**	**07 02 22.4**	**-0.7**
PKSM	**Moragy**	**88.29**	**44**⇓	*i*P		**P**	**07 02 22.4**	**-0.7**
PKSM	**Moragy**	**88.29**	**44**⇓	*e*P		**P**	**07 02 23.6**	**+0.5**
TIP	**Timpagrande**	**88.35**	**51**	*e*P		**P**	**07 02 22.2**	**-1.5**
	comp=Z,81nm,1.3s								
TIP					LR	LR			
	comp=Z,3µm,22.0s								
BEL	**Belsk**	**88.41**	**38**	*i* P		**P**	**07 02 24.8**	**+1.2**
BEL				*e*pP		pP	07 02 32.1	-5.8	
BEL				*e*S		**S**	**07 13 09.3**	**+3.9**
BEL					LMZ	LR	07 37 14.4		
PKS7	**Kunszentmiklos**	**88.46**	**43**⇓	*e*P		**P**	**07 02 24.9**	**+1.0**
KAF	**Kangasniemi**	**88.51**	**27**	*e*p		**P**	**07 02 22.9**	**-0.9**
	comp=Z,1.1nm,0.4s								
FINES	**FINESS Array B**	**88.61**	**28**	P		**P**	**07 02 24.2**	**-0.1**
FINES					PKKPbc	**PKKPbc**	**07 20 05.0**	**-2.4**
FINES	**FINESS Array B**	**88.61**	**28**	P		**P**	**07 02 24.2**	**-0.1**
	comp=Z,9.0nm,0.6s,baz=278,slow=2.8,SNR=34								
FINES					PKKPbc	**PKKPbc**	**07 20 05.0**	**-2.4**
	comp=Z,2.0nm,0.7s,baz=67,slow=5.0,SNR=3.7								
FINES					LR	LR	07 38 21.3		
	comp=Z,2µm,20.3s,baz=285,slow=33								
PKS2	**Kecel**	**88.62**	**43**⇑	*e*P		**P**	**07 02 26.3**	**+1.6**
NIE	**Niedzica**	**88.68**	**40**⇑	*i*P		**P**	**07 02 28.0**	**+3.0**
NIE				*e**PP		**pP**	**07 02 39.8**	**+0.5**
NIE				*e*			07 05 56.6		
NIE				*e*			07 12 52.9		
NIE				*e*S		**ScS**	**07 13 15.0**	**+1.4**
NIE	**Niedzica**	**88.68**	**40**	*i* P		**P**	**07 02 28.0**	**+3.0**
NIE				*e*pP		**pP**	**07 02 39.8**	**+0.5**
NIE				*e*PP		**PP**	**07 05 56.6**	**+2.8**
NIE				*e*SKSac		**SKSac**	**07 12 52.9**	**+2.5**
NIE				*e*S		**ScS**	**07 13 15.0**	**+1.4**
PSZ	**Piszkesteto**	**88.75**	**42**	⇑P		**P**	**07 02 26.4**	**+1.0**
PSZ	**Piszkesteto**	**88.75**	**42**	*e*P		**P**	**07 02 26.4**	**+1.0**
	comp=Z,280nm,1.5s								
PSZ					LR	LR			
	comp=Z,2µm,21.0s								
PSZ	**Piszkesteto**	**88.75**	**42**⇑	*i*P		**P**	**07 02 26.4**	**+1.0**
PSZ	**Piszkesteto**	**88.75**	**42**⇓	*e*P		**P**	**07 02 26.6**	**+1.2**
BRY	**Bratogost**	**88.92**	**47**⇑	*i*P		**P**	**07 02 26.8**	**+0.4**
HCY	**Herceg Novi**	**88.98**	**47**⇑	*i*P		**P**	**07 02 27.1**	**+0.6**
KECS	**Kecovo**	**89.01**	**41**	*e*P		**P**	**07 02 27.2**	**+0.7**
KECS					pmax	pmax			
	comp=Z,28nm,1.4s								
KECS	**Kecovo**	**89.01**	**41**	*e*P		**P**	**07 02 27.1**	**+0.6**
SUW	**Suwalki**	**89.26**	**35**	*e*P		**P**	**07 02 27.6**	**+0.1**
SUW	**Suwalki**	**89.26**	**35**	*e*P		**P**	**07 02 27.6**	**+0.1**
	comp=Z,52nm,0.5s								
SUW	**Suwalki**	**89.26**	**35**	*e*P		**P**	**07 02 27.7**	**+0.2**
SUW				*e*pP		**pP**	**07 02 39.5**	**-2.3**
SUW					LMZ	LR	07 31 37.0		
NKY	**Niksic**	**89.27**	**47**⇑	*i*P		**P**	**07 02 28.5**	**+0.5**
STHS	**Stebnicka Huta**	**89.27**	**40**	*e*P		**P**	**07 02 29.1**	**+1.4**
STHS					pmax	pmax			
	comp=Z,28nm,1.4s								
STHS	**Stebnicka Huta**	**89.27**	**40**	*e*P		**P**	**07 02 29.1**	**+1.4**
BUM	**Brajici-Budva**	**89.31**	**47**	*e*P		**P**	**07 02 28.6**	**+0.5**
APA	**Apatity**	**89.36**	**21**⇑	*e*P		**pP**	**07 02 41.0**	**-1.0**
APA				*e*			07 13 08.0		
APA				*i* SS		SS	07 19 09.0	+0.3	
PLE	**Pljevlja**	**89.44**	**46**	*e*P		**P**	**07 02 28.9**	**+0.1**
TTG	**Podgorica**	**89.54**	**47**⇑	*i*P		**P**	**07 02 30.0**	**+0.9**
ULC	**Ulcinj**	**89.63**	**48**⇑	*i*P		**P**	**07 02 30.4**	**+0.8**
AMKA	**Amchitka**	**89.65**	**322**	*e*P		**P**	**07 02 29.6**	**+0.2**
	comp=Z,200nm,1.2s								
IVA	**Berane**	**89.90**	**47**⇑	*i*P		**P**	**07 02 31.6**	**+0.7**
BILL	**Bilibino**	**89.94**	**340**⇑	*i*P		**P**	**07 02 30.5**	**+0.1**
BILL				*e*			07 06 01.0		
BILL					pmax	pmax			
	comp=Z,171nm,1.4s								
PVY	**Plav**	**90.01**	**47**⇑	*i*P		**P**	**07 02 32.2**	**+0.7**
KOLS	**Kolonicke sedl**	**90.05**	**40**	*e*P		**P**	**07 02 32.7**	**+1.4**
KOLS					pmax	pmax			
	comp=Z,96nm,1.5s								
KOLS	**Kolonicke sedl**	**90.05**	**40**	*e*P		**P**	**07 02 32.7**	**+1.4**
UZH	**Uzhgorod**	**90.14**	**41**	*d*P		**P**	**07 02 32.7**	**+1.0**
UZH				*e*			07 02 39.9		
UZH				*e*			07 02 46.5		
UZH				*i* S		**S**	**07 13 25.6**	**+3.9**
UZH				*i*			07 14 53.3		
UZH				*e*SSS		SSS	07 23 04.7		
UZH					MLR	MLR			
	comp=N,300nm,18.0s								
UZH					MLR	MLR			
	comp=E,2µm,18.0s								
UZH					MLR	MLR			
	comp=Z,200nm,18.0s								
KWP	**Kalwaria Pacla**	**90.14**	**40**	⇑P		**P**	**07 02 33.3**	**+1.5**
KWP	**Kalwaria Pacla**	**90.14**	**40**	*e*P		**P**	**07 02 33.2**	**+1.4**
	comp=Z,131nm,1.3s								
KWP					LR	LR			
	comp=Z,3µm,19.0s								
KWP	**Kalwaria Pacla**	**90.14**	**40**⇑	*i*P		**P**	**07 02 33.3**	**+1.5**
KWP	**Kalwaria Pacla**	**90.14**	**40**	*i* P		**P**	**07 02 33.3**	**+1.5**
KWP				*e*pP		**pP**	**07 02 44.8**	**-1.3**
KWP					LMZ	LR	07 34 51.9		
TIR	**Tirane**	**90.22**	**48**	*e*P		**P**	**07 02 33.2**	**+0.9**
TIR					pmax	pmax			
	comp=Z,45nm,0.9s								
TIR					MLR	MLR			
	comp=Z,1µm,20.0s								
TIR	**Tirane**	**90.22**	**48**	*e*P		**P**	**07 02 33.2**	**+0.9**
	comp=Z,45nm,0.9s								
TIR					LR	LR			
	comp=Z,1µm,20.0s								
JOF	**Joensuu**	**90.41**	**25**	*e*p		**P**	**07 02 32.2**	**-0.5**
	comp=Z,1.0nm,0.4s								
JOF	**Joensuu**	**90.41**	**25**	*e*P		**P**	**07 02 32.2**	**-0.5**
JOF					pmax	pmax			
	comp=Z,1.0nm,0.4s								
TRPA	**Tarpa**	**90.42**	**41**⇓	*i*P		**P**	**07 02 33.7**	**+0.6**
TRPA	**Tarpa**	**90.42**	**41**⇓	*e*P		**P**	**07 02 34.0**	**+0.9**
KEK	**Kerkira**	**90.54**	**50**	*e*P		**P**	**07 02 35.2**	**+1.4**
DRGR		**90.89**	**42**	⇓P		**P**	**07 02 36.0**	**+0.6**
DRGR		**90.89**	**42**	⇓P		**P**	**07 02 36.0**	**+0.6**
LVV	**L'vov**	**90.92**	**39**⇓	*i*P		**P**	**07 02 36.0**	**+0.6**
LVV				*e*			07 13 01.8		
LVV				*e*S		**S**	**07 13 30.2**	**+1.4**
LVV					pmax	pmax			
	comp=Z,270nm,2.0s								
NACGM	**Naroch**	**91.01**	**34**	*e*P		**P**	**07 02 33.0**	**-2.7**
BMR	**Baia Mare**	**91.17**	**41**	⇓P		**P**	**07 02 37.4**	**+0.8**
BMR	**Baia Mare**	**91.17**	**41**	*i*P		**P**	**07 02 37.4**	**+0.8**
SKO	**Skopje**	**91.22**	**47**	*e*PKP		**P**	**07 02 37.3**	**+0.3**
GZR	**Gura Zlata**	**91.30**	**44**	⇑P		**P**	**07 02 38.1**	**+0.8**
GZR	**Gura Zlata**	**91.30**	**44**	⇑P		**P**	**07 02 38.1**	**+0.8**
JAN	**Janina**	**91.35**	**50**	*e*P		**P**	**07 02 39.2**	**+1.5**
BIA	**Bitola**	**91.37**	**48**	*e*PKP		**P**	**07 02 37.2**	**-0.5**
LKD2	**Lefkada island**	**91.41**	**50**	*e*P		**P**	**07 02 38.6**	**+0.7**
FNA	**Florina**	**91.47**	**48**	*e*P		**P**	**07 02 39.0**	**+0.8**
MICGM	**Minsk**	**91.75**	**34**	*e*P		**P**	**07 02 37.0**	**-2.1**
KZN	**Kozani**	**91.88**	**49**	*e*P		**P**	**07 02 41.4**	**+1.3**
RLS	**Riolos of Patr**	**92.20**	**51**	*e*P		**P**	**07 02 42.9**	**+1.3**
VAY	**Valandovo**	**92.21**	**48**	*e*PKP		**P**	**07 02 40.2**	**-1.3**
EVR	**Evrytania**	**92.25**	**50**	*e*P		**P**	**07 02 43.6**	**+1.7**
BUR08	**Bucovina Ar. S**	**92.28**	**41**	*e*P		**P**	**07 02 42.4**	**+0.5**
BURAR	**Bucovina Array**	**92.30**	**41**	⇓P		**P**	**07 02 42.4**	**+0.4**
VTS	**Vitosha**	**92.33**	**46**	⇑P		**P**	**07 02 43.1**	**+0.8**
VTS	**Vitosha**	**92.33**	**46**	*i* P		**P**	**07 02 42.2**	**-0.1**
VTS	**Vitosha**	**92.33**	**46**⇑	*i*P		**P**	**07 02 43.1**	**+0.8**
**

OBN e 07 03 10.2
OBN e 07 06 52.0
OBN e 07 13 28.0
OBN ePS **PS** **07 15 47.9 +8.2**
OBN i SS SS 07 20 52.3 +6.2
OBN pmax pmax
comp=Z,192nm,1.8s
OBN MLR MLR
comp=Z,1µm,20.0s
OBN Obninsk 96.14 31 P **P** **07 02 59.0 -0.2**
comp=Z,498nm,1.2s,SNR=6.1
MOS Moscow 96.39 31 eP P 07 02 55.0 -5.3
MOS e 07 14 07.3
MOS ePS **PS** **07 15 40.8 -1.7**
MOS pmax pmax
comp=Z,139nm,1.4s
MOS pmax pmax
comp=Z,300nm,1.9s
MOS MLR MLR
comp=Z,2µm,20.0s
SIM Simferopol' 99.01 41 eP **Pdif** **07 03 13.4 +1.0**
SIM e 07 13 44.0
SIM eS **S** **07 14 39.0 -0.6**
SIM pmax pmax
comp=Z,700nm,17.0s
SIM MLR MLR
comp=Z,700nm,17.0s
ISP Isparta 99.11 49 PFAKE 07 03 20.0 +6.8
ISP LR LR
comp=Z,1µm,20.0s
VSR Storozhevoye 99.32 34 eP **Pdif** **07 03 12.5 -1.2**
VSR eS **S** **07 14 37.0 -4.9**
VSR pmax pmax
comp=Z,20nm,1.3s
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=E,30nm,1.7s
VSR smax smax
comp=Z,20nm,5.4s
VSR smax smax
comp=N,160nm,7.9s
VSR smax smax
comp=E,110nm,7.3s
VSR MLR MLR
comp=Z,2µm,18.0s
VSR MLR MLR
comp=N,610nm,21.0s
VSR MLR MLR
comp=E,2µm,20.0s
TSUM Tsumeb 99.33 108 eP **Pdif** **07 03 14.9 +0.4**
comp=E,59nm,1.2s
TSUM LR LR
comp=Z,2µm,22.0s
QSPA South Pole Qui 99.74 180 ePdif **Pdif** **07 03 15.4 +0.2**
comp=Z,50nm,1.3s
QSPA LR LR
comp=Z,1µm,20.0s
ANTO Ankara 100.05 47 PFAKE 07 03 30.0 +13
ANTO LR LR
comp=Z,1µm,20.0s
PET Petropavlovsk 100.62 329 eP **Pdif** **07 03 19.3 -0.1**
PET e 07 07 28.8
PET ePPP PPP 07 09 35.8
PET eS **Sdif** **07 14 49.7 -3.0**
PET ePS **PS** **07 16 24.1 -4.1**
PET ePPS PPS 07 17 06.6
PET eSS **SS** **07 21 50.7 +1.7**
PET eSSS SSS 07 25 43.5
PET pmax pmax
comp=Z,200nm,8.0s
PET pmax pmax
comp=Z,100nm,14.5s
PET pmax pmax
comp=Z,300nm,14.0s
BRTR Keskin Array B 100.71 46 P **Pdif** **07 03 20.5 +0.2**
BRTR Keskin Array B 100.71 46 P **Pdif** **07 03 20.5 +0.2**
comp=Z,1.8nm,1.0s,baz=298,slow=2.7,SNR=8.9
PETK Petropavlovsk- 101.06 329 P **Pdif** **07 03 20.9 -0.5**
PETK pmax pmax
comp=Z,6.0nm,1.1s
PETK Petropavlovsk- 101.06 329 P **Pdif** **07 03 20.9 -0.5**
PETK Petropavlovsk- 101.06 329 P **Pdif** **07 03 20.9 -0.5**
comp=Z,5.8nm,1.1s,baz=174,slow=1.5,SNR=5.1
ANN Anapa 101.21 41 eP **Pdif** **07 03 20.6 -1.6**
ANN e 07 07 28.4
ANN e 07 13 54.0
ANN eS **Sdif** **07 14 58.4 +0.4**
ANN pmax pmax
comp=Z,57nm,1.6s
CSS Prodhromos 102.23 51 PFAKE 07 03 40.0 +13
CSS LR LR
comp=Z,635nm,20.0s
FUNA Funafuti 102.94 263 PFAKE 07 03 40.0 +10
FUNA LR LR
comp=Z,7µm,21.0s
SUR Sutherland 103.42 121 PFAKE 07 03 40.0 +7.5
SUR LR LR
comp=Z,3µm,19.0s
SBA Scott Base 104.48 192 PFAKE 07 03 50.0 +14
SBA LR LR
comp=Z,2µm,20.0s
MALT Malatya 104.69 46 PFAKE 07 03 50.0 +12
MALT LR LR
comp=Z,602nm,21.0s
KIV Kislovodsk 104.94 39 P **Pdif** **07 03 40.0 +1.1**
KIV 07 08 05.0
KIV e 07 14 15.3
KIV 07 15 00.0
KIV eSS SS 07 22 53.5 +4.2
KIV pmax pmax
comp=Z,11nm,1.5s
KIV MLR MLR
comp=Z,1µm,18.0s
YAK Yakutsk 105.02 346 eP **Pdif** **07 03 38.5 -0.3**
YAK pmax pmax
comp=Z,11nm,1.0s
YAK MLR MLR
comp=Z,3µm,23.0s
YAK MLR MLR
comp=N,3µm,25.0s
YAK MLR MLR
comp=E,1µm,27.0s
MSVF Nonsavu 105.14 254 ePKPdf **PKiKP** **07 07 55.4 +0.7**
MSVF LR LR
comp=Z,997nm,20.0s
ARU Arti 105.33 23 P **Pdif** **07 03 40.2 -0.1**
ARU S **SKSac** **07 14 13.8 -2.5**
BOSA Boshof 107.09 117 ePKPdf **PKiKP** **07 07 58.8 +0.6**
LBTB Lobatse 107.25 113 ePKPdf **PKiKP** **07 07 59.1 +0.6**
TARA Tarawa 107.55 275 PFAKE 07 08 10.0
TARA LR LR
comp=Z,2µm,22.0s
MAK Makhachkala 108.45 38 ceP Pdif 07 04 08.5 +14
MAK i 07 08 30.4
MAK ePPP PPP 07 10 46.4
MAK ePS **PS** **07 17 49.0 -1.3**
MAK eSS SS 07 23 39.4 +2.8
MAK pmax pmax
comp=Z,52nm,0.4s
MAK MLR MLR
comp=Z,1µm,17.0s
SNZO South Karori 108.59 230 PFAKE 07 08 10.0
SNZO LR LR
comp=Z,2µm,21.0s
LSZ Lusaka 109.00 103 ePKPdf **PKiKP** **07 08 02.2 +0.2**
LSZ ePP **PP** **07 08 26.6 -3.7**
LSZ LR LR
comp=Z,2µm,22.0s
AKTO Aktyubinsk 109.39 28 PKKPbc PKKPbc 07 19 05.6 -3.3
AKTO Aktyubinsk 109.39 28 PKKPbc PKKPbc 07 19 05.6 -3.3
comp=Z,4.1nm,0.9s,baz=115,slow=2.6,SNR=6.7
MBAR Mbarara 109.57 87 PFAKE 07 08 20.0
MBAR LR LR
comp=Z,976nm,22.0s
ABKAR Akbulak array 111.10 27 ePKPdf **PKiKP** **07 08 03.2 -1.8**
BRVK Borovoye 112.17 19 PFAKE 07 08 20.0
BRVK LR LR
comp=Z,2µm,22.0s
BVAR Borovoye Array 112.24 19 PKKPbc PKKPbc 07 18 57.2 -2.5
BVAR Borovoye Array 112.24 19 PKKPbc PKKPbc 07 18 57.2 -2.5
comp=Z,1.5nm,0.7s,baz=157,slow=4.5,SNR=8.1
YSS Yuzh-Sakhalins 112.39 330 i PKiKP **PKiKP** **07 08 12.0 +4.5**
YSS e 07 08 56.0
YSS ePPP PPP 07 11 18.0
YSS ePS PS 07 18 16.0 -12
HABR Khabarovsk 114.69 336 eP **Pdif** **07 04 20.7 -1.4**
HABR i 07 08 10.7
HABR e 07 08 21.7
HABR e 07 09 08.6
HABR ePPP PPP 07 11 33.9
HABR e 07 15 20.2
HABR ePS **PS** **07 18 47.3 -1.3**
HABR eSS SS 07 25 02.0 +3.0
HABR eSSS SSS 07 29 17.8
HABR pmax pmax
comp=N,34nm,2.7s
HABR pmax pmax
comp=E,22nm,1.8s
HABR pmax pmax
comp=Z,25nm,2.3s
HABR MLR MLR
comp=Z,879nm,19.0s
ZAA0 Zalesovo Array 115.08 10 ePKPdf **PKPdf** **07 08 11.0 -1.4**
ZALV Zalesovo Beam 115.08 10 PKIKP **PKPdf** **07 08 09.8 -2.6**
ZALV 07 18 49.8
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 115.08 10 PKP **PKPdf** **07 08 09.8 -2.6**
ZALV PKKPbc **PKKPbc** **07 18 49.8 -0.3**
ZALV Zalesovo Beam 115.08 10 PKP **PKPdf** **07 08 09.8 -2.6**
comp=Z,1.5nm,0.5s,baz=318,slow=2.0,SNR=13
ZALV PKKPbc **PKKPbc** **07 18 49.8 -0.3**
comp=Z,0.9nm,0.5s,baz=187,slow=2.5,SNR=3.9
KLR Kul'dur 115.35 338 ePKIKP PKPpre 07 08 03.0
KLR e 07 25 06.0
ERM Erimo 115.60 326 PFAKE 07 08 30.0 +16
ERM LR LR
comp=Z,1µm,20.0s
KMBO Kilima Mbogo 116.08 86 ePKPdf **PKPdf** **07 08 16.6 +0.8**
KMBO LR LR
comp=Z,1µm,19.0s
DZM Mont Dzumac 116.27 250 eLR LR 07 43 29.5
comp=Z,1µm,25.2s
KURK Kurchatov 116.72 16 PKIKP **PKPdf** **07 08 14.3 -1.4**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 116.72 16 PKP **PKPdf** **07 08 14.3 -1.4**
KURK PKKPbc **PKKPbc** **07 18 41.6 -2.7**
KURBB Kurchatov Arra 116.78 16 PKP **PKPdf** **07 08 14.3 -1.5**
comp=Z,4.3nm,0.8s,baz=328,slow=2.3,SNR=19
KURBB PKKPbc **PKKPbc** **07 18 41.6 -2.5**
comp=Z,3.5nm,0.9s,baz=158,slow=2.9,SNR=18
DRV Dumont d'Urvil 117.35 196 Pdif Pdif 07 04 58.0 +25
TLY Talaya 118.78 358 i PKIKP PKPdf 07 08 35.4 +16
TLY e 07 09 36.5
TLY pmax pmax
comp=Z,3.0nm,0.7s
HIA Hailar 118.96 346 PFAKE 07 08 30.0 +10
HIA LR LR
comp=Z,3µm,22.0s
USRK Ussuriysk Arra 119.39 335 PKP **PKPdf** **07 08 19.6 -1.4**
comp=Z,1.7nm,0.6s,baz=0.0,slow=0.4,SNR=11
MDJ Mudanjiang 120.01 337 PFAKE 07 08 30.0 +7.8
MDJ LR LR
comp=Z,5µm,19.0s
ZAK Zakamensk 120.08 358 ePKIKP **PKPdf** **07 08 19.8 -2.5**
ZAK e 07 09 43.6
ZAK e 07 12 27.0
ZAK pmax pmax
comp=Z,4.0nm,1.5s
ZAK pmax pmax
comp=Z,12nm,1.8s
MK31 Makanchi Array 121.28 15 ePKIKP **PKPdf** **07 08 22.3 -2.3**
MK31 Makanchi Array 121.28 15 ePKPdf **PKPdf** **07 08 22.3 -2.3**
MKAR Makanchi Array 121.28 15 PKIKP **PKPdf** **07 08 23.2 -1.4**
MKAR pmax pmax
comp=Z,4.0nm,0.9s
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 121.28 15 PKP **PKPdf** **07 08 23.2 -1.4**
MKAR PKKPbc **PKKPbc** **07 18 24.6 -3.1**
MKAR Makanchi Array 121.28 15 PKP **PKPdf** **07 08 23.2 -1.4**
comp=Z,4.1nm,0.9s,baz=342,slow=1.9,SNR=18
MKAR PKKPbc **PKKPbc** **07 18 24.6 -3.1**
comp=Z,0.8nm,0.8s,baz=134,slow=5.2,SNR=5.9
HNR Honiara 121.92 265 PFAKE 07 08 40.0 +13
HNR LR LR
comp=Z,2µm,20.0s
USP Ospenovka 121.98 23 P **PKPdf** **07 08 25.8 -0.4**
SNR=13
MAJO Matsushiro 122.16 325 PFAKE 07 08 40.0 +13
MAJO LR LR
comp=Z,2µm,21.0s
MAT Matsushiro 122.16 325 PKP **PKPdf** **07 08 24.9 -1.7**
MJAR Matsushiro Arr 122.16 325 PKP **PKPdf** **07 08 25.3 -1.3**
MJAR Matsushiro Arr 122.16 325 PKP **PKPdf** **07 08 25.3 -1.3**
comp=Z,1.4nm,0.3s,baz=326,slow=1.1,SNR=9.2
EKS2 Erkin-Say 122.21 23 ePKIKP **PKPdf** **07 08 26.5 -0.2**
EKS2 MLR MLR
comp=Z,2µm,22.0s
EKS2 Erkin-Say 122.21 23 P **PKPdf** **07 08 26.8 +0.1**
SNR=11
EKS2 Erkin-Say 122.21 23 ePKPdf **PKPdf** **07 08 26.5 -0.2**
EKS2 LR LR
comp=Z,2µm,22.0s
CN2 Changchun 122.25 339 ePKP **PKPdf** **07 08 28.6 +2.1**
CN2 PP PP 07 10 08.4 +7.2
CN2 AMB AMB
comp=Z,300nm,5.0s
CN2 LR LR
comp=N,2µm,20.0s
CN2 LR LR
comp=E,2µm,20.0s
CN2 LR LR
comp=Z,3µm,20.0s
ULN Ulaanbaatar 122.39 355 ePKPdf **PKPdf** **07 08 25.8 -1.1**
ULN LR LR
comp=Z,3µm,22.0s
FRU Bishkek 122.39 23 i PKIKP **PKPdf** **07 08 26.0 -0.9**
FRU e 07 10 03.0
FRU pmax pmax
comp=Z,70nm,2.0s
FRU MLR MLR
comp=Z,2µm,20.0s
SONM Songino Array 122.47 356 PKP **PKPdf** **07 08 25.6 -1.4**
SONM PKKPbc **PKKPbc** **07 18 21.5 -1.9**
SONM Songino Array 122.47 356 PKP **PKPdf** **07 08 25.6 -1.4**
comp=Z,5.1nm,0.6s,baz=317,slow=0.8,SNR=20
SONM PKKPbc **PKKPbc** **07 18 21.5 -1.9**
comp=Z,2.4nm,0.9s,baz=182,slow=3.1,SNR=4.2
AAK Ala-Archa 122.52 23 c i PKIKP **PKPdf** **07 08 26.9 -0.5**
AAK Ala-Archa 122.52 23 P **PKPdf** **07 08 27.1 -0.3**
SNR=7.1
AAK Ala-Archa 122.52 23 PKP **PKPdf** **07 08 26.1 -1.3**
AAK ePKPdf **PKPdf** **07 08 26.8 -0.5**
AAK LR LR
comp=Z,2µm,20.0s
AAK Ala-Archa 122.52 23 PKP **PKPdf** **07 08 26.1 -1.3**
comp=Z,10nm,1.1s,baz=166,slow=1.7,SNR=21
AML Almayashu 122.63 24 P **PKPdf** **07 08 28.2 +0.3**
SNR=7.4
TKM2 Tokmak 2 122.69 22 ePKIKP **PKPdf** **07 08 26.9 -0.8**
TKM2 MLR MLR
comp=Z,2µm,22.0s
TKM2 Tokmak 2 122.69 22 P **PKPdf** **07 08 27.3 -0.4**
SNR=11
TKM2 Tokmak 2 122.69 22 ePKPdf **PKPdf** **07 08 26.9 -0.8**
TKM2 LR LR
comp=Z,2µm,22.0s
CASY Casey 123.17 185 ePKPdf **PKPdf** **07 08 28.1 +0.5**
CASY LR LR
comp=Z,2µm,22.0s
KZA Kyzart 123.28 23 P **PKPdf** **07 08 29.8 +0.6**
SNR=6.0
WMQ Urumqi 125.33 12 PKP **PKPdf** **07 08 33.8 +1.2**
WMQ PP PP 07 10 28.8 +7.0
WMQ PKS PKSdf 07 12 27.1 +18
WMQ SKS **SKSdf** **07 15 40.6 -0.1**
WMQ SKKS **SKKSac** **07 17 16.8 -0.6**
WMQ Urumqi 125.33 12 SS SS 07 27 21.8 +6.4
WMQ AMB AMB
comp=Z,330nm,22.3s
WMQ LR LR
comp=N,890nm,22.3s
WMQ LR LR
comp=E,1µm,24.2s
WMQ LR LR
comp=Z,2µm,28.1s
WMQ Urumqi 125.33 12 PKP **PKPdf** **07 08 31.6 -1.0**
WMQ PP PP 07 10 28.8 +7.0
WMQ SKS **SKSdf** **07 15 40.6 -0.1**
WMQ SKKS **SKKSac** **07 17 16.8 -0.6**
WMQ SS **SS** **07 27 21.8 +6.4**
WMQ LR LR
comp=N,890nm,22.3s
WMQ LR LR
comp=E,1µm,24.2s
WMQ LR LR
comp=Z,2µm,28.1s
KSH Kashi 125.76 24 PKP **PKPdf** **07 08 34.0 +0.4**
KSH sPKP 07 08 49.3
KSH PP PP 07 10 33.5 +8.4
KSH SKS **SKSdf** **07 15 41.8 0.0**
KSH SKKS **SKKSac** **07 17 20.0 -0.5**
KSH SS **SS** **07 27 28.1 +6.7**
KSH AMB AMB
comp=Z,380nm,9.1s
KSH LR LR
comp=N,750nm,12.8s
KSH LR LR
comp=E,430nm,12.2s
KSH LR LR
comp=Z,2µm,32.6s
KBL Kabul 126.55 33 ePKIKP **PKPdf** **07 08 34.1 -1.3**
KBL Kabul 126.55 33 ePKPdf **PKPdf** **07 08 34.1 -1.3**
KSRS Korea Array 126.68 333 PKP **PKPdf** **07 08 33.8 -1.5**
comp=Z,12nm,0.7s,baz=23,slow=1.3,SNR=76
KSAR Wonju Array Be 126.71 333 PKP **PKPdf** **07 08 33.8 -1.5**
INCN Inchon 127.22 334 PFAKE 07 08 50.0 +14
INCN LR LR
comp=Z,3µm,20.0s
ABPO Ambohimpanom 127.30 106 ePKIKP **PKPdf** **07 08 36.6 -0.5**
ABPO MLR MLR
comp=Z,2µm,20.0s
ABPO Ambohimpanom 127.30 106 ePKPdf **PKPdf** **07 08 36.6 -0.5**
ABPO LR LR
comp=Z,2µm,20.0s
DL2 Dalian 127.91 340 PKP **PKPdf** **07 08 35.6 -1.9**
DL2 PP **PP** **07 10 38.7 -0.3**
DL2 AMB AMB
comp=Z,530nm,6.9s
DL2 LR LR
comp=N,510nm,22.2s
DL2 LR LR
comp=E,620nm,21.0s
DL2 LR LR
comp=Z,950nm,21.1s
BJI Beijing 128.50 345 PKP **PKPdf** **07 08 37.4 -1.2**
BJI SS SS 07 27 57.8 +3.1
BJI LR LR
comp=N,1µm,31.1s
BJI LR LR
comp=E,2µm,28.1s
BJI LR LR
comp=Z,2µm,30.1s
BJT Baijiatuau 128.52 345 PFAKE 07 08 50.0 +11
BJT LR LR
comp=Z,2µm,22.0s
HHC Hu-ho-hao-te 128.71 350 ePKP **PKPdf** **07 08 36.1 -3.1**
HHC sPKP 07 08 50.6
HHC PKS PKSdf 07 12 10.4 -5.4
HHC SKS **SKSdf** **07 15 42.1 -5.1**
HHC SKKS **SKKSac** **07 17 33.8 -5.1**
HHC SS **SS** **07 27 56.9 -0.6**
HHC AMB AMB
comp=Z,350nm,4.2s
GUMO Guam 130.65 297 PFAKE 07 09 00.0 +17
GUMO LR LR
comp=Z,481nm,20.0s
GTA Gaotai 131.08 1 PKP **PKPdf** **07 08 43.0 -0.7**
GTA sPKP 07 08 58.8
GTA PKS **PKSdf** **07 12 18.4 -2.0**
GTA SKS **SKSdf** **07 15 48.4 -3.2**
GTA SKKS **SKKSac** **07 17 48.1 -5.6**
GTA AMB AMB
comp=Z,460nm,10.0s
GTA LR LR
comp=N,970nm,25.2s
GTA LR LR
comp=E,990nm,21.4s
GTA LR LR
comp=Z,2µm,29.5s
DHRM DHARAMSHALA 132.04 28 eP **PKPdf** **07 08 43.5 -2.4**
SMLA Simla 133.38 28 eP **PKPdf** **07 08 48.4 +0.3**
LZH Lanzhou 134.33 357 PKP **PKPdf** **07 08 49.7 -0.3**
LZH sPKP 07 09 09.9
LZH PP **PP** **07 11 20.0 -0.4**
LZH PKS **PKSdf** **07 12 27.7 +1.1**
LZH SKS **SKSdf** **07 15 55.1 -2.5**
LZH SKKS **SKKSac** **07 18 10.3 -3.4**
LZH AMB AMB
comp=Z,470nm,5.5s
LZH LR LR
comp=N,2µm,19.4s
LZH LR LR
comp=E,1µm,18.2s
LZH LR LR
comp=Z,3µm,19.5s
PMG Port Moresby 134.49 266 PFAKE 07 09 00.0 +9.4
PMG LR LR
comp=Z,1µm,20.0s
MSEY Mahe Island 134.61 87 PFAKE 07 09 00.0 +9.1
MSEY LR LR
comp=Z,2µm,20.0s
SSE Sheshan 135.00 335 PKP **PKPdf** **07 08 50.7 -0.4**
SSE PP **PP** **07 11 26.1 +1.3**
SSE SS SS 07 29 14.2 -0.3
SSE AMB AMB
comp=Z,260nm,8.4s
SSE LR LR
comp=N,2µm,20.0s
SSE LR LR
comp=E,900nm,20.0s
SSE LR LR
comp=Z,2µm,22.2s
NJ2 Nanjing 135.05 338 ePKP **PKPdf** **07 08 52.4 +1.2**
NJ2 sPKP 07 09 05.8
NJ2 PP PP 07 11 31.5 +6.4
NJ2 PKS **PKSdf** **07 12 24.0 -3.6**
NJ2 AMB AMB
comp=Z,370nm,9.8s
NJ2 LR LR
comp=N,3µm,31.9s
NJ2 LR LR
comp=E,1µm,34.8s
NJ2 LR LR
comp=Z,960nm,35.5s
CTA Charters Tower 135.19 251 PKP **PKPdf** **07 08 51.4 -0.4**
CTA Charters Tower 135.19 251 PKP **PKPdf** **07 08 51.4 -0.4**
comp=Z,3.6nm,0.6s,baz=264,slow=1.6,SNR=3.6
CTAO Charters Tower 135.19 251 ePKIKP **PKPdf** **07 08 51.3 -0.4**
CTAO MLR MLR
comp=Z,2µm,21.0s
CTAO Charters Tower 135.19 251 ePKPdf **PKPdf** **07 08 51.3 -0.4**
CTAO LR LR
comp=Z,2µm,21.0s
XAN Xi'an 135.80 351 PKP PKPdf 07 08 44.8 -7.9
XAN PKPab **PKiKP** **07 08 51.3 -3.0**
XAN LR LR
comp=N,1µm,27.9s
XAN LR LR
comp=E,460nm,24.5s
XAN LR LR
comp=Z,530nm,29.0s
WHN Wuhan 137.93 343 ||PKP **PKPdf** **07 08 56.8 +0.2**
WHN PP **PP** **07 11 46.0 +3.0**
WHN LR LR
comp=N,3µm,18.0s
WHN LR LR
comp=E,2µm,18.6s
WHN LR LR
comp=Z,5µm,23.2s
COEN Coen 138.53 260 ePKPdf **PKPdf** **07 08 57.9 -0.1**
PYUN Piuthan 138.54 24 eP **PKPdf** **07 08 53.2 -4.9**
comp=Z,189nm,1.2s
DANN Dangsing 138.62 23 eP PKPdf 07 08 52.4 -6.0
comp=Z,208nm,1.3s
KOLN Koldanda 139.08 24 eP **PKPdf** **07 08 54.2 -4.9**
comp=Z,94nm,1.3s
ENH Enshi 139.37 349 PFAKE 07 09 10.0 +11

ENH					LR	LR		
	comp=Z,2μm,21.0s							
CD2	**Chengdu**	**139.48**	**356**		PKP	**PKPdf**	**07 08 58.6**	**-0.9**
CD2					sPKP		07 09 16.7	
CD2					PP	**PP**	**07 11 57.0**	**+4.5**
CD2					PKS	**PKSdf**	**07 12 33.2**	**-2.6**
CD2					SKS	**SKSdf**	**07 16 02.5**	**-3.9**
CD2					SKKS	**SKKSac**	**07 18 41.8**	**-2.5**
CD2					AMB	AMB		
	comp=Z,640nm,10.7s							
CD2					LR	LR		
	comp=N,1μm,26.5s							
CD2					LR	LR		
	comp=E,1μm,23.5s							
CD2					LR	LR		
	comp=Z,2μm,30.4s							
LSA	**Lhasa**	**139.65**	**13**		PKP	**PKPdf**	**07 08 59.9**	**-0.5**
LSA	**Lhasa**	**139.65**	**13**		PFAKE		07 09 10.0	+10
LSA					LR	LR		
	comp=Z,2μm,21.0s							
KKN	**Kakani**	**139.70**	**22**	*eP*	PKPdf		07 08 53.5	-6.7
	comp=Z,141nm,1.4s							
DMN	**Daman**	**139.80**	**22**	*eP*	PKPdf		07 08 54.5	-6.0
	comp=Z,139nm,1.3s							
GUN	**Gumba**	**139.81**	**21**	*eP*	PKPdf		07 08 53.0	-7.6
BHPL	**Bhopal**	**139.92**	**35**	*eP*	**PKPdf**		**07 08 58.5**	**-2.0**
PKI	**Pulchoki**	**139.95**	**22**	*eP*	PKPdf		07 08 54.0	-6.8
	comp=Z,167nm,1.5s							
TATO	**Taipei**	**140.11**	**330**		PFAKE		07 09 10.0	+9.3
TATO					LR	LR		
	comp=Z,2μm,20.0s							
JIRN	**Jiri**	**140.15**	**21**	*eP*	PKPdf		07 08 53.9	-7.3
BBOO	**Buckleboo**	**140.36**	**229**	*e*	PKPpre	PKPpre	07 08 52.7	
YHNB	**Yeheng**	**140.42**	**330**		PFAKE		07 09 10.0	+8.6
YHNB					LR	LR		
	comp=Z,2μm,20.0s							
RAMN	**Ramite**	**140.94**	**21**	*eP*	PKPdf		07 08 55.5	-7.0
	comp=Z,270nm,1.3s							
TAPN	**Taplejung**	**140.94**	**19**	*eP*	PKPdf		07 08 53.7	-8.9
	comp=Z,194nm,1.4s							
ODAN	**Odare**	**141.29**	**20**	*eP*	PKPdf		07 08 55.6	-7.6
	comp=Z,134nm,1.4s							
SSLB	**Suanglung**	**141.37**	**330**	*e*	PKPpre	PKPpre	07 08 56.5	
AKL	**Akola**	**141.64**	**38**	*ex*	x	x	07 08 55.0	
TPUB	**Ta-pu**	**141.94**	**330**	*e*	PKPdf	**PKPdf**	**07 08 59.8**	**-4.3**
NGP	**Nagpur**	**142.49**	**35**	*ex*	x	x	07 08 57.9	
LATR	**Latur**	**143.06**	**41**	*ex*	x	x	07 08 54.5	
LATR				*ex*		PKPab	07 08 59.3	-2.2
BOK	**Bokaro**	**143.54**	**24**	*eP*		PKPab	07 09 01.9	-1.4
GYA	**Guiyang**	**143.59**	**351**	*i*	PKP	PKPab	07 09 02.7	-0.9
GYA					pPKP	pPKPdf	07 09 19.8	-2.1
GYA					sPKP		07 09 25.0	
GYA					PP	**PP**	**07 12 21.8**	**+4.2**
GYA					PKS	**PKSdf**	**07 12 41.4**	**-1.7**
GYA					SKKS		07 19 07.6	
GYA					SS	**SS**	**07 30 57.5**	**+2.3**
GYA					AMB	AMB		
	comp=Z,170nm,8.2s							
GYA					LR	LR		
	comp=N,350nm,22.0s							
GYA					LR	LR		
	comp=E,280nm,24.5s							
GYA					LR	LR		
	comp=Z,310nm,23.2s							
SHL	**Shillong**	**143.79**	**14**	*eP*		PKPbc	07 09 05.0	-0.1
SHL				*ex*		x	07 12 44.3	
IMP	**Imphal**	**144.99**	**11**	*i*	P	**PKPab**	**07 09 08.0**	**-0.8**
IMP				*ex*		x	07 13 15.0	
HYB	**Hyderabad**	**145.07**	**40**	*i*	PKP	**PKPbc**	**07 09 06.5**	**-2.7**
	comp=Z,700nm,1.4s							
HYB				*es*	PKP		07 09 35.0	
HYB	**Hyderabad**	**145.07**	**40**	*eP*		**PKPbc**	**07 09 07.7**	**-1.5**
KMI	**Kunming**	**145.29**	**357**		PKPbc	**PKPbc**	**07 09 08.7**	**-1.3**
KMI					pPKP	**PKiKP**	**07 09 18.3**	**+4.1**
KMI					sPKP		07 09 22.7	
KMI					PP	**PP**	**07 12 28.7**	**+0.8**
KMI					SKKS		07 19 20.6	
KMI					SS	**SS**	**07 31 14.6**	**-0.3**
KMI					AMB	AMB		
	comp=Z,290nm,7.7s							
KMI					LR	LR		
	comp=N,1μm,20.7s							
KMI					LR	LR		
	comp=E,470nm,22.2s							
KMI					LR	LR		
	comp=Z,2μm,23.7s							
AS31	**Alice Springs**	**145.67**	**242**	*e*	PKPdf	**PKPdf**	**07 09 09.6**	**-1.1**
ASAR	**Alice Springs**	**145.67**	**242**		PKPbc	**PKPdf**	**07 09 09.8**	**-0.8**
ASAR	**Alice Springs**	**145.67**	**242**		PKPbc	**PKPdf**	**07 09 09.8**	**-0.8**
	comp=Z,42nm,0.6s,baz=115,slow=3.4,SNR=280							
WRAB	**Tennant Creek**	**146.25**	**249**	*e*	PKP2	**PKPdf**	**07 09 11.7**	**0.0**
WRAB					MLR	MLR		
	comp=Z,2μm,22.0s							
WRAB	**Tennant Creek**	**146.25**	**249**	*e*	PKPdf	**PKPdf**	**07 09 11.7**	**0.0**
WRAB					LR	LR		
	comp=Z,2μm,22.0s							
WRA	**Warramunga Arr**	**146.26**	**249**		PKPbc	**PKPdf**	**07 09 10.8**	**-0.9**
WRA	**Warramunga Arr**	**146.26**	**249**		PKPbc	**PKPdf**	**07 09 10.8**	**-0.9**
	comp=Z,17nm,0.5s,baz=100,slow=2.9,SNR=187							
FORT	**Forrest**	**147.25**	**226**	*e*	PKPdf	**PKPdf**	**07 09 12.5**	**-0.5**
VIS	**Vishakhapatnam**	**147.61**	**33**	*eP*		**PKPdf**	**07 09 13.1**	**-0.8**
TGY	**Tagaytay City**	**149.12**	**320**		PKPbc	**PKPbc**	**07 09 20.3**	**-0.5**
TGY	**Tagaytay City**	**149.12**	**320**		PKPbc	**PKPbc**	**07 09 20.3**	**-0.5**
	comp=Z,74nm,0.3s,baz=157,slow=18,SNR=6.4							
RCP	**Roxas**	**149.72**	**314**	*eP*		**PKPdf**	**07 09 17.9**	**+0.3**
TRD	**Trivandrum**	**149.98**	**54**	*eP*		**PKPdf**	**07 09 16.4**	**-1.5**
QIZ	**Qiongzhong**	**150.09**	**343**		PKPbc	**PKPdf**	**07 09 17.3**	**-0.7**
QIZ					sPKP		07 09 36.0	
QIZ					PP	**PP**	**07 12 57.7**	**+1.7**
QIZ					SS	SS	07 32 12.5	+3.6
QIZ					LR	LR		
	comp=N,940nm,25.8s							
QIZ					LR	LR		
	comp=E,280nm,21.5s							
QIZ					LR	LR		
	comp=Z,2μm,25.4s							
QIZ	**Qiongzhong**	**150.09**	**343**		PFAKE		07 09 30.0	+1.2
QIZ					LR	LR		
	comp=Z,2μm,20.0s							
DAV	**Davao City (W)**	**150.34**	**303**		PKPbc	**PKPbc**	**07 09 22.9**	**-0.8**
DAV					LR	LR		
	comp=Z,1μm,22.0s							
DAV	**Davao City (W)**	**150.34**	**303**		PKPbc	**PKPbc**	**07 09 22.9**	**-0.8**
	comp=Z,162nm,0.4s,baz=265,slow=13,SNR=7.1							
CTBH	**Cotabato--PC H**	**151.34**	**305**	*i*	P	**PKPbc**	**07 09 25.7**	**-0.4**
CHTO	**Chiang Mai**	**151.54**	**4**	*e*	PKIKP	**PKPdf**	**07 09 19.6**	**-0.7**
CHTO				*e*			07 09 25.4	
CHTO					MLR	MLR		
	comp=Z,994nm,21.0s							
CHTO	**Chiang Mai**	**151.54**	**4**	*e*	PKPdf	**PKPdf**	**07 09 19.6**	**-0.7**
CHTO				*e*	PKPbc	**PKPbc**	**07 09 25.4**	**-1.1**
CHTO					LR	LR		
	comp=Z,994nm,21.0s							
CHTO	**Chiang Mai**	**151.54**	**4**		P	**PKPdf**	**07 09 19.3**	**-1.0**
	comp=Z,105nm,1.5s,comp=Z,2μm							
CMMT	**Chiang Mai**	**151.55**	**4**		P	**PKPdf**	**07 09 19.5**	**-0.8**
CM31	**Chiang Mai Arr**	**151.90**	**4**	*e*	PKPbc	**PKPbc**	**07 09 26.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**151.90**	**4**		PKP	**PKPdf**	**07 09 20.4**	**-0.4**
CMAR					PKPbc	**PKPbc**	**07 09 26.3**	**-1.0**
CMAR	**Chiang Mai Arr**	**151.90**	**4**		PKP	**PKPdf**	**07 09 20.4**	**-0.4**
	comp=Z,7.5nm,0.9s,baz=322,slow=1.8,SNR=48							
CMAR					PKPbc	**PKPbc**	**07 09 26.3**	**-1.0**
	comp=Z,47nm,0.8s,baz=328,slow=2.9,SNR=60							
NWAO	**Narrogin (SRO)**	**152.49**	**211**	*e*	PKPbc	**PKPbc**	**07 09 27.7**	**-0.5**
NWAO					LR	LR		
	comp=Z,1μm,21.0s							
PALK	**Pallekele**	**153.66**	**51**	*e*	PKPdf	**PKPdf**	**07 09 23.7**	**+0.2**
PBKT	**Sadao Pong**	**153.85**	**0**		P	**PKPdf**	**07 09 23.2**	**-0.4**
	comp=Z,87nm,1.3s							
FITZ	**Fitzroy Crossi**	**154.69**	**248**	*e*	PKPdf	**PKPdf**	**07 09 24.3**	**-0.5**
FITZ					PKP	**PKPdf**	**07 09 24.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**154.69**	**248**		PKP	**PKPdf**	**07 09 24.6**	**-0.2**
	comp=Z,14nm,1.1s,baz=71,slow=5.9,SNR=5.1							
MBWA	**Marble Bar**	**158.69**	**236**	*e*	PKPdf	**PKPdf**	**07 09 29.3**	**-0.6**
MBWA					LR	LR		
	comp=Z,2μm,21.0s							
KAPI	**Kappang**	**160.80**	**283**		PFAKE		07 09 40.0	+7.5
KAPI					LR	LR		
	comp=Z,906nm,20.0s							
COCO	**West Island**	**175.26**	**121**		PFAKE		07 09 50.0	+7.7
COCO					LR	LR		
	comp=Z,1μm,20.0s							

*IDC **04** 06:51:15.2±1.9, 30°.23N×138°.18E, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.8/24, mbtmp3.8/5, ML3.1/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/43, Error ellipse: s-maj=61.3km s-min=23.0km az=71.0*

JMA 04 06:51:10.8±0.2, 30°.39N×139°.02E, h134km, M3.3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
TK01	**Tokai 1**	**3.58**	**341**	S	Sn	06 52 48.0		+1.6
TK02	**Tokai 2**	**3.70**	**344**	S	Sn	06 52 50.8		+1.2
TTO3	**TONANKAI O.B.S**	**3.73**	**339**	S	Sn	06 52 52.9		+2.6
TTO2	**TONANKAI O.B.S**	**3.74**	**334**	S	Sn	06 52 53.7		+3.5
TTO1	**TONANKAI O.B.S**	**3.74**	**330**	P	Pn	06 52 07.7		+0.9
TTO1				S	Sn	06 52 52.7		+2.4
TTO4	**TONANKAI O.B.S**	**3.82**	**341**	S	Sn	06 52 53.7		+1.5
JWZ	**Kozaga**	**4.21**	**319**	P	Pn	06 52 14.4		+1.0
JWZ				S	Sn	06 53 00.1		-1.9
CBIJ	**Chichi jima**	**4.30**	**139**	P	Pn	06 52 15.1		+0.5
JIE	**Ise**	**4.44**	**334**	P	Pn	06 52 17.6		+1.1
JIE				S	Sn	06 53 08.1		+0.5
JKN2	**Miekihoku**	**4.49**	**330**	P	Pn	06 52 18.0		+0.9
JKN2				S	Sn	06 53 08.8		+0.2
MJAR	**Matsushiro Arr**	**6.17**	**354**	Pn	Pn	06 52 49.9		+10
	0.7nm,0.3s,baz=178,slow=12,SNR=9.4							
MAT	**Matsushiro**	**6.17**	**354**	P	Pn	06 52 40.1		+0.4
JNU	**Nakatsue**	**7.45**	**294**	Pn	Pn	06 52 57.4		+0.5
	0.3nm,0.3s,baz=142,slow=9.0,SNR=6.3							
KSRS	**Korea Array**	**11.60**	**310**	LR	LR	06 58 29.5		
	comp=Z,46nm,18.2s,baz=115,slow=39							
ASAJ	**Asahikawa**	**13.99**	**11**	LR	LR	07 00 43.3		
	comp=Z,64nm,18.4s,baz=169,slow=40							
MKAR	**Makanchi Array**	**46.26**	**307**	P	P	06 59 38.1		+15
	1.4nm,0.8s,baz=90,slow=11,SNR=8.5							
WRA	**Warramunga Arr**	**50.24**	**186**	P	P	07 00 12.1		+19
	3.5nm,0.8s,baz=5.6,slow=7.7,SNR=12							
ASAR	**Alice Springs**	**53.97**	**186**	P	P	07 00 38.5		+18
	1.2nm,0.8s,baz=12,slow=5.1,SNR=5.9							

*MOS **04** 06:56:08.1±0.9, 55°.02N×162°.63E, h18km, mb4.3/1, Error ellipse: s-maj=19.7km s-min=11.7km az=77.2*
*ISCJB **04** 06:56:09.7±0.8, 55°.05N±0°.02×162°.58E±0°.06, h27km±7km, Error ellipse: s-maj=5.8km s-min=2.8km az=10.4*
*KRSC **04** 06:56:09.8±0.6, 55°.07N×162°.45E, h19km±19km, ML4.2*

ISC 04 06:56:08.2±1.2, 55°.06N±0°.02×162°.65E±0°.03, h15km±9km, n48, σ1s13/92, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MKZ	**Mys Kozlova**	**0.73**	**227**	PN	**Pg**	**06 56 22.3**		**-0.2**
MKZ				S	**Sg**	**06 56 31.1**		**-1.1**
MKZ	**Mys Kozlova**	**0.73**	**227**	*i* P	**Pg**	**06 56 22.3**		**-0.2**
MKZ				*i* S	**Sg**	**06 56 31.1**		**-1.1**
KBG	**Krutoberegovo**	**1.20**	**1**	PN	**Pg**	**06 56 31.7**		**+0.4**
KBG				S	**Sg**	**06 56 47.4**		**+0.4**
KBG	**Krutoberegovo**	**1.20**	**1**	*eP*	**Pg**	**06 56 31.7**		**+0.4**
KBG				*i* S	**Sg**	**06 56 47.4**		**+0.4**
BZGR	**Bezymyannyi-Gr**	**1.42**	**309**	*i* P	**Pn**	**06 56 34.1**		**+0.4**
BZGR				*i* S	**Sn**	**06 56 51.5**		**-0.7**
ZLN	**Zelenaya**	**1.42**	**313**	*i* P	**Pn**	**06 56 34.1**		**+0.4**
ZLN				*i* S	**Sn**	**06 56 52.2**		**0.0**
TUMR	**Tumrok**	**1.46**	**280**	*i* P	**Pn**	**06 56 34.3**		**+0.2**
TUMR				*i* S	**Sn**	**06 56 52.2**		**-0.8**
BZMR	**Bezymyannaya**	**1.51**	**306**	*eP*	**Pn**	**06 56 35.0**		**+0.1**
BZMR				*i* S	**Sn**	**06 56 52.9**		**-1.5**
CIRR	**Tsirk**	**1.51**	**315**	*eP*	**Pn**	**06 56 35.5**		**+0.6**
CIRR				*i* S	**Sn**	**06 56 54.2**		**-0.3**
LGNR	**Loginova**	**1.52**	**313**	*i* P	**Pn**	**06 56 35.7**		**+0.6**
LGNR				*i* S	**Sn**	**06 56 54.6**		**-0.1**
BZWR	**Bezymyannyi-We**	**1.53**	**307**	*eP*	**Pn**	**06 56 35.3**		**+0.2**
BZWR				*i* S	**Sn**	**06 56 53.9**		**-0.9**
KMNR	**Kamenistaya**	**1.54**	**298**	*eP*	**Pn**	**06 56 35.5**		**+0.2**
KMNR				*i* S	**Sn**	**06 56 53.9**		**-1.3**
KIRR	**Kirishev**	**1.59**	**305**	*eP*	**Pn**	**06 56 36.4**		**+0.4**
KIRR				*i* S	**Sn**	**06 56 55.4**		**-1.0**
KPT	**Kopyto**	**1.66**	**304**	*i* P	**Pn**	**06 56 37.5**		**+0.7**
KPT				*i* S	**Sn**	**06 56 57.9**		**0.0**
KRSR	**Krestovskiy**	**1.66**	**315**	*eP*	**Pn**	**06 56 37.1**		**+0.2**
KRSR				*i* S	**Sn**	**06 56 56.5**		**-1.5**
SMKR	**Semkarok**	**1.67**	**337**	*eP*	**Pn**	**06 56 37.5**		**+0.5**
SMKR				*i* S	**Sn**	**06 56 57.9**		**-0.3**
KLY	**Klyuchi**	**1.69**	**319**	PN	**Pn**	**06 56 36.6**		**-0.7**
KLY				S	**Sn**	**06 56 56.0**		**-2.6**
KLY	**Klyuchi**	**1.69**	**319**	*eP*	**Pn**	**06 56 36.6**		**-0.7**
KLY				*i* S	**Sn**	**06 56 56.0**		**-2.6**
BDR	**Baidarnaya**	**1.72**	**332**	*eP*	**Pn**	**06 56 38.6**		**+0.9**
BDR				*i* S	**Sn**	**06 56 59.3**		**-0.1**
SRKR	**Sorokina**	**1.81**	**333**	*i* P	**Pn**	**06 56 39.8**		**+0.9**
SRKR				*i* S	**Sn**	**06 57 02.1**		**+0.5**
KOZR	**Kozyr**	**1.86**	**304**	PN	**Pn**	**06 56 40.2**		**+0.6**
KOZR				S	**Sn**	**06 57 02.5**		**-0.4**
KOZ	**Kozyrevsk**	**1.87**	**304**	*eP*	**Pn**	**06 56 40.2**		**+0.5**
KOZ				*i* S	**Sn**	**06 57 02.5**		**-0.6**
BKI	**Bering**	**1.91**	**84**	PN	**Pn**	**06 56 40.6**		**+0.4**
BKI				S	**Sn**	**06 57 02.8**		**-1.2**
BKI	**Bering**	**1.91**	**84**	*i* P	**Pn**	**06 56 40.6**		**+0.4**
BKI				*i* S	**Sn**	**06 57 02.8**		**-1.2**
SRDR	**Sredinnyy**	**2.09**	**308**	*i* P	**Pn**	**06 56 43.4**		**+0.7**
SRDR				*i* S	**Sn**	**06 57 07.7**		**-0.8**
KII	**Karymskiy**	**2.13**	**243**	*eP*	**Pn**	**06 56 43.4**		**+0.1**
KII				*i* S	**Sn**	**06 57 08.2**		**-1.3**
ESO	**Esso**	**2.41**	**293**	PN	**Pn**	**06 56 47.0**		**-0.2**
ESO	**Esso**	**2.41**	**293**	*eP*	**Pn**	**06 56 47.0**		**-0.2**
ESO				*i* S	**Sn**	**06 57 13.5**		**-2.9**
SPN	**Mys Shipunski**	**2.50**	**219**	PN	**Pn**	**06 56 47.7**		**-0.7**
SPN				S	**Sn**	**06 57 15.8**		**-2.8**
SPN	**Mys Shipunski**	**2.50**	**219**	*eP*	**Pn**	**06 56 47.7**		**-0.7**
SPN				*i* S	**Sn**	**06 57 15.8**		**-2.8**
NLC	**Nalytchevo**	**2.71**	**227**	PN	**Pn**	**06 56 52.1**		**+0.8**
NLC				S	**Sn**	**06 57 22.9**		**-0.9**
NLC	**Nalytchevo**	**2.71**	**227**	*eP*	**Pn**	**06 56 52.1**		**+0.8**
NLC				*i* S	**Sn**	**06 57 22.9**		**-0.9**
SDLR	**Sedlovina**	**2.84**	**233**	*i* P	**Pn**	**06 56 54.2**		**+1.0**
SDLR				*i* S	**Sn**	**06 57 26.8**		**-0.4**
KRER	**Koryakskii**	**2.89**	**234**	*eP*	**Pn**	**06 56 55.2**		**+1.3**
KRER				*i* S	**Sn**	**06 57 28.3**		**-0.2**
SMAR	**Somma**	**2.89**	**233**	*eP*	**Pn**	**06 56 54.7**		**+0.7**
SMAR				*i* S	**Sn**	**06 57 27.6**		**-1.0**
UGLR	**Uglovaya**	**2.92**	**232**	*i* P	**Pn**	**06 56 55.3**		**+1.1**
UGLR				*i* S	**Sn**	**06 57 28.3**		**-0.7**
AVH	**Avacha**	**2.92**	**234**	*eP*	**Pn**	**06 56 56.0**		**+1.8**
AVH				*i* S	**Sn**	**06 57 29.9**		**+0.9**
KOK	**Koryaka**	**2.95**	**235**	*eP*	**Pn**	**06 56 56.0**		**+1.4**
KOK				*i* S	**Sn**	**06 57 29.2**		**-0.6**
GNL	**Ganaly**	**3.08**	**246**	*eP*	**Pn**	**06 56 58.4**		**+2.0**
GNL				*i* S	**Sn**	**06 57 33.6**		**+0.7**
PET	**Petropavlovsk**	**3.12**	**231**	*e* PN	**Pn**	**06 56 58.6**		**+1.8**
PET				*e* S	**Sn**	**06 57 34.7**		**+0.9**
PET				pmax	pmax			
	comp=Z,157nm,0.4s							
PET				smax	smax			
	comp=E,416nm,0.6s							
PET				smax	smax			
	comp=N,371nm,0.5s							
PET	**Petropavlovsk**	**3.12**	**231**	*i* P	**Pn**	**06 56 57.8**		**+1.0**
PET				*i* S	**Sn**	**06 57 33.5**		**-0.3**
RUS	**Russkaya**	**3.60**	**225**	PN	**Pn**	**06 57 04.6**		**+1.2**
RUS				S	**Sn**	**06 57 45.2**		**-0.5**
RUS	**Russkaya**	**3.60**	**225**	*i* P	**Pn**	**06 57 04.6**		**+1.2**
RUS				*i* S	**Sn**	**06 57 45.2**		**-0.5**
GRL	**Gorelyy**	**3.70**	**229**	P	Pn	06 57 07.9		+3.0
GRL				*i* S	**Sn**	**06 57 50.6**		**+2.3**
MTVR	**Mutnovka**	**3.70**	**228**	*eP*	**Pn**	**06 57 06.5**		**+1.5**
MTVR				*i* S	**Sn**	**06 57 48.2**		**-0.2**
APC	**Apacha**	**3.88**	**239**	*i* P	Pn	06 57 10.4		+3.0
APC				*i* S	**Sn**	**06 57 54.6**		**+1.9**
ASAK	**Asacha**	**3.89**	**228**	*eP*	**Pn**	**06 57 10.0**		**+2.4**
ASAK				*i* S	**Sn**	**06 57 54.2**		**+1.2**
MIPR	**Malaya Ipel'ka**	**4.48**	**234**	P	**Pn**	**06 57 17.2**		**+1.6**

*ISCJB **04** 06:57:36.5±0.6, 37°.62N±0°.02×22°.66E±0°.04, h63km±6km, Error ellipse: s-maj=4.7km s-min=3.8km az=11.2*
*CSEM **04** 06:57:36.9±0.1, 37°.62N×22°.67E, h60km, ML2.7/6, Error ellipse: s-maj=2.9km s-min=2.4km az=96.0*
*ATH **04** 06:57:36.1, 37°.62N×22°.66E, h60km±2km, ML2.2*
*THE **04** 06:57:37.0, 37°.62N×22°.63E, h60km±2km, ML2.7/6, Error ellipse: s-maj=2.8km s-min=0.9km az=306.0*

ISC 04 06:57:37.1±1.3, 37°.62N±0°.02×22°.66E±0°.03, h58km±7km, n67, σ0s61/115, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
VLX	**Vlachokerasia**	**0.34**	**222**	P	**Pn**	**06 57 47.2**		**-0.3**
VLX				S	**Sn**	**06 57 54.5**		**-0.5**
VLX	**Vlachokerasia**	**0.34**	**222**	*eP*	**Pn**	**06 57 47.2**		**-0.3**
VLX				*eS*	**Sn**	**06 57 54.3**		**-0.7**
VLX	**Vlachokerasia**	**0.34**	**222**	P	**Pn**	**06 57 47.2**		**-0.3**
VLX				S	**Sn**	**06 57 54.5**		**-0.5**
GUR	**Goura**	**0.40**	**321**	P	**Pn**	**06 57 47.8**		**-0.3**
GUR				S	**Sn**	**06 57 55.6**		**-0.4**
GUR	**Goura**	**0.40**	**321**	*eP*	**Pn**	**06 57 47.9**		**-0.2**
GUR	**Goura**	**0.40**	**321**	P	**Pn**	**06 57 47.8**		**-0.3**
GUR				S	**Sn**	**06 57 55.6**		**-0.4**
THAL	**Thalero**	**0.41**	**0**	P	**Pn**	**06 57 48.1**		**0.0**
THAL	**Thalero**	**0.41**	**0**	P	**Pn**	**06 57 48.1**		**0.0**
DIDY	**Didyma**	**0.46**	**108**	P	**Pn**	**06 57 48.5**		**-0.1**
DIDY				S	**Sn**	**06 57 57.7**		**+0.7**
DIDY	**Didyma**	**0.46**	**108**	P	**Pn**	**06 57 48.5**		**-0.1**
DIDY				S	**Sn**	**06 57 57.7**		**+0.7**
LTK	**Loutraki**	**0.47**	**31**	P	**Pn**	**06 57 48.8**		**+0.2**
LTK				S	**Sn**	**06 57 57.7**		**+0.7**
LTK	**Loutraki**	**0.47**	**31**	*eP*	**Pn**	**06 57 48.8**		**+0.2**
LTK				*eS*	**Sn**	**06 57 57.8**		**+0.7**
LTK	**Loutraki**	**0.47**	**31**	P	**Pn**	**06 57 48.8**		**+0.2**
LTK				S	**Sn**	**06 57 57.7**		**+0.7**
DID	**Didima**	**0.47**	**104**	P	**Pn**	**06 57 48.5**		**-0.1**
DID				S	**Sn**	**06 57 58.5**		**+1.4**
DID	**Didima**	**0.47**	**104**	*eP*	**Pn**	**06 57 48.6**		**-0.1**
DID				*eS*	**Sn**	**06 57 57.7**		**+0.6**
DID	**Didima**	**0.47**	**104**	*eP*	**Pn**	**06 57 48.6**		**-0.1**
DID				*eS*	**Sn**	**06 57 57.7**		**+0.6**
KLV	**Kalavryta, Ach**	**0.58**	**316**	P	**Pn**	**06 57 49.3**		**-0.7**
KLV				S	**Sn**	**06 57 58.6**		**-0.8**
KLV	**Kalavryta, Ach**	**0.58**	**316**	*eP*	**Pn**	**06 57 49.3**		**-0.7**
KLV				*eS*	**Sn**	**06 57 58.5**		**-0.8**
KLV	**Kalavryta, Ach**	**0.58**	**316**	P	**Pn**	**06 57 49.3**		**-0.7**
KLV				S	**Sn**	**06 57 58.6**		**-0.8**
NAIG	**Nisos Aigina**	**0.67**	**78**	*eP*	**Pn**	**06 57 51.1**		**+0.2**
NAIG	**Nisos Aigina**	**0.67**	**78**	*eP*	**Pn**	**06 57 51.1**		**+0.2**
ITM	**Ithomi**	**0.73**	**233**	P	**Pn**	**06 57 51.8**		**+0.1**
ITM				S	**Sn**	**06 58 03.5**		**+1.2**
ITM	**Ithomi**	**0.73**	**233**	*eP*	**Pn**	**06 57 51.8**		**+0.1**
ITM				*eS*	**Sn**	**06 58 03.5**		**+1.2**
ITM	**Ithomi**	**0.73**	**233**	P	**Pn**	**06 57 51.8**		**+0.1**
ITM				S	**Sn**	**06 58 03.5**		**+1.2**
AMT	**Artemida-Makis**	**0.76**	**264**	*eP*	**Pn**	**06 57 52.6**		**+0.5**
AMT				*eS*	**Sn**	**06 58 04.4**		**+1.4**
AMT	**Artemida-Makis**	**0.76**	**264**	*eP*	**Pn**	**06 57 52.6**		**+0.5**
AMT				*eS*	**Sn**	**06 58 04.4**		**+1.4**
DSF	**Desfina**	**0.80**	**352**	P	**Pn**	**06 57 52.1**		**-0.4**
DSF				S	**Sn**	**06 58 03.8**		**0.0**
DSF	**Desfina**	**0.80**	**352**	P	**Pn**	**06 57 52.1**		**-0.4**
DSF				S	**Sn**	**06 58 03.8**		**0.0**
LAKA	**Lakka**	**0.82**	**319**	P	**Pn**	**06 57 52.3**		**-0.5**
LAKA				S	**Sn**	**06 58 03.5**		**-0.8**
LAKA	**Lakka**	**0.82**	**319**	*eP*	**Pn**	**06 57 51.9**		**-0.9**
LAKA				*eS*	**Sn**	**06 58 03.6**		**-0.8**
LAKA	**Lakka**	**0.82**	**319**	P	**Pn**	**06 57 52.3**		**-0.5**
LAKA				*eS*	**Sn**	**06 58 03.6**		**-0.8**
KALE	**Kalithea**	**0.87**	**332**	P	**Pn**	**06 57 53.0**		**-0.5**
KALE				S	**Sn**	**06 58 05.7**		**+0.2**
KALE	**Kalithea**	**0.87**	**332**	*eP*	**Pn**	**06 57 52.7**		**-0.8**
KALE				*eS*	**Sn**	**06 58 05

RAR **Rarotonga** 14.12 85 P Pn 07 09 27.0 -11
14nm,0.3s,baz=270,slow=8.1,SNR=26
RAR S Sn 07 11 47.5 -26
29nm,0.3s,baz=90,slow=16,SNR=7.7
RAR LR LR 07 14 00.0
comp=Z,1μm,21.3s,baz=271,slow=32
FUNA Funafuti 15.57 338 *eP* **Pn 07 09 54.7 -2.3**
75nm,1.0s
URZ Urewera 16.59 203 *eP* **P 07 10 10.7 -0.7**
21nm,0.6s
URZ S Sn 07 13 02.7 -11
URZ Urewera 16.59 203 P **Pn 07 10 09.2 -0.6**
2.2nm,0.3s,baz=54,slow=3.6,SNR=13
URZ S Sn 07 13 02.7 -11
2.9nm,0.3s,baz=42,slow=21,SNR=9.6
DZM Mont Dzumac 17.28 270 *eLR* LR 07 14 22.0
856nm,22.1s
DZM Mont Dzumac 17.28 270 *eP* **P 07 10 21.7 +2.5**
47nm,0.8s
DZM Mont Dzumac 17.28 270 P **P 07 10 21.1 +1.8**
1.0nm,0.3s,baz=90,slow=24,SNR=9.5
KHZ Kahutara 21.55 204 *eP* **P 07 11 07.1 +1.7**
34nm,0.8s
TBI Tubuai 23.35 96 *eP* **P 07 11 22.9 -1.5**
78nm,1.2s
TBI *eLR* LR 07 16 28.4
2μm,28.5s
RPZ Rata Peaks 23.61 206 *eP* **P 07 11 25.0 -1.7**
29nm,0.7s
RPZ Rata Peaks 23.61 206 P **P 07 11 24.5 -2.2**
22nm,0.8s,baz=295,slow=2.2,SNR=10
PAE Paea 24.31 82 *eP* **P 07 11 32.4 -0.8**
9.1nm,1.1s
PPT2 Papeete2 24.33 82 *eLR* LR 07 17 06.2
1μm,22.5s
TIAR Tiarei 24.55 82 *eP* **P 07 11 34.3 -1.2**
50nm,1.0s
TIAR *epP* **pP 07 11 46.1 -4.2**
99nm,0.9s
TVO Taravao 24.57 82 *eP* **P 07 11 34.4 -1.3**
74nm,0.9s
HNR Honiara 27.66 295 LR LR 07 22 06.5
comp=Z,333nm,18.1s,baz=330,slow=34
EIDS Eidsvold 31.08 259 P **P 07 12 34.1 +0.4**
baz=31,SNR=5.6
RMQ Roma 33.12 257 P **P 07 12 53.6 +1.9**
baz=33,SNR=4.2
CMSA Cobar Meteorol 35.87 248 P **P 07 13 15.1 -0.3**
baz=36,SNR=5.8
CTA Charters Tower 36.20 267 P **P 07 13 18.4 +0.1**
CTA Charters Tower 36.20 267 P **P 07 13 18.4 +0.1**
25nm,0.6s,baz=100,slow=11,SNR=24
CTAO Charters Tower 36.20 267 *eP* **P 07 13 18.1 -0.2**
CTAO pmax pmax
comp=Z,31nm,0.7s
CTAO Charters Tower 36.20 267 *eP* **P 07 13 18.1 -0.2**
comp=Z,31nm,0.7s
MCQ Macquarie Isla 36.97 205 S **S 07 18 59.8 -5.4**
baz=37,SNR=3.1
QLP Quilpie 37.16 256 P **P 07 13 26.8 +0.4**
baz=37,SNR=12
MTSU Mount Surprise 38.42 270 P **P 07 13 37.0 -0.2**
baz=38,SNR=6.6
PMG Port Moresby 38.77 284 *eP* **P 07 13 38.9 -1.2**
comp=Z,74nm,0.9s
PMG Port Moresby 38.77 284 P **P 07 13 38.6 -1.5**
PMG Port Moresby 38.77 284 P **P 07 13 39.1 -1.1**
comp=Z,72nm,0.9s,baz=160,slow=3.0,SNR=4.7
BBOO Buckleboo 44.07 246 P **P 07 14 22.3 -1.1**
baz=44,SNR=7.3
AS31 Alice Springs 46.80 259 *eP* **P 07 14 44.1 -1.0**
ASAR Alice Springs 46.80 259 P **P 07 14 44.2 -1.0**
ASAR S **S 07 21 30.1 -1.2**
ASAR Alice Springs 46.80 259 P **P 07 14 44.2 -1.0**
comp=Z,8.5nm,0.8s,baz=97,slow=6.9,SNR=25
ASAR S **S 07 21 30.1 -1.2**
comp=Z,1.0nm,0.8s,baz=102,slow=14,SNR=5.8
ASAR LR LR 07 34 39.1
comp=Z,551nm,19.6s,baz=283,slow=36
WRAB Tennant Creek 47.15 264 *eP* **P 07 14 46.4 -1.5**
WRAB Tennant Creek 47.15 264 *eP* **P 07 14 46.4 -1.5**
WRA Warramunga Arr 47.16 264 P **P 07 14 46.9 -1.0**
WRA pP **pP 07 15 02.4 -1.3**
WRA Warramunga Arr 47.16 264 P **P 07 14 46.9 -1.0**
comp=Z,14nm,0.9s,baz=90,slow=5.9,SNR=87
WRA pP **pP 07 15 02.4 -1.3**
comp=Z,24nm,0.7s,baz=92,slow=8.4,SNR=13
JAY Jayapura 47.62 289 P **P 07 14 51.1 -0.5**
baz=48,SNR=3.0
KDU Kakadu 50.93 272 P **P 07 15 15.4 -1.4**
baz=51,SNR=6.3
KDU S **S 07 22 29.5 +0.2**
baz=51,SNR=5.8
FORT Forrest 50.99 248 *eP* **P 07 15 16.0 -1.0**
comp=Z,40nm,0.6s
FORT Forrest 50.99 248 P **P 07 15 16.1 -1.0**
baz=51,SNR=17
MTN Manton Dam 52.11 271 P **P 07 15 24.5 -1.1**
baz=52,SNR=4.2
MTN S S 07 22 28.5 -17
baz=52,SNR=4.1
KNRA Kununurra 53.41 267 P **P 07 15 33.0 -2.2**
baz=54,SNR=5.9
KNRA S **S 07 22 59.7 -3.6**
baz=54,SNR=3.7
SBA Scott Base 55.50 185 *eP* P 07 15 53.5 +4.0
SBA pmax pmax
comp=Z,17nm,1.0s
SBA Scott Base 55.50 185 *eP* P 07 15 53.5 +4.0
comp=Z,17nm,1.0s
FITZ Fitzroy Crossi 55.59 263 *eP* **P 07 15 50.6 -0.3**
comp=Z,17nm,1.0s
FITZ Fitzroy Crossi 55.59 263 P **P 07 15 50.8 -0.2**
comp=Z,3.2nm,0.8s,baz=167,slow=23,SNR=10
FITZ Fitzroy Crossi 55.59 263 P **P 07 15 51.1 +0.2**
baz=56,SNR=6.8
VNDA Vanda 55.61 186 *eP* **P 07 15 53.3 +3.0**
comp=Z,7.4nm,0.9s
VNDA Vanda 55.61 186 P **P 07 15 52.6 +2.3**
comp=Z,7.0nm,0.9s,baz=8.0,slow=7.0,SNR=17
KLBR Kellerberrin 59.62 246 P **P 07 16 19.4 +0.2**
baz=60,SNR=11
MEEK Meekatharra 59.84 252 P **P 07 16 20.4 -0.4**
baz=60,SNR=11
MBWA Marble Bar 60.14 258 *eP* **P 07 16 21.9 -1.0**
comp=Z,28nm,1.2s
BLDU Ballidu 60.68 247 P **P 07 16 26.5 +0.1**
baz=61,SNR=12
MORW Morawa 61.55 248 P **P 07 16 32.7 +0.3**
baz=62,SNR=23
CASY Casey 62.88 206 *eP* **P 07 16 42.6 +2.0**
comp=Z,21nm,0.9s
QSPA South Pole Qui 66.98 180 *eP* **P 07 17 09.6 +2.2**
comp=Z,23nm,1.0s
QSPA South Pole Qui 66.98 180 P **P 07 17 08.4 +0.9**
comp=Z,21nm,1.0s,baz=37,slow=2.6,SNR=28
MJAR Matsushiro Arr 74.02 322 P **P 07 17 49.8 -0.7**
MJAR pP **pP 07 18 07.3 +0.1**
MJAR Matsushiro Arr 74.02 322 P **P 07 17 49.8 -0.7**
comp=Z,2.9nm,0.6s,baz=162,slow=6.4,SNR=9.2
MJAR pP **pP 07 18 07.3 +0.1**
comp=Z,4.2nm,0.6s,baz=159,slow=6.4,SNR=6.0
ASAJ Asahikawa 77.40 330 *eP* **P 07 18 11.7 +2.0**
ASAJ Asahikawa 77.40 330 P **P 07 18 11.1 +1.5**
comp=Z,12nm,0.8s,baz=204,slow=11,SNR=13
SAO San Andreas Ge 77.99 41 *eP* **P 07 18 12.9 -0.2**
SAO pmax pmax
comp=Z,12nm,1.1s
SAO San Andreas Ge 77.99 41 *eP* **P 07 18 12.9 -0.2**
comp=Z,12nm,1.1s
MWC Mount Wilson 78.51 45 *eP* **P 07 18 15.7 -0.6**
MWC pmax pmax
comp=Z,7.0nm,0.8s
MWC Mount Wilson 78.51 45 *eP* **P 07 18 15.7 -0.6**
comp=Z,6.7nm,0.8s
ARVC Arvin 78.58 44 ⇓P **P 07 18 16.7 +0.4**
baz=79
MURC Murrieta 78.70 46 ⇓P **P 07 18 17.4 +0.3**
baz=79
BFSC Mount Baldy Ra 78.78 45 ⇑P **P 07 18 17.1 -0.6**
baz=79
MONP Monument Peak 78.79 47 ⇑P **P 07 18 17.3 -0.5**
baz=79
VES Vestal, Richgr 78.86 43 ⇓P **P 07 18 17.9 0.0**
baz=79
DVTC Desert V Tower 78.87 47 ⇓P **P 07 18 18.0 -0.1**
baz=79

EDW2 Edwards Air Fo 78.96 45 ⇑P **P 07 18 18.3 -0.3**
baz=79,SNR=11
ISA Isabella 79.14 44 *eP* **P 07 18 19.6 0.0**
ISA pmax pmax
comp=Z,8.0nm,0.9s
ISA Isabella 79.14 44 *eP* **P 07 18 19.6 0.0**
comp=Z,7.9nm,0.9s
ISA Isabella 79.14 44 ⇑P **P 07 18 19.5 0.0**
baz=79,SNR=12
PFO Pinyon Flat Ob 79.20 46 *eP* **P 07 18 19.6 -0.4**
comp=Z,6.4nm,0.9s
PFO Pinyon Flat Ob 79.20 46 ⇓P **P 07 18 19.9 0.0**
baz=79
SWSC Sam W. Stewart 79.24 47 ⇑P **P 07 18 20.0 0.0**
baz=79
CMB Columbia Colle 79.46 41 *eP* **P 07 18 20.9 -0.3**
CMB pmax pmax
comp=Z,9.0nm,0.9s
CMB Columbia Colle 79.46 41 *eP* **P 07 18 20.9 -0.3**
comp=Z,8.7nm,0.9s
LRMC Laurel Mountai 79.52 44 ⇓P **P 07 18 21.8 +0.1**
baz=80
YSS Yuzh-Sakhalins 79.53 332 *eP* **P 07 18 22.5 +1.3**
YSS *e* 07 18 29.0
PETK Petropavlovsk- 79.55 344 P **P 07 18 21.3 +0.1**
PETK *PP **pP 07 18 36.0 -2.1**
PETK Petropavlovsk- 79.55 344 P **P 07 18 21.3 +0.1**
PETK pP **pP 07 18 36.0 -2.1**
PETK Petropavlovsk- 79.55 344 P **P 07 18 21.3 +0.1**
comp=Z,5.0nm,0.7s,baz=140,slow=9.4,SNR=9.5
PETK pP **pP 07 18 36.0 -2.1**
comp=Z,12nm,0.7s,baz=126,slow=7.5,SNR=9.6
BELC Belle Mtn. Jos 79.73 46 ⇑P **P 07 18 22.6 -0.3**
baz=80,SNR=7.9
CWC Cottonwood Cre 79.87 43 ⇓P **P 07 18 23.5 -0.1**
baz=80
WDC Whiskeytown Da 79.88 38 *eP* **P 07 18 23.3 0.0**
WDC pmax pmax
comp=Z,25nm,1.4s
WDC Whiskeytown Da 79.88 38 *eP* **P 07 18 23.3 0.0**
comp=Z,25nm,1.4s
BC3 Big Chuckawall 79.89 47 ⇑P **P 07 18 23.8 +0.1**
baz=80
GLA Glamis 79.96 48 ⇑P **P 07 18 24.1 0.0**
baz=80
GSC Goldstone 79.99 45 *eP* **P 07 18 24.1 -0.1**
GSC pmax pmax
comp=Z,55nm,2.0s
GSC Goldstone 79.99 45 *eP* **P 07 18 24.1 -0.1**
comp=Z,55nm,2.0s
GSC Goldstone 79.99 45 ⇑P **P 07 18 23.9 -0.3**
baz=80,SNR=5.8
MPMC Manual Prospec 80.01 44 ⇓P **P 07 18 24.4 0.0**
baz=80,SNR=13
HEC Hector,Ludlow 80.01 45 ⇑P **P 07 18 24.1 -0.2**
baz=80
MAW Mawson 80.09 199 P **P 07 18 26.5 +2.3**
MAW Mawson 80.09 199 P **P 07 18 26.5 +2.3**
comp=Z,40nm,0.9s,baz=143,slow=9.8,SNR=48
MAW LR LR 07 51 52.6
comp=Z,843nm,21.1s,baz=238,slow=34
MTUM Tungsten Hills 80.14 42 *eP* **P 07 18 25.3 +0.2**
WAKR Walker 80.33 41 *eP* **P 07 18 26.3 +0.2**
IRM Iron Mountain 80.39 47 ⇑P **P 07 18 26.3 0.0**
baz=80,SNR=5.6
GMRC Granite Mounta 80.42 46 ⇓P **P 07 18 26.3 -0.3**
baz=81,SNR=5.7
113A Mohawk Valley, 80.52 48 ⇓P **P 07 18 26.9 0.0**
baz=81
YBH Yreka Blue Hor 80.56 37 *eP* **P 07 18 27.5 +0.4**
comp=Z,10nm,1.0s
Y12C Blythe 80.58 47 ⇓P **P 07 18 27.3 +0.1**
baz=81
TUQ Turquoise Moun 80.64 45 ⇑P **P 07 18 27.9 +0.1**
baz=81
BEKR Beckworth 80.66 39 *eP* **P 07 18 27.8 0.0**
comp=Z,1.6nm,0.9s
FURC Furnace Creek, 80.66 44 ⇑P **P 07 18 27.3 -0.3**
baz=81,SNR=6.9
GRAC Grapevine Rang 80.67 43 ⇓P **P 07 18 28.0 +0.3**
baz=81
SHOC Shoshone 80.69 45 ⇑P **P 07 18 28.1 +0.3**
baz=81
214A Organ Pipe Nat 80.72 50 ⇓P **P 07 18 28.1 0.0**
baz=81
KSRS Korea Array 80.75 317 P **P 07 18 29.4 +1.4**
comp=Z,3.3nm,0.7s,baz=134,slow=5.4,SNR=9.9
KSRS pP **pP 07 18 44.9 -0.1**
comp=Z,7.4nm,0.9s,baz=140,slow=5.9,SNR=7.5
KSAR Wonju Array Be 80.77 317 P **P 07 18 29.4 +1.3**
KSAR pP **pP 07 18 44.9 -0.2**
LDFC Landfair 80.96 46 *eP* **P 07 18 29.4 -0.1**
comp=Z,39nm,1.4s
NVAR Mina Array Bea 80.97 42 P **P 07 18 29.5 0.0**
NVAR pP **pP 07 18 45.4 -1.1**
NVAR Mina Array Bea 80.97 42 P **P 07 18 29.5 0.0**
comp=Z,8.9nm,0.7s,baz=223,slow=9.0,SNR=80
NVAR pP **pP 07 18 45.4 -1.1**
comp=Z,7.3nm,0.8s,baz=223,slow=8.1,SNR=9.5
HUMO Hull Mountain 81.02 36 *eP* **P 07 18 30.4 +0.9**
comp=Z,17nm,1.1s
PDMCI Parker Dam,Lak 81.16 47 ⇓P **P 07 18 30.6 +0.3**
baz=81
Z14A Wintersburg 81.43 48 ⇓P **P 07 18 31.8 0.0**
baz=82
Y14A Wickenburg 81.72 48 ⇓P **P 07 18 33.4 0.0**
baz=82,SNR=9.2
SHPR Sheep Range 81.78 45 *eP* **P 07 18 33.9 +0.2**
W13A Hualapai Mount 81.79 46 ⇑P **P 07 18 33.9 0.0**
baz=82
MOD Modoc 82.02 38 *eP* **P 07 18 34.9 0.0**
comp=Z,45nm,1.9s
OHAK Old Harbor 82.05 12 *eP* **P 07 18 34.6 +0.2**
comp=Z,6.4nm,0.6s
TUC Tucson 82.35 50 *eP* **P 07 18 36.4 -0.4**
TUC Tucson 82.35 50 *eP* **P 07 18 36.4 -0.4**
KDAK Kodiak Island 82.71 12 P **P 07 18 37.5 -0.4**
KDAK Kodiak Island 82.71 12 P **P 07 18 37.5 -0.4**
comp=Z,4.9nm,0.8s,baz=134,slow=7.6,SNR=3.9
USRK Ussuriysk Arra 82.75 325 P **P 07 18 39.5 +1.1**
comp=Z,13nm,0.8s,baz=105,slow=2.7,SNR=17
BMN Battle Mountai 82.88 41 *eP* **P 07 18 39.0 -0.4**
BMN pmax pmax
comp=Z,9.0nm,1.2s
BMN Battle Mountai 82.88 41 *eP* **P 07 18 39.0 -0.4**
comp=Z,9.3nm,1.2s
319A Douglas 82.92 52 ⇓P **P 07 18 39.9 +0.1**
baz=83,SNR=6.1
X16A Lo Mia Camp, P 83.06 48 ⇑P **P 07 18 41.1 +0.5**
baz=83,SNR=14
WVOR Wild Horse Val 83.31 38 *eP* **P 07 18 41.4 -0.2**
WVOR pmax pmax
comp=Z,16nm,1.1s
WVOR Wild Horse Val 83.31 38 *eP* **P 07 18 41.4 -0.2**
comp=Z,16nm,1.1s
320A Kipp Ranch, An 83.44 52 ⇓P **P 07 18 43.0 +0.5**
baz=84,SNR=11
CCUT Cedar City 83.55 45 *eP* **P 07 18 43.5 +0.4**
comp=Z,8.5nm,0.9s
U15A North Rim 83.61 46 ⇓P **P 07 18 44.1 +0.6**
baz=84,SNR=21
ARUT Antelope Range 83.64 44 *eP* **P 07 18 43.8 +0.4**
ARUT pmax pmax
comp=Z,12nm,0.9s
ARUT Antelope Range 83.64 44 *eP* **P 07 18 43.8 +0.4**
comp=Z,12nm,0.9s
WUAZ Wupatki 83.71 47 ⇑P **P 07 18 44.1 +0.2**
baz=84,SNR=7.0
220A Playas Peak, P 83.75 52 ⇓P **P 07 18 44.4 +0.3**
baz=84,SNR=9.8
NJ2 Nanjing 83.77 309 *eP* **P 07 18 45.0 +1.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NLWA Neilton Lookou 83.83 32 *eP* **P 07 18 44.5 +0.5**
comp=Z,15nm,0.8s
120A U Bar Ranch, L 84.01 51 ⇑P **P 07 18 45.8 +0.3**
baz=84,SNR=7.6
HABR Khabarovsk 84.14 329 *eP* **P 07 18 46.5 +1.1**
HABR *e*PP **pP 07 19 02.3 -0.1**
HABR *eS* S 07 28 59.0 -6.4
HABR *eSS* **SS 07 34 32.9 -3.3**
HABR *eSSS* SSS 07 38 03.0
HABR pmax pmax
comp=Z,57nm,2.6s
HABR pmax pmax
comp=N,27nm,2.6s
HABR pmax pmax
comp=E,46nm,3.3s
HABR MLR MLR
comp=Z,1μm,23.0s
X18A Snowflake 84.14 49 ⇓P **P 07 18 46.2 +0.1**
baz=84
ELK Elko 84.26 41 *eP* **P 07 18 46.1 -0.6**
comp=Z,5.5nm,0.9s
MDJ Mudanjiang 84.31 324 P **P 07 18 46.7 +0.3**
MDJ pP **pP 07 19 03.4 0.0**
MDJ sP **sP 07 19 10.5 +0.4**
MDJ S **S 07 29 07.6 +0.3**
MDJ sS **sS 07 29 36.4 +0.3**
MDJ pmax pmax
comp=Z,5.0nm,1.2s
MDJ pmax pmax
comp=Z,89nm,5.7s
MDJ LR LR
comp=N,510nm,28.6s
MDJ LR LR
comp=E,640nm,35.6s
MDJ LR LR
comp=Z,710nm,31.9s
MDJ Mudanjiang 84.31 324 *eP* **P 07 18 47.1 +0.6**
comp=Z,12nm,0.8s
Z20A Nine Sixteen R 84.34 51 ⇑P **P 07 18 47.7 +0.6**
baz=84,SNR=9.8
221A Mesquite Ranch 84.34 52 ⇓P **P 07 18 47.3 +0.2**
baz=84
LON Longmire 84.42 34 *eP* **P 07 18 46.3 -0.8**
LON pmax pmax
comp=Z,6.0nm,1.0s
LON Longmire 84.42 34 *eP* **P 07 18 46.3 -0.8**
comp=Z,6.1nm,1.0s
121A Cookes Peak, D 84.61 51 ⇓P **P 07 18 48.5 0.0**
baz=85,SNR=5.1
W18A Petrified Fore 84.61 48 ⇓P **P 07 18 48.7 +0.3**
baz=85
MVU Marysvale 84.84 44 *eP* **P 07 18 50.3 +0.7**
comp=Z,14nm,1.1s
MSU Marysvale 84.87 44 *eP* **P 07 18 50.5 +0.8**
MSU Marysvale 84.87 44 *eP* **P 07 18 50.5 +0.8**
222A Williams Famil 84.88 52 ⇓P **P 07 18 49.6 -0.2**
baz=85
PGC Sidney 84.91 31 *eP* **P 07 18 49.0 -0.3**
comp=Z,1.0nm,0.9s
Y20A Horse Springs, 84.91 50 ⇓P **P 07 18 50.8 +0.7**
baz=85,SNR=15
Z21A St. Cloud Mine 85.10 51 ⇑P **P 07 18 51.7 +0.7**
baz=85,SNR=11
X20A Quemado 85.16 49 ⇑P **P 07 18 52.1 +0.8**
baz=85,SNR=12
122A Conniff Cattle 85.26 52 ⇓P **P 07 18 52.3 +0.6**
baz=85
SNAA Sanae 85.32 177 *eP* **P 07 18 52.2 +0.9**
SNAA Sanae 85.32 177 *epP* pP 07 19 08.5 +0.2
SNAA Sanae 85.32 177 *esP* sP 07 19 16.3 +1.3
SNAA Sanae 85.32 177 *eP* **P 07 18 52.2 +0.9**
comp=Z,30nm,1.1s
SNAA pP **pP 07 19 07.8 -0.5**
SNAA Sanae 85.32 177 P **P 07 18 52.3 +1.0**
comp=Z,6.2nm,0.9s,baz=211,slow=5.4,SNR=53
SNAA pP **pP 07 19 07.8 -0.5**
comp=Z,4.2nm,0.9s,baz=204,slow=3.8,SNR=7.2
223A Chaparral, Ant 85.32 52 ⇓P **P 07 18 52.2 +0.2**
baz=86
HAWA Hanford 85.36 35 *eP* **P 07 18 52.2 +0.5**
comp=Z,11nm,1.0s
DUG Dugway 85.43 43 ⇑P **P 07 18 52.6 +0.2**
baz=86
Y21A Point of Rocks 85.46 50 ⇓P **P 07 18 53.6 +0.9**
baz=86,SNR=9.0
W20A Ramah 85.47 49 ⇓P **P 07 18 53.6 +0.8**
baz=86,SNR=24
MFID Camas Ranch 85.53 39 *eP* **P 07 18 52.8 0.0**
comp=Z,9.9nm,1.0s
MFID Camas Ranch 85.53 39 ⇓P **P 07 18 53.0 +0.2**
baz=86
Z22A Elephant Butte 85.57 51 ⇑P **P 07 18 53.7 +0.4**
baz=86,SNR=12
X21A Alamocita Cree 85.61 50 ⇑P **P 07 18 53.8 +0.2**
baz=86,SNR=12
324A Moseley Ranch, 85.73 53 ⇓P **P 07 18 53.8 -0.2**
baz=86,SNR=6.3
Q16A Castle Valley 85.75 45 ⇓P **P 07 18 54.2 +0.1**
baz=86
425A Indio Mountain 85.77 54 ⇓P **P 07 18 54.4 +0.1**
baz=86,SNR=11
626A Big Bend Ranch 85.81 56 ⇑P **P 07 18 54.8 +0.4**
baz=86,SNR=10
V20A Brimhall 85.85 48 ⇑P **P 07 18 55.0 +0.3**
baz=86,SNR=5.3
Y22A Socorro 85.92 51 ⇑P **P 07 18 55.3 +0.3**
baz=86,SNR=8.3
MNTX Cornudas Mount 85.93 53 *eP* **P 07 18 54.8 -0.1**
comp=Z,6.6nm,0.9s
TMUT Trail Mountain 85.94 44 *eP* **P 07 18 56.1 +1.0**
comp=Z,17nm,1.0s
224A Cornudas Mount 86.02 53 ⇑P **P 07 18 55.6 +0.1**
baz=86,SNR=8.5
VNA1 Neumayer--Stat 86.03 176 *eP* **P 07 18 56.4 +1.7**
VNA1 Neumayer--Stat 86.03 176 *epP* pP 07 19 11.5 -0.3
VNA1 Neumayer--Stat 86.03 176 *esP* sP 07 19 19.5 +1.1
LENM Lemitar 86.04 50 *eP* **P 07 18 56.4 +0.8**
LAZ Ladron 86.04 50 *eP* **P 07 18 55.9 +0.3**
comp=Z,19nm,1.9s
TXAR Lajitas Array 86.05 56 P **P 07 18 55.6 -0.1**
TXAR pP **pP 07 19 11.2 -1.6**
TXAR Lajitas Array 86.05 56 P **P 07 18 55.6 -0.1**
comp=Z,5.7nm,0.9s,baz=211,slow=8.3,SNR=57
TXAR pP **pP 07 19 11.2 -1.6**
comp=Z,11nm,1.0s,baz=185,slow=12,SNR=14
W21A San Fidel 86.06 49 ⇓P **P 07 18 55.7 0.0**
baz=86
325A Bean Ranch, Si 86.07 54 ⇑P **P 07 18 55.5 -0.3**
baz=86
526A Mary Lane Ranc 86.09 55 ⇑P **P 07 18 55.7 -0.2**
baz=86,SNR=13
Z23A Rita Site, Whi 86.10 51 ⇓P **P 07 18 55.8 0.0**
baz=86
U20A Newcomb 86.12 48 ⇑P **P 07 18 56.2 +0.3**
baz=86,SNR=12
CN2 Changchun 86.13 321 *eP* **P 07 18 58.0 +2.5**
CN2 *epP* **pP 07 19 15.1 +2.5**
CN2 *eS* S 07 29 15.9 -9.4
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,800nm,25.0s
CN2 LR LR
comp=E,900nm,25.0s
CN2 LR LR
comp=Z,700nm,30.0s
I12A Atlanta 86.16 39 ⇓P **P 07 18 56.1 +0.1**
baz=86
BNM Barren Site 86.28 51 *eP* **P 07 18 57.0 +0.2**
comp=Z,5.6nm,1.0s
SRU San Rafael 86.28 45 *eP* **P 07 18 56.7 +0.1**
SRU pmax pmax
comp=Z,15nm,1.1s
SRU San Rafael 86.28 45 *eP* **P 07 18 56.7 +0.1**
comp=Z,15nm,1.1s
627A Terlingua Ranc 86.32 56 ⇑P **P 07 18 57.0 -0.1**
baz=86,SNR=18
LPM Los Pinos Moun 86.36 50 *eP* **P 07 18 57.3 +0.1**
comp=Z,3.6nm,0.8s
124A Stringfield Ra 86.38 52 ⇓P **P 07 18 57.4 0.0**
baz=86,SNR=7.0
V21A Milan 86.43 49 ⇑P **P 07 18 57.7 +0.2**
baz=87,SNR=6.8
426A McDonald Obser 86.43 55 ⇑P **P 07 18 57.5 -0.1**
baz=87,SNR=14
527A Woodward Ranch 86.49 55 ⇓P **P 07 18 57.5 -0.3**
baz=87,SNR=5.7
225A Deer Hill, Car 86.55 53 ⇓P **P 07 18 58.3 +0.2**
baz=87,SNR=8.1
Y23A Lovelace Mesa, 86.57 51 ⇑P **P 07 18 58.2 0.0**
baz=87,SNR=5.7
MVCO Mesa Verde 86.58 47 ⇑P **P 07 18 58.2 -0.1**
baz=87
W22A Albuquerque 86.58 50 ⇓P **P 07 18 58.5 +0.3**
baz=87
628A Black Gap, Mar 86.72 56 ⇑P **P 07 18 58.8 -0.1**
baz=87,SNR=12
U21A Nageezi 86.74 48 ⇓P **P 07 18 59.1 0.0**
baz=87,SNR=15

Z24A	**Sheeppen Canyo**	86.76	52	⇑P		P	07 18 59.5	+0.3
	baz=87,SNR=7.0							
H12A	**Diamond D Ranc**	86.78	38	⇓P		P	07 18 59.1	+0.1
	baz=87							
ANMO	**Albuquerque**	86.80	50	*e*P		P	07 18 59.6	+0.3
	comp=Z,8.6nm,1.0s							
PV10	**Paradox Valley**	86.85	46	*e*P		P	07 18 56.8	-2.7
	comp=Z,59nm,0.9s							
G12A	**Big Creek, Yel**	86.86	38	⇓P		P	07 18 59.4	0.0
	baz=87							
PMR	**Palmer**	86.91	12	*e*P		P	07 18 58.0	-0.9
PMR				pmax		pmax		
	comp=Z,13nm,1.4s							
PMR	**Palmer**	86.91	12	*e*P		P	07 18 58.0	-0.9
	comp=Z,13nm,1.4s							
125A	**Gardner Draw,**	86.94	53	⇓P		P	07 19 00.0	0.0
	baz=87,SNR=6.5							
V22A	**San Miguel Ran**	86.99	49	⇓P		P	07 18 59.9	-0.4
	baz=87							
S20A	**Disappointment**	87.00	47	⇓P		P	07 19 00.1	-0.2
	baz=87							
Y24A	**Capitan**	87.01	51	⇑P		P	07 19 00.6	+0.2
	baz=87,SNR=14							
226B	**Tecolote Peak,**	87.02	53	⇓P		P	07 19 00.2	-0.1
	baz=87,SNR=11							
PV01	**Paradox Valley**	87.03	46	*e*P		P	07 18 59.2	-1.2
	comp=Z,577nm,1.3s							
T21A	**Navajo Lake**	87.12	48	⇓P		P	07 19 00.8	-0.1
	baz=87							
528A	**Cox Ranch, San**	87.12	56	⇓P		P	07 19 00.8	-0.1
	baz=87,SNR=9.9							
W23A	**Werner Place,**	87.13	50	⇓P		P	07 19 00.8	-0.1
	baz=87,SNR=5.3							
R20A	**Redvale**	87.18	46	⇓P		P	07 19 01.0	-0.1
	baz=87							
Z25A	**Roswell**	87.21	52	⇑P		P	07 19 01.5	+0.3
	baz=87,SNR=7.6							
I14A	**Mackay**	87.22	39	⇓P		P	07 19 01.2	+0.1
	baz=87							
U22A	**Llaves**	87.27	49	⇓P		P	07 19 01.4	-0.2
	baz=87							
S21A	**Coal Bank Pass**	87.30	47	⇑P		P	07 19 01.6	-0.2
	baz=87							
126A	**Clayton Basin,**	87.40	53	⇑P		P	07 19 01.8	-0.3
	baz=88							
V23A	**Ortiz Mt. (NFS**	87.41	49	⇑P		P	07 19 02.9	+0.6
	baz=88,SNR=5.6							
428A	**Kincaid Ranch,**	87.47	55	⇓P		P	07 19 02.4	-0.1
	baz=88							
M17A	**Scullys Gap (B**	87.50	43	⇑P		P	07 19 01.8	-0.8
	baz=88							
E12A	**Beaver Dam Sad**	87.51	37	⇑P		P	07 19 01.9	-0.5
	baz=88							
529A	**Stev Forest Ra**	87.54	56	⇑P		P	07 19 02.3	-0.5
	baz=88,SNR=10.0							
Y25A	**Mesa, Roswell**	87.55	52	⇓P		P	07 19 02.7	-0.2
	baz=88,SNR=9.2							
T22A	**Edith**	87.56	48	⇓P		P	07 19 02.6	-0.4
	baz=88							
P19A	**Cripple Cowboy**	87.56	45	⇑P		P	07 19 02.6	-0.4
	baz=88,SNR=5.6							
PSI	**Prapat**	87.59	274	P		P	07 19 04.6	+1.0
PSI	**Prapat**	87.59	274	P		P	07 19 04.6	+1.0
	comp=Z,10.0nm,0.8s,baz=194,slow=10,SNR=3.7							
Q20A	**Ridgley Place,**	87.65	46	⇓P		P	07 19 02.9	-0.3
	baz=88							
W24A	**Lazy 6 Ranch,**	87.68	50	⇑P		P	07 19 03.3	-0.3
	baz=88							
328A	**Wristen Ranch,**	87.69	55	⇑P		P	07 19 03.2	-0.3
	baz=88							
U23A	**El Rito**	87.70	49	⇑P		P	07 19 03.8	+0.1
	baz=88							
Z26A	**Caprock**	87.74	52	⇑P		P	07 19 03.4	-0.3
	baz=88,SNR=7.2							
NEW	**Newport**	87.82	34	*e*P		P	07 19 03.3	-0.4
	comp=Z,4.1nm,0.9s							
NEW	**Newport**	87.82	34	⇓P		P	07 19 03.7	0.0
	baz=88							
O19A	**Miners Draw (B**	87.83	44	⇓P		P	07 19 03.7	-0.4
	baz=88							
R21A	**Cimarron**	87.83	47	⇓P		P	07 19 04.3	0.0
	baz=88,SNR=6.1							
P20A	**De Beque**	87.88	45	⇑P		P	07 19 04.3	-0.1
	baz=88							
127A	**Arkansas Junct**	87.91	53	⇑P		P	07 19 04.2	-0.4
	baz=88							
S22A	**4UR Ranch, Cre**	87.99	47	⇑P		P	07 19 05.1	-0.1
	baz=88,SNR=9.0							
C11A	**Tepee Creek (N**	88.01	35	⇑P		P	07 19 04.6	0.0
	baz=88							
D12A	**Red Ives Fores**	88.02	36	⇑P		P	07 19 04.5	-0.2
	baz=88							
429A	**Davenport Ranc**	88.02	56	⇓P		P	07 19 04.6	-0.5
	baz=88,SNR=26							
V24A	**Rampart Ranch,**	88.03	50	⇓P		P	07 19 04.9	-0.4
	baz=88,SNR=6.0							
MCMT	**McKenzie Canyo**	88.10	39	*e*P		P	07 19 04.6	-0.8
	comp=Z,1.3nm,0.9s							
T23A	**Casias Ranch,**	88.17	48	⇓P		P	07 19 05.7	-0.2
	baz=88							
228A	**UT Block 9, Go**	88.20	54	⇓P		P	07 19 05.7	-0.2
	baz=88							
530A	**J-C Ranch, Com**	88.22	56	⇑P		P	07 19 05.7	-0.4
	baz=88,SNR=5.9							
R22A	**Saguache, Gunn**	88.29	47	⇑P		P	07 19 06.5	-0.1
	baz=88							
O20A	**White River Ci**	88.31	45	⇓P		P	07 19 06.2	-0.2
	baz=88							
Z27A	**Tatum**	88.32	53	⇑P		P	07 19 06.3	-0.2
	baz=88							
C12B	**Naegeli Ranch,**	88.35	36	⇓P		P	07 19 06.5	+0.2
	baz=88							
I16A	**Newdale**	88.35	40	⇑P		P	07 19 06.6	0.0
	baz=88							
W25A	**X Bar L Ranch,**	88.35	51	⇑P		P	07 19 06.5	-0.2
	baz=88							
329A	**Wagon Wheel Ra**	88.36	55	⇓P		P	07 19 06.6	-0.1
	baz=88							
F14A	**Wisdom**	88.37	38	⇑P		P	07 19 06.7	+0.1
	baz=88							
TRF	**Thorofare Moun**	88.41	11	*e*P		P	07 19 05.1	-1.2
	comp=Z,16nm,0.7s							
SKAG	**Skagway**	88.44	19	*e*P		P	07 19 07.7	+1.4
631A	**Perdido Creek**	88.47	57	⇑P		P	07 19 07.1	-0.1
	baz=89,SNR=7.7							
X26A	**CR and CF Fran**	88.49	51	⇓P		P	07 19 07.1	-0.2
	baz=89							
Q22A	**Crested Butte,**	88.52	46	⇓P		P	07 19 07.4	-0.2
	baz=89,SNR=5.2							
128A	**Castleberry Fa**	88.53	54	⇑P		P	07 19 07.1	-0.4
	baz=89,SNR=5.2							
D13A	**Huson**	88.53	36	⇓P		P	07 19 06.8	-0.3
	baz=89							
V25A	**Rancho No Teng**	88.55	50	⇓P		P	07 19 06.7	-1.0
	baz=89							
732A	**Laxson Ranch,**	88.62	58	⇑P		P	07 19 07.4	-0.5
	baz=89,SNR=5.3							
Y27A	**Causey**	88.63	52	⇓P		P	07 19 07.4	-0.6
	baz=89							
SMCO	**Snowmass**	88.64	46	*e*P		P	07 19 08.2	0.0
	comp=Z,6.3nm,0.9s							
MSO	**Missoula**	88.65	37	⇓P		P	07 19 07.4	-0.4
	baz=89							
L19A	**Farson**	88.66	43	⇑P		P	07 19 07.4	-0.7
	baz=89							
N20A	**Spence Gulch,**	88.67	44	⇑P		P	07 19 07.5	-0.6
	baz=89							
229A	**Bryant Ranch,**	88.72	54	⇓P		P	07 19 07.8	-0.6
	baz=89							
B12A	**Libby**	88.75	35	⇑P		P	07 19 08.2	+0.1
	baz=89							
531A	**Rocksprings**	88.84	57	⇓P		P	07 19 08.8	-0.2
	baz=89,SNR=7.6							
PAX	**Paxson**	88.89	13	*e*P		P	07 19 08.4	-0.1
PAX				pmax		pmax		
	comp=Z,5.0nm,0.9s							
PAX	**Paxson**	88.89	13	*e*P		P	07 19 08.4	-0.1
	comp=Z,5.1nm,0.9s							
F15A	**Butte**	88.89	38	⇑P		P	07 19 09.3	+0.3
	baz=89							
SDCO	**Great Sand Dun**	88.89	48	*e*P		P	07 19 08.7	-0.7
	comp=Z,2.5nm,0.9s							
PDAR	**Pinedale Array**	88.90	42	P		P	07 19 08.5	-0.7
PDAR				pP		pP	07 19 24.1	-2.3
PDAR	**Pinedale Array**	88.90	42	P		P	07 19 08.5	-0.7
	comp=Z,2.1nm,0.8s,baz=209,slow=3.9,SNR=18							
PDAR				pP		pP	07 19 24.1	-2.3
	comp=Z,4.7nm,1.0s,baz=219,slow=3.8,SNR=11							
MCK	**McKinley**	88.91	11	*e*P		P	07 19 08.4	0.0
MCK				pmax		pmax		
	comp=Z,9.0nm,0.9s							
MCK	**McKinley**	88.91	11	*e*P		P	07 19 08.4	0.0
	comp=Z,9.3nm,0.9s							
330A	**Mertzon**	88.93	55	⇑P		P	07 19 09.0	-0.4
	baz=89							
H16A	**Russell Place,**	88.96	40	⇑P		P	07 19 09.4	0.0
	baz=89							
MSTX	**Muleshoe**	88.96	52	⇓P		P	07 19 09.2	-0.4
	baz=89							
U25A	**Circle Dot Ran**	88.98	50	⇑P		P	07 19 09.2	-0.5
	baz=89							
129A	**Stewart Farms,**	88.99	54	⇑P		P	07 19 09.7	0.0
	baz=89							
P22A	**Eagle**	89.00	46	⇑P		P	07 19 09.3	-0.4
	baz=89							
S24A	**Houchin Ranch,**	89.04	48	⇓P		P	07 19 09.6	-0.5
	baz=89							
D14A	**Greenough**	89.04	37	⇑P		P	07 19 09.0	-0.7
	baz=89							
X27A	**F and S Farms,**	89.05	52	⇓P		P	07 19 09.6	-0.4
	baz=89							
M20A	**Sweetwater, Wa**	89.07	44	⇓P		P	07 19 09.6	-0.4
	baz=89							
CHMT	**Chamberlain Mo**	89.09	37	*e*P		P	07 19 08.5	-1.4
	comp=Z,3.5nm,1.3s							
N21A	**Black Mountain**	89.11	45	⇑P		P	07 19 09.7	-0.5
	baz=89							
632A	**Uvalde**	89.12	57	⇓P		P	07 19 09.6	-0.6
	baz=89							
SLMT	**Seeley Lake**	89.14	37	*e*P		P	07 19 08.0	-2.1
	comp=Z,30nm,2.1s							
L20A	**Wamsutter**	89.25	43	⇓P		P	07 19 10.9	0.0
	baz=89,SNR=5.9							
B13A	**Whitefish**	89.29	35	⇓P		P	07 19 10.2	-0.4
	baz=89							
532A	**Rocksprings**	89.31	57	⇓P		P	07 19 10.8	-0.4
	baz=89,SNR=9.3							
C14A	**Swan Lake**	89.32	36	⇓P		P	07 19 10.1	-0.7
	baz=90							
T25A	**Trinidad**	89.34	49	⇑P		P	07 19 10.9	-0.5
	baz=90							
K19A	**Absolon Red Bu**	89.37	42	⇓P		P	07 19 10.6	-0.8
	baz=90							
Z29A	**Hungry Hill Ra**	89.40	53	⇓P		P	07 19 10.9	-0.7
	baz=90							
R24A	**Sanders Place,**	89.41	48	⇓P		P	07 19 11.2	-0.5
	baz=90							
O22A	**Kremmling**	89.43	45	⇑P		P	07 19 11.3	-0.5
	baz=90							
U26A	**Atchley Ranch,**	89.44	50	⇓P		P	07 19 11.2	-0.6
	baz=90							
331A	**San Angelo**	89.45	56	⇓P		P	07 19 11.1	-0.7
	baz=90							
P23A	**Jefferson**	89.50	46	⇑P		P	07 19 11.4	-0.9
	baz=90							
JCT	**Junction City**	89.55	57	⇓P		P	07 19 11.4	-0.9
	baz=90							
D15A	**Lincoln**	89.57	37	⇑P		P	07 19 11.9	-0.2
	baz=90							
S25A	**Robets Cordova**	89.58	48	⇑P		P	07 19 12.0	-0.5
	baz=90							
A13A	**Flathead Natio**	89.65	35	⇓P		P	07 19 12.3	-0.1
	baz=90							
M21A	**Separation Pea**	89.66	44	⇓P		P	07 19 12.1	-0.7
	baz=90							
Y29A	**Porterfield Fa**	89.71	53	⇓P		P	07 19 12.2	-0.9
	baz=90							
432A	**Menard**	89.74	56	⇑P		P	07 19 12.3	-0.9
	baz=90							
V27A	**Dan Oppiter Fa**	89.77	51	⇓P		P	07 19 12.9	-0.5
	baz=90							
N22A	**Wattenberg Ran**	89.82	45	⇑P		P	07 19 13.3	-0.4
	baz=90							
231A	**Bronte**	89.83	55	⇓P		P	07 19 13.1	-0.5
	baz=90							
L21A	**Rawlins**	89.84	44	⇑P		P	07 19 13.4	-0.2
	baz=90							
Z30A	**Sanderson Ranc**	89.84	54	⇑P		P	07 19 13.2	-0.5
	baz=90							
ISCO	**Idaho Springs**	89.86	46	⇑P		P	07 19 13.4	-0.4
	baz=90							
O23A	**Lake Granby, G**	89.87	46	⇑P		P	07 19 13.4	-0.5
	baz=90							
ENH	**Enshi**	89.89	303	*e*P		P	07 19 14.8	+1.0
	comp=Z,32nm,1.1s							
B14A	**Marquette Ranc**	89.92	36	⇓P		P	07 19 13.2	-0.6
	baz=90,SNR=6.0							
T26A	**Comanche Natio**	89.93	49	⇑P		P	07 19 13.8	-0.3
	baz=90							
R25A	**Fountain Ranch**	89.93	48	⇓P		P	07 19 13.6	-0.4
	baz=90							
I19A	**Meeteetse**	89.94	41	⇓P		P	07 19 13.7	-0.3
	baz=90							
C15A	**Salmond Ranch,**	89.94	37	⇓P		P	07 19 13.4	-0.5
	baz=90							
X29A	**Tulia**	89.97	52	⇓P		P	07 19 13.8	-0.5
	baz=90							
F17A	**Fitzpatrick Pl**	89.98	39	⇑P		P	07 19 14.0	0.0
	baz=90							
WALA	**Waterton Lakes**	89.99	35	*e*P		P	07 19 13.1	-1.0
	comp=Z,0.4nm,1.5s							
332A	**Millersview**	90.01	56	⇑P		P	07 19 13.4	-1.0
	baz=90							
U27A	**Thompson Grove**	90.10	50	⇓P		P	07 19 14.6	-0.2
	baz=90							
D16A	**Dana Ranch, Ca**	90.11	38	⇓P		P	07 19 14.5	-0.1
	baz=90							
131A	**Roby**	90.11	54	⇑P		P	07 19 14.5	-0.3
	baz=90							
J20A	**Shoshoni**	90.13	42	⇓P		P	07 19 14.6	-0.2
	baz=90							
COLA	**College**	90.15	11	*e*P		P	07 19 14.1	0.0
COLA	**College**	90.15	11	*e*P		P	07 19 14.1	0.0
A14A	**Double T Ranch**	90.20	35	⇑P		P	07 19 14.6	-0.4
	baz=90,SNR=11							
ILAR	**Eielson Array**	90.23	12	P		P	07 19 13.9	-0.6
ILAR	**Eielson Array**	90.23	12	P		P	07 19 13.9	-0.6
	comp=Z,5.0nm,0.9s,baz=218,slow=5.4,SNR=48							
S26A	**Kim**	90.23	49	⇑P		P	07 19 15.0	-0.4
	baz=90							
B15A	**Bradely Ranch,**	90.28	36	⇓P		P	07 19 15.1	-0.3
	baz=90							
H19A	**Powell**	90.29	41	⇓P		P	07 19 15.7	+0.2
	baz=90							
G18A	**Lazy EL Ranch,**	90.29	40	⇑P		P	07 19 15.7	+0.2
	baz=90							
232A	**Coleman**	90.31	55	⇓P		P	07 19 15.6	-0.3
	baz=90							
I20A	**Worland**	90.42	42	⇓P		P	07 19 15.3	-0.8
	baz=91							
C16A	**Fuhringer Ranc**	90.44	37	⇓P		P	07 19 15.7	-0.4
	baz=91,SNR=8.4							
GYA	**Guiyang**	90.44	299	P		P	07 19 16.8	+0.1
GYA				pP		pP	07 19 35.0	+1.2
GYA				sP		sP	07 19 43.0	+2.6
GYA				PP		PP	07 22 53.4	+1.3
GYA				SKS		SKSac	07 29 40.6	-2.6
GYA				S		S	07 30 03.8	-3.4
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
GYA				pmax		pmax		
	comp=Z,90nm,5.2s							
L22A	**Ellis Ranch, M**	90.47	44	⇑P		P	07 19 16.7	+0.1
	baz=91							
T27A	**Campo**	90.48	50	⇑P		P	07 19 16.0	-0.6
	baz=91							
J21A	**Lysite**	90.52	42	⇑P		P	07 19 16.1	-0.6
	baz=91							
F18A	**Big Timber**	90.53	39	⇓P		P	07 19 16.3	-0.2
	baz=91,SNR=5.2							
A15A	**Johnson Ranch,**	90.58	36	⇓P		P	07 19 16.2	-0.5
	baz=91,SNR=9.4							
R26A	**Arlington**	90.58	48	⇓P		P	07 19 16.6	-0.4
	baz=91							
Z31A	**Sharp Cattle R**	90.59	54	⇓P		P	07 19 16.8	-0.3
	baz=91							
D17A	**Six Diamond Ra**	90.66	38	⇑P		P	07 19 17.3	+0.1
	baz=91,SNR=12							
P25A	**Willow Gulch B**	90.68	47	⇓P		P	07 19 17.1	-0.4
	baz=91							
E18A	**Harlowton**	90.78	39	⇑P		P	07 19 18.0	+0.2
	baz=91,SNR=5.1							
H20A	**Greybull**	90.78	41	⇓P		P	07 19 17.6	-0.2
	baz=91							
Y31A	**Rekieta Farm,**	90.80	53	⇓P		P	07 19 17.6	-0.4
	baz=91							
B16A	**M & M Farms, S**	90.81	36	⇓P		P	07 19 17.1	-0.6
	baz=91							
Q26A	**Hugo**	90.83	48	⇑P		P	07 19 17.7	-0.5
	baz=91							
I21A	**Big Trails, Te**	90.86	42	⇑P		P	07 19 17.6	-0.6
	baz=91							
C17A	**Wharram Farm,**	90.89	37	⇑P		P	07 19 18.1	0.0
	baz=91,SNR=12							
T28A	**Walsh**	90.94	50	⇓P		P	07 19 17.9	-0.8
	baz=91							
F19A	**Roth Farm, Mol**	90.95	40	⇓P		P	07 19 18.3	-0.3
	baz=91							
L23A	**Garrett**	90.98	44	⇓P		P	07 19 18.5	-0.4
	baz=91							
R27A	**Eads**	91.02	48	⇓P		P	07 19 18.5	-0.5
	baz=91							
Z32A	**Haskell**	91.08	54	⇓P		P	07 19 19.0	-0.3
	baz=91							
J22A	**Midwest**	91.15	43	⇑P		P	07 19 19.2	-0.4
	baz=91							
A16A	**West Butte Ran**	91.17	36	⇓P		P	07 19 19.1	-0.4
	baz=91,SNR=14							
CFAA	**Coronel Fontan**	91.23	125	P		P	07 19 20.4	+0.1
CFAA	**Coronel Fontan**	91.23	125	P		P	07 19 20.4	+0.1
	comp=Z,0.2nm,0.9s,baz=244,slow=5.6,SNR=4.9							
B17A	**L&Q Farms, Che**	91.24	37	⇓P		P	07 19 19.6	-0.1
	baz=91							
P26A	**Davis Ranch, A**	91.26	47	⇓P		P	07 19 19.3	-0.9
	baz=91							
S28A	**Manter**	91.31	49	⇓P		P	07 19 19.9	-0.5
	baz=91							
E19A	**Rath Farm, Rou**	91.37	39	⇓P		P	07 19 20.5	0.0
	baz=92,SNR=5.7							
F20A	**Billings**	91.39	40	⇑P		P	07 19 20.8	+0.2
	baz=92							
EGAK	**Eagle**	91.39	14	*e*P		P	07 19 20.2	+0.3
	comp=Z,13nm,1.1s							
I22A	**9 Mile Ranch,**	91.40	42	⇑P		P	07 19 20.7	0.0
	baz=92							
KSCO	**Kaye Shedlock'**	91.48	48	⇓P		P	07 19 20.7	-0.5
	baz=92							
W31A	**Holland Ranch,**	91.59	52	⇓P		P	07 19 21.3	-0.4
	baz=92							
A17A	**Triple J Farms**	91.66	36	⇓P		P	07 19 21.4	-0.3
	baz=92,SNR=5.8							
EGMT	**Eagleton**	91.67	38	⇑P		P	07 19 21.7	-0.1
	baz=92							
D19A	**Cripps Ranch,**	91.70	39	⇓P		P	07 19 22.1	+0.2
	baz=92							
R28A	**Tribune**	91.73	49	⇓P		P	07 19 21.9	-0.4
	baz=92							
H22A	**Clearmont**	91.84	42	⇑P		P	07 19 22.5	-0.2
	baz=92							
B18A	**Beardsley Farm**	91.86	37	⇓P		P	07 19 22.2	-0.4
	baz=92,SNR=5.4							
C19A	**Slack Wire Ran**	91.91	38	⇓P		P	07 19 23.1	+0.2
	baz=92,SNR=8.8							
COLD	**Coldfoot**	91.93	9	*e*P		P	07 19 21.4	-1.0
	comp=Z,6.5nm,1.1s							
A18A	**Metzger Ranch,**	92.11	37	⇑P		P	07 19 23.3	-0.5
	baz=92,SNR=8.8							
R29A	**Marienthal**	92.23	49	⇓P		P	07 19 24.0	-0.6
	baz=92							
C20A	**Vessels Ranch,**	92.49	38	⇑P		P	07 19 25.6	+0.1
	baz=93,SNR=6.0							
T31A	**Randall Ranch,**	92.65	51	⇑P		P	07 19 26.3	-0.3
	baz=93							
A19A	**Klindworth Far**	92.73	37	⇓P		P	07 19 26.6	0.0
	baz=93							
D21A	**La Casta Ranch**	92.74	39	⇑P		P	07 19 26.8	0.0
	baz=93,SNR=5.5							
G23A	**Biddle**	92.74	42	⇑P		P	07 19 26.7	-0.1
	baz=93							
R30A	**Dighton**	92.77	49	⇓P		P	07 19 26.7	-0.4
	baz=93							
B20A	**Solberg Farm,**	92.87	38	⇑P		P	07 19 27.1	-0.2
	baz=93,SNR=6.6							
F23A	**Volborg**	92.99	41	⇓P		P	07 19 27.8	-0.2
	baz=93							
H24A	**Dirks Ranch, A**	93.03	42	⇓P		P	07 19 27.7	-0.5
	baz=93							
RSSD	**Black Hills**	93.04	43	*e*P		P	07 19 28.0	-0.4
RSSD				pmax		pmax		
	comp=Z,5.0nm,0.9s							
RSSD	**Black Hills**	93.04	43	*e*P		P	07 19 28.0	-0.4
	comp=Z,5.0nm,0.9s							
C21A	**Desert Coulee**	93.07	39	⇓P		P	07 19 28.4	+0.2
	baz=93							
KMI	**Kunming**	93.10	296	P		P	07 19 32.7	+3.6
KMI				pmax		pmax		
	comp=Z,11nm,0.6s							
A20A	**Cobblestone Ra**	93.16	37	⇓P		P	07 19 28.4	-0.2
	baz=93,SNR=8.7							
I25A	**Rochford**	93.18	43	⇓P		P	07 19 28.6	-0.4
	baz=93							
HHC	**Hu-ho-hao-te**	93.24	313	*e*P		P	07 19 31.7	+2.4
HHC				pP		pP	07 19 49.0	+2.6
HHC				sP		sP	07 19 55.3	+2.3
HHC				PP		PP	07 23 20.4	+6.5
HHC				sS		sS	07 31 01.9	+0.9
HHC				pmax		pmax		
	comp=Z,16nm,1.1s							
HHC				pmax		pmax		
	comp=Z,100nm,5.1s							
HHC				LR		LR		
	comp=N,1μm,27.4s							
HHC				LR		LR		
	comp=E,1μm,22.6s							
HHC				LR		LR		
	comp=Z,4μm,23.8s							
D22A	**Cohagen**	93.26	40	⇑P		P	07 19 29.1	0.0
	baz=93							
G24A	**Alzada**	93.40	42	⇑P		P	07 19 30.0	+0.2
	baz=94							
B21A	**Ellsworth Farm**	93.43	38	⇑P		P	07 19 30.3	+0.5
	baz=94,SNR=6.5							
E23A	**Ismay**	93.44	40	⇑P		P	07 19 30.4	+0.4
	baz=94							
H25A	**Fruitdale**	93.56	43	⇑P		P	07 19 30.6	0.0
	baz=94							
F24A	**Ekalaka**	93.64	41	⇓P		P	07 19 31.1	+0.2
	baz=94							
CMAR	**Chiang Mai Arr**	93.70	288	P		P	07 19 33.3	+1.5
CMAR	**Chiang Mai Arr**

I28A	Midland	94.80	44	⇑P		P	07 19 36.3	0.0	
	baz=95								
A23A	Redstone	94.92	38	⇑P		P	07 19 36.2	-0.5	
	baz=95								
TUL1	Tulsa	94.95	53	⇑P		P	07 19 36.8	-0.3	
	baz=95								
G27A	Dupree	94.96	43	⇓P		P	07 19 36.9	-0.1	
	baz=95								
DGMT	Dagmar	95.08	39	*e*P		P	07 19 38.0	+0.6	
	comp=Z,41nm,1.2s								
DGMT	Dagmar	95.08	39	⇑P		P	07 19 37.4	0.0	
	baz=95								
E26A	Carlson Angus	95.15	41	⇓P		P	07 19 38.0	+0.2	
	baz=95								
A24A	Westby	95.41	39	⇑P		P	07 19 39.2	+0.2	
	baz=96								
INK	Inuvik	96.04	14	P		P	07 19 39.9	-1.4	
INK	Inuvik	96.04	14	P		P	07 19 39.9	-1.4	
	comp=Z,1.6nm,0.6s,baz=222,slow=5.7,SNR=4.8								
LZH	Lanzhou	96.64	306	*e*P		P	07 19 48.5	+3.5	
LZH				pP		pP	07 20 05.1	+2.9	
LZH				sP		sP	07 20 10.1	+1.3	
LZH				pmax		pmax			
	comp=Z,32nm,1.2s								
LZH				pmax		pmax			
	comp=Z,160nm,5.0s								
ECSD	EROS Data Cent	97.64	46	*e*P		Pdif	07 19 49.2	0.0	
	comp=Z,15nm,1.7s								
YKA	Yellowknife Ar	97.67	24	P		P	07 19 47.7	-1.1	
YKA				pP		pP	07 20 04.7	-1.3	
YKA				PKKPbc		PKKPbc	07 36 24.8	-2.2	
YKA	Yellowknife Ar	97.67	24	P		P	07 19 47.7	-1.1	
	comp=Z,1.5nm,0.7s,baz=238,slow=4.5,SNR=23								
YKA				pP		pP	07 20 04.7	-1.3	
	comp=Z,1.6nm,0.8s,baz=237,slow=4.4,SNR=5.9								
YKA				PKKPbc		PKKPbc	07 36 24.7	-2.2	
	comp=Z,0.4nm,0.7s,baz=37,slow=2.3,SNR=5.1								
LPAZ	La Paz	98.40	112	P		Pdif	07 19 55.9	+1.9	
LPAZ	La Paz	98.40	112	P		Pdif	07 19 55.9	+1.9	
	comp=Z,0.9nm,0.8s,baz=280,slow=2.4,SNR=3.9								
SONM	Songino Array	99.62	318	LR		LR	08 03 54.3		
	comp=Z,3μm,21.1s,baz=7.1,slow=35								
GTA	Gaotai	100.86	308	*e*P		Pdif	07 20 10.2	+6.4	
GTA				pP		pP	07 20 26.9	+5.8	
GTA				sP		sP	07 20 32.5	+4.8	
GTA				pmax		pmax			
	comp=Z,5.0nm,1.2s								
WMQ	Urumqi	110.81	310	PKP			07 24 48.2		
MKAR	Makanchi Array	115.09	312	PKIKP		PKPdf	07 24 54.9	-0.5	
MKAR							07 25 11.0		
MKAR	Makanchi Array	115.09	312	PKP		PKPdf	07 24 54.9	-0.5	
MKAR				pPKP		PKiKP	07 25 11.0	+16	
MKAR	Makanchi Array	115.09	312	PKP		PKPdf	07 24 54.9	-0.5	
	comp=Z,0.7nm,0.6s,baz=65,slow=0.4,SNR=6.6								
MKAR				pPKP		PKiKP	07 25 11.0	+16	
	comp=Z,0.7nm,0.5s,baz=186,slow=1.1,SNR=6.0								
KURK	Kurchatov	117.87	316	PKIKP		PKPdf	07 24 59.8	-0.8	
KURK	Kurchatov	117.87	316	PKP		PKPdf	07 24 59.8	-0.8	
KURBB	Kurchatov Arra	117.92	316	PKP		PKPdf	07 24 59.8	-0.9	
	comp=Z,1.0nm,0.6s,baz=91,slow=2.0,SNR=9.5								
BVAR	Borovoye Array	122.93	319	PKIKP		PKPdf	07 25 10.0	-0.2	
BVAR							07 25 26.5		
BVAR	Borovoye Array	122.93	319	PKP		PKPdf	07 25 10.0	-0.2	
BVAR				pPKP		pPKPdf	07 25 26.5	-1.6	
BVAR	Borovoye Array	122.93	319	PKP		PKPdf	07 25 10.0	-0.2	
	comp=Z,1.4nm,0.6s,baz=90,slow=2.2,SNR=6.9								
BVAR				pPKP		pPKPdf	07 25 26.5	-1.6	
	comp=Z,1.0nm,0.5s,baz=108,slow=4.2,SNR=3.9								
BOSA	Boshof	125.04	202	PKP		PKPdf	07 25 15.4	0.0	
BOSA	Boshof	125.04	202	PKP		PKPdf	07 25 15.4	0.0	
	comp=Z,1.6nm,0.5s,baz=183,slow=7.2,SNR=4.6								
ARCES	ARCESS Array B	131.97	351	PKP		PKPdf	07 25 26.8	-0.3	
ARCES	ARCESS Array B	131.97	351	PKP		PKPdf	07 25 26.7	-0.3	
	comp=Z,1.5nm,0.7s,baz=101,slow=2.8,SNR=3.4								
FINES	FINESS Array B	139.05	345	PKP		PKPdf	07 25 41.2	+0.8	
FINES	FINESS Array B	139.05	345	PKP		PKPdf	07 25 41.2	+0.8	
	comp=Z,1.1nm,0.7s,baz=90,slow=7.6,SNR=4.0								
NB2	NORSAR Subarra	141.85	355	PKP		PKPpre	07 25 39.4		
	comp=Z,1.2nm,0.8s,baz=5.5,slow=4.1								
NOA	NORSAR Array B	141.85	355	PKPpre		PKPpre	07 25 39.7		
NOA	NORSAR Array B	141.85	355	PKhKP		PKPpre	07 25 39.7		
	comp=Z,0.7nm,0.7s,baz=9.5,slow=2.7,SNR=4.0								
HFS	Hagfors	142.51	353	PKPpre		PKPpre	07 25 42.0		
HFS	Hagfors	142.51	353	PKhKP		PKPpre	07 25 42.0		
	comp=Z,2.1nm,0.6s,baz=270,slow=3.9,SNR=6.5								
SUW	Suwalki	146.26	341	*e*PKP		PKPbc	07 25 54.9	+0.3	
MUD	Monsted U'grnd	146.55	356	*i* PKP2		PKPbc	07 25 55.3	0.0	
MUD				pmax		pmax			
	comp=Z,9.0nm,0.9s								
MUD	Monsted U'grnd	146.55	356	*i* P		PKPbc	07 25 55.3	0.0	
	comp=Z,9.2nm,0.9s								
KIEV	Kiev	146.69	332	*e*PKP2		PKPdf	07 25 54.8	+0.6	
KIEV	Kiev	146.69	332	*e*PKPdf		PKPdf	07 25 54.8	+0.6	
BSD	Bornholm Skovb	147.21	350	*i* PKP2		PKPbc	07 25 56.8	-0.4	
BSD				pmax		pmax			
	comp=Z,11nm,0.8s								
BSD	Bornholm Skovb	147.21	350	*i* P		PKPbc	07 25 56.8	-0.4	
	comp=Z,11nm,0.7s								
LLD	Lille Linde	147.38	352	*i* PKP2		PKPab	07 25 59.5	-0.2	
LLD	Lille Linde	147.38	352	*i* P		PKPab	07 25 59.5	-0.2	
KWP	Kalwaria Pacla	150.13	337	*e*PKP		PKPbc	07 26 05.7	+0.7	
BUR08	Bucovina Ar. S	150.72	332	*e*PKPbc		PKPbc	07 26 07.5	+0.9	
BR131	Keskin Array S	150.73	311	*e*PKPbc		PKPbc	07 26 06.7	-0.2	
BRTR	Keskin Array B	150.73	311	PKPbc		PKPbc	07 26 07.1	+0.2	
BRTR	Keskin Array B	150.73	311	PKPbc		PKPbc	07 26 07.1	+0.2	
	comp=Z,4.6nm,0.8s,baz=132,slow=3.7,SNR=24								
BURAR	Bucovina Array	150.73	332	⇓*i* P		PKPdf	07 26 01.4	+0.3	
KOLS	Kolonicke sedl	150.87	336	*e*PKIKP		PKPbc	07 26 07.0	+0.2	
KOLS	Kolonicke sedl	150.87	336	*e*PKP		PKPbc	07 26 07.0	+0.2	
KSP	Ksiaz	150.97	345	PKIKP		PKPbc	07 26 07.4	+0.4	
CFR	Carcaliu	151.07	325	⇑PKIKP		PKPbc	07 26 08.0	+0.7	
CFR	Carcaliu	151.07	325	⇑*i* P		PKPbc	07 26 08.0	+0.7	
UZH	Uzhgorod	151.11	336	*e*PKIKP		PKPbc	07 26 07.3	0.0	
UZH				*e*			07 26 15.1		
UZH				*e*			07 26 22.9		
NIE	Niedzica	151.13	339	*e*PKIKP		PKPbc	07 26 09.7	+2.3	
NIE	Niedzica	151.13	339	*e*PKP		PKPbc	07 26 09.7	+2.3	
CLL	Collm	151.19	350	⇓*e*PKIKP		PKPdf	07 26 01.0	-0.5	
CLL				*i*			07 26 07.6		
CLL				*e*			07 26 15.0		
CLL				pmax		pmax			
	comp=Z,15nm,0.9s								
CLL				pmax		pmax			
	comp=Z,4.0nm,0.6s								
CLL	Collm	151.19	350	*e*PKPdf		PKPdf	07 26 01.0	-0.5	
CLL				⇓*i*PKPbc		PKiKP	07 26 07.6	-0.3	
	comp=Z,15nm,0.9s								
CLL				*e*PKPab		PKPab	07 26 15.0	-0.3	
	comp=Z,4.0nm,0.6s								
CLL				*e*			07 26 21.0		
CLL				*e*pPKPbc		pPKPbc	07 26 23.0	-2.1	
VRI	Vrincioaia	151.31	328	⇑PKIKP		PKPbc	07 26 07.6	-0.3	
VRI	Vrincioaia	151.31	328	⇑*i*P		PKPbc	07 26 07.6	-0.3	
UPC	Upice	151.35	345	*e*PKIKP		PKPbc	07 26 08.6	+0.7	
UPC				*e*			07 26 16.1		
UPC	Upice	151.35	345	⇑*e*PKP		PKPbc	07 26 08.6	+0.7	
UPC				*e*PKPAB		PKPab	07 26 16.1	0.0	
UPC				*e*pPKP		pPKPdf	07 26 26.5	+6.9	
TIRR	Tirgusor	151.40	324	⇓PKIKP		PKPbc	07 26 10.0	+1.9	
TIRR	Tirgusor	151.40	324	⇓*i*P		PKPbc	07 26 10.0	+1.9	
OKC	Ostrava-Krasne	151.42	342	*e*PKIKP		PKPbc	07 26 08.4	+0.4	
OKC	Ostrava-Krasne	151.42	342	⇑*e*PKP		PKPbc	07 26 08.4	+0.4	
DPC	Dobruska-Polom	151.43	345	*e*PKIKP		PKPbc	07 26 08.9	+0.8	
DPC				*e*			07 26 21.6		
DPC	Dobruska-Polom	151.43	345	⇑*e*PKP		PKPbc	07 26 08.9	+0.8	
DPC				*e*pPKP		pPKPdf	07 26 21.6	+1.8	
BRG	Berggiesshubel	151.44	348	*i* PKP		PKPbc	07 26 08.4	+0.4	
	comp=Z,11nm,0.8s								
BRG	Berggiesshubel	151.44	348	*i* PKIKP		PKPbc	07 26 08.4	+0.4	
BRG				pmax		pmax			
	comp=Z,25nm,0.8s								
MORC	Moravsky Berou	151.64	343	*e*PKIKP		PKPdf	07 26 02.0	-0.3	
MORC				*e*			07 26 08.3		
MORC				*e*			07 26 16.6		
MORC	Moravsky Berou	151.64	343	*e*PKPdf		PKPdf	07 26 01.9	-0.3	
MORC				*e*PKPbc		PKPbc	07 26 08.3	-0.3	
MORC				*e*PKPab		PKPab	07 26 16.6	-0.8	
PVCC	Panska Ves	151.65	347	*e*PKIKP		PKPbc	07 26 09.1	+0.6	
PVCC				*e*			07 26 22.8		
PVCC	Panska Ves	151.65	347	⇑*e*PKP		PKPbc	07 26 09.1	+0.6	
PVCC				*e*pPKP		pPKPdf	07 26 22.8	+2.8	
KECS	Kecovo	151.88	338	*e*PKP2		PKPab	07 26 23.5	+5.1	
KECS	Kecovo	151.88	338	*e*PKP		PKPab	07 26 23.5	+5.1	
DOPR	Dopca	151.89	329	⇓*i*P		PKPbc	07 26 09.0	-0.3	
ISR	Istrita	151.93	327	⇓*i*P		PKPbc	07 26 10.7	+1.3	
MLR	Muntele Rosu	151.97	328	⇓*i*P		PKPbc	07 26 10.1	+0.5	
PRA	Prague	152.11	347	⇑PKP		PKPbc	07 26 10.0	+0.4	
PRU	Pruhonice	152.16	347	⇑*e*PKP		PKPbc	07 26 10.0	+0.3	
PRU				*e*PKPAB		PKPab	07 26 21.0	+1.5	
HGN	Heimansgroeve	152.38	359	*e*L		L	07 30 57.9		
	comp=Z,4μm,21.9s								
VYHS	Vyhne	152.41	340	*e*PKP		PKPbc	07 26 10.5	+0.2	
VOIR		152.44	329	⇑*i*P		PKPbc	07 26 11.8	+1.2	
DRGR		152.44	333	⇓PKIKP		PKPbc	07 26 09.5	-1.0	
DRGR		152.44	333	⇓*i*P		PKPbc	07 26 09.5	-1.0	
PSZ	Piszkesteto	152.57	338	⇑PKIKP		PKPbc	07 26 08.4	-2.4	
PSZ	Piszkesteto	152.57	338	*e*PKPbc		PKPbc	07 26 10.8	0.0	
PSZ	Piszkesteto	152.57	338	⇑*i*P		PKPbc	07 26 08.4	-2.4	
TREC	Trest	152.61	345	⇑*e*PKP		PKPbc	07 26 11.1	+0.3	
ARR	Arges	152.69	329	⇑*i*P		PKPbc	07 26 12.4	+1.3	
KHC	Kasperske Hory	153.18	348	*e*PKIKP		PKPbc	07 26 12.3	+0.2	
KHC				*e*			07 26 23.7		
KHC	Kasperske Hory	153.18	348	⇑*e*PKP		PKPbc	07 26 12.3	+0.2	
KHC				*e*PKPAB		PKPab	07 26 23.7	-0.1	
KHC	Kasperske Hory	153.18	348	*e*PKPbc		PKPbc	07 26 12.2	+0.2	
GERES	GERESS Array B	153.42	347	PKPbc		PKPbc	07 26 11.0	-1.7	
GERES	GERESS Array B	153.42	347	PKPbc		PKPbc	07 26 11.0	-1.7	
	comp=Z,0.7nm,0.7s,baz=48,slow=2.0,SNR=7.5								
BZS	Buzias	153.84	333	⇓*i*P		PKPbc	07 26 16.1	+2.6	
VTS	Vitosha	155.43	327	⇑*i*P		PKPab	07 26 26.9	-6.9	
DBIC	Dimbokro	161.05	148	PKPab		PKPab	07 26 58.9	+0.3	
DBIC	Dimbokro	161.05	148	PKPab		PKPab	07 26 58.9	+0.3	
	comp=Z,5.5nm,0.9s,baz=293,slow=4.8,SNR=3.2								
ESDC	Sonseca Array	161.77	23	PKP		PKPdf	07 26 15.6	0.0	
ESDC				PKPab		PKPab	07 27 01.0	-0.1	
ESDC	Sonseca Array	161.77	23	PKP		PKPdf	07 26 15.6	0.0	
	comp=Z,0.1nm,0.4s,baz=318,slow=2.0,SNR=4.3								
ESDC				PKPab		PKPab	07 27 01.0	-0.1	
	comp=Z,1.5nm,0.8s,baz=317,slow=3.2,SNR=7.7								
TORD	Torodi Ar. Bea	169.58	161	PKP		PKPdf	07 26 22.4	-0.2	
TORD				pPKP		pPKPdf	07 26 37.9	-2.6	
TORD				PKPab		PKPab	07 27 36.6	+0.6	
TORD				PP		PP	07 31 27.9	+3.4	
TORD	Torodi Ar. Bea	169.58	161	PKP		PKPdf	07 26 22.4	-0.2	
	comp=Z,0.9nm,1.0s,baz=245,slow=6.1,SNR=3.7								
TORD				pPKP		pPKPdf	07 26 37.9	-2.6	
	comp=Z,1.4nm,0.9s,baz=263,slow=2.1,SNR=5.4								
TORD				PKPab		PKPab	07 27 36.6	+0.6	
	comp=Z,2.7nm,0.8s,baz=190,slow=4.3,SNR=9.8								
TORD				PP		PP	07 31 27.9	+3.4	
	comp=Z,1.2nm,0.9s,baz=141,slow=2.8,SNR=3.7								

NIED ***04*** *07:09:00,27.90N×130.30E,h20km,Mw3.9 Best double couple: M07.47000×10^14 NP1:ϕ,δ,λ 7.00000°,54.00000°,51.00000°. NP2:ϕ,δ,λ 241.00000°,51.00000°,131.00000°.*

JMA 04 07:09:40.4±0.1, 27.95N×130.30E, h27km±2km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JZK	Kikaishima	0.47	321	P		Pb	07 09 49.9	-0.2
JZK				S		Sb	07 09 56.7	-0.1
JAM	Amami Oshima	0.77	307	P		Pb	07 09 54.7	-0.4
JAM				*e*S		Sb	07 10 05.5	+0.3
JAMN	Amaminishikomi	1.04	287	P		Pn	07 09 58.8	-0.3
JAMN				*e*S		Sn	07 10 12.0	-0.7
JTK	Tokunoshima	1.21	263	P		Pb	07 10 02.1	-0.5
JNN	Nakanoshima	1.92	349	P		Pn	07 10 12.9	+1.5
JOW	Kunigami	2.12	239	P		Pn	07 10 15.3	+1.5
JTN	Tanegashima 3	2.76	12	P		Pn	07 10 24.4	+1.5
JTN				S		Sn	07 10 57.5	+2.1
JNAR	Kushima--Naru	3.66	13	P		Pn	07 10 37.7	+2.4

IDC 04 07:19:29.4±2.3, 5.93S×130.22E, h0km, mb3.7/1, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, ML3.6/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/25, Error ellipse: s-maj=95.3km s-min=28.1km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	Fitzroy Crossi	12.90	200	Pn		Pn	07 22 35.0	+0.8
	0.3nm,0.3s,baz=28,slow=12,SNR=22							
FITZ				LR		LR	07 28 19.0	
	comp=Z,217nm,20.8s,baz=13,slow=41							
WRA	Warramunga Arr	14.50	164	Pn		Pn	07 22 53.9	-2.1
	0.2nm,0.3s,baz=346,slow=13,SNR=17							
WRA				Sn		Sn	07 25 24.2	-13
	0.3nm,0.3s,baz=341,slow=22,SNR=7.7							
ASAR	Alice Springs	17.99	169	P		P	07 23 41.5	-0.1
	0.1nm,0.3s,baz=350,slow=10,SNR=9.4							
MKAR	Makanchi Array	67.46	326	P		P	07 30 27.1	0.0
	0.3nm,0.4s,baz=112,slow=8.8,SNR=6.3							

GRAL 04 08:32:56.3±0.3, 34.11N×36.64E, h36km±4km, MD2.9, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FKH	Fakeheh	0.23	305	*e*P		Pn	08 33 03.2	-1.6
FKH				*e*S		Sn	08 33 08.2	-4.3
HWQ	Hawqa	0.60	286	*e*P		Pn	08 33 07.6	-0.9
HWQ				*e*S		Sn	08 33 16.2	-0.9
BHL	Bhannes	0.84	256	*e*P		Pn	08 33 10.7	-1.1
RCY	Rachaya	0.91	228	*e*P		Pn	08 33 12.0	-0.7

ISCJB ***04*** *08:38:05.4±0.2, 38.31N±0.01×21.97E±0.02, h8km±2km, mb3.5/5, Error ellipse: s-maj=2.8km s-min=2.4km az=178.8*

CSEM ***04*** *08:38:05.4±0.1, 38.31N×21.97E, h2km, ML3.2/6, Error ellipse: s-maj=2.5km s-min=2.0km az=80.0*

IDC ***04*** *08:38:05.1±1.3, 38.32N×22.00E, h0km, mb3.4/6, mb1 3.5/8, mb1mx3.4/29, mbtmp3.4/8, ML2.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/32, Error ellipse: s-maj=28.9km s-min=19.9km az=146.0*

ATH ***04*** *08:38:05.4, 38.32N×21.98E, h12km±1km, MD3.3/21, ML2.9*

THE ***04*** *08:38:06.0, 38.31N×21.98E, h6km±1km, ML3.2/6, Error ellipse: s-maj=1.2km s-min=0.6km az=185.0*

ISC 04 08:38:05.8±0.7, 38.32N±0.01×21.97E±0.02, h8km±4km, n116, s0s71/156, mb3.6/5, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LAKA	Lakka	0.08	175	P		Pg	08 38 07.6	-0.3
LAKA				S		Sg	08 38 09.3	-0.1
LAKA	Lakka	0.08	175	*e*PG		Pg	08 38 07.6	-0.3
LAKA				*e*SG		Sg	08 38 09.4	0.0
LAKA	Lakka	0.08	175	P		Pg	08 38 07.6	-0.3
LAKA				S		Sg	08 38 09.3	-0.1
TRIZ	Trizonia	0.09	60	P		Pg	08 38 08.0	-0.1
TRIZ				S		Sg	08 38 10.0	+0.3
TRIZ	Trizonia	0.09	60	*e*PG		Pg	08 38 07.9	-0.1
TRIZ				*e*SG		Sg	08 38 09.8	+0.1
TRIZ	Trizonia	0.09	60	P		Pg	08 38 07.9	-0.1
TRIZ				S		Sg	08 38 10.0	+0.3
EFP	Efpalio	0.12	335	*e*PG		Pg	08 38 08.5	0.0
EFP				*e*SG		Sg	08 38 10.6	+0.2
EFP	Efpalio	0.12	335	P		Pg	08 38 08.5	0.0
UPR	University Cam	0.15	256	P		Pg	08 38 09.1	+0.2
KALE	Kalithea	0.15	62	P		Pg	08 38 08.9	-0.1
KALE				S		Sg	08 38 11.9	+0.6
KALE	Kalithea	0.15	62	*e*PG		Pg	08 38 09.0	-0.1
KALE				*e*SG		Sg	08 38 11.5	+0.2
KALE	Kalithea	0.15	62	P		Pg	08 38 08.9	-0.1
KALE				S		Sg	08 38 11.5	+0.2
KLV	Kalavryta, Ach	0.31	152	P		Pg	08 38 11.6	-0.3
KLV	Kalavryta, Ach	0.31	152	*e*PB		Pg	08 38 11.6	-0.3
KLV				*e*SB		Sg	08 38 15.5	-0.5
KLV	Kalavryta, Ach	0.31	152	P		Pg	08 38 11.6	-0.3
KLV				*e*Sb		Sg	08 38 15.5	-0.5
KLV				S		Sb	08 38 16.6	-2.2
DSF	Desfina	0.45	78	P		Pg	08 38 13.8	-0.7
DSF				S		Sb	08 38 21.4	-1.4
DSF	Desfina	0.45	78	P		Pg	08 38 13.8	-0.7
DSF				S		Sg	08 38 20.8	+0.4
RLS	Riolos of Patr	0.47	237	P		Pg	08 38 14.8	-0.1
RLS				S		Sg	08 38 22.3	+1.1
RLS	Riolos of Patr	0.47	237	*e*PB		Pg	08 38 15.0	+0.1
RLS				*e*SB		Sb	08 38 22.6	-0.8
RLS	Riolos of Patr	0.47	237	P		Pg	08 38 14.8	-0.1
RLS				S		Sg	08 38 21.2	0.0
RLS				*e*Sb		Sb	08 38 22.6	-0.8
GUR	Goura	0.48	142	P		Pg	08 38 14.5	-0.6
GUR				S		Sg	08 38 22.1	+0.6
GUR	Goura	0.48	142	*e*PG		Pg	08 38 14.6	-0.6
GUR				*e*SB		Sg	08 38 22.1	+0.6
GUR	Goura	0.48	142	*e*Pg		Pg	08 38 14.6	-0.6
GUR				S		Sg	08 38 21.8	+0.3
GUR				*e*Sb		Sg	08 38 22.1	+0.6
AXS	Araxos	0.48	256	P		Pg	08 38 15.0	-0.1
AXS				S		Sg	08 38 22.6	+1.2
AXS	Araxos	0.48	256	P		Pg	08 38 15.0	-0.1
AXS				S		Sg	08 38 22.6	+1.2
EVR	Evrytania	0.61	348	P		Pg	08 38 17.0	-0.6
EVR				S		Sb	08 38 27.9	+0.4
EVR	Evrytania	0.61	348	*e*PB		Pg	08 38 17.3	-0.3
EVR				*e*SB		Sg	08 38 26.0	+0.4
EVR	Evrytania	0.61	348	P		Pg	08 38 17.0	-0.6
EVR	Evrytania	0.61	348	*e*Pb		Pg	08 38 17.3	-0.3
EVR				S		Sg	08 38 25.5	-0.1
EVR				*e*Sb		Sg	08 38 26.0	+0.4
THAL	Thalero	0.61	117	P		Pg	08 38 17.3	-0.3
THAL	Thalero	0.61	117	P		Pg	08 38 17.3	-0.3
AXAR	Agios Charalam	0.70	50	P		Pg	08 38 18.3	-1.0
AXAR				S		Sb	08 38 29.5	-0.5
AXAR	Agios Charalam	0.70	50	P		Pg	08 38 18.3	-1.0
AXAR				S		Sg	08 38 29.5	-0.5
MAKR	Makrakomi, Fth	0.70	10	P		Pg	08 38 19.2	-0.2
MAKR				S		Sb	08 38 30.7	+0.5
MAKR	Makrakomi, Fth	0.70	10	P		Pg	08 38 19.2	-0.2
MAKR				S		Sb	08 38 30.7	+0.5
AGG	Agios Georgios	0.76	22	P		Pg	08 38 19.2	-1.1
AGG	Agios Georgios	0.76	22	*e*PB		Pg	08 38 19.2	-1.1
AGG	Agios Georgios	0.76	22	P		Pg	08 38 19.2	-1.1
AMT	Artemida-Makis	0.81	195	P		Pg	08 38 21.1	-0.3
AMT	Artemida-Makis	0.81	195	*e*PB		Pg	08 38 21.2	-0.2
AMT	Artemida-Makis	0.81	195	*e*Pb		Pg	08 38 21.2	-0.2
AMT				S		Sn	08 38 35.2	-0.5
LTK	Loutraki	0.84	110	P		Pb	08 38 22.0	-0.6
LTK	Loutraki	0.84	110	*e*PB		Pb	08 38 22.0	-0.6
LTK	Loutraki	0.84	110	P		Pb	08 38 22.0	-0.6
LKR	Lokris	0.87	67	*e*PG		Pg	08 38 21.5	-1.1
LKR	Lokris	0.87	67	*e*Pg		Pg	08 38 21.5	-1.1
VLX	Vlachokerasia	1.00	161	P		Pg	08 38 23.9	-1.1
VLX				S		Sb	08 38 39.3	+0.6
VLX	Vlachokerasia	1.00	161	*e*PG		Pg	08 38 24.2	-0.8
VLX	Vlachokerasia	1.00	161	P		Pg	08 38 23.9	-1.1
VLX	Vlachokerasia	1.00	161	*e*Pg		Pg	08 38 24.2	-0.8
VLX				S		Sb	08 38 39.3	+0.6
VLS	Valsamata	1.09	263	P		Pg	08 38 25.6	-1.2
VLS				S		Sn	08 38 43.1	+0.4
VLS	Valsamata	1.09	263	*e*PG		Pg	08 38 25.5	-1.2
VLS	Valsamata	1.09	263	P		Pg	08 38 25.6	-1.2
VLS				S		Sn	08 38 43.1	+0.4
SMIA	Simia	1.12	60	P		Pg	08 38 26.6	-0.7
SMIA	Simia	1.12	60	P		Pg	08 38 26.6	-0.7
LKD2	Lefkada island	1.13	295	P		Pg	08 38 26.9	-0.6
LKD2				S		Sn	08 38 44.8	+1.2
LKD2	Lefkada island	1.13	295	*e*PB		Pg	08 38 26.8	-0.7
LKD2	Lefkada island	1.13

	2.9nm,0.9s,baz=251,slow=4.5,SNR=5.1							
SONM					LR	LR	09 58 38.8	
	comp=Z,118nm,20.0s,baz=238,slow=35							
KSRS	**Korea Array**	**76.85**	**47**	P	P	09 29 37.0	-0.6	
	2.6nm,1.0s,baz=242,slow=6.7,SNR=11							
USRK	**Ussuriysk Arra**	**82.60**	**42**	P	P	09 30 08.3	-0.4	
	1.3nm,0.8s,baz=349,slow=4.1,SNR=4.9							
MJAR	**Matsushiro Arr**	**84.03**	**51**	P	P	09 30 16.1	-0.3	
	2.8nm,1.0s,baz=246,slow=5.6,SNR=8.1							
ILAR	**Eielson Array**	**123.26**	**16**	PKP	PKPdf	09 36 40.5	-1.7	
	0.6nm,1.0s,baz=336,slow=4.2,SNR=4.4							
PDAR	**Pinedale Array**	**149.53**	**353**	PKPbc	PKPbc	09 37 33.6	-1.9	
	1.3nm,0.9s,baz=215,slow=1.8,SNR=7.6							
NVAR	**Mina Array Bea**	**153.98**	**7**	PKPbc	PKPbc	09 37 46.7	+0.8	
	1.4nm,1.0s,baz=2.1,slow=1.7,SNR=5.0							
TXAR	**Lajitas Array**	**160.38**	**330**	PKPab	PKPab	09 38 28.3	+1.6	
	0.5nm,1.0s,baz=90,slow=2.5,SNR=4.1							

*IDC **04** 09:42:15.4±3.2,2˚.44S×127˚.77E, h37km±27km, mb4.0/7, mb1 4.3/9, mb1mx4.0/22, mbtmp4.2/9, ML4.8/3, MS3.5/6, Ms1 3.5/6, ms1mx3.1/32, Error ellipse: s-maj=33.5km s-min=9.1km az=73.0*

*ISCJB **04** 09:42:16.1±0.6,2˚.54S±0˚.03×127˚.42E±0˚.04, h45km±5km, mb4.6/37, MS3.8/9, Error ellipse: s-maj=7.2km s-min=4.5km az=156.0*

*NEIC **04** 09:42:16.6±0.3,2˚.52S×127˚.37E, h35km, mb5.0/15, Error ellipse: s-maj=11.5km s-min=5.8km az=72.0*

*DJA **04** 09:42:16.7±0.6,2˚.S±2˚×12˚.7E±˚, h17km±8km, M4.9/8, mB5.2/6, mb5.0/8, MLv5.0/7, Mw(mB)4.6/6*

*BJI **04** 09:42:17.1,2˚.57S×127˚.21E, h35km, mB5.0/15, mb4.7/24, Ms4.4/10, Ms7 4.0/9*

ISC 04 09:42:17.3±0.4,2˚.63S±0˚.03×127˚.45E±0˚.04, h34km±1km, n87, σ1§50/119, mb4.7/37, MS3.6/9, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.70**	**210**	P	**Pb**	**09 42 31.2**	**-0.1**
NLAI				S	**Sn**	**09 42 42.4**	**+1.9**
AAI	**Ambon**	**1.29**	**145**	P	**Pb**	**09 42 43.4**	**+2.3**
MSAI	**Masohi**	**1.64**	**116**	P	**Pb**	**09 42 46.6**	**-0.4**
MSAI				S	**Sb**	**09 43 09.8**	**+2.4**
LBMI	**Labuha**	**1.98**	**1**	P	**Pn**	**09 42 46.2**	**-2.2**
BNDI	**Bandanaira**	**3.09**	**128**	P	Pn	09 43 06.8	+3.1
BNDI				S	**Sb**	**09 43 45.6**	**-3.3**
TNTI	**Ternate**	**3.38**	**359**	P	**Pn**	**09 43 05.7**	**-2.0**
TNTI				S	**Sn**	**09 43 50.6**	**+4.1**
KMSI	**Cibinong**	**4.71**	**312**	P	**Pn**	**09 43 28.1**	**+2.1**
KMSI				S	Sn	09 44 11.5	-7.9
FAKI	**Fak Fak**	**4.80**	**94**	P	**Pn**	**09 43 28.9**	**+1.7**
FAKI				S	**Sn**	**09 44 20.0**	**-1.7**
LUWI	**Luwuk**	**4.94**	**288**	P	Pn	09 43 26.3	-2.8
LUWI				S	Sn	09 44 18.5	-6.6
GTOI	**Gorontalo**	**5.50**	**306**	P	**Pn**	**09 43 37.0**	**+0.2**
	151nm,0.7s,8μm2.8nm						
SKSI	**Soroako, Sulaw**	**6.11**	**271**	P	**Pn**	**09 43 44.7**	**-0.7**
MRSI	**Marisa**	**6.31**	**299**	P	**Pn**	**09 43 45.3**	**-2.8**
	115nm,0.6s,3μm1.0nm						
TTSI	**Tana Toraja**	**7.64**	**267**	P	**Pn**	**09 44 06.6**	**+0.4**
	21nm,0.9s,881nm0.1nm						
SPSI	**Sidrap Palu**	**7.79**	**260**	P	**Pn**	**09 44 10.0**	**+1.7**
	59nm,0.8s,0.3nm						
BKSI	**Bulukumba**	**7.79**	**250**	P	**Pn**	**09 44 10.8**	**+2.5**
	95nm,0.5s,1μm0.3nm						
KAPI	**Kappang**	**8.04**	**253**	Pn	**Pn**	**09 44 14.6**	**+2.8**
	726nm,0.6s,SNR=12						
KAPI	**Kappang**	**8.04**	**253**	Pn	**Pn**	**09 44 12.1**	**+0.2**
KAPI	**Kappang**	**8.04**	**253**	P	**Pn**	**09 44 13.6**	**+1.8**
	115nm,0.8s,1μm						
KAPI	**Kappang**	**8.04**	**253**	Pn	**Pn**	**09 44 13.7**	**+1.9**
	8.8nm,0.3s,baz=122,slow=7.6,SNR=38						
KAPI					LR	09 47 18.0	
	comp=Z,244nm,21.6s,baz=114,slow=36						
BAKI	**Biak**	**8.77**	**81**	P	**Pn**	**09 44 20.6**	**-1.1**
	73nm,0.8s,960nm						
FITZ	**Fitzroy Crossi**	**15.48**	**186**	Pn	**Pn**	**09 45 52.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**15.48**	**186**	Pn	**Pn**	**09 45 52.9**	**-0.3**
	1.1nm,0.3s,baz=23,slow=8.9,SNR=25						
FITZ					LR	09 52 11.7	
	comp=Z,143nm,19.6s,baz=273,slow=38						
WRAB	**Tennant Creek**	**18.48**	**159**	P	**P**	**09 46 30.9**	**+0.4**
	494nm,0.6s,SNR=52						
WRAB	**Tennant Creek**	**18.48**	**159**	*e*P	**P**	**09 46 29.9**	**-0.6**
	85nm,0.9s						
WRAB				*e*S	**Sn**	**09 49 53.8**	**-2.6**
WRA	**Warramunga Arr**	**18.48**	**159**	P	**P**	**09 46 30.0**	**-0.6**
WRA				S	**Sn**	**09 49 56.8**	**+0.3**
WRA	**Warramunga Arr**	**18.48**	**159**	P	**P**	**09 46 30.0**	**-0.6**
	5.6nm,0.3s,baz=341,slow=12,SNR=255						
WRA				S	**Sn**	**09 49 56.8**	**+0.3**
	0.5nm,0.3s,baz=333,slow=21,SNR=5.3						
COEN	**Coen**	**19.18**	**127**	*e*P	**P**	**09 46 38.4**	**+0.1**
	482nm,0.6s						
MBWA	**Marble Bar**	**19.90**	**202**	*e*P	**P**	**09 46 45.8**	**-0.2**
	8.4nm,0.8s						
PMG	**Port Moresby**	**20.71**	**110**	P	Pn	09 46 57.7	+0.2
PMG				*e*Pn	Pn	09 46 59.6	+2.1
PMG	**Port Moresby**	**20.71**	**110**	P	Pn	09 46 57.7	+0.2
	17nm,0.6s,baz=352,slow=6.1,SNR=8.3						
AS31	**Alice Springs**	**21.83**	**164**	*e*P	**P**	**09 47 06.9**	**0.0**
ASAR	**Alice Springs**	**21.83**	**164**	P	**P**	**09 47 06.8**	**-0.1**
ASAR				S	**S**	**09 51 05.3**	**-1.2**
ASAR	**Alice Springs**	**21.83**	**164**	P	**P**	**09 47 06.8**	**-0.1**
	32nm,0.6s,baz=344,slow=11,SNR=603						
ASAR					S	**S**	**09 51 05.3**	**-1.2**
	8.8nm,0.9s,baz=345,slow=19,SNR=14						
CTA	**Charters Tower**	**25.26**	**135**	P	**P**	**09 47 42.6**	**+2.0**
CTA	**Charters Tower**	**25.26**	**135**	P	**P**	**09 47 42.6**	**+2.0**
	12nm,0.6s,baz=321,slow=11,SNR=18						
CTAO	**Charters Tower**	**25.26**	**135**	*e*P	**P**	**09 47 42.6**	**+2.0**
	1.2nm,0.7s						
TWG	**Pinlang**	**26.05**	**346**	P	**P**	**09 47 45.8**	**-1.8**
	37nm,0.5s						
TPUB	**Ta-pu**	**26.61**	**346**	*e*P	**P**	**09 47 50.8**	**-2.0**
	32nm,0.7s						
SSLB	**Suanglung**	**27.00**	**347**	*e*P	**P**	**09 47 55.3**	**-1.0**
QIZ	**Qiongzhong**	**27.62**	**322**	P	**P**	**09 48 01.6**	**-0.3**
QIZ				S	**S**	**09 52 41.7**	**+0.2**
QIZ				pmax	pmax		
	comp=Z,14nm,1.5s						
YHNB	**Yeheng**	**27.77**	**348**	*e*P	**P**	**09 48 02.3**	**-0.9**
	comp=Z,27nm,1.0s						
FORT	**Forrest**	**28.01**	**179**	*e*P	**P**	**09 48 05.5**	**+0.3**
	comp=Z,38nm,0.6s						
TATO	**Taipei**	**28.04**	**348**	*e*P	**P**	**09 48 04.9**	**-0.6**
	comp=Z,13nm,0.5s						
BBOO	**Buckleboo**	**31.09**	**166**	*e*P	**P**	**09 48 31.7**	**-0.9**
	comp=Z,66nm,0.4s						
NWAO	**Narrogin (SRO)**	**31.63**	**197**	P	**P**	**09 48 37.0**	**-0.2**
NWAO	**Narrogin (SRO)**	**31.63**	**197**	P	**P**	**09 48 37.0**	**-0.2**
	comp=Z,7.3nm,0.7s,baz=31,slow=6.3,SNR=8.4						
EIDS	**Eidsvold**	**32.08**	**137**	*e*P	**P**	**09 48 42.3**	**+1.1**
	comp=Z,41nm,1.7s						
CM31	**Chiang Mai Arr**	**35.02**	**308**	*e*P	P	09 49 01.8	-5.3
	comp=Z,12nm,0.5s						
CMAR	**Chiang Mai Arr**	**35.02**	**308**	LR	LR	10 03 23.8	
	comp=Z,46nm,18.6s,baz=145,slow=36						
GYA	**Guiyang**	**35.21**	**327**	P	**P**	**09 49 09.6**	**+0.9**
GYA				pP	**pP**	**09 49 19.8**	**+1.1**
GYA				sP	**sP**	**09 49 24.0**	**+1.2**
GYA				PP	**PP**	**09 50 29.4**	**+0.4**
GYA				PcP	**PcP**	**09 51 40.0**	**+0.6**
GYA				S	**S**	**09 54 40.7**	**+0.6**
GYA				sS	**sS**	**09 54 56.9**	**+0.3**
GYA				ScP	**ScP**	**09 55 22.5**	**-0.2**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,550nm,17.0s						
GYA				LR	LR		
	comp=E,480nm,18.5s						
GYA				LR	LR		
	comp=Z,510nm,17.2s						
NJ2	**Nanjing**	**35.44**	**347**	*e*P	**P**	**09 49 11.6**	**+1.2**
NJ2				pP	**pP**	**09 49 22.4**	**+2.0**
NJ2				sP	**sP**	**09 49 26.0**	**+1.4**
NJ2				PP	**PP**	**09 50 31.2**	**-0.1**
NJ2				S	**S**	**09 54 39.0**	**-4.2**
NJ2				sS	**sS**	**09 54 56.5**	**-3.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,80nm,5.4s						
NJ2					LR	LR		
	comp=N,490nm,22.2s						
NJ2					LR	LR		
	comp=E,180nm,23.8s						
NJ2					LR	LR		
	comp=Z,170nm,31.0s						
JNU	**Nakatsue**	**35.70**	**5**	P	**P**	**09 49 10.0**	**-2.7**
	comp=Z,4.1nm,1.1s						
JNU	**Nakatsue**	**35.70**	**5**	LR	LR	10 03 03.4	
	comp=Z,94nm,18.8s,baz=49,slow=35						
ARMA	**Armidale**	**35.89**	**143**	*e*P	**P**	**09 49 14.8**	**+0.4**
	comp=Z,9.4nm,0.8s						
KMI	**Kunming**	**36.54**	**320**	P	**P**	**09 49 21.9**	**+1.7**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CAN	**Canberra**	**38.19**	**151**	*e*P	**P**	**09 49 34.5**	**+0.6**
	comp=Z,28nm,0.6s						
KSAR	**Wonju Array Be**	**39.87**	**1**	P	P	09 49 43.5	-4.2
KSRS	**Korea Array**	**39.88**	**1**	P	P	09 49 43.5	-4.3
	comp=Z,0.6nm,0.7s,baz=178,slow=9.7,SNR=4.7						
MAJO	**Matsushiro**	**40.24**	**13**	*e*P	P	09 49 47.8	-3.1
	comp=Z,2.9nm,0.6s						
MAT	**Matsushiro**	**40.24**	**13**	P	P	09 49 47.2	-3.7
MJAR	**Matsushiro Arr**	**40.24**	**13**	P	P	09 49 45.1	-5.7
MJAR	**Matsushiro Arr**	**40.24**	**13**	P	P	09 49 45.1	-5.7
	comp=Z,1.9nm,0.6s,baz=190,slow=8.9,SNR=5.1						
CD2	**Chengdu**	**40.27**	**328**	P	**P**	**09 49 51.6**	**+0.3**
CD2				pP	**pP**	**09 50 01.8**	**+0.3**
CD2				sP	**sP**	**09 50 06.1**	**+0.5**
CD2				PP	**PnPn**	**09 51 28.9**	**+0.6**
CD2				PcP	**PcP**	**09 51 55.4**	**+0.7**
CD2				PcS	**PcS**	**09 55 44.7**	**-0.6**
CD2				S	**S**	**09 55 56.7**	**0.0**
CD2				sS	**sS**	**09 56 13.7**	**+0.4**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,260nm,5.6s						
BJI	**Beijing**	**43.70**	**347**	P	**P**	**09 50 19.6**	**+0.5**
BJI				S	**S**	**09 56 48.5**	**+1.6**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,74nm,4.2s						
BJI				LR	LR		
	comp=N,87nm,16.8s						
BJI				LR	LR		
	comp=E,81nm,17.2s						
BJI				LR	LR		
	comp=Z,25nm,24.6s						
LZH	**Lanzhou**	**44.38**	**332**	*e*P	**P**	**09 50 26.4**	**+1.6**
LZH				pP	**pP**	**09 50 37.1**	**+2.1**
LZH				sP	**sP**	**09 50 41.4**	**+2.3**
LZH				*e*S	**S**	**09 56 56.2**	**-1.0**
LZH				sS	**sS**	**09 57 13.0**	**-1.1**
LZH				SS	SS	10 00 03.1	-14
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
LZH				pmax	pmax		
	comp=Z,87nm,5.9s						
HHC	**Hu-ho-hao-te**	**45.64**	**343**	*e*P	**P**	**09 50 35.7**	**+1.0**
HHC				pP	**pP**	**09 50 45.3**	**+0.4**
HHC				sP	**sP**	**09 50 49.8**	**+0.8**
HHC				PP	**PP**	**09 52 22.9**	**+0.9**
HHC				S	**S**	**09 57 16.1**	**+0.9**
HHC				sS	**sS**	**09 57 30.6**	**-1.5**
HHC				pmax	pmax		
	comp=Z,21nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,4.6s						
HHC				LR	LR		
	comp=N,130nm,12.4s						
HHC				LR	LR		
	comp=E,160nm,12.2s						
HHC				LR	LR		
	comp=Z,150nm,15.5s						
CN2	**Changchun**	**46.25**	**358**	*e*P	**P**	**09 50 42.0**	**+2.7**
CN2				*e*S	**S**	**09 57 26.6**	**+2.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MDJ	**Mudanjiang**	**47.07**	**2**	P	**P**	**09 50 46.6**	**+0.9**
MDJ				pP	**pP**	**09 50 55.6**	**-0.4**
MDJ				sP	**sP**	**09 50 59.4**	**-0.7**
MDJ				ScP	**ScP**	**09 56 09.2**	**+0.4**
MDJ				PcS	**PcS**	**09 56 12.9**	**+0.6**
MDJ				S	**S**	**09 57 38.0**	**+2.6**
MDJ				sS	**sS**	**09 57 53.3**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,27nm,5.8s						
MDJ				LR	LR		
	comp=N,43nm,25.1s						
MDJ				LR	LR		
	comp=E,43nm,25.1s						
MDJ				LR	LR		
	comp=Z,55nm,26.1s						
LSA	**Lhasa**	**47.31**	**316**	*e*P	**P**	**09 50 47.4**	**-1.0**
	comp=Z,9.3nm,0.8s						
GTA	**Gaotai**	**48.94**	**332**	*e*P	**P**	**09 50 59.6**	**-0.9**
GTA				pP	**pP**	**09 51 09.6**	**-1.2**
GTA				sP	**sP**	**09 51 13.2**	**-1.7**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WMQ	**Urumqi**	**58.37**	**327**	P	**P**	**09 52 10.6**	**+1.2**
WMQ				pP	pP	09 52 24.6	+4.7
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.5s						
WMQ				pmax	pmax		
	comp=Z,130nm,5.6s						
PETK	**Petropavlovsk-**	**61.05**	**20**	LR	LR	10 15 43.1	
	comp=Z,41nm,18.7s,baz=85,slow=33						
MK31	**Makanchi Array**	**63.20**	**327**	*e*P	**P**	**09 52 40.3**	**-1.9**
MKAR	**Makanchi Array**	**63.20**	**327**	P	**P**	**09 52 40.4**	**-1.8**
MKAR	**Makanchi Array**	**63.20**	**327**	P	**P**	**09 52 40.4**	**-1.8**
	comp=Z,0.9nm,0.8s,baz=131,slow=7.9,SNR=10						
CASY	**Casey**	**64.64**	**187**	*e*P	**P**	**09 52 50.5**	**-0.7**
	comp=Z,6.7nm,1.1s						
ZALV	**Zalesovo Beam**	**66.56**	**334**	P	P	09 53 00.5	-3.4
ZALV	**Zalesovo Beam**	**66.56**	**334**	P	P	09 53 00.5	-3.4
	comp=Z,0.3nm,0.4s,baz=111,slow=3.2,SNR=2.8						
KURBB	**Kurchatov Arra**	**67.48**	**329**	P	**P**	**09 53 07.7**	**-2.0**
	comp=Z,1.1nm,0.7s,baz=127,slow=5.9,SNR=13						
KURK	**Kurchatov**	**67.49**	**329**	P	**P**	**09 53 07.7**	**-2.1**
BRVK	**Borovoye**	**73.11**	**328**	*e*P	**P**	**09 53 43.0**	**-1.2**
	comp=Z,1.9nm,0.5s						
VNDA	**Vanda**	**77.07**	**173**	P	**P**	**09 54 06.0**	**-0.6**
	comp=Z,3.1nm,0.7s,baz=311,slow=6.5,SNR=14						
SBA	**Scott Base**	**77.98**	**172**	*e*P	**P**	**09 54 12.4**	**+0.7**
	comp=Z,3.1nm,0.7s						
BRTR	**Keskin Array B**	**94.60**	**309**	LR	LR	10 44 34.5	
	comp=Z,35nm,18.9s,baz=296,slow=40						
TOA0	**Torodi Ar. Sit**	**125.38**	**284**	*e*PKPdf	**PKPdf**	**10 01 16.3**	**+0.5**
CPUP	**Villa Florida**	**150.84**	**171**	PKPbc	**PKPbc**	**10 02 06.9**	**-0.2**
CPUP	**Villa Florida**	**150.84**	**171**	PKPbc	**PKPbc**	**10 02 06.9**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=192,slow=1.8,SNR=9.8						

IDC 04 09:50:04.6±1.4,28˚.85S×176˚.70W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/16, mbtmp3.9/3, Error ellipse: s-maj=59.7km s-min=26.7km az=163.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.14**	**249**	Pn	Pn	09 50 29.7	+1.9
	33nm,0.3s,baz=270,slow=20,SNR=2.3						
RAO					Sn	09 50 49.8	+5.6
	268nm,0.3s,baz=85,slow=23,SNR=5.5						
ASAR	**Alice Springs**	**44.35**	**265**	P	P	09 58 15.6	-1.3
	1.2nm,0.8s,baz=102,slow=6.9,SNR=17						
WRA	**Warramunga Arr**	**45.20**	**270**	P	P	09 58 23.2	-0.5
	1.6nm,0.7s,baz=109,slow=7.7,SNR=10						
NVAR	**Mina Array Bea**	**86.33**	**42**	P	P	10 02 50.2	+1.4
	0.2nm,0.4s,baz=211,slow=5.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**164.31**	**174**	PKPab	PKPab	10 11 03.3	-1.3
	0.4nm,0.7s,baz=171,slow=5.0,SNR=2.6						

*BJI **04** 09:51:54.8, 32˚.43N×104˚.99E, h12km, mb4.0/1, ML3.8/17, Ms3.9/4, Ms7 3.5/4*

*ISCJB **04** 09:51:55.0±0.5, 32˚.35N±0˚.03×105˚.04E±0˚.07, h15km, mb3.6/9, Error ellipse: s-maj=8.1km s-min=4.5km az=7.6*

*IDC **04** 09:51:55.0±0.8, 32˚.50N×104˚.98E, h0km, mb3.6/9, mb1 3.7/11, mb1mx3.6/27, mbtmp3.6/11, ML3.8/2, Error ellipse: s-maj=33.8km s-min=16.5km az=52.0*

ISC 04 09:51:56.9±0.6, 32˚.30N±0˚.04×105˚.02E±0˚.05, h15km, n16, σ1§30/25, mb3.6/9, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.75**	**218**	Pn	**Pb**	**09 52 28.2**	**-0.6**
CD2				Pg	**Pg**	**09 52 30.2**	**-0.3**
CD2				Sn	**Sb**	**09 52 51.2**	**+0.7**
CD2				Sg	**Sg**	**09 52 54.6**	**+1.3**
CD2				smax	smax		
	comp=N,3μm,0.6s						
CD2				smax	smax		
	comp=E,3μm,0.6s						
XAN	**Xi'an**	**3.71**	**61**	Pn	**Pn**	**09 52 54.2**	**+0.5**
XAN				Pg	**Pb**	**09 53 01.8**	**-0.4**
XAN				Sg	**Sb**	**09 53 48.3**	**+1.3**
XAN				smax	smax		
	comp=N,220nm,0.6s						
XAN				smax	smax		
	comp=E,150nm,0.9s						
LZH	**Lanzhou**	**3.90**	**346**	*e*Pn	**Pn**	**09 52 57.1**	**+0.6**
LZH				Pg	**Pb**	**09 53 06.5**	**+0.9**
LZH				Sn	**Sn**	**09 53 39.9**	**-2.3**
LZH				Sg	**Sb**	**09 53 54.8**	**+2.1**
LZH				smax	smax		
	comp=N,610nm,0.8s						
LZH				smax	smax		
	comp=E,830nm,0.8s						
LZH				LR	LR		
	comp=N,2μm,4.5s						
LZH				LR	LR		
	comp=E,3μm,5.2s						
LZH				LR	LR		
	comp=Z,3μm,6.6s						
GYA	**Guiyang**	**5.99**	**166**	Pn	Pn	09 53 29.7	+4.5
GYA				Sn	**Sn**	**09 54 33.2**	**-0.4**
GYA				Sg	Sg	09 55 04.5	-4.8
GYA				smax	smax		
	comp=N,140nm,0.7s						
GYA				smax	smax		
	comp=E,220nm,1.0s						
GTA	**Gaotai**	**8.26**	**331**	*e*P	**Pn**	**09 53 55.2**	**-1.1**
GTA				pP	pP	09 53 58.9	
GTA				sP		09 54 01.9	
GTA				S	**Sn**	**09 55 31.0**	**+1.6**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
GTA				LR	LR		
	comp=N,300nm,10.5s						
GTA				LR	LR		
	comp=E,510nm,9.8s						
GTA				LR	LR		
	comp=Z,270nm,8.9s						
CMAR	**Chiang Mai Arr**	**14.83**	**203**	Pn	**Pn**	**09 55 27.1**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=16,slow=12,SNR=4.8						
KSRS	**Korea Array**	**19.47**	**68**	P	**P**	**09 56 23.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=255,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**22.62**	**316**	P	**P**	**09 56 56.6**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=116,slow=11,SNR=12						
ZALV	**Zalesovo Beam**	**26.01**	**332**	P	**P**	**09 57 27.5**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=117,slow=12,SNR=5.8						
KURBB	**Kurchatov Arra**	**26.78**	**321**	P	**P**	**09 57 35.1**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=128,slow=9.9,SNR=14						
BRTR	**Keskin Array B**	**56.83**	**299**	P	**P**	**10 01 40.7**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=88,slow=7.2,SNR=3.7						
FINES	**FINESS Array B**	**57.02**	**326**	P	**P**	**10 01 41.1**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=108,slow=12,SNR=6.1						
WRA	**Warramunga Arr**	**59.05**	**148**	P	**P**	**10 01 58.6**	**+2.1**
	comp=Z,1.0nm,0.8s,baz=340,slow=7.7,SNR=9.6						
ASAR	**Alice Springs**	**62.12**	**150**	P	**P**	**10 02 19.1**	**+1.7**
	comp=Z,0.3nm,0.8s,baz=347,slow=7.9,SNR=4.5						
NOA	**NORSAR Array B**	**64.08**	**327**	P	**P**	**10 02 28.3**	**-1.7**
	comp=Z,0.8nm,0.7s,baz=158,slow=13,SNR=3.4						
YKA	**Yellowknife Ar**	**80.33**	**17**	P	**P**	**10 04 05.7**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=328,slow=4.9,SNR=3.6						

IDC 04 09:54:07.8±8.9, 16˚.01N×85˚.22W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/22, mbtmp3.6/4, ML4.0/1, Error ellipse: s-maj=163.7km s-min=47.9km az=3.0, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEIG	**Tepich**	**5.11**	**326**	Pn	Pn	09 55 25.9	+0.3
	5.4nm,0.3s,baz=81,slow=5.2,SNR=52						
TEIG					Sn	09 56 20.9	-4.4
	8.2nm,0.3s,baz=72,slow=22,SNR=8.7						
TXAR	**Lajitas Array**	**21.54**	**311**	P	P	09 58 58.0	-0.9
	1.1nm,0.8s,baz=130,slow=11,SNR=12						
SCHQ	**Schefferville**	**41.27**	**16**	P	P	10 01 54.1	-0.6
	0.8nm,0.5s,baz=207,slow=6.8,SNR=2.8						
YKA	**Yellowknife Ar**	**50.82**	**343**	P	P	10 03 10.7	+0.9
	0.3nm,0.6s,baz=137,slow=7.6,SNR=4.7						

*ISCJB **04** 10:00:57.2±0.5, 0˚.48S±0˚.04×123˚.02E±0˚.06, h78km, mb3.2/2, Error ellipse: s-maj=8.4km s-min=5.4km az=19.0*

*DJA **04** 10:00:59.1±0.4, 0˚.S±3˚×12˚.3E±˚, h42km±11km, M4.2/7, MLv4.2/7*

*IDC **04** 10:01:02.3±1.7, 1˚.62S×123˚.60E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/21, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=37.8km s-min=27.0km az=63.0*

ISC 04 10:00:58.0±1.1, 0˚.45S±0˚.05×123˚.03E±0˚.06, h78km, n12, σ1§01/15, mb3.4/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.64**	**204**	P	**Pn**	**10 01 12.8**	**-0.2**
LUWI				S	**Sn**	**10 01 22.6**	**-1.4**
GTOI	**Gorontalo**	**1.08**	**359**	P	**Pn**	**10 01 18.4**	**+0.5**
GTOI				S	**Sn**	**10 01 33.2**	**+0.4**
KMSI	**Cibinong**	**1.39**	**43**	P	**Pn**	**10 01 22.5**	**+0.6**
KMSI				S	**Sn**	**10 01 39.6**	**-0.2**
MRSI	**Marisa**	**1.43**	**310**	P	**Pn**	**10 01 21.1**	**-1.2**
MRSI				S	**Sn**	**10 01 40.0**	**-0.6**

ISC 04 10:21:45.0±0.5,21°35S±0'07×174°13W±0'07,h34km±1km, h34km:pP-P,n369,σ1909/395,mb4.8/68,MS4.3/20, 110C-89D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.73**	**17**	*e*Pn	Pn	10 23 29.8	-5.5
AFI				Sn	Sn	10 24 44.8	-17
AFI	**Afiamalu**	**7.73**	**17**	Pn	Pn	10 23 29.7	-5.6
	20nm,0.3s,baz=51,slow=1.8,SNR=27						
AFI				Sn	Sn	10 24 44.8	-17
	5.5nm,0.3s,baz=71,slow=19,SNR=2.5						
AFI				LR	LR	10 26 14.3	
	comp=Z,908nm,19.9s,baz=175,slow=35						
MSVF	**Nonsavu**	**8.21**	**295**	*e*P	Pn	10 23 46.4	+4.6
MSVF	**Nonsavu**	**8.21**	**295**	*e*Pn	Pn	10 23 46.4	+4.6
RAR	**Rarotonga**	**13.38**	**92**	Pn	Pn	10 24 43.5	-9.1
	5.2nm,0.6s						
RAR				*e*Sn	Sn	10 26 58.4	-22
RAR	**Rarotonga**	**13.38**	**92**	Pn	Pn	10 24 43.5	-9.1
	8.3nm,0.3s,baz=270,slow=7.1,SNR=13						
RAR				LR	LR	10 29 01.7	
	comp=Z,826nm,21.6s,baz=270,slow=33						
DZM	**Mont Dzumac**	**18.07**	**264**	*e*LR	LR	10 30 00.7	
	412nm,21.8s						
DZM	**Mont Dzumac**	**18.07**	**264**	P	**Pn**	**10 25 52.4**	**-1.1**
DZM	**Mont Dzumac**	**18.07**	**264**	P	**Pn**	**10 25 52.4**	**-1.1**
	0.2nm,0.3s,baz=90,slow=24,SNR=7.6						
URZ	**Urewera**	**18.47**	**202**	P	**P**	**10 25 57.7**	**-0.2**
URZ				*e*Pn	**Pn**	**10 25 58.6**	**+0.3**
URZ	**Urewera**	**18.47**	**202**	P	**P**	**10 25 57.7**	**-0.2**
	0.7nm,0.3s,baz=33,slow=10,SNR=7.1						
SNZO	**South Karori**	**22.03**	**203**	*e*P	**P**	**10 26 35.5**	**-1.0**
	114nm,1.2s						
TBI	**Tubuai**	**22.90**	**100**	*e*S	S	10 30 46.6	-7.0
	706nm,27.0s						
TBI				*e*LR	LR	10 32 05.1	
	519nm,22.0s,baz=272						
PPT2	**Papeete2**	**23.44**	**85**	*e*S	**S**	**10 30 57.2**	**-5.6**
	869nm,25.8s						
PPT2				*e*LR	LR	10 32 30.9	
	496nm,20.8s,baz=258						
PPT	**Papeete**	**23.45**	**85**	LR	LR	10 34 09.0	
	comp=Z,672nm,20.1s,baz=230,slow=32						
RPZ	**Rata Peaks**	**25.48**	**206**	LR	LR	10 37 06.9	
	comp=Z,397nm,18.7s,baz=242,slow=36						
HNR	**Honiara**	**27.61**	**291**	LR	LR	10 36 36.2	
	comp=Z,174nm,19.8s,baz=141,slow=32						
RKT	**Rikitea**	**36.22**	**100**	*e*LR	LR	10 38 14.6	
	375nm,22.2s,baz=266						
AS31	**Alice Springs**	**47.85**	**257**	*e*P	**P**	**10 30 17.9**	**-2.0**
ASAR	**Alice Springs**	**47.85**	**257**	P	**P**	**10 30 18.1**	**-1.8**
ASAR	**Alice Springs**	**47.85**	**257**	P	**P**	**10 30 18.1**	**-1.8**
	8.6nm,0.9s,baz=104,slow=6.9,SNR=55						
ASAR				LR	LR	10 49 57.2	
	comp=Z,160nm,18.9s,baz=195,slow=36						
WRAB	**Tennant Creek**	**48.06**	**262**	*e*P	**P**	**10 30 19.7**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,12nm,1.1s						
WRAB	**Tennant Creek**	**48.06**	**262**	*e*P	**P**	**10 30 19.7**	**-1.8**
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**48.07**	**262**	P	**P**	**10 30 19.2**	**-2.4**
WRA	**Warramunga Arr**	**48.07**	**262**	P	**P**	**10 30 19.2**	**-2.4**
	comp=Z,7.3nm,1.1s,baz=90,slow=5.9,SNR=60						
FORT	**Forrest**	**52.29**	**247**	*e*P	**P**	**10 30 50.9**	**-2.5**
	comp=Z,23nm,0.9s						
SBA	**Scott Base**	**57.30**	**185**	*e*P	**P**	**10 31 31.8**	**+2.9**
SBA				pmax	pmax		
	comp=Z,75nm,2.3s						
SBA	**Scott Base**	**57.30**	**185**	*e*P	**P**	**10 31 31.8**	**+2.9**
	comp=Z,75nm,2.3s						
VNDA	**Vanda**	**57.42**	**186**	P	**P**	**10 31 29.1**	**-0.7**
VNDA	**Vanda**	**57.42**	**186**	P	**P**	**10 31 29.1**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=5.5,slow=7.3,SNR=3.6						
VNDA				LR	LR	10 52 24.8	
	comp=Z,150nm,19.6s,baz=21,slow=32						
CASY	**Casey**	**64.75**	**206**	*e*P	**P**	**10 32 20.9**	**+1.2**
	comp=Z,11nm,1.1s						
QSPA	**South Pole Qui**	**68.72**	**180**	*e*P	**P**	**10 32 46.0**	**+0.8**
	comp=Z,10nm,1.2s						
GUIM	**Jordan**	**69.78**	**291**	*e*P	**P**	**10 32 52.3**	**0.0**
MJAR	**Matsushiro Arr**	**73.08**	**322**	P	**P**	**10 33 10.8**	**-1.1**
MJAR	**Matsushiro Arr**	**73.08**	**322**	P	**P**	**10 33 10.8**	**-1.1**
	comp=Z,4.4nm,1.0s,baz=161,slow=6.3,SNR=10.0						
MJAR				LR	LR	11 06 53.3	
	comp=Z,59nm,18.0s,baz=200,slow=37						
YUK	**Yuzh-Kuril'sk**	**74.68**	**331**	*d* P	**P**	**10 33 20.2**	**-0.7**
YUK				*i* S	**S**	**10 42 49.8**	**-4.8**
YUK				*e*SS	**SS**	**10 47 48.2**	**+5.2**
YUK				pmax	pmax		
	comp=N,18nm,0.2s						
YUK				pmax	pmax		
	comp=E,13nm,0.2s						
YUK				pmax	pmax		
	comp=Z,19nm,0.2s						
PKM	**Peak Mountain**	**76.06**	**43**	⇑P	**P**	**10 33 30.6**	**+1.2**
	baz=76						
SMMC	**Simmler**	**76.20**	**43**	⇓P	**P**	**10 33 31.4**	**+1.4**
	baz=76						
SAO	**San Andreas Ge**	**76.22**	**41**	*e*P	**P**	**10 33 30.6**	**+0.5**
SAO				pmax	pmax		
	comp=Z,18nm,1.3s						
SAO	**San Andreas Ge**	**76.22**	**41**	*e*P	**P**	**10 33 30.6**	**+0.5**
	comp=Z,18nm,1.3s						
ASAJ	**Asahikawa**	**76.25**	**329**	LR	LR	11 06 49.0	
	comp=Z,119nm,18.7s,baz=358,slow=36						
MURC	**Murrieta**	**76.99**	**46**	⇓P	**P**	**10 33 35.4**	**+0.9**
	baz=77						
BFSC	**Mount Baldy Ra**	**77.06**	**45**	⇓P	**P**	**10 33 36.2**	**+1.1**
	baz=77						
MONP	**Monument Peak**	**77.09**	**47**	⇓P	**P**	**10 33 36.0**	**+0.7**
	baz=77						
VES	**Vestal, Richgr**	**77.12**	**43**	⇑P	**P**	**10 33 36.4**	**+1.3**
	baz=77						
DVTC	**Desert V Tower**	**77.17**	**47**	⇑P	**P**	**10 33 35.9**	**+0.2**
	baz=77						
EDW2	**Edwards Air Fo**	**77.23**	**44**	⇑P	**P**	**10 33 36.8**	**+0.9**
	baz=78						
RCTC	**Rector, Farmer**	**77.31**	**43**	⇑P	**P**	**10 33 37.6**	**+1.4**
	baz=78						
ISA	**Isabella**	**77.40**	**44**	*e*P	**P**	**10 33 37.3**	**+0.5**
ISA				pmax	pmax		
	comp=Z,16nm,1.5s						
ISA	**Isabella**	**77.40**	**44**	*e*P	**P**	**10 33 37.3**	**+0.5**
	comp=Z,16nm,1.5s						
ISA	**Isabella**	**77.40**	**44**	⇑P	**P**	**10 33 37.6**	**+0.8**
	baz=78,SNR=8.6						
CMB	**Columbia Colle**	**77.69**	**41**	*e*P	**P**	**10 33 38.6**	**+0.3**
CMB				pmax	pmax		
	comp=Z,12nm,1.3s						
CMB	**Columbia Colle**	**77.69**	**41**	*e*P	**P**	**10 33 38.6**	**+0.3**
	comp=Z,12nm,1.3s						
LRMC	**Laurel Mountai**	**77.79**	**44**	⇓P	**P**	**10 33 39.8**	**+0.7**
	baz=78						
OHCM	**Honcut**	**77.87**	**39**	*e*P	**P**	**10 33 39.2**	**0.0**
BELC	**Belle Mtn. Jos**	**78.03**	**46**	⇓P	**P**	**10 33 41.4**	**+0.9**
	baz=78						
PETK	**Petropavlovsk-**	**78.07**	**343**	P	**P**	**10 33 39.8**	**-0.3**
PETK	**Petropavlovsk-**	**78.07**	**343**	P	**P**	**10 33 39.8**	**-0.3**
PETK	**Petropavlovsk-**	**78.07**	**343**	P	**P**	**10 33 39.8**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=135,slow=7.1,SNR=5.5						
PETK				LR	LR	11 02 49.4	
	comp=Z,97nm,20.3s,baz=332,slow=32						
WDC	**Whiskeytown Da**	**78.08**	**38**	*e*P	**P**	**10 33 40.7**	**+0.4**
WDC				pmax	pmax		
	comp=Z,16nm,1.4s						
WDC	**Whiskeytown Da**	**78.08**	**38**	*e*P	**P**	**10 33 40.7**	**+0.4**
	comp=Z,16nm,1.4s						
CWC	**Cottonwood Cre**	**78.13**	**43**	⇑P	**P**	**10 33 42.1**	**+1.2**
	baz=78						
BC3	**Big Chuckawall**	**78.19**	**47**	⇑P	**P**	**10 33 42.3**	**+1.0**
	baz=78						
GSC	**Goldstone**	**78.26**	**45**	*e*P	**P**	**10 33 42.2**	**+0.6**
GSC				pmax	pmax		
	comp=Z,11nm,1.3s						
GSC	**Goldstone**	**78.26**	**45**	*e*P	**P**	**10 33 42.2**	**+0.6**
	comp=Z,10nm,1.3s						
GSC	**Goldstone**	**78.26**	**45**	⇑P	**P**	**10 33 42.5**	**+0.8**
	baz=78						
MPMC	**Manual Prospec**	**78.27**	**44**	⇑P	**P**	**10 33 42.3**	**+0.5**
	baz=79,SNR=13						
HEC	**Hector,Ludlow**	**78.30**	**45**	⇑P	**P**	**10 33 43.0**	**+1.2**
	baz=79						
YSS	**Yuzh-Sakhalins**	**78.32**	**331**	*e*P	**P**	**10 33 43.0**	**+1.5**
MTUM	**Tungsten Hills**	**78.38**	**42**	*e*P	**P**	**10 33 43.5**	**+1.1**
MLAC	**Mammoth Lakes**	**78.38**	**42**	⇓P	**P**	**10 33 43.6**	**+1.1**
	baz=79						
TIN	**Tinemaha**	**78.41**	**43**	⇑P	**P**	**10 33 43.7**	**+1.2**
	baz=79						
WAKR	**Walker**	**78.56**	**41**	*e*P	**P**	**10 33 43.5**	**+0.2**
IRM	**Iron Mountain**	**78.69**	**46**	⇓P	**P**	**10 33 44.7**	**+0.7**
	baz=79						
GMRC	**Granite Mounta**	**78.71**	**46**	⇑P	**P**	**10 33 44.8**	**+0.6**
	baz=79						
YBH	**Yreka Blue Hor**	**78.75**	**37**	*e*P	**P**	**10 33 44.5**	**+0.3**
	comp=Z,5.8nm,1.0s						
Y12C	**Blythe**	**78.88**	**47**	⇑P	**P**	**10 33 46.0**	**+1.1**
	baz=79						
GRAC	**Grapevine Rang**	**78.92**	**43**	⇑P	**P**	**10 33 46.0**	**+0.8**
	baz=79,SNR=7.5						
HUMO	**Hull Mountain**	**79.20**	**36**	*e*P	**P**	**10 33 46.8**	**+0.3**
	comp=Z,107nm,2.7s						
NVAR	**Mina Array Bea**	**79.21**	**41**	P	**P**	**10 33 47.0**	**0.0**
NVAR	**Mina Array Bea**	**79.21**	**41**	P	**P**	**10 33 47.0**	**0.0**
	comp=Z,3.3nm,0.7s,baz=224,slow=8.8,SNR=33						
NVAR				LR	LR	11 03 00.4	
	comp=Z,183nm,18.9s,baz=121,slow=31						
NV11	**Mina Array Sit**	**79.30**	**41**	*e*P	**P**	**10 33 47.6**	**+0.2**
PAHR	**Pah Rah Range**	**79.35**	**40**	*e*P	**P**	**10 33 48.0**	**+0.4**
	comp=Z,10nm,1.2s						
NEE2	**Needles Airpor**	**79.40**	**46**	⇑P	**P**	**10 33 48.5**	**+0.7**
	baz=80						
KSRS	**Korea Array**	**79.95**	**317**	P	**P**	**10 33 51.6**	**+1.0**
	comp=Z,6.8nm,1.2s,baz=140,slow=6.1,SNR=18						
KSAR	**Wonju Array Be**	**79.97**	**317**	P	**P**	**10 33 51.6**	**+0.9**
Y14A	**Wickenburg**	**80.03**	**48**	⇑P	**P**	**10 33 52.1**	**+0.8**
	baz=80						
W13A	**Hualapai Mount**	**80.08**	**46**	⇓P	**P**	**10 33 52.5**	**+0.7**
	baz=80						
MOD	**Modoc**	**80.22**	**38**	*e*P	**P**	**10 33 52.5**	**+0.3**
	comp=Z,20nm,1.4s						
TUC	**Tucson**	**80.70**	**50**	*e*P	**P**	**10 33 55.5**	**+0.5**
TUC				pmax	pmax		
	comp=Z,37nm,1.2s						
TUC	**Tucson**	**80.70**	**50**	*e*P	**P**	**10 33 55.5**	**+0.5**
	comp=Z,37nm,1.2s						
X16A	**Lo Mia Camp, P**	**81.38**	**48**	⇑P	**P**	**10 33 59.1**	**+0.5**
	baz=82,SNR=6.5						
WVOR	**Wild Horse Val**	**81.51**	**38**	*e*P	**P**	**10 33 59.0**	**-0.1**
WVOR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
WVOR	**Wild Horse Val**	**81.51**	**38**	*e*P	**P**	**10 33 59.0**	**-0.1**
	comp=Z,8.6nm,1.1s						
USRK	**Ussuriysk Arra**	**81.73**	**324**	P	**P**	**10 34 01.3**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=142,slow=6.8,SNR=4.3						
USRK				LR	LR	11 07 04.5	
	comp=Z,270nm,20.1s,baz=292,slow=33						
320A	**Kipp Ranch, An**	**81.83**	**52**	⇑P	**P**	**10 34 01.5**	**+0.5**
	baz=82						
CCUT	**Cedar City**	**81.83**	**44**	*e*P	**P**	**10 34 02.0**	**+1.0**
	comp=Z,7.2nm,1.3s						
U15A	**North Rim**	**81.90**	**46**	⇓P	**P**	**10 34 02.2**	**+0.7**
	baz=82,SNR=6.8						
MAW	**Mawson**	**81.97**	**199**	LR	LR	11 10 05.9	
	comp=Z,178nm,19.2s,baz=18,slow=36						
WUAZ	**Wupatki**	**82.02**	**47**	⇓P	**P**	**10 34 02.9**	**+0.9**
	baz=82						
220A	**Playas Peak, P**	**82.12**	**51**	⇓P	**P**	**10 34 03.3**	**+0.7**
	baz=82						
120A	**U Bar Ranch, L**	**82.37**	**51**	⇑P	**P**	**10 34 04.7**	**+0.7**
	baz=83						
X18A	**Snowflake**	**82.47**	**49**	⇑P	**P**	**10 34 05.0**	**+0.6**
	baz=83						
LON	**Longmire**	**82.59**	**33**	*e*P	**P**	**10 34 04.6**	**0.0**
LON				pmax	pmax		
	comp=Z,10.0nm,1.4s						
LON	**Longmire**	**82.59**	**33**	*e*P	**P**	**10 34 04.6**	**0.0**
	comp=Z,10nm,1.4s						
Z20A	**Nine Sixteen R**	**82.69**	**50**	⇓P	**P**	**10 34 06.6**	**+1.0**
	baz=83						
MVU	**Marysvale**	**83.11**	**44**	*e*P	**P**	**10 34 08.4**	**+0.7**
	comp=Z,9.4nm,1.4s						
MSU	**Marysvale**	**83.14**	**44**	*e*P	**P**	**10 34 07.9**	**0.0**
MSU	**Marysvale**	**83.14**	**44**	*e*P	**P**	**10 34 07.9**	**0.0**
NJ2	**Nanjing**	**83.23**	**308**	*e*P	**P**	**10 34 09.4**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,30nm,1.0s						
Y20A	**Horse Springs,**	**83.26**	**50**	⇓P	**P**	**10 34 09.4**	**+0.8**
	baz=84,SNR=5.7						
MDJ	**Mudanjiang**	**83.33**	**323**	P	**P**	**10 34 09.2**	**+0.9**
MDJ				pP	**pP**	**10 34 18.1**	**-0.9**
MDJ				sP	**sP**	**10 34 22.4**	**-0.5**
MDJ				S	**SKSac**	**10 44 28.7**	**+0.7**
MDJ				sS	**sS**	**10 44 44.9**	**+0.5**
MDJ				SS	**SS**	**10 49 55.0**	**+2.1**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,63nm,3.7s						
MDJ				LR	LR		
	comp=N,88nm,21.5s						
MDJ				LR	LR		
	comp=E,120nm,20.4s						
MDJ				LR	LR		
	comp=Z,210nm,19.3s						
Z21A	**St. Cloud Mine**	**83.45**	**51**	⇓P	**P**	**10 34 10.2**	**+0.7**
	baz=84						
X20A	**Quemado**	**83.50**	**49**	⇑P	**P**	**10 34 10.5**	**+0.7**
	baz=84,SNR=6.9						
HAWA	**Hanford**	**83.54**	**35**	*e*P	**P**	**10 34 09.6**	**+0.1**
	comp=Z,18nm,1.3s						
DUG	**Dugway**	**83.68**	**43**	⇑P	**P**	**10 34 11.0**	**+0.5**
	baz=84						
MFID	**Camas Ranch**	**83.74**	**39**	*e*P	**P**	**10 34 10.5**	**-0.2**
	comp=Z,11nm,1.3s						
MFID	**Camas Ranch**	**83.74**	**39**	⇑P	**P**	**10 34 11.2**	**+0.5**
	baz=84						
BMO	**Blue Mountains**	**83.78**	**37**	*e*P	**P**	**10 34 10.6**	**-0.2**
BMO				pmax	pmax		
	comp=Z,16nm,1.5s						
BMO	**Blue Mountains**	**83.78**	**37**	*e*P	**P**	**10 34 10.6**	**-0.2**
	comp=Z,16nm,1.5s						
W20A	**Ramah**	**83.80**	**49**	⇓P	**P**	**10 34 11.8**	**+0.5**
	baz=84,SNR=11						
Y21A	**Point of Rocks**	**83.81**	**50**	⇑P	**P**	**10 34 12.7**	**+1.3**
	baz=84,SNR=8.1						
Z22A	**Elephant Butte**	**83.94**	**51**	⇓P	**P**	**10 34 12.6**	**+0.6**
	baz=84						
X21A	**Alamocita Cree**	**83.95**	**50**	⇑P	**P**	**10 34 12.7**	**+0.5**
	baz=84						
Q16A	**Castle Valley**	**84.02**	**44**	⇓P	**P**	**10 34 14.4**	**+2.0**
	baz=84						
324A	**Moseley Ranch,**	**84.13**	**53**	⇑P	**P**	**10 34 13.7**	**+0.7**
	baz=84						
425A	**Indio Mountain**	**84.19**	**54**	⇓P	**P**	**10 34 13.8**	**+0.5**
	baz=84						
TMUT	**Trail Mountain**	**84.20**	**44**	*e*P	**P**	**10 34 14.1**	**+0.7**
	comp=Z,39nm,1.7s						
626A	**Big Bend Ranch**	**84.25**	**55**	⇑P	**P**	**10 34 14.3**	**+0.7**
	baz=84						
Y22A	**Socorro**	**84.28**	**50**	⇑P	**P**	**10 34 13.9**	**+0.2**
	baz=84,SNR=5.3						
MNTX	**Cornudas Mount**	**84.33**	**53**	P	**P**	**10 34 14.3**	**+0.5**
	comp=Z,5.2nm,1.3s						
I12A	**Atlanta**	**84.37**	**39**	⇓P	**P**	**10 34 14.5**	**+0.5**
	baz=85						
LAZ	**Ladron**	**84.39**	**50**	*e*P	**P**	**10 34 15.8**	**+1.5**
	comp=Z,3.8nm,1.4s						
224A	**Cornudas Mount**	**84.41**	**53**	⇑P	**P**	**10 34 14.4**	**0.0**
	baz=85						
U20A	**Newcomb**	**84.44**	**48**	⇓P	**P**	**10 34 15.0**	**+0.6**
	baz=85,SNR=10						
Z23A	**Rita Site, Whi**	**84.47**	**51**	⇑P	**P**	**10 34 15.3**	**+0.6**
	baz=85						
325A	**Bean Ranch, Si**	**84.48**	**53**	⇑P	**P**	**10 34 15.0**	**+0.2**
	baz=85						
TXAR	**Lajitas Array**	**84.50**	**56**	P	**P**	**10 34 15.2**	**+0.3**
TXAR	**Lajitas Array**	**84.50**	**56**	P	**P**	**10 34 15.2**	**+0.3**
	comp=Z,1.6nm,1.0s,baz=223,slow=8.6,SNR=10						
TXAR				LR	LR	11 05 12.4	
	comp=Z,201nm,18.9s,baz=255,slow=31						
526A	**Mary Lane Ranc**	**84.52**	**55**	⇓P	**P**	**10 34 15.8**	**+0.8**
	baz=85						
X22A	**Bernardo**	**84.53**	**50**	⇓P	**P**	**10 34 15.6**	**+0.6**
	baz=85						
SRU	**San Rafael**	**84.55**	**44**	*e*P	**P**	**10 34 14.9**	**-0.1**
SRU				pmax	pmax		
	comp=Z,25nm,1.6s						
SRU	**San Rafael**	**84.55**	**44**	*e*P	**P**	**10 34 14.9**	**-0.1**
	comp=Z,25nm,1.6s						
BNM	**Barren Site**	**84.63**	**50**	*e*P	**P**	**10 34 16.6**	**+1.0**
	comp=Z,16nm,1.9s						
V21A	**Milan**	**84.75**	**48**	⇑P	**P**	**10 34 16.5**	**+0.3**
	baz=85,SNR=7.0						
124A	**Stringfield Ra**	**84.77**	**52**	⇑P	**P**	**10 34 16.8**	**+0.5**
	baz=85						
627A	**Terlingua Ranc**	**84.77**	**56**	⇓P	**P**	**10 34 16.5**	**+0.3**
	baz=85						
DAU	**Daniels Canyon**	**84.79**	**43**	*e*P	**P**	**10 34 16.0**	**-0.3**
DAU	**Daniels Canyon**	**84.79**	**43**	*e*P	**P**	**10 34 16.0**	**-0.3**
426A	**McDonald Obser**	**84.85**	**54**	⇑P	**P**	**10 34 17.0**	**+0.2**
	baz=85						
MVCO	**Mesa Verde**	**84.89**	**47**	⇓P	**P**	**10 34 17.4**	**+0.6**
	baz=85						
527A	**Woodward Ranch**	**84.92**	**55**	⇑P	**P**	**10 34 17.7**	**+0.6**
	baz=85						
Y23A	**Lovelace Mesa,**	**84.93**	**51**	⇑P	**P**	**10 34 17.2**	**+0.1**
	baz=85						
225A	**Deer Hill, Car**	**84.95**	**53**	⇑P	**P**	**10 34 17.6**	**+0.4**
	baz=85						
H12A	**Diamond D Ranc**	**84.98**	**38**	⇑P	**P**	**10 34 17.4**	**+0.4**
	baz=85						
G12A	**Big Creek, Yel**	**85.06**	**37**	⇓P	**P**	**10 34 17.7**	**+0.3**
	baz=85						
PMR	**Palmer**	**85.06**	**12**	*e*P	**P**	**10 34 18.2**	**+1.5**
PMR				pmax	pmax		
	comp=Z,36nm,1.8s						
PMR	**Palmer**	**85.06**	**12**	*e*P	**P**	**10 34 18.2**	**+1.5**
	comp=Z,36nm,1.8s						
U21A	**Nageezi**	**85.06**	**48**	⇑P	**P**	**10 34 17.9**	**+0.2**
	baz=85,SNR=13						
KLR	**Kul'dur**	**85.14**	**328**	*e*P	P	10 34 13.3	-4.1
Z24A	**Sheeppen Canyo**	**85.14**	**52**	⇑P	**P**	**10 34 18.3**	**+0.2**
	baz=85						
ANMO	**Albuquerque**	**85.15**	**50**	*e*P	**P**	**10 34 17.6**	**-0.5**
	comp=Z,16nm,1.4s						
628A	**Black Gap, Mar**	**85.17**	**56**	⇓P	**P**	**10 34 18.4**	**+0.2**
	baz=85						
326A	**Caldwell Ranch**	**85.20**	**54**	⇑P	**P**	**10 34 18.6**	**+0.3**
	baz=85						
CN2	**Changchun**	**85.21**	**321**	*e*P	**P**	**10 34 20.3**	**+2.4**
CN2				*e*pP	**pP**	**10 34 30.8**	**+2.1**
CN2				*e*S	**S**	**10 44 47.4**	**+1.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,50nm,14.0s						
CN2				LR	LR		
	comp=E,140nm,14.0s						
CN2				LR	LR		
	comp=Z,90nm,14.0s						
S20A	**Disappointment**	**85.30**	**46**	⇑P	**P**	**10 34 19.4**	**+0.5**
	baz=86						
DIV	**Divide**	**85.32**	**13**	*e*P	**P**	**10 34 18.7**	**+0.6**
	comp=Z,13nm,1.0s						
V22A	**San Miguel Ran**	**85.32**	**49**	⇑P	**P**	**10 34 19.5**	**+0.5**
	baz=86						
PV01	**Paradox Valley**	**85.32**	**46**	*e*P	**P**	**10 34 19.5**	**+0.6**
	comp=Z,473nm,1.3s						
125A	**Gardner Draw,**	**85.33**	**52**	⇑P	**P**	**10 34 19.5**	**+0.5**
	baz=86						
Y24A	**Capitan**	**85.38**	**51**	⇓P	**P**	**10 34 19.3**	**0.0**
	baz=86,SNR=11						
427A	**Hayter Ranch,**	**85.42**	**55**	⇓P	**P**	**10 34 19.6**	**+0.2**
	baz=86						
226B	**Tecolote Peak,**	**85.42**	**53**	⇓P	**P**	**10 34 19.7**	**+0.3**
	baz=86						
T21A	**Navajo Lake**	**85.43**	**47**	⇓P	**P**	**10 34 19.5**	**0.0**
	baz=86						
I14A	**Mackay**	**85.43**	**39**	⇑P	**P**	**10 34 20.5**	**+1.2**
	baz=86						
W23A	**Werner Place,**	**85.47**	**50**	⇓P	**P**	**10 34 19.9**	**+0.1**
	baz=86,SNR=5.3						
Z25A	**Roswell**	**85.59**	**52**	⇓P	**P**	**10 34 20.9**	**+0.7**
	baz=86						
U22A	**Llaves**	**85.59**	**48**	⇑P	**P**	**10 34 20.9**	**+0.6**
	baz=86						
S21A	**Coal Bank Pass**	**85.60**	**47**	⇑P	**P**	**10 34 20.7**	**+0.3**
	baz=86						
E12A	**Beaver Dam Sad**	**85.69**	**36**	⇓P	**P**	**10 34 20.9**	**+0.4**
	baz=86						
V23A	**Ortiz Mt. (NFS**	**85.74**	**49**	⇑P	**P**	**10 34 21.9**	**+0.8**
	baz=86						
M17A	**Scullys Gap (B**	**85.75**	**42**	⇑P	**P**	**10 34 21.5**	**+0.5**
	baz=86						
126A	**Clayton Basin,**	**85.80**	**53**	⇑P	**P**	**10 34 21.6**	**+0.3**
	baz=86						
P19A	**Cripple Cowboy**	**85.84**	**45**	⇑P	**P**	**10 34 22.2**	**+0.7**
	baz=86						
T22A	**Edith**	**85.88**	**48**	⇓P	**P**	**10 34 21.8**	**+0.1**
	baz=86						
428A	**Kincaid Ranch,**	**85.90**	**55**	⇑P	**P**	**10 34 21.8**	**-0.1**
	baz=86						
Y25A	**Mesa, Roswell**	**85.92**	**51**	⇑P	**P**	**10 34 21.7**	**-0.2**
	baz=86,SNR=6.8						
Q20A	**Ridgley Place,**	**85.93**	**45**	⇑P	**P**	**10 34 22.4**	**+0.5**
	baz=86						
529A	**Stev Forest Ra**	**85.98**	**56**	⇓P	**P**	**10 34 22.3**	**+0.1**
	baz=86						
NEW	**Newport**	**85.99**	**34**	⇑P	**P**	**10 34 22.0**	**+0.2**
	baz=86						
U23A	**El Rito**	**86.03**	**49**	⇑P	**P**	**10 34 22.8**	**+0.3**
	baz=86,SNR=5.3						
W24A	**Lazy 6 Ranch,**	**86.03**	**50**	⇑P	**P**	**10 34 22.5**	**0.0**
	baz=86						
PLCA	**Paso Flores**	**86.05**	**132**	LR	LR	11 03 50.0	
	com

	comp=Z,64nm,2.6s						
MCK	**McKinley**	**87.07**	**11**	*e*P	**P**	**10 34 25.6**	**-1.1**
MCK				pmax	pmax		
	comp=Z,20nm,1.0s						
MCK	**McKinley**	**87.07**	**11**	*e*P	**P**	**10 34 25.6**	**-1.1**
	comp=Z,20nm,1.0s						
PDAR	**Pinedale Array**	**87.14**	**42**	P	**P**	**10 34 27.3**	**-0.5**
PDAR	**Pinedale Array**	**87.14**	**42**	P	**P**	**10 34 27.3**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=202,slow=3.2,SNR=7.2						
PDAR				LR	LR	11 08 31.7	
	comp=Z,128nm,18.7s,baz=264,slow=32						
H16A	**Russell Place,**	**87.17**	**39**	⇑P	**P**	**10 34 28.4**	**+0.5**
	baz=88						
R23A	**Moffat**	**87.21**	**47**	⇑P	**P**	**10 34 28.7**	**+0.4**
	baz=88						
D14A	**Greenough**	**87.23**	**37**	⇓P	**P**	**10 34 28.3**	**+0.3**
	baz=88						
531A	**Rocksprings**	**87.29**	**56**	⇓P	**P**	**10 34 28.3**	**-0.4**
	baz=88,SNR=5.6						
Z28A	**Tucker Farm, M**	**87.31**	**53**	⇓P	**P**	**10 34 28.4**	**-0.3**
	baz=88						
U25A	**Circle Dot Ran**	**87.32**	**49**	⇑P	**P**	**10 34 29.1**	**+0.4**
	baz=88						
MSTX	**Muleshoe**	**87.34**	**52**	⇑P	**P**	**10 34 28.7**	**-0.1**
	baz=88						
MENT	**Mentasta**	**87.37**	**13**	*e*P	**P**	**10 34 27.6**	**-0.6**
N21A	**Black Mountain**	**87.38**	**44**	⇓P	**P**	**10 34 29.7**	**+0.6**
	baz=88						
B13A	**Whitefish**	**87.47**	**35**	⇑P	**P**	**10 34 29.6**	**+0.6**
	baz=88						
V26A	**Tequesquite Ra**	**87.47**	**50**	⇑P	**P**	**10 34 29.9**	**+0.4**
	baz=88						
BOZ	**Bozeman (W)**	**87.48**	**39**	*e*P	**P**	**10 34 29.5**	**+0.2**
BOZ				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BOZ	**Bozeman (W)**	**87.48**	**39**	*e*P	**P**	**10 34 29.5**	**+0.2**
	comp=Z,2.6nm,1.3s						
C14A	**Swan Lake**	**87.50**	**36**	⇑P	**P**	**10 34 29.9**	**+0.6**
	baz=88						
L20A	**Wamsutter**	**87.50**	**43**	⇑P	**P**	**10 34 29.9**	**+0.3**
	baz=88						
632A	**Uvalde**	**87.60**	**57**	⇑P	**P**	**10 34 30.3**	**+0.3**
	baz=88						
W27A	**Bowe Ranch, En**	**87.64**	**51**	⇑P	**P**	**10 34 30.7**	**+0.4**
	baz=88						
VNA1	**Neumayer--Stat**	**87.71**	**175**	*e*P	**P**	**10 34 31.1**	**+1.2**
532A	**Rocksprings**	**87.78**	**57**	⇑P	**P**	**10 34 29.9**	**-1.0**
	baz=88,SNR=5.4						
A13A	**Flathead Natio**	**87.83**	**35**	⇑P	**P**	**10 34 31.9**	**+1.1**
	baz=88						
B14A	**Marquette Ranc**	**88.10**	**36**	⇑P	**P**	**10 34 32.7**	**+0.6**
	baz=88						
Y29A	**Porterfield Fa**	**88.11**	**53**	⇑P	**P**	**10 34 32.9**	**+0.5**
	baz=88						
WALA	**Waterton Lakes**	**88.17**	**35**	*e*P	**P**	**10 34 33.5**	**+1.0**
	comp=Z,0.2nm,1.2s						
432A	**Menard**	**88.19**	**56**	⇓P	**P**	**10 34 32.4**	**-0.5**
	baz=88						
COLA	**College**	**88.31**	**11**	*e*P	**P**	**10 34 31.9**	**-0.6**
COLA				pmax	pmax		
	comp=Z,19nm,1.4s						
COLA	**College**	**88.31**	**11**	*e*P	**P**	**10 34 31.9**	**-0.6**
	comp=Z,19nm,1.4s						
A14A	**Double T Ranch**	**88.38**	**35**	⇑P	**P**	**10 34 34.3**	**+0.8**
	baz=89						
ILAR	**Eielson Array**	**88.39**	**11**	P	**P**	**10 34 32.6**	**-0.3**
ILAR	**Eielson Array**	**88.39**	**11**	P	**P**	**10 34 32.6**	**-0.3**
	comp=Z,2.4nm,1.1s,baz=212,slow=6.0,SNR=12						
N23A	**Red Feather La**	**88.48**	**45**	⇑P	**P**	**10 34 35.1**	**+0.8**
	baz=89						
S26A	**Kim**	**88.56**	**49**	⇓P	**P**	**10 34 33.9**	**-0.7**
	baz=89						
C16A	**Fuhringer Ranc**	**88.62**	**37**	⇑P	**P**	**10 34 34.7**	**+0.1**
	baz=89						
L22A	**Ellis Ranch, M**	**88.73**	**44**	⇑P	**P**	**10 34 36.0**	**+0.7**
	baz=89						
232A	**Coleman**	**88.75**	**55**	⇑P	**P**	**10 34 35.4**	**-0.1**
	baz=89						
A15A	**Johnson Ranch,**	**88.75**	**35**	⇓P	**P**	**10 34 36.1**	**+1.0**
	baz=89						
J21A	**Lysite**	**88.76**	**42**	⇑P	**P**	**10 34 35.8**	**+0.4**
	baz=89						
D17A	**Six Diamond Ra**	**88.86**	**38**	⇓P	**P**	**10 34 36.5**	**+0.7**
	baz=89						
R26A	**Arlington**	**88.90**	**48**	⇓P	**P**	**10 34 36.6**	**+0.5**
	baz=89						
E18A	**Harlowton**	**88.98**	**38**	⇑P	**P**	**10 34 37.7**	**+1.3**
	baz=89						
C17A	**Wharram Farm,**	**89.08**	**37**	⇓P	**P**	**10 34 37.7**	**+0.9**
	baz=89						
F19A	**Roth Farm, Mol**	**89.17**	**39**	⇓P	**P**	**10 34 37.9**	**+0.7**
	baz=90						
A16A	**West Butte Ran**	**89.35**	**36**	⇑P	**P**	**10 34 38.2**	**+0.2**
	baz=90						
J22A	**Midwest**	**89.40**	**42**	⇑P	**P**	**10 34 38.6**	**+0.1**
	baz=90						
Z32A	**Haskell**	**89.50**	**54**	⇑P	**P**	**10 34 39.3**	**+0.4**
	baz=90						
EGAK	**Eagle**	**89.54**	**13**	*e*P	**P**	**10 34 38.3**	**0.0**
	comp=Z,4.5nm,0.8s						
K23A	**Bowen Ranch, D**	**89.61**	**43**	⇑P	**P**	**10 34 40.4**	**+1.0**
	baz=90						
D19A	**Cripps Ranch,**	**89.90**	**38**	⇑P	**P**	**10 34 41.3**	**+0.8**
	baz=90						
R28A	**Tribune**	**90.06**	**49**	⇓P	**P**	**10 34 41.6**	**+0.1**
	baz=90						
C19A	**Slack Wire Ran**	**90.11**	**38**	⇓P	**P**	**10 34 42.4**	**+0.9**
	baz=90						
GYA	**Guiyang**	**90.22**	**298**	*e*P	**P**	**10 34 43.6**	**+1.0**
GYA				pP	**pP**	**10 34 55.8**	**+2.4**
GYA				sP	**sP**	**10 34 59.6**	**+2.3**
GYA				PP	**PP**	**10 38 19.7**	**+2.7**
GYA				SKS	**SKSac**	**10 45 09.0**	**-2.7**
GYA				sS	**sS**	**10 45 51.0**	**-1.5**
GYA				SS	**SS**	**10 51 37.5**	**+2.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.0s						
GYA				LR	LR		
	comp=N,450nm,20.0s						
GYA				LR	LR		
	comp=E,380nm,21.5s						
GYA				LR	LR		
	comp=Z,410nm,20.2s						
BILL	**Bilibino**	**90.29**	**353**	⇓*e*P	**P**	**10 34 41.8**	**0.0**
BILL				*e*		10 38 12.4	
BILL				pmax	pmax		
	comp=Z,34nm,1.7s						
A18A	**Metzger Ranch,**	**90.30**	**36**	⇓P	**P**	**10 34 42.8**	**+0.5**
	baz=91						
V31A	**Spring Creek L**	**90.31**	**52**	⇓P	**P**	**10 34 43.5**	**+0.8**
	baz=90						
B19A	**Brinkman Farms**	**90.55**	**37**	⇓P	**P**	**10 34 44.1**	**+0.6**
	baz=91						
A19A	**Klindworth Far**	**90.92**	**37**	⇓P	**P**	**10 34 45.7**	**+0.4**
	baz=91						
B20A	**Solberg Farm,**	**91.07**	**38**	⇓P	**P**	**10 34 47.1**	**+1.2**
	baz=91						
R30A	**Dighton**	**91.11**	**49**	⇓P	**P**	**10 34 47.1**	**+0.7**
	baz=91						
F23A	**Volborg**	**91.22**	**41**	⇑P	**P**	**10 34 48.0**	**+1.3**
	baz=92						
H24A	**Dirks Ranch, A**	**91.27**	**42**	⇓P	**P**	**10 34 47.5**	**+0.5**
	baz=92						
A20A	**Cobblestone Ra**	**91.35**	**37**	⇑P	**P**	**10 34 47.8**	**+0.6**
	baz=92						
I25A	**Rochford**	**91.43**	**43**	⇓P	**P**	**10 34 49.0**	**+1.0**
	baz=92						
D22A	**Cohagen**	**91.47**	**39**	⇓P	**P**	**10 34 49.4**	**+1.6**
	baz=92						
XAN	**Xi'an**	**91.54**	**306**	P	**P**	**10 34 49.1**	**+0.6**
XAN				pmax	pmax		
	comp=Z,2.0nm,1.6s						
B22A	**Reddig Ranch S**	**92.16**	**38**	⇑P	**P**	**10 34 52.1**	**+1.1**
	baz=92						
C23A	**Lambert**	**92.38**	**39**	⇑P	**P**	**10 34 53.4**	**+1.4**
	baz=93						
D24A	**Glendive**	**92.55**	**40**	⇑P	**P**	**10 34 53.8**	**+0.9**
	baz=93						
HHC	**Hu-ho-hao-te**	**92.55**	**313**	*e*P	**P**	**10 34 53.5**	**+0.4**
HHC				pP	**pP**	**10 35 04.4**	**+0.5**
HHC				sP	**sP**	**10 35 08.1**	**+0.4**
HHC				PP	**PP**	**10 38 36.6**	**+1.5**
HHC				SKS	**SKSac**	**10 45 22.7**	**-1.5**
HHC				S	**S**	**10 45 53.2**	**-1.9**
HHC				SS	**SS**	**10 52 06.6**	**-1.4**
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,150nm,4.4s						
HHC				LR	LR		
	comp=N,89nm,11.9s						
HHC				LR	LR		
	comp=E,120nm,13.1s						
HHC				LR	LR		
	comp=Z,170nm,13.1s						
C24A	**Savage**	**92.70**	**40**	⇑P	**P**	**10 34 54.8**	**+1.3**
	baz=93						
J28A	**Allard Ranch,**	**92.76**	**44**	⇓P	**P**	**10 34 55.0**	**+1.1**
	baz=93						
B23A	**Brockton**	**92.82**	**39**	⇑P	**P**	**10 34 55.3**	**+1.2**
	baz=93						
KMI	**Kunming**	**92.97**	**296**	P	**P**	**10 34 55.7**	**+0.2**
KMI				pP	**pP**	**10 35 07.7**	**+1.4**
KMI				sP	**sP**	**10 35 11.4**	**+1.2**
KMI				S	**S**	**10 46 00.1**	**+0.4**
KMI				SS	**SS**	**10 52 17.1**	**+2.4**
KMI				pmax	pmax		
	comp=Z,14nm,1.5s						
KMI				pmax	pmax		
	comp=Z,80nm,3.4s						
KMI				LR	LR		
	comp=N,68nm,14.6s						
KMI				LR	LR		
	comp=E,160nm,15.6s						
KMI				LR	LR		
	comp=Z,130nm,18.8s						
I28A	**Midland**	**93.06**	**44**	⇓P	**P**	**10 34 56.4**	**+1.2**
	baz=93						
K29A	**Lazy Trails An**	**93.06**	**45**	⇓P	**P**	**10 34 56.3**	**+1.0**
	baz=93						
G27A	**Dupree**	**93.20**	**42**	⇑P	**P**	**10 34 56.9**	**+1.0**
	baz=94						
DGMT	**Dagmar**	**93.28**	**39**	*e*P	**P**	**10 34 56.4**	**+0.3**
	comp=Z,9.0nm,0.9s						
DGMT	**Dagmar**	**93.28**	**39**	⇓P	**P**	**10 34 57.3**	**+1.1**
	baz=94						
A24A	**Westby**	**93.61**	**38**	⇓P	**P**	**10 34 58.5**	**+0.9**
	baz=94						
CMAR	**Chiang Mai Arr**	**93.81**	**288**	P	**P**	**10 35 00.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**93.81**	**288**	P	**P**	**10 35 00.5**	**+1.2**
	comp=Z,2.2nm,0.7s,baz=112,slow=2.9,SNR=16						
CMAR				LR	LR	11 14 59.6	
	comp=Z,40nm,19.9s,baz=190,slow=34						
CD2	**Chengdu**	**94.31**	**301**	P	**P**	**10 35 00.9**	**-0.4**
CD2				pP	**pP**	**10 35 12.0**	**-0.1**
CD2				sP	**sP**	**10 35 16.1**	**+0.1**
CD2				PP	**PP**	**10 38 50.3**	**+1.4**
CD2				SKS	**SKSac**	**10 45 31.5**	**-2.7**
CD2				S	**S**	**10 46 06.0**	**-4.9**
CD2				sS	**sS**	**10 46 24.6**	**-4.2**
CD2				SS	**SS**	**10 52 30.7**	**-2.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.2s						
YKA	**Yellowknife Ar**	**95.80**	**24**	P	**P**	**10 35 06.5**	**-0.7**
YKA	**Yellowknife Ar**	**95.80**	**24**	P	**P**	**10 35 06.5**	**-0.7**
	comp=Z,0.9nm,1.0s,baz=229,slow=4.1,SNR=6.7						
ECSD	**EROS Data Cent**	**95.93**	**45**	*e*P	**P**	**10 35 08.2**	**-0.2**
	comp=Z,12nm,1.4s						
LZH	**Lanzhou**	**96.17**	**306**	*e*P	**P**	**10 35 10.7**	**+0.8**
LZH				pP	**pP**	**10 35 19.7**	**-1.0**
LZH				sP	**sP**	**10 35 24.4**	**-0.1**
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
MKAR	**Makanchi Array**	**114.42**	**313**	PKIKP	PKPdf	10 40 19.6	-1.7
MKAR	**Makanchi Array**	**114.42**	**313**	PKP	PKPdf	10 40 19.6	-1.7
MKAR	**Makanchi Array**	**114.42**	**313**	PKP	PKPdf	10 40 19.6	-1.7
	comp=Z,0.6nm,0.9s,baz=64,slow=3.4,SNR=3.5						
ARU	**Arti**	**127.94**	**326**	*i* PKIKP	**PKPdf**	**10 40 46.5**	**-0.4**
ARU						10 42 51.0	
ARU						10 47 47.4	
EKA	**Eskdalemuir Ar**	**145.40**	**9**	PKPbc	**PKPbc**	**10 41 18.6**	**-0.3**
EKA	**Eskdalemuir Ar**	**145.40**	**9**	PKPbc	**PKPbc**	**10 41 18.6**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=342,slow=4.4,SNR=4.8						
KIEV	**Kiev**	**145.46**	**334**	*e*PKIKP	**PKPdf**	**10 41 18.9**	**-0.4**
KIEV	**Kiev**	**145.46**	**334**	*e*PKPbc	**PKPdf**	**10 41 18.9**	**-0.4**
BSD	**Bornholm Skovb**	**145.61**	**351**	⇑*i*PKP2	**PKPdf**	**10 41 18.9**	**-0.5**
BSD				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BSD	**Bornholm Skovb**	**145.61**	**351**	⇑*i*P	**PKPdf**	**10 41 18.9**	**-0.5**
	comp=Z,10nm,0.9s						
STHS	**Stebnicka Huta**	**149.44**	**340**	*e*PKP2	**PKPab**	**10 41 35.9**	**+0.6**
STHS	**Stebnicka Huta**	**149.44**	**340**	*e*PKP	**PKPab**	**10 41 35.9**	**+0.6**
BUR08	**Bucovina Ar. S**	**149.48**	**334**	*e*PKPbc	**PKPbc**	**10 41 31.5**	**+0.7**
KOLS	**Kolonicke sedl**	**149.52**	**338**	*e*PKP2	**PKPbc**	**10 41 31.4**	**+0.7**
KOLS	**Kolonicke sedl**	**149.52**	**338**	*e*PKP	**PKPbc**	**10 41 31.4**	**+0.7**
CLL	**Collm**	**149.58**	**351**	*i* PKP2	**PKPbc**	**10 41 31.1**	**+0.4**
CLL				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CLL	**Collm**	**149.58**	**351**	*i* PKPbc	**PKPbc**	**10 41 31.1**	**+0.4**
CLL				*i* PKPab	**PKPab**	**10 41 35.0**	**-0.8**
	comp=Z,9.0nm,1.1s						
CLL				*i* pPKPab	**pPKPab**	**10 41 44.8**	**-1.8**
CLL				*es*PKPab	**sPKPab**	**10 41 48.0**	**-2.5**
UZH	**Uzhgorod**	**149.77**	**338**	*e*PKP2	**PKPbc**	**10 41 31.9**	**+0.6**
UPC	**Upice**	**149.82**	**347**	*e*PKP2	**PKPbc**	**10 41 30.8**	**-0.6**
UPC	**Upice**	**149.82**	**347**	⇑*e*PKP	**PKPbc**	**10 41 30.8**	**-0.6**
UPC				*e*PKPAB	**PKPab**	**10 41 35.9**	**-0.9**
UPC				*ex*	x	10 42 05.6	
BRG	**Berggiesshubel**	**149.86**	**350**	*e*PKP	**PKPbc**	**10 41 31.7**	**+0.3**
	comp=Z,9.0nm,1.4s						
BRG				*e*		10 41 36.3	
	comp=Z,10.0nm,1.2s						
BRG				*e*		10 41 41.9	
	comp=Z,5.9nm,0.9s						
BRG	**Berggiesshubel**	**149.86**	**350**	*e*PKP2	**PKPbc**	**10 41 31.7**	**+0.3**
BRG				pmax	pmax		
	comp=Z,11nm,1.4s						
DPC	**Dobruska-Polom**	**149.91**	**347**	*e*PKP2	**PKPbc**	**10 41 31.7**	**+0.1**
DPC	**Dobruska-Polom**	**149.91**	**347**	⇑*e*PKP	**PKPbc**	**10 41 31.7**	**+0.1**
DPC				*ex*	x	10 42 05.3	
BR131	**Keskin Array S**	**150.06**	**314**	*e*PKPbc	**PKPbc**	**10 41 32.8**	**+0.2**
BRTR	**Keskin Array B**	**150.06**	**314**	PKPbc	**PKPbc**	**10 41 32.7**	**+0.2**
BRTR	**Keskin Array B**	**150.06**	**314**	PKPbc	**PKPbc**	**10 41 32.7**	**+0.2**
	comp=Z,3.7nm,1.0s,baz=129,slow=3.3,SNR=13						
PVCC	**Panska Ves**	**150.09**	**349**	*e*PKP2	**PKPbc**	**10 41 32.8**	**+0.8**
PVCC	**Panska Ves**	**150.09**	**349**	⇑*e*PKP	**PKPbc**	**10 41 32.8**	**+0.8**
MORC	**Moravsky Berou**	**150.16**	**345**	*e*PKIKP	**PKPdf**	**10 41 25.9**	**-1.3**
MORC				*e*		10 41 31.5	
MORC	**Moravsky Berou**	**150.16**	**345**	*e*PKPdf	**PKPdf**	**10 41 25.9**	**-1.3**
MORC				*e*PKPbc	**PKPbc**	**10 41 31.5**	**-0.8**
VRI	**Vrincioaia**	**150.18**	**330**	⇓PKIKP	**PKPbc**	**10 41 34.9**	**+2.5**
VRI	**Vrincioaia**	**150.18**	**330**	⇓*i*P	**PKPbc**	**10 41 34.9**	**+2.5**
PLOR	**Plostina**	**150.23**	**330**	⇓PKIKP	**PKPbc**	**10 41 33.9**	**+1.3**
PLOR	**Plostina**	**150.23**	**330**	⇓*i*P	**PKPbc**	**10 41 33.9**	**+1.3**
PRA	**Prague**	**150.55**	**349**	⇑PKP	**PKPbc**	**10 41 34.0**	**+0.9**
PRU	**Pruhonice**	**150.61**	**349**	*e*PKIKP	**PKPbc**	**10 41 33.5**	**+0.2**
PRU				*e*		10 41 37.9	
PRU	**Pruhonice**	**150.61**	**349**	⇑*e*PKP	**PKPbc**	**10 41 33.5**	**+0.2**
PRU				*e*PKPAB	**PKPab**	**10 41 37.9**	**-2.1**
PRU				*ex*	x	10 42 25.6	
MLR	**Muntele Rosu**	**150.83**	**330**	PKPbc	**PKPbc**	**10 41 32.9**	**-1.2**
MLR	**Muntele Rosu**	**150.83**	**330**	⇓*i*P	**PKPbc**	**10 41 34.2**	**+0.1**
MLR	**Muntele Rosu**	**150.83**	**330**	PKPbc	**PKPbc**	**10 41 32.9**	**-1.2**
	comp=Z,0.9nm,1.0s,baz=316,slow=4.2,SNR=5.7						
VYHS	**Vyhne**	**150.99**	**342**	*e*PKP	**PKPbc**	**10 41 35.0**	**+0.8**
PSZ	**Piszkesteto**	**151.19**	**340**	*e*PKIKP	**PKPbc**	**10 41 35.5**	**+0.7**
PSZ	**Piszkesteto**	**151.19**	**340**	*e*PKPbc	**PKPbc**	**10 41 35.5**	**+0.7**
VOIR		**151.28**	**331**	⇑PKIKP	**PKPbc**	**10 41 35.8**	**+0.7**
VOIR		**151.28**	**331**	⇑*i*P	**PKPbc**	**10 41 35.8**	**+0.7**
ARR	**Arges**	**151.51**	**332**	⇓*i*P	**PKPbc**	**10 41 36.7**	**+1.1**
KHC	**Kasperske Hory**	**151.61**	**349**	*e*PKIKP	**PKPbc**	**10 41 35.8**	**+0.1**
KHC				*e*		10 41 43.6	
KHC	**Kasperske Hory**	**151.61**	**349**	⇑*e*PKP	**PKPbc**	**10 41 35.7**	**+0.1**
KHC				*e*PKPAB	**PKPab**	**10 41 43.5**	**-0.7**
KHC	**Kasperske Hory**	**151.61**	**349**	*e*PKPbc	**PKPbc**	**10 41 35.8**	**+0.1**
KHC				*e*PKPab	**PKPab**	**10 41 43.6**	**-0.7**
GERES	**GERESS Array B**	**151.86**	**349**	PKPbc	**PKPbc**	**10 41 35.9**	**-0.4**
GERES	**GERESS Array B**	**151.86**	**349**	PKPbc	**PKPbc**	**10 41 35.9**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=357,slow=5.9,SNR=4.9						
BFO	**Black Forest**	**153.01**	**356**	*e*PKPab	**PKPab**	**10 41 50.3**	**+0.2**
TORD	**Torodi Ar. Bea**	**170.92**	**153**	PKP	**PKPdf**	**10 41 49.3**	**-1.2**
TORD				PKPab	**PKPab**	**10 43 08.9**	**0.0**
TORD	**Torodi Ar. Bea**	**170.92**	**153**	PKP	**PKPdf**	**10 41 49.3**	**-1.2**
	comp=Z,0.9nm,1.0s,baz=310,slow=1.1,SNR=3.8						
TORD				PKPab	**PKPab**	**10 43 08.9**	**0.0**
	comp=Z,0.9nm,0.9s,baz=223,slow=6.1,SNR=3.5						

*CSEM **04** 10:26:30.5, 67.59N×30.51E, h0km, ML1.5, Mining explosion. After HEL*

HEL 04 10:26:30.5±0.8, 67.59N×30.51E, h0km, ML1.5, Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRF	**Varrio**	**0.38**	**295**	SG	Sg	10 26 41.9	-0.8
VRF	**Varrio**	**0.38**	**295**	Sg	Sg	10 26 41.8	-0.9
SGF	**Sodankyl**	**1.54**	**266**	SG	Sn	10 27 19.2	-0.6
SGF				MSG		10 27 19.2	
	comp=Z,5.6nm,0.4s						
SGF	**Sodankyl**	**1.54**	**266**	Sg	Sn	10 27 19.2	-0.6
KU6	**Riekki**	**1.59**	**189**	SG	Sn	10 27 18.4	-2.7
KU6				MSG		10 27 18.4	
	comp=Z,2.5nm,0.4s						
KU6	**Riekki**	**1.59**	**189**	Sg	Sn	10 27 18.4	-2.7
MSF	**Maaselka**	**1.78**	**200**	SG	Sn	10 27 24.4	-1.5
MSF				MSG		10 27 24.4	
	comp=Z,1.0nm,0.4s						
MSF	**Maaselka**	**1.78**	**200**	Sg	Sn	10 27 24.4	-1.5
RNF	**Rovaniemi**	**2.02**	**243**	SG	Sn	10 27 32.3	+0.8
RNF				MSG		10 27 32.3	
	comp=Z,3.9nm,0.2s						
RNF	**Rovaniemi**	**2.02**	**243**	Sg	Sn	10 27 32.3	+0.8
ARA0	**ARCESS Array S**	**2.68**	**319**	PN	Pn	10 27 17.0	+2.1
	baz=137						
ARA0	**ARCESS Array S**	**2.68**	**319**	Pn	Pn	10 27 17.0	+2.1
OUL	**Oulu**	**3.13**	**219**	SG	Sb	10 28 05.5	0.0
OUL				MSG		10 28 05.5	
	comp=Z,0.8nm,0.2s						
OUL	**Oulu**	**3.13**	**219**	Sg	Sb	10 28 05.4	-0.1

*CSEM **04** 10:27:05.9, 67.73N×30.92E, h0km, ML1.6, Mining explosion. After HEL*

HEL 04 10:27:05.9±0.4, 67.73N×30.92E, h0km, ML1.6, Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRF	**Varrio**	**0.50**	**273**	*e*S	Sg	10 27 20.9	-1.1
VRF	**Varrio**	**0.50**	**273**	S	Sg	10 27 20.9	-1.1
MSF	**Maaselka**	**1.97**	**203**	*e*SG	Sb	10 28 06.8	-0.9
MSF				MSG		10 28 06.8	
	comp=Z,1.1nm,0.1s						
MSF	**Maaselka**	**1.97**	**203**	Sg	Sb	10 28 06.8	-0.9
RNF	**Rovaniemi**	**2.22**	**242**	*e*SB	Sn	10 28 12.9	+1.0
RNF				MSG		10 28 12.9	
	comp=Z,4.3nm,0.2s						
RNF	**Rovaniemi**	**2.22**	**242**	Sb	Sn	10 28 12.9	+1.0
KEV	**Kevo**	**2.49**	**327**	*e*P	Pn	10 27 47.1	-0.5
KEV				MSG		10 28 26.7	
	comp=Z,6.4nm,0.2s						
KEV				*e*		10 28 26.7	
KEV	**Kevo**	**2.49**	**327**	P	Pn	10 27 47.1	-0.5
ARA0	**ARCESS Array S**	**2.69**	**315**	*e*P	Pn	10 27 51.0	+0.6
ARA0				*e*SB	Sb	10 28 29.0	+0.6
ARA0				MSG	Sg	10 28 29.0	-3.3
	comp=Z,1.5nm,0.2s						
ARA0				*e*SG	Sg	10 28 29.0	-3.3
ARA0	**ARCESS Array S**	**2.69**	**315**	P	Pn	10 27 51.0	+0.6
ARA0				Sg	Sb	10 28 29.0	+0.6
HEF	**Hetta**	**2.81**	**287**	*e*P	Pn	10 27 51.5	-0.6
HEF				*e*SB	Sb	10 28 32.3	+0.5
HEF				*e*SG	Sb	10 28 32.3	+0.5
HEF				MSG		10 28 32.3	
	comp=Z,2.6nm,0.2s						
HEF	**Hetta**	**2.81**	**287**	P	Pn	10 27 51.4	-0.6
HEF				Sg	Sb	10 28 32.3	+0.5
OUL	**Oulu**	**3.33**	**220**	*e*SB	Sb	10 28 44.9	-1.9
OUL				MSG		10 28 44.9	
	comp=Z,0.5nm,0.2s						
OUL	**Oulu**	**3.33**	**220**	Sb	Sb	10 28 44.8	-2.0

MAN 04 10:32:06, 12.20N×125.15E, h48km, mb3.7, ML2.5, MS2.0, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.57**	**303**	*e*P	Pn	10 32 20.4	+2.4
CNP				*e*S	Sn	10 32 30.6	+4.1
PLP	**Palo**	**1.04**	**189**	⇓*e*P	Pn	10 32 24.9	+0.6
PLP				*e*S	Sn	10 32 36.8	-0.9
OCLP	**Ormoc**	**1.25**	**205**	*e*P	Pn	10 32 28.9	+1.7

MAN 04 10:53:29, 13.67N×120.58E, h98km, mb3.9, ML2.6, MS2.2, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.40**	**115**	*e*P	Pn	10 53 46.0	+2.0
SJMP	**San Jose**	**1.31**	**156**	*e*P	Pn	10 53 54.4	+1.5
SJMP				*e*S	Sn	10 54 06.1	-4.9
BUSP	**Coron**	**1.70**	**193**	*e*P	Pn	10 53 58.8	+1.1
OTRP

WNVZ	**Wahianoa**	**1.52**	**193**	PN	Pn	11 32 27.9	+0.2
MOVZ	**Moawhango**	**1.58**	**188**	PN	Pn	11 32 27.8	-0.4
BHHZ	**Black Hill Sta**	**1.65**	**179**	PN	Pn	11 32 28.3	-0.6
MCHZ	**McNeill Hill**	**1.69**	**162**	PN	Pn	11 32 29.6	+0.4
KNZ	**Kokohu**	**1.75**	**133**	PN	Pn	11 32 29.3	-0.6
CNGZ	**Carnagh Statio**	**1.84**	**111**	PN	Pn	11 32 31.2	+0.4
MHGZ	**Mahia Peninsul**	**1.98**	**132**	PN	Pn	11 32 31.7	-0.6
PNHZ	**Pukenui**	**2.08**	**176**	PN	Pn	11 32 32.4	-1.1
TSZ	**Takapari Road**	**2.22**	**181**	PN	Pn	11 32 33.8	-1.4
TSZ				SN	Sn	11 33 02.8	-2.3
PXZ	**Pawanui**	**2.29**	**164**	PN	Pn	11 32 34.6	-1.2
DVHZ	**Dannevirke**	**2.46**	**177**	PN	Pn	11 32 36.1	-1.9
PRHZ	**Porangahau**	**2.47**	**169**	PN	Pn	11 32 36.6	-1.4
POWZ	**Post Office Ro**	**2.56**	**184**	PN	Pn	11 32 37.1	-1.9
ANWZ	**Angora Road**	**2.64**	**173**	PN	Pn	11 32 38.3	-1.7
MRZ	**Mangatainoka R**	**2.84**	**187**	PN	Pn	11 32 39.9	-2.5
MRZ				AML	AML	11 33 16.3	
MRZ				AML	AML	11 33 16.8	
BFZ	**Birch Farm**	**2.84**	**177**	PN	Pn	11 32 40.4	-2.2
BFZ				AML	AML	11 33 51.9	
OGWZ	**Otaki Gorge**	**3.05**	**192**	PN	Pn	11 32 42.5	-2.5
HOWZ	**Holdsworth Sta**	**3.08**	**187**	PN	Pn	11 32 42.4	-3.1
KIW	**Kapiti Island**	**3.14**	**196**	PN	Pn	11 32 43.2	-3.0
MTW	**Mount Morrison**	**3.34**	**187**	PN	Pn	11 32 45.2	-3.5
CAW	**Cannon Point**	**3.35**	**192**	PN	Pn	11 32 45.7	-3.1
TRWZ	**Traveller**	**3.56**	**184**	PN	Pn	11 32 48.3	-3.2
TCW	**Tory Channel**	**3.63**	**201**	AML	AML	11 33 33.9	
TUWZ	**Tuamarina**	**3.93**	**203**	AML	AML	11 32 56.5	
KHZ	**Kahutara**	**4.95**	**202**	AML	AML	11 33 48.7	

*IDC **04** 11:32:59.5±0.7, 81°.41N×120°.04E, h0km, mb3.8/18, mb1 4.0/19, mb1mx3.9/34, mbtmp3.8/19, ML3.8/1, MS3.2/12, Ms1 3.2/12, ms1mx2.9/41, Error ellipse: s-maj=22.9km s-min=12.0km az=155.0*

*MOS **04** 11:32:59.2±1.1, 81°.39N×119°.92E, h10km, mb4.3/18, Error ellipse: s-maj=57.1km s-min=11.3km az=86.9*

*ISCJB **04** 11:33:00.4±0.3, 81°.45N±0°.06×119°.7E±0°.3, h16km, mb4.1/40, MS3.2/12, Error ellipse: s-maj=8.8km s-min=5.4km az=165.7*

*NEIC **04** 11:33:01.3±0.3, 81°.40N×119°.97E, h10km, mb4.3/21, Error ellipse: s-maj=10.0km s-min=5.0km az=159.0*

ISC 04 11:33:02.0±0.5,**81°.51N**±0°.09×**120°.28E**±0°.06,**h16**km,**n86,** σ1**847/86**,**mb4.2**/40,**MS3.2**/12,**2C-3D**,**East of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**16.01**	**318**	*ce*P		**P**		**11 36 52.3**	**+2.8**
KBS					pmax	pmax			
	comp=Z,18nm,1.2s								
KBS	**Kingsbay**	**16.01**	**318**	*e*P		**P**		**11 36 49.7**	**+0.2**
	comp=Z,14nm,0.8s								
SPITS	**Spitsbergen Ar**	**16.20**	**314**	Pn		**Pn**		**11 36 46.6**	**-1.9**
SPITS	**Spitsbergen Ar**	**16.20**	**314**	Pn		**Pn**		**11 36 46.6**	**-1.9**
	baz=50,slow=16,SNR=4.5								
BILL	**Bilibino**	**17.23**	**114**	↓*i*P		**P**		**11 37 02.8**	**-0.2**
BILL				*e*S		**Sn**		**11 40 14.4**	**+1.9**
BILL					pmax	pmax			
	comp=Z,16nm,1.2s								
BILL					MLR	MLR			
	comp=Z,100nm,23.0s								
YAK	**Yakutsk**	**19.74**	**167**	↓*e*P		**P**		**11 37 29.3**	**-1.2**
ARCES	**ARCESS Array B**	**22.87**	**296**	P		**P**		**11 38 03.1**	**-1.1**
ARCES	**ARCESS Array B**	**22.87**	**296**	P		**P**		**11 38 03.1**	**-1.1**
	comp=Z,12nm,1.0s,baz=27,slow=11,SNR=7.1								
ARCES					LR	LR		11 46 31.4	
	comp=Z,70nm,21.9s,baz=84,slow=36								
COLD	**Coldfoot**	**24.30**	**71**	*e*P		**P**		**11 38 18.4**	**+0.3**
	comp=Z,9.8nm,1.0s								
JMIC	**Jan Mayen**	**25.34**	**323**	LR		LR		11 45 34.2	
	comp=Z,54nm,20.6s,baz=253,slow=30								
INK	**Inuvik**	**25.50**	**56**	P		**P**		**11 38 31.2**	**+2.3**
INK	**Inuvik**	**25.50**	**56**	P		**P**		**11 38 31.2**	**+2.3**
	comp=Z,1.5nm,0.5s,baz=333,slow=6.6,SNR=4.4								
INK					LR	LR		11 48 43.6	
	comp=Z,71nm,20.6s,baz=24,slow=37								
TMCR	**Tamitsa**	**26.14**	**280**	↓*e*P		**P**		**11 38 36.3**	**+1.5**
TMCR				*e*S		**S**		**11 43 06.9**	**+1.6**
TMCR					pmax	pmax			
	comp=Z,10.0nm,0.4s								
COLA	**College**	**26.85**	**71**	*e*P		**P**		**11 38 42.5**	**+1.3**
COLA					pmax	pmax			
	comp=Z,4.0nm,0.8s								
COLA	**College**	**26.85**	**71**	*e*P		**P**		**11 38 42.5**	**+1.3**
	comp=Z,4.3nm,0.8s								
ILAR	**Eielson Array**	**27.09**	**70**	P		**P**		**11 38 44.4**	**+1.0**
ILAR	**Eielson Array**	**27.09**	**70**	P		**P**		**11 38 44.4**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=340,slow=8.9,SNR=33								
ILAR					LR	LR		11 48 43.5	
	comp=Z,81nm,19.6s,baz=324,slow=35								
EGAK	**Eagle**	**27.87**	**65**	*e*P		**P**		**11 38 51.4**	**+1.1**
	comp=Z,7.2nm,1.3s								
PAX	**Paxson**	**29.00**	**70**	*e*P		**P**		**11 39 00.9**	**+0.4**
PAX					pmax	pmax			
	comp=Z,7.0nm,1.0s								
PAX	**Paxson**	**29.00**	**70**	*e*P		**P**		**11 39 00.9**	**+0.4**
	comp=Z,7.1nm,1.0s								
ZALV	**Zalesovo Beam**	**29.63**	**224**	P		**P**		**11 39 04.8**	**-1.2**
ZALV					pmax	pmax			
	comp=Z,2.0nm,0.6s								
ZALV					MLR	MLR			
	comp=Z,84nm,20.5s								
ZALV	**Zalesovo Beam**	**29.63**	**224**	P		**P**		**11 39 04.8**	**-1.2**
ZALV				PP		PnPn		11 39 45.9	-15
ZALV	**Zalesovo Beam**	**29.63**	**224**	P		**P**		**11 39 04.8**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=3.8,slow=8.7,SNR=2.5								
ZALV				PP		PnPn		11 39 45.9	-15
	comp=Z,1.5nm,0.6s,baz=7.7,slow=12,SNR=5.1								
ZALV					LR	LR		11 51 38.3	
	comp=Z,84nm,20.5s,baz=70,slow=38								
SML	**Sawmill**	**29.71**	**73**	*e*P		**P**		**11 39 06.6**	**-0.1**
SML					pmax	pmax			
	comp=Z,2.0nm,0.8s								
SML	**Sawmill**	**29.71**	**73**	*e*P		**P**		**11 39 06.6**	**-0.1**
	comp=Z,1.7nm,0.8s								
RSO	**Redoubt South**	**30.36**	**78**	*e*P		**P**		**11 39 14.1**	**+1.5**
PETK	**Petropavlovsk-**	**30.67**	**134**	LR		LR		11 53 20.7	
	comp=Z,18nm,18.3s,baz=104,slow=40								
BRVK	**Borovoye**	**32.21**	**240**	*ce*P		**P**		**11 39 29.4**	**+0.7**
BRVK					pmax	pmax			
	comp=Z,2.0nm,1.0s								
BRVK	**Borovoye**	**32.21**	**240**	*e*P		**P**		**11 39 28.8**	**0.0**
	comp=Z,6.0nm,0.8s								
BVAR	**Borovoye Array**	**32.23**	**240**	P		**P**		**11 39 27.7**	**-1.2**
BVAR					pmax	pmax			
	comp=Z,1.0nm,0.8s								
BVAR					MLR	MLR			
	comp=Z,80nm,20.1s								
BVAR	**Borovoye Array**	**32.23**	**240**	P		**P**		**11 39 27.7**	**-1.2**
BVAR	**Borovoye Array**	**32.23**	**240**	P		**P**		**11 39 27.7**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=37,slow=7.6,SNR=4.8								
BVAR					LR	LR		11 55 07.7	
	comp=Z,80nm,20.1s,baz=182,slow=41								
NOA	**NORSAR Array B**	**32.84**	**302**	P		**P**		**11 39 34.3**	**+0.1**
NOA	**NORSAR Array B**	**32.84**	**302**	P		**P**		**11 39 34.3**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=18,slow=7.5,SNR=3.0								
YKA	**Yellowknife Ar**	**33.27**	**44**	P		**P**		**11 39 37.6**	**-0.3**
YKA				PP		**PnPn**		**11 40 41.8**	**-6.2**
YKA	**Yellowknife Ar**	**33.27**	**44**	P		**P**		**11 39 37.6**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=348,slow=8.4,SNR=6.6								
YKA				PP		**PnPn**		**11 40 41.8**	**-6.2**
	comp=Z,0.6nm,0.9s,baz=333,slow=12,SNR=4.2								
YKA					LR	LR		11 53 36.0	
	comp=Z,7.1nm,18.5s,baz=10.0,slow=37								
KURK	**Kurchatov**	**33.49**	**230**	P		**P**		**11 39 39.9**	**-0.1**
KURK								11 42 19.5	
KURK	**Kurchatov**	**33.49**	**230**	P		**P**		**11 39 39.9**	**-0.1**
KURK				PcP		**PcP**		**11 42 19.5**	**-0.9**
KURBB	**Kurchatov Arra**	**33.60**	**230**	P		**P**		**11 39 39.9**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=3.0,slow=5.5,SNR=3.0								
KURBB				PcP		**PcP**		**11 42 19.5**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=352,slow=2.6,SNR=6.2								
YSS	**Yuzh-Sakhalins**	**35.46**	**153**	*e*P		P		11 40 05.0	+8.0
MK31	**Makanchi Array**	**36.97**	**225**	*e*P		**P**		**11 40 08.8**	**-1.1**
MK31	**Makanchi Array**	**36.97**	**225**	*e*P		**P**		**11 40 08.8**	**-1.1**
MKAR	**Makanchi Array**	**36.97**	**225**	P		**P**		**11 40 08.8**	**-1.2**
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.8s								
MKAR					MLR	MLR			
	comp=Z,50nm,21.2s								
MKAR	**Makanchi Array**	**36.97**	**225**	P		**P**		**11 40 08.8**	**-1.2**
MKAR	**Makanchi Array**	**36.97**	**225**	P		**P**		**11 40 08.8**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=0.6,slow=11,SNR=5.2								
MKAR					LR	LR		11 56 10.6	
	comp=Z,50nm,21.2s,baz=2.8,slow=38								
ABKAR	**Akbulak array**	**37.32**	**250**	*e*P		**P**		**11 40 12.7**	**-0.2**
	comp=Z,2.0nm,0.7s								
VSR	**Storozhevoye**	**38.44**	**272**	*e*P		P		11 40 12.0	-10
VSR					pmax	pmax			
	comp=N,10.0nm,0.5s								
VSR					pmax	pmax			
	comp=Z,8.0nm,0.5s								
VSR					pmax	pmax			
	comp=E,8.0nm,0.4s								
EKA	**Eskdalemuir Ar**	**40.11**	**312**	P		**P**		**11 40 37.1**	**+0.9**
EKA	**Eskdalemuir Ar**	**40.11**	**312**	P		**P**		**11 40 37.1**	**+0.9**
	comp=E,1.8nm,0.7s,baz=16,slow=9.5,SNR=8.6								
KKAR	**Karatay Array**	**41.96**	**237**	P		P		11 40 57.3	+5.7
KKAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
KKAR	**Karatay Array**	**41.96**	**237**	P		P		11 40 57.3	+5.7
	comp=Z,1.2nm,0.6s								
KSRS	**Korea Array**	**44.27**	**171**	LR		LR		12 02 08.3	
	comp=Z,21nm,20.0s,baz=213,slow=40								
GERES	**GERESS Array B**	**44.41**	**295**	LR		LR		12 00 43.6	
	comp=Z,51nm,18.1s,baz=202,slow=38								
MLR	**Muntele Rosu**	**45.97**	**283**	P		**P**		**11 41 24.4**	**+0.5**
MLR	**Muntele Rosu**	**45.97**	**283**	P		**P**		**11 41 24.4**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=322,slow=6.5,SNR=3.6								
NEW	**Newport**	**46.98**	**50**	P		**P**		**11 41 32.3**	**+0.7**
NEW	**Newport**	**46.98**	**50**	P		**P**		**11 41 32.3**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=347,slow=8.8,SNR=5.9								
SWMT	**Swartz Lake**	**48.08**	**48**	*e*P		**P**		**11 41 42.3**	**+2.0**
BOZ	**Bozeman (W)**	**50.17**	**46**	*e*P		**P**		**11 41 57.5**	**+1.1**
BOZ					pmax	pmax			
	comp=Z,3.0nm,1.1s								
BOZ	**Bozeman (W)**	**50.17**	**46**	*e*P		**P**		**11 41 57.5**	**+1.1**
	comp=Z,3.1nm,1.1s								
GCMT	**Greycliff**	**50.24**	**44**	*e*P		**P**		**11 41 58.1**	**+1.3**
	comp=Z,1.8nm,0.8s								
BMO	**Blue Mountains**	**50.33**	**51**	*e*P		**P**		**11 41 58.9**	**+1.4**
	comp=Z,5.5nm,1.1s								
BRTR	**Keskin Array B**	**50.49**	**274**	P		**P**		**11 41 60.0**	**+1.1**
BRTR				PP		**PP**		**11 43 54.3**	**+0.1**
BRTR	**Keskin Array B**	**50.49**	**274**	P		**P**		**11 41 60.0**	**+1.1**
	comp=Z,2.3nm,0.8s,baz=15,slow=5.6,SNR=9.9								
BRTR				PP		**PP**		**11 43 54.3**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=347,slow=5.1,SNR=4.4								
KBL	**Kabul**	**50.58**	**236**	P		**P**		**11 41 59.6**	**0.0**
KBL					pmax	pmax			
	comp=Z,6.0nm,0.9s								
KBL	**Kabul**	**50.58**	**236**	P		**P**		**11 41 59.6**	**0.0**
	comp=Z,6.3nm,0.9s								
IMW	**Indian Meadow**	**51.98**	**46**	*e*P		**P**		**11 42 10.6**	**+0.5**
	comp=Z,3.0nm,1.2s								
PDAR	**Pinedale Array**	**53.24**	**45**	P		**P**		**11 42 19.7**	**+0.3**
PDAR	**Pinedale Array**	**53.24**	**45**	P		**P**		**11 42 19.7**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=57,slow=5.5,SNR=5.5								
ESDC	**Sonseca Array**	**55.65**	**309**	P		**P**		**11 42 37.0**	**+0.3**
ESDC	**Sonseca Array**	**55.65**	**309**	P		**P**		**11 42 37.0**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=6.5,slow=8.1,SNR=6.4								
NVAR	**Mina Array Bea**	**56.55**	**53**	P		**P**		**11 42 44.2**	**+0.9**
NVAR	**Mina Array Bea**	**56.55**	**53**	P		**P**		**11 42 44.2**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=331,slow=4.8,SNR=4.0								
SRU	**San Rafael**	**56.76**	**46**	*e*P		**P**		**11 42 46.6**	**+1.8**
SRU					pmax	pmax			
	comp=Z,4.0nm,1.1s								
SRU	**San Rafael**	**56.76**	**46**	*e*P		**P**		**11 42 46.5**	**+1.8**
	comp=Z,4.1nm,1.1s								
SMCO	**Snowmass**	**57.06**	**43**	*e*P		**P**		**11 42 48.9**	**+1.7**
	comp=Z,1.1nm,1.4s								
MVU	**Marysvale**	**57.17**	**48**	*e*P		**P**		**11 42 49.2**	**+1.4**
	comp=Z,2.0nm,0.8s								
MVCO	**Mesa Verde**	**58.85**	**45**	*e*P		**P**		**11 43 01.6**	**+2.0**
	comp=Z,8.5nm,1.3s								
ANMO	**Albuquerque**	**61.30**	**43**	*e*P		**P**		**11 43 16.7**	**+0.3**
	comp=Z,3.3nm,1.1s								
WMOK	**Wichita Mounta**	**62.23**	**36**	*e*P		**P**		**11 43 22.5**	**+0.1**
WMOK					pmax	pmax			
	comp=Z,4.0nm,1.0s								
WMOK	**Wichita Mounta**	**62.23**	**36**	*e*P		**P**		**11 43 22.5**	**+0.1**
	comp=Z,4.2nm,1.0s								
MNTX	**Cornudas Mount**	**64.62**	**42**	P		**P**		**11 43 39.9**	**+1.6**
	comp=Z,2.2nm,1.0s								
TXAR	**Lajitas Array**	**67.14**	**41**	P		**P**		**11 43 54.5**	**0.0**
TXAR	**Lajitas Array**	**67.14**	**41**	P		**P**		**11 43 54.5**	**0.0**
	comp=Z,1.6nm,1.0s,baz=7.0,slow=4.2,SNR=13								
TXAR					LR	LR		12 14 00.5	
	comp=Z,38nm,20.1s,baz=190,slow=37								
TORD	**Torodi Ar. Bea**	**81.13**	**300**	P		**P**		**11 45 16.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**81.13**	**300**	P		**P**		**11 45 16.1**	**-0.1**
	comp=Z,4.4nm,0.8s,baz=360,slow=6.3,SNR=23								

*ISCJB **04** 12:08:13.7±0.5, 24°.78N±0°.03×122°.41E±0°.02, h4km±3km, mb3.5/2, Error ellipse: s-maj=4.7km s-min=2.5km az=4.0*

*TAP **04** 12:08:14.3, 24°.80N×122°.35E, h15km, ML3.6, C*

*JMA **04** 12:08:15.2±0.2, 24°.85N×122°.41E, h34km, M2.5*

*IDC **04** 12:08:16.8±6.8, 24°.12N×122°.09E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.2/24, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=314.8km s-min=42.1km az=97.0*

ISC 04 12:08:13.6±1.2,**24°.78N**±0°.03×**122°.40E**±0°.02,**h7**km±9km, **n47,** σ0**66/84**,**1C**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.53**	**251**	*i* P		**Pg**		**12 08 23.9**	**0.0**
	baz=255								
TWC					*e*S	**Sg**		**12 08 29.9**	**-0.9**
	baz=255								
ILA	**Ilan**	**0.59**	**268**	*e*P		**Pg**		**12 08 25.7**	**+0.6**
	baz=266								
ILA					*e*S	**Sb**		**12 08 33.9**	**-1.0**
	baz=266								
NWF	**Wu-fen Shan**	**0.63**	**297**	*i* P		**Pb**		**12 08 27.1**	**+0.1**
	baz=297								
NWF					*i* S	**Sb**		**12 08 35.5**	**-0.6**
	baz=297								
YOJ	**Yonaguni jima**	**0.64**	**120**	P		**Pb**		**12 08 28.0**	**+0.9**
YOJ					*e*S	**Sb**		**12 08 37.1**	**+0.8**
TWE	**Neicheng**	**0.67**	**265**	↑*i*P		**Pg**		**12 08 26.9**	**+0.4**
	baz=262								
TWE					*e*S	**Sg**		**12 08 35.8**	**+0.5**
	baz=262								
ENA	**Nanau**	**0.70**	**240**	*e*P		**Pg**		**12 08 27.1**	**+0.1**
	baz=243								
ENA					*e*S	**Sg**		**12 08 35.3**	**-0.8**
	baz=243								
TWA	**Mucha**	**0.77**	**285**	*i* P		**Pb**		**12 08 29.5**	**+0.2**
	baz=284								
TWA					*e*S	**Sb**		**12 08 39.3**	**-0.6**
	baz=284								
TAP1	**Taipei**	**0.84**	**288**	*e*P		**Pb**		**12 08 30.6**	**+0.2**
	baz=287								
TAP1					S	**Sb**		**12 08 41.7**	**-0.2**
	baz=287								
TAP	**Taipei**	**0.85**	**288**	*e*P		**Pb**		**12 08 30.5**	**-0.2**
	baz=287								
TAP					*e*S	**Sb**		**12 08 42.1**	**-0.3**
	baz=287								
TWY	**Chenhua**	**0.88**	**304**	*i* P		**Pb**		**12 08 31.1**	**-0.1**
	baz=304								
TWY					*i* S	**Sb**		**12 08 42.8**	**-0.2**
	baz=304								
PCYT	**Pengchaiyu**	**0.89**	**340**	*i* P		**Pg**		**12 08 31.1**	**+0.4**
	baz=343								
TWS1	**Kuangyinshan**	**0.95**	**290**	*e*P		**Pb**		**12 08 32.7**	**+0.4**
	baz=289								
TWS1					S	**Sb**		**12 08 44.8**	**-0.3**
	baz=289								
NNS	**Nan Shan**	**1.00**	**250**	P		**Pg**		**12 08 32.9**	**+0.1**
	baz=237								
NNS					*e*S	**Sg**		**12 08 45.7**	**0.0**
	baz=237								
TWD	**Chiawan**	**1.01**	**226**	P		**Pg**		**12 08 33.0**	**-0.1**
	baz=231								
TWD					*e*S	**Sg**		**12 08 46.1**	**-0.2**
	baz=231								
HWA	**Hwalien**	**1.08**	**222**	*e*P		**Pg**		**12 08 34.2**	**-0.2**
	baz=200								
HWA					*e*S	**Sb**		**12 08 49.4**	**+0.4**
	baz=200								
WHF	**Hehuan Shan**	**1.22**	**239**	*e*P		**Pb**		**12 08 36.9**	**-0.3**
	baz=246								
WHF					*e*S	**Sb**		**12 08 51.9**	**-1.4**
	baz=246								
TWT	**Tachien**	**1.23**	**245**	*e*P		**Pg**		**12 08 37.6**	**+0.3**
	baz=243								
TWT					*e*S	**Sn**		**12 08 54.1**	**-0.4**
	baz=243								
NSTT	**Nanjuang**	**1.28**	**263**	P		**Pn**		**12 08 37.5**	**-0.4**
	baz=262								
NSTT					S	**Sb**		**12 08 54.3**	**-0.5**
	baz=262								
IRIF	**Iriomote-Funau**	**1.29**	**110**	P		**Pn**		**12 08 37.3**	**-0.7**
IRIF					*e*S	**Sb**		**12 08 54.6**	**-0.3**
ESL	**Shilin**	**1.31**	**223**	*e*P		**Pg**		**12 08 38.6**	**-0.1**
	baz=203								
ESL					*e*S	**Sn**		**12 08 55.9**	**-0.1**
	baz=203								
HATJ	**Hateruma jima**	**1.47**	**119**	P		**Pn**		**12 08 40.5**	**0.0**
HATJ					*e*S	**Sn**		**12 08 59.1**	**-0.9**
NSY	**Sanyi**	**1.54**	**257**	*e*P		**Pg**		**12 08 43.6**	**+0.5**
	baz=254								
NSY					*e*S	**Sg**		**12 09 02.6**	**-0.4**
	baz=254								
TWQ1	**Liyutan**	**1.54**	**254**	*e*P		**Pg**		**12 08 43.4**	**+0.2**
	baz=252								
TWQ1					*e*S	**Sb**		**12 09 02.8**	**+0.4**
	baz=252								
JKRS	**Kuro-shima**	**1.56**	**110**	P		**Pn**		**12 08 41.8**	**0.0**
JKRS					*e*S	**Sn**		**12 09 01.8**	**-0.5**
EHY	**Hungye**	**1.61**	**218**	*e*P		**Pn**		**12 08 42.8**	**+0.4**
	baz=216								
EHY					*e*S	**Sb**		**12 09 04.0**	**-0.2**
	baz=216								
SMLT	**Sun Moon Lake**	**1.64**	**237**	*e*P		**Pb**		**12 08 44.0**	**-0.2**
	baz=242								
SMLT					*e*S	**Sn**		**12 09 04.4**	**+0.1**
	baz=242								
JIJ	**Ishigaki jima**	**1.64**	**104**	P		**Pn**		**12 08 42.8**	**0.0**
JIJ					*e*S	**Sn**		**12 09 04.3**	**+0.1**
TYC	**Yuchr**	**1.66**	**238**	*e*P		**Pb**		**12 08 44.5**	**0.0**
	baz=236								
TYC					*e*S	**Sb**		**12 09 05.1**	**-0.5**
	baz=236								
TCU	**Taichung**	**1.70**	**248**	*e*P		**Pg**		**12 08 45.7**	**-0.4**
	baz=246								
TWF1	**Yuli**	**1.75**	**216**	*e*P		**Pn**		**12 08 43.9**	**-0.4**
	baz=213								
TWF1					*e*S	**Sb**		**12 09 07.3**	**-0.9**
	baz=213								
WNT	**Mingjian**	**1.81**	**240**	*e*P		**Pb**		**12 08 47.4**	**+0.4**
	baz=238								
YUS	**Yu-Shan**	**1.85**	**226**	*e*P		**Pn**		**12 08 46.8**	**+0.6**
	baz=209								
YUS					*e*S	**Sn**		**12 09 09.7**	**-0.4**
	baz=209								
ALS	**Alishan**	**1.93**	**229**	*e*P		**Pn**		**12 08 48.0**	**+0.8**
	baz=211								
ALS					*e*S	**Sn**		**12 09 11.5**	**-0.3**
	baz=211								
CHN5	**Tsauling**	**1.97**	**233**	*e*P		**Pb**		**12 08 49.7**	**-0.1**
	baz=232								
CHN5					*e*S	**Sb**		**12 09 15.7**	**+1.1**
	baz=232								
WGK	**Gukeng**	**2.00**	**237**	*e*P		**Pn**		**12 08 48.9**	**+1.1**
	baz=253								
WGK					*e*S	**Sg**		**12 09 17.4**	**-0.6**
	baz=253								
CHY	**Chiayi**	**2.21**	**235**	*e*P		**Pn**		**12 08 51.4**	**+0.6**
	baz=251								
CHY					*e*S	**Sb**		**12 09 20.6**	**-1.0**
	baz=251								
WTP	**Ta-pu**	**2.24**	**227**	*e*P		**Pn**		**12 08 52.6**	**+1.5**
	baz=210								
WTP					*e*S	**Sb**		**12 09 22.0**	**-0.4**
	baz=210								
TWG	**Pinlang**	**2.30**	**212**	*e*P		**Pn**		**12 08 52.8**	**+0.8**
	baz=210								
TWK	**Hsinying**	**2.31**	**230**	*e*P		**Pn**		**12 08 53.8**	**+1.6**
	baz=212								
TWK					*e*S	**Sb**		**12 09 23.2**	**-1.3**
	baz=212								
CHN1	**Nanshi**	**2.34**	**227**	*e*P		**Pn**		**12 08 53.9**	**+1.4**
	baz=212								
CHN1					*e*S	**Sn**		**12 09 22.4**	**+0.9**
	baz=212								
SGST	**Jiashian**	**2.38**	**225**	*e*P		**Pn**		**12 08 53.9**	**+0.9**
	baz=208								
SGST					*e*S	**Sn**		**12 09 23.9**	**+1.5**
	baz=208								
CHN8	**Yiju**	**2.46**	**235**	*e*P		**Pn**		**12 08 55.2**	**+1.0**
	baz=233								
ECL	**Taimali**	**2.55**	**212**	*e

KLYT	**Kilyos**	**1.11**	**66**	*e*PN	**Pb**	**12 36 39.5**	**-0.6**
KLYT	**Kilyos**	**1.11**	**66**	*e*Pn	**Pb**	**12 36 39.5**	**-0.6**
BALB	**Balikesir**	**1.18**	**173**	*e*PN	**Pb**	**12 36 40.9**	**-0.4**
BALB	**Balikesir**	**1.18**	**173**	*e*Pn	**Pb**	**12 36 40.9**	**-0.4**
ENEZ	**Enez**	**1.18**	**267**	*e*PN	**Pb**	**12 36 40.9**	**-0.4**
ENEZ	**Enez**	**1.18**	**267**	*e*Pn	**Pb**	**12 36 40.9**	**-0.4**
ORLT	**Orhaneli**	**1.19**	**130**	*e*PN	**Pb**	**12 36 41.1**	**-0.4**
ORLT	**Orhaneli**	**1.19**	**130**	*e*Pn	**Pb**	**12 36 41.1**	**-0.4**
GEMT	**Gemlik**	**1.19**	**108**	*e*PN	**Pn**	**12 36 41.0**	**-0.4**
GEMT	**Gemlik**	**1.19**	**108**	*e*Pn	**Pn**	**12 36 41.1**	**-0.4**
ALN	**Alexandroupoli**	**1.26**	**274**	P	**Pn**	**12 36 41.9**	**-0.5**
ALN				S	**Sg**	**12 36 59.7**	**0.0**
ALN	**Alexandroupoli**	**1.26**	**274**	*e*PN	**Pn**	**12 36 42.1**	**-0.3**
ALN				*e*SN	**Sg**	**12 36 59.6**	**-0.1**
ALN	**Alexandroupoli**	**1.26**	**274**	P	**Pn**	**12 36 41.9**	**-0.5**
ALN				*e*Sn	**Sg**	**12 36 59.6**	**-0.1**
YLV	**Yalova**	**1.29**	**100**	*e*PN	**Pn**	**12 36 42.5**	**-0.5**
YLV	**Yalova**	**1.29**	**100**	*e*Pn	**Pn**	**12 36 42.5**	**-0.5**
DURS	**Dursunbey**	**1.34**	**154**	*i* P	**Pg**	**12 36 44.6**	**-0.3**
DURS				*i* S	**Sg**	**12 37 02.6**	**+0.2**
DURS	**Dursunbey**	**1.34**	**154**	*i* P	**Pg**	**12 36 44.6**	**-0.3**
DURS				*i* S	**Sg**	**12 37 02.6**	**+0.2**
EZN	**Ezine**	**1.44**	**227**	*e*PN	**Pn**	**12 36 44.6**	**-0.3**
EZN	**Ezine**	**1.44**	**227**	*e*Pn	**Pn**	**12 36 44.6**	**-0.3**
HRT	**Hereke**	**1.49**	**89**	*e*PN	**Pn**	**12 36 46.0**	**+0.3**
HRT	**Hereke**	**1.49**	**89**	*e*Pn	**Pn**	**12 36 46.0**	**+0.3**
SILT	**Sile**	**1.51**	**76**	*e*PN	**Pn**	**12 36 46.1**	**+0.2**
SILT	**Sile**	**1.51**	**76**	*e*Pn	**Pn**	**12 36 46.1**	**+0.2**
BOZC	**Bozcaada**	**1.59**	**233**	*i* P	**Pb**	**12 36 48.2**	**-0.1**
BOZC				*i* S	**Sg**	**12 37 09.7**	**-0.5**
ADVT	**Abdulvahap**	**1.59**	**103**	*e*PN	**Pn**	**12 36 47.5**	**+0.5**
ADVT	**Abdulvahap**	**1.59**	**103**	*e*Pn	**Pn**	**12 36 47.5**	**+0.5**
RDO	**Rodhopi**	**1.67**	**282**	P	**Pn**	**12 36 48.0**	**0.0**
RDO				S	**Sb**	**12 37 11.7**	**+1.0**
RDO	**Rodhopi**	**1.67**	**282**	*e*PN	**Pn**	**12 36 48.1**	**0.0**
RDO				*e*SN	**Sb**	**12 37 11.6**	**+0.9**
RDO	**Rodhopi**	**1.67**	**282**	*e*Pn	**Pn**	**12 36 48.1**	**0.0**
RDO				*e*Sn	**Sb**	**12 37 11.6**	**+0.9**
SMTH	**Samothraki Isl**	**1.69**	**259**	P	**Pn**	**12 36 47.5**	**-0.8**
SMTH				S	**Sn**	**12 37 08.3**	**-1.5**
SMTH	**Samothraki Isl**	**1.69**	**259**	*e*PB	**Pn**	**12 36 47.6**	**-0.8**
SMTH	**Samothraki Isl**	**1.69**	**259**	P	**Pn**	**12 36 47.5**	**-0.8**
SMTH				S	**Sn**	**12 37 08.3**	**-1.5**
AYVA	**Ayvalik**	**1.69**	**208**	*i* P	**Pb**	**12 36 50.2**	**+0.2**
AYVA				*i* S	**Sn**	**12 37 10.1**	**+0.2**
AYVA	**Ayvalik**	**1.69**	**208**	*i* P	**Pb**	**12 36 50.2**	**+0.2**
AYVA				*i* S	**Sn**	**12 37 10.1**	**+0.2**
CAVI	**Cavuskoy**	**1.74**	**110**	*e*PN	**Pn**	**12 36 49.6**	**+0.5**
CAVI	**Cavuskoy**	**1.74**	**110**	*e*Pn	**Pn**	**12 36 49.6**	**+0.5**
JMB	**Yambol**	**1.85**	**333**	P	**Pg**	**12 36 54.0**	**-0.6**
JMB				S	**Sg**	**12 37 19.0**	**+0.3**
JMB	**Yambol**	**1.85**	**333**	P	**Pg**	**12 36 54.0**	**-0.6**
JMB				S	**Sg**	**12 37 19.0**	**+0.3**
PRK	**Paraskevi**	**1.91**	**216**	*e*PN	**Pn**	**12 36 51.7**	**+0.3**
PRK	**Paraskevi**	**1.91**	**216**	*e*Pn	**Pn**	**12 36 51.7**	**+0.3**
TVSB	**Tavsanli**	**1.92**	**135**	*e*PN	**Pn**	**12 36 52.2**	**+0.7**
TVSB	**Tavsanli**	**1.92**	**135**	*e*Pn	**Pn**	**12 36 52.2**	**+0.7**
DEMI	**Demirci**	**1.93**	**156**	*i* P	**Pn**	**12 36 52.3**	**+0.6**
DEMI				*i* S	**Sn**	**12 37 16.4**	**+0.5**
DEMI	**Demirci**	**1.93**	**156**	*i* P	**Pn**	**12 36 52.3**	**+0.6**
DEMI				*i* S	**Sn**	**12 37 16.4**	**+0.5**
LIA	**Limnos Island**	**2.13**	**245**	*e*PB	**Pn**	**12 36 53.8**	**-0.6**
LIA	**Limnos Island**	**2.13**	**245**	*e*Pb	**Pn**	**12 36 53.8**	**-0.6**
KULA	**Kula-Manisa**	**2.41**	**162**	*e*PN	**Pn**	**12 36 59.2**	**+0.9**
KULA	**Kula-Manisa**	**2.41**	**162**	*e*Pn	**Pn**	**12 36 59.2**	**+0.9**
IZM	**Izmir**	**2.43**	**188**	*e*PN	**Pn**	**12 36 59.5**	**+0.9**
IZM	**Izmir**	**2.43**	**188**	*e*Pn	**Pn**	**12 36 59.5**	**+0.9**
ALT	**Altintas**	**2.55**	**133**	*e*PN	**Pn**	**12 37 01.3**	**+1.0**
ALT	**Altintas**	**2.55**	**133**	*e*Pn	**Pn**	**12 37 01.3**	**+1.0**
CHOS	**Chios island**	**2.73**	**208**	*e*PN	**Pn**	**12 37 03.0**	**+0.2**
CHOS	**Chios island**	**2.73**	**208**	*e*Pn	**Pn**	**12 37 03.0**	**+0.2**
TIRR	**Tirgusor**	**3.68**	**8**⇑	*i*P	**Pg**	**12 37 28.8**	**-0.8**
VTS	**Vitosha**	**3.81**	**299**⇓	*i*P	**Pn**	**12 37 18.7**	**+1.1**
VTS	**Vitosha**	**3.81**	**299**	S	**Sg**	**12 38 19.5**	**-1.8**
VTS	**Vitosha**	**3.81**	**299**⇓	*i*P	**Pn**	**12 37 18.7**	**+1.1**
VAY	**Valandovo**	**3.91**	**279**	*e*Pn	**Pb**	**12 37 30.1**	**+2.1**
CFR	**Carcaliu**	**4.38**	**4**⇓	*i*P	**Pb**	**12 37 36.1**	**+0.3**
MLR	**Muntele Rosu**	**4.85**	**345**⇑	*i*P	**Pn**	**12 37 34.0**	**+2.1**
MLR	**Muntele Rosu**	**4.85**	**345**⇑	*i*P	**Pn**	**12 37 34.0**	**+2.1**
VOIR		**5.01**	**338**⇑	*i*P	**Pn**	**12 37 34.6**	**+0.5**
VOIR		**5.01**	**338**⇑	*i*P	**Pn**	**12 37 34.6**	**+0.5**
PLOR	**Plostina**	**5.10**	**352**⇑	*i*P	Pb	12 37 42.0	-6.1
VRI	**Vrincioaia**	**5.10**	**352**⇑	*i*P	Pn	12 37 40.1	+4.8
VRI	**Vrincioaia**	**5.10**	**352**⇑	*i*P	Pn	12 37 40.1	+4.8

*ISCJB **04** 13:01:07.0±0.7, 34.°67S±0.°04×71.°01W±0.°09, h103km±5km, Error ellipse: s-maj=13.4km s-min=4.3km az=23.3*
*NEIC **04** 13:01:07.4±0.6, 34.°68S×70.°95W, h103km±6km, mb3.8/2, Error ellipse: s-maj=17.9km s-min=5.7km az=115.0*
NEIC Felt [II] at Curico, Rancagua, San Fernando and Talca.
*GUC **04** 13:01:08.4±0.5, 34.°65S×71.°05W, h88km±2km, ML4.2*

ISC 04 13:01:07.7±1.2, 34.°67S±0.°04×71.°00W±0.°07, h94km±8km, n36, σ0°61/67, 16C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CACH	**El Canelo**	**0.64**	**31**⇓	*i*P	**Pn**	**13 01 24.5**	**+0.3**
CACH				*i* S	**Sn**	**13 01 37.0**	**+0.5**
CACH	**El Canelo**	**0.64**	**31**⇓	*i*P	**Pn**	**13 01 24.5**	**+0.3**
CACH				*i* S	**Sn**	**13 01 37.0**	**+0.5**
LNV	**Longovilo**	**0.79**	**334**	*i* P	**Pn**	**13 01 25.8**	**+0.4**
LNV				*i* S	**Sn**	**13 01 38.7**	**0.0**
LNV	**Longovilo**	**0.79**	**334**	*i* P	**Pn**	**13 01 25.8**	**+0.4**
LNV				*i* S	**Sn**	**13 01 38.7**	**0.0**
CHCH	**Chadas Angostu**	**0.79**	**22**⇑	*i*P	**Pn**	**13 01 25.6**	**+0.1**
CHCH				*i* S	**Sn**	**13 01 38.8**	**0.0**
CHCH	**Chadas Angostu**	**0.79**	**22**⇑	*i*P	**Pn**	**13 01 25.6**	**+0.1**
CHCH				*i* S	**Sn**	**13 01 38.8**	**0.0**
TALC	**Talca**	**0.89**	**215**⇓	*i*P	**Pn**	**13 01 26.9**	**+0.3**
TALC				*i* S	**Sn**	**13 01 40.7**	**+0.1**
TALC	**Talca**	**0.89**	**215**⇓	*i*P	**Pn**	**13 01 26.9**	**+0.3**
TALC				*i* S	**Sn**	**13 01 40.7**	**+0.1**
TALC				AML	AML	13 01 41.8	
	comp=N,37μm,0.1s						
TACH	**Talagante**	**1.01**	**3**⇑	*i*P	**Pn**	**13 01 28.3**	**+0.4**
TACH				*i* S	**Sn**	**13 01 42.8**	**-0.2**
TACH	**Talagante**	**1.01**	**3**⇑	*i*P	**Pn**	**13 01 28.3**	**+0.4**
TACH				*i* S	**Sn**	**13 01 42.8**	**-0.2**
PCH	**Pirque**	**1.12**	**21**⇑	*i*P	**Pn**	**13 01 29.5**	**+0.4**
PCH				*i* S	**Sn**	**13 01 46.0**	**+0.7**
PCH	**Pirque**	**1.12**	**21**⇑	*i*P	**Pn**	**13 01 29.6**	**+0.4**
PCH				*i* S	**Sn**	**13 01 46.0**	**+0.7**
SJCH	**San Jose de Ma**	**1.16**	**28**	*e*P	**Pn**	**13 01 29.3**	**-0.3**
SJCH				*e*S	**Sn**	**13 01 46.2**	**+0.1**
SJCH	**San Jose de Ma**	**1.16**	**28**	*e*P	**Pn**	**13 01 29.3**	**-0.3**
SJCH				*e*S	**Sn**	**13 01 46.2**	**+0.1**
SJCH				AML	AML	13 01 47.2	
	comp=E,7μm,0.3s						
SAN	**Santiago**	**1.25**	**13**⇑	*i*P	**Pn**	**13 01 31.0**	**+0.4**
SAN				*i* S	**Sn**	**13 01 48.3**	**+0.5**
SAN	**Santiago**	**1.25**	**13**⇑	*i*P	**Pn**	**13 01 31.0**	**+0.4**
SAN				*i* S	**Sn**	**13 01 48.3**	**+0.5**
SAN				AML	AML	13 01 49.9	
	comp=N,2μm,0.2s						
STL	**Santa Lucia**	**1.27**	**14**⇑	*i*P	**Pn**	**13 01 31.2**	**+0.4**
STL				*i* S	**Sn**	**13 01 48.6**	**+0.3**
LACH	**Col Las Americ**	**1.27**	**18**⇑	*i*P	**Pn**	**13 01 31.5**	**+0.6**
LACH				*i* S	**Sn**	**13 01 49.0**	**+0.5**
LACH	**Col Las Americ**	**1.27**	**18**⇑	*i*P	**Pn**	**13 01 31.5**	**+0.6**
LACH				*i* S	**Sn**	**13 01 49.0**	**+0.5**
CLCH	**Cerro Calan**	**1.33**	**17**⇓	*i*P	**Pn**	**13 01 32.3**	**+0.7**
CLCH				*e*S	**Sn**	**13 01 50.2**	**+0.6**
CLCH				AML	AML	13 01 52.3	
	comp=E,4μm,0.4s						
CLCH				AML	AML	13 01 52.8	
	comp=E,4μm,0.4s						
CTCH	**Constitucion**	**1.33**	**240**⇑	*i*P	**Pn**	**13 01 31.8**	**+0.3**
CTCH				*i* S	**Sn**	**13 01 49.6**	**0.0**
CTCH	**Constitucion**	**1.33**	**240**⇑	*i*P	**Pn**	**13 01 31.8**	**+0.3**
CTCH				*i* S	**Sn**	**13 01 49.6**	**0.0**
CTCH				AML	AML	13 01 58.3	
	comp=E,11μm,0.7s						
PEL	**Peldehue**	**1.54**	**10**⇑	*i*P	**Pn**	**13 01 35.2**	**+0.9**
PEL				*e*S	**Sn**	**13 01 55.2**	**+0.8**
PEL				AML	AML	13 01 57.7	
	comp=E,4μm,0.3s						
ROCH	**El Roble**	**1.69**	**360**	*e*P	**Pn**	**13 01 37.1**	**+0.8**
ROCH				*i* S	**Sn**	**13 01 58.7**	**+0.7**
ROCH				AML	AML	13 02 02.5	
	comp=N,2μm,0.2s						
JACH	**Jahuel**	**2.01**	**10**⇓	*i*P	**Pn**	**13 01 41.1**	**+0.8**
JACH				*i* S	**Sn**	**13 02 06.1**	**+1.0**
JACH	**Jahuel**	**2.01**	**10**⇓	*i*P	**Pn**	**13 01 41.1**	**+0.8**
JACH				*i* S	**Sn**	**13 02 06.1**	**+1.0**
CCHI	**Chillan**	**2.12**	**204**	*i* P	**Pn**	**13 01 42.5**	**+0.9**
CCHI				*i* S	**Sn**	**13 02 08.1**	**+0.7**
CCHI	**Chillan**	**2.12**	**204**	*i* P	**Pn**	**13 01 42.5**	**+0.9**
CCHI				*i* S	**Sn**	**13 02 08.1**	**+0.7**
CCHI				AML	AML	13 02 10.1	
	comp=E,622nm,0.5s						
PTCH	**Petorca**	**2.40**	**1**⇑	*i*P	**Pn**	**13 01 46.2**	**+0.9**
PTCH				*i* S	**Sn**	**13 02 15.0**	**+0.8**
PTCH	**Petorca**	**2.40**	**1**⇑	*i*P	**Pn**	**13 01 46.2**	**+0.9**
PTCH				*i* S	**Sn**	**13 02 15.0**	**+0.8**
PTCH				AML	AML	13 02 16.7	
	comp=E,2μm,0.3s						
CHNG	**Los Chungos**	**2.81**	**351**	*i* P	**Pn**	**13 01 51.5**	**+0.8**
CHNG				*i* S	**Sn**	**13 02 24.0**	**+0.1**
CHNG	**Los Chungos**	**2.81**	**351**	*i* P	**Pn**	**13 01 51.5**	**+0.8**
CHNG				*i* S	**Sn**	**13 02 24.0**	**+0.1**
CHNG				AML	AML	13 02 26.2	
	comp=E,424nm,0.4s						
CMCH	**Combarbala**	**3.48**	**0**	AML	AML	13 02 57.8	
	comp=N,1μm,0.7s						
LCO	**Las Campanas**	**5.65**	**3**	*e*Pn	**Pn**	**13 02 28.7**	**-0.7**
	comp=N,10.0nm,0.2s						
LPAZ	**La Paz**	**18.48**	**9**	*e*P	**P**	**13 05 15.3**	**-1.7**
	comp=N,0.3nm,0.4s						
SAML	**Samuel**	**26.59**	**17**	*e*P	**P**	**13 06 36.3**	**-0.8**

IDC 04 13:05:02.8±5.5, 23.°38S×179.°66W, h495km±62km, mb3.5/6, mb1 3.7/7, mb1mx3.3/19, mbtmp3.5/7, Error ellipse: s-maj=44.5km s-min=34.4km az=5.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**15.09**	**190**	P	P	13 08 14.3	+0.5
	0.9nm,0.3s,baz=62,slow=14,SNR=6.6						
URZ				S	S	13 10 46.0	-5.4
	0.1nm,0.3s,baz=64,slow=14,SNR=2.0						
CTA	**Charters Tower**	**31.79**	**269**	P	P	13 10 46.6	+0.6
	12nm,0.4s,baz=98,slow=11,SNR=49						
ASAR	**Alice Springs**	**42.43**	**260**	P	P	13 12 13.2	-0.5
	3.6nm,0.5s,baz=99,slow=7.1,SNR=65						
WRA	**Warramunga Arr**	**42.76**	**265**	P	P	13 12 15.3	-0.8
	4.4nm,0.4s,baz=91,slow=8.5,SNR=179						
KSRS	**Korea Array**	**78.05**	**320**	P	P	13 16 10.5	+0.7
	0.2nm,0.3s,baz=142,slow=7.7,SNR=5.6						
PETK	**Petropavlovsk-**	**78.67**	**346**	P	P	13 16 12.3	-0.5
	1.1nm,0.6s,baz=123,slow=8.8,SNR=5.9						
CMAR	**Chiang Mai Arr**	**89.64**	**290**	P	P	13 17 08.8	+0.9
	0.4nm,0.3s,baz=132,slow=2.7,SNR=5.2						
HFS	**Hagfors**	**142.10**	**349**	PKhKP	PKPpre	13 23 32.6	
	1.8nm,0.3s,baz=58,slow=3.3,SNR=29						
BRTR	**Keskin Array B**	**147.51**	**308**	PKPbc	PKPbc	13 23 50.5	-0.6
	1.1nm,0.7s,baz=142,slow=5.4,SNR=2.1						
MMAI	**Mount Meron Ar**	**147.77**	**295**	PKPbc	PKPbc	13 23 51.6	-0.3
	2.3nm,0.5s,baz=76,slow=6.1,SNR=4.3						
EKA	**Eskdalemuir Ar**	**147.98**	**4**	PKPbc	PKPbc	13 23 50.6	-1.0
	0.3nm,0.5s,baz=333,slow=2.4,SNR=4.0						

*CSEM **04** 13:14:56.2, 35.°45N×28.°52E, h54km, MD3.5, After ATH*

ATH 04 13:14:56.2, 35.°45N×28.°52E, h54km±32km, MD3.5/4, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.83**	**337**	*e*P	**Pn**	13 15 12.8	+1.0
ARG				*e*S	**Sn**	13 15 24.7	+1.5
ARG	**Arkhangelos**	**0.83**	**337**	*e*P	**Pn**	13 15 12.8	+1.0
ARG				*e*S	**Sn**	13 15 24.7	+1.5
KARP	**Karpathos**	**1.11**	**275**	*e*P	**Pn**	13 15 16.8	+1.2
KARP				*e*S	**Sn**	13 15 31.3	+1.3
KARP	**Karpathos**	**1.11**	**275**	*e*P	**Pn**	13 15 16.8	+1.2
KARP				*e*S	**Sn**	13 15 31.3	+1.3
LAST	**Lasithi**	**2.50**	**264**	*e*P	**Pn**	13 15 35.3	+0.7
LAST	**Lasithi**	**2.50**	**264**	*e*P	**Pn**	13 15 35.3	+0.7
KYTH	**Kithira**	**4.53**	**282**	*e*P	**Pn**	13 16 04.0	+1.7
KYTH	**Kithira**	**4.53**	**282**	*e*P	**Pn**	13 16 04.0	+1.7

MAN 04 13:15:34, 7.°80N×123.°98E, h15km, mb4.0, ML2.8, MS2.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAGZ	**Pagadian**	**0.60**	**274**	*e*P	**Pb**	13 15 46.5	+0.3
PAGZ				*e*S	**Sg**	13 15 52.1	-1.7
CTBH	**Cotabato--PC H**	**0.64**	**156**⇑	*i*P	**Pb**	13 15 47.4	+0.6
CTBH				*i* S	**Sn**	13 15 59.4	+1.0
BUKP	**Musuan**	**1.07**	**86**	*e*P	**Pb**	13 15 52.5	-1.8
BUKP				*e*S	**Sn**	13 16 10.6	+1.4

*IDC **04** 13:17:58.3±1.7, 53.°23N×161.°01E, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.3/25, mbtmp3.5/3, Error ellipse: s-maj=75.5km s-min=21.1km az=169.0*
*ISCJB **04** 13:18:02.9±0.4, 53.°74N±0.°03×160.°71E±0.°06, h47km, mb3.4/3, Error ellipse: s-maj=5.6km s-min=2.1km az=34.8*
*KRSC **04** 13:18:02.9±0.9, 53.°74N×160.°68E, h33km±23km, ML3.9*

ISC 04 13:18:04.0±1.0, 53.°73N±0.°04×160.°75E±0.°04, h47km, n43, σ1°24/70, mb3.6/3, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.76**	**215**	P	**Pn**	**13 18 16.6**	**-1.8**
SPN				*i* S	**Sn**	**13 18 26.6**	**-2.3**
KII	**Karymskiy**	**0.83**	**293**	*i* P	**Pn**	**13 18 17.1**	**-2.3**
KII				*i* S	**Sn**	**13 18 27.6**	**-3.0**
NLC	**Nalytchevo**	**1.01**	**237**	*i* P	**Pn**	**13 18 19.9**	**-1.8**
NLC				*i* S	**Sn**	**13 18 32.4**	**-2.3**
MKZ	**Mys Kozlova**	**1.01**	**34**	P	**Pn**	**13 18 19.6**	**-2.2**
MKZ				*i* S	**Sn**	**13 18 31.7**	**-3.2**
SDLR	**Sedlovina**	**1.20**	**249**	P	**Pn**	**13 18 23.4**	**-1.4**
SDLR				*i* S	**Sn**	**13 18 38.2**	**-1.4**
SMAR	**Somma**	**1.25**	**249**	P	**Pn**	**13 18 24.2**	**-1.0**
SMAR				*i* S	**Sn**	**13 18 39.4**	**-1.6**
UGLR	**Uglovaya**	**1.26**	**247**	P	**Pn**	**13 18 24.4**	**-0.9**
UGLR				*i* S	**Sn**	**13 18 40.0**	**-1.1**
KRER	**Koryakskii**	**1.27**	**251**	P	**Pn**	**13 18 24.7**	**-0.7**
KRER				*i* S	**Sn**	**13 18 40.2**	**-1.2**
AVH	**Avacha**	**1.29**	**250**	P	**Pn**	**13 18 24.9**	**-0.7**
AVH				*i* S	**Sn**	**13 18 40.6**	**-1.1**
KOK	**Koryaka**	**1.33**	**252**	P	**Pn**	**13 18 25.4**	**-0.8**
KOK				*i* S	**Sn**	**13 18 41.5**	**-1.4**
PET	**Petropavlovsk**	**1.44**	**242**	P	**Pn**	**13 18 26.6**	**-0.9**
PET				*i* S	**Sn**	**13 18 43.7**	**-1.5**
TUMR	**Tumrok**	**1.60**	**348**	*i* P	**Pn**	**13 18 28.9**	**-1.0**
TUMR				*i* S	**Sn**	**13 18 47.9**	**-1.5**
GNL	**Ganaly**	**1.67**	**270**	P	**Pn**	**13 18 30.4**	**-0.4**
GNL				*i* S	**Sn**	**13 18 50.5**	**-0.6**
RUS	**Russkaya**	**1.87**	**227**	P	**Pn**	**13 18 32.2**	**-1.2**
RUS				*i* S	**Sn**	**13 18 53.8**	**-2.0**
PETK	**Petropavlovsk-**	**1.93**	**253**	Pn	**Pn**	**13 18 34.1**	**-0.1**
	18nm,0.3s,baz=88,slow=18,SNR=449						
PETK				Sn	**Sn**	**13 18 58.1**	**+0.9**
	28nm,0.3s,baz=79,slow=30,SNR=19						
MTVR	**Mutnovka**	**1.98**	**232**	*e*P	**Pn**	**13 18 34.5**	**-0.7**
MTVR				*i* S	**Sn**	**13 18 58.0**	**-0.9**
GRL	**Gorelyy**	**1.99**	**235**	*i* P	**Pn**	**13 18 35.3**	**0.0**
GRL				*i* S	**Sn**	**13 18 58.7**	**-0.4**
KMNR	**Kamenistaya**	**2.06**	**352**	*e*P	**Pn**	**13 18 36.0**	**-0.1**
KMNR				*e*S	**Sn**	**13 19 00.2**	**-0.4**
ASAK	**Asacha**	**2.18**	**233**	*e*P	**Pn**	**13 18 37.9**	**+0.1**
ASAK				*i* S	**Sn**	**13 19 03.4**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**2.22**	**359**	*i* P	**Pn**	**13 18 38.2**	**-0.2**
BZGR				*i* S	**Sn**	**13 19 04.0**	**-0.6**
BZMR	**Bezymyannaya**	**2.22**	**356**	*e*P	**Pn**	**13 18 38.2**	**-0.2**
KIRR	**Kirishev**	**2.25**	**354**	*e*P	**Pn**	**13 18 38.7**	**-0.1**
KIRR				*e*S	**Sn**	**13 19 04.8**	**-0.5**
BZWR	**Bezymyannyi-We**	**2.25**	**356**	*e*P	**Pn**	**13 18 38.9**	**+0.1**
KPT	**Kopyto**	**2.27**	**352**	*e*P	**Pn**	**13 18 38.7**	**-0.3**
KPT				*e*S	**Sn**	**13 19 04.4**	**-1.3**
ZLN	**Zelenaya**	**2.30**	**1**	*i* P	**Pn**	**13 18 39.7**	**+0.3**
APC	**Apacha**	**2.30**	**251**	*i* P	**Pn**	**13 18 40.3**	**+1.0**
APC				*i* S	**Sn**	**13 19 07.5**	**+1.2**
LGNR	**Loginova**	**2.36**	**359**	*e*P	**Pn**	**13 18 41.0**	**+0.5**
KOZ	**Kozyrevsk**	**2.39**	**348**	P	**Pn**	**13 18 40.1**	**-0.5**
KOZ				*i* S	**Sn**	**13 19 07.0**	**-1.7**
CIRR	**Tsirk**	**2.40**	**0**	*e*P	**Pn**	**13 18 41.2**	**+0.4**
KRSR	**Krestovskiy**	**2.50**	**358**	*e*P	**Pn**	**13 18 41.9**	**-0.3**
ESO	**Esso**	**2.50**	**333**	*i* P	**Pn**	**13 18 41.1**	**-1.1**
KLY	**Klyuchi**	**2.59**	**359**	*i* P	**Pn**	**13 18 43.2**	**-0.2**
KLY				*e*S	**Sn**	**13 19 12.7**	**-0.9**
SRDR	**Sredinnyy**	**2.67**	**348**	*e*P	**Pn**	**13 18 43.1**	**-1.3**
KBG	**Krutoberegovo**	**2.77**	**23**	P	**Pn**	**13 18 46.8**	**+1.0**
KBG				*i* S	**Sn**	**13 19 19.5**	**+1.5**
MIPR	**Malaya Ipel'ka**	**2.81**	**241**	*e*P	**Pn**	**13 18 46.9**	**+0.5**
BDR	**Baidarnaya**	**2.86**	**5**	*e*P	**Pn**	**13 18 47.4**	**+0.3**
SMKR	**Semkarok**	**2.89**	**8**	*i* P	**Pn**	**13 18 47.5**	**-0.1**
SRKR	**Sorokina**	**2.94**	**5**	*i* P	**Pn**	**13 18 48.3**	**0.0**
BKI	**Bering**	**3.39**	**62**	*e*P	**Pn**	**13 18 53.7**	**-0.6**
BKI				*i* S	**Sn**	**13 19 30.4**	**-2.8**
SKR	**Severo-Kuril's**	**4.17**	**225**	P	**Pn**	**13 19 06.1**	**+1.1**
SKR				*i* S	**Sn**	**13 19 52.3**	**-0.1**
ILAR	**Eielson Array**	**28.09**	**46**	P	P	13 23 53.2	+2.4
	0.2nm,0.6s,baz=268,slow=8.1,SNR=3.0						
NVAR	**Mina Array Bea**	**55.16**	**71**	P	**P**	**13 27 33.4**	**+1.6**
	0.3nm,0.5s,baz=283,slow=8.2,SNR=5.2						
TXAR	**Lajitas Array**	**70.03**	**68**	P	**P**	**13 29 11.7**	**+0.8**
	0.5nm,0.5s,baz=311,slow=5.5,SNR=8.2						

*IDC **04** 13:20:26.7±1.1, 33.°96N×25.°31E, h0km, mb3.8/10, mb1 3.9/16, mb1mx3.8/31, mbtmp3.8/16, ML3.8/6, Error ellipse: s-maj=26.2km s-min=17.8km az=0.0*
*ATH **04** 13:20:27.1, 33.°90N×25.°32E, h12km±4km, MD3.8/17*
*ISCJB **04** 13:20:28.2±0.4, 33.°91N±0.°03×25.°30E±0.°05, h17km, mb3.6/10, Error ellipse: s-maj=6.2km s-min=4.5km az=163.4*
*CSEM **04** 13:20:28.7±0.3, 34.°01N×25.°27E, h2km, MD3.8, Error ellipse: s-maj=8.4km s-min=7.3km az=68.0*
*HLW **04** 13:20:30.6, 34.°06N×25.°29E, h33km±19km, Md3.3, Ml3.2*

ISC 04 13:20:29.4±0.6, 34.°03N±0.°04×25.°43E±0.°03, h17km, n55, σ1°51/60, mb3.8/10, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.87**	**14**	*e*PG	**Pb**	**13 20 45.7**	**-0.3**
XRY	**Khrisi**	**0.87**	**14**	*e*Pg	**Pb**	**13 20 45.7**	**-0.3**
SIVA	**Sivas**	**1.11**	**333**	*e*PB	**Pg**	**13 20 50.5**	**-0.3**
SIVA	**Sivas**	**1.11**	**333**	*e*Pb	**Pg**	**13 20 50.5**	**-0.3**
LAST	**Lasithi**	**1.13**	**2**	*e*PG	**Pb**	**13 20 50.6**	**+0.1**
LAST	**Lasithi**	**1.13**	**2**	*e*Pg	**Pb**	**13 20 50.6**	**+0.1**
NPS	**Neapolis**	**1.24**	**7**	*e*PN	**Pn**	**13 20 51.

HATJ eS Sb 13 27 16.1 -0.4
IRIF Iriomote-Funau 1.33 271 P Pn 13 26 59.5 +0.8
YOJ Yonaguni jima 1.99 275 P Pn 13 27 08.9 +1.1
JKE Kume jima 2 2.47 35 P Pn 13 27 14.5 0.0
JAGN Aguni-jima 2.93 39 P Pn 13 27 21.7 +0.9
NACB Ninganchiao 3.28 268 ePn Pn 13 27 21.3 -4.3
TATO Taipei 3.43 282 ePn Pn 13 27 23.7 -3.9
YULB Yu-li 3.68 256 ePn Pn 13 27 29.8 -1.3
JIH Iheya 3.69 42 P Pn 13 27 31.7 +0.4
JOW Kunigami 3.75 47 ePn Pn 13 27 34.1 +2.1
JOW Kunigami 3.75 47 P Pn 13 27 32.0 -0.1
SSLB Suanglung 3.90 263 ePn Pn 13 27 31.5 -2.8
TWG Pinlang 4.06 249 ePn Pn 13 27 34.5 -1.7
TPUB Ta-pu 4.29 257 ePn Pn 13 27 36.1 -3.5
JMZ Minamidaito 2 5.67 73 P Pn 13 27 54.4 -4.1
JMZ eS Sn 13 28 51.4 -11
JAM Amami Oshima 5.69 43 P Pn 13 27 57.6 -1.1
JNU Nakatsue 10.10 28 Pn Pn 13 28 58.2 -1.1
JNU Nakatsue 10.10 28 Pn Pn 13 28 58.2 -1.1
0.2nm,0.3s,baz=186,slow=8.6,SNR=3.3
KSAR Wonju Array Be 13.29 9 Pn Pn 13 29 44.0 +1.2
KSRS Korea Array 13.31 10 Pn Pn 13 29 44.0 +0.9
0.1nm,0.3s,baz=186,slow=12,SNR=9.5
KSRS LR LR 13 35 09.8
comp=Z,88nm,19.1s,baz=350,slow=39
MAJO Matsushiro 16.55 40 eP P 13 30 29.1 +0.7
MAJO pmax pmax
comp=Z,14nm,1.0s
MAJO Matsushiro 16.55 40 ePn P 13 30 29.1 +0.7
comp=Z,14nm,1.0s
MAT Matsushiro 16.55 40 P P 13 30 28.7 +0.3
MJAR Matsushiro Arr 16.55 40 Pn P 13 30 29.0 +0.6
MJAR Matsushiro Arr 16.55 40 Pn P 13 30 29.0 +0.6
comp=Z,0.3nm,0.3s,baz=231,slow=11,SNR=24
ERM Erimo 23.11 36 eP P 13 31 41.6 +2.1
ERM pmax pmax
comp=Z,14nm,1.0s
ERM Erimo 23.11 36 eP P 13 31 41.6 +2.1
comp=Z,14nm,1.0s
ASAJ Asahikawa 24.35 32 eP P 13 31 55.1 +3.8
ASAJ Asahikawa 24.35 32 P P 13 31 50.4 -0.9
ASAJ LR LR 13 42 18.7
comp=Z,72nm,20.6s,baz=14,slow=39
CHTO Chiang Mai 24.99 262 eP P 13 31 56.9 -0.5
CHTO pmax pmax
comp=Z,6.0nm,0.7s
CHTO Chiang Mai 24.99 262 eP P 13 31 56.9 -0.5
comp=Z,6.5nm,0.7s
CMAR Chiang Mai Arr 25.10 262 P P 13 31 59.0 +0.6
CMAR Chiang Mai Arr 25.10 262 P P 13 31 59.0 +0.6
comp=Z,0.9nm,0.7s,baz=64,slow=8.3,SNR=7.9
CMAR LR LR 13 43 05.5
comp=Z,112nm,18.2s,baz=144,slow=40
SONM Songino Array 27.81 332 P P 13 32 21.5 -1.2
SONM Songino Array 27.81 332 P P 13 32 21.5 -1.2
comp=Z,0.5nm,0.4s,baz=147,slow=8.6,SNR=4.6
SONM LR LR 13 44 57.0
comp=Z,145nm,18.6s,baz=83,slow=40
PETK Petropavlovsk- 37.77 32 P P 13 33 48.5 -0.8
PETK Petropavlovsk- 37.77 32 P P 13 33 48.5 -0.8
PETK Petropavlovsk- 37.77 32 P P 13 33 48.5 -0.8
comp=Z,1.8nm,0.7s,baz=206,slow=6.9,SNR=3.6
PETK LR LR 13 50 14.3
comp=Z,31nm,18.2s,baz=209,slow=38
MK31 Makanchi Array 40.83 314 eP P 13 34 13.6 -1.4
MK31 Makanchi Array 40.83 314 eP P 13 34 13.6 -1.4
MKAR Makanchi Array 40.83 314 ceP P 13 34 15.1 +0.2
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 40.83 314 P P 13 34 14.8 -0.1
MKAR Makanchi Array 40.83 314 P P 13 34 14.8 -0.1
comp=Z,4.0nm,0.5s,baz=100,slow=10,SNR=49
MKAR LR LR 13 52 35.1
comp=Z,73nm,19.0s,baz=359,slow=38
ZALV Zalesovo Beam 42.17 325 *i* P P 13 34 24.7 -1.2
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 42.17 325 P P 13 34 24.6 -1.2
ZALV Zalesovo Beam 42.17 325 P P 13 34 24.6 -1.2
comp=Z,2.4nm,0.5s,baz=111,slow=7.9,SNR=15
ZALV LR LR 13 53 05.0
comp=Z,39nm,21.2s,baz=339,slow=38
KURK Kurchatov 44.37 319 P P 13 34 43.3 -0.3
KURK Kurchatov 44.37 319 P P 13 34 43.3 -0.3
KURBB Kurchatov Arra 44.40 319 P P 13 34 43.3 -0.5
comp=Z,1.5nm,0.3s,baz=109,slow=8.4,SNR=19
TKM2 Tokmak 2 44.58 307 eP P 13 34 43.7 -2.0
TKM2 pmax pmax
comp=Z,8.0nm,0.8s
TKM2 Tokmak 2 44.58 307 eP P 13 34 43.7 -2.0
comp=Z,7.9nm,0.8s
WRA Warramunga Arr 44.88 168 P P 13 34 47.4 -0.6
WRA Warramunga Arr 44.88 168 P P 13 34 47.4 -0.6
comp=Z,2.0nm,0.8s,baz=348,slow=8.8,SNR=15
AAK Ala-Archa 45.35 307 *c i*P P 13 34 50.7 -1.1
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 45.35 307 P P 13 34 52.8 +1.0
AAK Ala-Archa 45.35 307 P P 13 34 52.8 +1.0
comp=Z,0.9nm,0.3s,baz=151,slow=10,SNR=3.0
KK31 Karatay Array 48.31 307 *i* P P 13 35 15.6 +0.9
KK31 pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 48.31 307 eP P 13 35 14.1 -0.6
KKAR Karatay Array 48.31 307 eP P 13 35 14.1 -0.6
ASAR Alice Springs 48.44 169 P P 13 35 15.6 -0.2
ASAR Alice Springs 48.44 169 P P 13 35 15.6 -0.2
comp=Z,0.5nm,0.5s,baz=355,slow=7.6,SNR=15
VOSK Vostochnaya 49.49 320 P P 13 35 21.7 -1.9
VOSK pmax pmax
comp=Z,2.0nm,0.7s
BVA0 Borovoye Array 49.91 320 P P 13 35 26.4 -0.4
BVA0 pmax pmax
comp=Z,1.0nm,0.6s
BRVK Borovoye 49.98 320 eP P 13 35 26.8 -0.5
BRVK pmax pmax
comp=Z,1.0nm,0.6s
AB31 Akbulak array 55.97 314 *i* P P 13 36 12.1 +0.6
AB31 pmax pmax
comp=Z,6.0nm,0.4s
ABKAR Akbulak array 55.97 314 eP P 13 36 11.7 +0.2
comp=Z,11nm,0.6s
ARU Arti 57.21 323 *c i*P P 13 36 19.8 -0.4
ARU 13 38 22.0
ARU S S 13 44 10.6 -2.9
ARU SS SS 13 47 54.5 -8.0
ARU pmax pmax
comp=Z,4.0nm,0.6s
AKTO Aktyubinsk 57.24 316 P P 13 36 20.2 -0.3
AKTO pmax pmax
comp=Z,5.0nm,0.9s
AKTO Aktyubinsk 57.24 316 P P 13 36 20.5 0.0
AKTO Aktyubinsk 57.24 316 P P 13 36 20.5 0.0
comp=Z,2.7nm,0.6s,baz=114,slow=16,SNR=12
AKTO LR LR 14 02 37.5
comp=Z,54nm,18.6s,baz=331,slow=38
ILAR Eielson Array 67.42 28 P P 13 37 29.4 +1.0
ILAR Eielson Array 67.42 28 P P 13 37 29.4 +1.0
comp=Z,0.4nm,0.5s,baz=275,slow=7.1,SNR=11
ZEI Tsey 67.74 308 eP P 13 37 40.9 +10
ZEI pmax pmax
comp=Z,12nm,0.9s
KBZ Khabaz 68.24 309 P P 13 37 35.2 +1.3
KBZ Khabaz 68.24 309 P P 13 37 35.2 +1.3
KBZ Khabaz 68.24 309 P P 13 37 35.2 +1.3
comp=Z,1.8nm,0.7s,baz=121,slow=5.4,SNR=3.4
KBZ LR LR 14 12 12.5
comp=Z,52nm,20.7s,baz=112,slow=40
KIV Kislovodsk 68.33 310 P P 13 37 36.0 +1.3
KIV *i* *PP **pP** 13 37 45.5 +0.3
KIV *e* 13 37 53.1
KIV pmax pmax
comp=Z,5.0nm,0.7s
JOF Joensuu 70.38 331 *ep* P 13 37 45.0 -1.8
comp=Z,1.3nm,0.5s
JOF Joensuu 70.38 331 eP P 13 37 45.0 -1.8
JOF pmax pmax
comp=Z,1.0nm,0.5s
KAF Kangasniemi 72.84 331 *ep* P 13 37 58.8 -2.8
comp=Z,0.4nm,0.4s
KAF Kangasniemi 72.84 331 eP P 13 37 58.8 -2.8
FINES FINESS Array B 73.16 330 P P 13 38 03.9 +0.3
FINES FINESS Array B 73.16 330 P P 13 38 03.9 +0.3
comp=Z,4.4nm,0.6s,baz=60,slow=5.7,SNR=24
FINES LR LR 14 13 34.7
comp=Z,84nm,18.7s,baz=185,slow=39
KIEV Kiev 75.20 319 eP P 13 38 15.3 -0.3
BRTR Keskin Array B 76.02 307 P P 13 38 20.9 +0.1
BRTR Keskin Array B 76.02 307 P P 13 38 20.9 +0.1
comp=Z,0.8nm,0.6s,baz=76,slow=5.2,SNR=5.7
SUW Suwalki 77.38 324 eP P 13 38 29.7 +1.7
SUW Suwalki 77.38 324 eP P 13 38 29.6 +1.7
HFS Hagfors 79.21 332 P P 13 38 38.1 +0.1
HFS Hagfors 79.21 332 P P 13 38 38.1 +0.1
comp=Z,2.6nm,0.7s,baz=104,slow=11,SNR=6.4
NB2 NORSAR Subarra 79.79 333 P P 13 38 41.8 +0.6
comp=Z,1.2nm,0.7s,baz=57,slow=5.9
NOA NORSAR Array B 79.79 333 P P 13 38 41.4 +0.2
NOA NORSAR Array B 79.79 333 P P 13 38 41.4 +0.2
comp=Z,1.2nm,0.6s,baz=56,slow=5.6,SNR=5.6
NOA LR LR 14 18 08.2
comp=Z,26nm,18.2s,baz=150,slow=39
YKA Yellowknife Ar 81.40 24 P P 13 38 50.0 +0.3
YKA Yellowknife Ar 81.40 24 P P 13 38 50.0 +0.3
comp=Z,0.7nm,0.7s,baz=308,slow=5.1,SNR=12
DPC Dobruska-Polom 82.80 322 eP pP 13 39 08.9 +0.8
DPC Dobruska-Polom 82.80 322 eP pP 13 39 08.9 +0.8
GERES GERESS Array B 85.03 322 P P 13 39 11.1 +2.2
GERES GERESS Array B 85.03 322 P P 13 39 11.1 +2.2
comp=Z,0.4nm,0.4s,baz=46,slow=5.6,SNR=3.9

*IDC **04** 13:41:03.8±1.0,34.03N×25.37E,h0km,mb3.8/14, mb1 3.9/20,mb1mx3.9/33,mbtmp3.8/20,ML3.7/6, Error ellipse: s-maj=22.5km s-min=15.6km az=1.0*
*ISCJB **04** 13:41:07.3±0.5,34.00N±0.03×25.41E±0.04,h41km±5km, mb3.7/18, Error ellipse: s-maj=5.4km s-min=4.7km az=28.5*
*CSEM **04** 13:41:08.2±0.3,34.00N×25.39E,h30km,MD3.8, Error ellipse: s-maj=8.1km s-min=6.6km az=63.0*
*ATH **04** 13:41:09.1,34.28N×25.41E,h26km?×1km, MD3.8/18*
ISC 04 13:41:08.5±1.7,34.03N±0.04×25.36E±0.04,h32km±13km, **n79,σ1°s24**/91,**mb3.9**/18,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.88**	**18**	ePN	**Pn**	**13 41 22.1**	**-2.6**
SIVA	**Sivas**	**1.08**	**335**	ePN	**Pn**	**13 41 26.4**	**-1.1**
SIVA	**Sivas**	**1.08**	**335**	ePn	**Pn**	**13 41 26.4**	**-1.1**
LAST	**Lasithi**	**1.13**	**5**	ePN	**Pn**	**13 41 26.2**	**-2.0**
LAST	**Lasithi**	**1.13**	**5**	ePn	**Pn**	**13 41 26.2**	**-2.0**
NPS	**Neapolis**	**1.24**	**9**	ePN	**Pn**	**13 41 28.2**	**-1.5**
NPS				eSN	**Sn**	**13 41 41.9**	**-3.5**
NPS	**Neapolis**	**1.24**	**9**	ePn	**Pn**	**13 41 28.2**	**-1.5**
ZKR	**Zakros**	**1.29**	**33**	ePN	**Pn**	**13 41 29.2**	**-1.1**
ZKR	**Zakros**	**1.29**	**33**	ePn	**Pn**	**13 41 29.2**	**-1.1**
IDI	**Anoyia**	**1.31**	**343**	ePN	**Pn**	**13 41 29.6**	**-1.1**
IDI	**Anoyia**	**1.31**	**343**	ePn	**Pn**	**13 41 29.6**	**-1.1**
GVD	**Gavdhos**	**1.32**	**308**	ePN	**Pb**	**13 41 32.9**	**+0.1**
GVD	**Gavdhos**	**1.32**	**308**	ePn	**Pb**	**13 41 32.9**	**+0.1**
VAM	**Vamos**	**1.67**	**325**	ePN	**Pn**	**13 41 36.5**	**+0.9**
VAM				eSN	**Sn**	**13 41 56.4**	**+0.5**
VAM	**Vamos**	**1.67**	**325**	ePn	**Pn**	**13 41 36.5**	**+0.9**
VAM				eSn	**Sn**	**13 41 56.4**	**+0.5**
KARP	**Karpathos**	**2.11**	**44**	ePN	**Pn**	**13 41 42.7**	**+1.0**
KARP	**Karpathos**	**2.11**	**44**	ePn	**Pn**	**13 41 42.7**	**+1.0**
SLUM		**2.54**	**183**	P	**Pn**	**13 41 46.8**	**-0.7**
KYTH	**Kithira**	**2.94**	**320**	ePN	**Pn**	**13 41 55.1**	**+2.0**
KYTH	**Kithira**	**2.94**	**320**	ePn	**Pn**	**13 41 55.1**	**+2.0**
APE	**Apeiranthos**	**3.03**	**3**	ePN	**Pn**	**13 41 54.4**	**+0.1**
APE	**Apeiranthos**	**3.03**	**3**	ePn	**Pn**	**13 41 54.4**	**+0.1**
ARG	**Arkhangelos**	**3.14**	**45**	ePN	**Pn**	**13 41 56.4**	**+0.6**
ARG	**Arkhangelos**	**3.14**	**45**	ePn	**Pn**	**13 41 56.4**	**+0.6**
HMAT	**Matruh**	**3.28**	**153**	P	**Pn**	**13 41 56.4**	**-1.3**
HMAT				S	**Sn**	**13 42 34.8**	**-0.7**
VLI	**Veliai**	**3.33**	**324**	ePN	**Pn**	**13 41 59.5**	**+1.1**
VLI	**Veliai**	**3.33**	**324**	ePn	**Pn**	**13 41 59.5**	**+1.1**
DID	**Didima**	**3.87**	**334**	ePN	**Pn**	**13 42 05.8**	**-0.1**
DID	**Didima**	**3.87**	**334**	ePn	**Pn**	**13 42 05.8**	**-0.1**
AKAS	**Kas**	**4.11**	**57**	*i* P	**Pn**	**13 42 09.3**	**0.0**
AKAS				*i* S	**Sn**	**13 42 57.4**	**+1.1**
AKAS	**Kas**	**4.11**	**57**	*i* P	**Pn**	**13 42 09.3**	**0.0**
AKAS				*i* S	**Sn**	**13 42 57.4**	**+1.1**
AYDN	**Tasoluk**	**4.16**	**29**	*i* P	**Pn**	**13 42 10.5**	**+0.7**
AYDN	**Tasoluk**	**4.16**	**29**	*i* P	**Pn**	**13 42 10.5**	**+0.7**
GUR	**Goura**	**4.60**	**329**	ePN	**Pn**	**13 42 17.0**	**+1.1**
GUR				eSN	**Sn**	**13 43 07.7**	**-0.6**
GUR	**Goura**	**4.60**	**329**	ePn	**Pn**	**13 42 17.0**	**+1.1**
GUR				eSn	**Sn**	**13 43 07.7**	**-0.6**
GOLH	**Golhisar**	**4.68**	**46**	*i* P	**Pn**	**13 42 17.7**	**+0.7**
GOLH				*i* S	**Sn**	**13 43 12.2**	**+1.9**
GOLH	**Golhisar**	**4.68**	**46**	*i* P	**Pn**	**13 42 17.7**	**+0.7**
GOLH				*i* S	**Sn**	**13 43 12.2**	**+1.9**
KLV	**Kalavryta, Ach**	**4.77**	**328**	ePN	**Pn**	**13 42 19.1**	**+0.8**
KLV	**Kalavryta, Ach**	**4.77**	**328**	ePn	**Pn**	**13 42 19.1**	**+0.8**
SWA2		**4.78**	**179**	P	**Pn**	**13 42 17.3**	**-1.0**
LKR	**Lokris**	**4.99**	**338**	ePN	**Pn**	**13 42 22.7**	**+1.6**
LKR	**Lokris**	**4.99**	**338**	ePn	**Pn**	**13 42 22.7**	**+1.6**
KHAL	**Karahalli**	**5.46**	**36**	*i* P	**Pn**	**13 42 29.5**	**+1.7**
KHAL				*i* S	**Sn**	**13 43 27.4**	**-2.2**
KHAL	**Karahalli**	**5.46**	**36**	*i* P	**Pn**	**13 42 29.5**	**+1.7**
EVR	**Evrytania**	**5.65**	**331**	ePN	**Pn**	**13 42 33.0**	**+2.6**
ERMK	**Ermenek**	**6.70**	**65**	eP	Pn	13 42 41.0	-3.8
ERMK				*i* S	**Sn**	**13 43 60.0**	**-0.1**
ERMK	**Ermenek**	**6.70**	**65**	*i* S	**Sn**	**13 44 00.0**	**-0.1**
MMAI	**Mount Meron Ar**	**8.45**	**94**	Pn	**Pn**	**13 43 06.2**	**-2.5**
	1.5nm,0.3s,baz=271,slow=11,SNR=11						
MMAI				Sn	**Sn**	**13 44 39.9**	**-3.0**
	1.8nm,0.3s,baz=267,slow=24,SNR=5.8						
BRTR	**Keskin Array B**	**8.73**	**47**	Pn	**Pn**	**13 43 12.9**	**+0.3**
	0.1nm,0.3s,baz=224,slow=13,SNR=6.1						
BRTR				Sn	**Sn**	**13 44 51.3**	**+1.3**
	0.1nm,0.3s,baz=215,slow=30,SNR=3.3						
EIL	**Elat**	**9.24**	**115**	Pn	**Pn**	**13 43 18.4**	**-1.2**
	0.6nm,0.3s,baz=106,slow=20,SNR=6.5						
EIL				Sn	Sn	13 44 55.8	-6.7
	0.6nm,0.3s,baz=0.0,slow=20,SNR=2.6						
MLR	**Muntele Rosu**	**11.45**	**2**	Pn	**Pn**	**13 43 52.3**	**+2.4**
	0.0nm,0.3s,baz=163,slow=14,SNR=3.0						
PGF	**Pioggiola**	**15.39**	**308**	eP	Pn	13 44 37.2	-6.1
	30nm,0.9s						
KBZ	**Khabaz**	**16.71**	**49**	Pn	**P**	**13 45 02.8**	**+0.7**
	0.2nm,0.3s,baz=225,slow=8.6,SNR=5.2						
GERES	**GERESS Array B**	**17.16**	**333**	Pn	**P**	**13 45 07.1**	**-0.1**
	0.4nm,0.3s,baz=150,slow=14,SNR=17						
CABF	**La Chapelle**	**19.27**	**316**	eP	**P**	**13 45 28.7**	**-1.8**
HINF	**Hinteralfeld**	**19.56**	**320**	eP	**P**	**13 45 33.1**	**-0.5**
CAF	**Calviac**	**20.95**	**308**	eP	**P**	**13 45 49.2**	**+0.6**
AVF	**Avril sur Loir**	**20.97**	**314**	eP	**P**	**13 45 48.8**	**0.0**
TCF	**Toulx Ste Croi**	**21.43**	**312**	eP	**P**	**13 45 52.9**	**-0.9**
RJF	**Les Rejaudoux**	**21.45**	**309**	eP	**P**	**13 45 54.2**	**+0.2**
BAIF	**Baives**	**22.31**	**322**	eP	**P**	**13 46 02.5**	**-0.7**
	8.9nm,0.7s						
MFF	**Saint Martin d**	**23.03**	**311**	eP	**P**	**13 46 10.9**	**+0.1**
	14nm,1.0s						
LDF	**La Druitiere**	**23.89**	**315**	eP	**P**	**13 46 17.8**	**-1.4**
	7.4nm,0.7s						
ESDC	**Sonseca Array**	**24.07**	**292**	P	**P**	**13 46 21.0**	**0.0**
	0.6nm,0.6s,baz=85,slow=8.6,SNR=9.0						
FLN	**La Foliniere**	**24.18**	**315**	eP	**P**	**13 46 21.0**	**-0.9**
	6.2nm,0.6s						
GRR	**Gorron**	**24.23**	**314**	eP	**P**	**13 46 21.0**	**-1.3**
HFS	**Hagfors**	**27.21**	**347**	P	**P**	**13 46 48.8**	**-0.3**
	1.2nm,0.6s,baz=128,slow=6.4,SNR=6.2						
FINES	**FINESS Array B**	**27.43**	**1**	P	**P**	**13 46 49.5**	**-1.5**
	1.4nm,0.9s,baz=172,slow=15,SNR=3.8						
NOA	**NORSAR Array B**	**28.53**	**346**	P	**P**	**13 47 00.8**	**-0.2**
	0.5nm,0.6s,baz=155,slow=7.6,SNR=3.1						
EKA	**Eskdalemuir Ar**	**29.06**	**326**	P	**P**	**13 47 06.2**	**+0.6**
	0.6nm,0.7s,baz=124,slow=9.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**29.91**	**232**	P	**P**	**13 47 14.0**	**+0.4**
	0.9nm,0.7s,baz=30,slow=10.0,SNR=7.6						
KURBB	**Kurchatov Arra**	**41.71**	**50**	P	**P**	**13 48 54.4**	**+0.2**
	1.2nm,0.5s,baz=278,slow=8.6,SNR=10						
MKAR	**Makanchi Array**	**44.26**	**56**	P	**P**	**13 49 15.1**	**+0.1**
	1.4nm,0.6s,baz=280,slow=6.4,SNR=17						
ZALV	**Zalesovo Beam**	**45.67**	**45**	P	**P**	**13 49 25.7**	**-0.3**
	0.8nm,0.4s,baz=268,slow=8.8,SNR=4.8						
SONM	**Songino Array**	**60.07**	**50**	P	**P**	**13 51 12.7**	**+0.1**
	0.4nm,0.4s,baz=287,slow=9.8,SNR=2.8						
SCHQ	**Schefferville**	**64.11**	**320**	P	**P**	**13 51 39.7**	**0.0**
	1.2nm,0.4s,baz=50,slow=4.3,SNR=5.8						
YKA	**Yellowknife Ar**	**78.57**	**342**	P	**P**	**13 53 06.5**	**+0.1**
	0.7nm,0.6s,baz=30,slow=5.3,SNR=14						
KSRS	**Korea Array**	**78.83**	**52**	P	**P**	**13 53 08.6**	**+0.2**
	0.4nm,0.5s,baz=302,slow=4.9,SNR=4.2						
ILAR	**Eielson Array**	**81.33**	**357**	P	**P**	**13 53 22.2**	**+0.8**
	0.5nm,0.6s,baz=339,slow=3.0,SNR=9.2						

*ISCJB **04** 13:49:14.6±1.2,10.88S±0.05×164.74E±0.05,h34km±10km, mb4.5/31,MS3.8/12, Error ellipse: s-maj=9.6km s-min=6.9km az=150.8*
*NOU **04** 13:49:16.5±0.5,10.65S×167.35E,h30km*
*BJI **04** 13:49:17.5,10.48S×164.76E,h45km,mB4.9/15,mb4.8/25, Ms4.8/7,Ms7 4.4/7*
*NEIC **04** 13:49:17.7±1.1,10.85S×164.66E,h47km±10km,mb4.8/5, Error ellipse: s-maj=9.2km s-min=7.7km az=98.0*
*IDC **04** 13:49:18.3±2.9,10.88S×164.58E,h48km±27km,mb4.0/19, mb1 4.1/21,mb1mx4.1/25,mbtmp4.0/21,ML4.5/4,MS3.7/10, Ms1 3.7/10,ms1mx3.4/24, Error ellipse: s-maj=19.6km s-min=13.3km az=72.0*
*AUST **04** 13:49:31.7,11.36S×163.45E,h60km*
ISC 04 13:49:17.9±0.4,10.86S±0.05×164.72E±0.06,h46km±2km, **h46km:pP-P,n95,σ1°s65**/131,**mb4.5**/31,**MS3.8**/12,**Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.91**	**286**	ePn	**Pn**	**13 50 29.4**	**+0.2**
HNR				S	**Sn**	**13 51 25.5**	**+0.7**
HNR	**Honiara**	**4.91**	**286**	P	**Pn**	**13 50 29.5**	**+0.3**
	180nm,0.3s,baz=145,slow=3.4,SNR=104						
HNR				S	**Sn**	**13 51 25.5**	**+0.7**
	baz=199,slow=16,SNR=1.6						
DZM	**Mont Dzumac**	**11.27**	**172**	ePn	**Pn**	**13 51 56.0**	**-0.6**
	30nm,0.2s						
DZM				eSn	Sn	13 53 54.5	-6.7
	2.7nm,0.2s						
DZM				eLR	LR	13 54 34.2	
	868nm,24.6s						
DZM	**Mont Dzumac**	**11.27**	**172**	eP	**Pn**	**13 51 55.9**	**-0.6**
DZM				eS	Sn	13 53 54.4	-6.7
DZM	**Mont Dzumac**	**11.27**	**172**	P	**Pn**	**13 51 56.0**	**-0.6**
	3.5nm,0.6s						
DZM				S	**Sn**	**13 53 58.7**	**-2.5**
DZM	**Mont Dzumac**	**11.27**	**172**	P	**Pn**	**13 51 56.0**	**-0.6**
	9.2nm,0.3s,baz=271,slow=24,SNR=270						
DZM				S	**Sn**	**13 53 58.7**	**-2.5**
	0.7nm,0.3s,baz=270,slow=24,SNR=15						
DZM				LR	LR	13 55 52.5	
	comp=Z,702nm,18.9s,baz=180,slow=35						
NOUC	**Port Laguerre**	**11.28**	**172**	eP	**Pn**	**13 51 56.5**	**-0.1**
NOUC				eS	Sn	13 53 54.7	-6.6
BAYA	**Yate Dam**	**11.42**	**170**	eP	**Pn**	**13 51 57.2**	**-1.3**
LASL	**Noumea**	**11.44**	**171**	eP	**Pn**	**13 51 58.0**	**-0.7**
RABL	**Rabaul**	**14.09**	**297**	P	**P**	**13 52 38.8**	**-2.8**
	baz=13,SNR=3.8						
TARA	**Tarawa**	**14.62**	**34**	ePn	**Pn**	**13 52 41.3**	**-0.8**
PMG	**Port Moresby**	**17.35**	**273**	P	**Pn**	**13 53 17.0**	**+0.1**
PMG	**Port Moresby**	**17.35**	**273**	P	**Pn**	**13 53 17.0**	**+0.1**
	0.5nm,0.3s,baz=90,slow=2.0,SNR=3.2						
PATS	**Pohnpei**	**18.70**	**340**	S	S	13 57 25.5	+22
	baz=19,SNR=3.7						
EIDS	**Eidsvold**	**19.37**	**220**	P	**Pn**	**13 53 42.6**	**+1.3**
	baz=18,SNR=3.2						
CTA	**Charters Tower**	**20.00**	**240**	P	**P**	**13 53 47.3**	**+0.4**
CTA	**Charters Tower**	**20.00**	**240**	P	**P**	**13 53 47.3**	**+0.4**
	0.7nm,0.3s,baz=70,slow=13,SNR=24						
CTAO	**Charters Tower**	**20.00**	**240**	eP	**P**	**13 53 45.7**	**-1.2**
	38nm,1.0s						
MTSU	**Mount Surprise**	**21.02**	**248**	P	**P**	**13 53 57.7**	**-0.2**
	baz=20,SNR=7.3						
COEN	**Coen**	**21.26**	**259**	P	**P**	**13 54 00.2**	**-0.3**
	baz=20,SNR=5.9						
RMQ	**Roma**	**21.64**	**222**	P	**P**	**13 54 06.2**	**+1.7**
	baz=20,SNR=4.9						
ARMA	**Armidale**	**22.95**	**210**	P	**P**	**13 54 19.5**	**+1.0**
	baz=22,SNR=4.2						
AFI	**Afiamalu**	**23.15**	**100**	LR	LR	14 01 37.4	
	comp=Z,177nm,18.1s,baz=267,slow=32						
QLP	**Quilpie**	**24.86**	**228**	P	**P**	**13 54 37.7**	**+1.5**
	baz=24,SNR=4.3						
URZ	**Urewera**	**29.46**	**160**	P	**P**	**13 55 17.8**	**+0.4**
URZ	**Urewera**	**29.46**	**160**	P	**P**	**13 55 17.8**	**+0.4**
	7.2nm,1.0s,baz=274,slow=15,SNR=2.1						
URZ				LR	LR	14 06 02.5	
	comp=Z,165nm,19.4s,baz=180,slow=34						
WRA	**Warramunga Arr**	**30.60**	**249**	P	**P**	**13 55 25.8**	**-2.1**
WRA	**Warramunga Arr**	**30.60**	**249**	P	**P**	**13 55 25.8**	**-2.1**
	2.1nm,0.5s,baz=79,slow=9.0,SNR=23						
KDU	**Kakadu**	**31.61**	**263**	P	**P**	**13 55 34.5**	**-2.2**
	baz=30,SNR=3.6						
AS31	**Alice Springs**	**31.98**	**242**	eP	**P**	**13 55 38.4**	**-1.6**
ASAR	**Alice Springs**	**31.98**	**242**	P	**P**	**13 55 37.6**	**-2.3**
ASAR				pP	**pP**	**13 55 56.4**	**+4.2**
ASAR	**Alice Springs**	**31.98**	**242**	P	**P**	**13 55 37.6**	**-2.3**
	1.8nm,0.7s,baz=65,slow=10,SNR=34						
ASAR				pP	**pP**	**13 55 56.4**	**+4.2**
	2.3nm,0.8s,baz=70,slow=9.8,SNR=6.0						
RPZ	**Rata Peaks**	**33.19**	**172**	P	**P**	**13 55 50.2**	**-0.1**
RPZ	**Rata Peaks**	**33.19**	**172**	P	**P**	**13 55 50.2**	**-0.1**
	13nm,0.8s,baz=37,slow=5.1,SNR=3.6						
BBOO	**Buckleboo**	**34.23**	**226**	eP	**P**	**13 55 59.0**	**-0.4**
BBOO	**Buckleboo**	**34.23**	**226**	P	**P**	**13 55 59.7**	**+0.3**
	baz=33,SNR=7.3						
KNRA	**Kununurra**	**35.29**	**258**	P	**P**	**13 56 06.8**	**-2.0**
	baz=34,SNR=6.5						
FITZ	**Fitzroy Crossi**	**38.46**	**255**	P	**P**	**13 56 33.7**	**-1.9**
FITZ	**Fitzroy Crossi**	**38.46**	**255**	P	**P**	**13 56 33.7**	**-1.9**
	4.4nm,0.6s,baz=68,slow=8.8,SNR=17						
FITZ	**Fitzroy Crossi**	**38.46**	**255**	P	**P**	**13 56 33.7**	**-1.9**
	baz=37,SNR=5.4						
PPT	**Papeete**	**44.72**	**104**	LR	LR	14 12 04.5	
	comp=Z,196nm,18.1s,baz=168,slow=30						
PPT2	**Papeete2**	**44.72**	**104**	eLR	LR	14 10 01.0	
	70nm,22.0s						
TBI	**Tubuai**	**45.34**	**112**	eS	**S**	**14 04 14.7**	**+5.1**
	42nm,28.5s						
TBI				eLR	LR	14 10 21.6	
	185nm,28.0s						
MEEK	**Meekatharra**	**46.12**	**243**	P	**P**	**13 57 37.6**	**-0.5**
	baz=45,SNR=3.2						
MJAR	**Matsushiro Arr**	**53.35**	**

	comp=Z,14nm,1.0s						
GYA	**Guiyang**	**67.48**	**305**	*eP*	**P**	**14 00 11.0**	**+1.4**
GYA				pP	**pP**	**14 00 23.8**	**+0.8**
GYA				sP	**sP**	**14 00 31.2**	**+3.0**
GYA				PP	**PP**	**14 02 41.6**	**+2.6**
GYA				S	**S**	**14 09 03.0**	**+0.1**
GYA				sS	**sS**	**14 09 23.6**	**-1.6**
GYA				SKS	**SKSac**	**14 10 00.5**	**-3.6**
GYA				SS	**SS**	**14 13 25.4**	**+1.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.0s						
GYA				LR	LR		
	comp=N,430nm,18.0s						
GYA				LR	LR		
	comp=E,360nm,19.5s						
GYA				LR	LR		
	comp=Z,450nm,18.2s						
KMI	**Kunming**	**70.17**	**302**	P	**P**	**14 00 27.2**	**+0.7**
KMI				pP	**pP**	**14 00 40.7**	**+0.8**
KMI				sP	**sP**	**14 00 45.1**	**0.0**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,51nm,3.4s						
HHC	**Hu-ho-hao-te**	**71.04**	**320**	*eP*	**P**	**14 00 33.1**	**+1.8**
HHC				pP	**pP**	**14 00 46.2**	**+1.4**
HHC				sP	**sP**	**14 00 51.2**	**+1.2**
HHC				PP	**PP**	**14 03 13.8**	**+4.3**
HHC				S	**S**	**14 09 45.7**	**+1.3**
HHC				sS	**sS**	**14 10 07.2**	**+0.4**
HHC				SKS	**SKSac**	**14 10 27.9**	**-2.5**
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,77nm,4.5s						
HHC				LR	LR		
	comp=N,140nm,14.3s						
HHC				LR	LR		
	comp=E,320nm,22.6s						
HHC				LR	LR		
	comp=Z,140nm,17.8s						
CMAR	**Chiang Mai Arr**	**71.11**	**294**	P	**P**	**14 00 32.2**	**+0.1**
CMAR				pP	**PcP**	**14 00 50.1**	**-2.0**
CMAR	**Chiang Mai Arr**	**71.11**	**294**	P	**P**	**14 00 32.2**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=124,slow=4.7,SNR=8.4						
CMAR				pP	**PcP**	**14 00 50.1**	**-2.0**
	comp=Z,1.1nm,0.8s,baz=117,slow=5.3,SNR=3.4						
CD2	**Chengdu**	**71.69**	**308**	P	**P**	**14 00 36.7**	**+1.3**
CD2				pP	**pP**	**14 00 49.8**	**+1.0**
CD2				sP	**sP**	**14 00 55.2**	**+1.1**
CD2				PP	**PP**	**14 03 18.3**	**+3.1**
CD2				S	**S**	**14 09 52.5**	**+0.4**
CD2				sS	**sS**	**14 10 14.6**	**0.0**
CD2				SKS	**SKSac**	**14 10 32.2**	**-3.4**
CD2				SS	**SS**	**14 14 31.0**	**+2.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.2s						
LZH	**Lanzhou**	**73.89**	**313**	*eP*	**P**	**14 00 50.4**	**+1.9**
LZH				pP	**PcP**	**14 01 03.8**	**0.0**
LZH				sP	**sP**	**14 01 07.7**	**+0.5**
LZH				pmax	pmax		
	comp=Z,32nm,1.3s						
LZH				pmax	pmax		
	comp=Z,160nm,4.8s						
ULN	**Ulaanbaatar**	**77.56**	**324**	*eP*	**P**	**14 01 07.2**	**-2.0**
	comp=Z,4.3nm,1.0s						
SONM	**Songino Array**	**77.92**	**324**	P	**P**	**14 01 11.3**	**+0.1**
SONM	**Songino Array**	**77.92**	**324**	P	**P**	**14 01 11.3**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=142,slow=6.5,SNR=8.0						
SONM				LR	LR	14 34 31.0	
	comp=Z,45nm,18.7s,baz=62,slow=35						
GTA	**Gaotai**	**78.20**	**314**	*eP*	**P**	**14 01 14.2**	**+1.2**
GTA				pP	**pP**	**14 01 27.3**	**+0.8**
GTA				sP	**sP**	**14 01 32.8**	**+1.0**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
DIB	**Dawson Inlet,** SNR=13	**83.08**	**33**	T	T	15 32 51.8	
ILAR	**Eielson Array**	**83.66**	**19**	P	**P**	**14 01 40.9**	**-0.4**
ILAR	**Eielson Array**	**83.66**	**19**	P	**P**	**14 01 40.9**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=240,slow=4.4,SNR=7.9						
MAW	**Mawson**	**84.51**	**202**	P	**P**	**14 01 45.3**	**-0.4**
MAW	**Mawson**	**84.51**	**202**	P	**P**	**14 01 45.3**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=125,slow=6.3,SNR=3.5						
EGAK	**Eagle**	**85.55**	**20**	*eP*	P	14 01 59.8	+8.9
NVAR	**Mina Array Bea**	**86.68**	**50**	P	**P**	**14 01 57.2**	**-0.1**
NVAR	**Mina Array Bea**	**86.68**	**50**	P	**P**	**14 01 57.2**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=230,slow=9.3,SNR=3.1						
WMQ	**Urumqi**	**88.25**	**315**	P	**P**	**14 02 04.4**	**-0.1**
WMQ				pP	**pP**	**14 02 17.8**	**-0.5**
WMQ				sP	**sP**	**14 02 23.0**	**-0.5**
WMQ				PP	**PP**	**14 05 34.3**	**+1.9**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.4s						
MK31	**Makanchi Array**	**92.70**	**317**	*eP*	**P**	**14 02 24.2**	**-0.9**
MKAR	**Makanchi Array**	**92.70**	**317**	*eP*	**P**	**14 02 24.4**	**-0.8**
MKAR	**Makanchi Array**	**92.70**	**317**	P	**P**	**14 02 24.6**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=97,slow=6.0,SNR=18						
ZALV	**Zalesovo Beam**	**92.82**	**324**	P	**P**	**14 02 24.3**	**-1.1**
ZALV	**Zalesovo Beam**	**92.82**	**324**	P	**P**	**14 02 24.3**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=115,slow=10.0,SNR=3.7						
ZALV				LR	LR	14 42 40.7	
	comp=Z,43nm,19.0s,baz=253,slow=34						
PDAR	**Pinedale Array**	**94.17**	**47**	P	**P**	**14 02 32.6**	**+0.3**
PDAR	**Pinedale Array**	**94.17**	**47**	P	**P**	**14 02 32.6**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=228,slow=2.3,SNR=2.7						
YKA	**Yellowknife Ar**	**95.27**	**27**	LR	LR	14 42 20.9	
	comp=Z,5.7nm,19.1s,baz=265,slow=33						
SNAA	**Sanae**	**97.23**	**184**	*eP*	**P**	**14 02 45.0**	**-0.5**
KEST	**Kesra**	**146.65**	**322**	PKPbc	**PKPab**	**14 08 56.0**	**-0.4**
KEST	**Kesra**	**146.65**	**322**	PKPbc	**PKPab**	**14 08 56.0**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=237,slow=4.1,SNR=3.3						
ESDC	**Sonseca Array**	**149.59**	**343**	PKPbc	**PKPbc**	**14 09 04.9**	**+2.1**
ESDC	**Sonseca Array**	**149.59**	**343**	PKPbc	**PKPbc**	**14 09 04.9**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=27,slow=2.5,SNR=3.2						

*NEIC **04** 14:44:11.0±0.5,3.76S×101.83E,h35km,mb4.5/3,Error ellipse: s-maj=16.3km s-min=6.9km az=48.0*

*IDC **04** 14:44:12.6±0.9,3.75S×101.85E,h47km±5km,mb3.9/20, mb1 4.0/20,mb1mx3.9/28,mbtmp3.9/20,MS2.9/1, Ms1 2.9/1,ms1mx1.8/38,Error ellipse: s-maj=26.3km s-min=12.6km az=49.0*

*ISCJB **04** 14:44:13.6±0.9,3.78S±0.07×101.92E±0.09,h77km±6km, mb4.1/23,Error ellipse: s-maj=18.4km s-min=5.8km az=144.8*

*DJA **04** 14:44:16.8±0.8,4.4S±7.1×10.2E±1.1°0,h49km±9km,M4.3/8, mb4.5/1,mB4.5/1,MLv4.3/8,Mw(mB)3.7/1*

ISC 04 14:44:12.1±0.7,3.88S±0.08×101.75E±0.09,h48km±4km, h48km:pP-P,n62,σ1°06/74,mb4.2/23,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**0.87**	**75**	P	**Pn**	**14 44 28.6**	**+0.5**
KSI				S	**Sn**	**14 44 38.8**	**-1.0**
MNAI	**Manna**	**1.30**	**112**	P	**Pn**	**14 44 35.7**	**+1.9**
MNAI				S	**Sn**	**14 44 51.3**	**+1.3**
LWLI	**Liwa**	**2.57**	**116**	P	**Pn**	**14 44 53.6**	**+2.3**
LWLI				S	**Sn**	**14 45 20.3**	**-1.1**
KLSI		**3.08**	**105**	P	**Pn**	**14 45 00.3**	**+2.0**
KASI	**Kota Agung**	**3.19**	**121**	P	**Pn**	**14 45 01.4**	**+1.6**
KASI				S	**Sn**	**14 45 36.8**	**+0.2**
RGRI	**Rengat**	**3.55**	**9**	P	**Pn**	**14 45 06.4**	**+1.7**
PPI	**Padang Panjang**	**3.66**	**338**	P	Pn	14 45 09.9	+3.7
BKNI	**Bangkinang**	**4.23**	**350**	P	Pn	14 45 23.8	+10
BTDF	**Bukit Timah Da**	**5.58**	**21**	P	**Pn**	**14 45 34.9**	**+2.3**
MYKOM	**Kota Tinggi**	**6.01**	**21**	P	**Pn**	**14 45 41.0**	**+2.6**
KGM	**Kluang**	**6.06**	**15**	P	**Pn**	**14 45 41.7**	**+2.5**
FRIM	**Kepong**	**7.07**	**359**	P	**Pn**	**14 45 55.9**	**+2.9**
PSI	**Prapat**	**7.21**	**337**	P	**Pn**	**14 45 55.8**	**+0.7**
PSI	**Prapat**	**7.21**	**337**	P	**Pn**	**14 45 55.8**	**+0.7**
	0.9nm,0.3s,baz=158,slow=11,SNR=3.5						
PSI				LR	LR	14 49 06.9	
	comp=Z,90nm,20.1s,baz=210,slow=42						
CMAR	**Chiang Mai Arr**	**22.36**	**353**	P	**P**	**14 49 06.7**	**+0.3**
CMAR				sP	**sP**	**14 49 23.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**22.36**	**353**	P	**P**	**14 49 06.7**	**+0.3**
	1.4nm,0.5s,baz=185,slow=8.8,SNR=9.6						
CMAR				sP	**sP**	**14 49 23.7**	**+0.1**
	1.1nm,0.7s,baz=178,slow=9.7,SNR=3.7						
FITZ	**Fitzroy Crossi**	**27.33**	**123**	P	**P**	**14 49 53.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**27.33**	**123**	P	**P**	**14 49 53.1**	**+0.4**
	2.4nm,0.9s,baz=349,slow=5.2,SNR=2.8						
WRA	**Warramunga Arr**	**35.55**	**119**	P	**P**	**14 51 05.5**	**+0.6**
WRA	**Warramunga Arr**	**35.55**	**119**	P	**P**	**14 51 05.5**	**+0.6**
	0.9nm,0.4s,baz=302,slow=8.9,SNR=15						
AS31	**Alice Springs**	**36.75**	**125**	*eP*	**P**	**14 51 14.8**	**-0.4**
ASAR	**Alice Springs**	**36.75**	**125**	P	**P**	**14 51 15.8**	**+0.6**
ASAR	**Alice Springs**	**36.75**	**125**	P	**P**	**14 51 15.8**	**+0.6**
	0.6nm,0.4s,baz=298,slow=8.1,SNR=27						
JNU	**Nakatsue**	**45.98**	**35**	P	**P**	**14 52 29.7**	**-1.1**
JNU	**Nakatsue**	**45.98**	**35**	P	**P**	**14 52 29.7**	**-1.1**
	1.2nm,0.5s,baz=180,slow=2.0,SNR=3.3						
CTA	**Charters Tower**	**46.23**	**114**	P	**P**	**14 52 32.7**	**-0.3**
CTA	**Charters Tower**	**46.23**	**114**	P	**P**	**14 52 32.7**	**-0.3**
	2.1nm,0.8s,baz=256,slow=13,SNR=4.0						
KSAR	**Wonju Array Be**	**47.76**	**28**	P	**P**	**14 52 43.7**	**-0.8**
KSRS	**Korea Array**	**47.78**	**28**	P	**P**	**14 52 43.7**	**-1.0**
	0.6nm,0.5s,baz=215,slow=8.1,SNR=8.7						
SONM	**Songino Array**	**51.66**	**4**	P	**P**	**14 53 14.2**	**+0.1**
SONM	**Songino Array**	**51.66**	**4**	P	**P**	**14 53 14.2**	**+0.1**
	4.4nm,0.7s,baz=192,slow=8.5,SNR=13						
TKM2	**Tokmak 2**	**52.24**	**336**	*eP*	**P**	**14 53 17.8**	**-0.9**
	3.5nm,0.6s						
MJAR	**Matsushiro Arr**	**52.67**	**37**	P	**P**	**14 53 20.0**	**-1.8**
MJAR	**Matsushiro Arr**	**52.67**	**37**	P	**P**	**14 53 20.0**	**-1.8**
	0.7nm,0.7s,baz=217,slow=7.2,SNR=4.2						
EKS2	**Erkin-Say**	**52.80**	**334**	*eP*	**P**	**14 53 23.5**	**+0.8**
	3.0nm,0.7s						
MK31	**Makanchi Array**	**53.30**	**343**	*eP*	**P**	**14 53 25.8**	**-0.5**
MKAR	**Makanchi Array**	**53.30**	**343**	P	**P**	**14 53 26.2**	**0.0**
MKAR				sP	**sP**	**14 53 44.4**	**-0.6**
MKAR	**Makanchi Array**	**53.30**	**343**	P	**P**	**14 53 26.2**	**0.0**
	3.5nm,0.5s,baz=155,slow=8.8,SNR=47						
MKAR				sP	**sP**	**14 53 44.4**	**-0.6**
	2.6nm,0.6s,baz=150,slow=8.0,SNR=6.3						
USRK	**Ussuriysk Arra**	**55.02**	**26**	P	**P**	**14 53 38.5**	**-0.3**
	4.7nm,0.5s,baz=224,slow=6.3,SNR=10						
KURBB	**Kurchatov Arra**	**57.84**	**343**	P	**P**	**14 53 58.5**	**-0.2**
	2.8nm,0.9s,baz=158,slow=7.1,SNR=17						
KURBB				pP	**pP**	**14 54 11.9**	**-0.1**
	1.2nm,0.8s,baz=160,slow=6.5,SNR=5.2						
KURK	**Kurchatov**	**57.90**	**343**	P	**P**	**14 53 58.5**	**-0.6**
KURK				pP	**pP**	**14 54 11.9**	**-0.5**
ZAA0	**Zalesovo Array**	**59.33**	**348**	*eP*	**P**	**14 54 07.9**	**-1.1**
ZALV	**Zalesovo Beam**	**59.33**	**348**	P	**P**	**14 54 08.6**	**-0.5**
ZALV				pP	**pP**	**14 54 22.8**	**+0.3**
ZALV	**Zalesovo Beam**	**59.33**	**348**	P	**P**	**14 54 08.6**	**-0.5**
	7.7nm,0.5s,baz=174,slow=5.3,SNR=38						
ZALV				pP	**pP**	**14 54 22.8**	**+0.3**
	2.3nm,0.5s,baz=163,slow=5.7,SNR=3.3						
ASAJ	**Asahikawa**	**60.20**	**33**	P	**P**	**14 54 15.1**	**-0.1**
ASAJ	**Asahikawa**	**60.20**	**33**	P	**P**	**14 54 15.1**	**-0.1**
	1.4nm,0.5s,baz=254,slow=5.6,SNR=7.8						
BVAR	**Borovoye Array**	**62.54**	**339**	P	**P**	**14 54 30.2**	**-0.7**
BVAR	**Borovoye Array**	**62.54**	**339**	P	**P**	**14 54 30.2**	**-0.7**
	1.2nm,0.4s,baz=134,slow=8.4,SNR=8.5						
ABKAR	**Akbulak array**	**64.11**	**331**	*eP*	**P**	**14 54 39.5**	**-1.8**
	2.7nm,0.6s						
KBZ	**Khabaz**	**70.86**	**319**	P	**P**	**14 55 24.3**	**+0.3**
KBZ	**Khabaz**	**70.86**	**319**	P	**P**	**14 55 24.3**	**+0.3**
	1.2nm,0.5s,baz=91,slow=3.9,SNR=4.1						
PETK	**Petropavlovsk-**	**73.55**	**31**	P	**P**	**14 55 39.0**	**-0.9**
PETK	**Petropavlovsk-**	**73.55**	**31**	P	**P**	**14 55 39.0**	**-0.9**
	3.1nm,1.0s,baz=228,slow=8.5,SNR=3.1						
BRTR	**Keskin Array B**	**75.87**	**312**	P	**P**	**14 55 54.2**	**+0.3**
BRTR	**Keskin Array B**	**75.87**	**312**	P	**P**	**14 55 54.2**	**+0.3**
	1.1nm,0.4s,baz=140,slow=7.4,SNR=6.5						
MLR	**Muntele Rosu**	**82.85**	**317**	P	**P**	**14 56 32.9**	**+1.2**
MLR	**Muntele Rosu**	**82.85**	**317**	P	**P**	**14 56 32.9**	**+1.2**
	0.6nm,0.8s,baz=70,slow=5.4,SNR=4.4						
BUR08	**Bucovina Ar. S**	**83.83**	**319**	*eP*	**P**	**14 56 37.0**	**+0.3**
FINES	**FINESS Array B**	**86.57**	**332**	P	**P**	**14 56 50.7**	**+0.7**
FINES	**FINESS Array B**	**86.57**	**332**	P	**P**	**14 56 50.7**	**+0.7**
	1.5nm,0.8s,baz=108,slow=3.2,SNR=5.9						
TXAR	**Lajitas Array**	**145.05**	**41**	PKP	**PKPdf**	**15 03 44.9**	**-0.2**
TXAR				pPKP	**pPKPdf**	**15 03 59.0**	**-0.7**
TXAR	**Lajitas Array**	**145.05**	**41**	PKP	**PKPdf**	**15 03 44.9**	**-0.2**
	1.6nm,0.5s,baz=284,slow=1.4,SNR=24						
TXAR				pPKP	**pPKPdf**	**15 03 59.0**	**-0.7**
	0.7nm,0.6s,baz=310,slow=1.1,SNR=4.9						

*IDC **04** 14:45:02.4±0.9,31.12N×103.58E,h0km,mb3.6/10, mb1 3.8/11,mb1mx3.6/25,mbtmp3.6/11,ML3.4/1,MS3.0/1, Ms1 3.0/1,ms1mx1.8/32,Error ellipse: s-maj=34.0km s-min=16.6km az=56.0*

*BJI **04** 14:45:04.9,31.36N×103.74E,h20km,ML3.6/18,Ms3.5/3, Ms7 3.3/3*

ISC 04 14:45:05.2±0.6,31.32N±0.04×103.65E±0.07,h13km,n17, σ1°84/25,mb3.5/9,1D,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.42**	**167**	*i* P	**Pg**	**14 45 13.6**	**0.0**
CD2				Sg	**Sb**	**14 45 20.2**	**-0.6**
CD2				smax	smax		
	comp=N,8μm,0.5s						
CD2				smax	smax		
	comp=E,10μm,0.5s						
LZH	**Lanzhou**	**4.76**	**2**	*e* Pg	**Pb**	**14 46 27.3**	**-1.2**
LZH				Sg	**Sg**	**14 47 39.2**	**+1.3**
LZH				smax	smax		
	comp=N,82nm,1.3s						
LZH				smax	smax		
	comp=E,120nm,1.3s						
LZH				LR	LR		
	comp=N,190nm,5.3s						
LZH				LR	LR		
	comp=E,360nm,6.4s						
LZH				LR	LR		
	comp=Z,210nm,7.0s						
XAN	**Xi'an**	**5.21**	**57**	Pn	**Pn**	**14 46 22.5**	**-0.3**
XAN				Pg	**Pb**	**14 46 39.2**	**+3.1**
XAN				Sn	**Sn**	**14 47 18.5**	**-4.3**
XAN				Sg	**Sb**	**14 47 38.9**	**+0.3**
XAN				smax	smax		
	comp=N,84nm,0.6s						
XAN				smax	smax		
	comp=E,84nm,0.9s						
GYA	**Guiyang**	**5.52**	**151**	Pn	**Pn**	**14 46 29.0**	**+1.8**
GYA				Sn	**Sn**	**14 47 27.2**	**-3.4**
GYA				Sg	**Sb**	**14 47 49.4**	**+1.7**
GYA				smax	smax		
	comp=N,130nm,0.9s						
GYA				smax	smax		
	comp=E,120nm,1.0s						
KMI	**Kunming**	**6.23**	**188**	Pn	**Pn**	**14 46 37.7**	**+0.7**
KMI				Sn	**Sn**	**14 47 45.5**	**-2.7**
KMI				smax	smax		
	comp=N,26nm,0.8s						
KMI				smax	smax		
	comp=E,23nm,0.9s						
KMI				LR	LR		
	comp=N,200nm,7.5s						
KMI				LR	LR		
	comp=E,230nm,7.2s						
KMI				LR	LR		
	comp=Z,120nm,10.4s						
CMAR	**Chiang Mai Arr**	**13.50**	**199**	Pn	**Pn**	**14 48 17.6**	**+1.1**
	comp=Z,0.0nm,0.3s,baz=15,slow=12,SNR=6.5						
SONM	**Songino Array**	**16.63**	**6**	Pn	**P**	**14 49 01.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=181,slow=12,SNR=3.3						
SONM				LR	LR	14 55 56.7	
	comp=Z,58nm,20.8s,baz=62,slow=39						
KSRS	**Korea Array**	**20.92**	**66**	P	**P**	**14 49 47.2**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=246,slow=8.8,SNR=17						
MKAR	**Makanchi Array**	**22.56**	**319**	P	**P**	**14 50 07.2**	**+2.1**
	comp=Z,0.3nm,0.4s,baz=121,slow=11,SNR=7.1						
ZALV	**Zalesovo Beam**	**26.36**	**335**	P	**P**	**14 50 41.1**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=134,slow=10,SNR=3.2						
KURBB	**Kurchatov Arra**	**26.83**	**323**	P	**P**	**14 50 45.8**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=131,slow=8.3,SNR=5.0						
ARCES	**ARCESS Array B**	**56.90**	**336**	P	**P**	**14 54 49.3**	**-0.2**
	comp=Z,1.9nm,0.9s,baz=94,slow=8.2,SNR=4.4						
FINES	**FINESS Array B**	**57.17**	**326**	P	**P**	**14 54 50.7**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=113,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**58.87**	**146**	P	**P**	**14 55 02.3**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=338,slow=7.7,SNR=12						
ASAR	**Alice Springs**	**61.88**	**148**	P	**P**	**14 55 22.9**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=338,slow=6.8,SNR=9.3						
ILAR	**Eielson Array**	**69.81**	**26**	P	**P**	**14 56 17.0**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=303,slow=5.4,SNR=3.2						
YKA	**Yellowknife Ar**	**81.60**	**17**	P	**P**	**14 57 21.5**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=332,slow=5.2,SNR=3.8						

IDC 04 14:53:06.4±7.7,17.53N×146.46E,h160km±73km, mb3.1/10,mb1 3.2/10,mb1mx3.1/25,mbtmp3.1/10, MS2.2/1,Ms1 2.2/1,ms1mx2.1/13,Error ellipse: s-maj=30.9km s-min=16.0km az=91.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**20.30**	**341**	P	P	14 57 29.3	-0.5
	0.6nm,0.7s,baz=168,slow=9.8,SNR=4.3						
TGY	**Tagaytay City**	**24.79**	**266**	LR	LR	15 07 13.4	
	comp=Z,5.5nm,19.9s,baz=177,slow=34						
WRA	**Warramunga Arr**	**39.10**	**198**	P	P	15 00 17.7	-0.6
	0.2nm,0.4s,baz=19,slow=8.6,SNR=3.3						
ASAR	**Alice Springs**	**42.74**	**197**	P	P	15 00 48.4	+0.3
	0.2nm,0.7s,baz=27,slow=7.3,SNR=3.3						
ZALV	**Zalesovo Beam**	**59.38**	**323**	P	P	15 02 51.6	-0.1
	1.1nm,0.5s,baz=113,slow=7.4,SNR=4.8						
MKAR	**Makanchi Array**	**59.79**	**314**	P	P	15 02 55.5	+0.8
	0.2nm,0.5s,baz=92,slow=8.5,SNR=4.4						
KURBB	**Kurchatov Arra**	**62.67**	**318**	P	P	15 03 14.1	+0.1
	0.5nm,0.3s,baz=97,slow=7.3,SNR=13						
ILAR	**Eielson Array**	**64.37**	**26**	P	P	15 03 24.7	-0.2
	0.4nm,1.1s,baz=265,slow=5.2,SNR=3.4						
BVAR	**Borovoye Array**	**67.83**	**321**	P	P	15 03 46.9	-0.3
	0.8nm,0.5s,baz=120,slow=8.8,SNR=4.4						
YKA	**Yellowknife Ar**	**78.67**	**28**	P	P	15 04 51.0	+0.5
	0.1nm,0.3s,baz=286,slow=5.7,SNR=3.0						
KEV	**Kevo**	**83.26**	**342**	*ep*	P	15 05 17.1	+2.5
	0.4nm,0.4s						
JOF	**Joensuu**	**85.38**	**335**	*ep*	P	15 05 22.0	-3.4
	0.3nm,0.3s						
FINES	**FINESS Array B**	**88.24**	**336**	P	P	15 05 38.1	-1.2
	1.1nm,0.7s,baz=25,slow=5.0,SNR=6.2						

IDC 04 14:53:55.1±1.9,10.29S×119.20E,h0km,mb3.3/1, mb1 3.5/5,mb1mx3.4/19,mbtmp3.4/5,ML3.3/4,Error ellipse: s-maj=81.9km s-min=23.0km az=58.0,Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**5.27**	**6**	Pn	Pn	14 55 15.6	+0.5
	2.3nm,0.3s,baz=195,slow=16,SNR=3.7						
KAPI				Sn	Sn	14 56 15.6	-1.0
	2.3nm,0.3s,baz=73,slow=20,SNR=4.5						
FITZ	**Fitzroy Crossi**	**9.96**	**142**	Pn	Pn	14 56 20.7	+1.1
	0.2nm,0.3s,baz=325,slow=12,SNR=6.2						
FITZ				Sn	Sn	14 58 02.7	-10
	0.6nm,0.3s,baz=166,slow=18,SNR=8.3						
WRA	**Warramunga Arr**	**17.47**	**125**	P	Pn	14 57 58.5	-1.9
	0.1nm,0.3s,baz=299,slow=14,SNR=4.6						
WRA				S	Sn	15 01 02.9	-13
	0.1nm,0.3s,baz=291,slow=22,SNR=3.2						
ASAR	**Alice Springs**	**19.34**	**135**	P	Pn	14 58 22.7	-0.5
	0.1nm,0.3s,baz=310,slow=11,SNR=7.4						
MKAR	**Makanchi Array**	**65.69**	**333**	P	P	15 04 41.2	-0.1
	0.2nm,0.6s,baz=138,slow=5.6,SNR=3.3						

*IDC **04** 15:13:15.9±1.0,30.36N×83.97E,h0km,mb3.6/8, mb1 3.8/8,mb1mx3.5/26,mbtmp3.6/8,MS3.0/2,Ms1 2.9/2, ms1mx2.5/35,Error ellipse: s-maj=41.7km s-min=20.6km az=62.0*

*ISCJB **04** 15:13:18.4±0.6,30.24N±0.07×83.38E±0.1,h26km,mb3.6/7, MS3.0/2,Error ellipse: s-maj=16.5km s-min=9.2km az=10.0*

ISC 04 15:13:20.4±0.8,30.42N±0.09×83.9E±0.2,h26km,n12, σ1°74/12,mb3.7/7,1C,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JBP	**Jabalpur**	**8.03**	**207**	*i* P	**Pn**	**15 15 18.2**	**+2.9**
JBP				*e* S	**Sn**	**15 16 42.0**	**-3.2**
MKAR	**Makanchi Array**	**16.40**	**356**	Pn	**P**	**15 17 11.0**	**-0.3**
	0.1nm,0.3s,baz=184,slow=12,SNR=7.3						
CMAR	**Chiang Mai Arr**	**18.13**	**128**	P	**P**	**15 17 30.9**	**+0.3**
	baz=312,slow=9.5,SNR=5.4						
KURBB	**Kurchatov Arra**	**20.58**	**350**	P	**P**	**15 17 55.4**	**-1.7**
	3.0nm,0.8s,baz=173,slow=10,SNR=32						
ZALV	**Zalesovo Beam**	**23.52**	**1**	P	**P**	**15 18 29.4**	**+1.2**
	1.7nm,0.8s,baz=186,slow=10,SNR=8.5						
KBZ	**Khabaz**	**34.95**	**304**	LR	LR	15 37 45.0	
	comp=Z,43nm,20.1s,baz=89,slow=42						
FINES	**FINESS Array B**	**48.48**	**327**	P	**P**	**15 22 00.2**	**-0.4**
	1.1nm,0.7s,baz=106,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**69.71**	**129**	P	**P**	**15 24 27.4**	**-0.8**
	0.4nm,0.6s,baz=324,slow=6.2,SNR=4.6						
ASAR	**Alice

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.68**	**300**	P	Pn	15 34 33.0	-0.2
	21nm,0.3s,baz=123,slow=6.9,SNR=75						
LVC				S	Sn	15 34 54.2	-2.1
	100nm,0.3s,baz=218,slow=23,SNR=75						
LPAZ	**La Paz**	**7.18**	**354**	P	Pn	15 35 46.3	+0.2
	1.7nm,0.3s,baz=175,slow=5.3,SNR=19						
LPAZ				S	Sn	15 37 02.7	-4.1
	baz=330,slow=20,SNR=1.3						
CFAA	**Coronel Fontan**	**8.14**	**185**	P	Pn	15 35 57.4	-0.7
	0.1nm,0.3s,baz=359,slow=13,SNR=14						
CFAA				S	Sn	15 37 22.9	-5.8
	0.2nm,0.3s,baz=234,slow=18,SNR=8.4						
SIV	**San Ignacio**	**9.50**	**40**	P	Pn	15 36 15.8	-0.7
	1.2nm,0.3s,baz=235,slow=11,SNR=13						
SIV				S	Sn	15 37 57.4	-4.2
	0.2nm,0.3s,baz=168,slow=20,SNR=5.7						
BDFB	**Brasilia**	**19.80**	**70**	P	P	15 38 24.2	+0.8
	0.8nm,0.3s,baz=238,slow=10,SNR=12						
SNAA	**Sanae**	**59.95**	**161**	P	P	15 43 55.5	+0.3
	0.2nm,0.6s,baz=333,slow=16,SNR=3.7						
TORD	**Torodi Ar. Bea**	**76.68**	**69**	P	P	15 45 39.6	-0.4
	4.2nm,0.9s,baz=256,slow=5.6,SNR=22						
MKAR	**Makanchi Array**	**146.31**	**39**	PKPbc	PKPbc	15 53 27.7	-0.7
	0.4nm,0.6s,baz=318,slow=1.9,SNR=3.4						

*ISCJB **04** 15:54:28.4±0.8,53.16N±0.05×162.10W±0.08,h20km, mb3.2/3,Error ellipse: s-maj=8.1km s-min=6.4km az=149.7*

*IDC **04** 15:54:28.1±2.1,53.06N×161.94W,h0km,mb3.3/3, mb1 3.4/5,mb1mx3.2/28,mbtmp3.2/5,ML3.0/2,Error ellipse: s-maj=45.2km s-min=25.6km az=167.0*

*NEIC **04** 15:54:31.8,53.32N×162.29W,h10km,ML3.0(AEIC),After AEIC.*

ISC 04 15:54:30.0±1.2,53.20N±0.09×162.03W±0.06,h20km,n28, σ1§31/33,mb3.5/3,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRPK	**Brown Peak**	**1.77**	**326**	P	**Pn**	**15 54 58.6**	**-0.8**
DRIA	**Deer Island**	**1.77**	**356**	P	**Pn**	**15 54 58.9**	**-0.7**
FALS	**False Pass**	**1.85**	**334**	P	**Pn**	**15 54 60.0**	**-0.6**
FALS				S	**Sn**	**15 55 23.0**	**-0.3**
DT1	**Dutton Round H**	**1.92**	**356**	P	**Pn**	**15 55 01.0**	**-0.5**
DTNA	**Dutton South F**	**1.96**	**356**	P	**Pn**	**15 55 01.7**	**-0.3**
DTNA				S	**Sn**	**15 55 26.6**	**+0.6**
WESE	**West Dahl East**	**1.98**	**311**	P	**Pn**	**15 55 01.4**	**-1.0**
SSLW	**Shishaldin Wes**	**2.00**	**323**	P	**Pn**	**15 55 02.3**	**-0.4**
SSLW				S	**Sn**	**15 55 26.6**	**-0.6**
SSBA	**Shishaldin**	**2.00**	**323**	P	**Pn**	**15 55 02.2**	**-0.5**
SSBA				S	**Sn**	**15 55 26.1**	**-1.1**
WESN	**West Dahl Nort**	**2.04**	**313**	P	**Pn**	**15 55 02.9**	**-0.4**
SDPT	**Sand Point**	**2.34**	**22**	P	**Pn**	**15 55 07.3**	**+0.1**
AKUT	**Akutan**	**2.42**	**294**	P	**Pn**	**15 55 07.3**	**-1.1**
ZRO	**Akutan Zero**	**2.52**	**292**	P	**Pn**	**15 55 08.7**	**-1.1**
AKLV	**Akutan Long Va**	**2.53**	**294**	P	**Pn**	**15 55 08.9**	**-1.0**
AKGG	**Akutan Green G**	**2.56**	**295**	P	**Pn**	**15 55 09.5**	**-0.9**
LVA	**Lava Point**	**2.57**	**294**	P	**Pn**	**15 55 09.7**	**-0.8**
AKRB	**Akutan Reef Bi**	**2.58**	**293**	P	**Pn**	**15 55 09.6**	**-1.0**
UNV	**Unalaska Valle**	**2.75**	**285**	P	**Pn**	**15 55 11.3**	**-1.6**
MTBL	**Makushin Table**	**2.88**	**287**	P	**Pn**	**15 55 14.1**	**-0.7**
MREP	**Makushin Rep't**	**2.88**	**284**	P	**Pn**	**15 55 14.2**	**-0.6**
MCIR	**Makushin Cirqu**	**3.00**	**286**	P	**Pn**	**15 55 15.6**	**-0.8**
OKTU	**Okmok Mt. Tuli**	**3.61**	**275**	P	**Pn**	**15 55 24.1**	**-0.7**
OKSP	**Okmok Steeple**	**3.77**	**273**	P	**Pn**	**15 55 25.7**	**-1.2**
NIKH	**Nikolski High**	**4.12**	**270**	P	**Pn**	**15 55 29.8**	**-2.0**
KDAK	**Kodiak Island**	**7.06**	**146**	Pn	**Pn**	**15 56 10.8**	**-1.2**
	0.5nm,0.3s,baz=225,slow=8.1,SNR=3.5						
KDAK				Sn	**Sn**	**15 57 27.0**	**-4.6**
	0.3nm,0.3s,baz=320,slow=24,SNR=6.6						
ILAR	**Eielson Array**	**13.93**	**28**	Pn	**Pn**	**15 57 46.1**	**+0.2**
	0.0nm,0.3s,baz=233,slow=13,SNR=2.7						
PETK	**Petropavlovsk-**	**23.93**	**286**	P	**P**	**15 59 44.3**	**+1.9**
	0.9nm,0.6s,baz=87,slow=14,SNR=4.4						
YKA	**Yellowknife Ar**	**26.30**	**50**	P	**P**	**16 00 05.6**	**+1.7**
	0.2nm,0.7s,baz=263,slow=9.9,SNR=3.7						
PDAR	**Pinedale Array**	**35.87**	**85**	P	**P**	**16 01 29.4**	**+0.7**
	0.5nm,0.7s,baz=324,slow=4.5,SNR=5.7						

IDC 04 16:10:28.6±10.0,0.03N×121.86E,h254km±115km, mb3.4/7,mb1 3.5/8,mb1mx3.2/23,mbtmp3.4/8,Error ellipse: s-maj=51.2km s-min=16.6km az=48.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.40**	**169**	P	P	16 14 24.5	-0.8
	0.5nm,0.3s,baz=359,slow=9.5,SNR=19						
WRA	**Warramunga Arr**	**23.31**	**149**	P	P	16 15 14.1	-0.3
	2.3nm,0.5s,baz=323,slow=11,SNR=40						
WRA				pP	pP	16 15 57.0	-2.1
	1.0nm,0.8s,baz=330,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**26.30**	**154**	P	P	16 15 41.8	+0.5
	0.8nm,0.5s,baz=344,slow=14,SNR=32						
PMG	**Port Moresby**	**26.87**	**111**	P	P	16 15 47.0	+0.6
	14nm,0.9s,baz=323,slow=15,SNR=3.1						
CMAR	**Chiang Mai Arr**	**29.02**	**310**	P	P	16 16 06.0	+0.6
	0.4nm,0.7s,baz=134,slow=7.7,SNR=3.0						
SONM	**Songino Array**	**49.48**	**346**	P	P	16 18 53.2	-0.3
	2.1nm,0.7s,baz=154,slow=6.8,SNR=6.2						
MKAR	**Makanchi Array**	**57.99**	**329**	P	P	16 19 55.3	+0.3
	1.1nm,0.4s,baz=126,slow=8.8,SNR=21						
ZALV	**Zalesovo Beam**	**61.82**	**336**	P	P	16 20 19.7	-1.0
	0.4nm,0.3s,baz=116,slow=6.6,SNR=3.2						

IDC 04 16:18:12.1±2.3,5.03N×123.55E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.4/23,mbtmp3.5/3,Error ellipse: s-maj=290.1km s-min=25.1km az=63.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.99**	**157**	P	P	16 23 55.8	0.0
	0.4nm,0.3s,baz=335,slow=9.7,SNR=8.4						
ASAR	**Alice Springs**	**30.26**	**161**	P	P	16 24 25.0	0.0
	0.3nm,0.3s,baz=338,slow=7.4,SNR=23						
MKAR	**Makanchi Array**	**54.70**	**326**	P	P	16 27 43.1	-0.1
	0.1nm,0.4s,baz=126,slow=7.0,SNR=2.7						

IDC 04 16:30:21.0±1.4,60.86S×26.72W,h0km,mb3.8/4, mb1 3.9/6,mb1mx3.8/17,mbtmp3.8/6,Error ellipse: s-maj=39.8km s-min=30.9km az=9.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**14.34**	**149**	Pn	Pn	16 33 43.9	-1.1
	0.1nm,0.3s,baz=322,slow=14,SNR=12						
PMSA	**Palmer Station**	**17.31**	**241**	P	Pn	16 34 22.6	-1.0
	0.9nm,0.3s,baz=86,slow=14,SNR=5.1						
CFAA	**Coronel Fontan**	**39.87**	**298**	P	P	16 37 55.9	-0.3
	0.2nm,0.5s,baz=154,slow=8.1,SNR=6.1						
CPUP	**Villa Florida**	**40.29**	**315**	P	P	16 37 59.6	0.0
	0.4nm,0.2s,baz=132,slow=6.9,SNR=5.6						
LPAZ	**La Paz**	**53.44**	**308**	P	P	16 39 42.7	-0.6
	0.6nm,0.4s,baz=135,slow=7.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**77.16**	**28**	P	P	16 42 15.8	-0.3
	1.3nm,0.6s,baz=198,slow=6.2,SNR=18						
ILAR	**Eielson Array**	**153.29**	**304**	PKPbc	PKPbc	16 50 21.1	+2.0
	0.4nm,1.0s,baz=144,slow=2.0,SNR=4.0						

*ATH **04** 16:32:38.2,33.91N×25.47E,h5km±4km,MD3.1/6*

*CSEM **04** 16:32:39.7±0.3,34.03N×25.56E,h2km,MD3.1,Error ellipse: s-maj=10.4km s-min=6.2km az=71.0*

*IDC **04** 16:32:39.5±1.0,34.03N×25.54E,h0km,mb3.6/11, mb1 3.7/16,mb1mx3.7/31,mbtmp3.6/16,ML3.5/5,MS2.7/1, Ms1 2.8/1,ms1mx1.9/40,Error ellipse: s-maj=26.8km s-min=17.0km az=168.0*

*ISCJB **04** 16:32:40.4±0.4,34.04N±0.03×25.73E±0.04,h17km, mb3.4/11,MS2.6/1,Error ellipse: s-maj=5.3km s-min=4.0km az=44.7*

*HLW **04** 16:32:42.1,34.15N×25.68E,h31km±37km,Md3.3,Ml3.3*

ISC 04 16:32:42.2±0.6,34.06N±0.04×25.60E±0.05,h17km,n56, σ1§35/62,mb3.5/11,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.11**	**355**	*e*PG	**Pn**	**16 33 01.8**	**-1.2**
LAST	**Lasithi**	**1.11**	**355**	*e*Pg	**Pn**	**16 33 01.8**	**-1.2**
SIVA	**Sivas**	**1.16**	**326**	*e*PB	**Pn**	**16 33 02.1**	**-1.6**
SIVA				*e*SB	**Sg**	**16 33 19.1**	**-0.7**
SIVA	**Sivas**	**1.16**	**326**	*e*Pb	**Pn**	**16 33 02.1**	**-1.6**
SIVA				*e*Sb	**Sg**	**16 33 19.1**	**-0.7**
ZKR	**Zakros**	**1.17**	**25**	*e*PB	**Pn**	**16 33 03.9**	**+0.1**
ZKR				*e*SB	**Sg**	**16 33 23.1**	**+2.9**
ZKR	**Zakros**	**1.17**	**25**	*e*Pb	**Pn**	**16 33 03.9**	**+0.1**
NPS	**Neapolis**	**1.20**	**0**	*e*PG	**Pn**	**16 33 03.6**	**-0.7**
NPS	**Neapolis**	**1.20**	**0**	*e*Pg	**Pn**	**16 33 03.6**	**-0.7**
GVD	**Gavdhos**	**1.48**	**302**	*e*PB	**Pn**	**16 33 06.7**	**-1.3**
GVD	**Gavdhos**	**1.48**	**302**	*e*Pb	**Pn**	**16 33 06.7**	**-1.3**
VAM	**Vamos**	**1.77**	**320**	*e*PG	**Pn**	**16 33 12.1**	**0.0**
VAM	**Vamos**	**1.77**	**320**	*e*Pg	**Pn**	**16 33 12.1**	**0.0**
KARP	**Karpathos**	**1.96**	**40**	*e*PG	**Pb**	**16 33 18.0**	**+0.5**
KARP	**Karpathos**	**1.96**	**40**	*e*Pg	**Pb**	**16 33 18.0**	**+0.5**
SLUM		**2.58**	**187**	P	**Pn**	**16 33 22.3**	**-0.9**
APE	**Apeiranthos**	**3.01**	**359**	*e*P	**Pn**	**16 33 27.7**	**-1.4**
KYTH	**Kithira**	**3.06**	**317**	*e*PN	**Pn**	**16 33 31.0**	**+1.2**
KYTH	**Kithira**	**3.06**	**317**	*e*Pn	**Pn**	**16 33 31.0**	**+1.2**
DAT	**Datca**	**3.12**	**31**	*e*P	**Pn**	**16 33 28.2**	**-2.4**
HMAT	**Matruh**	**3.21**	**156**	P	**Pn**	**16 33 31.8**	**-0.1**
	baz=158						
HMAT				AMP		16 34 00.0	
	comp=E,130μm,0.6s,logA/T=5.4,baz=158						
HMAT				S	**Sn**	**16 34 08.3**	**-1.5**
	baz=158						
HMAT	**Matruh**	**3.21**	**156**	P	**Pn**	**16 33 31.8**	**-0.1**
HMAT				S	**Sn**	**16 34 08.3**	**-1.5**
VLI	**Veliai**	**3.44**	**321**	*e*PN	**Pn**	**16 33 35.8**	**+0.9**
DALY	**Dalyan (Mu˘la**	**3.71**	**41**	*e*P	**Pn**	**16 33 37.2**	**-1.6**
YER	**Yerkesik**	**3.77**	**35**	*e*P	**Pn**	**16 33 37.2**	**-2.4**
FETY	**Fethiye**	**3.84**	**47**	*e*P	**Pn**	**16 33 38.4**	**-2.1**
ELL	**Elmali**	**4.42**	**51**	*e*P	**Pn**	**16 33 46.8**	**-1.9**
SWA2		**4.80**	**182**	P	**Pn**	**16 33 53.2**	**-0.5**
	baz=183						
SWA2		**4.80**	**182**	P	**Pn**	**16 33 53.2**	**-0.5**
BCK	**Bucak**	**5.29**	**49**	*e*P	**Pn**	**16 33 59.2**	**-1.3**
SUTC	**Sutluce-Ispart**	**5.56**	**51**	*e*P	**Pn**	**16 34 03.0**	**-1.3**
HDMB	**Hadim**	**6.32**	**61**	*e*P	**Pn**	**16 34 13.9**	**-0.9**
CSS	**Prodhromos**	**6.44**	**80**	*e*P	**Pn**	**16 34 16.7**	**+0.4**
LFK	**Lefkose**	**6.65**	**77**	*e*P	**Pn**	**16 34 18.8**	**-0.3**
KONT	**Konya--Tatoy**	**6.71**	**53**	*e*P	**Pn**	**16 34 18.8**	**-1.2**
IKL	**Isikli**	**6.97**	**70**	*e*P	**Pn**	**16 34 23.0**	**-0.5**
KIZT	**Kizilcal**	**6.98**	**45**	*e*P	**Pn**	**16 34 22.4**	**-1.4**
AMAG	**Maghara**	**7.28**	**116**	P	**Pn**	**16 34 26.4**	**-1.4**
	baz=116						
AMAG	**Maghara**	**7.28**	**116**	P	**Pn**	**16 34 26.4**	**-1.4**
MMAI	**Mount Meron Ar**	**8.25**	**95**	Pn	**Pn**	**16 34 40.1**	**-1.1**
	comp=E,0.8nm,0.3s,baz=262,slow=12,SNR=6.7						
MMAI				Sn	**Sn**	**16 36 13.9**	**0.0**
	comp=E,1.9nm,0.3s,baz=268,slow=22,SNR=5.8						
KARA	**Karaisali**	**8.33**	**65**	*e*P	**Pn**	**16 34 40.8**	**-1.4**
BRTR	**Keskin Array B**	**8.57**	**46**	Pn	**Pn**	**16 34 47.6**	**+2.1**
	comp=E,0.1nm,0.3s,baz=224,slow=14,SNR=10						
EIL	**Elat**	**9.07**	**116**	Pn	**Pn**	**16 34 52.1**	**-0.3**
	comp=E,0.5nm,0.3s,baz=304,slow=4.8,SNR=7.7						
EIL				Sn	**Sn**	**16 36 29.4**	**-4.7**
	comp=E,0.6nm,0.3s,baz=324,slow=19,SNR=3.3						
KBZ	**Khabaz**	**16.54**	**49**	Pn	**P**	**16 36 36.8**	**+1.0**
	comp=E,0.1nm,0.3s,baz=222,slow=3.7,SNR=4.9						
GERES	**GERESS Array B**	**17.23**	**333**	P	**P**	**16 36 43.1**	**-0.3**
	comp=E,0.1nm,0.3s,baz=148,slow=11,SNR=11						
ESDC	**Sonseca Array**	**24.25**	**292**	P	**P**	**16 37 58.0**	**-0.4**
	comp=E,0.2nm,0.5s,baz=77,slow=9.3,SNR=3.1						
FINES	**FINESS Array B**	**27.41**	**0**	P	**P**	**16 38 25.6**	**-0.9**
	comp=E,1.7nm,0.9s,baz=153,slow=13,SNR=5.6						
NOA	**NORSAR Array B**	**28.56**	**345**	LR	LR	16 51 24.9	
	comp=E,16nm,21.4s,baz=195,slow=39						
TORD	**Torodi Ar. Bea**	**30.08**	**232**	P	**P**	**16 38 50.6**	**-0.2**
	comp=E,0.1nm,0.4s,baz=128,slow=38,SNR=3.0						
BVAR	**Borovoye Array**	**36.85**	**45**	P	**P**	**16 39 49.4**	**0.0**
	comp=E,0.4nm,0.5s,baz=266,slow=4.0,SNR=3.0						
KURBB	**Kurchatov Arra**	**41.54**	**50**	P	**P**	**16 40 29.3**	**+0.7**
	comp=E,1.5nm,0.6s,baz=277,slow=8.7,SNR=15						
MKAR	**Makanchi Array**	**44.09**	**56**	P	**P**	**16 40 50.2**	**+0.9**
	comp=E,0.9nm,0.6s,baz=281,slow=6.5,SNR=8.9						
ZALV	**Zalesovo Beam**	**45.51**	**45**	P	**P**	**16 41 00.8**	**+0.3**
	comp=E,1.1nm,0.5s,baz=280,slow=6.4,SNR=5.0						
SONM	**Songino Array**	**59.91**	**50**	P	**P**	**16 42 49.4**	**+2.1**
	comp=E,0.3nm,0.4s,baz=299,slow=5.9,SNR=2.3						
YKA	**Yellowknife Ar**	**78.61**	**342**	P	**P**	**16 44 42.5**	**-0.1**
	comp=E,0.2nm,0.5s,baz=30,slow=5.1,SNR=3.4						
KSRS	**Korea Array**	**78.66**	**52**	P	**P**	**16 44 42.2**	**-1.2**
	comp=E,0.2nm,0.5s,baz=326,slow=4.9,SNR=4.1						
ILAR	**Eielson Array**	**81.32**	**357**	P	**P**	**16 44 57.8**	**+0.5**
	comp=E,0.2nm,0.5s,baz=338,slow=3.4,SNR=4.2						

*MOS **04** 17:03:23.9±1.5,36.99N×71.11E,h80km,mb4.1/17,Error ellipse: s-maj=11.0km s-min=4.8km az=80.9*

*IDC **04** 17:03:24.4±3.3,36.93N×71.19E,h75km±28km,mb3.5/16, mb1 3.8/21,mb1mx3.7/30,mbtmp3.7/21,MS3.1/2, Ms1 3.1/2,ms1mx2.5/36,Error ellipse: s-maj=20.5km s-min=12.2km az=13.0*

*ISCJB **04** 17:03:25.0±0.3,37.06N±0.02×71.17E±0.05,h88km, mb3.8/24,Error ellipse: s-maj=6.2km s-min=3.3km az=164.4*

*NNC **04** 17:03:25.2±3.6,37.37N×70.84E,h7km±18km,mb4.6, mpv4.7,Error ellipse: s-maj=24.4km s-min=19.8km az=22.0*

*BJI **04** 17:03:33.5,37.63N×71.49E,h139km,mB4.6/6,mb4.6/13*

ISC 04 17:03:26.2±0.5,37.09N±0.04×71.19E±0.06,h88km,n101, σ1§90/104,mb3.9/24,18C-8D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.31**	**170**	⇑P	Pn	17 04 18.0	+2.0
CEP				S	**Sn**	**17 04 58.0**	**+3.5**
CHCP	**Chirah Chowk**	**3.82**	**153**	P	Pn	17 04 25.4	+2.6
THW	**Thamme Wali**	**4.31**	**174**	P	**Pn**	**17 04 30.5**	**+1.0**
KSH	**Kashi**	**4.48**	**56**	P	**Pn**	**17 04 29.4**	**-2.4**
KSH				S	Sn	17 05 10.1	-13
KSH				smax	smax		
	comp=N,530nm,0.6s						
KSH				smax	smax		
	comp=E,550nm,0.6s						
SARP	**Sargodha**	**5.30**	**166**	P	**Pn**	**17 04 43.1**	**+0.2**
JMU	**Jammu**	**5.32**	**144**	*i* S	**Sn**	**17 05 42.0**	**-1.1**
AML	**Almayashu**	**5.40**	**20**	*i* PN	**Pn**	**17 04 46.0**	**+1.4**
AML	**Almayashu**	**5.40**	**20**	P	**Pn**	**17 04 46.0**	**+1.4**
	SNR=69						
UCH	**Uchtor**	**5.74**	**26**	*i* PN	**Pn**	**17 04 51.7**	**+2.4**
UCH	**Uchtor**	**5.74**	**26**	P	**Pn**	**17 04 51.7**	**+2.4**
	SNR=5.3						
KZA	**Kyzart**	**5.89**	**31**	*i* PN	**Pn**	**17 04 52.9**	**+1.6**
KZA	**Kyzart**	**5.89**	**31**	P	**Pn**	**17 04 53.0**	**+1.6**
	SNR=14						
EKS2	**Erkin-Say**	**5.91**	**19**	P	**Pn**	**17 04 53.2**	**+1.8**
	SNR=26						
THN	**Thein Dam**	**5.95**	**140**	*e*P	**Pn**	**17 04 50.7**	**-1.1**
THN				*e*S	**Sn**	**17 05 53.8**	**-4.8**
DLH	**Dalhousie**	**6.00**	**138**	*e*P	**Pn**	**17 04 54.0**	**+1.3**
DLH				*e*4	**Sn**	**17 06 02.0**	**+1.9**
KK31	**Karatay Array**	**6.03**	**355**	⇑Pn	**Pn**	**17 04 53.3**	**+0.4**
	comp=E,14nm,0.3s,baz=178,slow=13,SNR=627						
KK31				Pg		17 05 08.9	
KK31				⇓Sn	**Sn**	**17 05 58.6**	**-1.9**
	comp=E,53nm,0.6s,baz=179,slow=24,SNR=4.3						
KK31				⇑Lg	Lg	17 06 26.0	
	comp=E,161nm,0.9s,baz=175,slow=25,SNR=5.5						
KK31	**Karatay Array**	**6.03**	**355**	PN	**Pn**	**17 04 53.6**	**+0.7**
KK31				pmax	pmax		
	comp=Z,18nm,0.2s						
AAK	**Ala-Archa**	**6.09**	**24**	*i* PN	**Pn**	**17 04 56.1**	**+2.3**
AAK	**Ala-Archa**	**6.09**	**24**	P	**Pn**	**17 04 56.2**	**+2.3**
	SNR=33						
AAK	**Ala-Archa**	**6.09**	**24**	P	**Pn**	**17 04 55.1**	**+1.2**
	comp=Z,10.0nm,0.3s,baz=185,slow=6.9,SNR=36						
AAK				S	**Sn**	**17 06 04.2**	**+2.0**
	comp=Z,5.5nm,0.3s,baz=342,slow=22,SNR=7.8						
FRU	**Bishkek**	**6.31**	**24**	*e*PN	**Pn**	**17 04 58.0**	**+1.3**
FRU				pmax	pmax		
	comp=Z,100nm,2.0s						
DHRM	**DHARAMSHALA**	**6.40**	**137**	*e*P	**Pn**	**17 04 59.3**	**+1.1**
DHRM				*e*S	**Sn**	**17 06 06.5**	**-3.5**
DHRM				AML	AML	17 06 11.6	
	comp=N,2μm,0.4s						
DHRM				AML	AML	17 06 12.3	
	comp=E,2μm,0.4s						
ULHL	**Ulahol**	**6.46**	**36**	*i* PN	**Pn**	**17 05 00.9**	**+2.0**
ULHL	**Ulahol**	**6.46**	**36**	P	**Pn**	**17 05 00.9**	**+2.0**
	SNR=11						
CHMS	**Chumysh**	**6.51**	**24**	*i* PN	**Pn**	**17 05 01.0**	**+1.7**
CHMS	**Chumysh**	**6.51**	**24**	P	**Pn**	**17 05 01.0**	**+1.7**
	SNR=37						
USP	**Ospenovka**	**6.67**	**21**	*i* PN	**Pn**	**17 05 02.8**	**+1.2**
USP	**Ospenovka**	**6.67**	**21**	P	**Pn**	**17 05 02.8**	**+1.2**
	SNR=14						
TKM2	**Tokmak 2**	**6.74**	**29**	⇑Pn	**Pn**	**17 05 04.0**	**+1.4**
	comp=E,30nm,0.6s						
TKM2				⇓Lg	Lg	17 06 55.9	
	comp=E,66nm,1.1s						
TKM2	**Tokmak 2**	**6.74**	**29**	*i* PN	**Pn**	**17 05 04.9**	**+2.2**
TKM2	**Tokmak 2**	**6.74**	**29**	P	**Pn**	**17 05 04.9**	**+2.2**
	SNR=7.3						
BHK	**Bhakra**	**7.12**	**141**	*e*4	x	17 05 19.8	
BHK				*e*S	**Sn**	**17 06 23.4**	**-3.8**
SDNR	**Sundarnagar**	**7.34**	**138**	*e*P	**Pn**	**17 05 09.6**	**-1.2**
SDNR				*e*x	Sn	17 06 25.0	-7.6
KNDC	**Almaty**	**7.55**	**34**	⇑Pn	**Pn**	**17 05 15.2**	**+1.6**
	comp=E,114nm,0.9s						
KNDC				⇑Lg	Lg	17 07 23.0	
	comp=E,119nm,1.1s						
SMLA	**Simla**	**7.74**	**138**	*i* P	**Pn**	**17 05 15.4**	**-0.8**
SMLA				*i* S	**Sn**	**17 06 38.0**	**-4.2**
SMLA				AML	AML	17 06 41.5	
	comp=N,753nm,0.4s						
SMLA				AML	AML	17 06 42.4	
	comp=E,602nm,0.4s						
DDI	**Dehra Dun**	**8.84**	**138**	*e*P	**Pn**	**17 05 31.2**	**-0.1**
DDI				*e*x	x	17 07 01.0	
DDI				*e*S	Sn	17 07 02.1	-7.2
DDI				AML	AML	17 07 11.4	
	comp=E,1μm,0.4s						
DDI				AML	AML	17 07 13.3	
	comp=N,1μm,0.1s						
AJM	**Ajmer**	**10.97**	**164**	*i* P	**Pn**	**17 05 58.0**	**-2.3**
AJM				*i* S	Sn	17 07 53.0	-8.2
MK31	**Makanchi Array**	**12.73**	**37**	Pn	**Pn**	**17 06 23.0**	**-0.8**
	comp=N,12nm,0.8s,baz=221,slow=15,SNR=65						
MK31	**Makanchi Array**	**12.73**	**37**	*i* P	**Pn**	**17 06 23.0**	**-0.8**
MK31				pmax	pmax		
	comp=Z,20nm,0.9s						
MKAR	**Makanchi Array**	**12.73**	**37**	*i* P	**Pn**	**17 06 23.7**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,13nm,0.8s						
MKAR	**Makanchi Array**	**12.73**	**37**	P	**Pn**	**17 06 23.8**	**0.0**
	comp=Z,0.7nm,0.3s,baz=222,slow=15,SNR=79						
WMQ	**Urumqi**	**14.24**	**57**	P	**Pn**	**17 06 42.6**	**-1.1**
KURBB	**Kurchatov Arra**	**14.52**	**19**	⇑Pn	**Pn**	**17 06 47.5**	**+0.3**
	comp=Z,7.9nm,0.7s						
KURBB				⇑Lg	Lg	17 10 59.4	
	comp=Z,24nm,1.6s						
KURBB	**Kurchatov Arra**	**14.52**	**19**	P	**Pn**	**17 06 44.8**	**-2.4**
	comp=Z,0.0nm,0.3s,baz=211,slow=11,SNR=8.2						
KURK	**Kurchatov**	**14.63**	**19**	P	Pn	17 06 44.8	-3.7
AB31	**Akbulak array**	**14.65**	**330**	Pn	**Pn**	**17 06 46.0**	**-2.9**
	comp=Z,3.1nm,0.4s,baz=142,slow=12,SNR=114						
AB31				⇓Sn	Sn	17 09 22.7	-7.4
	comp=Z,4.4nm,0.5s,baz=145,slow=24,SNR=3.4						
AB31	**Akbulak array**	**14.65**	**330**	P	**Pn**	**17 06 45.9**	**-2.9**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BHPL	**Bhopal**	**14.81**	**157**	*e*P	**P**	**17 06 53.8**	**-1.0**
BHPL				*e*4		17 09 24.6	
VOSK	**Vostochnaya**	**15.64**	**360**	⇑Pn	**Pn**	**17 07 02.4**	**+1.0**
	comp=Z,8.1nm,0.9s						
VOSK				⇓Sn	**Sn**	**17 09 52.5**	**-1.4**
	comp=Z,6.8nm,1.3s						
VOSK				⇓Lg	Lg	17 11 33.3	
	comp=Z,19nm,1.2s						
VOSK	**Vostochnaya**	**15.64**	**360**	P	**Pn**	**17 06 58.8**	**-2.6**
VOSK						17 09 52.4	
VOSK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
VOSK				smax	smax		
	comp=Z,7.0nm,1.3s						
JBP	**Jabalpur**	**15.81**	**149**	*e*P	**P**	**17 07 06.4**	**+0.6**
JBP				*e*4		17 09 47.7	
ZRNK	**Zerenda**	**

comp=Z,0.4nm,0.6s,baz=124,slow=9.3,SNR=3.0
CMAR Chiang Mai Arr 30.61 120 P **P** 17 09 31.4 -0.6
comp=Z,0.6nm,0.7s,baz=303,slow=10,SNR=3.7
JOF Joensuu 35.44 330 *e*p **P** 17 10 15.8 +2.2
comp=Z,0.8nm,0.4s
JOF Joensuu 35.44 330 *e*P **P** 17 10 15.8 +2.2
JOF pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 37.08 326 P **P** 17 10 26.9 -0.7
comp=Z,0.7nm,0.4s,baz=125,slow=8.9,SNR=12
KAF Kangasniemi 37.22 327 *e*p P 17 10 38.5 +10
comp=Z,0.5nm,0.4s
KAF Kangasniemi 37.22 327 *e*P P 17 10 38.5 +10
KAF pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 40.31 338 *e*p **P** 17 10 56.5 +2.0
comp=Z,0.6nm,0.4s
KEV Kevo 40.31 338 *e*P **P** 17 10 56.5 +2.0
KEV pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 40.66 337 P **P** 17 10 57.9 +0.5
comp=Z,2.2nm,0.8s,baz=108,slow=7.8,SNR=6.3
YAK Yakutsk 43.40 36 *e*P **P** 17 11 19.4 -0.3
YAK pmax pmax
comp=Z,11nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.0s
NB2 NORSAR Subarra 44.01 323 P **P** 17 11 25.5 +0.8
comp=Z,2.6nm,0.6s,baz=94,slow=8.6
NOA NORSAR Array B 44.01 323 P **P** 17 11 25.9 +1.2
comp=Z,1.1nm,0.7s,baz=96,slow=7.9,SNR=3.4
KSRS Korea Array 44.55 72 P **P** 17 11 30.0 +0.8
comp=Z,0.9nm,0.5s,baz=278,slow=7.5,SNR=7.4
TIXI Tiksi 45.17 22*c i*P **P** 17 11 34.4 +0.7
TIXI pmax pmax
comp=Z,7.0nm,0.6s
MJAR Matsushiro Arr 52.60 69 P **P** 17 12 30.7 -0.4
comp=Z,0.7nm,0.8s,baz=292,slow=9.6,SNR=5.6
ESDC Sonseca Array 57.32 298 P **P** 17 13 05.3 +0.2
comp=Z,0.2nm,0.4s,baz=66,slow=6.8,SNR=3.2
TORD Torodi Ar. Bea 65.88 268 P **P** 17 14 01.9 -1.0
comp=Z,0.7nm,0.5s,baz=53,slow=6.3,SNR=11
ILAR Eielson Array 74.17 16 P **P** 17 14 53.5 +0.6
comp=Z,1.7nm,0.8s,baz=321,slow=4.8,SNR=23
YKA Yellowknife Ar 80.65 3 P **P** 17 15 30.5 +1.5
comp=Z,1.9nm,0.7s,baz=349,slow=5.5,SNR=24
WRA Warramunga Arr 82.17 122 P **P** 17 15 36.5 -1.1
comp=Z,0.6nm,0.7s,baz=324,slow=4.7,SNR=6.5
DLBC Dease Lake 83.19 11 P **P** 17 15 42.2 -0.2
comp=Z,0.6nm,0.3s,baz=120,slow=20,SNR=3.7
ASAR Alice Springs 84.47 125 P **P** 17 15 47.4 -2.0
comp=Z,0.4nm,0.5s,baz=315,slow=4.4,SNR=15
FFC Flin Flon 88.37 356 *i* P P 17 16 11.1 +3.1

IDC 04 17:05:21.0±1.7, 8.78S×122.81E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.3/19, mbtmp3.4/4, ML2.7/1, Error ellipse: s-maj=103.5km s-min=23.2km az=61.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.67**	**164**	Pn		Pn	17 07 43.0	+1.5
	0.1nm,0.3s,baz=340,slow=12,SNR=2.1							
FITZ				Sn		Sn	17 09 32.3	+1.4
	0.2nm,0.3s,baz=163,slow=17,SNR=4.1							
WRA	**Warramunga Arr**	**15.73**	**136**	Pn		Pn	17 09 03.6	-0.5
	0.1nm,0.3s,baz=315,slow=12,SNR=14							
WRA				Sn		Sn	17 11 58.7	-0.7
	0.1nm,0.3s,baz=308,slow=22,SNR=4.5							
ASAR	**Alice Springs**	**18.22**	**146**	P		Pn	17 09 35.0	-0.5
	0.2nm,0.3s,baz=325,slow=13,SNR=18							
MKAR	**Makanchi Array**	**66.04**	**331**	P		P	17 16 09.6	-0.1
	0.2nm,0.4s,baz=127,slow=7.9,SNR=5.1							

ISCJB ***04*** *17:14:37.7±1.3, 11.˚40N±0.˚04×142.˚87E±0.˚04, h6km±8km, mb4.8/124, MS4.2/40, Error ellipse: s-maj=6.5km s-min=5.6km az=150.9*

IDC ***04*** *17:14:38.6±0.4, 11.˚41N×142.˚84E, h0km, mb4.6/29, mb1 4.7/29, mb1mx4.6/34, mbtmp4.6/29, MS4.2/23, Ms1 4.2/23, ms1mx4.0/32, Error ellipse: s-maj=15.3km s-min=10.4km az=88.0*

NEIC ***04*** *17:14:39.8±3.2, 11.˚36N×142.˚81E, h10km±20km, mb5.0/51, Error ellipse: s-maj=5.8km s-min=4.6km az=91.0*

MOS ***04*** *17:14:41.4±0.9, 11.˚35N×142.˚76E, h33km, mb5.1/39, Error ellipse: s-maj=9.6km s-min=6.1km az=103.3*

DJA ***04*** *17:14:42.6±3.1, 12.˚N±11.˚×14.˚2E±.˚, h14km±24km, M4.9/10, mB5.5/8, mb4.9/10, MLv4.9/1, Mw(mB)4.9/8*

BJI ***04*** *17:14:44.3, 11.˚84N×142.˚38E, h18km, mB5.0/33, mb4.8/42, Ms4.6/40, Ms7 4.4/41*

GCMT ***04*** *17:14:45.5±0.2, 11.˚16N×142.˚64E, h13km, MW5.0, Moment Tensor Solution. s33,c38; s61,c102; Moment tensor: Scale 10^16Nm; Mrr-3.53±.19; Mθθ3.11±.12; Mφφ0.42±.11; Mrθ0.35±.25; Mθφ0.48±.08; Mφr0.09±.32; Best double couple: M0 3.40000×10^16 NP1:φ81.00000°, δ42.00000°, λ-89.00000°. NP2:φ260.00000°, δ48.00000°, λ-91.00000°. Principal axes: T 3.2100, Plg3.0000°, Azm350.0000°; N 0.3400, Plg0.0000°, Azm260.0000°; P -3.5500, Plg87.0000°, Azm161.0000°; Data Used: II IU IC G CN.*

BKK ***04*** *17:14:46.3±0.4, 12.˚N±6.˚×14.˚2E±.˚, h10km, M4.8/19, mB5.4/6, mb4.9/19, MLv4.8/1, Mw(mB)4.8/6*

ISC 04 17:14:41.9±0.4, 11.˚37N±0.˚05×142.˚86E±0.˚05, h21km±3km, h21km:pP-P, n283, σ1§19/329, mb4.9/124, MS4.2/40, 3C-8D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.95**	**42**	*e*Pn		**Pn**	**17 15 28.5**	**+1.0**
JAY	**Jayapura**	**13.96**	**189**	P		P	17 18 19.9	+13
RKPI	**Ransiki, Papua**	**15.44**	**215**	P		**P**	**17 18 24.2**	**+1.3**
	49nm,1.2s							
DAV	**Davao City (W)**	**17.58**	**257**	P		**P**	**17 18 48.1**	**+1.3**
DAV	**Davao City (W)**	**17.58**	**257**	P		**P**	**17 18 48.1**	**+1.3**
	32nm,0.3s,baz=97,slow=14,SNR=6.5							
FAKI	**Fak Fak**	**17.69**	**217**	P		P	17 19 01.1	+13
GAMI	**Galela, Maluku**	**17.70**	**239**	P		**P**	**17 18 49.0**	**+0.9**
	54nm,1.0s,1μm							
LBMI	**Labuha**	**19.37**	**233**	P		**P**	**17 19 06.6**	**+0.1**
	81nm,1.1s,2μm							
MSAI	**Masohi**	**20.14**	**224**	P		Pn	17 19 18.9	+2.1
	38nm,0.9s,660nm							
MNI	**Manado**	**20.42**	**242**	P		**P**	**17 19 19.1**	**+1.2**
	63nm,1.6s,3μm							
JOW	**Kunigami**	**20.61**	**320**	*e*Pn		Pn	17 19 22.0	-0.2
	153nm,1.3s							
PMG	**Port Moresby**	**21.08**	**168**	*e*P		**P**	**17 19 21.9**	**-3.1**
	233nm,1.4s							
PMG	**Port Moresby**	**21.08**	**168**	P		**P**	**17 19 23.6**	**-1.4**
	28nm,0.8s,baz=335,slow=2.6,SNR=7.0							
PMG				LR		LR	17 26 35.6	
	comp=Z,628nm,18.2s,baz=8.5,slow=34							
TGY	**Tagaytay City**	**21.55**	**280**	P		**P**	**17 19 29.7**	**-0.4**
TGY	**Tagaytay City**	**21.55**	**280**	P		**P**	**17 19 29.7**	**-0.4**
	111nm,0.4s,baz=139,slow=6.5,SNR=13							
KMSI	**Cibinong**	**21.60**	**242**	P		**P**	**17 19 30.4**	**-0.2**
	270nm,0.9s,4μm							
GTOI	**Gorontalo**	**22.41**	**243**	P		**P**	**17 19 38.9**	**-0.4**
	77nm,1.0s,1μm							
MRSI	**Marisa**	**23.42**	**244**	P		**P**	**17 19 47.9**	**-1.9**
	58nm,2.0s,2μm							
LUWI	**Luwuk**	**23.47**	**240**	P		**P**	**17 19 48.7**	**-1.5**
	162nm,1.1s,2μm							
SSLB	**Suanglung**	**24.21**	**304**	*e*P		**P**	**17 19 56.0**	**-1.3**
	80nm,1.7s							
JNU	**Nakatsue**	**24.28**	**335**	*e*P		**P**	**17 19 57.1**	**-0.7**
	18nm,0.9s							
JNU	**Nakatsue**	**24.28**	**335**	P		**P**	**17 19 56.8**	**-1.0**
	8.6nm,0.6s,baz=153,slow=5.0,SNR=18							
JNU				LR		LR	17 28 44.6	
	comp=Z,376nm,19.0s,baz=323,slow=35							
MJAR	**Matsushiro Arr**	**25.41**	**351**	P		**P**	**17 20 06.4**	**-1.6**
MJAR				PcP		**PcP**	**17 23 40.9**	**+0.8**
MJAR	**Matsushiro Arr**	**25.41**	**351**	P		**P**	**17 20 06.4**	**-1.6**
	2.3nm,0.5s,baz=159,slow=9.8,SNR=26							
MJAR				PcP		**PcP**	**17 23 40.9**	**+0.8**
	1.8nm,1.0s,baz=181,slow=3.3,SNR=4.8							
MJAR				LR		LR	17 28 31.1	
	comp=Z,443nm,20.2s,baz=150,slow=33							
MAJO	**Matsushiro**	**25.41**	**351**	*e*P		**P**	**17 20 06.6**	**-1.4**
MAJO				pmax		pmax		
	comp=Z,118nm,2.7s							
MAJO	**Matsushiro**	**25.41**	**351**	*e*P		**P**	**17 20 06.6**	**-1.4**
	comp=Z,118nm,2.7s							
MAT	**Matsushiro**	**25.41**	**351**	P		**P**	**17 20 06.8**	**-1.2**
MAT				S		**S**	**17 24 32.2**	**-1.5**
SSE	**Sheshan**	**28.06**	**318**	P		**P**	**17 20 30.0**	**-1.9**
SSE				pP		**pP**	**17 20 38.8**	**+0.4**
SSE				sP		**sP**	**17 20 42.5**	**+1.5**
SSE				S		**S**	**17 25 14.5**	**-1.1**
SSE				pmax		pmax		
	comp=Z,22nm,0.7s							
SSE				pmax		pmax		
	comp=Z,47nm,3.9s							
SSE				LR		LR		
	comp=N,170nm,17.0s							
SSE				LR		LR		
	comp=E,280nm,17.0s							
SSE				LR		LR		
	comp=Z,410nm,16.9s							
KAPI	**Kappang**	**28.17**	**236**	LR		LR	17 30 17.3	
	comp=Z,178nm,18.7s,baz=245,slow=33							
KSRS	**Korea Array**	**29.23**	**335**	P		**P**	**17 20 40.8**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=154,slow=8.6,SNR=5.2							
KSRS				PcP		**PcP**	**17 23 50.1**	**+0.9**
	comp=Z,1.9nm,1.0s,baz=161,slow=2.9,SNR=9.5							
KSAR	**Wonju Array Be**	**29.24**	**335**	P		**P**	**17 20 40.8**	**-1.6**
KSAR				PcP		**PcP**	**17 23 50.1**	**+0.9**
NJ2	**Nanjing**	**30.21**	**317**	*e*P		P	17 20 46.2	-4.8
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
CTA	**Charters Tower**	**31.44**	**174**	P		**P**	**17 21 01.4**	**-0.6**
CTA	**Charters Tower**	**31.44**	**174**	P		**P**	**17 21 01.4**	**-0.6**
	comp=Z,5.1nm,0.9s,baz=357,slow=12,SNR=4.3							
CTAO	**Charters Tower**	**31.44**	**174**	*e*P		**P**	**17 21 01.2**	**-0.8**
CTAO				pmax		pmax		
	comp=Z,32nm,1.5s							
CTAO	**Charters Tower**	**31.44**	**174**	*e*P		**P**	**17 21 01.2**	**-0.8**
	comp=Z,32nm,1.5s							
WRAB	**Tennant Creek**	**32.22**	**195**	P		**P**	**17 21 08.9**	**+0.1**
	comp=Z,64nm,1.9s,SNR=6.4							
WRAB	**Tennant Creek**	**32.22**	**195**	*e*P		**P**	**17 21 07.5**	**-1.3**
WRAB				pmax		pmax		
	comp=Z,55nm,1.8s							
WRAB	**Tennant Creek**	**32.22**	**195**	*e*P		**P**	**17 21 07.5**	**-1.3**
	comp=Z,54nm,1.8s							
WRA	**Warramunga Arr**	**32.23**	**195**	P		**P**	**17 21 07.6**	**-1.3**
WRA	**Warramunga Arr**	**32.23**	**195**	P		**P**	**17 21 07.6**	**-1.3**
	comp=Z,8.2nm,0.9s,baz=18,slow=9.6,SNR=35							
WRA				LR		LR	17 34 42.8	
	comp=Z,825nm,18.1s,baz=25,slow=37							
ASAJ	**Asahikawa**	**32.63**	**360**	*e*P		**P**	**17 21 11.5**	**-0.6**
	comp=Z,4.0nm,1.4s							
QIZ	**Qiongzhong**	**32.71**	**287**	P		**P**	**17 21 13.6**	**+0.4**
QIZ				sP		**sP**	**17 21 18.7**	**-3.6**
QIZ				S		**S**	**17 26 31.1**	**+2.2**
QIZ				pmax		pmax		
	comp=Z,18nm,1.5s							
QIZ				pmax		pmax		
	comp=Z,150nm,3.7s							
QIZ				LR		LR		
	comp=Z,420nm,18.6s							
FITZ	**Fitzroy Crossi**	**33.86**	**210**	P		**P**	**17 21 23.1**	**0.0**
FITZ	**Fitzroy Crossi**	**33.86**	**210**	P		**P**	**17 21 23.1**	**0.0**
	comp=Z,2.6nm,0.9s,baz=38,slow=13,SNR=6.4							
FITZ				LR		LR	17 36 26.7	
	comp=Z,245nm,18.9s,baz=38,slow=39							
USRK	**Ussuriysk Arra**	**34.03**	**346**	P		**P**	**17 21 24.1**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=150,slow=8.6,SNR=10							
MDJ	**Mudanjiang**	**35.04**	**343**	P		**P**	**17 21 35.8**	**+2.7**
MDJ				pP		**pP**	**17 21 38.7**	**-0.9**
MDJ				sP		**sP**	**17 21 40.2**	**-2.0**
MDJ				sS		**sS**	**17 27 15.0**	**+0.1**
MDJ				ScS		**ScS**	**17 31 57.2**	**+4.2**
MDJ				pmax		pmax		
	comp=Z,4.0nm,1.1s							
MDJ				pmax		pmax		
	comp=Z,81nm,4.6s							
MDJ				LR		LR		
	comp=N,120nm,25.3s							
MDJ				LR		LR		
	comp=E,180nm,20.5s							
MDJ				LR		LR		
	comp=Z,290nm,23.6s							
CN2	**Changchun**	**35.65**	**338**	*e*P		P	17 21 42.0	+3.6
CN2				PcS		**PcS**	**17 27 55.9**	**+2.1**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CN2				LR		LR		
	comp=N,300nm,18.0s							
CN2				LR		LR		
	comp=E,300nm,18.0s							
CN2				LR		LR		
	comp=Z,400nm,19.0s							
AS31	**Alice Springs**	**35.91**	**194**	*e*P		**P**	**17 21 38.6**	**-2.3**
ASAR	**Alice Springs**	**35.91**	**194**	P		**P**	**17 21 40.6**	**-0.3**
ASAR				PcP		**PcP**	**17 24 08.7**	**+0.9**
ASAR	**Alice Springs**	**35.91**	**194**	P		**P**	**17 21 40.6**	**-0.3**
	comp=Z,3.5nm,0.9s,baz=22,slow=12,SNR=44							
ASAR				PcP		**PcP**	**17 24 08.7**	**+0.9**
	comp=Z,3.2nm,1.0s,baz=24,slow=3.7,SNR=7.5							
ASAR				LR		LR	17 36 14.6	
	comp=Z,549nm,18.7s,baz=14,slow=36							
ENH	**Enshi**	**36.22**	**306**	*e*P		**P**	**17 21 43.2**	**-0.3**
	comp=Z,21nm,1.1s							
BJT	**Baijiatuan**	**37.03**	**325**	*e*P		**P**	**17 21 50.4**	**+0.1**
	comp=Z,36nm,0.6s							
BJI	**Beijing**	**37.04**	**325**	P		**P**	**17 21 50.1**	**-0.2**
BJI				pmax		pmax		
	comp=Z,47nm,0.6s							
BJI				pmax		pmax		
	comp=Z,79nm,3.5s							
BJI				LR		LR		
	comp=N,760nm,18.5s							
BJI				LR		LR		
	comp=E,410nm,20.5s							
BJI				LR		LR		
	comp=Z,470nm,17.9s							
GYA	**Guiyang**	**37.23**	**299**	P		**P**	**17 21 53.2**	**+0.9**
GYA				PcP		**PcP**	**17 24 13.8**	**+1.8**
GYA				S		**S**	**17 27 38.9**	**+0.4**
GYA				ScP		**ScP**	**17 27 58.5**	**+0.4**
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,120nm,4.9s							
GYA				LR		LR		
	comp=N,590nm,17.0s							
GYA				LR		LR		
	comp=E,510nm,18.5s							
GYA				LR		LR		
	comp=Z,550nm,17.2s							
PANO	**Nakornpanom**	**37.46**	**283**	P		**P**	**17 21 56.1**	**+1.9**
	comp=Z,205nm,0.9s,comp=Z,15μm							
HABR	**Khabarovsk**	**37.55**	**351**	*e*P		**P**	**17 21 52.4**	**-2.1**
HABR				*PP		**pP**	**17 22 01.8**	**+0.8**
HABR				*eSP		**sP**	**17 22 06.1**	**+2.4**
HABR				*eS		**S**	**17 27 40.1**	**-2.5**
HABR				*e*			17 27 58.1	
HABR				*e*			17 32 02.5	
HABR				pmax		pmax		
	comp=N,9.0nm,1.8s							
HABR				pmax		pmax		
	comp=Z,26nm,1.8s							
HABR				pmax		pmax		
	comp=E,19nm,2.4s							
HABR				MLR		MLR		
	comp=Z,122nm,16.0s							
SKNT	**Sakolnakorn**	**38.05**	**283**	P		**P**	**17 22 00.6**	**+1.4**
	comp=Z,24nm,1.2s							
XAN	**Xi'an**	**38.30**	**312**	P		**P**	**17 22 01.2**	**0.0**
XAN				pmax		pmax		
	comp=Z,1.0nm,0.4s							
XAN				LR		LR		
	comp=N,200nm,19.3s							
XAN				LR		LR		
	comp=E,120nm,17.7s							
XAN				LR		LR		
	comp=Z,140nm,21.8s							
KLR	**Kul'dur**	**38.85**	**348**	*e*P		P	17 22 00.0	-5.5
CHBT	**CHBT**	**39.63**	**276**	P		**P**	**17 22 15.2**	**+2.8**
	comp=Z,29nm,1.2s							
CHAI	**Chaiyaphum**	**39.93**	**281**	P		**P**	**17 22 15.9**	**+1.0**
	comp=Z,16nm,0.9s,comp=Z,137nm							
HHC	**Hu-ho-hao-te**	**40.24**	**322**	*e*P		**P**	**17 22 18.3**	**+0.9**
HHC				pP		**pP**	**17 22 24.1**	**+0.2**
HHC				sP		**sP**	**17 22 27.2**	**+0.7**
HHC				PP		**PnPn**	**17 23 55.1**	**+1.3**
HHC				S		**S**	**17 28 23.8**	**+0.2**
HHC				sS		**sS**	**17 28 33.8**	**-0.5**
HHC				ScS		**ScS**	**17 32 21.7**	**-1.3**
HHC				pmax		pmax		
	comp=Z,24nm,0.9s							
HHC				pmax		pmax		
	comp=Z,180nm,4.9s							
HHC				LR		LR		
	comp=N,350nm,17.8s							
HHC				LR		LR		
	comp=E,270nm,14.3s							
HHC				LR		LR		
	comp=Z,410nm,15.0s							
KMI	**Kunming**	**40.31**	**295**	P		**P**	**17 22 19.6**	**+1.3**
KMI				pP		**pP**	**17 22 25.1**	**+0.2**
KMI				sP		**sP**	**17 22 27.6**	**+0.1**
KMI				S		**S**	**17 28 26.9**	**+1.6**
KMI				pmax		pmax		
	comp=Z,5.0nm,1.6s							
KMI				pmax		pmax		
	comp=Z,63nm,5.2s							
KMI				LR		LR		
	comp=N,320nm,14.6s							
KMI				LR		LR		
	comp=E,200nm,18.9s							
KMI				LR		LR		
	comp=Z,220nm,28.6s							
DZM	**Mont Dzumac**	**40.50**	**145**	*e*LR		LR	17 33 22.7	
	comp=Z,637nm,24.8s							
DZM	**Mont Dzumac**	**40.50**	**145**	P		**P**	**17 22 20.4**	**+0.8**
DZM	**Mont Dzumac**	**40.50**	**145**	P		**P**	**17 22 20.4**	**+0.8**
	comp=Z,13nm,0.7s,baz=90,slow=24,SNR=7.9							
DZM				LR		LR	17 36 29.3	
	comp=Z,376nm,18.3s,baz=180,slow=32							
NAYO	**Nakonayok**	**40.56**	**279**	P		P	17 22 24.0	+3.8
	comp=Z,18nm,1.1s							
LOEI	**Loei**	**40.67**	**284**	P		**P**	**17 22 18.7**	**-2.4**
	comp=Z,24nm,1.0s							
PBKT	**Sadao Pong**	**40.92**	**282**	P		**P**	**17 22 24.6**	**+1.5**
	comp=Z,43nm,0.9s							
BTO	**Baotou**	**41.03**	**321**	*e*P		**P**	**17 22 21.6**	**-2.3**
CD2	**Chengdu**	**41.04**	**304**	P		**P**	**17 22 24.0**	**-0.1**
CD2				pP		**pP**	**17 22 30.0**	**-0.6**
CD2				sP		**sP**	**17 22 33.0**	**-0.2**
CD2				PP		**PnPn**	**17 24 02.2**	**-1.1**
CD2				PcP		**PcP**	**17 24 24.4**	**+0.6**
CD2				ScP		**ScP**	**17 28 11.7**	**-0.9**
CD2				S		**S**	**17 28 35.2**	**-0.5**
CD2				sS		**sS**	**17 28 45.2**	**-1.3**
CD2				pmax		pmax		
	comp=Z,30nm,0.5s							
CD2				pmax		pmax		
	comp=Z,240nm,5.6s							
CD2				LR		LR		
	comp=N,350nm,14.2s							
CD2				LR		LR		
	comp=E,370nm,16.6s							
CD2				LR		LR		
	comp=Z,330nm,16.2s							
LAMP	**Lampang**	**42.28**	**285**	P		**P**	**17 22 35.6**	**+1.3**
	comp=Z,7.7nm,1.0s,comp=Z,56nm							
CM31	**Chiang Mai Arr**	**42.93**	**285**	*e*P		**P**	**17 22 40.4**	**+0.8**
	comp=Z,18nm,0.6s							
CM31				*e*			17 22 53.4	
CMAR	**Chiang Mai Arr**	**42.93**	**285**	P		**P**	**17 22 40.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**42.93**	**285**	P		**P**	**17 22 40.3**	**+0.7**
	comp=Z,24nm,0.9s,baz=87,slow=6.2,SNR=106							
CMAR				LR		LR	17 41 29.7	
	comp=Z,173nm,18.7s,baz=95,slow=38							
LZH	**Lanzhou**	**42.94**	**312**	*e*P		**P**	**17 22 40.2**	**+0.6**
LZH				pP		**pP**	**17 22 43.9**	**-2.3**
LZH				sP		**sP**	**17 22 46.4**	**-2.4**
LZH				PP		**PP**	**17 24 24.5**	**+5.0**
LZH				PcP		**PcP**	**17 24 33.3**	**+3.2**
LZH				pmax		pmax		
	comp=Z,17nm,1.0s							
LZH				pmax		pmax		
	comp=Z,86nm,4.6s							
LZH				LR		LR		
	comp=N,530nm,19.4s							
LZH				LR		LR		
	comp=E,400nm,16.4s							
LZH				LR		LR		
	comp=Z,630nm,19.8s							
CMMT	**Chiang Mai**	**42.95**	**285**	P		**P**	**17 22 40.5**	**+0.8**
	comp=Z,9.2nm,1.1s,comp=Z,391nm							
CHTO	**Chiang Mai**	**42.95**	**285**	*e*P		**P**	**17 22 37.8**	**-2.0**
CHTO				pmax		pmax		
	comp=Z,6.0nm,0.8s							
CHTO	**Chiang Mai**	**42.95**	**285**	*e*P		**P**	**17 22 37.8**	**-2.0**
	comp=Z,5.5nm,0.8s							
CHTO	**Chiang Mai**	**42.95**	**285**	P		**P**	**17 22 40.6**	**+0.9**
	comp=Z,10nm,1.2s							
PETK	**Petropavlovsk-**	**43.30**	**13**	P		**P**	**17 22 42.0**	**0.0**
PETK	**Petropavlovsk-**	**43.30**	**13**	P		**P**	**17 22 42.0**	**0.0**
PETK	**Petropavlovsk-**	**43.30**	**13**	P		**P**	**17 22 42.0**	**0.0**
	comp=Z,2.6nm,0.6s,baz=187,slow=7.4,SNR=8.5							
PETK				LR		LR	17 42 08.6	
	comp=Z,223nm,18.2s,baz=193,slow=38							
FORT	**Forrest**	**44.26**	**198**	*e*P		**P**	**17 22 49.6**	**-0.4**
	comp=Z,20nm,0.8s							
PSI	**Prapat**	**44.37**	**262**	P		**P**	**17 22 50.9**	**-0.5**
PSI	**Prapat**	**44.37**	**262**	P		**P**	**17 22 50.9**	**-0.5**
	comp=Z,9.6nm,0.7s,baz=118,slow=6.4,SNR=4.7							
BBOO	**Buckleboo**	**44.41**	**188**	*e*P		**P**	**17 22 50.3**	**-0.9**
	comp=Z,533nm,1.7s							
MSVF	**Nonsavu**	**45.21**	**129**	P		**P**	**17 22 59.0**	**+1.0**
	comp=Z,116nm,0.9s,SNR=5.5							
MSVF	**Nonsavu**	**45.21**	**129**	*e*P		**P**	**17 22 58.9**	**+1.0**
MSVF				pmax		pmax		
	comp=Z,22nm,1.0s							
MSVF	**Nonsavu**	**45.21**	**129**	*e*P		**P**	**17 22 58.9**	**+1.0**
	comp=Z,22nm,1.0s							
ULN	**Ulaanbaatar**	**47.13**	**327**	*e*P		**P**	**17 23 12.5**	**-0.2**
	comp=Z,9.3nm,1.3s							
GTA	**Gaotai**	**47.23**	**314**	*e*P		**P**	**17 23 13.6**	**0.0**
GTA				pP		**pP**	**17 23 19.8**	**-0.5**
GTA				sP		**sP**	**17 23 22.5**	**-0.3**
GTA				PcP		**PcP**	**17 24 46.0**	**+1.2**
GTA				S		**S**	**17 30 06.5**	**+0.8**
GTA				sS		**sS**	**17 30 15.6**	**-1.0**
GTA				ScS		**ScS**	**17 33 10.3**	**+3.3**
GTA				pmax		pmax		
	comp=Z,9.0nm,1.1s							
GTA				pmax		pmax		
	comp=Z,140nm,4.3s							
GTA				LR		LR		
	comp=N,160nm,15.2s							
GTA				LR		LR		
	comp=E,170nm,13.8s							
GTA				LR		LR		
	comp=Z,270nm,20.9s							
SONM	**Songino Array**	**47.46**	**327**	P		**P**	**17 23 15.0**	**-0.3**
SONM				PcP		**PcP**	**17 24 46.2**	**+0.7**
SONM	**Songino Array**	**47.46**	**327**	P		**P**	**17 23 15.0**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=139,slow=8.0,SNR=9.3							
SONM				PcP		**PcP**	**17 24 46.2**	**+0.7**
	comp=Z,2.6nm,0.9s,baz=135,slow=4.2,SNR=3.8							
SONM				LR		LR	17 44 45.3	
	comp=Z,358nm,18.8s,baz=105,slow=38							
FX1	**Attu Island--F**	**48.02**	**24**	LR		LR	17 45 15.9	
	comp=Z,199nm,18.4s,baz=53,slow=38							
SHL	**

YAK					smax	smax			
	comp=E,74nm,2.1s								
YAK					smax	smax			
	comp=N,77nm,2.2s								
MOY	**Mondy**	**52.55**	**328**	*eP*	**P**		**17 23 54.1**	**+0.3**	
MOY					pmax	pmax			
	comp=Z,16nm,1.3s								
HVS	**Khovu-Aksy**	**56.21**	**325**	*cP*	**P**		**17 24 19.8**	**-0.7**	
HVS					pmax	pmax			
	comp=Z,54nm,1.2s								
WMQ	**Urumqi**	**57.27**	**315**	P	**P**		**17 24 29.5**	**+1.4**	
WMQ				pP	**pP**		**17 24 35.6**	**+0.7**	
WMQ				sP	**sP**		**17 24 38.4**	**+0.9**	
WMQ				PcP	**PcP**		**17 25 23.5**	**+1.2**	
WMQ				PP	**PP**		**17 26 38.3**	**+2.9**	
WMQ				ScP	**ScP**		**17 29 20.4**	**-0.7**	
WMQ				S	**S**		**17 32 22.9**	**-0.3**	
WMQ				sS	**sS**		**17 32 33.7**	**-0.6**	
WMQ				ScS	**ScS**		**17 34 14.2**	**-2.4**	
WMQ				pmax	pmax				
	comp=Z,21nm,1.8s								
WMQ				pmax	pmax				
	comp=Z,130nm,4.5s								
WMQ				LR	LR				
	comp=N,290nm,16.3s								
WMQ				LR	LR				
	comp=E,230nm,21.8s								
WMQ				LR	LR				
	comp=Z,220nm,19.0s								
BILL	**Bilibino**	**58.67**	**10⇑**	*iP*	**P**		**17 24 37.0**	**-0.4**	
BILL					pmax	pmax			
	comp=Z,23nm,1.6s								
BILL					MLR	MLR			
	comp=Z,100nm,19.0s								
TIXI	**Tiksi**	**60.84**	**355**	*eP*	**P**		**17 24 51.3**	**-1.0**	
TIXI					pmax	pmax			
	comp=Z,6.0nm,1.0s								
MK31	**Makanchi Array**	**61.74**	**317**	*eP*	**P**		**17 24 58.6**	**-0.3**	
MK31	**Makanchi Array**	**61.74**	**317**	*eP*	**P**		**17 24 58.6**	**-0.3**	
MKAR	**Makanchi Array**	**61.74**	**317**	*ceP*	**P**		**17 24 59.2**	**+0.3**	
MKAR					pmax	pmax			
	comp=Z,10.0nm,0.8s								
MKAR	**Makanchi Array**	**61.74**	**317**	*eP*	**P**		**17 24 58.8**	**-0.1**	
MKAR	**Makanchi Array**	**61.74**	**317**	P	**P**		**17 24 59.2**	**+0.3**	
	comp=Z,10nm,0.8s,baz=94,slow=8.5,SNR=62								
MKAR					LR	LR	17 53 30.8		
	comp=Z,206nm,18.7s,baz=260,slow=38								
SDPT	**Sand Point**	**62.06**	**33**	*eP*	**P**		**17 25 00.5**	**-0.3**	
	comp=Z,17nm,0.5s								
ZAA0	**Zalesovo Array**	**62.30**	**325**	*eP*	**P**		**17 25 01.3**	**-1.1**	
ZALV	**Zalesovo Beam**	**62.30**	**325**	P	**P**		**17 25 01.7**	**-0.7**	
ZALV	**Zalesovo Beam**	**62.30**	**325**	P	**P**		**17 25 01.7**	**-0.7**	
ZALV	**Zalesovo Beam**	**62.30**	**325**	P	**P**		**17 25 01.7**	**-0.7**	
	comp=Z,7.4nm,0.5s,baz=110,slow=7.0,SNR=37								
ZALV					LR	LR	17 53 21.1		
	comp=Z,231nm,18.6s,baz=249,slow=37								
KURK	**Kurchatov**	**65.03**	**321**	P	**P**		**17 25 19.4**	**-1.1**	
	comp=Z,187nm,1.2s,SNR=31								
KSH	**Kashi**	**65.04**	**308**	P	**P**		**17 25 23.4**	**+2.4**	
KSH				pP	**pP**		**17 25 30.8**	**+3.0**	
KSH				PP	PP		17 27 50.4	+6.3	
KSH				S	**S**		**17 34 05.6**	**+3.2**	
KSH				sS	**sS**		**17 34 12.4**	**-1.3**	
KSH				ScS	**ScS**		**17 35 15.4**	**+0.2**	
KSH				pmax	pmax				
	comp=Z,110nm,5.0s								
KSH				LR	LR				
	comp=N,230nm,5.6s								
KSH				LR	LR				
	comp=E,230nm,8.5s								
KSH				LR	LR				
	comp=Z,210nm,7.7s								
TKM2	**Tokmak 2**	**65.71**	**312**	*i*P	**P**		**17 25 25.8**	**+0.5**	
TKM2	**Tokmak 2**	**65.71**	**312**	P	**P**		**17 25 25.9**	**+0.5**	
	SNR=7.7								
TKM2	**Tokmak 2**	**65.71**	**312**	*eP*	**P**		**17 25 25.1**	**-0.3**	
	comp=Z,9.1nm,1.0s								
KZA	**Kyzart**	**65.86**	**311**	P	**P**		**17 25 27.7**	**+1.1**	
	SNR=11								
KBK	**Karagaybulak**	**66.15**	**312**	P	**P**		**17 25 28.6**	**+0.4**	
	SNR=8.6								
CHMS	**Chumysh**	**66.33**	**312**	P	**P**		**17 25 29.3**	**+0.1**	
	SNR=9.5								
OHAK	**Old Harbor**	**66.46**	**32**	*eP*	**P**		**17 25 30.1**	**+0.5**	
	comp=Z,32nm,1.4s								
AAK	**Ala-Archa**	**66.48**	**312**	*dP*	**P**		**17 25 28.9**	**-1.4**	
AAK					pmax	pmax			
	comp=Z,8.0nm,0.8s								
AAK	**Ala-Archa**	**66.48**	**312**	*eP*	**P**		**17 25 29.6**	**-0.7**	
	comp=Z,6.7nm,1.0s								
SVW2	**Sparrevohn**	**66.54**	**28**	*eP*	**P**		**17 25 30.2**	**+0.1**	
	comp=Z,30nm,1.4s								
USP	**Ospenovka**	**66.55**	**312**	P	**P**		**17 25 30.5**	**-0.1**	
	SNR=5.8								
KDAK	**Kodiak Island**	**66.98**	**32**	*eP*	**P**		**17 25 31.1**	**-1.7**	
	comp=Z,33nm,1.4s								
KDAK	**Kodiak Island**	**66.98**	**32**	P	**P**		**17 25 32.3**	**-0.6**	
	comp=Z,3.7nm,0.6s,baz=286,slow=5.0,SNR=5.7								
EKS2	**Erkin-Say**	**67.01**	**312**	*eP*	**P**		**17 25 33.2**	**-0.4**	
EKS2				*e*			17 25 46.1		
EKS2				pmax	pmax				
	comp=Z,9.0nm,1.2s								
EKS2	**Erkin-Say**	**67.01**	**312**	*eP*	**P**		**17 25 33.2**	**-0.4**	
	comp=Z,9.4nm,1.2s								
EKS2				*e*			17 25 46.1		
AML	**Almayashu**	**67.02**	**311**	P	**P**		**17 25 34.9**	**+0.9**	
	SNR=8.8								
KK31	**Karatay Array**	**69.44**	**312**	*i*P	**P**		**17 25 48.5**	**-0.2**	
KK31					pmax	pmax			
	comp=Z,12nm,1.0s								
KKAR	**Karatay Array**	**69.44**	**312**	*eP*	**P**		**17 25 47.9**	**-0.8**	
KKAR					pmax	pmax			
	comp=Z,12nm,1.1s								
KKAR	**Karatay Array**	**69.44**	**312**	*eP*	**P**		**17 25 47.9**	**-0.8**	
	comp=Z,12nm,1.1s								
TRF	**Thorofare Moun**	**69.62**	**26**	*eP*	**P**		**17 25 47.2**	**-2.4**	
	comp=Z,12nm,1.1s								
PMR	**Palmer**	**69.66**	**28**	*eP*	**P**		**17 25 48.8**	**-0.8**	
PMR					pmax	pmax			
	comp=Z,9.0nm,0.9s								
PMR	**Palmer**	**69.66**	**28**	*eP*	**P**		**17 25 48.8**	**-0.8**	
	comp=Z,8.9nm,0.9s								
VOSK	**Vostochnaya**	**70.06**	**322**	P	**P**		**17 25 50.9**	**-1.4**	
VOSK					pmax	pmax			
	comp=Z,15nm,1.3s								
SML	**Sawmill**	**70.08**	**28**	*eP*	**P**		**17 25 52.1**	**-0.2**	
SML					pmax	pmax			
	comp=Z,3.0nm,0.8s								
SML	**Sawmill**	**70.08**	**28**	*eP*	**P**		**17 25 52.1**	**-0.2**	
	comp=Z,3.3nm,0.8s								
MCK	**McKinley**	**70.28**	**26**	*eP*	**P**		**17 25 51.8**	**-1.7**	
MCK					pmax	pmax			
	comp=Z,26nm,1.4s								
MCK	**McKinley**	**70.28**	**26**	*eP*	**P**		**17 25 51.8**	**-1.7**	
	comp=Z,26nm,1.4s								
KBL	**Kabul**	**70.35**	**303**	*eP*	**P**		**17 25 53.3**	**-1.4**	
KBL					pmax	pmax			
	comp=Z,28nm,1.3s								
KBL	**Kabul**	**70.35**	**303**	*eP*	**P**		**17 25 53.3**	**-1.4**	
	comp=Z,28nm,1.3s								
BVA0	**Borovoye Array**	**70.45**	**322**	*i*P	**P**		**17 25 54.0**	**-0.7**	
BVA0					pmax	pmax			
	comp=Z,18nm,0.6s								
BRVK	**Borovoye**	**70.52**	**322**	P	**P**		**17 25 55.8**	**+0.7**	
	comp=Z,270nm,0.6s,SNR=23								
BRVK	**Borovoye**	**70.52**	**322**	*dP*	**P**		**17 25 55.2**	**+0.1**	
BRVK					pmax	pmax			
	comp=Z,20nm,0.6s								
BRVK	**Borovoye**	**70.52**	**322**	*eP*	**P**		**17 25 54.6**	**-0.5**	
	comp=Z,25nm,0.6s								
BRVK				*e*			17 26 08.0		
COLD	**Coldfoot**	**70.73**	**22**	*eP*	**P**		**17 25 56.9**	**+0.8**	
	comp=Z,21nm,1.3s								
COLA	**College**	**71.02**	**25**	*eP*	**P**		**17 25 57.2**	**-0.7**	
COLA					pmax	pmax			
	comp=Z,26nm,1.7s								
COLA	**College**	**71.02**	**25**	*eP*	**P**		**17 25 57.2**	**-0.7**	
	comp=Z,26nm,1.7s								
ILAR	**Eielson Array**	**71.40**	**25**	P	**P**		**17 25 58.5**	**-1.7**	
ILAR	**Eielson Array**	**71.40**	**25**	P	**P**		**17 25 58.5**	**-1.7**	
	comp=Z,1.8nm,0.5s,baz=252,slow=5.3,SNR=43								
ILAR					LR	LR	17 57 40.7		
	comp=Z,168nm,18.7s,baz=264,slow=36								
PAX	**Paxson**	**71.63**	**27**	*eP*	**P**		**17 26 01.5**	**-0.3**	
PAX					pmax	pmax			
	comp=Z,18nm,1.4s								
PAX	**Paxson**	**71.63**	**27**	*eP*	**P**		**17 26 01.5**	**-0.3**	
	comp=Z,18nm,1.4s								
MENT	**Mentasta**	**72.41**	**27**	*eP*	**P**		**17 26 06.2**	**-0.2**	
PPT2	**Papeete2**	**72.66**	**113**	*eS*	**S**		**17 35 32.0**	**-1.2**	
	comp=Z,46nm,26.0s								
PPT2	**Papeete2**	**72.66**	**113**	*e*LR	LR		17 47 58.6		
	comp=Z,222nm,24.2s,baz=278								
EGAK	**Eagle**	**73.81**	**26**	*eP*	**P**		**17 26 13.8**	**-0.8**	
	comp=Z,17nm,1.3s								
TBI	**Tubuai**	**74.63**	**118**	*e*LR	LR		17 49 05.6		
	comp=Z,182nm,28.2s,baz=294								
SKAG	**Skagway**	**76.13**	**31**	*eP*	**P**		**17 26 26.6**	**-1.4**	
	comp=Z,24nm,1.4s								
SVE	**Sverdlovsk**	**76.31**	**326**	*i*P	**P**		**17 26 29.3**	**+0.2**	
SVE				*e*			17 26 41.4		
SVE				pmax	pmax				
	comp=Z,24nm,1.2s								
SVE				MLR	MLR				
	comp=Z,363nm,18.0s								
AB31	**Akbulak array**	**76.86**	**318**	*eP*	**P**		**17 26 31.5**	**-0.9**	
AB31					pmax	pmax			
	comp=Z,4.0nm,0.4s								
ABKAR	**Akbulak array**	**76.86**	**318**	*eP*	**P**		**17 26 31.5**	**-0.9**	
	comp=Z,7.6nm,0.6s								
ABKAR				*e*			17 26 44.7		
INK	**Inuvik**	**77.15**	**22**	P	**P**		**17 26 33.5**	**-0.1**	
INK	**Inuvik**	**77.15**	**22**	P	**P**		**17 26 33.5**	**-0.1**	
	comp=Z,5.8nm,0.9s,baz=245,slow=8.5,SNR=7.0								
ARU	**Arti**	**77.46**	**326**	*dP*	**P**		**17 26 34.7**	**-0.9**	
ARU							17 29 26.0		
ARU					PPP	PPP	17 31 14.2		
ARU					S	**S**	**17 36 24.3**	**-1.0**	
ARU					pmax	pmax			
	comp=Z,24nm,1.7s								
ARU	**Arti**	**77.46**	**326**		P	**P**	**17 26 34.5**	**-1.1**	
	comp=Z,95nm,0.6s,SNR=6.2								
WRAK	**Wrangell Islan**	**77.74**	**34**	*eP*	**P**		**17 26 38.0**	**+0.8**	
	comp=Z,32nm,1.5s								
AKTO	**Aktyubinsk**	**78.05**	**319**	P	**P**		**17 26 38.6**	**-0.5**	
AKTO					pmax	pmax			
	comp=Z,5.0nm,0.7s								
DLBC	**Dease Lake**	**78.90**	**32**	P	**P**		**17 26 43.4**	**-0.3**	
DLBC	**Dease Lake**	**78.90**	**32**	P	**P**		**17 26 43.4**	**-0.3**	
	comp=Z,3.4nm,0.7s,baz=271,slow=8.4,SNR=6.1								
HUMO	**Hull Mountain**	**85.45**	**48**	*eP*	**P**		**17 27 18.8**	**+0.5**	
	comp=Z,10nm,1.3s								
YKW3	**Yellowknife Ar**	**85.69**	**27**	*eP*	**P**		**17 27 18.2**	**-0.8**	
YKW3				*e*			17 27 31.7		
YKA	**Yellowknife Ar**	**85.72**	**27**	P	**P**		**17 27 19.1**	**0.0**	
YKA	**Yellowknife Ar**	**85.72**	**27**	P	**P**		**17 27 19.1**	**0.0**	
	comp=Z,1.5nm,0.5s,baz=288,slow=5.1,SNR=39								
YKA					LR	LR	18 05 35.5		
	comp=Z,18nm,19.1s,baz=230,slow=36								
YBH	**Yreka Blue Hor**	**85.80**	**48**	P	**P**		**17 27 21.0**	**+0.9**	
YBH	**Yreka Blue Hor**	**85.80**	**48**	P	**P**		**17 27 21.0**	**+0.9**	
	comp=Z,5.1nm,0.9s,baz=301,slow=1.8,SNR=9.0								
MAK	**Makhachkala**	**86.22**	**313**	*eP*	P		17 27 25.5	+3.5	
LVZ	**Lovozero**	**86.25**	**339**	*eP*	**P**		**17 27 21.2**	**-0.5**	
LVZ				pmax	pmax				
	comp=Z,59nm,1.7s								
APA	**Apatity**	**86.81**	**339**	*i*P	P		17 27 35.6	+11	
APA				pmax	pmax				
	comp=Z,57nm,1.4s								
APA				MLR	MLR				
	comp=Z,200nm,22.0s								
HAWA	**Hanford**	**87.05**	**43**	*eP*	**P**		**17 27 25.9**	**-0.1**	
	comp=Z,12nm,1.3s								
RKT	**Rikitea**	**87.33**	**114**	*e*LR	LR		17 55 08.8		
	comp=Z,301nm,33.5s								
MOD	**Modoc**	**87.53**	**48**	*eP*	**P**		**17 27 28.8**	**+0.1**	
	comp=Z,6.7nm,1.2s								
SAO	**San Andreas Ge**	**87.79**	**53**	*eP*	**P**		**17 27 30.3**	**+0.4**	
SAO					pmax	pmax			
	comp=Z,7.0nm,1.1s								
SAO	**San Andreas Ge**	**87.79**	**53**	*eP*	**P**		**17 27 30.2**	**+0.4**	
	comp=Z,7.4nm,1.1s								
BEKR	**Beckworth**	**87.94**	**50**	*eP*	**P**		**17 27 30.7**	**-0.1**	
	comp=Z,3.4nm,0.9s								
KEV	**Kevo**	**88.00**	**342**	*ep*	**P**		**17 27 29.0**	**-1.1**	
	comp=Z,1.4nm,0.3s								
KEV	**Kevo**	**88.00**	**342**	*eP*	**P**		**17 27 29.0**	**-1.1**	
KEV					pmax	pmax			
	comp=Z,1.0nm,0.3s								
NEW	**Newport**	**88.18**	**41**	*eP*	**P**		**17 27 31.5**	**0.0**	
	comp=Z,5.1nm,1.1s								
NEW	**Newport**	**88.18**	**41**	P	**P**		**17 27 32.1**	**+0.6**	
	comp=Z,3.7nm,1.0s,baz=257,slow=6.8,SNR=5.7								
NEW	**Newport**	**88.18**	**41**	P	**P**		**17 27 32.0**	**+0.5**	
	baz=88								
CMB	**Columbia Colle**	**88.33**	**52**	*eP*	**P**		**17 27 32.8**	**+0.3**	
CMB				*e*			17 27 45.8		
CMB				pmax	pmax				
	comp=Z,7.0nm,1.0s								
CMB	**Columbia Colle**	**88.33**	**52**	*eP*	**P**		**17 27 32.8**	**+0.3**	
	comp=Z,7.3nm,1.0s								
CMB				*e*			17 27 45.8		
ARCES	**ARCESS Array B**	**88.57**	**342**	P	**P**		**17 27 33.1**	**+0.2**	
ARCES	**ARCESS Array B**	**88.57**	**342**	P	**P**		**17 27 33.1**	**+0.2**	
	comp=Z,4.2nm,0.5s,baz=63,slow=6.2,SNR=32								
ARCES					LR	LR	18 11 44.5		
	comp=Z,115nm,18.6s,baz=209,slow=39								
WVOR	**Wild Horse Val**	**88.61**	**47**	*eP*	**P**		**17 27 33.2**	**-0.6**	
WVOR					pmax	pmax			
	comp=Z,7.0nm,1.0s								
WVOR	**Wild Horse Val**	**88.61**	**47**	*eP*	**P**		**17 27 33.1**	**-0.6**	
	comp=Z,7.3nm,1.0s								
PAHR	**Pah Rah Range**	**88.71**	**50**	*eP*	**P**		**17 27 34.9**	**+0.6**	
C11A	**Tepee Creek (N**	**88.85**	**41**	P	**P**		**17 27 35.2**	**+0.5**	
	baz=89								
BMO	**Blue Mountains**	**88.94**	**45**	*eP*	**P**		**17 27 35.3**	**+0.1**	
BMO					pmax	pmax			
	comp=Z,5.0nm,1.0s								
BMO	**Blue Mountains**	**88.94**	**45**	*eP*	**P**		**17 27 35.3**	**+0.1**	
	comp=Z,4.7nm,1.0s								
WAKR	**Walker**	**88.95**	**51**	*eP*	**P**		**17 27 36.4**	**+0.9**	
KBZ	**Khabaz**	**89.31**	**314**	P	**P**		**17 27 37.5**	**+0.7**	
KBZ	**Khabaz**	**89.31**	**314**	P	**P**		**17 27 37.5**	**+0.7**	
KBZ	**Khabaz**	**89.31**	**314**	P	**P**		**17 27 37.5**	**+0.7**	
	comp=Z,5.3nm,0.9s,baz=85,slow=3.1,SNR=6.7								
KBZ					LR	LR	18 12 04.8		
	comp=Z,187nm,19.5s,baz=295,slow=39								
VNDA	**Vanda**	**89.40**	**176**	*eP*	**P**		**17 27 35.9**	**-0.5**	
	comp=Z,2.6nm,0.9s								
VNDA	**Vanda**	**89.40**	**176**	P	**P**		**17 27 36.8**	**+0.3**	
	comp=Z,3.3nm,1.0s,baz=348,slow=3.5,SNR=4.5								
VNDA					LR	LR	18 08 23.1		
	comp=Z,181nm,21.1s,baz=351,slow=36								
KIV	**Kislovodsk**	**89.40**	**315**	P	**P**		**17 27 37.0**	**-0.4**	
KIV				*e*			17 27 47.7		
KIV				pmax	pmax				
	comp=Z,5.0nm,0.9s								
JOF	**Joensuu**	**89.46**	**335**	*ep*	**P**		**17 27 36.3**	**-0.8**	
	comp=Z,1.0nm,0.3s								
JOF	**Joensuu**	**89.46**	**335**	*eP*	**P**		**17 27 36.3**	**-0.8**	
JOF					pmax	pmax			
	comp=Z,1.0nm,0.3s								
PKM	**Peak Mountain**	**89.49**	**55**	P	**P**		**17 27 39.4**	**+1.2**	
	baz=90								
E12A	**Beaver Dam Sad**	**89.69**	**43**	P	**P**		**17 27 39.2**	**+0.4**	
	baz=90								
BSMT	**Bassoo Peak**	**89.80**	**41**	*eP*	**P**		**17 27 39.0**	**-0.4**	
NVAR	**Mina Array Bea**	**89.83**	**51**	P	**P**		**17 27 40.4**	**+0.7**	
NVAR	**Mina Array Bea**	**89.83**	**51**	P	**P**		**17 27 40.4**	**+0.7**	
	comp=Z,8.2nm,0.9s,baz=268,slow=5.1,SNR=34								
OBN	**Obninsk**	**89.87**	**327**	*eP*	**P**		**17 27 36.2**	**-2.9**	
OBN				*e*			17 27 48.0		
OBN				pmax	pmax				
	comp=Z,16nm,1.7s								
NV11	**Mina Array Sit**	**89.94**	**51**	*eP*	**P**		**17 27 41.0**	**+0.8**	
NV11				*e*			17 27 53.5		
G12A	**Big Creek, Yel**	**90.22**	**44**	P	**P**		**17 27 41.7**	**+0.4**	
	baz=90								
MFID	**Camas Ranch**	**90.34**	**46**	*eP*	**P**		**17 27 42.1**	**+0.2**	
	comp=Z,9.9nm,1.1s								
MFID	**Camas Ranch**	**90.34**	**46**	P	**P**		**17 27 42.5**	**+0.6**	
	baz=90								
ISA	**Isabella**	**90.38**	**54**	P	**P**		**17 27 43.1**	**+1.0**	
	baz=90								
B14A	**Marquette Ranc**	**90.62**	**40**	P	**P**		**17 27 43.9**	**+0.8**	
	baz=90								
H12A	**Diamond D Ranc**	**90.70**	**44**	P	**P**		**17 27 43.8**	**+0.2**	
	baz=91								
MPMC	**Manual Prospec**	**91.06**	**53**	P	**P**		**17 27 45.9**	**+0.4**	
	baz=91								
B15A	**Bradely Ranch,**	**91.08**	**40**	P	**P**		**17 27 45.5**	**+0.4**	
	baz=91								
BFSC	**Mount Baldy Ra**	**91.38**	**55**	P	**P**		**17 27 47.4**	**+0.5**	
	baz=91								
FURC	**Furnace Creek,**	**91.44**	**53**	P	**P**		**17 27 47.9**	**+0.9**	
	baz=91								
GSC	**Goldstone**	**91.79**	**54**	*eP*	**P**		**17 27 49.4**	**+0.7**	
GSC				*e*			17 28 02.5		
GSC				pmax	pmax				
	comp=Z,10.0nm,1.1s								
GSC	**Goldstone**	**91.79**	**54**	*eP*	**P**		**17 27 49.4**	**+0.7**	
	comp=Z,9.8nm,1.1s								
GSC				*e*			17 28 02.5		
GSC	**Goldstone**	**91.79**	**54**	P	**P**		**17 27 49.9**	**+1.2**	
	baz=92								
KAF	**Kangasniemi**	**91.90**	**335**	*ep*	**P**		**17 27 47.7**	**-0.8**	
	comp=Z,0.4nm,0.4s								
KAF	**Kangasniemi**	**91.90**	**335**	*eP*	**P**		**17 27 47.7**	**-0.8**	
F15A	**Butte**	**91.91**	**43**	P	**P**		**17 27 49.6**	**+0.4**	
	baz=92								
LRM	**Limekiln Ridge**	**91.94**	**43**	*eP*	**P**		**17 27 48.9**	**-0.5**	
SHOC	**Shoshone**	**92.04**	**53**	P	**P**		**17 27 51.3**	**+1.5**	
	baz=92								
D16A	**Dana Ranch, Ca**	**92.14**	**41**	P	**P**		**17 27 51.1**	**+0.9**	
	baz=92								
B17A	**L&G Farms, Che**	**92.20**	**40**	P	**P**		**17 27 51.2**	**+0.9**	
	baz=92								
E16A	**East Helena**	**92.22**	**42**	P	**P**		**17 27 51.3**	**+0.7**	
	baz=92								
FINES	**FINESS Array B**	**92.32**	**335**	P	**P**		**17 27 49.2**	**-1.2**	
FINES	**FINESS Array B**	**92.32**	**335**	P	**P**		**17 27 49.2**	**-1.2**	
	comp=Z,3.9nm,0.6s,baz=58,slow=3.2,SNR=24								
FINES					LR	LR	18 12 51.8		
	comp=Z,172nm,18.0s,baz=52,slow=38								
TUQ	**Turquoise Moun**	**92.45**	**53**	P	**P**		**17 27 53.0**	**+1.2**	
	baz=92								
C17A	**Wharram Farm,**	**92.45**	**41**	P	**P**		**17 27 52.1**	**+0.6**	
	baz=92								
PFO	**Pinyon Flat Ob**	**92.51**	**55**	P	**P**		**17 27 53.8**	**+1.6**	
	baz=92								
BOZ	**Bozeman (W)**	**92.54**	**43**	P	**P**		**17 27 51.5**	**-0.6**	
BOZ				pmax	pmax				
	comp=Z,4.0nm,1.1s								
BOZ	**Bozeman (W)**	**92.54**	**43**	P	**P**		**17 27 51.5**	**-0.6**	
	comp=Z,3.6nm,1.1s								
D17A	**Six Diamond Ra**	**92.66**	**41**	P	**P**		**17 27 53.2**	**+0.6**	
	baz=93								
BELC	**Belle Mtn. Jos**	**92.77**	**55**	P	**P**		**17 27 53.7**	**+0.3**	
	baz=93								
E17A	**Martinsdale**	**92.78**	**42**	P	**P**		**17 27 54.4**	**+1.2**	
	baz=93								
B18A	**Beardsley Farm**	**92.81**	**40**	P	**P**		**17 27 54.0**	**+0.9**	
	baz=93								
GMRC	**Granite Mounta**	**92.83**	**54**	P	**P**		**17 27 54.6**	**+0.9**	
	baz=93								
QLMT	**Earthquake Lak**	**92.94**	**43**	P	**P**		**17 27 53.0**	**-1.0**	
	comp=Z,1.1nm,0.9s								
A19A	**Klindworth Far**	**93.26**	**39**	P	**P**		**17 27 55.7**	**+0.5**	
	baz=93								
BC3	**Big Chuckawall**	**93.30**	**55**	P	**P**		**17 27 56.3**	**+0.5**	
	baz=93								
IRM	**Iron Mountain**	**93.41**	**54**	P	**P**		**17 27 56.6**	**+0.5**	
	baz=93								
F18A	**Big Timber**	**93.72**	**42**	P	**P**		**17 27 58.5**	**+1.0**	
	baz=94								
W13A	**Hualapai Mount**	**94.14**	**53**	P	**P**		**17 28 00.5**	**+0.7**	
	baz=94								
C20A	**Veseth Ranch,**	**94.16**	**40**	P	**P**		**17 28 00.2**	**+0.9**	
	baz=94								
B21A	**Ellsworth Farm**	**94.51**	**39**	P	**P**		**17 28 01.5**	**+0.6**	
	baz=94								
FFC	**Flin Flon**	**94.72**	**32**	*eP*	**P**		**17 28 01.3**	**-0.4**	
FFC				pmax	pmax				
	comp=Z,5.0nm,1.3s								
FFC	**Flin Flon**	**94.72**	**32**	*eP*	**P**		**17 28 01.3**	**-0.4**	
	comp=Z,5.1nm,1.3s								
D22A	**Cohagen**	**95.52**	**40**	P	**P**		**17 28 06.1**	**+0.5**	
	baz=95								
C23A	**Lambert**	**95.88**	**39**	P	**P**		**17 28 08.0**	**+0.8**	
	baz=96								
WUAZ	**Wupatki**	**95.97**	**52**	P	**P**		**17 28 08.4**	**+0.3**	
	baz=96								
MAW	**Mawson**	**96.64**	**202**	LR	LR		18 11 09.6		
	comp=Z,67nm,20.8s,baz=188,slow=35								
BRTR	**Keskin Array B**	**97.14**	**313**	LR	LR		18 19 29.4		
	comp=Z,58nm,18.2s,baz=183,slow=40								
PV01	**Paranox Valley**	**97.23**	**49**	*eP*	P		17 28 10.1	-3.7	
NOA	**NORSAR Array B**	**98.39**	**338**	LR	LR		18 18 03.4		
	comp=Z,72nm,19.1s,baz=40,slow=39								
TORD	**Torodi Ar. Bea**	**134.41**	**301**	PKP	**PKPdf**		**17 34 00.7**	**+1.2**	
TORD	**Torodi Ar. Bea**	**134.41**	**301**	PKP	**PKPdf**		**17 34 00.7**	**+1.2**	
	comp=Z,1.6nm,0.8s,baz=48,

h42km±11km, mb4.5/61, MS3.8/19, Error ellipse: s-maj=9.3km s-min=8.2km az=37.8

ISC 04 17:50:07.7±0.6, 11°36N±0.07°×142°86E±0.07, h50km±3km, n93, σ1°39/120, mb4.5/61, MS3.9/19, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.96**	**41**	*e*Pn	**Pn**	**17 50 51.2**	**-1.1**
GUMO				*e*Sn	**Sn**	**17 51 26.3**	**-0.3**
PMG	**Port Moresby**	**21.07**	**168**	P	**P**	**17 54 44.9**	**-3.0**
	78nm,1.3s						
PMG	**Port Moresby**	**21.07**	**168**	P	**P**	**17 54 45.2**	**-2.7**
	11nm,0.9s,baz=332,slow=14,SNR=3.6						
PMG				LR	LR	18 02 25.1	
	comp=Z,187nm,19.4s,baz=352,slow=35						
TGY	**Tagaytay City**	**21.55**	**280**	P	**P**	**17 54 54.4**	**+1.2**
TGY	**Tagaytay City**	**21.55**	**280**	P	**P**	**17 54 54.4**	**+1.2**
	82nm,0.3s,baz=138,slow=12,SNR=7.2						
SSLB	**Suanglung**	**24.22**	**304**	*e*P	**P**	**17 55 19.7**	**-0.3**
	8.7nm,0.7s						
JNU	**Nakatsue**	**24.29**	**335**	*e*P	**P**	**17 55 18.6**	**-2.0**
	12nm,0.8s						
JNU	**Nakatsue**	**24.29**	**335**	P	**P**	**17 55 20.4**	**-0.1**
	8.9nm,0.7s,baz=147,slow=5.0,SNR=13						
JNU				LR	LR	18 04 16.3	
	comp=Z,124nm,18.0s,baz=230,slow=35						
MJAR	**Matsushiro Arr**	**25.42**	**351**	P	**P**	**17 55 28.8**	**-1.9**
MJAR	**Matsushiro Arr**	**25.42**	**351**	P	**P**	**17 55 28.8**	**-1.9**
	0.7nm,0.5s,baz=157,slow=9.5,SNR=9.0						
MJAR				LR	LR	18 04 29.1	
	comp=Z,112nm,19.0s,baz=180,slow=34						
KSRS	**Korea Array**	**29.24**	**335**	P	**P**	**17 56 03.6**	**-1.3**
	0.7nm,0.7s,baz=150,slow=9.9,SNR=6.6						
KSRS				LR	LR	18 07 37.0	
	comp=Z,55nm,19.7s,baz=342,slow=36						
KSAR	**Wonju Array Be**	**29.25**	**335**	P	**P**	**17 56 03.6**	**-1.4**
NJ2	**Nanjing**	**30.22**	**317**	*e*P	**P**	**17 56 15.9**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,20nm,1.1s						
WRAB	**Tennant Creek**	**32.21**	**195**	*e*P	**P**	**17 56 29.4**	**-1.9**
	comp=Z,3.2nm,0.9s						
WRA	**Warramunga Arr**	**32.22**	**195**	P	**P**	**17 56 30.7**	**-0.7**
WRA	**Warramunga Arr**	**32.22**	**195**	P	**P**	**17 56 30.7**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=19,slow=9.3,SNR=10.0						
WRA				LR	LR	18 10 31.2	
	comp=Z,318nm,20.0s,baz=355,slow=38						
ASAJ	**Asahikawa**	**32.64**	**360**	LR	LR	18 11 01.9	
	comp=Z,74nm,18.5s,baz=187,slow=39						
QIZ	**Qiongzhong**	**32.72**	**288**	P	**P**	**17 56 37.2**	**+1.3**
QIZ				pP	**pP**	**17 56 47.4**	**-1.4**
QIZ				S	**S**	**18 01 50.5**	**+1.3**
QIZ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
USRK	**Ussuriysk Arra**	**34.04**	**346**	P	**P**	**17 56 47.2**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=184,slow=8.6,SNR=6.5						
MDJ	**Mudanjiang**	**35.05**	**343**	P	**P**	**17 56 55.4**	**-0.3**
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,15nm,4.2s						
CN2	**Changchun**	**35.66**	**338**	*e*P	**P**	**17 57 02.8**	**+1.8**
CN2				*e*S	**S**	**18 02 32.2**	**-1.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,80nm,5.0s						
CN2				LR	LR		
	comp=N,100nm,14.0s						
CN2				LR	LR		
	comp=E,80nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,18.0s						
AS31	**Alice Springs**	**35.90**	**194**	*e*P	**P**	**17 57 02.1**	**-1.2**
ASAR	**Alice Springs**	**35.90**	**194**	P	**P**	**17 57 02.9**	**-0.5**
ASAR				PcP	**PcP**	**17 59 30.2**	**+0.5**
ASAR	**Alice Springs**	**35.90**	**194**	P	**P**	**17 57 02.9**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=24,slow=11,SNR=24						
ASAR				PcP	**PcP**	**17 59 30.2**	**+0.5**
	comp=Z,0.9nm,0.9s,baz=39,slow=2.8,SNR=5.3						
ASAR				LR	LR	18 12 19.2	
	comp=Z,194nm,18.9s,baz=43,slow=37						
ENH	**Enshi**	**36.23**	**306**	*e*P	**P**	**17 57 04.8**	**-1.4**
	comp=Z,3.4nm,0.6s						
BJT	**Baijiatuan**	**37.04**	**325**	*e*P	**P**	**17 57 11.3**	**-1.5**
	comp=Z,16nm,0.4s						
BJI	**Beijing**	**37.05**	**325**	P	**P**	**17 57 12.7**	**-0.2**
BJI				S	**S**	**18 02 53.1**	**-2.2**
BJI				SS	**SnSn**	**18 05 34.6**	**+1.8**
BJI				pmax	pmax		
	comp=Z,18nm,0.6s						
BJI				pmax	pmax		
	comp=Z,92nm,5.5s						
BJI				LR	LR		
	comp=N,150nm,18.9s						
BJI				LR	LR		
	comp=E,200nm,15.2s						
BJI				LR	LR		
	comp=Z,110nm,20.1s						
GYA	**Guiyang**	**37.23**	**299**	*e*P	**P**	**17 57 14.9**	**+0.1**
GYA				pP	**pP**	**17 57 28.8**	**+0.8**
GYA				sP	**sP**	**17 57 35.4**	**+1.5**
GYA				PP	**PnPn**	**17 58 41.6**	**+0.2**
GYA				S	**S**	**18 02 55.0**	**-3.7**
GYA				ScS	**ScS**	**18 07 23.8**	**-1.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMI	**Kunming**	**40.32**	**295**	P	P	17 57 45.1	+4.2
KMI				pmax	pmax		
	comp=Z,4.0nm,1.3s						
CD2	**Chengdu**	**41.05**	**304**	P	**P**	**17 57 46.8**	**+0.2**
CD2				pP	**pP**	**17 57 59.9**	**0.0**
CD2				sP	**sP**	**17 58 05.8**	**+0.1**
CD2				PP	**PnPn**	**17 59 24.7**	**-2.0**
CD2				S	**S**	**18 03 52.9**	**-3.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.4s						
CM31	**Chiang Mai Arr**	**42.94**	**285**	*e*P	**P**	**17 58 03.1**	**+1.0**
	comp=Z,14nm,0.6s						
CMAR	**Chiang Mai Arr**	**42.94**	**285**	P	**P**	**17 58 03.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**42.94**	**285**	P	**P**	**17 58 03.1**	**+1.0**
	comp=Z,13nm,0.8s,baz=87,slow=6.3,SNR=58						
LZH	**Lanzhou**	**42.95**	**312**	*e*P	**P**	**17 58 03.5**	**+1.3**
LZH				pP	**pP**	**17 58 13.2**	**-2.3**
LZH				sP	**sP**	**17 58 17.7**	**-3.6**
LZH				pmax	pmax		
	comp=Z,24nm,1.3s						
CHTO	**Chiang Mai**	**42.95**	**285**	*e*P	**P**	**17 58 02.8**	**+0.6**
	comp=Z,4.6nm,1.0s						
PETK	**Petropavlovsk-**	**43.31**	**13**	P	**P**	**17 58 05.0**	**+0.4**
PETK	**Petropavlovsk-**	**43.31**	**13**	P	**P**	**17 58 05.0**	**+0.4**
	comp=Z,3.7nm,0.9s,baz=207,slow=6.2,SNR=5.6						
PETK				LR	LR	18 14 42.6	
	comp=Z,71nm,19.9s,baz=207,slow=34						
FORT	**Forrest**	**44.25**	**198**	*e*P	**P**	**17 58 10.8**	**-1.5**
	comp=Z,9.1nm,0.8s						
ULN	**Ulaanbaatar**	**47.14**	**327**	P	**P**	**17 58 35.2**	**0.0**
	comp=Z,1.4nm,0.8s						
GTA	**Gaotai**	**47.24**	**314**	*e*P	**P**	**17 58 36.8**	**+0.7**
GTA				pP	**pP**	**17 58 50.0**	**+0.4**
GTA				sP	**sP**	**17 58 55.9**	**+0.5**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,150nm,5.7s						
SONM	**Songino Array**	**47.47**	**327**	P	**P**	**17 58 38.1**	**+0.4**
SONM				PcP	**PcP**	**18 00 08.9**	**+1.4**
SONM	**Songino Array**	**47.47**	**327**	P	**P**	**17 58 38.1**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=148,slow=8.3,SNR=7.4						
SONM				PcP	**PcP**	**18 00 08.9**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=164,slow=1.7,SNR=5.4						
SONM				LR	LR	18 20 25.9	
	comp=Z,94nm,19.5s,baz=326,slow=38						
LSA	**Lhasa**	**51.30**	**299**	*e*P	**P**	**17 59 06.5**	**-1.2**
	comp=Z,2.6nm,1.0s						
WMQ	**Urumqi**	**57.28**	**315**	P	**P**	**17 59 51.6**	**+1.1**
WMQ				pP	**pP**	**18 00 04.3**	**0.0**
WMQ				sP	**sP**	**18 00 09.6**	**-0.5**
WMQ				PcP	**PcP**	**18 00 46.8**	**+2.5**
WMQ				PP	**PP**	**18 01 59.7**	**+1.7**
WMQ				ScP	**ScP**	**18 04 41.1**	**+0.9**
WMQ				S	**S**	**18 07 39.7**	**-3.5**
WMQ				ScS	**ScS**	**18 09 33.3**	**-2.6**
WMQ				pmax	pmax		
	comp=Z,11nm,0.5s						
WMQ				pmax	pmax		
	comp=Z,66nm,5.0s						
WMQ				LR	LR		
	comp=N,93nm,9.2s						
WMQ				LR	LR		
	comp=E,41nm,8.6s						
WMQ				LR	LR		
	comp=Z,660nm,20.8s						
MK31	**Makanchi Array**	**61.75**	**317**	*e*P	**P**	**18 00 21.3**	**+0.1**
MKAR	**Makanchi Array**	**61.75**	**317**	*e*P	**P**	**18 00 21.5**	**+0.2**
MKAR	**Makanchi Array**	**61.75**	**317**	P	**P**	**18 00 21.4**	**+0.2**
	comp=Z,4.5nm,0.7s,baz=95,slow=8.0,SNR=34						
SDPT	**Sand Point**	**62.07**	**33**	*e*P	**P**	**18 00 21.8**	**-1.3**
	comp=Z,13nm,0.6s						
ZAA0	**Zalesovo Array**	**62.31**	**326**	*e*P	**P**	**18 00 23.4**	**-1.4**
ZALV	**Zalesovo Beam**	**62.31**	**326**	P	**P**	**18 00 24.4**	**-0.3**
ZALV	**Zalesovo Beam**	**62.31**	**326**	P	**P**	**18 00 24.4**	**-0.3**
	comp=Z,4.1nm,0.6s,baz=109,slow=7.3,SNR=18						
ZALV				LR	LR	18 28 42.8	
	comp=Z,71nm,18.6s,baz=249,slow=37						
KURK	**Kurchatov**	**65.04**	**321**	P	**P**	**18 00 42.9**	**+0.1**
KSH	**Kashi**	**65.05**	**308**	P	P	18 00 46.6	+3.3
KSH				pP	pP	18 01 00.9	+3.6
KSH				sP	sP	18 01 06.3	+3.3
KSH				PP	**PP**	**18 03 11.8**	**+5.0**
KSH				S	**S**	**18 09 21.9**	**-0.3**
KSH				ScS	**SKSac**	**18 10 34.3**	**-0.1**
KSH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,110nm,5.2s						
KSH				LR	LR		
	comp=N,120nm,5.3s						
KSH				LR	LR		
	comp=E,250nm,7.1s						
KSH				LR	LR		
	comp=Z,150nm,6.6s						
KURBB	**Kurchatov Arra**	**65.07**	**321**	P	**P**	**18 00 42.9**	**-0.2**
	comp=Z,8.6nm,0.6s,baz=106,slow=6.7,SNR=82						
TKM2	**Tokmak 2**	**65.72**	**312**	*e*P	**P**	**18 00 48.2**	**+0.5**
	comp=Z,4.5nm,0.8s						
AAK	**Ala-Archa**	**66.49**	**312**	P	**P**	**18 00 52.6**	**+0.1**
AAK	**Ala-Archa**	**66.49**	**312**	P	**P**	**18 00 52.6**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=20,slow=2.7,SNR=3.6						
SVW2	**Sparrevohn**	**66.55**	**28**	*e*P	**P**	**18 00 54.0**	**+1.6**
	comp=Z,10nm,1.2s						
EKS2	**Erkin-Say**	**67.02**	**312**	*e*P	**P**	**18 00 56.1**	**+0.2**
	comp=Z,4.1nm,1.0s						
KKAR	**Karatay Array**	**69.45**	**312**	*e*P	**P**	**18 01 11.2**	**+0.3**
	comp=Z,4.7nm,1.0s						
PMR	**Palmer**	**69.67**	**28**	*e*P	**P**	**18 01 11.8**	**-0.1**
	comp=Z,4.4nm,0.7s						
SML	**Sawmill**	**70.09**	**28**	*e*P	**P**	**18 01 14.9**	**+0.3**
	comp=Z,1.1nm,0.7s						
KBL	**Kabul**	**70.36**	**303**	*e*P	**P**	**18 01 16.2**	**-0.7**
	comp=Z,14nm,1.1s						
BVAR	**Borovoye Array**	**70.46**	**322**	LR	LR	18 34 45.1	
	comp=Z,76nm,18.6s,baz=214,slow=38						
BRVK	**Borovoye**	**70.53**	**322**	*e*P	**P**	**18 01 17.6**	**+0.3**
	comp=Z,14nm,0.6s						
COLD	**Coldfoot**	**70.74**	**22**	*e*P	**P**	**18 01 19.4**	**+1.0**
	comp=Z,3.9nm,0.7s						
ILAR	**Eielson Array**	**71.41**	**25**	P	**P**	**18 01 21.4**	**-1.1**
ILAR	**Eielson Array**	**71.41**	**25**	P	**P**	**18 01 21.4**	**-1.1**
	comp=Z,1.9nm,0.6s,baz=251,slow=5.6,SNR=32						
ILAR				LR	LR	18 30 26.6	
	comp=Z,58nm,18.6s,baz=266,slow=34						
PAX	**Paxson**	**71.64**	**27**	*e*P	**P**	**18 01 24.4**	**+0.4**
	comp=Z,3.5nm,0.9s						
EGAK	**Eagle**	**73.82**	**26**	*e*P	**P**	**18 01 37.3**	**+0.5**
	comp=Z,2.9nm,0.9s						
YKA	**Yellowknife Ar**	**85.73**	**27**	P	**P**	**18 02 41.5**	**+0.3**
YKA	**Yellowknife Ar**	**85.73**	**27**	P	**P**	**18 02 41.5**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=288,slow=5.1,SNR=20						
YKA				LR	LR	18 40 58.1	
	comp=Z,6.0nm,18.5s,baz=30,slow=36						
BEKR	**Beckworth**	**87.95**	**50**	*e*P	**P**	**18 02 53.2**	**+0.4**
	comp=Z,2.3nm,0.9s						
KEV	**Kevo**	**88.02**	**342**	*e*p	**P**	**18 02 51.6**	**-0.6**
	comp=Z,0.6nm,0.4s						
CMB	**Columbia Colle**	**88.34**	**52**	*e*P	**P**	**18 02 55.8**	**+1.2**
	comp=Z,5.7nm,1.3s						
ARCES	**ARCESS Array B**	**88.58**	**342**	P	**P**	**18 02 55.5**	**+0.6**
ARCES	**ARCESS Array B**	**88.58**	**342**	P	**P**	**18 02 55.5**	**+0.6**
	comp=Z,2.8nm,0.6s,baz=60,slow=7.2,SNR=15						
ARCES				LR	LR	18 48 08.8	
	comp=Z,39nm,18.6s,baz=43,slow=39						
WVOR	**Wild Horse Val**	**88.61**	**47**	*e*P	**P**	**18 02 56.2**	**+0.4**
	comp=Z,3.6nm,0.9s						
BMO	**Blue Mountains**	**88.94**	**45**	*e*P	**P**	**18 02 58.1**	**+0.8**
	comp=Z,3.3nm,1.0s						
JOF	**Joensuu**	**89.47**	**335**	*e*p	**P**	**18 02 58.7**	**-0.5**
	comp=Z,0.5nm,0.3s						
NVAR	**Mina Array Bea**	**89.84**	**51**	P	**P**	**18 03 03.7**	**+1.9**
NVAR	**Mina Array Bea**	**89.84**	**51**	P	**P**	**18 03 03.7**	**+1.9**
	comp=Z,3.7nm,0.7s,baz=273,slow=5.3,SNR=26						
NV11	**Mina Array Sit**	**89.95**	**51**	*e*P	**P**	**18 03 02.2**	**0.0**
MFID	**Camas Ranch**	**90.35**	**46**	*e*P	**P**	**18 03 04.5**	**+0.5**
	comp=Z,3.2nm,1.0s						
GSC	**Goldstone**	**91.79**	**54**	*e*P	**P**	**18 03 13.2**	**+2.4**
	comp=Z,9.9nm,1.4s						
FINES	**FINESS Array B**	**92.33**	**335**	P	**P**	**18 03 12.0**	**-0.5**
FINES	**FINESS Array B**	**92.33**	**335**	P	**P**	**18 03 12.0**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=69,slow=3.9,SNR=14						
MAW	**Mawson**	**96.63**	**202**	LR	LR	18 44 42.0	
	comp=Z,169nm,19.7s,baz=101,slow=34						
HFS	**Hagfors**	**98.08**	**337**	LR	LR	18 53 28.8	
	comp=Z,52nm,19.1s,baz=235,slow=39						
TORD	**Torodi Ar. Bea**	**134.42**	**301**	PKP	**PKPdf**	**18 09 21.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**134.42**	**301**	PKP	**PKPdf**	**18 09 21.9**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=28,slow=2.5,SNR=4.5						
LPAZ	**La Paz**	**149.53**	**103**	PKPbc	**PKPbc**	**18 09 54.7**	**+1.3**
LPAZ	**La Paz**	**149.53**	**103**	PKPbc	**PKPbc**	**18 09 54.7**	**+1.3**
	comp=Z,1.4nm,0.6s,baz=345,slow=4.5,SNR=7.4						

*IDC **04** 17:53:10.2±1.4, 11°.40N×142°.90E, h0km, mb4.3/13, mb1 4.4/13, mb1mx4.3/24, mbtmp4.2/13, Error ellipse: s-maj=39.7km s-min=23.3km az=4.0*

*ISCJB **04** 17:53:13.7±0.6, 11°.5N±0°.1×142°.78E±0°.07, h32km, mb4.3/31, Error ellipse: s-maj=17.1km s-min=8.3km az=157.3*

*NEIC **04** 17:53:13.3±4.7, 11°.42N×142°.87E, h20km±30km, mb4.5/16, Error ellipse: s-maj=18.0km s-min=8.7km az=178.0*

ISC 04 17:53:14.8±0.8, 11°.4N±0°.1×142°.9E±0°.1, h32km, n52, σ0°85/53, mb4.5/31, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.92**	**41**	*e*Pn	**Pn**	**17 53 58.0**	**-1.1**
GUMO				*e*Sn	**Sn**	**17 54 33.9**	**+0.8**
MJAR	**Matsushiro Arr**	**25.39**	**351**	P	**P**	**17 58 39.6**	**+0.2**
MJAR	**Matsushiro Arr**	**25.39**	**351**	P	**P**	**17 58 39.6**	**+0.2**
	0.6nm,0.6s,baz=166,slow=9.2,SNR=4.7						
ENH	**Enshi**	**36.23**	**306**	P	**P**	**18 00 14.9**	**-0.1**
BJT	**Baijiatuan**	**37.03**	**325**	P	**P**	**18 00 20.1**	**-1.5**
	24nm,0.4s						
BJT				*e*		18 00 29.3	
CM31	**Chiang Mai Arr**	**42.95**	**285**	*e*P	**P**	**18 01 12.1**	**+1.0**
	15nm,0.9s						
CMAR	**Chiang Mai Arr**	**42.95**	**285**	P	**P**	**18 01 12.4**	**+1.3**
CMAR	**Chiang Mai Arr**	**42.95**	**285**	P	**P**	**18 01 12.4**	**+1.3**
	9.1nm,0.8s,baz=87,slow=6.5,SNR=35						
PETK	**Petropavlovsk-**	**43.28**	**13**	P	**P**	**18 01 13.8**	**+0.6**
PETK	**Petropavlovsk-**	**43.28**	**13**	P	**P**	**18 01 13.8**	**+0.6**
	0.7nm,0.5s,baz=195,slow=8.9,SNR=7.0						
SONM	**Songino Array**	**47.45**	**327**	P	**P**	**18 01 47.2**	**+0.5**
SONM	**Songino Array**	**47.45**	**327**	P	**P**	**18 01 47.2**	**+0.5**
	0.6nm,0.5s,baz=126,slow=6.2,SNR=5.3						
MK31	**Makanchi Array**	**61.74**	**317**	*e*P	**P**	**18 03 30.1**	**-0.2**
MKAR	**Makanchi Array**	**61.74**	**317**	P	**P**	**18 03 30.7**	**+0.5**
MKAR	**Makanchi Array**	**61.74**	**317**	P	**P**	**18 03 30.7**	**+0.5**
	4.0nm,0.9s,baz=96,slow=8.0,SNR=14						
ZALV	**Zalesovo Beam**	**62.30**	**325**	P	**P**	**18 03 33.5**	**-0.2**
ZALV	**Zalesovo Beam**	**62.30**	**325**	P	**P**	**18 03 33.5**	**-0.2**
	1.1nm,0.5s,baz=117,slow=6.7,SNR=5.1						
KURK	**Kurchatov**	**65.03**	**321**	P	**P**	**18 03 52.3**	**+0.5**
KURBB	**Kurchatov Arra**	**65.06**	**321**	P	**P**	**18 03 52.3**	**+0.3**
	6.2nm,0.7s,baz=105,slow=6.5,SNR=24						
EKS2	**Erkin-Say**	**67.01**	**312**	*e*P	**P**	**18 04 03.2**	**-1.8**
	1.8nm,0.8s						
KKAR	**Karatay Array**	**69.44**	**312**	*e*P	**P**	**18 04 19.6**	**-0.5**
	1.5nm,0.8s						
PMR	**Palmer**	**69.63**	**28**	P	**P**	**18 04 20.2**	**-0.5**
	3.7nm,0.8s						
SML	**Sawmill**	**70.05**	**28**	*e*P	**P**	**18 04 22.6**	**-0.8**
	0.7nm,0.7s						
KBL	**Kabul**	**70.36**	**303**	*e*P	**P**	**18 04 27.1**	**+1.0**
	3.7nm,0.7s						
BRVK	**Borovoye**	**70.52**	**322**	*e*P	**P**	**18 04 26.5**	**+0.1**
	8.8nm,0.6s						
COLD	**Coldfoot**	**70.71**	**22**	*e*P	**P**	**18 04 28.1**	**+0.8**
	2.5nm,0.6s						
ILAR	**Eielson Array**	**71.37**	**25**	P	**P**	**18 04 30.8**	**-0.7**
ILAR	**Eielson Array**	**71.37**	**25**	P	**P**	**18 04 30.8**	**-0.7**
	1.5nm,0.8s,baz=248,slow=5.9,SNR=13						
PAX	**Paxson**	**71.61**	**27**	*e*P	**P**	**18 04 33.4**	**+0.4**
	1.3nm,0.5s						
ABKAR	**Akbulak array**	**76.86**	**318**	*e*P	**P**	**18 05 03.5**	**-0.2**
	5.4nm,0.8s						
YKA	**Yellowknife Ar**	**85.69**	**27**	P	**P**	**18 05 51.0**	**+0.8**
YKA	**Yellowknife Ar**	**85.69**	**27**	P	**P**	**18 05 51.0**	**+0.8**
	0.8nm,0.5s,baz=286,slow=5.0,SNR=9.1						
YBH	**Yreka Blue Hor**	**85.78**	**48**	P	**P**	**18 05 52.5**	**+1.2**
YBH	**Yreka Blue Hor**	**85.78**	**48**	P	**P**	**18 05 52.5**	**+1.2**
	1.9nm,0.8s,baz=282,slow=3.5,SNR=4.6						
BEKR	**Beckworth**	**87.91**	**50**	*e*P	**P**	**18 06 02.0**	**+0.1**
	1.4nm,0.9s						
KEV	**Kevo**	**87.99**	**342**	*e*p	**P**	**18 05 59.9**	**-1.5**
	0.5nm,0.4s						
ARCES	**ARCESS Array B**	**88.56**	**342**	P	**P**	**18 06 03.4**	**-0.7**
ARCES	**ARCESS Array B**	**88.56**	**342**	P	**P**	**18 06 03.4**	**-0.7**
	3.2nm,0.8s,baz=38,slow=6.1,SNR=7.4						
WVOR	**Wild Horse Val**	**88.58**	**47**	*e*P	**P**	**18 06 05.5**	**+0.5**
	2.5nm,0.8s						
BMO	**Blue Mountains**	**88.91**	**45**	*e*P	**P**	**18 06 06.9**	**+0.5**
	2.2nm,0.8s						
VNDA	**Vanda**	**89.42**	**176**	*e*P	**P**	**18 06 07.5**	**-0.3**
	2.0nm,0.7s						
JOF	**Joensuu**	**89.45**	**335**	*e*p	**P**	**18 06 07.6**	**-0.8**
	0.2nm,0.3s						
NVAR	**Mina Array Bea**	**89.81**	**51**	P	**P**	**18 06 12.6**	**+1.7**
NVAR	**Mina Array Bea**	**89.81**	**51**	P	**P**	**18 06 12.6**	**+1.7**
	3.4nm,0.7s,baz=264,slow=5.8,SNR=24						
NV11	**Mina Array Sit**	**89.92**	**51**	*e*P	**P**	**18 06 11.9**	**+0.6**
MFID	**Camas Ranch**	**90.32**	**46**	*e*P	**P**	**18 06 13.6**	**+0.6**
	2.2nm,0.8s						
FINES	**FINESS Array B**	**92.31**	**335**	P	**P**	**18 06 20.6**	**-1.1**
FINES	**FINESS Array B**	**92.31**	**335**	P	**P**	**18 06 20.6**	**-1.1**
	2.4nm,0.9s,baz=52,slow=3.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**134.42**	**301**	PKP	**PKPdf**	**18 12 30.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**134.42**	**301**	PKP	**PKPdf**	**18 12 30.6**	**-0.1**
	0.8nm,0.9s,baz=20,slow=2.9,SNR=4.2						
LPAZ	**La Paz**	**149.52**	**103**	PKPbc	**PKPbc**	**18 13 02.1**	**-0.6**
LPAZ	**La Paz**	**149.52**	**103**	PKPbc	**PKPbc**	**18 13 02.1**	**-0.6**
	1.2nm,0.6s,baz=351,slow=2.6,SNR=4.7						

*ISCJB **04** 17:54:14.4±0.3, 1°.95N±0°.04×126°.82E±0°.05, h63km, mb4.3/17, Error ellipse: s-maj=7.0km s-min=5.4km az=166.9*

*NEIC **04** 17:54:15.7±1.7, 1°.87N×126°.73E, h60km±17km, mb4.3/8, Error ellipse: s-maj=15.5km s-min=6.1km az=74.0*

*IDC **04** 17:54:15.3±3.0, 1°.86N×126°.70E, h53km±29km, mb4.0/10, mb1 4.2/12, mb1mx4.0/23, mbtmp4.1/12, ML4.1/2, Error ellipse: s-maj=34.7km s-min=10.6km az=82.0*

*DJA **04** 17:54:15.2±0.9, 2°N±8°×12°7E±°, h18km±18km, M4.7/8, mb4.8/4, mB5.0/2, MLv4.6/8, Mw(mB)4.3/2*

ISC 04 17:54:16.2±0.6, 1°.94N±0°.05×126°.84E±0°.06, h63km, n43, σ1°01/47, mb4.2/17, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAMI	**Galela, Maluku**	**0.95**	**96**	P	**Pn**	**17 54 32.9**	**-0.9**
TNTI	**Ternate**	**1.27**	**155**	P	**Pn**	**17 54 36.4**	**-1.6**
TNTI				S	**Sn**	**17 54 54.7**	**+0.5**
MNI	**Manado**	**2.06**	**256**	P	**Pn**	**17 54 47.6**	**-0.9**
MNI				S	**Sn**	**17 55 15.1**	**+2.0**
LBMI	**Labuha**	**2.64**	**165**	P	**Pn**	**17 54 56.8**	**+0.3**
KMSI	**Cibinong**	**3.16**	**245**	P	**Pn**	**17 55 04.1**	**+0.5**
GTOI	**Gorontalo**	**4.04**	**251**	P	**Pn**	**17 55 16.0**	**+0.4**
LUWI	**Luwuk**	**5.03**	**234**	P	**Pn**	**17 55 29.1**	**0.0**
	192nm,0.8s,2μm0.8nm						
MRSI	**Marisa**	**5.11**	**254**	P	**Pn**	**17 55 31.5**	**+1.3**
	88nm,0.7s,1μm0.3nm						
CTBH	**Cotabato--PC H**	**5.85**	**334**	↓*i*P	**Pn**	**17 55 38.8**	**-1.7**
BKSI	**Bulukumba**	**9.85**	**223**	P	**Pn**	**17 56 35.2**	**+0.1**
	27nm,0.7s						
KAPI	**Kappang**	**9.89**	**226**	*e*Pn	**Pn**	**17 56 34.0**	**-1.7**
KAPI	**Kappang**	**9.89**	**226**	P	**Pn**	**17 56 34.1**	**-1.7**
	2.4nm,0.3s,baz=347,slow=4.5,SNR=7.7						

AS31	**Alice Springs**	**36.00**	**194**	*e*P	**P**	**18 04 22.1**	**-1.4**
ASAR	**Alice Springs**	**36.00**	**194**	P	**P**	**18 04 24.1**	**+0.5**
ASAR	**Alice Springs**	**36.00**	**194**	P	**P**	**18 04 24.1**	**+0.5**
	0.8nm,0.9s,baz=16,slow=12,SNR=5.8						
CMAR	**Chiang Mai Arr**	**42.99**	**285**	P	**P**	**18 05 22.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**42.99**	**285**	P	**P**	**18 05 22.7**	**+0.8**
	4.9nm,0.7s,baz=86,slow=6.2,SNR=34						
FORT	**Forrest**	**44.35**	**198**	*e*P	**P**	**18 05 31.2**	**-1.4**
	12nm,1.1s						
SONM	**Songino Array**	**47.44**	**327**	P	**P**	**18 05 57.2**	**+0.2**
SONM	**Songino Array**	**47.44**	**327**	P	**P**	**18 05 57.2**	**+0.2**
	0.5nm,0.4s,baz=125,slow=9.6,SNR=4.0						
MKAR	**Makanchi Array**	**61.75**	**317**	P	**P**	**18 07 41.0**	**+0.3**
MKAR	**Makanchi Array**	**61.75**	**317**	P	**P**	**18 07 41.0**	**+0.3**
	1.7nm,0.8s,baz=96,slow=7.7,SNR=7.8						
ZALV	**Zalesovo Beam**	**62.29**	**325**	P	**P**	**18 07 43.7**	**-0.4**
ZALV	**Zalesovo Beam**	**62.29**	**325**	P	**P**	**18 07 43.7**	**-0.4**
	0.9nm,0.5s,baz=118,slow=6.9,SNR=3.8						
KURK	**Kurchatov**	**65.02**	**321**	P	**P**	**18 08 02.5**	**+0.2**
KURBB	**Kurchatov Arra**	**65.06**	**321**	P	**P**	**18 08 02.5**	**0.0**
	3.6nm,0.8s,baz=106,slow=6.5,SNR=25						
BRVK	**Borovoye**	**70.52**	**322**	*e*P	**P**	**18 08 37.0**	**+0.2**
	6.4nm,0.6s						
COLD	**Coldfoot**	**70.63**	**22**	*e*P	**P**	**18 08 38.3**	**+1.0**
	2.1nm,0.7s						
ILAR	**Eielson Array**	**71.30**	**25**	P	**P**	**18 08 40.0**	**-1.4**
ILAR	**Eielson Array**	**71.30**	**25**	P	**P**	**18 08 40.0**	**-1.4**
	0.6nm,0.7s,baz=252,slow=5.9,SNR=10						
ABKAR	**Akbulak array**	**76.87**	**318**	*e*P	**P**	**18 09 13.5**	**-0.7**
	1.4nm,0.6s						
YKA	**Yellowknife Ar**	**85.61**	**27**	P	**P**	**18 10 00.3**	**0.0**
YKA	**Yellowknife Ar**	**85.61**	**27**	P	**P**	**18 10 00.3**	**0.0**
	0.3nm,0.4s,baz=286,slow=5.0,SNR=7.2						
ARCES	**ARCESS Array B**	**88.53**	**342**	P	**P**	**18 10 14.3**	**0.0**
ARCES	**ARCESS Array B**	**88.53**	**342**	P	**P**	**18 10 14.3**	**0.0**
	4.0nm,1.0s,baz=39,slow=7.8,SNR=5.4						
NVAR	**Mina Array Bea**	**89.72**	**51**	P	**P**	**18 10 22.2**	**+1.3**
NVAR	**Mina Array Bea**	**89.72**	**51**	P	**P**	**18 10 22.2**	**+1.3**
	1.5nm,0.6s,baz=262,slow=5.8,SNR=16						
FINES	**FINESS Array B**	**92.29**	**335**	P	**P**	**18 10 31.4**	**-0.6**
FINES	**FINESS Array B**	**92.29**	**335**	P	**P**	**18 10 31.4**	**-0.6**
	4.2nm,1.1s,baz=29,slow=4.4,SNR=5.1						

KRSC ***04*** *18:21:26.6±0.8,61°.60N×169°.81E,h4km±5km, ML4.8*
MOS ***04*** *18:21:30.9±1.1,61°.63N×168°.94E,h7km,mb4.4/15, Error ellipse: s-maj=15.3km s-min=6.6km az=77.9*
ISCJB ***04*** *18:21:31.5±0.3,61°.63N±0°.04×168°.96E±0°.09,h10km, mb4.0/25,MS3.2/6, Error ellipse: s-maj=7.4km s-min=4.4km az=42.8*
IDC ***04*** *18:21:31.7±0.6,61°.61N×168°.79E,h0km,mb3.8/13, mb1 4.0/16,mb1mx3.8/32,mbtmp3.8/16,ML3.6/3,MS3.2/7, Ms1 3.2/7,ms1mx2.8/50, Error ellipse: s-maj=15.5km s-min=13.7km az=8.0*
NEIC ***04*** *18:21:33.0±0.3,61°.57N×168°.87E,h10km,mb4.3/9, Error ellipse: s-maj=9.0km s-min=6.1km az=164.0*

ISC 04 18:21:33.2±0.5,61°.63N±0°.07×169°.01E±0°.06,h10km,n92, σ0°99/86,mb4.1/25,MS3.1/6,2C,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TILK	**Tilichiki**	**1.83**	**231**	*e*P	**Pn**	**18 22 04.5**	**-0.2**
TILK				*i* S	**Sg**	**18 22 32.1**	**+0.1**
PALN	**Palana**	**5.16**	**244**	P	**Pn**	**18 22 51.5**	**+1.1**
KBG	**Krutoberegovo**	**6.30**	**214**	PN	**Pn**	**18 23 07.5**	**+1.5**
KBG	**Krutoberegovo**	**6.30**	**214**	*e*P	**Pn**	**18 23 07.5**	**+1.5**
SMKR	**Semkarok**	**6.38**	**221**	P	**Pn**	**18 23 08.6**	**+1.4**
SRKR	**Sorokina**	**6.42**	**222**	*e*P	**Pn**	**18 23 08.2**	**+0.5**
BDR	**Baidarnaya**	**6.47**	**222**	*e*P	**Pn**	**18 23 08.5**	**0.0**
BILL	**Bilibino**	**6.54**	**351**	*e*PN	**Pn**	**18 23 10.6**	**+1.3**
BILL				pmax	pmax		
	comp=Z,496nm,0.4s						
BILL	**Bilibino**	**6.54**	**351**	*i* P	**Pn**	**18 23 10.7**	**+1.4**
BILL				*e*S	Sn	18 24 29.1	+5.3
BILL	**Bilibino**	**6.54**	**351**	*i* P	**Pn**	**18 23 10.6**	**+1.3**
BKI	**Bering**	**6.64**	**195**	PN	**Pn**	**18 23 11.4**	**+0.7**
BKI	**Bering**	**6.64**	**195**	P	**Pn**	**18 23 11.4**	**+0.7**
KLY	**Klyuchi**	**6.86**	**223**	PN	**Pn**	**18 23 14.5**	**+0.8**
KLY	**Klyuchi**	**6.86**	**223**	*e*P	**Pn**	**18 23 14.5**	**+0.8**
KRSR	**Krestovskiy**	**6.97**	**223**	P	**Pn**	**18 23 16.2**	**+0.9**
ESO	**Esso**	**7.83**	**228**	PN	**Pn**	**18 23 27.8**	**+0.7**
ESO	**Esso**	**7.83**	**228**	P	**Pn**	**18 23 27.8**	**+0.7**
MKZ	**Mys Kozlova**	**8.07**	**212**	PN	**Pn**	**18 23 31.5**	**+1.2**
MKZ	**Mys Kozlova**	**8.07**	**212**	P	**Pn**	**18 23 31.5**	**+1.2**
FX1	**Attu Island--F**	**9.06**	**164**	*e*Pn	**Pn**	**18 23 42.6**	**-1.3**
FX1	**Attu Island--F**	**9.06**	**164**	Pn	**Pn**	**18 23 42.9**	**-1.0**
	comp=Z,23nm,0.3s,baz=291,slow=18,SNR=7.1						
SPN	**Mys Shipunski**	**9.82**	**213**	PN	**Pn**	**18 23 55.3**	**+0.9**
SPN	**Mys Shipunski**	**9.82**	**213**	*e*P	**Pn**	**18 23 55.3**	**+0.9**
PETK	**Petropavlovsk-**	**10.48**	**221**	PN	**Pn**	**18 24 03.9**	**+0.5**
PETK	**Petropavlovsk-**	**10.48**	**221**	Pn	**Pn**	**18 24 03.9**	**+0.5**
PETK	**Petropavlovsk-**	**10.48**	**221**	Pn	**Pn**	**18 24 03.9**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=63,slow=11,SNR=5.5						
PETK				LR	LR	18 28 24.1	
	comp=Z,41nm,18.5s,baz=12,slow=40						
RUS	**Russkaya**	**10.83**	**216**	PN	**Pn**	**18 24 09.5**	**+1.4**
RUS	**Russkaya**	**10.83**	**216**	P	**Pn**	**18 24 09.5**	**+1.4**
COLD	**Coldfoot**	**18.19**	**55**	*e*P	**P**	**18 25 45.6**	**-0.1**
TIXI	**Tiksi**	**18.38**	**320**	*e*P	**Pn**	**18 25 46.2**	**-1.5**
TIXI	**Tiksi**	**18.38**	**320**	*e*P	**P**	**18 25 47.9**	**+0.2**
YAK	**Yakutsk**	**18.38**	**289**	*e*P	**P**	**18 25 47.8**	**0.0**
YAK	**Yakutsk**	**18.38**	**289**	*e*P	**P**	**18 25 47.8**	**0.0**
MCK	**McKinley**	**19.16**	**65**	P	**P**	**18 25 56.8**	**+0.4**
MCK				pmax	pmax		
	comp=Z,16nm,1.2s						
MCK	**McKinley**	**19.16**	**65**	P	**P**	**18 25 56.8**	**+0.4**
	comp=Z,16nm,1.2s						
ILAR	**Eielson Array**	**19.82**	**62**	P	**Pn**	**18 26 05.1**	**0.0**
ILAR	**Eielson Array**	**19.82**	**62**	P	**Pn**	**18 26 05.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=263,slow=8.2,SNR=21						
PAX	**Paxson**	**20.87**	**66**	*e*P	Pn	18 26 16.7	-0.9
PAX				pmax	pmax		
	comp=Z,3.0nm,1.1s						
PAX	**Paxson**	**20.87**	**66**	*e*P	Pn	18 26 16.7	-0.9
	comp=Z,3.4nm,1.1s						
YSS	**Yuzh-Sakhalins**	**21.02**	**238**	*e*P	**P**	**18 26 18.4**	**+1.8**
EGAK	**Eagle**	**22.21**	**60**	*e*P	**P**	**18 26 28.4**	**-0.9**
	comp=Z,3.8nm,0.8s						
ASAJ	**Asahikawa**	**23.43**	**234**	LR	LR	18 36 04.3	
	comp=Z,47nm,18.9s,baz=187,slow=37						
INK	**Inuvik**	**24.34**	**49**	P	**P**	**18 26 51.6**	**+0.9**
INK	**Inuvik**	**24.34**	**49**	P	**P**	**18 26 51.6**	**+0.9**
	comp=Z,5.7nm,0.9s,baz=301,slow=8.2,SNR=11						
ERM	**Erimo**	**25.02**	**230**	*e*P	**P**	**18 26 57.5**	**+0.5**
ERM				pmax	pmax		
	comp=Z,16nm,1.3s						
USRK	**Ussuriysk Arra**	**27.78**	**248**	LR	LR	18 40 12.7	
	comp=Z,55nm,19.4s,baz=260,slow=40						
MJA0	**Matsu Arr-Jizo**	**31.64**	**232**	*e*P	**P**	**18 27 56.9**	**+0.7**
MJA0				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MAJO	**Matsushiro**	**31.65**	**232**	*e*P	**P**	**18 27 54.9**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MAJO	**Matsushiro**	**31.65**	**232**	*e*P	**P**	**18 27 54.9**	**-1.5**
	comp=Z,2.6nm,0.7s						
MJAR	**Matsushiro Arr**	**31.66**	**232**	P	**P**	**18 27 54.6**	**-1.7**
MJAR	**Matsushiro Arr**	**31.66**	**232**	P	**P**	**18 27 54.6**	**-1.7**
	comp=Z,3.1nm,0.9s,baz=17,slow=8.1,SNR=7.5						
MJAR				LR	LR	18 42 11.6	
	comp=Z,36nm,18.3s,baz=35,slow=39						
YKA	**Yellowknife Ar**	**33.87**	**54**	P	**P**	**18 28 14.9**	**-0.5**
YKA	**Yellowknife Ar**	**33.87**	**54**	P	**P**	**18 28 14.9**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=304,slow=8.6,SNR=6.5						
KSRS	**Korea Array**	**35.06**	**246**	LR	LR	18 42 07.3	
	comp=Z,21nm,18.7s,baz=30,slow=35						
ZAK	**Zakamensk**	**36.81**	**283**	*e*P	**P**	**18 28 41.2**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,1.0nm,2.0s						
SONM	**Songino Array**	**37.13**	**278**	LR	LR	18 44 37.5	
	comp=Z,91nm,18.5s,baz=59,slow=37						
ZALV	**Zalesovo Beam**	**42.50**	**299**	P	**P**	**18 29 27.8**	**-0.3**
ZALV				MLR	MLR		
	comp=Z,37nm,19.3s						
ZALV	**Zalesovo Beam**	**42.50**	**299**	P	**P**	**18 29 27.8**	**-0.3**
ZALV	**Zalesovo Beam**	**42.50**	**299**	P	**P**	**18 29 27.8**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=34,slow=5.4,SNR=2.9						
ZALV				LR	LR	18 47 22.9	
	comp=Z,37nm,19.3s,baz=160,slow=37						
KURK	**Kurchatov**	**47.46**	**300**	P	**P**	**18 30 08.4**	**+0.8**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**47.46**	**300**	P	**P**	**18 30 08.3**	**+0.8**
KURBB	**Kurchatov Arra**	**47.56**	**300**	P	**P**	**18 30 08.3**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=42,slow=7.7,SNR=28						
MKAR	**Makanchi Array**	**48.92**	**294**	P	**P**	**18 30 17.6**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**48.92**	**294**	P	**P**	**18 30 17.6**	**-1.4**
MKAR	**Makanchi Array**	**48.92**	**294**	P	**P**	**18 30 17.6**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=42,slow=5.6,SNR=5.5						
BVAR	**Borovoye Array**	**48.93**	**308**	P	**P**	**18 30 18.4**	**-0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**48.93**	**308**	P	**P**	**18 30 18.4**	**-0.6**
BVAR	**Borovoye Array**	**48.93**	**308**	P	**P**	**18 30 18.4**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=38,slow=9.8,SNR=4.8						
NVAR	**Mina Array Bea**	**49.05**	**83**	P	**P**	**18 30 21.4**	**+1.1**
NVAR	**Mina Array Bea**	**49.05**	**83**	P	**P**	**18 30 21.4**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=305,slow=7.4,SNR=4.4						
ENH	**Enshi**	**49.44**	**259**	*e*P	P	18 30 19.8	-3.4
	comp=Z,3.6nm,0.7s						
PDAR	**Pinedale Array**	**49.70**	**73**	P	**P**	**18 30 26.1**	**+0.8**
PDAR	**Pinedale Array**	**49.70**	**73**	P	**P**	**18 30 26.1**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=315,slow=3.2,SNR=10						
SRU	**San Rafael**	**52.16**	**76**	*e*P	**P**	**18 30 44.8**	**+1.1**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SRU	**San Rafael**	**52.16**	**76**	*e*P	**P**	**18 30 44.8**	**+1.1**
	comp=Z,3.3nm,0.7s						
PV01	**Paradox Valley**	**53.85**	**75**	*e*P	**P**	**18 30 56.7**	**+0.4**
FINES	**FINESS Array B**	**54.03**	**339**	P	**P**	**18 30 56.4**	**-0.6**
FINES	**FINESS Array B**	**54.03**	**339**	P	**P**	**18 30 56.4**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=302,slow=11,SNR=3.7						
OBN	**Obninsk**	**57.73**	**330**	P	**P**	**18 31 22.0**	**-1.5**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LSA	**Lhasa**	**58.63**	**275**	*e*P	**P**	**18 31 30.3**	**-0.5**
LSA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LSA	**Lhasa**	**58.63**	**275**	*e*P	**P**	**18 31 30.3**	**-0.5**
	comp=Z,1.2nm,0.7s						
TXAR	**Lajitas Array**	**63.41**	**77**	P	**P**	**18 32 04.0**	**+1.2**
TXAR	**Lajitas Array**	**63.41**	**77**	P	**P**	**18 32 04.0**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=316,slow=5.2,SNR=3.9						
CHTO	**Chiang Mai**	**64.16**	**262**	P	**P**	**18 32 08.7**	**+1.0**
CHTO				*e*		18 32 13.8	
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.3s						
CHTO	**Chiang Mai**	**64.16**	**262**	P	**P**	**18 32 08.7**	**+1.0**
	comp=Z,5.5nm,1.3s						
CHTO				*e*		18 32 13.8	
CMAR	**Chiang Mai Arr**	**64.47**	**261**	P	**P**	**18 32 08.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**64.47**	**261**	P	**P**	**18 32 08.8**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=3.6,slow=6.2,SNR=6.2						
KBL	**Kabul**	**64.68**	**296**	*e*P	**P**	**18 32 09.5**	**-1.8**
KBL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KBL	**Kabul**	**64.68**	**296**	*e*P	**P**	**18 32 09.5**	**-1.8**
	comp=Z,1.9nm,0.6s						
KIV	**Kislovodsk**	**66.21**	**321**	P	**P**	**18 32 22.0**	**+1.1**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRTR	**Keskin Array B**	**72.71**	**325**	P	**P**	**18 33 01.4**	**+0.2**
BRTR	**Keskin Array B**	**72.71**	**325**	P	**P**	**18 33 01.4**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=14,slow=2.5,SNR=6.9						

MDD ***04*** *18:30:22.7±2.8,37°.03N×10°.84W,h0km,mb3.5/1,Error ellipse: s-maj=23.2km s-min=19.7km az=91.0,PRX/IMO*
INMG ***04*** *18:30:22.3±1.1,36°.85N×11°.12W,h31km,ML1.5, Error ellipse: s-maj=14.3km s-min=8.8km az=81.0*
CSEM ***04*** *18:30:23.8±0.7,36°.97N×10°.90W,h30km,ML2.5/9, Error ellipse: s-maj=12.9km s-min=10.6km az=120.0*

ISC 04 18:30:21.5±4.1,37°.0N±0°.1×10°.9W±0°.2,h10km,n30, σ0°94/46,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.65**	**85**	*e*Pn	**Pn**	**18 30 50.6**	**+0.1**
PFVI				*e*Sn	**Sn**	**18 31 11.3**	**-0.5**
PFVI				A	A	18 31 11.9	
	2.2nm,0.1s						
PFVI	**Vila Bisbo**	**1.65**	**85**	Pn	**Pn**	**18 30 50.6**	**+0.1**
	3.4nm,0.1s,SNR=7.9						
PFVI				Sn	**Sn**	**18 31 11.0**	**-0.8**
	1.3nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**1.65**	**85**	Pn	**Pn**	**18 30 50.6**	**+0.1**
	3.4nm,0.1s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**18 31 11.3**	**-0.5**
	2.2nm,0.1s						
PNCL	**Nicolau / Gran**	**2.18**	**59**	*e*Pn	**Pn**	**18 30 58.7**	**+0.9**
PNCL				*e*Sn	**Sn**	**18 31 25.4**	**+0.6**
PNCL				A	A	18 31 27.1	
	1.1nm,0.2s						
PNCL	**Nicolau / Gran**	**2.18**	**59**	*e*Pn	**Pn**	**18 30 58.7**	**+0.9**
PNCL				*e*Sn	**Sn**	**18 31 25.4**	**+0.6**
	1.1nm,0.2s						
PMAFR	**Mafra**	**2.33**	**32**	*e*Sn	**Sn**	**18 31 27.9**	**-0.7**
PMAFR				A	A	18 31 30.1	
	6.2nm,0.5s						
PMAFR	**Mafra**	**2.33**	**32**	Sn	**Sn**	**18 31 26.9**	**-1.7**
	0.2nm,0.0s,SNR=7.9						
PMAFR	**Mafra**	**2.33**	**32**	*e*Sn	**Sn**	**18 31 27.9**	**-0.7**
	6.2nm,0.5s						
PCVE	**Castro Verde**	**2.35**	**73**	*e*Pn	**Pn**	**18 31 01.3**	**+1.1**
PCVE				*e*Sn	**Sn**	**18 31 29.2**	**0.0**
PCVE				A	A	18 31 33.0	
	0.9nm,0.2s						
PCVE	**Castro Verde**	**2.35**	**73**	Pn	**Pn**	**18 31 01.3**	**+1.1**
PCVE				Sn	**Sn**	**18 31 29.2**	**0.0**
	0.9nm,0.2s						
PCVE	**Castro Verde**	**2.35**	**73**	Pn	**Pn**	**18 31 01.3**	**+1.1**
PCVE				*e*Sn	**Sn**	**18 31 29.2**	**0.0**
	0.9nm,0.2s						
MOE	**Montemor**	**2.52**	**52**	*e*Sn	**Sn**	**18 31 34.1**	**+0.8**
MOE	**Montemor**	**2.52**	**52**	Sn	**Sn**	**18 31 34.1**	**+0.8**
MOE	**Montemor**	**2.52**	**52**	Sn	**Sn**	**18 31 34.1**	**+0.8**
PVAQ	**Vaqueiros**	**2.56**	**80**	*e*Sn	**Sn**	**18 31 34.5**	**+0.2**
PVAQ				A	A	18 31 38.0	
	1.0nm,0.1s						
PVAQ	**Vaqueiros**	**2.56**	**80**	Sn	**Sn**	**18 31 34.5**	**+0.2**
	1.0nm,0.1s						
PVAQ	**Vaqueiros**	**2.56**	**80**	*e*Sn	**Sn**	**18 31 34.5**	**+0.2**
	1.0nm,0.1s						
EVO	**Evora**	**2.74**	**55**	*e*Sn	**Sn**	**18 31 39.1**	**+0.3**
EVO				A	A	18 31 41.0	
	2.0nm,0.1s						
EVO	**Evora**	**2.74**	**55**	Sn	**Sn**	**18 31 39.1**	**+0.3**
	2.0nm,0.1s						
EVO	**Evora**	**2.74**	**55**	*e*Sn	**Sn**	**18 31 39.1**	**+0.3**
	2.0nm,0.1s						
PMTG	**Montargil**	**2.95**	**45**	*e*Sn	**Sn**	**18 31 43.7**	**-0.1**
PMTG				A	A	18 31 44.3	
	0.8nm,0.2s						
PMTG	**Montargil**	**2.95**	**45**	*e*Sn	**Sn**	**18 31 43.7**	**-0.1**
	0.8nm,0.2s						
PBAR	**Barrancos**	**3.27**	**68**	*e*Pn	**Pn**	**18 31 14.0**	**+1.2**
PBAR				*e*Sn	**Sn**	**18 31 51.0**	**-0.8**
PBAR				A	A	18 31 54.5	
	0.4nm,0.1s						
PBAR	**Barrancos**	**3.27**	**68**	Pn	**Pn**	**18 31 14.0**	**+1.2**
PBAR				Sn	**Sn**	**18 31 51.0**	**-0.8**
	0.4nm,0.1s						
PBAR	**Barrancos**	**3.27**	**68**	Pn	**Pn**	**18 31 14.0**	**+1.2**
PBAR				*e*Sn	**Sn**	**18 31 51.0**	**-0.8**
	0.4nm,0.1s						
EMIN	**Mina Concepcio**	**3.44**	**76**	Pn	**Pn**	**18 31 15.1**	**-0.1**
	0.2nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**18 31 53.5**	**-2.5**
	0.0nm,0.0s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.44**	**76**	Pn	**Pn**	**18 31 15.1**	**-0.1**
	0.2nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**18 31 53.5**	**-2.5**
	SNR=7.9						
PMRV	**Marv??o**	**3.67**	**47**	*e*Pn	**Pn**	**18 31 18.3**	**0.0**
PMRV				*e*Sn	**Sn**	**18 32 00.2**	**-1.4**
PMRV				A	A	18 32 02.8	
	0.6nm,0.1s						
PMRV	**Marv??o**	**3.67**	**47**	Pn	**Pn**	**18 31 18.3**	**0.0**
PMRV				Sn	**Sn**	**18 32 00.2**	**-1.4**
	0.6nm,0.1s						
PMRV	**Marv??o**	**3.67**	**47**	Pn	**Pn**	**18 31 18.3**	**0.0**
PMRV				*e*Sn	**Sn**	**18 32 00.2**	**-1.4**
	0.6nm,0.1s						

IDC 04 18:31:39.1±12.0,14°.30N×92°.34W,h95km±72km,mb3.5/5, mb1 3.8/7,mb1mx3.5/24,mbtmp3.5/7,ML3.9/2,MS3.3/2, Ms1 3.3/2,ms1mx2.7/29,Error ellipse: s-maj=128.3km s-min=37.1km az=12.0,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEIG	**Tepich**	**7.05**	**33**	P	Pn	18 33 19.8	+0.1
	5.4nm,0.3s,baz=244,slow=4.4,SNR=22						
TEIG				LR	LR	18 36 47.3	
	comp=Z,255nm,18.4s,baz=5.5,slow=44						
TXAR	**Lajitas Array**	**18.27**	**327**	P	P	18 35 45.7	+0.2
	0.0nm,0.3s,baz=151,slow=11,SNR=12						
ANMO	**Albuquerque**	**24.18**	**331**	P	P	18 36 51.4	+4.5
	0.8nm,0.8s,baz=150,slow=14,SNR=3.9						
PDAR	**Pinedale Array**	**32.01**	**336**	P	P	18 38 00.4	+3.6
	0.2nm,0.5s,baz=153,slow=8.1,SNR=3.9						
SADO	**Sadowa**	**32.37**	**18**	LR	LR	18 52 18.8	
	comp=Z,55nm,21.9s,baz=350,slow=38						
NVAR	**Mina Array Bea**	**33.23**	**321**	P	P	18 38 06.9	-0.6
	0.8nm,0.7s,baz=132,slow=8.1,SNR=8.5						
YKA	**Yellowknife Ar**	**50.66**	**347**	P	P	18 40 29.0	+0.6
	0.9nm,0.6s,baz=150,slow=7.4,SNR=18						
INK	**Inuvik**	**60.06**	**344**	P	P	18 41 34.8	-1.0
	1.3nm,0.7s,baz=131,slow=8.8,SNR=3.7						
ILAR	**Eielson Array**	**62.43**	**337**	P	P	18 41 52.0	+0.1
	0.4nm,0.8s,baz=121,slow=7.5,SNR=4.5						
EKA	**Eskdalemuir Ar**	**77.91**	**36**	P	P	18 43 26.1	-0.4
	0.5nm,0.7s,baz=278,slow=5.8,SNR=4.0						
CMAR	**Chiang Mai Arr**	**145.60**	**341**	PKPbc	PKPdf	18 51 07.2	-0.1
	0.6nm,0.7s,baz=350,slow=4.3,SNR=6.5						

IDC 04 18:32:37.7±3.2,31°.84S×177°.48W,h0km,mb3.5/2, mb1 3.8/3,mb1mx3.6/19,mbtmp3.6/3,ML3.1/1,Error ellipse: s-maj=75.5km s-min=37.0km az=116.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.79**	**213**	Pn	Pn	18 34 31.7	-0.7
	0.3nm,0.3s,baz=117,slow=18,SNR=5.6						
URZ				Sn	Sn	18 36 00.8	-0.5
	1.1nm,0.3s,baz=223,slow=23,SNR=8.2						
ASAR	**Alice Springs**	**43.49**	**268**	P	P	18 40 43.1	+0.1
	0.2nm,0.4s,baz=104,slow=7.8,SNR=8.2						
WRA	**Warramunga Arr**	**44.61**	**273**	P	P	18 40 52.1	+0.1
	0.4nm,0.3s,baz=112,slow=7.9,SNR=10.0						
FINES	**FINESS Array B**	**146.64**	**340**	PKPbc	PKPdf	18 52 19.5	+0.6
	2.6nm,1.0s,baz=56,slow=5.5,SNR=4.6						

IDC ***04*** *18:37:04.5±1.8,33°.93N×25°.37E,h0km,mb3.6/2, mb1 3.8/3,mb1mx3.3/25,mbtmp3.6/3,ML3.7/1,MS2.7/1, Ms1 2.8/1,ms1mx2.0/46, Error ellipse: s-maj=58.8km s-min=31.3km az=141.0*
ISCJB ***04*** *18:37:06.0±1.3,34°.0N±0°.1×25°.2E±0°.1,h20km,mb3.4/2, MS2.6/1,Error ellipse: s-maj=18.7km s-min=14.4km az=39.5*

ISC 04 18:37:07.7±1.4,34°.1N±0°.1×25°.1E±0°.1,h20km,n10, σ0°80/8,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.92**	**344**	*e*P	**Pn**	**18 37 25.0**	**-0.6**
LAST	**Lasithi**	**1.07**	**16**	*e*P	**Pn**	**18 37 28.0**	**+0.3**
GVD	**Gavdhos**	**1.11**	**310**	*e*P	Pn	18 37 21.0	-7.1
NPS	**Neapolis**	**1.20**	**20**	*e*P	**Pb**	**18 37 29.5**	**-0.3**
ZKR	**Zakros**	**1.34**	**42**	*e*P	**Pb**	**18 37 33.0**	**+0.9**
KARP	**Karpathos**	**2.20**	**49**	*e*P	**Pn**	**18 37 42.5**	**-0.6**
GERES	**GERESS Array B**	**16.98**	**333**	P	**P**	**18 41 06.8**	**+1.0**
	0.1nm,0.3s,baz=150,slow=12,SNR=9.3						
NOA	**NORSAR Array B**	**28.39**	**346**	L

3.4nm,0.4s,baz=95,slow=7.9,SNR=71
JAY Jayapura 45.91 289 P P 18 48 48.8 -0.8
baz=46,SNR=11
KDU Kakadu 49.48 272 P P 18 49 15.9 -1.1
baz=50,SNR=7.8
FORT Forrest 50.11 248 *e*P **P 18 49 20.6 -1.0**
54nm,0.6s
FORT Forrest 50.11 248 P P 18 49 20.8 -0.8
baz=51,SNR=51
MTN Manton Dam 50.67 271 P P 18 49 24.9 -1.1
baz=51,SNR=3.7
KNRA Kununurra 52.06 267 P P 18 49 35.6 -0.6
baz=52,SNR=5.3
KLBR Kellerberrin 58.81 246 P P 18 50 25.8 +1.4
baz=59,SNR=14
MEEK Meekatharra 58.86 251 P P 18 50 23.9 -0.9
baz=59,SNR=7.1
MBWA Marble Bar 59.00 258 *e*P **P 18 50 24.4 -1.4**
8.7nm,0.6s
BLDU Ballidu 59.84 246 P P 18 50 30.8 -0.6
baz=60,SNR=44
MORW Morawa 60.67 248 P P 18 50 36.4 -0.7
baz=61,SNR=22
WSI Waingapu 61.75 271 P P 18 50 53.2 +8.8
baz=62,SNR=3.6
MJAR Matsushiro Arr 72.24 323 P P 18 51 48.3 -1.9
MJAR Matsushiro Arr 72.24 323 P P 18 51 48.3 -1.9
3.4nm,0.7s,baz=157,slow=6.1,SNR=22
MAT Matsushiro 72.24 323 P P 18 51 48.2 -2.0
JNU Nakatsue 74.33 316 P P 18 52 01.1 -1.5
JNU Nakatsue 74.33 316 P P 18 52 01.1 -1.5
7.5nm,1.0s,baz=62,slow=4.3,SNR=4.4
ASAJ Asahikawa 75.69 331 P P 18 52 08.2 -1.9
ASAJ *e*P **P 18 52 09.1 -0.9**
ASAJ Asahikawa 75.69 331 P P 18 52 08.2 -1.9
8.9nm,0.8s,baz=203,slow=7.9,SNR=18
PETK Petropavlovsk- 78.04 344 P P 18 52 21.4 -1.6
PETK Petropavlovsk- 78.04 344 P P 18 52 21.4 -1.6
4.3nm,0.8s,baz=138,slow=9.0,SNR=7.9
KSRS Korea Array 78.94 318 P P 18 52 27.8 -0.5
1.5nm,0.9s,baz=139,slow=5.8,SNR=6.1
KSAR Wonju Array Be 78.96 318 P P 18 52 27.8 -0.6
YBH Yreka Blue Hor 80.49 38 P P 18 52 38.0 +1.3
YBH Yreka Blue Hor 80.49 38 P P 18 52 38.0 +1.3
3.2nm,0.7s,baz=162,slow=2.5,SNR=10
USRK Ussuriysk Arra 80.98 325 P P 18 52 38.8 -0.2
4.9nm,0.9s,baz=128,slow=3.1,SNR=11
NVAR Mina Array Bea 81.06 42 P P 18 52 41.2 +1.3
NVAR Mina Array Bea 81.06 42 P P 18 52 41.2 +1.3
0.7nm,0.6s,baz=226,slow=9.0,SNR=7.9
WVOR Wild Horse Val 83.28 39 *e*P **P 18 52 51.5 +0.2**
2.4nm,0.7s
MNTX Cornudas Mount 86.38 54 *e*P **P 18 53 08.0 +1.1**
2.6nm,0.8s
TXAR Lajitas Array 86.58 57 P P 18 53 09.0 +1.0
TXAR Lajitas Array 86.58 57 P P 18 53 09.0 +1.0
1.4nm,0.9s,baz=212,slow=6.9,SNR=15
ANMO Albuquerque 87.15 51 P P 18 53 11.0 +0.2
ANMO Albuquerque 87.15 51 P P 18 53 11.0 +0.2
1.4nm,0.7s,baz=216,slow=2.2,SNR=6.1
TRF Thorofare Moun 87.54 11 *e*P **P 18 53 09.7 -2.2**
3.2nm,0.5s
PDAR Pinedale Array 88.99 43 P P 18 53 19.4 +0.1
PDAR Pinedale Array 88.99 43 P P 18 53 19.4 +0.1
0.4nm,0.7s,baz=212,slow=3.2,SNR=3.7
BOZ Bozeman (W) 89.26 39 *e*P **P 18 53 20.9 +0.5**
1.5nm,0.8s
ILAR Eielson Array 89.39 12 P P 18 53 19.4 -0.9
ILAR Eielson Array 89.39 12 P P 18 53 19.4 -0.9
0.5nm,0.4s,baz=215,slow=5.4,SNR=18
EGAK Eagle 90.61 14 *e*P **P 18 53 25.5 -0.5**
3.2nm,0.8s
CMAR Chiang Mai Arr 91.99 289 P P 18 53 33.1 -0.4
CMAR Chiang Mai Arr 91.99 289 P P 18 53 33.1 -0.4
0.8nm,0.6s,baz=117,slow=3.8,SNR=5.5
YKA Yellowknife Ar 97.19 24 P P 18 53 55.9 -0.3
YKA Yellowknife Ar 97.19 24 P P 18 53 55.9 -0.3
0.9nm,1.0s,baz=231,slow=4.5,SNR=6.5
BINY Binghamton 111.92 52 *e*PKPdf **PKiKP 18 58 57.9 -0.6**
KBL Kabul 121.88 298 *e*PKPdf **PKPdf 18 59 17.4 -0.7**
ABKAR Akbulak array 128.15 316 *e*PKPdf **PKPdf 18 59 28.7 -0.6**
AKTO Aktyubinsk 129.12 318 PKP **PKPdf 18 59 31.6 +0.5**
AKTO Aktyubinsk 129.12 318 PKP **PKPdf 18 59 31.6 +0.5**
2.4nm,0.6s,baz=84,slow=2.4,SNR=9.8
ARCES ARCESS Array B 130.59 350 PKP **PKPdf 18 59 33.1 -0.3**
ARCES ARCESS Array B 130.59 350 PKP **PKPdf 18 59 33.1 -0.3**
1.3nm,0.6s,baz=225,slow=0.7,SNR=11
FINES FINESS Array B 137.56 344 PKPpre PKPpre 18 59 35.0
FINES PKP **PKPdf 18 59 46.8 +0.2**
FINES FINESS Array B 137.56 344 PKhKP PKPpre 18 59 35.0
2.3nm,1.0s,baz=262,slow=1.3,SNR=3.9
FINES PKP **PKPdf 18 59 46.8 +0.2**
1.0nm,0.7s,baz=108,slow=4.2,SNR=5.2
NB2 NORSAR Subarra 140.56 354 PKPpre 18 59 44.0
comp=Z,0.4nm,0.5s,baz=17,slow=2.6
NOA NORSAR Array B 140.56 354 PKPpre 18 59 43.3
NOA NORSAR Array B 140.56 354 PKhKP PKPpre 18 59 43.3
comp=Z,0.5nm,0.7s,baz=15,slow=3.7,SNR=4.1
SUW Suwalki 144.69 340 *e*P **PKPab 18 59 58.2 -0.7**
KIEV Kiev 144.99 331 *e*PKPdf PKPbc 18 59 58.0 -2.0
MBAR Mbarara 145.32 233 PKPbc **PKPdf 19 00 03.2 +0.9**
MBAR Mbarara 145.32 233 PKPbc **PKPdf 19 00 03.2 +0.9**
comp=Z,3.2nm,0.3s,baz=227,slow=24,SNR=7.2
EKA Eskdalemuir Ar 146.27 7 PKPbc **PKPdf 19 00 03.0 +0.7**
EKA Eskdalemuir Ar 146.27 7 PKPbc **PKPdf 19 00 03.0 +0.7**
comp=Z,0.6nm,0.4s,baz=338,slow=2.9,SNR=8.1
BEL Belsk 147.31 340 *e*P **PKPbc 19 00 07.1 +0.3**
KIS Kishinev 147.74 327 *e*P **PKPdf 19 00 06.0 +0.9**
KWP Kalwaria Pacla 148.50 336 *e*P PKPdf 19 00 01.0 -5.2
BR131 Keskin Array S 148.90 312 PKPdf **PKPdf 19 00 07.9 +0.5**
BR131 *e*PKPbc **PKPbc 19 00 10.7 -0.8**
BRTR Keskin Array B 148.90 312 PKPbc **PKPbc 19 00 10.8 -0.7**
BRTR Keskin Array B 148.90 312 PKPbc **PKPbc 19 00 10.8 -0.7**
comp=Z,3.1nm,0.7s,baz=143,slow=4.5,SNR=17
TLCR 148.94 324 *i*P **PKPbc 19 00 11.0 -0.2**
BUR08 Bucovina Ar. S 149.02 331 *e*PKPbc **PKPbc 19 00 11.6 +0.1**
OJC Ojcow 149.02 340 *e*P **PKPbc 19 00 10.4 -0.9**
BURAR Bucovina Array 149.03 331 ⇑*i*P **PKPdf 19 00 09.5 +2.2**
TESR Tescani 149.16 328 ⇑*i*P **PKPbc 19 00 11.7 -0.1**
KSP Ksiaz 149.48 344 *e*P **PKPbc 19 00 13.4 +1.0**
NIE Niedzica 149.54 338 *e*P **PKPbc 19 00 14.6 +1.9**
VRI Vrincioaia 149.57 327 ||*i*P **PKPbc 19 00 12.2 -0.6**
TRPA Tarpa 149.77 334 ||*i*P **PKPdf 19 00 11.2 +2.9**
CLL Collm 149.78 348 ||*i*PKPbc **PKPbc 19 00 12.7 -0.4**
comp=Z,21nm,0.8s
CLL *i* PKPab **PKPab 19 00 17.7 -1.3**
comp=Z,8.0nm,0.6s
CLL *i* pPKPbc **pPKPbc 19 01 04.9 +7.2**
UPC Upice 149.86 344 ⇑*i*PKP **PKPbc 19 00 13.5 +0.1**
UPC *e*PKPAB **PKPab 19 00 19.2 -0.2**
OKC Ostrava-Krasne 149.87 341 AMS AMS 19 57 10.0
comp=Z,200nm,16.4s
DPC Dobruska-Polom 149.92 344 ⇑*i*PKP **PKPbc 19 00 14.0 +0.4**
BRG Berggiesshubel 150.00 347 *i* PKP **PKPbc 19 00 13.8 +0.1**
comp=Z,14nm,0.9s
BRG *i* 19 00 19.1
comp=Z,7.3nm,0.8s
BRG *e* 19 48 47.0
BRG
comp=N,84nm,13.5s
BRG
comp=E,132nm,19.5s
BRG
comp=Z,239nm,20.8s
MORC Moravsky Berou 150.10 342 *e*PKPbc **PKPbc 19 00 13.3 -0.7**
DOPR Dopca 150.16 329 ||*i*P **PKPbc 19 00 15.2 +0.9**
PVCC Panska Ves 150.19 346 ⇑*i*PKP **PKPbc 19 00 14.8 +0.7**
PVCC *ep*PKP pPKPdf 19 01 05.7 +12
MLR Muntele Rosu 150.23 327 ⇑*i*P **PKPbc 19 00 14.3 -0.3**
PRA Prague 150.65 346 ⇑⇑PKP **PKPbc 19 00 16.0 +0.8**
PRU Pruhonice 150.70 345 ⇑*i*PKP **PKPbc 19 00 15.7 +0.3**
PRU *e*PKPAB **PKPab 19 00 22.3 -0.6**
PRU AMS AMS 19 59 00.0
comp=Z,200nm,20.9s
VOIR 150.71 328 ||*i*P **PKPbc 19 00 15.4 -0.3**
DRGR 150.76 333 ⇑*i*P **PKPbc 19 00 15.7 0.0**
ARR Arges 150.96 329 ⇑*i*P **PKPbc 19 00 16.9 +0.7**
TREC Trest 151.11 344 ⇑*i*PKP **PKPbc 19 00 16.8 +0.4**
LOT Lotru 151.31 330 ⇑*i*P **PKPbc 19 00 16.4 -0.7**
KHC Kasperske Hory 151.72 346 ⇑*i*PKP **PKPbc 19 00 17.6 -0.3**
KHC *e*PKPAB **PKPab 19 00 26.8 -0.4**
KHC *ep*PKP **pPKPdf 19 01 02.7 +6.3**
KHC AMS AMS 20 01 10.0
comp=Z,200nm,16.7s
KHC Kasperske Hory 151.72 346 *e*PKPbc **PKPbc 19 00 17.5 -0.3**

GERES GERESS Array B 151.96 346 PKPbc **PKPbc 19 00 18.4 0.0**
GERES GERESS Array B 151.96 346 PKPbc **PKPbc 19 00 18.4 0.0**
comp=Z,1.2nm,0.6s,baz=21,slow=2.4,SNR=14
BZS Buzias 152.16 332 ||*i*P **PKPbc 19 00 18.5 -0.4**
PKSM Moragy 152.86 337 ⇑*i*P **PKPbc 19 00 20.3 -0.1**
APE Apeiranthos 155.75 313 ⇑*i*P **PKPdf 19 00 15.6 -1.9**
ESDC Sonseca Array 161.18 18 PKPab **PKPab 19 01 08.0 -0.1**
ESDC Sonseca Array 161.18 18 PKPab **PKPab 19 01 08.0 -0.1**
comp=Z,0.1nm,0.2s,baz=325,slow=3.3,SNR=4.4
TORD Torodi Ar. Bea 171.08 168 PKPab **PKPab 19 01 54.6 +2.4**
TORD Torodi Ar. Bea 171.08 168 PKPab **PKPab 19 01 54.6 +2.4**
comp=Z,0.4nm,0.7s,baz=185,slow=2.8,SNR=2.3

IDC 04 18:42:11.2s 3.1, **21.20S×175.82W, h0**km, **mb3.8**/4, **mb1 4.2**/4, **mb1mx3.9**/19, **mbtmp3.8**/4, **MS3.9**/2, **Ms1 3.9**/2, **ms1mx3.0**/31, **Error ellipse: s-maj=246.6km s-min=27.4km az=157.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**8.24**	**193**	LR	LR	18 46 36.4	
	comp=Z,750nm,20.8s,baz=216,slow=32						
ASAR	**Alice Springs**	**46.34**	**257**	P	P	18 50 38.6	-0.7
	0.4nm,0.5s,baz=100,slow=7.4,SNR=2.7						
WRA	**Warramunga Arr**	**46.52**	**262**	P	P	18 50 41.2	+0.4
	1.7nm,0.3s,baz=95,slow=8.5,SNR=13						
FITZ	**Fitzroy Crossi**	**54.95**	**262**	LR	LR	19 11 31.8	
	comp=Z,124nm,19.3s,baz=0.7,slow=32						
NVAR	**Mina Array Bea**	**80.15**	**42**	P	P	18 54 24.9	+1.4
	0.6nm,0.7s,baz=229,slow=8.2,SNR=4.0						
TXAR	**Lajitas Array**	**85.73**	**56**	P	P	18 54 51.0	-1.6
	0.6nm,1.0s,baz=216,slow=4.5,SNR=3.4						

NIED ***04*** *18:49:00.24˚80N×141˚60E, h56*km*, Mw4.3 Best double couple: M₀3.34000×10¹⁵ NP1:φ₁267.00000°, δ75.00000°, λ-68.00000°. NP2:φ₂29.00000°, δ26.00000°, λ-145.00000°.*

MOS ***04*** *18:49:48.6±1.0, 24˚39N×141˚73E, h33*km*, mb4.8/29, Error ellipse: s-maj=10.9km s-min=6.0km az=102.5*

BKK ***04*** *18:49:48.3±1.7, 24˚N±19˚×14˚2E±2˚4, h10*km*, M5.1/10, mB6.3/2, mb5.1/10, Mw(mB)6.0/2*

NEIC ***04*** *18:49:51.6±1.1, 24˚43N×141˚83E, h41km±9km, mb4.7/46, MW4.3(NIED), Error ellipse: s-maj=7.1km s-min=5.1km az=137.0*

BJI ***04*** *18:49:51.9, 24˚50N×141˚90E, h53*km*, mB4.8/24, mb4.6/36, Ms4.4/26, Ms7 4.2/26*

IDC ***04*** *18:49:51.9±3.3, 24˚45N×141˚77E, h43km±30km, mb4.2/25, mb1 4.3/28, mb1mx4.3/33, mbtmp4.1/28, ML3.7/3, MS3.4/4, Ms1 3.4/4, ms1mx2.9/47, Error ellipse: s-maj=16.4km s-min=10.9km az=94.0*

ISCJB ***04*** *18:49:52.4±0.9, 24˚55N±0˚04×141˚85E±0˚04, h55km±7km, mb4.6/97, MS4.0/10, Error ellipse: s-maj=7.1km s-min=5.3km az=171.5*

JMA ***04*** *18:49:53.8±0.1, 24˚84N×141˚60E, h0*km*, M4.7*

ISC 04 18:49:52.9±0.4, **24˚50N**±0˚04×**141˚88E**±0˚04, **h50**km±2km, **h50**km**:pP-P, n397,** σ**1§18**/455, **mb4.7**/108, **MS4.1**/10, **101C-83D, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**2.14**	**7**	P	**Pn**	**18 50 27.4**	**+1.2**
JHHJ				S	**Sn**	**18 50 51.8**	**+0.3**
CBIJ	**Chichi jima**	**2.60**	**6**	P	**Pn**	**18 50 34.0**	**+1.5**
BSO3	**Boso 3**	**10.34**	**354**	P	Pn	18 52 21.6	+3.4
JOD2	**Odawara 2**	**11.00**	**348**	P	**Pn**	**18 52 30.1**	**+2.6**
JAO	**Obara**	**11.45**	**341**	P	Pn	18 52 37.3	+3.5
JHU	**Hanno**	**11.54**	**349**	P	**Pn**	**18 52 34.4**	**-0.5**
JHU				*e*S	**Sn**	**18 54 39.5**	**-2.7**
JRY	**Ryogami san**	**11.76**	**348**	P	**Pn**	**18 52 38.9**	**+0.9**
JRY				*e*S	**Sn**	**18 54 49.0**	**+1.2**
JYT	**Yasato**	**11.78**	**353**	P	**Pn**	**18 52 38.3**	**+0.1**
JYT				*e*S	**Sn**	**18 54 44.0**	**-4.2**
JHO	**Hitachi**	**12.13**	**355**	P	**Pn**	**18 52 42.4**	**-0.5**
JHO				*e*S	**Sn**	**18 54 52.2**	**-4.4**
MJAR	**Matsushiro Arr**	**12.41**	**346**	P	**Pn**	**18 52 45.8**	**-1.0**
MJAR	**Matsushiro Arr**	**12.41**	**346**	P	**Pn**	**18 52 45.8**	**-1.0**
	0.4nm,0.3s,baz=159,slow=11,SNR=8.6						
MJAR				LR	LR	18 57 24.2	
	comp=Z,145nm,18.3s,baz=185,slow=36						
MAJO	**Matsushiro**	**12.41**	**346**	*e*P	**Pn**	**18 52 47.9**	**+1.0**
MAJO	**Matsushiro**	**12.41**	**346**	*e*Pn	**Pn**	**18 52 47.9**	**+1.0**
MAT	**Matsushiro**	**12.41**	**346**	P	**Pn**	**18 52 48.6**	**+1.7**
MAT				*e*S	**Sn**	**18 55 03.6**	**-0.1**
JNU	**Nakatsue**	**12.91**	**314**	Pn	**Pn**	**18 52 51.5**	**-2.1**
JNU	**Nakatsue**	**12.91**	**314**	LR	LR	18 57 07.1	
	comp=Z,99nm,21.0s,baz=54,slow=34						
ERM	**Erimo**	**17.50**	**3**	*i* P	**P**	**18 53 54.9**	**+1.1**
ERM	**Erimo**	**17.50**	**3**	*e*P	**P**	**18 53 53.7**	**-0.2**
20nm,1.1s							
KSRS	**Korea Array**	**17.58**	**321**	P	**P**	**18 53 54.6**	**-0.1**
	0.2nm,0.3s,baz=136,slow=11,SNR=20						
KSAR	**Wonju Array Be**	**17.59**	**320**	P	**Pn**	**18 53 54.6**	**+0.2**
YHNB	**Yeheng**	**18.65**	**275**	*e*P	**P**	**18 54 05.1**	**-1.6**
19nm,0.8s							
TWG	**Pinlang**	**19.13**	**269**	P	**P**	**18 54 09.6**	**-2.3**
60nm,0.8s							
TWG				*e*		18 54 17.8	
SSE	**Sheshan**	**19.43**	**294**	P	**P**	**18 54 13.3**	**-1.9**
SSE				S	**S**	**18 57 45.3**	**-6.9**
SSE				pmax	pmax		
	comp=Z,17nm,0.6s						
SSE				pmax	pmax		
	comp=Z,61nm,5.6s						
SSE				LR	LR		
	comp=N,29nm,20.1s						
SSE				LR	LR		
	comp=E,37nm,20.1s						
SSE				LR	LR		
	comp=Z,45nm,24.6s						
TPUB	**Ta-pu**	**19.46**	**271**	*e*Pn	**Pn**	**18 54 17.5**	**+0.3**
	comp=Z,23nm,1.0s						
ASAJ	**Asahikawa**	**19.58**	**2**	*e*P	**Pn**	**18 54 17.5**	**-0.8**
	comp=Z,3.7nm,0.8s						
ASAJ	**Asahikawa**	**19.58**	**2**	P	**Pn**	**18 54 17.5**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=231,slow=15,SNR=14						
ASAJ				LR	LR	19 01 35.2	
	comp=Z,114nm,21.9s,baz=251,slow=36						
USRK	**Ussuriysk Arra**	**21.25**	**340**	P	**P**	**18 54 34.2**	**-0.5**
	comp=Z,4.1nm,0.8s,baz=159,slow=8.2,SNR=11						
NJ2	**Nanjing**	**21.60**	**296**	*e*P	**P**	**18 54 42.2**	**+3.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS	**Yuzh-Sakhalins**	**22.42**	**2**	⇑*e*P	**P**	**18 54 49.0**	**+1.8**
MDJ	**Mudanjiang**	**22.43**	**337**	P	**P**	**18 54 47.2**	**-0.1**
MDJ				pP	**pP**	**18 54 59.0**	**0.0**
MDJ				sP	**sP**	**18 55 05.5**	**+0.1**
MDJ				S	**S**	**18 58 50.9**	**+0.6**
MDJ				sS	**sS**	**18 59 11.0**	**+0.8**
MDJ				ScP	**ScP**	**19 02 13.2**	**-0.6**
MDJ				PcS	**PcS**	**19 02 19.0**	**0.0**
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,17nm,3.1s						
MDJ				LR	LR		
	comp=N,170nm,25.4s						
MDJ				LR	LR		
	comp=E,180nm,20.5s						
MDJ				LR	LR		
	comp=Z,330nm,25.4s						
HABR	**Khabarovsk**	**24.53**	**349**	*e*P	**P**	**18 55 06.3**	**-1.3**
HABR				*e**PP	**pP**	**18 55 19.0**	**-1.5**
HABR				*e*		18 58 42.6	
HABR				*e*S	**S**	**18 59 24.8**	**+0.2**
HABR				*e*SS	**SnSn**	**19 00 15.0**	**+1.7**
HABR				*e*		19 06 04.4	
HABR				pmax	pmax		
	comp=Z,25nm,1.0s						
HABR				pmax	pmax		
	comp=N,12nm,1.0s						
HABR				pmax	pmax		
	comp=E,13nm,0.8s						
HABR				MLR	MLR		
	comp=Z,52nm,17.0s						
WHN	**Wuhan**	**25.11**	**290**	⇑P	P	18 55 18.0	+5.0
WHN				LR	LR		
	comp=N,1μm,19.8s						
WHN				LR	LR		
	comp=E,360nm,10.5s						
WHN				LR	LR		
	comp=Z,850nm,15.9s						
KLR	**Kul'dur**	**25.93**	**345**	*e*P	**P**	**18 55 16.8**	**-3.5**
HHC	**Hu-ho-hao-te**	**30.08**	**310**	*e*P	**P**	**18 55 59.3**	**+1.7**
HHC				pP	**pP**	**18 56 11.0**	**+0.4**
HHC				sP	**sP**	**18 56 16.8**	**+0.2**
HHC				PP	**PnPn**	**18 56 57.8**	**+1.6**
HHC				S	**S**	**19 00 52.8**	**0.0**
HHC				sS	**sS**	**19 01 13.0**	**-1.7**
HHC				SS	**SnSn**	**19 02 31.9**	**+2.9**
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,89nm,4.6s						
HHC				LR	LR		
	comp=N,160nm,16.7s						
HHC				LR	LR		
	comp=E,220nm,13.1s						
HHC				LR	LR		
	comp=Z,250nm,15.5s						
QIZ	**Qiongzhong**	**30.20**	**266**	P	**P**	**18 55 57.8**	**-1.0**
GYA	**Guiyang**	**31.79**	**281**	*e*P	**P**	**18 56 12.6**	**-0.3**
GYA				pP	**pP**	**18 56 27.4**	**+1.5**
GYA				sP	**sP**	**18 56 31.8**	**-0.1**
GYA				PP	**PnPn**	**18 57 19.0**	**+0.4**
GYA				PcP	**PcP**	**18 59 03.2**	**0.0**
GYA				S	**S**	**19 01 19.5**	**-0.3**
GYA				ScP	**ScP**	**19 02 42.8**	**+0.3**
GYA				ScS	**ScS**	**19 06 38.9**	**-2.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**34.23**	**289**	P	**P**	**18 56 35.0**	**+1.0**
CD2				pP	**pP**	**18 56 48.1**	**+1.0**
CD2				sP	**sP**	**18 56 54.0**	**+0.9**
CD2				PP	**PnPn**	**18 57 50.4**	**+1.1**
CD2				PcP	**PcP**	**18 59 11.6**	**+1.8**
CD2				S	**S**	**19 01 56.5**	**-0.9**
CD2				sS	**sS**	**19 02 18.5**	**-1.0**
CD2				PcS	**PcS**	**19 02 56.7**	**+0.4**
CD2				SS	**SnSn**	**19 04 07.0**	**-2.7**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.4s						
CD2				LR	LR		
	comp=N,350nm,13.7s						
CD2				LR	LR		
	comp=E,450nm,19.6s						
CD2				LR	LR		
	comp=Z,360nm,12.1s						
LZH	**Lanzhou**	**34.61**	**299**	*e*P	**P**	**18 56 39.8**	**+2.4**
LZH				pP	**pP**	**18 56 50.7**	**+0.2**
LZH				sP	**sP**	**18 56 56.5**	**+0.1**
LZH				PcP	**PcP**	**18 59 12.3**	**+1.3**
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
LZH				pmax	pmax		
	comp=Z,76nm,4.5s						
LZH				LR	LR		
	comp=N,240nm,14.0s						
LZH				LR	LR		
	comp=E,340nm,15.2s						
LZH				LR	LR		
	comp=Z,500nm,15.8s						
KMI	**Kunming**	**35.45**	**279**	P	P	18 56 48.2	+3.4
KMI				pP	pP	18 57 02.5	+4.6
KMI				sP	sP	18 57 10.0	+6.1
KMI				S	**S**	**19 02 15.0**	**-1.6**
KMI				pmax	pmax		
	comp=Z,11nm,1.1s						
KMI				pmax	pmax		
	comp=Z,81nm,3.7s						
KMI				LR	LR		
	comp=N,120nm,16.8s						
KMI				LR	LR		
	comp=E,140nm,25.7s						
KMI				LR	LR		
	comp=Z,120nm,17.9s						
SONM	**Songino Array**	**36.43**	**319**	P	**P**	**18 56 52.7**	**-0.2**
SONM				PcP	**PcP**	**18 59 16.2**	**+0.1**
SONM	**Songino Array**	**36.43**	**319**	P	**P**	**18 56 52.7**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=134,slow=10,SNR=6.4						
SONM				PcP	**PcP**	**18 59 16.2**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=157,slow=1.9,SNR=6.7						
FX1	**Attu Island--F**	**36.89**	**32**	*e*P	**P**	**18 56 54.8**	**-1.7**
CHAI	**Chaiyaphum**	**38.29**	**265**	P	P	18 57 11.9	+3.1
	comp=Z,6.3nm,0.8s						
GTA	**Gaotai**	**38.30**	**303**	*e*P	**P**	**18 57 09.9**	**+1.1**
GTA				pP	**pP**	**18 57 23.3**	**+1.2**
GTA				sP	**sP**	**18 57 28.9**	**+0.9**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YAK	**Yakutsk**	**38.42**	**351**	*e*P	**P**	**18 57 08.4**	**-0.9**
YAK				*e*		18 57 23.3	
YAK				pmax	pmax		
	comp=Z,11nm,1.0s						
LOEI	**Loei**	**38.44**	**268**	P	**P**	**18 57 10.6**	**+0.6**
	comp=Z,56nm,0.7s						
PBKT	**Sadao Pong**	**39.00**	**266**	P	P	18 57 19.1	+4.4
	comp=Z,10nm,1.2s						
ZAK	**Zakamensk**	**39.41**	**321**	*e*P	**P**	**18 57 16.8**	**-1.1**
ZAK				*e*		18 57 34.2	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
NAYO	**Nakonayok**	**39.44**	**263**	P	P	18 57 22.5	+4.1
	comp=Z,88nm,1.6s,comp=Z,6μm						
CMMT	**Chiang Mai**	**40.18**	**271**	P	P	18 57 28.6	+4.0
	comp=Z,9.1nm,1.6s						
CHTO	**Chiang Mai**	**40.18**	**271**	*e*P	**P**	**18 57 26.3**	**+1.7**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CHTO	**Chiang Mai**	**40.18**	**271**	*e*P	**P**	**18 57 26.3**	**+1.7**
	comp=Z,4.9nm,0.7s						
CHTO	**Chiang Mai**	**40.18**	**271**	P	P	18 57 28.1	+3.5
	comp=Z,9.6nm,1.0s						
CM31	**Chiang Mai Arr**	**40.28**	**270**	*e*P	**P**	**18 57 28.1**	**+2.7**
	comp=Z,4.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**40.28**	**270**	P	**P**	**18 57 24.0**	**-1.4**
CMAR	**Chiang Mai Arr**	**40.28**	**270**	P	**P**	**18 57 24.0**	**-1.4**
	comp=Z,1.8nm,0.7s,baz=59,slow=7.6,SNR=2.7						
CTA	**Charters Tower**	**44.52**	**174**	P	**P**	**18 57 58.2**	**-1.5**
CTA	**Charters Tower**	**44.52**	**174**	P	**P**	**18 57 58.2**	**-1.5**
	comp=Z,2.6nm,0.5s,baz=346,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**44.78**	**190**	P	**P**	**18 58 00.3**	**-1.4**
WRA				PcP	**PcP**	**18 59 43.5**	**+0.3**
WRA	**Warramunga Arr**	**44.78**	**190**	P	**P**	**18 58 00.3**	**-1.4**
	comp=Z,27nm,0.6s,baz=11,slow=8.6,SNR=108						
WRA				PcP	**PcP**	**18 59 43.5**	**+0.3**
	comp=Z,4.0nm,0.7s,baz=6.6,slow=3.6,SNR=5.8						
SHL	**Shillong**	**45.09**	**282**	*e*P	**P**	**18 58 06.5**	**+2.0**
LSA	**Lhasa**	**45.17**	**288**	P	**P**	**18 58 07.8**	**+2.4**
LSA	**Lhasa**	**45.17**	**288**	*e*P	**P**	**18 58 07.9**	**+2.4**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
LSA	**Lhasa**	**45.17**	**288**	*e*P	**P**	**18 58 07.9**	**+2.4**
	comp=Z,6.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**45.20**	**202**	P	**P**	**18 58 04.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**45.20**	**202**	P	**P**	**18 58 04.8**	**-0.3**
	comp=Z,4.7nm,0.9s,baz=93,slow=5.3,SNR=9.3						
BILL	**Bilibino**	**46.04**	**12**	⇑*i*P	**P**	**18 58 11.7**	**+0.5**
BILL				*e*		19 00 02.4	
BILL				*e*S	S	19 05 11.2	+19
BILL				pmax	pmax		
	comp=Z,12nm,1.1s						
TIXI	**Tiksi**	**47.76**	**354**	*ce*P	**P**	**18 58 23.0**	**-1.5**
TIXI			

WMQ LR LR
comp=Z,210nm,19.0s
TAPN Taplejung 48.48 286 *eP* **P 18 58 33.6 +2.4**
comp=Z,27nm,0.7s
AS31 Alice Springs 48.50 190 *eP* **P 18 58 29.4 -1.4**
ASAR Alice Springs 48.50 190 P **P 18 58 29.5 -1.4**
ASAR PcP **PcP 18 59 57.6 +1.3**
ASAR Alice Springs 48.50 190 P **P 18 58 29.5 -1.4**
comp=Z,5.4nm,0.7s,baz=16,slow=9.3,SNR=76
ASAR PcP **PcP 18 59 57.6 +1.3**
comp=Z,1.2nm,0.7s,baz=6.1,slow=3.1,SNR=4.7
ODAN Odare 48.85 285 *eP* **P 18 58 36.1 +2.2**
comp=Z,35nm,0.7s
RAMN Ramite 49.52 285 *eP* **P 18 58 41.0 +1.9**
comp=Z,27nm,0.8s
JIRN Jiri 49.76 286 *eP* **P 18 58 43.5 +2.4**
comp=Z,61nm,0.6s
GUN Gumba 49.99 287 *eP* **P 18 58 45.1 +2.3**
comp=Z,62nm,0.9s
PKI Pulchoki 50.46 286 *eP* **P 18 58 48.0 +1.7**
comp=Z,13nm,0.6s
PKIN Phulchoki 50.47 286 *eP* **P 18 58 48.4 +2.1**
comp=Z,11nm,0.7s
KKN Kakani 50.54 287 *eP* **P 18 58 48.8 +2.1**
DMN Daman 50.72 286 *eP* **P 18 58 50.2 +2.0**
comp=Z,20nm,0.6s
ZALV Zalesovo Beam 51.28 321 P **P 18 58 50.7 -1.0**
ZALV 19 00 05.4
ZALV Zalesovo Beam 51.28 321 P **P 18 58 50.7 -1.0**
ZALV PcP **PcP 19 00 05.4 -0.7**
ZALV Zalesovo Beam 51.28 321 P **P 18 58 50.7 -1.0**
comp=Z,1.2nm,0.5s,baz=102,slow=7.6,SNR=8.1
ZALV PcP **PcP 19 00 05.4 -0.7**
comp=Z,1.6nm,0.7s,baz=88,slow=3.9,SNR=3.9
DANN Dangsing 51.76 288 *eP* **P 18 58 58.5 +2.5**
comp=Z,144nm,0.6s
SDPT Sand Point 51.91 38 *eP* **P 18 58 55.5 -0.8**
comp=Z,36nm,0.6s
MK31 Makanchi Array 51.94 311 *eP* **P 18 58 56.5 -0.2**
MK31 Makanchi Array 51.94 311 *eP* **P 18 58 56.5 -0.2**
MKAR Makanchi Array 51.94 311 *i P* **P 18 58 56.7 0.0**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 51.94 311 P **P 18 58 56.8 0.0**
MKAR Makanchi Array 51.94 311 P **P 18 58 56.8 0.0**
comp=Z,1.7nm,0.7s,baz=88,slow=9.3,SNR=18
KOLN Koldanda 52.00 287 *eP* **P 18 58 59.6 +1.9**
comp=Z,49nm,0.8s
NVS Novosibirsk 52.37 321 *eP* **P 18 58 58.4 -1.3**
PYUN Piuthan 52.48 288 *eP* **P 18 59 03.3 +2.1**
comp=Z,72nm,0.7s
CHGN Chignik 53.24 37 *eP* **P 18 59 03.1 -3.0**
SVW2 Sparrevohn 55.63 31 *eP* **P 18 59 23.7 +0.3**
comp=Z,8.6nm,0.9s
STKA Stephens Creek 56.06 180 P **P 18 59 25.2 -1.6**
STKA Stephens Creek 56.06 180 P **P 18 59 25.2 -1.6**
comp=Z,8.3nm,0.6s,baz=340,slow=8.5,SNR=33
FORT Forrest 56.54 194 *eP* **P 18 59 30.1 0.0**
comp=Z,22nm,0.6s
KSH Kashi 56.70 302 P P 18 59 37.6 +6.0
KSH pP pP 18 59 49.3 +3.8
KSH sP sP 18 59 53.3 +2.1
KSH PP PP 19 01 43.7 +5.8
KSH S **S 19 07 24.8 +4.1**
KSH sS sS 19 07 44.6 +0.7
KSH ScS **ScS 19 09 18.4 +1.6**
KSH SS **SS 19 11 14.1 +5.3**
KSH pmax pmax
comp=Z,7.0nm,0.8s
KSH pmax pmax
comp=Z,130nm,6.8s
KSH LR LR
comp=N,48nm,5.1s
KSH LR LR
comp=E,160nm,6.5s
KSH LR LR
comp=Z,140nm,8.2s
TKM2 Tokmak 2 56.70 306 *eP* **P 18 59 30.6 -1.0**
TKM2 pmax pmax
comp=Z,4.0nm,0.8s
TKM2 Tokmak 2 56.70 306 *eP* **P 18 59 30.6 -1.0**
comp=Z,3.9nm,0.8s
AAK Ala-Archa 57.53 306 ⇓ *i P* **P 18 59 37.3 -0.2**
AAK pmax pmax
comp=Z,18nm,2.7s
EKS2 Erkin-Say 58.06 306 *eP* **P 18 59 41.0 -0.1**
EKS2 pmax pmax
comp=Z,3.0nm,0.7s
EKS2 Erkin-Say 58.06 306 *eP* **P 18 59 41.0 -0.1**
comp=Z,2.8nm,0.7s
EKS2 *e* 18 59 44.3
TRF Thorofare Moun 58.48 29 *eP* **P 18 59 44.0 +0.3**
comp=Z,8.9nm,0.9s
PMR Palmer 58.78 31 *eP* **P 18 59 45.3 -0.3**
PMR pmax pmax
comp=Z,9.0nm,0.8s
PMR Palmer 58.78 31 *eP* **P 18 59 45.3 -0.3**
comp=Z,9.3nm,0.8s
MCK McKinley 59.12 29 *eP* **P 18 59 48.0 0.0**
MCK pmax pmax
comp=Z,19nm,1.2s
MCK McKinley 59.12 29 *eP* **P 18 59 48.0 0.0**
comp=Z,19nm,1.2s
COLD Coldfoot 59.13 25 *eP* **P 18 59 48.4 +0.5**
comp=Z,8.4nm,1.0s
BVA0 Borovoye Array 59.78 318 *i P* **P 18 59 51.9 -0.8**
BVA0 pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 59.84 319 *ceP* **P 18 59 52.7 -0.4**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 59.84 319 *eP* **P 18 59 52.1 -1.0**
comp=Z,5.7nm,0.9s
ILAR Eielson Array 60.12 28 P **P 18 59 54.6 -0.3**
ILAR Eielson Array 60.12 28 P **P 18 59 54.6 -0.3**
comp=Z,7.4nm,0.8s,baz=261,slow=5.7,SNR=83
KK31 Karatay Array 60.40 307 *i P* **P 18 59 56.8 -0.3**
KK31 pmax pmax
comp=Z,7.0nm,0.9s
KKAR Karatay Array 60.40 307 *eP* **P 18 59 56.9 -0.2**
KKAR *e* 19 00 10.5
KKAR Karatay Array 60.40 307 *eP* **P 18 59 56.9 -0.2**
KKAR *e* **pP 19 00 10.4 -0.7**
PAX Paxson 60.60 30 *eP* **P 18 59 59.1 +0.8**
PAX pmax pmax
comp=Z,21nm,1.6s
PAX Paxson 60.60 30 *eP* **P 18 59 59.1 +0.8**
comp=Z,21nm,1.6s
KBL Kabul 62.95 298 *eP* **P 19 00 15.4 +0.7**
KBL pmax pmax
comp=Z,14nm,0.8s
KBL Kabul 62.95 298 *eP* **P 19 00 15.4 +0.7**
comp=Z,14nm,0.8s
INK Inuvik 65.50 24 P **P 19 00 31.0 +0.5**
INK Inuvik 65.50 24 P **P 19 00 31.0 +0.5**
comp=Z,5.1nm,0.6s,baz=290,slow=7.2,SNR=14
ARU Arti 66.31 323 *ci P* **P 19 00 34.7 -1.2**
ARU *ePP* **pP 19 00 48.4 -1.7**
ARU 19 02 57.8
ARU PPP PPP 19 04 37.7
ARU S **S 19 09 21.2 -0.4**
ARU pmax pmax
comp=Z,8.0nm,1.0s
AB31 Akbulak array 66.72 315 *i P* **P 19 00 37.7 -1.0**
AB31 pmax pmax
comp=Z,6.0nm,0.8s
ABKAR Akbulak array 66.72 315 *eP* **P 19 00 37.7 -1.0**
comp=Z,3.4nm,0.6s
AKTO Aktyubinsk 67.71 317 P **P 19 00 43.9 -1.1**
AKTO Aktyubinsk 67.71 317 P **P 19 00 43.9 -1.1**
AKTO Aktyubinsk 67.71 317 P **P 19 00 43.9 -1.1**
comp=Z,4.1nm,0.7s,baz=72,slow=10,SNR=10
DLBC Dease Lake 68.49 34 P **P 19 00 49.9 0.0**
DLBC Dease Lake 68.49 34 P **P 19 00 49.9 0.0**
comp=Z,3.4nm,0.7s,baz=276,slow=8.3,SNR=8.2
DLBC LR LR 19 25 06.2
comp=Z,77nm,21.9s,baz=100,slow=31
KBS Kingsbay 73.05 351 *eP* **P 19 01 17.3 +0.2**
KBS *e* 19 01 34.6
KBS Kingsbay 73.05 351 *eP* **P 19 01 17.3 +0.2**
KBS *e* **PcP 19 01 34.6 +1.0**
APA Apatity 74.33 338 ⇑ *i P* **P 19 01 24.6 -0.1**
APA MLR MLR
comp=Z,200nm,14.0s
YKW3 Yellowknife Ar 74.52 28 *eP* **P 19 01 25.5 -0.5**
YKA Yellowknife Ar 74.55 28 P **P 19 01 26.4 +0.3**
YKA Yellowknife Ar 74.55 28 P **P 19 01 26.4 +0.3**
comp=Z,7.1nm,0.6s,baz=293,slow=5.7,SNR=60
KEV Kevo 75.33 341 *ep* **P 19 01 28.3 -2.2**
comp=Z,0.5nm,0.4s
KEV Kevo 75.33 341 *eP* **P 19 01 28.3 -2.2**
KEV pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 75.89 341 P **P 19 01 33.0 -0.7**
ARCES ARCESS Array B 75.89 341 P **P 19 01 33.0 -0.7**
comp=Z,2.7nm,0.6s,baz=46,slow=7.0,SNR=9.0
JOF Joensuu 77.28 334 *ep* **P 19 01 40.9 -0.7**
JOF Joensuu 77.28 334 *eP* **P 19 01 40.9 -0.7**
YBH Yreka Blue Hor 77.93 50 *eP* **P 19 01 46.7 +0.9**
comp=Z,2.4nm,0.6s
YBH Yreka Blue Hor 77.93 50 P **P 19 01 46.4 +0.6**
comp=Z,4.2nm,0.7s,baz=314,slow=3.2,SNR=16
VSR Storozhevoye 78.78 321 *eP* **P 19 01 49.3 -0.9**
VSR pmax pmax
comp=Z,5.0nm,0.6s
VSR pmax pmax
comp=N,4.0nm,1.4s
VSR pmax pmax
comp=E,5.0nm,0.9s
VORD Divnogorie 78.82 321 *eP* **P 19 01 49.6 -0.8**
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=Z,7.0nm,0.6s
VORD pmax pmax
comp=N,10.0nm,0.8s
NEW Newport 79.01 42 *eP* **P 19 01 52.8 +1.2**
comp=N,7.2nm,1.1s
NEW Newport 79.01 42 ⇑ **P P 19 01 52.1 +0.5**
baz=79
MOD Modoc 79.52 49 *eP* **P 19 01 55.7 +1.0**
comp=N,4.9nm,1.1s
KBZ Khabaz 79.57 313 P **P 19 01 54.5 -0.2**
KBZ Khabaz 79.57 313 P **P 19 01 54.5 -0.2**
KBZ Khabaz 79.57 313 P **P 19 01 54.5 -0.2**
comp=N,5.9nm,0.7s,baz=98,slow=4.0,SNR=13
A12A Yaak River Ran 79.61 41 ⇑ **P P 19 01 55.8 +0.8**
baz=80
KIV Kislovodsk 79.62 314 P **P 19 01 56.0 +0.9**
KIV *e* 19 02 13.8
KIV pmax pmax
comp=Z,3.0nm,0.8s
KAF Kangasniemi 79.69 334 *ep* **P 19 01 53.7 -1.2**
comp=Z,0.8nm,0.4s
KAF Kangasniemi 79.69 334 *eP* **P 19 01 53.7 -1.2**
KAF pmax pmax
comp=Z,1.0nm,0.4s
C11A Tepee Creek (N 79.72 42 ⇓ **P P 19 01 55.9 +0.5**
baz=80
FINES FINESS Array B 80.15 334 P **P 19 01 56.5 -0.9**
FINES FINESS Array B 80.15 334 P **P 19 01 56.5 -0.9**
comp=Z,1.5nm,0.4s,baz=62,slow=4.7,SNR=22
BEKR Beckworth 80.30 51 *eP* **P 19 01 58.9 -0.1**
comp=Z,4.4nm,0.8s
BEKR *e* **pP 19 02 15.2 +1.8**
BMO Blue Mountains 80.31 45 *eP* **P 19 01 59.0 +0.1**
comp=Z,6.9nm,1.1s
BMO *e* **pP 19 02 15.6 +2.3**
A13A Flathead Natio 80.35 41 ⇑ **P P 19 01 59.7 +0.8**
baz=80
WVOR Wild Horse Val 80.44 48 *eP* **P 19 01 59.7 +0.1**
WVOR pmax pmax
comp=Z,4.0nm,1.0s
WVOR Wild Horse Val 80.44 48 *eP* **P 19 01 59.7 +0.1**
comp=Z,4.3nm,1.0s
B13A Whitefish 80.57 41 ⇑ **P P 19 02 01.2 +1.2**
baz=80
WALA Waterton Lakes 80.59 40 *eP* **P 19 02 01.0 +0.7**
BSMT Bassoo Peak 80.60 42 *eP* **P 19 02 01.5 +1.1**
E12A Beaver Dam Sad 80.75 43 ⇑ **P P 19 02 01.8 +0.6**
baz=81
C13A Hot Springs 80.81 42 ⇑ **P P 19 02 02.1 +0.7**
baz=81
A14A Double T Ranch 80.92 40 ⇑ **P P 19 02 02.6 +0.6**
baz=81,SNR=10
JTMT Jette 80.96 42 *eP* **P 19 02 03.4 +1.2**
CMB Columbia Colle 81.02 52 *eP* **P 19 02 02.9 +0.3**
CMB pmax pmax
comp=Z,6.0nm,0.7s
CMB Columbia Colle 81.02 52 *eP* **P 19 02 02.9 +0.3**
comp=Z,6.4nm,0.7s
SWMT Swartz Lake 81.23 42 *eP* **P 19 02 03.6 0.0**
C14A Swan Lake 81.27 41 ⇓ **P P 19 02 04.5 +0.6**
baz=81
A15A Johnson Ranch, 81.32 40 ⇑ **P P 19 02 04.6 +0.5**
baz=81,SNR=13
G12A Big Creek, Yel 81.47 44 ⇓ **P P 19 02 04.9 -0.1**
baz=81
WAKR Walker 81.51 52 *eP* **P 19 02 06.5 +1.1**
D14A Greenough 81.73 42 ⇑ **P P 19 02 06.4 +0.1**
baz=82
B15A Bradely Ranch, 81.73 41 ⇓ **P P 19 02 06.9 +0.6**
baz=82,SNR=11
MFID Camas Ranch 81.89 46 *eP* **P 19 02 07.8 +0.5**
comp=Z,6.1nm,0.9s
MFID Camas Ranch 81.89 46 ⇑ **P P 19 02 08.0 +0.7**
baz=82
C15A Salmond Ranch, 81.95 41 ⇓ **P P 19 02 07.9 +0.4**
baz=82,SNR=10
A16A West Butte Ran 82.00 40 ⇓ **P P 19 02 07.8 +0.1**
baz=82,SNR=13
H12A Diamond D Ranc 82.02 45 ⇓ **P P 19 02 08.4 +0.4**
baz=82
I12A Atlanta 82.18 45 ⇓ **P P 19 02 09.2 +0.4**
baz=82
B16A M & M Farms, S 82.19 40 ⇑ **P P 19 02 09.0 +0.4**
baz=82,SNR=16
D15A Lincoln 82.34 42 ⇑ **P P 19 02 09.6 0.0**
baz=82
NVAR Mina Array Bea 82.34 51 P **P 19 02 10.7 +0.8**
NVAR Mina Array Bea 82.34 51 P **P 19 02 10.7 +0.8**
comp=Z,3.1nm,0.7s,baz=296,slow=5.6,SNR=28
C16A Fuhringer Ranc 82.45 41 ⇑ **P P 19 02 10.3 +0.2**
baz=82,SNR=7.7
A17A Triple J Farms 82.52 39 ⇓ **P P 19 02 10.9 +0.5**
baz=82,SNR=6.3
ANN Anapa 82.66 316 *eP* P 19 02 15.4 +4.4
ANN *e*PP* pP 19 02 30.3 +4.7
ANN *eS* S 19 12 32.4 +7.7
ANN pmax pmax
comp=Z,38nm,1.5s
PKM Peak Mountain 82.72 55 ⇓ **P P 19 02 12.1 +0.2**
baz=83
B17A L&G Farms, Che 82.78 40 ⇑ **P P 19 02 12.2 +0.5**
baz=83,SNR=17
VES Vestal, Richgr 82.87 54 ⇑ **P P 19 02 12.2 -0.2**
baz=83
F15A Butte 82.92 43 ⇓ **P P 19 02 13.1 +0.5**
baz=83,SNR=17
D16A Dana Ranch, Ca 82.93 41 ⇑ **P P 19 02 13.1 +0.4**
baz=83,SNR=8.4
LRM Limekiln Ridge 82.95 43 *eP* **P 19 02 13.2 +0.3**
LRM *e* **pP 19 02 29.6 +2.1**
A18A Metzger Ranch, 83.02 39 ⇑ **P P 19 02 13.5 +0.6**
baz=83,SNR=14
E16A East Helena 83.09 42 ⇓ **P P 19 02 14.0 +0.6**
baz=83
C17A Wharram Farm, 83.11 41 ⇓ **P P 19 02 13.7 +0.2**
baz=83
B18A Beardsley Farm 83.32 40 ⇑ **P P 19 02 14.9 +0.4**
baz=83,SNR=9.4
D17A Six Diamond Ra 83.39 41 ⇑ **P P 19 02 15.2 +0.2**
baz=83,SNR=11
F16A Kennard Place, 83.48 42 ⇓ **P P 19 02 15.9 +0.4**
baz=83,SNR=6.8
EGMT Eagleton 83.52 40 ⇑ **P P 19 02 16.2 +0.6**
baz=83
BOZ Bozeman (W) 83.54 43 *eP* **P 19 02 16.1 +0.3**
BOZ pmax pmax
comp=Z,1.0nm,0.6s
BOZ Bozeman (W) 83.54 43 *eP* **P 19 02 16.1 +0.3**
comp=Z,1.4nm,0.6s
E17A Martinsdale 83.62 42 ⇓ **P P 19 02 17.2 +1.0**
baz=84
A19A Klindworth Far 83.65 39 ⇑ **P P 19 02 16.8 +0.6**
baz=84,SNR=11
B19A Brinkman Farms 83.77 39 ⇑ **P P 19 02 17.3 +0.5**
baz=84,SNR=13
D18A Linhart Farms, 83.90 41 ⇑ **P P 19 02 17.9 +0.3**
baz=84
MPMC Manual Prospec 83.95 53 ⇓ **P P 19 02 18.3 +0.2**
baz=84,SNR=5.3
F17A Fitzpatrick Pl 84.02 42 ⇑ **P P 19 02 18.7 +0.5**
baz=84,SNR=5.9
QLMT Earthquake Lak 84.06 43 *eP* **P 19 02 19.4 +0.8**
C19A Slack Wire Ran 84.07 40 ⇓ **P P 19 02 18.9 +0.5**
baz=84,SNR=6.0
FFC Flin Flon 84.09 32 *i P* **P 19 02 18.9 +0.7**
FFC Flin Flon 84.09 32 *eP* **P 19 02 18.7 +0.5**
comp=Z,9.5nm,0.7s
A20A Cobblestone Ra 84.14 39 ⇓ **P P 19 02 19.3 +0.6**
baz=84
E18A Harlowton 84.14 41 ⇓ **P P 19 02 19.7 +0.9**
baz=84,SNR=17
H16A Russell Place, 84.23 43 ⇑ **P P 19 02 20.4 +0.9**
baz=84
B20A Solberg Farm, 84.31 39 ⇑ **P P 19 02 20.0 +0.4**
baz=84,SNR=5.4
D19A Cripps Ranch, 84.46 40 ⇑ **P P 19 02 21.0 +0.6**
baz=84,SNR=11
I16A Newdale 84.48 44 ⇓ **P P 19 02 21.7 +1.1**
baz=84
F18A Big Timber 84.59 42 ⇑ **P P 19 02 22.0 +0.9**
baz=84,SNR=5.2
A21A Bergtoll Ranch 84.65 38 ⇑ **P P 19 02 22.0 +0.8**
baz=84
C20A Veseth Ranch, 84.69 40 ⇑ **P P 19 02 22.3 +0.8**
baz=85,SNR=7.9
GSC Goldstone 84.78 54 *eP* **P 19 02 23.0 +0.8**
GSC pmax pmax
comp=Z,7.0nm,1.1s
GSC Goldstone 84.78 54 *eP* **P 19 02 23.0 +0.8**
comp=Z,7.4nm,1.1s
GSC Goldstone 84.78 54 ⇓ **P P 19 02 22.8 +0.5**
baz=85
IMW Indian Meadow 84.82 44 *eP* **P 19 02 23.7 +1.2**
comp=Z,8.9nm,0.8s
E19A Rath Farm, Rou 84.87 41 ⇑ **P P 19 02 23.2 +0.7**
baz=85,SNR=9.2
B21A Ellsworth Farm 84.89 39 ⇑ **P P 19 02 23.0 +0.5**
baz=85
TPAW Teton Pass 85.01 44 *eP* **P 19 02 25.0 +1.6**
comp=Z,6.4nm,0.8s
MOOW Moose Ponds 85.01 44 *eP* **P 19 02 24.6 +1.2**
comp=Z,3.4nm,0.6s
F19A Roth Farm, Mol 85.08 41 ⇓ **P P 19 02 24.5 +0.9**
baz=85
C21A Desert Coulee 85.16 39 ⇑ **P P 19 02 24.6 +0.7**
baz=85
LOHW Long Hollow 85.17 44 *eP* **P 19 02 24.6 +0.4**
comp=Z,3.1nm,0.8s
A22A Carney Farms, 85.21 38 ⇑ **P P 19 02 24.2 +0.1**
baz=85
H18A Shoshone NF, C 85.23 43 ⇓ **P P 19 02 25.9 +1.4**
baz=85
E20A Meyer Farm, Mu 85.24 41 ⇑ **P P 19 02 24.9 +0.6**
baz=85
RLMT Red Lodge 85.25 42 *eP* **P 19 02 25.8 +1.2**
comp=Z,11nm,0.6s
HEC Hector,Ludlow 85.34 54 ⇑ **P P 19 02 25.2 +0.1**
baz=85
DUG Dugway 85.36 48 *eP* **P 19 02 25.4 +0.2**
DUG pmax pmax
comp=Z,5.0nm,0.8s
DUG Dugway 85.36 48 *eP* **P 19 02 25.4 +0.2**
comp=Z,5.1nm,0.8s
DUG Dugway 85.36 48 ⇑ **P P 19 02 25.6 +0.5**
baz=85,SNR=8.8
TUQ Turquoise Moun 85.36 53 ⇓ **P P 19 02 25.8 +0.6**
baz=85
B22A Reddig Ranch S 85.53 38 ⇓ **P P 19 02 25.9 +0.2**
baz=85
F20A Billings 85.59 41 ⇑ **P P 19 02 26.2 +0.2**
baz=86
D21A La Casta Ranch 85.61 40 ⇑ **P P 19 02 26.7 +0.6**
baz=86
H19A Powell 85.65 43 ⇑ **P P 19 02 27.5 +1.0**
baz=86
HFS Hagfors 85.69 337 P **P 19 02 24.9 -1.3**
HFS Hagfors 85.69 337 P **P 19 02 24.9 -1.3**
comp=Z,1.7nm,0.6s,baz=72,slow=4.8,SNR=9.6
E21A Keefer Ranch, 85.84 40 ⇓ **P P 19 02 28.2 +1.0**
baz=86
G20A Bridger 85.84 42 ⇓ **P P 19 02 28.0 +0.6**
baz=86
GMRC Granite Mounta 85.85 54 ⇓ **P P 19 02 28.0 +0.3**
baz=86
C22A Vida 85.89 39 ⇓ **P P 19 02 28.0 +0.5**
baz=86
NB2 NORSAR Subarra 85.91 338 P **P 19 02 25.2 -2.1**
comp=Z,1.6nm,0.6s,baz=43,slow=5.1
NOA NORSAR Array B 85.91 338 P **P 19 02 25.9 -1.4**
NOA NORSAR Array B 85.91 338 P **P 19 02 25.9 -1.4**
comp=Z,1.8nm,0.7s,baz=46,slow=4.6,SNR=5.6
RAYN Ar Rayn 85.94 294 *eP* **P 19 02 29.1 +0.9**
comp=Z,6.2nm,0.8s
RAYN *epP* **pP 19 02 42.0 -0.8**
BELC Belle Mtn. Jos 85.95 55 ⇑ **P P 19 02 28.3 +0.1**
baz=86
I19A Meeteetse 85.97 43 ⇓ **P P 19 02 29.1 +1.0**
baz=86
B23A Brockton 86.01 38 ⇓ **P P 19 02 28.5 +0.5**
baz=86
D22A Cohagen 86.04 39 ⇓ **P P 19 02 29.1 +0.8**
baz=86
ARUT Antelope Range 86.06 50 *eP* **P 19 02 28.9 +0.2**
ARUT pmax pmax
comp=Z,5.0nm,1.1s
ARUT Antelope Range 86.06 50 *eP* **P 19 02 28.9 +0.2**
comp=Z,5.0nm,1.1s
MONP Monument Peak 86.14 56 ⇓ **P P 19 02 29.4 +0.2**
baz=86
M17A Scullys Gap (B 86.18 46 ⇓ **P P 19 02 29.3 +0.1**
baz=86,SNR=5.9
CCUT Cedar City 86.23 50 *eP* **P 19 02 30.6 +1.0**
comp=Z,4.6nm,1.3s
BW06 Boulder Array 86.25 44 *eP* **P 19 02 28.7 -0.9**
comp=Z,1.2nm,0.8s
PDAR Pinedale Array 86.25 44 P **P 19 02 29.9 +0.2**
PDAR Pinedale Array 86.25 44 P **P 19 02 29.9 +0.2**
comp=Z,2.0nm,0.9s,baz=278,slow=4.2,SNR=14
C23A Lambert 86.26 38 ⇑ **P P 19 02 30.0 +0.7**
baz=86
DAU Daniels Canyon 86.31 47 *eP* **P 19 02 29.8 -0.2**
DAU pmax pmax
comp=Z,4.0nm,0.8s
DAU Daniels Canyon 86.31 47 *eP* **P 19 02 29.8 -0.2**
comp=Z,4.1nm,0.8s
A24A Westby 86.31 37 ⇓ **P P 19 02 29.7 +0.3**
baz=86
J19A Crowheart 86.32 44 ⇑ **P P 19 02 30.4 +0.5**
baz=86
G21A Lodge Grass 86.45 41 ⇑ **P P 19 02 31.2 +0.9**
baz=86
DGMT Dagmar 86.45 38 ⇓ **P P 19 02 30.5 +0.3**
baz=86
IRM Iron Mountain 86.51 54 ⇓ **P P 19 02 31.6 +0.8**
baz=86
BC3 Big Chuckawall 86.52 55 ⇓ **P P 19 02 31.3 +0.3**
baz=86
I20A Worland 86.55 43 ⇑ **P P 19 02 31.6 +0.7**
baz=86,SNR=5.9
E22A Miles City 86.56 40 ⇑ **P P 19 02 31.6 +0.8**
baz=86
D23A Lindsay 86.59 39 ⇑ **P P 19 02 32.1 +1.2**
baz=86
MSU Marysvale 86.60 49 *eP* **P 19 02 31.9 +0.5**
MSU Marysvale 86.60 49 *eP* **P 19 02 31.9 +0.5**
K19A Absolon Red Bu 86.67 44 ⇑ **P P 19 02 31.6 0.0**
baz=87
L19A Farson 86.71 45 ⇑ **P P 19 02 32.2 +0.3**
baz=87
W13A Hualapai Mount 87.00 53 ⇓ **P P 19 02 33.4 -0.1**
baz=87
G22A Birney 87.00 41 ⇑ **P P 19 02 33.6 +0.5**
baz=87
K20A Yellowstone Ra 87.08 44 ⇓ **P P 19 02 33.7 +0.1**
baz=87
Q16A Castle Valley 87.09 48 ⇑ **P P 19 02 34.2 +0.5**
baz=87,SNR=5.0
D24A Glendive 87.13 39 ⇓ **P P 19 02 34.1 +0.6**
baz=87
I21A Big Trails, Te 87.14 43 ⇓ **P P 19 02 34.4 +0.5**
baz=87
J21A Lysite 87.29 43 ⇓ **P P 19 02 35.0 +0.4**
baz=87
U15A North Rim 87.52 51 ⇓ **P P 19 02 36.4 +0.5**
baz=87,SNR=6.7
BRTR Keskin Array B 87.56 313 P **P 19 02 36.5 +0.6**
BRTR Keskin Array B 87.56 313 P **P 19 02 36.5 +0.6**

comp=Z,1.2nm,0.8s,baz=109,slow=3.5,SNR=5.3
I22A 9 Mile Ranch, 87.59 42 ⇓P **P 19 02 36.7 +0.7**
baz=88
J22A Midwest 87.85 43 ⇓P **P 19 02 37.9 +0.7**
baz=88
L21A Rawlins 88.06 44 ⇓P **P 19 02 38.6 +0.3**
baz=88
N20A Spence Gulch, 88.07 46 ⇓P **P 19 02 39.1 +0.7**
baz=88
113A Mohawk Valley, 88.18 55 ⇑P **P 19 02 39.0 +0.2**
baz=88
Y14A Wickenburg 88.19 53 ⇓P **P 19 02 39.4 +0.5**
baz=88
P19A Cripple Cowboy 88.21 47 ⇑P **P 19 02 39.1 0.0**
baz=88
H24A Dirks Ranch, A 88.30 41 ⇑P **P 19 02 39.4 +0.1**
baz=88
SFJD Kangerlussuaq 88.30 5 P **P 19 02 40.1 +1.4**
SFJD Kangerlussuaq 88.30 5 P **P 19 02 40.1 +1.4**
comp=Z,7.7nm,1.0s,baz=15,slow=5.7,SNR=3.6
Z14A Wintersburg 88.50 54 ⇓P **P 19 02 41.0 +0.7**
baz=88
E26A Carlson Angus 88.55 39 ⇑P **P 19 02 40.6 +0.3**
baz=88
N21A Black Mountain 88.59 45 ⇑P **P 19 02 41.3 +0.4**
baz=88
WUAZ Wupatki 88.61 51 ⇑P **P 19 02 41.3 +0.4**
baz=88
Q20A Ridgley Place, 89.01 47 ⇓P **P 19 02 42.9 +0.1**
baz=89
L23A Garrett 89.03 43 ⇓P **P 19 02 42.8 -0.1**
baz=89
I25A Rochford 89.19 41 ⇑P **P 19 02 43.7 +0.1**
baz=89
214A Organ Pipe Nat 89.27 55 ⇑P **P 19 02 44.4 +0.4**
baz=89
H26A Fairpoint 89.42 40 ⇑P **P 19 02 45.0 +0.5**
baz=89
G27A Dupree 89.48 39 ⇓P **P 19 02 45.5 +0.8**
baz=89
N23A Red Feather La 89.53 45 ⇓P **P 19 02 46.2 +0.8**
baz=89
O22A Kremmling 89.53 45 ⇓P **P 19 02 45.0 -0.5**
baz=89
P22A Eagle 89.69 46 ⇓P **P 19 02 46.6 +0.5**
baz=90
M24A Cheyenne 89.93 44 ⇑P **P 19 02 47.9 +0.8**
baz=90
U20A Newcomb 90.18 49 ⇑P **P 19 02 49.1 +0.7**
baz=90
ISCO Idaho Springs 90.33 45 ⇑P **P 19 02 49.7 +0.5**
baz=90
P23A Jefferson 90.42 46 ⇑P **P 19 02 50.9 +1.3**
baz=90
O24A Longmont 90.51 45 ⇑P **P 19 02 50.7 +1.0**
baz=90
V20A Brimhall 90.52 50 ⇑P **P 19 02 50.6 +0.6**
baz=90
S22A 4UR Ranch, Cre 90.62 48 ⇑P **P 19 02 51.3 +0.8**
baz=90
I28A Midland 90.72 40 ⇓P **P 19 02 50.9 +0.4**
baz=91
U21A Nageezi 90.75 49 ⇑P **P 19 02 51.9 +0.8**
baz=91
K27A Flueckinger Fa 90.83 42 ⇓P **P 19 02 51.5 +0.3**
baz=91
W20A Ramah 90.84 51 ⇓P **P 19 02 51.9 +0.3**
baz=91
T22A Edith 90.96 48 ⇑P **P 19 02 52.8 +0.7**
baz=91
J28A Allard Ranch, 91.02 41 ⇓P **P 19 02 52.5 +0.6**
baz=91
AGMN Agassiz Nation 91.02 34 *eP* **P 19 02 50.9 -0.8**
comp=Z,1.5nm,0.6s
V21A Milan 91.09 50 ⇓P **P 19 02 53.0 +0.4**
baz=91
X20A Quemado 91.14 51 ⇓P **P 19 02 54.0 +1.1**
baz=91
R24A Sanders Place, 91.51 46 ⇓P **P 19 02 55.5 +1.0**
baz=91
SDCO Great Sand Dun 91.51 47 *eP* **P 19 02 54.5 -0.2**
comp=Z,1.3nm,0.7s
V22A San Miguel Ran 91.54 49 ⇑P **P 19 02 55.2 +0.5**
baz=91
Y20A Horse Springs, 91.55 52 ⇓P **P 19 02 55.7 +0.8**
baz=91
X21A Alamocita Cree 91.69 51 ⇑P **P 19 02 56.3 +0.8**
baz=92
BRSD Miller 91.74 39 ⇓P **P 19 02 55.7 +0.5**
baz=92
S24A Houchin Ranch, 91.76 47 ⇑P **P 19 02 57.0 +1.1**
baz=92
Z20A Nine Sixteen R 91.80 52 ⇑P **P 19 02 57.2 +1.3**
baz=92
U23A El Rito 91.81 49 ⇓P **P 19 02 57.1 +1.1**
baz=92
Y21A Point of Rocks 92.00 51 ⇑P **P 19 02 58.1 +1.2**
baz=92
120A U Bar Ranch, L 92.06 53 ⇓P **P 19 02 58.4 +1.3**
baz=92
R25A Fountain Ranch 92.10 46 ⇑P **P 19 02 57.9 +0.7**
baz=92
V23A Ortiz Mt. (NFS 92.12 49 ⇑P **P 19 02 58.4 +1.0**
baz=92
Q26A Hugo 92.17 45 ⇓P **P 19 02 58.1 +0.5**
baz=92
L29A Maesberg Ranch 92.27 41 ⇑P **P 19 02 57.9 +0.2**
baz=92
S25A Robets Cordova 92.27 47 ⇓P **P 19 02 58.2 +0.1**
baz=92
ANMO Albuquerque 92.36 50 *eP* **P 19 02 59.1 +0.6**
comp=Z,3.4nm,0.8s
Z21A St. Cloud Mine 92.36 52 ⇑P **P 19 02 59.2 +0.6**
baz=92
W23A Werner Place, 92.46 50 ⇓P **P 19 02 59.8 +0.8**
baz=92
220A Playas Peak, P 92.47 53 ⇓P **P 19 02 59.9 +0.9**
baz=92
Y22A Socorro 92.54 51 ⇑P **P 19 03 00.3 +1.0**
baz=92
R26A Arlington 92.56 46 ⇓P **P 19 02 59.9 +0.6**
baz=92
T25A Trinidad 92.57 47 ⇓P **P 19 03 00.3 +0.8**
baz=92
O28A Krutsinger Ran 92.60 43 ⇓P **P 19 03 00.3 +0.9**
baz=92
121A Cookes Peak, D 92.68 52 ⇑P **P 19 03 01.0 +1.0**
baz=93
V24A Rampart Ranch, 92.76 49 ⇑P **P 19 03 01.3 +0.9**
baz=93
S26A Kim 92.93 46 ⇑P **P 19 03 01.4 +0.4**
baz=93
W24A Lazy 6 Ranch, 92.95 49 ⇓P **P 19 03 02.2 +1.0**
baz=93
U25A Circle Dot Ran 92.98 48 ⇑P **P 19 03 01.9 +0.6**
baz=93
T26A Comanche Natio 93.10 47 ⇑P **P 19 03 02.5 +0.6**
baz=93
V25A Rancho No Teng 93.15 48 ⇓P **P 19 03 02.6 +0.5**
baz=93
Y23A Lovelace Mesa, 93.18 51 ⇑P **P 19 03 02.9 +0.6**
baz=93
U26A Atchley Ranch, 93.43 47 ⇑P **P 19 03 04.0 +0.6**
baz=93
V26A Tequesquite Ra 93.73 48 ⇓P **P 19 03 05.2 +0.4**
baz=94
S28A Manter 93.97 46 ⇑P **P 19 03 06.0 +0.2**
baz=94
Y25A Mesa, Roswell 94.14 50 ⇑P **P 19 03 07.0 +0.4**
baz=94
124A Stringfield Ra 94.26 51 ⇓P **P 19 03 07.5 +0.1**
baz=94
X26A CR and CF Fran 94.41 49 ⇓P **P 19 03 08.1 +0.2**
baz=94
Z25A Roswell 94.47 50 ⇑P **P 19 03 08.7 +0.5**
baz=94
224A Cornudas Mount 94.55 52 ⇓P **P 19 03 09.2 +0.6**
baz=94
SPMN St. Paul 94.62 35 ⇑P **P 19 03 08.9 +0.4**
baz=94
125A Gardner Draw, 94.85 51 ⇓P **P 19 03 09.9 0.0**
baz=95
Z26A Caprock 94.99 50 ⇑P **P 19 03 10.9 +0.4**
baz=95
TXAR Lajitas Array 97.38 53 P **P 19 03 21.4 0.0**
TXAR Lajitas Array 97.38 53 P **P 19 03 21.4 0.0**
comp=Z,0.6nm,0.7s,baz=272,slow=3.5,SNR=8.0
329A Wagon Wheel Ra 97.39 51 ⇓P Pdif 19 03 21.6 +0.1
baz=97
627A Terlingua Ranc 97.51 53 ⇑P Pdif 19 03 22.1 0.0
baz=97
530A J-C Ranch, Com 98.60 51 ⇑Pdiff Pdif 19 03 27.1 +0.2
baz=98
WHTX Lake Whitney 100.22 48 ⇑Pdiff **Pdif 19 03 34.3 +0.3**
baz=100
TORD Torodi Ar. Bea 126.05 310 PKP **PKPdf 19 08 49.4 -0.9**
TORD Torodi Ar. Bea 126.05 310 PKP **PKPdf 19 08 49.4 -0.9**
comp=Z,0.6nm,0.7s,baz=49,slow=1.8,SNR=7.6
PLCA Paso Flores 148.47 129 PKPbc **PKPbc 19 09 33.9 -0.3**
PLCA Paso Flores 148.47 129 PKPbc **PKPbc 19 09 33.9 -0.3**
comp=Z,5.3nm,0.9s,baz=248,slow=3.7,SNR=9.3
LPAZ La Paz 150.76 80 *e*PKPbc **PKPbc 19 09 40.8 -0.4**
LPAZ La Paz 150.76 80 PKPbc **PKPbc 19 09 41.2 0.0**
comp=Z,3.1nm,0.5s,baz=332,slow=2.3,SNR=15
SAML Samuel 151.53 61 *e*PKPdf **PKPdf 19 09 35.4 -0.7**
SAML *e*PKPbc **PKPbc 19 09 41.4 -0.9**

IDC ***04*** *18:54:29.7±0.4, 11°.40N×142°.90E, h0km,mb4.8/31, mb1 4.9/31,mb1mx4.9/35,mbtmp4.8/31,MS4.1/30, Ms1 4.1/30,ms1mx4.0/41,Error ellipse: s-maj=16.7km s-min=9.5km az=77.0*
ISCJB ***04*** *18:54:31.4±1.1, 11°.38N±0°.03×142°.78E±0°.03,h19km±7km, mb5.0/156,MS4.2/48,Error ellipse: s-maj=5.6km s-min=4.4km az=168.7*
NEIC ***04*** *18:54:31.3±0.1, 11°.34N×142°.79E, h10km, mb5.2/71,Error ellipse: s-maj=4.9km s-min=4.3km az=87.0*
MOS ***04*** *18:54:32.8±1.1, 11°.34N×142°.74E, h33km,mb5.3/53, MS4.4/5,Error ellipse: s-maj=8.9km s-min=5.5km az=104.4*
BKK ***04*** *18:54:33.1±0.3,11°N±5°×14°3E±°, h10km,M5.1/24, mB5.6/9,mb5.2/24,MLv5.1/1,Mw(mB)5.0/9*
BJI ***04*** *18:54:36.5,11°.47N×142°.76E,h58km,mB5.1/37,mb4.9/50, Ms4.6/47,Ms7 4.4/45*
GCMT ***04*** *18:54:37.5±0.2, 11°.10N×142°.60E,h16km,MW5.0, Moment Tensor Solution. s30,c37; s67,c110; Moment tensor: Scale 10¹⁶Nm; Mrr-3.87±.22; Mθθ3.29±.13; Mφφ0.58±.12; Mrθ-1.03±.31; Mθφ0.49±.09; Mφr-0.04±.45; Best double couple: M₀3.80000×10¹⁶ NP1:φ₀258.00000°, δ37.00000°,λ-93.00000°. NP2:φ₀82.00000°,δ53.00000°, λ-88.00000°. Principal axes: T 3.5200, Plg8.0000°, Azm170.0000°; N 0.4900, Plg2.0000°, Azm261.0000°; P -4.0200, Plg82.0000°, Azm3.0000°; Data Used: II IU IC G CN.*
DJA ***04*** *18:54:42.4±2.6,11°N±11°×14°3E±1°,1, h85km±21km, M5.0/18,mB5.5/10,mb5.2/18,Mw(mB)4.9/10*

ISC 04 18:54:36.5±0.3, 11°.35N±0°.04×142°.86E±0°.04, h49km±1km, h49km:pP-P,n410,σ1§38/504,mb5.1/168,MS4.3/50, 4C-12D,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.97**	**41**	*e*Pn		**Pn**	**18 55 19.8**	**-1.4**
GUMO				*e*Sn		**Sn**	**18 55 54.3**	**-1.2**
DAV	**Davao City (W)**	**17.57**	**257**	P		**P**	**18 58 41.4**	**+2.8**
DAV	**Davao City (W)**	**17.57**	**257**	P		**P**	**18 58 41.4**	**+2.8**
	16nm,0.3s,baz=98,slow=20,SNR=9.3							
GAMI	**Galela, Maluku**	**17.69**	**239**	P		**P**	**18 58 41.1**	**+1.2**
	61nm,1.0s,2μm							
LBMI	**Labuha**	**19.36**	**233**	P		**P**	**18 58 57.1**	**-1.1**
	80nm,1.0s,2μm							
MNI	**Manado**	**20.41**	**242**	P		**P**	**18 59 08.8**	**-0.9**
	76nm,1.0s,2μm							
JOW	**Kunigami**	**20.63**	**320**	*e*P		**P**	**18 59 11.6**	**-0.4**
	65nm,0.8s							
PMG	**Port Moresby**	**21.06**	**168**	*e*P		**P**	**18 59 15.1**	**-1.5**
	227nm,1.2s							
PMG				*e*			18 59 27.4	
PMG	**Port Moresby**	**21.06**	**168**	P		**P**	**18 59 16.0**	**-0.6**
	170nm,1.3s,2μm							
PMG	**Port Moresby**	**21.06**	**168**	P		**P**	**18 59 16.2**	**-0.5**
	28nm,0.7s,baz=346,slow=7.1,SNR=7.5							
PMG				LR		LR	19 06 27.1	
	comp=Z,497nm,18.3s,baz=19,slow=34							
TGY	**Tagaytay City**	**21.55**	**280**	P		**P**	**18 59 22.7**	**+0.6**
TGY	**Tagaytay City**	**21.55**	**280**	P		**P**	**18 59 22.7**	**+0.6**
	319nm,0.9s,baz=145,slow=12,SNR=28							
KMSI	**Cibinong**	**21.59**	**242**	P		**P**	**18 59 21.6**	**-0.7**
	393nm,1.0s,4μm							
GTOI	**Gorontalo**	**22.40**	**243**	P		**P**	**18 59 31.7**	**+0.6**
	95nm,1.0s,1μm							
MRSI	**Marisa**	**23.41**	**244**	P		**P**	**18 59 41.1**	**-0.3**
	65nm,1.9s,1μm							
LUWI	**Luwuk**	**23.45**	**240**	P		**P**	**18 59 40.2**	**-1.6**
	212nm,1.1s,2μm							
SSLB	**Suanglung**	**24.23**	**304**	*e*P		**P**	**18 59 48.2**	**-0.7**
	27nm,0.7s							
WAKE	**Wake Island**	**24.25**	**68**	*e*P		**P**	**18 59 48.5**	**-0.6**
	152nm,1.1s							
YHNB	**Yeheng**	**24.30**	**306**	*e*P		**P**	**18 59 48.8**	**-0.8**
	26nm,0.9s							
JNU	**Nakatsue**	**24.30**	**335**	*e*P		**P**	**18 59 48.6**	**-0.9**
	49nm,1.1s							
JNU	**Nakatsue**	**24.30**	**335**	P		**P**	**18 59 48.6**	**-0.9**
	26nm,0.9s,baz=140,slow=3.5,SNR=17							
JNU				LR		LR	19 08 36.2	
	comp=Z,352nm,18.1s,baz=221,slow=35							
COEN	**Coen**	**25.14**	**179**	*e*P		**P**	**18 59 55.0**	**-2.3**
	157nm,1.0s							
MJAR	**Matsushiro Arr**	**25.43**	**351**	P		**P**	**18 59 57.9**	**-1.8**
MJAR				PcP		**PcP**	**19 03 31.9**	**+1.0**
MJAR	**Matsushiro Arr**	**25.43**	**351**	P		**P**	**18 59 57.9**	**-1.8**
	4.4nm,0.7s,baz=165,slow=8.9,SNR=21							
MJAR				PcP		**PcP**	**19 03 31.9**	**+1.0**
	3.4nm,0.9s,baz=177,slow=3.1,SNR=6.9							
MJAR				LR		LR	19 08 22.8	
	comp=Z,407nm,20.6s,baz=150,slow=33							
MAJO	**Matsushiro**	**25.43**	**351**	*e*P		**P**	**18 59 57.9**	**-1.8**
MAJO				*e*			19 03 32.1	
MAJO				pmax		pmax		
	comp=Z,23nm,1.2s							
MAJO	**Matsushiro**	**25.43**	**351**	*e*P		**P**	**18 59 57.9**	**-1.8**
	comp=Z,24nm,1.2s							
MAJO				*e*PcP		**PcP**	**19 03 32.1**	**+1.2**
HNR	**Honiara**	**26.74**	**140**	*e*P		**P**	**19 00 09.6**	**-2.1**
	comp=Z,112nm,1.0s							
HNR	**Honiara**	**26.74**	**140**	P		**P**	**19 00 11.5**	**-0.2**
	comp=Z,64nm,0.9s,baz=201,slow=4.0,SNR=4.1							
SSE	**Sheshan**	**28.08**	**318**	P		P	19 00 19.6	-4.0
SSE				S		**S**	**19 05 06.3**	**+1.2**
SSE				sS		sS	19 05 20.5	-6.0
SSE				pmax		pmax		
	comp=Z,19nm,0.8s							
SSE				pmax		pmax		
	comp=Z,63nm,4.1s							
SSE				LR		LR		
	comp=N,110nm,19.6s							
SSE				LR		LR		
	comp=E,140nm,19.6s							
SSE				LR		LR		
	comp=Z,230nm,18.9s							
KSRS	**Korea Array**	**29.25**	**335**	P		**P**	**19 00 32.0**	**-1.8**
	comp=Z,2.0nm,0.8s,baz=159,slow=8.9,SNR=17							
KSRS				PcP		**PcP**	**19 03 41.7**	**+1.7**
	comp=Z,4.4nm,1.0s,baz=174,slow=2.6,SNR=14							
KSRS				LR		LR	19 10 00.4	
	comp=Z,273nm,21.3s,baz=160,slow=32							
KSAR	**Wonju Array Be**	**29.26**	**335**	P		**P**	**19 00 32.0**	**-1.9**
KSAR				PcP		**PcP**	**19 03 41.7**	**+1.7**
NJ2	**Nanjing**	**30.23**	**317**	*e*P		**P**	**19 00 45.2**	**+2.6**
NJ2				pP		**pP**	**19 00 58.3**	**+2.9**
NJ2				sP		**sP**	**19 01 03.9**	**+2.7**
NJ2				PP		**PnPn**	**19 01 42.9**	**+1.0**
NJ2				S		**S**	**19 05 41.0**	**+2.1**
NJ2				sS		**sS**	**19 06 01.0**	**+0.7**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.9s							
NJ2				pmax		pmax		
	comp=Z,150nm,5.8s							
NJ2				LR		LR		
	comp=N,640nm,28.0s							
NJ2				LR		LR		
	comp=E,380nm,19.5s							
NJ2				LR		LR		
	comp=Z,410nm,18.7s							
CTA	**Charters Tower**	**31.42**	**174**	P		**P**	**19 00 54.0**	**+0.8**
CTA	**Charters Tower**	**31.42**	**174**	P		**P**	**19 00 54.0**	**+0.8**
	comp=Z,10nm,0.9s,baz=359,slow=8.5,SNR=7.7							
CTAO	**Charters Tower**	**31.42**	**174**	*e*P		**P**	**19 00 53.2**	**0.0**
CTAO				pmax		pmax		
	comp=Z,22nm,1.0s							
CTAO	**Charters Tower**	**31.42**	**174**	*e*P		**P**	**19 00 53.2**	**0.0**
	comp=Z,22nm,1.0s							
WRAB	**Tennant Creek**	**32.19**	**195**	*e*P		**P**	**19 00 58.4**	**-1.7**
WRAB				*e*			19 01 10.7	
WRAB				pmax		pmax		
	comp=Z,11nm,0.7s							
WRAB	**Tennant Creek**	**32.19**	**195**	*e*P		**P**	**19 00 58.4**	**-1.7**
	comp=Z,11nm,0.7s							
WRAB				*e*pwP		**pP**	**19 01 10.7**	**-2.1**
WRA	**Warramunga Arr**	**32.21**	**195**	P		**P**	**19 00 59.3**	**-0.9**
WRA				PcP		**PcP**	**19 03 49.2**	**+1.1**
WRA	**Warramunga Arr**	**32.21**	**195**	P		**P**	**19 00 59.3**	**-0.9**
	comp=Z,9.0nm,0.7s,baz=19,slow=9.6,SNR=15							
WRA				PcP		**PcP**	**19 03 49.2**	**+1.1**
	comp=Z,1.3nm,0.9s,baz=9.7,slow=3.3,SNR=5.4							
WRA				LR		LR	19 15 07.6	
	comp=Z,591nm,18.0s,baz=20,slow=38							
ASAJ	**Asahikawa**	**32.65**	**360**	*e*P		**P**	**19 01 01.7**	**-2.1**
	comp=Z,14nm,1.2s							
ASAJ	**Asahikawa**	**32.65**	**360**	P		**P**	**19 01 02.3**	**-1.5**
	comp=Z,5.7nm,0.8s,baz=212,slow=11,SNR=6.4							
ASAJ				LR		LR	19 15 01.1	
	comp=Z,125nm,18.1s,baz=120,slow=38							
QIZ	**Qiongzhong**	**32.72**	**288**	P		**P**	**19 01 03.3**	**-1.4**
QIZ				sP		**sP**	**19 01 21.0**	**-2.3**
QIZ				S		**S**	**19 06 16.8**	**-1.3**
QIZ				pmax		pmax		
	comp=Z,26nm,1.6s							
QIZ				pmax		pmax		
	comp=Z,160nm,3.8s							
QIZ				LR		LR		
	comp=Z,340nm,15.6s							
STKI	**Sintang**	**33.12**	**252**	P		**P**	**19 01 06.7**	**-1.6**
	comp=Z,18nm,1.0s,comp=Z,1μm							
USRK	**Ussuriysk Arra**	**34.05**	**346**	P		**P**	**19 01 15.5**	**-0.5**
	comp=Z,5.2nm,0.7s,baz=172,slow=10,SNR=16							
USRK				LR		LR	19 13 29.7	
	comp=Z,320nm,20.7s,baz=156,slow=34							
MDJ	**Mudanjiang**	**35.06**	**343**	P		**P**	**19 01 25.2**	**+0.5**
MDJ				pP		**pP**	**19 01 38.1**	**+0.5**
MDJ				sP		**sP**	**19 01 43.6**	**+0.2**
MDJ				S		**S**	**19 06 51.5**	**-2.2**
MDJ				sS		**sS**	**19 07 17.0**	**+1.7**
MDJ				pmax		pmax		
	comp=Z,4.0nm,1.1s							
MDJ				pmax		pmax		
	comp=Z,72nm,4.0s							
MDJ				LR		LR		
	comp=N,170nm,22.9s							
MDJ				LR		LR		
	comp=E,180nm,22.5s							
MDJ				LR		LR		
	comp=Z,330nm,25.4s							
YSS	**Yuzh-Sakhalins**	**35.49**	**360**	*e*P		**P**	**19 01 28.0**	**-0.3**
YSS				MLR		MLR		
	comp=Z,600nm,20.0s							
YSS				MLR		MLR		
	comp=N,500nm,18.0s							
CN2	**Changchun**	**35.67**	**338**	*e*P		**P**	**19 01 32.1**	**+2.2**
CN2				*e*S		**S**	**19 07 05.1**	**+2.1**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CN2				LR		LR		
	comp=N,300nm,16.0s							
CN2				LR		LR		
	comp=E,200nm,16.0s							
CN2				LR		LR		
	comp=Z,400nm,17.0s							
AS31	**Alice Springs**	**35.88**	**194**	*e*P		**P**	**19 01 30.9**	**-1.2**
ASAR	**Alice Springs**	**35.89**	**194**	P		**P**	**19 01 31.4**	**-0.7**
ASAR				PcP		**PcP**	**19 03 59.5**	**+1.0**
ASAR	**Alice Springs**	**35.89**	**194**	P		**P**	**19 01 31.4**	**-0.7**
	comp=Z,4.2nm,0.8s,baz=20,slow=12,SNR=23							
ASAR				PcP		**PcP**	**19 03 59.5**	**+1.0**
	comp=Z,8.3nm,1.1s,baz=35,slow=2.9,SNR=9.4							
ENH	**Enshi**	**36.23**	**306**	*e*P		**P**	**19 01 34.5**	**-0.6**
	comp=Z,21nm,1.0s							
UBPT	**Khong Chiam**	**36.56**	**280**	P		**P**	**19 01 39.3**	**+1.4**
	comp=Z,21nm,1.4s							
UBPT	**Khong Chiam**	**36.56**	**280**	P		**P**	**19 01 39.4**	**+1.5**
	comp=Z,24nm,1.1s							
BJT	**Baijiatuau**	**37.05**	**325**	*e*P		**P**	**19 01 39.4**	**-2.4**
	comp=Z,50nm,0.6s							
BJI	**Beijing**	**37.06**	**325**	P		**P**	**19 01 42.0**	**+0.1**
BJI				PP		**PP**	**19 03 07.3**	**+0.3**
BJI				S		**S**	**19 07 25.3**	**+0.9**
BJI				pmax		pmax		
	comp=Z,40nm,0.4s							
BJI				pmax		pmax		
	comp=Z,160nm,3.5s							
BJI				LR		LR		
	comp=N,620nm,16.8s							
BJI				LR		LR		
	comp=E,370nm,20.6s							
BJI				LR		LR		
	comp=Z,420nm,21.3s							
GYA	**Guiyang**	**37.24**	**299**	P		**P**	**19 01 43.6**	**-0.1**
GYA				pP		**pP**	**19 01 57.8**	**+1.1**
GYA				sP		**sP**	**19 02 04.3**	**+1.8**
GYA				PP		**PnPn**	**19 03 13.2**	**+2.9**
GYA				PcP		**PcP**	**19 04 06.0**	**+3.2**
GYA				S		**S**	**19 07 26.3**	**-1.4**
GYA				ScP		**ScP**	**19 07 45.9**	**-0.2**
GYA				sS		**sS**	**19 07 51.4**	**+1.9**
GYA				SS		**SnSn**	**19 09 58.0**	**-8.6**
GYA				ScS		**ScS**	**19 11 51.6**	**-2.6**
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,140nm,5.0s							
GYA				LR		LR		
	comp=N,790nm,17.8s							
GYA				LR		LR		
	comp=E,610nm,18.0s							
GYA				LR		LR		
	comp=Z,850nm,17.9s							
PANO	**Nakornpanom**	**37.47**	**283**	P		**P**	**19 01 47.4**	**+1.8**
	comp=Z,59nm,1.3s							
HABR	**Khabarovsk**	**37.58**	**351**	*c*e*P		**P**	**19 01 43.8**	**-2.3**
HABR				*e**PP		pP	19 01 53.3	-5.8
HABR				*e**SP		sP	19 01 57.3	-7.6
HABR				*e*			19 03 09.9	
HABR				*e*S		**S**	**19 07 32.1**	**+0.1**
HABR				*e**SS		**ScP**	**19 07 48.1**	**+1.5**
HABR				*e*SS		**SnSn**	**19 10 12.9**	**-1.2**
HABR				*e*			19 11 53.6	
HABR				pmax		pmax		
	comp=Z,36nm,1.5s							
HABR				pmax		pmax		
	comp=N,19nm,2.0s							
HABR				pmax		pmax		
	comp=E,23nm,1.5s							
HABR				MLR		MLR		
	comp=Z,125nm,18.0s							
SKNT	**Sakolnakorn**	**38.06**	**283**	P		**P**	**19 01 51.9**	**+1.2**
	comp=Z,46nm,1.2s							
XAN	**Xi'an**	**38.32**	**312**	P		**P**	**19 01 51.6**	**-1.1**
XAN				S		**S**	**19 07 47.1**	**+3.3**
XAN				pmax		pmax		
	comp=Z,2.0nm,1.0s							
XAN				LR		LR		
	comp=N,190nm,16.5s							
XAN				LR		LR		
	comp=E,120nm,20.3s							
XAN				LR		LR		
	comp=Z,110nm,18.5s							
KLR	**Kul'dur**	**38.88**	**348**	*e*P		P	19 01 52.3	-4.8
KLR				pmax		pmax		
	comp=Z,38nm,1.4s							
CHBT	**CHBT**	**39.63**	**276**	P		**P**	**19 02 05.5**	**+1.7**
	comp=Z,42nm,1.1s							
CHBT	**CHBT**	**39.63**	**276**	P		**P**	**19 02 05.5**	**+1.7**
	comp=Z,42nm,1.1s							
CHAI	**Chaiyaphum**	**39.93**	**281**	P		**P**	**19 02 07.1**	**+0.8**
	comp=Z,28nm,0.9s,comp=Z,213nm							
HHC	**Hu-ho-hao-te**	**40.26**	**322**	*e*P		**P**	**19 02 10.4**	**+1.5**
HHC				pP		**pP**	**19 02 22.9**	**+1.0**
HHC				sP		**sP**	**19 02 27.9**	**+0.2**
HHC				PP		**PnPn**	**19 03 48.0**	**+1.8**
HHC				S		**S**	**19 08 13.9**	**+1.0**
HHC				sS		**sS**	**19 08 34.4**	**-0.4**
HHC				ScS		**ScS**	**19 12 10.5**	**-0.7**
HHC				pmax		pmax		
	comp=Z,28nm,0.9s							
HHC				pmax		pmax		

HHC LR LR
comp=N,330nm,13.1s
HHC LR LR
comp=E,280nm,16.7s
HHC LR LR
comp=Z,380nm,12.8s
KMI Kunming 40.32 295 P **P** **19 02 10.0 +0.2**
KMI pP **pP** **19 02 24.7 +1.9**
KMI sP **sP** **19 02 31.8 +3.2**
KMI S **S** **19 08 13.3 -1.2**
KMI sS **sS** **19 08 36.9 +0.5**
KMI SS **SS** **19 11 08.1 -6.5**
KMI pmax pmax
comp=Z,6.0nm,1.6s
KMI pmax pmax
comp=Z,130nm,6.6s
KMI LR LR
comp=N,98nm,17.1s
KMI LR LR
comp=E,250nm,17.1s
KMI LR LR
comp=Z,200nm,17.9s
DZM Mont Dzumac 40.48 145 *e*S **S** **19 08 22.3 +5.8**
comp=Z,143nm,29.4s
DZM *e*LR LR 19 13 26.0
comp=Z,510nm,24.1s
DZM Mont Dzumac 40.48 145 P **P** **19 02 10.7 -0.1**
DZM Mont Dzumac 40.48 145 P **P** **19 02 10.7 -0.1**
comp=Z,35nm,0.9s,baz=270,slow=24,SNR=12
NAYO Nakonayok 40.57 279 P **P** **19 02 13.2 +1.6**
comp=Z,21nm,1.2s
LOEI Loei 40.68 284 P **P** **19 02 10.2 -2.3**
comp=Z,29nm,1.1s
PBKT Sadao Pong 40.92 282 P **P** **19 02 16.1 +1.5**
comp=Z,73nm,0.9s,comp=Z,2µm
PBKT Sadao Pong 40.92 282 P **P** **19 02 16.0 +1.5**
comp=Z,74nm,0.9s,comp=Z,2µm
BTO Baotou 41.05 321 *e*P **P** **19 02 14.6 -0.8**
CD2 Chengdu 41.05 304 P **P** **19 02 16.2 +0.7**
CD2 pP **pP** **19 02 30.0 +1.4**
CD2 sP **sP** **19 02 36.3 +2.0**
CD2 PP **PnPn** **19 03 54.7 -0.9**
CD2 PcP **PcP** **19 04 16.3 +1.6**
CD2 ScP **ScP** **19 08 00.2 -0.4**
CD2 PcS **PcS** **19 08 06.0 +0.1**
CD2 S **S** **19 08 24.2 -0.7**
CD2 sS **sS** **19 08 47.6 +0.8**
CD2 SS **SS** **19 11 23.1 -5.6**
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,320nm,5.6s
CD2 LR LR
comp=N,350nm,13.7s
CD2 LR LR
comp=E,450nm,19.6s
CD2 LR LR
comp=Z,360nm,12.1s
LAMP Lampang 42.29 285 P **P** **19 02 26.8 +1.1**
comp=Z,13nm,0.9s,comp=Z,96nm
KSI Kapahiang 42.74 252 P **P** **19 02 29.0 -0.4**
comp=Z,52nm,1.0s
CM31 Chiang Mai Arr 42.94 285 *e*P **P** **19 02 31.9 +0.9**
comp=Z,51nm,0.8s
CM31 *e*pwP **pP** **19 02 45.1 +1.0**
CMAR Chiang Mai Arr 42.94 285 P **P** **19 02 32.1 +1.2**
CMAR Chiang Mai Arr 42.94 285 P **P** **19 02 32.1 +1.2**
comp=Z,54nm,0.9s,baz=86,slow=6.3,SNR=259
CMAR LR LR 19 22 01.0
comp=Z,172nm,18.4s,baz=85,slow=38
CMAI Chiengmai2 42.94 287 P **P** **19 02 33.2 +2.0**
comp=Z,189nm,0.9s,comp=Z,20µm
CMMT Chiang Mai 42.95 285 P **P** **19 02 31.6 +0.5**
comp=Z,15nm,0.9s
LZH Lanzhou 42.95 312 *e*P **P** **19 02 31.7 +0.6**
LZH pP **pP** **19 02 44.4 +0.2**
LZH sP **sP** **19 02 51.0 +1.1**
LZH PP **PP** **19 04 13.6 +2.1**
LZH *e*S **S** **19 08 53.0 -0.1**
LZH sS **sS** **19 09 12.0 -3.1**
LZH SS SS 19 11 55.1 -11
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,150nm,4.4s
LZH LR LR
comp=N,140nm,9.0s
LZH LR LR
comp=E,340nm,15.2s
LZH LR LR
comp=Z,500nm,15.8s
CHTO Chiang Mai 42.95 285 *e*P **P** **19 02 30.5 -0.6**
CHTO pmax pmax
comp=Z,11nm,0.9s
CHTO Chiang Mai 42.95 285 *e*P **P** **19 02 30.5 -0.6**
comp=Z,11nm,0.9s
CHTO Chiang Mai 42.95 285 P **P** **19 02 31.6 +0.5**
comp=Z,16nm,1.0s
STKA Stephens Creek 43.00 182 P **P** **19 02 29.6 -1.6**
STKA Stephens Creek 43.00 182 P **P** **19 02 29.6 -1.6**
comp=Z,4.6nm,0.7s,baz=2.8,slow=12,SNR=7.3
PEA0B Petropavlovsk- 43.32 13 *e*P **P** **19 02 32.6 -0.9**
PETK Petropavlovsk- 43.32 13 P **P** **19 02 33.5 0.0**
PETK Petropavlovsk- 43.32 13 P **P** **19 02 33.5 0.0**
PETK Petropavlovsk- 43.32 13 P **P** **19 02 33.5 0.0**
comp=Z,9.6nm,0.9s,baz=192,slow=8.3,SNR=18
PETK LR LR 19 22 18.2
comp=Z,204nm,18.5s,baz=199,slow=39
FORT Forrest 44.23 198 *e*P **P** **19 02 42.6 +1.5**
comp=Z,32nm,0.6s
FORT *e*pwP **pP** **19 02 53.2 -1.1**
BBOO Buckleboo 44.39 188 *e*P **P** **19 02 41.2 -1.2**
comp=Z,126nm,0.7s
BBOO *e*pwP **pP** **19 02 53.6 -1.9**
MSVF Nonsavu 45.20 129 *e*P **P** **19 02 50.1 +1.0**
MSVF *e* 19 03 02.2
MSVF pmax pmax
comp=Z,33nm,0.8s
MSVF Nonsavu 45.20 129 *e*P **P** **19 02 50.1 +1.0**
comp=Z,33nm,0.8s
MSVF *e*pwP **pP** **19 03 02.2 -0.2**
ULN Ulaanbaatar 47.15 327 *e*P **P** **19 03 03.8 -0.4**
comp=Z,5.0nm,0.8s
ULN *e*pwP **pP** **19 03 16.8 -0.7**
ULN *e*PcP **PcP** **19 04 36.0 +0.8**
GTA Gaotai 47.24 314 P **P** **19 03 05.2 +0.2**
GTA pP **pP** **19 03 17.7 -0.6**
GTA sP **sP** **19 03 23.2 -0.8**
GTA PcP **PcP** **19 04 37.3 +1.6**
GTA S **S** **19 09 55.2 +0.3**
GTA sS **sS** **19 10 17.6 +0.5**
GTA pmax pmax
comp=Z,19nm,1.0s
GTA pmax pmax
comp=Z,120nm,4.8s
GTA LR LR
comp=N,180nm,14.7s
GTA LR LR
comp=E,180nm,17.1s
GTA LR LR
comp=Z,230nm,19.0s
CLNS Chul'man 47.46 347 *e*P **P** **19 03 05.5 -0.8**
CLNS pmax pmax
comp=Z,12nm,1.1s
CLNS pmax pmax
comp=N,7.0nm,1.2s
CLNS pmax pmax
comp=E,2.0nm,0.8s
SONM Songino Array 47.48 327 P **P** **19 03 06.6 -0.1**
SONM PcP **PcP** **19 04 36.5 +0.1**
SONM Songino Array 47.48 327 P **P** **19 03 06.6 -0.1**
comp=E,2.2nm,0.7s,baz=145,slow=8.3,SNR=20
SONM PcP **PcP** **19 04 36.5 +0.1**
comp=E,3.9nm,0.8s,baz=145,slow=3.1,SNR=6.5
SONM LR LR 19 24 37.0
comp=E,332nm,18.9s,baz=129,slow=38
FX1 Attu Island--F 48.04 24 *e*P **P** **19 03 11.0 +0.2**
ZAK Zakamensk 50.64 326⇓ *i*P **P** **19 03 30.7 -0.2**
ZAK *e* 19 03 43.3
ZAK pmax pmax
comp=Z,14nm,1.1s
TLY Talaya 51.24 330⇑ *i*P **P** **19 03 35.8 +0.6**
TLY *e* 19 05 25.9
TLY *e*S S 19 10 41.9 -8.4
TLY pmax pmax
comp=Z,9.0nm,1.2s
TLY MLR MLR
comp=Z,191nm,19.0s
LSA Lhasa 51.31 299 P **P** **19 03 36.9 +0.3**
LSA Lhasa 51.31 299 *e*P **P** **19 03 37.4 +0.7**
LSA pmax pmax
comp=Z,10.0nm,1.1s
LSA Lhasa 51.31 299 *e*P **P** **19 03 37.4 +0.7**
comp=Z,10nm,1.1s
YAK Yakutsk 51.49 352 *d* *i*P **P** **19 03 35.8 -1.1**
YAK *e**PP **pP** **19 03 45.4 -4.9**
YAK *e* 19 04 50.1
YAK *e* 19 05 32.5
YAK *e*S **S** **19 10 50.9 -2.5**
YAK *e**SS sS 19 11 06.8 -9.0
YAK *e* 19 13 24.7
YAK *e*SSS SSS 19 16 08.1
YAK pmax pmax
comp=Z,42nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=N,22nm,1.1s
YAK pmax pmax
comp=Z,10.0nm,1.1s
YAK smax smax
comp=E,86nm,2.0s
YAK smax smax
comp=N,66nm,1.8s
MOY Mondy 52.57 328 *e*P **P** **19 03 45.2 0.0**
MOY pmax pmax
comp=Z,20nm,1.8s
TAPN Taplejung 53.99 296 *e*P **P** **19 03 56.1 -0.3**
comp=Z,88nm,1.3s
ODAN Odare 54.23 295 *e*P **P** **19 03 57.9 -0.1**
comp=Z,110nm,1.5s
RAMN Ramite 54.94 295 *e*P **P** **19 04 03.1 -0.1**
comp=Z,100nm,1.3s
JIRN Jiri 55.37 296 *e*P **P** **19 04 06.7 +0.3**
comp=Z,40nm,0.8s
GUN Gumba 55.66 296 *e*P **P** **19 04 08.6 +0.1**
comp=Z,138nm,0.8s
PKI Pulchoki 56.05 296 *e*P **P** **19 04 11.0 -0.2**
comp=Z,71nm,1.2s
PKIN Phulchoki 56.06 296 *e*P **P** **19 04 11.1 -0.2**
comp=Z,32nm,1.0s
KKN Kakani 56.18 296 *e*P **P** **19 04 11.8 -0.3**
comp=Z,52nm,0.9s
DMN Daman 56.32 296 *e*P **P** **19 04 13.0 -0.1**
comp=Z,76nm,1.0s
WMQ Urumqi 57.29 315 P **P** **19 04 21.9 +2.5**
WMQ pP **pP** **19 04 34.6 +1.6**
WMQ sP **sP** **19 04 39.9 +1.2**
WMQ PcP **PcP** **19 05 15.8 +2.5**
WMQ PP **PP** **19 06 30.7 +3.7**
WMQ ScP **ScP** **19 09 10.3 +1.1**
WMQ PcS **PcS** **19 09 15.3 +1.0**
WMQ S **S** **19 12 12.4 +0.2**
WMQ sS **sS** **19 12 33.8 -1.2**
WMQ ScS **ScS** **19 14 03.6 -1.3**
WMQ SS **SS** **19 16 03.1 +1.1**
WMQ pmax pmax
comp=Z,41nm,1.2s
WMQ LR LR
comp=N,140nm,13.0s
WMQ LR LR
comp=E,200nm,18.6s
WMQ LR LR
comp=Z,210nm,19.8s
DANN Dangsing 57.57 296 *e*P **P** **19 04 21.6 -0.3**
comp=Z,74nm,0.9s
KOLN Koldanda 57.67 296 *e*P **P** **19 04 22.5 0.0**
comp=Z,51nm,0.9s
PYUN Piuthan 58.23 296 *e*P **P** **19 04 26.4 -0.1**
comp=Z,163nm,1.0s
BILL Bilibino 58.69 10⇓ *i*P **P** **19 04 28.3 -0.4**
BILL *e* 19 06 36.9
BILL *e*S **S** **19 12 28.5 -1.1**
RPZ Rata Peaks 60.52 157 P **P** **19 04 41.5 -0.2**
RPZ Rata Peaks 60.52 157 P **P** **19 04 41.5 -0.2**
comp=Z,16nm,0.8s,baz=143,slow=9.6,SNR=6.0
TIXI Tiksi 60.86 355 *d* *i*P **P** **19 04 42.4 -1.2**
TIXI pmax pmax
comp=Z,14nm,1.0s
MK31 Makanchi Array 61.76 317 *i*P **P** **19 04 50.4 +0.2**
MK31 Makanchi Array 61.76 317 *e*P **P** **19 04 50.4 +0.2**
MKAR Makanchi Array 61.76 317 P **P** **19 04 50.5 +0.4**
MKAR Makanchi Array 61.76 317 P **P** **19 04 50.5 +0.4**
MKAR Makanchi Array 61.76 317 P **P** **19 04 50.5 +0.4**
comp=Z,25nm,0.9s,baz=96,slow=7.3,SNR=108
MKAR LR LR 19 33 22.4
comp=Z,176nm,19.1s,baz=261,slow=38
SDPT Sand Point 62.08 33 *e*P **P** **19 04 51.5 -0.5**
comp=Z,82nm,1.0s
ZAA0 Zalesovo Array 62.32 326 *e*P **P** **19 04 52.5 -1.2**
ZALV Zalesovo Beam 62.32 326 P **P** **19 04 53.2 -0.5**
ZALV Zalesovo Beam 62.32 326 P **P** **19 04 53.2 -0.5**
ZALV Zalesovo Beam 62.32 326 P **P** **19 04 53.2 -0.5**
comp=Z,6.5nm,0.6s,baz=111,slow=6.9,SNR=29
ZALV LR LR 19 32 45.4
comp=Z,218nm,18.4s,baz=71,slow=37
HYB Hyderabad 62.34 284 *i*P **P** **19 04 54.0 -0.6**
NVS Novosibirsk 63.49 326 *e*P **P** **19 05 00.2 -1.2**
NVS *e*S **S** **19 13 35.3 +4.3**
NVS pmax pmax
comp=Z,34nm,1.2s
NVS pmax pmax
comp=N,10.0nm,1.3s
NVS pmax pmax
comp=E,25nm,1.3s
NVS smax smax
comp=E,15nm,2.2s
CHGN Chignik 63.51 32 *e*P **P** **19 05 01.3 -0.2**
CHGN *e*pwP **pP** **19 05 14.7 -0.6**
KSH Kashi 65.06 308 P **P** **19 05 14.8 +2.6**
KSH pP **pP** **19 05 27.9 +1.9**
KSH sP **sP** **19 05 33.9 +2.3**
KSH PP PP 19 07 41.1 +5.4
KSH S **S** **19 13 54.9 +3.7**
KSH sS **sS** **19 14 15.2 +0.8**
KSH ScS **SKSac** **19 15 02.8 -0.6**
KSH SS **SS** **19 18 07.2 +3.2**
KSH pmax pmax
comp=Z,16nm,0.9s
KSH pmax pmax
comp=Z,120nm,4.8s
KSH LR LR
comp=N,150nm,6.7s
KSH LR LR
comp=E,180nm,6.2s
KSH LR LR
comp=Z,220nm,8.2s
ULHL Ulahol 65.17 311 P **P** **19 05 13.5 +0.5**
SNR=7.6
TKM2 Tokmak 2 65.72 312 *e*P **P** **19 05 16.5 -0.1**
TKM2 pmax pmax
comp=Z,18nm,0.9s
TKM2 Tokmak 2 65.72 312 P **P** **19 05 17.1 +0.5**
SNR=16
TKM2 Tokmak 2 65.72 312 *e*P **P** **19 05 16.5 -0.1**
comp=Z,18nm,0.9s
KZA Kyzart 65.88 311 P **P** **19 05 19.2 +1.4**
SNR=29
KBK Karagaybulak 66.17 312 P **P** **19 05 20.0 +0.6**
SNR=19
CHMS Chumysh 66.35 312 P **P** **19 05 20.6 +0.2**
SNR=22
FRU Bishkek 66.43 312⇓ *i*P **P** **19 05 20.0 -0.9**
FRU pmax pmax
comp=Z,70nm,1.5s
UCH Uchtor 66.44 311 P **P** **19 05 23.0 +1.5**
SNR=7.2
OHAK Old Harbor 66.48 32 *e*P **P** **19 05 20.9 +0.1**
comp=Z,33nm,1.0s
AAK Ala-Archa 66.50 312 *i*P **P** **19 05 21.3 -0.1**
AAK pmax pmax
comp=Z,23nm,0.8s
AAK Ala-Archa 66.50 312 P **P** **19 05 22.2 +0.8**
SNR=6.9
AAK Ala-Archa 66.50 312 *e*P **P** **19 05 21.4 -0.1**
comp=Z,12nm,1.0s
AAK Ala-Archa 66.50 312 LR LR 19 36 36.7
comp=Z,262nm,19.0s,baz=332,slow=38
SVW2 Sparrevohn 66.56 28 *e*P **P** **19 05 22.1 +0.8**
comp=Z,42nm,1.3s
USP Ospenovka 66.56 312 P **P** **19 05 22.1 +0.4**
SNR=7.5
KDAK Kodiak Island 67.00 32 *e*P **P** **19 05 23.9 -0.2**
comp=Z,46nm,1.4s
KDAK Kodiak Island 67.00 32 P **P** **19 05 23.9 -0.2**
comp=Z,16nm,1.0s,baz=301,slow=2.9,SNR=11
EKS2 Erkin-Say 67.03 312 *e*P **P** **19 05 24.6 -0.2**
EKS2 pmax pmax
comp=Z,16nm,1.1s
EKS2 Erkin-Say 67.03 312 P **P** **19 05 25.3 +0.5**
SNR=16
EKS2 Erkin-Say 67.03 312 P **P** **19 05 24.6 -0.2**
comp=Z,16nm,1.1s
AML Almayashu 67.03 311 P **P** **19 05 26.1 +0.9**
SNR=28
KK31 Karatay Array 69.45 312 *i*P **P** **19 05 39.5 -0.4**
KK31 pmax pmax
comp=Z,29nm,1.2s
KKAR Karatay Array 69.45 312 *e*P **P** **19 05 40.0 +0.1**
KKAR pmax pmax
comp=Z,11nm,0.9s
KKAR Karatay Array 69.45 312 *e*P **P** **19 05 40.0 +0.1**
comp=Z,11nm,0.9s
TRF Thorofare Moun 69.64 26 *e*P **P** **19 05 39.4 -1.4**
comp=Z,26nm,1.3s
PMR Palmer 69.68 28 *e*P **P** **19 05 39.9 -0.9**
PMR pmax pmax
comp=Z,17nm,0.8s
PMR Palmer 69.68 28 *e*P **P** **19 05 39.9 -0.9**
comp=Z,17nm,0.8s
VOSK Vostochnaya 70.08 322 P **P** **19 05 42.8 -0.7**
VOSK pmax pmax
comp=Z,30nm,1.4s
SML Sawmill 70.10 28 *e*P **P** **19 05 42.9 -0.6**
SML pmax pmax
comp=Z,14nm,1.2s
SML Sawmill 70.10 28 *e*P **P** **19 05 42.9 -0.6**
comp=Z,14nm,1.2s
MCK McKinley 70.30 26 *e*P **P** **19 05 44.1 -0.5**
MCK *e* 19 05 57.3
MCK pmax pmax
comp=Z,23nm,1.1s
MCK McKinley 70.30 26 *e*P **P** **19 05 44.1 -0.5**
comp=Z,23nm,1.1s
MCK *e*pwP **pP** **19 05 57.3 -1.3**
KBL Kabul 70.36 303 *e*P **P** **19 05 45.0 -0.9**
KBL *e* 19 05 59.0
KBL pmax pmax
comp=Z,37nm,0.9s
KBL Kabul 70.36 303 *e*P **P** **19 05 45.0 -0.9**
comp=Z,37nm,0.9s
KBL *e*pwP **pP** **19 05 59.0 -0.9**
BVA0 Borovoye Array 70.47 322 *i*P **P** **19 05 45.5 -0.4**
BVA0 pmax pmax
comp=Z,41nm,0.8s
BVAR Borovoye Array 70.47 322 LR LR 19 38 56.4
comp=Z,252nm,18.9s,baz=100,slow=38
BRVK Borovoye 70.54 322 *d* *i*P **P** **19 05 46.4 +0.1**
BRVK pmax pmax
comp=Z,49nm,0.9s
COLD Coldfoot 70.75 22 *e*P **P** **19 05 48.1 +0.8**
comp=Z,28nm,1.1s
COLA College 71.04 25 *e*P **P** **19 05 48.2 -0.9**
COLA pmax pmax
comp=Z,9.0nm,0.9s
COLA College 71.04 25 *e*P **P** **19 05 48.2 -0.9**
comp=Z,9.3nm,0.9s
DIV Divide 71.16 29 *e*P **P** **19 05 50.8 +0.9**
comp=Z,39nm,1.2s
ILAR Eielson Array 71.42 25 P **P** **19 05 50.2 -1.2**
ILAR Eielson Array 71.42 25 P **P** **19 05 50.2 -1.2**
comp=Z,8.0nm,0.8s,baz=256,slow=4.9,SNR=91
ILAR LR LR 19 37 41.5
comp=Z,177nm,18.6s,baz=275,slow=36
PAX Paxson 71.65 27 *e*P **P** **19 05 52.9 0.0**
PAX pmax pmax
comp=Z,22nm,1.1s
PAX Paxson 71.65 27 *e*P **P** **19 05 52.9 0.0**
comp=Z,22nm,1.1s
MENT Mentasta 72.43 27 *e*P **P** **19 05 58.0 +0.4**
PPT2 Papeete2 72.65 113 *e*S **S** **19 15 24.3 +2.7**
comp=Z,59nm,29.0s
PPT2 Papeete2 72.65 113 *e*LR LR 19 27 55.4
comp=Z,330nm,28.2s,baz=284
PNL Peninsula 74.09 31 *e*P **P** **19 06 07.5 +0.1**
comp=Z,29nm,1.0s
TBI Tubuai 74.62 118 *e*LR LR 19 28 22.8
comp=Z,179nm,28.8s,baz=299
SKAG Skagway 76.15 31 *e*P **P** **19 06 20.1 +1.0**
comp=Z,37nm,1.2s
SVE Sverdlovsk 76.33 326⇓ *i*P **P** **19 06 21.0 +0.7**
SVE *e* 19 06 33.7
SVE pmax pmax
comp=Z,43nm,1.2s
SVE MLR MLR
comp=Z,265nm,17.0s
AB31 Akbulak array 76.88 318 *i*P **P** **19 06 23.3 -0.2**
AB31 pmax pmax
comp=Z,25nm,0.8s
ABKAR Akbulak array 76.88 318 *e*P **P** **19 06 23.4 -0.1**
comp=Z,18nm,0.8s
INK Inuvik 77.17 22 P **P** **19 06 24.1 -0.6**
INK Inuvik 77.17 22 P **P** **19 06 24.1 -0.6**
comp=Z,13nm,0.9s,baz=270,slow=7.2,SNR=17
ARU Arti 77.48 326 *d* *i*P **P** **19 06 26.3 -0.4**
ARU 19 09 15.4
ARU PPP PPP 19 11 06.4
ARU S **S** **19 16 16.8 +2.8**
ARU pmax pmax
comp=Z,48nm,1.7s
ARU Arti 77.48 326 P **P** **19 06 26.6 -0.1**
comp=Z,150nm,0.9s,SNR=15
WRAK Wrangell Islan 77.76 34 *e*P **P** **19 06 29.9 +1.6**
comp=Z,29nm,1.1s
AKTO Aktyubinsk 78.07 319 P **P** **19 06 29.1 -1.1**
AKTO pmax pmax
comp=Z,12nm,0.9s
AKTO Aktyubinsk 78.07 319 P **P** **19 06 29.9 -0.3**
AKTO Aktyubinsk 78.07 319 P **P** **19 06 29.9 -0.3**
comp=Z,6.2nm,0.7s,baz=88,slow=7.8,SNR=17
AKTO LR LR 19 43 28.1
comp=Z,244nm,18.4s,baz=78,slow=38
SOKR Solikamsk 78.31 329 *d* *i*P **P** **19 06 31.5 +0.3**
SOKR pmax pmax
comp=Z,40nm,1.1s
DLBC Dease Lake 78.92 32 P **P** **19 06 34.6 -0.2**
DLBC Dease Lake 78.92 32 P **P** **19 06 34.6 -0.2**
comp=Z,19nm,1.2s,baz=267,slow=6.8,SNR=9.5
NLWA Neilton Lookou 83.95 43 *e*P **P** **19 07 02.5 +0.9**
comp=Z,37nm,1.6s
PGC Sidney 84.00 42 *e*P **P** **19 07 03.4 +1.7**
HDW Hoodsport 84.45 43 P **P** **19 07 06.1 +1.9**
MBW Mount Baker 84.99 41 P **P** **19 07 08.1 +1.1**
JCW Jim Creek 85.08 42 P **P** **19 07 08.6 +1.3**
FL2 Flat Top 2 85.20 44 P **P** **19 07 09.7 +1.7**
KHMM Horse Mountain 85.23 49 *e*P **P** **19 07 10.6 +2.3**
comp=Z,16nm,0.9s
TDL Tradedollar La 85.26 44 P **P** **19 07 10.0 +1.7**
LON Longmire 85.45 43 *e*P **P** **19 07 09.9 +0.7**
LON *e* 19 07 22.7
LON pmax pmax
comp=Z,10.0nm,1.2s
LON Longmire 85.45 43 *e*P **P** **19 07 09.9 +0.7**
comp=Z,10nm,1.2s
LON *e*pwP **pP** **19 07 22.7 -0.8**
HUMO Hull Mountain 85.47 48 *e*P **P** **19 07 10.3 +1.0**
comp=Z,6.9nm,0.8s
WPW White Pass 85.64 43 P **P** **19 07 11.6 +1.4**
YKW3 Yellowknife Ar 85.71 27 *e*P **P** **19 07 10.2 +0.1**
YKA Yellowknife Ar 85.74 27 P **P** **19 07 10.6 +0.4**
YKA Yellowknife Ar 85.74 27 P **P** **19 07 10.6 +0.4**
comp=Z,4.9nm,0.8s,baz=288,slow=5.2,SNR=42
YKA LR LR 19 46 05.4
comp=Z,17nm,18.9s,baz=345,slow=36
VLL Laurance Lake 85.80 45 P **P** **19 07 12.5 +1.5**
YBH Yreka Blue Hor 85.82 48 *e*P **P** **19 07 11.9 +0.7**
comp=Z,18nm,1.3s
YBH Yreka Blue Hor 85.82 48 LR LR 19 44 18.1
comp=Z,59nm,18.1s,baz=342,slow=35
SPITS Spitsbergen Ar 85.92 350 LR LR 19 46 23.4
comp=Z,144nm,18.5s,baz=25,slow=36
TWW Teanaway 86.00 43 P **P** **19 07 13.6 +1.7**
KBS Kingsbay 86.12 352 *d* *i*P **P** **19 07 12.4 +0.6**
KBS Kingsbay 86.12 352 *e*P **P** **19 07 12.0 +0.2**
comp=Z,14nm,0.6s
WDC Whiskeytown Da 86.17 50 *e*P **P** **19 07 14.4 +1.6**

WDC pmax pmax
comp=Z,15nm,1.3s
WDC Whiskeytown Da 86.17 50 *e*P **P 19 07 14.4 +1.6**
comp=Z,15nm,1.3s
TBM Table Mountain 86.18 43 P **P 19 07 14.0 +1.2**
TMCR Tamitsa 86.22 335 *e*P **P 19 07 10.9 -1.6**
TMCR pmax pmax
comp=Z,11nm,0.7s
B08A Colville Reser 86.74 41 P **P 19 07 16.3 +0.8**
APA Apatity 86.83 339 ⇑*i*P **P 19 07 15.0 -0.5**
APA pmax pmax
comp=Z,9.0nm,0.6s
APA MLR MLR
comp=Z,200nm,14.0s
HAWA Hanford 87.06 43 *e*P **P 19 07 17.9 +0.8**
comp=Z,16nm,0.6s
MOD Modoc 87.54 48 *e*P **P 19 07 20.1 +0.4**
comp=Z,19nm,1.4s
SAO San Andreas Ge 87.80 53 *e*P **P 19 07 21.9 +1.1**
SAO *e* 19 07 35.0
SAO pmax pmax
comp=Z,15nm,1.2s
SAO San Andreas Ge 87.80 53 *e*P **P 19 07 21.9 +1.1**
comp=Z,15nm,1.2s
SAO *e*pwP **pP 19 07 35.0 -0.2**
BEKR Beckworth 87.96 50 *e*P **P 19 07 22.2 +0.4**
comp=Z,9.5nm,0.9s
BEKR *e*pwP **pP 19 07 35.2 -0.9**
KEV Kevo 88.03 342 *e*p **P 19 07 20.1 -1.0**
comp=Z,0.8nm,0.4s
KEV Kevo 88.03 342 *e*P **P 19 07 20.1 -1.0**
KEV pmax pmax
comp=Z,1.0nm,0.4s
NEW Newport 88.20 41 *e*P **P 19 07 22.8 +0.2**
comp=Z,14nm,1.0s
NEW Newport 88.20 41 LR LR 19 48 06.4
comp=Z,100nm,18.1s,baz=173,slow=36
NEW Newport 88.20 41 P **P 19 07 23.1 +0.6**
baz=88
CMB Columbia Colle 88.35 52 *e*P **P 19 07 24.1 +0.6**
CMB pmax pmax
comp=Z,9.0nm,1.0s
CMB Columbia Colle 88.35 52 *e*P **P 19 07 24.1 +0.6**
comp=Z,9.3nm,1.0s
ARCES ARCESS Array B 88.59 342 P **P 19 07 23.6 -0.3**
ARCES ARCESS Array B 88.59 342 P **P 19 07 23.6 -0.3**
comp=Z,6.9nm,0.8s,baz=70,slow=7.3,SNR=20
ARCES LR LR 19 50 33.5
comp=Z,120nm,18.5s,baz=185,slow=38
WVOR Wild Horse Val 88.62 47 *e*P **P 19 07 25.3 +0.5**
WVOR pmax pmax
comp=Z,18nm,1.0s
WVOR Wild Horse Val 88.62 47 *e*P **P 19 07 25.3 +0.5**
comp=Z,18nm,1.0s
PAHR Pah Rah Range 88.72 50 *e*P **P 19 07 26.8 +1.5**
ZEI Tsey 88.86 313 *e*P **P 19 07 24.4 -1.5**
ZEI pmax pmax
comp=Z,6.0nm,0.4s
C11A Tepee Creek (N 88.87 41 P **P 19 07 26.5 +0.8**
baz=89
BMO Blue Mountains 88.95 45 *e*P **P 19 07 26.6 +0.4**
BMO pmax pmax
comp=Z,12nm,0.8s
BMO Blue Mountains 88.95 45 *e*P **P 19 07 26.6 +0.4**
comp=Z,12nm,0.8s
WAKR Walker 88.97 51 *e*P **P 19 07 28.0 +1.5**
KBZ Khabaz 89.33 314 P **P 19 07 28.8 +1.0**
KBZ Khabaz 89.33 314 P **P 19 07 28.8 +1.0**
KBZ Khabaz 89.33 314 P **P 19 07 28.8 +1.0**
comp=Z,6.3nm,0.9s,baz=185,slow=1.2,SNR=4.7
KBZ LR LR 19 51 56.6
comp=Z,153nm,20.3s,baz=307,slow=39
VNDA Vanda 89.38 176 *e*P **P 19 07 27.3 0.0**
comp=Z,6.3nm,1.2s
VNDA Vanda 89.38 176 P **P 19 07 27.3 0.0**
comp=Z,6.1nm,1.2s,baz=325,slow=6.2,SNR=4.7
VNDA LR LR 19 48 23.4
comp=Z,145nm,20.5s,baz=358,slow=36
KIV Kislovodsk 89.42 315 P **P 19 07 27.0 -1.4**
KIV *e**PP **pP 19 07 38.2 -4.6**
KIV pmax pmax
comp=Z,6.0nm,1.1s
JOF Joensuu 89.48 335 *e*p **P 19 07 27.3 -0.8**
comp=Z,0.6nm,0.4s
JOF Joensuu 89.48 335 *e*P **P 19 07 27.3 -0.8**
JOF pmax pmax
comp=Z,1.0nm,0.4s
PKM Peak Mountain 89.51 55 P **P 19 07 30.4 +1.3**
baz=90
MLAC Mammoth Lakes 89.64 52 P **P 19 07 31.0 +1.3**
baz=90
VORD Divnogorie 89.65 322 *e*P **P 19 07 27.0 -2.2**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,20nm,0.7s
VSR Storozhevoye 89.65 322 *e*P **P 19 07 26.8 -2.4**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=N,7.0nm,1.2s
VSR pmax pmax
comp=E,10.0nm,0.9s
E12A Beaver Dam Sad 89.71 43 P **P 19 07 30.4 +0.6**
baz=90
A13A Flathead Natio 89.74 40 P **P 19 07 30.9 +1.0**
baz=90
BSMT Bassoo Peak 89.82 41 *e*P **P 19 07 30.1 -0.3**
NVAR Mina Array Bea 89.85 51 P **P 19 07 32.2 +1.5**
NVAR Mina Array Bea 89.85 51 P **P 19 07 32.2 +1.5**
comp=E,16nm,0.7s,baz=264,slow=5.9,SNR=134
VES Vestal, Richgr 89.87 54 P **P 19 07 31.2 +0.6**
baz=90
OBN Obninsk 89.89 327 ⇑*e*P **P 19 07 27.3 -2.9**
OBN pmax pmax
comp=Z,23nm,1.2s
OBN MLR MLR
comp=Z,100nm,17.0s
NV11 Mina Array Sit 89.96 51 *e*P **P 19 07 32.0 +0.8**
WALA Waterton Lakes 90.02 40 *e*P **P 19 07 31.1 -0.1**
BMN Battle Mountai 90.15 49 *e*P **P 19 07 33.8 +1.8**
BMN pmax pmax
comp=Z,8.0nm,1.0s
BMN Battle Mountai 90.15 49 *e*P **P 19 07 33.8 +1.8**
comp=Z,8.2nm,1.0s
G12A Big Creek, Yel 90.23 44 P **P 19 07 32.8 +0.5**
baz=90
D13A Huson 90.25 42 P **P 19 07 32.3 +0.1**
baz=90
A14A Double T Ranch 90.36 40 P **P 19 07 33.6 +0.9**
baz=90
MFID Camas Ranch 90.36 46 *e*P **P 19 07 33.6 +0.8**
comp=Z,17nm,1.0s
MFID Camas Ranch 90.36 46 P **P 19 07 33.8 +1.0**
baz=90
ISA Isabella 90.39 54 P **P 19 07 33.9 +0.7**
baz=90
C14A Swan Lake 90.51 41 P **P 19 07 33.8 +0.3**
baz=90
H12A Diamond D Ranc 90.72 44 P **P 19 07 35.2 +0.7**
baz=91
I12A Atlanta 90.74 45 P **P 19 07 35.3 +0.5**
baz=90
A15A Johnson Ranch, 90.79 40 P **P 19 07 35.4 +0.7**
baz=91
EDW2 Edwards Air Fo 90.97 54 P **P 19 07 36.7 +0.9**
baz=91
LRMC Laurel Mountai 91.06 54 P **P 19 07 37.4 +1.1**
baz=91
MPMC Manual Prospec 91.07 53 P **P 19 07 36.2 -0.2**
baz=91
MWC Mount Wilson 91.08 55 *e*P **P 19 07 38.5 +2.0**
MWC pmax pmax
comp=Z,22nm,1.3s
MWC Mount Wilson 91.08 55 *e*P **P 19 07 38.5 +2.0**
comp=Z,22nm,1.3s
CHMT Chamberlain Mo 91.09 42 *e*P **P 19 07 35.9 -0.4**
B15A Bradely Ranch, 91.10 40 P **P 19 07 36.6 +0.4**
baz=91
C15A Salmond Ranch, 91.24 41 P **P 19 07 37.0 +0.1**
baz=91
DAG Danmarks Havn 91.37 356 ⇓*i*P **P 19 07 35.9 -0.8**
DAG pmax pmax
comp=Z,8.0nm,1.0s
DAG Danmarks Havn 91.37 356 ⇓*i*P **P 19 07 35.9 -0.8**
comp=Z,8.0nm,1.0s
BFSC Mount Baldy Ra 91.40 55 P **P 19 07 38.9 +1.0**
baz=91
FURC Furnace Creek, 91.46 53 P **P 19 07 38.8 +0.9**
baz=91
B16A M & M Farms, S 91.61 40 P **P 19 07 39.1 +0.6**
baz=92
C16A Fuhringer Ranc 91.78 41 P **P 19 07 39.5 +0.2**
baz=92
GSC Goldstone 91.80 54 *e*P **P 19 07 40.8 +1.1**
GSC pmax pmax
comp=Z,18nm,1.1s
GSC Goldstone 91.80 54 *e*P **P 19 07 40.8 +1.1**
comp=Z,18nm,1.1s
KAF Kangasniemi 91.92 335 *e*p **P 19 07 37.4 -2.1**
comp=Z,0.3nm,0.3s
KAF Kangasniemi 91.92 335 *e*P **P 19 07 37.4 -2.1**
F15A Butte 91.92 43 P **P 19 07 40.4 +0.2**
baz=92
LRM Limekiln Ridge 91.96 43 *e*P **P 19 07 41.0 +0.6**
DLMT Dillon 92.00 43 *e*P **P 19 07 41.6 +1.1**
comp=Z,7.4nm,1.0s
SHOC Shoshone 92.06 53 P **P 19 07 41.8 +1.1**
baz=92
A17A Triple J Farms 92.06 39 P **P 19 07 41.3 +0.8**
baz=92
RAYN Ar Rayn 92.16 294 *e*P **P 19 07 41.6 +0.1**
comp=Z,9.3nm,1.2s
D16A Dana Ranch, Ca 92.16 41 P **P 19 07 41.6 +0.4**
baz=92
B17A L&G Farms, Che 92.22 40 P **P 19 07 41.6 +0.3**
baz=92
HEC Hector,Ludlow 92.30 54 P **P 19 07 42.4 +0.4**
baz=92
FINES FINESS Array B 92.34 335 P **P 19 07 40.2 -1.3**
FINES FINESS Array B 92.34 335 P **P 19 07 40.2 -1.3**
comp=Z,4.7nm,0.6s,baz=83,slow=4.4,SNR=20
FINES LR LR 19 53 12.4
comp=Z,134nm,18.8s,baz=277,slow=38
C17A Wharram Farm, 92.47 41 P **P 19 07 42.9 +0.4**
baz=92
F16A Kennard Place, 92.52 42 P **P 19 07 43.4 +0.6**
baz=92
A18A Metzger Ranch, 92.60 39 P **P 19 07 43.5 +0.4**
baz=92
D17A Six Diamond Ra 92.68 41 P **P 19 07 44.1 +0.5**
baz=93
MONP Monument Peak 92.74 56 P **P 19 07 44.6 +0.4**
baz=93
BELC Belle Mtn. Jos 92.79 55 P **P 19 07 45.1 +0.7**
baz=93
E17A Martinsdale 92.80 42 P **P 19 07 44.8 +0.7**
baz=93
B18A Beardsley Farm 92.83 40 P **P 19 07 45.0 +0.9**
baz=93
GMRC Granite Mounta 92.85 54 P **P 19 07 45.8 +1.2**
baz=93
QLMT Earthquake Lak 92.96 43 *e*P **P 19 07 46.4 +1.4**
HVU Hansel Valley 92.99 47 *e*P **P 19 07 46.8 +1.6**
HVU pmax pmax
comp=Z,8.0nm,1.2s
HVU Hansel Valley 92.99 47 *e*P **P 19 07 46.8 +1.6**
comp=Z,8.3nm,1.2s
F17A Fitzpatrick Pl 93.11 42 P **P 19 07 46.7 +1.1**
baz=93
H16A Russell Place, 93.12 43 P **P 19 07 46.7 +1.0**
baz=93
D18A Linhart Farms, 93.23 41 P **P 19 07 47.3 +1.3**
baz=93
I16A Newdale 93.23 44 P **P 19 07 47.5 +1.3**
baz=93
G17A Pierce Place, 93.26 43 P **P 19 07 47.3 +1.0**
baz=93
A19A Klindworth Far 93.28 39 P **P 19 07 46.7 +0.6**
baz=93
BC3 Big Chuckawall 93.32 55 P **P 19 07 47.7 +1.0**
baz=93
B19A Brinkman Farms 93.33 39 P **P 19 07 46.8 +0.4**
baz=93
E18A Harlowton 93.38 41 P **P 19 07 47.4 +0.7**
baz=93
IRM Iron Mountain 93.42 54 P **P 19 07 48.3 +1.1**
baz=93
DUG Dugway 93.45 48 *e*P **P 19 07 47.4 +0.1**
DUG pmax pmax
comp=Z,9.0nm,1.3s
DUG Dugway 93.45 48 *e*P **P 19 07 47.4 +0.1**
comp=Z,8.9nm,1.3s
DUG Dugway 93.45 48 P **P 19 07 47.8 +0.5**
baz=93
C19A Slack Wire Ran 93.52 40 P **P 19 07 47.9 +0.6**
baz=93
IMW Indian Meadow 93.60 44 *e*P **P 19 07 48.8 +0.7**
comp=Z,1.6nm,0.4s
ARUT Antelope Range 93.71 50 *e*P **P 19 07 49.6 +1.0**
ARUT Antelope Range 93.71 50 *e*P **P 19 07 49.6 +1.0**
F18A Big Timber 93.73 42 P **P 19 07 49.3 +0.9**
baz=94
MOOW Moose Ponds 93.78 44 *e*P **P 19 07 50.3 +1.5**
comp=Z,9.7nm,0.8s
A20A Cobblestone Ra 93.80 39 P **P 19 07 49.1 +0.5**
baz=94
GCMT Greycliff 93.81 42 *e*P **P 19 07 50.3 +1.5**
D19A Cripps Ranch, 93.83 40 P **P 19 07 49.1 +0.3**
baz=94
B20A Solberg Farm, 93.90 39 P **P 19 07 49.3 +0.3**
baz=94
GLA Glamis 93.99 55 P **P 19 07 51.0 +1.3**
baz=94
G18A Lazy EL Ranch, 94.04 42 P **P 19 07 50.2 +0.3**
baz=94
CTU Camp Tracy 94.07 47 *e*PKiKP **PKiKP 19 12 32.9 -1.4**
E19A Rath Farm, Rou 94.14 41 P **P 19 07 50.7 +0.4**
baz=94
W13A Hualapai Mount 94.16 53 P **P 19 07 51.8 +1.0**
baz=94
C20A Veseth Ranch, 94.18 40 P **P 19 07 51.1 +0.8**
baz=94
F19A Roth Farm, Mol 94.26 42 P **P 19 07 51.2 +0.4**
baz=94
RLMT Red Lodge 94.30 43 *e*P **P 19 07 52.5 +1.4**
comp=Z,5.6nm,0.8s
MSU Marysvale 94.44 49 *e*P **P 19 07 53.0 +1.0**
MSU Marysvale 94.44 49 *e*P **P 19 07 53.0 +1.0**
B21A Ellsworth Farm 94.53 39 P **P 19 07 52.7 +0.8**
baz=94
E20A Meyer Farm, Mu 94.55 41 P **P 19 07 52.7 +0.6**
baz=94
FFC Flin Flon 94.74 32 *i* P **P 19 07 53.2 +0.5**
FFC Flin Flon 94.74 32 *e*P **P 19 07 52.8 +0.2**
comp=Z,5.6nm,1.0s
U15A North Rim 95.00 51 P **P 19 07 55.7 +1.1**
baz=95
Q16A Cedar Valley 95.06 49 P **P 19 07 55.3 +0.6**
baz=95
Y14A Wickenburg 95.19 54 P **P 19 07 56.1 +0.8**
baz=95
B22A Reddig Ranch S 95.20 39 P **P 19 07 55.7 +0.7**
baz=95
E21A Keefer Ranch, 95.21 41 P **P 19 07 55.6 +0.5**
baz=95
JMIC Jan Mayen 95.59 351 LR LR 19 49 47.9
comp=Z,32nm,20.5s,baz=66,slow=35
C23A Lambert 95.90 39 P **P 19 07 58.8 +0.6**
baz=96
WUAZ Wupatki 95.99 52 *e*P **P 19 08 00.8 +1.8**
comp=Z,8.2nm,1.3s
DGMT Dagmar 96.23 38 P **P 19 07 59.7 0.0**
baz=96
SUMG Summit 96.25 0 *i* P **P 19 08 00.4 +0.7**
SUMG pmax pmax
comp=Z,4.0nm,0.9s
SUMG Summit 96.25 0 *i* P **P 19 08 00.4 +0.7**
comp=Z,3.9nm,0.9s
MAW Mawson 96.62 202 LR LR 19 49 44.5
comp=Z,164nm,21.7s,baz=91,slow=34
H23A Clabaugh Cattl 97.06 42 P **P 19 08 03.8 +0.1**
baz=97
BRTR Keskin Array B 97.15 313 P **P 19 08 03.4 -0.8**
BRTR Keskin Array B 97.15 313 P **P 19 08 03.4 -0.8**
comp=Z,1.1nm,1.0s,baz=88,slow=5.6,SNR=5.6
BRTR LR LR 19 59 12.2
comp=Z,60nm,18.3s,baz=58,slow=40
Q20A Ridgley Place, 97.16 48 P **P 19 08 04.5 +0.2**
baz=97
PV01 Paradox Valley 97.24 49 *e*P Pdif 19 08 05.7 +0.9
R21A Cimarron 97.91 48 P Pdif 19 08 08.3 +0.5
baz=98
S21A Coal Bank Pass 97.99 49 P **P 19 08 08.3 +0.1**
baz=98
HFS Hagfors 98.09 337 LR LR 19 58 57.2
comp=Z,127nm,18.9s,baz=20,slow=39
NOA NORSAR Array B 98.42 338 LR LR 19 58 13.6
comp=Z,62nm,18.4s,baz=50,slow=39
U21A Nageezi 98.53 50 P **P 19 08 10.8 +0.3**
baz=98
Y20A Horse Springs, 98.85 53 P Pdif 19 08 13.4 +1.3
baz=99
Z20A Nine Sixteen R 98.95 54 P Pdif 19 08 13.5 +1.1
baz=99
120A U Bar Ranch, L 99.11 54 P **Pdif 19 08 14.0 +0.9**
baz=99
EIL Elat 99.56 303 LR LR 19 58 01.6
comp=Z,94nm,22.0s,baz=278,slow=38
UZH Uzhgorod 100.63 324 *e*P **Pdif 19 08 18.9 -0.4**
ESDC Sonseca Array 120.61 331 PKP **PKPdf 19 13 23.6 +0.2**
ESDC PP **PP 19 14 49.0 -1.1**
ESDC Sonseca Array 120.61 331 PKP **PKPdf 19 13 23.6 +0.2**
comp=Z,0.1nm,0.3s,baz=36,slow=2.8,SNR=4.2
ESDC PP **PP 19 14 49.0 -1.1**
comp=Z,0.1nm,0.3s,baz=31,slow=7.9,SNR=5.5
TAM Tamanrasset 126.17 309 *e*PKiKP **PKPdf 19 13 36.3 +1.7**
TAM Tamanrasset 126.17 309 *e*PKPdf **PKPdf 19 13 36.3 +1.7**
TORD Torodi Ar. Bea 134.42 301 PKP **PKPdf 19 13 50.2 0.0**
TORD PP **PP 19 16 24.6 +2.2**
TORD Torodi Ar. Bea 134.42 301 PKP **PKPdf 19 13 50.2 0.0**
comp=Z,2.3nm,0.8s,baz=7.5,slow=2.3,SNR=11
TORD PP **PP 19 16 24.6 +2.2**
comp=Z,1.5nm,1.0s,baz=53,slow=6.2,SNR=3.8
DBIC Dimbokro 143.22 298 PKPpre PKPpre 19 14 02.7
DBIC Dimbokro 143.22 298 PKhKP PKPpre 19 14 02.7
comp=Z,19nm,1.1s,baz=47,slow=6.1,SNR=5.7
LCO Las Campanas 144.11 124 *e*PKPpre PKPpre 19 14 05.5
LVC Limon Verde 147.69 114 *e*PKPdf **PKPdf 19 14 15.5 +1.4**
LVC *e*PKPbc **PKiKP 19 14 19.0 +0.1**
LPAZ La Paz 149.53 103 PKP **PKPdf 19 14 19.2 +1.5**
LPAZ *e*PKPdf **PKPbc 19 14 19.4 -2.9**
LPAZ PKPbc **PKiKP 19 14 23.4 +0.1**
LPAZ *e*PKPbc **PKPab 19 14 23.8 -3.5**
LPAZ La Paz 149.53 103 PKP **PKPdf 19 14 19.2 +1.5**
comp=Z,6.9nm,0.8s,baz=276,slow=2.2,SNR=12
LPAZ PKPbc **PKiKP 19 14 23.4 +0.1**
comp=Z,8.6nm,0.9s,baz=285,slow=2.4,SNR=19
SAML Samuel 154.26 87 *e*PKPdf **PKPdf 19 14 24.9 +0.8**
SAML *e*PKPab **PKPab 19 14 45.1 -1.3**
CPUP Villa Florida 155.83 131 PKPab **PKPab 19 14 52.5 -0.1**
CPUP Villa Florida 155.83 131 PKPab **PKPab 19 14 52.5 -0.1**
comp=Z,0.9nm,0.5s,baz=272,slow=4.6,SNR=4.3

DDA ***04*** *19:08:42.0, 37.90N×29.12E, h7km, MD3.0*
ISK ***04*** *19:08:41.7, 37.82N×29.17E, h5km, MD3.5*
CSEM ***04*** *19:08:42.9±0.1, 37.78N×29.16E, h2km, MD3.5, Error ellipse: s-maj=2.6km s-min=2.4km az=143.0*
ISC 04 19:08:42.8±0.9, 37.87N±0.02×29.12E±0.02, h8km±7km, n110, σ1s53/131, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.13**	**211**	*e*PG		**Pg**	**19 08 44.9**	**-0.8**
DENT	**Denizli**	**0.13**	**211**	*e*Pg		**Pg**	**19 08 44.9**	**-0.8**
DNZL	**Cakiroluk**	**0.18**	**198**	*i* P		**Pg**	**19 08 46.8**	**+0.2**
DNZL				*i* S		**Sg**	**19 08 49.9**	**+0.6**
DNZL	**Cakiroluk**	**0.18**	**198**	*i* P		**Pg**	**19 08 46.8**	**+0.2**
DNZL				*i* S		**Sg**	**19 08 49.9**	**+0.6**
KHL	**Karahalli**	**0.56**	**35**	*e*PG		**Pg**	**19 08 53.5**	**0.0**
KHL	**Karahalli**	**0.56**	**35**	*e*Pg		**Pg**	**19 08 53.6**	**0.0**
KHAL	**Karahalli**	**0.58**	**30**	*i* P		**Pg**	**19 08 52.9**	**-1.2**
KHAL				*i* S		**Sg**	**19 09 01.2**	**-0.5**
KHAL	**Karahalli**	**0.58**	**30**	*i* P		**Pg**	**19 08 52.9**	**-1.2**
KHAL				*i* S		**Sg**	**19 09 01.2**	**-0.5**
GOLH	**Golhisar**	**0.72**	**151**	*i* P		**Pg**	**19 08 56.0**	**-0.6**
GOLH				*i* S		**Sn**	**19 09 08.4**	**-2.2**
GOLH	**Golhisar**	**0.72**	**151**	*i* P		**Pg**	**19 08 56.0**	**-0.6**
MANT	**Manisa**	**0.76**	**325**	*i* P		**Pg**	**19 08 55.9**	**-1.6**
MANT				*i* S		**Sg**	**19 09 07.3**	**-0.2**
MANT	**Manisa**	**0.76**	**325**	*i* P		**Pg**	**19 08 55.9**	**-1.6**
MANT				*i* S		**Sg**	**19 09 07.3**	**-0.2**
YER	**Yerkesik**	**0.99**	**223**	*e*PG		**Pg**	**19 09 01.3**	**-0.4**
YER				*e*SG		**Sn**	**19 09 16.3**	**-0.8**
YER	**Yerkesik**	**0.99**	**223**	*e*Pg		**Pg**	**19 09 01.3**	**-0.4**
AYDN	**Tasoluk**	**1.00**	**259**	*i* P		**Pg**	**19 09 01.6**	**-0.4**
AYDN				*i* S		**Sb**	**19 09 15.8**	**0.0**
AYDN	**Tasoluk**	**1.00**	**259**	*i* P		**Pg**	**19 09 01.6**	**-0.4**
AYDN				*i* S		**Sb**	**19 09 15.7**	**0.0**
DALY	**Dalyan (Mu¨la**	**1.11**	**200**	*e*PN		**Pb**	**19 09 03.7**	**-0.5**
DALY	**Dalyan (Mu¨la**	**1.11**	**200**	*e*Pn		**Pb**	**19 09 03.7**	**-0.5**
ISP	**Isparta**	**1.11**	**92**	*e*PG		**Pb**	**19 09 03.4**	**-0.9**
ISP	**Isparta**	**1.11**	**92**	*e*Pg		**Pb**	**19 09 03.4**	**-0.9**
MLSB	**Milas**	**1.21**	**242**	*e*PN		**Pg**	**19 09 06.3**	**+0.3**
MLSB	**Milas**	**1.21**	**242**	*e*Pn		**Pg**	**19 09 06.3**	**+0.3**
DEMI	**Demirci**	**1.22**	**345**	*i* P		**Pn**	**19 09 05.1**	**-1.0**
DEMI				*i* S		**Sb**	**19 09 20.7**	**-1.2**
DEMI	**Demirci**	**1.22**	**345**	*i* P		**Pn**	**19 09 05.1**	**-1.0**
DEMI				*i* S		**Sb**	**19 09 20.7**	**-1.2**
FETY	**Fethiye**	**1.23**	**181**	*e*PN		**Pn**	**19 09 05.5**	**-0.8**
FETY	**Fethiye**	**1.23**	**181**	*e*Pn		**Pn**	**19 09 05.5**	**-0.8**
BCK	**Bucak**	**1.23**	**109**	*e*PN		**Pn**	**19 09 05.6**	**-0.8**
BCK	**Bucak**	**1.23**	**109**	*e*Pn		**Pn**	**19 09 05.6**	**-0.8**
GDZ	**Gediz**	**1.25**	**13**	*i* P		**Pn**	**19 09 05.2**	**-1.5**
GDZ				*i* S		**Sb**	**19 09 22.0**	**-1.1**
GDZ	**Gediz**	**1.25**	**13**	*i* P		**Pn**	**19 09 05.2**	**-1.5**
GDZ				*i* S		**Sb**	**19 09 22.0**	**-1.1**
ELL	**Elmali**	**1.28**	**150**	*e*PN		**Pn**	**19 09 06.3**	**-0.8**
ELL	**Elmali**	**1.28**	**150**	*e*Pn		**Pn**	**19 09 06.3**	**-0.8**
SHUT	**Suhut-Afyon**	**1.32**	**58**	*e*PN		**Pb**	**19 09 07.9**	**0.0**
SHUT	**Suhut-Afyon**	**1.32**	**58**	*e*Pn		**Pb**	**19 09 07.9**	**0.0**
ALT	**Altintas**	**1.42**	**33**	*e*PN		**Pb**	**19 09 09.4**	**-0.2**
ALT	**Altintas**	**1.42**	**33**	*e*Pn		**Pb**	**19 09 09.4**	**-0.2**
AKHS	**Akhisar**	**1.44**	**315**	*i* P		**Pn**	**19 09 08.2**	**-0.9**
AKHS				*i* S		**Sg**	**19 09 29.2**	**+0.1**
AKHS	**Akhisar**	**1.44**	**315**	*i* P		**Pn**	**19 09 08.2**	**-0.9**
AKHS				*i* S		**Sg**	**19 09 29.2**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.54**	**104**	*e*PN		**Pb**	**19 09 10.9**	**-0.7**
SUTC	**Sutluce-Ispart**	**1.54**	**104**	*e*Pn		**Pb**	**19 09 10.9**	**-0.7**
IZM	**Izmir**	**1.56**	**291**	*e*PN		**Pb**	**19 09 12.3**	**+0.4**
IZM	**Izmir**	**1.56**	**291**	*e*Pn		**Pb**	**19 09 12.3**	**+0.4**
ANTB	**Antalya**	**1.56**	**128**	*e*PN		**Pb**	**19 09 10.9**	**-0.9**
ANTB	**Antalya**	**1.56**	**128**	*e*Pn		**Pb**	**19 09 10.9**	**-0.9**
TVSB	**Tavsanli**	**1.60**	**10**	*e*PN		**Pb**	**19 09 12.6**	**-0.1**
TVSB	**Tavsanli**	**1.60**	**10**	*e*Pn		**Pb**	**19 09 12.6**	**-0.1**
BODT	**Bodrum**	**1.65**	**241**	*e*PN		**Pb**	**19 09 13.1**	**-0.3**
BODT	**Bodrum**	**1.65**	**241**	*e*Pn		**Pb**	**19 09 13.1**	**-0.3**
DAT	**Datca**	**1.67**	**228**	*e*PN		**Pb**	**19 09 13.3**	**-0.6**
DAT	**Datca**	**1.67**	**228**	*e*Pn		**Pb**	**19 09 13.3**	**-0.6**
BOLV	**Bolvadin**	**1.67**	**59**	*i* P		**Pb**	**19 09 13.7**	**-0.2**
BOLV				*i* S		**Sg**	**19 09 39.7**	**+3.1**
BOLV	**Bolvadin**	**1.67**	**59**	*i* P		**Pb**	**19 09 13.7**	**-0.2**
BOLV				*i* S		**Sg**	**19 09 39.7**	**+3.1**
AKAS	**Kas**	**1.68**	**166**	*i* P		**Pg**	**19 09 14.8**	**-0.1**
AKAS				*i* S		**Sg**	**19 09 40.5**	**+3.8**
AKAS	**Kas**	**1.68**	**166**	*i* P		**Pg**	**19 09 14.8**	**-0.1**
BLCB	**Balcova**	**1.72**	**288**	*e*PN		**Pb**	**19 09 14.7**	**+0.2**
BLCB	**Balcova**	**1.72**	**288**	*e*Pn		**Pb**	**19 09 14.7**	**+0.2**
DURS	**Dursunbey**	**1.80**	**344**	*i* P		**Pb**	**19 09 15.8**	**-0.3**
DURS				*i* S		**Sg**	**19 09 43.5**	**+2.7**
DURS	**Dursunbey**	**1.80**	**344**	*i* P		**Pb**	**19 09 15.8**	**-0.3**
DURS				*i* S		**Sg**	**19 09 43.5**	**+2.7**
BALB	**Balikesir**	**2.02**	**332**	*e*PN		**Pb**	**19 09 19.1**	**-0.6**
BALB	**Balikesir**	**2.02**	**332**	*e*Pn		**Pb**	**19 09 19.1**	**-0.6**
ESKT	**Eskisehir**	**2.14**	**39**	*e*PN		**Pn**	**19 09 20.1**	**+1.3**
ESKT	**Eskisehir**	**2.14**	**39**	*e*Pn		**Pn**	**19 09 20.1**	**+1.3**
SEYT	**Eskypehyr**	**2.14**	**39**	*i* P		**Pb**	**19 09 21.0**	**-0.7**
SEYT	**Eskypehyr**	**2.14**	**39**	*i* P		**Pb**	**19 09 21.0**	**-0.7**
KIZT	**Kizilcal**	**2.40**	**64**	*e*PN		**Pn**	**19 09 23.3**	**+0.9**
KIZT	**Kizilcal**	**2.40**	**64**	*e*Pn		**Pn**	**19 09 23.3**	**+0.9**
GONE	**Gonen-Balikesi**	**2.45**	**333**	*e*PN		**Pb**	**19 09 25.1**	**-1.9**
GONE	**Gonen-Balikesi**	**2.45**	**333**	*e*Pn		**Pb**	**19 09 25.1**	**-1.9**
SVRH	**Sivrihisar-ESK**	**2.46**	**49**	*e*PN		**Pn**	**19 09 24.5**	**+1.3**
SVRH	**Sivrihisar-ESK**	**2.46**	**49**	*e*Pn		**Pn**	**19 09 24.5**	**+1.3**
KCTX	**Karacabey (Bur**	**2.47**	**346**	*e*PN		**Pn**	**19 09 25.3**	**+2.0**
KCTX	**Karacabey (Bur**	**2.47**	**346**	*e*Pn		**Pn**	**19 09 25.3**	**+2.0**
MDNY	**Mudanya-Bursa**	**2.51**	**356**	*e*PN		**Pb**	**19 09 25.9**	**-2.1**
MDNY	**Mudanya-Bursa**	**2.51**	**356**	*e*Pn		**Pb**	**19 09 25.9**	**-2.1**
KONT	**Konya--Tatoy**	**2.57**	**87**	*e*PN		**Pn**	**19 09 25.6**	**+0.9**
KONT	**Konya--Tatoy**	**2.57**	**87**	*e*Pn		**Pn**	**19 09 25.6**	**+0.9**
LADK	**Ladik-KONYA**	**2.58**	**82**	*e*PN		**Pn**	**19 09 26.0**	**+1.0**
LADK	**Ladik-KONYA**	**2.58**	**82**	*e*Pn		**Pn**	**19 09 26.0**	**+1.0**
ADVT	**Abdulvahap**	**2.61**	**10**	*e*PN		**Pn**	**19 09 26.8**	**+1.6**

ADVT	**Abdulvahap**	**2.61**	**10**	*e*Pn	**Pn**	**19 09 26.8 +1.6**
ARMT	**Armutlu**	**2.70**	**356**	*e*PN	**Pn**	**19 09 28.7 +2.2**
ARMT	**Armutlu**	**2.70**	**356**	*e*PN	**Pn**	**19 09 28.7 +2.2**
YLV	**Yalova**	**2.70**	**4**	*e*PN	**Pn**	**19 09 28.9 +2.3**
YLV	**Yalova**	**2.70**	**4**	*e*PN	**Pn**	**19 09 28.9 +2.3**
GULT	**Gulveren**	**2.78**	**23**	*e*PN	**Pn**	**19 09 29.6 +1.9**
GULT	**Gulveren**	**2.78**	**23**	*e*PN	**Pn**	**19 09 29.6 +1.9**
HDMB	**Hadim**	**2.83**	**108**	*e*PN	**Pn**	**19 09 29.1 +0.7**
HDMB	**Hadim**	**2.83**	**108**	*e*PN	**Pn**	**19 09 29.1 +0.7**
KRBG	**Karabiga-Canak**	**2.89**	**331**	*e*PN	**Pn**	**19 09 31.5 +2.4**
KRBG	**Karabiga-Canak**	**2.89**	**331**	*e*PN	**Pn**	**19 09 31.5 +2.4**
SPNC	**Sapanca-Adapaz**	**2.96**	**18**	*e*PN	**Pn**	**19 09 32.1 +2.1**
SPNC	**Sapanca-Adapaz**	**2.96**	**18**	*e*PN	**Pn**	**19 09 32.2 +2.1**
HRT	**Hereke**	**2.98**	**8**	*e*PN	**Pn**	**19 09 32.5 +2.1**
HRT	**Hereke**	**2.98**	**8**	*e*PN	**Pn**	**19 09 32.5 +2.1**
MDUB	**Mudurnu**	**3.06**	**31**	*e*PN	**Pn**	**19 09 33.5 +2.0**
MDUB	**Mudurnu**	**3.06**	**31**	*e*PN	**Pn**	**19 09 33.5 +2.0**
LPK	**Lapseki**	**3.10**	**324**	*e*PN	**Pn**	**19 09 34.6 +2.6**
LPK	**Lapseki**	**3.10**	**324**	*e*PN	**Pn**	**19 09 34.6 +2.6**
RKY	**Sarkoy-Tekirda**	**3.19**	**332**	*e*PN	**Pn**	**19 09 35.9 +2.6**
RKY	**Sarkoy-Tekirda**	**3.19**	**332**	*e*PN	**Pn**	**19 09 35.9 +2.6**
ISK	**Istanbul-Kandi**	**3.20**	**359**	*e*PN	**Pn**	**19 09 35.7 +2.5**
ISK	**Istanbul-Kandi**	**3.20**	**359**	*e*PN	**Pn**	**19 09 35.7 +2.5**
GELI	**Tayfur-Gelibol**	**3.26**	**322**	*e*PN	**Pn**	**19 09 36.8 +2.7**
GELI	**Tayfur-Gelibol**	**3.26**	**322**	*e*PN	**Pn**	**19 09 36.8 +2.7**
CTKS	**Kestanelik-??a**	**3.40**	**352**	*e*PN	**Pn**	**19 09 38.7 +2.7**
CTKS	**Kestanelik-??a**	**3.40**	**352**	*e*Pn	**Pn**	**19 09 38.7 +2.7**
SLVT	**Silivri**	**3.43**	**348**	*e*PN	**Pn**	**19 09 39.2 +2.7**
SLVT	**Silivri**	**3.43**	**348**	*e*Pn	**Pn**	**19 09 39.2 +2.7**
CTYL	**Yal??k??y-??at**	**3.66**	**350**	*e*PN	**Pn**	**19 09 42.3 +2.7**
CTYL	**Yal??k??y-??at**	**3.66**	**350**	*e*Pn	**Pn**	**19 09 42.3 +2.7**

AUST ***04*** *19:29:55.3, 1′.46S×138′.51E, h5km*
IDC ***04*** *19:30:03.0±1.0, 2′.17S×138′.85E, h0km, mb3.9/8, mb1 4.1/10, mb1mx3.8/21, mbtmp4.0/10, ML4.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.3/33, Error ellipse: s-maj=38.7km s-min=16.9km az=82.0*
ISCJB ***04*** *19:30:06.7±0.6, 2′.28S±0′.07×138′.55E±0′.07, h32km, mb3.9/7, MS3.1/1, Error ellipse: s-maj=10.4km s-min=9.1km az=153.2*

ISC 04 19:30:08.2±0.8, 2′.32S±0′.10×138′.6E±0′.1, h32km, n15, σ1s56/15, mb3.9/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.14**	**95**	S	**Sn**	**19 31 08.3**	**+1.1**
	baz=2.4,SNR=3.2						
KDU	**Kakadu**	**11.95**	**210**	P	**Pn**	**19 32 57.4**	**+1.0**
	baz=13,SNR=20						
MTN	**Manton Dam**	**12.79**	**215**	P	**Pn**	**19 33 09.9**	**+1.9**
	baz=14,SNR=5.3						
KNRA	**Kununurra**	**16.43**	**215**	P	**Pn**	**19 33 57.8**	**+1.3**
	baz=17,SNR=3.8						
WRA	**Warramunga Arr**	**18.00**	**193**	P	**Pn**	**19 34 16.4**	**+0.2**
	0.7nm,0.3s,baz=17,slow=12,SNR=22						
CTA	**Charters Tower**	**19.19**	**158**	P	**P**	**19 34 29.2**	**-0.3**
	0.5nm,0.3s,baz=340,slow=12,SNR=6.3						
FITZ	**Fitzroy Crossi**	**20.18**	**218**	P	Pn	19 34 43.9	+1.6
	1.9nm,0.7s,baz=59,slow=17,SNR=3.0						
FITZ				LR	LR	19 43 26.5	
	comp=Z,90nm,19.1s,baz=63,slow=39						
ASAR	**Alice Springs**	**21.70**	**192**	P	**P**	**19 34 57.5**	**+0.8**
	4.1nm,0.8s,baz=18,slow=11,SNR=26						
ASAR				S	**S**	**19 38 51.4**	**-4.1**
	1.1nm,0.8s,baz=16,slow=24,SNR=5.0						
STKA	**Stephens Creek**	**29.54**	**175**	P	**P**	**19 36 10.2**	**+0.2**
	1.2nm,0.5s,baz=340,slow=22,SNR=8.1						
CMAR	**Chiang Mai Arr**	**44.13**	**300**	P	**P**	**19 38 13.6**	**-0.5**
	0.8nm,0.9s,baz=123,slow=5.9,SNR=5.0						
MKAR	**Makanchi Array**	**69.40**	**322**	P	**P**	**19 41 14.2**	**+1.1**
	1.2nm,0.6s,baz=115,slow=8.3,SNR=8.1						
KURBB	**Kurchatov Arra**	**73.33**	**325**	P	**P**	**19 41 36.2**	**-0.5**
	1.1nm,0.8s,baz=114,slow=5.1,SNR=8.2						
BVAR	**Borovoye Array**	**78.91**	**325**	P	**P**	**19 42 09.0**	**+0.6**
	1.5nm,0.5s,baz=118,slow=7.7,SNR=10.0						
ILAR	**Eielson Array**	**85.53**	**24**	P	**P**	**19 42 41.5**	**-1.4**
	0.6nm,0.8s,baz=257,slow=5.1,SNR=9.9						
TORD	**Torodi Ar. Bea**	**136.02**	**287**	PKP	**PKPdf**	**19 49 27.5**	**+0.3**
	0.3nm,0.6s,baz=48,slow=2.1,SNR=3.8						

IDC 04 19:36:50.6±5.6, 24′.65N×109′.60W, h0km, mb3.0/1, mb1 3.5/5, mb1mx3.4/24, mbtmp3.1/5, ML3.4/4, MS2.9/2, Ms1 2.9/2, ms1mx2.6/10, Error ellipse: s-maj=78.2km s-min=29.6km az=164.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**7.05**	**47**	Pn	Pn	19 38 36.0	+0.7
	0.1nm,0.3s,baz=231,slow=13,SNR=4.1						
TXAR				Pg	Pg	19 39 03.5	-2.4
	0.1nm,0.3s,baz=223,slow=17,SNR=8.0						
TXAR				Lg	Lg	19 40 31.6	
	0.2nm,0.3s,baz=221,slow=28,SNR=3.8						
TXAR				LR	LR	19 41 43.6	
	comp=Z,106nm,19.6s,baz=0.0,slow=42						
ANMO	**Albuquerque**	**10.61**	**14**	Pn	Pn	19 39 26.1	+1.8
	0.0nm,0.3s,baz=182,slow=19,SNR=6.0						
ANMO				LR	LR	19 42 46.8	
	comp=Z,54nm,21.8s,baz=316,slow=34						
NVAR	**Mina Array Bea**	**15.60**	**334**	Pn	Pn	19 40 33.1	+1.0
	0.1nm,0.3s,baz=159,slow=13,SNR=3.6						
PDAR	**Pinedale Array**	**18.07**	**0**	P	P	19 41 04.6	+0.7
	0.1nm,0.3s,baz=179,slow=9.0,SNR=6.3						
YKA	**Yellowknife Ar**	**37.98**	**356**	P	P	19 44 10.0	+0.1
	0.2nm,0.6s,baz=155,slow=10,SNR=2.9						

IDC 04 19:39:36.5±62.0, 14′.97S×174′.67W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/19, mbtmp3.8/3, Error ellipse: s-maj=1180.0km s-min=179.4km az=77.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.19**	**239**	P	P	19 47 39.4	0.0
	1.6nm,1.0s,baz=97,slow=8.1,SNR=2.8						
WRA	**Warramunga Arr**	**48.75**	**256**	P	P	19 48 22.9	-0.5
	0.4nm,0.6s,baz=92,slow=7.2,SNR=5.9						
ASAR	**Alice Springs**	**49.08**	**252**	P	P	19 48 26.0	0.0
	1.1nm,0.4s,baz=90,slow=7.8,SNR=20						

IDC 04 19:47:50.8±1.1, 11′.39N×142′.93E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/24, mbtmp3.9/11, Error ellipse: s-maj=28.7km s-min=27.9km az=120.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**35.94**	**194**	P	P	19 54 52.3	-1.0
	0.2nm,0.8s,baz=20,slow=11,SNR=5.0						
CMAR	**Chiang Mai Arr**	**42.99**	**285**	P	P	19 55 53.5	+1.2
	4.7nm,0.7s,baz=88,slow=6.4,SNR=27						
SONM	**Songino Array**	**47.48**	**327**	P	P	19 56 27.2	-0.5
	0.3nm,0.5s,baz=143,slow=8.0,SNR=3.9						
MKAR	**Makanchi Array**	**61.78**	**317**	P	P	19 58 11.7	+0.2
	1.3nm,0.7s,baz=96,slow=8.7,SNR=14						
ZALV	**Zalesovo Beam**	**62.33**	**325**	P	P	19 58 13.7	-1.3
	0.9nm,0.5s,baz=94,slow=6.3,SNR=4.8						
KURBB	**Kurchatov Arra**	**65.09**	**321**	P	P	19 58 33.2	-0.1
	3.4nm,0.7s,baz=106,slow=6.5,SNR=18						
ILAR	**Eielson Array**	**71.36**	**25**	P	P	19 59 11.6	-0.8
	0.4nm,0.7s,baz=249,slow=5.8,SNR=8.1						
YKA	**Yellowknife Ar**	**85.67**	**27**	P	P	20 00 32.1	+0.8
	0.5nm,0.8s,baz=286,slow=7.9,SNR=3.6						
ARCES	**ARCESS Array B**	**88.58**	**342**	P	P	20 00 45.2	-0.2
	1.4nm,0.7s,baz=78,slow=8.1,SNR=4.5						
NVAR	**Mina Array Bea**	**89.77**	**51**	P	P	20 00 53.4	+1.5
	1.2nm,0.7s,baz=268,slow=5.3,SNR=8.9						
FINES	**FINESS Array B**	**92.34**	**335**	P	P	20 01 01.9	-1.0
	0.4nm,0.6s,baz=60,slow=3.4,SNR=3.9						

ATH ***04*** *19:50:14.8, 33′.90N×25′.54E, h13km±2km, MD3.7/13*
ISCJB ***04*** *19:50:16.9±0.3, 34′.03N±0′.03×25′.71E±0′.03, h17km, mb3.7/17, MS3.3/3, Error ellipse: s-maj=4.6km s-min=3.0km az=141.2*
IDC ***04*** *19:50:16.5±1.1, 34′.11N×25′.50E, h0km, mb3.8/13, mb1 3.9/19, mb1mx3.8/33, mbtmp3.8/19, ML4.0/6, MS3.4/3, Ms1 3.4/3, ms1mx2.7/48, Error ellipse: s-maj=23.0km s-min=16.4km az=3.0*

CSEM ***04*** *19:50:17.1±0.1, 34′.01N×25′.57E, h2km, MD3.7, Error ellipse: s-maj=6.2km s-min=2.9km az=56.0*
HLW ***04*** *19:50:18.2, 34′.16N×25′.55E, h32km±34km, Md3.3, Ml3.7*

ISC 04 19:50:18.8±0.5, 34′.03N±0′.04×25′.55E±0′.05, h17km, n98, σ1s22/104, mb3.8/17, MS3.3/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.13**	**357**	*e*PN	**Pn**	**19 50 38.0**	**-1.9**
LAST				*e*SB	**Sg**	**19 50 56.1**	**+0.7**
SIVA	**Sivas**	**1.16**	**328**	*e*PG	**Pn**	**19 50 38.5**	**-1.7**
SIVA				*e*SB	**Sg**	**19 50 56.2**	**-0.1**
SIVA	**Sivas**	**1.16**	**328**	*e*Pg	**Pn**	**19 50 38.5**	**-1.7**
SIVA				*e*Sb	**Sg**	**19 50 56.2**	**-0.1**
ZKR	**Zakros**	**1.21**	**27**	*e*PB	**Pn**	**19 50 40.4**	**-0.6**
ZKR				*e*SB	**Sg**	**19 50 58.6**	**+0.5**
ZKR	**Zakros**	**1.21**	**27**	*e*Pb	**Pn**	**19 50 40.4**	**-0.6**
ZKR				*e*Sb	**Sg**	**19 50 58.6**	**+0.5**
NPS	**Neapolis**	**1.23**	**2**	*e*PN	**Pn**	**19 50 39.7**	**-1.5**
NPS	**Neapolis**	**1.23**	**2**	*e*Pn	**Pn**	**19 50 39.7**	**-1.5**
GVD	**Gavdhos**	**1.45**	**304**	*e*PB	**Pn**	**19 50 44.1**	**-0.2**
GVD	**Gavdhos**	**1.45**	**304**	*e*Pb	**Pn**	**19 50 44.1**	**-0.2**
VAM	**Vamos**	**1.77**	**321**	*e*PN	**Pn**	**19 50 48.7**	**+0.1**
VAM	**Vamos**	**1.77**	**321**	*e*Pn	**Pn**	**19 50 48.7**	**+0.1**
SANT	**Santorini**	**2.33**	**358**	*e*PN	**Pn**	**19 50 57.1**	**+0.6**
SANT	**Santorini**	**2.33**	**358**	*e*Pn	**Pn**	**19 50 57.1**	**+0.6**
SLUM		**2.55**	**186**	S	**Sn**	**19 51 28.9**	**-1.1**
	baz=187						
SLUM		**2.55**	**186**	P	**Pn**	**19 50 58.8**	**-0.6**
SLUM				S	**Sn**	**19 51 28.9**	**-1.1**
ANKY	**Antikythira Is**	**2.60**	**315**	*e*PN	**Pn**	**19 51 00.9**	**+0.8**
ANKY	**Antikythira Is**	**2.60**	**315**	*e*Pn	**Pn**	**19 51 00.9**	**+0.8**
APE	**Apeiranthos**	**3.03**	**360**	*e*P	**Pn**	**19 51 06.5**	**+0.4**
APE	**Apeiranthos**	**3.03**	**360**	*e*PN	**Pn**	**19 51 06.4**	**+0.4**
APE	**Apeiranthos**	**3.03**	**360**	*e*Pn	**Pn**	**19 51 06.4**	**+0.4**
KYTH	**Kithira**	**3.04**	**318**	*e*PB	**Pn**	**19 51 07.5**	**+1.3**
KYTH	**Kithira**	**3.04**	**318**	*e*Pb	**Pn**	**19 51 07.5**	**+1.3**
DAT	**Datca**	**3.16**	**31**	*e*P	**Pn**	**19 51 07.6**	**-0.3**
HMAT	**Matruh**	**3.21**	**156**	P	**Pn**	**19 51 08.6**	**+0.1**
	baz=156						
HMAT				AMP		19 51 00.0	
	comp=E,240μm,0.6s,logA/T=5.6,baz=156						
HMAT				S	**Sn**	**19 51 45.6**	**-0.7**
	baz=156						
HMAT	**Matruh**	**3.21**	**156**	P	**Pn**	**19 51 08.6**	**+0.1**
HMAT				S	**Sn**	**19 51 45.6**	**-0.7**
DID	**Didima**	**3.94**	**332**	*e*PN	**Pn**	**19 51 18.8**	**+0.2**
DID	**Didima**	**3.94**	**332**	*e*Pn	**Pn**	**19 51 18.8**	**+0.2**
VLX	**Vlachokerasia**	**4.21**	**323**	*e*PN	**Pn**	**19 51 23.2**	**+0.9**
VLX	**Vlachokerasia**	**4.21**	**323**	*e*Pn	**Pn**	**19 51 23.2**	**+0.9**
ITM	**Ithomi**	**4.31**	**318**	*e*PN	**Pn**	**19 51 24.8**	**+1.2**
ITM	**Ithomi**	**4.31**	**318**	*e*Pn	**Pn**	**19 51 24.8**	**+1.2**
GUR	**Goura**	**4.68**	**327**	*e*PN	**Pn**	**19 51 29.7**	**+0.9**
GUR	**Goura**	**4.68**	**327**	*e*Pn	**Pn**	**19 51 29.7**	**+0.9**
SWA2		**4.78**	**181**	P	**Pn**	**19 51 30.1**	**+0.1**
	baz=181						
SWA2		**4.78**	**181**	P	**Pn**	**19 51 30.1**	**+0.1**
LKR	**Lokris**	**5.05**	**337**	*e*PN	**Pn**	**19 51 35.5**	**+1.8**
LKR	**Lokris**	**5.05**	**337**	*e*Pn	**Pn**	**19 51 35.5**	**+1.8**
AGG	**Agios Georgios**	**5.61**	**333**	*e*PN	**Pn**	**19 51 43.7**	**+2.2**
AGG	**Agios Georgios**	**5.61**	**333**	*e*Pn	**Pn**	**19 51 43.7**	**+2.2**
TVSB	**Tavsanli**	**6.25**	**29**	*e*P	**Pn**	**19 51 51.7**	**+1.4**
AWBH		**6.38**	**152**	P	**Pn**	**19 51 51.9**	**-0.1**
	baz=152						
AWBH		**6.38**	**152**	P	**Pn**	**19 51 51.9**	**-0.1**
CSS	**Prodhromos**	**6.49**	**80**	*e*P	**Pn**	**19 51 50.8**	**-2.8**
LFK	**Lefkose**	**6.70**	**77**	*e*P	**Pn**	**19 51 53.4**	**-3.0**
KONT	**Konya--Tatoy**	**6.76**	**53**	*e*P	**Pn**	**19 51 56.6**	**-0.7**
LADK	**Ladik-KONYA**	**6.91**	**51**	*e*P	**Pn**	**19 51 58.7**	**-0.7**
IKL	**Isikli**	**7.02**	**69**	*e*P	**Pn**	**19 51 58.0**	**-2.8**
HFRF	**Wahat Farafira**	**7.26**	**160**	P	**Pn**	**19 52 03.7**	**-0.5**
	baz=160						
HFRF	**Wahat Farafira**	**7.26**	**160**	P	**Pn**	**19 52 03.7**	**-0.5**
AMAG	**Maghara**	**7.31**	**115**	P	**Pn**	**19 52 04.2**	**-0.6**
	baz=116						
AMAG	**Maghara**	**7.31**	**115**	P	**Pn**	**19 52 04.2**	**-0.6**
RSH		**7.55**	**112**	P	**Pn**	**19 52 07.1**	**-1.1**
	baz=112						
RSH		**7.55**	**112**	P	**Pn**	**19 52 07.1**	**-1.1**
SULT	**Sultanhani-AKS**	**7.67**	**55**	*e*P	**Pn**	**19 52 08.7**	**-1.1**
HNKL	**Nakhl**	**8.25**	**117**	P	**Pn**	**19 52 16.7**	**-1.0**
	baz=118						
HNKL	**Nakhl**	**8.25**	**117**	P	**Pn**	**19 52 16.7**	**-1.0**
MMAI	**Mount Meron Ar**	**8.29**	**94**	Pn	**Pn**	**19 52 17.4**	**-1.0**
	comp=E,1.4nm,0.3s,baz=258,slow=12,SNR=6.6						
MMAI				Sn	**Sn**	**19 53 50.4**	**-1.2**
	comp=E,2.4nm,0.3s,baz=267,slow=18,SNR=5.4						
KARA	**Karaisali**	**8.38**	**65**	*e*P	**Pn**	**19 52 17.1**	**-2.4**
NIG	**Nigde**	**8.39**	**58**	*e*P	**Pn**	**19 52 17.8**	**-2.0**
GRB	**Gharib**	**8.45**	**131**	P	**Pn**	**19 52 20.5**	**0.0**
	baz=131						
GRB	**Gharib**	**8.45**	**131**	P	**Pn**	**19 52 20.5**	**0.0**
BRTR	**Keskin Array B**	**8.62**	**46**	Pn	**Pn**	**19 52 22.4**	**-0.4**
	comp=E,0.3nm,0.3s,baz=225,slow=13,SNR=12						
KOZT	**Kozan**	**9.03**	**65**	*e*P	**Pn**	**19 52 26.1**	**-2.3**
HKAT	**Jabal Katrina**	**9.07**	**125**	P	**Pn**	**19 52 29.2**	**0.0**
	baz=125						
HKAT	**Jabal Katrina**	**9.07**	**125**	P	**Pn**	**19 52 29.2**	**0.0**
EIL	**Elat**	**9.10**	**116**	Pn	**Pn**	**19 52 28.8**	**-0.6**
	comp=E,0.7nm,0.3s,baz=322,slow=13,SNR=15						
EIL				Sn	Sn	19 54 05.2	-6.3
	comp=E,0.8nm,0.3s,baz=0.0,slow=9.1,SNR=2.9						
HHRG	**Al Ghardaqah**	**9.68**	**132**	P	**Pn**	**19 52 37.8**	**+0.4**
	baz=133						
HHRG	**Al Ghardaqah**	**9.68**	**132**	P	**Pn**	**19 52 37.8**	**+0.4**
KMRS	**Kahramanmaras**	**9.85**	**66**	*e*P	**Pn**	**19 52 36.5**	**-3.1**
ONI	**Oni**	**16.42**	**53**	P	**P**	**19 54 10.4**	**-0.8**
KBZ	**Khabaz**	**16.59**	**49**	Pn	**P**	**19 54 14.1**	**+1.2**
	comp=E,0.2nm,0.3s,baz=242,slow=4.9,SNR=6.8						
VRAC	**Vranov**	**16.64**	**339**	Pn	**P**	**19 54 13.5**	**-0.1**
	comp=E,0.3nm,0.3s,baz=139,slow=10,SNR=3.6						
GERES	**GERESS Array B**	**17.23**	**333**	P	**Pn**	**19 54 18.2**	**-0.4**
	comp=E,0.4nm,0.3s,baz=146,slow=12,SNR=14						
DGRG	**David-gareji**	**17.32**	**59**	P	**P**	**19 54 23.6**	**+2.5**
LPL	**La Plagne**	**18.41**	**314**	*e*P	**Pn**	**19 54 34.4**	**+1.0**
CABF	**La Chapelle**	**19.38**	**316**	*e*P	**P**	**19 54 41.1**	**-2.7**
CDF	**Champ du Feu**	**19.81**	**322**	*e*P	**Pn**	**19 54 49.2**	**-0.8**
	comp=E,8.3nm,0.9s						
SMF	**Signal de Mont**	**20.72**	**314**	*e*P	**P**	**19 54 57.3**	**-1.0**
	comp=E,3.8nm,0.7s						
BAIF	**Baives**	**22.41**	**322**	*e*P	**P**	**19 55 16.4**	**0.0**
	comp=E,6.2nm,0.8s						
LDF	**La Druitiere**	**24.00**	**315**	*e*P	**P**	**19 55 32.3**	**-0.2**
	comp=E,6.4nm,0.7s						
ESDC	**Sonseca Array**	**24.21**	**292**	P	**P**	**19 55 34.6**	**0.0**
	comp=E,1.0nm,0.6s,baz=87,slow=8.7,SNR=5.5						
FLN	**La Foliniere**	**24.29**	**315**	*e*P	**P**	**19 55 35.5**	**+0.3**
MDT	**Midelt**	**25.16**	**276**	LR	LR	20 08 43.5	
	comp=E,72nm,19.2s,baz=346,slow=44						
HFS	**Hagfors**	**27.24**	**347**	P	**P**	**19 56 00.2**	**-1.5**
	comp=E,1.5nm,0.7s,baz=186,slow=12,SNR=4.8						
FINES	**FINESS Array B**	**27.43**	**1**	P	**P**	**19 56 01.2**	**-2.1**
	comp=E,0.7nm,0.5s,baz=161,slow=12,SNR=6.1						
KAF	**Kangasniemi**	**28.10**	**1**	*ep*	**P**	**19 56 06.5**	**-2.9**
	comp=E,0.3nm,0.3s						
NOA	**NORSAR Array B**	**28.57**	**345**	P	**P**	**19 56 12.8**	**-0.8**
	comp=E,0.7nm,0.8s,baz=144,slow=9.5,SNR=3.7						
JOF	**Joensuu**	**29.13**	**5**	*ep*	**P**	19 56 14.7	-3.8
	comp=E,0.5nm,0.3s						
EKA	**Eskdalemuir Ar**	**29.15**	**326**	P	**P**	**19 56 19.0**	**+0.2**
	comp=E,0.3nm,0.4s,baz=132,slow=9.8,SNR=5.0						
TORD	**Torodi Ar. Bea**	**30.03**	**232**	P	**P**	**19 56 27.1**	**+0.1**
	comp=E,0.3nm,0.5s,baz=32,slow=8.9,SNR=6.8						
ARCES	**ARCESS Array B**	**35.55**	**360**	P	**P**	**19 57 12.9**	**-1.8**
	comp=E,2.6nm,0.9s,baz=179,slow=9.7,SNR=5.0						
KURBB	**Kurchatov Arra**	**41.59**	**50**	P	**P**	**19 58 06.2**	**+0.6**
	comp=E,1.6nm,0.5s,baz=276,slow=8.5,SNR=16						
MKAR	**Makanchi Array**	**44.14**	**56**	P	**P**	**19 58 27.1**	**+0.8**
	comp=E,2.3nm,0.5s,baz=271,slow=6.3,SNR=30						
ZALV	**Zalesovo Beam**	**45.56**	**45**	P	**P**	**19 58 37.2**	**-0.3**
	comp=E,1.2nm,0.4s,baz=261,slow=11,SNR=6.9						
ZALV				LR	LR	20 19 32.0	
	comp=E,35nm,18.3s,baz=248,slow=39						
SONM	**Songino Array**	**59.95**	**50**	P	**P**	**20 00 24.9**	**+0.6**
	comp=E,0.5nm,0.5s,baz=286,slow=7.0,SNR=6.6						
RES	**Resolute Bay**	**64.84**	**345**	LR	LR	20 30 44.7	
	comp=E,26nm,18.9s,baz=285,slow=38						
YKA	**Yellowknife Ar**	**78.62**	**342**	P	**P**	**20 02 19.5**	**+0.2**
	comp=E,0.4nm,0.6s,baz=32,slow=5.2,SNR=3.8						
ILAR	**Eielson Array**	**81.34**	**357**	P	**P**	**20 02 35.2**	**+1.2**
	comp=E,0.2nm,0.6s,baz=359,slow=2.8,SNR=5.9						

MEX 04 19:52:05.3±0.9, 18′.45N×99′.73W, h10km, MD3.6,
Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIG	**Platanillo**	**0.22**	**104**	*e*P	Pg	19 52 09.0	-1.0
PLIG				*i* S	Sg	19 52 13.7	+0.5
MEIG	**Mezcala**	**0.53**	**169**	*i* P	Pg	19 52 14.5	-1.2
MEIG				*i* S	Sg	19 52 21.8	-0.9
ARIG	**Puente Sto Nin**	**0.61**	**255**	*e*P	Pg	19 52 11.9	-5.3
ARIG				*e*S	Sg	19 52 19.1	-6.2
YAIG	**Yautepec**	**0.75**	**56**	*i* P	Pg	19 52 17.9	-2.1
YAIG				*i* S	Sg	19 52 28.6	-1.5
PPM	**Popocatepetl**	**1.21**	**59**	*i* P	Pn	19 52 25.8	-3.2
PPM				*i* S	Sb	19 52 39.8	-5.4
CAIG	**El Cayaco**	**1.48**	**200**	*e*P	Pn	19 52 28.5	-3.5
CAIG				*i* S	Sn	19 52 47.3	-4.1
ACX	**Acapulco**	**1.57**	**185**	*i* P	Pn	19 52 29.2	-4.1
ACX				*i* S	Sn	19 52 49.3	-4.4
ZIIG	**Zihuatanejo**	**1.85**	**244**	*i* P	Pn	19 52 33.1	-4.0
ZIIG				*i* S	Sn	19 52 56.7	-3.9
UTMO	**Huajuapan**	**1.93**	**108**	*i* P	Pn	19 52 35.8	-2.7
UTMO				*i* S	Sn	19 52 59.0	-4.1
TPIG	**Tehuac#an**	**2.25**	**90**	*i* S	Sn	19 53 06.8	-3.9
PNIG	**Pinotepa**	**2.55**	**143**	*i* P	Pn	19 52 44.0	-2.7
PNIG				*i* S	Sn	19 53 13.9	-4.0

SKO ***04*** *20:05:26.6, 38′.81N×20′.40E, h4km*
CSEM ***04*** *20:05:27.4±0.2, 38′.92N×20′.61E, h2km, ML3.1/4, Error ellipse: s-maj=6.6km s-min=3.5km az=71.0*
ATH ***04*** *20:05:27.7, 38′.95N×20′.62E, h15km±1km, MD3.5/22*
ISCJB ***04*** *20:05:28.3±0.5, 38′.93N±0′.02×20′.56E±0′.04, h17km±4km, Error ellipse: s-maj=5.7km s-min=3.3km az=165.6*
THE ***04*** *20:05:28.2, 38′.94N×20′.61E, h12km±1km, ML3.1/4, Error ellipse: s-maj=1.4km s-min=0.7km az=248.0*

ISC 04 20:05:27.9±0.8, 38′.94N±0′.02×20′.59E±0′.03, h17km±5km, n84, σ0s90/105, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.16**	**159**	P	**Pg**	**20 05 31.8**	**-0.4**
LKD2				S	**Sg**	**20 05 35.2**	**+0.2**
LKD2	**Lefkada island**	**0.16**	**159**	*e*PB	**Pg**	**20 05 31.7**	**-0.4**
LKD2				*e*SB	**Sg**	**20 05 35.4**	**+0.4**
LKD2	**Lefkada island**	**0.16**	**159**	P	**Pg**	**20 05 31.8**	**-0.4**
LKD2				*e*Sb	**Sg**	**20 05 35.4**	**+0.4**
IGT	**Igoumenitsa**	**0.63**	**342**	P	**Pg**	**20 05 39.4**	**-0.9**
IGT				S	**Sb**	**20 05 49.8**	**+0.9**
IGT	**Igoumenitsa**	**0.63**	**342**	P	**Pg**	**20 05 39.5**	**-0.9**
IGT				S	**Sb**	**20 05 49.8**	**+0.9**
JAN	**Janina**	**0.75**	**16**	P	**Pb**	**20 05 42.4**	**0.0**
JAN				S	**Sb**	**20 05 52.8**	**+0.4**
JAN	**Janina**	**0.75**	**16**	*e*PN	**Pb**	**20 05 42.5**	**0.0**
JAN				*e*SN	**Sg**	**20 05 52.0**	**-0.5**
**J

EZ5V		2.77	111	*e*P		Pn		20 11 26.0	-3.1
EZ5V				*i* S		Sn		20 11 58.2	-4.2

IDC 04 20:10:46.9±5.9, 6°13S×127°86E, h414km±73km, mb2.9/1, mb1 2.9/4, mb1mx2.6/20, mbtmp2.7/4, Error ellipse: s-maj=89.2km s-min=37.0km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDU	**Kakadu**	**7.94**	**145**	P	P	20 12 47.0	+5.4
	baz=6.3,SNR=4.8						
FITZ	**Fitzroy Crossi**	**12.09**	**190**	P	P	20 13 27.1	-0.2
	0.2nm,0.3s,baz=0,slow=13,SNR=6.1						
WRA	**Warramunga Arr**	**15.10**	**156**	P	P	20 14 00.0	0.0
	0.2nm,0.3s,baz=335,slow=11,SNR=15						
ASAR	**Alice Springs**	**18.38**	**162**	P	P	20 14 34.9	0.0
	0.2nm,0.3s,baz=344,slow=11,SNR=16						
MKAR	**Makanchi Array**	**66.35**	**328**	P	P	20 20 52.9	0.0
	0.4nm,0.4s,baz=119,slow=8.1,SNR=9.8						
TORD	**Torodi Ar. Bea**	**126.55**	**282**	PKP	PKPdf	20 29 02.3	-0.4
	0.5nm,1.2s,baz=62,slow=3.4,SNR=3.0						

*KRSC **04** 20:15:55.2±0.6, 50°08N×157°65E, h10km±10km, ML4.9*
*ISCJB **04** 20:15:56.9±0.6, 50°01N±0°04×157°36E±0°07, h44km±5km, mb4.1/39, MS3.5/5, Error ellipse: s-maj=9.0km s-min=3.8km az=35.6*
*MOS **04** 20:15:57.6±1.1, 50°18N×157°11E, h49km, mb4.2/15, Error ellipse: s-maj=13.2km s-min=5.6km az=74.4*
*NEIC **04** 20:15:58.6±0.7, 50°13N×157°22E, h44km±6km, mb4.1/6, Error ellipse: s-maj=10.0km s-min=5.2km az=141.0*
*IDC **04** 20:16:00.1±2.7, 50°18N×157°14E, h54km±25km, mb3.7/19, mb1 3.9/22, mb1mx3.8/28, mbtmp3.7/22, ML3.8/3, MS3.4/9, Ms1 3.4/9, ms1mx3.0/48, Error ellipse: s-maj=19.7km s-min=11.4km az=138.0*

ISC 04 20:15:57.8±1.2, 50.02N±0°06×157.42E±0°06, h40km±10km, n145, σ1§38/163, mb4.1/39, MS3.6/5, 5C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.07**	**309**	*i* P	Pn	20 16 11.6	-4.6
SKR				*i* S	Sn	20 16 23.6	-6.3
SKR				pmax	pmax		
	comp=N,250nm,0.5s						
SKR				pmax	pmax		
	comp=Z,720nm,0.5s						
SKR				pmax	pmax		
	comp=E,760nm,0.2s						
SKR				pmax	pmax		
	comp=N,1μm,2.0s						
SKR				pmax	pmax		
	comp=E,1μm,2.0s						
SKR				pmax	pmax		
	comp=Z,1μm,2.0s						
SKR				smax	smax		
	comp=N,12μm,1.0s						
SKR				smax	smax		
	comp=E,18μm,1.0s						
SKR				smax	smax		
	comp=N,11μm,0.5s						
SKR				smax	smax		
	comp=E,8180μm,0.5s						
SKR	**Severo-Kuril's**	**1.07**	**309**	*i* P	**Pn**	**20 16 14.8**	**-1.4**
SKR				*i* S	**Sn**	**20 16 28.4**	**-1.5**
SKR	**Severo-Kuril's**	**1.07**	**309**	⇓*i* P	**Pn**	**20 16 14.9**	**-1.3**
MIPR	**Malaya Ipel'ka**	**2.30**	**350**	*i* P	**Pn**	**20 16 34.1**	**+0.9**
MIPR				*i* S	**Sn**	**20 17 02.1**	**+1.8**
ASAK	**Asacha**	**2.39**	**7**	*e*P	**Pn**	**20 16 34.2**	**-0.3**
ASAK				*i* S	**Sn**	**20 17 02.4**	**-0.1**
MTVR	**Mutnovka**	**2.52**	**11**	*e*P	**Pn**	**20 16 36.0**	**-0.3**
MTVR				*i* S	**Sn**	**20 17 06.0**	**+0.3**
RUS	**Russkaya**	**2.52**	**15**	PN	**Pn**	**20 16 35.3**	**-0.8**
RUS				S	**Sn**	**20 17 04.2**	**-1.3**
RUS	**Russkaya**	**2.52**	**15**	*i* P	**Pn**	**20 16 35.3**	**-0.8**
RUS				*i* S	**Sn**	**20 17 04.2**	**-1.3**
GRL	**Gorelyy**	**2.57**	**9**	*e*P	**Pn**	**20 16 37.2**	**+0.2**
GRL				*i* S	**Sn**	**20 17 08.0**	**+0.9**
APC	**Apacha**	**2.92**	**357**	*e*P	**Pn**	**20 16 42.6**	**+1.0**
APC				*e*S	**Sn**	**20 17 16.2**	**+0.8**
PEA0B	**Petropavlovsk-**	**3.10**	**3**	*e*Pn	**Pn**	**20 16 45.5**	**+1.3**
PETK	**Petropavlovsk-**	**3.10**	**3**	*e*PN	**Pn**	**20 16 45.0**	**+0.9**
PETK				pmax	pmax		
	comp=Z,8.0nm,0.3s						
PETK	**Petropavlovsk-**	**3.10**	**3**	P	**Pn**	**20 16 45.1**	**+0.9**
PETK	**Petropavlovsk-**	**3.10**	**3**	P	**Pn**	**20 16 45.1**	**+0.9**
	comp=Z,8.1nm,0.3s,baz=186,slow=14,SNR=60						
PETK				LR	LR	20 18 09.6	
	comp=Z,366nm,18.1s,baz=180,slow=44						
PET	**Petropavlovsk**	**3.11**	**14**	⇑*i* PN	**Pn**	**20 16 45.3**	**+1.1**
PET				*e*S	**Sn**	**20 17 20.4**	**+0.3**
PET				pmax	pmax		
	comp=Z,16nm,0.5s						
PET				smax	smax		
	comp=E,13nm,0.6s						
PET				MLR	MLR		
	comp=Z,116nm,13.0s						
PET	**Petropavlovsk**	**3.11**	**14**	*e*P	**Pn**	**20 16 45.3**	**+1.1**
PET				*i* S	**Sn**	**20 17 21.1**	**+1.0**
PET	**Petropavlovsk**	**3.11**	**14**	*e*P	**Pn**	**20 16 43.8**	**-0.4**
UGLR	**Uglovaya**	**3.31**	**15**	*e*P	**Pn**	**20 16 48.3**	**+1.1**
UGLR				*e*S	**Sn**	**20 17 26.5**	**+1.1**
SMAR	**Somma**	**3.36**	**14**	*e*P	**Pn**	**20 16 49.4**	**+1.4**
SMAR				*i* S	**Sn**	**20 17 28.3**	**+1.6**
KOK	**Koryaka**	**3.37**	**13**	*i* P	**Pn**	**20 16 49.6**	**+1.7**
KOK				*i* S	**Sn**	**20 17 28.7**	**+2.1**
SDLR	**Sedlovina**	**3.39**	**15**	*e*P	**Pn**	**20 16 48.5**	**+0.2**
SDLR				*i* S	**Sn**	**20 17 27.0**	**-0.3**
SPN	**Mys Shipunski**	**3.49**	**27**	PN	**Pn**	**20 16 49.7**	**+0.3**
SPN				S	**Sn**	**20 17 30.6**	**+1.2**
SPN	**Mys Shipunski**	**3.49**	**27**	*e*P	**Pn**	**20 16 49.7**	**+0.3**
SPN				*i* S	**Sn**	**20 17 30.6**	**+1.2**
GNL	**Ganaly**	**3.70**	**5**	*e*P	**Pn**	**20 16 53.9**	**+1.4**
GNL				*i* S	**Sn**	**20 17 36.5**	**+1.7**
KII	**Karymskiy**	**4.21**	**16**	P	**Pn**	**20 17 02.1**	**+2.6**
KII				*i* S	**Sn**	**20 17 50.5**	**+3.0**
MKZ	**Mys Kozlova**	**5.26**	**29**	PN	**Pn**	**20 17 13.2**	**-0.5**
MKZ	**Mys Kozlova**	**5.26**	**29**	*e*P	**Pn**	**20 17 13.2**	**-0.5**
MKZ				*i* S	**Sn**	**20 18 09.2**	**-3.8**
TUMR	**Tumrok**	**5.53**	**16**	P	**Pn**	**20 17 19.6**	**+2.0**
TUMR				*i* S	**Sn**	**20 18 21.0**	**+1.1**
ESO	**Esso**	**5.97**	**7**	PN	**Pn**	**20 17 25.8**	**+2.3**
ESO	**Esso**	**5.97**	**7**	*e*P	**Pn**	**20 17 25.8**	**+2.3**
KMNR	**Kamenistaya**	**6.00**	**15**	P	**Pn**	**20 17 26.7**	**+2.7**
KPT	**Kopyto**	**6.19**	**15**	P	**Pn**	**20 17 28.4**	**+1.7**
KIRR	**Kirishev**	**6.20**	**15**	P	**Pn**	**20 17 29.5**	**+2.7**
BZMR	**Bezymyannaya**	**6.21**	**16**	*e*P	**Pn**	**20 17 29.6**	**+2.6**
KOZ	**Kozyrevsk**	**6.23**	**13**	P	**Pn**	**20 17 29.8**	**+2.7**
BZWR	**Bezymyannyi-We**	**6.24**	**16**	*e*P	**Pn**	**20 17 29.8**	**+2.4**
KOZR	**Kozyr**	**6.24**	**13**	PN	**Pn**	**20 17 29.8**	**+2.5**
BZGR	**Bezymyannyi-Gr**	**6.25**	**17**	*e*P	**Pn**	**20 17 30.0**	**+2.5**
ZLN	**Zelenaya**	**6.35**	**17**	P	**Pn**	**20 17 31.8**	**+3.0**
SRDR	**Sredinnyy**	**6.46**	**11**	P	**Pn**	**20 17 31.5**	**+1.2**
KLY	**Klyuchi**	**6.60**	**16**	PN	**Pn**	**20 17 34.7**	**+2.6**
KLY	**Klyuchi**	**6.60**	**16**	P	**Pn**	**20 17 34.7**	**+2.6**
BDR	**Baidarnaya**	**6.94**	**18**	P	**Pn**	**20 17 38.7**	**+1.8**
KBG	**Krutoberegovo**	**7.01**	**25**	PN	**Pn**	**20 17 38.0**	**+0.3**
KBG	**Krutoberegovo**	**7.01**	**25**	P	**Pn**	**20 17 38.0**	**+0.3**
KBG				*i* S	**Sn**	**20 18 53.0**	**-3.0**
SRKR	**Sorokina**	**7.02**	**17**	P	**Pn**	**20 17 39.6**	**+1.7**
KUR	**Kuril'sk**	**8.03**	**237**	*e*PN	**Pn**	**20 17 54.7**	**+2.9**
KUR				*e*S	**Sn**	**20 19 23.7**	**+2.4**
KUR				pmax	pmax		
	comp=Z,36nm,0.4s						
KUR				pmax	pmax		
	comp=N,8.0nm,0.4s						
KUR				pmax	pmax		
	comp=E,8.0nm,0.4s						
KUR				smax	smax		
	comp=E,15nm,0.1s						
KUR				smax	smax		
	comp=N,23nm,0.7s						
YSS	**Yuzh-Sakhalins**	**10.21**	**258**	*e*PN	**Pn**	20 18 25.0	+3.4
YSS	**Yuzh-Sakhalins**	**10.21**	**258**	*e*P	**Pn**	**20 18 22.1**	**+0.5**
FX1	**Attu Island--F**	**10.24**	**68**	*e*Pn	**Pn**	**20 18 21.3**	**-0.7**
FX1				S	Sn	20 20 07.5	-7.8
FX1	**Attu Island--F**	**10.24**	**68**	P	**Pn**	**20 18 21.6**	**-0.4**
	comp=N,4.0nm,0.3s,baz=233,slow=10,SNR=14						
FX1				S	Sn	20 20 07.5	-7.8
	comp=N,5.0nm,0.3s,baz=78,slow=22,SNR=8.5						
FX1				LR	LR	20 22 00.6	
	comp=N,116nm,18.5s,baz=275,slow=35						

ASAJ	**Asahikawa**	**11.70**	**245**	*e*Pn		**Pn**		**20 18 41.4**	**-0.6**
ASAJ	**Asahikawa**	**11.70**	**245**	P		**Pn**		**20 18 42.0**	**0.0**
	comp=N,1.1nm,0.3s,baz=63,slow=11,SNR=20								
ASAJ				LR		LR		20 22 50.1	
	comp=N,103nm,19.0s,baz=330,slow=35								
ERM	**Erimo**	**12.72**	**236**	*e*PN		**Pn**		**20 18 56.8**	**+0.8**
ERM	**Erimo**	**12.72**	**236**	*e*Pn		**Pn**		**20 18 55.5**	**-0.6**
USRK	**Ussuriysk Arra**	**18.21**	**261**	LR		LR		20 27 09.4	
	comp=N,92nm,19.8s,baz=175,slow=37								
BILL	**Bilibino**	**18.60**	**10**	⇑*e*P		**P**		**20 20 10.7**	**-0.6**
BILL				*e*S		**Sn**		**20 23 37.7**	**-0.9**
BILL				pmax		pmax			
	comp=Z,24nm,1.6s								
MJA0	**Matsu Arr-Jizo**	**19.32**	**233**	*e*P		**Pn**		**20 20 20.9**	**+0.1**
MAJO	**Matsushiro**	**19.34**	**233**	*e*P		**P**		**20 20 20.2**	**+0.5**
MAJO				pmax		pmax			
	comp=Z,4.0nm,0.6s								
MAJO	**Matsushiro**	**19.34**	**233**	*e*Pn		**P**		**20 20 20.2**	**+0.5**
	comp=Z,4.3nm,0.6s								
MAT	**Matsushiro**	**19.34**	**233**	P		**P**		**20 20 19.9**	**+0.2**
MJAR	**Matsushiro Arr**	**19.34**	**233**	P		**P**		**20 20 20.1**	**+0.5**
MJAR	**Matsushiro Arr**	**19.34**	**233**	P		**P**		**20 20 20.1**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=34,slow=9.6,SNR=18								
YAK	**Yakutsk**	**19.43**	**319**	*e*P		**P**		**20 20 17.8**	**-2.6**
YAK				pmax		pmax			
	comp=Z,17nm,0.9s								
YAK				pmax		pmax			
	comp=E,9.0nm,1.2s								
YAK				pmax		pmax			
	comp=N,2.0nm,0.9s								
YAK				MLR		MLR			
	comp=Z,87nm,14.0s								
YAK				MLR		MLR			
	comp=E,37nm,12.0s								
YAK				MLR		MLR			
	comp=N,48nm,14.0s								
YAK	**Yakutsk**	**19.43**	**319**	*e*P		**P**		**20 20 18.0**	**-2.4**
KSRS	**Korea Array**	**24.56**	**251**	P		**P**		**20 21 14.5**	**+0.8**
	comp=N,0.6nm,0.6s,baz=53,slow=8.9,SNR=8.2								
KSAR	**Wonju Array Be**	**24.59**	**251**	P		**P**		**20 21 14.4**	**+0.5**
JNU	**Nakatsue**	**25.86**	**239**	P		**P**		**20 21 26.8**	**+1.2**
JNU	**Nakatsue**	**25.86**	**239**	P		**P**		**20 21 26.8**	**+1.2**
	comp=N,6.9nm,0.8s,baz=15,slow=8.3,SNR=3.8								
SML	**Sawmill**	**31.63**	**47**	*e*P		**P**		**20 22 16.7**	**+0.1**
SML				pmax		pmax			
	comp=Z,2.0nm,0.7s								
SML	**Sawmill**	**31.63**	**47**	*e*P		**P**		**20 22 16.7**	**+0.1**
	comp=Z,1.8nm,0.7s								
ILAR	**Eielson Array**	**32.20**	**42**	P		**P**		**20 22 21.6**	**+0.1**
ILAR	**Eielson Array**	**32.20**	**42**	P		**P**		**20 22 21.6**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=254,slow=7.3,SNR=8.6								
SONM	**Songino Array**	**33.07**	**286**	LR		LR		20 35 53.6	
	comp=Z,60nm,21.4s,baz=78,slow=36								
ZAK	**Zakamensk**	**34.01**	**292**	*e*P		**P**		**20 22 35.5**	**-2.1**
ZAK				pmax		pmax			
	comp=Z,1.0nm,1.2s								
INK	**Inuvik**	**37.34**	**35**	P		**P**		**20 23 06.2**	**+0.4**
INK	**Inuvik**	**37.34**	**35**	P		**P**		**20 23 06.2**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=278,slow=7.3,SNR=3.9								
ZALV	**Zalesovo Beam**	**43.09**	**304**	PcP		**PcP**		**20 25 43.2**	**+0.4**
ZALV	**Zalesovo Beam**	**43.09**	**304**	PcP		**PcP**		**20 25 43.2**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=72,slow=4.7,SNR=3.1								
YKA	**Yellowknife Ar**	**46.58**	**40**	P		**P**		**20 24 22.1**	**+1.0**
YKA	**Yellowknife Ar**	**46.58**	**40**	P		**P**		**20 24 22.1**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=293,slow=7.2,SNR=8.6								
MK31	**Makanchi Array**	**48.02**	**297**	*e*P		**P**		**20 24 30.5**	**-2.1**
MK31	**Makanchi Array**	**48.02**	**297**	*e*P		**P**		**20 24 30.5**	**-2.1**
MKAR	**Makanchi Array**	**48.02**	**297**	*e*P		**P**		**20 24 31.4**	**-1.2**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.4s								
MKAR	**Makanchi Array**	**48.02**	**297**	P		**P**		**20 24 31.3**	**-1.4**
MKAR	**Makanchi Array**	**48.02**	**297**	P		**P**		**20 24 31.3**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=58,slow=6.6,SNR=16								
MKAR				LR		LR		20 45 25.9	
	comp=Z,73nm,19.1s,baz=259,slow=37								
AAK	**Ala-Archa**	**54.95**	**297**	LR		LR		20 49 51.1	
	comp=Z,61nm,19.0s,baz=148,slow=37								
WVOR	**Wild Horse Val**	**55.66**	**63**	*e*P		**P**		**20 25 31.7**	**+1.9**
WVOR				pmax		pmax			
	comp=Z,4.0nm,0.9s								
WVOR	**Wild Horse Val**	**55.66**	**63**	*e*P		**P**		**20 25 31.7**	**+1.9**
	comp=Z,3.6nm,0.9s								
ARCES	**ARCESS Array B**	**55.69**	**342**	P		**P**		**20 25 27.8**	**-1.6**
ARCES	**ARCESS Array B**	**55.69**	**342**	P		**P**		**20 25 27.8**	**-1.6**
	comp=Z,2.4nm,0.8s,baz=45,slow=7.0,SNR=6.7								
ARCES				LR		LR		20 53 48.4	
	comp=Z,51nm,18.5s,baz=13,slow=41								
CMAR	**Chiang Mai Arr**	**55.90**	**258**	P		**P**		**20 25 32.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**55.90**	**258**	P		**P**		**20 25 32.2**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=28,slow=7.2,SNR=9.3								
BOZ	**Bozeman (W)**	**57.52**	**56**	*e*P		**P**		**20 25 44.5**	**+1.5**
BOZ				pmax		pmax			
	comp=Z,1.0nm,0.7s								
BOZ	**Bozeman (W)**	**57.52**	**56**	*e*P		**P**		**20 25 44.5**	**+1.5**
	comp=Z,0.9nm,0.7s								
NVAR	**Mina Array Bea**	**58.43**	**67**	P		**P**		**20 25 51.4**	**+1.9**
NVAR	**Mina Array Bea**	**58.43**	**67**	P		**P**		**20 25 51.4**	**+1.9**
	comp=Z,1.0nm,0.8s,baz=306,slow=7.7,SNR=6.0								
ABKAR	**Akbulak array**	**58.52**	**310**	*e*P		**P**		**20 25 48.0**	**-1.7**
	comp=Z,0.8nm,0.6s								
PDAR	**Pinedale Array**	**60.53**	**58**	P		**P**		**20 26 05.6**	**+1.6**
PDAR	**Pinedale Array**	**60.53**	**58**	P		**P**		**20 26 05.6**	**+1.6**
	comp=Z,1.4nm,0.9s,baz=295,slow=2.1,SNR=9.9								
FINES	**FINESS Array B**	**62.27**	**336**	P		**P**		**20 26 13.1**	**-2.0**
FINES	**FINESS Array B**	**62.27**	**336**	P		**P**		**20 26 13.1**	**-2.0**
	comp=Z,1.4nm,0.8s,baz=17,slow=8.0,SNR=4.7								
NOA	**NORSAR Array B**	**66.01**	**343**	P		**P**		**20 26 38.9**	**-0.8**
NOA	**NORSAR Array B**	**66.01**	**343**	P		**P**		**20 26 38.9**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=24,slow=6.7,SNR=3.6								
NOA				LR		LR		21 01 48.1	
	comp=Z,20nm,18.9s,baz=35,slow=42								
ECSD	**EROS Data Cent**	**66.56**	**49**	*e*P		**P**		**20 26 43.4**	**0.0**
	comp=Z,2.8nm,0.9s								
WRA	**Warramunga Arr**	**72.59**	**203**	P		**P**		**20 27 21.1**	**+0.4**
WRA	**Warramunga Arr**	**72.59**	**203**	P		**P**		**20 27 21.1**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=18,slow=6.6,SNR=10								
KWP	**Kalwaria Pacla**	**73.42**	**331**	⇓P		**P**		**20 27 25.8**	**+0.4**
KWP	**Kalwaria Pacla**	**73.42**	**331**	⇓*i* P		**P**		**20 27 25.8**	**+0.4**
TXAR	**Lajitas Array**	**73.43**	**64**	P		**P**		**20 27 27.3**	**+1.4**
TXAR	**Lajitas Array**	**73.43**	**64**	P		**P**		**20 27 27.3**	**+1.4**
	comp=Z,2.4nm,0.7s,baz=298,slow=4.6,SNR=36								
BUR08	**Bucovina Ar. S**	**74.35**	**329**	*e*P		**P**		**20 27 29.7**	**-1.3**
CLL	**Collm**	**74.60**	**338**	*e*P		**P**		**20 27 32.0**	**-0.3**
CLL	**Collm**	**74.60**	**338**	*e*P		**P**		**20 27 32.0**	**-0.3**
MLR	**Muntele Rosu**	**75.96**	**327**	⇓*i* P		**P**		**20 27 39.8**	**-0.6**
ASAR	**Alice Springs**	**76.27**	**202**	P		**P**		**20 27 43.2**	**+1.1**
ASAR	**Alice Springs**	**76.27**	**202**	P		**P**		**20 27 43.2**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=16,slow=5.2,SNR=14								
VOIR		**76.32**	**328**	⇓P		**P**		**20 27 42.5**	**+0.2**
VOIR		**76.32**	**328**	⇓*i* P		**P**		**20 27 42.5**	**+0.2**
ARR	**Arges**	**76.52**	**328**	⇑*i* P		**P**		**20 27 44.8**	**+1.3**
GERES	**GERESS Array B**	**76.70**	**336**	P		**P**		**20 27 44.1**	**-0.3**
GERES	**GERESS Array B**	**76.70**	**336**	P		**P**		**20 27 44.1**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=33,slow=5.5,SNR=11								
BZS	**Buzias**	**77.31**	**330**	⇑P		**P**		**20 27 47.0**	**-0.8**
BZS	**Buzias**	**77.31**	**330**	⇑*i* P		**P**		**20 27 47.0**	**-0.8**
BAIF	**Baives**	**77.70**	**343**	*e*P		**P**		**20 27 50.1**	**+0.2**
	comp=Z,4.7nm,0.7s								
BRTR	**Keskin Array B**	**77.89**	**319**	P		**P**		**20 27 51.0**	**-0.3**
BRTR	**Keskin Array B**	**77.89**	**319**	P		**P**		**20 27 51.0**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=78,slow=3.8,SNR=4.4								
CDF	**Champ du Feu**	**78.64**	**340**	*e*P		**P**		**20 27 55.3**	**+0.1**
	comp=Z,2.8nm,0.6s								
MEZF	**Maizieres J'vi**	**79.02**	**342**	*e*P		**P**		**20 27 57.7**	**+0.5**
	comp=Z,3.9nm,0.5s								
HAU	**Haudompre**	**79.22**	**341**	*e*P		**P**		**20 27 58.4**	**0.0**
	comp=Z,3.3nm,0.6s								
SFTF	**Sexfontaines**	**79.30**	**342**	*e*P		**P**		**20 27 59.1**	**+0.3**
	comp=Z,7.8nm,0.5s								
GRR	**Gorron**	**80.20**	**346**	*e*P		**P**		**20 28 04.2**	**+0.6**
	comp=Z,11nm,0.8s								
LOR	**Lormes**	**80.44**	**342**	*e*P		**P**		**20 28 05.1**	**+0.1**
	comp=Z,6.8nm,0.7s								
ROSF	**Rostrenen**	**80.62**	**347**	*e*P		**P**		**20 28 07.9**	**+2.0**
	comp=Z,13nm,0.9s								
SSF	**Saint Saulge**	**80.70**	**342**	*e*P		**P**		**20 28 06.7**	**+0.3**
	comp=Z,2.1nm,0.5s								
AVF	**Avril sur Loir**	**80.99**	**342**	*e*P		**P**		**20 28 08.3**	**+0.4**
	comp=Z,5.5nm,0.7s								
BGF	**Bois d'Agland**	**81.31**	**343**	*e*P		**P**		**20 28 10.1**	**+0.5**
LPL	**La Plagne**	**81.50**	**340**	*e*P		**P**		**20 28 11.9**	**+1.0**
	comp=Z,4.1nm,0.6s								
LPG	**La Plagne**	**81.51**	**340**	*e*P		**P**		**20 28 12.0**	**+0.9**
	comp=Z,7.7nm,0.8s								
TCF	**Toulx Ste Croi**	**81.70**	**343**	*e*P		**P**		**20 28 12.4**	**+0.7**
	comp=Z,4.9nm,0.7s								

MFF	**Saint Martin d**	**81.82**	**345**	*e*P		**P**		**20 28 13.4**	**+1.1**
	comp=Z,2.6nm,0.5s								
ESDC	**Sonseca Array**	**89.19**	**346**	P		**P**		**20 28 49.2**	**0.0**
ESDC	**Sonseca Array**	**89.19**	**346**	P		**P**		**20 28 49.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=355,slow=5.7,SNR=2.7								
KEST	**Kesra**	**90.07**	**335**	P		**P**		**20 28 53.7**	**+0.3**
KEST	**Kesra**	**90.07**	**335**	P		**P**		**20 28 53.7**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=353,slow=8.1,SNR=5.1								

*IDC **04** 20:22:33.7±1.7, 33°38S×73°47W, h0km, mb3.6/3, mb1 4.0/5, mb1mx3.8/17, mbtmp3.7/5, ML3.5/3, Error ellipse: s-maj=35.0km s-min=33.1km az=88.0*
*GUC **04** 20:22:38.6±0.9, 33°40S×73°05W, h30km±4km, MD3.9, ML3.7*

ISC 04 20:22:34.2±3.1, 33°32S±0°05×73°23W±0°07, h4km±18km, n21, σ1§33/34, 5C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.37**	**78**	⇑*i* P	**Pn**	**20 23 00.1**	**-0.1**
IHA				*i* S	**Sg**	**20 23 16.8**	**-1.5**
LNV	**Longovilo**	**1.65**	**113**	⇓*i* P	**Pn**	**20 23 04.1**	**+0.1**
LNV				*i* S	**Sn**	**20 23 22.9**	**-2.7**
ROCH	**El Roble**	**1.90**	**80**	⇑*i* P	**Pn**	**20 23 08.0**	**+0.3**
ROCH				*i* S	**Sn**	**20 23 30.9**	**-1.3**
ROCH				AML	AML	20 23 33.9	
	comp=N,1μm,0.5s						
TACH	**Talagante**	**1.95**	**100**	*e*P	**Pn**	**20 23 08.5**	**+0.3**
TACH				*i* S	**Sn**	**20 23 31.5**	**-1.6**
CHNG	**Los Chungos**	**2.05**	**46**	⇑*i* P	**Pn**	**20 23 09.4**	**-0.1**
CHNG				*i* S	**Sn**	**20 23 34.2**	**-1.4**
CHNG				AML	AML	20 23 35.4	
	comp=N,354nm,0.5s						
PEL	**Peldehue**	**2.14**	**86**	⇑*i* P	**Pn**	**20 23 12.1**	**+1.2**
PEL				*i* S	**Sn**	**20 23 37.5**	**-0.5**
PEL				AML	AML	20 23 40.1	
	comp=N,2μm,0.2s						
SAN	**Santiago**	**2.16**	**94**	*i* S	**Sn**	**20 23 37.5**	**-0.8**
CHCH	**Chadas Angostu**	**2.24**	**106**	*e*P	**Pn**	**20 23 12.9**	**+0.7**
CHCH				*i* S	**Sn**	**20 23 38.8**	**-1.6**
PCH	**Pirque**	**2.29**	**98**	⇑*i* P	**Pn**	**20 23 13.8**	**+0.8**
PCH				*i* S	**Sn**	**20 23 40.2**	**-1.5**
CACH	**El Canelo**	**2.33**	**111**	⇓*i* P	**Pn**	**20 23 15.2**	**+1.6**
CACH				*i* S	**Sn**	**20 23 42.4**	**-0.4**
SJCH	**San Jose de Ma**	**2.43**	**98**	*i* S	**Sn**	**20 23 43.6**	**-1.5**
SJCH				AML	AML	20 23 45.9	
	comp=E,396nm,0.4s						
TALC	**Talca**	**2.46**	**148**	*e*P	**Pn**	**20 23 15.3**	**+0.2**
LMEL	**Las Melosas**	**2.58**	**103**	⇓*i* P	**Pn**	**20 23 18.1**	**+1.0**
LMEL				*i* S	**Sn**	**20 23 47.7**	**-1.3**
LMEL				AML	AML	20 23 51.6	
	comp=N,695nm,0.2s						
TLL	**Tololo Astrono**	**3.77**	**34**	*e*P	**Pn**	**20 23 34.3**	**+0.9**
TLL				*i* S	**Sn**	**20 24 17.7**	**-0.6**
CFAA	**Coronel Fontan**	**4.56**	**69**	Pn	**Pn**	**20 23 46.7**	**+2.6**
	comp=N,0.3nm,0.3s,baz=243,slow=13,SNR=25						
CFAA				Sn

KURBB ⇓Lg Lg 20 50 00.1
82nm,0.6s
KK31 Karatay Array 6.20 257 ⇑Pn **Pn 20 48 28.4 -0.5**
1.1nm,0.5s,baz=70,slow=13,SNR=21
KK31 ⇓Pg Pb 20 48 49.6 +4.2
2.5nm,0.7s
KK31 ⇓Lg Lg 20 50 14.0
17nm,0.6s,baz=59,slow=28,SNR=20
VOSK Vostochnaya 9.49 330 ⇑Pn **Pn 20 49 13.8 -0.2**
2.0nm,1.1s
VOSK ⇓Sn **Sn 20 51 00.8 +0.2**
1.4nm,0.8s
VOSK ⇓Lg Lg 20 51 55.6
11nm,0.8s
BVA0 Borovoye Array 9.94 329 ⇑Pn **Pn 20 49 18.6 -1.6**
3.3nm,1.4s,baz=330,slow=9.7,SNR=6.1
BVA0 ⇑Lg Lg 20 52 10.2
9.4nm,1.1s,baz=154,slow=25,SNR=5.8
BRVK Borovoye 10.01 329 ⇑Pn **Pn 20 49 22.0 +0.9**
3.4nm,0.8s
BRVK ⇑Lg Lg 20 52 11.1
19nm,1.1s
ZRNK Zerenda 10.42 325 ⇓Pn **Pn 20 49 24.6 -2.1**
0.8nm,0.4s
ZRNK ⇑Sn **Sn 20 51 24.1 +0.7**
1.5nm,0.7s
ZRNK ⇓Lg Lg 20 52 25.2
13nm,1.0s
AB31 Akbulak array 13.62 296 ⇑Pn Pn 20 50 06.8 -3.6
0.2nm,0.3s,baz=109,slow=8.8,SNR=12
AB31 ⇓Sn **Sn 20 52 44.6 +3.0**
0.4nm,0.7s
AKTO Aktyubinsk 15.10 299 ⇓Pn **Pn 20 50 29.4 -1.2**
1.2nm,0.7s
AKTO ⇓Sn **Sn 20 53 18.4 +0.6**
1.3nm,1.1s

*IDC **04** 20:49:22.1±2.1, 33°.57N×141°.85E, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.5/25, mbtmp3.5/6, ML3.1/2, MS2.7/1, Ms1 2.7/1, ms1mx1.6/37, Error ellipse: s-maj=71.0km s-min=21.3km az=71.0*
*JMA **04** 20:49:23.5±0.3, 33°.53N×141°.98E, h60km, M3.0*
ISC 04 20:49:22.7±3.6, 33°.60N±0°.06×141°.8E±0°.1, h4km±23km, n17, σ0991/21, mb3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.26**	**326**	P	**Pn**	**20 49 47.1**	**+0.5**
BSO1				eS	Sn	20 50 04.7	+0.9
BSO2	**Boso 2**	**1.45**	**323**	eS	Sn	20 50 10.4	+1.6
BSO3	**Boso 3**	**1.62**	**318**	P	**Pb**	**20 49 52.7**	**-0.3**
JHJ2	**Mitsune**	**1.75**	**254**	P	**Pn**	**20 49 53.8**	**0.0**
JHCJ	**Hachijojimakas**	**1.78**	**253**	eS	Sn	20 50 17.0	-0.3
BSO4	**Boso 4**	**1.85**	**319**	P	**Pb**	**20 49 56.4**	**-0.7**
BSO4				eS	**Sb**	**20 50 20.7**	**+0.1**
JOD2	**Odawara 2**	**2.81**	**307**	P	**Pn**	**20 50 08.1**	**-0.3**
JHU	**Hanno**	**3.07**	**318**	P	**Pn**	**20 50 12.7**	**+0.7**
JHU				eS	Sn	20 50 48.7	-0.5
JHO	**Hitachi**	**3.17**	**341**	P	**Pn**	**20 50 13.8**	**+0.4**
JHO				eS	Sn	20 50 49.6	-2.1
MJAR	**Matsushiro Arr**	**4.17**	**316**	Pn	**Pn**	**20 50 27.6**	**+0.4**
	0.7nm,0.3s,baz=143,slow=11,SNR=13						
MAT	**Matsushiro**	**4.17**	**316**	P	**Pn**	**20 50 28.1**	**+0.9**
MAT				S	Sn	20 51 14.7	-1.7
ASAJ	**Asahikawa**	**10.52**	**3**	Pn	**Pn**	**20 51 54.2**	**0.0**
	0.3nm,0.3s,baz=226,slow=12,SNR=6.3						
KSRS	**Korea Array**	**11.96**	**293**	LR	LR	20 56 40.2	
	comp=Z,35nm,18.3s,baz=105,slow=36						
SONM	**Songino Array**	**30.09**	**309**	P	**P**	**20 55 33.8**	**+0.5**
	0.7nm,0.7s,baz=104,slow=8.9,SNR=5.1						
MKAR	**Makanchi Array**	**46.29**	**305**	P	**P**	**20 57 49.5**	**+0.1**
	0.8nm,0.7s,baz=94,slow=9.7,SNR=9.6						
WRA	**Warramunga Arr**	**53.72**	**189**	P	**P**	**20 58 45.7**	**-0.2**
	1.1nm,0.9s,baz=6.0,slow=7.7,SNR=7.1						
ASAR	**Alice Springs**	**57.45**	**189**	P	**P**	**20 59 12.6**	**-0.1**
	0.2nm,0.5s,baz=7.4,slow=7.6,SNR=7.0						

*CSEM **04** 20:56:05.3, 33°.86N×25°.51E, h8km, MD3.5, After ATH*
ATH 04 20:56:05.3, 33°.86N×25°.51E, h8km±6km, MD3.5/6, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.29**	**334**	ePB	Pg	20 56 30.2	+0.1
SIVA				eSB	Sg	20 56 46.8	-0.1
SIVA	**Sivas**	**1.29**	**334**	ePb	Pg	20 56 30.2	+0.1
SIVA				eSb	Sg	20 56 46.8	-0.1
LAST	**Lasithi**	**1.30**	**359**	ePG	Pn	20 56 29.4	-0.5
LAST				eSB	Sn	20 56 48.1	+0.6
LAST	**Lasithi**	**1.30**	**359**	ePg	Pn	20 56 29.4	-0.5
LAST				eSb	Sn	20 56 48.1	+0.6
ZKR	**Zakros**	**1.38**	**25**	ePG	Pn	20 56 30.7	-0.2
ZKR				eSB	Sg	20 56 50.7	+0.9
ZKR	**Zakros**	**1.38**	**25**	ePg	Pn	20 56 30.7	-0.2
ZKR				eSb	Sg	20 56 50.7	+0.9
NPS	**Neapolis**	**1.40**	**3**	ePB	Pn	20 56 31.3	+0.1
NPS	**Neapolis**	**1.40**	**3**	ePb	Pn	20 56 31.3	+0.1
VAM	**Vamos**	**1.88**	**325**	ePN	Pb	20 56 39.8	-0.2
VAM	**Vamos**	**1.88**	**325**	ePn	Pb	20 56 39.8	-0.2
KYTH	**Kithira**	**3.15**	**321**	ePB	Pn	20 56 58.2	+2.9
KYTH	**Kithira**	**3.15**	**321**	ePb	Pn	20 56 58.2	+2.9

IDC 04 21:08:43.6±0.9, 11°.47N×143°.01E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.9/25, mbtmp4.0/11, Error ellipse: s-maj=28.2km s-min=20.8km az=92.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.36**	**195**	P	P	21 15 15.0	0.0
	0.5nm,0.8s,baz=17,slow=9.3,SNR=3.1						
ASAR	**Alice Springs**	**36.04**	**194**	P	P	21 15 46.5	-0.4
	0.3nm,0.7s,baz=26,slow=10,SNR=4.8						
CMAR	**Chiang Mai Arr**	**43.05**	**285**	P	P	21 16 46.0	+0.4
	3.7nm,0.7s,baz=89,slow=6.4,SNR=25						
SONM	**Songino Array**	**47.46**	**327**	P	P	21 17 20.4	0.0
	0.4nm,0.4s,baz=139,slow=7.1,SNR=4.4						
MKAR	**Makanchi Array**	**61.77**	**317**	P	P	21 19 04.4	+0.1
	1.7nm,0.9s,baz=98,slow=8.4,SNR=12						
KURBB	**Kurchatov Arra**	**65.08**	**321**	P	P	21 19 26.0	0.0
	2.5nm,0.7s,baz=106,slow=6.6,SNR=30						
BVAR	**Borovoye Array**	**70.47**	**322**	P	P	21 19 60.0	0.0
	3.6nm,0.5s,baz=102,slow=7.7,SNR=24						
ILAR	**Eielson Array**	**71.25**	**25**	P	P	21 20 04.4	-0.1
	0.4nm,0.7s,baz=248,slow=6.1,SNR=7.3						
YKA	**Yellowknife Ar**	**85.56**	**27**	P	P	21 21 23.2	-0.4
	0.3nm,0.5s,baz=280,slow=4.7,SNR=3.2						
NVAR	**Mina Array Bea**	**89.66**	**51**	P	P	21 21 45.5	+1.3
	0.9nm,0.7s,baz=275,slow=5.3,SNR=6.6						
FINES	**FINESS Array B**	**92.30**	**335**	P	P	21 21 53.9	-1.8
	1.2nm,0.8s,baz=50,slow=3.0,SNR=6.3						

IDC 04 21:25:43.9±2.3, 9°.82S×154°.10E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/17, mbtmp3.7/7, MS3.5/10, Ms1 3.5/10, ms1mx3.1/27, Error ellipse: s-maj=67.8km s-min=22.9km az=104.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.78**	**87**	LR	LR	21 28 48.7	
	comp=Z,433nm,19.0s,baz=103,slow=32						
PMG	**Port Moresby**	**6.86**	**273**	LR	LR	21 30 11.8	
	comp=Z,647nm,18.9s,baz=124,slow=39						
DZM	**Mont Dzumac**	**17.00**	**137**	LR	LR	21 35 11.2	
	comp=Z,452nm,19.0s,baz=180,slow=33						
WRA	**Warramunga Arr**	**21.57**	**240**	P	P	21 30 34.9	-0.3
	2.9nm,0.9s,baz=62,slow=10,SNR=9.0						
ASAR	**Alice Springs**	**23.70**	**232**	P	P	21 30 56.9	-0.7
	2.4nm,0.9s,baz=61,slow=9.5,SNR=15						
ASAR				LR	LR	21 39 52.3	
	comp=Z,224nm,20.1s,baz=102,slow=36						
STKA	**Stephens Creek**	**24.82**	**206**	P	P	21 31 08.7	+0.7
	3.1nm,0.8s,baz=24,slow=11,SNR=8.4						
FITZ	**Fitzroy Crossi**	**28.79**	**250**	LR	LR	21 43 11.0	
	comp=Z,139nm,21.2s,baz=81,slow=36						
KAPI	**Kappang**	**34.38**	**275**	LR	LR	21 46 02.4	
	comp=Z,69nm,21.1s,baz=171,slow=35						
MJAR	**Matsushiro Arr**	**48.47**	**343**	LR	LR	21 51 30.2	
	comp=Z,56nm,19.7s,baz=55,slow=32						
KSRS	**Korea Array**	**53.04**	**334**	P	P	21 35 02.4	-0.4
	0.3nm,0.4s,baz=139,slow=5.8,SNR=3.0						
KSRS				LR	LR	21 53 03.2	
	comp=Z,28nm,20.1s,baz=119,slow=31						
CMAR	**Chiang Mai Arr**	**61.24**	**297**	P	P	21 36 02.0	+0.7
	0.6nm,0.6s,baz=116,slow=6.1,SNR=4.3						
PETK	**Petropavlovsk-**	**62.75**	**2**	LR	LR	21 57 48.0	
	comp=Z,15nm,21.9s,baz=136,slow=31						
SONM	**Songino Array**	**71.23**	**328**	P	P	21 37 05.4	+0.3
	0.2nm,0.3s,baz=134,slow=8.3,SNR=3.3						
MKAR	**Makanchi Array**	**84.93**	**319**	P	P	21 38 20.7	-0.3
	0.2nm,0.7s,baz=98,slow=6.0,SNR=2.4						
ZALV	**Zalesovo Beam**	**86.02**	**326**	LR	LR	22 20 51.8	
	comp=Z,22nm,18.6s,baz=251,slow=38						
TORD	**Torodi Ar. Bea**	**152.76**	**280**	PKPbc	PKPbc	21 45 43.3	-0.6
	0.9nm,1.2s,baz=80,slow=1.7,SNR=2.3						

*ATH **04** 21:54:04.0, 33°.87N×25°.52E, h8km±6km, MD3.5/5*
*CSEM **04** 21:54:06.8±0.5, 34°.07N×25°.46E, h10km, MD3.5, Error ellipse: s-maj=23.3km s-min=10.1km az=78.0*
*IDC **04** 21:54:06.4±4.9, 33°.86N×25°.51E, h0km, mb3.6/2, mb1 3.6/5, mb1mx3.3/27, mbtmp3.5/5, ML3.2/3, Error ellipse: s-maj=86.4km s-min=38.6km az=44.0*
*ISCJB **04** 21:54:07.4±0.6, 33°.96N±0°.04×25°.57E±0°.08, h17km, mb3.7/2, Error ellipse: s-maj=10.1km s-min=4.5km az=165.4*
ISC 04 21:54:07.8±0.8, 33°.94N±0°.04×25°.50E±0°.07, h17km, n20, σ1966/25, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.22**	**332**	ePB	**Pn**	**21 54 28.2**	**-1.9**
SIVA				eSB	**Sg**	**21 54 46.3**	**-1.1**
SIVA	**Sivas**	**1.22**	**332**	ePb	**Pn**	**21 54 28.2**	**-1.9**
SIVA				eSb	**Sg**	**21 54 46.3**	**-1.1**
LAST	**Lasithi**	**1.22**	**359**	ePG	**Pn**	**21 54 28.0**	**-2.3**
LAST				eSB	**Sb**	**21 54 45.7**	**-0.4**
LAST	**Lasithi**	**1.22**	**359**	ePg	**Pn**	**21 54 28.0**	**-2.3**
ZKR	**Zakros**	**1.32**	**27**	ePB	**Pn**	**21 54 30.1**	**-1.4**
ZKR				eSB	**Sn**	**21 54 49.3**	**+0.6**
ZKR	**Zakros**	**1.32**	**27**	ePb	**Pn**	**21 54 30.1**	**-1.4**
NPS	**Neapolis**	**1.33**	**4**	ePN	**Pn**	**21 54 29.3**	**-2.3**
NPS	**Neapolis**	**1.33**	**4**	ePn	**Pn**	**21 54 29.3**	**-2.3**
VAM	**Vamos**	**1.82**	**324**	ePN	**Pn**	**21 54 38.4**	**+0.1**
VAM	**Vamos**	**1.82**	**324**	ePn	**Pn**	**21 54 38.4**	**+0.1**
SLUM		**2.45**	**186**	P	**Pb**	**21 54 48.9**	**-2.5**
KYTH	**Kithira**	**3.09**	**320**	ePB	**Pn**	**21 54 57.4**	**+1.5**
KYTH	**Kithira**	**3.09**	**320**	ePb	**Pn**	**21 54 57.4**	**+1.5**
HMAT	**Matruh**	**3.14**	**154**	P	**Pn**	**21 54 57.9**	**+1.4**
HMAT				S	**Sn**	**21 55 34.4**	**+0.8**
SWA2		**4.68**	**180**	P	**Pn**	**21 55 19.9**	**+2.2**
BRTR	**Keskin Array B**	**8.71**	**46**	Pn	**Pn**	**21 56 14.6**	**+1.3**
	0.1nm,0.3s,baz=219,slow=14,SNR=7.0						
EIL	**Elat**	**9.10**	**115**	Pn	**Pn**	**21 56 18.4**	**0.0**
	0.3nm,0.3s,baz=323,slow=17,SNR=7.1						
GERES	**GERESS Array B**	**17.29**	**333**	P	**P**	**21 58 09.8**	**-0.1**
	0.1nm,0.3s,baz=147,slow=12,SNR=6.2						
MKAR	**Makanchi Array**	**44.23**	**56**	P	**P**	**22 02 16.7**	**+0.6**
	0.7nm,0.8s,baz=264,slow=7.0,SNR=6.0						
ZALV	**Zalesovo Beam**	**45.66**	**45**	P	**P**	**22 02 29.6**	**+2.2**
	0.8nm,0.4s,baz=262,slow=7.1,SNR=2.3						

IDC 04 22:04:01.5±4.5, 55°.93S×27°.99W, h135km±41km, mb4.0/11, mb1 4.0/13, mb1mx3.9/20, mbtmp4.0/13, Error ellipse: s-maj=17.1km s-min=14.6km az=88.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.04**	**156**	eP	P	22 08 12.2	-0.6
SNAA	**Sanae**	**19.04**	**156**	P	P	22 08 12.2	-0.6
	1.0nm,0.3s,baz=311,slow=12,SNR=84						
PMSA	**Palmer Station**	**19.64**	**229**	P	P	22 08 19.6	+0.4
	1.2nm,0.3s,baz=80,slow=8.5,SNR=7.9						
PMSA				PcP	PcP	22 12 32.9	+0.6
	1.5nm,0.3s,baz=22,slow=5.4,SNR=7.5						
QSPA	**South Pole Qui**	**34.33**	**180**	P	P	22 10 35.0	+0.2
	8.1nm,0.6s,baz=201,slow=3.2,SNR=88						
QSPA				PcP	PcP	22 13 07.1	-0.3
	0.6nm,0.3s,baz=135,slow=2.9,SNR=5.8						
CPUP	**Villa Florida**	**36.39**	**312**	P	P	22 10 51.8	-0.8
	0.3nm,0.4s,baz=171,slow=7.7,SNR=3.3						
MAW	**Mawson**	**40.52**	**144**	P	P	22 11 26.4	-0.1
	1.6nm,0.4s,baz=276,slow=4.8,SNR=3.8						
BOSA	**Boshof**	**46.38**	**77**	P	P	22 12 14.0	-0.2
	2.2nm,0.8s,baz=207,slow=9.0,SNR=6.5						
VNDA	**Vanda**	**46.68**	**183**	P	P	22 12 15.8	0.0
	5.9nm,0.8s,baz=183,slow=6.0,SNR=21						
LBTB	**Lobatse**	**49.41**	**74**	P	P	22 12 37.4	0.0
	2.9nm,0.6s,baz=236,slow=6.8,SNR=7.2						
LPAZ	**La Paz**	**49.94**	**306**	P	P	22 12 42.1	-0.1
	1.1nm,0.3s,baz=177,slow=6.0,SNR=9.6						
DBIC	**Dimbokro**	**65.24**	**25**	P	P	22 14 28.7	+0.3
	5.8nm,0.8s,baz=173,slow=8.1,SNR=5.6						
TORD	**Torodi Ar. Bea**	**73.17**	**30**	P	P	22 15 17.5	+0.3
	3.0nm,0.4s,baz=200,slow=6.4,SNR=122						
STKA	**Stephens Creek**	**92.10**	**171**	P	P	22 16 54.6	-0.6
	1.2nm,0.8s,baz=166,slow=4.2,SNR=3.1						
ASAR	**Alice Springs**	**99.24**	**163**	P	Pdif	22 17 26.6	-1.3
	0.6nm,0.7s,baz=181,slow=4.4,SNR=6.5						
YKA	**Yellowknife Ar**	**135.78**	**318**	PKP	PKPdf	22 23 03.0	-1.4
	0.3nm,0.3s,baz=131,slow=2.0,SNR=7.3						
ZALV	**Zalesovo Beam**	**142.77**	**64**	PKP	PKPdf	22 23 16.9	-0.4
	0.7nm,0.5s,baz=218,slow=1.4,SNR=4.9						
ILAR	**Eielson Array**	**149.70**	**312**	PKPbc	PKPbc	22 23 33.0	-0.6
	2.2nm,0.8s,baz=123,slow=1.4,SNR=30						
ILAR				pPKPbc	pPKPbc	22 24 06.2	-3.3
	0.6nm,0.7s,baz=134,slow=2.6,SNR=4.4						
SONM	**Songino Array**	**151.17**	**87**	PKPbc	PKPbc	22 23 37.3	-0.5
	1.5nm,0.5s,baz=219,slow=3.1,SNR=6.0						

*IDC **04** 22:32:33.8±1.5, 18°.65S×177°.87W, h479km±19km, mb3.5/12, mb1 3.7/14, mb1mx3.6/23, mbtmp3.5/14, Error ellipse: s-maj=17.8km s-min=11.1km az=143.0*
*ISCJB **04** 22:32:38.5±0.6, 18°.85S±0°.1×177°.90W±0°.09, h557km, mb3.9/12, Error ellipse: s-maj=15.8km s-min=10.5km az=157.1*
*AUST **04** 22:32:38.0±0.0, 18°.47S×177°.81W, h538km, Error ellipse: s-maj=2.6km s-min=1.7km az=13.0*
ISC 04 22:32:39.8±0.6, 18°.85S±0°.1×177°.92W±0°.10, h557km, n37, σ1913/34, mb3.7/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.56**	**93**	P	**P**	**22 34 30.9**	**-2.7**
	baz=7.5,SNR=11						
AFI	**Afiamalu**	**7.64**	**51**	P	P	22 34 25.3	-9.1
	3.2nm,0.3s,baz=236,slow=11,SNR=2.1						
AFI				S	S	22 35 55.4	-13
	4.0nm,0.3s,baz=22,slow=19,SNR=5.2						
DZM	**Mont Dzumac**	**15.02**	**255**	P	**P**	**22 35 46.0**	**-3.4**
	1.6nm,0.3s,baz=90,slow=20,SNR=10						
NFK	**Norfolk Island**	**16.45**	**229**	P	P	22 35 54.4	-8.8
	baz=17,SNR=3.3						
URZ	**Urewera**	**19.87**	**192**	P	**P**	**22 36 32.6**	**-1.6**
	11nm,0.3s,baz=42,slow=12,SNR=28						
EIDS	**Eidsvold**	**29.42**	**252**	P	**P**	**22 37 58.9**	**-0.1**
	baz=30,SNR=8.1						
ARMA	**Armidale**	**29.91**	**241**	P	**P**	**22 38 04.6**	**+1.3**
	baz=30,SNR=6.2						
RMQ	**Roma**	**31.63**	**250**	P	**P**	**22 38 18.9**	**+1.0**
	baz=32,SNR=14						
CTA	**Charters Tower**	**33.77**	**262**	P	**P**	**22 38 36.0**	**-0.2**
	22nm,0.6s,baz=95,slow=11,SNR=34						
CMSA	**Cobar Meteorol**	**35.13**	**242**	P	**P**	**22 38 48.1**	**+0.8**
	baz=35,SNR=8.3						
QLP	**Quilpie**	**35.67**	**250**	P	**P**	**22 38 52.0**	**+0.1**
	baz=36,SNR=27						
MTSU	**Mount Surprise**	**35.79**	**265**	P	**P**	**22 38 52.6**	**-0.4**
	baz=36,SNR=18						
COEN	**Coen**	**37.59**	**271**	P	**P**	**22 39 07.7**	**-0.1**
	baz=38,SNR=18						
MANU	**Manus Island**	**37.86**	**292**	P	P	22 39 20.7	+11
	baz=38,SNR=5.8						
STKA	**Stephens Creek**	**38.62**	**242**	P	**P**	**22 39 16.6**	**+0.7**
	9.9nm,0.6s,baz=91,slow=9.7,SNR=43						
BBOO	**Buckleboo**	**43.39**	**242**	P	**P**	**22 39 54.5**	**+0.7**
	baz=44,SNR=38						
JAY	**Jayapura**	**43.61**	**287**	P	**P**	**22 39 55.8**	**0.0**
	baz=44,SNR=6.4						
WRA	**Warramunga Arr**	**44.94**	**260**	P	**P**	**22 40 05.2**	**-0.7**
	10nm,0.5s,baz=98,slow=6.6,SNR=234						
ASAR	**Alice Springs**	**45.01**	**255**	P	**P**	**22 40 06.5**	**+0.1**
	52nm,0.6s,baz=89,slow=8.7,SNR=762						
KDU	**Kakadu**	**48.02**	**270**	P	P	22 40 28.9	-0.3
	baz=48,SNR=12						
MTN	**Manton Dam**	**49.25**	**269**	P	P	22 40 37.8	-0.6
	baz=49,SNR=5.1						
KNRA	**Kununurra**	**50.87**	**265**	P	P	22 40 50.1	-0.1
	baz=51,SNR=10						
FITZ	**Fitzroy Crossi**	**53.35**	**261**	P	P	22 41 08.2	+0.3
	2.8nm,0.5s,baz=108,slow=6.4,SNR=15						
MEEK	**Meekatharra**	**58.56**	**250**	P	P	22 41 43.7	-0.2
	baz=59,SNR=7.4						
KLBR	**Kellerberrin**	**58.86**	**244**	P	P	22 41 46.0	+0.3
	baz=59,SNR=16						
VNDA	**Vanda**	**59.60**	**185**	P	P	22 41 51.5	+1.7
	1.1nm,0.6s,baz=340,slow=7.5,SNR=4.0						
BLDU	**Ballidu**	**59.83**	**245**	P	P	22 41 52.5	+0.3
	baz=60,SNR=11						
MORW	**Morawa**	**60.56**	**247**	P	P	22 41 57.2	+0.1
	baz=61,SNR=6.9						
MJAR	**Matsushiro Arr**	**68.90**	**323**	P	P	22 42 48.6	-0.8
	0.7nm,0.6s,baz=154,slow=5.8,SNR=4.0						
UGM	**Wanagama**	**70.09**	**268**	P	P	22 42 57.3	+0.3
	baz=70,SNR=3.6						
PETK	**Petropavlovsk-**	**74.66**	**345**	P	P	22 43 22.9	+0.4
	0.6nm,0.8s,baz=107,slow=9.5,SNR=3.6						
NVAR	**Mina Array Bea**	**79.74**	**44**	P	P	22 43 51.2	+0.5
	0.4nm,0.6s,baz=217,slow=8.2,SNR=3.6						
TXAR	**Lajitas Array**	**86.08**	**57**	P	P	22 44 24.6	+2.1
	1.1nm,0.8s,baz=224,slow=6.5,SNR=15						
ILAR	**Eielson Array**	**86.65**	**13**	P	P	22 44 23.7	-0.5
	0.3nm,0.4s,baz=219,slow=4.7,SNR=11						
CMAR	**Chiang Mai Arr**	**89.63**	**290**	P	P	22 44 40.2	+1.1
	0.6nm,0.4s,baz=115,slow=3.0,SNR=4.2						
BRTR	**Keskin Array B**	**145.74**	**314**	PKPbc	**PKPbc**	22 51 16.8	-0.5
	0.4nm,0.6s,baz=120,slow=2.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**174.36**	**176**	PKPab	**PKPab**	22 53 24.6	+1.6
	0.2nm,0.7s,baz=181,slow=2.3,SNR=3.2						

*ISCJB **04** 22:48:29.3±0.3, 39°.91S±0°.06×91°.36W±0°.07, h10km, mb4.8/43, MS4.2/18, Error ellipse: s-maj=9.0km s-min=7.7km az=40.7*
*IDC **04** 22:48:29.0±0.5, 39°.95S×91°.42W, h0km, mb4.3/15, mb1 4.5/16, mb1mx4.5/22, mbtmp4.4/16, ML3.8/1, MS4.1/18, Ms1 4.1/18, ms1mx4.1/20, Error ellipse: s-maj=17.8km s-min=13.9km az=125.0*
*NEIC **04** 22:48:30.6±0.3, 39°.94S×91°.41W, h10km, mb5.0/34, Error ellipse: s-maj=8.4km s-min=7.4km az=54.0*
*GCMT **04** 22:48:32.6±0.3, 39°.82S×91°.41W, h13km±1km, MW5.0, Moment Tensor Solution. s33,c41; s71,c96; Moment tensor: Scale 10^{16}Nm; M_{rr}-3.45±.20; $M_{\theta\theta}$0.16±.13; $M_{\phi\phi}$3.29±.15; $M_{r\theta}$1.42±.40; $M_{r\phi}$0.74±.09; $M_{\theta\phi}$0.16±.27; Best double couple: $M_0$3.70000×10^{16} NP1:ϕ_s355.00000°, δ44.00000°,λ-118.00000°. NP2:ϕ_s211.00000°, δ52.00000°,λ-66.00000°. Principal axes: T 3.4900, Plg4.0000°, Azm284.0000°; N 0.4500, Plg19.0000°, Azm16.0000°; P -3.9400, Plg71.0000°, Azm182.0000°; Data Used: IU II IC G CN.*
ISC 04 22:48:30.3±0.3, 39°.89S±0°.08×91°.45W±0°.07, h10km, n241, σ1928/256, mb4.9/43, MS4.2/18, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**15.96**	**100**	ePn	**Pn**	**22 52 14.0**	**-1.0**
	52nm,1.5s						
PLCA	**Paso Flores**	**15.96**	**100**	Pn	**Pn**	**22 52 14.6**	**-0.4**
	0.1nm,0.3s,baz=278,slow=13,SNR=3.4						
PLCA				LR	LR	22 57 02.2	
	comp=Z,738nm,19.3s,baz=343,slow=32						
LCO	**Las Campanas**	**20.21**	**64**	ePn	Pn	22 53 07.1	-0.6
	38nm,1.2s						
CFAA	**Coronel Fontan**	**20.53**	**73**	P	**P**	**22 53 09.7**	**+0.8**
CFAA	**Coronel Fontan**	**20.53**	**73**	P	**P**	**22 53 09.7**	**+0.8**
	2.2nm,1.0s,baz=239,slow=9.6,SNR=15						
CFAA				LR	LR	22 59 17.4	
	comp=Z,151nm,18.3s,baz=251,slow=32						
USHA	**Ushuaia**	**21.45**	**142**	P	**P**	**22 53 19.6**	**+1.1**
USHA	**Ushuaia**	**21.45**	**142**	P	**P**	**22 53 19.6**	**+1.1**
	13nm,0.9s,baz=288,slow=9.9,SNR=6.3						
USHA				LR	LR	22 59 57.7	
	comp=Z,2μm,19.7s,baz=285,slow=32						
TRQA	**Tornquist**	**22.94**	**95**	eP	**P**	**22 53 35.6**	**+0.9**
	269nm,1.8s						
LVC	**Limon Verde**	**25.73**	**55**	eP	**P**	**22 54 02.2**	**+0.9**
	31nm,1.0s						
LVC	**Limon Verde**	**25.73**	**55**	P	**P**	**22 54 01.9**	**+0.7**
	9.5nm,1.0s,baz=230,slow=9.0,SNR=8.9						
LVC				LR	LR	23 01 36.6	
	comp=Z,756nm,19.9s,baz=206,slow=31						
PMSA	**Palmer Station**	**29.55**	**156**	LR	LR	23 03 35.7	
	comp=Z,440nm,18.6s,baz=282,slow=31						
LPAZ	**La Paz**	**31.07**	**47**	eP	**P**	**22 54 51.1**	**+1.7**
	60nm,1.4s						
LPAZ	**La Paz**	**31.07**	**47**	P	**P**	**22 54 49.8**	**+0.4**
	7.8nm,1.0s,baz=198,slow=8.4,SNR=14						
LPAZ				LR	LR	23 04 36.0	
	comp=Z,224nm,21.0s,baz=79,slow=31						
CPUP	**Villa Florida**	**31.41**	**75**	eP	**P**	**22 54 51.5**	**-0.2**
CPUP	**Villa Florida**	**31.41**	**75**	P	**P**	**22 54 51.1**

627A Terlingua Ranc 69.88 349 P P 22 59 42.1 +0.7
baz=70
626A Big Bend Ranch 70.09 348 P P 22 59 43.7 +1.0
baz=70
532A Rocksprings 70.11 352 P P 22 59 43.2 +0.5
baz=70
531A Rocksprings 70.21 352 P P 22 59 44.0 +0.7
baz=71
530A J-C Ranch, Com 70.29 351 P P 22 59 44.3 +0.5
baz=71
529A Stev Forest Ra 70.38 350 P P 22 59 45.0 +0.6
baz=71
JCT Junction City 70.44 352 eP P 22 59 44.6 -0.2
24nm,1.5s
528A Cox Ranch, San 70.49 350 P P 22 59 45.3 +0.2
baz=71
526A Mary Lane Ranc 70.58 348 P P 22 59 46.0 +0.3
baz=71
527A Woodward Ranch 70.59 349 P P 22 59 46.4 +0.6
baz=71
431A Sonora 70.73 352 P P 22 59 47.1 +0.6
baz=71
429A Davenport Ranc 70.83 350 P P 22 59 47.4 +0.3
baz=71
432A Menard 70.84 352 P P 22 59 47.3 +0.2
baz=71
430A Baggett Ranch, 70.91 351 P P 22 59 47.9 +0.3
baz=71
428A Kincaid Ranch, 71.03 350 P P 22 59 48.8 +0.4
baz=71
MAW Mawson 71.07 170 eP P 22 59 47.9 -0.2
2.5nm,1.1s
MAW Mawson 71.07 170 P P 22 59 47.0 -1.1
4.1nm,1.0s,baz=207,slow=11,SNR=4.4
MAW LR LR 23 32 27.0
comp=Z,87nm,18.4s,baz=52,slow=37
426A McDonald Obser 71.17 349 P P 22 59 50.2 +0.8
baz=72
427A Hayter Ranch, 71.26 349 P P 22 59 50.4 +0.7
baz=72
331A San Angelo 71.33 352 P P 22 59 50.0 -0.1
baz=72
332A Millersview 71.33 353 P P 22 59 50.1 0.0
baz=72
425A Indio Mountain 71.44 348 P P 22 59 50.6 -0.3
baz=72
330A Mertzon 71.51 351 P P 22 59 51.2 0.0
baz=72
WHTX Lake Whitney 71.74 355 P P 22 59 52.8 +0.4
baz=72
326A Caldwell Ranch 71.80 349 P P 22 59 53.3 +0.3
baz=72
325A Bean Ranch, Si 72.01 348 P P 22 59 53.9 -0.4
baz=72
324A Moseley Ranch, 72.16 347 P P 22 59 54.7 -0.5
baz=73
MNTX Cornudas Mount 72.39 348 eP P 22 59 56.0 -0.5
0.8nm,0.8s
226B Tecolote Peak, 72.57 349 P P 22 59 57.3 -0.3
baz=73
LRAL Lakeview Retre 72.68 4 eP P 22 59 57.9 -0.2
32nm,1.8s
224A Cornudas Mount 72.79 348 P P 22 59 59.3 +0.4
baz=73
128A Castleberry Fa 72.87 350 P P 22 59 59.6 +0.3
baz=73
220A Playas Peak, P 73.17 345 P P 23 00 02.3 +1.0
baz=74
Z32A Haskell 73.21 353 P P 23 00 01.5 +0.2
baz=74
125A Gardner Draw, 73.22 348 P P 23 00 01.7 +0.2
baz=74
Z31A Sharp Cattle R 73.29 352 P P 23 00 01.9 +0.1
baz=74
Z30A Sanderson Ranc 73.36 352 P P 23 00 02.3 +0.1
baz=74
124A Stringfield Ra 73.39 348 P P 23 00 03.1 +0.5
baz=74
Z29A Hungry Hill Ra 73.41 351 P P 23 00 03.3 +0.8
baz=74
Z27A Tatum 73.65 350 P P 23 00 04.2 +0.2
baz=74
Z25A Roswell 73.84 348 P P 23 00 05.8 +0.7
baz=74
TUC Tucson 74.04 343 eP P 23 00 07.0 +0.7
85nm,1.7s
214A Organ Pipe Nat 74.18 341 P P 23 00 08.7 +1.7
baz=75
Y27A Causey 74.21 350 P P 23 00 07.8 +0.6
baz=75
Y26A Elida 74.34 349 P P 23 00 08.2 +0.2
baz=75
Y25A Mesa, Roswell 74.46 349 P P 23 00 09.1 +0.3
baz=75
X30A Coker Ranch, T 74.48 352 P P 23 00 09.4 +0.7
baz=75
WMOK Wichita Mounta 74.57 354 eP P 23 00 09.1 -0.1
4.6nm,0.9s
Y24A Capitan 74.58 348 P P 23 00 10.5 +1.0
baz=75
Y23A Lovelace Mesa, 74.69 347 P P 23 00 11.4 +1.3
baz=75
X26A CR and CF Fran 74.95 349 P P 23 00 12.6 +1.1
baz=75
BNM Barren Site 75.00 347 eP P 23 00 10.0 -2.0
AMTX Amarillo 75.01 351 eP P 23 00 12.3 +0.5
8.4nm,1.0s
Y21A Point of Rocks 75.05 346 P P 23 00 13.6 +1.3
baz=76
Y20A Horse Springs, 75.09 345 P P 23 00 14.1 +1.6
baz=76
W31A Holland Ranch, 75.12 353 P P 23 00 13.5 +1.2
baz=76
CPCT Cooper Cave 75.25 6 eP P 23 00 12.3 -0.7
LAZ Ladron 75.34 347 eP P 23 00 15.7 +1.9
X21A Alamocita Cree 75.50 346 P P 23 00 16.2 +1.4
baz=76
WVT Waverly 75.72 3 eP P 23 00 15.2 -0.6
31nm,2.1s
X16A Lo Mia Camp, P 76.22 343 P P 23 00 20.5 +1.7
baz=77
W20A Ramah 76.29 346 P P 23 00 20.6 +1.2
baz=77
Y12C Blythe 76.32 340 P P 23 00 20.8 +1.5
baz=77
TZTN Tazewell 76.41 7 eP P 23 00 18.9 -0.8
12nm,1.1s
V22A San Miguel Ran 76.77 347 P P 23 00 23.5 +1.5
baz=77
U25A Circle Dot Ran 76.85 349 P P 23 00 23.9 +1.4
baz=77
U23A El Rito 77.06 348 P P 23 00 25.2 +1.6
baz=78
CIS Catalina Islan 77.08 337 P P 23 00 25.4 +1.8
baz=78
U22A Llaves 77.21 347 P P 23 00 26.3 +1.8
baz=78
WUAZ Wupatki 77.26 343 eP P 23 00 26.4 +1.7
53nm,2.1s
T27A Campo 77.28 351 P P 23 00 26.1 +1.3
baz=78
U21A Nageezi 77.40 347 P P 23 00 27.0 +1.4
baz=78
W13A Hualapai Mount 77.44 341 P P 23 00 27.2 +1.4
baz=78
U20A Newcomb 77.51 346 P P 23 00 27.1 +1.0
baz=78
T25A Trinidad 77.58 349 P P 23 00 28.4 +1.8
baz=78
GMRC Granite Mounta 77.59 340 P P 23 00 28.3 +1.7
baz=78
BFSC Mount Baldy Ra 77.64 338 P P 23 00 28.6 +1.8
baz=78
T23A Casias Ranch, 77.72 348 P P 23 00 29.1 +1.7
baz=78
HEC Hector,Ludlow 77.82 339 P P 23 00 29.5 +1.7
baz=78
T22A Edith 77.84 347 P P 23 00 29.8 +1.8
baz=78
S26A Kim 77.93 350 P P 23 00 30.1 +1.7
baz=78
T21A Navajo Lake 77.93 347 P P 23 00 30.1 +1.6
baz=78
S25A Robets Cordova 78.10 349 P P 23 00 30.3 +0.9
baz=78
S24A Houchin Ranch, 78.19 349 P P 23 00 31.7 +1.6
baz=79
R30A Dighton 78.22 353 P P 23 00 31.4 +1.5
baz=79
TUQ Turquoise Moun 78.28 340 P P 23 00 32.2 +1.8
baz=79
MVCO Mesa Verde 78.31 346 eP P 23 00 30.2 -0.5
32nm,1.8s
U15A North Rim 78.34 343 P P 23 00 32.7 +1.8
baz=79
GSC Goldstone 78.40 339 eP P 23 00 32.1 +1.1
7.9nm,1.1s
GSC Goldstone 78.40 339 P P 23 00 32.8 +1.8
baz=79
R27A Eads 78.50 351 P P 23 00 32.8 +1.3
baz=79
S22A 4UR Ranch, Cre 78.55 348 P P 23 00 33.8 +1.8
baz=79
R26A Arlington 78.59 350 P P 23 00 33.2 +1.2
baz=79
S21A Coal Bank Pass 78.63 347 P P 23 00 33.7 +1.2
baz=79
KSU1 Kansas State U 78.76 356 eP P 23 00 32.8 +0.1
SHOC Shoshone 78.82 340 P P 23 00 35.0 +1.9
baz=79
R23A Moffat 78.82 348 P P 23 00 35.1 +1.6
baz=79
S20A Disappointment 78.89 346 P P 23 00 35.6 +1.7
baz=79
PKM Peak Mountain 78.89 337 P P 23 00 35.3 +1.5
baz=79
SHPR Sheep Range 79.10 341 eP P 23 00 36.9 +2.0
ISA Isabella 79.21 338 P P 23 00 36.7 +1.3
baz=80
PV01 Paradox Valley 79.22 346 eP P 23 00 37.3 +1.6
R20A Redvale 79.24 346 P P 23 00 37.7 +2.0
baz=80
R21A Cimarron 79.27 347 P P 23 00 37.7 +1.8
baz=80
MPMC Manuel Prospec 79.30 339 P P 23 00 37.9 +1.8
baz=80
Q25A Bedland, Calha 79.30 350 P P 23 00 37.4 +1.4
baz=80
FURC Furnace Creek, 79.51 339 P P 23 00 38.7 +1.9
baz=80
PV04 Paradox Valley 79.54 346 eP P 23 00 37.7 +0.5
PV10 Paradox Valley 79.55 346 eP P 23 00 38.6 +1.2
CCUT Cedar City 79.65 342 eP P 23 00 39.5 +1.6
7.4nm,1.1s
MSU Marysvale 80.31 344 eP P 23 00 43.6 +2.1
MVU Marysvale 80.31 344 eP P 23 00 43.1 +1.6
8.9nm,0.8s
Q16A Castle Valley 80.49 345 P P 23 00 44.3 +1.9
baz=81
SRU San Rafael 80.54 345 eP P 23 00 42.8 +0.1
22nm,0.9s
TMUT Trail Mountain 80.86 345 eP P 23 00 45.9 +1.4
15nm,0.9s
NVAR Mina Array Bea 81.74 339 P P 23 00 50.3 +1.1
NVAR Mina Array Bea 81.74 339 P P 23 00 50.3 +1.1
2.0nm,0.8s,baz=170,slow=6.0,SNR=18
DAU Daniels Canyon 81.94 345 eP P 23 00 52.0 +1.8
CMB Columbia Colle 81.97 337 eP P 23 00 51.0 +0.9
47nm,2.3s
DUG Dugway 82.06 344 eP P 23 00 52.5 +1.8
65nm,2.1s
DUG Dugway 82.06 344 P P 23 00 51.8 +1.2
baz=82
WAKR Walker 82.13 338 eP P 23 00 53.4 +2.2
ELK Elko 83.14 342 eP P 23 00 56.2 -0.1
63nm,2.5s
ECSD EROS Data Cent 83.38 356 eP P 23 00 56.0 -1.2
16nm,1.0s
BEKR Beckworth 83.66 338 eP P 23 01 00.8 +1.8
25nm,2.1s
PDAR Pinedale Array 83.90 347 P P 23 01 01.1 +0.8
PDAR Pinedale Array 83.90 347 P P 23 01 01.1 +0.8
4.5nm,0.9s,baz=183,slow=5.9,SNR=5.0
PDAR LR LR 23 34 49.5
comp=Z,42nm,18.5s,baz=329,slow=33
BRSD Miller 84.23 355 P P 23 01 03.1 +1.5
baz=85
J19A Crowheart 84.30 347 P P 23 01 03.6 +1.4
baz=85
I23A Meade Ranch, G 84.43 350 P P 23 01 04.1 +1.3
baz=85
KCPM Cahto Peak 84.47 336 eP P 23 01 02.6 -0.5
11nm,1.1s
DZM Mount Dzumac 84.89 246 eLR LR 23 27 43.7
403nm,30.6s
H24A Dirks Ranch, A 85.08 351 P P 23 01 06.5 +0.5
baz=86
MOD Modoc 85.53 339 eP P 23 01 09.8 +1.4
26nm,2.0s
WVOR Wild Horse Val 85.58 340 eP P 23 01 10.4 +1.8
48nm,2.2s
COWI Conover 85.64 2 eP P 23 01 08.0 -0.6
8nm,2.3s
I14A Mackay 85.77 344 P P 23 01 11.3 +1.7
baz=86
MFID Camas Ranch 85.81 342 P P 23 01 10.5 +0.8
baz=86
H16A Russell Place, 86.08 346 P P 23 01 12.6 +1.5
baz=86
F23A Volborg 86.15 350 P P 23 01 11.9 +0.6
baz=87
G12A Big Creek, Yel 87.32 343 P P 23 01 18.6 +1.5
baz=88
AGMN Agassiz Nation 87.90 357 eP P 23 01 19.4 -0.2
D19A Cripps Ranch, 88.06 348 P P 23 01 21.6 +1.1
baz=88
D17A Six Diamond Ra 88.35 347 P P 23 01 23.5 +1.6
baz=89
B22A Reddig Ranch S 88.76 350 P P 23 01 25.3 +1.6
baz=89
C17A Wharram Farm, 88.83 347 P P 23 01 25.8 +1.7
baz=89
B20A Solberg Farm, 89.17 349 P P 23 01 27.3 +1.6
baz=90
ULM Lac du Bonnet 89.85 357 LR LR 23 38 25.0
comp=Z,72nm,18.1s,baz=317,slow=33
BOSA Boshof 89.98 128 LR LR 23 36 27.1
comp=Z,125nm,18.6s,baz=172,slow=32
DBIC Dimbokro 91.62 83 LR LR 23 40 08.2
comp=Z,152nm,18.7s,baz=210,slow=34
STKA Stephens Creek 93.31 223 LR LR 23 36 59.1
comp=Z,137nm,18.8s,baz=201,slow=31
ILAR Eielson Array 112.96 337 PKiKP PKiKP 23 07 06.5 0.0
ILAR Eielson Array 112.96 337 PKiKP PKiKP 23 07 06.5 0.0
0.2nm,0.8s,baz=159,slow=3.4,SNR=4.1
GERES GERESS Array B 127.77 54 PKP PKPdf 23 07 35.1 -0.5
GERES GERESS Array B 127.77 54 PKP PKPdf 23 07 35.1 -0.5
0.6nm,0.8s,baz=294,slow=1.3,SNR=6.6
BRTR Keskin Array B 138.39 72 PKP PKPdf 23 07 55.8 -0.2
BRTR Keskin Array B 138.39 72 PKP PKPdf 23 07 55.8 -0.2
0.4nm,0.7s,baz=198,slow=4.2,SNR=3.9
MJAR Matsushiro Arr 141.24 281 PKP PKPdf 23 08 00.7 -0.3
MJAR Matsushiro Arr 141.24 281 PKP PKPdf 23 08 00.7 -0.3
0.9nm,0.9s,baz=166,slow=1.7,SNR=4.5
NAY Al-Naaiem 144.64 94 eP PKPab 23 08 05.4 -0.5
NAY AMb AMb 23 08 10.0
comp=Z,17nm,1.6s
RDF Al-Radifah 144.72 95 eP PKPab 23 08 05.9 -0.3
RDF AMb AMb 23 08 08.7
comp=Z,40nm,1.0s
MIB Mutribah 144.98 94 eP PKPab 23 08 06.5 -0.6
MIB AMb AMb 23 08 14.3
comp=Z,62nm,0.9s
UMR Umm Al-Rimmam 145.15 94 eP PKPbc 23 08 06.5 -1.2
UMR AMb AMb 23 08 14.9
comp=Z,67nm,1.1s
CHVG Ch'k'valeri 145.32 70 P PKPab 23 08 08.1 +0.1
JNU Nakatsue 145.56 272 PKPbc PKPdf 23 08 08.0 -0.8
JNU Nakatsue 145.56 272 PKPbc PKPdf 23 08 08.0 -0.8
comp=Z,10nm,0.9s,baz=125,slow=4.0,SNR=8.2
AKH Akhalkalaki 146.07 73 P PKPbc 23 08 10.7 +0.2
KBZ Khabaz 146.09 68 PKPbc PKPdf 23 08 09.7 +0.5
KBZ Khabaz 146.09 68 PKPbc PKPdf 23 08 09.7 +0.5
comp=Z,8.8nm,0.8s,baz=276,slow=3.2,SNR=13
ONI Oni 146.28 70 P PKPbc 23 08 10.7 -0.2
GNI Garni 146.70 75 ePKPdf PKPbc 23 08 12.2 -0.1
TBLG Delisi 147.05 72 P PKPbc 23 08 12.3 -0.8
DGRG David-gareji 147.46 73 P PKPbc 23 08 14.6 +0.3
USRK Ussuriysk Arra 147.74 292 PKPbc PKPbc 23 08 14.6 -0.3
comp=Z,4.5nm,0.8s,baz=121,slow=3.0,SNR=17
KSRS Korea Array 149.33 278 PKPbc PKPbc 23 08 19.1 0.0
comp=Z,3.0nm,0.9s,baz=121,slow=2.6,SNR=21
KSRS PKPab PKPab 23 08 24.4 +0.5
comp=Z,7.4nm,0.9s,baz=113,slow=3.3,SNR=20
KSAR Wonju Array Be 149.36 278 PKPbc PKPbc 23 08 19.1 -0.1
KSAR PKPab PKPab 23 08 24.4 +0.4
MDJ Mudanjiang 149.49 293 PKPbc PKPdf 23 08 14.6 -0.3
MDJ Mudanjiang 149.49 293 ePKPbc PKPbc 23 08 19.0 -0.3
INCN Inchon 150.32 278 ePKPdf PKPdf 23 08 15.9 -0.5
INCN ePKPbc PKPbc 23 08 21.2 -0.4
INCN ePKPab PKPab 23 08 27.2 -0.8
NJ2 Nanjing 154.35 262 ePKPbc PKPdf 23 08 18.8 -3.7
CMAR Chiang Mai Arr 156.83 206 PKPab PKPab 23 08 55.3 -0.5
CMAR Chiang Mai Arr 156.83 206 PKPab PKPab 23 08 55.3 -0.5
comp=Z,0.9nm,0.8s,baz=150,slow=3.8,SNR=4.8
ABKAR Akbulak array 157.69 56 ePKPdf PKPdf 23 08 26.0 -0.4
ABKAR ePKPab PKPab 23 08 58.8 -0.1
GYA Guiyang 159.82 234 PKP PKPdf 23 08 29.8 0.0
GYA PKPab PKPab 23 09 11.0 +2.2
GYA PP PP 23 12 53.8 +3.4
GYA SKKS 23 19 39.0
GYA SS SS 23 32 58.9 +0.1
GYA AMB AMB
comp=Z,120nm,8.0s
GYA LR LR
comp=N,140nm,24.8s
GYA LR LR
comp=E,130nm,25.0s
GYA LR LR
comp=Z,140nm,25.9s
KMI Kunming 161.06 223 PKP PKPdf 23 08 29.7 -1.7
HHC Hu-ho-hao-te 162.44 281 ePKP PKPdf 23 08 28.5 -3.7
HHC pPKP pPKPdf 23 08 38.5 +2.9
HHC PKS PKSdf 23 12 00.6 -4.7
HHC PP PP 23 13 05.0 0.0
HHC AMB AMB
comp=Z,120nm,4.4s
HHC LR LR
comp=N,150nm,16.7s
HHC LR LR
comp=E,120nm,14.3s
HHC LR LR
comp=Z,110nm,16.7s
CD2 Chengdu 164.72 239 PKP PKPdf 23 08 33.9 -0.6
CD2 PKPab PKPab 23 09 31.8 +1.7
CD2 PKS PKSdf 23 12 05.5 -2.0
CD2 PP PP 23 13 19.3 +2.8
CD2 SKS SKSdf 23 15 35.5 -3.5
CD2 SKKS SKKSac 23 20 04.1 -0.3
CD2 SS SS 23 33 49.9 0.0
CD2 AMB AMB
comp=Z,120nm,6.2s
SONM Songino Array 164.90 308 PKPab PKPab 23 09 30.5 -0.1
SONM Songino Array 164.90 308 PKPab PKPab 23 09 30.5 -0.1
comp=Z,0.3nm,0.3s,baz=57,slow=5.5,SNR=4.1
ZAA0 Zalesovo Array 165.71 9 ePKPdf PKPdf 23 08 32.4 -2.2
ZAA0 ePKPab PKPab 23 09 32.7 -1.0
ZALV Zalesovo Beam 165.71 9 PKP PKPdf 23 08 32.2 -2.3
ZALV PKPab PKPab 23 09 33.1 -0.6
ZALV Zalesovo Beam 165.71 9 PKP PKPdf 23 08 32.2 -2.3
comp=Z,1.6nm,0.7s,baz=333,slow=1.7,SNR=12
ZALV PKPab PKPab 23 09 33.1 -0.6
comp=Z,0.3nm,0.3s,baz=329,slow=5.0,SNR=4.2
KSH Kashi 170.30 88 PKP PKPdf 23 08 38.6 +0.2
KSH PP PP 23 13 46.0 +0.4
KSH SKS SKSdf 23 15 43.5 +1.6
KSH SKKS SKKSac 23 20 34.3 +2.2
KSH SS SS 23 34 46.3 -0.8
KSH AMB AMB
comp=Z,98nm,5.2s
KSH LR LR
comp=N,130nm,6.4s
KSH LR LR
comp=E,190nm,6.1s
KSH LR LR
comp=Z,200nm,6.3s
MKAR Makanchi Array 171.73 31 PKP PKPdf 23 08 37.4 -1.3
MKAR PKPab PKPab 23 10 02.1 +1.5
MKAR Makanchi Array 171.73 31 PKP PKPdf 23 08 37.4 -1.3
comp=Z,0.6nm,0.9s,baz=274,slow=3.5,SNR=4.7
MKAR PKPab PKPab 23 10 02.1 +1.5
comp=Z,0.6nm,0.9s,baz=337,slow=3.3,SNR=3.5
WMQ Urumqi 176.02 9 PKP PKPdf 23 08 36.4 -4.0

ISCJB ***04*** *23:24:24.9±0.2, 51.56N±0.01×16.06E±0.02, h0km, mb3.7/14, Error ellipse: s-maj=2.0km s-min=1.9km az=174.0*
LDG ***04*** *23:24:25.8±0.2, 51.57N×16.08E, h1km, Ml4.2/7, Error ellipse: s-maj=4.9km s-min=2.1km az=8.0, Suspected Mining induced.*
MOS ***04*** *23:24:26.2±0.7, 51.58N×16.08E, h10km, mb4.0/8, Error ellipse: s-maj=8.1km s-min=4.5km az=94.4*
CSEM ***04*** *23:24:26.8±0.1, 51.56N×16.04E, h2km, mb3.8/8, ML4.2/4, Error ellipse: s-maj=2.6km s-min=2.4km az=87.0*
IPEC ***04*** *23:24:26.2±0.3, 51.59N×16.16E, h3km±1km, ML3.4/3, Error ellipse: s-maj=2.1km s-min=0.7km az=29.0*
BGR ***04*** *23:24:27.6±0.4, 51.54N×16.11E, h1km, ML3.7/14, Error ellipse: s-maj=5.6km s-min=2.2km az=19.0*
IDC ***04*** *23:24:27.4±0.5, 51.51N×16.08E, h0km, mb3.7/10, mb1 3.8/16, mb1mx3.7/30, mbtmp3.6/16, ML3.2/6, Error ellipse: s-maj=11.6km s-min=5.1km az=102.0*
PRU ***04*** *23:24:28.3, 51.49N×15.05E, h0km*
WAR ***04*** *23:24:28.9, 51.49N×16.09E*
UPP ***04*** *23:24:33.1, 51.92N×15.76E, h0km, ML2.6, Suspected Mining explosion.*

ISC 04 23:24:26.6±0.4, 51.56N±0.02×16.07E±0.02, h0km, n226, σ1§27/284, mb3.6/14, 6C-15D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.73**	**169**	*e*Pg	**Pg**	**23 24 41.2**	**+0.5**
KSP				*e*Sg	**Sg**	**23 24 50.7**	**+0.6**
KSP	**Ksiaz**	**0.73**	**169**	‖ *i*P	**Pg**	**23 24 41.2**	**+0.5**
KSP				*e*		23 24 50.7	
KSP	**Ksiaz**	**0.73**	**169**	*e*Pg	**Pg**	**23 24 41.2**	**+0.5**
KSP				*e*Sg	**Sg**	**23 24 51.0**	**+0.8**
KSP	**Ksiaz**	**0.73**	**169**	*e*	Pn	23 24 54.0	+10
KSP	**Ksiaz**	**0.73**	**169**	Pg	**Pg**	**23 24 41.2**	**+0.5**
KSP				Sg	**Sg**	**23 24 50.7**	**+0.6**
UPC	**Upice**	**1.06**	**182**	*e*P	**Pg**	**23 24 47.0**	**+0.2**
UPC	**Upice**	**1.06**	**182**	*e*PG	**Pg**	**23 24 47.0**	**+0.2**
UPC	**Upice**	**1.06**	**182**	Pg	**Pg**	**23 24 47.0**	**+0.2**
DPC	**Dobruska-Polom**	**1.23**	**172**	*e*Pg	**Pg**	**23 24 50.0**	**0.0**
DPC				*e*Sg	**Sg**	**23 25 05.9**	**0.0**
DPC	**Dobruska-Polom**	**1.23**	**172**	*e*P	**Pg**	**23 24 49.9**	**-0.2**
DPC				*e*		23 25 05.5	
DPC	**Dobruska-Polom**	**1.23**	**172**	*e*PG	**Pg**	**23 24 49.9**	**-0.2**
DPC				*e*SG	**Sg**	**23 25 05.5**	**-0.4**
DPC	**Dobruska-Polom**	**1.23**	**172**	Pg	**Pg**	**23 24 50.0**	**0.0**
DPC				Sg	**Sg**	**23 25 05.9**	**0.0**
PVCC	**Panska Ves**	**1.40**	**223**	*e*P	**Pn**	**23 24 53.3**	**-0.1**
PVCC				*e*		23 25 12.5	
PVCC	comp=N,1μm,0.4s			smax	smax		
PVCC				MLR	MLR		
	comp=Z,800nm,4.3s						
PVCC	**Panska Ves**	**1.40**	**223**	*e*PG	**Pn**	**23 24 53.3**	**-0.1**
PVCC				*e*SG	**Sn**	**23 25 12.5**	**-0.1**
	comp=Z,1μm,0.4s						
PVCC				AMS	AMS	23 25 20.0	
	comp=Z,800nm,4.3s						
PVCC	**Panska Ves**	**1.40**	**223**	Pg	**Pn**	**23 24 53.3**	**-0.1**
PVCC				Sg	**Sn**	**23 25 12.5**	**-0.1**
	comp=Z,1μm,0.4s						
BRG	**Berggiesshubel**	**1.50**	**244**	PN	**Pn**	**23 24 54.3**	**-0.5**
BRG				PG	**Pg**	**23 24 55.8**	**+0.4**
BRG				SG	**Sn**	**23 25 16.1**	**+1.0**
	comp=Z,564nm,0.9s						
BRG	**Berggiesshubel**	**1.50**	**244**	P	**Pn**	**23 24 54.3**	**-0.5**
BRG						23 25 16.1	
BRG	**Berggiesshubel**	**1.50**	**244**	P	**Pn**	**23 24 54.3**	**-0.5**
BRG				S	**Sn**	**23 25 16.1**	**+1.0**
FBE	**Freiberg**	**1.82**	**250**	*e*Pn	**Pn**	**23 24 59.1**	**-0.1**
FBE				*e*Sg	**Sg**	**23 25 26.0**	**+0.9**
FBE	**Freiberg**	**1.82**	**250**	Pn	**Pn**	**23 24 59.1**	**-0.1**
FBE				Sg	**Sg**	**23 25 26.0**	**+0.9**
PRU	**Pruhonice**	**1.85**	**212**	*e*P	**Pn**	**23 24 59.3**	**-0.3**
PRU				*e*		23 25 25.3	
PRU	comp=N,168nm,0.3s			smax	smax		
PRU				MLR	MLR		
	comp=Z,700nm,3.5s						
PRU	**Pruhonice**	**1.85**	**212**	*e*PN	**Pn**	**23 24 59.3**	**-0.3**
PRU				*e*PG	**Pg**	**23 25 01.8**	**-0.2**

PRU *eSG* **Sb** **23 25 25.3 +0.3**
comp=Z,168nm,0.3s
PRU AMS AMS 23 25 40.0
comp=Z,700nm,3.5s
PRU Pruhonice 1.85 212 Pn **Pn** **23 24 59.3 -0.3**
GKP Gorka Klasztor 1.85 22 *e*Pn **Pb** **23 25 00.9 -0.4**
GKP *e*Pg **Pg** **23 25 04.3 +2.2**
GKP *e*PP PnPn 23 25 08.8 +1.9
GKP *e*Sg **Sg** **23 25 29.9 +3.8**
GKP Gorka Klasztor 1.85 22 *e*Pn **Pb** **23 25 01.0 -0.4**
CLL Collm 1.94 264 *e*Pn **Pn** **23 25 00.1 -0.6**
CLL *e*Sg **Sg** **23 25 29.6 +0.8**
CLL Collm 1.94 264 *i* P **Pn** **23 25 00.2 -0.5**
CLL *i* 23 25 29.8
CLL Collm 1.94 264 *i* Pn **Pn** **23 25 00.2 -0.5**
CLL *e*Pg **Pg** **23 25 04.0 +0.3**
CLL *i* 23 25 07.3
CLL *i* Sg **Sg** **23 25 29.8 +1.1**
comp=Z,211nm,0.6s
CLL Collm 1.94 264 *i* P **Pn** **23 25 00.2 -0.5**
CLL Sg **Sg** **23 25 29.6 +0.8**
RAC Raciborz 2.00 137 *e*P **Pn** **23 25 00.7 -1.0**
RAC *e* 23 25 31.5
RAC Raciborz 2.00 137 *e*P **Pn** **23 25 00.7 -1.0**
RAC Raciborz 2.00 137 *e*Pg **Pg** **23 25 05.0 0.0**
RAC *e*S **Sg** **23 25 31.5 +0.6**
MORC Moravsky Berou 2.02 152 *e*Pn **Pn** **23 25 01.1 -0.9**
MORC *e*Sg **Sb** **23 25 30.6 +0.7**
MORC Moravsky Berou 2.02 152 *e*Pn **Pn** **23 25 01.4 -0.5**
baz=335
MORC Sg **Sb** **23 25 30.6 +0.7**
OKC Ostrava-Krasne 2.17 142 *e*Pn **Pn** **23 25 03.5 -0.5**
OKC *e*Sg **Sb** **23 25 35.3 +1.0**
OKC Ostrava-Krasne 2.17 142 *e*P **Pn** **23 25 02.9 -1.1**
OKC *e* 23 25 35.3
OKC MLR MLR
comp=Z,400nm,3.8s
OKC Ostrava-Krasne 2.17 142 *e*PN **Pn** **23 25 02.9 -1.1**
OKC *e*PG **Pb** **23 25 06.9 +0.1**
OKC *e*SG **Sb** **23 25 35.3 +1.0**
OKC AMS AMS 23 25 40.0
comp=Z,400nm,3.8s
OKC Ostrava-Krasne 2.17 142 Pn **Pn** **23 25 03.5 -0.5**
VRAC Vranov 2.28 171 Pn **Pn** **23 25 05.7 +0.2**
comp=Z,3.3nm,0.3s,baz=346,slow=16,SNR=82
VRAC Pg **Pb** **23 25 09.4 +0.8**
comp=Z,10nm,0.3s,baz=353,slow=17,SNR=36
VRAC Sn **Sn** **23 25 32.9 -1.4**
comp=Z,5.7nm,0.3s,baz=76,slow=22,SNR=3.9
VRAC Lg Lg 23 25 38.3
comp=Z,18nm,0.3s,baz=242,slow=20,SNR=13
VRAC Vranov 2.28 171 *e*Pn **Pn** **23 25 05.7 +0.2**
VRAC S **Sn** **23 25 32.9 -1.4**
comp=Z,6.0nm,0.3s
VRAC *e*Sg **Sb** **23 25 37.6 +0.2**
comp=Z,195nm,0.8s,baz=353
TREC Trest 2.30 190 *e*P **Pn** **23 25 05.9 +0.1**
TREC *e* 23 25 39.0
TREC smax smax
comp=N,142nm,0.5s
TREC MLR MLR
comp=Z,400nm,4.1s
TREC Trest 2.30 190 *e*PN **Pn** **23 25 05.9 +0.1**
TREC *e*PG **Pb** **23 25 09.7 +0.7**
TREC *e*SG **Sb** **23 25 39.0 +1.1**
comp=Z,142nm,0.5s
TREC AMS AMS 23 25 50.0
comp=Z,400nm,4.1s
TREC Trest 2.30 190 Pn **Pn** **23 25 05.9 +0.1**
KRUC Moravsky 2.51 175 *e*Pn **Pn** **23 25 09.0 +0.3**
baz=357
KRUC Moravsky 2.51 175 *e*Pg **Pb** **23 25 13.1 +0.5**
baz=357
KRUC *e*Sg **Sb** **23 25 44.9 +0.9**
comp=Z,152nm,0.8s,baz=357
WERD Werda 2.63 246 *e*Pn **Pn** **23 25 10.4 +0.1**
WERD *e*Sg **Sg** **23 25 50.5 -0.4**
WERD Werda 2.63 246 Pn **Pn** **23 25 10.4 +0.1**
WERD Sg **Sg** **23 25 50.5 -0.4**
OJC Ojcow 2.72 118 *e*Pn **Pn** **23 25 09.6 -2.0**
OJC *e*Sg **Sg** **23 25 52.2 -1.7**
OJC Ojcow 2.72 118 *e*P **Pn** **23 25 09.5 -2.0**
OJC *e* 23 25 53.9
OJC Ojcow 2.72 118 *e*Pn **Pn** **23 25 09.5 -2.0**
OJC *e*Pg **Pg** **23 25 18.2 -0.5**
OJC *e*Sg **Sg** **23 25 53.9 0.0**
OJC Ojcow 2.72 118 Pn **Pn** **23 25 09.6 -2.0**
OJC Ojcow 2.72 118 *e*Pg **Pg** **23 25 18.2 -0.5**
OJC Sg **Sg** **23 25 52.2 -1.7**
KHC Kasperske Hory 2.91 214 *e*P **Pn** **23 25 13.8 -0.4**
KHC *e* 23 25 49.3
KHC smax smax
comp=N,145nm,0.7s
KHC MLR MLR
comp=Z,300nm,4.9s
KHC Kasperske Hory 2.91 214 *e*PN **Pn** **23 25 13.8 -0.4**
KHC *e*PG **Pb** **23 25 20.4 +1.0**
KHC *e*SN **Sn** **23 25 49.3 -0.6**
KHC *e*SG **Sg** **23 25 58.9 -1.2**
comp=Z,145nm,0.7s
KHC AMS AMS 23 26 10.0
comp=Z,300nm,4.9s
KHC Kasperske Hory 2.91 214 Pn **Pn** **23 25 13.8 -0.4**
BEL Belsk 2.95 83 *e*Pn **Pn** **23 25 16.5 +1.8**
BEL *e*Pg Pg 23 25 27.8 +4.7
BEL *e*Sg Sg 23 26 09.4 +8.0
BEL Belsk 2.95 83 *e*Pn **Pn** **23 25 16.5 +1.8**
MOX Moxa 2.95 254 *e*Pn **Pn** **23 25 14.6 -0.1**
MOX *e*Sg **Sg** **23 26 02.2 +0.8**
MOX Moxa 2.95 254 *e*P **Pn** **23 25 14.6 -0.1**
MOX Moxa 2.95 254 Pn **Pn** **23 25 14.6 -0.1**
MOX Sg **Sg** **23 26 02.2 +0.8**
ROTZ Rotzenmuhle 3.04 235 *e*Pn **Pn** **23 25 16.4 +0.4**
ROTZ *e*Sg **Sg** **23 26 02.4 -1.9**
ROTZ Rotzenmuhle 3.04 235 Pn **Pn** **23 25 16.4 +0.4**
ROTZ Sg **Sg** **23 26 02.4 -1.9**
GEC2 GERESS Array S 3.12 210 *e*Pn **Pn** **23 25 17.1 0.0**
GEC2 GERESS Array S 3.12 210 *e*P **Pn** **23 25 17.1 0.0**
GEC2 GERESS Array S 3.12 210 Pn **Pn** **23 25 17.1 0.0**
GERES GERESS Array B 3.12 210 Pn **Pn** **23 25 17.1 0.0**
comp=Z,4.8nm,0.3s,baz=28,slow=12,SNR=175
GERES Pg **Pb** **23 25 23.3 +0.4**
comp=Z,7.8nm,0.3s,baz=20,slow=15,SNR=52
GERES Sn **Sn** **23 25 54.6 -0.4**
comp=Z,6.8nm,0.3s,baz=28,slow=23,SNR=5.7
GERES Lg Lg 23 26 04.5
comp=Z,24nm,0.3s,baz=32,slow=26,SNR=7.4
GERES GERESS Array B 3.12 210 P **Pn** **23 25 17.1 0.0**
comp=Z,5.0nm,0.3s
GERES S **Sn** **23 25 54.6 -0.4**
comp=Z,7.0nm,0.3s
WET Wettzell 3.17 221 *e*Pn **Pn** **23 25 18.0 +0.3**
WET Wettzell 3.17 221 *e*P **Pn** **23 25 18.0 +0.3**
WET Wettzell 3.17 221 Pn **Pn** **23 25 18.0 +0.3**
ZST Bratislava 3.44 168 *e*P **Pn** **23 25 21.3 -0.1**
ZST Bratislava 3.44 168 *e*PN **Pn** **23 25 21.3 -0.1**
ZST Bratislava 3.44 168 *e*P **Pn** **23 25 21.3 -0.1**
NIE Niedzica 3.46 127 *e*P **Pn** **23 25 23.4 +1.7**
NIE Niedzica 3.46 127 *e*Pn **Pn** **23 25 23.4 +1.7**
NIE *e*Pg **Pg** **23 25 33.5 +0.7**
NIE *e*Sg **Sg** **23 26 18.2 +0.6**
NIE Niedzica 3.46 127 *e*P **Pn** **23 25 23.4 +1.7**
VYHS Vyhne 3.55 149 *e*P **Pn** **23 25 22.5 -0.5**
VYHS Vyhne 3.55 149 *e*PN **Pn** **23 25 22.5 -0.5**
VYHS Vyhne 3.55 149 *e*P **Pn** **23 25 22.5 -0.5**
CLZ Clausthal 3.56 277 *e*Pn **Pn** **23 25 23.8 +0.8**
CLZ Clausthal 3.56 277 *e*P **Pn** **23 25 23.8 +0.8**
CLZ Clausthal 3.56 277 Pn **Pn** **23 25 23.8 +0.8**
GRA1 Grafenberg Arr 3.61 241 Pn **Pn** **23 25 24.2 +0.4**
GRF Grafenberg Arr 3.61 241 *e*Pn **Pn** **23 25 24.2 +0.4**
GRF Grafenberg Arr 3.61 241 *e*P **Pn** **23 25 24.2 +0.4**
BSD Bornholm Skovb 3.62 349 *i* P **Pn** **23 25 23.1 -0.8**
BSD *i* S **Sn** **23 26 02.9 -4.5**
BSD Bornholm Skovb 3.62 349 *i* P **Pn** **23 25 23.1 -0.8**
BSD *i* S **Sn** **23 26 02.9 -4.5**
BSD Bornholm Skovb 3.62 349 *i* P **Pn** **23 25 23.1 -0.8**
BSD *i* S **Sn** **23 26 02.9 -4.5**
CONA Conrad Observa 3.64 182 D 23 25 24.7
SNR=43
MOA Molln 3.90 198 *i* Pn **Pn** **23 25 28.0 +0.3**
SNR=48
MOA Molln 3.90 198 Pn **Pn** **23 25 28.0 +0.3**
SNR=48

STHS Stebnicka Huta 3.94 121 *e*P **Pn** **23 25 28.5 +0.2**
STHS Stebnicka Huta 3.94 121 *e*PN **Pn** **23 25 28.5 +0.2**
STHS *e*PG **Pg** **23 25 43.1 +1.0**
STHS Stebnicka Huta 3.94 121 *e*P **Pn** **23 25 28.5 +0.2**
KECS Kecovo 4.20 136 *e*P **Pn** **23 25 31.6 -0.2**
KECS Kecovo 4.20 136 *e*PN **Pn** **23 25 31.6 -0.2**
KECS *e*PG **Pg** **23 25 47.6 +0.6**
KECS Kecovo 4.20 136 *e*P **Pn** **23 25 31.6 -0.2**
ARSA Arzberg 4.33 185 P **Pn** **23 25 35.0 +1.2**
SNR=16
LUNU Lund 4.37 340 P **Pn** **23 25 33.5 -0.6**
PSZ Piszkesteto 4.41 144 ⇑P **Pn** **23 25 35.1 +0.3**
PSZ Piszkesteto 4.41 144 ⇑*i*P **Pn** **23 25 35.1 +0.3**
PSZ Piszkesteto 4.41 144 ⇓*e*PKPPKPdP **Pn** **23 25 34.4 -0.4**
PSZ Piszkesteto 4.41 144 P **Pn** **23 25 35.1 +0.3**
PKSG 4.44 159 ⇑*e*PKPPKPdP **Pn** **23 25 35.3 +0.1**
PKSG 4.44 159 ⇑*e*P **Pn** **23 25 35.3 +0.1**
PKST T"s 4.50 163 ⇓*e* **Pn** **23 25 37.9 +2.0**
PKST T"s 4.50 163 ⇓*e*P **Pn** **23 25 37.9 +2.0**
KWP Kalwaria Pacla 4.65 112 ⇓P **Pb** 23 25 45.0 -4.0
KWP S **Sn** **23 26 32.2 -0.5**
KWP Kalwaria Pacla 4.65 112 ⇓*i*P Pb 23 25 45.0 -4.0
KWP Kalwaria Pacla 4.65 112 *e*Pn **Pn** **23 25 37.8 -0.3**
KWP *e*Pg Pg 23 26 03.3 +7.6
KWP *e*Sg Sg 23 27 04.9 +9.0
KWP Kalwaria Pacla 4.65 112 *e*Pn **Pn** **23 25 37.9 -0.2**
KWP S **Sn** **23 26 32.2 -0.5**
KOLS Kolonicke sedl 4.77 121 *e*P **Pn** **23 25 39.7 0.0**
KOLS Kolonicke sedl 4.77 121 *e*PN **Pn** **23 25 39.7 0.0**
KOLS *e*PG **Pg** **23 25 39.7 +2.9**
KOLS Kolonicke sedl 4.77 121 *e*P **Pn** **23 25 39.7 0.0**
UZH Uzhgorod 4.97 124 *e*P **Pn** **23 25 44.5 +2.1**
UZH *e*S **Sn** **23 26 38.7 -1.7**
UZH smax smax
comp=N,50nm,0.8s
UZH smax smax
comp=E,48nm,0.8s
UZH smax smax
comp=Z,25nm,0.8s
UZH Uzhgorod 4.97 124 *e*P **Pn** **23 25 44.5 +2.1**
UZH *e*S **Sn** **23 26 38.7 -1.7**
TOD Tromm 5.03 250 P **Pn** **23 25 42.8 -0.4**
DEL Delary 5.08 346 P **Pn** **23 25 46.2 +1.2**
WATA Walderalm 5.14 216 P **Pn** **23 25 46.3 +1.3**
SNR=14
WTTA Wattenberg 5.18 216 P **Pn** **23 25 46.8 +1.2**
SNR=13
PKS9 Tamasi 5.19 163 *e*PKPPKPdP 23 25 46.9
PKS9 Tamasi 5.19 163 *e*P **Pn** **23 25 46.9 +1.5**
MOTA Moosalm 5.32 219 D **Pn** **23 25 48.1 +0.7**
SNR=12
ABTA Abfaltersbach 5.35 207 *i* Pn **Pn** **23 25 49.4 +1.6**
SNR=15
ABTA Abfaltersbach 5.35 207 Pn **Pn** **23 25 49.4 +1.6**
SNR=15
LVV L'vov 5.35 106 *e*P Pb 23 25 55.1 -5.9
LVV MLR MLR
comp=Z,100nm,2.0s
KTD Kalmit 5.57 249 P **Pn** **23 25 51.1 +0.3**
PKSM Moragy 5.62 161 ⇑P **Pn** **23 25 51.7 +0.4**
PKSM Moragy 5.62 161 ⇑*i*P **Pn** **23 25 51.7 +0.4**
PKSM Moragy 5.62 161 S Sn 23 26 42.5 -14
PKSM Moragy 5.62 161 *e*PKPPKPdP **Pn** **23 25 52.3 +1.0**
PKSM Moragy 5.62 161 P **Pn** **23 25 51.7 +0.4**
OSKU Oskarshamn 5.64 0 P **Pn** **23 25 51.3 -0.3**
ABH Alteburg 5.67 250 P **Pn** **23 25 51.4 -0.7**
BYXU Byxelkrok 5.77 5 P **Pn** **23 25 53.2 -0.1**
FABU Falkenberg 5.79 342 P **Pn** **23 25 52.5 -1.2**
LANF Langenberg 5.89 247 P **Pn** **23 25 56.2 +1.0**
GNOU Gnosjoe 5.90 348 P **Pn** **23 25 54.6 -0.5**
RUP Ruppelstein 6.03 256 P **Pn** **23 25 55.8 -1.2**
EKSU Eksjoe 6.04 356 P **Pn** **23 25 56.7 -0.4**
DAVOX Davos/Dischmat 6.27 223 Pn **Pn** **23 26 00.8 +0.3**
comp=Z,0.9nm,0.3s,baz=36,slow=14,SNR=11
DAVOX Lg Lg 23 27 45.9
comp=Z,0.7nm,0.3s,baz=315,slow=23,SNR=8.1
DAVOX Davos/Dischmat 6.27 223 P **Pn** **23 26 00.8 +0.3**
comp=Z,1.0nm,0.3s
BORU Boraas 6.38 344 P **Pn** **23 26 02.0 +0.3**
MEM Membach 6.41 265 PN **Pn** **23 26 02.7 +0.5**
MEM SN **Sn** **23 27 15.9 -0.2**
comp=E,27nm,0.0s
MEM Membach 6.41 265 Pn **Pn** **23 26 02.7 +0.5**
MEM Sn **Sn** **23 27 15.9 -0.2**
DRGR 6.46 135 ⇓P **Pn** **23 26 04.5 +1.5**
DRGR 6.46 135 ⇓*i*P **Pn** **23 26 04.5 +1.5**
DRGR 6.46 135 P **Pn** **23 26 04.5 +1.5**
CDF Champ du Feu 6.49 244 *e*Pn **Pn** **23 26 01.0 -2.4**
CDF *e*Sg **Sg** **23 27 49.2 -5.6**
comp=E,168nm,1.1s
CDF Champ du Feu 6.49 244 *e*Pn **Pn** **23 26 01.0 -2.4**
WLF Walferdange 6.59 257 PN **Pn** **23 26 05.6 +0.9**
WLF SG **Sg** **23 27 57.6 -0.6**
WLF Walferdange 6.59 257 Pn **Pn** **23 26 05.6 +0.9**
WLF Sg **Sg** **23 27 57.6 -0.6**
LNKU Linkoeping 6.68 357 P **Pn** **23 26 05.5 -0.4**
VIKU Vikbolandet 6.96 3 P **Pn** **23 26 09.5 -0.3**
BZS Buzias 6.99 146 ⇓P **Pn** **23 26 09.9 -0.3**
BZS Buzias 6.99 146 ⇓*i*P **Pn** **23 26 09.9 -0.3**
BZS Buzias 6.99 146 P **Pn** **23 26 09.9 -0.3**
UDBI Udbina 7.04 182 P **Pn** **23 26 12.3 +1.3**
UDBI Udbina 7.04 182 *i* P **Pn** **23 26 12.2 +1.3**
NVLJ Novalja 7.05 187 P **Pn** **23 26 12.0 +1.0**
NVLJ Novalja 7.05 187 *i* P **Pn** **23 26 12.0 +1.0**
HINF Hinteralfeld 7.05 241 *e*Sg **Sg** **23 28 08.0 -5.0**
comp=E,75nm,1.0s
BURAR Bucovina Array 7.14 120 ⇓*i*P **Pn** **23 26 13.0 +0.7**
BURAR Bucovina Array 7.14 120 ⇓*i*P **Pn** **23 26 13.0 +0.7**
HAU Haudompre 7.23 244 *e*Pn Pn 23 26 09.8 -3.7
HAU *e*Sg Sg 23 28 12.3 -6.3
comp=E,67nm,0.8s
GIVF Givet 7.27 263 *e*Pn **Pn** **23 26 10.9 -3.1**
PAGF Fort de Pagny 7.31 250 *e*Pn Pn 23 26 10.8 -3.7
VANU Vaenersborg 7.31 343 P **Pn** **23 26 15.8 +1.3**
DOU Dourbes 7.42 263 PN **Pn** **23 26 17.0 +1.0**
DOU SG **Sg** **23 28 28.7 +4.2**
DOU Dourbes 7.42 263 Pn **Pn** **23 26 16.9 +1.0**
NYNU Nynaeshamn 7.54 8 P **Pn** **23 26 17.5 -0.1**
NASU Vaermlandsnaes 7.56 349 P **Pn** **23 26 18.4 +0.4**
GZR Gura Zlata 7.61 142 ⇓P **Pn** **23 26 19.0 +0.2**
GZR Gura Zlata 7.61 142 ⇓*i*P **Pn** **23 26 19.0 +0.2**
GZR Gura Zlata 7.61 142 P **Pn** **23 26 19.0 +0.2**
CABF La Chapelle 8.21 237 *e*Sg Sg 23 28 43.8 -6.3
comp=E,166nm,1.2s
NRTU Norrtaelje 8.26 9 P **Pn** **23 26 27.6 +0.1**
KIEV Kiev 8.31 91 *e*P **Pn** **23 26 28.8 +0.5**
KIEV Kiev 8.31 91 *e*P **Pn** **23 26 28.8 +0.5**
BACU Backbrunna 8.33 4 P **Pn** **23 26 28.0 -0.5**
LPG La Plagne 8.66 229 *e*Pn **Pn** **23 26 31.0 -2.3**
LPG *e*Sg Sg 23 28 56.9 -7.6
comp=E,49nm,1.2s
LPG La Plagne 8.66 229 *e*Pn **Pn** **23 26 31.0 -2.3**
HFS Hagfors 8.69 352 Pn **Pn** **23 26 32.6 -0.9**
comp=E,0.2nm,0.3s,baz=166,slow=15,SNR=10
HFS Sn **Sn** **23 28 07.7 -4.4**
comp=E,0.3nm,0.3s,baz=160,slow=23,SNR=4.3
HFS Hagfors 8.69 352 P **Pn** **23 26 32.6 -0.9**
LOR Lormes 9.04 246 *e*Pn **Pn** **23 26 35.4 -2.9**
LOR *e*Sg Sn 23 29 10.6 +50
comp=E,38nm,0.9s
VSU Vasula 9.23 37 *e*P **Pn** **23 26 38.7 -2.1**
VSU Vasula 9.23 37 *e*P **Pn** **23 26 38.7 -2.1**
SMF Signal de Mont 9.40 243 *e*Sg Sn 23 29 18.7 +49
comp=E,31nm,0.9s
AVF Avril sur Loir 9.60 245 *e*Pn **Pn** **23 26 43.4 -2.5**
AVF Avril sur Loir 9.60 245 *e*Pn **Pn** **23 26 43.4 -2.5**
SBF Sospel 9.65 220 *e*Pn **Pn** **23 26 44.2 -2.5**
SBF Sospel 9.65 220 *e*Pn **Pn** **23 26 44.2 -2.5**
NOA NORSAR Array B 9.87 346 Pn **Pn** **23 26 48.7 -1.0**
comp=E,0.2nm,0.3s,baz=164,slow=12,SNR=4.8
NOA NORSAR Array B 9.87 346 P **Pn** **23 26 48.7 -1.0**
FINES FINESS Array B 11.33 25 Pn **Pn** **23 27 07.4 -2.1**
comp=E,0.5nm,0.3s,baz=219,slow=11,SNR=23
FINES Sn Sn 23 29 07.4 -9.2
comp=E,0.5nm,0.3s,baz=208,slow=21,SNR=6.4
FINES FINESS Array B 11.33 25 P **Pn** **23 27 07.4 -2.1**
comp=E,1.0nm,0.3s
EKA Eskdalemuir Ar 12.06 296 Pn Pn 23 27 16.4 -3.2
baz=101,slow=14,SNR=8.3
ANN Anapa 15.74 107 *e*P Pn 23 28 02.5 -7.0
ANN pmax pmax
comp=Z,21nm,0.9s

ARCES ARCESS Array B 18.57 10 P **P** **23 28 41.1 -3.7**
comp=Z,0.2nm,0.3s,baz=196,slow=13,SNR=7.3
KIV Kislovodsk 19.37 103 *e*P **Pn** **23 28 54.7 -0.1**
KIV Kislovodsk 19.37 103 *e*P **Pn** **23 28 54.7 -0.1**
GNI Garni 22.85 109 *e*P **P** **23 29 33.3 +1.9**
comp=Z,4.0nm,1.3s
ARU Arti 25.14 62 *d i*P **P** **23 29 52.2 -0.8**
ARU S **S** **23 34 18.4 -0.1**
ARU pmax pmax
comp=Z,4.0nm,1.0s
ARU Arti 25.14 62 *i* P **P** **23 29 52.2 -0.8**
comp=Z,4.0nm,1.0s
ARU S **S** **23 34 18.4 -0.1**
AKTK Aktyubinsk 26.17 76 P **P** **23 30 02.5 +0.1**
comp=Z,1.0nm,0.6s
AKTO Aktyubinsk 26.17 76 P **P** **23 30 02.5 +0.1**
AKTO pmax pmax
comp=Z,1.0nm,0.6s
AKTO Aktyubinsk 26.17 76 P **P** **23 30 02.5 +0.1**
comp=Z,1.0nm,0.6s,baz=293,slow=12,SNR=4.0
KURBB Kurchatov Arra 38.18 66 P **P** **23 31 47.9 +0.4**
comp=Z,0.8nm,0.8s,baz=297,slow=9.2,SNR=7.5
KURK Kurchatov 38.19 66 P **P** **23 31 47.9 +0.3**
KURK pmax pmax
comp=Z,1.0nm,0.8s
KURK Kurchatov 38.19 66 P **P** **23 31 47.9 +0.3**
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 40.04 202 P **P** **23 32 03.5 +0.2**
comp=Z,1.0nm,1.0s,baz=14,slow=8.7,SNR=3.8
ZALV Zalesovo Beam 40.19 59 P **P** **23 32 04.9 +0.6**
ZALV Zalesovo Beam 40.19 59 P **P** **23 32 04.8 +0.6**
comp=Z,0.3nm,0.4s,baz=302,slow=8.5,SNR=4.4
ZALV Zalesovo Beam 40.19 59 P **P** **23 32 04.9 +0.6**
MKAR Makanchi Array 42.22 69 P **P** **23 32 22.1 +1.0**
MKAR pmax pmax
comp=Z,1.0nm,1.1s
MKAR Makanchi Array 42.22 69 P **P** **23 32 22.1 +1.0**
comp=Z,0.9nm,1.1s,baz=304,slow=7.2,SNR=3.6
MKAR Makanchi Array 42.22 69 P **P** **23 32 22.1 +1.0**
comp=Z,1.0nm,1.1s
SONM Songino Array 54.91 55 P **P** **23 34 00.1 +1.2**
comp=Z,0.8nm,0.9s,baz=286,slow=8.2,SNR=5.8
SONM Songino Array 54.91 55 P **P** **23 34 00.1 +1.2**
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 59.80 336 P **P** **23 34 33.8 +0.8**
comp=Z,0.8nm,0.6s,baz=34,slow=7.0,SNR=9.8
YKA Yellowknife Ar 59.80 336 P **P** **23 34 33.8 +0.8**
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 71.38 84 P **P** **23 35 48.8 +0.4**
comp=Z,0.7nm,0.3s,baz=330,slow=5.3,SNR=3.1
CMAR Chiang Mai Arr 71.38 84 P **P** **23 35 48.8 +0.4**
comp=Z,1.0nm,0.3s
PDAR Pinedale Array 74.88 322 P **P** **23 36 09.3 +0.1**
comp=Z,0.4nm,0.9s,baz=58,slow=7.5,SNR=4.0
TXAR Lajitas Array 83.66 310 P **P** **23 36 59.0 +1.9**
comp=Z,0.2nm,0.9s,baz=27,slow=2.2,SNR=4.7
TXAR Lajitas Array 83.66 310 P **P** **23 36 59.1 +1.9**

IDC 04 23:50:05.6±4.1, 7°24S×119°76E, h435km±61km, mb2.8/2, mb1 3.0/5, mb1mx2.7/23, mbtmp2.8/5, Error ellipse: s-maj=158.2km s-min=81.6km az=75.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.21**	**360**	P		P	P	23 51 06.0	0.0
	3.0nm,0.3s,baz=185,slow=3.5,SNR=12								
FITZ	**Fitzroy Crossi**	**12.22**	**153**	P			P	23 52 47.4	+0.3
	0.4nm,0.3s,baz=333,slow=11,SNR=8.7								
WRA	**Warramunga Arr**	**18.96**	**133**	P			P	23 53 58.5	+0.1
	0.5nm,0.3s,baz=312,slow=10,SNR=22								
ASAR	**Alice Springs**	**21.24**	**142**	P			P	23 54 19.2	-0.1
	0.3nm,0.4s,baz=315,slow=8.6,SNR=8.4								
STKA	**Stephens Creek**	**31.86**	**143**	P			P	23 55 52.9	-0.2
	1.2nm,0.5s,baz=323,slow=9.6,SNR=2.9								

IDC 04 23:52:46.1±5.6, 14°50S×174°48W, h91km±73km, mb3.5/2, mb1 3.8/3, mb1mx3.3/20, mbtmp3.6/3, ML2.5/1, Error ellipse: s-maj=263.6km s-min=39.8km az=159.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.69**	**78**	P		P	Pn	23 53 28.3	+0.7
	43nm,0.3s,baz=241,slow=13,SNR=39								
AFI				S			Sn	23 53 59.9	+0.4
	6.3nm,0.3s,baz=170,slow=19,SNR=2.1								
WRA	**Warramunga Arr**	**49.04**	**256**	P			P	00 01 24.0	-0.2
	0.3nm,0.4s,baz=91,slow=7.0,SNR=4.9								
ASAR	**Alice Springs**	**49.40**	**251**	P			P	00 01 26.8	-0.2
	1.9nm,0.7s,baz=84,slow=8.2,SNR=21								
BRTR	**Keskin Array B**	**144.81**	**321**	PKP			PKPdf	00 12 12.7	-0.2
	0.5nm,0.8s,baz=144,slow=2.5,SNR=4.9								

*IDC **05** 00:06:31.7±1.6, 6°81N×72°87W, h149km±15km, mb3.8/11, mb1 4.0/13, mb1mx3.7/24, mbtmp3.9/13, Error ellipse: s-maj=20.4km s-min=12.4km az=66.0*

*ISCJB **05** 00:06:32.7±0.4, 6°78N±0°04×72°91W±0°04, h174km±4km, mb4.2/33, Error ellipse: s-maj=7.5km s-min=5.9km az=24.0*

*NEIC **05** 00:06:33.7±0.5, 6°78N×72°94W, h167km±5km, mb4.2/24, Error ellipse: s-maj=7.0km s-min=4.9km az=89.0*

NEIC Felt at Pamplona.

*FUNV **05** 00:06:36.9, 6°91N×72°87W, h164km, MW4.4*

ISC 05 00:06:33.0±0.5, 6°84N±0°04×72°89W±0°05, h163km±4km, n377, σ1§30/404, mb4.2/33, 141C-143D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.17**	**29**	⇓*i*P			Pn	00 07 02.6	+1.9
ROSC	**El Rosal**	**2.43**	**216**	P			**Pn**	**00 07 14.3**	**0.0**
ROSC				S			**Sn**	**00 07 43.4**	**-2.9**
ROSC	**El Rosal**	**2.43**	**216**	P			**Pn**	**00 07 14.3**	**0.0**
	386nm,0.3s,baz=90,slow=17,SNR=298								
ROSC				S			**Sn**	**00 07 43.4**	**-2.9**
	204nm,0.3s,baz=104,slow=16,SNR=7.7								
SOCV	**Socops**	**2.48**	**54**	⇓*i*P			Pn	00 07 16.7	+2.2
SOCV				*e*S			**Sn**	**00 07 46.1**	**-0.6**
VIGV	**El Vigia**	**2.50**	**37**	⇑*i*P			Pn	00 07 17.1	+2.3
VIGV				*e*S			**Sn**	**00 07 47.3**	**+0.1**
SDV	**Santo Domingo**	**3.03**	**48**	*e*Pn			Pn	00 07 24.2	+2.8
SDV				*e*Sn			**Sn**	**00 08 01.4**	**+2.4**
ELOV	**Elorza**	**3.39**	**87**	⇓*i*P			Pn	00 07 28.6	+2.9
SANV	**Sanarito**	**4.25**	**51**	*e*P			**Pn**	**00 07 38.9**	**+1.9**
SANV				*e*S			**Sn**	**00 08 24.2**	**-2.7**
CURV	**Curarigua**	**4.29**	**42**	*e*P			**Pn**	**00 07 39.2**	**+1.8**
CURV				*e*S			**Sn**	**00 08 24.7**	**-3.0**
DABV	**Dabajuro**	**4.63**	**29**	*e*P			**Pn**	**00 07 43.4**	**+1.6**
DABV				*e*S			**Sn**	**00 08 31.8**	**-3.9**
SIQV	**Siquisique**	**4.86**	**39**	⇑*i*P			**Pn**	**00 07 46.3**	**+1.4**
SIQV				*e*S			**Sn**	**00 08 37.6**	**-3.5**
BAUV	**El Baul**	**5.24**	**66**	*e*P			**Pn**	**00 07 50.5**	**+0.7**
BAUV				*e*S			**Sn**	**00 08 45.9**	**-4.1**
MAPV	**Macapo**	**5.30**	**56**	⇑*i*P			**Pn**	**00 07 52.5**	**+1.8**
MONV	**Montecano**	**5.85**	**29**	*e*P			**Pn**	**00 07 58.3**	**+0.5**
TURV	**Turiamo**	**6.15**	**54**	*e*P			**Pn**	**00 08 03.1**	**+1.2**
TURV				*e*S			**Sn**	**00 09 06.7**	**-4.9**
MERV	**Las Mercedes**	**6.96**	**69**	*e*P			Pn	**00 08 13.2**	**+0.7**
BCIP	**Isla Barro Col**	**7.25**	**289**	*e*Pn			Pn	00 08 12.3	-4.1
BCIP				*e*Sn			**Sn**	**00 09 33.8**	**-4.1**
BIRV	**Birongo**	**7.48**	**61**	*e*P			**Pn**	**00 08 20.2**	**+0.8**
BIRV				*e*S			Sn	00 09 36.6	-6.8
CUPV	**Cœpira**	**7.72**	**65**	*e*P			**Pn**	**00 08 23.5**	**+0.8**
OTAV	**Otavalo**	**8.58**	**220**	*e*Pn			**Pn**	**00 08 31.9**	**-2.7**
OTAV				*e*Sn			**Sn**	**00 10 04.9**	**-5.6**
YHJ	**Yallahs**	**11.54**	**343**	*i* P			Pn	**00 09 15.7**	**+2.7**
PCJ	**Portland Cotta**	**11.61**	**339**	⇑*i*P			**Pn**	**00 09 16.3**	**+2.4**
GWJ	**Greenwich**	**11.78**	**342**	*i* PA			**P**	**00 09 20.0**	**-2.7**
STH	**Stony Hill**	**11.81**	**341**	*i* P			**Pn**	**00 09 18.4**	**+1.9**
STH				*i* S			Sn	00 11 13.9	-13
**SDD

ATAH			S	S	00 12 49.0	+1.7	
	0.3nm,0.3s,baz=50,slow=17,SNR=2.9						
SAML	Samuel	18.43 148	eP	Pn	00 10 36.6	-1.6	
	5.4nm,0.7s						
SAML			eS	S	00 13 58.6	+0.5	
TEIG	Tepich	19.99 313	P	P	00 10 53.8	+0.8	
TEIG	Tepich	19.99 313	P	P	00 10 53.8	+0.8	
	20nm,0.4s,baz=117,slow=4.5,SNR=12						
LPAZ	La Paz	23.45 168	eP	P	00 11 29.1	+0.5	
	8.3nm,1.4s						
LPAZ	La Paz	23.45 168	P	P	00 11 28.9	+0.4	
	0.9nm,0.4s,baz=326,slow=6.5,SNR=8.4						
KMSC	Kings Mountain	29.22 346	⇓P	P	00 12 21.3	+1.9	
	baz=29						
MIAR	Mount Ida	33.53 328	eP	P	00 12 57.6	+0.4	
	23nm,2.2s						
USIN	University of	33.76 339	eP	P	00 13 00.2	+1.1	
	13nm,0.9s						
632A	Uvalde	33.91 315	⇑P	P	00 13 00.3	-0.3	
	baz=34						
SIUC	Southern Illin	34.13 337	eP	P	00 13 03.5	+1.2	
	13nm,0.7s						
532A	Rocksprings	34.36 316	⇑P	P	00 13 04.4	-0.1	
	baz=34,SNR=10						
631A	Perdido Creek	34.41 314	⇓P	P	00 13 04.8	-0.1	
	baz=34						
BLO	Bloomington	34.46 341	eP	P	00 13 07.2	+2.0	
	11nm,0.6s						
JCT	Junction City	34.50 316	⇑P	P	00 13 05.9	+0.2	
	baz=35						
432A	Menard	34.74 317	⇓P	P	00 13 07.4	-0.3	
	baz=35						
531A	Rocksprings	34.83 315	⇓P	P	00 13 08.3	-0.2	
	baz=35,SNR=6.1						
332A	Millersview	35.02 318	⇑P	P	00 13 10.1	0.0	
	baz=35						
431A	Sonora	35.18 316	⇓P	P	00 13 11.4	-0.1	
	baz=35						
232A	Coleman	35.27 318	⇑P	P	00 13 12.4	+0.1	
	baz=35,SNR=6.1						
530A	J-C Ranch, Com	35.38 315	⇓P	P	00 13 13.3	+0.1	
	baz=36,SNR=12						
331A	San Angelo	35.43 317	⇑P	P	00 13 14.1	+0.4	
	baz=36						
430A	Baggett Ranch,	35.68 316	⇑P	P	00 13 16.3	+0.5	
	baz=36						
ABTX	Abilene, Hawle	35.74 319	⇑P	P	00 13 17.0	+0.8	
	baz=36						
SFIN	Scholer Farm	35.74 341	⇑P	P	00 13 17.3	+1.3	
	baz=36,SNR=12						
231A	Bronte	35.74 318	⇑P	P	00 13 16.0	-0.3	
	baz=36						
TUL1	Tulsa	35.74 327	⇓P	P	00 13 16.0	-0.2	
	baz=36						
529A	Stev Forest Ra	35.99 314	⇓P	P	00 13 18.3	-0.2	
	baz=36,SNR=6.5						
330A	Mertzon	36.00 316	⇑P	P	00 13 18.3	-0.2	
	baz=36						
429A	Davenport Ranc	36.04 315	⇑P	P	00 13 18.6	-0.3	
	baz=36						
Z32A	Haskell	36.07 320	⇓P	P	00 13 19.6	+0.5	
	baz=36,SNR=6.2						
628A	Black Gap, Mar	36.13 312	⇓P	P	00 13 19.5	-0.1	
	baz=36						
230A	Sterling City	36.25 317	⇑P	P	00 13 20.9	+0.3	
	baz=36						
131A	Roby	36.25 319	⇑P	P	00 13 20.8	+0.1	
	baz=36						
528A	Cox Ranch, San	36.42 313	⇑P	P	00 13 22.3	+0.1	
	baz=36,SNR=7.3						
627A	Terlingua Ranc	36.48 312	⇓P	P	00 13 23.1	+0.4	
	baz=36,SNR=14						
130A	Snyder	36.58 318	⇓P	P	00 13 23.5	+0.1	
	baz=37						
329A	Wagon Wheel Ra	36.60 316	⇑P	P	00 13 23.8	+0.1	
	baz=37,SNR=6.5						
WMOK	Wichita Mounta	36.60 323	eP	P	00 13 23.3	-0.3	
	3.7nm,0.6s						
TXAR	Lajitas Array	36.62 312	P	P	00 13 24.0	+0.2	
TXAR			PcP	PcP	00 15 45.3	+1.7	
TXAR	Lajitas Array	36.62 312	P	P	00 13 24.0	+0.2	
	2.9nm,0.6s,baz=128,slow=9.2,SNR=61						
TXAR			PcP	PcP	00 15 45.3	+1.7	
	0.8nm,0.6s,baz=134,slow=6.2,SNR=9.7						
428A	Kincaid Ranch,	36.66 314	⇑P	P	00 13 24.7	+0.5	
	baz=37,SNR=9.6						
229A	Bryant Ranch,	36.77 317	⇓P	P	00 13 25.3	+0.3	
	baz=37						
Y31A	Rekieta Farm,	36.99 321	⇑P	P	00 13 27.5	+0.6	
	baz=37						
527A	Woodward Ranch	37.01 313	⇑P	P	00 13 27.5	+0.2	
	baz=37,SNR=12						
626A	Big Bend Ranch	37.08 311	⇑P	P	00 13 27.8	0.0	
	baz=37,SNR=5.4						
328A	Wristen Ranch,	37.12 315	⇑P	P	00 13 27.8	-0.2	
	baz=37,SNR=7.2						
Z30A	Sanderson Ranc	37.12 319	⇓P	P	00 13 28.2	+0.2	
	baz=37,SNR=5.1						
129A	Stewart Farms,	37.20 317	⇑P	P	00 13 29.3	+0.5	
	baz=37						
427A	Hayter Ranch,	37.24 314	⇓P	P	00 13 29.3	+0.2	
	baz=37						
526A	Mary Lane Ranc	37.31 312	⇓P	P	00 13 29.9	+0.1	
	baz=37,SNR=5.0						
Y30A	Stafford Cattl	37.34 320	⇓P	P	00 13 30.4	+0.5	
	baz=37						
Z29A	Hungry Hill Ra	37.48 318	⇓P	P	00 13 31.1	+0.1	
	baz=38,SNR=10						
426A	McDonald Obser	37.59 313	⇑P	P	00 13 32.8	+0.5	
	baz=38,SNR=16						
W31A	Holland Ranch,	37.61 322	⇓P	P	00 13 32.1	0.0	
	baz=38						
128A	Castleberry Fa	37.62 317	⇓P	P	00 13 32.7	+0.5	
	baz=38,SNR=13						
X30A	Coker Ranch, T	37.70 321	⇑P	P	00 13 33.5	+0.7	
	baz=38						
227A	Bennet, Jal	37.82 315	⇓P	P	00 13 34.7	+0.8	
	baz=38						
Y29A	Porterfield Fa	37.83 319	⇓P	P	00 13 34.6	+0.6	
	baz=38						
326A	Caldwell Ranch	37.91 314	⇑P	P	00 13 35.1	+0.4	
	baz=38						
Z28A	Tucker Farm, M	37.95 318	⇓P	P	00 13 35.4	+0.4	
	baz=38						
X29A	Tulia	38.22 320	⇑P	P	00 13 37.3	+0.1	
	baz=38,SNR=5.3						
Y28A	McKinney Farm,	38.24 319	⇓P	P	00 13 37.5	0.0	
	baz=38,SNR=6.4						
127A	Arkansas Junct	38.24 316	⇓P	P	00 13 37.3	-0.2	
	baz=38						
425A	Indio Mountain	38.35 313	⇑P	P	00 13 38.2	-0.3	
	baz=38,SNR=7.3						
226B	Tecolote Peak,	38.46 315	⇑P	P	00 13 39.6	+0.3	
	baz=38						
AMTX	Amarillo	38.48 320	eP	P	00 13 39.8	+0.3	
	4.9nm,0.5s						
Z27A	Tatum	38.52 317	⇓P	P	00 13 39.5	-0.3	
	baz=39,SNR=16						
X28A	Dimmitt	38.58 320	⇓P	P	00 13 40.4	+0.1	
	baz=39,SNR=5.6						
KSU1	Kansas State U	38.59 330	eP	P	00 13 39.9	-0.2	
	10nm,0.6s						
MSTX	Muleshoe	38.62 318	⇓P	P	00 13 40.9	+0.3	
	baz=39						
325A	Bean Ranch, Si	38.65 313	⇑P	P	00 13 41.0	0.0	
	baz=39						
T31A	Randall Ranch,	38.76 325	⇑P	P	00 13 41.9	+0.2	
	baz=39						
Y27A	Causey	38.83 318	⇑P	P	00 13 42.4	+0.1	
	baz=39,SNR=5.7						
U30A	WK&E Inc. Balk	38.94 323	⇑P	P	00 13 43.7	+0.5	
	baz=39						
225A	Deer Hill, Car	38.95 314	⇓P	P	00 13 43.7	+0.2	
	baz=39,SNR=6.5						
S31A	Mullinville	39.02 326	⇑P	P	00 13 44.7	+0.9	
	baz=39						
V29A	Stinnett	39.02 322	⇓P	P	00 13 45.1	+1.2	
	baz=39,SNR=5.3						
JFWS	Jewell Farm	39.06 340	eP	P	00 13 44.1	+0.1	
	11nm,0.6s						
324A	Moseley Ranch,	39.06 313	⇓P	P	00 13 44.6	+0.2	
	baz=39,SNR=5.5						
MNTX	Cornudas Mount	39.12 313	eP	P	00 13 45.1	+0.3	
	5.6nm,0.7s						
125A	Gardner Draw,	39.13 315	⇓P	P	00 13 45.7	+0.7	
	baz=39						
X27A	F and S Farms,	39.24 319	⇓P	P	00 13 46.3	+0.5	
	baz=39						
Y26A	Elida	39.29 318	⇑P	P	00 13 46.4	+0.2	
	baz=39,SNR=14						
224A	Cornudas Mount	39.43 314	⇑P	P	00 13 48.2	+0.7	
	baz=40,SNR=32						
W27A	Bowe Ranch, En	39.48 320	⇑P	P	00 13 48.0	+0.3	
	baz=40,SNR=6.8						
R31A	Burdett	39.52 326	⇓P	P	00 13 48.4	+0.5	
	baz=40						
Z25A	Roswell	39.52 316	⇑P	P	00 13 48.8	+0.6	
	baz=40,SNR=12						
124A	Stringfield Ra	39.72 315	⇑P	P	00 13 51.2	+1.3	
	baz=40,SNR=5.4						
U28A	Mallet	39.78 322	⇓P	P	00 13 51.4	+1.1	
	baz=40						
Y25A	Mesa, Roswell	39.88 317	⇑P	P	00 13 52.1	+1.0	
	baz=40,SNR=6.2						
R30A	Dighton	39.93 326	⇑P	P	00 13 52.2	+0.8	
	baz=40						
S29A	Ulysses	39.95 324	⇑P	P	00 13 52.7	+1.1	
	baz=40						
W26A	Owens Ranch, T	39.95 319	⇓P	P	00 13 52.1	+0.5	
	baz=40						
Z24A	Sheeppen Canyo	40.00 316	⇑P	P	00 13 53.2	+1.0	
	baz=40						
U27A	Thompson Grove	40.18 321	⇓P	P	00 13 54.5	+0.9	
	baz=40						
Y24A	Capitan	40.38 316	⇓P	P	00 13 56.2	+0.9	
	baz=40,SNR=16						
S28A	Manter	40.39 324	⇑P	P	00 13 55.9	+0.7	
	baz=40						
Q30A	Quinter	40.39 326	⇓P	P	00 13 56.5	+1.4	
	baz=40						
V26A	Tequesquite Ra	40.40 320	⇑P	P	00 13 55.8	+0.5	
	baz=40,SNR=6.5						
W25A	X Bar L Ranch,	40.48 319	⇓P	P	00 13 56.7	+0.7	
	baz=41,SNR=8.6						
T27A	Campo	40.53 322	⇓P	P	00 13 57.4	+1.0	
	baz=41						
Z23A	Rita Site, Whi	40.57 315	⇓P	P	00 13 57.2	+0.4	
	baz=41						
222A	Williams Famil	40.58 313	⇑P	P	00 13 57.7	+0.8	
	baz=41						
Y23A	Lovelace Mesa,	40.81 316	⇓P	P	00 14 00.1	+1.3	
	baz=41						
R28A	Tribune	40.84 324	⇑P	P	00 13 59.5	+0.6	
	baz=41						
V25A	Rancho No Teng	40.95 319	⇓P	P	00 14 01.3	+1.3	
	baz=41						
Z22A	Elephant Butte	41.08 314	⇓P	P	00 14 01.8	+0.7	
	baz=41						
W24A	Lazy 6 Ranch,	41.10 318	⇑P	P	00 14 01.8	+0.6	
	baz=41						
T26A	Comanche Natio	41.14 322	⇓P	P	00 14 02.3	+0.9	
	baz=41						
U25A	Circle Dot Ran	41.16 320	⇑P	P	00 14 02.5	+0.8	
	baz=41						
320A	Kipp Ranch, An	41.26 311	⇓P	P	00 14 03.3	+0.9	
	baz=41						
V24A	Rampart Ranch,	41.31 319	⇑P	P	00 14 04.2	+1.2	
	baz=41,SNR=8.4						
S26A	Kim	41.35 322	⇑P	P	00 14 04.6	+1.5	
	baz=42						
R27A	Eads	41.38 324	⇓P	P	00 14 03.5	+0.2	
	baz=42,SNR=5.6						
Y22A	Socorro	41.45 315	⇓P	P	00 14 04.1	+0.1	
	baz=42						
220A	Playas Peak, P	41.53 312	⇑P	P	00 14 05.5	+0.9	
	baz=42,SNR=9.4						
COWI	Conover	41.56 343	eP	P	00 14 05.5	+1.0	
	6.7nm,1.2s						
W23A	Werner Place,	41.57 317	⇓P	P	00 14 06.3	+1.3	
	baz=42						
Z21A	St. Cloud Mine	41.61 314	⇓P	P	00 14 06.6	+1.1	
	baz=42						
T25A	Trinidad	41.62 321	⇓P	P	00 14 06.6	+1.2	
	baz=42						
U24A	Moreno Valley	41.73 320	⇑P	P	00 14 07.8	+1.4	
	baz=42						
KSCO	Kaye Shedlock'	41.76 325	⇓P	P	00 14 07.4	+0.9	
	baz=42						
R26A	Arlington	41.77 323	⇑P	P	00 14 07.5	+1.0	
	baz=42						
X22A	Bernardo	41.79 316	⇓P	P	00 14 07.7	+0.9	
	baz=42						
LAZ	Ladron	41.82 316	eP	P	00 14 08.1	+1.0	
319A	Douglas	41.84 310	⇓P	P	00 14 08.0	+0.9	
	baz=42						
120A	U Bar Ranch, L	41.92 312	⇓P	P	00 14 08.8	+0.9	
	baz=42,SNR=5.6						
V23A	Ortiz Mt. (NFS	41.93 318	⇓P	P	00 14 09.0	+1.1	
	baz=42						
S25A	Robets Cordova	41.96 322	⇓P	P	00 14 09.1	+1.0	
	baz=42						
Y21A	Point of Rocks	41.98 315	⇓P	P	00 14 09.5	+1.0	
	baz=42						
O28A	Krutsinger Ran	42.05 326	⇓P	P	00 14 09.1	+0.4	
	baz=42						
Z20A	Nine Sixteen R	42.18 313	⇑P	P	00 14 10.8	+0.9	
	baz=42						
R25A	Fountain Ranch	42.18 322	⇑P	P	00 14 10.8	+0.9	
	baz=42,SNR=5.8						
ECSD	EROS Data Cent	42.23 334	eP	P	00 14 09.4	-0.6	
	2.9nm,0.4s						
U23A	El Rito	42.27 319	⇑P	P	00 14 12.0	+1.3	
	baz=42						
X21A	Alamocita Cree	42.30 315	⇓P	P	00 14 12.2	+1.3	
	baz=42,SNR=5.8						
Y20A	Horse Springs,	42.43 314	⇑P	P	00 14 13.3	+1.2	
	baz=42,SNR=5.6						
S24A	Houchin Ranch,	42.43 321	⇑P	P	00 14 13.7	+1.6	
	baz=42,SNR=5.8						
V22A	San Miguel Ran	42.51 318	⇓P	P	00 14 14.0	+1.4	
	baz=43						
W21A	San Fidel	42.56 316	⇑P	P	00 14 13.9	+0.9	
	baz=43						
T23A	Casias Ranch,	42.59 320	⇑P	P	00 14 14.8	+1.4	
	baz=43						
Q25A	Bedland, Calha	42.65 323	⇓P	P	00 14 14.6	+0.9	
	baz=43						
SDCO	Great Sand Dun	42.68 321	eP	P	00 14 15.2	+1.1	
	4.0nm,0.8s						
R24A	Sanders Place,	42.73 322	⇑P	P	00 14 15.9	+1.5	
	baz=43,SNR=9.7						
X20A	Quemado	42.84 315	⇓P	P	00 14 16.5	+1.2	
	baz=43						
V21A	Milan	42.94 317	⇓P	P	00 14 17.3	+1.2	
	baz=43						
T22A	Edith	43.14 319	⇓P	P	00 14 18.9	+1.2	
	baz=43						
R23A	Moffat	43.15 321	⇓P	P	00 14 19.2	+1.3	
	baz=43						
W20A	Ramah	43.16 316	⇓P	P	00 14 19.0	+1.2	
	baz=43						
U21A	Nageezi	43.30 318	⇓P	P	00 14 20.0	+1.0	
	baz=43						
V20A	Brimhall	43.49 317	⇑P	P	00 14 21.6	+1.1	
	baz=44						
S22A	4UR Ranch, Cre	43.52 320	⇓P	P	00 14 22.0	+1.1	
	baz=44,SNR=5.8						
T21A	Navajo Lake	43.53 319	⇓P	P	00 14 21.8	+0.9	
	baz=44						
R22A	Saguache, Gunn	43.76 321	⇓P	P	00 14 24.3	+1.5	
	baz=44						
BRSD	Miller	43.83 333	⇓P	P	00 14 22.8	0.0	
	baz=44,SNR=6.5						
U20A	Newcomb	43.85 317	⇓P	P	00 14 24.5	+1.2	
	baz=44						
X18A	Snowflake	43.87 314	⇑P	P	00 14 24.8	+1.3	
	baz=44						
O24A	Longmont	43.92 324	⇓P	P	00 14 25.0	+1.2	
	baz=44						
EYMN	Ely	43.92 342	eP	P	00 14 24.0	+0.5	
	9.3nm,0.6s						
W18A	Petrified Fore	44.01 315	⇑P	P	00 14 25.7	+1.1	
	baz=44						
ISCO	Idaho Springs	44.03 323	eP	P	00 14 25.9	+1.0	
	4.1nm,0.9s						
ISCO	Idaho Springs	44.03 323	⇓P	P	00 14 25.9	+1.0	
	baz=44,SNR=7.8						
S21A	Coal Bank Pass	44.09 319	⇑P	P	00 14 26.2	+0.8	
	baz=44						
J28A	Allard Ranch,	44.13 330	⇓P	P	00 14 25.3	0.0	
	baz=44						
Q22A	Crested Butte,	44.24 321	⇓P	P	00 14 27.7	+1.2	
	baz=44,SNR=6.0						
MVCO	Mesa Verde	44.29 318	⇑P	P	00 14 27.8	+0.9	
	baz=44						
R21A	Cimarron	44.34 320	⇓P	P	00 14 28.4	+1.1	
	baz=44						
O23A	Lake Granby, G	44.47 323	⇑P	P	00 14 29.7	+1.4	
	baz=45						
I28A	Midland	44.52 331	⇓P	P	00 14 28.5	+0.1	
	baz=45						
S20A	Disappointment	44.55 319	⇑P	P	00 14 30.4	+1.4	
	baz=45,SNR=8.7						
M24A	Cheyenne	44.66 326	⇑P	P	00 14 31.0	+1.4	
	baz=45						
R20A	Redvale	44.77 319	⇑P	P	00 14 32.0	+1.3	
	baz=45,SNR=5.8						
214A	Organ Pipe Nat	44.79 309	⇑P	P	00 14 31.6	+0.9	
	baz=45						
O22A	Kremmling	44.81 323	⇓P	P	00 14 31.8	+0.7	
	baz=45,SNR=9.0						
PV01	Paradox Valley	44.86 319	eP	P	00 14 33.0	+1.6	
X16A	Lo Mia Camp, P	44.88 313	⇑P	P	00 14 32.7	+1.1	
	baz=45						
K25A	Mack Ranch, Ha	44.91 327	⇑P	P	00 14 33.1	+1.5	
	baz=45						
N23A	Red Feather La	44.92 324	⇓P	P	00 14 33.1	+1.2	
	baz=45						
Q20A	Ridgley Place,	45.16 320	⇑P	P	00 14 35.1	+1.4	
	baz=45						
WUAZ	Wupatki	45.37 314	⇓P	P	00 14 36.8	+1.4	
	baz=45						
O21A	Pagoda	45.40 322	⇓P	P	00 14 37.1	+1.4	
	baz=46						
H27A	Howes	45.43 331	⇑P	P	00 14 35.7	+0.1	
	baz=46						
Z14A	Wintersburg	45.51 311	⇓P	P	00 14 36.8	+0.5	
	baz=46						
L23A	Garrett	45.58 326	⇓P	P	00 14 37.6	+0.7	
	baz=46						
AGMN	Agassiz Nation	45.69 339	eP	P	00 14 37.6	+0.2	
	4.3nm,0.6s						
N21A	Black Mountain	45.77 323	⇓P	P	00 14 39.2	+0.7	
	baz=46						
Y14A	Wickenburg	45.81 312	⇑P	P	00 14 39.5	+0.8	
	baz=46,SNR=7.7						
I25A	Rochford	45.82 329	⇓P	P	00 14 39.7	+1.0	
	baz=46						
O20A	White River Ci	45.82 322	⇓P	P	00 14 39.8	+0.9	
	baz=46						
G27A	Dupree	45.91 332	⇓P	P	00 14 39.8	+0.5	
	baz=46						
K23A	Bowen Ranch, D	45.95 326	⇑P	P	00 14 40.5	+0.7	
	baz=46						
P19A	Cripple Cowboy	45.99 321	⇓P	P	00 14 40.7	+0.5	
	baz=46						
M21A	Separation Pea	46.20 324	⇓P	P	00 14 43.1	+1.2	
	baz=46						
N20A	Spence Gulch,	46.26 323	⇓P	P	00 14 44.1	+1.8	
	baz=46						
K22A	Casper	46.39 326	⇑P	P	00 14 44.3	+1.1	
	baz=46						
L21A	Rawlins	46.43 324	⇓P	P	00 14 44.1	+0.5	
	baz=46						
O19A	Miners Draw (B	46.47 321	⇑P	P	00 14 44.7	+0.8	
	baz=47						
U15A	North Rim	46.47 315	⇑P	P	00 14 45.0	+0.9	
	baz=46,SNR=7.5						
M20A	Sweetwater, Wa	46.61 323	⇓P	P	00 14 45.9	+0.8	
	baz=47						
SRU	San Rafael	46.68 319	eP	P	00 14 46.4	+0.9	
	3.1nm,0.9s						
GLA	Glamis	46.80 310	⇓P	P	00 14 46.9	+0.5	
	baz=47						
J22A	Midwest	46.86 326	⇑P	P	00 14 47.2	+0.3	
	baz=47,SNR=6.8						
E26A	Carlson Angus	46.97 332	⇑P	P	00 14 48.3	+0.8	
	baz=47						
W13A	Hualapai Mount	46.98 313	⇑P	P	00 14 49.2	+1.1	
	baz=47						
L20A	Wamsutter	47.02 324	⇓P	P	00 14 48.6	+0.4	
	baz=47						
I22A	9 Mile Ranch,	47.18 327	⇑P	P	00 14 50.0	+0.7	
	baz=47						
ULM	Lac du Bonnet	47.35 340	eP	P	00 14 50.4	0.0	
ULM	Lac du Bonnet	47.35 340	P	P	00 14 50.3	0.0	
	6.3nm,0.5s,baz=140,slow=6.1,SNR=7.1						
J21A	Lysite	47.35 326	⇓P	P	00 14 51.3	+0.6	
	baz=48						
PLCA	Paso Flores	47.38 178	P	P	00 14 50.7	-0.1	
PLCA	Paso Flores	47.38 178	P	P	00 14 50.7	-0.1	
	1.1nm,0.5s,baz=33,slow=1.3,SNR=3.1						
K20A	Yellowstone Ra	47.42 324	⇑P	P	00 14 51.7	+0.4	
	baz=48,SNR=6.8						
E25A	Miller Ranch,	47.43 332	⇑P	P	00 14 51.7	+0.6	
	baz=48						
MSU	Marysvale	47.45 318	eP	P	00 14 52.8	+1.2	
MVU	Marysvale	47.47 318	eP	P	00 14 53.1	+1.3	
	6.8nm,0.6s						
SWSC	Sam W. Stewart	47.50 309	⇑P	P	00 14 52.3	+0.5	
	baz=48						
IRM	Iron Mountain	47.51 311	⇑P	P	00 14 52.3	+0.4	
	baz=48						
I21A	Big Trails, Te	47.57 326	⇑P	P	00 14 52.7	+0.4	
	baz=48,SNR=7.0						
H22A	Clearmont	47.58 328	⇓P	P	00 14 53.0	+0.6	
	baz=48						
L19A	Farson	47.68 323	⇓P	P	00 14 53.6	+0.3	
	baz=48						
J20A	Shoshoni	47.71 325	⇓P	P	00 14 54.8	+1.4	
	baz=48						
K19A	Absolon Red Bu	47.82 324	⇑P	P	00 14 55.0	+0.6	
	baz=48						
F23A	Volborg	47.86 329	⇓P	P	00 14 54.5	+0.1	
	baz=48						
G22A	Birney	47.97 328	⇑P	P	00 14 55.7	+0.4	
	baz=48,SNR=5.8						
H21A	Big Horn, Sher	47.97 327	⇑P	P	00 14 55.6	+0.2	
	baz=48						
L18A	Fontenelle, Gr	47.98 323	⇑P	P	00 14 56.4	+0.8	
	baz=48						
M17A	Scullys Gap (B	48.10 322	⇓P	P	00 14 57.1	+0.5	
	baz=48						
SCHQ	Schefferville	48.11 5	P	P	00 14 56.4	+0.3	
SCHQ	Schefferville	48.11 5	P	P	00 14 56.4	+0.3	
	6.3nm,0.7s,baz=194,slow=4.7,SNR=7.5						
I20A	Worland	48.12 326	⇓P	P	00 14 57.2	+0.7	
	baz=48,SNR=8.9						
GMRC	Granite Mounta	48.15 311	⇓P	P	00 14 57.5	+0.6	
	baz=48						
BW06	Boulder Array	48.20 324	eP	P	00 14 56.5	-0.8	
	1.2nm,0.5s						
PDAR	Pinedale Array	48.20 324	P	P	00 14 57.5	+0.2	
PDAR			PcP	PcP	00 16 22.2	+0.2	
PDAR	Pinedale Array	48.20 324	P	P	00 14 57.5	+0.2	
	2.1nm,0.6s,baz=127,slow=9.4,SNR=16						
PDAR			PcP	PcP	00 16 22.2	+0.2	
	0.5nm,0.5s,baz=124,slow=8.8,SNR=3.3						
J19A	Crowheart	48.21 325	⇑P	P	00 14 57.1	-0.2	
	baz=48						
D24A	Glendive	48.31 332	⇓P	P	00 14 58.6	+0.7	
	baz=48						
F22A	Rosebud	48.33 329	⇓P	P	00 14 58.8	+0.7	
	baz=48						
E23A	Ismay	48.35 330	⇓P	P	00 14 58.6	+0.4	
	baz=48						
H20A	Greybull	48.39 327	⇑P	P	00 14 58.9	+0.3	
	baz=48,SNR=5.2						
G21A	Lodge Grass	48.45 328	⇑P	P	00 14 59.7	+0.6	
	baz=49						
TUQ	Turquoise Moun	48.62 312	⇑P	P	00 15 01.3	+0.7	
	baz=49						
E22A	Miles City	48.63 330	⇑P	P	00 15 00.4	+0.2	
	baz=49						
I19A	Meeteetse	48.66 326	⇑P	P	00 15 01.4	+0.7	
	baz=49						
C24A	Savage	48.66 332	⇑P	P	00 15 01.8	+1.2	
	baz=49						
HEC

DGMT	Dagmar	49.24	333	⇓P	P	00 15 06.2	+1.3
	baz=49,SNR=7.7						
E21A	Keefer Ranch,	49.26	329	⇓P	P	00 15 05.8	+0.6
	baz=49						
LOHW	Long Hollow	49.32	324	*e*P	P	00 15 05.8	0.0
	2.5nm,0.6s						
F20A	Billings	49.33	328	⇑P	P	00 15 06.3	+0.6
	baz=49,SNR=6.1						
H18A	Shoshone NF, C	49.43	326	⇓P	P	00 15 06.9	+0.3
	baz=50						
A24A	Westby	49.49	333	⇓P	P	00 15 08.0	+1.3
	baz=50,SNR=6.4						
C22A	Vida	49.51	331	⇓P	P	00 15 07.9	+0.9
	baz=50,SNR=8.2						
D21A	La Casta Ranch	49.58	330	⇓P	P	00 15 08.8	+1.2
	baz=50,SNR=6.9						
B23A	Brookton	49.60	332	⇓P	P	00 15 09.6	+2.0
	baz=50						
G18A	Lazy EL Ranch,	49.78	327	⇑P	P	00 15 09.6	+0.4
	baz=50						
E20A	Meyer Farm, Mu	49.78	329	⇑P	P	00 15 10.0	+0.9
	baz=50,SNR=12						
A23A	Redstone	49.91	333	⇑P	P	00 15 11.7	+1.8
	baz=50						
EDW2	Edwards Air Fo	49.94	310	⇓P	P	00 15 10.2	-0.3
	baz=50						
B22A	Reddig Ranch S	49.95	332	⇑P	P	00 15 11.6	+1.3
	baz=50,SNR=8.3						
I16A	Newdale	49.99	324	⇓P	P	00 15 12.1	+1.2
	baz=50						
MPMC	Manual Prospec	50.04	312	⇓P	P	00 15 11.5	+0.1
	baz=50						
E19A	Rath Farm, Rou	50.09	328	⇑P	P	00 15 12.5	+1.0
	baz=50						
C21A	Desert Coulee	50.15	330	⇑P	P	00 15 13.1	+1.3
	baz=50						
F18A	Big Timber	50.23	327	⇑P	P	00 15 13.6	+1.1
	baz=50						
H16A	Russell Place,	50.34	325	⇑P	P	00 15 14.6	+1.1
	baz=50						
A22A	Carney Farms,	50.41	332	⇓P	P	00 15 15.2	+1.4
	baz=50,SNR=9.2						
C20A	Veseth Ranch,	50.52	330	⇑P	P	00 15 16.0	+1.4
	baz=51						
D19A	Cripps Ranch,	50.60	329	⇑P	P	00 15 16.1	+0.8
	baz=51,SNR=7.8						
F17A	Fitzpatrick Pl	50.75	326	⇓P	P	00 15 17.4	+1.0
	baz=51						
E18A	Harlowton	50.76	328	⇓P	P	00 15 17.6	+1.0
	baz=51						
B20A	Solberg Farm,	51.02	330	⇑P	P	00 15 19.6	+1.3
	baz=51,SNR=8.5						
BOZ	Bozeman (W)	51.13	326	*e*P	P	00 15 19.6	+0.3
	1.8nm,0.8s						
I14A	Mackay	51.18	323	⇓P	P	00 15 20.3	+0.5
	baz=51						
E17A	Martinsdale	51.20	327	⇓P	P	00 15 20.3	+0.5
	baz=51,SNR=5.1						
F16A	Kennard Place,	51.21	326	⇑P	P	00 15 20.5	+0.6
	baz=51						
A20A	Cobblestone Ra	51.28	331	⇓P	P	00 15 21.5	+1.3
	baz=51,SNR=5.6						
RCTC	Rector, Farmer	51.44	312	⇑P	P	00 15 21.8	+0.2
	baz=52						
B19A	Brinkman Farms	51.49	330	⇑P	P	00 15 22.8	+1.0
	baz=52						
D17A	Six Diamond Ra	51.54	328	⇓P	P	00 15 22.7	+0.4
	baz=52						
A19A	Klindworth Far	51.71	331	⇑P	P	00 15 24.4	+1.0
	baz=52						
F15A	Butte	51.73	325	⇑P	P	00 15 24.4	+0.6
	baz=52						
B18A	Beardsley Farm	51.87	329	⇑P	P	00 15 25.6	+0.9
	baz=52,SNR=8.9						
C17A	Wharram Farm,	51.88	328	⇑P	P	00 15 25.3	+0.5
	baz=52						
D16A	Dana Ranch, Ca	51.92	327	⇓P	P	00 15 25.9	+0.8
	baz=52						
I12A	Atlanta	52.13	322	⇓P	P	00 15 27.7	+0.9
	baz=52						
F14A	Wisdom	52.21	325	⇑P	P	00 15 28.2	+0.9
	baz=52						
A18A	Metzger Ranch,	52.24	330	⇑P	P	00 15 28.6	+1.2
	baz=52						
MFID	Camas Ranch	52.36	321	*e*P	P	00 15 28.4	0.0
	4.8nm,0.7s						
MFID	Camas Ranch	52.36	321	⇑P	P	00 15 29.0	+0.5
	baz=52,SNR=6.8						
H12A	Diamond D Ranc	52.37	323	⇑P	P	00 15 29.0	+0.4
	baz=52,SNR=8.1						
D15A	Lincoln	52.46	327	⇑P	P	00 15 30.2	+1.1
	baz=53						
C16A	Fuhringer Ranc	52.51	328	⇑P	P	00 15 30.6	+1.2
	baz=53						
A17A	Triple J Farms	52.69	329	⇓P	P	00 15 31.5	+0.8
	baz=53						
B16A	M & M Farms, S	52.87	328	⇑P	P	00 15 32.6	+0.6
	baz=53						
C15A	Salmond Ranch,	52.95	327	⇓P	P	00 15 33.8	+1.1
	baz=53						
G12A	Big Creek, Yel	52.96	323	⇑P	P	00 15 33.2	+0.3
	baz=53,SNR=5.4						
D14A	Greenough	53.02	326	⇑P	P	00 15 33.7	+0.5
	baz=53						
MSO	Missoula	53.12	326	⇓P	P	00 15 34.8	+0.8
	baz=53						
A16A	West Butte Ran	53.15	329	⇓P	P	00 15 35.3	+1.2
	baz=53						
B15A	Bradely Ranch,	53.25	328	⇑P	P	00 15 36.1	+1.2
	baz=53						
C14A	Swan Lake	53.56	327	⇓P	P	00 15 38.0	+0.9
	baz=54						
D13A	Huson	53.56	326	⇑P	P	00 15 38.0	+0.9
	baz=54						
B14A	Marquette Ranc	53.66	328	⇓P	P	00 15 38.8	+0.9
	baz=54						
WVOR	Wild Horse Val	53.66	319	*e*P	P	00 15 37.6	-0.4
A15A	Johnson Ranch,	53.75	328	⇓P	P	00 15 38.9	+0.5
	baz=54						
E12A	Beaver Dam Sad	53.81	324	⇑P	P	00 15 39.3	+0.2
	baz=54						
C13A	Hot Springs	53.96	326	⇑P	P	00 15 40.8	+0.8
	baz=54						
A14A	Double T Ranch	54.11	328	⇑P	P	00 15 42.1	+1.0
	baz=54						
B13A	Whitefish	54.31	327	⇓P	P	00 15 43.5	+1.1
	baz=54						
C11A	Tepee Creek (N	54.99	326	⇑P	P	00 15 48.4	+1.0
	baz=55						
A12A	Yaak River Ran	55.27	327	⇓P	P	00 15 50.5	+1.0
	baz=55						
KIPM	Iron Peak	55.87	314	*e*P	P	00 15 55.3	+1.4
KEBM	Edson Butte	57.64	317	*e*P	P	00 16 07.0	+0.7
YKA	Yellowknife Ar	63.33	340	P	P	00 16 44.7	+0.4
YKA	Yellowknife Ar	63.33	340	P	P	00 16 44.7	+0.4
	4.9nm,0.6s,baz=133,slow=6.6,SNR=75						
YKW3	Yellowknife Ar	63.38	340	*e*P	P	00 16 44.8	+0.2
	0.1nm,0.6s						
DBIC	Dimbokro	67.51	86	P	P	00 17 12.1	0.0
DBIC	Dimbokro	67.51	86	P	P	00 17 12.1	0.0
	3.5nm,0.8s,baz=249,slow=8.0,SNR=7.7						
TORD	Torodi Ar. Bea	73.51	78	P	P	00 17 48.5	0.0
TORD	Torodi Ar. Bea	73.51	78	P	P	00 17 48.5	0.0
	0.2nm,0.3s,baz=285,slow=6.5,SNR=10						
ILAR	Eielson Array	77.05	335	P	P	00 18 08.1	+0.4
ILAR	Eielson Array	77.05	335	P	P	00 18 08.1	+0.4
	0.7nm,0.7s,baz=110,slow=4.4,SNR=9.8						
ZALV	Zalesovo Beam	116.60	15	PKP	PKPdf	00 24 57.9	+0.2
ZALV	Zalesovo Beam	116.60	15	PKP	PKPdf	00 24 57.9	+0.2
	0.6nm,0.4s,baz=0.0,slow=1.4,SNR=4.2						
MKAR	Makanchi Array	122.23	20	PKP	PKPdf	00 25 08.7	0.0
MKAR	Makanchi Array	122.23	20	PKP	PKPdf	00 25 08.7	0.0
	0.4nm,0.4s,baz=318,slow=2.3,SNR=10						
SONM	Songino Array	125.56	1	PKP	PKPdf	00 25 16.3	+1.1
SONM	Songino Array	125.56	1	PKP	PKPdf	00 25 16.3	+1.1
	0.2nm,0.3s,baz=2.9,slow=2.9,SNR=2.6						
HHC	Hu-ho-hao-te	132.37	355	*e*PKP	PKPdf	00 25 26.9	-1.5
HHC				sPKP		00 26 26.6	
HHC				PP	PP	00 27 53.4	+1.7
HHC				PKS	PKSdf	00 29 00.2	-4.7
HHC				SKS	SKSdf	00 32 19.8	-4.9
HHC				SKKS	SKKSac	00 34 27.5	-5.6
HHC	Hu-ho-hao-te	132.37	355	SS	SS	00 45 14.4	-2.2
HHC				AMB	AMB		
	comp=Z,110nm,5.8s						
HHC				LR	LR		
	comp=N,85nm,15.5s						
HHC				LR	LR		
	comp=E,180nm,14.3s						
HHC				LR	LR		
	comp=Z,120nm,14.3s						
HHC	Hu-ho-hao-te	132.37	355	*e*PKP	PKPdf	00 25 27.1	-1.3
HHC				sPKP		00 26 25.2	
HHC				PP	PP	00 27 56.0	+4.3
HHC				PKS	PKSdf	00 29 02.6	-2.3
HHC				SKS	SKSdf	00 32 20.0	-4.7
HHC				SKKS	SKKSac	00 34 27.3	-5.8
HHC	Hu-ho-hao-te	132.37	355	SS	SS	00 45 16.8	+0.2
HHC				AMB	AMB		
	comp=Z,150nm,7.5s						
LZH	Lanzhou	137.20	4	*e*PKP	PKPdf	00 25 35.2	-2.4
LZH				pPKP	pPKPdf	00 26 15.5	-5.0
LZH				sPKP		00 26 34.2	
LZH				PKS	PKSdf	00 29 14.5	+0.5
LZH				LR	LR		
	comp=N,140nm,16.0s						
LZH				LR	LR		
	comp=E,150nm,17.3s						
LZH				LR	LR		
	comp=Z,230nm,19.8s						
ASAR	Alice Springs	149.30	234	PKP	PKPdf	00 25 59.0	+0.2
ASAR				PKPbc	PKPbc	00 26 02.7	-0.7
ASAR	Alice Springs	149.30	234	PKP	PKPdf	00 25 59.0	+0.2
	comp=Z,2.7nm,0.6s,baz=102,slow=1.7,SNR=9.0						
ASAR				PKPbc	PKPbc	00 26 02.7	-0.7
	comp=Z,3.0nm,0.5s,baz=117,slow=3.4,SNR=54						
WRA	Warramunga Arr	150.54	241	PKP	PKPdf	00 26 01.6	+0.7
WRA				PKPbc	PKPbc	00 26 06.0	-0.4
WRA	Warramunga Arr	150.54	241	PKP	PKPdf	00 26 01.6	+0.7
	comp=Z,3.1nm,0.4s,baz=108,slow=2.6,SNR=4.5						
WRA				PKPbc	PKPbc	00 26 06.0	-0.4
	comp=Z,3.1nm,0.4s,baz=108,slow=2.6,SNR=63						
CMAR	Chiang Mai Arr	153.61	18	PKPbc	PKPbc	00 26 14.6	+1.2
CMAR	Chiang Mai Arr	153.61	18	PKPbc	PKPbc	00 26 14.6	+1.2
	comp=Z,1.1nm,0.5s,baz=322,slow=4.1,SNR=4.1						

IDC 05 00:33:16.1±1.3, 20.65S×68.65W, h115km±22km, mb3.7/2, mb1 3.6/3, mb1mx3.2/18, mbtmp3.5/3, Error ellipse: s-maj=90.7km s-min=9.8km az=95.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	1.96	187	P	Pn	00 33 48.8	-0.4
	5.6nm,0.3s,baz=19,slow=8.9,SNR=81						
LVC				S	Sn	00 34 14.8	+0.3
	37nm,0.3s,baz=131,slow=19,SNR=35						
LPAZ	La Paz	4.37	7	P	Pn	00 34 22.7	+1.3
	1.1nm,0.3s,baz=197,slow=9.2,SNR=23						
LPAZ				S	Sn	00 35 11.3	-0.6
	0.3nm,0.3s,baz=191,slow=5.9,SNR=4.5						
DBIC	Dimbokro	68.26	74	P	P	00 44 05.3	+0.3
	6.4nm,1.1s,baz=246,slow=10.0,SNR=2.1						
TORD	Torodi Ar. Bea	76.84	70	P	P	00 44 55.7	-0.2
	0.2nm,0.4s,baz=255,slow=5.6,SNR=10						
MKAR	Makanchi Array	144.81	35	PKP	PKPab	00 52 38.7	0.0
	0.4nm,1.0s,baz=334,slow=2.4,SNR=3.9						

WEL 05 00:38:30.1±0.5, 39.69S×174.26E, h193km±4km, ML3.5/7, 2C-2D, Error ellipse: s-maj=5.1km s-min=3.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WAZ	Wanganui	0.57	97	⇓PN	Pn	00 38 57.3	+0.7
WAZ				SN	Sn	00 39 16.1	-1.0
WNVZ	Wahianoa	1.10	71	PN	Pn	00 38 59.7	-0.3
WNVZ				SN	Sn	00 39 22.0	-1.1
DUWZ	D'Urville Isla	1.15	193	PN	Pn	00 38 59.8	-0.3
DUWZ				SN	Sn	00 39 20.9	-2.8
MOVZ	Moawhango	1.19	77	SN	Sn	00 39 21.6	-2.5
KIW	Kapiti Island	1.28	157	PN	Pn	00 39 01.3	+0.2
KIW				SN	Sn	00 39 24.0	-1.5
OGWZ	Otaki Gorge	1.33	149	PN	Pn	00 39 02.0	+0.4
OGWZ				SN	Sn	00 39 25.2	-1.1
POWZ	Post Office Ro	1.36	122	PN	Pn	00 39 01.9	+0.1
MRZ	Mangatainoka R	1.41	134	⇑PN	Pn	00 39 02.5	+0.2
MRZ				AML	AML	00 39 28.6	
MRZ				AML	AML	00 39 28.7	
BHHZ	Black Hill Sta	1.41	83	PN	Pn	00 39 01.6	-0.8
TCW	Tory Channel	1.53	179	PN	Pn	00 39 03.7	+0.3
HOWZ	Holdsworth Sta	1.55	142	PN	Pn	00 39 03.7	+0.1
SNZO	South Karori	1.66	168	PN	Pn	00 39 04.5	0.0
SNZO				AML	AML	00 39 33.2	
NNZ	Nelson	1.67	203	⇑PN	Pn	00 39 03.9	-0.8
WPHZ	Waipukurau	1.72	103	SN	Sn	00 39 32.0	-0.5
MTW	Mount Morrison	1.75	148	PN	Pn	00 39 05.5	0.0
TUWZ	Tuamarina	1.76	188	PN	Pn	00 39 05.1	-0.4
BKZ	Black Stump Fm	1.81	74	⇓PN	Pn	00 39 05.3	-0.9
BKZ				AML	AML	00 40 06.2	
KAHZ	Kahuranaki	2.02	94	PN	Pn	00 39 08.7	+0.4
PLWZ	Palliser	2.03	158	PN	Pn	00 39 08.1	-0.3
BSWZ	Blackbirch Sta	2.05	188	PN	Pn	00 39 08.4	-0.1
THZ	Tophouse	2.32	206	PN	Pn	00 39 10.5	-1.0
OXZ	Oxford	4.00	204	PN	Pn	00 39 28.9	-2.6

WEL 05 00:41:13.9±0.5, 37.96S×175.34E, h33km, ML3.6/5, 1C, Error ellipse: s-maj=4.4km s-min=3.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	1.43	103	PN	Pn	00 41 36.8	-0.7
URZ				SN	Sn	00 41 55.0	-0.1
BKZ	Black Stump Fm	1.51	144	⇑PN	Pn	00 41 38.2	-0.5
BKZ				SN	Sn	00 41 56.3	-1.0
NMHZ	Naumai	1.62	135	PN	Pn	00 41 39.9	-0.3
NMHZ				SN	Sn	00 41 59.1	-1.0
BHHZ	Black Hill Sta	1.63	160	PN	Pn	00 41 40.0	-0.4
BHHZ				SN	Sn	00 41 58.4	-2.0
RAHZ	Arahi	1.67	126	PN	Pn	00 41 39.8	-1.1
RAHZ				SN	Sn	00 41 59.5	-1.8
MWZ	Matawai	1.76	103	PN	Pn	00 41 40.0	-2.2
MCHZ	McNeill Hill	1.82	145	PN	Pn	00 41 41.8	-1.2
KNZ	Kokohu	2.12	121	PN	Pn	00 41 43.1	-3.8
KAHZ	Kahuranaki	2.19	147	PN	Pn	00 41 45.3	-2.8
MHGZ	Mahia Peninsul	2.34	122	*e*PN	Pn	00 41 45.8	-4.2
CAW	Cannon Point	3.15	184	AML	AML	00 41 58.0	
MTW	Mount Morrison	3.20	178	AML	AML	00 42 00.4	

*IDC **05** 00:51:59.5±0.7, 34.43N×26.07E, h0km, mb3.8/13, mb1 3.8/17, mb1mx3.7/31, mbtmp3.7/17, ML3.4/4, MS2.9/1, Ms1 2.9/1, ms1mx2.0/44, Error ellipse: s-maj=17.9km s-min=13.9km az=152.0*

*ISK **05** 00:52:01.3, 34.36N×25.96E, h34km, ML3.5*

*CSEM **05** 00:52:04.7±0.1, 34.34N×26.13E, h40km, Mw3.7, Error ellipse: s-maj=4.0km s-min=3.3km az=17.0*

*HLW **05** 00:52:06.0, 34.17N×26.40E, h33km±29km, Md3.4, Ml3.4*

*DDA **05** 00:52:05.4, 34.59N×26.55E, h7km, MD3.9*

*THE **05** 00:52:07.9, 34.53N×25.99E, h26km±9km, ML3.1/2, Error ellipse: s-maj=9.3km s-min=2.2km az=169.0*

*ATH **05** 00:52:07.2, 34.68N×26.02E, h67km, ML3.2*

ISC 05 00:52:08.1±1.0, 34.63N±0.06×26.05E±0.03, h61km±7km, n193,o095/210, mb3.5/13, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	Zakros	0.51	16	P	Pn	00 52 20.1	-0.1
ZKR				S	Sn	00 52 27.6	-1.4
ZKR	Zakros	0.51	16	*e*P	Pn	00 52 20.1	-0.1
ZKR				*e*S	Sn	00 52 29.0	0.0
ZKR	Zakros	0.51	16	*e*P	Pn	00 52 20.1	-0.1
ZKR				*e*S	Sn	00 52 29.0	0.0
LAST	Lasithi	0.71	319	P	Pn	00 52 22.7	+0.1
LAST				S	Sn	00 52 33.8	+0.6
LAST	Lasithi	0.71	319	*e*P	Pn	00 52 22.2	-0.4
LAST				*e*S	Sn	00 52 32.4	-0.8
LAST	Lasithi	0.71	319	*e*P	Pn	00 52 22.2	-0.4
LAST				S	Sn	00 52 33.8	+0.6
NPS	Neapolis	0.73	331	P	Pn	00 52 23.2	+0.4
NPS	Neapolis	0.73	331	*e*P	Pn	00 52 21.6	-1.2
NPS				*e*S	Sn	00 52 32.9	-0.6
NPS	Neapolis	0.73	331	*e*P	Pn	00 52 21.6	-1.2
NPS				*e*S	Sn	00 52 32.9	-0.6
SIVA	Sivas	1.09	291	P	Pn	00 52 25.8	-1.6
SIVA	Sivas	1.09	291	*e*P	Pn	00 52 27.1	-0.3
SIVA	Sivas	1.09	291	P	Pn	00 52 25.8	-1.6
KARP	Karpathos	1.29	44	P	Pn	00 52 30.8	+0.7
KARP				S	Sn	00 52 48.6	+2.1
KARP	Karpathos	1.29	44	*e*P	Pn	00 52 30.4	+0.3
KARP				*e*S	Sn	00 52 46.8	+0.3
KARP	Karpathos	1.29	44	*e*P	Pn	00 52 30.4	+0.3
KARP				*e*S	Sn	00 52 46.8	+0.3
GVD	Gavdhos	1.63	278	*e*P	Pn	00 52 34.5	-0.1
GVD				*e*S	Sn	00 52 54.6	+0.1
GVD	Gavdhos	1.63	278	*e*P	Pn	00 52 34.5	-0.1
GVD				*e*S	Sn	00 52 54.6	+0.1
VAM	Vamos	1.71	298	P	Pn	00 52 34.1	-1.5
VAM	Vamos	1.71	298	*e*P	Pn	00 52 35.5	-0.1
VAM				*e*S	Sn	00 52 56.5	+0.1
VAM	Vamos	1.71	298	P	Pn	00 52 34.1	-1.5
VAM				*e*S	Sn	00 52 56.5	+0.1
SANT	Santorini	1.81	345	*e*P	Pn	00 52 36.9	-0.1
SANT				*e*S	Sn	00 52 58.7	-0.2
SANT	Santorini	1.81	345	*e*P	Pn	00 52 36.9	-0.1
THR1	Thera Island	1.81	345	P	Pn	00 52 37.1	+0.1
THR1	Thera Island	1.81	345	P	Pn	00 52 37.1	+0.1
THR3	Thira Island,	1.85	344	P	Pn	00 52 38.0	+0.4
THR3	Thira Island,	1.85	344	P	Pn	00 52 38.0	+0.4
NIS1	Nisyros Isl.	2.17	25	*e*P	Pn	00 52 42.0	0.0
NIS1				*e*S	Sn	00 53 07.2	-0.6
NIS1	Nisyros Isl.	2.17	25	*e*P	Pn	00 52 42.0	0.0
ARG	Arkhangelos	2.32	46	P	Pn	00 52 44.5	+0.6
ARG				S	Sn	00 53 12.7	+1.3
ARG	Arkhangelos	2.32	46	*e*P	Pn	00 52 44.3	+0.4
ARG				*e*S	Sn	00 53 11.1	-0.3
ARG	Arkhangelos	2.32	46	*e*P	Pn	00 52 44.3	+0.4
ARG				*e*S	Sn	00 53 11.1	-0.3
DAT	Datca	2.44	30	*e*PN	Pn	00 52 44.0	-1.6
DAT				*e*SN	Sn	00 53 14.9	+0.5
DAT	Datca	2.44	30	*e*Pn	Pn	00 52 44.0	-1.6
DAT				*e*Sn	Sn	00 53 14.9	+0.5
APE	Apeiranthos	2.47	350	*e*PN	Pn	00 52 44.4	-1.7
APE				*e*SN	Sn	00 53 15.9	+0.8
APE	Apeiranthos	2.47	350	P	Pn	00 52 46.2	+0.1
APE				S	Sn	00 53 17.1	+2.0
APE	Apeiranthos	2.47	350	*e*P	Pn	00 52 46.1	0.0
APE				*e*S	Sn	00 53 14.0	-1.1
APE	Apeiranthos	2.47	350	*e*Pn	Pn	00 52 44.4	-1.7
APE	Apeiranthos	2.47	350	P	Pn	00 52 46.2	+0.1
APE				*e*Sn	Sn	00 53 15.9	+0.8
APE				S		00 53 17.1	
ANKY	Antikythira Is	2.57	300	*e*P	Pn	00 52 47.5	+0.2
ANKY				*e*S	Sn	00 53 16.6	-0.8
ANKY	Antikythira Is	2.57	300	*e*P	Pn	00 52 47.5	+0.2
ANKY				*e*S	Sn	00 53 16.6	-0.8
BODT	Bodrum	2.64	22	*e*PN	Pn	00 52 46.1	-2.2
BODT	Bodrum	2.64	22	*e*Pn	Pn	00 52 46.1	-2.2
KYTH	Kithira	2.96	305	*e*P	Pn	00 52 52.7	0.0
KYTH	Kithira	2.96	305	*e*P	Pn	00 52 52.7	0.0
MLSB	Milas	3.01	27	*e*PN	Pn	00 52 51.5	-1.8
MLSB	Milas	3.01	27	*e*Pn	Pn	00 52 51.6	-1.8
DALY	Dalyan (Mu˘la	3.04	43	*e*PN	Pn	00 52 52.0	-1.8
DALY	Dalyan (Mu˘la	3.04	43	*e*Pn	Pn	00 52 52.0	-1.8
TURN	Turunc	3.06	42	*i* Pn	Pn	00 52 50.3	-3.6
TURN				*i* Sn	Sn	00 53 22.7	-6.6
YER	Yerkesik	3.09	35	*e*PN	Pn	00 52 52.8	-1.7
YER	Yerkesik	3.09	35	*e*Pn	Pn	00 52 52.8	-1.7
LTBQ	Tobruq	3.12	215	*i* P	Pn	00 52 49.8	-5.1
	SNR=50						
SMG	Samos	3.14	11	*e*P	Pn	00 52 55.0	-0.1
SMG				*e*S	Sn	00 53 30.7	-0.7
SMG	Samos	3.14	11	*e*P	Pn	00 52 55.0	-0.1
FETY	Fethiye	3.18	50	*e*PN	Pn	00 52 54.1	-1.6
FETY	Fethiye	3.18	50	*e*Pn	Pn	00 52 54.1	-1.6
SLUM		3.21	193	AMP		00 53 00.0	
	comp=E,160µm,0.2s,logA/T=5.8,baz=201						
SLUM		3.21	193	P	Pn	00 52 49.1	-6.9
VLI	Veliai	3.28	310	P	Pn	00 52 56.3	-0.8
VLI	Veliai	3.28	310	*e*P	Pn	00 52 56.6	-0.5
VLI				*e*S	Sn	00 53 33.4	-1.5
VLI	Veliai	3.28	310	*e*P	Pn	00 52 56.6	-0.5
AKAS	Kas	3.32	60	*i* Pn	Pn	00 52 56.1	-1.6
AKAS				*i* Sn	Sn	00 53 30.6	-5.3
AYDN	Tasoluk	3.37	26	*e*Pn	Pn	00 52 59.0	+0.7
AYDN				*e*Sn	Sn	00 53 34.2	-2.9
HMAT	Matruh	3.63	166	S	Sn	00 53 28.3	-15
	baz=168						
HMAT				AMP		00 53 00.0	
	comp=E,110µm,0.3s,logA/T=5.6,baz=168						
HMAT	Matruh	3.63	166	S	Sn	00 53 28.3	-15
DID	Didima	3.67	322	P	Pn	00 53 02.2	-0.2
DID				S	Sn	00 53 43.5	-0.9
DID	Didima	3.67	322	*e*P	Pn	00 53 02.2	-0.2
DID				*e*S	Sn	00 53 43.0	-1.4
DID	Didima	3.67	322	*e*P	Pn	00 53 02.2	-0.2
DID				S	Sn	00 53 43.5	-0.9
DYR	Agios Nikonas	3.70	306	*e*P	Pn	00 53 03.0	+0.2
DYR				*e*S	Sn	00 53 44.0	-1.1
DYR	Agios Nikonas	3.70	306	*e*P	Pn	00 53 03.0	+0.2
NAIG	Nisos Aigina	3.75	327	*e*P	Pn	00 53 03.8	+0.4
NAIG	Nisos Aigina	3.75	327	*e*P	Pn	00 53 03.8	+0.4
CHOS	Chios island	3.75	0	*e*P	Pn	00 53 04.2	+0.6
CHOS	Chios island	3.75	0	*e*P	Pn	00 53 04.2	+0.6
ELL	Elmali	3.79	55	*e*PN	Pn	00 53 02.5	-1.6
ELL	Elmali	3.79	55	*e*Pn	Pn	00 53 02.5	-1.6
ATH	Athens Observa	3.83	331	*e*P	Pn	00 53 04.4	-0.2
ATH				*e*S	Sn	00 53 47.2	-1.

EFP	Efpalio	5.05	320	*e*P		Pn	00 53 22.2	+0.9
NEO	Neokhori	5.19	335	*e*P		Pn	00 53 23.7	+0.5
NEO	Neokhori	5.19	335	*e*P		Pn	00 53 23.7	+0.5
AGG	Agios Georgios	5.30	327	*e*P		Pn	00 53 25.6	+0.8
AGG	Agios Georgios	5.30	327	*e*P		Pn	00 53 25.6	+0.8
SWA2	baz=190	5.39	186	P		Pn	00 53 18.9	-7.1
SWA2	baz=190			S		Sn	00 54 13.2	-13
SWA2		5.39	186	P		Pn	00 53 18.9	-7.1
SWA2				S		Sn	00 54 13.2	-13
EVR	Evrytania	5.47	323	*e*P		Pn	00 53 27.3	+0.2
EVR	Evrytania	5.47	323	*e*P		Pn	00 53 27.3	+0.2
ALT	Altintas	5.49	35	*e*PN		Pn	00 53 26.8	-0.6
ALT	Altintas	5.49	35	*e*Pn		Pn	00 53 26.8	-0.6
TVSB	Tavsanli	5.53	29	*e*PN		Pn	00 53 28.2	+0.2
TVSB	Tavsanli	5.53	29	*e*Pn		Pn	00 53 28.2	+0.2
LEF	Lefka	5.64	83	*e*PN		Pn	00 53 26.8	-2.6
LEF	Lefka	5.64	83	*e*Pn		Pn	00 53 26.8	-2.6
VLS	Valsamata	5.65	310	*e*P		Pn	00 53 30.8	+1.3
VLS	Valsamata	5.65	310	*e*P		Pn	00 53 30.8	+1.3
HDMB	Hadim	5.73	64	*e*PN		Pn	00 53 30.3	-0.5
HDMB	Hadim	5.73	64	*e*Pn		Pn	00 53 30.3	-0.5
THL	Klokotos Trika	5.89	328	*e*P		Pn	00 53 34.0	+1.3
THL	Klokotos Trika	5.89	328	*e*P		Pn	00 53 34.0	+1.3
ERMK	Ermenek	5.94	68	*e*Pn		Pn	00 53 32.7	-0.9
ERMK				*e*Sn		Sn	00 54 35.9	-4.5
CSS	Prodhromos	6.00	85	*e*PN		Pn	00 53 32.6	-1.7
CSS	Prodhromos	6.00	85	*e*Pn		Pn	00 53 32.6	-1.7
KONT	Konya--Tatoy	6.08	55	*e*PN		Pn	00 53 34.4	-0.9
KONT	Konya--Tatoy	6.08	55	*e*Pn		Pn	00 53 34.4	-0.9
LIT	Litokhoron	6.15	334	*e*P		Pn	00 53 37.1	+0.7
LIT	Litokhoron	6.15	334	*e*P		Pn	00 53 37.1	+0.7
LJBD	Adjabya SNR=48	6.16	235	*i* P		Pn	00 53 31.8	-4.7
LFK	Lefkose	6.18	82	*e*PN		Pn	00 53 35.2	-1.6
LFK	Lefkose	6.18	82	*e*Pn		Pn	00 53 35.2	-1.6
LADK	Ladik-KONYA	6.22	53	*e*PN		Pn	00 53 36.1	-1.2
LADK	Ladik-KONYA	6.22	53	*e*Pn		Pn	00 53 36.1	-1.2
KIZT	Kizilcal	6.32	46	*e*PN		Pn	00 53 38.6	-0.1
KIZT	Kizilcal	6.32	46	*e*Pn		Pn	00 53 38.6	-0.1
JAN	Janina	6.51	322	*e*P		Pn	00 53 41.0	-0.3
JAN	Janina	6.51	322	*e*P		Pn	00 53 41.0	-0.3
AWBH	baz=159	6.74	158	P		Pn	00 53 35.9	-8.6
AWBH	baz=159			S		Sn	00 54 44.3	-16
AWBH		6.74	158	P		Pn	00 53 35.9	-8.6
GRG	Griva	6.95	337	*e*P		Pn	00 53 48.1	+0.9
GRG	Griva	6.95	337	*e*P		Pn	00 53 48.1	+0.9
FNA	Florina	7.17	330	*e*P		Pn	00 53 51.5	+1.1
FNA	Florina	7.17	330	*e*P		Pn	00 53 51.5	+1.1
AMAG	Maghara baz=119	7.23	121	P		Pn	00 53 42.6	-8.5
AFSR	Af˙ar-Bala (A	7.39	47	*e*PN		Pn	00 53 52.1	-1.3
AFSR	Af˙ar-Bala (A	7.39	47	*e*Pn		Pn	00 53 52.1	-1.3
RSH	baz=115	7.42	117	P		Pn	00 53 46.7	-7.1
RSH		7.42	117	P		Pn	00 53 46.7	-7.1
HFRF	Wahat Farafira baz=166	7.70	165	P		Pn	00 53 49.2	-8.4
HFRF				AMP			00 55 00.0	
	comp=E,40μm,0.1s,logA/T=5.6,baz=166							
HFRF	Wahat Farafira	7.70	165	P		Pn	00 53 49.2	-8.4
BRTR	Keskin Array B comp=E,0.1nm,0.3s,baz=212,slow=19,SNR=5.0	7.91	48	Pn		Pn	00 53 56.6	-4.0
BRTR				Sn		**Sn**	**00 55 26.9**	**-1.7**
	comp=E,0.1nm,0.3s,baz=210,slow=26,SNR=3.9							
MMAI	Mount Meron Ar comp=E,1.5nm,0.3s,baz=273,slow=13,SNR=12	7.95	99	Pn		Pn	00 53 55.0	-6.1
MMAI				Sn		Sn	00 55 18.9	-11
	comp=E,2.9nm,0.3s,baz=298,slow=24,SNR=4.8							
HNKL	Nakhl baz=121	8.19	123	P		Pn	00 53 56.5	-7.8
HNKL	Nakhl	8.19	123	P		Pn	00 53 56.5	-7.8
EIL	Elat comp=E,0.3nm,0.3s,baz=330,slow=18,SNR=9.7	9.02	121	Pn		Pn	00 54 09.0	-6.6
EIL				Sn		Sn	00 55 37.9	-18
	comp=E,2.1nm,0.3s,baz=349,slow=2.8,SNR=8.3							
HKAT	Jabal Katrina baz=128	9.11	130	P		Pn	00 54 09.1	-7.9
HKAT	Jabal Katrina	9.11	130	P		Pn	00 54 09.1	-7.9
STON	Ston	10.49	324	*e*Pn		Pn	00 54 32.0	-3.7
STON				Sn		Sn	00 56 20.8	-11
GERES	GERESS Array B comp=E,0.1nm,0.3s,baz=139,slow=14,SNR=3.3	16.90	331	Pn		**P**	**00 56 01.9**	**+0.2**
ESDC	Sonseca Array comp=E,0.4nm,0.6s,baz=79,slow=9.4,SNR=7.5	24.38	291	P		**P**	**00 57 20.4**	**-0.3**
MDT	Midelt comp=E,1.3nm,0.9s,baz=93,slow=5.0,SNR=3.4	25.52	275	P		**P**	**00 57 30.8**	**-0.3**
HFS	Hagfors comp=E,24nm,21.4s,baz=320,slow=39	26.76	346	LR		LR	01 09 27.0	
FINES	FINESS Array B comp=E,1.1nm,0.7s,baz=172,slow=13,SNR=4.4	26.83	0	P		**P**	**00 57 42.1**	**-0.4**
EKA	Eskdalemuir Ar comp=E,0.2nm,0.3s,baz=125,slow=10,SNR=3.5	28.90	325	P		**P**	**00 58 01.5**	**+0.5**
TORD	Torodi Ar. Bea comp=E,1.3nm,0.5s,baz=33,slow=8.4,SNR=34	30.72	232	P		P	00 58 15.4	-2.1
ARCES	ARCESS Array B comp=E,2.3nm,0.9s,baz=172,slow=9.8,SNR=5.1	34.96	360	P		P	00 58 53.7	-0.2
DBIC	Dimbokro comp=E,5.8nm,1.0s,baz=51,slow=6.5,SNR=3.7	39.82	233	P		P	00 59 33.2	-2.3
KURBB	Kurchatov Arra comp=E,0.2nm,0.4s,baz=282,slow=9.4,SNR=4.0	40.89	51	P		**P**	**00 59 44.9**	**+0.8**
MKAR	Makanchi Array comp=E,0.6nm,0.6s,baz=270,slow=8.6,SNR=6.3	43.46	56	P		**P**	**01 00 05.5**	**+0.4**
ZALV	Zalesovo Beam comp=E,0.6nm,0.3s,baz=280,slow=8.0,SNR=2.3	44.85	46	P		**P**	**01 00 16.5**	**+0.5**
SONM	Songino Array comp=E,0.2nm,0.5s,baz=262,slow=5.5,SNR=2.2	59.26	51	P		P	01 02 03.4	0.0
BOSA	Boshof comp=E,1.4nm,0.6s,baz=354,slow=10,SNR=2.8	62.90	181	P		P	01 02 26.3	-1.7
SCHQ	Schefferville comp=E,1.2nm,0.5s,baz=53,slow=5.1,SNR=2.7	64.06	320	P		**P**	**01 02 35.9**	**+0.5**

IDC 05 00:52:17.0±1.5, 39˚38N×110˚77E, h0km, mb3.5/6, mb1 3.8/7, mb1mx3.5/25, mbtmp3.6/7, ML3.2/1, MS2.6/1, Ms1 2.6/1, ms1mx1.6/31, Error ellipse: s-maj=31.6km s-min=23.2km az=92.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array 0.2nm,0.3s,baz=153,slow=13,SNR=14	9.03	341	Pn	Pn	00 54 28.7	-0.1
SONM				Sn	Sn	00 56 02.0	-9.2
	0.2nm,0.3s,baz=170,slow=26,SNR=1.9						
SONM				Lg	Lg	00 57 05.8	
	0.1nm,0.3s,baz=161,slow=27,SNR=3.6						
SONM				LR	LR	00 57 09.2	
	comp=Z,42nm,20.9s,baz=36,slow=32						
KSRS	Korea Array 0.2nm,0.3s,baz=282,slow=14,SNR=4.1	13.59	93	Pn	Pn	00 55 35.0	+4.1
MKAR	Makanchi Array 2.4nm,0.8s,baz=96,slow=12,SNR=21	22.00	299	P	P	00 57 12.4	-0.3
ZALV	Zalesovo Beam 0.3nm,0.3s,baz=106,slow=9.2,SNR=3.0	22.84	318	P	P	00 57 22.5	+1.0
CMAR	Chiang Mai Arr 2.3nm,0.7s,baz=14,slow=9.5,SNR=15	23.23	210	P	P	00 57 26.2	+0.4
KURBB	Kurchatov Arra 2.0nm,1.0s,baz=108,slow=9.4,SNR=10	25.22	307	P	P	00 57 43.6	-0.7
ILAR	Eielson Array 0.2nm,0.8s,baz=292,slow=5.7,SNR=2.7	60.01	29	P	P	01 02 25.3	+0.3
YKA	Yellowknife Ar 0.4nm,0.7s,baz=326,slow=5.2,SNR=3.7	72.13	20	P	P	01 03 42.5	-0.4

FUNV 05 00:59:08.9, 6˚96N×72˚93W, h162km, MW3.5, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.09	34	⇓*i*P	Pn	00 59 34.8	-1.1
VIGV	El Vigia	2.43	40	*e*P	Pn	00 59 48.7	-1.1
SOCV	Socops	2.44	57	*e*P	Pn	00 59 48.9	-1.1
SOCV				*e*S	Sn	01 00 18.6	-3.3
ELOV	Elorza	3.42	89	*e*P	Pn	01 00 00.8	-1.3
ELOV				*e*S	Sn	01 00 40.1	-3.4
QARV	Quebrada Arrib	4.01	36	*e*P	Pn	01 00 09.1	-0.6
QARV				*e*S	Sn	01 00 51.8	-5.4
SANV	Sanarito	4.21	53	*e*P	Pn	01 00 10.9	-1.4
SANV				*e*S	Sn	01 00 56.5	-5.3
CURV	Curarigua	4.22	44	*e*P	Pn	01 00 11.4	-1.1
CURV				*e*S	Sn	01 00 57.7	-4.5
TEPV	Terepaima	4.75	51	*e*P	Pn	01 00 17.7	-1.7
SIQV	Siquisique	4.79	40	*e*P	Pn	01 00 18.2	-1.7
BAUV	El Baul	5.23	68	*e*P	Pn	01 00 22.8	-2.8
BAUV				*e*S	Sn	01 01 18.5	-7.0

IDC 05 01:09:28.8±3.5, 4˚36S×151˚23E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/18, mbtmp3.8/3, Error ellipse: s-maj=116.9km s-min=47.6km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby 1.9nm,0.3s,baz=127,slow=20,SNR=5.1	6.44	219	Sn	Sn	01 12 14.9	-4.4
WRA	Warramunga Arr 0.8nm,0.3s,baz=49,slow=10,SNR=9.2	22.60	225	P	P	01 14 30.5	-0.7
ASAR	Alice Springs 0.5nm,0.4s,baz=56,slow=8.9,SNR=8.5	25.46	219	P	P	01 14 58.2	-0.4
FITZ	Fitzroy Crossi 1.1nm,0.4s,baz=54,slow=6.9,SNR=5.7	28.52	239	P	P	01 15 27.4	+1.1
TORD	Torodi Ar. Bea 0.4nm,1.0s,baz=79,slow=2.1,SNR=5.0	148.69	288	PKPbc	PKPbc	01 29 18.4	-0.7

*ISCJB **05** 01:15:40.4±0.3, 17˚09N×0˚04×94˚99W±0˚03, h121km±3km, mb4.1/25, Error ellipse: s-maj=5.9km s-min=3.9km az=14.6*
*NEIC **05** 01:15:42.3, 17˚06N×95˚00W, h120km, mb4.4/19, MD4.3(MEX), After MEX.*
*MEX **05** 01:15:42.3±0.9, 17˚06N×95˚00W, h120km±11km, MD4.3*
*IDC **05** 01:15:42.7±3.6, 17˚30N×94˚85W, h117km±31km, mb3.7/14, mb1 3.9/15, mb1mx3.8/24, mbtmp3.8/15, Error ellipse: s-maj=25.4km s-min=13.1km az=59.0*
ISC 05 01:15:42.1±0.5, 17˚08N±0˚03×94˚99W±0˚03, h122km±4km, h121km:pP-P, n98, σ1§45/128, mb4.2/25, 20C-13D, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	Tuzandepetl	1.09	30	*e*P	Pn	01 16 03.7	-1.4
TUIG				*i* S	Sn	01 16 21.5	-1.1
TUIG	Tuzandepetl	1.09	30	*e*P	Pn	01 16 03.7	-1.4
TUIG				*i* S	Sn	01 16 21.5	-1.1
OXX	Oaxaca	1.66	270	*e*P	Pn	01 16 11.2	-0.5
OXX				*e*S	Sn	01 16 32.9	-1.3
OXX	Oaxaca	1.66	270	*e*P	Pn	01 16 11.2	-0.5
OXX				*e*S	Sn	01 16 32.9	-1.3
HUIG	Huatulco	1.69	220	*e*P	Pn	01 16 09.5	-2.4
HUIG				*e*S	Sn	01 16 32.4	-2.2
HUIG	Huatulco	1.69	220	*e*P	Pn	01 16 09.5	-2.4
HUIG				*e*S	Sn	01 16 32.4	-2.2
TGIG		1.81	99	*e*P	Pn	01 16 13.0	-0.4
TGIG				*e*S	Sn	01 16 36.5	-0.8
TGIG		1.81	99	*e*P	Pn	01 16 13.0	-0.4
TGIG				*e*S	Sn	01 16 36.5	-0.8
PCIG		2.18	129	*e*P	Pn	01 16 16.7	-1.2
PCIG				*e*S	Sn	01 16 44.4	-0.9
PCIG		2.18	129	*e*P	Pn	01 16 16.7	-1.2
PCIG				*e*S	Sn	01 16 44.4	-0.9
UTMO	Huajuapan	2.79	286	*e*P	Pn	01 16 25.9	0.0
UTMO				*e*S	Sn	01 16 58.6	-0.9
UTMO	Huajuapan	2.79	286	*e*P	Pn	01 16 25.9	0.0
UTMO				*e*S	Sn	01 16 58.6	-0.9
CCIG	Comitan	2.85	106	*i* P	Pn	01 16 26.0	-0.6
CCIG				*e*S	Sn	01 16 59.6	-1.3
CCIG	Comitan	2.85	106	*i* P	Pn	01 16 26.0	-0.6
CCIG				*e*S	Sn	01 16 59.6	-1.3
LVIG	Laguna Verde	2.96	333	*i* P	Pn	01 16 26.6	-1.3
LVIG				*e*S	Sn	01 17 01.5	-1.7
LVIG	Laguna Verde	2.96	333	*i* P	Pn	01 16 26.6	-1.3
LVIG				*e*S	Sn	01 17 01.5	-1.7
PNIG	Pinotepa	3.08	258	*i* P	Pn	01 16 27.7	-1.9
PNIG				*e*S	Sn	01 17 04.4	-1.8
PNIG	Pinotepa	3.08	258	*i* P	Pn	01 16 27.7	-1.9
PNIG				*e*S	Sn	01 17 04.4	-1.8
PPM	Popocatepetl	3.98	300	*e*P	Pn	01 16 41.4	-0.5
PPM				*e*S	Sn	01 17 27.2	-1.0
PPM	Popocatepetl	3.98	300	*e*P	Pn	01 16 41.4	-0.5
PPM				*e*S	Sn	01 17 27.2	-1.0
YAIG	Yautepec	4.26	295	*i* P	Pn	01 16 45.6	+0.2
YAIG				*e*S	Sn	01 17 32.3	-2.2
YAIG	Yautepec	4.26	295	*i* P	Pn	01 16 45.6	+0.2
YAIG				*e*S	Sn	01 17 32.3	-2.2
ACX	Acapulco	4.66	268	*e*P	Pn	01 16 49.1	-1.4
ACX				*e*S	Sn	01 17 43.8	0.0
ACX	Acapulco	4.66	268	*e*P	Pn	01 16 49.1	-1.4
ACX				*e*S	Sn	01 17 43.8	0.0
TEIG	Tepich	7.09	63	*e*Pn	Pn	01 17 21.0	-2.3
TEIG				*e*Sn	Sn	01 18 37.6	-4.9
TEIG	Tepich 16nm,0.3s,baz=265,slow=6.7,SNR=125	7.09	63	P	Pn	01 17 21.4	-1.9
TEIG				S	Sn	01 18 37.2	-5.2
	17nm,0.3s,baz=356,slow=19,SNR=9.5						
632A	Uvalde baz=13,SNR=7.6	13.13	341	⇓P	P	01 18 46.6	-2.9
631A	Perdido Creek baz=13	13.30	338	⇓P	Pn	01 18 47.1	+0.9
532A	Rocksprings baz=14,SNR=8.0	13.74	342	⇓P	P	01 18 54.9	-1.4
531A	Rocksprings baz=14	13.98	340	⇓P	P	01 18 57.5	-1.5
JCT	Junction City 7.0nm,0.6s	14.04	343	P	Pn	01 18 57.3	+1.6
530A	J-C Ranch, Com baz=14	14.24	337	⇑P	P	01 19 00.9	-1.0
530A				⇑S	Sn	01 21 37.1	+1.4
	baz=14						
530A				⇑S	Sn	01 21 37.1	+1.4
	baz=14						
628A	Black Gap, Mar baz=14	14.31	331	⇓P	P	01 19 00.9	-1.8
432A	Menard baz=14	14.41	343	⇑P	P	01 19 02.8	-1.0
431A	Sonora baz=14	14.48	340	⇓P	P	01 19 03.3	-1.2
TXAR	Lajitas Array 0.0nm,0.3s,baz=148,slow=9.8,SNR=6.0	14.56	328	P	P	01 19 04.5	-1.0
529A	Stev Forest Ra baz=15	14.57	334	⇑P	P	01 19 04.9	-0.6
430A	Baggett Ranch, baz=15,SNR=11	14.78	338	⇓P	P	01 19 07.7	-0.3
332A	Millersview baz=15	14.88	344	⇑P	P	01 19 08.0	-1.0
429A	Davenport Ranc baz=15,SNR=8.6	14.88	336	⇑P	P	01 19 07.5	-1.5
626A	Big Bend Ranch baz=15	14.98	328	⇓P	P	01 19 09.2	-1.0
330A	Mertzon baz=15	15.33	340	⇑P	P	01 19 13.9	0.0
BRAL	Brewton 38nm,0.8s	15.64	26	P	P	01 19 17.0	-0.3
ABTX	Abilene, Hawle baz=16	16.04	346	⇓P	P	01 19 21.9	+0.1
Z32A	Haskell baz=17,SNR=10	16.65	347	⇑P	P	01 19 29.6	+1.0
129A	Stewart Farms, baz=17	16.68	339	⇑P	P	01 19 29.6	+0.7
Z31A	Sharp Cattle R baz=17	16.82	345	⇑P	P	01 19 31.5	+1.1
Z30A	Sanderson Ranc baz=17	17.06	342	⇑P	Pn	01 19 33.8	+0.6
Z29A	Hungry Hill Ra baz=17	17.21	341	⇑P	Pn	01 19 36.4	+1.3
Y32A	R-V Farms, Ver baz=17	17.32	347	⇑P	Pn	01 19 37.3	+1.0
MIAR	Mount Ida 21nm,0.8s	17.44	4	*e*P	Pn	01 19 37.9	+0.1
LRAL	Lakeview Retre 16nm,0.5s	17.44	23	*e*P	P	01 19 36.4	-0.8
Z28A	Tucker Farm, M baz=18	17.46	339	⇓P	Pn	01 19 38.1	0.0
Y31A	Rekieta Farm, baz=18	17.46	345	⇓P	Pn	01 19 39.3	+1.2
Y29A	Porterfield Fa baz=18	17.75	341	⇓P	Pn	01 19 42.5	+0.9
UALR	University of 24nm,0.6s	17.78	7	*e*P	Pn	01 19 41.6	-0.3
Z27A	Tatum baz=18	17.78	337	⇑P	Pn	01 19 42.6	+0.6
WMOK	Wichita Mounta 5.0nm,0.7s	17.91	350	P	P	01 19 41.2	-1.2
X31A	McDonald Ranch baz=18	18.04	347	⇑P	Pn	01 19 45.7	+0.7
Z26A	Caprock	18.04	335	⇑P	Pn	01 19 45.3	+0.2
X30A	Coker Ranch, T baz=18	18.08	344	⇑P	Pn	01 19 46.0	+0.5
X29A	Tulia baz=18	18.31	342	⇑P	Pn	01 19 48.7	+0.5
W31A	Holland Ranch, baz=19	18.57	347	⇓P	Pn	01 19 51.5	+0.2
TUL1	Tulsa baz=19	18.77	358	⇑P	Pn	01 19 52.8	-0.8
WVT	Waverly 4.7nm,0.6s	20.01	17	*e*P	P	01 20 03.2	-2.0
WVT				*e*S	S	01 23 41.0	-2.6
ANMO	Albuquerque 1.4nm,0.9s	20.53	332	*e*P	Pn	01 20 12.6	-1.8
ANMO	Albuquerque 0.7nm,0.5s,baz=150,slow=12,SNR=4.4	20.53	332	P	Pn	01 20 15.8	+1.3
CPCT	Cooper Cave	20.53	25	*e*P	P	01 20 08.9	-1.9
TUC	Tucson 1.9nm,0.8s	20.83	320	*e*P	P	01 20 15.4	+1.2
TUC				*e*		01 20 53.9	
TKL	Tuckaleechee C	21.02	26	*e*P	P	01 20 13.8	-2.3
TKL	Tuckaleechee C 9.9nm,0.9s,baz=198,slow=13,SNR=13	21.02	26	P	P	01 20 14.4	-1.7
TZTN	Tazewell 12nm,0.8s	21.87	25	*e*P	P	01 20 23.1	-2.1
OLIL	Olney 18nm,0.7s	22.40	14	*e*P	P	01 20 29.1	-1.4
BLO	Bloomington 11nm,0.5s	23.22	17	*e*P	P	01 20 37.2	-1.2
BLA	Blacksburg 20nm,1.5s	23.82	30	*e*P	P	01 20 41.2	-2.7
ISCO	Idaho Springs 4.5nm,1.0s	24.45	340	P	P	01 20 52.5	+2.6
ISCO				*e*		01 21 19.5	
SCIA	State Center 47nm,1.1s	24.79	3	*e*P	P	01 20 52.3	-0.3
JFWS	Jewell Farm 12nm,0.8s	26.06	8	*e*P	P	01 21 03.5	-0.7
PDAR	Pinedale Array 0.2nm,0.4s,baz=138,slow=8.2,SNR=2.4	28.45	337	P	P	01 21 24.8	-1.0
PDAR				pP	pP	01 21 55.5	+3.3
	1.0nm,0.9s,baz=139,slow=9.2,SNR=5.2						
ATAH	Atahualpa 2.5nm,0.4s,baz=286,slow=7.4,SNR=2.7	29.12	144	P	P	01 21 34.5	+2.4
NVAR	Mina Array Bea 1.1nm,0.7s,baz=134,slow=9.3,SNR=8.7	29.48	321	P	P	01 21 35.2	+0.3
EYMN	Ely 1.8nm,0.6s	30.91	5	*e*P	P	01 21 45.8	-1.4
AGMN	Agassiz Nation 5.0nm,0.7s	31.14	359	*e*P	P	01 21 48.4	-0.7
AGMN				*e*pP	pP	01 22 17.5	+1.8
FFC	Flin Flon 10nm,1.2s	37.95	353	*e*P	P	01 22 48.0	+0.3
FFC				*e*pP	pP	01 23 15.9	+1.0
LPAZ	La Paz 3.3nm,0.7s	42.43	140	*e*P	P	01 23 25.4	-0.4
LPAZ				*i*		01 23 29.3	
LPAZ	La Paz 4.2nm,0.6s,baz=325,slow=6.5,SNR=18	42.43	140	P	P	01 23 29.3	+3.5
LVC	Limon Verde 2.6nm,0.7s,baz=27,slow=4.5,SNR=3.7	46.98	146	P	P	01 24 07.4	+6.0
YKA	Yellowknife Ar 0.5nm,0.7s,baz=149,slow=7.1,SNR=5.5	47.40	348	P	P	01 24 04.1	+0.3
YKA				pP	pP	01 24 32.5	+0.6
	1.8nm,0.8s,baz=153,slow=7.3,SNR=8.9						
YKA				sP	sP	01 24 45.7	+0.1
	0.7nm,0.6s,baz=153,slow=7.1,SNR=3.8						
CPUP	Villa Florida 1.8nm,0.7s,baz=328,slow=8.5,SNR=5.1	56.59	139	P	P	01 25 13.3	+1.0
BDFB	Brasilia 1.4nm,0.6s,baz=276,slow=9.2,SNR=2.9	56.60	122	P	P	01 25 13.3	+0.5
ILAR	Eielson Array 0.2nm,0.7s,baz=134,slow=3.9,SNR=3.3	58.89	337	P	P	01 25 28.7	+0.8
PLCA	Paso Flores 2.2nm,0.8s,baz=348,slow=12,SNR=3.3	61.84	159	P	P	01 25 48.7	+0.3
ESDC	Sonseca Array 3.1nm,0.8s,baz=298,slow=5.6,SNR=23	80.07	52	P	P	01 27 38.4	-0.3
ARCES	ARCESS Array B 2.7nm,0.8s,baz=316,slow=8.6,SNR=4.4	84.11	18	P	P	01 27 59.8	+0.7
DBIC	Dimbokro 6.8nm,0.8s,baz=290,slow=3.9,SNR=7.3	88.20	84	P	P	01 28 21.3	+1.1
TORD	Torodi Ar. Bea 0.6nm,0.8s,baz=299,slow=3.3,SNR=6.4	92.43	76	P	P	01 28 39.4	-0.5
WRA	Warramunga Arr 0.6nm,0.8s,baz=80,slow=2.6,SNR=7.1	133.27	258	PKP	PKPdf	01 34 44.7	+0.2
ASAR	Alice Springs 0.1nm,0.3s,baz=88,slow=7.5,SNR=4.3	133.87	253	PKhKP	PKPpre	01 34 37.1	
ASAR				PKP	PKPdf	01 34 46.0	+0.4
	0.4nm,0.8s,baz=112,slow=1.9,SNR=4.7						

*IDC **05** 01:19:01.6±7.5, 33˚38S×179˚11E, h298km±48km, mb3.4/4, mb1 3.6/6, mb1mx3.3/20, mbtmp3.5/6, Error ellipse: s-maj=89.8km s-min=18.6km az=46.0*
ISC 05 01:19:04.4±1.8, 33˚5S±0˚1×178˚5E±0˚2, h300km, n28, σ1§37/32, mb3.5/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera 2.6nm,0.3s,baz=356,slow=19,SNR=18	4.91	193	P	Pn	01 20 20.9	+0.2
URZ				S	S	01 21 24.0	+2.1
	4.9nm,0.3s,baz=80,slow=22,SNR=20						
URZ	Urewera	4.91	193	*e*PN	Pn	01 20 22.4	+1.8
URZ				SN	S	01 21 24.1	+2.1
MWZ	Matawai	4.91	189	PN	Pn	01 20 22.2	+1.4
MWZ				SN	S	01 21 23.4	+1.2
CNGZ	Carnagh Static	5.00	183	PN	Pn	01 20 23.5	+1.8
BKZ	Black Stump Fm	5.91	196	PN	Pn	01 20 33.3	+0.8
MCHZ	McNeill Hill	6.13	193	PN	Pn	01 20 36.4	+1.3
WHVZ	Whangaehu Hut	6.26	202	*e*PN	Pn	01 20 38.3	+1.4
WNVZ	Wahianoa	6.30	201	PN	Pn	01 20 39.0	+1.7
BHHZ	Black Hill Sta	6.32	198	PN	Pn	01 20 37.8	+0.3
KAHZ	Kahuranaki	6.44	191	PN	Pn	01 20 39.3	+0.4
PNHZ	Pukenui	6.69	196	PN	Pn	01 20 41.6	-0.3
MRZ	Mangatainoka R	7.55	197

*IDC **05** 01:44:07.5±1.8,39˚.50N×77˚.20E, h0km, mb3.3/3, mb1 3.4/7, mb1mx3.3/29, mbtmp3.4/7, ML3.3/4, Error ellipse: s-maj=22.9km s-min=22.0km az=11.0*
*ISCJB **05** 01:44:09.9±0.7, 39˚.45N±0˚.04×77˚.60E±0˚.09, h17km, mb3.3/3, Error ellipse: s-maj=9.8km s-min=6.4km az=176.9*
*BJI **05** 01:44:10.0, 39˚.50N×77˚.39E, h8km, ML4.0/6*

ISC 05 01:44:11.8±1.0, 39˚.51N±0˚.06×77˚.55E±0˚.07, h17km, n26, σ1s74/29, mb3.3/3, 4C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.22**	**271**	**Pg**	**Pg**	**01 44 36.2**	**+0.8**
KSH				Sg	**Sg**	**01 44 55.4**	**+4.0**
KSH	comp=N,5μm,0.5s			smax	smax		
KSH	comp=E,2μm,0.6s			smax	smax		
ULHL	**Ulahol**	**2.91**	**340**	P	**Pn**	**01 44 59.4**	**+1.9**
	SNR=17						
KZA	**Kyzart**	**3.11**	**327**	P	**Pn**	**01 45 00.4**	**0.0**
	SNR=15						
UCH	**Uchtor**	**3.56**	**321**	P	**Pn**	**01 45 05.9**	**-0.8**
	SNR=19						
KBK	**Karagaybulak**	**3.71**	**329**	P	**Pn**	**01 45 08.7**	**+0.2**
	SNR=17						
TKM2	**Tokmak 2**	**3.72**	**337**	⇑Pn	**Pn**	**01 45 08.5**	**-0.1**
	comp=E,8.5nm,0.3s						
TKM2				⇓Sn	**Sb**	**01 46 00.1**	**-1.8**
	comp=E,63nm,0.5s						
TKM2	**Tokmak 2**	**3.72**	**337**	P	**Pn**	**01 45 11.2**	**+2.6**
	SNR=23						
KNDC	**Almaty**	**3.73**	**353**	⇑Pn	Pb	01 45 13.3	-4.0
KNDC				⇑Sn	**Sb**	**01 46 03.7**	**+1.4**
AAK	**Ala-Archa**	**3.89**	**324**	P	Pb	01 45 16.1	-3.8
	SNR=22						
AAK	**Ala-Archa**	**3.89**	**324**	Pn	**Pn**	**01 45 10.2**	**-0.6**
	comp=E,4.5nm,0.3s,baz=123,slow=7.6,SNR=12						
AAK				Pg	Pb	01 45 15.9	-4.1
	comp=E,15nm,0.3s,baz=129,slow=11,SNR=47						
AAK				Lg	Lg	01 46 06.3	
	comp=E,20nm,0.3s,baz=312,slow=19,SNR=14						
AML	**Almayashu**	**3.93**	**313**	P	**Pn**	**01 45 10.2**	**-1.5**
	SNR=18						
CHMS	**Chumysh**	**4.08**	**330**	P	**Pn**	**01 45 14.4**	**+1.0**
	SNR=12						
EKS2	**Erkin-Say**	**4.25**	**319**	P	**Pn**	**01 45 15.6**	**-0.3**
	SNR=14						
KK31	**Karatay Array**	**6.40**	**306**	⇓Pn	**Pn**	**01 45 43.1**	**-2.2**
	comp=E,0.5nm,0.3s,baz=127,slow=12,SNR=23						
KK31				⇓Pg	**Pb**	**01 46 01.2**	**-1.6**
	comp=E,4.6nm,0.6s,baz=128,slow=16,SNR=29						
KK31				⇓Lg	Lg	01 47 27.5	
	comp=E,22nm,0.8s,baz=123,slow=27,SNR=4.4						
DLH	**Dalhousie**	**7.07**	**191**	*e*P	**Pn**	**01 45 56.0**	**+1.3**
DLH				*e*S	**Sn**	**01 47 14.0**	**-0.7**
MK31	**Makanchi Array**	**8.06**	**24**	⇓Pn	**Pn**	**01 46 08.7**	**+0.6**
	comp=E,0.8nm,0.7s,baz=201,slow=14,SNR=15						
MK31				⇓Lg	Lg	01 48 42.8	
	comp=E,3.9nm,0.6s						
MKAR	**Makanchi Array**	**8.06**	**24**	Pn	**Pn**	**01 46 08.4**	**+0.3**
	comp=E,0.1nm,0.3s,baz=202,slow=13,SNR=6.0						
KURBB	**Kurchatov Arra**	**11.14**	**3**	⇓Pn	**Pn**	**01 46 51.9**	**+1.7**
	comp=E,1.6nm,0.8s						
KURBB	**Kurchatov Arra**	**11.14**	**3**	Pn	**Pn**	**01 46 47.7**	**-2.4**
	comp=E,0.1nm,0.3s,baz=191,slow=12,SNR=4.9						
KURBB				Lg	Lg	01 49 54.2	
	comp=E,0.1nm,0.3s,baz=190,slow=28,SNR=5.1						
BVAR	**Borovoye Array**	**14.39**	**342**	Pn	**Pn**	**01 47 36.5**	**+1.9**
	comp=E,0.1nm,0.3s,baz=162,slow=11,SNR=4.1						
BVAR				Lg	Lg	01 51 39.8	
	comp=E,0.2nm,0.3s,baz=162,slow=30,SNR=7.1						
ZALV	**Zalesovo Beam**	**15.27**	**16**	Pn	**Pn**	**01 47 46.9**	**+0.5**
	comp=E,0.2nm,0.3s,baz=206,slow=16,SNR=2.7						
AB31	**Akbulak array**	**15.88**	**314**	⇑P	**Pn**	**01 47 52.2**	**-2.2**
	comp=E,0.1nm,0.3s,baz=122,slow=12,SNR=5.9						
AB31				⇓S	**Sn**	**01 50 52.4**	**+2.4**
	comp=E,0.3nm,0.5s						
AKTO	**Aktyubinsk**	**17.56**	**315**	P	**Pn**	**01 48 15.1**	**-0.6**
	baz=128,slow=11,SNR=5.8						
SONM	**Songino Array**	**22.36**	**59**	P	**P**	**01 49 09.8**	**+0.7**
	comp=E,0.7nm,0.8s,baz=254,slow=10,SNR=3.1						
BRTR	**Keskin Array B**	**33.58**	**285**	P	**P**	**01 50 48.4**	**-2.6**
	comp=E,0.2nm,0.5s,baz=86,slow=7.9,SNR=2.5						
TORD	**Torodi Ar. Bea**	**70.89**	**271**	P	P	01 55 24.2	-4.0
	comp=E,0.6nm,0.9s,baz=53,slow=5.1,SNR=4.7						

*IDC **05** 01:55:44.3±0.8, 53˚.00N×167˚.71W, h0km, mb4.0/22, mb1 4.1/22, mb1mx4.0/31, mbtmp4.0/22, MS3.1/3, Ms1 3.1/3, ms1mx2.5/39, Error ellipse: s-maj=24.1km s-min=13.5km az=172.0*
*NEIC **05** 01:55:48.8, 52˚.81N×167˚.56W, h26km, ML3.8(AEIC), After AEIC.*
*ISCJB **05** 01:55:49.7±0.7, 52˚.90N±0˚.07×167˚.62W±0˚.06, h51km±4km, mb4.1/42, MS3.1/3, Error ellipse: s-maj=12.2km s-min=4.4km az=158.4*

ISC 05 01:55:50.9±1.2, 52˚.95N±0˚.08×167˚.62W±0˚.05, h46km±9km, n111, σ0s92/123, mb4.1/42, MS3.2/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.49**	**340**	P	**Pn**	**01 56 01.3**	**-0.5**
OKFG				S	**Sn**	**01 56 10.4**	**+0.7**
OKTU	**Okmok Mt. Tuli**	**0.50**	**330**	P	**Pn**	**01 56 02.2**	**+0.2**
OKSP	**Okmok Steeple**	**0.51**	**307**	P	**Pn**	**01 56 01.5**	**-0.5**
OKSO	**Okmok South**	**0.52**	**322**	P	**Pn**	**01 56 01.5**	**-0.7**
OKSO				S	**Sn**	**01 56 11.0**	**+0.7**
OKCE	**Okmok Cone E**	**0.58**	**326**	P	**Pn**	**01 56 02.7**	**-0.2**
NIKH	**Nikolski High**	**0.74**	**272**	P	**Pn**	**01 56 03.4**	**-1.7**
MREP	**Makushin Rep't**	**1.01**	**31**	P	**Pn**	**01 56 08.3**	**-0.4**
MCIR	**Makushin Cirqu**	**1.10**	**23**	P	**Pn**	**01 56 09.9**	**0.0**
UNV	**Unalaska Valle**	**1.12**	**36**	P	**Pn**	**01 56 09.0**	**-1.2**
UNV				S	**Sn**	**01 56 25.8**	**+1.3**
MTBL	**Makushin Table**	**1.17**	**29**	P	**Pn**	**01 56 10.4**	**-0.4**
AKRB	**Akutan Reef Bi**	**1.50**	**37**	P	**Pn**	**01 56 15.2**	**-0.1**
ZRO	**Akutan Zero**	**1.51**	**40**	P	**Pn**	**01 56 14.9**	**-0.6**
LVA	**Lava Point**	**1.54**	**37**	P	**Pn**	**01 56 16.1**	**+0.2**
AKLV	**Akutan Long Va**	**1.57**	**39**	P	**Pn**	**01 56 16.4**	**0.0**
AKGG	**Akutan Green G**	**1.59**	**37**	P	**Pn**	**01 56 16.6**	**+0.1**
AKUT	**Akutan**	**1.62**	**42**	P	**Pn**	**01 56 16.7**	**-0.2**
AKUT				S	**Sn**	**01 56 39.0**	**+2.3**
WESN	**West Dahl Nort**	**2.43**	**47**	P	**Pn**	**01 56 28.3**	**+0.2**
FALS	**False Pass**	**3.14**	**51**	P	**Pn**	**01 56 38.3**	**+0.5**
DTNA	**Dutton South F**	**3.86**	**53**	P	**Pn**	**01 56 47.9**	**+0.3**
KOFP	**Korovin Flat P**	**4.00**	**263**	P	**Pn**	**01 56 50.7**	**+1.1**
KOKL	**Mount Kliuchef**	**4.05**	**264**	P	**Pn**	**01 56 51.5**	**+1.1**
KOWE	**Korovin West**	**4.08**	**264**	P	**Pn**	**01 56 51.2**	**+0.6**
SPIA	**Saint Paul Isl**	**4.50**	**341**	P	**Pn**	**01 56 58.4**	**+2.0**
SDPT	**Sand Point**	**4.84**	**57**	P	**Pn**	**01 57 01.5**	**+0.4**
CHGN	**Chignik**	**6.32**	**54**	*e*Pn	**Pn**	**01 57 22.0**	**+0.7**
CHGN				*e*Sn	**Sn**	**01 58 29.9**	**-2.1**
CEPE	**Semis' Perret**	**7.84**	**268**	P	**Pn**	**01 57 44.0**	**+1.8**
CESW	**Semis' Southwe**	**7.91**	**267**	P	**Pn**	**01 57 45.0**	**+1.9**
CETU	**Semis' Tuman**	**7.93**	**268**	P	**Pn**	**01 57 45.2**	**+1.7**
AMKA	**Amchitka**	**8.19**	**264**	P	**Pn**	**01 57 48.0**	**+1.0**
KDAK	**Kodiak Island**	**9.83**	**55**	Pn	**Pn**	**01 58 08.1**	**-1.3**
KDAK				Sn	Sn	01 59 51.5	-6.7
KDAK	**Kodiak Island**	**9.83**	**55**	Pn	**Pn**	**01 58 08.1**	**-1.3**
	0.3nm,0.3s,baz=298,slow=12,SNR=10						
KDAK				Sn	Sn	01 59 51.5	-6.7
	0.3nm,0.3s,baz=253,slow=19,SNR=4.0						
FX1	**Attu Island--F**	**11.60**	**277**	Pn	**Pn**	**01 58 35.4**	**+1.8**
FX1	**Attu Island--F**	**11.60**	**277**	Pn	**Pn**	**01 58 35.4**	**+1.8**
	3.1nm,0.3s,baz=69,slow=3.7,SNR=34						
ILAR	**Eielson Array**	**15.88**	**34**	Pn	**Pn**	**01 59 29.9**	**-0.9**
ILAR	**Eielson Array**	**15.88**	**34**	Pn	**Pn**	**01 59 29.9**	**-0.9**
	0.1nm,0.3s,baz=223,slow=10,SNR=8.1						
PETK	**Petropavlovsk-**	**20.74**	**284**	P	**P**	**02 00 26.8**	**-0.5**
PETK	**Petropavlovsk-**	**20.74**	**284**	P	**P**	**02 00 26.8**	**-0.5**
	2.2nm,0.4s,baz=219,slow=1.9,SNR=6.1						
PETK				LR	LR	02 08 09.9	
	comp=Z,22nm,20.3s,baz=272,slow=36						
VIB	**Van Inlet**	**20.94**	**75**	T	T	02 22 02.5	
DIB	**Dawson Inlet,**	**20.99**	**75**	T	T	02 22 01.2	
	SNR=6.6						
INK	**Inuvik**	**22.28**	**33**	P	**P**	**02 00 41.9**	**-1.7**
INK	**Inuvik**	**22.28**	**33**	P	**P**	**02 00 41.9**	**-1.7**
	1.2nm,0.3s,baz=239,slow=7.5,SNR=12						
BBB	**Bella Bella**	**23.82**	**76**	P	**P**	**02 01 00.1**	**+0.8**
BBB	**Bella Bella**	**23.82**	**76**	P	**P**	**02 01 00.1**	**+0.8**
	15nm,1.1s,baz=345,slow=14,SNR=3.2						
YKA	**Yellowknife Ar**	**29.06**	**50**	P	**P**	**02 01 46.6**	**+0.3**
YKA				PcP	**PcP**	**02 04 53.5**	**+0.4**
YKA	**Yellowknife Ar**	**29.06**	**50**	P	**P**	**02 01 46.6**	**+0.3**
	0.8nm,0.5s,baz=276,slow=8.6,SNR=12						
YKA				PcP	**PcP**	**02 04 53.5**	**+0.4**
	0.4nm,0.4s,baz=280,slow=2.6,SNR=6.8						
PDAR	**Pinedale Array**	**39.26**	**81**	P	**P**	**02 03 15.3**	**+0.4**
PDAR	**Pinedale Array**	**39.26**	**81**	P	**P**	**02 03 15.3**	**+0.4**
	0.3nm,0.6s,baz=274,slow=7.3,SNR=3.5						
MJAR	**Matsushiro Arr**	**40.78**	**269**	P	**P**	**02 03 27.2**	**-0.1**
MJAR	**Matsushiro Arr**	**40.78**	**269**	P	**P**	**02 03 27.2**	**-0.1**
	0.8nm,0.5s,baz=42,slow=7.6,SNR=6.0						
KSRS	**Korea Array**	**46.39**	**277**	P	**P**	**02 04 12.7**	**+0.3**
	0.7nm,0.6s,baz=52,slow=6.6,SNR=4.7						
KSAR	**Wonju Array Be**	**46.42**	**277**	P	**P**	**02 04 12.7**	**+0.1**
JNU	**Nakatsue**	**47.52**	**271**	P	**P**	**02 04 21.8**	**+0.4**
JNU	**Nakatsue**	**47.52**	**271**	P	**P**	**02 04 21.8**	**+0.4**
	2.2nm,0.5s,baz=33,slow=12,SNR=3.7						
JNU				LR	LR	02 21 26.1	
	comp=Z,26nm,19.7s,baz=263,slow=32						
TXAR	**Lajitas Array**	**51.68**	**91**	P	**P**	**02 04 52.9**	**-0.2**
TXAR	**Lajitas Array**	**51.68**	**91**	P	**P**	**02 04 52.9**	**-0.2**
	0.8nm,0.7s,baz=296,slow=5.8,SNR=13						
SONM	**Songino Array**	**51.91**	**301**	P	**P**	**02 04 54.5**	**-0.2**
SONM	**Songino Array**	**51.91**	**301**	P	**P**	**02 04 54.5**	**-0.2**
	0.2nm,0.4s,baz=64,slow=9.8,SNR=2.1						
ARCES	**ARCESS Array B**	**57.45**	**355**	P	**P**	**02 05 33.5**	**-0.8**
ARCES				PcP	**PcP**	**02 06 27.0**	**-0.5**
ARCES	**ARCESS Array B**	**57.45**	**355**	P	**P**	**02 05 33.5**	**-0.8**
	0.9nm,0.7s,baz=15,slow=7.5,SNR=4.7						
ARCES				PcP	**PcP**	**02 06 27.0**	**-0.5**
	4.9nm,0.9s,baz=18,slow=4.3,SNR=7.4						
ZALV	**Zalesovo Beam**	**57.71**	**318**	P	**P**	**02 05 34.8**	**-1.4**
ZALV				PcP	**PcP**	**02 06 28.7**	**0.0**
ZALV	**Zalesovo Beam**	**57.71**	**318**	P	**P**	**02 05 34.8**	**-1.4**
	0.5nm,0.4s,baz=38,slow=7.3,SNR=3.3						
ZALV				PcP	**PcP**	**02 06 28.7**	**0.0**
	0.4nm,0.3s,baz=50,slow=4.5,SNR=3.0						
KURK	**Kurchatov**	**62.64**	**319**	P	**P**	**02 06 10.1**	**+0.1**
KURK				PcP	**PcP**	**02 06 49.2**	**+0.7**
KURBB	**Kurchatov Arra**	**62.75**	**319**	P	**P**	**02 06 10.1**	**-0.7**
	0.6nm,0.4s,baz=33,slow=6.4,SNR=8.6						
KURBB				PcP	**PcP**	**02 06 49.2**	**+0.2**
	0.3nm,0.2s,baz=43,slow=3.5,SNR=2.7						
JOF	**Joensuu**	**63.52**	**350**	*ep*	**P**	**02 06 15.8**	**+0.1**
	2.2nm,0.3s						
BVAR	**Borovoye Array**	**63.84**	**325**	P	**P**	**02 06 17.9**	**-0.2**
BVAR				PcP	**PcP**	**02 06 53.5**	**+0.1**
BVAR	**Borovoye Array**	**63.84**	**325**	P	**P**	**02 06 17.9**	**-0.2**
	1.4nm,0.4s,baz=46,slow=7.0,SNR=12						
BVAR				PcP	**PcP**	**02 06 53.5**	**+0.1**
	0.8nm,0.5s,baz=29,slow=3.3,SNR=5.2						
MKAR	**Makanchi Array**	**64.17**	**314**	P	**P**	**02 06 18.7**	**-1.6**
MKAR	**Makanchi Array**	**64.17**	**314**	P	**P**	**02 06 18.7**	**-1.6**
	0.5nm,0.3s,baz=45,slow=6.3,SNR=18						
KAF	**Kangasniemi**	**64.75**	**353**	*ep*	**P**	**02 06 23.2**	**-0.6**
FINES	**FINESS Array B**	**65.44**	**353**	P	**P**	**02 06 27.5**	**-0.7**
FINES	**FINESS Array B**	**65.44**	**353**	P	**P**	**02 06 27.5**	**-0.7**
	1.0nm,0.3s,baz=10.0,slow=7.7,SNR=29						
BAIF	**Baives**	**77.14**	**5**	*e*P	**P**	**02 07 39.0**	**0.0**
	2.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**77.52**	**284**	P	**P**	**02 07 41.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**77.52**	**284**	P	**P**	**02 07 41.3**	**-0.3**
	0.5nm,0.6s,baz=17,slow=6.5,SNR=6.2						
FLN	**La Foliniere**	**78.08**	**9**	*e*P	**P**	**02 07 44.4**	**+0.1**
LDF	**La Druitiere**	**78.28**	**8**	*e*P	**P**	**02 07 44.9**	**-0.5**
	2.7nm,0.5s						
GRR	**Gorron**	**78.41**	**9**	*e*P	**P**	**02 07 46.4**	**+0.2**
GERES	**GERESS Array B**	**78.58**	**359**	P	**P**	**02 07 47.2**	**0.0**
GERES	**GERESS Array B**	**78.58**	**359**	P	**P**	**02 07 47.2**	**0.0**
	0.6nm,0.6s,baz=19,slow=4.5,SNR=7.7						
PAGF	**Fort de Pagny**	**78.72**	**5**	*e*P	**P**	**02 07 48.2**	**+0.3**
	0.9nm,0.5s						
HAU	**Haudompre**	**79.29**	**4**	*e*P	**P**	**02 07 50.8**	**-0.3**
	1.5nm,0.5s						
HYF	**Humbligny**	**79.81**	**7**	*e*P	**P**	**02 07 54.0**	**+0.1**
LOR	**Lormes**	**79.90**	**6**	*e*P	**P**	**02 07 54.1**	**-0.2**
	4.3nm,0.9s						
SSF	**Saint Saulge**	**80.08**	**6**	*e*P	**P**	**02 07 55.3**	**0.0**
	2.7nm,0.5s						
KBZ	**Khabaz**	**80.18**	**338**	LR	LR	02 48 21.0	
	comp=Z,23nm,18.2s,baz=318,slow=39						
MFF	**Saint Martin d**	**80.25**	**9**	*e*P	**P**	**02 07 56.3**	**+0.1**
	4.5nm,0.6s						
AVF	**Avril sur Loir**	**80.34**	**6**	*e*P	**P**	**02 07 56.5**	**-0.2**
	3.3nm,0.6s						
SMF	**Signal de Mont**	**80.52**	**6**	*e*P	**P**	**02 07 57.5**	**-0.2**
	5.0nm,0.7s						
BGF	**Bois d'Agland**	**80.54**	**7**	*e*P	**P**	**02 07 57.6**	**-0.2**
	3.2nm,0.7s						
CABF	**La Chapelle**	**80.67**	**4**	*e*P	**P**	**02 07 58.9**	**+0.3**
	9.0nm,0.9s						
TCF	**Toulx Ste Croi**	**80.76**	**7**	*e*P	**P**	**02 07 58.8**	**-0.2**
RJF	**Les Rejaudoux**	**81.68**	**8**	*e*P	**P**	**02 08 03.7**	**-0.2**
	0.8nm,0.4s						
LFF	**La Frestale**	**81.98**	**8**	*e*P	**P**	**02 08 05.6**	**+0.2**
	4.2nm,0.5s						
CAF	**Calviac**	**82.10**	**7**	*e*P	**P**	**02 08 06.4**	**+0.3**
VIVF	**Saint-Julien-l**	**82.35**	**6**	*e*P	**P**	**02 08 07.8**	**+0.4**
	2.8nm,0.6s						
ORIF	**Oris-en-Rattie**	**82.35**	**5**	*e*P	**P**	**02 08 08.2**	**+0.7**
	1.4nm,0.4s						
MBDF	**Montbardon**	**82.58**	**4**	*e*P	**P**	**02 08 10.0**	**+1.2**
	4.4nm,0.5s						
SMRF	**Simiane la Rot**	**83.28**	**5**	*e*P	**P**	**02 08 13.4**	**+1.1**
	4.5nm,0.8s						
SJPF	**Ste Jean**	**83.60**	**10**	*e*P	**P**	**02 08 14.2**	**+0.3**
MTLF	**Montolieu**	**83.69**	**7**	*e*P	**P**	**02 08 14.8**	**+0.4**
	3.2nm,0.6s						
ETSF	**Etsaut**	**83.88**	**10**	*e*P	**P**	**02 08 15.5**	**+0.1**
	3.3nm,0.7s						
PGF	**Pioggiola**	**84.84**	**3**	*e*P	**P**	**02 08 20.9**	**+0.6**
	12nm,0.7s						
BRTR	**Keskin Array B**	**85.88**	**344**	P	**P**	**02 08 26.4**	**+0.8**
BRTR	**Keskin Array B**	**85.88**	**344**	P	**P**	**02 08 26.4**	**+0.8**
	2.7nm,0.6s,baz=18,slow=3.2,SNR=26						
ESDC	**Sonseca Array**	**86.67**	**13**	P	**P**	**02 08 29.9**	**+0.5**
ESDC	**Sonseca Array**	**86.67**	**13**	P	**P**	**02 08 29.9**	**+0.5**
	0.4nm,0.5s,baz=349,slow=4.4,SNR=7.5						
WRA	**Warramunga Arr**	**88.20**	**233**	P	**P**	**02 08 35.5**	**-1.3**
WRA	**Warramunga Arr**	**88.20**	**233**	P	**P**	**02 08 35.5**	**-1.3**
	0.4nm,0.8s,baz=34,slow=6.2,SNR=4.6						
ASAR	**Alice Springs**	**91.58**	**231**	P	**P**	**02 08 52.1**	**-0.4**
ASAR	**Alice Springs**	**91.58**	**231**	P	**P**	**02 08 52.1**	**-0.4**
	0.6nm,0.8s,baz=41,slow=5.1,SNR=6.6						
LIC	**Lamto**	**119.23**	**20**	*e*PKIKP	**PKPdf**	**02 14 39.2**	**+4.3**
	29nm,1.1s						

IDC 05 02:06:59.0±0.8, 11˚.36N×143˚.01E, h0km, mb4.0/12, mb1 4.2/12, mb1mx4.0/22, mbtmp3.9/12, Error ellipse: s-maj=27.4km s-min=19.6km az=91.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**25.44**	**351**	P	P	02 12 28.7	+0.1
	0.4nm,0.5s,baz=165,slow=9.3,SNR=3.1						
WRA	**Warramunga Arr**	**32.25**	**195**	P	P	02 13 28.3	-1.2
	0.5nm,0.6s,baz=18,slow=9.7,SNR=6.8						
ASAR	**Alice Springs**	**35.93**	**194**	P	P	02 14 01.2	-0.3
	0.4nm,0.5s,baz=24,slow=12,SNR=6.4						
CMAR	**Chiang Mai Arr**	**43.07**	**285**	P	P	02 15 02.2	+1.1
	4.3nm,0.7s,baz=89,slow=6.5,SNR=19						
SONM	**Songino Array**	**47.55**	**327**	P	P	02 15 36.3	-0.2
	0.5nm,0.5s,baz=127,slow=9.6,SNR=3.4						
MKAR	**Makanchi Array**	**61.85**	**317**	P	P	02 17 20.2	+0.1
	1.6nm,0.8s,baz=92,slow=8.0,SNR=10.0						
ZALV	**Zalesovo Beam**	**62.39**	**325**	P	P	02 17 22.8	-0.8
	0.9nm,0.4s,baz=117,slow=7.7,SNR=5.0						
ILAR	**Eielson Array**	**71.35**	**25**	P	P	02 18 19.9	-0.5
	0.7nm,0.8s,baz=256,slow=5.5,SNR=8.1						
YKA	**Yellowknife Ar**	**85.66**	**27**	P	P	02 19 39.2	-0.3
	0.3nm,0.5s,baz=292,slow=4.5,SNR=4.5						
ARCES	**ARCESS Array B**	**88.63**	**342**	P	P	02 19 53.6	-0.2
	2.4nm,0.9s,baz=75,slow=6.4,SNR=6.0						
NVAR	**Mina Array Bea**	**89.73**	**51**	P	P	02 20 00.2	+0.3
	1.5nm,0.5s,baz=290,slow=7.6,SNR=9.4						
FINES	**FINESS Array B**	**92.39**	**335**	P	P	02 20 10.1	-1.3
	0.7nm,0.5s,baz=66,slow=2.3,SNR=6.6						
LPAZ	**La Paz**	**149.39**	**103**	PKPbc	PKPbc	02 26 53.2	+1.4
	0.6nm,0.8s,baz=248,slow=5.4,SNR=3.0						

*CSEM **05** 02:13:29.7, 33˚.72N×25˚.54E, h5km, MD3.5, After ATH*
*ATH **05** 02:13:29.7, 33˚.72N×25˚.54E, h5km±4km, MD3.5/8*
*IDC **05** 02:13:33.6±1.9, 33˚.87N×25˚.60E, h0km, mb3.2/2,*
mb1 3.4/3, mb1mx3.3/25, mbtmp3.3/3, ML3.7/1, Error ellipse: s-maj=59.5km s-min=32.9km az=139.0
*HLW **05** 02:13:35.3, 34˚.18N×25˚.60E, h33km±13km, Md3.4, Ml3.0*

ISC 05 02:13:34.9±1.6, 33˚.94N±0˚.05×25˚.55E±0˚.05, h9km±11km, n26, σ1s55/34, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.22**	**357**	*e*PG	**Pn**	**02 13 56.4**	**-1.8**
LAST				*e*SB	**Sn**	**02 14 17.2**	**+2.4**
LAST	**Lasithi**	**1.22**	**357**	*e*Pg	**Pn**	**02 13 56.4**	**-1.8**
LAST				*e*Sb	**Sn**	**02 14 17.2**	**+2.4**
SIVA	**Sivas**	**1.23**	**331**	*e*PG	**Pn**	**02 13 56.6**	**-1.7**
SIVA				*e*SB	**Sg**	**02 14 16.7**	**+2.1**
SIVA	**Sivas**	**1.23**	**331**	*e*Pg	**Pn**	**02 13 56.6**	**-1.7**
SIVA				*e*Sb	**Sg**	**02 14 16.7**	**+2.1**
ZKR	**Zakros**	**1.29**	**25**	*e*PB	**Pg**	**02 13 59.1**	**-0.7**
ZKR				*e*SB	**Sg**	**02 14 18.9**	**+2.3**
ZKR	**Zakros**	**1.29**	**25**	*e*Pb	**Pg**	**02 13 59.1**	**-0.7**
ZKR				*e*Sb	**Sg**	**02 14 18.9**	**+2.3**
NPS	**Neapolis**	**1.32**	**2**	*e*PG	**Pb**	**02 13 58.4**	**-1.4**
NPS	**Neapolis**	**1.32**	**2**	*e*Pg	**Pb**	**02 13 58.4**	**-1.4**
GVD	**Gavdhos**	**1.50**	**307**	*e*PB	**Pn**	**02 14 01.4**	**-0.6**
GVD	**Gavdhos**	**1.50**	**307**	*e*Pb	**Pn**	**02 14 01.4**	**-0.6**
VAM	**Vamos**	**1.83**	**323**	*e*PG	**Pb**	**02 14 06.7**	**-1.9**
VAM				*e*SN	**Sg**	**02 14 35.2**	**+1.3**
VAM	**Vamos**	**1.83**	**323**	*e*Pg	**Pb**	**02 14 06.7**	**-1.9**
VAM				*e*Sn	**Sg**	**02 14 35.2**	**+1.3**
KARP	**Karpathos**	**2.08**	**39**	*e*PG	**Pb**	**02 14 11.2**	**-1.7**
KARP	**Karpathos**	**2.08**	**39**	*e*Pg	**Pb**	**02 14 11.2**	**-1.7**
KYTH	**Kithira**	**3.11**	**319**	*e*PN	**Pn**	**02 14 25.5**	**+1.4**
KYTH	**Kithira**	**3.11**	**319**	*e*Pn	**Pn**	**02 14 25.5**	**+1.4**
APE	**Apeiranthos**	**3.12**	**360**	*e*PB	**Pn**	**02 14 25.3**	**+1.0**
APE	**Apeiranthos**	**3.12**	**360**	*e*Pb	**Pn**	**02 14 25.3**	**+1.0**
HMAT	**Matruh**	**3.13**	**155**	P	**Pn**	**02 14 24.9**	**+0.5**
	baz=157						
HMAT				S	**Sn**	**02 15 02.6**	**+0.8**
	baz=157						
VLI	**Veliai**	**3.50**	**323**	*e*PN	**Pn**	**02 14 29.7**	**+0.3**
VLI	**Veliai**	**3.50**	**323**	*e*Pn	**Pn**	**02 14 29.7**	**+0.3**
SWA2		**4.69**	**181**	P	Pn	02 14 47.0	+1.2
	baz=182						
SWA2				AMP		02 14 00.0	
	comp=N,30μm,0.5s,logA/T=4.8,baz=182						
AMAG	**Maghara**	**7.27**	**115**	P	**Pn**	**02 15 20.9**	**-0.5**
	baz=116						
GERES	**GERESS Array B**	**17.31**	**333**	P	**P**	**02 17 37.8**	**-0.4**
	comp=N,0.1nm,0.3s,baz=155,slow=13,SNR=6.3						
TORD	**Torodi Ar. Bea**	**29.97**	**232**	P	**P**	**02 19 43.8**	**0.0**
	comp=N,0.5nm,0.8s,baz=35,slow=7.8,SNR=4.1						
MKAR	**Makanchi Array**	**44.19**	**56**	P	**P**	**02 21 44.1**	**0.0**
	comp=N,0.2nm,0.5s,baz=286,slow=7.3,SNR=3.3

EJON				S	Sn	02 22 47.9	-3.9
	0.8nm,0.3s,SNR=7.9							
CSOR	Sort	6.31 349	P		Pn	02 21 43.0	+1.8
	0.3nm,0.2s,SNR=7.9							
CSOR	Sort	6.31 349	P		Pn	02 21 43.0	+1.8
	0.3nm,0.2s,SNR=7.9							

IDC 05 02:36:03.8±3.1, 6°58S×152°64E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/18, mbtmp3.7/4, ML2.9/1, Error ellipse: s-maj=101.3km s-min=47.3km az=132.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.11**	**242**	Pn	Pn	02 37 34.7	-0.8
	1.8nm,0.3s,baz=63,slow=6.8,SNR=3.6						
PMG				Sn	Sn	02 38 35.8	-10
	1.9nm,0.3s,baz=223,slow=19,SNR=4.5						
WRA	**Warramunga Arr**	**22.19**	**231**	P	P	02 41 01.6	-0.3
	0.3nm,0.4s,baz=56,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**24.76**	**225**	P	P	02 41 26.6	-0.9
	1.2nm,0.6s,baz=56,slow=9.0,SNR=16						
FITZ	**Fitzroy Crossi**	**28.71**	**244**	P	P	02 42 04.8	+1.7
	0.9nm,0.3s,baz=52,slow=11,SNR=8.1						
TORD	**Torodi Ar. Bea**	**150.66**	**285**	PKPbc	PKPbc	02 55 58.4	-0.7
	0.3nm,0.6s,baz=103,slow=0.9,SNR=4.4						

IDC 05 02:37:34.8±5.9, 19°05S×175°58W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/19, mbtmp4.0/3, Error ellipse: s-maj=265.1km s-min=62.3km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.93**	**262**	P	P	02 44 38.6	+1.3
	2.0nm,0.4s,baz=66,slow=10,SNR=5.7						
WRA	**Warramunga Arr**	**47.08**	**260**	P	P	02 46 07.8	-0.9
	0.4nm,0.4s,baz=94,slow=8.4,SNR=23						
ASAR	**Alice Springs**	**47.08**	**255**	P	P	02 46 08.4	-0.4
	1.5nm,0.6s,baz=91,slow=8.5,SNR=27						
BRTR	**Keskin Array B**	**147.49**	**316**	PKPbc	PKPbc	02 57 20.6	-0.7
	0.4nm,0.7s,baz=123,slow=5.3,SNR=3.8						

IDC 05 03:24:29.0±23.0, 7°76S×155°00E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=381.3km s-min=107.4km az=30.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.40**	**237**	P	P	03 29 39.8	0.0
	0.7nm,0.7s,baz=65,slow=10.0,SNR=5.4						
ASAR	**Alice Springs**	**25.68**	**230**	P	P	03 30 00.8	-0.1
	0.6nm,0.9s,baz=52,slow=12,SNR=5.6						
STKA	**Stephens Creek**	**27.05**	**206**	P	P	03 30 13.2	0.0
	1.3nm,0.8s,baz=11,slow=10,SNR=3.1						

IDC 05 03:32:29.9±0.9, 11°35N×142°94E, h0km, mb3.8/9, mb1 4.1/9, mb1mx3.9/23, mbtmp3.8/9, Error ellipse: s-maj=28.6km s-min=22.0km az=92.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.23**	**195**	P	P	03 38 59.3	-0.8
	0.7nm,1.1s,baz=18,slow=9.8,SNR=5.5						
ASAR	**Alice Springs**	**35.90**	**194**	P	P	03 39 31.6	-0.5
	0.2nm,0.5s,baz=21,slow=12,SNR=4.8						
CMAR	**Chiang Mai Arr**	**43.01**	**285**	P	P	03 40 32.5	+1.0
	3.5nm,0.7s,baz=86,slow=6.4,SNR=16						
SONM	**Songino Array**	**47.52**	**327**	P	P	03 41 06.3	-0.7
	0.7nm,0.5s,baz=92,slow=19,SNR=3.9						
MKAR	**Makanchi Array**	**61.81**	**317**	P	P	03 42 50.8	0.0
	1.5nm,0.9s,baz=90,slow=9.0,SNR=6.6						
ZALV	**Zalesovo Beam**	**62.36**	**325**	P	P	03 42 53.3	-0.9
	0.3nm,0.3s,baz=121,slow=5.7,SNR=3.8						
ILAR	**Eielson Array**	**71.39**	**25**	P	P	03 43 50.6	-1.0
	0.5nm,0.7s,baz=261,slow=4.5,SNR=5.2						
YKA	**Yellowknife Ar**	**85.70**	**27**	P	P	03 45 10.7	+0.2
	0.2nm,0.4s,baz=290,slow=5.8,SNR=3.7						
NVAR	**Mina Array Bea**	**89.79**	**51**	P	P	03 45 31.8	+0.8
	1.2nm,0.7s,baz=264,slow=5.2,SNR=8.4						
LPAZ	**La Paz**	**149.46**	**103**	PKPbc	PKPbc	03 52 23.6	+0.7
	0.7nm,0.6s,baz=260,slow=6.1,SNR=3.5						

*NIED **05** 03:33:00,28.60N×142.70E,h8km,Mw3.8 Best double couple: M0=5.78000×10^14 NP1:φ=73.00000°,δ=73.00000°, λ=126.00000°. NP2:φ=185.00000°,δ=39.00000°,λ=27.00000°.*
*IDC **05** 03:33:08.2±2.2,28.53N×142.13E,h0km,mb3.8/6, mb1 3.9/7,mb1mx3.7/23,mbtmp3.7/7,ML3.6/1,MS2.9/3, Ms1 2.9/3,ms1mx2.5/34,Error ellipse: s-maj=112.1km s-min=21.8km az=78.0*
*ISCJB **05** 03:33:09.2±1.1,28.67N±0.04×142.74E±0.3,h25km, mb3.8/6,MS3.0/1,Error ellipse: s-maj=41.9km s-min=4.0km az=174.3*
*JMA **05** 03:33:09.3,28.64N×142.71E,h54km,M3.8*

ISC 05 03:33:10.9±1.4, 28°60N±0°05×142°5E±0°3, h25km, n21, σ0s95/23, mb3.8/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.52**	**189**	P	**Pn**	**03 33 36.0**	**-0.4**
CBIJ				*e*S	**Sb**	**03 33 55.7**	**-1.4**
JHHJ	**Haha-jima-NKT**	**1.98**	**187**	*e*S	**Sn**	**03 34 06.8**	**+0.1**
BSO1	**Boso 1**	**6.17**	**349**	P	**Pn**	**03 34 39.6**	**-0.3**
BSO1				*e*S	**Sn**	**03 35 47.1**	**-2.3**
BSO2	**Boso 2**	**6.31**	**347**	*e*S	**Sn**	**03 35 53.1**	**0.0**
BSO3	**Boso 3**	**6.41**	**345**	P	**Pn**	**03 34 43.9**	**+0.5**
BSO3				*e*S	**Sn**	**03 35 55.7**	**+0.1**
BSO4	**Boso 4**	**6.62**	**345**	*e*S	**Sn**	**03 36 01.5**	**+0.3**
JHU	**Hanno**	**7.72**	**340**	P	**Pn**	**03 35 02.2**	**+0.5**
JHU				*e*S	**Sn**	**03 36 26.2**	**-2.1**
JRY	**Ryogami san**	**7.99**	**339**	P	**Pn**	**03 35 06.1**	**+0.7**
JRY				*e*S	**Sn**	**03 36 34.8**	**-0.2**
JHO	**Hitachi**	**8.15**	**349**	P	**Pn**	**03 35 06.5**	**-1.1**
JAG	**Ashikaga**	**8.21**	**343**	P	**Pn**	**03 35 08.2**	**-0.2**
MJAR	**Matsushiro Arr**	**8.70**	**337**	Pn	**Pn**	**03 35 15.4**	**+0.3**
	0.7nm,0.3s,baz=160,slow=11,SNR=11						
JNU	**Nakatsue**	**10.93**	**297**	LR	LR	03 39 26.1	
	comp=Z,66nm,20.1s,baz=232,slow=35						
KSRS	**Korea Array**	**15.04**	**310**	LR	LR	03 42 04.7	
	comp=Z,31nm,21.2s,baz=115,slow=36						
CMAR	**Chiang Mai Arr**	**40.96**	**266**	LR	LR	03 56 49.8	
	comp=Z,18nm,18.4s,baz=65,slow=35						
WRA	**Warramunga Arr**	**48.89**	**190**	P	**P**	**03 41 55.4**	**+0.6**
	0.7nm,0.4s,baz=17,slow=9.1,SNR=18						
MKAR	**Makanchi Array**	**49.72**	**309**	P	**P**	**03 42 00.4**	**-0.6**
	0.4nm,0.6s,baz=79,slow=12,SNR=5.0						
ASAR	**Alice Springs**	**52.61**	**190**	P	**P**	**03 42 22.9**	**0.0**
	0.2nm,0.5s,baz=9.6,slow=4.8,SNR=4.2						
FINES	**FINESS Array B**	**76.71**	**334**	P	**P**	**03 45 00.7**	**+1.1**
	0.4nm,0.4s,baz=84,slow=4.2,SNR=8.8						
KBZ	**Khabaz**	**77.17**	**313**	P	**P**	**03 45 03.6**	**+1.1**
	2.2nm,0.7s,baz=103,slow=3.1,SNR=4.0						
BRTR	**Keskin Array B**	**85.16**	**313**	P	**P**	**03 45 45.1**	**-0.2**
	0.3nm,0.5s,baz=88,slow=4.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**123.77**	**312**	PKP	**PKPdf**	**03 52 07.9**	**+0.6**
	0.5nm,1.0s,baz=26,slow=0.8,SNR=7.1						

ISC 05 03:35:43.6±1.2, 45°09N±0°03×14°95E±0°06, h12km±10km, n15, σ0s46/23, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOJS	**Bojanci**	**0.47**	**27**	⇓*i*Pg	**Pg**	**03 35 52.6**	**-0.2**
BOJS				*i* Sg	**Sg**	**03 35 59.1**	**0.0**
NVLJ	**Novalja**	**0.53**	**186**	*i* Pg	**Pg**	**03 35 53.8**	**-0.1**
NVLJ				Sg	**Sb**	**03 36 02.4**	**0.0**
KNDS	**Knezji Dol**	**0.60**	**318**	*i* Sg	**Sb**	**03 36 04.8**	**+0.3**
VISS	**Visnje**	**0.72**	**354**	*i* Pg	**Pb**	**03 35 57.7**	**-0.5**
VISS				*i* Sg	**Sb**	**03 36 07.4**	**-0.7**
CEY	**Cerknica**	**0.75**	**331**	*i* Pg	**Pb**	**03 35 58.1**	**-0.6**
CEY				*i* Sg	**Sb**	**03 36 09.7**	**+0.8**
UDBI	**Udbina**	**0.81**	**134**	*e*Pg	**Pg**	**03 35 58.8**	**-0.4**
UDBI				Sg	**Sg**	**03 36 10.8**	**+1.0**
CRES	**Cresnjev**	**0.82**	**26**	*i* Pg	**Pg**	**03 35 59.4**	**-0.2**
LEGS	**Legarje**	**0.90**	**17**	*i* Pg	**Pb**	**03 36 01.2**	**-0.1**
LEGS				*i* Sg	**Sn**	**03 36 15.6**	**+0.4**
GCIS	**Gornji Cirnik**	**0.92**	**31**	*i* Pg	**Pg**	**03 36 01.3**	**0.0**
CESS	**Cesta pri Krsk**	**0.96**	**22**	*i* Pg	**Pn**	**03 36 02.8**	**-0.2**
CESS				*i* Sg	**Sn**	**03 36 17.0**	**+0.4**
PDKS	**Podkum**	**0.98**	**2**	*i* Pg	**Pb**	**03 36 02.6**	**+0.1**
VNDS	**Vrh nad Dolski**	**1.03**	**350**	*i* Pg	**Pn**	**03 36 03.8**	**-0.2**
GOLS	**Golise**	**1.04**	**27**	*i* Pg	**Pb**	**03 36 03.7**	**+0.1**
GOLS				*i* Sg	**Sn**	**03 36 18.7**	**+0.1**
MOZS	**Mozjanca**	**1.26**	**344**	*i* Pg	**Pg**	**03 36 08.2**	**+0.4**
PERS	**Pernice**	**1.56**	**4**	*i* Pg	**Pb**	**03 36 12.0**	**-0.4**

IDC 05 03:55:51.2±10.0, 5°60N×95°37E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/25, mbtmp3.6/3, Error ellipse: s-maj=480.7km s-min=30.5km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**42.57**	**347**	P	P	04 03 49.0	+0.1
	0.4nm,0.5s,baz=169,slow=7.0,SNR=5.4						
WRA	**Warramunga Arr**	**45.96**	**125**	P	P	04 04 16.4	-0.1
	0.4nm,0.7s,baz=303,slow=9.2,SNR=4.9						
ZALV	**Zalesovo Beam**	**48.97**	**352**	P	P	04 04 38.9	-0.4
	0.7nm,0.3s,baz=172,slow=7.5,SNR=4.3						

*ISCJB **05** 04:09:51.6±0.5, 55°42S±0°10×27°4W±0°2, h10km, mb4.1/11, Error ellipse: s-maj=15.8km s-min=12.3km az=142.2*
*IDC **05** 04:09:51.9±0.7, 55°39S×27°48W, h0km, mb4.1/6, mb1 4.1/7, mb1mx3.9/18, mbtmp4.0/7, ML3.5/1, Error ellipse: s-maj=26.2km s-min=18.4km az=66.0*
*NEIC **05** 04:09:57.0±0.3, 55°42S×27°44W, h35km, mb4.4/7, Error ellipse: s-maj=10.6km s-min=8.2km az=50.0*

ISC 05 04:09:53.3±0.6, 55°4S±0°1×27°5W±0°1, h10km, n25, σ0s42/25, mb4.2/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.41**	**157**	P	**P**	**04 14 19.0**	**-0.3**
SNAA	**Sanae**	**19.41**	**157**	P	**P**	**04 14 19.0**	**-0.3**
	0.2nm,0.3s,baz=301,slow=12,SNR=30						
QSPA	**South Pole Qui**	**34.86**	**180**	*e*P	**P**	**04 16 44.2**	**-0.1**
	3.9nm,0.9s						
QSPA	**South Pole Qui**	**34.86**	**180**	P	**P**	**04 16 44.6**	**+0.2**
	2.7nm,0.7s,baz=196,slow=3.2,SNR=25						
CFAA	**Coronel Fontan**	**37.16**	**293**	P	**P**	**04 17 04.0**	**-0.3**
CFAA	**Coronel Fontan**	**37.16**	**293**	P	**P**	**04 17 04.0**	**-0.3**
	0.3nm,0.6s,baz=163,slow=8.9,SNR=6.5						
MAW	**Mawson**	**40.77**	**144**	P	**P**	**04 17 33.9**	**-0.1**
MAW	**Mawson**	**40.77**	**144**	P	**P**	**04 17 33.9**	**-0.1**
	1.4nm,0.7s,baz=202,slow=8.4,SNR=3.7						
LVC	**Limon Verde**	**44.83**	**300**	*e*P	**P**	**04 18 08.4**	**+0.6**
	11nm,1.3s						
BOSA	**Boshof**	**45.97**	**77**	P	**P**	**04 18 16.1**	**-0.5**
BOSA	**Boshof**	**45.97**	**77**	P	**P**	**04 18 16.1**	**-0.5**
	4.5nm,1.2s,baz=268,slow=14,SNR=3.3						
VNDA	**Vanda**	**47.22**	**183**	*e*P	**P**	**04 18 26.4**	**+0.7**
	2.2nm,0.7s						
VNDA	**Vanda**	**47.22**	**183**	P	**P**	**04 18 26.0**	**+0.3**
	2.2nm,0.7s,baz=181,slow=4.0,SNR=12						
LBTB	**Lobatse**	**48.97**	**74**	*e*P	**P**	**04 18 39.8**	**-0.2**
	3.7nm,1.0s						
TSUM	**Tsumeb**	**49.50**	**62**	*e*P	**P**	**04 18 44.4**	**+0.3**
	4.5nm,1.0s						
LPAZ	**La Paz**	**49.87**	**305**	*e*P	**P**	**04 18 48.1**	**+0.7**
	6.8nm,1.4s						
LPAZ	**La Paz**	**49.87**	**305**	P	**P**	**04 18 47.1**	**-0.3**
	0.9nm,0.7s,baz=188,slow=8.0,SNR=5.7						
SAML	**Samuel**	**54.23**	**315**	*e*P	**P**	**04 19 18.8**	**-0.4**
	1.4nm,0.8s						
TOAO	**Torodi Ar. Sit**	**72.56**	**30**	*e*P	**P**	**04 21 20.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**72.56**	**30**	P	**P**	**04 21 21.0**	**+0.6**
TORD	**Torodi Ar. Bea**	**72.56**	**30**	P	**P**	**04 21 21.0**	**+0.6**
	1.2nm,0.5s,baz=199,slow=6.3,SNR=35						
ILAR	**Eielson Array**	**149.56**	**313**	PKPbc	**PKPbc**	**04 29 41.1**	**-0.2**
ILAR	**Eielson Array**	**149.56**	**313**	PKPbc	**PKPbc**	**04 29 41.1**	**-0.2**
	2.3nm,0.8s,baz=127,slow=1.8,SNR=25						
SONM	**Songino Array**	**150.84**	**86**	PKPbc	**PKPbc**	**04 29 44.9**	**-0.3**
SONM	**Songino Array**	**150.84**	**86**	PKPbc	**PKPbc**	**04 29 44.9**	**-0.3**
	1.5nm,0.5s,baz=239,slow=2.7,SNR=8.3						

IDC 05 04:28:00.7±1.4, 21°32S×68°70W, h102km±10km, mb3.8/3, mb1 3.7/6, mb1mx3.4/19, mbtmp3.7/6, Error ellipse: s-maj=37.9km s-min=14.3km az=113.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.31**	**189**	P	Pn	04 28 24.5	-0.7
	132nm,0.3s,baz=2.8,slow=8.1,SNR=1359						
LVC				S	Sn	04 28 43.4	-0.1
	530nm,0.3s,baz=100,slow=22,SNR=99						
LPAZ	**La Paz**	**5.03**	**6**	P	Pn	04 29 15.1	+0.4
	3.0nm,0.3s,baz=210,slow=4.6,SNR=36						
SIV	**San Ignacio**	**8.96**	**55**	P	Pn	04 30 05.4	-2.0
	1.2nm,0.3s,baz=251,slow=13,SNR=24						
CFAA	**Coronel Fontan**	**10.26**	**178**	P	Pn	04 30 20.4	-4.5
	0.0nm,0.3s,baz=360,slow=13,SNR=6.6						
CFAA				S	Sn	04 32 09.2	-8.8
	0.0nm,0.3s,baz=225,slow=20,SNR=3.5						
PLCA	**Paso Flores**	**19.42**	**184**	P	P	04 32 18.8	-0.3
	0.1nm,0.3s,baz=79,slow=13,SNR=3.0						
BDFB	**Brasilia**	**20.41**	**77**	P	P	04 32 30.5	+0.5
	4.4nm,0.4s,baz=242,slow=11,SNR=24						
TORD	**Torodi Ar. Bea**	**77.11**	**70**	P	P	04 39 43.6	+0.1
	1.1nm,0.7s,baz=252,slow=5.7,SNR=20						
TORD				pP	pP	04 40 10.0	+0.4
	2.4nm,0.9s,baz=250,slow=5.0,SNR=6.5						
MAW	**Mawson**	**84.45**	**163**	P	P	04 40 21.9	+0.2
	1.2nm,0.7s,baz=204,slow=6.5,SNR=5.6						
ASAR	**Alice Springs**	**130.17**	**207**	PKP	PKPdf	04 46 58.7	-1.0
	0.3nm,0.7s,baz=124,slow=5.7,SNR=3.1						
WRA	**Warramunga Arr**	**133.21**	**210**	PKP	PKPdf	04 47 03.8	-1.7
	0.4nm,0.8s,baz=146,slow=1.3,SNR=5.8						
MKAR	**Makanchi Array**	**145.37**	**36**	PKPbc	PKPab	04 47 27.1	0.0
	0.4nm,0.7s,baz=344,slow=3.9,SNR=3.5						
MKAR				pPKPbc	pPKPbc	04 47 54.5	+0.1
	1.0nm,0.9s,baz=301,slow=5.4,SNR=5.0						

IDC 05 04:29:15.8±2.0, 2°47N×95°65E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.6/26, mbtmp3.8/7, ML3.9/2, MS3.4/1, Ms1 3.4/1, ms1mx2.4/34, Error ellipse: s-maj=60.7km s-min=20.9km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.28**	**84**	Pn	Pn	04 30 09.2	+0.5
	3.5nm,0.3s,baz=293,slow=5.8,SNR=7.8						
CMAR	**Chiang Mai Arr**	**16.22**	**11**	Pn	Pn	04 33 04.6	-0.6
	0.4nm,0.3s,baz=198,slow=12,SNR=6.5						
WRA	**Warramunga Arr**	**44.01**	**122**	P	P	04 37 24.9	-0.6
	0.5nm,0.5s,baz=299,slow=9.6,SNR=6.3						
ASAR	**Alice Springs**	**45.39**	**127**	P	P	04 37 36.6	+0.1
	0.3nm,0.5s,baz=299,slow=8.0,SNR=6.5						
MKAR	**Makanchi Array**	**45.66**	**347**	P	P	04 37 38.5	+0.2
	1.3nm,0.5s,baz=153,slow=8.9,SNR=23						
KSRS	**Korea Array**	**45.72**	**36**	LR	LR	04 59 26.7	
	comp=Z,41nm,18.7s,baz=215,slow=40						
SONM	**Songino Array**	**46.14**	**10**	P	P	04 37 41.5	-0.6
	0.7nm,0.6s,baz=188,slow=8.8,SNR=4.6						
ZALV	**Zalesovo Beam**	**52.08**	**352**	P	P	04 38 27.4	0.0
	1.2nm,0.5s,baz=185,slow=6.8,SNR=5.8						

IDC 05 04:29:58.9±5.8, 39°38N×110°73E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.4/26, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=121.0km s-min=25.0km az=84.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**9.01**	**341**	Pn	Pn	04 32 10.0	-0.4
	0.6nm,0.3s,baz=158,slow=13,SNR=9.8						
SONM				Lg	Lg	04 34 48.0	
	baz=158,slow=20,SNR=3.8						
MKAR	**Makanchi Array**	**21.96**	**299**	P	P	04 34 53.9	-0.3
	1.4nm,0.8s,baz=101,slow=11,SNR=11						
CMAR	**Chiang Mai Arr**	**23.22**	**209**	P	P	04 35 08.1	+0.4
	2.1nm,0.7s,baz=16,slow=9.6,SNR=6.2						
KURBB	**Kurchatov Arra**	**25.19**	**307**	P	P	04 35 25.7	-0.2
	0.7nm,0.2s,baz=111,slow=9.7,SNR=4.6						

IDC 05 04:35:07.8±1.2, 0°90N×126°42E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.6/23, mbtmp3.8/7, ML3.4/2, Error ellipse: s-maj=50.6km s-min=18.7km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**8.88**	**229**	Pn	Pn	04 37 17.6	+0.1
	0.6nm,0.3s,baz=32,slow=9.5,SNR=3.9						
FITZ	**Fitzroy Crossi**	**18.90**	**182**	P	P	04 39 30.1	0.0
	0.1nm,0.3s,baz=4.8,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**22.12**	**160**	P	P	04 40 04.4	-0.8
	1.3nm,0.5s,baz=338,slow=10,SNR=19						
ASAR	**Alice Springs**	**25.48**	**164**	P	P	04 40 39.0	+1.1
	0.6nm,0.3s,baz=345,slow=11,SNR=15						
STKA	**Stephens Creek**	**35.63**	**158**	P	P	04 42 06.8	-0.8
	0.6nm,0.5s,baz=332,slow=10,0,SNR=5.8						
MKAR	**Makanchi Array**	**59.70**	**326**	P	P	04 45 14.5	+0.2
	0.7nm,0.7s,baz=117,slow=8.1,SNR=5.9						
KURBB	**Kurchatov Arra**	**63.95**	**328**	P	P	04 45 42.5	-0.3
	0.5nm,0.6s,baz=128,slow=6.0,SNR=5.3						

IDC 05 04:47:11.4±1.7, 9°20S×123°70E, h0km, mb3.7/1, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=135.2km s-min=26.3km az=62.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.05**	**168**	Pn	Pn	04 49 23.4	0.0
	0.5nm,0.3s,baz=5.9,slow=7.8,SNR=38						
FITZ				Sn	Sn	04 50 56.1	-10
	2.8nm,0.3s,baz=169,slow=12,SNR=15						
WRA	**Warramunga Arr**	**14.83**	**137**	Pn	Pn	04 50 42.0	-0.6
	0.2nm,0.3s,baz=301,slow=13,SNR=14						
WRA				Sn	Sn	04 53 16.1	-12
	0.4nm,0.3s,baz=306,slow=24,SNR=9.2						
ASAR	**Alice Springs**	**17.39**	**147**	P	Pn	04 51 16.1	+0.4
	0.1nm,0.3s,baz=322,slow=12,SNR=5.6						
ASAR				S	Sn	04 54 18.1	-12
	0.2nm,0.3s,baz=313,slow=20,SNR=9.3						
MKAR	**Makanchi Array**	**66.83**	**330**	P	P	04 58 05.1	0.0
	0.4nm,0.5s,baz=143,slow=6.0,SNR=1.7						

*MOS **05** 05:28:13.6±2.0, 50°52N×87°23E, h10km, mb4.3/1, Error ellipse: s-maj=12.2km s-min=9.3km az=110.6*
*ASRS **05** 05:28:13.1±0.5, 50°57N×87°41E, h8km, Ms2.8/4*
*IDC **05** 05:28:15.3±1.8, 50°66N×87°19E, h0km, mb1 3.7/6, mb1mx3.4/33, mbtmp3.7/6, ML3.7/6, Error ellipse: s-maj=19.0km s-min=12.1km az=89.0*
*NNC **05** 05:28:16.5±1.9, 50°77N×86°88E, h0km, mb3.8, mpv3.8, Error ellipse: s-maj=16.8km s-min=8.4km az=83.0*

ISC 05 05:28:14.4±1.7, 50°70N±0°05×87°25E±0°04, h5km±12km, n37, σ1s79/48, 10C-11D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKAR	**Aktash**	**0.45**	**148**	*e*Pg	Pg	05 28 18.4	-4.7
AKAR				*e*Sg	Sg	05 28 22.3	-6.7
AKAR	**Aktash**	**0.45**	**148**	*e*PG	Pg	05 28 18.4	-4.7
UKR	**Ust'-Kan**	**1.59**	**279**	*e*Pg	**Pb**	**05 28 44.0**	**-0.3**
UKR				*e*Sg	**Sg**	**05 29 06.5**	**+1.1**
UKR	**Ust'-Kan**	**1.59**	**279**	*e*PN	**Pb**	**05 28 44.0**	**-0.3**
UKR				*e*		05 29 06.5	
TASR	**Tashtagol**	**2.10**	**11**	*e*Pg	**Pb**	**05 28 53.2**	**+0.2**
TASR				*e*Sg	**Sg**	**05 29 23.6**	**+1.8**
TASR	**Tashtagol**	**2.10**	**11**	*e*PN	**Pb**	**05 28 53.2**	**+0.2**
TASR				*e*		05 29 23.6	
ELT	**Yel'tsovka**	**2.64**	**347**	*e*Pg	**Pb**	**05 29 01.6**	**-0.5**
ELT				*e*Sg	**Sg**	**05 29 39.0**	**-0.1**
ELT	**Yel'tsovka**	**2.64**	**347**	*e*PN	**Pb**	**05 29 01.6**	**-0.5**
ELT				*e*		05 29 39.0	
CERR	**Cheremushki**	**3.37**	**49**	*e*Pg	Pb	05 29 12.4	-2.2
CERR				*e*Pg	**Sg**	**05 29 59.0**	**-3.5**
CERR	**Cheremushki**	**3.37**	**49**	*e*PN	Pb	05 29 12.4	-2.2
CERR				*e*		05 29 59.0	
ZALV	**Zalesovo Beam**	**3.58**	**336**	PN	**Pn**	**05 29 13.0**	**+2.5**
ZALV						05 29 57.4	
ZALV						05 30 07.6	
ZALV				pmax	pmax		
	comp=Z,16nm,0.3s						
ZALV				smax	smax		
	comp=N,10.0nm,0.3s						
ZALV	**Zalesovo Beam**	**3.58**	**336**	Pn	**Pn**	**05 29 13.0**	**+2.5**
	comp=N,16nm,0.3s,baz=157,slow=15,SNR=69						
ZALV				Sn	**Sn**	**05 29 57.4**	**+4.3**
	comp=N,9.8nm,0.3s,baz=158,slow=23,SNR=5.8						
ZALV				Lg	Lg	05 30 07.6	
	comp=N,16nm,0.3s,baz=156,slow=25,SNR=6.9						
HVS	**Khovu-Aksy**	**4.11**	**81**	*d*PN	**Pn**	**05 29 18.3**	**+0.4**
NVS	**Novosibirsk**	**4.81**	**331**	*e*Pn	**Pn**	**05 29 29.7**	**+2.3**
NVS				*e*Pg	**Pg**	**05 29 46.7**	**+0.2**
NVS				*

ZRNK	**Zerenda**	**11.51 288**	⇑Pn		**Pn**	**05 30 58.4**	**-0.9**
	comp=Z,0.8nm,0.4s						
ZRNK			⇑Sn		**Sn**	**05 33 04.8**	**-3.3**
	comp=Z,0.9nm,0.3s						
ZRNK			⇑Lg		Lg	05 34 13.7	
	comp=Z,2.7nm,0.8s						
ZRNK	**Zerenda**	**11.51 288**	P		**Pn**	**05 30 58.2**	**-1.1**
ZRNK			pmax		pmax		
	comp=Z,2.0nm,0.6s						
SONM	**Songino Array**	**12.83 96**	Pn		**Pn**	**05 31 18.8**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=307,slow=12,SNR=2.8						
SONM			Lg		Lg	05 34 55.8	
	comp=Z,0.2nm,0.3s,baz=281,slow=25,SNR=4.3						
KK31	**Karatay Array**	**13.72 243**	⇑Pn		**Pn**	**05 31 29.2**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=45,slow=14,SNR=4.8						
KK31			⇓Sn		**Sn**	**05 34 00.5**	**-1.7**
	comp=Z,0.7nm,0.6s,baz=44,slow=29,SNR=3.8						
KK31			⇓Lg		Lg	05 35 30.2	
	comp=Z,3.9nm,0.8s,baz=48,slow=29,SNR=4.3						
AB31	**Akbulak array**	**17.59 276**	⇓P		**Pn**	**05 32 18.1**	**-1.9**
	comp=Z,0.5nm,0.5s,baz=76,slow=16,SNR=8.4						
AKTO	**Aktyubinsk**	**18.52 281**	⇓P		**P**	**05 32 28.6**	**-2.9**
	comp=Z,2.3nm,0.8s						
AKTO	**Aktyubinsk**	**18.52 281**	P		**P**	**05 32 30.8**	**-0.7**
AKTO	**Aktyubinsk**	**18.52 281**	P		**P**	**05 32 30.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=79,slow=12,SNR=3.5						

*IDC **05** 05:33:38.9±0.9, 0°.12S×124°.25E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.6/24, mbtmp3.8/8, ML4.2/1, MS2.6/1, Ms1 2.6/1, ms1mx2.0/28, Error ellipse: s-maj=36.5km s-min=18.3km az=79.0*

*DJA **05** 05:33:45.9±1.1, 0°.5S×12°.4E±°, h25km±10km, M4.4/8, mb4.8/2, mB4.9/2, MLv4.2/8, Mw(mB)4.2/2*

*ISCJB **05** 05:33:46.6±0.6, 0°.15S±0°.07×123°.90E±0°.08, h110km, mb3.6/7, Error ellipse: s-maj=13.4km s-min=7.1km az=34.7*

ISC 05 05:33:47.2±1.0, 0°.14S±0°.07×123°.94E±0°.10, h110km, n17, σ2s59/14, mb3.9/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.71**	**3**	P	Pn	05 34 00.9	-4.7
KMSI				S	**Sn**	**05 34 13.6**	**-5.8**
GTOI	**Gorontalo**	**1.21**	**309**	P	**Pn**	**05 34 10.8**	**+0.2**
LUWI	**Luwuk**	**1.48**	**232**	P	**Pn**	**05 34 11.6**	**-2.1**
MNI	**Manado**	**1.81**	**30**	P	**Pn**	**05 34 16.0**	**-1.8**
MNI				S	**Sn**	**05 34 39.8**	**-1.3**
MRSI	**Marisa**	**2.09**	**287**	P	**Pn**	**05 34 21.2**	**-0.1**
SKSI	**Soroako, Sulaw**	**3.53**	**228**	P	**Pn**	**05 34 39.5**	**-0.8**
TTSI	**Tana Toraja**	**5.03**	**235**	P	**Pn**	**05 35 00.8**	**+0.3**
	66nm,0.4s,1μm0.4nm						
SPSI	**Sidrap Palu**	**5.64**	**228**	P	**Pn**	**05 35 09.6**	**+0.9**
KAPI	**Kappang**	**6.40**	**221**	Pn	**Pn**	**05 35 17.5**	**-1.6**
	5.1nm,0.3s,baz=36,slow=8.4,SNR=16						
KAPI				Sn	**Sn**	**05 36 27.6**	**-3.1**
	2.4nm,0.3s,baz=60,slow=20,SNR=3.6						
KAPI				LR	LR	05 38 12.5	
	comp=Z,48nm,19.4s,baz=238,slow=41						
WRA	**Warramunga Arr**	**22.16**	**153**	P	**P**	**05 38 35.0**	**+0.7**
	0.7nm,0.7s,baz=329,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**25.31**	**158**	P	**P**	**05 39 06.2**	**+2.5**
	0.6nm,0.9s,baz=0.0,slow=14,SNR=6.0						
MJAR	**Matsushiro Arr**	**38.82**	**18**	P	**P**	**05 41 04.6**	**+3.2**
	1.2nm,0.7s,baz=189,slow=8.3,SNR=9.5						
USRK	**Ussuriysk Arra**	**44.72**	**8**	P	P	05 41 53.5	+4.2
	1.3nm,0.6s,baz=199,slow=7.7,SNR=4.6						
MKAR	**Makanchi Array**	**59.22**	**328**	P	P	05 43 42.8	+5.9
	0.7nm,0.5s,baz=107,slow=8.1,SNR=7.7						
MKAR				PcP	PcP	05 44 31.0	+6.8
	0.4nm,0.6s,baz=152,slow=4.2,SNR=3.7						
KURBB	**Kurchatov Arra**	**63.55**	**330**	P	P	05 44 11.5	+5.6
	1.2nm,0.7s,baz=136,slow=6.2,SNR=11						
BVAR	**Borovoye Array**	**69.08**	**329**	P	P	05 44 47.5	+6.3
	0.4nm,0.5s,baz=168,slow=7.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**121.35**	**285**	PKP	PKPdf	05 52 36.8	+8.3
	0.3nm,0.6s,baz=104,slow=3.3,SNR=3.0						

IDC 05 05:42:36.1±6.5, 7°.63S×154°.98E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/18, mbtmp3.6/3, MS3.7/7, Ms1 3.7/7, ms1mx3.2/25, Error ellipse: s-maj=107.6km s-min=80.3km az=13.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.93**	**257**	LR	LR	05 47 25.7	
	comp=Z,330nm,18.0s,baz=72,slow=36						
DZM	**Mont Dzumac**	**18.12**	**144**	LR	LR	05 52 34.9	
	comp=Z,300nm,19.5s,baz=180,slow=33						
WRA	**Warramunga Arr**	**23.45**	**236**	P	P	05 47 46.9	-0.5
	1.4nm,1.0s,baz=64,slow=10.0,SNR=6.6						
WRA				LR	LR	05 56 18.2	
	comp=Z,160nm,18.4s,baz=50,slow=35						
ASAR	**Alice Springs**	**25.75**	**229**	P	P	05 48 07.8	-0.8
	1.3nm,1.0s,baz=59,slow=11,SNR=8.6						
ASAR				LR	LR	05 57 32.4	
	comp=Z,119nm,19.1s,baz=327,slow=35						
STKA	**Stephens Creek**	**27.16**	**206**	P	P	05 48 22.7	+1.4
	3.9nm,1.1s,baz=30,slow=14,SNR=4.0						
STKA				LR	LR	05 57 52.8	
	comp=Z,126nm,18.2s,baz=24,slow=34						
FITZ	**Fitzroy Crossi**	**30.39**	**247**	LR	LR	06 00 24.8	
	comp=Z,103nm,19.6s,baz=201,slow=35						
VNDA	**Vanda**	**69.95**	**178**	LR	LR	06 18 37.6	
	comp=Z,68nm,18.2s,baz=131,slow=31						

IDC 05 05:56:26.8±2.3, 4°.51S×130°.91E, h0km, mb3.7/1, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=94.8km s-min=25.6km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.46**	**200**	Pn	Pn	05 59 51.8	-1.0
	0.2nm,0.3s,baz=302,slow=16,SNR=6.8						
FITZ				Sn	Sn	06 02 35.2	+1.2
	0.1nm,0.3s,baz=196,slow=6.6,SNR=3.1						
WRA	**Warramunga Arr**	**15.70**	**168**	Pn	Pn	06 00 08.2	-1.3
	0.1nm,0.3s,baz=351,slow=12,SNR=11						
WRA				Sn	Sn	06 03 06.5	+2.2
	0.1nm,0.3s,baz=360,slow=23,SNR=4.5						
ASAR	**Alice Springs**	**19.26**	**172**	P	Pn	06 00 53.9	-0.2
	0.6nm,0.3s,baz=351,slow=10,SNR=21						
MKAR	**Makanchi Array**	**66.67**	**326**	P	P	06 07 19.6	0.0
	0.2nm,0.6s,baz=128,slow=7.3,SNR=4.7						

*IDC **05** 06:00:25.3±0.8, 11°.30N×142°.96E, h0km, mb4.1/12, mb1 4.3/12, mb1mx4.0/24, mbtmp4.1/12, MS3.0/4, Ms1 3.0/4, ms1mx2.5/39, Error ellipse: s-maj=26.7km s-min=19.3km az=89.0*

*NEIC **05** 06:00:26.9±0.5, 11°.26N×142°.86E, h10km, mb4.5/3, Error ellipse: s-maj=15.4km s-min=10.3km az=104.0*

*ISCJB **05** 06:00:28.2±0.6, 11°.25N±0°.08×142°.9E±0°.1, h33km, mb4.2/15, MS2.9/4, Error ellipse: s-maj=16.7km s-min=8.6km az=34.6*

ISC 05 06:00:30.6±0.8, 11°.3N±0°.1×142°.9E±0°.1, h35km, n34, σ0s96/31, mb4.2/15, MS3.0/4, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.96**	**40**	ePn	**Pn**	**06 01 15.6**	**+0.4**
GUMO				eSn	**Sn**	**06 01 48.5**	**-1.0**
PMG	**Port Moresby**	**21.00**	**168**	LR	LR	06 12 29.8	
	comp=Z,56nm,18.7s,baz=163,slow=34						
JNU	**Nakatsue**	**24.37**	**335**	P	**P**	**06 05 45.1**	**-0.5**
JNU	**Nakatsue**	**24.37**	**335**	P	**P**	**06 05 45.1**	**-0.5**
	5.6nm,0.7s,baz=162,slow=23,SNR=4.1						
MJAR	**Matsushiro Arr**	**25.49**	**351**	LR	LR	06 14 43.7	
	comp=Z,50nm,18.8s,baz=115,slow=34						
KSRS	**Korea Array**	**29.32**	**335**	LR	LR	06 16 52.3	
	comp=Z,12nm,19.6s,baz=145,slow=34						
WRAB	**Tennant Creek**	**32.17**	**195**	eP	**P**	**06 06 54.1**	**-1.2**
	4.8nm,1.1s						
WRA	**Warramunga Arr**	**32.18**	**195**	P	**P**	**06 06 54.5**	**-0.9**
WRA	**Warramunga Arr**	**32.18**	**195**	P	**P**	**06 06 54.5**	**-0.9**
	1.1nm,0.8s,baz=18,slow=9.6,SNR=8.7						
ASAR	**Alice Springs**	**35.86**	**194**	P	**P**	**06 07 26.7**	**-0.7**
ASAR	**Alice Springs**	**35.86**	**194**	P	**P**	**06 07 26.7**	**-0.7**
	0.4nm,0.5s,baz=22,slow=12,SNR=6.9						
CMAR	**Chiang Mai Arr**	**43.01**	**285**	P	**P**	**06 08 28.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**43.01**	**285**	P	**P**	**06 08 28.1**	**+1.0**
	7.0nm,0.8s,baz=87,slow=6.3,SNR=22						
SONM	**Songino Array**	**47.55**	**327**	P	**P**	**06 09 02.5**	**-0.4**
SONM	**Songino Array**	**47.55**	**327**	P	**P**	**06 09 02.5**	**-0.4**
	0.6nm,0.5s,baz=146,slow=6.8,SNR=2.8						
FX1	**Attu Island--F**	**48.05**	**24**	LR	LR	06 27 21.2	
	comp=Z,23nm,20.3s,baz=315,slow=34						
MKAR	**Makanchi Array**	**61.84**	**317**	P	**P**	**06 10 46.5**	**+0.1**
MKAR	**Makanchi Array**	**61.84**	**317**	P	**P**	**06 10 46.5**	**+0.1**
	2.4nm,0.8s,baz=92,slow=9.2,SNR=15						
ZALV	**Zalesovo Beam**	**62.39**	**326**	P	**P**	**06 10 49.3**	**-0.5**
ZALV	**Zalesovo Beam**	**62.39**	**326**	P	**P**	**06 10 49.3**	**-0.5**
	1.2nm,0.6s,baz=89,slow=7.7,SNR=4.7						
BRVK	**Borovoye**	**70.61**	**322**	eP	**P**	**06 11 41.4**	**-1.0**
	5.8nm,0.7s						
ILAR	**Eielson Array**	**71.43**	**25**	P	**P**	**06 11 46.4**	**-0.8**
ILAR	**Eielson Array**	**71.43**	**25**	P	**P**	**06 11 46.4**	**-0.8**
	0.7nm,0.6s,baz=256,slow=6.0,SNR=12						
ABKAR	**Akbulak array**	**76.96**	**318**	eP	**P**	**06 12 19.4**	**-0.3**
	2.0nm,0.6s						
YKA	**Yellowknife Ar**	**85.75**	**27**	P	**P**	**06 13 05.8**	**-0.2**
YKA	**Yellowknife Ar**	**85.75**	**27**	P	**P**	**06 13 05.8**	**-0.2**
	0.2nm,0.4s,baz=285,slow=4.9,SNR=4.5						
ARCES	**ARCESS Array B**	**88.65**	**342**	P	**P**	**06 13 21.9**	**+2.0**
ARCES	**ARCESS Array B**	**88.65**	**342**	P	**P**	**06 13 21.9**	**+2.0**
	2.8nm,0.9s,baz=64,slow=8.2,SNR=8.1						
NVAR	**Mina Array Bea**	**89.82**	**51**	P	**P**	**06 13 27.6**	**+1.2**
NVAR	**Mina Array Bea**	**89.82**	**51**	P	**P**	**06 13 27.6**	**+1.2**
	1.0nm,0.6s,baz=267,slow=5.3,SNR=7.5						
FINES	**FINESS Array B**	**92.41**	**335**	P	**P**	**06 13 36.6**	**-0.9**
FINES	**FINESS Array B**	**92.41**	**335**	P	**P**	**06 13 36.6**	**-0.9**
	1.8nm,0.8s,baz=202,slow=1.0,SNR=4.7						
LPAZ	**La Paz**	**149.46**	**103**	PKPbc	**PKPbc**	**06 20 18.8**	**+0.9**
LPAZ	**La Paz**	**149.46**	**103**	PKPbc	**PKPbc**	**06 20 18.8**	**+0.9**
	0.6nm,0.5s,baz=201,slow=1.5,SNR=3.9						

IDC 05 06:03:35.2±3.5, 4°.60S×151°.17E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/19, mbtmp3.6/3, ML2.5/1, Error ellipse: s-maj=148.7km s-min=38.5km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.22**	**220**	Pn	Pn	06 05 10.0	+1.7
	0.6nm,0.3s,baz=166,slow=12,SNR=2.6						
PMG				Sn	Sn	06 06 21.1	+0.9
	1.2nm,0.3s,baz=172,slow=14,SNR=2.6						
WRA	**Warramunga Arr**	**22.39**	**226**	P	P	06 08 34.5	-1.0
	0.4nm,0.4s,baz=52,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**25.23**	**220**	P	P	06 09 03.1	0.0
	1.3nm,0.8s,baz=53,slow=9.4,SNR=11						
TORD	**Torodi Ar. Bea**	**148.69**	**288**	PKPbc	PKPbc	06 23 25.2	-0.4
	0.4nm,0.9s,baz=92,slow=2.1,SNR=4.2						

IDC 05 06:13:12.6±3.1, 22°.94N×141°.55E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/24, mbtmp3.6/4, Error ellipse: s-maj=182.3km s-min=28.2km az=88.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.20**	**190**	P	P	06 21 15.3	-0.2
	0.4nm,0.2s,baz=7.0,slow=7.8,SNR=28						
FITZ	**Fitzroy Crossi**	**43.66**	**202**	P	P	06 21 19.9	+0.7
	1.3nm,0.8s,baz=18,slow=9.6,SNR=5.1						
ASAR	**Alice Springs**	**46.92**	**190**	P	P	06 21 44.2	-0.9
	0.1nm,0.5s,baz=16,slow=12,SNR=3.5						
FINES	**FINESS Array B**	**81.41**	**334**	P	P	06 25 31.2	+0.1
	0.4nm,0.4s,baz=74,slow=4.3,SNR=9.3						

IDC 05 06:20:24.4±3.2, 19°.73S×178°.71W, h0km, mb3.4/2, mb1 3.9/2, mb1mx3.5/18, mbtmp3.4/2, Error ellipse: s-maj=236.5km s-min=40.9km az=162.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.05**	**261**	P	P	06 28 34.7	+0.3
	0.5nm,0.7s,baz=100,slow=7.1,SNR=6.2						
TXAR	**Lajitas Array**	**87.20**	**58**	P	P	06 33 13.7	+0.6
	0.2nm,0.9s,baz=217,slow=4.1,SNR=3.5						
BRTR	**Keskin Array B**	**145.83**	**313**	PKPbc	PKPdf	06 40 04.0	-1.5
	0.6nm,0.7s,baz=72,slow=2.3,SNR=4.7						

IDC 05 06:38:57.1±22.0, 8°.28S×155°.14E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/18, mbtmp3.8/3, MS3.9/1, Ms1 3.9/1, ms1mx2.8/25, Error ellipse: s-maj=373.0km s-min=96.3km az=31.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**17.50**	**143**	LR	LR	06 48 44.4	
	comp=Z,336nm,19.1s,baz=23,slow=34						
WRA	**Warramunga Arr**	**23.23**	**238**	P	P	06 44 06.1	-0.1
	1.4nm,0.7s,baz=62,slow=10,SNR=14						
ASAR	**Alice Springs**	**25.45**	**231**	P	P	06 44 27.1	+0.2
	1.7nm,0.9s,baz=60,slow=9.0,SNR=16						
STKA	**Stephens Creek**	**26.64**	**206**	P	P	06 44 37.4	-0.2
	2.0nm,0.7s,baz=30,slow=13,SNR=4.6						

IDC 05 06:39:35.2±13.0, 8°.83S×154°.20E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/17, mbtmp3.9/3, MS3.4/3, Ms1 3.4/3, ms1mx2.9/25, Error ellipse: s-maj=225.7km s-min=91.6km az=26.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.16**	**238**	P	P	06 44 32.3	-0.7
	1.0nm,0.7s,baz=65,slow=10.0,SNR=4.8						
ASAR	**Alice Springs**	**24.39**	**230**	P	P	06 44 56.0	+0.5
	3.5nm,0.9s,baz=63,slow=9.1,SNR=13						
STKA	**Stephens Creek**	**25.75**	**205**	P	P	06 45 07.6	-0.1
	3.2nm,0.8s,baz=15,slow=11,SNR=5.5						
MJAR	**Matsushiro Arr**	**47.57**	**343**	LR	LR	07 06 04.6	
	comp=Z,48nm,19.1s,baz=200,slow=33						
PETK	**Petropavlovsk-**	**61.76**	**2**	LR	LR	07 12 34.5	
	comp=Z,25nm,21.7s,baz=277,slow=32						
MKAR	**Makanchi Array**	**84.26**	**319**	LR	LR	07 31 22.0	
	comp=Z,22nm,18.0s,baz=358,slow=37						

*IDC **05** 06:55:27.9±0.8, 0°.24S×124°.26E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.9/23, mbtmp3.9/10, ML4.0/2, MS3.1/4, Ms1 3.1/4, ms1mx2.7/36, Error ellipse: s-maj=38.7km s-min=15.1km az=77.0*

*ISCJB **05** 06:55:34.0±0.5, 0°.34S±0°.05×124°.29E±0°.05, h60km, mb3.8/8, MS3.0/2, Error ellipse: s-maj=7.6km s-min=6.3km az=151.1*

*DJA **05** 06:55:33.9±1.3, 0°.5S±5°×12°.4E±°, h13km±10km, M4.4/5, mb4.8/3, mB4.9/3, MLv4.3/5, Mw(mB)4.2/3*

ISC 05 06:55:35.5±0.7, 0°.32S±0°.06×124°.26E±0°.06, h60km, n22, σ1s26/22, mb3.8/8, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.93**	**343**	P	**Pn**	**06 55 51.5**	**-1.1**
GTOI	**Gorontalo**	**1.56**	**307**	P	**Pn**	**06 56 02.7**	**+1.6**
LUWI	**Luwuk**	**1.65**	**244**	P	**Pn**	**06 56 02.6**	**+0.4**
LUWI				S	**Sn**	**06 56 24.9**	**+2.5**
MNI	**Manado**	**1.84**	**18**	P	**Pn**	**06 56 06.7**	**+1.8**
MRSI	**Marisa**	**2.45**	**289**	P	**Pn**	**06 56 11.4**	**-1.7**
LBMI	**Labuha**	**3.26**	**96**	S	**Sn**	**06 57 01.4**	**-0.4**
SKSI	**Soroako, Sulaw**	**3.66**	**233**	P	**Pn**	**06 56 30.1**	**+0.4**
TTSI	**Tana Toraja**	**5.20**	**239**	P	**Pn**	**06 56 51.9**	**+1.1**
	57nm,0.6s,1μm						
SPSI	**Sidrap Palu**	**5.76**	**231**	P	**Pn**	**06 56 59.2**	**+0.7**
	98nm,0.7s,1μm						
BKSI	**Bulukumba**	**6.46**	**220**	P	**Pn**	**06 57 09.6**	**+1.5**
KAPI	**Kappang**	**6.48**	**224**	Pn	**Pn**	**06 57 07.5**	**-0.8**
	10.0nm,0.3s,baz=66,slow=6.0,SNR=36						
KAPI				Sn	**Sn**	**06 58 19.2**	**-1.8**
	7.4nm,0.3s,baz=46,slow=22,SNR=8.0						
KAPI				LR	LR	07 00 22.7	
	comp=Z,91nm,18.8s,baz=72,slow=45						
FITZ	**Fitzroy Crossi**	**17.73**	**176**	P	**P**	**06 59 37.6**	**-0.8**
	0.2nm,0.3s,baz=39,slow=14,SNR=7.3						
FITZ				LR	LR	07 06 41.3	
	comp=Z,78nm,18.7s,baz=81,slow=38						
WRA	**Warramunga Arr**	**21.86**	**154**	P	**P**	**07 00 22.0**	**-1.4**
	4.3nm,0.8s,baz=332,slow=12,SNR=18						
ASAR	**Alice Springs**	**25.03**	**159**	P	**P**	**07 00 55.0**	**+0.7**
	2.4nm,0.9s,baz=320,slow=6.6,SNR=20						
JNU	**Nakatsue**	**33.84**	**10**	LR	LR	07 15 02.6	
	comp=Z,24nm,20.1s,baz=130,slow=35						
STKA	**Stephens Creek**	**35.41**	**154**	P	**P**	**07 02 26.1**	**+0.2**
	1.3nm,0.9s,baz=315,slow=10,SNR=3.1						
MJAR	**Matsushiro Arr**	**38.89**	**18**	P	**P**	**07 02 55.3**	**0.0**
	0.7nm,0.7s,baz=183,slow=9.3,SNR=4.6						
USRK	**Ussuriysk Arra**	**44.86**	**8**	P	**P**	**07 03 44.3**	**+0.5**
	1.1nm,0.4s,baz=200,slow=8.2,SNR=4.8						
ASAJ	**Asahikawa**	**47.17**	**18**	LR	LR	07 20 06.9	
	comp=Z,24nm,21.8s,baz=18,slow=31						
SONM	**Songino Array**	**50.42**	**344**	P	**P**	**07 04 27.2**	**+0.2**
	0.5nm,0.6s,baz=150,slow=12,SNR=2.7						
MKAR	**Makanchi Array**	**59.54**	**328**	P	**P**	**07 05 32.5**	**-0.4**
	0.6nm,0.7s,baz=122,slow=8.7,SNR=6.1						
ZALV	**Zalesovo Beam**	**63.12**	**335**	P	**P**	**07 05 55.4**	**-1.4**
	0.3nm,0.4s,baz=134,slow=4.2,SNR=2.4						

JMA 05 06:57:14.9±0.3, 43°.84N×147°.42E, h18km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.31**	**249**	P	Pn	06 57 38.5	+0.3
NEM2				eS	Sn	06 57 55.1	-0.1
JRA	**Rausu**	**1.66**	**274**	P	Pn	06 57 43.6	+0.5
JRA				eS	Sn	06 58 04.7	+0.7
JNK	**Nakash**	**1.98**	**264**	P	Pn	06 57 48.1	+0.7
JNK				eS	Sn	06 58 12.7	+1.0
JAK	**Akkeshi**	**2.16**	**248**	P	Pn	06 57 50.6	+0.7
JAK				eS	Sn	06 58 16.9	+0.8
JTKR	**Abashiri--Toko**	**2.54**	**274**	P	Pn	06 57 56.0	+0.8
JAR	**Ashorobuto**	**2.71**	**260**	P	Pn	06 57 59.7	+2.2
JAR				eS	Sn	06 58 32.7	+2.9
JOB	**Onbets**	**2.78**	**252**	P	Pn	06 57 59.8	+1.4
JOB				eS	Sn	06 58 33.5	+2.0
JMP	**Maruseppu**	**2.94**	**275**	P	Pn	06 58 01.7	+1.0
JCH	**Churui**	**3.21**	**249**	P	Pn	06 58 05.5	+1.1
JCH				eS	Sn	06 58 43.2	+1.1

IDC 05 07:10:41.0±22.0, 9°.38S×154°.98E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/17, mbtmp3.8/3, Error ellipse: s-maj=371.8km s-min=92.1km az=31.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.53**	**240**	P	P	07 15 42.5	-0.1
	1.6nm,0.7s,baz=63,slow=10,SNR=13						
ASAR	**Alice Springs**	**24.64**	**232**	P	P	07 16 03.6	+0.1
	1.5nm,0.9s,baz=64,slow=8.7,SNR=12						
STKA	**Stephens Creek**	**25.59**	**207**	P	P	07 16 12.0	0.0
	2.5nm,0.8s,baz=29,slow=10,SNR=5.0						

IDC 05 07:14:13.2±1.0, 11°.36N×143°.00E, h0km, mb3.6/8, mb1 3.9/8, mb1mx3.7/23, mbtmp3.6/8, Error ellipse: s-maj=32.5km s-min=24.2km az=102.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.26**	**195**	P	P	07 20 43.1	-0.6
	0.1nm,0.5s,baz=31,slow=10.0,SNR=2.5						
ASAR	**Alice Springs**	**35.93**	**194**	P	P	07 21 15.4	-0.2
	0.1nm,0.4s,baz=16,slow=11,SNR=3.8						
CMAR	**Chiang Mai Arr**	**43.07**	**285**	P	P	07 22 15.9	+0.6
	2.3nm,0.7s,baz=84,slow=6.1,SNR=11						
MKAR	**Makanchi Array**	**61.84**	**317**	P	P	07 24 34.3	0.0
	1.2nm,0.8s,baz=95,slow=8.0,SNR=8.1						
ZALV	**Zalesovo Beam**	**62.38**	**325**	P	P	07 24 36.8	-1.0
	0.5nm,0.4s,baz=104,slow=6.1,SNR=2.8						
ILAR	**Eielson Array**	**71.35**	**25**	P	P	07 25 33.5	-1.2
	0.3nm,0.7s,baz=253,slow=6.4,SNR=4.7						
YKA	**Yellowknife Ar**	**85.66**	**27**	P	P	07 26 54.5	+0.7
	0.2nm,0.4s,baz=288,slow=5.0,SNR=3.6						
NVAR	**Mina Array Bea**	**89.73**	**51**	P	P	07 27 15.4	+1.3
	0.6nm,0.6s,baz=271,slow=5.7,SNR=4.8						

*BEO **05** 07:14:30.5±0.8, 40°.46N×19°.55E, h11km±3km, ML3.2/1*

*THE **05** 07:14:31.7, 40°.73N×19°.64E, h0km±3km, ML3.5/5, Error ellipse: s-maj=4.8km s-min=1.4km az=294.0*

*CSEM **05** 07:14:31.5±0.2, 40°.68N×19°.59E, h2km, ML3.5/5, Error ellipse: s-maj=4.5km s-min=2.8km az=64.0*

*TIR **05** 07:14:31.4±3.2, 40°.68N×19°.68E, h10km±105km, ML3.8*

*PDG **05** 07:14:34.3±0.7, 40°.84N×19°.67E, h16km±1km, ML3.0/8, Error ellipse: s-maj=0.9km s-min=1.1km az=0.0*

*SKO **05** 07:14:34.5, 40°.75N×19°.80E, h0km, M2.7, ML3.2*

ISC 05 07:14:31.2±1.1, 40°.67N±0°.02×19°.60E±0°.02, h3km±8km, n123, σ1s34/185, 21C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.70**	**16**	ePG	**Pg**	**07 14 44.9**	**+0.1**
TIR				eSG	**Sb**	**07

KZN	**Kozani**	**1.69**	**102**	*e*P		**Pb**	**07 15 02.0**	**-1.1**
KZN	**Kozani**	**1.69**	**102**	P		**Pn**	**07 15 00.8**	**-1.0**
KZN				S		**Sb**	**07 15 24.3**	**-0.5**
BUM	**Brajici-Budva**	**1.71**	**342**	⇑*i*Pg		**Pb**	**07 15 02.4**	**-0.9**
BUM				*e*Sg		**Sb**	**07 15 24.9**	**-0.4**
BUM	**Brajici-Budva**	**1.71**	**342**	⇑*i*Pg		**Pb**	**07 15 02.4**	**-0.9**
BUM				*e*Sg		**Sb**	**07 15 24.9**	**-0.4**
BCI	**Bajram Curri**	**1.73**	**12**	*e*PG		**Pg**	**07 15 03.9**	**-0.4**
BCI				*i* SG		**Sg**	**07 15 26.6**	**-0.2**
BCI	**Bajram Curri**	**1.73**	**12**	*e*Pg		**Pg**	**07 15 03.9**	**-0.4**
	SNR=92							
BCI				*i* Sg		**Sg**	**07 15 26.5**	**-0.2**
	SNR=92							
PDG	**Podgorica**	**1.77**	**352**	*e*Pn		**Pb**	**07 15 03.5**	**-0.9**
PDG				*e*Sn		**Sg**	**07 15 29.3**	**+1.1**
PDG	**Podgorica**	**1.77**	**352**	⇑*i*Pn		**Pn**	**07 15 02.7**	**-0.1**
PDG				*e*Sn		**Sb**	**07 15 26.7**	**-0.3**
TTG	**Podgorica**	**1.77**	**352**	⇑*i*Pn		**Pn**	**07 15 02.7**	**-0.1**
TTG				*e*Sn		**Sb**	**07 15 26.7**	**-0.3**
SKO	**Skopje**	**1.90**	**46**	*i* Pn		**Pn**	**07 15 01.7**	**-2.8**
SKO				*e*Sg		**Sb**	**07 15 28.9**	**-1.8**
SKO				*e*Lg		Lg	07 15 33.2	
	comp=E,276nm,0.7s							
SKO				*e*Lg		Lg	07 15 36.4	
	comp=N,222nm,0.5s							
SKO	**Skopje**	**1.90**	**46**	*e*Pn		**Pb**	**07 15 05.7**	**-0.8**
SKO				*e*Sn		**Sg**	**07 15 31.6**	**-0.6**
SKO	**Skopje**	**1.90**	**46**	*e*Pn		**Pb**	**07 15 05.7**	**-0.8**
SKO				*e*Sg		**Sb**	**07 15 28.8**	**-1.8**
SKO				*e*Sn		**Sg**	**07 15 31.6**	**-0.6**
SKO				*e*Lg		Lg	07 15 36.4	
	comp=N,222nm,0.5s							
PVY	**Plav**	**1.94**	**8**	⇑*i*Pn		**Pb**	**07 15 05.7**	**-1.6**
PVY				*e*Sn		**Sn**	**07 15 29.2**	**-0.9**
PVY	**Plav**	**1.94**	**8**	⇑*i*Pn		**Pb**	**07 15 05.7**	**-1.6**
PVY				*e*Sn		**Sn**	**07 15 29.2**	**-0.9**
HCY	**Herceg Novi**	**1.96**	**335**	⇓*i*Pn		**Pn**	**07 15 05.3**	**0.0**
HCY				*e*Sn		**Sb**	**07 15 30.8**	**-1.5**
HCY	**Herceg Novi**	**1.96**	**335**	⇓*i*Pn		**Pn**	**07 15 05.3**	**0.0**
HCY				*e*Sn		**Sb**	**07 15 30.8**	**-1.5**
LKD2	**Lefkada island**	**2.05**	**156**	P		**Pn**	**07 15 06.4**	**-0.2**
LKD2				S		**Sg**	**07 15 36.0**	**-1.1**
LKD2	**Lefkada island**	**2.05**	**156**	*e*P		**Pb**	**07 15 07.6**	**-1.5**
LKD2	**Lefkada island**	**2.05**	**156**	P		**Pn**	**07 15 06.4**	**-0.2**
LKD2				S		**Sg**	**07 15 36.0**	**-1.1**
THL	**Klokotos Trika**	**2.16**	**120**	*e*P		**Pb**	**07 15 09.4**	**-1.5**
NKY	**Niksic**	**2.19**	**348**	⇑*i*Pn		**Pb**	**07 15 09.7**	**-1.8**
NKY				*e*Sn		**Sn**	**07 15 36.4**	**+0.2**
NKY	**Niksic**	**2.19**	**348**	⇑*i*Pn		**Pb**	**07 15 09.7**	**-1.8**
NKY				*e*Sn		**Sn**	**07 15 36.4**	**+0.2**
BEY	**Berane**	**2.21**	**6**	*e*Pn		**Pb**	**07 15 09.9**	**-1.9**
BEY				*e*Sn		**Sn**	**07 15 35.9**	**-0.8**
IVA	**Berane**	**2.21**	**6**	*e*Pn		**Pb**	**07 15 09.9**	**-1.9**
IVA				*e*Sn		**Sn**	**07 15 35.9**	**-0.8**
LIT	**Litokhoron**	**2.28**	**104**	*e*P		**Pb**	**07 15 11.1**	**-1.9**
VAY	**Valandovo**	**2.34**	**73**	*e*Pn		**Pn**	**07 15 11.2**	**+0.7**
VAY				*e*Sg		**Sg**	**07 15 45.8**	**-0.6**
VAY				*e*Lg		Lg	07 15 48.2	
	comp=N,96nm,0.7s							
VAY				*e*Lg		Lg	07 15 48.5	
	comp=E,63nm,0.8s							
VAY	**Valandovo**	**2.34**	**73**	*e*Pn		**Pn**	**07 15 10.6**	**+0.1**
VAY				*e*Sn		**Sb**	**07 15 40.9**	**-2.4**
VAY	**Valandovo**	**2.34**	**73**	*e*Pn		**Pn**	**07 15 11.2**	**+0.7**
VAY				*e*Sn		**Sb**	**07 15 40.9**	**-2.4**
VAY				*e*Sg		**Sg**	**07 15 45.7**	**-0.6**
VAY				*e*Lg		Lg	07 15 48.4	
	comp=E,63nm,0.8s							
BRY	**Bratogost**	**2.36**	**341**	⇑*i*Pn		**Pn**	**07 15 11.4**	**+0.4**
BRY				*e*Sn		**Sn**	**07 15 40.9**	**+0.2**
BRY	**Bratogost**	**2.36**	**341**	⇑*i*Pn		**Pn**	**07 15 11.4**	**+0.4**
BRY				*e*Sn		**Sn**	**07 15 40.9**	**+0.2**
EVR	**Evrytania**	**2.44**	**135**	*e*P		**Pb**	**07 15 13.9**	**-1.9**
UPM	**Unac-Piva**	**2.58**	**349**	*e*Pn		**Pn**	**07 15 14.9**	**+0.8**
UPM				*e*Sn		**Sn**	**07 15 45.9**	**-0.2**
UPM	**Unac-Piva**	**2.58**	**349**	*e*Pn		**Pn**	**07 15 14.9**	**+0.8**
UPM				*e*Sn		**Sn**	**07 15 45.9**	**-0.2**
SJES	**Sjenica**	**2.60**	**6**	*e*Pn		**Pn**	**07 15 15.5**	**+1.2**
SJES	**Sjenica**	**2.60**	**6**	*e*Pn		**Pn**	**07 15 15.5**	**+1.2**
VLS	**Valsamata**	**2.61**	**163**	*e*P		**Pn**	**07 15 14.0**	**-0.3**
STON	**Ston**	**2.62**	**328**	*e*Pn		**Pn**	**07 15 13.8**	**-0.6**
STON				Sn		**Sn**	**07 15 45.5**	**-1.1**
STON	**Ston**	**2.62**	**328**	*e*Pn		**Pn**	**07 15 13.7**	**-0.6**
STON				Sn		**Sn**	**07 15 45.5**	**-1.1**
AGG	**Agios Georgios**	**2.67**	**127**	*e*P		**Pb**	**07 15 17.1**	**-2.6**
BARS	**Barje**	**2.71**	**37**	*e*Pn		**Pn**	**07 15 16.2**	**+0.6**
BARS				*e*Sn		**Sb**	**07 15 50.8**	**-3.1**
BARS	**Barje**	**2.71**	**37**	*e*Pn		**Pn**	**07 15 16.2**	**+0.6**
BARS				*e*Sn		**Sb**	**07 15 50.8**	**-3.1**
SELS	**Selova**	**2.79**	**23**	*e*Pn		**Pn**	**07 15 17.1**	**+0.4**
EFP	**Efpalio**	**2.87**	**141**	*e*P		**Pn**	**07 15 19.1**	**+1.3**
RLS	**Riolos of Patr**	**2.98**	**150**	*e*P		**Pn**	**07 15 20.5**	**+1.1**
TRIZ	**Trizonia**	**2.99**	**140**	*e*P		**Pn**	**07 15 20.4**	**+0.9**
KALE	**Kalithea**	**3.01**	**138**	*e*P		**Pn**	**07 15 20.9**	**+1.1**
LAKA	**Lakka**	**3.05**	**142**	*e*P		**Pn**	**07 15 21.0**	**+0.7**
NEO	**Neokhori**	**3.10**	**115**	*e*P		**Pn**	**07 15 22.7**	**+1.7**
BBLS	**Lazići**	**3.19**	**357**	*e*Pn		**Pn**	**07 15 23.9**	**+1.5**
BBLS				*e*Sn		**Sb**	**07 16 03.8**	**-4.2**
BBLS	**Lazići**	**3.19**	**357**	*e*Pn		**Pn**	**07 15 23.9**	**+1.5**
BBLS				*e*Sn		**Sb**	**07 16 03.8**	**-4.2**
KLV	**Kalavryta, Ach**	**3.29**	**142**	*e*P		**Pn**	**07 15 25.4**	**+1.8**
LKR	**Lokris**	**3.31**	**127**	*e*P		**Pn**	**07 15 25.7**	**+1.8**
VTS	**Vitosha**	**3.31**	**53**	⇑*i*P		Pb	07 15 26.9	-3.8
VTS	**Vitosha**	**3.31**	**53**	S		**Sn**	**07 16 05.2**	**+1.1**
VTS	**Vitosha**	**3.31**	**53**	*e*Pn		**Pn**	**07 15 24.5**	**+0.4**
VTS				*e*Sn		**Sn**	**07 16 04.7**	**+0.6**
VTS	**Vitosha**	**3.31**	**53**	*e*Pn		**Pn**	**07 15 24.5**	**+0.4**
VTS	**Vitosha**	**3.31**	**53**	⇑*i*P		Pb	07 15 26.9	-3.8
VTS				*e*Sn		**Sn**	**07 16 04.7**	**+0.6**
VTS				S		**Sn**	**07 16 05.2**	**+1.1**
DIVS	**Divibare**	**3.44**	**5**	*e*Pn		**Pn**	**07 15 26.9**	**+1.2**
DIVS				*e*Sn		**Sn**	**07 16 08.5**	**+1.5**
DIVS	**Divibare**	**3.44**	**5**	*e*Pn		**Pn**	**07 15 26.9**	**+1.2**
DIVS				*e*Sn		**Sn**	**07 16 08.5**	**+1.5**
ZAPS	**Zavoj**	**3.44**	**40**	*e*Sn		**Sn**	**07 16 07.9**	**+0.8**
GUR	**Goura**	**3.46**	**141**	*e*P		**Pn**	**07 15 27.0**	**+0.9**
AMT	**Artemida-Makis**	**3.54**	**152**	*e*P		**Pn**	**07 15 28.2**	**+1.1**
BOLS	**Boljevac**	**3.60**	**28**	*e*Pn		**Pn**	**07 15 28.2**	**+0.2**
BOLS	**Boljevac**	**3.60**	**28**	*e*Pn		**Pn**	**07 15 28.2**	**+0.2**
AOS	**Alonnisos**	**3.62**	**113**	*e*P		**Pn**	**07 15 28.5**	**+0.4**
ITM	**Ithomi**	**3.93**	**152**	*e*P		**Pn**	**07 15 33.8**	**+1.3**
VLX	**Vlachokerasia**	**3.94**	**146**	*e*P		**Pn**	**07 15 34.0**	**+1.3**
DID	**Didima**	**4.24**	**137**	*e*P		**Pn**	**07 15 38.7**	**+1.9**
VLI	**Veliai**	**4.73**	**145**	*e*P		**Pn**	**07 15 44.8**	**+1.3**
UDBI	**Udbina**	**4.78**	**325**	*e*Pn		**Pn**	**07 15 45.2**	**+0.9**
UDBI				Sn		**Sn**	**07 16 40.5**	**+0.3**
UDBI	**Udbina**	**4.78**	**325**	*e*Pn		**Pn**	**07 15 45.1**	**+0.9**
UDBI				Sn		**Sn**	**07 16 40.4**	**+0.3**
ALN	**Alexandroupoli**	**4.90**	**85**	*e*P		**Pn**	**07 15 45.1**	**-0.6**
BZS	**Buzias**	**5.16**	**16**	⇓*i*P		**Pn**	**07 15 49.3**	**0.0**
BZS	**Buzias**	**5.16**	**16**	⇓*i*P		**Pn**	**07 15 49.3**	**0.0**
NVLJ	**Novalja**	**5.22**	**320**	*e*Pn		**Pn**	**07 15 49.2**	**-1.0**
NVLJ				Sn		**Sn**	**07 16 49.1**	**-1.8**
NVLJ	**Novalja**	**5.22**	**320**	*e*Pn		**Pn**	**07 15 49.2**	**-1.0**
NVLJ				Sn		**Sn**	**07 16 49.1**	**-1.8**
GZR	**Gura Zlata**	**5.26**	**25**	⇓*i*P		**Pn**	**07 15 52.2**	**+1.4**
GZR	**Gura Zlata**	**5.26**	**25**	⇓*i*P		**Pn**	**07 15 52.2**	**+1.4**
APE	**Apeiranthos**	**5.86**	**126**	⇑*i*P		Pn	07 15 53.1	-5.9
ARR	**Arges**	**5.97**	**37**	⇑*i*P		**Pn**	**07 16 02.0**	**+1.5**
ARR	**Arges**	**5.97**	**37**	⇑*i*P		**Pn**	**07 16 02.0**	**+1.5**
VOIR		**6.21**	**38**	⇑*i*P		**Pn**	**07 16 05.8**	**+2.0**
VOIR		**6.21**	**38**	⇑*i*P		**Pn**	**07 16 05.8**	**+2.0**
MLR	**Muntele Rosu**	**6.69**	**42**	⇑*i*P		**Pn**	**07 16 12.6**	**+2.2**
MLR	**Muntele Rosu**	**6.69**	**42**	⇑*i*P		**Pn**	**07 16 12.6**	**+2.2**
BURAR	**Bucovina Array**	**8.03**	**28**	⇓*i*P		Pn	07 16 22.0	-6.8

IDC 05 07:20:33.5±18.0, 9°21S×154°63E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, MS3.8/1, Ms1 3.8/1, ms1mx2.1/19, Error ellipse: s-maj=301.5km s-min=96.4km az=29.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**17.10**	**140**	LR		LR	07 28 51.8	
	comp=Z,269nm,18.2s,baz=180,slow=29							
WRA	**Warramunga Arr**	**22.32**	**239**	P		P	07 25 32.9	-0.1
	1.3nm,0.7s,baz=63,slow=10,SNR=12							
ASAR	**Alice Springs**	**24.48**	**232**	P		P	07 25 54.6	0.0
	1.4nm,0.9s,baz=66,slow=9.2,SNR=14							
STKA	**Stephens Creek**	**25.60**	**206**	P		P	07 26 04.7	+0.1

1.4nm,0.7s,baz=28,slow=12,SNR=3.1

*INMG **05** 07:25:30.6±2.2, 36°.52N×9°.89W, h8km±8km, MD3.0, ML2.8, Error ellipse: s-maj=10.0km s-min=3.8km az=56.0*
*CSEM **05** 07:25:31.9±0.3, 36°.54N×9°.67W, h10km, ML3.8/11, Error ellipse: s-maj=6.2km s-min=4.1km az=74.0*
*ISCJB **05** 07:25:31.1±0.6, 36°.57N±0°.03×9°.56W±0°.04, h10km, Error ellipse: s-maj=4.8km s-min=3.4km az=149.6*
*MDD **05** 07:25:31.4±0.7, 36°.53N×9°.76W, h0km, mbLg2.8/35, Error ellipse: s-maj=7.1km s-min=5.3km az=87.0, PRXIMO*
*CNRM **05** 07:25:34.0, 36°.30N×9°.83W, h19km, MD3.5*
*IGIL **05** 07:25:35.0, 36°.59N×9°.72W, h14km, ML3.0*
*LDG **05** 07:25:37.6±0.3, 36°.85N×9°.43W, h90km±2km, Ml3.3/4, Error ellipse: s-maj=6.0km s-min=3.7km az=41.0*

ISC 05 07:25:29.1±1.3, 36°.53N±0°.04×9°.79W±0°.05, h10km, n162, σ2s15/275, 7C-2D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
PFVI	**Vila Bisbo**	**0.98**	**52**	*i* P		**Pn**	**07 25 51.5**	**+2.6**
PFVI				*e*S		**Sn**	**07 26 03.4**	**+0.5**
PFVI				A		A	07 26 05.6	
	140nm,0.1s							
PFVI	**Vila Bisbo**	**0.98**	**52**	⇑P		**Pn**	**07 25 51.5**	**+2.6**
	36nm,0.3s,SNR=18							
PFVI				S		**Sn**	**07 26 03.6**	**+0.7**
	58nm,0.3s,SNR=23							
PFVI	**Vila Bisbo**	**0.98**	**52**	P		**Pn**	**07 25 51.5**	**+2.6**
	36nm,0.3s,SNR=18							
PFVI				S		**Sn**	**07 26 03.6**	**+0.7**
	58nm,0.3s,SNR=23							
MORF	**Marmelete**	**1.20**	**49**	*i* P		**Pn**	**07 25 54.6**	**+2.6**
MORF				*e*S		**Sn**	**07 26 09.3**	**+0.9**
MORF				A		A	07 26 10.2	
	142nm,0.1s							
MORF	**Marmelete**	**1.20**	**49**	⇑P		**Pn**	**07 25 54.6**	**+2.6**
MORF				S		**Sn**	**07 26 09.3**	**+0.9**
	142nm,0.1s							
MORF	**Marmelete**	**1.20**	**49**	P		**Pn**	**07 25 54.6**	**+2.6**
MORF				*e*S		**Sn**	**07 26 09.3**	**+0.9**
	142nm,0.1s							
PTEO	**Sao Teotonio**	**1.32**	**40**	*i* P		**Pg**	**07 25 56.3**	**+1.7**
PTEO				*e*S		**Sn**	**07 26 12.2**	**+0.8**
PTEO				A		A	07 26 13.7	
	79nm,0.5s							
PTEO	**Sao Teotonio**	**1.32**	**40**	⇑P		**Pg**	**07 25 56.3**	**+1.7**
PTEO				S		**Sn**	**07 26 12.2**	**+0.8**
	39nm,0.5s							
PTEO	**Sao Teotonio**	**1.32**	**40**	P		**Pg**	**07 25 56.3**	**+1.7**
PTEO				*e*S		**Sn**	**07 26 12.2**	**+0.8**
	79nm,0.5s							
PBDV	**Barranco-do-Ve**	**1.65**	**64**	*e*P		**Pg**	**07 26 01.0**	**+0.2**
PBDV				S		**Sb**	**07 26 19.8**	**-0.8**
PBDV				A		A	07 26 21.3	
	36nm,0.1s							
PBDV	**Barranco-do-Ve**	**1.65**	**64**	⇑P		**Pg**	**07 26 01.0**	**+0.2**
PBDV				S		**Sb**	**07 26 19.8**	**-0.8**
	36nm,0.1s							
PBDV	**Barranco-do-Ve**	**1.65**	**64**	P		**Pg**	**07 26 01.0**	**+0.2**
PBDV				S		**Sb**	**07 26 19.8**	**-0.8**
	36nm,0.1s							
PCVE	**Castro Verde**	**1.78**	**51**	*e*Pn		**Pb**	**07 26 02.9**	**+1.0**
PCVE				*e*Sn		**Sb**	**07 26 23.8**	**-0.4**
PCVE				A		A	07 26 25.6	
	38nm,0.1s							
PCVE	**Castro Verde**	**1.78**	**51**	Pn		**Pb**	**07 26 02.9**	**+1.0**
PCVE				Sn		**Sb**	**07 26 23.8**	**-0.4**
	38nm,0.1s							
PCVE	**Castro Verde**	**1.78**	**51**	Pn		**Pb**	**07 26 02.9**	**+1.0**
PCVE				*e*Sn		**Sb**	**07 26 23.8**	**-0.4**
	38nm,0.1s							
PNCL	**Nicolau / Gran**	**1.87**	**32**	*e*Pn		**Pb**	**07 26 03.6**	**+0.2**
PNCL				*e*Sn		**Sn**	**07 26 25.2**	**+0.3**
PNCL				A		A	07 26 27.5	
	33nm,0.1s							
PNCL	**Nicolau / Gran**	**1.87**	**32**	*e*Pn		**Pb**	**07 26 03.6**	**+0.2**
PNCL				*e*Sn		**Sn**	**07 26 25.2**	**+0.3**
	33nm,0.1s							
PVAQ	**Vaqueiros**	**1.87**	**62**	*i* Pn		**Pb**	**07 26 04.0**	**+0.5**
PVAQ				*e*Sn		**Sn**	**07 26 25.5**	**+0.5**
PVAQ				A		A	07 26 27.8	
	36nm,0.1s							
PVAQ	**Vaqueiros**	**1.87**	**62**	⇑Pn		**Pb**	**07 26 04.0**	**+0.5**
PVAQ				Sn		**Sn**	**07 26 25.5**	**+0.5**
	36nm,0.1s							
PVAQ	**Vaqueiros**	**1.87**	**62**	Pn		**Pb**	**07 26 04.0**	**+0.5**
PVAQ				*e*Sn		**Sn**	**07 26 25.5**	**+0.5**
	36nm,0.1s							
EGRO	**El Granado**	**2.10**	**61**	P		**Pb**	**07 26 07.0**	**-0.3**
	5.9nm,0.3s,SNR=10							
EGRO				S		**Sn**	**07 26 31.1**	**+0.6**
	15nm,0.3s,SNR=15							
EGRO	**El Granado**	**2.10**	**61**	P		**Pb**	**07 26 07.0**	**-0.3**
	5.9nm,0.3s,SNR=10							
EGRO				S		**Sn**	**07 26 31.1**	**+0.6**
	15nm,0.3s,SNR=15							
PBEJ	**Beja**	**2.14**	**45**	*e*Pn		**Pn**	**07 26 07.2**	**+2.3**
PBEJ				*e*Sn		**Sn**	**07 26 31.9**	**+0.3**
PBEJ				A		A	07 26 32.4	
	18nm,0.1s							
PBEJ	**Beja**	**2.14**	**45**	Pn		**Pn**	**07 26 07.2**	**+2.3**
PBEJ				Sn		**Sn**	**07 26 31.9**	**+0.3**
	8.9nm,0.1s							
PBEJ	**Beja**	**2.14**	**45**	Pn		**Pn**	**07 26 07.2**	**+2.3**
PBEJ				*e*Sn		**Sn**	**07 26 31.9**	**+0.3**
	18nm,0.1s							
LIS	**Lisbon**	**2.24**	**13**	*e*P		**Pn**	**07 26 08.9**	**+2.6**
LIS				*e*S		**Sn**	**07 26 34.0**	**0.0**
LIS				AML		AML	07 26 35.3	
	comp=N,138nm,0.2s							
LIS	**Lisbon**	**2.24**	**13**	*e*P		**Pn**	**07 26 08.9**	**+2.6**
LIS				*e*S		**Sn**	**07 26 34.0**	**0.0**
LIS	**Lisbon**	**2.24**	**13**	P		**Pn**	**07 26 08.9**	**+2.6**
LIS				S		**Sn**	**07 26 34.0**	**0.0**
LIS	**Lisbon**	**2.24**	**13**	*e*P		**Pn**	**07 26 08.9**	**+2.6**
LIS				*e*S		**Sn**	**07 26 34.0**	**0.0**
MOE	**Montemor**	**2.29**	**29**	*e*Pn		**Pb**	**07 26 10.0**	**-0.6**
MOE				*e*Sn		**Sn**	**07 26 35.6**	**+0.2**
MOE	**Montemor**	**2.29**	**29**	Pn		**Pb**	**07 26 10.0**	**-0.6**
MOE				Sn		**Sn**	**07 26 35.6**	**+0.2**
MOE	**Montemor**	**2.29**	**29**	Pn		**Pb**	**07 26 10.0**	**-0.6**
MOE				Sn		**Sn**	**07 26 35.6**	**+0.2**
EVOP	**Sao Brissos**	**2.39**	**33**	*e*Pn		**Pn**	**07 26 10.4**	**+2.0**
EVOP				*e*Sn		**Sn**	**07 26 34.2**	**-3.6**
	comp=N,23nm,0.2s							
EVO	**Evora**	**2.45**	**35**	*e*Pn		**Pn**	**07 26 10.4**	**+1.3**
EVO				*e*Sn		**Sn**	**07 26 34.2**	**-4.9**
	comp=N,46nm,0.2s							
EVO	**Evora**	**2.45**	**35**	*e*Pn		**Pn**	**07 26 11.4**	**+2.3**
EVO				*e*Sn		**Sn**	**07 26 38.9**	**-0.2**
EVO				A		A	07 26 40.6	
	comp=N,45nm,0.1s							
EVO	**Evora**	**2.45**	**35**	Pn		**Pn**	**07 26 11.4**	**+2.3**
EVO				Sn		**Sn**	**07 26 38.9**	**-0.2**
	comp=N,45nm,0.1s							
EVO	**Evora**	**2.45**	**35**	Pn		**Pn**	**07 26 11.4**	**+2.3**
EVO				*e*Sn		**Sn**	**07 26 38.9**	**-0.2**
	comp=N,45nm,0.1s							
PMAFR	**Mafra**	**2.45**	**9**	*e*Pn		**Pn**	**07 26 11.3**	**+2.1**
PMAFR				*e*Sn		**Sn**	**07 26 39.1**	**-0.2**
PMAFR				A		A	07 26 43.2	
	comp=N,96nm,0.2s							
PMAFR	**Mafra**	**2.45**	**9**	⇓P		**Pn**	**07 26 11.4**	**+2.1**
	comp=N,15nm,0.2s,SNR=18							
PMAFR				S		**Sn**	**07 26 38.5**	**-0.8**
	comp=N,56nm,0.2s,SNR=9.5							
PMAFR	**Mafra**	**2.45**	**9**	P		**Pn**	**07 26 11.4**	**+2.1**
	comp=N,15nm,0.2s,SNR=18							
PMAFR				S		**Sn**	**07 26 38.5**	**-0.8**
	comp=N,56nm,0.2s,SNR=9.5							
PMAFR				*e*Sn		**Sn**	**07 26 39.1**	**-0.2**
	comp=N,96nm,0.2s							
PBAR	**Barrancos**	**2.74**	**52**	*e*Pn		**Pn**	**07 26 15.7**	**+2.6**
PBAR				*e*Sn		**Sn**	**07 26 46.5**	**+0.2**
PBAR				A		A	07 26 49.1	
	comp=N,13nm,0.3s							
PBAR	**Barrancos**	**2.74**	**52**	Pn		**Pn**	**07 26 15.7**	**+2.6**
PBAR				Sn		**Sn**	**07 26 46.5**	**+0.2**
	comp=N,13nm,0.3s							
PBAR	**Barrancos**	**2.74**	**52**	Pn		**Pn**	**07 26 15.7**	**+2.6**
PBAR				*e*Sn		**Sn**	**07 26 46.5**	**+0.2**
	comp=N,13nm,0.3s							
EMIN	**Mina Concepcio**	**2.78**	**63**	P		**Pn**	**07 26 15.9**	**+2.2**
	comp=N,0.7nm,0.3s,SNR=32							
EMIN				S		**Sn**	**07 26 47.4**	**+0.1**
	comp=N,6.7nm,0.3s,SNR=13							
EMIN	**Mina Concepcio**	**2.78**	**63**	P		**Pn**	**07 26 15.9**	**+2.2**
	comp=N,0.7nm,0.3s,SNR=32							
EMIN				S		**Sn**	**07 26 47.4**	**+0.1**
	comp=N,6.7nm,0.3s,SNR=13							
ALMR	**Almeirim**	**2.79**	**20**	*e*P		**Pn**	**07 26 16.3**	**+2.4**
ALMR				*e*S		**Sn**	**07 26 46.9**	**-0.7**
ALMR					AML	AML	07 26 49.9	
	comp=E,53nm,0.3s							
ALMR	**Almeirim**	**2.79**	**20**	*e*P		**Pn**	**07 26 16.3**	**+2.4**
ALMR				*e*S		**Sn**	**07 26 46.9**	**-0.7**
ALMR	**Almeirim**	**2.79**	**20**	P		**Pn**	**07 26 16.3**	**+2.4**
ALMR				S		**Sn**	**07 26 46.9**	**-0.7**
ALMR	**Almeirim**	**2.79**	**20**	P		**Pn**	**07 26 16.3**	**+2.4**
ALMR				S		**Sn**	**07 26 46.9**	**-0.7**
PMTG	**Montargil**	**2.82**	**26**	*e*Pn		**Pn**	**07 26 16.7**	**+2.4**
PMTG				*e*Sn		**Sn**	**07 26 47.9**	**-0.4**
PMTG				A		A	07 26 50.2	
	comp=E,23nm,0.1s							
PMTG	**Montargil**	**2.82**	**26**	*e*Pn		**Pn**	**07 26 16.7**	**+2.4**
PMTG				*e*Sn		**Sn**	**07 26 47.9**	**-0.4**
	comp=E,23nm,0.1s							
PESTR	**Estremoz**	**2.91**	**36**	*e*Pn		**Pn**	**07 26 17.5**	**+1.9**
PESTR				*e*Sn		**Sn**	**07 26 50.2**	**-0.4**
PESTR				A		A	07 26 51.5	
	comp=E,10nm,0.2s							
PESTR	**Estremoz**	**2.91**	**36**	Pn		**Pn**	**07 26 17.5**	**+1.9**
PESTR				Sn		**Sn**	**07 26 50.2**	**-0.4**
	comp=E,5.2nm,0.2s							
PESTR	**Estremoz**	**2.91**	**36**	Pn		**Pn**	**07 26 17.5**	**+1.9**
PESTR				*e*Sn		**Sn**	**07 26 50.2**	**-0.4**
	comp=E,10nm,0.2s							
EBAD	**Badajoz**	**3.13**	**44**	⇑P		**Pn**	**07 26 20.5**	**+2.0**
	comp=E,1.2nm,0.3s,SNR=18							
EBAD				S		**Sn**	**07 26 55.5**	**-0.4**
	comp=E,5.3nm,0.3s,SNR=9.4							
EBAD	**Badajoz**	**3.13**	**44**	P		**Pn**	**07 26 20.5**	**+2.0**
	comp=E,1.2nm,0.3s,SNR=18							
EBAD				S		**Sn**	**07 26 55.5**	**-0.4**
	comp=E,5.3nm,0.3s,SNR=9.4							
ESPR	**Espera**	**3.18**	**83**	⇑P		**Pn**	**07 26 21.8**	**+2.6**
	comp=E,3.2nm,0.4s,SNR=18							
ESPR				S		**Sn**	**07 26 56.7**	**-0.5**
	comp=E,14nm,0.3s,SNR=9.6							
ESPR	**Espera**	**3.18**	**83**	P		**Pn**	**07 26 21.8**	**+2.6**
	comp=E,3.2nm,0.4s,SNR=18							
ESPR				S		**Sn**	**07 26 56.7**	**-0.5**
	comp=E,14nm,0.3s,SNR=9.6							
PMRV	**Marv??o**	**3.46**	**32**	*e*Pn		**Pn**	**07 26 25.2**	**+2.1**
PMRV				*e*Sn		**Sn**	**07 27 02.6**	**-1.5**
PMRV				A		A	07 27 05.3	
	comp=E,22nm,0.3s							
**PM

	comp=E,3.0nm,0.1s								
MVO	**Moncorvo**	**5.10**	**24**	*e*Pn	**Pn**	**07 26 47.6**	**+1.9**
MVO				*e*Sn	**Sn**	**07 27 41.6**	**-3.2**
MVO				A	A	07 27 45.5	
	comp=E,14nm,0.5s						
MVO	**Moncorvo**	**5.10**	**24**	⇓P	**Pn**	**07 26 47.7**	**+1.9**
	comp=E,5.0nm,0.2s,SNR=18						
MVO				S	**Sn**	**07 27 42.0**	**-2.8**
	comp=E,13nm,0.5s,SNR=7.0						
MVO	**Moncorvo**	**5.10**	**24**	P	**Pn**	**07 26 47.7**	**+2.0**
	comp=E,5.0nm,0.2s,SNR=18						
MVO				*e*Sn	**Sn**	**07 27 41.6**	**-3.2**
	comp=E,14nm,0.5s						
TZK	**Tazeka**	**5.19**	**116**	P	**Pn**	**07 26 48.0**	**+0.9**
TZK				S	**Sn**	**07 27 45.0**	**-2.1**
TZK	**Tazeka**	**5.19**	**116**	P	**Pn**	**07 26 48.0**	**+0.9**
TZK				S	**Sn**	**07 27 45.0**	**-2.1**
CZD	**Col de Zad**	**5.24**	**130**	P	**Pn**	**07 26 49.0**	**+1.3**
CZD	**Col de Zad**	**5.24**	**130**	P	**Pn**	**07 26 49.0**	**+1.3**
PCAB	**Cabril**	**5.35**	**14**	*e*Pn	**Pn**	**07 26 51.0**	**+1.9**
PCAB				*e*Sn	**Sn**	**07 27 46.8**	**-4.0**
PCAB				A	A	07 27 53.1	
	comp=E,7.3nm,0.1s						
PCAB	**Cabril**	**5.35**	**14**	Pn	**Pn**	**07 26 51.0**	**+1.9**
PCAB	**Cabril**	**5.35**	**14**	Pn	**Pn**	**07 26 51.0**	**+1.9**
PCAB				*e*Sn	**Sn**	**07 27 46.8**	**-4.0**
	comp=E,7.3nm,0.1s						
EQES	**Quesada**	**5.51**	**75**	S	**Sn**	**07 27 53.0**	**-1.9**
	comp=E,5.6nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.51**	**75**	S	**Sn**	**07 27 53.0**	**-1.9**
	comp=E,5.6nm,0.2s,SNR=7.9						
OUK	**Oukaimeden**	**5.54**	**163**	P	**Pn**	**07 26 51.0**	**-1.0**
EBER	**Berja**	**5.55**	**84**	S	**Sn**	**07 27 54.4**	**-1.6**
	comp=E,1.6nm,0.2s,SNR=7.9						
EBER	**Berja**	**5.55**	**84**	S	**Sn**	**07 27 54.4**	**-1.6**
	comp=E,1.6nm,0.2s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.55**	**12**	*e*Pn	**Pn**	**07 26 53.9**	**+2.0**
PGAV				*e*Sn	**Sn**	**07 27 52.0**	**-3.9**
PGAV				A	A	07 27 56.7	
	comp=E,7.5nm,0.4s						
PGAV	**Gavieira, Arco**	**5.55**	**12**	*e*Pn	**Pn**	**07 26 53.9**	**+2.0**
ESDC	**Sonseca Array**	**5.56**	**54**	P	**Pn**	**07 26 54.3**	**+2.3**
	comp=E,0.8nm,0.2s,baz=240,slow=13,SNR=15						
ESDC				S	**Sn**	**07 27 53.4**	**-2.7**
	comp=E,2.2nm,0.2s,baz=240,slow=24,SNR=35						
ESDC	**Sonseca Array**	**5.56**	**54**	P	**Pn**	**07 26 54.3**	**+2.3**
	comp=E,0.8nm,0.2s,slow=13,SNR=15						
ESDC				S	**Sn**	**07 27 53.4**	**-2.7**
	comp=E,2.2nm,0.2s,slow=24,SNR=35						
PBRG	**Braganca**	**5.78**	**23**	*e*Pn	**Pn**	**07 26 57.1**	**+2.2**
PBRG				*e*Sn	**Sn**	**07 27 58.0**	**-3.2**
PBRG				A	A	07 28 01.0	
	comp=E,5.9nm,0.1s						
PBRG	**Braganca**	**5.78**	**23**	Pn	**Pn**	**07 26 57.1**	**+2.2**
PBRG				Sn	**Sn**	**07 27 58.0**	**-3.2**
	comp=E,3.0nm,0.1s						
PBRG	**Braganca**	**5.78**	**23**	Pn	**Pn**	**07 26 57.1**	**+2.2**
EHUE	**Huescar**	**5.89**	**75**	S	**Sn**	**07 28 02.1**	**-2.0**
	comp=E,2.8nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**5.89**	**75**	S	**Sn**	**07 28 02.1**	**-2.0**
	comp=E,2.8nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.90**	**23**	P	**Pn**	**07 26 58.5**	**+1.8**
	comp=E,4.2nm,0.3s,SNR=13						
ECAL				S	**Sn**	**07 28 00.7**	**-3.7**
	comp=E,12nm,0.4s,SNR=6.2						
ECAL	**Calabor**	**5.90**	**23**	P	**Pn**	**07 26 58.5**	**+1.8**
	comp=E,4.2nm,0.3s,SNR=13						
GUD	**Guadarrama**	**6.03**	**45**	P	**Pn**	**07 27 00.4**	**+1.9**
	comp=E,1.0nm,0.3s,SNR=20						
GUD				S	**Sn**	**07 28 04.8**	**-2.8**
	comp=E,2.4nm,0.4s,SNR=6.6						
GUD	**Guadarrama**	**6.03**	**45**	P	**Pn**	**07 27 00.4**	**+1.9**
	comp=E,1.0nm,0.3s,SNR=20						
GUD				S	**Sn**	**07 28 04.8**	**-2.8**
	comp=E,2.4nm,0.4s,SNR=6.6						
EVIA	**Vianos**	**6.16**	**68**	P	**Pn**	**07 27 02.4**	**+2.1**
	comp=E,0.8nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**07 28 05.8**	**-4.9**
	comp=E,9.0nm,0.4s,SNR=7.9						
EVIA	**Vianos**	**6.16**	**68**	P	**Pn**	**07 27 02.4**	**+2.1**
	comp=E,0.8nm,0.2s,SNR=7.9						
ERUA	**La Rua**	**6.20**	**18**	P	**Pn**	**07 27 02.2**	**+1.4**
	comp=E,0.6nm,0.1s,SNR=7.9						
ERUA				S	**Sn**	**07 28 08.0**	**-3.8**
	comp=E,1.7nm,0.2s,SNR=7.9						
ERUA	**La Rua**	**6.20**	**18**	P	**Pn**	**07 27 02.2**	**+1.4**
	comp=E,0.6nm,0.1s,SNR=7.9						
ZFT	**Errachidia**	**6.35**	**133**	P	**Pn**	**07 27 04.0**	**+1.0**
ZFT				S	**Sn**	**07 28 11.0**	**-4.7**
ZFT	**Errachidia**	**6.35**	**133**	P	**Pn**	**07 27 04.0**	**+1.0**
EMAZ	**Mazaricos**	**6.44**	**5**	P	**Pn**	**07 27 05.2**	**+1.1**
	comp=E,1.0nm,0.1s,SNR=7.9						
EMAZ				S	Sn	07 28 12.4	-5.3
	comp=E,5.7nm,0.2s,SNR=5.8						
EMAZ	**Mazaricos**	**6.44**	**5**	P	**Pn**	**07 27 05.2**	**+1.1**
	comp=E,1.0nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**6.88**	**70**	P	**Pn**	**07 27 12.2**	**+2.2**
	comp=E,0.2nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**07 28 25.3**	**-3.1**
	comp=E,1.1nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**6.88**	**70**	P	**Pn**	**07 27 12.2**	**+2.2**
	comp=E,0.2nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**07 28 25.3**	**-3.1**
	comp=E,1.1nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**6.95**	**77**	S	**Sn**	**07 28 27.2**	**-2.9**
	comp=E,1.8nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**6.95**	**77**	S	**Sn**	**07 28 27.2**	**-2.9**
	comp=E,1.8nm,0.4s,SNR=7.9						
EPON	**Pontenova**	**7.08**	**16**	P	**Pn**	**07 27 14.6**	**+1.7**
	comp=E,0.2nm,0.1s,SNR=7.9						
EPON				S	**Sn**	**07 28 28.9**	**-4.5**
	comp=E,8.2nm,0.5s,SNR=7.9						
EPON	**Pontenova**	**7.08**	**16**	P	**Pn**	**07 27 14.6**	**+1.7**
	comp=E,0.2nm,0.1s,SNR=7.9						
ETOR	**Torete**	**7.41**	**52**	P	**Pn**	**07 27 19.5**	**+2.1**
	comp=E,7.5nm,0.3s,SNR=15						
ETOR				S	**Sn**	**07 28 37.7**	**-3.9**
	comp=E,2.9nm,0.7s						
ETOR	**Torete**	**7.41**	**52**	P	**Pn**	**07 27 19.5**	**+2.1**
	comp=E,7.5nm,0.3s,SNR=15						
EARI	**Arriondas**	**7.62**	**26**	P	**Pn**	**07 27 22.0**	**+1.7**
	comp=E,0.4nm,0.2s,SNR=9.2						
EARI				S	**Sn**	**07 28 42.3**	**-4.4**
	comp=E,2.3nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**7.62**	**26**	P	**Pn**	**07 27 22.0**	**+1.7**
	comp=E,0.4nm,0.2s,SNR=9.2						
EMOS	**Mosqueruela**	**8.25**	**60**	P	Pn	07 27 32.6	+3.6
	comp=E,0.2nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**07 28 57.7**	**-4.7**
	comp=E,2.6nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**8.28**	**34**	P	**Pn**	**07 27 31.6**	**+2.3**
	comp=E,0.3nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**8.28**	**34**	P	**Pn**	**07 27 31.6**	**+2.3**
	comp=E,0.3nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**9.02**	**42**	P	**Pn**	**07 27 42.6**	**+3.1**
	comp=E,0.5nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**9.02**	**42**	P	**Pn**	**07 27 42.6**	**+3.1**
	comp=E,0.5nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**9.06**	**44**	P	**Pn**	**07 27 42.9**	**+2.9**
	comp=E,0.2nm,0.2s,SNR=7.9						
IEPA				S	**Sn**	**07 29 16.7**	**-5.4**
	comp=E,1.4nm,0.3s,SNR=7.9						
IEPA	**Eparoz**	**9.06**	**44**	P	**Pn**	**07 27 42.9**	**+2.9**
	comp=E,0.2nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**9.12**	**44**	P	**Pn**	**07 27 43.1**	**+2.4**
	comp=E,0.8nm,0.1s,SNR=7.9						
IELO				S	**Sn**	**07 29 17.9**	**-5.6**
	comp=E,1.8nm,0.6s,SNR=7.9						
IELO	**Elcoad**	**9.12**	**44**	P	**Pn**	**07 27 43.2**	**+2.4**
	comp=E,0.8nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**9.30**	**42**	*e*P	**Pn**	**07 27 45.0**	**+1.7**
SJPF				*e*Sn	Sn	07 29 15.7	-12
	comp=E,2.2nm,0.5s						
SJPF	**Ste Jean**	**9.30**	**42**	P	**Pn**	**07 27 45.0**	**+1.7**
ETSF	**Etsaut**	**9.54**	**45**	*e*P	**Pn**	**07 27 47.9**	**+1.3**
ETSF				*e*Sn	Sn	07 29 21.9	-12
	comp=E,1.2nm,0.3s						
ETSF	**Etsaut**	**9.54**	**45**	P	**Pn**	**07 27 47.9**	**+1.3**
EBIE	**Bielsa**	**9.82**	**48**	P	**Pn**	**07 27 53.1**	**+2.5**
	comp=E,1.3nm,0.3s,SNR=7.9						
EBIE				S	**Sn**	**07 29 35.3**	**-5.7**
	comp=E,1.4nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**9.82**	**48**	P	**Pn**	**07 27 53.1**	**+2.5**
	comp=E,1.3nm,0.3s,SNR=7.9						
EPF	**Esparros**	**10.14**	**47**	*e*Pn	**Pn**	**07 27 53.4**	**-1.4**
EPF				*e*Sn	Sn	07 29 36.1	-13
	comp=E,1.4nm,0.3s						
CSOR	**Sort**	**10.26**	**52**	P	**Pn**	**07 27 58.6**	**+2.0**
	comp=E,0.3nm,0.2s,SNR=7.9						
CSOR	**Sort**	**10.26**	**52**	P	**Pn**	**07 27 58.6**	**+2.0**
	comp=E,0.3nm,0.2s,SNR=7.9						
ROSF	**Rostrenen**	**12.73**	**20**	*e*Pn	**Pn**	**07 28 29.0**	**-1.2**

IDC 05 07:26:38.8±2.9, 15°.65N×86°.14W, h0km, mb3.5/6, mb1 4.0/7, mb1mx3.7/23, mbtmp3.7/7, ML4.4/1, MS3.7/1, Ms1 3.6/1, ms1mx2.4/19, Error ellipse: s-maj=62.5km s-min=51.1km az=44.0, Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEIG	**Tepich**	**4.99**	**336**	Pn	Pn	07 27 53.2	-1.8
	14nm,0.3s,baz=127,slow=3.0,SNR=153						
TEIG				Sn	Sn	07 28 47.7	-5.7
	16nm,0.3s,baz=263,slow=23,SNR=19						
TKL	**Tuckaleechee C**	**20.04**		6 P	P	07 31 13.0	-0.4
	2.2nm,1.1s,baz=225,slow=10.0,SNR=2.1						
TKL				S	S	07 34 48.1	-11
	1.2nm,0.6s,baz=264,slow=18,SNR=3.5						
TXAR	**Lajitas Array**	**21.13**	**313**	P	P	07 31 25.0	-0.4
	1.8nm,0.8s,baz=134,slow=11,SNR=25						
PDAR	**Pinedale Array**	**33.66**	**328**	P	P	07 33 22.3	+0.6
	0.4nm,0.6s,baz=128,slow=10,SNR=3.1						
NVAR	**Mina Array Bea**	**36.26**	**315**	P	P	07 33 44.2	+0.1
	0.3nm,0.3s,baz=121,slow=7.6,SNR=3.7						
BDFB	**Brasilia**	**48.82**	**128**	LR	LR	07 58 23.1	
	comp=Z,71nm,19.6s,baz=277,slow=39						
YKA	**Yellowknife Ar**	**50.91**	**343**	P	P	07 35 42.1	+0.7
	1.0nm,0.7s,baz=140,slow=7.7,SNR=19						
ILAR	**Eielson Array**	**63.65**	**335**	P	P	07 37 11.6	0.0
	0.3nm,0.7s,baz=118,slow=3.5,SNR=4.7						
ASAR	**Alice Springs**	**141.56**	**252**	PKP	PKPdf	07 46 10.6	-2.2
	0.2nm,0.8s,baz=80,slow=2.5,SNR=4.2						
CMAR	**Chiang Mai Arr**	**145.75**	**351**	PKPbc	PKPdf	07 46 19.2	-1.1
	0.9nm,0.3s,baz=332,slow=3.8,SNR=5.3						

CSEM 05 07:29:52.9, 33°.76N×25°.33E, h4km, MD3.5, After ATH
ATH 05 07:29:52.9, 33°.76N×25°.33E, h4km±3km, MD3.5/9
IDC 05 07:29:56.8±1.4, 34°.17N×25°.19E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.6/26, mbtmp3.7/8, ML3.6/1, Error ellipse: s-maj=40.5km s-min=24.8km az=144.0
ISCJB 05 07:29:57.4±0.9, 33°.97N±0°.08×25°.32E±0°.09, h17km, mb3.5/7, Error ellipse: s-maj=10.9km s-min=10.2km az=173.9

ISC 05 07:29:58.7±1.0, 34°.01N±0°.07×25°.33E±0°.05, h17km, n32, σ1s35/34, mb3.6/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.91**	**19**	*e*PB	**Pg**	**07 30 14.9**	**-1.5**
XRY	**Khrisi**	**0.91**	**19**	*e*Pb	**Pg**	**07 30 14.9**	**-1.5**
SIVA	**Sivas**	**1.09**	**337**	*e*PG	**Pn**	**07 30 17.4**	**-1.7**
SIVA				*e*SB	**Sg**	**07 30 36.4**	**+2.4**
SIVA	**Sivas**	**1.09**	**337**	*e*Pg	**Pn**	**07 30 17.4**	**-1.7**
SIVA				*e*Sb	**Sg**	**07 30 36.4**	**+2.4**
LAST	**Lasithi**	**1.15**	**6**	*e*PG	**Pb**	**07 30 18.8**	**-1.4**
LAST	**Lasithi**	**1.15**	**6**	*e*Pg	**Pb**	**07 30 18.8**	**-1.4**
NPS	**Neapolis**	**1.27**	**11**	*e*PB	**Pb**	**07 30 20.7**	**-1.4**
NPS	**Neapolis**	**1.27**	**11**	*e*Pb	**Pb**	**07 30 20.7**	**-1.4**
GVD	**Gavdhos**	**1.31**	**309**	*e*PB	**Pb**	**07 30 21.5**	**-1.4**
GVD	**Gavdhos**	**1.31**	**309**	*e*Pb	**Pb**	**07 30 21.5**	**-1.4**
ZKR	**Zakros**	**1.32**	**34**	*e*PB	**Pb**	**07 30 21.9**	**-1.1**
ZKR	**Zakros**	**1.32**	**34**	*e*Pb	**Pb**	**07 30 21.9**	**-1.1**
VAM	**Vamos**	**1.67**	**327**	*e*PG	**Pb**	**07 30 27.7**	**-1.3**
VAM				*e*SB	**Sg**	**07 30 54.1**	**+1.5**
VAM	**Vamos**	**1.67**	**327**	*e*Pg	**Pb**	**07 30 27.7**	**-1.3**
VAM				*e*Sb	**Sg**	**07 30 54.1**	**+1.5**
KARP	**Karpathos**	**2.15**	**44**	*e*PG	**Pb**	**07 30 37.0**	**-0.2**
KARP	**Karpathos**	**2.15**	**44**	*e*Pg	**Pb**	**07 30 37.0**	**-0.2**
KYTH	**Kithira**	**2.94**	**321**	*e*PB	Pb	07 30 46.5	-4.1
KYTH	**Kithira**	**2.94**	**321**	*e*Pb	Pb	07 30 46.5	-4.1
APE	**Apeiranthos**	**3.05**	**3**	*e*PN	**Pn**	**07 30 47.4**	**+1.2**
APE	**Apeiranthos**	**3.05**	**3**	*e*Pn	**Pn**	**07 30 47.4**	**+1.2**
VLI	**Veliai**	**3.33**	**325**	*e*PN	**Pn**	**07 30 50.7**	**+0.7**
VLI	**Veliai**	**3.33**	**325**	*e*Pn	**Pn**	**07 30 50.7**	**+0.7**
DID	**Didima**	**3.88**	**335**	*e*PN	**Pn**	**07 30 58.3**	**+0.8**
DID	**Didima**	**3.88**	**335**	*e*Pn	**Pn**	**07 30 58.3**	**+0.8**
GERES	**GERESS Array B**	**17.16**	**333**	Pn	**P**	**07 33 59.2**	**0.0**
	0.1nm,0.3s,baz=148,slow=11,SNR=11						
FINES	**FINESS Array B**	**27.45**	**1**	P	**P**	**07 35 41.5**	**-1.9**
	1.3nm,0.9s,baz=180,slow=14,SNR=2.6						
TORD	**Torodi Ar. Bea**	**29.87**	**232**	P	**P**	**07 36 06.3**	**+0.9**
	1.0nm,0.8s,baz=33,slow=8.6,SNR=5.6						
KURBB	**Kurchatov Arra**	**41.74**	**50**	P	**P**	**07 37 47.1**	**+0.4**
	0.2nm,0.3s,baz=274,slow=6.6,SNR=5.4						
MKAR	**Makanchi Array**	**44.30**	**56**	P	**P**	**07 38 08.9**	**+1.4**
	0.7nm,0.5s,baz=281,slow=6.6,SNR=9.6						
ZALV	**Zalesovo Beam**	**45.70**	**45**	P	**P**	**07 38 19.0**	**+0.5**
	0.3nm,0.4s,baz=280,slow=10,SNR=2.2						
ILAR	**Eielson Array**	**81.35**	**357**	P	**P**	**07 42 14.0**	**+0.1**
	0.4nm,1.1s,baz=354,slow=5.4,SNR=3.3						
PDAR	**Pinedale Array**	**93.15**	**328**	P	**P**	**07 43 11.5**	**-0.7**
	0.2nm,0.5s,baz=90,slow=5.4,SNR=2.6						

IDC 05 07:42:44.5±3.0, 14°.11N×92°.30W, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.7/24, mbtmp3.6/8, ML3.6/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/24, Error ellipse: s-maj=66.0km s-min=39.4km az=15.0
MEX 05 07:42:46.2±0.3, 13°.78N×93°.22W, h15km±33km, MD4.4

ISC 05 07:42:49.2±1.5, 14°.0N±0°.1×93°.08W±0°.07, h37km, n18, σ2s04/21, mb3.5/7, MS3.1/3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.22**	**40**	*e*P	**Pn**	**07 43 08.1**	**-1.6**
THIG				*e*S	**Sn**	**07 43 25.8**	**+0.9**
PCIG		**1.72**	**356**	*e*P	**Pn**	**07 43 15.0**	**-1.6**
PCIG				*e*S	**Sn**	**07 43 37.0**	**-0.4**
CCIG	**Comitan**	**2.46**	**22**	*e*P	**Pn**	**07 43 26.9**	**-0.2**
CCIG				*e*S	**Sn**	**07 43 58.1**	**+2.1**
TGIG		**2.78**	**359**	*e*P	**Pn**	**07 43 30.6**	**-0.7**
TGIG				*e*S	**Sn**	**07 44 04.9**	**+1.2**
YAIG	**Yautepec**	**7.52**	**311**	*i* P	**Pn**	**07 44 34.8**	**-1.7**
YAIG				*i* S	**Sn**	**07 45 59.1**	**-1.6**
PLIG	**Platanillo**	**7.57**	**306**	*i* P	Pn	07 44 34.0	-3.2
PLIG				*e*S	**Sn**	**07 46 00.0**	**-1.8**
TEIG	**Tepich**	**7.72**	**36**	Pn	**Pn**	**07 44 37.0**	**-2.2**
	7.2nm,0.3s,baz=241,slow=3.6,SNR=42						
TEIG				Sn	**Sn**	**07 46 03.0**	**-2.4**
	0.5nm,0.3s,baz=229,slow=19,SNR=2.3						
TXAR	**Lajitas Array**	**18.16**	**329**	P	**P**	**07 47 01.8**	**+3.2**
	0.0nm,0.3s,baz=145,slow=11,SNR=5.5						
TKL	**Tuckaleechee C**	**23.15**	**20**	P	**P**	**07 47 49.3**	**-3.1**
	1.1nm,0.7s,baz=197,slow=11,SNR=2.8						
TKL				LR	LR	07 59 34.5	
	comp=Z,34nm,18.1s,baz=281,slow=44						
ANMO	**Albuquerque**	**24.12**	**332**	P	**P**	**07 48 04.2**	**+2.3**
	0.4nm,0.5s,baz=161,slow=15,SNR=3.0						
PDAR	**Pinedale Array**	**32.02**	**337**	P	**P**	**07 49 14.4**	**+2.0**
	0.3nm,0.7s,baz=134,slow=7.7,SNR=2.9						
NVAR	**Mina Array Bea**	**33.04**	**322**	P	P	07 49 25.1	+3.7
	1.0nm,0.6s,baz=134,slow=8.9,SNR=3.5						
SCHQ	**Schefferville**	**45.61**	**21**	LR	LR	08 12 02.5	
	comp=Z,42nm,20.6s,baz=68,slow=39						
YKA	**Yellowknife Ar**	**50.81**	**347**	P	**P**	**07 51 46.7**	**+1.0**
	1.9nm,0.8s,baz=150,slow=7.5,SNR=24						
ILAR	**Eielson Array**	**62.45**	**337**	P	**P**	**07 53 10.7**	**+2.2**
	0.3nm,0.8s,baz=124,slow=5.1,SNR=4.7						
EKA	**Eskdalemuir Ar**	**78.59**	**36**	P	**P**	**07 54 44.5**	**-2.5**
	0.6nm,0.6s,baz=280,slow=5.0,SNR=6.3						
NOA	**NORSAR Array B**	**84.66**	**28**	LR	LR	08 30 52.5	
	comp=Z,8.6nm,21.8s,baz=250,slow=34						
CMAR	**Chiang Mai Arr**	**145.66**	**339**	PKPbc	**PKPab**	**08 02 26.4**	**+1.2**
	1.1nm,0.7s,baz=6.7,slow=2.7,SNR=4.4						

IDC 05 08:01:22.5±2.6, 4°.34N×127°.01E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/22, mbtmp3.4/3, Error ellipse: s-maj=219.3km s-min=25.7km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.19**	**164**	P	P	08 06 51.0	+1.1
	0.5nm,0.4s,baz=344,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.64**	**167**	P	P	08 07 20.0	-1.1
	0.3nm,0.4s,baz=345,slow=6.4,SNR=10						
MKAR	**Makanchi Array**	**57.21**	**325**	P	P	08 11 11.6	-0.1
	0.3nm,0.4s,baz=117,slow=7.1,SNR=6.6						

IDC 05 08:10:41.7±1.5, 18°.21S×178°.30W, h631km±20km, mb3.3/12, mb1 3.5/13, mb1mx3.3/22, mbtmp3.3/13, Error ellipse: s-maj=23.3km s-min=10.2km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.59**	**57**	P	P	08 12 36.5	-2.1
	8.0nm,0.3s,baz=267,slow=1.9,SNR=14						
RPZ	**Rata Peaks**	**26.96**	**197**	P	P	08 15 34.1	-1.4
	10nm,0.8s,baz=57,slow=9.8,SNR=5.6						
STKA	**Stephens Creek**	**38.57**	**242**	P	P	08 17 14.2	+1.2
	9.1nm,0.7s,baz=85,slow=9.8,SNR=19						
WRA	**Warramunga Arr**	**44.68**	**260**	P	P	08 18 01.0	+0.1
	2.3nm,0.3s,baz=97,slow=7.2,SNR=154						
WRA				PcP	PcP	08 19 29.3	-0.1
	0.4nm,0.4s,baz=93,slow=3.3,SNR=2.6						
WRA				S	S	08 23 52.1	-1.4
	0.3nm,0.8s,baz=90,slow=14,SNR=3.1						
ASAR	**Alice Springs**	**44.81**	**255**	P	P	08 18 02.4	+0.5
	6.5nm,0.4s,baz=94,slow=7.5,SNR=203						
ASAR				PcP	PcP	08 19 29.6	-0.2
	0.8nm,0.5s,baz=99,slow=3.8,SNR=6.8						
ASAR				S	S	08 23 54.6	-0.7
	1.3nm,0.6s,baz=91,slow=15,SNR=16						
FITZ	**Fitzroy Crossi**	**53.08**	**261**	P	P	08 19 03.2	+0.6
	0.9nm,0.3s,baz=112,slow=9.1,SNR=9.9						
MJAR	**Matsushiro Arr**	**68.21**	**323**	P	P	08 20 41.1	-0.1
	0.9nm,0.6s,baz=161,slow=6.2,SNR=5.6						
PETK	**Petropavlovsk-**	**74.00**	**345**	P	P	08 21 14.6	+0.1
	0.7nm,0.5s,baz=126,slow=7.3,SNR=4.6						
NVAR	**Mina Array Bea**	**79.57**	**44**	P	P	08 21 45.0	-0.3
	1.1nm,0.8s,baz=224,slow=7.5,SNR=7.1						
MAW	**Mawson**	**83.61**	**200**	P	P	08 22 05.3	+0.3
	0.8nm,0.4s,baz=218,slow=19,SNR=5.1						
TXAR	**Lajitas Array**	**86.07**	**58**	P	P	08 22 18.7	+1.0
	1.5nm,0.9s,baz=219,slow=5.9,SNR=20						
ILAR	**Eielson Array**	**86.16**	**13**	P	P	08 22 16.2	-1.0
	0.8nm,0.8s,baz=228,slow=4.9,SNR=7.6						
PDAR	**Pinedale Array**	**87.50**	**43**	P	P	08 22 23.9	-0.4
	0.6nm,0.7s,baz=228,slow=2.6,SNR=5.7						
BRTR	**Keskin Array B**	**145.07**	**315**	PKPbc	PKPbc	08 29 09.9	-0.3
	0.3nm,0.4s,baz=101,slow=4.7,SNR=3.2						
GERES	**GERESS Array B**	**147.93**	**345**	PKPbc	PKPbc	08 29 17.4	-0.1
	0.8nm,0.8s,baz=25,slow=4.4,SNR=6.2						

IDC 05 08:43:09.3±0.9, 2°.81S×119°.84E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/22, mbtmp3.8/7, ML4.1/1, MS3.1/6, Ms1 3.1/6, ms1mx2.8/31, Error ellipse: s-maj=55.1km s-min=15.3km az=69.0
DJA 05 08:43:11.4±0.4, 3°.5S×12°.0E±°, h10km, M4.3/6, mb4.7/1, mB6.1/1, MLv4.0/6, Mw(mB)5.7/1
ISCJB 05 08:43:12.4±0.6, 2°.85S±0°.04×119°.70E±0°.07, h33km, mb3.8/6, MS3.0/4, Error ellipse: s-maj=9.4km s-min=6.3km az=9.1

ISC 05 08:43:14.8±0.8, 2°.89S±0°.05×119°.77E±0°.08, h35km, n21, σ1s76/17, mb3.7/6, MS2.9/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPSI	**Sidrap Palu**	**1.07**	**180**	P	**Pn**	**08 43 30.7**	**-2.6**
SPSI				S	**Sn**	**08 43 46.2**	**-0.7**
SKSI	**Soroako, Sulaw**	**1.60**	**77**	P	**Pn**	**08 43 38.6**	**-2.1**

SAN	Santiago	1.42	101	⇑	*i*P	Pn	09 16 42.6	+0.2
SAN					*i* S	Sn	09 17 01.4	-0.1
SAN					AML	AML	09 17 07.5	
	comp=N,6μm,0.4s							
STL	Santa Lucia	1.44	100	⇑	*i*P	Pn	09 16 42.8	+0.2
STL					*i* S	Sg	09 17 02.0	-0.1
STL					AML	AML	09 17 05.6	
	comp=E,2μm,0.6s							
CHNG	Los Chungos	1.49	28	⇑	*i*P	Pn	09 16 42.9	-0.4
CHNG					*i* S	Sn	09 17 01.7	-1.5
CHNG	Los Chungos	1.49	28	⇑	*i*P	Pn	09 16 42.9	-0.4
CHNG					*i* S	Sn	09 17 01.7	-1.5
PTCH	Petorca	1.51	52		*e*P	Pb	09 16 44.1	-0.3
PTCH	Petorca	1.51	52		*e*P	Pb	09 16 44.1	-0.3
PTCH					AML	AML	09 17 15.9	
	comp=N,3μm,0.2s							
LACH	Col Las Americ	1.53	100		*e*P	Pn	09 16 44.0	+0.1
LACH					*i* S	Sb	09 17 04.4	-0.1
LACH	Col Las Americ	1.53	100		*e*P	Pn	09 16 44.0	+0.1
LACH					*i* S	Sb	09 17 04.4	-0.1
LACH					AML	AML	09 17 14.5	
	comp=N,4μm,0.6s							
FSR	Penalolen	1.54	101		*e*P	Pn	09 16 44.1	+0.1
FSR					*e*S	Sb	09 17 04.8	+0.1
FSR	Penalolen	1.54	101		*e*P	Pn	09 16 44.1	+0.1
FSR					*e*S	Sb	09 17 04.8	+0.1
JACH	Jahuel	1.56	71	⇓	*i*P	Pn	09 16 44.1	-0.1
JACH	Jahuel	1.56	71	⇓	*i*P	Pn	09 16 44.1	-0.1
PCH	Pirque	1.58	106	⇓	*i*P	Pn	09 16 44.7	+0.1
PCH	Pirque	1.58	106	⇓	*i*P	Pn	09 16 44.7	+0.1
CHCH	Chadas Angostu	1.58	118	⇓	*i*P	Pn	09 16 44.1	-0.5
CHCH	Chadas Angostu	1.58	118	⇓	*i*P	Pn	09 16 44.1	-0.5
CACH	El Canelo	1.71	123	⇑	*i*P	Pn	09 16 46.8	+0.4
CACH	El Canelo	1.71	123	⇑	*i*P	Pn	09 16 46.8	+0.4
SJCH	San Jose de Ma	1.71	105	⇑	*i*P	Pn	09 16 45.9	-0.5
SJCH					*i* S	Sn	09 17 08.2	-0.6
SJCH	San Jose de Ma	1.71	105	⇑	*i*P	Pn	09 16 45.9	-0.5
SJCH					*i* S	Sn	09 17 08.2	-0.6
SJCH					AML	AML	09 17 15.2	
	comp=N,4μm,0.5s							
LMEL	Las Melosas	1.89	110	⇑	*i*P	Pn	09 16 49.3	+0.3
LMEL					*i* S	Sn	09 17 13.2	-0.1
LMEL	Las Melosas	1.89	110	⇑	*i*P	Pn	09 16 49.3	+0.3
LMEL					*i* S	Sn	09 17 13.2	-0.1
LMEL					AML	AML	09 17 21.8	
	comp=N,3μm,0.6s							
TALC	Talca	2.27	165		*e*P	Pn	09 16 53.3	-0.6
TALC					*i* S	Sn	09 17 20.3	-1.9
TALC	Talca	2.27	165		*e*P	Pn	09 16 53.3	-0.6
TALC					*i* S	Sn	09 17 20.3	-1.9
CMCH	Combarbala	2.32	30	⇓	*i*P	Pn	09 16 54.4	-0.3
CMCH	Combarbala	2.32	30	⇓	*i*P	Pn	09 16 54.4	-0.3
CFAA	Coronel Fontan	3.81	66		Pn	Pn	09 17 16.9	+1.6
CFAA					Pg	Pb	09 17 21.3	-2.4
CFAA					Lg	Lg	09 18 15.9	
CFAA	Coronel Fontan	3.81	66		Pn	Pn	09 17 16.9	+1.6
	comp=N,0.8nm,0.3s,baz=231,slow=12,SNR=50							
CFAA					Pg	Pb	09 17 21.3	-2.4
	comp=N,3.9nm,0.3s,baz=240,slow=14,SNR=61							
CFAA					Lg	Lg	09 18 15.9	
	comp=N,5.6nm,0.3s,baz=141,slow=15,SNR=6.2							
LCO	Las Campanas	4.41	19		*e*Pn	Pn	09 17 22.9	-0.7
LCO					*e*Sn	Sn	09 18 13.7	-1.8
PLCA	Paso Flores	7.65	170		Pn	Pn	09 18 08.6	+0.6
PLCA	Paso Flores	7.65	170		Pn	Pn	09 18 08.6	+0.6
	comp=N,0.9nm,0.3s,baz=334,slow=9.4,SNR=20							
TRQA	Torquist	9.72	123		*e*Pn	Pn	09 18 36.5	+0.2
	comp=N,9.5nm,0.6s							
LVC	Limon Verde	10.97	17		Pn	Pn	09 18 51.9	-1.9
LVC					Lg	Lg	09 21 30.6	
LVC	Limon Verde	10.97	17		Pn	Pn	09 18 51.9	-1.9
	comp=N,0.4nm,0.3s,baz=194,slow=11,SNR=4.8							
LVC					Lg	Lg	09 21 30.6	
	comp=N,0.5nm,0.3s,baz=82,slow=22,SNR=3.6							
CPUP	Villa Florida	14.71	66		Pn	Pn	09 19 46.6	+2.0
CPUP					Lg	Lg	09 23 40.9	
CPUP	Villa Florida	14.71	66		Pn	Pn	09 19 46.6	+2.0
	comp=N,0.5nm,0.3s,baz=218,slow=13,SNR=4.4							
CPUP					Lg	Lg	09 23 40.9	
	comp=N,0.2nm,0.3s,baz=163,slow=19,SNR=2.2							
LPAZ	La Paz	17.27	14		*e*P	P	09 20 19.3	-0.6
	comp=N,5.2nm,0.7s							
LPAZ	La Paz	17.27	14		Pn	Pn	09 20 19.1	+0.7
	comp=N,0.4nm,0.3s,baz=180,slow=5.9,SNR=24							
SIV	San Ignacio	19.94	33		Pn	P	09 20 47.9	-0.8
SIV	San Ignacio	19.94	33		Pn	P	09 20 47.9	-0.8
	comp=N,0.5nm,0.3s,baz=230,slow=12,SNR=21							
SIV					LR	LR	09 29 10.4	
	comp=N,95nm,19.7s,slow=39							
EFI	East Falkland	21.18	155		*e*P	P	09 21 01.5	-0.4
	comp=N,283nm,1.3s							
USHA	Ushuaia	21.80	174		P	P	09 21 10.6	+2.1
USHA	Ushuaia	21.80	174		P	P	09 21 10.6	+2.1
	comp=N,4.2nm,0.9s,baz=322,slow=10,SNR=4.6							
SAML	Samuel	25.57	21		*e*P	P	09 21 46.0	+0.1
	comp=N,5.5nm,0.6s							
BDFB	Brasilia	28.10	57		P	P	09 22 07.4	-1.4
BDFB	Brasilia	28.10	57		P	P	09 22 07.4	-1.4
	comp=N,2.6nm,0.7s,baz=202,slow=8.1,SNR=6.2							
BDFB					LR	LR	09 34 31.9	
	comp=N,239nm,19.2s,baz=86,slow=39							
RCBR	Riachuelo	43.44	59		LR	LR	09 44 15.3	
	comp=N,90nm,18.6s,baz=19,slow=39							
TEIG	Tepich	55.27	342		P	P	09 25 50.5	+0.3
	comp=N,3.7nm,0.7s,baz=180,slow=20,SNR=2.7							
QSPA	South Pole Qui	57.03	180		*e*P	P	09 26 02.9	+0.4
	comp=N,3.1nm,0.8s							
QSPA	South Pole Qui	57.03	180		P	P	09 26 03.3	+0.8
	comp=N,2.1nm,0.7s,baz=97,slow=2.2,SNR=18							
TXAR	Lajitas Array	68.92	331		P	P	09 27 23.2	+1.3
TXAR	Lajitas Array	68.92	331		P	P	09 27 23.2	+1.3
	comp=N,0.6nm,0.7s,baz=150,slow=8.2,SNR=9.4							
TKL	Tuckaleechee C	69.33	350		P	P	09 27 24.0	-0.2
TKL	Tuckaleechee C	69.33	350		P	P	09 27 24.0	-0.2
	comp=N,1.6nm,0.7s,baz=149,slow=7.1,SNR=3.1							
WVT	Waverly	70.48	347		*e*P	P	09 27 31.2	0.0
	comp=N,4.6nm,0.8s							
MAW	Mawson	74.01	164		P	P	09 27 52.6	+0.5
MAW	Mawson	74.01	164		P	P	09 27 52.6	+0.5
	comp=N,0.8nm,0.6s,baz=205,slow=17,SNR=3.2							
SMCO	Snowmass	78.86	333		*e*P	P	09 28 21.9	+1.6
	comp=N,1.7nm,0.9s							
ECSD	EROS Data Cent	79.72	342		*e*P	P	09 28 24.7	+0.3
	comp=N,3.3nm,0.9s							
BOSA	Boshof	80.66	118		P	P	09 28 29.9	-0.3
BOSA	Boshof	80.66	118		P	P	09 28 29.9	-0.3
	comp=N,2.5nm,0.8s,baz=252,slow=4.3,SNR=5.5							
LBTB	Lobatse	82.86	115		*e*P	P	09 28 41.4	-0.4
	comp=N,7.2nm,1.0s							
NVAR	Mina Array Bea	83.09	325		P	P	09 28 43.9	+1.3
NVAR	Mina Array Bea	83.09	325		P	P	09 28 43.9	+1.3
	comp=N,0.3nm,0.5s,baz=158,slow=5.8,SNR=3.7							
TOA0	Torodi Ar. Sit	84.17	70		*e*P	P	09 28 48.5	0.0
TORD	Torodi Ar. Bea	84.17	70		P	P	09 28 48.1	-0.3
TORD	Torodi Ar. Bea	84.17	70		P	P	09 28 48.1	-0.3
	comp=N,2.0nm,0.7s,baz=283,slow=5.2,SNR=15							
WRA	Warramunga Arr	121.33	210		PKP	PKPdf	09 35 09.9	-0.8
WRA	Warramunga Arr	121.33	210		PKP	PKPdf	09 35 09.9	-0.8
	comp=N,0.2nm,0.9s,baz=159,slow=1.7,SNR=3.2							
BVAR	Borovoye Array	146.86	42		PKPbc	PKPbc	09 35 58.5	-0.2
BVAR	Borovoye Array	146.86	42		PKPbc	PKPbc	09 35 58.5	-0.2
	comp=N,0.6nm,0.5s,baz=343,slow=2.0,SNR=4.9							
ZALV	Zalesovo Beam	153.68	31		PKPbc	PKPbc	09 36 15.6	+0.3
ZALV					PKPab	PKPab	09 36 24.9	-3.0
ZALV	Zalesovo Beam	153.68	31		PKPbc	PKPbc	09 36 15.6	+0.3
	comp=N,1.0nm,0.7s,baz=307,slow=5.4,SNR=4.6							
ZALV					PKPab	PKPab	09 36 24.9	-3.0
	comp=N,1.8nm,0.7s,baz=304,slow=3.4,SNR=5.0							
MKAR	Makanchi Array	156.42	47		PKPab	PKPab	09 36 40.0	+0.1
MKAR	Makanchi Array	156.42	47		PKPab	PKPab	09 36 40.0	+0.1
	comp=N,0.6nm,0.6s,baz=269,slow=4.3,SNR=6.5							

IDC 05 09:38:07.8±10.0, 20°.84S×178°.67W, h573km±116km, mb3.0/8, mb1 3.2/8, mb1mx3.0/19, mbtmp3.0/8, Error ellipse: s-maj=45.4km s-min=22.2km az=71.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	43.84	257	P	P	09 45 24.3	0.0
	0.8nm,0.5s,baz=95,slow=7.8,SNR=29						
ASAR				PcP	PcP	09 46 56.9	-1.0
	0.3nm,0.5s,baz=96,slow=4.9,SNR=5.2						
WRA	Warramunga Arr	43.94	263	P	P	09 45 24.4	-0.7
	0.4nm,0.3s,baz=96,slow=7.3,SNR=62						
VNDA	Vanda	57.52	185	P	P	09 47 02.9	+0.3
	0.5nm,0.6s,baz=31,slow=7.6,SNR=2.9						
MJAR	Matsushiro Arr	70.11	324	P	P	09 48 22.8	-0.5
	0.8nm,0.5s,baz=160,slow=6.3,SNR=5.2						
JNU	Nakatsue	72.09	317	P	P	09 48 35.2	+0.3
	12nm,1.0s,baz=180,slow=9.1,SNR=3.5						
PETK	Petropavlovsk-	76.44	346	P	P	09 48 58.6	-0.3
	1.5nm,0.6s,baz=142,slow=10,SNR=3.5						
USRK	Ussuriysk Arra	78.89	326	P	P	09 49 13.6	+1.4
	0.9nm,0.5s,baz=114,slow=4.9,SNR=3.5						
ILAR	Eielson Array	88.78	13	P	P	09 49 59.4	-1.2
	0.2nm,0.4s,baz=216,slow=5.1,SNR=6.7						

IDC 05 09:44:45.2±0.9, 16°.90N×147°.28E, h0km, mb3.6/7, mb1 3.9/7, mb1mx3.8/24, mbtmp3.6/7, Error ellipse: s-maj=41.1km s-min=20.0km az=101.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	Matsushiro Arr	21.15	339	P	P	09 49 32.5	+0.6
	2.2nm,0.6s,baz=164,slow=9.4,SNR=9.7						
MAT	Matsushiro	21.15	339	P	P	09 49 33.9	+1.9
KSRS	Korea Array	26.65	324	P	P	09 50 25.1	-0.6
	0.8nm,0.8s,baz=146,slow=8.8,SNR=4.5						
WRA	Warramunga Arr	38.76	200	P	P	09 52 11.2	-0.5
	1.2nm,0.7s,baz=23,slow=9.0,SNR=8.8						
ASAR	Alice Springs	42.39	198	P	P	09 52 42.0	+0.4
	0.2nm,0.8s,baz=15,slow=6.7,SNR=3.4						
ILAR	Eielson Array	64.59	26	P	P	09 55 24.5	+0.3
	0.6nm,1.0s,baz=251,slow=5.9,SNR=4.6						
YKA	Yellowknife Ar	78.86	28	P	P	09 56 49.9	-0.1
	0.4nm,0.9s,baz=286,slow=5.2,SNR=5.2						
NVAR	Mina Array Bea	83.05	52	P	P	09 57 12.9	-0.3
	0.8nm,0.8s,baz=257,slow=6.2,SNR=5.0						

SZGRF ***05*** *09:45:07.1, 35°.04N×72°.75E, h258km, mb5.4, Pakistan*
ISCJB ***05*** *09:45:46.7±0.2, 36°.45N±0°.02×71°.11E±0°.02, h242km±2km, mb4.8/273, Error ellipse: s-maj=2.6km s-min=2.1km az=17.7*
MOS ***05*** *09:45:46.8±0.8, 36°.44N×71°.11E, h242km, mb5.1/77, Error ellipse: s-maj=4.9km s-min=3.2km az=109.7*
BJI ***05*** *09:45:47.4, 36°.61N×71°.06E, h249km, mB4.7/30, mb4.8/47*
DJA ***05*** *09:45:48.5±0.5, 36°.76N±7°×7°.1E±°, h239km±7km, M5.6/7, mB5.6/6, mb5.2/7, MLv6.2/2, Mw(mB)5.1/6*
BKK ***05*** *09:45:48.3±0.5, 36°.76N±6°×7°.1E±°, h236km±6km, M5.2/22, mB5.4/14, mb5.2/22, MLv5.8/2, Mw(mB)4.8/14*
NEIC ***05*** *09:45:48.7±0.1, 36°.44N×71°.08E, mb4.9/91, Error ellipse: s-maj=3.6km s-min=2.8km az=193.0*
NEIC Felt [II] at Kabul. Also felt at Baghlan, Charikar and Jabal os Saraj. Felt at Abbottabad, Chitral, Haripur, Islamabad, Khaibar, Kotli, Malakand, Mansehra, Mardan, Muzaffarabad, Peshawar, Rawalpindi, Sargodha and Swat, Pakistan.
IDC ***05*** *09:45:49.0±0.5, 36°.43N×71°.11E, h252km±4km, mb4.5/26, mb1 4.7/32, mb1mx4.7/32, mbtmp4.6/32, Error ellipse: s-maj=9.6km s-min=6.5km az=178.0*
TEH ***05*** *09:45:49.0, 36°.46N×71°.07E, h248km, ML4.9*
GCMT ***05*** *09:45:50.0±0.2, 36°.43N×71°.03E, h246km±1km, MW5.3, Moment Tensor Solution. s60,c87; s86,c145; Moment tensor: Scale 10^17 Nm; Mrr 0.00; Mθθ 0.00; Mφφ 0.00; Mrθ 0.00; Mθφ 0.00; Mφr 0.00; Best double couple: M0 1.00000×10^17 NP1 φs 239.00000°, δ 30.00000°, λ 144.00000°. NP2 φs 1.00000°, δ 73.00000°, λ 65.00000°. Principal axes: T 1.1400, Plg55.0000°, Azm240.0000°; N -0.2300, Plg24.0000°, Azm9.0000°; P -0.9100, Plg24.0000°, Azm110.0000°; Data Used: IU II G CN IC.*
BGS ***05*** *09:45:51.5±1.5, 36°.69N×70°.59E, h252km, mb4.9*
NNC ***05*** *09:45:56.7±5.2, 37°.16N×71°.52E, h265km±47km, mb4.3, mpv5.7, Error ellipse: s-maj=49.1km s-min=26.6km az=1.0*

ISC 05 09:45:48.4±0.2, 36°.48N±0°.03×71°.07E±0°.02, h248km±1km, h247km: pP-P, n899, σ1°27/1145, mb4.8/272, 255C-86D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	Kabul	2.54	221	*e*PN	Pn	09 46 35.2	-1.1
KBL				*e*S	S	09 47 10.7	-3.2
KBL	Kabul	2.54	221	*e*Pn	Pn	09 46 35.2	-1.1
KBL				*e*S	S	09 47 10.7	-3.2
CEP	Cherat	2.73	165	⇓P	Pn	09 46 37.1	-1.1
CEP				S	S	09 47 14.0	-3.4
CHCP	Chirah Chowk	3.34	147	⇓P	Pn	09 46 43.7	-0.9
THW	Thamme Wali	3.71	171	P	Pn	09 46 47.9	-1.0
SARP	Sargodha	4.73	163	⇑P	Pn	09 46 59.4	-1.6
JMU	Jammu	4.90	139	*i* P	Pn	09 47 01.0	-2.0
JMU				*i* x	x	09 47 51.5	
KSH	Kashi	4.92	50	⇑*i*P	Pn	09 46 57.3	-5.9
KSH				sP	sP	09 47 38.7	
KSH				S	S	09 47 46.6	-16
KSH				smax	smax		
	comp=N,5μm,0.4s						
KSH				smax	smax		
	comp=E,3μm,0.6s						
THN	Thein Dam	5.57	135	*e*P	Pn	09 47 07.5	-3.6
THN				*e*4	S	09 48 08.3	-8.8
DLH	Dalhousie	5.63	133	*e*P	Pn	09 47 10.0	-2.2
DLH				*e*4		09 47 57.0	
AML	Almayashu	6.00	19	*i* PN	Pn	09 47 16.0	-0.9
AML	Almayashu	6.00	19	P	Pn	09 47 16.0	-0.9
	SNR=1082						
UCH	Uchtor	6.33	24	*i* PN	Pn	09 47 20.5	-0.6
UCH	Uchtor	6.33	24	P	Pn	09 47 20.5	-0.6
	SNR=363						
KZA	Kyzart	6.47	29	*i* PN	Pn	09 47 21.4	-1.3
KZA	Kyzart	6.47	29	P	Pn	09 47 21.4	-1.3
	SNR=328						
EKS2	Erkin-Say	6.52	18	*e*PN	Pn	09 47 22.5	-0.6
EKS2				*e*S	S	09 48 35.1	-3.8
EKS2	Erkin-Say	6.52	18	P	Pn	09 47 22.5	-0.6
	SNR=140						
EKS2	Erkin-Say	6.52	18	*e*Pn	Pn	09 47 22.5	-0.6
EKS2				*e*S	S	09 48 35.0	-3.8
KK31	Karatay Array	6.63	356	⇓P	Pn	09 47 23.9	-0.5
	comp=E,234nm,0.6s,baz=166,slow=11,SNR=4964						
KK31				⇑S	S	09 48 36.8	-4.5
	comp=E,1μm,0.5s,baz=175,slow=22,SNR=22						
KK31	Karatay Array	6.63	356	*i* PN	Pn	09 47 23.9	-0.5
KK31				pmax	pmax		
	comp=Z,226nm,0.3s						
KKAR	Karatay Array	6.63	356	*e*PN	Pn	09 47 24.0	-0.4
KKAR				*e*S	S	09 48 38.5	-2.8
KKAR	Karatay Array	6.63	356	*e*Pn	Pn	09 47 24.0	-0.4
KKAR				*e*S	S	09 48 38.5	-2.8
AAK	Ala-Archa	6.70	22	*c i*PN	Pn	09 47 24.7	-0.6
AAK				pmax	pmax		
	comp=Z,2μm,0.8s						
AAK	Ala-Archa	6.70	22	Pn	Pn	09 47 25.0	-0.3
	SNR=257						
AAK	Ala-Archa	6.70	22	P	Pn	09 47 24.6	-0.6
	SNR=276						
AAK	Ala-Archa	6.70	22	*e*Pn	Pn	09 47 24.8	-0.6
AAK				*e*S	S	09 48 42.1	-0.8
AAK	Ala-Archa	6.70	22	P	Pn	09 47 24.9	-0.4
	comp=Z,310nm,0.3s,baz=163,slow=6.0,SNR=500						
AAK				S	S	09 48 38.7	-4.2
	comp=Z,55nm,0.3s,baz=317,slow=19,SNR=7.9						
BHK	Bhakra	6.72	137	*e*P	Pn	09 47 22.6	-3.0
BHK				*e*4	x	09 48 22.8	
KBK	Karagaybulak	6.86	25	*i* PN	Pn	09 47 27.2	-0.2
KBK	Karagaybulak	6.86	25	P	Pn	09 47 27.2	-0.2
	SNR=293						
FRU	Bishkek	6.91	22	⇑*i*PN	Pn	09 47 26.2	-1.7
FRU				*i* S	S	09 48 45.2	-2.5
FRU				pmax	pmax		
	comp=Z,900nm,1.2s						
FRU				pmax	pmax		
	comp=Z,2μm,3.0s						
FRU				smax	smax		
	comp=E,2μm,1.8s						
FRU				MLR	MLR		
	comp=Z,10μm,4.2s						
SDNR	Sundarnagar	6.97	134	*e*P	Pn	09 47 25.4	-3.4
SDNR				*e*4	x	09 48 28.0	
ULHL	Ulahol	7.02	33	*i* PN	Pn	09 47 28.3	-1.1
ULHL	Ulahol	7.02	33	P	Pn	09 47 28.4	-1.1
	SNR=263						
CHMS	Chumysh	7.11	22	*i* PN	Pn	09 47 29.2	-1.1
CHMS	Chumysh	7.11	22	P	Pn	09 47 29.2	-1.1
	SNR=524						
USP	Ospenovka	7.28	20	*i* PN	Pn	09 47 31.1	-1.4
USP	Ospenovka	7.28	20	P	Pn	09 47 31.1	-1.4
	SNR=259						
TKM2	Tokmak 2	7.32	27	⇑P	Pn	09 47 32.5	-0.8
	comp=Z,564nm,0.6s						
TKM2				⇓S	S	09 48 50.6	-6.8
	comp=Z,112nm,0.6s						
TKM2	Tokmak 2	7.32	27	*i* PN	Pn	09 47 32.6	-0.6
TKM2	Tokmak 2	7.32	27	P	Pn	09 47 32.6	-0.6
	SNR=1027						
TKM2	Tokmak 2	7.32	27	*e*Pn	Pn	09 47 32.5	-0.8
SMLA	Simla	7.36	135	*i* P	Pn	09 47 32.1	-1.5
SMLA				*i* x	S	09 48 51.7	-6.5
KNDC	Almaty	8.12	32	⇓P	Pn	09 47 43.0	-0.1
KNDC				⇓S	S	09 49 03.4	-12
AAA	Alma-Ata	8.15	32	*e*PN	Pn	09 47 42.9	-0.7
AAA				pmax	pmax		
	comp=Z,3μm,2.2s						
DDI	Dehra Dun	8.47	134	*ex*	Pn	09 47 43.5	-4.3
DDI				*e*S	S	09 49 16.0	-8.0
IMYA	Miami	8.85	272	*e*P	Pn	09 47 50.6	-2.0
NDI	New Delhi	9.34	145	*e*P	P	09 48 16.4	+11
NDI				AMB	AMB	09 48 17.1	
	comp=Z,785nm,0.8s						
NDI				*e*S	S	09 49 55.4	+11
ISRO	Mashad	9.36	272	*e*P	Pn	09 47 56.4	-2.6
IMOG	Moghan	9.48	271	*e*P	Pn	09 47 59.8	-0.9
IPAY	Payeh	9.73	273	*e*P	Pn	09 48 01.8	-2.0
IAKL	Akhelmad	9.91	274	*e*P	Pn	09 48 04.9	-1.3
IDAH	Dahanechah	9.96	251	*e*P	Pn	09 48 06.5	-0.2
IEMG	Emamgholi	9.99	279	*e*P	Pn	09 48 05.5	-1.6
AJM	Ajmer	10.42	162	*i* P	Pn	09 48 09.0	-3.4
AJM				*i* 4	S	09 50 02.0	-7.5
ISFR	Sfrayin	10.50	277	*e*P	Pn	09 48 12.7	-0.9
ISHV	Shirvan	10.74	280	*e*P	Pn	09 48 15.6	-1.0
ITEG	Tejag	10.75	254	*e*P	Pn	09 48 15.8	-0.9
IMND	Minoodasht	12.57	278	*e*P	P	09 48 41.3	-0.1
PYUN	Piuthan	13.08	126	*e*P	Pn	09 48 43.3	-2.4
MK31	Makanchi Array	13.28	36	⇓P	Pn	09 48 46.4	-1.3
	comp=Z,42nm,0.5s,baz=224,slow=12,SNR=910						
MK31	Makanchi Array	13.28	36	*e*P	Pn	09 48 46.4	-1.3
MK31	Makanchi Array	13.28	36	*e*Pn	Pn	09 48 46.4	-1.3
MKAR	Makanchi Array	13.28	36	*i* P	Pn	09 48 46.2	-1.5
MKAR				pmax	pmax		
	comp=Z,65nm,0.6s						
MKAR	Makanchi Array	13.28	36	*e*Pn	Pn	09 48 47.0	-0.7
MKAR				ScP	ScP	09 57 05.5	-0.6
MKAR	Makanchi Array	13.28	36	P	Pn	09 48 46.4	-1.3
	comp=Z,9.5nm,0.3s,baz=219,slow=16,SNR=144						
MKAR				ScP	ScP	09 57 05.5	-0.6
	baz=318,slow=1.6,SNR=3.6						
DANN	Dangsing	13.43	124	*e*P	Pn	09 48 47.9	-2.1
KOLN	Koldanda	13.70	126	*e*P	Pn	09 48 51.4	-1.9
	comp=Z,147nm,0.4s						
WMQ	Urumqi	14.66	55	P	P	09 49 03.6	-1.0
WMQ				S	S	09 51 45.9	-0.9
DMN	Daman	14.81	123	*e*P	Pn	09 48 05.0	-1.6
KKN	Kakani	14.82	122	*e*P	P	09 49 04.8	-1.8
IFIR	Firoozkooh	14.84	272	*e*P	Pn	09 49 08.2	+1.1
PKIN	Phulchoki	15.03	122	*e*P	P	09 49 07.6	-1.5
	comp=Z,304nm,0.4s						
PKI	Pulchoki	15.04	122	*e*P	P	09 49 07.8	-1.5
	comp=Z,378nm,0.4s						
KURBB	Kurchatov Arra	15.13	18	⇓P	P	09 49 09.0	-0.6
	comp=Z,69nm,0.5s						
KURBB	Kurchatov Arra	15.13	18	P	P	09 49 09.0	-0.6
	comp=Z,4.7nm,0.3s,baz=208,slow=11,SNR=137						
KURBB				PKiKP	PKiKP	10 01 51.6	-1.9
	comp=Z,0.1nm,0.3s,baz=248,slow=0.4,SNR=4.1						
AB31	Akbulak array	15.13	331	P	P	09 49 09.4	-0.2
	comp=Z,24nm,0.5s,baz=142,slow=14,SNR=916						
AB31	Akbulak array	15.13	331	*i* P	P	09 49 09.4	-0.2
AB31				pmax	pmax		
	comp=Z,26nm,0.3s						
ABKAR	Akbulak array	15.13	331	*e*P	P	09 49 09.1	-0.5
ABKAR				*e*S	S	09 51 56.4	-0.4
GUN	Gumba	15.15	120	*e*P	P	09 49 09.3	-1.2
KURK	Kurchatov	15.24	19	P	P	09 49 09.0	-1.7
KURK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KURK	Kurchatov	15.24	19	P	P	09 49 09.0	-1.7
KURK				PKiKP	PKiKP	10 01 51.6	-1.9
JBP	Jabalpur	15.34	147	⇓*i*P

WBK Wadi Bani Khal 17.35 221 ⇑P Pn 09 49 35.7 -0.8
SNR=18
GTK Gangtok 17.44 117 eP P 09 49 34.5 -0.9
ASHO Ashiyiah 17.44 232 ⇑P P 09 49 35.9 +0.6
SNR=27
SMDO Samad 17.48 224 P Pn 09 49 37.2 -1.0
SNR=13
HOQ Hoqain 17.50 227 P P 09 49 36.1 +0.3
SNR=10
SLGI Shiliguri 17.68 119 eP P 09 49 38.9 +1.2
BOK Bokaro 17.97 131 i 4 09 49 31.0
JMDO Jabal Madar 18.00 222 P Pn 09 49 43.1 -1.2
SNR=42
POO Poona 18.04 171 ⇓iP P 09 49 41.0 -0.8
comp=N,230nm,1.0s
POO ix x 09 53 12.0
POO ePCP PcP 09 54 04.5 +0.3
LSA Lhasa 18.12 106 P Pn 09 49 44.8 -1.2
LSA Lhasa 18.12 106 eP Pn 09 49 44.9 -1.1
LSA pmax pmax
comp=Z,286nm,0.6s
LSA Lhasa 18.12 106 eP Pn 09 49 44.9 -1.1
comp=Z,286nm,0.6s
ARQ Araqi 18.15 228 P P 09 49 43.9 +1.0
SNR=22
BSY Bisya 18.21 225 P Pn 09 49 45.2 -1.4
SNR=30
LATR Latur 18.63 163 ex P 09 49 41.1 -6.9
LATR AMB AMB 09 49 45.7
comp=Z,58nm,1.1s
LATR ex S 09 53 06.6 -0.4
MAK Makhachkala 19.22 297 eP P 09 49 46.8 -7.3
MAK eS S 09 53 10.5 -7.7
MAK pmax pmax
comp=Z,634nm,2.2s
MAK MLR MLR
comp=Z,827nm,16.0s
KAD Karad 19.29 171 i x P 09 49 56.8 +1.6
ZAA0 Zalesovo Array 19.91 24 eP P 09 50 01.1 -0.4
ZALV Zalesovo Beam 19.91 24 P P 09 50 01.2 -0.2
ZALV pmax pmax
comp=Z,27nm,0.3s
ZALV Zalesovo Beam 19.91 24 P P 09 50 01.2 -0.2
ZALV Zalesovo Beam 19.91 24 P P 09 50 01.2 -0.2
comp=Z,27nm,0.3s,baz=230,slow=9.2,SNR=101
HYB Hyderabad 20.11 159 i P P 09 50 02.5 -1.4
comp=Z,129nm,0.8s
HYB eS S 09 53 36.0 +0.2
HYB Hyderabad 20.11 159 eP P 09 50 02.5 -1.4
HYB eS S 09 53 36.0 +0.2
HYB Hyderabad 20.11 159 eP P 09 50 02.5 -1.4
HYB eS S 09 53 36.0 +0.2
NVS Novosibirsk 20.18 21 ⇑iP P 09 50 04.5 +0.2
NVS e 09 51 14.1
NVS eS S 09 53 31.5 -4.9
NVS pmax pmax
comp=Z,51nm,0.7s
NVS pmax pmax
comp=N,35nm,0.5s
NVS pmax pmax
comp=E,13nm,0.6s
NVS smax smax
comp=E,80nm,1.8s
DGRG David-gareji 20.56 292 P P 09 50 09.4 +0.9
UMR Umm Al-Rimmam 20.74 257 eP P 09 50 10.3 -0.1
UMR AMb AMB 09 50 15.6
comp=Z,491nm,0.9s
SHL Shillong 20.85 116 eP P 09 50 09.8 -2.0
SHL AMB AMB 09 50 11.2
comp=Z,973nm,0.5s
SHL ex x 09 53 52.5
MIB Mutribah 20.93 258 eP P 09 50 12.4 0.0
MIB AMb AMB 09 50 13.6
comp=Z,458nm,0.7s
GNI Garni 20.95 288 eP P 09 50 14.7 +2.0
GNI Garni 20.95 288 P P 09 50 15.5 +2.7
SNR=43
GNI Garni 20.95 288 eP P 09 50 14.8 +2.0
comp=Z,139nm,0.8s
TBLG Delisi 21.06 292 eP P 09 50 14.2 +0.6
TBLG Delisi 21.06 292 P P 09 50 14.2 +0.6
RDF Al-Radifah 21.14 256 eP P 09 50 15.2 +0.6
RDF AMb AMB 09 50 16.4
comp=Z,452nm,0.8s
NAY Al-Naaiem 21.24 257 eP P 09 50 15.6 +0.1
NAY AMb AMB 09 50 17.0
comp=Z,188nm,0.6s
KZR Kazreti 21.27 291 P P 09 50 17.9 +2.1
SVE Sverdlovsk 21.53 344 ⇓iP P 09 50 18.6 +0.6
SVE eS S 09 54 00.3 +1.2
SVE pmax pmax
comp=Z,83nm,0.8s
CLDR Caldiran 21.59 285 eP P 09 50 20.2 +1.1
VIS Vishakhapatnam 21.60 147 iP P 09 50 19.0 0.0
VIS ix x 09 54 06.7
ARU Arti 21.68 341 ciP P 09 50 20.4 +1.1
ARU S S 09 54 05.6 +4.2
ARU pmax pmax
comp=Z,131nm,0.7s
ZEI Tsey 21.80 295 eP P 09 50 21.8 +0.9
ZEI pmax pmax
comp=Z,74nm,0.7s
HVS Khovu-Aksy 21.82 41 diP P 09 50 21.9 +1.1
HVS pmax pmax
comp=Z,219nm,0.7s
CUKT Cukurca 21.96 280 eP P 09 50 21.2 -1.2
AKH Akhalkalaki 21.96 291 P P 09 50 25.1 +2.7
ONI Oni 22.10 295 P P 09 50 25.4 +1.8
KARS Kars 22.24 289 eP P 09 50 25.9 +1.0
AGRB Hanur-Agry 22.30 287 eP P 09 50 19.5 -6.0
KBZ Khabaz 22.66 297 P P 09 50 29.1 +0.6
KBZ pmax pmax
comp=Z,33nm,0.8s
KBZ Khabaz 22.66 297 P P 09 50 29.1 +0.6
KBZ Khabaz 22.66 297 P P 09 50 29.1 +0.6
comp=Z,33nm,0.8s,baz=129,slow=8.8,SNR=44
GTA Gaotai 22.82 74 ⇓iP P 09 50 32.1 +2.0
GTA sP sP 09 51 41.9 -2.5
GTA S S 09 54 24.5 +4.0
GTA SS SS 09 55 34.8 -31
GTA ScP ScP 09 57 26.1 -0.8
GTA ScS ScS 10 01 10.2 -2.7
GTA pmax pmax
comp=Z,210nm,0.9s
GTA pmax pmax
comp=Z,630nm,6.2s
GTA LR LR
comp=N,390nm,12.3s
GTA LR LR
comp=E,320nm,10.9s
GTA LR LR
comp=Z,300nm,10.9s
KIV Kislovodsk 22.85 298 eP P 09 50 31.1 +0.8
KIV e*PP pP 09 51 13.1 -0.1
KIV e*SP sP 09 51 44.4 -0.3
KIV eS S 09 54 22.4 +1.5
KIV pmax pmax
comp=Z,61nm,1.0s
KIV MLR MLR
comp=Z,324nm,14.0s
CHVG Ch'k'valeri 23.12 295 P P 09 50 35.6 +2.9
EZM Erzurum 23.55 287 eP P 09 50 40.5 +3.6
RBK Rabkut 24.07 223 P P 09 50 42.5 +0.9
SNR=10
BNGB Bing˜ll 24.11 285 eP P 09 50 43.1 +1.2
MAZI Mazidag 24.44 282 eP P 09 50 44.9 0.0
BAYT Ayd¨–ntepe-Bay 24.48 289 eP P 09 50 53.0 +7.7
DIY Diyarbakir 24.56 283 eP P 09 50 40.4 -5.6
ABTO Aybut 24.70 224 P P 09 50 49.5 +2.2
SNR=7.2
SOKR Solikamsk 24.92 343 ciP P 09 50 50.4 +1.7
SOKR *PP pP 09 51 36.5 +1.3
SOKR *SP sP 09 52 06.1 +0.3
SOKR S S 09 54 55.3 +2.3
SOKR *SS sS 09 56 19.3 0.0
SOKR pmax pmax
comp=Z,60nm,0.8s
SOKR MLR MLR
comp=Z,270nm,16.0s
SOC Sochi 24.93 296 eP P 09 50 49.4 +0.3
SOC e*PP pP 09 51 32.9 -2.7
SOC e*SP sP 09 52 04.7 -1.4
SOC eS S 09 54 46.3 -7.4
SOC pmax pmax
comp=Z,35nm,1.5s
GUMT Gumushane 24.98 289 eP P 09 50 52.2 +2.5
PTK Pertek 25.12 285 eP P 09 50 49.8 -1.3
RAYN Ar Rayn 25.54 247 eP P 09 50 55.0 +0.1
comp=Z,117nm,0.8s
MALT Malatya 25.93 284 eP P 09 51 07.8 +10
MYA Malataya 25.93 284 eP P 09 50 59.9 +1.7
LZH Lanzhou 26.36 81 ⇑P P 09 51 04.2 +2.1
LZH pP pP 09 51 52.5 +1.9
LZH sP sP 09 52 22.7 +3.3
LZH S S 09 55 17.5 +0.8
LZH pmax pmax
comp=Z,32nm,1.0s
LZH pmax pmax
comp=Z,210nm,4.3s
VORD Divnogorie 26.90 313 eP P 09 51 05.5 -1.1
VORD pmax pmax
comp=Z,30nm,0.5s
VORD pmax pmax
comp=N,90nm,0.6s
VORD pmax pmax
comp=E,300nm,0.6s
ZAK Zakamensk 26.96 49 eP P 09 51 08.3 +1.0
ZAK e 09 51 57.7
ZAK pmax pmax
comp=Z,10.0nm,1.0s
ZAK pmax pmax
comp=Z,24nm,1.7s
VSR Storozhevoye 27.06 313 eP P 09 51 07.6 -0.4
VSR e*PP pP 09 51 56.5 0.0
VSR eS S 09 55 24.9 -2.1
VSR e*SS sS 09 56 50.2 -4.7
VSR pmax pmax
comp=Z,50nm,0.7s
VSR pmax pmax
comp=N,10.0nm,0.5s
VSR pmax pmax
comp=E,40nm,0.6s
VSR smax smax
comp=Z,30nm,4.6s
VSR smax smax
comp=N,70nm,11.5s
VSR smax smax
comp=E,130nm,9.1s
VOR Voronezh 27.23 314 eP P 09 51 11.0 +1.5
TLY Talaya 27.62 46 eP P 09 51 15.5 +2.5
TLY pmax pmax
comp=Z,8.0nm,0.5s
CD2 Chengdu 27.68 92 P P 09 51 14.7 +0.9
CD2 pP pP 09 52 03.2 +0.8
CD2 PP PnPn 09 52 14.2 -0.5
CD2 sP sP 09 52 32.1 +0.9
CD2 PcP PcP 09 54 25.5 +1.4
CD2 S S 09 55 36.6 -0.7
CD2 sS sS 09 57 02.8 -2.4
CD2 SS ScP 09 57 19.7 -21
CD2 pmax pmax
comp=Z,90nm,0.6s
CD2 pmax pmax
comp=Z,200nm,4.3s
CD2 LR LR
comp=N,830nm,8.2s
CD2 LR LR
comp=E,1μm,8.8s
CD2 LR LR
comp=Z,990nm,12.2s
SONM Songino Array 28.30 55 P P 09 51 20.7 +1.4
SONM pP pP 09 52 09.5 +1.6
SONM PcP PcP 09 54 25.7 +0.3
SONM e 10 23 32.5
SONM Songino Array 28.30 55 P P 09 51 20.7 +1.4
comp=Z,28nm,0.9s,baz=261,slow=9.4,SNR=64
SONM pP pP 09 52 09.5 +1.6
comp=Z,8.3nm,0.8s,baz=252,slow=9.5,SNR=4.4
SONM PcP PcP 09 54 25.7 +0.3
comp=Z,4.4nm,0.7s,baz=258,slow=4.8,SNR=4.0
SONM P3KPbc 10 23 32.5
comp=Z,1.0nm,0.7s,baz=90,slow=3.6,SNR=5.3
ASF Jabal al Asfar 28.46 271 P P 09 51 22.4 +1.7
ASF Jabal al Asfar 28.46 271 P P 09 51 22.4 +1.7
comp=Z,3.2nm,0.7s
ULN Ulaanbaatar 28.74 55 P P 09 51 24.6 +1.5
SNR=10.0
ULN Ulaanbaatar 28.74 55 eP P 09 51 24.3 +1.1
comp=Z,18nm,0.7s
ULN e pP 09 52 13.6 +1.6
ULN Ulaanbaatar 28.74 55 P P 09 51 24.3 +1.1
comp=Z,25nm,0.7s,comp=Z,429nm
SIM Simferopol' 29.06 298 i P P 09 51 26.9 +1.1
SIM e*PP pP 09 52 17.0 +2.3
SIM eS S 09 56 01.5 +2.9
SIM e*SS sS 09 57 29.0 +2.3
SIM pmax pmax
comp=Z,43nm,0.4s
KMI Kunming 29.34 104 P P 09 51 29.1 +0.4
KMI PP PnPn 09 52 37.3 +1.6
KMI S S 09 56 04.8 +1.1
KMI sS sS 09 57 31.7 -0.2
KMI pmax pmax
comp=Z,17nm,0.9s
KMI pmax pmax
comp=Z,160nm,4.4s
KMI LR LR
comp=N,180nm,11.4s
KMI LR LR
comp=E,120nm,7.5s
KMI LR LR
comp=Z,170nm,8.2s
MMAI Mount Meron Ar 29.41 274 P P 09 51 31.1 +2.0
MMAI PcP PcP 09 54 29.2 +0.8
MMAI ScP ScP 09 57 46.5 +0.2
MMAI Mount Meron Ar 29.41 274 P P 09 51 31.1 +2.0
comp=Z,3.8nm,0.6s,baz=59,slow=9.8,SNR=4.2
MMAI PcP PcP 09 54 29.2 +0.8
comp=Z,18nm,0.6s,baz=70,slow=5.4,SNR=15
MMAI ScP ScP 09 57 46.5 +0.2
comp=Z,10nm,0.8s,baz=57,slow=3.4,SNR=6.3
BR131 Keskin Array S 29.50 288 eP P 09 51 30.9 +1.0
comp=Z,28nm,0.6s
BR131 e pP 09 52 15.0 -3.9
BR131 ePcP PcP 09 54 28.3 -0.4
BRTR Keskin Array B 29.50 288 P P 09 51 30.9 +1.0
BRTR PcP PcP 09 54 28.1 -0.5
BRTR ScP ScP 09 57 45.3 -1.3
BRTR Keskin Array B 29.50 288 P P 09 51 30.9 +1.0
comp=Z,31nm,0.6s,baz=103,slow=9.3,SNR=199
BRTR PcP PcP 09 54 28.1 -0.5
comp=Z,6.9nm,0.6s,baz=137,slow=2.5,SNR=13
BRTR ScP ScP 09 57 45.3 -1.3
comp=Z,3.6nm,1.0s,baz=132,slow=3.5,SNR=5.0
CMAI Chiengmai2 29.51 116 P P 09 51 34.0 +3.8
comp=Z,82nm,0.8s
MOS Moscow 29.71 321 eP P 09 51 26.5 -4.9
MOS e*PP pP 09 52 14.3 -6.1
MOS eS S 09 56 06.5 -2.0
MOS pmax pmax
comp=Z,200nm,1.0s
MOS pmax pmax
comp=Z,100nm,0.8s
OBN Obninsk 29.99 319 ⇑iP P 09 51 32.7 -1.1
OBN e*PP pP 09 52 21.0 -1.9
OBN e 09 52 42.8
OBN e*SP sP 09 52 49.1 -2.5
OBN e 09 54 27.8
OBN pmax pmax
comp=Z,206nm,1.4s
OBN MLR MLR
comp=Z,200nm,19.0s
ANTO Ankara 30.13 288 eP P 09 51 36.8 +1.4
ANTO e 09 54 30.1
ANTO pmax pmax
comp=Z,21nm,0.9s
ANTO Ankara 30.13 288 P P 09 51 37.1 +1.8
SNR=8.4
ANTO Ankara 30.13 288 eP P 09 51 36.8 +1.4
comp=Z,21nm,0.9s
ANTO ePcP PcP 09 54 30.1 -0.1
ANTO Ankara 30.13 288 ⇓iP P 09 51 36.6 +1.2
CHTO Chiang Mai 30.16 118 eP P 09 51 36.4 +0.6
CHTO e*PP pP 09 52 28.1 +3.3
CHTO pmax pmax
comp=Z,23nm,0.9s
CHTO Chiang Mai 30.16 118 eP P 09 51 36.4 +0.6
comp=Z,23nm,0.9s
CHTO epP pP 09 52 28.1 +3.3
CHTO Chiang Mai 30.16 118 P P 09 51 36.8 +1.1
comp=Z,22nm,1.2s,comp=Z,500nm
CHTO Chiang Mai 30.16 118 P P 09 51 36.6 +0.9
comp=Z,22nm,1.2s,comp=Z,442nm
CMMT Chiang Mai 30.16 118 P P 09 51 36.6 +0.8
CMMT Chiang Mai 30.16 118 P P 09 51 36.5 +0.8
comp=Z,20nm,1.2s,comp=Z,598nm
PALK Pallekele 30.37 161 eP P 09 51 38.7 +1.0
comp=Z,27nm,0.7s
CM31 Chiang Mai Arr 30.39 119 eP P 09 51 37.7 -0.1
comp=Z,24nm,0.8s
CMAR Chiang Mai Arr 30.39 119 P P 09 51 38.0 +0.2
CMAR ScP ScP 09 57 47.5 -2.0
CMAR e 10 23 26.1
CMAR Chiang Mai Arr 30.39 119 P P 09 51 38.0 +0.2
comp=Z,21nm,0.8s,baz=299,slow=8.1,SNR=84
CMAR ScP ScP 09 57 47.5 -2.0
comp=Z,1.5nm,0.4s,baz=296,slow=5.1,SNR=6.8
CMAR P3KPbc 10 23 26.1
comp=Z,0.4nm,0.4s,baz=159,slow=2.3,SNR=4.2
BTO Baotou 30.57 70 eP P 09 51 40.1 +0.8
LAMP Lampang 30.84 118 P P 09 51 41.8 +0.1
comp=Z,12nm,0.9s,comp=Z,178nm
XAN Xi'an 30.88 83 P P 09 51 42.3 +0.3
XAN pmax pmax
comp=Z,18nm,0.9s
XAN pmax pmax
comp=Z,24nm,5.1s
XAN LR LR
comp=N,250nm,16.6s
XAN LR LR
comp=E,150nm,17.2s
XAN LR LR
comp=Z,140nm,18.9s
NANT Nan 31.43 116 P P 09 51 45.9 -1.0
comp=Z,131nm,0.8s
HHC Hu-ho-hao-te 31.72 70 eP P 09 51 50.0 +0.7
HHC pP pP 09 52 40.6 +2.0
HHC PP PP 09 53 07.0 +0.6
HHC sP sP 09 53 09.0 +1.8
HHC S S 09 56 39.5 -0.9
HHC sS sS 09 58 09.9 +1.0
HHC SS SS 09 58 50.1 -11
HHC ScS ScS 10 01 50.0 -2.6
HHC pmax pmax
comp=Z,61nm,0.6s
HHC pmax pmax
comp=Z,260nm,4.8s
GYA Guiyang 31.80 98 ⇓iP P 09 51 50.5 +0.3
GYA pP pP 09 52 41.8 +2.3
GYA sP sP 09 53 10.6 +2.5
GYA PcP PcP 09 54 37.4 +2.5
GYA S S 09 56 41.6 -0.4
GYA ScP ScP 09 57 55.0 +0.6
GYA PcS PcS 09 58 20.4 +0.3
GYA ScS ScS 10 01 52.2 -1.3
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
LBOS 32.26 232 iP P 09 51 55.6 +1.2
LBOS eP P 09 51 55.6 +1.2
ENH Enshi 32.52 90 eP P 09 51 57.5 +1.2
comp=Z,34nm,0.7s
LOEI Loei 32.67 117 P P 09 51 59.5 +1.8
comp=Z,116nm,0.8s,comp=Z,922nm
TLCR 32.82 299 ⇑P P 09 52 00.0 +1.3
TLCR 32.82 299 ⇑iP P 09 52 00.0 +1.3
KIS Kishinev 32.87 302 ⇑iP P 09 51 59.0 -0.1
KIS epP pP 09 52 48.0 -0.5
KIS Kishinev 32.87 302 ePP PP 09 53 14.0 -4.9
KIS eS S 09 56 54.0 -3.8
KIS esS sS 09 58 27.0 +0.4
KIS Kishinev 32.87 302 αiP P 09 51 59.0 -0.1
KIS e*PP pP 09 52 48.0 -0.5
KIS e 09 53 14.0
KIS e 09 53 17.0
KIS eS S 09 56 54.0 -3.8
KIS e 09 59 19.0
KIEV Kiev 33.01 309 eP P 09 52 00.4 +0.2
KIEV pmax pmax
comp=Z,60nm,0.6s
KIEV Kiev 33.01 309 eP P 09 52 00.4 +0.2
comp=Z,60nm,0.6s
PBKT Sadao Pong 33.09 119 P P 09 52 02.1 +0.8
comp=Z,56nm,1.2s,comp=Z,1μm
PBKT Sadao Pong 33.09 119 P P 09 52 02.0 +0.8
comp=Z,56nm,1.2s,comp=Z,1μm
TIRR Tirgusor 33.11 297 ⇑P P 09 52 01.8 +0.6
TIRR Tirgusor 33.11 297 ⇑iP P 09 52 01.8 +0.6
CFR Carcaliu 33.30 299 ⇑P P 09 52 03.5 +0.7
CFR Carcaliu 33.30 299 ⇑iP P 09 52 03.5 +0.7
TRBA At Turbah 33.46 233 eP P 09 52 06.5 +1.7
TMCR Tamitsa 34.09 335 eP P 09 52 11.0 +1.7
TMCR pmax pmax
comp=Z,132nm,0.7s
CHAI Chaiyaphum 34.26 119 P P 09 52 11.8 +0.5
comp=Z,16nm,0.8s,comp=Z,132nm
VRI Vrincioaia 34.29 300 ⇑P P 09 52 12.5 +1.2
VRI Vrincioaia 34.29 300 ⇑iP P 09 52 12.5 +1.2
PLOR Plostina 34.34 300 ⇑P P 09 52 13.9 +2.1
PLOR Plostina 34.34 300 ⇑iP P 09 52 13.9 +2.1
TESR Tescani 34.35 301 ⇑iP P 09 52 12.9 +1.1
ISR Istrita 34.43 299 ⇑P P 09 52 14.4 +1.8
ISR Istrita 34.43 299 ⇑iP P 09 52 14.4 +1.8
MICGM Minsk 34.56 315 eP P 09 52 12.0 -1.5
PHET Kaeng Krachan 34.75 125 P P 09 52 04.9 -11
MLR Muntele Rosu 34.84 299 ⇑iP P 09 52 18.4 +2.2
PUL Pulkovo 34.97 325 iP P 09 52 18.2 +1.3
PUL pmax pmax
comp=Z,63nm,0.7s
SKNT Sakolnakorn 34.99 115 P P 09 52 17.5 -0.1
comp=Z,107nm,1.1s
DOPR Dopca 35.22 300 ⇑iP P 09 52 21.5 +2.2
NACGM Naroch 35.27 316 eP P 09 52 18.0 -1.6
BJI Beijing 35.31 70 P P 09 52 21.9 +1.8
BJI pP pP 09 53 09.0 -1.0
BJI sP sP 09 53 36.8 -1.7
BJI PP PP 09 53 46.0 +0.2
BJI S S 09 57 36.4 +1.1
BJI sS sS 09 59 04.3 -0.4
BJI pmax pmax
comp=Z,12nm,0.8s
BJI pmax pmax
comp=Z,55nm,5.4s
BURAR Bucovina Array 35.35 303 ⇑iP P 09 52 21.6 +1.2
VOIR 35.47 299 ⇑P P 09 52 22.5 +1.0
VOIR 35.47 299 ⇑iP P 09 52 22.5 +1.0
HUMR Humele 35.56 298 ⇑iP P 09 52 23.6 +1.4
ARR Arges 35.77 299 ⇓iP P 09 52 25.3 +1.3
JOF Joensuu 35.92 330 ep P 09 52 26.1 +1.2
comp=Z,117nm,0.5s
JOF Joensuu 35.92 330 eP P 09 52 26.1 +1.2
JOF pmax pmax
comp=Z,117nm,0.5s
APE Apeiranthos 36.22 285 ⇓P P 09 52 28.3 +0.4
APE Apeiranthos 36.22 285 ⇓iP P 09 52 28.3 +0.4
LVV L'vov 36.22 307 eP P 09 52 27.7 0.0
VSU Vasula 36.24 322 diP P 09 52 28.5 +0.8
VSU pmax pmax
comp=Z,68nm,0.9s
WHN Wuhan 36.34 87 ⇓P P 09 52 29.2 +0.3
WHN S S 09 57 54.7 +3.6
BMR Baia Mare 36.51 303 ⇑P P 09 52 32.2 +2.0
BMR Baia Mare 36.51 303 ⇑iP P 09 52 32.2 +2.0
DEV Deva 36.96 300 ⇑P P 09 52 36.3 +2.3
DEV Deva 36.96 300 ⇑iP P 09 52 36.3 +2.3
VTS Vitosha 37.02 295 ⇓P P 09 52 35.7 +1.0
VTS Vitosha 37.02 295 ⇓iP P 09 52 35.7 +1.0
DRGR 37.06 302 ⇑P P 09 52 36.6 +1.7
DRGR 37.06 302 ⇑iP P 09 52 36.5 +1.7
KWP Kalwaria Pacla 37.07 306 ⇓P P 09 52 36.2 +1.3
KWP Kalwaria Pacla 37.07 306 eP P 09 52 35.9 +1.1
comp=Z,75nm,0.7s
KWP Kalwaria Pacla 37.07 306 ⇓iP P 09 52 36.2 +1.3
KWP Kalwaria Pacla 37.07 306 eP P 09 52 36.0 +1.1
TRPA Tarpa 37.15 304 ⇑iP P 09 52 36.7 +1.2
UBPT Khong Chiam 37.17 116 P P 09 52 35.2 -0.8
UBPT Khong Chiam 37.17 116 P P 09 52 36.3 +0.3
comp=Z,21nm,1.0s
SUW Suwalki 37.17 314 eP P 09 52 35.9 +0.3
SUW pmax pmax
comp=Z,108nm,0.9s

SUW	**Suwalki**	**37.17**	**314**	*e*P		**P**	**09 52 35.9**	**+0.3**
	comp=Z,108nm,0.9s							
SUW	**Suwalki**	**37.17**	**314**	*e*P		**P**	**09 52 35.8**	**+0.2**
UZH	**Uzhgorod**	**37.32**	**305**	*e*P		**P**	**09 52 37.5**	**+0.6**
UZH				*e**PP		PP	09 53 51.5	-16
UZH				*e*S		**S**	**09 58 05.5**	**-0.1**
UZH				*e*SSS		SSS	10 01 01.7	
KOLS	**Kolonicke sedl**	**37.34**	**305**	*e*P		**P**	**09 52 38.2**	**+1.1**
KOLS				pmax	pmax			
	comp=Z,23nm,0.8s							
KOLS	**Kolonicke sedl**	**37.34**	**305**	*e*P		**P**	**09 52 38.2**	**+1.1**
LVZ	**Lovozero**	**37.50**	**338**	*c* iP		**P**	**09 52 39.1**	**+0.8**
LVZ				pmax	pmax			
	comp=Z,79nm,0.7s							
FIA1	**FINESS Array S**	**37.53**	**326**	*e*P		**P**	**09 52 39.2**	**+0.7**
FINES	**FINESS Array B**	**37.54**	**326**	P		**P**	**09 52 39.4**	**+0.9**
FINES	**FINESS Array B**	**37.54**	**326**	P		**P**	**09 52 39.4**	**+0.9**
	comp=Z,52nm,0.6s,baz=109,slow=9.4,SNR=231							
KAF	**Kangasniemi**	**37.68**	**327**	*ep*		**P**	**09 52 40.6**	**+0.9**
	comp=Z,38nm,0.7s							
KAF	**Kangasniemi**	**37.68**	**327**	*e*P		**P**	**09 52 40.6**	**+0.9**
KAF				pmax	pmax			
	comp=Z,38nm,0.7s							
APA	**Apatity**	**37.68**	**337**	⇓iP		**P**	**09 52 40.0**	**+0.3**
APA				*i* S		**S**	**09 58 10.0**	**-0.5**
APA				*i* SS		**SS**	**10 01 10.0**	**+3.1**
APA				MLR	MLR			
	comp=Z,800nm,10.0s							
BZS	**Buzias**	**37.87**	**300**	⇑P		**P**	**09 52 42.5**	**+0.9**
BZS	**Buzias**	**37.87**	**300**	⇑iP		**P**	**09 52 42.5**	**+0.9**
STHS	**Stebnicka Huta**	**38.02**	**306**	*e*P		**P**	**09 52 43.5**	**+0.7**
STHS				pmax	pmax			
	comp=Z,23nm,0.7s							
STHS	**Stebnicka Huta**	**38.02**	**306**	*e*P		**P**	**09 52 43.5**	**+0.7**
QIZ	**Qiongzhong**	**38.16**	**106**	P		**P**	**09 52 45.9**	**+1.6**
QIZ				sP		**sP**	**09 54 01.8**	**-1.3**
QIZ				S		**S**	**09 58 19.1**	**+0.3**
QIZ				pmax	pmax			
	comp=Z,11nm,1.3s							
QIZ				LR	LR			
	comp=Z,240nm,24.7s							
BEL	**Belsk**	**38.39**	**310**	*e*P		**P**	**09 52 46.7**	**+0.9**
KECS	**Kecovo**	**38.52**	**304**	*e*P		**P**	**09 52 47.9**	**+0.9**
KECS				pmax	pmax			
	comp=Z,10.0nm,0.7s							
KECS	**Kecovo**	**38.52**	**304**	*e*P		**P**	**09 52 47.9**	**+0.9**
NIE	**Niedzica**	**38.63**	**306**	⇑iP		P	09 52 51.2	+3.3
NIE				*e**PP		pP	09 53 41.8	+3.3
NIE				*e**SP		sP	09 54 08.3	+1.4
NIE	**Niedzica**	**38.63**	**306**	*i* P		P	09 52 51.2	+3.3
NIE				*ep*P		pP	09 53 41.8	+3.3
NIE				*es*P		sP	09 54 08.3	+1.4
PSZ	**Piszkesteto**	**38.93**	**303**	⇑*e*P		**P**	**09 52 51.8**	**+1.3**
OJC	**Ojcow**	**38.96**	**307**	⇑*i*P		**P**	**09 52 51.2**	**+0.6**
OJC				*e**PP		**pP**	**09 53 41.7**	**+0.3**
OJC				*e**SP		**sP**	**09 54 08.4**	**-1.3**
OJC	**Ojcow**	**38.96**	**307**	*e*P		**P**	**09 52 51.3**	**+0.7**
	comp=Z,46nm,1.0s							
OJC	**Ojcow**	**38.96**	**307**	*i* P		**P**	**09 52 51.2**	**+0.6**
OJC				*ep*P		**pP**	**09 53 41.7**	**+0.3**
OJC				*es*P			09 54 08.4	
NJ2	**Nanjing**	**39.42**	**82**	*e*P		**P**	**09 52 55.3**	**+0.7**
NJ2				pmax	pmax			
	comp=Z,20nm,0.9s							
VYHS	**Vyhne**	**39.62**	**304**	*e*P		**P**	**09 52 57.1**	**+1.1**
VYHS				pmax	pmax			
	comp=Z,14nm,1.4s							
VYHS	**Vyhne**	**39.62**	**304**	*e*P		**P**	**09 52 57.1**	**+1.1**
DL2	**Dalian**	**39.67**	**71**	P		**P**	**09 52 55.9**	**-0.6**
DL2				pP		**pP**	**09 53 48.2**	**+0.7**
DL2				S		**S**	**09 58 42.9**	**+2.0**
DL2				sS		**sS**	**10 00 13.3**	**+1.7**
DL2				pmax	pmax			
	comp=Z,42nm,0.7s							
DL2				pmax	pmax			
	comp=Z,120nm,6.0s							
PKSM	**Moragy**	**39.90**	**301**	⇑P		**P**	**09 52 59.3**	**+1.0**
PKSM	**Moragy**	**39.90**	**301**	⇑iP		**P**	**09 52 59.3**	**+1.0**
PKSM	**Moragy**	**39.90**	**301**	⇓*e*P		**P**	**09 52 59.6**	**+1.3**
PKSG		**39.98**	**303**	⇓*e*P		**P**	**09 53 00.1**	**+1.2**
OKC	**Ostrava-Krasne**	**40.03**	**307**	*e*P		**P**	**09 53 00.2**	**+0.8**
OKC				*e*			09 54 39.0	
OKC				*e*S		**S**	**09 58 45.9**	**-0.1**
OKC				*e*SS		**SS**	**10 01 50.8**	**-3.1**
OKC	**Ostrava-Krasne**	**40.03**	**307**	⇑*e*P		**P**	**09 53 00.2**	**+0.8**
OKC				*e*PP		**PP**	**09 54 39.0**	**+2.1**
OKC				*ex*		x	09 55 37.6	
OKC				*e*S		**S**	**09 58 45.9**	**-0.1**
OKC				*e*SS		**SS**	**10 01 50.8**	**-3.1**
PKS9	**Tamasi**	**40.12**	**302**	⇓*e*P		**P**	**09 53 01.4**	**+1.3**
PKST	**T"s**	**40.23**	**303**	⇓*e*P		**P**	**09 53 01.7**	**+0.6**
MORC	**Moravsky Berou**	**40.42**	**306**	*e*P		**P**	**09 53 03.3**	**+0.6**
MORC				pmax	pmax			
	comp=Z,37nm,0.7s							
MORC	**Moravsky Berou**	**40.42**	**306**	*e*P		**P**	**09 53 03.2**	**+0.6**
	comp=Z,37nm,0.7s							
SNY	**Shenyang**	**40.54**	**66**	⇓P		**P**	**09 53 03.5**	**-0.2**
SNY				pP		**pP**	**09 53 55.4**	**+0.6**
SNY				S		**S**	**09 58 52.8**	**-1.0**
SNY				pmax	pmax			
	comp=Z,7.0nm,0.5s							
SNY				pmax	pmax			
	comp=Z,100nm,5.9s							
SNY				LR	LR			
	comp=N,210nm,6.9s							
SNY				LR	LR			
	comp=E,250nm,5.5s							
SNY				LR	LR			
	comp=Z,240nm,15.1s							
GKP	**Gorka Klasztor**	**40.63**	**312**	*e*P		**P**	**09 53 05.1**	**+0.9**
KEV	**Kevo**	**40.85**	**338**	*ep*		**P**	**09 53 06.8**	**+1.1**
	comp=Z,70nm,0.7s							
KEV	**Kevo**	**40.85**	**338**	*e*P		**P**	**09 53 06.9**	**+1.2**
KEV				pmax	pmax			
	comp=Z,62nm,0.8s							
KEV	**Kevo**	**40.85**	**338**	*e*P		**P**	**09 53 06.9**	**+1.2**
	comp=Z,62nm,0.8s							
CLNS	**Chul'man**	**40.89**	**43**	*e*P		**P**	**09 53 07.6**	**+1.3**
CLNS				pmax	pmax			
	comp=Z,12nm,0.9s							
CLNS				pmax	pmax			
	comp=N,2.0nm,0.7s							
CLNS				pmax	pmax			
	comp=E,7.0nm,1.1s							
KRLC	**Kraliky**	**40.91**	**307**	*e*P		**P**	**09 53 07.7**	**+1.1**
KRLC				*e*			09 54 27.1	
KRLC	**Kraliky**	**40.91**	**307**	⇑*e*P		**P**	**09 53 07.7**	**+1.1**
KRLC				*es*P		**sP**	**09 54 27.1**	**+1.1**
BEHE	**Becsehely**	**41.16**	**301**	⇓*e*		**P**	**09 53 10.1**	**+1.5**
ARCES	**ARCESS Array B**	**41.19**	**338**	P		**P**	**09 53 09.8**	**+1.3**
ARCES				pP		**pP**	**09 54 01.0**	**+1.1**
ARCES	**ARCESS Array B**	**41.19**	**338**	P		**P**	**09 53 09.8**	**+1.3**
	comp=E,78nm,0.6s,baz=112,slow=8.6,SNR=383							
ARCES				pP		**pP**	**09 54 01.0**	**+1.1**
	comp=E,16nm,0.7s,baz=116,slow=11,SNR=3.1							
ARE0	**ARCESS Array S**	**41.19**	**338**	*e*P		**P**	**09 53 10.0**	**+1.5**
ARE0	**ARCESS Array S**	**41.19**	**338**	*e*P		**P**	**09 53 09.7**	**+1.2**
DPC	**Dobruska-Polom**	**41.19**	**307**	⇑*i*P		**P**	**09 53 10.3**	**+1.4**
DPC				*e*			09 54 00.6	
DPC				*e*S		**S**	**09 59 02.9**	**-0.4**
DPC				*e*			10 00 31.7	
DPC	**Dobruska-Polom**	**41.19**	**307**	⇑*i*P		**P**	**09 53 10.3**	**+1.4**
DPC				*ep*P		**pP**	**09 54 00.6**	**+0.4**
DPC				*es*P		**sP**	**09 54 29.7**	**+1.4**
DPC				*e*PP		**PP**	**09 54 50.9**	**+1.5**
DPC				*ex*		x	09 55 56.1	
DPC				*e*S		**S**	**09 59 02.9**	**-0.4**
DPC				*e*XS		**sS**	**10 00 31.7**	**-2.7**
DPC				*e*SS		**SS**	**10 02 21.3**	**+4.6**
KSP	**Ksiaz**	**41.20**	**308**	⇓*e*P		**P**	**09 53 09.7**	**+0.9**
KSP				*e**PP		**pP**	**09 54 01.2**	**+1.1**
KSP				*e**SP		**sP**	**09 54 28.3**	**0.0**
KSP				*e*			09 54 49.0	
KSP	**Ksiaz**	**41.20**	**308**	*e*P		**P**	**09 53 09.8**	**+0.9**
UPC	**Upice**	**41.38**	**308**	⇑*i*P		**P**	**09 53 11.6**	**+1.2**
UPC				*e*			09 54 06.2	
UPC				*e*			09 54 31.2	
UPC	**Upice**	**41.38**	**308**	⇑*i*P		**P**	**09 53 11.6**	**+1.2**
UPC				*ep*P		**pP**	**09 54 06.2**	**+4.5**
UPC				*es*P		**sP**	**09 54 31.2**	**+1.3**
KOGS	**Kog**	**41.52**	**302**	*i* P		**P**	**09 53 12.4**	**+0.8**
KOGS				*i* PcP		**PcP**	**09 55 03.9**	**0.0**
CN2	**Changchun**	**41.57**	**63**	*e*P		**P**	**09 53 11.6**	**-0.4**
CN2				*es*P		**sP**	**09 54 30.6**	**-0.9**
CN2				*e*S		**S**	**09 59 07.6**	**-1.2**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CN2				pmax	pmax			
	comp=Z,100nm,3.0s							
SSE	**Sheshan**	**41.62**	**82**	P		P	09 53 08.9	-3.6
SSE				S		**S**	**09 59 07.7**	**-2.2**
SSE				ScS		**ScS**	**10 02 44.5**	**-3.8**
SSE				pmax	pmax			
	comp=Z,18nm,0.7s							
SSE				pmax	pmax			
	comp=Z,96nm,4.1s							
SSE				LR	LR			
	comp=N,200nm,12.4s							
SSE				LR	LR			
	comp=E,160nm,12.4s							
SSE				LR	LR			
	comp=Z,200nm,18.4s							
CONA	**Conrad Observa**	**41.64**	**304**	*i* P		**P**	**09 53 13.5**	**+0.9**
	SNR=66							
KTK1	**Kautokeino**	**41.66**	**336**	⇑iP		**P**	**09 53 12.9**	**+0.5**
TREC	**Trest**	**41.78**	**306**	*e*P		**P**	**09 53 14.7**	**+1.0**
TREC				*e*			09 54 34.0	
TREC	**Trest**	**41.78**	**306**	⇑*e*P		**P**	**09 53 14.7**	**+1.0**
TREC				*es*P		**sP**	**09 54 34.0**	**+0.8**
TREC				*ex*		x	09 56 03.2	
ARSA	**Arzberg**	**41.93**	**303**	*i* P		**P**	**09 53 15.8**	**+0.9**
	SNR=8.9							
BSD	**Bornholm Skovb**	**42.07**	**315**	⇑*i*P		**P**	**09 53 15.4**	**-0.4**
BSD				pmax	pmax			
	comp=Z,55nm,0.8s							
BSD	**Bornholm Skovb**	**42.07**	**315**	⇑*i*P		**P**	**09 53 15.4**	**-0.4**
	comp=Z,55nm,0.8s							
PERS	**Pernice**	**42.28**	**302**	*i* P		**P**	**09 53 18.6**	**+0.9**
PERS				*e*PcP		**PcP**	**09 55 06.3**	**-0.2**
PERS				*e*S		**S**	**09 59 23.4**	**+4.1**
PERS				*e*SS		**ScS**	**10 02 50.6**	**-1.4**
PVCC	**Panska Ves**	**42.30**	**308**	⇑*i*P		**P**	**09 53 19.0**	**+1.2**
PVCC	**Panska Ves**	**42.30**	**308**	⇑*i*P		**P**	**09 53 19.0**	**+1.2**
PVCC				*ex*		x	09 56 08.7	
BOJS	**Bojanci**	**42.33**	**300**	*i* P		**P**	**09 53 19.0**	**+0.9**
BOJS				*ep*P		**pP**	**09 54 12.0**	**+2.3**
BOJS				*i* PcP		**PcP**	**09 55 06.8**	**+0.2**
PRU	**Pruhonice**	**42.35**	**307**	⇑*i*P		**P**	**09 53 19.3**	**+1.1**
PRU				*e*			09 54 11.2	
PRU				*e*			09 54 39.2	
PRU				*e*S		**S**	**09 59 21.4**	**+1.2**
PRU				*e*			10 00 46.8	
PRU				*e*SS		**SS**	**10 02 33.1**	**-6.2**
PRU	**Pruhonice**	**42.35**	**307**	⇑*i*P		**P**	**09 53 19.3**	**+1.1**
PRU				*ep*P		**pP**	**09 54 11.2**	**+1.4**
PRU				*es*P		**sP**	**09 54 39.2**	**+1.4**
PRU				*ex*		x	09 56 09.7	
PRU				*e*S		**S**	**09 59 21.4**	**+1.2**
PRU				*e*XS		**sS**	**10 00 46.8**	**-4.9**
PRU				*e*SS		**SS**	**10 02 33.1**	**-6.2**
PRA	**Prague**	**42.42**	**307**	⇑P		**P**	**09 53 19.0**	**+0.3**
PRA				pP		**pP**	**09 54 11.0**	**+0.7**
TIP	**Timpagrande**	**42.45**	**291**	*e*P		**P**	**09 53 19.0**	**-0.3**
	comp=Z,45nm,1.2s							
OBKA	**Obir**	**42.68**	**302**	*i* P		**P**	**09 53 22.2**	**+1.1**
	SNR=8.7							
BRG	**Berggiesshubel**	**42.68**	**308**	⇑*i*P		**P**	**09 53 22.0**	**+1.1**
	comp=Z,51nm,0.7s							
BRG				*i* pP		**pP**	**09 54 10.3**	**-2.2**
	comp=Z,15nm,0.8s							
BRG				*i* sP		**sP**	**09 54 41.4**	**+0.8**
	comp=Z,20nm,1.1s							
BRG				*e*PCS		PcS	09 58 34.8	-25
	comp=Z,14nm,1.4s							
BRG								
	comp=N,88nm,11.3s							
BRG								
	comp=E,172nm,14.2s							
BRG								
	comp=Z,133nm,21.2s							
BRG	**Berggiesshubel**	**42.68**	**308**	⇑*i*P		**P**	**09 53 22.0**	**+1.1**
BRG				*i* *PP		**pP**	**09 54 10.3**	**-2.2**
BRG				*i* *SP		**sP**	**09 54 41.3**	**+0.8**
BRG				pmax	pmax			
	comp=Z,7.0nm,0.7s							
BRG				MLR	MLR			
	comp=N,14μm,11.3s							
BRG				MLR	MLR			
	comp=E,88nm,14.2s							
BRG				MLR	MLR			
	comp=Z,172nm,21.2s							
RUE	**Ruedersdorf**	**42.72**	**311**	*e*P		**P**	**09 53 21.5**	**+0.4**
	comp=Z,46nm,0.9s							
LJU	**Ljubljana**	**42.76**	**301**	*e*P		**P**	**09 53 22.6**	**+1.0**
LJU				*ep*P		**pP**	**09 54 14.8**	**+1.7**
LJU				*es*P		**sP**	**09 54 40.4**	**-0.8**
LJU				*i* PcP		**PcP**	**09 55 08.3**	**+0.2**
LJU				*e*			09 56 20.1	
CRNS	**Crni Vrh**	**42.94**	**301**	*e*P		**P**	**09 53 23.8**	**+0.8**
CRNS				*i* PcP		**PcP**	**09 55 08.4**	**-0.3**
CRNS				*e*			09 56 21.1	
CUC	**Castrocucco**	**42.96**	**292**	*e*P		**P**	**09 53 23.9**	**+0.6**
	comp=Z,66nm,0.9s							
GEC2	**GERESS Array S**	**42.99**	**305**	*e*P		**P**	**09 53 24.2**	**+0.7**
	comp=Z,15nm,0.9s							
GEC2	**GERESS Array S**	**42.99**	**305**	*e*P		**P**	**09 53 23.9**	**+0.5**
GEC2				*e**PP		**pP**	**09 54 17.3**	**+2.1**
GEC2				*e*			09 55 08.8	
GEC2	**GERESS Array S**	**42.99**	**305**	*e*P		**P**	**09 53 23.9**	**+0.5**
	comp=Z,1μm,0.7s							
GEC2				*ep*P		**pP**	**09 54 17.3**	**+2.1**
GEC2				*e*PP		**PcP**	**09 55 08.8**	**-0.1**
GERES	**GERESS Array B**	**42.99**	**305**	P		**P**	**09 53 24.1**	**+0.6**
GERES				pP		**pP**	**09 54 17.2**	**+2.1**
GERES				PcP		**PP**	**09 55 07.5**	**-1.1**
GERES				ScP		**ScP**	**09 58 36.0**	**0.0**
GERES	**GERESS Array B**	**42.99**	**305**	P		**P**	**09 53 24.1**	**+0.6**
	comp=Z,6.0nm,0.6s,baz=84,slow=5.9,SNR=38							
GERES				pP		**pP**	**09 54 17.2**	**+2.1**
	comp=Z,5.7nm,0.7s,baz=79,slow=6.9,SNR=6.4							
GERES				PcP		**PP**	**09 55 07.5**	**-1.1**
	comp=Z,5.6nm,0.6s,baz=117,slow=4.0,SNR=10.0							
GERES				ScP		**ScP**	**09 58 36.0**	**0.0**
	comp=Z,1.4nm,0.7s,baz=108,slow=3.2,SNR=4.4							
KHC	**Kasperske Hory**	**43.05**	**306**	⇑*i*P		**P**	**09 53 24.5**	**+0.7**
KHC				*e*			09 54 15.7	
KHC				*e*			09 54 42.8	
KHC				*e*			09 55 06.6	
KHC	**Kasperske Hory**	**43.05**	**306**	⇑*i*P		**P**	**09 53 24.5**	**+0.7**
KHC				*ep*P		**pP**	**09 54 15.7**	**+0.2**
KHC				*es*P		**sP**	**09 54 42.8**	**-0.8**
KHC				*e*PP		**PcP**	**09 55 06.6**	**-2.4**
KHC				*ex*		x	09 56 19.1	
KHC	**Kasperske Hory**	**43.05**	**306**	*e*P		**P**	**09 53 24.5**	**+0.7**
	comp=Z,10.0nm,0.7s							
VOY	**Vojsko**	**43.20**	**301**	*e*P		**P**	**09 53 25.7**	**+0.5**
VOY				*e*			09 55 08.9	
CLL	**Collm**	**43.25**	**309**	*e*P		**P**	**09 53 25.9**	**+0.5**
	comp=Z,31nm,0.9s							
CLL	**Collm**	**43.25**	**309**	⇑*i*P		**P**	**09 53 25.9**	**+0.5**
CLL				*e**PP		**pP**	**09 54 19.0**	**+1.9**
CLL				*e**SP		**sP**	**09 54 44.0**	**-1.2**
CLL				*e*S		**S**	**09 59 34.0**	**+0.8**
CLL				*e**SS		**sS**	**10 01 04.0**	**-1.0**
CLL				pmax	pmax			
	comp=Z,31nm,0.9s							
CLL	**Collm**	**43.25**	**309**	⇑*i*P		**P**	**09 53 25.9**	**+0.5**
	comp=Z,31nm,0.9s							
CLL				*ep*P		**pP**	**09 54 19.0**	**+1.9**
CLL				*es*P		**sP**	**09 54 44.0**	**-1.2**
CLL				*e*PP		**PcP**	**09 55 09.0**	**-0.6**
CLL				*e*			09 56 31.0	
CLL				*e*ScP		**ScP**	**09 58 37.0**	**+0.1**
CLL				*e*S		**S**	**09 59 34.0**	**+0.8**
CLL				*es*S		**sS**	**10 01 04.0**	**-1.0**
CLL				*e*			10 04 00.0	
CLL				*es*SS			10 04 18.0	
TRO	**Tromso**	**43.31**	**336**	⇑*i*P		**P**	**09 53 26.4**	**+0.8**
TRO				*e*S		**S**	**09 59 33.3**	**-0.2**
TRO				*e*SS		**ScS**	**10 02 59.3**	**+1.9**
CEL	**Celeste**	**43.34**	**290**	*e*P		**P**	**09 53 26.6**	**+0.3**
	comp=Z,46nm,1.4s							
CEL				*ep*P		**pP**	**09 54 19.4**	**+1.3**
CEL				*e*PcP		**PcP**	**09 55 10.2**	**0.0**
KBA	**Koelnbreinsper**	**43.43**	**303**	*i* P		**P**	**09 53 27.7**	**+0.6**
	SNR=10							
COP	**Copenhagen**	**43.50**	**315**	⇑*i*P		**P**	**09 53 28.3**	**+1.1**
COP				pmax	pmax			
	comp=Z,57nm,0.9s							
COP	**Copenhagen**	**43.50**	**315**	⇑*i*P		**P**	**09 53 28.3**	**+1.1**
	comp=Z,57nm,0.8s							
WET	**Wettzell**	**43.50**	**306**	*e*P		**P**	**09 53 28.3**	**+0.9**
	comp=Z,29nm,1.8s							
WET	**Wettzell**	**43.50**	**306**	*e*P		**P**	**09 53 28.3**	**+0.9**
WET				pmax	pmax			
	comp=Z,241nm,1.8s							
LLD	**Lille Linde**	**43.62**	**315**	*i* P		**P**	**09 53 29.5**	**+1.3**
LLD				pmax	pmax			
	comp=Z,69nm,0.7s							
LLD	**Lille Linde**	**43.62**	**315**	*i* P		**P**	**09 53 29.5**	**+1.3**
	comp=Z,69nm,0.7s							
RJOB	**Jochberg**	**43.71**	**304**	*e*P		**P**	**09 53 29.4**	**+0.2**
	comp=Z,15nm,0.9s							
MOR8	**Moi Rana**	**43.87**	**331**	⇑*i*P		**P**	**09 53 30.1**	**0.0**
MOR8				AMB	AMB		09 53 30.9	
	comp=Z,166nm,0.7s							
ROTZ	**Rotzenmuhle**	**43.88**	**307**	*e*P		**P**	**09 53 32.0**	**+1.6**
	comp=Z,31nm,1.1s							
ROTZ				*ep*P		**pP**	**09 54 26.7**	**+4.4**
YAK	**Yakutsk**	**43.95**	**35**	*e*P		**P**	**09 53 31.0**	**+0.2**
YAK				*e**PP		**pP**	**09 54 23.4**	**+0.7**
YAK				*e*			09 54 50.9	
YAK				*e*S		**S**	**09 59 40.9**	**-2.1**
YAK				*e*SS		**ScS**	**10 02 56.4**	**-5.3**
YAK				pmax	pmax			
	comp=E,6.0nm,0.8s							
YAK				pmax	pmax			
	comp=Z,56nm,0.9s							
YAK				pmax	pmax			
	comp=N,4.0nm,0.8s							
YAK				smax	smax			
	comp=N,140nm,3.1s							
YAK				smax	smax			
	comp=E,84nm,1.5s							
STEI	**Steigen**	**44.02**	**333**	*e*P		**P**	**09 53 32.0**	**+0.8**
ABTA	**Abfaltersbach**	**44.04**	**302**	*i* P		**P**	**09 53 31.8**	**-0.1**
	SNR=12							
MOX	**Moxa**	**44.17**	**308**	*e*P		**P**	**09 53 33.7**	**+1.0**
	comp=Z,31nm,0.7s							
MOX	**Moxa**	**44.17**	**308**	*e*P		**P**	**09 53 33.7**	**+1.0**
AQU	**L'Aquila**	**44.21**	**296**	*e*P		**P**	**09 53 34.3**	**+1.2**
	comp=Z,26nm,0.9s							
NC602	**NORSAR Array S**	**44.25**	**323**	⇑*i*P		**P**	**09 53 33.3**	**+0.2**
MDJ	**Mudanjiang**	**44.37**	**61**	P		**P**	**09 53 34.2**	**-0.1**
MDJ				pP		**pP**	**09 54 25.0**	**-1.3**
MDJ				sP		**sP**	**09 54 52.1**	**-2.2**
MDJ				PcP		**PcP**	**09 55 14.3**	**+0.7**
MDJ				PcS		**PcS**	**09 59 07.8**	**+0.7**
MDJ				S		**S**	**09 59 47.4**	**-2.1**
MDJ				SS		**ScS**	**10 03 07.0**	**+1.9**
MDJ				pmax	pmax			
	comp=Z,5.0nm,0.5s							
MDJ				pmax	pmax			
	comp=Z,79nm,4.8s							
MDJ				LR	LR			
	comp=N,140nm,23.3s							
MDJ				LR	LR			
	comp=E,66nm,31.1s							
MDJ				LR	LR			
	comp=Z,100nm,25.9s							
NB2	**NORSAR Subarra**	**44.43**	**323**	P		**P**	**09 53 34.9**	**+0.2**
	comp=Z,87nm,0.8s,baz=95,slow=7.9							
NB2	**NORSAR Subarra**	**44.43**	**323**	P		**P**	**09 53 34.9**	**+0.2**
	baz=95,slow=7.9							
NOA	**NORSAR Array B**	**44.43**	**323**	P		**P**	**09 53 34.6**	**0.0**
NOA	**NORSAR Array B**	**44.43**	**323**	P		**P**	**09 53 34.6**	**0.0**
	comp=Z,65nm,0.7s,baz=96,slow=7.8,SNR=197							
YHNB	**Yeheng**	**44.44**	**91**	*e*P		**P**	**09 53 36.3**	**+1.1**
	comp=Z,16nm,0.6s							
SSLB	**Suanglung**	**44.51**	**92**	*e*P		**P**	**09 53 37.4**	**+1.6**
	comp=Z,32nm,0.7s							
GRF	**Grafenberg Arr**	**44.52**	**307**	*e*P		**P**	**09 53 37.2**	**+1.7**
	comp=Z,34nm,0.8s							
GRF	**Grafenberg Arr**	**44.52**	**307**	*e*P		**P**	**09 53 37.2**	**+1.7**
GRF				pmax	pmax			
	comp=Z,5.0nm,0.8s							
GRFO	**Grafenberg**	**44.52**	**307**	*e*P		**P**	**09 53 36.6**	**+1.1**
GRFO				pmax	pmax			
	comp=Z,25nm,0.8s							
GRFO	**Grafenberg**	**44.52**	**307**	*e*P		**P**	**09 53 36.6**	**+1.1**
	comp=Z,24nm,0.8s							
NSS	**Namsos**	**44.55**	**328**	*e*P		**P**	**09 53 38.2**	**+2.8**
WTTA	**Wattenberg**	**44.56**	**303**	*i* P		**P**	**09 53 35.9**	**-0.1**
	SNR=19							
NAO01	**NORSAR Array S**	**44.58**	**323**	*e*P		**P**	**09 53 36.0**	**+0.2**
	comp=Z,49nm,0.9s							
WATA	**Walderalm**	**44.59**	**303**	*i* P		**P**	**09 53 36.2**	**0.0**
	SNR=17							
FUR	**Furstenfeldbru**	**44.67**	**305**	*e*P		**P**	**09 53 37.7**	**+1.0**
	comp=Z,47nm,1.0s							
FUR	**Furstenfeldbru**	**44.67**	**305**	*e*P		**P**	**09 53 37.7**	**+1.0**
FUR				pmax	pmax			
	comp=Z,138nm,1.0s							
LOF	**Lofoten**	**44.69**	**333**	*e*P		pP	09 54 36.5	+7.9
BSEG	**Bad Segeberg**	**44.75**	**313**	*e*P		**P**	**09 53 38.4**	**+1.2**
	comp=Z,117nm,0.8s							
BSEG	**Bad Segeberg**	**44.75**	**313**	*e*P		**P**	**09 53 38.4**	**+1.2**
BSEG				pmax	pmax			
	comp=Z,245nm,0.8s							
**

comp=Z,37nm,0.7s
VLC Villacollemand 45.98 299 *e*P **P** 09 53 47.3 +0.3
comp=Z,35nm,0.9s
TOD Tromm 46.09 307⇑*e*P **P** 09 53 48.6 +0.8
TOD Tromm 46.09 307⇑*e*P **P** 09 53 48.6 +0.8
USRK Ussuriysk Arra 46.13 61 P **P** 09 53 48.3 +0.2
comp=Z,1.0nm,0.4s,baz=270,slow=7.8,SNR=5.6
USRK PcP **PcP** 09 55 19.1 -0.6
comp=Z,2.2nm,0.5s,baz=326,slow=3.8,SNR=6.2
TNS Taunus Mts 46.23 308 *e*P **P** 09 53 49.8 +0.9
comp=Z,21nm,1.0s
TNS Taunus Mts 46.23 308 *e*P **P** 09 53 49.8 +0.9
TNS pmax pmax
comp=Z,205nm,1.0s
TUE Stuetta 46.24 303 *e*P **P** 09 53 49.0 -0.2
comp=Z,21nm,0.6s
SPAK Spaichingen-Ko 46.33 305⇑*e*P **P** 09 53 49.9 +0.2
IBBN Ibbenburen 46.41 311 *e*P **P** 09 53 51.1 +0.9
comp=Z,76nm,0.8s
BFO Black Forest 46.59 305 *e*P **P** 09 53 51.9 +0.2
comp=Z,13nm,0.8s
BFO Black Forest 46.59 305 *e*P **P** 09 53 51.9 +0.2
BFO pmax pmax
comp=Z,110nm,0.8s
BFO Black Forest 46.59 305 *e*P **P** 09 53 51.9 +0.2
comp=Z,9.9nm,0.7s
KTD Kalmit 46.60 307⇑*e*P **P** 09 53 52.5 +0.8
KTD Kalmit 46.60 307⇑*e*P **P** 09 53 52.5 +0.8
ODD1 Odda 46.65 321 *e*P **P** 09 53 53.3 +1.3
BUG Bochum--Univer 46.82 310 *e*P **P** 09 53 54.1 +0.8
comp=Z,43nm,0.9s
LANF Langenberg 46.83 306⇑*e*P **P** 09 53 54.5 +1.0
LANF Langenberg 46.83 306⇑*e*P **P** 09 53 54.5 +1.0
LANF Langenberg 46.83 306⇑*e*P **P** 09 53 54.5 +1.0
ABH Alteburg 46.86 307⇑*e*P **P** 09 53 54.5 +0.8
HYA Hoyanger 46.88 323 *e*P **P** 09 53 54.4 +0.8
FELD Feldberg im Sc 46.89 305⇑*e*P **P** 09 53 54.0 -0.1
WTSB Winterswijk 47.04 310 *e*P **P** 09 53 55.9 +0.9
comp=Z,61nm,1.0s
HSP Hornsund 47.17 345 *e*P **P** 09 53 57.8 +2.1
RUP Ruppelstein 47.20 307⇑*e*P **P** 09 53 57.0 +0.6
RUP Ruppelstein 47.20 307⇑*e*P **P** 09 53 57.0 +0.6
CDF Champ du Feu 47.27 306⇑*i*P **P** 09 53 57.0 0.0
comp=Z,28nm,0.8s
BBS Basel-Blauen 47.29 304⇑*e*P **P** 09 53 56.8 -0.3
BBS Basel-Blauen 47.29 304⇑*e*P **P** 09 53 56.8 -0.3
PGF Pioggiola 47.33 297⇑*i*P **P** 09 53 57.3 -0.3
comp=Z,58nm,0.8s
HABR Khabarovsk 47.38 54 *e*P **P** 09 53 56.9 -0.8
HABR *e**SP **sP** 09 55 15.3 -2.9
HABR *e* 09 55 50.6
HABR *e*PPP PPP 09 56 46.8
HABR *e*S **S** 10 00 32.7 +0.5
HABR *e**SS **sS** 10 02 03.7 -1.7
HABR *e* 10 03 24.7
HABR *e*SS **SS** 10 04 05.2 +2.3
HABR pmax pmax
comp=Z,12nm,1.0s
HABR pmax pmax
comp=N,10.0nm,0.7s
HABR pmax pmax
comp=E,14nm,0.7s
HABR MLR MLR
comp=Z,141nm,17.0s
MOF Molkenrain 47.47 305⇑*e*P **P** 09 53 58.7 +0.2
MOF Molkenrain 47.47 305⇑*e*P **P** 09 53 58.7 +0.2
MOF Molkenrain 47.47 305⇑*e*P **P** 09 53 58.7 +0.2
SPA0 Spitsbergen Ar 47.53 347 *e*P **P** 09 53 60.0 +1.5
SENIN Lac Senin/Sane 47.65 303 *e*P **P** 09 54 00.0 -0.1
comp=Z,55nm,0.7s
HINF Hinteralfeld 47.66 305⇑*i*P **P** 09 54 00.0 +0.1
comp=Z,52nm,0.7s
MEM Membach 47.72 309 P **P** 09 54 01.0 +0.7
comp=Z,19nm,0.9s
HGN Heimansgroeve 47.75 309 *e*P **P** 09 54 00.9 +0.5
comp=Z,12nm,0.6s
LOMF Lomont 47.77 304⇑*e*P **P** 09 54 00.3 -0.5
LOMF Lomont 47.77 304⇑*e*P **P** 09 54 00.3 -0.5
LOMF Lomont 47.77 304⇑*e*P **P** 09 54 00.3 -0.5
WLF Walferdange 47.78 307 P **P** 09 54 02.0 +1.2
comp=Z,32nm,1.0s
WLF Walferdange 47.78 307 *e*P **P** 09 54 02.1 +1.3
comp=Z,52nm,0.8s
WLF Walferdange 47.78 307 *e*P **P** 09 54 01.8 +1.0
WLF pmax pmax
comp=Z,39nm,0.8s
WLF Walferdange 47.78 307 *e*P **P** 09 54 01.8 +1.0
comp=Z,39nm,0.8s
VSL Villasalto 47.88 293 *e*P **P** 09 54 00.6 -1.1
comp=Z,13nm,0.6s
HAU Haudompre 47.96 305⇑*i*P **P** 09 54 02.4 +0.2
comp=Z,52nm,0.6s
HAU *e*pP **pP** 09 54 57.2 +2.2
HAU *e*sP **sP** 09 55 22.2 -0.6
comp=Z,52nm,0.6s
HAU *e*R
comp=Z,78nm,22.8s
SAOF Saorge 48.00 300⇑*e*P **P** 09 54 03.0 +0.4
SAOF Saorge 48.00 300⇑*e*P **P** 09 54 03.0 +0.4
SAOF Saorge 48.00 300⇑*e*P **P** 09 54 03.0 +0.4
AUTN L'Aution 48.09 300⇑*e*P **P** 09 54 04.0 +0.5
AUTN L'Aution 48.09 300⇑*e*P **P** 09 54 04.0 +0.5
AUTN L'Aution 48.09 300⇑*e*P **P** 09 54 04.0 +0.5
SBF Sospel 48.12 299⇑*i*P **P** 09 54 03.9 +0.4
comp=Z,121nm,0.8s
THEF They Montfort 48.15 306⇑*e*P **P** 09 54 04.0 +0.3
THEF They Montfort 48.15 306⇑*e*P **P** 09 54 04.0 +0.3
THEF They Montfort 48.15 306⇑*e*P **P** 09 54 04.0 +0.3
LPG La Plagne 48.21 302⇑*i*P **P** 09 54 04.9 +0.4
comp=Z,95nm,0.7s
LPG *e*pP **pP** 09 54 59.9 +2.5
TOUF Mont Tournerai 48.21 300⇑*e*P **P** 09 54 05.0 +0.6
TOUF Mont Tournerai 48.21 300⇑*e*P **P** 09 54 05.0 +0.6
TOUF Mont Tournerai 48.21 300⇑*e*P **P** 09 54 05.0 +0.6
LPL La Plagne 48.22 302⇑*i*P **P** 09 54 05.0 +0.6
comp=Z,82nm,0.8s
PAGF Fort de Pagny 48.26 306⇑*i*P **P** 09 54 05.4 +0.9
comp=Z,24nm,0.7s,baz=98
MVIF Mont Vial 48.31 300⇑*e*P **P** 09 54 05.5 +0.4
MVIF Mont Vial 48.31 300⇑*e*P **P** 09 54 05.5 +0.4
MVIF Mont Vial 48.31 300⇑*e*P **P** 09 54 05.5 +0.4
BNI Bardonecchia 48.36 301 *e*P **P** 09 54 05.6 +0.2
BNI pmax pmax
comp=Z,22nm,0.8s
BNI Bardonecchia 48.36 301 *e*P **P** 09 54 05.6 +0.2
comp=Z,22nm,0.8s
MBDF Montbardon 48.37 301⇑*i*P **P** 09 54 05.4 -0.2
comp=Z,50nm,0.6s
CABF La Chapelle 48.41 303⇑*i*P **P** 09 54 06.1 +0.3
comp=Z,50nm,0.7s
CALN Calern 48.53 299⇑*e*P **P** 09 54 06.9 +0.2
CALN Calern 48.53 299⇑*e*P **P** 09 54 06.9 +0.2
CALN Calern 48.53 299⇑*e*P **P** 09 54 06.9 +0.2
JNU Nakatsue 48.54 75 *e*P **P** 09 54 07.8 +0.9
comp=Z,7.5nm,0.8s
JNU Nakatsue 48.54 75 P **P** 09 54 07.6 +0.7
comp=Z,15nm,0.7s,baz=295,slow=3.4,SNR=11
GIVF Givet 48.55 308⇑*i*P **P** 09 54 07.6 +0.9
comp=Z,49nm,0.9s
KBS Kingsbay 48.65 347 *e*P **P** 09 54 08.0 +1.0
KBS *e*S **S** 10 00 51.6 +2.3
KBS Kingsbay 48.65 347*c i*P **P** 09 54 08.6 +1.6
KBS pmax pmax
comp=Z,52nm,0.9s
KBS Kingsbay 48.65 347 *e*P **P** 09 54 08.5 +1.6
KBS *e*pP **pP** 09 55 03.2 +3.3
DOU Dourbes 48.70 308 P **P** 09 54 08.8 +1.1
comp=Z,18nm,1.3s
MEZF Maizieres J'vi 48.71 306⇑*i*P **P** 09 54 08.6 +0.8
comp=Z,64nm,0.7s,baz=83
FRF La Foret Royal 48.75 299⇑*i*P **P** 09 54 08.1 -0.1
comp=Z,52nm,0.8s
SFTF Sexfontaines 48.78 306⇑*i*P **P** 09 54 08.8 +0.4
comp=Z,40nm,0.7s,baz=96
KMBO Kilima Mbogo 48.85 228⇑*i*P **P** 09 54 11.1 +1.5
KMBO Kilima Mbogo 48.85 228 P **P** 09 54 11.6 +1.9
SNR=9.1
KMBO Kilima Mbogo 48.85 228 *e*P **P** 09 54 11.2 +1.6
comp=Z,37nm,0.7s
KMBO Kilima Mbogo 48.85 228 P **P** 09 54 11.1 +1.5
comp=Z,30nm,0.6s,baz=34,slow=12,SNR=89
LMR La Mourre 48.90 299⇑*i*P **P** 09 54 09.9 +0.5
comp=Z,23nm,0.9s
ORIF Oris-en-Rattie 48.94 301⇑*i*P **P** 09 54 09.3 -0.5
comp=Z,23nm,0.7s
ORIF *e*R
comp=Z,262nm,21.8s
BAIF Baives 48.95 308⇑*i*P **P** 09 54 10.7 +1.0
comp=Z,78nm,0.9s
JOW Kunigami 49.02 84 *e*P **P** 09 54 10.4 -0.1
comp=Z,15nm,1.3s
KEST Kesra 49.10 289 *e*P **P** 09 54 12.0 +0.9
KEST PcP **PcP** 09 55 31.3 +0.6
KEST Kesra 49.10 289 P **P** 09 54 11.8 +0.8
comp=Z,9.8nm,0.8s,baz=338,slow=1.5,SNR=42
KEST PcP **PcP** 09 55 31.3 +0.6
comp=Z,4.6nm,0.7s,baz=37,slow=5.6,SNR=3.9
SMRF Simiane la Rot 49.39 300⇑*i*P **P** 09 54 13.3 +0.2
comp=Z,25nm,0.8s
LOR Lormes 49.76 305⇑*i*P **P** 09 54 15.6 -0.2
comp=Z,18nm,0.7s,baz=82
LOR *e*R
comp=Z,122nm,20.8s
SSB Saint Sauveur 49.77 302 *e*P **P** 09 54 16.1 +0.1
SSB pmax pmax
comp=Z,31nm,0.6s
SSB Saint Sauveur 49.77 302 *e*P **P** 09 54 16.1 +0.1
comp=Z,31nm,0.6s
VIVF Saint-Julien-l 49.79 301⇑*i*P **P** 09 54 16.5 +0.4
comp=Z,57nm,0.6s
SMF Signal de Mont 49.91 304⇑*i*P **P** 09 54 17.2 +0.2
comp=Z,106nm,0.7s
SMF *e*pP **pP** 09 55 12.2 +1.9
SSF Saint Saulge 50.04 304⇑*i*P **P** 09 54 17.9 0.0
comp=Z,36nm,0.9s
MENF Mencas 50.15 309 *e*P **P** 09 54 18.8 +0.2
MENF Mencas 50.15 309 *e*P **P** 09 54 18.8 +0.2
AVF Avril sur Loir 50.21 304⇑*i*P **P** 09 54 19.3 +0.2
comp=Z,100nm,0.7s
AVF ⇑*i*pP **pP** 09 55 14.4 +1.9
CMAH Djebel Manchou 50.26 290 P **P** 09 54 19.5 -0.3
ABSA Djebel Ababsia 50.33 290 P **P** 09 54 20.9 +0.5
AGO Saint Agoulin 50.54 303 *e*P **P** 09 54 22.2 +0.5
AGO Saint Agoulin 50.54 303 *e*P **P** 09 54 22.2 +0.5
LRW Lerwick 50.55 322⇑*e*P **P** 09 54 21.7 +0.2
LRW AMB AMB 09 54 22.4
comp=Z,66nm,0.9s
LASF Ste Croix 50.56 301⇑*i*P **P** 09 54 22.4 +0.5
comp=Z,87nm,0.8s
LASF ⇑*i*pP **pP** 09 55 17.5 +2.2
HYF Humbligny 50.56 305⇑*i*P **P** 09 54 22.4 +0.6
BGF Bois d'Agland 50.60 304⇑*i*P **P** 09 54 22.1 0.0
comp=Z,26nm,0.7s
ELSH Elham, Standar 50.66 310⇑*e*P **P** 09 54 22.9 +0.4
ELSH AMB AMB 09 54 23.7
comp=Z,166nm,0.8s
LBL Lubilhac 50.67 302 *e*P **P** 09 54 23.5 +0.8
LBL Lubilhac 50.67 302 *e*P **P** 09 54 23.5 +0.8
LBL Lubilhac 50.67 302 *e*P **P** 09 54 23.5 +0.8
PYM Petit Puy Mans 50.70 303 *e*P **P** 09 54 23.3 +0.4
PYM Petit Puy Mans 50.70 303 *e*P **P** 09 54 23.3 +0.4
PYM Petit Puy Mans 50.70 303 *e*P **P** 09 54 23.3 +0.4
SBUM Sibu 50.84 122 P **P** 09 54 25.3 +1.1
CKFL Kef-Lekhel 50.86 290 P **P** 09 54 24.0 -0.4
CASM Ain Smara 51.08 290 P **P** 09 54 25.4 -0.5
TCF Toulx Ste Croi 51.09 304⇑*i*P **P** 09 54 26.3 +0.5
comp=Z,69nm,0.8s
TCF *e*pP **pP** 09 55 21.7 +2.3
CTEI Djebel Teioual 51.22 290 P **P** 09 54 26.9 -0.1
DFRA Djebel Bou Aff 51.45 291 P **P** 09 54 28.9 +0.2
CAF Calviac 51.56 302⇑*i*P **P** 09 54 29.9 +0.6
comp=Z,45nm,0.7s
CAF ⇑*i*pP **pP** 09 55 25.0 +2.1
SJAF Saint Jean de 51.70 299⇑*e*P **P** 09 54 29.9 -0.4
SJAF Saint Jean de 51.70 299⇑*e*P **P** 09 54 29.9 -0.4
HPK Haverah Park 51.74 314 *e*P **P** 09 54 30.5 +0.1
HPK AMB AMB 09 54 31.6
comp=Z,84nm,0.7s
LRDF Laroque-de-Fa 51.80 300⇑*e*P **P** 09 54 31.4 +0.3
LRDF Laroque-de-Fa 51.80 300⇑*e*P **P** 09 54 31.4 +0.3
RJF Les Rejaudoux 51.83 303⇑*i*P **P** 09 54 32.0 +0.8
comp=Z,39nm,0.8s
RJF *e*R
comp=Z,82nm,23.0s
KBI1 Birley Grange 51.83 313⇑*e*P **P** 09 54 30.6 -0.5
MME1 Meikle Cairn 51.87 318⇑*i*P **P** 09 54 31.4 +0.1
FILF Fillols 51.90 299⇑*e*P **P** 09 54 32.3 +0.4
FILF Fillols 51.90 299⇑*e*P **P** 09 54 32.3 +0.4
MTLF Montolieu 51.91 300⇑*i*P **P** 09 54 32.2 +0.4
comp=Z,28nm,0.7s
CKHR Kef el Ahmar 51.91 290 P **P** 09 54 32.3 +0.2
ESY Stoneypath 51.93 317⇑*i*P **P** 09 54 31.6 -0.2
SET Setif 51.93 291 P **P** 09 54 33.0 +0.8
MCD Coleburn Disti 51.98 319⇑*i*P **P** 09 54 32.5 +0.4
LDF La Druitiere 52.04 307⇑*i*P **P** 09 54 32.6 -0.1
comp=Z,30nm,0.6s
WOL Wolverton 52.07 311⇑*e*P **P** 09 54 33.1 +0.2
WOL AMB AMB 09 54 33.8
comp=Z,109nm,0.8s
FLN La Foliniere 52.23 307⇑*i*P **P** 09 54 33.9 -0.2
comp=Z,56nm,0.7s,baz=74
FLN *e*R
comp=Z,111nm,20.0s
EDI Edinburgh 52.24 317⇑*e*P **P** 09 54 34.0 -0.1
EDI AMB AMB 09 54 35.2
comp=Z,53nm,0.8s
VALF Valcebollere 52.33 299⇑*e*P **P** 09 54 35.4 +0.2
VALF Valcebollere 52.33 299⇑*e*P **P** 09 54 35.4 +0.2
ECK Cauldkaine Hil 52.36 316⇑*i*P **P** 09 54 34.7 -0.3
ESK Eskdalemuir 52.37 316⇑*e*P **P** 09 54 34.9 -0.2
ESK AMB AMB 09 54 35.7
comp=Z,36nm,1.0s
ESK Eskdalemuir 52.37 316 *i* P **P** 09 54 35.4 +0.4
ESK Eskdalemuir 52.37 316 *e*P **P** 09 54 35.1 0.0
comp=Z,42nm,1.0s
MVH1 Achvaich 52.41 319⇑*e*P **P** 09 54 34.7 -0.6
LFF La Frestale 52.46 302⇑*i*P **P** 09 54 36.4 +0.6
comp=Z,56nm,0.6s
KESW Keswick, Cumbr 52.47 315⇑*e*P **P** 09 54 35.3 -0.4
KESW AMB AMB 09 54 36.7
comp=Z,56nm,0.8s
GRR Gorron 52.56 307⇑*i*P **P** 09 54 36.4 -0.1
comp=Z,65nm,0.7s
MFF Saint Martin d 52.58 305⇑*i*P **P** 09 54 36.5 -0.2
comp=Z,35nm,0.8s
MDO Dochfour 52.59 319⇑*i*P **P** 09 54 36.6 0.0
YSS Yuzh-Sakhalins 52.79 55⇑*e*P **P** 09 54 39.5 +1.3
YSS *e*PP **pP** 09 55 34.0 +1.9
YSS *e*S **S** 10 01 47.0 +0.2
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,100nm,15.0s
HLM1 Long Mynd 52.79 312⇑*e*P **P** 09 54 37.9 -0.3
HLM1 AMB AMB 09 54 38.9
comp=Z,33nm,1.1s
MLS Moulis 52.81 300⇑*e*P **P** 09 54 38.1 -0.3
MLS Moulis 52.81 300⇑*e*P **P** 09 54 38.1 -0.3
EAB Aberfoyle 52.83 317⇑*i*P **P** 09 54 38.3 0.0
FOEL Foel Wylfa 52.90 313 *e*P **P** 09 54 39.1 +0.2
FOEL AMB AMB 09 54 40.3
comp=Z,46nm,2.3s
MAT Matsushiro 52.91 68 P **P** 09 54 38.8 -0.5
MAT S **S** 10 01 47.8 -1.0
MJAR Matsushiro Arr 52.91 68 P **P** 09 54 39.4 +0.1
MJAR pP **pP** 09 55 34.2 +1.0
MJAR ScP **ScP** 09 59 15.9 -2.2
MJAR Matsushiro Arr 52.91 68 P **P** 09 54 39.4 +0.1
comp=Z,3.2nm,0.9s,baz=284,slow=10,SNR=12
MJAR pP **pP** 09 55 34.2 +1.0
comp=Z,5.6nm,0.7s,baz=287,slow=9.6,SNR=7.0
MJAR ScP **ScP** 09 59 15.9 -2.2
comp=Z,1.5nm,0.7s,baz=291,slow=4.6,SNR=5.7
PGBU Glenifferbraes 52.98 317 *e*P **P** 09 54 39.1 -0.3
PGBU AMB AMB 09 54 40.4
comp=Z,62nm,1.0s
MCH1 Michaelchurch 52.99 312⇑*e*P **P** 09 54 39.0 -0.6
MCH1 AMB AMB 09 54 39.9
comp=Z,102nm,0.9s
KAC Achnashellach 53.08 319⇑*e*P **P** 09 54 39.9 -0.2
KSB Sheil Bridge 53.20 319⇑*e*P **P** 09 54 40.8 -0.2
WPM1 Penmaenmawr 53.22 314⇑*e*P **P** 09 54 41.4 +0.1
KPL Plockton 53.30 319⇑*e*P **P** 09 54 41.8 +0.1
KPL AMB AMB 09 54 43.0
comp=Z,54nm,0.9s
EPF Esparros 53.31 300⇑*i*P **P** 09 54 41.4 -0.8
comp=Z,26nm,0.6s
GAL1 Galloway 53.31 316 *e*P **P** 09 54 41.1 -0.8
GAL1 AMB AMB 09 54 42.8
comp=Z,38nm,1.1s
RESF Ens 53.38 300⇑*e*P **P** 09 54 42.9 +0.1
RESF Ens 53.38 300⇑*e*P **P** 09 54 42.9 +0.1
LABF Labassere 53.49 300 *e*P **P** 09 54 42.5 -1.0
LABF Labassere 53.49 300 *e*P **P** 09 54 42.5 -1.0
WLF1 Llynfaes 53.50 314 *e*P **P** 09 54 42.9 -0.3
ASAJ Asahikawa 53.52 58 P **P** 09 54 43.9 +0.3
ASAJ Asahikawa 53.52 58 P **P** 09 54 43.9 +0.3
comp=Z,3.2nm,0.5s,baz=331,slow=6.5,SNR=5.1
TSM Tawau 53.54 115 P **P** 09 54 44.4 +0.3
VIEF Viey 53.58 300⇑*e*P **P** 09 54 44.6 +0.5
VIEF Viey 53.58 300⇑*e*P **P** 09 54 44.6 +0.5
YRC Rhoscolyn 53.62 314⇑*e*P **P** 09 54 43.5 -0.5
SGMF Saint Gilles 53.69 307⇑*i*P **P** 09 54 44.9 +0.2
comp=Z,51nm,0.8s
HEX Exmoor 53.71 311⇑*e*P **P** 09 54 44.0 -0.8
REYF Montagne du Re 53.81 301 *e*P **P** 09 54 46.0 +0.2
REYF Montagne du Re 53.81 301 *e*P **P** 09 54 46.0 +0.2
ETSF Etsaut 53.98 300⇑*i*P **P** 09 54 47.5 +0.5
comp=Z,68nm,0.6s
ETSF ⇑*i*pP **pP** 09 55 42.4 +1.3
ROSF Rostrenen 54.13 308⇑*i*P **P** 09 54 47.9 0.0
comp=Z,70nm,0.8s
QUIF Quistinic 54.18 307⇑*i*P **P** 09 54 48.1 -0.1
comp=Z,28nm,0.7s
SJPF Ste Jean 54.37 301⇑*i*P **P** 09 54 49.7 0.0
comp=Z,24nm,0.8s
DAG Danmarks Havn 54.77 344⇑*i*P **P** 09 54 53.1 +1.1
DAG *i* *PP **pP** 09 55 47.6 +1.3
DAG pmax pmax
comp=Z,35nm,0.7s
DAG Danmarks Havn 54.77 344⇑*i*P **P** 09 54 53.1 +1.1
comp=Z,52nm,0.7s
DAG *i* pP **pP** 09 55 47.6 +1.3
YUK Yuzh-Kuril'sk 55.77 57 *e*P **P** 09 55 01.3 +1.6
YUK *i* *PP **pP** 09 55 50.2 -4.0
YUK *e* 09 57 05.4
YUK *e*PPP PPP 09 58 36.3
YUK *i* S S 10 02 34.5 +7.8
YUK *i* SS **SS** 10 06 17.4 +1.7
YUK *i* SSS SSS 10 08 40.1
VAL Valentia 57.30 313⇑*i*P **P** 09 55 11.3 +1.0
ESDC Sonseca Array 57.52 298 P **P** 09 55 11.9 -0.2
ESDC PcP **PcP** 09 56 02.3 -0.4
ESDC Sonseca Array 57.52 298 P **P** 09 55 11.9 -0.2
comp=Z,13nm,0.7s,baz=60,slow=7.3,SNR=94
ESDC PcP **PcP** 09 56 02.3 -0.4
comp=Z,3.1nm,0.7s,baz=44,slow=4.7,SNR=7.1
ESLA Sonseca Array 57.52 298 *e*P **P** 09 55 11.7 -0.4
comp=Z,3.7nm,0.9s
TAM Tamanrasset 57.60 276 *e*P **P** 09 55 12.1 -0.9
TAM *e**PP **pP** 09 56 09.4 +1.5
TAM pmax pmax
comp=Z,9.0nm,0.8s
TAM Tamanrasset 57.60 276 *e*P **P** 09 55 12.1 -0.9
comp=Z,8.5nm,0.8s
TAM *e*pP **pP** 09 56 09.4 +1.5
PAB San Pablo 57.84 298 *e*P **P** 09 55 14.4 0.0
PAB pmax pmax
comp=Z,26nm,1.2s
PAB San Pablo 57.84 298 *e*P **P** 09 55 14.4 0.0
comp=Z,26nm,1.2s
BILL Bilibino 58.60 26*d i*P **P** 09 55 20.6 +1.5
BILL *e**PP **pP** 09 56 13.9 -0.2
BILL *e* 09 57 33.3
BILL pmax pmax
comp=Z,29nm,1.1s
BORG Borgarnes 58.65 330 *e*P **P** 09 55 21.2 +1.8
comp=Z,24nm,0.6s
MVO Moncorvo 59.10 301 *e*P **P** 09 55 23.2 +0.2
comp=Z,31nm,0.9s
RER Riviere de l'E 59.12 197 *e*P **P** 09 55 23.5 +0.2
comp=Z,197nm,0.9s
PVRL Vila Real 59.53 301 *e*P **P** 09 55 26.1 +0.2
comp=Z,51nm,1.7s
POLO Lamas de Olo 59.54 301 *e*P **P** 09 55 26.3 +0.2
comp=Z,18nm,2.1s
PCAB Cabril 59.57 301 *e*P **P** 09 55 27.0 +0.8
comp=Z,57nm,1.4s
ABPO Ambohimpanom 59.62 206 *e*P **P** 09 55 27.1 +0.3
ABPO pmax pmax
comp=Z,42nm,1.0s
ABPO Ambohimpanom 59.62 206 *e*P **P** 09 55 27.1 +0.3
comp=Z,42nm,1.0s
PGAV Gavieira, Arco 59.63 302 *e*P **P** 09 55 26.6 -0.1
comp=Z,45nm,0.7s
MTE Manteigas 59.76 300 *e*P **P** 09 55 28.4 +0.9
comp=Z,63nm,1.4s
MTE Manteigas 59.76 300 *e*P **P** 09 55 27.9 +0.4
comp=Z,26nm,0.8s
PVIS Viseu 59.88 300 *e*P **P** 09 55 29.4 +1.1
comp=Z,52nm,0.9s
PCBR Castelo Branco 59.94 299 *e*P **P** 09 55 30.1 +1.4
comp=Z,20nm,2.0s
PETK Petropavlovsk- 59.95 44 P **P** 09 55 28.4 -0.1
PETK Petropavlovsk- 59.95 44 P **P** 09 55 28.4 -0.1
PETK Petropavlovsk- 59.95 44 P **P** 09 55 28.4 -0.1
comp=Z,1.6nm,0.5s,baz=262,slow=7.0,SNR=8.9
PMRV Marv??o 60.05 299 *e*P **P** 09 55 29.5 +0.1
comp=Z,18nm,0.5s
PBAR Barrancos 60.32 297 *e*P **P** 09 55 31.1 -0.1
comp=Z,46nm,0.9s
PESTR Estremoz 60.42 298 *e*P **P** 09 55 31.9 -0.1
comp=Z,25nm,0.8s
EVO Evora 60.86 298⇑*i*P **P** 09 55 35.5 +0.6
comp=Z,34nm,1.0s
EVO *e*R
comp=Z,104nm,19.3s
EVO Evora 60.86 298 *e*P **P** 09 55 34.9 0.0
comp=Z,24nm,1.7s
PBEJ Beja 60.97 298 *e*P **P** 09 55 35.8 +0.1
comp=Z,28nm,0.9s
SUMG Summit 61.10 341⇑*i*P **P** 09 55 38.0 +1.6
SUMG pmax pmax
comp=Z,55nm,0.8s
SUMG Summit 61.10 341 *e*P **P** 09 55 37.6 +1.1
comp=Z,62nm,0.8s
SUMG Summit 61.10 341⇑*i*P **P** 09 55 38.0 +1.6
comp=Z,55nm,0.8s
PVAQ Vaqueiros 61.13 297 *e*P **P** 09 55 36.6 -0.1
comp=Z,32nm,1.8s
MESJ Messejana 61.30 298 *e*P **P** 09 55 38.4 +0.5
MESJ AMb AMB 09 55 39.8
comp=Z,29nm,1.0s
MESJ Messejana 61.30 298 *e*P **P** 09 55 38.4 +0.5
comp=Z,29nm,1.0s
PBDV Barranco-do-Ve 61.35 297 *e*P **P** 09 55 38.5 +0.2
comp=Z,41nm,0.6s
PNCL Nicolau / Gran 61.41 298 *e*P **P** 09 55 38.8 +0.3
comp=Z,26nm,0.5s
PMAFR Mafra 61.58 299 *e*P **P** 09 55 41.4 +1.7
comp=Z,110nm,2.0s
PTEO Sao Teotonio 61.79 297 *e*P **P** 09 55 41.7 +0.6
comp=Z,53nm,1.1s
LSZ Lusaka 65.48 226⇑*i*P **P** 09 56 05.7 +0.3
LSZ Lusaka 65.48 226 P **P** 09 56 06.1 +0.6
SNR=11
LSZ Lusaka 65.48 226 *e*P **P** 09 56 05.5 0.0
comp=Z,78nm,0.7s
TOA0 Torodi Ar. Sit 65.77 269 *e*P **P** 09 56 05.6 -1.8
TORD Torodi Ar. Bea 65.77 269 P **P** 09 56 05.8 -1.5
TORD Torodi Ar. Bea 65.77 269 P **P** 09 56 05.8 -1.5
comp=Z,90nm,0.6s,baz=48,slow=5.8,SNR=764
SFJD Kangerlussuaq 67.80 339 *e*P **P** 09 56 19.3 0.0
comp=Z,19nm,0.8s
SFJD Kangerlussuaq 67.80 339⇑*i*P **P** 09 56 19.7 +0.5
comp=Z,19nm,0.8s
FX1 Attu Island--F 68.38 40 *e*P **P** 09 56 23.4 +0.3
COLD Coldfoot 71.98 16 *e*P **P** 09 56 45.5 +0.9
comp=Z,23nm,0.8s
COLD *e*pP **pP** 09 57 43.0 +0.9
AMKA Amchitka 72.35 39 *e*P **P** 09 56 46.8 -0.3
comp=Z,36nm,0.6s
MBWA Marble Bar 73.47 133 *e*P **P** 09 56 53.6 -0.4
comp=Z,12nm,0.9s
MBWA *e*pP **pP** 09 57 49.6 -2.1
POGA Pongola 73.58 216⇑*i*P **P** 09 56 54.4 -0.1
POGA AMB AMB 09 56 55.0
comp=Z,62nm,0.7s
SLR Silverton 73.86 220 *e*P **P** 09 56 57.0 +0.6
SLR AMB AMB 09 56 57.3
comp=Z,59nm,2.1s
ERPM east rand prop 74.38 219⇑*i*P **P** 09 56 59.1 -0.3
ERPM AMB AMB 09 56 59.6
comp=Z,46nm,1.0s
COLA College 74.48 16 *e*P **P** 09 56 59.9 +0.7

COLA					*e**PP		**pP**		**09 57 58.3**	**+1.2**
COLA					pmax		pmax			
	comp=Z,41nm,0.8s									
COLA	**College**	**74.48**	**16**	*e*P			**P**		**09 56 59.9**	**+0.7**
	comp=Z,42nm,0.8s									
COLA					*e*pP		**pP**		**09 57 58.2**	**+1.2**
LBTB	**Lobatse**	**74.70**	**222**	⇑*i*P			**P**		**09 57 01.8**	**+0.6**
LBTB					AMB		AMB		09 57 02.3	
	comp=Z,80nm,0.8s									
LBTB	**Lobatse**	**74.70**	**222**	*e*P			**P**		**09 57 01.8**	**+0.6**
	comp=Z,85nm,0.7s									
DBIC	**Dimbokro**	**74.75**	**267**	*e*P			**P**		**09 57 00.8**	**-0.9**
	comp=Z,35nm,0.6s									
DBIC	**Dimbokro**	**74.75**	**267**	P			**P**		**09 57 00.6**	**-1.1**
	comp=Z,34nm,0.6s,baz=30,slow=6.5,SNR=67									
ILAR	**Eielson Array**	**74.79**	**16**	P			**P**		**09 57 01.0**	**0.0**
ILAR				pP			**pP**		**09 57 58.9**	**0.0**
ILAR	**Eielson Array**	**74.79**	**16**	P			**P**		**09 57 01.0**	**0.0**
	comp=Z,8.4nm,0.8s,baz=323,slow=5.0,SNR=92									
ILAR				pP			**pP**		**09 57 58.9**	**0.0**
	comp=Z,3.7nm,0.8s,baz=322,slow=6.2,SNR=4.0									
FITZ	**Fitzroy Crossi**	**74.83**	**127**	*e*P			**P**		**09 57 01.8**	**-0.1**
	comp=Z,19nm,0.9s									
TSUM	**Tsumeb**	**74.95**	**232**	⇑*i*P			**P**		**09 57 02.8**	**+0.1**
TSUM	**Tsumeb**	**74.95**	**232**	*e*P			**P**		**09 57 02.8**	**+0.1**
	comp=Z,50nm,0.7s									
TRF	**Thorofare Moun**	**75.11**	**18**	*e*P			**P**		**09 57 03.1**	**0.0**
	comp=Z,8.8nm,0.8s									
LIC	**Lamto**	**75.15**	**267**	⇑*i*P			**P**		**09 57 02.8**	**-1.1**
	comp=Z,74nm,0.6s,baz=61									
LIC					*e*R					
	comp=Z,127nm,22.2s									
MCK	**McKinley**	**75.21**	**17**	*e*P			**P**		**09 57 03.5**	**0.0**
MCK					pmax		pmax			
	comp=Z,14nm,0.6s									
MCK	**McKinley**	**75.21**	**17**	*e*P			**P**		**09 57 03.5**	**0.0**
	comp=Z,14nm,0.6s									
SVW2	**Sparrevohn**	**75.61**	**21**	*e*P			**P**		**09 57 06.9**	**+1.1**
	comp=Z,9.2nm,1.0s									
EGAK	**Eagle**	**75.96**	**14**	*e*P			**P**		**09 57 08.0**	**+0.4**
	comp=Z,7.2nm,0.7s									
EGAK					*e*pP		**pP**		**09 58 05.9**	**+0.2**
SWZ	**Schweizer**	**76.58**	**221**	⇑*i*P			**P**		**09 57 11.7**	**-0.1**
SWZ					AMB		AMB		09 57 12.3	
	comp=Z,77nm,0.9s									
PAX	**Paxson**	**76.67**	**16**	*e*P			**P**		**09 57 12.2**	**+0.4**
PAX				*e**PP			**pP**		**09 58 10.3**	**+0.4**
PAX					pmax		pmax			
	comp=Z,22nm,0.7s									
PAX	**Paxson**	**76.67**	**16**	*e*P			**P**		**09 57 12.2**	**+0.4**
	comp=Z,22nm,0.7s									
PAX				*e*pP			**pP**		**09 58 10.3**	**+0.4**
PMR	**Palmer**	**76.97**	**18**	*e*P			**P**		**09 57 13.5**	**+0.2**
PMR					pmax		pmax			
	comp=Z,11nm,0.7s									
PMR	**Palmer**	**76.97**	**18**	*e*P			**P**		**09 57 13.5**	**+0.2**
	comp=Z,12nm,0.7s									
SML	**Sawmill**	**76.99**	**18**	*e*P			**P**		**09 57 13.9**	**+0.3**
SML					pmax		pmax			
	comp=Z,10.0nm,0.7s									
SML	**Sawmill**	**76.99**	**18**	*e*P			**P**		**09 57 13.9**	**+0.3**
	comp=Z,10.0nm,0.7s									
MENT	**Mentasta**	**77.08**	**16**	*e*P			**P**		**09 57 14.8**	**+0.8**
WIN	**Windhoek**	**77.74**	**230**	⇑*i*P			**P**		**09 57 19.1**	**+0.7**
WIN					AMB		AMB		09 57 19.6	
	comp=Z,11nm,2.2s									
BOSA	**Boshof**	**77.76**	**220**	⇑*i*P			**P**		**09 57 17.9**	**-0.4**
BOSA					AMB		AMB		09 57 18.7	
	comp=Z,49nm,0.9s									
BOSA	**Boshof**	**77.76**	**220**	*e*P			**P**		**09 57 18.1**	**-0.2**
	comp=Z,39nm,0.7s									
BOSA	**Boshof**	**77.76**	**220**	P			**P**		**09 57 18.1**	**-0.2**
	comp=Z,30nm,0.5s,baz=30,slow=4.7,SNR=94									
DIV	**Divide**	**78.20**	**17**	*e*P			**P**		**09 57 21.4**	**+1.1**
	comp=Z,20nm,0.7s									
CHGN	**Chignik**	**78.49**	**26**	*e*P			**P**		**09 57 21.4**	**-0.4**
RAGM	**Ragged Mountai**	**79.12**	**17**	*e*P			**P**		**09 57 26.8**	**+1.6**
KDAK	**Kodiak Island**	**79.20**	**22**	*e*P			**P**		**09 57 26.5**	**+0.9**
	comp=Z,31nm,0.7s									
OHAK	**Old Harbor**	**79.44**	**23**	*e*P			**P**		**09 57 27.9**	**+1.0**
	comp=Z,26nm,1.0s									
OHAK				*e*pP			**pP**		**09 58 26.1**	**+0.6**
YKW3	**Yellowknife Ar**	**81.20**	**3**	*e*P			**P**		**09 57 36.5**	**+0.3**
	comp=Z,0.5nm,0.6s									
YKW3				*e*pP			**pP**		**09 58 35.2**	**+0.2**
YKA	**Yellowknife Ar**	**81.27**	**3**	P			**P**		**09 57 37.4**	**+0.8**
YKA				pP			**pP**		**09 58 36.2**	**+0.8**
YKA				PP			**PP**		**10 00 45.2**	**+0.3**
YKA				PKKPbc			**PKKPbc**		**10 16 07.0**	**-2.9**
YKA	**Yellowknife Ar**	**81.27**	**3**	P			**P**		**09 57 37.3**	**+0.8**
	comp=Z,27nm,0.5s,baz=351,slow=5.4,SNR=597									
YKA				pP			**pP**		**09 58 36.2**	**+0.8**
	comp=Z,7.2nm,0.6s,baz=350,slow=5.5,SNR=4.3									
YKA				PP			**PP**		**10 00 45.2**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=358,slow=7.8,SNR=4.5									
YKA				PKKPbc			**PKKPbc**		**10 16 07.0**	**-2.9**
	comp=Z,0.9nm,0.6s,baz=167,slow=2.3,SNR=24									
NWAO	**Narrogin (SRO)**	**81.41**	**142**	*e*P			**P**		**09 57 36.3**	**-1.3**
	comp=Z,6.4nm,0.6s									
WRA	**Warramunga Arr**	**81.93**	**122**	P			**P**		**09 57 39.5**	**-1.2**
WRA				PKKPbc			**PKKPbc**		**10 16 09.4**	**+0.8**
WRA				P'P'					10 24 14.9	
WRA	**Warramunga Arr**	**81.93**	**122**	P			**P**		**09 57 39.5**	**-1.2**
	comp=Z,16nm,0.5s,baz=324,slow=5.0,SNR=248									
WRA				PKKPbc			**PKKPbc**		**10 16 09.4**	**+0.8**
	comp=Z,3.1nm,0.6s,baz=125,slow=2.3,SNR=45									
WRA				PKPPKP			**P'P'df**		**10 24 14.9**	**+2.9**
	comp=Z,0.6nm,0.7s,baz=141,slow=2.2,SNR=7.2									
WRAB	**Tennant Creek**	**81.93**	**122**	*e*P			**P**		**09 57 39.5**	**-1.2**
WRAB					pmax		pmax			
	comp=Z,22nm,0.7s									
WRAB	**Tennant Creek**	**81.93**	**122**	*e*P			**P**		**09 57 39.5**	**-1.2**
	comp=Z,22nm,0.7s									
SKAG	**Skagway**	**81.94**	**13**	*e*P			**P**		**09 57 41.1**	**+1.0**
	comp=Z,12nm,0.8s									
SCHQ	**Schefferville**	**82.14**	**337**	*e*P			**P**		**09 57 41.4**	**+0.1**
	comp=Z,12nm,1.0s									
SCHQ	**Schefferville**	**82.14**	**337**	P			**P**		**09 57 41.5**	**+0.2**
	comp=Z,8.1nm,0.7s,baz=28,slow=6.3,SNR=13									
BUFB	**Buffelsbos**	**82.48**	**217**	*e*P			**P**		**09 57 43.5**	**+0.3**
BUFB					AMB		AMB		09 57 43.8	
	comp=Z,47nm,1.1s									
CVNA	**Calvinia**	**82.94**	**222**	*e*P			**P**		**09 57 45.7**	**0.0**
CVNA					AMB		AMB		09 57 46.6	
	comp=Z,59nm,2.7s									
SUR	**Sutherland**	**83.08**	**221**	⇑*i*P			**P**		**09 57 47.2**	**+0.7**
SUR					AMB		AMB		09 57 49.0	
	comp=Z,31nm,3.2s									
SUR	**Sutherland**	**83.08**	**221**	*e*P			**P**		**09 57 46.7**	**+0.1**
	comp=Z,28nm,0.9s									
AS31	**Alice Springs**	**84.19**	**125**	*e*P			**P**		**09 57 51.0**	**-1.2**
ASAR	**Alice Springs**	**84.19**	**125**	P			**P**		**09 57 51.2**	**-0.9**
ASAR				pP			**pP**		**09 58 51.6**	**+0.2**
ASAR				PKKPbc			**PKKPbc**		**10 16 04.0**	**+0.4**
ASAR				P'P'					10 24 06.7	
ASAR	**Alice Springs**	**84.19**	**125**	P			**P**		**09 57 51.2**	**-0.9**
	comp=Z,20nm,0.6s,baz=310,slow=5.1,SNR=328									
ASAR				pP			**pP**		**09 58 51.6**	**+0.2**
	comp=Z,6.9nm,0.8s,baz=317,slow=5.3,SNR=4.9									
ASAR				PKKPbc			**PKKPbc**		**10 16 04.0**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=123,slow=2.7,SNR=37									
ASAR				PKPPKP			**P'P'df**		**10 24 06.7**	**-1.1**
	comp=Z,0.7nm,0.9s,baz=160,slow=3.2,SNR=5.2									
COEN	**Coen**	**84.34**	**112**	*e*P			**P**		**09 57 52.5**	**-0.6**
	comp=Z,69nm,0.8s									
FORT	**Forrest**	**85.61**	**134**	*e*P			**P**		**09 57 58.1**	**-0.8**
	comp=Z,47nm,0.6s									
FFC	**Flin Flon**	**88.97**	**356**	*i*P			**P**		**09 58 15.6**	**+0.8**
FFC	**Flin Flon**	**88.97**	**356**	*e*P			**P**		**09 58 15.4**	**+0.6**
	comp=Z,24nm,0.7s									
CTAO	**Charters Tower**	**90.48**	**115**	*e*P			**P**		**09 58 21.8**	**-0.5**
CTAO					pmax		pmax			
	comp=Z,8.0nm,0.6s									
CTAO	**Charters Tower**	**90.48**	**115**	*e*P			**P**		**09 58 21.8**	**-0.5**
	comp=Z,8.3nm,0.6s									
ULM	**Lac du Bonnet**	**92.88**	**352**	P			**P**		**09 58 32.9**	**-0.1**
ULM	**Lac du Bonnet**	**92.88**	**352**	P			**P**		**09 58 32.9**	**-0.1**
	comp=Z,15nm,0.8s,baz=11,slow=4.4,SNR=14									
EYMN	**Ely**	**94.52**	**348**	*e*P			**P**		**09 58 40.8**	**+0.2**
WALA	**Waterton Lakes**	**94.73**	**3**	*e*P			**P**		**09 58 42.0**	**+0.4**
	comp=Z,0.2nm,0.6s									
STKA	**Stephens Creek**	**94.73**	**126**	P			**P**		**09 58 40.6**	**-1.0**
STKA	**Stephens Creek**	**94.73**	**126**	P			**P**		**09 58 40.6**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=358,slow=4.3,SNR=8.6									
AGMN	**Agassiz Nation**	**94.80**	**351**	*e*P			**P**		**09 58 42.2**	**+0.4**
	comp=Z,10nm,0.8s									

A14A	**Double T Ranch**	**94.83**	**3**	⇓P			**P**		**09 58 42.1**	**-0.1**
	baz=94,SNR=13									
A15A	**Johnson Ranch,**	**94.86**	**3**	⇓P			**P**		**09 58 42.4**	**+0.2**
	baz=94,SNR=16									
A24A	**Westby**	**94.86**	**357**	⇑P			**P**		**09 58 42.8**	**+0.7**
	baz=94,SNR=8.1									
A23A	**Redstone**	**94.86**	**357**	⇑P			**P**		**09 58 42.7**	**+0.5**
	baz=94									
A22A	**Carney Farms,**	**94.86**	**358**	⇓P			**P**		**09 58 42.7**	**+0.5**
	baz=94,SNR=6.6									
A21A	**Bergtoll Ranch**	**94.89**	**359**	⇑P			**P**		**09 58 42.2**	**-0.1**
	baz=94									
A16A	**West Butte Ran**	**94.92**	**2**	⇓P			**P**		**09 58 42.4**	**-0.1**
	baz=95									
A17A	**Triple J Farms**	**94.94**	**1**	⇓P			**P**		**09 58 43.2**	**+0.6**
	baz=95,SNR=19									
A19A	**Klindworth Far**	**94.97**	**360**	⇓P			**P**		**09 58 43.1**	**+0.3**
	baz=95									
A18A	**Metzger Ranch,**	**94.98**	**1**	⇑P			**P**		**09 58 43.0**	**+0.2**
	baz=95,SNR=15									
A20A	**Cobblestone Ra**	**95.02**	**359**	⇓P			**P**		**09 58 43.4**	**+0.5**
	baz=95,SNR=12									
NEW	**Newport**	**95.32**	**5**	*e*P			**P**		**09 58 45.0**	**+0.7**
	comp=Z,4.3nm,0.6s									
NEW	**Newport**	**95.32**	**5**	⇓P			**P**		**09 58 44.8**	**+0.5**
	baz=95,SNR=7.2									
DGMT	**Dagmar**	**95.33**	**357**	*e*P			**P**		**09 58 44.2**	**-0.1**
	comp=Z,6.2nm,0.6s									
B23A	**Brockton**	**95.36**	**357**	⇑P			**P**		**09 58 45.1**	**+0.6**
	baz=95,SNR=5.5									
B13A	**Whitefish**	**95.38**	**4**	⇓P			**P**		**09 58 44.8**	**+0.2**
	baz=95									
B19A	**Brinkman Farms**	**95.44**	**0**	⇓P			**P**		**09 58 45.0**	**+0.1**
	baz=95,SNR=14									
B14A	**Marquette Ranc**	**95.45**	**3**	⇓P			**P**		**09 58 45.2**	**+0.2**
	baz=95,SNR=9.8									
B16A	**M & M Farms, S**	**95.45**	**2**	⇑P			**P**		**09 58 44.9**	**-0.1**
	baz=95,SNR=6.2									
B21A	**Ellsworth Farm**	**95.45**	**359**	⇑P			**P**		**09 58 45.4**	**+0.5**
	baz=95,SNR=6.8									
B18A	**Beardsley Farm**	**95.50**	**1**	⇑P			**P**		**09 58 45.2**	**+0.1**
	baz=95,SNR=8.9									
B15A	**Bradely Ranch,**	**95.53**	**2**	⇑P			**P**		**09 58 45.1**	**-0.2**
	baz=95,SNR=12									
B22A	**Reddig Ranch S**	**95.56**	**358**	⇑P			**P**		**09 58 46.1**	**+0.7**
	baz=95									
B17A	**L&G Farms, Che**	**95.59**	**1**	⇓P			**P**		**09 58 45.7**	**+0.2**
	baz=95,SNR=6.0									
MDND	**Maddock**	**95.64**	**354**	⇑P			**P**		**09 58 45.4**	**-0.3**
	baz=95,SNR=6.1									
C11A	**Tepee Creek (N**	**95.81**	**5**	⇑P			**P**		**09 58 47.0**	**+0.4**
	baz=96									
EGMT	**Eagleton**	**95.87**	**1**	*e*P			**P**		**09 58 47.8**	**+0.9**
	comp=Z,4.8nm,0.6s									
EGMT	**Eagleton**	**95.87**	**1**	⇓P			**P**		**09 58 47.0**	**+0.2**
	baz=96,SNR=7.7									
BSMT	**Bassoo Peak**	**95.89**	**4**	*e*P			**P**		**09 58 47.5**	**+0.4**
	comp=Z,1.7nm,0.5s									
C12B	**Naegeli Ranch,**	**95.99**	**4**	⇑P			**P**		**09 58 47.8**	**+0.5**
	baz=96									
JTMT	**Jette**	**96.02**	**4**	*e*P			**P**		**09 58 47.5**	**-0.1**
	comp=Z,1.8nm,0.7s									
C14A	**Swan Lake**	**96.02**	**3**	⇑P			**P**		**09 58 47.8**	**+0.3**
	baz=96,SNR=6.9									
C21A	**Desert Coulee**	**96.06**	**359**	⇑P			**P**		**09 58 48.6**	**+0.9**
	baz=96,SNR=15									
C15A	**Salmond Ranch,**	**96.06**	**2**	⇓P			**P**		**09 58 48.0**	**+0.2**
	baz=96,SNR=5.1									
C16A	**Fuhringer Ranc**	**96.06**	**2**	⇑P			**P**		**09 58 48.0**	**+0.3**
	baz=96,SNR=6.1									
C13A	**Hot Springs**	**96.07**	**4**	⇓P			**P**		**09 58 48.1**	**+0.4**
	baz=96									
C22A	**Vida**	**96.11**	**358**	⇓P			**P**		**09 58 48.6**	**+0.7**
	baz=96,SNR=6.5									
C19A	**Slack Wire Ran**	**96.17**	**0**	⇓P			**P**		**09 58 48.3**	**+0.2**
	baz=96									
C20A	**Veseth Ranch,**	**96.18**	**359**	⇓P			**P**		**09 58 48.8**	**+0.6**
	baz=96,SNR=7.5									
C17A	**Wharram Farm,**	**96.25**	**1**	⇑P			**P**		**09 58 48.7**	**+0.1**
	baz=96,SNR=14									
C24A	**Savage**	**96.27**	**357**	⇓P			**P**		**09 58 49.2**	**+0.6**
	baz=96									
LON	**Longmire**	**96.35**	**9**	*e*P			**P**		**09 58 49.6**	**+0.6**
LON						pmax	pmax			
	comp=Z,4.0nm,0.8s									
LON	**Longmire**	**96.35**	**9**	*e*P			**P**		**09 58 49.6**	**+0.6**
	comp=Z,3.5nm,0.8s									
SLMT	**Seeley Lake**	**96.56**	**3**	*e*P			**P**		**09 58 50.4**	**+0.3**
D13A	**Huson**	**96.66**	**4**	⇓P			**P**		**09 58 50.5**	**+0.1**
	baz=96									
D18A	**Linhart Farms,**	**96.70**	**1**	⇓P			**P**		**09 58 50.7**	**+0.1**
	baz=96									
D22A	**Cohagen**	**96.72**	**358**	⇓P			**P**		**09 58 51.7**	**+1.0**
	baz=96,SNR=13									
D14A	**Greenough**	**96.72**	**3**	⇑P			**P**		**09 58 50.7**	**-0.1**
	baz=96,SNR=6.6									
D17A	**Six Diamond Ra**	**96.73**	**1**	⇑P			**P**		**09 58 51.1**	**+0.3**
	baz=96,SNR=8.3									
D19A	**Cripps Ranch,**	**96.74**	**360**	⇓P			**P**		**09 58 51.1**	**+0.4**
	baz=96,SNR=6.3									
D15A	**Lincoln**	**96.80**	**2**	⇑P			**P**		**09 58 51.2**	**0.0**
	baz=96									
D21A	**La Casta Ranch**	**96.82**	**359**	⇑P			**P**		**09 58 52.1**	**+1.0**
	baz=96,SNR=12									
D16A	**Dana Ranch, Ca**	**96.84**	**2**	⇓P			**P**		**09 58 51.5**	**+0.2**
	baz=96									
CHMT	**Chamberlain Mo**	**96.90**	**3**	*e*P			**P**		**09 58 52.2**	**+0.5**
MSO	**Missoula**	**96.95**	**3**	⇓P			**P**		**09 58 52.2**	**+0.5**
	baz=97									
HRY	**Holter Researc**	**97.15**	**2**	*e*P			Pdif		09 58 53.1	+0.4
	comp=Z,3.6nm,0.6s									
E26A	**Carlson Angus**	**97.22**	**355**	⇓P			Pdif		09 58 53.6	+0.6
	baz=97									
E25A	**Miller Ranch,**	**97.25**	**356**	⇓P			Pdif		09 58 54.1	+1.0
	baz=97									
E12A	**Beaver Dam Sad**	**97.27**	**5**	⇑P			Pdif		09 58 54.1	+0.8
	baz=97									
E18A	**Harlowton**	**97.33**	**1**	⇓P			Pdif		09 58 54.2	+0.6
	baz=97									
E16A	**East Helena**	**97.33**	**2**	⇓P			Pdif		09 58 54.0	+0.5
	baz=97									
E23A	**Ismay**	**97.34**	**357**	⇓P			Pdif		09 58 54.1	+0.6
	baz=97,SNR=11									
SPMN	**St. Paul**	**97.38**	**349**	⇓P			Pdif		09 58 53.7	+0.1
	baz=97									
E20A	**Meyer Farm, Mu**	**97.39**	**359**	⇑P			Pdif		09 58 54.3	+0.6
	baz=97,SNR=8.3									
E22A	**Miles City**	**97.42**	**358**	⇓P			Pdif		09 58 54.4	+0.6
	baz=97									
E17A	**Martinsdale**	**97.42**	**1**	⇓P			Pdif		09 58 54.2	+0.2
	baz=97									
E19A	**Rath Farm, Rou**	**97.44**	**360**	⇑P			Pdif		09 58 54.3	+0.3
	baz=97,SNR=8.4									
F24A	**Ekalaka**	**97.96**	**357**	⇓P			Pdif		09 58 57.0	+0.7
	baz=98									
F17A	**Fitzpatrick Pl**	**97.98**	**1**	⇓Pdiff			Pdif		09 58 56.9	+0.5
	baz=98									
F14A	**Wisdom**	**97.99**	**3**	⇑Pdiff			Pdif		09 58 57.1	+0.5
	baz=98									
F18A	**Big Timber**	**97.99**	**1**	⇓Pdiff			Pdif		09 58 56.9	+0.4
	baz=98									
F15A	**Butte**	**98.00**	**3**	⇑Pdiff			Pdif		09 58 56.6	0.0
	baz=98									
F19A	**Roth Farm, Mol**	**98.05**	**0**	⇑Pdiff			Pdif		09 58 57.2	+0.5
	baz=98									
F16A	**Kennard Place,**	**98.08**	**2**	⇑Pdiff			Pdif		09 58 57.4	+0.5
	baz=98									
F22A	**Rosebud**	**98.09**	**358**	⇓Pdiff			Pdif		09 58 57.2	+0.3
	baz=98									
F23A	**Volborg**	**98.12**	**358**	⇓Pdiff			Pdif		09 58 57.2	+0.2
	baz=98									
G27A	**Dupree**	**98.28**	**355**	⇓Pdiff			**P**		**09 58 57.6**	**0.0**
	baz=98									
G28A	**Parade**	**98.50**	**354**	⇓Pdiff			**P**		**09 58 59.3**	**+0.6**
	baz=98									
G23A	**Biddle**	**98.64**	**357**	⇓Pdiff			**P**		**09 58 59.9**	**+0.5**
	baz=98									
H28A	**Mission Ridge**	**98.91**	**354**	⇓Pdiff			**P**		**09 59 01.1**	**+0.6**
	baz=99									
H27A	**Howes**	**99.03**	**355**	⇓Pdiff			**Pdif**		**09 59 01.2**	**+0.2**
	baz=99									
H24A	**Dirks Ranch, A**	**99.06**	**357**	⇓Pdiff			**Pdif**		**09 59 01.3**	**+0.1**
	baz=99									
H26A	**Fairpoint**	**99.09**	**356**	⇓Pdiff			**Pdif**		**09 59 01.6**	**+0.3**
	baz=99									
JFWS	**Jewell Farm**	**99.17**	**346**	*e*P			**Pdif**		**09 59 01.8**	**+0.2**
JFWS	**Jewell Farm**	**99.17**	**346**	*e*Pdif			**Pdif**		**09 59 01.8**	**+0.2**
ECSD	**EROS Data Cent**	**99.39**	**351**	*e*Pdif			**Pdif**		**09 59 03.4**	**+0.8**

H20A	**Greybull**	**99.41**	**359**	⇑Pdiff			**Pdif**		**09 59 03.3**	**+0.5**
	baz=99									
I27A	**Quinn**	**99.59**	**355**	⇑Pdiff			**Pdif**		**09 59 04.0**	**+0.4**
	baz=99									
I28A	**Midland**	**99.59**	**354**	⇑Pdiff			**Pdif**		**09 59 04.1**	**+0.6**
	baz=99									
RSSD	**Black Hills**	**99.66**	**356**	*e*P			**Pdif**		**09 59 06.2**	**+2.1**
RSSD					pmax		pmax			
	comp=Z,3.0nm,0.7s									
RSSD	**Black Hills**	**99.66**	**356**	*e*Pdif			**Pdif**		**09 59 06.2**	**+2.1**
	comp=Z,3.4nm,0.7s									
I26A	**New Underwood**	**99.68**	**356**	⇑Pdiff			**Pdif**		**09 59 04.4**	**+0.4**
	baz=99									
I25A	**Rochford**	**99.74**	**356**	⇓Pdiff			**Pdif**		**09 59 04.8**	**+0.4**
	baz=99									
I19A	**Meeteetse**	**99.86**	**0**	⇓Pdiff			**Pdif**		**09 59 05.8**	**+0.8**
	baz=100									
I14A	**Mackay**	**99.87**	**3**	⇓Pdiff			**Pdif**		**09 59 06.1**	**+1.1**
	baz=100									
I12A	**Atlanta**	**99.91**	**5**	⇓Pdiff			**Pdif**		**09 59 05.9**	**+0.7**
	baz=100									
I20A	**Worland**	**99.95**	**359**	⇓Pdiff			**Pdif**		**09 59 06.7**	**+1.4**
	baz=100									
I21A	**Big Trails, Te**	**100.08**	**359**	⇓Pdiff			**Pdif**		**09 59 07.0**	**+1.1**
	baz=100									
J28A	**Allard Ranch,**	**100.17**	**354**	⇑Pdiff			**Pdif**		**09 59 07.3**	**+1.1**
	baz=100									
MFID	**Camas Ranch**	**100.24**	**5**	⇓Pdiff			**Pdif**		**09 59 07.5**	**+0.9**
	baz=100									
PDAR	**Pinedale Array**	**101.13**	**0**	P			**Pdif**		**09 59 11.2**	**+0.5**
PDAR				PKiKP			**PKiKP**		**10 03 33.0**	**-1.2**
PDAR				PKKPbc			**PKKPbc**		**10 15 18.0**	**-2.0**
PDAR	**Pinedale Array**	**101.13**	**0**	P			**Pdif**		**09 59 11.2**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=43,slow=3.5,SNR=11									
PDAR				PKiKP			**PKiKP**		**10 03 33.0**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=73,slow=3.3,SNR=6.9									
PDAR				PKKPbc			**PKKPbc**		**10 15 18.0**	**-2.0**
	comp=Z,0.5nm,0.8s,baz=180,slow=1.5,SNR=5.0									
L18A	**Fontenelle, Gr**	**101.97**	**1**	⇑Pdiff			**Pdif**		**09 59 12.5**	**-1.9**
	baz=102									
M29A	**Burnside Ranch**	**102.09**	**354**	⇓Pdiff			**Pdif**		**09 59 13.1**	**-1.7**
	baz=102									
DAU	**Daniels Canyon**	**103.46**	**2**	*e*P			**Pdif**		**09 59 24.1**	**+2.9**
DAU					pmax		pmax			
	comp=Z,2.0nm,0.8s									
DAU	**Daniels Canyon**	**103.46**	**2**	*e*Pdif

ISC 05 10:26:09.6±0.5, 17°.9S±0°.1×178°.46W±0°.09, h579km, n42, σ1§04/43, mb4.0/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
AFI	**Afiamalu**	**7.54**	**59**	P		**P**	**10 28 05.8**	**+1.8**
	4.1nm,0.3s,baz=108,slow=23,SNR=8.7							
NIUE	**Niue**	**8.18**	**100**	P		**P**	**10 28 11.9**	**+1.9**
	baz=8.0,SNR=4.3							
EIDS	**Eidsvold**	**29.23**	**250**	P		**P**	**10 31 26.4**	**+0.4**
	baz=29,SNR=5.6							
RMQ	**Roma**	**31.47**	**248**	P		**P**	**10 31 46.6**	**+1.5**
	baz=32,SNR=9.2							
CTA	**Charters Tower**	**33.41**	**260**	P		**P**	**10 32 02.4**	**+0.8**
	9.3nm,0.6s,baz=93,slow=10.0,SNR=18							
CNB	**Canberra Magne**	**33.41**	**232**	P		**P**	**10 32 02.6**	**+1.1**
	baz=34,SNR=22							
PMG	**Port Moresby**	**34.41**	**280**	P		**P**	**10 32 12.0**	**+2.0**
	31nm,0.9s,baz=124,slow=2.9,SNR=5.6							
CMSA	**Cobar Meteorol**	**35.12**	**240**	P		**P**	**10 32 16.6**	**+0.8**
	baz=35,SNR=24							
MTSU	**Mount Surprise**	**35.37**	**264**	P		**P**	**10 32 18.8**	**+0.8**
	baz=36,SNR=18							
QLP	**Quilpie**	**35.50**	**249**	P		**P**	**10 32 19.6**	**+0.7**
	baz=36,SNR=25							
COEN	**Coen**	**37.06**	**270**	P		**P**	**10 32 33.5**	**+1.6**
	baz=37,SNR=14							
TOO	**Toolangi**	**37.15**	**231**	P		**P**	**10 32 33.4**	**+1.0**
	baz=37,SNR=9.0							
STKA	**Stephens Creek**	**38.60**	**241**	P		**P**	**10 32 45.1**	**+0.9**
	9.5nm,0.5s,baz=94,slow=9.6,SNR=59							
STKA	**Stephens Creek**	**38.60**	**241**	P		**P**	**10 32 45.4**	**+1.1**
	baz=39,SNR=48							
JAY	**Jayapura**	**42.85**	**286**	P		**P**	**10 33 19.9**	**+1.7**
	baz=43,SNR=6.1							
BBOO	**Buckleboo**	**43.38**	**241**	P		**P**	**10 33 22.2**	**+0.2**
	baz=44,SNR=18							
WRA	**Warramunga Arr**	**44.59**	**260**	P		**P**	**10 33 31.2**	**-0.4**
	5.6nm,0.3s,baz=94,slow=7.5,SNR=404							
ASAR	**Alice Springs**	**44.76**	**254**	P		**P**	**10 33 33.0**	**+0.3**
	32nm,0.6s,baz=86,slow=8.8,SNR=781							
ASAR				S		**S**	**10 39 26.1**	**-2.4**
	0.7nm,0.8s,baz=92,slow=16,SNR=5.8							
KDU	**Kakadu**	**47.51**	**269**	P		**P**	**10 33 53.9**	**+0.3**
	baz=48,SNR=8.5							
MTN	**Manton Dam**	**48.75**	**268**	P		**P**	**10 34 02.7**	**-0.2**
	baz=49,SNR=8.1							
KNRA	**Kununurra**	**50.45**	**264**	P		**P**	**10 34 15.3**	**0.0**
	baz=51,SNR=13							
FITZ	**Fitzroy Crossi**	**52.99**	**261**	P		**P**	**10 34 33.6**	**+0.1**
	1.0nm,0.3s,baz=81,slow=9.3							
FITZ	**Fitzroy Crossi**	**52.99**	**261**	P		**P**	**10 34 33.9**	**+0.3**
	baz=53,SNR=4.5							
MEEK	**Meekatharra**	**58.40**	**249**	P		**P**	**10 35 10.0**	**-0.9**
	baz=58,SNR=4.4							
KLBR	**Kellerberrin**	**58.80**	**244**	P		**P**	**10 35 12.7**	**-0.8**
	baz=59,SNR=11							
MORW	**Morawa**	**60.45**	**246**	P		**P**	**10 35 23.8**	**-0.7**
	baz=60,SNR=4.1							
VNDA	**Vanda**	**60.47**	**185**	P		**P**	**10 35 23.4**	**-0.2**
	0.7nm,0.7s,baz=8.8,slow=7.9,SNR=3.0							
UGM	**Wanagama**	**69.60**	**268**	P		**P**	**10 36 21.8**	**-0.3**
	baz=70,SNR=4.9							
FX1	**Attu Island--F**	**70.84**	**355**	P		**P**	**10 36 27.1**	**-1.4**
	7.0nm,0.9s,baz=204,slow=16,SNR=4.5							
QSPA	**South Pole Qui**	**72.17**	**180**	P		**P**	**10 36 35.5**	**-0.8**
	2.1nm,0.7s,baz=38,slow=2.0,SNR=18							
PETK	**Petropavlovsk-**	**73.64**	**345**	P		**P**	**10 36 44.5**	**-0.2**
	2.4nm,0.6s,baz=142,slow=7.4,SNR=5.7							
KDAK	**Kodiak Island**	**78.38**	**14**	P		**P**	**10 37 10.7**	**+0.1**
	5.9nm,0.9s,baz=270,slow=3.0,SNR=3.3							
NVAR	**Mina Array Bea**	**79.43**	**44**	P		**P**	**10 37 16.8**	**-0.1**
	2.2nm,0.7s,baz=224,slow=8.8,SNR=19							
MAW	**Mawson**	**83.87**	**200**	P		**P**	**10 37 37.9**	**-0.8**
	1.4nm,0.6s,baz=202,slow=5.4,SNR=3.3							
NEW	**Newport**	**85.51**	**36**	P		**P**	**10 37 46.1**	**-0.9**
	1.1nm,0.6s,baz=270,slow=3.0							
ILAR	**Eielson Array**	**85.87**	**13**	P		**P**	**10 37 47.0**	**-1.2**
	1.3nm,0.5s,baz=223,slow=4.8,SNR=29							
TXAR	**Lajitas Array**	**86.02**	**58**	P		**P**	**10 37 50.8**	**+0.8**
	3.1nm,0.8s,baz=219,slow=6.1,SNR=50							
ANMO	**Albuquerque**	**86.11**	**52**	P		**P**	**10 37 50.0**	**-0.5**
	1.2nm,0.9s,baz=219,slow=5.1,SNR=5.0							
PDAR	**Pinedale Array**	**87.36**	**43**	P		**P**	**10 37 55.5**	**-0.7**
	1.7nm,0.6s,baz=222,slow=3.0,SNR=19							
YKA	**Yellowknife Ar**	**94.32**	**25**	P		**P**	**10 38 26.3**	**-1.2**
	0.3nm,0.5s,baz=240,slow=4.5,SNR=7.8							
BRTR	**Keskin Array B**	**144.73**	**315**	PKP		**PKPab**	**10 44 43.5**	**+0.7**
	0.7nm,0.8s,baz=31,slow=3.4,SNR=3.9							
GERES	**GERESS Array B**	**147.57**	**345**	PKPbc		**PKPbc**	**10 44 48.5**	**-1.0**
	2.0nm,0.4s,baz=34,slow=2.6,SNR=17							

*IDC **05** 10:28:04.7±1.8, 33°.33S×178°.05W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/19, mbtmp4.0/4, ML3.3/1, Error ellipse: s-maj=47.1km s-min=32.3km az=50.0*

ISC 05 10:28:09.9±1.4, 33°.6S±0°.1×178°.1W±0°.2, h34km, n18, σ1§56/24, mb4.0/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
CNGZ	**Carnagh Statio**	**5.76**	**210**	*e*PN		**Pn**	**10 29 31.5**	**-1.4**
CNGZ				SN		**Sn**	**10 30 40.0**	**+2.2**
MWZ	**Matawai**	**5.95**	**216**	*e*PN		**Pn**	**10 29 34.5**	**-1.0**
MWZ				SN		**Sn**	**10 30 44.4**	**+1.9**
URZ	**Urewera**	**6.10**	**218**	Pn		**Pn**	**10 29 37.4**	**-0.2**
	0.7nm,0.3s,baz=303,slow=7.1,SNR=10							
URZ				Sn		**Sn**	**10 30 47.2**	**+1.0**
	5.6nm,0.3s,baz=106,slow=22,SNR=18							
URZ	**Urewera**	**6.10**	**218**	PN		**Pn**	**10 29 37.4**	**-0.2**
URZ				SN		**Sn**	**10 30 47.2**	**+1.0**
MHGZ	**Mahia Peninsul**	**6.45**	**209**	*e*PN		**Pn**	**10 29 40.0**	**-2.4**
NMHZ	**Naumai**	**6.89**	**215**	*e*PN		**Pn**	**10 29 47.7**	**-0.9**
BKZ	**Black Stump Fm**	**7.10**	**217**	PN		**Pn**	**10 29 49.9**	**-1.6**
BKZ				SN		**Sn**	**10 31 11.5**	**+0.5**
BKZ				SN		**Sn**	**10 31 12.5**	**+1.5**
MCHZ	**McNeill Hill**	**7.22**	**214**	SN		**Sn**	**10 31 15.0**	**+1.2**
BHHZ	**Black Hill Sta**	**7.56**	**217**	PN		**Pn**	**10 29 56.7**	**-1.1**
BHHZ				SN		**Sn**	**10 31 22.9**	**+0.6**
DVHZ	**Dannevirke**	**8.15**	**213**	SN		**Sn**	**10 31 33.8**	**-2.8**
MRZ	**Mangatainoka R**	**8.71**	**214**	SN		**Sn**	**10 31 47.2**	**-3.2**
CTZ	**Chatham Island**	**10.22**	**174**	PN		Pn	10 30 30.0	-4.1
CTZ				SN		Sn	10 32 14.2	-13
THZ	**Tophouse**	**10.86**	**219**	*e*PN		**Pn**	**10 30 42.6**	**-0.4**
ASAR	**Alice Springs**	**42.97**	**270**	P		**P**	**10 36 06.2**	**+0.2**
	0.7nm,0.3s,baz=107,slow=7.2,SNR=6.7							
WRA	**Warramunga Arr**	**44.24**	**275**	P		**P**	**10 36 15.8**	**-0.4**
	1.5nm,0.6s,baz=115,slow=7.8,SNR=10							
QSPA	**South Pole Qui**	**56.55**	**180**	P		**P**	**10 37 50.8**	**+2.0**
	2.3nm,1.0s,baz=358,slow=1.5,SNR=4.0							
FINES	**FINESS Array B**	**148.07**	**338**	PKPbc		**PKPbc**	**10 47 50.2**	**-0.9**
	3.1nm,1.0s,baz=36,slow=5.2,SNR=3.8							
TORD	**Torodi Ar. Bea**	**159.67**	**179**	PKPab		**PKPab**	**10 48 44.1**	**0.0**
	0.4nm,0.7s,baz=183,slow=4.1,SNR=4.0							

*IDC **05** 10:34:41.7±0.7, 9°.20N×122°.95E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.9/24, mbtmp4.0/11, MS3.2/3, Ms1 3.2/3, ms1mx2.5/33, Error ellipse: s-maj=43.0km s-min=13.9km az=69.0*

*ISCJB **05** 10:34:44.3±1.2, 9°.17N±0°.04×122°.81E±0°.05, h25km±9km, mb4.0/14, MS3.1/3, Error ellipse: s-maj=9.0km s-min=6.0km az=170.2*

*MAN **05** 10:34:45, 9°.26N×122°.85E, h81km, mb4.8, ML3.8, MS3.8*

*NEIC **05** 10:34:52.9±1.5, 9°.13N×122°.92E, h91km±16km, mb4.4/3, Error ellipse: s-maj=27.5km s-min=7.3km az=66.0*

ISC 05 10:34:45.4±1.3, 9°.21N±0°.04×122°.94E±0°.06, h22km±10km, n44, σ0§92/50, mb4.1/14, MS3.1/3, 3C-3D, Negros

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
DCPH	**Dipolog City**	**0.74**	**146**	*e*P		**Pn**	**10 34 58.6**	**-1.9**
DCPH				*i* S		**Sb**	**10 35 09.3**	**-0.2**
TBP	**Tagbilaran**	**1.03**	**62**	*e*P		**Pn**	**10 35 04.2**	**-0.3**
PAGZ	**Pagadian**	**1.42**	**162**	*e*P		**Pn**	**10 35 10.5**	**+0.6**
GUIM	**Jordan**	**1.45**	**346**	*e*P		**Pn**	**10 35 09.5**	**-0.8**
GUIM				*e*S		**Sb**	**10 35 30.2**	**+0.4**
IPIL	**Ipil**	**1.46**	**194**	*e*P		**Pb**	**10 35 12.0**	**+0.1**
LLP	**Lapu-Lapu**	**1.50**	**43**	*e*P		**Pn**	**10 35 11.0**	**0.0**
LLP				*e*S		**Sb**	**10 35 32.0**	**+0.8**
CGP	**Cagayan de Oro**	**1.89**	**113**	*e*P		**Pn**	**10 35 17.2**	**+0.8**
CGP				*e*S		**Sb**	**10 35 43.2**	**+0.7**
MSLP	**Maasin**	**2.11**	**64**	*e*P		**Pn**	**10 35 21.0**	**+1.7**
RCP	**Roxas**	**2.34**	**355**	*e*P		**Pn**	**10 35 23.3**	**+0.6**
RCP				*e*S		**Sb**	**10 35 56.2**	**+0.6**
CTBH	**Cotabato--PC H**	**2.36**	**147**	*e*P		**Pn**	**10 35 24.6**	**+1.7**
OCLP	**Ormoc**	**2.46**	**42**	*e*P		**Pn**	**10 35 24.6**	**+0.3**
BUKP	**Musuan**	**2.48**	**122**	*e*P		**Pn**	**10 35 27.0**	**+2.4**
PLP	**Palo**	**2.80**	**46**	*e*P		**Pn**	**10 35 28.5**	**-0.3**
DAV	**Davao City (W)**	**3.37**	**129**	Pn		**Pb**	**10 35 43.0**	**-1.5**
DAV				Lg		Lg	10 36 33.2	
DAV	**Davao City (W)**	**3.37**	**129**	Pn		**Pb**	**10 35 43.0**	**-1.5**
	23nm,0.3s,baz=260,slow=19,SNR=2.3							
DAV				Lg		Lg	10 36 33.2	
	20nm,0.3s,baz=288,slow=20,SNR=2.3							
CMAR	**Chiang Mai Arr**	**25.02**	**294**	P		**P**	**10 40 08.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**25.02**	**294**	P		**P**	**10 40 08.2**	**+0.2**
	1.8nm,0.9s,baz=116,slow=8.8,SNR=6.5							
CMAR				LR		LR	10 48 41.8	
	comp=Z,39nm,20.2s,baz=120,slow=34							
FITZ	**Fitzroy Crossi**	**27.27**	**174**	P		**P**	**10 40 28.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**27.27**	**174**	P		**P**	**10 40 28.2**	**-0.1**
	1.4nm,0.8s,baz=1.3,slow=17,SNR=3.6							
KSRS	**Korea Array**	**28.48**	**8**	LR		LR	10 52 19.7	
	comp=Z,42nm,18.7s,baz=310,slow=37							
WRA	**Warramunga Arr**	**31.07**	**159**	P		**P**	**10 41 01.0**	**-1.1**
WRA	**Warramunga Arr**	**31.07**	**159**	P		**P**	**10 41 01.0**	**-1.1**
	0.6nm,0.5s,baz=340,slow=9.2,SNR=14							
AS31	**Alice Springs**	**34.39**	**162**	*e*P		**P**	**10 41 30.4**	**-0.7**
ASAR	**Alice Springs**	**34.39**	**162**	P		**P**	**10 41 31.1**	**0.0**
ASAR	**Alice Springs**	**34.39**	**162**	P		**P**	**10 41 31.1**	**0.0**
	2.2nm,0.6s,baz=341,slow=6.9,SNR=69							
USRK	**Ussuriysk Arra**	**35.74**	**11**	P		**P**	**10 41 42.4**	**-0.1**
	0.7nm,0.5s,baz=201,slow=10,SNR=3.4							
FORT	**Forrest**	**40.06**	**173**	*e*P		**P**	**10 42 19.3**	**+0.2**
	14nm,0.9s							
SONM	**Songino Array**	**40.96**	**343**	P		**P**	**10 42 27.2**	**+0.6**
SONM	**Songino Array**	**40.96**	**343**	P		**P**	**10 42 27.2**	**+0.6**
	0.6nm,0.5s,baz=154,slow=7.8,SNR=4.8							
SONM				LR		LR	10 58 46.2	
	comp=Z,43nm,20.9s,baz=47,slow=35							
STKA	**Stephens Creek**	**44.58**	**157**	P		**P**	**10 42 56.4**	**+0.5**
STKA	**Stephens Creek**	**44.58**	**157**	P		**P**	**10 42 56.4**	**+0.5**
	3.8nm,1.2s,baz=331,slow=14,SNR=2.6							
MK31	**Makanchi Array**	**50.94**	**325**	*e*P		**P**	**10 43 45.6**	**+0.4**
MKAR	**Makanchi Array**	**50.94**	**325**	P		**P**	**10 43 45.9**	**+0.7**
MKAR				PcP		**PcP**	**10 45 00.9**	**-0.4**
MKAR	**Makanchi Array**	**50.94**	**325**	P		**P**	**10 43 45.9**	**+0.7**
	1.6nm,0.8s,baz=133,slow=8.8,SNR=18							
MKAR				PcP		**PcP**	**10 45 00.9**	**-0.4**
	0.5nm,0.6s,baz=116,slow=3.1,SNR=4.3							
ZALV	**Zalesovo Beam**	**54.03**	**333**	P		**P**	**10 44 07.6**	**-0.3**
ZALV	**Zalesovo Beam**	**54.03**	**333**	P		**P**	**10 44 07.6**	**-0.3**
	1.5nm,0.6s,baz=116,slow=6.8,SNR=5.8							
KKAR	**Karatay Array**	**56.69**	**316**	*e*P		**P**	**10 44 28.5**	**+1.2**
	0.6nm,0.6s							
ABKAR	**Akbulak array**	**65.55**	**320**	*e*P		**P**	**10 45 27.6**	**+0.3**
	4.2nm,0.8s							
ARCES	**ARCESS Array B**	**84.04**	**339**	P		**P**	**10 47 13.5**	**-0.4**
ARCES	**ARCESS Array B**	**84.04**	**339**	P		**P**	**10 47 13.5**	**-0.4**
	2.5nm,0.8s,baz=75,slow=7.7,SNR=3.6							
FINES	**FINESS Array B**	**85.25**	**331**	P		**P**	**10 47 19.5**	**-0.7**
FINES	**FINESS Array B**	**85.25**	**331**	P		**P**	**10 47 19.5**	**-0.7**
	2.0nm,0.8s,baz=62,slow=8.9,SNR=6.4							
TORD	**Torodi Ar. Bea**	**117.57**	**290**	PKP		**PKPdf**	**10 53 28.8**	**-1.8**
TORD	**Torodi Ar. Bea**	**117.57**	**290**	PKP		**PKPdf**	**10 53 28.8**	**-1.8**
	0.6nm,1.0s,baz=85,slow=3.0,SNR=2.7							

*MOS **05** 10:35:46.3±1.1, 12°.99N×88°.29W, h33km, mb5.1/33, Error ellipse: s-maj=15.0km s-min=5.2km az=114.0*

*IDC **05** 10:35:50.8±0.4, 13°.14N×88°.25W, h59km±3km, mb4.4/23, mb1 4.6/23, mb1mx4.5/28, mbtmp4.4/23, MS3.9/22, Ms1 3.9/22, ms1mx3.9/24, Error ellipse: s-maj=17.8km s-min=7.9km az=62.0*

*NEIC **05** 10:35:50.9±0.2, 12°.85N×88°.50W, mb4.9/124, MD5.2(SNET), Error ellipse: s-maj=5.8km s-min=4.0km az=51.0*

NEIC Felt [IV] at San Salvador and [III] at Antiguo Cuscatlan. Also felt at Ayutuxtepeque, El Rosario and Mejicanos.

*ISCJB **05** 10:35:51.1±0.3, 12°.93N±0°.03×88°.52W±0°.03, h77km±2km, mb4.8/146, Error ellipse: s-maj=6.9km s-min=2.9km az=39.8*

*CASC **05** 10:35:51.8±2.1, 12°.88N×88°.62W, h43km±42km, MD4.5, ML5.0*

*GCMT **05** 10:35:52.7±0.3, 12°.74N×88°.66W, h67km±1km, MW5.0, Moment Tensor Solution. s51,c70; s71,c99; Moment tensor: Scale 10^16 Nm; Mrr=4.02±.15; Mθθ=-3.39±.12; Mφφ=-0.63±.15; Mrθ=0.55±.10; Mrφ=2.08±.11; Mθφ=-0.71±.11; Best double couple: M0=4.40000×10^16 NP1:φs=292.00000°, δ=40.00000°, λ=81.00000°. NP2:φs=124.00000°, δ=51.00000°, λ=97.00000°. Principal axes: T 4.1300, Plg=82.0000°, Azm=75.0000°; N 0.4500, Plg=6.0000°, Azm=299.0000°; P -4.5900, Plg=5.0000°, Azm=209.0000°; Data Used: IU II IC G CN.*

ISC 05 10:35:50.9±0.3, 12°.95N±0°.04×88°.53W±0°.04, h62km±2km, h62km:pP-P, n802, σ1§21/890, mb4.9/146, 221C-202D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
VSM	**San Miguel**	**0.53**	**28**	*i* P		**Pn**	**10 36 05.0**	**+1.3**
BLLM	**Bellamira**	**0.56**	**30**	*i* P		**Pn**	**10 36 05.1**	**+1.4**
AIES	**Las Flores**	**0.71**	**315**	*e*P		**Pn**	**10 36 05.1**	**-0.3**
AIES				*e*S		**Sn**	**10 36 15.8**	**-0.2**
AIES				AML		AML	10 36 22.8	
	comp=Z,111μm,0.8s							
SNVI	**San Vicente**	**0.72**	**335**	*i* P		**Pn**	**10 36 06.2**	**+0.5**
CNCH	**Conchagua**	**0.75**	**65**	*e*P		**Pn**	**10 36 06.8**	**+0.8**
CAHU	**Cacacuatique**	**0.87**	**21**	*i* P		**Pn**	**10 36 09.4**	**+1.8**
LFU	**La Fuente**	**0.97**	**324**	*e*P		**Pn**	**10 36 09.0**	**+0.2**
LFU				*e*S		**Sn**	**10 36 22.8**	**+0.8**
SNET	**Serv Nac Est T**	**1.00**	**317**	*e*S		**Sn**	**10 36 22.7**	**+0.2**
SNET				AML		AML	10 36 26.9	
	comp=Z,73μm,0.4s							
BOQS	**Boqueron**	**1.07**	**317**	*i* P		**Pn**	**10 36 10.5**	**+0.4**
SBLS	**San Blas**	**1.38**	**310**	*e*P		**Pn**	**10 36 14.4**	**+0.1**
SNJE	**San Jose**	**1.39**	**311**	*e*P		**Pn**	**10 36 14.9**	**+0.6**
RTR	**El Retiro**	**1.44**	**311**	*e*P		**Pn**	**10 36 15.3**	**+0.3**
RBDL	**Robledal**	**1.61**	**316**	*e*P		**Pn**	**10 36 17.6**	**+0.3**
TGUH	**Tegucigalpa,Un**	**1.64**	**48**	*e*P		**Pn**	**10 36 20.0**	**+2.4**
TGUH	**Tegucigalpa,Un**	**1.64**	**48**	*e*Pn		**Pn**	**10 36 19.9**	**+2.3**
CNGN	**Cerro Negro**	**1.84**	**104**	*e*P		**Pn**	**10 36 20.6**	**+0.4**
CNGN				*e*S		**Sn**	**10 36 44.5**	**+1.9**
COPN	**Copaltepe**	**2.04**	**112**	*e*P		**Pn**	**10 36 22.9**	**0.0**
HUEN		**2.38**	**105**	*e*P		**Pn**	**10 36 28.1**	**+0.6**
MRL	**Marmol**	**2.38**	**332**	*e*P		**Pn**	**10 36 30.4**	**+2.6**
NBG	**Las Nubes**	**2.40**	**313**	*e*P		**Pn**	**10 36 30.4**	**+2.3**
PCG	**Pacaya**	**2.48**	**306**	*e*P		**Pn**	**10 36 31.3**	**+2.2**
FUG	**Fuego 3**	**2.69**	**304**	*e*P		**Pn**	**10 36 33.5**	**+1.5**
JAT	**Jato**	**3.31**	**295**	*e*P		**Pn**	**10 36 40.7**	**+0.4**
NY14	**Universidad de**	**3.72**	**128**	*i* P		**Pn**	**10 36 48.8**	**+3.0**
GB1A	**Boringuen Arri**	**3.73**	**124**	*i* P		**Pn**	**10 36 48.1**	**+2.0**
VCR	**Vista de Mar**	**4.00**	**134**	*e*P		**Pn**	**10 36 51.0**	**+1.3**
CUI	**Cuipilapa**	**4.01**	**124**	*i* P		**Pn**	**10 36 52.8**	**+2.9**
JCR	**Jicaral**	**4.55**	**132**	*e*P		**Pn**	**10 36 59.2**	**+1.9**
CGA2	**Cerro Gallo 2**	**4.94**	**126**	*e*P		Pn	10 37 06.1	+3.4
SJS	**Escuela Geolog**	**5.31**	**124**	*e*P		Pn	10 37 11.5	+3.6
QCR	**Quepos**	**5.53**	**129**	*e*S		**Pn**	**10 37 10.8**	**+0.1**
QCR				*e*P			10 37 13.1	
URSC	**Urasca**	**5.59**	**123**	*e*P		**Pn**	**10 37 14.5**	**+2.8**
BUS	**Buena Vista**	**5.77**	**125**	*e*P		**Pn**	**10 37 17.4**	**+3.0**
ACR	**Cerro Adams**	**6.78**	**129**	*e*P		**Pn**	**10 37 30.5**	**+2.7**
ACR				*e*S		**Sn**	**10 38 43.1**	**-0.7**
BRU2	**Volcan**	**7.07**	**125**	*e*P		**Pn**	**10 37 34.0**	**+2.1**
BRU2				*e*S		**Sn**	**10 38 50.0**	**-0.9**
TBS2		**7.10**	**125**	*e*P		**Pn**	**10 37 35.1**	**+2.9**
TBS2				*e*S		**Sn**	**10 38 50.2**	**-1.4**
BRU	**Baru**	**7.17**	**125**	*e*P		Pn	10 37 37.7	+4.3
TEIG	**Tepich**	**7.24**	**2**	*e*Pn		Pn	10 37 37.5	+3.5
TEIG				Lg		Lg	10 39 42.0	
TEIG	**Tepich**	**7.24**	**2**	P		**Pn**	**10 37 37.1**	**+3.1**
	comp=Z,26nm,0.3s,baz=180,slow=5.9,SNR=245							
TEIG				S		**Sn**	**10 38 54.4**	**-0.4**
	baz=221,slow=20,SNR=2.1							
TEIG				Lg		Lg	10 39 42.1	
	comp=Z,0.5nm,0.3s,baz=288,slow=20,SNR=3.0							
TEIG				LR		LR	10 40 50.1	
	comp=Z,2μm,19.9s,baz=343,slow=42							
BCIP	**Isla Barro Col**	**9.32**	**113**	*e*P		**Pn**	**10 38 05.2**	**+2.5**
BCIP	**Isla Barro Col**	**9.32**	**113**	*e*Pn		Pn	10 38 05.8	+3.2
MTDJ	**Mount Denham**	**11.82**	**62**	*e*Pn		Pn	10 38 40.6	+3.8
	comp=Z,92nm,1.0s							
PAYG	**Puerto Ayora**	**13.65**	**187**	*e*P		**P**	**10 39 08.1**	**-0.4**
	comp=Z,88nm,0.7s							
GTBY	**Guantanamo Bay**	**14.62**	**60**	*e*Pn		**P**	**10 39 19.1**	**0.0**
	comp=Z,67nm,0.9s							
OTAV	**Otavalo**	**16.11**	**141**	*e*P		**P**	**10 39 38.8**	**+2.6**
	comp=Z,24nm,1.1s							
ROSC	**El Rosal**	**16.16**	**119**	*e*P		**P**	**10 39 38.4**	**+1.6**
ROSC	**El Rosal**	**16.16**	**119**	P		**P**	**10 39 38.5**	**+1.7**
	baz=84,slow=23,SNR=7.9							
ROSC				LR		LR	10 46 35.3	
	comp=Z,72nm,20.3s,baz=1.1,slow=40							
KVTX	**Kingsville**	**16.96**	**330**	*e*P		**P**	**10 39 47.4**	**+2.3**
	comp=Z,131nm,1.1s							
SDDR	**Presa de Saban**	**17.62**	**68**	*e*P		**P**	**10 39 55.1**	**+2.5**
	comp=Z,41nm,1.0s							
BRAL	**Brewton**	**18.02**	**4**	*e*P		**Pn**	**10 40 01.7**	**+4.6**
	comp=Z,172nm,1.4s							
SDV	**Santo Domingo**	**18.03**	**101**	*e*P		**Pn**	**10 39 57.9**	**+0.4**
	comp=Z,53nm,0.8s							
TIGA	**Tifton**	**18.95**	**13**	P		**Pn**	**10 40 09.6**	**+1.3**
	baz=19,SNR=19							
732A	**Laxson Ranch,**	**18.97**	**328**	P		**P**	**10 40 08.7**	**+1.4**
	baz=19,SNR=50							
VBMS	**Vicksburg**	**19.26**	**355**	*e*P		**Pn**	**10 40 14.5**	**+2.6**
	comp=Z,221nm,0.8s							
632A	**Uvalde**	**19.51**	**329**	P		**P**	**10 40 14.3**	**+1.2**
	baz=20							
631A	**Perdido Creek**	**19.83**	**328**	P		**P**	**10 40 17.3**	**+0.6**
	baz=20,SNR=48							
LRAL	**Lakeview Retre**	**20.04**	**4**	*e*P		Pn	10 40 22.4	+1.3
	comp=Z,59nm,0.8s							
532A	**Rocksprings**	**20.07**	**330**	P		**P**	**10 40 20.9**	**+1.5**
	baz=20,SNR=65							
JCT	**Junction City**	**20.32**	**331**	*e*P		**P**	**10 40 23.1**	**+1.1**
JCT				pmax		pmax		
	comp=Z,52nm,0.7s							
JCT	**Junction City**	**20.32**	**331**	*e*P		**P**	**10 40 23.1**	**+1.1**
	comp=Z,52nm,0.7s							
JCT	**Junction City**	**20.32**	**331**	P		**P**	**10 40 22.9**	**+0.9**
	baz=20,SNR=63							
JCT				S		**S**	**10 44 09.1**	**+2.7**
	baz=20							
JCT				S		**S**	**10 44 09.1**	**+2.7**
	baz=20							
531A	**Rocksprings**	**20.42**	**329**	P		**P**	**10 40 23.9**	**+0.8**
	baz=21,SNR=22							
432A	**Menard**	**20.64**	**332**	P		**P**	**10 40 26.3**	**+0.8**
	baz=21,SNR=18							
WHTX	**Lake Whitney**	**20.65**	**338**	P		**P**	**10 40 26.7**	**+1.3**
	baz=21,SNR=32							
530A	**J-C Ranch, Com**	**20.82**	**327**	P		**P**	**10 40 28.5**	**+1.1**
	baz=21,SNR=71							
431A	**Sonora**	**20.88**	**330**	P		**P**	**10 40 28.9**	**+0.9**
	baz=21,SNR=62							
332A	**Millersview**	**21.05**	**332**	P		**P**	**10 40 30.4**	**+0.6**
	baz=21,SNR=195							
628A	**Black Gap, Mar**	**21.17**	**323**	P		**P**	**10 40 32.3**	**+1.1**
	baz=21,SNR=69							
430A	**Baggett Ranch,**	**21.27**	**

GLAT Glass 23.23 358 eP P 10 40 52.8 +0.1
GLAT e 10 41 09.6
Z30A Sanderson Ranc 23.28 332 ⇑P P 10 40 52.7 -0.6
baz=24,SNR=46
UTMT University of 23.29 359 eP P 10 40 55.7 +2.4
comp=Z,309nm,1.1s
UTMT e 10 41 10.6
227A Bennet, Jal 23.31 327 ⇑P P 10 40 53.0 -0.7
baz=24,SNR=34
STVI Saint Thomas 23.32 74 eP P 10 40 53.2 -0.5
comp=Z,174nm,0.6s
STVI e 10 41 09.7
425A Indio Mountain 23.36 322 ⇑P P 10 40 54.2 0.0
baz=24,SNR=8.6
128A Castleberry Fa 23.38 329 ⇓P P 10 40 53.8 -0.5
baz=24,SNR=39
Y31A Rekieta Farm, 23.48 335 ⇑P P 10 40 55.1 -0.1
baz=24,SNR=73
Z29A Hungry Hill Ra 23.52 331 ⇑P P 10 40 54.8 -0.9
baz=24,SNR=104
WMOK Wichita Mounta 23.60 339 eP P 10 40 57.2 +1.0
WMOK pmax pmax
comp=Z,19nm,0.7s
WMOK Wichita Mounta 23.60 339 eP P 10 40 57.2 +1.0
comp=Z,19nm,0.7s
Y30A Stafford Cattl 23.68 334 ⇑P P 10 40 57.3 +0.3
baz=24,SNR=215
325A Bean Ranch, Si 23.77 323 ⇑P P 10 40 57.7 -0.3
baz=24,SNR=58
TUL1 Tulsa 23.78 345 ⇑P P 10 40 58.1 +0.3
baz=24,SNR=27
CLNB Carlsbad 23.82 326 eP P 10 40 59.1 +0.7
comp=Z,4.5nm,0.2s
226B Tecolote Peak, 23.84 326 ⇓P P 10 40 58.6 +0.1
baz=24,SNR=46
127A Arkansas Junct 23.87 328 ⇓P P 10 40 58.4 -0.3
baz=24,SNR=51
Z28A Tucker Farm, M 23.87 330 ⇑P P 10 40 58.8 0.0
baz=24,SNR=44
TZTN Tazewell 23.91 10 eP P 10 41 00.3 +1.3
comp=Z,62nm,1.1s
X31A McDonald Ranch 23.95 336 ⇓P P 10 40 59.9 +0.4
baz=24,SNR=34
Y29A Porterfield Fa 24.01 332 ⇓P P 10 41 00.2 +0.2
baz=24,SNR=37
GDL2 Guadalupe Moun 24.04 325 eP P 10 41 01.8 +1.4
324A Moseley Ranch, 24.13 322 ⇓P P 10 41 01.3 +0.1
baz=24,SNR=82
X30A Coker Ranch, T 24.16 334 ⇑P P 10 41 02.2 +0.9
baz=24,SNR=247
CNNC Cliffs of the 24.19 22 eP P 10 41 02.9 +1.4
comp=Z,42nm,0.7s
126A Clayton Basin, 24.19 327 ⇓P P 10 41 01.9 +0.2
baz=24,SNR=14
225A Deer Hill, Car 24.23 325 ⇓P P 10 41 02.9 +0.8
baz=24,SNR=59
MNTX Cornudas Mount 24.25 323 eP P 10 41 02.5 +0.3
comp=Z,20nm,1.0s
Z27A Tatum 24.30 329 ⇑P P 10 41 02.4 -0.3
baz=24,SNR=98
Y28A McKinney Farm, 24.31 331 ⇓P P 10 41 03.1 +0.3
baz=24,SNR=45
W31A Holland Ranch, 24.43 337 ⇑P P 10 41 04.1 +0.3
baz=25,SNR=14
X29A Tulia 24.51 333 ⇑P P 10 41 05.2 +0.6
baz=25,SNR=102
125A Gardner Draw, 24.55 326 ⇑P P 10 41 05.2 +0.2
baz=25,SNR=58
224A Cornudas Mount 24.61 323 ⇓P P 10 41 05.6 0.0
baz=25
MSTX Muleshoe 24.61 331 ⇑P P 10 41 05.9 +0.4
baz=25,SNR=91
Z26A Caprock 24.66 328 ⇑P P 10 41 06.4 +0.4
baz=25,SNR=49
SIUC Southern Illin 24.67 359 eP P 10 41 06.8 +0.9
comp=Z,78nm,0.9s
SIUC e 10 41 24.8
W30A Crocket Farms 24.67 336 ⇓P P 10 41 06.2 +0.1
baz=25,SNR=7.8
Y27A Causey 24.73 330 ⇓P P 10 41 06.5 -0.2
baz=25,SNR=120
X28A Dimmitt 24.80 332 ⇓P P 10 41 07.6 +0.4
baz=25,SNR=36
AMTX Amarillo 24.87 334 eP P 10 41 08.4 +0.5
comp=Z,84nm,0.7s
V31A Spring Creek L 24.91 338 ⇓P P 10 41 09.2 +1.1
baz=25,SNR=25
USIN University of 24.92 2 eP P 10 41 08.7 +0.6
comp=Z,42nm,0.8s
USIN e 10 41 27.7
124A Stringfield Ra 25.02 325 ⇓P P 10 41 10.3 +0.8
baz=25,SNR=57
Z25A Roswell 25.05 327 ⇓P P 10 41 10.5 +0.9
baz=25,SNR=63
W29A Amraillo 25.06 334 ⇑P P 10 41 10.2 +0.6
baz=25,SNR=15
Y26A Elida 25.09 329 ⇑P P 10 41 10.4 +0.4
baz=25,SNR=17
223A Chaparral, Ant 25.09 322 ⇑P P 10 41 09.9 0.0
baz=25
V30A Spur Ranch, Mi 25.22 336 ⇓P P 10 41 11.5 +0.5
baz=25
BLA Blacksburg 25.23 15 eP P 10 41 12.2 +1.2
BLA pmax pmax
comp=Z,80nm,0.9s
BLA Blacksburg 25.23 15 eP P 10 41 12.2 +1.2
comp=Z,80nm,0.9s
X27A F and S Farms, 25.32 331 ⇑P P 10 41 12.3 +0.3
baz=26,SNR=22
W28A Vega 25.42 333 ⇑P P 10 41 13.4 +0.5
baz=26,SNR=16
123A Bell Site, Whi 25.44 323 ⇑P P 10 41 13.8 +0.7
baz=26
U31A Nine Bar Ranch 25.44 338 ⇑P P 10 41 13.8 +0.8
baz=26
Z24A Sheeppen Canyo 25.44 326 ⇑P P 10 41 14.2 +1.0
baz=26,SNR=105
Y25A Mesa, Roswell 25.54 328 ⇑P P 10 41 14.5 +0.5
baz=26,SNR=53
X26A CR and CF Fran 25.58 330 ⇓P P 10 41 15.0 +0.6
baz=26,SNR=28
SLM Saint Louis 25.62 357 eP P 10 41 15.7 +1.2
SLM pmax pmax
comp=Z,34nm,0.8s
SLM Saint Louis 25.62 357 eP P 10 41 15.7 +1.2
comp=Z,34nm,0.8s
W27A Bowe Ranch, En 25.64 332 ⇑P P 10 41 15.5 +0.6
baz=26,SNR=90
V29A Stinnett 25.65 335 ⇓P P 10 41 15.1 +0.1
baz=26
OLIL Olney 25.68 1 eP P 10 41 15.4 +0.4
comp=Z,26nm,0.8s
V28A Channing 25.84 334 ⇓P P 10 41 17.3 +0.6
baz=26,SNR=27
Z23A Rita Site, Whi 25.88 324 ⇓P P 10 41 17.9 +0.8
baz=26,SNR=22
U30A WK&E Inc. Balk 25.88 337 ⇑P P 10 41 17.9 +0.9
baz=26,SNR=17
221A Mesquite Ranch 25.92 320 ⇑P P 10 41 19.0 +1.6
baz=26,SNR=11
122A Conniff Cattle 25.92 322 ⇓P P 10 41 18.5 +1.0
baz=26,SNR=27
Y24A Capitan 25.93 326 ⇑P P 10 41 18.6 +0.9
baz=26,SNR=53
320A Kipp Ranch, An 25.95 318 ⇑P P 10 41 18.4 +0.6
baz=26,SNR=16
X25A Clemmons Ranch 25.99 328 ⇑P P 10 41 18.8 +0.6
baz=26
W26A Owens Ranch, T 26.00 331 ⇑P P 10 41 18.6 +0.5
baz=26,SNR=9.6
T31A Randall Ranch, 26.04 339 ⇓P P 10 41 18.3 0.0
baz=26,SNR=15
U29A Oasis Ranch, S 26.05 336 ⇑P P 10 41 19.3 +0.8
baz=26,SNR=10
V27A Dan Oppiter Fa 26.11 333 ⇑P P 10 41 20.0 +0.8
baz=26,SNR=26
BLO Bloomington 26.18 4 eP P 10 41 19.5 0.0
BLO pmax pmax
comp=Z,103nm,1.6s
BLO Bloomington 26.18 4 eP P 10 41 19.5 0.0
comp=Z,103nm,1.6s
Y23A Lovelace Mesa, 26.27 326 ⇑P P 10 41 21.7 +1.0
baz=26,SNR=53
121A Cookes Peak, D 26.28 321 ⇑P P 10 41 22.4 +1.6
baz=26,SNR=22
T30A Plains 26.30 338 ⇓P P 10 41 21.3 +0.6
baz=26,SNR=10
Z22A Elephant Butte 26.30 323 ⇓P P 10 41 21.9 +1.0
baz=26,SNR=16
220A Playas Peak, P 26.32 319 ⇑P P 10 41 22.4 +1.2
baz=26,SNR=15
U28A Mallet 26.38 335 ⇑P P 10 41 21.4 -0.2
baz=27
JSRW J. Sargeant Re 26.41 19 eP P 10 41 23.1 +1.4
X24A Lazy VL Ranch, 26.42 327 ⇑P P 10 41 23.0 +0.9
baz=27,SNR=30
W25A X Bar L Ranch, 26.44 330 ⇓P P 10 41 22.9 +0.8
baz=27,SNR=13
S31A Mullinville 26.44 340 ⇑P P 10 41 22.3 +0.3
baz=27,SNR=15
319A Douglas 26.47 317 ⇑P P 10 41 23.5 +1.0
baz=27
V26A Tequesquite Ra 26.58 331 ⇑P P 10 41 24.4 +1.0
baz=27,SNR=112
U27A Thompson Grove 26.67 334 ⇓P P 10 41 24.6 +0.4
baz=27,SNR=25
T29A Hugoton 26.68 337 ⇑P P 10 41 24.7 +0.5
baz=27,SNR=15
Z21A St. Cloud Mine 26.75 322 ⇑P P 10 41 26.8 +1.8
baz=27
BNM Barren Site 26.75 325 eP P 10 41 26.8 +1.7
comp=Z,12nm,0.7s
Y22A Socorro 26.79 324 ⇓P P 10 41 26.7 +1.4
baz=27,SNR=59
S30A Montezuma 26.80 339 ⇓P P 10 41 25.3 +0.1
baz=27,SNR=6.1
120A U Bar Ranch, L 26.82 320 ⇓P P 10 41 25.7 +0.1
baz=27,SNR=26
X23A Hourglass Bar 26.84 326 ⇓P P 10 41 26.4 +0.6
baz=27,SNR=6.5
Y22D IRIS PASSCAL I 26.86 325 ⇑P P 10 41 26.1 +0.2
baz=27,SNR=26
LPM Los Pinos Moun 26.88 325 eP P 10 41 28.2 +2.0
W24A Lazy G Ranch, 26.91 328 ⇓P P 10 41 27.7 +1.3
baz=27,SNR=39
LENM Lemitar 26.96 325 eP P 10 41 29.8 +2.9
T28A Walsh 26.97 336 ⇓P P 10 41 26.5 -0.3
baz=27
V25A Rancho No Teng 27.01 330 ⇓P P 10 41 28.6 +1.2
baz=27,SNR=95
KSU1 Kansas State U 27.01 346 eP P 10 41 27.3 +0.2
comp=Z,24nm,0.8s
S29A Ulysses 27.02 338 ⇓P P 10 41 28.0 +0.8
baz=27,SNR=12
CBN Corbin 27.04 20 eP P 10 41 28.7 +1.4
comp=Z,51nm,0.7s
U26A Atchley Ranch, 27.05 332 ⇓P P 10 41 28.6 +0.9
baz=27,SNR=62
R31A Burdett 27.07 341 ⇓P P 10 41 27.9 +0.3
baz=27,SNR=15
T27A Campo 27.17 335 ⇓P P 10 41 28.8 +0.2
baz=27
Z20A Nine Sixteen R 27.17 321 ⇓P P 10 41 29.6 +0.8
baz=27,SNR=11
LAZ Ladron 27.23 325 eP P 10 41 31.0 +1.7
comp=Z,5.4nm,0.7s
X22A Bernardo 27.23 325 ⇓P P 10 41 31.1 +1.8
baz=27,SNR=9.1
V24A Rampart Ranch, 27.24 329 ⇓P P 10 41 30.4 +0.9
baz=27,SNR=42
Y21A Point of Rocks 27.25 323 ⇑P P 10 41 30.9 +1.4
baz=27,SNR=8.8
W23A Werner Place, 27.25 327 ⇑P P 10 41 30.6 +1.0
baz=27,SNR=47
ANMO Albuquerque 27.25 326 eP P 10 41 30.6 +1.1
comp=Z,5.6nm,0.7s
ANMO PcP PcP 10 44 49.2 +1.0
ANMO pPcP 10 45 06.1
ANMO Albuquerque 27.25 326 P P 10 41 31.2 +1.7
comp=Z,5.3nm,0.6s,baz=142,slow=9.2,SNR=24
ANMO PcP PcP 10 44 49.2 +1.0
comp=Z,4.4nm,0.6s,baz=116,slow=4.4,SNR=8.5
ANMO pPcP 10 45 06.1
comp=Z,4.6nm,0.8s,baz=130,slow=4.2,SNR=4.9
ANMO LR LR 10 54 16.1
comp=Z,89nm,19.3s,baz=102,slow=40
S28A Manter 27.29 336 ⇑P P 10 41 29.4 -0.2
baz=28,SNR=14
R30A Dighton 27.31 340 ⇑P P 10 41 30.6 +0.7
baz=28,SNR=19
SFIN Scholer Farm 27.35 2 ⇓P P 10 41 29.5 -0.6
baz=28,SNR=12
U25A Circle Dot Ran 27.36 331 ⇑P P 10 41 31.3 +0.8
baz=28,SNR=38
W22A Albuquerque 27.57 326 ⇑P P 10 41 33.6 +1.3
baz=28
Y20A Horse Springs, 27.59 322 ⇑P P 10 41 33.8 +1.2
baz=28,SNR=20
ACSO Alum Creek Sta 27.61 9 eP P 10 41 32.8 +0.4
comp=Z,34nm,0.8s
X21A Alamocita Cree 27.62 324 ⇓P P 10 41 33.9 +1.0
baz=28,SNR=20
T26A Comanche Natio 27.63 333 ⇑P P 10 41 33.0 +0.1
baz=28,SNR=11
Q31A Ellis 27.68 342 ⇑P P 10 41 33.6 +0.5
baz=28,SNR=7.7
V23A Ortiz Mt. (NFS 27.72 328 ⇓P P 10 41 33.8 0.0
baz=28,SNR=22
R29A Marienthal 27.73 338 ⇓P P 10 41 34.1 +0.4
baz=28,SNR=10.0
S27A Las Animas 27.77 335 ⇓P P 10 41 34.6 +0.5
baz=28,SNR=19
U24A Moreno Valley 27.79 330 ⇓P P 10 41 36.0 +1.6
baz=28
R28A Tribune 27.91 337 ⇑P P 10 41 35.8 +0.5
baz=28,SNR=30
Q30A Quinter 27.92 340 ⇓P P 10 41 36.0 +0.7
baz=28,SNR=15
S26A Kim 27.96 334 ⇓P P 10 41 36.5 +0.8
baz=28
T25A Trinidad 27.97 332 ⇓P P 10 41 37.6 +1.6
baz=28,SNR=66
W21A San Fidel 28.03 325 ⇓P P 10 41 37.7 +1.2
baz=28
TUC Tucson 28.05 317 eP P 10 41 38.1 +1.5
TUC pmax pmax
comp=Z,43nm,1.0s
TUC Tucson 28.05 317 eP P 10 41 38.1 +1.5
comp=Z,43nm,1.0s
Q29A Oakley 28.09 339 ⇑P P 10 41 37.3 +0.5
baz=28,SNR=15
X20A Quemado 28.11 323 ⇓P P 10 41 38.5 +1.3
baz=28,SNR=8.7
P31A Stockton 28.15 342 ⇓P P 10 41 37.7 +0.4
baz=28
U23A El Rito 28.18 329 ⇑P P 10 41 39.6 +1.8
baz=28,SNR=107
V22A San Miguel Ran 28.23 327 ⇓P P 10 41 39.0 +0.7
baz=28,SNR=26
R27A Eads 28.24 336 ⇑P P 10 41 38.7 +0.5
baz=28,SNR=16
SDMD Soldier's Deli 28.31 19 eP P 10 41 40.1 +1.5
comp=Z,26nm,0.7s
S25A Robets Cordova 28.41 333 ⇑P P 10 41 40.9 +1.1
baz=29,SNR=25
P30A Selden 28.44 341 ⇓P P 10 41 40.8 +0.9
baz=29,SNR=12
R26A Arlington 28.52 335 ⇑P P 10 41 41.4 +0.7
baz=29,SNR=27
W20A Ramah 28.52 324 ⇑P P 10 41 41.7 +0.8
baz=29,SNR=5.2
V21A Milan 28.54 326 ⇓P P 10 41 42.4 +1.3
baz=29,SNR=17
Q28A Sharon Springs 28.55 338 ⇑P P 10 41 41.5 +0.5
baz=29
U22A Llaves 28.55 328 ⇓P P 10 41 42.5 +1.4
baz=29,SNR=19
T23A Casias Ranch, 28.65 330 ⇑P P 10 41 43.5 +1.4
baz=29,SNR=16
P29A Atwood 28.72 340 ⇑P P 10 41 43.3 +1.0
baz=29
R25A Fountain Ranch 28.75 334 ⇑P P 10 41 43.9 +1.1
baz=29,SNR=5.4
S24A Houchin Ranch, 28.75 332 ⇑P P 10 41 44.5 +1.5
baz=29,SNR=18
KSCO Kaye Shedlock' 28.80 337 ⇓P P 10 41 44.0 +0.7
baz=29,SNR=26
O30A MW Ranch, Wils 28.96 342 ⇑P P 10 41 45.3 +0.8
baz=29,SNR=8.9
X18A Snowflake 28.96 321 ⇓P P 10 41 45.1 +0.4
baz=29,SNR=8.8
SDCO Great Sand Dun 28.96 331 eP P 10 41 45.9 +1.1
comp=Z,8.3nm,0.8s
P28A Saint Francis 28.98 339 ⇓P P 10 41 45.6 +0.9
baz=29,SNR=11
V20A Brimhall 28.99 325 ⇑P P 10 41 46.5 +1.5
baz=29,SNR=14
MVL Millersville 29.00 20 eP P 10 41 46.4 +1.6
comp=Z,42nm,1.3s
U21A Nageezi 29.01 327 ⇑P P 10 41 46.8 +1.6
baz=29,SNR=28
T22A Edith 29.07 329 ⇓P P 10 41 47.0 +1.3
baz=29,SNR=6.5
Q26A Hugo 29.08 335 ⇓P P 10 41 47.1 +1.4
baz=29,SNR=24
SCIA State Center 29.13 353 eP P 10 41 46.4 +0.4
comp=Z,25nm,0.6s
O29A 4D Ranch, Culb 29.14 340 ⇑P P 10 41 46.8 +0.6
baz=29,SNR=7.5
S23A Nye Farm, Mont 29.17 331 ⇓P P 10 41 47.8 +1.2
baz=29,SNR=5.2
R24A Sanders Place, 29.18 333 ⇑P P 10 41 48.1 +1.4
baz=29,SNR=34
214A Organ Pipe Nat 29.23 314 ⇓P P 10 41 47.5 +0.6
baz=29,SNR=6.7
W18A Petrified Fore 29.23 323 ⇑P P 10 41 48.7 +1.5
baz=29,SNR=12
P27A Ficken Ranch, 29.26 337 ⇓P P 10 41 48.0 +0.7
baz=30
Q25A Bedland, Calha 29.37 334 ⇑P P 10 41 49.5 +1.1
baz=30,SNR=21
T21A Navajo Lake 29.37 328 ⇑P P 10 41 49.8 +1.4
baz=30,SNR=6.9
U20A Newcomb 29.44 326 ⇑P P 10 41 50.2 +1.3
baz=30
O28A Krutsinger Ran 29.47 339 ⇓P P 10 41 49.8 +0.7
baz=30,SNR=7.6
R23A Moffat 29.48 332 ⇑P P 10 41 50.7 +1.3
baz=30
ALLY Alegheny Colle 29.51 13 eP P 10 41 49.3 -0.1
comp=Z,16nm,0.8s
ALLY e pP 10 42 07.4 +2.9
N30A Hueftle Ranch, 29.54 342 ⇑P P 10 41 50.4 +0.8
baz=30
P26A Davis Ranch, A 29.56 336 ⇓P P 10 41 50.6 +0.7
baz=30,SNR=12
BGNE Belgrade 29.57 345 ⇑P P 10 41 50.0 +0.1
baz=30,SNR=5.6
S22A 4UR Ranch, Cre 29.60 330 ⇓P P 10 41 51.6 +1.1
baz=30,SNR=105
N29A Votaw Ranch, W 29.72 341 ⇓P P 10 41 52.0 +0.7
baz=30
O27A Beecher Island 29.78 338 ⇑P P 10 41 52.6 +0.8
baz=30,SNR=12
Q24A Divide 29.80 333 ⇑P P 10 41 52.8 +0.6
baz=30
X16A Lo Mia Camp, P 29.81 320 ⇓P P 10 41 53.7 +1.4
baz=30,SNR=22
P25A Willow Gulch B 29.85 335 ⇓P P 10 41 53.5 +1.0
baz=30,SNR=15
JFWS Jewell Farm 29.89 357 eP P 10 41 52.4 -0.2
JFWS pmax pmax
comp=Z,14nm,0.6s
JFWS Jewell Farm 29.89 357 eP P 10 41 52.4 -0.2
comp=Z,14nm,0.6s
N28A Pribbeno Ranch 29.89 340 ⇑P P 10 41 53.8 +1.0
baz=30
R22A Saguache, Gunn 29.95 330 ⇓P P 10 41 54.9 +1.3
baz=30,SNR=19
S21A Coal Bank Pass 30.02 328 ⇓P P 10 41 55.0 +0.8
baz=30,SNR=23
MVCO Mesa Verde 30.04 327 eP P 10 41 56.0 +1.6
comp=Z,11nm,0.8s
MVCO ePcP PcP 10 44 56.5 +1.3
MVCO Mesa Verde 30.04 327 ⇓P P 10 41 55.3 +1.0
baz=30,SNR=18
Q23A Hartsel 30.06 332 ⇑P P 10 41 55.6 +1.0
baz=30
O26A Horse Wrangler 30.14 337 ⇑P P 10 41 56.1 +1.1
baz=30,SNR=8.2
Z14A Wintersburg 30.14 316 ⇓P P 10 41 56.4 +1.4
baz=30
M30A Dale-Ortello V 30.15 343 ⇑P P 10 41 55.6 +0.5
baz=30,SNR=7.4
P24A Kohler Place, 30.16 334 ⇑P P 10 41 55.9 +0.6
baz=30,SNR=5.4
OGNE Ogallala 30.29 339 ⇓P P 10 41 57.5 +1.2
baz=30
M29A Burnside Ranch 30.31 342 ⇓P P 10 41 57.4 +1.0
baz=30,SNR=7.8
O25A Wiggins 30.34 336 ⇑P P 10 41 58.0 +1.2
baz=30,SNR=6.1
N27A Anderson Farm, 30.34 339 ⇑P P 10 41 57.7 +0.9
baz=30,SNR=6.3
S20A Disappointment 30.44 328 ⇓P P 10 41 59.0 +1.1
baz=31,SNR=9.8
R21A Cimarron 30.44 330 ⇓P P 10 41 58.9 +1.0
baz=31
P23A Jefferson 30.44 333 ⇑P P 10 41 59.6 +1.6
baz=31,SNR=75
M28A Bar X Bar Ranc 30.48 341 ⇑P P 10 41 58.9 +1.0
baz=31
WUAZ Wupatki 30.49 321 eP P 10 41 59.2 +1.0
comp=Z,9.0nm,0.8s
WUAZ e pP 10 42 14.9 +1.4
WUAZ Wupatki 30.49 321 ⇓P P 10 41 59.6 +1.4
baz=31,SNR=8.8
Q22A Crested Butte, 30.52 331 ⇓P P 10 41 59.5 +0.9
baz=31,SNR=44
Y14A Wickenburg 30.52 317 ⇑P P 10 41 59.2 +0.8
baz=31,SNR=6.1
N26A Koester Ranch, 30.61 338 ⇑P P 10 42 00.3 +1.1
baz=31
ISCO Idaho Springs 30.69 334 eP P 10 42 01.5 +1.4
ISCO pmax pmax
comp=Z,15nm,0.8s
ISCO Idaho Springs 30.69 334 eP P 10 42 01.5 +1.4
comp=Z,15nm,0.8s
ISCO Idaho Springs 30.69 334 ⇑P P 10 42 01.1 +0.9
baz=31,SNR=31
R20A Redvale 30.72 328 ⇑P P 10 42 01.7 +1.4
baz=31,SNR=12
O24A Longmont 30.73 335 ⇑P P 10 42 01.3 +1.0
baz=31,SNR=18
PAL Palisades 30.74 22 eP P 10 42 01.3 +1.1
PAL Palisades 30.74 22 eP P 10 42 01.3 +1.1
comp=Z,206nm,1.1s
PAL epP pP 10 42 24.2 +8.8
PV01 Paradox Valley 30.78 328 eP P 10 42 01.8 +1.0
comp=Z,567nm,0.7s
SMCO Snowmass 30.80 331 eP P 10 42 02.7 +1.5
comp=Z,20nm,0.8s
SMCO ePcP PcP 10 44 58.8 +1.5
L29A Maesberg Ranch 30.81 342 ⇑P P 10 42 02.0 +1.1
baz=31
Q21A Lamborn Mesa, 30.82 330 ⇓P P 10 42 02.1 +1.0
baz=31,SNR=16
N25A Grover 30.93 337 ⇑P P 10 42 03.3 +1.3
baz=31,SNR=18
M27A Reverse DX Ran 30.93 340 ⇓P P 10 42 02.8 +0.8
baz=31
P22A Eagle 31.04 332 ⇓P P 10 42 03.9 +0.8
baz=31,SNR=18
BINY Binghamton 31.11 18 eP P 10 42 03.8 +0.4
comp=Z,15nm,0.8s
PV04 Paradox Valley 31.14 328 eP P 10 42 05.5 +1.5
PV04 ePcP PcP 10 44 59.6 +1.6
O23A Lake Granby, G 31.16 334 ⇑P P 10 42 05.4 +1.1
baz=31,SNR=25
PV10 Paradox Valley 31.20 328 eP P 10 42 05.2 +0.6
comp=Z,298nm,0.6s
GLA Glamis 31.25 314 ⇓P P 10 42 05.7 +0.9
baz=31
N24A Carr 31.25 336 ⇑P P 10 42 06.4 +1.5
baz=31,SNR=11
Q20A Ridgley Place, 31.26 329 ⇑P P 10 42 06.0 +1.0
baz=31
O22A Kremmling 31.40 333 ⇑P P 10 42 07.2 +0.8
baz=32,SNR=39
L27A T5 Ranch, Ells 31.40 340 ⇓P P 10 42 06.9 +0.8
baz=32
K29A Lazy Trails An 31.41 343 ⇑P P 10 42 07.1 +1.0
baz=32
Y12C Blythe 31.43 316 ⇑P P 10 42 07.4 +1.0
baz=32
M25A Palm-Egli Farm 31.45 337 ⇓P P 10 42 07.9 +1.3
baz=32
ECSD EROS Data Cent 31.45 349 eP P 10 42 05.8 -0.7
comp=Z,8.8nm,0.8s
PDMCI Parker Dam,Lak 31.49 317 ⇓P P 10 42 07.5 +0.6
baz=32,SNR=8.6
U15A North Rim 31.65 322 ⇓P P 10 42 10.0 +1.4
baz=32,SNR=7.5
K28A Ten Mile Ranch 31.67 342 ⇑P P 10 42 09.5 +1.1

baz=32,SNR=21
P20A De Beque 31.73 330 ⇑P P 10 42 10.0 +0.8
baz=32,SNR=18
N23A Red Feather La 31.74 334 ⇓P P 10 42 10.3 +1.0
baz=32,SNR=22
M24A Cheyenne 31.77 336 ⇑P P 10 42 11.0 +1.5
baz=32,SNR=16
W13A Hualapai Mount 31.80 318 ⇓P P 10 42 11.5 +1.6
baz=32,SNR=17
O21A Pagoda 31.86 332 ⇑P P 10 42 11.8 +1.4
baz=32,SNR=7.6
SWSC Sam W. Stewart 31.87 313 ⇑P P 10 42 11.8 +1.6
baz=32
PHWY Pilot Hill 31.88 335 *eP* P 10 42 12.0 +1.4
comp=Z,17nm,0.8s
N22A Wattenberg Ran 31.88 334 ⇑P P 10 42 12.2 +1.6
baz=32,SNR=40
K27A Flueckinger Fa 31.93 341 ⇑P P 10 42 11.6 +0.8
baz=32,SNR=9.1
GLMI Grayling 31.94 5 *eP* P 10 42 10.1 -0.6
comp=Z,26nm,0.6s
DVTC Desert V Tower 31.94 312 ⇑P P 10 42 11.9 +0.9
baz=32
BC3 Big Chuckawall 32.02 315 ⇓P P 10 42 12.9 +1.2
baz=32,SNR=9.7
IRM Iron Mountain 32.09 316 ⇓P P 10 42 13.5 +1.3
baz=32
P19A Cripple Cowboy 32.12 330 ⇑P P 10 42 13.3 +0.6
baz=32,SNR=14
O20A White River Ci 32.16 331 ⇑P P 10 42 14.5 +1.6
baz=32,SNR=97
K26A Motz Farm, Whi 32.24 340 ⇓P P 10 42 14.2 +0.7
baz=32
J28A Allard Ranch, 32.28 343 ⇓P P 10 42 14.4 +0.6
baz=32,SNR=20
MONP Monument Peak 32.29 313 ⇑P P 10 42 14.8 +0.6
baz=32
L24A Wheatland 32.31 337 ⇑P P 10 42 15.5 +1.4
baz=32
N21A Black Mountain 32.32 332 ⇓P P 10 42 15.9 +1.6
baz=32,SNR=41
TRY Troy 32.34 21 *eP* P 10 42 15.5 +1.2
comp=Z,44nm,1.0s
TRY *epP* **pP** 10 42 31.6 +2.0
SPMN St. Paul 32.37 354 ⇑P P 10 42 13.8 -0.7
baz=33,SNR=47
K25A Mack Ranch, Ha 32.41 339 ⇓P P 10 42 15.9 +1.0
baz=33
M22A Cedar Creek Ra 32.44 334 ⇓P P 10 42 16.5 +1.1
baz=33,SNR=9.1
SRU San Rafael 32.52 327 *eP* P 10 42 17.6 +1.5
SRU *e* 10 45 02.4
SRU pmax pmax
comp=Z,15nm,0.7s
SRU San Rafael 32.52 327 *eP* P 10 42 17.6 +1.5
comp=Z,15nm,0.7s
SRU *ePcP* **PcP** 10 45 02.4 +0.7
BELC Belle Mtn. Jos 32.59 315 ⇑P P 10 42 17.3 +0.6
baz=33
BRSD Miller 32.63 346 ⇓P P 10 42 16.3 -0.4
baz=33,SNR=14
L23A Garrett 32.67 336 ⇓P P 10 42 18.3 +0.9
baz=33,SNR=26
PFO Pinyon Flat Ob 32.70 314 *eP* P 10 42 18.9 +1.2
comp=Z,23nm,1.7s
PFO *epP* **pP** 10 42 34.4 +1.5
PFO *ePcP* **PcP** 10 45 03.1 +0.9
O19A Miners Draw (B 32.71 330 ⇓P P 10 42 18.5 +0.8
baz=33,SNR=16
SADO Sadowa 32.71 12 P P 10 42 17.2 -0.2
SADO Sadowa 32.71 12 P P 10 42 17.2 -0.2
comp=Z,17nm,0.7s,baz=245,slow=6.2,SNR=24
N20A Spence Gulch, 32.72 332 ⇓P P 10 42 19.1 +1.3
baz=33,SNR=49
Q16A Castle Valley 32.73 326 ⇓P P 10 42 18.7 +0.8
baz=33
I28A Midland 32.79 343 ⇓P P 10 42 18.8 +0.6
baz=33
GMRC Granite Mounta 32.79 316 ⇑P P 10 42 19.6 +1.1
baz=33,SNR=8.9
K24A Anderson Ranch 32.85 338 ⇑P P 10 42 19.9 +1.0
baz=33
L22A Ellis Ranch, M 32.89 335 ⇓P P 10 42 21.2 +1.9
baz=33
M21A Separation Pea 32.94 334 ⇓P P 10 42 21.3 +1.6
baz=33,SNR=18
MSU Marysvale 33.00 325 *eP* P 10 42 21.9 +1.6
MSU *e* 10 45 05.0
MSU Marysvale 33.00 325 *eP* P 10 42 21.9 +1.6
MSU *ePcP* **PcP** 10 45 05.0 +1.9
MVU Marysvale 33.01 325 *eP* P 10 42 22.1 +1.6
comp=Z,4.3nm,0.8s
MVU *ePcP* **PcP** 10 45 04.9 +1.7
CCUT Cedar City 33.03 322 *eP* P 10 42 22.1 +1.4
comp=Z,3.8nm,0.9s
CCUT *ePcP* **PcP** 10 45 05.3 +2.1
J25A Sunshine Ranch 33.07 339 ⇑P P 10 42 21.9 +1.2
baz=33
I27A Quinn 33.11 342 ⇓P P 10 42 22.0 +1.0
baz=33
K23A Bowen Ranch, D 33.18 337 ⇓P P 10 42 22.8 +1.0
baz=33,SNR=8.7
M20A Sweetwater, Wa 33.21 333 ⇓P P 10 42 23.0 +0.9
baz=33,SNR=13
MURC Murrieta 33.22 313 ⇑P P 10 42 22.6 +0.5
baz=33
L21A Rawlins 33.23 334 ⇓P P 10 42 23.3 +1.0
baz=33,SNR=33
ARUT Antelope Range 33.24 322 *eP* P 10 42 24.0 +1.7
ARUT pmax pmax
comp=Z,11nm,0.6s
ARUT Antelope Range 33.24 322 *eP* P 10 42 24.0 +1.7
comp=Z,11nm,0.6s
SAML Samuel 33.28 130 *eP* P 10 42 21.5 -1.2
comp=Z,31nm,0.8s
J24A Dixon Ranch, L 33.32 338 ⇓P P 10 42 24.2 +1.3
baz=34
I26A New Underwood 33.33 341 ⇓P P 10 42 23.7 +0.8
baz=34
TUQ Turquoise Moun 33.34 317 ⇓P P 10 42 24.4 +1.1
baz=34
H28A Mission Ridge 33.37 344 ⇓P P 10 42 23.6 +0.4
baz=34
BBRC Big Bear Solar 33.37 314 ⇑P P 10 42 24.9 +1.2
baz=34
K22A Casper 33.45 336 ⇑P P 10 42 25.0 +0.9
baz=34,SNR=24
I25A Rochford 33.60 340 ⇑P P 10 42 26.7 +1.3
baz=34
H27A Howes 33.63 342 ⇓P P 10 42 26.4 +0.8
baz=34
M19A Rock Springs 33.66 331 ⇓P P 10 42 25.7 -0.3
baz=34,SNR=5.3
L20A Wamsutter 33.69 333 ⇓P P 10 42 26.2 0.0
baz=34,SNR=19
J23A Dilts Ranch, B 33.71 337 ⇓P P 10 42 27.6 +1.3
baz=34
G28A Parade 33.71 344 ⇓P P 10 42 26.3 +0.1
baz=34
LONY Lake Ozonia 33.74 18 *eP* P 10 42 26.9 +0.5
comp=Z,54nm,1.4s
LONY *epP* **pP** 10 42 43.5 +1.8
I24A Kuemmerle Ranc 33.77 339 ⇑P P 10 42 27.7 +0.9
baz=34,SNR=5.8
MPU Maple Canyon 33.77 327 *eP* P 10 42 28.6 +1.6
comp=Z,15nm,0.9s
RSSD Black Hills 33.79 340 *eP* P 10 42 28.6 +1.4
RSSD pmax pmax
comp=Z,9.0nm,0.6s
RSSD Black Hills 33.79 340 *eP* P 10 42 28.6 +1.4
comp=Z,9.1nm,0.6s
H26A Fairpoint 33.83 342 ⇓P P 10 42 28.1 +0.8
baz=34
DAU Daniels Canyon 33.86 328 *eP* P 10 42 29.4 +1.5
DAU *e* 10 45 07.7
DAU Daniels Canyon 33.86 328 *eP* P 10 42 29.4 +1.5
DAU *ePcP* **PcP** 10 45 07.7 +2.1
BFSC Mount Baldy Ra 33.88 314 ⇓P P 10 42 28.4 +0.5
baz=34
J22A Midwest 34.07 336 ⇑P P 10 42 30.4 +1.0
baz=34,SNR=30
H25A Fruitdale 34.09 341 ⇑P P 10 42 30.4 +0.9
baz=34
I23A Meade Ranch, G 34.15 338 ⇓P P 10 42 31.3 +1.1
baz=34
MWC Mount Wilson 34.15 313 *eP* P 10 42 31.5 +1.1
MWC *e*PP* **pP** 10 42 46.3 +0.6
MWC pmax pmax
comp=Z,23nm,1.3s
MWC Mount Wilson 34.15 313 *eP* P 10 42 31.5 +1.1
comp=Z,23nm,1.3s
MWC *epP* **pP** 10 42 46.3 +0.6
K20A Yellowstone Ra 34.21 334 ⇑P P 10 42 31.1 +0.4
baz=34,SNR=35
L19A Farson 34.22 332 ⇑P P 10 42 31.3 +0.4
baz=34,SNR=11
FRNY Flat Rock 34.24 19 *eP* P 10 42 31.8 +1.1
comp=Z,29nm,1.3s
FRNY *epP* **pP** 10 42 48.4 +2.3
G27A Dupree 34.27 343 ⇓P P 10 42 31.7 +0.6
baz=34
CTU Camp Tracy 34.32 328 *eP* P 10 42 33.4 +1.6
comp=Z,8.1nm,0.7s
M17A Scullys Gap (B 34.36 330 ⇑P P 10 42 32.4 +0.3
baz=34
DECC Green Verdugo 34.36 313 ⇑P P 10 42 32.9 +1.0
baz=34
J21A Lysite 34.40 335 ⇓P P 10 42 33.8 +1.4
baz=35
L18A Fontenelle, Gr 34.40 331 ⇑P P 10 42 33.1 +0.6
baz=35
EDW2 Edwards Air Fo 34.45 314 ⇓P P 10 42 33.5 +0.7
baz=35
I22A 9 Mile Ranch, 34.48 337 ⇓P P 10 42 34.1 +1.1
baz=35,SNR=52
NOQ North Oquirrh 34.48 327 *eP* P 10 42 35.2 +2.1
comp=Z,20nm,0.7s
H24A Dirks Ranch, A 34.52 340 ⇑P P 10 42 34.4 +1.1
baz=35,SNR=26
DUG Dugway 34.53 326 *eP* P 10 42 34.8 +1.3
DUG pmax pmax
comp=Z,5.0nm,0.8s
DUG Dugway 34.53 326 *eP* P 10 42 34.8 +1.3
comp=Z,4.9nm,0.8s
DUG Dugway 34.53 326 ⇑P P 10 42 34.7 +1.2
baz=35,SNR=9.1
K19A Absolon Red Bu 34.57 333 ⇑P P 10 42 34.2 +0.3
baz=35,SNR=21
H23A Clabaugh Cattl 34.65 339 ⇓P P 10 42 35.1 +0.7
baz=35
J20A Shoshoni 34.67 335 ⇑P P 10 42 36.2 +1.5
baz=35,SNR=29
I21A Big Trails, Te 34.73 336 ⇓P P 10 42 35.6 +0.4
baz=35,SNR=24
MPMC Manual Prospec 34.75 316 ⇑P P 10 42 36.2 +0.7
baz=35,SNR=10
BW06 Boulder Array 34.84 332 *eP* P 10 42 36.5 +0.3
comp=Z,7.3nm,0.6s
PDAR Pinedale Array 34.84 332 P P 10 42 36.6 +0.4
PDAR PcP **PcP** 10 45 07.8 -0.4
PDAR pPcP 10 45 25.5
PDAR ScP **ScP** 10 48 50.2 +1.7
PDAR PKiKP **PKiKP** 10 52 28.9 -1.7
PDAR *e* 10 52 46.7
PDAR Pinedale Array 34.84 332 P P 10 42 36.6 +0.4
comp=Z,9.1nm,0.7s,baz=128,slow=10,SNR=92
PDAR PcP **PcP** 10 45 07.8 -0.4
comp=Z,4.2nm,0.8s,baz=142,slow=4.8,SNR=6.8
PDAR pPcP 10 45 25.5
comp=Z,2.9nm,0.6s,baz=156,slow=5.5,SNR=5.4
PDAR ScP **ScP** 10 48 50.2 +1.7
comp=Z,0.8nm,0.9s,baz=104,slow=3.8,SNR=3.7
PDAR PKiKP **PKiKP** 10 52 28.9 -1.7
comp=Z,0.6nm,0.8s,baz=106,slow=4.8,SNR=5.1
PDAR pPKiKP **pPKiKP** 10 52 46.7 -2.2
comp=Z,0.7nm,0.7s,baz=95,slow=4.3,SNR=4.6
HWUT Hardware Ranch 34.90 329 *eP* P 10 42 37.2 +0.5
comp=Z,15nm,0.7s
EYMN Ely 34.97 357 *eP* P 10 42 36.1 -0.9
comp=Z,18nm,0.6s
G24A Alzada 34.98 340 ⇑P P 10 42 38.6 +1.3
baz=35,SNR=6.4
J19A Crowheart 35.01 333 ⇓P P 10 42 38.1 +0.5
baz=35,SNR=22
H22A Clearmont 35.02 338 ⇓P P 10 42 38.4 +0.8
baz=35,SNR=11
BGU Big Grassy Mou 35.16 327 *eP* P 10 42 40.5 +1.6
BGU *ePcP* **PcP** 10 45 09.8 +0.7
ARVC Arvin 35.16 314 ⇓P P 10 42 40.4 +1.6
baz=35,SNR=5.2
I20A Worland 35.18 335 ⇑P P 10 42 40.2 +1.2
baz=35,SNR=102
ISA Isabella 35.20 315 *eP* P 10 42 41.3 +2.1
ISA *e*PP* **pP** 10 42 55.3 +0.7
ISA *e* 10 45 10.7
ISA pmax pmax
comp=Z,6.0nm,1.2s
ISA Isabella 35.20 315 *eP* P 10 42 41.3 +2.1
comp=Z,6.0nm,1.2s
ISA *epP* **pP** 10 42 55.3 +0.7
ISA *ePcP* **PcP** 10 45 10.7 +1.5
ISA Isabella 35.20 315 ⇑P P 10 42 41.0 +1.8
baz=35
G23A Biddle 35.20 339 ⇑P P 10 42 40.0 +0.8
baz=35,SNR=15
GRAC Grapevine Rang 35.20 318 ⇑P P 10 42 40.8 +1.6
baz=35
H21A Big Horn, Sher 35.31 337 ⇓P P 10 42 40.8 +0.6
baz=36,SNR=52
LPAZ La Paz 35.37 145 *eP* P 10 42 42.2 +0.7
comp=Z,6.0nm,0.7s
LPAZ La Paz 35.37 145 P P 10 42 42.2 +0.7
comp=Z,5.0nm,0.6s,baz=333,slow=7.9,SNR=29
LPAZ LR LR 10 57 52.8
comp=Z,219nm,20.9s,baz=296,slow=37
E26A Carlson Angus 35.42 343 ⇓P P 10 42 41.2 +0.2
baz=36
F24A Ekalaka 35.45 341 ⇓P P 10 42 41.8 +0.5
baz=36,SNR=30
G22A Birney 35.54 338 ⇓P P 10 42 42.5 +0.4
baz=36,SNR=17
H20A Greybull 35.57 336 ⇑P P 10 42 42.8 +0.5
baz=36,SNR=68
I19A Meeteetse 35.61 334 ⇑P P 10 42 43.6 +0.8
baz=36,SNR=26
HVU Hansel Valley 35.64 328 *eP* P 10 42 44.3 +1.2
HVU pmax pmax
comp=Z,10.0nm,0.9s
HVU Hansel Valley 35.64 328 *eP* P 10 42 44.3 +1.2
comp=Z,9.5nm,0.9s
F23A Volborg 35.66 340 ⇓P P 10 42 43.5 +0.5
baz=36,SNR=32
I18A Diamond G Ranc 35.69 333 ⇑P P 10 42 44.5 +0.9
baz=36,SNR=40
VES Vestal, Richgr 35.71 315 ⇓P P 10 42 44.1 +0.5
baz=36
E25A Miller Ranch, 35.72 342 ⇑P P 10 42 44.4 +0.9
baz=36,SNR=10
PKM Peak Mountain 35.74 313 ⇑P P 10 42 45.2 +1.1
baz=36
AGMN Agassiz Nation 35.76 352 *eP* P 10 42 43.5 -0.3
comp=Z,38nm,0.6s
G21A Lodge Grass 35.88 337 ⇓P P 10 42 45.0 0.0
baz=36,SNR=27
REDW Red Top Meadow 35.89 332 *eP* P 10 42 46.8 +1.5
comp=Z,1.0nm,0.7s
SNOW Snow King Moun 35.93 332 *eP* P 10 42 46.4 +0.8
comp=Z,86nm,0.8s
LOHW Long Hollow 35.98 332 *eP* P 10 42 47.1 +1.1
comp=Z,22nm,0.6s
MDND Maddock 36.00 347 ⇓P P 10 42 45.8 -0.1
baz=36,SNR=29
F22A Rosebud 36.01 339 ⇑P P 10 42 46.5 +0.5
baz=36,SNR=27
TPAW Teton Pass 36.04 332 *eP* P 10 42 48.1 +1.5
comp=Z,33nm,0.8s
E24A Baker 36.05 341 ⇓P P 10 42 47.2 +0.9
baz=36,SNR=15
RCTC Rector, Farmer 36.07 316 ⇑P P 10 42 46.6 0.0
baz=36
RRI2 Red Ridge 36.10 331 *eP* P 10 42 48.7 +1.6
comp=Z,22nm,0.7s
H19A Powell 36.12 335 ⇑P P 10 42 47.5 +0.4
baz=36,SNR=29
MOOW Moose Ponds 36.15 332 *eP* P 10 42 48.4 +1.0
comp=Z,20nm,0.8s
I17A Pilgrim Ck. 36.20 333 ⇑P P 10 42 49.2 +1.2
baz=36,SNR=10
DCID1 Drake Creek 36.23 332 *eP* P 10 42 50.2 +2.1
comp=Z,24nm,0.7s
ELK Elko 36.25 325 *eP* P 10 42 50.1 +1.8
comp=Z,5.6nm,0.7s
ELK *ePcP* **PcP** 10 45 13.5 +1.0
G20A Bridger 36.26 336 ⇑P P 10 42 48.6 +0.3
baz=36,SNR=7.9
E23A Ismay 36.31 340 ⇓P P 10 42 49.2 +0.6
baz=36,SNR=31
IMW Indian Meadow 36.35 332 *eP* P 10 42 50.1 +0.9
comp=Z,18nm,0.7s
IMW *ePcP* **PcP** 10 45 13.2 +0.5
F21A Absaloka Mine, 36.36 338 ⇑P P 10 42 48.8 -0.2
baz=36
PTRM Twissleman Ran 36.40 314 *eP* P 10 42 51.1 +1.5
H18A Shoshone NF, C 36.41 334 ⇓P P 10 42 50.2 +0.5
baz=37,SNR=135
E22A Miles City 36.47 340 ⇓P P 10 42 50.6 +0.6
baz=37
MLAC Mammoth Lakes 36.52 318 ⇑P P 10 42 50.3 -0.5
baz=37
NV11 Mina Array Sit 36.54 319 *eP* P 10 42 52.5 +1.7
D24A Glendive 36.55 342 ⇓P P 10 42 51.7 +1.1
baz=37,SNR=32
H17A Grant Village 36.58 333 ⇑P P 10 42 52.2 +1.1
baz=37,SNR=15
I16A Newdale 36.58 332 ⇑P P 10 42 52.0 +0.9
baz=37,SNR=12
RLMT Red Lodge 36.60 335 *eP* P 10 42 51.9 +0.6
comp=Z,46nm,0.8s
NVAR Mina Array Bea 36.63 319 P P 10 42 53.9 +2.2
NVAR PcP **PcP** 10 45 15.2 +1.5
NVAR pPcP 10 45 31.9
NVAR Mina Array Bea 36.63 319 P P 10 42 53.9 +2.2
comp=Z,9.8nm,0.7s,baz=132,slow=7.0,SNR=101
NVAR PcP **PcP** 10 45 15.2 +1.5
comp=Z,13nm,0.6s,baz=134,slow=4.0,SNR=18
NVAR pPcP 10 45 31.9
comp=Z,5.0nm,0.5s,baz=141,slow=4.3,SNR=7.6
NVAR LR LR 10 59 33.8
comp=Z,248nm,18.2s,baz=243,slow=39
LKWY Lake 36.63 333 *eP* P 10 42 53.9 +2.3
LKWY pmax pmax
comp=Z,13nm,0.8s
LKWY Lake 36.63 333 *eP* P 10 42 53.9 +2.3
comp=Z,13nm,0.8s
F20A Billings 36.72 337 ⇓P P 10 42 52.5 +0.4
baz=37,SNR=33
YFT Old Faithful 36.74 333 *eP* P 10 42 54.9 +2.4
comp=Z,34nm,0.7s
D23A Lindsay 36.87 341 ⇑P P 10 42 54.1 +0.7
baz=37,SNR=17
G18A Lazy EL Ranch, 36.88 335 ⇓P P 10 42 54.1 +0.5
baz=37,SNR=67
C24A Savage 36.95 342 ⇓P P 10 42 54.8 +0.8
baz=37,SNR=19
E21A Keefer Ranch, 36.95 339 ⇓P P 10 42 54.7 +0.7
baz=37,SNR=34
YMR Madison River 36.96 333 *eP* P 10 42 56.0 +1.6
comp=Z,50nm,0.8s
F19A Roth Farm, Mol 37.08 336 ⇓P P 10 42 55.9 +0.7
baz=37,SNR=76
H16A Russell Place, 37.12 333 ⇑P P 10 42 57.0 +1.4
baz=37,SNR=44
D22A Cohagen 37.17 340 ⇑P P 10 42 57.0 +1.1
baz=37,SNR=40
BMN Battle Mountai 37.19 323 *eP* P 10 42 58.1 +1.8
BMN pmax pmax
comp=Z,13nm,0.8s
BMN Battle Mountai 37.19 323 *eP* P 10 42 58.1 +1.8
comp=Z,13nm,0.8s
QLMT Earthquake Lak 37.30 333 *eP* P 10 42 59.6 +2.4
E20A Meyer Farm, Mu 37.30 338 ⇑P P 10 42 58.1 +1.0
baz=38,SNR=117
GCMT Greycliff 37.31 335 *eP* P 10 42 58.0 +0.8
comp=Z,30nm,0.7s
D21A La Casta Ranch 37.38 339 ⇓P P 10 42 58.7 +1.1
baz=38,SNR=24
G17A Pierce Place, 37.38 334 ⇓P P 10 42 59.7 +1.8
baz=38,SNR=66
WAKR Walker 37.41 318 *eP* P 10 43 00.1 +1.9
C23A Lambert 37.42 341 ⇑P P 10 42 59.0 +1.0
baz=38,SNR=18
F18A Big Timber 37.42 335 ⇓P P 10 42 58.8 +0.7
baz=38,SNR=98
E19A Rath Farm, Rou 37.52 337 ⇓P P 10 42 59.5 +0.6
baz=38,SNR=48
I14A Mackay 37.55 330 ⇑P P 10 43 00.7 +1.3
baz=38,SNR=42
C22A Vida 37.59 341 ⇓P P 10 43 00.5 +1.0
baz=38,SNR=25
ULM Lac du Bonnet 37.68 352 *eP* P 10 42 59.2 -0.9
comp=Z,29nm,0.7s
ULM Lac du Bonnet 37.68 352 P P 10 42 59.0 -1.1
comp=Z,33nm,0.7s,baz=168,slow=8.5,SNR=33
ULM LR LR 11 00 37.5
comp=Z,245nm,21.8s,baz=330,slow=40
DGMT Dagmar 37.73 343 *eP* P 10 43 01.5 +1.0
comp=Z,102nm,0.6s
DGMT Dagmar 37.73 343 ⇓P P 10 43 01.2 +0.7
baz=38,SNR=48
CMB Columbia Colle 37.77 317 *eP* P 10 43 02.5 +1.4
CMB *e* 10 45 18.1
CMB pmax pmax
comp=Z,3.0nm,0.9s
CMB Columbia Colle 37.77 317 *eP* P 10 43 02.5 +1.4
comp=Z,2.9nm,0.9s
CMB *ePcP* **PcP** 10 45 18.1 +1.2
F17A Fitzpatrick Pl 37.81 335 ⇑P P 10 43 02.6 +1.1
baz=38,SNR=27
SAO San Andreas Ge 37.82 315 *eP* P 10 43 03.4 +1.9
SAO pmax pmax
comp=Z,4.0nm,0.9s
SAO San Andreas Ge 37.82 315 *eP* P 10 43 03.4 +1.9
comp=Z,3.5nm,0.9s
MCMT McKenzie Canyo 37.94 332 *eP* P 10 43 04.5 +1.8
comp=Z,28nm,0.8s
B23A Brockton 37.96 342 ⇑P P 10 43 03.4 +0.9
baz=38,SNR=38
BOZ Bozeman (W) 38.02 333 *eP* P 10 43 04.1 +0.9
BOZ pmax pmax
comp=Z,23nm,0.7s
BOZ Bozeman (W) 38.02 333 *eP* P 10 43 04.1 +0.9
comp=Z,23nm,0.7s
E18A Harlowton 38.05 336 ⇑P P 10 43 04.2 +0.8
baz=38,SNR=60
PAHR Pah Rah Range 38.06 320 *eP* P 10 43 05.8 +2.1
comp=Z,5.2nm,0.8s
C21A Desert Coulee 38.07 340 ⇑P P 10 43 04.3 +0.8
baz=38,SNR=14
A24A Westby 38.08 343 ⇑P P 10 43 04.5 +0.9
baz=38,SNR=22
B22A Reddig Ranch S 38.12 341 ⇑P P 10 43 04.7 +0.8
baz=38,SNR=7.5
F16A Kennard Place, 38.13 334 ⇓P P 10 43 05.1 +1.0
baz=38,SNR=102
D19A Cripps Ranch, 38.14 337 ⇓P P 10 43 05.0 +0.9
baz=38,SNR=139
DLMT Dillon 38.23 332 *eP* P 10 43 06.5 +1.5
comp=Z,26nm,0.8s
C20A Veseth Ranch, 38.28 339 ⇑P P 10 43 06.3 +1.1
baz=38,SNR=58
I12A Atlanta 38.30 328 ⇑P P 10 43 06.4 +0.8
baz=38
E17A Martinsdale 38.34 335 ⇑P P 10 43 06.8 +0.8
baz=38,SNR=50
A23A Redstone 38.37 343 ⇓P P 10 43 07.1 +1.1
baz=39,SNR=16
MFID Camas Ranch 38.39 327 *eP* P 10 43 07.5 +1.2
comp=Z,7.5nm,0.9s
MFID *ePcP* **PcP** 10 45 19.9 +1.1
MFID Camas Ranch 38.39 327 ⇑P P 10 43 06.6 +0.3
baz=39,SNR=14
D18A Linhart Farms, 38.52 337 ⇓P P 10 43 08.4 +1.1
baz=39,SNR=66
LRM Limekiln Ridge 38.52 333 *eP* P 10 43 08.7 +1.1
F15A Butte 38.55 333 ⇑P P 10 43 08.7 +1.0
baz=39,SNR=20
B21A Ellsworth Farm 38.56 340 ⇑P P 10 43 08.5 +1.0
baz=39
C19A Slack Wire Ran 38.68 338 ⇑P P 10 43 09.5 +0.9
baz=39,SNR=149
H12A Diamond D Ranc 38.70 330 ⇑P P 10 43 09.6 +0.7
baz=39,SNR=17
A22A Carney Farms, 38.71 342 ⇓P P 10 43 10.0 +1.2
baz=39,SNR=13
E16A East Helena 38.74 334 ⇓P P 10 43 10.1 +0.8
baz=39,SNR=52
BEKR Beckworth 38.77 320 *eP* P 10 43 10.4 +0.8
comp=Z,2.3nm,0.8s
D17A Six Diamond Ra 38.83 336 ⇑P P 10 43 10.8 +0.9
baz=39,SNR=125
B20A Solberg Farm, 38.91 339 ⇓P P 10 43 11.4 +0.9
baz=39,SNR=15

F14A Wisdom 38.93 332 ⇑P P 10 43 11.6 +0.7
baz=39,SNR=18
HRY Holter Researc 38.95 334 eP P 10 43 12.1 +1.2
A21A Bergtoll Ranch 39.02 341 ⇑P P 10 43 12.8 +1.3
baz=39,SNR=5.1
D16A Dana Ranch, Ca 39.08 335 ⇓P P 10 43 13.1 +1.0
baz=39,SNR=106
EGMT Eagleton 39.18 337 eP P 10 43 14.0 +1.2
comp=Z,89nm,0.8s
EGMT Eagleton 39.18 337 ⇑P P 10 43 13.9 +1.1
baz=39,SNR=62
OHCM Honcut 39.19 318 eP P 10 43 14.5 +1.5
OHCM ePcP PcP 10 45 22.8 +1.6
B19A Brinkman Farms 39.25 338 ⇓P P 10 43 14.4 +1.0
baz=39,SNR=58
C17A Wharram Farm, 39.25 336 ⇓P P 10 43 14.2 +0.8
baz=39,SNR=84
A20A Cobblestone Ra 39.26 340 ⇑P P 10 43 14.4 +1.0
baz=39,SNR=37
WVOR Wild Horse Val 39.28 324 eP P 10 43 14.4 +0.6
WVOR pmax pmax
comp=Z,11nm,0.7s
WVOR Wild Horse Val 39.28 324 eP P 10 43 14.4 +0.6
comp=Z,11nm,0.7s
G12A Big Creek, Yel 39.35 330 ⇑P P 10 43 14.4 0.0
baz=40,SNR=14
B18A Beardsley Farm 39.50 338 ⇑P P 10 43 16.3 +0.9
baz=40,SNR=20
D15A Lincoln 39.50 334 ⇑P P 10 43 16.4 +0.8
baz=40
SIV San Ignacio 39.55 136 P P 10 43 16.5 +0.2
SIV pP pP 10 43 31.5 -0.3
SIV PcP PcP 10 45 23.2 +0.5
SIV pPcP 10 45 40.7
SIV San Ignacio 39.55 136 P P 10 43 16.5 +0.2
comp=Z,13nm,0.6s,baz=322,slow=9.4,SNR=49
SIV pP pP 10 43 31.5 -0.3
comp=Z,25nm,0.8s,baz=319,slow=9.3,SNR=14
SIV PcP PcP 10 45 23.2 +0.5
comp=Z,10nm,0.7s,baz=350,slow=1.7,SNR=6.4
SIV pPcP 10 45 40.7
comp=Z,11nm,0.7s,baz=326,slow=3.1,SNR=6.4
A19A Klindworth Far 39.58 339 ⇑P P 10 43 17.0 +0.9
baz=40,SNR=8.8
CHMT Chamberlain Mo 39.72 333 eP P 10 43 18.0 +0.5
C16A Fuhringer Ranc 39.78 335 ⇑P P 10 43 18.6 +0.8
baz=40,SNR=73
B17A L&G Farms, Che 39.80 337 ⇑P P 10 43 18.3 +0.3
baz=40,SNR=25
MOD Modoc 39.92 322 eP P 10 43 19.6 +0.4
comp=Z,3.2nm,0.7s
MOD ePcP PcP 10 45 25.0 +1.3
D14A Greenough 39.96 333 ⇓P P 10 43 19.3 -0.1
baz=40,SNR=40
MSO Missoula 39.96 333 eP P 10 43 19.9 +0.6
comp=Z,16nm,0.9s
MSO Missoula 39.96 333 ⇑P P 10 43 19.8 +0.4
baz=40,SNR=38
A18A Metzger Ranch, 39.96 338 ⇓P P 10 43 20.0 +0.8
baz=40,SNR=54
SLMT Seeley Lake 40.07 333 eP P 10 43 20.6 +0.2
C15A Salmond Ranch, 40.11 335 ⇑P P 10 43 21.3 +0.7
baz=40,SNR=74
BMO Blue Mountains 40.15 328 eP P 10 43 20.1 -0.9
comp=Z,4.3nm,0.7s
LVC Limon Verde 40.24 151 eP P 10 43 23.9 +1.8
comp=Z,11nm,0.9s
LVC Limon Verde 40.24 151 P P 10 43 23.8 +1.8
comp=Z,13nm,0.8s,baz=301,slow=9.7,SNR=6.2
B16A M & M Farms, S 40.26 336 ⇑P P 10 43 22.0 +0.3
baz=40,SNR=46
A17A Triple J Farms 40.30 337 ⇑P P 10 43 22.7 +0.6
baz=40,SNR=121
D13A Huson 40.39 333 ⇓P P 10 43 23.2 +0.3
baz=41,SNR=48
E12A Beaver Dam Sad 40.40 331 ⇓P P 10 43 22.9 -0.2
baz=41,SNR=31
SWMT Swartz Lake 40.50 333 eP P 10 43 24.1 +0.3
B15A Bradely Ranch, 40.52 335 ⇑P P 10 43 24.3 +0.4
baz=41,SNR=59
C14A Swan Lake 40.59 334 ⇑P P 10 43 24.6 +0.1
baz=41,SNR=16
A16A West Butte Ran 40.64 337 ⇑P P 10 43 25.6 +0.6
baz=41
KIPM Iron Peak 40.75 317 eP P 10 43 27.4 +1.3
comp=Z,8.8nm,0.8s
KCPM Cahto Peak 40.76 317 eP P 10 43 27.4 +1.4
comp=Z,2.8nm,0.8s
YBMT Yellow Bay 40.78 334 eP P 10 43 26.7 +0.6
comp=Z,7.9nm,0.8s
JTMT Jette 40.80 333 eP P 10 43 27.2 +0.9
B14A Marquette Ranc 40.85 335 ⇓P P 10 43 27.3 +0.5
baz=41,SNR=41
C13A Hot Springs 40.88 333 ⇑P P 10 43 27.1 +0.2
baz=41,SNR=16
BLMT Blacktail Moun 41.04 334 eP P 10 43 29.5 +1.1
BSMT Bassoo Peak 41.11 333 eP P 10 43 29.8 +0.9
A15A Johnson Ranch, 41.12 336 ⇑P P 10 43 29.2 +0.4
baz=41,SNR=167
YBH Yreka Blue Hor 41.29 320 eP P 10 43 29.1 -1.3
comp=Z,2.8nm,0.8s
YBH PcP PcP 10 45 28.4 +0.3
YBH pPcP 10 45 45.4
YBH Yreka Blue Hor 41.29 320 P P 10 43 29.2 -1.3
comp=Z,3.0nm,0.8s,baz=103,slow=5.2,SNR=21
YBH PcP PcP 10 45 28.4 +0.3
comp=Z,3.9nm,0.7s,baz=283,slow=3.8,SNR=12
YBH pPcP 10 45 45.4
comp=Z,2.6nm,0.8s,baz=66,slow=5.2,SNR=3.6
C12B Naegeli Ranch, 41.31 332 ⇑P P 10 43 30.7 +0.3
baz=42,SNR=17
B13A Whitefish 41.36 334 ⇓P P 10 43 31.6 +0.7
baz=42,SNR=32
A14A Double T Ranch 41.39 335 ⇓P P 10 43 31.7 +0.6
baz=42,SNR=142
KHMM Horse Mountain 41.47 319 eP P 10 43 32.9 +0.9
comp=Z,9.4nm,0.8s
KHMM ePcP PcP 10 45 31.2 +2.5
WALA Waterton Lakes 41.66 335 eP P 10 43 34.1 +0.7
comp=Z,0.6nm,0.8s
C11A Tepee Creek (N 41.76 332 ⇓P P 10 43 34.3 +0.2
baz=42
A13A Flathead Natio 41.77 334 ⇓P P 10 43 34.9 +0.7
baz=42
B12A Libby 41.93 333 ⇑P P 10 43 35.9 +0.5
baz=42,SNR=8.3
A12A Yaak River Ran 42.30 333 ⇓P P 10 43 39.1 +0.6
baz=42
HAWA Hanford 42.34 328 eP P 10 43 38.8 0.0
comp=Z,6.1nm,0.8s
NEW Newport 42.47 332 eP P 10 43 39.6 -0.3
comp=Z,6.8nm,0.9s
NEW PcP PcP 10 45 31.2 -0.5
NEW Newport 42.47 332 P P 10 43 39.5 -0.3
comp=Z,6.7nm,0.8s,baz=139,slow=9.0,SNR=18
NEW PcP PcP 10 45 31.2 -0.5
comp=Z,2.8nm,0.6s,baz=202,slow=4.1,SNR=3.3
NEW Newport 42.47 332 ⇑P P 10 43 39.5 -0.3
baz=43,SNR=13
KBO Bosley Butte 42.50 320 eP P 10 43 41.1 +0.8
comp=Z,7.8nm,0.7s
OD2 Odessa Site #2 42.61 330 P P 10 43 41.5 +0.6
FFC Flin Flon 42.99 349 iP P 10 43 44.1 +0.2
FFC Flin Flon 42.99 349 eP P 10 43 44.2 +0.2
comp=Z,24nm,0.5s
EBG Ellensburg 43.22 328 P P 10 43 47.0 +1.1
LON Longmire 43.77 327 eP P 10 43 50.3 -0.1
LON e 10 45 36.2
LON pmax pmax
comp=Z,5.0nm,0.8s
LON Longmire 43.77 327 eP P 10 43 50.3 -0.1
comp=Z,5.0nm,0.8s
LON ePcP PcP 10 45 36.2 0.0
PNT Penticton 44.38 331 P P 10 43 55.9 +0.7
PNT Penticton 44.38 331 P P 10 43 55.9 +0.7
B06A Marblemount 44.74 329 P P 10 43 58.0 -0.1
JCW Jim Creek 44.76 328 P P 10 43 57.9 -0.3
CMW Cultus Mountai 45.00 329 P P 10 43 59.9 -0.3
SCHQ Schefferville 45.11 18 eP P 10 43 60.0 -0.9
comp=Z,30nm,0.7s
SCHQ Schefferville 45.11 18 P P 10 43 60.0 -0.9
comp=Z,30nm,0.7s,baz=216,slow=6.8,SNR=39
SCHQ LR LR 11 03 44.2
comp=Z,273nm,18.6s,baz=135,slow=37
MBW Mount Baker 45.13 329 P P 10 44 01.0 -0.3
BLN Blyn Mountain 45.18 328 P P 10 44 01.7 +0.2
NLWA Neilton Lookou 45.27 326 eP P 10 44 03.3 +1.0
comp=Z,21nm,1.2s
PGC Sidney 45.83 328 eP P 10 44 07.3 +0.7
comp=Z,1.0nm,0.8s
CFAA Coronel Fontan 48.39 157 P P 10 44 27.7 +0.9
CFAA PcP PcP 10 45 53.0 +0.5
CFAA pPcP 10 46 09.6
CFAA Coronel Fontan 48.39 157 P P 10 44 27.7 +0.9
comp=Z,0.9nm,0.9s,baz=334,slow=6.7,SNR=13
CFAA PcP PcP 10 45 53.0 +0.5
comp=Z,1.1nm,1.2s,baz=271,slow=6.2,SNR=2.8
CFAA pPcP 10 46 09.6
comp=Z,0.5nm,0.8s,baz=157,slow=1.8,SNR=3.8
BDFB Brasilia 49.13 124 P P 10 44 30.7 -2.1
BDFB PcP PcP 10 45 56.0 +0.4
BDFB pPcP 10 46 14.0
BDFB Brasilia 49.13 124 P P 10 44 30.7 -2.1
comp=Z,11nm,0.7s,baz=276,slow=9.9,SNR=21
BDFB PcP PcP 10 45 56.0 +0.4
comp=Z,6.2nm,0.9s,baz=250,slow=3.4,SNR=3.7
BDFB pPcP 10 46 14.0
comp=Z,9.5nm,0.9s,baz=272,slow=3.8,SNR=5.1
BDFB LR LR 11 04 33.9
comp=Z,116nm,19.1s,baz=312,slow=35
CPUP Villa Florida 49.45 142 P P 10 44 34.1 -0.9
CPUP PcP PcP 10 45 57.3 +0.9
CPUP pPcP 10 46 15.1
CPUP Villa Florida 49.45 142 P P 10 44 34.1 -0.9
comp=Z,3.6nm,0.6s,baz=316,slow=8.4,SNR=15
CPUP PcP PcP 10 45 57.3 +0.9
comp=Z,2.1nm,0.6s,baz=223,slow=1.6,SNR=3.2
CPUP pPcP 10 46 15.1
comp=Z,2.4nm,0.5s,baz=313,slow=4.0,SNR=4.2
CPUP LR LR 11 06 26.4
comp=Z,126nm,20.7s,baz=75,slow=37
YKA Yellowknife Ar 52.86 345 P P 10 44 59.5 -0.5
YKA pP pP 10 45 15.2 -1.0
YKA PcP PcP 10 46 07.5 -0.9
YKA Yellowknife Ar 52.86 345 P P 10 44 59.5 -0.5
comp=Z,41nm,0.8s,baz=140,slow=7.6,SNR=503
YKA pP pP 10 45 15.2 -1.0
comp=Z,6.9nm,0.6s,baz=130,slow=8.5,SNR=5.3
YKA PcP PcP 10 46 07.5 -0.9
comp=Z,5.5nm,0.7s,baz=147,slow=3.9,SNR=6.5
YKA LR LR 11 10 07.0
comp=Z,11nm,19.7s,baz=75,slow=39
YKW3 Yellowknife Ar 52.92 345 eP P 10 44 59.9 -0.5
comp=Z,0.9nm,0.8s
PLCA Paso Flores 55.95 164 eP P 10 45 23.1 +0.2
comp=Z,119nm,2.4s
PLCA Paso Flores 55.95 164 P P 10 45 23.3 +0.5
comp=Z,18nm,1.3s,baz=346,slow=6.2,SNR=7.0
PLCA LR LR 11 06 28.5
comp=Z,126nm,18.1s,baz=359,slow=33
TRQA Tornquist 56.52 155 eP P 10 45 26.2 -0.6
comp=Z,25nm,1.4s
RKT Rikitea 57.89 232 eS S 10 53 35.4 +3.1
comp=Z,222nm,30.5s
RKT eLR LR 11 02 35.2
comp=Z,353nm,28.2s,baz=51
EGAK Eagle 62.95 338 eP P 10 46 10.1 -0.6
comp=Z,12nm,0.8s
MENT Mentasta 63.09 335 eP P 10 46 11.1 -0.6
DIV Divide 63.21 333 eP P 10 46 12.6 0.0
comp=Z,18nm,0.9s
PAX Paxson 63.83 335 eP P 10 46 16.1 -0.5
PAX pmax pmax
comp=Z,11nm,0.7s
PAX Paxson 63.83 335 eP P 10 46 16.1 -0.5
comp=Z,11nm,0.7s
SML Sawmill 64.61 333 eP P 10 46 21.5 -0.2
SML Sawmill 64.61 333 eP P 10 46 21.5 -0.2
PMR Palmer 64.88 333 eP P 10 46 23.1 -0.3
PMR pmax pmax
comp=Z,10.0nm,0.6s
PMR Palmer 64.88 333 eP P 10 46 23.1 -0.3
comp=Z,10nm,0.6s
ILAR Eielson Array 65.14 336 P P 10 46 24.2 -0.8
ILAR Eielson Array 65.14 336 P P 10 46 24.2 -0.8
comp=Z,14nm,0.7s,baz=147,slow=3.7,SNR=188
KDAK Kodiak Island 65.38 328 P P 10 46 26.8 +0.2
KDAK Kodiak Island 65.38 328 P P 10 46 26.8 +0.2
comp=Z,6.8nm,0.7s,baz=89,slow=6.3,SNR=7.3
COLA College 65.56 336 eP P 10 46 27.1 -0.6
COLA College 65.56 336 eP P 10 46 27.1 -0.6
MCK McKinley 65.56 335 eP P 10 46 27.3 -0.5
MCK pmax pmax
comp=Z,24nm,0.9s
MCK McKinley 65.56 335 eP P 10 46 27.3 -0.5
comp=Z,24nm,0.9s
TRF Thorofare Moun 66.03 334 eP P 10 46 29.6 -1.4
comp=Z,26nm,0.8s
SPU Mount Spurr 66.08 332 eP P 10 46 30.9 -0.3
RSO Redoubt South 66.20 331 eP P 10 46 31.9 -0.3
SUMG Summit 66.37 15 eP P 10 46 32.6 -0.7
SUMG e*PP pP 10 46 49.7 -0.3
SUMG pmax pmax
comp=Z,15nm,0.9s
SUMG Summit 66.37 15 iP P 10 46 32.8 -0.5
SUMG i 10 46 48.8
SUMG pmax pmax
comp=Z,5.0nm,0.9s
SUMG Summit 66.37 15 eP P 10 46 32.6 -0.7
comp=Z,15nm,0.9s
SUMG epP pP 10 46 49.7 -0.3
SUMG Summit 66.37 15 iP P 10 46 32.8 -0.5
comp=Z,4.8nm,0.9s
SUMG i 10 46 48.8
COLD Coldfoot 67.34 338 eP P 10 46 39.6 +0.5
comp=Z,21nm,0.8s
PPT Papeete 67.46 245 LR LR 11 08 01.7
comp=Z,175nm,18.1s,baz=162,slow=28
PPT2 Papeete2 67.47 245 eLR LR 11 06 59.3
comp=Z,557nm,26.8s,baz=56
SVW2 Sparrevohn 67.71 331 eP P 10 46 40.2 -1.4
comp=Z,7.5nm,0.6s
CHGN Chignik 68.17 326 eP P 10 46 43.5 -1.0
CHGN epP pP 10 46 60.0 -1.3
TBI Tubuai 69.66 239 eLR LR 11 08 05.0
comp=Z,359nm,27.2s,baz=59
DAG Danmarks Havn 72.90 13 iP P 10 47 11.1 -1.8
DAG i 10 47 28.1
DAG pmax pmax
comp=Z,3.0nm,0.6s
DAG Danmarks Havn 72.90 13 iP P 10 47 11.1 -1.8
comp=Z,5.0nm,0.6s
DAG i 10 47 28.1
EVO Evora 74.68 53 epP pP 10 47 43.2 +2.1
EVO Evora 74.68 53 eP P 10 47 22.8 -1.3
comp=Z,15nm,0.9s
ESDC Sonseca Array 77.71 52 P P 10 47 38.8 -2.5
ESDC pP pP 10 47 56.8 -1.7
ESDC Sonseca Array 77.71 52 P P 10 47 38.8 -2.5
comp=Z,2.5nm,0.8s,baz=289,slow=5.6,SNR=13
ESDC pP pP 10 47 56.8 -1.7
comp=Z,1.1nm,0.6s,baz=284,slow=5.2,SNR=4.9
ESDC LR LR 11 17 07.1
comp=Z,88nm,20.4s,baz=290,slow=32
RAR Rarotonga 77.74 245 LR LR 11 13 09.8
comp=Z,122nm,18.2s,baz=135,slow=29
GRR Gorron 78.91 43 epP pP 10 48 03.3 -1.5
GRR Gorron 78.91 43 eP P 10 47 46.3 -1.4
comp=Z,10nm,0.8s
FLN La Foliniere 79.11 42 eP P 10 47 47.4 -1.4
SJPF Ste Jean 79.33 48 eP P 10 47 48.7 -1.4
SJPF epP pP 10 48 07.2 -0.1
LOR Lormes 82.22 43 eP P 10 48 04.7 -0.8
LIC Lamto 82.32 85 eP P 10 48 05.7 -0.9
comp=Z,7.7nm,0.6s
DBIC Dimbokro 82.39 85 LR LR 11 19 48.0
comp=Z,77nm,18.5s,baz=308,slow=32
NOA NORSAR Array B 83.44 29 P P 10 48 09.7 -1.9
NOA NORSAR Array B 83.44 29 P P 10 48 09.7 -1.9
comp=Z,1.1nm,0.7s,baz=285,slow=4.9,SNR=3.5
NOA LR LR 11 21 10.9
comp=Z,85nm,21.6s,baz=275,slow=33
BILL Bilibino 83.67 339 eP P 10 48 11.8 -0.7
BILL e*PP pP 10 48 29.3 -0.5
BILL e 10 51 22.1
BILL eS S 10 58 28.5 -1.5
BILL eSS SS 11 03 57.8 +0.7
HAU Haudompre 83.72 42 eP P 10 48 11.7 -1.5
HINF Hinteralfeld 84.09 42 eP P 10 48 13.4 -1.8
HINF epP pP 10 48 30.4 -2.1
CDF Champ du Feu 84.24 42 epP pP 10 48 31.4 -1.9
CDF Champ du Feu 84.24 42 eP P 10 48 14.4 -1.5
FX1 Attu Island--F 84.73 323 eP P 10 48 17.8 -0.4
ARCES ARCESS Array B 86.05 19 P P 10 48 22.6 -1.9
ARCES ARCESS Array B 86.05 19 P P 10 48 22.6 -1.9
comp=Z,2.5nm,0.8s,baz=316,slow=5.1,SNR=4.2
AFI Afiamalu 86.67 255 LR LR 11 17 45.2
comp=Z,128nm,18.4s,baz=43,slow=29
CLL Collm 87.07 38 eP P 10 48 28.0 -1.8
CLL e*PP pP 10 48 46.0 -1.2
CLL Collm 87.07 38 eP P 10 48 28.0 -1.8
CLL epP pP 10 48 46.0 -1.2
CLL esP sP 10 48 54.0 0.0
CLL L L 11 25 00.0
comp=Z,100nm,20.7s
TORD Torodi Ar. Bea 87.33 77 P P 10 48 28.0 -3.7
TORD Torodi Ar. Bea 87.33 77 P P 10 48 28.0 -3.7
comp=Z,0.3nm,0.6s,baz=283,slow=5.6,SNR=7.3
TORD LR LR 11 22 59.6
comp=Z,77nm,19.6s,baz=280,slow=32
KHC Kasperske Hory 88.07 40 eP P 10 48 30.8 -3.9
KHC e 10 48 49.3
KHC Kasperske Hory 88.07 40 eP P 10 48 30.8 -3.9
KHC epP pP 10 48 49.3 -2.9
KHC esP sP 10 48 58.8 -0.2
GERES GERESS Array B 88.24 40 P P 10 48 34.0 -1.6
GERES pP pP 10 48 50.9 -2.1
GERES GERESS Array B 88.24 40 P P 10 48 34.0 -1.6
comp=Z,0.4nm,0.4s,baz=321,slow=1.3,SNR=4.9
GERES pP pP 10 48 50.9 -2.1
comp=Z,1.0nm,0.8s,baz=302,slow=2.2,SNR=3.6
GERES LR LR 11 23 23.1
comp=Z,108nm,20.9s,baz=295,slow=32
PRU Pruhonice 88.41 39 AMS AMS 11 23 20.0
comp=Z,100nm,21.9s
KEST Kesra 88.81 54 LR LR 11 22 46.8
comp=Z,30nm,19.2s,baz=230,slow=32
TREC Trest 89.21 39 AMS AMS 11 23 30.0
comp=Z,100nm,15.8s
DPC Dobruska-Polom 89.37 38 eP P 10 48 39.5 -1.3
DPC e 10 48 57.6
DPC Dobruska-Polom 89.37 38 eP P 10 48 39.5 -1.3
DPC epP pP 10 48 57.6 -0.7
DPC esP sP 10 49 05.7 +0.6
TIXI Tiksi 91.95 349 eP P 10 48 50.8 -1.5
TIXI pmax pmax
comp=Z,9.0nm,1.1s
SNAA Sanae 100.84 161 ePdiff Pdif 10 49 32.6 0.0
QSPA South Pole Qui 102.91 180 Pdif Pdif 10 49 43.8 +1.9
QSPA South Pole Qui 102.91 180 Pdiff Pdif 10 49 43.8 +1.9
comp=Z,1.7nm,1.1s,baz=124,slow=2.4,SNR=5.5
BRTR Keskin Array B 104.98 43 PKKPbc PKKPbc 11 05 33.6 -1.2
BRTR Keskin Array B 104.98 43 PKKPbc PKKPbc 11 05 33.6 -1.2
comp=Z,0.6nm,0.5s,baz=152,slow=5.6,SNR=3.9
ZALV Zalesovo Beam 113.12 4 PKIKP PKiKP 10 54 19.9 -1.3
ZALV 10 55 07.4
ZALV Zalesovo Beam 113.12 4 PKiKP PKiKP 10 54 19.9 -1.3
ZALV PP PP 10 55 07.3 -2.9
ZALV Zalesovo Beam 113.12 4 PKiKP PKiKP 10 54 19.9 -1.3
comp=Z,0.9nm,0.4s,baz=249,slow=1.6,SNR=4.1
ZALV PP PP 10 55 07.3 -2.9
comp=Z,1.1nm,0.7s,baz=2.2,slow=7.4,SNR=4.9
MJAR Matsushiro Arr 113.95 320 PKiKP PKiKP 10 54 22.5 -0.8
MJAR Matsushiro Arr 113.95 320 PKiKP PKiKP 10 54 22.5 -0.8
comp=Z,0.5nm,0.5s,baz=91,slow=0.9,SNR=4.6
BOSA Boshof 116.86 116 PKP PKPdf 10 54 29.0 -0.2
BOSA pPKP pPKPdf 10 54 46.5 -0.9
BOSA Boshof 116.86 116 PKP PKPdf 10 54 29.0 -0.2
comp=Z,7.7nm,0.8s,baz=274,slow=1.6,SNR=15
BOSA pPKP pPKPdf 10 54 46.5 -0.9
comp=Z,7.8nm,0.9s,baz=312,slow=3.4,SNR=6.2
LBTB Lobatse 117.08 112 ePKPdf PKPdf 10 54 30.2 +0.5
SONM Songino Array 118.04 349 PKP PKPdf 10 54 30.4 -0.7
SONM PKKPbc PKKPbc 11 04 50.6 -1.7
SONM Songino Array 118.04 349 PKP PKPdf 10 54 30.4 -0.7
comp=Z,2.5nm,0.6s,baz=158,slow=0.9,SNR=13
SONM PKKPbc PKKPbc 11 04 50.6 -1.7
comp=Z,0.4nm,0.4s,baz=224,slow=4.1,SNR=4.0
KSRS Korea Array 119.28 327 PKP PKPdf 10 54 33.8 +0.3
comp=Z,5.1nm,0.6s,baz=12,slow=1.6,SNR=34
KSRS pPKP pPKPdf 10 54 50.8 -0.9
comp=Z,3.5nm,0.7s,baz=9.5,slow=1.7,SNR=8.1
KSAR Wonju Array Be 119.31 327 PKP PKPdf 10 54 33.8 +0.2
KSAR pPKP pPKPdf 10 54 50.8 -1.0
MKAR Makanchi Array 119.96 7 PKiKP PKPdf 10 54 32.6 -2.0
MKAR Makanchi Array 119.96 7 PKP PKPdf 10 54 32.6 -2.0
MKAR PP PP 10 55 44.6 -13
MKAR Makanchi Array 119.96 7 PKP PKPdf 10 54 32.6 -2.0
comp=Z,0.3nm,0.3s,baz=333,slow=2.7,SNR=8.0
MKAR PP PP 10 55 44.6 -13
comp=Z,0.5nm,0.7s,baz=46,slow=4.2,SNR=3.8
MAW Mawson 122.26 167 PKP PKPdf 10 54 38.4 +0.2
MAW Mawson 122.26 167 PKP PKPdf 10 54 38.4 +0.2
comp=Z,2.1nm,0.7s,baz=326,slow=5.2,SNR=6.3
BJI Beijing 122.49 338 PKP PKPdf 10 54 39.6 0.0
BJI SKS SKSdf 11 01 45.4 -1.1
BJI SS SS 11 12 55.5 +4.2
BJI AMB AMB
comp=Z,83nm,6.6s
BJI LR LR
comp=N,82nm,27.4s
BJI LR LR
comp=E,90nm,22.1s
HHC Hu-ho-hao-te 123.33 342 ePKP PKPdf 10 54 44.6 +3.2
HHC PP PP 10 56 30.2 +8.9
HHC PKS PKSdf 10 58 19.6 +1.5
HHC AMB AMB
comp=Z,120nm,6.1s
HHC LR LR
comp=N,190nm,20.2s
HHC LR LR
comp=E,250nm,17.8s
HHC LR LR
comp=Z,250nm,17.8s
WMQ Urumqi 123.40 3 PKP PKPdf 10 54 41.9 +0.5
CTA Charters Tower 127.19 255 PKP PKPdf 10 54 50.0 +0.9
CTA pPKP pPKPdf 10 55 07.2 0.0
CTA Charters Tower 127.19 255 PKP PKPdf 10 54 50.0 +0.9
comp=Z,2.1nm,0.5s,baz=261,slow=15,SNR=4.1
CTA pPKP pPKPdf 10 55 07.2 0.0
comp=Z,3.7nm,0.5s,baz=145,slow=5.0,SNR=3.9
GTA Gaotai 127.33 352 ePKP PKPdf 10 54 48.4 -0.7
GTA sPKP 10 55 16.4
LZH Lanzhou 129.84 347 ePKP PKPdf 10 54 53.1 -0.9
LZH sPKP 10 55 16.2
LZH SKS SKSdf 11 01 56.2 -4.5
LZH SKKS SKKSac 11 03 53.0 -4.5
LZH SS SS 11 14 24.5 +1.2
LZH AMB AMB
comp=Z,100nm,5.8s
LZH LR LR
comp=N,240nm,16.4s
LZH LR LR
comp=E,290nm,19.0s
LZH LR LR
comp=Z,330nm,20.1s
XAN Xi'an 130.40 341 PKP PKPdf 10 54 56.1 +1.1
STKA Stephens Creek 130.45 239 PKP PKPdf 10 54 55.7 +0.7
STKA pPKP pPKPdf 10 55 13.0 -0.2
STKA Stephens Creek 130.45 239 PKP PKPdf 10 54 55.7 +0.7
comp=Z,2.1nm,0.5s,baz=67,slow=3.8,SNR=9.8
STKA pPKP pPKPdf 10 55 13.0 -0.2
comp=Z,9.7nm,1.1s,baz=161,slow=1.5,SNR=8.2
ENH Enshi 133.66 338 ePKPdf PKPdf 10 55 01.2 -0.1
CD2 Chengdu 134.82 345 PKP PKPdf 10 55 02.6 -0.8
CD2 sPKP 10 55 27.8
CD2 PP PP 10 57 40.6 +4.4
CD2 PKS PKSdf 10 58 37.5 -2.4
CD2 SKS SKSdf 11 02 05.3 -4.3
CD2 SKKS SKKSac 11 04 24.3 -3.5
CD2 SS SS 11 15 24.5 +0.9
CD2 AMB AMB
comp=Z,120nm,5.8s
GYA Guiyang 138.13 339 ePdif Pdif 10 52 16.8 -2.8
GYA PKP PKPdf 10 55 07.9 -1.9
GYA sPKP 10 55 33.5
GYA PKS PKSdf 10 58 42.4 -3.8
GYA SKKS 11 04 44.0
GYA SS SS 11 16 02.5 -1.0
GYA AMB AMB
comp=Z,90nm,7.8s
GYA LR LR
comp=N,120nm,21.8s
GYA LR LR
comp=E,110nm,22.0s
GYA LR LR

comp=Z,120nm,20.9s
WRAB Tennant Creek 138.38 255 *e*PKIKP **PKPdf 10 55 11.0 +0.8**
WRAB Tennant Creek 138.38 255 *e*PKPdf **PKPdf 10 55 11.0 +0.8**
WRA Warramunga Arr 138.39 255 PKPpre PKPpre 10 55 00.9
WRA **PKPdf 10 55 10.5 +0.3**
WRA pPKP pPKPdf 10 55 28.2 -0.1
WRA Warramunga Arr 138.39 255 PKhKP PKPpre 10 55 00.9
comp=Z,1.2nm,0.8s,baz=87,slow=3.5,SNR=8.2
WRA PKP **PKPdf 10 55 10.5 +0.3**
comp=Z,6.7nm,0.7s,baz=88,slow=2.0,SNR=37
WRA pPKP pPKPdf 10 55 28.2 -0.1
comp=Z,9.2nm,0.7s,baz=88,slow=2.2,SNR=12
ASAR Alice Springs 138.47 249 PKPpre PKPpre 10 55 00.6
ASAR PKP **PKPdf 10 55 10.7 +0.4**
ASAR Alice Springs 138.47 249 PKhKP PKPpre 10 55 00.6
comp=Z,1.4nm,0.7s,baz=115,slow=3.7,SNR=14
ASAR PKP **PKPdf 10 55 10.7 +0.4**
comp=Z,4.3nm,0.8s,baz=102,slow=1.9,SNR=17
FORT Forrest 141.91 236 *e*PKPdf **PKPdf 10 55 16.6 +0.3**
FITZ Fitzroy Crossi 146.72 257 *e*PKPbc **PKPbc 10 55 27.1 +0.4**
FITZ pPKPbc pPKPbc 10 55 44.1 -0.6
FITZ Fitzroy Crossi 146.72 257 PKPbc **PKPdf 10 55 26.1 +1.2**
comp=Z,26nm,0.9s,baz=126,slow=2.5,SNR=48
FITZ pPKPbc pPKPbc 10 55 44.1 -0.6
comp=Z,32nm,0.9s,baz=99,slow=2.6,SNR=12
HYB Hyderabad 147.24 23 *i* PKP **PKPdf 10 55 26.5 +0.6**
CHTO Chiang Mai 147.59 347 *e*PKIKP **PKPdf 10 55 27.0 +0.6**
CHTO Chiang Mai 147.59 347 *e*PKPdf **PKPdf 10 55 27.0 +0.6**
CM31 Chiang Mai Arr 147.93 347 *e*PKPdf **PKPdf 10 55 27.8 +0.8**
CMAR Chiang Mai Arr 147.93 347 PKPbc **PKPdf 10 55 27.2 +0.2**
CMAR Chiang Mai Arr 147.93 347 PKPbc **PKPdf 10 55 27.2 +0.2**
comp=Z,8.4nm,0.7s,baz=316,slow=2.6,SNR=28
NWAO Narrogin (SRO) 149.19 226 *e*PKPbc **PKPbc 10 55 33.5 +0.6**
NWAO pPKPbc **pPKPbc 10 55 50.4 -0.6**
NWAO Narrogin (SRO) 149.19 226 PKPbc **PKPbc 10 55 33.6 +0.7**
comp=Z,20nm,0.8s,baz=123,slow=4.4,SNR=13
NWAO pPKPbc **pPKPbc 10 55 50.4 -0.6**
comp=Z,41nm,0.9s,baz=132,slow=3.7,SNR=11
KAPI Kappang 151.00 283 PKPbc **PKPbc 10 55 37.5 -0.3**
KAPI Kappang 151.00 283 PKPbc **PKPbc 10 55 37.5 -0.3**
comp=Z,13nm,0.7s,baz=152,slow=3.3,SNR=7.5
MBWA Marble Bar 151.81 249 *e*PKPbc **PKPbc 10 55 39.4 -0.1**

MAN 05 10:41:01,8.40N×124.44E,h7km,mb4.6,ML3.5,MS3.4, 2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.25**	**77**	↑*i* P	Pb	10 41 07.7	-0.3
CGP				*i* S	Sb	10 41 11.5	-1.1
BUKP	**Musuan**	**0.80**	**130**	*e*P	Pg	10 41 16.4	-0.1
BUKP				*e*S	Sg	10 41 25.9	-1.0
CTBH	**Cotabato--PC H**	**1.18**	**190**	↑*i* P	Pg	10 41 23.8	0.0
PAGZ	**Pagadian**	**1.18**	**243**	*e*P	Pg	10 41 23.0	0.8
BUTP	**Butuan**	**1.29**	**64**	*e*P	Pg	10 41 26.0	+0.1
MSLP	**Maasin**	**1.77**	**13**	*e*P	Pn	10 41 32.0	-0.2
IPIL	**Ipil**	**1.95**	**252**	*e*P	Pn	10 41 35.1	+0.6

MAN 05 10:47:27,9.26N×122.96E,h1km,mb3.9,ML2.7,MS2.3, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**0.78**	**150**	*e*P	Pb	10 47 42.9	-0.4
DCPH				*i* S	Sb	10 47 53.5	-0.8
TBP	**Tagbilaran**	**0.99**	**64**	*e*P	Pn	10 47 48.4	+0.4
GUIM	**Jordan**	**1.41**	**345**	*e*P	Pb	10 47 54.1	+0.1
GUIM				*e*S	Sn	10 48 14.5	+1.5
PAGZ	**Pagadian**	**1.46**	**163**	*e*P	Pg	10 47 55.2	+0.1
IPIL	**Ipil**	**1.51**	**195**	*e*P	Pb	10 47 55.9	0.0

IDC 05 10:59:29.1±4.6,19.69S×175.67W,h0km,mb4.0/5, mb1 4.1/5,mb1mx3.7/21,mbtmp4.0/5,MS3.9/1,Ms1 4.0/1, ms1mx2.7/28,Error ellipse: s-maj=149.1km s-min=88.9km az=169.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.76**	**263**	P	P	11 06 31.8	+1.7
	1.7nm,0.2s,baz=108,slow=9.6,SNR=3.8						
STKA	**Stephens Creek**	**40.11**	**244**	P	P	11 07 06.5	-0.2
	1.2nm,0.7s,baz=85,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**46.84**	**256**	P	P	11 08 00.1	-1.1
	1.1nm,0.7s,baz=91,slow=8.3,SNR=29						
ASAR				PcP	PcP	11 09 34.2	-0.1
	0.2nm,0.6s,baz=100,slow=3.6,SNR=6.3						
WRA	**Warramunga Arr**	**46.89**	**261**	P	P	11 08 00.7	-0.9
	0.4nm,0.3s,baz=96,slow=7.6,SNR=32						
FITZ	**Fitzroy Crossi**	**55.31**	**261**	P	P	11 09 05.0	+0.1
	1.2nm,0.9s,baz=90,slow=10,SNR=2.8						
VNDA	**Vanda**	**58.92**	**186**	LR	LR	11 29 54.9	
	comp=Z,98nm,18.9s,baz=177,slow=31						

IDC 05 11:06:07.7±4.5,5.93S×105.75E,h0km,mb3.8/4, mb1 3.9/4,mb1mx3.5/23,mbtmp3.8/4,MS3.2/2,Ms1 3.3/2, ms1mx2.6/30,Error ellipse: s-maj=159.0km s-min=72.2km az=45.0,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.87**	**124**	P	P	11 11 11.8	-1.2
	1.8nm,0.9s,baz=317,slow=11,SNR=13						
CMAR	**Chiang Mai Arr**	**25.15**	**345**	LR	LR	11 22 47.4	
	comp=Z,15nm,20.1s,baz=185,slow=40						
WRA	**Warramunga Arr**	**31.07**	**119**	P	P	11 12 28.6	+0.7
	0.5nm,0.6s,baz=291,slow=10,SNR=5.7						
ASAR	**Alice Springs**	**32.31**	**126**	P	P	11 12 39.0	+0.2
	0.1nm,0.3s,baz=299,slow=7.9,SNR=7.9						
STKA	**Stephens Creek**	**42.27**	**132**	P	P	11 14 03.1	0.0
	6.3nm,0.6s,baz=296,slow=11,SNR=30						
MAW	**Mawson**	**68.03**	**196**	LR	LR	11 43 31.2	
	comp=Z,60nm,18.9s,baz=228,slow=33						
TXAR	**Lajitas Array**	**143.77**	**47**	PKP	PKPdf	11 25 44.7	-1.1
	0.1nm,0.4s,baz=296,slow=0.9,SNR=5.1						

MAN 05 11:12:48,9.26N×123.12E,h15km,mb3.7,ML2.4,MS2.0, 1D,Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**0.71**	**161**	↓*e*P	Pg	11 13 01.8	0.0
DCPH				*i* S	Sb	11 13 12.5	+0.9
TBP	**Tagbilaran**	**0.85**	**59**	*e*P	Pn	11 13 07.3	+1.9
PAGZ	**Pagadian**	**1.42**	**170**	*e*P	Pb	11 13 14.0	-0.3
GUIM	**Jordan**	**1.46**	**339**	*e*P	Pn	11 13 13.8	0.0
GUIM				*e*S	Sb	11 13 33.4	+0.2
IPIL	**Ipil**	**1.56**	**201**	*e*P	Pn	11 13 15.2	-0.1

*IDC **05** 11:17:02.4±0.9, 11.32N×142.97E,h0km,mb3.8/10, mb1 4.1/10,mb1mx3.9/23,mbtmp3.8/10,Error ellipse: s-maj=28.8km s-min=20.7km az=96.0*
*NEIC **05** 11:17:04.0±0.5, 11.30N×142.90E,h10km,mb4.6/3,Error ellipse: s-maj=15.6km s-min=10.2km az=108.0*
*ISCJB **05** 11:17:05.3±0.6, 11.28N±0.09×142.9E±0.1,h32km, mb4.0/13,Error ellipse: s-maj=17.3km s-min=8.6km az=37.1*
ISC 05 11:17:07.3±0.8,11.3N±0.1×142.9E±0.1,h32km,n25, σ0.85/26,mb4.1/13,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.96**	**40**	*e*Pn	**Pn**	**11 17 51.8**	**-0.4**
GUMO				*e*Sn	**Sn**	**11 18 26.9**	**+0.3**
WRAB	**Tennant Creek**	**32.16**	**195**	*e*P	**P**	**11 23 32.2**	**-0.1**
	17nm,1.7s						
WRA	**Warramunga Arr**	**32.18**	**195**	P	**P**	**11 23 32.1**	**-0.4**
WRA	**Warramunga Arr**	**32.18**	**195**	P	**P**	**11 23 32.1**	**-0.4**
	0.4nm,0.7s,baz=20,slow=9.7,SNR=4.2						
ASAR	**Alice Springs**	**35.85**	**194**	P	**P**	**11 24 03.9**	**-0.4**
ASAR	**Alice Springs**	**35.85**	**194**	P	**P**	**11 24 03.9**	**-0.4**
	0.5nm,1.1s,baz=84,slow=8.4,SNR=5.8						
CMAR	**Chiang Mai Arr**	**43.02**	**285**	P	**P**	**11 25 05.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**43.02**	**285**	P	**P**	**11 25 05.2**	**+1.0**
	4.7nm,0.8s,baz=88,slow=6.4,SNR=18						
SONM	**Songino Array**	**47.56**	**327**	P	**P**	**11 25 40.1**	**+0.1**
SONM	**Songino Array**	**47.56**	**327**	P	**P**	**11 25 40.1**	**+0.1**
	0.3nm,0.4s,baz=138,slow=7.3,SNR=3.7						
MK31	**Makanchi Array**	**61.84**	**317**	*e*P	**P**	**11 27 23.5**	**0.0**
MKAR	**Makanchi Array**	**61.84**	**317**	P	**P**	**11 27 23.6**	**+0.2**
MKAR	**Makanchi Array**	**61.84**	**317**	P	**P**	**11 27 23.6**	**+0.2**
	1.5nm,0.8s,baz=96,slow=8.8,SNR=13						
ZALV	**Zalesovo Beam**	**62.40**	**326**	P	**P**	**11 27 26.2**	**-0.8**
ZALV	**Zalesovo Beam**	**62.40**	**326**	P	**P**	**11 27 26.2**	**-0.8**
	0.7nm,0.4s,baz=107,slow=7.7,SNR=2.6						
BRVK	**Borovoye**	**70.62**	**322**	*e*P	**P**	**11 28 19.5**	**-0.1**
	3.5nm,0.6s						
ILAR	**Eielson Array**	**71.43**	**25**	P	**P**	**11 28 23.3**	**-1.0**
ILAR	**Eielson Array**	**71.43**	**25**	P	**P**	**11 28 23.3**	**-1.0**
	0.5nm,0.8s,baz=247,slow=6.0,SNR=8.4						
ABKAR	**Akbulak array**	**76.96**	**318**	*e*P	**P**	**11 28 56.7**	**-0.2**
	0.9nm,0.3s						
YKA	**Yellowknife Ar**	**85.75**	**27**	P	**P**	**11 29 43.6**	**+0.5**
YKA	**Yellowknife Ar**	**85.75**	**27**	P	**P**	**11 29 43.6**	**+0.5**
	0.3nm,0.4s,baz=286,slow=5.0,SNR=12						
NVAR	**Mina Array Bea**	**89.83**	**51**	P	**P**	**11 30 05.1**	**+1.6**
NVAR	**Mina Array Bea**	**89.83**	**51**	P	**P**	**11 30 05.1**	**+1.6**
	0.7nm,0.6s,baz=269,slow=5.5,SNR=5.7						
FINES	**FINESS Array B**	**92.42**	**335**	P	**P**	**11 30 13.2**	**-1.5**
FINES	**FINESS Array B**	**92.42**	**335**	P	**P**	**11 30 13.2**	**-1.5**
	1.9nm,0.8s,baz=60,slow=3.4,SNR=4.4						

*IDC **05** 11:54:12.6±1.9, 36.64N×139.46E,h0km,mb3.2/2, mb1 3.5/2,mb1mx3.1/24,mbtmp3.2/2,Error ellipse: s-maj=22.0km s-min=13.8km az=20.0*
*ISCJB **05** 11:54:14.3±0.7, 36.62N±0.03×139.48E±0.05,h13km±4km, mb3.4/2,Error ellipse: s-maj=7.0km s-min=5.1km az=18.9*
*JMA **05** 11:54:14.9, 36.63N×139.48E,h9km,M2.6*
JMA Felt I J1.
ISC 05 11:54:14.5±1.0,36.63N±0.04×139.44E±0.04,h14km±7km, n10,σ0.50/17,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKT	**Katashina**	**0.21**	**310**	P	**Pb**	**11 54 19.7**	**-0.4**
JKT				S	**Sg**	**11 54 22.9**	**+0.5**
JAG	**Ashikaga**	**0.21**	**178**	P	**Pg**	**11 54 19.2**	**0.0**
JAG				S	**Sg**	**11 54 21.9**	**-0.4**
JSB	**Shiboa**	**0.51**	**49**	P	**Pb**	**11 54 25.1**	**-0.1**
JSB				S	**Sb**	**11 54 31.8**	**-0.6**
JHK	**Hiroka**	**0.70**	**331**	P	**Pb**	**11 54 28.7**	**+0.2**
JHK				S	**Sb**	**11 54 38.0**	**0.0**
JRY	**Ryogami san**	**0.76**	**216**	P	**Pb**	**11 54 29.5**	**+0.1**
JRY				S	**Sb**	**11 54 40.1**	**+0.6**
JFY	**Yanaizu**	**0.80**	**15**	P	**Pb**	**11 54 30.2**	**0.0**
JFY				S	**Sb**	**11 54 40.5**	**-0.4**
MJAR	**Matsushiro Arr**	**1.00**	**265**	Pg	**Pb**	**11 54 32.4**	**-1.2**
	12nm,0.3s,baz=74,slow=16,SNR=258						
MJAR				Lg	Lg	11 54 44.5	
	14nm,0.3s,baz=82,slow=31,SNR=32						
MAT	**Matsushiro**	**1.00**	**265**	P	**Pg**	**11 54 33.9**	**+0.1**
MAT				S	**Sg**	**11 54 47.0**	**+0.1**
WRA	**Warramunga Arr**	**56.48**	**186**	P	**P**	**12 03 55.8**	**-0.2**
	0.3nm,0.7s,baz=0.3,slow=7.6,SNR=5.9						
ASAR	**Alice Springs**	**60.20**	**186**	P	**P**	**12 04 22.6**	**+0.6**
	0.3nm,0.9s,baz=354,slow=7.6,SNR=3.5						

WEL 05 12:19:24.9±0.2,45.04S×167.39E,h111km±1km,ML3.5/10, 2C-3D,Error ellipse: s-maj=1.8km s-min=1.3km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.47**	**201**	PN	Pn	12 19 41.2	-0.4
DCZ				SN	Sn	12 19 53.6	-0.6
DCZ				AML	AML	12 19 53.9	
DCZ				AML	AML	12 19 54.2	
DCZ				AML	AML	12 19 54.2	
MSZ	**Milford Sound**	**0.53**	**47**	PN	Pn	12 19 42.0	0.0
MSZ				SN	Sn	12 19 54.3	-0.4
MSZ				AML	AML	12 19 55.7	
MSZ				AML	AML	12 19 56.2	
MSZ				AML	AML	12 19 56.3	
MLZ	**Mavora Lakes**	**0.63**	**120**	PN	Pn	12 19 42.5	-0.3
MLZ				SN	Sn	12 19 55.8	-0.6
MLZ				AML	AML	12 19 56.5	
WHZ	**Wether Hill Ro**	**0.94**	**156**	↑PN	Pn	12 19 45.5	-0.1
WHZ				SN	Sn	12 20 00.8	-0.4
WHZ				AML	AML	12 20 01.8	
WKZ	**Wanaka**	**1.17**	**80**	↓PN	Pn	12 19 47.9	-0.1
WKZ				SN	Sn	12 20 05.2	-0.3
WKZ				AML	AML	12 20 07.5	
PYZ	**Puysegur Point**	**1.24**	**204**	PN	Pn	12 19 48.9	+0.2
EAZ	**Earnscleugh**	**1.37**	**99**	PN	Pn	12 19 50.0	-0.1
EAZ				AML	AML	12 20 08.6	
EAZ				AML	AML	12 20 09.2	
EAZ				AML	AML	12 20 09.4	
EAZ				AML	AML	12 20 10.1	
JCZ	**Jackson Bay**	**1.37**	**46**	↓PN	Pn	12 19 49.5	-0.8
JCZ				AML	AML	12 20 08.3	
JCZ				AML	AML	12 20 11.4	
TUZ	**Tuapeka**	**1.82**	**121**	↓PN	Pn	12 19 55.4	-0.3
TUZ				SN	Sn	12 20 16.4	-2.7
TUZ				AML	AML	12 20 19.5	
APZ	**The Paps**	**1.85**	**167**	PN	Pn	12 19 55.8	-0.2
SYZ	**Scrubby Hill**	**1.94**	**142**	PN	Pn	12 19 57.0	-0.1
LBZ	**Lake Benmore**	**2.09**	**73**	PN	Pn	12 19 57.3	-1.8
LBZ				AML	AML	12 20 22.8	
FOZ	**Fox Glacier**	**2.21**	**49**	PN	Pn	12 19 59.8	-0.7
ODZ	**Otahua Downs**	**2.31**	**91**	PN	Pn	12 20 00.5	-1.3
RPZ	**Rata Peaks**	**2.94**	**65**	↑PN	Pn	12 20 08.0	-2.1
RPZ				AML	AML	12 20 41.4	
WVZ	**Waitaha Valley**	**3.11**	**52**	PN	Pn	12 20 09.8	-2.4
OXZ	**Oxford**	**3.75**	**65**	PN	Pn	12 20 17.6	-3.3
LTZ	**Lake Taylor**	**4.18**	**59**	PN	Pn	12 20 23.4	-3.4
THZ	**Tophouse**	**5.18**	**53**	PN	Pn	12 20 37.0	-3.2
QRZ	**Quartz Range**	**5.65**	**44**	PN	Pn	12 20 45.0	-1.5

*BJI **05** 12:25:33.4, 0.97N×99.62E,h184km,mB4.7/11,mb4.5/21*
*ISCJB **05** 12:25:35.1±0.4, 1.26N±0.03×99.59E±0.04,h178km±3km, mb4.5/68,Error ellipse: s-maj=6.8km s-min=3.9km az=144.9*
*MOS **05** 12:25:35.3±1.1, 1.40N×99.76E,h181km,mb4.7/20,Error ellipse: s-maj=13.8km s-min=6.0km az=117.3*
*AUST **05** 12:25:36.0±0.0, 1.29N×99.58E,h171km,Error ellipse: s-maj=1.6km s-min=0.8km az=231.0*
*NEIC **05** 12:25:37.0±0.6, 1.31N×99.70E,h182km±5km,mb4.5/19, Error ellipse: s-maj=10.2km s-min=4.9km az=50.0*
*IDC **05** 12:25:36.2±1.0, 1.31N×99.67E,h175km±8km,mb4.0/25, mb1 4.1/26,mb1mx4.0/33,mbtmp4.0/26,Error ellipse: s-maj=15.8km s-min=7.7km az=49.0*
*BKK **05** 12:25:36.3±0.6, 1°N±5'×10°0E±1°0,h151km±6km,M4.5/9, mB5.1/5,mb4.6/9,MLv4.5/3,Mw(mB)4.4/5*
*DJA **05** 12:25:37.5±0.8, 1°N±7'×9°9E±1°1,h158km±10km,M4.7/8, mb4.9/4,mB5.4/3,MLv4.6/8,Mw(mB)4.8/3*
ISC 05 12:25:37.7±0.4,1.26N±0.04×99.66E±0.05,h189km±3km, n225,σ1.9/21/255,mb4.5/68,11C-8D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.47**	**189**	P	Pn	12 25 59.6	-3.8
BKNI	**Bangkinang**	**1.67**	**124**	P	**Pn**	**12 26 09.7**	**-2.3**
BKNI	**Bangkinang**	**1.67**	**124**	P	**Pn**	**12 26 09.9**	**-2.1**
	baz=1.7,SNR=52						
PSI	**Prapat**	**1.70**	**334**	P	Pn	12 26 07.8	-4.7
PSI				S	Sn	12 26 31.3	-8.2
PSI	**Prapat**	**1.70**	**334**	P	Pn	12 26 07.8	-4.7
	40nm,0.3s,baz=8.3,slow=14,SNR=84						
PSI				S	Sn	12 26 31.3	-8.2
	13nm,0.3s,baz=9.4,slow=20,SNR=21						
PSI	**Prapat**	**1.70**	**334**	P	Pn	12 26 08.0	-4.5
	baz=1.6,SNR=45						
PSI				S	Sn	12 26 31.5	-8.0
	baz=1.6,SNR=6.4						
PPI	**Padang Panjang**	**1.86**	**156**	P	**Pn**	**12 26 12.2**	**-1.7**
PPI	**Padang Panjang**	**1.86**	**156**	P	**Pn**	**12 26 12.2**	**-1.7**
	baz=1.9,SNR=61						
TSI	**Tuntungan**	**2.48**	**334**	P	**Pn**	**12 26 20.2**	**-0.5**
FRIM	**Kepong**	**2.78**	**45**	P	**Pn**	**12 26 21.7**	**-2.5**
RGRI	**Rengat**	**3.12**	**121**	P	**Pn**	**12 26 28.2**	**0.0**
IPM	**Ipoh**	**3.48**	**23**	P	**Pn**	**12 26 31.2**	**-1.4**
KGM	**Kluang**	**3.74**	**78**	P	**Pn**	**12 26 34.3**	**-1.5**
BTDF	**Bukit Timah Da**	**4.12**	**89**	P	**Pn**	**12 26 39.5**	**-1.0**
	baz=4.2,SNR=4.3						
BTDF				P	**Pn**	**12 26 39.5**	**-1.0**
	baz=4.2,SNR=4.3						
BTDF				S	**Sn**	**12 27 29.0**	**-0.9**
	baz=4.2,SNR=11						
BTDF				S	**Sn**	**12 27 29.0**	**-0.9**
	baz=4.2,SNR=11						
KULM	**Kulim**	**4.12**	**14**	P	**Pn**	**12 26 38.1**	**-2.6**
MYKOM	**Kota Tinggi**	**4.23**	**83**	P	**Pn**	**12 26 40.9**	**-1.1**
LHMI	**Lhok Sumawe**	**4.78**	**326**	P	**Pn**	**12 26 46.2**	**-2.9**
	baz=4.7,SNR=5.0						
KTGM	**Kuala Trenggan**	**5.33**	**41**	P	**Pn**	**12 26 53.7**	**-2.4**
KSI	**Kapahiang**	**5.69**	**149**	P	**Pn**	**12 26 59.6**	**-1.3**
	232nm,0.7s,4µm1.0nm						
MNAI	**Manna**	**6.48**	**149**	P	**Pn**	**12 27 09.0**	**-2.2**
	baz=6.6,SNR=9.0						
MNAI				S	**Sn**	**12 28 20.6**	**-4.5**
	baz=6.6,SNR=7.8						
TRTT	**Trang**	**6.53**	**0**	P	Pn	12 27 07.9	-3.9
	112nm,1.0s,1µm0.4nm						
LWLI	**Liwa**	**7.63**	**145**	P	**Pn**	**12 27 23.5**	**-2.8**
	74nm,0.5s,0.6nm						
KLSI		**7.79**	**139**	P	**Pn**	**12 27 26.9**	**-1.3**
	34nm,0.8s,596nm0.1nm						
KSM	**Kuching**	**10.65**	**89**	P	**Pn**	**12 28 06.5**	**+0.8**
STKI	**Sintang**	**11.88**	**96**	P	**Pn**	**12 28 23.4**	**+2.0**
CISI	**Cisompet, Garu**	**11.96**	**137**	S	Sn	12 30 17.2	-18
	baz=12,SNR=3.5						
SBUM	**Sibu**	**12.61**	**84**	P	**Pn**	**12 28 32.2**	**+1.5**
XMIS	**Christmas Isla**	**13.10**	**153**	S	Sn	12 30 46.6	-16
	baz=13,SNR=3.5						
BTM	**Bintulu**	**13.55**	**82**	P	**P**	**12 28 48.5**	**+3.2**
UGM	**Wanagama**	**14.16**	**130**	P	**Pn**	**12 28 48.5**	**-1.6**
	baz=14,SNR=4.3						
CHAI	**Chaiyaphum**	**14.73**	**9**	P	P	12 29 04.9	+6.5
PBKT	**Sadao Pong**	**15.27**	**5**	P	**Pn**	**12 29 03.0**	**-0.7**
	8.3nm,0.7s,1µm						
LOEI	**Loei**	**16.23**	**6**	P	**P**	**12 29 14.6**	**-0.3**
	20nm,1.6s,1µm						
CM31	**Chiang Mai Arr**	**17.11**	**358**	*e*P	**P**	**12 29 23.3**	**-1.2**
	7.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.11**	**358**	P	**P**	**12 29 22.6**	**-2.0**
CMAR				ScP	**ScP**	**12 37 17.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**17.11**	**358**	P	**P**	**12 29 22.6**	**-2.0**
	0.3nm,0.3s,baz=188,slow=11,SNR=17						
CMAR				ScP	**ScP**	**12 37 17.3**	**+1.0**
	0.2nm,0.3s,baz=209,slow=3.6,SNR=6.9						
CHTO	**Chiang Mai**	**17.46**	**358**	*e*P	**P**	**12 29 27.5**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CHTO	**Chiang Mai**	**17.46**	**358**	*e*P	**P**	**12 29 27.5**	**-0.9**
	comp=Z,4.1nm,0.7s						
SDKM	**Sandakan**	**18.04**	**76**	P	**Pn**	**12 29 37.1**	**+0.2**
TSM	**Tawau**	**18.44**	**80**	P	**Pn**	**12 29 40.8**	**-0.8**
MYLDM	**Lahad Datu**	**19.21**	**78**	P	**Pn**	**12 29 50.3**	**-0.4**
PALK	**Pallekele**	**19.82**	**288**	*e*P	**Pn**	**12 29 55.7**	**-2.2**
	comp=Z,36nm,0.8s						
QIZ	**Qiongzhong**	**20.29**	**29**	P	**P**	**12 29 58.7**	**-0.3**
KAPI	**Kappang**	**21.02**	**107**	P	**P**	**12 30 05.8**	**-1.1**
KAPI	**Kappang**	**21.02**	**107**	P	**P**	**12 30 05.8**	**-1.1**
	comp=Z,7.1nm,0.4s,baz=262,slow=15,SNR=4.9						
LUWI	**Luwuk**	**23.23**	**96**	P	**P**	**12 30 31.9**	**+3.6**
	baz=23,SNR=14						
GYA	**Guiyang**	**25.95**	**14**	*e*P	**P**	**12 30 53.2**	**+0.3**
GYA				pP	**pP**	**12 31 30.3**	**-0.9**
GYA				sP	**sP**	**12 31 52.0**	**-1.2**
GYA				PcP	**PcP**	**12 34 17.6**	**+1.1**
GYA				S	**S**	**12 35 08.7**	**-0.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ODAN	**Odare**	**28.05**	**336**	*e*P	**P**	**12 31 12.3**	**+0.5**
	comp=Z,21nm,0.5s						
TAPN	**Taplejung**	**28.36**	**337**	*e*P	**P**	**12 31 14.8**	**+0.2**
	comp=Z,25nm,0.7s						
JIRN	**Jiri**	**29.25**	**335**	*e*P	**P**	**12 31 22.7**	**+0.2**
	comp=Z,52nm,0.8s						
LSA	**Lhasa**	**29.42**	**345**	*e*P	**P**	**12 31 25.1**	**+1.0**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LSA	**Lhasa**	**29.42**	**345**	*e*P	**P**	**12 31 25.1**	**+1.0**
	comp=Z,7.2nm,0.6s						
PKI	**Pulchoki**	**29.51**	**334**	*e*P	**P**	**12 31 24.6**	**-0.2**
	comp=Z,18nm,0.7s						
GUN	**Gumba**	**29.60**	**335**	*e*P	**P**	**12 31 25.6**	**0.0**
	comp=Z,89nm,0.6s						
DMN	**Daman**	**29.68**	**333**	*e*P	**P**	**12 31 26.1**	**-0.1**
	comp=Z,20nm,0.7s						
CD2	**Chengdu**	**29.75**	**7**	P	**P**	**12 31 28.5**	**+2.0**
CD2				pP	**pP**	**12 32 07.0**	**+1.6**
CD2				sP	**sP**	**12 32 29.0**	**+1.8**
CD2				PP	**PnPn**	**12 32 33.8**	**+2.1**
CD2				PcP	**PcP**	**12 34 27.0**	**+1.4**
CD2				S	**S**	**12 36 10.0**	**+1.3**
CD2				sS	**sS**	**12 37 18.4**	**+0.6**
CD2				SS	**SnSn**	**12 38 02.4**	**-1.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.2s						
KKN	**Kakani**	**29.76**	**334**	*e*P	**P**	**12 31 26.7**	**-0.1**
	comp=Z,37nm,0.7s						
KOLN	**Koldanda**	**30.52**	**331**	*e*P	**P**	**12 31 33.4**	**-0.1**
	comp=Z,43nm,0.7s						
DANN	**Dangsing**	**30.93**	**332**	*e*P	**P**	**12 31 37.1**	**-0.1**
	comp=Z,36nm,0.6s						
PYUN	**Piuthan**	**31

comp=Z,26nm,0.6s
FORT Forrest 41.78 142 P **P** 12 33 09.1 +0.4
baz=42,SNR=31
KBL Kabul 43.73 323 *e*P **P** 12 33 25.6 +1.0
KBL pmax pmax
comp=Z,13nm,0.5s
KBL Kabul 43.73 323 *e*P **P** 12 33 25.6 +1.0
comp=Z,13nm,0.5s
KSH Kashi 43.78 333 P **P** 12 33 23.5 -1.3
KSH pP **pP** 12 34 08.5 +2.7
KSH sP **sP** 12 34 26.8 -0.2
KSH PP **PP** 12 35 13.0 +2.3
KSH S **S** 12 39 40.3 -0.7
KSH sS **sS** 12 40 54.4 +1.5
KSH ScS **ScS** 12 43 01.6 -2.2
KSH pmax pmax
comp=Z,13nm,0.7s
KSH pmax pmax
comp=Z,94nm,6.2s
KSH LR LR
comp=N,220nm,10.2s
KSH LR LR
comp=E,190nm,9.8s
KSH LR LR
comp=Z,160nm,5.8s
KSAR Wonju Array Be 44.41 33 P **P** 12 33 29.0 -0.6
KSRS Korea Array 44.44 33 P **P** 12 33 29.0 -0.9
comp=Z,0.5nm,0.5s,baz=230,slow=8.0,SNR=3.8
QIS Mount Isa 44.72 121 P **P** 12 33 32.8 +0.4
baz=45,SNR=10
COEN Coen 45.68 111 P **P** 12 33 40.3 +0.3
baz=46,SNR=6.8
KZA Kyzart 46.18 335 P **P** 12 33 44.3 +0.2
SNR=11
TKM2 Tokmak 2 46.73 336 *e*P **P** 12 33 48.3 +0.3
TKM2 pmax pmax
comp=Z,11nm,0.7s
TKM2 Tokmak 2 46.73 336 P **P** 12 33 48.4 +0.3
SNR=12
TKM2 Tokmak 2 46.73 336 *e*P **P** 12 33 48.3 +0.3
comp=Z,11nm,0.7s
SONM Songino Array 46.76 6 P **P** 12 33 48.5 +0.4
SONM ScP **ScP** 12 38 54.0 0.0
SONM Songino Array 46.76 6 P **P** 12 33 48.5 +0.4
comp=Z,8.0nm,0.5s,baz=188,slow=9.7,SNR=66
SONM ScP **ScP** 12 38 54.0 0.0
comp=Z,2.0nm,0.6s,baz=194,slow=4.7,SNR=12
KBK Karagaybulak 46.78 335 P **P** 12 33 49.5 +1.0
SNR=9.9
ULN Ulaanbaatar 46.86 7 *e*P **P** 12 33 49.4 +0.5
comp=Z,6.6nm,0.8s
AML Almayashu 46.91 334 P **P** 12 33 50.1 +0.5
SNR=12
AAK Ala-Archa 46.96 335↑ *e*P **P** 12 33 50.4 +0.6
AAK pmax pmax
comp=Z,27nm,1.6s
AAK Ala-Archa 46.96 335 *e*P **P** 12 33 50.8 +1.0
comp=Z,5.0nm,0.8s
EKS2 Erkin-Say 47.29 334 *e*P **P** 12 33 53.1 +0.8
EKS2 pmax pmax
comp=Z,11nm,0.7s
EKS2 Erkin-Say 47.29 334 P **P** 12 33 53.1 +0.8
SNR=14
EKS2 Erkin-Say 47.29 334 *e*P **P** 12 33 53.1 +0.8
comp=Z,11nm,0.7s
USP Ospenovka 47.47 335 P **P** 12 33 53.9 +0.3
SNR=10
MK31 Makanchi Array 47.82 344 *e*P **P** 12 33 55.8 -0.3
MK31 Makanchi Array 47.82 344 *e*P **P** 12 33 55.8 -0.3
MKAR Makanchi Array 47.82 344 *e*P **P** 12 33 56.0 -0.2
MKAR Makanchi Array 47.82 344 *e*P **P** 12 33 56.0 -0.2
MKAR Makanchi Array 47.82 344 P **P** 12 33 56.0 -0.2
comp=Z,5.1nm,0.5s,baz=154,slow=7.7,SNR=69
MTSU Mount Surprise 47.97 116 P **P** 12 33 58.5 +0.7
baz=48,SNR=17
CN2 Changchun 48.18 25 *e*P **P** 12 33 59.9 +1.0
CN2 pmax pmax
comp=Z,10.0nm,0.5s
PMG Port Moresby 48.48 104 P **P** 12 34 02.1 +0.4
PMG Port Moresby 48.48 104 P **P** 12 34 02.1 +0.4
comp=Z,8.1nm,0.7s,baz=315,slow=11,SNR=3.9
ZAK Zakamensk 49.04 3 *e*P **P** 12 34 05.2 -0.3
ZAK pmax pmax
comp=Z,3.0nm,0.9s
KK31 Karatay Array 49.13 332 *e*P **P** 12 34 05.7 -0.5
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 49.13 332 *e*P **P** 12 34 05.8 -0.4
KKAR pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 49.13 332 *e*P **P** 12 34 05.8 -0.4
comp=Z,1.8nm,0.4s
HVS Khovu-Aksy 49.95 355 *i* P **P** 12 34 12.1 -0.3
HVS pmax pmax
comp=Z,52nm,1.6s
MJAR Matsushiro Arr 50.02 41 pP pP 12 34 55.3 +0.2
MJAR Matsushiro Arr 50.02 41 pP pP 12 34 55.3 +0.2
comp=Z,0.5nm,0.3s,baz=219,slow=8.2,SNR=4.2
CTA Charters Tower 50.34 117 P **P** 12 34 16.6 +0.8
CTA Charters Tower 50.34 117 P **P** 12 34 16.6 +0.8
comp=Z,5.2nm,0.6s,baz=303,slow=9.7,SNR=7.4
MDJ Mudanjiang 50.65 27 P **P** 12 34 17.8 +0.2
MDJ pmax pmax
comp=Z,3.0nm,0.7s
MDJ pmax pmax
comp=Z,41nm,7.1s
QLP Quilpie 51.10 126 P **P** 12 34 21.9 +0.6
baz=51,SNR=14
STKA Stephens Creek 51.59 133 *e*P **P** 12 34 24.9 0.0
comp=Z,1.4nm,0.7s
STKA ScP **ScP** 12 39 15.6 +0.7
STKA Stephens Creek 51.59 133 P **P** 12 34 24.5 -0.4
comp=Z,6.1nm,0.6s,baz=313,slow=6.8,SNR=22
STKA ScP **ScP** 12 39 15.6 +0.7
comp=Z,1.2nm,0.9s,baz=315,slow=5.7,SNR=3.7
STKA Stephens Creek 51.59 133 P **P** 12 34 24.6 -0.2
baz=52,SNR=12
ZAA0 Zalesovo Array 53.92 349 *e*P **P** 12 34 41.2 -0.3
ZALV Zalesovo Beam 53.92 349 *i* P **P** 12 34 41.2 -0.2
ZALV pmax pmax
comp=Z,27nm,0.5s
ZALV Zalesovo Beam 53.92 349 P **P** 12 34 41.3 -0.2
ZALV Zalesovo Beam 53.92 349 P **P** 12 34 41.3 -0.2
comp=Z,27nm,0.5s,baz=177,slow=6.2,SNR=136
CMSA Cobar Meteorol 54.46 131 P **P** 12 34 46.4 +0.6
baz=55,SNR=14
RMQ Roma 54.76 124 P **P** 12 34 49.5 +1.4
baz=55,SNR=6.5
NVS Novosibirsk 55.07 348 *i* P **P** 12 34 49.0 -0.7
NVS pmax pmax
comp=N,6.0nm,0.6s
NVS pmax pmax
comp=E,5.0nm,0.6s
EIDS Eidsvold 56.31 122 *e*P **P** 12 34 59.4 +0.2
comp=E,13nm,0.6s
EIDS Eidsvold 56.31 122 P **P** 12 34 59.9 +0.7
baz=56,SNR=16
VOSK Vostochnaya 56.58 340 P **P** 12 34 59.2 -1.3
VOSK pmax pmax
comp=Z,8.0nm,0.5s
KBD Kabd 56.68 304 *e*P **P** 12 35 01.5 -0.2
KBD AMb AMB 12 35 02.2
comp=Z,17nm,0.8s
RDF Al-Radifah 56.72 304 *e*P **P** 12 35 02.2 +0.3
RDF AMb AMB 12 35 03.0
comp=Z,36nm,0.7s
RAYN Ar Rayn 56.90 297 *e*P **P** 12 35 03.1 -0.3
comp=Z,5.7nm,1.1s
BVA0 Borovoye Array 57.03 339 *i* P **P** 12 35 02.6 -1.1
BVA0 pmax pmax
comp=Z,8.0nm,0.7s
NAY Al-Naaiem 57.08 304 *e*P **P** 12 35 04.0 -0.5
NAY AMb AMB 12 35 04.7
comp=Z,23nm,0.6s
BRVK Borovoye 57.09 339*d iP **P** 12 35 03.2 -0.9
BRVK pmax pmax
comp=Z,11nm,0.9s
BRVK Borovoye 57.09 339 *e*P **P** 12 35 03.4 -0.7
comp=Z,8.5nm,0.7s
ZRNK Zerenda 57.47 339 P **P** 12 35 05.5 -1.2
ZRNK pmax pmax
comp=Z,7.0nm,0.8s
AB31 Akbulak array 58.64 331 *i* P **P** 12 35 13.6 -1.4
AB31 pmax pmax
comp=Z,2.0nm,0.3s
ABKAR Akbulak array 58.64 331 *e*P **P** 12 35 14.2 -0.7
comp=Z,7.3nm,0.5s
KMBO Kilima Mbogo 62.44 268 P **P** 12 35 41.5 -0.2
KMBO Kilima Mbogo 62.44 268 P **P** 12 35 41.5 -0.2
comp=Z,0.9nm,0.4s,baz=59,slow=13,SNR=4.5
SVE Sverdlovsk 63.56 337↓ *e*P **P** 12 35 47.8 -0.1
SVE pmax pmax
comp=Z,19nm,1.0s
ARU Arti 64.11 336*d iP **P** 12 35 50.2 -1.2
ARU 12 38 10.5
ARU S **S** 12 44 11.6 -1.3
ARU SS **SS** 12 48 21.0 -4.6
ARU pmax pmax
comp=Z,8.0nm,1.0s
ZEI Tsey 64.59 318 *e*P **P** 12 35 54.6 -0.6
ZEI pmax pmax
comp=Z,10.0nm,0.5s
KBZ Khabaz 65.65 318 P **P** 12 36 01.8 +0.1
KBZ Khabaz 65.65 318 P **P** 12 36 01.8 +0.1
KBZ Khabaz 65.65 318 P **P** 12 36 01.8 +0.1
comp=Z,7.3nm,0.8s,baz=122,slow=5.3,SNR=15
KIV Kislovodsk 65.88 318 *e*P **P** 12 36 02.5 -0.8
KIV pmax pmax
comp=Z,8.0nm,1.0s
ANN Anapa 69.69 318 *e*P P 12 36 18.4 -8.5
ANN *e*PP pP 12 37 04.8 -6.9
ANN pmax pmax
comp=Z,74nm,1.0s
BR131 Keskin Array S 70.89 312 *e*P **P** 12 36 33.6 -1.0
comp=Z,5.4nm,0.6s
BRTR Keskin Array B 70.89 312 P **P** 12 36 33.5 -1.0
BRTR Keskin Array B 70.89 312 P **P** 12 36 33.5 -1.0
comp=Z,6.4nm,0.7s,baz=128,slow=7.0,SNR=31
TIXI Tiksi 72.72 9 *i* P **P** 12 36 44.2 -0.3
TIXI pmax pmax
comp=Z,14nm,3.8s
OBN Obninsk 73.87 328↑ *e*P **P** 12 36 49.0 -2.6
OBN *e* 12 39 36.8
OBN pmax pmax
comp=Z,15nm,1.2s
TIRR Tirgusor 75.79 316 ↓P **P** 12 37 02.4 -0.5
TIRR Tirgusor 75.79 316 ↓*i* P **P** 12 37 02.4 -0.5
BOSA Boshof 76.94 240 P **P** 12 37 11.1 +1.2
BOSA Boshof 76.94 240 P **P** 12 37 11.1 +1.2
comp=Z,2.8nm,0.7s,baz=158,slow=13,SNR=7.3
VRI Vrincioaia 77.25 317 ↓P **P** 12 37 11.5 +0.4
VRI Vrincioaia 77.25 317 ↓*i* P **P** 12 37 11.5 +0.4
PLOR Plostina 77.30 317 ↑P **P** 12 37 11.7 +0.3
PLOR Plostina 77.30 317 ↑*i* P **P** 12 37 11.7 +0.3
RPZ Rata Peaks 77.51 135 P **P** 12 37 12.8 +0.2
RPZ Rata Peaks 77.51 135 P **P** 12 37 12.8 +0.2
comp=Z,19nm,1.2s,baz=243,slow=16,SNR=3.1
MLR Muntele Rosu 77.72 316 P **P** 12 37 13.6 -0.2
MLR Muntele Rosu 77.72 316 ↓*i* P **P** 12 37 12.6 -1.2
MLR Muntele Rosu 77.72 316 P **P** 12 37 13.6 -0.2
comp=Z,1.3nm,0.8s,baz=152,slow=6.1,SNR=7.1
VOIR 78.33 316 ↑P **P** 12 37 16.8 -0.3
VOIR 78.33 316 ↑*i* P **P** 12 37 16.8 -0.3
BURAR Bucovina Array 78.61 318 ↑*i* P **P** 12 37 19.7 +1.1
BUR08 Bucovina Ar. S 78.62 318 *e*P **P** 12 37 19.1 +0.4
VTS Vitosha 79.18 313 ↑P **P** 12 37 20.5 -1.4
VTS Vitosha 79.18 313 ↑*i* P **P** 12 37 20.5 -1.4
VSU Vasula 80.04 329 *i* P **P** 12 37 25.3 -0.7
BILL Bilibino 80.24 21 *e*P **P** 12 37 27.4 +0.5
BILL pmax pmax
comp=Z,14nm,1.0s
BZS Buzias 80.74 316 ↑P **P** 12 37 28.1 -1.9
BZS Buzias 80.74 316 ↑*i* P **P** 12 37 28.1 -1.9
FINES FINESS Array B 81.09 332 P **P** 12 37 30.8 -0.7
FINES FINESS Array B 81.09 332 P **P** 12 37 30.8 -0.7
comp=Z,1.5nm,0.5s,baz=108,slow=6.6,SNR=18
ARCES ARCESS Array B 83.31 340 P **P** 12 37 43.0 0.0
ARCES ARCESS Array B 83.31 340 P **P** 12 37 43.0 0.0
comp=Z,2.1nm,0.6s,baz=94,slow=4.9,SNR=9.9
DPC Dobruska-Polom 84.77 320 *e*P **P** 12 37 51.0 +0.2
DPC Dobruska-Polom 84.77 320 *e*P **P** 12 37 51.0 +0.2
GEC2 GERESS Array S 86.39 319 *e*P **P** 12 37 59.2 +0.4
GEC2 GERESS Array S 86.39 319 *e*P **P** 12 37 59.2 +0.4
comp=Z,534nm,0.7s
GERES GERESS Array B 86.39 319 P **P** 12 37 59.0 +0.1
GERES GERESS Array B 86.39 319 P **P** 12 37 59.0 +0.1
comp=Z,1.3nm,0.7s,baz=104,slow=4.5,SNR=14
KHC Kasperske Hory 86.48 319 *e*P **P** 12 37 58.9 -0.3
KHC Kasperske Hory 86.48 319 *e*P **P** 12 37 58.9 -0.3
NOA NORSAR Array B 88.15 331 P **P** 12 38 05.8 -1.1
NOA NORSAR Array B 88.15 331 P **P** 12 38 05.8 -1.1
comp=Z,1.1nm,0.8s,baz=94,slow=5.4,SNR=3.5
DAVOX Davos/Dischmat 88.94 317 P **P** 12 38 11.7 +0.6
DAVOX Davos/Dischmat 88.94 317 P **P** 12 38 11.7 +0.6
comp=Z,7.8nm,0.7s,baz=134,slow=4.5,SNR=13
KEST Kesra 89.53 306 *e*P **P** 12 38 15.3 +1.3
KEST Kesra 89.53 306 P **P** 12 38 14.8 +0.8
comp=Z,1.7nm,0.9s,baz=254,slow=2.6,SNR=6.6
PGF Pioggiola 89.64 312 *e*P **P** 12 38 15.1 +0.7
comp=Z,12nm,0.8s
SENIN Senin/Sane 90.73 316 *e*P **P** 12 38 20.6 +1.1
comp=Z,4.1nm,0.7s
QSPA South Pole Qui 91.20 180 P **P** 12 38 22.7 +1.6
QSPA South Pole Qui 91.20 180 P **P** 12 38 22.7 +1.6
comp=Z,0.4nm,0.8s,baz=328,slow=7.6,SNR=5.4
GIVF Givet 92.15 320 *e*P **P** 12 38 26.0 +0.3
SFTF Sexfontaines 92.16 318 *e*P **P** 12 38 26.2 +0.4
BAIF Baives 92.55 320 *e*pP pP 12 39 06.7 -7.9
BAIF Baives 92.55 320 *e*P **P** 12 38 28.4 +0.9
LOR Lormes 93.03 317 *e*P **P** 12 38 30.1 +0.2
comp=Z,5.3nm,0.7s
SMF Signal de Mont 93.09 317 *e*P **P** 12 38 30.3 +0.1
comp=Z,5.4nm,0.8s
AVF Avril sur Loir 93.42 317 *e*pP pP 12 39 12.0 -6.6
AVF Avril sur Loir 93.42 317 *e*P **P** 12 38 31.9 +0.3
FLN La Foliniere 95.74 319 *e*P **P** 12 38 42.0 -0.2
comp=Z,4.5nm,0.6s
MFF Saint Martin d 95.83 317 *e*P **P** 12 38 42.8 +0.1
LIC Lamto 104.45 277 *e*P **Pdif** 12 39 24.5 +2.6
comp=Z,18nm,1.1s
TXAR Lajitas Array 142.28 34 PKP **PKPdf** 12 44 47.7 -0.8
TXAR SKPbc **SKPbc** 12 48 08.8 +0.3
TXAR Lajitas Array 142.28 34 PKP **PKPdf** 12 44 47.7 -0.8
comp=Z,0.1nm,0.5s,baz=244,slow=1.5,SNR=3.6
TXAR SKPbc **SKPbc** 12 48 08.8 +0.3
comp=Z,0.7nm,0.6s,baz=250,slow=0.9,SNR=11
BDFB Brasilia 145.06 244 PKPbc **PKPbc** 12 44 53.4 -0.1
BDFB Brasilia 145.06 244 PKPbc **PKPbc** 12 44 53.4 -0.1
comp=Z,1.0nm,0.4s,baz=26,slow=5.2,SNR=3.2
CPUP Villa Florida 146.66 220 PKPbc **PKPbc** 12 44 57.5 -0.4
CPUP Villa Florida 146.66 220 PKPbc **PKPbc** 12 44 57.5 -0.4
comp=Z,0.6nm,0.4s,baz=163,slow=2.9,SNR=3.7

NNC 05 12:39:04.7±0.8, 46°36N×81°93E, h0km, mb3.6, mpv3.0, 16C-15D, Error ellipse: s-maj=11.5km s-min=3.5km az=129.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MK08	**Makanchi Array**	**0.47**	**32**	↑P		Pg	12 39 14.5	+0.7
MK08				↑S		Sb	12 39 21.7	-1.7
MK07	**Makanchi Array**	**0.48**	**34**	↑P		Pg	12 39 14.2	+0.2
MK07				↓S		Sg	12 39 21.0	+0.8
MK09	**Makanchi Array**	**0.48**	**30**	↓P		Pg	12 39 14.7	+0.7
MK09				↓S		Sg	12 39 21.9	+1.6
MK03	**Makanchi Array**	**0.48**	**32**	↑P		Pg	12 39 14.4	+0.3
MK03				↑S		Sg	12 39 21.3	+1.0
MK04	**Makanchi Array**	**0.48**	**32**	↓P		Pg	12 39 14.5	+0.4
MK04				↓S		Sg	12 39 21.4	+1.0
MK01	**Makanchi Array**	**0.48**	**32**	↓P		Pg	12 39 14.4	+0.3
MK01				↑S		Sg	12 39 21.3	+0.8
MK02	**Makanchi Array**	**0.49**	**33**	↓P		Pg	12 39 14.3	+0.2
MK02				↑S		Sg	12 39 21.1	+0.5
MK06	**Makanchi Array**	**0.49**	**33**	↓P		Pg	12 39 14.2	-0.1
MK06				↑S		Sg	12 39 21.0	+0.2
MK31	**Makanchi Array**	**0.50**	**30**	↓P		Pg	12 39 14.4	0.0
	3.8nm,0.2s,baz=88,slow=18,SNR=5187							
MK31				↑S		Sg	12 39 21.5	+0.5
	93nm,0.2s,baz=174,slow=22,SNR=8							
MK05	**Makanchi Array**	**0.50**	**30**	↑P		Pg	12 39 14.4	0.0
MK05				↓S		Sg	12 39 21.5	+0.5
KURBB	**Kurchatov Arra**	**4.83**	**333**	↑Pn		Pn	12 40 20.9	+2.3
	8.5nm,0.4s,baz=135,slow=12							
KURBB				↑Lg		Lg	12 41 37.2	
	51nm,0.6s,baz=138,slow=30							
KK31	**Karatay Array**	**8.75**	**252**	↑Pn		Pn	12 41 12.2	-0.3
	0.1nm,0.3s,baz=70,slow=12,SNR=5.5							
VOSK	**Vostochnaya**	**9.54**	**316**	↓Pn		Pn	12 41 27.5	+4.2
	0.8nm,0.6s							
VOSK				↓Sn		Sn	12 43 11.2	0.0
	1.1nm,0.6s							
VOSK				↓Lg		Lg	12 44 12.6	
	3.8nm,0.8s							
BVA0	**Borovoye Array**	**10.01**	**316**	↑Pn		Pn	12 41 26.6	-3.1
	1.0nm,0.6s,baz=118,slow=14,SNR=4.6							
BVA0				↑Lg		Lg	12 44 25.9	
	7.1nm,1.0s							
ZRNK	**Zerenda**	**10.65**	**313**	↑Pn		Pn	12 41 36.0	-2.4
	0.4nm,0.4s							
ZRNK				↓Sn		Sn	12 43 38.3	-0.1
	1.5nm,0.7s							
ZRNK				↓Lg		Lg	12 44 46.9	
	2.9nm,0.8s							

*ISCJB **05** 12:40:08.6±0.5, 25°.44N±0°.08×123°.39E±0°.07, h183km±6km, mb3.4/8, Error ellipse: s-maj=15.1km s-min=5.6km az=144.6*
*JMA **05** 12:40:11.5±0.2, 25°.27N×123°.35E, h173km±4km, M3.6*
*IDC **05** 12:40:16.3±4.6, 25°.38N×123°.17E, h245km±46km, mb3.1/8, mb1 3.2/9, mb1mx3.0/27, mbtmp3.1/9, Error ellipse: s-maj=40.1km s-min=13.3km az=71.0*
ISC 05 12:40:09.5±0.8, 25°.50N±0°.09×123°.36E±0°.07, h177km±9km, n26, σ1°.50/41, mb3.5/8, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.08**	**197**	P			**Pn**	**12 40 37.6**	**0.0**
YOJ				S			**Sn**	**12 40 58.4**	**-0.8**
IRIF	**Iriomote-Funau**	**1.21**	**164**	P			**Pn**	**12 40 38.3**	**-0.3**
IRIF				S			**Sn**	**12 40 59.4**	**-1.7**
JIJ	**Ishigaki jima**	**1.34**	**147**	P			**Pn**	**12 40 39.7**	**-0.1**
JIJ				S			**Sn**	**12 41 01.0**	**-2.1**
JKRS	**Kuro-shima**	**1.39**	**155**	P			**Pn**	**12 40 40.4**	**+0.2**
JKRS				S			**Sn**	**12 41 02.3**	**-1.6**
JTJ	**Tarama**	**1.49**	**125**	P			**Pn**	**12 40 41.9**	**+0.8**
JTJ				S			**Sn**	**12 41 05.2**	**-0.4**
HATJ	**Hateruma jima**	**1.49**	**164**	P			**Pn**	**12 40 41.1**	**-0.1**
HATJ				S			**Sn**	**12 41 03.8**	**-1.9**
JMJ	**Miyako jima 2**	**1.88**	**111**	P			**Pn**	**12 40 46.5**	**+1.4**
JMJ				S			**Sn**	**12 41 12.9**	**+0.2**
JOGS	**Gusukube**	**2.00**	**111**	P			**Pn**	**12 40 47.9**	**+1.5**
JOGS				S			**Sn**	**12 41 15.2**	**+0.3**
JKE	**Kume jima 2**	**3.20**	**74**	P			**Pn**	**12 41 01.9**	**+1.5**
JKE				S			**Sn**	**12 41 40.7**	**+0.6**
JAGN	**Aguni-jima**	**3.66**	**72**	P			**Pn**	**12 41 07.6**	**+1.4**
JAGN				S			**Sn**	**12 41 49.8**	**-0.7**
JJT2	**Tamagusuku 2**	**4.01**	**80**	P			**Pn**	**12 41 11.9**	**+1.2**
JJT2				S			**Sn**	**12 41 58.5**	**0.0**
JIH	**Iheya**	**4.41**	**69**	P			**Pn**	**12 41 16.3**	**+0.5**
JIH				S			**Sn**	**12 42 06.5**	**-1.3**
JOW	**Kunigami**	**4.62**	**72**	P			**Pn**	**12 41 18.5**	**+0.1**
JOW				S			**Sn**	**12 42 10.1**	**-2.4**
JTK	**Tokunoshima**	**5.50**	**64**	P			**Pn**	**12 41 29.3**	**-0.6**
JTK				S			**Sn**	**12 42 30.0**	**-3.2**
JAMN	**Amaminishikomi**	**5.87**	**61**	P			**Pn**	**12 41 33.8**	**-1.0**
JAMN				eS			**Sn**	**12 42 38.3**	**-3.6**
JAM	**Amami Oshima**	**6.29**	**61**	S			**Sn**	**12 42 47.4**	**-4.3**
JMZ	**Minamidaito 2**	**7.11**	**86**	P			**Pn**	**12 41 50.7**	**-0.3**
JMZ				S			Sn	12 43 03.5	-7.7
KSRS	**Korea Array**	**12.54**	**17**	P			**P**	**12 43 08.8**	**+2.4**
	0.3nm,0.3s,baz=198,slow=11,SNR=14								
SONM	**Songino Array**	**26.00**	**333**	P			**P**	**12 45 27.0**	**+0.9**
	0.4nm,0.6s,baz=152,slow=10.0,SNR=2.4								
MKAR	**Makanchi Array**	**38.81**	**314**	P			**P**	**12 47 17.1**	**0.0**
	0.6nm,0.5s,baz=104,slow=10,SNR=4.3								
WRA	**Warramunga Arr**	**46.41**	**166**	P			**P**	**12 48 18.0**	**-0.5**
	0.5nm,0.4s,baz=348,slow=8.6,SNR=17								
ASAR	**Alice Springs**	**49.93**	**167**	P			**P**	**12 48 44.9**	**-0.6**
	0.1nm,0.5s,baz=356,slow=6.8,SNR=5.6								
FINES	**FINESS Array B**	**71.31**	**330**	P			**P**	**12 51 09.3**	**-0.1**
	0.8nm,0.5s,baz=54,slow=5.3,SNR=9.5								
HFS	**Hagfors**	**77.38**	**331**	P			**P**	**12 51 44.6**	**0.0**
	1.9nm,0.8s,baz=86,slow=6.6,SNR=7.1								
NOA	**NORSAR Array B**	**77.98**	**333**	P			**P**	**12 51 47.2**	**-0.7**
	0.7nm,0.4s,baz=54,slow=5.7,SNR=4.0								
YKA	**Yellowknife Ar**	**80.99**	**23**	P			**P**	**12 52 04.2**	**+0.1**
	0.3nm,0.6s,baz=306,slow=5.3,SNR=9.7								

*IDC **05** 12:40:15.1±3.4, 41°.23N×19°.11E, h0km, mb3.9/3, mb1 3.7/5, mb1mx3.4/28, mbtmp3.6/5, ML3.1/2, Error ellipse: s-maj=48.6km s-min=16.2km az=32.0*
*TIR **05** 12:40:19.5, 41°.47N×19°.54E, h5km, ML3.4*
*ISCJB **05** 12:40:20.4±0.3, 41°.44N±0°.01×19°.51E±0°.02, h9km±2km, mb4.0/2, Error ellipse: s-maj=3.0km s-min=2.0km az=151.6*
*CSEM **05** 12:40:20.9±0.1, 41°.44N×19°.53E, h5km, ML3.2, Error ellipse: s-maj=2.7km s-min=1.7km az=69.0*
*PDG **05** 12:40:20.4±0.2, 41°.37N×19°.49E, h17km, MD3.4/4, ML3.4/10, Error ellipse: s-maj=0.3km s-min=0.3km az=0.0*
*BEO **05** 12:40:21.1±0.7, 41°.35N×19°.57E, h14km±2km, ML3.2/1*
*SKO **05** 12:40:21.3, 41°.38N×19°.53E, h0km, MD3.1, ML3.6*
*ATH **05** 12:40:21.6, 41°.39N×19°.49E, h31km±10km, MD3.7/14*
*THE **05** 12:40:21.6, 41°.45N×19°.55E, h5km±1km, ML3.2/6, Error ellipse: s-maj=2.0km s-min=0.9km az=7.0*
ISC 05 12:40:21.0±0.8, 41°.42N±0°.01×19°.53E±0°.02, h16km±6km, n175, σ1°.36/272, 32C-13D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.27**	**106**	*e*P	G		**Pg**	**12 40 26.5**	**-0.4**
TIR				*i* S	G		**Sg**	**12 40 30.8**	**-0.1**
TIR	**Tirane**	**0.27**	**106**	P			**Pg**	**12 40 26.5**	**-0.4**
TIR				S			**Sg**	**12 40 30.9**	**+0.1**
TIR	**Tirane**	**0.27**	**106**	*e*Sg			**Sg**	**12 40 31.1**	**+0.3**
TIR	**Tirane**	**0.27**	**106**	P			**Pg**	**12 40 26.5**	**-0.4**
TIR				S			**Sg**	**12 40 30.9**	**+0.1**
ULC	**Ulcinj**	**0.58**	**339**↑	*i*Pg			**Pg**	**12 40 32.0**	**-0.6**
ULC				*e*Sg			**Sb**	**12 40 42.2**	**+1.3**
ULC	**Ulcinj**	**0.58**	**339**↑	*i*Pg			**Pg**	**12 40 32.0**	**-0.6**
ULC				*e*Sg			**Sb**	**12 40 42.2**	**+1.3**
PUK	**Puka**	**0.68**	**24**	*e*PG			**Pg**	**12 40 32.9**	**-1.5**
PUK				*i* SG			**Sg**	**12 40 43.2**	**-0.2**
PUK	**Puka**	**0.68**	**24**	*e*Pg			**Pg**	**12 40 32.9**	**-1.5**
PUK				*i* Sg			**Sg**	**12 40 43.2**	**-0.2**
PHP	**Peshkopia**	**0.74**	**69**	*e*PG			**Pg**	**12 40 33.6**	**-1.8**
PHP				*i* SG			**Sg**	**12 40 45.3**	**0.0**
PHP	**Peshkopia**	**0.74**	**69**	P			**Pg**	**12 40 33.8**	**-1.6**
PHP				S			**Sg**	**12 40 45.2**	**0.0**
PHP	**Peshkopia**	**0.74**	**69**	P			**Pg**	**12 40 33.8**	**-1.6**
PHP				S			**Sg**	**12 40 45.2**	**0.0**
BUM	**Brajici-Budva**	**1.00**	**332**	*e*Pg			**Pb**	**12 40 39.8**	**-0.2**
BUM				*e*Sg			**Sn**	**12 40 55.6**	**+1.4**
BUM	**Brajici-Budva**	**1.00**	**332**	*e*Pg			**Pb**	**12 40 39.8**	**-0.2**
BUM				*e*Sg			**Sn**	**12 40 55.6**	**+1.4**
BCI	**Bajram Curri**	**1.03**	**23**	*e*PG			**Pb**	**12 40 39.3**	**-1.2**
BCI	**Bajram Curri**	**1.03**	**23**	*e*Pg			**Pb**	**12 40 39.3**	**-1.2**
PDG	**Podgorica**	**1.03**	**349**	P			**Pb**	**12 40 40.7**	**+0.3**
PDG				S			**Sn**	**12 40 55.2**	**+0.4**
PDG	**Podgorica**	**1.03**	**349**	*e*Pg			**Pb**	**12 40 40.8**	**+0.3**
PDG				*e*Sg			**Sn**	**12 40 56.9**	**+2.1**
PDG	**Podgorica**	**1.03**	**349**↑	*i*Pg			**Pb**	**12 40 40.0**	**-0.4**
PDG	**Podgorica**	**1.03**	**349**	P			**Pb**	**12 40 40.7**	**+0.3**
PDG				S			**Sn**	**12 40 55.2**	**+0.4**
PDG				*e*Sg			**Sn**	**12 40 57.1**	**+2.3**
TTG	**Podgorica**	**1.03**	**349**↑	*i*Pg			**Pb**	**12 40 40.0**	**-0.4**
TTG				*e*Sg			**Sn**	**12 40 57.1**	**+2.3**
PRZK	**Prizren**	**1.21**	**49**	P			**Pn**	**12 40 42.3**	**-1.1**
PVY	**Plav**	**1.22**	**15**↑	*i*Pg			**Pn**	**12 40 43.5**	**0.0**
PVY				*e*Sg			**Sg**	**12 41 03.5**	**+3.1**
PVY	**Plav**	**1.22**	**15**↑	*i*Pg			**Pn**	**12 40 43.5**	**0.0**
PVY				*e*Sg			**Sg**	**12 41 03.5**	**+3.1**
KBN	**Korca**	**1.24**	**129**	*e*PG			**Pg**	**12 40 45.2**	**+0.2**
KBN				*i* SG			**Sg**	**12 41 04.5**	**+3.2**
KBN	**Korca**	**1.24**	**129**	P			**Pn**	**12 40 43.7**	**-0.1**
KBN				S			**Sg**	**12 41 04.1**	**+2.8**
KBN	**Korca**	**1.24**	**129**	P			**

BIA				S	Sb	12 41 06.0	+1.1		
BIA	**Bitola**	**1.42**	**106**	*e*Pn	Pb	12 40 47.4	+0.3		
BIA				*e*Sn	Sg	12 41 07.4	+0.6		
BIA	**Bitola**	**1.42**	**106**	P	Pb	12 40 47.4	+0.3		
BIA				S	Sb	12 41 06.0	+1.1		
BIA				*e*Sn	Sg	12 41 07.3	+0.6		
NKY	**Niksic**	**1.45**	**344** ⇓	*i*Pg	Pb	12 40 48.0	+0.4		
NKY				*e*Sg	Sg	12 41 08.5	+0.8		
NKY	**Niksic**	**1.45**	**344** ⇓	*i*Pg	Pb	12 40 48.0	+0.4		
NKY				*e*Sg	Sg	12 41 08.5	+0.8		
BEY	**Berane**	**1.48**	**11**	P	Pn	12 40 47.5	+0.4		
BEY				*e*Sg	Sg	12 41 09.4	+0.7		
IVA	**Berane**	**1.48**	**11** ⇑	*i*Pg	Pn	12 40 47.4	+0.4		
IVA				*e*Sg	Sg	12 41 09.4	+0.7		
NEST	**Nestorio**	**1.53**	**131**	P	Pb	12 40 49.4	+0.3		
NEST				S	Sg	12 41 10.5	+0.1		
NEST	**Nestorio**	**1.53**	**131**	P	Pb	12 40 49.4	+0.3		
NEST				S	Sg	12 41 10.5	+0.1		
SKO	**Skopje**	**1.54**	**68**	P	Pb	12 40 48.9	-0.2		
SKO				S	Sg	12 41 10.0	-0.6		
SKO	**Skopje**	**1.54**	**68**	*e*Pn	Pg	12 40 50.7	+0.1		
SKO				*e*Lg	Lg	12 41 12.3			
	comp=N,712nm,0.5s								
SKO				*e*Sn	Sg	12 41 12.5	+1.9		
SKO				*e*Lg	Lg	12 41 12.6			
	comp=E,420nm,0.7s								
SKO	**Skopje**	**1.54**	**68**	*e*Pg	Pb	12 40 49.6	+0.5		
SKO				*e*Sg	Sb	12 41 09.6	+1.3		
SKO	**Skopje**	**1.54**	**68**	P	Pb	12 40 48.9	-0.2		
SKO	**Skopje**	**1.54**	**68**	*e*Pg	Pb	12 40 49.6	+0.5		
SKO	**Skopje**	**1.54**	**68**	*e*Pn	Pg	12 40 50.7	+0.1		
SKO				*e*Sg	Sb	12 41 09.6	+1.3		
SKO				S	Sg	12 41 10.0	-0.6		
SKO				*e*Sn	Sg	12 41 12.4	+1.9		
SKO				*e*Lg	Lg	12 41 12.5			
	comp=E,420nm,0.7s								
FNA	**Florina**	**1.54**	**114**	P	Pb	12 40 49.1	-0.1		
FNA				S	Sb	12 41 09.6	+1.2		
FNA	**Florina**	**1.54**	**114**	*e*PN	Pb	12 40 48.9	-0.3		
FNA				*e*SN	Sg	12 41 10.2	-0.4		
FNA	**Florina**	**1.54**	**114**	P	Pb	12 40 49.1	-0.1		
FNA				S	Sb	12 41 09.6	+1.2		
FNA				*e*Sn	Sg	12 41 10.2	-0.4		
SRN	**Sarande**	**1.58**	**167**	*e*PG	Pg	12 40 51.9	+0.4		
SRN				*i* Sg	Sg	12 41 14.0	+2.0		
SRN	**Sarande**	**1.58**	**167**	P	Pn	12 40 49.1	+0.7		
SRN	**Sarande**	**1.58**	**167**	P	Pn	12 40 49.1	+0.7		
SRN	**Sarande**	**1.58**	**167**	*e*Pg	Pg	12 40 51.9	+0.4		
SRN				*i* Sg	Sg	12 41 14.0	+2.0		
BRY	**Bratogost**	**1.65**	**334** ⇑	*i*PN	Pb	12 40 50.8	-0.4		
BRY				*e*Sn	Sg	12 41 13.8	-0.5		
BRY	**Bratogost**	**1.65**	**334** ⇑	*i*PN	Pb	12 40 50.8	-0.4		
BRY				*e*Sn	Sg	12 41 13.8	-0.5		
KEK	**Kerkira**	**1.72**	**173**	P	Pn	12 40 51.0	+0.7		
KEK				S	Sg	12 41 15.8	-0.6		
KEK	**Kerkira**	**1.72**	**173**	*e*PN	Pb	12 40 51.8	-0.4		
KEK				*e*SN	Sn	12 41 12.2	+0.3		
KEK	**Kerkira**	**1.72**	**173**	P	Pn	12 40 51.0	+0.7		
KEK	**Kerkira**	**1.72**	**173**	*e*Pn	Pb	12 40 51.8	-0.4		
KEK				*e*Sn	Sn	12 41 12.2	+0.3		
KEK				S	Sg	12 41 15.8	-0.6		
GJIK	**Gjilan**	**1.77**	**53**	P	Pn	12 40 52.9	+1.3		
UPM	**Unac-Piva**	**1.84**	**346** ⇑	*i*PN	Pb	12 40 53.7	-0.7		
UPM				*e*Sn	Sb	12 41 18.4	+1.2		
UPM	**Unac-Piva**	**1.84**	**346** ⇑	*i*PN	Pb	12 40 53.7	-0.7		
UPM	**Unac-Piva**	**1.84**	**346**	P	Pb	12 40 54.2	-0.2		
UPM				*e*Sn	Sb	12 41 18.4	+1.2		
SJES	**Sjenica**	**1.87**	**10** ⇓	*i*PN	Pn	12 40 53.7	+1.3		
SJES				*e*Sn	Sb	12 41 18.2	+0.2		
SJES	**Sjenica**	**1.87**	**10** ⇓	*i*PN	Pn	12 40 53.7	+1.3		
SJES				*e*Sn	Sb	12 41 18.2	+0.2		
PLE	**Pljevlja**	**1.91**	**357** ⇑	*i*PN	Pn	12 40 53.9	+0.9		
PLE				*e*Sn	Sb	12 41 20.2	+1.0		
PLE	**Pljevlja**	**1.91**	**357** ⇑	*i*PN	Pn	12 40 53.9	+0.9		
PLE				*e*Sn	Sb	12 41 20.2	+1.0		
TAR1	**Taranto**	**1.92**	**243**	*e*Pn	Pb	12 40 56.0	+0.4		
IGT	**Igoumenitsa**	**1.98**	**162**	P	Pb	12 40 55.5	-1.3		
IGT				S	Sb	12 41 21.6	+0.4		
IGT	**Igoumenitsa**	**1.98**	**162**	P	Pb	12 40 55.5	-1.3		
IGT				S	Sb	12 41 21.6	+0.4		
STON	**Ston**	**1.99**	**317**	*e*Pn	Pn	12 40 54.7	+0.7		
STON				Sn	Sn	12 41 19.4	+0.9		
STON	**Ston**	**1.99**	**317**	*e*Pn	Pn	12 40 54.6	+0.7		
STON				Sn	Sn	12 41 19.3	+0.9		
BAI	**Bari**	**2.02**	**262**	*e*Pn	Pn	12 40 54.5	+0.1		
BAI				*e*Sn	Sn	12 41 18.3	-0.9		
JAN	**Janina**	**2.03**	**150**	*e*PB	Pb	12 40 57.1	-0.5		
JAN				*e*SN	Sn	12 41 19.5	-0.1		
JAN	**Janina**	**2.03**	**150**	*e*Pb	Pb	12 40 57.1	-0.5		
JAN				*e*Sn	Sn	12 41 19.5	-0.1		
KZN	**Kozani**	**2.04**	**122**	P	Pb	12 40 56.7	-0.9		
KZN				S	Sb	12 41 23.2	+0.5		
KZN	**Kozani**	**2.04**	**122**	*e*PB	Pb	12 40 56.8	-0.9		
KZN	**Kozani**	**2.04**	**122**	P	Pb	12 40 56.7	-0.9		
KZN				S	Sb	12 41 23.2	+0.5		
SELS	**Selova**	**2.15**	**33**	*e*Pn	Pn	12 40 56.8	+0.5		
BARS	**Barje**	**2.20**	**50** ⇑	*i*Pn	Pn	12 40 57.7	+0.8		
BARS				*e*Sn	Sn	12 41 24.5	+1.7		
GRG	**Griva**	**2.22**	**101**	P	Pn	12 40 58.5	+1.3		
GRG	**Griva**	**2.22**	**101**	*e*PN	Pn	12 40 58.3	+1.1		
GRG				*e*SN	Sn	12 41 25.2	+0.9		
GRG	**Griva**	**2.22**	**101**	P	Pn	12 40 58.5	+1.3		
GRG				*e*Sn	Sn	12 41 25.2	+0.9		
VAY	**Valandovo**	**2.29**	**91**	*e*Pn	Pb	12 41 00.4	-1.6		
VAY	**Valandovo**	**2.29**	**91**	*e*Pn	Pn	12 40 59.6	+1.4		
VAY				*e*Sn	Sn	12 41 25.1	-1.0		
VAY	**Valandovo**	**2.29**	**91**	*e*Pn	Pn	12 40 59.6	+1.4		
BBLS	**Lazići**	**2.44**	**358** ⇑	*i*Pn	Pn	12 41 01.6	+1.3		
BBLS				*e*Sn	Sn	12 41 32.2	+2.3		
BBLS	**Lazići**	**2.44**	**358** ⇑	*i*Pn	Pn	12 41 01.6	+1.3		
BBLS				*e*Sn	Sn	12 41 32.2	+2.3		
LIT	**Litokhoron**	**2.61**	**119**	P	Pn	12 41 03.9	+1.4		
LIT				S	Sb	12 41 37.0	-2.2		
LIT	**Litokhoron**	**2.61**	**119**	*e*PN	Pn	12 41 03.7	+1.2		
LIT	**Litokhoron**	**2.61**	**119**	P	Pn	12 41 03.9	+1.4		
LIT				S	Sb	12 41 37.0	-2.2		
THL	**Klokotos Trika**	**2.65**	**134**	P	Pn	12 41 05.0	+1.9		
THL	**Klokotos Trika**	**2.65**	**134**	*e*PN	Pn	12 41 05.1	+1.9		
THL				*e*SN	Sn	12 41 35.3	+0.4		
THL	**Klokotos Trika**	**2.65**	**134**	P	Pn	12 41 05.0	+1.9		
THL				*e*Sn	Sn	12 41 35.3	+0.4		
DIVS	**Divibare**	**2.70**	**7**	P	Pn	12 41 04.7	+0.9		
DIVS	**Divibare**	**2.70**	**7** ⇑	*i*Pn	Pn	12 41 04.4	+0.6		
DIVS	**Divibare**	**2.70**	**7** ⇑	*i*Pn	Pn	12 41 04.4	+0.6		
DIVS	**Divibare**	**2.70**	**7**	P	Pn	12 41 04.7	+0.9		
LKD2	**Lefkada island**	**2.77**	**161**	P	Pn	12 41 05.4	+0.7		
LKD2	**Lefkada island**	**2.77**	**161**	*e*PN	Pn	12 41 05.4	+0.7		
LKD2	**Lefkada island**	**2.77**	**161**	P	Pn	12 41 05.4	+0.7		
ZAPS	**Zavoj**	**2.96**	**50** ⇓	*i*Pn	Pn	12 41 08.8	+1.5		
ZAPS				*e*Sn	Sn	12 41 42.9	+0.4		
ZAPS	**Zavoj**	**2.96**	**50** ⇓	*i*Pn	Pn	12 41 08.8	+1.5		
ZAPS				*e*Sn	Sn	12 41 42.9	+0.4		
VTS	**Vitosha**	**2.98**	**66**	P	Pn	12 41 09.3	+1.5		
VTS	**Vitosha**	**2.98**	**66** ⇓	*i*P	Pn	12 41 09.4	+1.6		
VTS	**Vitosha**	**2.98**	**66**	S	Sn	12 41 45.3	+2.0		
VTS	**Vitosha**	**2.98**	**66** ⇑	*i*Pn	Pn	12 41 09.1	+1.3		
VTS	**Vitosha**	**2.98**	**66** ⇑	*i*Pn	Pn	12 41 09.1	+1.3		
VTS				S	Sn	12 41 45.3	+2.0		
BOLS	**Boljevac**	**3.00**	**36**	*e*Pn	Pn	12 41 07.2	-0.7		
BOLS				*e*Sn	Sn	12 41 44.7	+1.2		
BOLS	**Boljevac**	**3.00**	**36**	*e*Pn	Pn	12 41 07.2	-0.7		
BOLS				*e*Sn	Sn	12 41 44.7	+1.2		
EVR	**Evrytania**	**3.05**	**144**	*e*PN	Pn	12 41 10.6	+1.9		
EVR	**Evrytania**	**3.05**	**144**	*e*Pn	Pn	12 41 10.6	+1.9		
SVIS	**Svilajnac**	**3.10**	**23**	*e*Pn	Pn	12 41 10.0	+0.7		
TEKS	**Tekeris**	**3.13**	**0**	*e*Pn	Pn	12 41 09.6	0.0		
TEKS	**Tekeris**	**3.13**	**0**	*e*Pn	Pn	12 41 09.6	0.0		
AGG	**Agios Georgios**	**3.22**	**137**	*e*PN	Pn	12 41 12.5	+1.6		
AGG	**Agios Georgios**	**3.22**	**137**	*e*Pn	Pn	12 41 12.5	+1.6		
NVR	**Nevrokopi**	**3.26**	**90**	P	Pn	12 41 13.1	+1.5		
NVR	**Nevrokopi**	**3.26**	**90**	*e*PN	Sn	12 41 13.1	+1.5		
NVR				*e*SN	Sn	12 41 51.6	+1.5		
NVR	**Nevrokopi**	**3.26**	**90**	P	Pn	12 41 13.1	+1.5		
NVR				*e*Sn	Sn	12 41 51.6	+1.5		
VLS	**Valsamata**	**3.34**	**165**	*e*PN	Pn	12 41 12.9	+0.3		
VLS	**Valsamata**	**3.34**	**165**	*e*Pn	Pn	12 41 12.9	+0.3		
EFP	**Efpalio**	**3.51**	**148**	*e*PN	Pn	12 41 15.9	+1.1		
EFP	**Efpalio**	**3.51**	**148**	*e*Pn	Pn	12 41 15.9	+1.1		
TRIZ	**Trizonia**	**3.63**	**146**	*e*Pn	Pn	12 41 19.0	+2.5		
TRIZ	**Trizonia**	**3.63**	**146**	*e*Pn	Pn	12 41 19.0	+2.5		
KALE	**Kalithea**	**3.63**	**146**	*e*PN	Pn	12 41 18.8	+2.1		
KALE	**Kalithea**	**3.63**	**146**	*e*Pn	Pn	12 41 18.8	+2.1		
LAKA	**Lakka**	**3.70**	**148**	*e*PN	Pn	12 41 18.7	+1.2		
LAKA	**Lakka**	**3.70**	**148**	*e*Pn	Pn	12 41 18.7	+1.2		
KLV	**Kalavryta, Ach**	**3.93**	**148**	*e*PN	Pn	12 41 22.9	+2.1		
KLV	**Kalavryta, Ach**	**3.93**	**148**	*e*Pn	Pn	12 41 22.9	+2.1		
GUR	**Goura**	**4.10**	**147**	*e*PN	Pn	12 41 24.4	+1.2		
GUR	**Goura**	**4.10**	**147**	*e*Pn	Pn	12 41 24.4	+1.2		
UDBI	**Udbina**	**4.15**	**320**	*e*Pn	Pn	12 41 25.4	+1.5		
UDBI				Sn	Sn	12 42 12.5	+0.5		
UDBI	**Udbina**	**4.15**	**320**	*e*Pn	Pn	12 41 25.3	+1.5		
UDBI				Sn	Sn	12 42 12.5	+0.5		
BZS	**Buzias**	**4.46**	**19** ⇑	*i*P	Pn	12 41 28.3	+0.3		
BZS	**Buzias**	**4.46**	**19**	S	Sn	12 42 17.3	-2.2		
BZS	**Buzias**	**4.46**	**19** ⇑	*i*P	Pn	12 41 28.3	+0.3		
BZS				S	Sn	12 42 17.3	-2.2		
GZR	**Gura Zlata**	**4.62**	**30** ⇓	*i*P	Pn	12 41 31.0	+0.8		
GZR	**Gura Zlata**	**4.62**	**30**	S	Sn	12 42 22.9	-0.7		
GZR	**Gura Zlata**	**4.62**	**30** ⇓	*i*P	Pn	12 41 31.0	+0.8		
GZR				S	Sn	12 42 22.9	-0.7		
ITM	**Ithomi**	**4.63**	**155**	*e*PN	Pn	12 41 31.4	+1.1		
ITM	**Ithomi**	**4.63**	**155**	*e*Pn	Pn	12 41 31.4	+1.1		
NVLJ	**Novalja**	**4.64**	**314**	*i* Pn	Pn	12 41 30.8	+0.5		
NVLJ				Sn	Sn	12 42 22.5	-1.3		
NVLJ	**Novalja**	**4.64**	**314**	*i* Pn	Pn	12 41 30.8	+0.5		
NVLJ				Sn	Sn	12 42 22.5	-1.3		
PKSM	**Moragy**	**4.83**	**353** ⇓	*i*P	Pn	12 41 34.2	+1.2		
PKSM	**Moragy**	**4.83**	**353**	S	Sn	12 42 26.9	-1.7		
PKSM	**Moragy**	**4.83**	**353** ⇓	*i*P	Pn	12 41 34.2	+1.2		
PKSM				S	Sn	12 42 26.9	-1.7		
DID	**Didima**	**4.85**	**142**	*e*PN	Pn	12 41 34.5	+1.1		
DID	**Didima**	**4.85**	**142**	*e*Pn	Pn	12 41 34.5	+1.1		
VOIR		**5.68**	**43** ⇓	*i*P	Pn	12 41 46.2	+1.4		
VOIR		**5.68**	**43**	S	Sn	12 42 49.4	-0.3		
VOIR		**5.68**	**43** ⇓	*i*P	Pn	12 41 46.2	+1.4		
VOIR				S	Sn	12 42 49.4	-0.3		
DRGR		**5.84**	**22**	S	Sn	12 42 51.0	-2.5		
VOY	**Vojsko**	**6.15**	**320**	*e*Pn	Pn	12 41 52.2	+0.9		
VOY				*e*		12 41 53.6			
VOY				*e*Sn	Sn	12 42 59.1	-2.2		
VOY	**Vojsko**	**6.15**	**320**	*e*Pn	Pn	12 41 52.2	+0.9		
MLR	**Muntele Rosu**	**6.19**	**47** ⇑	*i*P	Pn	12 41 54.1	+2.2		
MLR	**Muntele Rosu**	**6.19**	**47**	S	Sn	12 43 06.1	+3.7		
MLR	**Muntele Rosu**	**6.19**	**47**	Pn	Pn	12 41 55.1	+3.2		
	comp=E,0.2nm,0.3s,baz=160,slow=7.0,SNR=9.5								
MLR				Sn	Sn	12 43 04.6	+2.2		
	comp=E,0.1nm,0.3s,baz=289,slow=12,SNR=2.5								
MLR	**Muntele Rosu**	**6.19**	**47** ⇑	*i*P	Pn	12 41 54.1	+2.2		
MLR				S	Sn	12 43 06.1	+3.7		
PLOR	**Plostina**	**6.80**	**47** ⇑	*i*P	Pn	12 42 02.1	+1.9		
PLOR	**Plostina**	**6.80**	**47** ⇑	*i*P	Pn	12 42 02.1	+1.9		
VRI	**Vrincioaia**	**6.86**	**47** ⇑	*i*P	Pn	12 42 03.2	+2.3		
VRI	**Vrincioaia**	**6.86**	**47** ⇑	*i*P	Pn	12 42 03.2	+2.3		
TLCR		**7.75**	**58** ⇑	*i*P	Pn	12 42 15.0	+1.9		
TLCR		**7.75**	**58** ⇑	*i*P	Pn	12 42 15.0	+1.9		
GERES	**GERESS Array B**	**8.48**	**333**	Pn	Pn	12 42 21.8	-1.4		
	comp=E,0.1nm,0.3s,baz=167,slow=13,SNR=3.1								
GERES				Sn	Sn	12 43 55.5	-3.2		
	comp=E,0.2nm,0.3s,baz=164,slow=25,SNR=2.7								
DAVOX	**Davos/Dischmat**	**8.76**	**311**	Pn	Pn	12 42 25.9	-1.3		
	comp=E,0.1nm,0.3s,baz=131,slow=20,SNR=1.7								
DAVOX				Sn	Sn	12 44 02.0	-3.7		
	comp=E,0.3nm,0.3s,baz=40,slow=18,SNR=2.1								
KHC	**Kasperske Hory**	**8.77**	**334**	*e*SN	Sn	12 44 01.4	-4.3		
KHC	**Kasperske Hory**	**8.77**	**334**	Sn	Sn	12 44 01.4	-4.3		
FINES	**FINESS Array B**	**20.44**	**9**	P	P	12 44 55.9	-1.5		
	comp=E,0.8nm,0.3s,baz=189,slow=10,SNR=18								
KAF	**Kangasniemi**	**21.12**	**9**	*e*p	P	12 45 03.9	-0.8		
ZALV	**Zalesovo Beam**	**44.16**	**51**	P	P	12 48 27.6	-1.0		
	comp=E,1.4nm,0.3s,baz=288,slow=8.4,SNR=6.5								
MKAR	**Makanchi Array**	**44.33**	**61**	P	P	12 48 29.1	-1.0		
	comp=E,1.2nm,0.5s,baz=283,slow=7.3,SNR=12								

IDC 05 12:54:18.0±1.4, 7°06S×128°77E, h0km, mb3.6/3, mb1 3.8/6, mb1mx3.6/21, mbtmp3.7/6, ML3.6/3, MS2.9/1, Ms1 2.9/1, ms1mx2.0/26, Error ellipse: s-maj=85.7km s-min=21.3km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.39**	**195**	Pn	Pn	12 57 01.9	-0.2
	0.7nm,0.3s,baz=24,slow=12,SNR=44						
FITZ				Sn	Sn	12 58 55.6	-15
	0.9nm,0.3s,baz=248,slow=19,SNR=4.6						
WRA	**Warramunga Arr**	**13.90**	**158**	Pn	Pn	12 57 38.2	+1.7
	0.1nm,0.3s,baz=334,slow=14,SNR=16						
WRA				Sn	Sn	12 59 59.4	-12
	0.6nm,0.3s,baz=329,slow=22,SNR=14						
ASAR	**Alice Springs**	**17.23**	**164**	P	Pn	12 58 21.1	+0.8
	0.3nm,0.3s,baz=343,slow=11,SNR=60						
ASAR				S	Sn	13 01 17.4	-15
	0.1nm,0.3s,baz=324,slow=28,SNR=4.7						
STKA	**Stephens Creek**	**27.44**	**156**	P	P	13 00 04.9	-0.8
	0.7nm,0.4s,baz=326,slow=13,SNR=4.7						
HNR	**Honiara**	**30.94**	**97**	LR	LR	13 12 29.3	
	comp=Z,24nm,20.9s,baz=154,slow=35						
MKAR	**Makanchi Array**	**67.61**	**327**	P	P	13 05 16.9	+0.2
	0.1nm,0.4s,baz=132,slow=7.5,SNR=2.9						
KURBB	**Kurchatov Arra**	**71.93**	**329**	P	P	13 05 43.0	-0.1
	0.2nm,0.3s,baz=140,slow=5.1,SNR=5.2						

*IDC **05** 12:55:46.3±7.3, 53°12N×170°81W, h109km±66km, mb3.3/5, mb1 3.3/7, mb1mx3.1/30, mbtmp3.2/7, Error ellipse: s-maj=56.9km s-min=34.8km az=129.0*

*ISCJB **05** 12:55:48.6±0.6, 53°1N±0°2×170°5W±0°1, h145km±8km, mb3.4/5, Error ellipse: s-maj=35.8km s-min=6.2km az=160.0*

*NEIC **05** 12:55:50.7, 52°57N×170°24W, h131km, MG3.2(AEIC), After AEIC.*

ISC 05 12:55:49.4±0.9, 53°0N±0°2×170°44W±0°10, h141km±10km, n18, σ1°04/23, mb3.3/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.96**	**88**	P	Pn	12 56 12.1	-0.7
NIKH				S	Sn	12 56 29.0	-1.8
OKSP	**Okmok Steeple**	**1.33**	**76**	P	Pn	12 56 16.8	+0.4
OKSO	**Okmok South**	**1.43**	**73**	P	Pn	12 56 17.3	-0.2
OKSO				S	Sn	12 56 40.7	+1.8
OKTU	**Okmok Mt. Tuli**	**1.51**	**73**	P	Pn	12 56 18.8	+0.5
OKFG	**Magazine Ridge**	**1.59**	**72**	P	Pn	12 56 19.2	0.0
OKFG				S	Sn	12 56 43.0	+1.1
MSOM	**Makushin Julie**	**2.26**	**66**	P	Pn	12 56 27.0	+0.1
KOFP	**Korovin Flat P**	**2.33**	**254**	P	Pn	12 56 29.3	+1.4
MREP	**Makushin Rep't**	**2.37**	**67**	P	Pn	12 56 29.3	+0.9
KOWE	**Korovin West**	**2.39**	**257**	P	Pn	12 56 29.1	+0.4
ATKA	**Atka Island**	**2.41**	**253**	P	Pn	12 56 29.0	+0.2
ATKA				S	Sn	12 56 58.7	-0.5
UNV	**Unalaska Valle**	**2.52**	**68**	P	Pn	12 56 30.3	+0.1
UNV				S	Sn	12 57 02.6	+1.0
KDAK	**Kodiak Island**	**11.24**	**57**	P	Pn	12 58 24.9	-0.7
	0.2nm,0.3s,baz=280,slow=12,SNR=4.5						
ILAR	**Eielson Array**	**16.85**	**36**	P	P	12 59 34.9	-1.4
	0.1nm,0.3s,baz=228,slow=10,SNR=7.1						
DLBC	**Dease Lake**	**23.15**	**60**	P	P	13 00 45.1	+2.1
	1.5nm,0.5s,baz=304,slow=6.5,SNR=5.3						
INK	**Inuvik**	**23.22**	**34**	P	P	13 00 42.9	-0.6
	0.6nm,0.5s,baz=258,slow=5.7,SNR=5.3						
YKA	**Yellowknife Ar**	**30.35**	**49**	P	P	13 01 47.0	-0.2
	0.1nm,0.4s,baz=273,slow=7.8,SNR=6.3						
FINES	**FINESS Array B**	**65.19**	**351**	P	P	13 06 14.1	-0.7
	2.2nm,0.9s,baz=17,slow=10,SNR=4.3						
ASAR	**Alice Springs**	**90.28**	**229**	P	P	13 08 34.2	+0.3
	0.2nm,0.8s,baz=35,slow=5.1,SNR=4.1						

MAN 05 13:09:43, 9°22N×123°09E, h25km, mb3.6, ML2.3, MS1.8, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**0.68**	**157** ⇑	*i*P	Pb	13 09 56.7	+0.4
DCPH				*i* S	Sn	13 10 07.2	+0.2
PAGZ	**Pagadian**	**1.39**	**168**	*e*P	Pb	13 10 08.7	+0.3
PAGZ				*e*S	Sb	13 10 26.6	+0.9
GUIM	**Jordan**	**1.48**	**341**	*e*P	Pn	13 10 08.8	+0.7
GUIM				*e*S	Sb	13 10 28.1	-0.2

IDC 05 13:18:55.3±1.4, 37°89N×96°08E, h0km, mb3.4/3, mb1 3.6/7, mb1mx3.4/29, mbtmp3.5/7, ML3.2/4, MS2.2/1, Ms1 2.2/1, ms1mx2.0/31, Error ellipse: s-maj=36.5km s-min=24.3km az=40.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**12.48**	**34**	Pn	Pn	13 21 53.0	-1.3
	0.1nm,0.3s,baz=209,slow=13,SNR=2.4						
MKAR	**Makanchi Array**	**13.51**	**316**	Pn	Pn	13 22 04.0	-4.3
	0.1nm,0.3s,baz=123,slow=14,SNR=4.5						
AAK	**Ala-Archa**	**17.13**	**293**	P	P	13 22 57.6	-0.4
	0.3nm,0.3s,baz=286,slow=7.4,SNR=4.4						
KURBB	**Kurchatov Arra**	**17.83**	**321**	P	Pn	13 23 04.0	-0.6
	0.0nm,0.3s,baz=134,slow=12,SNR=4.2						
KSRS	**Korea Array**	**25.15**	**81**	P	P	13 24 22.7	+0.6
	0.8nm,0.6s,baz=276,slow=10,SNR=7.4						
TGY	**Tagaytay City**	**32.38**	**130**	LR	LR	13 39 32.2	
	comp=Z,3.8nm,18.1s,baz=72,slow=38						
ILAR	**Eielson Array**	**66.52**	**25**	P	P	13 29 46.3	-0.1
	0.2nm,0.7s,baz=299,slow=4.0,SNR=3.2						
ASAR	**Alice Springs**	**70.80**	**143**	P	P	13 30 13.3	-0.3
	0.3nm,0.6s,baz=327,slow=6.4,SNR=7.4						

*ISCJB **05** 13:57:19.3±0.3, 31°67S±0°03×69°75W±0°05, h121km±2km, mb4.6/64, Error ellipse: s-maj=6.5km s-min=4.1km az=178.6*

*GUC **05** 13:57:19.5±0.9, 31°64S×69°91W, h130km±12km, ML5.1*

*NEIC **05** 13:57:20.8±0.2, 31°75S×69°76W, mb4.7/49, MD4.8(SJA), Error ellipse: s-maj=6.6km s-min=3.7km az=92.0*

NEIC Felt [IV] at San Juan. Felt [II] at Las Condes, La Serena, Limache, Los Andes, Petorca, Quillota, Santiago and Valparaiso, Chile.

*IDC **05** 13:57:21.3±0.4, 31°67S×69°65W, h126km±3km, mb4.2/19, mb1 4.2/21, mb1mx4.2/24, mbtmp4.1/21, Error ellipse: s-maj=11.9km s-min=8.4km az=34.0*

ISC 05 13:57:21.1±0.3, 31°70S±0°03×69°77W±0°04, h125km±2km, h125km:pP-P, n507, σ1°03/614, mb4.6/64, 175C-190D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTCH	**Petorca**	**1.14**	**240** ⇑	*i*P	Pn	13 57 43.6	-1.3
PTCH				*i* S	Sn	13 58 01.5	-1.5
PTCH	**Petorca**	**1.14**	**240** ⇑	*i*P	Pn	13 57 43.6	-1.3
PTCH				*i* S	Sn	13 58 01.5	-1.5
PTCH

SNAA	**Sanae**	**53.01**	**159**	*eP*	**P**	**14 06 25.4**	**+0.8**
SNAA	**Sanae**	**53.01**	**159**	*ep*	*pP*	14 06 54.9	+0.9
SNAA	**Sanae**	**53.01**	**159**	*es*	*sP*	14 07 08.3	+0.5
SNAA	**Sanae**	**53.01**	**159**	*e*	**PKiKP**	**14 14 09.1**	**+0.4**
SNAA	**Sanae**	**53.01**	**159**	*eP*	**P**	**14 06 25.0**	**+0.4**
	comp=E,36nm,1.3s						
SNAA	**Sanae**	**53.01**	**159**	P	**P**	**14 06 25.1**	**+0.5**
	comp=E,6.8nm,0.9s,baz=281,slow=6.3,SNR=35						
TEIG	**Tepich**	**54.59**	**339**	P	**P**	**14 06 36.8**	**+0.3**
TEIG				*pP*	**pP**	**14 07 06.9**	**+0.9**
TEIG	**Tepich**	**54.59**	**339**	P	**P**	**14 06 36.8**	**+0.3**
	comp=E,17nm,0.7s,baz=162,slow=3.5						
TEIG				*pP*	**pP**	**14 07 06.9**	**+0.9**
	comp=E,34nm,0.8s,baz=113,slow=2.9,SNR=6.6						
TIGA	**Tifton**	**64.14**	**347**	⇓P	**P**	**14 07 42.2**	**+0.2**
	baz=64						
LRAL	**Lakeview Retre**	**66.41**	**344**	*eP*	**P**	**14 07 56.1**	**-0.5**
	comp=E,2.6nm,0.8s						
LRAL				*epP*	**pP**	**14 08 26.9**	**-0.2**
LRAL				*es*	**sP**	**14 08 39.2**	**-1.4**
732A	**Laxson Ranch,**	**66.61**	**331**	⇓P	**P**	**14 07 58.5**	**+0.5**
	baz=67,SNR=8.7						
VNDA	**Vanda**	**66.72**	**191**	*eP*	**P**	**14 07 59.4**	**+1.3**
	comp=E,4.5nm,1.5s						
VNDA	**Vanda**	**66.72**	**191**	P	**P**	**14 07 58.5**	**+0.3**
	comp=E,1.8nm,0.9s,baz=98,slow=2.6,SNR=5.2						
632A	**Uvalde**	**67.22**	**332**	⇑P	**P**	**14 08 02.6**	**+0.7**
	baz=68						
KMSC	**Kings Mountain**	**67.37**	**350**	⇓P	**P**	**14 08 02.9**	**+0.2**
	baz=68						
631A	**Perdido Creek**	**67.46**	**331**	⇓P	**P**	**14 08 03.4**	**0.0**
	baz=68,SNR=5.4						
532A	**Rocksprings**	**67.81**	**332**	⇓P	**P**	**14 08 06.5**	**+0.8**
	baz=68,SNR=14						
JCT	**Junction City**	**68.08**	**332**	*eP*	**P**	**14 08 07.8**	**+0.5**
	comp=E,46nm,1.5s						
JCT				*e*	**pP**	**14 08 39.1**	**+1.1**
JCT	**Junction City**	**68.08**	**332**	⇓P	**P**	**14 08 07.9**	**+0.6**
	baz=68,SNR=8.8						
531A	**Rocksprings**	**68.11**	**331**	⇑P	**P**	**14 08 08.3**	**+0.8**
	baz=68,SNR=9.0						
TKL	**Tuckaleechee C**	**68.28**	**348**	*eP*	**P**	**14 08 07.7**	**-0.6**
TKL				*pP*	**pP**	**14 08 38.8**	**-0.3**
TKL	**Tuckaleechee C**	**68.28**	**348**	P	**P**	**14 08 07.9**	**-0.4**
	comp=E,8.6nm,0.8s,baz=156,slow=7.2,SNR=13						
TKL				*pP*	**pP**	**14 08 38.8**	**-0.3**
	comp=E,10nm,0.8s,baz=176,slow=7.5,SNR=8.2						
530A	**J-C Ranch, Com**	**68.42**	**331**	⇑P	**P**	**14 08 10.0**	**+0.6**
	baz=69,SNR=9.6						
432A	**Menard**	**68.43**	**332**	⇑P	**P**	**14 08 09.5**	**0.0**
	baz=69,SNR=6.3						
628A	**Black Gap, Mar**	**68.50**	**329**	⇑P	**P**	**14 08 11.1**	**+1.1**
	baz=69,SNR=13						
WHTX	**Lake Whitney**	**68.55**	**335**	⇑P	**P**	**14 08 10.3**	**+0.2**
	baz=69						
431A	**Sonora**	**68.59**	**332**	⇓P	**P**	**14 08 10.7**	**+0.2**
	baz=69,SNR=6.9						
627A	**Terlingua Ranc**	**68.69**	**329**	⇑P	**P**	**14 08 11.6**	**+0.4**
	baz=69						
TXAR	**Lajitas Array**	**68.72**	**328**	P	**P**	**14 08 12.0**	**+0.7**
TXAR				*pP*	**pP**	**14 08 43.6**	**+1.5**
TXAR	**Lajitas Array**	**68.72**	**328**	P	**P**	**14 08 12.0**	**+0.7**
	comp=E,1.8nm,0.6s,baz=161,slow=8.3,SNR=34						
TXAR				*pP*	**pP**	**14 08 43.6**	**+1.5**
	comp=E,3.1nm,0.8s,baz=150,slow=7.7,SNR=11						
529A	**Stev Forest Ra**	**68.77**	**330**	⇑P	**P**	**14 08 12.4**	**+0.8**
	baz=69,SNR=24						
332A	**Millersview**	**68.86**	**333**	⇑P	**P**	**14 08 12.5**	**+0.4**
	baz=69,SNR=8.2						
430A	**Baggett Ranch,**	**68.94**	**331**	⇑P	**P**	**14 08 13.2**	**+0.6**
	baz=69,SNR=17						
528A	**Cox Ranch, San**	**69.04**	**330**	⇓P	**P**	**14 08 13.4**	**+0.1**
	baz=69,SNR=13						
331A	**San Angelo**	**69.07**	**332**	⇑P	**P**	**14 08 13.4**	**0.0**
	baz=69,SNR=9.7						
429A	**Davenport Ranc**	**69.07**	**331**	⇓P	**P**	**14 08 14.0**	**+0.5**
	baz=69,SNR=9.8						
626A	**Big Bend Ranch**	**69.11**	**328**	⇑P	**P**	**14 08 15.1**	**+1.3**
	baz=70,SNR=11						
232A	**Coleman**	**69.27**	**333**	⇓P	**P**	**14 08 14.8**	**+0.2**
	baz=70,SNR=8.7						
527A	**Woodward Ranch**	**69.39**	**329**	⇑P	**P**	**14 08 16.0**	**+0.5**
	baz=70,SNR=8.3						
JSRW	**J. Sargeant Re**	**69.44**	**353**	*eP*	**P**	**14 08 16.0**	**+0.5**
JSRW				*e*	**pP**	**14 08 46.2**	**-0.1**
330A	**Mertzon**	**69.45**	**332**	⇑P	**P**	**14 08 15.8**	**0.0**
	baz=70,SNR=8.6						
428A	**Kincaid Ranch,**	**69.49**	**330**	⇑P	**P**	**14 08 16.2**	**+0.1**
	baz=70						
526A	**Mary Lane Ranc**	**69.53**	**329**	⇓P	**P**	**14 08 16.8**	**+0.4**
	baz=70,SNR=9.1						
WVT	**Waverly**	**69.56**	**344**	*eP*	**P**	**14 08 15.9**	**-0.3**
	comp=E,34nm,0.7s						
WVT				*e*	**pP**	**14 08 46.6**	**-0.5**
231A	**Bronte**	**69.58**	**333**	⇓P	**P**	**14 08 16.3**	**-0.2**
	baz=70,SNR=9.5						
MIAR	**Mount Ida**	**69.59**	**339**	*eP*	**P**	**14 08 16.2**	**-0.3**
	comp=E,14nm,1.3s						
MIAR				*epP*	**pP**	**14 08 46.0**	**-1.4**
230A	**Sterling City**	**69.85**	**332**	⇑P	**P**	**14 08 18.5**	**+0.2**
	baz=70						
329A	**Wagon Wheel Ra**	**69.85**	**331**	⇓P	**P**	**14 08 18.5**	**+0.2**
	baz=70,SNR=9.1						
427A	**Hayter Ranch,**	**69.90**	**330**	⇑P	**P**	**14 08 19.3**	**+0.7**
	baz=70						
ABTX	**Abilene, Hawle**	**69.93**	**333**	⇓P	**P**	**14 08 18.7**	**+0.1**
	baz=70,SNR=12						
UTMT	**University of**	**70.01**	**344**	*eP*	**P**	**14 08 19.3**	**+0.3**
	comp=E,117nm,0.9s						
UTMT				*epP*	**pP**	**14 08 50.1**	**+0.3**
UTMT				*es*	**sP**	**14 09 04.0**	**+0.7**
426A	**McDonald Obser**	**70.02**	**329**	⇑P	**P**	**14 08 20.3**	**+0.8**
	baz=70,SNR=16						
GLAT	**Glass**	**70.04**	**343**	*eP*	**P**	**14 08 19.4**	**+0.2**
328A	**Wristen Ranch,**	**70.11**	**330**	⇓P	**P**	**14 08 19.7**	**-0.1**
	baz=70,SNR=8.7						
229A	**Bryant Ranch,**	**70.20**	**331**	⇓P	**P**	**14 08 20.8**	**+0.4**
	baz=71						
131A	**Roby**	**70.26**	**333**	⇑P	**P**	**14 08 20.8**	**+0.1**
	baz=71,SNR=9.0						
130A	**Snyder**	**70.42**	**332**	⇑P	**P**	**14 08 21.5**	**-0.1**
	baz=71,SNR=6.6						
Z32A	**Haskell**	**70.47**	**334**	⇑P	**P**	**14 08 22.2**	**+0.2**
	baz=71,SNR=11						
425A	**Indio Mountain**	**70.55**	**328**	⇓P	**P**	**14 08 22.5**	**-0.1**
	baz=71,SNR=5.4						
326A	**Caldwell Ranch**	**70.55**	**329**	⇓P	**P**	**14 08 22.7**	**+0.1**
	baz=71,SNR=5.7						
228A	**UT Block 9, Go**	**70.66**	**331**	⇑P	**P**	**14 08 23.2**	**0.0**
	baz=71,SNR=5.2						
Z31A	**Sharp Cattle R**	**70.73**	**333**	⇓P	**P**	**14 08 23.7**	**+0.2**
	baz=71,SNR=10						
129A	**Stewart Farms,**	**70.81**	**332**	⇑P	**P**	**14 08 24.4**	**+0.3**
	baz=71						
227A	**Bennet, Jal**	**70.86**	**330**	⇓P	**P**	**14 08 25.2**	**+0.8**
	baz=71						
325A	**Bean Ranch, Si**	**71.04**	**329**	⇑P	**P**	**14 08 25.3**	**-0.3**
	baz=71,SNR=14						
128A	**Castleberry Fa**	**71.05**	**331**	⇓P	**P**	**14 08 25.8**	**+0.3**
	baz=71,SNR=6.2						
Y32A	**R-V Farms, Ver**	**71.08**	**334**	⇓P	**P**	**14 08 25.7**	**+0.1**
	baz=72,SNR=6.4						
Z30A	**Sanderson Ranc**	**71.09**	**333**	⇑P	**P**	**14 08 25.6**	**-0.1**
	baz=72,SNR=8.7						
USIN	**University of**	**71.29**	**345**	*eP*	**P**	**14 08 25.9**	**-0.8**
	comp=E,39nm,1.1s						
USIN				*epP*	**pP**	**14 08 56.5**	**-1.2**
USIN				*es*	**sP**	**14 09 09.9**	**-1.2**
226B	**Tecolote Peak,**	**71.29**	**330**	⇑P	**P**	**14 08 27.7**	**+0.7**
	baz=72,SNR=9.8						
Z29A	**Hungry Hill Ra**	**71.29**	**332**	⇓P	**P**	**14 08 26.6**	**-0.4**
	baz=72,SNR=7.3						
324A	**Moseley Ranch,**	**71.33**	**328**	⇓P	**P**	**14 08 26.8**	**-0.5**
	baz=72,SNR=7.8						
Y31A	**Rekieta Farm,**	**71.35**	**334**	⇑P	**P**	**14 08 27.5**	**+0.2**
	baz=72,SNR=7.6						
SIUC	**Southern Illin**	**71.40**	**344**	*eP*	**P**	**14 08 26.8**	**-0.6**
	comp=E,9.3nm,0.4s						
SIUC				*epP*	**pP**	**14 08 58.5**	**+0.1**
SIUC				*es*	**sP**	**14 09 12.2**	**+0.4**
127A	**Arkansas Junct**	**71.46**	**331**	⇓P	**P**	**14 08 27.9**	**-0.1**
	baz=72						
GDL2	**Guadalupe Moun**	**71.48**	**329**	*eP*	**P**	**14 08 28.3**	**+0.1**
	comp=E,1.9nm,0.5s						
GDL2				*epP*	**pP**	**14 09 00.9**	**+1.8**
GDL2				*es*	**sP**	**14 09 14.5**	**+1.9**
MNTX	**Cornudas Mount**	**71.50**	**328**	*eP*	**P**	**14 08 27.4**	**-0.7**
	comp=E,4.0nm,0.9s						
MNTX				*epP*	**pP**	**14 08 59.4**	**+0.3**
TUL1	**Tulsa**	**71.55**	**338**	⇓P	**P**	**14 08 28.8**	**+0.5**
	baz=72						
Z28A	**Tucker Farm, M**	**71.59**	**332**	⇓P	**P**	**14 08 28.8**	**0.0**
	baz=72						
225A	**Deer Hill, Car**	**71.60**	**329**	⇑P	**P**	**14 08 29.1**	**+0.1**
	baz=72						
126A	**Clayton Basin,**	**71.72**	**330**	⇓P	**P**	**14 08 29.8**	**+0.2**
	baz=72,SNR=6.2						
Y29A	**Porterfield Fa**	**71.81**	**332**	⇓P	**P**	**14 08 30.3**	**+0.2**
	baz=72,SNR=12						
X31A	**McDonald Ranch**	**71.84**	**334**	⇓P	**P**	**14 08 30.3**	**+0.1**
	baz=72,SNR=7.1						
224A	**Cornudas Mount**	**71.88**	**329**	⇓P	**P**	**14 08 30.2**	**-0.4**
	baz=72,SNR=6.6						
Z27A	**Tatum**	**71.95**	**331**	⇓P	**P**	**14 08 30.9**	**-0.1**
	baz=72,SNR=6.1						
125A	**Gardner Draw,**	**72.00**	**330**	⇓P	**P**	**14 08 31.0**	**-0.3**
	baz=72,SNR=7.4						
X30A	**Coker Ranch, T**	**72.01**	**333**	⇓P	**P**	**14 08 31.3**	**0.0**
	baz=72						
Y28A	**McKinney Farm,**	**72.08**	**332**	⇓P	**P**	**14 08 31.9**	**+0.2**
	baz=72						
OLIL	**Olney**	**72.12**	**345**	*eP*	**P**	**14 08 30.7**	**-1.0**
	comp=E,35nm,1.2s						
OLIL				*epP*	**pP**	**14 09 02.2**	**-0.5**
OLIL				*es*	**sP**	**14 09 15.8**	**-0.3**
BLO	**Bloomington**	**72.21**	**346**	*eP*	**P**	**14 08 31.4**	**-0.8**
	comp=E,7.2nm,0.3s						
BLO				*epP*	**pP**	**14 09 02.7**	**-0.5**
Z26A	**Caprock**	**72.24**	**330**	⇑P	**P**	**14 08 33.0**	**+0.4**
	baz=73,SNR=21						
W31A	**Holland Ranch,**	**72.32**	**334**	⇑P	**P**	**14 08 33.2**	**+0.2**
	baz=73						
X29A	**Tulia**	**72.33**	**333**	⇓P	**P**	**14 08 33.0**	**-0.2**
	baz=73,SNR=5.8						
MSTX	**Muleshoe**	**72.34**	**332**	⇓P	**P**	**14 08 33.3**	**0.0**
	baz=73,SNR=15						
124A	**Stringfield Ra**	**72.38**	**329**	⇑P	**P**	**14 08 33.6**	**-0.1**
	baz=73,SNR=13						
Y27A	**Causey**	**72.43**	**331**	⇓P	**P**	**14 08 33.8**	**0.0**
	baz=73						
Z25A	**Roswell**	**72.56**	**330**	⇓P	**P**	**14 08 34.5**	**-0.1**
	baz=73,SNR=6.5						
X28A	**Dimmitt**	**72.59**	**332**	⇑P	**P**	**14 08 35.3**	**+0.6**
	baz=73						
ACSO	**Alum Creek Sta**	**72.61**	**349**	*eP*	**P**	**14 08 33.8**	**-0.7**
	comp=E,31nm,1.0s						
ACSO				*epP*	**pP**	**14 09 05.2**	**-0.4**
ACSO				*es*	**sP**	**14 09 18.9**	**-0.1**
DBIC	**Dimbokro**	**72.62**	**71**	P	**P**	**14 08 35.3**	**0.0**
DBIC				*pP*	**pP**	**14 09 05.8**	**-0.5**
DBIC	**Dimbokro**	**72.62**	**71**	P	**P**	**14 08 35.3**	**0.0**
	comp=E,3.5nm,0.4s,baz=164,slow=5.5,SNR=11						
DBIC				*pP*	**pP**	**14 09 05.8**	**-0.5**
	comp=E,5.6nm,0.8s,baz=186,slow=11,SNR=2.2						
320A	**Kipp Ranch, An**	**72.65**	**326**	⇓P	**P**	**14 08 36.0**	**+0.8**
	baz=73,SNR=5.4						
AMTX	**Amarillo**	**72.71**	**333**	*eP*	**P**	**14 08 35.6**	**+0.2**
	comp=E,25nm,1.2s						
AMTX				*epP*	**pP**	**14 09 07.6**	**+1.2**
Y26A	**Elida**	**72.73**	**331**	⇑P	**P**	**14 08 36.0**	**+0.3**
	baz=73						
V31A	**Spring Creek L**	**72.81**	**335**	⇑P	**P**	**14 08 37.0**	**+1.1**
	baz=73						
221A	**Mesquite Ranch**	**72.85**	**327**	⇑P	**P**	**14 08 37.7**	**+1.3**
	baz=73						
Z24A	**Sheeppen Canyo**	**72.88**	**329**	⇓P	**P**	**14 08 37.0**	**+0.5**
	baz=73,SNR=11						
319A	**Douglas**	**73.05**	**325**	⇑P	**P**	**14 08 38.4**	**+0.9**
	baz=73						
122A	**Conniff Cattle**	**73.07**	**328**	⇑P	**P**	**14 08 38.9**	**+1.2**
	baz=73						
Y25A	**Mesa, Roswell**	**73.10**	**330**	⇑P	**P**	**14 08 38.4**	**+0.6**
	baz=74						
V30A	**Spur Ranch, Mi**	**73.11**	**334**	⇓P	**P**	**14 08 38.8**	**+1.0**
	baz=74						
220A	**Playas Peak, P**	**73.12**	**326**	⇑P	**P**	**14 08 38.9**	**+0.9**
	baz=74,SNR=19						
Z23A	**Rita Site, Whi**	**73.20**	**329**	⇓P	**P**	**14 08 38.6**	**+0.1**
	baz=74,SNR=5.5						
X26A	**CR and CF Fran**	**73.27**	**331**	⇓P	**P**	**14 08 39.0**	**+0.2**
	baz=74,SNR=14						
121A	**Cookes Peak, D**	**73.29**	**327**	⇓P	**P**	**14 08 39.9**	**+0.9**
	baz=74,SNR=7.9						
W27A	**Bowe Ranch, En**	**73.41**	**332**	⇓P	**P**	**14 08 39.9**	**+0.3**
	baz=74,SNR=5.6						
Y24A	**Capitan**	**73.42**	**330**	⇓P	**P**	**14 08 40.2**	**+0.5**
	baz=74						
Z22A	**Elephant Butte**	**73.52**	**328**	⇓P	**P**	**14 08 41.4**	**+1.1**
	baz=74						
X25A	**Clemmons Ranch**	**73.60**	**331**	⇓P	**P**	**14 08 41.1**	**+0.3**
	baz=74						
V28A	**Channing**	**73.68**	**333**	⇑P	**P**	**14 08 41.6**	**+0.4**
	baz=74						
Y23A	**Lovelace Mesa,**	**73.69**	**329**	⇑P	**P**	**14 08 42.2**	**+0.8**
	baz=74,SNR=8.1						
120A	**U Bar Ranch, L**	**73.70**	**326**	⇑P	**P**	**14 08 42.4**	**+1.0**
	baz=74,SNR=8.0						
W26A	**Owens Ranch, T**	**73.72**	**331**	⇑P	**P**	**14 08 41.9**	**+0.5**
	baz=74,SNR=5.3						
U30A	**WK&E Inc. Balk**	**73.78**	**334**	⇑P	**P**	**14 08 42.8**	**+1.2**
	baz=74						
Z21A	**St. Cloud Mine**	**73.89**	**328**	⇑P	**P**	**14 08 43.3**	**+0.7**
	baz=74,SNR=6.5						
T31A	**Randall Ranch,**	**73.93**	**335**	⇑P	**P**	**14 08 43.2**	**+0.8**
	baz=74						
Y22A	**Socorro**	**74.10**	**328**	⇓P	**P**	**14 08 44.4**	**+0.7**
	baz=74						
W25A	**X Bar L Ranch,**	**74.11**	**331**	⇑P	**P**	**14 08 43.8**	**+0.1**
	baz=74,SNR=10						
HDIL	**Hopedale**	**74.13**	**345**	*eP*	**P**	**14 08 42.3**	**-1.2**
	comp=E,18nm,0.3s						
HDIL				*epP*	**pP**	**14 09 14.5**	**-0.1**
BNM	**Barren Site**	**74.13**	**329**	*eP*	**P**	**14 08 44.4**	**+0.4**
	comp=E,0.8nm,0.4s						
BNM				*epP*	**pP**	**14 09 16.8**	**+1.8**
Z20A	**Nine Sixteen R**	**74.15**	**327**	⇓P	**P**	**14 08 44.9**	**+0.9**
	baz=74,SNR=7.1						
LPM	**Los Pinos Moun**	**74.27**	**329**	*eP*	**P**	**14 08 44.5**	**-0.1**
	comp=E,12nm,1.0s						
LPM				*ePcP*	**PcP**	**14 08 59.3**	**+0.4**
LPM				*epP*	**pP**	**14 09 16.7**	**+0.8**
V26A	**Tequesquite Ra**	**74.34**	**332**	⇓P	**P**	**14 08 45.7**	**+0.7**
	baz=75						
Y21A	**Point of Rocks**	**74.48**	**328**	⇓P	**P**	**14 08 47.4**	**+1.5**
	baz=75,SNR=8.4						
U27A	**Thompson Grove**	**74.50**	**333**	⇑P	**P**	**14 08 46.0**	**0.0**
	baz=75						
W24A	**Lazy 6 Ranch,**	**74.50**	**330**	⇓P	**P**	**14 08 46.4**	**+0.4**
	baz=75,SNR=7.3						
LAZ	**Ladron**	**74.57**	**329**	*eP*	**P**	**14 08 47.0**	**+0.6**
	comp=E,4.2nm,1.3s						
LAZ				*epP*	**pP**	**14 09 19.7**	**+2.1**
T29A	**Hugoton**	**74.57**	**334**	⇑P	**P**	**14 08 46.6**	**+0.4**
	baz=75						
S30A	**Montezuma**	**74.70**	**335**	⇓P	**P**	**14 08 47.5**	**+0.6**
	baz=75						
V25A	**Rancho No Teng**	**74.71**	**331**	⇓P	**P**	**14 08 47.8**	**+0.5**
	baz=75,SNR=11						
Y20A	**Horse Springs,**	**74.71**	**327**	⇑P	**P**	**14 08 48.4**	**+1.1**
	baz=75,SNR=5.6						
ANMO	**Albuquerque**	**74.73**	**329**	*eP*	**P**	**14 08 48.2**	**+0.8**
	comp=E,9.3nm,1.2s						
ANMO				*pP*	**pP**	**14 09 19.1**	**+0.5**
ANMO				*ep*	**pwP**	**14 09 20.1**	**+1.5**
ANMO	**Albuquerque**	**74.73**	**329**	P	**P**	**14 08 47.8**	**+0.4**
	comp=E,4.1nm,1.1s,baz=156,slow=7.5,SNR=12						
ANMO				*pP*	**pP**	**14 09 19.1**	**+0.5**
	comp=E,3.2nm,1.0s,baz=159,slow=8.6,SNR=4.9						
W23A	**Werner Place,**	**74.78**	**330**	⇑P	**P**	**14 08 48.6**	**+0.9**
	baz=75,SNR=6.9						
MAW	**Mawson**	**74.83**	**163**	P	**P**	**14 08 47.5**	**+0.3**
MAW				*pP*	**pP**	**14 09 18.6**	**+0.1**
MAW	**Mawson**	**74.83**	**163**	P	**P**	**14 08 47.5**	**+0.3**
	comp=E,5.1nm,1.1s,baz=270,slow=6.1,SNR=5.2						
MAW				*pP*	**pP**	**14 09 18.6**	**+0.1**
	comp=E,5.1nm,0.9s,baz=209,slow=7.1,SNR=5.4						
U26A	**Atchley Ranch,**	**74.84**	**332**	⇓P	**P**	**14 08 48.5**	**+0.6**
	baz=75						
V24A	**Rampart Ranch,**	**74.89**	**331**	⇓P	**P**	**14 08 49.0**	**+0.7**
	baz=75						
X21A	**Alamocita Cree**	**74.89**	**328**	⇑P	**P**	**14 08 49.5**	**+1.1**
	baz=75,SNR=9.4						
S29A	**Ulysses**	**74.91**	**335**	⇓P	**P**	**14 08 48.9**	**+0.7**
	baz=75,SNR=12						
R31A	**Burdett**	**74.95**	**336**	⇑P	**P**	**14 08 49.0**	**+0.6**
	baz=75						
T27A	**Campo**	**75.02**	**333**	⇓P	**P**	**14 08 49.4**	**+0.5**
	baz=75						
U25A	**Circle Dot Ran**	**75.11**	**332**	⇓P	**P**	**14 08 50.2**	**+0.7**
	baz=76,SNR=7.7						
S28A	**Manter**	**75.17**	**334**	⇑P	**P**	**14 08 50.2**	**+0.5**
	baz=76,SNR=12						
R30A	**Dighton**	**75.20**	**336**	⇓P	**P**	**14 08 50.2**	**+0.3**
	baz=76						
214A	**Organ Pipe Nat**	**75.27**	**323**	⇑P	**P**	**14 08 51.4**	**+1.0**
	baz=76,SNR=7.5						
V23A	**Ortiz Mt. (NFS**	**75.29**	**330**	⇓P	**P**	**14 08 51.8**	**+1.2**
	baz=76,SNR=6.4						
X20A	**Quemado**	**75.30**	**328**	⇑P	**P**	**14 08 51.5**	**+0.9**
	baz=76						
W21A	**San Fidel**	**75.39**	**329**	⇓P	**P**	**14 08 52.5**	**+1.3**
	baz=76						
T26A	**Comanche Natio**	**75.46**	**333**	⇓P	**P**	**14 08 52.2**	**+0.7**
	baz=76,SNR=7.4						
Q31A	**Ellis**	**75.55**	**337**	⇑P	**P**	**14 08 52.4**	**+0.6**
	baz=76						
R29A	**Marienthal**	**75.64**	**335**	⇓P	**P**	**14 08 53.0**	**+0.7**
	baz=76						
S27A	**Las Animas**	**75.64**	**333**	⇓P	**P**	**14 08 52.9**	**+0.5**
	baz=76						
V22A	**San Miguel Ran**	**75.74**	**330**	⇑P	**P**	**14 08 54.3**	**+1.2**
	baz=76,SNR=20						
T25A	**Trinidad**	**75.75**	**332**	⇑P	**P**	**14 08 54.2**	**+1.0**
	baz=76,SNR=15						
W20A	**Ramah**	**75.78**	**328**	⇑P	**P**	**14 08 54.3**	**+0.9**
	baz=76,SNR=13						
U23A	**El Rito**	**75.79**	**330**	⇓P	**P**	**14 08 54.4**	**+0.9**
	baz=76,SNR=7.8						
S26A	**Kim**	**75.80**	**333**	⇑P	**P**	**14 08 54.5**	**+1.2**
	baz=76						
Q30A	**Quinter**	**75.80**	**336**	⇓P	**P**	**14 08 53.6**	**+0.4**
	baz=76,SNR=7.4						
R28A	**Tribune**	**75.81**	**335**	⇓P	**P**	**14 08 53.4**	**+0.1**
	baz=76,SNR=6.3						
X18A	**Snowflake**	**75.95**	**327**	⇓P	**P**	**14 08 55.1**	**+0.7**
	baz=76						
V21A	**Milan**	**75.97**	**329**	⇑P	**P**	**14 08 55.8**	**+1.4**
	baz=76						
Q29A	**Oakley**	**75.99**	**335**	⇑P	**P**	**14 08 54.9**	**+0.6**
	baz=76						
P31A	**Stockton**	**76.00**	**337**	⇑P	**P**	**14 08 54.7**	**+0.4**
	baz=76,SNR=6.0						
U22A	**Llaves**	**76.11**	**330**	⇓P	**P**	**14 08 56.9**	**+1.7**
	baz=76						
R27A	**Eads**	**76.12**	**334**	⇓P	**P**	**14 08 55.6**	**+0.5**
	baz=76						
S25A	**Robets Cordova**	**76.21**	**332**	⇑P	**P**	**14 08 56.6**	**+0.8**
	baz=77,SNR=8.6						
P30A	**Selden**	**76.32**	**336**	⇓P	**P**	**14 08 56.6**	**+0.5**
	baz=77						
T23A	**Casias Ranch,**	**76.33**	**331**	⇑P	**P**	**14 08 57.2**	**+0.7**
	baz=77						
V20A	**Brimhall**	**76.33**	**328**	⇓P	**P**	**14 08 57.0**	**+0.5**
	baz=77,SNR=5.7						
SCIA	**State Center**	**76.36**	**342**	*epP*	*pP*	14 09 28.0	+0.5
	comp=E,16nm,0.8s						
R26A	**Arlington**	**76.38**	**333**	⇓P	**P**	**14 08 57.2**	**+0.6**
	baz=77						
Q28A	**Sharon Springs**	**76.45**	**335**	⇑P	**P**	**14 08 57.7**	**+0.8**
	baz=77						
Z14A	**Wintersburg**	**76.46**	**324**	⇓P	**P**	**14 08 58.0**	**+1.0**
	baz=77						
U21A	**Nageezi**	**76.50**	**329**	⇑P	**P**	**14 08 58.5**	**+1.0**
	baz=77,SNR=13						
S24A	**Houchin Ranch,**	**76.51**	**332**	⇓P	**P**	**14 08 58.7**	**+1.1**
	baz=77,SNR=11						
X16A	**Lo Mia Camp, P**	**76.57**	**326**	⇑P	**P**	**14 08 58.9**	**+1.1**
	baz=77,SNR=16						
R25A	**Fountain Ranch**	**76.57**	**333**	⇑P	**P**	**14 08 58.2**	**+0.5**
	baz=77						
SADO	**Sadowa**	**76.58**	**353**	P	**P**	**14 08 57.3**	**-0.1**
SADO				*pP*	**pP**	**14 09 28.9**	**+0.2**
SADO	**Sadowa**	**76.58**	**353**	P	**P**	**14 08 57.3**	**-0.1**
	comp=E,3.6nm,0.4s,baz=245,slow=4.7,SNR=6.3						
SADO				*pP*	**pP**	**14 09 28.9**	**+0.2**
	comp=E,9.3nm,1.0s,baz=143,slow=2.0,SNR=3.0						
JFWS	**Jewell Farm**	**76.59**	**345**	*eP*	**P**	**14 08 57.0**	**-0.4**

PV01				*e*P	**pP**	**14 09 40.6 +1.6**
PV01				*es*P	**sP**	**14 09 54.2 +1.9**
PFO	**Pinyon Flat Ob**	**78.47**	**322**	⇓P	**P**	**14 09 09.4 +1.1**
	baz=79					
ISCO	**Idaho Springs**	**78.52**	**333**	*e*P	**P**	**14 09 09.2 +0.5**
	comp=E,10nm,1.4s					
ISCO				*e*pP	**pP**	**14 09 41.9 +1.8**
ISCO	**Idaho Springs**	**78.52**	**333**	⇑P	**P**	**14 09 09.2 +0.5**
	baz=79,SNR=7.3					
BELC	**Belle Mtn. Jos**	**78.53**	**322**	⇓P	**P**	**14 09 09.6 +1.0**
	baz=79					
SMCO	**Snowmass**	**78.53**	**331**	*e*P	**P**	**14 09 09.8 +0.9**
	comp=E,34nm,1.5s					
SMCO				*e*pP	**pP**	**14 09 41.4 +1.0**
SMCO				*es*P	**sP**	**14 09 56.5 +2.8**
U15A	**North Rim**	**78.60**	**326**	⇓P	**P**	**14 09 10.2 +1.0**
	baz=79,SNR=6.9					
P22A	**Eagle**	**78.80**	**332**	⇓P	**P**	**14 09 11.1 +1.0**
	baz=79					
MURC	**Murrieta**	**78.85**	**321**	⇓P	**P**	**14 09 11.1 +0.8**
	baz=79					
Q20A	**Ridgley Place,**	**78.89**	**330**	⇓P	**P**	**14 09 11.3 +0.7**
	baz=79					
GMRC	**Granite Mounta**	**78.96**	**323**	⇓P	**P**	**14 09 12.2 +1.2**
	baz=79,SNR=6.6					
ECSD	**EROS Data Cent**	**78.98**	**341**	*e*P	**P**	**14 09 10.6 -0.1**
	comp=E,22nm,0.9s					
ECSD				*e*pP	**pP**	**14 09 42.6 +0.4**
ECSD				*es*P	**sP**	**14 09 55.2 -0.3**
O23A	**Lake Granby, G**	**78.99**	**333**	⇓P	**P**	**14 09 12.4 +1.2**
	baz=79,SNR=7.9					
N24A	**Carr**	**79.13**	**334**	⇓P	**P**	**14 09 12.9 +1.1**
	baz=80					
O22A	**Kremmling**	**79.20**	**332**	⇑P	**P**	**14 09 12.9 +0.5**
	baz=80,SNR=8.1					
P20A	**De Beque**	**79.39**	**331**	⇑P	**P**	**14 09 14.0 +0.7**
	baz=80					
BOSA	**Boshof**	**79.43**	**117**	P	**P**	**14 09 14.2 +0.3**
BOSA				*p*P	**pP**	**14 09 45.1 -0.3**
BOSA	**Boshof**	**79.43**	**117**	P	**P**	**14 09 14.2 +0.3**
	comp=E,1.6nm,0.4s,baz=230,slow=10,SNR=4.1					
BOSA				*p*P	**pP**	**14 09 45.1 -0.3**
	comp=E,5.5nm,0.9s,baz=272,slow=5.7,SNR=4.7					
K28A	**Ten Mile Ranch**	**79.53**	**337**	⇑P	**P**	**14 09 14.9 +1.1**
	baz=80,SNR=6.1					
BFSC	**Mount Baldy Ra**	**79.59**	**321**	⇓P	**P**	**14 09 15.6 +1.2**
	baz=80					
N23A	**Red Feather La**	**79.59**	**333**	⇓P	**P**	**14 09 15.5 +1.1**
	baz=80					
TUQ	**Turquoise Moun**	**79.61**	**323**	⇑P	**P**	**14 09 15.8 +1.3**
	baz=80					
O21A	**Pagoda**	**79.62**	**332**	⇓P	**P**	**14 09 15.4 +0.8**
	baz=80					
M24A	**Cheyenne**	**79.66**	**334**	⇓P	**P**	**14 09 15.7 +1.0**
	baz=80					
N22A	**Wattenberg Ran**	**79.71**	**333**	⇑P	**P**	**14 09 16.2 +1.0**
	baz=80,SNR=6.5					
P19A	**Cripple Cowboy**	**79.75**	**330**	⇑P	**P**	**14 09 16.1 +0.8**
	baz=80,SNR=11					
PHWY	**Pilot Hill**	**79.75**	**333**	*e*P	**P**	**14 09 15.4 0.0**
	comp=E,9.1nm,1.2s					
PHWY				*e*pP	**pP**	**14 09 47.2 +0.3**
K27A	**Flueckinger Fa**	**79.81**	**336**	⇓P	**P**	**14 09 16.7 +1.3**
	baz=80					
O20A	**White River Ci**	**79.86**	**331**	⇓P	**P**	**14 09 16.7 +0.8**
	baz=80					
GSC	**Goldstone**	**79.95**	**323**	⇓P	**P**	**14 09 17.2 +0.9**
	baz=80					
CCUT	**Cedar City**	**80.02**	**326**	*e*P	**P**	**14 09 18.0 +1.2**
	comp=E,7.4nm,1.1s					
CCUT				*e*pP	**pP**	**14 09 50.6 +2.3**
N21A	**Black Mountain**	**80.10**	**332**	⇑P	**P**	**14 09 18.8 +1.7**
	baz=80					
Q16A	**Castle Valley**	**80.11**	**328**	⇑P	**P**	**14 09 18.6 +1.4**
	baz=80					
J28A	**Allard Ranch,**	**80.12**	**337**	⇑P	**P**	**14 09 18.3 +1.3**
	baz=80					
K26A	**Motz Farm, Whi**	**80.14**	**336**	⇑P	**P**	**14 09 18.4 +1.2**
	baz=80					
L24A	**Wheatland**	**80.20**	**334**	⇓P	**P**	**14 09 18.8 +1.3**
	baz=81					
ARUT	**Antelope Range**	**80.24**	**326**	*e*P	**P**	**14 09 19.3 +1.4**
	comp=E,43nm,0.9s					
ARUT				*e*pP	**pP**	**14 09 51.4 +1.9**
MVU	**Marysvale**	**80.25**	**328**	*e*P	**P**	**14 09 18.2 +0.2**
	comp=E,2.0nm,0.7s					
MVU				*e*pP	**pP**	**14 09 51.7 +2.1**
EDW2	**Edwards Air Fo**	**80.25**	**322**	⇓P	**P**	**14 09 18.8 +0.9**
	baz=81					
BRSD	**Miller**	**80.31**	**339**	⇓P	**P**	**14 09 18.3 +0.3**
	baz=81					
O19A	**Miners Draw (B**	**80.37**	**331**	⇑P	**P**	**14 09 19.3 +0.7**
	baz=81,SNR=6.3					
N20A	**Spence Gulch,**	**80.46**	**331**	⇑P	**P**	**14 09 19.8 +0.7**
	baz=81					
L23A	**Garrett**	**80.55**	**334**	⇓P	**P**	**14 09 20.1 +0.6**
	baz=81					
I28A	**Midland**	**80.61**	**338**	⇑P	**P**	**14 09 20.4 +0.9**
	baz=81					
K24A	**Anderson Ranch**	**80.74**	**335**	⇓P	**P**	**14 09 21.6 +1.1**
	baz=81					
L22A	**Ellis Ranch, M**	**80.75**	**333**	⇑P	**P**	**14 09 21.5 +0.9**
	baz=81					
M21A	**Separation Pea**	**80.75**	**332**	⇓P	**P**	**14 09 21.3 +0.7**
	baz=81					
SBC	**Santa Barbara**	**80.85**	**320**	⇓P	**P**	**14 09 21.2 +0.2**
	baz=81					
FURC	**Furnace Creek,**	**80.89**	**323**	⇑P	**P**	**14 09 22.2 +1.1**
	baz=81					
MPMC	**Manual Prospec**	**80.89**	**323**	⇑P	**P**	**14 09 22.1 +0.6**
	baz=81					
I27A	**Quinn**	**80.96**	**337**	⇓P	**P**	**14 09 22.5 +1.1**
	baz=81					
J25A	**Sunshine Ranch**	**80.96**	**336**	⇑P	**P**	**14 09 22.7 +1.2**
	baz=81					
M20A	**Sweetwater, Wa**	**80.98**	**332**	⇓P	**P**	**14 09 22.7 +0.8**
	baz=81					
L21A	**Rawlins**	**81.06**	**333**	⇓P	**P**	**14 09 22.5 +0.2**
	baz=81,SNR=11					
K23A	**Bowen Ranch, D**	**81.07**	**334**	⇑P	**P**	**14 09 22.8 +0.6**
	baz=81,SNR=5.8					
ISA	**Isabella**	**81.10**	**322**	*e*P	**P**	**14 09 24.2 +1.7**
	comp=E,27nm,1.8s					
ISA	**Isabella**	**81.10**	**322**	⇓P	**P**	**14 09 23.8 +1.4**
	baz=81,SNR=6.4					
H28A	**Mission Ridge**	**81.17**	**338**	⇓P	**P**	**14 09 23.1 +0.6**
	baz=82					
I26A	**New Underwood**	**81.20**	**337**	⇓P	**P**	**14 09 23.6 +0.9**
	baz=82					
J24A	**Dixon Ranch, L**	**81.22**	**335**	⇑P	**P**	**14 09 24.2 +1.3**
	baz=82					
PKM	**Peak Mountain**	**81.25**	**320**	⇓P	**P**	**14 09 24.4 +1.0**
	baz=82,SNR=5.9					
K22A	**Casper**	**81.32**	**333**	⇓P	**P**	**14 09 24.3 +0.8**
	baz=82,SNR=6.4					
M19A	**Rock Springs**	**81.39**	**331**	⇓P	**P**	**14 09 24.7 +0.7**
	baz=82					
H27A	**Howes**	**81.47**	**337**	⇓P	**P**	**14 09 24.9 +0.8**
	baz=82					
L20A	**Wamsutter**	**81.48**	**332**	⇑P	**P**	**14 09 25.4 +0.9**
	baz=82					
I25A	**Rochford**	**81.49**	**336**	⇓P	**P**	**14 09 25.3 +0.9**
	baz=82					
CWC	**Cottonwood Cre**	**81.49**	**322**	⇑P	**P**	**14 09 25.4 +0.8**
	baz=82					
G28A	**Parade**	**81.49**	**338**	⇑P	**P**	**14 09 25.2 +1.0**
	baz=82					
GRAC	**Grapevine Rang**	**81.55**	**323**	⇑P	**P**	**14 09 25.9 +1.2**
	baz=82					
TORD	**Torodi Ar. Bea**	**81.62**	**69**	P	**P**	**14 09 25.8 +0.3**
TORD				*p*P	**pP**	**14 09 56.3 -0.9**
TORD	**Torodi Ar. Bea**	**81.62**	**69**	P	**P**	**14 09 25.8 +0.3**
	comp=E,4.8nm,0.5s,baz=279,slow=6.8,SNR=89					
TORD				*p*P	**pP**	**14 09 56.3 -0.9**
	comp=E,4.3nm,0.8s,baz=260,slow=4.5,SNR=6.5					
EYMN	**Ely**	**81.64**	**345**	*e*P	**P**	**14 09 24.1 -0.8**
	comp=E,5.1nm,0.9s					
EYMN				*e*pP	**pP**	**14 09 56.2 -0.3**
EYMN				*es*P	**sP**	**14 10 09.5 -0.3**
I24A	**Kuemmerle Ranc**	**81.66**	**335**	⇓P	**P**	**14 09 26.0 +0.8**
	baz=82					
RSSD	**Black Hills**	**81.68**	**336**	*e*P	**P**	**14 09 25.2 -0.2**
	comp=E,9.6nm,1.0s					
RSSD				*e*pP	**pP**	**14 09 58.3 +1.2**
RSSD				*es*P	**sP**	**14 10 10.9 +0.5**
H26A	**Fairpoint**	**81.69**	**337**	⇓P	**P**	**14 09 26.4 +1.2**
	baz=82					
DUG	**Dugway**	**81.89**	**328**	⇓P	**P**	**14 09 27.1 +0.5**
	baz=82,SNR=5.2					
J22A	**Midwest**	**81.95**	**334**	⇑P	**P**	**14 09 26.7 -0.2**
	baz=82,SNR=5.6					
H25A	**Fruitdale**	**81.97**	**336**	⇓P	**P**	**14 09 28.0 +1.3**
	baz=82					
L19A	**Farson**	**81.97**	**331**	⇑P	**P**	**14 09 27.2 +0.2**
	baz=82,SNR=5.3					
M17A	**Scullys Gap (B**	**82.00**	**330**	⇑P	**P**	**14 09 27.5 +0.4**
	baz=82					
K20A	**Yellowstone Ra**	**82.03**	**332**	⇓P	**P**	**14 09 27.9 +0.6**
	baz=82					
G27A	**Dupree**	**82.08**	**338**	⇓P	**P**	**14 09 27.6 +0.3**
	baz=82					
I22A	**9 Mile Ranch,**	**82.37**	**334**	⇑P	**P**	**14 09 28.8 -0.1**
	baz=83,SNR=8.3					
K19A	**Absolon Red Bu**	**82.37**	**332**	⇑P	**P**	**14 09 28.8 -0.3**
	baz=83,SNR=5.4					
H24A	**Dirks Ranch, A**	**82.41**	**336**	⇓P	**P**	**14 09 28.9 -0.2**
	baz=83,SNR=8.2					
HWUT	**Hardware Ranch**	**82.49**	**330**	*e*P	**P**	**14 09 29.8 +0.1**
	comp=E,9.7nm,1.3s					
HWUT				*e*pP	**pP**	**14 10 01.9 +0.5**
J20A	**Shoshoni**	**82.52**	**333**	⇑P	**P**	**14 09 30.9 +1.2**
	baz=83					
I21A	**Big Trails, Te**	**82.60**	**334**	⇑P	**P**	**14 09 29.9 -0.3**
	baz=83,SNR=5.2					
PDAR	**Pinedale Array**	**82.61**	**332**	P	**P**	**14 09 30.4 0.0**
PDAR				*p*P	**pP**	**14 10 02.5 +0.5**
PDAR	**Pinedale Array**	**82.61**	**332**	P	**P**	**14 09 30.4 0.0**
	comp=E,1.5nm,0.8s,baz=144,slow=5.5,SNR=12					
PDAR				*p*P	**pP**	**14 10 02.5 +0.5**
	comp=E,0.8nm,0.8s,baz=195,slow=2.3,SNR=2.9					
MLAC	**Mammoth Lakes**	**82.79**	**323**	⇑P	**P**	**14 09 32.1 +0.7**
	baz=83					
J19A	**Crowheart**	**82.82**	**332**	⇑P	**P**	**14 09 32.2 +0.8**
	baz=83					
AGMN	**Agassiz Nation**	**82.99**	**343**	*e*P	**P**	**14 09 31.5 -0.4**
	comp=E,2.5nm,0.6s					
AGMN				*e*pP	**pP**	**14 10 03.7 0.0**
I20A	**Worland**	**83.04**	**333**	⇑P	**P**	**14 09 32.7 +0.3**
	baz=83,SNR=7.1					
NV11	**Mina Array Sit**	**83.05**	**324**	*e*P	**P**	**14 09 33.4 +0.8**
G23A	**Biddle**	**83.10**	**335**	⇓P	**P**	**14 09 32.7 +0.1**
	baz=84,SNR=6.0					
NVAR	**Mina Array Bea**	**83.12**	**324**	P	**P**	**14 09 34.0 +0.9**
NVAR	**Mina Array Bea**	**83.12**	**324**	P	**P**	**14 09 34.0 +0.9**
	comp=E,2.3nm,0.8s,baz=155,slow=6.1,SNR=6.5					
H21A	**Big Horn, Sher**	**83.20**	**334**	⇓P	**P**	**14 09 33.8 +0.6**
	baz=84					
E26A	**Carlson Angus**	**83.22**	**338**	⇓P	**P**	**14 09 33.6 +0.4**
	baz=84					
F24A	**Ekalaka**	**83.33**	**336**	⇓P	**P**	**14 09 34.5 +0.7**
	baz=84					
G22A	**Birney**	**83.44**	**335**	⇓P	**P**	**14 09 34.9 +0.5**
	baz=84					
H20A	**Greybull**	**83.44**	**334**	⇑P	**P**	**14 09 34.9 +0.5**
	baz=84					
I19A	**Meeteetse**	**83.45**	**333**	⇑P	**P**	**14 09 35.2 +0.6**
	baz=84					
I18A	**Diamond G Ranc**	**83.49**	**332**	⇑P	**P**	**14 09 35.6 +0.7**
	baz=84					
F23A	**Volborg**	**83.56**	**336**	⇓P	**P**	**14 09 34.9 0.0**
	baz=84,SNR=5.6					
E25A	**Miller Ranch,**	**83.56**	**337**	⇓P	**P**	**14 09 35.5 +0.6**
	baz=84					
MDND	**Maddock**	**83.59**	**340**	⇑P	**P**	**14 09 35.8 +0.8**
	baz=84					
G21A	**Lodge Grass**	**83.78**	**334**	⇓P	**P**	**14 09 36.5 +0.4**
	baz=84					
F22A	**Rosebud**	**83.91**	**335**	⇓P	**P**	**14 09 36.8 +0.1**
	baz=84,SNR=5.6					
E24A	**Baker**	**83.91**	**337**	⇑P	**P**	**14 09 37.3 +0.6**
	baz=84					
H19A	**Powell**	**83.98**	**333**	⇓P	**P**	**14 09 37.6 +0.4**
	baz=84					
IMW	**Indian Meadow**	**84.11**	**331**	*e*P	**P**	**14 09 38.2 +0.1**
	comp=E,3.2nm,0.2s					
G20A	**Bridger**	**84.15**	**334**	⇑P	**P**	**14 09 38.0 -0.1**
	baz=84					
E23A	**Ismay**	**84.19**	**336**	⇓P	**P**	**14 09 38.2 +0.1**
	baz=85					
H18A	**Shoshone NF, C**	**84.25**	**333**	⇓P	**P**	**14 09 38.6 -0.1**
	baz=85,SNR=8.3					
I16A	**Newdale**	**84.32**	**331**	⇓P	**P**	**14 09 39.4 +0.4**
	baz=85					
E22A	**Miles City**	**84.37**	**336**	⇑P	**P**	**14 09 39.8 +0.8**
	baz=85					
D24A	**Glendive**	**84.40**	**337**	⇑P	**P**	**14 09 40.0 +0.9**
	baz=85					
G18A	**Lazy EL Ranch,**	**84.74**	**333**	⇓P	**P**	**14 09 41.4 +0.3**
	baz=85					
D23A	**Lindsay**	**84.75**	**337**	⇑P	**P**	**14 09 41.6 +0.7**
	baz=85					
C24A	**Savage**	**84.80**	**337**	⇓P	**P**	**14 09 41.5 +0.4**
	baz=85,SNR=8.8					
ULM	**Lac du Bonnet**	**84.81**	**344**	P	**P**	**14 09 40.5 -0.5**
ULM	**Lac du Bonnet**	**84.81**	**344**	P	**P**	**14 09 40.5 -0.5**
	comp=E,2.8nm,0.3s,baz=158,slow=3.5,SNR=4.0					
E21A	**Keefer Ranch,**	**84.85**	**335**	⇓P	**P**	**14 09 42.4 +0.9**
	baz=85					
H16A	**Russell Place,**	**84.90**	**332**	⇓P	**P**	**14 09 42.3 +0.4**
	baz=85					
F19A	**Roth Farm, Mol**	**84.96**	**334**	⇓P	**P**	**14 09 42.5 +0.4**
	baz=85					
D22A	**Cohagen**	**85.06**	**336**	⇓P	**P**	**14 09 43.5 +1.1**
	baz=85					
I14A	**Mackay**	**85.18**	**330**	⇓P	**P**	**14 09 44.4 +1.1**
	baz=86					
E20A	**Meyer Farm, Mu**	**85.20**	**335**	⇑P	**P**	**14 09 43.5 +0.3**
	baz=86,SNR=15					
D21A	**La Casta Ranch**	**85.27**	**335**	⇑P	**P**	**14 09 44.1 +0.5**
	baz=86					
C23A	**Lambert**	**85.28**	**337**	⇓P	**P**	**14 09 44.2 +0.6**
	baz=86					
F18A	**Big Timber**	**85.29**	**333**	⇑P	**P**	**14 09 43.8 0.0**
	baz=86,SNR=5.2					
E19A	**Rath Farm, Rou**	**85.41**	**334**	⇑P	**P**	**14 09 44.2 0.0**
	baz=86,SNR=19					
C22A	**Vida**	**85.47**	**336**	⇓P	**P**	**14 09 45.2 +0.7**
	baz=86					
DGMT	**Dagmar**	**85.54**	**338**	*e*P	**P**	**14 09 45.2 +0.4**
	comp=E,23nm,1.1s					
DGMT				*e*pP	**pP**	**14 10 17.4 +0.7**
DGMT	**Dagmar**	**85.54**	**338**	⇑P	**P**	**14 09 45.2 +0.4**
	baz=86,SNR=5.2					
MCMT	**McKenzie Canyo**	**85.66**	**331**	*e*P	**P**	**14 09 46.2 +0.4**
	comp=E,4.2nm,1.1s					
I12A	**Atlanta**	**85.81**	**329**	⇓P	**P**	**14 09 46.8 +0.4**
	baz=86					
MFID	**Camas Ranch**	**85.81**	**328**	⇑P	**P**	**14 09 47.0 +0.6**
	baz=86					
A24A	**Westby**	**85.88**	**338**	⇓P	**P**	**14 09 47.1 +0.6**
	baz=86					
E18A	**Harlowton**	**85.92**	**334**	⇑P	**P**	**14 09 47.4 +0.5**
	baz=86					
B22A	**Reddig Ranch S**	**85.99**	**337**	⇑P	**P**	**14 09 48.0 +0.9**
	baz=86					
D19A	**Cripps Ranch,**	**86.04**	**334**	⇓P	**P**	**14 09 47.3 0.0**
	baz=86,SNR=6.6					
C20A	**Veseth Ranch,**	**86.18**	**335**	⇑P	**P**	**14 09 48.2 +0.2**
	baz=87					
E17A	**Martinsdale**	**86.20**	**333**	⇑P	**P**	**14 09 48.6 +0.3**
	baz=87					
SCHQ	**Schefferville**	**86.21**	**2**	*p*P	*p*P	14 10 19.0 -0.9
SCHQ	**Schefferville**	**86.21**	**2**	*p*P	*p*P	14 10 19.0 -0.9
	comp=E,6.5nm,0.9s,baz=188,slow=5.4,SNR=5.0					
H12A	**Diamond D Ranc**	**86.28**	**330**	⇓P	**P**	**14 09 49.3 +0.6**
	baz=87					
LRM	**Limekiln Ridge**	**86.30**	**332**	*e*P	**P**	**14 09 49.2 +0.3**
	comp=E,50nm,1.1s					
F15A	**Butte**	**86.34**	**332**	⇓P	**P**	**14 09 49.6 +0.6**
	baz=87					
WVOR	**Wild Horse Val**	**86.35**	**326**	*e*P	**P**	**14 09 50.0 +0.9**
	comp=E,3.1nm,1.1s					
D18A	**Linhart Farms,**	**86.41**	**334**	⇓P	**P**	**14 09 49.5 +0.3**
	baz=87,SNR=5.6					
A22A	**Carney Farms,**	**86.56**	**337**	⇓P	**P**	**14 09 49.9 +0.1**
	baz=87,SNR=6.4					
E16A	**East Helena**	**86.58**	**332**	⇑P	**P**	**14 09 50.5 +0.5**
	baz=87,SNR=5.1					
C19A	**Slack Wire Ran**	**86.58**	**335**	⇑P	**P**	**14 09 49.8 -0.2**
	baz=87,SNR=6.0					
F14A	**Wisdom**	**86.67**	**331**	⇓P	**P**	**14 09 51.4 +0.8**
	baz=87					
D17A	**Six Diamond Ra**	**86.70**	**333**	⇑P	**P**	**14 09 50.9 +0.2**
	baz=87,SNR=15					
B20A	**Solberg Farm,**	**86.81**	**336**	⇑P	**P**	**14 09 50.9 -0.1**
	baz=87,SNR=6.6					
D16A	**Dana Ranch, Ca**	**86.94**	**333**	⇓P	**P**	**14 09 52.2 +0.4**
	baz=87,SNR=8.3					
G12A	**Big Creek, Yel**	**86.95**	**330**	⇓P	**P**	**14 09 52.1 +0.1**
	baz=87					
EGMT	**Eagleton**	**87.08**	**334**	⇑P	**P**	**14 09 52.7 +0.3**
	baz=88					
C17A	**Wharram Farm,**	**87.13**	**334**	⇓P	**P**	**14 09 52.6 -0.1**
	baz=88,SNR=6.1					
A20A	**Cobblestone Ra**	**87.15**	**336**	⇑P	**P**	**14 09 52.9 +0.2**
	baz=88					
B19A	**Brinkman Farms**	**87.15**	**335**	⇓P	**P**	**14 09 52.7 0.0**
	baz=88,SNR=5.7					
D15A	**Lincoln**	**87.33**	**332**	⇓P	**P**	**14 09 54.1 +0.4**
	baz=88					
B18A	**Beardsley Farm**	**87.40**	**335**	⇑P	**P**	**14 09 54.0 +0.1**
	baz=88,SNR=12					
A19A	**Klindworth Far**	**87.47**	**335**	⇑P	**P**	**14 09 54.6 +0.3**
	baz=88					
C16A	**Fuhringer Ranc**	**87.64**	**333**	⇓P	**P**	**14 09 55.4 +0.2**
	baz=88,SNR=7.8					
B17A	**L&G Farms, Che**	**87.69**	**334**	⇑P	**P**	**14 09 55.5 +0.2**
	baz=88					
MSO	**Missoula**	**87.72**	**331**	⇓P	**P**	**14 09 56.1 +0.5**
	baz=88					
D14A	**Greenough**	**87.75**	**332**	⇑P	**P**	**14 09 56.1 +0.4**
	baz=88,SNR=5.7					
YBH	**Yreka Blue Hor**	**87.83**	**323**	P	**P**	**14 09 56.2 0.0**
YBH	**Yreka Blue Hor**	**87.83**	**323**	P	**P**	**14 09 56.2 0.0**
	comp=E,1.0nm,0.6s,baz=129,slow=2.7,SNR=5.9					
A18A	**Metzger Ranch,**	**87.86**	**335**	⇓P	**P**	**14 09 56.0 -0.1**
	baz=88					
C15A	**Salmond Ranch,**	**87.96**	**333**	⇑P	**P**	**14 09 57.2 +0.5**
	baz=88,SNR=8.3					
E12A	**Beaver Dam Sad**	**88.07**	**330**	⇑P	**P**	**14 09 57.1 -0.2**
	baz=88					
B16A	**M & M Farms, S**	**88.13**	**334**	⇑P	**P**	**14 09 57.7 +0.2**
	baz=88					
D13A	**Huson**	**88.15**	**331**	⇑P	**P**	**14 09 57.8 +0.3**
	baz=88,SNR=6.7					
A17A	**Triple J Farms**	**88.20**	**334**	⇓P	**P**	**14 09 57.7 0.0**
	baz=89,SNR=11					
B15A	**Bradely Ranch,**	**88.38**	**333**	⇓P	**P**	**14 09 58.3 -0.3**
	baz=89,SNR=6.6					
C14A	**Swan Lake**	**88.40**	**332**	⇓P	**P**	**14 09 59.0 +0.3**
	baz=89					
A16A	**West Butte Ran**	**88.53**	**334**	⇑P	**P**	**14 09 59.8 +0.4**
	baz=89					
C13A	**Hot Springs**	**88.66**	**332**	⇑P	**P**	**14 10 00.4 +0.4**
	baz=89					
BSMT	**Bassoo Peak**	**88.89**	**332**	*e*P	**P**	**14 10 02.2 +1.0**
	comp=E,7.0nm,1.6s					
A15A	**Johnson Ranch,**	**88.99**	**333**	⇑P	**P**	**14 10 01.6 +0.2**
	baz=89					
B13A	**Whitefish**	**89.18**	**332**	⇑P	**P**	**14 10 02.6 +0.3**
	baz=90					
A14A	**Double T Ranch**	**89.25**	**333**	⇓P	**P**	**14 10 02.6 -0.1**
	baz=90					
C11A	**Tepee Creek (N**	**89.48**	**331**	⇑P	**P**	**14 10 03.9 +0.2**
	baz=90					
A13A	**Flathead Natio**	**89.60**	**332**	⇑P	**P**	**14 10 04.9 +0.5**
	baz=90					
NEW	**Newport**	**90.18**	**331**	⇓P	**P**	**14 10 07.5 +0.5**
	baz=90					
YKA	**Yellowknife Ar**	**100.51**	**341**	P	**Pdif**	**14 10 53.0 -0.6**
YKA	**Yellowknife Ar**	**100.51**	**341**	P	**Pdif**	**14 10 53.0 -0.6**
	comp=E,0.1nm,0.3s,baz=128,slow=4.6,SNR=4.5					
ASAR	**Alice Springs**	**120.47**	**205**	PKKPbc	PKKPbc	14 26 04.1 -0.1
ASAR	**Alice Springs**	**120.47**	**205**	PKKPbc	PKKPbc	14 26 04.1 -0.1
	comp=E,0.2nm,0.4s,baz=336,slow=3.3,SNR=10.0					
ARCES	**ARCESS Array B**	**121.13**	**24**	PKP	**PKPdf**	**14 15 57.6 -0.4**
ARCES	**ARCESS Array B**	**121.13**	**24**	PKP	**PKPdf**	**14 15 57.6 -0.4**
	comp=E,2.1nm,0.8s,baz=322,slow=7.7,SNR=3.9					
WRA	**Warramunga Arr**	**123.69**	**208**	PKP	**PKPdf**	**14 16 04.0 -0.6**
WRA				PKKPbc	**PKKPbc**	**14 25 51.8 -0.1**
WRA	**Warramunga Arr**	**123.69**	**208**	PKP	**PKPdf**	**14 16 04.0 -0.6**
	comp=E,0.6nm,0.4s,baz=156,slow=1.6,SNR=7.7					
WRA				PKKPbc	**PKKPbc**	**14 25 51.8 -0.1**
	comp=E,0.2nm,0.5s,baz=339,slow=4.6,SNR=4.8					
BVAR	**Borovoye Array**	**144.30**	**42**	PKP	PKPbc	14 16 41.5 +1.0
BVAR	**Borovoye Array**	**144.30**	**42**	PKP	PKPbc	14 16 41.5 +1.0
	comp=E,1.8nm,0.4s,baz=286,slow=1.7,SNR=13					
AAK	**Ala-Archa**	**149.71**	**59**	PKPbc	**PKPbc**	**14 16 54.6 -1.6**
AAK				pPKPbc	**pPKPbc**	**14 17 30.0 +0.4**
AAK	**Ala-Archa**	**149.71**	**59**	PKPbc	**PKPbc**	**14 16 54.6 -1.6**
	comp=E,3.3nm,0.5s,baz=173,slow=2.8,SNR=4.2					
AAK				pPKPbc	**pPKPbc**	**14 17 30.0 +0.4**
	comp=E,2.7nm,0.4s,baz=254,slow=1.6,SNR=2.9					
KURBB	**Kurchatov Arra**	**149.89**	**42**	PKPbc	**PKPbc**	**14 16 55.4 -0.8**
	comp=E,3.6nm,0.5s,baz=298,slow=3.0,SNR=33					
KURBB				pPKPbc	**pPKPbc**	**14 17 29.9 +0.3**
	comp=E,1.6nm,0.6s,baz=306,slow=3.7,SNR=3.0					
KURK	**Kurchatov**	**149.90**	**42**	PKPbc	**PKPbc**	**14 16 55.4 -0.8**
KURK				pPKPbc	**pPKPbc**	**14 17 29.9 +0.3**
KSH	**Kashi**	**151.21**	**65**	*e*PKPbc	**PKPbc**	**14 16 59.9 +0.1**
KSH				pPKP	**pPKPdf**	**14 17 33.6 +6.1**
KSH				sPKP		14 17 36.7
KSH				PP	PP	14 20 47.8 +8.1
KSH				SKS	**SKSdf**	**14 23 51.0 +1.1**
ZALV	**Zalesovo

JIRN				*e*Sn		**Sn**	14 07 55.5	**+0.8**	
	47nm,0.3s								
GUN	**Gumba**	**8.58**	**303**	*e*Pn		**Pn**	14 06 30.3	**+2.1**	
GUN				*e*Sn		**Sn**	14 08 04.3	**+0.7**	
	47nm,0.4s								
PKI	**Pulchoki**	**8.79**	**300**	*e*Pn		**Pn**	14 06 32.3	**+1.2**	
PKIN	**Phulchoki**	**8.80**	**300**	*e*Pn		**Pn**	14 06 32.3	**+1.1**	
PKIN				*e*Sn		**Sn**	14 08 08.3	**-0.6**	
	58nm,0.5s								
KKN	**Kakani**	**8.99**	**301**	*e*Pn		**Pn**	14 06 35.4	**+1.7**	
KKN				*e*Sn		**Sn**	14 08 12.9	**-0.5**	
	30nm,0.4s								
DMN	**Daman**	**9.05**	**299**	*e*Pn		**Pn**	14 06 35.5	**+1.0**	
KOLN	**Koldanda**	**10.34**	**297**	*e*Pn		**Pn**	14 06 51.3	**-0.7**	
KOLN				*e*Sn		**Sn**	14 08 43.6	**-2.7**	
	22nm,0.4s								
DANN	**Dangsing**	**10.44**	**300**	*e*Pn		**Pn**	14 06 53.5	**-0.1**	
DANN				*e*Sn		**Sn**	14 08 47.6	**-1.4**	
	14nm,0.3s								
PYUN	**Piuthan**	**10.96**	**297**	*e*Pn		**Pn**	14 06 59.6	**-1.0**	
MKAR	**Makanchi Array**	**25.14**	**341**	P		**P**	14 09 42.9	**-1.7**	
	1.0nm,0.6s,baz=143,slow=9.9,SNR=14								
WRA	**Warramunga Arr**	**58.36**	**134**	P		P	14 14 04.9	-10	
	0.7nm,0.5s,baz=322,slow=7.4,SNR=21								
ASAR	**Alice Springs**	**60.78**	**138**	P		P	14 14 21.8	-9.2	
	0.9nm,0.6s,baz=319,slow=6.8,SNR=40								

IDC ***05*** *14:05:03.1±1.2,37.˚73N×21.˚90E,h0km,mb3.6/10, mb1 3.6/12,mb1mx3.5/33,mbtmp3.6/12,ML3.3/2,Error ellipse: s-maj=25.8km s-min=18.7km az=157.0*

ISCJB ***05*** *14:05:05.3±0.3,37.˚98N±0.˚01×21.˚84E±0.˚02,h9km±2km, mb3.6/9,Error ellipse: s-maj=2.4km s-min=2.1km az=156.2*

CSEM ***05*** *14:05:05.4±0.1,37.˚97N×21.˚85E,h8km,ML3.4,Error ellipse: s-maj=2.4km s-min=2.0km az=70.0*

ATH ***05*** *14:05:05.3,37.˚98N×21.˚84E,h18km,MD3.4/32,ML3.6*

THE ***05*** *14:05:05.6,37.˚97N×21.˚85E,h4km±1km,ML3.6/5,Error ellipse: s-maj=1.0km s-min=0.4km az=341.0*

ISC 05 14:05:05.9±0.8,37.˚98N±0.˚01×21.˚85E±0.˚01,h12km±6km, n138,σ0s82/212,mb3.6/9,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLV	**Kalavryta, Ach**	**0.24**	**75**	P	**Pg**	**14 05 10.5**	**-0.5**
KLV				S	**Sg**	**14 05 13.9**	**-0.5**
KLV	**Kalavryta, Ach**	**0.24**	**75**	*e*PB	**Pg**	**14 05 10.7**	**-0.3**
KLV				*e*SB	**Sg**	**14 05 14.3**	**-0.2**
KLV	**Kalavryta, Ach**	**0.24**	**75**	P	**Pg**	**14 05 10.7**	**-0.3**
KLV				S	**Sg**	**14 05 14.0**	**-0.5**
LAKA	**Lakka**	**0.28**	**21**	P	**Pg**	**14 05 11.3**	**-0.4**
LAKA				S	**Sg**	**14 05 15.5**	**0.0**
LAKA	**Lakka**	**0.28**	**21**	*e*PB	**Pg**	**14 05 11.3**	**-0.4**
LAKA				*e*SB	**Sg**	**14 05 15.7**	**+0.2**
LAKA	**Lakka**	**0.28**	**21**	P	**Pg**	**14 05 11.3**	**-0.4**
LAKA				S	**Sg**	**14 05 15.5**	**0.0**
UPR	**University Cam**	**0.31**	**350**	P	**Pg**	**14 05 12.1**	**-0.1**
UPR				S	**Sg**	**14 05 16.8**	**+0.4**
RLS	**Riolos of Patr**	**0.32**	**284**	P	**Pg**	**14 05 11.8**	**-0.5**
RLS				S	**Sg**	**14 05 17.1**	**+0.6**
RLS	**Riolos of Patr**	**0.32**	**284**	*e*PB	**Pg**	**14 05 11.9**	**-0.4**
RLS				*e*SB	**Sg**	**14 05 17.1**	**+0.6**
RLS	**Riolos of Patr**	**0.32**	**284**	P	**Pg**	**14 05 11.8**	**-0.5**
RLS				S	**Sg**	**14 05 16.0**	**-0.5**
RLS				*e*Sb	**Sg**	**14 05 17.1**	**+0.6**
GUR	**Goura**	**0.39**	**96**	P	**Pg**	**14 05 13.0**	**-0.6**
GUR				S	**Sg**	**14 05 19.4**	**+0.5**
GUR	**Goura**	**0.39**	**96**	*e*PB	**Pg**	**14 05 13.1**	**-0.6**
GUR				*e*SB	**Sg**	**14 05 19.7**	**+0.8**
GUR	**Goura**	**0.39**	**96**	P	**Pg**	**14 05 13.0**	**-0.6**
GUR				S	**Sg**	**14 05 18.7**	**-0.2**
GUR				*e*Sb	**Sg**	**14 05 19.7**	**+0.8**
TRIZ	**Trizonia**	**0.42**	**24**	P	**Pg**	**14 05 13.8**	**-0.5**
TRIZ				S	**Sg**	**14 05 20.5**	**+0.6**
TRIZ	**Trizonia**	**0.42**	**24**	*e*PB	**Pg**	**14 05 13.9**	**-0.4**
TRIZ				*e*SB	**Sg**	**14 05 21.0**	**+1.1**
TRIZ	**Trizonia**	**0.42**	**24**	*e*Pb	**Pg**	**14 05 13.9**	**-0.4**
TRIZ				S	**Sg**	**14 05 19.7**	**-0.2**
TRIZ				*e*Sb	**Sg**	**14 05 21.0**	**+1.1**
AXS	**Araxos**	**0.43**	**300**	P	**Pg**	**14 05 13.7**	**-0.8**
AXS	**Araxos**	**0.43**	**300**	P	**Pg**	**14 05 13.7**	**-0.8**
AXS				S	**Sg**	**14 05 20.8**	**+0.6**
EFP	**Efpalio**	**0.45**	**5**	P	**Pg**	**14 05 14.5**	**-0.3**
EFP				S	**Sg**	**14 05 21.2**	**+0.5**
EFP	**Efpalio**	**0.45**	**5**	*e*PB	**Pg**	**14 05 14.6**	**-0.3**
EFP				*e*SB	**Sg**	**14 05 21.2**	**+0.5**
EFP	**Efpalio**	**0.45**	**5**	P	**Pg**	**14 05 14.4**	**-0.3**
EFP				S	**Sg**	**14 05 21.2**	**+0.5**
AMT	**Artemida-Makis**	**0.46**	**194**	P	**Pg**	**14 05 14.6**	**-0.4**
AMT	**Artemida-Makis**	**0.46**	**194**	*e*PB	**Pg**	**14 05 14.9**	**-0.1**
AMT	**Artemida-Makis**	**0.46**	**194**	P	**Pg**	**14 05 14.4**	**-0.6**
AMT	**Artemida-Makis**	**0.46**	**194**	*e*Pb	**Pg**	**14 05 14.9**	**-0.1**
KALE	**Kalithea**	**0.47**	**29**	P	**Pg**	**14 05 14.7**	**-0.4**
KALE				S	**Sg**	**14 05 22.1**	**+0.7**
KALE	**Kalithea**	**0.47**	**29**	*e*PB	**Pg**	**14 05 14.8**	**-0.4**
KALE				*e*SB	**Sg**	**14 05 22.3**	**+0.9**
KALE	**Kalithea**	**0.47**	**29**	*e*Pb	**Pg**	**14 05 14.8**	**-0.4**
KALE				S	**Sg**	**14 05 20.5**	**-0.9**
KALE				*e*Sb	**Sg**	**14 05 22.3**	**+0.9**
THAL	**Thalero**	**0.64**	**85**	P	**Pg**	**14 05 17.5**	**-0.9**
THAL				S	**Sg**	**14 05 27.3**	**+0.5**
THAL	**Thalero**	**0.64**	**85**	P	**Pg**	**14 05 17.5**	**-0.9**
THAL				S	**Sg**	**14 05 27.3**	**+0.5**
DSF	**Desfina**	**0.68**	**51**	P	**Pg**	**14 05 18.0**	**-1.2**
DSF	**Desfina**	**0.68**	**51**	P	**Pg**	**14 05 18.0**	**-1.2**
DSF				S	**Sg**	**14 05 27.5**	**-0.7**
VLX	**Vlachokerasia**	**0.74**	**145**	P	**Pg**	**14 05 19.4**	**-0.8**
VLX				S	**Sb**	**14 05 31.1**	**+0.2**
VLX	**Vlachokerasia**	**0.74**	**145**	*e*PN	**Pg**	**14 05 19.3**	**-0.9**
VLX				*e*SN	**Sb**	**14 05 30.8**	**-0.1**
VLX	**Vlachokerasia**	**0.74**	**145**	P	**Pg**	**14 05 19.3**	**-0.9**
VLX				S	**Sg**	**14 05 30.6**	**+0.7**
ITM	**Ithomi**	**0.80**	**176**	P	**Pg**	**14 05 20.4**	**-1.0**
ITM	**Ithomi**	**0.80**	**176**	*e*PN	**Pg**	**14 05 20.8**	**-0.6**
ITM				*e*SN	**Sg**	**14 05 31.9**	**+0.1**
ITM	**Ithomi**	**0.80**	**176**	P	**Pg**	**14 05 20.4**	**-1.0**
ITM	**Ithomi**	**0.80**	**176**	*e*Pn	**Pg**	**14 05 20.8**	**-0.6**
ITM				S	**Sg**	**14 05 31.9**	**+0.1**
KFL	**Anninata**	**0.85**	**279**	P	**Pg**	**14 05 21.6**	**-0.7**
LTK	**Loutraki**	**0.88**	**87**	P	**Pg**	**14 05 21.7**	**-1.2**
LTK	**Loutraki**	**0.88**	**87**	*e*PB	**Pg**	**14 05 21.7**	**-1.2**
LTK				*e*SN	**Sg**	**14 05 34.4**	**0.0**
LTK	**Loutraki**	**0.88**	**87**	P	**Pg**	**14 05 21.7**	**-1.2**
LTK				S	**Sg**	**14 05 34.2**	**-0.2**
EVR	**Evrytania**	**0.94**	**358**	P	**Pg**	**14 05 23.1**	**-0.9**
EVR	**Evrytania**	**0.94**	**358**	*e*PN	**Pg**	**14 05 23.7**	**-0.3**
EVR				*e*SN	**Sb**	**14 05 37.0**	**+0.4**
EVR	**Evrytania**	**0.94**	**358**	P	**Pg**	**14 05 23.1**	**-0.9**
EVR	**Evrytania**	**0.94**	**358**	*e*Pn	**Pg**	**14 05 23.7**	**-0.3**
EVR				S	**Sg**	**14 05 35.8**	**-0.4**
EVR				*e*Sn	**Sb**	**14 05 37.0**	**+0.4**
AXAR	**Agios Charalam**	**1.01**	**39**	P	**Pg**	**14 05 23.9**	**-1.5**
AXAR				S	**Sn**	**14 05 40.2**	**+0.1**
AXAR	**Agios Charalam**	**1.01**	**39**	P	**Pg**	**14 05 23.9**	**-1.5**
AXAR				S	**Sn**	**14 05 40.2**	**+0.1**
VLS	**Valsamata**	**1.02**	**282**	P	**Pg**	**14 05 24.2**	**-1.3**
VLS	**Valsamata**	**1.02**	**282**	*e*PN	**Pg**	**14 05 24.4**	**-1.1**
VLS	**Valsamata**	**1.02**	**282**	P	**Pg**	**14 05 24.2**	**-1.3**
VLS				S	**Sn**	**14 05 40.3**	**0.0**
MAKR	**Makrakomi, Fth**	**1.05**	**12**	P	**Pg**	**14 05 25.2**	**-1.0**
MAKR				S	**Sn**	**14 05 41.7**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.05**	**12**	P	**Pg**	**14 05 25.1**	**-1.1**
MAKR				S	**Sg**	**14 05 40.3**	**+0.3**
PYL	**PYLOS**	**1.09**	**185**	P	**Pg**	**14 05 25.5**	**-1.3**
PYL				S	**Sb**	**14 05 41.6**	**+0.7**
PYL	**PYLOS**	**1.09**	**185**	*e*PN	**Pg**	**14 05 25.5**	**-1.3**
PYL				*e*SN	**Sb**	**14 05 41.5**	**+0.7**
PYL	**PYLOS**	**1.09**	**185**	P	**Pg**	**14 05 25.5**	**-1.3**
PYL				S	**Sb**	**14 05 41.5**	**+0.7**
AGG	**Agios Georgios**	**1.11**	**20**	P	**Pg**	**14 05 25.7**	**-1.5**
AGG				S	**Sn**	**14 05 43.2**	**+0.6**
AGG	**Agios Georgios**	**1.11**	**20**	*e*PN	**Pg**	**14 05 25.8**	**-1.5**
AGG				*e*SN	**Sb**	**14 05 42.7**	**+1.2**
AGG	**Agios Georgios**	**1.11**	**20**	P	**Pg**	**14 05 25.7**	**-1.5**
AGG				S	**Sg**	**14 05 41.6**	**0.0**
AGG				*e*Sn	**Sb**	**14 05 42.7**	**+1.2**
LKR	**Lokris**	**1.12**	**53**	*e*PN	**Pg**	**14 05 27.5**	**0.0**
LKR				*e*SN	**Sb**	**14 05 42.8**	**+0.9**
VIL2	**Platees**	**1.14**	**78**	P	**Pg**	**14 05 27.4**	**-0.4**
DIDY	**Didyma**	**1.19**	**115**	P	**Pg**	**14 05 27.6**	**-1.2**
DIDY				S	**Sn**	**14 05 45.2**	**+0.5**
DIDY	**Didyma**	**1.19**	**115**	P	**Pg**	**14 05 27.6**	**-1.2**
DIDY				S	**Sn**	**14 05 45.2**	**+0.5**
DID	**Didima**	**1.19**	**113**	P	**Pg**	**14 05 27.6**	**-1.3**
DID				S	**Sn**	**14 05 46.2**	**+1.5**
DID	**Didima**	**1.19**	**113**	*e*PN	**Pg**	**14 05 27.7**	**-1.2**
DID				*e*SN	**Sb**	**14 05 44.8**	**+0.8**
DID	**Didima**	**1.19**	**113**	*e*Pn	**Pg**	**14 05 27.7**	**-1.2**
DID				S	**Sg**	**14 05 43.4**	**-1.0**
DID				*e*Sn	**Sb**	**14 05 44.8**	**+0.8**
LKD2	**Lefkada island**	**1.24**	**311**	P	**Pn**	**14 05 28.6**	**-0.6**
LKD2	**Lefkada island**	**1.24**	**311**	*e*PN	**Pn**	**14 05 28.5**	**-0.6**
LKD2	**Lefkada island**	**1.24**	**311**	P	**Pn**	**14 05 28.6**	**-0.6**
DYR	**Agios Nikonas**	**1.27**	**162**	P	**Pn**	**14 05 28.6**	**-1.0**
DYR				S	**Sn**	**14 05 48.2**	**+1.5**
DYR	**Agios Nikonas**	**1.27**	**162**	*e*PN	**Pn**	**14 05 28.9**	**-0.7**
DYR				*e*SN	**Sg**	**14 05 46.9**	**0.0**
DYR	**Agios Nikonas**	**1.27**	**162**	P	**Pn**	**14 05 28.9**	**-0.7**
DYR				S	**Sb**	**14 05 46.0**	**-0.2**
NAIG	**Nisos Aigina**	**1.31**	**99**	*e*PN	**Pn**	**14 05 30.0**	**-0.1**
NAIG	**Nisos Aigina**	**1.31**	**99**	*e*Pn	**Pn**	**14 05 30.0**	**-0.1**
SMIA	**Simia**	**1.39**	**49**	P	**Pn**	**14 05 30.8**	**-0.4**
ATH	**Athens Observa**	**1.47**	**90**	P	**Pn**	**14 05 32.4**	**+0.1**
ATH				S	**Sb**	**14 05 52.8**	**+0.9**
ATH	**Athens Observa**	**1.47**	**90**	*e*PN	**Pn**	**14 05 32.5**	**+0.1**
ATH				*e*SN	**Sg**	**14 05 53.7**	**+0.4**
ATH	**Athens Observa**	**1.47**	**90**	P	**Pn**	**14 05 32.4**	**+0.1**
ATH				S	**Sb**	**14 05 52.8**	**+0.9**
ATH				*e*Sn	**Sg**	**14 05 53.7**	**+0.4**
ATHU	**Athens Univers**	**1.53**	**90**	P	**Pn**	**14 05 32.4**	**-0.7**
ATHU				S	**Sg**	**14 05 52.4**	**+0.2**
ATHU	**Athens Univers**	**1.53**	**90**	P	**Pn**	**14 05 32.4**	**-0.7**
ATHU				S	**Sg**	**14 05 55.2**	**+0.2**
VLI	**Veliai**	**1.53**	**145**	P	**Pn**	**14 05 33.0**	**0.0**
VLI	**Veliai**	**1.53**	**145**	*e*PN	**Pb**	**14 05 34.5**	**+0.3**
VLI				*e*SN	**Sg**	**14 05 55.3**	**+0.3**
VLI	**Veliai**	**1.53**	**145**	P	**Pn**	**14 05 33.0**	**0.0**
VLI	**Veliai**	**1.53**	**145**	*e*Pn	**Pb**	**14 05 34.5**	**+0.3**
VLI				*e*Sn	**Sg**	**14 05 55.3**	**+0.3**
MRKA	**Markates**	**1.54**	**61**	P	**Pn**	**14 05 32.9**	**-0.4**
MRKA	**Markates**	**1.54**	**61**	P	**Pn**	**14 05 32.9**	**-0.4**
THL	**Klokotos Trika**	**1.59**	**5**	P	**Pn**	**14 05 34.4**	**+0.5**
THL	**Klokotos Trika**	**1.59**	**5**	*e*PN	**Pb**	**14 05 35.0**	**-0.2**
THL				*e*SN	**Sb**	**14 05 56.3**	**+1.0**
THL	**Klokotos Trika**	**1.59**	**5**	P	**Pn**	**14 05 34.4**	**+0.5**
THL	**Klokotos Trika**	**1.59**	**5**	*e*Pn	**Pb**	**14 05 35.0**	**-0.2**
THL				*e*Sn	**Sb**	**14 05 56.3**	**+1.0**
PTL	**Penteli**	**1.59**	**87**	P	**Pn**	**14 05 33.6**	**-0.4**
PTL	**Penteli**	**1.59**	**87**	*e*PB	**Pn**	**14 05 33.7**	**-0.3**
PTL				*e*SN	**Sb**	**14 05 56.3**	**+0.9**
PTL	**Penteli**	**1.59**	**87**	P	**Pn**	**14 05 33.6**	**-0.4**
PTL				*e*Sn	**Sb**	**14 05 56.3**	**+0.9**
NEO	**Neokhori**	**1.71**	**39**	P	**Pn**	**14 05 35.2**	**-0.3**
NEO	**Neokhori**	**1.71**	**39**	*e*PN	**Pn**	**14 05 35.8**	**+0.3**
NEO	**Neokhori**	**1.71**	**39**	P	**Pn**	**14 05 35.2**	**-0.3**
NEO	**Neokhori**	**1.71**	**39**	*e*Pn	**Pn**	**14 05 35.8**	**+0.3**
XOR	**Xorichti**	**1.74**	**37**	P	**Pn**	**14 05 35.7**	**-0.3**
XOR	**Xorichti**	**1.74**	**37**	P	**Pn**	**14 05 35.7**	**-0.3**
JAN	**Janina**	**1.85**	**335**	*e*PN	**Pn**	**14 05 38.0**	**+0.5**
JAN	**Janina**	**1.85**	**335**	*e*Pn	**Pn**	**14 05 38.0**	**+0.5**
KYTH	**Kithira**	**1.94**	**150**	*e*PN	**Pb**	**14 05 41.3**	**0.0**
AOS	**Alonnisos**	**1.98**	**53**	P	**Pn**	**14 05 39.0**	**-0.3**
AOS	**Alonnisos**	**1.98**	**53**	*e*PB	**Pn**	**14 05 38.8**	**-0.5**
AOS	**Alonnisos**	**1.98**	**53**	*e*Pb	**Pn**	**14 05 38.8**	**-0.5**
LIT	**Litokhoron**	**2.18**	**13**	P	**Pn**	**14 05 42.3**	**+0.3**
LIT	**Litokhoron**	**2.18**	**13**	*e*PB	**Pn**	**14 05 42.5**	**+0.5**
LIT	**Litokhoron**	**2.18**	**13**	P	**Pn**	**14 05 42.3**	**+0.3**
KZN	**Kozani**	**2.33**	**358**	*e*PN	**Pb**	**14 05 46.6**	**-1.2**
KZN	**Kozani**	**2.33**	**358**	*e*Pn	**Pb**	**14 05 46.6**	**-1.2**
APE	**Apeiranthos**	**3.06**	**106**	*e*PN	**Pn**	**14 05 54.6**	**+0.4**
APE	**Apeiranthos**	**3.06**	**106**	*e*Pn	**Pn**	**14 05 54.6**	**+0.4**
VAM	**Vamos**	**3.19**	**143**	*e*PN	**Pn**	**14 05 58.2**	**+2.3**
VAM				*e*SN	**Sn**	**14 06 35.8**	**+2.0**
LIA	**Limnos Island**	**3.23**	**53**	*e*PN	**Pn**	**14 05 56.2**	**-0.2**
LIA	**Limnos Island**	**3.23**	**53**	*e*Pn	**Pn**	**14 05 56.2**	**-0.2**
CHOS	**Chios island**	**3.34**	**82**	*e*PN	**Pn**	**14 05 58.4**	**+0.4**
NVR	**Nevrokopi**	**3.71**	**24**	*e*PN	**Pn**	**14 06 03.2**	**+0.1**
NVR	**Nevrokopi**	**3.71**	**24**	*e*Pn	**Pn**	**14 06 03.2**	**+0.1**
SMG	**Samos**	**3.95**	**92**	*e*PN	**Pn**	**14 06 07.0**	**+0.6**
LAST	**Lasithi**	**4.05**	**133**	*e*PN	**Pn**	**14 06 09.4**	**+1.5**
NPS	**Neapolis**	**4.06**	**131**	*e*PN	**Pn**	**14 06 10.4**	**+2.5**
XRY	**Khrisi**	**4.38**	**134**	*e*PN	**Pn**	**14 06 14.6**	**+2.3**
XRY	**Khrisi**	**4.38**	**134**	*e*Pn	**Pn**	**14 06 14.6**	**+2.3**
ZKR	**Zakros**	**4.53**	**128**	*e*PN	**Pn**	**14 06 15.2**	**+1.0**
DIVS	**Divibare**	**6.27**	**348**	*e*Pn	**Pn**	**14 06 39.4**	**+1.0**
MLR	**Muntele Rosu**	**8.10**	**21**	Pn	Pn	14 07 08.0	+4.5
	0.1nm,0.3s,baz=219,slow=13,SNR=2.6						
BRTR	**Keskin Array B**	**9.36**	**76**	Pn	**Pn**	**14 07 21.2**	**+0.5**
	0.3nm,0.3s,baz=256,slow=13,SNR=9.8						
ESDC	**Sonseca Array**	**20.17**	**283**	P	**P**	**14 09 41.1**	**+0.9**
	0.7nm,0.7s,baz=76,slow=9.6,SNR=6.2						
HFS	**Hagfors**	**22.77**	**349**	P	**P**	**14 10 09.8**	**+1.8**
	2.0nm,0.6s,baz=124,slow=12,SNR=5.2						
FINES	**FINESS Array B**	**23.64**	**5**	P	**P**	**14 10 16.3**	**-0.4**
	0.8nm,0.6s,baz=188,slow=7.7,SNR=4.2						
NOA	**NORSAR Array B**	**24.03**	**347**	P	**P**	**14 10 21.4**	**+0.8**
	0.9nm,0.9s,baz=142,slow=19,SNR=3.9						
EKA	**Eskdalemuir Ar**	**24.20**	**324**	P	**P**	**14 10 23.3**	**+1.2**
	0.4nm,0.5s,baz=122,slow=9.3,SNR=3.9						
TORD	**Torodi Ar. Bea**	**30.56**	**221**	P	**P**	**14 11 17.1**	**-2.4**
	0.7nm,0.5s,baz=31,slow=9.6,SNR=5.0						
BVAR	**Borovoye Array**	**36.44**	**50**	P	**P**	**14 12 10.5**	**+0.1**
	0.5nm,0.6s,baz=280,slow=4.4,SNR=4.1						
KURBB	**Kurchatov Arra**	**41.50**	**53**	P	**P**	**14 12 53.2**	**+0.4**
	0.7nm,0.5s,baz=282,slow=8.9,SNR=8.3						
MKAR	**Makanchi Array**	**44.51**	**58**	P	**P**	**14 13 16.1**	**-1.2**
	0.4nm,0.5s,baz=276,slow=7.8,SNR=8.2						
ZALV	**Zalesovo Beam**	**45.04**	**48**	P	**P**	**14 13 20.9**	**-0.4**
	2.5nm,0.5s,baz=275,slow=8.9,SNR=11						

IDC ***05*** *14:09:45.2±0.7,27.˚48N×55.˚56E,h0km,mb4.1/27, mb1 4.2/28,mb1mx4.2/36,mbtmp4.1/28,ML4.4/1,MS3.7/22, Ms1 3.7/22,ms1mx3.5/45,Error ellipse: s-maj=18.8km s-min=12.0km az=6.0*

ISCJB ***05*** *14:09:46.0±0.3,27.˚48N±0.˚04×55.˚54E±0.˚03,h15km, mb4.2/76,MS3.8/26,Error ellipse: s-maj=5.2km s-min=3.9km az=17.7*

TEH ***05*** *14:09:48.7,27.˚50N×55.˚50E,h28km,ML4.2*

MOS ***05*** *14:09:48.7±0.8,27.˚55N×55.˚55E,h33km,mb4.6/23,Error ellipse: s-maj=8.6km s-min=5.3km az=103.1*

NEIC ***05*** *14:09:50.1±0.4,27.˚44N×55.˚57E,h35km,mb4.4/15, MN4.3(TEH),Error ellipse: s-maj=7.7km s-min=5.3km az=183.0*

CSEM ***05*** *14:09:50.7±0.1,27.˚61N×55.˚55E,h30km,mb4.4/44,Ms3.5, Error ellipse: s-maj=5.9km s-min=4.4km az=64.0*

BJI ***05*** *14:09:51.3,27.˚60N×55.˚50E,h60km,mB4.5/1,mb4.3/9, Ms4.3/3,Ms7 3.9/3*

OMAN ***05*** *14:10:15.0±7.1,25.˚75N×56.˚53E,h0km,Error ellipse: s-maj=4.8km s-min=1.1km az=255.0*

ISC 05 14:09:47.8±0.4,27.˚47N±0.˚04×55.˚56E±0.˚04,h15km,n325, σ1s17/333,mb4.4/76,MS3.9/26,22C-3D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**1.68**	**157**	⇓P	**Pb**	**14 10 20.3**	**+1.8**
	SNR=286						
BANOM				⇑S	Sn	14 10 23.5	-15
BANOM	**Banah**	**1.68**	**157**	P	**Pb**	**14 10 20.3**	**+1.8**
	SNR=286						
BANOM				S	Sn	14 10 23.5	-15
BANOM				Sn	**Sg**	**14 10 43.2**	**+1.2**
NAZ	**Nazwa, Dubai**	**2.48**	**178**	Pn	**Pb**	**14 10 32.9**	**+0.8**
HATD	**Hatta, Dubai**	**2.69**	**169**	Pn	**Pb**	**14 10 34.6**	**-1.1**
FAQ	**Al Faqa, Dubai**	**2.72**	**179**	Pn	**Pb**	**14 10 36.3**	**+0.1**
ASHO	**Ashiyiah**	**2.81**	**171**	⇓P	**Pb**	**14 10 36.9**	**-0.9**
	SNR=120						
ASHO	**Ashiyiah**	**2.81**	**171**	P	**Pb**	**14 10 36.9**	**-0.9**
	SNR=120						
ASUD	**Al Ashush, Dub**	**2.84**	**184**	Pn	**Pb**	**14 10 38.5**	**+0.2**
ISRV	**Sarvestan**	**2.88**	**312**	*e*Pn	**Pn**	**14 10 35.8**	**+2.4**
ISRV				*e*Sg	**Sg**	**14 11 23.0**	**+2.7**
ISRV				*e*		14 11 47.9	
	comp=Z,9μm,0.4s						
ISRV	**Sarvestan**	**2.88**	**312**	Pn	**Pn**	**14 10 35.8**	**+2.4**
ISRV				Sg	**Sg**	**14 11 20.6**	**+0.3**
ISRV	**Sarvestan**	**2.88**	**312**	*e*Pn	**Pn**	**14 10 35.8**	**+2.4**
ISRV				Sg	**Sg**	**14 11 20.6**	**+0.3**
IMEH	**Mehriz**	**3.99**	**348**	*e*Pn	**Pn**	**14 10 50.7**	**+2.0**
IMEH				*e*		14 11 40.3	
	comp=Z,4μm,0.2s						
IMEH	**Mehriz**	**3.99**	**348**	Pn	**Pn**	**14 10 50.9**	**+2.2**
IMEH	**Mehriz**	**3.99**	**348**	Pn	**Pn**	**14 10 50.9**	**+2.2**
IBAF	**Bafgh**	**4.10**	**0**	*e*Pn	**Pn**	**14 10 52.0**	**+1.8**
IBAF				*e*		14 10 52.7	
	comp=Z,8μm,0.1s						
IBAF				*e*Sn	**Sn**	**14 11 38.7**	**+0.7**
IBAF	**Bafgh**	**4.10**	**0**	Pn	**Pn**	**14 10 52.2**	**+2.0**
IBAF				Sn	**Sn**	**14 11 37.9**	**-0.1**
IBAF	**Bafgh**	**4.10**	**0**	Pn	**Pn**	**14 10 52.2**	**+2.0**
IBAF				Sn	**Sn**	**14 11 37.9**	**-0.1**
HOQ	**Hoqain**	**4.18**	**157**	⇓P	**Pn**	**14 10 53.3**	**+2.1**
	SNR=11						
HOQ	**Hoqain**	**4.18**	**157**	P	**Pn**	**14 10 53.3**	**+2.1**
	SNR=11						
ARQ	**Araqi**	**4.21**	**168**	P	Pn	14 10 55.6	+4.1
	SNR=20						
ARQ	**Araqi**	**4.21**	**168**	P	Pn	14 10 55.6	+4.1
	SNR=20						
ISAD	**Sadrabad**	**4.72**	**340**	*e*Pn	**Pn**	**14 11 01.6**	**+2.9**
ISAD				*e*		14 12 20.4	
	comp=Z,2μm,0.3s						
ISAD	**Sadrabad**	**4.72**	**340**	*e*Pn	**Pn**	**14 11 01.6**	**+2.9**
ICHK	**Chekchek**	**4.86**	**348**	*e*Pn	**Pn**	**14 11 02.6**	**+2.0**
ICHK				*e*		14 11 51.1	
	comp=Z,1μm,0.3s						
ICHK	**Chekchek**	**4.86**	**348**	*e*Pn	**Pn**	**14 11 02.6**	**+2.0**
WBK	**Wadi Bani Khal**	**5.74**	**147**	⇑P	**Pn**	**14 11 15.3**	**+2.6**
	SNR=42						
WBK	**Wadi Bani Khal**	**5.74**	**147**	P	**Pn**	**14 11 15.3**	**+2.6**
	SNR=42						
IGAR	**Gharneh**	**5.79**	**329**	*e*Pn	**Pn**	**14 11 15.1**	**+1.7**
IGAR				*e*		14 11 16.0	
	comp=Z,3μm,0.2s						
ITEG	**Tejag**	**6.07**	**26**	*e*Pn	**Pn**	**14 11 19.7**	**+2.5**
IZEF	**Zefreh**	**6.08**	**333**	*e*Pn	**Pn**	**14 11 18.3**	**+0.8**
IZEF				*e*		14 11 27.4	
	comp=Z,466nm,0.1s						
IZEF	**Zefreh**	**6.08**	**333**	Pn	**Pn**	**14 11 18.3**	**+0.8**
IZEF	**Zefreh**	**6.08**	**333**	*e*Pn	**Pn**	**14 11 18.3**	**+0.8**
IDAH	**Dahanechah**	**6.44**	**34**	*e*Pn	**Pn**	**14 11 25.0**	**+2.7**
IDAH				*e*		14 13 42.0	
	comp=Z,2μm,0.7s						
IPIR	**Pirpir**	**6.58**	**323**	*e*Pn	**Pn**	**14 11 26.4**	**+2.0**
IPIR			

comp=Z,16nm,0.9s
BR131 Keskin Array S 21.91 309 *e*P **P** **14 14 40.9 +0.2**
comp=Z,6.7nm,0.8s
BR131 Keskin Array S 21.91 309 *e*P **P** **14 14 40.9 +0.2**
comp=Z,6.7nm,0.8s
BRTR Keskin Array B 21.91 309 P **P** **14 14 40.9 +0.2**
BRTR Keskin Array B 21.91 309 P **P** **14 14 40.9 +0.2**
comp=Z,6.4nm,0.8s,baz=131,slow=13,SNR=25
BRTR Keskin Array B 21.91 309 P **P** **14 14 40.9 +0.2**
AB31 Akbulak array 22.01 8 P **P** **14 14 40.7 -0.8**
AB31 pmax pmax
comp=Z,19nm,0.8s
AB31 Akbulak array 22.01 8 P **P** **14 14 40.7 -0.8**
comp=Z,19nm,0.8s
ABKAR Akbulak array 22.01 8 *e*P **P** **14 14 40.8 -0.7**
comp=Z,24nm,0.9s
ABKAR Akbulak array 22.01 8 *e*P **P** **14 14 40.8 -0.7**
comp=Z,24nm,0.9s
TKM2 Tokmak 2 22.40 41 *e*P **P** **14 14 45.5 -0.5**
TKM2 pmax pmax
comp=Z,6.0nm,0.8s
TKM2 Tokmak 2 22.40 41 *e*P **P** **14 14 45.5 -0.5**
comp=Z,5.6nm,0.8s
TKM2 Tokmak 2 22.40 41 *e*P **P** **14 14 45.5 -0.5**
comp=Z,5.6nm,0.8s
AKTK Aktyubinsk 23.01 4 P **P** **14 14 51.9 -0.1**
AKTO Aktyubinsk 23.01 4 P **P** **14 14 51.9 -0.1**
AKTO Aktyubinsk 23.01 4 P **P** **14 14 51.9 -0.1**
AKTO Aktyubinsk 23.01 4 P **P** **14 14 51.9 -0.1**
comp=Z,5.7nm,0.6s,baz=190,slow=10.0,SNR=14
AKTO LR LR 14 25 55.2
comp=Z,421nm,18.1s,baz=178,slow=42
AKTO Aktyubinsk 23.01 4 P **P** **14 14 51.9 -0.1**
VORD Divnogorie 26.51 337 *e*P **P** **14 15 23.6 -1.0**
VORD pmax pmax
comp=Z,6.0nm,0.9s
VORD pmax pmax
comp=N,60nm,0.8s
VORD pmax pmax
comp=E,30nm,0.6s
VORD Divnogorie 26.51 337 *e*P **P** **14 15 23.6 -1.0**
comp=E,60nm,0.8s
VSR Storozhevoye 26.77 337 *e*P **P** **14 15 27.2 +0.3**
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR pmax pmax
comp=N,10.0nm,1.4s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR Storozhevoye 26.77 337 *e*P **P** **14 15 27.2 +0.3**
comp=E,10.0nm,1.4s
VOSK Vostochnaya 27.72 20 P **P** **14 15 34.5 -1.0**
VOSK pmax pmax
comp=Z,6.0nm,1.0s
VOSK Vostochnaya 27.72 20 P **P** **14 15 34.5 -1.0**
comp=Z,6.0nm,1.0s
BRVK Borovoye 27.80 19*c*e**P** **P** **14 15 35.8 -0.4**
BRVK pmax pmax
comp=Z,1.0nm,0.7s
BRVK MLR MLR
comp=Z,382nm,16.0s
BRVK Borovoye 27.80 19 *e*P **P** **14 15 35.6 -0.6**
comp=Z,1.5nm,0.6s
BRVK pP pP 14 15 46.8 +6.0
BRVK Borovoye 27.80 19 *e*P **P** **14 15 35.8 -0.4**
comp=Z,382nm,16.0s
BRVK pP pP 14 15 46.8 +6.0
BVA0 Borovoye Array 27.80 19 *i* P **P** **14 15 35.5 -0.7**
BVA0 pmax pmax
comp=Z,9.0nm,0.9s
BVA0 Borovoye Array 27.80 19 *i* P **P** **14 15 35.5 -0.7**
comp=Z,9.0nm,0.9s
BVAR Borovoye Array 27.80 19 P **P** **14 15 36.1 -0.2**
BVAR Borovoye Array 27.80 19 P **P** **14 15 36.1 -0.2**
BVAR Borovoye Array 27.80 19 P **P** **14 15 36.1 -0.2**
comp=Z,5.1nm,0.8s,baz=201,slow=7.9,SNR=28
BVAR LR LR 14 28 21.1
comp=Z,384nm,19.4s,baz=264,slow=40
BVAR Borovoye Array 27.80 19 P **P** **14 15 36.1 -0.2**
MK31 Makanchi Array 28.52 40 *i* P **P** **14 15 42.5 -0.3**
MK31 Makanchi Array 28.52 40 *e*P **P** **14 15 42.4 -0.3**
MK31 Makanchi Array 28.52 40 *e*P **P** **14 15 42.4 -0.3**
MKAR Makanchi Array 28.52 40 P **P** **14 15 43.0 +0.3**
MKAR Makanchi Array 28.52 40 P **P** **14 15 43.0 +0.3**
MKAR Makanchi Array 28.52 40 P **P** **14 15 43.0 +0.3**
comp=Z,1.8nm,0.7s,baz=228,slow=8.5,SNR=22
MKAR LR LR 14 28 54.6
comp=Z,288nm,19.3s,baz=233,slow=40
MKAR Makanchi Array 28.52 40 P **P** **14 15 43.0 +0.3**
KURBB Kurchatov Arra 28.97 31 P **P** **14 15 47.1 +0.5**
comp=Z,2.6nm,0.8s,baz=231,slow=8.7,SNR=30
KURK Kurchatov 29.08 31 P **P** **14 15 47.2 -0.4**
KURK Kurchatov 29.08 31 P **P** **14 15 47.1 -0.4**
KURK Kurchatov 29.08 31 P **P** **14 15 47.2 -0.4**
PLOR Plostina 29.33 316⇑ P **P** **14 15 51.4 +1.4**
PLOR Plostina 29.33 316⇑ *i*P **P** **14 15 51.4 +1.4**
PLOR Plostina 29.33 316 P **P** **14 15 51.4 +1.4**
MLR Muntele Rosu 29.60 315 P **P** **14 15 53.7 +1.3**
MLR Muntele Rosu 29.60 315⇑ *i*P **P** **14 15 53.7 +1.3**
MLR Muntele Rosu 29.60 315 P **P** **14 15 53.7 +1.3**
comp=Z,0.7nm,0.5s,baz=358,slow=9.7,SNR=6.8
MLR LR LR 14 30 56.1
comp=Z,54nm,19.6s,baz=282,slow=43
MLR Muntele Rosu 29.60 315 P **P** **14 15 53.7 +1.3**
TESR Tescani 29.66 318⇑ *i*P **P** **14 15 53.0 +0.2**
VOIR 30.14 315⇑ P **P** **14 15 57.5 +0.3**
VOIR 30.14 315⇑ *i*P **P** **14 15 57.5 +0.3**
VOIR 30.14 315 P **P** **14 15 57.5 +0.3**
ARR Arges 30.37 314⇑ *i*P **P** **14 15 59.7 +0.5**
KIEV Kiev 30.63 326 *e*P **P** **14 15 59.8 -1.5**
KIEV pmax pmax
comp=Z,6.0nm,0.6s
KIEV Kiev 30.63 326 *e*P **P** **14 15 59.8 -1.5**
comp=Z,6.4nm,0.6s
KIEV Kiev 30.63 326 *e*P **P** **14 15 59.8 -1.5**
comp=Z,6.4nm,0.6s
OBN Obninsk 30.88 339⇑ *e*P **P** **14 16 03.9 +0.5**
OBN *e**PP **pP** **14 16 10.7 +2.7**
OBN *e* 14 18 58.2
OBN pmax pmax
comp=Z,15nm,1.7s
OBN MLR MLR
comp=Z,100nm,24.0s
OBN Obninsk 30.88 339 *e*P **P** **14 16 03.9 +0.5**
comp=Z,15nm,1.7s
BURAR Bucovina Array 31.05 318⇑ *i*P **P** **14 16 05.8 +0.6**
BUR08 Bucovina Ar. S 31.08 319 *e*P **P** **14 16 04.9 -0.5**
BUR08 Bucovina Ar. S 31.08 319 *e*P **P** **14 16 04.9 -0.5**
GZR Gura Zlata 31.58 313⇑ P **P** **14 16 09.7 -0.1**
GZR Gura Zlata 31.58 313⇑ *i*P **P** **14 16 09.7 -0.1**
GZR Gura Zlata 31.58 313 P **P** **14 16 09.7 -0.1**
BZS Buzias 32.41 313⇑ P **P** **14 16 17.2 +0.1**
BZS Buzias 32.41 313⇑ *i*P **P** **14 16 17.2 +0.1**
NVS Novosibirsk 33.95 29 *e*P **P** **14 16 30.2 -0.2**
NVS *i* PPP PPP 14 17 41.6
NVS *e*S **S** **14 21 53.6 -1.0**
NVS pmax pmax
comp=N,7.0nm,1.2s
NVS pmax pmax
comp=E,3.0nm,1.2s
NVS pmax pmax
comp=Z,14nm,1.2s
NVS smax smax
comp=N,12nm,2.2s
NVS smax smax
comp=E,16nm,2.2s
ZALV Zalesovo Beam 34.07 31 P **P** **14 16 31.2 -0.2**
ZALV Zalesovo Beam 34.07 31 P **P** **14 16 31.2 -0.2**
ZALV Zalesovo Beam 34.07 31 P **P** **14 16 31.2 -0.2**
comp=E,9.8nm,0.7s,baz=237,slow=9.0,SNR=42
ZALV LR LR 14 31 46.5
comp=E,126nm,18.5s,baz=252,slow=39
ZALV Zalesovo Beam 34.07 31 P **P** **14 16 31.2 -0.2**
PSZ Piszkesteto 34.40 316⇑ P **P** **14 16 34.5 0.0**
PSZ Piszkesteto 34.40 316⇑ *i*P **P** **14 16 34.5 0.0**
PKSM Moragy 34.57 313⇑ P **P** **14 16 35.2 -0.6**
PKSM Moragy 34.57 313⇑ *i*P **P** **14 16 35.2 -0.6**
OJC Ojcow 35.43 320 *e*P **P** **14 16 43.1 -0.2**
OJC Ojcow 35.43 320 *e*P **P** **14 16 43.1 -0.2**
OKC Ostrava-Krasne 36.23 318 *e*P **P** **14 16 49.8 -0.3**
OKC *e* 14 16 56.2
OKC Ostrava-Krasne 36.23 318 *e*P **P** **14 16 49.8 -0.3**
OKC *e*p**P** **pP** **14 16 56.2 +1.4**
MORC Moravsky Berou 36.57 318 *e*P **P** **14 16 51.7 -1.3**
MORC pmax pmax
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 36.57 318 *e*P **P** **14 16 51.7 -1.3**
comp=Z,2.6nm,0.8s
MORC Moravsky Berou 36.57 318 *e*P **P** **14 16 51.7 -1.3**
comp=Z,2.6nm,0.8s
PUL Pulkovo 36.63 339 *i* P **P** **14 16 55.3 +1.9**
VRAC Vranov 36.96 317 P **P** **14 16 56.4 0.0**
VRAC Vranov 36.96 317 P **P** **14 16 56.4 0.0**
comp=Z,5.2nm,0.7s,baz=103,slow=7.8,SNR=7.0
VRAC LR LR 14 34 33.2
comp=Z,58nm,19.2s,baz=7.0,slow=40
VRAC Vranov 36.96 317 P **P** **14 16 56.4 0.0**
HVS Khovu-Aksy 37.19 40 *i* P **P** **14 16 59.5 +1.1**
HVS pmax pmax
comp=Z,13nm,1.2s
DPC Dobruska-Polom 37.51 318 *e*P **P** **14 17 00.6 -0.5**
DPC Dobruska-Polom 37.51 318 *e*P **P** **14 17 00.6 -0.5**
TREC Trest 37.63 316 *e*P **P** **14 17 02.5 +0.4**
TREC MLR MLR
comp=Z,100nm,20.5s
TREC Trest 37.63 316 *e*P **P** **14 17 02.5 +0.4**
TREC AMS AMS 14 37 20.0
comp=Z,100nm,20.5s
UPC Upice 37.76 318 *e*P P 14 16 59.9 -3.2
UPC Upice 37.76 318 *e*P **P** **14 17 03.7 +0.6**
GTA Gaotai 38.45 60 *e*P **P** **14 17 10.4 +1.2**
GTA pmax pmax
comp=Z,8.0nm,0.6s
GTA LR LR
comp=N,200nm,15.2s
GTA LR LR
comp=E,160nm,16.1s
GTA LR LR
comp=Z,150nm,17.1s
PRU Pruhonice 38.45 317 *e*P **P** **14 17 08.6 -0.3**
PRU Pruhonice 38.45 317 *e*P **P** **14 17 08.6 -0.3**
GERES GERESS Array B 38.59 315 P **P** **14 17 09.6 -0.7**
GERES GERESS Array B 38.59 315 P **P** **14 17 09.6 -0.7**
comp=Z,1.1nm,0.5s,baz=112,slow=7.1,SNR=20
GERES GERESS Array B 38.59 315 P **P** **14 17 09.6 -0.7**
KHC Kasperske Hory 38.76 315 *e*P **P** **14 17 10.9 -0.7**
KHC *e* 14 17 17.6
KHC MLR MLR
comp=Z,100nm,20.8s
KHC Kasperske Hory 38.76 315 *e*P **P** **14 17 10.9 -0.7**
KHC *e*pP **pP** **14 17 17.6 +1.4**
KHC AMS AMS 14 36 20.0
comp=Z,100nm,20.8s
KHC Kasperske Hory 38.76 315 *e*P **P** **14 17 10.6 -1.0**
comp=Z,12nm,1.2s
KHC Kasperske Hory 38.76 315 *e*P **P** **14 17 10.6 -1.0**
comp=Z,12nm,1.2s
JOF Joensuu 38.85 343 *e*p **P** **14 17 12.0 -0.1**
comp=Z,2.9nm,0.3s
JOF Joensuu 38.85 343 *e*P **P** **14 17 12.0 -0.1**
JOF pmax pmax
comp=Z,3.0nm,0.3s
BRG Berggiesshubel 39.12 318 *e*P **P** **14 17 13.9 -0.6**
comp=Z,7.5nm,1.3s
BRG *e* 14 17 21.3
comp=Z,5.3nm,1.1s
BRG Berggiesshubel 39.12 318 *e*P **P** **14 17 13.9 -0.6**
BRG *e* 14 17 21.3
BRG pmax pmax
comp=Z,2.0nm,1.3s
FINES FINESS Array B 39.28 338 P **P** **14 17 15.3 -0.3**
FINES FINESS Array B 39.28 338 P **P** **14 17 15.3 -0.3**
comp=Z,1.1nm,0.4s,baz=144,slow=9.6,SNR=11
FINES LR LR 14 37 51.9
comp=Z,91nm,18.1s,baz=185,slow=43
FINES FINESS Array B 39.28 338 P **P** **14 17 15.4 -0.3**
CLL Collm 39.82 318 *e*P **P** **14 17 20.0 -0.4**
CLL *e* 14 17 27.0
CLL pmax pmax
comp=Z,10.0nm,1.4s
CLL Collm 39.82 318 *e*P **P** **14 17 20.0 -0.4**
comp=Z,10.0nm,1.4s
CLL *e*p**P** **pP** **14 17 27.0 +1.9**
KEST Kesra 39.91 294 *e*P **P** **14 17 22.2 +0.7**
KEST Kesra 39.91 294 *e*P **P** **14 17 22.1 +0.6**
comp=Z,0.5nm,0.4s,baz=230,slow=1.6,SNR=5.6
KEST Kesra 39.91 294 *e*P **P** **14 17 22.2 +0.7**
DAVOX Davos/Dischmat 40.54 311 P **P** **14 17 25.4 -1.2**
DAVOX Davos/Dischmat 40.54 311 P **P** **14 17 25.4 -1.2**
comp=Z,4.4nm,0.3s,baz=100,slow=4.7,SNR=18
DAVOX Davos/Dischmat 40.54 311 P **P** **14 17 25.4 -1.2**
CMAR Chiang Mai Arr 40.77 93 P **P** **14 17 28.3 -0.3**
CMAR PcP **PcP** **14 19 30.5 +0.6**
CMAR Chiang Mai Arr 40.77 93 P **P** **14 17 28.3 -0.3**
comp=Z,0.5nm,0.7s,baz=298,slow=6.1,SNR=3.4
CMAR PcP **PcP** **14 19 30.5 +0.6**
comp=Z,0.8nm,0.6s,baz=286,slow=4.1,SNR=5.0
CMAR LR LR 14 36 34.7
comp=Z,53nm,19.5s,baz=285,slow=40
CMAR Chiang Mai Arr 40.77 93 P **P** **14 17 28.3 -0.3**
SBF Sospel 41.77 306 *e*P **P** **14 17 36.1 -0.6**
comp=Z,34nm,0.8s
SBF Sospel 41.77 306 *e*P **P** **14 17 36.1 -0.6**
comp=Z,17nm,0.8s
MBDF Montbardon 42.35 307 *e*P **P** **14 17 40.5 -1.0**
comp=Z,6.3nm,0.5s
MBDF Montbardon 42.35 307 *e*P **P** **14 17 40.5 -1.0**
comp=Z,3.2nm,0.5s
BNI Bardonecchia 42.45 308 *e*P **P** **14 17 41.0 -1.3**
BNI pmax pmax
comp=Z,5.0nm,0.9s
BNI Bardonecchia 42.45 308 *e*P **P** **14 17 41.0 -1.3**
comp=Z,4.8nm,0.9s
BNI Bardonecchia 42.45 308 *e*P **P** **14 17 41.0 -1.3**
comp=Z,4.8nm,0.9s
LPG La Plagne 42.46 308 *e*P **P** **14 17 41.8 -0.8**
comp=Z,10.0nm,0.6s
LPG La Plagne 42.46 308 *e*P **P** **14 17 41.8 -0.8**
comp=Z,5.0nm,0.6s
LPL La Plagne 42.48 308 *e*P **P** **14 17 41.6 -1.0**
LPL La Plagne 42.48 308 *e*P **P** **14 17 41.6 -1.0**
CDF Champ du Feu 42.60 313 *e*P **P** **14 17 42.4 -1.0**
comp=Z,3.0nm,0.5s
CDF Champ du Feu 42.60 313 *e*P **P** **14 17 42.4 -1.0**
comp=Z,1.5nm,0.5s
HINF Hinteralfeld 42.76 312 *e*P **P** **14 17 43.5 -1.2**
comp=Z,1.9nm,0.4s
HINF Hinteralfeld 42.76 312 *e*P **P** **14 17 43.5 -1.2**
comp=Z,0.9nm,0.4s
CABF La Chapelle 43.08 310 *e*P **P** **14 17 46.7 -0.6**
comp=Z,14nm,0.8s
CABF La Chapelle 43.08 310 *e*P **P** **14 17 46.7 -0.6**
comp=Z,7.2nm,0.8s
HAU Haudompre 43.13 312 *e*P **P** **14 17 46.4 -1.2**
comp=Z,4.2nm,0.5s
HAU *e*R
comp=Z,96nm,20.0s
HAU Haudompre 43.13 312 *e*P **P** **14 17 46.4 -1.2**
comp=Z,2.1nm,0.5s
HFS Hagfors 43.24 331 P **P** **14 17 47.3 -1.0**
HFS Hagfors 43.24 331 P **P** **14 17 47.3 -1.0**
comp=Z,2.8nm,0.3s,baz=172,slow=12,SNR=51
HFS LR LR 14 38 12.9
comp=Z,85nm,18.2s,baz=125,slow=40
HFS Hagfors 43.24 331 P **P** **14 17 47.3 -1.0**
PAGF Fort de Pagny 43.64 313 *e*P **P** **14 17 51.0 -0.7**
comp=Z,2.3nm,0.6s
PAGF Fort de Pagny 43.64 313 *e*P **P** **14 17 51.0 -0.7**
comp=Z,1.1nm,0.6s
VIVF Saint-Julien-l 43.84 307 *e*P **P** **14 17 52.3 -1.2**
comp=Z,2.1nm,0.5s
VIVF Saint-Julien-l 43.84 307 *e*P **P** **14 17 52.3 -1.2**
comp=Z,1.0nm,0.5s
SFTF Sexfontaines 44.03 312 *e*P **P** **14 17 54.3 -0.6**
comp=Z,9.0nm,0.5s
SFTF Sexfontaines 44.03 312 *e*P **P** **14 17 54.3 -0.6**
comp=Z,4.5nm,0.5s
MEZF Maizieres J'vi 44.07 312 *e*P **P** **14 17 54.5 -0.7**
comp=Z,8.5nm,0.5s
MEZF Maizieres J'vi 44.07 312 *e*P **P** **14 17 54.5 -0.7**
comp=Z,4.2nm,0.5s
SONM Songino Array 44.18 49 P **P** **14 17 55.7 -0.5**
SONM Songino Array 44.18 49 P **P** **14 17 55.7 -0.5**
comp=Z,1.2nm,0.9s,baz=254,slow=8.3,SNR=5.1
SONM LR LR 14 38 40.3
comp=Z,188nm,21.8s,baz=256,slow=39
SONM Songino Array 44.18 49 P **P** **14 17 55.7 -0.5**
LASF Ste Croix 44.36 306 *e*P **P** **14 17 56.8 -0.8**
LASF Ste Croix 44.36 306 *e*P **P** **14 17 56.8 -0.8**
GIVF Givet 44.51 315 *e*P **P** **14 17 58.8 +0.2**
comp=Z,1.7nm,0.2s
GIVF Givet 44.51 315 *e*P **P** **14 17 58.8 +0.2**
comp=Z,0.9nm,0.2s
SMF Signal de Mont 44.62 310 *e*P **P** **14 17 58.7 -0.9**
comp=Z,15nm,0.8s
SMF Signal de Mont 44.62 310 *e*P **P** **14 17 58.7 -0.9**
comp=Z,7.7nm,0.8s
LOR Lormes 44.68 311 *e*P **P** **14 17 59.1 -1.0**
comp=Z,2.1nm,0.4s
LOR *e*R
comp=Z,84nm,22.0s
LOR Lormes 44.68 311 *e*P **P** **14 17 59.1 -1.0**
comp=Z,1.0nm,0.4s
NB2 NORSAR Subarra 44.76 331 P **P** **14 17 59.0 -1.5**
comp=Z,0.6nm,0.3s,baz=118,slow=8.6
NB2 NORSAR Subarra 44.76 331 P **P** **14 17 59.0 -1.5**
comp=Z,0.6nm,0.3s,SNR=5.5
NOA NORSAR Array B 44.76 331 P **P** **14 17 59.3 -1.2**
NOA NORSAR Array B 44.76 331 P **P** **14 17 59.3 -1.2**
comp=Z,1.1nm,0.5s,baz=121,slow=7.5,SNR=8.0
NOA NORSAR Array B 44.76 331 P **P** **14 17 59.3 -1.2**
BAIF Baives 44.89 314 *e*P **P** **14 18 02.1 +0.4**
comp=Z,11nm,0.7s
BAIF Baives 44.89 314 *e*P **P** **14 18 02.1 +0.4**
comp=Z,5.3nm,0.7s
SSF Saint Saulge 44.90 310 *e*P **P** **14 18 01.0 -0.8**
comp=Z,6.9nm,0.6s
SSF Saint Saulge 44.90 310 *e*P **P** **14 18 01.0 -0.8**
comp=Z,3.5nm,0.6s
AVF Avril sur Loir 44.97 310 *e*P **P** **14 18 01.4 -0.9**
comp=Z,3.6nm,0.5s
AVF Avril sur Loir 44.97 310 *e*P **P** **14 18 01.4 -0.9**
comp=Z,1.8nm,0.5s
BGF Bois d'Agland 45.29 309 *e*P **P** **14 18 04.1 -0.8**
comp=Z,7.2nm,0.5s
BGF Bois d'Agland 45.29 309 *e*P **P** **14 18 04.1 -0.8**
comp=Z,3.6nm,0.5s
MTLF Montolieu 45.51 305 *e*P **P** **14 18 06.7 0.0**
comp=Z,6.7nm,0.7s
MTLF Montolieu 45.51 305 *e*P **P** **14 18 06.7 0.0**
comp=Z,3.3nm,0.7s
ARCES ARCESS Array B 45.57 346 P **P** **14 18 06.1 -0.7**
ARCES ARCESS Array B 45.57 346 P **P** **14 18 06.1 -0.7**
comp=Z,2.2nm,0.8s,baz=141,slow=7.8,SNR=5.4
ARCES ARCESS Array B 45.57 346 P **P** **14 18 06.1 -0.7**
CAF Calviac 45.70 307 *e*P **P** **14 18 07.9 -0.3**
comp=Z,4.4nm,0.4s
CAF Calviac 45.70 307 *e*P **P** **14 18 07.9 -0.3**
comp=Z,2.2nm,0.4s
RJF Les Rejaudoux 46.11 308 *e*P **P** **14 18 11.3 -0.1**
RJF *e*R
comp=Z,83nm,20.4s
RJF Les Rejaudoux 46.11 308 *e*P **P** **14 18 11.3 -0.1**
LFF La Frestale 46.64 307 *e*P **P** **14 18 15.4 -0.2**
comp=Z,6.9nm,0.5s
LFF La Frestale 46.64 307 *e*P **P** **14 18 15.4 -0.2**
comp=Z,3.5nm,0.5s
LDF La Druitiere 47.49 312 *e*P **P** **14 18 21.0 -1.2**
comp=Z,8.5nm,0.4s
LDF La Druitiere 47.49 312 *e*P **P** **14 18 21.0 -1.2**
comp=Z,4.2nm,0.4s
FLN La Foliniere 47.74 312 *e*P **P** **14 18 23.1 -1.0**
FLN *e*R
comp=Z,64nm,22.1s
FLN La Foliniere 47.74 312 *e*P **P** **14 18 23.1 -1.0**
SGMF Saint Gilles 49.08 311 *e*P **P** **14 18 33.7 -0.8**
comp=Z,11nm,0.7s
SGMF Saint Gilles 49.08 311 *e*P **P** **14 18 33.7 -0.8**
comp=Z,5.5nm,0.7s
QUIF Quistinic 49.47 311 *e*P **P** **14 18 37.1 -0.3**
QUIF Quistinic 49.47 311 *e*P **P** **14 18 37.1 -0.3**
EKA Eskdalemuir Ar 50.19 321 P **P** **14 18 40.7 -2.1**
EKA Eskdalemuir Ar 50.19 321 P **P** **14 18 40.7 -2.1**
comp=Z,0.2nm,0.3s,baz=94,slow=7.3,SNR=7.2
EKA Eskdalemuir Ar 50.19 321 P **P** **14 18 40.7 -2.1**
QIZ Qiongzhong 50.25 87 P **P** **14 18 41.9 -1.9**
QIZ S **S** **14 25 51.1 -4.8**
QIZ pmax pmax
comp=Z,15nm,1.6s
TOA0 Torodi Ar. Sit 52.12 265 *e*P **P** **14 18 57.3 -0.5**
TOA0 *e* 14 19 05.0
TOA0 Torodi Ar. Sit 52.12 265 *e*P **P** **14 18 57.3 -0.5**
TORD Torodi Ar. Bea 52.12 265 P **P** **14 18 57.8 0.0**
TORD Torodi Ar. Bea 52.12 265 P **P** **14 18 57.8 0.0**
comp=Z,4.4nm,0.4s,baz=65,slow=7.7,SNR=74
TORD LR LR 14 44 06.3
comp=Z,206nm,18.6s,baz=120,slow=40
TORD Torodi Ar. Bea 52.12 265 *e*P **P** **14 18 57.8 0.0**
TIXI Tiksi 58.93 21⇑ *e*P **P** **14 19 46.9 +0.9**
TIXI pmax pmax
comp=Z,1.0nm,0.8s
TIXI MLR MLR
comp=Z,142nm,21.0s
KSAR Wonju Array Be 60.49 61 P **P** **14 19 56.8 -0.5**
KSAR Wonju Array Be 60.49 61 P **P** **14 19 56.8 -0.5**
KSRS Korea Array 60.52 61 P **P** **14 19 56.8 -0.7**
comp=Z,2.4nm,0.7s,baz=276,slow=6.8,SNR=22
KSRS LR LR 14 50 20.7
comp=Z,31nm,18.4s,baz=300,slow=40
DBIC Dimbokro 60.75 262 *e*P **P** **14 19 59.3 -0.1**
comp=Z,2.4nm,0.4s
DBIC Dimbokro 60.75 262 P **P** **14 19 59.4 -0.1**
comp=Z,2.0nm,0.4s,baz=216,slow=19,SNR=7.9
DBIC LR LR 14 46 19.6
comp=Z,95nm,18.6s,baz=217,slow=36
DBIC Dimbokro 60.75 262 *e*P **P** **14 19 59.3 -0.1**
comp=Z,2.4nm,0.4s
LIC Lamto 61.11 262 *e*P **P** **14 20 02.7 +0.9**
comp=Z,6.1nm,0.5s
LIC Lamto 61.11 262 *e*P **P** **14 20 02.7 +0.9**
comp=Z,3.0nm,0.5s
BOSA Boshof 62.88 210 LR LR 14 51 18.6
comp=Z,97nm,18.1s,baz=255,slow=40
MJAR Matsushiro Arr 68.68 59 P **P** **14 20 50.4 -0.5**
MJAR Matsushiro Arr 68.68 59 P **P** **14 20 50.4 -0.5**
comp=Z,1.3nm,1.0s,baz=278,slow=9.8,SNR=5.7
MJAR LR LR 14 53 58.0
comp=Z,55nm,20.1s,baz=325,slow=39
MJAR Matsushiro Arr 68.68 59 P **P** **14 20 50.4 -0.5**
BILL Bilibino 72.12 22 *i* P **P** **14 21 12.0 +0.7**
BILL *e**PP pP 14 21 22.2 +6.0
BILL *e*SS SS 14 35 02.5 -6.6
BILL pmax pmax
comp=Z,7.0nm,1.3s
PETK Petropavlovsk- 75.31 38 LR LR 14 58 55.5
comp=Z,32nm,19.8s,baz=208,slow=39
FX1 Attu Island--F 83.36 33 LR LR 15 04 11.0
comp=Z,68nm,19.1s,baz=8.8,slow=39
COLD Coldfoot 83.61 10 *e*P **P** **14 22 15.3 0.0**
comp=Z,2.7nm,0.8s
COLD Coldfoot 83.61 10 *e*P **P** **14 22 15.3 0.0**
comp=Z,2.7nm,0.8s
ILAR Eielson Array 86.41 9 P **P** **14 22 28.4 -0.9**
ILAR Eielson Array 86.41 9 P **P** **14 22 28.4 -0.9**
comp=Z,0.6nm,0.8s,baz=328,slow=4.8,SNR=8.8
ILAR Eielson Array 86.41 9 P **P** **14 22 28.4 -0.9**
EGAK Eagle 87.13 7 *e*P **P** **14 22 32.6 -0.3**
comp=Z,6.5nm,1.2s
EGAK Eagle 87.13 7 *e*P **P** **14 22 32.6 -0.3**
comp=Z,6.5nm,1.2s
WRA Warramunga Arr 89.59 113 P **P** **14 22 44.8 -0.5**
WRA Warramunga Arr 89.59 113 P **P** **14 22 44.8 -0.5**
comp=Z,0.9nm,0.9s,baz=296,slow=4.2,SNR=5.3
WRA Warramunga Arr 89.59 113 P **P** **14 22 44.8 -0.5**
YKA Yellowknife Ar 90.00 355 P **P** **14 22 46.6 +0.2**
YKA Yellowknife Ar 90.00 355 P **P** **14 22 46.6 +0.2**
comp=Z,0.8nm,0.9s,baz=7.6,slow=5.0,SNR=9.7
YKA Yellowknife Ar 90.00 355 P **P** **14 22 46.7 +0.2**
ASAR Alice Springs 91.06 116 P **P** **14 22 52.2 +0.1**
ASAR Alice Springs 91.06 116 P **P** **14 22 52.2 +0.1**
comp=Z,0.4nm,0.7s,baz=301,slow=4.6,SNR=8.9
ASAR Alice Springs 91.06 116 P **P** **14 22 52.2 +0.1**
MAW Mawson 94.94 177 LR LR 14 58 20.7
comp=Z,76nm,18.5s,baz=227,slow=31

*ISCJB **05** 14:14:58.4±0.2,36°.85N±0°.01×4°.54W±0°.01, h79km±3km, Error ellipse: s-maj=2.3km s-min=1.9km az=2.4*
*LDG **05** 14:14:59.4±0.2,36°.95N×4°.52W, h30km, Ml3.8/9, Error ellipse: s-maj=3.9km s-min=2.8km az=174.0*
*CNRM **05** 14:15:00.5,36°.81N×4°.57W, h30km, MD3.5*
*CSEM **05** 14:15:00.1±0.1,36°.78N×4°.48W, h65km±1km, ML4.6, Error ellipse: s-maj=2.0km s-min=1.6km az=146.0*
*MDD **05** 14:15:01.2±0.2,36°.81N×4°.50W, h59km±3km, mb4.6/40, Error ellipse: s-maj=2.5km s-min=2.1km az=159.0,*

PRXIMO
*INMG **05** 14:15:01.2±1.4,36°.85N×4°.55W,h56^{km}±4^{km},ML3.6,Error ellipse: s-maj=2.4km s-min=2.1km az=171.0*
*SFS **05** 14:15:01.0,36°.80N×4°.50W,h56^{km},ML4.6*
*IGIL **05** 14:15:02.0,36°.81N×4°.51W,h59^{km},ML3.7*
ISC 05 14:14:58.1±0.2,36°.851N±0.009×4°.489W±0°.008, h76^{km}±2^{km},n276,σ1^{s}87/411,20C-10D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAL	**Malaga-Limoner**	**0.10**	**151**	P	**Pn**	**14 15 08.9**	**-0.1**
EMAL				S	**Sn**	**14 15 15.3**	**-1.7**
EMAL	**Malaga-Limoner**	**0.10**	**151**	*e*P	**Pn**	**14 15 08.9**	**-0.1**
EMAL				*e*S	**Sn**	**14 15 15.3**	**-1.7**
EMIJ	**Mijas**	**0.36**	**219**	⇑P	**Pn**	**14 15 10.9**	**+0.5**
	176nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**14 15 17.8**	**-1.6**
	932nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**0.36**	**219**	P	**Pn**	**14 15 10.9**	**+0.5**
	176nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**14 15 17.8**	**-1.6**
	932nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**0.40**	**42**	⇑P	**Pn**	**14 15 12.0**	**+1.3**
	282nm,0.3s,SNR=18						
ELOJ				S	**Sn**	**14 15 20.6**	**+0.6**
	SNR=7.9						
ELOJ	**Sierra Loja**	**0.40**	**42**	P	**Pn**	**14 15 12.0**	**+1.3**
	282nm,0.3s,SNR=18						
ELOJ				S	**Sn**	**14 15 20.6**	**+0.6**
	SNR=7.9						
ERON	**Agron**	**0.57**	**73**	⇑P	**Pn**	**14 15 13.9**	**+1.7**
	221nm,0.2s,SNR=18						
ERON				S	**Sn**	**14 15 23.7**	**+1.0**
	245nm,0.2s,SNR=7.9						
ERON	**Agron**	**0.57**	**73**	P	**Pn**	**14 15 13.9**	**+1.7**
	221nm,0.2s,SNR=18						
ERON				S	**Sn**	**14 15 23.7**	**+1.0**
	245nm,0.2s,SNR=7.9						
REAL	**Reales**	**0.68**	**238**	⇓P	**Pn**	**14 15 15.7**	**+2.3**
REAL				S	**Sn**	**14 15 26.7**	**+2.0**
REAL	**Reales**	**0.68**	**238**	*i*P	**Pn**	**14 15 15.7**	**+2.3**
REAL				*i*S	**Sn**	**14 15 26.7**	**+2.0**
ELUQ	**Luque**	**0.73**	**14**	⇑P	**Pn**	**14 15 16.1**	**+2.3**
	463nm,0.2s,SNR=18						
ELUQ				S	**Sn**	**14 15 24.2**	**-1.2**
	SNR=7.9						
ELUQ	**Luque**	**0.73**	**14**	P	**Pn**	**14 15 16.1**	**+2.3**
	463nm,0.2s,SNR=18						
ELUQ				S	**Sn**	**14 15 24.2**	**-1.2**
	SNR=7.9						
LIJA	**Lijar**	**0.74**	**275**	⇑P	**Pn**	**14 15 16.7**	**+2.8**
LIJA				S	**Sn**	**14 15 28.1**	**+2.5**
LIJA	**Lijar**	**0.74**	**275**	*i*P	**Pn**	**14 15 16.7**	**+2.8**
LIJA				*e*S	**Sn**	**14 15 28.1**	**+2.5**
EGUA	**Guajares**	**0.74**	**91**	⇑P	**Pn**	**14 15 15.3**	**+1.4**
	67nm,0.1s,SNR=18						
EGUA				S	**Sn**	**14 15 26.9**	**+1.3**
	SNR=7.9						
EGUA	**Guajares**	**0.74**	**91**	P	**Pn**	**14 15 15.3**	**+1.4**
	67nm,0.1s,SNR=18						
EGUA				S	**Sn**	**14 15 26.9**	**+1.3**
	SNR=7.9						
ECOG	**Cogollos-Vega**	**0.85**	**60**	⇓P	**Pn**	**14 15 17.7**	**+2.5**
	340nm,0.2s,SNR=18						
ECOG				S	**Sn**	**14 15 29.7**	**+1.7**
	299nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**0.85**	**60**	P	**Pn**	**14 15 17.7**	**+2.5**
	340nm,0.2s,SNR=18						
ECOG				S	**Sn**	**14 15 29.7**	**+1.7**
	299nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**0.91**	**67**	⇑P	**Pn**	**14 15 18.4**	**+2.5**
	158nm,0.4s,SNR=18						
EQUE				S	**Sn**	**14 15 30.8**	**+1.6**
	340nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**0.91**	**67**	P	**Pn**	**14 15 18.4**	**+2.5**
	158nm,0.4s,SNR=18						
EQUE				S	**Sn**	**14 15 30.8**	**+1.6**
	340nm,0.2s,SNR=7.9						
ESPR	**Espera**	**1.10**	**271**	⇑P	**Pn**	**14 15 20.7**	**+2.7**
	19nm,0.3s,SNR=18						
ESPR				S	**Sn**	**14 15 34.1**	**+1.1**
	79nm,0.2s,SNR=7.9						
ESPR	**Espera**	**1.10**	**271**	P	**Pn**	**14 15 20.7**	**+2.7**
	19nm,0.3s,SNR=18						
ESPR				S	**Sn**	**14 15 34.1**	**+1.1**
	79nm,0.2s,SNR=7.9						
ECEU	**Ceuta**	**1.19**	**217**	P	**Pn**	**14 15 21.6**	**+2.3**
	76nm,0.1s,SNR=73						
ECEU				S	**Sn**	**14 15 36.1**	**+1.0**
	23nm,0.2s,SNR=7.9						
ECEU	**Ceuta**	**1.19**	**217**	P	**Pn**	**14 15 21.6**	**+2.3**
	76nm,0.1s,SNR=73						
ECEU				S	**Sn**	**14 15 36.1**	**+1.0**
	23nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.28**	**87**	P	**Pn**	**14 15 22.8**	**+2.2**
	77nm,0.3s,SNR=130						
EBER				S	**Sn**	**14 15 38.7**	**+1.2**
	150nm,0.3s,SNR=9.7						
EBER	**Berja**	**1.28**	**87**	P	**Pn**	**14 15 22.8**	**+2.2**
	77nm,0.3s,SNR=130						
EBER				S	**Sn**	**14 15 38.7**	**+1.2**
	150nm,0.3s,SNR=9.7						
EADA	**Adamuz**	**1.32**	**357**	⇑P	**Pn**	**14 15 23.3**	**+2.4**
	15nm,0.3s,SNR=18						
EADA				S	**Sn**	**14 15 38.8**	**+0.8**
	83nm,0.3s,SNR=9.7						
EADA	**Adamuz**	**1.32**	**357**	P	**Pn**	**14 15 23.3**	**+2.4**
	15nm,0.3s,SNR=18						
EADA				S	**Sn**	**14 15 38.8**	**+0.8**
	83nm,0.3s,SNR=9.7						
CNIL	**Conil**	**1.35**	**250**	P	Pn	14 15 24.5	+3.3
CNIL				S	**Sn**	**14 15 38.6**	**0.0**
CNIL	**Conil**	**1.35**	**250**	*e*P	Pn	14 15 24.5	+3.3
CNIL				*e*S	**Sn**	**14 15 38.7**	**0.0**
EBAN	**Banos Encina**	**1.43**	**23**	P	**Pn**	**14 15 24.6**	**+2.3**
	50nm,0.3s,SNR=19						
EBAN				S	**Sn**	**14 15 41.2**	**+0.7**
	110nm,0.2s,SNR=15						
EBAN	**Banos Encina**	**1.43**	**23**	P	**Pn**	**14 15 24.6**	**+2.3**
	50nm,0.3s,SNR=19						
EBAN				S	**Sn**	**14 15 41.2**	**+0.7**
	110nm,0.2s,SNR=15						
EQES	**Quesada**	**1.48**	**50**	⇑P	**Pn**	**14 15 25.6**	**+2.6**
	92nm,0.4s,SNR=18						
EQES				S	**Sn**	**14 15 43.5**	**+1.6**
	116nm,0.3s,SNR=10						
EQES	**Quesada**	**1.48**	**50**	P	**Pn**	**14 15 25.6**	**+2.6**
	92nm,0.4s,SNR=18						
EQES				S	**Sn**	**14 15 43.5**	**+1.6**
	116nm,0.3s,SNR=10						
EALB	**Alboran**	**1.48**	**127**	P	**Pn**	**14 15 24.1**	**+1.1**
	45nm,0.3s,SNR=24						
EALB				S	**Sn**	**14 15 41.5**	**-0.3**
	87nm,0.3s,SNR=8.5						
EALB	**Alboran**	**1.48**	**127**	P	**Pn**	**14 15 24.1**	**+1.1**
	45nm,0.3s,SNR=24						
EALB				S	**Sn**	**14 15 41.5**	**-0.3**
	87nm,0.3s,SNR=8.5						
MPAL	**Palemas**	**1.68**	**165**	P	**Pn**	**14 15 27.0**	**+1.3**
MPAL				S	**Sn**	**14 15 45.0**	**-1.5**
MPAL	**Palemas**	**1.68**	**165**	P	**Pn**	**14 15 27.0**	**+1.3**
MPAL				S	**Sn**	**14 15 45.0**	**-1.5**
EHUE	**Huescar**	**1.79**	**57**	⇑P	**Pn**	**14 15 29.8**	**+2.6**
	11nm,0.1s,SNR=18						
EHUE				S	**Sn**	**14 15 51.2**	**+2.0**
	48nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**1.79**	**57**	P	**Pn**	**14 15 29.8**	**+2.6**
	11nm,0.1s,SNR=18						
EHUE				S	**Sn**	**14 15 51.2**	**+2.0**
	48nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**1.83**	**86**	P	**Pn**	**14 15 30.0**	**+2.3**
	9.8nm,0.3s,SNR=7.9						
ENIJ				S	**Sn**	**14 15 51.7**	**+1.6**
	82nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**1.83**	**86**	P	**Pn**	**14 15 30.0**	**+2.3**
	9.8nm,0.3s,SNR=7.9						
ENIJ				S	**Sn**	**14 15 51.7**	**+1.6**
	82nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.97**	**298**	⇓P	**Pn**	**14 15 31.3**	**+1.9**
	26nm,0.3s,SNR=18						
EMIN				S	**Sn**	**14 15 52.8**	**-0.5**
	58nm,0.2s,SNR=5.6						
EMIN	**Mina Concepcio**	**1.97**	**298**	P	**Pn**	**14 15 31.3**	**+1.9**
	26nm,0.3s,SNR=18						
EMIN				S	**Sn**	**14 15 52.8**	**-0.5**
	58nm,0.2s,SNR=5.6						
EMEL	**Melilla**	**1.98**	**141**	P	**Pn**	**14 15 31.1**	**+1.4**
	134nm,0.1s,SNR=13						
EMEL				S	**Sn**	**14 15 53.0**	**-0.6**
	97nm,0.3s,SNR=5.6						
EMLI	**Melilla**	**1.99**	**141**	P	**Pn**	**14 15 31.1**	**+1.4**
	134nm,0.1s,SNR=13						
EMLI				S	**Sn**	**14 15 53.0**	**-0.7**
	97nm,0.3s,SNR=5.6						
MELI	**Melilla**	**2.00**	**141**	P	**Pn**	**14 15 31.1**	**+1.3**
MELI				P		14 15 31.4	
	SNR=7.9						
MELI				S	**Sn**	**14 15 53.9**	**-0.2**
	SNR=7.9						
MELI	**Melilla**	**2.00**	**141**	*e*P	**Pn**	**14 15 31.1**	**+1.3**
MELI				S	**Sn**	**14 15 53.8**	**-0.2**
	SNR=7.9						
ZAI	**Zaio**	**2.35**	**142**	P	**Pn**	**14 15 35.5**	**+0.9**
ZAI				S	**Sn**	**14 16 02.0**	**-0.6**
ZAI	**Zaio**	**2.35**	**142**	P	**Pn**	**14 15 35.5**	**+0.9**
ZAI				S	**Sn**	**14 16 02.0**	**-0.6**
EVIA	**Vianos**	**2.38**	**41**	⇑P	**Pn**	**14 15 37.1**	**+2.1**
	209nm,0.4s,SNR=18						
EVIA				S	**Sn**	**14 16 03.8**	**+0.4**
	111nm,0.3s,SNR=12						
EVIA	**Vianos**	**2.38**	**41**	P	**Pn**	**14 15 37.1**	**+2.1**
	209nm,0.4s,SNR=18						
EVIA				S	**Sn**	**14 16 03.8**	**+0.4**
	111nm,0.3s,SNR=12						
PBAR	**Barrancos**	**2.42**	**304**	*e*P	**Pn**	**14 15 37.4**	**+1.9**
PBAR				*e*S	**Sn**	**14 16 04.1**	**-0.1**
PBAR				A	A	14 16 07.3	
	165nm,0.2s						
PBAR	**Barrancos**	**2.42**	**304**	P	**Pn**	**14 15 37.4**	**+1.9**
PBAR				S	**Sn**	**14 16 04.1**	**-0.1**
	165nm,0.2s						
PBAR	**Barrancos**	**2.42**	**304**	P	**Pn**	**14 15 37.4**	**+1.9**
PBAR				S	**Sn**	**14 16 04.1**	**-0.1**
	165nm,0.2s						
EGRO	**El Granado**	**2.49**	**287**	⇓P	**Pn**	**14 15 38.3**	**+1.9**
	14nm,0.1s,SNR=18						
EGRO				S	**Sn**	**14 16 05.6**	**-0.1**
	SNR=7.9						
EGRO	**El Granado**	**2.49**	**287**	P	**Pn**	**14 15 38.3**	**+1.9**
	14nm,0.1s,SNR=18						
EGRO				S	**Sn**	**14 16 05.6**	**-0.1**
	SNR=7.9						
PVAQ	**Vaqueiros**	**2.64**	**283**	*i*P	**Pn**	**14 15 40.3**	**+1.9**
PVAQ				*e*S	**Sn**	**14 16 08.6**	**-0.8**
PVAQ				A	A	14 16 11.7	
	385nm,0.2s						
PVAQ	**Vaqueiros**	**2.64**	**283**	⇓P	**Pn**	**14 15 40.3**	**+1.9**
PVAQ				S	**Sn**	**14 16 08.6**	**-0.8**
	385nm,0.2s						
PVAQ	**Vaqueiros**	**2.64**	**283**	P	**Pn**	**14 15 40.3**	**+1.9**
PVAQ				S	**Sn**	**14 16 08.6**	**-0.8**
	385nm,0.2s						
EBAD	**Badajoz**	**2.76**	**314**	⇓P	**Pn**	**14 15 42.5**	**+2.4**
	30nm,0.2s,SNR=18						
EBAD				S	**Sn**	**14 16 12.6**	**+0.2**
	74nm,0.2s,SNR=16						
EBAD	**Badajoz**	**2.76**	**314**	P	**Pn**	**14 15 42.5**	**+2.4**
	30nm,0.2s,SNR=18						
EBAD				S	**Sn**	**14 16 12.6**	**+0.2**
	74nm,0.2s,SNR=16						
TZK	**Tazeka**	**2.77**	**175**	P	**Pn**	**14 15 42.0**	**+1.6**
TZK				S	**Sn**	**14 16 12.0**	**-0.9**
TZK	**Tazeka**	**2.77**	**175**	P	**Pn**	**14 15 42.0**	**+1.6**
TZK				S	**Sn**	**14 16 12.0**	**-0.9**
EMUR	**La Murta**	**2.77**	**68**	⇑P	**Pn**	**14 15 42.7**	**+2.4**
	18nm,0.3s,SNR=18						
EMUR				S	**Sn**	**14 16 13.5**	**+0.8**
	42nm,0.4s,SNR=7.4						
EMUR	**La Murta**	**2.77**	**68**	P	**Pn**	**14 15 42.7**	**+2.4**
	18nm,0.3s,SNR=18						
EMUR				S	**Sn**	**14 16 13.5**	**+0.8**
	42nm,0.4s,SNR=7.4						
PBDV	**Barranco-do-Ve**	**2.78**	**279**	*e*P	**Pn**	**14 15 42.6**	**+2.2**
PBDV				*e*S	**Sn**	**14 16 12.2**	**-0.8**
PBDV				A	A	14 16 15.1	
	144nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.78**	**279**	⇑P	**Pn**	**14 15 42.6**	**+2.2**
PBDV				S	**Sn**	**14 16 12.2**	**-0.8**
	144nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.78**	**279**	P	**Pn**	**14 15 42.6**	**+2.2**
PBDV				S	**Sn**	**14 16 12.2**	**-0.8**
	144nm,0.2s						
TGT	**Taghat**	**2.81**	**190**	P	**Pn**	**14 15 43.0**	**+2.1**
TGT				S	**Sn**	**14 16 13.0**	**-0.8**
TGT	**Taghat**	**2.81**	**190**	P	**Pn**	**14 15 43.0**	**+2.1**
TGT				S	**Sn**	**14 16 13.0**	**-0.8**
ESDC	**Sonseca Array**	**2.85**	**8**	P	**Pn**	**14 15 44.1**	**+2.7**
	25nm,0.2s,baz=190,slow=12,SNR=264						
ESDC				S	**Sn**	**14 16 14.6**	**0.0**
	baz=194,slow=22,SNR=7.9						
ESDC	**Sonseca Array**	**2.85**	**8**	P	**Pn**	**14 15 44.1**	**+2.7**
	25nm,0.2s,baz=190,slow=12,SNR=264						
ESDC				S	**Sn**	**14 16 14.6**	**0.0**
	slow=22,SNR=7.9						
CART	**Cartagena**	**2.88**	**74**	P	**Pn**	**14 15 42.7**	**+1.0**
CART				S	**Sn**	**14 16 12.3**	**-2.9**
CART	**Cartagena**	**2.88**	**74**	*e*P	**Pn**	**14 15 42.7**	**+1.0**
PBEJ	**Beja**	**2.93**	**295**	*e*P	**Pn**	**14 15 44.4**	**+2.0**
PBEJ				*e*S	**Sn**	**14 16 16.2**	**-0.4**
PBEJ				A	A	14 16 18.0	
	87nm,0.2s						
PBEJ	**Beja**	**2.93**	**295**	P	**Pn**	**14 15 44.4**	**+2.0**
PBEJ				S	**Sn**	**14 16 16.2**	**-0.4**
	44nm,0.2s						
PBEJ	**Beja**	**2.93**	**295**	P	**Pn**	**14 15 44.4**	**+2.0**
PBEJ				S	**Sn**	**14 16 16.2**	**-0.4**
	44nm,0.2s						
PCVE	**Castro Verde**	**2.94**	**286**	*e*P	**Pn**	**14 15 44.5**	**+2.0**
PCVE				*e*S	**Sn**	**14 16 16.5**	**-0.2**
PCVE				A	A	14 16 20.4	
	79nm,0.2s						
PCVE	**Castro Verde**	**2.94**	**286**	P	**Pn**	**14 15 44.5**	**+2.0**
PCVE				S	**Sn**	**14 16 16.5**	**-0.2**
	79nm,0.2s						
PCVE	**Castro Verde**	**2.94**	**286**	P	**Pn**	**14 15 44.5**	**+2.0**
PCVE				*e*S	**Sn**	**14 16 16.5**	**-0.2**
	79nm,0.2s						
ETOB	**Tobarra**	**2.94**	**52**	⇑P	**Pn**	**14 15 44.9**	**+2.3**
	34nm,0.3s,SNR=18						
ETOB				S	**Sn**	**14 16 16.3**	**-0.5**
	26nm,0.3s,SNR=6.5						
ETOB	**Tobarra**	**2.94**	**52**	P	**Pn**	**14 15 44.9**	**+2.3**
	34nm,0.3s,SNR=18						
ETOB				S	**Sn**	**14 16 16.3**	**-0.5**
	26nm,0.3s,SNR=6.5						
MESJ	**Messejana**	**3.13**	**289**	*e*P	**Pn**	**14 15 47.3**	**+2.2**
MESJ				*e*S	**Sn**	**14 16 21.0**	**-0.4**
MESJ				AML	AML	14 16 22.4	
	comp=N,214nm,0.2s						
MESJ	**Messejana**	**3.13**	**289**	*e*P	**Pn**	**14 15 47.3**	**+2.2**
MESJ				*e*S	**Sn**	**14 16 21.0**	**-0.4**
MESJ	**Messejana**	**3.13**	**289**	P	**Pn**	**14 15 47.3**	**+2.2**
MESJ				S	**Sn**	**14 16 21.0**	**-0.4**
MESJ	**Messejana**	**3.13**	**289**	P	**Pn**	**14 15 47.3**	**+2.2**
MESJ				S	**Sn**	**14 16 21.0**	**-0.4**
PESTR	**Estremoz**	**3.17**	**310**	*e*P	**Pn**	**14 15 48.1**	**+2.4**
PESTR				*e*S	**Sn**	**14 16 22.2**	**-0.3**
PESTR				A	A	14 16 24.2	
	comp=N,76nm,0.4s						
PESTR	**Estremoz**	**3.17**	**310**	P	**Pn**	**14 15 48.1**	**+2.4**
PESTR				S	**Sn**	**14 16 22.2**	**-0.3**
	comp=N,76nm,0.4s						
EVO	**Evora**	**3.26**	**302**	*e*P	Pn	14 15 50.2	+3.3
EVO				*e*Sn	**Sn**	**14 16 25.3**	**+0.8**
	comp=N,135nm,0.2s						
EVO	**Evora**	**3.26**	**302**	*e*P	**Pn**	**14 15 49.3**	**+2.4**
EVO				*e*S	**Sn**	**14 16 24.2**	**-0.3**
EVO				A	A	14 16 26.4	
	comp=N,208nm,0.2s						
EVO	**Evora**	**3.26**	**302**	P	**Pn**	**14 15 49.3**	**+2.4**
EVO				S	**Sn**	**14 16 24.2**	**-0.3**
	comp=N,208nm,0.2s						
EVO	**Evora**	**3.26**	**302**	P	**Pn**	**14 15 49.3**	**+2.4**
EVO				S	**Sn**	**14 16 24.2**	**-0.3**
	comp=N,208nm,0.2s						
EVOP	**Sao Brissos**	**3.33**	**301**	*e*P	**Pn**	**14 15 50.2**	**+2.4**
EVOP				*e*Sn	**Sn**	**14 16 25.3**	**-1.0**
	comp=N,68nm,0.2s						
MORF	**Marmelete**	**3.36**	**279**	*e*P	**Pn**	**14 15 50.4**	**+2.1**
MORF				*e*S	**Sn**	**14 16 26.6**	**-0.4**
MORF				A	A	14 16 29.5	
	comp=N,227nm,0.2s						
MORF	**Marmelete**	**3.36**	**279**	P	**Pn**	**14 15 50.4**	**+2.1**
MORF				S	**Sn**	**14 16 26.6**	**-0.4**
	comp=N,227nm,0.2s						
MORF	**Marmelete**	**3.36**	**279**	P	**Pn**	**14 15 50.4**	**+2.1**
MORF				*e*S	**Sn**	**14 16 26.6**	**-0.4**
	comp=N,227nm,0.2s						
EPLA	**Plasencia**	**3.44**	**339**	P	**Pn**	**14 15 52.2**	**+2.8**
	comp=N,15nm,0.3s,SNR=60						
EPLA				S	**Sn**	**14 16 28.9**	**-0.2**
	comp=N,69nm,0.4s,SNR=20						
EPLA	**Plasencia**	**3.44**	**339**	P	**Pn**	**14 15 52.2**	**+2.8**
	comp=N,15nm,0.3s,SNR=60						
EPLA				S	**Sn**	**14 16 28.9**	**-0.2**
	comp=N,69nm,0.4s,SNR=20						
PMRV	**Marv??o**	**3.44**	**319**	*i*P	**Pn**	**14 15 51.9**	**+2.5**
PMRV				*e*S	**Sn**	**14 16 28.7**	**-0.3**
PMRV				A	A	14 16 32.9	
	comp=N,64nm,0.5s						
PMRV	**Marv??o**	**3.44**	**319**	⇓P	**Pn**	**14 15 51.9**	**+2.5**
PMRV				S	**Sn**	**14 16 28.7**	**-0.3**
	comp=N,64nm,0.5s						
PMRV	**Marv??o**	**3.44**	**319**	P	**Pn**	**14 15 51.9**	**+2.5**
PMRV				S	**Sn**	**14 16 28.7**	**-0.3**
	comp=N,64nm,0.5s						
RTC	**Rabat Centre**	**3.45**	**215**	P	**Pn**	**14 15 50.5**	**+1.1**
RTC				S	**Sn**	**14 16 27.5**	**-1.6**
RTC	**Rabat Centre**	**3.45**	**215**	P	**Pn**	**14 15 50.5**	**+1.1**
RTC				S	**Sn**	**14 16 27.5**	**-1.6**
PNCL	**Nicolau / Gran**	**3.45**	**293**	*e*P	**Pn**	**14 15 51.7**	**+2.3**
PNCL				*e*S	**Sn**	**14 16 29.5**	**+0.3**
PNCL				A	A	14 16 30.3	
	comp=N,72nm,0.2s						
PNCL	**Nicolau / Gran**	**3.45**	**293**	*e*P	**Pn**	**14 15 51.7**	**+2.3**
PNCL				*e*S	**Sn**	**14 16 29.5**	**+0.3**
	comp=N,72nm,0.2s						
PTEO	**Sao Teotonio**	**3.45**	**283**	*e*P	**Pn**	**14 15 51.6**	**+2.1**
PTEO				*e*S	**Sn**	**14 16 28.2**	**-1.0**
PTEO				A	A	14 16 32.2	
	comp=N,164nm,0.3s						
PTEO	**Sao Teotonio**	**3.45**	**283**	P	**Pn**	**14 15 51.6**	**+2.1**
PTEO				S	**Sn**	**14 16 28.2**	**-1.0**
	comp=N,82nm,0.3s						
PTEO	**Sao Teotonio**	**3.45**	**283**	P	**Pn**	**14 15 51.6**	**+2.1**
PTEO				S	**Sn**	**14 16 28.2**	**-1.0**
	comp=N,82nm,0.3s						
PFVI	**Vila Bisbo**	**3.48**	**276**	*e*P	**Pn**	**14 15 52.0**	**+2.1**
PFVI				*e*S	**Sn**	**14 16 28.9**	**-1.1**
PFVI				A	A	14 16 33.1	
	comp=N,100nm,0.1s						
PFVI	**Vila Bisbo**	**3.48**	**276**	P	**Pn**	**14 15 52.1**	**+2.1**
	comp=N,24nm,0.3s,SNR=31						
PFVI				S	**Sn**	**14 16 28.8**	**-1.2**
	comp=N,44nm,0.3s,SNR=9.0						
PFVI	**Vila Bisbo**	**3.48**	**276**	*e*P	**Pn**	**14 15 52.0**	**+2.1**
PFVI				S	**Sn**	**14 16 28.8**	**-1.2**
	comp=N,44nm,0.3s,SNR=9.0						
MIF	**Mishlifen**	**3.49**	**190**	P	**Pn**	**14 15 51.0**	**+0.8**
MIF				S	**Sn**	**14 16 29.0**	**-1.5**
MIF	**Mishlifen**	**3.49**	**190**	P	**Pn**	**14 15 51.0**	**+0.8**
MIF				S	**Sn**	**14 16 29.0**	**-1.5**
MOE	**Montemor**	**3.49**	**300**	*e*P	**Pn**	**14 15 52.4**	**+2.4**
MOE				*e*S	**Sn**	**14 16 29.5**	**-0.6**
MOE	**Montemor**	**3.49**	**300**	P	**Pn**	**14 15 52.4**	**+2.4**
MOE				S	**Sn**	**14 16 29.5**	**-0.6**
MOE	**Montemor**	**3.49**	**300**	P	**Pn**	**14 15 52.4**	**+2.4**
MOE				S	**Sn**	**14 16 29.5**	**-0.6**
PMTG	**Montargil**	**3.69**	**308**	*e*P	**Pn**	**14 15 55.0**	**+2.3**
PMTG				*e*S	**Sn**	**14 16 33.8**	**-1.2**
PMTG				A	A	14 16 37.2	
	comp=N,65nm,0.3s						
PMTG	**Montargil**	**3.69**	**308**	*e*P	**Pn**	**14 15 55.0**	**+2.3**
PMTG				*e*S	**Sn**	**14 16 33.8**	**-1.2**
	comp=N,65nm,0.3s						
GUD	**Guadarrama**	**3.80**	**4**	P	**Pn**	**14 15 57.2**	**+2.9**
	comp=N,25nm,0.3s,SNR=95						
GUD				S	**Sn**	**14 16 38.1**	**+0.3**
	comp=N,34nm,0.3s,SNR=14						
GUD	**Guadarrama**	**3.80**	**4**	P	**Pn**	**14 15 57.2**	**+2.9**
	comp=N,25nm,0.3s,SNR=95						
GUD				S	**Sn**	**14 16 38.1**	**+0.3**
	comp=N,34nm,0.3s,SNR=14						
PCBR	**Castelo Branco**	**3.80**	**323**	*e*P	**Pn**	**14 15 56.8**	**+2.6**
PCBR				*e*S	**Sn**	**14 16 36.8**	**-0.8**
PCBR				A	A	14 16 39.5	
	comp=N,122nm,0.6s						
PCBR	**Castelo Branco**	**3.80**	**323**	P	**Pn**	**14 15 56.8**	**+2.6**
PCBR				S	**Sn**	**14 16 36.8**	**-0.8**
	comp=N,61nm,0.6s						
PCBR	**Castelo Branco**	**3.80**	**323**	P	**Pn**	**14 15 56.8**	**+2.6**
PCBR				S	**Sn**	**14 16 36.8**	**-0.8**
	comp=N,61nm,0.6s						
CZD	**Col de Zad**	**3.84**	**187**	P	**Pn**	**14 15 57.0**	**+2.0**
CZD				S	**Sn**	**14 16 36.0**	**-3.0**
CZD	**Col de Zad**	**3.84**	**187**	P	**Pn**	**14 15 57.0**	**+2.0**
CZD				S	**Sn**	**14 16 36.0**	**-3.0**
EBEN	**Beniarda**	**3.85**	**60**	P	**Pn**	**14 15 57.0**	**+2.0**
	comp=N,5.1nm,0.3s,SNR=41						
EBEN				S	**Sn**	**14 16 37.9**	**-1.2**
	comp=N,12nm,0.3s,SNR=8.4						
EBEN	**Beniarda**	**3.85**	**60**	P	**Pn**	**14 15 57.0**	**+2.0**
	comp=N,5.1nm,0.3s,SNR=41						
EBEN				S	**Sn**	**14 16 37.9**	**-1.2**
	comp=N,12nm,0.3s,SNR=8.4						
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KIB				S	**Sn**	**14 16 51.0**	**-2.8**
KIB	**El Ksiba**	**4.45**	**197**	P	**Pn**	**14 16 04.0**	**+0.8**
KIB				S	**Sn**	**14 16 51.0**	**-2.8**
PVIS	**Viseu**	**4.69**	**326**	*e*P	Pn	14 16 09.7	+3.3
PVIS				*e*S	**Sn**	**14 16 59.1**	**-0.4**
PVIS				A	A	14 17 02.3	
	comp=N,52nm,0.1s						
PVIS	**Viseu**	**4.69**	**326**	P	Pn	14 16 09.7	+3.3
PVIS				S	**Sn**	**14 16 59.1**	**-0.4**
	comp=N,26nm,0.1s						
PVIS	**Viseu**	**4.69**	**326**	P	Pn	14 16 09.7	+3.3
PVIS				S	**Sn**	**14 16 59.1**	**-0.4**
	comp=N,26nm,0.1s						
EMOS	**Mosqueruela**	**4.71**	**41**	⇑P	Pn	14 16 10.0	+3.2
	comp=N,22nm,0.3s,SNR=18						
EMOS				S	**Sn**	**14 16 59.0**	**-1.2**
	comp=N,11nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.71**	**41**	P	Pn	14 16 10.0	+3.2
	comp=N,22nm,0.3s,SNR=18						
EMOS				S	**Sn**	**14 16 59.0**	**-1.2**
	comp=N,11nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**4.74**	**336**	*e*P	**Pn**	**14 16 10.0**	**+2.9**
MVO				*e*S	**Sn**	**14 17 00.3**	**-0.4**
MVO				A	A	14 17 04.4	
	comp=N,58nm,0.6s						
MVO	**Moncorvo**	**4.74**	**336**	⇓P	**Pn**	**14 16 10.0**	**+2.9**
	comp=N,33nm,0.3s,SNR=18						
MVO				S	**Sn**	**14 17 00.3**	**-0.4**
	comp=N,50nm,0.3s,SNR=18						
MVO	**Moncorvo**	**4.74**	**336**	P	**Pn**	**14 16 10.0**	**+2.9**
	comp=N,33nm,0.3s,SNR=18						
MVO				S	**Sn**	**14 17 00.3**	**-0.4**
	comp=N,50nm,0.3s,SNR=18						
ZFT	**Errachidia**	**4.81**	**179**	P	**Pn**	**14 16 10.0**	**+1.8**
ZFT				S	**Sn**	**14 17 02.0**	**-0.7**
ZFT	**Errachidia**	**4.81**	**179**	P	**Pn**	**14 16 10.0**	**+1.8**
ZFT				S	**Sn**	**14 17 02.0**	**-0.7**
TZC	**Tazercounte**	**4.97**	**200**	P	**Pn**	**14 16 11.0**	**+0.6**
TZC				S	**Sn**	**14 17 04.0**	**-2.7**
TZC	**Tazercounte**	**4.97**	**200**	P	**Pn**	**14 16 11.0**	**+0.6**
TZC				S	**Sn**	**14 17 04.0**	**-2.7**
PVRL	**Vila Real**	**5.08**	**331**	*e*P	Pn	14 16 15.3	+3.6
PVRL				*e*S	**Sn**	**14 17 07.9**	**-1.2**
PVRL				A	A	14 17 08.8	
	comp=N,122nm,0.4s						
PVRL	**Vila Real**	**5.08**	**331**	P	Pn	14 16 15.3	+3.6
PVRL				S	**Sn**	**14 17 07.9**	**-1.2**
	comp=N,61nm,0.4s						
PVRL	**Vila Real**	**5.08**	**331**	P	Pn	14 16 15.3	+3.6
PVRL				S	**Sn**	**14 17 07.9**	**-1.2**
	comp=N,61nm,0.4s						
POLO	**Lamas de Olo**	**5.20**	**331**	*e*P	**Pn**	**14 16 16.2**	**+2.9**
POLO				*e*S	**Sn**	**14 17 09.7**	**-2.3**
POLO				A	A	14 17 11.9	
	comp=N,18nm,0.5s						
POLO	**Lamas de Olo**	**5.20**	**331**	*e*P	**Pn**	**14 16 16.2**	**+2.9**
PBRG	**Braganca**	**5.25**	**341**	*e*P	Pn	14 16 17.1	+3.1
PBRG				*e*S	**Sn**	**14 17 12.7**	**-0.4**
PBRG				A	A	14 17 15.6	
	comp=N,18nm,0.1s						
PBRG	**Braganca**	**5.25**	**341**	P	Pn	14 16 17.1	+3.1
PBRG				S	**Sn**	**14 17 12.7**	**-0.4**
	comp=N,8.8nm,0.1s						
PBRG	**Braganca**	**5.25**	**341**	P	Pn	14 16 17.1	+3.1
PBRG				S	**Sn**	**14 17 12.7**	**-0.4**
	comp=N,8.8nm,0.1s						
PTO	**Porto**	**5.35**	**324**	*e*P	Pn	14 16 18.6	+3.3
PTO				*e*S	**Sn**	**14 17 14.1**	**-1.4**
PTO				A	A	14 17 17.0	
	comp=N,158nm,0.1s						
PTO	**Porto**	**5.35**	**324**	P	Pn	14 16 18.6	+3.3
PTO				S	**Sn**	**14 17 14.1**	**-1.4**
	comp=N,79nm,0.1s						
PTO	**Porto**	**5.35**	**324**	P	Pn	14 16 18.6	+3.3
ECAL	**Calabor**	**5.37**	**342**	P	Pn	14 16 19.2	+3.5
	comp=N,13nm,0.4s,SNR=59						
ECAL				S	**Sn**	**14 17 15.4**	**-0.8**
	comp=N,37nm,0.3s,SNR=12						
ECAL	**Calabor**	**5.37**	**342**	P	Pn	14 16 19.2	+3.5
	comp=N,13nm,0.4s,SNR=59						
ERTA	**Horta de San J**	**5.56**	**41**	P	Pn	14 16 21.5	+3.2
	comp=N,10nm,0.3s,SNR=62						
ERTA				S	**Sn**	**14 17 19.8**	**-1.0**
	comp=N,1.9nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**5.56**	**41**	P	Pn	14 16 21.5	+3.2
	comp=N,10nm,0.3s,SNR=62						
PCAB	**Cabril**	**5.58**	**332**	*e*P	**Pn**	**14 16 21.3**	**+2.9**
PCAB				*e*S	**Sn**	**14 17 18.6**	**-2.5**
PCAB				A	A	14 17 23.3	
	comp=N,34nm,0.2s						
PCAB	**Cabril**	**5.58**	**332**	P	**Pn**	**14 16 21.3**	**+2.9**
PCAB				S	**Sn**	**14 17 18.6**	**-2.5**
	comp=N,17nm,0.2s						
PCAB	**Cabril**	**5.58**	**332**	P	**Pn**	**14 16 21.3**	**+2.9**
ESAC	**San Caprasio**	**5.78**	**31**	P	**Pn**	**14 16 23.8**	**+2.6**
	comp=N,48nm,0.3s,SNR=24						
ESAC				S	**Sn**	**14 17 27.7**	**+1.6**
	comp=N,12nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**5.78**	**31**	P	**Pn**	**14 16 23.8**	**+2.6**
	comp=N,48nm,0.3s,SNR=24						
ESAC				S	**Sn**	**14 17 27.7**	**+1.6**
	comp=N,12nm,0.2s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.89**	**331**	*e*P	**Pn**	**14 16 25.7**	**+2.9**
PGAV				*e*S	**Sn**	**14 17 26.0**	**-2.8**
PGAV				A	A	14 17 30.6	
	comp=N,27nm,0.3s						
PGAV	**Gavieira, Arco**	**5.89**	**331**	*e*P	**Pn**	**14 16 25.7**	**+2.9**
ERUA	**La Rua**	**5.90**	**341**	P	Pn	14 16 26.0	+3.1
	comp=N,7.6nm,0.2s,SNR=7.9						
ERUA				S	**Sn**	**14 17 28.5**	**-0.6**
	comp=N,7.3nm,0.2s,SNR=7.9						
ERUA	**La Rua**	**5.90**	**341**	P	Pn	14 16 26.0	+3.1
	comp=N,7.6nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**6.24**	**42**	⇑P	**Pn**	**14 16 30.2**	**+2.7**
	comp=N,24nm,0.3s,SNR=18						
EPOB				S	**Sn**	**14 17 36.6**	**-0.8**
	comp=N,4.1nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**6.24**	**42**	P	**Pn**	**14 16 30.2**	**+2.7**
	comp=N,24nm,0.3s,SNR=18						
OUK	**Oukaimeden**	**6.29**	**207**	*i* P	**Pn**	**14 16 29.0**	**+0.5**
EARA	**Aranguren**	**6.32**	**20**	P	Pn	14 16 32.0	+3.4
	comp=N,31nm,0.3s,SNR=11						
EARA				S	**Sn**	**14 17 38.2**	**-1.2**
	comp=N,8.3nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**6.32**	**20**	P	Pn	14 16 32.0	+3.4
	comp=N,31nm,0.3s,SNR=11						
IUNC	**Uncitti**	**6.33**	**20**	P	Pn	14 16 32.4	+3.6
	comp=N,6.7nm,0.1s,SNR=7.9						
IUNC				S	**Sn**	**14 17 39.3**	**-0.3**
	SNR=7.9						
IUNC	**Uncitti**	**6.33**	**20**	P	Pn	14 16 32.4	+3.6
	comp=N,6.7nm,0.1s,SNR=7.9						
CIA	**Chichaoua**	**6.35**	**215**	*i* P	**Pn**	**14 16 30.0**	**+0.9**
IEPA	**Eparoz**	**6.42**	**22**	P	Pn	14 16 33.5	+3.5
	comp=N,22nm,0.3s,SNR=7.9						
IEPA				S	**Sn**	**14 17 41.4**	**-0.4**
	SNR=7.9						
IEPA	**Eparoz**	**6.42**	**22**	P	Pn	14 16 33.5	+3.5
	comp=N,22nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**6.42**	**7**	P	Pn	14 16 33.3	+3.3
	comp=N,7.7nm,0.3s,SNR=23						
ELAN				S	**Sn**	**14 17 41.8**	**0.0**
	comp=N,12nm,0.5s,SNR=6.1						
ELAN	**Lanestosa**	**6.42**	**7**	P	Pn	14 16 33.3	+3.3
	comp=N,7.7nm,0.3s,SNR=23						
ETOS	**Mallorca**	**6.44**	**61**	P	**Pn**	**14 16 33.0**	**+2.8**
	comp=N,2.8nm,0.3s,SNR=12						
ETOS				S	**Sn**	**14 17 39.9**	**-2.3**
	comp=N,0.6nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**6.44**	**61**	P	**Pn**	**14 16 33.0**	**+2.8**
	comp=N,2.8nm,0.3s,SNR=12						
EARI	**Arriondas**	**6.47**	**355**	P	Pn	14 16 34.3	+3.7
	comp=N,2.3nm,0.3s,SNR=21						
EARI				S	**Sn**	**14 17 41.4**	**-1.5**
	comp=N,4.0nm,0.2s,SNR=8.8						
EARI	**Arriondas**	**6.47**	**355**	P	Pn	14 16 34.3	+3.7
	comp=N,2.3nm,0.3s,SNR=21						
IELO	**Elcoad**	**6.49**	**22**	P	Pn	14 16 34.1	+3.2
	comp=N,32nm,0.2s,SNR=7.9						
IELO				S	**Sn**	**14 17 42.1**	**-1.4**
	comp=N,9.4nm,0.3s,SNR=7.9						
IELO	**Elcoad**	**6.49**	**22**	P	Pn	14 16 34.1	+3.2
	comp=N,32nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**6.50**	**19**	P	Pn	14 16 34.8	+3.8
	comp=N,31nm,0.2s,SNR=7.9						
IUSE				S	**Sn**	**14 17 43.4**	**-0.3**
	comp=N,1.1nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**6.50**	**19**	P	Pn	14 16 34.8	+3.8
	comp=N,31nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**6.70**	**19**	⇑P	Pn	14 16 37.5	+3.7
	comp=N,50nm,0.3s,SNR=18						
ELIZ				S	**Sn**	**14 17 46.5**	**-2.2**
	comp=N,9.2nm,0.3s,SNR=7.9						
ELIZ	**Elizondo**	**6.70**	**19**	P	Pn	14 16 37.5	+3.7
	comp=N,50nm,0.3s,SNR=18						
SJPF	**Ste Jean**	**6.74**	**21**	*e*P	**Pn**	**14 16 37.4**	**+3.1**
	SNR=1.0						
SJPF				*e*Sn	Sn	14 17 44.8	-4.7
	comp=N,9.9nm,0.3s,SNR=1.0						
SJPF	**Ste Jean**	**6.74**	**21**	*e*P	**Pn**	**14 16 37.4**	**+3.1**
	SNR=1.0						
LARF	**Larrau**	**6.74**	**22**	P	Pn	14 16 37.5	+3.2
ETSF	**Etsaut**	**6.75**	**25**	*e*P	**Pn**	**14 16 37.6**	**+3.0**
	SNR=1.0						
ETSF				*e*Sn	**Sn**	**14 17 46.0**	**-4.0**
	comp=N,4.3nm,0.2s						
ETSF	**Etsaut**	**6.75**	**25**	*e*P	**Pn**	**14 16 37.6**	**+3.0**
	SNR=1.0						
EALK	**Alkurruntz**	**6.76**	**19**	P	Pn	14 16 38.2	+3.6
	comp=N,75nm,0.3s,SNR=136						
EALK				S	**Sn**	**14 17 49.2**	**-0.8**
	comp=N,41nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**6.76**	**19**	P	Pn	14 16 38.2	+3.6
	comp=N,75nm,0.3s,SNR=136						
EPON	**Pontenova**	**6.78**	**343**	P	Pn	14 16 38.8	+3.9
	comp=N,5.1nm,0.2s,SNR=50						
EPON				S	**Sn**	**14 17 48.1**	**-2.5**
	comp=N,10nm,0.2s,SNR=7.3						
EPON	**Pontenova**	**6.78**	**343**	P	Pn	14 16 38.8	+3.9
	comp=N,5.1nm,0.2s,SNR=50						
STS	**Santiago**	**6.79**	**334**	P	Pn	14 16 39.5	+4.5
	comp=N,9.2nm,0.2s,SNR=6.4						
STS				S	**Sn**	**14 17 48.9**	**-1.9**
	comp=N,6.5nm,0.2s,SNR=7.9						
STS	**Santiago**	**6.79**	**334**	P	Pn	14 16 39.5	+4.5
	comp=N,9.2nm,0.2s,SNR=6.4						
EBIE	**Bielsa**	**6.83**	**30**	P	**Pn**	**14 16 38.7**	**+2.9**
	comp=N,14nm,0.3s,SNR=23						
EBIE				S	**Sn**	**14 17 50.1**	**-2.1**
	comp=N,8.3nm,0.6s,SNR=7.9						
EBIE	**Bielsa**	**6.83**	**30**	P	**Pn**	**14 16 38.7**	**+2.9**
	comp=N,14nm,0.3s,SNR=23						
OSSF	**Osses**	**6.86**	**20**	P	Pn	14 16 39.3	+3.4
ATE	**Arette**	**6.87**	**24**	P	Pn	14 16 39.3	+3.2
EMIR	**Miracle**	**6.87**	**41**	P	**Pn**	**14 16 39.3**	**+3.1**
	comp=N,26nm,0.4s,SNR=21						
EMIR	**Miracle**	**6.87**	**41**	P	**Pn**	**14 16 39.3**	**+3.1**
	comp=N,26nm,0.4s,SNR=21						
ORDF	**Ordiarp**	**6.91**	**22**	P	Pn	14 16 40.8	+4.1
VIEF	**Viey**	**6.95**	**29**	P	**Pn**	**14 16 40.3**	**+3.0**
REYF	**Montagne du Re**	**6.96**	**26**	P	Pn	14 16 41.5	+4.1
EMAZ	**Mazaricos**	**7.00**	**332**	P	**Pn**	**14 16 40.4**	**+2.5**
	comp=N,1.7nm,0.1s,SNR=7.5						
EMAZ				S	**Sn**	**14 17 54.1**	**-1.8**
	comp=N,7.8nm,0.4s,SNR=6.6						
EMAZ	**Mazaricos**	**7.00**	**332**	P	**Pn**	**14 16 40.4**	**+2.5**
	comp=N,1.7nm,0.1s,SNR=7.5						
RESF	**Ens**	**7.01**	**30**	P	**Pn**	**14 16 41.0**	**+2.8**
CSOR	**Sort**	**7.02**	**36**	⇓P	**Pn**	**14 16 41.0**	**+2.8**
	comp=N,6.8nm,0.1s,SNR=18						
CSOR				S	**Sn**	**14 17 55.0**	**-1.5**
	comp=N,2.7nm,0.1s,SNR=7.9						
CSOR	**Sort**	**7.02**	**36**	P	**Pn**	**14 16 41.0**	**+2.8**
	comp=N,6.8nm,0.1s,SNR=18						
LABF	**Labassere**	**7.11**	**28**	P	**Pn**	**14 16 42.5**	**+3.1**
EPF	**Esparros**	**7.20**	**30**	*e*P	**Pn**	**14 16 43.7**	**+3.1**
	SNR=1.0						
EPF				*e*Sn	Sn	14 17 55.6	-5.3
	comp=N,8.2nm,0.3s,SNR=1.0						
EPF	**Esparros**	**7.20**	**30**	*e*P	**Pn**	**14 16 43.7**	**+3.1**
	SNR=1.0						
MELF	**Melles**	**7.24**	**32**	P	**Pn**	**14 16 44.1**	**+2.9**
MLS	**Moulis**	**7.46**	**33**	P	**Pn**	**14 16 47.0**	**+2.9**
VALF	**Valcebollere**	**7.48**	**40**	P	**Pn**	**14 16 47.5**	**+3.0**
CARF	**Carcanieres**	**7.75**	**39**	P	**Pn**	**14 16 51.1**	**+2.9**
EJON	**La Jonquera**	**7.97**	**43**	P	Pn	14 16 54.5	+3.3
	comp=N,0.8nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**7.97**	**43**	P	Pn	14 16 54.5	+3.3
	comp=N,0.8nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**8.27**	**36**	*e*P	**Pn**	**14 16 57.7**	**+2.5**
	SNR=1.0						
MTLF	**Montolieu**	**8.27**	**36**	*e*P	**Pn**	**14 16 57.7**	**+2.5**
	SNR=1.0						
LFF	**La Frestale**	**9.00**	**24**	*e*P	**Pn**	**14 17 07.9**	**+2.8**
	SNR=1.0						
LFF				*e*Sn	Sn	14 18 40.0	-4.7
	comp=N,7.5nm,0.4s						
LFF	**La Frestale**	**9.00**	**24**	*e*P	**Pn**	**14 17 07.9**	**+2.8**
	SNR=1.0						
CAF	**Calviac**	**9.47**	**30**	*e*P	**Pn**	**14 17 14.4**	**+2.8**
	SNR=1.0						
CAF	**Calviac**	**9.47**	**30**	*e*P	**Pn**	**14 17 14.4**	**+2.8**
	SNR=1.0						
RJF	**Les Rejaudoux**	**9.58**	**26**	*e*Pn	**Pn**	**14 17 14.5**	**+1.4**
	SNR=1.0						
RJF				*e*Sn	Sn	14 18 53.8	-5.2
	comp=N,1.1nm,0.2s						
RJF	**Les Rejaudoux**	**9.58**	**26**	*e*Pn	**Pn**	**14 17 14.5**	**+1.4**
	SNR=1.0						
LASF	**Ste Croix**	**9.62**	**39**	*e*Pn	**Pn**	**14 17 14.0**	**+0.4**
MFF	**Saint Martin d**	**10.27**	**17**	*e*Pn	**Pn**	**14 17 22.9**	**+0.5**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**10.58**	**38**	*e*Pn	**Pn**	**14 17 26.8**	**0.0**
VIVF	**Saint-Julien-l**	**10.58**	**38**	*e*P	Pn	14 17 30.6	+3.8
VIVF	**Saint-Julien-l**	**10.58**	**38**	*e*P	Pn	14 17 30.6	+3.8
TCF	**Toulx Ste Croi**	**10.68**	**26**	*e*Pn	**Pn**	**14 17 29.5**	**+1.5**
	SNR=1.0						
TCF	**Toulx Ste Croi**	**10.68**	**26**	*e*Pn	**Pn**	**14 17 29.5**	**+1.5**
	SNR=1.0						
QUIF	**Quistinic**	**11.10**	**5**	*e*P	**Pn**	**14 17 36.8**	**+3.0**
	SNR=1.0						
QUIF				*e*Sn	Sn	14 19 27.9	-8.1
	comp=N,7.5nm,0.4s,SNR=1.0						
QUIF	**Quistinic**	**11.10**	**5**	*e*P	**Pn**	**14 17 36.8**	**+3.0**
	SNR=1.0						
BGF	**Bois d'Agland**	**11.13**	**27**	*e*Pn	**Pn**	**14 17 35.4**	**+1.1**
	SNR=1.0						
BGF	**Bois d'Agland**	**11.13**	**27**	*e*Pn	**Pn**	**14 17 35.4**	**+1.1**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**11.24**	**41**	*e*P	Pn	14 17 39.7	+3.9
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**11.24**	**41**	*e*P	Pn	14 17 39.7	+3.9
	SNR=1.0						
SGMF	**Saint Gilles**	**11.48**	**6**	*e*P	**Pn**	**14 17 42.0**	**+3.0**
	SNR=1.0						
SGMF	**Saint Gilles**	**11.48**	**6**	*e*P	**Pn**	**14 17 42.0**	**+3.0**
	SNR=1.0						
ROSF	**Rostrenen**	**11.51**	**4**	*e*P	**Pn**	**14 17 42.0**	**+2.6**
	SNR=1.0						
ROSF				*e*Sn	Sn	14 19 39.2	-6.9
	comp=N,4.5nm,0.2s,SNR=1.0						
ROSF	**Rostrenen**	**11.51**	**4**	*e*P	**Pn**	**14 17 42.0**	**+2.6**
	SNR=1.0						
AVF	**Avril sur Loir**	**11.52**	**28**	*e*Pn	**Pn**	**14 17 40.8**	**+1.3**
	SNR=1.0						
AVF	**Avril sur Loir**	**11.52**	**28**	*e*Pn	**Pn**	**14 17 40.8**	**+1.3**
	SNR=1.0						
SMF	**Signal de Mont**	**11.59**	**30**	*e*Pn	**Pn**	**14 17 41.0**	**+0.6**
SSF	**Saint Saulge**	**11.80**	**28**	*e*Pn	**Pn**	**14 17 44.5**	**+1.1**
	SNR=1.0						
SSF	**Saint Saulge**	**11.80**	**28**	*e*Pn	**Pn**	**14 17 44.5**	**+1.1**
	SNR=1.0						
GRR	**Gorron**	**11.84**	**12**	*e*Pn	**Pn**	**14 17 43.3**	**-0.4**
	SNR=1.0						
GRR				*e*Sn	Sn	14 19 46.4	-7.5
	comp=N,5.5nm,0.4s						
LDF	**La Druitiere**	**12.16**	**14**	*e*Pn	**Pn**	**14 17 47.5**	**-0.7**
	SNR=1.0						
FLN	**La Foliniere**	**12.26**	**13**	*e*Pn	**Pn**	**14 17 48.9**	**-0.7**
FLN	**La Foliniere**	**12.26**	**13**	*e*P	**Pn**	**14 17 52.6**	**+3.0**
	SNR=1.0						
FLN	**La Foliniere**	**12.26**	**13**	P	**Pn**	**14 17 52.6**	**+3.0**

*NIED **05** 14:21:00.34˚50N×140˚60E,h74km,Mw3.7 Best double couple: M₀3.97000×10¹⁴ NP1:φ₀163.00000°,δ57.00000°, λ-79.00000°. NP2:φ₀322.00000°,δ34.00000°, λ-107.00000°.*

*IDC **05** 14:21:02.2±0.8,34˚49N×140˚64E,h0km,mb3.6/7, mb1 3.7/9,mb1mx3.6/27,mbtmp3.5/9,ML3.2/2,Error ellipse: s-maj=25.5km s-min=19.8km az=81.0*

*ISCJB **05** 14:21:11.8±0.5,34˚55N±0˚05×140˚52E±0˚05,h94km±3km, mb3.5/7,Error ellipse: s-maj=8.6km s-min=7.1km az=177.7*

*JMA **05** 14:21:11.6±0.2,34˚56N×140˚57E,h94km±2km,M3.7 Broadband fault plane solution: P waves. NP1: φ₀168.00000°,δ53.00000°,λ-80.00000°. NP2: φ₀332.00000°,δ39.00000°,λ-103.00000°. Principal axes: T Plg7.0000°, Azm251.0000°; N Plg8.0000°, Azm342.0000°; P Plg79.00000°, Azm120.0000°;*

JMA Felt I J1.

ISC 05 14:21:13.3±0.8,34˚58N±0˚06×140˚49E±0˚05,h90km±6km, n22,σ0°97/32,mb3.5/7,1C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO3	**Boso 3**	**0.22**	**4**	⇓P	**Pn**	**14 21 25.1**	**-0.9**
BSO3				S	**Sn**	**14 21 36.8**	**+1.4**
BSO2	**Boso 2**	**0.28**	**51**	S	**Sn**	**14 21 36.6**	**+0.8**
BSO1	**Boso 1**	**0.41**	**79**	⇓P	**Pn**	**14 21 25.5**	**-1.1**
BSO1				S	**Sn**	**14 21 36.6**	**0.0**
BSO4	**Boso 4**	**0.43**	**343**	⇓P	**Pn**	**14 21 27.0**	**-0.3**
BSO4				S	**Sn**	**14 21 38.9**	**+1.1**
KTR	**Katsuura**	**0.58**	**346**	⇓P	**Pn**	**14 21 28.0**	**-0.7**
KTR				S	**Sn**	**14 21 39.8**	**-0.4**
TATJ	**Tateyama 2**	**0.67**	**312**	⇓P	**Pn**	**14 21 29.5**	**+0.1**
TATJ				S	**Sn**	**14 21 42.9**	**+1.4**
JIM2	**Oshima 3**	**0.89**	**279**	P	**Pn**	**14 21 31.2**	**-0.5**
JIM2				S	**Sn**	**14 21 44.6**	**-0.9**
JMY	**Miyakejima3**	**0.96**	**238**	P	**Pn**	**14 21 32.1**	**-0.4**
JMY				S	**Sn**	**14 21 46.8**	**-0.1**
JKO	**Kozu shima**	**1.19**	**251**	P	**Pn**	**14 21 35.1**	**0.0**
JKO				*e*S	**Sn**	**14 21 52.0**	**+0.4**
KTJJ	**Kamata 2**	**1.23**	**287**	⇑P	**Pn**	**14 21 35.0**	**-0.6**
KTJJ				S	**Sn**	**14 21 51.9**	**-0.5**
MJAR	**Matsushiro Arr**	**2.70**	**317**	Pn	**Pn**	**14 21 53.1**	**-1.7**
	4.6nm,0.3s,baz=282,slow=18,SNR=81						
MJAR				Sn	**Sn**	**14 22 27.6**	**+1.0**
	8.5nm,0.3s,baz=134,slow=14,SNR=8.1						
MAT	**Matsushiro**	**2.70**	**317**	P	**Pn**	**14 21 55.5**	**+0.7**
MAT				S	**Sn**	**14 22 26.9**	**+0.2**
JNU	**Nakatsue**	**8.13**	**262**	Pn	**Pn**	**14 23 09.3**	**+0.8**
	2.5nm,0.3s,baz=38,slow=2.3,SNR=29						
ASAJ	**Asahikawa**	**9.66**	**9**	Pn	Pn	14 23 25.2	-4.0
	0.4nm,0.3s,baz=295,slow=22,SNR=10						
KSRS	**Korea Array**	**10.58**	**289**	Pn	**Pn**	**14 23 38.8**	**-3.0**
	0.1nm,0.3s,baz=110,slow=14,SNR=3.1						
ZALV	**Zelesovo Beam**	**43.05**	**314**	P	**P**	**14 29 04.6**	**+0.7**
	0.4nm,0.5s,baz=101,slow=4.6,SNR=2.5						
MKAR	**Makanchi Array**	**44.83**	**304**	P	**P**	**14 29 18.9**	**+0.7**
	0.2nm,0.5s,baz=90,slow=12,SNR=3.2						
KURBB	**Kurchatov Arra**	**46.95**	**310**	P	**P**	**14 29 35.0**	**+0.2**
	0.4nm,0.4s,baz=85,slow=7.4,SNR=6.8						
WRA	**Warramunga Arr**	**54.53**	**187**	P	**P**	**14 30 31.4**	**-0.6**
	0.9nm,0.5s,baz=5.1,slow=7.2,SNR=30						
ASAR	**Alice Springs**	**58.26**	**187**	P	**P**	**14 30 58.2**	**-0.3**
	0.2nm,0.5s,baz=3.2,slow=8.1,SNR=8.2						
YKA	**Yellowknife Ar**	**66.31**	**29**	P	**P**	**14 31 51.5**	**-0.1**
	0.2nm,0.5s,baz=297,slow=6.1,SNR=3.7						
NVAR	**Mina Array Bea**	**77.07**	**52**	P	**P**	**14 32 57.8**	**+0.8**
	0.8nm,0.7s,baz=285,slow=5.5,SNR=9.8						

IDC 05 14:26:12.7±6.8,30.80S×179.01W,h0km,mb3.9/2, mb1 4.1/2,mb1mx3.6/17,mbtmp3.9/2,Error ellipse: s-maj=276.1km s-min=58.7km az=156.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.22**	**268**	P	P	14 34 07.3	-0.4
	0.8nm,0.8s,baz=106,slow=7.4,SNR=21						
WRA	**Warramunga Arr**	**43.25**	**273**	P	P	14 34 16.1	0.0
	1.1nm,0.3s,baz=111,slow=8.1,SNR=47						
FINES	**FINESS Array B**	**145.21**	**339**	PKPbc	PKPbc	14 45 50.4	-0.8
	1.0nm,0.7s,baz=46,slow=8.1,SNR=4.5						

*IDC **05** 14:43:39.9±1.8,35˚60N×141˚44E,h0km,mb3.1/3, mb1 3.2/5,mb1mx3.1/26,mbtmp3.1/5,ML3.1/2,Error ellipse: s-maj=51.0km s-min=24.3km az=69.0*

*ISCJB **05** 14:43:44.6±1.1,35˚50N±0˚05×141˚28E±0˚10,h43km±9km, mb3.1/3,Error ellipse: s-maj=13.2km s-min=8.2km az=173.0*

*JMA **05** 14:43:44.6±0.1,35˚53N×141˚25E,h41km±1km,M2.8*

**ISC 05 14:43:44.4±1.6,35˚51N±0˚05×141˚33E±0˚09,h34km±3km, n16,σ0°78/20,mb3.2/3,

EFP eSG Sg 15 00 56.1 -0.1
EFP Efpalio 0.18 311 P Pg 15 00 53.0 -0.6
EFP S Sg 15 00 55.9 -0.1
UPR University Cam 0.23 264 P Pg 15 00 54.1 -0.5
UPR S Sg 15 00 56.7 -1.0
KLV Kalavryta, Ach 0.27 168 P Pg 15 00 54.8 -0.5
KLV S Sg 15 00 59.2 +0.3
KLV Kalavryta, Ach 0.27 168 ePG Pg 15 00 54.8 -0.5
KLV Kalavryta, Ach 0.27 168 P Pg 15 00 54.8 -0.5
KLV S Sg 15 00 58.6 -0.3
DSF Desfina 0.37 74 P Pg 15 00 56.5 -0.7
DSF S Sg 15 01 02.6 +0.6
DSF Desfina 0.37 74 P Pg 15 00 56.5 -0.7
DSF S Sg 15 01 02.4 +0.4
GUR Goura 0.43 151 P Pg 15 00 57.3 -1.0
GUR S Sg 15 01 04.5 +0.7
GUR Goura 0.43 151 ePB Pg 15 00 57.5 -0.8
GUR eSB Sg 15 01 04.0 +0.2
GUR Goura 0.43 151 ePb Pg 15 00 57.5 -0.8
GUR S Sg 15 01 03.3 -0.5
GUR eSb Sg 15 01 04.0 +0.2
THAL Thalero 0.53 120 P Pg 15 01 00.0 -0.3
RLS Riolos of Patr 0.54 243 P Pg 15 00 59.6 -0.9
RLS S Sg 15 01 08.1 +0.6
RLS Riolos of Patr 0.54 243 ePB Pg 15 00 59.7 -0.8
RLS Riolos of Patr 0.54 243 P Pg 15 00 59.7 -0.8
RLS S Sg 15 01 07.0 -0.5
AXS Araxos 0.56 259 P Pg 15 00 59.9 -0.9
AXS S Sg 15 01 07.9 -0.3
AXS Araxos 0.56 259 P Pg 15 01 00.0 -0.9
AXS S Sg 15 01 07.7 -0.5
EVR Evrytania 0.64 341 P Pg 15 01 01.2 -1.2
EVR S Sg 15 01 11.8 +1.0
EVR Evrytania 0.64 341 ePB Pg 15 01 01.4 -1.0
EVR eSB Sg 15 01 10.8 0.0
EVR Evrytania 0.64 341 ePb Pg 15 01 01.4 -1.0
EVR eSb Sg 15 01 10.8 0.0
AXAR Agios Charalam 0.65 45 P Pg 15 01 01.5 -0.9
AXAR S Sb 15 01 12.6 -0.2
AXAR Agios Charalam 0.65 45 P Pg 15 01 01.5 -0.9
AXAR S Sg 15 01 11.6 +0.8
MAKR Makrakomi, Fth 0.70 3 P Pg 15 01 02.4 -1.1
MAKR S Sg 15 01 13.3 +0.5
MAKR Makrakomi, Fth 0.70 3 P Pg 15 01 02.5 -1.1
MAKR S Sg 15 01 13.3 +0.5
AGG Agios Georgios 0.74 15 P Pg 15 01 02.6 -1.6
AGG S Sg 15 01 14.4 +0.6
AGG Agios Georgios 0.74 15 ePB Pg 15 01 02.7 -1.5
AGG eSB Sb 15 01 14.3 +0.5
AGG Agios Georgios 0.74 15 P Pg 15 01 02.7 -1.5
AGG S Sg 15 01 13.4 -0.4
AGG eSb Sg 15 01 14.3 +0.5
LTK Loutraki 0.76 112 P Pg 15 01 03.9 -0.6
LTK S Sb 15 01 16.1 +0.1
LTK Loutraki 0.76 112 ePB Pg 15 01 04.2 -0.3
LTK eSB Sb 15 01 15.1 -0.9
LTK Loutraki 0.76 112 P Pg 15 01 03.9 -0.6
LTK Loutraki 0.76 112 ePb Pg 15 01 04.2 -0.3
LTK eSb Sb 15 01 15.1 -0.9
LKR Lokris 0.80 64 ePG Pg 15 01 04.1 -1.2
LKR eSB Sg 15 01 16.2 +0.5
LKR Lokris 0.80 64 ePg Pg 15 01 04.1 -1.2
LKR eSb Sg 15 01 16.2 +0.5
AMT Artemida-Makis 0.83 201 P Pg 15 01 05.2 -0.7
AMT S Sg 15 01 16.8 +0.2
AMT Artemida-Makis 0.83 201 ePB Pg 15 01 05.4 -0.5
AMT eSB Sg 15 01 17.2 +0.6
AMT Artemida-Makis 0.83 201 ePb Pg 15 01 05.4 -0.5
AMT S Sg 15 01 16.8 +0.2
AMT eSb Sg 15 01 17.2 +0.6
VIL2 Platees 0.94 96 P Pg 15 01 07.6 -0.4
VIL2 S Sb 15 01 22.0 +0.7
VLX Vlachokerasia 0.97 166 P Pg 15 01 07.1 -1.4
VLX S Sb 15 01 22.3 +0.2
VLX Vlachokerasia 0.97 166 ePG Pg 15 01 07.2 -1.3
VLX eSB Sg 15 01 20.6 -0.5
VLX Vlachokerasia 0.97 166 ePg Pg 15 01 07.2 -1.3
VLX eSb Sg 15 01 20.6 -0.5
VLX S Sb 15 01 21.8 -0.3
KFL Anninata 1.04 259 P Pg 15 01 08.6 -1.3
KFL S Sg 15 01 24.3 +1.0
SMIA Simia 1.05 57 P Pg 15 01 09.0 -1.2
SMIA Simia 1.05 57 P Pg 15 01 09.0 -1.2
ITM Ithomi 1.13 186 P Pg 15 01 10.0 -1.7
ITM Ithomi 1.13 186 ePG Pg 15 01 09.9 -1.9
ITM eSB Sg 15 01 26.4 0.0
ITM Ithomi 1.13 186 P Pg 15 01 10.0 -1.7
ITM eSb Sg 15 01 26.4 0.0
ITM S Sn 15 01 28.6 +0.5
VLS Valsamata 1.18 264 P Pb 15 01 10.4 -2.3
VLS S Sg 15 01 28.3 +0.4
VLS Valsamata 1.18 264 ePN Pb 15 01 10.7 -2.0
VLS eSB Sg 15 01 28.8 +0.9
VLS Valsamata 1.18 264 P Pb 15 01 10.4 -2.3
VLS Valsamata 1.18 264 ePn Pb 15 01 10.7 -2.0
VLS S Sg 15 01 28.3 +0.4
LKD2 Lefkada island 1.21 294 P Pn 15 01 11.8 -1.6
LKD2 Lefkada island 1.21 294 ePB Pn 15 01 11.8 -1.6
LKD2 Lefkada island 1.21 294 P Pn 15 01 11.8 -1.6
LKD2 S Sn 15 01 32.6 +2.5
DID Didima 1.22 131 P Pb 15 01 11.8 -1.6
DID S Sn 15 01 30.3 +0.1
DID Didima 1.22 131 ePN Pb 15 01 11.5 -1.9
DID Didima 1.22 131 ePn Pb 15 01 11.5 -1.9
DID Didima 1.22 131 P Pb 15 01 11.8 -1.6
DID S Sg 15 01 28.5 -0.6
DIDY Didyma 1.22 132 P Pb 15 01 11.8 -1.7
DIDY S Sb 15 01 29.8 +0.3
DIDY Didyma 1.22 132 P Pb 15 01 11.8 -1.7
DIDY S Sb 15 01 29.8 +0.3
NAIG Nisos Aigina 1.24 116 ePB Pb 15 01 13.6 -0.2
NAIG Nisos Aigina 1.24 116 ePb Pb 15 01 13.6 -0.2
MRKA Markates 1.25 71 P Pn 15 01 11.9 -2.0
MRKA Markates 1.25 71 P Pn 15 01 11.9 -2.0
THL Klokotos Trika 1.26 358 P Pn 15 01 12.0 -2.0
THL Klokotos Trika 1.26 358 ePB Pn 15 01 13.1 -0.9
THL eSB Sb 15 01 29.8 -0.6
THL Klokotos Trika 1.26 358 P Pn 15 01 12.0 -2.0
THL Klokotos Trika 1.26 358 ePb Pn 15 01 13.1 -0.9
THL eSb Sb 15 01 29.8 -0.6
ATH Athens Observa 1.33 104 ePB Pn 15 01 14.9 -1.1
ATH eSB Sn 15 01 33.6 +0.6
ATH Athens Observa 1.33 104 ePb Pn 15 01 14.9 -0.1
ATH eSb Sn 15 01 33.6 +0.6
NEO Neokhori 1.34 42 ePB Pn 15 01 14.4 -0.8
NEO eSB Sb 15 01 32.6 -0.2
NEO Neokhori 1.34 42 ePb Pn 15 01 14.4 -0.8
NEO eSb Sb 15 01 32.6 -0.2
XOR Xorichti 1.37 39 P Pn 15 01 14.4 -1.2
XOR S Sb 15 01 32.6 -1.1
XOR Xorichti 1.37 39 P Pn 15 01 14.4 -1.2
XOR S Sb 15 01 32.6 -1.1
PTL Penteli 1.43 100 ePG Pn 15 01 16.2 -0.2
PTL eSB Sg 15 01 36.0 0.0
PTL Penteli 1.43 100 ePg Pn 15 01 16.2 -0.2
PTL eSb Sg 15 01 36.0 0.0
PYL PYLOS 1.44 191 ePG Pn 15 01 15.4 -1.0
PYL eSB Sg 15 01 36.9 +0.8
PYL PYLOS 1.44 191 P Pn 15 01 15.3 -1.1
PYL eSb Sg 15 01 36.9 +0.8
PYL S Sb 15 01 37.6 +2.1
DYR Agios Nikonas 1.56 172 ePG Pn 15 01 17.7 -0.4
DYR eSB Sg 15 01 40.2 +0.2
DYR Agios Nikonas 1.56 172 P Pn 15 01 17.1 -1.0
DYR Agios Nikonas 1.56 172 ePg Pn 15 01 17.7 -0.4
DYR eSb Sg 15 01 40.2 +0.2
AOS Alonnisos 1.65 58 ePN Pn 15 01 18.4 -1.0
AOS Alonnisos 1.65 58 ePn Pn 15 01 18.4 -1.0
JAN Janina 1.65 325 ePB Pn 15 01 20.4 +0.9
JAN eSB Sb 15 01 42.2 +0.4
JAN Janina 1.65 325 ePb Pn 15 01 20.4 +0.9
JAN eSb Sb 15 01 42.2 +0.4
VLI Veliai 1.73 156 ePN Pn 15 01 20.5 0.0
VLI eSN Sb 15 01 44.2 +0.2
VLI Veliai 1.73 156 ePn Pn 15 01 20.5 0.0
VLI eSn Sb 15 01 44.2 +0.2
LIT Litokhoron 1.82 10 ePN Pn 15 01 21.3 -0.5
LIT eSN Sb 15 01 47.0 +0.4
LIT Litokhoron 1.82 10 ePn Pn 15 01 21.3 -0.5

LIT eSn Sb 15 01 47.0 +0.4
KZN Kozani 2.01 353 ePN Pn 15 01 25.1 +0.7
KZN Kozani 2.01 353 ePn Pn 15 01 25.1 +0.7
KYTH Kithira 2.16 159 ePN Pn 15 01 27.7 +1.2
KYTH Kithira 2.16 159 ePn Pn 15 01 27.7 +1.2
SRN Sarande 2.25 315 ePN Pn 15 01 29.5 +1.8
SRN Sarande 2.25 315 ePn Pn 15 01 29.5 +1.8
KEK Kerkira 2.26 309 ePN Pn 15 01 29.2 +1.4
KEK eSN Sn 15 01 57.5 +1.5
KEK Kerkira 2.26 309 ePn Pn 15 01 29.2 +1.4
KEK eSn Sn 15 01 57.5 +1.5
KBN Korca 2.52 337 ePN Pb 15 01 36.4 +0.8
ANKY Antikythira Is 2.62 158 ePN Pn 15 01 34.0 +1.2
ANKY Antikythira Is 2.62 158 ePn Pn 15 01 34.0 +1.2
LIA Limnos Island 2.89 56 ePN Pn 15 01 35.8 -0.6
LIA Limnos Island 2.89 56 ePn Pn 15 01 35.8 -0.6
APE Apeiranthos 3.00 113 eP Pn 15 01 37.5 -0.6
APE Apeiranthos 3.00 113 ePN Pn 15 01 39.3 +1.2
APE Apeiranthos 3.00 113 ePn Pn 15 01 39.3 +1.2
VAY Valandovo 3.03 7 ePN Pn 15 01 38.9 +0.4
VAY Valandovo 3.03 7 ePn Pn 15 01 38.8 +0.4
CHOS Chios island 3.13 87 ePN Pn 15 01 40.1 +0.3
CHOS Chios island 3.13 87 ePn Pn 15 01 40.1 +0.3
VAM Vamos 3.36 149 ePN Pn 15 01 44.4 +1.5
VAM Vamos 3.36 149 ePn Pn 15 01 44.4 +1.5
PRK Paraskevi 3.41 73 ePN Pn 15 01 45.0 +1.4
PRK Paraskevi 3.41 73 ePn Pn 15 01 45.0 +1.4
TIR Tirane 3.48 331 ePN Pb 15 01 49.2 -2.7
TIR Tirane 3.48 331 ePn Pb 15 01 49.2 -2.7
MMB Musomiste 3.51 21 eP Pn 15 01 44.0 -1.1
MMB Musomiste 3.51 21 eP Pn 15 01 44.0 -1.1
PHP Peshkopia 3.60 340 ePN Pn 15 01 48.7 +2.4
PHP Peshkopia 3.60 340 ePn Pn 15 01 48.7 +2.4
EZN Ezine 3.64 64 eP Pn 15 01 45.3 -1.4
KKB Krupnik 3.64 12 eP Pn 15 01 46.7 0.0
KKB Krupnik 3.64 12 eP Pn 15 01 46.7 0.0
RZN Rozhen 3.94 30 eP Pn 15 01 50.0 -1.0
RZN Rozhen 3.94 30 eP Pn 15 01 50.0 -1.0
ENEZ Enez 3.98 51 eP Pn 15 01 51.3 -0.1
GELI Tayfur-Gelibol 4.00 57 eP Pn 15 01 50.9 -0.7
IZM Izmir 4.08 87 eP Pn 15 01 50.9 -1.9
PUK Puka 4.09 337 ePN Pn 15 01 54.8 +1.8
PUK Puka 4.09 337 ePn Pn 15 01 54.8 +1.8
LAST Lasithi 4.16 138 ePN Pn 15 01 55.0 +1.0
LAST Lasithi 4.16 138 ePn Pn 15 01 55.0 +1.0
LPK Lapseki 4.17 59 eP Pn 15 01 53.1 -1.0
KDZ Kurdzhali 4.21 36 eP Pn 15 01 55.8 +1.2
KDZ Kurdzhali 4.21 36 eP Pn 15 01 55.8 +1.2
BODT Bodrum 4.33 105 eP Pn 15 01 55.3 -1.0
BCI Bajram Curri 4.33 340 ePN Pn 15 01 59.5 +3.2
BCI Bajram Curri 4.33 340 ePn Pn 15 01 59.5 +3.2
VTS Vitosha 4.36 11 ⇓P Pn 15 01 57.9 +1.0
VTS Vitosha 4.36 11 eP Pn 15 01 58.5 +1.6
VTS Vitosha 4.36 11 ⇓iP Pn 15 01 57.8 +0.9
VTS Vitosha 4.36 11 ePn Pn 15 01 57.8 +0.9
VTS Vitosha 4.36 11 P Pn 15 01 57.9 +1.0
BARS Barje 4.51 358 ePn Pn 15 01 59.0 +0.3
BARS Barje 4.51 358 ePn Pn 15 01 59.0 +0.3
KRBG Karabiga-Canak 4.55 61 eP Pn 15 01 58.5 -0.8
RKY Sarkoy-Tekirda 4.60 57 eP Pn 15 01 59.3 -0.8
ZKR Zakros 4.61 133 ePN Pn 15 02 02.5 +2.5
ZKR Zakros 4.61 133 ePn Pn 15 02 02.5 +2.5
DAT Datca 4.65 108 eP Pn 15 01 59.7 -1.0
GONE Gonen-Balikesi 4.69 67 eP Pn 15 02 00.1 -1.1
BALB Balikesir 4.71 72 eP Pn 15 02 00.1 -1.4
SELS Selova 4.96 352 ePn Pn 15 02 05.0 +0.1
ZAPS Zavoj 4.98 5 ePn Pn 15 02 05.9 +0.7
YER Yerkesik 5.06 101 eP Pn 15 02 04.9 -1.4
KULA Kula-Manisa 5.17 86 eP Pn 15 02 06.5 -1.4
MPEP Malo Peshtene 5.20 13 eP Pn 15 02 12.8 +4.6
SJES Sjenica 5.20 343 ePN Pn 15 02 09.8 +1.5
SJES Sjenica 5.20 343 ePn Pn 15 02 09.8 +1.5
BOLS Boljevac 5.52 359 ePn Pn 15 02 13.5 +1.0
ARMT Armutlu 5.71 65 eP Pn 15 02 14.5 -0.8
FETY Fethiye 5.82 105 eP Pn 15 02 16.4 -0.2
KHL Karahalli 5.85 88 eP Pn 15 02 16.1 -1.2
TVSB Tavsanli 5.87 77 eP Pn 15 02 16.4 -1.1
BBLS Lazići 5.91 341 ePn Pn 15 02 18.7 +0.7
DIVS Divibare 6.00 345 ePn Pn 15 02 20.0 +0.8
ALT Altintas 6.33 81 eP Pn 15 02 22.9 -0.9
TEKS Tekeris 6.52 344 ePn Pn 15 02 27.6 +1.2
ISP Isparta 6.68 92 ⇓P Pn 15 02 30.9 +2.3
ISP Isparta 6.68 92 ⇓iP Pn 15 02 30.9 +2.3
ISP Isparta 6.68 92 P Pn 15 02 30.9 +2.3
SUTC Sutluce-Ispart 7.10 94 eP Pn 15 02 30.9 +1.4
ARR Arges 7.31 14 ⇑iP Pn 15 02 39.0 +1.8
KIZT Kizilcal 7.70 83 eP Pn 15 02 41.6 -1.0
MLR Muntele Rosu 7.73 21 ⇑iP Pn 15 02 43.9 +0.8
MLR Muntele Rosu 7.73 21 P Pn 15 02 46.1 +3.0
0.1nm,0.3s,baz=184,slow=7.3,SNR=8.3
MLR LR LR 15 05 52.9
comp=Z,44nm,20.7s,baz=206,slow=39
MLR Muntele Rosu 7.73 21 ⇑iP Pn 15 02 43.9 +0.8
KONT Konya--Tatoy 8.11 89 eP Pn 15 02 47.6 -0.6
PLOR Plostina 8.27 23 ⇑P Pn 15 02 52.0 +1.7
PLOR Plostina 8.27 23 ⇑iP Pn 15 02 52.0 +1.7
PLOR Plostina 8.27 23 P Pn 15 02 52.0 +1.7
VRI Vrincioaia 8.30 23 ⇑P Pn 15 02 51.9 +1.1
VRI Vrincioaia 8.30 23 ⇑iP Pn 15 02 51.9 +1.1
VRI Vrincioaia 8.30 23 P Pn 15 02 51.9 +1.1
HDMB Hadim 8.37 96 eP Pn 15 02 50.8 -1.1
BRTR Keskin Array B 9.11 77 P Pn 15 03 05.3 +3.3
0.5nm,0.3s,baz=259,slow=12,SNR=14
PGF Pioggiola 10.83 297 eP Pn 15 03 29.9 +4.4
TREC Trest 11.96 339 AMS AMS 15 08 50.0
comp=Z,200nm,12.0s
GERES GERESS Array B 12.15 333 P Pn 15 03 46.9 +3.4
0.1nm,0.3s,baz=165,slow=17,SNR=3.4
KHC Kasperske Hory 12.43 333 eP Pn 15 03 53.6 +6.3
KHC Kasperske Hory 12.43 333 eP Pn 15 03 53.6 +6.3
KHC AMS AMS 15 09 10.0
comp=Z,200nm,9.4s
PRU Pruhonice 12.86 338 AMS AMS 15 09 20.0
comp=Z,200nm,12.9s
LPG La Plagne 13.48 307 eP P 15 04 08.2 -3.1
7.9nm,0.8s
CLL Collm 14.49 337 eP P 15 04 23.0 +0.8
CLL Collm 14.49 337 eP P 15 04 23.0 +0.8
CDF Champ du Feu 14.74 318 eP P 15 04 24.2 -0.9
CDF Champ du Feu 14.74 318 eP P 15 04 24.2 -0.9
LASF Ste Croix 14.87 299 eP P 15 04 24.9 -1.6
19nm,1.3s
LASF Ste Croix 14.87 299 eP P 15 04 24.9 -1.6
18nm,1.3s
HAU Haudompre 15.00 315 eP P 15 04 27.5 -0.4
16nm,1.2s
HAU Haudompre 15.00 315 eP P 15 04 27.5 -0.4
16nm,1.2s
SMF Signal de Mont 15.80 308 eP P 15 04 36.3 -0.5
10nm,0.9s
SMF Signal de Mont 15.80 308 eP P 15 04 36.3 -0.5
10.0nm,0.9s
LOR Lormes 16.07 310 eP P 15 04 40.6 +0.9
LOR Lormes 16.07 310 eP P 15 04 40.6 +0.9
AVF Avril sur Loir 16.17 308 eP P 15 04 41.6 +0.8
22nm,1.1s
AVF Avril sur Loir 16.17 308 eP P 15 04 41.6 +0.8
22nm,1.1s
SSF Saint Saulge 16.19 309 eP P 15 04 42.1 +1.0
25nm,1.1s
SSF Saint Saulge 16.19 309 eP P 15 04 42.1 +1.0
25nm,1.1s
BGF Bois d'Agland 16.39 306 eP P 15 04 44.0 +0.7
34nm,1.1s
BGF Bois d'Agland 16.39 306 eP P 15 04 44.0 +0.7
34nm,1.1s
KIV Kislovodsk 16.50 63 eP Pn 15 04 43.0 +1.0
KIV pmax pmax
comp=Z,2.0nm,0.6s
KIV MLR MLR
comp=Z,12nm,12.0s
KIV Kislovodsk 16.50 63 eP Pn 15 04 43.0 +1.0
comp=Z,12nm,12.0s
BAIF Baives 17.33 318 eP P 15 04 54.5 +0.8
comp=Z,16nm,1.1s
BAIF Baives 17.33 318 eP P 15 04 54.5 +0.8
comp=Z,15nm,1.1s
MFF Saint Martin d 18.33 304 eP P 15 05 08.4 +3.6
comp=Z,23nm,1.1s
LDF La Druitiere 19.05 310 eP Pn 15 05 17.1 +3.7
GRR Gorron 19.42 309 eP Pn 15 05 22.2 +4.4
OBN Obninsk 19.46 26 eP Pn 15 05 21.8 +3.6

OBN pmax pmax
comp=Z,3.0nm,0.8s
ESDC Sonseca Array 20.27 282 P P 15 05 26.9 +0.8
comp=Z,4.5nm,0.8s,baz=77,slow=10,SNR=33
QUIF Quistinic 20.70 306 eP Pn 15 05 34.7 +1.8
comp=Z,30nm,1.0s
HFS Hagfors 22.48 349 P P 15 05 50.1 +0.4
comp=Z,2.8nm,0.7s,baz=160,slow=8.9,SNR=5.5
HFS Hagfors 22.48 349 P P 15 05 50.1 +0.4
comp=Z,3.0nm,0.7s
FINES FINESS Array B 23.29 5 P P 15 05 58.2 +0.1
comp=Z,1.5nm,0.7s,baz=191,slow=9.7,SNR=2.8
FINES LR LR 15 15 52.9
comp=Z,23nm,20.7s,baz=68,slow=39
FINES FINESS Array B 23.29 5 P P 15 05 58.2 +0.1
NB2 NORSAR Subarra 23.75 347 P P 15 05 58.4 -4.3
comp=Z,4.3nm,1.0s,baz=159,slow=11
NOA NORSAR Array B 23.75 347 P P 15 06 02.8 +0.1
comp=Z,1.0nm,0.8s,baz=154,slow=10,SNR=3.9
NOA NORSAR Array B 23.75 347 P P 15 06 02.8 +0.1
comp=Z,1.0nm,0.9s
EKA Eskdalemuir Ar 24.04 323 P P 15 06 05.0 -0.5
comp=Z,4.7nm,0.9s,baz=123,slow=10,SNR=18
EKA Eskdalemuir Ar 24.04 323 P P 15 06 05.0 -0.5
comp=Z,5.0nm,0.9s
TORD Torodi Ar. Bea 30.92 221 P P 15 07 08.3 +0.8
comp=Z,2.1nm,0.6s,baz=26,slow=9.3,SNR=14
ARCES ARCESS Array B 31.34 2 LR LR 15 21 18.1
comp=Z,34nm,20.7s,baz=159,slow=39
BRVK Borovoye 36.03 50 *i* P P 15 07 53.3 +1.6
BRVK pmax pmax
comp=Z,3.0nm,1.8s
BRVK Borovoye 36.03 50 *i* P P 15 07 53.3 +1.6
comp=Z,3.0nm,1.8s
AAK Ala-Archa 39.58 67⇑ eP P 15 08 23.1 +1.0
AAK pmax pmax
comp=Z,8.0nm,1.1s
AAK Ala-Archa 39.58 67 eP P 15 08 23.1 +1.0
comp=Z,8.0nm,1.1s
DBIC Dimbokro 39.83 225 P P 15 08 25.0 +0.9
comp=Z,6.3nm,1.0s,baz=41,slow=9.3,SNR=3.0
DBIC Dimbokro 39.83 225 P P 15 08 25.0 +0.9
comp=Z,6.0nm,1.0s
MKAR Makanchi Array 44.19 59 eP P 15 08 58.2 -1.3
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 44.19 59 P P 15 08 58.2 -1.3
comp=Z,2.7nm,0.7s,baz=281,slow=6.9,SNR=21
MKAR Makanchi Array 44.19 59 eP P 15 08 58.2 -1.3
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 44.69 48 eP P 15 09 03.8 +0.5
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 44.69 48 P P 15 09 02.2 -1.1
comp=Z,2.7nm,0.6s,baz=273,slow=8.4,SNR=9.4
ZALV Zalesovo Beam 44.69 48 eP P 15 09 03.8 +0.5
comp=Z,3.0nm,0.6s
SONM Songino Array 59.42 51 P P 15 10 52.0 -1.3
comp=Z,0.7nm,0.7s,baz=280,slow=8.9,SNR=5.1
SONM LR LR 15 40 34.0
comp=Z,33nm,19.1s,baz=72,slow=40
SONM Songino Array 59.42 51 P P 15 10 52.0 -1.3
comp=Z,33nm,19.1s
BOSA Boshof 66.64 177 P P 15 11 41.0 -0.3
comp=Z,1.1nm,0.6s,baz=355,slow=12,SNR=3.3
BOSA Boshof 66.64 177 P P 15 11 41.0 -0.3
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 68.66 83 P P 15 11 52.6 -1.7
comp=Z,0.2nm,0.4s,baz=304,slow=7.3,SNR=3.8
CMAR Chiang Mai Arr 68.66 83 P P 15 11 52.6 -1.7
YKA Yellowknife Ar 73.68 341 P P 15 12 24.0 0.0
comp=Z,0.2nm,0.6s,baz=28,slow=5.0,SNR=2.8
YKA Yellowknife Ar 73.68 341 P P 15 12 24.0 0.0
KSRS Korea Array 78.29 51 P P 15 12 48.9 -1.9
comp=Z,0.5nm,0.6s,baz=318,slow=4.9,SNR=3.4
PDAR Pinedale Array 88.12 327 LR LR 15 54 31.0
comp=Z,24nm,20.0s,baz=265,slow=36
WRA Warramunga Arr 119.32 93 PKP PKPdf 15 19 40.4 0.0
comp=Z,0.2nm,0.5s,baz=320,slow=2.1,SNR=6.4
ASAR Alice Springs 120.97 97 PKP PKPdf 15 19 42.6 -1.0
comp=Z,0.3nm,0.5s,baz=312,slow=1.5,SNR=12

CSEM ***05*** *15:01:59.8, 38.72N×16.35E, h15km, MD2.2/5, After ROM*
ROM 05 15:01:59.8±0.1, 38.72N×16.35E, h15km±3km**, Md2.2/5, Ml1.8/6, Error ellipse: s-maj=2.1km s-min=1.5km az=109.0, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRI	**Girifalco**	**0.12**	**27**	Pg	Pg	15 02 03.6	+0.2
GRI				Sg	Sb	15 02 06.2	-0.4
	575nm,0.4s						
GRI	**Girifalco**	**0.12**	**27**	Pg	Pg	15 02 03.6	+0.2
GRI				Sg	Sb	15 02 06.2	-0.4
	575nm,0.4s						
PLAC	**Placanica**	**0.27**	**166**	Pg	Pg	15 02 06.1	+0.4
PLAC				Sg	Sb	15 02 10.8	-0.2
	120nm,0.4s						
PLAC	**Placanica**	**0.27**	**166**	Pg	Pg	15 02 06.1	+0.4
PLAC				Sg	Sb	15 02 10.8	-0.2
	120nm,0.4s						
JOPP	**Joppolo**	**0.38**	**254**	Pg	Pg	15 02 07.7	+0.1
JOPP				Sg	Sb	15 02 13.7	-0.4
	51nm,0.2s						
JOPP	**Joppolo**	**0.38**	**254**	Pg	Pg	15 02 07.7	+0.1
JOPP				Sg	Sb	15 02 13.7	-0.4
	51nm,0.2s						
SERS	**Sersale**	**0.41**	**39**	Pg	Pg	15 02 07.8	-0.6
SERS				Sg	Sb	15 02 15.2	-0.1
	27nm,0.4s						
SERS	**Sersale**	**0.41**	**39**	Pg	Pg	15 02 07.8	-0.6
SERS				Sg	Sb	15 02 15.2	-0.1
	27nm,0.4s						
CARO	**Carolei**	**0.55**	**349**	Pg	Pg	15 02 10.8	+0.1
CARO				Sg	Sb	15 02 18.8	-0.2
	90nm,0.5s						
CARO	**Carolei**	**0.55**	**349**	Pg	Pg	15 02 10.8	+0.1
CARO				Sg	Sb	15 02 18.8	-0.2
	90nm,0.5s						
TIP	**Timpagrande**	**0.56**	**34**	Pg	Pg	15 02 10.2	-0.8
TIP				Sg	Sb	15 02 19.2	-0.2
	24nm,0.7s						
TIP	**Timpagrande**	**0.56**	**34**	Pg	Pg	15 02 10.2	-0.8
TIP				Sg	Sb	15 02 19.2	-0.2
	24nm,0.7s						
CEL	**Celeste**	**0.58**	**218**	Pg	Pg	15 02 10.8	-0.5
CEL	**Celeste**	**0.58**	**218**	Pg	Pg	15 02 10.8	-0.5

ISCJB ***05*** *15:02:46.3±0.4, 16.24N±0.06×94.97W±0.03, h77km±5km, mb3.8/17, Error ellipse: s-maj=9.5km s-min=4.0km az=11.6*
MEX ***05*** *15:02:47.5±0.6, 16.23N×94.99W, h88km±17km, MD4.2*
IDC ***05*** *15:02:48.8±0.8, 16.53N×94.61W, h73km±4km, mb3.7/17, mb1 3.9/18, mb1mx3.8/27, mbtmp3.6/18, MS2.5/2, Ms1 2.5/2, ms1mx2.3/43, Error ellipse: s-maj=20.7km s-min=13.7km az=43.0*
ISC 05 15:02:47.2±0.6, 16.25N±0.06×94.95W±0.03, h73km±4km**, n30, σ1s29/46, mb3.9/17, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.21**	**247**	*i* P	**Pn**	**15 03 07.4**	**-1.1**
HUIG				*i* S	**Sn**	**15 03 23.7**	**-0.8**
PANG	**Puerto Angel**	**1.57**	**249**	*i* P	**Pn**	**15 03 11.9**	**-1.4**
PANG				*i* S	**Sn**	**15 03 32.5**	**-0.5**
PCIG		**1.75**	**108**	*i* P	**Pn**	**15 03 15.8**	**+0.2**
PCIG				*i* S	**Sn**	**15 03 37.5**	**+0.3**
TGIG		**1.83**	**73**	*i* P	**Pn**	**15 03 16.4**	**-0.4**
TGIG				*e*S	**Sn**	**15 03 38.8**	**-0.4**
OXX	**Oaxaca**	**1.89**	**296**	*i* P	**Pn**	**15 03 17.9**	**+0.3**
CCIG	**Comitan**	**2.71**	**89**	*i* P	**Pn**	**15 03 28.5**	**-0.1**
CCIG				*e*S	**Sn**	**15 04 01.6**	**+1.1**
THIG		**2.91**	**117**	*i* P	**Pn**	**15 03 32.5**	**+1.1**
THIG				*i* S	**Sn**	**15 04 04.5**	**-0.7**
UTMO	**Huajuapan**	**3.15**	**300**	*i* P	**Pn**	**15 03 34.9**	**+0.2**
UTMO				*i* S	**Sn**	**15 04 10.6**	**-0.7**
PPM	**Popocatepetl**	**4.49**	**309**	*i* P	**Pn**	**15 03 53.7**	**+0.5**
PPM				*i* S	**Sn**	**15 04 44.4**	**0.0**
ACX	**Acapulco**	**4.75**	**278**	*i* P	**Pn**	**15 03 56.0**	**-0.3**
ACX				*i* S	**Sn**	**15 04 51.0**	**+1.0**
TEIG	**Tepich**	**7.48**	**57**	P	**Pn**	**15 04 31.3**	**-2.3**
	34nm,0.3s,baz=243,slow=12,SNR=169						
TEIG				S	Sn	15 05 49.7	-7.2

19nm,0.3s,baz=232,slow=20,SNR=8.2

TEIG				LR	LR	15 07 41.4	
	comp=Z,64nm,21.6s,baz=74,slow=42						
TXAR	**Lajitas Array**	**15.29**	**330**	P	**Pn**	**15 06 20.6**	**+1.6**
	0.1nm,0.3s,baz=153,slow=8.4,SNR=3.7						
TXAR				pP	**pP**	**15 06 36.5**	**-0.4**
	0.3nm,0.3s,baz=148,slow=12,SNR=10						
TXAR				sP	**sP**	**15 06 44.6**	**-1.6**
	0.1nm,0.3s,baz=153,slow=14,SNR=6.5						
ANMO	**Albuquerque**	**21.28**	**333**	P	**P**	**15 07 29.6**	**+1.6**
	0.5nm,0.3s,baz=150,slow=12,SNR=4.3						
TKL	**Tuckaleechee C**	**21.75**	**25**	P	**P**	**15 07 29.3**	**-3.5**
	0.6nm,0.5s,baz=221,slow=11,SNR=2.4						
PDAR	**Pinedale Array**	**29.23**	**338**	P	**P**	**15 08 44.3**	**+1.8**
	0.2nm,0.5s,baz=121,slow=12,SNR=2.6						
PDAR				pP	**pP**	**15 09 00.0**	**+0.3**
	0.5nm,0.6s,baz=160,slow=9.0,SNR=3.5						
NVAR	**Mina Array Bea**	**30.14**	**322**	P	**P**	**15 08 52.8**	**+2.2**
	0.4nm,0.7s,baz=129,slow=8.4,SNR=5.8						
NVAR				pP	**pP**	**15 09 10.4**	**+2.6**
	1.0nm,0.8s,baz=134,slow=8.3,SNR=6.5						
NVAR				sP	**sP**	**15 09 19.2**	**+2.9**
	1.7nm,0.8s,baz=138,slow=9.5,SNR=7.6						
LPAZ	**La Paz**	**41.78**	**139**	P	**P**	**15 10 31.1**	**+0.6**
	0.7nm,0.6s,baz=291,slow=4.6,SNR=3.8						
SIV	**San Ignacio**	**46.30**	**132**	P	**P**	**15 11 07.3**	**+1.2**
	1.6nm,0.5s,baz=313,slow=8.7,SNR=9.1						
YKA	**Yellowknife Ar**	**48.22**	**348**	P	**P**	**15 11 19.4**	**-0.8**
	1.0nm,0.6s,baz=154,slow=7.3,SNR=14						
YKA				pP	**pP**	**15 11 36.7**	**-1.7**
	1.8nm,0.7s,baz=152,slow=7.4,SNR=15						
YKA				sP	**sP**	**15 11 46.1**	**-0.6**
	0.7nm,0.8s,baz=154,slow=7.4,SNR=3.5						
YKA				LR	LR	15 35 07.4	
	comp=Z,3.4nm,20.3s,baz=280,slow=40						
BDFB	**Brasilia**	**56.13**	**122**	P	**P**	**15 12 21.3**	**+1.5**
	3.9nm,0.8s,baz=306,slow=10,SNR=6.8						
ILAR	**Eielson Array**	**59.66**	**337**	P	**P**	**15 12 43.5**	**-0.2**
	0.5nm,0.7s,baz=125,slow=2.3,SNR=4.1						
EKA	**Eskdalemuir Ar**	**77.82**	**36**	P	**P**	**15 14 35.7**	**-1.0**
	4.6nm,0.9s,baz=282,slow=5.6,SNR=8.9						
ESDC	**Sonseca Array**	**80.56**	**51**	P	**P**	**15 14 51.4**	**-0.7**
	2.6nm,0.9s,baz=287,slow=5.3,SNR=12						
MDT	**Midelt**	**81.65**	**58**	P	**P**	**15 14 57.3**	**-0.8**
	9.3nm,0.8s,baz=258,slow=7.6,SNR=14						
NB2	**NORSAR Subarra**	**83.53**	**28**	P	**P**	**15 15 07.1**	**0.0**
	comp=Z,1.4nm,0.8s,baz=292,slow=5.3						
NOA	**NORSAR Array B**	**83.53**	**28**	P	**P**	**15 15 07.2**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=292,slow=5.1,SNR=6.2						
ARCES	**ARCESS Array B**	**84.89**	**18**	P	**P**	**15 15 12.7**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=297,slow=5.3,SNR=5.8						
FINES	**FINESS Array B**	**89.66**	**24**	P	**P**	**15 15 35.9**	**-1.0**
	comp=Z,2.2nm,1.0s,baz=318,slow=8.2,SNR=2.9						
GERES	**GERESS Array B**	**89.67**	**39**	P	**P**	**15 15 37.5**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=313,slow=4.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**92.61**	**76**	P	**P**	**15 15 51.1**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=293,slow=4.5,SNR=3.9						

AUST ***05*** *15:05:15.1±1.2,3.7°46S×130.1°01E,h9km, Error ellipse: s-maj=1.6km s-min=1.3km az=350.0*
IDC ***05*** *15:05:46.1±37.0,5.0°75×130.7°69E,h169km±213km, mb3.6/1,mb1 3.3/4,mb1mx2.9/19,mbtmp3.1/4,ML3.4/2, Error ellipse: s-maj=332.8km s-min=112.2km az=5.0*

ISC 05 15:05:20.3±2.9,3.7°S±0.3×130.3°E±0.2,h35km,n9,σ0°65/6, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.88**	**204**	P	**Pn**	**15 05 35.5**	**-0.7**
	baz=1.1,SNR=12						
AAI	**Ambon**	**2.06**	**271**	P	Pn	15 05 46.4	-6.1
	baz=1.8,SNR=3.9						
FAKI	**Fak Fak**	**2.14**	**68**	P	**Pn**	**15 05 53.1**	**-0.4**
	baz=2.3,SNR=11						
MTN	**Manton Dam**	**9.11**	**175**	P	Pn	15 07 33.4	+4.1
	baz=9.4,SNR=5.7						
KDU	**Kakadu**	**9.18**	**166**	P	**Pn**	**15 07 29.7**	**-0.5**
	baz=9.5,SNR=4.7						
FITZ	**Fitzroy Crossi**	**15.00**	**197**	P	**P**	**15 08 55.0**	**+0.2**
	0.1nm,0.3s,baz=14,slow=17,SNR=3.4						
WRA	**Warramunga Arr**	**16.61**	**166**	P	**Pn**	**15 09 10.8**	**+0.2**
	0.3nm,0.3s,baz=350,slow=12,SNR=36						
ASAR	**Alice Springs**	**20.14**	**170**	P	Pn	15 09 53.2	-0.4
	0.4nm,0.3s,baz=348,slow=11,SNR=79						
STKA	**Stephens Creek**	**29.97**	**160**	P	**P**	**15 11 26.1**	**+0.6**
	2.3nm,1.1s,baz=332,slow=10,SNR=4.9						

CSEM ***05*** *15:08:41.6,36.60N×58.55E,h3km,ML3.5,After TEH*

TEH 05 15:08:41.6,36.60N×58.55E,h3km,ML3.5,2C-3D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IAKL	**Akhelmad**	**0.17**	**90↓**	*e*Pg	Pg	15 08 44.7	-0.5
IAKL				*e*Sg	Sg	15 08 47.2	-0.5
IAKL				*e*		15 08 47.5	
	comp=Z,14μm,0.0s						
IKRD	**Kardeh**	**0.18**	**350**	*e*Pg	Pg	15 08 56.2	+11
IKRD				*e*		15 09 10.9	
	comp=Z,17μm,0.1s						
IKRD	**Kardeh**	**0.18**	**350**	*e*Pg	Pg	15 08 56.2	+11
IPAY	**Payeh**	**0.39**	**113↓**	*e*Pg	Pg	15 08 48.4	-1.0
IPAY				*e*		15 08 58.4	
	comp=Z,32μm,0.1s						
IPAY	**Payeh**	**0.39**	**113↓**	*e*Pg	Pg	15 08 48.4	-1.0
IQHU	**Qucahn**	**0.47**	**359**	*e*Pg	Pg	15 08 49.9	-1.0
IQHU				*e*		15 08 58.6	
	comp=Z,81μm,0.1s						
ISFR	**Sfrayin**	**0.63**	**316↑**	*e*Pg	Pg	15 08 53.1	-1.1
ISFR				*e*		15 09 04.3	
	comp=Z,43μm,0.1s						
ISFR	**Sfrayin**	**0.63**	**316↑**	*e*Pg	Pg	15 08 53.1	-1.1
ISRO	**Mashad**	**0.80**	**111**	*e*Pg	Pg	15 08 54.7	-2.4
ISRO	**Mashad**	**0.80**	**111**	*e*Pg	Pg	15 08 54.7	-2.4
MHI	**Mashad**	**0.80**	**111**	*e*Pg	Pg	15 08 55.9	-1.2
MHI				*e*		15 09 11.4	
	comp=Z,45μm,0.0s						
IMOG	**Moghan**	**0.80**	**128**	*e*Pg	Pg	15 08 55.5	-1.9
IMOG				*e*		15 09 09.4	
	comp=Z,41μm,0.1s						
IMOG	**Moghan**	**0.80**	**128**	*e*Pg	Pg	15 08 55.5	-1.9
IEMG	**Emamgholi**	**0.82**	**6**	*e*Pg	Pg	15 08 56.0	-1.7
IEMG				*e*		15 09 09.4	
	comp=Z,16μm,0.1s						
IEMG	**Emamgholi**	**0.82**	**6**	*e*Pg	Pg	15 08 56.0	-1.7
ISHV	**Shirvan**	**1.15**	**324**	*e*Pg	Pg	15 09 02.7	-1.4
ISHV				*e*		15 09 24.2	
	comp=Z,9μm,0.1s						
ISHV	**Shirvan**	**1.15**	**324**	*e*Pg	Pg	15 09 02.7	-1.4
IMYA	**Miami**	**1.28**	**101**	*e*		15 09 26.5	
	comp=Z,13μm,0.1s						
IMYA				*e*Pg	Pg	15 09 05.0	-1.3

CSEM ***05*** *15:11:24.6,36.68N×22.61E,h12km,MD2.9,After ATH*

ATH 05 15:11:24.6,36.68N×22.61E,h12km±1km,MD2.9/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYR	**Agios Nikonas**	**0.24**	**290**	*e*PG	Pg	15 11 29.8	+0.1
DYR				*e*SG	Sg	15 11 33.2	+0.1
DYR	**Agios Nikonas**	**0.24**	**290**	*e*Pg	Pg	15 11 29.8	+0.1
DYR				*e*Sg	Sg	15 11 33.2	+0.1
VLI	**Veliai**	**0.27**	**82**	*e*PG	Pg	15 11 30.3	+0.2
VLI				*e*SG	Sg	15 11 34.5	+0.6
VLI	**Veliai**	**0.27**	**82**	*e*Pg	Pg	15 11 30.3	+0.2
VLI				*e*Sg	Sg	15 11 34.5	+0.6
KYTH	**Kithira**	**0.53**	**139**	*e*PB	Pg	15 11 34.9	-0.1
KYTH	**Kithira**	**0.53**	**139**	*e*Pb	Pg	15 11 34.9	-0.1
PYL	**PYLOS**	**0.73**	**287**	*e*PG	Pg	15 11 38.3	-0.5
PYL				*e*SB	Sg	15 11 48.7	+0.3
PYL	**PYLOS**	**0.73**	**287**	*e*Pg	Pg	15 11 38.3	-0.5
PYL				*e*Sb	Sg	15 11 48.7	+0.3
DID	**Didima**	**0.96**	**31**	*e*PB	Pg	15 11 42.8	-0.5
DID				*e*SB	Sb	15 11 56.2	+0.1
DID	**Didima**	**0.96**	**31**	*e*Pb	Pg	15 11 42.8	-0.5
DID				*e*Sb	Sb	15 11 56.2	+0.1

ISCJB ***05*** *15:11:57.9±0.3,38.31N±0.02×22.04E±0.02,h4km±3km, Error ellipse: s-maj=3.2km s-min=2.8km az=24.8*
CSEM ***05*** *15:11:57.7±0.1,38.31N×22.06E,h5km,MD3.1,Error ellipse: s-maj=2.2km s-min=1.9km az=91.0*
ATH ***05*** *15:11:58.1,38.32N×22.05E,h7km±1km,MD3.1/15,ML2.4*
THE ***05*** *15:11:58.0,38.30N×22.06E,h6km±1km,ML2.6/2,Error ellipse: s-maj=1.7km s-min=0.6km az=267.0*

ISC 05 15:11:58.0±0.8,38.32N±0.01×22.05E±0.02,h8km±4km, n58,σ0953/100,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.05**	**19**	P	**Pg**	**15 11 59.5**	**-0.3**
TRIZ				S	**Sg**	**15 12 00.8**	**-0.2**
TRIZ	**Trizonia**	**0.05**	**19**	*e*PG	**Pg**	**15 11 59.5**	**-0.3**
TRIZ				*e*SG	**Sg**	**15 12 00.9**	**-0.1**
TRIZ	**Trizonia**	**0.05**	**19**	P	**Pg**	**15 11 59.5**	**-0.3**
TRIZ				*e*Sg	**Sg**	**15 12 00.9**	**-0.1**
LAKA	**Lakka**	**0.10**	**217**	P	**Pg**	**15 12 00.3**	**-0.1**
LAKA				S	**Sg**	**15 12 02.1**	**+0.1**
LAKA	**Lakka**	**0.10**	**217**	*e*PG	**Pg**	**15 12 00.4**	**0.0**
LAKA				*e*SG	**Sg**	**15 12 02.3**	**+0.3**
LAKA	**Lakka**	**0.10**	**217**	*e*Pg	**Pg**	**15 12 00.4**	**0.0**
LAKA				*e*Sg	**Sg**	**15 12 02.3**	**+0.3**
KALE	**Kalithea**	**0.10**	**43**	P	**Pg**	**15 12 00.3**	**-0.2**
KALE				S	**Sg**	**15 12 02.4**	**+0.2**
KALE	**Kalithea**	**0.10**	**43**	*e*PG	**Pg**	**15 12 00.4**	**-0.1**
KALE				*e*SG	**Sg**	**15 12 02.3**	**+0.1**
KALE	**Kalithea**	**0.10**	**43**	*e*Pg	**Pg**	**15 12 00.4**	**-0.1**
KALE				S	**Sg**	**15 12 02.4**	**+0.2**
EFP	**Efpalio**	**0.16**	**314**	P	**Pg**	**15 12 04.1**	**+0.1**
EFP				S	**Sg**	**15 12 04.0**	**+0.3**
EFP	**Efpalio**	**0.16**	**314**	*e*PG	**Pg**	**15 12 01.5**	**+0.1**
EFP				*e*SG	**Sg**	**15 12 04.4**	**+0.7**
EFP	**Efpalio**	**0.16**	**314**	*e*Pg	**Pg**	**15 12 01.5**	**+0.1**
EFP				S	**Sg**	**15 12 04.0**	**+0.3**
KLV	**Kalavryta, Ach**	**0.28**	**164**	P	**Pg**	**15 12 03.3**	**-0.4**
KLV	**Kalavryta, Ach**	**0.28**	**164**	*e*PG	**Pg**	**15 12 03.3**	**-0.4**
KLV				*e*SG	**Sg**	**15 12 07.4**	**-0.1**
KLV	**Kalavryta, Ach**	**0.28**	**164**	P	**Pg**	**15 12 03.3**	**-0.4**
KLV				*e*Sg	**Sg**	**15 12 07.4**	**-0.1**
DSF	**Desfina**	**0.39**	**76**	P	**Pg**	**15 12 05.0**	**-0.6**
DSF				S	**Sg**	**15 12 11.0**	**+0.3**
DSF	**Desfina**	**0.39**	**76**	P	**Pg**	**15 12 05.0**	**-0.6**
DSF				S	**Sg**	**15 12 11.0**	**+0.3**
GUR	**Goura**	**0.44**	**149**	P	**Pg**	**15 12 06.0**	**-0.7**
GUR	**Goura**	**0.44**	**149**	*e*PG	**Pg**	**15 12 06.2**	**-0.5**
GUR	**Goura**	**0.44**	**149**	*e*Pg	**Pg**	**15 12 06.2**	**-0.5**
RLS	**Riolos of Patr**	**0.53**	**241**	P	**Pg**	**15 12 08.1**	**-0.2**
RLS	**Riolos of Patr**	**0.53**	**241**	*e*PB	**Pg**	**15 12 08.3**	**0.0**
RLS				*e*SB	**Sg**	**15 12 16.2**	**+1.0**
RLS	**Riolos of Patr**	**0.53**	**241**	*e*Pb	**Pg**	**15 12 08.3**	**0.0**
RLS				*e*Sb	**Sg**	**15 12 16.2**	**+1.0**
AXS	**Araxos**	**0.55**	**257**	P	**Pg**	**15 12 08.4**	**-0.2**
AXS				S	**Sg**	**15 12 16.1**	**+0.4**
AXS	**Araxos**	**0.55**	**257**	P	**Pg**	**15 12 08.4**	**-0.2**
EVR	**Evrytania**	**0.63**	**342**	P	**Pg**	**15 12 09.8**	**-0.4**
EVR				S	**Sb**	**15 12 20.2**	**-0.2**
EVR	**Evrytania**	**0.63**	**342**	*e*PG	**Pg**	**15 12 09.8**	**-0.4**
EVR				*e*SB	**Sg**	**15 12 19.1**	**+0.6**
EVR	**Evrytania**	**0.63**	**342**	P	**Pg**	**15 12 09.8**	**-0.4**
EVR				*e*Sb	**Sg**	**15 12 19.1**	**+0.6**
EVR				S	**Sb**	**15 12 20.2**	**-0.2**
AXAR	**Agios Charalam**	**0.66**	**46**	P	**Pg**	**15 12 10.1**	**-0.6**
AXAR				S	**Sb**	**15 12 21.2**	**+0.1**
AXAR	**Agios Charalam**	**0.66**	**46**	P	**Pg**	**15 12 10.1**	**-0.6**
MAKR	**Makrakomi, Fth**	**0.70**	**5**	P	**Pg**	**15 12 11.3**	**-0.2**
MAKR				S	**Sb**	**15 12 23.0**	**+0.6**
MAKR	**Makrakomi, Fth**	**0.70**	**5**	P	**Pg**	**15 12 11.3**	**-0.2**
MAKR				S	**Sb**	**15 12 23.0**	**+0.6**
AGG	**Agios Georgios**	**0.74**	**17**	P	**Pg**	**15 12 11.2**	**-1.1**
AGG				S	**Sg**	**15 12 22.7**	**+0.8**
AGG	**Agios Georgios**	**0.74**	**17**	P	**Pg**	**15 12 11.2**	**-1.1**
AGG				S	**Sg**	**15 12 22.7**	**+0.8**
LTK	**Loutraki**	**0.78**	**112**	*e*PG	**Pg**	**15 12 12.5**	**-0.5**
LTK	**Loutraki**	**0.78**	**112**	*e*Pg	**Pg**	**15 12 12.5**	**-0.5**
AMT	**Artemida-Makis**	**0.83**	**199**	*e*PG	**Pg**	**15 12 13.7**	**-0.3**
AMT				*e*SB	**Sb**	**15 12 25.8**	**-0.2**
AMT	**Artemida-Makis**	**0.83**	**199**	*e*Pg	**Pg**	**15 12 13.7**	**-0.3**
AMT				*e*Sb	**Sb**	**15 12 25.8**	**-0.2**
VLX	**Vlachokerasia**	**0.98**	**165**	*e*PN	**Pb**	**15 12 17.2**	**-0.1**
VLX				*e*SB	**Sb**	**15 12 31.0**	**+0.5**
VLX	**Vlachokerasia**	**0.98**	**165**	*e*Pn	**Pb**	**15 12 17.2**	**-0.1**
VLX				*e*Sb	**Sb**	**15 12 31.0**	**+0.5**
ITM	**Ithomi**	**1.14**	**185**	*e*PG	**Pg**	**15 12 18.8**	**-1.1**
ITM				*e*SB	**Sn**	**15 12 35.8**	**-0.4**
ITM	**Ithomi**	**1.14**	**185**	*e*Pg	**Pg**	**15 12 18.8**	**-1.1**
ITM				*e*Sb	**Sn**	**15 12 35.8**	**-0.4**
VLS	**Valsamata**	**1.16**	**264**	*e*PG	**Pg**	**15 12 19.1**	**-1.2**
VLS				*e*SB	**Sn**	**15 12 36.5**	**-0.2**
VLS	**Valsamata**	**1.16**	**264**	*e*Pg	**Pg**	**15 12 19.1**	**-1.2**
VLS				*e*Sb	**Sn**	**15 12 36.5**	**-0.2**
LKD2	**Lefkada island**	**1.19**	**294**	*e*PN	**Pg**	**15 12 20.1**	**-0.8**
LKD2	**Lefkada island**	**1.19**	**294**	*e*Pn	**Pg**	**15 12 20.1**	**-0.8**
DID	**Didima**	**1.24**	**130**	*e*PB	**Pn**	**15 12 22.0**	**+0.3**
DID				*e*SB	**Sn**	**15 12 38.9**	**+0.3**
DID	**Didima**	**1.24**	**130**	*e*Pb	**Pn**	**15 12 22.0**	**+0.3**
DID				*e*Sb	**Sn**	**15 12 38.9**	**+0.3**
THL	**Klokotos Trika**	**1.25**	**359**	P	**Pb**	**15 12 21.6**	**-0.2**
THL	**Klokotos Trika**	**1.25**	**359**	P	**Pb**	**15 12 21.6**	**-0.2**
NAIG	**Nisos Aigina**	**1.26**	**116**	*e*PB	**Pg**	**15 12 22.5**	**+0.2**
NAIG	**Nisos Aigina**	**1.26**	**116**	*e*Pb	**Pg**	**15 12 22.5**	**+0.2**
ATH	**Athens Observa**	**1.36**	**104**	*e*PB	**Pg**	**15 12 23.9**	**-0.2**
ATH				*e*SN	**Sn**	**15 12 42.9**	**+1.4**
ATH	**Athens Observa**	**1.36**	**104**	*e*Pb	**Pg**	**15 12 23.9**	**-0.2**
ATH				*e*Sn	**Sn**	**15 12 42.9**	**+1.4**
PYL	**PYLOS**	**1.44**	**190**	*e*PN	**Pn**	**15 12 24.3**	**-0.2**
PYL				*e*SB	**Sg**	**15 12 45.1**	**+0.8**
PYL	**PYLOS**	**1.44**	**190**	*e*Pn	**Pn**	**15 12 24.3**	**-0.2**
PYL				*e*Sb	**Sg**	**15 12 45.1**	**+0.8**
PTL	**Penteli**	**1.45**	**100**	*e*PN	**Pn**	**15 12 24.2**	**-0.5**
PTL	**Penteli**	**1.45**	**100**	*e*Pn	**Pn**	**15 12 24.2**	**-0.5**

IDC ***05*** *15:40:45.0±2.5,17.74S×167.45E,h0km,mb4.0/9, mb1 4.2/9,mb1mx3.9/20,mbtmp4.0/9,MS3.3/2,Ms1 3.3/2, ms1mx2.4/28,Error ellipse: s-maj=79.8km s-min=22.9km az=135.0*
ISCJB ***05*** *15:40:46.8±1.0,17.77S±0.04×167.4E±0.2,h19km, mb3.9/8,MS3.4/1,Error ellipse: s-maj=22.7km s-min=6.3km az=178.6*
NOU ***05*** *15:40:48.6±0.6,17.53S×167.41E,h30km,MD3.1,ML2.6*

ISC 05 15:40:48.1±1.2,17.72S±0.08×167.4E±0.2,h19km,n14, σ1905/14,mb3.9/8,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**4.43**	**186**	*e*S	**Sn**	**15 42 44.6**	**-0.9**
NOUC	**Port Laguerre**	**4.47**	**193**	*e*P	**Pn**	**15 41 55.8**	**+1.0**
NOUC				*e*S	**Sn**	**15 42 45.2**	**-1.1**
NOUC				AMP		15 42 51.3	
	comp=Z,22nm,0.8s						
NORM	**Noumea**	**4.56**	**190**	*e*P	**Pn**	**15 41 57.2**	**+1.1**
NORM				*e*S	**Sn**	**15 42 47.6**	**-0.9**
PLUM	**Mont Dore**	**4.58**	**188**	*e*P	**Pn**	**15 41 57.0**	**+0.7**
PLUM				*e*S	**Sn**	**15 42 48.7**	**-0.3**
HNR	**Honiara**	**10.94**	**318**	LR	LR	15 46 41.6	
	comp=Z,76nm,18.4s,baz=208,slow=32						
CTA	**Charters Tower**	**20.09**	**260**	P	Pn	15 45 22.9	+0.2
	comp=Z,1.6nm,0.2s,baz=78,slow=14,SNR=4.4						
STKA	**Stephens Creek**	**27.21**	**234**	P	**P**	**15 46 32.6**	**+1.7**
	comp=Z,5.7nm,0.6s,baz=73,slow=8.3,SNR=20						
WRA	**Warramunga Arr**	**31.29**	**261**	P	**P**	**15 47 06.3**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=90,slow=9.3,SNR=18						
ASAR	**Alice Springs**	**31.79**	**254**	P	**P**	**15 47 11.2**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=79,slow=8.7,SNR=53						
ASAR				LR	LR	15 58 28.8	
	comp=Z,84nm,19.4s,baz=176,slow=33						
FITZ	**Fitzroy Crossi**	**39.63**	**263**	P	**P**	**15 48 18.9**	**0.0**
	comp=Z,2.2nm,1.0s,baz=98,slow=7.1,SNR=5.4						
PETK	**Petropavlovsk-**	**71.03**	**354**	P	**P**	**15 52 05.4**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=154,slow=6.1,SNR=4.9						
CMAR	**Chiang Mai Arr**	**76.25**	**295**	P	P	15 52 38.1	+2.2
	comp=Z,1.2nm,0.8s,baz=128,slow=4.5,SNR=8.1						
SONM	**Songino Array**	**84.94**	**324**	P	**P**	**15 53 21.9**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=145,slow=5.3,SNR=3.0						
ILAR	**Eielson Array**	**89.33**	**18**	P	**P**	**15 53 41.7**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=239,slow=4.7,SNR=6.1						

ISCJB ***05*** *15:41:23.7±0.5,67.11N±0.03×20.33E±0.10,h0km,Error ellipse: s-maj=6.2km s-min=3.7km az=39.1*
CSEM ***05*** *15:41:27.2±0.3,67.17N×20.56E,h1km,ML2.3,Error ellipse: s-maj=9.0km s-min=5.5km az=116.0,Suspected Mining induced.*
NAO ***05*** *15:41:27.3±1.1,67.15N×20.89E,ML2.5*
HEL ***05*** *15:41:28.4±0.1,67.21N×20.68E,h0km,ML2.4, ML3.0(BER),ML2.5(NAO)*
BER ***05*** *15:41:29.1±3.6,67.22N×20.69E,h0km,ML3.0, ML2.5(NAO),Suspected explosion*

ISC 05 15:41:26.0±0.8,67.12N±0.03×20.63E±0.03,h0km,n41, σ1954/60,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**1.07**	**29**	*e*P	**Pg**	**15 41 46.0**	**-0.4**
LANU				*e*S	**Sg**	**15 41 58.9**	**-1.5**
HEF	**Hetta**	**1.73**	**40**	*e*P	**Pn**	**15 41 58.0**	**+0.6**
HEF				*e*S	**Sn**	**15 42 18.8**	**-1.4**
HEF	**Hetta**	**1.73**	**40**	P	**Pn**	**15 41 57.9**	**+0.6**
KIF	**Kilpisjarvi**	**1.90**	**2**	*e*P	**Pn**	**15 42 00.8**	**+1.3**
KIF				*e*S	**Sn**	**15 42 23.9**	**-0.2**
KIF	**Kilpisjarvi**	**1.90**	**2**	P	**Pn**	**15 42 00.8**	**+1.3**
KIF				S	**Sn**	**15 42 23.8**	**-0.2**
KTK1	**Kautokeino**	**2.14**	**26**	*e*Sg	**Sb**	**15 42 32.1**	**-0.5**
KTK1				AML	AML	15 42 35.1	
	comp=Z,212nm,0.8s						
KTK1	**Kautokeino**	**2.14**	**26**	*e*SG	**Sb**	**15 42 32.1**	**-0.5**
KTK1				AML	AML	15 42 35.1	
	comp=Z,212nm,0.8s						
KTK1	**Kautokeino**	**2.14**	**26**	Sg	**Sb**	**15 42 32.1**	**-0.5**
	comp=Z,212nm,0.8s						
RNF	**Rovaniemi**	**2.19**	**101**	*e*P	**Pb**	**15 42 06.0**	**-0.3**
RNF				*e*S	**Sb**	**15 42 33.8**	**-0.2**
RNF	**Rovaniemi**	**2.19**	**101**	P	**Pb**	**15 42 06.0**	**-0.3**
RNF				S	**Sb**	**15 42 33.7**	**-0.2**
SGF	**Sodankyl**	**2.31**	**79**	*e*P	**Pb**	**15 42 07.7**	**-0.8**
SGF				*e*SB	**Sb**	**15 42 37.4**	**-0.2**
SGF	**Sodankyl**	**2.31**	**79**	P	**Pb**	**15 42 07.7**	**-0.8**
SGF				Sb	**Sb**	**15 42 37.4**	**-0.2**
MOR8	**Moi Rana**	**2.64**	**252**	*e*Sg	**Sb**	**15 42 46.4**	**-0.6**
MOR8	**Moi Rana**	**2.64**	**252**	*e*SG	**Sb**	**15 42 46.4**	**-0.6**
MOR8	**Moi Rana**	**2.64**	**252**	Sg	**Sb**	**15 42 46.4**	**-0.6**
ARA0	**ARCESS Array S**	**3.03**	**34**	Pn	**Pn**	**15 42 16.1**	**+1.0**
	baz=214,slow=14						
ARA0				Sn	**Sn**	**15 42 50.5**	**-1.5**
	baz=214,slow=22						
ARA0	**ARCESS Array S**	**3.03**	**34**	Pn	**Pn**	**15 42 16.1**	**+1.0**
	baz=214,slow=14						
ARA0				Sn	**Sn**	**15 42 50.5**	**-1.5**
	baz=214,slow=22						
ARA0	**ARCESS Array S**	**3.03**	**34**	*e*P	**Pn**	**15 42 16.1**	**+1.0**
ARA0				*e*S	**Sn**	**15 42 50.5**	**-1.5**
ARA0	**ARCESS Array S**	**3.03**	**34**	P	**Pn**	**15 42 16.1**	**+1.0**
ARA0				S	**Sn**	**15 42 50.5**	**-1.5**
KEV	**Kevo**	**3.54**	**39**	MSG		15 43 22.0	
	comp=Z,12nm,0.4s						
VAF	**Ylistaro**	**4.18**	**167**	MSG		15 43 46.4	
	comp=Z,4.8nm,0.3s						
KJN	**Kajaani**	**4.23**	**133**	MSG		15 43 45.3	
	comp=Z,4.4nm,0.3s						
APA0	**Apatity Array**	**4.80**	**78**	Sn	**Sn**	**15 43 33.9**	**-1.8**
	baz=277,slow=28						
APA0				Lg	Lg	15 43 53.2	
	baz=279,slow=28						
APA0	**Apatity Array**	**4.80**	**78**	Sn	**Sn**	**15 43 33.9**	**-1.8**
	baz=277,slow=28						
APA0				Lg	Lg	15 43 53.2	
	baz=279,slow=28						
APA0	**Apatity Array**	**4.80**	**78**	*e*S	**Sn**	**15 43 33.9**	**-1.8**
APA0				*e*SG	**Sb**	**15 43 53.2**	**+4.1**
APA0	**Apatity Array**	**4.80**	**78**	Sn	**Sn**	**15 43 33.9**	**-1.8**
	baz=277,slow=27,SNR=50						
APA0				Lg	Lg	15 43 53.2	
	baz=279,slow=24,SNR=5.

Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
PFVI	**Vila Bisbo**	**1.58**	**47**	*i* P		**Pn**		**15 51 24.4**	**+1.6**
PFVI				*e*S		**Sn**		**15 51 42.8**	**+0.8**
PFVI				A		A		15 51 44.3	
	2μm,0.4s								
PFVI	**Vila Bisbo**	**1.58**	**47**	⇑P		**Pn**		**15 51 24.4**	**+1.6**
	148nm,0.1s,SNR=18								
PFVI				S		**Sn**		**15 51 42.8**	**+0.8**
	3μm,0.1s,SNR=7.9								
PFVI	**Vila Bisbo**	**1.58**	**47**	P		**Pn**		**15 51 24.4**	**+1.6**
	148nm,0.1s,SNR=18								
PFVI				S		**Sn**		**15 51 42.8**	**+0.8**
	3μm,0.1s,SNR=7.9								
MORF	**Marmelete**	**1.80**	**46**	*e*Pn		**Pn**		**15 51 27.5**	**+1.6**
MORF				*e*Sn		**Sn**		**15 51 48.1**	**+0.5**
MORF				A		A		15 51 50.3	
	3μm,0.2s								
MORF	**Marmelete**	**1.80**	**46**	Pn		**Pn**		**15 51 27.5**	**+1.6**
MORF				Sn		**Sn**		**15 51 48.1**	**+0.5**
	3μm,0.2s								
MORF	**Marmelete**	**1.80**	**46**	*e*Pn		**Pn**		**15 51 27.5**	**+1.6**
MORF				Sn		**Sn**		**15 51 48.1**	**+0.5**
	3μm,0.2s								
PTEO	**Sao Teotonio**	**1.94**	**40**	*i* Pn		**Pn**		**15 51 29.1**	**+1.5**
PTEO				*e*Sn		**Sn**		**15 51 51.2**	**+0.5**
PTEO				A		A		15 51 53.1	
	1μm,0.1s								
PTEO	**Sao Teotonio**	**1.94**	**40**	⇓Pn		**Pn**		**15 51 29.1**	**+1.5**
PTEO				Sn		**Sn**		**15 51 51.2**	**+0.5**
	519nm,0.1s								
PTEO	**Sao Teotonio**	**1.94**	**40**	Pn		**Pn**		**15 51 29.1**	**+1.5**
PTEO				Sn		**Sn**		**15 51 51.2**	**+0.5**
	519nm,0.1s								
PBDV	**Barranco-do-Ve**	**2.22**	**57**	*i* Pn		**Pn**		**15 51 33.5**	**+1.9**
PBDV				*e*Sn		**Sn**		**15 51 58.4**	**+0.5**
PBDV				A		A		15 52 03.9	
	669nm,0.5s								
PBDV	**Barranco-do-Ve**	**2.22**	**57**	⇑Pn		**Pn**		**15 51 33.5**	**+1.9**
PBDV				Sn		**Sn**		**15 51 58.4**	**+0.5**
	669nm,0.5s								
PBDV	**Barranco-do-Ve**	**2.22**	**57**	Pn		**Pn**		**15 51 33.5**	**+1.9**
PBDV				Sn		**Sn**		**15 51 58.4**	**+0.5**
	669nm,0.5s								
PCVE	**Castro Verde**	**2.38**	**48**	*i* Pn		**Pn**		**15 51 35.6**	**+1.8**
PCVE				*e*Sn		**Sn**		**15 52 02.6**	**+0.8**
PCVE				A		A		15 52 04.9	
	1μm,0.5s								
PCVE	**Castro Verde**	**2.38**	**48**	⇑Pn		**Pn**		**15 51 35.6**	**+1.8**
PCVE				Sn		**Sn**		**15 52 02.6**	**+0.8**
	1μm,0.5s								
PCVE	**Castro Verde**	**2.38**	**48**	Pn		**Pn**		**15 51 35.6**	**+1.8**
PCVE				Sn		**Sn**		**15 52 02.6**	**+0.8**
	1μm,0.5s								
MESJ	**Messejana**	**2.42**	**42**	*e*P		**Pn**		**15 51 35.8**	**+1.5**
MESJ				*e*S		**Sn**		**15 52 03.0**	**+0.3**
MESJ				AML		AML		15 52 03.9	
	comp=N,1μm,0.4s								
MESJ	**Messejana**	**2.42**	**42**	*e*P		**Pn**		**15 51 35.8**	**+1.5**
MESJ				*e*S		**Sn**		**15 52 03.0**	**+0.3**
MESJ	**Messejana**	**2.42**	**42**	P		**Pn**		**15 51 35.8**	**+1.5**
MESJ				S		**Sn**		**15 52 03.0**	**+0.3**
MESJ	**Messejana**	**2.42**	**42**	*e*P		**Pn**		**15 51 35.8**	**+1.5**
MESJ				*e*S		**Sn**		**15 52 03.0**	**+0.3**
PVAQ	**Vaqueiros**	**2.45**	**56**	*i* Pn		**Pn**		**15 51 36.5**	**+1.7**
PVAQ				*e*Sn		**Sn**		**15 52 04.0**	**+0.5**
PVAQ				A		A		15 52 05.5	
	comp=N,2μm,0.2s								
PVAQ	**Vaqueiros**	**2.45**	**56**	⇑Pn		**Pn**		**15 51 36.5**	**+1.7**
PVAQ				Sn		**Sn**		**15 52 04.0**	**+0.5**
	comp=N,2μm,0.2s								
PVAQ	**Vaqueiros**	**2.45**	**56**	Pn		**Pn**		**15 51 36.5**	**+1.7**
PVAQ				Sn		**Sn**		**15 52 04.0**	**+0.5**
	comp=N,2μm,0.2s								
PNCL	**Nicolau / Gran**	**2.48**	**34**	*e*Pn		**Pn**		**15 51 36.2**	**+1.1**
PNCL				*e*Sn		**Sn**		**15 52 04.1**	**0.0**
PNCL				A		A		15 52 05.5	
	comp=N,744nm,0.1s								
PNCL	**Nicolau / Gran**	**2.48**	**34**	*e*Pn		**Pn**		**15 51 36.2**	**+1.1**
PNCL				*e*Sn		**Sn**		**15 52 04.1**	**0.0**
	comp=N,744nm,0.1s								
EGRO	**El Granado**	**2.68**	**56**	⇑P		**Pn**		**15 51 39.5**	**+1.6**
	comp=N,66nm,0.3s,SNR=18								
EGRO				S		**Sn**		**15 52 09.7**	**+0.6**
	comp=N,1μm,0.2s,SNR=7.9								
EGRO	**El Granado**	**2.68**	**56**	P		**Pn**		**15 51 39.5**	**+1.6**
	comp=N,66nm,0.3s,SNR=18								
EGRO				S		**Sn**		**15 52 09.7**	**+0.6**
	comp=N,1μm,0.2s,SNR=7.9								
PBEJ	**Beja**	**2.75**	**44**	*i* Pn		**Pn**		**15 51 40.0**	**+1.2**
PBEJ				*e*Sn		**Sn**		**15 52 10.7**	**-0.1**
PBEJ				A		A		15 52 12.4	
	comp=N,744nm,0.2s								
PBEJ	**Beja**	**2.75**	**44**	⇓Pn		**Pn**		**15 51 40.0**	**+1.2**
PBEJ				Sn		**Sn**		**15 52 10.7**	**-0.1**
	comp=N,372nm,0.2s								
PBEJ	**Beja**	**2.75**	**44**	Pn		**Pn**		**15 51 40.0**	**+1.2**
PBEJ				Sn		**Sn**		**15 52 10.7**	**-0.1**
	comp=N,372nm,0.2s								
LIS	**Lisbon**	**2.80**	**18**	*e*P		**Pn**		**15 51 40.2**	**+0.7**
LIS				*e*S		**Sn**		**15 52 10.9**	**-1.0**
LIS				AML		AML		15 52 14.5	
	comp=E,2μm,0.2s								
LIS	**Lisbon**	**2.80**	**18**	*e*P		**Pn**		**15 51 40.2**	**+0.7**
LIS				*e*S		**Sn**		**15 52 10.9**	**-1.0**
LIS	**Lisbon**	**2.80**	**18**	P		**Pn**		**15 51 40.2**	**+0.7**
LIS				S		**Sn**		**15 52 10.9**	**-1.0**
LIS	**Lisbon**	**2.80**	**18**	*e*P		**Pn**		**15 51 40.2**	**+0.7**
LIS				*e*S		**Sn**		**15 52 10.9**	**-1.0**
INMG	**Instituto de M**	**2.86**	**18**	*e*Pn		**Pn**		**15 51 42.2**	**+1.9**
INMG				*e*Sn		**Sn**		**15 52 13.3**	**-0.1**
INMG				A		A		15 52 16.6	
	comp=E,1μm,0.5s								
INMG	**Instituto de M**	**2.86**	**18**	Pn		**Pn**		**15 51 42.2**	**+1.9**
INMG				Sn		**Sn**		**15 52 13.3**	**-0.1**
	comp=E,740nm,0.5s								
INMG	**Instituto de M**	**2.86**	**18**	*e*Pn		**Pn**		**15 51 42.2**	**+1.9**
INMG				Sn		**Sn**		**15 52 13.3**	**-0.1**
	comp=E,740nm,0.5s								
MOE	**Montemor**	**2.90**	**31**	*e*Pn		**Pn**		**15 51 42.4**	**+1.6**
MOE				*e*Sn		**Sn**		**15 52 14.2**	**-0.2**
MOE	**Montemor**	**2.90**	**31**	Pn		**Pn**		**15 51 42.4**	**+1.6**
MOE				Sn		**Sn**		**15 52 14.2**	**-0.2**
MOE	**Montemor**	**2.90**	**31**	*e*Pn		**Pn**		**15 51 42.4**	**+1.6**
MOE				*e*Sn		**Sn**		**15 52 14.2**	**-0.2**
PMAFR	**Mafra**	**2.99**	**15**	*i* Pn		**Pn**		**15 51 42.6**	**+0.4**
PMAFR				*e*Sn		**Sn**		**15 52 15.4**	**-1.4**
PMAFR				A		A		15 52 19.3	
	comp=E,2μm,0.4s								
PMAFR	**Mafra**	**2.99**	**15**	⇓P		**Pn**		**15 51 42.7**	**+0.4**
	comp=E,253nm,0.4s,SNR=18								
PMAFR				S		**Sn**		**15 52 15.0**	**-1.8**
	comp=E,2μm,0.1s,SNR=20								
PMAFR	**Mafra**	**2.99**	**15**	P		**Pn**		**15 51 42.7**	**+0.5**
	comp=E,253nm,0.4s,SNR=18								
PMAFR				S		**Sn**		**15 52 15.0**	**-1.8**
	comp=E,2μm,0.1s,SNR=20								
PMAFR				*e*Sn		Sn		15 52 15.4	-1.5
	comp=E,2μm,0.4s								
EVOP	**Sao Brissos**	**3.00**	**34**	*e*Pn		**Pn**		**15 51 43.1**	**+0.8**
EVOP				*e*Sn		**Sn**		**15 52 14.7**	**-2.3**
EVOP	**Sao Brissos**	**3.00**	**34**	*e*Pn		**Pn**		**15 51 43.1**	**+0.8**
EVOP				*e*Sn		**Sn**		**15 52 14.7**	**-2.3**
	comp=E,1μm,0.4s								
EVO	**Evora**	**3.06**	**36**	*e*Pn		**Pn**		**15 51 43.1**	**+0.1**
EVO				*e*Sn		**Sn**		**15 52 14.7**	**-3.6**
	comp=E,2μm,0.4s								
EVO	**Evora**	**3.06**	**36**	*e*Pn		**Pn**		**15 51 44.1**	**+1.1**
EVO				*e*Sn		**Sn**		**15 52 17.4**	**-0.9**
EVO				A		A		15 52 18.6	
	comp=E,1μm,0.1s								
EVO	**Evora**	**3.06**	**36**	Pn		**Pn**		**15 51 44.1**	**+1.1**
EVO				Sn		**Sn**		**15 52 17.4**	**-0.9**
	comp=E,1μm,0.1s								
EVO	**Evora**	**3.06**	**36**	*e*Pn		**Pn**		**15 51 44.1**	**+1.1**
EVO				Sn		**Sn**		**15 52 17.4**	**-0.9**
	comp=E,1μm,0.1s								
PBAR	**Barrancos**	**3.34**	**50**	*e*Pn		**Pn**		**15 51 48.2**	**+1.3**
PBAR				*e*Sn		**Sn**		**15 52 25.0**	**-0.3**
PBAR				A		A		15 52 26.4	
	comp=E,546nm,0.4s								
PBAR	**Barrancos**	**3.34**	**50**	Pn		**Pn**		**15 51 48.2**	**+1.3**
PBAR				Sn		**Sn**		**15 52 25.0**	**-0.3**
	comp=E,546nm,0.4s								
PBAR	**Barrancos**	**3.34**	**50**	*e*Pn		**Pn**		**15 51 48.2**	**+1.3**
PBAR				Sn		**Sn**		**15 52 25.0**	**-0.3**
	comp=E,546nm,0.4s								
EMIN	**Mina Concepcio**	**3.35**	**58**	⇑P		**Pn**		**15 51 48.3**	**+1.2**
	comp=E,31nm,0.1s,SNR=18								
EMIN				S		**Sn**		**15 52 25.2**	**-0.5**
	comp=E,394nm,0.2s,SNR=7.9								
EMIN	**Mina Concepcio**	**3.35**	**58**	P		**Pn**		**15 51 48.3**	**+1.2**
	comp=E,31nm,0.1s,SNR=18								
EMIN				S		**Sn**		**15 52 25.2**	**-0.5**
	comp=E,394nm,0.2s,SNR=7.9								
ALMR	**Almeirim**	**3.37**	**23**	*e*P		**Pn**		**15 51 48.0**	**+0.7**
ALMR				*e*S		**Sn**		**15 52 25.1**	**-1.0**
ALMR				AML		AML		15 52 28.1	
	comp=E,2μm,0.5s								
ALMR	**Almeirim**	**3.37**	**23**	*e*P		**Pn**		**15 51 48.0**	**+0.7**
ALMR				*e*S		**Sn**		**15 52 25.1**	**-1.0**
ALMR	**Almeirim**	**3.37**	**23**	P		**Pn**		**15 51 48.0**	**+0.7**
ALMR				S		**Sn**		**15 52 25.1**	**-1.0**
ALMR	**Almeirim**	**3.37**	**23**	*e*P		**Pn**		**15 51 48.0**	**+0.7**
ALMR				*e*S		**Sn**		**15 52 25.1**	**-1.0**
PMTG	**Montargil**	**3.42**	**28**	*e*Pn		**Pn**		**15 51 48.7**	**+0.7**
PMTG				*e*Sn		**Sn**		**15 52 25.6**	**-1.6**
PMTG				A		A		15 52 27.0	
	comp=E,1μm,0.3s								
PMTG	**Montargil**	**3.42**	**28**	*e*Pn		**Pn**		**15 51 48.7**	**+0.7**
PMTG				*e*Sn		**Sn**		**15 52 25.6**	**-1.6**
	comp=E,1μm,0.3s								
CNIL	**Conil**	**3.43**	**84**	⇑P		Pn		15 51 51.3	+3.2
CNIL				S		**Sn**		**15 52 25.0**	**-2.5**
CNIL	**Conil**	**3.43**	**84**	*i* P		Pn		15 51 51.3	+3.2
CNIL				*e*S		**Sn**		**15 52 25.0**	**-2.5**
RTC	**Rabat Centre**	**3.49**	**125**	*e*Pn		**Pn**		**15 51 49.3**	**+0.3**
RTC	**Rabat Centre**	**3.49**	**125**	*i* P		**Pn**		**15 51 49.0**	**0.0**
RTC	**Rabat Centre**	**3.49**	**125**	*e*Pn		**Pn**		**15 51 49.3**	**+0.3**
PESTR	**Estremoz**	**3.52**	**37**	*e*Pn		**Pn**		**15 51 50.1**	**+0.6**
PESTR				*e*Sn		**Sn**		**15 52 28.6**	**-1.3**
PESTR				A		A		15 52 30.6	
	comp=E,454nm,0.4s								
PESTR	**Estremoz**	**3.52**	**37**	Pn		**Pn**		**15 51 50.1**	**+0.6**
PESTR				Sn		**Sn**		**15 52 28.6**	**-1.3**
	comp=E,454nm,0.4s								
PESTR	**Estremoz**	**3.52**	**37**	*e*Pn		**Pn**		**15 51 50.1**	**+0.6**
PESTR				Sn		**Sn**		**15 52 28.6**	**-1.3**
	comp=E,454nm,0.4s								
ESPR	**Espera**	**3.65**	**76**	⇑P		**Pn**		**15 51 52.9**	**+1.7**
	comp=E,642nm,0.2s,SNR=18								
ESPR				S		**Sn**		**15 52 33.2**	**+0.1**
	comp=E,2μm,0.3s,SNR=9.0								
ESPR	**Espera**	**3.65**	**76**	P		**Pn**		**15 51 52.9**	**+1.7**
	comp=E,642nm,0.2s,SNR=18								
ESPR				S		**Sn**		**15 52 33.2**	**+0.1**
	comp=E,2μm,0.3s,SNR=9.0								
EBAD	**Badajoz**	**3.74**	**43**	S		**Sn**		**15 52 34.7**	**-0.5**
	comp=E,1μm,0.2s,SNR=7.9								
EBAD	**Badajoz**	**3.74**	**43**	S		**Sn**		**15 52 34.7**	**-0.5**
	comp=E,1μm,0.2s,SNR=7.9								
RSA	**Sarsar**	**3.82**	**107**	*i* P		**Pn**		**15 51 54.0**	**+0.4**
ECEU	**Ceuta**	**3.98**	**91**	P		**Pn**		**15 51 57.6**	**+1.9**
	comp=E,59nm,0.4s,SNR=29								
ECEU				S		**Sn**		**15 52 42.1**	**+1.0**
	comp=E,89nm,0.2s,SNR=6.2								
ECEU	**Ceuta**	**3.98**	**91**	P		**Pn**		**15 51 57.6**	**+1.9**
	comp=E,59nm,0.4s,SNR=29								
ECEU				S		**Sn**		**15 52 42.1**	**+1.0**
	comp=E,89nm,0.2s,SNR=6.2								
LIJA	**Lijar**	**4.02**	**76**	⇓P		**Pn**		**15 51 58.9**	**+2.6**
LIJA				S		**Sn**		**15 52 39.1**	**-3.0**
LIJA	**Lijar**	**4.02**	**76**	P		**Pn**		**15 51 58.9**	**+2.6**
LIJA				*i* S		**Sn**		**15 52 39.2**	**-3.0**
DKH	**Dar Kharkhour**	**4.04**	**97**	*i* P		**Pn**		**15 51 57.0**	**+0.3**
DKH				*i* S		**Sn**		**15 52 39.0**	**-3.8**
PMRV	**Marv??o**	**4.06**	**33**	*e*Pn		**Pn**		**15 51 57.9**	**+1.0**
PMRV				*e*Sn		**Sn**		**15 52 41.6**	**-1.6**
PMRV				A		A		15 52 43.0	
	comp=E,605nm,0.4s								
PMRV	**Marv??o**	**4.06**	**33**	Pn		**Pn**		**15 51 57.9**	**+1.0**
PMRV				Sn		**Sn**		**15 52 41.6**	**-1.6**
	comp=E,605nm,0.4s								
PMRV	**Marv??o**	**4.06**	**33**	*e*Pn		**Pn**		**15 51 57.9**	**+1.0**
PMRV				Sn		**Sn**		**15 52 41.6**	**-1.6**
	comp=E,605nm,0.4s								
REAL	**Reales**	**4.12**	**83**	⇑P		**Pn**		**15 52 00.4**	**+2.6**
REAL				S		**Sn**		**15 52 43.1**	**-1.7**
REAL	**Reales**	**4.12**	**83**	P		**Pn**		**15 52 00.4**	**+2.6**
REAL				*e*S		**Sn**		**15 52 43.1**	**-1.7**
PCBR	**Castelo Branco**	**4.37**	**30**	*i* Pn		**Pn**		**15 52 02.1**	**+1.0**
PCBR				*e*Sn		**Sn**		**15 52 48.4**	**-2.4**
PCBR				A		A		15 52 50.9	
	comp=E,342nm,0.6s								
PCBR	**Castelo Branco**	**4.37**	**30**	⇓Pn		**Pn**		**15 52 02.1**	**+1.0**
PCBR				Sn		**Sn**		**15 52 48.4**	**-2.4**
	comp=E,171nm,0.6s								
PCBR	**Castelo Branco**	**4.37**	**30**	Pn		**Pn**		**15 52 02.1**	**+1.0**
PCBR				Sn		**Sn**		**15 52 48.4**	**-2.4**
	comp=E,171nm,0.6s								
EMIJ	**Mijas**	**4.47**	**82**	P		**Pn**		**15 52 03.4**	**+0.9**
	comp=E,51nm,0.4s,SNR=7.9								
EMIJ				S		**Sn**		**15 52 53.6**	**+0.3**
	comp=E,100nm,0.2s,SNR=7.9								
EMIJ	**Mijas**	**4.47**	**82**	P		**Pn**		**15 52 03.4**	**+0.9**
	comp=E,51nm,0.4s,SNR=7.9								
EMIJ				S		**Sn**		**15 52 53.6**	**+0.3**
	comp=E,100nm,0.2s,SNR=7.9								
CIA	**Chichaoua**	**4.66**	**164**	*i* P		**Pn**		**15 52 05.0**	**-0.1**
CIA				*i* S		**Sn**		**15 52 54.0**	**-4.0**
TGT	**Taghat**	**4.72**	**113**	*i* P		**Pn**		**15 52 06.0**	**0.0**
TGT				*i* S		**Sn**		**15 52 55.0**	**-4.6**
EMAL	**Malaga-Limoner**	**4.77**	**80**	⇑P		**Pn**		**15 52 08.4**	**+1.9**
EMAL				S		**Sn**		**15 52 59.9**	**-0.6**
EMAL	**Malaga-Limoner**	**4.77**	**80**	P		**Pn**		**15 52 08.4**	**+1.9**
EMAL				S		**Sn**		**15 52 59.9**	**-0.6**
MTE	**Manteigas**	**4.83**	**26**	*e*Pn		**Pn**		**15 52 08.0**	**+0.5**
MTE				*e*Sn		**Sn**		**15 52 59.3**	**-3.0**
MTE				A		A		15 53 05.8	
	comp=E,501nm,0.5s								
MTE	**Manteigas**	**4.83**	**26**	*e*Pn		**Pn**		**15 52 08.0**	**+0.5**
MTE				*e*Sn		Sn		15 52 54.4	-7.9
MTE	**Manteigas**	**4.83**	**26**	Pn		**Pn**		**15 52 08.0**	**+0.5**
MTE				Sn		**Sn**		**15 52 59.3**	**-3.0**
	comp=E,250nm,0.5s								
MTE	**Manteigas**	**4.83**	**26**	*e*Pn		**Pn**		**15 52 08.0**	**+0.5**
MTE				Sn		**Sn**		**15 52 59.3**	**-3.0**
	comp=E,250nm,0.5s								
MIF	**Mishlifen**	**4.93**	**121**	*i* P		**Pn**		**15 52 10.0**	**+1.0**
MIF				*i* S		**Sn**		**15 53 00.0**	**-4.9**
KIB	**El Ksiba**	**4.94**	**134**	*i* P		**Pn**		**15 52 09.0**	**0.0**
TZC	**Tazercounte**	**5.01**	**140**	*i* P		**Pn**		**15 52 11.0**	**+0.9**
EADA	**Adamuz**	**5.02**	**64**	⇑P		**Pn**		**15 52 10.9**	**+0.9**
	comp=E,111nm,0.3s,SNR=18								
EADA				S		**Sn**		**15 53 05.0**	**-1.7**
	comp=E,243nm,0.2s,SNR=4.9								
EADA	**Adamuz**	**5.02**	**64**	P		**Pn**		**15 52 10.9**	**+0.9**
	comp=E,111nm,0.3s,SNR=18								
EADA				S		**Sn**		**15 53 05.0**	**-1.7**
	comp=E,243nm,0.2s,SNR=4.9								
ELOJ	**Sierra Loja**	**5.04**	**76**	⇑P		**Pn**		**15 52 12.4**	**+2.0**
	comp=E,43nm,0.2s,SNR=18								
ELOJ				S		**Sn**		**15 53 05.5**	**-2.0**
	comp=E,54nm,0.3s,SNR=4.5								
ELOJ	**Sierra Loja**	**5.04**	**76**	P		**Pn**		**15 52 12.4**	**+2.0**
	comp=E,43nm,0.2s,SNR=18								
ELOJ				S		**Sn**		**15 53 05.5**	**-2.0**
	comp=E,54nm,0.3s,SNR=4.5								
ELUQ	**Luque**	**5.05**	**71**	P		**Pn**		**15 52 11.7**	**+1.3**
	comp=E,73nm,0.2s,SNR=7.9								
ELUQ				S		**Sn**		**15 53 07.0**	**-0.6**
	comp=E,135nm,0.2s,SNR=7.9								
ELUQ	**Luque**	**5.05**	**71**	P		**Pn**		**15 52 11.7**	**+1.3**
	comp=E,73nm,0.2s,SNR=7.9								
ELUQ				S		**Sn**		**15 53 07.0**	**-0.6**
	comp=E,135nm,0.2s,SNR=7.9								
EPLA	**Plasencia**	**5.19**	**38**	⇓P		**Pn**		**15 52 13.2**	**+0.8**
	comp=E,9.7nm,0.3s,SNR=18								
EPLA				S		**Sn**		**15 53 08.8**	**-2.2**
	comp=E,469nm,0.2s,SNR=7.9								
EPLA	**Plasencia**	**5.19**	**38**	P		**Pn**		**15 52 13.2**	**+0.8**
	comp=E,9.7nm,0.3s,SNR=18								
EPLA				S		**Sn**		**15 53 08.8**	**-2.2**
	comp=E,469nm,0.2s,SNR=7.9								
MPAL	**Palemas**	**5.23**	**97**	*i* P		**Pn**		**15 52 14.0**	**+1.1**
MPAL				*i* S		**Sn**		**15 53 07.0**	**-4.9**
PTO	**Porto**	**5.24**	**14**	*e*Pn		**Pn**		**15 52 13.0**	**+0.1**
PTO				*e*Sn		**Sn**		**15 53 08.1**	**-3.9**
PTO				A		A		15 53 11.1	
	comp=E,270nm,0.3s								
PTO	**Porto**	**5.24**	**14**	Pn		**Pn**		**15 52 13.0**	**+0.1**
PTO				Sn		**Sn**		**15 53 08.1**	**-3.9**
	comp=E,135nm,0.3s								
PTO	**Porto**	**5.24**	**14**	*e*Pn		**Pn**		**15 52 13.0**	**+0.1**
PTO				Sn		**Sn**		**15 53 08.1**	**-3.9**
	comp=E,135nm,0.3s								
OUK	**Oukaimeden**	**5.24**	**157**	*i* P		**Pn**		**15 52 12.5**	**-0.9**
CZD	**Col de Zad**	**5.27**	**123**	*i* P		**Pn**		**15 52 14.0**	**+0.3**
ERON	**Agron**	**5.30**	**78**	⇑P		**Pn**		**15 52 15.8**	**+1.8**
	comp=E,54nm,0.3s,SNR=18								
ERON				S		**Sn**		**15 53 13.7**	**-0.1**
	comp=E,68nm,0.3s,SNR=7.9								
ERON	**Agron**	**5.30**	**78**	P		**Pn**		**15 52 15.8**	**+1.8**
	comp=E,54nm,0.3s,SNR=18								
ERON				S		**Sn**		**15 53 13.7**	**-0.1**
	comp=E,68nm,0.3s,SNR=7.9								
TZK	**Tazeka**	**5.37**	**110**	*i* P		**Pn**		**15 52 15.0**	**-0.1**
TOU	**Touzarine**	**5.43**	**100**	*i* P		**Pn**		**15 52 16.0**	**+0.2**
EGUA	**Guajares**	**5.46**	**80**	P		**Pn**		**15 52 16.9**	**+0.7**
	comp=E,20nm,0.1s,SNR=7.9								
EGUA				S		**Sn**		**15 53 18.5**	**+0.7**
	comp=E,243nm,0.2s,SNR=7.9								
EGUA	**Guajares**	**5.46**	**80**	P		**Pn**		**15 52 16.9**	**+0.7**
	comp=E,20nm,0.1s,SNR=7.9								
EGUA				S		**Sn**		**15 53 18.5**	**+0.7**
	comp=E,243nm,0.2s,SNR=7.9								
ECOG	**Cogollos-Vega**	**5.53**	**75**	P		**Pn**		**15 52 18.8**	**+1.7**
	comp=E,142nm,0.3s,SNR=178								
ECOG				S		**Sn**		**15 53 18.9**	**-0.6**
	comp=E,96nm,0.2s,SNR=4.9								
ECOG	**Cogollos-Vega**	**5.53**	**75**	P		**Pn**		**15 52 18.8**	**+1.7**
	comp=E,142nm,0.3s,SNR=178								
ECOG				S		**Sn**		**15 53 18.9**	**-0.6**
	comp=E,96nm,0.2s,SNR=4.9								
EBAN	**Banos Encina**	**5.60**	**66**	P		**Pn**		**15 52 18.6**	**+0.7**
	comp=E,55nm,0.2s,SNR=90								
EBAN				S		**Sn**		**15 53 18.5**	**-2.5**
	comp=E,151nm,0.2s,SNR=5.7								
EBAN	**Banos Encina**	**5.60**	**66**	P		**Pn**		**15 52 18.6**	**+0.7**
	comp=E,55nm,0.2s,SNR=90								
EBAN				S		**Sn**		**15 53 18.5**	**-2.5**
	comp=E,151nm,0.2s,SNR=5.7								
EQUE	**Quentar**	**5.62**	**76**	⇑P		**Pn**		**15 52 20.1**	**+1.8**
	comp=E,69nm,0.3s,SNR=18								
EQUE				S		**Sn**		**15 53 20.1**	**-1.5**
	comp=E,47nm,0.3s,SNR=5.0								
EQUE	**Quentar**	**5.62**	**76**	P		**Pn**		**15 52 20.1**	**+1.8**
	comp=E,69nm,0.3s,SNR=18								
EQUE				S		**Sn**		**15 53 20.1**	**-1.5**
	comp=E,47nm,0.3s,SNR=5.0								
POLO	**Lamas de Olo**	**5.65**	**19**	*e*Pn		**Pn**		**15 52 18.7**	**0.0**
POLO				*e*Sn		**Sn**		**15 53 17.6**	**-4.7**
POLO				A		A		15 53 24.5	
	comp=E,152nm,0.5s								
POLO	**Lamas de Olo**	**5.65**	**19**	*e*Pn		**Pn**		**15 52 18.7**	**0.0**
AFS	**Agadir Fac de**	**5.67**	**173**	*i* P		**Pn**		**15 52 19.0**	**+0.1**
MDT	**Midelt**	**5.69**	**123**	Pn		**Pn**		**15 52 20.0**	**+0.6**
MDT				Sn		**Sn**		**15 53 19.3

PBRG Sn **Sn** **15 53 35.4 -4.4**
comp=E,63nm,0.2s
PBRG Braganca 6.36 25 *e*Pn **Pn** **15 52 28.8 +0.3**
EHUE Huescar 6.40 72 P **Pn** **15 52 29.8 +0.8**
comp=E,28nm,0.2s,SNR=7.9
EHUE S **Sn** **15 53 38.6 -2.2**
comp=E,70nm,0.2s,SNR=7.9
EHUE Huescar 6.40 72 P **Pn** **15 52 29.8 +0.8**
comp=E,28nm,0.2s,SNR=7.9
EHUE S **Sn** **15 53 38.6 -2.2**
comp=E,70nm,0.2s,SNR=7.9
PMAR Madeira 6.42 241 *e*Pn Pn 15 52 26.0 -3.4
PMAR *e*Sn Sn 15 53 29.5 -12
PMAR A A 15 53 38.0
comp=E,323nm,0.3s
ECAL Calabor 6.48 24 ⇓P **Pn** **15 52 30.2 0.0**
comp=E,23nm,0.3s,SNR=18
ECAL S **Sn** **15 53 40.2 -2.7**
comp=E,559nm,0.5s,SNR=8.6
ECAL Calabor 6.48 24 P **Pn** **15 52 30.2 0.0**
comp=E,23nm,0.3s,SNR=18
ENIJ Nijar 6.56 80 P **Pn** **15 52 32.0 +0.8**
comp=E,32nm,0.5s,SNR=7.9
ENIJ S **Sn** **15 53 44.8 0.0**
comp=E,22nm,0.4s,SNR=7.9
ENIJ Nijar 6.56 80 P **Pn** **15 52 32.0 +0.8**
comp=E,32nm,0.5s,SNR=7.9
ENIJ S **Sn** **15 53 44.8 0.0**
comp=E,22nm,0.4s,SNR=7.9
PMOZ Porto Moniz, M 6.57 243 *e*Pn Pn 15 52 28.7 -2.7
PMOZ *e*Sn Sn 15 53 35.1 -10
PMOZ A A 15 53 46.4
comp=E,403nm,0.3s
GUD Guadarrama 6.64 45 P **Pn** **15 52 33.1 +0.8**
comp=E,12nm,0.3s,SNR=70
GUD S **Sn** **15 53 44.4 -2.3**
comp=E,348nm,0.4s,SNR=7.0
GUD Guadarrama 6.64 45 P **Pn** **15 52 33.1 +0.8**
comp=E,12nm,0.3s,SNR=70
GUD S **Sn** **15 53 44.4 -2.3**
comp=E,348nm,0.4s,SNR=7.0
EVIA Vianos 6.71 65 P **Pn** **15 52 33.4 +0.2**
comp=E,111nm,0.5s,SNR=52
EVIA S **Sn** **15 53 45.7 -2.7**
comp=E,297nm,0.2s,SNR=7.9
EVIA Vianos 6.71 65 P **Pn** **15 52 33.4 +0.2**
comp=E,111nm,0.5s,SNR=52
ERUA La Rua 6.77 20 ⇑P **Pn** **15 52 34.1 0.0**
comp=E,13nm,0.1s,SNR=18
ERUA S **Sn** **15 53 46.9 -3.0**
comp=E,41nm,0.2s,SNR=7.9
ERUA La Rua 6.77 20 P **Pn** **15 52 34.1 0.0**
comp=E,13nm,0.1s,SNR=18
STS Santiago 6.94 11 P **Pn** **15 52 35.9 -0.5**
comp=E,17nm,0.1s,SNR=23
STS S **Sn** **15 53 50.4 -3.6**
comp=E,41nm,0.2s,SNR=7.9
STS Santiago 6.94 11 P **Pn** **15 52 35.9 -0.5**
comp=E,17nm,0.1s,SNR=23
EMAZ Mazaricos 6.95 8 ⇑P **Pn** **15 52 35.6 -0.9**
comp=E,92nm,0.3s,SNR=18
EMAZ S Sn 15 53 47.5 -6.7
comp=E,300nm,0.5s,SNR=8.0
EMAZ Mazaricos 6.95 8 P **Pn** **15 52 35.6 -0.9**
comp=E,92nm,0.3s,SNR=18
ETOB Tobarra 7.41 67 P **Pn** **15 52 43.0 +0.1**
comp=E,28nm,0.3s,SNR=126
ETOB S **Sn** **15 54 01.7 -4.1**
comp=E,84nm,0.3s,SNR=11
ETOB Tobarra 7.41 67 P **Pn** **15 52 43.0 +0.1**
comp=E,28nm,0.3s,SNR=126
EFAM Famara 7.44 203 P Pn 15 52 39.2 -4.1
comp=E,3.0nm,0.1s,SNR=11
EFAM S Sn 15 53 56.4 -10
comp=E,125nm,0.3s,SNR=7.9
EMUR La Murta 7.45 74 P **Pn** **15 52 43.7 +0.3**
comp=E,6.2nm,0.2s,SNR=39
EMUR S **Sn** **15 54 05.1 -1.5**
comp=E,64nm,0.7s,SNR=4.6
EMUR La Murta 7.45 74 P **Pn** **15 52 43.7 +0.3**
comp=E,6.2nm,0.2s,SNR=39
EMUR S **Sn** **15 54 05.1 -1.5**
comp=E,64nm,0.7s,SNR=4.6
CART Cartagena 7.59 76 ⇑P **Pn** **15 52 44.7 -0.6**
CART S Sn 15 54 04.2 -5.8
CART Cartagena 7.59 76 P **Pn** **15 52 44.7 -0.6**
EPON Pontenova 7.64 17 P **Pn** **15 52 45.8 -0.2**
comp=E,12nm,0.4s,SNR=22
EPON S **Sn** **15 54 07.9 -3.4**
comp=E,117nm,0.6s,SNR=5.1
EPON Pontenova 7.64 17 P **Pn** **15 52 45.8 -0.2**
comp=E,12nm,0.4s,SNR=22
ETOR Torete 8.01 51 P **Pn** **15 52 52.1 +1.0**
comp=E,57nm,0.6s,SNR=67
ETOR S **Sn** **15 54 16.7 -3.7**
comp=E,312nm,0.4s,SNR=7.1
ETOR Torete 8.01 51 P **Pn** **15 52 52.1 +1.0**
comp=E,57nm,0.6s,SNR=67
CFUE Fuerteventura 8.02 204 S Sn 15 54 11.6 -9.0
comp=E,142nm,0.4s,SNR=7.9
ECHE Chera 8.16 62 P **Pn** **15 52 55.0 +1.8**
comp=E,4.1nm,0.2s,SNR=12
ECHE S **Sn** **15 54 21.5 -2.7**
comp=E,46nm,0.6s,SNR=7.9
ECHE Chera 8.16 62 P **Pn** **15 52 55.0 +1.8**
comp=E,4.1nm,0.2s,SNR=12
ECHE S **Sn** **15 54 21.5 -2.7**
comp=E,46nm,0.6s,SNR=7.9
EARI Arriondas 8.21 27 P **Pn** **15 52 54.6 +0.7**
comp=E,5.5nm,0.5s,SNR=39
EARI S **Sn** **15 54 23.1 -2.3**
comp=E,44nm,0.6s,SNR=5.9
EARI Arriondas 8.21 27 P **Pn** **15 52 54.6 +0.7**
comp=E,5.5nm,0.5s,SNR=39
EARI S **Sn** **15 54 23.1 -2.3**
comp=E,44nm,0.6s,SNR=5.9
CFTV Fuerteventura 8.28 204 P Pn 15 52 48.9 -5.9
comp=E,39nm,0.4s,SNR=9.9
CFTV S Sn 15 54 16.8 -10
comp=E,52nm,0.4s,SNR=7.9
EBEN Beniarda 8.43 69 P **Pn** **15 52 57.2 +0.4**
comp=E,6.6nm,0.6s,SNR=32
EBEN S **Sn** **15 54 26.1 -4.5**
comp=E,36nm,0.5s,SNR=5.9
EBEN Beniarda 8.43 69 P **Pn** **15 52 57.2 +0.4**
comp=E,6.6nm,0.6s,SNR=32
EMOS Mosqueruela 8.83 58 P **Pn** **15 53 04.6 +2.2**
comp=E,23nm,0.5s,SNR=33
EMOS S **Sn** **15 54 36.3 -4.3**
comp=E,101nm,0.7s,SNR=10
EMOS Mosqueruela 8.83 58 P **Pn** **15 53 04.6 +2.2**
comp=E,23nm,0.5s,SNR=33
ELAN Lanestosa 8.89 34 P **Pn** **15 53 03.7 +0.6**
comp=E,3.4nm,0.2s,SNR=21
ELAN S **Sn** **15 54 38.7 -3.1**
comp=E,64nm,0.7s,SNR=9.6
ELAN Lanestosa 8.89 34 P **Pn** **15 53 03.7 +0.6**
comp=E,3.4nm,0.2s,SNR=21
EBAJ Bajamar 9.09 216 S Sn 15 54 33.8 -13
comp=E,92nm,0.6s,SNR=7.9
EOSO Osorio 9.14 211 S Sn 15 54 35.8 -12
comp=E,67nm,0.4s,SNR=7.9
CRAJ Montana Rajada 9.44 216 S Sn 15 54 44.7 -11
comp=E,128nm,0.2s,SNR=7.9
CCAN Las Canadas 9.48 216 P Pn 15 53 06.1 -5.3
comp=E,2.9nm,0.3s,SNR=7.9
CCAN S Sn 15 54 42.8 -14
comp=E,8.4nm,0.4s,SNR=7.9
EARA Aranguren 9.49 42 S **Sn** **15 54 54.0 -2.6**
comp=E,143nm,1.0s,SNR=7.9
ESAC San Caprasio 9.50 51 S **Sn** **15 54 54.8 -2.2**
comp=E,195nm,0.3s,SNR=7.9
ESAC San Caprasio 9.50 51 S **Sn** **15 54 54.8 -2.2**
comp=E,195nm,0.3s,SNR=7.9
IUNC Unciti 9.53 43 P **Pn** **15 53 13.2 +1.4**
comp=E,3.0nm,0.2s,SNR=7.9
IUNC S **Sn** **15 54 54.9 -2.7**
comp=E,129nm,0.5s,SNR=7.9
IUNC Unciti 9.53 43 P **Pn** **15 53 13.2 +1.4**
comp=E,3.0nm,0.2s,SNR=7.9
IUNC S **Sn** **15 54 54.9 -2.7**
comp=E,129nm,0.5s,SNR=7.9
IUSE Utxeti 9.63 42 P **Pn** **15 53 14.8 +1.6**
comp=E,1.2nm,0.1s,SNR=7.9
IUSE S **Sn** **15 54 56.6 -3.5**
comp=E,14nm,0.3s,SNR=7.9
IUSE Utxeti 9.63 42 P **Pn** **15 53 14.8 +1.6**
comp=E,1.2nm,0.1s,SNR=7.9

ERTA Horta de San J 9.64 56 P **Pn** **15 53 15.1 +1.7**
comp=E,1.5nm,0.2s,SNR=6.2
ERTA S **Sn** **15 54 59.2 -1.2**
comp=E,26nm,0.4s,SNR=7.9
ERTA Horta de San J 9.64 56 P **Pn** **15 53 15.1 +1.7**
comp=E,1.5nm,0.2s,SNR=6.2
ERTA S **Sn** **15 54 59.2 -1.2**
comp=E,26nm,0.4s,SNR=7.9
IEPA Eparoz 9.67 43 P **Pn** **15 53 15.5 +1.7**
comp=E,4.2nm,0.3s,SNR=7.9
IEPA S **Sn** **15 54 58.6 -2.5**
comp=E,95nm,0.5s,SNR=7.9
IEPA Eparoz 9.67 43 P **Pn** **15 53 15.5 +1.7**
comp=E,4.2nm,0.3s,SNR=7.9
IEPA S **Sn** **15 54 58.6 -2.5**
comp=E,95nm,0.5s,SNR=7.9
IELO Elcoad 9.73 43 P **Pn** **15 53 15.9 +1.3**
comp=E,5.4nm,0.2s,SNR=7.9
IELO S **Sn** **15 54 59.7 -2.8**
comp=E,66nm,0.4s,SNR=7.9
IELO Elcoad 9.73 43 P **Pn** **15 53 15.9 +1.3**
comp=E,5.4nm,0.2s,SNR=7.9
ELIZ Elizondo 9.79 41 P **Pn** **15 53 16.7 +1.4**
comp=E,11nm,0.4s,SNR=24
ELIZ S **Sn** **15 54 59.8 -4.1**
comp=E,23nm,0.4s,SNR=7.9
ELIZ Elizondo 9.79 41 P **Pn** **15 53 16.7 +1.4**
comp=E,11nm,0.4s,SNR=24
EHIG Higuera 9.82 222 S Sn 15 54 52.2 -13
comp=E,81nm,0.3s,SNR=7.9
EGOM La Gomera 9.83 219 S Sn 15 54 51.1 -14
comp=E,73nm,0.4s,SNR=7.9
EALK Alkurruntz 9.84 41 P **Pn** **15 53 17.9 +1.9**
comp=E,16nm,0.8s,SNR=12
EALK S **Sn** **15 55 00.9 -4.1**
comp=E,103nm,0.4s,SNR=11
EALK Alkurruntz 9.84 41 P **Pn** **15 53 17.9 +1.9**
comp=E,16nm,0.8s,SNR=12
SJPF Ste Jean 9.91 42 *e*Pn **Pn** **15 53 18.1 +1.0**
SNR=1.0
SJPF *e*Sn Sn 15 55 01.2 -5.8
comp=E,62nm,0.4s,SNR=1.0
SJPF Ste Jean 9.91 42 *e*Pn **Pn** **15 53 18.1 +1.0**
SJPF *e*Sn Sn 15 55 01.2 -5.8
SJPF Ste Jean 9.91 42 *e*Pn **Pn** **15 53 18.1 +1.0**
OSSF Osses 9.99 41 P **Pn** **15 53 19.0 +0.9**
OSSF Osses 9.99 41 P **Pn** **15 53 19.0 +0.9**
LARF Larrau 9.99 43 P **Pn** **15 53 19.5 +1.3**
LARF S Sn 15 55 00.3 -8.7
LARF Larrau 9.99 43 P **Pn** **15 53 19.5 +1.3**
ORDF Ordiarp 10.14 42 P **Pn** **15 53 21.1 +0.9**
ORDF Ordiarp 10.14 42 P **Pn** **15 53 21.1 +0.9**
ETSF Etsaut 10.14 45 *e*Pn **Pn** **15 53 21.5 +1.2**
SNR=1.0
ETSF *e*Sn **Sn** **15 55 08.3 -4.5**
comp=E,86nm,0.6s
ETSF Etsaut 10.14 45 *e*Pn **Pn** **15 53 21.5 +1.2**
ETSF *e*Sn **Sn** **15 55 08.3 -4.5**
ETSF Etsaut 10.14 45 *e*Pn **Pn** **15 53 21.5 +1.2**
ATE Arette 10.18 44 P **Pn** **15 53 21.3 +0.5**
ATE S Sn 15 55 02.2 -12
ATE Arette 10.18 44 P **Pn** **15 53 21.3 +0.5**
EPOB Poblet 10.32 56 P **Pn** **15 53 24.5 +1.7**
comp=E,2.1nm,0.4s,SNR=7.5
EPOB S **Sn** **15 55 13.0 -4.2**
comp=E,15nm,0.6s,SNR=7.9
EPOB Poblet 10.32 56 P **Pn** **15 53 24.5 +1.7**
comp=E,2.1nm,0.4s,SNR=7.5
REYF Montagne du Re 10.35 44 P **Pn** **15 53 24.0 +0.9**
REYF Montagne du Re 10.35 44 P **Pn** **15 53 24.0 +0.9**
EBIE Bielsa 10.43 47 P **Pn** **15 53 25.3 +1.0**
comp=E,3.6nm,0.3s,SNR=18
EBIE S **Sn** **15 55 14.6 -5.3**
comp=E,72nm,0.4s,SNR=7.9
EBIE Bielsa 10.43 47 P **Pn** **15 53 25.3 +1.0**
comp=E,3.6nm,0.3s,SNR=18
VIEF Viey 10.47 46 P **Pn** **15 53 26.0 +1.2**
VIEF Viey 10.47 46 P **Pn** **15 53 26.0 +1.2**
LABF Labassere 10.60 46 P **Pn** **15 53 28.1 +1.5**
LABF Labassere 10.60 46 P **Pn** **15 53 28.1 +1.5**
EPF Esparros 10.75 46 *e*Pn **Pn** **15 53 29.6 +1.1**
SNR=1.0
EPF *e*Sn **Sn** **15 55 22.2 -5.3**
comp=E,28nm,0.2s
EPF Esparros 10.75 46 *e*Pn **Pn** **15 53 29.6 +1.1**
EPF *e*Sn **Sn** **15 55 22.2 -5.3**
EPF Esparros 10.75 46 *e*Pn **Pn** **15 53 29.6 +1.1**
CSOR Sort 10.86 51 P **Pn** **15 53 31.0 +0.8**
comp=E,2.5nm,0.4s,SNR=12
CSOR S **Sn** **15 55 26.2 -4.1**
comp=E,32nm,0.6s,SNR=9.6
CSOR Sort 10.86 51 P **Pn** **15 53 31.0 +0.8**
comp=E,2.5nm,0.4s,SNR=12
EMIR Miracle 10.88 54 P **Pn** **15 53 31.3 +0.9**
comp=E,10nm,0.6s,SNR=5.5
EMIR S **Sn** **15 55 27.1 -3.8**
comp=E,30nm,0.6s,SNR=5.7
EMIR Miracle 10.88 54 P **Pn** **15 53 31.3 +0.9**
comp=E,10nm,0.6s,SNR=5.5
MELF Melles 10.90 48 P **Pn** **15 53 31.2 +0.5**
MELF Melles 10.90 48 P **Pn** **15 53 31.2 +0.5**
ETOS Mallorca 10.98 66 P **Pn** **15 53 32.8 +1.0**
comp=E,4.1nm,0.6s,SNR=7.7
ETOS S Sn 15 55 27.3 -6.0
comp=E,75nm,0.6s,SNR=7.9
ETOS Mallorca 10.98 66 P **Pn** **15 53 32.8 +1.0**
comp=E,4.1nm,0.6s,SNR=7.7
CFON Fontmartina 11.42 56 P **Pn** **15 53 38.8 +1.1**
comp=E,2.5nm,0.3s,SNR=11
CFON Fontmartina 11.42 56 P **Pn** **15 53 38.8 +1.1**
comp=E,2.5nm,0.3s,SNR=11
CARF Carcanieres 11.65 51 P **Pn** **15 53 42.2 +1.2**
CARF Carcanieres 11.65 51 P **Pn** **15 53 42.2 +1.2**
MTLF Montolieu 12.05 49 *e*Pn **Pn** **15 53 46.0 -0.3**
MTLF Montolieu 12.05 49 *e*P Pn 15 53 49.7 +3.4
SNR=1.0
MTLF *e*Sn Sn 15 55 53.3 -6.0
comp=E,21nm,0.7s
MTLF Montolieu 12.05 49 *e*Pn **Pn** **15 53 46.0 -0.3**
MTLF *e*Sn Sn 15 55 53.3 -6.0
MTLF Montolieu 12.05 49 *e*Pn **Pn** **15 53 46.0 -0.3**
LFF La Frestale 12.19 40 *e*Pn **Pn** **15 53 48.5 +0.3**
LFF *e*Sn Sn 15 55 56.4 -6.3
comp=E,38nm,0.9s
LFF La Frestale 12.19 40 *e*Pn **Pn** **15 53 48.5 +0.3**
LFF *e*Sn Sn 15 55 56.4 -6.3
LFF La Frestale 12.19 40 *e*Pn **Pn** **15 53 48.5 +0.3**
RJF Les Rejaudoux 12.85 40 *e*Pn **Pn** **15 53 57.0 -0.2**
SNR=1.0
RJF *e*Sn Sn 15 56 11.4 -7.3
comp=E,36nm,0.5s
RJF Les Rejaudoux 12.85 40 *e*Pn **Pn** **15 53 57.0 -0.2**
RJF *e*Sn Sn 15 56 11.4 -7.3
RJF Les Rejaudoux 12.85 40 *e*Pn **Pn** **15 53 57.0 -0.2**
CAF Calviac 12.89 43 *e*Pn **Pn** **15 53 57.7 -0.2**
SNR=1.0
CAF *e*Sn Sn 15 56 12.3 -7.6
comp=E,35nm,0.6s
CAF Calviac 12.89 43 *e*Pn **Pn** **15 53 57.7 -0.2**
CAF *e*Sn Sn 15 56 12.3 -7.6
CAF Calviac 12.89 43 *e*Pn **Pn** **15 53 57.7 -0.2**
QUIF Quistinic 12.96 22 *e*Pn **Pn** **15 53 57.9 -0.8**
SNR=1.0
QUIF *e*Sn Sn 15 56 11.5 -10
comp=E,43nm,0.9s,SNR=1.0
QUIF Quistinic 12.96 22 *e*Pn **Pn** **15 53 57.9 -0.8**
QUIF *e*Sn Sn 15 56 11.5 -10
QUIF Quistinic 12.96 22 *e*Pn **Pn** **15 53 57.9 -0.8**
MFF Saint Martin d 12.98 33 *e*Pn **Pn** **15 53 59.1 +0.1**
SNR=1.0
MFF *e*Sn Sn 15 56 14.4 -7.5
comp=E,20nm,0.7s
MFF Saint Martin d 12.98 33 *e*Pn **Pn** **15 53 59.1 +0.1**
MFF *e*Sn Sn 15 56 14.4 -7.5
MFF Saint Martin d 12.98 33 *e*Pn **Pn** **15 53 59.1 +0.1**
ROSF Rostrenen 13.31 21 *e*Pn **Pn** **15 54 04.2 +0.7**
SNR=1.0
ROSF *e*Sn Sn 15 56 22.2 -7.8
comp=E,21nm,0.6s,SNR=1.0
ROSF Rostrenen 13.31 21 *e*Pn **Pn** **15 54 04.2 +0.7**
ROSF *e*Sn Sn 15 56 22.2 -7.8
ROSF Rostrenen 13.31 21 *e*Pn **Pn** **15 54 04.2 +0.7**
LASF Ste Croix 13.45 49 *e*Pn **Pn** **15 54 05.4 0.0**
LASF *e*Sn Sn 15 56 26.8 -6.7
comp=E,39nm,0.8s

LASF Ste Croix 13.45 49 *e*Pn **Pn** **15 54 05.4 0.0**
LASF *e*Sn Sn 15 56 26.8 -6.7
LASF Ste Croix 13.45 49 *e*Pn **Pn** **15 54 05.4 0.0**
SGMF Saint Gilles 13.45 23 *e*Pn **Pn** **15 54 04.0 -1.4**
SNR=1.0
SGMF Saint Gilles 13.45 23 *e*Pn **Pn** **15 54 04.0 -1.4**
SGMF Saint Gilles 13.45 23 *e*Pn **Pn** **15 54 04.0 -1.4**
TCF Toulx Ste Croi 13.87 39 *e*Pn **Pn** **15 54 10.3 -0.8**
TCF *e*Sn Sn 15 56 33.9 -10
comp=E,23nm,0.7s
TCF Toulx Ste Croi 13.87 39 *e*Pn **Pn** **15 54 10.3 -0.8**
TCF *e*Sn Sn 15 56 33.9 -10
TCF Toulx Ste Croi 13.87 39 *e*Pn **Pn** **15 54 10.3 -0.8**
GRR Gorron 14.14 27 *e*Sn Sn 15 56 41.9 -8.3
comp=E,14nm,0.6s
GRR Gorron 14.14 27 *e*Sn Sn 15 56 41.9 -8.3
VIVF Saint-Julien-l 14.36 48 *e*Pn **Pn** **15 54 18.1 +0.3**
VIVF Saint-Julien-l 14.36 48 *e*Pn **Pn** **15 54 18.1 +0.3**
VIVF Saint-Julien-l 14.36 48 *e*Pn **Pn** **15 54 18.1 +0.3**
BGF Bois d'Agland 14.37 39 *e*Sn Sn 15 56 46.7 -9.2
comp=E,38nm,0.5s
BGF Bois d'Agland 14.37 39 *e*Sn Sn 15 56 46.7 -9.2
LDF La Druitiere 14.58 28 *e*Pn **Pn** **15 54 19.5 -1.2**
SNR=1.0
LDF *e*Sn Sn 15 56 53.1 -7.9
comp=E,9.3nm,0.5s
LDF La Druitiere 14.58 28 *e*Pn **Pn** **15 54 19.5 -1.2**
LDF *e*Sn Sn 15 56 53.1 -7.9
LDF La Druitiere 14.58 28 *e*Pn **Pn** **15 54 19.5 -1.2**
SNR=1.0
FLN La Foliniere 14.59 27 *e*Sn Sn 15 56 52.2 -8.9
comp=E,9.5nm,0.5s
FLN La Foliniere 14.59 27 *e*Sn Sn 15 56 52.2 -8.9
AVF Avril sur Loir 14.79 39 *e*Sn Sn 15 56 56.1 -10
comp=E,8.9nm,0.7s
AVF Avril sur Loir 14.79 39 *e*Sn Sn 15 56 56.1 -10
SSF Saint Saulge 15.05 39 *e*Pn **Pn** **15 54 26.8 -0.1**
SNR=1.0
SSF Saint Saulge 15.05 39 *e*Pn **Pn** **15 54 26.8 -0.1**
SSF Saint Saulge 15.05 39 *e*Pn **Pn** **15 54 26.8 -0.1**
ORIF Oris-en-Rattie 15.12 49 *e*P **P** **15 54 30.2 -2.4**
ORIF Oris-en-Rattie 15.12 49 *e*P **P** **15 54 30.2 -2.4**
ORIF Oris-en-Rattie 15.12 49 *e*P **P** **15 54 30.2 -2.4**
LOR Lormes 15.37 39 *e*Pn **Pn** **15 54 31.1 0.0**
baz=222
LOR *e*Sn Sn 15 57 10.7 -9.3
comp=E,6.0nm,0.5s
LOR Lormes 15.37 39 *e*Pn **Pn** **15 54 31.1 0.0**
LOR *e*Sn Sn 15 57 10.7 -9.3
LOR Lormes 15.37 39 *e*Pn **Pn** **15 54 31.1 0.0**
KEST Kesra 15.91 85 *e*Pn **P** **15 54 40.0 -1.4**
KEST Kesra 15.91 85 Pn **P** **15 54 39.7 -1.6**
comp=E,0.2nm,0.3s,baz=240,slow=4.4,SNR=9.5
KEST Kesra 15.91 85 *e*Pn **P** **15 54 40.0 -1.4**
LPL La Plagne 15.95 48 *e*P **P** **15 54 41.3 -0.5**
LPL La Plagne 15.95 48 *e*P **P** **15 54 41.3 -0.5**
LPL La Plagne 15.95 48 *e*P **P** **15 54 41.3 -0.5**
BAIF Baives 17.50 32 *e*P **P** **15 55 00.0 +1.3**
SNR=1.0
BAIF Baives 17.50 32 *e*P **P** **15 55 00.0 +1.3**
BAIF Baives 17.50 32 *e*P **P** **15 55 00.0 +1.3**
DOU Dourbes 17.69 33 P **P** **15 55 03.3 +2.4**
GIVF Givet 17.80 33 *e*P **P** **15 55 03.5 +1.5**
GIVF Givet 17.80 33 *e*P **P** **15 55 03.5 +1.5**
GIVF Givet 17.80 33 *e*P **P** **15 55 03.5 +1.5**
WLF Walferdange 18.11 36 P **P** **15 55 07.6 +2.1**
comp=Z,13nm,1.1s
WLF Walferdange 18.11 36 *e*Pn **P** **15 55 07.1 +1.7**
comp=Z,18nm,0.9s
WLF Walferdange 18.11 36 *e*Pn **P** **15 55 07.1 +1.7**
comp=Z,18nm,0.9s
WLF Walferdange 18.11 36 P **P** **15 55 07.5 +2.1**
comp=Z,13nm,1.1s
DAVOX Davos/Dischmat 18.47 48 P **Pn** **15 55 11.6 +1.5**
DAVOX Davos/Dischmat 18.47 48 P **Pn** **15 55 11.6 +1.5**
comp=Z,0.3nm,0.3s,baz=252,slow=6.9,SNR=6.4
DAVOX LR LR 16 03 11.8
comp=Z,143nm,18.3s,baz=166,slow=40
DAVOX Davos/Dischmat 18.47 48 P **Pn** **15 55 11.6 +1.5**
MEM Membach 18.69 34 P **Pn** **15 55 14.1 +1.6**
MEM Membach 18.69 34 P **Pn** **15 55 14.1 +1.6**
TAM Tamanrasset 19.05 130 *e*P **Pn** **15 55 19.1 +1.9**
comp=Z,3.1nm,0.8s
EKA Eskdalemuir Ar 19.88 12 P **Pn** **15 55 26.3 -0.4**
EKA S **S** **15 59 03.8 -2.5**
EKA Eskdalemuir Ar 19.88 12 P **Pn** **15 55 26.3 -0.4**
baz=190,slow=11,SNR=4.9
EKA S **S** **15 59 03.8 -2.5**
baz=197,slow=22,SNR=4.4
EKA Eskdalemuir Ar 19.88 12 P **Pn** **15 55 26.3 -0.4**
GRF Grafenberg Arr 20.73 42 *e*P Pn 15 55 36.0 -0.7
comp=Z,9.0nm,0.9s
GRF *e*L L 16 05 21.9
comp=Z,66nm,18.4s
CUC Castrocucco 20.90 71 *e*P **P** **15 55 36.5 +0.4**
comp=Z,36nm,0.9s
CUC Castrocucco 20.90 71 *e*P **P** **15 55 36.5 +0.4**
comp=Z,36nm,0.9s
TIP Timpagrande 21.61 74 P **P** **15 55 43.7 0.0**
comp=Z,7.8nm,0.6s
TIP Timpagrande 21.61 74 P **P** **15 55 43.7 0.0**
comp=Z,7.8nm,0.6s
GERES GERESS Array B 21.71 47 P **P** **15 55 45.8 +1.1**
GERES PcP **PcP** **15 59 44.2 -0.1**
GERES GERESS Array B 21.71 47 P **P** **15 55 45.8 +1.1**
comp=Z,4.8nm,0.7s,baz=239,slow=9.2,SNR=32
GERES PcP **PcP** **15 59 44.2 -0.1**
comp=Z,0.2nm,0.4s,baz=205,slow=2.8,SNR=4.4
GERES LR LR 16 05 21.1
comp=Z,82nm,18.8s,baz=6.0,slow=40
GERES GERESS Array B 21.71 47 P **P** **15 55 45.8 +1.1**
GERES GERESS Array B 21.71 47 PcP **PcP** **15 59 44.2 -0.1**
KHC Kasperske Hory 21.77 46 *e*P **P** **15 55 46.8 +1.5**
KHC *ex* x 15 55 57.5
KHC AMS AMS 16 05 20.0
comp=Z,100nm,17.6s
KHC Kasperske Hory 21.77 46 *e*P **P** **15 55 46.1 +0.9**
comp=Z,18nm,1.1s
KHC Kasperske Hory 21.77 46 *e*P **P** **15 55 46.2 +0.9**
comp=Z,18nm,1.1s
BBTS Babate 22.04 196 LR LR 16 03 42.1
comp=Z,60nm,18.8s,baz=108,slow=35
CLL Collm 22.57 40 *e*P **P** **15 55 54.0 +0.2**
comp=Z,8.0nm,1.1s
CLL LmV 16 05 00.0
comp=Z,100nm,18.1s
PRU Pruhonice 22.73 45 *e*P **P** **15 55 56.3 +0.8**
PRU *e*pP **pP** **15 56 01.8 -4.0**
PRU *ex* x 15 56 13.7
PRU Pruhonice 22.73 45 P **P** **15 55 56.3 +0.8**
BRG Berggiesshubel 22.84 42 *e*P **P** **15 55 58.1 +1.5**
comp=Z,7.4nm,1.2s
TREC Trest 22.96 47 AMS AMS 16 06 00.0
comp=Z,100nm,12.1s
VRAC Vranov 23.63 48 LR LR 16 06 18.7
comp=Z,107nm,19.3s,baz=244,slow=39
UPC Upice 23.81 44 *e*P **P** **15 56 07.4 +1.3**
UPC *ex* x 15 56 22.0
UPC Upice 23.81 44 P **P** **15 56 07.4 +1.3**
DPC Dobruska-Polom 23.91 45 *e*P **P** **15 56 08.5 +1.3**
DPC *ex* x 15 56 18.9
DPC Dobruska-Polom 23.91 45 P **P** **15 56 08.5 +1.3**
VYHS Vyhne 24.70 51 *e*P **P** **15 56 13.6 -0.7**
VYHS Vyhne 24.70 51 *e*P **P** **15 56 13.6 -0.7**
comp=Z,2.2nm,0.9s
OKC Ostrava-Krasne 24.77 47 AMS AMS 16 06 40.0
comp=Z,100nm,18.9s
TOA0 Torodi Ar. Sit 25.23 152 P **P** **15 56 18.9 -0.4**
TOA0 Torodi Ar. Sit 25.23 152 P **P** **15 56 18.9 -0.4**
TORD Torodi Ar. Bea 25.23 152 P **P** **15 56 19.2 -0.1**
TORD Torodi Ar. Bea 25.23 152 P **P** **15 56 19.2 -0.1**
comp=Z,1.3nm,0.6s,baz=325,slow=10,SNR=9.2
TORD LR LR 16 06 24.7
comp=Z,61nm,19.6s,baz=155,slow=37
TORD Torodi Ar. Bea 25.23 152 P **P** **15 56 19.2 -0.1**
KECS Kecovo 25.74 52 *e*P **P** **15 56 25.7 +2.0**
KECS Kecovo 25.74 52 *e*P **P** **15 56 25.7 +2.0**
comp=Z,6.1nm,0.9s
NOA NORSAR Array B 28.49 22 LR LR 16 06 47.8
comp=Z,29nm,21.9s,baz=185,slow=33
HFS Hagfors 28.60 25 LR LR 16 08 07.6
comp=Z,59nm,20.4s,baz=226,slow=36
MLR Muntele Rosu 28.79 60 LR LR 16 09 00.0
comp=Z,9.7nm,20.6s,baz=220,slow=38
DBIC Dimbokro 29.67 169 LR LR 16 09 24.3

comp=Z,67nm,22.0s,baz=88,slow=38
FINES FINESS Array B 34.15 30 P P 15 57 39.0 +1.0
FINES FINESS Array B 34.15 30 P P 15 57 39.0 +1.0
comp=Z,3.7nm,0.8s,baz=243,slow=7.1,SNR=11
FINES LR LR 16 13 14.3
comp=Z,78nm,19.4s,baz=195,slow=39
FINES FINESS Array B 34.15 30 P P 15 57 39.0 +1.0
ARCES ARCESS Array B 38.76 19 P P 15 58 17.8 +0.6
ARCES PcP **PcP** 16 00 27.9 0.0
ARCES ARCESS Array B 38.76 19 P P 15 58 17.8 +0.6
comp=Z,3.4nm,0.6s,baz=224,slow=8.5,SNR=18
ARCES PcP **PcP** 16 00 27.9 0.0
comp=Z,4.1nm,0.9s,baz=267,slow=2.4,SNR=6.2
ARCES ARCESS Array B 38.76 19 P P 15 58 17.8 +0.6
ARCES ARCESS Array B 38.76 19 PcP **PcP** 16 00 28.0 0.0
AKTO Aktyubinsk 50.04 51 LR LR 16 24 23.7
comp=Z,30nm,20.2s,baz=130,slow=40
BVAR Borovoye Array 56.88 45 LR LR 16 28 43.5
comp=Z,30nm,20.2s,baz=106,slow=40
ULM Lac du Bonnet 60.70 313 LR LR 16 23 02.5
comp=Z,43nm,19.6s,baz=5.0,slow=32
KURBB Kurchatov Arra 62.45 46 P **P 16 01 16.6 +0.6**
comp=Z,1.9nm,0.7s,baz=296,slow=7.4,SNR=15
KURK Kurchatov 62.46 46 P **P 16 01 16.6 +0.5**
KURK Kurchatov 62.46 46 P **P 16 01 16.6 +0.5**
ZALV Zalesovo Beam 64.52 41 P **P 16 01 30.3 +0.7**
ZALV Zalesovo Beam 64.52 41 P **P 16 01 30.3 +0.7**
comp=Z,1.0nm,0.7s,baz=307,slow=5.2,SNR=5.5
ZALV LR LR 16 30 43.6
comp=Z,31nm,20.1s,baz=226,slow=37
ZALV Zalesovo Beam 64.52 41 P **P 16 01 30.3 +0.7**
YKA Yellowknife Ar 64.79 330 P **P 16 01 31.1 -0.1**
YKA Yellowknife Ar 64.79 330 P **P 16 01 31.1 -0.1**
comp=Z,0.5nm,0.6s,baz=66,slow=7.0,SNR=7.4
YKA Yellowknife Ar 64.79 330 P **P 16 01 31.1 -0.1**
MKAR Makanchi Array 66.36 49 P **P 16 01 42.3 +0.6**
MKAR Makanchi Array 66.36 49 P **P 16 01 42.3 +0.6**
comp=Z,0.6nm,0.3s,baz=303,slow=5.2,SNR=14
MKAR LR LR 16 31 54.7
comp=Z,39nm,19.4s,baz=84,slow=37
MKAR Makanchi Array 66.36 49 P **P 16 01 42.3 +0.6**
BOSA Boshof 72.51 148 LR LR 16 34 27.5
comp=Z,59nm,18.1s,baz=167,slow=36
BW06 Boulder Array 72.52 310 *eP* **P 16 02 18.6 -1.5**
comp=Z,0.6nm,0.6s
BW06 Boulder Array 72.52 310 *eP* **P 16 02 18.6 -1.5**
comp=Z,0.6nm,0.6s
PDAR Pinedale Array 72.52 310 P **P 16 02 19.7 -0.4**
PDAR Pinedale Array 72.52 310 P **P 16 02 19.7 -0.4**
comp=Z,1.6nm,0.7s,baz=61,slow=7.2,SNR=12
PDAR Pinedale Array 72.52 310 P **P 16 02 19.7 -0.4**
ILAR Eielson Array 73.91 342 P **P 16 02 27.8 +0.2**
ILAR Eielson Array 73.91 342 P **P 16 02 27.8 +0.2**
comp=Z,0.5nm,0.7s,baz=14,slow=5.8,SNR=6.7
ILAR Eielson Array 73.91 342 P **P 16 02 27.8 +0.2**
HWUT Hardware Ranch 74.41 310 *eP* **P 16 02 30.9 -0.2**
comp=Z,4.0nm,0.6s
HWUT Hardware Ranch 74.41 310 *eP* **P 16 02 30.9 -0.2**
comp=Z,4.0nm,0.6s
TXAR Lajitas Array 75.89 296 P **P 16 02 40.3 +0.6**
TXAR Lajitas Array 75.89 296 P **P 16 02 40.3 +0.6**
comp=Z,0.8nm,0.7s,baz=76,slow=5.7,SNR=6.4
TXAR Lajitas Array 75.89 296 P **P 16 02 40.3 +0.6**
SONM Songino Array 79.16 38 P **P 16 02 58.5 +0.8**
SONM Songino Array 79.16 38 P **P 16 02 58.5 +0.8**
comp=Z,0.9nm,0.8s,baz=298,slow=5.6,SNR=7.6
SONM LR LR 16 39 05.0
comp=Z,33nm,18.4s,baz=79,slow=36
SONM Songino Array 79.16 38 P **P 16 02 58.5 +0.8**
ISA Isabella 82.29 309 *eP* **P 16 03 16.8 +2.2**
comp=Z,2.1nm,0.9s
KSRS Korea Array 97.23 32 LR LR 16 53 23.8
comp=Z,18nm,18.4s,baz=115,slow=38
WRA Warrmunga Arr 145.10 72 PKPbc **PKPbc 16 10 29.7 -0.4**
WRA Warrmunga Arr 145.10 72 PKPbc **PKPbc 16 10 29.7 -0.4**
comp=Z,2.5nm,0.7s,baz=318,slow=2.8,SNR=48
WRA Warrmunga Arr 145.10 72 PKPbc **PKPbc 16 10 29.7 -0.4**
PMG Port Moresby 146.46 43 PKPbc **PKPbc 16 10 34.0 -0.4**
PMG Port Moresby 146.46 43 PKPbc **PKPbc 16 10 34.0 -0.4**
comp=Z,10.0nm,0.8s,baz=305,slow=12,SNR=3.3
PMG Port Moresby 146.46 43 PKPbc **PKPbc 16 10 34.0 -0.4**
ASAR Alice Springs 146.76 78 PKPbc **PKPbc 16 10 34.9 -0.2**
ASAR Alice Springs 146.76 78 PKPbc **PKPbc 16 10 34.9 -0.2**
comp=Z,1.9nm,0.7s,baz=306,slow=2.6,SNR=26
ASAR Alice Springs 146.76 78 PKPbc **PKPbc 16 10 34.9 -0.2**

NIED ***05*** *15:55:00,28.30N×130.80E,h14km,Mw3.6 Best double couple: M0 2.96000×10^14 NP1:ϕs214.00000°,δ53.00000°, λ-66.00000°. NP2:ϕs358.00000°,δ43.00000°, λ-118.00000°.*

IDC ***05*** *15:55:33.6±1.1,28.28N×130.54E,h0km,mb3.8/3, mb1 3.8/5,mb1mx3.5/25,mbtmp3.7/5,ML3.1/2,Error ellipse: s-maj=60.4km s-min=21.2km az=88.0*

JMA ***05*** *15:55:36.3±0.1,28.26N×130.75E,h73km±2km,M3.6*

ISC 05 15:55:36.2±2.7,28°25'N±0'.04×130°79'E±0'.05,h23km±21km, n21,σ1ᵎ33/37,mb4.0/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.73**	**276**	P	**Pn**	**15 55 51.4**	**+0.4**
JZK				*eS*	**Sn**	**15 56 03.1**	**+1.7**
JAM	**Amami Oshima**	**1.06**	**279**	P	**Pn**	**15 55 55.5**	**-0.1**
JAM				*eS*	**Sb**	**15 56 09.1**	**-0.1**
JAMN	**Amaminishikomi**	**1.43**	**270**	P	**Pn**	**15 56 00.2**	**-0.4**
JAMN				*eS*	**Sn**	**15 56 17.2**	**-1.4**
JTK	**Tokunoshima**	**1.69**	**255**	P	**Pn**	**15 56 04.4**	**+0.1**
JTK				*eS*	**Sn**	**15 56 25.2**	**0.0**
JNN	**Nakanoshima**	**1.78**	**333**	P	**Pn**	**15 56 05.2**	**-0.3**
JNN				S	**Sn**	**15 56 26.3**	**-1.2**
JKC	**Kuchinoerabu**	**2.27**	**347**	P	**Pn**	**15 56 12.4**	**+0.2**
JKC				*eS*	**Sn**	**15 56 37.3**	**-2.2**
JTN	**Tanegashima 3**	**2.41**	**4**	P	**Pn**	**15 56 13.9**	**-0.2**
JTN				S	**Sn**	**15 56 41.7**	**-1.2**
JMZ	**Minamidaito 2**	**2.45**	**171**	P	**Pn**	**15 56 14.5**	**-0.2**
JMZ				S	**Sn**	**15 56 41.8**	**-2.0**
JOW	**Kunigami**	**2.64**	**238**	P	**Pn**	**15 56 17.1**	**-0.3**
JOW				*eS*	**Sn**	**15 56 46.8**	**-1.9**
JIH	**Iheya**	**2.78**	**245**	P	**Pn**	**15 56 18.9**	**-0.3**
JIH				*eS*	**Sn**	**15 56 49.3**	**-2.8**
JTSR	**Tashiro 2**	**2.91**	**2**	P	**Pn**	**15 56 21.7**	**+0.6**
JTSR				*eS*	**Sn**	**15 56 53.4**	**-2.0**
JSU	**Suzuyama**	**3.26**	**355**	P	**Pn**	**15 56 26.6**	**+0.7**
JSU				*eS*	**Sn**	**15 57 02.4**	**-1.6**
JNAR	**Kushima--Naru**	**3.30**	**7**	P	**Pn**	**15 56 26.9**	**+0.6**
JNAR				*eS*	**Sn**	**15 57 03.6**	**-1.2**
JJT2	**Tamagusuku 2**	**3.43**	**233**	P	**Pn**	**15 56 28.0**	**-0.1**
JJT2				*eS*	**Sn**	**15 57 05.8**	**-2.3**
JSJ	**Shimokoshiki**	**3.55**	**345**	P	**Pn**	**15 56 30.2**	**+0.4**
JSJ				*eS*	**Sn**	**15 57 08.5**	**-2.5**
JTZ	**Takazaki**	**3.65**	**4**	P	**Pn**	**15 56 31.9**	**+0.6**
JNU	**Nakatsue**	**4.86**	**1**	Pn	**Pn**	**15 56 48.8**	**+0.8**
	0.8nm,0.3s,baz=211,slow=12,SNR=14						
JNU				Sn	**Sn**	**15 57 41.8**	**-1.7**
	1.2nm,0.3s,baz=233,slow=18,SNR=6.4						
MJAR	**Matsushiro Arr**	**10.38**	**35**	Pn	**Pn**	**15 58 04.2**	**+0.7**
	0.2nm,0.3s,baz=224,slow=18,SNR=4.0						
WRA	**Warramunga Arr**	**48.03**	**176**	P	**P**	**16 04 14.4**	**+0.7**
	1.2nm,0.6s,baz=354,slow=8.4,SNR=17						
ASAR	**Alice Springs**	**51.70**	**176**	P	**P**	**16 04 43.5**	**+2.0**
	0.4nm,0.6s,baz=8.4,slow=14,SNR=15						
FINES	**FINESS Array B**	**72.23**	**331**	P	**P**	**16 06 59.3**	**+0.3**
	0.6nm,0.4s,baz=66,slow=6.6,SNR=8.4						

IDC 05 16:43:51.8±49.0,16°67'S×177°32'W,h0km,mb3.7/3, mb1 3.8/3,mb1mx3.5/19,mbtmp3.7/3,Error ellipse: s-maj=907.1km s-min=156.8km az=78.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.14**	**240**	P	P	16 51 30.0	+0.4
	1.3nm,0.9s,baz=105,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**45.89**	**258**	P	P	16 52 16.0	-0.5
	0.4nm,0.7s,baz=95,slow=7.7,SNR=7.1						
ASAR	**Alice Springs**	**46.14**	**253**	P	P	16 52 18.1	-0.3
	1.3nm,0.6s,baz=88,slow=8.2,SNR=33						

AUST ***05*** *16:49:03.0,3.48S×131.51E,h35km*

IDC ***05*** *16:49:06.6±1.8,4.07S×130.38E,h0km,mb3.5/2, mb1 3.8/4,mb1mx3.5/19,mbtmp3.6/4,ML3.6/1,Error ellipse: s-maj=106.7km s-min=15.7km az=74.0*

ISC 05 16:49:09.7±1.5,3°38S±0'.1×131°0E±0'.1,h29km,n15, σ2ᵎ32/14,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.33**	**237**	P	**Pb**	**16 49 34.8**	**+0.8**
	baz=1.9,SNR=7.1						
FAKI	**Fak Fak**	**1.50**	**54**	S	Pn	16 49 29.9	-4.8
	baz=0.9,SNR=27						
KDU	**Kakadu**	**8.95**	**171**	P	**Pn**	**16 51 17.3**	**+0.2**
	baz=9.3,SNR=15						
MTN	**Manton Dam**	**8.99**	**179**	P	**Pn**	**16 51 18.1**	**+0.5**
	baz=9.4,SNR=16						
MTN				S	**Sn**	**16 53 01.6**	**+3.7**
	baz=9.4,SNR=4.5						
JAY	**Jayapura**	**9.75**	**83**	S	Sn	16 52 54.9	-22
	baz=9.2,SNR=4.0						
KNRA	**Kununurra**	**12.01**	**191**	P	**Pn**	**16 51 58.1**	**-0.9**
	baz=12,SNR=10						
KNRA				S	**Sn**	**16 54 12.0**	**-0.2**
	baz=12,SNR=3.7						
FITZ	**Fitzroy Crossi**	**15.16**	**200**	P	**Pn**	**16 52 39.4**	**-2.6**
	baz=16,SNR=9.0						
WRA	**Warramunga Arr**	**16.37**	**169**	Pn	**Pn**	**16 52 55.0**	**-2.5**
	0.2nm,0.3s,baz=348,slow=13,SNR=8.2						
WRA				Sn	**Sn**	**16 55 53.4**	**-5.0**
	0.2nm,0.3s,baz=356,slow=23,SNR=4.9						
MANU	**Manus Island**	**16.41**	**84**	S	Sn	16 55 42.0	-18
	baz=16,SNR=12						
ASAR	**Alice Springs**	**19.95**	**172**	P	**P**	**16 53 40.0**	**+0.5**
	0.9nm,0.3s,baz=349,slow=11,SNR=138						
ASAR				S	**S**	**16 57 23.3**	**+0.6**
	0.1nm,0.3s,baz=354,slow=26,SNR=4.8						
RABL	**Rabaul**	**21.09**	**92**	S	Sn	16 57 53.6	+0.9
	baz=21,SNR=4.2						
LEM	**Lembang**	**23.50**	**262**	S	**S**	**16 58 27.8**	**-2.1**
	baz=24,SNR=5.8						
RMQ	**Roma**	**28.24**	**145**	S	S	16 59 25.3	-19
	baz=28,SNR=7.4						
STKA	**Stephens Creek**	**29.64**	**162**	P	**P**	**16 55 13.1**	**+0.3**
	0.6nm,0.4s,baz=332,slow=9.4,SNR=7.2						
MKAR	**Makanchi Array**	**66.15**	**326**	P	**P**	**16 59 55.1**	**+0.6**
	0.2nm,0.7s,baz=130,slow=6.6,SNR=2.7						

WEL 05 17:06:52.2±0.1,40°00S×176°95E,h44km±1km,ML3.8/19, 14C-14D,Error ellipse: s-maj=1.3km s-min=0.8km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PXZ	**Pawanui**	**0.07**	**247**	↓P	Pn	17 06 59.2	0.0
PXZ				SN	Sn	17 07 04.4	+0.4
PXZ				AML	AML	17 07 05.4	
PXZ				AML	AML	17 07 05.5	
PXZ				AML	AML	17 07 05.5	
KAHZ	**Kahuranaki**	**0.21**	**344**	↓P	Pn	17 06 59.5	-0.6
KAHZ				SN	Sn	17 07 04.8	-0.7
CKHZ	**Cape Kidnapper**	**0.36**	**16**	PN	Pn	17 07 01.1	-0.2
CKHZ				SN	Sn	17 07 08.4	+0.6
PRHZ	**Porangahau**	**0.36**	**222**	↓P	Pn	17 07 01.7	+0.3
PRHZ				SN	Sn	17 07 08.4	+0.5
WPHZ	**Waipukurau**	**0.40**	**261**	↑P	Pn	17 07 01.4	-0.5
WPHZ				SN	Sn	17 07 08.0	-0.6
PNHZ	**Pukenui**	**0.58**	**278**	↑P	Pn	17 07 03.1	-1.1
PNHZ				SN	Sn	17 07 11.0	-1.9
ANWZ	**Angora Road**	**0.59**	**218**	↓P	Pn	17 07 14.4	+0.2
ANWZ				SN	Sn	17 07 14.0	+1.3
MCHZ	**McNeill Hill**	**0.59**	**341**	↓P	Pn	17 07 03.8	-0.5
MCHZ				SN	Sn	17 07 13.2	+0.3
DVHZ	**Dannevirke**	**0.67**	**243**	↑P	Pn	17 07 04.9	-0.4
DVHZ				SN	Sn	17 07 14.5	-0.4
TSZ	**Takapari Road**	**0.76**	**265**	↑P	Pn	17 07 05.7	-0.9
TSZ				AML	AML	17 07 15.7	
TSZ				AML	AML	17 07 16.3	
BHHZ	**Black Hill Sta**	**0.86**	**307**	↑P	Pn	17 07 06.7	-1.3
BFZ	**Birch Farm**	**0.87**	**218**	PN	Pn	17 07 07.8	-0.2
BFZ				AML	AML	17 07 20.7	
BFZ				AML	AML	17 07 20.7	
BFZ				AML	AML	17 07 21.2	
BFZ				AML	AML	17 07 21.2	
BKZ	**Black Stump Fm**	**0.91**	**337**	↑P	Pn	17 07 07.7	-0.9
BKZ				AML	AML	17 07 19.0	
BKZ				AML	AML	17 07 19.7	
NMHZ	**Naumai**	**0.91**	**353**	↓P	Pn	17 07 08.3	-0.4
PRWZ	**Pori Road**	**0.93**	**233**	↓P	Pn	17 07 08.9	0.0
POWZ	**Post Office Ro**	**0.99**	**246**	↑P	Pn	17 07 09.1	-0.5
RAHZ	**Arahi**	**1.09**	**6**	↓P	Pn	17 07 10.6	-0.4
MOVZ	**Moawhango**	**1.10**	**302**	↑P	Pn	17 07 10.6	-0.7
TIWZ	**Tintock**	**1.12**	**226**	PN	Pn	17 07 11.2	-0.3
MHGZ	**Mahia Peninsul**	**1.12**	**41**	PN	Pn	17 07 11.7	+0.2
KNZ	**Kokohu**	**1.13**	**30**	PN	Pn	17 07 11.1	-0.4
KNZ				AML	AML	17 07 41.6	
KNZ				AML	AML	17 07 50.9	
MRZ	**Mangatainoka R**	**1.24**	**237**	↑P	Pn	17 07 12.4	-0.7
MRZ				AML	AML	17 07 28.5	
MRZ				AML	AML	17 07 28.8	
TUVZ	**Tukino**	**1.24**	**306**	↑P	Pn	17 07 13.2	0.0
WNVZ	**Wahianoa**	**1.24**	**302**	PN	Pn	17 07 13.0	-0.3
WHVZ	**Whangaehu Hut**	**1.27**	**304**	PN	Pn	17 07 13.6	-0.3
TRVZ	**Turoa**	**1.29**	**302**	PN	Pn	17 07 13.5	-0.5
HATZ	**Hinemaiaia**	**1.29**	**329**	PN	Pn	17 07 13.3	-0.5
DRZ	**Dome Shelter**	**1.29**	**304**	↑P	Pn	17 07 14.1	-0.1
PRGZ	**Paritu Road**	**1.30**	**34**	PN	Pn	17 07 13.5	-0.4
MTVZ	**Mangateitei**	**1.30**	**298**	PN	Pn	17 07 14.0	0.0
OTVZ	**Oturere**	**1.30**	**310**	PN	Pn	17 07 13.7	-0.3
FWVZ	**Far West T-bar**	**1.31**	**304**	PN	Pn	17 07 14.1	-0.3
RITZ	**Rihia Road**	**1.33**	**320**	↓P	Pn	17 07 14.3	0.0
NGZ	**Ngauruhoe**	**1.33**	**308**	PN	Pn	17 07 14.1	-0.4
WPVZ	**Whakapapa**	**1.35**	**306**	PN	Pn	17 07 14.6	-0.1
KRVZ	**Karewarewa**	**1.36**	**311**	↓P	Pn	17 07 14.7	-0.2
TMWZ	**Te Maipa**	**1.37**	**216**	PN	Pn	17 07 14.1	-0.8
WTVZ	**West Tongariro**	**1.38**	**310**	PN	Pn	17 07 14.9	-0.2
KATZ	**Kakaramea**	**1.41**	**316**	↓P	Pn	17 07 15.4	-0.2
HOWZ	**Holdsworth Sta**	**1.42**	**230**	PN	Pn	17 07 15.1	-0.4
PKVZ	**Pokaka**	**1.43**	**299**	↓P	Pn	17 07 15.8	0.0
RATZ	**Rangitukua**	**1.46**	**321**	PN	Pn	17 07 15.5	-0.6
TWVZ	**Taurewa**	**1.49**	**308**	PN	Pn	17 07 16.1	-0.6
ALRZ	**Allen Road**	**1.51**	**342**	PN	Pn	17 07 16.4	-0.4
WAZ	**Wanganui**	**1.53**	**279**	PN	Pn	17 07 17.5	+0.4
WHTZ	**Whakaora**	**1.54**	**330**	PN	Pn	17 07 16.9	-0.3
PRRZ	**Plateau Road**	**1.56**	**344**	PN	Pn	17 07 17.0	-0.5
OGWZ	**Otaki Gorge**	**1.58**	**239**	↑P	Pn	17 07 16.8	-1.0
MTW	**Mount Morrison**	**1.60**	**223**	PN	Pn	17 07 16.6	-1.4
MTW				AML	AML	17 07 37.4	
MTW				AML	AML	17 07 37.5	
WATZ	**Wairara**	**1.60**	**323**	PN	Pn	17 07 17.0	-1.1
HRRZ	**Handcock Road**	**1.69**	**342**	PN	Pn	17 07 18.9	-0.4
RRRZ	**Republican Roa**	**1.69**	**348**	↑P	Pn	17 07 18.7	-0.6
TRWZ	**Traveller**	**1.69**	**214**	PN	Pn	17 07 17.8	-1.5
TRWZ				AML	AML	17 07 39.7	
TRWZ				AML	AML	17 07 40.3	
MWZ	**Matawai**	**1.72**	**15**	↓P	Pn	17 07 18.6	-1.1
MWZ				AML	AML	17 08 00.7	
MWZ				AML	AML	17 09 49.4	
URZ	**Urewera**	**1.74**	**4**	↓P	Pn	17 07 18.9	-1.1
URZ				AML	AML	17 07 40.6	
URZ				AML	AML	17 07 40.9	
KIW	**Kapiti Island**	**1.78**	**240**	PN	Pn	17 07 19.5	-0.9
KIW				AML	AML	17 07 41.0	
KIW				AML	AML	17 07 41.6	
TARZ	**Mount Tarawera**	**1.80**	**349**	↑P	Pn	17 07 20.4	-0.5
CAW	**Cannon Point**	**1.81**	**232**	PN	Pn	17 07 19.5	-1.4
CAW				AML	AML	17 07 41.9	
CAW				AML	AML	17 07 42.2	
VRZ	**Vera Road**	**1.91**	**297**	PN	Pn	17 07 22.0	-0.2
MSWZ	**Moikau Station**	**1.92**	**222**	PN	Pn	17 07 20.4	-1.9
MSWZ				AML	AML	17 07 44.5	
MSWZ				AML	AML	17 07 44.9	
TLZ	**Tolley Road**	**2.00**	**326**	PN	Pn	17 07 22.3	-1.2
PLWZ	**Palliser**	**2.03**	**219**	PN	Pn	17 07 21.8	-2.1
BHW	**Baring Head**	**2.12**	**228**	PN	Pn	17 07 23.1	-1.9
BHW				AML	AML	17 07 49.1	
BHW				AML	AML	17 07 49.3	
SNZO	**South Karori**	**2.15**	**232**	PN	Pn	17 07 23.7	-1.8
SNZO				AML	AML	17 07 49.7	
SNZO				AML	AML	17 07 50.3	
OPRZ	**Ohinepanea**	**2.18**	**352**	PN	Pn	17 07 24.6	-1.3
PUZ	**Puketiti**	**2.18**	**28**	PN	Pn	17 07 24.5	-1.5
PUZ				AML	AML	17 07 54.9	
PUZ				AML	AML	17 07 58.6	
HIZ	**Hauiti**	**2.20**	**312**	PN	Pn	17 07 25.6	-0.7
DREZ	**Durham Road**	**2.27**	**290**	PN	Pn	17 07 28.5	+1.2
TCW	**Tory Channel**	**2.37**	**238**	AML	AML	17 07 56.3	
TCW				AML	AML	17 07 57.6	
TUWZ	**Tuamarina**	**2.69**	**237**	AML	AML	17 08 05.8	
TUWZ				AML	AML	17 08 07.2	
BSWZ	**Blackbirch Sta**	**2.89**	**233**	AML	AML	17 08 10.0	
KHZ	**Kahutara**	**3.53**	**226**	SN	Sn	17 08 18.7	-6.1
DSZ	**Denniston Nort**	**4.27**	**244**	PN	Pn	17 07 52.3	-2.5
DSZ				SN	Sn	17 08 39.2	-4.2
LTZ	**Lake Taylor**	**4.49**	**230**	SN	Sn	17 08 43.1	-5.5
CRLZ	**Canterbury Las**	**4.82**	**221**	PN	Pn	17 07 59.9	-2.3
CRLZ				SN	Sn	17 08 49.9	-6.8
MQZ	**McQueen's Vall**	**4.90**	**220**	PN	Pn	17 08 00.5	-2.8
MQZ				SN	Sn	17 08 51.6	-7.1
OXZ	**Oxford**	**4.96**	**226**	SN	Sn	17 08 52.1	-8.0
WVZ	**Waitaha Valley**	**5.58**	**235**	PN	Pn	17 08 09.1	-3.5
WVZ				SN	Sn	17 09 09.3	-6.2
RPZ	**Rata Peaks**	**5.76**	**228**	*e*PN	Pn	17 08 11.4	-3.6
RPZ				SN	Sn	17 09 11.6	-8.2
FOZ	**Fox Glacier**	**6.49**	**234**	*e*PN	Pn	17 08 19.3	-5.8
LBZ	**Lake Benmore**	**6.67**	**227**	PN	Pn	17 08 23.6	-3.9
ODZ	**Otahua Downs**	**6.86**	**221**	PN	Pn	17 08 27.6	-2.6

IDC 05 17:13:45.3±4.0,11°42N×143°55E,h0km,mb3.3/4, mb1 3.6/4,mb1mx3.3/24,mbtmp3.3/4,Error ellipse: s-maj=117.5km s-min=28.1km az=74.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.46**	**196**	P	P	17 20 17.3	-0.2
	0.3nm,0.6s,baz=22,slow=9.5,SNR=3.6						
ASAR	**Alice Springs**	**36.12**	**195**	P	P	17 20 49.7	+0.3
	0.1nm,0.5s,baz=26,slow=10,SNR=5.4						
CMAR	**Chiang Mai Arr**	**43.58**	**285**	P	P	17 21 50.9	-0.7
	1.0nm,0.8s,baz=94,slow=6.5,SNR=6.0						
MKAR	**Makanchi Array**	**62.17**	**317**	P	P	17 24 08.9	+0.3
	0.5nm,0.8s,baz=94,slow=8.6,SNR=4.5						

ISCJB ***05*** *17:28:22.1±1.0,55.4S×0.2×27.4W±0.4,h10km,mb3.9/4, MS3.3/1,Error ellipse: s-maj=36.1km s-min=17.7km az=150.0*

IDC ***05*** *17:28:22.4±0.9,55.40S×27.44W,h0km,mb3.9/4, mb1 4.0/4,mb1mx3.8/17,mbtmp3.9/4,MS3.3/1,Ms1 3.2/1, ms1mx2.4/20,Error ellipse: s-maj=33.7km s-min=28.6km az=61.0*

ISC 05 17:28:24.2±0.9,55°3S±0'.2×27°5W±0'.2,h10km,n9,σ1ᵎ28/8, mb4.2/4,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.52**	**159**	*e*P	**P**	**17 32 31.5**	**+2.3**
SNAA	**Sanae**	**19.46**	**157**	*e*P	**P**	**17 32 49.6**	**-1.1**
CFAA	**Coronel Fontan**	**37.13**	**293**	P	**P**	**17 35 35.6**	**+0.8**
	0.3nm,0.7s,baz=138,slow=7.9,SNR=5.4						
BOSA	**Boshof**	**45.96**	**77**	LR	LR	17 52 38.2	
	comp=Z,34nm,18.8s,baz=336,slow=32						
VNDA	**Vanda**	**47.28**	**183**	P	**P**	**17 36 56.3**	**-0.6**
	1.6nm,0.7s,baz=178,slow=7.2,SNR=12						
LPAZ	**La Paz**	**49.83**	**305**	P	**P**	**17 37 17.5**	**-0.5**
	1.6nm,0.7s,baz=135,slow=5.7,SNR=7.8						
TORD	**Torodi Ar. Bea**	**72.52**	**30**	P	**P**	**17 39 51.4**	**+0.4**
	1.5nm,0.7s,baz=197,slow=6.5,SNR=12						
ILAR	**Eielson Array**	**149.51**	**313**	PKPbc	**PKPbc**	**17 48 11.6**	**-0.5**
	2.4nm,0.8s,baz=123,slow=1.6,SNR=35						
SONM	**Songino Array**	**150.84**	**85**	PKPbc	**PKPbc**	**17 48 15.4**	**-0.6**
	1.6nm,0.7s,baz=221,slow=3.4,SNR=16						

MAN 05 17:36:37,9°17N×123°13E,h15km,mb3.7,ML2.4,MS2.0, 1C,Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**0.62**	**159**	↑*i*P	Pg	17 36 49.3	+0.1
PAGZ	**Pagadian**	**1.34**	**169**	*e*P	Pn	17 36 59.9	-1.2
PAGZ				*e*S	Sn	17 37 14.4	-4.3
GUIM	**Jordan**	**1.54**	**340**	*e*P	Pn	17 37 03.8	-0.2
GUIM				*e*S	Sb	17 37 24.4	-0.3

MAN 05 17:57:33,12°30N×122°10E,h65km,mb3.9,ML2.7,MS2.4, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTRP	**Odiongan**	**0.10**	**308**	*e*P	Pn	17 57 43.4	+0.7
OTRP				*e*S	Sn	17 57 49.4	-0.3
SJMP	**San Jose**	**0.97**	**279**	*e*P	Pn	17 57 54.5	+3.7
RCP	**Roxas**	**0.97**	**139**	↓*e*P	Pn	17 57 52.1	+1.2
RCP				*e*S	Sn	17 58 06.2	+2.0
GUIM	**Jordan**	**1.73**	**164**	*e*P	Pn	17 58 02.6	+1.7
BUSP	**Coron**	**1.88**	**261**	*e*P	Pn	17 58 05.3	+2.3
ENPP	**El Nido**	**2.84**	**248**	*e*P	Pn	17 58 17.5	+1.5

AUST ***05*** *18:09:38.9,2.98S×131.51E,h100km*

IDC ***05*** *18:09:44.5±1.6,3.67S×130.34E,h0km,mb3.5/4, mb1 3.8/5,mb1mx3.4/20,m

MAK	**Makhachkala** comp=N,1μm,0.3s	**0.25**	**296**	*e*Pg		**Pg**	**18 10 07.2**	**-0.5**
SGKR	**Sergokala**	**0.41**	**196**	*e*PG		**Pb**	**18 10 11.0**	**-0.9**
SGKR				S		**Sb**	**18 10 19.0**	**+0.8**
SGKR	comp=Z,374nm,0.1s			pmax	pmax			
SGKR	**Sergokala** comp=Z,374nm,0.1s	**0.41**	**196**	*e*Pg		**Pb**	**18 10 11.0**	**-0.9**
SGKR				Sg		**Sb**	**18 10 19.0**	**+0.8**
BUJR	**Buynaksk**	**0.52**	**267**	*e*PG		**Pb**	**18 10 12.8**	**-1.0**
BUJR	comp=Z,241nm,0.2s			pmax	pmax			
BUJR	**Buynaksk** comp=Z,241nm,0.2s	**0.52**	**267**	*e*Pg		**Pb**	**18 10 12.8**	**-1.0**
ARKR	**Arakani**	**0.65**	**248**	*e*PG		**Pg**	**18 10 13.0**	**-2.2**
ARKR				*e*S		**Sb**	**18 10 25.0**	**-0.2**
ARKR	comp=Z,69nm,0.2s			pmax	pmax			
ARKR	**Arakani**	**0.65**	**248**	*e*Sg		**Sb**	**18 10 25.0**	**-0.2**
KRNR	**Karanay**	**0.66**	**268**	⇓*i*PG		**Pg**	**18 10 14.0**	**-1.5**
KRNR				*i* S		**Sb**	**18 10 25.0**	**-0.7**
KRNR	comp=Z,69nm,0.2s			pmax	pmax			
KRNR	**Karanay** comp=Z,69nm,0.2s	**0.66**	**268**	*i* Pg		**Pg**	**18 10 14.0**	**-1.5**
KRNR				*i* Sg		**Sb**	**18 10 25.0**	**-0.7**
URKR	**Urkarakh**	**0.70**	**191**	PG		**Pg**	**18 10 15.0**	**-1.1**
URKR				S		**Sb**	**18 10 27.0**	**+0.3**
URKR	**Urkarakh**	**0.70**	**191**	Pg		**Pg**	**18 10 15.0**	**-1.1**
URKR				Sg		**Sb**	**18 10 27.0**	**+0.3**
DBC	**Dubki**	**0.74**	**283**	*i* PG		**Pg**	**18 10 15.8**	**-1.1**
DBC				*i* S		**Sb**	**18 10 28.0**	**+0.2**
DBC	**Dubki**	**0.74**	**283**	*i* Pg		**Pg**	**18 10 15.8**	**-1.1**
DBC				*i* Sg		**Sb**	**18 10 28.0**	**+0.2**
UNCR	**Uncukul**	**0.76**	**260**	*e*PG		**Pg**	**18 10 15.5**	**-1.8**
UNCR				*e*S		**Sb**	**18 10 28.0**	**-0.3**
UNCR	comp=Z,64nm,0.3s			pmax	pmax			
UNCR	**Uncukul** comp=Z,64nm,0.3s	**0.76**	**260**	*e*Pg		**Pg**	**18 10 15.5**	**-1.8**
UNCR				*e*Sg		**Sb**	**18 10 28.0**	**-0.3**
XNZR	**Khunzakh**	**0.87**	**249**	*e*PG		**Pg**	**18 10 18.0**	**-1.4**
XNZR				*e*S		**Sb**	**18 10 31.0**	**-0.7**
XNZR	comp=Z,117nm,0.1s			pmax	pmax			
XNZR	**Khunzakh** comp=Z,117nm,0.1s	**0.87**	**249**	*e*Pg		**Pg**	**18 10 18.0**	**-1.4**
XNZR				*e*Sg		**Sb**	**18 10 31.0**	**-0.7**
DLMR	**Dylym**	**0.89**	**285**	*e*PG		**Pb**	**18 10 20.0**	**-0.2**
DLMR				S		**Sn**	**18 10 35.0**	**+0.8**
DLMR	comp=Z,173nm,0.2s			pmax	pmax			
DLMR	**Dylym** comp=Z,173nm,0.2s	**0.89**	**285**	*e*Pg		**Pb**	**18 10 20.0**	**-0.2**
DRN	**Derbent**	**0.91**	**155**	⇓*i*PG		**Pg**	**18 10 20.0**	**-0.1**
DRN				*i* S		**Sn**	**18 10 34.5**	**0.0**
DRN	comp=Z,105nm,0.2s			pmax	pmax			
DRN	**Derbent** comp=Z,105nm,0.2s	**0.91**	**155**	*i* Pg		**Pg**	**18 10 20.0**	**-0.1**
DRN				*i* Sg		**Sn**	**18 10 34.5**	**0.0**
BTLR	**Botlikh**	**1.18**	**261**	PG		**Pb**	**18 10 24.5**	**-0.7**
BTLR				S		**Sn**	**18 10 44.0**	**+2.5**
BTLR	**Botlikh**	**1.18**	**261**	Pg		**Pb**	**18 10 24.5**	**-0.7**
BTLR				Sg		**Sn**	**18 10 44.0**	**+2.5**
KSMR	**Kasumkent**	**1.27**	**169**	*e*PG		**Pn**	**18 10 26.0**	**-0.5**
KSMR				*e*S		**Sn**	**18 10 45.0**	**+1.4**
KSMR	comp=Z,100nm,0.3s			pmax	pmax			
KSMR	**Kasumkent** comp=Z,100nm,0.3s	**1.27**	**169**	*e*Pg		**Pn**	**18 10 26.0**	**-0.5**
KSMR				*e*Sg		**Sn**	**18 10 45.0**	**+1.4**
AKT	**Akhty**	**1.37**	**182**	⇓*i*PG		**Pn**	**18 10 27.0**	**-0.9**
AKT				*e*S		**Sb**	**18 10 45.5**	**-0.6**
AKT	comp=Z,68nm,0.3s			pmax	pmax			
QUBA	**Quba, Azerbaij** SNR=14	**1.58**	**161**	P		**Pn**	**18 10 31.5**	**+0.8**
QUBA				S		**Sg**	**18 10 54.0**	**+0.6**
SEKA	**Sheki** SNR=13	**1.70**	**196**	P		**Pb**	**18 10 33.7**	**-0.4**
SEKA				S		**Sg**	**18 10 59.2**	**+1.8**
SIZA	**Siyzn** SNR=14	**1.95**	**155**	P		**Pb**	**18 10 38.5**	**+0.2**
SIZA				S		**Sg**	**18 11 06.5**	**+1.1**
IML	**Ismayilli** SNR=3.1	**2.08**	**172**	P		**Pb**	**18 10 40.7**	**+0.3**
IML				S		**Sg**	**18 11 09.5**	**+0.2**
PQL	**Pirkuli** SNR=11	**2.14**	**164**	P		**Pb**	**18 10 41.2**	**-0.4**
PQL				S		**Sg**	**18 11 11.4**	**-0.1**
BTKR	**Batakoyurt**	**2.45**	**283**	*i* PN		**Pn**	**18 10 43.2**	**+0.6**
BTKR	**Batakoyurt**	**2.45**	**283**	*i* Pn		**Pn**	**18 10 43.2**	**+0.6**
GANJ	**Ganja** SNR=3.7	**2.47**	**207**	P		**Pn**	**18 10 44.3**	**+1.4**
GANJ				S		**Sb**	**18 11 16.6**	**-1.0**
BEYR	**Belyy Ugol+**	**3.81**	**289**	*i* PN		**Pn**	**18 11 02.9**	**+1.4**
BEYR	**Belyy Ugol+**	**3.81**	**289**	*i* Pn		**Pn**	**18 11 02.9**	**+1.4**
KIV	**Kislovodsk**	**3.89**	**288**	*i* PN		**Pn**	**18 11 04.1**	**+1.6**
KIV	**Kislovodsk**	**3.89**	**288**	*i* Pn		**Pn**	**18 11 04.1**	**+1.6**
AKTO	**Aktyubinsk** comp=Z,1.3nm,0.8s	**10.32**	**39**	⇓Pn		**Pn**	**18 12 30.3**	**-0.4**
AKTO				⇑Sn		**Sn**	**18 14 23.2**	**-3.3**
AKTO	**Aktyubinsk** comp=Z,0.8nm,0.6s	**10.32**	**39**	Pn		**Pn**	**18 12 30.3**	**-0.4**
AB31	**Akbulak array** comp=Z,0.1nm,0.2s,baz=234,slow=13,SNR=15	**10.58**	**49**	Pn		**Pn**	**18 12 34.1**	**-0.1**
AB31	comp=Z,0.2nm,0.4s,baz=235,slow=27,SNR=4.7			⇓Sn		Sn	18 14 28.2	-4.5
AB31	**Akbulak array** comp=Z,0.1nm,0.2s,baz=234,SNR=15	**10.58**	**49**	Pn		**Pn**	**18 12 34.1**	**-0.1**
MKAR	**Makanchi Array**	**24.65**	**69**	*i* P		**P**	**18 15 24.2**	**+0.9**
MKAR	**Makanchi Array**	**24.65**	**69**	*i* P		**P**	**18 15 24.2**	**+0.9**

IDC 05 18:22:30.4±2.8, 9.76S×154.04E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/17, mbtmp3.5/5, Error ellipse: s-maj=79.8km s-min=27.1km az=107.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.9nm,0.5s,baz=66,slow=10.0,SNR=15	**21.55**	**240**	P	P	18 27 22.2	+0.6
ASAR	**Alice Springs** 2.2nm,1.1s,baz=58,slow=9.3,SNR=13	**23.69**	**232**	P	P	18 27 43.6	-0.5
STKA	**Stephens Creek** 1.6nm,0.9s,baz=45,slow=12,SNR=3.5	**24.85**	**206**	P	P	18 27 54.5	-0.2
SONM	**Songino Array** 0.3nm,0.7s,baz=144,slow=5.4,SNR=3.3	**71.16**	**328**	P	P	18 33 51.5	+0.4
MKAR	**Makanchi Array** 0.5nm,1.1s,baz=104,slow=8.3,SNR=4.5	**84.86**	**319**	P	P	18 35 06.8	-0.4

*ISCJB **05** 18:24:20.0±0.4, 37.38N±0.07×135.23E±0.08, h378km, mb2.6/5, Error ellipse: s-maj=9.5km s-min=7.9km az=22.9*
*JMA **05** 18:24:20.5±0.1, 37.33N×135.28E, h378km±2km, M3.0*
*IDC **05** 18:24:21.0±1.3, 37.39N×135.23E, h376km±14km, mb2.4/5, mb1 2.8/9, mb1mx2.7/30, mbtmp2.7/9, Error ellipse: s-maj=28.5km s-min=16.9km az=162.0*

ISC 05 18:24:20.5±0.8, 37.31N±0.09×135.30E±0.07, h378km, n24, σ0s59/28, mb2.7/5, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**1.33**	**141**	P	**Pn**	**18 25 10.4**	**-0.3**
JHG	**Hegura jima**	**1.39**	**67**	P	**Pn**	**18 25 11.3**	**+0.4**
JSZ	**Suzu**	**1.65**	**85**	P	**Pn**	**18 25 12.8**	**+0.6**
JSZ				*e*S	**S**	**18 25 54.0**	**+0.1**
JKY	**Yasaka**	**1.69**	**185**	P	**Pn**	**18 25 13.0**	**+0.3**
JKY				*e*S	**S**	**18 25 53.4**	**-1.2**
JTT	**Ttatey**	**1.78**	**113**	P	**Pn**	**18 25 13.5**	**+0.4**
JKSM	**Kasumi**	**1.80**	**197**	P	**Pn**	**18 25 13.4**	**+0.1**
SAI	**Saigo**	**1.93**	**235**	P	**Pn**	**18 25 14.2**	**+0.2**
JWT	**Wachi**	**2.03**	**178**	P	**Pn**	**18 25 15.0**	**+0.3**
JWT				*e*S	**S**	**18 25 57.5**	**-0.8**
JNG	**Nsakai**	**2.42**	**111**	P	**Pn**	**18 25 17.9**	**+0.4**
MAT	**Matsushiro**	**2.45**	**107**	P	**Pn**	**18 25 18.1**	**+0.4**
MAT				S	**S**	**18 26 04.7**	**+0.9**
MAT	**Matsushiro**	**2.45**	**107**	P	**Pn**	**18 25 18.0**	**+0.4**
MJAR	**Matsushiro Arr** 6.5nm,0.3s,baz=283,slow=10.0,SNR=307	**2.46**	**107**	P	**Pn**	**18 25 18.6**	**+0.9**
JSD	**Sado**	**2.46**	**72**	P	**Pn**	**18 25 17.6**	**0.0**
JAO	**Obara**	**2.58**	**142**	P	**Pn**	**18 25 18.9**	**+0.1**
JNY	**Yasuok**	**2.84**	**133**	P	**Pn**	**18 25 20.8**	**-0.1**
JHK	**Hiroka**	**2.97**	**90**	P	**Pn**	**18 25 21.7**	**0.0**
KSRS	**Korea Array** 0.2nm,0.3s,baz=92,slow=12,SNR=19	**5.88**	**274**	P	**Pn**	**18 25 51.7**	**+0.8**
USRK	**Ussuriysk Arra** 0.5nm,0.3s,baz=158,slow=11,SNR=8.5	**7.32**	**341**	P	**P**	**18 26 07.6**	**-0.4**
ASAJ	**Asahikawa** 4.7nm,0.3s,baz=236,slow=11,SNR=63	**8.77**	**37**	P	**Pn**	**18 26 23.2**	**-0.7**
SONM	**Songino Array** 0.2nm,0.6s,baz=108,slow=9.3,SNR=3.4	**23.61**	**306**	P	**P**	**18 28 58.5**	**-0.7**
CMAR	**Chiang Mai Arr** 0.2nm,0.5s,baz=48,slow=7.3,SNR=4.5	**36.92**	**249**	P	**P**	**18 30 55.6**	**+0.5**
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=90,slow=10.0,SNR=3.2	**39.81**	**301**	P	**P**	**18 31 18.7**	**+0.1**
KURBB	**Kurchatov Arra** 0.2nm,0.2s,baz=95,slow=10,SNR=4.6	**41.96**	**307**	P	**P**	**18 31 34.8**	**-0.9**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=272,slow=6.1,SNR=5.3	**51.87**	**32**	P	**P**	**18 32 52.0**	**+0.8**

*NNC **05** 19:31:11.1±2.2, 35.31N×81.87E, h0km, mb4.2, Error ellipse: s-maj=28.7km s-min=18.8km az=115.0*
*IDC **05** 19:31:12.2±0.6, 35.31N×81.53E, h0km, mb3.9/14, mb1 4.1/19, mb1mx3.9/30, mbtmp3.9/19, ML3.4/4, MS3.4/16, Ms1 3.4/16, ms1mx3.1/39, Error ellipse: s-maj=18.8km s-min=13.3km az=49.0*
*ISCJB **05** 19:31:14.3±0.2, 35.45N±0.02×81.68E±0.04, h15km, mb4.1/26, MS3.4/15, Error ellipse: s-maj=5.4km s-min=3.2km az=161.9*
*MOS **05** 19:31:17.2±2.0, 35.54N×81.71E, h33km, mb4.2/16, Error ellipse: s-maj=12.4km s-min=5.8km az=107.3*
*BJI **05** 19:31:18.3, 35.49N×81.74E, h29km, mB4.4/4, mb4.2/10, ML4.4/4, Ms4.0/5, Ms7 3.8/5*

ISC 05 19:31:16.6±0.4, 35.43N±0.05×81.65E±0.05, h15km, n98, σ1s76/98, mb4.2/26, MS3.4/15, 11C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**5.47**	**236**	*e*P	**Pn**	**19 32 38.5**	**+0.7**
DHRM				*e*S	**Pb**	**19 32 54.7**	**+2.7**
DHRM	comp=N,34nm,0.9s			AML	AML	19 33 20.3	
DHRM	comp=E,42nm,0.3s			AML	AML	19 33 23.4	
DLH	**Dalhousie**	**5.53**	**240**	*e*P	**Pn**	**19 32 40.0**	**+1.4**
SDNR	**Sundarnagar**	**5.54**	**226**	*e*P	**Pn**	**19 32 40.0**	**+1.4**
SMLA	**Simla**	**5.70**	**222**	*e*P	**Pn**	**19 32 42.5**	**+1.8**
SMLA				*e*S	Pg	19 33 02.3	-3.5
SMLA	comp=N,30nm,0.5s			AML	AML	19 33 58.3	
SMLA	comp=E,30nm,0.1s			AML	AML	19 33 58.7	
THN	**Thein Dam**	**5.77**	**240**	*e*P	**Pn**	**19 32 41.5**	**-0.2**
DDI	**Dehra Dun**	**5.92**	**212**	*e*4	**Pn**	**19 32 46.2**	**+2.3**
LGTI	**Lohaghat**	**6.08**	**192**	*e*P	Pg	19 33 22.6	+10
KSH	**Kashi**	**6.08**	**314**	Pn	**Pn**	**19 32 48.1**	**+2.0**
KSH				Sn	**Sn**	**19 33 56.0**	**+0.5**
KSH	comp=N,620nm,1.4s			smax	smax		
KSH	comp=E,230nm,1.1s			smax	smax		
DANN	**Dangsing** comp=E,36nm,0.4s	**7.29**	**165**	*e*P	**Pn**	**19 33 01.6**	**-1.2**
PYUN	**Piuthan** comp=E,71nm,0.7s	**7.40**	**171**	*e*P	**Pn**	**19 33 02.1**	**-2.2**
NDI	**New Delhi**	**7.71**	**210**	*e*P	**Pn**	**19 33 07.0**	**-1.3**
NDI				*e*4	**Sn**	**19 34 32.0**	**-3.4**
KOLN	**Koldanda** comp=E,46nm,0.5s	**7.82**	**167**	*e*P	**Pn**	**19 33 08.2**	**-1.8**
KKN	**Kakani**	**8.22**	**157**	*e*P	**Pn**	**19 33 16.2**	**+0.6**
GUN	**Gumba** comp=E,65nm,0.5s	**8.32**	**153**	*e*P	**Pn**	**19 33 18.2**	**+1.2**
DMN	**Daman** comp=E,34nm,0.5s	**8.34**	**158**	*e*P	**Pn**	**19 33 17.5**	**+0.3**
PKIN	**Phulchoki**	**8.46**	**157**	*e*P	**Pn**	**19 33 19.5**	**+0.6**
PKI	**Pulchoki** comp=E,67nm,0.6s	**8.47**	**157**	*e*P	**Pn**	**19 33 19.7**	**+0.6**
JIRN	**Jiri** comp=E,150nm,0.5s	**8.66**	**152**	*e*P	**Pn**	**19 33 23.0**	**+1.2**
TKM2	**Tokmak 2** comp=E,9.2nm,1.1s	**8.83**	**330**	⇑Pn	**Pn**	**19 33 25.5**	**+1.6**
TKM2	comp=E,8.8nm,0.6s			⇑Pg		19 33 56.9	
TKM2	comp=E,54nm,1.3s			⇓Lg	Lg	19 35 55.7	
AAK	**Ala-Archa** AAK	**9.09**	**324**	P	**Pn**	**19 33 27.2**	**-0.2**
AAK	comp=Z,177nm,18.3s			MLR	MLR		
AAK	**Ala-Archa** comp=Z,0.2nm,0.3s,baz=207,slow=11,SNR=3.9	**9.09**	**324**	Pn	**Pn**	**19 33 27.2**	**-0.2**
AAK	comp=Z,0.7nm,0.3s,baz=221,slow=19,SNR=4.4			Lg	Lg	19 35 59.8	
AAK	comp=Z,176nm,18.3s,baz=127,slow=39			LR	LR	19 37 09.7	
FRU	**Bishkek** FRU	**9.19**	**326**	*e*P	**Pn**	**19 33 29.0**	**+0.4**
FRU	comp=Z,34nm,1.8s			pmax	pmax		
RAMN	**Ramite** comp=Z,39nm,0.4s	**9.46**	**152**	*e*P	**Pn**	**19 33 32.0**	**-0.6**
TAPN	**Taplejung** comp=Z,42nm,0.9s	**9.57**	**146**	*e*P	**Pn**	**19 33 34.7**	**+0.5**
WMQ	**Urumqi** WMQ	**9.58**	**27**	P	**Pn**	**19 33 35.3**	**+1.2**
WMQ	comp=N,140nm,1.7s			smax	smax		
WMQ	comp=E,31nm,0.9s			smax	smax		
LSA	**Lhasa**	**9.84**	**123**	P	Pn	19 33 41.9	+3.9
ODAN	**Odare** comp=E,42nm,0.6s	**9.86**	**149**	*e*P	**Pn**	**19 33 37.7**	**-0.3**
MK31	**Makanchi Array** comp=E,17nm,1.2s,baz=186,slow=11,SNR=45	**11.36**	**2**	Pn	**Pn**	**19 33 56.5**	**-1.9**
MK31	comp=E,7.8nm,0.8s,baz=177,slow=13,SNR=2.6			⇑Sn	**Sn**	**19 36 06.6**	**+1.6**
MK31	comp=E,26nm,1.2s			⇑Lg	Lg	19 37 10.6	
MK31	**Makanchi Array** MK31	**11.36**	**2**	*i* P	**Pn**	**19 33 56.4**	**-1.9**
MK31	comp=Z,2.0nm,0.3s			pmax	pmax		
MKAR	**Makanchi Array** MKAR	**11.36**	**2**	P	**Pn**	**19 33 57.1**	**-1.3**
MKAR	comp=Z,205nm,18.0s			MLR	MLR	19 36 05.3	
MKAR	**Makanchi Array** comp=Z,0.4nm,0.3s,baz=184,slow=13,SNR=41	**11.36**	**2**	Pn	**Pn**	**19 33 57.1**	**-1.3**
MKAR	comp=Z,0.4nm,0.3s,baz=152,slow=25,SNR=3.6			Sn	**Sn**	**19 36 05.3**	**+0.3**
MKAR	comp=Z,204nm,18.0s,baz=179,slow=42			LR	LR	19 39 18.7	
KK31	**Karatay Array** comp=Z,1.9nm,0.6s,baz=128,slow=12,SNR=24	**11.53**	**315**	Pn	**Pn**	**19 34 00.5**	**-0.2**
KK31	comp=Z,3.3nm,0.7s,baz=130,slow=16,SNR=3.6			⇑Pg		19 34 41.6	
KK31	comp=Z,8.1nm,0.9s,baz=132,slow=25,SNR=3.6			⇓Lg	Lg	19 37 25.2	
KK31	**Karatay Array** KK31	**11.53**	**315**	*i* P	**Pn**	**19 34 00.5**	**-0.2**
KK31	comp=Z,1.0nm,0.3s			pmax	pmax		
GTA	**Gaotai** GTA	**14.97**	**69**	*e*P	**P**	**19 34 55.9**	**+2.7**
GTA				pP	pP	19 35 02.2	
GTA				sP		19 35 05.1	
GTA				S	**S**	**19 37 51.8**	**+0.7**
GTA	comp=Z,5.0nm,1.4s			pmax	pmax		
GTA	comp=N,280nm,14.7s			LR	LR		
GTA	comp=E,420nm,10.0s			LR	LR		
GTA	comp=Z,390nm,10.4s			LR	LR		
KURBB	**Kurchatov Arra** baz=172,slow=12,SNR=17	**15.35**	**352**	Pn	**Pn**	**19 34 49.0**	**-3.6**
KURBB	comp=Z,0.1nm,0.3s,baz=185,slow=30,SNR=4.3			Lg	Lg	19 39 25.8	
KURK	**Kurchatov**	**15.43**	**353**	P	**Pn**	**19 34 49.0**	**-4.7**
HVS	**Khovu-Aksy**	**17.94**	**25**	*i* P	**P**	**19 35 26.7**	**+0.6**
ZALV	**Zalesovo Beam** comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=26	**18.65**	**6**	P	**P**	**19 35 31.7**	**-2.0**
ZALV	comp=Z,86nm,18.1s			MLR	MLR		
ZALV	**Zalesovo Beam** comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=26	**18.65**	**6**	P	**P**	**19 35 31.6**	**-2.0**
ZALV	comp=Z,86nm,18.1s,baz=250,slow=40			LR	LR	19 43 44.2	
VOSK	**Vostochnaya** comp=Z,7.5nm,0.9s	**18.87**	**340**	⇑P	**P**	**19 35 34.2**	**-2.0**
BVA0	**Borovoye Array** comp=Z,8.5nm,1.2s,baz=150,slow=11,SNR=30	**19.31**	**339**	⇑P	**P**	**19 35 39.2**	**-1.7**
BVAR	**Borovoye Array** BVAR	**19.31**	**339**	P	**P**	**19 35 40.0**	**-1.0**
BVAR	comp=Z,136nm,19.4s			MLR	MLR		
BVAR	**Borovoye Array** comp=Z,0.2nm,0.3s,baz=142,slow=9.1,SNR=13	**19.31**	**339**	P	**P**	**19 35 40.0**	**-1.0**
BVAR	comp=Z,136nm,19.4s,baz=145,slow=38			LR	LR	19 43 28.7	
BRVK	**Borovoye** BRVK	**19.37**	**339**	⇑*e*P	**P**	**19 35 40.7**	**-0.9**
BRVK	comp=Z,13nm,1.7s			pmax	pmax		
BRVK	comp=Z,141nm,20.0s			MLR	MLR		
NVS	**Novosibirsk**	**19.44**	**3**	*i* P	**P**	**19 35 40.2**	**-2.1**
NVS				*e*		19 39 07.2	
NVS	comp=Z,7.0nm,1.3s			pmax	pmax		
NVS	comp=N,7.0nm,1.5s			pmax	pmax		
NVS	comp=E,4.0nm,1.5s			pmax	pmax		
ZRNK	**Zerenda** comp=E,3.1nm,0.8s	**19.67**	**337**	⇑P	**P**	**19 35 43.5**	**-1.4**
ZRNK	**Zerenda** ZRNK	**19.67**	**337**	*i* P	**P**	**19 35 43.0**	**-1.9**
ZRNK	comp=Z,8.0nm,1.4s			pmax	pmax		
KMI	**Kunming** KMI	**20.87**	**114**	P	**P**	**19 35 58.8**	**+0.4**
KMI	comp=Z,13nm,0.7s			pmax	pmax		
KMI	comp=N,140nm,8.2s			LR	LR		
KMI	comp=E,100nm,6.6s			LR	LR		
KMI	comp=E,150nm,12.3s			LR	LR		
AB31	**Akbulak array** comp=Z,5.8nm,0.8s,baz=130,slow=5.8,SNR=39	**21.07**	**318**	⇑P	**P**	**19 35 58.1**	**-2.1**
MOY	**Mondy**	**21.34**	**35**	*e*P	**P**	**19 36 05.2**	**+2.1**
MOY	comp=Z,21nm,1.9s			pmax	pmax		
ZAK	**Zakamensk** ZAK	**21.66**	**40**	*e*P	**P**	**19 36 06.8**	**+0.2**
ZAK	comp=Z,4.0nm,1.1s			pmax	pmax		
SONM	**Songino Array** comp=Z,9.5nm,1.2s,baz=240,slow=8.3,SNR=30	**22.15**	**48**	P	**P**	**19 36 11.9**	**0.0**
SONM	comp=Z,0.6nm,0.7s,baz=215,slow=1.8,SNR=3.7			PcP	**PcP**	**19 40 07.0**	**-1.6**
SONM	comp=Z,68nm,21.1s,baz=245,slow=39			LR	LR	19 45 39.3	
XAN	**Xi'an**	**22.43**	**86**	P	**P**	**19 36 16.5**	**+1.6**
AKTO	**Aktyubinsk** comp=Z,4.4nm,0.8s	**22.76**	**318**	⇑P	**P**	**19 36 17.5**	**-0.8**
AKTO	**Aktyubinsk** AKTO	**22.76**	**318**	P	**P**	**19 36 17.4**	**-0.8**
AKTO	comp=Z,3.0nm,0.7s			pmax	pmax		
AKTO	**Aktyubinsk** comp=Z,2.9nm,0.7s,baz=112,slow=15,SNR=17	**22.76**	**318**	P	**P**	**19 36 17.4**	**-0.8**
CMAR	**Chiang Mai Arr** comp=Z,1.5nm,1.0s,baz=308,slow=10,SNR=6.7	**22.82**	**133**	P	**P**	**19 36 17.1**	**-2.0**
CMAR	comp=Z,1.1nm,0.9s,baz=307,slow=2.3,SNR=3.6			PcP	**PcP**	**19 40 08.6**	**-1.7**
SVE	**Sverdlovsk** SVE	**25.68**	**333**	*e*P	**P**	**19 36 45.8**	**0.0**
SVE	comp=Z,13nm,1.2s			pmax	pmax		
ARU	**Arti** ARU	**26.20**	**330**	*d i* P	**P**	**19 36 51.0**	**+0.5**
ARU						19 37 25.2	
ARU				S	**S**	**19 41 21.3**	**-0.6**
ARU	comp=Z,7.0nm,1.2s			pmax	pmax		
QIZ	**Qiongzhong** QIZ	**29.78**	**116**	P	**P**	**19 37 24.3**	**+1.5**
QIZ				S	**S**	**19 42 23.1**	**+4.3**
QIZ	comp=Z,13nm,1.6s			pmax	pmax		
KBZ	**Khabaz** comp=Z,42nm,19.9s,baz=208,slow=41	**30.77**	**297**	LR	LR	19 52 16.8	
KIV	**Kislovodsk** KIV	**30.93**	**298**	*e*P	**P**	**19 37 34.0**	**+1.1**
KIV				*e*S	**S**	**19 42 38.9**	**+2.2**
KIV	comp=Z,4.0nm,1.1s			pmax	pmax		
KIV	comp=Z,30nm,15.0s			MLR	MLR		
VSR	**Storozhevoye**	**34.16**	**311**	*i* P	**P**	**19 38 03.9**	**+2.9**
PSI	**Prapat** comp=Z,70nm,20.8s,baz=210,slow=40	**36.21**	**150**	LR	LR	19 55 15.9	
OBN	**Obninsk** OBN	**36.52**	**317**	*e*P	**P**	**19 38 23.2**	**+2.0**
OBN	comp=Z,6.0nm,1.0s			pmax	pmax		
KSRS	**Korea Array** comp=Z,38nm,18.8s,baz=269,slow=37	**36.99**	**73**	LR	LR	19 54 09.1	
BRTR	**Keskin Array B** comp=Z,0.4nm,0.6s,baz=122,slow=5.2,SNR=3.1	**37.93**	**291**	P	**P**	**19 38 31.8**	**-1.9**
USRK	**Ussuriysk Arra** comp=Z,54nm,19.6s,baz=162,slow=38	**39.12**	**61**	LR	LR	19 56 15.1	
YAK	**Yakutsk**	**39.96**	**33**	*i* P	**P**	**19 38 49.5**	**-0.6**
KIEV	**Kiev**	**40.36**	**309**	*i* P	**P**	**19 38 55.4**	**+1.8**
FINES	**FINESS Array B** comp=Z,4.1nm,0.7s,baz=113,slow=8.6,SNR=13	**43.28**	**325**	P	**P**	**19 39 16.2**	**-1.0**
FINES	comp=Z,90nm,18.9s,baz=104,slow=37			LR	LR	19 58 06.2	
MJAR	**Matsushiro Arr** comp=Z,1.4nm,0.7s,baz=283,slow=10,SNR=8.5	**45.20**	**71**	P	**P**	**19 39 33.2**	**+0.1**
ARCES	**ARCESS Array B** comp=Z,1.4nm,0.9s,baz=116,slow=6.3,SNR=2.7	**45.55**	**336**	P	**P**	**19 39 32.8**	**-2.6**
ARCES	comp=Z,42nm,20.0s,baz=77,slow=38			LR	LR	20 00 12.2	
DPC	**Dobruska-Polom**	**48.58**	**309**	*e*P	**P**	**19 40 01.7**	**+2.3**
DPC	**Dobruska-Polom**	**48.58**	**309**	*e*P	**P**	**19 40 01.7**	**+2.3**
UPC	**Upice**	**48.76**	**309**	*e*P	**P**	**19 40 03.1**	**+2.5**
UPC	**Upice**	**48.76**	**309**	*e*P	**P**	**19 40 03.1**	**+2.5**
BRG	**Berggiesshubel** comp=Z,2.8nm,0.8s	**50.00**	**310**	*e*P	**P**	**19 40 12.8**	**+2.7**
BRG	**Berggiesshubel** BRG	**50.00**	**310**	*e*P	**P**	**19 40 12.8**	**+2.7**
BRG	comp=Z,7.0nm,0.8s			pmax	pmax		
NB2	**NORSAR Subarra** comp=Z,2.0nm,0.6s,baz=86,slow=7.9	**50.41**	**323**	P	**P**	**19 40 11.0**	**-2.1**
NOA	**NORSAR Array B** comp=Z,2.2nm,0.7s,baz=88,slow=7.5,SNR=7.3	**50.41**	**323**	P	**P**	**19 40 11.7**	**-1.4**
NOA	comp=Z,42nm,21.8s,baz=100,slow=36			LR	LR	20 01 55.9	
GERES	**GERESS Array B** comp=Z,1.0nm,0.7s,baz=67,slow=7.8,SNR=5.4	**50.52**	**308**	P	**P**	**19 40 12.3**	**-1.9**
GERES	comp=Z,38nm,18.2s,baz=250,slow=37			LR	LR	20 02 25.3	
KHC	**Kasperske Hory** KHC	**50.54**	**308**	*e*P	**P**	**19 40 15.2**	**+0.9**
KHC	**Kasperske Hory** KHC	**50.54**	**308**	*e*P	**P**	**19 40 15.2**	**+0.9**
				ex	x	19 40 26.5	
PETK	**Petropavlovsk-** comp=Z,33nm,18.5s,baz=98,slow=39	**54.61**	**46**	LR

D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.95**	**241**	P	P	19 39 26.4	-0.1
	1.3nm,0.7s,baz=65,slow=10,SNR=7.5						
ASAR	**Alice Springs**	**24.03**	**233**	P	P	19 39 47.3	-0.7
	2.3nm,1.0s,baz=63,slow=9.0,SNR=12						
STKA	**Stephens Creek**	**24.94**	**207**	P	P	19 39 56.6	+0.5
	1.6nm,0.7s,baz=25,slow=14,SNR=3.9						
SONM	**Songino Array**	**71.61**	**328**	P	P	19 45 55.0	+0.5
	0.7nm,0.9s,baz=142,slow=4.9,SNR=5.2						
MKAR	**Makanchi Array**	**85.36**	**319**	P	P	19 47 10.0	-0.3
	0.3nm,0.8s,baz=106,slow=4.7,SNR=3.3						

ISCJB ***05*** *19:49:51.7±0.6,40.49N±0.03×141.35E±0.10, h108km±4km, mb3.6/5, Error ellipse: s-maj=12.2km s-min=5.3km az=6.2*
JMA ***05*** *19:49:52.7±0.1,40.48N×141.35E, h103km±1km, M3.2*
JMA Felt I J1
IDC ***05*** *19:49:54.2±2.5,40.68N×140.93E, h86km±20km, mb3.5/5, mb1 3.4/8, mb1mx3.2/27, mbtmp3.4/8, Error ellipse: s-maj=46.1km s-min=16.2km az=120.0*

ISC 05 19:49:52.9±1.0, 40.49N±0.04×141.36E±0.08, h102km±6km, n18, σ0980/29, mb3.7/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.17**	**133**	P	**Pn**	**19 50 07.2**	**0.0**
JANG				S	**Sn**	**19 50 17.7**	**-0.2**
JTM	**Tenmabayashi**	**0.37**	**324**	P	**Pn**	**19 50 08.1**	**0.0**
JTM				S	**Sn**	**19 50 19.2**	**-0.2**
JAH	**Hinai**	**0.63**	**242**	P	**Pn**	**19 50 09.9**	**+0.1**
JAH				S	**Sn**	**19 50 22.3**	**-0.2**
JOT	**Ohata**	**0.93**	**345**	P	**Pn**	**19 50 12.6**	**0.0**
JOT				S	**Sn**	**19 50 28.2**	**+0.7**
JOM	**Ohasama**	**1.01**	**183**	P	**Pn**	**19 50 13.6**	**0.0**
JOM				S	**Sn**	**19 50 29.0**	**-0.2**
JIW	**Iwasaki**	**1.03**	**276**	P	**Pn**	**19 50 13.9**	**+0.1**
JIW				*e*S	**Sn**	**19 50 29.7**	**+0.1**
JRG	**Rokugo**	**1.22**	**207**	P	**Pn**	**19 50 16.3**	**+0.4**
JRG				S	**Sn**	**19 50 33.9**	**+0.6**
JKB	**Kayabe**	**1.42**	**350**	P	**Pn**	**19 50 18.3**	**+0.1**
JKB				*e*S	**Sn**	**19 50 37.7**	**+0.2**
JMK	**Ichinoseki**	**1.54**	**184**	P	**Pn**	**19 50 19.4**	**-0.3**
JMK				S	**Sn**	**19 50 39.2**	**-0.8**
JYK	**Kaneyama**	**1.75**	**207**	P	**Pn**	**19 50 22.2**	**-0.1**
JYK				*e*S	**Sn**	**19 50 43.7**	**-1.0**
ASAJ	**Asahikawa**	**3.74**	**14**	P	**Pn**	**19 50 48.5**	**-0.1**
	2.3nm,0.3s,baz=227,slow=11,SNR=27						
ASAJ				S	**Sn**	**19 51 30.7**	**-1.0**
	2.4nm,0.3s,baz=100,slow=33,SNR=7.6						
MJAR	**Matsushiro Arr**	**4.65**	**213**	P	**Pn**	**19 51 01.8**	**+0.9**
	0.4nm,0.3s,baz=19,slow=14,SNR=13						
USRK	**Ussuriysk Arra**	**7.86**	**301**	P	**Pn**	**19 51 42.6**	**-1.8**
	0.6nm,0.3s,baz=112,slow=14,SNR=19						
SONM	**Songino Array**	**25.97**	**298**	P	**P**	**19 55 14.8**	**-1.1**
	0.2nm,0.4s,baz=70,slow=8.4,SNR=3.9						
ZALV	**Zalesovo Beam**	**39.62**	**309**	P	**P**	**19 57 13.2**	**-1.0**
	0.7nm,0.5s,baz=89,slow=7.2,SNR=3.9						
MKAR	**Makanchi Array**	**42.33**	**299**	P	**P**	**19 57 36.5**	**-0.1**
	0.7nm,0.6s,baz=84,slow=9.4,SNR=11						
KURBB	**Kurchatov Arra**	**43.91**	**305**	P	**P**	**19 57 48.4**	**-0.8**
	1.7nm,0.4s,baz=79,slow=8.7,SNR=17						
FINES	**FINESS Array B**	**65.75**	**332**	P	**P**	**20 00 28.6**	**+2.3**
	1.8nm,0.9s,baz=56,slow=10,SNR=2.3						

IDC ***05*** *20:21:51.9±1.8, 17.68S×167.32E, h0km, mb3.9/7, mb1 4.2/8, mb1mx3.9/20, mbtmp4.0/8, ML3.8/1, MS3.3/6, Ms1 3.3/6, ms1mx2.9/30, Error ellipse: s-maj=47.8km s-min=26.5km az=122.0*
ISCJB ***05*** *20:21:53.6±1.2, 17.75S±0.06×167.2E±0.2, h19km, mb3.9/6, MS3.2/5, Error ellipse: s-maj=25.5km s-min=8.3km az=177.9*

ISC 05 20:21:54.8±1.4, 17.73S±0.09×167.3E±0.2, h19km, n18, σ1991/12, mb4.0/6, MS3.1/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.41**	**191**	*e*Pn	**Pn**	**20 23 01.4**	**+0.6**
	15nm,0.2s						
DZM				*e*Sn	**Sn**	**20 23 50.5**	**-1.1**
	12nm,0.2s						
DZM	**Mont Dzumac**	**4.41**	**191**	Pn	**Pn**	**20 23 01.4**	**+0.6**
	4.3nm,0.3s,baz=90,slow=23,SNR=57						
NOUC	**Port Laguerre**	**4.46**	**192**	*e*P	**Pn**	**20 23 02.3**	**+0.9**
NOUC				*e*S	**Sn**	**20 23 52.9**	**0.0**
HNR	**Honiara**	**10.93**	**318**	LR	LR	20 27 48.1	
	comp=Z,105nm,18.7s,baz=198,slow=33						
CTA	**Charters Tower**	**20.09**	**260**	P	**P**	**20 26 27.5**	**+0.1**
	3.0nm,0.7s,baz=92,slow=9.0,SNR=3.6						
AFI	**Afiamalu**	**20.44**	**82**	LR	LR	20 31 56.5	
	comp=Z,44nm,21.2s,baz=7.1,slow=30						
PMG	**Port Moresby**	**21.27**	**290**	LR	LR	20 33 40.9	
	comp=Z,75nm,18.8s,baz=96,slow=33						
URZ	**Urewera**	**22.18**	**159**	LR	LR	20 33 25.6	
	comp=Z,70nm,20.5s,baz=41,slow=31						
STKA	**Stephens Creek**	**27.20**	**234**	P	**P**	**20 27 37.9**	**+0.4**
	7.1nm,0.8s,baz=73,slow=8.9,SNR=14						
WRA	**Warramunga Arr**	**31.29**	**261**	P	**P**	**20 28 12.7**	**-1.2**
	0.8nm,0.7s,baz=88,slow=9.1,SNR=6.2						
ASAR	**Alice Springs**	**31.78**	**254**	P	**P**	**20 28 17.1**	**-1.1**
	1.3nm,0.7s,baz=80,slow=8.8,SNR=27						
FITZ	**Fitzroy Crossi**	**39.62**	**263**	LR	LR	20 45 11.6	
	comp=Z,64nm,18.8s,baz=94,slow=35						
TBI	**Tubuai**	**40.73**	**105**	*e*LR	LR	20 40 50.1	
	85nm,30.8s						
PPT2	**Papeete2**	**40.99**	**97**	*e*LR	LR	20 40 58.5	
	115nm,27.2s						
PPT	**Papeete**	**40.99**	**97**	LR	LR	20 42 47.8	
	comp=Z,106nm,20.0s,baz=304,slow=31						
CMAR	**Chiang Mai Arr**	**76.24**	**295**	P	**P**	**20 33 44.2**	**+1.6**
	1.4nm,0.9s,baz=120,slow=5.4,SNR=6.6						
SONM	**Songino Array**	**84.94**	**324**	P	**P**	**20 34 28.9**	**+0.1**
	0.9nm,0.9s,baz=136,slow=3.2,SNR=6.0						
ILAR	**Eielson Array**	**89.34**	**18**	P	**P**	**20 34 48.5**	**-1.0**
	0.5nm,0.8s,baz=250,slow=4.9,SNR=4.7						

IDC ***05*** *20:36:22.6±0.6,50.92N×97.97E, h0km, mb3.8/12, mb1 3.9/17, mb1mx3.8/32, mbtmp3.8/17, ML3.2/5, MS3.3/6, Ms1 3.3/6, ms1mx2.9/44, Error ellipse: s-maj=18.5km s-min=9.9km az=15.0*
ISCJB ***05*** *20:36:22.8±0.4,50.87N±0.07×97.74E±0.05, h12km, mb4.0/18, MS3.3/9, Error ellipse: s-maj=9.9km s-min=4.8km az=0.2*
MOS ***05*** *20:36:23.9±2.1,50.91N×97.84E, h17km, mb4.1/11, Error ellipse: s-maj=10.5km s-min=8.5km az=21.0*
NNC ***05*** *20:36:25.5±3.0,51.18N×97.44E, h0km, mb4.2, Error ellipse: s-maj=44.9km s-min=26.1km az=130.0*
BJI ***05*** *20:36:26.2,51.02N×98.00E, h23km, mB4.2/3, mb3.9/5, ML4.3/1, Ms4.2/3, Ms7 3.9/3*
ASRS ***05*** *20:36:28.3±2.1,51.54N×97.63E, h15km, Ms3.7/3*

ISC 05 20:36:24.8±0.5, 50.99N±0.07×97.80E±0.04, h12km, n61, σ1970/59, mb4.0/18, MS3.3/10, 11C-2D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**1.99**	**38**	*e*PN	**Pn**	**20 36 59.3**	**+0.9**
ORL				*e*		20 37 24.9	
ORL				pmax	pmax		
	comp=Z,643nm,0.4s						
ORL				smax	smax		
	comp=N,4μm,0.8s						
MOY	**Mondy**	**2.12**	**70**	⇑*i*PN	**Pb**	**20 37 01.8**	**-1.3**
MOY				*e*		20 37 29.7	
MOY				pmax	pmax		
	comp=Z,726nm,0.8s						
MOY				smax	smax		
	comp=N,7μm,1.0s						
HVS	**Khovu-Aksy**	**2.59**	**275**	*c i*PN	**Pn**	**20 37 08.0**	**+1.5**
ARS	**Arshan**	**3.04**	**70**	*e*PN	**Pn**	**20 37 13.8**	**+1.1**
ARS				*e*S	**Sb**	**20 37 57.6**	**+1.7**
ZAK	**Zakamensk**	**3.54**	**98**	*e*PN	**Pn**	**20 37 20.3**	**+0.7**
ZAK				*e*		20 37 26.7	
ZAK				*e*S	**Sb**	**20 38 13.6**	**+3.3**
ZAK				pmax	pmax		
	comp=Z,289nm,1.1s						
ZAK				smax	smax		
	comp=N,2μm,1.0s						
TLY	**Talaya**	**3.73**	**77**	*e*PN	Pn	20 37 18.7	-3.5
TLY				*e*		20 37 29.3	
TLY				*e*		20 38 18.5	
TLY				pmax	pmax		
	comp=Z,105nm,0.5s						
TLY				smax	smax		
	comp=N,600nm,0.5s						
IRK	**Irkutsk**	**4.22**	**70**	*e*PN	**Pb**	**20 37 38.0**	**-1.0**
IRK				*e*		20 38 31.7	
IRK				pmax	pmax		
	comp=Z,239nm,0.3s						
IRK				smax	smax		
	comp=N,3μm,0.6s						
LSTR	**Listvyanka**	**4.49**	**76**	*e*PN	**Pb**	**20 37 43.7**	**+0.2**
LSTR				*e*		20 38 40.0	
LSTR				pmax	pmax		
	comp=Z,92nm,1.0s						
LSTR				smax	smax		
	comp=E,2μm,1.9s						
TASR	**Tashtagol**	**6.39**	**290**	*e*Pg	Pb	20 38 21.2	+5.3
TASR				*e*Sg	Sb	20 39 40.6	+8.4
SONM	**Songino Array**	**6.44**	**116**	Pn	**Pn**	**20 37 58.9**	**-0.5**
	comp=E,0.3nm,0.3s,baz=300,slow=14,SNR=6.6						
SONM				Pg	**Pb**	**20 38 17.5**	**+0.8**
	comp=E,6.7nm,0.3s,baz=297,slow=18,SNR=34						
SONM				Lg	Lg	20 39 45.5	
	comp=E,33nm,0.3s,baz=298,slow=30,SNR=24						
SONM				LR	LR	20 40 39.0	
	comp=E,300nm,18.9s,baz=268,slow=41						
ELT	**Yel'tsovka**	**7.47**	**292**	*e*Pn	**Pn**	**20 38 15.5**	**+2.1**
ELT				*e*Sn	**Sn**	**20 39 33.3**	**-4.7**
ELT				*e*Sg	Sb	20 40 10.3	+7.2
ELT	**Yel'tsovka**	**7.47**	**292**	*e*P	**Pn**	**20 38 15.5**	**+2.1**
ELT				*e*		20 39 33.3	
UKR	**Ust'-Kan**	**8.22**	**275**	*e*Pn	**Pn**	**20 38 25.4**	**+1.5**
UKR				*e*Pg	Pb	20 38 52.1	+5.0
UKR				*e*Sg	Sg	20 40 40.9	-7.6
UKR	**Ust'-Kan**	**8.22**	**275**	*e*P	**Pn**	**20 38 25.4**	**+1.5**
ZALV	**Zalesovo Beam**	**8.46**	**296**	P	**Pn**	**20 38 29.0**	**+2.0**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**8.46**	**296**	Pn	**Pn**	**20 38 29.0**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=96,slow=11,SNR=4.7						
ZALV				Pg	Pb	20 38 57.3	+6.3
	comp=Z,1.1nm,0.3s,baz=108,slow=12,SNR=7.3						
ZALV				Lg	Lg	20 40 43.5	
	comp=Z,3.0nm,0.3s,baz=97,slow=23,SNR=6.0						
NVS	**Novosibirsk**	**9.60**	**299**	*e*Pg	Pn	20 39 17.3	+35
NVS				*e*Sg	Sn	20 41 14.6	+44
NVS	**Novosibirsk**	**9.60**	**299**	*e*P	Pn	20 38 53.6	+11
NVS				*e*		20 40 26.3	
MK31	**Makanchi Array**	**11.04**	**254**	⇑Pn	**Pn**	**20 39 02.5**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=22,slow=44,SNR=8.2						
MK31				⇑Pg		20 39 43.8	
	comp=Z,6.5nm,0.7s,baz=59,slow=15,SNR=4.3						
MK31				⇑Lg	Lg	20 42 08.1	
	comp=Z,69nm,1.2s,baz=60,slow=34,SNR=4.0						
MKAR	**Makanchi Array**	**11.04**	**254**	P	**Pn**	**20 39 02.6**	**+0.2**
MKAR	**Makanchi Array**	**11.04**	**254**	Pn	**Pn**	**20 39 02.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=81,slow=15,SNR=6.5						
MKAR				Pg		20 39 45.0	
	comp=Z,0.4nm,0.3s,baz=65,slow=12,SNR=6.8						
MKAR				Lg	Lg	20 42 10.4	
	comp=Z,0.7nm,0.3s,baz=34,slow=32,SNR=4.1						
KURK	**Kurchatov**	**12.12**	**276**	P	**Pn**	**20 39 18.3**	**+1.1**
KURBB	**Kurchatov Arra**	**12.20**	**276**	⇓Pn	**Pn**	**20 39 17.7**	**-0.4**
	comp=Z,5.5nm,0.8s						
KURBB				⇑Lg	Lg	20 42 49.3	
	comp=Z,39nm,1.1s						
KURBB	**Kurchatov Arra**	**12.20**	**276**	Pn	**Pn**	**20 39 18.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=82,slow=15,SNR=38						
KURBB				Lg	Lg	20 42 42.2	
	comp=Z,0.1nm,0.3s,baz=87,slow=31,SNR=6.0						
VOSK	**Vostochnaya**	**16.62**	**286**	⇑Pn	**Pn**	**20 40 15.6**	**-1.8**
	comp=Z,5.8nm,0.8s						
BVA0	**Borovoye Array**	**16.96**	**288**	Pn	**Pn**	**20 40 19.9**	**-1.8**
	comp=Z,2.9nm,0.7s,baz=93,slow=16,SNR=20						
BVAR	**Borovoye Array**	**16.96**	**288**	P	**Pn**	**20 40 20.6**	**-1.1**
BVAR				MLR	MLR		
	comp=Z,52nm,19.8s						
BVAR	**Borovoye Array**	**16.96**	**288**	Pn	**Pn**	**20 40 20.6**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=84,slow=14,SNR=11						
BVAR				LR	LR	20 47 17.8	
	comp=Z,52nm,19.8s,baz=120,slow=38						
BRVK	**Borovoye**	**17.02**	**288**	*i* P	**Pn**	**20 40 21.4**	**-1.0**
TKM2	**Tokmak 2**	**17.12**	**251**	⇑Pn	**P**	**20 40 28.0**	**+2.3**
	comp=Z,2.7nm,0.6s						
ZRNK	**Zerenda**	**17.80**	**288**	⇑Pn	**Pn**	**20 40 30.9**	**-1.2**
	comp=Z,5.2nm,0.7s						
KK31	**Karatay Array**	**20.11**	**258**	⇑Pn	**P**	**20 40 59.1**	**+0.8**
	comp=Z,3.7nm,0.9s,baz=46,slow=8.8,SNR=8.2						
YAK	**Yakutsk**	**20.54**	**45**	*e*P	**P**	**20 41 01.1**	**-1.6**
YAK				*e*PP	Pn	20 41 04.8	-0.1
YAK				*e*		20 41 19.5	
YAK				*e*S	Sn	20 44 56.1	0.0
YAK				*e*SSS	SSS	20 45 34.7	
YAK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
YAK				smax	smax		
	comp=N,34nm,2.2s						
YAK				smax	smax		
	comp=E,18nm,1.5s						
YAK				MLR	MLR		
	comp=E,24nm,11.0s						
YAK				MLR	MLR		
	comp=E,49nm,9.0s						
YAK				MLR	MLR		
	comp=Z,86nm,16.0s						
SVE	**Sverdlovsk**	**22.44**	**300**	*e*P	**P**	**20 41 27.4**	**+4.1**
SVE				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SVE				MLR	MLR		
	comp=Z,151nm,12.0s						
ARU	**Arti**	**23.60**	**299**	*e*P	**P**	**20 41 39.0**	**+3.8**
ARU						20 42 04.4	
USRK	**Ussuriysk Arra**	**23.89**	**93**	P	**P**	**20 41 37.0**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=227,slow=13,SNR=5.6						
USRK				LR	LR	20 51 54.4	
	comp=Z,100nm,19.6s,baz=246,slow=39						
AB31	**Akbulak array**	**24.16**	**281**	P	**P**	**20 41 40.8**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=66,slow=11,SNR=25						
TIXI	**Tiksi**	**24.97**	**23**	*de*P	**P**	**20 41 47.8**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,21nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,142nm,24.0s						
AKTO	**Aktyubinsk**	**24.99**	**284**	⇑P	**P**	**20 41 48.3**	**+0.2**
	comp=Z,13nm,0.8s						
AKTO	**Aktyubinsk**	**24.99**	**284**	P	**P**	**20 41 47.9**	**-0.2**
AKTO				pmax	pmax		
	comp=Z,13nm,0.8s						
AKTO	**Aktyubinsk**	**24.99**	**284**	P	**P**	**20 41 47.9**	**-0.2**
	comp=Z,13nm,0.8s,baz=83,slow=8.0,SNR=14						
KSRS	**Korea Array**	**25.27**	**111**	P	**P**	**20 41 48.5**	**-2.1**
	comp=Z,2.3nm,0.8s,baz=306,slow=10,SNR=9.9						
KSRS				LR	LR	20 52 40.5	
	comp=Z,50nm,19.1s,baz=161,slow=39						
MJAR	**Matsushiro Arr**	**32.12**	**101**	LR	LR	20 56 24.8	
	comp=Z,100nm,18.3s,baz=325,slow=38						
CMAR	**Chiang Mai Arr**	**32.47**	**178**	P	**P**	**20 42 53.3**	**-1.7**
	comp=Z,0.9nm,0.9s,baz=351,slow=12,SNR=5.4						
PETK	**Petropavlovsk-**	**35.97**	**63**	LR	LR	20 58 57.8	
	comp=Z,37nm,18.3s,baz=125,slow=38						
BILL	**Bilibino**	**36.36**	**36**	*e*P	**P**	**20 43 29.4**	**+1.2**
BILL				*e*		20 44 48.8	
BILL				*e*S	**S**	**20 49 07.4**	**-1.3**
BILL				*e*SS	**SnSn**	**20 51 33.7**	**-2.1**
BILL				pmax	pmax		
	comp=Z,13nm,1.2s						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s						
KIV	**Kislovodsk**	**37.15**	**281**	*e*P	**P**	**20 43 38.3**	**+3.0**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,25nm,16.0s						
FINES	**FINESS Array B**	**39.20**	**314**	P	**P**	**20 43 53.3**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=77,slow=8.2,SNR=4.2						
ANN	**Anapa**	**39.94**	**285**	*e*P	P	20 43 51.2	-7.4
BRTR	**Keskin Array B**	**45.11**	**282**	P	**P**	**20 44 42.8**	**+1.9**
	comp=Z,3.4nm,0.9s,baz=78,slow=7.3,SNR=15						
NOA	**NORSAR Array B**	**45.95**	**317**	P	**P**	**20 44 47.4**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=61,slow=7.7,SNR=2.5						
CLL	**Collm**	**50.26**	**306**	*e*P	P	20 45 26.0	+5.5
CLL	**Collm**	**50.26**	**306**	*e*pP	P	20 45 26.0	+5.5
CLL				*e*PP	**PP**	**20 47 16.0**	**+0.5**
CLL				Lm	MLR	21 08 00.0	
	comp=N,100nm,18.8s						
CLL				Lm	MLR	21 08 00.0	
	comp=E,100nm,18.0s						
ILAR	**Eielson Array**	**54.24**	**29**	P	**P**	**20 45 49.8**	**-0.1**
	comp=E,0.9nm,0.8s,baz=318,slow=4.2,SNR=9.9						
ORIF	**Oris-en-Rattie**	**57.97**	**303**	*e*P	**P**	**20 46 15.2**	**-1.7**
	comp=E,5.9nm,0.9s						
SMRF	**Simiane la Rot**	**58.76**	**302**	*e*P	**P**	**20 46 19.9**	**-2.5**
YKA	**Yellowknife Ar**	**63.98**	**16**	P	**P**	**20 46 56.4**	**-1.0**
	comp=E,0.9nm,0.7s,baz=337,slow=6.9,SNR=8.6						
ESDC	**Sonseca Array**	**66.83**	**305**	P	**P**	**20 47 17.4**	**+1.1**
	comp=E,0.4nm,0.7s,baz=41,slow=5.1,SNR=2.3						
FFC	**Flin Flon**	**73.36**	**12**	*i* P	**P**	**20 47 55.8**	**-0.2**
WRA	**Warramunga Arr**	**77.59**	**145**	P	**P**	**20 48 19.6**	**-1.0**
	comp=E,0.8nm,1.0s,baz=346,slow=6.1,SNR=4.6						
ASAR	**Alice Springs**	**80.86**	**147**	P	**P**	**20 48 37.9**	**-0.5**
	comp=E,1.3nm,0.8s,baz=344,slow=5.9,SNR=14						

CASC 05 20:41:41.3±1.5, 13.63N×90.77W, h30km±4km, MD3.4, ML3.8, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.63**	**29**	*e*P	Pn	20 41 55.1	+0.7
PCG	**Pacaya**	**0.78**	**12**	*e*P	Pn	20 41 56.6	0.0
FUG	**Fuego 3**	**0.82**	**355**	*e*P	Pn	20 41 56.6	-0.4
NBG	**Las Nubes**	**1.04**	**23**	*e*P	Pn	20 42 00.3	+0.1
NBG				*e*S	Sb	20 42 15.3	+0.6
JAT	**Jato**	**1.08**	**309**	⇓*e*P	Pn	20 42 00.3	-0.1
RTR	**El Retiro**	**1.13**	**76**	*e*P	Pn	20 42 01.8	+0.5
RTR				*e*S	Sb	20 42 17.4	+0.4
SBLS	**San Blas**	**1.14**	**79**	*e*P	Pn	20 42 01.7	+0.2
SBLS				*e*S	Sb	20 42 17.0	-0.3
SNJE	**San Jose**	**1.16**	**78**	*e*P	Pn	20 42 01.9	+0.1
SNJE				*e*S	Sb	20 42 17.9	0.0
RBDL	**Robledal**	**1.16**	**65**	*e*P	Pn	20 42 01.4	-0.4
RBDL				*e*S	Sb	20 42 17.7	-0.2
BOQS	**Boqueron**	**1.45**	**86**	*e*P	Pn	20 42 05.6	-0.3
BOQS				*e*S	Sn	20 42 24.8	+0.7
SNET	**Serv Nac Est T**	**1.50**	**88**	AML	AML	20 42 29.6	
	comp=Z,1μm,0.3s						
LFRS	**El Faro**	**1.66**	**90**	*e*P	Pn	20 42 08.6	0.0
LFRS				*e*S	Sn	20 42 29.6	+0.5
LBRS	**Las Brisas**	**1.68**	**86**	*e*P	Pn	20 42 08.7	-0.1
SNVI	**San Vicente**	**1.88**	**90**	*e*P	Pn	20 42 11.5	-0.1

ISCJB ***05*** *20:44:30.9±0.2,37.59N±0.03×77.23E±0.06, h10km, mb3.9/23, MS3.5/5, Error ellipse: s-maj=7.9km s-min=3.4km az=151.9*
IDC ***05*** *20:44:33.9±0.7,37.59N×77.21E, h21km±3km, mb3.6/13, mb1 3.8/19, mb1mx3.7/32, mbtmp3.6/19, ML3.6/6, MS3.4/8, Ms1 3.4/8, ms1mx3.1/29, Error ellipse: s-maj=15.9km s-min=13.8km az=55.0*
BJI ***05*** *20:44:34.5,37.80N×77.23E, h8km, mB4.3/2, mb3.8/6, ML4.1/4, Ms3.9/3, Ms7 3.7/3*
NNC ***05*** *20:44:38.5±4.3,38.14N×77.01E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=38.5km s-min=26.7km az=157.0*

ISC 05 20:44:32.3±0.5, 37.59N±0.04×77.39E±0.06, h10km, n81, σ1992/82, mb4.1/23, MS3.6/5, 14C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.22**	**330**	Pn	**Pn**	**20 45 08.5**	**-0.8**
KSH				Sn	**Sn**	**20 45 35.4**	**-1.4**
KSH				smax	smax		
	comp=N,3μm,0.4s						
KSH				smax	smax		
	comp=E,1μm,0.8s						
ULHL	**Ulahol**	**4.73**	**350**	P	Pn	20 45 46.7	+2.8
	SNR=9.0						
KZA	**Kyzart**	**4.77**	**340**	P	**Pn**	**20 45 46.4**	**+1.8**
	SNR=6.5						
UCH	**Uchtor**	**5.13**	**335**	P	**Pn**	**20 45 51.3**	**+1.8**
	SNR=6.3						
DLH	**Dalhousie**	**5.17**	**193**	*e*P	Pb	20 45 57.0	-6.0
THN	**Thein Dam**	**5.33**	**195**	*e*P	Pn	20 45 57.0	+5.1
THN				*e*4	**Sg**	**20 47 20.0**	**-3.3**
AML	**Almayashu**	**5.35**	**329**	P	**Pn**	**20 45 53.8**	**+1.3**
	SNR=12						
KBK	**Karagaybulak**	**5.39**	**340**	P	**Pn**	**20 45 55.2**	**+2.3**
	SNR=14						
DHRM	**DHARAMSHALA**	**5.41**	**190**	*e*P	Pn	20 45 59.0	+5.8
DHRM				*e*S	**Sn**	**20 46 59.2**	**+3.6**
DHRM				AML	AML	20 47 40.2	
	comp=E,200nm,0.5s						
DHRM				AML	AML	20 47 41.8	
	comp=N,133nm,0.4s						
TKM2	**Tokmak 2**	**5.49**	**346**	⇑Pn	**Pn**	**20 45 56.3**	**+2.0**
	comp=N,24nm,0.6s						
TKM2				⇑Lg	Lg	20 47 19.6	
	comp=N,41nm,0.6s						
AAK	**Ala-Archa**	**5.50**	**337**	P	**Pn**	**20 45 56.6**	**+2.2**
	SNR=12						
AAK	**Ala-Archa**	**5.50**	**337**	Pn	**Pn**	**20 45 56.5**	**+2.1**
	comp=N,3.1nm,0.3s,baz=149,slow=9.2,SNR=21						
AAK				Lg	Lg	20 47 22.0	
	comp=N,11nm,0.3s,baz=348,slow=23,SNR=6.1						
KNDC	**Almaty**	**5.63**	**357**	⇑Pn	**Pn**	**20 45 56.1**	**+0.1**
KNDC				⇓Lg	Lg	20 47 21.6	
CHMS	**Chumysh**	**5.76**	**340**	P	**Pn**	**20 46 00.3**	**+2.4**
	SNR=6.1						
EKS2	**Erkin-Say**	**5.77**	**332**	P	**Pn**	**20 46 00

comp=E,0.1nm,0.3s,baz=181,slow=28,SNR=4.2
RAMN Ramite 13.16 141 *e*P **Pn 20 47 40.8 +1.3**
comp=E,44nm,0.6s
TAPN Taplejung 13.41 137 *e*P **Pn 20 47 44.1 +1.1**
comp=E,32nm,0.8s
ODAN Odare 13.63 139 *e*P **Pn 20 47 46.9 +0.9**
comp=E,24nm,0.6s
BHPL Bhopal 14.31 180 *ex* **Sn 20 50 28.7 -5.0**
JBP Jabalpur 14.55 170⇑*i*P **Pn 20 47 58.6 +0.4**
JBP *e*S Sn 20 50 33.7 -6.0
VOSK Vostochnaya 15.78 346⇓P **P 20 48 18.6 +0.3**
comp=E,4.5nm,0.7s
BVA0 Borovoye Array 16.18 345⇑P **P 20 48 23.2 +0.3**
comp=E,15nm,1.1s,baz=150,slow=14,SNR=21
BVAR Borovoye Array 16.18 345 Pn **Pn 20 48 18.3 -1.3**
comp=E,0.1nm,0.3s,baz=147,slow=11,SNR=2.9
ZRNK Zerenda 16.43 342⇑P **P 20 48 24.7 -0.9**
comp=E,6.2nm,0.9s
ZALV Zalesovo Beam 17.14 15 P **Pn 20 48 31.1 -0.6**
comp=E,0.3nm,0.3s,baz=206,slow=13,SNR=5.0
ZALV LR LR 20 55 53.3
comp=E,240nm,18.8s,baz=249,slow=40
AB31 Akbulak array 17.17 318⇑P **Pn 20 48 30.6 -1.5**
comp=E,1.6nm,0.6s,baz=127,slow=12,SNR=20
GTA Gaotai 17.64 77 *e*P P 20 48 47.3 +8.0
GTA sP sP 20 48 56.9 +14
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA LR LR
comp=N,170nm,10.5s
GTA LR LR
comp=E,290nm,14.3s
GTA LR LR
comp=Z,270nm,13.8s
AKTO Aktyubinsk 18.87 319⇓P **Pn 20 48 52.9 -0.2**
comp=Z,2.9nm,0.8s
AKTO Aktyubinsk 18.87 319 P **P 20 48 51.5 -1.0**
comp=Z,0.1nm,0.3s,baz=121,slow=13,SNR=6.5
AKTO LR LR 20 56 47.6
comp=Z,78nm,20.7s,baz=306,slow=39
SONM Songino Array 23.52 55 P **P 20 49 43.9 +1.4**
comp=Z,0.3nm,0.5s,baz=255,slow=7.3,SNR=2.9
SONM LR LR 21 00 24.7
comp=Z,185nm,18.9s,baz=148,slow=40
CMAR Chiang Mai Arr 26.82 129 P **P 20 50 14.0 +1.1**
comp=Z,1.0nm,0.6s,baz=307,slow=11,SNR=6.6
BRTR Keskin Array B 33.98 287 P **P 20 51 14.7 -1.5**
comp=Z,0.9nm,0.9s,baz=78,slow=7.8,SNR=5.4
BRTR pP **pP 20 51 22.4 +3.2**
comp=Z,1.6nm,0.8s,baz=91,slow=8.3,SNR=8.4
VRI Vrincioaia 38.15 299⇑*i*P **P 20 51 52.3 +0.7**
PLOR Plostina 38.20 299⇑*i*P **P 20 51 50.5 -1.6**
MLR Muntele Rosu 38.73 298↓*i*P **P 20 51 56.0 -0.7**
FINES FINESS Array B 39.52 324 P **P 20 52 02.6 -0.2**
comp=Z,2.4nm,0.7s,baz=127,slow=13,SNR=4.8
FINES pP **pP 20 52 09.1 +3.0**
comp=Z,2.3nm,0.7s,baz=97,slow=9.8,SNR=4.0
FINES LR LR 21 09 32.6
comp=Z,112nm,18.4s,baz=155,slow=38
ARR Arges 39.67 298↓*i*P **P 20 52 04.5 +0.1**
KSRS Korea Array 39.68 74 LR LR 21 10 48.1
comp=Z,61nm,18.1s,baz=297,slow=40
ARCES ARCESS Array B 42.17 336 P **P 20 52 25.4 +0.7**
comp=Z,1.5nm,0.7s,baz=85,slow=11,SNR=2.8
GERES GERESS Array B 46.48 305 P **P 20 52 58.7 -0.8**
comp=Z,0.2nm,0.5s,baz=64,slow=6.1,SNR=6.2
GERES pP **pP 20 53 06.0 +3.4**
comp=Z,1.1nm,0.7s,baz=69,slow=7.3,SNR=7.9
CLL Collm 46.49 309 *e*P **P 20 52 59.0 -0.4**
CLL *e* 20 53 06.0
NB2 NORSAR Subarra 46.62 322 P **P 20 52 59.7 -0.7**
comp=Z,2.5nm,0.6s,baz=91,slow=7.9
NOA NORSAR Array B 46.62 322 P **P 20 52 59.3 -1.1**
comp=Z,1.0nm,0.6s,baz=91,slow=7.7,SNR=5.3
NOA pP **pP 20 53 06.8 +3.3**
comp=Z,2.3nm,0.6s,baz=91,slow=7.6,SNR=8.8
ASAJ Asahikawa 48.60 61 LR LR 21 14 29.2
comp=Z,27nm,18.2s,baz=152,slow=37
HINF Hinteralfeld 51.16 305 *e*P **P 20 53 34.3 -1.1**
GIVF Givet 51.83 309 *e*P **P 20 53 40.4 +0.1**
LPG La Plagne 51.90 303 *e*P **P 20 53 40.6 -0.7**
comp=Z,6.2nm,0.7s
LPL La Plagne 51.90 303 *e*P **P 20 53 40.7 -0.5**
comp=Z,3.4nm,0.7s
SBF Sospel 51.94 300 *e*P **P 20 53 40.7 -0.7**
comp=Z,19nm,0.9s
CABF La Chapelle 52.00 304 *e*P **P 20 53 41.3 -0.5**
MEZF Maizieres J'vi 52.12 307 *e*P **P 20 53 41.7 -0.8**
comp=Z,4.3nm,0.6s
BAIF Baives 52.22 309 *e*P **P 20 53 42.1 -1.1**
comp=Z,3.7nm,0.7s
SMF Signal de Mont 53.47 305 *e*P **P 20 53 50.9 -1.6**
comp=Z,3.2nm,0.6s
VIVF Saint-Julien-l 53.49 302 *e*P **P 20 53 51.8 -1.0**
comp=Z,3.8nm,0.7s
AVF Avril sur Loir 53.74 305 *e*P **P 20 53 52.9 -1.6**
comp=Z,4.2nm,0.7s
LDF La Druitiere 55.37 308 *e*P **P 20 54 04.8 -1.5**
comp=Z,8.7nm,0.6s
PETK Petropavlovsk- 55.58 46 LR LR 21 20 21.3
comp=Z,59nm,18.4s,baz=108,slow=39
GRR Gorron 55.90 308 *e*P **P 20 54 08.4 -1.7**
comp=Z,15nm,0.8s
ESDC Sonseca Array 61.41 300 P **P 20 54 47.1 -1.6**
comp=Z,0.6nm,0.7s,baz=49,slow=8.0,SNR=5.4
ESDC pP **pP 20 54 54.0 +2.0**
comp=Z,1.2nm,0.6s,baz=62,slow=6.9,SNR=10
TORD Torodi Ar. Bea 70.82 272 P **P 20 55 47.7 -1.7**
comp=Z,1.3nm,0.4s,baz=45,slow=5.5,SNR=32
TORD pP **pP 20 55 54.4 +1.7**
comp=Z,1.8nm,0.5s,baz=50,slow=5.2,SNR=11
ILAR Eielson Array 72.23 18 P **P 20 55 56.8 -0.4**
comp=Z,0.2nm,0.5s,baz=322,slow=5.7,SNR=3.8
WRA Warramunga Arr 78.37 126 P **P 20 56 33.8 +0.6**
comp=Z,0.2nm,0.5s,baz=316,slow=8.3,SNR=4.9
YKA Yellowknife Ar 79.79 6 P **P 20 56 40.0 -0.3**
comp=Z,0.3nm,0.5s,baz=343,slow=5.5,SNR=4.5
YKA pP **PcP 20 56 46.8 -1.2**
comp=Z,1.5nm,0.5s,baz=344,slow=5.4,SNR=14
ASAR Alice Springs 80.83 129 P **P 20 56 47.5 +1.0**
comp=Z,0.4nm,0.7s,baz=315,slow=5.6,SNR=7.5

IDC 05 20:51:32.3±13.0, 17.82S×166.71E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/19, mbtmp3.9/4, ML3.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/29, Error ellipse: s-maj=234.6km s-min=36.8km az=64.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.24**	**183**	Pn	Pn	20 52 38.4	0.0
	4.7nm,0.3s,baz=90,slow=24,SNR=8.9						
DZM				Sn	Sn	20 53 28.5	-0.1
	2.7nm,0.3s,baz=270,slow=20,SNR=2.9						
DZM				LR	LR	20 53 35.1	
	comp=Z,352nm,20.1s,baz=0.0,slow=29						
STKA	**Stephens Creek**	**26.66**	**234**	P	P	20 57 13.4	+0.4
	4.4nm,0.8s,baz=53,slow=7.2,SNR=8.6						
WRA	**Warramunga Arr**	**30.68**	**261**	P	P	20 57 48.6	-0.4
	1.0nm,1.1s,baz=92,slow=9.0,SNR=3.1						
ASAR	**Alice Springs**	**31.18**	**254**	P	P	20 57 53.4	0.0
	0.9nm,0.6s,baz=80,slow=8.4,SNR=21						

IDC 05 20:53:29.0±1.4, 17.64S×167.30E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.0/20, mbtmp4.1/8, ML4.1/1, MS3.3/5, Ms1 3.3/5, ms1mx3.0/32, Error ellipse: s-maj=38.6km s-min=22.7km az=121.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.48**	**190**	Pn	Pn	20 54 38.8	+0.5
	9.6nm,0.3s,baz=89,slow=24,SNR=12						
DZM				Sn	Sn	20 55 30.2	-1.1
	4.6nm,0.3s,baz=90,slow=24,SNR=5.5						
HNR	**Honiara**	**10.84**	**318**	LR	LR	20 59 45.0	
	comp=Z,68nm,20.4s,baz=28,slow=35						
CTA	**Charters Tower**	**20.06**	**260**	P	Pn	20 58 05.3	-0.5
	2.5nm,0.7s,baz=74,slow=14,SNR=4.1						
AFI	**Afiamalu**	**20.48**	**83**	LR	LR	21 04 29.7	
	comp=Z,97nm,18.6s,baz=194,slow=32						
PMG	**Port Moresby**	**21.20**	**290**	LR	LR	21 05 35.1	
	comp=Z,155nm,18.6s,baz=90,slow=34						
RPZ	**Rata Peaks**	**26.19**	**174**	LR	LR	21 07 31.2	
	comp=Z,85nm,18.8s,baz=44,slow=32						
STKA	**Stephens Creek**	**27.21**	**234**	P	P	20 59 15.2	+0.5
	8.6nm,0.8s,baz=49,slow=7.4,SNR=16						
STKA				LR	LR	21 08 13.0	
	comp=Z,69nm,19.2s,baz=25,slow=32						
WRA	**Warramunga Arr**	**31.26**	**261**	P	P	20 59 49.5	-1.3
	1.2nm,0.7s,baz=91,slow=9.2,SNR=9.7						
ASAR	**Alice Springs**	**31.77**	**253**	P	P	20 59 54.8	-0.5
	2.6nm,0.7s,baz=79,slow=8.9,SNR=32						
CMAR	**Chiang Mai Arr**	**76.17**	**295**	P	P	21 05 20.1	+0.6
	1.8nm,0.9s,baz=134,slow=4.3,SNR=8.4						
SONM	**Songino Array**	**84.84**	**324**	P	P	21 06 05.6	-0.1
	0.8nm,0.7s,baz=123,slow=5.3,SNR=1.8						
ILAR	**Eielson Array**	**89.27**	**18**	P	P	21 06 26.2	-0.4
	0.7nm,0.7s,baz=236,slow=5.2,SNR=7.5						
ARCES	**ARCESS Array B**	**123.06**	**345**	PKP	PKPdf	21 12 26.6	-0.3
	1.8nm,0.9s,baz=44,slow=3.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**165.42**	**254**	PKP	PKPdf	21 13 36.4	-0.2
	1.1nm,0.9s,baz=130,slow=2.3,SNR=4.0						

IDC 05 21:00:51.8±14.0, 18.08S×166.81E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/19, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=238.8km s-min=37.3km az=65.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.98**	**185**	Pn	Pn	21 01 54.1	-0.2
	2.0nm,0.3s,baz=269,slow=23,SNR=12						
DZM				Sn	Sn	21 02 40.7	-1.1
	1.9nm,0.3s,baz=270,slow=20,SNR=2.8						
STKA	**Stephens Creek**	**26.58**	**234**	P	P	21 06 32.9	+1.1
	1.6nm,0.8s,baz=69,slow=7.9,SNR=4.6						
WRA	**Warramunga Arr**	**30.73**	**261**	P	P	21 07 08.6	-0.4
	0.4nm,0.8s,baz=83,slow=6.8,SNR=2.8						
ASAR	**Alice Springs**	**31.20**	**254**	P	P	21 07 12.8	-0.3
	0.3nm,0.6s,baz=78,slow=8.6,SNR=8.7						

IDC 05 21:13:55.4±13.0, 17.84S×166.71E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, ML3.6/1, MS2.7/1, Ms1 2.7/1, ms1mx1.7/27, Error ellipse: s-maj=232.5km s-min=36.6km az=64.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.22**	**183**	Pn	Pn	21 15 01.1	-0.1
	3.2nm,0.3s,baz=90,slow=24,SNR=17						
DZM				Sn	Sn	21 15 51.1	-0.1
	2.4nm,0.3s,baz=90,slow=20,SNR=3.8						
HNR	**Honiara**	**10.63**	**321**	LR	LR	21 19 07.2	
	comp=Z,35nm,19.5s,baz=175,slow=29						
STKA	**Stephens Creek**	**26.65**	**234**	P	P	21 19 36.9	+0.8
	2.6nm,0.8s,baz=74,slow=7.5,SNR=7.3						
WRA	**Warramunga Arr**	**30.68**	**261**	P	P	21 20 11.1	-1.0
	0.6nm,0.9s,baz=96,slow=7.8,SNR=3.2						
ASAR	**Alice Springs**	**31.18**	**254**	P	P	21 20 16.6	+0.1
	0.7nm,0.6s,baz=80,slow=8.6,SNR=24						

IDC 05 21:21:27.3±1.5, 9.95S×154.46E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/17, mbtmp3.8/8, MS3.3/5, Ms1 3.3/5, ms1mx2.9/24, Error ellipse: s-maj=51.9km s-min=21.4km az=118.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.81**	**241**	P	P	21 26 21.6	+0.2
	1.8nm,0.8s,baz=63,slow=9.7,SNR=8.5						
ASAR	**Alice Springs**	**23.90**	**233**	P	P	21 26 43.4	+0.3
	3.8nm,1.0s,baz=63,slow=8.9,SNR=22						
STKA	**Stephens Creek**	**24.86**	**207**	P	P	21 26 52.1	+0.3
	2.5nm,0.8s,baz=37,slow=12,SNR=6.4						
STKA				LR	LR	21 36 35.0	
	comp=Z,114nm,18.4s,baz=24,slow=36						
JNU	**Nakatsue**	**48.37**	**333**	LR	LR	21 49 17.8	
	comp=Z,36nm,18.8s,baz=240,slow=34						
KSRS	**Korea Array**	**53.31**	**334**	LR	LR	21 51 39.6	
	comp=Z,20nm,19.2s,baz=357,slow=34						
ASAJ	**Asahikawa**	**54.88**	**350**	LR	LR	21 51 44.9	
	comp=Z,32nm,18.8s,baz=185,slow=33						
CMAR	**Chiang Mai Arr**	**61.62**	**297**	P	P	21 31 46.4	-0.9
	1.6nm,0.9s,baz=144,slow=5.3,SNR=5.6						
PETK	**Petropavlovsk-**	**62.87**	**2**	P	P	21 31 56.7	+1.7
	1.1nm,0.6s,baz=178,slow=10,SNR=3.7						
PETK				LR	LR	21 54 21.3	
	comp=Z,19nm,21.2s,baz=256,slow=31						
SONM	**Songino Array**	**71.53**	**328**	P	P	21 32 50.7	+0.3
	0.8nm,0.9s,baz=141,slow=4.8,SNR=5.4						
MKAR	**Makanchi Array**	**85.27**	**319**	P	P	21 34 06.2	+0.1
	0.5nm,0.8s,baz=104,slow=5.1,SNR=5.9						
ILAR	**Eielson Array**	**86.30**	**22**	P	P	21 34 09.8	-1.0
	0.3nm,0.7s,baz=263,slow=3.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**153.14**	**279**	PKPbc	PKPbc	21 41 27.4	-0.8
	0.5nm,0.8s,baz=76,slow=1.2,SNR=2.6						

*ISCJB **05** 21:23:47.7±0.5, 12.70N±0.05×88.26W±0.04, h62km±7km, mb3.8/6, Error ellipse: s-maj=9.6km s-min=4.5km az=33.4*
*CASC **05** 21:23:48.5±1.9, 12.72N×88.28W, h36km±621km, MD4.0, ML4.2*
*IDC **05** 21:23:57.2±9.5, 13.19N×88.06W, h128km±56km, mb3.4/6, mb1 3.8/7, mb1mx3.4/23, mbtmp3.5/7, MS3.2/3, Ms1 3.2/3, ms1mx2.8/20, Error ellipse: s-maj=87.6km s-min=35.3km az=168.0*
ISC 05 21:23:48.2±1.2, 12.73N±0.08×88.26W±0.05, h60km±10km, n38, σ1°25/45, mb3.8/6, MS3.3/3, 4D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.69**	**37**⇓*i*P		**Pn**	**21 24 01.8**	**-0.6**
CNCH				*e*S	**Sn**	**21 24 13.3**	**+0.5**
VSM	**San Miguel**	**0.69**	**359**⇓*i*P		**Pn**	**21 24 02.5**	**-0.2**
BLLM	**Bellamira**	**0.71**	**2**⇓*e*P		**Pn**	**21 24 02.4**	**-0.3**
BLLM				*e*S	**Sn**	**21 24 12.9**	**-0.3**
CAHU	**Cacacuatique**	**1.04**	**3**	*e*P	**Pn**	**21 24 07.1**	**+0.1**
SNVI	**San Vicente**	**1.04**	**327**	*e*P	**Pn**	**21 24 06.6**	**-0.4**
SNVI				*e*S	**Sn**	**21 24 20.8**	**0.0**
LFRS	**El Faro**	**1.18**	**319**	*e*P	**Pn**	**21 24 08.3**	**-0.4**
LBRS	**Las Brisas**	**1.26**	**323**	*e*P	**Pn**	**21 24 09.9**	**+0.1**
LBRS				*e*S	**Sn**	**21 24 25.5**	**-0.3**
LFU	**La Fuente**	**1.31**	**321**	*e*P	**Pn**	**21 24 10.5**	**0.0**
LFU				*e*S	**Sn**	**21 24 27.4**	**+0.4**
SNET	**Serv Nac Est T**	**1.34**	**315**	*e*P	**Pn**	**21 24 10.3**	**-0.6**
SNET				*e*S	**Sn**	**21 24 27.6**	**-0.2**
SNET				AML	AML	21 24 33.3	
	comp=Z,4μm,0.4s						
BOQS	**Boqueron**	**1.41**	**315**	*e*P	**Pn**	**21 24 11.8**	**0.0**
BOQS				*e*S	**Sn**	**21 24 29.8**	**+0.2**
TGUH	**Tegucigalpa,Un**	**1.63**	**36**⇓*e*P		**Pn**	**21 24 15.2**	**+0.5**
TGUH				*e*S	**Sn**	**21 24 36.1**	**+1.4**
SBLS	**San Blas**	**1.72**	**310**	*e*P	**Pn**	**21 24 16.1**	**0.0**
SNJE	**San Jose**	**1.73**	**311**	*e*P	**Pn**	**21 24 16.2**	**0.0**
RTR	**El Retiro**	**1.78**	**311**	*e*P	**Pn**	**21 24 17.3**	**+0.4**
RTR				*e*S	**Sn**	**21 24 38.8**	**+0.3**
RBDL	**Robledal**	**1.95**	**315**	*e*P	**Pn**	**21 24 19.6**	**+0.4**
IXG	**Ixpaco**	**2.57**	**304**	*e*P	**Pn**	**21 24 29.8**	**+2.1**
MRL	**Marmol**	**2.71**	**329**	*e*P	**Pn**	**21 24 31.5**	**+2.0**
NBG	**Las Nubes**	**2.74**	**313**	*e*P	Pn	21 24 34.0	+4.0
FUG	**Fuego 3**	**3.04**	**305**	*e*P	**Pn**	**21 24 35.8**	**+1.8**
FUG				*e*S	**Sn**	**21 25 11.4**	**+2.2**
JAT	**Jato**	**3.64**	**296**	*e*P	**Pn**	**21 24 43.5**	**+1.4**
VCR	**Vista de Mar**	**3.65**	**135**	*e*P	**Pn**	**21 24 41.4**	**-1.0**
JCR	**Jicaral**	**4.21**	**132**	*e*P	**Pn**	**21 24 49.7**	**-0.3**
CGA2	**Cerro Gallo 2**	**4.60**	**126**	*e*P	**Pn**	**21 24 56.4**	**+1.0**
QCR	**Quepos**	**5.19**	**129**	*e*P	**Pn**	**21 25 04.2**	**+0.8**
URSC	**Urasca**	**5.25**	**123**	*e*P	**Pn**	**21 25 07.4**	**+3.0**
BUS	**Buena Vista**	**5.43**	**125**	*e*P	**Pn**	**21 25 08.5**	**+1.4**
ACR	**Cerro Adams**	**6.44**	**128**	*e*P	**Pn**	**21 25 21.3**	**+0.8**
TEIG	**Tepich**	**7.46**	**360**	P	**Pn**	**21 25 37.2**	**+2.9**
	comp=Z,3.1nm,0.3s,baz=176,slow=6.7,SNR=26						
TXAR	**Lajitas Array**	**21.86**	**321**	P	**P**	**21 28 36.9**	**+0.8**
	comp=Z,1.8nm,0.5s,baz=139,slow=10,SNR=43						
ATAH	**Atahualpa**	**22.04**	**153**	LR	LR	21 36 16.3	
	comp=Z,124nm,19.8s,baz=198,slow=33						
TKL	**Tuckaleechee C**	**23.19**	**9**	P	**P**	**21 28 49.8**	**0.0**
	comp=Z,3.6nm,0.8s,baz=194,slow=10,SNR=7.5						
TKL				LR	LR	21 37 53.2	
	comp=Z,24nm,19.1s,baz=228,slow=37						
PDAR	**Pinedale Array**	**35.16**	**332**	P	**P**	**21 30 36.4**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=118,slow=8.9,SNR=5.4						
NVAR	**Mina Array Bea**	**36.97**	**319**	P	**P**	**21 30 52.9**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=118,slow=5.2,SNR=3.4						
ULM	**Lac du Bonnet**	**37.93**	**352**	LR	LR	21 46 18.4	
	comp=Z,54nm,20.5s,baz=329,slow=36						
SCHQ	**Schefferville**	**45.24**	**17**	P	**P**	**21 31 56.6**	**-3.0**
	comp=Z,3.1nm,0.7s,baz=157,slow=7.7,SNR=3.0						
YKA	**Yellowknife Ar**	**53.14**	**345**	P	**P**	**21 32 58.1**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=139,slow=8.0,SNR=5.9						
WRA	**Warramunga Arr**	**138.58**	**254**	PKP	**PKPdf**	**21 43 10.2**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=87,slow=1.9,SNR=5.2						
ASAR	**Alice Springs**	**138.63**	**249**	PKP	**PKPdf**	**21 43 09.4**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=106,slow=2.1,SNR=4.3						

*ISCJB **05** 21:39:14.0±0.5, 29.43N±0.03×105.60E±0.07, h10km, mb3.8/7, MS3.1/2, Error ellipse: s-maj=8.5km s-min=4.7km az=0.7*
*IDC **05** 21:39:14.3±0.8, 29.39N×105.59E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.7/27, mbtmp3.7/10, ML3.3/2, MS3.2/2, Ms1 3.2/2, ms1mx2.4/52, Error ellipse: s-maj=32.5km s-min=16.6km az=63.0*
*BJI **05** 21:39:16.2, 29.36N×105.50E, h9km, mb3.8/2, ML3.6/17, Ms3.8/2, Ms7 3.4/2*
ISC 05 21:39:15.7±0.6, 29.45N±0.03×105.63E±0.06, h10km, n17, σ1°64/21, mb4.0/7, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.18**	**312**	Pg	**Pb**	**21 39 54.9**	**-0.3**
CD2				Sg	**Sg**	**21 40 22.9**	**-2.8**
CD2				smax	smax		
	comp=N,4μm,0.6s						
CD2				smax	smax		
	comp=E,2μm,0.7s						
GYA	**Guiyang**	**3.12**	**163**	Pn	**Pn**	**21 40 05.8**	**+0.8**
GYA				Pg	**Pg**	**21 40 15.0**	**-0.4**
GYA				Sn	**Sb**	**21 40 45.2**	**-4.2**
GYA				Sg	**Sg**	**21 40 56.2**	**+0.4**
GYA				smax	smax		
	comp=N,440nm,0.7s						
GYA				smax	smax		
	comp=E,480nm,0.8s						
KMI	**Kunming**	**5.02**	**212**	Pn	Pn	21 40 32.1	+0.9
KMI				Sn	**Sn**	**21 41 30.0**	**+0.6**
KMI				smax	smax		
	comp=N,22nm,1.0s						
KMI				smax	smax		
	comp=E,38nm,0.8s						
XAN	**Xi'an**	**5.37**	**31**	Pn	**Pn**	**21 40 38.2**	**+2.3**
XAN				Pg	**Pg**	**21 40 56.6**	**-1.9**
XAN				Sn	**Sn**	**21 41 38.8**	**+1.0**
XAN				Sg	**Sg**	**21 42 05.7**	**-2.3**
XAN				smax	smax		
	comp=N,79nm,1.0s						
XAN				smax	smax		
	comp=E,37nm,1.1s						
LZH	**Lanzhou**	**6.79**	**348**	*e*P	Pb	21 41 07.3	-6.5
LZH				pP	pP	21 41 11.4	
LZH				sP	sP	21 41 14.2	
LZH				*e*S	**Sb**	**21 42 37.0**	**+2.0**
LZH				sS	Sg	21 42 43.7	-10
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
LZH				pmax	pmax		
	comp=Z,72nm,4.1s						
LZH				LR	LR		
	comp=N,340nm,7.6s						
LZH				LR	LR		
	comp=E,450nm,6.3s						
LZH				LR	LR		
	comp=Z,560nm,9.8s						
CMAR	**Chiang Mai Arr**	**12.53**	**211**	Pn	**Pn**	**21 42 14.6**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=24,slow=12,SNR=5.8						
SONM	**Songino Array**	**18.37**	**2**	P	**Pn**	**21 43 31.4**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=180,slow=9.0,SNR=8.4						
KSRS	**Korea Array**	**20.21**	**61**	P	Pn	21 43 51.9	-0.7
	comp=Z,1.0nm,0.6s,baz=241,slow=12,SNR=4.9						
MKAR	**Makanchi Array**	**25.09**	**320**	P	**P**	**21 44 41.1**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=124,slow=11,SNR=18						
AAK	**Ala-Archa**	**28.23**	**306**	LR	LR	21 58 13.8	
	comp=Z,24nm,19.2s,baz=206,slow=40						
ZALV	**Zalesovo Beam**	**28.78**	**334**	P	**P**	**21 45 13.9**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=130,slow=9.4,SNR=6.4						
KURBB	**Kurchatov Array**	**29.35**	**324**	P	**P**	**21 45 19.0**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=130,slow=9.0,SNR=6.9						
WRA	**Warramunga Arr**	**56.37**	**147**	P	**P**	**21 48 56.9**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=338,slow=8.2,SNR=17						
ASAR	**Alice Springs**	**59.40**	**150**	P	**P**	**21 49 18.4**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=329,slow=7.0,SNR=13						
FINES	**FINESS Array B**	**59.67**	**327**	P	**P**	**21 49 19.4**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=108,slow=6.2,SNR=3.6						
DAVOX	**Davos/Dischmat**	**72.83**	**314**	LR	LR	22 26 00.6	
	comp=Z,26nm,20.5s,baz=256,slow=38						
YKA	**Yellowknife Ar**	**82.87**	**18**	P	**P**	**21 51 40.7**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=322,slow=5.1,SNR=5.1						

IDC 05 21:41:40.4±7.2, 8.36S×155.67E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/18, mbtmp3.5/3, Error ellipse: s-maj=120.2km s-min=86.3km az=14.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.64**	**239**	P	P	21 46 52.7	-0.9
	0.8nm,0.7s,baz=64,slow=9.9,SNR=5.3						
ASAR	**Alice Springs**	**25.81**	**231**	P	P	21 47 14.0	+0.5
	0.5nm,0.7s,baz=72,slow=9.8,SNR=6.6						
STKA	**Stephens Creek**	**26.81**	**207**	P	P	21 47 22.8	+0.3
	1.0nm,0.9s,baz=18,slow=6.4,SNR=4.0						

*ISCJB **05** 21:44:52.5±1.0, 36.29N±0.05×22.02E±0.05, h26km±5km, Error ellipse: s-maj=9.2km s-min=5.9km az=37.0*
*ATH **05** 21:44:52.7, 36.36N×22.10E, h29km±1km, MD3.5/23*
*THE **05** 21:44:52.8, 36.30N×22.05E, h16km±1km, ML2.3/2, Error ellipse: s-maj=2.4km s-min=1.3km az=32.0*
*CSEM **05** 21:44:53.1±0.4, 36.32N×22.06E, h20km, MD3.5, Error ellipse: s-maj=9.0km s-min=5.1km az=42.0*
ISC 05 21:44:52.8±1.9, 36.31N±0.05×22.04E±0.04, h19km±4km, n58, σ0°66/78, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DYR	**Agios Nikonas**	**0.51**	**28**	P	**Pb**	**21 45 02.6**	**-0.6**
DYR				S	**Sb**	**21 45 10.8**	**+0.6**
DYR	**Agios Nikonas**	**

AMT	**Artemida-Makis**	**1.25**	**348**	*e*PN	**Pn**	**21**	**45**	**15.7 +0.4**
AMT	**Artemida-Makis**	**1.25**	**348**	P	**Pn**	**21**	**45**	**15.4 +0.1**
AMT	**Artemida-Makis**	**1.25**	**348**	*e*Pn	**Pn**	**21**	**45**	**15.7 +0.4**
DID	**Didima**	**1.53**	**38**	P	**Pn**	**21**	**45**	**18.4 -0.8**
DID	**Didima**	**1.53**	**38**	*e*PN	**Pn**	**21**	**45**	**18.9 -0.3**
DID				*e*SN	**Sn**	**21**	**45**	**39.0 +0.4**
DID	**Didima**	**1.53**	**38**	P	**Pn**	**21**	**45**	**18.4 -0.8**
DID	**Didima**	**1.53**	**38**	*e*Pn	**Pn**	**21**	**45**	**18.9 -0.3**
DID				*e*Sn	**Sn**	**21**	**45**	**39.0 +0.4**
GUR	**Goura**	**1.64**	**8**	*e*PN	**Pn**	**21**	**45**	**21.5 +0.7**
GUR	**Goura**	**1.64**	**8**	*e*Pn	**Pn**	**21**	**45**	**21.5 +0.7**
KLV	**Kalavryta, Ach**	**1.73**	**3**	*e*PN	**Pn**	**21**	**45**	**22.6 +0.6**
KLV	**Kalavryta, Ach**	**1.73**	**3**	*e*Pn	**Pn**	**21**	**45**	**22.6 +0.6**
RLS	**Riolos of Patr**	**1.80**	**345**	*e*PN	**Pn**	**21**	**45**	**23.8 +0.9**
RLS	**Riolos of Patr**	**1.80**	**345**	*e*Pn	**Pn**	**21**	**45**	**23.8 +0.9**
LTK	**Loutraki**	**1.86**	**23**	*e*PN	**Pn**	**21**	**45**	**24.3 +0.5**
LTK	**Loutraki**	**1.86**	**23**	*e*Pn	**Pn**	**21**	**45**	**24.3 +0.5**
LAKA	**Lakka**	**1.92**	**359**	*e*PB	**Pn**	**21**	**45**	**25.7 +1.0**
LAKA	**Lakka**	**1.92**	**359**	*e*Pb	**Pn**	**21**	**45**	**25.7 +1.0**
VAM	**Vamos**	**1.97**	**117**	*e*PN	**Pn**	**21**	**45**	**25.2 -0.1**
VAM	**Vamos**	**1.97**	**117**	*e*Pn	**Pn**	**21**	**45**	**25.2 -0.1**
KALE	**Kalithea**	**2.08**	**2**	*e*PB	**Pn**	**21**	**45**	**27.5 +0.7**
KALE	**Kalithea**	**2.08**	**2**	*e*Pb	**Pn**	**21**	**45**	**27.5 +0.7**
EFP	**Efpalio**	**2.11**	**357**	*e*PN	**Pn**	**21**	**45**	**27.9 +0.7**
EFP	**Efpalio**	**2.11**	**357**	*e*Pn	**Pn**	**21**	**45**	**27.9 +0.7**
VLS	**Valsamata**	**2.19**	**329**	*e*PN	**Pn**	**21**	**45**	**27.9 -0.4**
VLS	**Valsamata**	**2.19**	**329**	*e*Pn	**Pn**	**21**	**45**	**27.9 -0.4**
LKR	**Lokris**	**2.45**	**18**	*e*PN	**Pn**	**21**	**45**	**32.7 +0.8**
LKR	**Lokris**	**2.45**	**18**	*e*Pn	**Pn**	**21**	**45**	**32.7 +0.8**
EVR	**Evrytania**	**2.60**	**356**	*e*PB	**Pn**	**21**	**45**	**35.6 +1.5**
EVR	**Evrytania**	**2.60**	**356**	*e*Pb	**Pn**	**21**	**45**	**35.6 +1.5**
AGG	**Agios Georgios**	**2.71**	**5**	*e*PN	**Pn**	**21**	**45**	**36.5 +1.0**
AGG	**Agios Georgios**	**2.71**	**5**	*e*Pn	**Pn**	**21**	**45**	**36.5 +1.0**
AOS	**Alonnisos**	**3.20**	**27**	*e*PN	**Pn**	**21**	**45**	**43.0 +0.8**
AOS	**Alonnisos**	**3.20**	**27**	*e*Pn	**Pn**	**21**	**45**	**43.0 +0.8**
THL	**Klokotos Trika**	**3.25**	**360**	*e*PN	**Pn**	**21**	**45**	**43.0 +0.2**
THL	**Klokotos Trika**	**3.25**	**360**	*e*Pn	**Pn**	**21**	**45**	**43.0 +0.2**
STON	**Ston**	**7.36**	**334**	*i* Pn	Pn	21	46	35.5 -3.7
STON				Sn	Sn	21	47	52.5 -10

MAN 05 22:00:33, 6′.27N×124′.36E, h96km, mb4.1, ML2.9, MS2.6, Mindanao

*ISCJB **05** 22:02:38.5±1.1, 22°.48N±0°.07×93°.1E±0°.2, h58km, mb3.5/4, Error ellipse: s-maj=21.2km s-min=8.5km az=162.9*
*IDC **05** 22:02:48.8±4.0, 23°.29N×94°.60E, h112km±36km, mb3.1/4, mb1 3.1/5, mb1mx2.9/26, mbtmp3.0/5, Error ellipse: s-maj=90.7km s-min=16.8km az=62.0*

ISC 05 22:02:40.8±1.4, 22°.5N±0°.1×93°.1E±0°.2, h58km, n7, σ1§40/7, mb3.5/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.36**	**18**	*e*PN		Pn		22 03 14.0	-3.2
IMP				*e*SN		**Sn**		**22 03 45.0**	**0.0**
SHL	**Shillong**	**3.23**	**340**	*e*P		Pn		22 03 37.0	+7.8
SHL				*e*S		**Sn**		**22 04 08.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**6.79**	**126**	P		**Pn**		**22 04 19.1**	**+1.3**
	0.1nm,0.3s,baz=313,slow=13,SNR=8.2								
MKAR	**Makanchi Array**	**25.74**	**343**	P		**P**		**22 08 06.4**	**+0.6**
	0.4nm,0.4s,baz=154,slow=9.2,SNR=13								
MKAR				pP		pP		22 08 30.0	+10
	0.5nm,0.8s,baz=153,slow=8.5,SNR=3.7								
ZALV	**Zalesovo Beam**	**31.99**	**351**	P		**P**		**22 08 59.7**	**-1.6**
	0.3nm,0.4s,baz=150,slow=6.7,SNR=2.6								
WRA	**Warramunga Arr**	**58.32**	**133**	P		**P**		**22 12 29.0**	**-1.1**
	0.6nm,1.2s,baz=321,slow=7.5,SNR=2.9								
ASAR	**Alice Springs**	**60.67**	**137**	P		**P**		**22 12 46.0**	**-0.2**
	0.3nm,0.8s,baz=319,slow=6.6,SNR=2.7								

IDC 05 22:07:21.8±2.6, 18°.03S×177°.72W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.8/3, Error ellipse: s-maj=292.2km s-min=32.2km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.25**	**260**	P		P		22 15 40.8	-0.6
	0.2nm,0.3s,baz=95,slow=8.4,SNR=16								
ASAR	**Alice Springs**	**45.39**	**254**	P		P		22 15 42.9	+0.4
	1.5nm,0.5s,baz=87,slow=8.7,SNR=23								
TXAR	**Lajitas Array**	**85.51**	**57**	P		P		22 20 02.1	-0.1
	0.4nm,0.7s,baz=225,slow=5.1,SNR=5.4								

IDC 05 22:16:04.9±6.2, 8°.02S×155°.58E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.8/3, Error ellipse: s-maj=106.0km s-min=80.6km az=5.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.74**	**238**	P		P		22 21 19.0	0.0
	1.2nm,0.8s,baz=65,slow=9.8,SNR=7.6								
ASAR	**Alice Springs**	**25.95**	**231**	P		P		22 21 39.0	-0.3
	1.2nm,0.9s,baz=58,slow=9.0,SNR=9.2								
STKA	**Stephens Creek**	**27.08**	**207**	P		P		22 21 49.7	+0.4
	1.0nm,0.4s,baz=43,slow=19,SNR=3.6								

IDC 05 22:49:13.4±5.0, 24°.88N×109°.61W, h0km, mb3.4/1, mb1 3.8/5, mb1mx3.6/24, mbtmp3.4/5, ML3.3/2, MS3.1/4, Ms1 3.0/4, ms1mx2.7/15, Error ellipse: s-maj=68.9km s-min=26.7km az=165.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**6.91**	**49**	Pn		Pn		22 50 56.1	0.0
	0.2nm,0.3s,baz=229,slow=14,SNR=12								
TXAR				Pg		Pg		22 51 24.4	-1.7
	0.1nm,0.3s,baz=226,slow=16,SNR=8.0								
TXAR				Lg		Lg		22 52 51.1	
	0.3nm,0.3s,baz=231,slow=30,SNR=4.0								
ANMO	**Albuquerque**	**10.40**	**15**	Pn		Pn		22 51 45.6	+1.5
	0.1nm,0.3s,baz=185,slow=15,SNR=4.4								
ANMO				LR		LR		22 55 20.8	
	comp=Z,68nm,20.9s,baz=128,slow=35								
NVAR	**Mina Array Bea**	**15.39**	**333**	Pn		P		22 52 55.8	-1.3
	0.1nm,0.3s,baz=159,slow=13,SNR=12								
PDAR	**Pinedale Array**	**17.84**	**0**	P		Pn		22 53 23.3	-0.2
	0.0nm,0.3s,baz=163,slow=11,SNR=7.6								
TKL	**Tuckaleechee C**	**24.70**	**58**	LR		LR		23 04 02.5	
	comp=Z,36nm,19.7s,baz=260,slow=36								
ULM	**Lac du Bonnet**	**27.48**	**19**	LR		LR		23 07 27.9	
	comp=Z,12nm,21.5s,baz=35,slow=40								
ILAR	**Eielson Array**	**46.55**	**339**	P		P		22 57 42.1	-0.5
	0.2nm,0.7s,baz=139,slow=7.2,SNR=4.1								
PPT	**Papeete**	**57.41**	**227**	LR		LR		23 18 48.4	
	comp=Z,74nm,19.9s,baz=42,slow=31								

IDC 05 23:25:36.3±1.7, 17°.67S×167°.36E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/19, mbtmp3.9/6, ML3.8/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/28, Error ellipse: s-maj=46.8km s-min=24.5km az=116.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.46**	**191**	Pn		Pn		23 26 45.5	+0.2
	4.7nm,0.3s,baz=270,slow=24,SNR=12								
DZM				LR		LR		23 27 34.7	
	comp=Z,192nm,20.0s,baz=306,slow=27								
DZM				Sn		Sn		23 27 38.4	+0.3
	3.8nm,0.3s,baz=92,slow=24,SNR=3.7								
STKA	**Stephens Creek**	**27.24**	**234**	P		P		23 31 22.9	+0.6
	2.3nm,0.6s,baz=82,slow=10,SNR=11								
WRA	**Warramunga Arr**	**31.31**	**261**	P		P		23 31 57.8	-0.7
	0.6nm,0.6s,baz=92,slow=9.2,SNR=8.0								
ASAR	**Alice Springs**	**31.81**	**253**	P		P		23 32 02.6	-0.3
	1.4nm,0.6s,baz=79,slow=8.7,SNR=20								
ASAR				LR		LR		23 44 14.9	
	comp=Z,106nm,19.8s,baz=192,slow=35								
QSPA	**South Pole Qui**	**72.37**	**180**	LR		LR		00 05 56.4	
	comp=Z,40nm,20.9s,baz=218,slow=33								
SONM	**Songino Array**	**84.90**	**324**	P		P		23 38 13.9	+0.6
	0.4nm,0.6s,baz=150,slow=6.0,SNR=3.3								
ILAR	**Eielson Array**	**89.28**	**18**	P		P		23 38 33.4	-0.5
	0.4nm,0.9s,baz=234,slow=5.5,SNR=4.4								

*BJI **05** 23:35:30.8, 14°.28N×145°.11E, h5km, mB5.0/23, mb4.7/31, Ms4.5/29, Ms7 4.3/27*
*ISCJB **05** 23:35:36.9±1.2, 14°.88N±0°.03×144°.58E±0°.04, h8km±7km, mb4.8/92, MS4.1/41, Error ellipse: s-maj=6.4km s-min=5.6km az=154.4*
*IDC **05** 23:35:37.0±0.5, 14°.96N×144°.68E, h0km, mb4.5/27, mb1 4.6/27, mb1mx4.6/30, mbtmp4.5/27, MS4.0/22, Ms1 4.0/22, ms1mx3.8/30, Error ellipse: s-maj=17.3km s-min=10.9km az=83.0*
*MOS **05** 23:35:40.6±1.0, 14°.90N×144°.55E, h33km, mb5.0/32, Error ellipse: s-maj=11.2km s-min=6.0km az=104.7*
*NEIC **05** 23:35:41.4±2.6, 14°.90N×144°.58E, h28km±18km, mb4.9/36, Error ellipse: s-maj=6.1km s-min=4.7km az=82.0*
*GCMT **05** 23:35:43.5±0.2, 14°.75N×144°.22E, h16km±1km, MW5.0, Moment Tensor Solution. s31,c41; s62,c106; Moment tensor: Scale 10^{16}Nm; M_{rr}-2.72±.20; $M_{\theta\theta}$1.15±.12; $M_{\phi\phi}$1.57±.13; $M_{r\theta}$0.89±.35; $M_{\theta\phi}$2.10±.09; $M_{\phi r}$1.82±.39; Best double couple: $M_0$3.70000×10^{16} NP1:ϕ_s56.00000°, δ30.00000°, λ-69.00000°. NP2:ϕ_s211.00000°, δ62.00000°, λ-102.00000°. Principal axes: T 4.0400, Plg16.0000°, Azm310.0000°; N -0.6500, Plg11.0000°, Azm217.0000°; P -3.3900, Plg70.0000°, Azm95.0000°; Data Used: II IC G IU.*

ISC 05 23:35:39.7±0.4, 14°.87N±0°.04×144°.66E±0°.06, h16km±2km, n223, σ1§17/264, mb4.8/92, MS4.1/44, 7C-6D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.29**	**171**	*e*Pn		**Pn**		**23 36 01.3**	**-1.7**
GUMO				*e*Sn		**Sb**		**23 36 16.9**	**-2.9**
JOW	**Kunigami**	**19.37**	**311**	*e*P		**P**		**23 40 05.1**	**+0.3**
	177nm,2.0s								
DAV	**Davao City (W)**	**20.25**	**250**	P		Pn		23 40 16.0	-0.5
DAV	**Davao City (W)**	**20.25**	**250**	P		Pn		23 40 16.0	-0.5
	138nm,0.4s,baz=80,slow=19,SNR=2.2								
JNU	**Nakatsue**	**22.06**	**328**	*e*P		**P**		**23 40 34.0**	**0.0**
	44nm,0.9s								
JNU	**Nakatsue**	**22.06**	**328**	P		**P**		**23 40 33.4**	**-0.6**
	14nm,0.9s,baz=134,slow=2.6,SNR=6.4								
JNU				LR		LR		23 47 28.8	
	comp=Z,118nm,18.9s,baz=312,slow=32								
MJAR	**Matsushiro Arr**	**22.34**	**346**	P		**P**		**23 40 36.7**	**-0.2**
MJAR				PcP		**PcP**		**23 44 32.5**	**+0.3**
MJAR	**Matsushiro Arr**	**22.34**	**346**	P		**P**		**23 40 36.7**	**-0.2**
	15nm,0.9s,baz=172,slow=9.7,SNR=31								
MJAR				PcP		**PcP**		**23 44 32.5**	**+0.3**
	0.7nm,0.4s,baz=203,slow=2.8,SNR=5.1								
MJAR				LR		LR		23 49 17.9	
	comp=Z,116nm,18.3s,baz=165,slow=37								
MAJO	**Matsushiro**	**22.34**	**346**	*e*P		**P**		**23 40 38.0**	**+1.1**
MAJO				pmax		pmax			
	comp=Z,36nm,1.0s								
MAJO	**Matsushiro**	**22.34**	**346**	*e*P		**P**		**23 40 38.0**	**+1.1**
	comp=Z,6.0nm,1.0s								
MAT	**Matsushiro**	**22.34**	**346**	P		**P**		**23 40 38.3**	**+1.4**
MAT				S		**S**		**23 44 43.4**	**+1.4**
TGY	**Tagaytay City**	**22.98**	**271**	P		**P**		**23 40 43.8**	**0.0**
TGY	**Tagaytay City**	**22.98**	**271**	P		**P**		**23 40 43.8**	**0.0**
	comp=Z,67nm,0.3s,baz=253,slow=20,SNR=2.3								
YULB	**Yu-li**	**23.61**	**295**	*e*P		**P**		**23 40 49.3**	**-0.9**
	comp=Z,124nm,2.0s								
TWG	**Pinlang**	**23.66**	**293**	*e*P		**P**		**23 40 49.2**	**-1.3**
	comp=Z,177nm,1.3s								
YHNB	**Yeheng**	**23.95**	**298**	*e*P		**P**		**23 40 51.0**	**-2.4**
	comp=Z,41nm,1.4s								
YHNB				*e*Sn		S		23 45 19.3	+10
SSLB	**Suanglung**	**24.03**	**295**	*e*P		**P**		**23 40 53.1**	**-1.0**
	comp=Z,53nm,1.3s								
PMG	**Port Moresby**	**24.24**	**174**	*e*P		**P**		**23 40 56.7**	**+0.6**
	comp=Z,5.8nm,0.9s								
PMG	**Port Moresby**	**24.24**	**174**	P		**P**		**23 40 57.7**	**+1.7**
	comp=Z,21nm,0.9s,baz=329,slow=7.1,SNR=4.9								
PMG				LR		LR		23 50 22.3	
	comp=Z,235nm,18.9s,baz=220,slow=36								
QZH	**Quanzhou**	**26.43**	**296**	*i* P		**P**		**23 41 16.9**	**+1.0**
QZH				S		**S**		**23 45 51.2**	**+2.2**
QZH				pmax		pmax			
	comp=Z,300nm,5.8s								
QZH				LR		LR			
	comp=N,510nm,16.1s								
QZH				LR		LR			
	comp=E,430nm,10.2s								
QZH				LR		LR			
	comp=Z,580nm,23.8s								
SSE	**Sheshan**	**26.89**	**311**	P		**P**		**23 41 15.5**	**-4.4**
SSE				PcP		PcP		23 44 33.4	-8.8
SSE				S		**S**		**23 45 54.5**	**-1.6**
SSE				sS		**sS**		**23 46 05.3**	**+0.9**
SSE				pmax		pmax			
	comp=Z,21nm,0.7s								
SSE				pmax		pmax			
	comp=Z,43nm,4.0s								
SSE				LR		LR			
	comp=N,260nm,23.9s								
SSE				LR		LR			
	comp=E,330nm,23.9s								
SSE				LR		LR			
	comp=Z,390nm,31.6s								
KSRS	**Korea Array**	**26.96**	**330**	P		**P**		**23 41 20.2**	**-0.3**
	comp=Z,3.9nm,0.8s,baz=146,slow=9.4,SNR=15								
KSRS				LR		LR		23 52 33.8	
	comp=Z,175nm,18.0s,baz=174,slow=38								
KSAR	**Wonju Array Be**	**26.97**	**330**	P		**P**		**23 41 20.2**	**-0.4**
ERM	**Erimo**	**27.08**	**358**	*i* P		**P**		**23 41 21.8**	**+0.2**
ERM				pmax		pmax			
	comp=Z,28nm,1.2s								
ERM	**Erimo**	**27.08**	**358**	*e*P		**P**		**23 41 21.7**	**+0.2**
	comp=Z,22nm,1.0s								
NJ2	**Nanjing**	**29.09**	**311**	*e*P		**P**		**23 41 39.2**	**-0.4**
NJ2				pP		**pP**		**23 41 41.8**	**-2.8**
NJ2				PcP		**PcP**		**23 44 48.2**	**+0.7**
NJ2				S		**S**		**23 46 30.0**	**-0.7**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
NJ2				LR		LR			
	comp=N,660nm,17.9s								
NJ2				LR		LR			
	comp=E,300nm,21.0s								
YUK	**Yuzh-Kuril'sk**	**29.09**	**2**	*e*P		**P**		**23 41 41.5**	**+2.1**
YUK				pmax		pmax			
	comp=N,99nm,1.3s								
YUK				pmax		pmax			
	comp=Z,244nm,1.2s								
YUK				pmax		pmax			
	comp=E,171nm,1.2s								
YUK				MLR		MLR			
	comp=Z,219nm,20.0s								
ASAJ	**Asahikawa**	**29.21**	**357**	*e*P		**P**		**23 41 42.1**	**+1.6**
	comp=Z,31nm,1.3s								
ASAJ	**Asahikawa**	**29.21**	**357**	P		**P**		**23 41 40.6**	**+0.2**
	comp=Z,9.3nm,0.7s,baz=119,slow=7.7,SNR=6.8								
ASAJ				LR		LR		23 51 56.1	
	comp=Z,274nm,20.4s,baz=344,slow=34								
USRK	**Ussuriysk Arra**	**31.16**	**342**	P		**P**		**23 41 58.4**	**+0.7**
	comp=Z,4.2nm,0.9s,baz=175,slow=10,SNR=8.7								
KAPI	**Kappang**	**31.61**	**233**	*e*P		**P**		**23 42 01.1**	**-1.1**
MDJ	**Mudanjiang**	**32.30**	**340**	P		**P**		**23 42 08.7**	**+0.9**
MDJ				pP		**pP**		**23 42 11.4**	**-1.4**
MDJ				sP		**sP**		**23 42 13.0**	**-1.9**
MDJ				pmax		pmax			
	comp=Z,7.0nm,1.1s								
MDJ				pmax		pmax			
	comp=Z,55nm,4.8s								
MDJ				LR		LR			
	comp=N,190nm,36.1s								
MDJ				LR		LR			
	comp=E,300nm,30.6s								
MDJ				LR		LR			
	comp=Z,320nm,27.8s								
QIZ	**Qiongzhong**	**33.52**	**282**	P		**P**		**23 42 17.9**	**-0.9**
QIZ				S		**S**		**23 47 41.0**	**+0.6**
QIZ				pmax		pmax			
	comp=Z,13nm,1.9s								
QIZ				pmax		pmax			
	comp=Z,69nm,3.6s								
QIZ				LR		LR			
	comp=N,340nm,17.4s								
QIZ				LR		LR			
	comp=E,100nm,16.5s								
QIZ				LR		LR			
	comp=Z,340nm,25.2s								
CTA	**Charters Tower**	**34.77**	**177**	P		**P**		**23 42 32.0**	**+2.4**
	comp=Z,4.1nm,0.6s,baz=352,slow=10,SNR=3.7								
BJI	**Beijing**	**35.33**	**321**	P		P		23 42 41.6	+7.4
BJI				PP		**PP**		**23 43 54.1**	**-0.3**
BJI				S		**S**		**23 48 06.8**	**-0.9**
BJI				SS		**SS**		**23 50 43.0**	**+1.5**
BJI				pmax		pmax			
	comp=Z,14nm,0.9s								
BJI				pmax		pmax			
	comp=Z,79nm,4.5s								
BJI				LR		LR			
	comp=N,220nm,16.6s								
BJI				LR		LR			
	comp=E,130nm,15.4s								
BJI				LR		LR			
	comp=Z,220nm,26.0s								
ENH	**Enshi**	**35.74**	**301**	*e*P		**P**		**23 42 37.1**	**-0.8**
	comp=Z,5.6nm,0.5s								
ENH				*e*PcP		**PcP**		**23 45 06.1**	**+0.2**
KLR	**Kul'dur**	**35.87**	**346**	*e*P		P		23 42 35.1	-3.6
KLR				*e*				23 45 02.7	
WRAB	**Tennant Creek**	**36.04**	**197**	*e*P		**P**		**23 42 40.3**	**-0.2**
WRAB				pmax		pmax			
	comp=Z,22nm,1.2s								
WRAB	**Tennant Creek**	**36.04**	**197**	*e*P		**P**		**23 42 40.2**	**-0.2**
	comp=Z,22nm,1.2s								
WRA	**Warramunga Arr**	**36.05**	**197**	P		**P**		**23 42 40.1**	**-0.4**
WRA	**Warramunga Arr**	**36.05**	**197**	P		**P**		**23 42 40.1**	**-0.4**
	comp=Z,9.8nm,1.0s,baz=18,slow=9.8,SNR=18								
GYA	**Guiyang**	**37.24**	**294**	P		**P**		**23 42 50.6**	**-0.3**
GYA				PP		**PnPn**		**23 44 17.4**	**+1.0**
GYA				PcP		**PcP**		**23 45 11.0**	**+0.4**
GYA				S		**S**		**23 48 36.8**	**-0.8**
GYA				ScP		**ScP**		**23 48 56.9**	**-0.3**
GYA				ScS		**ScS**		**23 53 02.3**	**-3.0**
GYA				pmax		pmax			
	comp=Z,20nm,0.8s								
GYA				pmax		pmax			
	comp=Z,110nm,4.9s								
GYA				LR		LR			
	comp=N,480nm,17.4s								
GYA				LR		LR			
	comp=E,390nm,18.2s								
GYA				LR		LR			
	comp=Z,460nm,17.9s								
FITZ	**Fitzroy Crossi**	**37.74**	**210**	*e*P		**P**		**23 42 55.1**	**+0.1**
HHC	**Hu-ho-hao-te**	**38.68**	**318**	*e*P		**P**		**23 43 02.2**	**-0.6**
HHC				pP		**pP**		**23 43 05.3**	**-2.6**
HHC				sP		**sP**		**23 43 09.0**	**-1.0**
HHC				PP		**PnPn**		**23 44 34.8**	**+1.2**
HHC				S		**S**		**23 48 57.6**	**-1.5**
HHC				pmax		pmax			
	comp=Z,26nm,0.8s								
HHC				pmax		pmax			
	comp=Z,210nm,4.4s								
HHC				LR		LR			
	comp=N,210nm,14.3s								
HHC				LR		LR			
	comp=E,560nm,17.8s								
HHC				LR		LR			
	comp=Z,510nm,15.5s								
PETK	**Petropavlovsk-**	**39.53**	**12**	P		**P**		**23 43 08.3**	**-1.3**
PETK								23 45 17.4	
PETK	**Petropavlovsk-**	**39.53**	**12**	P		**P**		**23 43 08.3**	**-1.3**
PETK				PcP		**PcP**		**23 45 17.4**	**+0.4**
PETK	**Petropavlovsk-**	**39.53**	**12**	P		**P**		**23 43 08.3**	**-1.3**
	comp=Z,1.7nm,0.8s,baz=150,slow=4.1,SNR=3.8								
PETK				PcP		**PcP**		**23 45 17.4**	**+0.4**
	comp=Z,3.6nm,0.7s,baz=181,slow=5.9,SNR=9.2								
PETK				LR		LR		23 57 12.3	
	comp=Z,102nm,19.6s,baz=200,slow=33								
BTO	**Baotou**	**39.55**	**317**	*e*P		P		23 43 03.5	-6.7
AS31	**Alice Springs**	**39.71**	**196**	*e*P		**P**		**23 43 12.3**	**+0.8**
AS31				*e*PP		**PnPn**		**23 44 45.1**	**-1.0**
ASAR	**Alice Springs**	**39.71**	**196**	P		**P**		**23 43 11.6**	**+0.1**
ASAR				PP		**PnPn**		**23 44 48.2**	**+2.1**
ASAR	**Alice Springs**	**39.71**	**196**	P		**P**		**23 43 11.6**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=17,slow=12,SNR=17								
ASAR				PP		**PnPn**		**23 44 48.2**	**+2.1**
	comp=Z,0.8nm,0.8s,baz=26,slow=12,SNR=4.7								
ASAR				LR		LR		23 59 21.9	
	comp=Z,124nm,18.3s,baz=282,slow=36								
KMI	**Kunming**	**40.54**	**291**	P		**P**		**23 43 19.3**	**+0.5**
KMI				pP		**pP**		**23 43 26.6**	**+2.7**
KMI				PcP		**PcP**		**23 45 21.9**	**+0.8**
KMI				S		**S**		**23 49 26.0**	**-1.7**
KMI				pmax		pmax			
	comp=Z,14nm,1.2s								
KMI				pmax		pmax			
	comp=Z,140nm,6.0s								
KMI				LR		LR			
	comp=N,160nm,14.7s								
KMI				LR		LR			
	comp=E,210nm,18.1s								
KMI				LR		LR			
	comp=Z,230nm,18.7s								
CD2	**Chengdu**	**40.66**	**300**	P		**P**		**23 43 19.0**	**-0.5**
CD2				pP		**pP**		**23 43 23.5**	**-1.1**
CD2				sP		**sP**		**23 43 26.0**	**-0.6**
CD2				PP		**PnPn**		**23 44 56.3**	**-1.0**
CD2				PcP		**PcP**		**23 45 21.7**	**+0.5**
CD2				ScP		**ScP**		**23 49 09.5**	**-0.7**
CD2				S		**S**		**23 49 28.0**	**-1.1**
CD2				pmax		pmax			
	comp=Z,20nm,0.5s								
CD2				pmax		pmax			
	comp=Z,180nm,5.2s								
CD2				LR		LR			
	comp=N,260nm,11.2s								
CD2				LR		LR			
	comp=E,210nm,14.7s								
CD2				LR		LR			
	comp=Z,160nm,18.1s							

GTA LR LR
comp=Z,250nm,25.6s
STKA Stephens Creek 46.57 184 P P 23 44 07.3 +0.5
STKA Stephens Creek 46.57 184 P P 23 44 07.3 +0.5
comp=Z,2.2nm,0.7s,baz=353,slow=13,SNR=7.5
STKA LR LR 00 03 15.5
comp=Z,150nm,19.5s,baz=192,slow=36
PSI Prapat 46.64 260 LR LR 00 02 22.9
comp=Z,138nm,18.4s,baz=50,slow=34
FORT Forrest 48.11 199 *e*P **P 23 44 18.8 0.0**
comp=Z,30nm,1.0s
FORT *e*PcP **PcP 23 45 47.5 +1.1**
BBOO Buckleboo 48.11 190 *e*P **P 23 44 20.3 +1.5**
comp=Z,78nm,0.8s
YAK Yakutsk 48.30 351 *e*P **P 23 44 19.1 -0.8**
YAK pmax pmax
comp=Z,23nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.5s
YAK pmax pmax
comp=N,13nm,1.4s
ZAK Zakamensk 48.67 326 *e*P **P 23 44 22.4 -0.7**
ZAK *e* 23 45 47.6
ZAK *e* 23 47 06.9
ZAK pmax pmax
comp=Z,8.0nm,1.3s
TLY Talaya 49.17 327 *e*P **P 23 44 27.7 +0.8**
TLY *e*SS SS 23 54 56.2 -6.8
TLY pmax pmax
comp=Z,6.0nm,0.9s
TLY MLR MLR
comp=Z,121nm,20.0s
SHL Shillong 50.37 291 *e*P **P 23 44 37.4 +0.8**
LSA Lhasa 51.24 296 P **P 23 44 43.8 +0.4**
LSA Lhasa 51.24 296 *e*P **P 23 44 43.5 +0.1**
LSA pmax pmax
comp=Z,32nm,1.1s
LSA Lhasa 51.24 296 *e*P **P 23 44 43.5 +0.1**
comp=Z,32nm,1.1s
HVS Khovu-Aksy 54.42 323 *i* P **P 23 45 07.0 +0.8**
HVS pmax pmax
comp=Z,57nm,1.7s
BILL Bilibino 54.95 10*d i*P **P 23 45 09.4 -0.1**
BILL pmax pmax
comp=Z,20nm,1.1s
BILL MLR MLR
comp=Z,100nm,23.0s
TIXI Tiksi 57.55 354↑ *e*P **P 23 45 28.2 +0.2**
TIXI pmax pmax
comp=Z,12nm,1.0s
TIXI MLR MLR
comp=Z,204nm,27.0s
MK31 Makanchi Array 60.44 316 *e*P **P 23 45 48.6 0.0**
MK31 Makanchi Array 60.44 316 *e*P **P 23 45 48.5 0.0**
MKAR Makanchi Array 60.44 316 *i* P **P 23 45 48.7 +0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 60.44 316 P **P 23 45 47.9 -0.7**
MKAR Makanchi Array 60.44 316 P **P 23 45 47.9 -0.7**
comp=Z,2.3nm,0.6s,baz=89,slow=7.8,SNR=22
MKAR LR LR 00 12 54.9
comp=Z,130nm,18.9s,baz=103,slow=37
ZAA0 Zalesovo Array 60.47 324 *e*P **P 23 45 47.1 -1.5**
ZALV Zalesovo Beam 60.47 324 P **P 23 45 48.0 -0.6**
ZALV 23 46 31.9
ZALV Zalesovo Beam 60.47 324 P **P 23 45 48.0 -0.6**
ZALV PcP **PcP 23 46 31.9 -1.4**
ZALV Zalesovo Beam 60.47 324 P **P 23 45 48.0 -0.6**
comp=Z,1.5nm,0.6s,baz=108,slow=4.8,SNR=11
ZALV PcP **PcP 23 46 31.9 -1.4**
comp=Z,1.6nm,0.6s,baz=108,slow=3.3,SNR=3.8
ZALV LR LR 00 10 44.8
comp=Z,153nm,21.4s,baz=160,slow=35
NVS Novosibirsk 61.60 325↑ *i*P **P 23 45 56.3 0.0**
NVS pmax pmax
comp=N,7.0nm,1.5s
NVS pmax pmax
comp=E,19nm,1.5s
NVS pmax pmax
comp=Z,25nm,1.5s
RPZ Rata Peaks 63.10 159 P **P 23 46 06.9 +0.5**
RPZ Rata Peaks 63.10 159 P **P 23 46 06.9 +0.5**
comp=Z,12nm,0.8s,baz=101,slow=5.4,SNR=4.9
KSH Kashi 64.31 307 P **P 23 46 17.7 +2.9**
KSH pP **pP 23 46 21.8 +1.7**
KSH sP **sP 23 46 24.8 +2.7**
KSH PcP **PcP 23 46 52.4 +3.0**
KSH PP **PP 23 48 40.9 +4.7**
KSH S **S 23 54 52.5 +0.1**
KSH ScS **SKSac 23 56 07.0 -1.7**
KSH pmax pmax
comp=Z,11nm,1.5s
KSH pmax pmax
comp=Z,120nm,5.0s
KSH LR LR
comp=N,100nm,5.0s
KSH LR LR
comp=E,130nm,6.2s
KSH LR LR
comp=Z,120nm,6.3s
TKM2 Tokmak 2 64.73 311 *e*P **P 23 46 16.8 -0.8**
TKM2 pmax pmax
comp=Z,14nm,1.7s
TKM2 Tokmak 2 64.73 311 *e*P **P 23 46 16.8 -0.8**
comp=Z,14nm,1.7s
AAK Ala-Archa 65.53 310*c e*P **P 23 46 22.6 -0.1**
AAK pmax pmax
comp=Z,9.0nm,1.7s
TRF Thorofare Moun 65.73 27 *e*P **P 23 46 21.8 -1.8**
comp=Z,10nm,1.2s
PMR Palmer 65.77 29 *e*P **P 23 46 22.4 -1.2**
PMR pmax pmax
comp=Z,7.0nm,1.0s
PMR Palmer 65.77 29 *e*P **P 23 46 22.4 -1.2**
comp=Z,7.4nm,1.0s
SML Sawmill 66.19 29 *e*P **P 23 46 26.0 -0.4**
SML pmax pmax
comp=Z,5.0nm,1.0s
SML Sawmill 66.19 29 *e*P **P 23 46 26.0 -0.4**
comp=Z,4.9nm,1.0s
COLD Coldfoot 66.85 23 *e*P **P 23 46 31.3 +0.7**
comp=Z,7.5nm,1.3s
ILAR Eielson Array 67.51 26 P **P 23 46 33.0 -1.7**
ILAR Eielson Array 67.51 26 P **P 23 46 33.0 -1.7**
comp=Z,2.3nm,0.7s,baz=257,slow=5.4,SNR=23
PAX Paxson 67.74 28 *e*P **P 23 46 35.3 -1.0**
PAX pmax pmax
comp=Z,8.0nm,1.1s
PAX Paxson 67.74 28 *e*P **P 23 46 35.3 -1.0**
comp=Z,7.6nm,1.1s
KKAR Karatay Array 68.46 311 *e*P **P 23 46 40.0 -1.2**
KKAR Karatay Array 68.46 311 *e*P **P 23 46 40.0 -1.2**
MENT Mentasta 68.52 28 *e*P **P 23 46 40.2 -0.9**
BVAR Borovoye Array 68.80 321 P **P 23 46 42.9 -0.2**
BVAR Borovoye Array 68.80 321 P **P 23 46 42.9 -0.2**
BVAR Borovoye Array 68.80 321 P **P 23 46 42.9 -0.2**
comp=Z,4.8nm,0.5s,baz=100,slow=6.6,SNR=30
BVAR LR LR 00 17 46.1
comp=Z,182nm,18.8s,baz=101,slow=37
BRVK Borovoye 68.87 321*d i*P **P 23 46 43.2 -0.3**
BRVK pmax pmax
comp=Z,19nm,1.2s
BRVK Borovoye 68.87 321 *e*P **P 23 46 43.6 +0.1**
comp=Z,18nm,1.2s
KBL Kabul 69.99 302 *e*P **P 23 46 50.1 -0.9**
KBL pmax pmax
comp=Z,15nm,1.2s
KBL Kabul 69.99 302 *e*P **P 23 46 50.1 -0.9**
comp=Z,14nm,1.2s
SKAG Skagway 72.25 32 *e*P **P 23 47 05.2 +1.2**
comp=Z,7.4nm,0.9s
PPT Papeete 72.42 114 LR LR 00 12 25.9
comp=Z,118nm,21.5s,baz=5.7,slow=30
PPT2 Papeete2 72.42 114 *e*S **S 23 56 31.2 +1.7**
comp=Z,77nm,28.0s
PPT2 Papeete2 72.42 114 *e*LR LR 00 09 07.1
comp=Z,508nm,31.0s,baz=287
SVE Sverdlovsk 74.43 325↓ *i*P **P 23 47 17.2 +0.3**
SVE pmax pmax
comp=Z,20nm,1.3s
TBI Tubuai 74.77 120 *e*LR LR 00 10 01.8
comp=Z,262nm,32.0s,baz=311
ABKAR Akbulak array 75.46 318 *e*P **P 23 47 22.4 -0.6**
ARU Arti 75.61 325*d i*P **P 23 47 23.1 -0.6**
ARU 23 50 07.8
ARU PPP PPP 23 51 54.0

ARU S **S 23 57 04.6 +0.6**
ARU pmax pmax
comp=Z,19nm,1.7s
AKTO Aktyubinsk 76.57 319 P **P 23 47 28.5 -0.9**
AKTO Aktyubinsk 76.57 319 P **P 23 47 28.4 -0.9**
AKTO Aktyubinsk 76.57 319 P **P 23 47 28.4 -0.9**
comp=Z,1.3nm,0.5s,baz=90,slow=8.5,SNR=7.0
AKTO LR LR 00 21 55.9
comp=Z,173nm,18.5s,baz=259,slow=36
YKA Yellowknife Ar 81.83 27 P **P 23 47 57.0 -0.8**
YKA Yellowknife Ar 81.83 27 P **P 23 47 57.0 -0.8**
comp=Z,6.3nm,0.9s,baz=289,slow=5.4,SNR=15
KCPM Cahto Peak 82.00 51 *e*P **P 23 48 00.2 +0.8**
comp=Z,26nm,2.0s
YBH Yreka Blue Hor 82.19 49 *e*P **P 23 48 01.0 +0.6**
comp=Z,6.1nm,1.1s
HAWA Hanford 83.33 44 *e*P **P 23 48 06.8 +0.8**
comp=Z,129nm,2.8s
TMCR Tamitsa 83.80 335 *e*P **P 23 48 07.9 -0.1**
APA Apatity 84.21 339↑ *i*P **P 23 48 09.0 -1.0**
APA pmax pmax
comp=Z,26nm,1.0s
APA MLR MLR
comp=Z,300nm,25.0s
BEKR Beckworth 84.37 50 *e*P **P 23 48 11.8 +0.1**
NEW Newport 84.42 42 *e*P **P 23 48 11.4 -0.2**
comp=Z,6.8nm,0.9s
CMB Columbia Colle 84.81 52 *e*P **P 23 48 13.9 +0.1**
CMB Columbia Colle 84.81 52 *e*P **P 23 48 13.9 +0.1**
WVOR Wild Horse Val 84.96 48 *e*P **P 23 48 15.2 +0.6**
WVOR pmax pmax
comp=Z,4.0nm,0.9s
WVOR Wild Horse Val 84.96 48 *e*P **P 23 48 15.2 +0.6**
comp=Z,4.3nm,0.9s
BMO Blue Mountains 85.24 45 *e*P **P 23 48 15.8 0.0**
comp=Z,13nm,1.0s
ARCES ARCESS Array B 85.81 342 P **P 23 48 17.4 -0.7**
ARCES ARCESS Array B 85.81 342 P **P 23 48 17.4 -0.7**
comp=Z,13nm,0.7s,baz=67,slow=6.9,SNR=27
ARCES LR LR 00 32 49.0
comp=Z,87nm,18.3s,baz=215,slow=40
ARE0 ARCESS Array S 85.81 342 *e*P **P 23 48 17.7 -0.4**
BSMT Bassoo Peak 86.04 42 *e*P **P 23 48 20.3 +0.4**
WALA Waterton Lakes 86.22 40 *e*P **P 23 48 21.2 +0.5**
BLMT Blacktail Moun 86.26 41 *e*P **P 23 48 20.1 -0.9**
comp=Z,6.9nm,0.2s
NVAR Mina Array Bea 86.29 51 P **P 23 48 21.4 0.0**
NVAR Mina Array Bea 86.29 51 P **P 23 48 21.4 0.0**
comp=Z,2.6nm,0.7s,baz=268,slow=6.1,SNR=13
SWMT Swartz Lake 86.65 42 *e*P **P 23 48 22.0 -0.8**
JOF Joensuu 87.06 335 *e*p **P 23 48 22.7 -1.6**
comp=Z,5.5nm,0.6s
JOF Joensuu 87.06 335 *e*P **P 23 48 22.7 -1.6**
JOF pmax pmax
comp=Z,6.0nm,0.6s
RKT Rikitea 87.17 115 *e*LR LR 00 15 58.1
comp=Z,334nm,31.2s
CHMT Chamberlain Mo 87.32 42 *e*P **P 23 48 25.9 -0.3**
ELK Elko 87.89 48 *e*P **P 23 48 30.0 +0.9**
OBN Obninsk 87.92 327↑ *e*P **P 23 48 27.7 -0.9**
OBN *e*SS SS 00 05 03.4 +5.6
OBN pmax pmax
comp=Z,11nm,1.2s
OBN MLR MLR
comp=Z,100nm,21.0s
GNI Garni 87.93 311 *e*P **P 23 48 29.0 -0.2**
VSR Storozhevoye 87.95 323 *e*P **P 23 48 26.8 -2.0**
VSR pmax pmax
comp=Z,20nm,1.3s
VSR pmax pmax
comp=N,7.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,0.9s
VORD Divnogorie 87.96 322 *e*P **P 23 48 26.7 -2.2**
VORD pmax pmax
comp=Z,10.0nm,1.3s
VORD pmax pmax
comp=N,30nm,0.7s
VORD pmax pmax
comp=E,30nm,0.9s
DAG Danmarks Havn 88.01 356↓ *i*P **P 23 48 28.1 -0.5**
DAG pmax pmax
comp=Z,9.0nm,1.0s
DAG Danmarks Havn 88.01 356↓ *i*P **P 23 48 28.1 -0.5**
comp=Z,8.8nm,1.0s
KBZ Khabaz 88.12 315 P **P 23 48 29.2 -0.6**
KBZ Khabaz 88.12 315 P **P 23 48 29.2 -0.6**
KBZ Khabaz 88.12 315 P **P 23 48 29.2 -0.6**
comp=Z,4.3nm,1.1s,baz=250,slow=1.3,SNR=6.0
KBZ LR LR 00 32 51.6
comp=Z,91nm,18.3s,baz=138,slow=39
KIV Kislovodsk 88.19 315 *e*P **P 23 48 29.0 -1.3**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,76nm,19.0s
LRM Limekiln Ridge 88.20 43 *e*P **P 23 48 30.9 +0.4**
DLMT Dillon 88.26 43 *e*P **P 23 48 29.9 -0.8**
MCMT McKenzie Canyo 88.27 44 *e*P **P 23 48 30.5 -0.4**
GSC Goldstone 88.33 54 *e*P **P 23 48 31.9 +0.8**
GSC Goldstone 88.33 54 *e*P **P 23 48 31.9 +0.8**
QLMT Earthquake Lak 89.22 44 *e*P **P 23 48 34.5 -0.7**
comp=Z,0.5nm,0.7s
SHPR Sheep Range 89.24 52 *e*P **P 23 48 36.7 +1.2**
HVU Hansel Valley 89.32 47 *e*P **P 23 48 37.0 +1.2**
HVU Hansel Valley 89.32 47 *e*P **P 23 48 37.0 +1.2**
KAF Kangasniemi 89.48 336 *e*p **P 23 48 34.1 -1.7**
KAF Kangasniemi 89.48 336 *e*P **P 23 48 34.1 -1.7**
DUG Dugway 89.82 48 *e*P **P 23 48 38.2 +0.1**
DUG Dugway 89.82 48 *e*P **P 23 48 38.2 +0.1**
IMW Indian Meadow 89.87 44 *e*P **P 23 48 39.5 +1.1**
FIA1 FINESS Array S 89.92 335 *e*P **P 23 48 35.8 -2.0**
FINES FINESS Array B 89.92 335 P **P 23 48 35.8 -2.1**
FINES FINESS Array B 89.92 335 P **P 23 48 35.8 -2.1**
comp=Z,12nm,1.0s,baz=66,slow=4.6,SNR=28
FINES LR LR 00 33 33.7
comp=Z,84nm,18.7s,baz=43,slow=39
MOOW Moose Ponds 90.06 45 *e*P **P 23 48 39.4 +0.2**
HWUT Hardware Ranch 90.23 47 *e*P **P 23 48 40.0 -0.1**
comp=Z,10nm,1.1s
MVU Marysvale 90.82 50 *e*P **P 23 48 44.4 +1.5**
FFC Flin Flon 90.85 32 *i* P **P 23 48 42.6 +0.2**
FFC Flin Flon 90.85 32 *e*P **P 23 48 42.3 0.0**
VSU Vasula 91.21 332 *i* P **P 23 48 42.8 -1.1**
PDAR Pinedale Array 91.22 45 P **P 23 48 43.9 -0.8**
PDAR PP **PP 23 52 22.9 +1.5**
PDAR Pinedale Array 91.22 45 P **P 23 48 43.9 -0.8**
comp=Z,0.9nm,0.7s,baz=253,slow=2.5,SNR=8.0
PDAR PP **PP 23 52 22.9 +1.5**
comp=Z,0.7nm,1.1s,baz=298,slow=3.2,SNR=4.9
WUAZ Wupatki 92.46 52 *e*P **P 23 48 51.8 +1.2**
SUMG Summit 92.74 1 *i* P **P 23 48 52.1 +0.8**
SUMG pmax pmax
comp=Z,4.0nm,1.0s
SUMG Summit 92.74 1 *i* P **P 23 48 52.1 +0.8**
comp=Z,4.4nm,1.0s
PV10 Paradox Valley 93.20 49 *e*P **P 23 48 55.2 +1.3**
PV01 Paradox Valley 93.63 49 *e*P **P 23 48 55.3 -0.6**
comp=Z,145nm,0.9s
SMCO Snowmass 94.39 48 *e*P **P 23 49 00.1 +0.5**
HFS Hagfors 95.54 338 LR LR 00 30 22.4
comp=Z,56nm,19.6s,baz=46,slow=34
NB2 NORSAR Subarra 95.79 339 P **P 23 49 03.6 -1.4**
comp=Z,2.6nm,0.8s,baz=42,slow=5.1
NOA NORSAR Array B 95.79 339 P **P 23 49 04.5 -0.6**
NOA NORSAR Array B 95.79 339 P **P 23 49 04.5 -0.6**
comp=Z,0.9nm,1.0s,baz=51,slow=4.2,SNR=6.5
NOA LR LR 00 36 00.9
comp=Z,79nm,19.5s,baz=60,slow=38
BRTR Keskin Array B 96.03 314 P **P 23 49 05.2 -1.6**
BRTR Keskin Array B 96.03 314 P **P 23 49 05.2 -1.6**
comp=Z,1.8nm,1.0s,baz=104,slow=5.2,SNR=8.2
ULM Lac du Bonnet 96.31 34 LR LR 00 33 58.4
comp=Z,68nm,19.1s,baz=338,slow=36
OKC Ostrava-Krasne 100.26 328 AMS AMS 00 37 40.0
comp=Z,100nm,13.4s
KRLC Kraliky 100.81 329 *e*PP PP 23 53 30.2 -4.7
DPC Dobruska-Polom 100.86 329 *e*PP PP 23 53 38.8 +3.5
DPC *ex* x 23 53 44.6
UPC Upice 100.91 329 *e*PP PP 23 53 37.8 +2.2
CLL Collm 101.82 331 *e*PP PP 23 53 42.0 -0.4
CLL *e*SS SS 00 08 12.0 -3.3
CLL LmV 00 38 00.0
comp=Z,100nm,20.0s
TREC Trest 101.95 329 *e*PP PP 23 53 38.8 -4.7

TREC AMS AMS 00 37 30.0
comp=Z,100nm,22.8s
PRU Pruhonice 101.97 330 AMS AMS 00 36 10.0
comp=Z,100nm,20.3s
KHC Kasperske Hory 103.01 329 *e*PP PP 23 53 47.7 -3.7
EKA Eskdalemuir Ar 104.97 342 PP PP 23 54 04.0 -1.6
EKA Eskdalemuir Ar 104.97 342 PP PP 23 54 04.0 -1.6
comp=Z,1.5nm,0.8s,baz=27,slow=7.6,SNR=3.8
SNAA Sanae 119.99 191 *e*P **PKPdf 23 54 28.6 -0.4**
SNAA Sanae 119.99 191 PKP **PKPdf 23 54 28.0 -0.9**
SNAA Sanae 119.99 191 PKP **PKPdf 23 54 28.0 -0.9**
comp=Z,0.5nm,0.9s,baz=35,slow=20,SNR=4.0
TAM Tamanrasset 125.21 312 *e*PKIKP **PKPdf 23 54 40.9 +0.3**
TAM Tamanrasset 125.21 312 *e*PKPdf **PKPdf 23 54 40.9 +0.3**
TORD Torodi Ar. Bea 133.97 305 PKP **PKPdf 23 54 56.0 -1.1**
TORD Torodi Ar. Bea 133.97 305 PKP **PKPdf 23 54 56.0 -1.1**
comp=Z,1.0nm,0.9s,baz=33,slow=2.3,SNR=11
BBTS Babate 145.26 327 PKPbc **PKPab 23 55 17.3 0.0**
BBTS Babate 145.26 327 PKPbc **PKPab 23 55 17.3 0.0**
comp=Z,35nm,0.9s,baz=307,slow=1.2,SNR=7.8
LPAZ La Paz 148.40 97 *e*PKPdf **PKPdf 23 55 24.2 +0.6**
LPAZ *e*PKPbc **PKPbc 23 55 27.9 +0.7**
LPAZ PKPbc **PKPbc 23 55 28.1 +0.9**
LPAZ La Paz 148.40 97 PKPbc **PKPbc 23 55 28.1 +0.9**
comp=Z,5.9nm,0.8s,baz=323,slow=2.5,SNR=25

IDC ***05*** *23:37:13.3± 1.1, 33.79°N× 25.26°E, h0km, mb3.8/10, mb1 4.0/16, mb1mx3.9/31, mbtmp3.8/16, ML3.8/5, MS3.5/4, Ms1 3.5/4, ms1mx2.8/43, Error ellipse: s-maj=25.7km s-min=17.2km az=1.0*
ISCJB ***05*** *23:37:15.2± 0.3, 33.96°N± 0.03°× 25.36°E± 0.03, h17km, mb3.9/12, MS3.6/2, Error ellipse: s-maj=4.3km s-min=3.1km az=37.9*
MOS ***05*** *23:37:15.6± 1.4, 33.92°N× 25.11°E, h20km, mb4.1/9, Error ellipse: s-maj=14.2km s-min=7.6km az=86.5*
HLW ***05*** *23:37:17.4, 34.12°N× 25.44°E, h31km± 27km, Md3.1, Ml3.4*
CSEM ***05*** *23:37:18.5± 0.2, 33.94°N× 25.31°E, h30km, mb4.1/10, Error ellipse: s-maj=8.1km s-min=4.9km az=53.0*

ISC 05 23:37:16.9±0.5, **33.98N**±0.05° **25.26E**±0.05, **h17**km, **n162,** σ1**s31**/163, **mb3.9**/12, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.10**	**341**	*e*P	**Pn**		**23 37 36.0**	**-1.5**
LAST	**Lasithi**	**1.19**	**9**	*e*P	**Pn**		**23 37 36.4**	**-2.5**
GVD	**Gavdhos**	**1.29**	**312**	*e*P	**Pn**		**23 37 40.5**	**+0.3**
NPS	**Neapolis**	**1.31**	**13**	*e*P	**Pn**		**23 37 38.5**	**-2.0**
IDI	**Anoyia**	**1.34**	**347**	*e*P	**Pn**		**23 37 40.1**	**-0.8**
ZKR	**Zakros**	**1.38**	**35**	*e*P	**Pn**		**23 37 40.4**	**-1.0**
VAM	**Vamos**	**1.67**	**329**	*e*P	**Pn**		**23 37 46.4**	**+1.0**
KARP	**Karpathos**	**2.21**	**45**	*e*P	**Pn**		**23 37 54.6**	**+1.7**
SANT	**Santorini**	**2.39**	**4**	*e*P	**Pn**		**23 37 56.0**	**+0.6**
ANKY	**Antikythira Is**	**2.48**	**320**	*e*P	**Pg**		**23 38 03.9**	**-0.5**
SLUM		**2.48**	**181**	P	**Pn**		**23 37 57.3**	**+0.8**
APE	**Apeiranthos**	**3.09**	**4**	*e*P	**Pn**		**23 38 06.3**	**+1.3**
APE	**Apeiranthos**	**3.09**	**4**	*e*P	**Pn**		**23 38 05.9**	**+0.9**
ARG	**Arkhangelos**	**3.24**	**46**	*e*P	**Pn**		**23 38 07.9**	**+0.9**
HMAT	**Matruh** baz=154	**3.27**	**151**	P	**Pn**		**23 38 07.4**	**0.0**
HMAT				AMP			23 38 00.0	
	comp=E,160μm,0.8s,logA/T=5.3,baz=154							
HMAT				S	**Sn**		**23 38 44.7**	**-1.2**
	baz=154							
HMAT	**Matruh**	**3.27**	**151**	P	**Pn**		**23 38 07.4**	**0.0**
HMAT				S	**Sn**		**23 38 44.7**	**-1.2**
DAT	**Datca**	**3.34**	**34**	*e*P	**Pn**		**23 38 07.2**	**-1.2**
BODT	**Bodrum**	**3.50**	**28**	*e*P	**Pn**		**23 38 09.7**	**-0.9**
DYR	**Agios Nikonas**	**3.66**	**320**	*e*P	**Pb**		**23 38 19.2**	**-2.0**
DID	**Didima**	**3.88**	**336**	*e*P	**Pn**		**23 38 14.8**	**-1.1**
MLSB	**Milas**	**3.89**	**31**	*e*P	**Pn**		**23 38 15.6**	**-0.4**
DALY	**Dalyan (Mu˘la**	**3.96**	**43**	*e*P	**Pn**		**23 38 16.6**	**-0.3**
TURN	**Turunc**	**3.98**	**42**	*i* P	Pn		23 38 13.0	-4.0
TURN	**Turunc**	**3.98**	**42**	*i* P	Pn		23 38 13.0	-4.0
YER	**Yerkesik**	**4.00**	**37**	*e*P	**Pn**		**23 38 17.1**	**-0.4**
FETY	**Fethiye**	**4.10**	**49**	*e*P	**Pn**		**23 38 18.7**	**-0.1**
VLX	**Vlachokerasia**	**4.12**	**326**	*e*P	**Pn**		**23 38 19.3**	**+0.2**
ITM	**Ithomi**	**4.19**	**321**	*e*P	**Pn**		**23 38 20.5**	**+0.4**
AKAS	**Kas**	**4.21**	**57**	*i* P	**Pn**		**23 38 21.8**	**+1.3**
AKAS	**Kas**	**4.21**	**57**	*i* P	**Pn**		**23 38 21.8**	**+1.3**
PTL	**Penteli**	**4.21**	**345**	*e*P	**Pn**		**23 38 20.5**	**+0.1**
AYDN	**Tasoluk**	**4.25**	**29**	*i* P	**Pn**		**23 38 22.2**	**+1.3**
AYDN	**Tasoluk**	**4.25**	**29**	*i* P	**Pn**		**23 38 22.2**	**+1.3**
LTK	**Loutraki**	**4.44**	**336**	*e*P	**Pn**		**23 38 23.9**	**+0.4**
AMT	**Artemida-Makis**	**4.57**	**322**	*e*P	**Pn**		**23 38 27.8**	**+2.5**
GUR	**Goura**	**4.60**	**330**	*e*P	**Pn**		**23 38 26.3**	**+0.5**
ELL	**Elmali**	**4.70**	**53**	*e*P	**Pn**		**23 38 26.5**	**-0.7**
SWA2	baz=179	**4.72**	**178**	P	**Pn**		**23 38 27.8**	**+0.4**
SWA2		**4.72**	**178**	P	**Pn**		**23 38 27.8**	**+0.4**
KLV	**Kalavryta, Ach**	**4.77**	**329**	*e*P	**Pn**		**23 38 29.7**	**+1.6**
GOLH	**Golhisar**	**4.78**	**46**	*i* P	**Pn**		**23 38 29.4**	**+1.1**
GOLH	**Golhisar**	**4.78**	**46**	*i* P	**Pn**		**23 38 29.4**	**+1.1**
LKR	**Lokris**	**5.00**	**339**	*e*P	**Pn**		**23 38 30.7**	**-0.5**
KORT	**Korkueli**	**5.13**	**53**	*i* P	**Pn**		**23 38 36.1**	**+3.0**
KORT	**Korkueli**	**5.13**	**53**	*i* P	**Pn**		**23 38 36.1**	**+3.0**
EFP	**Efpalio**	**5.20**	**330**	*e*P	**Pn**		**23 38 36.3**	**+2.4**
ANTB	**Antalya**	**5.28**	**55**	*e*P	**Pn**		**23 38 34.8**	**-0.2**
KULA	**Kula-Manisa**	**5.30**	**30**	*e*P	**Pn**		**23 38 34.9**	**-0.4**
KHL	**Karahalli**	**5.54**	**37**	*e*P	**Pn**		**23 38 37.9**	**-0.7**
AGG	**Agios Georgios**	**5.56**	**336**	*e*P	**Pn**		**23 38 40.5**	**+1.7**
BCK	**Bucak**	**5.56**	**50**	*e*P	**Pn**		**23 38 38.4**	**-0.5**
KHAL	**Karahalli**	**5.56**	**37**	*i* P	**Pn**		**23 38 40.5**	**+1.5**
KHAL	**Karahalli**	**5.56**	**37**	*i* P	**Pn**		**23 38 40.5**	**+1.5**
NEO	**Neokhori**	**5.56**	**344**	*e*P	**Pn**		**23 38 37.2**	**-1.7**
SUTC	**Sutluce-Ispart**	**5.83**	**52**	*e*P	**Pn**		**23 38 42.1**	**-0.6**
BALB	**Balikesir**	**6.03**	**20**	*e*P	**Pn**		**23 38 45.1**	**-0.2**
THL	**Klokotos Trika**	**6.15**	**336**	*e*P	**Pn**		**23 38 48.8**	**+1.8**
SHUT	**Suhut-Afyon**	**6.25**	**42**	*e*P	**Pn**		**23 38 47.7**	**-0.8**
GONE	**Gonen-Balikesi**	**6.36**	**17**	*e*P	**Pn**		**23 38 49.6**	**-0.2**
ALT	**Altintas**	**6.40**	**36**	*e*P	**Pn**		**23 38 49.3**	**-1.2**
LEF	**Lefka**	**6.40**	**78**	*e*P	**Pn**		**23 38 51.0**	**+0.6**
TVSB	**Tavsanli**	**6.42**	**31**	*e*P	**Pn**		**23 38 50.0**	**-0.8**
AWBH	baz=151	**6.45**	**150**	P	**Pn**		**23 38 51.1**	**0.0**
AWBH		**6.45**	**150**	P	**Pn**		**23 38 51.1**	**0.0**
GELI	**Tayfur-Gelibol**	**6.48**	**8**	*e*P	**Pn**		**23 38 51.9**	**+0.4**
LIT	**Litokhoron**	**6.50**	**341**	*e*P	**Pn**		**23 38 52.0**	**+0.2**
HDMB	**Hadim**	**6.61**	**61**	*e*P	**Pn**		**23 38 53.0**	**-0.4**
CSS	**Prodhromos**	**6.74**	**79**	*e*P	**Pn**		**23 38 55.6**	**+0.5**
KCTX	**Karacabey (Bur**	**6.75**	**21**	*e*P	**Pn**		**23 38 54.6**	**-0.6**
ERMK	**Ermenek**	**6.80**	**65**	*i* P	**Pn**		**23 38 57.1**	**+1.1**
ERMK	**Ermenek**	**6.80**	**65**	*i* P	**Pn**		**23 38 57.1**	**+1.1**
LFK	**Lefkose**	**6.94**	**77**	*e*P	**Pn**		**23 38 58.6**	**+0.7**
KONT	**Konya--Tatoy**	**6.99**	**53**	*e*P	**Pn**		**23 38 57.8**	**-0.7**
IKL	**Isikli**	**7.27**	**70**	*e*P	**Pn**		**23 39 01.5**	**-0.8**
HFRF	**Wahat Farafira** baz=159	**7.30**	**158**	P	**Pn**		**23 39 03.2**	**+0.5**
HFRF	**Wahat Farafira**	**7.30**	**158**	P	**Pn**		**23 39 03.2**	**+0.5**
FNA	**Florina**	**7.46**	**337**	*e*P	**Pn**		**23 39 05.1**	**+0.1**
AMAG	**Maghara** baz=115	**7.51**	**114**	P	**Pn**		**23 39 04.5**	**-1.2**
AMAG	**Maghara**	**7.51**	**114**	P	**Pn**		**23 39 04.5**	**-1.2**
CTKS	**Kestanelik-??a**	**7.69**	**19**	*e*P	**Pn**		**23 39 07.4**	**-0.7**
RSH	baz=112	**7.76**	**111**	P	**Pn**		**23 39 07.5**	**-1.6**
RSH		**7.76**	**111**	P	**Pn**		**23 39 07.5**	**-1.6**
SULT	**Sultanhani-AKS**	**7.90**	**55**	*e*P	**Pn**		**23 39 10.1**	**-1.0**
GULE	**Gulek**	**8.42**	**64**	*i* P	**Pn**		**23 39 20.3**	**+2.0**
GULE	**Gulek**	**8.42**	**64**	*i* P	**Pn**		**23 39 20.3**	**+2.0**
HNKL	**Nakhl** baz=117	**8.44**	**116**	P	**Pn**		**23 39 16.9**	**-1.5**
HNKL	**Nakhl**	**8.44**	**116**	P	**Pn**		**23 39 16.9**	**-1.5**
MMAI	**Mount Meron Ar**	**8.53**	**94**	Pn	**Pn**		**23 39 17.4**	**-2.3**
	comp=E,1.6nm,0.3s,baz=279,slow=12,SNR=9.2							
MMAI				Sn	**Sn**		**23 40 52.9**	**-2.7**
	comp=E,3.3nm,0.3s,baz=270,slow=17,SNR=6.6							
KARA	**Karaisali**	**8.62**	**65**	*e*P	**Pn**		**23 39 20.2**	**-0.7**
BRTR	**Keskin Array B**	**8.83**	**47**	Pn	**Pn**		**23 39 25.4**	**+1.5**
	comp=E,0.1nm,0.3s,baz=224,slow=12,SNR=9.4							
BRTR	**Keskin Array B** comp=E,1.0nm,0.9s	**8.83**	**47**	*i* P	**Pn**		**23 39 25.3**	**+1.4**
HTY	**Hatay**	**9.17**	**73**	*e*P	**Pn**		**23 39 27.8**	**-0.7**
EIL	**Elat**	**9.30**	**115**	Pn	**Pn**		**23 39 28.3**	**-1.9**
	comp=E,0.5nm,0.3s,baz=264,slow=10,SNR=10							
EIL				Sn	Sn		23 41 07.9	-6.5
	comp=E,0.6nm,0.3s,baz=163,slow=17,SNR=2.7							
BNN	**Bunyan**	**9.82**	**57**	*e*P	**Pn**		**23 39 35.8**	**-1.6**
PGF	**Pioggiola** comp=E,23nm,1.0s	**15.35**	**309**	*e*P	**Pn**

comp=E,0.1nm,0.3s,baz=136,slow=8.8,SNR=3.3
VRAC Vranov 16.61 340 *e*P **P** **23 41 10.6 +1.7**
OKC Ostrava-Krasne 16.69 344 *e*P **P** **23 41 14.2 +2.1**
OKC Ostrava-Krasne 16.69 344 *e*P **P** **23 41 14.2 +2.1**
OKC Ostrava-Krasne 16.69 344 *e*P **P** **23 41 14.2 +2.1**
GNI Garni 16.71 63 *i* P **P** **23 41 13.0 +0.4**
comp=E,12nm,1.2s
KIV Kislovodsk 16.79 48 *e*P **P** **23 41 14.1 +0.7**
KIV *e*S **Sn** **23 44 16.8 -0.6**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV Kislovodsk 16.79 48 *e*P **P** **23 41 14.1 +0.7**
comp=Z,8.0nm,1.1s
KBZ Khabaz 16.81 49 P **P** **23 41 15.6 +2.1**
KBZ Khabaz 16.81 49 Pn **P** **23 41 15.6 +2.1**
comp=Z,0.1nm,0.3s,baz=260,slow=6.3,SNR=5.0
KBZ Khabaz 16.81 49 P **P** **23 41 15.6 +2.1**
KIEV Kiev 16.95 9 *i* P **Pn** **23 41 13.7 +0.6**
KIEV Kiev 16.95 9 *i* P **Pn** **23 41 13.7 +0.6**
GERES GERESS Array B 17.16 333 P **Pn** **23 41 17.3 +1.4**
comp=Z,0.3nm,0.3s,baz=150,slow=14,SNR=13
GERES LR LR 23 49 30.0
comp=Z,82nm,18.6s,baz=149,slow=42
GERES GERESS Array B 17.16 333 P **Pn** **23 41 17.3 +1.4**
comp=Z,82nm,18.6s
KRLC Kraliky 17.25 341 *e*P **Pn** **23 41 16.0 -1.0**
KRLC Kraliky 17.25 341 *e*P **Pn** **23 41 16.0 -1.0**
DAVOX Davos/Dischmat 17.30 322 LR LR 23 48 40.6
comp=Z,78nm,20.8s,baz=92,slow=39
KHC Kasperske Hory 17.45 334 *e*P **Pn** **23 41 20.0 +0.6**
KHC MLR MLR
comp=Z,100nm,13.7s
KHC Kasperske Hory 17.45 334 *e*P **Pn** **23 41 20.0 +0.6**
KHC *e*pP **pP** **23 41 27.1 +1.8**
KHC AMS AMS 23 49 00.0
comp=Z,100nm,13.7s
KHC Kasperske Hory 17.45 334 *e*P **Pn** **23 41 20.0 +0.6**
comp=Z,100nm,13.7s
DPC Dobruska-Polom 17.63 341 *e*P **P** **23 41 22.9 +0.4**
DPC Dobruska-Polom 17.63 341 *e*P **P** **23 41 22.9 +0.4**
DPC Dobruska-Polom 17.63 341 *e*P **P** **23 41 22.9 +0.4**
PRU Pruhonice 17.84 337 *e*P **Pn** **23 41 22.7 -1.5**
PRU Pruhonice 17.84 337 *e*P **Pn** **23 41 22.7 -1.5**
UPC Upice 17.85 340 *e*P **P** **23 41 29.7 +4.7**
UPC Upice 17.85 340 *e*P **P** **23 41 29.7 +4.7**
UPC *e*pP pP 23 41 35.4 +5.6
LPG La Plagne 18.25 315 *e*P **P** **23 41 31.4 +1.7**
LPG La Plagne 18.25 315 *e*P **P** **23 41 31.4 +1.7**
CABF La Chapelle 19.25 317 *e*P **P** **23 41 39.7 -0.8**
CABF La Chapelle 19.25 317 *e*P **P** **23 41 39.7 -0.8**
CLL Collm 19.48 336 *e*P **P** **23 41 43.0 +0.2**
CLL Collm 19.48 336 *e*P **P** **23 41 43.0 +0.2**
CLL *e* 23 41 45.0
CLL *e*(pP) **pP** **23 41 48.0 +0.4**
CLL Collm 19.48 336 *e*P **P** **23 41 43.0 +0.2**
HINF Hinteralfeld 19.54 320 *e*P **P** **23 41 44.2 +0.6**
comp=Z,3.4nm,0.6s
HINF Hinteralfeld 19.54 320 *e*P **P** **23 41 44.2 +0.6**
comp=Z,3.0nm,0.6s
VSR Storozhevoye 19.98 26 *e*P **P** **23 41 49.2 +0.9**
VSR pmax pmax
comp=Z,9.0nm,1.3s
VSR pmax pmax
comp=N,9.0nm,0.8s
VSR pmax pmax
comp=E,3.0nm,0.5s
VSR Storozhevoye 19.98 26 *e*P **P** **23 41 49.2 +0.9**
comp=E,9.0nm,0.8s
RJF Les Rejaudoux 21.42 309 *e*P **P** **23 42 05.1 +1.2**
comp=E,28nm,1.2s
RJF Les Rejaudoux 21.42 309 *e*P **P** **23 42 05.1 +1.2**
comp=E,27nm,1.2s
OBN Obninsk 22.56 17 *i* P **P** **23 42 16.4 +0.4**
OBN pmax pmax
comp=Z,23nm,1.9s
OBN Obninsk 22.56 17 *i* P **P** **23 42 16.4 +0.4**
comp=Z,23nm,1.9s
ESDC Sonseca Array 24.01 292 P **P** **23 42 30.9 +0.1**
comp=Z,2.0nm,0.8s,baz=83,slow=9.5,SNR=9.7
FLN La Foliniere 24.16 315 *e*P **P** **23 42 32.3 +0.2**
FLN La Foliniere 24.16 315 *e*P **P** **23 42 32.3 +0.2**
FINES FINESS Array B 27.49 1 P **P** **23 43 01.6 -0.4**
comp=Z,0.7nm,0.8s,baz=123,slow=20,SNR=2.5
FINES FINESS Array B 27.49 1 P **P** **23 43 01.6 -0.4**
comp=Z,1.0nm,0.8s
EKA Eskdalemuir Ar 29.05 326 P **P** **23 43 16.5 +0.5**
comp=Z,1.1nm,0.8s,baz=125,slow=8.7,SNR=3.2
EKA Eskdalemuir Ar 29.05 326 P **P** **23 43 16.5 +0.5**
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 29.80 232 P **P** **23 43 20.4 -2.7**
comp=Z,0.7nm,0.8s,baz=30,slow=8.3,SNR=4.7
TORD LR LR 23 57 24.3
comp=Z,127nm,19.4s,baz=80,slow=41
DBIC Dimbokro 38.90 233 LR LR 00 03 17.8
comp=Z,117nm,18.5s,baz=213,slow=40
MKAR Makanchi Array 44.37 56 P **P** **23 45 26.1 -0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 44.37 56 P **P** **23 45 26.1 -0.2**
comp=Z,1.9nm,0.6s,baz=277,slow=6.6,SNR=27
MKAR Makanchi Array 44.37 56 P **P** **23 45 26.1 -0.2**
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 45.77 45 P **P** **23 45 36.1 -1.2**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 45.77 45 P **P** **23 45 36.1 -1.2**
comp=Z,0.7nm,0.4s,baz=271,slow=9.1,SNR=4.7
ZALV Zalesovo Beam 45.77 45 P **P** **23 45 36.1 -1.2**
comp=Z,1.0nm,0.4s
SONM Songino Array 60.18 50 P **P** **23 47 24.4 +0.5**
comp=Z,0.9nm,0.9s,baz=281,slow=9.7,SNR=5.3
SONM Songino Array 60.18 50 P **P** **23 47 24.4 +0.5**
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 78.59 342 P **P** **23 49 18.7 +1.5**
comp=Z,0.8nm,0.7s,baz=33,slow=5.7,SNR=2.5
YKA Yellowknife Ar 78.59 342 P **P** **23 49 18.7 +1.5**
comp=Z,1.0nm,0.7s
ILAR Eielson Array 81.38 357 P **P** **23 49 33.0 +0.7**
comp=Z,0.5nm,0.9s,baz=11,slow=3.9,SNR=4.3
ILAR Eielson Array 81.38 357 P **P** **23 49 33.0 +0.7**
comp=Z,1.0nm,0.9s
YSS Yuzh-Sakhalins 81.81 38 *e*P P 23 49 26.0 -8.9
MJAR Matsushiro Arr 86.05 48 P **P** **23 49 55.8 -1.0**
comp=Z,0.5nm,0.3s,baz=267,slow=7.4,SNR=4.5
MJAR Matsushiro Arr 86.05 48 P **P** **23 49 55.8 -1.0**
comp=Z,1.0nm,0.3s

Ms1 3.3/6,ms1mx2.8/38,Error ellipse: s-maj=27.3km s-min=16.3km az=166.0
*ISK **05** 23:48:24.8,38.°93N×43.°92E,h4km,MD4.0,ML4.0*
*MOS **05** 23:48:24.7±1.6,38.°70N×43.°77E,h12km,mb4.0/9,Error ellipse: s-maj=10.5km s-min=6.4km az=94.5*
*THR **05** 23:48:24.0±0.4,39.°17N×43.°64E,h14km±6km,ML3.7*
*NSSP **05** 23:48:24.5,38.°88N×43.°87E,h5km,Ms4.0*
*CSEM **05** 23:48:25.6±0.2,38.°93N×43.°90E,h5km,mb3.9/8,Error ellipse: s-maj=5.2km s-min=4.6km az=129.0*
ISC 05 23:48:25.2±1.0,**38.°88N**±0.°02×**43.°83E**±0.°02,**h2**km±7km,
n200,σ1°65/221,mb3.8/13,**MS3.1**/3,**31C-15D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
CLDR	**Caldiran**	**0.27**	**15**	PG	**Pg**	**23**	**48**	**29.4**	**-1.0**
CLDR				SG	**Sg**	**23**	**48**	**33.2**	**-0.8**
CLDR	**Caldiran**	**0.27**	**15**	*i* Pg	**Pg**	**23**	**48**	**29.4**	**-1.0**
CLDR				*i* Sg	**Sg**	**23**	**48**	**33.2**	**-0.8**
TVAN	**Van**	**0.48**	**223**	*i* P	**Pg**	**23**	**48**	**36.1**	**-0.4**
TVAN	**Van**	**0.48**	**223**	*i* P	**Pb**	**23**	**48**	**36.1**	**-0.4**
DYDN	**Diyadin**	**0.67**	**351**	*i* P	**Pg**	**23**	**48**	**36.0**	**-2.0**
DYDN				*i* S	**Sg**	**23**	**48**	**45.9**	**-0.9**
DYDN	**Diyadin**	**0.67**	**351**	*i* P	**Pg**	**23**	**48**	**36.0**	**-2.0**
DYDN				*i* S	**Sg**	**23**	**48**	**45.9**	**-0.9**
MAKU	**Maku**	**0.82**	**54**	*e*Pg	**Pg**	**23**	**48**	**39.8**	**-1.0**
MAKU				*e*Sg	**Sg**	**23**	**48**	**51.5**	**0.0**
MAKU				AML	AML	23	48	59.0	
	comp=E,4μm,0.4s								
MAKU	**Maku**	**0.82**	**54**	*e*Pg	**Pg**	**23**	**48**	**39.8**	**-1.0**
MAKU				*e*Sg	**Sg**	**23**	**48**	**51.5**	**0.0**
GEVA	**Gevas**	**0.83**	**227**	*i* P	**Pg**	**23**	**48**	**41.5**	**+0.5**
GEVA				*i* S	**Sn**	**23**	**48**	**56.1**	**-0.8**
GEVA	**Gevas**	**0.83**	**227**	*i* P	**Pg**	**23**	**48**	**41.5**	**+0.5**
GEVA				*i* S	**Sn**	**23**	**48**	**56.1**	**-0.8**
TUTA	**Tutak**	**0.94**	**304**	*i* P	**Pg**	**23**	**48**	**42.3**	**-1.0**
TUTA				*i* S	**Sg**	**23**	**48**	**54.0**	**-1.5**
TUTA	**Tutak**	**0.94**	**304**	*i* P	**Pg**	**23**	**48**	**42.3**	**-1.0**
TUTA				*i* S	**Sg**	**23**	**48**	**54.0**	**-1.5**
AGRB	**Hanur-Agry**	**0.95**	**317**	*e*PG	**Pg**	**23**	**48**	**42.0**	**-1.4**
AGRB				*e*SG	**Sb**	**23**	**48**	**58.2**	**+0.6**
AGRB	**Hanur-Agry**	**0.95**	**317**	*e*Pg	**Pg**	**23**	**48**	**42.0**	**-1.4**
AGRB				*e*Sg	**Sb**	**23**	**48**	**58.2**	**+0.6**
TATV	**Tatvan**	**1.28**	**254**	*i* P	**Pg**	**23**	**48**	**48.4**	**-1.2**
TATV				*i* S	**Sg**	**23**	**49**	**07.1**	**+0.9**
TATV	**Tatvan**	**1.28**	**254**	*i* P	**Pg**	**23**	**48**	**48.4**	**-1.2**
TATV				*i* S	**Sg**	**23**	**49**	**07.1**	**+0.9**
HKR	**Hakkari**	**1.30**	**183**	*e*PN	**Pn**	**23**	**48**	**51.2**	**+0.6**
HKR				*e*SN	**Sn**	**23**	**49**	**10.5**	**+1.9**
HKR	**Hakkari**	**1.30**	**183**	*e*Pn	**Pn**	**23**	**48**	**51.2**	**+0.6**
HKR				*e*Sn	**Sn**	**23**	**49**	**10.5**	**+1.9**
HAKT	**HAKKARI**	**1.32**	**184**	*i* P	**Pb**	**23**	**48**	**51.3**	**+0.5**
HAKT				*i* S	**Sn**	**23**	**49**	**10.3**	**+5.7**
HAKT	**HAKKARI**	**1.32**	**184**	*i* P	**Pb**	**23**	**48**	**51.3**	**+0.5**
NAX	**Nakhchivan**	**1.33**	**77**	⇓P	**Pb**	**23**	**48**	**52.3**	**+1.4**
	SNR=143								
NAX				⇓S	**Sn**	**23**	**49**	**13.3**	**+4.1**
NAX	**Nakhchivan**	**1.33**	**77**	P	**Pb**	**23**	**48**	**52.3**	**+1.4**
	SNR=143								
NAX				S	**Sn**	**23**	**49**	**13.3**	**+4.1**
GNI	**Garni**	**1.45**	**29**	*e*PN	**Pn**	**23**	**48**	**52.1**	**-0.5**
GNI	**Garni**	**1.45**	**29**	⇓*i*P	**Pn**	**23**	**48**	**51.4**	**-1.3**
GNI				⇑*i*S	**Sg**	**23**	**49**	**11.6**	**-0.2**
GNI	**Garni**	**1.45**	**29**	*i* P	**Pn**	**23**	**48**	**51.3**	**-1.3**
	comp=E,634nm,0.8s								
GNI	**Garni**	**1.45**	**29**	*e*Pn	**Pn**	**23**	**48**	**52.1**	**-0.5**
GNI				S	**Sg**	**23**	**49**	**11.6**	**-0.2**
NARZ	**Nor Artik**	**1.58**	**357**	⇑*i*P	**Pg**	**23**	**48**	**57.0**	**+1.5**
NARZ				⇓*i*S	**Sg**	**23**	**49**	**19.9**	**+3.8**
NARZ	**Nor Artik**	**1.58**	**357**	⇑P	**Pg**	**23**	**48**	**57.0**	**+1.5**
NARZ				S	**Sg**	**23**	**49**	**19.9**	**+3.8**
CUKT	**Cukurca**	**1.64**	**186**	*e*PN	**Pb**	**23**	**48**	**56.2**	**0.0**
CUKT	**Cukurca**	**1.64**	**186**	*e*Pn	**Pb**	**23**	**48**	**56.2**	**0.0**
HARI	**Harich**	**1.73**	**4**	⇑*i*P	**Pg**	**23**	**48**	**58.5**	**+0.2**
HARI				⇑*i*S	Sg	23	49	28.2	+7.4
HARI	**Harich**	**1.73**	**4**	⇑P	**Pg**	**23**	**48**	**58.5**	**+0.2**
SIRT	**Sirnak**	**1.76**	**219**	*e*PN	**Pb**	**23**	**48**	**58.3**	**+0.1**
SIRT	**Sirnak**	**1.76**	**219**	*e*Pn	**Pb**	**23**	**48**	**58.3**	**+0.1**
KARS	**Kars**	**1.84**	**342**	*e*PN	**Pn**	**23**	**48**	**57.7**	**-0.2**
KARS	**Kars**	**1.84**	**342**	*e*Pn	**Pn**	**23**	**48**	**57.7**	**-0.2**
HOMI	**Horasan**	**1.89**	**309**	*i* P	**Pb**	**23**	**49**	**00.2**	**-0.3**
HOMI				*i* S	**Sg**	**23**	**49**	**27.0**	**+1.1**
GMRZ	**Gyumri**	**1.93**	**0**	*e*P	**Pb**	**23**	**49**	**01.0**	**-0.1**
GMRZ				⇑S	**Sg**	**23**	**49**	**27.0**	**-0.1**
GYMZ	**Gyumri**	**1.93**	**0**	⇑*i*P	**Pg**	**23**	**49**	**02.2**	**+0.1**
GYMZ				⇑*i*S	**Sg**	**23**	**49**	**31.3**	**+4.2**
GYMZ	**Gyumri**	**1.93**	**0**	⇑P	**Pg**	**23**	**49**	**02.2**	**+0.1**
KAMZ	**Kamo**	**1.94**	**3**	⇑*i*P	**Pb**	**23**	**49**	**01.5**	**+0.1**
KAMZ				⇑*i*S	**Sg**	**23**	**49**	**30.5**	**+2.9**
KAMZ	**Kamo**	**1.94**	**3**	⇑P	**Pb**	**23**	**49**	**01.5**	**+0.1**
KAMZ				S	**Sg**	**23**	**49**	**30.5**	**+2.9**
BTMT	**Batman**	**1.96**	**250**	*e*PN	**Pn**	**23**	**49**	**00.1**	**+0.6**
BTMT	**Batman**	**1.96**	**250**	*e*Pn	**Pn**	**23**	**49**	**00.1**	**+0.6**
VADZ	**Vardenis**	**1.96**	**48**	*e*P	**Pb**	**23**	**49**	**02.0**	**+0.2**
VADZ				*e*S	**Sg**	**23**	**49**	**32.0**	**+3.7**
VADZ	**Vardenis**	**1.96**	**48**	P	**Pb**	**23**	**49**	**02.0**	**+0.2**
GRS	**Goris**	**2.04**	**72**	⇑*i*P	**Pn**	**23**	**49**	**00.0**	**-0.7**
GRS				⇓*i*S	**Sg**	**23**	**49**	**30.0**	**-0.8**
GRS	**Goris**	**2.04**	**72**	⇑P	**Pn**	**23**	**49**	**00.0**	**-0.7**
GRS				S	**Sg**	**23**	**49**	**30.0**	**-0.8**
BNGL	**BINGOL**	**2.09**	**273**	*i* P	**Pn**	**23**	**49**	**02.8**	**+1.4**
BNGL				*i* S	**Sg**	**23**	**49**	**34.3**	**+2.0**
STE	**Stepanavan**	**2.16**	**11**	⇓P	**Pn**	**23**	**49**	**02.0**	**-0.3**
STEZ	**Stepenevan**	**2.16**	**12**	⇓*i*P	**Pn**	**23**	**49**	**02.0**	**-0.3**
STEZ				⇓S	**Sb**	**23**	**49**	**33.0**	**+0.6**
EZM	**Erzurum**	**2.17**	**299**	*e*PN	**Pn**	**23**	**49**	**03.4**	**+0.8**
BNGB	**Bing¶ll**	**2.46**	**274**	*e*PN	**Pb**	**23**	**49**	**08.6**	**-1.6**
KZR	**Kazreti**	**2.54**	**10**	P	**Pb**	**23**	**49**	**10.8**	**-0.7**
KZR				S	**Sg**	**23**	**49**	**46.9**	**+0.2**
KZR	**Kazreti**	**2.54**	**10**	P	**Pb**	**23**	**49**	**10.8**	**-0.7**
AKH	**Akhalkalaki**	**2.54**	**354**	P	**Pb**	**23**	**49**	**10.3**	**-1.3**
AKH				S	**Sb**	**23**	**49**	**44.9**	**+1.6**
AKH	**Akhalkalaki**	**2.54**	**354**	P	**Pb**	**23**	**49**	**10.3**	**-1.3**
AKH				S	**Sb**	**23**	**49**	**44.9**	**+1.6**
BINT	**Bingol**	**2.61**	**271**	*e*Pn	**Pn**	**23**	**49**	**08.6**	**+0.2**
GANJ	**Ganja**	**2.61**	**47**	⇑P	**Pn**	**23**	**49**	**09.4**	**+1.0**
	SNR=6.7								
GANJ				⇑S	**Sb**	**23**	**49**	**43.5**	**-1.7**
GANJ	**Ganja**	**2.61**	**47**	P	**Pn**	**23**	**49**	**09.4**	**+1.0**
	SNR=6.7								
GANJ				S	**Sb**	**23**	**49**	**43.5**	**-1.7**
DGRG	**David-gareji**	**2.83**	**24**	P	**Pn**	**23**	**49**	**13.4**	**+2.0**
DGRG				S	**Sg**	**23**	**49**	**58.2**	**+2.2**
DGRG	**David-gareji**	**2.83**	**24**	P	**Pn**	**23**	**49**	**13.4**	**+2.0**
MARD	**Mardin**	**2.87**	**238**	*i* P	**Pb**	**23**	**49**	**15.3**	**-1.8**
TBLG	**Delisi**	**2.93**	**13**	*e*P	**Pb**	**23**	**49**	**17.1**	**-1.0**
TBLG				*e*S	**Sg**	**23**	**49**	**57.3**	**-2.0**
TBLG	**Delisi**	**2.93**	**13**	P	**Pb**	**23**	**49**	**17.2**	**-1.0**
TBLG				S	**Sg**	**23**	**49**	**57.3**	**-2.0**
TBLG	**Delisi**	**2.93**	**13**	*e*P	**Pb**	**23**	**49**	**17.1**	**-1.0**
TBLG				*e*S	**Sg**	**23**	**49**	**57.3**	**-2.0**
BRDA	**Brd**	**2.94**	**61**	⇑P	**Pb**	**23**	**49**	**19.5**	**+1.3**
	SNR=16								
BRDA				⇑S	**Sg**	**23**	**50**	**02.5**	**+3.1**
BRDA	**Brd**	**2.94**	**61**	P	**Pb**	**23**	**49**	**19.5**	**+1.3**
	SNR=16								
DIY	**Diyarbakir**	**3.00**	**252**	*e*PN	**Pn**	**23**	**49**	**15.8**	**+2.1**
DIY	**Diyarbakir**	**3.00**	**252**	*e*Pn	**Pn**	**23**	**49**	**15.8**	**+2.1**
MAZI	**Mazidag**	**3.02**	**243**	*e*PN	**Pn**	**23**	**49**	**15.8**	**+1.7**
MAZI	**Mazidag**	**3.02**	**243**	*e*Pn	**Pn**	**23**	**49**	**15.8**	**+1.7**
BCA	**Borcka**	**3.07**	**327**	*e*PN	**Pn**	**23**	**49**	**15.8**	**+1.1**
BCA	**Borcka**	**3.07**	**327**	*e*Pn	**Pn**	**23**	**49**	**15.8**	**+1.1**
GRMI	**Germi**	**3.18**	**90**	*e*Pn	**Pn**	**23**	**49**	**17.9**	**+1.6**
GRMI				AML	AML	23	50	15.3	
	comp=E,166nm,0.7s								
GRMI				AML	AML	23	50	27.2	
	comp=N,115nm,0.6s								
GRMI	**Germi**	**3.18**	**90**	*e*Pn	**Pn**	**23**	**49**	**17.9**	**+1.6**
PZAR	**Pazar-Rize**	**3.21**	**317**	*e*PN	**Pn**	**23**	**49**	**17.9**	**+1.3**
PZAR	**Pazar-Rize**	**3.21**	**317**	*e*Pn	**Pn**	**23**	**49**	**17.9**	**+1.3**
ERZN	**Erzincan**	**3.27**	**284**	*e*PN	**Pn**	**23**	**49**	**19.1**	**+1.6**
PTK	**Pertek**	**3.46**	**272**	*e*PN	**Pn**	**23**	**49**	**22.4**	**+2.1**
PTK	**Pertek**	**3.46**	**272**	*e*Pn	**Pn**	**23**	**49**	**22.4**	**+2.1**
SEKA	**Sheki**	**3.48**	**47**	⇓P	**Pn**	**23**	**49**	**22.5**	**+2.2**
	SNR=10								
SEKA				⇑S	**Sg**	**23**	**50**	**17.5**	**+0.6**
SEKA	**Sheki**	**3.48**	**47**	P	**Pn**	**23**	**49**	**22.5**	**+2.2**
	SNR=10								
GLBA	**Clilabad**	**3.57**	**83**	⇓P	**Pb**	**23**	**49**	**27.7**	**-1.3**
	SNR=34								
GLBA	**Clilabad**	**3.57**	**83**	P	**Pb**	**23**	**49**	**27.7**	**-1.3**
	SNR=34								
EZC	**Erzincan**	**3.58**	**285**	*e*PN	**Pn**	**23**	**49**	**23.6**	**+1.8**
EZC	**Erzincan**	**3.58**	**285**	*e*Pn	**Pn**	**23**	**49**	**23.6**	**+1.8**
GUMT	**Gumushane**	**3.71**	**297**	*e*PN	**Pn**	**23**	**49**	**25.1**	**+1.5**
GUMT	**Gumushane**	**3.71**	**297**	*e*Pn	**Pn**	**23**	**49**	**25.1**	**+1.5**
ONI	**Oni**	**3.72**	**356**	P	**Pb**	**23**	**49**	**31.3**	**-0.3**
ONI				S	**Sg**	**23**	**50**	**24.4**	**-0.1**
KELT	**Kelkit**	**3.76**	**291**	*i* P	**Pb**	**23**	**49**	**32.5**	**+0.2**
IML	**Ismayilli**	**3.86**	**59**	⇑P	**Pg**	**23**	**49**	**38.4**	**-0.7**
	SNR=3.4								
IML				⇓S	**Sg**	**23**	**50**	**30.2**	**+1.1**
LKRN	**Lenkeran, Azer**	**3.87**	**91**	⇑P	Pb	23	49	30.9	-3.2
	SNR=3.8								
LKRN				⇓S	**Sg**	**23**	**50**	**29.8**	**+0.2**
LKRN	**Lenkeran, Azer**	**3.87**	**91**	P	Pb	23	49	30.9	-3.2
	SNR=3.8								
ZEI	**Tsey**	**3.89**	**1**	*e*P	**Pn**	**23**	**49**	**27.5**	**+1.4**
ZEI				pmax	pmax				
	comp=Z,28nm,0.6s								
ZEI	**Tsey**	**3.89**	**1**	*e*P	**Pn**	**23**	**49**	**27.5**	**+1.4**
	comp=Z,28nm,0.6s								
CHVG	**Ch'k'valeri**	**4.06**	**342**	P	**Pg**	**23**	**49**	**40.4**	**-2.5**
ILIC	**ilic-Erzincan**	**4.13**	**280**	*e*PN	**Pn**	**23**	**49**	**31.9**	**+2.5**
ILIC	**ilic-Erzincan**	**4.13**	**280**	*e*Pn	**Pn**	**23**	**49**	**31.9**	**+2.5**
PQL	**Pirkuli**	**4.13**	**61**	⇓P	Pb	23	49	34.1	-4.6
	SNR=5.1								
PQL				⇓S	**Sg**	**23**	**50**	**37.4**	**-0.5**
PQL	**Pirkuli**	**4.13**	**61**	P	Pb	23	49	34.1	-4.6
	SNR=5.1								
ALIB	**Äli-Bayra**	**4.15**	**73**	⇑P	**Pg**	**23**	**49**	**42.0**	**-2.7**
	SNR=7.5								
KEMA	**Kemaliye**	**4.17**	**277**	*i* P	**Pb**	**23**	**49**	**39.8**	**+0.5**
URFA	**Urfa**	**4.20**	**252**	*e*PN	**Pn**	**23**	**49**	**33.1**	**+2.8**
URFA	**Urfa**	**4.20**	**252**	*e*Pn	**Pn**	**23**	**49**	**33.1**	**+2.8**
MYA	**Malataya**	**4.27**	**264**	*e*PN	**Pn**	**23**	**49**	**33.4**	**+2.1**
MYA	**Malataya**	**4.27**	**264**	*e*Pn	**Pn**	**23**	**49**	**33.4**	**+2.1**
MALT	**Malatya**	**4.27**	**264**	*e*PN	**Pn**	**23**	**49**	**34.0**	**+2.7**
MALT	**Malatya**	**4.27**	**264**	*e*Pn	**Pn**	**23**	**49**	**34.0**	**+2.7**
QUBA	**Quba, Azerbaij**	**4.35**	**54**	⇑P	Pb	23	49	37.7	-4.6
	SNR=5.6								
QUBA	**Quba, Azerbaij**	**4.35**	**54**	P	Pb	23	49	37.7	-4.6
	SNR=5.6								
ESPY	**Espiye-Giresun**	**4.42**	**299**	*e*PN	**Pn**	**23**	**49**	**35.5**	**+2.2**
ESPY	**Espiye-Giresun**	**4.42**	**299**	*e*Pn	**Pn**	**23**	**49**	**35.5**	**+2.2**
SNGE	**Sanandaj**	**4.71**	**142**	*e*Pn	Pn	23	49	41.2	+3.7
SNGE	**Sanandaj**	**4.71**	**142**	*e*Pn	Pn	23	49	41.2	+3.7
MAK	**Makhachkala**	**4.94**	**33**	*e*P	Pb	23	49	46.4	-5.9
MAK				MLR	MLR				
	comp=Z,484nm,13.0s								
MAK	**Makhachkala**	**4.94**	**33**	*e*P	Pb	23	49	46.4	-5.9
	comp=Z,484nm,13.0s								
DARE	**Darende-Malaty**	**4.97**	**268**	*e*PN	**Pn**	**23**	**49**	**43.8**	**+2.9**
KIV	**Kislovodsk**	**5.14**	**351**	*e*P	**Pn**	**23**	**49**	**43.5**	**+0.3**
KIV				pmax	pmax				
	comp=E,5.0nm,1.0s								
KIV	**Kislovodsk**	**5.14**	**351**	*e*P	**Pn**	**23**	**49**	**43.5**	**+0.3**
	comp=Z,5.0nm,1.0s								
RSDY	**Resadiye-TOKAT**	**5.24**	**289**	*e*PN	**Pn**	**23**	**49**	**47.6**	**+3.1**
RSDY	**Resadiye-TOKAT**	**5.24**	**289**	*e*Pn	**Pn**	**23**	**49**	**47.6**	**+3.1**
SVSK	**Karacayir**	**5.39**	**283**	*e*PN	Pn	23	49	50.0	+3.5
SVSK	**Karacayir**	**5.39**	**283**	*e*Pn	Pn	23	49	50.0	+3.5
BHD	**Baghdad**	**5.62**	**175**	*e*Pn	Pn	23	49	47.0	-2.7
BHD				*e*Sn	**Sn**	**23**	**50**	**51.0**	**-3.8**
KMRS	**Kahramanmaras**	**5.63**	**258**	*e*PN	Pn	23	49	53.6	+3.7
KMRS	**Kahramanmaras**	**5.63**	**258**	*e*Pn	Pn	23	49	53.6	+3.7
SOC	**Sochi**	**5.63**	**328**	*e*P	**Pn**	**23**	**49**	**49.9**	**+0.1**
SOC				*e*		23	50	51.2	
SOC				MLR	MLR				
	comp=Z,327nm,14.0s								
SOC	**Sochi**	**5.63**	**328**	*e*P	**Pn**	**23**	**49**	**49.9**	**+0.1**
	comp=Z,327nm,14.0s								
SOC				*e*S	**Sn**	**23**	**50**	**51.2**	**-3.8**
AYKD	**Aykdinkavak**	**5.72**	**257**	*i* P	**Pg**	**23**	**50**	**11.9**	**-2.9**
AYKD				*i* S	**Sg**	**23**	**51**	**23.5**	**-5.5**
IBDR	**Badra**	**6.00**	**163**	*e*Pn	Pn	23	49	49.0	-6.0
IBDR				*e*Sn	Sn	23	50	57.5	-6.8
BNN	**Bunyan**	**6.23**	**272**	*e*PN	Pn	23	50	01.6	+3.4
BNN	**Bunyan**	**6.23**	**272**	*e*Pn	Pn	23	50	01.6	+3.4
KOZT	**Kozan**	**6.46**	**260**	*e*PN	Pn	23	50	05.2	+4.0
KOZT	**Kozan**	**6.46**	**260**	*e*Pn	Pn	23	50	05.2	+4.0
BRTR	**Keskin Array B**	**7.95**	**279**	P	**Pn**	**23**	**50**	**21.4**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=122,slow=14,SNR=2.9								
BRTR	**Keskin Array B**	**7.95**	**279**	P	**Pn**	**23**	**50**	**21.4**	**-0.4**
ASF	**Jabal al Asfar**	**8.76**	**222**	LR	LR	23	54	22.6	
	comp=Z,156nm,19.1s,baz=328,slow=42								
MMAI	**Mount Meron Ar**	**8.99**	**232**	Pn	**Pn**	**23**	**50**	**34.0**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=75,slow=17,SNR=2.9								
MMAI				LR	LR	23	54	31.1	
	comp=Z,274nm,18.8s,baz=50,slow=42								
MIB	**Mutribah**	**9.51**	**161**	*e*P	**Pn**	**23**	**50**	**42.8**	**-0.3**
MIB				AMb	AMB	23	50	48.2	
	comp=Z,28nm,0.9s					

comp=Z,1.7nm,0.7s,baz=135,slow=13,SNR=4.1
DAVOX **Davos/Dischmat** 25.96 299 P P 23 53 58.3 -0.9
comp=Z,2.0nm,0.7s
KURBB **Kurchatov Arra** 27.05 53 P P 23 54 08.6 0.0
comp=Z,0.5nm,0.3s,baz=266,slow=9.2,SNR=6.7
KURK **Kurchatov** 27.12 53 P P 23 54 08.6 -0.8
KURK pmax pmax
comp=Z,1.0nm,0.3s
KURK **Kurchatov** 27.12 53 P P 23 54 08.6 -0.8
comp=Z,1.0nm,0.3s
MKAR **Makanchi Array** 29.06 62 *ce*P P 23 54 28.0 +1.2
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR **Makanchi Array** 29.06 62 *e*P P 23 54 28.0 +1.2
comp=Z,1.0nm,0.9s
NOA **NORSAR Array B** 29.99 328 LR LR 00 08 24.6
comp=Z,40nm,18.8s,baz=140,slow=40
EKA **Eskdalemuir Ar** 35.19 314 P P 23 55 19.8 -0.5
comp=Z,0.3nm,0.5s,baz=113,slow=7.3,SNR=3.9
EKA **Eskdalemuir Ar** 35.19 314 P P 23 55 19.8 -0.5
ESDC **Sonseca Array** 36.66 287 P P 23 55 31.4 -1.8
comp=Z,0.4nm,0.6s,baz=50,slow=7.6,SNR=4.3
MDT **Midelt** 39.36 276 LR LR 00 14 22.5
comp=Z,45nm,18.9s,baz=359,slow=40
TORD **Torodi Ar. Bea** 45.16 247 P P 23 56 40.4 -3.0
comp=Z,0.7nm,1.0s,baz=37,slow=9.1,SNR=3.4
ULN **Ulaanbaatar** 45.66 57 *i* P P 23 56 46.9 -0.4
CMAR **Chiang Mai Arr** 51.65 97 P P 23 57 33.9 +0.3
comp=Z,0.7nm,0.3s,baz=317,slow=7.8,SNR=3.2
CMAR **Chiang Mai Arr** 51.65 97 P P 23 57 33.9 +0.3
comp=Z,1.0nm,0.3s
YAK **Yakutsk** 54.70 35 *i* P P 23 57 58.5 +3.2
KDAK **Kodiak Island** 82.72 9 *i* P P 00 00 50.6 +0.5

*IDC **05** 23:49:32.8±0.9, 33°.32N×61°.28E, h0km, mb3.9/13, mb1 4.1/14, mb1mx3.9/30, mbtmp3.9/14, ML3.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/41, Error ellipse: s-maj=22.3km s-min=16.3km az=5.0*
*ISCJB **05** 23:49:33.1±0.6, 33°.36N±0°.06×61°.36E±0°.05, h10km, mb3.9/11, MS3.0/1, Error ellipse: s-maj=9.4km s-min=6.4km az=172.5*
*CSEM **05** 23:49:38.8±0.3, 33°.58N×61°.00E, h5km, ML3.3, Error ellipse: s-maj=9.0km s-min=5.1km az=105.0*
*TEH **05** 23:49:40.5, 33°.52N×61°.08E, h27km, ML3.9*
ISC 05 23:49:34.6±0.6, **33°.40N**±0°.06×**61°.29E**±0°.06, **h10km, n40, σ1§17/39, mb3.9/11, Northwestern Afghanistan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHRT	**Shahrakht**	**0.87**	**287**	*e*Pg		**Pg**	**23 49 50.0**	**-1.4**
ITEG	**Tejag**	**2.19**	**257**	*e*Pn		**Pn**	**23 50 12.6**	**+1.3**
ITEG				*e*Sg		**Sg**	**23 50 44.9**	**-0.1**
ITEG				*e*			23 50 49.9	
	comp=Z,4μm,0.2s							
ITEG	**Tejag**	**2.19**	**257**	*e*Pn		**Pn**	**23 50 12.6**	**+1.3**
ITEG				*e*Sg		**Sg**	**23 50 44.9**	**-0.1**
IMYA	**Miami**	**3.09**	**342**	*e*Pn		**Pn**	**23 50 24.8**	**+1.1**
IMYA	**Miami**	**3.09**	**342**	*e*Pn		**Pn**	**23 50 24.8**	**+1.1**
IMOG	**Moghan**	**3.14**	**330**	*e*Pn		**Pn**	**23 50 25.8**	**+1.3**
IMOG	**Moghan**	**3.14**	**330**	*e*Pn		**Pn**	**23 50 25.8**	**+1.3**
TABS	**Tabas**	**3.49**	**275**	*e*Pn		**Pn**	**23 50 31.0**	**+1.9**
IPAY	**Payeh**	**3.58**	**329**	*e*Pn		**Pn**	**23 50 31.9**	**+1.5**
IPAY	**Payeh**	**3.58**	**329**	*e*Pn		**Pn**	**23 50 31.9**	**+1.5**
ZHSF	**Zahedan**	**3.80**	**187**	*e*Pn		**Pb**	**23 50 40.8**	**-1.2**
IAKL	**Akhelmad**	**3.81**	**328**	*e*Pn		**Pn**	**23 50 34.3**	**+0.7**
IAKL				*e*			23 51 41.6	
	comp=Z,3μm,0.5s							
IAKL	**Akhelmad**	**3.81**	**328**	*e*Pn		**Pn**	**23 50 34.3**	**+0.7**
IKRD	**Kardeh**	**4.06**	**327**	*e*Pn		Pn	23 50 33.2	-3.9
IKRD				*e*			23 51 36.0	
	comp=Z,3μm,0.3s							
IKRD	**Kardeh**	**4.06**	**327**	*e*Pn		Pn	23 50 33.2	-3.9
ISFR	**Sfrayin**	**4.53**	**324**	*e*Pn		**Pn**	**23 50 44.4**	**+0.9**
ISFR				*e*			23 52 18.9	
	comp=Z,1μm,0.3s							
IEMG	**Emamgholi**	**4.55**	**332**	*e*Pn		**Pn**	**23 50 45.3**	**+1.5**
IEMG				*e*			23 52 12.8	
	comp=Z,1μm,0.4s							
IEMG	**Emamgholi**	**4.55**	**332**	*e*Pn		**Pn**	**23 50 45.3**	**+1.5**
IBAF	**Bafgh**	**5.16**	**251**	*e*Pn		**Pn**	**23 50 54.3**	**+2.2**
IBAF	**Bafgh**	**5.16**	**251**	*e*Pn		**Pn**	**23 50 54.3**	**+2.2**
BJRD	**Bojnurd**	**5.33**	**325**	*e*Pn		**Pn**	**23 50 54.9**	**+0.5**
AKTO	**Aktyubinsk**	**17.19**	**353**	P		**Pn**	**23 53 33.6**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=173,slow=7.8,SNR=4.2							
ASF	**Jabal al Asfar**	**20.54**	**273**	LR		LR	00 03 42.2	
	comp=Z,59nm,18.9s,baz=356,slow=41							
BVAR	**Borovoye Array**	**20.67**	**16**	P		**P**	**23 54 15.4**	**+0.9**
	comp=Z,4.7nm,0.9s,baz=194,slow=11,SNR=9.6							
MKAR	**Makanchi Array**	**20.82**	**44**	P		**P**	**23 54 16.5**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=235,slow=8.5,SNR=15							
KURBB	**Kurchatov Arra**	**21.36**	**31**	P		**P**	**23 54 23.0**	**+1.0**
	comp=Z,0.9nm,0.2s,baz=230,slow=10,SNR=10							
BRTR	**Keskin Array B**	**23.04**	**294**	P		**P**	**23 54 39.6**	**-0.4**
	comp=Z,3.7nm,0.9s,baz=122,slow=9.0,SNR=13							
ZALV	**Zalesovo Beam**	**26.45**	**32**	P		**P**	**23 55 10.8**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=232,slow=9.3,SNR=5.5							
MLR	**Muntele Rosu**	**29.61**	**305**	P		**P**	**23 55 42.0**	**+1.9**
	comp=Z,0.5nm,0.8s,baz=93,slow=9.4							
FINES	**FINESS Array B**	**36.01**	**332**	P		**P**	**23 56 34.9**	**-0.6**
	comp=Z,3.8nm,1.1s,baz=140,slow=9.9,SNR=8.3							
SONM	**Songino Array**	**36.61**	**53**	P		**P**	**23 56 41.7**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=250,slow=7.5,SNR=7.1							
SONM	**Songino Array**	**36.61**	**53**	P		**P**	**23 56 41.7**	**+0.6**
	comp=Z,1.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**36.77**	**104**	P		**P**	**23 56 42.7**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=292,slow=8.9,SNR=4.8							
KSRS	**Korea Array**	**53.43**	**65**	P		**P**	**23 58 54.9**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=275,slow=6.4,SNR=4.9							
KSRS	**Korea Array**	**53.43**	**65**	P		**P**	**23 58 54.9**	**+0.2**
	comp=Z,1.0nm,0.5s							
TORD	**Torodi Ar. Bea**	**57.57**	**264**	P		**P**	**23 59 24.2**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=45,slow=6.1,SNR=13							
WRA	**Warramunga Arr**	**87.50**	**116**	P		**P**	**00 02 22.1**	**-0.8**
	comp=Z,2.3nm,0.9s,baz=318,slow=4.4,SNR=13							
WRA	**Warramunga Arr**	**87.50**	**116**	P		**P**	**00 02 22.1**	**-0.8**
	comp=Z,2.0nm,0.9s							
ASAR	**Alice Springs**	**89.40**	**119**	P		**P**	**00 02 31.1**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=302,slow=4.6,SNR=10							
ASAR	**Alice Springs**	**89.40**	**119**	P		**P**	**00 02 31.2**	**-0.6**
	comp=Z,1.0nm,0.7s							

*IDC **05** 23:53:14.6±2.0, 33°.87N×25°.30E, h0km, mb3.7/6, mb1 3.7/10, mb1mx3.6/29, mbtmp3.6/10, ML3.4/4, MS2.6/2, Ms1 2.6/2, ms1mx2.3/36, Error ellipse: s-maj=49.2km s-min=21.9km az=11.0*
*ATH **05** 23:53:15.4, 33°.91N×25°.25E, h13km±2km, MD3.5/14*
*ISCJB **05** 23:53:17.0±0.4, 34°.00N±0°.03×25°.53E±0°.04, h17km, mb3.6/6, Error ellipse: s-maj=6.1km s-min=4.0km az=140.5*
*CSEM **05** 23:53:17.1±0.2, 34°.00N×25°.26E, h2km, MD3.5, Error ellipse: s-maj=8.3km s-min=3.9km az=70.0*
*HLW **05** 23:53:18.2, 34°.20N×25°.55E, h29km±16km, Md3.0, Ml3.2*
ISC 05 23:53:17.8±0.7, **34°.00N**±0°.04×**25°.38E**±0°.04, **h17km, n60, σ1§10/65, mb3.8/6, Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.11**	**335**	*e*PB		**Pb**	**23 53 37.4**	**-1.2**
SIVA				*e*SB		**Sg**	**23 53 53.8**	**-0.2**
SIVA	**Sivas**	**1.11**	**335**	*e*Pb		**Pb**	**23 53 37.4**	**-1.2**
SIVA				*e*Sb		**Sg**	**23 53 53.8**	**-0.2**
NPS	**Neapolis**	**1.27**	**9**	*e*PG		**Pb**	**23 53 41.3**	**-0.1**
NPS				*e*SB		**Sg**	**23 53 59.8**	**+0.8**
NPS	**Neapolis**	**1.27**	**9**	*e*Pg		**Pb**	**23 53 41.3**	**-0.1**
NPS				*e*Sb		**Sg**	**23 53 59.8**	**+0.8**
IDI	**Anoyia**	**1.34**	**343**	*e*PG		**Pn**	**23 53 41.6**	**-0.3**
IDI	**Anoyia**	**1.34**	**343**	*e*Pg		**Pn**	**23 53 41.6**	**-0.3**
VAM	**Vamos**	**1.70**	**326**	*e*PG		**Pb**	**23 53 48.1**	**-0.6**
VAM	**Vamos**	**1.70**	**326**	*e*Pg		**Pb**	**23 53 48.1**	**-0.6**
KARP	**Karpathos**	**2.13**	**43**	*e*PN		**Pb**	**23 53 55.1**	**-0.9**
KARP	**Karpathos**	**2.13**	**43**	*e*Pn		**Pb**	**23 53 55.1**	**-0.9**
SANT	**Santorini**	**2.36**	**2**	*e*PN		**Pn**	**23 53 57.9**	**+2.0**
SANT	**Santorini**	**2.36**	**2**	*e*Pn		**Pn**	**23 53 57.9**	**+2.0**
SLUM		**2.51**	**183**	P		**Pn**	**23 53 59.3**	**+1.4**
KYTH	**Kithira**	**2.97**	**321**	*e*PB		**Pn**	**23 54 05.4**	**+1.2**
KYTH	**Kithira**	**2.97**	**321**	*e*Pb		**Pn**	**23 54 05.4**	**+1.2**
APE	**Apeiranthos**	**3.06**	**2**	*e*P		**Pn**	**23 54 06.0**	**+0.5**
APE	**Apeiranthos**	**3.06**	**2**	*e*PN		**Pn**	**23 54 07.3**	**+1.8**
APE	**Apeiranthos**	**3.06**	**2**	*e*Pn		**Pn**	**23 54 07.3**	**+1.8**
ARG	**Arkhangelos**	**3.15**	**45**	*e*PN		**Pn**	**23 54 09.6**	**+2.9**
ARG	**Arkhangelos**	**3.15**	**45**	*e*Pn		**Pn**	**23 54 09.6**	**+2.9**
HMAT	**Matruh**	**3.25**	**153**	P		**Pn**	**23 54 08.8**	**+0.8**
	baz=156							
HMAT				AMP			23 54 00.0	
	comp=E,90μm,0.6s,logA/T=5.2,baz=156							
HMAT				S		**Sn**	**23 54 46.6**	**+0.4**
	baz=156							
HMAT	**Matruh**	**3.25**	**153**	P		**Pn**	**23 54 08.8**	**+0.8**
HMAT				S		**Sn**	**23 54 46.7**	**+0.4**
DAT	**Datca**	**3.26**	**33**	*e*P		**Pn**	**23 54 07.5**	**-0.8**
VLI	**Veliai**	**3.36**	**324**	*e*PN		**Pn**	**23 54 10.1**	**+0.5**
VLI	**Veliai**	**3.36**	**324**	*e*Pn		**Pn**	**23 54 10.1**	**+0.5**
MLSB	**Milas**	**3.82**	**30**	*e*P		**Pn**	**23 54 16.2**	**+0.2**
DALY	**Dalyan (Mu˘la**	**3.88**	**43**	*e*P		**Pn**	**23 54 16.2**	**-0.5**
DID	**Didima**	**3.90**	**334**	*e*PN		**Pn**	**23 54 17.8**	**+0.7**
DID	**Didima**	**3.90**	**334**	*e*Pn		**Pn**	**23 54 17.8**	**+0.7**
FETY	**Fethiye**	**4.01**	**48**	*e*P		**Pn**	**23 54 17.9**	**-0.6**
VLX	**Vlachokerasia**	**4.15**	**325**	*e*PN		**Pn**	**23 54 21.6**	**+1.1**
VLX	**Vlachokerasia**	**4.15**	**325**	*e*Pn		**Pn**	**23 54 21.6**	**+1.1**
ITM	**Ithomi**	**4.23**	**319**	*e*PN		**Pn**	**23 54 22.5**	**+0.9**
ITM	**Ithomi**	**4.23**	**319**	*e*Pn		**Pn**	**23 54 22.5**	**+0.9**
GUR	**Goura**	**4.63**	**329**	*e*PN		**Pn**	**23 54 28.0**	**+0.9**
GUR	**Goura**	**4.63**	**329**	*e*Pn		**Pn**	**23 54 28.0**	**+0.9**
SWA2		**4.75**	**179**	P		**Pn**	**23 54 30.1**	**+1.5**
	baz=181							
SWA2		**4.75**	**179**	P		**Pn**	**23 54 30.1**	**+1.5**
ANTB	**Antalya**	**5.19**	**55**	*e*P		**Pn**	**23 54 34.5**	**-0.2**
KHL	**Karahalli**	**5.46**	**37**	*e*P		**Pn**	**23 54 39.7**	**+1.2**
SUTC	**Sutluce-Ispart**	**5.74**	**51**	*e*P		**Pn**	**23 54 42.4**	**0.0**
SHUT	**Suhut-Afyon**	**6.17**	**41**	*e*P		**Pn**	**23 54 49.3**	**+1.0**
GELI	**Tayfur-Gelibol**	**6.44**	**8**	*e*P		**Pn**	**23 54 53.6**	**+1.7**
HDMB	**Hadim**	**6.51**	**61**	*e*P		**Pn**	**23 54 53.3**	**+0.2**
CSS	**Prodhromos**	**6.64**	**79**	*e*P		**Pn**	**23 54 54.5**	**-0.2**
KONT	**Konya--Tatoy**	**6.89**	**53**	*e*P		**Pn**	**23 54 58.9**	**+0.8**
IKL	**Isikli**	**7.17**	**70**	*e*P		**Pn**	**23 55 01.6**	**-0.3**
AMAG	**Maghara**	**7.43**	**115**	P		**Pn**	**23 55 04.2**	**-1.3**
	baz=116							
MMAI	**Mount Meron Ar**	**8.43**	**94**	Pn		**Pn**	**23 55 17.9**	**-1.4**
	comp=E,0.5nm,0.3s,baz=296,slow=9.8,SNR=4.5							
MMAI				Sn		**Sn**	**23 56 52.1**	**-2.0**
	comp=E,1.2nm,0.3s,baz=266,slow=22,SNR=4.5							
BRTR	**Keskin Array B**	**8.74**	**47**	Pn		**Pn**	**23 55 23.6**	**0.0**
	comp=E,0.0nm,0.3s,baz=258,slow=7.2,SNR=2.6							
EIL	**Elat**	**9.22**	**115**	Pn		**Pn**	**23 55 29.1**	**-0.9**
	comp=E,0.5nm,0.3s,baz=3.2,slow=20,SNR=12							
MLR	**Muntele Rosu**	**11.48**	**2**	LR		LR	00 01 07.0	
	comp=E,29nm,19.1s,baz=337,slow=41							
VRAC	**Vranov**	**16.62**	**340**	LR		LR	00 04 09.9	
	comp=E,21nm,20.0s,baz=139,slow=39							
GERES	**GERESS Array B**	**17.19**	**333**	P		**Pn**	**23 57 17.9**	**+0.7**
	comp=E,0.1nm,0.3s,baz=152,slow=12,SNR=10							
ESDC	**Sonseca Array**	**24.09**	**292**	P		**P**	**23 58 31.6**	**-0.9**
	comp=E,0.2nm,0.4s,baz=80,slow=9.2,SNR=6.0							
KURBB	**Kurchatov Arra**	**41.72**	**50**	P		**P**	**00 01 06.3**	**+0.7**
	comp=E,1.5nm,0.8s,baz=279,slow=8.8,SNR=11							
MKAR	**Makanchi Array**	**44.27**	**56**	P		**P**	**00 01 27.0**	**+0.6**
	comp=E,1.9nm,0.6s,baz=278,slow=6.3,SNR=27							
ZALV	**Zalesovo Beam**	**45.68**	**45**	P		**P**	**00 01 37.0**	**-0.5**
	comp=E,1.0nm,0.5s,baz=266,slow=8.5,SNR=4.8							
SONM	**Songino Array**	**60.09**	**50**	P		**P**	**00 03 25.0**	**+0.9**
	comp=E,0.4nm,0.5s,baz=289,slow=9.0,SNR=3.1							
ILAR	**Eielson Array**	**81.36**	**357**	P		**P**	**00 05 33.3**	**+0.1**
	comp=E,0.4nm,0.6s,baz=353,slow=4.9,SNR=5.0							

*ISCJB **05** 23:59:23.9±0.7, 39°.43N±0°.02×9°.31W±0°.05, h3km±3km, Error ellipse: s-maj=6.2km s-min=2.7km az=2.7*
*CSEM **05** 23:59:25.4±0.2, 39°.40N×9°.29W, h10km, ML2.4/16, Error ellipse: s-maj=5.0km s-min=2.2km az=92.0*
*MDD **05** 23:59:26.7±0.6, 39°.38N×9°.26W, h5km±4km, mbLg1.7/16, Error ellipse: s-maj=5.6km s-min=3.6km az=106.0, PRXIMO*
*INMG **05** 23:59:26.5±1.2, 39°.40N×9°.30W, h1km±2km, ML1.7, Error ellipse: s-maj=4.1km s-min=1.5km az=93.0*
*IGIL **05** 23:59:27.2, 39°.39N×9°.30W, h1km, ML1.7*
ISC 05 23:59:26.2±1.1, **39°.39N**±0°.02×**9°.31W**±0°.03, **h14km**±8km, **n79, σ0§99/143, 1C, Portugal**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**0.43**	**177**	*i* Pg		**Pg**	**23 59 34.5**	**-0.3**
PMAFR				*e*Sg		**Sg**	**23 59 40.5**	**-0.2**
PMAFR				*e*		A	23 59 41.9	
	70nm,0.2s							
PMAFR	**Mafra**	**0.43**	**177**	⇑Pg		**Pg**	**23 59 34.5**	**-0.3**
	4.2nm,0.1s,SNR=18							
PMAFR				Lg		Lg	23 59 40.4	
	92nm,0.1s,SNR=32							
PMAFR	**Mafra**	**0.43**	**177**	Pg		**Pg**	**23 59 34.5**	**-0.3**
	4.2nm,0.1s,SNR=18							
PMAFR				Lg		Lg	23 59 40.4	
	92nm,0.1s,SNR=32							
PMAFR				*e*Sg		**Sg**	**23 59 40.5**	**-0.2**
	70nm,0.2s							
ALMR	**Almeirim**	**0.61**	**112**	*e*P		**Pg**	**23 59 38.0**	**-0.2**
ALMR				*e*S		**Sg**	**23 59 46.1**	**-0.2**
ALMR				*e*	AML	AML	23 59 50.3	
	comp=N,26nm,0.1s							
ALMR	**Almeirim**	**0.61**	**112**	*e*P		**Pg**	**23 59 38.0**	**-0.2**
ALMR				*e*S		**Sg**	**23 59 46.1**	**-0.2**
ALMR	**Almeirim**	**0.61**	**112**	P		**Pg**	**23 59 38.0**	**-0.2**
ALMR				S		**Sg**	**23 59 46.1**	**-0.2**
ALMR	**Almeirim**	**0.61**	**112**	P		**Pg**	**23 59 38.0**	**-0.2**
ALMR				S		**Sg**	**23 59 46.1**	**-0.2**
LIS	**Lisbon**	**0.68**	**169**	*e*P		**Pg**	**23 59 39.6**	**+0.1**
LIS				*e*S		**Sg**	**23 59 48.3**	**-0.2**
LIS				*e*	AML	AML	23 59 49.3	
	comp=E,35nm,0.1s							
LIS	**Lisbon**	**0.68**	**169**	*e*P		**Pg**	**23 59 39.6**	**+0.1**
LIS				*e*S		**Sg**	**23 59 48.3**	**-0.2**
LIS	**Lisbon**	**0.68**	**169**	P		**Pg**	**23 59 39.6**	**+0.1**
LIS				S		**Sg**	**23 59 48.3**	**-0.2**
LIS	**Lisbon**	**0.68**	**169**	*e*P		**Pg**	**23 59 39.6**	**+0.1**
LIS				*e*S		**Sg**	**23 59 48.3**	**-0.2**
PMTG	**Montargil**	**0.90**	**110**	*e*P		**Pg**	**23 59 43.1**	**-0.5**
PMTG				*e*S		**Sg**	**23 59 55.3**	**-0.1**
PMTG				*e*		A	23 59 57.2	
	comp=E,14nm,0.1s							
PMTG	**Montargil**	**0.90**	**110**	*e*P		**Pg**	**23 59 43.1**	**-0.5**
PMTG				*e*S		**Sg**	**23 59 55.3**	**-0.1**
	comp=E,14nm,0.1s							
MOE	**Montemor**	**1.14**	**139**	*e*P		**Pg**	**23 59 47.3**	**-0.9**
MOE				*e*S		**Sg**	**00 00 02.2**	**-0.9**
MOE	**Montemor**	**1.14**	**139**	P		**Pg**	**23 59 47.3**	**-0.9**
MOE				S		**Sg**	**00 00 02.2**	**-0.9**
MOE	**Montemor**	**1.14**	**139**	P		**Pg**	**23 59 47.3**	**-0.9**
MOE				S		**Sg**	**00 00 02.2**	**-0.9**
EVO	**Evora**	**1.32**	**130**	*e*P		**Pn**	**23 59 50.3**	**0.0**
EVO				*e*S		**Sg**	**00 00 07.8**	**-1.1**
EVO				*e*		A	00 00 10.7	
	comp=E,9.8nm,0.3s							
EVO	**Evora**	**1.32**	**130**	P		**Pn**	**23 59 50.3**	**0.0**
EVO				S		**Sg**	**00 00 07.8**	**-1.1**
	comp=E,9.8nm,0.3s							
EVO	**Evora**	**1.32**	**130**	P		**Pn**	**23 59 50.3**	**0.0**
EVO				*e*S		**Sg**	**00 00 07.8**	**-1.1**
	comp=E,9.8nm,0.3s							
PNCL	**Nicolau / Gran**	**1.41**	**154**	*e*P		**Pn**	**23 59 52.4**	**+0.9**
PNCL				*e*S		**Sb**	**00 00 10.2**	**0.0**
PNCL				*e*		A	00 00 12.8	
	comp=E,7.1nm,0.1s							
PNCL	**Nicolau / Gran**	**1.41**	**154**	*e*P		**Pn**	**23 59 52.4**	**+0.9**
PNCL				*e*S		**Sb**	**00 00 10.2**	**0.0**
	comp=E,7.1nm,0.1s							
PESTR	**Estremoz**	**1.44**	**111**	*e*P		**Pn**	**23 59 52.1**	**+0.3**
PESTR				*e*S		**Sb**	**00 00 10.8**	**-0.1**
PESTR				*e*		A	00 00 14.2	
	comp=E,4.7nm,0.4s							
PESTR	**Estremoz**	**1.44**	**111**	P		**Pn**	**23 59 52.1**	**+0.3**
PESTR				S		**Sb**	**00 00 10.8**	**-0.1**
	comp=E,4.7nm,0.4s							
PESTR	**Estremoz**	**1.44**	**111**	P		**Pn**	**23 59 52.1**	**+0.3**
PESTR				*e*S		**Sb**	**00 00 10.8**	**-0.1**
	comp=E,4.7nm,0.4s							
PCBR	**Castelo Branco**	**1.48**	**72**	*e*P		**Pn**	**23 59 52.5**	**0.0**
PCBR				*e*S		**Sn**	**00 00 12.4**	**+0.7**
PCBR				*e*		A	00 00 13.7	
	comp=E,5.9nm,0.3s							
PCBR	**Castelo Branco**	**1.48**	**72**	P		**Pn**	**23 59 52.5**	**0.0**
PCBR				S		**Sn**	**00 00 12.4**	**+0.7**
	comp=E,3.0nm,0.3s							
PCBR	**Castelo Branco**	**1.48**	**72**	P		**Pn**	**23 59 52.5**	**0.0**
PCBR				*e*S		**Sn**	**00 00 12.4**	**+0.7**
	comp=E,5.9nm,0.3s							
PMRV	**Marv??o**	**1.49**	**88**	*e*Pn		**Pn**	**23 59 52.2**	**-0.3**
PMRV				*e*Sn		**Sn**	**00 00 12.5**	**+0.7**
PMRV				*e*		A	00 00 13.7	
	comp=E,6.3nm,0.2s							
PMRV	**Marv??o**	**1.49**	**88**	Pn		**Pn**	**23 59 52.2**	**-0.3**
PMRV				Sn		**Sn**	**00 00 12.5**	**+0.7**
	comp=E,6.3nm,0.2s							
PMRV	**Marv??o**	**1.49**	**88**	Pn		**Pn**	**23 59 52.2**	**-0.3**
PMRV				*e*Sn		**Sn**	**00 00 12.5**	**+0.7**
	comp=E,6.3nm,0.2s							
MTE	**Manteigas**	**1.69**	**53**	*e*Sn		**Sn**	**00 00 17.2**	**+0.3**
MTE				*e*		A	00 00 22.5	
	comp=E,5.0nm,0.3s							
MTE	**Manteigas**	**1.69**	**53**	Sn		**Sn**	**00 00 17.2**	**+0.3**
	comp=E,2.5nm,0.3s							
MTE	**Manteigas**	**1.69**	**53**	*e*Sn		**Sn**	**00 00 17.2**	**+0.3**
	comp=E,5.0nm,0.3s							
PVIS	**Viseu**	**1.71**	**39**	*e*Pn		**Pn**	**23 59 55.7**	**0.0**
PVIS				*e*Sg		**Sb**	**00 00 20.2**	**+1.3**
PVIS				*e*		A	00 00 25.0	
	comp=E,6.1nm,0.3s							
PVIS	**Viseu**	**1.71**	**39**	Pn		**Pn**	**23 59 55.7**	**0.0**
PVIS				Lg		Lg	00 00 20.2	
	comp=E,3.1nm,0.3s							
PVIS	**Viseu**	**1.71**	**39**	Pn		**Pn**	**23 59 55.7**	**0.0**
PVIS				*e*Sg		**Sb**	**00 00 20.2**	**+1.3**
	comp=E,6.1nm,0.3s							
PBEJ	**Beja**	**1.77**	**140**	*e*Pg		**Pb**	**23 59 59.1**	**+0.7**
PBEJ				*e*Sg		**Sn**	**00 00 20.4**	**+1.7**
PBEJ				*e*		A	00 00 22.6	
	comp=E,2.7nm,0.6s							
PBEJ	**Beja**	**1.77**	**140**	Pg		**Pb**	**23 59 59.1**	**+0.7**
PBEJ				Lg		Lg	00 00 20.4	
	comp=E,1.4nm,0.6s							
PBEJ	**Beja**	**1.77**	**140**	Pg		**Pb**	**23 59 59.1**	**+0.7**
PBEJ				*e*Sg		**Sn**	**00 00 20.4**	**+1.7**
	comp=E,2.7nm,0.6s							
EBAD	**Badajoz**	**1.90**	**109**	Pn		**Pn**	**23 59 56.5**	**-1.6**
	comp=E,0.1nm,0.1s,SNR=7.9							
EBAD				Pg		**Pn**	**23 59 59.8**	**+1.7**
	comp=E,0.9nm,0.1s,SNR=12							
EBAD				Sn		**Sn**	**00 00 20.8**	**-1.0**
	comp=E,0.8nm,0.2s,SNR=9.9							
EBAD				Lg		Lg	00 00 24.0	
	comp=E,3.4nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**1.90**	**109**	Pn		**Pn**	**23 59 56.5**	**-1.6**
	comp=E,0.1nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**1.90**	**109**	Pn		**Pn**	**23 59 59.8**	**+1.7**
	comp=E,0.9nm,0.1s,SNR=12							
EBAD				Sn		**Sn**	**00 00 20.8**	**-1.0**
	comp=E,0.8nm,0.2s,SNR=9.9							
EBAD				Lg		Lg	00 00 24.0	
	comp=E,3.4nm,0.2s,SNR=7.9							
PTEO	**Sao Teotonio**	**1.90**	**166**	*e*Sg		**Sb**	**00 00 25.1**	**+0.9**
PTEO				*e*		A	00 00 38.6	
	comp=E,8.4nm,0.7s							
PTEO	**Sao Teotonio**	**1.90**	**166**	Lg		Lg	00 00 25.1	
	comp=E,4.2nm,0.7s							
PTEO	**Sao Teotonio**	**1.90**	**166**	*e*Sg		**Sb**	**00 00 25.1**	**+0.9**
	comp=E,8.4nm,0.7s							
PCVE	**Castro Verde**	**2.02**	**150**	*e*Pn		**Pn**	**23 59 59.7**	**-0.1**
PCVE				*e*Sg		**Sb**	**00 00 29.5**	**+1.9**
PCVE				*e*		A	00 00 33.6	
	comp=E,3.3nm,0.4s							
**

PGAV				*e*Sg	**Sb**	**00 00 49.5 +2.4**
PGAV				A	A	00 00 57.1
	comp=E,3.4nm,0.5s								
PGAV	**Gavieira, Arco**	**2.69**	**17**	*e*Pn	**Pn**	**00 00 08.8 -0.4**
PGAV				*e*Sn	**Sn**	**00 00 38.9 -2.7**
PGAV				*e*Sg	**Sb**	**00 00 49.5 +2.4**
	comp=E,3.4nm,0.5s								
PBRG	**Braganca**	**3.10**	**38**	*e*Pn	**Pn**	**00 00 14.6 -0.2**
PBRG				*e*Sn	**Sn**	**00 00 50.2 -1.6**
PBRG				A	A	00 01 15.8
	comp=E,1.5nm,0.7s								
PBRG	**Braganca**	**3.10**	**38**	Pn	**Pn**	**00 00 14.6 -0.2**
PBRG				Sn	**Sn**	**00 00 50.2 -1.6**
	comp=E,0.8nm,0.7s								
PBRG	**Braganca**	**3.10**	**38**	Pn	**Pn**	**00 00 14.6 -0.2**
PBRG				*e*Sn	**Sn**	**00 00 50.2 -1.6**
	comp=E,1.5nm,0.7s								
ECAL	**Calabor**	**3.21**	**37**	Pn	**Pn**	**00 00 15.8 -0.5**
	comp=E,0.7nm,0.1s,SNR=7.9								
ECAL				Sn	**Sn**	**00 00 52.4 -2.1**
	comp=E,1.2nm,0.2s,SNR=7.9								
ECAL				Lg	Lg	00 01 08.3
	comp=E,2.1nm,0.3s,SNR=7.9								
ECAL	**Calabor**	**3.21**	**37**	Pn	**Pn**	**00 00 15.8 -0.5**
	comp=E,0.7nm,0.1s,SNR=7.9								
ECAL				Sn	**Sn**	**00 00 52.4 -2.1**
	comp=E,1.2nm,0.2s,SNR=7.9								
ECAL				Lg	Lg	00 01 08.3
	comp=E,2.1nm,0.3s,SNR=7.9								

LDG **06** *00:00:25.6±0.4, 31°.72N×5°.80W, h30km, Ml3.5/4, Error ellipse: s-maj=8.9km s-min=6.7km az=131.0*
IDC **06** *00:00:25.7±1.1, 31°.92N×6°.05W, h0km, mb3.8/5, mb1 3.8/8, mb1mx3.6/31, mbtmp3.7/8, ML4.3/1, Error ellipse: s-maj=28.1km s-min=14.1km az=133.0*
CNRM **06** *00:00:28.5, 31°.92N×5°.97W, h2km, MD4.0*
NEIC **06** *00:00:28.3±1.1, 32°.00N×6°.08W, h17km±7km, mb4.5/1, Error ellipse: s-maj=7.3km s-min=5.9km az=105.0*
CRAAG **06** *00:00:29.0, 32°.14N×6°.24W, Mb4.4*
MDD **06** *00:00:29.5±0.7, 32°.01N×6°.04W, h15km±4km, mb4.4/33, Error ellipse: s-maj=6.2km s-min=4.0km az=142.0, PRXIMO*
INMG **06** *00:00:29.1±2.4, 32°.17N×6°.19W, h1km±12km, ML3.2, Error ellipse: s-maj=8.9km s-min=5.9km az=157.0*
CSEM **06** *00:00:29.1±0.2, 32°.11N×6°.15W, h15km, mb4.5/1, ML4.1/19, Error ellipse: s-maj=4.9km s-min=3.5km az=132.0*

ISC 06 00:00:29.9±0.9, **32°.12N**±0°.03×**6°.11W**±0°.03, **h30**km±8km, **n288**, **n**1**s32**/383, **mb3.8**/6, **5C, Morocco**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
TZC	**Tazercounte**	**0.33**	**276**	*i* P	**Pb**	**00 00 37.0**	**-0.8**
TZC				*i* S	**Sn**	**00 00 44.0**	**-0.6**
TZC	**Tazercounte**	**0.33**	**276**	P	**Pb**	**00 00 37.0**	**-0.8**
TZC				S	**Sn**	**00 00 44.0**	**-0.6**
TZC	**Tazercounte**	**0.33**	**276**	*i* P	**Pb**	**00 00 37.0**	**-0.8**
TZC				*i* S	**Sn**	**00 00 44.0**	**-0.6**
KIB	**El Ksiba**	**0.46**	**7**	*i* P	**Pb**	**00 00 39.0**	**-0.8**
KIB				*i* S	**Sn**	**00 00 49.0**	**+1.2**
KIB	**El Ksiba**	**0.46**	**7**	P	**Pb**	**00 00 40.0**	**+0.2**
KIB				S	**Sn**	**00 00 49.0**	**+1.2**
KIB	**El Ksiba**	**0.46**	**7**	*i* P	**Pb**	**00 00 39.0**	**-0.8**
KIB				*i* S	**Sn**	**00 00 49.0**	**+1.2**
CZD	**Col de Zad**	**1.28**	**44**	*i* P	**Pn**	**00 00 52.0**	**0.0**
CZD				*i* S	**Sb**	**00 01 10.0**	**+0.2**
CZD	**Col de Zad**	**1.28**	**44**	P	**Pn**	**00 00 52.0**	**0.0**
CZD				S	**Sb**	**00 01 10.0**	**+0.2**
CZD	**Col de Zad**	**1.28**	**44**	*i* P	**Pn**	**00 00 52.0**	**0.0**
CZD				*i* S	**Sb**	**00 01 10.0**	**+0.2**
MDT	**Midelt**	**1.44**	**61**	Pn	**Pn**	**00 00 53.1**	**-1.0**
MDT				Lg	Lg	00 01 14.5	
MDT	**Midelt**	**1.44**	**61**	Pn	**Pn**	**00 00 53.1**	**-1.0**
	220nm,0.3s,baz=231,slow=12,SNR=4102						
MDT				Pg	**Pb**	**00 00 54.4**	**-1.8**
	204nm,0.3s,baz=244,slow=7.3,SNR=4020						
MDT				Lg	Lg	00 01 14.5	
	439nm,0.3s,baz=27,slow=9.5,SNR=37						
MDT	**Midelt**	**1.44**	**61**	Pn	**Pn**	**00 00 53.1**	**-1.0**
MDT				Lg	Lg	00 01 14.5	
MIF	**Mishlifen**	**1.49**	**30**	*i* P	**Pb**	**00 00 56.0**	**-1.0**
MIF				*i* S	**Sb**	**00 01 17.0**	**+1.4**
MIF	**Mishlifen**	**1.49**	**30**	P	**Pb**	**00 00 56.0**	**-1.0**
MIF				S	**Sb**	**00 01 17.0**	**+1.4**
MIF	**Mishlifen**	**1.49**	**30**	*i* P	**Pb**	**00 00 56.0**	**-1.0**
MIF				*i* S	**Sb**	**00 01 17.0**	**+1.4**
ZFT	**Errachidia**	**1.49**	**93**	*i* P	**Pn**	**00 00 53.0**	**-1.9**
ZFT				*i* S	**Sn**	**00 01 12.0**	**-1.5**
ZFT	**Errachidia**	**1.49**	**93**	P	**Pn**	**00 00 53.0**	**-1.9**
ZFT				S	**Sn**	**00 01 12.0**	**-1.5**
ZFT	**Errachidia**	**1.49**	**93**	P	**Pn**	**00 00 53.0**	**-1.9**
ZFT				S	**Sn**	**00 01 12.0**	**-1.5**
OUK	**Oukaimeden**	**1.75**	**239**	P	**Pn**	**00 00 59.0**	**+0.5**
OUK				S	**Sn**	**00 01 21.0**	**+1.0**
OUK	**Oukaimeden**	**1.75**	**239**	P	**Pn**	**00 00 59.0**	**+0.5**
OUK				S	**Sn**	**00 01 21.0**	**+1.0**
RTC	**Rabat Centre**	**1.97**	**342**	*e*Pn	**Pn**	**00 01 03.2**	**+2.0**
RTC				*e*Sn	**Sb**	**00 01 28.6**	**-0.6**
RTC	**Rabat Centre**	**1.97**	**342**	*e*Pn	**Pn**	**00 01 03.2**	**+2.0**
RTC				*e*Sn	**Sb**	**00 01 28.6**	**-0.6**
TGT	**Taghat**	**2.14**	**24**	*i* P	**Pb**	**00 01 06.0**	**-2.0**
TGT				*i* S	**Sn**	**00 01 32.0**	**+2.8**
TGT	**Taghat**	**2.14**	**24**	*i* P	**Pb**	**00 01 06.0**	**-2.0**
TGT				*i* S	**Sn**	**00 01 32.0**	**+2.8**
CIA	**Chichaoua**	**2.32**	**257**	S	**Sn**	**00 01 35.0**	**+1.4**
CIA	**Chichaoua**	**2.32**	**257**	S	**Sn**	**00 01 35.0**	**+1.4**
TZK	**Tazeka**	**2.54**	**39**	*i* P	**Pb**	**00 01 13.0**	**-2.0**
TZK				*i* S	**Sn**	**00 01 41.0**	**+1.6**
TZK	**Tazeka**	**2.54**	**39**	*i* P	**Pb**	**00 01 13.0**	**-2.0**
TZK				*i* S	**Sn**	**00 01 41.0**	**+1.6**
DKH	**Dar Kharkhour**	**3.42**	**10**	P	Pn	00 01 25.0	+3.7
DKH	**Dar Kharkhour**	**3.42**	**10**	P	Pn	00 01 25.0	+3.7
DKH				*i* S	**Sn**	**00 02 06.0**	**+5.1**
TOU	**Touzarine**	**3.45**	**34**	S	**Sn**	**00 02 03.0**	**+1.3**
TOU	**Touzarine**	**3.45**	**34**	P	Pn	**00 01 24.0**	**+2.3**
TOU	**Touzarine**	**3.45**	**34**	P	Pn	**00 01 24.0**	**+2.3**
TOU				*i* S	**Sn**	**00 02 03.0**	**+1.3**
MPAL	**Palemas**	**3.59**	**30**	P	**Pn**	**00 01 25.0**	**+1.5**
MPAL				S	**Sn**	**00 02 08.0**	**+3.1**
MPAL	**Palemas**	**3.59**	**30**	P	**Pn**	**00 01 25.0**	**+1.5**
MPAL				S	**Sn**	**00 02 08.0**	**+3.1**
YBT	**Youssef Ben Ta**	**3.69**	**233**	P	**Pn**	**00 01 26.0**	**+1.2**
YBT				S	**Sn**	**00 02 07.0**	**-0.3**
YBT	**Youssef Ben Ta**	**3.69**	**233**	P	**Pn**	**00 01 26.0**	**+1.2**
YBT				S	**Sn**	**00 02 07.0**	**-0.3**
ECEU	**Ceuta**	**3.82**	**9**	P	Pn	00 01 30.7	+4.0
	5.5nm,0.1s,SNR=7.9						
ECEU	**Ceuta**	**3.82**	**9**	P	Pn	00 01 30.7	+4.0
	5.5nm,0.1s,SNR=7.9						
ZAI	**Zaio**	**4.00**	**44**	S	**Sn**	**00 02 16.0**	**+1.0**
ZAI	**Zaio**	**4.00**	**44**	P	**Pn**	**00 01 30.0**	**+0.8**
ZAI	**Zaio**	**4.00**	**44**	P	**Pn**	**00 01 30.0**	**+0.8**
ZAI				*i* S	**Sn**	**00 02 16.0**	**+1.0**
ESPR	**Espera**	**4.75**	**2**	P	**Pn**	**00 01 40.8**	**+1.4**
ESPR				S	**Sn**	**00 02 32.2**	**-1.1**
ESPR	**Espera**	**4.75**	**2**	P	**Pn**	**00 01 40.8**	**+1.4**
	1.5nm,0.1s,SNR=9.0						
ESPR				S	**Sn**	**00 02 32.2**	**-1.1**
	17nm,0.3s						
ESPR	**Espera**	**4.75**	**2**	P	**Pn**	**00 01 40.8**	**+1.4**
	1.5nm,0.1s,SNR=9.0						
ESPR				S	**Sn**	**00 02 32.2**	**-1.1**
	17nm,0.3s						
LIJA	**Lijar**	**4.81**	**7**	P	**Pn**	**00 01 41.2**	**+0.8**
LIJA	**Lijar**	**4.81**	**7**	P	**Pn**	**00 01 41.2**	**+0.8**
EGUA	**Guajares**	**5.15**	**23**	P	**Pn**	**00 01 45.1**	**+0.1**
EGUA				S	**Sn**	**00 02 43.9**	**+0.5**
EGUA	**Guajares**	**5.15**	**23**	P	**Pn**	**00 01 45.1**	**+0.1**
	11nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**00 02 43.9**	**+0.5**
	44nm,0.6s,SNR=7.9						
EGUA	**Guajares**	**5.15**	**23**	P	**Pn**	**00 01 45.1**	**+0.1**
	11nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**00 02 43.9**	**+0.5**
	44nm,0.6s,SNR=7.9						
ERON	**Agron**	**5.25**	**21**	P	**Pn**	**00 01 47.5**	**+1.1**
ERON				S	**Sn**	**00 02 45.0**	**-0.9**
ERON	**Agron**	**5.25**	**21**	P	**Pn**	**00 01 47.5**	**+1.1**
	3.2nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**00 02 45.0**	**-0.9**
	2.8nm,0.3s,SNR=7.9						
ERON	**Agron**	**5.25**	**21**	P	**Pn**	**00 01 47.5**	**+1.1**
	3.2nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**00 02 45.0**	**-0.9**
	2.8nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**5.27**	**17**	P	**Pn**	**00 01 47.6**	**+0.9**
ELOJ				S	**Sn**	**00 02 45.1**	**-1.4**
ELOJ	**Sierra Loja**	**5.27**	**17**	P	**Pn**	**00 01 47.6**	**+0.9**
	1.7nm,0.2s,SNR=5.7						
ELOJ				S	**Sn**	**00 02 45.1**	**-1.4**
	4.0nm,0.3s						
ELOJ	**Sierra Loja**	**5.27**	**17**	P	**Pn**	**00 01 47.6**	**+0.9**
	1.7nm,0.2s,SNR=5.7						
ELOJ				S	**Sn**	**00 02 45.1**	**-1.4**
	4.0nm,0.3s						
PBDV	**Barranco-do-Ve**	**5.33**	**344**	*e*Pn	**Pn**	**00 01 48.0**	**+0.6**
PBDV				*e*Sn	**Sn**	**00 02 47.0**	**-0.8**
PBDV				A	A	00 02 57.1	
	20nm,0.5s						
PBDV	**Barranco-do-Ve**	**5.33**	**344**	Pn	**Pn**	**00 01 48.0**	**+0.6**
PBDV				Sn	**Sn**	**00 02 47.0**	**-0.8**
	20nm,0.5s						
PBDV	**Barranco-do-Ve**	**5.33**	**344**	Pn	**Pn**	**00 01 48.0**	**+0.6**
PBDV				*e*Sn	**Sn**	**00 02 47.0**	**-0.8**
	20nm,0.5s						
PVAQ	**Vaqueiros**	**5.44**	**346**	*e*Pn	**Pn**	**00 01 49.5**	**+0.6**
PVAQ				*e*Sn	**Sn**	**00 02 49.8**	**-0.6**
PVAQ				A	A	00 02 52.7	
	12nm,0.3s						
PVAQ	**Vaqueiros**	**5.44**	**346**	Pn	**Pn**	**00 01 49.5**	**+0.6**
PVAQ				Sn	**Sn**	**00 02 49.8**	**-0.6**
	12nm,0.3s						
PVAQ	**Vaqueiros**	**5.44**	**346**	Pn	**Pn**	**00 01 49.5**	**+0.6**
PVAQ				*e*Sn	**Sn**	**00 02 49.8**	**-0.6**
	12nm,0.3s						
EBER	**Berja**	**5.46**	**28**	P	**Pn**	**00 01 51.0**	**+1.6**
	2.4nm,0.2s						
EBER				S	**Sn**	**00 02 52.1**	**+0.9**
EBER	**Berja**	**5.46**	**28**	P	**Pn**	**00 01 50.9**	**+1.6**
	2.4nm,0.2s,SNR=8.9						
EBER				S	**Sn**	**00 02 52.1**	**+0.9**
	5.6nm,0.2s						
EBER	**Berja**	**5.46**	**28**	P	**Pn**	**00 01 50.9**	**+1.6**
	2.4nm,0.2s,SNR=8.9						
EBER				S	**Sn**	**00 02 52.1**	**+0.9**
	5.6nm,0.2s						
PFVI	**Vila Bisbo**	**5.48**	**337**	*e*Pn	**Pn**	**00 01 50.1**	**+0.6**
PFVI				*e*Sn	**Sn**	**00 02 52.6**	**+1.1**
PFVI				A	A	00 03 03.0	
	22nm,0.6s						
PFVI	**Vila Bisbo**	**5.48**	**337**	⇑P	**Pn**	**00 01 50.5**	**+1.0**
	7.9nm,0.2s						
PFVI				S	**Sn**	**00 02 50.6**	**-0.9**
PFVI	**Vila Bisbo**	**5.48**	**337**	⇑P	**Pn**	**00 01 50.5**	**+1.0**
	7.9nm,0.2s,SNR=18						
PFVI				S	**Sn**	**00 02 50.6**	**-0.9**
	37nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.48**	**337**	*e*Pn	**Pn**	**00 01 50.1**	**+0.6**
PFVI	**Vila Bisbo**	**5.48**	**337**	P	**Pn**	**00 01 50.5**	**+1.0**
	7.9nm,0.2s,SNR=18						
PFVI				S	**Sn**	**00 02 50.6**	**-0.9**
	37nm,0.2s,SNR=7.9						
PFVI				*e*Sn	Sb	00 02 52.6	-18
	22nm,0.6s						
EGRO	**El Granado**	**5.52**	**349**	P	**Pn**	**00 01 51.0**	**+1.0**
	7.4nm,0.1s						
EGRO				S	**Sn**	**00 02 51.8**	**-0.7**
EGRO	**El Granado**	**5.52**	**349**	P	**Pn**	**00 01 51.0**	**+1.0**
	7.4nm,0.1s,SNR=27						
EGRO				S	**Sn**	**00 02 51.8**	**-0.7**
	17nm,0.2s						
EGRO	**El Granado**	**5.52**	**349**	P	**Pn**	**00 01 51.0**	**+1.0**
	7.4nm,0.1s,SNR=27						
EGRO				S	**Sn**	**00 02 51.8**	**-0.7**
	17nm,0.2s						
EQUE	**Quentar**	**5.53**	**23**	P	**Pn**	**00 01 51.7**	**+1.4**
	1.7nm,0.3s,SNR=4.5						
EQUE	**Quentar**	**5.53**	**23**	P	**Pn**	**00 01 51.7**	**+1.4**
	1.7nm,0.3s,SNR=4.5						
ECOG	**Cogollos-Vega**	**5.56**	**21**	P	Pn	00 01 53.3	+2.7
ECOG	**Cogollos-Vega**	**5.56**	**21**	P	Pn	00 01 53.3	+2.7
	8.2nm,0.4s,SNR=12						
ECOG	**Cogollos-Vega**	**5.56**	**21**	P	Pn	00 01 53.3	+2.7
	8.2nm,0.4s,SNR=12						
MORF	**Marmelete**	**5.58**	**339**	*e*Pn	**Pn**	**00 01 51.6**	**+0.7**
MORF				*e*Sn	**Sn**	**00 02 54.5**	**+0.4**
MORF				A	A	00 03 00.2	
	24nm,0.1s						
MORF	**Marmelete**	**5.58**	**339**	Pn	**Pn**	**00 01 51.6**	**+0.7**
MORF				Sn	**Sn**	**00 02 54.5**	**+0.4**
	24nm,0.1s						
MORF	**Marmelete**	**5.58**	**339**	Pn	**Pn**	**00 01 51.6**	**+0.7**
MORF				*e*Sn	**Sn**	**00 02 54.5**	**+0.4**
	24nm,0.1s						
EMIN	**Mina Concepcio**	**5.66**	**355**	P	**Pn**	**00 01 52.3**	**+0.4**
	3.9nm,0.2s						
EMIN				S	**Sn**	**00 02 54.2**	**-1.6**
EMIN	**Mina Concepcio**	**5.66**	**355**	P	**Pn**	**00 01 52.3**	**+0.4**
	3.9nm,0.2s,SNR=22						
EMIN				S	**Sn**	**00 02 54.2**	**-1.6**
	4.9nm,0.1s						
EMIN	**Mina Concepcio**	**5.66**	**355**	P	**Pn**	**00 01 52.3**	**+0.4**
	3.9nm,0.2s,SNR=22						
EMIN				S	**Sn**	**00 02 54.2**	**-1.6**
	4.9nm,0.1s						
PCVE	**Castro Verde**	**5.73**	**344**	*i* Pn	**Pn**	**00 01 53.7**	**+0.9**
PCVE				*e*Sn	**Sn**	**00 02 57.8**	**+0.3**
PCVE				A	A	00 02 59.8	
	16nm,0.2s						
PCVE	**Castro Verde**	**5.73**	**344**	⇑Pn	**Pn**	**00 01 53.7**	**+0.9**
PCVE				Sn	**Sn**	**00 02 57.8**	**+0.3**
	16nm,0.2s						
PCVE	**Castro Verde**	**5.73**	**344**	Pn	**Pn**	**00 01 53.7**	**+0.9**
PCVE				*e*Sn	**Sn**	**00 02 57.8**	**+0.3**
	16nm,0.2s						
PTEO	**Sao Teotonio**	**5.83**	**339**	*e*Pn	**Pn**	**00 01 55.2**	**+1.0**
PTEO				*e*Sn	**Sn**	**00 03 01.3**	**+1.3**
PTEO				A	A	00 03 38.5	
	16nm,0.5s						
PTEO	**Sao Teotonio**	**5.83**	**339**	Pn	**Pn**	**00 01 55.2**	**+1.0**
PTEO	**Sao Teotonio**	**5.83**	**339**	Pn	**Pn**	**00 01 55.2**	**+1.0**
PTEO				*e*Sn	**Sn**	**00 03 01.3**	**+1.3**
	16nm,0.5s						
PBEJ	**Beja**	**6.07**	**347**	*e*Pn	**Pn**	**00 01 58.1**	**+0.5**
PBEJ				*e*Sn	**Sn**	**00 03 04.7**	**-1.3**
PBEJ				A	A	00 03 09.4	
	11nm,0.5s						
PBEJ	**Beja**	**6.07**	**347**	Pn	**Pn**	**00 01 58.1**	**+0.5**
PBEJ				Sn	**Sn**	**00 03 04.7**	**-1.3**
	5.7nm,0.5s						
PBEJ	**Beja**	**6.07**	**347**	Pn	**Pn**	**00 01 58.1**	**+0.5**
PBEJ				*e*Sn	**Sn**	**00 03 04.7**	**-1.3**
	11nm,0.5s						
PBAR	**Barrancos**	**6.09**	**353**	*e*Pn	**Pn**	**00 01 58.5**	**+0.6**
PBAR				*e*Sn	**Sn**	**00 03 06.0**	**-0.5**
PBAR				A	A	00 03 11.1	
	18nm,0.3s						
PBAR	**Barrancos**	**6.09**	**353**	Pn	**Pn**	**00 01 58.5**	**+0.6**
PBAR				Sn	**Sn**	**00 03 06.0**	**-0.5**
	18nm,0.3s						
PBAR	**Barrancos**	**6.09**	**353**	Pn	**Pn**	**00 01 58.5**	**+0.6**
PBAR				*e*Sn	**Sn**	**00 03 06.0**	**-0.5**
	18nm,0.3s						
EADA	**Adamuz**	**6.17**	**11**	P	**Pn**	**00 01 59.1**	**+0.2**
	3.2nm,0.1s						
EADA				S	**Sn**	**00 03 06.5**	**-1.9**
EADA	**Adamuz**	**6.17**	**11**	P	**Pn**	**00 01 59.1**	**+0.2**
	3.2nm,0.1s,SNR=16						
EADA				S	**Sn**	**00 03 06.5**	**-1.9**
	17nm,0.2s						
EADA	**Adamuz**	**6.17**	**11**	P	**Pn**	**00 01 59.1**	**+0.2**
	3.2nm,0.1s,SNR=16						
EADA				S	**Sn**	**00 03 06.5**	**-1.9**
	17nm,0.2s						
EQES	**Quesada**	**6.20**	**23**	P	**Pn**	**00 02 02.0**	**+2.6**
	3.4nm,0.4s						
EQES				S	**Sn**	**00 03 09.4**	**+0.1**
EQES	**Quesada**	**6.20**	**23**	P	**Pn**	**00 02 02.0**	**+2.6**
	3.4nm,0.4s,SNR=18						
EQES				S	**Sn**	**00 03 09.4**	**+0.1**
	4.9nm,0.4s,SNR=7.9						
EQES	**Quesada**	**6.20**	**23**	P	**Pn**	**00 02 02.0**	**+2.6**
	3.4nm,0.4s,SNR=18						
EQES				S	**Sn**	**00 03 09.4**	**+0.1**
	4.9nm,0.4s,SNR=7.9						
PNCL	**Nicolau / Gran**	**6.30**	**342**	*e*Pn	**Pn**	**00 02 01.3**	**+0.6**
PNCL				*e*Sn	**Sn**	**00 03 10.4**	**-1.3**
	14nm,0.5s						
PNCL	**Nicolau / Gran**	**6.30**	**342**	*e*Pn	**Pn**	**00 02 01.3**	**+0.6**
PNCL				*e*Sn	**Sn**	**00 03 10.4**	**-1.3**
	14nm,0.5s						
EBAN	**Banos Encina**	**6.33**	**17**	P	**Pn**	**00 02 01.4**	**+0.3**
EBAN				S	**Sn**	**00 03 10.7**	**-1.7**
EBAN	**Banos Encina**	**6.33**	**17**	P	**Pn**	**00 02 01.4**	**+0.3**
	2.7nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**00 03 10.7**	**-1.7**
	3.1nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**6.33**	**17**	P	**Pn**	**00 02 01.4**	**+0.3**
	2.7nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**00 03 10.7**	**-1.7**
	3.1nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**6.38**	**26**	P	**Pn**	**00 02 04.0**	**+2.2**
EHUE	**Huescar**	**6.38**	**26**	P	**Pn**	**00 02 04.0**	**+2.2**
	3.3nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**6.38**	**26**	P	**Pn**	**00 02 04.0**	**+2.2**
	3.3nm,0.2s,SNR=7.9						
EVO	**Evora**	**6.59**	**347**	*e*Pn	**Pn**	**00 02 05.6**	**+0.9**
EVO				*e*Sn	**Sn**	**00 03 17.2**	**-1.5**
	24nm,0.3s						
EVO	**Evora**	**6.59**	**347**	*e*Pn	**Pn**	**00 02 05.5**	**+0.9**
EVO				*e*Sn	**Sn**	**00 03 17.4**	**-1.3**
EVO				A	A	00 03 22.4	
	9.6nm,0.4s						
EVO	**Evora**	**6.59**	**347**	Pn	**Pn**	**00 02 05.5**	**+0.9**
EVO				Sn	**Sn**	**00 03 17.4**	**-1.3**
	9.6nm,0.4s						
EVO	**Evora**	**6.59**	**347**	Pn	**Pn**	**00 02 05.5**	**+0.9**
EVO				*e*Sn	**Sn**	**00 03 17.4**	**-1.3**
	9.6nm,0.4s						
EVOP	**Sao Brissos**	**6.61**	**346**	*e*Pn	**Pn**	**00 02 05.6**	**+0.7**
EVOP				*e*Sn	Sn	00 03 17.2	-1.9
	12nm,0.3s						
MOE	**Montemor**	**6.65**	**345**	*e*Pn	**Pn**	**00 02 06.8**	**+1.3**
MOE				*e*Sn	**Sn**	**00 03 19.5**	**-0.7**
MOE	**Montemor**	**6.65**	**345**	Pn	**Pn**	**00 02 06.8**	**+1.3**
MOE				Sn	**Sn**	**00 03 19.5**	**-0.7**
MOE	**Montemor**	**6.65**	**345**	Pn	**Pn**	**00 02 06.8**	**+1.3**
MOE				Sn	**Sn**	**00 03 19.5**	**-0.7**
EBAD	**Badajoz**	**6.67**	**354**	⇑P	**Pn**	**00 02 06.3**	**+0.6**
	8.5nm,0.1s						
EBAD				S	Sn	00 03 18.7	-1.9
EBAD	**Badajoz**	**6.67**	**354**	⇑P	**Pn**	**00 02 06.3**	**+0.6**
	8.5nm,0.1s,SNR=18						
EBAD				S	Sn	00 03 18.7	-1.9
	19nm,0.2s						
EBAD	**Badajoz**	**6.67**	**354**	P	**Pn**	**00 02 06.3**	**+0.6**
	8.5nm,0.1s,SNR=18						
EBAD				S	Sn	00 03 18.7	-1.9
	19nm,0.2s						
PESTR	**Estremoz**	**6.84**	**350**	*e*Pn	**Pn**	**00 02 08.8**	**+0.6**
PESTR				*e*Sn	**Sn**	**00 03 25.2**	**+0.1**
PESTR				A	A	00 03 41.3	
	7.3nm,0.4s						
PESTR	**Estremoz**	**6.84**	**350**	Pn	**Pn**	**00 02 08.8**	**+0.6**
PESTR				Sn	**Sn**	**00 03 25.2**	**+0.1**
	3.7nm,0.4s						
PESTR	**Estremoz**	**6.84**	**350**	Pn	**Pn**	**00 02 08.8**	**+0.6**
PESTR				*e*Sn	**Sn**	**00 03 25.2**	**+0.1**
	7.3nm,0.4s						
EMUR	**La Murta**	**6.97**	**34**	P	Pn	00 02 12.9	+2.9
	1.8nm,0.3s						
EMUR	**La Murta**	**6.97**	**34**	P	Pn	00 02 12.9	+2.9
	1.8nm,0.3s,SNR=7.3						
EMUR	**La Murta**	**6.97**	**34**	P	Pn	00 02 12.9	+2.9
	1.8nm,0.3s,SNR=7.3						
ETRT	**Tiaret**	**6.98**	**60**	P	Pb	00 02 47.0	+17
ETRT	**Tiaret**	**6.98**	**60**	P	Pb	00 02 47.0	+17
EFAM	**Famara**	**7.05**	**247**	P	**Pn**	**00 02 10.3**	**-0.8**
	8.5nm,0.5s						
EFAM				S	**Sn**	**00 03 26.1**	**-4.2**
EFAM	**Famara**	**7.05**	**247**	P	**Pn**	**00 02 10.3**	**-0.8**
	8.5nm,0.5s,SNR=7.9						
EFAM				S	**Sn**	**00 03 26.1**	**-4.2**
	7.4nm,0.3s,SNR=7.9						
EFAM	**Famara**	**7.05**	**247**	P	**Pn**	**00 02 10.3**	**-0.8**
	8.5nm,0.5s,SNR=7.9						
EANR	**'Ain N'Sour**	**7.10**	**55**	P	Pb	00 02 45.0	+13
EANR	**'Ain N'Sour**	**7.10**	**55**	P	Pb	00 02 45.0	+13
EVIA	**Vianos**	**7.14**	**23**	P	**Pn**	**00 02 14.2**	**+1.8**
EVIA				S	**Sn**	**00 03 31.3**	**-1.3**
EVIA	**Vianos**	**7.14**	**23**	P	**Pn**	**00 02 14.2**	**+1.8**
	3.3nm,0.2s,SNR=8.2						
EVIA				S	**Sn**	**00 03 31.3**	**-1.3**
	4.7nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**7.14**	**23

EPLA	**Plasencia**	**7.93**	**0**	P	**Pn**	**00 02 24.1**	**+0.9**
	6.0nm,0.3s,SNR=18						
EPLA				S	Sn	00 03 48.6	-3.3
	3.6nm,0.2s						
EPLA	**Plasencia**	**7.93**	**0**	P	**Pn**	**00 02 24.1**	**+0.9**
	6.0nm,0.3s,SNR=18						
EBEN	**Beniarda**	**8.14**	**35**	P	Pn	00 02 28.8	+2.8
EBEN	**Beniarda**	**8.14**	**35**	P	Pn	00 02 28.8	+2.8
	0.5nm,0.3s,SNR=4.0						
EBEN	**Beniarda**	**8.14**	**35**	P	Pn	00 02 28.8	+2.8
	0.5nm,0.3s,SNR=4.0						
MTE	**Manteigas**	**8.35**	**352**	*e*Pn	**Pn**	**00 02 29.8**	**+0.9**
MTE				*e*Sn	Sn	00 03 59.7	-2.4
MTE				A	A	00 04 38.6	
	8.8nm,0.7s						
MTE	**Manteigas**	**8.35**	**352**	*e*Pn	**Pn**	**00 02 29.4**	**+0.5**
MTE	**Manteigas**	**8.35**	**352**	Pn	**Pn**	**00 02 29.8**	**+0.9**
MTE				Sn	Sn	00 03 59.7	-2.4
	4.4nm,0.7s						
MTE	**Manteigas**	**8.35**	**352**	*e*Pn	**Pn**	**00 02 29.4**	**+0.5**
MTE				*e*Sn	Sn	00 03 59.7	-2.4
	8.8nm,0.7s						
EMHD	**Djebel Mahouad**	**8.54**	**59**	P	Pn	00 02 55.0	+23
EMHD	**Djebel Mahouad**	**8.54**	**59**	P	Pn	00 02 55.0	+23
GUD	**Guadarrama**	**8.65**	**10**	P	**Pn**	**00 02 32.3**	**-0.8**
GUD				S	Sn	00 04 05.3	-4.4
GUD	**Guadarrama**	**8.65**	**10**	P	**Pn**	**00 02 32.3**	**-0.8**
	0.6nm,0.1s,SNR=8.3						
GUD				S	Sn	00 04 05.3	-4.4
	3.0nm,0.3s						
GUD	**Guadarrama**	**8.65**	**10**	P	**Pn**	**00 02 32.3**	**-0.8**
	0.6nm,0.1s,SNR=8.3						
PMPS	**Porto Santo**	**8.68**	**279**	*e*Pn	**Pn**	**00 02 35.0**	**+1.6**
PMPS				*e*Sn	Sn	00 04 02.6	-7.6
PMPS				A	A	00 04 41.1	
	8.9nm,0.7s						
PMPS	**Porto Santo**	**8.68**	**279**	Pn	**Pn**	**00 02 33.9**	**+0.5**
PMPS				Pn	Pn	00 02 35.0	+1.6
PMPS				Sn	Sn	00 04 02.6	-7.6
	4.4nm,0.7s						
PMPS	**Porto Santo**	**8.68**	**279**	Pn	**Pn**	**00 02 33.9**	**+0.5**
PMPST	**Porto Santo, M**	**8.68**	**279**	*e*Pn	**Pn**	**00 02 33.9**	**+0.5**
PMPST				*e*Sn	**Sn**	**00 04 08.0**	**-2.3**
PMPST				A	A	00 04 30.5	
	17nm,0.9s						
PMPST	**Porto Santo, M**	**8.68**	**279**	*e*Pn	**Pn**	**00 02 33.9**	**+0.5**
PMPST				*e*Sn	**Sn**	**00 04 08.0**	**-2.3**
	17nm,0.9s						
PVIS	**Viseu**	**8.70**	**351**	*e*Pn	**Pn**	**00 02 34.6**	**+0.9**
PVIS				*e*Sn	**Sn**	**00 04 09.7**	**-1.1**
PVIS				A	A	00 04 26.7	
	4.0nm,0.5s						
PVIS	**Viseu**	**8.70**	**351**	Pn	**Pn**	**00 02 34.6**	**+0.9**
PVIS				Sn	**Sn**	**00 04 09.7**	**-1.1**
	2.0nm,0.5s						
PVIS	**Viseu**	**8.70**	**351**	Pn	**Pn**	**00 02 34.6**	**+0.9**
PVIS				*e*Sn	**Sn**	**00 04 09.7**	**-1.1**
	4.0nm,0.5s						
MVO	**Moncorvo**	**9.06**	**356**	*e*Pn	**Pn**	**00 02 39.5**	**+0.9**
MVO				*e*Sn	**Sn**	**00 04 18.6**	**-1.0**
MVO				A	A	00 04 23.1	
	5.2nm,0.1s						
MVO	**Moncorvo**	**9.06**	**356**	P	**Pn**	**00 02 39.5**	**+0.9**
	2.9nm,0.1s						
MVO				S	Sn	00 04 15.2	-4.4
MVO	**Moncorvo**	**9.06**	**356**	P	**Pn**	**00 02 39.5**	**+0.9**
	2.9nm,0.1s,SNR=25						
MVO				S	Sn	00 04 15.2	-4.4
	3.6nm,0.2s						
MVO	**Moncorvo**	**9.06**	**356**	P	**Pn**	**00 02 39.5**	**+0.9**
	2.9nm,0.1s,SNR=25						
MVO				*e*Sn	**Sn**	**00 04 18.6**	**-1.0**
	5.2nm,0.1s						
PMAR	**Madeira**	**9.15**	**277**	*e*Pn	**Pn**	**00 02 40.5**	**+0.4**
PMAR				*e*Sn	**Sn**	**00 04 21.7**	**-0.5**
PMAR				A	A	00 04 47.1	
	15nm,0.3s						
PMAR	**Madeira**	**9.15**	**277**	Pn	**Pn**	**00 02 40.5**	**+0.4**
PMAR	**Madeira**	**9.15**	**277**	Pn	**Pn**	**00 02 40.5**	**+0.4**
PMAR				*e*Sn	**Sn**	**00 04 21.7**	**-0.5**
	15nm,0.3s						
PVRL	**Vila Real**	**9.23**	**352**	*e*Pn	**Pn**	**00 02 41.6**	**+0.6**
PVRL				*e*Sn	**Sn**	**00 04 22.7**	**-1.1**
PVRL				A	A	00 04 22.9	
	7.0nm,0.1s						
PVRL	**Vila Real**	**9.23**	**352**	Pn	**Pn**	**00 02 41.6**	**+0.6**
PVRL	**Vila Real**	**9.23**	**352**	Pn	**Pn**	**00 02 41.6**	**+0.6**
PVRL				*e*Sn	**Sn**	**00 04 22.7**	**-1.1**
	7.0nm,0.1s						
ETOR	**Torete**	**9.28**	**19**	P	**Pn**	**00 02 41.5**	**-0.1**
	5.3nm,0.2s						
ETOR				S	Sn	00 04 20.2	-4.8
ETOR	**Torete**	**9.28**	**19**	P	**Pn**	**00 02 41.5**	**-0.1**
	5.3nm,0.2s,SNR=16						
ETOR				S	Sn	00 04 20.2	-4.8
	3.3nm,0.3s,SNR=7.9						
ETOR	**Torete**	**9.28**	**19**	P	**Pn**	**00 02 41.5**	**-0.1**
	5.3nm,0.2s,SNR=16						
POLO	**Lamas de Olo**	**9.34**	**352**	*e*Pn	**Pn**	**00 02 43.0**	**+0.5**
POLO				*e*Sn	Sn	00 04 23.2	-3.3
POLO				A	A	00 04 28.6	
	2.0nm,0.4s						
POLO	**Lamas de Olo**	**9.34**	**352**	*e*Pn	**Pn**	**00 02 43.0**	**+0.5**
PMOZ	**Porto Moniz, M**	**9.39**	**277**	*e*Pn	**Pn**	**00 02 45.2**	**+1.9**
PMOZ				*e*Sn	**Sn**	**00 04 28.6**	**+0.6**
PMOZ				A	A	00 04 41.5	
	27nm,0.4s						
PMOZ	**Porto Moniz, M**	**9.39**	**277**	*e*Pn	**Pn**	**00 02 45.2**	**+1.9**
PMOZ				*e*Sn	**Sn**	**00 04 28.6**	**+0.6**
	27nm,0.4s						
EMOS	**Mosqueruela**	**9.40**	**27**	P	**Pn**	**00 02 44.7**	**+1.2**
EMOS	**Mosqueruela**	**9.40**	**27**	P	**Pn**	**00 02 44.7**	**+1.2**
	0.7nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**9.40**	**27**	P	**Pn**	**00 02 44.7**	**+1.2**
	0.7nm,0.4s,SNR=7.9						
PBRG	**Braganca**	**9.68**	**357**	*e*Pn	**Pn**	**00 02 48.0**	**+0.8**
PBRG				*e*Sn	Sn	00 04 32.3	-2.6
PBRG				A	A	00 04 58.2	
	3.6nm,0.6s						
PBRG	**Braganca**	**9.68**	**357**	Pn	**Pn**	**00 02 48.0**	**+0.8**
PBRG				Sn	Sn	00 04 32.3	-2.6
	1.8nm,0.6s						
PBRG	**Braganca**	**9.68**	**357**	Pn	**Pn**	**00 02 48.0**	**+0.8**
PBRG				*e*Sn	Sn	00 04 32.3	-2.6
	3.6nm,0.6s						
PCAB	**Cabril**	**9.70**	**351**	*e*Pn	**Pn**	**00 02 48.3**	**+1.0**
PCAB				*e*Sn	Sn	00 04 31.4	-3.8
PCAB				A	A	00 04 44.4	
	3.2nm,0.4s						
PCAB	**Cabril**	**9.70**	**351**	Pn	**Pn**	**00 02 48.3**	**+1.0**
PCAB				Sn	Sn	00 04 31.4	-3.8
	1.6nm,0.4s						
PCAB	**Cabril**	**9.70**	**351**	Pn	**Pn**	**00 02 48.3**	**+1.0**
ECAL	**Calabor**	**9.82**	**357**	P	**Pn**	**00 02 50.1**	**+1.1**
	3.9nm,0.2s						
ECAL				S	Sn	00 04 34.2	-4.1
ECAL	**Calabor**	**9.82**	**357**	P	**Pn**	**00 02 50.1**	**+1.1**
	3.9nm,0.2s,SNR=12						
ECAL				S	Sn	00 04 34.2	-4.1
	5.5nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**9.82**	**357**	P	**Pn**	**00 02 50.1**	**+1.1**
	3.9nm,0.2s,SNR=12						
PGAV	**Gavieira, Arco**	**9.98**	**351**	*e*Pn	**Pn**	**00 02 52.7**	**+1.4**
PGAV				*e*Sn	Sn	00 04 39.6	-2.7
PGAV				A	A	00 04 44.0	
	3.5nm,0.5s						
PGAV	**Gavieira, Arco**	**9.98**	**351**	*e*Pn	**Pn**	**00 02 52.7**	**+1.4**
PGAV				*e*Sn	Sn	00 04 39.6	-2.7
	3.5nm,0.5s						
ERTA	**Horta de San J**	**10.23**	**29**	P	**Pn**	**00 02 56.7**	**+2.1**
ERTA	**Horta de San J**	**10.23**	**29**	P	**Pn**	**00 02 56.7**	**+2.1**
	0.8nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**10.23**	**29**	P	**Pn**	**00 02 56.7**	**+2.1**
	0.8nm,0.4s,SNR=7.9						
EMAZ	**Mazaricos**	**11.05**	**349**	P	**Pn**	**00 03 07.4**	**+1.6**
EMAZ				S	Sn	00 05 01.7	-6.6
EMAZ	**Mazaricos**	**11.05**	**349**	P	**Pn**	**00 03 07.4**	**+1.6**
	0.6nm,0.3s,SNR=4.9						
EMAZ				S	Sn	00 05 01.7	-6.6
	1.7nm,0.3s,SNR=4.0						
EMAZ	**Mazaricos**	**11.05**	**349**	P	**Pn**	**00 03 07.4**	**+1.6**
	0.6nm,0.3s,SNR=4.9						
EARI	**Arriondas**	**11.19**	**3**	P	**Pn**	**00 03 08.2**	**+0.4**
	2.6nm,0.5s						
EARI				S	Sn	00 05 06.4	-5.3
	2.6nm,0.5s,SNR=7.1						
EARI				S	Sn	00 05 06.4	-5.3
	6.4nm,0.8s,SNR=7.9						
EARI	**Arriondas**	**11.19**	**3**	P	**Pn**	**00 03 08.2**	**+0.4**
	2.6nm,0.5s,SNR=7.1						
EPON	**Pontenova**	**11.22**	**356**	P	**Pn**	**00 03 10.6**	**+2.4**
EPON	**Pontenova**	**11.22**	**356**	P	**Pn**	**00 03 10.6**	**+2.4**
	1.0nm,0.4s,SNR=7.9						
EPON	**Pontenova**	**11.22**	**356**	P	**Pn**	**00 03 10.6**	**+2.4**
	1.0nm,0.4s,SNR=7.9						
IUNC	**Unciti**	**11.23**	**18**	P	**Pn**	**00 03 11.0**	**+2.6**
	0.3nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**11.23**	**18**	P	**Pn**	**00 03 11.0**	**+2.6**
	0.3nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**11.29**	**10**	P	**Pn**	**00 03 10.9**	**+1.7**
	1.4nm,0.2s						
ELAN				S	Sn	00 05 07.9	-6.4
ELAN	**Lanestosa**	**11.29**	**10**	P	**Pn**	**00 03 10.9**	**+1.7**
	1.4nm,0.2s,SNR=12						
ELAN				S	Sn	00 05 07.9	-6.4
	0.9nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**11.29**	**10**	P	**Pn**	**00 03 10.9**	**+1.7**
	1.4nm,0.2s,SNR=12						
IEPA	**Eparoz**	**11.31**	**18**	P	**Pn**	**00 03 10.2**	**+0.7**
	3.4nm,0.5s,SNR=7.9						
IEPA	**Eparoz**	**11.31**	**18**	P	**Pn**	**00 03 10.2**	**+0.7**
	3.4nm,0.5s,SNR=7.9						
IELO	**Elcoad**	**11.38**	**18**	P	**Pn**	**00 03 12.1**	**+1.7**
	0.9nm,0.4s,SNR=7.9						
IELO	**Elcoad**	**11.38**	**18**	P	**Pn**	**00 03 12.1**	**+1.7**
	0.9nm,0.4s,SNR=7.9						
IUSE	**Utxeti**	**11.40**	**17**	P	**Pn**	**00 03 13.0**	**+2.3**
	1.1nm,0.3s,SNR=7.9						
IUSE	**Utxeti**	**11.40**	**17**	P	**Pn**	**00 03 13.0**	**+2.3**
	1.1nm,0.3s,SNR=7.9						
ELIZ	**Elizondo**	**11.61**	**17**	P	Pn	00 03 16.6	+3.2
ELIZ	**Elizondo**	**11.61**	**17**	P	Pn	00 03 16.6	+3.2
	1.4nm,0.3s,SNR=7.9						
ELIZ	**Elizondo**	**11.61**	**17**	P	Pn	00 03 16.6	+3.2
	1.4nm,0.3s,SNR=7.9						
ETSF	**Etsaut**	**11.63**	**21**	*e*P	**Pn**	**00 03 15.6**	**+1.8**
ETSF				*e*Sn	Sn	00 05 15.4	-7.1
	0.7nm,0.3s						
ETSF	**Etsaut**	**11.63**	**21**	*e*P	**Pn**	**00 03 15.6**	**+1.8**
SJPF	**Ste Jean**	**11.64**	**18**	*e*P	**Pn**	**00 03 16.0**	**+2.1**
SJPF				*e*Sn	Sn	00 05 16.4	-6.3
	0.6nm,0.2s						
SJPF	**Ste Jean**	**11.64**	**18**	*e*P	**Pn**	**00 03 16.0**	**+2.1**
EBIE	**Bielsa**	**11.66**	**23**	P	**Pn**	**00 03 16.7**	**+2.3**
	1.1nm,0.3s						
EBIE	**Bielsa**	**11.66**	**23**	P	**Pn**	**00 03 16.7**	**+2.3**
	1.1nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**11.66**	**23**	P	**Pn**	**00 03 16.7**	**+2.3**
	1.1nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	**11.66**	**17**	P	**Pn**	**00 03 15.9**	**+1.7**
	2.2nm,0.4s						
EALK	**Alkurruntz**	**11.66**	**17**	P	**Pn**	**00 03 15.9**	**+1.7**
	2.2nm,0.4s,SNR=4.7						
EALK	**Alkurruntz**	**11.66**	**17**	P	**Pn**	**00 03 15.9**	**+1.7**
	2.2nm,0.4s,SNR=4.7						
EPF	**Esparros**	**12.03**	**23**	*e*Pn	Pn	00 03 16.4	-2.9
EPF	**Esparros**	**12.03**	**23**	*e*P	**Pn**	**00 03 21.8**	**+2.5**
EPF				*e*Sn	Sn	00 05 24.9	-7.5
	0.7nm,0.4s						
EPF	**Esparros**	**12.03**	**23**	*e*P	**Pn**	**00 03 21.8**	**+2.5**
MTLF	**Montolieu**	**12.99**	**28**	*e*Pn	Pn	00 03 28.9	-3.4
KEST	**Kesra**	**13.33**	**70**	*e*Pn	**Pn**	**00 03 37.4**	**+0.3**
KEST	**Kesra**	**13.33**	**70**	Pn	**Pn**	**00 03 37.4**	**+0.3**
	0.1nm,0.3s,baz=281,slow=5.2,SNR=3.3						
KEST	**Kesra**	**13.33**	**70**	*e*Pn	**Pn**	**00 03 37.4**	**+0.3**
QUIF	**Quistinic**	**15.94**	**7**	*e*Pn	**Pn**	**00 04 10.7**	**-1.2**
QUIF	**Quistinic**	**15.94**	**7**	*e*Pn	**Pn**	**00 04 10.7**	**-1.2**
SGMF	**Saint Gilles**	**16.34**	**8**	*e*Pn	**Pn**	**00 04 16.0**	**-1.0**
SGMF	**Saint Gilles**	**16.34**	**8**	*e*Pn	**Pn**	**00 04 16.0**	**-1.0**
ROSF	**Rostrenen**	**16.34**	**7**	*e*P	**P**	**00 04 19.1**	**-0.6**
ROSF	**Rostrenen**	**16.34**	**7**	*e*P	**P**	**00 04 19.1**	**-0.6**
TOA0	**Torodi Ar. Sit**	**20.19**	**157**	*e*P	**P**	**00 05 00.7**	**-1.5**
TOA0	**Torodi Ar. Sit**	**20.19**	**157**	*e*P	**P**	**00 05 00.7**	**-1.5**
TORD	**Torodi Ar. Bea**	**20.19**	**157**	P	**P**	**00 05 00.8**	**-1.5**
TORD	**Torodi Ar. Bea**	**20.19**	**157**	P	**P**	**00 05 00.8**	**-1.5**
	0.2nm,0.3s,baz=339,slow=11,SNR=20						
TORD	**Torodi Ar. Bea**	**20.19**	**157**	P	**P**	**00 05 00.8**	**-1.5**
GERES	**GERESS Array B**	**22.39**	**36**	P	**P**	**00 05 24.3**	**-1.5**
GERES	**GERESS Array B**	**22.39**	**36**	P	**P**	**00 05 24.3**	**-1.5**
	0.3nm,0.5s,baz=220,slow=14,SNR=3.1						
GERES	**GERESS Array B**	**22.39**	**36**	P	**P**	**00 05 24.3**	**-1.5**
DBIC	**Dimbokro**	**25.34**	**177**	*e*P	**P**	**00 05 54.0**	**-0.3**
	9.0nm,0.8s						
DBIC	**Dimbokro**	**25.34**	**177**	P	**P**	**00 05 51.9**	**-2.3**
	8.9nm,0.9s,baz=327,slow=14,SNR=5.3						
DBIC	**Dimbokro**	**25.34**	**177**	*e*P	**P**	**00 05 54.0**	**-0.3**
	9.0nm,0.8s						
KURBB	**Kutukov Arra**	**62.72**	**46**	P	**P**	**00 10 52.6**	**+0.7**
	1.0nm,0.8s,baz=291,slow=7.9,SNR=5.5						
KURK	**Kurchatov**	**62.74**	**45**	P	**P**	**00 10 52.6**	**+0.6**
KURK	**Kurchatov**	**62.74**	**45**	P	**P**	**00 10 52.6**	**+0.6**
ZALV	**Zalesovo Beam**	**65.25**	**41**	P	**P**	**00 11 09.5**	**+1.1**
ZALV	**Zalesovo Beam**	**65.25**	**41**	P	**P**	**00 11 09.5**	**+1.1**
	0.4nm,0.4s,baz=309,slow=9.1,SNR=2.6						
ZALV	**Zalesovo Beam**	**65.25**	**41**	P	**P**	**00 11 09.5**	**+1.1**
MKAR	**Makanchi Array**	**66.38**	**49**	P	**P**	**00 11 16.4**	**+0.5**
MKAR	**Makanchi Array**	**66.38**	**49**	P	**P**	**00 11 16.4**	**+0.5**
	0.4nm,0.9s,baz=301,slow=5.0,SNR=3.9						
MKAR	**Makanchi Array**	**66.38**	**49**	P	**P**	**00 11 16.4**	**+0.5**
PDAR	**Pinedale Array**	**77.72**	**313**	P	**P**	**00 12 26.9**	**+2.8**
PDAR	**Pinedale Array**	**77.72**	**313**	P	**P**	**00 12 26.9**	**+2.8**
	0.4nm,0.7s,baz=78,slow=6.8,SNR=4.4						
PDAR	**Pinedale Array**	**77.72**	**313**	P	**P**	**00 12 27.0**	**+2.8**

*ISCJB **06** 00:03:01.2±0.8, 47°.5S×0°.1×100°.1E±0°.3, h11km, mb4.2/8, MS4.0/13, Error ellipse: s-maj=30.5km s-min=11.6km az=36.0*

*IDC **06** 00:03:01.2±0.8, 47°.47S×99°.96E, h0km, mb4.4/8, mb1 4.5/8, mb1mx4.3/17, mbtmp4.4/8, MS3.9/14, Ms1 4.0/14, ms1mx3.9/21, Error ellipse: s-maj=30.1km s-min=16.5km az=120.0*

*NEIC **06** 00:03:02.6±0.5, 47°.49S×100°.08E, h10km, mb4.5/4, Error ellipse: s-maj=21.0km s-min=10.3km az=126.0*

ISC 06 00:03:02.9±0.8, 47°.5S±0°.1×100°.0E±0°.2, h11km, n36, σ0°.8/78/26, mb4.3/8, MS4.0/13, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**19.53**	**48**	LR	LR	00 13 21.0	
	comp=Z,213nm,20.1s,baz=211,slow=32						
MAW	**Mawson**	**27.64**	**210**	P	**P**	**00 08 50.3**	**+0.1**
MAW	**Mawson**	**27.64**	**210**	P	**P**	**00 08 50.3**	**+0.1**
	2.2nm,0.6s,baz=31,slow=11,SNR=5.5						
MAW				LR	LR	00 16 46.4	
	comp=Z,239nm,20.6s,baz=222,slow=30						
STKA	**Stephens Creek**	**35.11**	**79**	*e*P	**P**	**00 09 55.4**	**-0.8**
	1.9nm,1.0s						
STKA	**Stephens Creek**	**35.11**	**79**	P	**P**	**00 09 56.8**	**+0.6**
	6.7nm,0.8s,baz=225,slow=6.7,SNR=13						
STKA				LR	LR	00 21 08.8	
	comp=Z,347nm,20.4s,baz=205,slow=31						
ASAR	**Alice Springs**	**35.93**	**61**	P	**P**	**00 10 03.0**	**-0.4**
ASAR	**Alice Springs**	**35.93**	**61**	P	**P**	**00 10 03.0**	**-0.4**
	1.4nm,0.8s,baz=219,slow=7.2,SNR=9.9						
AS31	**Alice Springs**	**35.93**	**61**	*e*P	**P**	**00 10 03.1**	**-0.3**
VNDA	**Vanda**	**38.10**	**162**	*e*P	**P**	**00 10 21.4**	**+0.3**
	7.7nm,1.1s						
VNDA	**Vanda**	**38.10**	**162**	P	**P**	**00 10 21.7**	**+0.6**
	6.9nm,1.1s,baz=291,slow=9.0,SNR=22						
VNDA				LR	LR	00 24 41.1	
	comp=Z,407nm,19.4s,baz=300,slow=34						
WRA	**Warramunga Arr**	**39.08**	**57**	P	**P**	**00 10 29.9**	**-0.1**
WRA	**Warramunga Arr**	**39.08**	**57**	P	**P**	**00 10 29.9**	**-0.1**
	1.5nm,0.7s,baz=221,slow=9.1,SNR=11						
WRAB	**Tennant Creek**	**39.09**	**57**	*e*P	**P**	**00 10 29.3**	**-0.8**
QSPA	**South Pole Qui**	**42.66**	**180**	*e*P	**P**	**00 10 58.9**	**-0.3**
	15nm,1.0s						
QSPA	**South Pole Qui**	**42.66**	**180**	P	**P**	**00 10 59.2**	**0.0**
	9.6nm,0.8s,baz=304,slow=3.8,SNR=22						
SNAA	**Sanae**	**49.52**	**204**	*e*P	**P**	**00 11 52.8**	**-0.2**
SNAA	**Sanae**	**49.52**	**204**	*e*P	**P**	**00 11 52.4**	**-0.6**
	5.2nm,0.8s						
SNAA	**Sanae**	**49.52**	**204**	P	**P**	**00 11 52.6**	**-0.4**
	2.3nm,0.9s,baz=134,slow=9.2,SNR=24						
VNA1	**Neumayer--Stat**	**51.55**	**204**	*e*P	**P**	**00 12 09.1**	**+0.8**
PMG	**Port Moresby**	**54.92**	**62**	LR	LR	00 34 53.9	
	comp=Z,999nm,18.4s,baz=218,slow=35						
URZ	**Urewera**	**55.06**	**111**	LR	LR	00 32 22.2	
	comp=Z,66nm,19.1s,baz=48,slow=32						
BOSA	**Boshof**	**59.56**	**260**	LR	LR	00 33 26.1	
	comp=Z,120nm,19.8s,baz=165,slow=31						
CMAR	**Chiang Mai Arr**	**65.64**	**359**	P	**P**	**00 13 48.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**65.64**	**359**	P	**P**	**00 13 48.0**	**+1.1**
	0.9nm,0.3s,baz=195,slow=6.5,SNR=6.3						
CMAR				LR	LR	00 39 07.7	
	comp=Z,156nm,19.1s,baz=274,slow=33						
KMBO	**Kilima Mbogo**	**71.07**	**290**	LR	LR	00 39 04.7	
	comp=Z,60nm,19.1s,baz=106,slow=30						
KSRS	**Korea Array**	**88.16**	**22**	LR	LR	00 52 21.2	
	comp=Z,20nm,21.0s,baz=195,slow=34						
PPT	**Papeete**	**90.28**	**117**	LR	LR	00 49 40.8	
	comp=Z,72nm,20.4s,baz=188,slow=31						
PLCA	**Paso Flores**	**91.77**	**187**	LR	LR	00 55 50.2	
	comp=Z,216nm,21.3s,baz=182,slow=34						
SONM	**Songino Array**	**95.10**	**4**	LR	LR	01 00 31.0	
	comp=Z,57nm,18.3s,baz=14,slow=36						
MKAR	**Makanchi Array**	**95.17**	**348**	LR	LR	01 00 59.2	
	comp=Z,37nm,18.2s,baz=44,slow=37						
GERES	**GERESS Array B**	**121.54**	**309**	PKP	**PKPdf**	**00 21 54.0**	**-1.8**
GERES	**GERESS Array B**	**121.54**	**309**	PKP	**PKPdf**	**00 21 54.0**	**-1.8**
	0.1nm,0.5s,baz=153,slow=5.2,SNR=2.6						
FINES	**FINESS Array B**	**123.67**	**326**	PKP	**PKPdf**	**00 21 59.1**	**-0.2**
FINES	**FINESS Array B**	**123.67**	**326**	PKP	**PKPdf**	**00 21 59.1**	**-0.2**
	1.4nm,0.9s,baz=163,slow=1.5,SNR=2.6						
NVAR	**Mina Array Bea**	**150.76**	**94**	PKPbc	**PKPbc**	**00 22 56.0**	**+0.9**
NVAR	**Mina Array Bea**	**150.76**	**94**	PKPbc	**PKPbc**	**00 22 56.0**	**+0.9**
	0.8nm,0.5s,baz=205,slow=4.0,SNR=3.3						

GUC 06 00:03:32.2±0.7, 32°.29S×71°.71W, h5km±3km, MD3.9, ML3.2, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.44**	**24**	⇓*i*P	Pg	00 03 41.4	+0.7
CHNG				*i* S	Sb	00 03 48.0	-1.4
CHNG				AML	AML	00 03 48.7	
	comp=N,2μm,0.4s						
PTCH	**Petorca**	**0.66**	**88**	⇓*i*P	Pb	00 03 46.0	-0.4
PTCH				*i* S	Sb	00 03 56.1	+0.2
PTCH				AML	AML	00 03 57.4	
	comp=E,4μm,0.1s						
IHA	**Instituto Hidr**	**0.74**	**175**	*e*P	Pg	00 03 46.6	+0.2
IHA				*i* S	Sb	00 03 58.1	+0.1
ROCH	**El Roble**	**0.90**	**139**	⇓*i*P	Pg	00 03 49.8	-0.1
ROCH				*i* S	Sb	00 04 03.1	-0.1
ROCH				AML	AML	00 04 05.2	
	comp=N,1μm,0.4s						
JACH	**Jahuel**	**1.02**	**113**	⇑*i*P	Pg	00 03 51.7	-0.4
JACH				*i* S	Sb	00 04 06.5	0.0
PEL	**Peldehue**	**1.22**	**135**	⇑*i*P	Pg	00 03 54.7	-0.9
PEL				*i* S	Sg	00 04 11.6	+0.1
PEL				AML	AML	00 04 14.0	
	comp=N,2μm,0.4s						
CMCH	**Combarbala**	**1.27**	**29**	⇑*i*P	Pg	00 03 54.0	-2.7
CMCH				*i* S	Sg	00 04 10.4	-2.7
TACH	**Talagante**	**1.51**	**155**	⇑*i*P	Pn	00 03 59.5	-0.4
TACH				*e*S	Sn	00 04 20.0	-0.1
PCH	**Pirque**	**1.67**	**143**	*e*P	Pn	00 04 01.9	-0.3
CHCH	**Chadas Angostu**	**1.87**	**152**	*e*P	Pn	00 04 04.8	-0.1
CHCH				*e*S	Sb	00 04 29.9	-0.7
LMEL	**Las Melosas**	**2.01**	**141**	⇑*i*P	Pn	00 04 06.8	-0.2
LMEL				*i* S	Sb	00 04 34.0	-0.9
LMEL				AML	AML	00 04 42.8	
	comp=E,248nm,0.3s						
CACH	**El Canelo**	**2.05**	**153**	⇓*i*P	Pn	00 04 08.0	+0.5
CACH				*e*S	Sb	00 04 35.9	-0.1
TLL	**Tololo Astrono**	**2.25**	**20**	*e*P	Pn	00 04 11.4	+1.0
TLL				*i* S

IBAF				*e*			01 04 37.0		
	comp=Z,957nm,0.2s								
IBAF	**Bafgh**	**3.38**	**359**	*e*Pn		**Pn**	**01 04 19.1**	**+1.9**
ISAD	**Sadrabad**	**4.06**	**336**	*e*Pn		Pn	01 04 30.0	+3.3
ISAD				*e*			01 05 47.4		
	comp=Z,1μm,0.4s								
ISAD	**Sadrabad**	**4.06**	**336**	*e*Pn		Pn	01 04 30.0	+3.3
ICHK	**Chekchek**	**4.16**	**346**	*e*Pn		**Pn**	**01 04 30.6**	**+2.6**
ICHK				*e*			01 06 01.6		
	comp=Z,623nm,0.3s								
ICHK	**Chekchek**	**4.16**	**346**	*e*Pn		**Pn**	**01 04 30.6**	**+2.6**
ITEG	**Tejag**	**5.40**	**29**	*e*Pn		**Pn**	**01 04 46.3**	**+1.3**
ITEG				*e*			01 06 35.7		
	comp=Z,427nm,0.4s								
ITEG	**Tejag**	**5.40**	**29**	*e*Pn		**Pn**	**01 04 46.3**	**+1.3**
TABS	**Tabas**	**5.58**	**13**	*e*Pn		**Pn**	**01 04 47.6**	**+0.2**
TABS	**Tabas**	**5.58**	**13**	*e*Pn		**Pn**	**01 04 47.6**	**+0.2**
IDAH	**Dahanechah**	**5.82**	**38**	*e*Sg		Sb	01 06 29.8	+13
KBD	**Kabd**	**7.03**	**280**	*e*P		**Pn**	**01 05 08.5**	**+1.3**
KBD				AML		AML	01 06 28.9		
	comp=Z,9.5nm,0.5s								
KBD	**Kabd**	**7.03**	**280**	*e*P		**Pn**	**01 05 08.5**	**+1.3**
UMR	**Umm Al-Rimmam**	**7.06**	**283**	*e*P		**Pn**	**01 05 09.0**	**+1.4**
UMR				AML		AML	01 06 31.3		
	comp=Z,18nm,0.4s								
UMR	**Umm Al-Rimmam**	**7.06**	**283**	*e*P		**Pn**	**01 05 09.0**	**+1.4**
RDF	**Al-Radifah**	**7.13**	**278**	*e*P		**Pn**	**01 05 10.6**	**+2.0**
RDF				AML		AML	01 06 33.3		
	comp=Z,15nm,0.4s								
RDF	**Al-Radifah**	**7.13**	**278**	*e*P		**Pn**	**01 05 10.6**	**+2.0**
ASF	**Jabal al Asfar**	**16.66**	**288**	Pn		**Pn**	**01 07 14.3**	**-3.5**
ASF				LR		LR	01 15 13.7		
	comp=Z,40nm,18.5s,baz=269,slow=43								
MMAI	**Mount Meron Ar**	**18.04**	**290**	P		**Pn**	**01 07 33.5**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=101,slow=30,SNR=2.8								
EIL	**Elat**	**18.15**	**280**	LR		LR	01 16 02.1		
	comp=Z,52nm,20.9s,baz=323,slow=42								
BRTR	**Keskin Array B**	**21.49**	**308**	P		**P**	**01 08 13.8**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=123,slow=14,SNR=6.9								
AKTO	**Aktyubinsk**	**22.28**	**4**	P		**P**	**01 08 22.0**	**+0.8**
	comp=Z,2.9nm,0.7s,baz=172,slow=11,SNR=9.7								
BVAR	**Borovoye Array**	**27.11**	**20**	P		**P**	**01 09 06.9**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=205,slow=6.4,SNR=3.2								
MKAR	**Makanchi Array**	**27.94**	**41**	P		**P**	**01 09 15.7**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=230,slow=8.6,SNR=4.5								
ZALV	**Zalesovo Beam**	**33.43**	**32**	P		**P**	**01 10 02.2**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=218,slow=9.1,SNR=3.0								
VRAC	**Vranov**	**36.47**	**316**	LR		LR	01 27 29.4		
	comp=Z,34nm,19.6s,baz=319,slow=40								
GERES	**GERESS Array B**	**38.11**	**314**	P		**P**	**01 10 43.4**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=83,slow=8.3,SNR=3.0								
FINES	**FINESS Array B**	**38.62**	**338**	P		**P**	**01 10 46.6**	**-0.3**
	comp=Z,3.0nm,1.1s,baz=139,slow=12,SNR=9.2								
HFS	**Hagfors**	**42.64**	**330**	LR		LR	01 29 51.6		
	comp=Z,23nm,20.9s,baz=104,slow=37								
TORD	**Torodi Ar. Bea**	**52.23**	**265**	P		**P**	**01 12 33.4**	**-1.9**
	comp=Z,1.5nm,0.5s,baz=62,slow=6.9,SNR=27								

*ATH **06** 01:05:51.3,34.34N×26.74E,h22km±2km, MD3.4/9*
*ISCJB **06** 01:05:53.2±0.9,34.47N±0.04×26.74E±0.05,h21km±9km, Error ellipse: s-maj=8.1km s-min=4.4km az=140.6*
*CSEM **06** 01:05:54.6±0.1,34.53N×26.72E,h20km,ML3.3/1, Error ellipse: s-maj=5.2km s-min=3.0km az=50.0*
*THE **06** 01:05:54.6,34.53N×26.62E,h1km±2km,ML3.3/1, Error ellipse: s-maj=3.9km s-min=1.6km az=159.0*

ISC 06 01:05:51.6±1.3,34°32N±0.03×26°78E±0.04,h24km±15km, n55,σ1§08/65,Crete

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ZKR	**Zakros**	**0.91**	**330**	P		**Pn**	**01 06 08.5**	**-0.5**
ZKR				S		**Sb**	**01 06 18.6**	**-1.9**
ZKR	**Zakros**	**0.91**	**330**	*e*PN		**Pn**	**01 06 08.8**	**-0.2**
ZKR				*e*SN		**Sb**	**01 06 20.6**	**+0.1**
ZKR	**Zakros**	**0.91**	**330**	P		**Pn**	**01 06 08.5**	**-0.5**
ZKR	**Zakros**	**0.91**	**330**	*e*Pn		**Pn**	**01 06 08.8**	**-0.2**
ZKR				S		**Sb**	**01 06 18.6**	**-1.9**
ZKR				*e*Sn		**Sb**	**01 06 20.6**	**+0.1**
KARP	**Karpathos**	**1.26**	**14**	P		**Pn**	**01 06 14.4**	**+0.6**
KARP				S		**Sb**	**01 06 32.3**	**+1.8**
KARP	**Karpathos**	**1.26**	**14**	*e*PN		**Pb**	**01 06 15.2**	**+0.5**
KARP				*e*SN		**Sb**	**01 06 32.4**	**+1.9**
KARP	**Karpathos**	**1.26**	**14**	P		**Pn**	**01 06 14.4**	**+0.6**
KARP	**Karpathos**	**1.26**	**14**	*e*Pn		**Pb**	**01 06 15.2**	**+0.5**
KARP				*e*Sn		**Sb**	**01 06 32.4**	**+1.9**
NPS	**Neapolis**	**1.34**	**315**	P		**Pn**	**01 06 15.4**	**+0.3**
NPS	**Neapolis**	**1.34**	**315**	*e*PN		**Pn**	**01 06 15.4**	**+0.6**
NPS				*e*SN		**Sb**	**01 06 33.3**	**+0.6**
NPS	**Neapolis**	**1.34**	**315**	P		**Pn**	**01 06 15.1**	**+0.3**
NPS	**Neapolis**	**1.34**	**315**	*e*Pn		**Pn**	**01 06 15.4**	**+0.6**
NPS				*e*Sn		**Sb**	**01 06 33.3**	**+0.6**
LAST	**Lasithi**	**1.36**	**308**	P		**Pn**	**01 06 15.5**	**+0.4**
LAST				S		**Sn**	**01 06 31.3**	**-1.1**
LAST	**Lasithi**	**1.36**	**308**	*e*PN		**Pb**	**01 06 16.0**	**-0.3**
LAST				*e*SN		**Sb**	**01 06 35.2**	**+1.9**
LAST	**Lasithi**	**1.36**	**308**	P		**Pn**	**01 06 15.5**	**+0.4**
LAST	**Lasithi**	**1.36**	**308**	*e*Pn		**Pb**	**01 06 16.0**	**-0.3**
LAST				S		**Sn**	**01 06 31.3**	**-1.1**
LAST				*e*Sn		**Sb**	**01 06 35.2**	**+1.9**
SIVA	**Sivas**	**1.76**	**294**	P		**Pb**	**01 06 22.6**	**-0.6**
SIVA	**Sivas**	**1.76**	**294**	*e*PN		**Pb**	**01 06 22.7**	**-0.5**
SIVA	**Sivas**	**1.76**	**294**	P		**Pb**	**01 06 22.6**	**-0.6**
IDI	**Anoyia**	**1.82**	**302**	P		**Pn**	**01 06 22.9**	**+1.4**
IDI	**Anoyia**	**1.82**	**302**	*e*PN		**Pn**	**01 06 22.9**	**+1.4**
IDI	**Anoyia**	**1.82**	**302**	P		**Pn**	**01 06 22.9**	**+1.4**
ARG	**Arkhangelos**	**2.19**	**30**	P		**Pb**	**01 06 28.7**	**-1.7**
ARG	**Arkhangelos**	**2.19**	**30**	*e*PN		**Pb**	**01 06 28.7**	**-1.7**
ARG	**Arkhangelos**	**2.19**	**30**	P		**Pb**	**01 06 28.7**	**-1.7**
VAM	**Vamos**	**2.38**	**298**	P		**Pn**	**01 06 30.8**	**+1.7**
VAM				S		**Sn**	**01 06 58.2**	**+0.7**
VAM	**Vamos**	**2.38**	**298**	*e*PN		**Pn**	**01 06 30.2**	**+1.1**
VAM	**Vamos**	**2.38**	**298**	*e*Pn		**Pn**	**01 06 30.2**	**+1.1**
VAM	**Vamos**	**2.38**	**298**	P		**Pn**	**01 06 30.8**	**+1.7**
VAM				S		**Sn**	**01 06 58.2**	**+0.7**
APE	**Apeiranthos**	**2.92**	**340**	*e*PN		**Pn**	**01 06 38.0**	**+1.4**
APE	**Apeiranthos**	**2.92**	**340**	*e*Pn		**Pn**	**01 06 38.0**	**+1.4**
SLUM		**3.12**	**205**	P		**Pb**	**01 06 45.2**	**-1.0**
HMAT	**Matruh**	**3.23**	**175**	P		**Pb**	**01 06 47.9**	**-0.4**
HMAT				S		**Sb**	**01 07 27.7**	**+0.5**
ANKY	**Antikythira Is**	**3.24**	**299**	*e*PN		**Pn**	**01 06 42.1**	**+1.2**
ANKY	**Antikythira Is**	**3.24**	**299**	*e*Pn		**Pn**	**01 06 42.1**	**+1.2**
KYTH	**Kithira**	**3.63**	**304**	*e*PN		**Pn**	**01 06 45.8**	**-0.5**
KYTH	**Kithira**	**3.63**	**304**	*e*Pn		**Pn**	**01 06 45.8**	**-0.5**
VLI	**Veliai**	**3.94**	**308**	*e*PN		**Pn**	**01 06 49.9**	**-0.6**
VLI	**Veliai**	**3.94**	**308**	*e*Pn		**Pn**	**01 06 49.9**	**-0.6**
DID	**Didima**	**4.28**	**319**	*e*PN		**Pn**	**01 06 54.0**	**-1.3**
DID	**Didima**	**4.28**	**319**	*e*Pn		**Pn**	**01 06 54.0**	**-1.3**
NAIG	**Nisos Aigina**	**4.34**	**323**	*e*PN		**Pn**	**01 06 56.0**	**-0.1**
NAIG	**Nisos Aigina**	**4.34**	**323**	*e*Pn		**Pn**	**01 06 56.0**	**-0.1**
PTL	**Penteli**	**4.40**	**328**	*e*PN		**Pn**	**01 06 57.1**	**+0.2**
PTL	**Penteli**	**4.40**	**328**	*e*Pn		**Pn**	**01 06 57.1**	**+0.2**
VLX	**Vlachokerasia**	**4.69**	**312**	*e*PN		**Pn**	**01 07 00.4**	**-0.5**
VLX	**Vlachokerasia**	**4.69**	**312**	*e*Pn		**Pn**	**01 07 00.4**	**-0.5**
GUR	**Goura**	**5.09**	**316**	*e*PN		**Pn**	**01 07 05.5**	**-0.9**
GUR	**Goura**	**5.09**	**316**	*e*Pn		**Pn**	**01 07 05.5**	**-0.9**
SWA2		**5.19**	**193**	P		Pn	01 07 14.2	+6.5
AWBH		**6.25**	**163**	P		Pn	01 07 29.4	+7.0
AMAG	**Maghara**	**6.56**	**122**	P		Pn	01 07 30.7	+4.1
RSH		**6.75**	**118**	P		Pn	01 07 33.7	+4.5
SUZ		**6.81**	**129**	P		Pn	01 07 35.7	+5.7
HNKL	**Nakhl**	**7.52**	**124**	P		Pn	01 07 45.1	+5.3

*CSEM **06** 01:06:18.0,36.12N×28.04E,h21km, MD3.5, After ISK*

ISK 06 01:06:18.0,36°12N×28°04E,h21km,MD3.5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DAT	**Datca**	**0.71**	**329**	*e*PG		Pn	01 06 32.8	-0.3
DAT				*e*SG		Sn	01 06 43.0	-0.5
DAT	**Datca**	**0.71**	**329**	*e*Pg		Pn	01 06 32.8	-0.2
DAT				*e*Sg		Sn	01 06 43.0	-0.5
DALY	**Dalyan (Mu˘la**	**0.86**	**35**	*e*PG		Pn	01 06 35.0	+0.1
DALY	**Dalyan (Mu˘la**	**0.86**	**35**	*e*Pg		Pn	01 06 35.0	+0.2
FETY	**Fethiye**	**0.99**	**58**	*e*PG		Pn	01 06 37.4	+0.7
FETY	**Fethiye**	**0.99**	**58**	*e*Pg		Pn	01 06 37.4	+0.7
YER	**Yerkesik**	**1.04**	**11**	*e*PG		Pn	01 06 38.2	+0.8
YER	**Yerkesik**	**1.04**	**11**	*e*Pg		Pn	01 06 38.2	+0.8
BODT	**Bodrum**	**1.11**	**329**	*e*PN		Pb	01 06 38.5	-0.1
BODT	**Bodrum**	**1.11**	**329**	*e*Pn		Pb	01 06 38.5	0.0
MLSB	**Milas**	**1.20**	**350**	*e*PN		Pn	01 06 39.7	+0.1
MLSB	**Milas**	**1.20**	**350**	*e*Pn		Pn	01 06 39.7	+0.1
ELL	**Elmali**	**1.64**	**67**	*e*PN		Pn	01 06 46.5	+0.7
ELL	**Elmali**	**1.64**	**67**	*e*Pn		Pn	01 06 46.5	+0.8
ANTB	**Antalya**	**2.25**	**69**	*e*PN		Pn	01 06 55.1	+1.1
ANTB	**Antalya**	**2.25**	**69**	*e*Pn		Pn	01 06 55.1	+1.1
BLCB	**Balcova**	**2.40**	**341**	*e*PN		Pn	01 06 56.9	+0.9
BLCB	**Balcova**	**2.40**	**341**	*e*Pn		Pn	01 06 56.9	+0.9
KULA	**Kula-Manisa**	**2.44**	**12**	*e*PN		Pn	01 06 57.6	+0.8
KULA	**Kula-Manisa**	**2.44**	**12**	*e*Pn		Pn	01 06 57.6	+0.8
SUTC	**Sutluce-Ispart**	**2.74**	**59**	*e*PN		Pn	01 07 01.8	+0.8
SUTC	**Sutluce-Ispart**	**2.74**	**59**	*e*Pn		Pn	01 07 01.8	+0.9
ALT	**Altintas**	**3.37**	**29**	*e*PN		Pn	01 07 10.9	+1.4
ALT	**Altintas**	**3.37**	**29**	*e*Pn		Pn	01 07 10.9	+1.4
HDMB	**Hadim**	**3.68**	**75**	*e*PN		Pn	01 07 15.6	+1.6
HDMB	**Hadim**	**3.68**	**75**	*e*Pn		Pn	01 07 15.6	+1.6
LADK	**Ladik-KONYA**	**4.04**	**58**	*e*PN		Pn	01 07 20.4	+1.7
LADK	**Ladik-KONYA**	**4.04**	**58**	*e*Pn		Pn	01 07 20.4	+1.7

IDC 06 01:24:20.2±42.0,15°13S×173°00W,h0km,mb4.6/3, mb1 4.8/3,mb1mx3.9/21,mbtmp4.6/3, Error ellipse: s-maj=820.5km s-min=162.6km az=78.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**44.51**	**240**	P		P	01 32 33.3	-0.4
	3.0nm,0.5s,baz=87,slow=7.0,SNR=13							
WRA	**Warramunga Arr**	**50.29**	**257**	P		P	01 33 18.9	+0.1
	1.7nm,0.5s,baz=91,slow=7.1,SNR=64							
ASAR	**Alice Springs**	**50.57**	**252**	P		P	01 33 20.9	-0.1
	16nm,0.6s,baz=88,slow=8.2,SNR=248							

*NIED **06** 01:30:00,32.80N×140.00E,h145km,Mw3.8 Best double couple: M0 5.37000×10^14 NP1:φ=352.00000°, δ=90.00000°,λ=-39.00000°. NP2:φ=83.00000°,δ=51.00000°, λ=-180.00000°.*
*ISCJB **06** 01:30:25.0±0.8,32.77N±0.06×140.1E±0.1,h126km±4km, mb3.4/4, Error ellipse: s-maj=14.0km s-min=9.3km az=172.6*
*JMA **06** 01:30:26.1±0.3,32.81N×140.04E,h122km±2km,M3.5*
*IDC **06** 01:30:27.8±2.9,32.80N×139.85E,h135km±25km,mb3.1/4, mb1 3.2/6,mb1mx3.0/25,mbtmp3.0/6, Error ellipse: s-maj=33.0km s-min=21.2km az=92.0*

ISC 06 01:30:26.1±1.1,32°75N±0.08×140°02E±0.10,h121km±7km, n17,σ0§72/25,mb3.3/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**0.37**	**330**	P		**Pn**	**01 30 43.5**	**0.0**
JHCJ				*e*S		**Sn**	**01 30 56.4**	**-0.3**
JHJ2	**Mitsune**	**0.40**	**335**	P		**Pn**	**01 30 43.7**	**+0.1**
JHJ2				*e*S		**Sn**	**01 30 56.8**	**-0.1**
JKO	**Kozu shima**	**1.61**	**333**	P		**Pn**	**01 30 54.6**	**-0.3**
JKO				*e*S		**Sn**	**01 31 16.0**	**-0.8**
JIM2	**Oshima 3**	**2.02**	**346**	P		**Pn**	**01 30 59.9**	**0.0**
JIM2				*e*S		**Sn**	**01 31 25.4**	**-0.4**
BSO1	**Boso 1**	**2.06**	**23**	P		**Pn**	**01 31 00.1**	**+0.3**
BSO1				*e*S		**Sn**	**01 31 25.4**	**-0.3**
BSO3	**Boso 3**	**2.08**	**11**	P		**Pn**	**01 31 00.5**	**+0.1**
TK02	**Tokai 2**	**2.23**	**303**	P		**Pn**	**01 31 02.5**	**+0.2**
JOD2	**Odawara 2**	**2.62**	**343**	P		**Pn**	**01 31 07.8**	**+0.3**
JOD2				*e*S		**Sn**	**01 31 39.6**	**+0.2**
JRY	**Ryogami san**	**3.38**	**345**	*e*S		**Sn**	**01 31 57.0**	**-0.2**
JAG	**Ashikaga**	**3.69**	**353**	P		**Pn**	**01 31 20.6**	**-1.0**
MJAR	**Matsushiro Arr**	**4.06**	**339**	P		**Pn**	**01 31 26.9**	**+0.3**
	2.7nm,0.3s,baz=166,slow=15,SNR=15							
MJAR				S		**Sn**	**01 32 13.0**	**-0.4**
	2.7nm,0.3s,baz=224,slow=21,SNR=5.9							
MAT	**Matsushiro**	**4.06**	**339**	P		**Pn**	**01 31 27.3**	**+0.8**
MAT				*e*S		**Sn**	**01 32 14.9**	**+1.5**
KSRS	**Korea Array**	**10.96**	**299**	P		**Pn**	**01 33 01.1**	**+1.8**
	0.3nm,0.3s,baz=119,slow=14,SNR=4.3							
MKAR	**Makanchi Array**	**45.54**	**306**	P		**P**	**01 38 32.2**	**-1.4**
	0.4nm,0.5s,baz=87,slow=9.7,SNR=8.1							
WRA	**Warramunga Arr**	**52.68**	**187**	P		**P**	**01 39 28.3**	**+0.2**
	0.1nm,0.3s,baz=6.9,slow=8.7,SNR=10							
ILAR	**Eielson Array**	**53.74**	**31**	P		**P**	**01 39 36.0**	**+0.6**
	0.2nm,0.6s,baz=265,slow=5.8,SNR=3.9							
FINES	**FINESS Array B**	**72.07**	**333**	P		**P**	**01 41 36.4**	**-0.2**
	0.9nm,0.7s,baz=110,slow=4.5,SNR=6.4							

*ISCJB **06** 01:37:30.3±0.7,25.31N±0.04×110.04W±0.06,h10km, mb3.5/1,MS3.3/2, Error ellipse: s-maj=7.7km s-min=5.5km az=7.8*
*IDC **06** 01:37:30.1±6.0,24.76N×109.78W,h0km,mb3.7/1, mb1 3.7/5,mb1mx3.5/25,mbtmp3.3/5,ML3.4/4,MS3.3/3, Ms1 3.3/3,ms1mx2.7/34, Error ellipse: s-maj=77.7km s-min=28.4km az=169.0*
*MEX **06** 01:37:34.8±0.3,25.29N×110.07W,h12km±11km,MD4.5*

ISC 06 01:37:32.6±0.9,25°22N±0.06×110°07W±0.06,h10km,n12, σ2§75/14,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LPIG	**La Paz**	**1.14**	**191**	*i* P		**Pb**	**01 37 53.7**	**-0.6**
	baz=9.9,slow=6.5							
LPIG				*e*S		**Sb**	**01 38 08.2**	**-0.9**
SRIG	**Santa Rosalia**	**2.86**	**317**	*i* P		**Pn**	**01 38 17.1**	**-1.2**
SRIG				*i* S		**Sn**	**01 38 49.3**	**-3.5**
HSIG		**3.87**	**348**	*i* P		**Pn**	**01 38 30.1**	**-2.0**
HSIG				*i* S		**Sn**	**01 39 15.1**	**-2.5**
HPIG		**4.31**	**66**	*i* P		**Pn**	**01 38 37.0**	**-1.4**
HPIG				*i* S		**Sn**	**01 39 25.8**	**-3.1**
CGIG		**5.45**	**19**	*i* P		**Pn**	**01 38 52.2**	**-1.9**
CGIG				*i* S		**Sn**	**01 39 54.7**	**-2.2**
TXAR	**Lajitas Array**	**7.01**	**53**	Pn		**Pn**	**01 39 15.5**	**0.0**
	0.2nm,0.3s,baz=229,slow=13,SNR=10							
TXAR				Lg		Lg	01 41 14.3	
	0.2nm,0.3s,baz=227,slow=27,SNR=5.5							
ANMO	**Albuquerque**	**10.18**	**17**	Pn		Pn	01 40 03.3	+4.3
	0.1nm,0.3s,baz=215,slow=12,SNR=2.8							
ANMO				LR		LR	01 43 38.0	
	comp=Z,122nm,19.6s,baz=94,slow=35							
NVAR	**Mina Array Bea**	**14.90**	**334**	Pn		**P**	**01 41 12.0**	**+2.6**
	0.1nm,0.3s,baz=166,slow=12,SNR=2.4							
PDAR	**Pinedale Array**	**17.51**	**1**	P		**P**	**01 41 42.1**	**+3.9**
	0.0nm,0.3s,baz=169,slow=11,SNR=5.8							
NEW	**Newport**	**23.66**	**348**	P		**P**	**01 42 48.2**	**+4.0**
	2.0nm,0.9s,baz=186,slow=12,SNR=3.7							
TKL	**Tuckaleechee C**	**24.87**	**59**	LR		LR	01 54 01.8	
	comp=Z,48nm,18.7s,baz=259,slow=40							
GERES	**GERESS Array B**	**90.83**	**33**	LR		LR	02 29 26.9	
	comp=Z,19nm,21.3s,baz=151,slow=34							

*ISCJB **06** 01:47:05.1±0.5,41.90N±0.04×142.44E±0.06,h69km±4km, mb3.5/7, Error ellipse: s-maj=8.5km s-min=4.7km az=41.9*
*JMA **06** 01:47:05.6±0.2,41.92N×142.46E,h64km±3km,M3.2*
*IDC **06** 01:47:06.2±3.0,41.88N×142.53E,h72km±25km,mb3.3/7, mb1 3.4/9,mb1mx3.2/26,mbtmp3.3/9, Error ellipse: s-maj=26.5km s-min=21.8km az=117.0*

ISC 06 01:47:05.7±0.9,41°90N±0.04×142°44E±0.04,h58km±8km, n21,σ1§03/31,mb3.7/7,3C-3D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JNBK	**Urakawa-nobuka**	**0.44**	**31**	⇑P		**Pn**	**01 47 16.8**	**-0.1**
JNBK				*e*S		**Sn**	**01 47 25.7**	**+0.7**
JEM	**Erimo**	**0.54**	**78**	⇑P		**Pn**	**01 47 18.2**	**+0.3**
JEM				*e*S		**Sn**	**01 47 27.0**	**+0.1**
JBT2	**Biratori 2**	**0.88**	**356**	⇓P		**Pn**	**01 47 21.9**	**-0.1**
JBT2				*e*S		**Sn**	**01 47 34.0**	**-0.1**
JCH	**Churui**	**0.98**	**44**	P		**Pn**	**01 47 23.6**	**+0.2**
JKB	**Kayabe**	**1.05**	**270**	⇓P		**Pn**	**01 47 24.5**	**+0.2**
JKB				*e*S		**Sn**	**01 47 38.0**	**-0.1**
JOT	**Ohata**	**1.17**	**244**	⇓P		**Pn**	**01 47 26.3**	**+0.5**
JOT				*e*S		**Sn**	**01 47 41.2**	**+0.3**
JNB	**Noboribetsu**	**1.19**	**299**	P		**Pn**	**01 47 26.0**	**-0.1**
JFR	**Furan**	**1.26**	**5**	P		**Pn**	**01 47 27.3**	**+0.2**
JFR				*e*S		**Sn**	**01 47 42.5**	**-0.7**
JOB	**Onbets**	**1.44**	**45**	P		**Pn**	**01 47 30.7**	**+1.3**
JOB				*e*S		**Sn**	**01 47 49.2**	**+2.0**
JTM	**Tenmabayashi**	**1.52**	**223**	P		**Pn**	**01 47 31.9**	**+1.3**
JANG	**Nango**	**1.68**	**205**	⇑P		**Pn**	**01 47 33.6**	**+0.8**
JANG				*e*S		**Sn**	**01 47 54.0**	**+0.8**
JAR	**Ashorobuto**	**1.70**	**35**	P		**Pn**	**01 47 34.0**	**+1.0**
JAR				*e*S		**Sn**	**01 47 54.5**	**+0.8**
ASAJ	**Asahikawa**	**2.21**	**3**	P		**Pn**	**01 47 41.0**	**+1.1**
	11nm,0.3s,baz=198,slow=11,SNR=21							
ASAJ				S		**Sn**	**01 48 08.3**	**+2.1**
	5.7nm,0.3s,baz=311,slow=27,SNR=8.7							
USRK	**Ussuriysk Arra**	**7.99**	**290**	P		**Pn**	**01 49 01.6**	**+2.7**
	0.1nm,0.3s,baz=102,slow=12,SNR=4.4							
SONM	**Songino Array**	**26.06**	**296**	P		**P**	**01 52 34.1**	**+0.5**
	0.2nm,0.5s,baz=70,slow=8.5,SNR=2.6							
ZALV	**Zalesovo Beam**	**39.38**	**308**	P		**P**	**01 54 28.0**	**-1.2**
	0.5nm,0.3s,baz=69,slow=7.9,SNR=2.2							
MKAR	**Makanchi Array**	**42.38**	**298**	P		**P**	**01 54 53.7**	**-0.4**
	0.4nm,0.8s,baz=80,slow=10.0,SNR=4.2							
KURBB	**Kurchatov Arra**	**43.78**	**304**	P		**P**	**01 55 05.2**	**-0.1**
	0.8nm,0.5s,baz=78,slow=8.8,SNR=6.4							
ILAR	**Eielson Array**	**45.00**	**35**	P		**P**	**01 55 14.4**	**-0.4**
	0.2nm,0.5s,baz=267,slow=5.4,SNR=4.6							
WRA	**Warramunga Arr**	**61.99**	**189**	P		**P**	**01 57 18.4**	**-1.3**
	1.0nm,1.2s,baz=6.9,slow=6.8,SNR=6.3							
FINES	**FINESS Array B**	**64.90**	**332**	P		**P**	**01 57 37.9**	**-0.5**
	0.9nm,0.6s,baz=77,slow=2.5,SNR=8.0							

*IDC **06** 01:53:00.6±1.0,39.02N×92.23E,h0km,mb3.6/4, mb1 3.7/8,mb1mx3.5/30,mbtmp3.6/8,ML3.7/4,MS2.8/2, Ms1 2.8/2,ms1mx2.2/30, Error ellipse: s-maj=30.1km s-min=19.8km az=57.0*
*ISCJB **06** 01:53:03.2±0.9,39.2N±0.1×91.9E±0.1,h33km,mb3.4/4, MS2.7/1, Error ellipse: s-maj=18.5km s-min=9.7km az=40.4*

ISC 06 01:53:05.6±1.2,39°2N±0.1×91°78E±0.09,h35km,n12, σ2§15/12,mb3.5/4,2C-1D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MK31	**Makanchi Array**	**10.30**	**321**	P		**Pn**	**01 55 31.7**	**+1.0**
	1.3nm,0.4s,baz=130,slow=14,SNR=69							
MK31				⇑S		**Sn**	**01 57 20.7**	**-4.2**
	2.8nm,0.8s,baz=133,slow=25,SNR=6.2							
MKAR	**Makanchi Array**	**10.30**	**321**	Pn		**Pn**	**01 55 32.5**	**+1.7**
	1.6nm,0.3s,baz=135,slow=14,SNR=37							
MKAR				Sn		**Sn**	**01 57 26.4**	**+1.5**
	0.6nm,0.3s,baz=133,slow=24,SNR=5.5							
MKAR				Lg		Lg	01 58 28.3	
	baz=131,slow=24,SNR=2.6							
TKM2	**Tokmak 2**	**12.77**	**292**	⇑P		**Pn**	**01 56 05.7**	**+0.9**
	2.9nm,0.6s							
TKM2				⇓S		**Sn**	**01 58 23.0**	**-2.8**
	2.5nm,1.1s							
AAK	**Ala-Archa**	**13.52**	**290**	LR		LR	02 02 20.9	
	comp=Z,33nm,20.0s,baz=266,slow=40							
SONM	**Songino Array**	**13.67**	**46**	Pn		**Pn**	**01 56 15.9**	**-0.9**
	0.2nm,0.3s,baz=229,slow=14,SNR=3.2							
SONM				Lg		Lg	02 00

comp=E,0.5nm,0.7s,baz=345,slow=6.4,SNR=5.4
ASAR Alice Springs 70.75 143 P **P 02 32 18.7 +1.0**
comp=E,0.7nm,0.6s,baz=327,slow=5.9,SNR=15
ESDC Sonseca Array 73.58 308 P **P 02 32 36.0 +1.4**
comp=E,0.6nm,0.6s,baz=43,slow=6.3,SNR=6.9
STKA Stephens Creek 81.32 142 P **P 02 33 17.8 +0.1**
comp=E,1.4nm,0.7s,baz=284,slow=7.9,SNR=5.6
TORD Torodi Ar. Bea 85.35 283 P **P 02 33 39.4 +0.5**
comp=E,0.5nm,1.0s,baz=37,slow=5.0,SNR=3.9

*ISCJB **06** 02:27:16.9±0.5, 43.43°N±0.07′×92.98°E±0.10′, 8 h10km, mb3.7/10, MS2.8/2, Error ellipse: s-maj=12.2km s-min=5.3km az=34.6*
*IDC **06** 02:27:17.1±0.9, 43.36°N×92.98°E, 8 h0km, mb3.8/6, mb1 3.8/11, mb1mx3.6/30, mbtmp3.7/11, ML3.5/5, MS3.1/4, Ms1 3.1/4, ms1mx2.6/46, Error ellipse: s-maj=25.1km s-min=14.8km az=29.0*
*BJI **06** 02:27:20.1, 43.43°N×93.16°E, 8 h10km, ML4.0/7, Ms7 3.1/2*
*NNC **06** 02:27:22.1±1.0, 43.71°N×92.63°E, 8 h0km, mb3.7, mpv3.4, Error ellipse: s-maj=24.4km s-min=11.1km az=34.0*

ISC 06 02:27:18.8±0.7, 43°38′N±0′.09×92°87′E±0′.06, h10km, n26, σ1§26/27, mb3.8/10, 8C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**3.79**	**278**	Pn	Pb	02 28 22.0	-3.8
WMQ				Sn	**Sb**	**02 29 11.5**	**-0.2**
WMQ				smax	smax		
	comp=N,260nm,0.6s						
WMQ				smax	smax		
	comp=E,250nm,0.6s						
GTA	**Gaotai**	**6.55**	**125**	*e*Pn	**Pn**	**02 28 55.0**	**-0.3**
GTA				Sn	**Sn**	**02 30 10.6**	**+0.4**
GTA				LR	LR		
	comp=Z,65nm,6.9s						
MK31	**Makanchi Array**	**8.23**	**298**	Pn	**Pn**	**02 29 18.9**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=106,slow=16,SNR=36						
MK31				⇑Sn	**Sn**	**02 30 50.5**	**-0.7**
	comp=Z,6.5nm,0.6s,baz=108,slow=29,SNR=4.6						
MK31				⇑Lg	Lg	02 31 35.1	
	comp=Z,13nm,0.7s,baz=104,slow=28,SNR=4.0						
MKAR	**Makanchi Array**	**8.23**	**298**	Pn	**Pn**	**02 29 19.6**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=106,slow=14,SNR=27						
MKAR				Sn	**Sn**	**02 30 50.0**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=108,slow=24,SNR=6.4						
MKAR				Lg	Lg	02 31 47.1	
	comp=Z,1.3nm,0.3s,baz=102,slow=30,SNR=5.6						
SONM	**Songino Array**	**10.46**	**60**	Pn	**Pn**	**02 29 49.1**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=246,slow=15,SNR=7.5						
SONM				Lg	Lg	02 32 45.7	
	comp=Z,3.5nm,0.3s,baz=251,slow=31,SNR=9.9						
SONM				LR	LR	02 33 56.2	
	comp=Z,167nm,18.6s,baz=172,slow=38						
ZALV	**Zalesovo Beam**	**11.83**	**336**	Pn	**Pn**	**02 30 07.4**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=146,slow=11,SNR=3.7						
ZALV				Sn	**Sn**	**02 32 21.4**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=155,slow=14,SNR=2.2						
ZALV				Lg	Lg	02 33 27.8	
	comp=Z,0.2nm,0.3s,baz=162,slow=21,SNR=3.9						
KURBB	**Kurchatov Arra**	**12.17**	**312**	⇓Pn	**Pn**	**02 30 10.8**	**-1.2**
	comp=Z,1.3nm,0.6s						
KURBB				⇓Sn	**Sn**	**02 32 24.9**	**-2.7**
	comp=Z,8.7nm,0.7s						
KURBB				⇓Lg	Lg	02 33 36.9	
	comp=Z,22nm,0.7s						
KURBB	**Kurchatov Arra**	**12.17**	**312**	Pn	**Pn**	**02 30 10.8**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=115,slow=14,SNR=3.4						
KURBB				Lg	Lg	02 33 42.1	
	comp=Z,0.1nm,0.3s,baz=105,slow=33,SNR=4.3						
TKM2	**Tokmak 2**	**12.63**	**274**	⇑Pn	**Pn**	**02 30 19.7**	**+1.0**
	comp=Z,2.1nm,0.6s						
AAK	**Ala-Archa**	**13.48**	**273**	LR	LR	02 36 06.7	
	comp=Z,89nm,18.5s,baz=265,slow=39						
KK31	**Karatay Array**	**16.30**	**277**	P	**P**	**02 31 08.5**	**-2.2**
	comp=Z,1.3nm,0.7s,baz=65,slow=12,SNR=12						
VOSK	**Vostochnaya**	**17.31**	**310**	⇑P	**Pn**	**02 31 20.0**	**-0.3**
	comp=Z,1.9nm,1.1s						
BVA0	**Borovoye Array**	**17.76**	**311**	⇑P	**P**	**02 31 27.3**	**+0.6**
	comp=Z,2.8nm,1.2s,baz=105,slow=12,SNR=5.0						
BVAR	**Borovoye Array**	**17.76**	**311**	P	**P**	**02 31 25.6**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=103,slow=6.4,SNR=6.9						
ZRNK	**Zerenda**	**18.50**	**309**	⇑P	**Pn**	**02 31 35.8**	**+0.7**
	comp=Z,1.5nm,0.6s						
NJ2	**Nanjing**	**23.36**	**110**	*e*P	P	02 32 21.6	-5.8
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
AB31	**Akbulak array**	**23.37**	**296**	⇑P	**P**	**02 32 29.3**	**+2.0**
	comp=Z,1.2nm,0.8s,baz=92,slow=10,SNR=4.8						
AKTO	**Aktyubinsk**	**24.66**	**299**	⇑P	**P**	**02 32 41.5**	**+2.0**
	comp=Z,1.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**25.37**	**166**	P	P	02 32 52.8	+6.7
	comp=Z,1.0nm,0.3s,baz=350,slow=10,SNR=5.0						
KSRS	**Korea Array**	**27.20**	**91**	P	**P**	**02 33 02.3**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=292,slow=8.5,SNR=6.3						
KSRS				LR	LR	02 44 34.6	
	comp=Z,31nm,19.4s,baz=255,slow=38						
ASAJ	**Asahikawa**	**35.48**	**71**	LR	LR	02 49 25.2	
	comp=Z,13nm,18.4s,baz=92,slow=38						
FINES	**FINESS Array B**	**42.42**	**319**	P	**P**	**02 35 14.2**	**+1.1**
	comp=Z,1.9nm,1.0s,baz=35,slow=7.0,SNR=4.4						
ILAR	**Eielson Array**	**62.55**	**25**	P	**P**	**02 37 41.7**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=307,slow=5.3,SNR=15						
WRA	**Warramunga Arr**	**73.62**	**140**	P	**P**	**02 38 51.3**	**-1.1**
	comp=Z,0.5nm,1.0s,baz=316,slow=3.5,SNR=3.1						
ASAR	**Alice Springs**	**76.64**	**142**	P	**P**	**02 39 09.4**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=334,slow=5.8,SNR=5.9						
TORD	**Torodi Ar. Bea**	**81.95**	**280**	P	**P**	**02 39 39.1**	**+0.1**
	comp=Z,1.2nm,1.2s,baz=39,slow=4.4,SNR=3.2						

*ISCJB **06** 02:34:53.6±1.6, 17.71°S±0.09×167.2°E±0.2, h19km, mb3.8/4, MS3.2/2, Error ellipse: s-maj=34.1km s-min=12.7km az=2.1*
*IDC **06** 02:34:53.1±2.8, 17.33°S×167.07°E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/19, mbtmp3.9/4, MS3.4/2, Ms1 3.4/2, ms1mx2.7/28, Error ellipse: s-maj=111.6km s-min=34.1km az=139.0*

ISC 06 02:34:55.1±1.7, 17°7′S±0′.1×167°3′E±0′.3, h19km, n6, σ1§10/6, mb3.8/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NOUC	**Port Laguerre**	**4.49**	**192**	*e*P	**Pn**	**02 36 02.5**	**+0.3**
NOUC				*e*S	**Sn**	**02 36 53.3**	**-0.7**
AFI	**Afiamalu**	**20.47**	**82**	LR	LR	02 46 20.6	
	comp=Z,71nm,18.9s,baz=61,slow=33						
STKA	**Stephens Creek**	**27.20**	**234**	P	**P**	**02 40 39.3**	**+1.5**
	5.2nm,0.8s,baz=60,slow=10.0,SNR=9.7						
WRA	**Warramunga Arr**	**31.26**	**261**	P	**P**	**02 41 13.3**	**-0.7**
	0.5nm,0.7s,baz=92,slow=9.6,SNR=9.3						
ASAR	**Alice Springs**	**31.76**	**254**	P	**P**	**02 41 18.1**	**-0.4**
	1.5nm,0.7s,baz=79,slow=9.0,SNR=25						
ASAR				LR	LR	02 53 38.2	
	comp=Z,78nm,18.1s,baz=15,slow=36						
ILAR	**Eielson Array**	**89.31**	**18**	P	**P**	**02 47 49.5**	**-0.2**
	0.3nm,0.8s,baz=232,slow=3.7,SNR=4.3						

IDC 06 02:39:13.3±2.3, 2°51′N×129°02′E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=149.6km s-min=25.0km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.91**	**167**	P	P	02 44 19.4	+0.4
	0.9nm,0.4s,baz=347,slow=11,SNR=26						
ASAR	**Alice Springs**	**26.45**	**170**	P	P	02 44 51.5	-0.7
	0.4nm,0.6s,baz=352,slow=7.8,SNR=5.5						
MKAR	**Makanchi Array**	**59.86**	**325**	P	P	02 49 21.0	+0.2
	0.1nm,0.4s,baz=120,slow=8.5,SNR=2.3						

IDC 06 02:50:59.5±2.0, 15°02′S×175°66′W, h310km±21km, mb3.2/9, mb1 3.5/10, mb1mx3.3/21, mbtmp3.2/10, Error ellipse: s-maj=28.5km s-min=13.3km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.92**	**74**	P	Pn	02 52 05.9	+0.5
	4.5nm,0.3s,baz=94,slow=24,SNR=6.6						
URZ	**Urewera**	**24.01**	**194**	P	P	02 55 45.1	-1.7
	2.7nm,0.3s,baz=297,slow=6.8,SNR=2.8						
STKA	**Stephens Creek**	**42.34**	**239**	P	P	02 58 24.7	+0.7
	1.7nm,0.8s,baz=94,slow=12,SNR=3.4						
WRA	**Warramunga Arr**	**47.80**	**257**	P	P	02 59 06.8	0.0
	0.2nm,0.5s,baz=95,slow=7.2,SNR=8.2						
ASAR	**Alice Springs**	**48.15**	**252**	P	P	02 59 09.4	0.0
	2.0nm,0.4s,baz=86,slow=8.1,SNR=43						
VNDA	**Vanda**	**63.54**	**185**	P	P	03 00 58.3	+1.4
	0.5nm,0.7s,baz=8.6,slow=6.9,SNR=3.9						
NVAR	**Mina Array Bea**	**75.53**	**43**	P	P	03 02 10.5	-0.2
	1.0nm,0.8s,baz=238,slow=8.4,SNR=4.4						
TXAR	**Lajitas Array**	**82.23**	**57**	P	P	03 02 47.7	+0.8
	0.3nm,0.9s,baz=343,slow=2.2,SNR=3.2						
ILAR	**Eielson Array**	**82.52**	**12**	P	P	03 02 46.7	-0.8
	0.7nm,0.5s,baz=222,slow=5.4,SNR=23						
PDAR	**Pinedale Array**	**83.46**	**43**	P	P	03 02 53.0	-0.1
	0.8nm,0.9s,baz=199,slow=2.7,SNR=6.1						
BRTR	**Keskin Array B**	**144.47**	**319**	PKP	PKPbc	03 09 59.2	+0.3
	2.1nm,0.8s,baz=89,slow=3.1,SNR=12						

*IDC **06** 02:56:20.7±4.8, 5.12°S×132.16°E, h0km, mb3.6/1, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=315.9km s-min=31.6km az=74.0*
*ISCJB **06** 02:56:27.8±0.6, 5.49°S±0.04×131.32°E±0.07, h54km, mb3.6/1, Error ellipse: s-maj=9.9km s-min=5.0km az=168.8*
*AUST **06** 02:56:28.8, 5.47°S×131.53°E, h35km*
*DJA **06** 02:56:32.8±1.3, 5°S±10′×131°1E±1°, h92km±20km, M3.7/3, MLv3.7/3*

ISC 06 02:56:29.4±0.8, 5°45S±0′.05×131°30E±0′.06, h54km, n13, σ1§42/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.67**	**303**	P	**Pn**	**02 56 56.6**	**+0.4**
BNDI				S	**Sn**	**02 57 16.5**	**0.0**
BNDI	**Bandanaira**	**1.67**	**303**	P	**Pn**	**02 56 57.0**	**+0.7**
	baz=1.9,SNR=5.7						
BNDI				S	**Sn**	**02 57 16.6**	**0.0**
	baz=1.9,SNR=9.1						
FAKI	**Fak Fak**	**2.68**	**21**	P	**Pn**	**02 57 10.8**	**+0.7**
FAKI				S	**Sn**	**02 57 40.4**	**-1.1**
FAKI	**Fak Fak**	**2.68**	**21**	P	**Pn**	**02 57 10.9**	**+0.8**
	baz=2.7,SNR=17						
FAKI				S	**Sn**	**02 57 40.4**	**-1.1**
	baz=2.7,SNR=20						
MSAI	**Masohi**	**3.16**	**311**	P	**Pn**	**02 57 15.8**	**-0.8**
MSAI				S	**Sn**	**02 57 50.3**	**-2.8**
KDU	**Kakadu**	**7.29**	**171**	P	**Pn**	**02 58 15.3**	**+2.0**
	baz=7.3,SNR=4.9						
KDU				S	**Sn**	**02 59 32.3**	**-2.4**
	baz=7.3,SNR=4.6						
MTN	**Manton Dam**	**7.35**	**181**	P	**Pn**	**02 58 16.3**	**+2.1**
	baz=7.4,SNR=19						
MTN				S	**Sn**	**02 59 35.8**	**-0.4**
	baz=7.4,SNR=5.5						
KNRA	**Kununurra**	**10.47**	**194**	P	**Pn**	**02 58 57.2**	**+0.4**
	baz=11,SNR=6.8						
FITZ	**Fitzroy Crossi**	**13.74**	**203**	P	**Pn**	**02 59 43.2**	**+1.6**
	baz=14,SNR=4.1						
COEN	**Coen**	**14.43**	**127**	P	**Pn**	**02 59 52.3**	**+1.6**
	baz=14,SNR=9.2						
WRA	**Warramunga Arr**	**14.71**	**169**	Pn	**Pn**	**02 59 53.1**	**-1.3**
	0.2nm,0.3s,baz=351,slow=13,SNR=16						
WRA				Sn	Sn	03 02 27.4	-8.9
	0.5nm,0.3s,baz=0.2,slow=23,SNR=7.7						
ASAR	**Alice Springs**	**18.29**	**172**	P	**P**	**03 00 38.4**	**-0.5**
	0.2nm,0.3s,baz=355,slow=14,SNR=6.2						
ASAR				S	Sn	03 03 53.7	-9.2
	0.1nm,0.3s,baz=358,slow=27,SNR=4.3						
MKAR	**Makanchi Array**	**67.66**	**326**	P	**P**	**03 07 21.1**	**+0.2**
	0.4nm,0.6s,baz=124,slow=7.9,SNR=5.5						

*IDC **06** 02:56:43.7±1.0, 34.00°N×70.04E, h0km, mb3.8/8, mb1 3.9/13, mb1mx3.7/31, mbtmp3.8/13, ML3.7/5, MS3.1/2, Ms1 3.2/2, ms1mx2.4/41, Error ellipse: s-maj=22.1km s-min=19.6km az=89.0*
*ISCJB **06** 02:56:47.1±0.6, 34.16°N±0.05×69.99E±0.06, h33km, mb3.7/8, MS3.1/2, Error ellipse: s-maj=8.4km s-min=5.5km az=146.0*
*NNC **06** 02:56:51.0±4.3, 34.27°N×69.62E, h45km±42km, mb3.7, mpv4.0, Error ellipse: s-maj=33.0km s-min=13.6km az=32.0*

ISC 06 02:56:48.7±0.9, 34°11′N±0′.08×69°82E±0′.08, h35km, n28, σ1§40/31, mb3.8/8, 7C-6D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**5.21**	**107**	*e*4	x	02 58 15.6	
THN				*e*S	**Sn**	**02 59 05.9**	**+3.0**
DLH	**Dalhousie**	**5.38**	**105**	*e*P	**Pn**	**02 58 06.0**	**-0.6**
DLH				*e*S	**Sn**	**02 59 09.0**	**+1.7**
SDNR	**Sundarnagar**	**6.55**	**111**	*e*P	**Pn**	**02 58 21.0**	**-1.6**
SDNR				*e*S	**Sn**	**02 59 33.0**	**-3.1**
AYAN	**Aya Nagar**	**8.39**	**130**	*e*P	Pn	02 58 42.1	-5.7
AYAN				*e*S	Sn	03 00 09.4	-12
KK31	**Karatay Array**	**9.00**	**3**	⇑P	**Pn**	**02 58 56.6**	**+0.5**
	2.9nm,0.5s,baz=177,slow=11,SNR=60						
KK31				⇓S	**Sn**	**03 00 36.0**	**-0.1**
	3.4nm,0.6s,baz=187,slow=22,SNR=4.3						
AAK	**Ala-Archa**	**9.27**	**22**	Pn	Pn	02 59 03.4	+3.5
	1.3nm,0.3s,baz=157,slow=4.0,SNR=6.8						
AAK				Sn	**Sn**	**03 00 42.7**	**-0.2**
	0.3nm,0.3s,baz=348,slow=19,SNR=3.2						
TKM2	**Tokmak 2**	**9.89**	**25**	⇑P	**Pn**	**02 59 09.1**	**+0.6**
	4.2nm,1.2s						
TKM2				⇑S	**Sn**	**03 00 59.5**	**+1.2**
	2.9nm,0.8s						
MK31	**Makanchi Array**	**15.80**	**33**	P	**Pn**	**03 00 29.1**	**+0.6**
	1.5nm,0.7s,baz=218,slow=10,SNR=12						
MKAR	**Makanchi Array**	**15.80**	**33**	Pn	**Pn**	**03 00 28.4**	**0.0**
	0.2nm,0.3s,baz=209,slow=9.2,SNR=12						
AB31	**Akbulak array**	**16.82**	**337**	⇓P	**Pn**	**03 00 41.3**	**+0.1**
	1.2nm,0.6s,baz=149,slow=13,SNR=4.4						
AB31				⇑S	**Sn**	**03 03 44.6**	**-2.3**
	1.3nm,0.8s						
KURBB	**Kurchatov Arra**	**17.69**	**19**	⇑P	**Pn**	**03 00 51.9**	**-0.2**
	2.2nm,0.8s						
KURBB	**Kurchatov Arra**	**17.69**	**19**	P	**Pn**	**03 00 51.6**	**-0.5**
	0.1nm,0.3s,baz=208,slow=11,SNR=7.5						
AKTO	**Aktyubinsk**	**18.47**	**336**	⇑P	**P**	**03 01 00.8**	**-0.6**
	6.4nm,1.3s						
AKTO				⇑S	**Sn**	**03 04 24.0**	**-2.8**
	2.1nm,1.2s						
AKTO	**Aktyubinsk**	**18.47**	**336**	P	**Pn**	**03 01 02.5**	**+0.9**
	0.2nm,0.3s,baz=130,slow=14,SNR=5.0						
VOSK	**Vostochnaya**	**18.63**	**2**	⇓P	**P**	**03 01 03.1**	**0.0**
	2.8nm,0.9s						
ZRNK	**Zerenda**	**18.85**	**358**	⇓P	**P**	**03 01 04.7**	**-0.7**
	1.5nm,0.6s						
BVA0	**Borovoye Array**	**18.91**	**1**	⇓P	**Pn**	**03 01 06.8**	**-0.2**
	1.9nm,0.7s,baz=236,slow=41,SNR=18						
BVAR	**Borovoye Array**	**18.91**	**1**	P	**P**	**03 01 06.5**	**+0.3**
	0.3nm,0.3s,baz=178,slow=10,SNR=12						
BRVK	**Borovoye**	**18.95**	**1**	⇓P	**P**	**03 01 06.2**	**-0.3**
	4.0nm,0.7s						
ZALV	**Zalesovo Beam**	**22.49**	**24**	P	**P**	**03 01 43.4**	**-1.5**
	1.0nm,0.3s,baz=229,slow=10,SNR=6.3						
BRTR	**Keskin Array B**	**29.33**	**292**	P	P	03 02 51.9	+3.7
	0.8nm,0.9s,baz=110,slow=9.3,SNR=4.1						
EIL	**Elat**	**29.85**	**271**	LR	LR	03 16 53.3	
	comp=Z,64nm,18.1s,baz=179,slow=40						
FINES	**FINESS Array B**	**38.97**	**328**	P	**P**	**03 04 12.7**	**+1.6**
	2.3nm,1.0s,baz=91,slow=10,SNR=4.5						
ARCES	**ARCESS Array B**	**43.01**	**339**	P	**P**	**03 04 46.5**	**+2.2**
	3.6nm,0.9s,baz=106,slow=8.1,SNR=6.5						
NOA	**NORSAR Array B**	**45.74**	**325**	P	**P**	**03 05 07.9**	**+1.7**
	0.9nm,0.8s,baz=102,slow=7.9,SNR=2.6						
NOA				LR	LR	03 26 44.5	
	comp=Z,13nm,18.8s,baz=150,slow=39						
TORD	**Torodi Ar. Bea**	**64.71**	**269**	P	**P**	**03 07 23.4**	**-0.1**
	0.1nm,0.3s,baz=52,slow=6.5,SNR=5.9						
WRA	**Warramunga Arr**	**81.57**	**121**	P	**P**	**03 09 02.4**	**-0.6**
	0.7nm,0.7s,baz=321,slow=5.0,SNR=7.7						
ASAR	**Alice Springs**	**83.70**	**124**	P	**P**	**03 09 14.2**	**+0.2**
	0.4nm,0.5s,baz=318,slow=5.2,SNR=6.0						

*IDC **06** 03:06:23.4±1.1, 17.59°S×167.26E, h0km, mb4.2/11, mb1 4.4/11, mb1mx4.2/19, mbtmp4.2/11, MS3.5/8, Ms1 3.5/8, ms1mx3.2/28, Error ellipse: s-maj=38.4km s-min=20.8km az=141.0*
*ISCJB **06** 03:06:24.8±0.6, 17.74°S±0.05×167.2°E±0.1, h19km, mb4.1/13, MS3.4/8, Error ellipse: s-maj=15.0km s-min=6.9km az=2.1*
*NEIC **06** 03:06:25.0±0.5, 17.64°S×167.26E, h10km, mb4.3/5, Error ellipse: s-maj=18.0km s-min=11.4km az=145.0*

ISC 06 03:06:26.3±0.6, 17°71S±0′.07×167°3E±0′.1, h19km, n54, σ0§92/42, mb4.2/12, MS3.4/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.43**	**185**	*e*S	**Sn**	**03 08 22.5**	**-1.2**
NOUC	**Port Laguerre**	**4.46**	**192**	*e*P	**Pn**	**03 07 32.8**	**-0.2**
NOUC				*e*S	**Sn**	**03 08 23.6**	**-0.7**
CTA	**Charters Tower**	**20.03**	**260**	P	Pn	03 10 59.4	-0.8
CTA	**Charters Tower**	**20.03**	**260**	P	Pn	03 10 59.4	-0.8
	4.1nm,0.5s,baz=90,slow=12,SNR=8.1						
CTAO	**Charters Tower**	**20.03**	**260**	*e*P	Pn	03 10 59.5	-0.6
	13nm,1.1s						
AFI	**Afiamalu**	**20.50**	**82**	LR	LR	03 16 15.0	
	comp=Z,39nm,19.5s,baz=271,slow=29						
PMG	**Port Moresby**	**21.21**	**290**	LR	LR	03 18 30.5	
	comp=Z,135nm,18.4s,baz=207,slow=34						
URZ	**Urewera**	**22.21**	**159**	LR	LR	03 18 28.9	
	comp=Z,66nm,21.5s,baz=268,slow=32						
CMSA	**Cobar Meteorol**	**23.91**	**231**	P	**P**	**03 11 40.6**	**+1.5**
	baz=17,SNR=6.9						
STKA	**Stephens Creek**	**27.16**	**234**	*e*P	**P**	**03 12 09.4**	**+0.8**
	2.7nm,0.9s						
STKA	**Stephens Creek**	**27.16**	**234**	P	**P**	**03 12 09.8**	**+1.3**
	13nm,0.8s,baz=61,slow=7.5,SNR=24						
STKA				LR	LR	03 21 59.6	
	comp=Z,104nm,18.3s,baz=219,slow=34						
STKA	**Stephens Creek**	**27.16**	**234**	P	**P**	**03 12 09.9**	**+1.3**
	baz=20,SNR=7.2						
WRAB	**Tennant Creek**	**31.22**	**261**	P	**P**	**03 12 43.8**	**-1.0**
	3.1nm,0.8s						
WRA	**Warramunga Arr**	**31.23**	**261**	P	**P**	**03 12 43.8**	**-1.2**
WRA	**Warramunga Arr**	**31.23**	**261**	P	**P**	**03 12 43.8**	**-1.2**
	2.1nm,0.8s,baz=91,slow=9.1,SNR=21						
RAR	**Rarotonga**	**31.23**	**102**	LR	LR	03 22 48.1	
	comp=Z,134nm,18.7s,baz=135,slow=32						
AS31	**Alice Springs**	**31.73**	**254**	*e*P	**P**	**03 12 48.4**	**-0.9**
ASAR	**Alice Springs**	**31.73**	**254**	P	**P**	**03 12 48.5**	**-0.8**
ASAR	**Alice Springs**	**31.73**	**254**	P	**P**	**03 12 48.5**	**-0.8**
	2.7nm,0.6s,baz=79,slow=8.8,SNR=48						
ASAR				LR	LR	03 24 49.7	
	comp=Z,157nm,19.5s,baz=18,slow=35						
BBOO	**Buckleboo**	**31.84**	**236**	P	**P**	**03 12 51.1**	**+1.0**
	baz=24,SNR=7.2						
FITZ	**Fitzroy Crossi**	**39.56**	**263**	P	**P**	**03 13 56.4**	**-0.2**
	baz=31,SNR=4.3						
TBI	**Tubuai**	**40.79**	**105**	*e*LR	LR	03 25 28.1	
	129nm,28.2s,baz=270						
PPT2	**Papeete2**	**41.05**	**97**	*e*LR	LR	03 25 36.2	
	198nm,27.0s						
PPT	**Papeete**	**41.05**	**97**	LR	LR	03 26 41.7	
	comp=Z,107nm,20.1s,baz=172,slow=30						
MEEK	**Meekatharra**	**45.70**	**250**	P	**P**	**03 14 46.3**	**-0.2**
	baz=37,SNR=3.2						
LUWI	**Luwuk**	**46.75**	**286**	P	P	03 14 46.4	-8.4
	baz=39,SNR=5.9						
LUWI				S	S	03 20 35.7	-69
	baz=39,SNR=4.8						
MNAI	**Manna**	**64.23**	**274**	P	P	03 17 13.2	+13
	baz=56,SNR=4.1						
KSRS	**Korea Array**	**66.21**	**327**	P	**P**	**03 17 12.8**	**-0.1**
	0.8nm,0.6s,baz=138,slow=5.8,SNR=4.4						
KSAR	**Wonju Array Be**	**66.22**	**326**	P	**P**	**03 17 12.8**	**-0.2**
PSI	**Prapat**	**70.33**	**280**	P	**P**	**03 17 39.6**	**0.0**
	baz=62,SNR=3.2						
FX1	**Attu Island--F**	**70.48**	**4**	*e*P	**P**	**03 17 39.3**	**-0.1**
PETK	**Petropavlovsk-**	**71.01**	**354**	LR	LR	03 43 07.2	
	comp=Z,22nm,19.7s,baz=285,slow=31						
QSPA	**South Pole Qui**	**72.33**	**180**	*e*P	**P**	**03 17 51.7**	**+1.0**
	8.3nm,1.1s						
CMAR	**Chiang Mai Arr**	**76.18**	**295**	P	**P**	**03 18 14.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**76.18**	**295**	P	**P**	**03 18 14.8**	**+1.1**
	1.2nm,0.3s,baz=125,slow=3.7,SNR=6.9						
MAW	**Mawson**	**79.14**	**202**	P	**P**	**03 18 30.3**	**+0.9**
MAW	**Mawson**	**79.14**	**202**	P	**P**	**03 18 30.3**	**+0.9**
	1.2nm,0.8s,baz=281,slow=4.6,SNR=3.7						
SONM	**Songino Array**	**84.89**	**324**	P	**P**	**03 19 00.1**	**+0.1**
SONM	**Songino Array**	**84.89**	**324**	P	**P**	**03 19 00.1**	**+0.1**
	1.2nm,0.7s,baz=132,slow=4.3,SNR=8.3						
NVAR	**Mina Array Bea**	**89.21**	**49**	P	**P**	**03 19 22.4**	**+1.1**
NVAR	**Mina Array Bea**	**89.21**	**49**	P	**P**	**03 19 22.4**	**+1.1**
	0.2nm,0.3s,baz=253,slow=9.0,SNR=3.1						
ILAR	**Eielson Array**	**89.35**	**18**	P	**P**	**03 19 19.5**	**-1.6**
ILAR	**Eielson Array**	**89.35**	**18**	P	**P**	**03 19 19.5**	**-1.6**
	0.8nm,0.8s,baz=237,slow=5.2,SNR=12						
SNAA	**Sanae**	**

BKZ	**Black Stump Fm**	**6.72**	**209**	PN	**Pn**	**03**	**20**	**48.2 -1.6**
BKZ				SN	**Sn**	**03**	**22**	**04.8 -0.1**
ASAR	**Alice Springs**	**41.94**	**271**	P	**P**	**03**	**27**	**00.4 +1.1**
	0.5nm,0.5s,baz=110,slow=7.7,SNR=11							
WRA	**Warramunga Arr**	**43.20**	**276**	P	**P**	**03**	**27**	**10.3 +0.8**
	0.6nm,0.4s,baz=117,slow=8.0,SNR=32							
FINES	**FINESS Array B**	**147.50**	**337**	PKPbc	**PKPbc**	**03**	**38**	**50.2 -0.6**
	0.7nm,0.4s,baz=36,slow=5.3,SNR=14							
NOA	**NORSAR Array B**	**151.48**	**349**	PKPbc	**PKPbc**	**03**	**38**	**58.6 -2.2**
	1.1nm,0.8s,baz=14,slow=4.2,SNR=3.8							
TORD	**Torodi Ar. Bea**	**159.86**	**183**	PKPab	**PKPab**	**03**	**39**	**47.2 +1.0**
	0.4nm,0.7s,baz=164,slow=4.2,SNR=4.5							

*CSEM **06** 03:30:03.4±0.3,34.77N×24.23E,h2km, MD3.5, Error ellipse: s-maj=7.4km s-min=3.2km az=7.0*
*ATH **06** 03:30:03.7, 34.78N×24.20E, h20km±1km, MD3.5/15*
*ISCJB **06** 03:30:04.2±0.8, 34.80N±0.06×24.24E±0.04, h17km±5km, mb3.7/3, Error ellipse: s-maj=9.5km s-min=4.9km az=6.9*
*THE **06** 03:30:04.5, 34.85N×24.27E, h0km±1km, ML2.8/2, Error ellipse: s-maj=1.5km s-min=0.6km az=187.0*
*IDC **06** 03:30:09.1±4.6, 34.25N×24.65E, h80km±47km, mb3.5/3, mb1 3.3/4, mb1mx3.1/26, mbtmp3.3/4, ML2.5/1, Error ellipse: s-maj=243.2km s-min=21.1km az=141.0*

ISC 06 03:30:03.0±1.0, 34.72N±0.05×24.24E±0.03, h17km±6km, n57, σ1§04/77, mb3.7/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.17**	**312**	P	**Pg**	**03 30 07.4**	**-0.1**
GVD				S	**Sg**	**03 30 10.4**	**-0.1**
GVD	**Gavdhos**	**0.17**	**312**	*e*PB	**Pg**	**03 30 07.4**	**-0.1**
GVD				*e*SB	**Sg**	**03 30 10.8**	**+0.3**
GVD	**Gavdhos**	**0.17**	**312**	P	**Pg**	**03 30 07.4**	**-0.1**
GVD				S	**Sg**	**03 30 10.4**	**-0.1**
SIVA	**Sivas**	**0.55**	**58**	P	**Pb**	**03 30 14.0**	**-0.2**
SIVA				S	**Sg**	**03 30 21.2**	**-0.2**
SIVA	**Sivas**	**0.55**	**58**	*e*PN	**Pb**	**03 30 14.8**	**+0.6**
SIVA				*e*SN	**Sb**	**03 30 23.1**	**+1.3**
SIVA	**Sivas**	**0.55**	**58**	P	**Pb**	**03 30 14.0**	**-0.2**
SIVA	**Sivas**	**0.55**	**58**	*e*Pn	**Pb**	**03 30 14.8**	**+0.6**
SIVA				S	**Sg**	**03 30 21.2**	**-0.2**
SIVA				*e*Sn	**Sb**	**03 30 23.1**	**+1.3**
VAM	**Vamos**	**0.68**	**357**	P	**Pg**	**03 30 15.8**	**-0.7**
VAM				S	**Sg**	**03 30 24.7**	**-0.9**
VAM	**Vamos**	**0.68**	**357**	*e*PN	**Pg**	**03 30 15.8**	**-0.7**
VAM				*e*SN	**Sg**	**03 30 25.6**	**0.0**
VAM	**Vamos**	**0.68**	**357**	P	**Pg**	**03 30 15.8**	**-0.7**
VAM				S	**Sg**	**03 30 24.7**	**-0.9**
VAM				*e*Sn	**Sg**	**03 30 25.6**	**0.0**
IDI	**Anoyia**	**0.78**	**43**	P	**Pb**	**03 30 17.6**	**-0.5**
IDI				S	**Sg**	**03 30 27.3**	**-1.2**
IDI	**Anoyia**	**0.78**	**43**	*e*PN	**Pb**	**03 30 18.0**	**-0.1**
IDI				*e*SN	**Sb**	**03 30 28.8**	**+0.4**
IDI	**Anoyia**	**0.78**	**43**	P	**Pb**	**03 30 17.6**	**-0.5**
IDI	**Anoyia**	**0.78**	**43**	*e*Pn	**Pb**	**03 30 18.0**	**-0.1**
IDI				S	**Sg**	**03 30 27.3**	**-1.2**
IDI				*e*Sn	**Sb**	**03 30 28.8**	**+0.4**
LAST	**Lasithi**	**1.11**	**66**	P	**Pg**	**03 30 24.4**	**0.0**
LAST				S	**Sg**	**03 30 40.1**	**+1.1**
LAST	**Lasithi**	**1.11**	**66**	*e*PN	**Pg**	**03 30 24.4**	**0.0**
LAST	**Lasithi**	**1.11**	**66**	P	**Pg**	**03 30 24.4**	**0.0**
LAST				S	**Sg**	**03 30 40.1**	**+1.1**
NPS	**Neapolis**	**1.25**	**64**	P	**Pg**	**03 30 26.8**	**-0.3**
NPS	**Neapolis**	**1.25**	**64**	*e*PN	**Pg**	**03 30 27.8**	**+0.7**
NPS	**Neapolis**	**1.25**	**64**	P	**Pg**	**03 30 26.8**	**-0.3**
NPS	**Neapolis**	**1.25**	**64**	*e*Pn	**Pg**	**03 30 27.8**	**+0.7**
ANKY	**Antikythira Is**	**1.38**	**326**	P	**Pb**	**03 30 28.3**	**0.0**
ANKY	**Antikythira Is**	**1.38**	**326**	P	**Pb**	**03 30 28.3**	**0.0**
ZKR	**Zakros**	**1.67**	**76**	*e*PN	**Pg**	**03 30 34.3**	**-0.8**
ZKR	**Zakros**	**1.67**	**76**	*e*Pn	**Pg**	**03 30 34.3**	**-0.8**
KYTH	**Kithira**	**1.84**	**328**	P	**Pb**	**03 30 35.5**	**-0.7**
KYTH	**Kithira**	**1.84**	**328**	*e*PN	**Pb**	**03 30 35.9**	**-0.3**
KYTH	**Kithira**	**1.84**	**328**	P	**Pb**	**03 30 35.5**	**-0.7**
KYTH	**Kithira**	**1.84**	**328**	*e*Pn	**Pb**	**03 30 35.9**	**-0.3**
SANT	**Santorini**	**1.92**	**31**	*e*PB	**Pn**	**03 30 36.2**	**+1.2**
THR3	**Thira Island,**	**1.93**	**29**	P	**Pn**	**03 30 36.2**	**+1.2**
THR3	**Thira Island,**	**1.93**	**29**	P	**Pn**	**03 30 36.2**	**+1.2**
VLI	**Veliai**	**2.26**	**332**	*e*PN	**Pn**	**03 30 41.2**	**+1.7**
VLI	**Veliai**	**2.26**	**332**	*e*Pn	**Pn**	**03 30 41.2**	**+1.7**
KARP	**Karpathos**	**2.53**	**70**	P	**Pn**	**03 30 44.8**	**+1.5**
KARP				S	**Sb**	**03 31 17.2**	**-1.6**
KARP	**Karpathos**	**2.53**	**70**	*e*PB	**Pb**	**03 30 47.2**	**-0.8**
KARP	**Karpathos**	**2.53**	**70**	P	**Pn**	**03 30 44.8**	**+1.5**
KARP				S	**Sb**	**03 31 17.2**	**-1.6**
APE	**Apeiranthos**	**2.56**	**24**	P	**Pn**	**03 30 44.6**	**+0.8**
APE				S	**Sn**	**03 31 15.5**	**+0.9**
APE	**Apeiranthos**	**2.56**	**24**	P	**Pn**	**03 30 44.6**	**+0.8**
APE				S	**Sn**	**03 31 15.5**	**+0.9**
DID	**Didima**	**2.90**	**344**	P	**Pn**	**03 30 49.1**	**+0.7**
DID	**Didima**	**2.90**	**344**	*e*PN	**Pn**	**03 30 50.0**	**+1.6**
DID	**Didima**	**2.90**	**344**	P	**Pn**	**03 30 49.1**	**+0.7**
DID	**Didima**	**2.90**	**344**	*e*Pn	**Pn**	**03 30 50.0**	**+1.6**
VLX	**Vlachokerasia**	**3.04**	**331**	P	**Pn**	**03 30 51.9**	**+1.4**
VLX	**Vlachokerasia**	**3.04**	**331**	*e*PN	**Pn**	**03 30 52.3**	**+1.8**
VLX	**Vlachokerasia**	**3.04**	**331**	P	**Pn**	**03 30 51.9**	**+1.4**
VLX	**Vlachokerasia**	**3.04**	**331**	*e*Pn	**Pn**	**03 30 52.3**	**+1.8**
LTK	**Loutraki**	**3.45**	**343**	*e*PN	**Pn**	**03 30 58.1**	**+2.1**
LTK	**Loutraki**	**3.45**	**343**	*e*Pn	**Pn**	**03 30 58.1**	**+2.1**
GUR	**Goura**	**3.56**	**335**	P	**Pn**	**03 30 58.7**	**+1.2**
GUR	**Goura**	**3.56**	**335**	*e*PN	**Pn**	**03 30 59.4**	**+1.9**
GUR	**Goura**	**3.56**	**335**	P	**Pn**	**03 30 58.7**	**+1.2**
GUR	**Goura**	**3.56**	**335**	*e*Pn	**Pn**	**03 30 59.4**	**+1.9**
BRTR	**Keskin Array B**	**9.00**	**54**	P	Pn	03 32 16.8	+4.5
	0.1nm,0.3s,baz=223,slow=14,SNR=4.8						
TORD	**Torodi Ar. Bea**	**29.63**	**229**	P	**P**	**03 36 06.7**	**-1.0**
	0.4nm,0.4s,baz=34,slow=8.6,SNR=16						
MKAR	**Makanchi Array**	**44.64**	**56**	P	**P**	**03 38 14.3**	**-0.3**
	0.4nm,0.4s,baz=266,slow=7.8,SNR=8.6						
ZALV	**Zalesovo Beam**	**45.85**	**46**	P	**P**	**03 38 22.7**	**-1.3**
	1.1nm,0.5s,baz=265,slow=8.7,SNR=5.2						

IDC 06 03:43:44.3±2.0, 6.63S×128.83E, h0km, mb3.2/1, mb1 3.6/3, mb1mx3.4/19, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=117.4km s-min=30.7km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.27**	**159**	Pn	Pn	03 47 08.3	+0.4
	0.2nm,0.3s,baz=337,slow=12,SNR=19						
WRA				Sn	Sn	03 49 30.9	-16
	0.9nm,0.3s,baz=332,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.63**	**164**	P	Pn	03 47 51.2	-0.4
	0.2nm,0.3s,baz=340,slow=11,SNR=18						
ASAR				S	Sn	03 50 52.2	-17
	0.3nm,0.3s,baz=321,slow=18,SNR=6.4						
MKAR	**Makanchi Array**	**67.29**	**327**	P	P	03 54 41.0	0.0
	0.1nm,0.5s,baz=138,slow=7.8,SNR=2.6						

MAN 06 03:45:32, 11.07N×124.50E, h1km, mb4.4, ML3.2, MS3.1, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.11**	**102**	*e*P	Pg	03 45 34.9	+0.7
OCLP				*e*S	Sg	03 45 39.1	+3.5
LLP	**Lapu-Lapu**	**0.92**	**215**	*e*P	Pb	03 45 50.7	0.0
LLP				*e*S	Sn	03 46 06.5	+0.5
MSLP	**Maasin**	**1.00**	**159**	*e*P	Pb	03 45 52.6	+0.5
MSLP				*e*S	Sn	03 46 08.7	+1.8
TBP	**Tagbilaran**	**1.51**	**205**	*e*P	Pb	03 46 00.8	0.0

DJA 06 03:50:01.0±2.9, 1.1S×112.3E, h28km±35km, M3.6/4, MLv3.6/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.82**	**17**	P	Pn	03 50 31.8	+1.3
GTOI	**Gorontalo**	**1.85**	**347**	P	Pn	03 50 29.3	-1.6
GTOI				S	Sn	03 50 54.7	+1.2
TTSI	**Tana Toraja**	**4.07**	**243**	P	Pn	03 51 01.9	+0.5
NLAI	**Namlea**	**4.19**	**119**	P	Pn	03 51 03.0	-0.1
NLAI				S	Sn	03 51 53.6	+2.4

*IDC **06** 03:49:58.1±1.9, 33.37S×178.04W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.8/18, mbtmp3.9/3, ML3.3/1, MS3.6/2,*

Ms1 3.7/2, ms1mx2.5/31, Error ellipse: s-maj=44.9km s-min=36.8km az=120.0

ISC 06 03:50:03.0±1.5, 33.7S±0.1×178.0W±0.2, h34km, n13, σ1§99/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.09**	**220**	Pn	Pn	03 51 33.0	+2.5
	0.8nm,0.3s,baz=339,slow=8.6,SNR=4.2						
URZ				Sn	**Sn**	**03 52 42.5**	**+3.4**
	5.3nm,0.3s,baz=118,slow=21,SNR=13						
BFZ	**Birch Farm**	**8.40**	**212**	SN	**Sn**	**03 53 34.3**	**-1.5**
MRZ	**Mangatainoka R**	**8.69**	**215**	SN	**Sn**	**03 53 40.6**	**-2.3**
HOWZ	**Holdsworth Sta**	**8.90**	**214**	SN	**Sn**	**03 53 46.2**	**-2.1**
CTZ	**Chatham Island**	**10.11**	**174**	PN	**Pn**	**03 52 26.3**	**+0.6**
CTZ				SN	Sn	03 54 09.4	-8.5
MQZ	**McQueen's Vall**	**12.42**	**213**	SN	**Sn**	03 55 06.8	-7.6
OXZ	**Oxford**	**12.43**	**216**	PN	**Pn**	**03 52 58.6**	**+1.3**
OXZ				SN	Sn	03 55 05.9	-8.7
PPT	**Papeete**	**30.05**	**65**	LR	LR	04 05 15.3	
	comp=Z,76nm,21.6s,baz=148,slow=31						
ASAR	**Alice Springs**	**43.07**	**270**	P	**P**	**03 57 58.9**	**-1.1**
	1.4nm,0.8s,baz=111,slow=7.5,SNR=13						
WRA	**Warramunga Arr**	**44.35**	**275**	P	**P**	**03 58 09.9**	**-0.3**
	2.6nm,0.9s,baz=114,slow=7.7,SNR=25						
CMAR	**Chiang Mai Arr**	**94.51**	**289**	LR	LR	04 39 27.8	
	comp=Z,36nm,20.9s,baz=58,slow=32						
FINES	**FINESS Array B**	**148.20**	**338**	PKPbc	**PKPbc**	**04 09 44.1**	**-0.4**
	2.1nm,0.8s,baz=59,slow=3.7,SNR=5.0						
TORD	**Torodi Ar. Bea**	**159.58**	**179**	PKPab	**PKPab**	**04 10 37.6**	**+0.8**
	0.3nm,0.7s,baz=189,slow=5.2,SNR=4.6						

*JMA **06** 03:50:31.3±0.3, 25.05N×122.03E, h30km, M2.7*
*TAP **06** 03:50:31.2, 24.82N×121.96E, h10km, ML3.5, C*

ISC 06 03:50:30.3±0.9, 24.82N±0.03×122.00E±0.02, h14km±7km, n41, σ0§83/72, 4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.19**	**356**	*i*P	**Pb**	**03 50 35.7**	**0.0**
	baz=11						
TWB1				*i* S	**Sg**	**03 50 38.4**	**+0.6**
	baz=11						
ILA	**Ilan**	**0.24**	**258**	*e*P	**Pb**	**03 50 35.9**	**-0.5**
	baz=253						
ILA				S	**Sg**	**03 50 39.5**	**+0.5**
	baz=253						
TWC	**Suao**	**0.25**	**214**	*i*P	**Pb**	**03 50 36.1**	**-0.5**
	baz=204						
TWC				*i* S	**Sg**	**03 50 39.0**	**-0.3**
	baz=204						
TWE	**Neicheng**	**0.32**	**253**	*i* P	**Pb**	**03 50 37.1**	**-0.7**
	baz=248						
TWE				*e*S	**Sg**	**03 50 40.6**	**-0.8**
	baz=248						
NWF	**Wu-fen Shan**	**0.32**	**322**	*i*P	**Pb**	**03 50 38.0**	**+0.1**
	baz=323						
NWF				*i* S	**Sb**	**03 50 43.1**	**0.0**
	baz=323						
TWA	**Mucha**	**0.41**	**293**	*i* P	**Pb**	**03 50 39.1**	**-0.4**
	baz=296						
TWA				S	**Sb**	**03 50 44.6**	**-1.0**
	baz=296						
ENA	**Nanau**	**0.45**	**212**	*e*P	**Pb**	**03 50 39.9**	**-0.3**
	baz=210						
ENA				*e*S	**Sg**	**03 50 45.2**	**-0.3**
	baz=210						
TAP1	**Taipei**	**0.49**	**297**	*i* P	**Pn**	**03 50 41.2**	**-1.7**
	baz=292						
TAP1				*i* S	**Sb**	**03 50 47.2**	**-0.5**
	baz=292						
TAP	**Taipei**	**0.50**	**296**	*e*P	**Pn**	**03 50 41.8**	**-1.3**
	baz=298						
TAP				S	**Sb**	**03 50 47.7**	**-0.4**
	baz=298						
EHP	**Heping Village**	**0.56**	**205**	*e*P	**Pb**	**03 50 42.3**	**+0.4**
	baz=202						
TWY	**Chenhua**	**0.58**	**322**	*i* P	**Pn**	**03 50 43.1**	**-1.1**
	baz=318						
TWS1	**Kuangyinshan**	**0.60**	**298**	*i* P	**Pn**	**03 50 43.8**	**-0.7**
	baz=289						
TWS1				*e*S	**Sb**	**03 50 51.5**	**+0.5**
	baz=289						
NSK	**Sanguang**	**0.60**	**257**	*e*P	**Pb**	**03 50 43.0**	**+0.4**
	baz=262						
NNS	**Nan Shan**	**0.68**	**237**	*e*P	**Pb**	**03 50 44.0**	**-0.1**
	baz=239						
NCU	**National Centr**	**0.76**	**282**	*e*P	**Pn**	**03 50 46.7**	**+0.1**
	baz=281						
NCU				*e*S	**Sn**	**03 50 56.4**	**-1.4**
	baz=281						
TWD	**Chiawan**	**0.82**	**207**	P	**Pn**	**03 50 46.8**	**-0.7**
	baz=204						
TWD				*e*S	**Sb**	**03 50 57.2**	**-0.1**
	baz=204						
NSTT	**Nanjuang**	**0.93**	**259**	*e*P	**Pn**	**03 50 49.3**	**+0.4**
	baz=257						
NSTT				*e*S	**Sn**	**03 51 01.4**	**-0.7**
	baz=257						
HSN	**Hsinchu**	**0.94**	**269**	*e*P	**Pn**	**03 50 49.7**	**+0.7**
	baz=286						
HSN				*e*S	**Sn**	**03 51 02.5**	**+0.2**
	baz=286						
TWT	**Tachien**	**0.94**	**233**	*e*P	**Pn**	**03 50 49.1**	**-0.1**
	baz=225						
TWT				*e*S	**Sn**	**03 51 02.1**	**-0.4**
	baz=225						
WHF	**Hehuan Shan**	**0.95**	**225**	*i*P	**Pb**	**03 50 48.9**	**+0.1**
	baz=222						
WHF				*e*S	**Sg**	**03 51 01.0**	**-0.3**
	baz=222						
YOJ	**Yonaguni jima**	**0.98**	**111**	P	**Pn**	**03 50 50.5**	**+0.8**
	baz=112						
YOJ				*e*S	**Sn**	**03 51 04.3**	**+0.8**
	baz=112						
YOJ	**Yonaguni jima**	**0.98**	**111**	P	**Pn**	**03 50 50.3**	**+0.6**
YOJ				S	**Sn**	**03 51 04.2**	**+0.8**
ESL	**Shilin**	**1.12**	**208**	*e*P	**Pg**	**03 50 52.1**	**0.0**
	baz=205						
ESL				*e*S	**Sg**	**03 51 06.4**	**-0.3**
	baz=205						
NSY	**Sanyi**	**1.20**	**251**	*e*P	**Pg**	**03 50 54.6**	**+1.1**
	baz=254						
NSY				*e*S	**Sn**	**03 51 11.2**	**+2.5**
	baz=254						
TWQ1	**Liyutan**	**1.21**	**248**	*e*P	**Pg**	**03 50 54.8**	**+1.1**
	baz=244						
TWQ1				*e*S	**Sg**	**03 51 10.9**	**+1.3**
	baz=244						
SMLT	**Sun Moon Lake**	**1.37**	**227**	*e*P	**Pg**	**03 50 56.8**	**+0.1**
	baz=213						
TCU	**Taichung**	**1.38**	**241**	*e*P	**Pg**	**03 50 58.2**	**+1.3**
	baz=239						
TCU				*e*S	**Sg**	**03 51 16.9**	**+2.1**
	baz=239						
TYC	**Yuchr**	**1.38**	**229**	*e*P	**Pg**	**03 50 56.9**	**-0.1**
	baz=220						
TYC				*e*S	**Sg**	**03 51 15.2**	**+0.2**
	baz=220						
EHY	**Hungye**	**1.44**	**206**	*e*P	**Pg**	**03 50 57.3**	**-0.8**
	baz=204						
EHY				*e*S	**Sg**	**03 51 17.2**	**+0.2**
	baz=204						
TWF1	**Yuli**	**1.59**	**204**	*e*P	**Pg**	**03 51 00.0**	**-1.0**
	baz=209						
YUS	**Yu-Shan**	**1.63**	**216**	*e*P	**Pg**	**03 51 02.0**	**+0.2**
	baz=211						
IRIF	**Iriomote-Funau**	**1.65**	**107**	P	**Pb**	**03 50 59.9**	**-0.5**
ALS	**Alishan**	**1.70**	**220**	*e*P	**Pg**	**03 51 03.5**	**+0.5**
	baz=211						
ALS				*e*S	**Sg**	**03 51 26.2**	**+1.1**
	baz=211						
CHN5	**Tsauling**	**1.71**	**225**	P	**Pg**	**03 51 03.8**	**+0.5**
	baz=222						
CHN5				*e*S	**Sg**	**03 51 26.5**	**+1.0**
	baz=222						
HATJ	**Hateruma jima**	**1.81**	**114**	P	**Pb**	**03 51 02.7**	**-0.5**
HATJ				*e*S	**Sn**	**03 51 24.3**	**+0.5**
ELDTW	**Lidau**	**1.85**	**209**	*e*P	**Pg**	**03 51 05.1**	**-0.9**
	baz=199						
JKRS	**Kuro-shima**	**1.92**	**107**	P	**Pb**	**03 51 04.0**	**-1.1**
JKRS				S	**Sb**	**03 51 27.8**	**-1.1**
JIJ	**Ishigaki jima**	**2.00**	**103**	P	**Pn**	**03 51 04.4**	**+0.7**
JIJ				*e*S	**Sn**	**03 51 29.0**	**+0.5**
WTP	**Ta-pu**	**2.01**	**219**	*e*P	**Pg**	**03 51 07.8**	**-1.2**
	baz=204						
WTP				*e*S	**Sg**	**03 51 35.5**	**+0.3**
	baz=204						
TWK	**Hsinying**	**2.07**	**222**	*e*P	**Pg**	**03 51 08.6**	**-1.5**
	baz=218						
TWK				*e*S	**Sg**	**03 51 36.7**	**-0.4**
	baz=218						
TWG	**Pinlang**	**2.16**	**203**	*e*P	**Pb**	**03 51 10.0**	**+0.7**
	baz=203						

IDC 06 03:58:30.7±3.2, 5.98S×147.93E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, ML3.0/2, Error ellipse: s-maj=79.6km s-min=39.4km az=101.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.49**	**193**	Pn	Pn	03 59 28.5	+2.2
	2.2nm,0.3s,baz=7.1,slow=8.1,SNR=3.0						
PMG				Sn	Sn	04 00 01.8	-6.6
	3.1nm,0.3s,baz=22,slow=13,SNR=3.6						
WRA	**Warramunga Arr**	**19.16**	**222**	P	P	04 02 54.7	-1.2
	0.1nm,0.3s,baz=49,slow=10,SNR=10.0						
ASAR	**Alice Springs**	**22.17**	**216**	P	P	04 03 27.8	-0.8
	0.5nm,0.5s,baz=51,slow=9.4,SNR=9.8						
FITZ	**Fitzroy Crossi**	**24.87**	**239**	P	P	04 03 55.1	-0.2
	1.1nm,0.8s,baz=91,slow=11,SNR=5.2						
TORD	**Torodi Ar. Bea**	**145.98**	**285**	PKPbc	PKPbc	04 18 13.2	-0.3
	0.2nm,0.6s,baz=70,slow=4.6,SNR=3.8						

*MOS **06** 04:10:33.9±1.0, 9.65N×78.96W, h33km, mb5.4/44, MS4.5/4, Error ellipse: s-maj=12.3km s-min=5.2km az=118.9*
*ISCJB **06** 04:10:34.7±0.3, 9.66N±0.02×78.88W±0.02, h43km±3km, mb5.1/207, MS4.5/30, Error ellipse: s-maj=4.0km s-min=2.8km az=178.3*
*CASC **06** 04:10:36.2±2.5, 9.67N×78.96W, h45km±34km, MD4.9, mb5.3(NEIC)*
*BJI **06** 04:10:37.8, 9.60N×79.00W, h58km, mB5.2/11, Ms5.2/12, Ms7 4.7/15*
*IDC **06** 04:10:38.5±0.6, 9.60N×79.05W, h65km±5km, mb4.4/22, mb1 4.5/25, mb1mx4.5/26, mbtmp4.4/25, MS4.2/17, Ms1 4.2/17, ms1mx4.0/30, Error ellipse: s-maj=16.4km s-min=9.1km az=59.0*
*NEIC **06** 04:10:38.3±0.5, 9.58N×78.98W, h61km±4km, mb5.3/141, Error ellipse: s-maj=4.7km s-min=3.3km az=54.0*
NEIC Felt [IV] at Anton, Tocumen and Veracruz; [III] at Alcaldediaz, Ancon, Arraijan, Balboa, Cerro Azul, Chame, Las Cumbres, Panama and San Miguelito; [II] at Bejuco, La Chorrera and Margarita. Also felt at Agua Buena, Capira, Cativa, Cermeno, Colon, El Coco, Las Tablas, Los Lotes, Nueva Gorgona, Paraiso, Penonome, Puerto Escondido, Puerto Pilon, Rio Hato, Rio Rita, Sabanitas, Santa Fe, Santiago and Taboga. Felt [II] at Cartagena, Colombia. Also felt at Monteria.
*GCMT **06** 04:10:40.2±0.2, 9.83N×78.97W, h51km±1km, MW5.3, Moment Tensor Solution. s73,c105; s81,c132; Moment tensor: Scale 10^17^Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mθφ0.00; Mφr0.00; Best double couple: M0 1.20000×10^17^ NP1:φs340.00000°, δ75.00000°, λ-174.00000°. NP2:φs248.00000°, δ84.00000°, λ-15.00000°. Principal axes: T 1.1800, Plg6.0000°, Azm295.0000°; N -0.0400, Plg74.0000°, Azm47.0000°; P -1.1500, Plg15.0000°, Azm203.0000°; Data Used: IU II IC G CN.*

ISC 06 04:10:37.5±0.4, 9.58N±0.04×78.92W±0.03, h57km±3km, h57km:pP-P, n876, σ1§16/902, mb5.1/207, MS4.3/31, 250C-191D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPIG		**0.84**	**226**	*i* P	**Pn**	**04 10 52.8**	**-0.5**
UPIG				AMP		04 10 53.8	
UPIG				*e*S	**Sn**	**04 11 04.2**	**-0.8**
BCIP	**Isla Barro Col**	**0.99**	**246**	*i* P	**Pn**	**04 10 54.5**	**-0.7**
BCIP				*e*S	**Sn**	**04 11 06.5**	**-1.9**
BCIP	**Isla Barro Col**	**0.99**	**246**	*e*Pn	**Pn**	**04 10 54.5**	**-0.7**
BCIP				*e*S	**Sn**	**04 11 06.8**	**-1.6**
PINA	**Piqa, Costa Ab**	**1.17**	**254**	*e*P	**Pn**	**04 10 56.1**	**-1.5**
PINA				*e*S	**Sn**	**04 11 10.4**	**-2.3**
BRU	**Baru**	**3.67**	**258**	*e*P	**Pn**	**04 11 32.2**	**0.0**
TBS2		**3.77**	**258**	*e*P	**Pn**	**04 11 32.0**	**-1.2**
TBS2				*e*S	Sn	04 12 09.3	-7.2
BRU2	**Volcan**	**3.80**	**259**	*e*P	**Pn**	**04 11 32.6**	**-1.2**
BRU2				*e*S	**Sn**	**04 12 12.6**	**-4.7**
ACR	**Cerro Adams**	**4.29**	**258**	*i*P	**Pn**	**04 11 40.5**	**+0.1**
BUS	**Buena Vista**	**4.77**	**270**	*i*P	**Pn**	**04 11 46.6**	**-0.7**
URSC	**Urasca**	**4.79**	**273**	*i*P	**Pn**	**04 11 45.9**	**-1.5**
SJS	**Escuela Geolog**	**5.07**	**275**	*e*P	**Pn**	**04 11 50.7**	**-0.4**
SJS				*e*S	**Sn**	**04 12 44.9**	**-3.7**
QCR	**Quepos**	**5.17**	**269**	*i*P	**Pn**	**04 11 52.4**	**0.0**
CGA2	**Cerro Gallo 2**	**5.48**	**275**	*i*P	**Pn**	**04 11 57.0**	**+0.2**
CGA2				*e*S	**Sn**	**04 12 53.4**	**-5.2**
OCAC	**Ocana**	**5.69**	**103**	*e*P	**Pn**	**04 11 59.9**	**+0.3**
OCAC				*e*S	**Sn**	**04 13 02.3**	**-1.5**
JTS	**JuntasAbangare**	**5.98**	**277**	*e*Pn	**Pn**	**04 12 03.1**	**-0.4**
JTS				*e*S	**Sn**	**04 13 10.1**	**-0.7**
JCR	**Jicaral**	**6.11**	**273**	*i*P	**Pn**	**04 12 05.8**	**+0.6**
JCR				*e*S	**Sn**	**04 13 11.9**	**-2.0**
ROSC	**El Rosal**	**6.54**	**136**	*e*Pn	Pn	04 12 14.6	+3.2
ROSC				*e*S	Sn	04 13 35.2	+10
ROSC	**El Rosal**	**6.54**	**136**	P	Pn	04 12 15.4	+4.0
	32nm,0.3s,baz=342,slow=2.5,SNR=311						
ROSC				S	Sn	04 13 41.7	+17
	16nm,0.3s,baz=108,slow=19,SNR=1.8						
ROSC				LR

OBIP Obispado Ponce 14.62 54 *e*Pn Pn 04 13 56.3 -4.9
OBIP *e*S Sn 04 16 27.1 -15
CELP Cerrillos 14.65 53 *e*Pn Pn 04 13 56.1 -5.6
CELP *e*S Sn 04 16 30.3 -13
AOPR Arecibo Observ 14.67 52 *e*Pn Pn 04 13 57.9 -4.0
SJG San Juan 15.02 54 *e*Pn Pn 04 14 00.2 -6.2
SJG *e*S Sn 04 16 33.5 -18
HUMP Col San Antoni 15.27 55 *e*Pn Pn 04 14 04.2 -5.5
147nm,0.8s
CDVI St. Croix 15.97 58 *e*Pn Pn 04 14 13.2 -5.4
CDVI *e*S Sn 04 16 58.5 -16
STVI Saint Thomas 16.11 56 *e*Pn **Pn 04 14 16.9 -3.4**
199nm,1.1s
STVI *e*S Sn 04 16 52.2 -26
ATAH Atahualpa 16.61 178 P **P 04 14 28.8 +0.1**
ATAH Atahualpa 16.61 178 P **P 04 14 28.8 +0.1**
0.5nm,0.3s,baz=338,slow=6.4,SNR=12
GRW Mount Saint Ca 17.14 80 *e* **Pn 04 14 33.0 -0.4**
GRGR Grenville 17.15 80 *e*Pn **P 04 14 35.2 +0.9**
1µm,1.4s
GRGR *e*S Sn 04 17 34.5 -8.9
TPP Pointe-a-Pierr 17.23 86 *e* **Pn 04 14 34.6 +0.3**
TRN Trinidad (W) 17.28 85 *e* **Pn 04 14 34.8 -0.2**
NEV Hard Times 17.58 63 *e*P **Pn 04 14 37.7 -1.1**
TBH Brigand Hill 17.61 86 *e* **Pn 04 14 36.8 -2.2**
HMG Houelmont 17.95 67 *e*P **Pn 04 14 41.8 -1.5**
PHG Guadaloupe-2 18.02 67 *e*P **P 04 14 41.5 -2.5**
FDF Fort de France 18.11 72 *e*P **P 04 14 44.8 -0.1**
BPA Boggy Peak 18.18 64 *e* **Pn 04 14 46.5 +0.4**
SEG Port Louis 18.27 66 *e*P **P 04 14 45.3 -1.3**
BBGH Gun Hill 19.31 78 *e*P **Pn 04 14 59.3 -0.3**
492nm,0.9s
NNA Nana 21.52 174 P **P 04 15 22.1 +0.1**
453nm,1.2s,SNR=5.2
NNA Nana 21.52 174 *e*P **P 04 15 21.8 -0.2**
126nm,1.3s
TIGA Tifton 22.18 349 ⇑P **P 04 15 30.3 +1.4**
baz=22
TIGA ⇓S **S 04 19 34.0 +4.1**
baz=22
BRAL Brewton 22.63 342 *e*P **P 04 15 36.1 +2.3**
103nm,1.0s
SAML Samuel 24.17 139 *e*P **P 04 15 48.2 -0.5**
1.4nm,0.5s
LRAL Lakeview Retre 24.51 343 *e*P **P 04 15 52.6 +1.1**
54nm,0.9s
VBMS Vicksburg 24.96 336 *e*P **P 04 15 56.6 +0.9**
60nm,0.8s
KVTX Kingsville 25.29 317 *e*P **P 04 15 58.9 +0.2**
107nm,0.7s
KMSC Kings Mountain 25.54 355 ⇑P **P 04 16 02.2 +1.2**
baz=26,SNR=14
CNNC Cliffs of the 25.56 2 *e*P **P 04 16 02.3 +1.2**
110nm,1.4s
CPCT Cooper Cave 26.26 350 *e*P **P 04 16 08.8 +1.4**
TKL Tuckaleechee C 26.34 351 *e*P **P 04 16 09.2 +1.1**
TKL Tuckaleechee C 26.34 351 P **P 04 16 09.5 +1.3**
13nm,0.8s,baz=163,slow=10,SNR=13
TKL LR LR 04 26 46.1
comp=Z,677nm,18.8s,baz=359,slow=37
ARE Arequipa 26.89 164 *e*P **P 04 16 16.0 +2.4**
ARE Arequipa 26.89 164 *e*P **P 04 16 16.0 +2.4**
TZTN Tazewell 27.17 352 *e*P **P 04 16 17.0 +1.3**
43nm,1.0s
732A Laxson Ranch, 27.45 317 ⇑P **P 04 16 17.3 -0.9**
baz=28,SNR=99
BLA Blacksburg 27.55 357 *e*P **P 04 16 20.8 +1.8**
BLA pmax pmax
comp=Z,48nm,1.0s
BLA Blacksburg 27.55 357 *e*P **P 04 16 20.8 +1.8**
comp=Z,48nm,1.0s
WVT Waverly 27.65 344 *e*P **P 04 16 19.9 0.0**
WVT pmax pmax
comp=Z,13nm,0.8s
WVT Waverly 27.65 344 *e*P **P 04 16 19.9 0.0**
comp=Z,13nm,0.8s
LPAZ La Paz 27.83 157 *e*P **P 04 16 23.2 +0.8**
LPAZ La Paz 27.83 157 P **P 04 16 23.3 +0.9**
comp=Z,5.8nm,0.8s,baz=340,slow=10,SNR=17
632A Uvalde 27.83 318 ⇑P **P 04 16 21.4 -0.3**
baz=28
UALR University of 27.93 336 *e*P **P 04 16 22.8 +0.4**
comp=Z,35nm,0.8s
GNAR Gosnell 28.14 341 *e*P **P 04 16 23.7 -0.6**
comp=Z,245nm,0.8s
WHTX Lake Whitney 28.15 325 ⇑P **P 04 16 24.3 -0.2**
baz=28,SNR=9.3
MIAR Mount Ida 28.25 334 *e*P **P 04 16 24.7 -0.6**
MIAR pmax pmax
comp=Z,19nm,0.6s
MIAR Mount Ida 28.25 334 *e*P **P 04 16 24.7 -0.6**
comp=Z,19nm,0.6s
631A Perdido Creek 28.29 317 ⇑P **P 04 16 24.7 -1.1**
baz=28,SNR=86
532A Rocksprings 28.32 319 ⇓P **P 04 16 25.5 -0.5**
baz=28,SNR=30
JCT Junction City 28.49 320 *e*P **P 04 16 26.6 -1.0**
JCT pmax pmax
comp=Z,32nm,1.0s
JCT Junction City 28.49 320 *e*P **P 04 16 26.6 -1.0**
comp=Z,32nm,1.0s
JCT Junction City 28.49 320 ⇑P **P 04 16 26.5 -1.0**
baz=28,SNR=7.5
PARMO Parma 28.70 342 *e*P **P 04 16 29.8 +0.6**
432A Menard 28.75 320 ⇑P **P 04 16 28.9 -1.0**
baz=29,SNR=16
531A Rocksprings 28.76 318 ⇓P **P 04 16 29.5 -0.5**
baz=29,SNR=39
332A Millersview 29.07 321 ⇓P **P 04 16 31.7 -0.9**
baz=29,SNR=33
431A Sonora 29.14 319 ⇑P **P 04 16 32.6 -0.7**
baz=29,SNR=42
530A J-C Ranch, Com 29.27 318 ⇑P **P 04 16 34.4 -0.1**
baz=29,SNR=135
WCI Wyandotte Cave 29.29 348 *e*P **P 04 16 35.1 +0.6**
WCI pmax pmax
comp=Z,33nm,0.8s
WCI Wyandotte Cave 29.29 348 *e*P **P 04 16 35.1 +0.6**
comp=Z,33nm,0.8s
USIN University of 29.34 346 *e*P **P 04 16 35.8 +0.8**
comp=Z,182nm,0.7s
232A Coleman 29.36 322 ⇑P **P 04 16 34.4 -0.8**
baz=29,SNR=36
331A San Angelo 29.44 320 ⇑P **P 04 16 35.3 -0.7**
baz=30,SNR=54
SIUC Southern Illin 29.52 343 *e*P **P 04 16 36.8 +0.3**
comp=Z,46nm,0.9s
430A Baggett Ranch, 29.62 319 ⇓P **P 04 16 36.6 -0.9**
baz=30,SNR=21
SDMD Soldier's Deli 29.77 3 *e*P **P 04 16 39.9 +1.2**
comp=Z,25nm,1.0s
231A Bronte 29.80 321 ⇓P **P 04 16 38.1 -1.1**
baz=30,SNR=23
529A Stev Forest Ra 29.85 316 ⇑P **P 04 16 39.3 -0.4**
baz=30,SNR=92
ABTX Abilene, Hawle 29.88 323 ⇓P **P 04 16 39.4 -0.4**
baz=30,SNR=54
628A Black Gap, Mar 29.92 315 ⇓P **P 04 16 40.4 +0.1**
baz=30,SNR=148
429A Davenport Ranc 29.95 318 ⇓P **P 04 16 39.6 -0.9**
baz=30,SNR=68
330A Mertzon 29.98 320 ⇑P **P 04 16 39.6 -1.2**
baz=30,SNR=26
OLIL Olney 30.18 346 *e*P **P 04 16 42.8 +0.4**
comp=Z,72nm,0.8s
BLO Bloomington 30.25 348 *e*P **P 04 16 43.8 +0.9**
BLO Bloomington 30.25 348 *e*P **P 04 16 43.8 +0.9**
comp=Z,101nm,0.9s
627A Terlingua Ranc 30.26 314 ⇓P **P 04 16 43.7 +0.4**
baz=30,SNR=429
528A Cox Ranch, San 30.26 316 ⇓P **P 04 16 43.1 -0.2**
baz=30,SNR=121
230A Sterling City 30.27 320 ⇑P **P 04 16 42.2 -1.1**
baz=30,SNR=13
Z32A Haskell 30.27 324 ⇑P **P 04 16 43.1 -0.2**
baz=30,SNR=45
131A Roby 30.36 322 ⇓P **P 04 16 43.4 -0.7**
baz=30,SNR=34
TUL1 Tulsa 30.38 332 ⇓P **P 04 16 43.8 -0.3**
baz=30,SNR=24
TXAR Lajitas Array 30.39 314 P **P 04 16 44.5 0.0**
TXAR ScP **ScP 04 23 19.0 -2.1**
TXAR Lajitas Array 30.39 314 P **P 04 16 44.5 0.0**
comp=Z,58nm,0.9s,baz=137,slow=9.0,SNR=540
TXAR ScP **ScP 04 23 19.0 -2.1**
comp=Z,0.8nm,0.8s,baz=106,slow=4.6,SNR=3.8

428A Kincaid Ranch, 30.54 317 ⇓P **P 04 16 45.7 0.0**
baz=31,SNR=60
329A Wagon Wheel Ra 30.55 319 ⇓P **P 04 16 45.1 -0.8**
baz=31,SNR=49
130A Snyder 30.65 322 ⇑P **P 04 16 45.9 -0.8**
baz=31,SNR=15
Z31A Sharp Cattle R 30.67 324 ⇓P **P 04 16 46.2 -0.6**
baz=31,SNR=21
SLM Saint Louis 30.67 342 *e*P **P 04 16 47.1 +0.4**
SLM pmax pmax
comp=Z,38nm,0.6s
SLM Saint Louis 30.67 342 *e*P **P 04 16 47.1 +0.4**
comp=Z,38nm,0.6s
ACSO Alum Creek Sta 30.74 354 *e*P **P 04 16 47.6 +0.3**
comp=Z,17nm,0.8s
229A Bryant Ranch, 30.76 320 ⇑P **P 04 16 47.0 -0.6**
baz=31,SNR=35
Y32A R-V Farms, Ver 30.76 325 ⇓P **P 04 16 47.3 -0.3**
baz=31,SNR=19
527A Woodward Ranch 30.82 315 ⇑P **P 04 16 47.9 -0.5**
baz=31,SNR=87
626A Big Bend Ranch 30.84 314 ⇑P **P 04 16 48.4 -0.1**
baz=31,SNR=64
WMOK Wichita Mounta 30.94 327 *e*P **P 04 16 48.1 -1.1**
WMOK pmax pmax
comp=Z,11nm,0.6s
WMOK Wichita Mounta 30.94 327 *e*P **P 04 16 48.1 -1.1**
comp=Z,11nm,0.6s
328A Wristen Ranch, 31.03 318 ⇓P **P 04 16 49.4 -0.7**
baz=31,SNR=74
427A Hayter Ranch, 31.10 316 ⇑P **P 04 16 50.2 -0.5**
baz=31,SNR=81
526A Mary Lane Ranc 31.11 314 ⇑P **P 04 16 50.6 -0.3**
baz=31,SNR=39
Y31A Rekieta Farm, 31.20 324 ⇑P **P 04 16 51.0 -0.4**
baz=31,SNR=26
Z30A Sandon Ranc 31.23 322 ⇓P **P 04 16 51.1 -0.7**
baz=31,SNR=52
129A Stewart Farms, 31.24 321 ⇑P **P 04 16 51.2 -0.7**
baz=31,SNR=25
228A UT Block 9, Go 31.36 319 ⇑P **P 04 16 51.7 -1.3**
baz=31,SNR=13
426A McDonald Obser 31.42 315 ⇑P **P 04 16 53.5 -0.2**
baz=31,SNR=84
327A Balmorhea Ranc 31.48 317 ⇑P **P 04 16 53.5 -0.5**
baz=32,SNR=9.8
Y30A Stafford Cattl 31.50 323 ⇑P **P 04 16 53.7 -0.5**
baz=32,SNR=55
X31A McDonald Ranch 31.52 325 ⇑P **P 04 16 53.6 -0.7**
baz=32,SNR=23
SFIN Scholer Farm 31.53 348 ⇑P **P 04 16 54.2 0.0**
baz=32,SNR=21
Z29A Hungry Hill Ra 31.56 322 ⇑P **P 04 16 54.0 -0.7**
baz=32,SNR=55
128A Castleberry Fa 31.62 320 ⇑P **P 04 16 54.5 -0.7**
baz=32,SNR=40
227A Bennet, Jal 31.75 318 ⇓P **P 04 16 55.7 -0.7**
baz=32,SNR=9.1
326A Caldwell Ranch 31.77 316 ⇑P **P 04 16 56.1 -0.6**
baz=32
X30A Coker Ranch, T 31.90 324 ⇓P **P 04 16 57.2 -0.4**
baz=32,SNR=35
W31A Holland Ranch, 31.91 326 ⇑P **P 04 16 56.8 -1.0**
baz=32,SNR=12
Y29A Porterfield Fa 31.95 323 ⇓P **P 04 16 57.8 -0.4**
baz=32,SNR=58
ALLY Alegheny Colle 31.96 358 *e*P **P 04 16 59.6 +1.5**
comp=Z,100nm,0.9s
Z28A Tucker Farm, M 32.00 321 ⇑P **P 04 16 57.7 -0.9**
baz=32,SNR=15
YLE Yale 32.05 9 *e*P **P 04 16 59.5 +0.8**
comp=Z,45nm,0.9s
425A Indio Mountain 32.16 315 ⇓P **P 04 16 59.6 -0.4**
baz=32,SNR=88
HDIL Hopedale 32.20 345 *e*P **P 04 16 59.8 -0.3**
comp=Z,51nm,0.8s
127A Arkansas Junct 32.21 319 ⇑P **P 04 16 59.0 -1.5**
baz=32,SNR=9.5
W30A Crocket Farms 32.26 326 ⇑P **P 04 17 00.3 -0.5**
baz=32
V31A Spring Creek L 32.29 327 ⇑P **P 04 17 01.0 -0.1**
baz=32,SNR=41
Y28A McKinney Farm, 32.33 322 ⇑P **P 04 17 00.7 -0.8**
baz=32,SNR=31
226B Tecolote Peak, 32.37 317 ⇓P **P 04 17 01.5 -0.3**
baz=32,SNR=82
X29A Tulia 32.38 323 ⇓P **P 04 17 01.0 -0.9**
baz=32,SNR=10.0
325A Bean Ranch, Si 32.49 316 ⇓P **P 04 17 02.5 -0.5**
baz=32,SNR=146
Z27A Tatum 32.54 320 ⇑P **P 04 17 02.0 -1.3**
baz=33,SNR=35
BINY Binghamton 32.60 4 *e*P **P 04 17 05.8 +2.2**
comp=Z,70nm,1.1s
126A Clayton Basin, 32.62 318 ⇑P **P 04 17 02.8 -1.3**
baz=33,SNR=9.3
AMTX Amarillo 32.67 324 *e*P **P 04 17 03.6 -0.9**
comp=Z,33nm,1.0s
MSTX Muleshoe 32.70 322 ⇓P **P 04 17 03.7 -1.0**
baz=33,SNR=51
X28A Dimmitt 32.72 323 ⇓P **P 04 17 03.9 -1.0**
baz=33,SNR=21
V30A Spur Ranch, Mi 32.75 326 ⇑P **P 04 17 04.8 -0.3**
baz=33,SNR=9.4
U31A Nine Bar Ranch 32.75 328 ⇑P **P 04 17 04.6 -0.5**
baz=33,SNR=15
W29A Amraillo 32.82 324 ⇓P **P 04 17 05.0 -0.7**
baz=33,SNR=15
225A Deer Hill, Car 32.83 317 ⇑P **P 04 17 05.8 -0.2**
baz=33,SNR=51
Y27A Causey 32.88 321 ⇓P **P 04 17 05.4 -1.0**
baz=33,SNR=54
324A Moseley Ranch, 32.88 315 ⇑P **P 04 17 05.9 -0.5**
baz=33,SNR=300
MNTX Cornudas Mount 32.96 316 *e*P **P 04 17 06.6 -0.4**
comp=Z,95nm,1.0s
Z26A Caprock 33.00 319 ⇑P **P 04 17 06.4 -1.0**
baz=33,SNR=26
125A Gardner Draw, 33.05 318 ⇑P **P 04 17 07.2 -0.7**
baz=33,SNR=34
T31A Randall Ranch, 33.21 329 ⇓P **P 04 17 08.4 -0.7**
baz=33,SNR=20
W28A Vega 33.24 324 ⇑P **P 04 17 08.6 -0.8**
baz=33
224A Cornudas Mount 33.28 316 ⇓P **P 04 17 09.5 -0.4**
baz=33,SNR=61
V29A Stinnett 33.29 325 ⇓P **P 04 17 10.0 +0.2**
baz=33,SNR=21
U30A WK&E Inc. Balk 33.29 327 ⇓P **P 04 17 09.8 -0.1**
baz=33,SNR=29
Y26A Elida 33.32 320 ⇑P **P 04 17 09.3 -0.9**
baz=33,SNR=22
TRY Troy 33.35 7 *e*P **P 04 17 10.9 +0.9**
comp=Z,52nm,1.1s
X27A F and S Farms, 33.35 322 ⇓P **P 04 17 09.8 -0.6**
baz=33
KSU1 Kansas State U 33.39 335 *e*P **P 04 17 09.9 -0.6**
comp=Z,66nm,0.6s
HRV Adam Dziewonsk 33.43 10 *e*P **P 04 17 12.7 +1.8**
HRV pmax pmax
comp=Z,26nm,0.9s
HRV Adam Dziewonsk 33.43 10 *e*P **P 04 17 12.7 +1.8**
comp=Z,26nm,0.9s
LVC Limon Verde 33.46 163 *e*P **P 04 17 14.0 +2.5**
comp=Z,37nm,1.1s
Z25A Roswell 33.48 319 ⇑P **P 04 17 11.2 -0.4**
baz=34,SNR=61
S31A Mullinville 33.52 330 ⇓P **P 04 17 11.7 -0.1**
baz=34,SNR=28
U29A Oasis Ranch, S 33.57 326 ⇑P **P 04 17 12.3 0.0**
baz=34,SNR=14
V28A Channing 33.60 324 ⇑P **P 04 17 11.9 -0.7**
baz=34,SNR=16
124A Stringfield Ra 33.61 317 ⇑P **P 04 17 13.0 +0.2**
baz=34,SNR=83
W27A Bowe Ranch, En 33.61 323 ⇓P **P 04 17 11.9 -0.8**
baz=34,SNR=32
T30A Plains 33.62 328 ⇓P **P 04 17 12.4 -0.3**
baz=34,SNR=10
X26A CR and CF Fran 33.72 321 ⇑P **P 04 17 13.1 -0.6**
baz=34,SNR=6.2
223A Chaparral, Ant 33.87 315 ⇑P **P 04 17 14.3 -0.6**
baz=34
Y25A Mesa, Roswell 33.87 320 ⇓P **P 04 17 14.7 -0.2**
baz=34,SNR=70
Z24A Sheppen Canyo 33.93 318 ⇓P **P 04 17 15.7 +0.1**
baz=34,SNR=52
V27A Dan Oppiter Fa 33.96 324 ⇑P **P 04 17 15.4 -0.3**
baz=34,SNR=34
ACCN Adirondack Com 33.99 7 *e*P **P 04 17 18.1 +2.4**
comp=Z,36nm,1.2s
S30A Montezuma 34.03 329 ⇑P **P 04 17 16.1 -0.2**
baz=34,SNR=8.7
U28A Mallet 34.05 325 ⇑P **P 04 17 15.7 -0.7**
baz=34,SNR=16
W26A Owens Ranch, T 34.05 322 ⇓P **P 04 17 16.1 -0.4**
baz=34,SNR=27
R31A Burdett 34.06 330 ⇓P **P 04 17 16.3 -0.2**
baz=34,SNR=12
T29A Hugoton 34.10 327 ⇓P **P 04 17 16.8 -0.1**
baz=34,SNR=6.9
123A Bell Site, Whi 34.12 316 ⇓P **P 04 17 17.6 +0.4**
baz=34,SNR=15
X25A Clemmons Ranch 34.24 320 ⇑P **P 04 17 18.0 -0.2**
baz=34,SNR=24
Y24A Capitan 34.35 319 ⇑P **P 04 17 19.2 0.0**
baz=34,SNR=76
S29A Ulysses 34.35 328 ⇓P **P 04 17 19.1 +0.1**
baz=34,SNR=17
222A Williams Famil 34.39 315 ⇑P **P 04 17 19.1 -0.4**
baz=34,SNR=36
U27A Thompson Grove 34.42 325 ⇓P **P 04 17 19.4 -0.3**
baz=34,SNR=46
R30A Dighton 34.43 330 ⇑P **P 04 17 20.0 +0.3**
baz=34,SNR=57
Z23A Rita Site, Whi 34.47 317 ⇑P **P 04 17 20.4 +0.2**
baz=34,SNR=14
HNH Hanover 34.49 9 *e*P **P 04 17 22.5 +2.5**
comp=Z,20nm,0.8s
NCB Newcomb 34.51 6 *e*P **P 04 17 22.3 +2.1**
comp=Z,96nm,1.3s
T28A Walsh 34.52 326 ⇓P **P 04 17 20.1 -0.4**
baz=35
V26A Tequesquite Ra 34.54 323 ⇑P **P 04 17 20.4 -0.4**
baz=35,SNR=83
W25A X Bar L Ranch, 34.56 322 ⇓P **P 04 17 20.8 -0.2**
baz=35,SNR=92
Q31A Ellis 34.56 331 ⇓P **P 04 17 20.6 -0.2**
baz=35,SNR=14
SCIA State Center 34.58 341 *e*P **P 04 17 20.2 -0.5**
comp=Z,46nm,0.6s
JFWS Jewell Farm 34.66 345 *e*P **P 04 17 20.9 -0.6**
JFWS pmax pmax
comp=Z,48nm,0.6s
JFWS Jewell Farm 34.66 345 *e*P **P 04 17 20.9 -0.6**
comp=Z,48nm,0.6s
122A Conniff Cattle 34.66 316 ⇓P **P 04 17 22.6 +0.7**
baz=35
S28A Manter 34.75 327 ⇑P **P 04 17 22.6 +0.1**
baz=35,SNR=43
X24A Lazy VL Ranch, 34.75 320 ⇑P **P 04 17 22.5 -0.1**
baz=35
Y23A Lovelace Mesa, 34.76 318 ⇑P **P 04 17 22.7 -0.1**
baz=35,SNR=40
221A Mesquite Ranch 34.81 314 ⇓P **P 04 17 24.0 +0.8**
baz=35,SNR=9.2
T27A Campo 34.81 326 ⇓P **P 04 17 22.6 -0.5**
baz=35,SNR=38
U26A Atchley Ranch, 34.93 324 ⇓P **P 04 17 24.2 0.0**
baz=35,SNR=100
Q30A Quinter 34.94 330 ⇑P **P 04 17 24.2 +0.1**
baz=35,SNR=7.1
Z22A Elephant Butte 34.96 317 ⇑P **P 04 17 25.1 +0.7**
baz=35,SNR=36
P31A Stockton 34.97 332 ⇓P **P 04 17 23.9 -0.3**
baz=35,SNR=26
R29A Marienthal 34.97 329 ⇓P **P 04 17 24.3 -0.1**
baz=35,SNR=14
320A Kipp Ranch, An 34.99 313 ⇑P **P 04 17 25.8 +1.1**
baz=35,SNR=76
LBNH Lisbon 35.06 9 *e*P **P 04 17 26.7 +1.7**
LBNH pmax pmax
comp=Z,15nm,0.7s
LBNH Lisbon 35.06 9 *e*P **P 04 17 26.7 +1.7**
comp=Z,15nm,0.7s
SADO Sadowa 35.06 360 P **P 04 17 25.8 +0.9**
SADO pP **pP 04 17 41.0 +1.7**
SADO Sadowa 35.06 360 P **P 04 17 25.8 +0.9**
comp=Z,56nm,0.9s,baz=220,slow=3.8,SNR=40
SADO pP **pP 04 17 41.0 +1.7**
comp=Z,26nm,0.7s,baz=223,slow=3.6,SNR=7.5
SADO LR LR 04 33 03.8
comp=Z,712nm,20.3s,baz=182,slow=38
V25A Rancho No Teng 35.07 322 ⇑P **P 04 17 25.5 +0.1**
baz=35,SNR=50
121A Cookes Peak, D 35.11 315 ⇑P **P 04 17 26.7 +0.9**
baz=35,SNR=104
LONY Lake Ozonia 35.12 5 *e*P **P 04 17 27.2 +1.8**
comp=Z,61nm,1.0s
W24A Lazy 6 Ranch, 35.15 321 ⇑P **P 04 17 26.4 +0.4**
baz=35,SNR=56
X23A Hourglass Bar 35.24 319 ⇓P **P 04 17 27.1 +0.1**
baz=35,SNR=32
Q29A Oakley 35.25 329 ⇑P **P 04 17 26.8 0.0**
baz=35,SNR=21
R28A Tribune 35.26 328 ⇓P **P 04 17 27.1 +0.2**
baz=35,SNR=22
BNM Barren Site 35.27 318 *e*P **P 04 17 27.0 -0.1**
comp=Z,23nm,1.3s
BNM *e*PP **PP 04 18 49.9 +1.9**
220A Playas Peak, P 35.29 313 ⇑P **P 04 17 28.2 +0.9**
baz=35,SNR=166
U25A Circle Dot Ran 35.32 323 ⇑P **P 04 17 27.8 +0.3**
baz=35,SNR=65
S27A Las Animas 35.36 326 ⇑P **P 04 17 27.6 -0.2**
baz=35,SNR=9.0
Y22A Socorro 35.36 318 ⇓P **P 04 17 28.2 +0.3**
baz=35,SNR=28
LPM Los Pinos Moun 35.37 318 *e*P **P 04 17 28.4 +0.4**
comp=Z,7.5nm,0.7s
LPM *e*PP **PP 04 18 53.6 +4.5**
T26A Comanche Natio 35.38 325 ⇓P **P 04 17 28.0 -0.1**
baz=35,SNR=50
P30A Selden 35.40 331 ⇑P **P 04 17 27.8 -0.1**
baz=36,SNR=14
V24A Rampart Ranch, 35.40 321 ⇑P **P 04 17 29.0 +0.7**
baz=35,SNR=151
Y22D IRIS PASSCAL I 35.41 318 ⇓P **P 04 17 28.9 +0.6**
baz=35
FRNY Flat Rock 35.43 7 *e*P **P 04 17 29.8 +1.7**
comp=Z,66nm,1.3s
GLMI Grayling 35.46 353 *e*P **P 04 17 28.9 +0.4**
comp=Z,45nm,0.8s
MSNY Massena 35.47 5 *e*P **P 04 17 30.4 +2.0**
comp=Z,315nm,0.9s
Z21A St. Cloud Mine 35.47 316 ⇑P **P 04 17 29.9 +1.0**
baz=36,SNR=58
LENM Lemitar 35.50 318 *e*P **P 04 17 29.1 0.0**
comp=Z,15nm,0.8s
LENM *e*PP **PP 04 18 54.2 +3.5**
319A Douglas 35.56 312 ⇓P **P 04 17 30.6 +1.1**
baz=36,SNR=120
W23A Werner Place, 35.58 320 ⇓P **P 04 17 30.2 +0.4**
baz=36,SNR=41
S26A Kim 35.63 326 ⇓P **P 04 17 30.5 +0.4**
baz=36,SNR=42
ANMO Albuquerque 35.64 319 *e*P **P 04 17 30.6 +0.2**
comp=Z,110nm,0.8s
ANMO Albuquerque 35.64 319 P **P 04 17 30.7 +0.4**
comp=Z,96nm,0.7s,baz=136,slow=9.8,SNR=469
120A U Bar Ranch, L 35.71 314 ⇓P **P 04 17 32.2 +1.2**
baz=36,SNR=123
X22A Bernardo 35.73 318 ⇓P **P 04 17 32.0 +0.9**
baz=36,SNR=24
R27A Eads 35.74 327 ⇓P **P 04 17 31.0 0.0**
baz=36,SNR=14
LAZ Ladron 35.76 318 *e*P **P 04 17 31.8 +0.5**
comp=Z,34nm,0.8s
LAZ *e*PP **PP 04 18 55.6 +2.2**
P29A Atwood 35.77 330 ⇑P **P 04 17 31.1 -0.1**
baz=36
O30A MW Ranch, Wils 35.81 332 ⇓P **P 04 17 31.0 -0.5**
baz=36,SNR=10
Q28A Sharon Springs 35.81 329 ⇓P **P 04 17 31.8 +0.2**
baz=36,SNR=12
T25A Trinidad 35.83 324 ⇓P **P 04 17 32.9 +1.0**
baz=36,SNR=57
U24A Moreno Valley 35.85 322 ⇓P **P 04 17 33.5 +1.3**
baz=36,SNR=69
Y21A Point of Rocks 35.88 317 ⇓P **P 04 17 33.6 +1.2**
baz=36,SNR=74
BGNE Belgrade 35.97 335 ⇓P **P 04 17 31.5 -1.2**
baz=36,SNR=17
V23A Ortiz Mt. (NFS 35.97 321 ⇑P **P 04 17 33.9 +0.7**
baz=36,SNR=36
W22A Albuquerque 35.99 319 ⇓P **P 04 17 34.0 +0.8**

baz=36,SNR=14
R26A **Arlington** 36.10 326 ⇑P P 04 17 34.4 +0.3
baz=36,SNR=43
P28A **Saint Francis** 36.16 329 ⇓P P 04 17 34.9 +0.4
baz=36,SNR=36
KSCO **Kaye Shedlock'** 36.18 328 ⇑P P 04 17 35.2 +0.4
baz=36,SNR=14
S25A **Robets Cordova** 36.20 325 ⇑P P 04 17 35.9 +0.8
baz=36,SNR=77
X21A **Alamocita Cree** 36.21 318 ⇓P P 04 17 36.2 +1.0
baz=36,SNR=131
Y20A **Horse Springs,** 36.30 316 ⇑P P 04 17 37.2 +1.3
baz=36,SNR=136
U23A **El Rito** 36.35 321 ⇓P P 04 17 37.7 +1.2
baz=36,SNR=264
R25A **Fountain Ranch** 36.46 325 ⇑P P 04 17 38.1 +0.9
baz=36,SNR=70
W21A **San Fidel** 36.52 319 ⇓P P 04 17 38.7 +0.9
baz=36,SNR=32
V22A **San Miguel Ran** 36.54 320 ⇑P P 04 17 38.5 +0.5
baz=37,SNR=70
P27A **Ficken Ranch,** 36.56 329 ⇓P P 04 17 38.5 +0.5
baz=37,SNR=15
N29A **Votaw Ranch, W** 36.58 332 ⇑P P 04 17 37.6 -0.5
baz=37,SNR=6.4
O28A **Krutsinger Ran** 36.59 330 ⇑P P 04 17 38.3 +0.1
baz=37,SNR=14
Q26A **Hugo** 36.59 327 ⇑P P 04 17 39.2 +0.9
baz=37,SNR=35
S24A **Houchin Ranch,** 36.64 324 ⇑P P 04 17 40.2 +1.3
baz=37,SNR=44
T23A **Casias Ranch,** 36.72 322 ⇓P P 04 17 40.7 +1.1
baz=37,SNR=49
X20A **Quemado** 36.74 317 ⇑P P 04 17 41.0 +1.2
baz=37,SNR=82
U22A **Llaves** 36.80 321 ⇑P P 04 17 41.4 +1.2
baz=37,SNR=126
SDCO **Great Sand Dun** 36.88 324 *eP* P 04 17 41.7 +0.7
comp=Z,69nm,1.1s
N28A **Pribbeno Ranch** 36.91 331 ⇓P P 04 17 40.6 -0.3
baz=37,SNR=5.1
V21A **Milan** 36.93 319 ⇑P P 04 17 42.5 +1.2
baz=37,SNR=58
P26A **Davis Ranch, A** 36.96 328 ⇓P P 04 17 41.9 +0.4
baz=37,SNR=13
Q25A **Bedland, Calha** 36.98 326 ⇑P P 04 17 42.0 +0.3
baz=37,SNR=33
R24A **Sanders Place,** 36.98 325 ⇓P P 04 17 43.2 +1.4
baz=37,SNR=198
O27A **Beecher Island** 36.99 329 ⇓P P 04 17 41.9 +0.3
baz=37,SNR=19
W20A **Ramah** 37.09 318 ⇑P P 04 17 43.6 +0.9
baz=37,SNR=21
M29A **Burnside Ranch** 37.10 332 ⇓P P 04 17 42.0 -0.6
baz=37,SNR=8.3
TUC **Tucson** 37.14 312 *eP* P 04 17 43.5 +0.5
TUC **Tucson** 37.14 312 *eP* P 04 17 43.5 +0.5
S23A **Nye Farm, Mont** 37.14 323 ⇑P P 04 17 44.6 +1.4
baz=37,SNR=18
T22A **Edith** 37.23 322 ⇑P P 04 17 44.8 +0.9
baz=37,SNR=20
U21A **Nageezi** 37.33 320 ⇓P P 04 17 45.6 +0.8
baz=37,SNR=63
OGNE **Ogallala** 37.34 331 *eP* P 04 17 44.4 -0.2
comp=Z,88nm,1.0s
OGNE **Ogallala** 37.34 331 ⇑P P 04 17 44.4 -0.2
baz=37,SNR=8.3
ECSD **EROS Data Cent** 37.35 339 *eP* P 04 17 42.9 -1.6
comp=Z,19nm,0.6s
P25A **Willow Gulch B** 37.36 327 ⇑P P 04 17 45.8 +0.8
baz=37,SNR=31
R23A **Moffat** 37.37 324 ⇑P P 04 17 46.1 +1.0
baz=37,SNR=72
M28A **Bar X Bar Ranc** 37.38 332 ⇓P P 04 17 44.5 -0.4
baz=37
O26A **Horse Wrangler** 37.45 329 ⇑P P 04 17 46.0 +0.4
baz=38,SNR=7.9
V20A **Brimhall** 37.46 319 ⇑P P 04 17 46.4 +0.6
baz=38,SNR=21
SPMN **St. Paul** 37.48 344 ⇑P P 04 17 44.1 -1.4
baz=38,SNR=29
N27A **Anderson Farm,** 37.48 330 ⇓P P 04 17 46.0 +0.1
baz=38,SNR=11
L29A **Maesberg Ranch** 37.50 333 ⇓P P 04 17 45.2 -0.7
baz=38
Q24A **Divide** 37.51 326 ⇓P P 04 17 46.7 +0.4
baz=38,SNR=7.8
T21A **Navajo Lake** 37.61 321 ⇑P P 04 17 47.8 +0.8
baz=38,SNR=23
S22A **4UR Ranch, Cre** 37.66 323 ⇓P P 04 17 48.6 +1.0
baz=38,SNR=183
X18A **Snowflake** 37.72 316 ⇓P P 04 17 49.2 +1.2
baz=38,SNR=33
P24A **Kohler Place,** 37.77 326 ⇑P P 04 17 48.8 +0.4
baz=38,SNR=6.5
O25A **Wiggins** 37.77 328 ⇑P P 04 17 48.8 +0.5
baz=38
N26A **Koester Ranch,** 37.84 329 ⇑P P 04 17 49.3 +0.5
baz=38,SNR=12
U20A **Newcomb** 37.85 319 ⇑P P 04 17 49.5 +0.5
baz=38,SNR=10
Q23A **Hartsel** 37.86 325 ⇓P P 04 17 49.6 +0.4
baz=38
W18A **Petrified Fore** 37.91 317 ⇑P P 04 17 50.7 +1.1
baz=38,SNR=98
R22A **Saguache, Gunn** 37.94 323 ⇓P P 04 17 51.0 +1.1
baz=38,SNR=71
M27A **Reverse DX Ran** 37.96 331 ⇑P P 04 17 49.5 -0.3
baz=38,SNR=5.8
K29A **Lazy Trails An** 37.99 334 ⇑P P 04 17 49.1 -0.9
baz=38
P23A **Jefferson** 38.18 325 ⇑P P 04 17 53.1 +1.1
baz=38,SNR=36
S21A **Coal Bank Pass** 38.19 322 ⇓P P 04 17 52.6 +0.5
baz=38,SNR=89
N25A **Grover** 38.27 329 ⇑P P 04 17 52.7 +0.2
baz=38
M26A **McRoberts Ranc** 38.28 330 ⇓P P 04 17 52.7 +0.1
baz=38,SNR=6.5
O24A **Longmont** 38.29 327 ⇑P P 04 17 53.6 +0.9
baz=38,SNR=25
MVCO **Mesa Verde** 38.34 321 *eP* P 04 17 53.5 +0.3
comp=Z,30nm,0.7s
MVCO **Mesa Verde** 38.34 321 ⇑P P 04 17 53.7 +0.4
baz=38,SNR=48
ISCO **Idaho Springs** 38.35 326 *eP* P 04 17 53.9 +0.5
ISCO pmax pmax
comp=Z,69nm,1.2s
ISCO **Idaho Springs** 38.35 326 *eP* P 04 17 53.9 +0.5
comp=Z,69nm,1.2s
ISCO **Idaho Springs** 38.35 326 ⇑P P 04 17 54.1 +0.7
baz=38,SNR=85
L27A **T5 Ranch, Elis** 38.36 332 ⇑P P 04 17 52.8 -0.4
baz=38
K28A **Ten Mile Ranch** 38.42 333 ⇓P P 04 17 53.0 -0.6
baz=38,SNR=15
Q22A **Crested Butte,** 38.45 324 ⇓P P 04 17 55.1 +0.9
baz=38,SNR=91
214A **Organ Pipe Nat** 38.47 310 ⇓P P 04 17 55.0 +0.9
baz=38,SNR=165
R21A **Cimarron** 38.50 323 ⇑P P 04 17 55.4 +0.8
baz=38,SNR=45
S20A **Disappointment** 38.65 321 ⇓P P 04 17 56.6 +0.8
baz=39,SNR=65
L26A **Underwood Farm** 38.68 331 ⇑P P 04 17 55.8 -0.1
baz=39
N24A **Carr** 38.69 328 ⇑P P 04 17 57.2 +1.1
baz=39,SNR=30
SMCO **Snowmass** 38.69 324 *eP* P 04 17 57.2 +0.8
comp=Z,30nm,0.9s
SMCO *e* 04 19 30.8
X16A **Lo Mia Camp, P** 38.70 315 ⇓P P 04 17 57.3 +1.0
baz=39,SNR=94
M25A **Palm-Egli Farm** 38.71 329 ⇓P P 04 17 56.4 +0.2
baz=39,SNR=7.0
K27A **Fluecklnger Fa** 38.80 332 ⇓P P 04 17 56.4 -0.5
baz=39,SNR=10
O23A **Lake Granby, G** 38.81 326 ⇓P P 04 17 58.0 +0.8
baz=39,SNR=45
Q21A **Lamborn Mesa,** 38.82 323 ⇓P P 04 17 58.2 +1.0
baz=39,SNR=6.4
BRSD **Miller** 38.83 337 ⇑P P 04 17 55.2 -1.8
baz=39,SNR=8.4
P22A **Eagle** 38.85 325 ⇑P P 04 17 58.2 +0.7
baz=39,SNR=80
R20A **Redvale** 38.88 322 ⇑P P 04 17 58.9 +1.2
baz=39,SNR=115
J28A **Allard Ranch,** 38.93 334 ⇓P P 04 17 56.7 -1.1
baz=39,SNR=15
PV01 **Paradox Valley** 38.97 322 *eP* P 04 17 59.2 +0.7
comp=Z,3µm,0.7s
O22A **Kremmling** 39.12 326 ⇓P P 04 18 00.1 +0.2
baz=39,SNR=85
M24A **Cheyenne** 39.13 329 ⇓P P 04 18 00.4 +0.7
baz=39,SNR=16
L25A **Engebretsen Ra** 39.20 330 ⇓P P 04 18 00.4 +0.1
baz=39,SNR=5.3
Z14A **Wintersburg** 39.24 312 ⇑P P 04 18 01.4 +0.9
baz=39,SNR=58
K26A **Motz Farm, Whi** 39.24 331 ⇓P P 04 18 00.2 -0.3
baz=39
WUAZ **Wupatki** 39.24 316 *eP* P 04 18 01.9 +1.1
comp=Z,158nm,0.8s
WUAZ **Wupatki** 39.24 316 ⇑P P 04 18 01.9 +1.1
baz=39,SNR=149
N23A **Red Feather La** 39.30 327 ⇑P P 04 18 02.0 +0.7
baz=39,SNR=23
Q20A **Ridgley Place,** 39.32 323 ⇓P P 04 18 02.2 +0.8
baz=39,SNR=34
PV04 **Paradox Valley** 39.33 322 *eP* P 04 18 02.3 +0.8
PHWY **Pilot Hill** 39.34 328 *eP* P 04 18 01.9 +0.4
comp=Z,33nm,1.0s
I28A **Midland** 39.36 334 ⇑P P 04 18 00.2 -1.2
baz=39
K25A **Mack Ranch, Ha** 39.50 331 ⇓P P 04 18 03.0 +0.3
baz=40,SNR=6.4
N22A **Wattenberg Ran** 39.51 327 ⇑P P 04 18 03.6 +0.6
baz=40,SNR=18
BDFB **Brasilia** 39.56 129 P P 04 18 04.6 +1.1
BDFB **Brasilia** 39.56 129 P P 04 18 04.6 +1.1
comp=Z,14nm,0.6s,baz=286,slow=8.6,SNR=31
BDFB LR LR 04 36 41.5
comp=Z,368nm,20.8s,baz=119,slow=39
113A **Mohawk Valley,** 39.56 311 ⇑P P 04 18 03.7 +0.5
baz=40,SNR=88
Y14A **Wickenburg** 39.56 313 ⇓P P 04 18 03.9 +0.6
baz=40,SNR=133
L24A **Wheatland** 39.60 329 ⇑P P 04 18 04.2 +0.6
baz=40,SNR=9.1
O21A **Pagoda** 39.67 325 ⇑P P 04 18 05.5 +1.1
baz=40,SNR=25
EYMN **Ely** 39.69 347 *eP* P 04 18 03.0 -1.1
comp=Z,18nm,0.9s
P20A **De Beque** 39.73 323 ⇑P P 04 18 05.7 +0.9
baz=40,SNR=27
I27A **Quinn** 39.80 334 ⇑P P 04 18 04.2 -1.0
baz=40
H28A **Mission Ridge** 39.85 335 ⇑P P 04 18 03.7 -1.8
baz=40
M22A **Cedar Creek Ra** 40.01 327 ⇑P P 04 18 07.8 +0.6
baz=40,SNR=7.1
K24A **Anderson Ranch** 40.05 330 ⇑P P 04 18 07.5 +0.2
baz=40
L23A **Garrett** 40.05 329 ⇑P P 04 18 08.0 +0.6
baz=40,SNR=94
O20A **White River Ci** 40.06 324 ⇑P P 04 18 08.5 +0.9
baz=40,SNR=50
N21A **Black Mountain** 40.07 326 ⇓P P 04 18 08.7 +1.0
baz=40,SNR=46
I26A **New Underwood** 40.12 333 ⇑P P 04 18 07.1 -0.7
baz=40
G28A **Parade** 40.13 336 ⇓P P 04 18 06.1 -1.7
baz=40
P19A **Cripple Cowboy** 40.17 323 ⇓P P 04 18 08.9 +0.5
baz=40
H27A **Howes** 40.26 334 ⇑P P 04 18 07.7 -1.2
baz=40
U15A **North Rim** 40.36 317 ⇑P P 04 18 11.3 +1.1
baz=40,SNR=152
L22A **Ellis Ranch, M** 40.37 328 ⇓P P 04 18 11.3 +1.2
baz=40,SNR=48
J24A **Dixon Ranch, L** 40.42 331 ⇑P P 04 18 10.9 +0.5
baz=40
K23A **Bowen Ranch, D** 40.47 329 ⇑P P 04 18 11.0 +0.2
baz=40,SNR=16
GLA **Glamis** 40.48 311 *eP* P 04 18 11.8 +0.9
GLA pmax pmax
comp=Z,162nm,0.8s
GLA **Glamis** 40.48 311 *eP* P 04 18 11.8 +0.9
comp=Z,162nm,0.8s
GLA **Glamis** 40.48 311 ⇑P P 04 18 11.9 +0.9
baz=40,SNR=27
I25A **Rochford** 40.51 332 ⇑P P 04 18 11.3 +0.1
baz=41
N20A **Spence Gulch,** 40.54 325 ⇑P P 04 18 12.2 +0.7
baz=41
H26A **Fairpoint** 40.55 334 ⇓P P 04 18 10.3 -1.0
baz=41
PDMCI **Parker Dam,Lak** 40.56 313 ⇓P P 04 18 12.1 +0.6
baz=41,SNR=54
M21A **Separation Pea** 40.56 327 ⇑P P 04 18 12.5 +0.8
baz=41,SNR=46
Y12C **Blythe** 40.58 312 ⇓P P 04 18 12.4 +0.8
baz=41,SNR=49
O19A **Miners Draw (B** 40.68 324 ⇑P P 04 18 12.9 +0.3
baz=41,SNR=74
RSSD **Black Hills** 40.73 332 *eP* P 04 18 12.9 -0.1
RSSD pmax pmax
comp=Z,14nm,0.9s
RSSD **Black Hills** 40.73 332 *eP* P 04 18 12.9 -0.1
comp=Z,14nm,0.9s
SRU **San Rafael** 40.77 321 *eP* P 04 18 13.7 +0.3
SRU pmax pmax
comp=Z,69nm,0.8s
SRU **San Rafael** 40.77 321 *eP* P 04 18 13.7 +0.3
comp=Z,69nm,0.8s
W13A **Hualapai Mount** 40.77 314 ⇓P P 04 18 14.6 +1.1
baz=41,SNR=132
G27A **Dupree** 40.80 335 ⇑P P 04 18 11.9 -1.4
baz=41
I24A **Kuemmerle Ranc** 40.81 331 ⇓P P 04 18 13.7 +0.1
baz=41
L21A **Rawlins** 40.82 327 ⇑P P 04 18 14.0 +0.2
baz=41,SNR=34
K22A **Casper** 40.85 328 ⇓P P 04 18 14.4 +0.4
baz=41,SNR=19
J23A **Dilts Ranch, B** 40.91 330 ⇑P P 04 18 15.1 +0.6
baz=41
H25A **Fruitdale** 40.92 333 ⇓P P 04 18 13.6 -0.8
baz=41
M20A **Sweetwater, Wa** 40.94 326 ⇓P P 04 18 15.2 +0.4
baz=41,SNR=52
Q16A **Castle Valley** 41.05 321 ⇓P P 04 18 16.3 +0.5
baz=41,SNR=26
NEE2 **Needles Airpor** 41.13 313 ⇑P P 04 18 16.8 +0.6
baz=41,SNR=12
AGMN **Agassiz Nation** 41.15 343 *eP* P 04 18 14.8 -1.3
comp=Z,21nm,0.9s
SWSC **Sam W. Stewart** 41.16 310 ⇓P P 04 18 17.2 +0.7
baz=41,SNR=13
BC3 **Big Chuckawall** 41.22 311 ⇑P P 04 18 17.7 +0.6
baz=41,SNR=47
IRM **Iron Mountain** 41.23 312 ⇓P P 04 18 17.8 +0.8
baz=41,SNR=47
DVTC **Desert V Tower** 41.27 309 ⇓P P 04 18 18.1 +0.6
baz=41,SNR=9.1
I23A **Meade Ranch, G** 41.28 331 ⇑P P 04 18 17.8 +0.3
baz=41
TMUT **Trail Mountain** 41.30 321 *eP* P 04 18 18.4 +0.4
comp=Z,67nm,1.0s
L20A **Wamsutter** 41.37 326 ⇓P P 04 18 18.6 +0.3
baz=41,SNR=20
J22A **Midwest** 41.38 329 ⇑P P 04 18 18.4 +0.1
baz=41,SNR=55
CPUP **Villa Florida** 41.40 150 P P 04 18 16.4 -2.1
CPUP PcP PcP 04 20 16.4 +0.6
CPUP **Villa Florida** 41.40 150 P P 04 18 16.4 -2.1
comp=Z,1.1nm,0.5s,baz=321,slow=5.7,SNR=8.0
CPUP PcP PcP 04 20 16.4 +0.6
comp=Z,3.3nm,0.6s,baz=288,slow=3.4,SNR=5.5
H24A **Dirks Ranch, A** 41.45 332 ⇑P P 04 18 18.1 -0.7
baz=42,SNR=17
MSU **Marysvale** 41.45 319 *eP* P 04 18 19.9 +0.8
MSU pmax pmax
comp=Z,57nm,1.1s
MSU **Marysvale** 41.45 319 *eP* P 04 18 19.9 +0.8
comp=Z,57nm,1.1s
MVU **Marysvale** 41.47 319 *eP* P 04 18 20.0 +0.7
comp=Z,64nm,1.1s
M19A **Rock Springs** 41.49 325 ⇓P P 04 18 18.7 -0.6
baz=42
MONP **Monument Peak** 41.61 310 ⇓P P 04 18 21.2 +0.8
baz=42,SNR=20
LDFC **Landfair** 41.63 313 *eP* P 04 18 21.9 +1.4
comp=Z,131nm,0.8s
CCUT **Cedar City** 41.69 317 *eP* P 04 18 21.9 +0.8
comp=Z,28nm,0.9s
H23A **Clabaugh Cattl** 41.70 331 ⇓P P 04 18 20.8 0.0
baz=42
BAR **Barrett** 41.72 309 *eP* P 04 18 21.2 +0.2
comp=Z,87nm,1.4s
I22A **9 Mile Ranch,** 41.73 330 ⇓P P 04 18 21.1 0.0
baz=42,SNR=14
BELC **Belle Mtn. Jos** 41.78 311 ⇑P P 04 18 22.5 +0.7
baz=42,SNR=56
K20A **Yellowstone Ra** 41.82 327 ⇓P P 04 18 21.8 -0.1
baz=42,SNR=5.0
J21A **Lysite** 41.83 329 ⇓P P 04 18 22.5 +0.5
baz=42,SNR=15
G24A **Alzada** 41.83 333 ⇑P P 04 18 21.2 -0.6
baz=42
ARUT **Antelope Range** 41.87 318 *eP* P 04 18 23.1 +0.7
ARUT **Antelope Range** 41.87 318 *eP* P 04 18 23.1 +0.7
GMRC **Granite Mounta** 41.89 312 ⇓P P 04 18 23.2 +0.6
baz=42,SNR=42
E26A **Carlson Angus** 41.90 336 ⇓P P 04 18 21.3 -1.1
baz=42,SNR=25
PFO **Pinyon Flat Ob** 41.95 310 P P 04 18 23.0 -0.1
comp=Z,553nm,0.7s,SNR=36
PFO **Pinyon Flat Ob** 41.95 310 *eP* P 04 18 23.6 +0.6
comp=Z,76nm,0.8s
PFO **Pinyon Flat Ob** 41.95 310 ⇓P P 04 18 23.8 +0.8
baz=42,SNR=44
MDND **Maddock** 41.96 339 ⇓P P 04 18 21.7 -1.1
baz=42,SNR=11
L19A **Farson** 41.99 326 ⇑P P 04 18 23.5 +0.1
baz=42,SNR=17
MPU **Maple Canyon** 42.00 322 *eP* P 04 18 23.8 +0.4
comp=Z,117nm,1.1s
DAU **Daniels Canyon** 42.01 322 *eP* P 04 18 24.3 +0.6
DAU pmax pmax
comp=Z,106nm,0.9s
DAU **Daniels Canyon** 42.01 322 *eP* P 04 18 24.3 +0.6
comp=Z,106nm,0.9s
I21A **Big Trails, Te** 42.08 329 ⇑P P 04 18 23.9 -0.1
baz=42,SNR=20
109C **Camp Elliot, M** 42.13 309 ⇑P P 04 18 24.8 +0.4
baz=42,SNR=12
J20A **Shoshoni** 42.16 328 ⇑P P 04 18 25.4 +0.7
baz=42,SNR=40
G23A **Biddle** 42.18 332 ⇑P P 04 18 24.3 -0.4
baz=42,SNR=9.2
H22A **Clearmont** 42.18 331 ⇓P P 04 18 24.7 -0.1
baz=42,SNR=19
K19A **Absolon Red Bu** 42.20 327 ⇓P P 04 18 24.8 -0.3
baz=42,SNR=22
CFAA **Coronel Fontan** 42.20 166 P P 04 18 26.8 +1.8
CFAA **Coronel Fontan** 42.20 166 P P 04 18 26.8 +1.8
comp=Z,1.6nm,0.7s,baz=338,slow=7.4,SNR=42
F24A **Ekalaka** 42.24 333 ⇑P P 04 18 24.1 -1.1
baz=42
L18A **Fontenelle, Gr** 42.26 325 ⇑P P 04 18 26.0 +0.4
baz=42,SNR=19
E25A **Miller Ranch,** 42.31 335 ⇑P P 04 18 24.6 -1.1
baz=42,SNR=8.8
M17A **Scullys Gap (B** 42.33 324 ⇑P P 04 18 26.2 +0.1
baz=42,SNR=245
TUQ **Turquoise Moun** 42.39 313 ⇑P P 04 18 27.3 +0.6
baz=42,SNR=11
HEC **Hector,Ludlow** 42.40 312 ⇓P P 04 18 27.7 +1.0
baz=42,SNR=52
CTU **Camp Tracy** 42.48 322 *eP* P 04 18 28.0 +0.6
comp=Z,73nm,0.8s
MURC **Murrieta** 42.51 310 ⇑P P 04 18 28.2 +0.7
baz=42,SNR=38
H21A **Big Horn, Sher** 42.54 330 ⇑P P 04 18 27.0 -0.7
baz=43,SNR=7.0
BW06 **Boulder Array** 42.55 326 *eP* P 04 18 27.6 -0.3
comp=Z,59nm,0.8s
PDAR **Pinedale Array** 42.55 326 P P 04 18 27.8 -0.2
PDAR **Pinedale Array** 42.55 326 P P 04 18 27.8 -0.2
comp=Z,53nm,0.8s,baz=129,slow=10.0,SNR=380
PDAR LR LR 04 41 28.2
comp=Z,135nm,18.6s,baz=136,slow=44
F23A **Volborg** 42.58 333 ⇓P P 04 18 27.2 -0.8
baz=43,SNR=7.8
BBRC **Big Bear Solar** 42.58 311 ⇑P P 04 18 29.5 +1.1
baz=43,SNR=13
I20A **Worland** 42.60 329 ⇑P P 04 18 28.5 +0.2
baz=43,SNR=40
J19A **Crowheart** 42.61 327 ⇑P P 04 18 28.3 0.0
baz=43,SNR=14
G22A **Birney** 42.61 331 ⇑P P 04 18 27.9 -0.4
baz=43,SNR=16
E24A **Baker** 42.74 334 ⇓P P 04 18 28.3 -0.9
baz=43,SNR=6.6
DUG **Dugway** 42.83 321 *eP* P 04 18 30.9 +0.7
DUG pmax pmax
comp=Z,73nm,0.8s
DUG **Dugway** 42.83 321 *eP* P 04 18 30.9 +0.7
comp=Z,73nm,0.8s
DUG **Dugway** 42.83 321 ⇑P P 04 18 30.9 +0.7
baz=43,SNR=113
SHOC **Shoshone** 42.87 314 ⇓P P 04 18 31.0 +0.6
baz=43,SNR=19
H20A **Greybull** 42.92 329 ⇑P P 04 18 30.4 -0.3
baz=43,SNR=50
RRX **Edison Barstow** 42.92 312 ⇑P P 04 18 31.7 +0.9
baz=43
ULM **Lac du Bonnet** 42.92 344 P P 04 18 29.1 -1.4
ULM **Lac du Bonnet** 42.92 344 P P 04 18 29.1 -1.4
comp=Z,33nm,0.6s,baz=157,slow=8.3,SNR=25
ULM LR LR 04 37 20.5
comp=Z,346nm,20.0s,baz=162,slow=37
HWUT **Hardware Ranch** 42.94 324 *eP* P 04 18 31.1 0.0
comp=Z,51nm,0.7s
GSC **Goldstone** 42.97 313 *eP* P 04 18 32.1 +0.8
GSC pmax pmax
comp=Z,88nm,0.9s
GSC **Goldstone** 42.97 313 *eP* P 04 18 32.1 +0.8
comp=Z,88nm,0.9s
GSC **Goldstone** 42.97 313 ⇑P P 04 18 32.0 +0.8
baz=43,SNR=65
F22A **Rosebud** 43.02 332 ⇑P P 04 18 30.9 -0.5
baz=43,SNR=18
G21A **Lodge Grass** 43.06 331 ⇓P P 04 18 31.2 -0.6
baz=43,SNR=7.3
I19A **Meeteetse** 43.11 328 ⇑P P 04 18 32.6 +0.2
baz=43,SNR=24
BFSC **Mount Baldy Ra** 43.12 311 ⇑P P 04 18 32.9 +0.3
baz=43,SNR=20
E23A **Ismay** 43.13 333 ⇓P P 04 18 31.3 -1.1
baz=43,SNR=7.6
D24A **Glendive** 43.18 335 ⇑P P 04 18 32.5 -0.3
baz=43,SNR=30
SCI **San Clemente I** 43.28 309 ⇓P P 04 18 31.5 -2.2
baz=43
I18A **Diamond G Ranc** 43.32 327 ⇑P P 04 18 34.3 +0.2
baz=43,SNR=27
CIS **Catalina Islan** 43.34 309 ⇑P P 04 18 35.1 +0.9
baz=43,SNR=6.9
E22A **Miles City** 43.37 333 ⇓P P 04 18 33.4 -0.9
baz=43
FMP **Fort Macarthur** 43.38 310 ⇓P P 04 18 35.2 +0.7
baz=43
MWC **Mount Wilson** 43.42 310 *eP* P 04 18 35.4 +0.4
MWC pmax pmax
comp=Z,17nm,0.6s
MWC **Mount Wilson** 43.42 310 *eP* P 04 18 35.4 +0.4
comp=Z,17nm,0.6s
F21A **Absaloka Mine,** 43.45 331 ⇓P P 04 18 34.6 -0.4
baz=44
PASC **Pasadena Art C** 43.49 310 *eP* P 04 18 35.6 +0.2
comp=Z,29nm,0.8s
G20A **Bridger** 43.55 330 ⇑P P 04 18 35.2 -0.6
baz=44,SNR=18
H19A **Powell** 43.55 329 ⇑P P 04 18 35.7 -0.1
baz=44,SNR=14
FURC **Furnace Creek,** 43.55 314 ⇑P P 04 18 36.7 +0.9
baz=44,SNR=44
C24A **Savage** 43.55 335 ⇓P P 04 18 35.1 -0.6
baz=44,SNR=8.4
DECC **Green Verdugo** 43.63 310 ⇑P P 04 18 37.2 +0.6
baz=44,SNR=10
EDW2 **Edwards Air Fo** 43.65 311 ⇓P P 04 18 37.2 +0.4
baz=44,SNR=71
REDW **Red Top Meadow** 43.65 326 *eP* P 04 18 37.3 +0.5
comp=Z,2.4nm,1.1s
SNOW **Snow King Moun** 43.67 326 *eP* P 04 18 37.4 +0.4
comp=Z,115nm,0.9s
LOHW **Long Hollow** 43.68 326 *eP* P 04 18 37.3 +0.2
comp=Z,75nm,1.0s
LRMC **Laurel Mountai** 43.69 312 ⇑P P 04 18 37.5 +0.3
baz=44,SNR=9.9

HVU **Hansel Valley** 43.76 323 *e*P P 04 18 37.6 0.0
HVU pmax pmax
comp=Z,34nm,0.7s
HVU Hansel Valley 43.76 323 *e*P P 04 18 37.6 0.0
comp=Z,34nm,0.7s
TPAW Teton Pass 43.79 326 *e*P P 04 18 38.4 +0.4
comp=Z,51nm,0.8s
MPMC Manual Prospec 43.81 313 ⇑P P 04 18 38.3 +0.1
baz=44,SNR=71
MOOW Moose Ponds 43.85 327 *e*P P 04 18 38.5 +0.1
comp=Z,56nm,0.8s
I17A Pilgrim Ck. 43.87 327 ⇑P P 04 18 39.3 +0.7
baz=44,SNR=18
H18A Shoshone NF, C 43.90 328 ⇑P P 04 18 38.3 -0.5
baz=44
RRI2 Red Ridge 43.90 326 *e*P P 04 18 39.2 +0.3
comp=Z,48nm,0.7s
F20A Billings 43.93 331 ⇓P P 04 18 38.8 0.0
baz=44,SNR=42
E21A Keefer Ranch, 43.96 332 ⇑P P 04 18 38.6 -0.5
baz=44,SNR=22
DCID1 Drake Creek 43.99 326 *e*P P 04 18 40.0 +0.5
comp=Z,95nm,1.1s
RLMT Red Lodge 44.00 329 *e*P P 04 18 39.7 0.0
comp=Z,56nm,1.1s
D22A Cohagen 44.01 333 ⇑P P 04 18 39.4 -0.1
baz=44,SNR=22
IMW Indian Meadow 44.05 327 *e*Pn P 04 18 40.2 +0.1
comp=Z,65nm,0.7s
OSI Osito Adit 44.08 311 ⇓P P 04 18 40.2 0.0
baz=44
C23A Lambert 44.08 335 ⇓P P 04 18 39.5 -0.5
baz=44,SNR=8.1
GRAC Grapevine Rang 44.16 314 ⇑P P 04 18 41.6 +0.8
baz=44,SNR=15
H17A Grant Village 44.19 327 ⇓P P 04 18 41.7 +0.5
baz=44
DGMT Dagmar 44.20 336 *e*P P 04 18 40.3 -0.6
comp=Z,37nm,0.8s
DGMT Dagmar 44.20 336 ⇑P P 04 18 40.4 -0.5
baz=44,SNR=12
LKWY Lake 44.21 328 *e*P P 04 18 42.3 +1.0
LKWY pmax pmax
comp=Z,18nm,1.0s
LKWY Lake 44.21 328 *e*P P 04 18 42.3 +1.0
comp=Z,18nm,1.0s
G18A Lazy EL Ranch, 44.29 329 ⇑P P 04 18 41.7 -0.2
baz=44,SNR=22
D21A La Casta Ranch 44.31 333 ⇓P P 04 18 41.9 0.0
baz=44,SNR=16
I16A Newdale 44.34 326 ⇑P P 04 18 42.6 +0.4
baz=44,SNR=46
C22A Vida 44.34 334 ⇓P P 04 18 41.9 -0.2
baz=44,SNR=13
ISA Isabella 44.34 312 *e*P P 04 18 42.8 +0.5
ISA pmax pmax
comp=Z,38nm,0.8s
ISA Isabella 44.34 312 *e*P P 04 18 42.8 +0.5
comp=Z,38nm,0.8s
ISA Isabella 44.34 312 ⇑P P 04 18 42.9 +0.5
baz=44,SNR=30
F19A Roth Farm, Mol 44.36 330 ⇓P P 04 18 42.0 -0.3
baz=44,SNR=20
YFT Old Faithful 44.36 327 *e*P P 04 18 44.1 +1.5
comp=Z,31nm,1.0s
ARVC Arvin 44.38 311 ⇓P P 04 18 43.2 +0.7
baz=44,SNR=28
CWC Cottonwood Cre 44.41 313 ⇑P P 04 18 43.4 +0.5
baz=44
E20A Meyer Farm, Mu 44.43 331 ⇑P P 04 18 43.1 +0.3
baz=44,SNR=35
A24A Westby 44.49 336 ⇑P P 04 18 43.0 -0.2
baz=45,SNR=12
B23A Brockton 44.52 335 ⇑P P 04 18 43.3 -0.2
baz=45,SNR=8.1
YMR Madison River 44.58 327 *e*P P 04 18 44.8 +0.6
comp=Z,46nm,1.0s
ELK Elko 44.66 320 *e*P P 04 18 45.0 0.0
comp=Z,12nm,0.6s
GCMT Greycliff 44.67 329 *e*P P 04 18 44.8 -0.1
comp=Z,23nm,0.9s
E19A Rath Farm, Rou 44.71 331 ⇑P P 04 18 45.2 +0.1
baz=45,SNR=27
H16A Russell Place, 44.75 327 ⇑P P 04 18 46.2 +0.6
baz=45,SNR=35
F18A Big Timber 44.78 329 ⇑P P 04 18 45.9 +0.3
baz=45,SNR=73
TIN Tinemaha 44.79 314 ⇑P P 04 18 46.7 +0.8
baz=45,SNR=13
B22A Reddig Ranch S 44.81 334 ⇑P P 04 18 45.9 0.0
baz=45,SNR=9.8
A23A Redstone 44.87 336 ⇑P P 04 18 46.2 0.0
baz=45
VES Vestal, Richgr 44.87 312 ⇑P P 04 18 47.0 +0.6
baz=45,SNR=33
G17A Pierce Place, 44.90 328 ⇓P P 04 18 47.6 +1.0
baz=45,SNR=11
C21A Desert Coulee 44.93 333 ⇓P P 04 18 46.7 -0.1
baz=45,SNR=13
QLMT Earthquake Lak 44.93 327 *e*P P 04 18 48.0 +1.0
comp=Z,5.9nm,0.9s
PKM Peak Mountain 45.02 310 ⇑P P 04 18 48.1 +0.3
baz=45,SNR=13
RCTC Rector, Farmer 45.19 313 ⇑P P 04 18 49.1 +0.2
baz=45,SNR=18
F17A Fitzpatrick Pl 45.25 329 ⇓P P 04 18 50.0 +0.5
baz=45,SNR=38
C20A Veseth Ranch, 45.26 332 ⇑P P 04 18 49.5 +0.2
baz=45,SNR=42
D19A Cripps Ranch, 45.26 331 ⇑P P 04 18 49.7 +0.2
baz=45,SNR=58
A22A Carney Farms, 45.32 335 ⇓P P 04 18 49.9 +0.1
baz=45,SNR=16
SMMC Simmler 45.32 311 ⇓P P 04 18 50.7 +0.6
baz=45,SNR=27
E18A Harlowton 45.34 330 ⇑P P 04 18 50.1 0.0
baz=45,SNR=7.9
B21A Ellsworth Farm 45.35 334 ⇓P P 04 18 50.0 -0.1
baz=45
NV11 Mina Array Sit 45.39 316 *e*P P 04 18 51.0 +0.3
I14A Mackay 45.47 325 ⇑P P 04 18 52.0 +0.8
baz=46,SNR=55
MLAC Mammoth Lakes 45.49 314 ⇑P P 04 18 51.9 +0.3
baz=46
NVAR Mina Array Bea 45.49 316 P P 04 18 52.2 +0.6
NVAR PcP **PcP** 04 20 30.0 +0.2
NVAR Mina Array Bea 45.49 316 P P 04 18 52.2 +0.6
comp=Z,79nm,0.8s,baz=129,slow=6.6,SNR=365
NVAR PcP **PcP** 04 20 30.0 +0.2
comp=Z,2.1nm,0.5s,baz=130,slow=4.9,SNR=4.7
RCBR Riachuelo 45.52 108 *e*P P 04 18 53.2 +1.3
comp=Z,28nm,0.9s
BOZ Bozeman (W) 45.58 328 *e*P P 04 18 52.2 +0.1
BOZ pmax pmax
comp=Z,32nm,0.9s
BOZ Bozeman (W) 45.58 328 *e*P P 04 18 52.2 +0.1
comp=Z,32nm,0.9s
F16A Kennard Place, 45.67 328 ⇓P P 04 18 53.1 +0.3
baz=46,SNR=17
MCMT McKenzie Canyo 45.70 326 *e*P P 04 18 54.0 +0.9
comp=Z,41nm,0.8s
D18A Linhart Farms, 45.73 331 ⇑P P 04 18 53.5 +0.3
baz=46,SNR=11
E17A Martinsdale 45.73 329 ⇓P P 04 18 53.5 +0.2
baz=46,SNR=39
A21A Bergtoll Ranch 45.74 334 ⇓P P 04 18 53.3 +0.2
baz=46,SNR=8.9
C19A Slack Wire Ran 45.75 332 ⇑P P 04 18 53.4 +0.1
baz=46,SNR=36
B20A Solberg Farm, 45.80 333 ⇑P P 04 18 54.0 +0.4
baz=46,SNR=37
DLMT Dillon 45.91 327 *e*P P 04 18 55.1 +0.5
DLMT *e*ScP **ScP** 04 24 15.7 -3.7
comp=Z,45nm,1.0s
A20A Cobblestone Ra 46.09 334 ⇑P P 04 18 56.4 +0.4
baz=46,SNR=26
D17A Six Diamond Ra 46.13 330 ⇑P P 04 18 56.4 0.0
baz=46,SNR=24
LRM Limekiln Ridge 46.13 328 *e*P P 04 18 56.6 +0.1
comp=Z,306nm,0.7s
SCHQ Schefferville 46.15 10 *e*P P 04 18 57.4 +1.1
comp=Z,32nm,1.0s
SCHQ Schefferville 46.15 10 P P 04 18 57.4 +1.1
comp=Z,111nm,0.4s,baz=204,slow=6.9,SNR=44
SCHQ LR LR 04 37 47.8
comp=Z,227nm,18.7s,baz=158,slow=35
F15A Butte 46.16 328 ⇓P P 04 18 57.1 +0.4
baz=46,SNR=53
E16A East Helena 46.20 329 ⇓P P 04 18 57.0 +0.1
baz=46,SNR=14
B19A Brinkman Farms 46.23 333 ⇓P P 04 18 57.0 0.0
baz=46,SNR=21
EGMT Eagleton 46.29 332 *e*P P 04 18 55.4 -2.2
comp=Z,26nm,0.9s
EGMT Eagleton 46.29 332 ⇑P P 04 18 57.4 -0.2
baz=46,SNR=8.6
I12A Atlanta 46.35 324 ⇓P P 04 18 58.6 +0.3
baz=46
HRY Holter Researc 46.40 329 *e*P P 04 18 58.6 +0.2
comp=Z,30nm,0.9s
D16A Dana Ranch, Ca 46.47 329 ⇑P P 04 18 59.1 +0.1
baz=46,SNR=23
A19A Klindworth Far 46.49 333 ⇑P P 04 18 59.0 0.0
baz=46,SNR=14
C17A Wharram Farm, 46.50 331 ⇓P P 04 18 59.2 0.0
baz=46,SNR=56
MFID Camas Ranch 46.54 323 *e*P P 04 18 59.8 +0.2
comp=Z,117nm,0.9s
MFID Camas Ranch 46.54 323 ⇑P P 04 18 59.9 +0.3
baz=47
B18A Beardsley Farm 46.57 332 ⇓P P 04 18 59.9 +0.2
baz=47,SNR=35
F14A Wisdom 46.61 327 ⇑P P 04 19 00.3 +0.1
baz=47,SNR=17
H12A Diamond D Ranc 46.65 325 ⇑P P 04 19 00.7 +0.2
baz=47,SNR=125
CMB Columbia Colle 46.77 314 *e*P P 04 19 00.9 -0.5
CMB pmax pmax
comp=Z,16nm,0.9s
CMB Columbia Colle 46.77 314 *e*P P 04 19 00.9 -0.5
comp=Z,16nm,0.9s
D15A Lincoln 46.97 329 ⇑P P 04 19 03.2 +0.3
baz=47,SNR=34
B17A L&G Farms, Che 46.98 331 ⇑P P 04 19 02.3 -0.6
baz=47,SNR=5.8
A18A Metzger Ranch, 46.98 332 ⇓P P 04 19 02.6 -0.2
baz=47,SNR=20
SAO San Andreas Ge 46.99 312 *e*P P 04 19 02.9 -0.2
SAO pmax pmax
comp=Z,20nm,0.8s
SAO San Andreas Ge 46.99 312 *e*P P 04 19 02.9 -0.2
comp=Z,20nm,0.8s
C16A Fuhringer Ranc 47.09 330 ⇑P P 04 19 03.6 -0.2
baz=47
CHMT Chamberlain Mo 47.26 328 *e*P P 04 19 05.0 -0.3
comp=Z,4.8nm,0.9s
G12A Big Creek, Yel 47.26 325 ⇓P P 04 19 05.2 -0.1
baz=47
A17A Triple J Farms 47.39 332 ⇓P P 04 19 05.8 -0.3
baz=47,SNR=15
B16A M & M Farms, S 47.49 331 ⇑P P 04 19 06.3 -0.6
baz=48,SNR=16
C15A Salmond Ranch, 47.50 330 ⇑P P 04 19 07.2 +0.1
baz=48,SNR=36
D14A Greenough 47.50 328 ⇑P P 04 19 06.6 -0.5
baz=48,SNR=14
MSO Missoula 47.57 328 *e*P P 04 19 07.3 -0.3
comp=Z,17nm,0.8s
MSO Missoula 47.57 328 ⇓P P 04 19 07.4 -0.3
baz=48,SNR=30
BEKR Beckworth 47.58 316 *e*P P 04 19 07.8 -0.1
comp=Z,19nm,1.3s
SLMT Seeley Lake 47.60 328 *e*P P 04 19 07.5 -0.4
comp=Z,4.8nm,0.6s
WVOR Wild Horse Val 47.72 320 *e*P P 04 19 08.9 +0.1
WVOR Wild Horse Val 47.72 320 *e*P P 04 19 08.9 +0.1
comp=Z,196nm,1.0s
A16A West Butte Ran 47.81 331 ⇑P P 04 19 09.0 -0.5
baz=48,SNR=12
B15A Bradely Ranch, 47.84 330 ⇑P P 04 19 09.0 -0.6
baz=48,SNR=11
D13A Huson 48.01 328 ⇓P P 04 19 10.7 -0.3
baz=48,SNR=40
SWMT Swartz Lake 48.04 328 *e*P P 04 19 10.8 -0.3
comp=Z,6.7nm,0.9s
C14A Swan Lake 48.08 329 ⇓P P 04 19 11.6 +0.1
baz=48
E12A Beaver Dam Sad 48.18 326 ⇓P P 04 19 11.9 -0.4
baz=48,SNR=43
B14A Marquette Ranc 48.23 330 ⇓P P 04 19 12.5 -0.2
baz=48,SNR=25
BMO Blue Mountains 48.24 324 *e*P P 04 19 11.5 -1.3
BMO pmax pmax
comp=Z,29nm,0.8s
BMO Blue Mountains 48.24 324 *e*P P 04 19 11.5 -1.3
comp=Z,29nm,0.8s
YBMT Yellow Bay 48.27 329 *e*P P 04 19 13.1 +0.1
comp=Z,5.8nm,0.5s
JTMT Jette 48.34 328 *e*P P 04 19 13.6 +0.1
comp=Z,7.6nm,0.8s
A15A Jonson Ranch, 48.38 331 ⇓P P 04 19 13.3 -0.5
baz=48,SNR=20
C13A Hot Springs 48.44 328 ⇓P P 04 19 14.2 0.0
baz=48,SNR=16
MOD Modoc 48.52 319 *e*P P 04 19 14.1 -1.0
comp=Z,46nm,1.1s
BLMT Blacktail Moun 48.55 329 *e*P P 04 19 15.3 0.0
comp=Z,30nm,1.2s
FFC Flin Flon 48.62 342 P P 04 19 14.8 -0.6
comp=Z,96nm,0.8s,SNR=10
FFC Flin Flon 48.62 342 *i*P P 04 19 14.9 -0.5
FFC Flin Flon 48.62 342 *e*P P 04 19 14.5 -0.9
comp=Z,19nm,1.0s
BSMT Bassoo Peak 48.66 328 *e*P P 04 19 16.1 0.0
comp=Z,21nm,1.0s
A14A Double T Ranch 48.71 330 ⇓P P 04 19 15.7 -0.6
baz=49,SNR=7.4
B13A Whitefish 48.84 329 ⇑P P 04 19 17.5 +0.2
baz=49,SNR=18
C12B Naegeli Ranch, 48.93 328 ⇑P P 04 19 18.3 +0.3
baz=49
WALA Waterton Lakes 49.01 330 *e*P P 04 19 18.0 -0.6
comp=Z,0.2nm,0.9s
HOPS Hopland 49.08 314 *e*P P 04 19 19.0 -0.2
comp=Z,28nm,1.1s
A13A Flathead Natio 49.17 330 ⇑P P 04 19 19.8 -0.1
baz=49
WDC Whiskeytown Da 49.39 316 *e*P P 04 19 18.9 -2.7
WDC pmax pmax
comp=Z,14nm,0.6s
WDC Whiskeytown Da 49.39 316 *e*P P 04 19 18.9 -2.7
comp=Z,14nm,0.6s
C11A Tepee Creek (N 49.43 327 ⇑P P 04 19 21.9 +0.1
baz=50,SNR=27
B12A Libby 49.47 328 ⇓P P 04 19 22.3 +0.2
baz=50,SNR=5.5
HOG Hogback Mounta 49.60 319 P P 04 19 23.6 +0.3
KIPM Iron Peak 49.71 315 *e*P P 04 19 23.9 -0.2
comp=Z,92nm,1.1s
KCPM Cahto Peak 49.73 315 *e*P P 04 19 25.0 +0.7
comp=Z,47nm,0.8s
A12A Yaak River Ran 49.80 329 ⇑P P 04 19 24.9 +0.3
baz=50,SNR=7.1
TRQA Tornquist 49.96 163 *e*P P 04 19 25.6 -0.3
YBH Yreka Blue Hor 50.02 317 *e*P P 04 19 24.4 -2.1
comp=Z,29nm,0.7s
YBH Yreka Blue Hor 50.02 317 P P 04 19 24.6 -1.9
comp=Z,33nm,0.7s,baz=104,slow=3.9,SNR=105
NEW Newport 50.15 327 *e*P P 04 19 26.5 -0.6
comp=Z,26nm,0.9s
NEW Newport 50.15 327 P P 04 19 26.6 -0.6
comp=Z,24nm,0.9s,baz=135,slow=7.6,SNR=52
NEW Newport 50.15 327 ⇓P P 04 19 26.7 -0.6
baz=50,SNR=27
KHMM Horse Mountain 50.33 316 *e*P P 04 19 28.6 -0.3
comp=Z,75nm,0.8s
HAWA Hanford 50.40 324 *e*P P 04 19 28.9 -0.2
comp=Z,19nm,0.8s
PLCA Paso Flores 50.65 172 P P 04 19 32.2 +1.1
PLCA Paso Flores 50.65 172 P P 04 19 32.2 +1.1
comp=Z,14nm,1.2s,baz=346,slow=7.0,SNR=11
KRMB Red Mountain 50.73 317 *e*P P 04 19 31.1 -0.8
comp=Z,29nm,1.0s
TRW Toppenish Ridg 50.93 324 P P 04 19 33.5 +0.4
VFP Flag Point 50.97 322 P P 04 19 34.2 +0.6
TDH Tom, Dick, Har 51.15 322 P P 04 19 35.5 +0.6
KBO Bosley Butte 51.25 317 *e*P P 04 19 35.8 +0.1
comp=Z,196nm,0.8s
KEBM Edson Butte 51.61 318 *e*P P 04 19 38.8 +0.4
comp=Z,210nm,1.0s
WPW White Pass 51.73 324 P P 04 19 39.6 +0.3
LON Longmire 51.91 324 *e*P P 04 19 40.2 -0.3
LON pmax pmax
comp=Z,39nm,0.8s
LON Longmire 51.91 324 *e*P P 04 19 40.2 -0.3
comp=Z,39nm,0.8s
NLWA Neilton Lookou 53.45 323 *e*P P 04 19 51.9 +0.1
comp=Z,69nm,1.1s
PGC Sidney 53.85 325 *e*P P 04 19 54.8 +0.2
comp=Z,1.4nm,0.7s
BBB Bella Bella 58.19 327 P P 04 20 26.2 +0.6
BBB Bella Bella 58.19 327 P P 04 20 26.2 +0.6
comp=Z,16nm,0.8s,baz=133,slow=5.6,SNR=4.8
YKA Yellowknife Ar 58.78 342 P P 04 20 28.6 -0.9
YKA Yellowknife Ar 58.78 342 P P 04 20 28.6 -0.9
comp=Z,16nm,0.5s,baz=134,slow=7.2,SNR=132
YKW3 Yellowknife Ar 58.84 342 *e*P P 04 20 29.0 -0.9
comp=Z,0.5nm,0.6s
RKT Rikitea 63.73 238 *e*S S 04 29 37.3 +2.8
comp=Z,143nm,23.6s
RKT Rikitea 63.73 238 *e*LR LR 04 40 06.1
comp=Z,322nm,27.0s
SUMG Summit 67.44 12 *e*P P 04 21 27.6 +0.3
SUMG pmax pmax
comp=Z,33nm,0.8s
SUMG Summit 67.44 12 *e*P P 04 21 27.6 +0.3
comp=Z,33nm,0.8s
SUMG Summit 67.44 12 *i*P P 04 21 27.4 +0.1
comp=Z,8.4nm,1.1s
EVO Evora 69.17 52 *e*P P 04 21 37.9 -0.4
comp=Z,20nm,0.9s
EVO *e*R
comp=Z,148nm,22.5s
EGAK Eagle 69.75 336 *e*P P 04 21 40.5 -0.8
comp=Z,19nm,0.9s
ILAR Eielson Array 72.07 335 P P 04 21 54.6 -0.7
ILAR Eielson Array 72.07 335 P P 04 21 54.6 -0.7
comp=Z,12nm,0.9s,baz=111,slow=4.1,SNR=91
ILAR LR LR 04 57 30.3
comp=Z,213nm,18.9s,baz=114,slow=39
ESDC Sonseca Array 72.38 51 P P 04 21 58.6 +0.8
ESDC pP **PcP** 04 22 14.9 -0.6
ESDC Sonseca Array 72.38 51 P P 04 21 58.7 +0.8
comp=Z,4.8nm,0.9s,baz=276,slow=5.7,SNR=10
ESDC pP **PcP** 04 22 14.9 -0.6
comp=Z,8.2nm,0.9s,baz=274,slow=5.6,SNR=6.8
ESLA Sonseca Array 72.38 51 *e*P P 04 21 57.8 -0.1
comp=Z,0.7nm,0.7s
COLA College 72.49 335 *e*P P 04 21 57.6 -0.3
COLA *e* 04 24 38.8
COLA pmax pmax
comp=Z,16nm,1.0s
COLA College 72.49 335 *e*P P 04 21 57.6 -0.3
comp=Z,16nm,1.0s
COLA *e*PP **PP** 04 24 38.8 -0.7
MCK McKinley 72.66 334 *e*P P 04 21 58.8 -0.2
MCK pmax pmax
comp=Z,21nm,1.0s
MCK McKinley 72.66 334 *e*P P 04 21 58.8 -0.2
comp=Z,21nm,1.0s
LIC Lamto 73.15 86 *e*P P 04 22 02.9 +0.1
comp=Z,22nm,0.6s,baz=268
LIC *e*R
comp=Z,160nm,21.0s
TRF Thorofare Moun 73.19 334 *e*P P 04 22 01.1 -1.2
comp=Z,14nm,1.0s
KDAK Kodiak Island 73.25 328 P P 04 22 01.5 -1.0
KDAK Kodiak Island 73.25 328 P P 04 22 01.5 -1.0
comp=Z,7.9nm,0.6s,baz=120,slow=5.3,SNR=12
DBIC Dimbokro 73.26 86 P P 04 22 05.4 +2.0
DBIC Dimbokro 73.26 86 P P 04 22 05.4 +2.0
comp=Z,4.8nm,0.8s,baz=307,slow=12,SNR=3.6
DBIC LR LR 04 54 18.1
comp=Z,142nm,18.3s,baz=257,slow=36
COLD Coldfoot 74.01 337 *e*P P 04 22 07.0 +0.2
comp=Z,18nm,0.9s
DAG Danmarks Havn 74.13 12 *i*P pP 04 22 24.1 +0.9
DAG pmax pmax
comp=Z,11nm,0.9s
DAG Danmarks Havn 74.13 12 *i*P pP 04 22 24.1 +0.9
comp=Z,13nm,0.9s
SJPF Ste Jean 74.55 48 *e*P P 04 22 09.9 -0.5
comp=Z,38nm,1.0s
PPT Papeete 74.81 249 LR LR 04 47 49.5
comp=Z,84nm,21.8s,baz=115,slow=30
PPT2 Papeete2 74.81 249 *e*S S 04 31 48.9 +3.4
comp=Z,157nm,23.5s
PPT2 Papeete2 74.81 249 *e*LQ LQ 04 42 06.8
comp=Z,456nm,28.8s
PPT2 *e*LR LR 04 44 50.2
comp=Z,136nm,27.5s
GRR Gorron 74.98 42 *e*P P 04 22 12.4 -0.4
comp=Z,108nm,1.2s
ETSF Etsaut 75.03 48 *e*P P 04 22 13.5 +0.2
comp=Z,18nm,1.1s
FLN La Foliniere 75.24 42 *e*P P 04 22 13.7 -0.6
comp=Z,64nm,1.2s
FLN *e*R
comp=Z,347nm,22.7s
MFF Saint Martin d 75.40 44 *e*P P 04 22 15.1 -0.2
comp=Z,19nm,0.9s
LDF La Druitiere 75.48 42 *e*P P 04 22 15.1 -0.6
comp=Z,40nm,0.9s
EPF Esparros 75.69 48 *e*P P 04 22 16.6 -0.5
comp=Z,19nm,0.9s
LFF La Frestale 75.99 46 *e*P P 04 22 17.7 -1.0
comp=Z,27nm,1.0s
CHGN Chignik 76.26 326 *e*P P 04 22 18.8 -1.2
TBI Tubuai 76.30 243 *e*S S 04 32 03.2 +1.6
comp=Z,297nm,37.2s
TBI Tubuai 76.30 243 *e*LQ LQ 04 42 43.6
comp=Z,640nm,35.5s
TBI *e*LR LR 04 46 00.2
comp=Z,128nm,31.2s
RJF Les Rejaudoux 76.54 46 *e*P P 04 22 20.7 -1.1
comp=Z,13nm,0.9s
RJF *e*R
comp=Z,105nm,20.8s
CAF Calviac 76.93 46 *e*P P 04 22 23.0 -1.1
comp=Z,19nm,1.0s
TCF Toulx Ste Croi 77.03 45 *e*P P 04 22 23.6 -0.9
comp=Z,22nm,0.9s
MTLF Montolieu 77.06 48 *e*P P 04 22 23.8 -1.0
comp=Z,12nm,0.9s
BGF Bois d'Agland 77.46 44 *e*P P 04 22 26.0 -1.0
comp=Z,18nm,0.9s
AVF Avril sur Loir 77.81 44 *e*P P 04 22 27.7 -1.1
comp=Z,15nm,0.8s
SSF Saint Saulge 77.91 44 *e*P P 04 22 28.3 -1.1
comp=Z,34nm,1.3s
LOR Lormes 78.14 44 *e*P P 04 22 29.6 -1.2
comp=Z,29nm,1.2s
LOR *e*R
comp=Z,157nm,21.2s
SMF Signal de Mont 78.15 44 *e*P P 04 22 29.7 -1.1
comp=Z,24nm,1.1s
LASF Ste Croix 78.23 47 *e*P P 04 22 30.9 -0.4
comp=Z,16nm,0.9s
BAIF Baives 78.32 41 *e*P P 04 22 30.8 -0.8
GIVF Givet 78.72 41 *e*P P 04 22 32.3 -1.5
comp=Z,41nm,1.1s
VIVF Saint-Julien-l 78.79 46 *e*P P 04 22 34.1 -0.3
comp=Z,19nm,0.8s
TORD Torodi Ar. Bea 78.81 78 P P 04 22 35.4 +0.4
TORD Torodi Ar. Bea 78.81 78 P P 04 22 35.4 +0.4
comp=Z,1.0nm,0.4s,baz=287,slow=6.5,SNR=46
TORD LR LR 04 55 39.5
comp=Z,137nm,20.1s,baz=280,slow=34
MEZF Maizieres J'vi 78.91 42 *e*P P 04 22 34.2 -0.7
comp=Z,28nm,0.8s
PAGF Fort de Pagny 79.36 42 *e*P P 04 22 35.9 -1.5
comp=Z,14nm,0.9s
SMRF Simiane la Rot 79.48 47 *e*P P 04 22 38.0 -0.2
ORIF Oris-en-Rattie 79.64 46 *e*P P 04 22 39.7 +0.6
comp=Z,30nm,0.8s
ORIF *e*R
comp=Z,102nm,22.5s
CABF La Chapelle 79.70 44 *e*P P 04 22 38.6 -0.8
comp=Z,23nm,1.0s
HAU Haudompre 79.80 43 *e*P P 04 22 38.8 -1.0
HAU *e*R
comp=Z,157nm,21.8s
HINF Hinteralfeld 80.15 43 *e*P P 04 22 40.6 -1.1
comp=Z,22nm,1.1s
LMR La Mourre 80.19 48 *e*P P 04 22 41.0 -1.0
LPL La Plagne 80.21 45 *e*P P 04 22 42.6 +0.3
comp=Z,8.1nm,0.8s
LPG La Plagne 80.22 45 *e*P P 04 22 42.8 +0.3
comp=Z,10nm,0.8s
MBDF Montbardon 80.29 46 *e*P P 04 22 42.3 -0.4
comp=Z,12nm,0.7s
CDF Champ du Feu 80.40 42 *e*P P 04 22 42.1 -1.0
comp=Z,27nm,1.1s

	CKFL	**Kef-Lekhel**	**80.90**	**55**	P	P	04 22 49.5	+3.4
	UNV	**Unalaska Valle**	**80.92**	**323**	*e*P	**P**	**04 22 45.2**	**-0.4**
	MUD	**Monsted U'grnd**	**81.05**	**34**	*e*P	P	04 22 52.0	+5.8
	MUD				pmax	pmax		
		comp=Z,12nm,0.9s						
	MUD	**Monsted U'grnd**	**81.05**	**34**	*i* P	P	04 22 52.0	+5.8
		comp=Z,12nm,0.9s						
	TAM	**Tamanrasset**	**81.27**	**68**	*e*P	**P**	**04 22 49.6**	**+1.2**
	TAM				pmax	pmax		
		comp=Z,9.0nm,1.0s						
	TAM	**Tamanrasset**	**81.27**	**68**	*e*P	**P**	**04 22 49.6**	**+1.2**
		comp=Z,9.0nm,1.0s						
	CMAH	**Djebel Manchou**	**81.44**	**54**	P	P	04 22 54.9	+6.0
	ABSA	**Djebel Ababsia**	**81.52**	**55**	P	P	04 22 57.2	+7.8
	NB2	**NORSAR Subarra**	**81.77**	**29**	P	**P**	**04 22 51.6**	**+1.6**
		comp=Z,13nm,0.9s,baz=273,slow=5.1						
	NB2	**NORSAR Subarra**	**81.77**	**29**	P	**P**	**04 22 51.6**	**+1.6**
		baz=273,slow=5.1						
	NOA	**NORSAR Array B**	**81.77**	**29**	P	**P**	**04 22 50.5**	**+0.4**
	NOA				pP	**pP**	**04 23 08.2**	**+2.1**
	NOA	**NORSAR Array B**	**81.77**	**29**	P	**P**	**04 22 50.5**	**+0.4**
		comp=Z,1.1nm,0.8s,baz=274,slow=5.3,SNR=4.1						
	NOA				pP	**pP**	**04 23 08.2**	**+2.1**
		comp=Z,8.5nm,0.8s,baz=275,slow=5.3,SNR=13						
	NOA				LR	LR	04 55 31.9	
		comp=Z,93nm,21.8s,baz=270,slow=33						
	HFS	**Hagfors**	**83.08**	**30**	LR	LR	04 57 37.5	
		comp=Z,121nm,21.3s,baz=275,slow=34						
	KEST	**Kesra**	**83.09**	**55**	*e*P	**P**	**04 22 57.6**	**+0.1**
	KEST	**Kesra**	**83.09**	**55**	P	**P**	**04 22 58.2**	**+0.7**
		comp=Z,1.0nm,0.9s,baz=204,slow=5.9,SNR=2.8						
	CLL	**Collm**	**83.81**	**39**	*e*P	**pP**	**04 23 12.0**	**-4.9**
	CLL				*i* *PP	pP	04 23 22.5	+5.6
	CLL	**Collm**	**83.81**	**39**	*i* pP	pP	04 23 22.5	+5.6
		comp=Z,7.0nm,1.0s						
	CLL				*e*		04 23 31.0	
	CLL				*e*S	**S**	**04 33 18.0**	**-1.6**
	CLL				*e*SP	**SPn**	**04 34 10.0**	**-0.6**
	CLL				*e*SS	**SS**	**04 38 47.0**	**-0.6**
	CLL				*e*SSS	SSS	04 42 24.0	
	CLL				*e*SSSS		04 45 00.0	
	CLL				Lm	MLR	04 57 00.0	
		comp=N,100nm,19.5s						
	CLL				Lm	MLR	04 57 00.0	
		comp=E,100nm,19.8s						
	CLL				Lm	MLR	04 57 00.0	
		comp=Z,100nm,20.8s						
	BRG	**Berggiesshubel**	**84.45**	**39**	*e*P	P	04 23 12.2	+8.1
		comp=Z,3.5nm,0.9s						
	BRG				S	**S**	**04 33 31.0**	**+4.9**
	BRG				SS	**SS**	**04 38 56.0**	**-1.2**
	BRG							
		comp=N,167nm,21.3s						
	BRG							
		comp=E,115nm,20.6s						
	BRG							
		comp=Z,181nm,15.5s						
	BRG	**Berggiesshubel**	**84.45**	**39**	*e*P	P	04 23 12.2	+8.1
	BRG				S	**S**	**04 33 31.0**	**+4.9**
	BRG				SS	**SS**	**04 38 56.0**	**-1.2**
	BRG				pmax	pmax		
		comp=Z,3.0nm,0.9s						
	BRG				MLR	MLR		
		comp=N,4μm,21.3s						
	BRG				MLR	MLR		
		comp=E,167nm,20.6s						
	BRG				MLR	MLR		
		comp=Z,115nm,15.5s						
	KHC	**Kasperske Hory**	**84.47**	**41**	*e*P	P	04 23 09.4	+5.1
	KHC				*e*		04 23 18.2	
	KHC				*e*		04 23 21.6	
	KHC				MLR	MLR		
		comp=Z,200nm,21.0s						
	KHC	**Kasperske Hory**	**84.47**	**41**	*e*P	**P**	**04 23 05.0**	**+0.7**
	KHC				*e*PCP	**P**	**04 23 09.4**	**+5.1**
	KHC				*ex*	x	04 23 12.6	
	KHC				*ex*	x	04 23 18.2	
	KHC				*e*pP	**pP**	**04 23 21.6**	**+1.2**
	KHC				AMS	AMS	04 55 30.0	
		comp=Z,200nm,21.0s						
	KHC	**Kasperske Hory**	**84.47**	**41**	*e*P	**P**	**04 23 03.7**	**-0.5**
		comp=Z,9.6nm,1.0s						
	GERES	**GERESS Array B**	**84.59**	**42**	P	**P**	**04 23 05.5**	**+0.5**
	GERES				pP	**pP**	**04 23 23.3**	**+2.2**
	GERES	**GERESS Array B**	**84.59**	**42**	P	**P**	**04 23 05.5**	**+0.5**
		comp=Z,0.5nm,0.6s,baz=279,slow=2.6,SNR=6.5						
	GERES				pP	**pP**	**04 23 23.3**	**+2.2**
		comp=Z,5.2nm,0.9s,baz=282,slow=2.6,SNR=9.8						
	GERES				LR	LR	04 55 22.8	
		comp=Z,139nm,21.4s,baz=273,slow=32						
	PRU	**Pruhonice**	**84.96**	**40**	*e*P	**pP**	**04 23 19.0**	**-3.8**
	PRU				*e*		04 23 27.9	
	PRU				*e*		04 23 37.2	
	PRU				*e*S	**S**	**04 33 31.2**	**0.0**
	PRU				MLR	MLR		
		comp=Z,300nm,22.1s						
	PRU	**Pruhonice**	**84.96**	**40**	*ex*	**pP**	**04 23 19.0**	**-3.8**
	PRU				*e*pP	x	04 23 27.9	
	PRU				*ex*	x	04 23 37.2	
	PRU				*e*S	**S**	**04 33 31.2**	**0.0**
	PRU				*ex*	x	04 33 50.3	
	PRU				AMS	AMS	04 55 40.0	
		comp=Z,300nm,22.1s						
	JAVS	**Javornik**	**85.27**	**44**	*i* P	pP	04 23 27.1	+2.5
	CEY	**Cerknica**	**85.55**	**45**	*i* P	pP	04 23 28.7	+2.9
	TREC	**Trest**	**85.68**	**41**	*e*P	**pP**	**04 23 22.6**	**-3.9**
	TREC				*e*		04 23 38.8	
	TREC				MLR	MLR		
		comp=Z,200nm,23.3s						
	TREC	**Trest**	**85.68**	**41**	*e*pP	**pP**	**04 23 22.6**	**-3.9**
	TREC				*ex*	x	04 23 38.8	
	TREC				AMS	AMS	04 55 50.0	
		comp=Z,200nm,23.3s						
	UPC	**Upice**	**85.81**	**40**	*e*P	**P**	**04 23 12.0**	**+1.1**
	UPC	**Upice**	**85.81**	**40**	*e*P	**P**	**04 23 12.0**	**+1.1**
	UPC				*e*pP	pP	04 23 31.5	+4.5
	PERS	**Pernice**	**85.88**	**44**	*i* P	pP	04 23 33.3	+5.7
	DPC	**Dobruska-Polom**	**86.03**	**40**	*e*P	P	04 23 16.1	+4.0
	DPC				*e*		04 23 26.3	
	DPC				*e*		04 23 34.1	
	DPC	**Dobruska-Polom**	**86.03**	**40**	*e*P	P	04 23 16.1	+4.0
	DPC				*e*pP	pP	04 23 26.3	-1.9
	DPC				*e*sP	sP	04 23 34.1	-0.4
	ARCES	**ARCESS Array B**	**86.08**	**20**	P	**P**	**04 23 11.9**	**0.0**
	ARCES	**ARCESS Array B**	**86.08**	**20**	P	**P**	**04 23 11.9**	**0.0**
		comp=Z,2.1nm,0.6s,baz=287,slow=4.5,SNR=16						
	ARCES				LR	LR	04 57 34.8	
		comp=Z,114nm,19.3s,baz=47,slow=33						
	KRLC	**Kraliky**	**86.37**	**40**	*e*P	P	04 23 20.0	+6.3
	KRLC				*e*		04 23 28.2	
	KRLC				*e*		04 23 35.8	
	KRLC	**Kraliky**	**86.37**	**40**	*e*P	P	04 23 20.0	+6.3
	KRLC				*ex*	x	04 23 22.3	
	KRLC				*e*pP	pP	04 23 28.2	-1.7
	KRLC				*e*sP	sP	04 23 35.8	-0.4
	VRAC	**Vranov**	**86.39**	**41**	LR	LR	04 57 14.7	
		comp=Z,197nm,21.0s,baz=278,slow=32						
	OKC	**Ostrava-Krasne**	**87.28**	**40**	*e*P	P	04 23 26.5	+8.4
	OKC				*e*		04 23 33.4	
	OKC				*e*		04 23 40.2	
	OKC				MLR	MLR		
		comp=Z,200nm,20.5s						
	OKC	**Ostrava-Krasne**	**87.28**	**40**	*e*P	P	04 23 26.5	+8.4
	OKC				*e*pP	pP	04 23 33.4	-0.9
	OKC				*e*sP	sP	04 23 40.2	-0.3
	OKC				AMS	AMS	04 56 40.0	
		comp=Z,200nm,20.5s						
	VYHS	**Vyhne**	**88.00**	**41**	*e*pP	pP	04 23 43.4	+5.6
	FINES	**FINESS Array B**	**88.72**	**28**	P	**P**	**04 23 25.6**	**+0.9**
	FINES				pP	**pP**	**04 23 43.5**	**+2.7**
	FINES	**FINESS Array B**	**88.72**	**28**	P	**P**	**04 23 25.6**	**+0.9**
		comp=Z,1.3nm,0.9s,baz=242,slow=8.2,SNR=4.2						
	FINES				pP	**pP**	**04 23 43.5**	**+2.7**
		comp=Z,4.9nm,0.8s,baz=273,slow=3.6,SNR=6.7						
	FINES				LR	LR	04 59 31.6	
		comp=Z,143nm,21.9s,baz=111,slow=33						
	KOLS	**Kolonicke sedl**	**90.12**	**40**	*e*P	pP	04 23 49.5	+1.7
	KOLS	**Kolonicke sedl**	**90.12**	**40**	*e*pP	pP	04 23 49.5	+1.7
	BILL	**Bilibino**	**90.14**	**340**	*i* P	**P**	**04 23 30.6**	**-0.6**
	BILL				*e*S	**SKSac**	**04 33 54.4**	**-2.8**
	BILL				pmax	pmax		
		comp=Z,19nm,1.2s						
	UZH	**Uzhgorod**	**90.20**	**41**	*e*P	P	04 23 37.4	+5.5
	UZH				*i*		04 23 42.8	
	UZH						04 23 54.0	
	VNA1	**Neumayer--Stat**	**92.69**	**162**	*e*P	**P**	**04 23 44.4**	**+1.6**
	MLR	**Muntele Rosu**	**93.47**	**43**	P	**P**	**04 23 47.5**	**+0.2**
	MLR	**Muntele Rosu**	**93.47**	**43**	P	**P**	**04 23 47.5**	**+0.2**
		comp=Z,0.3nm,0.7s,baz=217,slow=5.1,SNR=1.6						
	SNAA	**Sanae**	**94.69**	**162**	*e*P	**P**	**04 23 52.9**	**+0.8**
	SNAA	**Sanae**	**94.69**	**162**	*e*P	**P**	**04 23 52.3**	**+0.2**
		comp=Z,12nm,1.1s						
	OBN	**Obninsk**	**96.23**	**31**	*e*P	**P**	**04 23 57.7**	**-1.8**
	OBN				*e*		04 28 01.0	
	OBN				*e*S	**SKSac**	**04 34 27.7**	**-3.5**
	OBN				*e*SS	**SS**	**04 41 50.2**	**+3.4**
	OBN				pmax	pmax		
		comp=Z,5.0nm,0.5s						
	TIXI	**Tiksi**	**96.87**	**351**	*i* P	**P**	**04 24 00.7**	**-1.3**
	TIXI				pmax	pmax		
		comp=Z,3.0nm,0.8s						
	TIXI				MLR	MLR		
		comp=Z,168nm,19.0s						
	YUK	**Yuzh-Kuril'sk**	**112.98**	**327**	*i* PKIKP	**PKiKP**	**04 29 08.5**	**0.0**
	YUK				*e*PPP	PPP	04 32 17.0	
	YUK						04 36 19.1	
	YUK				*i* SS	SS	04 45 35.2	-1.0
	KURK	**Kurchatov**	**116.86**	**16**	PKIKP	**PKPdf**	**04 29 15.1**	**-0.6**
	KURK	**Kurchatov**	**116.86**	**16**	PKP	**PKPdf**	**04 29 15.1**	**-0.6**
	KURBB	**Kurchatov Arra**	**116.92**	**16**	PKP	**PKPdf**	**04 29 15.1**	**-0.8**
		comp=Z,0.3nm,0.2s,baz=338,slow=2.9,SNR=3.2						
	MDJ	**Mudanjiang**	**120.22**	**337**	PKP	**PKPdf**	**04 29 22.3**	**-0.1**
	MKAR	**Makanchi Array**	**121.43**	**15**	PKIKP	**PKPdf**	**04 29 23.2**	**-1.5**
	MKAR	**Makanchi Array**	**121.43**	**15**	PKP	**PKPdf**	**04 29 23.2**	**-1.5**
	MKAR	**Makanchi Array**	**121.43**	**15**	PKP	**PKPdf**	**04 29 23.2**	**-1.5**
		comp=Z,0.2nm,0.6s,baz=29,slow=3.3,SNR=2.5						
	CN2	**Changchun**	**122.44**	**339**	*e*PKP	**PKPdf**	**04 29 26.6**	**-0.1**
	CN2				PP	**PP**	**04 31 05.0**	**+2.5**
	CN2				SS	SS	04 47 40.6	+2.3
	CN2				AMB	AMB		
		comp=Z,70nm,5.0s						
	CN2				LR	LR		
		comp=N,700nm,24.0s						
	CN2				LR	LR		
		comp=E,400nm,24.0s						
	CN2				LR	LR		
		comp=Z,100nm,20.0s						
	SONM	**Songino Array**	**122.65**	**356**	PKP	**PKPdf**	**04 29 25.7**	**-1.5**
	SONM	**Songino Array**	**122.65**	**356**	PKP	**PKPdf**	**04 29 25.7**	**-1.5**
		comp=Z,0.4nm,0.4s,baz=182,slow=0.6,SNR=4.7						
	WMQ	**Urumqi**	**125.48**	**12**	PKP	**PKPdf**	**04 29 32.0**	**-0.6**
	WMQ				PP	**PP**	**04 31 27.5**	**+4.7**
	WMQ				AMB	AMB		
		comp=Z,16nm,16.2s						
	WMQ				LR	LR		
		comp=N,87nm,38.7s						
	WMQ				LR	LR		
		comp=E,230nm,39.5s						
	WMQ				LR	LR		
		comp=Z,83nm,30.2s						
	KSH	**Kashi**	**125.88**	**24**	*e*PKP	**PKPdf**	**04 29 32.7**	**-0.9**
	KSRS	**Korea Array**	**126.89**	**333**	PKP	**PKPdf**	**04 29 33.8**	**-1.6**
		comp=Z,1.4nm,0.6s,baz=19,slow=1.8,SNR=4.9						
	KSAR	**Wonju Array Be**	**126.91**	**333**	PKP	**PKPdf**	**04 29 33.8**	**-1.7**
	BJI	**Beijing**	**128.69**	**345**	PKP	**PKPdf**	**04 29 38.6**	**-0.1**
	BJI				LR	LR		
		comp=N,90nm,28.7s						
	BJI				LR	LR		
		comp=E,190nm,36.1s						
	BJI				LR	LR		
		comp=Z,85nm,30.1s						
	HHC	**Hu-ho-hao-te**	**128.90**	**350**	SS	SS	04 48 53.4	-5.7
	HHC				AMB	AMB		
		comp=Z,99nm,14.2s						
	HHC				LR	LR		
		comp=N,230nm,13.7s						
	HHC				LR	LR		
		comp=E,190nm,10.3s						
	HHC				LR	LR		
		comp=Z,290nm,19.1s						
	GTA	**Gaotai**	**131.25**	**1**	*e*PKP	**PKPdf**	**04 29 43.8**	**-0.1**
	GTA				PP	PP	04 32 06.2	+5.6
	GTA				SKS	**SKSdf**	**04 36 50.4**	**-0.5**
	GTA				SKKS	**SKKSac**	**04 38 53.6**	**-0.1**
	GTA				SS	**SS**	**04 49 32.3**	**+4.4**
	GTA				AMB	AMB		
		comp=Z,51nm,6.4s						
	GTA				LR	LR		
		comp=N,250nm,21.8s						
	GTA				LR	LR		
		comp=E,380nm,20.4s						
	GTA				LR	LR		
		comp=Z,86nm,22.8s						
	LZH	**Lanzhou**	**134.51**	**357**	*e*PKP	**PKPdf**	**04 29 48.4**	**-1.7**
	LZH				PP	**PP**	**04 32 23.2**	**+1.7**
	LZH				PKS	PKSdf	04 33 19.5	-7.2
	LZH				SKS	SKSdf	04 36 49.1	-7.8
	LZH				SKKS	**SKKSac**	**04 39 10.0**	**-3.8**
	LZH				SS	**SS**	**04 50 04.5**	**-3.0**
	LZH				AMB	AMB		
		comp=Z,140nm,7.8s						
	LZH				LR	LR		
		comp=N,340nm,18.5s						
	LZH				LR	LR		
		comp=E,380nm,19.0s						
	LZH				LR	LR		
		comp=Z,510nm,20.1s						
	NJ2	**Nanjing**	**135.25**	**338**	*e*PKP	**PKPdf**	**04 29 50.3**	**-1.1**
	STKA	**Stephens Creek**	**136.45**	**233**	PKP	**PKPdf**	**04 29 51.3**	**-2.3**
	STKA	**Stephens Creek**	**136.45**	**233**	PKP	**PKPdf**	**04 29 51.3**	**-2.3**
		comp=Z,3.4nm,0.8s,baz=24,slow=3.7,SNR=6.8						
	CD2	**Chengdu**	**139.66**	**356**	PKP	**PKPdf**	**04 29 58.0**	**-1.7**
	CD2				PP	**PP**	**04 32 56.7**	**+3.2**
	CD2				PKS	**PKSdf**	**04 33 32.6**	**-3.3**
	CD2				SKS	**SKSdf**	**04 37 03.1**	**-2.6**
	CD2				SKKS	**SKKSac**	**04 39 42.8**	**-1.5**
	CD2				SS	**SS**	**04 51 09.8**	**+1.3**
	CD2				AMB	AMB		
		comp=Z,120nm,6.2s						
	GYA	**Guiyang**	**143.77**	**352**	PKP	PKPbc	04 30 06.0	+1.2
	GYA				PP	**PP**	**04 33 21.2**	**+2.6**
	GYA				PKS	**PKSdf**	**04 33 41.4**	**-1.8**
	GYA				SKKS		04 40 08.0	
	GYA				SS	**SS**	**04 51 59.5**	**+3.0**
	GYA				AMB	AMB		
		comp=Z,140nm,7.9s						
	GYA				LR	LR		
		comp=N,150nm,23.8s						
	GYA				LR	LR		
		comp=E,120nm,24.0s						
	GYA				LR	LR		
		comp=Z,140nm,25.5s						
	SHL	**Shillong**	**143.94**	**14**	*e*P	PKPab	04 30 04.0	-0.8
	HYB	**Hyderabad**	**145.14**	**40**	*i* PKP	**PKPdf**	**04 30 11.0**	**+1.3**
	AS31	**Alice Springs**	**145.68**	**242**	*e*PKPdf	**PKPdf**	**04 30 09.8**	**-0.7**
	ASAR	**Alice Springs**	**145.68**	**242**	PKPbc	**PKPdf**	**04 30 09.7**	**-0.7**
	ASAR	**Alice Springs**	**145.68**	**242**	PKPbc	**PKPdf**	**04 30 09.7**	**-0.7**
		comp=Z,22nm,0.7s,baz=112,slow=3.4,SNR=177						
	WRAB	**Tennant Creek**	**146.28**	**248**	*e*PKIKP	**PKPdf**	**04 30 11.3**	**-0.2**
	WRAB	**Tennant Creek**	**146.28**	**248**	*e*PKPdf	**PKPdf**	**04 30 11.2**	**-0.2**
	WRA	**Warramunga Arr**	**146.29**	**248**	PKPbc	**PKPdf**	**04 30 11.0**	**-0.5**
	WRA	**Warramunga Arr**	**146.29**	**248**	PKPbc	**PKPdf**	**04 30 11.0**	**-0.5**
		comp=Z,8.8nm,0.8s,baz=104,slow=3.3,SNR=104						
	QIZ	**Qiongzhong**	**150.29**	**343**	PKPbc	**PKPdf**	**04 30 13.9**	**-4.2**
	QIZ				PP	**PP**	**04 33 58.0**	**+1.0**
	QIZ				SS	SS	04 53 14.0	+3.7
	QIZ				LR	LR		
		comp=Z,86nm,31.7s						
	CMAR	**Chiang Mai Arr**	**152.07**	**4**	PKP	**PKPdf**	**04 30 20.9**	**+0.1**
	CMAR				PKPbc	**PKPbc**	**04 30 26.8**	**-0.7**
	CMAR				PKPab	**PKPab**	**04 30 33.7**	**-3.1**
	CMAR	**Chiang Mai Arr**	**152.07**	**4**	PKP	**PKPdf**	**04 30 20.9**	**+0.1**
		comp=Z,0.8nm,0.3s,baz=297,slow=2.6,SNR=3.4						
	CMAR				PKPbc	**PKPbc**	**04 30 26.8**	**-0.7**
		comp=Z,2.3nm,0.4s,baz=324,slow=3.4,SNR=10						
	CMAR				PKPab	**PKPab**	**04 30 33.7**	**-3.1**
		comp=Z,3.9nm,0.5s,baz=337,slow=3.3,SNR=9.0						
	NWAO	**Narrogin (SRO)**	**152.39**	**210**	PKPbc	**PKPbc**	**04 30 26.9**	**-0.8**
	NWAO	**Narrogin (SRO)**	**152.39**	**210**	PKPbc	**PKPbc**	**04 30 26.9**	**-0.8**
		comp=Z,14nm,0.9s,baz=113,slow=7.2,SNR=5.5						

IDC 06 04:26:15.6±59.0, 17°37'S×177°24'W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.8/3, Error ellipse: s-maj=1087.0km s-min=173.7km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.86**	**241**	P	P	04 33 51.2	+0.1
	1.2nm,0.8s,baz=85,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**45.82**	**259**	P	P	04 34 39.7	0.0
	0.5nm,0.3s,baz=95,slow=7.5,SNR=8.7						
ASAR	**Alice Springs**	**46.01**	**254**	P	P	04 34 40.7	-0.5
	0.8nm,0.5s,baz=88,slow=7.8,SNR=6.9						

*IDC **06** 04:26:33.8±1.1,34°.07N×25°.30E, h0km, mb3.6/7, mb1 3.7/10, mb1mx3.7/28, mbtmp3.6/10, ML3.5/3, Error ellipse: s-maj=31.3km s-min=18.6km az=160.0*
*CSEM **06** 04:26:34.8±0.2,34°.05N×25°.29E, h2km, MD3.2, Error ellipse: s-maj=6.9km s-min=4.1km az=81.0*
*THE **06** 04:26:39.0,34°.30N×25°.27E, h0km±3km, ML2.9/1, Error ellipse: s-maj=4.8km s-min=1.3km az=186.0*
*ATH **06** 04:26:40.7,34°.37N×25°.28E, h39km±3km, MD3.2/7*

ISC 06 04:26:34.5±1.5,34°04'N±0'.05×25°32'E±0'.04, h6km±10km, n43,σ1§00/57, mb3.6/7, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**1.06**	**337**	P	**Pg**	**04 26 55.3**	**+0.5**
SIVA				S	**Sg**	**04 27 07.6**	**-1.0**
SIVA	**Sivas**	**1.06**	**337**	*e*PN	**Pb**	**04 26 55.7**	**+0.4**
SIVA				*e*SN	**Sg**	**04 27 07.0**	**-1.6**
SIVA	**Sivas**	**1.06**	**337**	P	**Pg**	**04 26 55.3**	**+0.5**
SIVA	**Sivas**	**1.06**	**337**	*e*Pn	**Pb**	**04 26 55.7**	**+0.4**
SIVA				S	**Sg**	**04 27 07.6**	**-1.0**
LAST	**Lasithi**	**1.12**	**7**	P	**Pg**	**04 26 55.2**	**-0.8**
LAST				S	**Sg**	**04 27 10.1**	**-0.5**
LAST	**Lasithi**	**1.12**	**7**	*e*PN	**Pg**	**04 26 56.2**	**+0.1**
LAST	**Lasithi**	**1.12**	**7**	P	**Pg**	**04 26 55.2**	**-0.8**
LAST	**Lasithi**	**1.12**	**7**	*e*Pn	**Pg**	**04 26 56.2**	**+0.1**
LAST				S	**Sg**	**04 27 10.1**	**-0.5**
NPS	**Neapolis**	**1.24**	**11**	P	**Pb**	**04 26 58.5**	**+0.1**
NPS	**Neapolis**	**1.24**	**11**	*e*PN	**Pb**	**04 26 58.5**	**+0.1**
NPS				*e*SN	**Sb**	**04 27 10.9**	**-3.7**
NPS	**Neapolis**	**1.24**	**11**	P	**Pb**	**04 26 58.5**	**+0.1**
IDI	**Anoyia**	**1.29**	**344**	P	**Pn**	**04 26 58.7**	**-0.5**
IDI				S	**Sb**	**04 27 15.1**	**-1.1**
IDI	**Anoyia**	**1.29**	**344**	*e*PN	**Pn**	**04 26 59.5**	**+0.3**
IDI	**Anoyia**	**1.29**	**344**	P	**Pn**	**04 26 58.7**	**-0.5**
IDI	**Anoyia**	**1.29**	**344**	*e*Pn	**Pn**	**04 26 59.5**	**+0.3**
IDI				S	**Sb**	**04 27 15.1**	**-1.1**
GVD	**Gavdhos**	**1.29**	**308**	P	**Pb**	**04 26 59.8**	**+0.6**
GVD	**Gavdhos**	**1.29**	**308**	P	**Pb**	**04 26 59.8**	**+0.6**
ZKR	**Zakros**	**1.30**	**34**	P	**Pb**	**04 27 00.1**	**+0.7**
ZKR				S	**Sg**	**04 27 16.9**	**+0.6**
ZKR	**Zakros**	**1.30**	**34**	*e*PN	**Pg**	**04 27 00.4**	**+1.0**
ZKR	**Zakros**	**1.30**	**34**	P	**Pb**	**04 27 00.1**	**+0.7**
ZKR	**Zakros**	**1.30**	**34**	*e*Pn	**Pg**	**04 27 00.4**	**+1.0**
ZKR				S	**Sg**	**04 27 16.9**	**+0.6**
VAM	**Vamos**	**1.65**	**326**	P	**Pn**	**04 27 04.9**	**+0.9**
VAM	**Vamos**	**1.65**	**326**	*e*PN	**Pn**	**04 27 04.8**	**+0.8**
VAM	**Vamos**	**1.65**	**326**	*e*Pn	**Pn**	**04 27 04.8**	**+0.8**
KARP	**Karpathos**	**2.13**	**45**	P	**Pb**	**04 27 13.5**	**-0.1**
KARP				S	**Sn**	**04 27 39.0**	**+1.5**
KARP	**Karpathos**	**2.13**	**45**	*e*PN	**Pb**	**04 27 13.3**	**-0.3**
KARP	**Karpathos**	**2.13**	**45**	*e*Pn	**Pb**	**04 27 13.3**	**-0.3**
KARP				S	**Sn**	**04 27 39.0**	**+1.5**
SLUM		**2.54**	**182**	P	**Pn**	**04 27 17.1**	**+0.8**
KYTH	**Kithira**	**2.92**	**321**	P	**Pn**	**04 27 23.0**	**+1.5**
KYTH	**Kithira**	**2.92**	**321**	P	**Pn**	**04 27 23.0**	**+1.5**
HMAT	**Matruh**	**3.30**	**153**	P	**Pn**	**04 27 27.4**	**+0.7**
HMAT				S	**Sn**	**04 28 04.8**	**-1.5**
SWA2		**4.79**	**179**	P	**Pn**	**04 27 48.0**	**+0.9**
HFRF	**Wahat Farafira**	**7.34**	**159**	P	**Pn**	**04 28 22.8**	**+0.6**
BRTR	**Keskin Array B**	**8.75**	**47**	Pn	**Pn**	**04 28 42.2**	**+0.6**
	0.1nm,0.3s,baz=229,slow=13,SNR=3.4						
EIL	**Elat**	**9.28**	**115**	Pn	**Pn**	**04 28 48.8**	**0.0**
	0.7nm,0.3s,baz=267,slow=3.7,SNR=2.9						
EIL				Sn	**Sn**	**04 30 31.1**	**-2.4**
	0.7nm,0.3s,baz=194,slow=19,SNR=2.2						
GERES	**GERESS Array B**	**17.13**	**333**	Pn	**P**	**04 30 36.5**	**+0.2**
	0.2nm,0.3s,baz=144,slow=12,SNR=8.0						
ESDC	**Sonseca Array**	**24.04**	**292**	P	**P**	**04 31 49.7**	**-0.7**
	0.1nm,0.3s,baz=81,slow=9.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**29.89**	**232**	P	**P**	**04 32 43.6**	**+0.5**
	0.8nm,0.8s,baz=33,slow=8.4,SNR=13						
KURBB	**Kurchatov Arra**	**41.73**	**50**	P	**P**	**04 34 23.7**	**-0.4**
	0.6nm,0.7s,baz=277,slow=8.9,SNR=6.6						
MKAR	**Makanchi Array**	**44.29**	**56**	P	**P**	**04 34 45.2**	**+0.2**
	1.3nm,0.6s,baz=278,slow=6.9,SNR=15						
ZALV	**Zalesovo Beam**	**45.69**	**45**	P	**P**	**04 34 55.2**	**-0.8**
	0.5nm,0.4s,baz=272,slow=5.3,SNR=2.7						
SONM	**Songino Array**	**60.09**	**50**	P	**P**	**04 36 43.4**	**+0.7**
	0.5nm,0.7s,baz=266,slow=6.5,SNR=3.0						
ILAR	**Eielson Array**	**81.32**	**357**	P	**P**	**04 38 51.9**	**+0.4**
	0.2nm,0.8s,baz=354,slow=

MMAI	**Mount Meron Ar**	**8.18**	**94**	Pn	Pn	04 50 36.5	+3.6
	comp=N,1.5nm,0.3s,baz=255,slow=8.8,SNR=2.8						
MMAI				Sn	**Sn**	**04 52 01.0**	**-4.0**
	comp=N,1.6nm,0.3s,baz=267,slow=20,SNR=2.8						
BRTR	**Keskin Array B**	**8.57**	**46**	Pn	**Pn**	**04 50 40.2**	**+2.0**
	comp=N,0.0nm,0.3s,baz=225,slow=12,SNR=5.3						
BRTR				Sn	**Sn**	**04 52 14.2**	**-0.4**
	comp=N,0.1nm,0.3s,baz=231,slow=16,SNR=2.8						
EIL	**Elat**	**8.99**	**116**	Pn	**Pn**	**04 50 44.3**	**+0.4**
	comp=N,0.6nm,0.3s,baz=351,slow=10,SNR=7.5						
EIL				Sn	**Sn**	**04 52 23.0**	**-1.7**
	comp=N,0.6nm,0.3s,baz=0.0,slow=17,SNR=2.1						
GERES	**GERESS Array B**	**17.31**	**333**	Pn	**P**	**04 52 37.4**	**+0.3**
	comp=N,0.1nm,0.3s,baz=148,slow=11,SNR=9.2						
MDT	**Midelt**	**25.27**	**276**	LR	LR	05 05 37.1	
	comp=N,54nm,18.3s,baz=196,slow=41						
FINES	**FINESS Array B**	**27.47**	**0**	P	**P**	**04 54 18.5**	**-1.3**
	comp=N,0.9nm,0.6s,baz=157,slow=10,SNR=3.4						
AKTO	**Aktyubinsk**	**28.75**	**45**	P	**P**	**04 54 30.8**	**-0.5**
	comp=N,1.1nm,0.5s,baz=266,slow=0.9,SNR=3.3						
TORD	**Torodi Ar. Bea**	**30.09**	**232**	P	**P**	**04 54 43.9**	**+0.4**
	comp=N,0.5nm,0.7s,baz=33,slow=8.3,SNR=7.7						
MKAR	**Makanchi Array**	**44.07**	**56**	P	**P**	**04 56 42.3**	**+0.4**
	comp=N,0.5nm,0.7s,baz=291,slow=5.1,SNR=6.9						
ZALV	**Zalesovo Beam**	**45.51**	**45**	P	**P**	**04 56 53.2**	**0.0**
	comp=N,0.6nm,0.4s,baz=268,slow=7.6,SNR=4.3						
SONM	**Songino Array**	**59.90**	**50**	P	**P**	**04 58 41.3**	**+1.3**
	comp=N,0.2nm,0.7s,baz=305,slow=3.0,SNR=2.3						

IDC 06 05:06:39.8±73.0, 17°87'S×171°93'E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.9/3, Error ellipse: s-maj=1257.0km s-min=126.8km az=73.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.73**	**237**	P	P	05 12 56.5	-0.3
	1.4nm,0.6s,baz=63,slow=12,SNR=6.0						
WRA	**Warramunga Arr**	**35.58**	**261**	P	P	05 13 39.4	+0.2
	0.2nm,0.3s,baz=91,slow=8.4,SNR=14						
ASAR	**Alice Springs**	**35.95**	**254**	P	P	05 13 42.2	-0.2
	1.3nm,0.5s,baz=81,slow=9.4,SNR=24						

KRSC 06 05:21:44.3±0.8, 50°96N×157°79E, h85km±85km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.10**	**256**	P	Pn	05 22 05.9	+1.2
SKR				S	Sn	05 22 21.5	+1.4
ASAK	**Asacha**	**1.43**	**3**	P	Pn	05 22 11.6	+2.6
ASAK				S	Sn	05 22 31.8	+4.2
MIPR	**Malaya Ipel'ka**	**1.47**	**334**	P	Pn	05 22 10.0	+0.6
MIPR				S	Sn	05 22 28.5	+0.2
RUS	**Russkaya**	**1.54**	**17**	P	Pn	05 22 13.2	+2.9
RUS				S	Sn	05 22 34.0	+4.0
MTVR	**Mutnovka**	**1.54**	**9**	P	Pn	05 22 13.6	+3.0
MTVR				S	Sn	05 22 34.8	+4.4
GRL	**Gorelyy**	**1.60**	**6**	P	Pn	05 22 14.2	+2.9
APC	**Apacha**	**2.01**	**349**	P	Pn	05 22 17.2	+0.8
APC				S	Sn	05 22 41.7	+0.9
PET	**Petropavlovsk**	**2.13**	**14**	P	Pn	05 22 20.4	+2.3
PET				S	Sn	05 22 46.9	+3.1
UGLR	**Uglovaya**	**2.34**	**15**	P	Pn	05 22 24.2	+3.2
UGLR				S	Sn	05 22 53.5	+4.4
AVH	**Avacha**	**2.38**	**14**	P	Pn	05 22 24.7	+3.2
AVH				S	Sn	05 22 53.8	+3.8
SMAR	**Somma**	**2.39**	**15**	P	Pn	05 22 24.5	+2.7
KOK	**Koryaka**	**2.39**	**12**	P	Pn	05 22 24.9	+3.2
KOK				S	Sn	05 22 54.5	+4.2
NLC	**Nalytchevo**	**2.41**	**23**	P	Pn	05 22 23.8	+2.0
NLC				S	Sn	05 22 52.6	+2.1
SDLR	**Sedlovina**	**2.42**	**16**	P	Pn	05 22 24.5	+2.5
SDLR				S	Sn	05 22 54.2	+3.3
KRER	**Koryakskii**	**2.42**	**14**	P	Pn	05 22 25.1	+2.9
KRER				S	Sn	05 22 55.2	+4.0
GNL	**Ganaly**	**2.74**	**2**	P	Pn	05 22 27.6	+1.3
GNL				S	Sn	05 22 59.6	+0.9
MKZ	**Mys Kozlova**	**4.32**	**32**	P	Pn	05 22 48.9	+1.3
MKZ				S	Sn	05 23 35.8	-0.9
BKI	**Bering**	**6.51**	**46**	S	Sn	05 24 29.6	-0.3

*ISCJB **06** 05:22:42.7±0.7, 16°.2S±0°.1×14°.3W±0°.1, h10km, mb4.0/12, MS3.6/17, Error ellipse: s-maj=20.7km s-min=12.4km az=152.4*
*IDC **06** 05:22:42.4±1.0, 16°.17S×14°.38W, h0km, mb4.1/10, mb1 4.2/10, mb1mx3.9/25, mbtmp4.1/10, MS3.6/17, Ms1 3.6/17, ms1mx3.5/27, Error ellipse: s-maj=28.0km s-min=21.6km az=152.0*
*NEIC **06** 05:22:44.5±0.7, 16°.11S×14°.32W, h10km, mb4.4/1, Error ellipse: s-maj=20.4km s-min=12.5km az=154.0*

ISC 06 05:22:44.4±0.7, 16°2S±0°.1×14°3W±0°.1, h10km, n35, σ1§18/25, mb4.1/12, MS3.6/17, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**23.52**	**293**	P	**P**	**05 27 54.3**	**-0.7**
RCBR	**Riachuelo**	**23.52**	**293**	P	**P**	**05 27 54.3**	**-0.7**
	23nm,0.8s,baz=100,slow=12,SNR=11						
RCBR				LR	LR	05 35 04.9	
	comp=Z,163nm,21.7s,baz=104,slow=32						
DBIC	**Dimbokro**	**24.53**	**23**	P	**P**	**05 28 04.3**	**-0.1**
DBIC	**Dimbokro**	**24.53**	**23**	P	**P**	**05 28 04.3**	**-0.1**
	11nm,1.0s,baz=182,slow=9.1,SNR=3.4						
DBIC				LR	LR	05 35 42.4	
	comp=Z,42nm,20.6s,baz=141,slow=32						
BDFB	**Brasilia**	**32.40**	**266**	P	**P**	**05 29 16.7**	**+1.9**
BDFB	**Brasilia**	**32.40**	**266**	P	**P**	**05 29 16.7**	**+1.9**
	1.1nm,0.7s,baz=76,slow=15,SNR=3.0						
BDFB				LR	LR	05 40 40.5	
	comp=Z,121nm,18.3s,baz=204,slow=33						
TOA0	**Torodi Ar. Sit**	**33.13**	**29**	*eP*	**P**	**05 29 20.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**33.13**	**29**	P	**P**	**05 29 20.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**33.13**	**29**	P	**P**	**05 29 20.5**	**-0.5**
	4.6nm,0.8s,baz=211,slow=7.7,SNR=29						
TORD				LR	LR	05 40 12.1	
	comp=Z,159nm,21.4s,baz=205,slow=32						
SUR	**Sutherland**	**35.66**	**123**	LR	LR	05 40 44.7	
	comp=Z,125nm,22.0s,baz=0.4,slow=30						
BOSA	**Boshof**	**38.45**	**116**	LR	LR	05 42 21.4	
	comp=Z,170nm,19.6s,baz=325,slow=31						
LSZ	**Lusaka**	**40.86**	**95**	*eP*	**P**	**05 30 28.2**	**+1.2**
LSZ	**Lusaka**	**40.86**	**95**	P	**P**	**05 30 27.9**	**+0.9**
	1.3nm,0.8s,baz=200,slow=15,SNR=3.9						
SIV	**San Ignacio**	**44.86**	**263**	P	**P**	**05 30 57.8**	**-1.5**
SIV	**San Ignacio**	**44.86**	**263**	P	**P**	**05 30 57.8**	**-1.5**
	1.2nm,0.9s,baz=95,slow=14,SNR=3.5						
SAML	**Samuel**	**48.15**	**272**	*eP*	**P**	**05 31 26.2**	**+1.0**
	3.5nm,0.9s						
KMBO	**Kilima Mbogo**	**52.93**	**79**	LR	LR	05 52 19.6	
	comp=Z,45nm,21.7s,baz=95,slow=34						
SNAA	**Sanae**	**55.93**	**176**	*eP*	**P**	**05 32 21.6**	**-0.8**
SNAA	**Sanae**	**55.93**	**176**	P	**P**	**05 32 21.0**	**-1.4**
	0.6nm,1.0s,baz=308,slow=6.7,SNR=3.6						
KEST	**Kesra**	**56.26**	**23**	*eP*	**P**	**05 32 25.1**	**0.0**
ROSC	**El Rosal**	**62.92**	**284**	LR	LR	05 58 45.4	
	comp=Z,123nm,20.9s,baz=124,slow=34						
EIL	**Elat**	**65.81**	**46**	LR	LR	05 59 30.9	
	comp=Z,38nm,18.7s,baz=119,slow=34						
ASF	**Jabal al Asfar**	**68.64**	**45**	LR	LR	06 00 40.4	
	comp=Z,32nm,18.7s,baz=267,slow=33						
GERES	**GERESS Array B**	**69.33**	**19**	P	**P**	**05 33 50.0**	**-2.1**
GERES	**GERESS Array B**	**69.33**	**19**	P	**P**	**05 33 50.0**	**-2.1**
	0.2nm,0.2s,baz=233,slow=8.1,SNR=2.6						
GERES				LR	LR	06 00 29.5	
	comp=Z,27nm,19.3s,baz=99,slow=33						
MAW	**Mawson**	**70.30**	**157**	LR	LR	05 57 28.3	
	comp=Z,91nm,19.9s,baz=92,slow=30						
BRTR	**Keskin Array B**	**71.31**	**37**	P	**P**	**05 34 05.5**	**+1.0**
BRTR	**Keskin Array B**	**71.31**	**37**	P	**P**	**05 34 05.5**	**+1.0**
	0.7nm,0.6s,baz=202,slow=6.2,SNR=3.5						
BRTR				LR	LR	06 04 28.2	
	comp=Z,22nm,18.6s,baz=41,slow=35						
NOA	**NORSAR Array B**	**79.60**	**12**	LR	LR	06 12 13.3	
	comp=Z,19nm,20.6s,baz=185,slow=37						
FINES	**FINESS Array B**	**83.73**	**18**	P	**P**	**05 35 14.0**	**+0.8**
FINES	**FINESS Array B**	**83.73**	**18**	P	**P**	**05 35 14.0**	**+0.8**
	1.2nm,0.8s,baz=262,slow=4.2,SNR=2.7						
FINES				LR	LR	06 11 35.9	
	comp=Z,29nm,19.3s,baz=220,slow=35						
ARCES	**ARCESS Array B**	**89.95**	**13**	LR	LR	06 14 10.2	
	comp=Z,23nm,18.0s,baz=8.4,slow=34						
ULM	**Lac du Bonnet**	**96.98**	**320**	LR	LR	06 12 43.6	
	comp=Z,61nm,21.4s,baz=164,slow=31						
TXAR	**Lajitas Array**	**97.20**	**298**	P	**P**	**05 36 17.9**	**+0.1**
TXAR	**Lajitas Array**	**97.20**	**298**	P	**P**	**05 36 17.9**	**+0.1**
	0.7nm,1.0s,baz=99,slow=5.6,SNR=4.0						

BJI 06 05:28:26.8, 37°81N×101°22E, h7km, ML3.5/8, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**1.94**	**326**	Pg	Pn	05 28 59.8	-0.6
GTA				Sg	Sn	05 29 25.4	+0.2
GTA				*smax*	*smax*		
	comp=N,380nm,0.6s						
GTA				*smax*	*smax*		
	comp=E,470nm,0.6s						
LZH	**Lanzhou**	**2.72**	**128**	Pg	Pb	05 29 15.3	-0.7
LZH				Sg	Sb	05 29 52.0	+2.4
LZH				*smax*	*smax*		
	comp=N,280nm,0.8s						
LZH				*smax*	*smax*		
	comp=E,350nm,0.7s						
XAN	**Xi'an**	**7.29**	**119**	Pg	Pg	05 30 41.2	-5.3
XAN				Sg	Sb	05 32 09.9	+8.9
XAN				*smax*	*smax*		
	comp=N,11nm,0.9s						
XAN				*smax*	*smax*		
	comp=E,4.0nm,0.8s						

DJA 06 05:35:22.4±2.1, 2°S±12°×12°3E±2°5, h17km±10km, M3.5/3, MLv3.5/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.94**	**4**	P	Pb	05 35 39.0	-1.2
LUWI				S	Sb	05 35 52.4	+0.1
SKSI	**Soroako, Sulaw**	**1.47**	**248**	P	Pn	05 35 47.2	-1.0
GTOI	**Gorontalo**	**2.62**	**7**	S	Sn	05 36 36.6	+1.3
SPSI	**Sidrap Palu**	**3.53**	**236**	P	Pn	05 36 16.5	0.0

WEL 06 06:05:53.3±0.3, 37°20S×176°32E, h192km±3km, ML3.8/9, Error ellipse: s-maj=6.3km s-min=4.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.23**	**150**	PN	Pn	06 06 24.1	+0.1
URZ				SN	Sn	06 06 47.8	-0.1
URZ				AML	AML	06 07 41.4	
MWZ	**Matawai**	**1.48**	**140**	PN	Pn	06 06 26.2	0.0
MWZ				SN	Sn	06 06 51.5	-0.4
MWZ				AML	AML	06 06 53.0	
PUZ	**Puketiti**	**1.77**	**120**	PN	Pn	06 06 28.8	-0.1
PUZ				AML	AML	06 07 21.6	
RAHZ	**Arahi**	**1.82**	**161**	PN	Pn	06 06 29.4	0.0
RAHZ				SN	Sn	06 06 57.2	-0.4
NMHZ	**Naumai**	**1.93**	**169**	PN	Pn	06 06 30.8	+0.2
NMHZ				SN	Sn	06 06 59.8	0.0
BKZ	**Black Stump Fm**	**1.97**	**176**	PN	Pn	06 06 30.1	-0.9
BKZ				SN	Sn	06 06 58.3	-2.2
CNGZ	**Carnagh Statio**	**1.97**	**131**	PN	Pn	06 06 31.2	+0.3
TUVZ	**Tukino**	**2.13**	**194**	PN	Pn	06 06 32.5	-0.3
WHVZ	**Whangaehu Hut**	**2.15**	**195**	PN	Pn	06 06 32.9	-0.3
WNVZ	**Wahianoa**	**2.20**	**195**	PN	Pn	06 06 33.0	-0.6
MCHZ	**McNeill Hill**	**2.26**	**173**	PN	Pn	06 06 33.4	-0.6
BHHZ	**Black Hill Sta**	**2.29**	**185**	PN	Pn	06 06 33.2	-1.3
BHHZ				SN	Sn	06 07 04.3	-2.4
KAHZ	**Kahuranaki**	**2.63**	**171**	PN	Pn	06 06 36.7	-1.5
PNHZ	**Pukenui**	**2.71**	**182**	PN	Pn	06 06 37.3	-1.9
PNHZ				SN	Sn	06 07 11.3	-3.9
WAZ	**Wanganui**	**2.76**	**202**	PN	Pn	06 06 39.7	0.0
PXZ	**Pawanui**	**2.86**	**172**	PN	Pn	06 06 38.9	-1.9
PXZ				AML	AML	06 07 17.4	
PXZ				AML	AML	06 07 17.5	
WPHZ	**Waipukurau**	**2.86**	**178**	PN	Pn	06 06 39.2	-1.7
TSZ	**Takapari Road**	**2.87**	**185**	PN	Pn	06 06 38.9	-2.1
TSZ				SN	Sn	06 07 14.3	-4.1
POWZ	**Post Office Ro**	**3.22**	**188**	PN	Pn	06 06 42.7	-2.4
BFZ	**Birch Farm**	**3.48**	**181**	PN	Pn	06 06 45.2	-3.1
BFZ				AML	AML	06 07 28.2	
MRZ	**Mangatainoka R**	**3.50**	**189**	PN	Pn	06 06 45.2	-3.5
MRZ				AML	AML	06 07 28.8	
OGWZ	**Otaki Gorge**	**3.72**	**194**	PN	Pn	06 06 48.1	-3.2
HOWZ	**Holdsworth Sta**	**3.75**	**189**	PN	Pn	06 06 47.8	-3.9
KIW	**Kapiti Island**	**3.82**	**196**	PN	Pn	06 06 48.8	-3.7
MTW	**Mount Morrison**	**4.00**	**189**	PN	Pn	06 06 50.3	-4.5
MTW				AML	AML	06 07 39.1	
CAW	**Cannon Point**	**4.02**	**194**	PN	Pn	06 06 51.1	-4.0
TCW	**Tory Channel**	**4.31**	**201**	PN	Pn	06 06 54.7	-3.9
TCW				AML	AML	06 07 45.8	
PLWZ	**Palliser**	**4.44**	**190**	PN	Pn	06 06 55.7	-4.6
TUWZ	**Tuamarina**	**4.61**	**203**	PN	Pn	06 06 58.3	-4.1
TUWZ				AML	AML	06 07 52.0	
NNZ	**Nelson**	**4.62**	**209**	PN	Pn	06 06 58.4	-4.1
QRZ	**Quartz Range**	**4.67**	**218**	PN	Pn	06 06 59.7	-3.6
OXZ	**Oxford**	**6.94**	**207**	PN	Pn	06 07 26.3	-6.3

MEX 06 06:27:02.7±0.7, 15°66N×93°35W, h92km±7km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.13**	**72**	*i* P	Pn	06 27 14.0	-1.6
PCIG				*e*S	Sn	06 27 23.8	-1.5
TGIG		**1.13**	**11**	*i* P	Pn	06 27 22.9	-1.2
TGIG				*i* S	Sn	06 27 38.5	-1.7
THIG		**1.28**	**126**	*i* P	Pn	06 27 24.6	-1.3
THIG				*i* S	Sn	06 27 42.0	-1.3
CCIG	**Comitan**	**1.31**	**62**	*i* P	Pn	06 27 25.6	-0.8
CCIG				*e*S	Sn	06 27 42.4	-2.0

IDC 06 06:31:29.0±0.6, 5°77N×127°07E, h51km±5km, mb3.7/7, mb1 3.9/7, mb1mx3.6/22, mbtmp3.7/7, MS3.3/1, Ms1 3.3/1, ms1mx2.5/36, Error ellipse: s-maj=45.4km s-min=12.6km az=73.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.97**	**311**	S	Sn	06 32 33.8	+10
	117nm,0.3s,baz=275,slow=22,SNR=12						
WRA	**Warramunga Arr**	**26.53**	**165**	P	P	06 37 01.4	-0.7
	0.7nm,0.4s,baz=347,slow=10,SNR=18						
WRA				pP	pP	06 37 15.5	+0.3
	1.9nm,0.5s,baz=346,slow=10,SNR=12						
PSI	**Prapat**	**28.22**	**265**	LR	LR	06 50 35.5	
	comp=Z,63nm,18.8s,baz=47,slow=41						
ASAR	**Alice Springs**	**30.01**	**167**	P	P	06 37 32.4	-0.7
	0.6nm,0.6s,baz=355,slow=9.0,SNR=9.3						
ASAR				pP	pP	06 37 46.8	+0.6
	1.2nm,0.5s,baz=358,slow=8.9,SNR=10						
ASAR				PcP	PcP	06 40 35.2	+0.7
	0.3nm,0.5s,baz=340,slow=1.9,SNR=5.1						
STKA	**Stephens Creek**	**39.92**	**161**	P	P	06 38 58.3	+0.1
	5.4nm,0.4s,baz=352,slow=6.0,SNR=36						
STKA				pP	pP	06 39 11.7	0.0
	4.5nm,0.4s,baz=337,slow=8.4,SNR=9.1						
PETK	**Petropavlovsk-**	**53.43**	**22**	P	P	06 40 44.1	+0.4
	1.6nm,0.7s,baz=242,slow=3.1,SNR=3.5						
PETK				pP	pP	06 40 57.6	0.0
	1.3nm,0.6s,baz=149,slow=3.1,SNR=1.9						
MKAR	**Makanchi Array**	**56.09**	**324**	P	P	06 41 02.9	-0.2
	0.4nm,0.5s,baz=120,slow=8.2,SNR=6.3						
MKAR				pP	pP	06 41 18.4	+1.2
	0.6nm,0.5s,baz=123,slow=7.7,SNR=5.4						
ZALV	**Zalesovo Beam**	**58.94**	**332**	pP	pP	06 41 36.8	-0.3
	0.8nm,0.5s,baz=126,slow=7.5,SNR=2.4						
BVAR	**Borovoye Array**	**65.81**	**326**	P	P	06 42 09.2	+0.3
	0.5nm,0.4s,baz=76,slow=12,SNR=3.3						
ARCES	**ARCESS Array B**	**88.66**	**340**	P	P	06 44 15.1	-1.4
	1.7nm,0.7s,baz=82,slow=6.5,SNR=3.0						
ARCES				pP	pP	06 44 29.4	-2.0
	1.6nm,0.7s,baz=83,slow=7.4,SNR=1.8						
TORD	**Torodi Ar. Bea**	**122.58**	**289**	PKP	PKPdf	06 50 20.5	+0.5
	0.2nm,0.5s,baz=99,slow=1.3,SNR=3.7						
TORD				pPKP	pPKPdf	06 50 34.1	-1.4
	0.5nm,0.7s,baz=40,slow=2.1,SNR=3.4						

*ISCJB **06** 06:56:04.3±0.4, 52°.92S±0°.07×118°.5W±0°.1, h10km, mb4.5/28, MS4.8/30, Error ellipse: s-maj=11.6km s-min=10.1km az=0.3*
*IDC **06** 06:56:04.1±0.5, 52°.85S×118°.48W, h0km, mb4.3/15, mb1 4.4/15, mb1mx4.4/18, mbtmp4.2/15, MS4.8/27, Ms1 4.8/27, ms1mx4.7/31, Error ellipse: s-maj=19.6km s-min=14.5km az=140.0*
*NEIC **06** 06:56:05.7±0.2, 52°.97S×118°.42W, h10km, mb4.8/11, Error ellipse: s-maj=11.7km s-min=8.8km az=133.0*
*GCMT **06** 06:56:10.6±0.1, 52°.91S×118°.35W, h18km, MW5.3, Moment Tensor Solution. s64,c112; s90,c155; Moment tensor: Scale 10^17 Nm; Mrr=0.00; Mθθ=0.00; Mφφ=0.00; Mrθ=0.00; Mrφ=0.00; Mθφ=0.00; Best double couple: M0=1.10000×10^17 NP1:φs=21.00000°, δ=75.00000°, λ=-5.00000°. NP2:φs=112.00000°, δ=85.00000°, λ=-165.00000°. Principal axes: T 1.1300, Plg7.0000°, Azm246.0000°; N 0.0000, Plg74.0000°, Azm130.0000°; P -1.1400, Plg14.0000°, Azm337.0000°; Data Used: II IU IC G CN.*
*SZGRF **06** 06:56:18.6, 58°.59S×110°.69W, h33km, mb4.8, Southern Pacific Ocean*

ISC 06 06:56:05.9±0.4, 52°80S±0°09×118°62W±0°09, h10km, n101, σ1§43/103, mb4.6/28, MS4.8/30, 6C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**29.68**	**135**	LR	LR	07 10 23.9	
	comp=Z,2μm,21.2s,baz=248,slow=29						
RKT	**Rikitea**	**32.16**	**331**	*e*S	**S**	**07 07 46.3**	**+0.2**
	307nm,29.0s						
RKT				*e*LQ	LQ	07 09 23.3	
	681nm,33.8s						
RKT				*e*LR	LR	07 11 06.8	
	5μm,27.8s,baz=162						
PLCA	**Paso Flores**	**34.43**	**89**	LR	LR	07 13 56.9	
	comp=Z,1μm,18.1s,baz=224,slow=31						
VNDA	**Vanda**	**36.91**	**201**	*e*P	**P**	**07 03 16.9**	**+2.8**
VNDA				PcP	**PcP**	**07 05 35.4**	**+0.1**
VNDA	**Vanda**	**36.91**	**201**	P	**P**	**07 03 14.0**	**-0.2**
	3.5nm,1.1s,baz=100,slow=8.6,SNR=6.9						
VNDA				PcP	**PcP**	**07 05 35.4**	**+0.1**
	0.9nm,0.8s,baz=135,slow=2.9,SNR=2.9						
QSPA	**South Pole Qui**	**37.39**	**180**	P	**P**	**07 03 19.3**	**+0.7**
QSPA				PcP	**PcP**	**07 05 38.1**	**+1.1**
QSPA	**South Pole Qui**	**37.39**	**180**	P	**P**	**07 03 19.3**	**+0.7**
	9.5nm,1.1s,baz=115,slow=5.4,SNR=12						
QSPA				PcP	**PcP**	**07 05 38.1**	**+1.1**
	4.2nm,1.1s,baz=100,slow=1.2,SNR=2.6						
QSPA				LR	LR	07 16 22.6	
	comp=Z,2μm,20.7s,baz=288,slow=33						
TBI	**Tubuai**	**37.61**	**309**	*e*S	**S**	**07 09 10.3**	**+0.3**
TBI				*e*LQ	LQ	07 11 49.1	
	1μm,26.8s						
TBI				*e*LR	LR	07 13 45.9	
	2μm,26.5s,baz=151						
CFAA	**Coronel Fontan**	**41.87**	**80**	P	**P**	**07 03 54.3**	**-1.8**
CFAA	**Coronel Fontan**	**41.87**	**80**	P	**P**	**07 03 54.3**	**-1.8**
	0.4nm,1.0s,baz=213,slow=7.2,SNR=4.7						
CFAA				LR	LR	07 17 10.5	
	comp=Z,174nm,20.7s,baz=222,slow=30						
PPT2	**Papeete2**	**42.67**	**314**	*e*S	**S**	**07 10 24.7**	**-1.3**
	440nm,26.2s						
PPT2				*e*LQ	LQ	07 13 52.1	
	2μm,26.8s						
PPT2				*e*LR	LR	07 16 06.1	
	4μm,25.8s,baz=154						
PPT	**Papeete**	**42.69**	**314**	LR	LR	07 17 18.8	
	comp=Z,1μm,18.2s,baz=146,slow=30						
URZ	**Urewera**	**45.77**	**262**	LR	LR	07 19 20.9	
	comp=Z,2μm,20.1s,baz=126,slow=30						
RPZ	**Rata Peaks**	**45.94**	**252**	LR	LR	07 19 26.3	
	comp=Z,398nm,20.1s,baz=125,slow=30						
VNA1	**Neumayer--Stat**	**47.25**	**155**	*e*P	**P**	**07 04 36.9**	**-1.6**
SNAA	**Sanae**	**47.91**	**157**	*e*P	**P**	**07 04 43.1**	**-0.7**
SNAA	**Sanae**	**47.91**	**157**	P	**P**	**07 04 42.9**	**-0.9**
SNAA	**Sanae**	**47.91**	**157**	P	**P**	**07 04 42.9**	**-0.9**
	1.6nm,0.9s,baz=220,slow=4.5,SNR=11						
SNAA				LR	LR	07 24 30.8	
	comp=Z,770nm,19.0s,baz=207,slow=36						
LVC	**Limon Verde**	**48.20**	**71**	LR	LR	07 19 47.7	
	comp=Z,787nm,21.6s,baz=211,slow=30						
CPUP	**Villa Florida**	**52.25**	**85**	P	P	07 05 15.1	-2.0
CPUP	**Villa Florida**	**52.25**	**85**	P	P	07 05 15.1	-2.0
	1.9nm,0.7s,baz=226,slow=7.4,SNR=7.7						
CPUP				LR	LR	07 24 21.2	
	comp=Z,3μm,18.2s,baz=212,slow=32						
LPAZ	**La Paz**	**53.67**	**67**	*e*P	**P**	**07 05 28.7**	**+0.3**
LPAZ	**La Paz**	**53.67**	**67**	P	**P**	**07 05 27.4**	**-1.0**
	5.5nm,1.1s,baz=214,slow=6.8,SNR=16						
LPAZ				LR	LR	07 22 34.1	
	comp=Z,1μm,21.5s,baz=205,slow=30						
MAW	**Mawson**	**59.91**	**181**	P	**P**	**07 06 10.7**	**-0.6**
MAW	**Mawson**	**59.91**	**181**	P	**P**	**07 06 10.7**	**-0.6**
	8.0nm,1.0s,baz=186,slow=9.5,SNR=12						
MAW				LR	LR	07 29 55.6	
	comp=Z,584nm,21.2s,baz=172,slow=34						
SAML	**Samuel**	**62.41**	**67**	*e*P	**P**	**07 06 27.9**	**-1.1**
	10nm,1.3s						
OTAV	**Otavalo**	**62.57**	**47**	*e*P	**P**	**07 06 31.9**	**+1.4**
	20nm,1.4s						
DZM	**Mont Dzumac**	**63.69**	**268**	*e*S	**S**	**07 15 07.7**	**-4.

NVAR	Mina Array Bea	90.86	0	P		P	07 09 10.1	+0.8	
NVAR	Mina Array Bea	90.86	0	P		P	07 09 10.1	+0.8	
	2.6nm,1.2s,baz=190,slow=5.7,SNR=5.1								
NVAR				LR		LR	07 42 00.5		
	comp=Z,683nm,18.5s,baz=140,slow=30								
PV01	Paradox Valley	90.99	8	*e*P		P	07 09 10.9	+1.0	
	279nm,1.1s								
MVU	Marysvale	91.11	5	*e*P		P	07 09 12.3	+1.9	
	3.9nm,1.1s								
SRU	San Rafael	91.81	6	*e*P		P	07 09 13.9	+0.3	
	5.0nm,1.1s								
BOSA	Boshof	93.02	149	LR		LR	07 43 47.6		
	comp=Z,536nm,20.1s,baz=188,slow=31								
WDC	Whiskeytown Da	93.07	357	*e*P		P	07 09 18.9	-0.3	
	7.5nm,1.2s								
PDAR	Pinedale Array	95.52	7	P		P	07 09 30.4	-0.3	
PDAR	Pinedale Array	95.52	7	P		P	07 09 30.4	-0.3	
	0.8nm,1.0s,baz=198,slow=4.4,SNR=4.5								
PDAR				LR		LR	07 45 08.1		
	comp=Z,344nm,19.4s,baz=193,slow=31								
ILAR	Eielson Array	119.26	347	PKP		PKPdf	07 14 53.4	-0.3	
ILAR	Eielson Array	119.26	347	PKP		PKPdf	07 14 53.4	-0.3	
	0.2nm,0.7s,baz=190,slow=3.7,SNR=3.3								
LPL	La Plagne	144.29	79	*e*PKIKP		PKPbc	07 15 40.8	+0.9	
LPG	La Plagne	144.30	79	*e*PKIKP		PKPbc	07 15 40.8	+0.8	
	78nm,1.5s								
SHL	Shillong	144.44	232	*e*P		PKPab	07 15 40.0	-0.6	
BAIF	Baives	145.05	71	*e*PKIKP		PKPbc	07 15 42.0	+0.2	
PAGF	Fort de Pagny	145.23	74	*e*PKIKP		PKPbc	07 15 41.3	-1.2	
	18nm,1.1s								
HAU	Haudompre	145.33	75	*e*PKIKP		PKPdf	07 15 41.3	-1.7	
	65nm,1.3s								
GIVF	Givet	145.43	71	*e*PKIKP		PKPdf	07 15 41.9	-1.1	
	85nm,1.3s								
HINF	Hinteralfeld	145.53	76	*e*PKIKP		PKPdf	07 15 42.0	-1.4	
	62nm,1.3s								
CEL	Celeste	145.60	97	*e*PKPdf		PKPdf	07 15 43.9	+0.1	
CDF	Champ du Feu	146.07	75	*e*PKIKP		PKPdf	07 15 43.9	-0.4	
	95nm,1.6s								
TUE	Stuetta	146.35	80	*e*PKPbc		PKPbc	07 15 46.5	+0.2	
CUC	Castrocucco	146.64	94	*e*PKPbc		PKPdf	07 15 45.2	-0.3	
TIP	Timpagrande	146.70	96	*e*PKPbc		PKPdf	07 15 46.2	+0.6	
LSA	Lhasa	148.24	235	*e*PKPbc		PKPbc	07 15 52.6	+0.2	
LSA				*e*PKPab		PKPab	07 15 55.0	-0.4	
GRF	Grafenberg Arr	148.96	75	*e*PKPbc		PKPbc	07 15 54.4	+1.4	
GRF				*e*L		L	08 20 08.4		
	comp=Z,180nm,21.1s								
EIL	Elat	149.83	130	PKPab		PKPbc	07 15 58.2	+2.5	
EIL	Elat	149.83	130	PKPab		PKPbc	07 15 58.2	+2.5	
	comp=Z,2.7nm,0.4s,baz=139,slow=2.1,SNR=5.2								
GERES	GERESS Array B	150.06	78	PKPbc		PKPbc	07 15 54.5	-1.4	
GERES	GERESS Array B	150.06	78	PKPbc		PKPbc	07 15 54.5	-1.4	
	comp=Z,13nm,1.1s,baz=241,slow=4.1,SNR=17								
KHC	Kasperske Hory	150.11	78	*e*PKP		PKPbc	07 15 57.1	+1.2	
KHC				*e*PKPAB		PKiKP	07 15 59.9	+3.2	
KHC				*ep*PKP		PKPab	07 16 07.3	+5.3	
KHC				AMS		AMS	08 18 30.0		
	comp=Z,200nm,17.6s								
KHC	Kasperske Hory	150.11	78	*e*PKPdf		PKPdf	07 15 50.3	-0.6	
KHC				*e*PKPbc		PKPbc	07 15 57.1	+1.2	
KHC				*e*PKPab		PKPab	07 16 01.8	-0.2	
ULN	Ulaanbaatar	150.82	279	*e*PKPdf		PKPdf	07 15 52.0	-0.1	
ULN				*e*PKPbc		PKPbc	07 15 58.1	+0.3	
ULN				*e*PKPab		PKPab	07 16 05.7	+0.6	
PRU	Pruhonice	151.04	77	*e*PKP		PKPbc	07 15 58.4	+0.4	
PRU				*ep*PKP		PKiKP	07 16 02.1	+3.5	
PRU				*ex*		x	07 27 10.9		
PRU				AMS		AMS	08 19 00.0		
	comp=Z,200nm,16.3s								
SONM	Songino Array	151.21	278	PKPbc		PKPbc	07 15 58.1	-0.6	
SONM				PKPab		PKPab	07 16 06.5	-0.2	
SONM	Songino Array	151.21	278	PKPbc		PKPbc	07 15 58.1	-0.6	
	comp=Z,1.9nm,0.8s,baz=126,slow=1.9,SNR=12								
SONM				PKPab		PKPab	07 16 06.5	-0.2	
	comp=Z,1.9nm,0.6s,baz=93,slow=2.2,SNR=8.2								
PVCC	Panska Ves	151.27	76	*e*PKP		PKPbc	07 15 58.6	+0.1	
PVCC				*e*PKPAB		PKPab	07 16 03.9	-2.8	
PVCC				*ex*		x	07 27 11.6		
TREC	Trest	151.32	78	*e*PKP		PKPbc	07 15 59.4	+0.7	
TREC				*ep*PKP		PKiKP	07 16 02.8	+3.6	
TREC				*ex*		x	07 27 11.4		
UPC	Upice	152.12	76	*ep*PKP		PKPab	07 16 06.4	-3.8	
DPC	Dobruska-Polom	152.24	77	*e*PKPAB		PKPab	07 16 06.9	-3.9	
DPC				*ep*PKP		PKiKP	07 16 16.2	+15	
DPC				*ex*		x	07 27 16.1		
KRLC	Kraliky	152.40	78	*e*PKP		PKPbc	07 16 03.4	+2.2	
KRLC				*ep*PKP		PKiKP	07 16 07.0	+5.5	
KRLC				*es*PKP			07 16 17.5		
OKC	Ostrava-Krasne	153.12	79	*e*PKP		PKPbc	07 16 05.1	+2.4	
OKC				*ep*PKP		PKiKP	07 16 07.1	+4.2	
OKC				AMS		AMS	08 24 00.0		
	comp=Z,200nm,20.9s								
BRTR	Keskin Array B	156.96	113	PKP		PKPdf	07 16 01.2	+0.1	
BRTR				PKPab		PKPab	07 16 31.9	+0.6	
BRTR	Keskin Array B	156.96	113	PKP		PKPdf	07 16 01.2	+0.1	
	comp=Z,0.6nm,0.8s,baz=212,slow=7.4,SNR=3.3								
BRTR				PKPab		PKPab	07 16 31.9	+0.6	
	comp=Z,5.8nm,1.1s,baz=203,slow=5.0,SNR=8.7								
MKAR	Makanchi Array	165.24	254	PKPab		PKPab	07 17 07.1	-0.1	
MKAR	Makanchi Array	165.24	254	PKPab		PKPab	07 17 07.1	-0.1	
	comp=Z,2.0nm,0.8s,baz=115,slow=4.6,SNR=18								
ZALV	Zalesovo Beam	165.97	284	PKPab		PKPab	07 17 10.5	+0.4	
ZALV	Zalesovo Beam	165.97	284	PKPab		PKPab	07 17 10.5	+0.4	
	comp=Z,0.3nm,0.3s,baz=100,slow=3.4,SNR=2.3								

*ISCJB **06** 07:02:18.4±0.2,42°.45N±0°.02×13°.28E±0°.03,h11km±2km, Error ellipse: s-maj=3.3km s-min=2.8km az=154.9*
*CSEM **06** 07:02:18.8±0.1,42°.46N×13°.29E,h2km,ML3.6/8, Error ellipse: s-maj=2.4km s-min=1.9km az=63.0*
*ROM **06** 07:02:18.7±0.1,42°.45N×13°.31E,h14km±1km,MI3.1/32, Error ellipse: s-maj=0.9km s-min=0.6km az=69.0*
*LDG **06** 07:02:18.4±0.1,42°.46N×13°.27E,h2km,MI2.9/3, Error ellipse: s-maj=4.8km s-min=3.1km az=52.0*

ISC 06 07:02:19.2±0.8, 42°.45N±0°.02×13°.28E±0°.02, h14km±5km, n93, σ1§18/121, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AQU	L'Aquila	0.13	138	Pg		Pg	Pg	07 02 22.4	-0.3
AQU				Sg		Sg	Sg	07 02 24.9	-0.3
	8μm,0.4s								
AQU	L'Aquila	0.13	138	Pg		Pg	Pg	07 02 22.4	-0.3
AQU				Sg		Sg	Sg	07 02 24.9	-0.3
	8μm,0.4s								
FIAM	Fiamignano	0.22	214	Pg		Pg	Pg	07 02 24.2	+0.1
FIAM				Sg		Sg	Sg	07 02 28.0	+0.5
	4μm,0.5s								
FIAM	Fiamignano	0.22	214	Pg		Pg	Pg	07 02 24.2	+0.1
FIAM				Sg		Sg	Sg	07 02 28.0	+0.5
	4μm,0.5s								
LNSS	Leonessa	0.23	310	Pg		Pg	Pg	07 02 24.4	0.0
LNSS				Sg		Sg	Sg	07 02 28.7	+0.8
LNSS	Leonessa	0.23	310	Pg		Pg	Pg	07 02 24.4	0.0
LNSS				Sg		Sg	Sg	07 02 28.7	+0.8
TERO	Teramo	0.29	54	Pg		Pg	Pg	07 02 24.6	-0.7
TERO				Sg		Sg	Sg	07 02 28.7	-0.8
	4μm,0.3s								
TERO	Teramo	0.29	54	Pg		Pg	Pg	07 02 24.6	-0.7
TERO				Sg		Sg	Sg	07 02 28.7	-0.8
	4μm,0.3s								
GAVE	Gavelli	0.38	310	Pg		Pg	Pg	07 02 26.9	+0.1
GAVE	Gavelli	0.38	310	Pg		Pg	Pg	07 02 26.9	+0.1
NRCA	Norcia	0.40	342	Pg		Pg	Pg	07 02 26.9	-0.4
NRCA				Sg		Sg	Sg	07 02 33.2	+0.4
	3μm,0.2s								
NRCA	Norcia	0.40	342	Pg		Pg	Pg	07 02 26.9	-0.4
NRCA				Sg		Sg	Sg	07 02 33.2	+0.4
	3μm,0.2s								
VCEL	Villa Celiera	0.42	98	Pg		Pg	Pg	07 02 26.9	-0.6
VCEL				Sg		Sg	Sg	07 02 33.0	-0.2
	4μm,0.4s								
VCEL	Villa Celiera	0.42	98	Pg		Pg	Pg	07 02 26.9	-0.6
VCEL				Sg		Sg	Sg	07 02 33.0	-0.2
	4μm,0.4s								
PTQR	Pietraquaria	0.44	169	Pg		Pg	Pg	07 02 27.5	-0.4
PTQR				Sg		Sg	Sg	07 02 33.2	-0.7
	146nm,0.4s								
PTQR	Pietraquaria	0.44	169	Pg		Pg	Pg	07 02 27.5	-0.4
PTQR				Sg		Sg	Sg	07 02 33.2	-0.7
	146nm,0.4s								
MNS	Montasola	0.45	262	Pg		Pg	Pg	07 02 28.0	-0.2
	1μm,0.3s								
MNS	Montasola	0.45	262	Pg		Pg	Pg	07 02 28.0	-0.2
	1μm,0.3s								
CESX	Cesi	0.54	287	Pg		Pg	Pg	07 02 29.5	-0.4
	891nm,0.4s								
CESX	Cesi	0.54	287	Pg		Pg	Pg	07 02 29.5	-0.4
	891nm,0.4s								
CERT	Cerreto	0.55	204	Pg		Pg	Pg	07 02 29.5	-0.5
CERT				Sg		Sg	Sg	07 02 37.9	+0.6
	2μm,0.4s								
CERT	Cerreto	0.55	204	Pg		Pg	Pg	07 02 29.5	-0.5
CERT				Sg		Sg	Sg	07 02 37.9	+0.6
	2μm,0.4s								
OFFI	Offida	0.57	31	Pg		Pg	Pg	07 02 30.3	0.0
	3μm,0.8s								
OFFI	Offida	0.57	31	Pg		Pg	Pg	07 02 30.3	0.0
	3μm,0.8s								
TRTR	Tortoreto Alta	0.59	52	Pg		Pg	Pg	07 02 30.7	0.0
TRTR	Tortoreto Alta	0.59	52	Pg		Pg	Pg	07 02 30.7	0.0
MTCE	Montecelio	0.59	223	Pg		Pg	Pg	07 02 30.3	-0.4
	510nm,0.8s								
MTCE	Montecelio	0.59	223	Pg		Pg	Pg	07 02 30.3	-0.4
	510nm,0.8s								
FDMO	Fiordimonte	0.60	346	Pg		Pg	Pg	07 02 30.3	-0.7
FDMO				Sg		Sg	Sg	07 02 39.2	+0.2
	544nm,0.5s								
FDMO	Fiordimonte	0.60	346	Pg		Pg	Pg	07 02 30.3	-0.7
FDMO				Sg		Sg	Sg	07 02 39.2	+0.2
	544nm,0.5s								
CESI	CESI - Serrava	0.62	333	Pg		Pg	Pg	07 02 30.8	-0.5
	222nm,0.3s								
CESI	CESI - Serrava	0.62	333	Pg		Pg	Pg	07 02 30.8	-0.5
	222nm,0.3s								
VVLD	Villa Vallelon	0.63	156	Pg		Pg	Pg	07 02 30.5	-1.1
	474nm,0.6s								
VVLD	Villa Vallelon	0.63	156	Pg		Pg	Pg	07 02 30.5	-1.1
	474nm,0.6s								
INTR	Introdacqua	0.64	133	Pg		Pg	Pg	07 02 30.8	-0.9
	1μm,0.4s								
INTR	Introdacqua	0.64	133	Pg		Pg	Pg	07 02 30.8	-0.9
	1μm,0.4s								
GUAR	Guarcino	0.66	178	Pg		Pg	Pg	07 02 32.0	0.0
	422nm,0.4s								
GUAR	Guarcino	0.66	178	Pg		Pg	Pg	07 02 32.0	0.0
	422nm,0.4s								
ASSB	Assisi San Ben	0.75	322	Pg		Pg	Pg	07 02 33.1	-0.7
	660nm,0.3s								
ASSB	Assisi San Ben	0.75	322	Pg		Pg	Pg	07 02 33.1	-0.7
	660nm,0.3s								
GUMA	Gualdo di Mace	0.78	38	Pg		Pg	Pg	07 02 30.7	-3.6
	2μm,0.4s								
LPEL	Lama dei Pelig	0.78	121	Pg		Pg	Pg	07 02 32.8	-1.6
	561nm,0.3s								
LPEL	Lama dei Pelig	0.78	121	Pg		Pg	Pg	07 02 32.8	-1.6
	561nm,0.3s								
POFI	Posta Fibreno	0.80	156	Pg		Pg	Pg	07 02 34.7	0.0
	192nm,0.5s								
POFI	Posta Fibreno	0.80	156	Pg		Pg	Pg	07 02 34.7	0.0
	192nm,0.5s								
SDI	San Donato	0.84	152	Pg		Pb	Pb	07 02 35.0	-0.6
	342nm,0.6s								
SDI	San Donato	0.84	152	Pg		Pb	Pb	07 02 35.0	-0.6
	342nm,0.6s								
SNTG	Esanatoglia	0.84	343	Pg		Pb	Pb	07 02 34.5	-1.1
	204nm,0.3s								
SNTG	Esanatoglia	0.84	343	Pg		Pb	Pb	07 02 34.5	-1.1
	204nm,0.3s								
GIUL	Giuliano Di Ro	0.89	181	Pg		Pb	Pb	07 02 35.6	-0.9
	239nm,0.6s								
GIUL	Giuliano Di Ro	0.89	181	Pg		Pb	Pb	07 02 35.6	-0.9
	239nm,0.6s								
CING	Cingoli	0.93	356	Pg		Pb	Pb	07 02 35.8	-1.3
	322nm,0.5s								
CING	Cingoli	0.93	356	Pg		Pb	Pb	07 02 35.8	-1.3
	322nm,0.5s								
MGAB	Montegabbione	0.98	298	Pg		Pb	Pb	07 02 37.2	-0.8
	690nm,0.5s								
MGAB	Montegabbione	0.98	298	Pg		Pb	Pb	07 02 37.2	-0.8
	690nm,0.5s								
CERA	Filignano	1.01	147	Pg		Pb	Pb	07 02 37.8	-0.8
	338nm,0.8s								
CERA	Filignano	1.01	147	Pg		Pb	Pb	07 02 37.8	-0.8
	338nm,0.8s								
TOLF	Tolfa	1.03	248	Pg		Pb	Pb	07 02 38.3	-0.5
	206nm,0.6s								
TOLF	Tolfa	1.03	248	Pg		Pb	Pb	07 02 38.3	-0.5
	206nm,0.6s								
ARVD	Arcevia	1.07	347	Pg		Pb	Pb	07 02 38.6	-1.0
	330nm,0.8s								
ARVD	Arcevia	1.07	347	Pg		Pb	Pb	07 02 38.6	-1.0
	330nm,0.8s								
MIDA	Miranda	1.08	138	Pg		Pb	Pb	07 02 38.6	-1.2
	193nm,0.5s								
MIDA	Miranda	1.08	138	Pg		Pb	Pb	07 02 38.6	-1.2
	193nm,0.5s								
LATE	Laterza	1.10	279	Pg		Pb	Pb	07 02 40.0	-0.1
LATE	Laterza	1.10	279	Pg		Pb	Pb	07 02 40.0	-0.1
AOI	Ancona	1.12	12	Pg		Pb	Pb	07 02 39.6	-0.8
	161nm,0.3s								
AOI	Ancona	1.12	12	Pg		Pb	Pb	07 02 39.6	-0.8
	161nm,0.3s								
PIEI	Pieia	1.22	333	Pg		Pn	Pn	07 02 41.1	-0.7
	126nm,0.3s								
PIEI	Pieia	1.22	333	Pg		Pn	Pn	07 02 41.1	-0.7
	126nm,0.3s								
FSSB	Fossombrone	1.29	344	Pg		Pn	Pn	07 02 42.7	-0.2
	559nm,0.4s								
FSSB	Fossombrone	1.29	344	Pg		Pn	Pn	07 02 42.7	-0.2
	559nm,0.4s								
CAFI	Castiglion Fio	1.31	313	Pg		Pn	Pn	07 02 43.2	+0.1
	170nm,0.6s								
CAFI	Castiglion Fio	1.31	313	Pg		Pn	Pn	07 02 43.2	+0.1
	170nm,0.6s								
NVLJ	Novalja	2.41	28	*e*Pn		Pn	Pn	07 02 58.8	+0.6
NVLJ				Sn		Sn	Sn	07 03 28.7	+1.3
NVLJ	Novalja	2.41	28	*e*Pn		Pn	Pn	07 02 58.7	+0.6
UDBI	Udbina	2.75	40	*e*Pn		Pn	Pn	07 03 04.3	+1.3
UDBI				Sn		Sn	Sn	07 03 38.2	+2.1
UDBI	Udbina	2.75	40	*e*Pn		Pn	Pn	07 03 04.2	+1.3
UDBI				Sn		Sn	Sn	07 03 38.1	+2.1
SKDS	Skadanscina	3.14	9	*e*Pn		Pn	Pn	07 03 09.9	+1.6
SKDS				*e*Sn		Sn	Sn	07 03 47.3	+1.7
SKDS	Skadanscina	3.14	9	*e*Pn		Pn	Pn	07 03 09.9	+1.6
SKDS				*e*Sn		Sn	Sn	07 03 47.3	+1.7
PGF	Pioggiola	3.17	273	*e*P		Pn	Pn	07 03 10.1	+1.4
PGF				*e*Sn		Sn	Sn	07 03 45.5	-0.9
	4.7nm,0.5s								
PGF	Pioggiola	3.17	273	*e*P		Pn	Pn	07 03 10.1	+1.4
PGF				*e*Sn		Sn	Sn	07 03 45.5	-0.9
	2.3nm,0.5s								
STON	Ston	3.28	81	*e*Pn		Pn	Pn	07 03 11.5	+1.2
STON				Sn		Sn	Sn	07 03 51.7	+2.7
STON	Ston	3.28	81	*e*Pn		Pn	Pn	07 03 11.4	+1.2
STON				Sn		Sn	Sn	07 03 51.7	+2.7
SBF	Sospel	4.50	290	*e*P		Pn	Pn	07 03 29.4	+2.3
SBF	Sospel	4.50	290	*e*P		Pn	Pn	07 03 29.4	+2.3
FRF	La Foret Royal	4.99	285	*e*P		Pn	Pn	07 03 36.1	+2.4
FRF	La Foret Royal	4.99	285	*e*P		Pn	Pn	07 03 36.1	+2.4
DIVS	Divibare	5.17	69	*e*Pn		Pn	Pn	07 03 37.1	+0.9
BARS	Barje	6.30	84	*e*Pn		Pn	Pn	07 03 53.7	+2.0
CDF	Champ du Feu	7.30	327	*e*Pn		Pn	Pn	07 04 04.6	-0.9
CDF				*e*Sn		Sn	Sn	07 05 22.8	-5.4
	1.4nm,0.3s								
CDF	Champ du Feu	7.30	327	*e*Pn		Pn	Pn	07 04 04.6	-0.9
HAU	Haudompre	7.40	321	*e*Pn		Pn	Pn	07 04 07.0	+0.2
HAU				*e*Sn		Sn	Sn	07 05 26.3	-4.2
	4.3nm,0.4s								
HAU	Haudompre	7.40	321	*e*Pn		Pn	Pn	07 04 07.0	+0.2

*IDC **06** 07:06:59.4±0.9,52°.73S×118°.48W,h0km,mb3.8/5, mb1 4.1/5,mb1mx3.9/16,mbtmp3.8/5, Error ellipse: s-maj=38.4km s-min=26.6km az=157.0*
*ISCJB **06** 07:07:00.1±1.0,52°.8S±0°.2×118°.3W±0°.3,h10km,mb3.9/7, Error ellipse: s-maj=31.7km s-min=21.5km az=39.8*
*NEIC **06** 07:07:01.2±0.7,52°.73S×118°.52W,h10km,mb4.5/1, Error ellipse: s-maj=23.3km s-min=16.4km az=130.0*

ISC 06 07:07:00.9±0.8, 52.7S±0°.2×118.4W±0°.2, h10km, n18, σ0§91/20, mb3.9/7, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
QSPA	South Pole Qui	37.50	180	*e*P		P	P	07 14 15.0	+0.4
QSPA	South Pole Qui	37.50	180	P		P	P	07 14 19.6	+5.0
	2.1nm,1.0s,baz=96,slow=9.1,SNR=4.1								
SNAA	Sanae	47.97	157	*e*P		P	P	07 15 39.7	+0.4
SNAA	Sanae	47.97	157	P		P	P	07 15 39.6	+0.4
	0.5nm,1.0s,baz=207,slow=2.3,SNR=2.9								
LVC	Limon Verde	48.05	71	*e*P		P	P	07 15 41.7	+1.1
	3.5nm,0.8s								
CPUP	Villa Florida	52.12	85	P		P	P	07 16 11.0	-0.1
CPUP	Villa Florida	52.12	85	P		P	P	07 16 11.0	-0.1
	0.5nm,0.5s,baz=246,slow=6.4,SNR=4.2								
LPAZ	La Paz	53.52	67	P		P	P	07 16 22.7	+0.4
LPAZ				*e*P		pP	P	07 16 23.4	-2.1
LPAZ	La Paz	53.52	67	P		P	P	07 16 22.7	+0.4
	1.7nm,1.1s,baz=191,slow=5.2,SNR=3.5								
TXAR	Lajitas Array	82.69	13	P		P	P	07 19 25.9	+1.5
TXAR	Lajitas Array	82.69	13	P		P	P	07 19 25.9	+1.5
	0.6nm,0.9s,baz=182,slow=3.8,SNR=3.4								
WRA	Warramunga Arr	84.30	245	P		P	P	07 19 32.9	-0.1
WRA	Warramunga Arr	84.30	245	P		P	P	07 19 32.9	-0.1
	0.9nm,0.7s,baz=148,slow=4.3,SNR=2.5								
GERES	GERESS Array B	149.93	78	PKPbc		PKPbc	PKPbc	07 26 50.0	-0.6
GERES				PKPab		PKPab	PKPab	07 26 55.5	-0.9
GERES	GERESS Array B	149.93	78	PKPbc		PKPbc	PKPbc	07 26 50.0	-0.6
	0.3nm,0.3s,baz=273,slow=1.8,SNR=5.0								
GERES				PKPab		PKPab	PKPab	07 26 55.5	-0.9
	2.6nm,0.8s,baz=318,slow=1.3,SNR=12								
SONM	Songino Array	151.31	278	PKPbc		PKPbc	PKPbc	07 26 53.5	-0.5
SONM	Songino Array	151.31	278	PKPbc		PKPbc	PKPbc	07 26 53.5	-0.5
	0.7nm,0.8s,baz=159,slow=4.6,SNR=3.9								
MKAR	Makanchi Array	165.39	254	PKPab		PKPab	PKPab	07 28 02.2	-0.7
	1.1nm,1.0s,baz=123,slow=4.5,SNR=5.1								

*IDC **06** 07:07:16.9±0.5,52°.91S×118°.30W,h0km,mb4.5/15, mb1 4.7/15,mb1mx4.6/18,mbtmp4.5/15,MS4.8/2, Ms1 4.8/2,ms1mx3.9/18, Error ellipse: s-maj=20.8km s-min=13.7km az=149.0*
*ISCJB **06** 07:07:17.2±0.4,52°.99S±0°.09×118°.1W±0°.1,h10km, mb4.5/25,MS4.9/2, Error ellipse: s-maj=14.3km s-min=10.6km az=44.0*
*NEIC **06** 07:07:18.5±0.3,52°.94S×118°.26W,h10km,mb4.6/8, Error ellipse: s-maj=13.7km s-min=10.0km az=139.0*
*GCMT **06** 07:07:21.2±0.4,53°.04S×118°.30W,h26km±1km,MW5.1, Moment Tensor Solution. s5,c6; s62,c93; Moment tensor: Scale 10^{16}Nm; M_{rr}-1.46±.44; $M_{\theta\theta}$-3.73±.25; $M_{\phi\phi}$5.19±.31; $M_{r\theta}$-4.34±.65; $M_{\theta\phi}$0.34±.20; $M_{\phi r}$-1.17±.47; Best double couple: $M_0$6.30000×10^{16} NP1:ϕ_s145.00000°, δ52.00000°,λ-161.00000°. NP2:ϕ_s44.00000°,δ75.00000°, λ-39.00000°. Principal axes: T 5.5600, Plg15.0000°, Azm99.0000°; N 1.5400, Plg48.0000°, Azm206.0000°; P -7.1000, Plg38.0000°, Azm357.0000°; Data Used: II IU IC G CN.*

ISC 06 07:07:18.3±0.4, 52°.9S±0°.1×118°.19W±0°.09, h10km, n93, σ1§00/102, mb4.6/25, 1D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RKT	Rikitea	32.36	330	*e*LQ		LQ	LQ	07 20 38.3	
	517nm,32.8s								
RKT				*e*LR		LR	LR	07 22 15.4	
	467nm,27.8s,baz=154								
PLCA	Paso Flores	34.17	89	P		P	P	07 14 03.6	0.0
PLCA				*e*P		P	P	07 14 05.3	+1.7
PLCA	Paso Flores	34.17	89	P		P	P	07 14 03.6	0.0
	5.7nm,1.1s,baz=232,slow=11,SNR=4.6								
VNDA	Vanda	36.93	201	P		P	P	07 14 27.6	+0.8
VNDA				*e*P		P	P	07 14 27.9	+1.1
VNDA				PcP		PcP	PcP	07 16 48.4	+0.7
VNDA	Vanda	36.93	201	P		P	P	07 14 27.6	+0.8
	7.2nm,1.2s,baz=90,slow=7.4,SNR=8.4								
VNDA				PcP		PcP	PcP	07 16 48.4	+0.7
	2.0nm,1.0s,baz=35,slow=4.1,SNR=2.7								
QSPA	South Pole Qui	37.31	180	P		P	P	07 14 30.8	+0.4
QSPA				PcP		PcP	PcP	07 16 49.3	0.0
QSPA	South Pole Qui	37.31	180	P		P	P	07 14 30.8

CMAR	**Chiang Mai Arr**	**135.15**	**234**	PKP		**PKPdf**	**07 26 37.6**	**-0.3**
	2.2nm,0.8s,baz=199,slow=2.9,SNR=4.8							
BAIF	**Baives**	**144.83**	**71**	*e*PKIKP		**PKPdf**	**07 26 54.2**	**-0.2**
	14nm,0.9s							
PAGF	**Fort de Pagny**	**145.00**	**74**	*e*PKIKP	PKPbc		07 26 53.5	-0.7
	10nm,0.8s							
HAU	**Haudompre**	**145.10**	**75**	*e*PKIKP		**PKPbc**	**07 26 53.5**	**-1.1**
	19nm,0.8s							
GIVF	**Givet**	**145.20**	**71**	*e*PKIKP		**PKPbc**	**07 26 54.1**	**-0.7**
	40nm,1.0s							
HINF	**Hinteralfeld**	**145.30**	**76**	*e*PKIKP		**PKPbc**	**07 26 54.3**	**-0.9**
	29nm,1.1s							
CDF	**Champ du Feu**	**145.84**	**75**	*e*PKIKP		**PKPdf**	**07 26 56.0**	**-0.4**
ODAN	**Odare**	**147.76**	**226**	*e*P		**PKPbc**	**07 27 02.4**	**-0.9**
	63nm,0.9s							
TAPN	**Taplejung**	**148.04**	**227**	*e*P		**PKPbc**	**07 27 03.5**	**-0.7**
RAMN	**Ramite**	**148.18**	**225**	*e*P		**PKPbc**	**07 27 03.6**	**-0.9**
	47nm,0.8s							
JIRN	**Jiri**	**148.97**	**225**	*e*P		**PKPbc**	**07 27 06.6**	**-0.1**
	37nm,0.8s							
PKI	**Pulchoki**	**149.23**	**224**	*e*P		**PKPbc**	**07 27 06.2**	**-1.1**
	46nm,0.9s							
PKIN	**Phulchoki**	**149.24**	**224**	*e*P		**PKPbc**	**07 27 06.3**	**-0.9**
	29nm,0.8s							
GUN	**Gumba**	**149.33**	**225**	*e*P		**PKPbc**	**07 27 06.7**	**-0.8**
	56nm,0.9s							
DMN	**Daman**	**149.39**	**224**	*e*P		**PKPbc**	**07 27 07.1**	**-0.5**
	76nm,0.9s							
KKN	**Kakani**	**149.48**	**224**	*e*P		**PKPbc**	**07 27 07.5**	**-0.2**
GERES	**GERESS Array B**	**149.82**	**78**	PKPbc		**PKPbc**	**07 27 07.8**	**+0.1**
GERES	**GERESS Array B**	**149.82**	**78**	PKPbc		**PKPbc**	**07 27 07.8**	**+0.1**
	5.1nm,0.8s,baz=222,slow=1.8,SNR=22							
KHC	**Kasperske Hory**	**149.87**	**77**	*e*PKPdf		**PKPdf**	**07 27 03.2**	**+0.3**
KHC				*e*PKPbc		**PKPbc**	**07 27 07.3**	**-0.4**
KHC				*e*PKPab		**PKPab**	**07 27 13.1**	**-0.4**
KHC	**Kasperske Hory**	**149.87**	**77**	*ex*		**PKPbc**	**07 27 07.4**	**-0.4**
KOLN	**Koldanda**	**150.15**	**221**	*e*P		**PKPbc**	**07 27 08.2**	**-1.2**
	46nm,1.2s							
CLL	**Collm**	**150.43**	**73**	*i* pPKPbc		PKPdf	07 26 57.2	-6.5
	comp=Z,11nm,1.2s							
CLL	**Collm**	**150.43**	**73**	⇓*i* PKPbc		**PKPbc**	**07 27 09.7**	**+0.7**
	comp=Z,14nm,0.9s							
CLL				*i* pPKPbc		**PKPab**	**07 27 14.4**	**-1.2**
	comp=Z,19nm,0.8s							
CLL				*e*			07 38 50.0	
CLL				*e*SKSP			07 41 12.0	
CLL				*e*			08 00 47.0	
CLL				*e*			08 02 15.0	
DANN	**Dangsing**	**150.60**	**222**	*e*P		**PKPbc**	**07 27 09.8**	**-0.7**
	comp=Z,83nm,0.9s							
PYUN	**Piuthan**	**150.69**	**221**	*e*P		**PKPbc**	**07 27 09.9**	**-0.7**
	comp=Z,89nm,1.0s							
ULN	**Ulaanbaatar**	**151.10**	**278**	*e*PKPdf		**PKPdf**	**07 27 05.7**	**+0.6**
ULN				*e*PKPbc		**PKPbc**	**07 27 11.1**	**+0.2**
ULN				*e*PKPab		**PKPab**	**07 27 17.8**	**-0.9**
SONM	**Songino Array**	**151.48**	**278**	PKPbc		**PKPbc**	**07 27 11.4**	**-0.4**
SONM	**Songino Array**	**151.48**	**278**	PKPbc		**PKPbc**	**07 27 11.4**	**-0.4**
	comp=Z,3.4nm,0.7s,baz=120,slow=2.1,SNR=12							
NB2	**NORSAR Subarra**	**151.90**	**53**	PKPdf		**PKPbc**	**07 27 12.6**	**+0.5**
	comp=Z,4.6nm,0.9s,baz=270,slow=1.9							
NOA	**NORSAR Array B**	**151.90**	**53**	PKPbc		**PKPbc**	**07 27 12.7**	**+0.5**
NOA	**NORSAR Array B**	**151.90**	**53**	PKPbc		**PKPbc**	**07 27 12.7**	**+0.5**
	comp=Z,3.0nm,0.8s,baz=268,slow=2.1,SNR=9.7							
VYHS	**Vyhne**	**152.73**	**82**	*e*PKP		**PKPbc**	**07 27 11.2**	**-3.2**
VYHS				*e*			07 27 17.2	
VYHS				*e*			07 27 26.2	
BRTR	**Keskin Array B**	**156.69**	**113**	PKP		**PKPdf**	**07 27 14.2**	**+0.9**
BRTR				PKPab		**PKPab**	**07 27 42.9**	**+0.2**
BRTR	**Keskin Array B**	**156.69**	**113**	PKP		**PKPdf**	**07 27 14.2**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=199,slow=3.4,SNR=5.2							
BRTR				PKPab		**PKPab**	**07 27 42.9**	**+0.2**
	comp=Z,3.8nm,0.7s,baz=192,slow=6.0,SNR=14							
MKAR	**Makanchi Array**	**165.47**	**253**	PKPab		**PKPab**	**07 28 19.7**	**-0.9**
MKAR				PP		**PP**	**07 32 07.6**	**-0.6**
MKAR	**Makanchi Array**	**165.47**	**253**	PKPab		**PKPab**	**07 28 19.7**	**-0.9**
	comp=Z,5.3nm,0.9s,baz=121,slow=4.6,SNR=13							
MKAR				PP		**PP**	**07 32 07.6**	**-0.6**
	comp=Z,1.7nm,1.1s,baz=107,slow=4.8,SNR=8.0							
ZALV	**Zalesovo Beam**	**166.25**	**284**	PKPab		**PKPab**	**07 28 23.5**	**-0.4**
ZALV	**Zalesovo Beam**	**166.25**	**284**	PKPab		**PKPab**	**07 28 23.5**	**-0.4**
	comp=Z,4.6nm,0.9s,baz=93,slow=5.9,SNR=10							

*IDC **06** 07:09:41.5±4.7, 6.°53S×129.°83E, h118km±41km, mb3.9/11, mb1 4.0/13, mb1mx3.9/22, mbtmp3.9/13, Error ellipse: s-maj=31.7km s-min=12.6km az=71.0*
*ISCJB **06** 07:09:42.5±0.4, 6.°60S±0.°04×129.°89E±0.°08, h146km, mb4.0/11, Error ellipse: s-maj=11.5km s-min=4.8km az=167.5*
*AUST **06** 07:09:42.5±0.0, 6.°60S×130.°01E, h98km, Error ellipse: s-maj=1.5km s-min=0.8km az=283.0*
*DJA **06** 07:09:42.5±0.3, 7.°5S×13.°0E±.°, h165km±14km, M4.7/7, mb4.9/5, mB5.3/3, MLv4.6/7, Mw(mB)4.7/3*

ISC 06 07:09:43.5±0.5, 6.°54S±0.°05×130.°08E±0.°07, h146km, n35, σ2s00/38, mb3.9/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BNDI	**Bandanaira**	**2.02**	**355**	P		**Pn**	**07 10 19.2**	**+0.6**
BNDI	**Bandanaira**	**2.02**	**355**	P		**Pn**	**07 10 19.3**	**+0.7**
	baz=2.1,SNR=4.2							
MSAI	**Masohi**	**3.38**	**340**	P		**Pn**	**07 10 35.9**	**+0.3**
AAI	**Ambon**	**3.40**	**326**	P		**Pn**	**07 10 36.1**	**+0.2**
FAKI	**Fak Fak**	**4.20**	**31**	P		**Pn**	**07 10 45.1**	**-1.3**
FAKI				S		**Sn**	**07 11 31.2**	**-4.1**
FAKI	**Fak Fak**	**4.20**	**31**	P		**Pn**	**07 10 44.8**	**-1.6**
	baz=4.3,SNR=28							
FAKI				S		**Sn**	**07 11 31.2**	**-4.1**
	baz=4.3,SNR=13							
MTN	**Manton Dam**	**6.35**	**171**	P		**Pn**	**07 11 15.2**	**+0.3**
	baz=6.3,SNR=75							
MTN				S		**Sn**	**07 12 24.3**	**-2.1**
	baz=6.3,SNR=8.9							
LBMI	**Labuha**	**6.40**	**336**	P		**Pn**	**07 11 15.9**	**+0.2**
	175nm,0.9s,2µm0.5nm							
KDU	**Kakadu**	**6.55**	**159**	P		**Pn**	**07 11 17.5**	**0.0**
	baz=6.6,SNR=324							
KDU				S		**Sn**	**07 12 27.3**	**-3.9**
	baz=6.6,SNR=7.8							
BAKI	**Biak**	**8.03**	**49**	P		**Pn**	**07 11 39.3**	**+1.9**
	188nm,0.8s,2µm0.6nm							
KNRA	**Kununurra**	**9.17**	**188**	P		**Pn**	**07 11 51.1**	**-1.5**
	baz=9.2,SNR=86							
KNRA				S		Sn	07 13 27.0	-7.3
	baz=9.2,SNR=7.0							
FITZ	**Fitzroy Crossi**	**12.28**	**200**	P		Pn	07 12 30.4	-3.2
	2.1nm,0.3s,baz=36,slow=12,SNR=57							
FITZ				S		Sn	07 14 36.1	-13
	1.0nm,0.3s,baz=82,slow=18,SNR=3.2							
FITZ	**Fitzroy Crossi**	**12.28**	**200**	P		**Pn**	**07 12 31.5**	**-2.1**
	baz=12,SNR=23							
WRA	**Warramunga Arr**	**13.95**	**163**	P		**Pn**	**07 12 52.2**	**-2.9**
	2.9nm,0.3s,baz=344,slow=12,SNR=74							
WRA				S		Sn	07 15 20.0	-10
	4.7nm,0.3s,baz=345,slow=22,SNR=11							
COEN	**Coen**	**14.84**	**121**	P		**P**	**07 13 09.8**	**+1.4**
	baz=15,SNR=13							
COEN				S		Sn	07 15 41.3	-10
	baz=15,SNR=5.7							
QIS	**Mount Isa**	**16.72**	**147**	P		**Pn**	**07 13 31.5**	**+2.2**
	baz=17,SNR=7.2							
QIS				S		S	07 16 24.6	-11
	baz=17,SNR=5.8							
ASAR	**Alice Springs**	**17.42**	**168**	P		**Pn**	**07 13 38.5**	**+0.8**
	2.5nm,0.3s,baz=349,slow=12,SNR=179							
ASAR				S		**S**	**07 16 45.9**	**-4.9**
	0.9nm,0.3s,baz=346,slow=26,SNR=5.0							
MTSU	**Mount Surprise**	**18.05**	**131**	P		**Pn**	**07 13 47.3**	**+2.0**
	baz=18,SNR=4.9							
MEEK	**Meekatharra**	**22.77**	**207**	P		pP	07 14 57.0	-3.9
	baz=23,SNR=3.4							
BBOO	**Buckleboo**	**26.72**	**169**	P		P	07 15 14.3	+4.9
	baz=27,SNR=5.2							
STKA	**Stephens Creek**	**27.41**	**158**	P		**P**	**07 15 17.4**	**+1.9**
	1.2nm,0.4s,baz=351,slow=12,SNR=4.8							
STKA	**Stephens Creek**	**27.41**	**158**	P		**P**	**07 15 18.0**	**+2.5**
	baz=28,SNR=3.5							
NWAO	**Narrogin (SRO)**	**28.84**	**203**	P		**P**	**07 15 27.7**	**-0.5**
	18nm,1.1s,baz=9.8,slow=5.2,SNR=3.2							
PSI	**Prapat**	**32.45**	**286**	P		**P**	**07 15 59.0**	**-1.5**
	3.5nm,0.6s,baz=150,slow=8.1,SNR=3.9							
CMAR	**Chiang Mai Arr**	**39.50**	**310**	P		**P**	**07 16 59.5**	**-0.6**
	2.0nm,0.7s,baz=136,slow=7.2,SNR=12							
SONM	**Songino Array**	**58.03**	**341**	P		**P**	**07 19 21.8**	**+0.5**
	0.5nm,0.5s,baz=168,slow=5.7,SNR=3.9							
PETK	**Petropavlovsk-**	**63.87**	**18**	P		**P**	**07 20 01.1**	**+0.7**
	1.1nm,0.7s,baz=190,slow=4.5,SNR=3.8							
MKAR	**Makanchi Array**	**67.89**	**327**	P		**P**	**07 20 26.7**	**+0.4**
	7.2nm,0.5s,baz=120,slow=8.0,SNR=119							
ZALV	**Zalesovo Beam**	**71.21**	**334**	P		**P**	**07 20 46.0**	**-0.5**
	1.6nm,0.6s,baz=123,slow=5.1,SNR=5.0							
VNDA	**Vanda**	**72.89**	**173**	P		**P**	**07 20 57.5**	**+1.4**
	0.5nm,0.6s,baz=315,slow=4.1,SNR=4.8							
MAW	**Mawson**	**75.40**	**201**	P		**P**	**07 21 11.8**	**+1.0**
	1.6nm,0.6s,baz=44,slow=7.5,SNR=7.2							
QSPA	**South Pole Qui**	**83.43**	**180**	P		**P**	**07 21 55.1**	**+0.6**
	0.5nm,0.4s,baz=296,slow=6.1,SNR=5.5							
TORD	**Torodi Ar. Bea**	**128.79**	**282**	PKP		**PKPdf**	**07 28 34.5**	**-0.2**
	0.3nm,0.4s,baz=72,slow=1.8,SNR=5.1							
CPUP	**Villa Florida**	**146.54**	**168**	PKPbc		**PKPbc**	**07 29 08.7**	**+0.2**
	0.2nm,0.4s,baz=240,slow=2.1,SNR=3.7							
LPAZ	**La Paz**	**151.03**	**142**	PKPbc		**PKPbc**	**07 29 22.5**	**+1.5**
	0.8nm,0.3s,baz=58,slow=3.7,SNR=9.0							
LPAZ				PKPab		**PKPab**	**07 29 31.8**	**+2.9**
	0.9nm,0.5s,baz=228,slow=7.7,SNR=3.9							

KRSC 06 07:10:14.7±0.6, 54.°92N×165.°95E, h11km±10km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BKI	**Bering**	**0.28**	**3**	P		Pg	07 10 20.5	0.0
BKI				S		Sg	07 10 24.5	+0.1
MKZ	**Mys Kozlova**	**2.47**	**263**	P		Pn	07 10 55.6	+0.7
MKZ				S		Sn	07 11 24.9	-0.1
SMKR	**Semkarok**	**3.03**	**305**	P		Pn	07 11 04.8	+2.1
SMKR				S		Sn	07 11 40.3	+1.3
TUMR	**Tumrok**	**3.35**	**279**	P		Pn	07 11 07.8	+0.6
KMNR	**Kamenistaya**	**3.37**	**287**	P		Pn	07 11 08.1	+0.7
KMNR				S		Sn	07 11 48.2	+0.8
NLC	**Nalytchevo**	**4.27**	**248**	S		Sn	07 12 08.9	-0.4
SDLR	**Sedlovina**	**4.47**	**251**	P		Pn	07 11 24.8	+2.3
SDLR				S		Sn	07 12 15.0	+0.4
SMAR	**Somma**	**4.52**	**251**	P		Pn	07 11 24.5	+1.1
UGLR	**Uglovaya**	**4.53**	**251**	P		Pn	07 11 26.0	+2.6
KRER	**Koryakskii**	**4.54**	**252**	P		Pn	07 11 25.8	+2.3
AVH	**Avacha**	**4.56**	**252**	P		Pn	07 11 25.1	+1.4
KOK	**Koryaka**	**4.60**	**252**	P		Pn	07 11 27.0	+2.7
GNL	**Ganaly**	**4.85**	**259**	P		Pn	07 11 29.9	+2.2
RUS	**Russkaya**	**5.07**	**244**	P		Pn	07 11 32.0	+1.4
RUS				S		Sn	07 12 28.1	-1.0
MTVR	**Mutnovka**	**5.22**	**245**	P		Pn	07 11 34.6	+1.8
MTVR				S		Sn	07 12 34.0	+0.9
ASAK	**Asacha**	**5.42**	**245**	P		Pn	07 11 38.3	+2.8
ASAK				S		Sn	07 12 39.7	+1.8

*ISCJB **06** 07:13:11.6±0.7, 52.°9S±0.°2×118.°3W±0.°3, h10km, mb3.9/9, MS4.6/1, Error ellipse: s-maj=25.9km s-min=18.4km az=135.9*
*IDC **06** 07:13:11.5±0.8, 52.°80S×118.°58W, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.9/17, mbtmp3.8/8, MS4.6/1, Ms1 4.6/1, ms1mx3.6/23, Error ellipse: s-maj=29.0km s-min=23.4km az=132.0*
*NEIC **06** 07:13:12.9±0.5, 52.°88S×118.°50W, h10km, mb4.6/1, Error ellipse: s-maj=22.5km s-min=16.0km az=150.0*

ISC 06 07:13:13.1±0.7, 52.°8S±0.°1×118.°5W±0.°2, h10km, n31, σ1s11/28, mb3.9/9, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
QSPA	**South Pole Qui**	**37.38**	**180**	*e*P		P	07 20 32.9	+7.2
QSPA	**South Pole Qui**	**37.38**	**180**	P		**P**	**07 20 27.5**	**+1.9**
	2.5nm,0.9s,baz=90,slow=16,SNR=2.2							
TBI	**Tubuai**	**37.67**	**309**	*e*LR		LR	07 30 42.2	
	296nm,24.0s							
PPT2	**Papeete2**	**42.74**	**313**	*e*LR		LR	07 33 03.1	
	327nm,24.0s							
RPZ	**Rata Peaks**	**46.01**	**252**	LR		LR	07 34 54.3	
	comp=Z,698nm,19.5s,baz=318,slow=28							
SNAA	**Sanae**	**47.87**	**157**	P		**P**	**07 21 50.0**	**-0.6**
SNAA	**Sanae**	**47.87**	**157**	P		**P**	**07 21 50.0**	**-0.6**
	0.4nm,1.0s,baz=246,slow=18,SNR=2.5							
CPUP	**Villa Florida**	**52.17**	**84**	P		**P**	**07 22 22.3**	**-1.3**
CPUP	**Villa Florida**	**52.17**	**84**	P		**P**	**07 22 22.3**	**-1.3**
	0.7nm,0.6s,baz=221,slow=10.0,SNR=3.1							
LPAZ	**La Paz**	**53.60**	**67**	P		**P**	**07 22 35.4**	**+0.3**
LPAZ	**La Paz**	**53.60**	**67**	P		**P**	**07 22 35.4**	**+0.3**
	0.5nm,0.4s,baz=194,slow=7.1,SNR=3.7							
MAW	**Mawson**	**59.90**	**181**	P		**P**	**07 23 18.3**	**-0.1**
MAW	**Mawson**	**59.90**	**181**	P		**P**	**07 23 18.3**	**-0.1**
	1.7nm,0.7s,baz=162,slow=6.4,SNR=4.4							
DZM	**Mont Dzumac**	**63.77**	**268**	*e*LR		LR	07 42 42.3	
	169nm,27.9s							
ASAR	**Alice Springs**	**81.44**	**242**	P		**P**	**07 25 29.2**	**-1.1**
ASAR	**Alice Springs**	**81.44**	**242**	P		**P**	**07 25 29.2**	**-1.1**
	1.2nm,1.1s,baz=147,slow=5.4,SNR=4.4							
TXAR	**Lajitas Array**	**82.82**	**13**	P		**P**	**07 25 39.2**	**+1.9**
TXAR	**Lajitas Array**	**82.82**	**13**	P		**P**	**07 25 39.2**	**+1.9**
	0.5nm,0.9s,baz=183,slow=6.3,SNR=3.4							
WRA	**Warramunga Arr**	**84.21**	**245**	P		**P**	**07 25 44.5**	**-0.2**
WRA	**Warramunga Arr**	**84.21**	**245**	P		**P**	**07 25 44.5**	**-0.2**
	1.6nm,1.1s,baz=147,slow=5.0,SNR=6.4							
WRAB	**Tennant Creek**	**84.21**	**245**	*e*P		**P**	**07 25 45.1**	**+0.3**
	4.3nm,1.0s							
JSRW	**J. Sargeant Re**	**96.80**	**31**	*e*P		**P**	**07 26 42.5**	**-1.0**
GERES	**GERESS Array B**	**149.99**	**78**	PKPbc		**PKPbc**	**07 33 02.3**	**-0.6**
GERES	**GERESS Array B**	**149.99**	**78**	PKPbc		**PKPbc**	**07 33 02.3**	**-0.6**
	1.3nm,0.7s,baz=224,slow=3.7,SNR=7.4							
CLL	**Collm**	**150.58**	**73**	*e*PKPbc		**PKPbc**	**07 33 06.0**	**+2.0**
CLL				*i* pPKPbc		**PKPab**	**07 33 09.7**	**-1.2**
	comp=Z,10.0nm,0.9s							
CLL				*e*pPKPab		**pPKPab**	**07 33 15.0**	**+0.7**
SONM	**Songino Array**	**151.29**	**278**	PKPbc		**PKPbc**	**07 33 05.7**	**-0.3**
SONM	**Songino Array**	**151.29**	**278**	PKPbc		**PKPbc**	**07 33 05.7**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=100,slow=3.1,SNR=4.6							
BRTR	**Keskin Array B**	**156.88**	**113**	PKPab		**PKPab**	**07 33 39.4**	**+1.2**
BRTR	**Keskin Array B**	**156.88**	**113**	PKPab		**PKPab**	**07 33 39.4**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=176,slow=3.5,SNR=5.0							
MKAR	**Makanchi Array**	**165.32**	**254**	PKPab		**PKPab**	**07 34 13.6**	**-1.1**
MKAR	**Makanchi Array**	**165.32**	**254**	PKPab		**PKPab**	**07 34 13.6**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=120,slow=4.3,SNR=6.8							

IDC 06 07:48:04.7±1.4, 52.°76S×118.°96W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/16, mbtmp3.7/4, MS3.7/4, Ms1 3.7/4, ms1mx3.4/21, Error ellipse: s-maj=60.2km s-min=33.3km az=102.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RKT	**Rikitea**	**32.02**	**331**	*e*LR		LR	08 03 04.3	
	321nm,29.8s,baz=160							
VNDA	**Vanda**	**36.88**	**201**	LR		LR	08 07 55.3	
	comp=Z,87nm,18.1s,baz=198,slow=32							
TBI	**Tubuai**	**37.42**	**310**	*e*LR		LR	08 05 30.1	
	300nm,27.0s,baz=148							
QSPA	**South Pole Qui**	**37.43**	**180**	P		P	07 55 19.2	-0.2
	1.3nm,1.0s,baz=140,slow=7.9,SNR=2.8							
PPT2	**Papeete2**	**42.49**	**314**	*e*LQ		LQ	08 06 01.7	
	137nm,26.0s							
PPT2				*e*LR		LR	08 07 51.2	
	413nm,25.8s,baz=136							
CPUP	**Villa Florida**	**52.45**	**85**	LR		LR	08 16 57.2	
	comp=Z,96nm,20.9s,baz=196,slow=33							
LPAZ	**La Paz**	**53.84**	**67**	LR		LR	08 15 28.9	
	comp=Z,94nm,19.8s,baz=247,slow=30							
MAW	**Mawson**	**59.95**	**181**	LR		LR	08 20 57.0	
	comp=Z,61nm,20.9s,baz=157,slow=33							
ASAR	**Alice Springs**	**81.21**	**242**	P		P	08 00 23.0	+0.6
	0.5nm,0.9s,baz=133,slow=6.4,SNR=3.4							
TXAR	**Lajitas Array**	**82.83**	**13**	P		P	08 00 30.6	0.0
	0.5nm,1.0s,baz=163,slow=3.5,SNR=3.1							
WRA	**Warramunga Arr**	**83.97**	**245**	P		P	08 00 36.2	-0.6
	1.2nm,1.0s,baz=148,slow=5.1,SNR=4.7							
MKAR	**Makanchi Array**	**165.06**	**255**	PKPab		PKPab	08 09 06.4	-0.4
	0.3nm,0.8s,baz=116,slow=3.4,SNR=4.4							

MEX 06 07:55:41.0±0.9, 16.°78N×94.°95W, h91km±26km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HUIG	**Huatulco**	**1.50**	**228**	*i* P		Pn	07 56 04.9	-1.9
HUIG				*i* S		Sn	07 56 25.4	-1.0
TGIG		**1.75**	**90**	*e*P		Pn	07 56 09.6	-0.5
TGIG				*i* S		Sn	07 56 30.2	-2.0
PCIG		**1.98**	**123**	*i* P		Pn	07 56 12.1	-0.9
PCIG				*i* S		Sn	07 56 35.7	-1.7
UTMO	**Huajuapan**	**2.92**	**291**	*i* P		Pn	07 56 25.2	-0.5
UTMO				*e*S		Sn	07 56 58.4	-1.8
PNIG	**Pinotepa**	**3.07**	**263**	*i* P		Pn	07 56 27.0	-0.6
PNIG				*i* S		Sn	07 57 02.1	-1.3

*IDC **06** 08:04:00.5±1.6, 34.°43N×24.°85E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/27, mbtmp3.5/4, ML4.1/1, Error ellipse: s-maj=51.9km s-min=27.5km az=143.0*
*CSEM **06** 08:04:03.6, 33.°97N×24.°87E, h37km, MD3.0, After ATH **06** 08:04:03.6, 33.°97N×24.°87E, h37km±34km, MD3.0/5*

ISC 06 08:03:59.3±2.2, 33.°8N±0.°1×24.°83E±0.°10, h20km, n16, σ1s00/17, mb3.2/3, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SIVA	**Sivas**	**1.25**	**359**	*e*PN		**Pb**	**08 04 23.9**	**+1.6**
SIVA				*e*SN		**Sb**	**08 04 38.0**	**0.0**
SIVA	**Sivas**	**1.25**	**359**	*e*Pn		**Pb**	**08 04 23.9**	**+1.6**
SIVA				*e*Sn		**Sb**	**08 04 38.0**	**0.0**
LAST	**Lasithi**	**1.50**	**21**	*e*PN		**Pb**	**08 04 27.1**	**+0.6**
LAST	**Lasithi**	**1.50**	**21**	*e*Pn		**Pb**	**08 04 27.1**	**+0.6**
IDI	**Anoyia**	**1.53**	**2**	*e*PB		**Pb**	**08 04 26.9**	**0.0**
IDI	**Anoyia**	**1.53**	**2**	*e*Pb		**Pb**	**08 04 26.9**	**0.0**
NPS	**Neapolis**	**1.63**	**23**	*e*PN		**Pb**	**08 04 28.2**	**-0.5**
NPS	**Neapolis**	**1.63**	**23**	*e*Pn		**Pb**	**08 04 28.2**	**-0.5**
VAM	**Vamos**	**1.72**	**343**	*e*PN		**Pb**	**08 04 30.5**	**+0.2**
VAM	**Vamos**	**1.72**	**343**	*e*Pn		**Pb**	**08 04 30.5**	**+0.2**
ZKR	**Zakros**	**1.77**	**40**	*e*PN		**Pb**	**08 04 31.3**	**+0.2**
ZKR	**Zakros**	**1.77**	**40**	*e*Pn		**Pb**	**08 04 31.3**	**+0.2**
GERES	**GERESS Array B**	**17.20**	**334**	Pn		**Pn**	**08 07 56.2**	**-2.3**
	0.3nm,0.3s,baz=148,slow=21,SNR=3.7							
TORD	**Torodi Ar. Bea**	**29.39**	**231**	P		P	08 10 09.4	+8.1
	0.4nm,0.9s,baz=32,slow=8.4,SNR=4.2							
KURBB	**Kurchatov Arra**	**42.22**	**50**	P		**P**	**08 11 50.8**	**0.0**
	0.1nm,0.3s,baz=281,slow=8.9,SNR=4.2							
MKAR	**Makanchi Array**	**44.78**	**55**	P		**P**	**08 12 13.0**	**+1.5**
	0.7nm,0.5s,baz=274,slow=7.1,SNR=9.7							

IDC 06 08:12:21.9±0.9, 53.°07S×118.°10W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.8/15, mbtmp3.7/5, MS4.0/7, Ms1 4.0/7, ms1mx3.7/23, Error ellipse: s-maj=68.7km s-min=26.1km az=157.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PMSA	**Palmer Station**	**29.27**	**135**	LR		LR	08 27 12.7	
	comp=Z,196nm,20.4s,baz=255,slow=30							
RKT	**Rikitea**	**32.55**	**330**	*e*LR		LR	08 27 22.0	
	325nm,30.5s							
PLCA	**Paso Flores**	**34.12**	**88**	LR		LR	08 29 21.5	
	comp=Z,230nm,20.4s,baz=352,slow=30							
VNDA	**Vanda**	**36.78**	**201**	LR		LR	08 31 18.6	
	comp=Z,143nm,19.4s,baz=91,slow=31							
TBI	**Tubuai**	**38.02**	**309**	*e*LR		LR	08 29 51.5	
	186nm,26.0s							
TBI	**Tubuai**	**38.02**	**309**	*e*LR		LR	08 19 17.1	
	94nm,27.2s							
PPT2	**Papeete2**	**43.08**	**313**	*e*LR		LR	08 32 14.4	
	269nm,25.

EKMR					A	A	08 55 28.2		
	30nm,0.5s								
EKMR					A	A	08 55 28.2		
	10.0nm,0.5s								
ZEA	**Zeya**	**6.18**	**341**	*e*Sg	Sg	08 55 56.0	-1.6		
ZEA				A	A	08 56 02.9			
	33nm,0.9s								
KROS	**Kirovskiy**	**6.89**	**342**	*e*Pn	Pn	08 54 21.7	+1.5		
KROS				AMB	AMB	08 54 22.7			
	1.0nm,0.4s								
KROS				*e*Sg	Sg	08 56 16.0	-4.3		
KROS				A	A	08 56 22.6			
	10.0nm,0.5s								
NKL	**Nikolayevsk**	**8.21**	**47**	*e*Sg	Sg	08 56 57.0	-5.3		
NKL				A	A	08 57 08.4			
	21nm,0.7s								

KRSC 06 08:54:22.6±2.6, 48°.64N×156°.10E, h3km±2km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.87**	**9**	*e*S	Sn	08 55 45.1	+0.9
MIPR	**Malaya Ipel'ka**	**3.67**	**6**	*e*P	Pn	08 55 20.8	+0.6
ASAK	**Asacha**	**3.92**	**16**	*e*P	Pn	08 55 26.1	+2.3
RUS	**Russkaya**	**4.10**	**21**	*e*P	Pn	08 55 26.7	+0.6
RUS				*e*S	Sn	08 56 13.5	-1.0
UGLR	**Uglovaya**	**4.89**	**20**	*e*P	Pn	08 55 39.6	+2.5
KOK	**Koryaka**	**4.93**	**18**	*e*P	Pn	08 55 39.8	+2.2
GNL	**Ganaly**	**5.19**	**12**	*e*P	Pn	08 55 43.2	+1.9
MKZ	**Mys Kozlova**	**6.88**	**28**	*e*P	Pn	08 56 05.6	+1.3

*ATH **06** 09:08:10.4, 33°.93N×25°.45E, h5km±4km, MD3.3/8*
*CSEM **06** 09:08:12.7±0.5, 34°.05N×25°.49E, h2km, MD3.3, Error ellipse: s-maj=17.2km s-min=8.4km az=64.0*
*IDC **06** 09:08:12.3±1.5, 33°.98N×25°.64E, h0km, mb3.6/3, mb1 3.6/1, mb1mx3.4/26, mbtmp3.5/5, ML3.6/2, MS3.3/1, Ms1 3.3/1, ms1mx2.2/38, Error ellipse: s-maj=59.3km s-min=23.8km az=142.0*
*ISCJB **06** 09:08:13.1±0.6, 34°.01N±0°.05×25°.61E±0°.08, h17km, mb3.5/3, MS3.2/1, Error ellipse: s-maj=10.8km s-min=5.8km az=155.9*
*HLW **06** 09:08:14.2, 34°.04N×25°.63E, h12km±20km, Md3.1, MI3.1*
ISC 06 09:08:14.2±0.9, 34°.02N±0°.05×25°.54E±0°.07, h17km, n26, σ1°.06/28, mb3.6/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.14**	**357**	*e*PB	**Pn**	**09 08 34.0**	**-1.4**
LAST	**Lasithi**	**1.14**	**357**	*e*Pb	**Pn**	**09 08 34.0**	**-1.4**
SIVA	**Sivas**	**1.16**	**329**	*e*PB	**Pn**	**09 08 34.0**	**-1.7**
SIVA	**Sivas**	**1.16**	**329**	*e*Pb	**Pn**	**09 08 34.0**	**-1.7**
ZKR	**Zakros**	**1.23**	**27**	*e*PB	**Pn**	**09 08 35.8**	**-0.7**
ZKR				*e*Sb	**Sg**	**09 08 55.0**	**+1.1**
ZKR	**Zakros**	**1.23**	**27**	*e*Pb	**Pn**	**09 08 35.8**	**-0.7**
ZKR				*e*Sb	**Sg**	**09 08 55.0**	**+1.1**
NPS	**Neapolis**	**1.24**	**3**	*e*PG	**Pn**	**09 08 35.2**	**-1.6**
NPS	**Neapolis**	**1.24**	**3**	*e*Pg	**Pn**	**09 08 35.2**	**-1.6**
IDI	**Anoyia**	**1.37**	**337**	*e*PG	**Pn**	**09 08 37.4**	**-1.2**
IDI	**Anoyia**	**1.37**	**337**	*e*Pg	**Pn**	**09 08 37.4**	**-1.2**
VAM	**Vamos**	**1.77**	**322**	*e*PN	**Pn**	**09 08 44.5**	**+0.5**
VAM	**Vamos**	**1.77**	**322**	*e*Pn	**Pn**	**09 08 44.5**	**+0.5**
KARP	**Karpathos**	**2.02**	**41**	*e*PN	**Pb**	**09 08 49.8**	**-0.7**
KARP	**Karpathos**	**2.02**	**41**	*e*Pn	**Pb**	**09 08 49.8**	**-0.7**
ANKY	**Antikythira Is**	**2.60**	**316**	*e*PN	**Pn**	**09 08 56.8**	**+1.3**
ANKY	**Antikythira Is**	**2.60**	**316**	*e*Pn	**Pn**	**09 08 56.8**	**+1.3**
HMAT	**Matruh**	**3.20**	**155**	S	**Sn**	**09 09 41.1**	**-0.3**
	baz=156						
HMAT				AMP		09 09 00.0	
	comp=E,90µm,0.6s,logA/T=5.2,baz=156						
HMAT	**Matruh**	**3.20**	**155**	P	**Pn**	**09 09 03.6**	**-0.1**
HMAT				S	**Sn**	**09 09 41.2**	**-0.3**
RSH		**7.55**	**112**	P	**Pn**	**09 10 03.5**	**0.0**
	baz=112						
RSH		**7.55**	**112**	P	**Pn**	**09 10 03.5**	**0.0**
BRTR	**Keskin Array B**	**8.63**	**46**	Pn	**Pn**	**09 10 18.9**	**+0.6**
	comp=E,0.1nm,0.3s,baz=217,slow=14,SNR=4.6						
GERES	**GERESS Array B**	**17.23**	**333**	P	**P**	**09 12 15.7**	**+0.1**
	comp=E,0.2nm,0.3s,baz=153,slow=12,SNR=4.4						
ATD	**Arta Tunnel**	**27.41**	**141**	LR	LR	09 26 42.7	
	comp=E,63nm,18.9s,baz=252,slow=41						
TORD	**Torodi Ar. Bea**	**30.02**	**232**	P	**P**	**09 14 23.3**	**+1.1**
	comp=E,0.2nm,0.6s,baz=40,slow=8.5,SNR=2.7						
MKAR	**Makanchi Array**	**44.15**	**56**	P	**P**	**09 16 22.4**	**+0.5**
	comp=E,0.7nm,0.7s,baz=284,slow=6.4,SNR=9.4						
ZALV	**Zalesovo Beam**	**45.57**	**45**	P	**P**	**09 16 32.8**	**-0.2**
	comp=E,0.5nm,0.3s,baz=277,slow=11,SNR=1.7						

IDC 06 09:22:29.6±1.3, 10°.78S×162°.54E, h0km, mb4.0/7, mb1 4.1/10, mb1mx3.9/23, mbtmp4.0/10, ML4.1/3, MS3.4/6, Ms1 3.4/6, ms1mx3.1/27, Error ellipse: s-maj=29.0km s-min=22.0km az=121.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.88**	**298**	Pn	Pn	09 23 18.2	+1.4
	82nm,0.3s,baz=172,slow=12,SNR=14						
HNR				Sn	Sb	09 23 55.0	-2.8
	127nm,0.3s,baz=46,slow=22,SNR=7.5						
DZM	**Mont Dzumac**	**11.83**	**162**	Pn	Pn	09 25 21.8	+2.0
	0.5nm,0.3s,baz=90,slow=24,SNR=9.4						
PMG	**Port Moresby**	**15.20**	**274**	LR	LR	09 31 10.3	
	comp=Z,31nm,18.2s,baz=93,slow=34						
CTA	**Charters Tower**	**18.20**	**238**	P	P	09 26 45.9	+1.6
	0.4nm,0.3s,baz=63,slow=13,SNR=5.5						
WRA	**Warramunga Arr**	**28.63**	**248**	P	P	09 28 27.4	-0.7
	1.2nm,0.9s,baz=77,slow=8.9,SNR=16						
ASAR	**Alice Springs**	**30.12**	**241**	P	P	09 28 41.1	-0.3
	0.6nm,0.6s,baz=66,slow=9.8,SNR=15						
ASAR				LR	LR	09 40 34.4	
	comp=Z,83nm,18.8s,baz=66,slow=36						
FITZ	**Fitzroy Crossi**	**36.41**	**254**	P	P	09 29 35.7	-0.5
	2.8nm,0.9s,baz=72,slow=5.4,SNR=6.7						
MJAR	**Matsushiro Arr**	**52.35**	**335**	LR	LR	09 51 12.5	
	comp=Z,68nm,18.8s,baz=300,slow=33						
KSRS	**Korea Array**	**57.93**	**328**	LR	LR	09 53 36.3	
	comp=Z,29nm,20.7s,baz=177,slow=32						
USRK	**Ussuriysk Arra**	**61.34**	**335**	P	P	09 32 47.9	+0.7
	3.1nm,0.9s,baz=145,slow=5.8,SNR=7.7						
FX1	**Attu Island↔F**	**64.06**	**7**	LR	LR	09 59 39.3	
	comp=Z,23nm,18.7s,baz=199,slow=35						
SONM	**Songino Array**	**76.62**	**325**	P	P	09 34 22.0	-0.4
	1.1nm,0.7s,baz=143,slow=7.2,SNR=6.3						
SONM				LR	LR	10 07 03.5	
	comp=Z,31nm,19.8s,baz=247,slow=35						
ILAR	**Eielson Array**	**84.29**	**19**	P	P	09 35 03.2	+0.2
	0.9nm,0.9s,baz=238,slow=4.8,SNR=8.1						
MKAR	**Makanchi Array**	**91.19**	**317**	P	P	09 35 35.5	-1.2
	0.4nm,0.7s,baz=101,slow=3.9,SNR=4.5						

*IDC **06** 09:55:19.1±1.3, 24°.34N×94°.35E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.7/29, mbtmp3.9/9, MS3.4/2, Ms1 3.4/2, ms1mx2.4/36, Error ellipse: s-maj=56.7km s-min=18.5km az=62.0*
*ISCJB **06** 09:55:24.7±0.4, 24°.08N±0°.06×93°.89E±0°.05, h68km, mb3.7/11, Error ellipse: s-maj=9.5km s-min=4.3km az=29.0*
*NEIC **06** 09:55:26.0±0.9, 24°.29N×94°.18E, h52km±10km, mb4.1/2, Error ellipse: s-maj=16.9km s-min=7.0km az=56.0*
ISC 06 09:55:26.4±0.7, 24°.19N±0°.09×93°.95E±0°.07, h68km, n43, σ1°.79/55, mb3.6/11, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.59**	**359**	*i* P	**Pn**	**09 55 38.0**	**-2.1**
IMP				*i* S	**Sn**	**09 55 53.0**	**+2.8**
SHL	**Shillong**	**2.33**	**307**	*i* P	**Pn**	**09 56 04.5**	**+1.9**
SHL				*i* S	**Sn**	**09 56 30.5**	**+0.2**
LSA	**Lhasa**	**6.03**	**336**	*e*Pn	**Pn**	**09 56 52.2**	**-1.3**
	21nm,0.3s						
TAPN	**Taplejung**	**6.45**	**301**	*e*Pn	**Pn**	**09 57 01.3**	**+2.3**
TAPN				*e*Sn	**Sn**	**09 58 11.3**	**0.0**
	680nm,1.0s						
ODAN	**Odare**	**6.50**	**296**	*e*Pn	**Pn**	**09 57 01.6**	**+2.0**
ODAN				*e*Sn	**Sn**	**09 58 11.4**	**-1.0**
	550nm,0.6s						
CHTO	**Chiang Mai**	**7.09**	**138**	*e*Pn	**Pn**	**09 57 07.0**	**-0.6**
	6.3nm,0.5s						
RAMN	**Ramite**	**7.18**	**294**	*e*Pn	**Pn**	**09 57 11.1**	**+2.0**
RAMN				*e*Sn	**Sn**	**09 58 27.7**	**-1.6**
	269nm,0.6s						
CM31	**Chiang Mai Arr**	**7.36**	**140**	*e*Pn	**Pn**	**09 57 09.5**	**-1.8**
	7.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**7.36**	**140**	Pn	**Pn**	**09 57 10.1**	**-1.2**
CMAR				Lg	Lg	09 59 11.3	
CMAR	**Chiang Mai Arr**	**7.36**	**140**	Pn	**Pn**	**09 57 10.1**	**-1.2**
	1.0nm,0.3s,baz=313,slow=14,SNR=17						
CMAR				Lg	Lg	09 59 11.3	
	0.6nm,0.3s,baz=319,slow=28,SNR=6.0						
JIRN	**Jiri**	**7.79**	**298**	*e*Pn	**Pn**	**09 57 19.4**	**+1.9**
JIRN				*e*Sn	**Sn**	**09 58 42.1**	**-2.4**
	177nm,0.3s						
GUN	**Gumba**	**8.15**	**299**	*e*Pn	**Pn**	**09 57 23.9**	**+1.6**
GUN				*e*Sn	**Sn**	**09 58 51.1**	**-2.0**
	169nm,0.3s						
PKI	**Pulchoki**	**8.40**	**295**	*e*Pn	**Pn**	**09 57 26.5**	**+0.8**
PKI				*e*Sn	**Sn**	**09 58 55.8**	**-3.4**
	72nm,0.4s						
PKIN	**Phulchoki**	**8.41**	**295**	*e*Pn	**Pn**	**09 57 27.1**	**+1.3**
PKIN				*e*Sn	**Sn**	**09 58 56.8**	**-2.6**
	81nm,0.4s						
KKN	**Kakani**	**8.59**	**297**	*e*Pn	**Pn**	**09 57 29.4**	**+1.2**
KKN				*e*Sn	**Sn**	**09 59 00.8**	**-2.8**
	78nm,0.3s						
DMN	**Daman**	**8.66**	**295**	*e*Pn	**Pn**	**09 57 30.4**	**+1.1**
DMN				*e*Sn	**Sn**	**09 59 03.4**	**-2.1**
	159nm,0.6s						
KOLN	**Koldanda**	**9.97**	**293**	*e*Pn	**Pn**	**09 57 47.8**	**+0.7**
KOLN				*e*Sn	**Sn**	**09 59 33.2**	**-4.3**
	86nm,0.4s						
DANN	**Dangsing**	**10.04**	**297**	*e*Pn	**Pn**	**09 57 48.4**	**+0.3**
DANN				*e*Sn	**Sn**	**09 59 35.0**	**-4.3**
	67nm,0.5s						
PYUN	**Piuthan**	**10.59**	**294**	*e*Pn	**Pn**	**09 57 55.7**	**+0.2**
ENH	**Enshi**	**15.09**	**63**	*e*P	**Pn**	**09 58 54.1**	**-1.6**
	7.9nm,0.7s						
TKM2	**Tokmak 2**	**24.05**	**325**	*e*P	**P**	**10 00 37.3**	**+1.8**
	3.4nm,0.6s						
MK31	**Makanchi Array**	**24.42**	**340**	*e*P	**P**	**10 00 39.4**	**+0.9**
MKAR	**Makanchi Array**	**24.42**	**340**	P	**P**	**10 00 39.8**	**+1.2**
MKAR	**Makanchi Array**	**24.42**	**340**	P	**P**	**10 00 39.8**	**+1.2**
	2.7nm,0.6s,baz=156,slow=9.1,SNR=28						
AAK	**Ala-Archa**	**24.44**	**324**	P	**P**	**10 00 40.5**	**+1.6**
AAK	**Ala-Archa**	**24.44**	**324**	P	**P**	**10 00 40.5**	**+1.6**
	1.9nm,0.3s,baz=229,slow=19,SNR=4.1						
EKS2	**Erkin-Say**	**24.85**	**323**	P	**P**	**10 00 46.4**	**+3.7**
	3.7nm,0.5s						
SONM	**Songino Array**	**25.59**	**20**	P	**P**	**10 00 48.4**	**-0.9**
SONM	**Songino Array**	**25.59**	**20**	P	**P**	**10 00 48.4**	**-0.9**
	1.2nm,0.7s,baz=194,slow=11,SNR=9.1						
KURBB	**Kurchatov Arra**	**28.97**	**340**	P	**P**	**10 01 20.1**	**+0.8**
	0.5nm,0.3s,baz=156,slow=7.9,SNR=7.9						
KURK	**Kurchatov**	**29.02**	**340**	P	**P**	**10 01 20.1**	**+0.3**
ZALV	**Zalesovo Beam**	**30.50**	**349**	P	**P**	**10 01 33.0**	**+0.2**
ZALV	**Zalesovo Beam**	**30.50**	**349**	P	**P**	**10 01 33.0**	**+0.2**
	1.8nm,0.4s,baz=180,slow=8.4,SNR=5.6						
ZALV				LR	LR	10 15 42.1	
	comp=Z,25nm,18.4s,baz=247,slow=40						
ABKAR	**Akbulak array**	**36.50**	**322**	*e*P	**P**	**10 02 26.5**	**+1.5**
WRA	**Warramunga Arr**	**58.92**	**135**	P	**P**	**10 05 18.9**	**0.0**
WRA	**Warramunga Arr**	**58.92**	**135**	P	**P**	**10 05 18.9**	**0.0**
	0.2nm,0.4s,baz=323,slow=7.4,SNR=8.1						
ASAR	**Alice Springs**	**61.37**	**138**	P	**P**	**10 05 36.9**	**+1.4**
ASAR	**Alice Springs**	**61.37**	**138**	P	**P**	**10 05 36.9**	**+1.4**
	0.4nm,0.7s,baz=318,slow=6.5,SNR=5.5						
ILAR	**Eielson Array**	**79.78**	**22**	P	**P**	**10 07 26.8**	**-0.1**
ILAR	**Eielson Array**	**79.78**	**22**	P	**P**	**10 07 26.8**	**-0.1**
	0.4nm,0.7s,baz=293,slow=5.4,SNR=4.3						
KDAK	**Kodiak Island**	**81.42**	**30**	LR	LR	10 44 23.7	
	comp=Z,48nm,20.2s,baz=24,slow=36						
INK	**Inuvik**	**81.45**	**16**	P	**P**	**10 07 35.9**	**+0.2**
INK	**Inuvik**	**81.45**	**16**	P	**P**	**10 07 35.9**	**+0.2**
	0.5nm,0.6s,baz=307,slow=2.5,SNR=3.4						

*ISCJB **06** 10:11:45.0±0.8, 37°.70N±0°.03×21°.15E±0°.03, h9km±5km, Error ellipse: s-maj=5.4km s-min=4.1km az=38.3*
*ATH **06** 10:11:45.1, 37°.72N×21°.18E, h26km±1km, MD3.0/9*
*THE **06** 10:11:45.9, 37°.72N×21°.20E, h2km±24km, ML2.3/4, Error ellipse: s-maj=24.8km s-min=0.4km az=32.0*
*CSEM **06** 10:11:45.5±0.2, 37°.70N×21°.18E, h15km, ML2.3/4, Error ellipse: s-maj=4.2km s-min=2.8km az=46.0*
ISC 06 10:11:45.7±1.0, 37°.73N±0°.03×21°.19E±0°.02, h16km±8km, n38, σ0°.51/63, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.40**	**34**	P	**Pg**	**10 11 53.5**	**-0.3**
RLS				S	**Sg**	**10 11 59.1**	**-0.3**
RLS	**Riolos of Patr**	**0.40**	**34**	*e*PB	**Pg**	**10 11 53.6**	**-0.3**
RLS				*e*SB	**Sb**	**10 12 00.1**	**-0.2**
RLS	**Riolos of Patr**	**0.40**	**34**	*e*Pb	**Pg**	**10 11 53.6**	**-0.3**
RLS				S	**Sg**	**10 11 59.1**	**-0.3**
RLS				*e*Sb	**Sb**	**10 12 00.1**	**-0.2**
AMT	**Artemida-Makis**	**0.46**	**115**	*e*PB	**Pg**	**10 11 54.8**	**-0.1**
AMT				*e*SB	**Sb**	**10 12 02.4**	**+0.4**
AMT	**Artemida-Makis**	**0.46**	**115**	*e*Pb	**Pg**	**10 11 54.8**	**-0.1**
AMT				*e*Sb	**Sb**	**10 12 02.4**	**+0.4**
AXS	**Araxos**	**0.49**	**18**	P	**Pg**	**10 11 55.6**	**0.0**
AXS				S	**Sg**	**10 12 02.0**	**-0.2**
AXS	**Araxos**	**0.49**	**18**	P	**Pg**	**10 11 55.6**	**0.0**
AXS				S	**Sg**	**10 12 02.0**	**-0.2**
KFL	**Anninata**	**0.50**	**321**	P	**Pb**	**10 11 55.8**	**-0.3**
KFL				S	**Sb**	**10 12 03.4**	**+0.3**
KFL	**Anninata**	**0.50**	**321**	P	**Pb**	**10 11 55.8**	**-0.3**
KFL				S	**Sb**	**10 12 03.4**	**+0.3**
VLS	**Valsamata**	**0.65**	**314**	P	**Pg**	**10 11 58.2**	**-0.3**
VLS				S	**Sb**	**10 12 08.1**	**+0.5**
VLS	**Valsamata**	**0.65**	**314**	*e*PN	**Pg**	**10 11 58.1**	**-0.4**
VLS				*e*SN	**Sb**	**10 12 08.6**	**+1.0**
VLS	**Valsamata**	**0.65**	**314**	P	**Pg**	**10 11 58.2**	**-0.3**
VLS				S	**Sb**	**10 12 08.1**	**+0.5**
ITM	**Ithomi**	**0.80**	**133**	*e*PN	**Pb**	**10 12 01.2**	**-0.1**
ITM	**Ithomi**	**0.80**	**133**	*e*Pn	**Pb**	**10 12 01.2**	**-0.1**
LAKA	**Lakka**	**0.81**	**50**	P	**Pg**	**10 12 01.2**	**-0.3**
LAKA				S	**Sb**	**10 12 12.9**	**+0.8**
LAKA	**Lakka**	**0.81**	**50**	*e*PN	**Pg**	**10 12 01.4**	**-0.1**
LAKA	**Lakka**	**0.81**	**50**	P	**Pg**	**10 12 01.2**	**-0.3**
LAKA				S	**Sb**	**10 12 12.9**	**+0.8**
KLV	**Kalavryta, Ach**	**0.83**	**67**	P	**Pb**	**10 12 01.2**	**-0.5**
KLV				S	**Sb**	**10 12 13.3**	**+0.7**
KLV	**Kalavryta, Ach**	**0.83**	**67**	P	**Pb**	**10 12 01.2**	**-0.5**
KLV				S	**Sb**	**10 12 13.3**	**+0.7**
GUR	**Goura**	**0.94**	**77**	P	**Pb**	**10 12 03.3**	**-0.4**
GUR				S	**Sg**	**10 12 16.8**	**+0.5**
GUR	**Goura**	**0.94**	**77**	*e*PN	**Pb**	**10 12 03.3**	**-0.4**
GUR	**Goura**	**0.94**	**77**	P	**Pb**	**10 12 03.3**	**-0.4**
GUR				S	**Sg**	**10 12 16.8**	**+0.5**
PYL	**PYLOS**	**0.94**	**152**	P	**Pb**	**10 12 03.2**	**-0.4**
PYL				S	**Sn**	**10 12 16.8**	**-0.5**
PYL	**PYLOS**	**0.94**	**152**	*e*PN	**Pb**	**10 12 03.1**	**-0.5**
PYL	**PYLOS**	**0.94**	**152**	P	**Pb**	**10 12 03.2**	**-0.4**
PYL				S	**Sn**	**10 12 16.8**	**-0.5**
TRIZ	**Trizonia**	**0.95**	**47**	*e*PN	**Pb**	**10 12 03.5**	**-0.2**
TRIZ	**Trizonia**	**0.95**	**47**	*e*Pn	**Pb**	**10 12 03.5**	**-0.2**
KALE	**Kalithea**	**1.00**	**48**	P	**Pg**	**10 12 05.0**	**-0.2**
KALE	**Kalithea**	**1.00**	**48**	*e*PN	**Pg**	**10 12 05.0**	**-0.2**
KALE	**Kalithea**	**1.00**	**48**	P	**Pg**	**10 12 05.0**	**-0.2**
LKD2	**Lefkada island**	**1.14**	**339**	P	**Pn**	**10 12 06.7**	**-0.3**
LKD2				S	**Sg**	**10 12 24.1**	**+1.4**
LKD2	**Lefkada island**	**1.14**	**339**	P	**Pn**	**10 12 06.7**	**-0.3**
LKD2				S	**Sg**	**10 12 24.1**	**+1.4**
DSF	**Desfina**	**1.26**	**57**	P	**Pg**	**10 12 09.8**	**-0.2**
DSF				S	**Sg**	**10 12 27.6**	**+1.1**
DSF	**Desfina**	**1.26**	**57**	P	**Pg**	**10 12 09.8**	**-0.2**
DSF				S	**Sg**	**10 12 27.6**	**+1.1**
DYR	**Agios Nikonas**	**1.33**	**136**	*e*PN	**Pn**	**10 12 09.7**	**+0.1**
DYR	**Agios Nikonas**	**1.33**	**136**	*e*Pn	**Pn**	**10 12 09.7**	**+0.1**
LTK	**Loutraki**	**1.44**	**78**	*e*PN	**Pb**	**10 12 11.8**	**-0.4**
LTK	**Loutraki**	**1.44**	**78**	*e*Pn	**Pb**	**10 12 11.8**	**-0.4**

*CSEM **06** 10:25:56.9, 35°.96N×21°.36E, h17km, MD3.5, After ATH*
ATH 06 10:25:56.9, 35°.96N×21°.36E, h17km±3km, MD3.5/13, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.98**	**18**	*e*PN	Pg	10 26 16.1	+0.1
PYL				*e*SN	Sn	10 26 29.6	+0.1
PYL	**PYLOS**	**0.98**	**18**	*e*Pn	Pg	10 26 16.1	+0.1
PYL				*e*Sn	Sn	10 26 29.6	+0.1
DYR	**Agios Nikonas**	**1.12**	**44**	*e*PN	Pn	10 26 17.7	-0.2
DYR	**Agios Nikonas**	**1.12**	**44**	*e*Pn	Pn	10 26 17.7	-0.2
ITM	**Ithomi**	**1.30**	**20**	*e*PN	Pb	10 26 21.2	+0.3
ITM				*e*SN	Sg	10 26 39.0	-0.1
ITM	**Ithomi**	**1.30**	**20**	*e*Pn	Pb	10 26 21.2	+0.3
ITM				*e*Sn	Sg	10 26 39.0	-0.1
KYTH	**Kithira**	**1.39**	**76**	*e*PN	Pb	10 26 23.0	+0.4
KYTH	**Kithira**	**1.39**	**76**	*e*Pn	Pb	10 26 23.0	+0.4
VLI	**Veliai**	**1.48**	**59**	*e*PN	Pg	10 26 25.4	-0.1
VLI	**Veliai**	**1.48**	**59**	*e*Pn	Pg	10 26 25.4	-0.1
ANKY	**Antikythira Is**	**1.58**	**93**	*e*PN	Pb	10 26 26.0	+0.4
ANKY	**Antikythira Is**	**1.58**	**93**	*e*Pn	Pb	10 26 26.0	+0.4
VLX	**Vlachokerasia**	**1.63**	**30**	*e*PN	Pb	10 26 26.5	-0.2
VLX	**Vlachokerasia**	**1.63**	**30**	*e*Pn	Pb	10 26 26.5	-0.2
GUR	**Goura**	**2.12**	**21**	*e*PN	Pb	10 26 34.2	-0.9
GUR	**Goura**	**2.12**	**21**	*e*Pn	Pb	10 26 34.2	-0.9
DID	**Didima**	**2.16**	**44**	*e*PN	Pb	10 26 35.9	+0.3
DID	**Didima**	**2.16**	**44**	*e*Pn	Pb	10 26 35.9	+0.3
KLV	**Kalavryta, Ach**	**2.17**	**17**	*e*PN	Pb	10 26 34.4	-1.5
KLV	**Kalavryta, Ach**	**2.17**	**17**	*e*Pn	Pb	10 26 34.4	-1.5
LAKA	**Lakka**	**2.33**	**12**	*e*PN	Pb	10 26 36.9	-1.6
LAKA	**Lakka**	**2.33**	**12**	*e*Pn	Pb	10 26 36.9	-1.6
LTK	**Loutraki**	**2.43**	**32**	*e*PB	Pb	10 26 38.7	-1.5
LTK	**Loutraki**	**2.43**	**32**	*e*Pb	Pb	10 26 38.7	-1.5
KALE	**Kalithea**	**2.50**	**14**	*e*PN	Pb	10 26 39.3	-2.3
KALE	**Kalithea**	**2.50**	**14**	*e*Pn	Pb	10 26 39.3	-2.3

*ISCJB **06** 10:34:29.0±0.5, 15°.60N±0°.04×86°.19W±0°.07, h10km, mb4.3/30, MS2.9/2, Error ellipse: s-maj=9.9km s-min=5.4km az=22.1*
*IDC **06** 10:34:29.0±1.1, 15°.59N×86°.22W, h0km, mb4.1/8, mb1 4.5/9, mb1mx4.1/24, mbtmp4.2/9, ML4.5/1, MS3.1/2, Ms1 3.1/2, ms1mx2.5/30, Error ellipse: s-maj=49.8km s-min=18.4km az=47.0*
*NEIC **06** 10:34:30.1±0.6, 15°.46N×86°.32W, h10km, mb4.3/25, Error ellipse: s-maj=13.5km s-min=8.8km az=81.0*
*CASC **06** 10:34:34.6±3.8, 15°.35N×86°.35W, h15km, MD4.3, ML3.9*
ISC 06 10:34:30.0±0.6, 15°.54N±0°.04×86°.36W±0°.07, h10km, n239, σ1°.05/240, mb4.3/30, 93C-83D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**1.71**	**211**	*e*P	**Pn**	**10 34 60.0**	**+0.1**
TGUH				*e*S	**Sb**	**10 35 21.6**	**-1.6**
TGUH	**Tegucigalpa,Un**	**1.71**	**211**	*e*Pn	**Pn**	**10 34 59.1**	**-0.9**
TGUH				*e*Sn	**Sb**	**10 35 22.1**	**-1.1**
CNCH	**Conchagua**	**2.66**	**213**	*e*P	**Pb**	**10 35 15.8**	**-2.1**
LFU	**La Fuente**	**3.20**	**237**	*e*P	**Pb**	**10 35 24.1**	**-2.9**
MRL	**Marmol**	**3.25**	**262**	*e*P	**Pn**	**10 35 20.1**	**-1.0**
MRL				*e*S	**Sb**	**10 36 06.8**	**-0.7**
SNET	**Serv Nac Est T**	**3.33**	**237**	*e*P	**Pn**	**10 35 24.9**	**+2.7**
SNET				AML	AML	10 36 21.9	
	comp=Z,598nm,0.7s						
COPN	**Copaltepe**	**3.34**	**184**	*e*P	Pb	10 35 25.7	-3.7
RBDL	**Robledal**	**3.51**	**247**	*e*P	Pn	10 35 28.6	+3.7
NBG	**Las Nubes**	**3.96**	**257**	*e*P	**Pn**	**10 35 32.0**	**+0.9**
NBG				*e*S	**Sb**	**10 36 28.9**	**+0.7**
FUG	**Fuego 3**	**4.46**	**257**	*e*P	**Pn**	**10 35 40.8**	**+2.9**
TEIG	**Tepich**	**5.01**	**339**	Pn	**Pn**	**10 35 44.7**	**-0.5**
TEIG				Sn	**Sn**	**10 36 39.7**	**-3.5**
TEIG	**Tepich**	**5.01**	**339**	Pn	**Pn**	**10 35 44.7**	**-0.5**
	comp=Z,20nm,0.3s,baz=338,slow=2.4,SNR=105						
TEIG				Sn	**Sn**	**10 36 39.7**	**-3.5**
	comp=Z,36nm,0.3s,baz=270,slow=20,SNR=11						
732A	**Laxson Ranch,**	**18.18**	**319**	⇑P	**Pn**	**10 38 42.1**	**-0.

128A	Castleberry Fa baz=23,SNR=8.5	22.44	322	⇑P		P	10 39 29.2	-0.1
Z29A	Hungry Hill Ra baz=23	22.46	325	⇓P		P	10 39 29.6	+0.2
Y30A	Stafford Cattl baz=23,SNR=16	22.48	327	⇓P		P	10 39 30.0	+0.3
326A	Caldwell Ranch baz=23,SNR=24	22.49	317	⇑P		P	10 39 31.5	+1.7
227A	Bennet, Jal baz=23	22.51	320	⇑P		P	10 39 30.4	+0.4
WCI	Wyandotte Cave comp=Z,15nm,0.9s	22.60	0	*e*P		P	10 39 30.9	+0.1
X31A	McDonald Ranch baz=23,SNR=19	22.61	330	⇑P		P	10 39 31.4	+0.4
425A	Indio Mountain baz=23	22.83	315	⇑P		P	10 39 33.7	+0.3
Z28A	Tucker Farm, M baz=23,SNR=6.3	22.86	323	⇑P		P	10 39 34.6	+0.8
Y29A	Porterfield Fa baz=23	22.89	326	⇑P		P	10 39 34.2	+0.2
X30A	Coker Ranch, T baz=23,SNR=12	22.91	328	⇑P		P	10 39 34.5	+0.2
W31A	Holland Ranch, baz=23	23.05	331	⇑P		P	10 39 35.3	-0.3
226B	Tecolote Peak, baz=23,SNR=9.4	23.10	319	⇓P		P	10 39 37.3	+1.0
OLIL	Olney comp=Z,17nm,0.9s	23.16	357	*e*P		P	10 39 38.0	+1.4
325A	Bean Ranch, Si baz=23,SNR=10.0	23.18	316	⇑P		P	10 39 37.0	-0.1
Y28A	McKinney Farm, baz=23	23.24	325	⇑P		P	10 39 37.7	0.0
X29A	Tulia baz=24	23.35	327	⇑P		P	10 39 37.9	-0.8
Z27A	Tatum baz=24,SNR=11	23.36	322	⇓P		P	10 39 37.9	-1.1
V31A	Spring Creek L baz=24	23.48	332	⇓P		P	10 39 39.5	-0.4
225A	Deer Hill, Car baz=24,SNR=8.7	23.55	318	⇑P		P	10 39 41.7	+0.9
324A	Moseley Ranch, baz=24,SNR=12	23.56	316	⇑P		P	10 39 40.9	-0.1
MSTX	Muleshoe baz=24,SNR=7.4	23.58	324	⇓P		P	10 39 40.8	-0.2
MNTX	Cornudas Mount comp=Z,9.0nm,1.0s	23.65	316	*e*P		P	10 39 41.6	-0.1
X28A	Dimmitt baz=24	23.67	326	⇑P		P	10 39 40.7	-1.2
AMTX	Amarillo comp=Z,10nm,0.9s	23.67	327	*e*P		P	10 39 42.1	+0.2
Y27A	Causey baz=24,SNR=7.5	23.74	323	⇓P		P	10 39 42.6	0.0
Z26A	Caprock baz=24	23.79	321	⇑P		P	10 39 42.5	-0.6
125A	Gardner Draw, baz=24,SNR=8.2	23.80	319	⇑P		P	10 39 42.4	-0.8
ATAH	Atahualpa comp=Z,109nm,21.9s,baz=76,slow=32	23.87	160	LR		LR	10 47 13.3	
U31A	Nine Bar Ranch baz=24	23.98	332	⇑P		P	10 39 44.6	-0.2
224A	Cornudas Mount baz=24	23.98	317	⇓P		P	10 39 45.4	+0.4
Y26A	Elida baz=24	24.15	322	⇓P		P	10 39 46.9	+0.4
Z25A	Roswell baz=24,SNR=7.7	24.25	320	⇓P		P	10 39 47.9	+0.5
X27A	F and S Farms, baz=24,SNR=5.6	24.26	325	⇓P		P	10 39 48.1	+0.6
124A	Stringfield Ra baz=24,SNR=11	24.33	318	⇑P		P	10 39 49.7	+1.4
U30A	WK&E Inc. Balk baz=25	24.48	331	⇓P		P	10 39 49.5	+0.1
T31A	Randall Ranch, baz=25	24.51	334	⇑P		P	10 39 49.8	+0.1
W27A	Bowe Ranch, En baz=25	24.55	325	⇓P		P	10 39 49.9	-0.3
X26A	CR and CF Fran baz=25	24.59	324	⇑P		P	10 39 50.0	-0.5
V28A	Channing baz=25	24.62	328	⇓P		P	10 39 51.0	+0.2
Z24A	Sheeppen Canyo baz=25	24.69	319	⇑P		P	10 39 52.3	+0.8
U29A	Oasis Ranch, S baz=25	24.70	330	⇓P		P	10 39 52.1	+0.6
V27A	Dan Oppiter Fa baz=25,SNR=5.4	24.95	327	⇑P		P	10 39 53.7	0.0
222A	Williams Famil baz=25,SNR=5.5	25.06	315	⇑P		P	10 39 55.9	+1.1
X25A	Clemmons Ranch baz=25	25.07	322	⇓P		P	10 39 55.4	+0.5
Y24A	Capitan baz=25,SNR=23	25.13	320	⇓P		P	10 39 55.5	+0.1
KSU1	Kansas State U comp=Z,12nm,0.9s	25.14	341	*e*P		P	10 39 55.6	+0.3
W25A	X Bar L Ranch, baz=26,SNR=9.7	25.44	324	⇑P		P	10 39 59.2	+1.0
U27A	Thompson Grove baz=26,SNR=13	25.45	328	⇑P		P	10 39 58.6	+0.3
V26A	Tequesquite Ra baz=26,SNR=21	25.49	326	⇑P		P	10 39 59.5	+0.8
Y23A	Lovelace Mesa, baz=26,SNR=10	25.51	319	⇓P		P	10 40 00.2	+1.2
320A	Kipp Ranch, An baz=26,SNR=9.9	25.63	312	⇑P		P	10 40 01.0	+0.9
Z22A	Elephant Butte baz=26	25.67	317	⇑P		P	10 40 01.5	+1.2
R30A	Dighton baz=26	25.77	334	⇓P		P	10 40 02.0	+0.9
121A	Cookes Peak, D baz=26,SNR=16	25.78	315	⇓P		P	10 40 03.0	+1.6
T27A	Campo baz=26	25.89	329	⇓P		P	10 40 02.9	+0.6
U26A	Atchley Ranch, baz=26,SNR=17	25.91	327	⇓P		P	10 40 03.5	+0.9
S28A	Manter baz=26	25.92	331	⇓P		P	10 40 03.2	+0.7
220A	Playas Peak, P baz=26	25.94	313	⇑P		P	10 40 04.2	+1.4
V25A	Rancho No Teng baz=26,SNR=8.5	25.98	324	⇓P		P	10 40 04.5	+1.3
W24A	Lazy 6 Ranch, baz=26,SNR=5.2	25.98	322	⇑P		P	10 40 05.5	+2.2
Z21A	St. Cloud Mine baz=26	26.17	316	⇓P		P	10 40 06.5	+1.6
V24A	Rampart Ranch, baz=26	26.27	323	⇓P		P	10 40 07.9	+2.0
U25A	Circle Dot Ran baz=26	26.27	326	⇑P		P	10 40 07.0	+1.2
120A	U Bar Ranch, L baz=26,SNR=6.2	26.37	314	⇓P		P	10 40 08.2	+1.4
W23A	Werner Place, baz=26	26.39	321	⇑P		P	10 40 08.0	+1.0
T26A	Comanche Natio baz=27,SNR=5.2	26.42	328	⇑P		P	10 40 07.9	+0.7
ANMO	Albuquerque	26.43	321	*e*P		P	10 40 08.6	+1.3
ANMO	Albuquerque comp=Z,0.6nm,0.4s,baz=116,slow=9.8,SNR=6.1	26.43	321	P		P	10 40 08.9	+1.6
S27A	Las Animas baz=27	26.47	330	⇑P		P	10 40 07.7	+0.2
R28A	Tribune baz=27	26.49	332	⇑P		P	10 40 08.2	+0.6
Y21A	Point of Rocks baz=27	26.60	318	⇑P		P	10 40 09.4	+0.6
S26A	Kim baz=27,SNR=12	26.70	329	⇑P		P	10 40 10.4	+0.8
T25A	Trinidad baz=27	26.82	327	⇓P		P	10 40 11.4	+0.6
R27A	Eads baz=27	26.90	331	⇑P		P	10 40 11.8	+0.5
X21A	Alamocita Cree baz=27	26.94	318	⇑P		P	10 40 11.9	-0.1
Y20A	Horse Springs, baz=27	27.00	317	⇓P		P	10 40 12.5	+0.1
U23A	El Rito baz=27,SNR=9.3	27.22	323	⇑P		P	10 40 15.9	+1.5
R26A	Arlington baz=27	27.22	330	⇓P		P	10 40 14.8	+0.5
S25A	Robets Cordova baz=27	27.23	327	⇓P		P	10 40 14.6	+0.1
X20A	Quemado baz=28	27.46	318	⇓P		P	10 40 17.8	+1.2
R25A	Fountain Ranch baz=28	27.52	328	⇑P		P	10 40 18.4	+1.4
S24A	Houchin Ranch, baz=28	27.62	326	⇓P		P	10 40 19.2	+1.1
T23A	Casias Ranch, baz=28	27.63	324	⇓P		P	10 40 19.0	+0.8
Q26A	Hugo baz=28	27.75	330	⇑P		P	10 40 19.3	+0.3
W20A	Ramah baz=28	27.83	319	⇓P		P	10 40 20.8	+0.9
SDCO	Great Sand Dun comp=Z,3.2nm,0.9s	27.85	326	*e*P		P	10 40 21.8	+1.7
O28A	Krutsinger Ran baz=28	27.94	334	⇓P		P	10 40 22.1	+1.4
R24A	Sanders Place, baz=28	28.00	327	⇑P		P	10 40 22.8	+1.4
P25A	Willow Gulch B baz=29	28.52	330	⇓P		P	10 40 26.5	+0.5
S22A	4UR Ranch, Cre baz=29	28.58	325	⇑P		P	10 40 27.6	+0.9
R22A	Saguache, Gunn baz=29	28.88	325	⇓P		P	10 40 30.4	+1.0
Q22A	Crested Butte, baz=30	29.42	326	⇓P		P	10 40 35.1	+1.0
ECSD	EROS Data Cent comp=Z,5.5nm,0.9s	29.43	345	*e*P		P	10 40 32.6	-1.1
P22A	Eagle baz=30	29.88	327	⇑P		P	10 40 39.0	+0.9
WUAZ	Wupatki comp=Z,5.8nm,1.1s	29.94	316	*e*P		P	10 40 40.5	+1.9
WUAZ	Wupatki baz=30	29.94	316	⇑P		P	10 40 39.7	+1.1
O22A	Kremmling baz=30	30.19	328	⇓P		P	10 40 41.9	+1.0
BRSD	Miller baz=31	30.73	342	⇓P		P	10 40 44.9	-0.4
O20A	White River Ci baz=31	31.05	326	⇑P		P	10 40 47.9	-0.5
L23A	Garrett baz=31	31.29	332	⇓P		P	10 40 50.3	-0.2
N20A	Spence Gulch, baz=32	31.57	327	⇓P		P	10 40 54.1	+1.1
O19A	Miners Draw (B baz=32	31.64	326	⇑P		P	10 40 53.7	+0.1
M21A	Separation Pea baz=32	31.68	329	⇓P		P	10 40 54.2	+0.2
Q16A	Castle Valley baz=32	31.88	322	⇑P		P	10 40 55.8	0.0
L21A	Rawlins baz=32	31.96	330	⇑P		P	10 40 56.3	-0.1
M20A	Sweetwater, Wa baz=32	32.01	328	⇑P		P	10 40 57.2	+0.3
ARUT	Antelope Range comp=Z,3.6nm,0.9s	32.60	318	*e*P		P	10 41 04.0	+2.0
J22A	Midwest baz=33	32.66	332	⇓P		P	10 41 02.8	+0.3
K20A	Yellowstone Ra baz=33	32.95	330	⇑P		P	10 41 05.3	+0.2
J21A	Lysite baz=33	33.05	331	⇑P		P	10 41 06.7	+0.8
M17A	Scullys Gap (B baz=33	33.30	326	⇓P		P	10 41 09.2	+1.0
I21A	Big Trails, Te baz=34	33.34	332	⇑P		P	10 41 09.5	+1.0
J20A	Shoshoni baz=34	33.35	331	⇓P		P	10 41 09.2	+0.7
AGMN	Agassiz Nation comp=Z,4.5nm,0.3s	33.59	349	*e*P		P	10 41 10.0	-0.3
PDAR	Pinedale Array	33.64	328	P		P	10 41 11.6	+0.5
PDAR	Pinedale Array comp=Z,1.8nm,0.8s,baz=136,slow=9.5,SNR=11	33.64	328	P		P	10 41 11.6	+0.5
DUG	Dugway baz=34	33.67	322	⇓P		P	10 41 12.1	+0.7
I20A	Worland baz=34	33.83	331	⇑P		P	10 41 13.8	+1.1
HWUT	Hardware Ranch comp=Z,5.4nm,1.0s	33.88	325	*e*P		P	10 41 13.7	+0.5
MDND	Maddock baz=34	34.03	344	⇓P		P	10 41 14.1	0.0
F23A	Volborg baz=34	34.08	336	⇑P		P	10 41 14.7	0.0
H20A	Greybull baz=34	34.19	332	⇑P		P	10 41 15.7	0.0
SNOW	Snow King Moun comp=Z,8.6nm,1.0s	34.75	328	*e*P		P	10 41 22.0	+1.2
E22A	Miles City baz=35	34.88	336	⇑P		P	10 41 22.5	+0.9
MOOW	Moose Ponds comp=Z,2.6nm,0.8s	34.95	329	*e*P		P	10 41 23.7	+1.2
IMW	Indian Meadow comp=Z,4.0nm,0.9s	35.15	329	*e*P		P	10 41 24.9	+0.6
ELK	Elko comp=Z,4.9nm,1.0s	35.47	321	*e*P		P	10 41 28.9	+1.9
G18A	Lazy EL Ranch, baz=36	35.53	331	⇓P		P	10 41 27.9	+0.5
F19A	Roth Farm, Mol baz=36	35.67	333	⇑P		P	10 41 29.3	+0.8
E20A	Meyer Farm, Mu baz=36	35.82	334	⇓P		P	10 41 29.8	+0.1
C22A	Vida baz=36	35.94	337	⇑P		P	10 41 31.3	+0.6
DGMT	Dagmar baz=36	35.97	340	⇑P		P	10 41 31.4	+0.5
F18A	Big Timber baz=36	36.05	332	⇓P		P	10 41 32.2	+0.4
NV11	Mina Array Sit	36.08	315	*e*P		P	10 41 34.2	+2.1
NVAR	Mina Array Bea	36.17	315	P		P	10 41 34.3	+1.3
NVAR	Mina Array Bea comp=Z,3.8nm,1.0s,baz=115,slow=7.8,SNR=11	36.17	315	P		P	10 41 34.3	+1.3
B23A	Brockton baz=36	36.23	339	⇑P		P	10 41 33.6	+0.5
C21A	Desert Coulee baz=37	36.47	336	⇑P		P	10 41 36.3	+1.1
F17A	Fitzpatrick Pl baz=37	36.48	331	⇑P		P	10 41 35.9	+0.4
BOZ	Bozeman (W) comp=Z,4.1nm,1.1s	36.76	330	*e*P		P	10 41 39.1	+1.2
MCMT	McKenzie Canyo comp=Z,2.4nm,0.9s	36.78	328	*e*P		P	10 41 39.8	+1.6
E17A	Martinsdale baz=37	36.99	332	⇑P		P	10 41 40.8	+0.9
DLMT	Dillon comp=Z,5.6nm,1.0s	37.02	329	*e*P		P	10 41 40.2	0.0
LRM	Limekiln Ridge comp=Z,50nm,0.9s	37.28	329	*e*P		P	10 41 42.7	+0.3
I12A	Atlanta baz=37	37.30	325	⇓P		P	10 41 43.4	+0.8
F15A	Butte baz=38	37.31	329	⇓P		P	10 41 43.7	+1.0
B20A	Solberg Farm, baz=38	37.33	336	⇓P		P	10 41 43.1	+0.6
D17A	Six Diamond Ra baz=38	37.44	332	⇑P		P	10 41 44.4	+0.8
MFID	Camas Ranch comp=Z,6.6nm,1.1s	37.45	324	*e*P		P	10 41 44.9	+1.2
MFID	Camas Ranch baz=38	37.45	324	⇓P		P	10 41 44.9	+1.2
H12A	Diamond D Ranc baz=38	37.64	326	⇓P		P	10 41 46.2	+0.8
A20A	Cobblestone Ra baz=38	37.65	337	⇑P		P	10 41 46.2	+0.9
F14A	Wisdom baz=38	37.73	329	⇑P		P	10 41 46.7	+0.5
D16A	Dana Ranch, Ca baz=38	37.73	332	⇑P		P	10 41 46.1	0.0
C17A	Wharram Farm, baz=38	37.83	333	⇓P		P	10 41 47.8	+0.9
G12A	Big Creek, Yel baz=38	38.27	326	⇓P		P	10 41 51.4	+0.7
C16A	Fuhringer Ranc baz=38	38.40	332	⇓P		P	10 41 52.3	+0.6
D14A	Greenough baz=39	38.69	330	⇓P		P	10 41 54.9	+0.7
MSO	Missoula baz=39	38.72	329	⇑P		P	10 41 55.3	+0.9
C15A	Salmond Ranch, baz=39	38.77	332	⇑P		P	10 41 55.1	+0.3
B15A	Bradely Ranch, baz=39	39.14	332	⇓P		P	10 41 58.5	+0.6
D13A	Huson baz=39	39.16	329	⇓P		P	10 41 58.8	+0.8
BMO	Blue Mountains comp=Z,3.5nm,1.0s	39.18	325	*e*P		P	10 41 58.4	+0.1
E12A	Beaver Dam Sad baz=39	39.26	328	⇑P		P	10 41 59.3	+0.3
SIV	San Ignacio	40.06	140	P		P	10 42 05.5	-0.3
SIV	San Ignacio comp=Z,7.0nm,0.9s,baz=318,slow=8.9,SNR=18	40.06	140	P		P	10 42 05.5	-0.3
B13A	Whitefish baz=40	40.06	331	⇑P		P	10 42 06.2	+0.6
YKA	Yellowknife Ar	50.95	344	P		P	10 43 31.4	0.0
YKA	Yellowknife Ar comp=Z,4.5nm,0.9s,baz=138,slow=7.8,SNR=16	50.95	344	P		P	10 43 31.4	0.0
ILAR	Eielson Array	63.65	335	P		P	10 45 01.0	-0.2
ILAR	Eielson Array	63.65	335	P		P	10 45 01.0	-0.2
ESDC	Sonseca Array comp=Z,1.0nm,0.8s,baz=121,slow=4.7,SNR=12	74.47	53	P		P	10 46 09.4	+0.5
ESDC	Sonseca Array comp=Z,0.3nm,0.3s,baz=289,slow=6.9,SNR=4.1	74.47	53	P		P	10 46 09.4	+0.5
WRA	Warramunga Arr	141.05	257	PKP		PKPdf	10 54 01.8	+0.2
WRA	Warramunga Arr comp=Z,0.7nm,0.7s,baz=82,slow=2.3,SNR=9.3	141.05	257	PKP		PKPdf	10 54 01.8	+0.2
ASAR	Alice Springs	141.32	251	PKPpre	PKPpre		10 53 55.8	
ASAR				PKP		PKPdf	10 54 02.0	+0.1
ASAR	Alice Springs comp=Z,0.3nm,0.7s,baz=73,slow=3.1,SNR=3.3	141.32	251	PKhKP	PKPpre		10 53 55.8	
ASAR				PKP		PKPdf	10 54 02.0	+0.1
CMAR	Chiang Mai Arr comp=Z,0.7nm,0.8s,baz=100,slow=1.9,SNR=8.0	145.82	351	PKPbc		PKPbc	10 54 10.6	+0.2
CMAR	Chiang Mai Arr comp=Z,3.2nm,0.7s,baz=334,slow=3.4,SNR=17	145.82	351	PKPbc		PKPbc	10 54 10.6	+0.2

IDC 06 10:45:20.1±1.2, 13°24′N×143°74′E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/24, mbtmp3.7/5, MS3.5/2, Ms1 3.5/2, ms1mx2.6/34, Error ellipse: s-maj=60.2km s-min=22.5km az=96.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr 2.7nm,0.6s,baz=17,slow=9.5,SNR=57	34.25	196	P	P	10 52 08.4	+0.4
ASAR	Alice Springs 0.6nm,0.6s,baz=19,slow=11,SNR=15	37.92	195	P	P	10 52 39.1	-0.3
STKA	Stephens Creek 1.2nm,0.7s,baz=346,slow=12,SNR=4.0	44.31	183	P	P	10 53 36.0	-0.7
MKAR	Makanchi Array 0.2nm,0.5s,baz=89,slow=7.4,SNR=3.9	60.98	316	P	P	10 55 35.4	+0.1
ILAR	Eielson Array 0.5nm,1.1s,baz=257,slow=5.9,SNR=5.7	69.35	25	P	P	10 56 29.3	0.0
MMAI	Mount Meron Ar comp=Z,47nm,18.2s,baz=100,slow=36	97.70	306	LR	LR	11 44 45.1	
MLR	Muntele Rosu comp=Z,8.5nm,18.5s,baz=23,slow=37	99.07	321	LR	LR	11 45 52.3	

*CSEM **06** 10:45:21.0, 42°.45N×13°.35E, h12km, MD1.8/8, After ROM*
ROM 06 10:45:21.0±0.1, 42°.45N×13°.35E, h12km±1km, Md1.8/8, Ml1.5/5, Error ellipse: s-maj=1.4km s-min=1.1km az=58.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQU	L'Aquila	0.10	159	Pg	Pg	10 45 24.4	+0.4
AQU				Sg	Sg	10 45 26.7	+0.5
	152nm,0.2s						
AQU	L'Aquila	0.10	159	Pg	Pg	10 45 24.4	+0.4
AQU				Sg	Sg	10 45 26.7	+0.5
	152nm,0.2s						
FIAM	Fiamignano	0.25	224	Pg	Pg	10 45 26.6	+0.2
FIAM				Sg	Sg	10 45 30.2	+0.1
	32nm,0.7s						
FIAM	Fiamignano	0.25	224	Pg	Pg	10 45 26.6	+0.2
FIAM				Sg	Sg	10 45 30.2	+0.1
	32nm,0.7s						
TERO	Teramo	0.25	47	Pg	Pg	10 45 26.7	+0.3
TERO				Sg	Sg	10 45 30.8	+0.7
	61nm,0.4s						
TERO	Teramo	0.25	47	Pg	Pg	10 45 26.7	+0.3
TERO				Sg	Sg	10 45 30.8	+0.7
	61nm,0.4s						
VCEL	Villa Celiera	0.36	98	Pg	Pg	10 45 29.0	+0.5
VCEL				Sg	Sg	10 45 34.1	+0.6
	50nm,0.4s						
VCEL	Villa Celiera	0.36	98	Pg	Pg	10 45 29.0	+0.5
VCEL				Sg	Sg	10 45 34.1	+0.6
	50nm,0.4s						
NRCA	Norcia	0.42	335	Pg	Pg	10 45 29.4	-0.2
NRCA				Sg	Sg	10 45 36.0	+0.6
	30nm,0.1s						
NRCA	Norcia	0.42	335	Pg	Pg	10 45 29.4	-0.2
NRCA				Sg	Sg	10 45 36.0	+0.6
	30nm,0.1s						
FDMO	Fiordimonte	0.62	342	Pg	Pg	10 45 33.2	0.0
FDMO				Sg	Sb	10 45 42.7	+0.2
FDMO	Fiordimonte	0.62	342	Pg	Pg	10 45 33.2	0.0
FDMO				Sg	Sb	10 45 42.7	+0.2

DJA 06 11:07:10.3±0.6, 0°S±4°×122°3E±°, h70km±9km, M3.8/7, MLv3.8/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	Luwuk	0.73	185	P	Pn	11 07 26.0	+0.4
LUWI				S	Sn	11 07 39.3	+2.5
GTOI	Gorontalo	0.95	10	P	Pn	11 07 28.6	+0.3
GTOI				S	Sn	11 07 43.3	+1.7
MRSI	Marisa	1.19	311	P	Pn	11 07 31.3	+0.1
KMSI	Cibinong	1.44	52	P	Pn	11 07 35.8	+1.3
SKSI	Soroako, Sulaw	2.67	214	P	Pn	11 07 51.7	+0.6
LBMI	Labuha	4.67	94	P	Pn	11 08 17.4	-1.0
SPSI	Sidrap Palu	4.75	220	P	Pn	11 08 19.2	-0.3

*CSEM **06** 11:10:22.7, 39°.35N×27°.73E, h7km, MD2.8, After DDA*
DDA 06 11:10:22.7, 39°.35N×27°.73E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALY	Balya	0.40	348	*i* P	Pg	11 10 31.5	+0.8
BALY				*i* S	Sb	11 10 37.9	-0.8
BALY	Balya	0.40	348	*i* P	Pb	11 10 31.5	-0.8
BALY				*i* S	Sb	11 10 37.9	-0.8
AKHS	Akhisar	0.47	172	*i* P	Pg	11 10 31.9	0.0
AKHS				*i* S	Sg	11 10 39.1	+1.1
AKHS	Akhisar	0.47	172	*i* P	Pg	11 10 31.9	0.0
AKHS				*i* S	Sg	11 10 39.1	+1.0
DEMI	Demirci	0.82	111	*i* P	Pb	11 10 39.7	+0.3
DEMI				*i* S	Sb	11 10 50.9	+0.1
DEMI	Demirci	0.82	111	*i* P	Pb	11 10 39.7	+0.2
DEMI				*i* S	Sb	11 10 50.9	+0.1
MANT	Manisa	1.07	143	*i* P	Pg	11 10 43.1	-0.5
MANT				*i* S	Sg	11 10 57.6	0.0
MANT	Manisa	1.07	143	*i* P	Pg	11 10 43.1	-0.5
MANT				*i* S	Sg	11 10 57.6	-0.1
BOZC	Bozcaada	1.39	291	*i* P	Pb	11 10 49.0	0.0
BOZC				*i* S	Sg	11 11 07.8	+0.4
AYDN	Tasoluk	1.69	176	*i* P	Pn	11 10 52.1	-0.6
AYDN				*i* S	Sn	11 11 12.6	-2.0
AYDN	Tasoluk	1.69	176	*i* P	Pn	11 10 52.1	-0.6
AYDN				*i* S	Sn	11 11 12.6	-2.0

*ISCJB **06** 11:10:30.4±0.3, 81°.39N±0°.04×5°.1W±0°.3, h10km, mb4.2/45, MS3.8/28, Error ellipse: s-maj=7.0km s-min=5.0km az=38.5*
*IDC **06** 11:10:30.6±0.5, 81°.43N×4°.54W, h0km, mb4.0/17, mb1 4.2/18, mb1mx4.1/30, mbtmp4.0/18, ML5.1/2, MS3.9/22, Ms1 3.9/22, ms1mx3.7/36, Error ellipse: s-maj=19.6km s-min=11.1km az=40.0*
*MOS **06** 11:10:30.4±1.0, 81°.39N×5°.14W, h10km, mb4.3/27, Error ellipse: s-maj=52.0km s-min=7.4km az=93.4*
*CSEM **06** 11:10:30.1±0.1, 81.42N×4°.45W, h2km, mb4.4/29, Error ellipse: s-maj=7.2km s-min=4.7km az=37.0*
*NEIC **06** 11:10:31.9±0.3, 81°.36N×4°.51W, h10km, mb4.4/14, Error ellipse: s-maj=9.9km s-min=5.7km az=213.0*
ISC 06 11:10:31.6±0.4, 81°32N±0°.05×4°31W±0°.04, h10km, n189, σ1s99/197, mb4.2/45, MS3.8/29, 6C-1D, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	Kingsbay	3.68	122	Pn	**Pn**	**11 11 26.6**	**-1.8**
KBS				Sn	**Sn**	**11 12 06.0**	**-5.7**
KBS	Kingsbay	3.68	122	Pn	**Pn**	**11 11 26.6**	**-1.8**
KBS				Sn	**Sn**	**11 12 06.0**	**-5.7**
KBS				AML	AML	11 12 12.2	
	comp=Z,81nm,0.3s						
KBS	Kingsbay	3.68	122	*c* iP	**Pn**	**11 11 26.5**	**-1.8**
KBS	Kingsbay	3.68	122	*e*Pn	**Pn**	**11 11 26.6**	**-1.8**
KBS	Kingsbay SNR=117	3.68	122	*i* P	**Pn**	**11 11 26.8**	**-1.6**
SPA0	Spitsbergen Ar baz=352,slow=6.5	4.82	120	Pn	**Pn**	**11 11 42.2**	**-1.9**
SPA0				Sn	**Sn**	**11 12 35.0**	**-4.9**
	baz=330,slow=28						

SPA0 Sn **Sn** **11 12 35.0 -4.9**
baz=330,slow=28
SPA0 Spitsbergen Ar 4.82 120 Pn **Pn** **11 11 42.2 -1.9**
baz=352,slow=6.4,SNR=55
SPITS Spitsbergen Ar 4.82 120 Pn **Pn** **11 11 42.5 -1.6**
SPITS Sn **Sn** **11 12 34.9 -5.0**
SPITS Spitsbergen Ar 4.82 120 Pn **Pn** **11 11 42.5 -1.6**
baz=341,slow=7.3,SNR=553
SPITS Sn **Sn** **11 12 34.9 -5.0**
baz=308,slow=4.1,SNR=2.1
SPITS LR LR 11 13 36.9
comp=Z,2µm,18.4s,baz=320,slow=38
SPITS Spitsbergen Ar 4.82 120 P **Pn** **11 11 42.5 -1.6**
comp=Z,2µm,18.4s
DAG Danmarks Havn 5.30 218 *i* P **Pn** **11 11 50.3 -0.4**
DAG *i* S **Sn** **11 12 47.5 -4.2**
DAG Danmarks Havn 5.30 218 *i* P **Pn** **11 11 50.3 -0.4**
DAG *i* S **Sn** **11 12 47.5 -4.2**
JMIC Jan Mayen 10.44 188 Pn **Pn** **11 13 02.1 +1.1**
JMIC Sn **Sn** **11 14 53.9 -3.9**
JMIC Jan Mayen 10.44 188 Pn **Pn** **11 13 02.1 +1.1**
comp=Z,10nm,0.3s,baz=118,slow=3.4,SNR=63
JMIC Sn **Sn** **11 14 53.9 -3.9**
comp=Z,3.0nm,0.3s,baz=170,slow=11,SNR=3.8
JMIC Jan Mayen 10.44 188 Pn **Pn** **11 13 02.1 +1.1**
SUMG Summit 11.38 239 *i* P **Pn** **11 13 11.7 -2.5**
SUMG Summit 11.38 239 *e*Pn **Pn** **11 13 11.7 -2.5**
comp=Z,18nm,0.5s
SUMG Summit 11.38 239 *i* P **Pn** **11 13 11.7 -2.5**
SUMG *i* S Sn 11 15 10.3 -11
KEV Kevo 13.65 130 *e*p **Pn** **11 13 42.8 -2.0**
comp=Z,4.3nm,0.7s
KEV Kevo 13.65 130 *e*P **Pn** **11 13 42.8 -2.0**
KEV pmax pmax
comp=Z,4.0nm,0.7s
ARA0 ARCESS Array S 13.69 132 Pn **Pn** **11 13 43.5 -1.9**
baz=348,slow=12
ARA0 ARCESS Array S 13.69 132 Pn **Pn** **11 13 43.5 -1.9**
baz=348,slow=12
ARCES ARCESS Array B 13.69 132 Pn **Pn** **11 13 43.0 -2.4**
ARCES Sn Sn 11 16 10.2 -7.0
ARCES ARCESS Array B 13.69 132 Pn **Pn** **11 13 43.0 -2.4**
comp=Z,0.6nm,0.3s,baz=344,slow=12,SNR=17
ARCES Sn Sn 11 16 10.2 -7.0
comp=Z,0.2nm,0.3s,baz=3.1,slow=18,SNR=3.9
ARCES LR LR 11 18 39.1
comp=Z,461nm,21.5s,baz=346,slow=35
ARE0 ARCESS Array S 13.69 132 *e*Pn **Pn** **11 13 44.5 -0.9**
ARE0 ARCESS Array S 13.69 132 *e*Pn **Pn** **11 13 44.5 -0.9**
LVZ Lovozero 16.34 122 *e*P **P** **11 14 22.9 -0.8**
LVZ pmax pmax
comp=Z,46nm,1.7s
LVZ Lovozero 16.34 122 *e*P **P** **11 14 22.9 -0.8**
comp=Z,46nm,1.7s
RES Resolute Bay 17.74 299 P Pn 11 14 31.7 -6.5
RES S Sn 11 17 38.6 -17
RES Resolute Bay 17.74 299 P Pn 11 14 31.7 -6.5
comp=Z,0.4nm,0.3s,baz=20,slow=9.9,SNR=12
RES S Sn 11 17 38.6 -17
comp=Z,0.3nm,0.3s,baz=166,slow=18,SNR=3.9
RES LR LR 11 21 12.1
comp=Z,622nm,20.2s,baz=260,slow=36
SFJD Kangerlussuaq 18.18 246 P **Pn** **11 14 39.0 -4.5**
SFJD S Sn 11 17 46.7 -19
SFJD Kangerlussuaq 18.18 246 P **Pn** **11 14 39.0 -4.5**
comp=Z,0.9nm,0.3s,baz=355,slow=12,SNR=3.4
SFJD S Sn 11 17 46.7 -19
comp=Z,1.3nm,0.3s,baz=282,slow=20,SNR=4.3
SFJD LR LR 11 21 52.7
comp=Z,388nm,20.2s,baz=18,slow=38
TMCR Tamitsa 20.34 122 *e*P Pn 11 15 12.9 +3.4
TMCR pmax pmax
comp=Z,18nm,0.3s
JOF Joensuu 20.72 131 *e*p Pn 11 15 16.6 +2.6
JOF Joensuu 20.72 131 *e*P Pn 11 15 16.6 +2.6
NB2 NORSAR Subarra 20.82 159 P Pn 11 15 15.4 +0.1
baz=352,slow=9.3
NB2 NORSAR Subarra 20.82 159 P Pn 11 15 14.3 -1.0
comp=Z,24nm,1.4s,baz=354,slow=11
NB2 NORSAR Subarra 20.82 159 P Pn 11 15 15.4 +0.1
baz=352,slow=9.3
NB2 NORSAR Subarra 20.82 159 P Pn 11 15 15.4 +0.1
baz=352,slow=9.2,SNR=4.1
NOA NORSAR Array B 20.82 159 P **P** **11 15 13.7 +0.8**
NOA NORSAR Array B 20.82 159 P **P** **11 15 13.7 +0.8**
comp=Z,8.9nm,1.0s,baz=350,slow=11,SNR=7.4
NOA LR LR 11 22 07.1
comp=Z,132nm,18.5s,baz=350,slow=33
NOA NORSAR Array B 20.82 159 P **P** **11 15 13.7 +0.8**
comp=Z,132nm,18.5s
FIA0 FINESS Array S 21.60 139 P **P** **11 15 23.1 +2.0**
baz=342,slow=16
FIA0 FINESS Array S 21.60 139 P **P** **11 15 23.1 +2.0**
baz=342,slow=16
FIA0 FINESS Array S 21.60 139 P **P** **11 15 23.1 +2.0**
baz=342,slow=15,SNR=3.2
FINES FINESS Array B 21.60 139 P **P** **11 15 22.1 +1.0**
FINES FINESS Array B 21.60 139 P **P** **11 15 22.1 +1.0**
comp=Z,7.5nm,1.0s,baz=343,slow=12,SNR=12
FINES LR LR 11 23 15.4
comp=Z,404nm,20.8s,baz=0.5,slow=35
FINES FINESS Array B 21.60 139 P **P** **11 15 22.1 +1.0**
HFS Hagfors 21.88 155 P **P** **11 15 25.7 +1.6**
baz=13,slow=5.9
HFS Hagfors 21.88 155 P **P** **11 15 25.7 +1.6**
baz=13,slow=5.9
HFS Hagfors 21.88 155 P **P** **11 15 24.9 +0.9**
HFS Hagfors 21.88 155 P **P** **11 15 25.0 +0.9**
comp=Z,4.4nm,0.9s,baz=15,slow=12,SNR=5.5
HFS LR LR 11 22 57.7
comp=Z,228nm,18.1s,baz=354,slow=34
HFS Hagfors 21.88 155 P **P** **11 15 25.7 +1.6**
baz=13,slow=5.9,SNR=5.2
FRB Frobisher Bay 23.85 262 P **P** **11 15 43.9 -0.5**
FRB Frobisher Bay 23.85 262 P **P** **11 15 43.9 -0.5**
comp=Z,6.5nm,0.9s,baz=6.5,slow=8.0,SNR=8.1
FRB LR LR 11 25 39.7
comp=Z,372nm,18.0s,baz=223,slow=38
FRB Frobisher Bay 23.85 262 P **P** **11 15 43.9 -0.5**
comp=Z,372nm,18.0s
TIXI Tiksi 25.23 33*c* *i*P **P** **11 15 57.0 0.0**
TIXI pmax pmax
comp=Z,7.0nm,1.2s
TIXI MLR MLR
comp=Z,53nm,21.0s
TIXI Tiksi 25.23 33 *i* P **P** **11 15 57.0 0.0**
comp=Z,53nm,21.0s
INK Inuvik 28.14 322 P **P** **11 16 21.8 -1.4**
INK PcP **PcP** **11 19 36.8 +0.3**
INK Inuvik 28.14 322 P **P** **11 16 21.8 -1.4**
comp=Z,0.9nm,0.6s,baz=4.5,slow=8.3,SNR=6.2
INK PcP **PcP** **11 19 36.8 +0.3**
comp=Z,1.3nm,0.8s,baz=346,slow=4.2,SNR=4.2
INK LR LR 11 28 13.2
comp=Z,92nm,19.7s,baz=41,slow=38
INK Inuvik 28.14 322 P **P** **11 16 21.8 -1.4**
comp=Z,1.0nm,0.6s
INK Inuvik 28.14 322 PcP **PcP** **11 19 36.8 +0.3**
comp=Z,92nm,19.7s
OBN Obninsk 28.96 129⇑ *e*P **P** **11 16 31.7 +1.2**
OBN *e* 11 17 21.7
OBN *e*S S 11 21 28.0 +7.2
OBN *e*SS **ScP** **11 23 14.4 -5.3**
OBN pmax pmax
comp=Z,24nm,1.7s
OBN MLR MLR
comp=Z,300nm,18.0s
OBN Obninsk 28.96 129 *e*P **P** **11 16 31.7 +1.2**
comp=Z,24nm,1.7s
COLD Coldfoot 30.52 335 *e*P **P** **11 16 43.6 -0.7**
comp=Z,2.3nm,1.0s
COLD Coldfoot 30.52 335 *e*P **P** **11 16 43.6 -0.7**
comp=Z,2.3nm,1.0s
CLL Collm 30.63 158 *e*P **P** **11 16 47.0 +1.6**
CLL pmax pmax
comp=Z,11nm,1.4s
CLL Collm 30.63 158 *e*P **P** **11 16 47.0 +1.6**
comp=Z,11nm,1.4s
CLL Lm MLR 11 28 00.0
comp=Z,100nm,19.7s
CLL Collm 30.63 158 *e*P **P** **11 16 47.0 +1.6**
comp=Z,11nm,1.4s
ARU Arti 30.65 104*d* *i*P **P** **11 16 47.7 +2.2**
ARU 11 17 44.6
ARU S **S** **11 21 51.6 +4.3**
ARU pmax pmax
comp=Z,9.0nm,1.7s
ARU MLR MLR
comp=Z,246nm,14.0s
ARU Arti 30.65 104 *i* P **P** **11 16 47.7 +2.2**
comp=Z,9.0nm,1.7s
ARU S **S** **11 21 51.6 +4.3**
comp=Z,246nm,14.0s
BILL Bilibino 30.75 7⇑ *i*P **P** **11 16 45.1 -1.2**
BILL *e* 11 17 46.5
BILL *e*S **S** **11 21 44.3 -4.4**
BILL *e*SS SS 11 23 45.9 -13
BILL pmax pmax
comp=Z,4.0nm,1.2s
BILL MLR MLR
comp=Z,300nm,19.0s
BILL Bilibino 30.75 7 *i* P **P** **11 16 45.1 -1.2**
comp=Z,4.0nm,1.2s
BRG Berggiesshubel 31.12 157 *e*P **P** **11 16 51.8 +2.1**
comp=Z,12nm,1.4s
BRG
comp=N,97nm,14.6s
BRG
comp=E,52nm,16.7s
BRG
comp=Z,154nm,16.1s
BRG Berggiesshubel 31.12 157 *e*P **P** **11 16 51.8 +2.1**
BRG pmax pmax
comp=Z,8.0nm,1.4s
BRG MLR MLR
comp=N,12µm,14.6s
BRG MLR MLR
comp=E,97nm,16.7s
BRG MLR MLR
comp=Z,52nm,16.1s
BRG Berggiesshubel 31.12 157 *e*P **P** **11 16 51.8 +2.1**
comp=Z,52nm,16.1s
UPC Upice 31.61 155 *e*P P 11 16 58.6 +4.5
UPC Upice 31.61 155 *e*P P 11 16 58.6 +4.5
YKA Yellowknife Ar 31.69 304 P **P** **11 16 55.0 +0.4**
YKA PcP **PcP** **11 19 46.0 +0.2**
YKA Yellowknife Ar 31.69 304 P **P** **11 16 55.0 +0.4**
comp=Z,1.2nm,0.9s,baz=12,slow=9.5,SNR=3.6
YKA PcP **PcP** **11 19 45.9 +0.2**
comp=Z,1.0nm,0.7s,baz=13,slow=2.6,SNR=5.1
YKA Yellowknife Ar 31.69 304 P **P** **11 16 55.0 +0.4**
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 31.69 304 PcP **PcP** **11 19 46.0 +0.2**
DPC Dobruska-Polom 31.79 155 *e*P **P** **11 16 58.3 +2.6**
DPC *e* 11 17 03.6
DPC Dobruska-Polom 31.79 155 *e*P **P** **11 16 58.3 +2.6**
DPC *e*pP **pP** **11 17 03.6 +4.9**
DPC Dobruska-Polom 31.79 155 *e*P **P** **11 16 58.3 +2.6**
PRU Pruhonice 32.04 157 *e*P **P** **11 16 57.3 -0.5**
PRU *e* 11 17 00.5
comp=Z,100nm,15.1s
PRU MLR MLR
comp=Z,100nm,15.1s
PRU Pruhonice 32.04 157 *e*P **P** **11 16 57.3 -0.5**
PRU *e*pP **pP** **11 17 00.5 -0.4**
PRU AMS AMS 11 28 50.0
comp=Z,100nm,15.1s
PRU Pruhonice 32.04 157 *e*P **P** **11 16 57.3 -0.5**
comp=Z,100nm,15.1s
SCHQ Scheiferville 32.14 255 LR LR 11 30 40.4
comp=Z,246nm,19.1s,baz=55,slow=38
EGAK Eagle 32.27 327 *e*P **P** **11 16 59.0 -0.7**
comp=Z,2.6nm,0.9s
EGAK Eagle 32.27 327 *e*P **P** **11 16 59.0 -0.7**
comp=Z,2.6nm,0.9s
OKC Ostrava-Krasne 32.42 153 *e*P **P** **11 17 03.6 +2.4**
OKC MLR MLR
comp=Z,100nm,15.4s
OKC Ostrava-Krasne 32.42 153 *e*P **P** **11 17 03.6 +2.4**
OKC AMS AMS 11 28 50.0
comp=Z,100nm,15.4s
ILAR Eielson Array 32.72 331 P **P** **11 17 03.8 +0.1**
ILAR PcP **PcP** **11 19 48.2 -0.4**
ILAR Eielson Array 32.72 331 P **P** **11 17 03.8 +0.1**
comp=Z,0.8nm,0.6s,baz=3.5,slow=7.1,SNR=14
ILAR PcP **PcP** **11 19 48.2 -0.4**
comp=Z,0.6nm,0.6s,baz=327,slow=3.5,SNR=8.7
ILAR LR LR 11 28 26.3
comp=Z,86nm,22.0s,baz=12,slow=33
ILAR Eielson Array 32.72 331 PcP **PcP** **11 19 48.3 -0.4**
TREC Trest 32.78 156 *e*P **P** **11 17 07.2 +2.8**
TREC MLR MLR
comp=Z,200nm,15.1s
TREC Trest 32.78 156 *e*P **P** **11 17 07.2 +2.8**
TREC AMS AMS 11 29 30.0
comp=Z,200nm,15.1s
KHC Kasperske Hory 32.84 158 *e*P **P** **11 17 07.8 +2.9**
KHC *e* 11 17 10.1
KHC *e* 11 17 13.4
KHC MLR MLR
comp=Z,100nm,14.7s
KHC Kasperske Hory 32.84 158 *e*P **P** **11 17 07.8 +2.9**
KHC *e*pP **pP** **11 17 10.1 +2.2**
KHC *ex* x 11 17 13.4
KHC AMS AMS 11 29 20.0
comp=Z,100nm,14.7s
KHC Kasperske Hory 32.84 158 *e*P **P** **11 17 05.9 +1.0**
comp=Z,4.8nm,1.3s
STHS Stebnicka Huta 33.07 149 *e*P P 11 17 10.0 +3.1
STHS pmax pmax
comp=Z,7.0nm,0.8s
STHS Stebnicka Huta 33.07 149 *e*P P 11 17 10.0 +3.1
GERES GERESS Array B 33.13 158 P **P** **11 17 10.5 +3.0**
GERES PcP **PcP** **11 19 50.8 +0.7**
GERES GERESS Array B 33.13 158 P **P** **11 17 10.5 +3.0**
comp=Z,4.3nm,0.9s,baz=1.1,slow=6.9,SNR=19
GERES PcP **PcP** **11 19 50.8 +0.7**
comp=Z,0.2nm,0.4s,baz=330,slow=1.9,SNR=4.7
GERES LR LR 11 29 54.7
comp=Z,65nm,19.4s,baz=78,slow=35
GERES GERESS Array B 33.13 158 PcP **PcP** **11 19 50.8 +0.7**
comp=Z,65nm,19.4s
KOLS Kolonicke sedl 33.63 148 *e*P **P** **11 17 14.3 +2.5**
KOLS pmax pmax
comp=Z,6.0nm,1.0s
KOLS Kolonicke sedl 33.63 148 *e*P **P** **11 17 14.2 +2.5**
VYHS Vyhne 33.81 152 *e*P **P** **11 17 15.3 +2.0**
VYHS pmax pmax
comp=Z,3.0nm,0.9s
VYHS Vyhne 33.81 152 *e*P **P** **11 17 15.3 +2.0**
KECS Kecovo 33.94 150 *e*P **P** **11 17 16.7 +2.3**
KECS pmax pmax
comp=Z,4.0nm,0.9s
KECS Kecovo 33.94 150 *e*P **P** **11 17 16.7 +2.3**
BUR08 Bucovina Ar. S 35.16 145 *e*P **P** **11 17 27.1 +2.0**
BRVK Borovoye 35.67 94*c* *i*P **P** **11 17 32.1 +2.8**
BRVK pmax pmax
comp=Z,1.0nm,0.7s
NVS Novosibirsk 35.90 80 *e*P **P** **11 17 33.1 +1.8**
ZALV Zalesovo Beam 37.00 79 PcP **PcP** **11 20 00.9 -0.3**
ZALV Zalesovo Beam 37.00 79 PcP **PcP** **11 20 00.9 -0.3**
comp=Z,1.2nm,0.5s,baz=328,slow=5.1,SNR=3.1
ZALV LR LR 11 36 47.9
comp=Z,164nm,18.6s,baz=340,slow=43
ZALV Zalesovo Beam 37.00 79 PcP **PcP** **11 20 00.9 -0.3**
ABKAR Akbulak array 37.82 106 *e*P **P** **11 17 49.2 +1.5**
comp=Z,5.5nm,1.1s
ABKAR Akbulak array 37.82 106 *e*P **P** **11 17 49.2 +1.5**
comp=Z,5.5nm,1.1s
ANN Anapa 39.21 131 *e*P **P** **11 18 00.9 +1.5**
ANN pmax pmax
comp=Z,41nm,1.2s
ANN Anapa 39.21 131 *e*P **P** **11 18 00.9 +1.5**
comp=Z,41nm,1.2s
KDAK Kodiak Island 40.06 334 *e*P **P** **11 18 06.2 -0.1**
KBZ Khabaz 40.92 126 P **P** **11 18 16.6 +3.0**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KBZ MLR MLR
comp=Z,183nm,18.9s
KBZ Khabaz 40.92 126 P **P** **11 18 16.6 +3.0**
KBZ Khabaz 40.92 126 P **P** **11 18 16.6 +3.0**
comp=Z,3.5nm,0.8s,baz=321,slow=5.4,SNR=5.6
KBZ LR LR 11 36 00.8
comp=Z,183nm,18.9s,baz=14,slow=37
KBZ Khabaz 40.92 126 P **P** **11 18 16.5 +3.0**
ULM Lac du Bonnet 40.96 282 LR LR 11 35 18.8
comp=Z,316nm,19.7s,baz=337,slow=36
TLY Talaya 41.90 62 *e*P **P** **11 18 21.6 0.0**
TLY pmax pmax
comp=Z,3.0nm,1.4s
TLY MLR MLR
comp=Z,85nm,18.0s
TLY Talaya 41.90 62 *e*P **P** **11 18 21.6 0.0**
comp=Z,85nm,18.0s
EYMN Ely 42.55 277 *e*P **P** **11 18 27.3 +0.4**
comp=Z,8.3nm,1.1s
EYMN Ely 42.55 277 *e*P **P** **11 18 27.3 +0.4**
comp=Z,8.3nm,1.1s
AGMN Agassiz Nation 42.86 281 *e*P **P** **11 18 29.4 0.0**
comp=Z,4.6nm,0.9s
AGMN Agassiz Nation 42.86 281 *e*P **P** **11 18 29.4 0.0**
comp=Z,4.6nm,0.9s
ZAK Zakamensk 43.12 63 *e*P **P** **11 18 32.4 +0.8**
ZAK *e* 11 20 16.0
ZAK pmax pmax
comp=Z,1.0nm,1.8s
ZAK Zakamensk 43.12 63 *e*P **P** **11 18 32.4 +0.8**
comp=Z,1.0nm,1.8s
MK31 Makanchi Array 43.58 84 *e*P **P** **11 18 35.3 0.0**
MK31 Makanchi Array 43.58 84 *e*P **P** **11 18 35.3 0.0**
MK31 Makanchi Array 43.58 84 *e*P **P** **11 18 35.3 0.0**
MKAR Makanchi Array 43.58 84*ce*P **P** **11 18 36.2 +0.9**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 43.58 84 P **P** **11 18 36.3 +1.0**
MKAR Makanchi Array 43.58 84 P **P** **11 18 36.3 +1.0**
comp=Z,1.5nm,0.9s,baz=344,slow=7.8,SNR=11
MKAR LR LR 11 40 23.3
comp=Z,102nm,19.7s,baz=346,slow=41
MKAR Makanchi Array 43.58 84 *e*P **P** **11 18 36.2 +0.9**
comp=Z,2.0nm,0.9s
BR131 Keskin Array S 43.82 137 *e*P **P** **11 18 38.6 +1.3**
comp=Z,4.7nm,1.0s
BR131 Keskin Array S 43.82 137 *e*P **P** **11 18 38.6 +1.3**
comp=Z,4.7nm,1.0s
BRTR Keskin Array B 43.82 137 P **P** **11 18 39.9 +2.5**
BRTR Keskin Array B 43.82 137 P **P** **11 18 39.9 +2.5**
comp=Z,4.7nm,1.0s,baz=335,slow=5.5,SNR=16
BRTR LR LR 11 37 58.8
comp=Z,107nm,20.3s,baz=326,slow=38
BRTR Keskin Array B 43.82 137 P **P** **11 18 39.8 +2.5**
KKAR Karatay Array 45.40 97 *e*P **P** **11 18 51.6 +1.8**
KKAR pmax pmax
comp=Z,5.0nm,1.1s
KKAR Karatay Array 45.40 97 *e*P **P** **11 18 51.6 +1.8**
comp=Z,5.3nm,1.1s
KKAR Karatay Array 45.40 97 *e*P **P** **11 18 51.6 +1.8**
comp=Z,5.3nm,1.1s
SONM Songino Array 46.04 61 P **P** **11 18 55.5 +0.6**
SONM Songino Array 46.04 61 P **P** **11 18 55.5 +0.6**
comp=Z,1.1nm,0.8s,baz=342,slow=7.7,SNR=6.7
SONM LR LR 11 39 24.4
comp=Z,112nm,20.5s,baz=143,slow=38
SONM Songino Array 46.04 61 P **P** **11 18 55.5 +0.6**
comp=Z,112nm,20.5s
ULN Ulaanbaatar 46.09 61 *e*P **P** **11 18 55.8 +0.4**
comp=Z,4.8nm,0.9s
ULN Ulaanbaatar 46.09 61 *e*P **P** **11 18 55.8 +0.4**
comp=Z,4.8nm,0.9s
AAK Ala-Archa 46.47 93 *e*P **P** **11 19 00.7 +2.3**
AAK pmax pmax
comp=Z,22nm,1.2s
AAK Ala-Archa 46.47 93 *e*P **P** **11 18 58.3 -0.1**
comp=Z,11nm,1.3s
AAK Ala-Archa 46.47 93 *e*P **P** **11 18 58.3 -0.1**
comp=Z,11nm,1.3s
CHMT Chamberlain Mo 46.70 297 *e*P **P** **11 18 59.2 -1.1**
comp=Z,5.1nm,1.5s
CHMT Chamberlain Mo 46.70 297 *e*P **P** **11 18 59.2 -1.1**
comp=Z,5.1nm,1.5s
MSO Missoula 46.88 298 *e*P **P** **11 19 01.7 +0.2**
comp=Z,5.8nm,1.4s
MSO Missoula 46.88 298 *e*P **P** **11 19 01.7 +0.2**
comp=Z,5.8nm,1.4s
ECSD EROS Data Cent 47.43 280 *e*P **P** **11 19 06.3 +0.5**
comp=Z,16nm,1.4s
ECSD EROS Data Cent 47.43 280 *e*P **P** **11 19 06.3 +0.5**
comp=Z,16nm,1.4s
PDAR Pinedale Array 50.26 292 P **P** **11 19 27.9 +0.1**
PDAR Pinedale Array 50.26 292 P **P** **11 19 27.9 +0.1**
comp=Z,0.3nm,0.7s,baz=64,slow=3.4,SNR=4.4
PDAR LR LR 11 41 05.9
comp=Z,351nm,19.3s,baz=16,slow=37
PDAR Pinedale Array 50.26 292 P **P** **11 19 27.9 +0.1**
GTA Gaotai 53.40 69 *e*P P 11 19 59.3 +8.3
GTA pP pP 11 20 03.6 +9.4
GTA sP sP 11 20 06.4 +11
GTA pmax pmax
comp=Z,5.0nm,1.3s
ASAJ Asahikawa 53.56 29 LR LR 11 44 04.2
comp=Z,26nm,19.4s,baz=348,slow=38
PV01 Paradox Valley 54.67 290 *e*P **P** **11 20 00.5 0.0**
comp=Z,370nm,1.2s
PV01 Paradox Valley 54.67 290 *e*P **P** **11 20 00.5 0.0**
comp=Z,370nm,1.2s
NVAR Mina Array Bea 55.72 300 P **P** **11 20 08.6 +0.6**
NVAR Mina Array Bea 55.72 300 P **P** **11 20 08.6 +0.6**
comp=Z,0.3nm,0.4s,baz=25,slow=3.9,SNR=5.2
NVAR Mina Array Bea 55.72 300 P **P** **11 20 08.6 +0.6**
JCT Junction City 60.90 280 *e*P **P** **11 20 44.4 +0.3**
JCT pmax pmax
comp=Z,9.0nm,1.1s
JCT Junction City 60.90 280 *e*P **P** **11 20 44.4 +0.3**
comp=Z,9.3nm,1.1s
JCT Junction City 60.90 280 *e*P **P** **11 20 44.4 +0.3**
comp=Z,9.3nm,1.1s
TXAR Lajitas Array 62.60 284 P **P** **11 20 55.7 +0.1**
TXAR Lajitas Array 62.60 284 P **P** **11 20 55.7 +0.1**
comp=Z,1.1nm,0.8s,baz=38,slow=3.8,SNR=11
TXAR LR LR 11 48 38.4
comp=Z,178nm,18.8s,baz=70,slow=37
TXAR Lajitas Array 62.60 284 P **P** **11 20 55.7 +0.1**
comp=Z,178nm,18.8s
TORD Torodi Ar. Bea 68.25 174 P **P** **11 21 32.9 +0.7**
TORD Torodi Ar. Bea 68.25 174 P **P** **11 21 32.9 +0.7**
comp=Z,2.0nm,0.9s,baz=359,slow=4.2,SNR=10
TORD Torodi Ar. Bea 68.25 174 P **P** **11 21 32.8 +0.7**
CMAR Chiang Mai Arr 73.86 74 P **P** **11 22 05.5 -0.7**
CMAR Chiang Mai Arr 73.86 74 P **P** **11 22 05.5 -0.7**
comp=Z,1.7nm,0.9s,baz=345,slow=6.6,SNR=7.7
CMAR LR LR 11 57 58.5
comp=Z,63nm,18.5s,baz=335,slow=39
CMAR Chiang Mai Arr 73.86 74 P **P** **11 22 05.5 -0.7**
comp=Z,63nm,18.5s
SNAA Sanae 152.82 179 *e*PKP **PKPbc** **11 30 27.2 +0.6**

CSEM ***06*** *11:10:37.3±2.4, 42.71N×12.79E, h15km, MD1.8/3, Error ellipse: s-maj=42.6km s-min=19.4km az=21.0*

ROM 06 11:10:40.9±0.4, 43.11N×12.79E, h10km, Md1.8/3, MlI0.6/3, Error ellipse: s-maj=5.3km s-min=1.8km az=178.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASSB	**Assisi San Ben**	**0.12**	**234**	Pg		Pg	11 10 44.0	+0.2
ASSB				Sg		Sg	11 10 47.0	+1.1
	23nm,0.2s							
ASSB	**Assisi San Ben**	**0.12**	**234**	Pg		Pg	11 10 44.0	+0.2
ASSB				Sg		Sg	11 10 47.0	+1.1
	23nm,0.2s							
CESI	**CESI - Serrava**	**0.14**	**141**	Pg		Pg	11 10 44.2	0.0
CESI				Sg		Sg	11 10 47.3	+0.9
	12nm,0.5s							
CESI	**CESI - Serrava**	**0.14**	**141**	Pg		Pg	11 10 44.2	0.0
CESI				Sg		Sg	11 10 47.3	+0.9
	12nm,0.5s							
FDMO	**Fiordimonte**	**0.23**	**109**	Pg		Pg	11 10 46.6	+0.9
FDMO				Sg		Sg	11 10 50.8	+1.8
	9.0nm,0.2s							
FDMO	**Fiordimonte**	**0.23**	**109**	Pg		Pg	11 10 46.6	+0.9
FDMO				Sg		Sg	11 10 50.8	+1.8
	9.0nm,0.2s							

IDC 06 11:22:28.5±2.1, 20.12S×177.83W, h450km, 29km, mb3.1/6, mb1 3.4/8, mb1mx3.2/21, mbtmp3.2/8, Error ellipse: s-maj=25.0km s-min=15.2km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**8.46**	**44**	P		P	11 24 31.1	+2.0
	6.1nm,0.3s,baz=348,slow=11,SNR=19							
AFI				S		S	11 26 05.8	-2.3
	4.7nm,0.3s,baz=36,slow=23,SNR=6.6							
URZ	**Urewera**	**18.60**	**193**	P		P	11 26 16.0	-1.0

0.8nm,0.3s,baz=277,slow=18,SNR=6.2
CTA Charters Tower 33.69 264 P P 11 28 31.4 +0.5
5.9nm,0.6s,baz=91,slow=11,SNR=13
STKA Stephens Creek 38.10 244 P P 11 29 07.3 -0.3
1.8nm,1.0s,baz=64,slow=8.3,SNR=5.0
WRA Warramunga Arr 44.82 262 P P 11 30 00.5 -0.9
1.3nm,0.3s,baz=96,slow=7.6,SNR=5.5
VNDA Vanda 58.30 185 P P 11 31 38.4 -0.1
0.5nm,0.6s,baz=358,slow=8.9,SNR=6.6
TXAR Lajitas Array 86.71 57 P P 11 34 25.3 +1.2
0.3nm,0.7s,baz=212,slow=6.8,SNR=5.4
ILAR Eielson Array 87.91 13 P P 11 34 27.8 -1.0
0.2nm,0.4s,baz=218,slow=5.6,SNR=9.1

*IDC **06** 11:24:14.1±0.6,0.˝29S×132.˝33E,h0km,mb4.3/14, mb1 4.4/17,mb1mx4.3/24,mbtmp4.3/17,ML4.0/3,MS3.6/7, Ms1 3.6/7,ms1mx3.2/29,Error ellipse: s-maj=24.4km s-min=10.7km az=78.0*
*DJA **06** 11:24:14.9±0.5,0.˝5×13.˝2E±.˚,h10km,M4.7/8,mB5.3/5, mb4.8/8,MLv4.6/6,Mw(mB)4.7/5*
*ISCJB **06** 11:24:17.2±0.3,0.˝32S±0.˝04×132.˝31E±0.˝04,h33km, mb4.5/24,MS3.6/6,Error ellipse: s-maj=6.0km s-min=5.0km az=41.3*
*NEIC **06** 11:24:19.2±0.2,0.˝35S×132.˝31E,h35km,mb4.7/12,Error ellipse: s-maj=7.3km s-min=4.3km az=70.0*
*AUST **06** 11:24:26.2,0.˝99S×132.˝00E,h60km*

ISC 06 11:24:18.9±0.4,0.˝34S±0.˝05×132.˝32E±0.˝06,h33km,n88, σ1f59/86,mb4.5/24,MS3.6/6,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.56**	**182**	P		**Pn**	**11 24 58.6**	**+0.4**
FAKI	**Fak Fak** baz=1.9,SNR=549	**2.56**	**182**	P		**Pn**	**11 24 58.0**	**-0.2**
BAKI	**Biak**	**3.88**	**103**	P		**Pn**	**11 25 15.2**	**-1.1**
MSAI	**Masohi**	**4.52**	**229**	P		**Pn**	**11 25 26.7**	**+1.5**
MSAI				S		Sn	11 26 24.1	+7.5
BNDI	**Bandanaira**	**4.81**	**210**	P		**Pn**	**11 25 30.0**	**+0.9**
BNDI	**Bandanaira** baz=4.1,SNR=8.2	**4.81**	**210**	P		**Pn**	**11 25 30.2**	**+1.1**
LBMI	**Labuha**	**4.83**	**266**	P		**Pn**	**11 25 29.0**	**-0.4**
GAMI	**Galela, Maluku** 136nm,0.8s,2µm 0.5nm	**5.02**	**295**	P		**Pn**	**11 25 33.0**	**+0.9**
TNTI	**Ternate**	**5.08**	**283**	S		**Sn**	**11 26 30.6**	**+0.2**
AAI	**Ambon**	**5.30**	**231**	P		**Pn**	**11 25 36.0**	**+0.1**
LUWI	**Luwuk** 64nm,1.4s,645nm	**9.58**	**266**	P		**Pn**	**11 26 34.3**	**-0.3**
SKSI	**Soroako, Sulaw** 22nm,0.7s,2µm	**11.20**	**259**	P		**Pn**	**11 26 56.2**	**-0.7**
KDU	**Kakadu** baz=12,SNR=49	**12.27**	**179**	P		**Pn**	**11 27 08.4**	**-3.0**
MTN	**Manton Dam** baz=12,SNR=4.6	**12.48**	**185**	S		**Sn**	**11 29 27.3**	**-5.0**
TTSI	**Tana Toraja** 20nm,1.0s,616nm	**12.79**	**258**	P		**Pn**	**11 27 19.1**	**+0.6**
SPSI	**Sidrap Palu** 18nm,0.6s	**13.05**	**254**	P		**Pn**	**11 27 23.2**	**+1.0**
BKSI	**Bulukumba**	**13.15**	**248**	P		**Pn**	**11 27 26.3**	**+2.8**
KAPI	**Kappang**	**13.39**	**249**	Pn		**Pn**	**11 27 26.2**	**-0.6**
KAPI	**Kappang** 1.4nm,0.3s,baz=94,slow=10.0,SNR=6.0	**13.39**	**249**	Pn		**Pn**	**11 27 26.2**	**-0.6**
KNRA	**Kununurra** baz=15,SNR=47	**15.64**	**193**	P		Pn	11 27 52.2	-4.9
COEN	**Coen** baz=17,SNR=6.4	**17.28**	**142**	P		**P**	**11 28 18.6**	**-0.4**
PMG	**Port Moresby**	**17.30**	**122**	P		**Pn**	**11 28 17.9**	**-0.1**
PMG	**Port Moresby** 0.4nm,0.3s,baz=240,slow=3.9,SNR=3.0	**17.30**	**122**	P		**Pn**	**11 28 17.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**18.84**	**200**	P		**P**	**11 28 32.9**	**-3.3**
FITZ				S		Sn	11 31 52.5	-14
FITZ	**Fitzroy Crossi** 0.9nm,0.3s,baz=33,slow=8.7,SNR=17	**18.84**	**200**	P		**P**	**11 28 32.9**	**-3.3**
FITZ	0.3nm,0.3s,baz=301,slow=17,SNR=3.4			S		Sn	11 31 52.5	-14
FITZ	comp=Z,112nm,19.6s,baz=55,slow=36			LR		LR	11 35 38.2	
FITZ	**Fitzroy Crossi** baz=18,SNR=6.5	**18.84**	**200**	P		**P**	**11 28 33.3**	**-2.9**
WRAB	**Tennant Creek** 20nm,0.8s	**19.58**	**174**	*eP*		**P**	**11 28 43.7**	**-0.6**
WRA	**Warramunga Arr**	**19.58**	**174**	P		**P**	**11 28 43.2**	**-1.2**
WRA				S		S	11 32 13.8	-10
WRA	**Warramunga Arr** 1.1nm,0.3s,baz=352,slow=12,SNR=53	**19.58**	**174**	P		**P**	**11 28 43.2**	**-1.2**
WRA	0.3nm,0.3s,baz=356,slow=23,SNR=4.8			S		S	11 32 13.8	-10
MTSU	**Mount Surprise** baz=21,SNR=6.8	**21.25**	**147**	P		P	11 28 49.0	-14
QIS	**Mount Isa** baz=21,SNR=6.2	**21.32**	**161**	P		**P**	**11 29 02.8**	**-0.4**
KSM	**Kuching** 8.9nm,0.8s	**22.09**	**275**	*eP*		**P**	**11 29 12.3**	**+0.8**
AS31	**Alice Springs**	**23.24**	**176**	*eP*		**P**	**11 29 23.0**	**-0.6**
ASAR	**Alice Springs**	**23.24**	**176**	P		**P**	**11 29 23.0**	**-0.6**
ASAR				S		**S**	**11 33 40.3**	**+6.7**
ASAR	**Alice Springs** 25nm,0.9s,baz=353,slow=11,SNR=78	**23.24**	**176**	P		**P**	**11 29 23.0**	**-0.6**
ASAR	1.1nm,0.7s,baz=357,slow=27,SNR=4.3			S		**S**	**11 33 40.3**	**+6.7**
CTA	**Charters Tower**	**23.90**	**146**	P		**P**	**11 29 30.4**	**+0.5**
CTA	**Charters Tower** 7.2nm,0.8s,baz=298,slow=8.0,SNR=5.7	**23.90**	**146**	P		**P**	**11 29 30.4**	**+0.5**
CTAO	**Charters Tower** 9.4nm,0.9s	**23.90**	**146**	*eP*		**P**	**11 29 30.4**	**+0.5**
MBWA	**Marble Bar** 199nm,2.8s	**24.07**	**210**	*eP*		**P**	**11 29 31.3**	**-0.2**
QLP	**Quilpie** baz=28,SNR=19	**28.50**	**157**	P		**P**	**11 30 10.6**	**-0.8**
FORT	**Forrest** 61nm,0.7s	**30.55**	**187**	*eP*		**P**	**11 30 30.0**	**+0.6**
FORT	**Forrest** baz=30,SNR=15	**30.55**	**187**	P		**P**	**11 30 32.0**	**+2.6**
STKA	**Stephens Creek**	**32.57**	**165**	P		**P**	**11 30 48.3**	**+1.0**
STKA	**Stephens Creek** 2.4nm,0.6s,baz=340,slow=11,SNR=12	**32.57**	**165**	P		**P**	**11 30 48.3**	**+1.0**
STKA	comp=Z,98nm,20.8s,baz=24,slow=39			LR		LR	11 45 25.5	
STKA	**Stephens Creek** baz=32,SNR=5.6	**32.57**	**165**	P		**P**	**11 30 48.3**	**+1.0**
CMSA	**Cobar Meteorol** baz=33,SNR=6.9	**33.51**	**159**	P		**P**	**11 30 57.3**	**+1.7**
PSI	**Prapat**	**33.53**	**276**	P		**P**	**11 30 55.9**	**-0.2**
PSI	**Prapat** 16nm,0.8s,baz=93,slow=7.7,SNR=17	**33.53**	**276**	P		**P**	**11 30 55.9**	**-0.2**
PSI	**Prapat** baz=33,SNR=9.2	**33.53**	**276**	P		**P**	**11 30 56.0**	**-0.1**
BLDU	**Ballidu** baz=33,SNR=6.6	**33.57**	**205**	P		**P**	**11 30 56.1**	**+0.1**
KLBR	**Kellerberrin** baz=33,SNR=9.0	**34.01**	**203**	P		**P**	**11 31 00.1**	**+0.2**
ARMA	**Armidale** 9.9nm,0.6s	**35.10**	**150**	*eP*		**P**	**11 31 10.5**	**+1.0**
ARMA	**Armidale** baz=35,SNR=9.9	**35.10**	**150**	P		**P**	**11 31 12.0**	**+2.6**
MJAR	**Matsushiro Arr** comp=Z,96nm,20.8s,baz=170,slow=32	**37.10**	**8**	LR		LR	11 43 42.0	
KSAR	**Wonju Array Be**	**37.82**	**354**	P		**P**	**11 31 32.2**	**-0.2**
KSRS	**Korea Array** 0.3nm,0.5s,baz=170,slow=7.4,SNR=3.8	**37.82**	**354**	P		**P**	**11 31 32.2**	**-0.2**
USRK	**Ussuriysk Arra** 1.7nm,0.7s,baz=156,slow=10.0,SNR=4.9	**44.34**	**360**	P		**P**	**11 32 26.2**	**+0.3**
HIA	**Hailar** 19nm,0.4s	**50.59**	**349**	*eP*		**P**	**11 33 15.0**	**+0.5**
ULN	**Ulaanbaatar** 5.1nm,0.9s	**52.80**	**339**	*eP*		**P**	**11 33 31.1**	**-0.2**
SONM	**Songino Array**	**53.02**	**338**	P		**P**	**11 33 33.5**	**+0.7**
SONM	**Songino Array** 3.6nm,1.1s,baz=157,slow=7.4,SNR=9.2	**53.02**	**338**	P		**P**	**11 33 33.5**	**+0.7**
SONM	comp=Z,48nm,19.3s,baz=55,slow=36			LR		LR	11 55 36.4	
PETK	**Petropavlovsk-**	**57.31**	**18**	P		**P**	**11 34 03.6**	**+0.1**
PETK	**Petropavlovsk-** 0.8nm,0.5s,baz=228,slow=5.6,SNR=4.6	**57.31**	**18**	P		**P**	**11 34 03.6**	**+0.1**
PETK	comp=Z,33nm,21.4s,baz=281,slow=32			LR		LR	11 54 25.4	
MK31	**Makanchi Array**	**64.08**	**324**	*eP*		**P**	**11 34 50.0**	**+0.2**
MKAR	**Makanchi Array**	**64.08**	**324**	P		**P**	**11 34 50.1**	**+0.3**
MKAR	**Makanchi Array** 4.7nm,0.7s,baz=116,slow=7.8,SNR=43	**64.08**	**324**	P		**P**	**11 34 50.1**	**+0.3**
TKM2	**Tokmak 2** 6.8nm,1.3s	**66.48**	**318**	*eP*		**P**	**11 35 05.8**	**+0.1**
ZALV	**Zalesovo Beam**	**66.76**	**332**	P		**P**	**11 35 06.8**	**-0.1**
ZALV	**Zalesovo Beam** 1.3nm,0.6s,baz=107,slow=5.9,SNR=6.2	**66.76**	**332**	P		**P**	**11 35 06.8**	**-0.1**
KKAR	**Karatay Array**	**70.00**	**317**	*eP*		**P**	**11 35 27.5**	**0.0**
HKL	**Haleakala**	**72.77**	**68**	*eP*		P	11 35 39.1	-6.0
BRVK	**Borovoye** 3.5nm,0.8s	**73.84**	**326**	*eP*		**P**	**11 35 50.9**	**+0.6**
VNDA	**Vanda**	**78.76**	**174**	*eP*		**P**	**11 36 17.8**	**+0.1**
VNDA	**Vanda** 1.8nm,0.8s,baz=318,slow=5.2,SNR=13	**78.76**	**174**	P		**P**	**11 36 17.6**	**-0.1**
VNDA	comp=Z,60nm,18.4s,baz=116,slow=35			LR		LR	12 09 44.7	
ABKAR	**Akbulak array**	**78.82**	**320**	*eP*		**P**	**11 36 18.7**	**0.0**
MAW	**Mawson**	**81.96**	**201**	P		**P**	**11 36 34.6**	**-0.4**
MAW	**Mawson** 2.6nm,0.8s,baz=28,slow=3.0,SNR=4.2	**81.96**	**201**	P		**P**	**11 36 34.6**	**-0.4**
TRF	**Thorofare Moun**	**84.67**	**26**	*eP*		**P**	**11 36 48.9**	**-0.5**
MCK	**McKinley** 15nm,1.5s	**85.32**	**26**	*eP*		**P**	**11 36 52.5**	**0.0**
ILAR	**Eielson Array**	**86.37**	**25**	P		**P**	**11 36 56.5**	**-1.1**
ILAR	**Eielson Array** 0.9nm,0.7s,baz=254,slow=4.9,SNR=13	**86.37**	**25**	P		**P**	**11 36 56.5**	**-1.1**
QSPA	**South Pole Qui** 6.2nm,0.9s	**89.59**	**180**	*eP*		**P**	**11 37 12.8**	**-0.4**
ARCES	**ARCESS Array B**	**96.16**	**340**	P		**P**	**11 37 41.8**	**-1.4**
ARCES	**ARCESS Array B** 2.3nm,0.8s,baz=64,slow=5.5,SNR=4.1	**96.16**	**340**	P		**P**	**11 37 41.8**	**-1.4**
ARCES	comp=Z,30nm,20.7s,baz=49,slow=39			LR		LR	12 26 07.1	
CPUP	**Villa Florida**	**151.90**	**161**	PKPbc		**PKPbc**	**11 44 11.2**	**-0.1**
CPUP	**Villa Florida** 1.5nm,0.5s,baz=171,slow=1.3,SNR=7.5	**151.90**	**161**	PKPbc		**PKPbc**	**11 44 11.2**	**-0.1**
LPAZ	**La Paz**	**153.92**	**130**	PKPab		**PKPab**	**11 44 31.0**	**+1.1**
LPAZ	**La Paz** 1.8nm,0.7s,baz=213,slow=6.4,SNR=8.1	**153.92**	**130**	PKPab		**PKPab**	**11 44 31.0**	**+1.1**

IDC 06 11:33:31.4±1.7,33.˝98N×25.˝26E,h0km,mb3.5/2, mb1 3.7/3,mb1mx3.4/25,mbtmp3.5/3,ML3.7/1,Error ellipse: s-maj=59.7km s-min=29.7km az=140.0,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GERES	**GERESS Array B** 0.1nm,0.3s,baz=144,slow=12,SNR=7.1	**17.17**	**333**	P		Pn	11 37 32.7	-0.1
TORD	**Torodi Ar. Bea** 0.3nm,0.5s,baz=35,slow=7.8,SNR=4.6	**29.80**	**232**	P		P	11 39 40.2	0.0
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=278,slow=6.3,SNR=5.7	**44.37**	**56**	P		P	11 41 43.4	-0.1

*AUST **06** 11:36:13.0±0.0,26.˝08S×179.˝28W,h540km,Error ellipse: s-maj=2.5km s-min=1.8km az=345.0*
*ISCJB **06** 11:36:16.3±1.3,24.˝6S±0.˝5×179.˝9E±0.˝2,h531km,mb3.7/6, Error ellipse: s-maj=75.0km s-min=14.1km az=163.5*
*IDC **06** 11:36:17.1±15.0,23.˝55S×179.˝73E,h529km±188km, mb3.1/6,mb1 3.4/6,mb1mx3.0/19,mbtmp3.1/6,Error ellipse: s-maj=91.8km s-min=60.1km az=167.0*

ISC 06 11:36:17.1±1.5,24.˝7S±0.˝5×180.˝0E±0.˝2,h531km,n12, σ1f18/12,mb3.8/6,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIUE	**Niue** baz=11,SNR=3.9	**10.94**	**61**	P		**P**	**11 38 45.8**	**+1.2**
CTA	**Charters Tower** 3.3nm,0.3s,baz=87,slow=11,SNR=7.9	**31.46**	**272**	P		**P**	**11 41 54.2**	**-1.1**
MTSU	**Mount Surprise** baz=34,SNR=6.0	**33.76**	**274**	P		**P**	**11 42 15.0**	**+0.1**
STKA	**Stephens Creek** 1.5nm,0.5s,baz=104,slow=10.0,SNR=6.9	**34.39**	**249**	P		**P**	**11 42 20.9**	**+0.9**
STKA	**Stephens Creek** baz=34,SNR=5.2	**34.39**	**249**	P		**P**	**11 42 21.1**	**+1.1**
ASAR	**Alice Springs** 0.6nm,0.5s,baz=99,slow=7.2,SNR=27	**41.88**	**262**	P		**P**	**11 43 20.9**	**-0.2**
WRA	**Warramunga Arr** 2.0nm,0.4s,baz=98,slow=8.4,SNR=69	**42.33**	**267**	P		**P**	**11 43 23.7**	**-0.9**
KNRA	**Kununurra** baz=49,SNR=9.8	**48.66**	**271**	P		**P**	**11 44 12.7**	**-0.4**
FITZ	**Fitzroy Crossi** 2.3nm,0.6s,baz=104,slow=8.3,SNR=8.3	**50.74**	**266**	P		**P**	**11 44 27.3**	**-1.0**
FITZ	**Fitzroy Crossi** baz=51,SNR=3.1	**50.74**	**266**	P		**P**	**11 44 29.5**	**+1.2**
BNDI	**Bandanaira** baz=53,SNR=11	**52.09**	**284**	P		**P**	**11 44 39.1**	**+0.9**
TXAR	**Lajitas Array** 0.3nm,0.8s,baz=201,slow=6.7,SNR=4.1	**90.90**	**58**	P		**P**	**11 48 22.6**	**-1.8**

*ISCJB **06** 11:42:17.0±0.4,51.˚51N±0.˝02×16.˚14E±0.˝03,h0km,Error ellipse: s-maj=3.4km s-min=2.2km az=18.5*
*IPEC **06** 11:42:18.0±0.3,51.˚58N×16.˚16E,h0km,ML2.7/3,Error ellipse: s-maj=3.4km s-min=1.7km az=66.0*
*IDC **06** 11:42:19.8±0.7,51.˚50N×16.˚14E,h0km,mb1 3.4/6, mb1mx3.2/28,mbtmp3.3/6,ML2.9/6,Error ellipse: s-maj=16.3km s-min=6.2km az=100.0*
*CSEM **06** 11:42:19.1±0.2,51.˚49N×16.˚13E,h2km,ML3.9/9,Error ellipse: s-maj=3.8km s-min=2.7km az=16.0*
*PRU **06** 11:42:20.0,51.˚48N×16.˚12E,h0km*
*BGR **06** 11:42:20.8±0.4,51.˚48N×16.˚12E,h1km,ML3.3/12,Error ellipse: s-maj=6.7km s-min=3.3km az=14.0*
*WAR **06** 11:42:20.2,51.˚50N×16.˚13E*
*VIE **06** 11:42:21.3±0.8,51.˚27N×16.˚12E,h0km,mb2.7/2,ML3.2/2, Error ellipse: s-maj=5.9km s-min=3.9km az=176.0 65 km WNW of Wroclaw Suspected Mining induced.*

ISC 06 11:42:17.8±0.7,51.˚57N±0.˚03×16.˚15E±0.˚02,h0km,n76, σ1f24/128,2D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**173**	*eP*		**Pg**	**11 42 32.7**	**+1.0**
KSP	**Ksiaz**	**0.73**	**173**	*eP*		**Pg**	**11 42 32.7**	**+1.0**
KSP				*eSg*		**Sg**	**11 42 42.2**	**+1.0**
KSP	**Ksiaz**	**0.73**	**173**	*e*		Pn	11 42 45.0	+10
KSP	**Ksiaz**	**0.73**	**173**	Pg		**Pg**	**11 42 32.7**	**+1.0**
KSP				*eSg*		**Sg**	**11 42 41.1**	**-0.1**
UPC	**Upice**	**1.06**	**185**	*eP*		**Pg**	**11 42 38.5**	**+0.3**
UPC	comp=Z,116nm,0.3s			*eSG*		**Sg**	**11 42 52.0**	**+0.1**
UPC	**Upice** 116nm,0.3s	**1.06**	**185**	Pg		**Pg**	**11 42 38.5**	**+0.3**
UPC				Sg		**Sg**	**11 42 52.0**	**+0.1**
DPC	**Dobruska-Polom**	**1.22**	**175**	*eP*		**Pg**	**11 42 41.5**	**+0.3**
DPC				*eSg*		**Sb**	**11 42 58.6**	**+0.5**
DPC	**Dobruska-Polom**	**1.22**	**175**	*eP*		**Pg**	**11 42 41.4**	**+0.2**
DPC				*eSG*		**Sg**	**11 42 56.9**	**-0.1**
DPC	**Dobruska-Polom**	**1.22**	**175**	Pg		**Pg**	**11 42 41.4**	**+0.2**
DPC				Sg		**Sg**	**11 42 56.9**	**-0.1**
PVCC	**Panska Ves**	**1.44**	**225**	*eP*		**Pn**	**11 42 45.3**	**+0.1**
PVCC	comp=Z,446nm,0.3s			*eSG*		**Sb**	**11 43 04.7**	**+0.3**
PVCC	**Panska Ves** 446nm,0.3s	**1.44**	**225**	Pg		**Pn**	**11 42 45.3**	**+0.1**
PVCC				Sg		**Sb**	**11 43 04.7**	**+0.3**
KRLC	**Kraliky**	**1.54**	**165**	*eP*		**Pn**	**11 42 46.9**	**+0.3**
KRLC				*eSG*		**Sn**	**11 43 06.8**	**-0.6**
KRLC	**Kraliky**	**1.54**	**165**	Pg		**Pn**	**11 42 46.9**	**+0.3**
KRLC				Sg		**Sn**	**11 43 06.8**	**-0.6**
BRG	**Berggiesshubel**	**1.55**	**244**	PN		**Pn**	**11 42 46.5**	**-0.2**
BRG				PG		**Pg**	**11 42 47.8**	**+0.3**
BRG	212nm,0.6s			SG		**Sg**	**11 43 08.4**	**+0.8**
FBE	**Freiberg**	**1.87**	**251**	*eP*		**Pg**	**11 42 53.9**	**+0.2**
FBE				*eSg*		**Sg**	**11 43 18.2**	**+0.3**
FBE	**Freiberg**	**1.87**	**251**	Pn		**Pg**	**11 42 53.9**	**+0.2**
FBE				Sg		**Sg**	**11 43 18.2**	**+0.3**
PRU	**Pruhonice**	**1.88**	**214**	*eP*		**Pn**	**11 42 51.2**	**0.0**
PRU				*eP*		**Pb**	**11 42 53.1**	**+0.1**
PRU				*eSG*		**Sb**	**11 43 17.3**	**+0.3**
PRU	**Pruhonice** comp=Z,137nm,0.3s	**1.88**	**214**	Pn		**Pn**	**11 42 51.2**	**0.0**
CLL	**Collm**	**1.99**	**264**	*eP*		**Pn**	**11 42 52.7**	**0.0**
CLL				*eSg*		**Sg**	**11 43 22.6**	**+1.0**
CLL	**Collm**	**1.99**	**264**	*eP*		**Pn**	**11 42 53.0**	**+0.3**
CLL				*eP*		**Pg**	**11 42 56.0**	**+0.1**
CLL				*e*			11 43 00.0	
CLL	comp=Z,137nm,0.8s			*eSg*		**Sg**	**11 43 22.0**	**+0.4**
CLL	**Collm**	**1.99**	**264**	Pn		**Pn**	**11 42 52.7**	**0.0**
CLL				Sg		**Sg**	**11 43 22.6**	**+1.0**
MORC	**Moravsky Berou**	**2.00**	**153**	*eP*		**Pn**	**11 42 53.0**	**+0.1**
MORC				*eSg*		**Sb**	**11 43 21.0**	**+0.6**
OKC	**Ostrava-Krasne**	**2.15**	**143**	*eP*		**Pn**	**11 42 53.9**	**-0.9**
OKC	**Ostrava-Krasne**	**2.15**	**143**	*eP*		**Pn**	**11 42 54.7**	**-0.1**
OKC				*ePG*		**Pb**	**11 42 58.1**	**+0.6**
OKC	comp=Z,92nm,0.5s			*eSG*		**Sg**	**11 43 26.4**	**-0.3**
OKC	**Ostrava-Krasne**	**2.15**	**143**	Pn		**Pn**	**11 42 54.7**	**-0.1**
VRAC	**Vranov** comp=Z,3.0nm,0.3s,baz=339,slow=14,SNR=24	**2.28**	**173**	Pn		**Pn**	**11 42 57.4**	**+0.7**
VRAC				Lg		Lg	11 43 29.4	
VRAC	**Vranov** comp=Z,5.3nm,0.3s,baz=76,slow=22,SNR=4.1	**2.28**	**173**	*ePn*		**Pn**	**11 42 57.0**	**+0.3**
VRAC				*eSg*		**Sb**	**11 43 29.6**	**+1.1**
TREC	**Trest** comp=Z,38nm,0.2s,baz=353	**2.31**	**191**	*ePN*		**Pn**	**11 42 57.8**	**+0.6**
TREC				*ePG*		**Pb**	**11 43 00.9**	**+0.5**
TREC				*eSG*		**Sb**	**11 43 31.0**	**+1.5**
TREC	**Trest** comp=Z,67nm,0.3s	**2.31**	**191**	Pn		**Pn**	**11 42 57.8**	**+0.6**
KRUC	**Moravsky** baz=357	**2.51**	**176**	*ePn*		**Pn**	**11 43 00.4**	**+0.5**
KRUC	comp=Z,22nm,0.3s,baz=357			*eSg*		**Sb**	**11 43 37.0**	**+1.8**
OJC	**Ojcow**	**2.67**	**119**	*ePn*		**Pn**	**11 43 03.8**	**+1.7**
OJC				*eSg*		**Sg**	**11 43 45.7**	**+2.0**
OJC	**Ojcow**	**2.67**	**119**	*ePn*		**Pn**	**11 43 01.1**	**-1.0**
OJC				*ePg*		**Pg**	**11 43 08.8**	**-0.2**
OJC				*eSn*		**Sn**	**11 43 35.5**	**+0.3**
OJC				*eSg*		**Sg**	**11 43 44.1**	**+0.4**
OJC	**Ojcow**	**2.67**	**119**	Pn		**Pn**	**11 43 03.8**	**+1.7**
OJC	**Ojcow**	**2.67**	**119**	*ePg*		**Pg**	**11 43 08.8**	**-0.2**
OJC				*eSn*		**Sn**	**11 43 35.5**	**+0.3**
OJC				Sg		**Sg**	**11 43 45.7**	**+2.0**
WERD	**Werda**	**2.67**	**247**	*ePn*		**Pn**	**11 43 03.0**	**+0.9**
WERD	**Werda**	**2.67**	**247**	Pn		**Pn**	**11 43 03.0**	**+0.9**
KHC	**Kasperske Hory**	**2.94**	**215**	*ePN*		**Pn**	**11 43 06.3**	**+0.5**
KHC				*ePG*		**Pb**	**11 43 12.5**	**+1.4**
KHC				*eSN*		**Sn**	**11 43 41.3**	**-0.6**
KHC	comp=Z,39nm,0.4s			*eSG*		**Sb**	**11 43 50.3**	**+2.7**
KHC	**Kasperske Hory**	**2.94**	**215**	Pn		**Pn**	**11 43 06.3**	**+0.5**
MOX	**Moxa**	**3.00**	**254**	*ePn*		**Pn**	**11 43 08.0**	**+1.3**
MOX				*eSg*		**Sg**	**11 43 56.1**	**+1.8**
MOX	**Moxa**	**3.00**	**254**	Pn		**Pn**	**11 43 08.0**	**+1.3**
MOX				Sg		**Sg**	**11 43 56.1**	**+1.8**
ROTZ	**Rotzenmuhle**	**3.09**	**236**	*ePn*		**Pn**	**11 43 08.8**	**+1.0**
ROTZ				*eSg*		**Sg**	**11 43 56.5**	**-0.5**
ROTZ	**Rotzenmuhle**	**3.09**	**236**	Pn		**Pn**	**11 43 08.8**	**+1.0**
ROTZ				Sg		**Sg**	**11 43 56.5**	**-0.5**
GEC2	**GERESS Array S**	**3.14**	**211**	*ePn*		**Pn**	**11 43 10.0**	**+1.3**
GEC2				*eSg*		**Sb**	**11 43 56.1**	**+2.6**
GEC2	**GERESS Array S**	**3.14**	**211**	*ePP*		P	11 43 10.3	
GEC2	**GERESS Array S**	**3.14**	**211**	Pn		**Pn**	**11 43 10.0**	**+1.3**
GEC2				Sg		**Sb**	**11 43 56.1**	**+2.6**
GERES	**GERESS Array B** comp=Z,1.5nm,0.3s,baz=32,slow=12,SNR=29	**3.14**	**211**	Pn		**Pn**	**11 43 10.1**	**+1.4**
GERES	comp=Z,3.9nm,0.3s,baz=30,slow=16,SNR=46			Pg		**Pb**	**11 43 16.1**	**+1.5**
GERES	comp=Z,11nm,0.3s,baz=30,slow=27,SNR=14			Lg		Lg	11 43 56.9	
SMOL	**Smolenice**	**3.16**	**164**	*eSG*		**Sg**	**11 43 59.1**	**-0.3**
SMOL	**Smolenice**	**3.16**	**164**	*eSg*		**Sg**	**11 43 59.2**	**-0.2**
NIE	**Niedzica**	**3.42**	**127**	*eP*		**Pg**	**11 43 25.7**	**+2.4**
NIE				*eS*		**Sg**	**11 44 09.7**	**+2.2**
ZST	**Bratislava**	**3.43**	**169**	*e*		**Pg**	**11 43 22.4**	**-1.1**
ZST	**Bratislava**	**3.43**	**169**	*eSG*		**Sg**	**11 44 05.2**	**-2.7**
ZST	**Bratislava**	**3.43**	**169**	*eSg*		**Sg**	**11 44 05.2**	**-2.7**
VYHS	**Vyhne**	**3.53**	**150**	*ePN*		**Pn**	**11 43 14.1**	**+0.2**
VYHS				*e*			11 43 26.5	
VYHS	**Vyhne**	**3.53**	**150**	*eSG*		**Sg**	**11 44 10.0**	**-1.1**
VYHS	**Vyhne**	**3.53**	**150**	*ePn*		**Pn**	**11 43 14.1**	**+0.2**
VYHS				*eSg*		**Sg**	**11 44 10.0**	**-1.1**
CLZ	**Clausthal**	**3.61**	**277**	*ePn*		**Pn**	**11 43 16.2**	**+1.3**
CLZ				*eSg*		**Sg**	**11 44 15.0**	**+1.4**
CLZ	**Clausthal**	**3.61**	**277**	Pn		**Pn**	**11 43 16.2**	**+1.3**
CLZ				Sg		**Sg**	**11 44 15.0**	**+1.4**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P		**Pn**	**11 43 15.5**	**+0.2**
BSD				*i* S		**Sn**	**11 43 56.3**	**-2.5**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P		**Pn**	**11 43 15.5**	**+0.2**
GRA1	**Grafenberg Arr**	**3.66**	**241**	Sg		**Sg**	**11 44 15.6**	**+0.4**
GRF	**Grafenberg Arr**	**3.66**	**241**	*eSg*		**Sg**	**11 44 15.6**	**+0.4**
STHS	**Stebnicka Huta**	**3.90**	**121**	*ePN*		**Pn**	**11 43 20.7**	**+1.7**
STHS				*e*			11 43 34.8	
STHS	**Stebnicka Huta**	**3.90**	**121**	*eSG*		**Sg**	**11 44 25.5**	**+2.5**
STHS	**Stebnicka Huta**	**3.90**	**121**	*ePn*		**Pn**	**11 43 20.7**	**+1.7**
STHS				*eSg*		**Sg**	**11 44 25.5**	**+2.5**
MOA	**Molln**	**3.92**	**199**	⇓*i*	*iPn*	**Pn**	**11 43 19.0**	**-0.2**
MOA	comp=Z,55nm,0.6s			⇓	*iSg*	**Sg**	**11 44 21.7**	**-1.8**
MOA	**Molln**

IPAR	**Pars**	**3.92**	**266**	*e*Pn	**Pn**	**12 02 28.5**	**+1.2**
IPAR				*e*		12 03 49.5	
	comp=Z,1μm,0.4s						
IPAR	**Pars**	**3.92**	**266**	*e*Pn	**Pn**	**12 02 28.5**	**+1.2**
ISRV	**Sarvestan**	**3.94**	**260**	*e*Pn	**Pn**	**12 02 28.7**	**+1.2**
ISRV				*e*		12 03 45.5	
	comp=Z,977nm,0.5s						
ISRV	**Sarvestan**	**3.94**	**260**	*e*Pn	**Pn**	**12 02 28.7**	**+1.2**
SHRT	**Shahrakht**	**4.18**	**33**	*e*Pn	**Pn**	**12 02 32.3**	**+1.7**
IGAR	**Gharneh**	**5.21**	**297**	*e*Pn	**Pn**	**12 02 48.0**	**+3.0**
IGAR				*e*		12 03 07.8	
	comp=Z,214nm,0.1s						
IZEF	**Zefreh**	**5.22**	**303**	*e*Pn	**Pn**	**12 02 46.6**	**+1.5**
IZEF				*e*		12 03 06.5	
	comp=Z,334nm,0.2s						
IZEF	**Zefreh**	**5.22**	**303**	*e*Pn	**Pn**	**12 02 46.6**	**+1.5**
IKLH	**Kolahrood**	**5.98**	**303**	*e*		12 04 43.6	
	comp=E,328nm,0.3s						
IANJ	**Anjilo**	**6.11**	**331**	*e*Pn	**Pn**	**12 02 58.6**	**+1.4**
IANJ				*e*		12 05 06.3	
	comp=Z,314nm,0.4s						
IANJ	**Anjilo**	**6.11**	**331**	*e*Pn	**Pn**	**12 02 58.6**	**+1.4**
IPIR	**Pirpir**	**6.22**	**295**	*e*Pn	**Pn**	**12 02 59.7**	**+0.8**
IPIR				*e*		12 05 14.2	
	comp=N,161nm,0.3s						
IPIR	**Pirpir**	**6.22**	**295**	*e*Pn	**Pn**	**12 02 59.7**	**+0.8**
IPAY	**Payeh**	**6.38**	**11**	*e*Pn	**Pn**	**12 03 02.1**	**+1.1**
IPAY	**Payeh**	**6.38**	**11**	*e*Pn	**Pn**	**12 03 02.1**	**+1.1**
IAKL	**Akhelmad**	**6.49**	**9**	*e*Pn	**Pn**	**12 03 04.1**	**+1.5**
IMYA	**Miami**	**6.51**	**18**	*e*Pn	**Pn**	**12 03 03.9**	**+1.1**
IMYA				*e*		12 03 37.4	
	comp=Z,93nm,0.2s						
IMYA	**Miami**	**6.51**	**18**	*e*Pn	**Pn**	**12 03 03.9**	**+1.1**
ISHM	**Shahmirzad**	**6.66**	**329**	*e*Pn	**Pn**	**12 03 06.3**	**+1.4**
ISHM				*e*		12 05 17.3	
	comp=E,648nm,0.4s						
ISHM	**Shahmirzad**	**6.66**	**329**	*e*Pn	**Pn**	**12 03 06.3**	**+1.4**
IVRN	**Varamin**	**6.88**	**316**	*e*		12 03 46.8	
	comp=Z,126nm,0.1s						
IVRN				*e*Pn	**Pn**	**12 03 09.1**	**+1.4**
IDMV	**Damavand**	**7.11**	**321**	*e*Pn	**Pn**	**12 03 12.8**	**+1.6**
IDMV				*e*		12 05 37.0	
	comp=Z,490nm,0.7s						
IDMV	**Damavand**	**7.11**	**321**	*e*Pn	**Pn**	**12 03 12.8**	**+1.6**
MRVT	**Maraveh tapeh**	**7.57**	**351**	*e*Pn	**Pn**	**12 03 19.6**	**+2.4**
AAK	**Ala-Archa**	**18.42**	**43**	LR	LR	12 13 41.2	
	comp=Z,30nm,19.0s,baz=178,slow=40						
AKTO	**Aktyubinsk**	**20.25**	**1**	P	**P**	**12 06 01.6**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=159,slow=11,SNR=4.4						
BRTR	**Keskin Array B**	**21.74**	**302**	P	**P**	**12 06 18.3**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=110,slow=14,SNR=3.6						
BVAR	**Borovoye Array**	**24.70**	**19**	P	**P**	**12 06 47.6**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=199,slow=8.8,SNR=8.1						
ZALV	**Zalesovo Beam**	**30.87**	**32**	P	**P**	**12 07 41.6**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=235,slow=8.9,SNR=5.2						
TORD	**Torodi Ar. Bea**	**54.09**	**264**	P	**P**	**12 10 51.1**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=60,slow=7.0,SNR=6.6						

CSEM ***06*** *12:07:22.6±0.1,44.32N×7.37E,h19km,ML2.7/14, Error ellipse: s-maj=2.6km s-min=2.1km az=72.0*
ISCJB ***06*** *12:07:23.3±0.3,44.30N±0.02×7.39E±0.03,h16km±5km, Error ellipse: s-maj=3.2km s-min=2.5km az=152.9*
GEN ***06*** *12:07:23.2,44.33N×7.35E,h25km,ML2.1*
ROM ***06*** *12:07:23.1±0.3,44.35N×7.35E,h24km±3km,Md2.4/11, Ml2.1/8, Error ellipse: s-maj=6.0km s-min=1.9km az=24.0*
LDG ***06*** *12:07:23.0±0.1,44.30N×7.38E,h16km, Md2.4/2, Ml2.7/11, Error ellipse: s-maj=1.5km s-min=0.8km az=63.0*

ISC 06 12:07:22.2±0.9,44.32N±0.01×7.38E±0.02,h19km±2km, n62,σ0s94/108,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.21**	**333**	Pg	**Pg**	**12 07 28.7**	**+1.2**
DOI				Sg	**Sg**	**12 07 32.3**	**+1.1**
	1μm,0.2s						
DOI	**San Damiano**	**0.21**	**333**	Pg	**Pg**	**12 07 28.7**	**+1.2**
DOI				Sg	**Sg**	**12 07 32.3**	**+1.1**
	1μm,0.2s						
PZZ	**Stroppo**	**0.27**	**315**	Pg	**Pb**	**12 07 29.5**	**+1.0**
PZZ				Sg	**Sb**	**12 07 33.7**	**+1.0**
	650nm,0.2s						
PZZ	**Stroppo**	**0.27**	**315**	Pg	**Pb**	**12 07 29.5**	**+1.0**
PZZ				S	**Sb**	**12 07 33.6**	**+0.9**
TOUF	**Mont Tournerai**	**0.32**	**198**	Pg	**Pg**	**12 07 29.5**	**+0.3**
AUTN	**L'Aution**	**0.32**	**174**	Pg	**Pg**	**12 07 29.7**	**+0.4**
AUTN				Sg	**Sg**	**12 07 34.0**	**-0.1**
SAOF	**Saorge**	**0.35**	**159**	Pg	**Pb**	**12 07 30.2**	**+0.2**
SAOF				Sg	**Sg**	**12 07 34.8**	**0.0**
SURF	**Saint Ours**	**0.44**	**292**	Pg	**Pb**	**12 07 32.2**	**+0.6**
SURF				Sg	**Sb**	**12 07 38.5**	**+0.5**
MVIF	**Mont Vial**	**0.45**	**202**	Pg	**Pg**	**12 07 31.8**	**+0.3**
MVIF				Sg	**Sg**	**12 07 37.8**	**+0.1**
SBF	**Sospel**	**0.45**	**175**	*e*Pg	**Pb**	**12 07 32.1**	**+0.4**
SBF				*e*Sg	**Sg**	**12 07 37.4**	**-0.3**
	300nm,0.3s						
SBF	**Sospel**	**0.45**	**175**	*e*Pg	**Pb**	**12 07 32.1**	**+0.4**
SBF				*e*Sg	**Sg**	**12 07 37.4**	**-0.3**
	150nm,0.3s						
NEGI	**Seborga**	**0.52**	**154**	P	**Pb**	**12 07 33.5**	**+0.7**
NEGI				S	**Sb**	**12 07 40.3**	**+0.4**
RORO	**Rocca Rossa**	**0.53**	**112**	Pg	**Pb**	**12 07 33.9**	**+1.0**
	71nm,0.2s						
RORO	**Rocca Rossa**	**0.53**	**112**	P	**Pb**	**12 07 33.8**	**+0.9**
RORO				S	**Sb**	**12 07 40.7**	**+0.6**
REVF	**Revere**	**0.57**	**181**	Pg	**Pg**	**12 07 34.8**	**+1.1**
REVF				Sg	**Sb**	**12 07 41.9**	**+0.5**
MBDF	**Montbardon**	**0.60**	**313**	*e*Pg	**Pg**	**12 07 34.9**	**+0.6**
MBDF				*e*Sg	**Sg**	**12 07 43.1**	**+0.7**
	128nm,0.3s						
MBDF	**Montbardon**	**0.60**	**313**	*e*Pg	**Pg**	**12 07 34.9**	**+0.6**
MBDF				*e*Sg	**Sg**	**12 07 43.1**	**+0.7**
	64nm,0.3s						
CALN	**Calern**	**0.67**	**213**	Pg	**Pg**	**12 07 35.8**	**+0.4**
CALN				Sg	**Sb**	**12 07 44.2**	**+0.1**
FINB	**Finale Ligure**	**0.69**	**101**	Pg	**Pn**	**12 07 37.5**	**+0.5**
FINB				Sg	**Sn**	**12 07 46.2**	**-1.0**
	139nm,0.5s						
FINB	**Finale Ligure**	**0.69**	**101**	Pg	**Pn**	**12 07 37.5**	**+0.5**
FINB				Sg	**Sn**	**12 07 46.2**	**-1.0**
	139nm,0.5s						
QLNO	**Quiliano**	**0.69**	**89**	Pg	**Pn**	**12 07 37.3**	**+0.3**
QLNO				Sg	**Sn**	**12 07 46.6**	**-0.7**
QLNO	**Quiliano**	**0.69**	**89**	Pg	**Pn**	**12 07 37.3**	**+0.3**
QLNO				Sg	**Sn**	**12 07 46.6**	**-0.7**
RSP	**Reno Superiore**	**0.84**	**354**	Pg	**Pb**	**12 07 37.8**	**-0.5**
	19nm,0.1s						
RSP	**Reno Superiore**	**0.84**	**354**	P	**Pb**	**12 07 37.7**	**-0.5**
RSP				S	**Sb**	**12 07 47.5**	**-1.7**
MONC	**Moncucco Torin**	**0.85**	**27**	Pg	**Pn**	**12 07 39.6**	**+0.3**
MONC	**Moncucco Torin**	**0.85**	**27**	Pg	**Pn**	**12 07 39.6**	**+0.3**
PCP	**Piancastagn**	**0.86**	**74**	Pg	**Pn**	**12 07 40.2**	**+0.8**
PCP				Sg	**Sn**	**12 07 52.0**	**+0.4**
	27nm,0.3s						
PCP	**Piancastagn**	**0.86**	**74**	P	**Pg**	**12 07 39.3**	**+0.2**
PCP	**Piancastagn**	**0.86**	**74**	Pg	**Pn**	**12 07 40.2**	**+0.8**
PCP				S	**Sb**	**12 07 49.8**	**0.0**
PCP				Sg	**Sn**	**12 07 52.0**	**+0.4**
	27nm,0.3s						
BNI	**Bardonecchia**	**0.89**	**326**	Pg	**Pb**	**12 07 40.0**	**+0.8**
	27nm,1.3s						
BNI	**Bardonecchia**	**0.89**	**326**	Pg	**Pb**	**12 07 40.0**	**+0.8**
	27nm,1.3s						
FRF	**La Foret Royal**	**0.92**	**215**	*e*Pg	**Pb**	**12 07 40.0**	**+0.4**
FRF				*e*Sg	**Sb**	**12 07 52.1**	**+0.6**
	74nm,0.2s						
FRF	**La Foret Royal**	**0.92**	**215**	*e*Pg	**Pb**	**12 07 40.0**	**+0.4**
FRF				*e*Sg	**Sb**	**12 07 52.1**	**+0.6**
	37nm,0.2s						
OG25	**Le Caire**	**0.94**	**274**	Pg	**Pg**	**12 07 41.4**	**+0.8**
OG25				Sg	**Sb**	**12 07 53.3**	**+1.2**
LSD	**Lago del Serru**	**1.16**	**351**	Pg	**Pn**	**12 07 43.2**	**-0.5**
LSD	**Lago del Serru**	**1.16**	**351**	P	**Pn**	**12 07 42.8**	**-0.9**
LSD	**Lago del Serru**	**1.16**	**351**	Pg	**Pn**	**12 07 43.2**	**-0.5**
LSD				S	**Sb**	**12 07 57.6**	**-1.0**
LMR	**La Mourre**	**1.17**	**213**	*e*Pg	**Pb**	**12 07 44.4**	**+0.6**
LMR				*e*Sg	**Sn**	**12 07 59.3**	**+0.4**
	82nm,0.2s						
LMR	**La Mourre**	**1.17**	**213**	*e*Pg	**Pb**	**12 07 44.4**	**+0.6**
LMR				*e*Sg	**Sn**	**12 07 59.3**	**+0.4**
	41nm,0.2s						
TRAV	**Traversella**	**1.23**	**12**	P	**Pn**	**12 07 42.9**	**-1.6**
TRAV				S	**Sb**	**12 07 56.6**	**-3.7**
ORIF	**Oris-en-Rattie**	**1.23**	**300**	*e*Pg	**Pg**	**12 07 46.2**	**+0.1**
ORIF				*e*Sg	**Sg**	**12 08 02.2**	**0.0**
	28nm,0.5s						
ORIF	**Oris-en-Rattie**	**1.23**	**300**	*e*Pg	**Pg**	**12 07 46.2**	**+0.1**
ORIF				*e*Sg	**Sg**	**12 08 02.2**	**0.0**
	14nm,0.5s						
LPG	**La Plagne**	**1.27**	**339**	*e*Pn	**Pn**	**12 07 44.8**	**-0.4**
LPG	**La Plagne**	**1.27**	**339**	*e*Pg	**Pg**	**12 07 47.3**	**+0.6**
LPG				*e*Sg	**Sg**	**12 08 03.9**	**+0.6**
	4.5nm,0.2s						
LPG	**La Plagne**	**1.27**	**339**	*e*Pn	**Pn**	**12 07 44.8**	**-0.4**
LPG	**La Plagne**	**1.27**	**339**	*e*Pg	**Pg**	**12 07 47.3**	**+0.6**
LPG				*e*Sg	**Sg**	**12 08 03.9**	**+0.6**
	2.2nm,0.2s						
GDM	**Grand'Maison**	**1.27**	**315**	Pg	**Pg**	**12 07 48.0**	**+1.3**
LPL	**La Plagne**	**1.29**	**339**	*e*P	**Pb**	**12 07 47.0**	**+1.0**
LPL				*e*Sg	**Sg**	**12 08 04.5**	**+0.5**
	14nm,0.3s						
LPL	**La Plagne**	**1.29**	**339**	*e*P	**Pb**	**12 07 47.0**	**+1.0**
LPL				*e*Sg	**Sg**	**12 08 04.5**	**+0.5**
	6.8nm,0.3s						
SMRF	**Simiane la Rot**	**1.34**	**256**	*e*Pg	**Pg**	**12 07 48.2**	**0.0**
SMRF				*e*Sg	**Sg**	**12 08 05.7**	**-0.1**
	19nm,0.3s						
SMRF	**Simiane la Rot**	**1.34**	**256**	*e*Pg	**Pg**	**12 07 48.2**	**0.0**
SMRF				*e*Sg	**Sg**	**12 08 05.7**	**-0.1**
	9.4nm,0.3s						
GRN	**Grenoble**	**1.49**	**309**	Pg	**Pg**	**12 07 50.9**	**-0.1**
GRN				Sg	**Sg**	**12 08 11.5**	**+1.1**
VIVF	**Saint-Julien-l**	**2.01**	**287**	*e*P	**Pb**	**12 07 57.3**	**-0.9**
VIVF	**Saint-Julien-l**	**2.01**	**287**	*e*Pg	**Pg**	**12 08 00.6**	**-0.2**
VIVF				*e*Sn	**Sn**	**12 08 18.3**	**-1.6**
	5.0nm,0.3s						
VIVF	**Saint-Julien-l**	**2.01**	**287**	*e*P	**Pb**	**12 07 57.3**	**-0.9**
VIVF	**Saint-Julien-l**	**2.01**	**287**	*e*Pg	**Pg**	**12 08 00.6**	**-0.2**
VIVF				*e*Sn	**Sn**	**12 08 18.3**	**-1.6**
	2.5nm,0.3s						
PGF	**Pioggiola**	**2.12**	**146**	*e*Pn	**Pn**	**12 07 55.7**	**-1.1**
PGF				*e*Sn	**Sn**	**12 08 20.8**	**-1.9**
	4.0nm,0.2s						
PGF	**Pioggiola**	**2.12**	**146**	*e*Pn	**Pn**	**12 07 55.7**	**-1.1**
PGF				*e*Sn	**Sn**	**12 08 20.8**	**-1.9**
	2.0nm,0.2s						
LASF	**Ste Croix**	**2.55**	**266**	*e*P	**Pn**	**12 08 04.3**	**+1.7**
LASF	**Ste Croix**	**2.55**	**266**	*e*Pg	**Pg**	**12 08 10.4**	**-0.7**
LASF				*e*Sn	**Sn**	**12 08 30.6**	**-2.5**
	2.7nm,0.3s						
LASF	**Ste Croix**	**2.55**	**266**	*e*P	**Pn**	**12 08 04.3**	**+1.7**
LASF	**Ste Croix**	**2.55**	**266**	*e*Pg	**Pg**	**12 08 10.4**	**-0.7**
LASF				*e*Sn	**Sn**	**12 08 30.6**	**-2.5**
	1.4nm,0.3s						

IDC 06 12:16:17.3±37.0,30.62S×178.07W,h0km,mb3.7/3, mb1 3.8/3,mb1mx3.5/18,mbtmp3.7/3,Error ellipse: s-maj=669.7km s-min=179.7km az=98.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.37**	**257**	P	P	12 23 06.1	0.0
	0.8nm,0.6s,baz=102,slow=14,SNR=3.0						
ASAR	**Alice Springs**	**43.04**	**267**	P	P	12 24 18.6	-0.4
	0.2nm,0.4s,baz=108,slow=7.8,SNR=5.3						
WRA	**Warramunga Arr**	**44.05**	**272**	P	P	12 24 27.1	0.0
	0.5nm,0.3s,baz=111,slow=8.1,SNR=26						

IDC ***06*** *12:18:55.8±1.5, 17.68S×167.31E,h0km,mb4.1/7, mb1 4.3/9,mb1mx4.0/21,mbtmp4.2/9,ML4.4/2,MS3.2/5, Ms1 3.2/5,ms1mx2.9/31,Error ellipse: s-maj=38.2km s-min=24.0km az=124.0*
ISCJB ***06*** *12:18:56.4±1.1,17.71S±0.05×167.2E±0.2,h12km, mb4.0/6,MS3.1/4,Error ellipse: s-maj=24.0km s-min=7.1km az=172.1*
NOU ***06*** *12:18:57.9±1.8, 17.39S×166.58E,h30km,MD3.2, ML3.8*

ISC 06 12:18:57.9±1.2,17.72S±0.07×167.2E±0.2,h12km,n16, σ1s23/16,mb4.0/6,MS3.1/4,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.39**	**189**	*e*P	**Pn**	**12 20 04.4**	**0.0**
DZM				AMP		12 20 58.6	
	comp=Z,394nm,0.7s						
DZM	**Mont Dzumac**	**4.39**	**189**	Pn	**Pn**	**12 20 04.5**	**0.0**
	comp=Z,12nm,0.3s,baz=270,slow=24,SNR=58						
BAYA	**Yate Dam**	**4.42**	**184**	*e*S	**Sn**	**12 20 56.2**	**0.0**
NOUC	**Port Laguerre**	**4.44**	**191**	*e*P	**Pn**	**12 20 05.5**	**+0.4**
NOUC				*e*S	**Sn**	**12 20 53.7**	**-3.0**
NOUC				AMP		12 20 59.5	
	comp=Z,16nm,8.0s						
NORM	**Noumea**	**4.54**	**188**	*e*P	**Pn**	**12 20 07.3**	**+0.9**
NORM				*e*S	**Sn**	**12 20 59.8**	**+0.7**
HNR	**Honiara**	**10.84**	**319**	Pn	**Pn**	**12 21 32.2**	**-0.8**
	comp=Z,5.1nm,0.3s,baz=288,slow=2.2,SNR=5.3						
HNR				LR	LR	12 24 53.4	
	comp=Z,92nm,19.4s,baz=107,slow=33						
CTA	**Charters Tower**	**19.96**	**260**	P	**Pn**	**12 23 31.2**	**-0.6**
	comp=Z,5.0nm,1.0s,baz=85,slow=10,SNR=4.3						
AFI	**Afiamalu**	**20.57**	**82**	LR	LR	12 29 55.9	
	comp=Z,40nm,21.2s,baz=154,slow=32						
PMG	**Port Moresby**	**21.15**	**290**	LR	LR	12 30 53.7	
	comp=Z,66nm,19.9s,baz=119,slow=34						
STKA	**Stephens Creek**	**27.10**	**234**	P	**P**	**12 24 42.2**	**+1.5**
	comp=Z,7.9nm,0.6s,baz=58,slow=6.6,SNR=27						
STKA				LR	LR	12 34 35.6	
	comp=Z,59nm,19.6s,baz=172,slow=35						
WRA	**Warramunga Arr**	**31.16**	**261**	P	**P**	**12 25 16.5**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=91,slow=9.2,SNR=18						
ASAR	**Alice Springs**	**31.66**	**254**	P	**P**	**12 25 21.0**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=78,slow=8.9,SNR=62						
ASAR				LR	LR	12 38 00.4	
	comp=Z,84nm,18.7s,baz=88,slow=36						
CMAR	**Chiang Mai Arr**	**76.12**	**295**	P	**P**	**12 30 48.1**	**+2.0**
	comp=Z,1.5nm,0.9s,baz=115,slow=4.4,SNR=6.3						
SONM	**Songino Array**	**84.86**	**324**	P	**P**	**12 31 33.0**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=121,slow=3.4,SNR=3.8						
ILAR	**Eielson Array**	**89.38**	**18**	P	**P**	**12 31 52.6**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=238,slow=5.4,SNR=9.4						
ARCES	**ARCESS Array B**	**123.11**	**345**	PKP	**PKPdf**	**12 37 53.6**	**-0.1**
	comp=Z,5.4nm,1.1s,baz=350,slow=1.5,SNR=3.8						

IDC 06 12:27:45.8±7.5,3.95S×76.84W,h169km±68km,mb3.8/2, mb1 3.7/3,mb1mx3.2/22,mbtmp3.7/3,Error ellipse: s-maj=123.8km s-min=62.1km az=144.0,Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.52**	**206**	P	Pn	12 28 41.6	+0.6
	4.6nm,0.3s,baz=23,slow=13,SNR=49						
ATAH				S	Sn	12 29 23.9	-0.1
	28nm,0.3s,baz=351,slow=20,SNR=16						
DBIC	**Dimbokro**	**72.62**	**82**	P	P	12 38 56.4	+1.0
	2.2nm,0.4s,baz=257,slow=6.4,SNR=7.8						
TORD	**Torodi Ar. Bea**	**79.76**	**76**	P	P	12 39 34.4	-1.3
	0.4nm,0.4s,baz=249,slow=3.9,SNR=6.4						
MKAR	**Makanchi Array**	**133.65**	**20**	pPKP	pPKPdf	12 47 29.4	+2.5
	0.3nm,0.6s,baz=328,slow=1.9,SNR=3.8						
ASAR	**Alice Springs**	**139.37**	**226**	PKP	PKPdf	12 46 53.8	-0.1
	0.3nm,0.6s,baz=135,slow=2.0,SNR=6.3						
WRA	**Warramunga Arr**	**141.24**	**231**	PKP	PKPdf	12 46 58.5	+1.2
	0.3nm,0.6s,baz=127,slow=1.8,SNR=6.9						

IDC 06 13:12:04.6±1.6,3.96N×126.71E,h0km,mb3.7/5, mb1 3.8/5,mb1mx3.5/23,mbtmp3.7/5,Error ellipse: s-maj=102.4km s-min=22.2km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.95**	**183**	P	P	13 17 00.1	+0.1
	1.5nm,1.0s,baz=4.7,slow=14,SNR=3.5						
WRA	**Warramunga Arr**	**24.91**	**163**	P	P	13 17 28.4	-1.1
	1.0nm,0.4s,baz=344,slow=9.7,SNR=20						
ASAR	**Alice Springs**	**28.34**	**166**	P	P	13 18 00.2	-0.2
	0.1nm,0.3s,baz=340,slow=7.4,SNR=8.6						
STKA	**Stephens Creek**	**38.35**	**159**	P	P	13 19 28.6	+1.1
	2.2nm,0.7s,baz=339,slow=9.9,SNR=6.2						
MKAR	**Makanchi Array**	**57.35**	**325**	P	P	13 21 54.6	-0.1
	0.4nm,0.4s,baz=118,slow=7.4,SNR=10						

JMA 06 13:27:17.8±0.3,44.00N×148.10E,h0km,M3.6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.82**	**250**	P	Pn	13 27 50.8	+0.4
NEM2				*e*S	Sb	13 28 15.0	-0.4
JRA	**Rausu**	**2.15**	**269**	P	Pn	13 27 55.5	+0.6
JRA				*e*S	Sn	13 28 22.8	+0.6
JNK	**Nakash**	**2.48**	**262**	P	Pn	13 28 00.3	+0.8
JNK				*e*S	Sn	13 28 31.1	+0.6
JAK	**Akkeshi**	**2.67**	**249**	P	Pn	13 28 03.1	+1.1
JAK				*e*S	Sn	13 28 36.9	+1.8
JTKR	**Abashiri--Toko**	**3.03**	**271**	P	Pn	13 28 08.0	+1.1
JAR	**Ashorobuto**	**3.22**	**259**	P	Pn	13 28 11.4	+1.8
JAR				*e*S	Sn	13 28 49.9	+1.2
JCH	**Churui**	**3.73**	**250**	P	Pn	13 28 18.5	+2.0
JNBK	**Urakawa-nobuka**	**4.27**	**248**	P	Pn	13 28 26.2	+2.1
JKB	**Kayabe**	**5.60**	**250**	P	Pn	13 28 44.1	+1.8
JKB				*e*S	Sn	13 29 47.2	-0.1
JOT	**Ohata**	**5.82**	**246**	P	Pn	13 28 46.9	+1.6
JOT				*e*S	Sn	13 29 52.2	-0.5

NNC 06 13:41:15.4±3.1,54.24N×86.73E,h0km,mb3.8,mpv3.4, 7C-3D,Error ellipse: s-maj=24.0km s-min=16.2km az=59.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**6.18**	**237**	⇓Pn	Pn	13 42 48.7	+0.7
	1.9nm,0.3s						
KURBB				⇑Sn	Sn	13 44 01.2	+1.9
	6.3nm,0.5s						
KURBB				⇑Lg	Lg	13 44 32.4	
	20nm,0.7s						
MK31	**Makanchi Array**	**7.97**	**203**	⇑Pn	Pn	13 43 12.1	-0.5
	0.5nm,0.6s,baz=28,slow=14,SNR=22						
MK31				⇑Sn	Sn	13 44 44.0	+0.6
	0.5nm,0.4s,baz=37,slow=28,SNR=6.1						
MK31				⇑Lg	Lg	13 45 28.0	
	11nm,1.1s,baz=36,slow=32,SNR=5.5						
VOSK	**Vostochnaya**	**9.51**	**267**	⇓Pn	Pn	13 43 34.3	+0.7
	1.2nm,0.5s						
VOSK				⇓Sn	Sn	13 45 20.8	-0.4
	5.9nm,0.8s						
ZRNK	**Zerenda**	**10.62**	**270**	⇑Pn	Pn	13 43 48.5	-0.2
	1.2nm,0.8s						
ZRNK				⇑Sn	Sn	13 45 48.5	+0.3
	3.2nm,1.1s						

NIED ***06*** *13:42:00,27.90N×143.00E,h5km,Mw4.3 Best double couple: M₀3.59000×10¹⁵ NP1:φs153.00000°,δ86.00000°, λ88.00000°. NP2:φs359.00000°,δ5.00000°,λ116.00000°.*
IDC ***06*** *13:42:19.2±0.8,27.71N×142.98E,h0km,mb3.9/11, mb1 4.0/14,mb1mx3.9/28,mbtmp3.9/14,ML3.5/3,MS2.8/2, Ms1 2.8/2,ms1mx2.4/36,Error ellipse: s-maj=27.2km s-min=16.5km az=69.0*
ISCJB ***06*** *13:42:20.6±0.6,27.94N±0.03×143.00E±0.09,h22km, mb4.1/13,Error ellipse: s-maj=11.6km s-min=4.0km az=3.9*
JMA ***06*** *13:42:20.6±0.2,27.88N×142.99E,h13km,M3.9*
NEIC ***06*** *13:42:24.4±0.6,27.75N×142.90E,h35km,mb4.6/2, MW4.3(NIED),Error ellipse: s-maj=21.1km s-min=10.2km az=70.0*

ISC 06 13:42:23.0±0.7,27.86N±0.05×142.9E±0.1,h22km,n45, σ1s43/54,mb4.0/13,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.00**	**220**	P	**Pn**	**13 42 40.4**	**-1.3**
CBIJ				*e*S	**Sb**	**13 42 54.7**	**+0.4**
JHHJ	**Haha-jima-NKT**	**1.39**	**208**	P	**Pn**	**13 42 46.4**	**-0.6**
JHHJ				S	**Sb**	**13 43 05.8**	**+0.3**
JHCJ	**Hachijojimakas**	**5.85**	**333**	P	**Pn**	**13 43 48.4**	**0.0**
JHJ2	**Mitsune**	**5.88**	**334**	P	**Pn**	**13 43 48.5**	**-0.2**
JHJ2				*e*S	**Sn**	**13 44 53.7**	**-1.7**
BSO1	**Boso 1**	**6.97**	**347**	P	**Pn**	**13 44 02.0**	**-1.3**
BSO1				*e*S	**Sn**	**13 45 21.1**	**-0.5**
BSO2	**Boso 2**	**7.11**	**346**	*e*S	**Sn**	**13 45 25.6**	**+0.1**
JOD2	**Odawara 2**	**8.07**	**337**	P	**Pn**	**13 44 18.5**	**-0.3**
JOD2				*e*S	**Sn**	**13 45 50.6**	**+1.2**
JRY	**Ryogami san**	**8.82**	**338**	P	**Pn**	**13 44 28.1**	**-1.0**
JRY				*e*S	**Sn**	**13 46 06.3**	**-1.5**
MJAR	**Matsushiro Arr**	**9.53**	**336**	Pn	**Pn**	**13 44 38.5**	**-0.4**
MJAR				Sn	**Sn**	**13 46 21.5**	**-3.8**
MJAR	**Matsushiro Arr**	**9.53**	**336**	Pn	**Pn**	**13 44 38.5**	**-0.4**
	1.8nm

MJAR	**Matsushiro Arr**	**71.18**	**323**	P	P	14 02 01.9	-1.0
	0.5nm,0.3s,baz=160,slow=6.8,SNR=4.2							
PETK	**Petropavlovsk-**	**77.13**	**345**	P	P	14 02 37.2	+0.3
	1.4nm,0.6s,baz=140,slow=7.0,SNR=9.6							
ILAR	**Eielson Array**	**88.85**	**13**	P	P	14 03 36.5	+0.1
	0.1nm,0.5s,baz=225,slow=6.2,SNR=7.2							

*IDC **06** 13:59:50.9±1.2, 17°.66S×167°.36E, h0km, mb4.0/10, mb1 4.3/12, mb1mx4.1/21, mbtmp4.1/12, ML4.3/2, MS3.5/8, Ms1 3.5/8, ms1mx3.2/30, Error ellipse: s-maj=33.5km s-min=19.7km az=129.0*

*ISCJB **06** 13:59:52.4±0.7, 17°.70S±0°.04×167°.2E±0°.1, h19km, mb4.0/9, MS3.5/6, Error ellipse: s-maj=18.0km s-min=5.5km az=178.8*

*NOU **06** 13:59:53.6±1.6, 17°.38S×166°.83E, h30km, MD3.3, ML3.7*

ISC 06 13:59:54.1±0.9, 17°.69S±0°.07×167°.3E±0°.2, h19km, n20, σ1§05/20, mb4.1/9, MS3.4/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.43**	**190**	*eP*	**Pn**	**14 01 00.4**	**0.0**
DZM				*eS*	**Sn**	**14 01 49.8**	**-1.8**
DZM				AMP		14 01 56.3	
	comp=Z,307nm,2.3s						
DZM	**Mont Dzumac**	**4.43**	**190**	Pn	**Pn**	**14 01 01.0**	**+0.6**
	comp=Z,6.2nm,0.3s,baz=91,slow=24,SNR=27						
DZM				LR	LR	14 01 48.5	
	comp=Z,287nm,18.5s,baz=20,slow=26						
DZM				Sn	**Sn**	**14 01 50.8**	**-0.8**
	baz=270,slow=20						
BAYA	**Yate Dam**	**4.46**	**185**	*eS*	**Sn**	**14 01 53.1**	**+1.0**
NOUC	**Port Laguerre**	**4.49**	**192**	*eP*	**Pn**	**14 01 01.7**	**+0.7**
NOUC				*eS*	**Sn**	**14 01 52.0**	**-0.8**
NOUC				AMP		14 02 02.6	
	comp=Z,17nm,9.6s						
NORM	**Noumea**	**4.58**	**189**	*eP*	**Pn**	**14 01 03.4**	**+1.1**
NORM				*eS*	**Sn**	**14 01 54.7**	**-0.3**
HNR	**Honiara**	**10.87**	**318**	Pn	**Pn**	**14 02 28.5**	**-0.2**
	comp=Z,4.3nm,0.3s,baz=51,slow=5.0,SNR=5.8						
HNR				LR	LR	14 05 48.1	
	comp=Z,182nm,20.9s,baz=157,slow=33						
CTA	**Charters Tower**	**20.04**	**260**	P	**Pn**	**14 04 27.2**	**-0.7**
	comp=Z,3.1nm,0.7s,baz=96,slow=12,SNR=4.8						
AFI	**Afiamalu**	**20.50**	**82**	LR	LR	14 10 37.9	
	comp=Z,177nm,19.4s,baz=207,slow=32						
PMG	**Port Moresby**	**21.20**	**290**	LR	LR	14 11 19.1	
	comp=Z,126nm,18.0s,baz=39,slow=32						
STKA	**Stephens Creek**	**27.18**	**234**	P	**P**	**14 05 37.7**	**+1.2**
	comp=Z,8.7nm,0.8s,baz=60,slow=7.0,SNR=13						
STKA				LR	LR	14 16 11.3	
	comp=Z,72nm,18.2s,baz=26,slow=36						
RAR	**Rarotonga**	**31.23**	**102**	LR	LR	14 15 32.8	
	comp=Z,53nm,20.1s,baz=315,slow=30						
WRA	**Warramunga Arr**	**31.23**	**261**	P	**P**	**14 06 11.8**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=93,slow=9.2,SNR=9.7						
ASAR	**Alice Springs**	**31.74**	**254**	P	**P**	**14 06 16.7**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=79,slow=8.7,SNR=46						
ASAR				LR	LR	14 18 08.7	
	comp=Z,178nm,21.2s,baz=125,slow=34						
PPT	**Papeete**	**41.05**	**97**	LR	LR	14 20 42.7	
	comp=Z,109nm,19.6s,baz=359,slow=31						
KSRS	**Korea Array**	**66.19**	**327**	P	**P**	**14 10 40.0**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=147,slow=7.3,SNR=3.7						
PETK	**Petropavlovsk-**	**70.99**	**354**	P	**P**	**14 11 11.6**	**+1.4**
	comp=Z,2.4nm,0.9s,baz=140,slow=13,SNR=5.2						
CMAR	**Chiang Mai Arr**	**76.17**	**295**	P	**P**	**14 11 43.4**	**+1.9**
	comp=Z,1.0nm,0.5s,baz=130,slow=4.0,SNR=9.9						
SONM	**Songino Array**	**84.87**	**324**	P	**P**	**14 12 27.6**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=144,slow=6.1,SNR=5.2						
NVAR	**Mina Array Bea**	**89.19**	**49**	P	**P**	**14 12 48.1**	**-0.9**
	comp=Z,1.1nm,0.9s,baz=226,slow=7.4,SNR=5.8						
ILAR	**Eielson Array**	**89.32**	**18**	P	**P**	**14 12 47.5**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=234,slow=5.6,SNR=8.1						

*ISCJB **06** 14:19:49.7±0.6, 24°.80N±0°.03×122°.07E±0°.02, h91km±4km, Error ellipse: s-maj=5.6km s-min=3.0km az=160.9*

*JMA **06** 14:19:49.2±0.3, 24°.84N×122°.06E, h95km, M2.9*

*TAP **06** 14:19:49.8, 24°.80N×122°.03E, h92km, ML3.6, C*

ISC 06 14:19:50.3±1.4, 24°.78N±0°.05×122°.07E±0°.03, h88km±8km, n48, σ0§70/91, 11D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.23**	**342**	*i* P	**Pn**	**14 20 03.1**	**-0.1**
	baz=350						
TWB1				*i* S	**Sn**	**14 20 12.5**	**-0.3**
	baz=350						
TWC	**Suao**	**0.26**	**229**	*i* P	**Pn**	**14 20 03.4**	**+0.1**
	baz=221						
TWC				S	**Sn**	**14 20 12.6**	**-0.4**
	baz=221						
ILA	**Ilan**	**0.29**	**266**	*eP*	**Pn**	**14 20 03.5**	**+0.1**
	baz=267						
ILA				*eS*	**Sn**	**14 20 13.6**	**+0.3**
	baz=267						
TWE	**Neicheng**	**0.37**	**260**	P	**Pn**	**14 20 04.0**	**+0.1**
	baz=256						
TWE				*eS*	**Sn**	**14 20 14.2**	**+0.2**
	baz=256						
NWF	**Wu-fen Shan**	**0.39**	**318**	⇓*iP*	**Pn**	**14 20 03.9**	**-0.3**
	baz=312						
NWF				*i* S	**Sn**	**14 20 13.9**	**-0.5**
	baz=312						
ENA	**Nanau**	**0.46**	**220**	⇓*iP*	**Pn**	**14 20 05.1**	**+0.5**
	baz=209						
ENA				S	**Sn**	**14 20 16.5**	**+1.4**
	baz=209						
TWA	**Mucha**	**0.48**	**294**	⇓*iP*	**Pn**	**14 20 04.3**	**-0.4**
	baz=299						
TWA				*eS*	**Sn**	**14 20 14.9**	**-0.6**
	baz=299						
TAP1	**Taipei**	**0.56**	**297**	P	**Pn**	**14 20 04.6**	**-0.7**
	baz=301						
TAP1				*eS*	**Sn**	**14 20 15.2**	**-1.2**
	baz=301						
TAP	**Taipei**	**0.57**	**297**	*eP*	**Pn**	**14 20 04.8**	**-0.6**
	baz=303						
TWY	**Chenhua**	**0.65**	**319**	⇓*iP*	**Pn**	**14 20 05.7**	**-0.5**
	baz=319						
TWY				S	**Sn**	**14 20 17.6**	**-0.4**
	baz=319						
TWS1	**Kuangyinshan**	**0.67**	**298**	⇓P	**Pn**	**14 20 06.0**	**-0.3**
	baz=302						
TWS1				*eS*	**Sn**	**14 20 18.9**	**+0.6**
	baz=302						
NNS	**Nan Shan**	**0.72**	**242**	⇓P	**Pn**	**14 20 07.3**	**+0.3**
	baz=245						
NNS				*eS*	**Sn**	**14 20 20.0**	**+0.6**
	baz=245						
NCU	**National Centr**	**0.82**	**283**	*eP*	**Pn**	**14 20 08.0**	**+0.2**
	baz=282						
NCU				*eS*	**Sn**	**14 20 21.8**	**+0.7**
	baz=282						
TWD	**Chiawan**	**0.82**	**212**	⇓*iP*	**Pn**	**14 20 07.5**	**-0.3**
	baz=220						
TWD				S	**Sn**	**14 20 20.7**	**-0.3**
	baz=220						
HWA	**Hwalien**	**0.91**	**208**	P	**Pn**	**14 20 08.7**	**-0.1**
	baz=195						
HWA				*eS*	**Sn**	**14 20 23.7**	**+1.1**
	baz=195						
YOJ	**Yonaguni jima**	**0.92**	**110**	P	**Pn**	**14 20 08.8**	**-0.1**
YOJ				S	**Sn**	**14 20 23.7**	**+0.9**
TWT	**Tachien**	**0.97**	**237**	⇓*iP*	**Pn**	**14 20 10.5**	**+0.8**
	baz=230						
TWT				S	**Sn**	**14 20 25.2**	**+1.0**
	baz=230						
WHF	**Hehuan Shan**	**0.97**	**229**	⇓*iP*	**Pn**	**14 20 10.1**	**+0.1**
	baz=228						
WHF				S	**Sn**	**14 20 24.8**	**+0.1**
	baz=228						
NSTT	**Nanjuang**	**0.98**	**261**	⇓*iP*	**Pn**	**14 20 09.4**	**-0.2**
	baz=260						
NSTT				S	**Sn**	**14 20 24.1**	**-0.1**
	baz=260						
ESL	**Shilin**	**1.13**	**211**	P	**Pn**	**14 20 10.3**	**-1.0**
	baz=217						
ESL				*eS*	**Sn**	**14 20 26.3**	**-0.9**
	baz=217						
NSY	**Sanyi**	**1.24**	**253**	*i* P	**Pn**	**14 20 12.9**	**+0.1**
	baz=252						
NSY				S	**Sn**	**14 20 30.2**	**+0.5**
	baz=252						
TWQ1	**Liyutan**	**1.26**	**250**	P	**Pn**	**14 20 12.8**	**-0.2**
	baz=249						
TWQ1				*eS*	**Sn**	**14 20 30.4**	**+0.4**
	baz=249						
SMLT	**Sun Moon Lake**	**1.39**	**230**	⇓P	**Pn**	**14 20 15.2**	**+0.5**
	baz=238						
SMLT				*eS*	**Sn**	**14 20 34.2**	**+1.1**
	baz=238						
TYC	**Yuchr**	**1.41**	**232**	P	**Pn**	**14 20 14.8**	**0.0**
	baz=239						
TYC				*eS*	**Sn**	**14 20 34.3**	**+1.0**
	baz=239						
TCU	**Taichung**	**1.42**	**244**	*eP*	**Pn**	**14 20 15.0**	**+0.1**
	baz=251						
TCU				*eS*	**Sn**	**14 20 33.6**	**+0.1**
	baz=251						
EHY	**Hungye**	**1.44**	**208**	*eP*	**Pn**	**14 20 13.9**	**-1.3**
	baz=200						
WNT	**Mingjian**	**1.55**	**235**	*eP*	**Pn**	**14 20 16.8**	**+0.2**
	baz=244						
WNT				*eS*	**Sn**	**14 20 37.1**	**+0.6**
	baz=244						
IRIF	**Iriomote-Funau**	**1.58**	**106**	P	**Pn**	**14 20 16.3**	**-0.6**
IRIF				S	**Sn**	**14 20 37.2**	**+0.1**
TWF1	**Yuli**	**1.59**	**206**	*eP*	**Pn**	**14 20 15.8**	**-1.4**
	baz=207						
TWF1				*eS*	**Sn**	**14 20 36.5**	**-1.0**
	baz=207						
YUS	**Yu-Shan**	**1.64**	**219**	P	**Pn**	**14 20 19.1**	**+0.8**
	baz=212						
YUS				S	**Sn**	**14 20 39.7**	**+0.3**
	baz=212						
ALS	**Alishan**	**1.71**	**223**	P	**Pn**	**14 20 19.7**	**+0.7**
	baz=232						
ALS				*eS*	**Sn**	**14 20 41.9**	**+1.1**
	baz=232						
CHN5	**Tsauling**	**1.73**	**227**	P	**Pn**	**14 20 19.4**	**+0.3**
	baz=228						
CHN5				S	**Sn**	**14 20 41.9**	**+1.1**
	baz=228						
HATJ	**Hateruma jima**	**1.74**	**114**	P	**Pn**	**14 20 19.2**	**+0.2**
HATJ				*eS*	**Sn**	**14 20 41.8**	**+0.9**
WGK	**Gukeng**	**1.76**	**232**	P	**Pn**	**14 20 19.6**	**+0.4**
	baz=242						
WGK				*eS*	**Sn**	**14 20 42.5**	**+1.2**
	baz=242						
CHKT	**Chengkung**	**1.80**	**201**	*eP*	**Pn**	**14 20 19.1**	**-0.7**
	baz=202						
CHKT				*eS*	**Sn**	**14 20 40.2**	**-2.0**
	baz=202						
JKRS	**Kuro-shima**	**1.85**	**107**	P	**Pn**	**14 20 20.5**	**+0.1**
JKRS				S	**Sn**	**14 20 43.4**	**0.0**
ELDTW	**Lidau**	**1.86**	**211**	*eP*	**Pn**	**14 20 20.3**	**-0.4**
	baz=205						
ELDTW				*eS*	**Sn**	**14 20 42.8**	**-0.9**
	baz=205						
JIJ	**Ishigaki jima**	**1.94**	**102**	P	**Pn**	**14 20 21.2**	**-0.4**
JIJ				S	**Sn**	**14 20 44.8**	**-0.6**
CHY	**Chiayi**	**1.97**	**230**	*eP*	**Pn**	**14 20 22.0**	**0.0**
	baz=231						
CHY				*eS*	**Sn**	**14 20 46.2**	**-0.1**
	baz=231						
WTP	**Ta-pu**	**2.03**	**221**	P	**Pn**	**14 20 23.1**	**+0.2**
	baz=230						
WTP				*eS*	**Sn**	**14 20 48.2**	**+0.5**
	baz=230						
TWK	**Hsinying**	**2.09**	**224**	*eP*	**Pn**	**14 20 24.0**	**+0.4**
	baz=225						
TWK				*eS*	**Sn**	**14 20 50.1**	**+1.0**
	baz=225						
CHN1	**Nanshi**	**2.12**	**222**	*eP*	**Pn**	**14 20 24.3**	**+0.2**
	baz=223						
CHN1				*eS*	**Sn**	**14 20 50.0**	**+0.1**
	baz=223						
TWG	**Pinlang**	**2.16**	**205**	*eP*	**Pn**	**14 20 24.7**	**+0.2**
	baz=200						
SGST	**Jiashian**	**2.17**	**219**	P	**Pn**	**14 20 25.2**	**+0.5**
	baz=229						
SGST				S	**Sn**	**14 20 51.3**	**+0.3**
	baz=229						
JTJ	**Tarama**	**2.40**	**93**	P	**Pn**	**14 20 28.4**	**+0.7**
JTJ				*eS*	**Sn**	**14 20 56.7**	**+0.3**
ECL	**Taimali**	**2.41**	**205**	*eP*	**Pn**	**14 20 27.4**	**-0.4**
	baz=199						
ECL				*eS*	**Sn**	**14 20 54.6**	**-1.9**
	baz=199						
PNG	**Penghu**	**2.59**	**243**	*eP*	**Pn**	**14 20 28.6**	**-1.7**
	baz=241						
JOGS	**Gusukube**	**3.04**	**90**	*eS*	**Sn**	**14 21 12.6**	**+0.9**

IDC 06 14:33:01.1±0.9, 11°.20N×143°.19E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/24, mbtmp4.0/10, MS3.1/1, Ms1 3.1/1, ms1mx2.3/42, Error ellipse: s-maj=34.1km s-min=17.5km az=82.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**25.63**	**351**	LR	LR	14 46 03.9	
	comp=Z,39nm,20.5s,baz=140,slow=31						
WRA	**Warramunga Arr**	**32.15**	**196**	P	P	14 39 30.4	-0.3
	1.3nm,0.8s,baz=19,slow=9.5,SNR=10.0						
ASAR	**Alice Springs**	**35.82**	**195**	P	P	14 40 02.5	-0.1
	0.6nm,0.7s,baz=18,slow=12,SNR=11						
STKA	**Stephens Creek**	**42.86**	**182**	P	P	14 41 00.7	-0.6
	2.3nm,0.9s,baz=176,slow=4.7,SNR=3.1						
CMAR	**Chiang Mai Arr**	**43.28**	**285**	P	P	14 41 05.0	+0.1
	5.0nm,0.8s,baz=86,slow=6.4,SNR=25						
SONM	**Songino Array**	**47.77**	**327**	P	P	14 41 40.6	+0.4
	0.3nm,0.5s,baz=134,slow=8.3,SNR=2.7						
MKAR	**Makanchi Array**	**62.09**	**317**	P	P	14 43 24.0	+0.2
	1.7nm,0.8s,baz=99,slow=7.9,SNR=9.0						
ZALV	**Zalesovo Beam**	**62.62**	**325**	P	P	14 43 26.6	-0.6
	1.0nm,0.6s,baz=101,slow=7.3,SNR=4.1						
KURBB	**Kurchatov Arra**	**65.40**	**321**	P	P	14 43 45.4	-0.2
	3.3nm,0.7s,baz=104,slow=6.5,SNR=27						
ILAR	**Eielson Array**	**71.42**	**25**	P	P	14 44 22.4	-0.6
	0.6nm,0.7s,baz=253,slow=5.2,SNR=6.2						
ARCES	**ARCESS Array B**	**88.83**	**342**	P	P	14 45 56.7	-0.1
	1.6nm,0.8s,baz=22,slow=11,SNR=2.6						
LPAZ	**La Paz**	**149.19**	**103**	PKPbc	PKPbc	14 52 54.4	+1.0
	1.3nm,0.8s,baz=320,slow=5.8,SNR=3.8						

*ISCJB **06** 14:35:01.1±0.6, 35°.98N±0°.05×138°.4E±0°.1, h200km±4km, mb3.1/3, Error ellipse: s-maj=13.3km s-min=8.1km az=1.6*

*IDC **06** 14:35:01.7±0.8, 35°.93N×138°.32E, h189km±10km, mb2.9/3, mb1 3.1/3, mb1mx2.8/26, mbtmp2.9/3, Error ellipse: s-maj=52.3km s-min=22.8km az=59.0*

*JMA **06** 14:35:02.3±0.1, 35°.95N×138°.41E, h194km±1km, M3.1*

ISC 06 14:35:02.0±1.0, 35°.98N±0°.05×138°.39E±0°.08, h195km±7km, n18, σ0§47/28, mb3.4/3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNT	**Takato**	**0.23**	**242**	P	**Pn**	**14 35 28.1**	**+0.1**
JNT				S	**Sn**	**14 35 47.9**	**0.0**
JRY	**Ryogami san**	**0.42**	**85**	P	**Pn**	**14 35 28.8**	**+0.5**
JRY				S	**Sn**	**14 35 49.1**	**+0.5**
JYN	**Shimob**	**0.50**	**165**	P	**Pn**	**14 35 29.1**	**+0.4**
JYN				S	**Sn**	**14 35 49.6**	**+0.3**
MJAR	**Matsushiro Arr**	**0.58**	**346**	P	**Pn**	**14 35 29.1**	**+0.2**
	13nm,0.3s,baz=166,slow=7.5,SNR=157						
MJAR				S	**Sn**	**14 35 49.2**	**-0.7**
	6.9nm,0.3s,baz=136,slow=19,SNR=19						
MAT	**Matsushiro**	**0.58**	**345**	P	**Pn**	**14 35 29.2**	**+0.3**
MAT				S	**Sn**	**14 35 49.2**	**-0.7**
MAT	**Matsushiro**	**0.58**	**345**	P	**Pn**	**14 35 29.2**	**+0.3**
MAT				S	**Sn**	**14 35 49.2**	**-0.7**
JOD2	**Odawara 2**	**0.92**	**141**	P	**Pn**	**14 35 30.8**	**0.0**
JOD2				S	**Sn**	**14 35 52.8**	**-0.2**
JAG	**Ashikaga**	**0.97**	**63**	P	**Pn**	**14 35 31.1**	**+0.1**
JGM	**Miyama**	**1.39**	**259**	P	**Pn**	**14 35 34.4**	**+0.1**
JSZ	**Suzu**	**1.68**	**331**	P	**Pn**	**14 35 37.4**	**+0.5**
JSZ				S	**Sn**	**14 36 04.1**	**0.0**
JKG	**Kaga**	**1.69**	**281**	P	**Pn**	**14 35 37.6**	**+0.6**
JNS	**Sasagawa**	**1.98**	**22**	P	**Pn**	**14 35 40.7**	**+0.8**
JSD	**Sado**	**2.05**	**357**	P	**Pn**	**14 35 41.4**	**+0.7**
JSD				S	**Sn**	**14 36 10.4**	**-0.6**
TK02	**Tokai 2**	**2.10**	**194**	P	**Pn**	**14 35 41.6**	**+0.6**
JIE	**Ise**	**2.10**	**221**	P	**Pn**	**14 35 41.5**	**+0.2**
JIE				*eS*	**Sn**	**14 36 11.9**	**+0.2**
KURBB	**Kurchatov Arra**	**44.74**	**308**	P	**P**	**14 42 55.6**	**-0.1**
	0.6nm,0.4s,baz=86,slow=7.8,SNR=6.9						
WRA	**Warramunga Arr**	**55.75**	**185**	P	**P**	**14 44 18.4**	**-0.2**
	0.3nm,0.4s,baz=0.3,slow=7.5,SNR=12						
ASAR	**Alice Springs**	**59.48**	**185**	P	**P**	**14 44 44.1**	**-0.4**
	0.1nm,0.4s,baz=357,slow=4.0,SNR=6.8						

*IDC **06** 14:37:12.4±0.4, 11°.47N×86°.24W, h0km, mb4.7/21, mb1 4.9/21, mb1mx4.7/29, mbtmp4.7/21, MS5.0/8, Ms1 5.0/8, ms1mx4.7/35, Error ellipse: s-maj=23.1km s-min=11.8km az=65.0*

*CASC **06** 14:37:14.6±3.4, 11°.00N×86°.80W, h3km±22km, MD4.4, ML4.6, mb5.0(NEIC)*

*ISCJB **06** 14:37:18.7±0.4, 11°.29N±0°.04×86°.55W±0°.04, h65km±3km, mb4.9/136, Error ellipse: s-maj=9.0km s-min=3.6km az=39.0*

*GCMT **06** 14:37:20.7±0.2, 10°.86N×86°.91W, h30km, MW5.5, Moment Tensor Solution. s63,c107; s73,c121; Moment tensor: Scale 10^17Nm; Mrr1.42±.05; Mθθ-1.08±.03; Mφφ-0.34±.03; Mrθ 1.07±.05; Mrφ 0.81±.03; Mθφ-0.65±.06; Best double couple: M☉2.00000×10^17 NP1:φs304.00000°, δ25.00000°, λ92.00000°. NP2:φs122.00000°, δ65.00000°, λ89.00000°. Principal axes: T 1.8700, Plg70.0000°, Azm30.0000°; N 0.1800, Plg1.0000°, Azm122.0000°; P -2.0600, Plg20.0000°, Azm212.0000°; Data Used: II IU G CN IC.*

*NEIC **06** 14:37:22.1±0.9, 11°.38N×86°.50W, h76km±7km, mb5.0/106 Error ellipse: s-maj=7.9km s-min=4.2km az=49.0*

NEIC Felt [II] at Jinotepe. Also felt at Jinotega, Managua and Wiwili. Felt at Liberia, Sardinal and Tilaran, Costa Rica.

*MOS **06** 14:37:23.2±1.0, 11°.74N×86°.49W, h81km, mb4.9/30, Error ellipse: s-maj=15.6km s-min=5.8km az=114.0*

*BJI **06** 14:37:24.4, 11°.40N×86°.50W, h95km, mB5.2/8*

ISC 06 14:37:19.8±0.6, 11°.28N±0°.06×86°.57W±0°.05, h59km±4km, n744, σ1§37/771, mb4.9/133, MS5.1/10, 207C-219D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAPC	**Finca la Perla**	**1.22**	**114**	*i* P	**Pn**	**14 37 37.9**	**-2.9**
BUEV	**Buena Vista**	**1.23**	**112**	*i* P	**Pn**	**14 37 42.0**	**+1.0**
GPS3	**Bodega del ICE**	**1.29**	**114**	*i* P	**Pn**	**14 37 41.5**	**-0.3**
GPS3				*i* S	**Sn**	**14 38 00.9**	**+2.8**
GPS1	**Guardaparques**	**1.29**	**112**	*i* P	**Pn**	**14 37 42.3**	**+0.5**
GPS1				*i* S	**Sn**	**14 38 00.0**	**+1.7**
MESS	**Mesas**	**1.45**	**111**	*i* P	**Pn**	**14 37 44.3**	**+0.4**
VCR	**Vista de Mar**	**1.47**	**141**	*eP*	Pn	14 37 39.0	-5.2
HORNC	**Hornillas**	**1.48**	**112**	*i* P	**Pn**	**14 37 44.5**	**+0.2**
PTEN	**Parque Tenorio**	**1.65**	**110**	*i* P	**Pn**	**14 37 44.2**	**-2.4**
AMAS	**Alto Masis**	**1.68**	**113**	*i* P	**Pn**	**14 37 47.3**	**+0.3**
JCR	**Jicaral**	**2.01**	**135**	*eP*	Pn	14 37 47.4	-4.1
CNCH	**Conchagua**	**2.34**	**328**	*eP*	**Pn**	**14 37 54.4**	**-1.7**
CGA2	**Cerro Gallo 2**	**2.42**	**121**	*eP*	**Pn**	**14 37 55.5**	**-1.6**
SJS	**Escuela Geolog**	**2.81**	**118**	*eP*	**Pn**	**14 38 03.1**	**+0.7**
TGUH	**Tegucigalpa,Un**	**2.85**	**346**	*eP*	**Pn**	**14 38 02.7**	**-0.2**
TGUH				*eS*	**Sn**	**14 38 38.7**	**+2.7**
TGUH	**Tegucigalpa,Un**	**2.85**	**346**	*ePn*	**Pn**	**14 38 02.3**	**-0.6**
CAHU	**Cacacuatique**	**2.95**	**327**	*eP*	**Pn**	**14 38 04.3**	**-0.2**
CAHU				*eS*	Sn	14 38 46.7	+7.8
QCR	**Quepos**	**3.00**	**128**	*eP*	**Pn**	**14 38 02.7**	**-2.1**
URSC	**Urasca**	**3.09**	**117**	*eP*	**Pn**	**14 38 05.4**	**-1.0**
BUS	**Buena Vista**	**3.25**	**121**	*eP*	**Pn**	**14 38 08.6**	**-0.2**
LFRS	**El Faro**	**3.37**	**314**	*eP*	**Pn**	**14 38 07.5**	**-2.6**
LBRS	**Las Brisas**	**3.44**	**316**	*eP*	**Pn**	**14 38 10.3**	**-0.8**
LFU	**La Fuente**	**3.50**	**315**	*eP*	**Pn**	**14 38 12.6**	**+0.7**
LFU				*eS*	Sn	14 38 58.4	+6.4
SNET	**Serv Nac Est T**	**3.54**	**313**	*eP*	**Pn**	**14 38 11.4**	**-1.0**
SNET				*eS*	**Sn**	**14 38 56.7**	**+3.7**
SNET				AML	AML	14 39 02.6	
	comp=Z,3μm,0.5s						
BOQS	**Boqueron**	**3.60**	**313**	*eP*	**Pn**	**14 38 11.4**	**-2.0**
SBLS	**San Blas**	**3.92**	**311**	*eP*	**Pn**	**14 38 16.9**	**-0.9**
SNJE	**San Jose**	**3.93**	**311**	*eP*	**Pn**	**14 38 17.4**	**-0.5**
RTR	**El Retiro**	**3.98**	**311**	*eP*	**Pn**	**14 38 18.7**	**+0.2**
RBDL	**Robledal**	**4.15**	**313**	*eP*	**Pn**	**14 38 19.9**	**-0.9**
ACR	**Cerro Adams**	**4.24**	**128**	*eP*	**Pn**	**14 38 20.5**	**-1.6**
BCIP	**Isla Barro Col**	**6.95**	**107**	*eP*	**Pn**	**14 38 59.0**	**-0.1**
	comp=Z,124nm,0.6s						
TEIG	**Tepich**	**9.05**	**350**	*eP*	Pn	14 39 31.1	+3.2
TEIG	**Tepich**	**9.05**	**350**	Pn	**Pn**	**14 39 27.8**	**0.0**
	comp=Z,0.7nm,0.3s,baz=159,slow=4.0,SNR=14						
TEIG				LR	LR	14 43 36.8	
	comp=Z,11μm,18.1s,baz=164,slow=43						
STH	**Stony Hill**	**11.61**	**53**	*i* P	Pn	14 40 07.8	+4.9
HOJ	**Hope**	**11.62**	**54**	*i* P	Pn	14 40 08.0	+5.1
GWJ	**Greenwich**	**11.67**	**53**	*i* P	Pn	14 40 08.5	+4.7
OTAV	**Otavalo**	**13.61**	**143**	P	**P**	**14 40 35.5**	**-2.3**
	comp=Z,19nm,0.9s						
ROSC	**El Rosal**	**13.69**	**117**	*eP*	**P**	**14 40 40.6**	**+2.1**
ROSC	**El Rosal**	**13.69**	**117**	Pn	**Pn**	**14 40 33.6**	**+2.0**
	comp=Z,0.8nm,0.3s,baz=90,slow=19,SNR=2.2						
ROSC				LR	LR	14 45 46.9	
	comp=Z,4μm,18.8s,baz=340,slow=38						
SDV	**Santo Domingo**	**15.87**	**97**	*eP*	**Pn**	**14 41 00.5**	**+0.7**
	comp=Z,983nm,3.8s						
SDDR	**Presa de Saban**	**16.61**	**61**	P	P	14 41 16.1	+5.4
ATAH	**Atahualpa**	**20.02**	**156**	P	**P**	**14 41 48.0**	**-0.5**
ATAH	**Atahualpa**	**20.02**	**156**	P	**P**	**14 41 48.0**	**-0.5**
	comp=Z,4.0nm,0.7s,baz=42,slow=15,SNR=2.4						
ATAH				LR	LR	14 48 38.3	
	comp=Z,7μm,18.2s,baz=335,slow=34						
TIGA	**Tifton**	**20.25**	**7**	⇓P	**P**	**14 41 48.3**	**-2.1**
	baz=20,SNR=9.2						
LRS	**Lares**	**20.29**	**68**	*eP*	Pn	14 41 52.

MIAR pmax pmax
comp=Z,55nm,0.7s
MIAR Mount Ida 24.03 346 *eP* P 14 42 28.1 -1.3
comp=Z,55nm,0.7s
528A Cox Ranch, San 24.09 324 ⇓P P 14 42 28.9 -1.3
baz=24,SNR=28
CPCT Cooper Cave 24.14 4 *eP* P 14 42 30.8 +0.4
231A Bronte 24.16 330 ⇓P P 14 42 29.5 -1.2
baz=24
330A Mertzon 24.16 328 ⇑P P 14 42 28.8 -1.9
baz=24,SNR=8.5
KMSC Kings Mountain 24.23 10 ⇑P P 14 42 30.7 -0.6
baz=24,SNR=15
TKL Tuckaleechee C 24.41 6 *eP* P 14 42 33.2 +0.4
TKL Tuckaleechee C 24.41 6 P P 14 42 31.8 -1.0
comp=Z,26nm,0.6s,baz=182,slow=11,SNR=19
TKL LR LR 14 52 08.5
comp=Z,3μm,21.1s,baz=285,slow=37
ABTX Abilene, Hawle 24.42 332 ⇑P P 14 42 31.8 -1.1
baz=24,SNR=12
HBAR Harrisburg 24.45 352 P P 14 42 32.5 -0.8
428A Kincaid Ranch, 24.46 325 ⇓P P 14 42 32.5 -0.9
baz=24,SNR=43
626A Big Bend Ranch 24.47 321 ⇑P P 14 42 33.2 -0.3
baz=24,SNR=53
230A Sterling City 24.52 329 ⇑P P 14 42 32.2 -1.7
baz=24,SNR=7.6
527A Woodward Ranch 24.57 322 ⇓P P 14 42 33.4 -1.1
baz=25,SNR=34
329A Wagon Wheel Ra 24.65 327 ⇑P P 14 42 34.0 -1.2
baz=25,SNR=9.1
WVT Waverly 24.77 358 *eP* P 14 42 35.1 -1.0
WVT pmax pmax
comp=Z,23nm,0.8s
WVT Waverly 24.77 358 *eP* P 14 42 35.1 -1.0
comp=Z,23nm,0.8s
526A Mary Lane Ranc 24.80 322 ⇑P P 14 42 35.5 -1.1
baz=25,SNR=51
131A Roby 24.80 331 ⇑P P 14 42 35.3 -1.2
baz=25,SNR=11
Z32A Haskell 24.92 334 ⇓P P 14 42 36.8 -0.7
baz=25,SNR=72
229A Bryant Ranch, 24.94 328 ⇓P P 14 42 37.1 -0.6
baz=25,SNR=16
427A Hayter Ranch, 24.96 324 ⇑P P 14 42 37.3 -0.7
baz=25,SNR=6.9
GLAT Glass 25.00 355 *eP* P 14 42 37.7 -0.6
130A Snyder 25.02 330 ⇓P P 14 42 37.6 -0.9
baz=25,SNR=6.1
328A Wristen Ranch, 25.02 326 ⇑P P 14 42 37.9 -0.7
baz=25,SNR=40
NNA Nana 25.05 157 P P 14 42 46.3 +7.4
comp=Z,45nm,1.0s
426A McDonald Obser 25.20 323 ⇓P P 14 42 39.6 -0.7
baz=25,SNR=31
Z31A Sharp Cattle R 25.23 333 ⇓P P 14 42 39.2 -1.1
baz=25,SNR=29
TZTN Tazewell 25.30 6 *eP* P 14 42 40.8 -0.2
comp=Z,56nm,1.1s
327A Balmorhea Ranc 25.39 325 ⇓P P 14 42 41.0 -0.9
baz=25
PARMO Parma 25.44 354 P P 14 42 39.9 -2.3
228A UT Block 9, Go 25.47 327 ⇑P P 14 42 41.5 -1.1
baz=26,SNR=13
129A Stewart Farms, 25.49 329 ⇑P P 14 42 41.9 -0.9
baz=26,SNR=31
Y32A R-V Farms, Ver 25.50 335 ⇓P P 14 42 41.9 -0.9
baz=26,SNR=26
326A Caldwell Ranch 25.64 324 ⇓P P 14 42 43.3 -0.9
baz=26,SNR=36
Z30A Sanderson Ranc 25.66 331 ⇑P P 14 42 42.8 -1.5
baz=26,SNR=20
227A Bennet, Jal 25.77 326 ⇓P P 14 42 44.5 -0.8
baz=26,SNR=7.2
128A Castleberry Fa 25.80 328 ⇑P P 14 42 44.5 -1.2
baz=26,SNR=22
Y31A Rekieta Farm, 25.82 333 ⇓P P 14 42 44.7 -1.0
baz=26,SNR=27
425A Indio Mountain 25.86 321 ⇑P P 14 42 45.2 -1.0
baz=26,SNR=30
WMOK Wichita Mounta 25.87 336 *eP* P 14 42 44.8 -1.4
WMOK pmax pmax
comp=Z,318nm,1.3s
WMOK Wichita Mounta 25.87 336 *eP* P 14 42 44.8 -1.4
comp=Z,318nm,1.3s
TUL1 Tulsa 25.91 343 ⇑P P 14 42 44.6 -1.9
baz=26,SNR=15
Z29A Hungry Hill Ra 25.92 330 ⇑P P 14 42 45.3 -1.4
baz=26,SNR=24
Y30A Stafford Cattl 26.04 332 ⇑P P 14 42 46.7 -1.1
baz=26,SNR=28
325A Bean Ranch, Si 26.26 322 ⇑P P 14 42 48.8 -1.1
baz=26,SNR=44
X31A McDonald Ranch 26.27 334 ⇑P P 14 42 48.8 -1.0
baz=26,SNR=20
Z28A Tucker Farm, M 26.28 329 ⇓P P 14 42 48.6 -1.4
baz=26,SNR=16
CLNB Carlsbad 26.28 325 *eP* P 14 42 50.9 +0.9
comp=Z,4.2nm,0.4s
226B Tecolote Peak, 26.30 325 ⇓P P 14 42 48.8 -1.4
baz=26,SNR=32
127A Arkansas Junct 26.31 327 ⇓P P 14 42 48.6 -1.7
baz=26,SNR=8.3
Y29A Porterfield Fa 26.39 331 ⇓P P 14 42 49.4 -1.5
baz=26
BLA Blacksburg 26.41 11 *eP* P 14 42 51.9 +0.9
BLA pmax pmax
comp=Z,31nm,0.8s
BLA Blacksburg 26.41 11 *eP* P 14 42 51.9 +0.9
comp=Z,31nm,0.8s
SIUC Southern Illin 26.43 355 *eP* P 14 42 49.0 -2.2
comp=Z,109nm,0.9s
X30A Coker Ranch, T 26.50 333 ⇑P P 14 42 50.7 -1.2
baz=26,SNR=32
GDL2 Guadalupe Moun 26.51 325 *eP* P 14 42 52.1 0.0
comp=Z,13nm,0.6s
USIN University of 26.59 358 *eP* P 14 42 52.1 -0.5
comp=Z,52nm,0.8s
324A Moseley Ranch, 26.62 322 ⇑P P 14 42 51.8 -1.3
baz=27,SNR=32
126A Clayton Basin, 26.65 326 ⇓P P 14 42 52.1 -1.2
baz=27,SNR=12
225A Deer Hill, Car 26.70 324 ⇑P P 14 42 53.2 -0.7
baz=27,SNR=32
Y28A McKinney Farm, 26.70 330 ⇓P P 14 42 51.9 -1.9
baz=27
Z27A Tatum 26.73 328 ⇓P P 14 42 52.5 -1.5
baz=27,SNR=19
W31A Holland Ranch, 26.73 335 ⇓P P 14 42 52.4 -1.5
baz=27
MNTX Cornudas Mount 26.74 322 *eP* P 14 42 52.9 -1.2
comp=Z,100nm,1.5s
X29A Tulia 26.88 331 ⇓P P 14 42 54.2 -1.2
baz=27,SNR=21
W30A Crocket Farms 26.99 334 ⇑P P 14 42 54.9 -1.4
baz=27
125A Gardner Draw, 27.01 325 ⇑P P 14 42 55.4 -1.2
baz=27,SNR=41
MSTX Muleshoe 27.01 329 ⇑P P 14 42 55.1 -1.5
baz=27,SNR=32
224A Cornudas Mount 27.09 323 ⇓P P 14 42 55.8 -1.6
baz=27,SNR=17
Z26A Caprock 27.10 327 ⇓P P 14 42 56.1 -1.3
baz=27,SNR=18
Y27A Causey 27.14 329 ⇑P P 14 42 56.3 -1.5
baz=27,SNR=43
X28A Dimmitt 27.18 331 ⇓P P 14 42 56.5 -1.5
baz=27
V31A Spring Creek L 27.20 336 ⇑P P 14 42 56.7 -1.4
baz=27,SNR=21
AMTX Amarillo 27.23 332 *eP* P 14 42 58.1 -0.4
comp=Z,260nm,1.3s
OLIL Olney 27.38 357 P P 14 42 59.6 0.0
comp=Z,72nm,0.9s
W29A Amraillo 27.41 332 ⇓P P 14 42 57.9 -2.3
baz=27
JSRW J. Sargeant Re 27.44 15 *eP* P 14 43 00.6 +0.4
124A Stringfield Ra 27.50 324 ⇑P P 14 42 59.8 -1.3
baz=28,SNR=31
Z25A Roswell 27.51 326 ⇓P P 14 42 59.9 -1.2
baz=28,SNR=24
Y26A Elida 27.52 328 ⇓P P 14 42 59.8 -1.3
baz=28,SNR=21
V30A Spur Ranch, Mi 27.53 335 ⇑P P 14 42 59.9 -1.3
baz=28
223A Chaparral, Ant 27.59 321 ⇑P P 14 43 00.6 -1.1
baz=28
X27A F and S Farms, 27.72 330 ⇑P P 14 43 01.6 -1.3
baz=28
U31A Nine Bar Ranch 27.72 337 ⇓P P 14 43 01.8 -1.0
baz=28
BLO Bloomington 27.78 0 *eP* P 14 43 03.2 0.0
BLO pmax pmax
comp=Z,92nm,0.9s
BLO Bloomington 27.78 0 *eP* P 14 43 03.2 0.0
comp=Z,82nm,0.9s
W28A Vega 27.78 332 ⇑P P 14 43 02.2 -1.3
baz=28
Z24A Sheeppen Canyo 27.91 325 ⇑P P 14 43 04.0 -0.7
baz=28,SNR=22
123A Bell Site, Whi 27.93 323 ⇑P P 14 43 03.5 -1.3
baz=28
Y25A Mesa, Roswell 27.98 327 ⇑P P 14 43 04.7 -0.6
baz=28,SNR=17
V29A Stinnett 27.99 333 ⇑P P 14 43 04.1 -1.1
baz=28
X26A CR and CF Fran 28.00 329 ⇓P P 14 43 04.2 -1.2
baz=28,SNR=9.8
W27A Bowe Ranch, En 28.03 330 ⇑P P 14 43 04.6 -1.1
baz=28,SNR=28
CBN Corbin 28.05 16 *eP* P 14 43 06.3 +0.6
222A Williams Famil 28.07 321 ⇑P P 14 43 04.8 -1.3
baz=28
U30A WK&E Inc. Balk 28.18 335 ⇑P P 14 43 05.4 -1.5
baz=28
V28A Channing 28.20 332 ⇓P P 14 43 04.2 -2.9
baz=28
T31A Randall Ranch, 28.29 338 ⇓P P 14 43 06.6 -1.3
baz=28,SNR=9.7
Z23A Rita Site, Whi 28.36 324 ⇓P P 14 43 07.8 -0.8
baz=28,SNR=26
U29A Oasis Ranch, S 28.37 334 ⇑P P 14 43 07.2 -1.4
baz=28
Y24A Capitan 28.39 326 ⇓P P 14 43 08.4 -0.6
baz=28,SNR=28
W26A Owens Ranch, T 28.40 329 ⇓P P 14 43 07.0 -2.0
baz=28
122A Conniff Cattle 28.42 322 ⇓P P 14 43 08.5 -0.6
baz=28
X25A Clemmons Ranch 28.42 327 ⇑P P 14 43 08.4 -0.8
baz=28,SNR=17
221A Mesquite Ranch 28.43 320 ⇑P P 14 43 08.3 -1.0
baz=28
320A Kipp Ranch, An 28.48 318 ⇓P P 14 43 09.1 -0.6
baz=28
V27A Dan Oppiter Fa 28.49 331 ⇓P P 14 43 08.6 -1.2
baz=28
T30A Plains 28.58 336 ⇓P P 14 43 07.7 -2.7
baz=29
S31A Mullinville 28.68 338 ⇓P P 14 43 08.6 -2.7
baz=29
U28A Mallet 28.72 333 ⇓P P 14 43 10.1 -1.7
baz=29
Y23A Lovelace Mesa, 28.74 325 ⇓P P 14 43 12.1 0.0
baz=29,SNR=24
Z22A Elephant Butte 28.78 323 ⇑P P 14 43 12.2 -0.2
baz=29
121A Cookes Peak, D 28.79 321 ⇑P P 14 43 12.7 +0.2
baz=29,SNR=12
220A Playas Peak, P 28.84 319 ⇑P P 14 43 11.9 -1.1
baz=29,SNR=12
W25A X Bar L Ranch, 28.85 329 ⇑P P 14 43 12.9 -0.1
baz=29,SNR=9.7
X24A Lazy VL Ranch, 28.86 326 ⇑P P 14 43 11.3 -1.9
baz=29
V26A Tequesquite Ra 28.97 330 ⇑P P 14 43 13.8 -0.3
baz=29,SNR=13
T29A Hugoton 28.98 335 ⇓P P 14 43 11.9 -2.1
baz=29
SFIN Scholer Farm 28.99 359 ⇑P P 14 43 14.0 0.0
baz=29,SNR=23
319A Douglas 29.00 317 ⇑P P 14 43 13.7 -0.7
baz=29
ACSO Alum Creek Sta 29.01 6 *eP* P 14 43 14.5 +0.3
comp=Z,57nm,0.8s
U27A Thompson Grove 29.02 332 ⇓P P 14 43 14.3 -0.2
baz=29,SNR=20
S30A Montezuma 29.07 337 ⇑P P 14 43 14.5 -0.2
baz=29,SNR=5.7
KSU1 Kansas State U 29.12 344 *eP* P 14 43 14.3 -0.9
comp=Z,85nm,0.9s
KSU1 *e* 14 43 24.3
BNM Barren Site 29.22 324 *eP* P 14 43 16.1 -0.3
comp=Z,35nm,1.1s
Z21A St. Cloud Mine 29.24 322 ⇓P P 14 43 15.4 -1.2
baz=29
HDIL Hopedale 29.26 356 *eP* P 14 43 15.7 -0.7
comp=Z,1μm,0.8s
Y22A Socorro 29.27 324 ⇓P P 14 43 16.7 -0.1
baz=29,SNR=10
X23A Hourglass Bar 29.29 326 ⇓P P 14 43 15.8 -1.2
baz=29
R31A Burdett 29.29 339 ⇑P P 14 43 15.8 -1.0
baz=29
T28A Walsh 29.29 334 ⇑P P 14 43 15.6 -1.3
baz=29
S29A Ulysses 29.30 336 ⇓P P 14 43 15.5 -1.4
baz=29
SDMD Soler's Deli 29.32 16 *eP* P 14 43 17.9 +1.0
comp=Z,91nm,0.9s
120A U Bar Ranch, L 29.33 320 ⇓P P 14 43 17.3 0.0
baz=29,SNR=7.7
W24A Lazy 6 Ranch, 29.34 327 ⇑P P 14 43 17.0 -0.4
baz=29,SNR=8.0
LPM Los Pinos Moun 29.34 325 *eP* P 14 43 18.2 +0.8
comp=Z,17nm,1.2s
V25A Rancho No Teng 29.42 329 ⇑P P 14 43 17.8 -0.3
baz=29,SNR=8.2
U26A Atchley Ranch, 29.43 331 ⇓P P 14 43 17.1 -1.1
baz=29
LENM Lemitar 29.43 324 P P 14 43 19.1 +0.9
comp=Z,36nm,1.1s
T27A Campo 29.51 333 ⇓P P 14 43 17.9 -0.9
baz=30
R30A Dighton 29.56 338 ⇓P P 14 43 17.9 -1.3
baz=30
S28A Manter 29.60 335 ⇑P P 14 43 18.1 -1.5
baz=30
V24A Rampart Ranch, 29.66 328 ⇑P P 14 43 19.3 -1.0
baz=30,SNR=6.8
LAZ Ladron 29.70 324 *eP* P 14 43 23.3 +2.7
comp=Z,4.6nm,0.9s
X22A Bernardo 29.70 324 ⇓P P 14 43 20.7 +0.1
baz=30
W23A Werner Place, 29.70 326 ⇑P P 14 43 20.5 -0.2
baz=30,SNR=24
ANMO Albuquerque 29.71 326 *eP* P 14 43 21.6 +0.9
ANMO PcP PcP 14 46 26.4 +2.7
ANMO Albuquerque 29.71 326 P P 14 43 21.3 +0.6
comp=Z,9.6nm,0.8s,baz=141,slow=8.3,SNR=25
ANMO PcP PcP 14 46 26.4 +2.7
comp=Z,5.3nm,0.7s,baz=135,slow=3.5,SNR=5.1
Y21A Point of Rocks 29.73 323 ⇓P P 14 43 20.7 -0.3
baz=30
U25A Circle Dot Ran 29.76 330 ⇑P P 14 43 20.9 -0.2
baz=30,SNR=7.5
Q31A Ellis 29.89 340 ⇓P P 14 43 20.8 -1.2
baz=30
T26A Comanche Natio 29.99 332 ⇓P P 14 43 22.5 -0.7
baz=30
R29A Marienthal 30.01 337 ⇑P P 14 43 22.0 -1.1
baz=30
W22A Albuquerque 30.03 325 ⇓P P 14 43 22.7 -0.8
baz=30
Y20A Horse Springs, 30.08 322 ⇑P P 14 43 23.0 -1.0
baz=30,SNR=13
S27A Las Animas 30.10 334 ⇑P P 14 43 22.6 -1.4
baz=30,SNR=6.8
X21A Alamocita Cree 30.11 323 ⇑P P 14 43 23.7 -0.6
baz=30,SNR=12
Q30A Quinter 30.15 339 ⇓P P 14 43 23.1 -1.3
baz=30
V23A Ortiz Mt. (NFS 30.16 327 ⇓P P 14 43 23.1 -1.6
baz=30
U24A Moreno Valley 30.20 329 ⇓P P 14 43 24.6 -0.5
baz=30
R28A Tribune 30.20 336 ⇓P P 14 43 23.5 -1.4
baz=30,SNR=12
S26A Kim 30.30 333 ⇑P P 14 43 25.0 -0.8
baz=30
P31A Stockton 30.35 340 ⇓P P 14 43 24.7 -1.4
baz=30
T25A Trinidad 30.35 331 ⇑P P 14 43 25.7 -0.6
baz=30
R27A Eads 30.56 334 ⇓P P 14 43 27.1 -1.0
baz=31
TUC Tucson 30.58 317 P P 14 43 29.0 +0.7
TUC pmax pmax
comp=Z,15nm,0.9s
TUC Tucson 30.58 317 P P 14 43 28.9 +0.7
comp=Z,15nm,0.9s
X20A Quemado 30.59 323 ⇑P P 14 43 28.8 +0.3
baz=31
U23A El Rito 30.60 328 ⇑P P 14 43 28.7 +0.1
baz=31,SNR=5.6
P30A Selden 30.66 339 ⇑P P 14 43 28.4 -0.5
baz=31
V22A San Miguel Ran 30.67 326 ⇓P P 14 43 29.0 -0.3
baz=31,SNR=13
SAML Samuel 30.74 130 *eP* P 14 43 27.6 -2.1
comp=Z,5.5nm,0.7s
ALLY Alegheny Colle 30.78 9 P P 14 43 29.7 -0.1
comp=Z,18nm,0.4s
S25A Robets Cordova 30.78 332 ⇑P P 14 43 29.7 -0.4
baz=31,SNR=7.5
Q28A Sharon Springs 30.83 336 ⇑P P 14 43 29.8 -0.7
baz=31,SNR=6.9
R26A Arlington 30.86 334 ⇑P P 14 43 29.9 -0.8
baz=31
P29A Atwood 30.96 338 ⇑P P 14 43 30.5 -1.0
baz=31
U22A Llaves 30.99 327 ⇑P P 14 43 32.2 +0.2
baz=31,SNR=9.2
V21A Milan 30.99 325 ⇓P P 14 43 32.1 0.0
baz=31,SNR=9.6
W20A Ramah 31.00 324 ⇓P P 14 43 32.4 +0.3
baz=31
SCIA State Center 31.06 350 *eP* P 14 43 30.5 -1.8
comp=Z,29nm,0.5s
T23A Casias Ranch, 31.07 329 ⇓P P 14 43 32.6 -0.2
baz=31
R25A Fountain Ranch 31.10 332 ⇓P P 14 43 32.7 -0.2
baz=31,SNR=5.8
KSCO Kaye Shedlock' 31.11 335 ⇓P P 14 43 32.2 -0.7
baz=31
S24A Houchin Ranch, 31.13 331 ⇓P P 14 43 33.0 -0.3
baz=31,SNR=7.6
O30A MW Ranch, Wils 31.16 340 ⇓P P 14 43 32.0 -1.3
baz=31,SNR=5.4
P28A Saint Francis 31.24 337 ⇑P P 14 43 32.8 -1.3
baz=31
SDCO Great Sand Dun 31.35 330 *eP* P 14 43 35.3 +0.1
comp=Z,20nm,0.8s
O29A 4D Ranch, Culb 31.37 339 ⇑P P 14 43 34.4 -0.8
baz=31
Q26A Hugo 31.41 334 ⇑P P 14 43 34.9 -0.7
baz=31
V20A Brimhall 31.46 324 ⇑P P 14 43 36.4 +0.3
baz=32
U21A Nageezi 31.46 326 ⇑P P 14 43 35.5 -0.6
baz=32,SNR=5.9
X18A Snowflake 31.46 321 ⇓P P 14 43 36.0 -0.1
baz=32,SNR=6.8
T22A Edith 31.49 328 ⇑P P 14 43 36.8 +0.4
baz=32
P27A Ficken Ranch, 31.55 336 ⇓P P 14 43 35.9 -0.9
baz=32
R24A Sanders Place, 31.55 331 ⇓P P 14 43 36.0 -0.9
baz=32
JFWS Jewell Farm 31.68 355 P P 14 43 34.1 -3.7
JFWS pmax pmax
comp=Z,109nm,0.9s
JFWS Jewell Farm 31.68 355 P P 14 43 34.0 -3.7
comp=Z,109nm,0.9s
BGNE Belgrade 31.69 343 ⇓P P 14 43 36.8 -1.1
baz=32
Q25A Bedland, Calha 31.71 333 ⇓P P 14 43 37.6 -0.8
baz=32
W18A Petrified Fore 31.73 322 ⇑P P 14 43 38.3 -0.1
baz=32,SNR=14
O28A Krutsinger Ran 31.73 338 ⇓P P 14 43 37.5 -0.8
baz=32
214A Organ Pipe Nat 31.76 314 ⇑P P 14 43 38.8 +0.1
baz=32
R23A Moffat 31.86 331 ⇑P P 14 43 39.3 -0.4
baz=32,SNR=13
P26A Davis Ranch, A 31.87 335 ⇑P P 14 43 38.4 -1.2
baz=32
U20A Newcomb 31.90 325 ⇑P P 14 43 40.1 +0.2
baz=32
N29A Votaw Ranch, W 31.93 340 ⇑P P 14 43 39.2 -0.9
baz=32
S22A 4UR Ranch, Cre 32.01 329 ⇑P P 14 43 41.0 -0.1
baz=32,SNR=21
O27A Beecher Island 32.06 337 ⇑P P 14 43 40.8 -0.4
baz=32
N28A Pribbeno Ranch 32.14 338 ⇑P P 14 43 41.1 -0.8
baz=32
Q24A Divide 32.16 332 ⇑P P 14 43 42.1 -0.3
baz=32
BINY Binghamton 32.17 15 *eP* P 14 43 41.0 -1.0
comp=Z,54nm,0.8s
P25A Willow Gulch B 32.17 334 ⇓P P 14 43 42.4 +0.1
baz=32,SNR=5.6
X16A Lo Mia Camp, P 32.32 319 ⇓P P 14 43 43.6 -0.2
baz=32,SNR=11
M30A Dale-Ortello V 32.33 341 ⇓P P 14 43 42.4 -1.1
baz=32
R22A Saguache, Gunn 32.35 329 ⇓P P 14 43 43.7 -0.3
baz=32,SNR=15
O26A Horse Wrangler 32.43 336 ⇑P P 14 43 43.7 -0.8
baz=32
Q23A Hartsel 32.43 331 ⇓P P 14 43 43.8 -1.0
baz=32
S21A Coal Bank Pass 32.45 328 ⇑P P 14 43 44.3 -0.6
baz=32,SNR=14
MVCO Mesa Verde 32.49 326 *eP* P 14 43 44.4 -0.9
comp=Z,34nm,1.0s
MVCO Mesa Verde 32.49 326 ⇑P P 14 43 44.7 -0.5
baz=32,SNR=20
P24A Kohler Place, 32.50 333 ⇑P P 14 43 44.3 -0.9
baz=32
M29A Burnside Ranch 32.51 340 ⇑P P 14 43 44.0 -1.2
baz=32
OGNE Ogallala 32.54 338 P P 14 43 46.5 +1.1
comp=Z,94nm,1.3s
OGNE Ogallala 32.54 338 ⇓P P 14 43 44.6 -0.8
baz=32
N27A Anderson Farm, 32.61 337 ⇓P P 14 43 45.1 -0.9
baz=33
O25A Wiggins 32.65 335 ⇑P P 14 43 46.0 -0.5
baz=33
Z14A Wintersburg 32.67 316 ⇓P P 14 43 45.7 -0.8
baz=33
M28A Bar X Bar Ranc 32.70 339 ⇓P P 14 43 46.0 -0.8
baz=33
P23A Jefferson 32.81 332 ⇓P P 14 43 48.1 0.0
baz=33,SNR=11
R21A Cimarron 32.85 329 ⇑P P 14 43 48.1 -0.3
baz=33
S20A Disappointment 32.87 327 ⇑P P 14 43 48.6 0.0
baz=33,SNR=8.7
113A Mohawk Valley, 32.89 315 ⇓P P 14 43 48.8 +0.4
baz=33
N26A Koester Ranch, 32.89 336 ⇓P P 14 43 47.5 -1.1
baz=33
LPAZ La Paz 32.91 146 *eP* P 14 43 50.3 +0.9
comp=Z,9.0nm,1.3s
LPAZ La Paz 32.91 146 LR LR 14 57 37.4
comp=Z,2μm,18.4s,baz=168,slow=37
Q22A Crested Butte, 32.92 330 ⇑P P 14 43 48.8 -0.2
baz=33,SNR=6.4
WUAZ Wupatki 32.99 321 *eP* P 14 43 50.4 +0.9
comp=Z,51nm,1.1s
WUAZ Wupatki 32.99 321 ⇓P P 14 43 49.5 0.0
baz=33,SNR=20
L29A Maesberg Ranch 33.00 341 ⇓P P 14 43 48.1 -1.3
baz=33
ISCO Idaho Springs 33.05 333 *eP* P 14 43 51.3 +1.2
ISCO pmax pmax
comp=Z,12nm,1.1s
ISCO Idaho Springs 33.05 333 *eP* P 14 43 51.3 +1.2
comp=Z,12nm,1.1s
ISCO Idaho Springs 33.05 333 ⇓P P 14 43 49.4 -0.8
baz=33
Y14A Wickenburg 33.05 317 ⇓P P 14 43 49.7 -0.2
baz=33
O24A Longmont 33.07 334 ⇑P P 14 43 49.2 -1.0
baz=33
R20A Redvale 33.15 328 ⇓P P 14 43 51.0 +0.1
baz=33
SMCO Snowmass 33.19 330 *eP* P 14 43 50.7 -0.8
comp=Z,46nm,1.3s
PV01 Paradox Valley 33.21 327 *eP* P 14 43 51.9 +0.5

comp=Z,2µm,1.1s
Q21A Lamborn Mesa, 33.22 329 ⇓P P 14 43 51.6 0.0
baz=33
N25A Grover 33.23 335 ⇓P P 14 43 51.1 -0.4
baz=33
TRY Troy 33.29 17 eP P 14 43 52.9 +1.1
comp=Z,103nm,1.3s
M26A McRoberts Ranc 33.41 337 ⇓P P 14 43 52.5 -0.6
baz=33
P22A Eagle 33.42 331 ⇑P P 14 43 52.2 -1.0
baz=33
GLMI Grayling 33.47 3 eP P 14 43 52.2 -1.2
comp=Z,63nm,0.6s
ECSD EROS Data Cent 33.49 347 eP P 14 43 51.1 -2.5
comp=Z,64nm,1.0s
O23A Lake Granby, G 33.52 333 ⇓P P 14 43 53.2 -1.0
baz=34
N24A Carr 33.57 334 ⇓P P 14 43 54.0 -0.5
baz=34
K29A Lazy Trails An 33.58 342 ⇓P P 14 43 53.5 -0.9
baz=34,SNR=18
PV04 Paradox Valley 33.58 327 eP P 14 43 54.2 -0.5
PV04 ePcP PcP 14 46 36.4 +2.3
L27A T5 Ranch, Ells 33.64 339 ⇓P P 14 43 53.9 -1.1
baz=34
Q20A Ridgley Place, 33.68 329 ⇑P P 14 43 54.8 -0.7
baz=34
M25A Palm-Egli Farm 33.74 336 ⇓P P 14 43 54.2 -1.7
baz=34
O22A Kremmling 33.77 332 ⇓P P 14 43 55.5 -0.9
baz=34
GLA Glamis 33.79 314 P P 14 43 57.8 +1.4
GLA pmax pmax
comp=Z,14nm,1.0s
GLA Glamis 33.79 314 P P 14 43 57.8 +1.4
comp=Z,3.5nm,1.0s
GLA Glamis 33.79 314 ⇓P P 14 43 55.8 -0.6
baz=34
K28A Ten Mile Ranch 33.87 340 ⇓P P 14 43 56.3 -0.7
baz=34
L26A Underwood Farm 33.88 338 ⇓P P 14 43 55.9 -1.2
baz=34
ACCN Adirondack Com 33.89 17 eP P 14 43 57.5 +0.4
comp=Z,18nm,1.0s
Y12C Blythe 33.97 316 ⇑P P 14 43 56.5 -1.3
baz=34
SADO Sadowa 33.98 9 P P 14 43 57.4 -0.4
SADO Sadowa 33.98 9 P P 14 43 57.4 -0.4
comp=Z,32nm,0.6s,baz=242,slow=5.5,SNR=22
PDMCI Parker Dam,Lak 34.02 317 ⇑P P 14 43 58.1 -0.2
baz=34
M24A Cheyenne 34.08 335 ⇓P P 14 43 57.8 -1.2
baz=34
N23A Red Feather La 34.08 333 ⇓P P 14 43 58.3 -0.7
baz=34
P20A De Beque 34.14 329 ⇑P P 14 43 59.2 -0.3
baz=34,SNR=14
U15A North Rim 34.15 321 ⇑P P 14 43 59.3 -0.4
baz=34,SNR=9.4
K27A Flueckinger Fa 34.16 339 ⇓P P 14 43 58.7 -0.8
baz=34
PHWY Pilot Hill 34.21 334 eP P 14 44 00.0 -0.1
comp=Z,18nm,1.0s
N22A Wattenberg Ran 34.24 333 ⇓P P 14 43 59.2 -1.2
baz=34
O21A Pagoda 34.24 331 ⇑P P 14 43 58.9 -1.6
baz=34
SPMN St. Paul 34.25 352 ⇑P P 14 43 58.5 -1.6
baz=34,SNR=30
NCB Newcomb 34.28 16 eP P 14 44 00.8 +0.3
comp=Z,11nm,0.7s
L25A Engebretsen Ra 34.32 337 ⇑P P 14 43 59.2 -1.7
baz=34
W13A Hualapai Mount 34.33 318 ⇑P P 14 44 00.7 -0.5
baz=34
SWSC Sam W. Stewart 34.41 313 ⇓P P 14 44 01.3 -0.4
baz=34
J28A Allard Ranch, 34.46 341 ⇑P P 14 44 01.1 -1.0
baz=34,SNR=10
DVTC Desert V Tower 34.48 313 ⇑P P 14 44 02.0 -0.5
baz=34
K26A Motz Farm, Whi 34.49 338 ⇓P P 14 44 01.2 -1.2
baz=34
P19A Cripple Cowboy 34.54 329 ⇑P P 14 44 02.7 -0.3
baz=34
O20A White River Ci 34.55 330 ⇓P P 14 44 02.5 -0.5
baz=34
BC3 Big Chuckawall 34.56 315 ⇓P P 14 44 03.1 +0.1
baz=35,SNR=8.0
L24A Wheatland 34.60 336 ⇓P P 14 44 01.9 -1.5
baz=35
NEE2 Needles Airpor 34.62 317 ⇓P P 14 44 02.1 -1.3
baz=35
IRM Iron Mountain 34.63 316 ⇑P P 14 44 04.2 +0.6
baz=35
K25A Mack Ranch, Ha 34.67 337 ⇓P P 14 44 03.1 -0.9
baz=35
N21A Black Mountain 34.69 331 ⇑P P 14 44 04.4 +0.1
baz=35,SNR=8.5
BRSD Miller 34.73 344 ⇑P P 14 44 03.0 -1.3
baz=35,SNR=9.6
COWI Conover 34.77 357 eP P 14 44 02.9 -1.8
comp=Z,64nm,0.7s
M22A Cedar Creek Ra 34.78 333 ⇓P P 14 44 04.0 -1.1
baz=35
LONY Lake Ozonia 34.79 15 eP P 14 44 04.3 -0.5
comp=Z,105nm,1.3s
MONP Monument Peak 34.83 313 ⇓P P 14 44 05.4 -0.2
baz=35
I28A Midland 34.96 341 ⇓P P 14 44 05.1 -1.2
baz=35
SRU San Rafael 34.97 327 eP P 14 44 06.4 -0.2
SRU pmax pmax
comp=Z,49nm,1.0s
SRU San Rafael 34.97 327 eP P 14 44 06.4 -0.2
comp=Z,49nm,1.0s
L23A Garrett 34.98 335 ⇓P P 14 44 06.2 -0.5
baz=35,SNR=11
N20A Spence Gulch, 35.10 331 ⇓P P 14 44 07.3 -0.5
baz=35,SNR=19
O19A Miners Draw (B 35.11 329 ⇓P P 14 44 07.4 -0.5
baz=35,SNR=8.2
BELC Belle Mtn. Jos 35.12 315 ⇑P P 14 44 08.7 +0.7
baz=35,SNR=7.1
K24A Anderson Ranch 35.13 336 ⇑P P 14 44 07.5 -0.5
baz=35
Q16A Castle Valley 35.18 326 ⇑P P 14 44 08.1 -0.5
baz=35
L22A Ellis Ranch, M 35.22 334 ⇑P P 14 44 08.3 -0.5
baz=35,SNR=8.6
PFO Pinyon Flat Ob 35.23 314 P P 14 44 09.7 +0.7
comp=Z,11nm,1.0s
PFO Pinyon Flat Ob 35.23 314 ⇑P P 14 44 08.9 0.0
baz=35
FRNY Flat Rock 35.25 16 eP P 14 44 09.0 +0.2
comp=Z,46nm,1.4s
M21A Separation Pea 35.29 333 ⇓P P 14 44 09.1 -0.4
baz=35,SNR=7.6
I27A Quinn 35.30 341 ⇑P P 14 44 08.6 -0.8
baz=35
J25A Sunshine Ranch 35.32 338 ⇑P P 14 44 09.0 -0.5
baz=35
GMRC Granite Mounta 35.32 316 ⇑P P 14 44 10.3 +0.6
baz=35
109C Camp Elliot, M 35.33 312 ⇑P P 14 44 09.2 -0.3
baz=35
MSU Marysvale 35.47 324 eP P 14 44 11.6 +0.6
MSU pmax pmax
comp=Z,17nm,1.1s
MSU Marysvale 35.47 324 eP P 14 44 11.6 +0.6
comp=Z,1.1nm,1.1s
TMUT Trail Mountain 35.47 326 eP P 14 44 12.0 +0.8
comp=Z,44nm,1.1s
K23A Bowen Ranch, D 35.48 336 ⇑P P 14 44 10.2 -0.8
baz=36
MVU Marysvale 35.48 324 eP P 14 44 12.0 +0.9
comp=Z,26nm,1.1s
H28A Mission Ridge 35.53 342 ⇓P P 14 44 10.2 -1.0
baz=36
CCUT Cedar City 35.53 322 eP P 14 44 12.4 +0.9
comp=Z,19nm,1.1s
I26A New Underwood 35.54 340 ⇓P P 14 44 10.2 -1.2
baz=36
M20A Sweetwater, Wa 35.58 332 ⇑P P 14 44 11.6 -0.3
baz=36
L21A Rawlins 35.58 333 ⇓P P 14 44 10.8 -1.1
baz=36,SNR=9.7
J24A Dixon Ranch, L 35.59 337 ⇑P P 14 44 11.7 -0.1
baz=36
ARUT Antelope Range 35.73 322 eP P 14 44 13.9 +0.7
ARUT pmax pmax
comp=Z,25nm,1.0s
ARUT Antelope Range 35.73 322 eP P 14 44 13.9 +0.7
comp=Z,1.6nm,1.0s
MURC Murrieta 35.76 313 ⇑P P 14 44 13.9 +0.5
baz=36,SNR=5.3
K22A Casper 35.77 334 ⇓P P 14 44 12.7 -0.8
baz=36
HEC Hector,Ludlow 35.81 316 ⇓P P 14 44 14.9 +1.0
baz=36,SNR=5.8
H27A Howes 35.82 341 ⇓P P 14 44 12.6 -1.1
baz=36
I25A Rochford 35.84 339 ⇓P P 14 44 13.9 -0.2
baz=36
G28A Parade 35.86 343 ⇓P P 14 44 13.5 -0.5
baz=36
TUQ Turquoise Moun 35.87 317 ⇓P P 14 44 14.8 +0.4
baz=36
BBRC Big Bear Solar 35.91 314 ⇓P P 14 44 14.9 0.0
baz=36
J23A Dilts Ranch, B 35.99 336 ⇑P P 14 44 15.2 -0.1
baz=36
I24A Kuemmerle Ranc 36.02 338 ⇓P P 14 44 14.6 -1.0
baz=36
H26A Fairpoint 36.03 340 ⇑P P 14 44 14.6 -0.9
baz=36
RSSD Black Hills 36.03 338 eP P 14 44 15.9 +0.1
RSSD pmax pmax
comp=Z,9.0nm,0.9s
RSSD Black Hills 36.03 338 eP P 14 44 15.8 +0.1
comp=Z,2.3nm,0.9s
M19A Rock Springs 36.05 331 ⇓P P 14 44 14.6 -1.3
baz=36
L20A Wamsutter 36.05 332 ⇓P P 14 44 14.5 -1.4
baz=36
MPU Maple Canyon 36.21 327 eP P 14 44 17.6 +0.3
comp=Z,11nm,0.8s
DAU Daniels Canyon 36.30 327 eP P 14 44 16.9 -1.2
DAU pmax pmax
comp=Z,57nm,1.1s
DAU Daniels Canyon 36.30 327 eP P 14 44 16.9 -1.2
comp=Z,3.6nm,1.1s
RRX Edison Barstow 36.30 315 ⇓P P 14 44 17.3 -0.6
baz=36
H25A Fruitdale 36.31 339 ⇓P P 14 44 17.1 -0.9
baz=36
J22A Midwest 36.38 335 ⇑P P 14 44 17.7 -0.9
baz=36,SNR=10
SHOC Shoshone 36.38 317 ⇓P P 14 44 17.8 -0.8
baz=36
GSC Goldstone 36.39 316 ⇓P P 14 44 18.4 -0.4
baz=36
BFSC Mount Baldy Ra 36.42 314 ⇑P P 14 44 19.0 -0.1
baz=36
SCI San Clemente I 36.42 311 ⇓P P 14 44 19.6 +0.6
baz=36
I23A Meade Ranch, G 36.43 337 ⇑P P 14 44 18.2 -0.9
baz=36
G27A Dupree 36.44 342 ⇓P P 14 44 18.1 -0.9
baz=36
CIS Catalina Islan 36.53 312 ⇓P P 14 44 20.2 +0.3
baz=36
K20A Yellowstone Ra 36.57 333 ⇓P P 14 44 19.4 -0.9
baz=37,SNR=7.1
FMP Fort Macarthur 36.60 313 ⇓P P 14 44 20.0 -0.5
baz=37
L19A Farson 36.60 331 ⇓P P 14 44 20.3 -0.3
baz=37
J21A Lysite 36.73 334 ⇑P P 14 44 21.4 -0.2
baz=37,SNR=31
CTU Camp Tracy 36.76 327 eP P 14 44 23.4 +1.5
comp=Z,55nm,1.2s
H24A Dirks Ranch, A 36.76 338 ⇑P P 14 44 21.1 -0.7
baz=37,SNR=15
M17A Scullys Gap (B 36.77 329 ⇑P P 14 44 21.3 -0.7
baz=37,SNR=14
I22A 9 Mile Ranch, 36.77 336 ⇑P P 14 44 21.4 -0.6
baz=37,SNR=9.1
EYMN Ely 36.79 354 P P 14 44 18.8 -3.1
comp=Z,32nm,0.9s
L18A Foxenelle, Gr 36.79 330 ⇑P P 14 44 21.5 -0.8
baz=37
DECC Green Verdugo 36.90 313 ⇓P P 14 44 22.8 -0.3
baz=37
H23A Clabaugh Cattl 36.91 337 ⇑P P 14 44 22.3 -0.8
baz=37
K19A Absolon Red Bu 36.93 332 ⇓P P 14 44 22.1 -1.3
baz=37,SNR=11
DUG Dugway 36.98 326 eP P 14 44 24.6 +0.8
DUG pmax pmax
comp=Z,26nm,1.1s
DUG Dugway 36.98 326 eP P 14 44 24.6 +0.8
comp=Z,26nm,1.1s
DUG e 14 44 35.8
DUG Dugway 36.98 326 ⇑P P 14 44 24.0 +0.1
baz=37,SNR=8.8
EDW2 Edwards Air Fo 36.98 315 ⇓P P 14 44 24.0 +0.2
baz=37,SNR=6.6
J20A Shoshoni 37.01 334 ⇑P P 14 44 23.2 -0.8
baz=37,SNR=7.3
I21A Big Trails, Te 37.04 335 ⇑P P 14 44 23.2 -1.1
baz=37,SNR=7.7
FURC Furnace Creek, 37.09 318 ⇑P P 14 44 24.1 -0.4
baz=37
LRMC Laurel Mountai 37.09 316 ⇑P P 14 44 24.3 -0.5
baz=37
BW06 Boulder Array 37.21 332 eP P 14 44 23.9 -2.0
comp=Z,9.5nm,0.8s
PDAR Pinedale Array 37.21 332 P P 14 44 25.1 -0.7
PDAR PcP PcP 14 46 45.8 +1.0
PDAR ScP ScP 14 50 33.8 +6.8
PDAR Pinedale Array 37.21 332 P P 14 44 25.1 -0.7
comp=Z,4.5nm,0.6s,baz=133,slow=10,SNR=43
PDAR PcP PcP 14 46 45.8 +1.0
comp=Z,2.5nm,0.6s,baz=143,slow=4.2,SNR=9.0
PDAR ScP ScP 14 50 33.8 +6.8
comp=Z,1.0nm,0.5s,baz=130,slow=6.5,SNR=10
G24A Alzada 37.21 339 ⇑P P 14 44 24.9 -0.8
baz=37
MPMC Manual Prospec 37.28 317 ⇑P P 14 44 25.9 -0.5
baz=37,SNR=8.3
H22A Clearmont 37.31 336 ⇓P P 14 44 24.9 -1.6
baz=37
HWUT Hardware Ranch 37.32 328 eP P 14 44 26.4 -0.4
comp=Z,59nm,1.0s
OSI Osito Adit 37.36 314 ⇑P P 14 44 26.3 -0.7
baz=37
J19A Crowheart 37.37 333 ⇑P P 14 44 26.1 -1.0
baz=37,SNR=7.1
G23A Biddle 37.45 338 ⇓P P 14 44 26.8 -0.9
baz=38
I20A Worland 37.51 334 ⇓P P 14 44 27.1 -1.0
baz=38,SNR=12
E26A Carlson Angus 37.58 342 ⇑P P 14 44 27.4 -1.3
baz=38
H21A Big Horn, Sher 37.61 336 ⇓P P 14 44 27.9 -1.1
baz=38,SNR=7.4
F24A Ekalaka 37.67 339 ⇓P P 14 44 28.5 -1.1
baz=38
ARVC Arvin 37.70 314 ⇑P P 14 44 29.2 -0.6
baz=38
AGMN Agassiz Nation 37.72 350 eP P 14 44 27.8 -1.9
comp=Z,93nm,0.9s
GRAC Grapevine Rang 37.73 318 ⇑P P 14 44 29.6 -0.5
baz=38
ISA Isabella 37.73 315 P P 14 44 31.4 +1.2
ISA pmax pmax
comp=Z,13nm,1.4s
ISA Isabella 37.73 315 P P 14 44 31.4 +1.2
comp=Z,3.2nm,1.4s
ISA Isabella 37.73 315 ⇑P P 14 44 30.6 +0.5
baz=38
G22A Birney 37.81 337 ⇓P P 14 44 29.6 -1.1
baz=38
CWC Cottonwood Cre 37.88 317 ⇓P P 14 44 31.4 -0.2
baz=38
E25A Miller Ranch, 37.90 341 ⇑P P 14 44 30.3 -1.1
baz=38
F23A Volborg 37.91 338 ⇑P P 14 44 30.4 -1.1
baz=38,SNR=8.3
I19A Meeteetse 37.95 333 ⇑P P 14 44 31.2 -0.8
baz=38
SBC Santa Barbara 37.98 313 ⇓P P 14 44 31.3 -0.9
baz=38
I18A Diamond G Ranc 38.05 332 ⇓P P 14 44 32.1 -0.8
baz=38
MDND Maddock 38.07 346 ⇓P P 14 44 31.1 -1.6
baz=38,SNR=11
HVU Hansel Valley 38.07 328 eP P 14 44 33.5 +0.5
HVU pmax pmax
comp=Z,14nm,0.8s
HVU Hansel Valley 38.07 328 eP P 14 44 33.5 +0.5
comp=Z,12nm,0.8s
G21A Lodge Grass 38.17 336 ⇑P P 14 44 32.5 -1.2
baz=38
VES Vestal, Richgr 38.25 315 ⇑P P 14 44 35.1 +0.7
baz=38
E24A Baker 38.25 340 ⇑P P 14 44 33.4 -1.0
baz=38,SNR=9.0
F22A Rosebud 38.27 338 ⇑P P 14 44 33.7 -0.8
baz=38
REDW Red Top Meadow 38.28 331 P P 14 44 35.5 +0.7
comp=Z,1.0nm,1.1s
PKM Peak Mountain 38.28 313 ⇓P P 14 44 34.2 -0.7
baz=38
SNOW Snow King Moun 38.31 331 eP P 14 44 35.3 +0.3
comp=Z,49nm,0.9s
TIN Tinemaha 38.32 317 ⇓P P 14 44 34.7 -0.5
baz=38
LOHW Long Hollow 38.35 332 eP P 14 44 35.1 -0.3
comp=Z,15nm,0.8s
TPAW Teton Pass 38.42 331 eP P 14 44 36.1 0.0
comp=Z,23nm,0.9s
H19A Powell 38.45 334 ⇓P P 14 44 34.4 -1.7
baz=38
RRI2 Red Ridge 38.49 331 eP P 14 44 38.2 +1.6
comp=Z,11nm,0.6s
MOOW Moose Ponds 38.52 332 eP P 14 44 36.1 -0.7
comp=Z,15nm,1.0s
E23A Ismay 38.54 339 ⇑P P 14 44 35.3 -1.4
baz=38,SNR=7.7
G20A Bridger 38.57 335 ⇑P P 14 44 35.4 -1.7
baz=39,SNR=7.2
RCTC Rector, Farmer 38.60 316 ⇓P P 14 44 37.2 -0.2
baz=39
SMMC Simmler 38.62 314 ⇓P P 14 44 37.1 -0.5
baz=39
PQI Presque Isle 38.62 21 eP P 14 44 36.6 -0.8
F21A Absaloka Mine, 38.63 337 ⇑P P 14 44 36.7 -0.9
baz=39
E22A Miles City 38.72 338 ⇑P P 14 44 36.8 -1.4
baz=39,SNR=12
ELK Elko 38.72 324 eP P 14 44 39.1 +0.5
comp=Z,19nm,1.1s
IMW Indian Meadow 38.72 332 eP P 14 44 38.6 0.0
comp=Z,17nm,1.0s
D24A Glendive 38.74 341 ⇑P P 14 44 37.4 -1.0
baz=39,SNR=5.8
H18A Shoshone NF, C 38.75 333 ⇑P P 14 44 37.4 -1.3
baz=39,SNR=13
RLMT Red Lodge 38.93 334 eP P 14 44 39.8 -0.4
comp=Z,31nm,0.8s
H17A Grant Village 38.94 332 ⇑P P 14 44 38.8 -1.6
baz=39
I16A Newdale 38.97 331 ⇑P P 14 44 39.8 -0.7
baz=39
F20A Billings 39.02 336 ⇓P P 14 44 39.4 -1.4
baz=39,SNR=9.4
MLAC Mammoth Lakes 39.05 318 ⇑P P 14 44 39.7 -1.7
baz=39
NV11 Mina Array Sit 39.06 319 eP P 14 44 42.2 +0.9
NV11 e pP 14 44 54.6 -1.6
YFT Old Faithful 39.10 332 P P 14 44 41.8 0.0
comp=Z,23nm,0.9s
C24A Savage 39.14 341 ⇓P P 14 44 40.4 -1.4
baz=39
NVAR Mina Array Bea 39.15 319 P P 14 44 43.1 +1.0
NVAR PcP PcP 14 46 53.4 +2.6
NVAR ScP S 14 50 42.2 +4.0
NVAR Mina Array Bea 39.15 319 P P 14 44 43.1 +1.0
comp=Z,8.2nm,0.8s,baz=125,slow=7.8,SNR=10
NVAR PcP PcP 14 46 53.4 +2.6
comp=Z,25nm,0.7s,baz=137,slow=4.3,SNR=18
NVAR ScP S 14 50 42.2 +4.0
comp=Z,1.8nm,0.7s,baz=135,slow=3.7,SNR=6.4
G18A Lazy EL Ranch, 39.21 334 ⇓P P 14 44 41.4 -1.2
baz=39,SNR=8.5
E21A Keefer Ranch, 39.22 338 ⇑P P 14 44 41.0 -1.4
baz=39,SNR=7.9
F19A Roth Farm, Mol 39.38 335 ⇓P P 14 44 42.9 -1.0
baz=39,SNR=14
D22A Cohagen 39.41 339 ⇓P P 14 44 43.0 -1.0
baz=39,SNR=22
H16A Russell Place, 39.48 332 ⇓P P 14 44 44.1 -0.7
baz=40,SNR=6.9
E20A Meyer Farm, Mu 39.59 337 ⇓P P 14 44 44.8 -0.7
baz=40,SNR=26
ULM Lac du Bonnet 39.61 351 P P 14 44 43.7 -1.8
ULM Lac du Bonnet 39.61 351 P P 14 44 43.7 -1.8
comp=Z,55nm,0.8s,baz=170,slow=8.3,SNR=38
D21A La Casta Ranch 39.63 338 ⇓P P 14 44 44.5 -1.4
baz=40
C23A Lambert 39.63 340 ⇓P P 14 44 45.0 -0.8
baz=40,SNR=7.3
GCMT Greycliff 39.63 335 eP P 14 44 45.9 -0.1
comp=Z,6.0nm,0.8s
QLMT Earthquake Lak 39.66 332 eP P 14 44 47.1 +0.8
comp=Z,2.2nm,1.0s
BMN Battle Mountai 39.68 322 P P 14 44 46.7 +0.2
BMN pmax pmax
comp=Z,11nm,1.0s
BMN Battle Mountai 39.68 322 P P 14 44 46.7 +0.2
comp=Z,41nm,1.0s
BMN e 14 44 57.9
G17A Pierce Place, 39.73 333 ⇑P P 14 44 45.2 -1.6
baz=40,SNR=9.8
F18A Big Timber 39.75 335 ⇓P P 14 44 46.1 -0.8
baz=40,SNR=12
E19A Rath Farm, Rou 39.81 336 ⇑P P 14 44 46.5 -0.9
baz=40,SNR=14
C22A Vida 39.81 340 ⇓P P 14 44 46.3 -1.0
baz=40,SNR=17
DGMT Dagmar 39.90 342 eP P 14 44 47.6 -0.5
comp=Z,86nm,1.1s
DGMT e 14 44 58.0
DGMT Dagmar 39.90 342 ⇓P P 14 44 46.9 -1.2
baz=40,SNR=13
I14A Mackay 39.96 329 ⇑P P 14 44 48.1 -0.8
baz=40,SNR=11
B23A Brockton 40.14 341 ⇑P P 14 44 49.3 -0.8
baz=40,SNR=9.8
F17A Fitzpatrick Pl 40.15 334 ⇓P P 14 44 49.6 -0.7
baz=40,SNR=11
A24A Westby 40.24 342 ⇓P P 14 44 50.0 -0.9
baz=40,SNR=11
C21A Desert Coulee 40.31 339 ⇓P P 14 44 50.5 -1.0
baz=40
MCMT McKenzie Canyo 40.33 331 eP P 14 44 52.6 +0.7
comp=Z,23nm,1.1s
B22A Reddig Ranch S 40.33 340 ⇑P P 14 44 50.7 -1.0
baz=40,SNR=8.6
E18A Harlowton 40.36 335 ⇑P P 14 44 50.8 -1.2
baz=40,SNR=8.5
BOZ Bozeman (W) 40.38 333 eP P 14 44 51.4 -0.8
BOZ pmax pmax
comp=Z,19nm,1.2s
BOZ Bozeman (W) 40.38 333 eP P 14 44 51.4 -0.8
comp=Z,21nm,1.2s
D19A Cripps Ranch, 40.42 336 ⇑P P 14 44 51.7 -0.8
baz=40,SNR=21
F16A Kennard Place, 40.48 333 ⇓P P 14 44 52.4 -0.6
baz=40,SNR=9.2
A23A Redstone 40.54 341 ⇑P P 14 44 52.4 -1.0
baz=40
C20A Veseth Ranch, 40.54 338 ⇓P P 14 44 52.5 -0.9
baz=40,SNR=5.1
DLMT Dillon 40.60 332 eP P 14 44 54.0 -0.1
comp=Z,24nm,1.1s
DLMT e 14 45 05.1
DLMT ePcP PcP 14 46 56.4 +1.2
E17A Martinsdale 40.67 334 ⇑P P 14 44 54.0 -0.7
baz=41,SNR=7.5
B21A Ellsworth Farm 40.79 339 ⇓P P 14 44 54.4 -1.0
baz=41
D18A Linhart Farms, 40.82 336 ⇓P P 14 44 54.7 -1.0
baz=41
MFID Camas Ranch 40.83 327 eP P 14 44 56.0 +0.1
comp=Z,11nm,1.0s
MFID Camas Ranch 40.83 327 ⇓P P 14 44 55.4 -0.5
baz=41
LRM Limekiln Ridge 40.88 332 eP P 14 44 56.2 -0.3
comp=Z,190nm,1.1s
A22A Carney Farms, 40.90 341 ⇑P P 14 44 55.3 -1.1
baz=41,SNR=9.7

F15A	**Butte**	**40.92**	**332**	⇑P		**P**	**14 44 55.8**	**-0.9**
	baz=41,SNR=7.5								
C19A	**Slack Wire Ran**	**40.96**	**337**	⇑P		**P**	**14 44 55.9**	**-1.0**
	baz=41,SNR=23								
E16A	**East Helena**	**41.08**	**334**	⇑P		**P**	**14 44 56.8**	**-1.2**
	baz=41,SNR=9.2								
H12A	**Diamond D Ranc**	**41.11**	**329**	⇑P		**P**	**14 44 57.5**	**-0.7**
	baz=41,SNR=14								
D17A	**Six Diamond Ra**	**41.15**	**335**	⇑P		**P**	**14 44 57.4**	**-1.1**
	baz=41,SNR=26								
B20A	**Solberg Farm,**	**41.16**	**338**	⇓P		**P**	**14 44 57.4**	**-1.0**
	baz=41,SNR=8.4								
A21A	**Bergtoll Ranch**	**41.24**	**340**	⇑P		**P**	**14 44 57.8**	**-1.4**
	baz=41								
BEKR	**Beckworth**	**41.28**	**320**	*e*P		**P**	**14 45 00.6**	**+0.9**
	comp=Z,7.9nm,1.0s								
HRY	**Holter Researc**	**41.29**	**334**	*e*P		**P**	**14 44 58.7**	**-0.9**
	comp=Z,4.7nm,0.5s								
F14A	**Wisdom**	**41.30**	**331**	⇓P		**P**	**14 44 58.4**	**-1.5**
	baz=41								
D16A	**Dana Ranch, Ca**	**41.41**	**334**	⇓P		**P**	**14 44 59.1**	**-1.6**
	baz=41,SNR=9.4								
EGMT	**Eagleton**	**41.47**	**336**	⇑P		**P**	**14 44 59.2**	**-1.9**
	baz=42								
A20A	**Cobblestone Ra**	**41.49**	**339**	⇓P		**P**	**14 44 59.7**	**-1.5**
	baz=42,SNR=16								
B19A	**Brinkman Farms**	**41.51**	**338**	⇑P		**P**	**14 44 59.9**	**-1.4**
	baz=42,SNR=9.9								
C17A	**Wharram Farm,**	**41.56**	**335**	⇓P		**P**	**14 45 00.9**	**-0.9**
	baz=42,SNR=15								
WVOR	**Wild Horse Val**	**41.76**	**324**	*e*P		**P**	**14 45 03.2**	**-0.3**
WVOR				*e*			14 47 01.7		
WVOR					pmax	pmax			
	comp=Z,26nm,0.9s								
WVOR	**Wild Horse Val**	**41.76**	**324**	*e*P		**P**	**14 45 03.2**	**-0.3**
	comp=Z,26nm,0.9s								
WVOR				*e*PcP		**PcP**	**14 47 01.7**	**+2.7**
B18A	**Beardsley Farm**	**41.78**	**337**	⇑P		**P**	**14 45 02.3**	**-1.3**
	baz=42,SNR=5.8								
A19A	**Klindworth Far**	**41.83**	**338**	⇑P		**P**	**14 45 02.5**	**-1.4**
	baz=42,SNR=8.3								
D15A	**Lincoln**	**41.84**	**333**	⇓P		**P**	**14 45 03.1**	**-1.1**
	baz=42,SNR=11								
B17A	**L&G Farms, Che**	**42.10**	**336**	⇑P		**P**	**14 45 04.8**	**-1.4**
	baz=42,SNR=6.6								
C16A	**Fuhringer Ranc**	**42.10**	**335**	⇓P		**P**	**14 45 05.1**	**-1.2**
	baz=42,SNR=6.3								
A18A	**Metzger Ranch,**	**42.23**	**337**	⇑P		**P**	**14 45 06.0**	**-1.3**
	baz=42,SNR=12								
D14A	**Greenough**	**42.31**	**333**	⇓P		**P**	**14 45 06.6**	**-1.4**
	baz=42								
MSO	**Missoula**	**42.32**	**332**	⇓P		**P**	**14 45 06.6**	**-1.5**
	baz=42,SNR=5.9								
SLMT	**Seeley Lake**	**42.43**	**333**	*e*P		**P**	**14 45 08.7**	**-0.3**
	comp=Z,4.9nm,0.8s								
C15A	**Salmond Ranch,**	**42.45**	**334**	⇑P		**P**	**14 45 07.8**	**-1.3**
	baz=42,SNR=14								
B16A	**M & M Farms, S**	**42.56**	**335**	⇓P		**P**	**14 45 08.8**	**-1.1**
	baz=43,SNR=6.1								
A17A	**Triple J Farms**	**42.58**	**337**	⇑P		**P**	**14 45 09.1**	**-1.0**
	baz=43,SNR=7.1								
BMO	**Blue Mountains**	**42.59**	**328**	*e*P		**P**	**14 45 09.0**	**-1.2**
	comp=Z,17nm,0.9s								
BMO				*e*			14 45 20.3		
BMO				*e*PcP		**PcP**	**14 47 02.2**	**+0.5**
D13A	**Huson**	**42.76**	**332**	⇓P		**P**	**14 45 10.7**	**-0.9**
	baz=43,SNR=6.6								
E12A	**Beaver Dam Sad**	**42.79**	**330**	⇑P		**P**	**14 45 10.4**	**-1.5**
	baz=43,SNR=9.2								
B15A	**Bradely Ranch,**	**42.84**	**335**	⇑P		**P**	**14 45 11.0**	**-1.2**
	baz=43,SNR=6.2								
JTMT	**Jette**	**43.16**	**333**	*e*P		**P**	**14 45 15.8**	**+0.9**
	comp=Z,2.4nm,0.7s								
B14A	**Marquette Ranc**	**43.18**	**334**	⇓P		**P**	**14 45 13.4**	**-1.6**
	baz=43,SNR=8.1								
C13A	**Hot Springs**	**43.24**	**332**	⇑P		**P**	**14 45 13.9**	**-1.6**
	baz=43								
KCPM	**Cahto Peak**	**43.28**	**317**	*e*P		**P**	**14 45 17.2**	**+1.2**
	comp=Z,11nm,0.8s								
KCPM				*e*PcP		**PcP**	**14 47 07.2**	**+3.1**
A15A	**Johnson Ranch,**	**43.43**	**335**	⇑P		**P**	**14 45 15.5**	**-1.5**
	baz=43,SNR=40								
BSMT	**Bassoo Peak**	**43.47**	**332**	*e*P		**P**	**14 45 17.4**	**0.0**
	comp=Z,5.8nm,1.0s								
C12B	**Naegeli Ranch,**	**43.68**	**332**	⇑P		**P**	**14 45 17.9**	**-1.1**
	baz=44								
B13A	**Whitefish**	**43.71**	**333**	⇑P		**P**	**14 45 18.4**	**-0.9**
	baz=44								
A14A	**Double T Ranch**	**43.71**	**334**	⇓P		**P**	**14 45 17.9**	**-1.4**
	baz=44,SNR=45								
YBH	**Yreka Blue Hor**	**43.80**	**320**	*e*P		**P**	**14 45 18.9**	**-1.2**
YBH				PcP		**PcP**	**14 47 07.0**	**+1.2**
YBH	**Yreka Blue Hor**	**43.80**	**320**	P		**P**	**14 45 18.5**	**-1.5**
	comp=Z,1.6nm,0.6s,baz=190,slow=4.6,SNR=4.4								
YBH				PcP		**PcP**	**14 47 07.0**	**+1.2**
	comp=Z,6.3nm,0.7s,baz=82,slow=4.0,SNR=14								
WALA	**Waterton Lakes**	**43.99**	**334**	*e*P		**P**	**14 45 20.4**	**-1.1**
	comp=Z,8.7nm,0.9s								
KHMM	**Horse Mountain**	**43.99**	**319**	*e*P		**P**	**14 45 22.5**	**+0.8**
	comp=Z,12nm,0.8s								
A13A	**Flathead Natio**	**44.11**	**334**	⇑P		**P**	**14 45 21.4**	**-1.0**
	baz=44								
C11A	**Tepee Creek (N**	**44.14**	**331**	⇓P		**P**	**14 45 20.8**	**-1.8**
	baz=44								
B12A	**Libby**	**44.29**	**332**	⇑P		**P**	**14 45 22.8**	**-1.0**
	baz=44								
A12A	**Yaak River Ran**	**44.66**	**333**	⇓P		**P**	**14 45 25.8**	**-1.0**
	baz=45								
HAWA	**Hanford**	**44.78**	**328**	*e*P		**P**	**14 45 27.9**	**+0.2**
	comp=Z,14nm,0.8s								
NEW	**Newport**	**44.85**	**331**	⇓P		**P**	**14 45 28.2**	**-0.1**
	baz=45								
KBO	**Bosley Butte**	**45.01**	**320**	*e*P		**P**	**14 45 30.6**	**+0.9**
	comp=Z,30nm,1.3s								
KBO				*e*			14 45 41.7		
FFC	**Flin Flon**	**45.02**	**347**	P		**P**	**14 45 28.0**	**-1.5**
	comp=Z,165nm,0.9s,SNR=19								
FFC	**Flin Flon**	**45.02**	**347**	*i* P		**P**	**14 45 28.6**	**-0.9**
FFC	**Flin Flon**	**45.02**	**347**	*e*P		**P**	**14 45 28.0**	**-1.5**
	comp=Z,6.5nm,0.6s								
SCHQ	**Schefferville**	**46.16**	**16**	*e*P		**P**	**14 45 36.4**	**-2.1**
	comp=Z,14nm,0.6s								
SCHQ				*e*PcP		**PcP**	**14 47 13.4**	**-0.2**
SCHQ				PcP		**PcP**	**14 47 13.5**	**-0.1**
SCHQ	**Schefferville**	**46.16**	**16**	P		**P**	**14 45 36.9**	**-1.6**
	comp=Z,14nm,0.5s,baz=211,slow=6.7,SNR=36								
SCHQ				PcP		**PcP**	**14 47 13.5**	**-0.1**
	comp=Z,6.3nm,0.5s,baz=229,slow=5.5,SNR=6.2								
SCHQ				LR		LR	15 03 58.7		
	comp=Z,4μm,19.9s,baz=218,slow=35								
LON	**Longmire**	**46.22**	**327**	*e*P		**P**	**14 45 39.8**	**+0.6**
LON				*e*			14 47 15.3		
LON					pmax	pmax			
	comp=Z,8.0nm,0.9s								
LON	**Longmire**	**46.22**	**327**	*e*P		**P**	**14 45 39.8**	**+0.6**
	comp=Z,8.2nm,0.9s								
LON				*e*PcP		**PcP**	**14 47 15.3**	**+1.2**
BDFB	**Brasilia**	**46.60**	**124**	P		**P**	**14 45 41.9**	**-0.8**
BDFB	**Brasilia**	**46.60**	**124**	P		**P**	**14 45 41.9**	**-0.8**
	comp=Z,15nm,0.6s,baz=290,slow=11,SNR=19								
BDFB				LR		LR	15 06 02.5		
	comp=Z,3μm,18.7s,baz=159,slow=37								
CPUP	**Villa Florida**	**46.96**	**143**	P		**P**	**14 45 44.4**	**-0.8**
CPUP	**Villa Florida**	**46.96**	**143**	P		**P**	**14 45 44.4**	**-0.8**
	comp=Z,4.2nm,0.6s,baz=321,slow=8.7,SNR=15								
PLCA	**Paso Flores**	**53.83**	**165**	P		**P**	**14 46 36.6**	**-0.2**
PLCA	**Paso Flores**	**53.83**	**165**	P		**P**	**14 46 36.6**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=16,slow=12,SNR=4.6								
FRB	**Frobisher Bay**	**53.92**	**10**	P		**P**	**14 46 35.9**	**-1.2**
FRB	**Frobisher Bay**	**53.92**	**10**	P		**P**	**14 46 35.9**	**-1.2**
	comp=Z,8.4nm,0.8s,baz=201,slow=7.0,SNR=11								
YKA	**Yellowknife Ar**	**54.97**	**345**	P		**P**	**14 46 43.2**	**-1.5**
YKA				PcP		**PcP**	**14 47 46.3**	**+0.4**
YKA				ScP		**ScP**	**14 51 45.5**	**+5.8**
YKA	**Yellowknife Ar**	**54.97**	**345**	P		**P**	**14 46 43.2**	**-1.5**
	comp=Z,12nm,0.9s,baz=137,slow=7.4,SNR=53								
YKA				PcP		**PcP**	**14 47 46.3**	**+0.4**
	comp=Z,3.4nm,0.6s,baz=147,slow=4.0,SNR=15								
YKA				ScP		**ScP**	**14 51 45.4**	**+5.8**
	comp=Z,0.3nm,0.6s,baz=147,slow=4.5,SNR=4.0								
YKW3	**Yellowknife Ar**	**55.02**	**345**	*e*P		**P**	**14 46 43.1**	**-2.1**
	comp=Z,0.3nm,0.9s								
RKT	**Rikitea**	**58.42**	**234**	*e*S		S	14 55 18.5	+10	
	comp=Z,2μm,26.8s								
RKT				*e*LQ		LQ	15 02 03.0		
	comp=Z,877nm,31.0s								
RKT				*e*LR		LR	15 04 31.3		
	comp=Z,1μm,25.8s,baz=47								
RES	**Resolute Bay**	**63.56**	**358**	P		**P**	**14 47 43.2**	**-0.7**
RES	**Resolute Bay**	**63.56**	**358**	P		**P**	**14 47 43.2**	**-0.7**
	comp=Z,8.6nm,0.6s,baz=178,slow=8.0,SNR=21								
EGAK	**Eagle**	**65.22**	**337**	*e*P		**P**	**14 47 53.8**	**-1.1**
	comp=Z,12nm,1.0s								
MENT	**Mentasta**	**65.41**	**335**	*e*P		**P**	**14 47 55.8**	**-0.4**
PAX	**Paxson**	**66.15**	**335**	*e*P		**P**	**14 48 00.3**	**-0.7**
PAX					pmax	pmax			
	comp=Z,7.0nm,0.8s								
PAX	**Paxson**	**66.15**	**335**	*e*P		**P**	**14 48 00.3**	**-0.7**
	comp=Z,6.8nm,0.8s								
SML	**Sawmill**	**66.96**	**333**	*e*P		**P**	**14 48 05.5**	**-0.7**
SML					pmax	pmax			
	comp=Z,6.0nm,1.3s								
SML	**Sawmill**	**66.96**	**333**	*e*P		**P**	**14 48 05.5**	**-0.7**
	comp=Z,5.8nm,1.3s								
ILAR	**Eielson Array**	**67.44**	**336**	P		**P**	**14 48 07.8**	**-1.3**
ILAR				PP		**PP**	**14 50 41.5**	**+3.3**
ILAR	**Eielson Array**	**67.44**	**336**	P		**P**	**14 48 07.8**	**-1.3**
	comp=Z,8.5nm,0.8s,baz=111,slow=4.8,SNR=78								
ILAR				PP		**PP**	**14 50 41.5**	**+3.3**
	comp=Z,2.1nm,1.0s,baz=108,slow=6.3,SNR=4.2								
SUMG	**Summit**	**67.51**	**14**	*i* P		**pP**	**14 48 25.5**	**-0.4**
SUMG					pmax	pmax			
	comp=Z,9.0nm,1.0s								
SUMG	**Summit**	**67.51**	**14**	*i* P		pP	14 48 25.5	-0.4	
	comp=Z,8.9nm,1.0s								
COLA	**College**	**67.86**	**336**	*e*P		**P**	**14 48 10.7**	**-1.0**
COLA					pmax	pmax			
	comp=Z,15nm,1.1s								
COLA	**College**	**67.86**	**336**	*e*P		**P**	**14 48 10.7**	**-1.0**
	comp=Z,3.9nm,1.1s								
MCK	**McKinley**	**67.89**	**335**	*e*P		**P**	**14 48 11.4**	**-0.6**
MCK					pmax	pmax			
	comp=Z,27nm,1.0s								
MCK	**McKinley**	**67.89**	**335**	*e*P		**P**	**14 48 11.4**	**-0.6**
	comp=Z,26nm,1.0s								
TRF	**Thorofare Moun**	**68.36**	**334**	*e*P		**P**	**14 48 13.6**	**-1.6**
	comp=Z,19nm,1.0s								
PPT2	**Papeete2**	**68.51**	**246**	*e*S		S	14 57 24.5	+10	
	comp=Z,2μm,28.2s								
PPT2	**Papeete2**	**68.51**	**246**	*e*LR		LR	15 09 01.8		
	comp=Z,2μm,25.0s,baz=58								
RSO	**Redoubt South**	**68.59**	**331**	*e*P		**P**	**14 48 16.1**	**-0.5**
	comp=Z,27nm,0.8s								
COLD	**Coldfoot**	**69.60**	**338**	*e*P		**P**	**14 48 22.7**	**+0.2**
	comp=Z,15nm,1.0s								
TBI	**Tubuai**	**70.47**	**240**	*e*S		S	14 57 47.6	+10	
	comp=Z,951nm,26.5s								
TBI	**Tubuai**	**70.47**	**240**	*e*LR		LR	15 10 06.1		
	comp=Z,1μm,25.8s,baz=70								
CHGN	**Chignik**	**70.63**	**326**	*e*P		**P**	**14 48 28.0**	**-0.9**
DAG	**Danmarks Havn**	**74.10**	**13**	*i* P		**P**	**14 48 46.8**	**-2.5**
DAG					pmax	pmax			
	comp=Z,2.0nm,0.7s								
DAG	**Danmarks Havn**	**74.10**	**13**	*i* P		**P**	**14 48 46.8**	**-2.5**
	comp=Z,2.4nm,0.7s								
SPITS	**Spitsbergen Ar**	**81.67**	**12**	P		**P**	**14 49 29.8**	**-1.6**
SPITS	**Spitsbergen Ar**	**81.67**	**12**	P		**P**	**14 49 29.8**	**-1.6**
	comp=Z,2.4nm,0.8s,baz=190,slow=2.4,SNR=4.7								
TORD	**Torodi Ar. Bea**	**85.82**	**77**	P		**P**	**14 49 51.3**	**-2.4**
TORD	**Torodi Ar. Bea**	**85.82**	**77**	P		**P**	**14 49 51.3**	**-2.4**
	comp=Z,0.3nm,0.6s,baz=275,slow=4.9,SNR=4.9								
BILL	**Bilibino**	**85.92**	**339**	*i* P		**P**	**14 49 53.0**	**-0.2**
BILL				*e*			14 53 09.9		
BILL				*e*S		**SKSac**	**15 00 07.6**	**-6.2**
BILL					pmax	pmax			
	comp=Z,20nm,1.2s								
MOTA	**Moosalm**	**86.94**	**42**	P		pP	14 50 12.8	-2.6	
	comp=Z,3.1nm,0.5s								
ARCES	**ARCESS Array B**	**87.01**	**19**	P		**P**	**14 49 56.9**	**-1.6**
ARCES	**ARCESS Array B**	**87.01**	**19**	P		**P**	**14 49 56.9**	**-1.6**
	comp=Z,2.0nm,0.8s,baz=281,slow=3.2,SNR=4.8								
CLL	**Collm**	**87.20**	**38**	*e*P		**P**	**14 49 58.0**	**-1.8**
CLL	**Collm**	**87.20**	**38**	*e*P		**P**	**14 49 58.0**	**-1.8**
CLL				*e*PP		**PP**	**14 53 24.0**	**0.0**
CLL				*e*S		**S**	**15 00 39.0**	**+4.0**
CLL				*e*PS		**PS**	**15 01 44.0**	**+0.4**
CLL				*e*PPS		PPS	15 02 06.0		
FX1	**Attu Island--F**	**87.22**	**323**	*e*P		**P**	**14 49 59.8**	**0.0**
FX1	**Attu Island--F**	**87.22**	**323**	P		**P**	**14 49 59.6**	**-0.2**
	comp=Z,20nm,0.6s,baz=301,slow=1.2,SNR=48								
BRG	**Berggiesshubel**	**87.88**	**39**	*e*P		**pP**	**14 50 21.9**	**+2.1**
	comp=Z,3.4nm,1.2s								
BRG				PP		**PP**	**14 53 26.0**	**-3.5**
BRG				S		**S**	**15 00 46.0**	**+4.4**
VYHS	**Vyhne**	**91.62**	**40**	*e*P		**P**	**14 50 23.2**	**+2.5**
VYHS	**Vyhne**	**91.62**	**40**	*e*P		**P**	**14 50 23.2**	**+2.5**
TIXI	**Tiksi**	**93.95**	**349**	*de*P		**P**	**14 50 29.5**	**-1.4**
TIXI					pmax	pmax			
	comp=Z,4.0nm,0.6s								
PETK	**Petropavlovsk-**	**95.84**	**327**	P		**P**	**14 50 41.1**	**+1.2**
PETK	**Petropavlovsk-**	**95.84**	**327**	P		**P**	**14 50 41.1**	**+1.2**
PETK	**Petropavlovsk-**	**95.84**	**327**	P		**P**	**14 50 41.1**	**+1.2**
	comp=Z,2.2nm,0.8s,baz=76,slow=7.8,SNR=5.5								
KIS	**Kishinev**	**98.41**	**39**	*e*P		P	14 50 41.0	-11	
KIS	**Kishinev**	**98.41**	**39**	*e*P		P	14 50 41.0	-11	
SNAA	**Sanae**	**98.65**	**161**	*e*P		Pdif	14 50 53.7	+1.5	
ABKAR	**Akbulak array**	**112.91**	**23**	*e*PKPdf		**PKiKP**	**14 55 50.8**	**+0.4**
BOSA	**Boshof**	**114.41**	**116**	PKP		PKPdf	14 55 53.7	-0.2	
BOSA	**Boshof**	**114.41**	**116**	PKP		PKPdf	14 55 53.7	-0.2	
	comp=Z,3.2nm,0.6s,baz=335,slow=6.4,SNR=8.1								
ZAA0	**Zalesovo Array**	**114.62**	**6**	*e*PKPdf		PKPdf	14 55 53.1	-0.3	
ZALV	**Zalesovo Beam**	**114.62**	**6**	PKIKP		PKPdf	14 55 53.4	-0.1	
ZALV	**Zalesovo Beam**	**114.62**	**6**	PKP		PKPdf	14 55 53.4	-0.1	
ZALV	**Zalesovo Beam**	**114.62**	**6**	PKP		PKPdf	14 55 53.4	-0.1	
	comp=Z,2.9nm,0.6s,baz=290,slow=2.0,SNR=16								
USRK	**Ussuriysk Arra**	**114.63**	**330**	PKP		PKPdf	14 55 54.6	+0.8	
	comp=Z,0.6nm,0.6s,baz=64,slow=8.7,SNR=4.5								
MJAR	**Matsushiro Arr**	**116.46**	**321**	PKP		**PKPdf**	**14 55 58.6**	**+1.0**
MJAR	**Matsushiro Arr**	**116.46**	**321**	PKP		**PKPdf**	**14 55 58.6**	**+1.0**
	comp=Z,1.9nm,0.6s,baz=101,slow=1.0,SNR=8.7								
KURK	**Kurchatov**	**116.93**	**11**	PKIKP		**PKPdf**	**14 55 58.6**	**+0.6**
KURK	**Kurchatov**	**116.93**	**11**	PKP		**PKPdf**	**14 55 58.6**	**+0.6**
KURBB	**Kurchatov Arra**	**117.00**	**11**	PKP		**PKPdf**	**14 55 58.6**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=345,slow=1.8,SNR=34								
CN2	**Changchun**	**117.92**	**334**	*e*PKP		**PKPdf**	**14 56 01.9**	**+1.8**
SONM	**Songino Array**	**120.03**	**350**	PKP		**PKPdf**	**14 56 04.8**	**+0.5**
SONM	**Songino Array**	**120.03**	**350**	PKP		**PKPdf**	**14 56 04.8**	**+0.5**
	comp=Z,2.8nm,0.6s,baz=347,slow=1.6,SNR=24								
MK31	**Makanchi Array**	**121.34**	**9**	*e*PKIKP		**PKPdf**	**14 56 05.6**	**-1.1**
MK31	**Makanchi Array**	**121.34**	**9**	*e*PKPdf		**PKPdf**	**14 56 05.6**	**-1.1**
MKAR	**Makanchi Array**	**121.34**	**9**	*c i*PKIKP		**PKPdf**	**14 56 06.0**	**-0.7**
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
MKAR	**Makanchi Array**	**121.34**	**9**	PKP		**PKPdf**	**14 56 06.1**	**-0.6**
MKAR	**Makanchi Array**	**121.34**	**9**	PKP		**PKPdf**	**14 56 06.1**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=2.7,slow=2.2,SNR=19								
KSRS	**Korea Array**	**121.72**	**328**	PKP		**PKPdf**	**14 56 08.8**	**+1.2**
	comp=Z,12nm,0.6s,baz=12,slow=1.8,SNR=70								
KSAR	**Wonju Array Be**	**121.75**	**328**	PKP		**PKPdf**	**14 56 08.8**	**+1.2**
KKAR	**Karatay Array**	**121.97**	**20**	*e*PKIKP		**PKPdf**	**14 56 08.3**	**+0.3**
KKAR	**Karatay Array**	**121.97**	**20**	*e*PKPdf		**PKPdf**	**14 56 08.3**	**+0.3**
EKS2	**Erkin-Say**	**123.38**	**17**	*e*PKIKP		**PKPdf**	**14 56 12.0**	**+1.1**
EKS2	**Erkin-Say**	**123.38**	**17**	*e*PKPdf		**PKPdf**	**14 56 12.0**	**+1.1**
AAK	**Ala-Archa**	**123.62**	**17**	*c i*PKIKP		**PKPdf**	**14 56 12.4**	**+1.0**
AAK					pmax	pmax			
	comp=Z,6.0nm,0.7s								
AAK	**Ala-Archa**	**123.62**	**17**	PKP		**PKPdf**	**14 56 12.9**	**+1.5**
AAK	**Ala-Archa**	**123.62**	**17**	PKP		**PKPdf**	**14 56 12.9**	**+1.5**
	comp=Z,2.3nm,0.6s,baz=193,slow=3.2,SNR=6.8								
TKM2	**Tokmak 2**	**123.65**	**16**	*e*PKIKP		**PKPdf**	**14 56 11.9**	**+0.4**
TKM2	**Tokmak 2**	**123.65**	**16**	*e*PKPdf		**PKPdf**	**14 56 11.9**	**+0.4**
WMQ	**Urumqi**	**124.92**	**5**	P		**PKPdf**	**14 56 14.9**	**+1.2**
WMQ	**Urumqi**	**124.92**	**5**	PKP		**PKPdf**	**14 56 11.6**	**-2.1**
WMQ				PP		**PP**	**14 58 04.8**	**+3.7**
WMQ				AMB		AMB			
	comp=Z,520nm,14.8s								
WMQ				LR		LR			
	comp=N,15μm,26.4s								
WMQ				LR		LR			
	comp=E,10μm,30.1s								
WMQ				LR		LR			
	comp=Z,13μm,28.0s								
HHC	**Hu-ho-hao-te**	**125.49**	**343**	*e*PKP		**PKPdf**	**14 56 14.3**	**-0.6**
HHC				sPKP			14 56 53.9		
HHC				PP		**PP**	**14 58 09.1**	**+4.0**
HHC				AMB		AMB			
	comp=Z,220nm,10.6s								
HHC				LR		LR			
	comp=N,2μm,19.6s								
HHC				LR		LR			
	comp=E,640nm,17.2s								
HHC				LR		LR			
	comp=Z,840nm,12.9s								
KSH	**Kashi**	**126.92**	**17**	*e*PKP		**PKPdf**	**14 56 19.5**	**+1.8**
GTA	**Gaotai**	**129.23**	**354**	*e*PKP		**PKPdf**	**14 56 23.2**	**+1.1**
GTA				sPKP			14 57 00.6		
NJ2	**Nanjing**	**130.52**	**331**	*e*PKP		**PKPdf**	**14 56 22.4**	**-2.2**
STKA	**Stephens Creek**	**131.21**	**237**	PKP		**PKPdf**	**14 56 26.8**	**+1.0**
STKA	**Stephens Creek**	**131.21**	**237**	PKP		**PKPdf**	**14 56 26.8**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=344,slow=13,SNR=3.4								
LZH	**Lanzhou**	**131.88**	**349**	*e*PKP		**PKPdf**	**14 56 28.8**	**+1.5**
LZH				sPKP			14 57 04.0		
LZH				PP		PP	14 58 53.3	+6.4	
LZH				PKS		**PKSdf**	**15 00 03.6**	**-0.4**
LZH				SKS		**SKSdf**	**15 03 28.0**	**-6.2**
LZH				SKKS		SKKSac	15 05 31.5	-8.3	
LZH				SS		**SS**	**15 16 12.8**	**-5.0**
LZH				AMB		AMB			
	comp=Z,67nm,5.8s								
LZH				LR		LR			
	comp=N,300nm,18.0s								
LZH				LR		LR			
	comp=E,320nm,17.6s								
LZH				LR		LR			
	comp=Z,480nm,19.5s								
XAN	**Xi'an**	**132.59**	**342**	PKP		**PKPdf**	**14 56 31.1**	**+2.5**
WHN	**Wuhan**	**133.81**	**335**	PKP		**PKPdf**	**14 56 29.8**	**-1.1**
OPO	**Ambohidratompo**	**134.83**	**105**	PKP		**PKPdf**	**14 56 35.2**	**+2.0**
OPO	**Ambohidratompo**	**134.83**	**105**	PKP		**PKPdf**	**14 56 35.2**	**+2.0**
	comp=Z,1.6nm,0.6s,baz=47,slow=17,SNR=5.1								
ENH	**Enshi**	**135.90**	**340**	*e*PKPdf		**PKPdf**	**14 56 34.5**	**-0.3**
SSLB	**Suanglung**	**135.97**	**322**	PKPdf		**PKPdf**	**14 56 35.8**	**+0.6**
CD2	**Chengdu**	**136.90**	**347**	PKP		**PKPdf**	**14 56 35.1**	**-1.6**
CD2				sPKP			14 57 08.6		
CD2				PP		**PP**	**14 59 21.3**	**+2.6**
CD2				PKS		**PKSdf**	**15 00 09.9**	**-3.2**
CD2				SKS		SKSdf	15 03 35.3	-7.7	
CD2				SKKS		SKKSac	15 06 02.4	-7.6	
CD2				SS		**SS**	**15 17 14.2**	**-3.9**
CD2				AMB		AMB			
	comp=Z,100nm,6.2s								
AS31	**Alice Springs**	**139.62**	**247**	*e*PKPdf		**PKPdf**	**14 56 41.9**	**0.0**
ASAR	**Alice Springs**	**139.62**	**247**	PKP		**PKPdf**	**14 56 43.0**	**+1.1**
ASAR				SKPbc		**SKPab**	**15 00 22.4**	**-1.1**
ASAR	**Alice Springs**	**139.62**	**247**	PKP		**PKPdf**	**14 56 43.0**	**+1.1**
	comp=Z,3.1nm,0.6s,baz=104,slow=1.5,SNR=14								
ASAR				SKPbc		**SKPab**	**15 00 22.4**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=103,slow=2.9,SNR=3.9								
WRAB	**Tennant Creek**	**139.75**	**252**	*e*PKIKP		**PKPdf**	**14 56 42.3**	**+0.2

KURBB **Kurchatov Arra 80.78 323** P **P** **15 01 33.2 -2.4**
0.3nm,0.3s,baz=114,slow=4.3,SNR=4.6
TORD **Torodi Ar. Bea 144.52 284** PKP **PKPab** **15 08 56.7 -1.2**
1.6nm,0.6s,baz=66,slow=4.0,SNR=15
SIV **San Ignacio 145.17 129** PKP **PKPbc** **15 08 58.9 -1.3**
baz=242,slow=8.7

BGS ***06*** *14:53:03.2±1.7, 49.˚13N×179.˚23E, h10km, mb5.7, MS5.5*
IDC ***06*** *14:53:08.6±0.3, 50.˚36N×177.˚09E, h0km, mb5.7/42, mb1 5.8/43, mb1mx5.8/44, mbtmp5.7/43, ML5.6/2, MS5.7/38, Ms1 5.7/38, ms1mx5.6/51, Error ellipse: s-maj=10.0km s-min=7.8km az=160.0*
BJI ***06*** *14:53:09.8, 50.˚54N×177.˚13E, h26km, mB6.2/55, mb5.7/72, Ms6.0/76, Ms7 5.9/68*
ISCJB ***06*** *14:53:09.8±0.6, 50.˚40N±0.˚02×177.˚02E±0.˚02, h17km±4km, mb5.8/501, MS5.8/272, Error ellipse: s-maj=3.3km s-min=2.2km az=166.6*
PDG ***06*** *14:53:09.7, 50.˚40N×177.˚10W, h10km, mb5.9/1*
MOS ***06*** *14:53:11.2±0.8, 50.˚57N×177.˚04E, h23km, mb6.0/131, MS5.7/94, Error ellipse: s-maj=7.5km s-min=6.9km az=144.7*
SZGRF ***06*** *14:53:11.2, 50.˚80N×176.˚74E, h33km, mb5.7, MS5.5, Rat Islands, Aleutian Islands, United States*
NEIC ***06*** *14:53:12.2±0.1, 50.˚44N×176.˚99E, h22km, mb6.0/243, ME6.1, MS5.8/154, MW5.9, MW6.0, ML5.8(AEIC), Error ellipse: s-maj=3.0km s-min=1.9km az=166.0 Broadband fault plane solution: P waves. NP1:φ=155.00000°, δ85.00000°, λ-35.00000°. NP2:φ=248.00000°, δ55.00000°, λ-174.00000°. Principal axes: T Plg20.0000°, Azm207.0000°; N Plg0.0000°, Azm0.0000°; P Plg28.0000°, Azm106.0000°; Moment Tensor Solution. s86 Moment tensor: Scale 10^17 Nm; Mrr-2.35; Mθθ4.93; Mφφ-2.57; Mrθ-1.46; Mθφ-0.05; Mφr6.55; Best double couple: M0 7.90000×10^17 NP1:φ=139.00000°, δ79.00000°, λ-55.00000°. NP2:φ=245.00000°, δ37.00000°, λ-161.00000°. Principal axes: T 5.7100, Plg25.0000°, Azm202.0000°; N 3.3800, Plg34.0000°, Azm311.0000°; P -9.0800, Plg44.0000°, Azm84.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
BKK ***06*** *14:53:12.3±0.6, 50.˚8N±7.˚17E±1.˚1, h10km, M6.1/39, mb6.0/39, mB6.4/30, Mw(mB)6.1/30*
GCMT ***06*** *14:53:17.0±0.1, 50.˚46N×177.˚00E, h36km, MW6.1, Moment Tensor Solution. s111,c245; s82,c119; Moment tensor: Scale 10^18Nm; Mrr-0.51±.01; Mθθ0.86±.01; Mφφ-0.35±.01; Mrθ-0.41±.02; Mθφ-1.01±.01; Mφr1.18±.02; Best double couple: M0 1.80000×10^18 NP1:φ=259.00000°, δ41.00000°, λ-163.00000°. NP2: φ=157.00000°, δ79.00000°, λ-50.00000°. Principal axes: T 1.8500, Plg24.0000°, Azm217.0000°; N -0.1600, Plg39.0000°, Azm328.0000°; P -1.6900, Plg42.0000°, Azm104.0000°; Data Used: II IU CN IC G. Surface waves: sta=115, comp=275, per= 50.*
DJA ***06*** *14:53:26.9±3.1, 50.˚N±7.˚×17.˚7E±1.˚0, h146km±29km, M5.8/30, mB6.1/24, mb5.7/30, Mw(mB)5.8/24*
NEIC ***06*** *14:53:26.8±0.0, 50.˚45N×176.˚75E, h38km, Moment Tensor Solution. s158 Moment tensor: Scale 10^18Nm; Mrr 0.00; Mθθ 0.00; Mφφ 0.00; Mrθ 0.00; Mθφ 0.00; Mφr 0.00; Best double couple: M0 1.30000×10^18 NP1:φ=159.00000°, δ74.00000°, λ-42.00000°. NP2:φ=264.00000°, δ49.00000°, λ-157.00000°. Principal axes: T 1.3700, Plg15.0000°, Azm216.0000°; N -0.0800, Plg44.0000°, Azm322.0000°; P -1.2900, Plg41.0000°, Azm112.0000°;*
ISC 06 14:53:12.6±0.2, 50.42N±0.03×177.06E±0.02, h26km±1km, h25km;pP-P,n1633,σ1s21/1875, mb5.9/514, MS5.8/272, 271C-429D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.71**	**55**	P		**Pn**	**14 53 41.1**	**+0.3**
AMKA				S		**Sn**	**14 53 58.8**	**-3.0**
LSSA	**Little Sitkin**	**1.78**	**30**	P		**Pn**	**14 53 42.1**	**+0.4**
LSSE	**Little Sitkin**	**1.79**	**32**	P		**Pn**	**14 53 42.7**	**+0.9**
LSSE				S		**Sn**	**14 54 01.5**	**-2.1**
LSNW	**Little Sitkin**	**1.80**	**30**	P		**Pn**	**14 53 42.2**	**+0.3**
LSPA	**Little Sitkin**	**1.81**	**31**	P		**Pn**	**14 53 42.7**	**+0.6**
LSPA				S		**Sn**	**14 54 03.7**	**-0.4**
CESW	**Semis' Southwe**	**2.16**	**46**	P		**Pn**	**14 53 48.2**	**+1.2**
CETU	**Semis' Tuman**	**2.18**	**44**	P		**Pn**	**14 53 47.7**	**+0.6**
CERAA	**Semis' Rag'd T**	**2.22**	**47**	P		**Pn**	**14 53 49.0**	**+1.2**
CEAP	**Semis' Anvil P**	**2.24**	**44**	P		**Pn**	**14 53 49.3**	**+1.4**
SMY	**Shemya**	**2.96**	**323**	P		**Pn**	**14 53 58.7**	**+0.9**
SMY				S		**Sn**	**14 54 30.8**	**-1.6**
SMY	**Shemya**	**2.96**	**323**	P		**Pn**	**14 53 58.6**	**+0.9**
SMY				S		**Sn**	**14 54 30.8**	**-1.6**
FX1	**Attu Island--F**	**3.46**	**317**	Pn		**Pn**	**14 54 03.9**	**-0.8**
FX1				Sn		**Sn**	**14 54 41.8**	**-3.0**
FX1	**Attu Island--F**	**3.46**	**317**	Pn		**Pn**	**14 54 03.9**	**-0.8**
	1μm,0.3s,baz=157,slow=8.9,SNR=1317							
FX1				Sn		**Sn**	**14 54 41.8**	**-3.0**
	7μm,0.3s,baz=288,slow=19,SNR=30							
FX1				LR		LR	14 55 24.1	
	comp=Z,91μm,20.4s,baz=312,slow=39							
NIKH	**Nikolski High**	**9.12**	**68**	P		**Pn**	**14 55 22.6**	**+0.2**
OKSP	**Okmok Steeple**	**9.50**	**67**	P		**Pn**	**14 55 29.7**	**+2.0**
OKSO	**Okmok South**	**9.60**	**66**	P		**Pn**	**14 55 29.6**	**+0.6**
UNV	**Unalaska Valle**	**10.67**	**65**	*e*P		**Pn**	**14 55 44.0**	**+0.4**
	673nm,0.8s							
AKUT	**Akutan**	**11.15**	**64**	*e*P		**Pn**	**14 55 51.3**	**+1.2**
	848nm,0.9s							
PET	**Petropavlovsk**	**11.71**	**290**	*i*P		**Pn**	**14 55 58.0**	**+0.2**
PET				*e*S		Sn	14 58 00.0	-7.4
PET				pmax	pmax			
	comp=Z,1μm,0.7s							
PET				pmax	pmax			
	comp=Z,7μm,3.0s							
PET				pmax	pmax			
	comp=Z,3μm,4.3s							
PET				MLR	MLR			
	comp=Z,37μm,21.0s							
PET				MLR	MLR			
	comp=Z,31μm,20.0s							
PETK	**Petropavlovsk-**	**12.29**	**290**	P		**Pn**	**14 56 05.3**	**-0.5**
PETK							14 58 19.2	
PETK				pmax	pmax			
	comp=Z,113nm,0.3s							
PETK				smax	smax			
	comp=N,55nm,0.3s							
PETK				MLR	MLR			
	comp=Z,18μm,20.6s							
PETK	**Petropavlovsk-**	**12.29**	**290**	Pn		**Pn**	**14 56 05.2**	**-0.5**
PETK				Sn		**Sn**	**14 58 19.1**	**-2.5**
PETK	**Petropavlovsk-**	**12.29**	**290**	Pn		**Pn**	**14 56 05.2**	**-0.5**
	comp=Z,113nm,0.3s,baz=96,slow=9.4,SNR=26							
PETK				Sn		**Sn**	**14 58 19.1**	**-2.5**
	comp=Z,55nm,0.3s,baz=177,slow=12,SNR=10							
PETK				LR		LR	15 00 34.8	
	comp=Z,18μm,20.6s,baz=108,slow=36							
FALS	**False Pass**	**12.65**	**62**	*e*P		**Pn**	**14 56 10.7**	**+0.1**
	comp=Z,450nm,0.4s							
SKR	**Severo-Kuril's**	**13.32**	**279**	*i*P		Pn	14 56 16.0	-3.7
SKR				pmax	pmax			
	comp=N,540nm,0.8s							
SKR				pmax	pmax			
	comp=E,1μm,0.8s							
SKR				pmax	pmax			
	comp=Z,2μm,0.8s							
SKR				pmax	pmax			
	comp=Z,8μm,6.0s							
SKR				pmax	pmax			
	comp=N,1μm,2.0s							
SKR				pmax	pmax			
	comp=E,9μm,4.0s							
SKR				MLR	MLR			
	comp=E,16μm,18.0s							
SKR				MLR	MLR			
	comp=Z,15μm,18.0s							
SKR				MLR	MLR			
	comp=N,19μm,14.0s							
SDPT	**Sand Point**	**14.40**	**61**	*e*P		**Pn**	**14 56 31.8**	**-2.8**
	comp=N,360nm,0.6s							
GAMB	**Gambell**	**14.68**	**20**	*e*P		**Pn**	**14 56 38.0**	**-0.2**
	comp=N,577nm,1.2s							
CHGN	**Chignik**	**15.73**	**59**	*e*P		**Pn**	**14 56 48.6**	**-3.6**
TNA	**Tin City**	**17.06**	**22**	*e*P		**Pn**	**14 57 09.2**	**+0.2**
	comp=N,700nm,1.4s							
BILL	**Bilibino**	**18.46**	**347**	*i*P		**Pn**	**14 57 26.3**	**+0.1**
BILL				*e*S		**Sn**	**15 00 49.0**	**-2.4**
BILL				pmax	pmax			
	comp=Z,267nm,0.8s							
BILL				MLR	MLR			
	comp=Z,12μm,17.0s							
OHAK	**Old Harbor**	**18.67**	**57**	*e*P		**P**	**14 57 24.2**	**-4.2**
	comp=Z,119nm,0.4s							
OHAK				*e*S		Sn	15 00 42.3	-14
KDAK	**Kodiak Island**	**19.14**	**56**	P		**P**	**14 57 30.0**	**-3.5**
	comp=Z,1μm,0.5s,SNR=61							
KDAK	**Kodiak Island**	**19.14**	**56**	*e*P		**P**	**14 57 29.6**	**-3.9**
	comp=Z,260nm,1.0s							
KDAK				S		**Sn**	**15 01 03.4**	**-4.5**
KDAK	**Kodiak Island**	**19.14**	**56**	P		**P**	**14 57 30.1**	**-3.3**
	comp=Z,16nm,0.3s,baz=248,slow=3.3,SNR=61							
KDAK				S		**Sn**	**15 01 03.4**	**-4.5**
	comp=Z,8.0nm,0.3s,baz=163,slow=19,SNR=6.6							
RSO	**Redoubt South**	**19.67**	**48**	*e*P		**P**	**14 57 39.5**	**-0.1**
	comp=Z,3μm,1.8s							
KUR	**Kuril'sk**	**20.20**	**266**	*c i*P		Pn	14 57 46.5	-0.7
KUR				*e*S		S	15 01 22.0	-8.5
KUR				pmax	pmax			
	comp=Z,123nm,0.9s							
KUR				pmax	pmax			
	comp=N,48nm,0.4s							
KUR				pmax	pmax			
	comp=E,78nm,0.9s							
KUR				smax	smax			
	comp=N,84nm,0.6s							
KUR				smax	smax			
	comp=E,148nm,0.6s							
KUR				MLR	MLR			
	comp=N,4μm,19.0s							
KUR				MLR	MLR			
	comp=E,3μm,19.0s							
KUR				MLR	MLR			
	comp=Z,7μm,19.0s							
PMR	**Palmer**	**21.68**	**46**	*e*P		**P**	**14 57 59.2**	**-1.9**
PMR				pmax	pmax			
	comp=Z,125nm,0.8s							
PMR	**Palmer**	**21.68**	**46**	*e*P		**P**	**14 57 59.2**	**-1.9**
	comp=Z,125nm,0.8s							
TRF	**Thorofare Moun**	**21.77**	**41**	*e*P		**P**	**14 58 00.9**	**-1.3**
	comp=Z,363nm,0.9s							
YUK	**Yuzh-Kuril'sk**	**22.02**	**265**	*c i*P		**P**	**14 58 05.4**	**+0.6**
YUK				*i* S		**S**	**15 02 08.3**	**+2.1**
YUK				pmax	pmax			
	comp=Z,3μm,1.0s							
YUK				pmax	pmax			
	comp=E,3μm,1.0s							
YUK				pmax	pmax			
	comp=N,1μm,1.0s							
YUK				pmax	pmax			
	comp=Z,8μm,2.1s							
YUK				MLR	MLR			
	comp=N,2μm,19.0s							
YUK				MLR	MLR			
	comp=E,24μm,19.0s							
YUK				MLR	MLR			
	comp=Z,14μm,19.0s							
SML	**Sawmill**	**22.11**	**46**	*e*P		**P**	**14 58 04.4**	**-1.3**
SML				pmax	pmax			
	comp=Z,78nm,0.9s							
SML	**Sawmill**	**22.11**	**46**	*e*P		**P**	**14 58 04.4**	**-1.3**
	comp=Z,78nm,0.9s							
MCK	**McKinley**	**22.43**	**41**	*e*P		**P**	**14 58 07.4**	**-1.7**
MCK				pmax	pmax			
	comp=Z,136nm,0.3s							
MCK	**McKinley**	**22.43**	**41**	*e*P		**P**	**14 58 07.4**	**-1.7**
	comp=Z,136nm,0.3s							
MIDW	**Midway**	**22.58**	**167**	*e*P		**P**	**14 58 10.5**	**-0.4**
	comp=Z,247nm,0.9s							
MIDW				LR	LR			
	comp=Z,7μm,20.0s							
MID	**Middleton Isla**	**22.61**	**52**	*e*P		**P**	**14 58 10.7**	**-0.3**
MID				pmax	pmax			
	comp=Z,395nm,0.8s							
MID	**Middleton Isla**	**22.61**	**52**	*e*P		**P**	**14 58 10.7**	**-0.3**
	comp=Z,395nm,0.8s							
YSS	**Yuzh-Sakhalins**	**22.79**	**275**	α *i*P		**P**	**14 58 15.0**	**+2.0**
YSS				*e*			14 58 21.0	
YSS				*i* *SP		**sP**	**14 58 26.0**	**+2.6**
YSS				*e*S		**S**	**15 02 17.0**	**-3.2**
YSS				*e*			15 02 25.0	
YSS				*e*SS		**SnSn**	**15 02 55.0**	**+3.6**
YSS				*e*			15 09 23.0	
YSS				pmax	pmax			
	comp=Z,510nm,1.2s							
YSS				pmax	pmax			
	comp=Z,6μm,6.0s							
YSS				MLR	MLR			
	comp=Z,24μm,19.0s							
YSS				MLR	MLR			
	comp=N,13μm,18.0s							
YSS				MLR	MLR			
	comp=E,20μm,20.0s							
DIV	**Divide**	**23.16**	**48**	*e*P		**P**	**14 58 14.7**	**-2.0**
	comp=E,165nm,0.7s							
COLA	**College**	**23.29**	**38**	*e*P		**P**	**14 58 16.2**	**-1.7**
COLA				pmax	pmax			
	comp=Z,155nm,0.9s							
COLA				MLR	MLR			
	comp=Z,32μm,20.0s							
COLA	**College**	**23.29**	**38**	*e*P		**P**	**14 58 16.2**	**-1.7**
	comp=Z,155nm,0.9s							
COLA				LR	LR			
	comp=Z,32μm,20.0s							
COLD	**Coldfoot**	**23.44**	**32**	*e*P		**P**	**14 58 19.1**	**-0.4**
	comp=Z,88nm,0.7s							
ILAR	**Eielson Array**	**23.64**	**39**	P		**P**	**14 58 18.4**	**-3.0**
ILAR				*e*			15 31 43.5	
ILAR	**Eielson Array**	**23.64**	**39**	P		**P**	**14 58 18.4**	**-3.0**
	comp=Z,29nm,0.7s,baz=242,slow=8.7,SNR=74							
ILAR				LR	LR		15 08 34.3	
	comp=Z,23μm,20.4s,baz=248,slow=39							
ILAR				P3KPbc			15 31 43.5	
	comp=Z,2.4nm,1.0s,baz=60,slow=3.7,SNR=18							
PAX	**Paxson**	**23.70**	**44**	*e*P		**P**	**14 58 20.7**	**-1.4**
PAX				pmax	pmax			
	comp=Z,47nm,1.2s							
PAX	**Paxson**	**23.70**	**44**	*e*P		**P**	**14 58 20.7**	**-1.4**
	comp=Z,47nm,1.2s							
ASAJ	**Asahikawa**	**24.06**	**268**	*e*P		**P**	**14 58 26.7**	**+1.2**
	comp=Z,294nm,0.9s							
ASAJ	**Asahikawa**	**24.06**	**268**	P		**P**	**14 58 25.9**	**+0.3**
	comp=Z,695nm,0.9s,baz=62,slow=5.8,SNR=253							
ASAJ				LR	LR		15 05 49.5	
	comp=Z,30μm,21.9s,baz=93,slow=32							
MENT	**Mentasta**	**24.47**	**44**	*e*P		**P**	**14 58 28.6**	**-0.5**
ERM	**Erimo**	**24.74**	**263**	P		**P**	**14 58 33.2**	**+1.5**
	comp=Z,4μm,1.1s,SNR=59							
ERM	**Erimo**	**24.74**	**263**	*ce*P		**P**	**14 58 32.4**	**+0.7**
ERM				pmax	pmax			
	comp=Z,545nm,1.0s							
ERM				MLR	MLR			
	comp=Z,18μm,18.0s							
ERM	**Erimo**	**24.74**	**263**	*e*P		**P**	**14 58 32.8**	**+1.0**
	comp=Z,924nm,1.1s							
ERM				LR	LR			
	comp=Z,26μm,22.0s							
EGAK	**Eagle**	**25.99**	**41**	*e*P		**P**	**14 58 42.1**	**-0.7**
	comp=Z,133nm,0.6s							
EGAK				LR	LR			
	comp=Z,38μm,21.0s							
PNL	**Peninsula**	**26.15**	**52**	*e*P		**P**	**14 58 43.5**	**-0.9**
	comp=Z,133nm,0.8s							
HABR	**Khabarovsk**	**27.12**	**282**	*c i*P		**P**	**14 58 54.1**	**+0.9**
HABR				*e*PP		**pP**	**14 59 00.3**	**-0.5**
HABR				*e*SP		**sP**	**14 59 02.9**	**-1.1**
HABR				*e*			14 59 36.9	
HABR				PPP	PPP		14 59 45.1	
HABR				*e*			15 02 15.5	
HABR				*e*S		**S**	**15 03 30.9**	**+1.2**
HABR				*e*SS		**sS**	**15 03 41.9**	**-0.4**
HABR				*e*SS		**SnSn**	**15 04 39.1**	**+1.8**
HABR				*e*			15 09 45.4	
HABR				pmax	pmax			
	comp=E,179nm,1.4s							
HABR				pmax	pmax			
	comp=Z,268nm,1.4s							
HABR				pmax	pmax			
	comp=N,54nm,1.4s							
HABR				MLR	MLR			
	comp=E,6μm,19.0s							
HABR				MLR	MLR			
	comp=N,7μm,17.0s							
HABR				MLR	MLR			
	comp=Z,9μm,17.0s							
YAK	**Yakutsk**	**28.11**	**313**	*i* P		**P**	**14 59 01.0**	**-0.8**
YAK				*e*PP		**pP**	**14 59 06.9**	**-2.6**
YAK				*e*			14 59 48.9	
YAK				*e*PPP		PPP	14 59 57.4	
YAK				*e*			15 02 11.6	
YAK				*e*S		**S**	**15 03 49.2**	**+4.3**
YAK				*e*SS		**sS**	**15 04 01.4**	**+3.8**
YAK				*e*SS		SnSn	15 05 11.9	+11
YAK				*e*SSS		SSS	15 05 27.2	
YAK				*e*			15 09 40.9	
YAK				pmax	pmax			
	comp=N,40nm,1.2s							
YAK				pmax	pmax			
	comp=E,122nm,1.3s							
YAK				pmax	pmax			
	comp=Z,226nm,1.0s							
YAK				pmax	pmax			
	comp=Z,515nm,1.5s							
YAK				pmax	pmax			
	comp=N,216nm,1.4s							
YAK				pmax	pmax			
	comp=E,596nm,2.0s							
YAK				smax	smax			
	comp=E,2μm,3.1s							
YAK				smax	smax			
	comp=N,2μm,2.0s							
YAK				MLR	MLR			
	comp=Z,11μm,15.0s							
YAK				MLR	MLR			
	comp=N,9μm,17.0s							
YAK				MLR	MLR			
	comp=E,6μm,15.0s							
SKAG	**Skagway**	**28.23**	**53**	*e*P		**P**	**14 59 03.2**	**+0.3**
	comp=E,138nm,1.2s							
KLR	**Kul'dur**	**28.91**	**285**	⇓ *i*P		P	14 59 06.0	-3.2
KLR				*e*			14 59 11.8	
KLR				*e*S		**S**	**15 03 53.5**	**-4.4**
KLR				pmax	pmax			
	comp=E,300nm,2.0s							
KLR				pmax	pmax			
	comp=Z,760nm,2.0s							
INK	**Inuvik**	**29.74**	**35**	P		**P**	**14 59 16.6**	**+0.3**
INK	**Inuvik**	**29.74**	**35**	P		**P**	**14 59 16.6**	**+0.3**
	comp=Z,21nm,0.5s,baz=253,slow=8.3,SNR=67							
CRAG	**Craig**	**29.90**	**61**	*e*P		**P**	**14 59 19.1**	**+1.3**
	comp=Z,124nm,1.0s							
CRAG				*e*PcP		**PcP**	**15 02 20.6**	**+0.6**
WRAK	**Wrangell Islan**	**30.15**	**59**	*e*P		**P**	**14 59 22.4**	**+2.4**
	comp=Z,208nm,1.0s							
WRAK				LR	LR			
	comp=Z,16μm,19.0s							
TIXI	**Tiksi**	**30.21**	**332**	*e*P		**P**	**14 59 20.7**	**+0.2**
TIXI				pmax	pmax			
	comp=Z,8.0nm,0.6s							
TIXI				MLR	MLR			
	comp=Z,8μm,18.0s							
USRK	**Ussuriysk Arra**	**30.80**	**276**	P		**P**	**14 59 26.4**	**+0.4**
	comp=Z,86nm,1.0s,baz=61,slow=8.1,SNR=108							
USRK				LR		LR	15 10 32.1	
	comp=Z,14μm,21.2s,baz=56,slow=34							
CLNS	**Chul'man**	**30.93**	**302**	*e*P		**P**	**14 59 26.2**	**-0.8**
CLNS				*e*PP		**pP**	**14 59 35.7**	**+1.0**
CLNS				*e*			15 00 28.2	
CLNS				*e*			15 02 20.1	
CLNS				*e*S		**S**	**15 04 29.4**	**-0.1**
CLNS				pmax	pmax			
	comp=Z,15nm,1.1s							
CLNS				pmax	pmax			
	comp=E,10.0nm,1.1s							
CLNS				pmax	pmax			
	comp=N,7.0nm,0.9s							
CLNS				pmax	pmax			
	comp=Z,55nm,1.1s							
CLNS				pmax	pmax			
	comp=N,38nm,1.0s							
CLNS				pmax	pmax			
	comp=E,56nm,1.0s							
CLNS				smax	smax			
	comp=N,984nm,12.1s							
CLNS				smax	smax			
	comp=E,2μm,13.9s							
CLNS				MLR	MLR			
	comp=Z,10μm,20.0s							
CLNS				MLR	MLR			
	comp=E,9μm,17.0s							
CLNS				MLR	MLR			
	comp=N,7μm,15.0s							
MJAR	**Matsushiro Arr**	**31.03**	**258**	P		**P**	**14 59 29.1**	**+1.0**
MJAR				PcP		**PcP**	**15 02 23.4**	**0.0**
MJAR	**Matsushiro Arr**	**31.03**	**258**	P		**P**	**14 59 29.1**	**+1.0**
	comp=N,59nm,1.0s,baz=52,slow=8.1,SNR=180							
MJAR				PcP		**PcP**	**15 02 23.4**	**0.0**
	comp=N,11nm,1.0s,baz=128,slow=1.4,SNR=4.8							
MJAR				LR		LR	15 09 50.6	
	comp=N,28μm,21.8s,baz=70,slow=32							
MAJO	**Matsushiro**	**31.03**	**258**	*e*P		**P**	**14 59 29.2**	**+1.1**
MAJO				pmax	pmax			
	comp=Z,236nm,1.1s							
MAJO				MLR	MLR			
	comp=Z,33μm,22.0s							
MAJO	**Matsushiro**	**31.03**	**258**	*e*P		**P**	**14 59 29.2**	**+1.1**
	comp=Z,236nm,1.1s							
MAJO				LR	LR			
	comp=Z,33μm,22.0s							
MAT	**Matsushiro**	**31.03**	**258**	P		**P**	**14 59 28.8**	**+0.7**
MAT				S		**S**	**15 04 33.4**	**+1.9**
DLBC	**Dease Lake**	**31.06**	**54**	P		**P**	**14 59 29.6**	**+1.4**
DLBC	**Dease Lake**	**31.06**	**54**	P		**P**	**14 59 29.6**	**+1.4**
	comp=Z,66nm,0.9s,baz=275,slow=7.7,SNR=63							
DLBC				LR		LR	15 12 04.8	
	comp=Z,31μm,20.9s,baz=280,slow=37							
VLA	**Vladivostok**	**31.38**	**274**	*c i*P		**P**	**14 59 31.3**	**+0.2**
VLA				pmax	pmax			
	comp=Z,152nm,0.9s							
VLA				MLR	MLR			
	comp=Z,21μm,22.0s							
MDJ	**Mudanjiang**	**32.13**	**278**	P		**P**	**14 59 37.0**	**-0.6**
MDJ				pP		**pP**	**14 59 42.9**	**-2.4**
MDJ				sP		**sP**	**14 59 45.9**	**-2.6**
MDJ				PP		**PP**	**15 00 48.7**	**-1.5**
MDJ				PcP		**PcP**	**15 02 27.0**	**+0.8**
MDJ				S		**S**	**15 04 47.4**	**-1.0**
MDJ				ScP		**ScP**	**15 06 09.8**	**+2.0**
MDJ				PcS		**PcS**	**15 06 12.2**	**+1.3**
MDJ				ScS		**ScS**	**15 10 07.4**	**+1.0**
MDJ				pmax	pmax			
	comp=Z,98nm,0.9s							
MDJ				pmax	pmax			
	comp=Z,2μm,8.6s							
MDJ				LR	LR			
	comp=N,6μm,22.6s							
MDJ				LR	LR			
	comp=E,16μm,24.9s							
MDJ				LR	LR			
	comp=Z,18μm,27.1s							
MDJ	**Mudanjiang**	**32.13**	**278**	*e*P		**P**	**14 59 37.3**	**-0.3**
	comp=Z,75nm,0.9s							
MDJ				*e*			14 59 44.8	
MDJ				LR	LR			
	comp=Z,26μm,22.0s							
WAKE	**Wake Island**	**32.16**	**199**	*e*P		**P**	**14 59 37.7**	**-0.3**
	comp=Z,275nm,1.3s							
WAKE				LR	LR			
	comp=Z,12μm,22.0s							
KIP	**Kipapa**	**34.96**	**137**	*d i*P		**P**	**15 00 04.1**	**+1.7**
KIP				pmax	pmax			
	comp=Z,795nm,1.2s							
KIP				MLR	MLR			
	comp=Z,6μm,22.0s							
KIP	**Kipapa**	**34.96**	**137**	*e*P		**P**	**15 00 04.4**	**+2.0**
	comp=Z,908nm,1.1s							
KIP				LR	LR			
	comp=Z,11μm,22.0s							
HON	**Honolulu**	**35.05**	**137**	*e*P		**P**	**15 00 05.4**	**+2.2**
HON	**Honolulu**	**35.05**	**137**	*e*P		**P**	**15 00 05.4**	**+2.2**
CN2	**Changchun**	**35.14**	**280**	*e*P		**P**	**15 00 03.8**	**0.0**
CN2				pmax	pmax			
	comp=Z,70nm,1.1s							
CN2				pmax	pmax			
	comp=Z,2μm,7.0s							
CN2				LR	LR			
	comp=N,6μm,21.0s							
CN2				LR	LR			

comp=E,16µm,21.0s
CN2 LR LR
comp=Z,17µm,19.0s
HIA Hailar 36.19 291 *e*P **P 15 00 12.2 -0.6**
comp=Z,213nm,1.3s
HIA *e* 15 00 19.8
HIA LR LR
comp=Z,13µm,22.0s
KSRS Korea Array 37.01 269 P **P 15 00 21.3 +1.4**
comp=Z,152nm,0.9s,baz=59,slow=8.2,SNR=432
KSRS PcP **PcP 15 02 40.4 +0.1**
comp=Z,12nm,1.0s,baz=72,slow=3.9,SNR=4.6
KSRS LR LR 15 15 54.3
comp=Z,7µm,18.7s,baz=56,slow=37
KSRS P3KPbc 15 30 45.6
comp=Z,1.3nm,0.8s,baz=225,slow=5.3,SNR=5.4
KSAR Wonju Array Be 37.04 269 P **P 15 00 21.3 +1.2**
KSAR PcP **PcP 15 02 40.4 -0.1**
KSAR *e* 15 30 45.6
SNY Shenyang 37.33 278 ⇓P **P 15 00 23.4 +0.9**
SNY pmax pmax
comp=Z,140nm,2.2s
SNY pmax pmax
comp=Z,4µm,7.5s
SNY LR LR
comp=N,11µm,18.4s
SNY LR LR
comp=E,12µm,20.0s
SNY LR LR
comp=Z,17µm,21.1s
PGC Sidney 37.75 69 *e*P **P 15 00 26.6 +0.6**
comp=Z,8.6nm,0.8s
YKW3 Yellowknife Ar 37.75 45 *e*P **P 15 00 26.1 +0.3**
comp=Z,6.9nm,1.4s
YKW3 *e*PcP **PcP 15 02 42.2 0.0**
YKA Yellowknife Ar 37.77 45 P **P 15 00 26.4 +0.3**
YKA PcP **PcP 15 02 42.4 +0.1**
YKA Yellowknife Ar 37.77 45 P **P 15 00 26.4 +0.3**
comp=Z,23nm,0.5s,baz=286,slow=7.6,SNR=86
YKA PcP **PcP 15 02 42.3 +0.1**
comp=Z,22nm,0.8s,baz=288,slow=3.5,SNR=7.4
YKA LR LR 15 17 16.2
comp=Z,3µm,18.6s,baz=195,slow=38
INCN Inchon 37.82 270 P **P 15 00 28.3 +1.5**
SNR=29
INCN Inchon 37.82 270 *e*P **P 15 00 27.6 +0.9**
comp=Z,297nm,1.0s
INCN LR LR
comp=E,6µm,21.0s
JNU Nakatsue 37.84 261 *e*P **P 15 00 28.3 +1.2**
comp=Z,60nm,0.9s
JNU Nakatsue 37.84 261 P **P 15 00 28.2 +1.2**
comp=Z,138nm,1.0s,baz=44,slow=5.6,SNR=64
JNU LR LR 15 14 31.5
comp=Z,24µm,21.5s,baz=52,slow=34
PUH Pauahi 38.00 134 *e*P **P 15 00 29.8 +1.3**
STCH Steam Cracks 38.03 134 *e*P **P 15 00 30.4 +1.6**
NLWA Neilton Lookou 38.06 71 *e*P **P 15 00 30.5 +1.8**
comp=Z,434nm,1.0s
NLWA LR LR
comp=Z,19µm,21.0s
VDB Vedder Mountai 38.39 68 P **P 15 00 32.4 +1.0**
A05A Maple Falls 38.41 68 P **P 15 00 32.8 +1.3**
HDW Hoodsport 38.44 70 P **P 15 00 33.8 +1.8**
MBW Mount Baker 38.62 68 P **P 15 00 34.9 +1.4**
CIT Chita 38.68 298 *e*P P 15 00 26.1 -7.8
CIT *e* 15 00 34.1
CIT *e*S **S 15 06 28.2 -0.6**
TDL Tradedollar La 39.55 72 P **P 15 00 42.8 +1.4**
LON Longmire 39.60 71 *e*P **P 15 00 42.4 +0.7**
LON pmax pmax
comp=Z,157nm,1.0s
LON Longmire 39.60 71 *e*P **P 15 00 42.4 +0.7**
comp=Z,157nm,1.0s
WRW Wenatchee Ridg 39.64 69 P **P 15 00 43.3 +1.2**
PNT Penticton 39.72 66 P **P 15 00 43.7 +1.1**
PNT Penticton 39.72 66 P **P 15 00 43.7 +1.1**
COR Corvallis 39.76 75 *e*P **P 15 00 44.6 +1.7**
COR pmax pmax
comp=Z,494nm,1.1s
COR Corvallis 39.76 75 *e*P **P 15 00 44.6 +1.7**
comp=Z,494nm,1.1s
WPW White Pass 39.79 71 P **P 15 00 44.4 +1.1**
KEBM Edson Butte 40.00 77 *e*P **P 15 00 46.9 +1.9**
comp=Z,396nm,1.1s
ETW Entiat 40.09 69 P **P 15 00 46.9 +1.1**
DL2 Dalian 40.18 275 ⇑*i*P **P 15 00 46.8 +0.3**
DL2 PP **PnPn 15 02 22.7 +0.1**
DL2 PcP **PcP 15 02 51.6 +1.4**
DL2 S **S 15 06 51.8 +0.3**
DL2 SS **SS 15 09 46.6 -3.0**
DL2 pmax pmax
comp=Z,130nm,1.5s
DL2 pmax pmax
comp=Z,2µm,6.9s
DL2 LR LR
comp=N,2µm,13.7s
DL2 LR LR
comp=E,4µm,16.7s
DL2 LR LR
comp=Z,4µm,20.4s
NAC Naches 40.21 70 P **P 15 00 47.9 +1.2**
WTV Waterville 40.27 69 P **P 15 00 47.9 +0.7**
EBG Ellensburg 40.28 70 P **P 15 00 48.6 +1.4**
KBO Bosley Butte 40.42 78 *e*P **P 15 00 50.5 +1.9**
comp=Z,586nm,1.3s
VFP Flag Point 40.52 73 P **P 15 00 50.6 +1.2**
E07A Sunnyside 40.88 70 P **P 15 00 53.3 +1.1**
KRMB Red Mountain 40.99 79 *e*P **P 15 00 55.1 +1.7**
comp=Z,282nm,1.5s
HUMO Hull Mountain 41.00 77 *e*P **P 15 00 54.8 +1.5**
comp=Z,242nm,1.4s
HUMO *e*PcP **PcP 15 02 53.6 +0.7**
HAWA Hanford 41.15 70 *e*P **P 15 00 55.5 +1.0**
comp=Z,521nm,1.1s
HAWA LR LR
comp=Z,12µm,21.0s
VIPM Ingram Point 41.45 73 P **P 15 00 58.2 +1.1**
VIPM Ingram Point 41.45 73 P **P 15 00 58.1 +1.1**
KHMM Horse Mountain 41.46 80 *e*P **P 15 00 59.2 +2.0**
comp=Z,455nm,1.2s
YBH Yreka Blue Hor 41.63 78 *e*P **P 15 01 00.4 +1.9**
comp=Z,207nm,1.1s
YBH Yreka Blue Hor 41.63 78 LR LR 15 14 56.2
comp=Z,12µm,21.5s,baz=306,slow=31
NEW Newport 41.67 66 *e*P **P 15 00 59.4 +0.7**
comp=Z,526nm,1.0s
NEW Newport 41.67 66 P **P 15 00 59.5 +0.7**
comp=Z,353nm,0.9s,baz=298,slow=7.3,SNR=222
NEW LR LR 15 15 60.0
comp=Z,10µm,20.2s,baz=291,slow=33
NEW Newport 41.67 66 ⇓P **P 15 00 59.5 +0.7**
baz=42,SNR=187
NEW ⇑S **S 15 07 12.4 -1.2**
baz=42
NEW ⇑S **S 15 07 12.4 -1.2**
baz=42
NEW ⇑S **S 15 07 12.4 -1.2**
baz=42
NEW ⇑S **S 15 07 12.4 -1.2**
baz=42
NEW ⇑S **S 15 07 12.4 -1.2**
baz=42
RES Resolute Bay 41.68 24 P **P 15 00 59.1 +0.7**
RES PcP **PcP 15 02 54.5 0.0**
RES Resolute Bay 41.68 24 P **P 15 00 59.1 +0.7**
comp=Z,64nm,1.0s,baz=270,slow=9.7,SNR=59
RES PcP **PcP 15 02 54.5 0.0**
comp=Z,45nm,1.1s,baz=290,slow=3.9,SNR=4.5
A12A Yaak River Ran 42.21 65 ⇓P **P 15 01 04.3 +1.2**
baz=42,SNR=78
KCPM Cahto Peak 42.23 81 *e*P **P 15 01 05.3 +1.8**
comp=Z,349nm,1.0s
WDC Whiskeytown Da 42.38 79 *e*P **P 15 01 06.0 +1.5**
WDC pmax pmax
comp=Z,305nm,1.2s
WDC Whiskeytown Da 42.38 79 *e*P **P 15 01 06.0 +1.5**
comp=Z,305nm,1.2s
C11A Tepee Creek (N 42.39 67 ⇑P **P 15 01 05.1 +0.6**
baz=42
B12A Libby 42.47 65 ⇓P **P 15 01 06.3 +1.1**
baz=42,SNR=39
C12B Naegeli Ranch, 42.91 66 ⇑P **P 15 01 09.6 +0.8**
baz=43,SNR=147
A13A Flathead Natio 42.92 64 ⇑P **P 15 01 09.8 +0.8**
baz=43
HOPS Hopland 42.95 82 *e*P **P 15 01 10.7 +1.5**
comp=Z,771nm,1.1s
BJI Beijing 42.99 280 P **P 15 01 10.2 +0.8**
BJI sP **sP 15 01 17.8 -2.6**
BJI PP **PP 15 02 50.7 +1.5**
BJI PcP **PcP 15 03 02.5 +3.1**
BJI S **S 15 07 34.8 +1.8**
BJI sS **sS 15 07 44.0 -1.9**
BJI ScS **ScS 15 11 05.9 -2.1**
BJI pmax pmax
comp=Z,83nm,0.8s
BJI pmax pmax
comp=Z,4µm,8.5s
BJI LR LR
comp=N,9µm,21.4s
BJI LR LR
comp=E,12µm,22.0s
BJI LR LR
comp=Z,17µm,23.8s
BJT Baijiatuau 43.00 280 *e*P **P 15 01 10.1 +0.5**
comp=Z,89nm,1.0s
BJT LR LR
comp=Z,17µm,20.0s
MOD Modoc 43.04 76 *e*P **P 15 01 11.2 +1.1**
comp=Z,450nm,1.4s
WALA Waterton Lakes 43.15 64 *e*P **P 15 01 11.7 +0.8**
comp=Z,60nm,1.0s
B13A Whitefish 43.17 65 ⇓P **P 15 01 11.8 +0.9**
baz=43,SNR=311
BSMT Bassoo Peak 43.24 66 *e*P **P 15 01 12.3 +0.6**
comp=Z,4.6nm,0.2s
BMO Blue Mountains 43.28 71 *e*P **P 15 01 12.6 +0.7**
comp=Z,308nm,1.3s
BMO LR LR
comp=Z,15µm,22.0s
BLMT Blacktail Moun 43.41 65 *e*P **P 15 01 13.6 +0.6**
comp=Z,793nm,1.0s
C13A Hot Springs 43.45 66 ⇑P **P 15 01 13.9 +0.7**
baz=43,SNR=129
A14A Double T Ranch 43.48 64 ⇓P **P 15 01 14.4 +0.9**
baz=43,SNR=1000
E12A Beaver Dam Sad 43.51 68 ⇑P **P 15 01 14.1 +0.4**
baz=43,SNR=372
MCCM Marconi Confer 43.57 82 *e*P **P 15 01 15.2 +1.0**
comp=Z,496nm,0.9s
JTMT Jette 43.59 66 *e*P **P 15 01 14.6 +0.2**
comp=Z,338nm,1.3s
YBMT Yellow Bay 43.69 65 *e*P **P 15 01 15.7 +0.5**
comp=Z,150nm,0.9s
IRK Irkutsk 43.73 302 *e*P **P 15 01 15.1 -0.2**
IRK pmax pmax
comp=Z,297nm,2.2s
WVOR Wild Horse Val 43.77 75 *e*P **P 15 01 17.0 +1.0**
WVOR pmax pmax
comp=Z,245nm,0.9s
WVOR MLR MLR
comp=Z,14µm,21.0s
WVOR Wild Horse Val 43.77 75 *e*P **P 15 01 17.0 +1.0**
comp=Z,245nm,0.9s
WVOR LR LR
comp=Z,14µm,21.0s
JOW Kunigami 43.80 256 *e*P **P 15 01 16.3 +0.1**
comp=Z,88nm,1.0s
D13A Huson 43.82 67 ⇓P **P 15 01 16.5 +0.3**
baz=44,SNR=265
B14A Marquette Ranc 43.87 64 ⇓P **P 15 01 17.5 +0.9**
baz=44,SNR=669
A15A Johnson Ranch, 43.87 63 ⇓P **P 15 01 16.7 +0.2**
baz=44,SNR=737
SWMT Swartz Lake 43.87 66 *e*P **P 15 01 16.8 +0.1**
comp=Z,793nm,1.4s
C14A Swan Lake 43.89 65 P **P 15 01 17.2 +0.5**
baz=44
ALE Alert 44.01 9 P **P 15 01 18.0 +0.8**
comp=Z,684nm,0.8s,SNR=14
BEKR Beckworth 44.16 79 *e*P **P 15 01 19.8 +0.7**
comp=Z,121nm,1.0s
SAC San Andreas 44.20 83 *e*P **P 15 01 19.7 +0.4**
SAC pmax pmax
comp=Z,713nm,1.1s
SAC San Andreas 44.20 83 *e*P **P 15 01 19.7 +0.4**
comp=Z,713nm,1.1s
MSO Missoula 44.26 67 *e*P **P 15 01 20.1 +0.3**
comp=Z,360nm,1.1s
MSO LR LR
comp=Z,4µm,21.0s
MSO Missoula 44.26 67 ⇓P **P 15 01 20.2 +0.5**
baz=44,SNR=335
B15A Bradely Ranch, 44.30 64 ⇑P **P 15 01 20.5 +0.5**
baz=44,SNR=641
SLMT Seeley Lake 44.31 66 *e*P **P 15 01 20.3 +0.1**
comp=Z,476nm,1.1s
ULN Ulaanbaatar 44.31 295 P **P 15 01 21.2 +1.0**
SNR=92
ULN Ulaanbaatar 44.31 295 *e*P **P 15 01 20.7 +0.4**
comp=Z,380nm,1.8s
ULN LR LR
comp=Z,19µm,21.0s
ULN Ulaanbaatar 44.31 295 P **P 15 01 20.6 +0.4**
comp=Z,108nm,2.0s,comp=Z,3µm
G12A Big Creek, Yel 44.33 70 P **P 15 01 20.5 +0.1**
baz=44
TLY Talaya 44.34 301 *c*i*P **P 15 01 20.8 +0.6**
TLY *e* 15 03 10.7
TLY *e*S **S 15 07 54.6 +1.9**
TLY *e*SS **ScS 15 11 16.2 -0.1**
TLY *e*SSS SSS 15 11 51.1
TLY pmax pmax
comp=Z,192nm,1.6s
TLY MLR MLR
comp=Z,20µm,18.0s
TLY Talaya 44.34 301 P **P 15 01 21.3 +1.1**
comp=Z,329nm,1.2s,SNR=48
D14A Greenough 44.38 66 ⇓P **P 15 01 21.1 +0.4**
baz=44,SNR=431
A16A West Butte Ran 44.53 63 ⇓P **P 15 01 21.9 0.0**
baz=44
C15A Salmond Ranch, 44.55 65 ⇑P **P 15 01 23.0 +1.0**
baz=44,SNR=952
CHMT Chamberlain Mo 44.62 66 *e*P **P 15 01 22.5 -0.2**
comp=Z,128nm,1.0s
TIA Tai'an 44.66 275 ⇑P **P 15 01 22.3 -0.7**
TIA pP **pP 15 01 32.3 +1.5**
TIA PP **PcP 15 03 05.5 +0.3**
TIA S **S 15 07 59.6 +2.0**
TIA pmax pmax
comp=Z,1µm,6.4s
TIA LR LR
comp=N,7µm,19.6s
TIA LR LR
comp=E,10µm,18.6s
TIA LR LR
comp=Z,7µm,21.6s
SONM Songino Array 44.71 295 P **P 15 01 24.3 +1.0**
SONM P'P' 15 32 35.7
SONM Songino Array 44.71 295 P **P 15 01 24.3 +1.0**
comp=Z,18nm,0.8s,baz=58,slow=9.7,SNR=106
SONM LR LR 15 20 24.7
comp=Z,21µm,20.8s,baz=59,slow=37
SONM PKPPKP P'P'df 15 32 35.7 -33
comp=Z,1.5nm,1.0s,baz=255,slow=2.9,SNR=3.7
B16A M & M Farms, S 44.74 64 ⇓P **P 15 01 23.6 +0.1**
baz=45,SNR=360
H12A Diamond D Ranc 44.92 70 ⇑P **P 15 01 25.3 +0.2**
baz=45,SNR=160
MFID Camas Ranch 44.95 72 *e*P **P 15 01 25.5 +0.1**
comp=Z,227nm,1.4s
MFID Camas Ranch 44.95 72 ⇓P **P 15 01 26.0 +0.6**
baz=45,SNR=89
D15A Lincoln 44.98 66 ⇑P **P 15 01 26.0 +0.4**
baz=45,SNR=140
C16A Fuhringer Ranc 45.03 64 ⇑P **P 15 01 26.4 +0.5**
baz=45,SNR=620
A17A Triple J Farms 45.04 63 ⇓P **P 15 01 26.1 +0.2**
baz=45,SNR=439
GUMO Guam 45.10 227 *e*P **P 15 01 24.5 -2.1**
comp=Z,646nm,1.2s
GUMO LR LR
comp=Z,9µm,20.0s
F14A Wisdom 45.13 68 ⇓P **P 15 01 27.3 +0.6**
baz=45,SNR=111
I12A Atlanta 45.17 71 ⇑P **P 15 01 27.8 +0.7**
baz=45
CMB Columbia Colle 45.22 81 *e*P **P 15 01 28.6 +1.2**
CMB *e* 15 03 07.1
CMB pmax pmax
comp=Z,436nm,1.2s
CMB Columbia Colle 45.22 81 *e*P **P 15 01 28.6 +1.2**
comp=Z,436nm,1.2s
CMB *e*PcP **PcP 15 03 07.1 0.0**
SAO San Andreas Ge 45.31 83 *e*P **P 15 01 29.2 +1.0**
SAO pmax pmax
comp=Z,370nm,1.1s
SAO San Andreas Ge 45.31 83 *e*P **P 15 01 29.1 +1.0**
comp=Z,370nm,1.1s
B17A L&G Farms, Che 45.32 63 ⇓P **P 15 01 28.6 +0.5**
baz=45,SNR=838
SSE Sheshan 45.34 267 P **P 15 01 29.3 +0.9**
SSE PcP **PcP 15 03 09.1 +1.5**
SSE S **S 15 08 07.9 +0.4**
SSE pmax pmax
comp=Z,250nm,1.0s
SSE pmax pmax
comp=Z,3µm,10.0s
SSE LR LR
comp=N,7µm,26.0s
SSE LR LR
comp=E,6µm,26.0s
SSE LR LR
comp=Z,10µm,30.0s
HHC Hu-ho-hao-te 45.40 284 *i*P **P 15 01 29.8 +0.9**
HHC pP **pP 15 01 36.9 +0.1**
HHC sP **sP 15 01 40.9 +1.0**
HHC PP **PP 15 03 18.7 +3.6**
HHC S **S 15 08 06.4 -2.1**
HHC sS **sS 15 08 25.4 +4.0**
HHC ScS **ScS 15 11 25.6 +2.0**
HHC pmax pmax
comp=Z,330nm,0.9s
HHC pmax pmax
comp=Z,4µm,8.2s
HHC LR LR
comp=N,20µm,15.5s
HHC LR LR
comp=E,26µm,18.2s
HHC LR LR
comp=Z,38µm,21.6s
A18A Metzger Ranch, 45.54 62 ⇓P **P 15 01 29.7 -0.2**
baz=45,SNR=101
D16A Dana Ranch, Ca 45.55 65 ⇓P **P 15 01 30.4 +0.3**
baz=45,SNR=199
HRY Holter Researc 45.55 66 *e*P **P 15 01 30.3 +0.2**
comp=Z,374nm,0.9s
F15A Butte 45.63 67 ⇑P **P 15 01 30.9 +0.1**
baz=46,SNR=90
LRM Limekiln Ridge 45.66 67 *e*P **P 15 01 31.0 -0.1**
comp=Z,4µm,1.8s
C17A Wharram Farm, 45.69 64 ⇑P **P 15 01 31.3 +0.3**
baz=46,SNR=162
E16A East Helena 45.74 66 ⇑P **P 15 01 32.0 +0.5**
baz=46,SNR=95
BMN Battle Mountai 45.79 76 *e*P **P 15 01 32.9 +0.9**
BMN pmax pmax
comp=Z,160nm,0.9s
BMN MLR MLR
comp=Z,10µm,21.0s
BMN Battle Mountai 45.79 76 *e*P **P 15 01 32.9 +0.9**
comp=Z,160nm,0.9s
BMN LR LR
comp=Z,10µm,21.0s
MOY Mondy 45.79 303 *e*P **P 15 01 31.6 -0.2**
MOY pmax pmax
comp=Z,311nm,3.3s
DLMT Dillon 45.83 68 *e*P **P 15 01 32.1 -0.2**
comp=Z,192nm,1.3s
B18A Beardsley Farm 45.85 63 ⇑P **P 15 01 32.9 +0.5**
baz=46,SNR=427
MCMT McKenzie Canyo 45.97 69 *e*P **P 15 01 33.6 +0.1**
comp=Z,68nm,0.7s
D17A Six Diamond Ra 45.98 65 ⇓P **P 15 01 33.8 +0.3**
baz=46,SNR=821
EGMT Eagleton 46.06 63 *e*P **P 15 01 34.1 +0.1**
comp=Z,661nm,0.9s
EGMT LR LR
comp=Z,9µm,21.0s
EGMT Eagleton 46.06 63 ⇑P **P 15 01 34.3 +0.3**
baz=46,SNR=381
I14A Mackay 46.10 70 ⇓P **P 15 01 35.4 +0.9**
baz=46,SNR=215
A19A Klindworth Far 46.16 62 ⇑P **P 15 01 35.1 +0.3**
baz=46,SNR=846
F16A Kennard Place, 46.17 67 ⇓P **P 15 01 35.2 +0.3**
baz=46,SNR=43
NJ2 Nanjing 46.20 270 *e*P **P 15 01 35.4 +0.2**
NJ2 pP **pP 15 01 40.5 -2.5**
NJ2 sP **sP 15 01 43.6 -2.6**
NJ2 PP **PP 15 03 23.0 -0.6**
NJ2 S **S 15 08 22.0 +2.2**
NJ2 sS **sS 15 08 30.0 -2.8**
NJ2 pmax pmax
comp=Z,220nm,1.0s
NJ2 pmax pmax
comp=Z,2µm,10.5s
NJ2 LR LR
comp=N,13µm,24.3s
NJ2 LR LR
comp=E,19µm,34.4s
NJ2 LR LR
comp=Z,20µm,25.8s
BOZ Bozeman (W) 46.24 67 *e*P **P 15 01 36.0 +0.4**
BOZ pmax pmax
comp=Z,378nm,1.1s
BOZ MLR MLR
comp=Z,6µm,20.0s
BOZ Bozeman (W) 46.24 67 *e*P **P 15 01 36.0 +0.4**
comp=Z,378nm,1.1s
BOZ LR LR
comp=Z,6µm,20.0s
E17A Martinsdale 46.26 66 ⇑P **P 15 01 36.4 +0.7**
baz=46,SNR=272
B19A Brinkman Farms 46.29 62 ⇓P **P 15 01 36.3 +0.5**
baz=46,SNR=379
NVAR Mina Array Bea 46.29 79 P **P 15 01 37.2 +1.1**
NVAR Mina Array Bea 46.29 79 P **P 15 01 37.2 +1.1**
comp=Z,244nm,0.9s,baz=289,slow=7.7,SNR=972
NVAR LR LR 15 17 37.0
comp=Z,7µm,20.3s,baz=61,slow=32
NV11 Mina Array Sit 46.38 79 *e*P **P 15 01 37.8 +1.1**
MLAC Mammoth Lakes 46.44 80 ⇑P **P 15 01 39.1 +1.8**
baz=46,SNR=53
D18A Linhart Farms, 46.47 64 ⇑P **P 15 01 38.2 +1.0**
baz=46,SNR=111
BTO Baotou 46.50 285 *e*P **P 15 01 39.0 +1.4**
BTO pmax pmax
comp=Z,50nm,0.9s
C19A Slack Wire Ran 46.62 63 ⇑P **P 15 01 39.4 +1.0**
baz=46,SNR=1000
A20A Cobblestone Ra 46.64 61 ⇓P **P 15 01 39.0 +0.5**
baz=46,SNR=382
F17A Fitzpatrick Pl 46.67 66 ⇑P **P 15 01 39.5 +0.6**
baz=46,SNR=226
E18A Harlowton 46.75 65 ⇓P **P 15 01 40.5 +1.0**
baz=47,SNR=298
QLMT Earthquake Lak 46.81 68 *e*P **P 15 01 40.1 0.0**
comp=Z,24nm,0.9s
FFC Flin Flon 46.81 52 P **P 15 01 39.6 -0.1**
comp=Z,734nm,0.8s,SNR=58
FFC Flin Flon 46.81 52 *e*P **P 15 01 39.6 -0.1**
FFC *e* 15 03 12.5
FFC pmax pmax
comp=Z,185nm,1.1s
FFC MLR MLR
comp=Z,34µm,21.0s
FFC Flin Flon 46.81 52 *e*P **P 15 01 39.6 -0.1**
comp=Z,185nm,1.1s
FFC *e*PcP **PcP 15 03 12.5 +0.1**
FFC LR LR
comp=Z,34µm,21.0s
B20A Solberg Farm, 46.82 62 ⇑P **P 15 01 40.3 +0.3**
baz=47,SNR=236
ELK Elko 46.83 75 *e*P **P 15 01 41.1 +0.8**
comp=Z,117nm,0.8s
G17A Pierce Place, 46.95 67 ⇑P **P 15 01 41.9 +0.8**
baz=47,SNR=91
H16A Russell Place, 46.99 68 ⇑P **P 15 01 42.0 +0.5**
baz=47,SNR=297
RCTC Rector, Farmer 46.99 82 ⇑P **P 15 01 42.1 +0.8**
baz=47,SNR=32
D19A Cripps Ranch, 47.02 64 ⇑P **P 15 01 42.1 +0.5**
baz=47,SNR=485
SMMC Simmler 47.13 84 ⇓P **P 15 01 44.2 +1.6**
baz=47,SNR=54

A21A	Bergtoll Ranch	47.14	61	⇑P		P		15 01 43.0	+0.6	
	baz=47,SNR=144									
TIN	Tinemaha	47.17	80	⇓P		P		15 01 44.5	+1.6	
	baz=47,SNR=79									
YMR	Madison River	47.18	68	eP		P		15 01 43.4	+0.5	
	comp=Z,283nm,0.9s									
C20A	Veseth Ranch,	47.22	63	⇓P		P		15 01 43.9	+0.8	
	baz=47,SNR=652									
F18A	Big Timber	47.22	66	⇑P		P		15 01 43.9	+0.7	
	baz=47,SNR=169									
I16A	Newdale	47.31	69	⇓P		P		15 01 44.9	+0.9	
	baz=47,SNR=31									
GCMT	Greycliff	47.31	66	eP		P		15 01 44.4	+0.5	
	comp=Z,157nm,1.1s									
YNR	Norris Junctio	47.32	67	eP		P		15 01 45.1	+1.0	
	comp=Z,235nm,0.9s									
YFT	Old Faithful	47.37	68	eP		P		15 01 46.1	+1.6	
	comp=Z,341nm,0.8s									
VES	Vestal, Richgr	47.38	82	⇑P		P		15 01 45.1	+0.7	
	baz=47,SNR=134									
B21A	Ellsworth Farm	47.39	61	⇑P		P		15 01 44.8	+0.5	
	baz=47,SNR=70									
E19A	Rath Farm, Rou	47.46	65	⇓P		P		15 01 45.6	+0.7	
	baz=47,SNR=362									
PKM	Peak Mountain	47.51	84	⇑P		P		15 01 47.3	+1.6	
	baz=47,SNR=133									
H17A	Grant Village	47.56	68	⇓P		P		15 01 47.9	+1.9	
	baz=47,SNR=135									
LKWY	Lake	47.57	67	eP		P		15 01 45.8	-0.3	
LKWY					pmax	pmax				
	comp=Z,224nm,1.0s									
LKWY					MLR	MLR				
	comp=Z,9μm,19.0s									
LKWY	Lake	47.57	67	eP		P		15 01 45.8	-0.3	
	comp=Z,224nm,1.0s									
LKWY					LR	LR				
	comp=Z,9μm,19.0s									
IMW	Indian Meadow	47.63	69	eP		P		15 01 47.1	+0.6	
	comp=Z,109nm,0.9s									
G18A	Lazy EL Ranch,	47.64	66	⇓P		P		15 01 46.5	0.0	
	baz=48,SNR=43									
CWC	Cottonwood Cre	47.65	81	⇑P		P		15 01 47.7	+1.1	
	baz=48,SNR=207									
DCID1	Drake Creek	47.65	69	eP		P		15 01 47.1	+0.4	
	comp=Z,127nm,0.9s									
C21A	Desert Coulee	47.67	62	⇑P		P		15 01 47.3	+0.7	
	baz=48,SNR=412									
F19A	Roth Farm, Mol	47.70	65	⇑P		P		15 01 47.4	+0.5	
	baz=48,SNR=93									
A22A	Carney Farms,	47.70	60	⇑P		P		15 01 47.2	+0.4	
	baz=48,SNR=342									
RRI2	Red Ridge	47.71	69	eP		P		15 01 47.9	+0.7	
	comp=Z,186nm,0.8s									
HVU	Hansel Valley	47.74	72	eP		P		15 01 48.1	+0.8	
HVU					pmax	pmax				
	comp=Z,125nm,0.8s									
HVU	Hansel Valley	47.74	72	eP		P		15 01 48.1	+0.8	
	comp=Z,125nm,0.8s									
GRAC	Grapevine Rang	47.75	80	⇑P		P		15 01 48.8	+1.5	
	baz=48,SNR=129									
E20A	Meyer Farm, Mu	47.81	64	⇓P		P		15 01 48.3	+0.6	
	baz=48,SNR=40									
MOOW	Moose Ponds	47.83	69	eP		P		15 01 48.4	+0.4	
	comp=Z,55nm,0.9s									
I17A	Pilgrim Ck.	47.83	68	P		P		15 01 49.2	+1.2	
	baz=48									
TPAW	Teton Pass	47.85	69	eP		P		15 01 49.1	+0.8	
	comp=Z,395nm,1.5s									
SBC	Santa Barbara	47.87	84	⇑P		P		15 01 49.6	+1.5	
	baz=48,SNR=15									
ISA	Isabella	47.88	82	eP		P		15 01 48.5	+0.1	
ISA					pmax	pmax				
	comp=Z,376nm,1.0s									
ISA	Isabella	47.88	82	eP		P		15 01 48.5	+0.1	
	comp=Z,376nm,1.0s									
ISA	Isabella	47.88	82	⇑P		P		15 01 48.8	+0.5	
	baz=48,SNR=247									
RLMT	Red Lodge	47.92	66	eP		P		15 01 49.2	+0.5	
	comp=Z,306nm,0.8s									
RLMT					LR	LR				
	comp=Z,8μm,20.0s									
H18A	Shoshone NF, C	47.94	67	⇑P		P		15 01 49.5	+0.6	
	baz=48,SNR=69									
REDW	Red Top Meadow	47.98	69	eP		P		15 01 50.1	+0.9	
	comp=Z,14nm,2.1s									
SNOW	Snow King Moun	47.98	69	eP		P		15 01 50.4	+1.1	
	comp=Z,125nm,1.0s									
LOHW	Long Hollow	47.99	69	eP		P		15 01 49.9	+0.6	
	comp=Z,59nm,0.7s									
ARVC	Arvin	47.99	83	⇑P		P		15 01 49.7	+0.6	
	baz=48,SNR=37									
B22A	Reddig Ranch S	48.03	61	⇓P		P		15 01 49.9	+0.5	
	baz=48,SNR=264									
D21A	La Casta Ranch	48.15	63	⇓P		P		15 01 51.0	+0.7	
	baz=48,SNR=10.0									
F20A	Billings	48.19	65	⇓P		P		15 01 51.2	+0.6	
	baz=48,SNR=137									
MPMC	Manual Prospec	48.26	81	⇓P		P		15 01 52.5	+1.1	
	baz=48,SNR=241									
A23A	Redstone	48.30	60	⇑P		P		15 01 51.8	+0.5	
	baz=48,SNR=234									
H19A	Powell	48.34	67	⇑P		P		15 01 52.9	+1.0	
	baz=48,SNR=39									
OSI	Osito Adit	48.39	83	eP		P		15 01 53.5	+1.3	
	comp=Z,716nm,0.9s									
OSI	Osito Adit	48.39	83	⇑P		P		15 01 53.5	+1.3	
	baz=48,SNR=16									
E21A	Keefer Ranch,	48.40	64	⇑P		P		15 01 53.1	+0.9	
	baz=48,SNR=65									
FURC	Furnace Creek,	48.40	80	⇑P		P		15 01 53.4	+1.2	
	baz=48,SNR=74									
C22A	Vida	48.40	62	⇑P		P		15 01 52.6	+0.4	
	baz=48,SNR=343									
I18A	Diamond G Ranc	48.40	68	⇓P		P		15 01 53.5	+0.9	
	baz=48,SNR=51									
G20A	Bridger	48.48	66	⇓P		P		15 01 53.2	+0.3	
	baz=48,SNR=157									
LRMC	Laurel Mountai	48.50	82	⇓P		P		15 01 53.7	+0.6	
	baz=48,SNR=79									
B23A	Brockton	48.51	60	⇑P		P		15 01 53.4	+0.5	
	baz=48,SNR=272									
D22A	Cohagen	48.57	62	⇓P		P		15 01 54.5	+1.0	
	baz=48,SNR=933									
HWUT	Hardware Ranch	48.57	71	eP		P		15 01 54.2	+0.4	
	comp=Z,124nm,1.1s									
HWUT					LR	LR				
	comp=Z,10μm,22.0s									
DUG	Dugway	48.65	74	eP		P		15 01 54.9	+0.6	
DUG					pmax	pmax				
	comp=Z,230nm,1.0s									
DUG					MLR	MLR				
	comp=Z,10μm,22.0s									
DUG	Dugway	48.65	74	eP		P		15 01 54.9	+0.6	
	comp=Z,230nm,1.0s									
DUG					LR	LR				
	comp=Z,10μm,22.0s									
DUG	Dugway	48.65	74	⇓P		P		15 01 55.3	+1.0	
	baz=48,SNR=173									
EDW2	Edwards Air Fo	48.68	83	⇓P		P		15 01 55.5	+0.9	
	baz=49,SNR=186									
I19A	Meeteetse	48.70	67	⇓P		P		15 01 55.3	+0.6	
	baz=48,SNR=84									
C23A	Lambert	48.76	61	⇓P		P		15 01 55.9	+0.9	
	baz=49,SNR=546									
F21A	Absaloka Mine,	48.77	64	⇓P		P		15 01 55.6	+0.5	
	baz=49,SNR=23									
A24A	Westby	48.80	59	⇓P		P		15 01 55.8	+0.5	
	baz=49,SNR=630									
DECC	Green Verdugo	48.87	83	⇑P		P		15 01 56.8	+0.9	
	baz=49,SNR=22									
DGMT	Dagmar	48.94	60	eP		P		15 01 56.4	+0.1	
	comp=Z,814nm,1.0s									
DGMT					LR	LR				
	comp=Z,14μm,22.0s									
DGMT	Dagmar	48.94	60	⇓P		P		15 01 56.8	+0.5	
	baz=49,SNR=166									
CTU	Camp Tracy	49.00	72	eP		P		15 01 57.7	+0.6	
	comp=Z,141nm,1.0s									
PASC	Pasadena Art C	49.01	83	eP		P		15 01 57.3	+0.3	
	comp=Z,426nm,1.1s									
TARA	Tarawa	49.01	185	eP		P		15 01 57.7	+0.6	
	comp=Z,244nm,1.2s									
TARA					LR	LR				
	comp=Z,6μm,19.0s									
H20A	Greybull	49.02	66	P		P		15 01 57.0	-0.2	
	baz=49									
MWC	Mount Wilson	49.06	83	eP		P		15 01 58.4	+0.8	
MWC					pmax	pmax				
	comp=Z,1μm,1.1s									
MWC	Mount Wilson	49.06	83	eP		P		15 01 58.4	+0.8	
	comp=Z,1μm,1.1s									
G21A	Lodge Grass	49.06	65	⇑P		P		15 01 57.4	0.0	
	baz=49,SNR=78									
E22A	Miles City	49.10	63	⇑P		P		15 01 58.4	+0.8	
	baz=49,SNR=197									
BW06	Boulder Array	49.10	69	eP		P		15 01 58.0	+0.2	
	comp=Z,250nm,0.9s									
BW06					LR	LR				
	comp=Z,12μm,21.0s									
PDAR	Pinedale Array	49.10	69	P		P		15 01 58.1	+0.3	
PDAR				P'P'				15 33 03.0		
PDAR	Pinedale Array	49.10	69	P		P		15 01 58.1	+0.3	
	comp=Z,225nm,0.9s,baz=300,slow=3.2,SNR=688									
PDAR					LR	LR		15 20 37.2		
	comp=Z,10μm,20.8s,baz=320,slow=34									
PDAR				PKPPKP		P'P'df		15 33 03.0	+0.4	
	comp=Z,0.3nm,0.7s,baz=52,slow=2.4,SNR=4.4									
D23A	Lindsay	49.10	62	P		P		15 01 58.5	+0.8	
	baz=49									
J19A	Crowheart	49.11	68	⇓P		P		15 01 58.8	+0.9	
	baz=49,SNR=58									
SHOC	Shoshone	49.12	80	⇓P		P		15 01 58.9	+1.1	
	baz=49,SNR=135									
GSC	Goldstone	49.16	81	eP		P		15 01 59.1	+0.8	
GSC					pmax	pmax				
	comp=Z,824nm,1.0s									
GSC	Goldstone	49.16	81	eP		P		15 01 59.0	+0.8	
	comp=Z,824nm,1.0s									
GSC	Goldstone	49.16	81	⇑P		P		15 01 59.3	+1.0	
	baz=49,SNR=439									
M17A	Scullys Gap (B	49.20	71	⇑P		P		15 01 59.0	+0.4	
	baz=49,SNR=48									
FMP	Fort Macarthur	49.24	84	⇓P		P		15 01 59.5	+0.8	
	baz=49,SNR=6.3									
I20A	Worland	49.26	67	⇑P		P		15 01 59.7	+0.8	
	baz=49,SNR=145									
F22A	Rosebud	49.30	64	⇓P		P		15 01 59.5	+0.4	
	baz=49,SNR=120									
BFSC	Mount Baldy Ra	49.30	83	⇓P		P		15 02 00.3	+0.9	
	baz=49,SNR=276									
L18A	Fontenelle, Gr	49.31	70	⇓P		P		15 01 60.0	+0.6	
	baz=49,SNR=22									
RRX	Edison Barstow	49.31	82	⇓P		P		15 02 00.5	+1.2	
	baz=49,SNR=26									
C24A	Savage	49.34	61	⇑P		P		15 02 00.3	+0.9	
	baz=49,SNR=81									
CIS	Catalina Islan	49.36	84	⇑P		P		15 02 00.3	+0.6	
	baz=49,SNR=51									
TATO	Taipei	49.38	260	eP		P		15 02 00.7	+0.8	
	comp=Z,36nm,0.8s									
TATO					LR	LR				
	comp=Z,17μm,22.0s									
E23A	Ismay	49.43	63	⇑P		P		15 02 01.1	+1.1	
	baz=49,SNR=82									
DAU	Daniels Canyon	49.47	72	eP		P		15 02 01.8	+1.0	
DAU					pmax	pmax				
	comp=Z,1μm,2.1s									
DAU	Daniels Canyon	49.47	72	eP		P		15 02 01.8	+1.0	
	comp=Z,1μm,2.1s									
MPU	Maple Canyon	49.48	73	eP		P		15 02 01.2	+0.5	
	comp=Z,66nm,0.8s									
K19A	Absolon Red Bu	49.49	69	⇑P		P		15 02 00.8	0.0	
	baz=49,SNR=193									
H21A	Big Horn, Sher	49.50	66	⇓P		P		15 02 01.1	+0.3	
	baz=49,SNR=79									
SCI	San Clemente I	49.55	85	⇓P		P		15 02 02.1	+1.0	
	baz=50,SNR=21									
G22A	Birney	49.60	65	⇓P		P		15 02 01.6	+0.2	
	baz=49,SNR=122									
L19A	Farson	49.61	70	⇑P		P		15 02 02.0	+0.2	
	baz=50,SNR=48									
D24A	Glenelve	49.63	61	⇓P		P		15 02 02.9	+1.3	
	baz=50,SNR=365									
J20A	Shoshoni	49.63	68	⇓P		P		15 02 02.7	+0.9	
	baz=50,SNR=122									
TUQ	Turquoise Moun	49.64	81	⇑P		P		15 02 02.9	+1.0	
	baz=50,SNR=76									
YHNB	Yeheng	49.67	260	eP		P		15 02 01.4	-0.9	
	comp=Z,52nm,0.9s									
YHNB					LR	LR				
	comp=Z,14μm,22.0s									
ARUT	Antelope Range	49.72	77	eP		P		15 02 03.2	+0.6	
ARUT					pmax	pmax				
	comp=Z,98nm,0.9s									
ARUT	Antelope Range	49.72	77	eP		P		15 02 03.2	+0.6	
	comp=Z,98nm,0.9s									
BBRC	Big Bear Solar	49.76	82	⇓P		P		15 02 04.0	+1.1	
	baz=50,SNR=47									
HEC	Hector,Ludlow	49.77	82	⇓P		P		15 02 03.7	+0.9	
	baz=50,SNR=182									
F23A	Vong	49.82	64	⇑P		P		15 02 03.5	+0.4	
	baz=50,SNR=238									
I21A	Big Trails, Te	49.83	67	⇓P		P		15 02 03.5	+0.2	
	baz=50,SNR=250									
K20A	Yellowstone Ra	49.89	68	⇓P		P		15 02 03.6	-0.2	
	baz=50,SNR=124									
NACB	Ninganchiao	49.89	260	eP		P		15 02 03.1	-0.7	
	comp=Z,135nm,1.1s									
CCUT	Cedar City	49.92	77	eP		P		15 02 04.7	+0.5	
	comp=Z,423nm,1.6s									
H22A	Clearmont	49.92	65	⇓P		P		15 02 04.3	+0.4	
	baz=50,SNR=14									
HVS	Khovu-Aksy	49.94	305	c iP		P		15 02 04.3	+0.3	
HVS					pmax	pmax				
	comp=Z,368nm,1.7s									
HVS					MLR	MLR				
	comp=Z,16μm,18.0s									
E24A	Baker	49.96	62	⇑P		P		15 02 05.0	+0.9	
	baz=50,SNR=163									
MURC	Murrieta	50.00	83	⇓P		P		15 02 05.6	+1.0	
	baz=50,SNR=150									
J21A	Lysite	50.01	67	⇑P		P		15 02 05.0	+0.2	
	baz=50,SNR=119									
MVU	Marysvale	50.04	75	eP		P		15 02 05.8	+0.7	
	comp=Z,124nm,1.0s									
MSU	Marysvale	50.06	75	eP		P		15 02 06.2	+1.0	
MSU					pmax	pmax				
	comp=Z,135nm,1.1s									
MSU	Marysvale	50.06	75	eP		P		15 02 06.2	+1.0	
	comp=Z,136nm,1.1s									
WHN	Wuhan	50.08	271	⇑ iP		P		15 02 05.1	0.0	
WHN				PP		PP		15 04 01.2	+1.1	
WHN				S		S		15 09 12.2	-2.5	
WHN					pmax	pmax				
	comp=Z,3μm,4.2s									
WHN					LR	LR				
	comp=N,2μm,12.8s									
WHN					LR	LR				
	comp=E,15μm,16.1s									
WHN					LR	LR				
	comp=Z,16μm,19.4s									
M19A	Rock Springs	50.09	70	⇑P		P		15 02 05.3	-0.1	
	baz=50,SNR=29									
G23A	Biddle	50.13	64	⇑P		P		15 02 05.6	+0.1	
	baz=50,SNR=33									
TMUT	Trail Mountain	50.18	74	eP		P		15 02 06.8	+0.6	
	comp=Z,166nm,1.0s									
GMRC	Granite Mounta	50.22	81	⇓P		P		15 02 07.1	+0.7	
	baz=50,SNR=276									
I22A	9 Mile Ranch,	50.26	66	⇓P		P		15 02 07.4	+0.8	
	baz=50,SNR=147									
L20A	Wamsutter	50.28	69	⇓P		P		15 02 06.9	+0.1	
	baz=50,SNR=40									
F24A	Ekalaka	50.29	63	⇓P		P		15 02 07.2	+0.5	
	baz=50,SNR=36									
LDFC	Landfair	50.38	80	eP		P		15 02 07.9	+0.3	
	comp=Z,697nm,0.9s									
Q16A	Castle Valley	50.43	74	⇑P		P		15 02 09.0	+1.0	
	baz=50,SNR=68									
PFO	Pinyon Flat Ob	50.47	83	P		P		15 02 08.0	-0.3	
	comp=Z,2μm,1.0s									
PFO	Pinyon Flat Ob	50.47	83	eP		P		15 02 08.7	+0.4	
	comp=Z,352nm,1.0s									
PFO					LR	LR				
	comp=Z,9μm,21.0s									
PFO	Pinyon Flat Ob	50.47	83	⇑P		P		15 02 08.9	+0.6	
	baz=50,SNR=138									
H23A	Clabaugh Cattl	50.49	65	⇓P		P		15 02 08.0	-0.2	
	baz=50,SNR=5.6									
E25A	Miller Ranch,	50.51	62	⇑P		P		15 02 09.0	+0.8	
	baz=50,SNR=208									
BELC	Belle Mtn. Jos	50.51	82	⇓P		P		15 02 08.9	+0.4	
	baz=50,SNR=200									
109C	Camp Elliot, M	50.53	84	⇑P		P		15 02 09.6	+1.1	
	baz=50,SNR=43									
J22A	Midwest	50.54	67	⇓P		P		15 02 09.2	+0.5	
	baz=50,SNR=211									
SSLB	Suanglung	50.58	260	eP		P		15 02 08.9	-0.1	
	comp=Z,132nm,1.1s									
KBS	Kingsbay	50.61	356	⇓ iP		P		15 02 09.2	+0.7	
KBS				epP		pP		15 02 16.5	0.0	
KBS					AMB	AMB		15 02 18.4		
	comp=Z,357nm,1.0s									
KBS				eS		S		15 09 20.3	-0.7	
KBS					AMS	AMS		15 26 27.3		
	comp=Z,4μm,20.5s									
KBS	Kingsbay	50.61	356	eP		P		15 02 09.4	+0.9	
KBS					pmax	pmax				
	comp=Z,90nm,0.8s									
KBS					MLR	MLR				
	comp=Z,4μm,20.0s									
KBS	Kingsbay	50.61	356	eP		P		15 02 09.4	+0.9	
	comp=Z,90nm,0.8s									
KBS					LR	LR				
	comp=Z,4μm,20.0s									
G24A	Alzada	50.61	63	⇑P		P		15 02 09.2	+0.1	
	baz=50,SNR=53									
YULB	Yu-li	50.65	259	eP		P		15 02 08.8	-0.7	
	comp=Z,192nm,1.3s									
M20A	Sweetwater, Wa	50.68	70	⇑P		P		15 02 10.5	+0.7	
	baz=50,SNR=62									
SRU	San Rafael	50.71	73	eP		P		15 02 10.1	0.0	
SRU					pmax	pmax				
	comp=Z,132nm,0.9s									
SRU	San Rafael	50.71	73	eP		P		15 02 10.1	0.0	
	comp=Z,132nm,0.9s									
I23A	Meade Ranch, G	50.81	65	⇓P		P		15 02 10.8	+0.1	
	baz=51									
O19A	Miners Draw (B	50.84	71	⇑P		P		15 02 11.5	+0.5	
	baz=51,SNR=42									
H24A	Dirks Ranch, A	50.88	64	⇓P		P		15 02 10.8	-0.3	
	baz=51,SNR=140									
L21A	Rawlins	50.88	69	⇓P		P		15 02 11.5	+0.2	
	baz=51,SNR=240									
NEE2	Needles Airpor	50.89	80	⇓P		P		15 02 11.8	+0.6	
	baz=51,SNR=54									
BAR	Barrett	50.94	84	eP		P		15 02 12.3	+0.7	
	comp=Z,533nm,1.0s									
IRM	Iron Mountain	50.94	81	⇑P		P		15 02 12.4	+0.7	
	baz=51,SNR=182									
MONP	Monument Peak	50.96	83	⇓P		P		15 02 13.0	+0.9	
	baz=51,SNR=188									
K22A	Casper	50.97	67	⇓P		P		15 02 12.0	+0.1	
	baz=51,SNR=131									
N20A	Spence Gulch,	51.03	70	⇑P		P		15 02 13.3	+0.8	
	baz=51,SNR=62									
E26A	Carlson Angus	51.05	61	⇓P		P		15 02 13.0	+0.6	
	baz=51,SNR=422									
BC3	Big Chuckawall	51.08	82	⇑P		P		15 02 13.1	+0.3	
	baz=51,SNR=206									
J23A	Dilts Ranch, B	51.09	66	⇓P		P		15 02 13.5	+0.6	
	baz=51,SNR=17									
M21A	Separation Pea	51.10	69	⇑P		P		15 02 13.1	+0.1	
	baz=51,SNR=121									
SPA0	Spitsbergen Ar	51.12	355	⇓ iP		P		15 02 11.8	-0.6	
SPA0				eS		S		15 09 27.1	-1.0	
SPITS	Spitsbergen Ar	51.12	355	LR		LR		15 26 20.7		
	comp=Z,4μm,18.2s,baz=20,slow=39									
TPUB	Ta-pu	51.13	260	eP		P		15 02 13.0	-0.2	
	comp=Z,226nm,1.0s									
W13A	Hualapai Mount	51.14	80	⇑P		P		15 02 14.0	+0.6	
	baz=51,SNR=192									
TWG	Pinlang	51.20	259	eP		P		15 02 12.4	-1.3	
	comp=Z,270nm,1.1s									
XAN	Xi'an	51.24	279	SS		SS		15 13 03.1	-3.0	
XAN					pmax	pmax				
	comp=Z,22nm,1.3s									
XAN					pmax	pmax				
	comp=Z,210nm,7.0s									
XAN					LR	LR				
	comp=N,8μm,22.9s									
XAN					LR	LR				
	comp=E,3μm,20.8s									
XAN					LR	LR				
	comp=Z,4μm,23.2s									
QZH	Quanzhou	51.24	263	⇑ iP		P		15 02 15.0	+1.1	
QZH				S		S		15 09 34.1	+3.2	
QZH					pmax	pmax				
	comp=Z,480nm,1.1s									
QZH					pmax	pmax				
	comp=Z,4μm,3.8s									
QZH					LR	LR				
	comp=N,4μm,15.2s									
QZH					LR	LR				
	comp=E,5μm,16.5s									
QZH					LR	LR				
	comp=Z,17μm,22.2s									
U15A	North Rim	51.29	77	⇓P		P		15 02 15.8	+1.2	
	baz=51,SNR=71									
DVTC	Desert V Tower	51.32	83	⇓P		P		15 02 15.4	+0.9	
	baz=51,SNR=83									
SWSC	Sam W. Stewart	51.33	83	⇓P		P		15 02 14.9	+0.4	
	baz=51,SNR=48									
P19A	Cripple Cowboy	51.33	72	⇓P		P		15 02 15.2	+0.4	
	baz=51,SNR=64									
I24A	Kuemmerle Ranc	51.36	65	⇓P		P		15 02 14.7	-0.1	
	baz=51,SNR=25									
L22A	Ellis Ranch, M	51.40	68	⇑P		P		15 02 16.1	+0.9	
	baz=51,SNR=67									
K23A	Bowen Ranch, D	51.44	67	⇓P		P		15 02 15.6	+0.1	
	baz=51,SNR=57									
O20A	White River Ci	51.47	71	⇑P		P		15 02 16.1	+0.3	
	baz=51,SNR=45									
PDMCI	Parker Dam,Lak	51.49	81	⇑P		P		15 02 16.4	+0.7	
	baz=51,SNR=200									
H25A	Fruitdale	51.50	64	⇑P		P		15 02 16.0	+0.2	
	baz=51									
N21A	Black Mountain	51.52	70	⇑P		P		15 02 16.5	+0.2	
	baz=51,SNR=54									
RSSD	Black Hills	51.54	64	eP		P		15 02 16.1	-0.2	
RSSD					pmax	pmax				

comp=Z,40nm,0.8s
Y14A Wickenburg 52.44 80 ⇑P P 15 02 23.6 +0.7
baz=52,SNR=128
WUAZ Wupatki 52.44 77 PFAKE 15 02 40.0 +17
WUAZ LR LR
comp=Z,11µm,22.0s
WUAZ Wupatki 52.44 77 ⇓P P 15 02 24.1 +1.1
baz=52,SNR=65
O22A Kremmling 52.48 70 ⇓P P 15 02 23.9 +0.5
baz=52,SNR=69
PV01 Paradox Valley 52.51 73 *e*P P 15 02 23.7 +0.1
comp=Z,14µm,1.0s
K25A Mack Ranch, Ha 52.55 66 ⇑P P 15 02 24.1 +0.4
baz=52,SNR=17
R20A Redvale 52.60 73 ⇓P P 15 02 24.6 +0.4
baz=52,SNR=6.7
Q21A Lamborn Mesa, 52.68 72 ⇑P P 15 02 25.4 +0.6
baz=52,SNR=38
DAG Danmarks Havn 52.69 4 ⇓*i*P P 15 02 23.7 -0.3
DAG *i* S S 15 09 47.2 -2.4
DAG pmax pmax
comp=Z,27nm,0.8s
DAG MLR MLR
comp=Z,5µm,20.0s
DAG Danmarks Havn 52.69 4 ⇓*i*P P 15 02 23.7 -0.3
comp=Z,36nm,0.8s
DAG *i* S S 15 09 47.2 -2.4
DAG
comp=Z,5µm,19.0s
M24A Cheyenne 52.69 68 ⇑P P 15 02 25.8 +0.9
baz=52,SNR=38
P22A Eagle 52.70 71 ⇓P P 15 02 25.5 +0.5
baz=53,SNR=29
I27A Quinn 52.72 63 ⇓P P 15 02 25.4 +0.5
baz=52
113A Mohawk Valley, 52.72 82 ⇓P P 15 02 25.4 +0.5
baz=53,SNR=41
G28A Parade 52.75 62 ⇓P P 15 02 25.6 +0.5
baz=53
ZAA0 Zalesovo Array 52.76 312 *e*P P 15 02 23.9 -1.0
ZALV Zalesovo Beam 52.76 312 P P 15 02 24.1 -0.8
ZALV MLR MLR
comp=Z,9µm,18.5s
ZALV Zalesovo Beam 52.76 312 P P 15 02 24.1 -0.8
ZALV Zalesovo Beam 52.76 312 P P 15 02 24.1 -0.8
comp=Z,3.0nm,0.7s,baz=54,slow=6.4,SNR=12
ZALV LR LR 15 27 42.1
comp=Z,9µm,18.5s,baz=66,slow=39
L25A Engebretsen Ra 52.78 66 ⇓P P 15 02 26.2 +0.8
baz=53,SNR=11
O23A Lake Granby, G 52.82 69 ⇓P P 15 02 27.0 +1.1
baz=53,SNR=116
XMAS Kiritimati 52.83 147 *e*P P 15 02 26.6 +0.8
comp=Z,423nm,1.1s
XMAS LR LR
comp=Z,7µm,19.0s
SMCO Snowmass 52.83 71 *e*P P 15 02 26.0 -0.1
comp=Z,47nm,0.8s
S20A Disappointment 52.83 73 ⇑P P 15 02 26.3 +0.3
baz=53,SNR=11
Z14A Wintersburg 52.85 81 ⇓P P 15 02 26.5 +0.6
baz=53,SNR=47
K26A Motz Farm, Whi 52.90 65 ⇑P P 15 02 26.3 0.0
baz=53,SNR=8.5
H28A Mission Ridge 52.93 62 ⇑P P 15 02 27.2 +0.8
baz=53
NVS Novosibirsk 52.96 314 ⇑*i*P P 15 02 26.1 -0.3
NVS *e*S S 15 09 52.0 -1.8
NVS *i* 15 12 11.3
NVS pmax pmax
comp=Z,732nm,2.3s
NVS pmax pmax
comp=N,48nm,1.0s
NVS pmax pmax
comp=E,129nm,1.0s
NVS smax smax
comp=N,416nm,3.9s
NVS smax smax
comp=E,381nm,3.1s
R21A Cimarron 52.99 72 ⇓P P 15 02 27.9 +0.8
baz=53,SNR=22
N24A Carr 53.06 68 ⇑P P 15 02 28.6 +1.1
baz=53,SNR=8.9
Q22A Crested Butte, 53.07 71 ⇑P P 15 02 28.4 +0.6
baz=53,SNR=29
LZH Lanzhou 53.10 284 ⇑P P 15 02 29.0 +1.1
LZH pP **pP** 15 02 35.9 0.0
LZH sP **sP** 15 02 39.4 +0.4
LZH PP **PP** 15 04 31.5 +3.9
LZH S **S** 15 09 54.1 -2.5
LZH sS **sS** 15 10 07.4 -2.4
LZH SS **SS** 15 13 29.3 -6.4
LZH pmax pmax
comp=Z,460nm,1.3s
LZH pmax pmax
comp=Z,1µm,4.1s
LZH LR LR
comp=N,14µm,16.0s
LZH LR LR
comp=E,16µm,18.5s
LZH LR LR
comp=Z,18µm,19.9s
X16A Lo Mia Camp, P 53.11 79 ⇑P P 15 02 29.2 +1.2
baz=53,SNR=101
MVCO Mesa Verde 53.14 74 PFAKE 15 02 40.0 +12
MVCO LR LR
comp=Z,10µm,21.0s
MVCO Mesa Verde 53.14 74 ⇑P P 15 02 28.8 +0.5
baz=53,SNR=13
M25A Palm-Egli Farm 53.17 67 ⇑P P 15 02 29.6 +1.3
baz=53,SNR=26
ISCO Idaho Springs 53.26 70 *e*P P 15 02 29.5 +0.3
ISCO pmax pmax
comp=Z,72nm,0.8s
ISCO MLR MLR
comp=Z,13µm,21.0s
ISCO Idaho Springs 53.26 70 *e*P P 15 02 29.5 +0.3
comp=Z,72nm,0.8s
ISCO LR LR
comp=Z,13µm,21.0s
ISCO Idaho Springs 53.26 70 ⇓P P 15 02 30.1 +0.9
baz=53,SNR=100
I28A Midland 53.26 63 ⇓P P 15 02 29.5 +0.7
baz=53
S21A Coal Bank Pass 53.29 73 ⇑P P 15 02 30.3 +0.9
baz=53,SNR=21
ENH Enshi 53.37 275 *e*P P 15 02 29.2 -0.6
comp=Z,138nm,1.0s
ENH LR LR
comp=Z,6µm,21.0s
L26A Underwood Farm 53.37 66 ⇓P P 15 02 30.2 +0.4
baz=53,SNR=9.9
O24A Longmont 53.38 69 ⇑P P 15 02 31.5 +1.6
baz=53,SNR=13
P23A Jefferson 53.39 70 ⇑P P 15 02 31.7 +1.5
baz=53,SNR=44
K27A Flueckinger Fa 53.45 65 ⇓P P 15 02 30.5 +0.2
baz=53
GTA Gaotai 53.45 290 ⇑P P 15 02 31.1 +0.7
GTA pP **pP** 15 02 38.8 +0.4
GTA sP **sP** 15 02 42.0 +0.5
GTA PP **PP** 15 04 33.5 +2.8
GTA S **S** 15 10 01.5 +0.2
GTA sS **sS** 15 10 14.7 +0.3
GTA SS **SS** 15 13 41.7 +0.7
GTA pmax pmax
comp=Z,58nm,1.9s
GTA pmax pmax
comp=Z,2µm,7.1s
GTA LR LR
comp=N,9µm,20.0s
GTA LR LR
comp=E,10µm,19.0s
GTA LR LR
comp=Z,10µm,20.4s
N25A Grover 53.54 68 ⇓P P 15 02 32.1 +1.1
baz=53,SNR=23
R22A Saguache, Gunn 53.56 72 ⇓P P 15 02 32.8 +1.4
baz=53,SNR=12
AGMN Agassiz Nation 53.56 56 *e*P P 15 02 30.9 0.0
comp=Z,594nm,1.0s
AGMN LR LR
comp=Z,15µm,20.0s
J28A Allard Ranch, 53.58 64 ⇑P P 15 02 32.0 +0.8
baz=53,SNR=84
U20A Newcomb 53.66 75 ⇓P P 15 02 32.7 +0.7
baz=54

GVA Apache Junctio 53.68 80 *i*P P 15 02 32.8 +0.8
M26A McRoberts Ranc 53.69 67 ⇑P P 15 02 33.2 +1.1
baz=54,SNR=25
Q23A Hartsel 53.69 71 ⇑P P 15 02 33.6 +1.2
baz=54,SNR=17
W18A Petrified Fore 53.72 77 ⇑P P 15 02 33.4 +0.9
baz=54,SNR=21
L27A T5 Ranch, Ells 53.78 66 ⇓P P 15 02 33.2 +0.4
baz=54
S22A 4UR Ranch, Cre 53.82 72 ⇑P P 15 02 34.6 +1.2
baz=54,SNR=27
P24A Kohler Place, 53.86 70 ⇓P P 15 02 34.8 +1.3
baz=54
214A Organ Pipe Nat 53.87 82 ⇓P P 15 02 34.1 +0.7
baz=54,SNR=106
T21A Navajo Lake 53.88 74 ⇓P P 15 02 34.6 +1.0
baz=54,SNR=8.9
K28A Ten Mile Ranch 53.94 64 ⇓P P 15 02 34.6 +0.7
baz=54,SNR=24
O25A Wiggins 53.96 69 ⇑P P 15 02 35.3 +1.2
baz=54,SNR=24
X18A Snowflake 53.97 77 ⇓P P 15 02 35.5 +1.2
baz=54,SNR=41
N26A Koester Ranch, 54.04 67 ⇓P P 15 02 35.9 +1.3
baz=54,SNR=69
Q24A Divide 54.07 70 ⇓P P 15 02 35.9 +0.7
baz=54,SNR=49
V20A Brimhall 54.07 75 ⇑P P 15 02 35.6 +0.6
baz=54
M27A Reverse DX Ran 54.09 66 ⇑P P 15 02 36.0 +1.0
baz=54,SNR=22
R23A Moffat 54.15 71 ⇑P P 15 02 36.7 +1.0
baz=54,SNR=14
U21A Nageezi 54.16 74 ⇓P P 15 02 36.7 +0.9
baz=54
BRSD Miller 54.24 61 ⇑P P 15 02 36.2 +0.2
baz=54,SNR=82
T22A Edith 54.25 73 ⇑P P 15 02 37.5 +1.1
baz=54,SNR=17
L28A Connealy Angus 54.30 65 ⇓P P 15 02 37.1 +0.6
baz=54
P25A Willow Gulch B 54.31 69 ⇓P P 15 02 38.1 +1.4
baz=54,SNR=147
S23A Nye Farm, Mont 54.35 72 ⇑P P 15 02 38.5 +1.3
baz=54
O26A Horse Wrangler 54.35 68 ⇑P P 15 02 37.9 +0.9
baz=54,SNR=66
N27A Anderson Farm, 54.46 67 ⇓P P 15 02 38.8 +1.1
baz=54,SNR=70
BJO Bjornoya 54.47 353 *e*S S 15 10 14.7 +0.9
BJO AMS AMS 15 25 28.4
comp=Z,4µm,19.8s
W20A Ramah 54.48 76 ⇓P P 15 02 38.8 +0.7
baz=54,SNR=12
K29A Lazy Trails An 54.52 64 ⇑P P 15 02 38.9 +0.9
baz=54,SNR=38
R24A Sanders Place, 54.56 71 ⇓P P 15 02 39.6 +1.0
baz=54,SNR=30
V21A Milan 54.58 75 ⇓P P 15 02 39.4 +0.7
baz=54,SNR=9.9
SDCO Great Sand Dun 54.63 72 *e*P P 15 02 39.6 +0.3
comp=Z,123nm,1.2s
SDCO LR LR
comp=Z,6µm,20.0s
Q25A Bedland, Calha 54.64 70 ⇑P P 15 02 40.0 +0.8
baz=54,SNR=70
OGNE Ogallala 54.66 66 *e*P P 15 02 40.2 +1.0
comp=Z,2µm,1.6s
OGNE LR LR
comp=Z,4µm,19.0s
OGNE Ogallala 54.66 66 ⇓P P 15 02 40.3 +1.1
baz=54,SNR=47
U22A Llaves 54.69 74 ⇑P P 15 02 40.4 +0.8
baz=55
T23A Casias Ranch, 54.76 73 ⇑P P 15 02 41.1 +1.0
baz=55,SNR=14
M28A Bar X Bar Ranc 54.77 66 ⇑P P 15 02 40.9 +1.0
baz=55,SNR=15
P26A Davis Ranch, A 54.77 69 ⇑P P 15 02 41.3 +1.2
baz=55,SNR=102
APYP Conner 54.79 255 *e*P P 15 02 39.3 -0.8
SUMG Summit 54.83 12 ⇓*i*P P 15 02 40.7 +0.5
SUMG *i* S S 15 10 18.2 -1.2
SUMG pmax pmax
comp=Z,120nm,0.9s
SUMG MLR MLR
comp=Z,6µm,18.0s
SUMG Summit 54.83 12 *e*P P 15 02 40.6 +0.3
comp=Z,280nm,1.1s
SUMG Summit 54.83 12 ⇓*i*P P 15 02 40.7 +0.5
comp=Z,115nm,0.9s
SUMG *i* S S 15 10 18.2 -1.2
SUMG
comp=Z,6µm,17.0s
L29A Maesberg Ranch 54.86 65 ⇑P P 15 02 41.3 +0.7
baz=55,SNR=18
X20A Quemado 54.87 77 ⇓P P 15 02 42.2 +1.3
baz=55,SNR=33
S24A Houchin Ranch, 54.88 72 ⇑P P 15 02 42.1 +1.1
baz=55,SNR=25
O27A Beecher Island 54.88 67 ⇓P P 15 02 41.7 +0.9
baz=55,SNR=70
TUC Tucson 54.91 80 *e*P P 15 02 41.8 +0.7
TUC pmax pmax
comp=Z,350nm,1.0s
TUC MLR MLR
comp=Z,6µm,20.0s
TUC Tucson 54.91 80 *e*P P 15 02 41.8 +0.7
comp=Z,350nm,1.0s
TUC LR LR
comp=Z,6µm,20.0s
V22A San Miguel Ran 54.95 74 ⇑P P 15 02 42.1 +0.6
baz=55
W21A San Fidel 55.02 75 ⇑P P 15 02 42.7 +0.7
baz=55
Q26A Hugo 55.07 69 ⇑P P 15 02 43.2 +1.0
baz=55,SNR=30
R25A Fountain Ranch 55.11 70 ⇓P P 15 02 43.4 +0.9
baz=55,SNR=78
N28A Pribbeno Ranch 55.12 66 ⇑P P 15 02 43.4 +0.9
baz=55,SNR=12
U23A El Rito 55.13 73 ⇓P P 15 02 43.8 +1.0
baz=55,SNR=18
M29A Burnside Ranch 55.13 65 ⇓P P 15 02 43.4 +0.8
baz=55,SNR=12
FRB Frobisher Bay 55.18 30 P P 15 02 42.5 +0.1
FRB Frobisher Bay 55.18 30 P P 15 02 42.5 +0.1
comp=Z,404nm,0.9s,baz=318,slow=8.0,SNR=387
P27A Ficken Ranch, 55.23 68 ⇓P P 15 02 44.1 +0.8
baz=55,SNR=65
ABRA Dolores 55.27 255 *e*P P 15 02 43.7 +0.1
S25A Roberts Cordova 55.33 71 ⇑P P 15 02 44.8 +0.6
baz=55,SNR=34
O28A Krutsinger Ran 55.34 67 ⇑P P 15 02 44.9 +0.9
baz=55,SNR=41
Y20A Horse Springs, 55.36 77 ⇑P P 15 02 45.8 +1.4
baz=55,SNR=47
X21A Alamocita Cree 55.37 76 ⇑P P 15 02 46.0 +1.5
baz=55
V23A Ortiz Mt. (NFS 55.51 74 ⇑P P 15 02 46.9 +1.4
baz=55,SNR=34
R26A Arlington 55.52 70 ⇓P P 15 02 46.1 +0.7
baz=55,SNR=196
W22A Albuquerque 55.53 75 ⇑P P 15 02 46.6 +1.0
baz=55
KSCO Kaye Shedlock' 55.55 69 ⇓P P 15 02 46.7 +1.1
baz=55,SNR=66
M30A Dale-Ortello V 55.55 65 ⇓P P 15 02 46.2 +0.7
baz=55,SNR=20
N29A Votaw Ranch, W 55.57 66 ⇑P P 15 02 46.6 +0.9
baz=55,SNR=16
U24A Moreno Valley 55.63 73 ⇑P P 15 02 47.6 +1.2
baz=56
T25A Trinidad 55.69 71 ⇓P P 15 02 47.7 +1.0
baz=56,SNR=93
P28A Saint Francis 55.70 68 ⇑P P 15 02 47.7 +1.0
baz=56,SNR=36
Y21A Point of Rocks 55.73 76 ⇓P P 15 02 48.5 +1.3
baz=56,SNR=34
Z20A Nine Sixteen R 55.75 78 P P 15 02 48.3 +1.1
baz=56
X22A Bernardo 55.82 76 ⇓P P 15 02 49.4 +1.8
baz=56,SNR=23
ANMO Albuquerque 55.87 75 *e*P P 15 02 48.1 0.0
comp=Z,71nm,1.0s
ANMO Albuquerque 55.87 75 P P 15 02 48.7 +0.7
comp=Z,49nm,0.9s,baz=314,slow=7.9,SNR=30
ANMO LR LR 15 24 07.1

comp=Z,8µm,21.2s,baz=121,slow=33
N30A Hueftle Ranch, 55.89 65 P P 15 02 48.8 +0.8
baz=56
GZH Guangzhou 55.91 266 P P 15 02 44.9 -3.3
GZH S **S** 15 10 29.0 -5.2
GZH LR LR
comp=N,6µm,19.8s
GZH LR LR
comp=E,4µm,21.4s
GZH LR LR
comp=Z,8µm,22.4s
O29A 4D Ranch, Culb 55.91 67 ⇑P P 15 02 49.3 +1.1
baz=56,SNR=81
R27A Eads 55.91 69 ⇑P P 15 02 49.1 +0.8
baz=56,SNR=164
W23A Werner Place, 55.91 74 ⇑P P 15 02 49.4 +0.9
baz=56,SNR=26
S26A Kim 55.94 70 ⇑P P 15 02 48.8 +0.3
baz=56,SNR=82
HKC Hong Kong Obse 55.94 264 *i*P P 15 02 48.0 -0.4
Q28A Sharon Springs 55.99 68 ⇑P P 15 02 49.6 +0.8
baz=56,SNR=80
ECSD EROS Data Cent 56.00 61 *e*P P 15 02 48.5 -0.2
comp=Z,326nm,1.0s
ECSD LR LR
comp=Z,13µm,22.0s
LENM Lemitar 56.06 76 *e*P P 15 02 50.4 +0.9
comp=Z,112nm,1.2s
EYMN Ely 56.07 54 *e*P P 15 02 49.4 +0.3
comp=Z,502nm,0.9s
EYMN LR LR
comp=Z,7µm,19.0s
V24A Rampart Ranch, 56.08 73 ⇓P P 15 02 50.8 +1.2
baz=56,SNR=85
120A U Bar Ranch, L 56.11 78 ⇑P P 15 02 50.8 +1.1
baz=56,SNR=198
Y22D IRIS PASSCAL I 56.16 76 ⇑P P 15 02 51.7 +1.6
baz=56
T26A Comanche Natio 56.16 71 ⇑P P 15 02 50.3 +0.2
baz=56,SNR=43
U25A Circle Dot Ran 56.17 72 ⇑P P 15 02 50.9 +0.7
baz=56,SNR=85
P29A Atwood 56.17 67 ⇓P P 15 02 51.0 +1.0
baz=56,SNR=77
LPM Los Pinos Moun 56.18 75 *e*P P 15 02 50.8 +0.5
comp=Z,110nm,1.2s
Z21A St. Cloud Mine 56.20 77 ⇑P P 15 02 51.7 +1.2
baz=56,SNR=32
BALP Baler 56.20 253 *e*P P 15 02 50.3 0.0
Y22A Socorro 56.22 76 ⇓P P 15 02 51.8 +1.2
baz=56,SNR=54
S27A Las Animas 56.24 70 ⇑P P 15 02 51.1 +0.4
baz=56,SNR=74
X23A Hourglass Bar 56.27 75 ⇑P P 15 02 51.9 +0.9
baz=56,SNR=28
BNM Barren Site 56.29 76 *e*P P 15 02 51.9 +0.7
O30A MW Ranch, Wils 56.31 66 ⇑P P 15 02 51.9 +0.9
baz=56,SNR=65
BCPH Baguio City Da 56.32 254 ⇓*i*P P 15 02 49.5 -2.0
W24A Lazy 6 Ranch, 56.34 74 ⇓P P 15 02 52.5 +1.1
baz=56,SNR=58
V25A Rancho No Teng 56.41 73 ⇑P P 15 02 52.8 +0.9
baz=56,SNR=56
R28A Tribune 56.47 69 ⇓P P 15 02 52.8 +0.7
baz=56,SNR=48
319A Douglas 56.48 80 ⇓P P 15 02 53.3 +0.9
baz=56,SNR=171
CD2 Chengdu 56.57 279 P P 15 02 52.9 0.0
CD2 pP **pP** 15 03 00.9 -0.1
CD2 sP **sP** 15 03 04.3 +0.2
CD2 PcP **PcP** 15 03 49.8 +0.5
CD2 PP **PP** 15 04 59.9 +1.2
CD2 ScP **ScP** 15 07 45.8 -0.9
CD2 PcS **PcS** 15 07 48.9 -1.2
CD2 S **S** 15 10 40.1 -3.0
CD2 sS **sS** 15 10 53.4 -2.9
CD2 SS **SS** 15 14 27.5 -2.8
CD2 pmax pmax
comp=Z,160nm,1.0s
CD2 pmax pmax
comp=Z,3µm,8.0s
CD2 LR LR
comp=N,8µm,20.0s
CD2 LR LR
comp=E,8µm,20.1s
CD2 LR LR
comp=Z,10µm,21.5s
U26A Atchley Ranch, 56.58 72 ⇓P P 15 02 53.8 +0.7
baz=56,SNR=59
220A Playas Peak, P 56.60 79 ⇑P P 15 02 54.2 +1.0
baz=56,SNR=182
Q29A Oakley 56.60 68 P P 15 02 53.6 +0.5
baz=56
P30A Selden 56.61 67 ⇓P P 15 02 54.0 +0.8
baz=56,SNR=129
BGNE Belgrade 56.62 64 ⇑P P 15 02 53.7 +0.6
baz=56,SNR=20
121A Cookes Peak, D 56.65 78 ⇑P P 15 02 54.7 +1.1
baz=56,SNR=58
Z22A Elephant Butte 56.67 77 ⇓P P 15 02 54.9 +1.1
baz=56,SNR=52
BOLP Bolinao 56.73 255 *e*P P 15 02 54.1 0.0
X24A Lazy VL Ranch, 56.75 74 ⇑P P 15 02 55.4 +1.0
baz=57,SNR=32
T27A Campo 56.76 70 ⇓P P 15 02 54.7 +0.4
baz=57,SNR=42
Y23A Lovelace Mesa, 56.79 75 ⇓P P 15 02 55.6 +1.0
baz=57,SNR=115
R29A Marienthal 56.81 68 ⇓P P 15 02 55.5 +0.8
baz=57,SNR=61
S28A Manter 56.91 69 ⇓P P 15 02 56.1 +0.8
baz=57,SNR=136
W25A X Bar L Ranch, 56.92 73 ⇑P P 15 02 56.3 +0.9
baz=57,SNR=84
V26A Tequesquite Ra 56.95 72 ⇓P P 15 02 56.2 +0.5
baz=57,SNR=47
320A Kipp Ranch, An 56.98 79 ⇓P P 15 02 57.1 +1.1
baz=57,SNR=162
Q30A Quinter 57.00 67 ⇑P P 15 02 56.6 +0.7
baz=57,SNR=64
221A Mesquite Ranch 57.00 78 ⇑P P 15 02 57.2 +1.2
baz=57,SNR=31
122A Conniff Cattle 57.02 77 ⇓P P 15 02 57.8 +1.6
baz=57,SNR=40
T28A Walsh 57.09 70 ⇑P P 15 02 57.2 +0.6
baz=57,SNR=124
U27A Thompson Grove 57.12 71 ⇓P P 15 02 57.3 +0.4
baz=57,SNR=83
Z23A Rita Site, Whi 57.12 76 ⇓P P 15 02 58.1 +1.1
baz=57,SNR=24
SPMN St. Paul 57.13 57 ⇓P P 15 02 57.3 +0.7
baz=57,SNR=124
P31A Stockton 57.14 66 ⇓P P 15 02 57.6 +0.8
baz=57,SNR=24
Y24A Capitan 57.17 75 ⇓P P 15 02 58.3 +0.9
baz=57,SNR=132
SCZP Santa Cruz 57.20 254 *e*P P 15 02 55.6 -1.8
X25A Clemmons Ranch 57.25 74 ⇓P P 15 02 59.0 +1.1
baz=57,SNR=36
S29A Ulysses 57.35 69 ⇓P P 15 02 59.0 +0.6
baz=57,SNR=9.2
222A Williams Famil 57.36 78 ⇓P P 15 02 59.6 +1.0
baz=57,SNR=9.8
R30A Dighton 57.42 68 ⇓P P 15 02 59.6 +0.7
baz=57,SNR=60
W26A Owens Ranch, T 57.43 73 ⇓P P 15 02 59.8 +0.8
baz=57,SNR=14
Q31A Ellis 57.46 67 ⇓P P 15 02 59.7 +0.6
baz=57,SNR=24
U28A Mallet 57.51 71 ⇓P P 15 02 59.8 +0.3
baz=57,SNR=120
123A Bell Site, Whi 57.53 77 ⇓P P 15 03 01.0 +1.2
baz=57,SNR=39
V27A Dan Oppiter Fa 57.55 72 ⇓P P 15 03 00.2 +0.3
baz=57,SNR=7.8
T29A Hugoton 57.55 70 ⇑P P 15 03 00.3 +0.5
baz=57,SNR=13
Z24A Sheeppen Canyo 57.62 76 ⇑P P 15 03 01.3 +0.8
baz=58,SNR=40
WMQ Urumqi 57.62 301 ⇑*i*P P 15 03 00.8 +0.6
WMQ pP **pP** 15 03 10.9 +2.6
WMQ sP **sP** 15 03 14.8 +3.4
WMQ PcP **PcP** 15 03 53.0 -0.1
WMQ PP **PP** 15 05 10.6 +2.9
WMQ ScP **ScP** 15 07 49.0 -2.1
WMQ S **S** 15 10 56.5 -0.1
WMQ sS **sS** 15 11 11.8 +1.9

WMQ ScS **ScS** 15 12 44.0 -3.8
WMQ Urumqi 57.62 301 SS **SS** 15 14 48.2 +1.9
WMQ pmax pmax
comp=Z,130nm,2.0s
WMQ pmax pmax
comp=Z,2μm,7.9s
WMQ LR LR
comp=N,11μm,25.2s
WMQ LR LR
comp=E,6μm,24.2s
WMQ Urumqi 57.62 301 P **P** 15 03 00.0 -0.2
WMQ pP **pP** 15 03 10.1 +1.8
WMQ sP **sP** 15 03 14.0 +2.6
WMQ PcP **PcP** 15 03 53.1 -0.1
WMQ PP **PP** 15 05 09.2 +1.5
WMQ ScP **ScP** 15 07 49.1 -2.1
WMQ S **S** 15 10 52.3 -4.3
WMQ sS **sS** 15 11 10.1 +0.2
WMQ ScS **ScS** 15 12 43.1 -4.7
WMQ SS **SS** 15 14 44.7 -1.6
WMQ pmax pmax
comp=Z,130nm,2.0s
WMQ pmax pmax
comp=Z,3μm,9.5s
WMQ LR LR
comp=N,11μm,25.4s
WMQ LR LR
comp=E,7μm,22.4s
WMQ LR LR
comp=Z,13μm,29.4s
Y25A Mesa, Roswell 57.63 75 ⇓P **P** 15 03 01.1 +0.6
baz=58,SNR=70
S30A Montezuma 57.73 69 ⇑P **P** 15 03 01.6 +0.5
baz=58,SNR=74
KURK Kurchatov 57.75 312 P **P** 15 03 00.0 -0.9
comp=Z,979nm,0.9s,SNR=57
KURK Kurchatov 57.75 312 P **P** 15 03 01.6 +0.7
KURK S **S** 15 10 53.1 -4.8
KURK pmax pmax
comp=Z,40nm,0.9s
KURK smax smax
comp=N,1.0nm,0.6s
KURK Kurchatov 57.75 312 P **P** 15 03 01.6 +0.7
KURK S **S** 15 10 53.1 -4.8
X26A CR and CF Fran 57.76 73 ⇑P **P** 15 03 02.0 +0.6
baz=58,SNR=38
GYA Guiyang 57.79 274 ⇑*iP* **P** 15 03 01.2 -0.5
GYA pP **pP** 15 03 11.8 +2.1
GYA PcP **PcP** 15 03 54.3 +0.1
GYA PP **PP** 15 05 12.9 +3.2
GYA ScP **ScP** 15 07 51.4 -0.8
GYA S **S** 15 10 56.5 -2.8
GYA SS **SS** 15 14 48.0 -1.7
GYA pmax pmax
comp=Z,100nm,1.0s
GYA pmax pmax
comp=Z,1μm,6.5s
GYA LR LR
comp=N,5μm,21.8s
GYA LR LR
comp=E,7μm,24.3s
GYA LR LR
comp=Z,7μm,26.5s
223A Chaparral, Ant 57.85 77 ⇓P **P** 15 03 03.2 +1.1
baz=58,SNR=11
KURBB Kurchatov Arra 57.85 312 P **P** 15 03 01.6 0.0
comp=Z,40nm,0.8s,baz=49,slow=6.4,SNR=144
KURBB S S 15 10 53.1 -6.1
comp=Z,0.6nm,0.6s,baz=53,slow=14,SNR=5.7
TGY Tagaytay City 57.85 252 P **P** 15 03 02.7 +0.6
TGY Tagaytay City 57.85 252 P **P** 15 03 02.7 +0.6
comp=Z,1μm,0.8s,baz=162,slow=5.5,SNR=41
R31A Burdett 57.86 67 ⇑P **P** 15 03 02.2 +0.3
baz=58,SNR=18
W27A Bowe Ranch, En 57.87 72 ⇓P **P** 15 03 02.4 +0.2
baz=58,SNR=44
V28A Channing 57.92 71 ⇓P **P** 15 03 02.9 +0.3
baz=58,SNR=15
124A Stringfield Ra 57.98 76 ⇑P **P** 15 03 03.8 +0.7
baz=58,SNR=32
U29A Oasis Ranch, S 58.03 70 ⇑P **P** 15 03 03.7 +0.4
baz=58,SNR=32
Z25A Roswell 58.05 75 ⇑P **P** 15 03 04.2 +0.7
baz=58,SNR=34
T30A Plains 58.08 69 ⇑P **P** 15 03 04.0 +0.4
baz=58,SNR=31
X27A F and S Farms, 58.13 73 ⇓P **P** 15 03 04.5 +0.5
baz=58,SNR=26
KEV Kevo 58.15 348 *ep* **P** 15 03 03.7 +0.3
comp=Z,23nm,0.7s
KEV Kevo 58.15 348 *eP* **P** 15 03 03.7 +0.3
KEV pmax pmax
comp=Z,23nm,0.7s
KEV Kevo 58.15 348 *eP* **P** 15 03 03.3 -0.1
comp=Z,244nm,1.7s
KEV LR LR
comp=Z,4μm,20.0s
Y26A Elida 58.17 74 ⇓P **P** 15 03 04.9 +0.6
baz=58,SNR=81
W28A Vega 58.26 72 ⇓P **P** 15 03 05.3 +0.4
baz=58,SNR=15
V29A Stinnett 58.27 71 ⇓P **P** 15 03 04.9 0.0
baz=58
S31A Mullinville 58.33 68 ⇓P **P** 15 03 05.3 +0.1
baz=58,SNR=19
U30A WK&E Inc. Balk 58.35 70 ⇓P **P** 15 03 05.6 +0.2
baz=58,SNR=42
224A Cornudas Mount 58.37 77 ⇓P **P** 15 03 06.5 +0.8
baz=58,SNR=94
COWI Conover 58.50 55 *eP* **P** 15 03 06.6 +0.3
COWI comp=Z,484nm,0.9s LR LR
comp=Z,6μm,21.0s
125A Gardner Draw, 58.51 76 ⇑P **P** 15 03 07.5 +0.8
baz=58,SNR=48
Z26A Caprock 58.51 75 ⇑P **P** 15 03 07.2 +0.6
baz=58,SNR=31
MK31 Makanchi Array 58.53 307 *eP* **P** 15 03 05.8 -0.7
MK31 Makanchi Array 58.53 307 *eP* **P** 15 03 05.8 -0.7
MKAR Makanchi Array 58.53 307 P **P** 15 03 06.0 -0.6
MKAR pmax pmax
comp=Z,17nm,0.9s
MKAR MLR MLR
comp=Z,6μm,19.9s
MKAR Makanchi Array 58.53 307 P **P** 15 03 06.0 -0.6
MKAR P'P' 15 32 31.8
MKAR Makanchi Array 58.53 307 P **P** 15 03 06.0 -0.6
comp=Z,17nm,0.9s,baz=56,slow=6.9,SNR=76
MKAR LR LR 15 29 42.9
comp=Z,6μm,19.9s,baz=43,slow=38
MKAR PKPPKP P'P'df 15 32 31.8 -18
comp=Z,1.0nm,1.0s,baz=256,slow=4.9,SNR=5.0
ARCES ARCESS Array B 58.55 349 P **P** 15 03 06.2 0.0
ARCES P'P' 15 32 50.7
ARCES ARCESS Array B 58.55 349 P **P** 15 03 06.2 0.0
comp=Z,34nm,0.8s,baz=35,slow=9.4,SNR=54
ARCES PKPPKP **P'P'df** 15 32 50.7 -0.7
comp=Z,2.9nm,0.8s,baz=230,slow=3.0,SNR=5.3
ARE0 ARCESS Array S 58.55 349 ⇓*iP* **P** 15 03 06.0 -0.2
ARE0 *epP* **pP** 15 03 13.4 -0.9
ARE0 ARCESS Array S 58.55 349 *eP* **P** 15 03 06.3 0.0
T31A Randall Ranch, 58.56 69 ⇓P **P** 15 03 07.1 +0.2
baz=58,SNR=74
Y27A Causey 58.60 74 ⇑P **P** 15 03 07.9 +0.6
baz=58,SNR=72
SCO Scoresbysund 58.62 7 ⇓*iP* **P** 15 03 07.5 +0.8
SCO pmax pmax
comp=Z,56nm,0.9s
SCO MLR MLR
comp=Z,5μm,19.0s
SCO Scoresbysund 58.62 7 ⇓*iP* **P** 15 03 07.5 +0.8
comp=Z,56nm,0.9s
SCO
comp=Z,5μm,19.0s
LVZ Lovozero 58.69 344 *eP* **P** 15 03 07.1 -0.2
LVZ pmax pmax
comp=Z,119nm,1.4s
LVZ Lovozero 58.69 344 P **P** 15 03 07.3 0.0
comp=Z,847nm,0.9s,SNR=6.3
W29A Amraillo 58.70 72 ⇑P **P** 15 03 08.3 +0.4
baz=58,SNR=10
MNTX Cornudas Mount 58.71 77 *eP* **P** 15 03 08.5 +0.5
comp=Z,224nm,1.1s
MNTX LR LR
comp=Z,3μm,19.0s
FUNA Funafuti 58.73 178 PFAKE 15 03 20.0 +12
FUNA LR LR
comp=Z,4μm,19.0s
X28A Dimmitt 58.77 72 ⇑P **P** 15 03 08.8 +0.4
baz=59,SNR=26
225A Deer Hill, Car 58.78 76 ⇑P **P** 15 03 09.5 +0.8
baz=59,SNR=50
MSTX Muleshoe 58.78 73 ⇓P **P** 15 03 08.9 +0.4
baz=59,SNR=49
324A Moseley Ranch, 58.82 77 ⇑P **P** 15 03 09.5 +0.6
baz=59,SNR=82
JMIC Jan Mayen 58.83 2 *eP* **P** 15 03 08.1 -0.1
JMIC *epP* **pP** 15 03 16.6 +0.3
JMIC AMB AMB 15 03 18.5
comp=Z,434nm,2.9s
JMIC *eS* **S** 15 11 10.9 -0.6
JMIC AMS AMS 15 33 13.4
comp=Z,2μm,22.6s
AMTX Amarillo 58.83 72 *eP* **P** 15 03 09.1 +0.3
comp=Z,96nm,0.8s
AMTX LR LR
comp=Z,10μm,22.0s
V30A Spur Ranch, Mi 58.84 70 ⇓P **P** 15 03 08.9 0.0
baz=59,SNR=9.5
126A Clayton Basin, 58.91 75 ⇑P **P** 15 03 09.8 +0.4
baz=59,SNR=21
U31A Nine Bar Ranch 58.94 69 ⇑P **P** 15 03 09.9 +0.3
baz=59,SNR=15
Z27A Tatum 58.95 74 ⇑P **P** 15 03 09.8 +0.1
baz=59,SNR=48
GDL2 Guadalupe Moun 59.00 76 *eP* **P** 15 03 09.7 -0.4
comp=Z,51nm,1.2s
KSU1 Kansas State U 59.02 65 *eP* **P** 15 03 09.7 -0.3
comp=Z,229nm,0.8s
KSU1 LR LR
comp=Z,6μm,19.0s
SCIA State Center 59.09 60 *eP* **P** 15 03 10.3 0.0
comp=Z,811nm,1.0s
SCIA LR LR
comp=Z,13μm,22.0s
X29A Tulia 59.12 72 ⇑P **P** 15 03 11.4 +0.5
baz=59,SNR=20
Y28A McKinney Farm, 59.15 73 ⇑P **P** 15 03 11.2 +0.2
baz=59,SNR=15
325A Bean Ranch, Si 59.19 77 ⇑P **P** 15 03 12.2 +0.7
baz=59,SNR=228
TRO Tromso 59.19 351 ⇓*iP* **P** 15 03 10.8 +0.1
TRO *epP* **pP** 15 03 17.0 -1.7
TRO AMB AMB 15 03 20.4
comp=Z,240nm,2.2s
TRO *eS* **S** 15 11 16.5 +0.4
TRO AMS AMS 15 31 45.0
comp=Z,2μm,16.7s
APA Apatity 59.20 345 ⇓*iP* P 15 03 18.0 +7.3
APA *i* 15 03 29.0
APA *i* 15 05 17.2
APA *i* S **S** 15 11 20.0 +3.7
APA *i* PS **PnS** 15 11 27.0 -3.1
APA pmax pmax
comp=Z,162nm,1.4s
APA MLR MLR
comp=Z,4μm,19.0s
226B Tecolote Peak, 59.21 76 ⇓P **P** 15 03 12.1 +0.6
baz=59,SNR=76
CLNB Carlsbad 59.26 75 *eP* **P** 15 03 12.0 +0.2
comp=Z,3.5nm,0.7s
127A Arkansas Junct 59.30 75 ⇓P **P** 15 03 12.2 0.0
baz=59,SNR=7.9
W30A Crooket Farms 59.30 71 ⇑P **P** 15 03 12.9 +0.8
baz=59,SNR=5.4
KTK1 Kautokeino 59.32 349 *eP* **P** 15 03 11.8 +0.2
KTK1 AMB AMB 15 03 20.9
comp=Z,2μm,2.0s
KTK1 *eS* **S** 15 11 16.4 -1.5
V31A Spring Creek L 59.35 70 ⇓P **P** 15 03 13.0 +0.7
baz=59,SNR=11
Z28A Tucker Farm, M 59.48 74 ⇑P **P** 15 03 13.4 +0.1
baz=59,SNR=22
Y29A Porterfield Fa 59.53 73 ⇓P **P** 15 03 14.2 +0.5
baz=59,SNR=21
425A Indio Mountain 59.58 77 ⇓P **P** 15 03 15.1 +1.0
baz=60,SNR=288
X30A Coker Ranch, T 59.62 72 ⇓P **P** 15 03 14.8 +0.6
baz=60,SNR=55
W31A Holland Ranch, 59.68 70 ⇓P **P** 15 03 15.3 +0.7
baz=60,SNR=20
227A Bennet, Jal 59.79 75 ⇓P **P** 15 03 15.8 +0.3
baz=60,SNR=25
326A Caldwell Ranch 59.84 76 ⇓P **P** 15 03 16.6 +0.7
baz=60,SNR=199
128A Castleberry Fa 59.88 74 ⇑P **P** 15 03 16.5 +0.5
baz=60,SNR=78
BVA0 Borovoye Array 59.88 318 *i* P **P** 15 03 16.0 +0.3
BVA0 pmax pmax
comp=Z,249nm,1.2s
BRVK Borovoye 59.91 318 P **P** 15 03 16.9 +1.0
comp=Z,692nm,0.9s,SNR=15
BRVK Borovoye 59.91 318*c iP* **P** 15 03 16.3 +0.4
BRVK pmax pmax
comp=Z,31nm,0.8s
BRVK MLR MLR
comp=Z,18μm,24.0s
BRVK Borovoye 59.91 318 P **P** 15 03 16.7 +0.8
SNR=153
BRVK Borovoye 59.91 318 *eP* **P** 15 03 16.5 +0.6
comp=Z,108nm,0.8s
BRVK LR LR
comp=Z,12μm,22.0s
Z29A Hungry Hill Ra 59.92 73 ⇑P **P** 15 03 16.8 +0.4
baz=60,SNR=72
Y30A Stafford Cattl 59.99 72 ⇑P **P** 15 03 17.6 +0.8
baz=60,SNR=75
X31A McDonald Ranch 60.04 71 ⇓P **P** 15 03 17.8 +0.7
baz=60,SNR=26
JFWS Jewell Farm 60.04 58 *eP* **P** 15 03 16.7 -0.3
JFWS pmax pmax
comp=Z,287nm,0.9s
JFWS MLR MLR
comp=Z,16μm,22.0s
JFWS Jewell Farm 60.04 58 *eP* **P** 15 03 16.6 -0.3
comp=Z,287nm,0.9s
JFWS LR LR
comp=Z,16μm,22.0s
327A Balmorhea Ranc 60.11 76 ⇑P **P** 15 03 18.4 +0.7
baz=60,SNR=5.3
SOKR Solikamsk 60.15 330*d iP* **P** 15 03 18.4 +1.1
SOKR S **S** 15 11 30.4 +1.8
SOKR pmax pmax
comp=Z,40nm,1.1s
SOKR MLR MLR
comp=Z,6μm,19.0s
228A UT Block 9, Go 60.15 75 ⇓P **P** 15 03 18.2 +0.2
baz=60,SNR=32
129A Stewart Farms, 60.25 74 ⇓P **P** 15 03 18.7 +0.1
baz=60,SNR=13
Z30A Sanderson Ranc 60.25 73 ⇓P **P** 15 03 18.9 +0.3
baz=60,SNR=78
426A McDonald Obser 60.26 77 ⇑P **P** 15 03 19.3 +0.4
baz=60,SNR=155
Y31A Rekieta Farm, 60.32 72 ⇑P **P** 15 03 19.3 +0.3
baz=60,SNR=27
427A Hayter Ranch, 60.52 76 ⇑P **P** 15 03 20.9 +0.4
baz=60,SNR=100
328A Wristen Ranch, 60.52 75 ⇓P **P** 15 03 20.9 +0.4
baz=60,SNR=122
ZRNK Zerenda 60.53 319 P **P** 15 03 20.3 +0.2
ZRNK pmax pmax
comp=Z,198nm,1.5s
526A Mary Lane Ranc 60.64 77 ⇓P **P** 15 03 22.2 +0.8
baz=60,SNR=274
WMOK Wichita Mounta 60.69 70 *eP* **P** 15 03 22.0 +0.5
WMOK pmax pmax
comp=Z,154nm,0.9s
WMOK MLR MLR
comp=Z,10μm,22.0s
WMOK Wichita Mounta 60.69 70 *eP* **P** 15 03 22.0 +0.5
comp=Z,154nm,0.9s
WMOK LR LR
comp=Z,10μm,22.0s
DAV Davao City (W) 60.70 243 P **P** 15 03 21.5 -0.3
DAV LR LR
comp=Z,10μm,22.0s
DAV Davao City (W) 60.70 243 P **P** 15 03 21.5 -0.3
comp=Z,141nm,0.4s,baz=278,slow=8.9,SNR=5.6
229A Bryant Ranch, 60.74 74 ⇑P **P** 15 03 22.1 +0.2
baz=61,SNR=15
DCPH Dipolog City 60.76 246 *eP* **P** 15 03 21.6 -0.5
Y32A R-V Farms, Ver 60.79 71 ⇑P **P** 15 03 22.9 +0.7
baz=61,SNR=164
130A Snyder 60.83 73 ⇓P **P** 15 03 22.8 +0.3
baz=61,SNR=35
Z31A Sharp Cattle R 60.83 72 ⇑P **P** 15 03 22.9 +0.3
baz=61,SNR=48
527A Woodward Ranch 60.88 77 ⇓P **P** 15 03 23.4 +0.4
baz=61,SNR=143
SVE Sverdlovsk 60.95 326 ⇓*iP* **P** 15 03 24.5 +1.6
SVE *eS* **S** 15 11 41.2 +2.1
SVE *e* 15 13 13.2
SVE *eSS* **SS** 15 15 44.2 +6.5
SVE pmax pmax
comp=Z,198nm,1.9s
SVE MLR MLR
comp=Z,10μm,20.0s
SVE MLR MLR
comp=E,7μm,19.0s
626A Big Bend Ranch 60.96 78 ⇓P **P** 15 03 24.2 +0.6
baz=61,SNR=377
329A Wagon Wheel Ra 60.96 75 ⇑P **P** 15 03 23.8 +0.3
baz=61,SNR=49
428A Kincaid Ranch, 61.05 76 ⇓P **P** 15 03 25.1 +0.9
baz=61,SNR=190
QIZ Qiongzhong 61.09 265 P **P** 15 03 25.5 +1.1
QIZ sP **sP** 15 03 34.5 -1.0
QIZ S **S** 15 11 41.5 -0.3
QIZ sS **sS** 15 11 52.4 -2.8
QIZ pmax pmax
comp=Z,130nm,1.2s
QIZ pmax pmax
comp=Z,1μm,8.1s
QIZ LR LR
comp=N,5μm,21.2s
QIZ LR LR
comp=Z,6μm,22.1s
QIZ Qiongzhong 61.09 265 *eP* **P** 15 03 25.5 +1.1
comp=Z,153nm,1.0s
QIZ LR LR
comp=Z,6μm,22.0s
131A Roby 61.12 73 ⇓P **P** 15 03 25.0 +0.5
baz=61,SNR=40
STEI Steigen 61.18 352 *eP* **P** 15 03 24.8 +0.5
230A Sterling City 61.22 74 ⇑P **P** 15 03 25.6 +0.4
baz=61,SNR=98
KMI Kunming 61.23 275 ⇑P **P** 15 03 25.4 -0.2
KMI pP **pP** 15 03 32.9 -0.8
KMI PP **PP** 15 05 41.7 +1.4
KMI S **S** 15 11 40.1 -3.9
KMI SS **SS** 15 15 40.8 -3.2
KMI pmax pmax
comp=Z,62nm,1.0s
KMI pmax pmax
comp=Z,2μm,8.8s
KMI LR LR
comp=N,4μm,25.1s
KMI LR LR
comp=E,5μm,25.1s
KMI LR LR
comp=Z,8μm,32.7s
JAY Jayapura 61.24 222 P **P** 15 03 25.7 +0.3
comp=Z,83nm,1.4s,comp=Z,10μm
Z32A Haskell 61.24 72 ⇑P **P** 15 03 25.9 +0.6
baz=61,SNR=113
CTBH Cotabato--PC H 61.34 244 ⇑*iP* **P** 15 03 27.0 +0.9
TMCR Tamitsa 61.36 341 *eP* **P** 15 03 25.1 -0.4
TMCR *e* 15 04 08.6
TMCR *eS* **S** 15 11 46.2 +2.2
TMCR pmax pmax
comp=Z,241nm,1.4s
528A Cox Ranch, San 61.38 76 ⇓P **P** 15 03 27.2 +0.8
baz=61,SNR=300
TXAR Lajitas Array 61.41 78 P **P** 15 03 27.1 +0.5
TXAR ⇑*e* 15 32 47.6
TXAR Lajitas Array 61.41 78 P **P** 15 03 27.1 +0.5
comp=Z,156nm,0.9s,baz=305,slow=4.4,SNR=679
TXAR LR LR 15 30 37.7
comp=Z,3μm,18.4s,baz=10.0,slow=37
TXAR PKP2bc 15 32 47.6
comp=Z,2.5nm,1.0s,baz=118,slow=1.8,SNR=3.7
HNR Honiara 61.44 199 *eP* **P** 15 03 25.9 -0.8
comp=Z,138nm,0.9s
HNR Honiara 61.44 199 P **P** 15 03 26.4 -0.3
comp=Z,90nm,0.9s,baz=234,slow=3.0,SNR=7.3
HNR LR LR 15 25 17.3
comp=Z,6μm,21.6s,baz=359,slow=31
627A Terlingua Ranc 61.50 77 ⇓P **P** 15 03 27.8 +0.6
baz=61,SNR=366
330A Mertzon 61.52 74 ⇓P **P** 15 03 27.2 0.0
baz=61,SNR=45
429A Davenport Ranc 61.61 75 ⇓P **P** 15 03 27.9 0.0
baz=62,SNR=101
ABTX Abilene, Hawle 61.61 72 ⇓P **P** 15 03 28.6 +0.8
baz=62,SNR=53
TUL1 Tulsa 61.66 67 ⇑P **P** 15 03 28.3 +0.3
baz=62,SNR=46
231A Bronte 61.68 73 ⇑P **P** 15 03 28.1 -0.1
baz=62,SNR=18
GLMI Grayling 61.70 53 *eP* **P** 15 03 28.7 +0.5
comp=Z,602nm,0.8s
GLMI LR LR
comp=Z,11μm,21.0s
529A Stev Forest Ra 61.76 76 ⇓P **P** 15 03 29.3 +0.4
baz=62,SNR=182
628A Black Gap, Mar 61.79 77 ⇓P **P** 15 03 29.7 +0.7
baz=62,SNR=356
430A Baggett Ranch, 61.91 75 ⇑P **P** 15 03 30.2 +0.3
baz=62,SNR=210
ARU Arti 61.99 326*d iP* **P** 15 03 30.5 +0.5
ARU *e* 15 04 07.5
ARU 15 05 47.3
ARU S **S** 15 11 54.2 +1.9
ARU 15 13 15.4
ARU SSS SSS 15 18 40.2
ARU pmax pmax
comp=Z,53nm,1.2s
ARU MLR MLR
comp=Z,8μm,20.0s
ARU Arti 61.99 326 P **P** 15 03 30.8 +0.8
comp=Z,579nm,0.6s,SNR=24
331A San Angelo 62.04 74 ⇓P **P** 15 03 30.8 0.0
baz=62,SNR=53
232A Coleman 62.12 73 ⇑P **P** 15 03 31.5 +0.3
baz=62,SNR=80
BAKI Biak 62.15 228 P **P** 15 03 32.1 +0.6
comp=Z,350nm,0.8s
HDIL Hopedale 62.17 59 *eP* **P** 15 03 31.4 0.0
comp=Z,581nm,1.0s
HDIL LR LR
comp=Z,12μm,22.0s
530A J-C Ranch, Com 62.29 75 ⇓P **P** 15 03 33.0 +0.6
baz=62,SNR=608
SCHQ Schefferville 62.35 36 *eP* **P** 15 03 32.5 +0.1
comp=Z,391nm,1.0s
SCHQ Schefferville 62.35 36 P **P** 15 03 32.5 +0.1
comp=Z,266nm,0.9s,baz=332,slow=6.7,SNR=126
SCHQ LR LR 15 32 57.3
comp=Z,14μm,21.7s,baz=318,slow=38
431A Sonora 62.37 75 ⇑P **P** 15 03 33.1 +0.1
baz=62,SNR=159
332A Millersview 62.41 73 ⇓P **P** 15 03 33.6 +0.4
baz=62,SNR=181
432A Menard 62.73 74 ⇓P **P** 15 03 35.5 +0.1
baz=63,SNR=85
531A Rocksprings 62.77 75 ⇓P **P** 15 03 35.8 +0.2
baz=63,SNR=130
MOR8 Moi Rana 62.98 352 ⇓*iP* **P** 15 03 35.1 -1.3
MOR8 *epP* **pP** 15 03 42.6 -1.9
MOR8 AMB AMB 15 03 45.3
comp=Z,169nm,1.3s
SLM Saint Louis 62.98 61 *eP* **P** 15 03 36.5 -0.3
SLM pmax pmax
comp=Z,872nm,1.6s
SLM Saint Louis 62.98 61 *eP* **P** 15 03 36.5 -0.3
comp=Z,872nm,1.6s
JCT Junction City 63.01 74 *eP* **P** 15 03 37.0 -0.2
JCT pmax pmax
comp=Z,432nm,1.3s
JCT MLR MLR
comp=Z,11μm,20.0s
JCT Junction City 63.01 74 *eP* **P** 15 03 37.0 -0.2
comp=Z,432nm,1.3s
JCT LR LR
comp=Z,11μm,20.0s
JCT Junction City 63.01 74 ⇑P **P** 15 03 37.1 -0.1
baz=63,SNR=107
532A Rocksprings 63.19 74 ⇑P **P** 15 03 38.2 -0.2
baz=63,SNR=123

631A	**Perdido Creek**	**63.27**	**76**	⇑P		**P**	**15 03 38.8**	**-0.1**
	baz=63,SNR=197							
RKPI	**Ransiki, Papua**	**63.36**	**230**	P		**P**	**15 03 40.3**	**+0.7**
	comp=Z,183nm,1.0s,comp=Z,4µm							
WHTX	**Lake Whitney**	**63.38**	**71**	⇓P		**P**	**15 03 40.4**	**+0.8**
	baz=63,SNR=74							
SFIN	**Scholer Farm**	**63.50**	**58**	⇓P		**P**	**15 03 40.5**	**+0.3**
	baz=63,SNR=141							
632A	**Uvalde**	**63.70**	**75**	P		**P**	**15 03 41.7**	**0.0**
	baz=64							
AAA	**Alma-Ata**	**63.71**	**307**	*i* P		**P**	**15 03 42.9**	**+1.2**
AAA				*i* S		**S**	**15 12 16.9**	**+2.5**
AAA					pmax	pmax		
	comp=Z,2µm,8.4s							
AAA					smax	smax		
	comp=E,3µm,15.8s							
AAA					MLR	MLR		
	comp=Z,5µm,18.0s							
GAMI	**Galela, Maluku**	**63.79**	**238**	P		**P**	**15 03 41.6**	**-0.8**
	comp=Z,144nm,1.2s,comp=Z,3µm							
JOF	**Joensuu**	**63.80**	**343**	*ep*		**P**	**15 03 42.2**	**+0.3**
	comp=Z,125nm,1.1s							
JOF	**Joensuu**	**63.80**	**343**	*eP*		**P**	**15 03 42.2**	**+0.3**
JOF					pmax	pmax		
	comp=Z,125nm,1.1s							
MIAR	**Mount Ida**	**63.91**	**67**	*eP*		**P**	**15 03 43.3**	**+0.2**
MIAR					pmax	pmax		
	comp=Z,315nm,0.9s							
MIAR					MLR	MLR		
	comp=Z,5µm,21.0s							
MIAR	**Mount Ida**	**63.91**	**67**	*eP*		**P**	**15 03 43.3**	**+0.2**
	comp=Z,316nm,0.9s							
MIAR					LR	LR		
	comp=Z,5µm,21.0s							
OLIL	**Olney**	**64.10**	**60**	*eP*		**P**	**15 03 44.1**	**-0.2**
	comp=Z,540nm,1.0s							
732A	**Laxson Ranch,**	**64.13**	**76**	⇑P		**P**	**15 03 45.3**	**+0.7**
	baz=64,SNR=117							
SIUC	**Southern Illin**	**64.20**	**62**	*eP*		**P**	**15 03 44.7**	**-0.2**
	comp=Z,124nm,0.8s							
BORG	**Borgarnes**	**64.28**	**9**	PFAKE			15 04 00.0	+15
BORG					LR	LR		
	comp=Z,4µm,20.0s							
UALR	**University of**	**64.47**	**66**	*eP*		**P**	**15 03 46.6**	**-0.1**
	comp=Z,92nm,0.9s							
PARMO	**Parma**	**64.64**	**63**	*eP*		**P**	**15 03 47.8**	**0.0**
TKM2	**Tokmak 2**	**64.65**	**307**	*i* P		**P**	**15 03 48.4**	**+0.4**
TKM2	**Tokmak 2**	**64.65**	**307**	P		**P**	**15 03 48.5**	**+0.4**
	SNR=30							
TKM2	**Tokmak 2**	**64.65**	**307**	*eP*		**P**	**15 03 48.2**	**+0.1**
	comp=Z,41nm,0.9s							
TKM2					LR	LR		
	comp=Z,8µm,20.0s							
BLO	**Bloomington**	**64.66**	**59**	*eP*		**P**	**15 03 47.8**	**-0.1**
BLO					pmax	pmax		
	comp=Z,303nm,1.0s							
BLO	**Bloomington**	**64.66**	**59**	*eP*		**P**	**15 03 47.8**	**-0.1**
	comp=Z,303nm,1.0s							
NSS	**Namsos**	**64.80**	**353**	⇓*iP*		**P**	**15 03 48.3**	**-0.1**
NSS					AMB	AMB	15 03 58.2	
	comp=Z,81nm,1.1s							
NSS				*eS*		**S**	**15 12 27.1**	**0.0**
AFI	**Afiamalu**	**64.80**	**168**	PFAKE			15 04 00.0	+11
AFI					LR	LR		
	comp=Z,2µm,20.0s							
ULHL	**Ulahol**	**64.80**	**306**	P		**P**	**15 03 49.7**	**+0.6**
	SNR=18							
USIN	**University of**	**64.89**	**60**	*eP*		**P**	**15 03 49.4**	**0.0**
	comp=Z,493nm,0.8s							
HBAR	**Harrisburg**	**64.90**	**64**	*eP*		**P**	**15 03 49.2**	**-0.3**
TNTI	**Ternate**	**64.91**	**237**	P		**P**	**15 03 49.5**	**-0.3**
	comp=Z,282nm,1.5s,comp=Z,5µm							
USP	**Ospenovka**	**64.95**	**308**	P		**P**	**15 03 50.1**	**+0.3**
	SNR=45							
PMG	**Port Moresby**	**65.02**	**213**	*eP*		**P**	**15 03 50.1**	**-0.2**
	comp=Z,85nm,1.2s							
PMG					LR	LR		
	comp=Z,9µm,22.0s							
PMG	**Port Moresby**	**65.02**	**213**	P		**P**	**15 03 50.3**	**-0.1**
	comp=Z,68nm,1.7s,comp=Z,2µm							
CHMS	**Chumysh**	**65.02**	**308**	P		**P**	**15 03 51.0**	**+0.7**
	SNR=6.0							
KBK	**Karagaybulak**	**65.17**	**307**	P		**P**	**15 03 52.1**	**+0.7**
	SNR=14							
GLAT	**Glass**	**65.18**	**63**	*eP*		**P**	**15 03 51.9**	**+0.6**
FRU	**Bishkek**	**65.21**	**308**	⇑*eP*		**P**	**15 03 51.5**	**0.0**
FRU				*i*			15 03 59.0	
FRU				*e*			15 06 20.0	
FRU				*eS*		**S**	**15 12 33.0**	**+0.1**
FRU					pmax	pmax		
	comp=Z,400nm,2.1s							
FRU					MLR	MLR		
	comp=Z,9µm,22.0s							
LSA	**Lhasa**	**65.25**	**287**	P		**P**	**15 03 53.5**	**+1.0**
LSA				PcP		**PcP**	**15 04 21.1**	**-3.6**
LSA				PP		**PP**	**15 06 20.3**	**+4.5**
LSA				S		**S**	**15 12 30.2**	**-4.4**
LSA					pmax	pmax		
	comp=Z,110nm,0.9s							
LSA					LR	LR		
	comp=E,6µm,20.9s							
LSA					LR	LR		
	comp=Z,11µm,20.9s							
LSA	**Lhasa**	**65.25**	**287**	*eP*		**P**	**15 03 53.5**	**+1.0**
LSA					pmax	pmax		
	comp=Z,93nm,0.8s							
LSA					MLR	MLR		
	comp=Z,11µm,20.0s							
LSA	**Lhasa**	**65.25**	**287**	*eP*		**P**	**15 03 53.5**	**+1.0**
	comp=Z,93nm,0.8s							
LSA					LR	LR		
	comp=Z,11µm,20.0s							
UTMT	**University of**	**65.37**	**62**	*eP*		**P**	**15 03 53.1**	**+0.5**
	comp=Z,1µm,1.0s							
AAK	**Ala-Archa**	**65.42**	**308**	P		**P**	**15 03 53.0**	**0.0**
	comp=Z,410nm,2.0s,SNR=23							
AAK	**Ala-Archa**	**65.42**	**308**	*eP*		**P**	**15 03 53.3**	**+0.3**
AAK					pmax	pmax		
	comp=Z,61nm,0.9s							
AAK					MLR	MLR		
	comp=Z,8µm,22.0s							
AAK	**Ala-Archa**	**65.42**	**308**	P		**P**	**15 03 53.9**	**+0.9**
	SNR=93							
AAK	**Ala-Archa**	**65.42**	**308**	P		**P**	**15 03 53.5**	**+0.5**
	SNR=20							
AAK	**Ala-Archa**	**65.42**	**308**	*eP*		**P**	**15 03 53.3**	**+0.3**
	comp=Z,61nm,0.9s							
AAK					LR	LR		
	comp=Z,8µm,22.0s							
KAF	**Kangasniemi**	**65.42**	**345**	*ep*		**P**	**15 03 52.3**	**-0.1**
	comp=Z,55nm,0.8s,baz=17,slow=5.8							
KAF	**Kangasniemi**	**65.42**	**345**	*eP*		**P**	**15 03 52.3**	**-0.1**
KAF					pmax	pmax		
	comp=Z,55nm,0.8s							
KZA	**Kyzart**	**65.43**	**307**	P		**P**	**15 03 54.2**	**+0.8**
	SNR=17							
FAKI	**Fak Fak**	**65.52**	**231**	P		**P**	**15 03 53.6**	**-0.1**
	comp=Z,323nm,1.2s,comp=Z,5µm							
MNI	**Manado**	**65.73**	**240**	P		**P**	**15 03 55.1**	**0.0**
	comp=Z,259nm,1.1s,comp=Z,4µm							
EKS2	**Erkin-Say**	**65.76**	**308**	*eP*		**P**	**15 03 55.8**	**+0.7**
EKS2					pmax	pmax		
	comp=Z,56nm,0.8s							
EKS2					MLR	MLR		
	comp=Z,10µm,22.0s							
EKS2	**Erkin-Say**	**65.76**	**308**	P		**P**	**15 03 55.9**	**+0.7**
	SNR=50							
EKS2	**Erkin-Say**	**65.76**	**308**	*eP*		**P**	**15 03 55.8**	**+0.7**
	comp=Z,56nm,0.8s							
EKS2					LR	LR		
	comp=Z,10µm,22.0s							
ACSO	**Alum Creek Sta**	**65.81**	**56**	*eP*		**P**	**15 03 55.1**	**-0.2**
	comp=Z,315nm,0.9s							
ACSO					LR	LR		
	comp=Z,7µm,22.0s							
PANO	**Nakornpanom**	**65.81**	**268**	P		**P**	**15 03 55.6**	**0.0**
	comp=Z,230nm,1.1s,comp=Z,17µm							
KDM	**Kudat**	**65.96**	**251**	P		**P**	**15 03 57.6**	**+1.0**
LBMI	**Labuha**	**66.02**	**236**	P		**P**	**15 03 56.6**	**-0.3**
	comp=Z,243nm,1.2s,comp=Z,4µm							
FIA1	**FINESS Array S**	**66.09**	**345**	*eP*		**P**	**15 03 56.4**	**-0.3**
FINES	**FINESS Array B**	**66.09**	**345**	P		**P**	**15 03 56.6**	**-0.1**
FINES				P'P'			15 32 31.8	
FINES	**FINESS Array B**	**66.09**	**345**	P		**P**	**15 03 56.6**	**-0.1**
	comp=Z,41nm,0.8s,baz=34,slow=7.1,SNR=100							
FINES				PKPPKP		P'P'df	15 32 31.8	-7.0
	comp=Z,7.2nm,1.0s,baz=90,slow=1.9,SNR=7.4							
FINES					LR	LR	15 39 45.3	
	comp=Z,3µm,19.9s,baz=26,slow=42							
WVT	**Waverly**	**66.10**	**62**	*eP*		**P**	**15 03 57.2**	**-0.1**
WVT					pmax	pmax		
	comp=Z,174nm,0.8s							
WVT	**Waverly**	**66.10**	**62**	*eP*		**P**	**15 03 57.2**	**-0.1**
	comp=Z,174nm,0.8s							
AML	**Almayashu**	**66.19**	**308**	P		**P**	**15 03 59.3**	**+1.1**
	SNR=50							
TBLU	**Trondheim**	**66.19**	**354**	⇓*iP*		**P**	**15 03 56.4**	**-1.0**
TBLU				*ep*		**pP**	**15 04 04.0**	**-1.6**
TBLU				*eS*		**S**	**15 12 42.1**	**-2.0**
ALLY	**Alegheny Colle**	**66.25**	**53**	*eP*		**P**	**15 03 58.5**	**+0.3**
	comp=Z,577nm,1.0s							
KVTX	**Kingsville**	**66.26**	**75**	*eP*		**P**	**15 03 59.9**	**+1.6**
	comp=Z,524nm,1.1s							
KVTX					LR	LR		
	comp=Z,5µm,20.0s							
CRAI	**Chiangrai**	**66.26**	**273**	P		**P**	**15 03 59.0**	**+0.5**
	comp=Z,199nm,1.0s							
MYLDM	**Lahad Datu**	**66.34**	**248**	P		**P**	**15 04 00.8**	**+1.8**
SKNT	**Sakolnakorn**	**66.35**	**268**	P		**P**	**15 03 58.5**	**-0.6**
	comp=Z,187nm,1.0s,comp=Z,3µm							
MSNY	**Massena**	**66.37**	**47**	*eP*		**P**	**15 03 58.0**	**-0.8**
	comp=Z,2µm,0.9s							
UBPT	**Khong Chiam**	**66.65**	**266**	P		**P**	**15 04 01.4**	**+0.4**
	comp=Z,85nm,1.5s,comp=Z,3µm							
UBPT	**Khong Chiam**	**66.65**	**266**	P		**P**	**15 04 01.1**	**+0.1**
	comp=Z,170nm,1.3s,comp=Z,3µm							
SDKM	**Sandakan**	**66.75**	**250**	P		**P**	**15 04 01.5**	**-0.3**
LONY	**Lake Ozonia**	**66.78**	**48**	*eP*		**P**	**15 04 00.2**	**-1.3**
	comp=Z,158nm,0.9s							
LONY					LR	LR		
	comp=Z,19µm,21.0s							
AKTO	**Aktyubinsk**	**66.90**	**323**	P		**P**	**15 04 02.6**	**+0.5**
AKTO					pmax	pmax		
	comp=Z,149nm,1.1s							
PUL	**Pulkovo**	**66.90**	**342**	*eP*		**P**	**15 04 03.2**	**+1.2**
PUL					pmax	pmax		
	comp=Z,114nm,1.2s							
PUL					MLR	MLR		
	comp=Z,5µm,20.0s							
KSH	**Kashi**	**66.92**	**304**	P		P	15 04 06.6	+4.0
KSH				pP		pP	15 04 15.6	+4.8
KSH				sP		sP	15 04 17.8	+3.9
KSH				PP		PP	15 06 36.2	+6.5
KSH				S		**S**	**15 12 56.2**	**+2.2**
KSH				sS		sS	15 13 09.9	+2.5
KSH				ScS		**ScS**	**15 13 58.6**	**+0.3**
KSH				SS		**SS**	**15 17 17.2**	**+5.5**
KSH					pmax	pmax		
	comp=Z,890nm,2.1s							
KSH					LR	LR		
	comp=N,8µm,18.6s							
KSH					LR	LR		
	comp=E,6µm,16.6s							
KSH					LR	LR		
	comp=Z,10µm,19.9s							
KKM	**Kota Kinabalu**	**67.03**	**251**	P		**P**	**15 04 03.3**	**-0.2**
IMP	**Imphal**	**67.04**	**281**	*eP*		**P**	**15 04 02.0**	**-1.5**
IMP				*ex*		x	15 06 20.0	
MOL	**Molde**	**67.05**	**355**	⇓*iP*		**P**	**15 04 03.2**	**+0.4**
MOL					AMB	AMB	15 04 13.1	
	comp=Z,410nm,2.1s							
MOL				*eS*		**S**	**15 12 55.0**	**+0.5**
KK31	**Karatay Array**	**67.05**	**310**	*i* P		**P**	**15 04 03.0**	**-0.3**
KK31					pmax	pmax		
	comp=Z,142nm,1.3s							
KKAR	**Karatay Array**	**67.05**	**310**	*eP*		**P**	**15 04 03.3**	**+0.1**
KKAR					pmax	pmax		
	comp=Z,567nm,1.7s							
KKAR	**Karatay Array**	**67.05**	**310**	*eP*		**P**	**15 04 03.3**	**+0.1**
	comp=Z,567nm,1.7s							
AB31	**Akbulak array**	**67.07**	**321**	*i* P		**P**	**15 04 04.0**	**+0.8**
AB31					pmax	pmax		
	comp=Z,150nm,1.2s							
ABKAR	**Akbulak array**	**67.07**	**321**	*eP*		**P**	**15 04 04.0**	**+0.8**
	comp=Z,26nm,0.7s							
FRNY	**Flat Rock**	**67.09**	**47**	*eP*		**P**	**15 04 02.0**	**-1.4**
	comp=Z,130nm,1.0s							
CMAI	**Chiengmai2**	**67.33**	**274**	P		**P**	**15 04 05.3**	**-0.2**
	comp=Z,213nm,1.1s,comp=Z,17µm							
VBMS	**Vicksburg**	**67.36**	**67**	*eP*		**P**	**15 04 05.7**	**+0.4**
	comp=Z,311nm,1.0s							
VBMS					LR	LR		
	comp=Z,5µm,21.0s							
GTOI	**Gorontalo**	**67.42**	**241**	P		**P**	**15 04 04.9**	**-1.0**
	comp=Z,138nm,1.0s,comp=Z,3µm							
TSM	**Tawau**	**67.42**	**248**	P		**P**	**15 04 06.3**	**+0.4**
NCB	**Newcomb**	**67.44**	**48**	*eP*		**P**	**15 04 04.9**	**-0.8**
	comp=Z,191nm,0.9s							
NCB					LR	LR		
	comp=Z,16µm,20.0s							
DOMB	**Dombas**	**67.47**	**354**	*eP*		**P**	**15 04 06.3**	**+0.6**
DOMB					AMB	AMB	15 04 16.0	
	comp=Z,210nm,1.5s							
MSAI	**Masohi**	**67.56**	**234**	P		**P**	**15 04 07.7**	**+0.9**
	comp=Z,27nm,1.0s,comp=Z,1µm							
SHL	**Shillong**	**67.76**	**284**	*i* P		**P**	**15 04 08.5**	**+0.3**
SHL				*i* S		**S**	**15 13 04.0**	**-0.5**
MSVF	**Nonsavu**	**67.86**	**179**	PFAKE			15 04 20.0	+11
MSVF					LR	LR		
	comp=Z,5µm,19.0s							
MDV	**Middlebury**	**67.91**	**47**	*eP*		**P**	**15 04 07.8**	**-0.8**
BINY	**Binghamton**	**67.93**	**50**	*eP*		**P**	**15 04 09.0**	**+0.2**
	comp=Z,118nm,0.8s							
BINY					LR	LR		
	comp=Z,12µm,20.0s							
LAMP	**Lampang**	**67.98**	**273**	P		**P**	**15 04 09.3**	**-0.2**
	comp=Z,26nm,0.9s,comp=Z,234nm							
ACCN	**Adirondack Com**	**68.15**	**48**	*eP*		**P**	**15 04 09.8**	**-0.4**
	comp=Z,368nm,1.0s							
PQI	**Presque Isle**	**68.18**	**42**	*eP*		**P**	**15 04 09.3**	**-1.0**
	comp=Z,220nm,0.9s							
TZTN	**Tazewell**	**68.18**	**59**	*eP*		**P**	**15 04 10.3**	**-0.2**
	comp=Z,879nm,1.6s							
CMMT	**Chiang Mai**	**68.21**	**273**	P		**P**	**15 04 10.4**	**-0.5**
	comp=Z,119nm,1.2s,comp=Z,2µm							
CMMT	**Chiang Mai**	**68.21**	**273**	P		**P**	**15 04 10.2**	**-0.7**
	comp=Z,119nm,1.2s,comp=Z,2µm							
CHTO	**Chiang Mai**	**68.21**	**273**	*eP*		**P**	**15 04 09.6**	**-1.3**
CHTO					pmax	pmax		
	comp=Z,100nm,0.9s							
CHTO					MLR	MLR		
	comp=Z,4µm,21.0s							
CHTO	**Chiang Mai**	**68.21**	**273**	P		**P**	**15 04 10.5**	**-0.4**
	SNR=27							
CHTO	**Chiang Mai**	**68.21**	**273**	*eP*		**P**	**15 04 09.6**	**-1.3**
	comp=Z,100nm,0.9s							
CHTO					LR	LR		
	comp=Z,4µm,21.0s							
CHTO	**Chiang Mai**	**68.21**	**273**	P		**P**	**15 04 10.5**	**-0.4**
	comp=Z,132nm,1.3s,comp=Z,2µm							
CHTO	**Chiang Mai**	**68.21**	**273**	P		**P**	**15 04 10.3**	**-0.6**
	comp=Z,132nm,1.3s,comp=Z,2µm							
NB2	**NORSAR Subarra**	**68.31**	**353**	P		**P**	**15 04 11.0**	**+0.1**
	comp=Z,502nm,1.7s,baz=10,slow=6.5							
NB2	**NORSAR Subarra**	**68.31**	**353**	P		**P**	**15 04 11.0**	**+0.1**
	baz=10,slow=6.5							
NOA	**NORSAR Array B**	**68.31**	**353**	P		**P**	**15 04 11.1**	**+0.1**
NOA				⇑*e*			15 32 24.2	
NOA	**NORSAR Array B**	**68.31**	**353**	P		**P**	**15 04 11.1**	**+0.1**
	comp=Z,55nm,0.8s,baz=11,slow=6.4,SNR=178							
NOA				PKP2bc			15 32 24.2	
	comp=Z,1.2nm,0.8s,baz=177,slow=3.6,SNR=3.6							
LBNH	**Lisbon**	**68.31**	**46**	*eP*		**P**	**15 04 10.7**	**-0.5**
LBNH					pmax	pmax		
	comp=Z,221nm,0.9s							
LBNH					MLR	MLR		
	comp=Z,19µm,20.0s							
LBNH	**Lisbon**	**68.31**	**46**	*eP*		**P**	**15 04 10.7**	**-0.5**
	comp=Z,221nm,0.9s							
LBNH					LR	LR		
	comp=Z,19µm,20.0s							
CHAI	**Chaiyaphum**	**68.42**	**269**	P		**P**	**15 04 11.7**	**-0.5**
	comp=Z,31nm,1.0s,comp=Z,259nm							
CPCT	**Cooper Cave**	**68.45**	**60**	*eP*		**P**	**15 04 11.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**68.47**	**273**	P		**P**	**15 04 12.4**	**-0.1**
CMAR				⇑*e*			15 32 25.1	
CMAR	**Chiang Mai Arr**	**68.47**	**273**	P		**P**	**15 04 12.4**	**-0.1**
	comp=Z,68nm,0.9s,baz=25,slow=7.0,SNR=220							
CMAR				PKP2bc			15 32 25.1	
	comp=Z,4.1nm,1.0s,baz=239,slow=5.1,SNR=12							
CMAR					LR	LR	15 38 29.9	
	comp=Z,5µm,18.2s,baz=50,slow=40							
HYA	**Hoyanger**	**68.52**	**355**	⇓*iP*		**P**	**15 04 12.6**	**+0.4**
HYA				*epP*		**pP**	**15 04 20.8**	**+0.5**
HYA					AMB	AMB	15 04 22.7	
	comp=Z,373nm,0.9s							
HYA				*eS*		**S**	**15 13 13.2**	**+1.1**
NAO01	**NORSAR Array S**	**68.53**	**353**	*eP*		**P**	**15 04 11.9**	**-0.3**
	comp=Z,32nm,0.8s							
HNH	**Hanover**	**68.56**	**47**	*eP*		**P**	**15 04 12.2**	**-0.5**
	comp=Z,246nm,1.0s							
PBKT	**Sadao Pong**	**68.57**	**270**	P		**P**	**15 04 12.1**	**-1.0**
	comp=Z,91nm,1.0s,comp=Z,3µm							
PBKT	**Sadao Pong**	**68.57**	**270**	P		**P**	**15 04 12.8**	**-0.3**
	comp=Z,91nm,0.9s,comp=Z,3µm							
NC602	**NORSAR Array S**	**68.58**	**352**	⇓*iP*		**P**	**15 04 12.4**	**-0.1**
NC602				*epP*		**pP**	**15 04 19.7**	**-1.1**
NC602				*eS*		**S**	**15 13 12.6**	**-0.3**
TRY	**Troy**	**68.65**	**48**	*eP*		**P**	**15 04 12.4**	**-0.8**
	comp=Z,237nm,1.0s							
SUE	**Sulen**	**68.70**	**356**	*eP*		**P**	**15 04 13.6**	**+0.3**
SUE				*epP*		**pP**	**15 04 21.4**	**-0.1**
TKL	**Tuckaleechee C**	**68.71**	**60**	*eP*		**P**	**15 04 13.6**	**-0.2**
TKL	**Tuckaleechee C**	**68.71**	**60**	P		**P**	**15 04 13.8**	**0.0**
	comp=Z,212nm,1.0s,baz=307,slow=4.7,SNR=119							
VSU	**Vasula**	**68.79**	**344**	*d iP*		**P**	**15 04 14.1**	**+0.2**
VSU					pmax	pmax		
	comp=Z,142nm,1.0s							
LRAL	**Lakeview Retre**	**68.81**	**64**	*eP*		**P**	**15 04 13.5**	**-0.9**
	comp=Z,90nm,0.9s							
LRAL				*e*		**pP**	**15 04 19.6**	**-3.0**
LRAL					LR	LR		
	comp=Z,5µm,21.0s							
MOS	**Moscow**	**68.95**	**337**	*eP*		P	15 04 11.2	-3.7
MOS				*e*			15 04 19.5	
MOS				*e*			15 04 38.5	
MOS				*e*			15 06 44.5	
MOS				*eS*		**S**	**15 13 14.8**	**-2.7**
MOS				*eSS*		**SS**	**15 17 43.6**	**+1.6**
MOS					pmax	pmax		
	comp=Z,200nm,1.6s							
MOS					pmax	pmax		
	comp=Z,93nm,1.2s							
MOS					smax	smax		
	comp=E,2µm,5.5s							
MOS					MLR	MLR		
	comp=N,6µm,19.0s							
MOS					MLR	MLR		
	comp=Z,8µm,19.0s							
MOS					MLR	MLR		
	comp=E,4µm,20.0s							
FFD	**Franklin Falls**	**69.03**	**47**	*eP*		**P**	**15 04 15.6**	**0.0**
	comp=E,290nm,0.9s							
TAPN	**Taplejung**	**69.04**	**288**	*eP*		**P**	**15 04 16.7**	**+0.4**
	comp=E,759nm,1.2s							
ASK	**Askoy**	**69.25**	**356**	*eP*		**P**	**15 04 16.5**	**-0.2**
ASK					AMB	AMB	15 04 26.8	
	comp=Z,450nm,2.0s							
RUND	**Rundenannen**	**69.31**	**356**	*eP*		**P**	**15 04 17.2**	**+0.1**
BER	**Bergen**	**69.35**	**356**	⇓*iP*		**P**	**15 04 16.4**	**-0.8**
BER					AMB	AMB	15 04 26.6	
	comp=Z,254nm,2.0s							
BER				*eS*		**S**	**15 13 23.2**	**+1.3**
BLA	**Blacksburg**	**69.38**	**56**	*eP*		**P**	**15 04 17.8**	**-0.2**
BLA					pmax	pmax		
	comp=Z,332nm,0.9s							
BLA					MLR	MLR		
	comp=Z,8µm,21.0s							
BLA	**Blacksburg**	**69.38**	**56**	*eP*		**P**	**15 04 17.8**	**-0.2**
	comp=Z,332nm,0.9s							
BLA					LR	LR		
	comp=Z,8µm,21.0s							
EGD	**Espegrend**	**69.46**	**356**	*eP*		**P**	**15 04 17.8**	**-0.2**
ODAN	**Odare**	**69.59**	**288**	*eP*		**P**	**15 04 20.0**	**+0.3**
	comp=Z,338nm,1.1s							
SDMD	**Soldier's Deli**	**69.60**	**53**	*eP*		**P**	**15 04 19.1**	**-0.1**
	comp=Z,432nm,0.9s							
JIRN	**Jiri**	**69.73**	**289**	*eP*		**P**	**15 04 21.4**	**+0.7**
	comp=Z,1µm,1.2s							
GUN	**Gumba**	**69.74**	**289**	*eP*		**P**	**15 04 21.3**	**+0.6**
	comp=Z,1µm,1.0s							
ODD1	**Odda**	**69.75**	**355**	*eP*		**P**	**15 04 20.4**	**+0.6**
ODD1				*epP*		**pP**	**15 04 28.9**	**+0.8**
ODD1					AMB	AMB	15 04 30.7	
	comp=Z,277nm,1.7s							
ODD1				*eS*		**S**	**15 13 26.7**	**-0.2**
OBN	**Obninsk**	**69.78**	**337**	⇓*eP*		**P**	**15 04 20.2**	**+0.2**
OBN				*i* S		**S**	**15 13 24.8**	**-2.4**
OBN					pmax	pmax		
	comp=Z,74nm,1.2s							
OBN					MLR	MLR		
	comp=Z,6µm,19.0s							
OBN	**Obninsk**	**69.78**	**337**	P		**P**	**15 04 20.1**	**+0.1**
	comp=Z,304nm,0.8s,SNR=5.2							
LRW	**Lerwick**	**69.79**	**359**	AMS		AMS	15 43 04.7	
	comp=Z,2µm,16.1s							
KONO	**Kongsberg**	**69.81**	**353**	⇓*iP*		**P**	**15 04 20.3**	**+0.1**
KONO				*epP*		**pP**	**15 04 28.5**	**+0.1**
KONO					AMB	AMB	15 04 31.1	
	comp=Z,328nm,1.2s							
KONO				*eS*		**S**	**15 13 27.9**	**+0.4**
KONO				*eSS*		**SS**	**15 17 57.0**	**+2.0**
KONO					AMS	AMS	15 42 56.0	
	comp=Z,2µm,20.2s							
KONO	**Kongsberg**	**69.81**	**353**	*eP*		**P**	**15 04 20.6**	**+0.4**
KONO					pmax	pmax		
	comp=Z,463nm,1.6s							
KONO					MLR	MLR		
	comp=Z,3µm,22.0s							
KONO	**Kongsberg**	**69.81**	**353**	*eP*		**P**	**15 04 20.6**	**+0.4**
	comp=Z,463nm,1.6s							
KONO					LR	LR		
	comp=Z,3µm,22.0s							
HRV	**Adam Dziewonsk**	**69.82**	**47**	*eP*		**P**	**15 04 20.3**	**-0.2**
HRV					pmax	pmax		
	comp=Z,223nm,0.9s							
HRV	**Adam Dziewonsk**	**69.82**	**47**	*eP*		**P**	**15 04 20.3**	**-0.2**
	comp=Z,223nm,0.9s							
EMMW	**East Machias**	**69.96**	**43**	*eP*		**P**	**15 04 20.8**	**-0.5**
	com

SNART epP **pP** **15 04 37.9 +0.5**
SNART AMB AMB 15 04 40.1
comp=Z,188nm,1.9s
PYUN Piuthan 71.33 292 *e*P **P** **15 04 30.7 +0.4**
comp=Z,814nm,1.0s
TIGA Tifton 71.93 63 ⇓P **P** **15 04 33.4 -0.1**
baz=72
MVH1 Achvaich 72.01 1⇓*e*P **P** **15 04 33.7 +0.1**
PMOR Pomariorio Ree 72.04 144 *e*P **P** **15 04 35.4 +1.2**
comp=Z,356nm,1.1s
DHRM DHARAMSHALA 72.12 299 *e*P **P** **15 04 33.3 -1.6**
DHRM AMS AMS 15 38 23.6
comp=Z,9μm,17.9s
NACGM Naroch 72.14 342 *e*P **P** **15 04 32.0 -2.4**
PHET Kaeng Krachan 72.16 269 P **P** **15 04 35.3 +0.2**
comp=Z,256nm,1.1s,comp=Z,3μm
CNNC Cliffs of the 72.21 56 *e*P **P** **15 04 35.7 +0.5**
comp=Z,747nm,1.5s
CNNC LR LR
comp=Z,10μm,21.0s
SBUM Sibu 72.28 252 P **P** **15 04 36.5 +0.7**
MICGM Minsk 72.31 342⇓*i*P **P** **15 04 34.0 -1.4**
MNK Minsk 72.31 342⇓*i*P **P** **15 04 34.0 -1.4**
MNK *e* 15 04 52.0
MNK *e*S **S** **15 13 54.0 -2.6**
MNK pmax pmax
comp=N,90nm,1.0s
MNK pmax pmax
comp=Z,420nm,1.0s
MNK pmax pmax
comp=Z,1μm,2.0s
MCD Coleburn Disti 72.36 0⇓*e*P **P** **15 04 35.9 +0.2**
SMLA Simla 72.47 298 *i* P **P** **15 04 37.1 +0.3**
SMLA Simla 72.47 298 *e*P **P** **15 04 36.8 0.0**
SMLA *i* P **P** **15 04 37.1 +0.3**
SMLA AMS AMS 15 38 42.2
comp=Z,6μm,19.4s
MDO Dochfour 72.49 1⇓*e*P **P** **15 04 37.0 +0.5**
DDI Dehra Dun 72.57 296 *e*P **P** **15 04 35.7 -1.8**
DDI AMB AMB 15 04 45.6
comp=Z,651nm,1.6s
DDI AMS AMS 15 39 11.1
comp=Z,12μm,23.0s
KPL Plockton 72.58 2 *e*P **P** **15 04 37.6 +0.6**
KPL AMB AMB 15 04 46.2
comp=Z,140nm,2.1s
KPL AMS AMS 15 45 40.9
comp=Z,3μm,19.8s
NHSC New Hope 72.59 59 *e*P **P** **15 04 38.2 +0.8**
comp=Z,369nm,0.8s
NHSC *e* 15 04 46.5
NHSC LR LR
comp=Z,14μm,22.0s
VSR Storozhevoye 72.59 334 *e*P **P** **15 04 37.2 0.0**
VSR *e**PP **pP** **15 04 45.4 0.0**
VSR *e*S **S** **15 13 55.8 -4.1**
VSR pmax pmax
comp=Z,50nm,1.2s
VSR pmax pmax
comp=N,50nm,1.4s
VSR pmax pmax
comp=E,20nm,1.1s
VSR smax smax
comp=Z,340nm,7.8s
VSR smax smax
comp=N,300nm,8.1s
VSR smax smax
comp=E,2μm,10.4s
VSR MLR MLR
comp=Z,5μm,25.0s
VSR MLR MLR
comp=N,2μm,18.0s
VSR MLR MLR
comp=E,6μm,18.0s
MME1 Meikle Cairn 72.63 0⇓*e*P **P** **15 04 37.0 -0.2**
BOK Bokaro 72.76 286 *e*P **P** **15 04 39.3 +0.7**
DZM Mont Dzumac 72.78 190 *e*P **P** **15 04 40.0 +1.4**
comp=E,214nm,1.3s
DZM *e*S **S** **15 14 01.3 -1.3**
comp=E,7μm,27.0s
DZM Mont Dzumac 72.78 190 *e*LR LR 15 26 50.7
comp=E,17μm,24.6s
DZM Mont Dzumac 72.78 190 *e*P **P** **15 04 38.8 +0.2**
comp=E,109nm,1.3s
DZM Mont Dzumac 72.78 190 P **P** **15 04 37.9 -0.7**
comp=E,64nm,1.1s,baz=270,slow=24,SNR=12
VORD Divnogorie 72.78 334 *e*P **P** **15 04 36.8 -1.5**
VORD *e**PP **pP** **15 04 45.8 -0.7**
VORD *e*S **S** **15 13 59.6 -2.5**
VORD pmax pmax
comp=Z,100nm,1.5s
VORD pmax pmax
comp=N,240nm,1.6s
VORD pmax pmax
comp=E,170nm,1.9s
VORD smax smax
comp=Z,500nm,13.1s
VORD smax smax
comp=N,790nm,8.7s
VORD smax smax
comp=E,2μm,9.6s
VORD MLR MLR
comp=E,6μm,20.0s
VORD MLR MLR
comp=Z,4μm,20.0s
VORD MLR MLR
comp=N,4μm,18.0s
MUD Monsted U'grnd 73.02 353⇓*i*P **P** **15 04 40.2 +0.7**
MUD *i* S **S** **15 14 07.1 +2.6**
MUD pmax pmax
comp=Z,58nm,1.0s
MUD MLR MLR
comp=Z,2μm,19.0s
MUD Monsted U'grnd 73.02 353⇓*i*P **P** **15 04 40.2 +0.7**
comp=Z,58nm,1.0s
MUD *i* S **S** **15 14 07.1 +2.6**
MUD
comp=Z,2μm,19.0s
COP Copenhagen 73.49 351⇓*i*P **P** **15 04 42.4 +0.1**
COP *i* S **S** **15 14 09.6 -0.3**
COP pmax pmax
comp=Z,29nm,0.8s
COP MLR MLR
comp=Z,1μm,20.0s
COP Copenhagen 73.49 351⇓*i*P **P** **15 04 42.4 +0.1**
comp=Z,29nm,0.7s
COP *i* S **S** **15 14 09.6 -0.3**
COP
comp=Z,1μm,19.0s
SUW Suwalki 73.65 344 *e*P **P** **15 04 42.2 -1.1**
SUW pmax pmax
comp=Z,102nm,0.8s
SUW Suwalki 73.65 344 *e*P **P** **15 04 42.2 -1.1**
comp=Z,102nm,0.8s
SUW Suwalki 73.65 344 *e*P **P** **15 04 43.2 -0.1**
SUW *e*pP **pP** **15 04 49.2 -2.4**
SUW *e*PcP **PcP** **15 05 01.8 +2.7**
SUW *e*S **SKiKP** **15 14 08.8 -2.1**
SUW *e*sS **sS** **15 14 21.4 -4.0**
SUW LMZ LR 15 35 32.6
EAB Aberfoyle 73.75 1⇓*e*P **P** **15 04 44.3 +0.4**
BSD Bornholm Skovb 73.78 349 *i* P **P** **15 04 43.7 -0.4**
BSD *i* S **SKiKP** **15 14 10.7 -0.4**
BSD pmax pmax
comp=Z,31nm,0.8s
BSD MLR MLR
comp=Z,3μm,22.0s
BSD Bornholm Skovb 73.78 349 *i* P **P** **15 04 43.7 -0.4**
comp=Z,31nm,0.7s
BSD *i* S **SKiKP** **15 14 10.7 -0.4**
BSD
comp=Z,3μm,22.0s
PPT Papeete 73.80 147 P **P** **15 04 45.4 +0.8**
PPT Papeete 73.80 147 P **P** **15 04 45.4 +0.8**
comp=Z,78nm,0.9s,baz=44,slow=14,SNR=7.2
PPT LR LR 15 29 23.2
comp=Z,4μm,20.6s,baz=331,slow=30
PPT2 Papeete2 73.82 147 *e*P **P** **15 04 45.8 +1.0**
comp=Z,106nm,1.3s
PPT2 *e*S **SKiKP** **15 14 12.4 +0.4**
comp=Z,4μm,25.0s
PPT2 *e*LQ LQ 15 23 38.6
comp=Z,12μm,32.5s
PPT2 *e*LR LR 15 27 16.7
comp=Z,9μm,23.8s,baz=338
LLD Lille Linde 73.86 351 *e*P **P** **15 04 44.8 +0.3**
LLD pmax pmax
comp=Z,85nm,0.8s
LLD Lille Linde 73.86 351 *i* P **P** **15 04 44.8 +0.3**
comp=Z,85nm,0.8s
TIAR Tiarei 73.87 147 *e*P **P** **15 04 46.0 +1.0**
comp=Z,210nm,1.0s
PAE Paea 73.88 147 *e*P **P** **15 04 45.8 +0.8**
comp=Z,32nm,1.1s
KAPI Kappang 73.89 241 P P 15 04 39.7 -5.6
comp=Z,546nm,1.0s,SNR=9.4
KAPI Kappang 73.89 241 P **P** **15 04 45.0 -0.2**
SNR=9.4
KAPI Kappang 73.89 241 *e*P **P** **15 04 44.3 -1.0**
comp=Z,107nm,1.0s
KAPI Kappang 73.89 241 P **P** **15 04 44.9 -0.4**
comp=Z,132nm,1.1s,comp=Z,3μm
KAPI Kappang 73.89 241 P **P** **15 04 44.7 -0.6**
comp=Z,56nm,0.8s,baz=77,slow=6.8,SNR=16
KAPI LR LR 15 34 20.2
comp=Z,4μm,20.8s,baz=236,slow=34
EDI Edinburgh 74.02 0 AMS AMS 15 47 42.8
comp=Z,2μm,17.2s
ESY Stoneypath 74.03 360⇓*e*P **P** **15 04 45.7 +0.2**
EAU Auchinoon 74.10 0⇓*e*P **P** **15 04 46.5 +0.6**
TVO Taravao 74.11 147 *e*P **P** **15 04 47.6 +1.2**
comp=Z,104nm,1.0s
PGBU Glenifferbraes 74.13 1 *e*P **P** **15 04 46.4 +0.3**
PGBU AMB AMB 15 04 55.3
comp=Z,262nm,1.8s
PGBU AMS AMS 15 46 49.1
comp=Z,2μm,24.3s
EBL Broad Law 74.17 0⇓*e*P **P** **15 04 46.8 +0.4**
RAR Rarotonga 74.20 158 P **P** **15 04 47.4 +0.6**
RAR LR LR
comp=Z,5μm,20.0s
RAR Rarotonga 74.20 158 P **P** **15 04 47.4 +0.6**
comp=Z,26nm,0.8s,baz=229,slow=7.3,SNR=9.3
KSM Kuching 74.21 253 P **P** **15 04 47.8 +0.6**
NDI New Delhi 74.28 296 *e*P P 15 04 44.0 -3.5
NDI *ex* x 15 05 06.6
NDI AMB AMB 15 05 15.6
comp=Z,140nm,0.6s
KBL Kabul 74.30 305 *e*P **P** **15 04 47.0 -0.8**
KBL pmax pmax
comp=Z,87nm,0.9s
KBL Kabul 74.30 305 *e*P **P** **15 04 47.0 -0.8**
comp=Z,87nm,0.9s
RGN Rugen 74.52 350 *e*P **P** **15 04 49.1 +0.7**
comp=Z,80nm,0.8s
MEH Mehetia 74.62 146 *e*P **P** **15 04 50.2 +0.8**
comp=Z,196nm,1.1s
ESK Eskdalemuir 74.63 0 P **P** **15 04 49.4 +0.4**
comp=Z,405nm,1.9s,SNR=8.5
ESK Eskdalemuir 74.63 0 *e*P **P** **15 04 49.4 +0.4**
ESK AMB AMB 15 04 58.2
comp=Z,164nm,2.0s
ESK Eskdalemuir 74.63 0 *i* P **P** **15 04 49.9 +0.9**
ESK Eskdalemuir 74.63 0 *e*P **P** **15 04 49.0 0.0**
comp=Z,259nm,1.6s
ESK LR LR
comp=Z,2μm,19.0s
ECK Cauldkaine Hil 74.77 0⇓*e*P **P** **15 04 50.3 +0.4**
GAL1 Galloway 75.07 1 AMS AMS 15 47 15.2
comp=Z,4μm,19.3s
GCD Castle Douglas 75.08 1 *e*P **P** **15 04 50.9 -0.8**
XAL Allendale 75.08 360 *e*P **P** **15 04 51.7 0.0**
CTA Charters Tower 75.29 210 P **P** **15 04 53.2 +0.1**
CTA Charters Tower 75.29 210 P **P** **15 04 53.2 +0.1**
comp=Z,129nm,0.8s,baz=15,slow=7.4,SNR=137
CTA LR LR 15 35 37.6
comp=Z,5μm,20.1s,baz=360,slow=34
CTAO Charters Tower 75.29 210 *e*P **P** **15 04 53.0 -0.2**
CTAO pmax pmax
comp=Z,164nm,0.9s
CTAO MLR MLR
comp=Z,5μm,20.0s
CTAO Charters Tower 75.29 210 *e*P **P** **15 04 53.0 -0.2**
comp=Z,164nm,0.9s
CTAO LR LR
comp=Z,5μm,20.0s
GKP Gorka Klasztor 75.29 348 *e*P **P** **15 04 53.1 +0.2**
GKP *e*pP **pP** **15 05 00.3 -0.8**
GKP *e*PcP PcP 15 05 11.7 +5.6
GKP *e*S **S** **15 14 29.2 -0.9**
GKP *e*sS **sS** **15 14 42.0 -1.8**
GKP LMZ LR 15 39 44.2
KESW Keswick, Cumbr 75.36 0 *e*P **P** **15 04 53.6 +0.3**
KESW AMB AMB 15 05 02.6
comp=Z,266nm,1.8s
KESW AMS AMS 15 39 33.5
comp=Z,2μm,28.3s
BSEG Bad Segeberg 75.42 352 *e*P **P** **15 04 54.3 +0.7**
comp=Z,198nm,1.0s
BSEG Bad Segeberg 75.42 352 *e*P **P** **15 04 54.3 +0.7**
BSEG pmax pmax
comp=Z,117nm,1.0s
KIEV Kiev 75.60 340 *e*P **P** **15 04 54.7 0.0**
KIEV pmax pmax
comp=Z,54nm,0.6s
KIEV MLR MLR
comp=Z,5μm,19.0s
KIEV Kiev 75.60 340 *e*P **P** **15 04 54.7 0.0**
comp=Z,54nm,0.6s
KIEV LR LR
comp=Z,5μm,19.0s
GMM Mts of Mourne 75.68 2 *e*P **P** **15 04 54.0 -1.1**
KTGM Kuala Trenggan 75.68 261 P **P** **15 04 56.2 +0.5**
TRTT Trang 75.95 265 P **P** **15 04 57.0 -0.3**
comp=Z,96nm,1.1s
HPK Haverah Park 75.99 359 AMS AMS 15 46 42.7
comp=Z,2μm,20.2s
BEL Belsk 76.14 345 *e*P **P** **15 04 59.0 +1.2**
BEL *e*pP **pP** **15 05 05.0 -1.1**
BEL *e*PcP PcP 15 05 17.5 +7.6
BEL *e*S **S** **15 14 39.2 -0.5**
BEL *e*sS **sS** **15 14 51.5 -1.8**
BEL LMZ LR 15 43 45.4
DGPR DIGLIPUR 76.24 274 *e*P **P** **15 04 58.2 -0.7**
DGPR AMB AMB 15 05 08.7
comp=Z,243nm,1.3s
DGPR AMS AMS 15 34 03.2
comp=Z,6μm,22.9s
WME Myndd Eilian 76.55 1 *e*P **P** **15 04 60.0 -0.1**
WLF1 Llynfaes 76.65 1 *e*P **P** **15 05 00.8 +0.1**
WLF1 AMB AMB 15 05 09.5
comp=Z,121nm,1.9s
WLF1 AMS AMS 15 44 59.2
comp=Z,3μm,22.7s
KBI1 Birley Grange 76.69 359 *e*P **P** **15 05 00.6 -0.3**
PKDT Phuket 76.78 266 P **P** **15 05 02.0 +0.1**
comp=Z,170nm,0.9s,comp=Z,2μm
JBP Jabalpur 76.81 290⇑*e*P **P** **15 05 02.4 +0.3**
JBP *ex* x 15 14 37.2
JBP *i* x x 15 41 19.4
comp=Z,13μm,22.0s
NRDL Niedersach Rie 76.86 352 *e*P **P** **15 05 02.1 +0.3**
comp=Z,59nm,1.0s
FOEL Foel Wylfa 77.06 0 *e*P **P** **15 05 03.3 +0.3**
FOEL AMB AMB 15 05 12.4
comp=Z,198nm,1.8s
FOEL AMS AMS 15 48 29.3
comp=Z,3μm,18.9s
MAK Makhachkala 77.12 325 *e*P **P** **15 05 03.3 -0.1**
MAK *e* 15 05 11.6
MAK *e* 15 08 02.8
MAK *e*S **S** **15 14 50.3 -0.3**
MAK *e*SS **SS** **15 19 51.8 +4.8**
MAK pmax pmax
comp=Z,106nm,1.2s
MAK MLR MLR
comp=Z,11μm,20.0s
IBBN Ibbenburen 77.25 353 *e*P **P** **15 05 04.7 +0.7**
comp=Z,167nm,0.9s
KULM Kulim 77.29 263 P **P** **15 05 04.2 -0.6**
AJM Ajmer 77.43 296 *i* P **P** **15 05 05.0 -0.5**
HLM1 Long Mynd 77.43 360 *e*P **P** **15 05 05.5 +0.4**
HLM1 AMB AMB 15 05 14.4
comp=Z,161nm,2.2s
CLZ Clausthal 77.49 352 *e*P **P** **15 05 06.1 +0.7**
comp=Z,104nm,1.0s
CLZ Clausthal 77.49 352 *e*P **P** **15 05 06.1 +0.7**
CLZ pmax pmax
comp=Z,38nm,1.0s
LVV L'vov 77.50 342 *e*P **P** **15 05 05.8 +0.3**
LVV *e* 15 05 15.0
LVV *e*S **S** **15 14 53.6 -1.0**
LVV *e* 15 15 33.2
LVV *e* 15 19 48.6
LVV MLR MLR
comp=N,2μm,18.0s
LVV MLR MLR
comp=E,3μm,18.0s
LVV MLR MLR
comp=Z,5μm,18.0s
TEIG Tepich 77.57 73 *e*P **P** **15 05 06.7 +0.4**
comp=Z,167nm,1.1s
TEIG LR LR
comp=Z,3μm,22.0s
TEIG Tepich 77.57 73 P **P** **15 05 07.0 +0.7**
comp=Z,123nm,1.0s,baz=335,slow=12,SNR=41
WTSB Winterswijk 77.65 354 *e*P **P** **15 05 06.7 +0.5**
comp=Z,75nm,1.0s
WTSB *eX* 15 05 14.7
IPM Ipoh 77.67 262 P **P** **15 05 05.8 -1.1**
CLL Collm 77.74 350 *e*P **P** **15 05 06.6 -0.2**
comp=Z,45nm,1.2s
CLL Collm 77.74 350⇓*i*P **P** **15 05 06.6 -0.2**
CLL *e* 15 05 15.0
CLL *e*S **S** **15 14 57.0 -0.1**
CLL pmax pmax
comp=Z,44nm,1.2s
CLL Collm 77.74 350⇓*i*P **P** **15 05 06.6 -0.2**
comp=Z,44nm,1.2s
CLL *e*pP **pP** **15 05 15.0 -0.1**
CLL *i* 15 05 25.3
comp=Z,225nm,1.8s
CLL *e* 15 08 22.0
CLL *e*S **S** **15 14 57.0 -0.1**
CLL *e*SS SS 15 20 06.0 +10
CLL *e*SSS SSS 15 23 24.0
KSP Ksiaz 77.79 348⇓*i*P **P** **15 05 07.5 +0.4**
KSP *i* *PP **pP** **15 05 15.4 0.0**
KSP *e*S **S** **15 14 56.2 -1.4**
KSP *e**SS **sS** **15 15 08.5 -2.8**
KSP *e*SS SS 15 20 04.0 +7.4
KSP MLR MLR
comp=Z,6μm,21.2s
KSP Ksiaz 77.79 348 *e*P **P** **15 05 07.5 +0.4**
KSP *e*pP **pP** **15 05 15.4 0.0**
KSP *e*PcP PcP 15 05 23.0 +6.0
KSP *e*S **S** **15 14 56.4 -1.2**
KSP *e*sS **sS** **15 15 08.5 -2.8**
KSP LMZ LR 15 42 12.6
VAL Valentia 77.83 5 *e*P **P** **15 05 05.4 -1.8**
VAL Valentia 77.83 5⇓*i*S **S** **15 15 01.8 +3.9**
OJC Ojcow 77.87 345⇓*i*P **P** **15 05 08.4 +0.8**
OJC *e**PP **pP** **15 05 16.3 +0.4**
OJC *e* 15 05 18.5
OJC *e* 15 08 04.1
OJC *e*S **S** **15 14 57.6 -1.0**
OJC *e* 15 15 10.1
OJC Ojcow 77.87 345 *i* P **P** **15 05 08.4 +0.8**
OJC *e*pP **pP** **15 05 16.3 +0.4**
OJC *e*PcP **PcP** **15 05 18.5 +1.1**
OJC *e*PP **PP** **15 08 04.1 +1.5**
OJC *e*S **S** **15 14 57.6 -1.0**
OJC *e*SKSac SKSac 15 15 10.1 -9.3
OJC L L 15 42 43.2
comp=Z,4μm,20.5s
KWP Kalwaria Pacla 77.93 343 *e*P **P** **15 05 09.2 +1.3**
KWP *e* 15 05 17.7
KWP pmax pmax
comp=Z,230nm,0.6s
KWP MLR MLR
comp=Z,5μm,19.0s
KWP Kalwaria Pacla 77.93 343 *e*P **P** **15 05 09.2 +1.3**
comp=Z,230nm,0.6s
KWP *e* 15 05 17.7
KWP LR LR
comp=Z,5μm,19.0s
KWP Kalwaria Pacla 77.93 343⇓*i*P **P** **15 05 09.5 +1.6**
KWP Kalwaria Pacla 77.93 343 *i* P **P** **15 05 09.2 +1.3**
KWP *e*pP **PcP** **15 05 17.0 -0.7**
KWP *e*PcP pP 15 05 27.8 +12
KWP *e*S **S** **15 14 59.7 +0.4**
KWP *e*sS **sS** **15 15 11.6 -1.4**
KWP LMZ LR 15 38 59.2
MCH1 Michaelchurch 77.96 0 *e*P **P** **15 05 07.6 -0.4**
MCH1 AMB AMB 15 05 16.9
comp=Z,203nm,2.5s
MCH1 AMS AMS 15 45 42.8
comp=Z,3μm,24.1s
KIV Kislovodsk 77.96 328*d*i P **P** **15 05 09.2 +0.9**
KIV *e* 15 08 00.1
KIV *e*S **S** **15 15 02.5 +2.6**
KIV *e*SS **SS** **15 20 03.9 +4.1**
KIV pmax pmax
comp=Z,269nm,4.5s
KIV pmax pmax
comp=Z,51nm,1.0s
KIV Kislovodsk 77.96 328 P **P** **15 05 09.6 +1.3**
comp=Z,261nm,0.8s,SNR=8.2
MYKOM Kota Tinggi 77.96 258 P **P** **15 05 08.2 -0.4**
BRG Berggiesshubel 78.06 349 *i* P **P** **15 05 08.8 +0.2**
comp=Z,50nm,1.1s
BRG *i* 15 05 27.7
comp=Z,141nm,1.5s
BRG PP **PP** **15 08 05.0 +0.9**
BRG S **S** **15 15 01.0 +0.4**
BRG PKPPKP P'P'df 15 32 10.4 -7.2
comp=Z,3.4nm,1.2s
BRG
comp=N,2μm,21.3s
BRG
comp=E,2μm,22.3s
BRG
comp=Z,3μm,20.9s
BRG Berggiesshubel 78.06 349 *i* P **P** **15 05 08.8 +0.2**
BRG 15 08 05.0
BRG S **S** **15 15 01.0 +0.4**
BRG pmax pmax
comp=Z,3.0nm,1.1s
BRG MLR MLR
comp=N,3μm,21.3s
BRG MLR MLR
comp=E,2μm,22.3s
BRG MLR MLR
comp=Z,2μm,20.9s
KBZ Khabaz 78.09 328 LR LR 15 45 23.5
comp=Z,6μm,19.8s,baz=17,slow=40
KGM Kluang 78.12 259 P **P** **15 05 09.8 +0.3**
BUG Bochum--Univer 78.14 353 *e*P **P** **15 05 09.2 +0.2**
comp=Z,66nm,1.0s
UPC Upice 78.16 348 *e*P **P** **15 05 09.4 +0.3**
UPC *e* 15 05 14.9
UPC Upice 78.16 348⇓*e*P **P** **15 05 09.4 +0.3**
UPC *e*pP **pP** **15 05 14.9 -2.5**
UPC *ex* x 15 05 26.3
FRIM Kepong 78.24 261 P **P** **15 05 10.0 -0.2**
RAC Raciborz 78.25 346 *e*P **P** **15 05 11.0 +1.3**
RAC MLR MLR
comp=Z,4μm,21.8s
DPC Dobruska-Polom 78.27 348⇓*i*P **P** **15 05 10.7 +0.9**
DPC *e* 15 05 17.0
DPC *e*S **S** **15 15 02.0 -0.9**
DPC Dobruska-Polom 78.27 348⇓*i*P **P** **15 05 10.7 +0.9**
DPC *e*pP **pP** **15 05 17.0 -1.1**
DPC *ex* x 15 05 27.4
DPC *e*S **S** **15 15 02.0 -0.9**
DPC *e*SS SS 15 20 15.6 +12
BHPL Bhopal 78.28 292 *e*P **P** **15 05 09.9 -0.4**
PVCC Panska Ves 78.32 349 *e*P **P** **15 05 10.4 +0.3**
PVCC *e* 15 05 18.4
PVCC *e*S **S** **15 15 02.4 -1.0**
PVCC MLR MLR
comp=Z,4μm,21.5s
PVCC Panska Ves 78.32 349⇓*e*P **P** **15 05 10.4 +0.3**
PVCC *e*pP **pP** **15 05 18.4 0.0**
PVCC *ex* x 15 05 26.9
PVCC *e*S **S** **15 15 02.4 -1.0**
PVCC AMS AMS 15 41 10.0
comp=Z,4μm,21.5s
STHS Stebnicka Huta 78.40 344 *e*P **P** **15 05 12.3 +1.7**
STHS pmax pmax
comp=Z,61nm,1.2s
STHS Stebnicka Huta 78.40 344 *e*P **P** **15 05 12.2 +1.7**
KRLC Kraliky 78.47 347 *e*P **P** **15 05 11.6 +0.7**
KRLC *e* 15 05 18.1

KRLC **Kraliky** 78.47 347 ⇓ *e*P P 15 05 11.6 +0.7
KRLC *e*pP **pP** 15 05 18.1 -1.2
KRLC *e*x x 15 05 28.5
OKC Ostrava-Krasne 78.50 346 ⇓ *i*P **P** 15 05 11.9 +0.9
OKC *e* 15 05 17.4
OKC *e* 15 05 26.0
OKC *e*S S 15 14 59.1 -6.2
OKC *e*SS **SS** 15 20 05.7 -1.6
OKC MLR MLR
comp=Z,3µm,21.7s
OKC Ostrava-Krasne 78.50 346 ⇓ *i*P **P** 15 05 11.9 +0.9
OKC *e*pP **pP** 15 05 17.4 -1.9
OKC *e*x x 15 05 26.0
OKC *e*x x 15 05 30.9
OKC *e*S S 15 14 59.1 -6.2
OKC *e*SS **SS** 15 20 05.7 -1.6
OKC AMS AMS 15 42 30.0
comp=Z,3µm,21.7s
UBBA Unterbreizbach 78.53 352 *e*P **P** 15 05 11.6 +0.5
comp=Z,80nm,1.6s
MOX Moxa 78.55 351 *e*P **P** 15 05 11.6 +0.3
comp=Z,53nm,1.0s
MOX *e*L L 15 47 36.3
comp=Z,3µm,21.0s
MOX Moxa 78.55 351 *e*P **P** 15 05 11.6 +0.3
MOX pmax pmax
comp=Z,31nm,1.0s
NIE Niedzica 78.56 345 ⇓ *i*P **P** 15 05 14.0 +2.6
NIE *e**PP **PcP** 15 05 22.0 +1.5
NIE *e* 15 05 24.3
NIE *e*S **S** 15 15 08.5 +2.4
NIE *e* 15 15 20.5
NIE Niedzica 78.56 345 *i* P **P** 15 05 14.0 +2.6
NIE *e*pP **PcP** 15 05 22.0 +1.5
NIE *e*PcP **pP** 15 05 24.3 +4.6
NIE *e*S **S** 15 15 08.5 +2.4
NIE *e*SKSac **SKSac** 15 15 20.5 -4.0
ZEI Tsey 78.57 327 *e*P **P** 15 05 11.0 -0.8
ZEI *e*S **S** 15 15 05.9 -0.9
ZEI pmax pmax
comp=Z,46nm,1.1s
ZEI MLR MLR
comp=Z,9µm,20.0s
ZEI MLR MLR
comp=N,11µm,25.0s
KOLS Kolonicke sedl 78.68 343 *e*P **P** 15 05 13.0 +0.9
KOLS *e* 15 05 22.1
KOLS *e*S **S** 15 15 05.0 -2.4
KOLS pmax pmax
comp=Z,60nm,1.2s
KOLS Kolonicke sedl 78.68 343 *e*P **P** 15 05 13.0 +0.9
KOLS *e*pP **PcP** 15 05 22.1 +1.1
KOLS *e*S **S** 15 15 05.0 -2.4
KOLS *e*SS SS 15 20 22.2 +12
ELSH Elham, Standar 78.75 357 AMS AMS 15 49 05.1
comp=Z,3µm,19.4s
PRA Prague 78.79 349 ⇓ P **S** 15 15 14.0 +1.4
PRA S **S** 15 15 08.0 -0.4
PRA AMS AMS 15 42 00.0
PRU Pruhonice 78.86 349 ⇓ *i*P **P** 15 05 13.5 +0.5
PRU *e* 15 05 19.8
PRU *e*S **S** 15 15 07.6 -1.5
PRU *e*SS SS 15 20 19.8 +7.2
PRU MLR MLR
comp=Z,3µm,21.7s
PRU Pruhonice 78.86 349 ⇓ *i*P **P** 15 05 13.5 +0.5
PRU *e*pP **pP** 15 05 19.8 -1.5
PRU *e*x x 15 05 32.4
PRU *e*S **S** 15 15 07.6 -1.5
PRU *e*SS SS 15 20 19.8 +7.2
PRU AMS AMS 15 41 20.0
comp=Z,3µm,21.7s
VIS Vishakhapatnam 78.88 284 *i* P **P** 15 05 13.1 -0.5
VIS *e*P pP 15 05 13.7 -8.2
ANN Anapa 78.88 332 *d* iP **P** 15 05 12.0 -1.2
ANN *e* 15 08 12.6
ANN *i* S **S** 15 15 08.8 -0.7
ANN *e*SS **SS** 15 20 18.8 +5.5
ANN pmax pmax
comp=Z,38nm,1.1s
ANN pmax pmax
comp=Z,657nm,7.3s
ANN MLR MLR
comp=Z,3µm,24.0s
EIDS Eidsvold 78.89 204 *e*P **P** 15 05 13.5 +0.2
comp=Z,66nm,1.1s
BEBN Eben Emael 78.89 354 P **P** 15 05 13.7 +0.6
BEBN AP **pP** 15 05 21.4 0.0
NGP Nagpur 78.90 290 *e*P **P** 15 05 13.2 -0.5
NGP AMB AMB 15 05 19.5
comp=Z,105nm,0.6s
ONI Oni 78.90 327 P **P** 15 05 14.4 +0.9
ONI S **S** 15 15 10.9 +0.9
HGN Heimansgroeve 78.91 354 *e*P **P** 15 05 13.7 +0.5
comp=Z,118nm,1.0s
HGN *e*X 15 05 21.9
HGN *e*S **S** 15 15 13.4 +3.8
HTL Hartland 78.95 1 AMS AMS 15 48 07.5
comp=Z,3µm,19.8s
UZH Uzhgorod 78.97 343 *e*P **P** 15 05 14.0 +0.4
UZH *e* 15 08 13.4
UZH *e*S **S** 15 15 07.2 -3.2
UZH *e*PS **PnS** 15 15 52.6 -1.5
MEM Membach 79.06 354 P **P** 15 05 14.6 +0.6
comp=Z,57nm,1.1s
KIS Kishinev 79.16 338 ⇓ *i*P **P** 15 05 14.0 -0.7
comp=Z,500nm,6.0s
KIS Kishinev 79.16 338 *i* PcP PcP 15 05 32.0 +9.0
KIS Kishinev 79.16 338 *e*PP PP 15 08 20.0 +6.6
KIS Kishinev 79.16 338 *e*PPP PPP 15 09 50.0
KIS Kishinev 79.16 338 *e*S **S** 15 15 08.0 -4.4
KIS *i* ScS **SKSac** 15 15 26.0 -2.7
KIS Kishinev 79.16 338 *d* iP **P** 15 05 14.0 -0.7
KIS *e* 15 08 20.0
KIS *e*S **S** 15 15 08.0 -4.4
KIS *i* 15 15 26.0
KIS *i* PS **PnS** 15 15 50.0 -6.6
KIS *e*SSS SSS 15 23 32.0
KIS pmax pmax
comp=Z,500nm,6.0s
KIS MLR MLR
comp=N,4µm,18.0s
KIS MLR MLR
comp=Z,5µm,18.0s
KIS MLR MLR
comp=E,3µm,15.0s
KIS MLR MLR
comp=Z,5µm,20.0s
TBI Tubuai 79.20 149 *e*P **P** 15 05 16.1 +1.1
comp=Z,176nm,1.1s
TBI *e*S **S** 15 15 10.5 -2.6
comp=Z,3µm,28.5s
TBI Tubuai 79.20 149 *e*LQ LQ 15 25 34.9
comp=Z,5µm,36.2s
TBI *e*LR LR 15 29 49.5
comp=Z,7µm,25.0s,baz=337
TBLG Delisi 79.20 326 *e*P **P** 15 05 15.9 +0.8
TBLG *e*S **S** 15 15 14.7 +1.6
TBLG Delisi 79.20 326 P **P** 15 05 15.9 +0.8
TBLG S S 15 15 14.8 +1.6
DGRG David-gareji 79.22 325 P P 15 05 21.3 +6.1
DGRG S S 15 15 27.5 +14
CHVG Ch'k'valeri 79.26 328 P P 15 05 23.5 +8.1
TNS Taunus Mts 79.26 353 *e*P **P** 15 05 15.6 +0.3
comp=Z,76nm,0.9s
TNS Taunus Mts 79.26 353 *e*P **P** 15 05 15.6 +0.3
TNS pmax pmax
comp=Z,21nm,0.9s
SOC Sochi 79.27 330 *d* iP **P** 15 05 15.6 +0.2
SOC *e**PP **pP** 15 05 20.4 -3.3
SOC *i* S **S** 15 15 13.4 -0.3
SOC *i* *SS sS 15 15 22.0 -5.4
SOC pmax pmax
comp=Z,23nm,0.9s
SOC MLR MLR
comp=Z,8µm,21.0s
BUR08 Bucovina Ar. S 79.35 341 *e*P **P** 15 05 16.7 +0.8
ROTZ Rotzenmuhle 79.35 350 *e*P **P** 15 05 16.6 +0.9
comp=Z,57nm,1.2s
TRPA Tarpa 79.41 343 ⇓ *i*P **P** 15 05 17.5 +1.5
TRPA Tarpa 79.41 343 ⇓ *e*P **P** 15 05 17.5 +1.5
TREC Trest 79.41 348 ⇓ *i*P **P** 15 05 16.6 +0.5
TREC *e* 15 05 22.4
TREC *e*S **S** 15 15 13.8 -1.3
TREC *e*SS **SS** 15 20 24.0 +2.9
TREC MLR MLR
comp=Z,3µm,22.4s
TREC Trest 79.41 348 ⇓ *i*P **P** 15 05 16.6 +0.5
TREC *e*pP **PcP** 15 05 22.4 -1.7
TREC *e*x x 15 05 35.7
TREC *e*S **S** 15 15 13.8 -1.3
TREC *e*SS **SS** 15 20 24.0 +2.9
TREC AMS AMS 15 42 40.0
comp=Z,3µm,22.4s
KECS Kecovo 79.44 344 *e*P **P** 15 05 17.6 +1.4
KECS *e* 15 05 26.4
KECS pmax pmax
comp=Z,29nm,1.2s
KECS Kecovo 79.44 344 *e*P **P** 15 05 17.6 +1.4
KECS *e*pP **pP** 15 05 26.3 +1.8
RAO Raoul Island 79.45 176 LR LR 15 39 21.5
comp=Z,2µm,19.0s,baz=359,slow=35
GRF Grafenberg Arr 79.53 351 *e*P **P** 15 05 17.6 +0.9
comp=Z,103nm,1.0s
GRF *e*L L 15 44 30.7
comp=Z,3µm,20.8s
GRF Grafenberg Arr 79.53 351 *e*P **P** 15 05 17.6 +0.9
WRAB Tennant Creek 79.53 220 P **P** 15 05 16.0 -0.9
comp=Z,803nm,1.0s,SNR=57
WRAB Tennant Creek 79.53 220 *e*P **P** 15 05 16.1 -0.9
WRAB pmax pmax
comp=Z,141nm,1.0s
WRAB MLR MLR
comp=Z,4µm,20.0s
WRAB Tennant Creek 79.53 220 *e*P **P** 15 05 16.1 -0.9
comp=Z,141nm,1.0s
WRAB LR LR
comp=Z,4µm,20.0s
GRFO Grafenberg 79.53 351 *e*P **P** 15 05 17.6 +0.9
GRFO pmax pmax
comp=Z,222nm,1.4s
GRFO Grafenberg 79.53 351 *e*P **P** 15 05 17.6 +0.9
comp=Z,222nm,1.4s
WRA Warramunga Arr 79.54 220 P **P** 15 05 15.8 -1.3
WRA PP **PP** 15 08 20.5 +2.4
WRA PKKPbc **PKKPbc** 15 24 04.9 +0.6
WRA Warramunga Arr 79.54 220 P **P** 15 05 15.8 -1.3
comp=Z,98nm,0.9s,baz=32,slow=6.2,SNR=321
WRA PP **PP** 15 08 20.5 +2.4
comp=Z,28nm,1.0s,baz=28,slow=9.0,SNR=5.8
WRA PKKPbc **PKKPbc** 15 24 04.9 +0.6
comp=Z,2.7nm,1.0s,baz=227,slow=2.1,SNR=13
WRA LR LR 15 39 12.5
comp=Z,4µm,20.5s,baz=50,slow=35
GIVF Givet 79.63 355 ⇓ *i*P **P** 15 05 17.6 +0.4
comp=Z,168nm,1.3s
GIVF *e*pP pP 15 05 35.6 +10
DOU Dourbes 79.65 355 P **P** 15 05 17.7 +0.4
comp=Z,60nm,1.9s
ABH Alteburg 79.67 353 ⇓ *e*P **P** 15 05 18.1 +0.6
VYHS Vyhne 79.70 345 *e*P **P** 15 05 18.8 +1.1
VYHS *e* 15 05 26.9
VYHS *e*S S 15 15 26.6 +8.4
VYHS *e*SS SS 15 20 33.0 +7.6
VYHS pmax pmax
comp=Z,38nm,1.3s
VYHS MLR MLR
comp=Z,2µm,20.6s
VYHS Vyhne 79.70 345 *e*P **P** 15 05 18.8 +1.1
VYHS *e*pP **pP** 15 05 26.9 +0.9
VYHS *e*S S 15 15 26.6 +8.4
VYHS *e*SS SS 15 20 33.0 +7.6
SIM Simferopol' 79.70 334 *e*P **P** 15 05 17.5 -0.2
SIM *e*PPP PPP 15 10 05.0
SIM *i* S **S** 15 15 18.1 -0.2
SIM *e* 15 15 32.0
SIM *e*SS **SS** 15 20 31.0 +5.4
SIM pmax pmax
comp=Z,57nm,0.6s
BAIF Baives 79.71 355 ⇓ *i*P **P** 15 05 18.3 +0.7
comp=Z,126nm,1.0s
KHC Kasperske Hory 79.82 349 ⇓ *i*P **P** 15 05 19.2 +0.9
KHC *e* 15 05 25.5
KHC *e*S **S** 15 15 18.5 -1.0
KHC *e*SS **SS** 15 20 26.9 -0.3
KHC MLR MLR
comp=Z,4µm,22.0s
KHC Kasperske Hory 79.82 349 ⇓ *i*P **P** 15 05 19.2 +0.9
KHC *e*pP **PcP** 15 05 25.5 -0.4
KHC *e*x x 15 05 36.6
KHC *e*S **S** 15 15 18.5 -1.0
KHC *e*SS **SS** 15 20 26.9 -0.3
KHC AMS AMS 15 48 10.0
comp=Z,4µm,22.0s
KHC Kasperske Hory 79.82 349 *e*P **P** 15 05 19.1 +0.8
comp=Z,72nm,1.1s
TOD Tromm 79.84 352 ⇓ *e*P **P** 15 05 19.1 +0.7
TOD Tromm 79.84 352 ⇓ *e*P **P** 15 05 19.1 +0.7
RUP Ruppelstein 79.89 353 ⇓ *e*P **P** 15 05 19.2 +0.5
RUP Ruppelstein 79.89 353 ⇓ *e*P **P** 15 05 19.2 +0.5
WET Wettzell 79.89 350 *e*P **P** 15 05 18.9 +0.2
comp=Z,49nm,1.2s
WET Wettzell 79.89 350 *e*P **P** 15 05 18.9 +0.2
WET pmax pmax
comp=Z,29nm,1.2s
SMOL Smolenice 79.90 346 *e*P **P** 15 05 20.6 +1.9
SMOL Smolenice 79.90 346 *e*P **P** 15 05 20.6 +1.9
AKH Akhalkalaki 79.93 326 P **P** 15 05 20.3 +1.1
AKH S **S** 15 15 25.1 +3.9
WLF Walferdange 79.99 354 P **P** 15 05 19.9 +0.7
comp=Z,95nm,2.3s
WLF Walferdange 79.99 354 *e*P **P** 15 05 19.9 +0.7
comp=Z,67nm,1.0s
WLF Walferdange 79.99 354 *e*P **P** 15 05 20.1 +0.9
WLF pmax pmax
comp=Z,228nm,1.7s
WLF MLR MLR
comp=Z,3µm,20.0s
WLF Walferdange 79.99 354 *e*P **P** 15 05 20.1 +0.9
comp=Z,228nm,1.7s
WLF LR LR
comp=Z,3µm,20.0s
PSZ Piszkesteto 80.08 345 ⇑P **P** 15 05 19.7 -0.1
PSZ Piszkesteto 80.08 345 *e*P **P** 15 05 20.8 +1.0
comp=Z,286nm,1.6s
PSZ LR LR
comp=Z,3µm,21.0s
PSZ Piszkesteto 80.08 345 ⇑ *i*P **P** 15 05 19.7 -0.1
PSZ Piszkesteto 80.08 345 ⇓ *e*P **P** 15 05 21.3 +1.5
GEC2 GERESS Array S 80.08 349 *e*P **P** 15 05 20.3 +0.5
comp=Z,44nm,1.0s
GEC2 GERESS Array S 80.08 349 *e*P **P** 15 05 20.3 +0.5
GEC2 pmax pmax
comp=Z,15nm,1.0s
GERES GERESS Array B 80.08 349 P **P** 15 05 20.3 +0.5
GERES PKKPbc **PKKPbc** 15 24 01.9 0.0
GERES ⇑ *e* 15 31 56.6
GERES GERESS Array B 80.08 349 P **P** 15 05 20.3 +0.5
comp=Z,17nm,0.8s,baz=23,slow=4.5,SNR=116
GERES PKKPbc **PKKPbc** 15 24 01.9 0.0
comp=Z,0.4nm,0.3s,baz=153,slow=1.5,SNR=5.7
GERES PKP2bc 15 31 56.6
comp=Z,1.1nm,0.9s,baz=194,slow=1.1,SNR=5.5
KTD Kalmit 80.19 353 ⇓ *e*P **P** 15 05 20.7 +0.4
KTD Kalmit 80.19 353 ⇓ *e*P **P** 15 05 20.7 +0.4
ZST Bratislava 80.26 347 *e*P **P** 15 05 21.8 +1.2
ZST *e* 15 05 30.3
ZST *e*S **S** 15 15 22.8 -1.2
ZST Bratislava 80.26 347 *e*P **P** 15 05 21.8 +1.2
ZST *e*pP **pP** 15 05 30.3 +1.3
ZST *e*S **S** 15 15 22.8 -1.2
ZST *e*SS SS 15 20 46.0 +12
AKL Akola 80.46 291 *e*P **P** 15 05 21.8 -0.4
AKL AMB AMB 15 05 30.7
comp=Z,104nm,1.9s
LANF Langenberg 80.55 353 ⇓ *e*P **P** 15 05 22.9 +0.7
LANF Langenberg 80.55 353 ⇓ *e*P **P** 15 05 22.9 +0.7
LANF Langenberg 80.55 353 ⇓ *e*P **P** 15 05 22.9 +0.7
GNI Garni 80.58 325 P **P** 15 05 25.5 +2.7
SNR=26
GNI Garni 80.58 325 *e*P **P** 15 05 24.9 +2.1
comp=Z,172nm,1.3s
GNI LR LR
comp=Z,7µm,20.0s
STU Stuttgart 80.64 352 *e*P **P** 15 05 23.0 +0.4
comp=Z,88nm,0.9s
STU Stuttgart 80.64 352 *e*P **P** 15 05 23.1 +0.4
STU pmax pmax
comp=Z,54nm,0.8s
STU Stuttgart 80.64 352 *e*P **P** 15 05 23.1 +0.4
comp=Z,54nm,0.8s
BUD Budapest 80.65 345 ⇓ *e*P **P** 15 05 24.4 +1.6
DRGR 80.66 342 ⇑P **P** 15 05 24.1 +1.1
DRGR 80.66 342 ⇑ *i*P **P** 15 05 24.0 +1.1
VRI Vrincioaia 80.70 339 ⇑P **P** 15 05 24.8 +1.7
VRI Vrincioaia 80.70 339 ⇑ *i*P **P** 15 05 24.8 +1.7
PLOR Plostina 80.74 340 ⇑P **P** 15 05 25.2 +1.9
PLOR Plostina 80.74 340 ⇑ *i*P **P** 15 05 25.2 +1.9
PKSG 80.84 346 ⇓ *e*P **P** 15 05 25.3 +1.5
CSKK Cs^‡kako 80.89 346 ⇓ *e*P **P** 15 05 26.4 +2.3
MOA Molln 80.99 348 ⇓ *i*P **P** 15 05 25.3 +0.6
comp=Z,20nm,0.9s,SNR=9.9
PKST T"'s 81.03 346 ⇓ *e*P **P** 15 05 25.8 +1.0
CFR Carcaliu 81.03 338 ⇑P **P** 15 05 26.6 +1.7
CFR Carcaliu 81.03 338 ⇑ *i*P **P** 15 05 26.5 +1.7
FUR Furstenfeldbru 81.03 350 *e*P **P** 15 05 25.4 +0.6
comp=Z,143nm,1.3s
FUR Furstenfeldbru 81.03 350 *e*P **P** 15 05 25.4 +0.6
FUR pmax pmax
comp=Z,47nm,1.3s
PAGF Fort de Pagny 81.12 354 ⇓ *i*P **P** 15 05 26.1 +0.8
comp=Z,81nm,0.9s
BFO Black Forest 81.15 352 P **P** 15 05 25.2 -0.3
comp=Z,316nm,0.9s,SNR=15
BFO Black Forest 81.15 352 *e*P **P** 15 05 25.8 +0.3
comp=Z,67nm,1.0s
BFO Black Forest 81.15 352 *e*P **P** 15 05 25.8 +0.3
BFO pmax pmax
comp=Z,13nm,1.0s
BFO Black Forest 81.15 352 *e*P **P** 15 05 25.0 -0.4
comp=Z,93nm,1.2s
BFO LR LR
comp=Z,2µm,22.0s
CDF Champ du Feu 81.15 353 ⇓ *i*P **P** 15 05 25.9 +0.3
comp=Z,109nm,1.0s
FLN La Foliniere 81.17 358 ⇓ *i*P **P** 15 05 25.6 +0.1
comp=Z,210nm,1.1s,baz=11
FLN *e*pP pP 15 05 43.5 +10
FLN *e*R
comp=Z,4µm,19.8s
BBSR BB Station 81.18 49 *e*P **P** 15 05 25.4 -0.4
comp=Z,528nm,1.6s
BBSR LR LR
comp=Z,7µm,20.0s
MEZF Maizieres J'vi 81.22 355 ⇓ *i*P **P** 15 05 26.4 +0.6
comp=Z,199nm,1.1s,baz=16
MEZF *e*pP pP 15 05 44.6 +11
MLR Muntele Rosu 81.23 340 ⇓ *i*P **P** 15 05 27.9 +1.8
RJOB Jochberg 81.28 349 *e*P **P** 15 05 26.9 +0.7
comp=Z,43nm,1.0s
LDF La Druitiere 81.33 358 ⇓ *i*P **P** 15 05 26.4 0.0
comp=Z,142nm,1.1s
LDF ⇓ *i*pP pP 15 05 44.5 +10
SPAK Spaichingen-Ko 81.34 352 ⇓ *e*P **P** 15 05 27.2 +0.7
LIBD Limburg 81.39 353 *e*P **P** 15 05 27.4 +0.7
LIBD Limburg 81.39 353 *e*P **P** 15 05 27.4 +0.7
ARSA Arzberg 81.41 347 *i* P **P** 15 05 28.1 +1.2
comp=Z,51nm,1.0s,SNR=22
THEF They Montfort 81.43 354 ⇓ *e*P **P** 15 05 27.6 +0.7
THEF They Montfort 81.43 354 ⇓ *e*P **P** 15 05 27.6 +0.7
THEF They Montfort 81.43 354 ⇓ *e*P **P** 15 05 27.6 +0.7
ISR Istrita 81.45 339 ⇑P **P** 15 05 29.8 +2.6
ISR Istrita 81.45 339 ⇑ *i*P **P** 15 05 29.8 +2.6
VOIR 81.48 340 ⇓P **P** 15 05 28.4 +1.1
VOIR 81.48 340 ⇓ *i*P **P** 15 05 28.4 +1.1
SFTF Sexfontaines 81.51 355 ⇓ *i*P **P** 15 05 27.8 +0.4
comp=Z,344nm,1.1s
SFTF *e*pP pP 15 05 45.9 +10
GRR Gorron 81.55 359 ⇓ *i*P **P** 15 05 27.8 +0.3
comp=Z,221nm,1.1s
ROSF Rostrenen 81.62 0 ⇓ *i*P **P** 15 05 28.3 +0.4
comp=Z,96nm,1.1s
ROSF *e*pP pP 15 05 46.3 +10
HAU Haudompre 81.63 354 ⇓ *i*P **P** 15 05 28.3 +0.3
comp=Z,107nm,1.0s
HAU *e*R
comp=Z,6µm,23.0s
FELD Feldberg im Sc 81.63 353 ⇓ *e*P **P** 15 05 28.3 +0.1
ARR Arges 81.64 341 ⇑ *i*P **P** 15 05 29.6 +1.5
TIRR Tirgusor 81.64 338 *e*P **P** 15 05 28.6 +0.5
TIRR pmax pmax
comp=Z,45nm,1.0s
TIRR Tirgusor 81.64 338 *e*P **P** 15 05 28.6 +0.5
comp=Z,45nm,1.0s
TIRR Tirgusor 81.64 338 ⇑ *i*P **P** 15 05 29.1 +1.0
SGMF Saint Gilles 81.70 360 ⇓ *i*P **P** 15 05 28.7 +0.4
comp=Z,131nm,0.9s
MOF Molkenrain 81.72 353 ⇓ *e*P **P** 15 05 28.9 +0.3
MOF Molkenrain 81.72 353 ⇓ *e*P **P** 15 05 28.9 +0.3
MOF Molkenrain 81.72 353 ⇓ *e*P **P** 15 05 28.9 +0.3
RETA Reutte 81.76 351 *i* P **P** 15 05 29.5 +0.7
comp=Z,38nm,1.0s,SNR=13
HINF Hinteralfeld 81.78 353 ⇓ *i*P **P** 15 05 28.9 +0.1
comp=Z,98nm,1.1s
WATA Walderalm 81.82 350 ⇓ *i*P **P** 15 05 30.1 +0.9
comp=Z,74nm,0.8s,SNR=25
FITZ Fitzroy Crossi 81.83 229 P **P** 15 05 29.5 +0.3
FITZ Fitzroy Crossi 81.83 229 P **P** 15 05 29.5 +0.3
comp=Z,160nm,0.9s,baz=26,slow=4.8,SNR=359
FITZ LR LR 15 38 20.2
comp=Z,3µm,21.1s,baz=75,slow=33
MOTA Moosalm 81.86 350 ⇓ *i*P **P** 15 05 30.1 +0.6
comp=Z,99nm,1.1s,SNR=43
KBA Koelnbreinsper 81.87 349 *i* PcP **P** 15 05 30.8 +1.4
comp=Z,231nm,0.9s,SNR=115
WTTA Wattenberg 81.88 350 *i* P **P** 15 05 30.5 +0.9
comp=Z,129nm,0.9s,SNR=48
PKSM Moragy 81.95 345 ⇑P **P** 15 05 28.2 -1.5
PKSM Moragy 81.95 345 ⇑ *i*P **P** 15 05 28.2 -1.5
PKSM Moragy 81.95 345 ⇓ *e*P **P** 15 05 30.1 +0.4
BEHE Becsehely 81.99 346 ⇓ *e*P **P** 15 05 31.3 +1.4
BZS Buzias 82.00 343 ⇓P **P** 15 05 30.3 +0.3
BZS Buzias 82.00 343 ⇓ *i*P **P** 15 05 30.3 +0.3
SOKA Soboth 82.04 348 ⇓ *i*P **P** 15 05 31.3 +1.0
comp=Z,157nm,1.4s
QUIF Quistinic 82.04 0 ⇓ *i*P **P** 15 05 30.3 +0.2
comp=Z,67nm,1.2s
DAVA Damuels 82.04 351 ⇓ *i*P **P** 15 05 31.0 +0.6
comp=Z,57nm,1.2s,SNR=13
HYB Hyderabad 82.05 288 *i* P **P** 15 05 29.0 -1.7
comp=Z,120nm,1.0s
HYB Hyderabad 82.05 288 *e*P **P** 15 05 30.5 -0.2
HYB AMS AMS 15 43 41.0
comp=Z,3µm,20.9s
PERS Pernice 82.07 348 *i* P **P** 15 05 31.4 +1.0
PERS *e* 15 05 50.2
PERS *e*S **S** 15 15 43.6 +0.6
BBS Basel-Blauen 82.08 353 ⇓ *e*P **P** 15 05 30.9 +0.5
BBS Basel-Blauen 82.08 353 ⇓ *e*P **P** 15 05 30.9 +0.5
FETA Feichten 82.22 351 *i* P **P** 15 05 32.0 +0.7
comp=Z,94nm,1.1s,SNR=43
LOMF Lomont 82.24 353 ⇓ *e*P **P** 15 05 32.0 +0.7
LOMF Lomont 82.24 353 ⇓ *e*P **P** 15 05 32.0 +0.7
LOMF Lomont 82.24 353 ⇓ *e*P **P** 15 05 32.0 +0.7
MYKA Terra Mystica 82.27 349 ⇓ *i*P **P** 15 05 32.0 +0.5
comp=Z,48nm,1.5s
OBKA Obir 82.27 348 ⇓ *i*P **P** 15 05 32.2 +0.7
SNR=28
ABTA Abfaltersbach 82.29 349 *i* P **P** 15 05 32.2 +0.6
comp=Z,82nm,1.0s,SNR=42
LATR Latur 82.49 290 *ex* P 15 05 25.7 -7.2
LATR AMB AMB 15 05 33.9
comp=Z,103nm,1.7s
LOR Lormes 82.51 355 ⇓ *i*P **P** 15 05 33.0 +0.3
comp=Z,135nm,1.1s,baz=9.0
LOR *e*pP pP 15 05 51.1 +10
LOR *e*R
comp=Z,5µm,21.5s
HYF Humbligny 82.57 356 ⇓ *i*P **P** 15 05 33.6 +0.7
LJU Ljubljana 82.73 348 ⇓ *e*P **P** 15 05 34.0 +0.2
SSF Saint Saulge 82.74 356 ⇓ *i*P **P** 15 05 34.2 +0.4
comp=Z,118nm,1.0s
SSF *e*pP pP 15 05 52.4 +10
BHJ Bhuj 82.77 298 AMS AMS 15 45 16.8
comp=Z,8µm,26.3s
VOY Vojsko 82.83 348 *e*P **P** 15 05 34.7 +0.3
VOY *e* 15 05 42.7
TGUH Tegucigalpa,Un 82.86 77 *e*P **P** 15 05 36.8 +1.9
comp=Z,1µm,1.0s
TGUH LR LR
comp=Z,3µm,22.0s
TUE Stuetta 82.90 351 *e*P **P** 15 05 35.8 +0.8

TUE *e* 15 05 44.7
TUE LR LR
comp=Z,3µm,20.0s
VISS Visnje 82.92 348 *i* P **P 15 05 35.0 +0.2**
VISS *i* 15 05 54.1
VISS *eS* **S 15 15 53.7 +2.0**
JAVS Javornik 82.94 348 *i* P **P 15 05 34.7 -0.3**
JAVS *e* 15 05 54.2
JAVS *eS* **S 15 15 50.0 -2.0**
AVF Avril sur Loir 83.02 356⇓ *i* P **P 15 05 35.6 +0.4**
comp=Z,128nm,0.9s
AVF *ep*P pP 15 05 53.7 +10
CABF La Chapelle 83.03 354⇓ *i* P **P 15 05 36.1 +0.6**
comp=Z,88nm,0.9s
CABF *ep*P pP 15 05 54.3 +10
AS31 Alice Springs 83.05 219 *e*P **P 15 05 34.9 -0.7**
AS31 *e* 15 05 44.3
ASAR Alice Springs 83.05 219 P **P 15 05 35.4 -0.2**
ASAR PKKPbc **PKKPbc 15 23 57.1 +0.7**
ASAR P'P' 15 32 00.1
ASAR Alice Springs 83.05 219 P **P 15 05 35.4 -0.2**
comp=Z,71nm,0.9s,baz=22,slow=5.7,SNR=442
ASAR PKKPbc **PKKPbc 15 23 57.1 +0.7**
comp=Z,0.9nm,0.9s,baz=203,slow=2.2,SNR=6.8
ASAR PKPPKP **P'P'df 15 32 00.1 +1.9**
comp=Z,1.3nm,1.1s,baz=158,slow=2.1,SNR=5.3
ASAR LR LR 15 38 54.0
comp=Z,4µm,21.4s,baz=8.6,slow=33
SMF Signal de Mont 83.14 355⇓ *i* P **P 15 05 36.3 +0.4**
comp=Z,191nm,0.9s
BOJS Bojanci 83.16 347 *i* P **P 15 05 36.6 +0.6**
BOJS *e* 15 05 55.6
BOJS *eS* **S 15 15 52.9 -1.2**
TRI Trieste 83.16 348 *eP* **P 15 05 35.6 -0.4**
TRI pmax pmax
comp=Z,51nm,1.0s
TRI Trieste 83.16 348 *eP* **P 15 05 35.6 -0.4**
comp=Z,51nm,1.0s
BGF Bois d'Agland 83.27 356⇓ *i* P **P 15 05 37.0 +0.4**
comp=Z,93nm,1.0s
BGF *ep*P pP 15 05 55.2 +10
MFF Saint Martin d 83.33 358⇓ *i* P **P 15 05 37.3 +0.5**
comp=Z,166nm,1.2s
MFF ⇓ *i* pP pP 15 05 55.4 +10
TCF Toulx Ste Croi 83.57 356⇓ *i* P **P 15 05 38.5 +0.4**
comp=Z,58nm,0.9s
ARMA Armidale 83.58 202 *eP* **P 15 05 39.3 +1.1**
comp=Z,119nm,0.9s
OG35 Corcelles 83.63 354⇓ *eP* **P 15 05 39.1 +0.6**
AGO Saint Agoulin 83.76 356⇓ *eP* **P 15 05 40.3 +1.2**
AGO Saint Agoulin 83.76 356⇓ *eP* **P 15 05 40.3 +1.2**
RSL Roselend 83.91 353⇓ *eP* **P 15 05 41.2 +1.1**
RSL Roselend 83.91 353⇓ *eP* **P 15 05 41.2 +1.1**
RSL Roselend 83.91 353⇓ *eP* **P 15 05 41.2 +1.1**
POO Poona 84.02 292⇑ *ix* **P 15 05 38.0 -2.9**
comp=Z,180nm,1.0s
UDBI Udbina 84.04 347 P **P 15 05 40.5 -0.1**
PYM Petit Puy Mans 84.07 356⇓ *eP* **P 15 05 41.7 +0.9**
PYM Petit Puy Mans 84.07 356⇓ *eP* **P 15 05 41.7 +0.9**
PYM Petit Puy Mans 84.07 356⇓ *eP* **P 15 05 41.7 +0.9**
LPL La Plagne 84.07 353⇓ *i* P **P 15 05 42.4 +1.4**
comp=Z,76nm,1.1s
LPG La Plagne 84.09 353⇓ *i* P **P 15 05 42.6 +1.4**
comp=Z,229nm,1.4s
VERF Verneugheol 84.09 356⇓ *eP* **P 15 05 41.5 +0.6**
VERF Verneugheol 84.09 356⇓ *eP* **P 15 05 41.5 +0.6**
GRN Grenoble 84.42 354⇓ *eP* **P 15 05 43.9 +1.3**
GRN Grenoble 84.42 354⇓ *eP* **P 15 05 43.9 +1.3**
GRN Grenoble 84.42 354⇓ *eP* **P 15 05 43.9 +1.3**
GDM Grand'Maison 84.43 354⇓ *eP* **P 15 05 44.1 +1.4**
GDM Grand'Maison 84.43 354⇓ *eP* **P 15 05 44.1 +1.4**
MALT Malatya 84.44 329⇑ *i* P P 15 06 01.4 +19
SSB Saint Sauveur 84.46 355 *eP* **P 15 05 43.0 +0.3**
SSB *e* 15 05 51.9
SSB pmax pmax
comp=Z,81nm,1.1s
SSB MLR MLR
comp=Z,3µm,20.0s
SSB Saint Sauveur 84.46 355 *eP* **P 15 05 43.0 +0.3**
comp=Z,81nm,1.1s
SSB *e* 15 05 51.9
SSB LR LR
comp=Z,3µm,20.0s
SSB Saint Sauveur 84.46 355⇓ *eP* **P 15 05 43.5 +0.8**
BNI Bardonecchia 84.54 353 *eP* **P 15 05 44.7 +1.4**
BNI pmax pmax
comp=Z,132nm,1.0s
BNI MLR MLR
comp=Z,4µm,20.0s
BNI Bardonecchia 84.54 353 *eP* **P 15 05 44.7 +1.4**
comp=Z,132nm,1.0s
BNI LR LR
comp=Z,4µm,20.0s
LBL Lubilhac 84.58 356 *eP* **P 15 05 44.4 +1.0**
LBL Lubilhac 84.58 356 *eP* **P 15 05 44.4 +1.0**
LBL Lubilhac 84.58 356 *eP* **P 15 05 44.4 +1.0**
RJF Les Rejaudoux 84.58 357⇓ *i* P **P 15 05 43.5 +0.2**
comp=Z,195nm,1.2s
RJF *eR*
comp=Z,6µm,20.2s
VTS Vitosha 84.59 341⇑ P **P 15 05 43.6 0.0**
VTS Vitosha 84.59 341⇑ *i* P **P 15 05 43.6 0.0**
RKT Rikitea 84.60 137 *eP* **P 15 05 44.2 +0.8**
comp=Z,112nm,1.0s
RKT Rikitea 84.60 137 *eS* **S 15 16 07.9 -0.8**
comp=Z,2µm,29.5s
RKT Rikitea 84.60 137 *eLQ* LQ 15 28 25.9
comp=Z,2µm,30.0s
RKT *eLR* LR 15 32 09.9
comp=Z,5µm,32.8s,baz=330
BR131 Keskin Array S 84.66 333 *eP* **P 15 05 44.1 +0.2**
comp=Z,26nm,0.8s
BRTR Keskin Array B 84.66 333 P **P 15 05 44.2 +0.2**
BRTR P'P' 15 31 51.8
BRTR Keskin Array B 84.66 333 P **P 15 05 44.2 +0.2**
comp=Z,28nm,1.1s,baz=45,slow=2.3,SNR=76
BRTR PKPPKP P'P'df 15 31 51.8 -14
comp=Z,1.2nm,0.9s,baz=178,slow=5.7,SNR=5.1
BRTR LR LR 15 51 23.0
comp=Z,2µm,18.3s,baz=187,slow=41
ORIF Oris-en-Rattie 84.73 354⇓ *i* P **P 15 05 45.5 +1.3**
comp=Z,158nm,0.9s
ORIF *eR*
comp=Z,4µm,22.2s
ANTO Ankara 84.77 333 ⇓P **P 15 05 45.9 +1.5**
ANTO Ankara 84.77 333 P **P 15 05 45.4 +1.0**
SNR=17
ANTO Ankara 84.77 333 PFAKE 15 06 00.0 +16
ANTO LR LR
comp=Z,2µm,20.0s
ANTO Ankara 84.77 333⇓ *i* P **P 15 05 45.9 +1.5**
KAD Karad 84.77 291 *i* P **P 15 05 44.6 -0.1**
UPM Unac-Piva 84.83 344⇑ *i* P **P 15 05 45.1 +0.3**
MBDF Montbardon 84.86 353⇓ *i* P **P 15 05 46.1 +1.2**
comp=Z,112nm,0.8s
VIVF Saint-Julien-l 84.87 355⇓ *i* P **P 15 05 45.7 +0.9**
comp=Z,189nm,1.2s
CAF Calviac 84.93 356⇓ *i* P **P 15 05 45.8 +0.7**
comp=Z,236nm,1.1s
CAF ⇓ *i* pP pP 15 06 03.6 +10
LFF La Frestale 84.97 357⇓ *i* P **P 15 05 45.7 +0.5**
comp=Z,214nm,0.9s
IVA Berane 84.97 343⇑ *i* P **P 15 05 45.9 +0.5**
VLC Villacollemand 85.09 350 *eP* **P 15 05 46.8 +0.9**
comp=Z,601nm,1.7s
VLC LR LR
comp=Z,2µm,21.0s
SURF Saint Ours 85.10 353⇓ *eP* **P 15 05 47.8 +1.7**
SURF Saint Ours 85.10 353⇓ *eP* **P 15 05 47.8 +1.7**
OCF Saint Nazaire 85.11 354⇓ *eP* **P 15 05 47.5 +1.5**
OG26 St.-Nazaire-De 85.11 354⇓ *eP* **P 15 05 47.5 +1.5**
BRY Bratogost 85.18 344 *eP* **P 15 05 46.8 +0.3**
NKY Niksic 85.19 344⇑ *i* P **P 15 05 45.7 -0.8**
PVY Plav 85.23 343⇑ *i* P **P 15 05 46.8 +0.1**
OG25 Le Caire 85.26 354⇓ *eP* **P 15 05 48.0 +1.1**
OG25 Le Caire 85.26 354⇓ *eP* **P 15 05 48.0 +1.1**
TTG Podgorica 85.51 344⇑ *i* P **P 15 05 47.6 -0.4**
TOUF Mont Tournerai 85.53 353⇓ *eP* **P 15 05 49.1 +0.8**
TOUF Mont Tournerai 85.53 353⇓ *eP* **P 15 05 49.1 +0.8**
TOUF Mont Tournerai 85.53 353⇓ *eP* **P 15 05 49.1 +0.8**
SAOF Saorge 85.53 352⇓ *eP* **P 15 05 48.6 +0.5**
SAOF Saorge 85.53 352⇓ *eP* **P 15 05 48.6 +0.5**
SAOF Saorge 85.53 352⇓ *eP* **P 15 05 48.6 +0.5**

AUTN L'Aution 85.53 353 *eP* **P 15 05 48.4 0.0**
AUTN L'Aution 85.53 353 *eP* **P 15 05 48.4 0.0**
AUTN L'Aution 85.53 353 *eP* **P 15 05 48.4 0.0**
BBJ Bamboo Saint A 85.59 66 *i* P **P 15 05 49.9 +1.0**
HCY Herceg Novi 85.63 344⇑ *i* P **P 15 05 48.6 0.0**
GTBY Guantanamo Bay 85.63 64 PFAKE 15 06 00.0 +11
GTBY LR LR
comp=Z,6µm,22.0s
MVIF Mont Vial 85.65 353⇓ *eP* **P 15 05 49.6 +0.7**
MVIF Mont Vial 85.65 353⇓ *eP* **P 15 05 49.6 +0.7**
MVIF Mont Vial 85.65 353⇓ *eP* **P 15 05 49.6 +0.7**
SBF Sospel 85.66 352⇓ *i* P **P 15 05 49.1 +0.3**
comp=Z,322nm,1.0s
SMRF Simiane la Rot 85.69 354⇓ *i* P **P 15 05 50.3 +1.4**
comp=Z,295nm,1.1s
LASF Ste Croix 85.70 355⇓ *i* P **P 15 05 49.7 +0.8**
comp=Z,61nm,0.8s
BUM Brajici-Budva 85.70 344 *eP* **P 15 05 48.6 -0.4**
REVF Revere 85.79 353 *eP* **P 15 05 50.9 +1.5**
REVF Revere 85.79 353 *eP* **P 15 05 50.9 +1.5**
REVF Revere 85.79 353 *eP* **P 15 05 50.9 +1.5**
CALN Calern 85.81 353⇓ *eP* **P 15 05 50.2 +0.5**
CALN Calern 85.81 353⇓ *eP* **P 15 05 50.2 +0.5**
CALN Calern 85.81 353⇓ *eP* **P 15 05 50.2 +0.5**
ULC Ulcinj 85.97 344 *eP* **P 15 05 49.8 -0.5**
FRF La Foret Royal 86.03 353⇓ *i* P **P 15 05 50.9 +0.4**
comp=Z,154nm,1.0s
FRF *ep*P pP 15 06 09.3 +10
STH Stony Hill 86.10 66 *i* P **P 15 05 52.0 +0.7**
GWJ Greenwich 86.15 66 *i* P **P 15 05 52.4 +0.7**
PCJ Portland Cotta 86.16 67 *i* P **P 15 05 51.8 +0.2**
HOJ Hope 86.19 66 *i* P **P 15 05 52.1 +0.4**
LMR La Mourre 86.26 353⇓ *i* P **P 15 05 52.2 +0.5**
comp=Z,273nm,1.2s
IBDR Badra 86.29 321 *i* P **P 15 05 50.0 -2.0**
IBDR *i* S **S 15 16 22.5 -3.0**
YHJ Yallahs 86.43 66 *i* P **P 15 05 53.3 +0.4**
TIR Tirane 86.45 343 PFAKE 15 06 00.0 +7.3
TIR LR LR
comp=Z,5µm,22.0s
AQU L'Aquila 86.50 348 PFAKE 15 06 00.0 +7.0
AQU LR LR
comp=Z,4µm,22.0s
MTLF Montolieu 86.51 356⇓ *i* P **P 15 05 53.4 +0.5**
comp=Z,45nm,1.0s
MTLF *ep*P pP 15 06 11.9 +11
GRTK Grand Turk 86.62 60 PFAKE 15 06 10.0 +16
GRTK LR LR
comp=Z,6µm,20.0s
BHD Baghdad 86.77 322 *i* P P 15 05 50.0 -4.3
BHD *i* S S 15 16 22.0 -8.2
PGF Pioggiola 86.82 351⇓ *i* P **P 15 05 55.0 +0.4**
comp=Z,187nm,1.0s
SJPF Ste Jean 86.83 359⇓ *i* P **P 15 05 55.7 +1.2**
comp=Z,23nm,0.7s
EPF Esparros 86.88 358⇓ *i* P **P 15 05 54.8 0.0**
comp=Z,27nm,1.0s
LRDF Laroque-de-Fa 86.90 356⇓ *eP* **P 15 05 55.4 +0.6**
LRDF Laroque-de-Fa 86.90 356⇓ *eP* **P 15 05 55.4 +0.6**
MLS Moulis 86.93 357⇓ *eP* **P 15 05 55.1 +0.1**
MLS Moulis 86.93 357⇓ *eP* **P 15 05 55.1 +0.1**
ETSF Etsaut 87.04 358⇓ *i* P **P 15 05 55.7 +0.1**
comp=Z,32nm,0.7s
VIEF Viey 87.04 358 *eP* **P 15 05 56.9 +1.3**
VIEF Viey 87.04 358 *eP* **P 15 05 56.9 +1.3**
CARF Carcanieres 87.14 356⇓ *eP* **P 15 05 56.2 +0.1**
CARF Carcanieres 87.14 356⇓ *eP* **P 15 05 56.2 +0.1**
ISP Isparta 87.32 334⇑ *i* P **P 15 05 58.5 +1.4**
ISP Isparta 87.32 334 PFAKE 15 06 10.0 +13
ISP LR LR
comp=Z,3µm,20.0s
ISP Isparta 87.32 334⇑ *i* P **P 15 05 58.5 +1.4**
SJAF Saint Jean de 87.33 356 *eP* **P 15 05 57.4 +0.4**
SJAF Saint Jean de 87.33 356 *eP* **P 15 05 57.4 +0.4**
MBWA Marble Bar 87.34 232 P **P 15 05 56.9 -0.1**
SNR=6.5
MBWA Marble Bar 87.34 232 *eP* **P 15 05 55.8 -1.2**
comp=Z,91nm,1.0s
MBWA LR LR
comp=Z,2µm,20.0s
VALF Valcebollere 87.45 356 *eP* **P 15 05 57.8 +0.1**
VALF Valcebollere 87.45 356 *eP* **P 15 05 57.8 +0.1**
STKA Stephens Creek 87.75 210 *eP* **P 15 05 58.8 0.0**
comp=Z,18nm,1.0s
STKA Stephens Creek 87.75 210 P **P 15 05 59.0 +0.2**
comp=Z,78nm,1.0s,baz=355,slow=6.3,SNR=93
STKA LR LR 15 42 26.3
comp=Z,8µm,21.8s,baz=0.4,slow=34
PGAV Gavieira, Arco 87.87 4 *eP* **P 15 05 59.4 -0.3**
comp=Z,56nm,1.6s
PGAV Gavieira, Arco 87.87 4 *eSKS* **SKSac 15 16 27.1 +0.9**
PGAV Gavieira, Arco 87.87 4 *eLQ* LQ 15 29 35.7
PGAV *eLR* LR 15 35 15.3
comp=Z,2µm,20.0s
PBRG Braganca 88.09 3 *eP* **P 15 06 00.1 -0.6**
comp=Z,38nm,2.2s
PBRG Braganca 88.09 3 *eSKS* **S 15 16 39.0 -3.8**
PGRA Graciosa 88.24 19 *eLR* LR 15 35 04.8
comp=Z,356nm,20.6s
URZ Urewera 88.31 180 P **P 15 06 00.2 -1.1**
URZ Urewera 88.31 180 P **P 15 06 00.2 -1.1**
comp=Z,11nm,1.0s,baz=318,slow=9.3,SNR=3.5
URZ LR LR 15 43 09.5
comp=Z,2µm,19.3s,baz=268,slow=34
CUC Castrocucco 88.47 346 *eP* **P 15 05 59.6 -2.8**
comp=Z,7.8nm,0.8s
CUC LR LR
comp=Z,4µm,21.0s
POLO Lamas de Olo 88.48 4 *i* P **P 15 06 02.1 -0.5**
comp=Z,31nm,1.4s
POLO Lamas de Olo 88.48 4 *eSKS* S 15 16 38.4 -8.2
ROSA Rosais 88.48 20 *eLR* LR 15 35 18.3
comp=Z,555nm,23.4s
PALK Pallekele 88.49 279 P **P 15 06 03.6 +0.7**
comp=Z,62nm,1.7s
SDDR Pra de Saban 88.56 62 *eP* **P 15 06 03.4 +0.2**
comp=Z,57nm,0.8s
SDDR LR LR
comp=Z,5µm,21.0s
PVRL Vila Real 88.59 4 *eP* **P 15 06 03.2 +0.2**
comp=Z,80nm,1.1s
MVO Moncorvo 88.72 3 *i* P **P 15 06 02.6 -1.1**
comp=Z,65nm,0.8s
MVO Moncorvo 88.72 3 *eSKS* S 15 16 42.0 -6.8
MVO Moncorvo 88.72 3 *eLQ* LQ 15 32 04.2
MVO *eLR* LR 15 37 57.8
comp=Z,2µm,20.0s
CAN Canberra 88.90 203 *eP* **P 15 06 04.8 +0.6**
CAN pmax pmax
comp=Z,43nm,1.2s
CAN MLR MLR
comp=Z,3µm,21.0s
CAN Canberra 88.90 203 *eP* **P 15 06 04.8 +0.6**
comp=Z,43nm,1.2s
CAN LR LR
comp=Z,3µm,21.0s
TIP Timpagrande 89.11 345 *eP* **P 15 06 04.7 -0.8**
comp=Z,84nm,1.3s
TIP LR LR
comp=Z,2µm,22.0s
PVIS Viseu 89.14 4 *eP* **P 15 06 05.2 -0.4**
comp=Z,87nm,1.6s
CSS Prodhromos 89.14 331 PFAKE 15 06 20.0 +14
CSS LR LR
comp=Z,2µm,20.0s
MTE Manteigas 89.47 4 *i* P **P 15 06 06.7 -0.5**
comp=Z,85nm,1.3s
MTE Manteigas 89.47 4 *eSKS* **S 15 16 52.3 -3.5**
MTE Manteigas 89.47 4 *eLQ* LQ 15 32 25.2
MTE *eLR* LR 15 37 18.8
comp=Z,2µm,20.0s
MTE Manteigas 89.47 4 *eP* **P 15 06 06.3 -0.9**
comp=Z,80nm,1.4s
MTE LR LR
comp=Z,3µm,22.0s
VSL Villasalto 89.81 350 *eP* **P 15 06 08.3 -0.4**
comp=Z,16nm,0.9s
VSL LR LR
comp=Z,3µm,21.0s
TRD Trivandrum 89.88 283⇓ *ex* x 15 06 21.4
BSY Bisya 89.91 307 P P 15 06 17.7 +8.2
SNR=5.4
CMLA Cha da Macela 89.96 18 *eLQ* LQ 15 29 38.1
CMLA *eLR* LR 15 36 15.5
comp=Z,356nm,15.8s

CMLA Cha da Macela 89.96 18 PFAKE 15 06 20.0 +11
CMLA LR LR
comp=Z,4µm,22.0s
SANT Santorini 90.02 337 PFAKE 15 06 20.0 +10
SANT LR LR
comp=Z,3µm,20.0s
PCBR Castelo Branco 90.03 3 *eP* **P 15 06 08.9 -0.8**
comp=Z,92nm,1.4s
PCBR *i* P pP 15 06 28.8 +11
CEL Celeste 90.15 345 *eP* **P 15 06 08.3 -2.1**
comp=Z,25nm,0.8s
CEL LR LR
comp=Z,3µm,20.0s
ESDC Sonseca Array 90.28 1 P **P 15 06 10.3 -0.6**
ESDC Sonseca Array 90.28 1 P **P 15 06 10.3 -0.6**
comp=Z,12nm,0.8s,baz=356,slow=4.3,SNR=48
ESLA Sonseca Array 90.28 1 *eP* **P 15 06 10.2 -0.7**
comp=Z,24nm,1.5s
PAB San Pablo 90.40 1 *eP* **P 15 06 10.8 -0.8**
PAB pmax pmax
comp=Z,8.0nm,1.0s
PAB MLR MLR
comp=Z,2µm,21.0s
PAB San Pablo 90.40 1 *eP* **P 15 06 10.8 -0.8**
comp=Z,7.9nm,1.0s
PAB LR LR
comp=Z,2µm,21.0s
PMRV Marv??o 90.44 3 *i* P **P 15 06 10.8 -0.9**
comp=Z,95nm,1.8s
PMRV *i* P pP 15 06 29.5 +9.4
PMRV Marv??o 90.44 3 *eSKS* S 15 16 54.8 -10
PMRV Marv??o 90.44 3 *eLQ* LQ 15 30 01.4
PMRV *eLR* LR 15 37 45.6
comp=Z,2µm,22.0s
BBOO Buckleboo 90.46 214 *eP* **P 15 06 10.9 -0.6**
comp=Z,3µm,1.1s
PMTG Montargil 90.76 4 *i* P **P 15 06 12.0 -1.1**
comp=Z,49nm,1.5s
PMTG Montargil 90.76 4 *eSKS* S 15 16 59.1 -8.6
PSMN Pico do Norte, 90.79 18 *eLQ* LQ 15 29 58.4
PSMN *eLR* LR 15 36 49.2
comp=Z,515nm,25.7s
PMAFR Mafra 90.82 5 *eSKS* S 15 16 56.3 -12
PESTR Estremoz 90.99 4 *i* P **P 15 06 13.1 -1.1**
comp=Z,104nm,1.7s
PESTR *i* P pP 15 06 32.3 +10
PESTR Estremoz 90.99 4 *eSKS* S 15 17 00.7 -9.2
LIS Lisbon 91.07 5 *eP* **P 15 06 14.1 -0.4**
LIS *eS* **SKSac 15 16 44.4 -0.4**
LIS AMS AMS 15 53 00.9
comp=Z,4µm,23.0s
LIS Lisbon 91.07 5 *eP* **P 15 06 14.1 -0.4**
LIS Lisbon 91.07 5 *eS* **SKSac 15 16 44.4 -0.4**
LIS A A 15 53 00.9
comp=Z,4µm,23.0s
LIS Lisbon 91.07 5 *eP* **P 15 06 14.1 -0.4**
LIS *eS* **SKSac 15 16 44.4 -0.4**
BCIP Isla Barro Col 91.23 74 PFAKE 15 06 30.0 +14
BCIP LR LR
comp=Z,2µm,20.0s
EVO Evora 91.31 4 *eP* **P 15 06 14.6 -1.1**
comp=Z,62nm,1.2s
EVO *ep*P pP 15 06 34.4 +10
EVO *eR*
comp=Z,3µm,22.8s
SNZO South Karori 91.38 182 PFAKE 15 06 30.0 +15
SNZO LR LR
comp=Z,3µm,19.0s
LSP Las Mesas 91.54 59 *eP* **P 15 06 17.4 +0.3**
LRS Lares 91.58 59 *eP* **P 15 06 17.4 +0.1**
CRPR Cabo Rojo, PR 91.67 59 *eP* **P 15 06 19.2 +1.5**
comp=Z,82nm,1.0s
PBAR Barrancos 91.70 3 *i* P **P 15 06 16.7 -0.8**
comp=Z,107nm,1.5s
PBAR Barrancos 91.70 3 *eSKS* S 15 17 05.6 -11
PNCL Nicolau / Gran 91.70 4 *eP* **P 15 06 16.6 -0.9**
comp=Z,43nm,1.6s
PNCL Nicolau / Gran 91.70 4 *eSKS* SKSac 15 17 00.4 +12
FORT Forrest 91.73 221 *eP* **P 15 06 17.6 +0.1**
comp=Z,136nm,1.0s
PBEJ Beja 91.82 4 *eP* **P 15 06 17.8 -0.3**
comp=Z,59nm,1.4s
CELP Cerrillos 91.90 59 *eP* **P 15 06 18.7 0.0**
OBIP Obispado Ponce 91.91 59 *eP* **P 15 06 18.7 -0.1**
comp=Z,256nm,1.2s
MESJ Messejana 91.99 4 *eP* **P 15 06 18.3 -0.5**
MESJ *eS* **SKSac 15 16 48.9 -1.1**
MESJ AMS AMS 15 53 55.1
comp=Z,3µm,22.4s
MESJ Messejana 91.99 4 *eP* **P 15 06 18.3 -0.5**
MESJ Messejana 91.99 4 *eS* **SKSac 15 16 48.9 -1.1**
MESJ A A 15 53 55.1
comp=Z,3µm,22.4s
MESJ Messejana 91.99 4 *eP* **P 15 06 18.3 -0.5**
MESJ *eS* **SKSac 15 16 48.9 -1.1**
SJG San Juan 92.10 58 *eP* **P 15 06 19.5 -0.2**
comp=Z,155nm,1.1s
SJG LR LR
comp=Z,7µm,22.0s
CBYP Canovanas 92.13 58 *eP* **P 15 06 19.5 -0.4**
comp=Z,18nm,0.6s
PCVE Castro Verde 92.20 4 *eP* **P 15 06 19.6 -0.3**
comp=Z,83nm,1.8s
PCVE Castro Verde 92.20 4 *eSKS* SKSac 15 17 04.1 +13
PAYG Puerto Ayora 92.21 88 PFAKE 15 06 30.0 +10
PAYG LR LR
comp=Z,3µm,20.0s
PVAQ Vaqueiros 92.45 4 *i* P **P 15 06 20.5 -0.5**
comp=Z,92nm,1.9s
PVAQ *i* P pP 15 06 39.4 +10
PVAQ Vaqueiros 92.45 4 *eSKS* S 15 17 12.0 -11
PVAQ Vaqueiros 92.45 4 *eLQ* LQ 15 33 11.3
PVAQ *eLR* LR 15 38 39.4
comp=Z,3µm,22.0s
MORF Marmelete 92.50 5 *eP* **P 15 06 20.6 -0.7**
comp=Z,114nm,1.9s
MORF Marmelete 92.50 5 *eSKS* S 15 17 08.6 -15
MORF Marmelete 92.50 5 *eP* **P 15 06 21.0 -0.3**
MORF *eS* **SKSac 15 16 52.0 -1.1**
STVI Saint Thomas 92.55 57 *eP* **P 15 06 21.7 0.0**
comp=Z,94nm,1.1s
PBDV Barranco-do-Ve 92.60 4 *eP* **P 15 06 21.6 -0.1**
comp=Z,116nm,1.7s
PBDV Barranco-do-Ve 92.60 4 *eSKS* SKSac 15 17 04.5 +11
PFVI Vila Bisbo 92.66 5 *i* P **P 15 06 21.4 -0.6**
comp=Z,91nm,1.6s
PFVI *i* P x 15 07 27.6
PFVI *eSKS* SKSac 15 17 06.3 +12
WDD Wield Dalam 92.71 346 PFAKE 15 06 30.0 +7.8
WDD LR LR
comp=Z,2µm,21.0s
CDVI St. Croix 93.15 57 *eP* **P 15 06 24.5 +0.1**
comp=Z,200nm,0.8s
COCO West Island 93.16 255 PFAKE 15 06 40.0 +16
COCO LR LR
comp=Z,2µm,19.0s
KEST Kesra 93.53 350 *eP* **P 15 06 25.2 -0.9**
KEST PP **PP 15 10 11.9 +2.3**
KEST Kesra 93.53 350 P **P 15 06 25.6 -0.5**
comp=Z,3.9nm,1.1s,baz=334,slow=0.4,SNR=7.4
KEST PP **PP 15 10 11.9 +2.3**
comp=Z,1.9nm,0.9s,baz=292,slow=2.2,SNR=4.9
RPZ Rata Peaks 93.90 184 LR LR 15 46 25.9
comp=Z,3µm,19.0s,baz=268,slow=34
ANWB Willy Bob 94.80 55 PFAKE 15 06 40.0 +7.9
ANWB LR LR
comp=Z,9µm,22.0s
RTC Rabat Centre 95.89 3 PFAKE 15 06 50.0 +13
RTC LR LR
comp=Z,2µm,20.0s
PMOZ Porto Moniz, M 96.16 12 *eLR* LR 15 42 11.5
comp=Z,3µm,22.0s
TAU Tasmania Unive 96.51 202 PFAKE 15 06 50.0 +11
TAU LR LR
comp=Z,3µm,20.0s
ROSC El Rosal 97.98 72 P **P 15 06 46.9 -0.2**
ROSC PP **PP 15 10 48.6 +3.0**
ROSC El Rosal 97.98 72 P **P 15 06 46.9 -0.2**
comp=Z,4.7nm,0.4s,baz=75,slow=22,SNR=4.2
ROSC PP **PP 15 10 48.6 +3.0**
comp=Z,6.0nm,0.6s,baz=105,slow=19,SNR=6.6
ROSC LR LR 15 50 59.3
comp=Z,1µm,21.1s,baz=1.6,slow=35
NWAO Narrogin (SRO) 98.36 227 PFAKE 15 07 00.0 +12
NWAO LR LR

	comp=Z,2µm,20.0s							
OTAV	**Otavalo**	**99.03**	**79**	*e*P		**Pdif**	**15 06 53.8**	**+2.0**
	comp=Z,8.5nm,0.9s							
OTAV				LR		LR		
	comp=Z,2µm,20.0s							
GRGR	**Grenville**	**99.46**	**58**	PFAKE			15 07 00.0	+6.8
GRGR				LR		LR		
	comp=Z,7µm,21.0s							
BBGH	**Gun Hill**	**99.74**	**56**	PFAKE			15 07 10.0	+16
BBGH				LR		LR		
	comp=Z,9µm,22.0s							
DGAR	**Diego Garcia**	**104.98**	**277**	PFAKE			15 07 30.0	+12
DGAR				LR		LR		
	comp=Z,3µm,20.0s							
TAM	**Tamanrasset**	**106.73**	**352**	PFAKE			15 11 50.0	
TAM				LR		LR		
	comp=Z,2µm,21.0s							
NNA	**Nana**	**109.40**	**85**	PFAKE			15 11 50.0	
NNA				LR		LR		
	comp=Z,3µm,21.0s							
MSEY	**Mahe Island**	**113.33**	**292**	PFAKE			15 12 00.0	
MSEY				LR		LR		
	comp=Z,2µm,20.0s							
SAML	**Samuel**	**115.62**	**72**	PFAKE			15 12 00.0	+7.5
SAML				LR		LR		
	comp=Z,4µm,20.0s							
TOA0	**Torodi Ar. Sit**	**116.57**	**355**	*e*PKPdf		**PKPdf**	**15 11 53.0**	**-1.4**
TORD	**Torodi Ar. Bea**	**116.57**	**355**	PKP		**PKPdf**	**15 11 53.2**	**-1.2**
TORD				PP		**PP**	**15 12 59.9**	**-0.6**
TORD				PKKPbc		**PKKPbc**	**15 22 24.1**	**+4.1**
TORD	**Torodi Ar. Bea**	**116.57**	**355**	PKP		**PKPdf**	**15 11 53.2**	**-1.2**
	comp=Z,2.6nm,0.8s,baz=351,slow=2.4,SNR=16							
TORD				PP		**PP**	**15 12 59.9**	**-0.6**
	comp=Z,6.0nm,1.1s,baz=0.9,slow=6.4,SNR=5.2							
TORD				PKKPbc		**PKKPbc**	**15 22 24.1**	**+4.1**
	comp=Z,2.9nm,0.9s,baz=175,slow=2.1,SNR=10							
LPAZ	**La Paz**	**118.17**	**81**	*e*PKPdf		**PKPdf**	**15 11 57.5**	**-0.6**
LPAZ				PKP		**PKPdf**	**15 11 58.3**	**+0.2**
LPAZ				PKKPbc		**PKKPab**	**15 22 19.0**	**-0.7**
LPAZ	**La Paz**	**118.17**	**81**	PKP		**PKPdf**	**15 11 58.3**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=357,slow=3.2,SNR=8.0							
LPAZ				PKKPbc		**PKKPab**	**15 22 19.0**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=83,slow=11,SNR=4.3							
KMBO	**Kilima Mbogo**	**120.23**	**312**	PKPdf		**PKPdf**	**15 12 00.8**	**-1.0**
KMBO				PKP		**PKPdf**	**15 12 01.7**	**-0.1**
KMBO				PKKPbc		**PKKPab**	**15 22 11.6**	**-0.4**
KMBO				LR		LR		
	comp=Z,3µm,20.0s							
KMBO	**Kilima Mbogo**	**120.23**	**312**	PKP		**PKPdf**	**15 12 01.7**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=58,slow=24,SNR=5.5							
KMBO				PKKPbc		**PKKPab**	**15 22 11.6**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=276,slow=23,SNR=4.4							
LVC	**Limon Verde**	**122.31**	**87**	PKP		**PKPdf**	**15 12 04.9**	**-0.6**
LVC				LR		LR		
	comp=Z,3µm,19.0s							
LVC	**Limon Verde**	**122.31**	**87**	PKP		**PKPdf**	**15 12 04.9**	**-0.6**
	comp=Z,4.8nm,0.9s,baz=298,slow=2.1,SNR=3.0							
SIV	**San Ignacio**	**122.36**	**75**	PKP		**PKPdf**	**15 12 04.3**	**-1.1**
SIV				PKKPbc		**PKKPbc**	**15 21 59.8**	**+1.2**
SIV	**San Ignacio**	**122.36**	**75**	PKP		**PKPdf**	**15 12 04.3**	**-1.1**
	comp=Z,8.5nm,0.8s,baz=9.9,slow=1.1,SNR=13							
SIV				PKKPbc		**PKKPbc**	**15 21 59.8**	**+1.2**
	comp=Z,3.7nm,0.9s,baz=144,slow=4.5,SNR=7.5							
MBAR	**Mbarara**	**122.70**	**319**	PFAKE			15 12 20.0	+14
MBAR				LR		LR		
	comp=Z,1µm,22.0s							
DBIC	**Dimbokro**	**123.12**	**2**	PKP		**PKPdf**	**15 12 06.6**	**-0.4**
DBIC	**Dimbokro**	**123.12**	**2**	PKP		**PKPdf**	**15 12 06.6**	**-0.4**
	comp=Z,18nm,1.0s,baz=107,slow=1.7,SNR=8.0							
LIC	**Lamto**	**123.55**	**2**	*e*PKIKP		**PKPdf**	**15 12 07.0**	**-0.9**
	comp=Z,27nm,1.0s							
LIC				*e*R				
	comp=Z,5µm,22.5s							
LCO	**Las Campanas**	**125.66**	**94**	PFAKE			15 12 20.0	+8.3
LCO				LR		LR		
	comp=Z,4µm,22.0s							
RER	**Riviere de l'E**	**125.88**	**280**	PFAKE			15 12 20.0	+7.9
RER				LR		LR		
	comp=Z,3µm,20.0s							
CASY	**Casey**	**126.86**	**208**	PFAKE			15 12 20.0	+7.6
CASY				LR		LR		
	comp=Z,3µm,21.0s							
RCBR	**Riachuelo**	**127.70**	**43**	PFAKE			15 12 30.0	+14
RCBR				LR		LR		
	comp=Z,4µm,21.0s							
VNDA	**Vanda**	**128.02**	**184**	*e*PKPdf		**PKPdf**	**15 12 13.9**	**-0.5**
VNDA				PKP		**PKPdf**	**15 12 14.3**	**-0.1**
VNDA	**Vanda**	**128.02**	**184**	PKP		**PKPdf**	**15 12 14.3**	**-0.1**
	comp=Z,3.4nm,1.0s,baz=337,slow=3.9,SNR=12							
SBA	**Scott Base**	**128.16**	**183**	*e*PKIKP		**PKPdf**	**15 12 14.9**	**+0.2**
SBA				MLR		MLR		
	comp=Z,1µm,21.0s							
SBA	**Scott Base**	**128.16**	**183**	*e*PKPdf		**PKPdf**	**15 12 14.9**	**+0.2**
SBA				LR		LR		
	comp=Z,1µm,21.0s							
CFAA	**Coronel Fontan**	**128.97**	**94**	PKP		**PKPdf**	**15 12 17.3**	**-0.4**
CFAA	**Coronel Fontan**	**128.97**	**94**	PKP		**PKPdf**	**15 12 17.3**	**-0.4**
	comp=Z,4.1nm,0.8s,baz=295,slow=3.0,SNR=26							
ABPO	**Ambohimpanom**	**129.54**	**290**	PFAKE			15 12 30.0	+11
ABPO				LR		LR		
	comp=Z,2µm,21.0s							
BDFB	**Brasilia**	**129.88**	**63**	PKP		**PKPdf**	**15 12 19.2**	**-0.7**
BDFB	**Brasilia**	**129.88**	**63**	PKP		**PKPdf**	**15 12 19.2**	**-0.7**
	comp=Z,16nm,0.9s,baz=275,slow=2.4,SNR=12							
CPUP	**Villa Florida**	**132.33**	**81**	PKP		**PKPdf**	**15 12 23.4**	**-0.7**
CPUP	**Villa Florida**	**132.33**	**81**	PKP		**PKPdf**	**15 12 23.4**	**-0.7**
	comp=Z,14nm,0.9s,baz=327,slow=2.3,SNR=14							
PLCA	**Paso Flores**	**133.22**	**105**	PKPpre		PKPpre	15 12 21.0	
PLCA				PKP		**PKPdf**	**15 12 25.5**	**0.0**
PLCA				*e*PKPdf		**PKiKP**	**15 12 26.0**	**-0.7**
PLCA				SKPbc		**SKPbc**	**15 15 51.6**	**+0.1**
PLCA	**Paso Flores**	**133.22**	**105**	PKhKP		PKPpre	15 12 21.0	
	comp=Z,11nm,1.0s,baz=346,slow=3.1,SNR=5.8							
PLCA				PKP		**PKPdf**	**15 12 25.5**	**0.0**
	comp=Z,32nm,0.9s,baz=294,slow=2.6,SNR=22							
PLCA				SKPbc		**SKPbc**	**15 15 51.6**	**+0.1**
	comp=Z,6.3nm,0.9s,baz=288,slow=7.1,SNR=3.2							
ASCN	**Ascension**	**136.59**	**17**	PFAKE			15 12 40.0	+7.5
ASCN				LR		LR		
	comp=Z,2µm,22.0s							
LSZ	**Lusaka**	**136.86**	**313**	*e*PKPdf		**PKPdf**	**15 12 33.9**	**+0.8**
LSZ				LR		LR		
	comp=Z,3µm,21.0s							
TRQA	**Tornquist**	**137.02**	**97**	*e*PKPdf		**PKPdf**	**15 12 32.5**	**-0.1**
TRQA				LR		LR		
	comp=Z,2µm,22.0s							
USHA	**Ushuaia**	**141.30**	**123**	PKPpre		PKPpre	15 12 33.9	
USHA	**Ushuaia**	**141.30**	**123**	PKhKP		PKPpre	15 12 33.9	
	comp=Z,32nm,0.8s,baz=281,slow=2.5,SNR=14							
MAW	**Mawson**	**144.14**	**217**	PKP		**PKPab**	**15 12 42.0**	**-0.1**
MAW	**Mawson**	**144.14**	**217**	PKP		**PKPab**	**15 12 42.0**	**-0.1**
	comp=Z,246nm,0.9s,baz=83,slow=3.9,SNR=321							
TSUM	**Tsumeb**	**144.83**	**325**	*e*PKP		**PKPab**	**15 12 46.3**	**0.0**
TSUM				LR		LR		
	comp=Z,3µm,22.0s							
SHEL	**Horse Pasture**	**145.55**	**5**	PFAKE			15 13 00.0	+11
SHEL				LR		LR		
	comp=Z,2µm,19.0s							
PMSA	**Palmer Station**	**145.79**	**138**	*e*PKPdf		**PKPdf**	**15 12 47.3**	**0.0**
PMSA				LR		LR		
	comp=Z,3µm,20.0s							
EFI	**East Falkland**	**146.02**	**114**	*e*PKP2		**PKPbc**	**15 12 48.9**	**-0.1**
EFI				MLR		MLR		
	comp=Z,2µm,19.0s							
EFI	**East Falkland**	**146.02**	**114**	*e*PKP		**PKPbc**	**15 12 48.9**	**-0.1**
EFI				LR		LR		
	comp=Z,2µm,19.0s							
LBTB	**Lobatse**	**146.42**	**308**	*e*PKP		**PKPdf**	**15 12 49.7**	**-0.1**
BOSA	**Boshof**	**149.53**	**305**	*e*PKPbc		**PKPbc**	**15 12 59.1**	**-0.4**
BOSA	**Boshof**	**149.53**	**305**	PKPbc		**PKPbc**	**15 12 59.4**	**0.0**
	comp=Z,30nm,0.8s,baz=47,slow=2.3,SNR=56							
SYO	**Syowa Base**	**152.48**	**212**	*i*/*e*P		**PKPbc**	**15 13 02.8**	**-2.1**
SUR	**Sutherland**	**154.83**	**307**	PFAKE			15 13 10.0	-1.4
SUR				LR		LR		
	comp=Z,4µm,22.0s							
SNAA	**Sanae**	**158.68**	**180**	*e*PKPdf		**PKPdf**	**15 13 04.9**	**-1.4**
SNAA	**Sanae**	**158.68**	**180**	*e*PKPdf		**PKPdf**	**15 13 04.8**	**-1.5**
VNA1	**Neumayer--Stat**	**159.55**	**175**	*e*PKPdf		**PKPdf**	**15 13 06.4**	**-0.8**
VNA1	**Neumayer--Stat**	**159.55**	**175**	*e*PKPab		**PKPab**	**15 13 45.7**	**0.0**

IDC 06 15:04:24.7±1.7, 22°98S×70°99W, h0km, mb4.4/1, mb1 4.3/3, mb1mx3.9/18, mbtmp4.2/3, ML4.1/2, Error ellipse: s-maj=52.6km s-min=36.8km az=109.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
LPAZ	**La Paz**	**7.18**	**23**	Pn	Pn		15 06 11.6	-0.2
	0.6nm,0.3s,baz=212,slow=5.1,SNR=12							
LPAZ				Sn	Sn		15 07 36.0	+1.3
	baz=315,slow=7.1,SNR=1.2							
CPUP	**Villa Florida**	**12.86**	**108**	Pn	Pn		15 07 30.8	+2.0
	0.6nm,0.3s,baz=272,slow=12,SNR=22							
TORD	**Torodi Ar. Bea**	**79.66**	**71**	P	P		15 16 33.6	-1.0
	1.5nm,0.5s,baz=252,slow=5.1,SNR=16							
WRA	**Warramunga Arr**	**130.70**	**212**	PKP	PKPdf		15 23 38.2	-0.4
	0.3nm,1.0s,baz=149,slow=1.7,SNR=3.0							
MKAR	**Makanchi Array**	**147.95**	**36**	PKPbc	PKPbc		15 24 12.5	+0.5
	0.7nm,0.7s,baz=319,slow=2.9,SNR=8.6							

*IDC **06** 15:10:25.2±1.9, 50°.97N×177°.83E, h0km, mb3.8/7, mb1 4.0/10, mb1mx3.7/30, mbtmp3.8/10, ML2.9/2, Error ellipse: s-maj=50.0km s-min=12.2km az=16.0*
*NEIC **06** 15:10:27.4, 50°.56N×177°.43E, h25km, ML3.2(AEIC), After AEIC.*

ISC 06 15:10:25.2±2.4, 50°.7N±0°.1×177°.58E±0°.06, h15km±12km, n29, σ1°42/34, mb3.8/8, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AMKA	**Amchitka**	**1.28**	**57**	P	**Pg**		**15 10 49.8**	**-0.2**
AMKA				S	**Sg**		**15 11 06.7**	**+0.1**
LSNW	**Little Sitkin**	**1.41**	**24**	P	**Pg**		**15 10 52.7**	**+0.4**
LSPA	**Little Sitkin**	**1.41**	**26**	P	**Pg**		**15 10 52.5**	**+0.1**
LSPA				S	**Sg**		**15 11 11.7**	**+1.1**
CESW	**Semis' Southwe**	**1.73**	**45**	P	**Pg**		**15 10 57.6**	**-0.9**
CETU	**Semis' Tuman**	**1.75**	**43**	P	**Pg**		**15 10 57.8**	**-1.0**
CETU				S	**Sg**		**15 11 21.6**	**+0.1**
CERAA	**Semis' Rag'd T**	**1.79**	**47**	P	**Pb**		**15 10 58.3**	**+0.6**
CERAA				S	**Sg**		**15 11 22.5**	**-0.5**
CEAP	**Semis' Anvil P**	**1.81**	**43**	P	**Pg**		**15 10 59.0**	**-1.0**
CEAP				S	**Sb**		**15 11 21.9**	**+1.4**
FX1	**Attu Island--F**	**3.51**	**310**	Pn	**Pn**		**15 11 18.4**	**-0.8**
FX1				Sn	**Sn**		**15 11 58.9**	**-1.5**
FX1	**Attu Island--F**	**3.51**	**310**	Pn	**Pn**		**15 11 18.4**	**-0.8**
	1.5nm,0.3s,baz=305,slow=4.5,SNR=15							
FX1				Sn	**Sn**		**15 11 58.9**	**-1.5**
	11nm,0.3s,baz=280,slow=22,SNR=20							
PETK	**Petropavlovsk-**	**12.51**	**289**	Pn	**Pn**		**15 13 23.4**	**+0.9**
PETK	**Petropavlovsk-**	**12.51**	**289**	Pn	**Pn**		**15 13 23.4**	**+0.9**
	0.4nm,0.3s,baz=95,slow=19,SNR=6.8							
KDAK	**Kodiak Island**	**18.71**	**56**	P	**P**		**15 14 40.0**	**-2.8**
KDAK	**Kodiak Island**	**18.71**	**56**	P	**P**		**15 14 40.0**	**-2.8**
	0.8nm,0.3s,baz=302,slow=9.0,SNR=12							
ILAR	**Eielson Array**	**23.21**	**39**	P	**P**		**15 15 27.8**	**-3.4**
ILAR	**Eielson Array**	**23.21**	**39**	P	**P**		**15 15 27.8**	**-3.4**
	0.3nm,0.6s,baz=262,slow=6.8,SNR=4.2							
YKA	**Yellowknife Ar**	**37.35**	**45**	P	**P**		**15 17 36.9**	**+0.3**
YKA	**Yellowknife Ar**	**37.35**	**45**	P	**P**		**15 17 36.8**	**+0.3**
	0.6nm,0.4s,baz=285,slow=7.4,SNR=5.4							
SONM	**Songino Array**	**44.89**	**295**	P	P		15 18 42.4	+3.4
SONM	**Songino Array**	**44.89**	**295**	P	P		15 18 42.4	+3.4
	0.2nm,0.4s,baz=34,slow=10,SNR=2.4							
PDAR	**Pinedale Array**	**48.69**	**70**	P	**P**		**15 19 10.1**	**+1.1**
PDAR	**Pinedale Array**	**48.69**	**70**	P	**P**		**15 19 10.1**	**+1.1**
	1.7nm,0.7s,baz=303,slow=3.4,SNR=10							
SPITS	**Spitsbergen Ar**	**50.88**	**355**	P	**P**		**15 19 26.3**	**+1.6**
SPITS	**Spitsbergen Ar**	**50.88**	**355**	P	**P**		**15 19 26.3**	**+1.6**
	2.1nm,0.5s,baz=58,slow=8.0,SNR=14							
TXAR	**Lajitas Array**	**61.02**	**78**	P	**P**		**15 20 38.5**	**+0.3**
TXAR	**Lajitas Array**	**61.02**	**78**	P	**P**		**15 20 38.5**	**+0.3**
	0.2nm,0.4s,baz=305,slow=3.2,SNR=2.5							
FINES	**FINESS Array B**	**65.91**	**345**	P	**P**		**15 21 10.1**	**+0.3**
FINES	**FINESS Array B**	**65.91**	**345**	P	**P**		**15 21 10.1**	**+0.3**
	2.1nm,1.0s,baz=23,slow=10,SNR=4.4							
NOA	**NORSAR Array B**	**68.08**	**353**	P	**P**		**15 21 23.6**	**-0.1**
NOA	**NORSAR Array B**	**68.08**	**353**	P	**P**		**15 21 23.6**	**-0.1**
	0.8nm,0.7s,baz=9.4,slow=6.4,SNR=3.2							

IDC 06 15:37:14.8±17.0, 20°38S×175°05W, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/22, mbtmp3.8/5, Error ellipse: s-maj=322.7km s-min=146.3km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CTA	**Charters Tower**	**36.26**	**264**	P	P		15 44 21.3	+1.2
	1.3nm,0.5s,baz=95,slow=11,SNR=3.0							
STKA	**Stephens Creek**	**40.34**	**244**	P	P		15 44 54.1	-0.2
	1.2nm,0.8s,baz=96,slow=11,SNR=4.3							
ASAR	**Alice Springs**	**47.24**	**256**	P	P		15 45 49.2	-0.8
	0.6nm,0.5s,baz=97,slow=8.3,SNR=17							
WRA	**Warramunga Arr**	**47.36**	**261**	P	P		15 45 50.2	-0.7
	0.3nm,0.3s,baz=96,slow=8.0,SNR=19							
FITZ	**Fitzroy Crossi**	**55.79**	**262**	P	P		15 46 54.2	+0.2
	0.6nm,0.5s,baz=90,slow=11,SNR=3.1							

*CSEM **06** 15:37:50.5±0.3, 37°.84N×27°.59E, h2km, MD2.9, Error ellipse: s-maj=7.9km s-min=5.3km az=19.0*
*DDA **06** 15:37:50.0, 37°.84N×27°.53E, h7km, MD2.9*
*THE **06** 15:37:55.6, 37°.71N×27°.20E, h11km±1km, ML2.7/1, Error ellipse: s-maj=1.8km s-min=0.5km az=237.0*

ISC 06 15:37:50.1±1.0, 37°.86N±0°.03×27°.58E±0°.02, h8km±10km, n20, σ0°82/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AYDN	**Tasoluk**	**0.31**	**129**	*i* P	**Pg**		**15 37 57.1**	**+0.9**
AYDN				*i* S	**Sg**		**15 38 01.0**	**+0.7**
AYDN	**Tasoluk**	**0.31**	**129**	*i* P	**Pg**		**15 37 57.1**	**+0.9**
AYDN				*i* S	**Sg**		**15 38 01.0**	**+0.7**
GCAM	**G?zelcaml?**	**0.31**	**240**	*i* P	**Pg**		**15 37 56.0**	**-0.2**
GCAM				*i* S	**Sg**		**15 37 59.6**	**-0.8**
GCAM	**G?zelcaml?**	**0.31**	**240**	*i* P	**Pg**		**15 37 56.0**	**-0.2**
GCAM				*i* S	**Sg**		**15 37 59.6**	**-0.8**
SMG	**Samos**	**0.60**	**256**	P	**Pg**		**15 38 01.6**	**-0.2**
SMG	**Samos**	**0.60**	**256**	P	**Pg**		**15 38 01.6**	**-0.2**
URLA	**Izmir**	**0.92**	**303**	*e*P	**Pg**		**15 38 08.2**	**+0.3**
URLA				*e*S	**Sg**		**15 38 20.2**	**+0.3**
URLA	**Izmir**	**0.92**	**303**	*e*P	**Pg**		**15 38 08.2**	**+0.3**
URLA				*e*S	**Sg**		**15 38 20.2**	**+0.3**
MANT	**Manisa**	**1.00**	**50**	*e*P	**Pg**		**15 38 08.8**	**-0.6**
MANT				*e*S	**Sg**		**15 38 21.3**	**-1.1**
MANT	**Manisa**	**1.00**	**50**	*e*P	**Pg**		**15 38 08.8**	**-0.6**
MANT				*e*S	**Sg**		**15 38 21.3**	**-1.1**
DNZL	**Cakiroluk**	**1.18**	**98**	*e*P	**Pb**		**15 38 13.4**	**+0.6**
DNZL				*e*S	**Sn**		**15 38 30.8**	**+1.4**
DNZL	**Cakiroluk**	**1.18**	**98**	*e*P	**Pb**		**15 38 13.4**	**+0.6**
DNZL				*e*S	**Sn**		**15 38 30.8**	**+1.4**
TURN	**Turunc**	**1.28**	**140**	*e*P	**Pn**		**15 38 12.8**	**-1.5**
TURN				*e*S	**Sb**		**15 38 30.1**	**-0.8**
TURN	**Turunc**	**1.28**	**140**	*e*P	**Pn**		**15 38 12.8**	**-1.5**
TURN				*e*S	**Sb**		**15 38 30.1**	**-0.8**
NIS1	**Nisyros Isl.**	**1.29**	**194**	P	**Pg**		**15 38 15.6**	**+0.7**
NIS1	**Nisyros Isl.**	**1.29**	**194**	P	**Pg**		**15 38 15.6**	**+0.7**
CHOS	**Chios island**	**1.31**	**294**	P	**Pg**		**15 38 15.9**	**+0.6**
CHOS				S	**Sb**		**15 38 32.0**	**-0.1**
CHOS	**Chios island**	**1.31**	**294**	P	**Pg**		**15 38 15.9**	**+0.6**
CHOS				S	**Sb**		**15 38 32.0**	**-0.1**
PRK	**Paraskevi**	**1.72**	**324**	P	**Pg**		**15 38 24.0**	**+0.8**
PRK				S	**Sg**		**15 38 46.1**	**+0.6**
PRK	**Paraskevi**	**1.72**	**324**	P	**Pg**		**15 38 24.0**	**+0.8**
PRK				S	**Sg**		**15 38 46.1**	**+0.6**

KRSC 06 15:43:08.0±0.7, 50°.00N×156°.90E, h5km±5km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SKR	**Severo-Kuril's**	**0.85**	**324**	*e*P	Pb		15 43 24.8	-0.4
SKR				*i* S	Sb		15 43 37.2	+0.3
PAU	**Pauzhetka**	**1.47**	**358**	*e*P	Pb		15 43 35.5	-0.3
PAU				*i* S	Sg		15 43 55.1	-0.1
MIPR	**Malaya Ipel'ka**	**2.28**	**358**	*e*P	Pn		15 43 46.8	+0.5
MIPR				*e*S	Sn		15 44 15.8	+1.0
ASAK	**Asacha**	**2.47**	**14**	*e*P	Pn		15 43 50.4	+1.4
ASAK				*e*S	Sn		15 44 21.1	+1.5
MTVR	**Mutnovka**	**2.61**	**17**	*e*P	Pn		15 43 52.9	+1.8
RUS	**Russkaya**	**2.64**	**22**	*e*P	Pn		15 43 51.6	+0.4
RUS				*i* S	Sn		15 44 23.9	+0.3
GRL	**Gorelyy**	**2.66**	**16**	*e*P	Pn		15 43 53.0	+1.3
UGLR	**Uglovaya**	**3.43**	**20**	*e*P	Pn		15 44 04.4	+2.2
AVH	**Avacha**	**3.46**	**19**	P	Pn		15 44 04.7	+2.0
KOK	**Koryaka**	**3.47**	**17**	*e*P	Pn		15 44 04.6	+1.8
KRER	**Koryakskii**	**3.50**	**18**	P	Pn		15 44 05.4	+2.0
SDLR	**Sedlovina**	**3.51**	**20**	*e*P	Pn		15 44 04.8	+1.5
NLC	**Nalytchevo**	**3.52**	**25**	P	Pn		15 44 04.6	+1.3
GNL	**Ganaly**	**3.76**	**10**	P	Pn		15 44 09.3	+2.6

*CSEM **06** 15:50:02.8±0.7, 34°.80N×15°.60W, h10km, ML3.6/11, Error ellipse: s-maj=33.1km s-min=4.4km az=136.0*
*INMG **06** 15:50:06.2±1.2, 35°.21N×16°.38W, h10km, ML3.0, Error ellipse: s-maj=14.7km s-min=2.7km az=121.0*
*MDD **06** 15:50:07.6±4.6, 35°.42N×15°.85W, h0km, mb3.7/2, Error ellipse: s-maj=90.9km s-min=32.1km az=149.0, PRXIMO*

ISC 06 15:49:58.8±1.9, 35°.2N±0°.1×16°.1W±0°.2, h10km, n41, σ2°26/51, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PMPST	**Porto Santo, M**	**2.10**	**186**	*i* Pn	**Pn**		**15 50 35.8**	**+1.7**
PMPST				*e*Sn	**Sn**		**15 50 57.9**	**-2.4**
PMPST				A	A		15 51 01.3	
	112nm,0.4s							
PMPS	**Porto Santo**	**2.13**	**186**	*i* Pn	**Pn**		**15 50 36.0**	**+1.7**
PMPS				*e*Sn	**Sn**		**15 50 58.8**	**-2.0**
PMPS				A	A		15 51 02.1	
	96nm,0.2s							
PMOZ	**Porto Moniz, M**	**2.53**	**202**	*e*Pn	**Pn**		**15 50 41.1**	**+1.1**
PMOZ				*e*Sn	**Sn**		**15 51 08.0**	**-2.9**
PMOZ				A	A		15 51 14.5	
	280nm,0.4s							
PMOZ	**Porto Moniz, M**	**2.53**	**202**	*e*Pn	**Pn**		**15 50 41.1**	**+1.1**
PMOZ				*e*Sn	**Sn**		**15 51 08.0**	**-2.9**
	280nm,0.4s							
PMAR	**Madeira**	**2.54**	**196**	*e*Pn	**Pn**		**15 50 41.5**	**+1.2**
PMAR				*e*Sn	**Sn**		**15 51 08.5**	**-2.9**
PMAR				A	A		15 51 12.2	
	254nm,0.1s							
PMAR	**Madeira**	**2.54**	**196**	*e*Pn	**Pn**		**15 50 41.5**	**+1.2**
PMAR				*e*Sn	**Sn**		**15 51 08.5**	**-2.9**
	254nm,0.1s							
FUL	**Funchal**	**2.61**	**195**	*e*Pn	**Pn**		**15 50 43.4**	**+2.4**
FUL				*e*Sn	**Sn**		**15 51 11.2**	**-1.6**
FUL				A	A		15 51 12.3	
	213nm,0.3s							
PFVI	**Vila Bisbo**	**6.18**	**70**	*e*Sn	**Sn**		**15 52 39.9**	**-0.9**
PFVI				A	A		15 52 44.6	
	5.5nm,0.7s							
PFVI	**Vila Bisbo**	**6.18**	**70**	S	**Sn**		**15 52 39.0**	**-1.8**
	5.2nm,0.2s,SNR=7.9							
PFVI	**Vila Bisbo**	**6.18**	**70**	S	**Sn**		**15 52 39.0**	**-1.8**
	5.2nm,0.2s,SNR=7.9							
PFVI				*e*Sn	**Sn**		**15 52 39.9**	**-0.9**
	5.5nm,0.7s							
PTEO	**Sao Teotonio**	**6.38**	**66**	*e*Sn	**Sn**		**15 52 45.1**	**-0.7**
PTEO				A	A		15 52 47.5	
	11nm,0.6s							
PTEO	**Sao Teotonio**	**6.38**	**66**	Sn	**Sn**		**15 52 45.1**	**-0.7**
	5.3nm,0.6s							
PTEO	**Sao Teotonio**	**6.38**	**66**	Sn	**Sn**		**15 52 45.1**	**-0.7**
	5.3nm,0.6s							
PMAFR	**Mafra**	**6.61**	**53**	*e*Sn	**Sn**		**15 52 49.5**	**-1.9**
PMAFR				A	A		15 52 53.4	
	24nm,0.8s							
PMAFR	**Mafra**	**6.61**	**53**	S	**Sn**		**15 52 48.8**	**-2.6**
	6.7nm,0.1s,SNR=7.9							
PMAFR	**Mafra**	**6.61**	**53**	S	**Sn**		**15 52 48.8**	**-2.6**
	6.7nm,0.1s,SNR=7.9							
PMAFR				*e*Sn	Sn		15 52 49.5	-1.9
	24nm,0.8s							
PNCL	**Nicolau / Gran**	**6.74**	**62**	*e*Pn	**Pn**		**15 51 40.7**	**+

BSI S **Sn** **16 01 58.5 -4.4**
LHMI **Lhok Sumawe** **4.24 60** P **Pn** **16 01 42.7 +0.7**
LHMI **Lhok Sumawe** **4.24 60** P **Pn** **16 01 42.5 +0.5**
baz=4.1,SNR=9.6
TSI **Tuntungan** **5.31 86** P **Pn** **16 01 58.4 +1.6**
TSI S **Sn** **16 02 57.1 +0.3**
PSI **Prapat** **5.66 93** Pn **Pn** **16 02 00.9 -0.8**
PSI Sn **Sn** **16 03 04.5 -1.2**
PSI **Prapat** **5.66 93** Pn **Pn** **16 02 00.9 -0.8**
14nm,0.3s,baz=262,slow=11,SNR=47
PSI Sn **Sn** **16 03 04.5 -1.2**
48nm,0.3s,baz=181,slow=16,SNR=12
PSI **Prapat** **5.66 93** P **Pn** **16 02 01.8 0.0**
baz=5.4,SNR=37
PSI S **Sn** **16 03 07.0 +1.3**
baz=5.4,SNR=4.3
KULM **Kulim** **7.68 73** P **Pn** **16 02 28.0 -1.4**
IPM **Ipoh** **7.87 80** P **Pn** **16 02 31.5 -0.4**
TRTT **Trang** **7.94 53** P **Pn** **16 02 32.1 -0.8**
77nm,1.0s,1µm0.3nm
PPI **Padang Panjang** **7.96 116** P **Pn** **16 02 32.8 -0.5**
376nm,1.1s,4µm1.4nm
PPI **Padang Panjang** **7.96 116** P **Pn** **16 02 32.7 -0.5**
baz=7.7,SNR=24
PPI S **Sn** **16 03 58.1 -4.0**
baz=7.7,SNR=4.1
BKNI **Bangkinang** **8.25 109** P **Pn** **16 02 36.5 -0.7**
258nm,1.1s,2µm0.9nm
FRIM **Kepong** **8.35 89** P **Pn** **16 02 36.0 -2.6**
PBA **Port Blair** **8.51 357** *e*P Pn 16 02 40.9 +0.1
PBA AMB AMB 16 02 49.0
comp=Z,68nm,0.4s
PBA *e*S Sn 16 04 10.2 -5.5
DGPR **DIGLIPUR** **10.02 358** *e*P **Pn** **16 03 00.3 -1.1**
DGPR *e*S **Sn** **16 04 49.5 -3.1**
KTGM **Kuala Trenggan** **10.09 77** P **Pn** **16 03 00.6 -1.8**
KGM **Kluang** **10.10 96** P **Pn** **16 02 60.0 -2.7**
MYKOM **Kota Tinggi** **10.66 97** P **Pn** **16 03 08.3 -1.9**
KSI **Kapahiang** **11.49 126** P **Pn** **16 03 21.4 -0.3**
comp=Z,314nm,0.9s,comp=Z,3µm
MNAI **Manna** **12.20 127** P **Pn** **16 03 30.0 -1.3**
comp=Z,376nm,0.7s,comp=Z,5µm
MNAI **Manna** **12.20 127** P **Pn** **16 03 29.4 -1.9**
baz=12,SNR=11
MNAI S Sn 16 05 38.0 -8.2
baz=12,SNR=3.9
CHBT **CHBT** **13.13 43** P **P** **16 03 54.8 +1.1**
CHBT **CHBT** **13.13 43** P **P** **16 03 54.8 +1.1**
PALK **Pallekele** **13.18 289** *e*Pn **Pn** **16 03 42.8 -1.9**
PALK **Pallekele** **13.18 289** P **P** **16 03 54.6 +0.3**
comp=Z,53nm,0.9s
LWLI **Liwa** **13.47 127** P **Pn** **16 03 47.5 -1.3**
comp=Z,307nm,0.7s,comp=Z,3µm
NAYO **Nakonayok** **13.69 35** P **Pn** **16 03 53.0 +1.3**
comp=Z,178nm,0.9s,comp=Z,7µm
KLSI **13.83 124** P **Pn** **16 03 52.2 -1.4**
comp=Z,103nm,1.2s,comp=Z,1µm
PPBI **Pangkal Pinang** **13.89 112** P **Pn** **16 03 54.6 +0.1**
comp=Z,28nm,1.2s,comp=Z,3µm
KASI **Kota Agung** **14.12 127** P **Pn** **16 03 55.0 -2.6**
comp=Z,83nm,0.6s,comp=Z,877nm
CHAI **Chaiyaphum** **15.35 33** P **Pn** **16 04 14.9 +0.9**
comp=Z,5.8nm,1.3s,comp=Z,76nm
PBKT **Sadao Pong** **15.38 29** P **Pn** **16 04 13.5 -0.9**
comp=Z,28nm,0.8s,comp=Z,2µm
PBKT **Sadao Pong** **15.38 29** P **Pn** **16 04 14.2 -0.2**
comp=Z,28nm,0.8s,comp=Z,2µm
CMAR **Chiang Mai Arr** **16.24 20** Pn **Pn** **16 04 24.2 -1.3**
CMAR **Chiang Mai Arr** **16.24 20** Pn **Pn** **16 04 24.2 -1.3**
comp=Z,0.1nm,0.3s,baz=214,slow=13,SNR=31
DBJI **Dramaga** **16.53 125** P **P** **16 04 32.6 +1.0**
comp=Z,279nm,1.2s,comp=Z,3µm
LAMP **Lampang** **16.55 22** P **Pn** **16 04 29.9 +0.5**
comp=Z,87nm,1.0s
CHTO **Chiang Mai** **16.57 19** P **Pn** **16 04 27.4 -2.4**
CHTO pmax pmax
comp=Z,17nm,0.9s
CHTO **Chiang Mai** **16.57 19** Pn **Pn** **16 04 27.4 -2.4**
comp=Z,17nm,0.9s
CHTO **Chiang Mai** **16.57 19** P **P** **16 04 32.9 +0.9**
comp=Z,24nm,0.9s
CHTO **Chiang Mai** **16.57 19** P **P** **16 04 32.9 +0.9**
comp=Z,24nm,0.9s
CMMT **Chiang Mai** **16.57 19** P **P** **16 04 32.6 +0.6**
comp=Z,23nm,1.4s
CMMT **Chiang Mai** **16.57 19** P **P** **16 04 32.6 +0.6**
comp=Z,23nm,1.4s
SKJI **Sukabumi** **16.64 127** P **P** **16 04 32.3 -0.4**
comp=Z,272nm,1.1s
UBPT **Khong Chiam** **17.06 44** P **Pn** **16 04 36.4 +0.5**
comp=Z,41nm,1.2s,comp=Z,968nm
UBPT **Khong Chiam** **17.06 44** P **Pn** **16 04 36.4 +0.5**
comp=Z,41nm,1.2s,comp=Z,968nm
KSM **Kuching** **17.11 95** P **Pn** **16 04 36.7 +0.1**
SKNT **Sakolnakorn** **17.35 37** P **Pn** **16 04 39.0 -0.4**
comp=Z,35nm,1.1s
LEM **Lembang** **17.40 125** P **P** **16 04 44.9 +3.6**
comp=Z,53nm,1.2s
VIS **Vishakhapatnam** **17.49 327** *e*P **Pn** **16 04 40.3 -0.9**
VIS AMB AMB 16 04 51.7
comp=Z,34nm,0.3s
VIS *ex* x 16 07 28.9
CMAI **Chiengmai2** **17.65 18** P P 16 04 57.7 +14
PANO **Nakornpanom** **17.86 38** P **P** **16 04 48.8 +2.6**
comp=Z,258nm,1.2s
CISI **Cisompet, Garu** **17.97 126** P **P** **16 04 49.7 +2.2**
comp=Z,70nm,0.9s,comp=Z,1µm
STKI **Sintang** **18.45 99** P **Pn** **16 04 54.2 +1.1**
comp=Z,105nm,0.9s
TGJI **Tegal** **18.67 122** P **Pn** **16 04 56.7 +0.9**
comp=Z,39nm,0.9s
SBUM **Sibu** **18.95 91** P **Pn** **16 04 58.7 -0.4**
PBKI **Pangkalan Bun** **19.28 107** P **Pn** **16 05 03.4 +0.3**
comp=Z,151nm,1.1s
BJII **Banjamegara** **19.41 122** P Pn 16 05 10.9 +6.2
comp=Z,38nm,1.0s
SMRI **Semarang** **19.89 121** P **P** **16 05 08.8 +0.2**
comp=Z,229nm,1.0s
SMRI **Semarang** **19.89 121** P **P** **16 05 09.1 +0.5**
baz=20,SNR=3.9
HYB **Hyderabad** **20.27 316** *i* P Pn 16 05 23.0 +8.2
UGM **Wanagama** **20.40 123** *e*P **P** **16 05 10.4 -3.8**
comp=Z,316nm,1.6s
UGM **Wanagama** **20.40 123** P Pn 16 05 18.4 +2.0
baz=20,SNR=6.2
IMP **Imphal** **21.57 2** *e*P **P** **16 05 30.0 +3.4**
IMP *e*S **S** **16 09 22.0 -1.9**
BOK **Bokaro** **21.77 342** *ex* P 16 05 33.8 +5.0
BOK AMB AMB 16 05 41.4
comp=Z,78nm,1.1s
MTKI **Muara Teweh, K** **22.00 100** P **P** **16 05 35.8 +4.5**
comp=Z,121nm,0.8s
LATR **Latur** **22.34 314** *e*P **P** **16 05 32.8 -2.1**
LATR AMB AMB 16 05 41.3
comp=Z,28nm,0.0s
LATR *ex* x 16 09 35.4
SHL **Shillong** **22.37 357** *e*P **P** **16 05 36.0 +0.6**
SHL *e*S **S** **16 09 38.0 -1.5**
BBKI **Banjar Baru** **22.53 107** P **P** **16 05 37.7 +0.6**
comp=Z,145nm,0.8s,comp=Z,2µm
NGP **Nagpur** **22.65 323** *e*P **P** **16 05 36.0 -2.3**
NGP AMB AMB 16 06 01.4
comp=Z,24nm,2.0s
QIZ **Qiongzhong** **22.66 44** P **P** **16 05 38.5 +0.1**
KKM **Kota Kinabalu** **23.06 82** P **P** **16 05 44.3 +1.6**
AKL **Akola** **23.59 319** *e*P **P** **16 05 46.6 -1.1**
AKL AMB AMB 16 06 00.9
comp=Z,49nm,0.3s
KMI **Kunming** **23.72 22** P **P** **16 05 51.7 +2.5**
KMI pmax pmax
comp=Z,9.0nm,0.9s
JBP **Jabalpur** **23.73 328**⇓ *ex* x 16 06 17.2
JBP *i* x x 16 06 18.1
comp=Z,24nm,1.2s
JBP *e*4 16 10 47.0
SDKM **Sandakan** **23.99 83** P **P** **16 05 50.5 -1.2**
ODAN **Odare** **24.28 347** *e*P pP 16 06 04.5 +0.2
comp=Z,123nm,0.6s
RAMN **Ramite** **24.56 346** *e*P pP 16 06 07.2 +0.4
TSM **Tawau** **24.59 86** P **P** **16 05 54.9 -2.2**
TAPN **Taplejung** **24.69 348** *e*P **P** **16 06 02.2 +4.0**
comp=Z,146nm,0.7s
BHPL **Bhopal** **25.22 324** *ex* **P** **16 06 00.1 -2.6**
MYLDM **Lahad Datu** **25.25 84** P **P** **16 06 03.3 +0.2**
JIRN **Jiri** **25.34 345** *e*P **P** **16 06 06.7 +2.6**
PKI **Pulchoki** **25.46 344** *e*P P 16 06 11.9 +6.7

PKIN **Phulchoki** **25.47 344** *e*P P 16 06 12.1 +6.9
DMN **Daman** **25.59 343** *e*P P 16 06 12.3 +6.1
GUN **Gumba** **25.66 345** *e*P **P** **16 06 08.2 +1.2**
comp=Z,104nm,0.8s
KKN **Kakani** **25.71 344** *e*P **P** **16 06 11.9 +4.6**
comp=Z,61nm,0.7s
LSA **Lhasa** **26.53 356** P **P** **16 06 16.9 +1.9**
GYA **Guiyang** **26.54 28** P **P** **16 06 16.0 +1.2**
GYA pP **pP** **16 06 25.8 +1.1**
GYA PP **PnPn** **16 07 01.0 +5.0**
GYA PcP **PcP** **16 09 39.6 +0.6**
GYA S **S** **16 10 47.5 +0.4**
GYA sS **sS** **16 11 03.7 +0.2**
GYA ScP **ScP** **16 13 15.4 -1.1**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.7s
GYA LR LR
comp=N,430nm,17.8s
GYA LR LR
comp=E,380nm,18.3s
GYA LR LR
comp=Z,390nm,17.5s
DANN **Dangsing** **26.69 341** *e*P **P** **16 06 17.3 +1.0**
comp=Z,68nm,0.8s
TTSI **Tana Toraja** **27.24 103** P **P** **16 06 23.0 +2.0**
comp=Z,18nm,1.1s
KAPI **Kappang** **27.66 107** *e*P **P** **16 06 20.6 -4.3**
comp=Z,39nm,1.3s
KAPI **Kappang** **27.66 107** P **P** **16 06 21.0 -3.9**
comp=Z,24nm,1.1s
KAPI **Kappang** **27.66 107** P **P** **16 06 23.2 -1.6**
comp=Z,11nm,0.9s,baz=98,slow=5.8,SNR=4.2
BKSI **Bulukumba** **28.11 107** P **P** **16 06 29.7 +0.9**
comp=Z,22nm,1.1s
MRSI **Marisa** **28.78 95** P **P** **16 06 35.3 +0.5**
comp=Z,19nm,0.8s
CD2 **Chengdu** **29.38 19** P **P** **16 06 41.6 +1.6**
CD2 pP **pP** **16 06 51.4 +1.4**
CD2 sP **sP** **16 06 55.5 +1.4**
CD2 PP **PnPn** **16 07 38.1 +3.5**
CD2 PcP **PcP** **16 09 46.4 +0.7**
CD2 S **S** **16 11 32.9 +1.3**
CD2 sS **sS** **16 11 49.1 +1.1**
CD2 SS **SnSn** **16 13 07.2 +7.2**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.2s
WSI **Waingapu** **29.77 116** P **P** **16 06 44.9 +1.3**
baz=30,SNR=3.5
ENH **Enshi** **31.08 28** P **P** **16 06 54.0 -1.0**
comp=Z,11nm,0.8s
DHRM **DHARAMSHALA** **33.09 333** *e*P **P** **16 07 13.3 +0.5**
DHRM AMB AMB 16 07 53.7
comp=Z,13nm,1.2s
TWG **Pinlang** **33.32 52** *e*P **P** **16 07 12.6 -2.1**
comp=Z,92nm,1.4s
WHN **Wuhan** **33.80 34** P **P** **16 07 19.5 +0.7**
XAN **Xi'an** **34.07 24** P **P** **16 07 20.4 -0.7**
XAN pmax pmax
comp=Z,2.0nm,0.7s
XAN pmax pmax
comp=Z,130nm,14.5s
LZH **Lanzhou** **34.25 15** *e*P **P** **16 07 23.1 +0.3**
LZH pP **pP** **16 07 33.2 +0.4**
LZH sP **sP** **16 07 37.1 +0.1**
LZH SS **SnSn** **16 15 03.0 +4.7**
LZH pmax pmax
comp=Z,17nm,1.1s
LZH pmax pmax
comp=Z,100nm,4.8s
LZH LR LR
comp=N,510nm,13.8s
LZH LR LR
comp=E,500nm,13.3s
LZH LR LR
comp=Z,600nm,15.1s
MBWA **Marble Bar** **35.41 134** *e*P **P** **16 07 32.5 -0.3**
MSAI **Masohi** **36.22 100** P **P** **16 07 40.3 +0.4**
comp=Z,14nm,0.8s,comp=Z,860nm
GTA **Gaotai** **36.63 9** *e*P **P** **16 07 43.7 +0.5**
GTA pP **pP** **16 07 53.6 +0.3**
GTA sP **sP** **16 07 57.6 +0.2**
GTA PcP **PcP** **16 10 08.0 +2.1**
GTA S **S** **16 13 25.2 +1.2**
GTA sS **sS** **16 13 41.1 +0.4**
GTA SS **SnSn** **16 15 54.1 -1.7**
GTA pmax pmax
comp=Z,6.0nm,1.9s
GTA pmax pmax
comp=Z,310nm,5.2s
GTA LR LR
comp=N,400nm,18.0s
GTA LR LR
comp=E,270nm,17.6s
GTA LR LR
comp=Z,530nm,19.0s
NJ2 **Nanjing** **37.52 37** *e*P **P** **16 07 51.2 +0.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.9s
FITZ **Fitzroy Crossi** **38.23 125** *e*P **P** **16 07 55.8 -1.1**
comp=Z,5.2nm,0.7s
FITZ **Fitzroy Crossi** **38.23 125** P **P** **16 07 55.9 -1.0**
baz=38,SNR=15
MEEK **Meekatharra** **38.40 142** P **P** **16 07 59.0 +0.7**
baz=38,SNR=7.9
KSH **Kashi** **39.50 339** *e*P P 16 08 16.1 +8.7
KSH pP pP 16 08 27.7 +10
KSH sP sP 16 08 30.2 +8.5
KSH PP PnPn 16 09 54.6 +13
KSH S S 16 14 16.9 +9.3
KSH sS sS 16 14 33.6 +9.3
KSH SS **SnSn** **16 17 06.0 +0.8**
KSH **Kashi** **39.50 339** ScS ScS 16 18 17.8 +4.5
KSH pmax pmax
comp=Z,7.0nm,0.8s
KSH pmax pmax
comp=Z,170nm,6.2s
KSH LR LR
comp=N,230nm,7.4s
KSH LR LR
comp=E,200nm,7.8s
KSH LR LR
comp=Z,340nm,13.5s
KNRA **Kununurra** **39.77 119** P **P** **16 08 08.4 -1.4**
baz=40,SNR=15
KNRA S S 16 13 41.2 -31
baz=40,SNR=4.5
MTN **Manton Dam** **40.81 114** P **P** **16 08 17.1 -1.3**
baz=41,SNR=5.6
WMQ **Urumqi** **40.85 354** P **P** **16 08 18.6 +0.2**
WMQ pP **pP** **16 08 28.4 -0.2**
WMQ sP **sP** **16 08 32.4 -0.3**
WMQ PP **PnPn** **16 09 57.2 -0.2**
WMQ pmax pmax
comp=Z,21nm,0.9s
WMQ pmax pmax
comp=Z,400nm,8.0s
JOW **Kunigami** **40.98 51** *e*P **P** **16 08 17.7 -2.1**
comp=Z,6.0nm,0.9s
HHC **Hu-ho-hao-te** **41.04 21** *e*P **P** **16 08 18.4 -1.7**
HHC sP **sP** **16 08 33.2 -1.3**
HHC PP **PP** **16 09 56.9 +1.6**
HHC S **S** **16 14 29.5 -1.0**
HHC sS **sS** **16 14 46.1 -1.2**
HHC SS **SS** **16 17 29.9 -3.8**
HHC ScS **ScS** **16 18 22.3 -0.1**
HHC pmax pmax
comp=Z,38nm,0.5s
HHC pmax pmax
comp=Z,580nm,7.2s
HHC LR LR
comp=N,470nm,14.7s
HHC LR LR
comp=E,670nm,13.7s
HHC LR LR
comp=Z,380nm,16.7s
KDU **Kakadu** **41.98 113** P **P** **16 08 27.0 -1.1**
baz=42,SNR=3.8
KDU S S 16 15 06.1 +21
baz=42,SNR=3.4
BJI **Beijing** **42.22 26** P **P** **16 08 31.3 +1.7**
BJI pmax pmax
comp=Z,13nm,1.2s
NWAO **Narrogin (SRO)** **42.41 150** P **P** **16 08 30.0 -1.3**
NWAO **Narrogin (SRO)** **42.41 150** P **P** **16 08 30.0 -1.3**
comp=Z,18nm,0.9s,baz=269,slow=4.7,SNR=6.5
TKM2 **Tokmak 2** **42.66 341** *e*P **P** **16 08 32.4 -1.1**
TKM2 *e* 16 08 43.9
TKM2 pmax pmax
comp=Z,15nm,1.0s
TKM2 **Tokmak 2** **42.66 341** *e*P **P** **16 08 32.4 -1.1**
comp=Z,15nm,1.0s
TKM2 *e* 16 08 43.9
AAK **Ala-Archa** **42.78 340***c* *i*P **P** **16 08 35.6 +1.2**
AAK pmax pmax
comp=Z,11nm,1.2s
AAK **Ala-Archa** **42.78 340** P **P** **16 08 34.5 +0.1**
comp=Z,6.0nm,0.7s
AAK *e* 16 08 46.1
FRU **Bishkek** **42.91 340** *e*P pP 16 08 47.0 +1.5
EKS2 **Erkin-Say** **43.06 339** *e*P **P** **16 08 37.5 +0.9**
EKS2 *e* 16 08 47.4
EKS2 pmax pmax
comp=Z,16nm,0.8s
EKS2 **Erkin-Say** **43.06 339** *e*P **P** **16 08 37.5 +0.9**
comp=Z,16nm,0.8s
EKS2 *e* 16 08 47.4
KMBL **Kambalda** **43.78 144** P **P** **16 08 43.0 +0.6**
baz=44,SNR=9.7
MK31 **Makanchi Array** **44.55 349** *e*P **P** **16 08 49.0 +0.6**
MK31 *e* 16 08 58.8
MK31 **Makanchi Array** **44.55 349** *e*P **P** **16 08 49.0 +0.6**
MK31 *e* 16 08 58.8
MKAR **Makanchi Array** **44.55 349***c* *e*P **P** **16 08 49.2 +0.8**
MKAR pmax pmax
comp=Z,9.0nm,0.6s
MKAR **Makanchi Array** **44.55 349** *e*P **P** **16 08 49.3 +0.8**
MKAR pP **pP** **16 08 58.8 +0.1**
MKAR S **S** **16 15 16.9 -4.9**
MKAR **Makanchi Array** **44.55 349** P **P** **16 08 49.2 +0.8**
comp=Z,9.0nm,0.6s,baz=168,slow=8.5,SNR=140
MKAR pP **pP** **16 08 58.8 +0.1**
comp=Z,27nm,0.7s,baz=168,slow=8.7,SNR=40
MKAR S **S** **16 15 16.9 -4.9**
comp=Z,0.3nm,0.4s,baz=187,slow=24,SNR=6.9
KK31 **Karatay Array** **44.68 336** *i* P **P** **16 08 49.7 +0.2**
KK31 pmax pmax
comp=Z,16nm,0.7s
KKAR **Karatay Array** **44.68 336** *e*P **P** **16 08 49.6 +0.1**
KKAR *e* 16 08 59.4
KKAR **Karatay Array** **44.68 336** *e*P **P** **16 08 49.6 +0.1**
KKAR *e* 16 08 59.4
SONM **Songino Array** **45.98 12** P **P** **16 09 00.5 +0.6**
SONM pP **pP** **16 09 10.0 -0.1**
SONM PcP **PcP** **16 10 36.6 +0.4**
SONM pPcP 16 10 47.4
SONM S S 16 15 33.8 -8.7
SONM **Songino Array** **45.98 12** P **P** **16 09 00.5 +0.6**
comp=Z,5.2nm,0.7s,baz=193,slow=8.6,SNR=35
SONM pP **pP** **16 09 10.0 -0.1**
comp=Z,12nm,0.8s,baz=195,slow=11,SNR=27
SONM PcP **PcP** **16 10 36.6 +0.4**
comp=Z,3.1nm,0.8s,baz=199,slow=4.4,SNR=4.9
SONM pPcP 16 10 47.4
comp=Z,2.8nm,0.8s,baz=202,slow=3.3,SNR=4.0
SONM S S 16 15 33.8 -8.7
comp=Z,2.2nm,0.7s,baz=185,slow=30,SNR=9.6
ULN **Ulaanbaatar** **46.15 13** *e*P **P** **16 09 00.6 -0.6**
comp=Z,7.7nm,0.8s
ULN **Ulaanbaatar** **46.15 13** P **P** **16 09 01.8 +0.6**
comp=Z,10nm,0.8s
WRA **Warramunga Arr** **46.38 121** P **P** **16 09 02.9 -0.4**
WRA **Warramunga Arr** **46.38 121** P **P** **16 09 02.9 -0.4**
comp=Z,58nm,0.6s,baz=298,slow=8.7,SNR=612
WRAB **Tennant Creek** **46.38 121** *e*P **P** **16 09 02.9 -0.4**
WRAB pmax pmax
comp=Z,66nm,0.6s
WRAB **Tennant Creek** **46.38 121** *e*P **P** **16 09 02.9 -0.4**
comp=Z,66nm,0.6s
KSAR **Wonju Array Be** **46.64 38** P **P** **16 09 05.8 +0.8**
KSAR PcP **PcP** **16 10 38.4 -0.2**
KSRS **Korea Array** **46.67 38** P **P** **16 09 05.8 +0.5**
comp=Z,3.8nm,0.8s,baz=224,slow=9.1,SNR=20
KSRS PcP **PcP** **16 10 38.4 -0.3**
comp=Z,1.1nm,0.6s,baz=231,slow=4.3,SNR=4.6
FORT **Forrest** **47.28 138** *e*P **P** **16 09 10.5 +0.3**
comp=Z,61nm,0.8s
FORT **Forrest** **47.28 138** P **P** **16 09 10.7 +0.5**
baz=47,SNR=12
ASAR **Alice Springs** **47.68 126** P **P** **16 09 13.1 -0.4**
ASAR PcP **PcP** **16 10 43.0 +0.3**
ASAR **Alice Springs** **47.68 126** P **P** **16 09 13.1 -0.4**
comp=Z,16nm,0.8s,baz=295,slow=7.8,SNR=180
ASAR PcP **PcP** **16 10 43.0 +0.3**
comp=Z,5.8nm,0.9s,baz=292,slow=3.3,SNR=9.1
AS31 **Alice Springs** **47.68 126** *e*P **P** **16 09 13.0 -0.5**
AS31 *e*PcP **PcP** **16 10 42.6 0.0**
JAY **Jayapura** **47.75 96** S S 16 15 49.8 -19
baz=48,SNR=3.0
HVS **Khovu-Aksy** **47.87 0***d* *i*P **P** **16 09 15.6 +1.1**
HVS pmax pmax
comp=Z,44nm,1.0s
TLY **Talaya** **49.19 9** *e*P **P** **16 09 24.7 +0.1**
TLY pmax pmax
comp=Z,3.0nm,0.9s
CN2 **Changchun** **49.53 30** *e*P **P** **16 09 28.8 +1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
RAYN **Ar Rayn** **50.40 298** *e*P **P** **16 09 33.5 -0.8**
comp=Z,18nm,0.8s
QIS **Mount Isa** **51.16 119** P **P** **16 09 39.9 -0.1**
baz=51,SNR=5.6
ZAA0 **Zalesovo Array** **51.16 354** *e*P **P** **16 09 40.0 +0.6**
ZAA0 *e* 16 09 50.0
ZALV **Zalesovo Beam** **51.16 354** P **P** **16 09 40.2 +0.8**
ZALV *PP **pP** **16 09 50.5 +0.8**
ZALV **Zalesovo Beam** **51.16 354** P **P** **16 09 40.2 +0.8**
ZALV pP **pP** **16 09 50.5 +0.8**
ZALV **Zalesovo Beam** **51.16 354** P **P** **16 09 40.2 +0.8**
comp=Z,9.7nm,0.5s,baz=176,slow=7.3,SNR=54
ZALV pP **pP** **16 09 50.5 +0.8**
comp=Z,22nm,0.5s,baz=188,slow=8.0,SNR=29
HIA **Hailar** **51.24 22** *e*P **P** **16 09 40.7 +0.6**
comp=Z,11nm,0.8s
HIA *e* 16 09 51.0
NVS **Novosibirsk** **52.22 353**⇓ *i*P **P** **16 09 47.4 +0.1**
NVS pmax pmax
comp=Z,31nm,1.1s
NVS pmax pmax
comp=N,12nm,0.8s
NVS pmax pmax
comp=E,9.0nm,0.8s
MDJ **Mudanjiang** **52.25 32** P **P** **16 09 48.1 +0.3**
MDJ pmax pmax
comp=Z,7.0nm,1.2s
MDJ pmax pmax
comp=Z,360nm,13.4s
VOSK **Vostochnaya** **52.79 343** P **P** **16 09 51.3 -0.3**
VOSK pmax pmax
comp=Z,30nm,0.8s
MAT **Matsushiro** **53.05 45** P **P** **16 09 53.9 0.0**
MJAR **Matsushiro Arr** **53.06 45** P **P** **16 09 54.5 +0.6**
MJAR PcP **PcP** **16 11 02.5 +0.4**
MJAR pPcP 16 11 13.2
MJAR **Matsushiro Arr** **53.06 45** P **P** **16 09 54.5 +0.6**
comp=Z,2.1nm,0.7s,baz=236,slow=6.4,SNR=9.8
MJAR PcP **PcP** **16 11 02.5 +0.4**
comp=Z,3.1nm,0.8s,baz=244,slow=4.1,SNR=7.7
MJAR pPcP 16 11 13.2
comp=Z,2.2nm,0.9s,baz=248,slow=3.8,SNR=4.1
BVA0 **Borovoye Array** **53.23 343** *i* P **P** **16 09 54.3 -0.6**
BVA0 pmax pmax
comp=Z,19nm,0.8s
BRVK **Borovoye** **53.29 343***c* *i*P **P** **16 09 55.3 0.0**
BRVK pmax pmax
comp=Z,12nm,1.2s
BRVK **Borovoye** **53.29 343** *e*P **P** **16 09 55.5 +0.2**
comp=Z,16nm,0.8s
BRVK *e* 16 09 59.2
BRVK *e* 16 10 04.9
USRK **Ussuriysk Arra** **53.30 34** P **P** **16 09 55.5 0.0**
comp=Z,3.8nm,0.8s,baz=242,slow=5.8,SNR=7.4
BBOO **Buckleboo** **53.98 135** P **P** **16 10 00.3 -0.4**
baz=54,SNR=5.8
AB31 **Akbulak array** **54.03 334** *i* P **P** **16 10 00.4 -0.4**
AB31 pmax pmax
comp=Z,5.0nm,0.5s

ABKAR	**Akbulak array**	**54.03**	**334**	*e*P		**P**	**16 10 00.7**	**-0.1**
ABKAR				*e*			16 10 10.6	
MTSU	**Mount Surprise**	**54.53**	**115**	P		**P**	**16 10 05.1**	**+0.1**
	baz=54,SNR=11							
AKTO	**Aktyubinsk**	**55.75**	**333**	P		**P**	**16 10 12.2**	**-1.0**
AKTO				pmax	pmax			
	comp=Z,12nm,1.3s							
KLR	**Kul'dur**	**56.43**	**29**	*e*P		**P**	**16 10 15.3**	**-2.8**
CTA	**Charters Tower**	**56.87**	**116**	P		**P**	**16 10 22.0**	**+0.3**
CTA	**Charters Tower**	**56.87**	**116**	P		**P**	**16 10 22.0**	**+0.3**
	comp=Z,7.5nm,0.9s,baz=272,slow=8.6,SNR=7.7							
CTAO	**Charters Tower**	**56.87**	**116**	*e*P		**P**	**16 10 19.4**	**-2.3**
CTAO				pmax	pmax			
	comp=Z,12nm,1.0s							
CTAO	**Charters Tower**	**56.87**	**116**	*e*P		**P**	**16 10 19.4**	**-2.3**
	comp=Z,12nm,1.0s							
QLP	**Quilpie**	**57.37**	**124**	P		**P**	**16 10 25.6**	**+0.4**
	baz=57,SNR=12							
STKA	**Stephens Creek**	**57.55**	**131**	*e*P		**P**	**16 10 25.8**	**-0.5**
	comp=Z,3.4nm,0.9s							
STKA	**Stephens Creek**	**57.55**	**131**	P		**P**	**16 10 26.3**	**0.0**
	comp=Z,12nm,0.6s,baz=311,slow=6.7,SNR=57							
STKA	**Stephens Creek**	**57.55**	**131**	P		**P**	**16 10 26.4**	**0.0**
	baz=57,SNR=44							
HABR	**Khabarovsk**	**57.62**	**32**	*e*P		**P**	**16 10 24.4**	**-2.1**
HABR				*e**PP		**pP**	**16 10 34.4**	**-2.6**
HABR				*e*			16 11 17.0	
HABR				*e*			16 12 32.2	
HABR				*e*PPP		PPP	16 13 49.9	
HABR				*e*S		**S**	**16 18 20.7**	**-1.5**
HABR				*e*			16 18 32.8	
HABR				*e**SS		**sS**	**16 18 37.7**	**-1.9**
HABR				*e*SS		**SS**	**16 22 12.0**	**-0.8**
HABR				pmax	pmax			
	comp=E,8.0nm,0.9s							
HABR				pmax	pmax			
	comp=N,22nm,2.4s							
HABR				pmax	pmax			
	comp=Z,24nm,2.4s							
HABR				MLR	MLR			
	comp=Z,297nm,21.0s							
ZEI	**Tsey**	**58.99**	**319**	*e*P		**P**	**16 10 36.6**	**+0.1**
ZEI				pmax	pmax			
	comp=Z,6.0nm,0.5s							
SVE	**Sverdlovsk**	**59.52**	**340**⇓	*e*P		**P**	**16 10 39.8**	**+0.2**
SVE				pmax	pmax			
	comp=Z,28nm,1.1s							
ARU	**Arti**	**59.95**	**339***c*	*i*P		**P**	**16 10 42.1**	**-0.4**
ARU							16 12 51.8	
ARU				S		**S**	**16 18 51.8**	**-0.5**
ARU				pmax	pmax			
	comp=Z,8.0nm,1.2s							
KBZ	**Khabaz**	**60.08**	**320**	P		**P**	**16 10 45.3**	**+1.6**
KBZ	**Khabaz**	**60.08**	**320**	P		**P**	**16 10 45.3**	**+1.6**
KBZ	**Khabaz**	**60.08**	**320**	P		**P**	**16 10 45.3**	**+1.6**
	comp=Z,3.0nm,0.8s,baz=100,slow=5.4,SNR=4.8							
ARPS	**Mount Arapiles**	**60.10**	**136**	P		**P**	**16 10 45.3**	**+1.3**
	baz=60,SNR=9.7							
KIV	**Kislovodsk**	**60.32**	**320**	*e*P		**P**	**16 10 46.1**	**+0.6**
KIV				pmax	pmax			
	comp=Z,20nm,1.0s							
CMSA	**Cobar Meteorol**	**60.53**	**129**	P		**P**	**16 10 47.5**	**+0.5**
	baz=60,SNR=44							
YSS	**Yuzh-Sakhalins**	**61.09**	**37**	*e*P		**P**	**16 10 51.2**	**+0.7**
YSS				pmax	pmax			
	comp=Z,30nm,1.0s							
RMQ	**Roma**	**61.11**	**122**	P		**P**	**16 10 52.4**	**+1.3**
	baz=61,SNR=11							
YUK	**Yuzh-Kuril'sk**	**61.66**	**41**	P		**P**	**16 10 53.7**	**-0.7**
YUK				S		S	16 19 07.3	-7.3
YUK				MLR	MLR			
	comp=Z,463nm,22.0s							
TOO	**Toolangi**	**63.04**	**135**	P		**P**	**16 11 05.2**	**+1.4**
	baz=63,SNR=5.6							
YNG	**Young**	**63.74**	**131**	P		**P**	**16 11 09.2**	**+0.7**
	baz=64,SNR=6.2							
YAK	**Yakutsk**	**64.77**	**18**	*e*P		**P**	**16 11 13.9**	**-0.8**
YAK				*e*			16 11 23.7	
YAK				pmax	pmax			
	comp=Z,22nm,1.1s							
YAK				pmax	pmax			
	comp=E,9.0nm,1.6s							
YAK				pmax	pmax			
	comp=N,8.0nm,1.3s							
ARMA	**Armidale**	**64.83**	**126**	*e*P		**P**	**16 11 12.7**	**-3.1**
	comp=N,26nm,1.1s							
ARMA	**Armidale**	**64.83**	**126**	P		**P**	**16 11 17.6**	**+1.8**
	baz=65,SNR=5.8							
BR131	**Keskin Array S**	**64.94**	**313**	*e*P		**P**	**16 11 16.3**	**-0.1**
	comp=N,5.1nm,0.7s							
BR131				*e*			16 11 26.1	
BRTR	**Keskin Array B**	**64.94**	**313**	P		**P**	**16 11 16.7**	**+0.3**
BRTR				pP		**pP**	**16 11 26.6**	**-0.4**
BRTR	**Keskin Array B**	**64.94**	**313**	P		**P**	**16 11 16.7**	**+0.3**
	comp=N,2.7nm,0.7s,baz=130,slow=7.4,SNR=15							
BRTR				pP		**pP**	**16 11 26.6**	**-0.4**
	comp=N,5.8nm,0.7s,baz=129,slow=7.0,SNR=16							
VORD	**Divnogorie**	**65.60**	**326**	*e*P		**P**	**16 11 22.9**	**+2.6**
VORD				pmax	pmax			
	comp=Z,7.0nm,0.8s							
VORD				pmax	pmax			
	comp=N,110nm,0.6s							
VORD				pmax	pmax			
	comp=E,110nm,0.6s							
VSR	**Storozhevoye**	**65.79**	**326**	*e*P		P	16 11 27.9	+6.4
VSR				pmax	pmax			
	comp=Z,4.0nm,0.4s							
VSR				pmax	pmax			
	comp=N,7.0nm,0.7s							
VSR				pmax	pmax			
	comp=E,10.0nm,0.6s							
SIM	**Simferopol'**	**66.33**	**318***d*	*i*P		**pP**	**16 11 35.8**	**0.0**
SIM				pmax	pmax			
	comp=Z,46nm,0.7s							
HNR	**Honiara**	**67.59**	**101**	P		**P**	**16 11 33.9**	**+0.2**
HNR	**Honiara**	**67.59**	**101**	P		**P**	**16 11 33.9**	**+0.2**
	comp=Z,44nm,0.8s,baz=278,slow=4.3,SNR=5.4							
MOS	**Moscow**	**68.71**	**330**	*e*P		**P**	**16 11 39.4**	**-0.5**
MOS				*e*			16 11 45.8	
OBN	**Obninsk**	**68.96**	**329**⇑	*i*P		**P**	**16 11 41.2**	**-0.3**
OBN				*e*S		**S**	**16 20 48.7**	**+5.1**
OBN				pmax	pmax			
	comp=Z,31nm,2.5s							
OBN				MLR	MLR			
	comp=Z,200nm,17.0s							
TIRR	**Tirgusor**	**70.04**	**316**	⇑P		**P**	**16 11 49.0**	**+0.6**
TIRR	**Tirgusor**	**70.04**	**316**	*e*P		**P**	**16 11 48.5**	**+0.2**
TIRR	**Tirgusor**	**70.04**	**316**	⇑*i*P		**P**	**16 11 49.0**	**+0.6**
CFR	**Carcaliu**	**70.42**	**317**	⇑P		**P**	**16 11 51.4**	**+0.7**
CFR	**Carcaliu**	**70.42**	**317**	⇑*i*P		**P**	**16 11 51.4**	**+0.7**
LBTB	**Lobatse**	**71.24**	**242**	*e*P		**P**	**16 11 54.2**	**-2.0**
	comp=Z,12nm,0.9s							
KIEV	**Kiev**	**71.38**	**323**	*e*P		**P**	**16 11 55.6**	**-0.8**
KIEV				*e*			16 12 05.4	
KIEV	**Kiev**	**71.38**	**323**	*e*P		**P**	**16 11 55.6**	**-0.8**
KIEV				*e*			16 12 05.4	
VRI	**Vrincioaia**	**71.56**	**317**	⇑P		**P**	**16 11 58.9**	**+1.2**
VRI	**Vrincioaia**	**71.56**	**317**	⇑*i*P		**P**	**16 11 58.9**	**+1.2**
PLOR	**Plostina**	**71.61**	**317**	⇓P		**P**	**16 11 59.2**	**+1.2**
PLOR	**Plostina**	**71.61**	**317**	⇓*i*P		**P**	**16 11 59.2**	**+1.2**
TESR	**Tescani**	**71.78**	**318**	⇑*i*P		**P**	**16 11 59.8**	**+0.8**
MLR	**Muntele Rosu**	**72.00**	**317**	⇓*i*P		**P**	**16 12 01.2**	**+0.8**
TIXI	**Tiksi**	**72.05**	**11***d*	*i*P		**P**	**16 11 59.8**	**-0.2**
TIXI				pmax	pmax			
	comp=Z,38nm,1.7s							
BOSA	**Boshof**	**72.35**	**239**	P		**P**	**16 12 03.0**	**+0.1**
BOSA	**Boshof**	**72.35**	**239**	P		**P**	**16 12 03.0**	**+0.1**
	comp=Z,4.7nm,0.9s,baz=40,slow=7.4,SNR=3.4							
PETK	**Petropavlovsk-**	**72.38**	**35**	P		**P**	**16 12 01.4**	**-1.0**
PETK	**Petropavlovsk-**	**72.38**	**35**	P		**P**	**16 12 01.4**	**-1.0**
PETK	**Petropavlovsk-**	**72.38**	**35**	P		**P**	**16 12 01.4**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=186,slow=4.2,SNR=5.5							
VOIR		**72.59**	**317**	⇑P		**P**	**16 12 04.1**	**+0.2**
VOIR		**72.59**	**317**	⇑*i*P		**P**	**16 12 04.1**	**+0.2**
ARR	**Arges**	**72.86**	**317**	⇑*i*P		**P**	**16 12 05.3**	**-0.2**
BUR08	**Bucovina Ar. S**	**73.03**	**319**	*e*P		**P**	**16 12 07.5**	**+1.0**
BUR08				*e*			16 12 17.7	
VTS	**Vitosha**	**73.27**	**314**	⇓P		**P**	**16 12 06.0**	**-2.1**
VTS	**Vitosha**	**73.27**	**314**	⇓*i*P		**P**	**16 12 06.0**	**-2.1**
MAW	**Mawson**	**73.72**	**192**	P		**P**	**16 12 10.5**	**+0.6**
MAW	**Mawson**	**73.72**	**192**	P		**P**	**16 12 10.5**	**+0.6**
	comp=Z,5.1nm,0.9s,baz=350,slow=5.3,SNR=7.7							
MAW	**Mawson**	**73.72**	**192**	P		**P**	**16 12 11.9**	**+2.0**
	baz=74,SNR=5.7							
LVV	**L'vov**	**74.32**	**321**	*e*P		P	16 12 18.2	+4.3
DRGR		**74.48**	**318**	⇑P		**P**	**16 12 13.7**	**-1.3**
DRGR		**74.48**	**318**	⇑*i*P		**P**	**16 12 13.7**	**-1.3**
KWP	**Kalwaria Pacla**	**75.11**	**321**	⇓P		**P**	**16 12 18.5**	**0.0**
KWP	**Kalwaria Pacla**	**75.11**	**321**	*e*P		**P**	**16 12 18.2**	**-0.2**
	comp=Z,26nm,1.0s							
KWP				*e*			16 12 29.0	
KWP	**Kalwaria Pacla**	**75.11**	**321**	⇓*i*P		**P**	**16 12 18.5**	**0.0**
KWP	**Kalwaria Pacla**	**75.11**	**321**	*e*P		**P**	**16 12 19.2**	**+0.7**
KWP				*e*pP		**pP**	**16 12 29.3**	**0.0**
UZH	**Uzhgorod**	**75.15**	**320**	*e*P		**P**	**16 12 21.3**	**+2.6**
UZH				*i*			16 12 29.5	
KOLS	**Kolonicke sedl**	**75.23**	**320**	*e*P		**P**	**16 12 20.7**	**+1.5**
KOLS				pmax	pmax			
	comp=Z,5.0nm,0.9s							
KOLS	**Kolonicke sedl**	**75.23**	**320**	*e*P		**P**	**16 12 20.7**	**+1.5**
KOLS				*e*pP		**pP**	**16 12 30.5**	**+0.5**
SUW	**Suwalki**	**75.87**	**325**	*e*P		**P**	**16 12 22.5**	**-0.2**
SUW				*e*			16 12 32.3	
SUW				pmax	pmax			
	comp=Z,57nm,0.9s							
SUW	**Suwalki**	**75.87**	**325**	*e*P		**P**	**16 12 22.5**	**-0.2**
	comp=Z,57nm,0.9s							
SUW				*e*			16 12 32.3	
SUW	**Suwalki**	**75.87**	**325**	*e*P		**P**	**16 12 22.8**	**+0.1**
SUW				*e*pP		**pP**	**16 12 32.7**	**-0.8**
STHS	**Stebnicka Huta**	**75.99**	**320**	*e*P		**P**	**16 12 25.3**	**+1.7**
STHS				pmax	pmax			
	comp=Z,5.0nm,1.0s							
STHS	**Stebnicka Huta**	**75.99**	**320**	*e*P		**P**	**16 12 25.3**	**+1.7**
STHS				*e*pP		**PcP**	**16 12 35.3**	**-0.5**
KECS	**Kecovo**	**76.30**	**319**	*e*P		**P**	**16 12 26.1**	**+0.8**
KECS				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KECS	**Kecovo**	**76.30**	**319**	*e*P		**P**	**16 12 26.1**	**+0.8**
KECS				*e*pP		**pP**	**16 12 36.1**	**0.0**
FINES	**FINESS Array B**	**76.52**	**333**	P		**P**	**16 12 26.1**	**-0.1**
FINES				pP		**pP**	**16 12 36.3**	**-0.8**
FINES	**FINESS Array B**	**76.52**	**333**	P		**P**	**16 12 26.1**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=86,slow=5.2,SNR=12							
FINES				pP		**pP**	**16 12 36.3**	**-0.8**
	comp=Z,8.5nm,0.8s,baz=106,slow=6.8,SNR=14							
PSZ	**Piszkesteto**	**76.58**	**319**	*e*P		**P**	**16 12 27.5**	**+0.5**
PSZ				pmax	pmax			
	comp=Z,4.0nm,0.8s							
PSZ	**Piszkesteto**	**76.58**	**319**	*e*P		**P**	**16 12 27.5**	**+0.5**
	comp=Z,4.0nm,0.8s							
OJC	**Ojcow**	**77.07**	**321**	*e*P		**P**	**16 12 28.3**	**-1.4**
OJC				pmax	pmax			
	comp=Z,16nm,0.9s							
OJC	**Ojcow**	**77.07**	**321**	*e*P		**P**	**16 12 28.3**	**-1.4**
	comp=Z,16nm,0.9s							
OJC	**Ojcow**	**77.07**	**321**	*e*P		pP	16 12 40.2	-0.3
VYHS	**Vyhne**	**77.38**	**319**	*e*P		**P**	**16 12 32.3**	**+0.9**
VYHS				pmax	pmax			
	comp=Z,4.0nm,1.3s							
VYHS	**Vyhne**	**77.38**	**319**	*e*P		**P**	**16 12 32.3**	**+0.9**
VYHS				*e*pP		**pP**	**16 12 42.1**	**-0.2**
OKC	**Ostrava-Krasne**	**78.05**	**320**	*e*P		**P**	**16 12 36.3**	**+1.2**
OKC				*e*			16 12 46.4	
OKC	**Ostrava-Krasne**	**78.05**	**320**	*e*P		**P**	**16 12 36.3**	**+1.2**
OKC				*e*pP		**pP**	**16 12 46.4**	**+0.4**
ZST	**Bratislava**	**78.48**	**318**	*e*pP		pP	16 12 47.8	-0.6
DPC	**Dobruska-Polom**	**79.29**	**321**	*e*P		**P**	**16 12 43.5**	**+1.5**
DPC				*e*			16 12 53.1	
DPC	**Dobruska-Polom**	**79.29**	**321**	*e*P		**P**	**16 12 43.5**	**+1.5**
DPC				*e*PCP		**PcP**	**16 12 47.6**	**-2.5**
DPC				*e*pP		**pP**	**16 12 53.1**	**+0.2**
KSP	**Ksiaz**	**79.38**	**321**	*e*P		**P**	**16 12 44.4**	**+2.0**
KSP				*e**PP		**pP**	**16 12 53.5**	**+0.2**
BOJS	**Bojanci**	**79.39**	**316**	*i*P		**P**	**16 12 43.3**	**+0.7**
BOJS				*i*			16 12 52.9	
ARCES	**ARCESS Array B**	**79.44**	**341**	P		**P**	**16 12 42.7**	**+0.3**
ARCES	**ARCESS Array B**	**79.44**	**341**	P		**P**	**16 12 42.7**	**+0.3**
	comp=Z,3.7nm,1.0s,baz=74,slow=5.2,SNR=8.8							
UPC	**Upice**	**79.51**	**321**	*e*P		**P**	**16 12 44.2**	**+1.1**
UPC				*e*			16 12 54.6	
UPC	**Upice**	**79.51**	**321**	*e*P		**P**	**16 12 44.2**	**+1.1**
UPC				*e*pP		**pP**	**16 12 54.6**	**+0.6**
PERS	**Pernice**	**79.61**	**317**	*i*P		**P**	**16 12 44.4**	**+0.5**
PERS				*i*			16 12 54.6	
SOKA	**Soboth**	**79.67**	**317**⇓	*i*P		**P**	**16 12 45.1**	**+0.9**
	comp=Z,6.7nm,0.8s							
TREC	**Trest**	**79.69**	**319**	*e*P		**P**	**16 12 45.0**	**+0.9**
TREC				*e*			16 12 49.7	
TREC				*e*			16 12 55.3	
TREC	**Trest**	**79.69**	**319**	*e*P		**P**	**16 12 45.0**	**+0.9**
TREC				*e*PCP		**PcP**	**16 12 49.7**	**-2.1**
TREC				*e*pP		**pP**	**16 12 55.3**	**+0.3**
VISS	**Visnje**	**79.71**	**316**	*i*P		**P**	**16 12 44.7**	**+0.4**
VISS				*i*			16 12 55.0	
JAVS	**Javornik**	**80.26**	**316**	*i*P		**P**	**16 12 48.1**	**+0.7**
JAVS				*i*			16 12 57.9	
PRU	**Pruhonice**	**80.38**	**320**	*e*P		**P**	**16 12 48.8**	**+1.0**
PRU				*e*			16 12 58.2	
PRU	**Pruhonice**	**80.38**	**320**	*e*P		**P**	**16 12 48.8**	**+1.0**
PRU				*e*PCP		**PcP**	**16 12 53.3**	**-1.5**
PRU				*e*pP		**pP**	**16 12 58.2**	**-0.5**
PVCC	**Panska Ves**	**80.42**	**321**	*e*P		**P**	**16 12 49.4**	**+1.3**
PVCC				*e*			16 12 59.2	
PVCC	**Panska Ves**	**80.42**	**321**	*e*P		**P**	**16 12 49.4**	**+1.3**
PVCC				*e*PCP		**PcP**	**16 12 52.9**	**-2.1**
PVCC				*e*pP		**pP**	**16 12 59.2**	**+0.2**
GEC2	**GERESS Array S**	**80.80**	**319**	*e*P		**P**	**16 12 51.1**	**+0.8**
	comp=Z,12nm,0.9s							
GEC2	**GERESS Array S**	**80.80**	**319**	*e*P		**P**	**16 12 51.1**	**+0.8**
GEC2				pmax	pmax			
	comp=Z,44nm,0.9s							
GERES	**GERESS Array B**	**80.80**	**319**	P		**P**	**16 12 51.0**	**+0.8**
GERES				pP		**pP**	**16 13 00.6**	**-0.5**
GERES	**GERESS Array B**	**80.80**	**319**	P		**P**	**16 12 51.0**	**+0.8**
	comp=Z,7.6nm,0.8s,baz=94,slow=5.4,SNR=52							
GERES				pP		**pP**	**16 13 00.6**	**-0.5**
	comp=Z,15nm,0.8s,baz=94,slow=5.5,SNR=26							
BILL	**Bilibino**	**80.82**	**21**⇓	*e*P		**P**	**16 12 50.6**	**+0.8**
BILL				*e*			16 15 57.2	
BILL				*e*S		**S**	**16 22 54.7**	**-0.6**
BILL				pmax	pmax			
	comp=Z,3.0nm,1.2s							
BRG	**Berggiesshubel**	**80.86**	**321**	*i* PKP		P	**16 12 51.4**	**+1.0**
	comp=Z,8.5nm,1.0s							
BRG				*i*			16 13 01.4	
	comp=Z,18nm,1.0s							
BRG	**Berggiesshubel**	**80.86**	**321**	*i* P		**P**	**16 12 51.4**	**+1.0**
BRG				*i*			16 13 01.4	
BRG				pmax	pmax			
	comp=Z,3.0nm,1.0s							
BRG				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KHC	**Kasperske Hory**	**80.91**	**319**	*e*P		**P**	**16 12 51.3**	**+0.5**
KHC				*e*			16 13 01.4	
KHC	**Kasperske Hory**	**80.91**	**319**	*e*P		**P**	**16 12 51.3**	**+0.5**
KHC				*e*PCP		**PcP**	**16 12 56.6**	**-0.6**
KHC				*e*pP		**pP**	**16 13 01.4**	**-0.3**
KHC	**Kasperske Hory**	**80.91**	**319**	*e*P		**P**	**16 12 51.2**	**+0.4**
	comp=Z,5.1nm,0.7s							
KHC				*e*			16 13 01.2	
RJOB	**Jochberg**	**81.30**	**318**	*e*P		**P**	**16 12 52.9**	**0.0**
	comp=Z,5.0nm,0.9s							
WET	**Wettzell**	**81.37**	**319**	*e*P		**P**	**16 12 54.0**	**+0.8**
	comp=Z,5.0nm,1.0s							
WET	**Wettzell**	**81.37**	**319**	*e*P		**P**	**16 12 54.0**	**+0.8**
WET				pmax	pmax			
	comp=Z,49nm,1.0s							
ABTA	**Abfaltersbach**	**81.41**	**317**⇑	*i*P		**P**	**16 12 53.4**	**-0.1**
	comp=Z,4.6nm,0.9s							
FX1	**Attu Island--F**	**81.44**	**37**	*e*P		**P**	**16 12 53.7**	**+0.3**
CLL	**Collm**	**81.50**	**321**	*e*P		**P**	**16 12 54.0**	**+0.3**
	comp=Z,5.0nm,0.9s							
CLL	**Collm**	**81.50**	**321**	*e*P		**P**	**16 12 54.0**	**+0.3**
CLL				*i*			16 13 04.1	
CLL				*i*			16 13 09.4	
CLL				pmax	pmax			
	comp=Z,5.0nm,0.9s							
CLL	**Collm**	**81.50**	**321**	*e*P		**P**	**16 12 54.0**	**+0.3**
	comp=Z,5.0nm,0.9s							
CLL				*i* pP		**pP**	**16 13 04.1**	**-0.5**
	comp=Z,12nm,1.0s							
CLL				*i* (sP)		**sP**	**16 13 09.4**	**+0.8**
ROTZ	**Rotzenmuhle**	**81.86**	**320**	*e*P		**P**	**16 12 56.9**	**+1.2**
	comp=Z,5.0nm,1.0s							
MOX	**Moxa**	**82.31**	**321**	*e*P		**P**	**16 12 58.7**	**+0.6**
	comp=Z,25nm,2.3s							
MOX	**Moxa**	**82.31**	**321**	*e*P		**P**	**16 12 58.7**	**+0.6**
MOTA	**Moosalm**	**82.41**	**317**⇓	*i*P		**P**	**16 12 58.5**	**-0.4**
	comp=Z,7.5nm,0.9s							
GRF	**Grafenberg Arr**	**82.49**	**320**	*e*P		**P**	**16 13 00.1**	**+1.0**
	comp=Z,18nm,1.3s							
GRF	**Grafenberg Arr**	**82.49**	**320**	*e*P		**P**	**16 13 00.1**	**+1.0**
GRF				pmax	pmax			
	comp=Z,3.0nm,1.3s							
RETA	**Reutte**	**82.65**	**317**⇑	*i*P		**P**	**16 13 00.2**	**+0.2**
	comp=Z,5.8nm,0.6s							
FUORN	**Ofenpass-Fuorn**	**82.94**	**316**	*e*P		**P**	**16 13 03.4**	**+1.6**
	comp=Z,31nm,1.4s							
CLZ	**Clausthal**	**83.17**	**322**	*e*P		**P**	**16 13 03.1**	**+0.5**
	comp=Z,6.0nm,0.9s							
CLZ	**Clausthal**	**83.17**	**322**	*e*P		**P**	**16 13 03.1**	**+0.5**
KEST	**Kesra**	**83.26**	**305**	P		**P**	**16 13 02.3**	**-1.2**
KEST	**Kesra**	**83.26**	**305**	P		**P**	**16 13 03.3**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=230,slow=5.1,SNR=6.1							
UBBA	**Unterbreizbach**	**83.34**	**321**	*e*P		**P**	**16 13 03.9**	**+0.6**
	comp=Z,3.0nm,1.0s							
BSEG	**Bad Segeberg**	**83.35**	**324**	*e*P		**P**	**16 13 03.9**	**+0.6**
	comp=Z,1.1nm,0.8s							
BSEG	**Bad Segeberg**	**83.35**	**324**	*e*P		**P**	**16 13 03.9**	**+0.6**
NRDL	**Niedersach Rie**	**83.38**	**322**	*e*P		**P**	**16 13 04.3**	**+0.9**
	comp=Z,6.0nm,1.4s							
NB2	**NORSAR Subarra**	**83.44**	**331**	P		**P**	**16 13 03.0**	**-0.8**
	comp=Z,6.9nm,0.9s,baz=95,slow=5.3							
NOA	**NORSAR Array B**	**83.44**	**331**	P		**P**	**16 13 03.1**	**-0.6**
NOA				pP		**pP**	**16 13 13.8**	**-0.9**
NOA	**NORSAR Array B**	**83.44**	**331**	P		**P**	**16 13 03.1**	**-0.6**
	comp=Z,2.3nm,0.9s,baz=99,slow=5.6,SNR=5.9							
NOA				pP		**pP**	**16 13 13.8**	**-0.9**
	comp=Z,4.8nm,0.9s,baz=94,slow=5.5,SNR=8.7							
PGF	**Pioggiola**	**83.69**	**312**	*e*P		**P**	**16 13 06.3**	**+0.8**
TNS	**Taunus Mts**	**84.31**	**320**	*e*P		**P**	**16 13 09.0**	**+0.6**
	comp=Z,7.0nm,0.8s							
TNS	**Taunus Mts**	**84.31**	**320**	*e*P		**P**	**16 13 09.0**	**+0.6**
TNS				pmax	pmax			
	comp=Z,76nm,0.8s							
BFO	**Black Forest**	**84.32**	**318**	*e*P		**P**	**16 13 08.5**	**0.0**
	comp=Z,5.0nm,0.9s							
BFO	**Black Forest**	**84.32**	**318**	*e*P		**P**	**16 13 08.5**	**0.0**
BFO				pmax	pmax			
	comp=Z,67nm,0.9s							
SBF	**Sospel**	**84.86**	**314**	*e*P		**P**	**16 13 12.1**	**+0.7**
	comp=Z,28nm,0.7s							
SENIN	**Lac Senin/Sane**	**84.98**	**316**	*e*P		**P**	**16 13 10.6**	**-1.5**
	comp=Z,57nm,1.8s							
CDF	**Champ du Feu**	**85.03**	**318**	*e*P		**P**	**16 13 12.3**	**+0.1**
	comp=Z,7.7nm,0.9s							
BUG	**Bochum--Univer**	**85.09**	**321**	*e*P		**P**	**16 13 12.7**	**+0.5**
	comp=Z,12nm,0.9s							
MBDF	**Montbardon**	**85.34**	**314**	*e*P		**P**	**16 13 13.9**	**0.0**
LPG	**La Plagne**	**85.36**	**315**	*e*P		**P**	**16 13 14.8**	**+0.7**
	comp=Z,16nm,0.6s							
LPL	**La Plagne**	**85.37**	**315**	*e*P		**P**	**16 13 14.8**	**+0.7**
	comp=Z,18nm,0.7s							
FRF	**La Foret Royal**	**85.42**	**313**	*e*P		**P**	**16 13 15.1**	**+1.0**
	comp=Z,19nm,0.8s							
HAU	**Haudompre**	**85.64**	**318**	*e*P		**P**	**16 13 15.4**	**+0.2**
	comp=Z,19nm,0.8s							
CABF	**La Chapelle**	**85.82**	**316**	*e*P		**P**	**16 13 17.0**	**+0.8**
	comp=Z,21nm,0.9s							
ORIF	**Oris-en-Rattie**	**85.97**	**315**	*e*P		**P**	**16 13 17.9**	**+0.9**
	comp=Z,7.1nm,0.6s							
SMRF	**Simiane la Rot**	**86.20**	**314**	*e*P		**P**	**16 13 19.2**	**+1.2**
MEZF	**Maizieres J'vi**	**86.51**	**318**	*e*P		**P**	**16 13 20.0**	**+0.6**
SFTF	**Sexfontaines**	**86.52**	**318**	*e*P		**P**	**16 13 19.9**	**+0.4**
	comp=Z,32nm,0.8s							
GIVF	**Givet**	**86.64**	**320**	*e*P		**P**	**16 13 20.6**	**+0.6**
TAM	**Tamanrasset**	**86.73**	**293**	*e*P		**P**	**16 13 23.2**	**+2.0**
TAM				pmax	pmax			
	comp=Z,5.0nm,1.0s							
TAM	**Tamanrasset**	**86.73**	**293**	*e*P		**P**	**16 13 23.2**	**+2.0**
	comp=Z,4.9nm,1.0s							
VIVF	**Saint-Julien-l**	**86

HUIG				*e*S	Sb	16 33 35.4	-3.7
PCIG		**1.96**	**90**	*i* P	Pn	16 33 41.5	-3.3
PCIG				*e*S	Sn	16 34 04.3	-4.7
TGIG		**2.31**	**62**	*i* P	Pn	16 33 46.9	-2.7
TGIG				*e*S	Sn	16 34 13.2	-4.6

*JMA **06** 16:46:56.9±0.4, 24.°27N×121.°59E, h72km, M2.2*
*ISCJB **06** 16:46:57.8±0.4, 24.°21N±0.°02×121.°79E±0.°02, h8km±3km, Error ellipse: s-maj=3.7km s-min=2.2km az=37.9*
*TAP **06** 16:46:57.6, 24.°20N×121.°78E, h11km, ML3.0, C*
ISC 06 16:46:58.2±1.1, 24°22N±0°02×121°76E±0°03, h11km±7km, n39, σ0°69/55, 3C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village** baz=347	**0.10**	**348**	P	**Pg**	**16 47 00.5**	**-0.3**
EHP				S	**Sg**	**16 47 02.8**	**0.0**
TWD	**Chiawan** baz=239	**0.20**	**228**	⇓*i* P	**Pg**	**16 47 02.1**	**-0.5**
TWD				*i* S	**Sg**	**16 47 05.6**	**+0.1**
ENA	**Nanau** baz=354	**0.21**	**354**	⇑*i* P	**Pg**	**16 47 02.6**	**-0.1**
ENA				S	**Sg**	**16 47 06.0**	**+0.3**
HWA	**Hwalien** baz=224	**0.28**	**211**	*e*P	**Pg**	**16 47 04.5**	**+0.6**
TWC	**Suao** baz=4.0	**0.40**	**11**	P	**Pg**	**16 47 05.9**	**-0.2**
TWC				S	**Sg**	**16 47 12.2**	**+0.8**
NNS	**Nan Shan** baz=304	**0.42**	**302**	⇑P	**Pg**	**16 47 06.5**	**-0.1**
NNS				S	**Sg**	**16 47 12.6**	**+0.4**
WHF	**Hehuan Shan** baz=264	**0.46**	**261**	⇑*i* P	**Pg**	**16 47 07.1**	**-0.3**
WHF				S	**Sg**	**16 47 13.6**	**+0.1**
ESL	**Shilin** baz=228	**0.50**	**217**	*e*P	**Pg**	**16 47 07.3**	**-0.7**
ESL				*e*S	**Sg**	**16 47 15.8**	**+1.1**
TWE	**Neicheng** baz=351	**0.51**	**350**	*i* P	**Pg**	**16 47 08.3**	**+0.1**
TWE				S	**Sg**	**16 47 14.7**	**-0.3**
TWT	**Tachien** baz=276	**0.54**	**274**	P	**Pg**	**16 47 09.0**	**+0.2**
TWT				S	**Sg**	**16 47 16.7**	**+0.8**
ILA	**Ilan** baz=353	**0.55**	**359**	P	**Pg**	**16 47 08.7**	**-0.2**
ILA				*e*S	**Sg**	**16 47 16.9**	**+0.7**
TWA	**Mucha** baz=338	**0.78**	**348**	*e*P	**Pg**	**16 47 13.3**	**0.0**
NSTT	**Nanjuang** baz=302	**0.81**	**301**	*e*P	**Pg**	**16 47 14.1**	**+0.2**
NSTT				*e*S	**Sg**	**16 47 24.9**	**+0.5**
TWB1	**Santiao Chiao** baz=14	**0.81**	**15**	*e*P	**Pg**	**16 47 13.7**	**-0.2**
TWB1				*e*S	**Sg**	**16 47 25.4**	**+0.8**
EHY	**Hungye** baz=221	**0.81**	**210**	*e*P	**Pg**	**16 47 13.4**	**-0.5**
EHY				*e*S	**Sg**	**16 47 25.4**	**+0.8**
NWF	**Wu-fen Shan** baz=353	**0.85**	**1**	*e*P	**Pg**	**16 47 14.7**	**0.0**
NWF				*e*S	**Sg**	**16 47 25.8**	**0.0**
SMLT	**Sun Moon Lake** baz=249	**0.86**	**247**	*e*P	**Pg**	**16 47 14.6**	**-0.2**
SMLT				*e*S	**Sg**	**16 47 25.1**	**-0.8**
TYC	**Yuchr** baz=243	**0.89**	**250**	*e*P	**Pg**	**16 47 14.9**	**-0.4**
TYC				S	**Sg**	**16 47 26.2**	**-0.7**
TWQ1	**Liyutan** baz=281	**0.91**	**278**	*e*P	**Pg**	**16 47 15.7**	**-0.2**
TWS1	**Kuangyinshan** baz=340	**0.94**	**340**	*e*P	**Pg**	**16 47 15.7**	**-0.6**
TWS1				*e*S	**Sg**	**16 47 29.5**	**+1.0**
NSY	**Sanyi** baz=285	**0.94**	**282**	*e*P	**Pg**	**16 47 15.5**	**-0.7**
TWF1	**Yuli** baz=220	**0.96**	**206**	*e*P	Pg	16 47 15.5	-1.2
TWF1				*e*S	**Sg**	**16 47 30.2**	**+0.9**
TCU	**Taichung** baz=269	**1.00**	**266**	*e*P	**Pg**	**16 47 19.0**	**+1.6**
YUS	**Yu-Shan** baz=228	**1.04**	**226**	*e*P	**Pg**	**16 47 17.8**	**-0.5**
YUS				*e*S	**Sg**	**16 47 31.8**	**0.0**
TWY	**Chenhua** baz=337	**1.06**	**352**	*e*P	**Pg**	**16 47 17.2**	**-1.5**
ALS	**Alishan** baz=234	**1.12**	**231**	*e*P	**Pg**	**16 47 19.6**	**-0.4**
ALS				*e*S	**Sg**	**16 47 35.1**	**+0.5**
YOJ	**Yonaguni jima**	**1.16**	**78**	P	Pg	16 47 19.7	-0.9
YOJ				*e*S	**Sg**	**16 47 36.8**	**+1.0**
CHN5	**Tsauling** baz=242	**1.17**	**238**	*e*P	**Pg**	**16 47 20.9**	**+0.2**
CHN5				*e*S	**Sg**	**16 47 37.6**	**+1.6**
CHKT	**Chengkung** baz=200	**1.17**	**198**	*e*P	Pg	16 47 19.3	-1.5
CHKT				*e*S	**Sg**	**16 47 37.0**	**+1.0**
WGK	**Gukeng** baz=248	**1.22**	**245**	*e*P	Pg	16 47 19.7	-2.0
ELDTW	**Lidau** baz=204	**1.23**	**214**	*e*P	Pg	16 47 20.1	-1.8
ELDTW				*e*S	**Sg**	**16 47 37.1**	**-0.9**
WTP	**Ta-pu** baz=231	**1.43**	**228**	*e*P	Pn	16 47 24.6	+0.4
WTP				*e*S	**Sg**	**16 47 43.7**	**-0.5**
CHN1	**Nanshi** baz=232	**1.53**	**228**	*e*P	Pn	16 47 25.6	+0.1
SGST	**Jiashian** baz=228	**1.56**	**224**	*e*P	Pn	16 47 25.8	-0.2
SGST				*e*S	Sn	16 47 48.7	+2.4
ECL	**Taimali** baz=194	**1.78**	**205**	*e*P	Pn	16 47 28.0	-0.9
IRIF	**Iriomote-Funau**	**1.80**	**86**	P	Pn	16 47 28.5	-0.7
IRIF				*e*S	**Sn**	**16 47 52.4**	**+0.3**
HATJ	**Hateruma jima**	**1.87**	**94**	P	Pn	16 47 29.5	-0.7
HATJ				*e*S	**Sn**	**16 47 53.6**	**-0.3**
JKRS	**Kuro-shima**	**2.05**	**89**	P	Pn	16 47 32.6	-0.1
JKRS				*e*S	**Sn**	**16 47 58.7**	**+0.4**
JIJ	**Ishigaki jima**	**2.18**	**86**	P	Pn	16 47 33.4	-1.0
JIJ				*e*S	**Sn**	**16 48 00.0**	**-1.4**

*IDC **06** 16:53:06.1±1.4, 8.°71N×127.°03E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/25, mbtmp3.8/7, ML4.1/1, Error ellipse: s-maj=35.1km s-min=20.4km az=63.0*
*ISCJB **06** 16:53:10.3±0.9, 8.°67N±0.°08×126.°81E±0.°07, h39km, mb3.6/6, Error ellipse: s-maj=13.0km s-min=7.3km az=35.8*
ISC 06 16:53:12.2±1.1, 8°71N±0°07×126°77E±0°10, h39km, n16, σ1°60/19, mb3.5/6, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.16**	**283**	*e*P	**Pn**	**16 53 30.3**	**-1.6**
BUTP				*e*S	**Sn**	**16 53 45.2**	**-1.5**
MATI	**Mati**	**1.83**	**196**	*e*P	**Pn**	**16 53 41.0**	**-0.1**
BUKP	**Musuan**	**1.88**	**244**	*e*P	**Pn**	**16 53 41.4**	**-0.5**
DAV	**Davao City (W)** 51nm,0.3s,baz=58,slow=4.8,SNR=4.6	**2.01**	**216**	Pn	**Pn**	**16 53 44.4**	**+0.7**
DAV				Sn	**Sn**	**16 54 11.5**	**+3.9**
CGP	**Cagayan de Oro** 89nm,0.3s,baz=132,slow=23,SNR=11	**2.07**	**263**	⇑*i* P	**Pn**	**16 53 43.5**	**-0.9**
CGP				*i* S	**Sn**	**16 54 07.6**	**-1.4**
MSLP	**Maasin**	**2.36**	**307**	*e*P	**Pn**	**16 53 49.8**	**+1.5**
CTBH	**Cotabato--PC H**	**2.91**	**240**	⇓*i* P	**Pn**	**16 53 55.0**	**-0.9**
TBP	**Tagbilaran**	**3.03**	**289**	*e*P	**Pn**	**16 53 58.2**	**+0.6**
IPIL	**Ipil**	**4.26**	**258**	*e*P	**Pn**	**16 54 16.4**	**+1.9**
GUIM	**Jordan**	**4.54**	**295**	*e*P	**Pn**	**16 54 19.3**	**+0.9**
FITZ	**Fitzroy Crossi** 6.0nm,0.7s,baz=12,slow=8.9,SNR=19	**26.67**	**182**	P	**P**	**16 58 46.0**	**-1.6**
CMAR	**Chiang Mai Arr** 0.4nm,0.7s,baz=111,slow=7.5,SNR=5.1	**28.69**	**293**	P	**P**	**16 59 07.8**	**+1.9**
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=345,slow=9.1,SNR=11	**29.43**	**165**	P	**P**	**16 59 11.2**	**-1.1**
ASAR	**Alice Springs** 0.3nm,0.3s,baz=347,slow=7.4,SNR=19	**32.93**	**168**	P	**P**	**16 59 42.0**	**-1.1**
STKA	**Stephens Creek** 2.5nm,1.0s,baz=329,slow=9.8,SNR=5.1	**42.78**	**161**	P	**P**	**17 01 05.2**	**-0.9**
MKAR	**Makanchi Array** 0.4nm,0.8s,baz=107,slow=6.6,SNR=4.6	**53.56**	**323**	P	**P**	**17 02 29.5**	**+0.3**

IDC 06 17:13:25.4±2.0, 17.°12S×178.°69W, h548km±31km, mb3.3/5, mb1 3.5/6, mb1mx3.1/21, mbtmp3.3/6, Error ellipse: s-maj=86.8km s-min=17.8km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 2.5nm,0.3s,baz=94,slow=19,SNR=4.9	**7.39**	**65**	P	P	17 15 17.2	0.0
STKA	**Stephens Creek** 3.4nm,0.5s,baz=92,slow=9.6,SNR=26	**38.78**	**240**	P	P	17 20 03.2	-0.1
WRA	**Warramunga Arr** 1.7nm,0.5s,baz=94,slow=6.9,SNR=74	**44.52**	**259**	P	P	17 20 48.5	-0.3
ASAR	**Alice Springs** 17nm,0.5s,baz=89,slow=7.8,SNR=701	**44.75**	**253**	P	P	17 20 50.5	-0.1
ASAR				PcP	PcP	17 22 19.9	-1.1
FITZ	**Fitzroy Crossi** 0.7nm,0.6s,baz=93,slow=3.9,SNR=4.3	**52.90**	**260**	P	P	17 21 50.7	-0.1
ILAR	**Eielson Array** 0.5nm,0.3s,baz=77,slow=6.0,SNR=11	**85.18**	**13**	P	P	17 25 03.0	-0.5
BRTR	**Keskin Array B** 0.3nm,0.4s,baz=161,slow=7.9,SNR=3.8	**144.04**	**315**	PKP	PKPdf	17 31 59.1	0.0
GERES	**GERESS Array B** 0.3nm,0.5s,baz=324,slow=4.8,SNR=4.0	**146.79**	**345**	PKPbc	PKPbc	17 32 06.2	0.0

*JMA **06** 18:16:56.3±0.2, 24.°98N×122.°01E, h34km, M2.6*
*TAP **06** 18:16:56.1, 24.°82N×121.°94E, h10km±1km, ML3.2, C*
ISC 06 18:16:55.8±0.9, 24°83N±0°02×122°00E±0°02, h14km±6km, n42, σ0°75/75, 1C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao** baz=14	**0.18**	**357**	⇓*i* P	**Pg**	**18 17 00.5**	**+0.4**
TWB1				*i* S	**Sg**	**18 17 03.3**	**+0.4**
ILA	**Ilan** baz=251	**0.23**	**255**	*e*P	**Pg**	**18 17 01.5**	**+0.6**
ILA				*e*S	**Sg**	**18 17 04.1**	**-0.2**
TWC	**Suao** baz=195	**0.26**	**212**	*i* P	**Pg**	**18 17 01.0**	**-0.3**
TWC				*i* S	**Sg**	**18 17 03.9**	**-1.0**
NWF	**Wu-fen Shan** baz=324	**0.31**	**321**	*i* P	**Pb**	**18 17 02.8**	**-0.5**
NWF				S	**Sb**	**18 17 07.3**	**-1.0**
TWE	**Neicheng** baz=238	**0.32**	**251**	⇑*i* P	**Pg**	**18 17 01.9**	**-0.4**
TWE				*i* S	**Sg**	**18 17 05.8**	**-1.0**
TWA	**Mucha** baz=295	**0.41**	**292**	⇓*i* P	**Pb**	**18 17 04.0**	**-0.7**
TWA				S	**Sg**	**18 17 09.2**	**-0.3**
ENA	**Nanau** baz=208	**0.46**	**211**	*e*P	**Pg**	**18 17 05.1**	**+0.2**
ENA				*e*S	**Sg**	**18 17 09.9**	**-1.3**
TAP1	**Taipei** baz=292	**0.48**	**296**	P	**Pb**	**18 17 06.0**	**0.0**
TAP1				S	**Sb**	**18 17 12.0**	**-0.9**
TAP	**Taipei** baz=292	**0.49**	**295**	P	**Pb**	**18 17 06.0**	**-0.2**
TAP				S	**Sb**	**18 17 12.3**	**-1.1**
TWY	**Chenhua** baz=318	**0.57**	**321**	P	**Pb**	**18 17 07.8**	**+0.2**
TWS1	**Kuangyinshan** baz=299	**0.59**	**297**	P	**Pb**	**18 17 08.4**	**+0.4**
TWS1				*e*S	**Sb**	**18 17 15.3**	**-0.9**
NNS	**Nan Shan** baz=233	**0.69**	**236**	P	**Pg**	**18 17 08.8**	**-0.4**
NNS				*e*S	**Sb**	**18 17 18.1**	**-0.9**
NCU	**National Centr** baz=281	**0.75**	**281**	*e*P	**Pb**	**18 17 10.4**	**-0.2**
NCU				*e*S	**Sb**	**18 17 21.0**	**+0.3**
TWD	**Chiawan** baz=202	**0.83**	**206**	P	**Pg**	**18 17 11.7**	**-0.1**
TWD				*e*S	**Sg**	**18 17 21.4**	**-1.3**
HWA	**Hwalien** baz=198	**0.92**	**203**	*e*P	**Pb**	**18 17 14.1**	**+0.6**
NSTT	**Nanjuang** baz=249	**0.93**	**258**	*e*P	**Pb**	**18 17 13.8**	**+0.2**
NSTT				*e*S	**Sn**	**18 17 26.4**	**-1.1**
TWT	**Tachien** baz=230	**0.94**	**233**	*e*P	**Pb**	**18 17 14.0**	**0.0**
TWT				*e*S	**Sb**	**18 17 26.3**	**-0.1**
WHF	**Hehuan Shan** baz=221	**0.95**	**225**	*e*P	**Pg**	**18 17 13.6**	**-0.6**
WHF				S	**Sg**	**18 17 26.4**	**-0.4**
YOJ	**Yonaguni jima**	**0.99**	**111**	P	**Pg**	**18 17 14.9**	**0.0**
YOJ				S	**Sg**	**18 17 28.5**	**+0.6**
ESL	**Shilin** baz=203	**1.13**	**207**	*e*P	**Pb**	**18 17 16.9**	**-0.2**
ESL				*e*S	**Sg**	**18 17 31.2**	**-1.2**
NSY	**Sanyi** baz=248	**1.20**	**250**	*e*P	**Pn**	**18 17 19.4**	**+1.3**
NSY				*e*S	**Sn**	**18 17 35.8**	**+1.6**
TWQ1	**Liyutan** baz=244	**1.21**	**247**	*e*P	**Pg**	**18 17 18.8**	**-0.3**
TWQ1				*e*S	**Sn**	**18 17 34.8**	**+0.2**
SMLT	**Sun Moon Lake** baz=216	**1.37**	**227**	*e*P	**Pb**	**18 17 21.2**	**-0.1**
SMLT				*e*S	**Sg**	**18 17 41.1**	**+1.0**
TCU	**Taichung** baz=256	**1.38**	**241**	*e*P	**Pg**	**18 17 22.6**	**+0.3**
TYC	**Yuchr** baz=219	**1.39**	**229**	*e*P	**Pn**	**18 17 21.1**	**+0.3**
TYC				*e*S	**Sg**	**18 17 40.1**	**-0.4**
EHY	**Hungye** baz=201	**1.45**	**205**	*e*P	**Pb**	**18 17 22.8**	**+0.2**
EHY				*e*S	**Sg**	**18 17 41.8**	**-0.8**
TWF1	**Yuli** baz=209	**1.60**	**204**	*e*P	**Pb**	**18 17 25.1**	**-0.1**
TWF1				*e*S	**Sb**	**18 17 45.2**	**0.0**
YUS	**Yu-Shan** baz=212	**1.64**	**216**	*e*P	**Pb**	**18 17 26.1**	**0.0**
YUS				*e*S	**Sg**	**18 17 48.1**	**-0.6**
IRIF	**Iriomote-Funau**	**1.65**	**107**	P	**Pn**	**18 17 24.4**	**+0.1**
IRIF				*e*S	**Sn**	**18 17 44.7**	**-0.7**
ALS	**Alishan** baz=210	**1.71**	**220**	*e*P	**Pg**	**18 17 28.2**	**-0.4**
ALS				*e*S	**Sg**	**18 17 50.5**	**-0.3**
CHN5	**Tsauling** baz=238	**1.72**	**225**	*e*P	**Pb**	**18 17 27.2**	**0.0**
CHN5				*e*S	**Sg**	**18 17 52.0**	**+0.8**
WGK	**Gukeng** baz=245	**1.73**	**229**	*e*P	**Pn**	**18 17 26.0**	**+0.5**
CHKT	**Chengkung** baz=209	**1.81**	**199**	*e*P	**Pb**	**18 17 28.5**	**-0.3**
CHKT				*e*S	**Sb**	**18 17 51.2**	**-0.1**
HATJ	**Hateruma jima**	**1.82**	**115**	P	**Pn**	**18 17 27.2**	**+0.6**
ELDTW	**Lidau** baz=205	**1.86**	**209**	*e*P	**Pb**	**18 17 29.7**	**+0.1**
ELDTW				*e*S	**Sb**	**18 17 53.7**	**+0.9**
JKRS	**Kuro-shima**	**1.92**	**107**	P	**Pn**	**18 17 28.5**	**+0.4**
JKRS				*e*S	**Sn**	**18 17 51.1**	**-1.0**
JIJ	**Ishigaki jima**	**2.01**	**103**	P	**Pn**	**18 17 29.7**	**+0.5**
WTP	**Ta-pu** baz=215	**2.02**	**219**	*e*P	**Pb**	**18 17 32.0**	**-0.3**
TWK	**Hsinying** baz=217	**2.08**	**222**	*e*P	**Pb**	**18 17 32.9**	**-0.4**
CHN1	**Nanshi** baz=201	**2.12**	**220**	*e*P	**Pb**	**18 17 33.3**	**-0.7**
CHN1				*e*S	**Sb**	**18 18 00.8**	**+0.7**
SGST	**Jiashian** baz=199	**2.17**	**217**	*e*P	**Pn**	**18 17 33.2**	**+1.8**
SGST				*e*S	**Sg**	**18 18 04.2**	**-1.3**
EAST	**Anshuo** baz=191	**2.65**	**204**	*e*P	**Pn**	**18 17 40.7**	**+2.5**

IDC 06 18:35:33.0±1.5, 20.°17N×120.°75E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/23, mbtmp3.4/4, 1C, Error ellipse: s-maj=143.1km s-min=21.2km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**1.83**	**184**	⇑*i* P	Pn	18 36 03.4	-2.4
SONM	**Songino Array** 0.3nm,0.5s,baz=158,slow=12,SNR=3.5	**29.95**	**340**	P	P	18 41 43.1	+0.1
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=109,slow=10,SNR=3.5	**41.03**	**319**	P	P	18 43 17.8	-0.2
WRA	**Warramunga Arr** 0.7nm,0.8s,baz=342,slow=9.0,SNR=6.0	**42.02**	**161**	P	P	18 43 26.0	-0.4
ASAR	**Alice Springs** 0.4nm,0.8s,baz=350,slow=7.0,SNR=7.1	**45.41**	**163**	P	P	18 43 53.9	+0.2

*IDC **06** 19:06:42.9±1.4, 33.°94N×25.°35E, h0km, mb3.6/3, mb1 3.5/7, mb1mx3.4/28, mbtmp3.4/7, ML3.6/3, Error ellipse: s-maj=35.9km s-min=24.4km az=155.0*
*ATH **06** 19:06:42.4, 33.°94N×25.°31E, h10km±4km, MD3.5/10*
*CSEM **06** 19:06:43.7±0.3, 34.°00N×25.°35E, h2km, MD3.5, Error ellipse: s-maj=9.6km s-min=5.2km az=74.0*
*THE **06** 19:06:43.2, 33.°87N×25.°33E, h0km±8km, Error ellipse: s-maj=19.6km s-min=2.6km az=192.0*
ISC 06 19:06:42.3±1.4, 33°93N±0°03×25°26E±0°04, h1km±11km, n49, σ1°34/56, mb3.5/3, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**1.15**	**341**	P	**Pn**	**19 07 05.9**	**+0.4**
SIVA				S	**Sn**	**19 07 23.6**	**+1.7**
SIVA	**Sivas**	**1.15**	**341**	*e*PB	**Pn**	**19 07 04.8**	**-0.7**
SIVA				*e*SB	**Sn**	**19 07 20.2**	**-1.7**
SIVA	**Sivas**	**1.15**	**341**	*e*Pb	**Pn**	**19 07 04.8**	**-0.7**
SIVA	**Sivas**	**1.15**	**341**	P	**Pn**	**19 07 05.9**	**+0.4**
SIVA				*e*Sb	**Sn**	**19 07 20.2**	**-1.7**
SIVA				S	**Sn**	**19 07 23.6**	**+1.7**
LAST	**Lasithi**	**1.24**	**8**	P	**Pg**	**19 07 07.8**	**+1.7**
LAST	**Lasithi**	**1.24**	**8**	*e*PN	**Pn**	**19 07 05.0**	**-1.9**
LAST	**Lasithi**	**1.24**	**8**	*e*Pn	**Pn**	**19 07 05.0**	**-1.9**
LAST	**Lasithi**	**1.24**	**8**	P	**Pg**	**19 07 07.8**	**+1.7**
NPS	**Neapolis**	**1.36**	**12**	*e*PB	**Pb**	**19 07 07.2**	**-1.4**
NPS	**Neapolis**	**1.36**	**12**	*e*Pb	**Pb**	**19 07 07.2**	**-1.4**
IDI	**Anoyia**	**1.39**	**348**	P	**Pb**	**19 07 08.4**	**-0.7**
IDI	**Anoyia**	**1.39**	**348**	*e*PG	**Pb**	**19 07 08.1**	**-1.0**
IDI	**Anoyia**	**1.39**	**348**	*e*Pg	**Pb**	**19 07 08.1**	**-1.0**
IDI	**Anoyia**	**1.39**	**348**	P	**Pb**	**19 07 08.4**	**-0.7**
ZKR	**Zakros**	**1.43**	**34**	P	**Pg**	**19 07 08.7**	**-0.9**
ZKR				S	**Sg**	**19 07 30.0**	**+1.9**
ZKR	**Zakros**	**1.43**	**34**	*e*PB	**Pg**	**19 07 08.9**	**-0.7**
ZKR				*e*SB	**Sg**	**19 07 28.0**	**-0.1**
ZKR	**Zakros**	**1.43**	**34**	*e*Pb	**Pg**	**19 07 08.9**	**-0.7**
ZKR				*e*Sb	**Sg**	**19 07 28.0**	**-0.1**
ZKR				S	**Sg**	**19 07 30.0**	**+1.9**
VAM	**Vamos**	**1.71**	**330**	P	**Pg**	**19 07 15.2**	**+0.1**
VAM	**Vamos**	**1.71**	**330**	*e*PN	**Pg**	**19 07 15.2**	**+0.1**
VAM	**Vamos**	**1.71**	**330**	P	**Pg**	**19 07 15.2**	**+0.1**
KARP	**Karpathos**	**2.25**	**44**	*e*PN	**Pb**	**19 07 22.4**	**-1.4**
KARP	**Karpathos**	**2.25**	**44**	*e*Pn	**Pb**	**19 07 22.4**	**-1.4**
SLUM		**2.43**	**181**	P	**Pb**	**19 07 25.4**	**-1.4**
SLUM				S	**Sb**	**19 07 56.0**	**-1.2**
SANT	**Santorini**	**2.44**	**4**	*e*PN	**Pb**	**19 07 24.7**	**-2.3**
SANT	**Santorini**	**2.44**	**4**	*e*Pn	**Pb**	**19 07 24.7**	**-2.3**
KYTH	**Kithira**	**2.97**	**323**	*e*PB	**Pb**	**19 07 33.3**	**-2.7**
KYTH	**Kithira**	**2.97**	**323**	*e*Pb	**Pb**	**19 07 33.3**	**-2.7**
APE	**Apeiranthos**	**3.14**	**4**	*e*PN	**Pn**	**19 07 33.3**	**+0.3**
APE	**Apeiranthos**	**3.14**	**4**	*e*Pn	**Pn**	**19 07 33.3**	**+0.3**
HMAT	**Matruh**	**3.23**	**151**	P	**Pn**	**19 07 35.4**	**+1.3**
HMAT				S	**Sn**	**19 08 13.9**	**+0.8**
ARG	**Arkhangelos**	**3.28**	**45**	*e*PN	**Pn**	**19 07 34.6**	**-0.2**
ARG	**Arkhangelos**	**3.28**	**45**	*e*Pn	**Pn**	**19 07 34.6**	**-0.2**
VLI	**Veliai**	**3.37**	**326**	*e*PN	Pn	19 07 38.1	+2.1
VLI	**Veliai**	**3.37**	**326**	*e*Pn	Pn	19 07 38.1	+2.1
DID	**Didima**	**3.93**	**336**	*e*PN	**Pn**	**19 07 44.2**	**+0.4**
DID	**Didima**	**3.93**	**336**	*e*Pn	**Pn**	**19 07 44.2**	**+0.4**
ITM	**Ithomi**	**4.23**	**321**	*e*PN	**Pn**	**19 07 49.9**	**+2.0**
ITM	**Ithomi**	**4.23**	**321**	*e*Pn	**Pn**	**19 07 49.9**	**+2.0**
SWA2		**4.67**	**178**	P	Pn	19 07 56.7	+2.7
KLV	**Kalavryta, Ach**	**4.82**	**329**	*e*PN	**Pn**	**19 07 57.4**	**+1.4**
KLV	**Kalavryta, Ach**	**4.82**	**329**	*e*Pn	**Pn**	**19 07 57.4**	**+1.4**
MMAI	**Mount Meron Ar** 0.7nm,0.3s,baz=261,slow=12,SNR=3.5	**8.53**	**93**	Pn	**Pn**	**19 08 47.3**	**+0.3**
BRTR	**Keskin Array B** 0.0nm,0.3s,baz=216,slow=14,SNR=2.4	**8.86**	**47**	Pn	**Pn**	**19 08 52.5**	**+0.9**
EIL	**Elat** 0.3nm,0.3s,baz=207,slow=16,SNR=6.5	**9.28**	**115**	Pn	**Pn**	**19 08 57.4**	**+0.2**
HBST	**Basata**	**9.35**	**118**	P	**Pn**	**19 08 58.4**	**+0.3**
GERES	**GERESS Array B** 0.1nm,0.3s,baz=145,slow=12,SNR=12	**17.21**	**333**	P	**P**	**19 10 45.9**	**+0.2**
TORD	**Torodi Ar. Bea** 0.4nm,0.8s,baz=31,slow=8.5,SNR=4.6	**29.77**	**232**	P	**P**	**19 12 52.0**	**+1.4**
MKAR	**Makanchi Array** 1.0nm,0.6s,baz=279,slow=6.1,SNR=13	**44.40**	**55**	P	**P**	**19 14 54.8**	**+0.4**
SONM	**Songino Array** 0.3nm,0.7s,baz=307,slow=6.6,SNR=4.1	**60.21**	**50**	P	**P**	**19 16 51.3**	**-0.7**

IDC 06 19:22:20.5±9.1, 21.°39N×144.°91E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/25, mbtmp3.3/3, Error ellipse: s-maj=333.1km s-min=30.4km az=75.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=17,slow=8.9,SNR=9.0	**42.35**	**195**	P	P	19 30 16.9	+0.3
ASAR	**Alice Springs** 0.3nm,0.6s,baz=14,slow=9.4,SNR=6.7	**46.04**	**194**	P	P	19 30 45.5	-0.6
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=76,slow=6.1,SNR=2.8	**56.09**	**313**	P	P	19 32 01.5	-0.1

*BJI **06** 19:29:20.7, 6.°80N×73.°10W, h157km, mB5.0/3*
*ISCJB **06** 19:29:22.6±0.4, 6.°86N±0.°04×72.°84W±0.°04, h174km±4km, mb3.9/13, Error ellipse: s-maj=7.3km s-min=5.6km az=44.0*
*IDC **06** 19:29:22.6±0.8, 6.°82N×72.°89W, h163km±9km, mb3.7/14, mb1 4.0/16, mb1mx3.8/25, mbtmp3.8/16, MS3.6/2, Ms1 3.6/2, ms1mx2.7/26, Error ellipse: s-maj=13.4km s-min=11.2km az=50.0*
*FUNV **06** 19:29:23.3, 6.°80N×73.°06W, h165km, MW4.7*
ISC 06 19:29:22.7±0.6, 6°84N±0°05×72°88W±0°06, h168km±5km, n57, σ1°41/72, mb3.8/13, 8C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.17**	**29**	⇑*i* P	**Pn**	**19 29 51.6**	**+0.8**
CAPV				*e*S	**Sn**	**19 30 12.0**	**-0.5**
ROSC	**El Rosal** 781nm,0.3s,baz=292,slow=7.0,SNR=784	**2.44**	**216**	P	**Pn**	**19 30 03.3**	**-1.1**

ROSC				S		Sn	19 30 36.0	-0.8	
	395nm,0.3s,baz=107,slow=21,SNR=6.4								
SOCV	**Socops**		**2.47**	**54**	⇑*iP*	**Pn**	**19 30 05.7**	**+1.4**	
SOCV					*eS*	**Sn**	**19 30 37.6**	**+0.9**	
VIGV	**El Vigia**		**2.49**	**37**	⇑*iP*	**Pn**	**19 30 06.0**	**+1.3**	
VIGV					*eS*	**Sn**	**19 30 36.9**	**-0.4**	
ELOV	**Elorza**		**3.37**	**87**	*eP*	**Pn**	**19 30 17.7**	**+2.3**	
ELOV					*eS*	**Sn**	**19 30 56.9**	**+0.4**	
QARV	**Quebrada Arrib**		**4.08**	**35**	*eS*	**Sn**	**19 31 11.2**	**-1.6**	
SANV	**Sanarito**		**4.24**	**51**	*eP*	**Pn**	**19 30 27.7**	**+1.1**	
SANV					*eS*	**Sn**	**19 31 15.8**	**-0.8**	
CURV	**Curarigua**		**4.28**	**42**	*eP*	**Pn**	**19 30 28.3**	**+1.2**	
CURV					*eS*	**Sn**	**19 31 15.8**	**-1.6**	
DABV	**Dabajuro**		**4.62**	**28**	*eP*	**Pn**	**19 30 32.3**	**+0.8**	
DABV					*eS*	**Sn**	**19 31 23.3**	**-2.2**	
TEPV	**Terepaima**		**4.79**	**49**	⇑*iP*	**Pn**	**19 30 35.0**	**+1.3**	
SIQV	**Siquisique**		**4.85**	**38**	*eP*	**Pn**	**19 30 35.1**	**+0.6**	
SIQV					*eS*	**Sn**	**19 31 28.6**	**-2.3**	
BAUV	**El Baul**		**5.23**	**66**	⇑*iP*	**Pn**	**19 30 39.8**	**+0.3**	
MAPV	**Macapo**		**5.29**	**55**	*eP*	**Pn**	**19 30 41.3**	**+1.0**	
MAPV					*eS*	**Sn**	**19 31 38.6**	**-2.4**	
JACV	**Jacura**		**5.82**	**43**	*eP*	**Pn**	**19 30 47.4**	**+0.2**	
IMOV	**Isla Los Monje**		**5.82**	**19**	*eP*	**Pn**	**19 30 47.3**	**0.0**	
MONV	**Montecano**		**5.84**	**29**	*eP*	**Pn**	**19 30 47.6**	**+0.1**	
TURV	**Turiamo**		**6.14**	**54**	*eP*	**Pn**	**19 30 51.8**	**+0.4**	
MERV	**Las Mercedes**		**6.94**	**69**	⇑*eP*	**Pn**	**19 31 02.2**	**+0.2**	
BIRV	**Birongo**		**7.47**	**61**	⇑*eP*	**Pn**	**19 31 08.9**	**-0.1**	
CUPV	**Cœpira**		**7.71**	**65**	⇑*iP*	**Pn**	**19 31 12.7**	**+0.5**	
ORCV	**Isla La Orchil**		**8.24**	**53**	*eP*	**Pn**	**19 31 19.9**	**+0.6**	
PRGV	**PARIAGUAN**		**8.38**	**76**	*eP*	**Pn**	**19 31 22.0**	**+0.9**	
PCRV	**Puerto La Cruz**		**8.80**	**67**	*eP*	**Pn**	**19 31 26.7**	**0.0**	
YHJ	**Yallahs**		**11.54**	**343**	*iP*	**Pn**	**19 32 03.9**	**+1.3**	
YHJ					*iS*	Sn	19 34 02.9	-7.8	
PCJ	**Portland Cotta**		**11.62**	**339**	*iP*	**Pn**	**19 32 04.8**	**+1.3**	
HOJ	**Hope**		**11.72**	**342**	*iP*	Pn	19 32 08.2	+3.2	
GWJ	**Greenwich**		**11.78**	**342**	*iP*	**Pn**	**19 32 06.5**	**+0.7**	
STH	**Stony Hill**		**11.81**	**341**	*iP*	**Pn**	**19 32 08.1**	**+2.0**	
STH					*iS*	Sn	19 34 04.0	-13	
MCJ	**Malvern**		**11.98**	**337**	*iP*	**Pn**	**19 32 09.9**	**+1.6**	
BBJ	**Bamboo Saint A**		**12.25**	**340**	*i* PA		19 32 14.7		
ATAH	**Atahualpa**		**14.93**	**202**	P	**P**	**19 32 47.2**	**-0.2**	
	0.4nm,0.3s,baz=269,slow=18,SNR=3.5								
TEIG	**Tepich**		**20.00**	**313**	P	**P**	**19 33 43.3**	**+0.8**	
	11nm,0.4s,baz=92,slow=1.4,SNR=20								
LPAZ	**La Paz**		**0.6**	**160**	P	**P**	**19 34 18.6**	**+0.9**	
	0.6nm,0.3s,baz=344,slow=7.4,SNR=4.0								
LPAZ					pP	**pP**	**19 34 48.9**	**-0.7**	
	6.8nm,0.7s,baz=346,slow=14,SNR=9.9								
SIV	**San Ignacio**		**25.52**	**153**	P	**P**	**19 34 35.8**	**-0.1**	
	0.5nm,0.4s,baz=350,slow=11,SNR=3.3								
SIV					pP	**pP**	**19 35 09.1**	**-1.3**	
	2.2nm,0.8s,baz=341,slow=12,SNR=5.0								
BDFB	**Brasilia**		**33.25**	**132**	LR	LR	19 50 29.8		
	comp=Z,115nm,21.2s,baz=237,slow=38								
TXAR	**Lajitas Array**		**36.63**	**311**	P	**P**	**19 36 13.3**	**+0.2**	
	1.2nm,0.5s,baz=129,slow=8.9,SNR=19								
TXAR					PcP	**PcP**	**19 38 34.9**	**+2.2**	
	0.5nm,0.8s,baz=144,slow=4.5,SNR=4.0								
ULM	**Lac du Bonnet**		**47.35**	**340**	P	**P**	**19 37 38.9**	**-0.7**	
	9.9nm,0.5s,baz=147,slow=6.3,SNR=9.2								
SCHQ	**Schefferville**		**48.11**	**5**	P	**P**	**19 37 45.9**	**+0.6**	
	13nm,0.5s,baz=177,slow=6.3,SNR=19								
PDAR	**Pinedale Array**		**48.21**	**324**	P	**P**	**19 37 47.0**	**+0.4**	
	1.5nm,0.5s,baz=128,slow=9.2,SNR=14								
NVAR	**Mina Array Bea**		**51.64**	**314**	P	**P**	**19 38 13.2**	**+0.6**	
	0.7nm,0.6s,baz=140,slow=5.9,SNR=2.0								
NVAR					LR	LR	20 02 04.8		
	comp=Z,57nm,19.0s,baz=205,slow=38								
YKA	**Yellowknife Ar**		**63.33**	**340**	P	**P**	**19 39 34.0**	**+0.5**	
	5.5nm,0.5s,baz=133,slow=6.6,SNR=47								
DBIC	**Dimbokro**		**67.49**	**86**	P	**P**	**19 40 01.4**	**+0.3**	
	6.9nm,1.0s,baz=286,slow=6.6,SNR=7.4								
TORD	**Torodi Ar. Bea**		**73.50**	**78**	P	**P**	**19 40 37.8**	**+0.3**	
	0.3nm,0.3s,baz=286,slow=6.6,SNR=18								
TORD					pP	**pP**	**19 41 19.4**	**+1.1**	
	0.2nm,0.3s,baz=279,slow=6.4,SNR=2.0								
ILAR	**Eielson Array**		**77.05**	**335**	P	**P**	**19 40 57.3**	**+0.4**	
	0.7nm,0.7s,baz=119,slow=4.2,SNR=5.5								
GERES	**GERESS Array B**		**82.65**	**42**	P	**P**	**19 41 28.4**	**+1.0**	
	0.5nm,0.7s,baz=266,slow=5.4,SNR=5.3								
ARCES	**ARCESS Array B**		**86.57**	**120**	P	**P**	**19 41 47.0**	**+0.4**	
	1.0nm,0.6s,baz=268,slow=3.6,SNR=5.3								
MKAR	**Makanchi Array**		**122.22**	**20**	PKP	**PKPdf**	**19 47 58.2**	**+0.4**	
	0.3nm,0.4s,baz=299,slow=2.1,SNR=8.5								
SONM	**Songino Array**		**125.56**	**1**	PKP	**PKPdf**	**19 48 05.4**	**+1.1**	
	0.3nm,0.4s,baz=354,slow=0.3,SNR=3.2								
KSH	**Kashi**		**125.62**	**29**	*e*PKP	**PKPdf**	**19 48 01.7**	**-3.0**	
WMQ	**Urumqi**		**126.60**	**17**	PKP	**PKPdf**	**19 48 05.4**	**-0.9**	
CN2	**Changchun**		**126.94**	**343**	*e*PKP	**PKPdf**	**19 48 06.1**	**-0.8**	
HHC	**Hu-ho-hao-te**		**132.37**	**355**	*e*PKP	**PKPdf**	**19 48 15.0**	**-2.5**	
HHC					sPKP		19 49 15.7		
HHC					PP	**PP**	**19 50 42.1**	**+1.3**	
HHC					SKS	**SKSdf**	**19 55 08.8**	**-4.5**	
HHC					SKKS	SKKSac	19 57 15.5	-6.2	
HHC					SS	**SS**	**20 08 07.0**	**+1.7**	
HHC					AMB	AMB			
	comp=Z,73nm,4.9s								
HHC					LR	LR			
	comp=N,110nm,15.7s								
HHC					LR	LR			
	comp=E,220nm,15.2s								
HHC					LR	LR			
	comp=Z,110nm,16.2s								
LZH	**Lanzhou**		**137.19**	**4**	*e*PKP	**PKPdf**	**19 48 24.8**	**-1.9**	
LZH					sPKP		19 49 23.2		
LZH					LR	LR			
	comp=N,140nm,17.2s								
LZH					LR	LR			
	comp=E,120nm,16.8s								
LZH					LR	LR			
	comp=Z,210nm,19.0s								
NJ2	**Nanjing**		**139.74**	**345**	*e*PKP	**PKPdf**	**19 48 31.1**	**-0.1**	
CD2	**Chengdu**		**142.33**	**5**	PKP	**PKPdf**	**19 48 34.0**	**-2.0**	
GYA	**Guiyang**		**146.90**	**1**	*e*PKPbc	**PKPdf**	**19 48 42.3**	**-1.8**	
GYA					pPKP	**pPKPdf**	**19 49 24.5**	**-3.9**	
GYA					sPKP		19 49 41.8		
GYA					PP	PP	19 52 15.6	+5.7	
GYA					AMB	AMB			
	comp=Z,70nm,7.6s								
CMAR	**Chiang Mai Arr**		**153.60**	**18**	PKPbc	**PKPbc**	**19 49 03.6**	**+1.2**	
	comp=Z,1.0nm,0.6s,baz=322,slow=3.4,SNR=19								

IDC 06 19:40:33.1±4.0, 17.69S×177.60W, h0km, mb4.5/4, mb1 4.7/4, mb1mx3.9/19, mbtmp4.5/4, Error ellipse: s-maj=174.1km s-min=31.1km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**39.41**	**241**	P		P	19 48 05.4	+0.5
	5.0nm,0.7s,baz=94,slow=6.9,SNR=32							
WRA	**Warramunga Arr**	**45.42**	**259**	P		P	19 48 53.7	-0.4
	1.5nm,0.3s,baz=97,slow=7.0,SNR=57							
ASAR	**Alice Springs**	**45.59**	**254**	P		P	19 48 54.8	-0.6
	17nm,0.6s,baz=90,slow=7.8,SNR=273							
ILAR	**Eielson Array**	**85.51**	**13**	P		P	19 53 12.6	0.0
	0.6nm,0.4s,baz=218,slow=5.0,SNR=11							

*NSSP **06** 19:53:46.3, 38.55N×45.60E, h10km, Ms3.5*
*TEH **06** 19:53:49.6, 38.43N×45.26E, h3km, ML3.5*
*AZER **06** 19:53:52.4, 38.47N×45.08E, h0km,*
*CSEM **06** 19:53:53.5±0.3, 38.16N×45.48E, h2km, ML3.5, Error ellipse: s-maj=5.9km s-min=4.9km az=39.0*
ISC 06 19:53:51.5±0.9, 38.41N±0.02×45.44E±0.02, h13km±7km, n58, σ1°34/94, 12C-11D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ISHB	**Shabestar**	**0.19**	**130**	*e*Pg		**Pg**	**19 53 55.5**	**-0.4**
ISHB				*e*			19 53 55.7	
	comp=Z,32μm,0.1s							
ISHB				*e*Sg		**Sg**	**19 53 59.3**	**+0.3**
ISHB	**Shabestar**	**0.19**	**130**	*e*Pg		**Pg**	**19 53 55.5**	**-0.4**
ISHB				*e*Sg		**Sg**	**19 53 59.3**	**+0.3**
ITBZ	**Tabriz**	**0.59**	**107**	*e*Sg		**Sb**	**19 54 11.8**	**-0.2**
ITBZ				⇑*e*Pg		**Pg**	**19 54 02.4**	**-0.6**
ITBZ				*e*			19 54 13.2	
	comp=Z,39μm,0.1s							
NAX	**Nakhchivan**	**0.77**	**3**	⇓P		**Pg**	**19 54 05.9**	**-0.5**
	SNR=103							
NAX				⇓S		**Sb**	**19 54 17.3**	**+0.1**
IAZR	**Azarshahr**	**0.84**	**149**	*e*Sg		**Sb**	**19 54 19.3**	**-0.3**
IAZR				⇓*e*Pg		**Pg**	**19 54 06.6**	**-1.3**
IAZR				*e*			19 54 22.6	
	comp=Z,36μm,0.1s							
IFTB	**Fath-abad**	**0.85**	**117**	*e*Pg		**Pg**	**19 54 07.4**	**-0.6**
IFTB	**Fath-abad**	**0.85**	**117**	*e*Pg		**Pg**	**19 54 07.4**	**-0.6**
IHRS	**Heris**	**1.27**	**93**	*e*Pn		**Pg**	**19 54 15.2**	**-0.7**
IHRS				*e*Sg		**Sg**	**19 54 34.7**	**+2.3**
IHRS				*e*			19 54 35.5	
	comp=Z,23μm,0.2s							
GRS	**Goris**	**1.30**	**32**	⇑*iP*		**Pn**	**19 54 13.0**	**-2.5**
GRS				⇓*i*S		**Sb**	**19 54 31.0**	**-1.5**
HAKT	**HAKKARI**	**1.61**	**239**	*i* P		**Pn**	**19 54 19.9**	**+0.1**
HAKT				*i* S		**Sb**	**19 54 42.7**	**+1.2**
HAKT	**HAKKARI**	**1.61**	**239**	*i* P		**Pn**	**19 54 19.9**	**+0.1**
HAKT				*i* S		**Sb**	**19 54 42.7**	**+1.2**
STKZ		**1.74**	**36**	⇓*iP*		**Pn**	**19 54 19.7**	**-1.8**
STKZ				⇑*i*S		**Sn**	**19 54 43.8**	**+0.2**
DYDN	**Diyadin**	**1.77**	**310**	*i* P		**Pn**	**19 54 22.4**	**+0.3**
DYDN				*i* S		**Sb**	**19 54 45.9**	**-0.4**
VADZ	**Vardenis**	**1.78**	**8**	*eP*		**Pg**	**19 54 26.0**	**+0.3**
VADZ				⇑S		**Sg**	**19 54 52.0**	**+3.2**
VADZ	**Vardenis**	**1.78**	**8**	P		**Pg**	**19 54 26.0**	**+0.3**
VADZ				S		**Sg**	**19 54 52.0**	**+3.2**
GNI	**Garni**	**1.82**	**343**	⇓*iP*		**Pn**	**19 54 23.2**	**+0.4**
GNI				⇓*i*S		**Sg**	**19 54 50.3**	**+0.1**
ISRB	**Sarab**	**1.85**	**108**	*e*Pn		**Pb**	**19 54 24.7**	**-0.7**
ISRB				*e*Sg		**Sg**	**19 54 51.5**	**+0.4**
ISRB				*e*			19 54 53.4	
	comp=Z,5μm,0.3s							
ISRB	**Sarab**	**1.85**	**108**	*e*Pn		**Pb**	**19 54 24.7**	**-0.7**
ISRB				*e*Sg		**Sg**	**19 54 51.5**	**+0.4**
GRMI	**Germi**	**1.97**	**77**	*e*Pg		**Pb**	**19 54 27.1**	**-0.2**
GRMI				*e*Sg		**Sg**	**19 54 54.4**	**-0.4**
TUTA	**Tutak**	**2.27**	**297**	*i* P		**Pn**	**19 54 29.6**	**+0.6**
TUTA	**Tutak**	**2.27**	**297**	*i* P		**Pn**	**19 54 29.6**	**+0.6**
BRDA	**Brd**	**2.29**	**36**	⇑P		**Pb**	**19 54 32.4**	**-0.4**
	SNR=2.7							
BRDA				⇓S		**Sg**	**19 55 07.5**	**+2.2**
BRDA	**Brd**	**2.29**	**36**	P		**Pb**	**19 54 32.4**	**-0.4**
	SNR=2.7							
BRDA				S		**Sg**	**19 55 07.5**	**+2.2**
GANJ	**Ganja**	**2.34**	**17**	⇑P		**Pb**	**19 54 33.6**	**0.0**
	SNR=7.1							
GANJ				⇑S		**Sg**	**19 55 05.1**	**-1.6**
GANJ	**Ganja**	**2.34**	**17**	P		**Pb**	**19 54 33.6**	**0.0**
	SNR=7.1							
GANJ				S		**Sg**	**19 55 05.1**	**-1.6**
GLBA	**Clilabad**	**2.46**	**69**	⇑P		**Pb**	**19 54 36.3**	**+0.8**
	SNR=11							
GLBA				⇑S		**Sg**	**19 55 10.5**	**0.0**
GLBA	**Clilabad**	**2.46**	**69**	P		**Pb**	**19 54 36.3**	**+0.8**
	SNR=11							
GLBA				S		**Sg**	**19 55 10.5**	**0.0**
DIGO	**Kars**	**2.56**	**322**	*i* P		**Pb**	**19 54 36.1**	**-1.4**
DIGO	**Kars**	**2.56**	**322**	*i* P		**Pb**	**19 54 36.1**	**-1.4**
LKRN	**Lenkeran, Azer**	**2.64**	**82**	⇑P		**Pb**	**19 54 37.2**	**-1.4**
	SNR=6.1							
LKRN				⇓S		**Sg**	**19 55 17.0**	**+0.7**
LKRN	**Lenkeran, Azer**	**2.64**	**82**	P		**Pb**	**19 54 37.2**	**-1.4**
	SNR=6.1							
DGRG	**David-gareji**	**3.04**	**359**	P		**Pb**	**19 54 46.0**	**+0.4**
DGRG				S		**Sg**	**19 55 28.9**	**-0.3**
DGRG	**David-gareji**	**3.04**	**359**	P		**Pb**	**19 54 46.0**	**+0.4**
DGRG				S		**Sg**	**19 55 28.9**	**-0.3**
KZR	**Kazreti**	**3.07**	**346**	P		**Pb**	**19 54 45.8**	**-0.3**
KZR				S		**Sg**	**19 55 27.0**	**-3.3**
KZR	**Kazreti**	**3.07**	**346**	P		**Pb**	**19 54 45.8**	**-0.3**
KZR				S		**Sg**	**19 55 27.0**	**-3.3**
ZNJK	**Zanjan**	**3.11**	**123**	*e*Pn		**Pn**	**19 54 42.0**	**+1.5**
IML	**Ismayilli**	**3.19**	**41**	⇑P		**Pb**	**19 54 47.2**	**-0.9**
	SNR=3.3							
IML				⇓S		**Sb**	**19 55 28.4**	**+1.4**
IML	**Ismayilli**	**3.19**	**41**	P		**Pb**	**19 54 47.2**	**-0.9**
	SNR=3.3							
IML				S		**Sb**	**19 55 28.4**	**+1.4**
HOMI	**Horasan**	**3.19**	**302**	*i* P		**Pb**	**19 54 48.1**	**-0.1**
AKH	**Akhalkalaki**	**3.35**	**334**	P		**Pb**	**19 54 50.4**	**-0.5**
AKH				S		**Sg**	**19 55 41.1**	**+1.9**
AKH	**Akhalkalaki**	**3.35**	**334**	P		**Pb**	**19 54 50.4**	**-0.5**
TBLG	**Delisi**	**3.36**	**351**	P		**Pb**	**19 54 51.4**	**+0.4**
TBLG				S		**Sb**	**19 55 34.7**	**+2.9**
TBLG	**Delisi**	**3.36**	**351**	P		**Pb**	**19 54 51.4**	**+0.4**
TBLG				S		**Sb**	**19 55 34.7**	**+2.9**
PQL	**Pirkuli**	**3.41**	**45**	⇓P		**Pb**	**19 54 50.7**	**-1.1**
	SNR=4.7							
PQL				⇑S		**Sb**	**19 55 32.2**	**-1.1**
PQL	**Pirkuli**	**3.41**	**45**	P		**Pb**	**19 54 50.7**	**-1.1**
	SNR=4.7							
PQL				S		**Sb**	**19 55 32.2**	**-1.1**
IDHR	**Dehrash**	**3.78**	**168**	*e*Pn		**Pn**	**19 54 51.0**	**+1.3**
IDHR				*e*			19 56 01.4	
	comp=Z,601nm,0.3s							
IDHR	**Dehrash**	**3.78**	**168**	*e*Pn		**Pn**	**19 54 51.0**	**+1.3**
DAGI	**Agillar**	**3.81**	**316**	*i* P		**Pb**	**19 54 59.5**	**+0.9**
MARD	**Mardin**	**3.84**	**255**	*i* P		**Pg**	**19 55 02.5**	**-2.7**
ARTV	**Artvin**	**3.87**	**317**	*i* P		**Pb**	**19 55 01.6**	**+1.8**
ARTV	**Artvin**	**3.87**	**317**	*i* P		**Pb**	**19 55 01.6**	**+1.8**
DBAD	**Bademkaya**	**3.89**	**313**	*i* P		**Pb**	**19 54 59.1**	**-0.9**
DBAD	**Bademkaya**	**3.89**	**313**	*i* P		**Pb**	**19 54 59.1**	**-0.9**
IGZV	**Ghazvin**	**4.31**	**116**	*e*Pn		**Pn**	**19 54 57.6**	**+0.6**
IGZV				*e*			19 56 19.1	
	comp=Z,270nm,0.2s							
IGZV	**Ghazvin**	**4.31**	**116**	*e*Pn		**Pn**	**19 54 57.6**	**+0.6**
ONI	**Oni**	**4.45**	**341**	P		**Pb**	**19 55 12.4**	**+2.9**
ONI				S		**Sg**	**19 56 12.3**	**-1.9**
IRAZ	**Razeghan**	**4.68**	**128**	*e*Pn		**Pn**	**19 55 02.7**	**+0.6**
IRAZ				*e*			19 56 32.5	
	comp=Z,180nm,0.3s							
IRAZ	**Razeghan**	**4.68**	**128**	*e*Pn		**Pn**	**19 55 02.7**	**+0.6**

IDC 06 20:08:47.5±2.2, 6.32S×151.82E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/17, mbtmp3.4/3, Error ellipse: s-maj=149.0km s-min=28.5km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.72**	**230**	P		P	20 13 40.4	-0.1
	0.6nm,0.7s,baz=57,slow=12,SNR=3.7							
ASAR	**Alice Springs**	**24.38**	**223**	P		P	20 14 08.1	+0.5
	0.7nm,0.7s,baz=56,slow=9.4,SNR=11							
ILAR	**Eielson Array**	**83.93**	**22**	P		P	20 21 19.3	+0.2
	0.3nm,0.6s,baz=250,slow=4.7,SNR=4.2							
TORD	**Torodi Ar. Bea**	**149.81**	**285**	PKPbc		PKPbc	20 28 39.6	-1.0
	0.2nm,0.4s,baz=99,slow=3.0,SNR=5.7							

WEL 06 20:18:17.7±0.4, 39.06S×175.00E, h231km±3km, ML3.6/12, 1C-1D, Error ellipse: s-maj=5.9km s-min=3.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWVZ	**Taurewa**	**0.34**	**92**	PN		Pn	20 18 47.6	-0.5
FWVZ	**Far West T-bar**	**0.47**	**115**	PN		Pn	20 18 48.4	-0.2
MOVZ	**Moawhango**	**0.68**	**121**	PN		Pn	20 18 48.8	-0.3
MOVZ				SN		S	20 19 12.2	-1.6
WAZ	**Wanganui**	**0.69**	**181**	PN		Pn	20 18 49.4	+0.3
WAZ				SN		S	20 19 13.9	0.0
BHHZ	**Black Hill Sta**	**0.93**	**118**	PN		Pn	20 18 50.1	-0.3
BKZ	**Black Stump Fm**	**1.17**	**96**	PN		Pn	20 18 51.4	-0.5
BKZ				SN		S	20 19 17.7	-0.8
TSZ	**Takapari Road**	**1.24**	**144**	PN		Pn	20 18 52.6	+0.3
MCHZ	**McNeill Hill**	**1.37**	**107**	PN		Pn	20 18 53.7	+0.5
WPHZ	**Waipukurau**	**1.50**	**133**	PN		Pn	20 18 54.3	+0.1
DVHZ	**Dannevirke**	**1.53**	**144**	PN		Pn	20 18 54.6	+0.1
KAHZ	**Kahuranaki**	**1.63**	**117**	PN		Pn	20 18 55.9	+0.6
MRZ	**Mangatainoka R**	**1.66**	**165**	PN		Pn	20 18 55.1	-0.4
MRZ				SN		S	20 19 24.6	-0.6
MRZ				AML		AML	20 19 26.3	
OGWZ	**Otaki Gorge**	**1.76**	**176**	⇑PN		Pn	20 18 56.2	-0.2
KIWZ	**Kapiti Island**	**1.80**	**182**	⇓PN		Pn	20 18 56.3	-0.5
ANWZ	**Angora Road**	**1.80**	**141**	PN		Pn	20 18 57.0	+0.3
HOWZ	**Holdsworth Sta**	**1.88**	**168**	PN		Pn	20 18 56.9	-0.6
DUWZ	**D'Urville Isla**	**1.93**	**205**	PN		Pn	20 18 57.1	-0.9
CAW	**Cannon Point**	**2.05**	**179**	PN		Pn	20 18 58.4	-0.6
CAW				AML		AML	20 19 33.6	
MTW	**Mount Morrison**	**2.13**	**170**	PN		Pn	20 18 59.2	-0.7
TCW	**Tory Channel**	**2.22**	**194**	PN		Pn	20 19 00.1	-0.6
BHW	**Baring Head**	**2.35**	**182**	PN		Pn	20 19 01.2	-0.7
MSWZ	**Moikau Station**	**2.36**	**175**	PN		Pn	20 19 01.3	-0.8
NNZ	**Nelson**	**2.49**	**209**	PN		Pn	20 19 01.9	-1.5
TUWZ	**Tuamarina**	**2.50**	**199**	PN		Pn	20 19 02.7	-0.9
PLWZ	**Palliser**	**2.52**	**176**	PN		Pn	20 19 02.8	-1.0
QRZ	**Quartz Range**	**2.59**	**226**	PN		Pn	20 19 02.1	-2.4
BSWZ	**Blackbirch Sta**	**2.79**	**198**	PN		Pn	20 19 05.8	-0.9
THZ	**Tophouse**	**3.14**	**210**	PN		Pn	20 19 08.6	-2.0
KHZ	**Kahutara**	**3.53**	**198**	PN		Pn	20 19 13.6	-1.4
LTZ	**Lake Taylor**	**4.26**	**208**	PN		Pn	20 19 21.2	-2.6
OXZ	**Oxford**	**4.81**	**207**	PN		Pn	20 19 27.2	-3.3
MQZ	**McQueen's Vall**	**4.97**	**200**	PN		Pn	20 19 28.9	-3.4
WVZ	**Waitaha Valley**	**5.15**	**217**	PN		Pn	20 19 31.3	-3.3

*IDC **06** 20:21:09.6±0.9, 18.61N×121.52E, h0km, mb3.5/8, mb1 3.8/8, mb1mx3.6/23, mbtmp3.5/8, MS3.0/2, Ms1 3.0/2, ms1mx2.1/24, Error ellipse: s-maj=28.6km s-min=20.6km az=75.0*
*ISCJB **06** 20:21:11.8±0.7, 18.91N±0.05×121.1E±0.1, h10km, mb3.5/8, MS3.1/1, Error ellipse: s-maj=15.0km s-min=6.7km az=13.6*
*MAN **06** 20:21:12, 18.77N×121.20E, h1km, mb4.6, ML3.5, MS3.5*
ISC 06 20:21:11.9±0.7, 18.75N±0.06×121.30E±0.06, h10km, n18, σ1°98/18, mb3.4/8, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PIP	**Pasuquin**	**0.77**	**237**	⇑*iP*		**Pg**	**20 21 25.8**	**-0.9**
SIPP	**Brgy, Tapao**	**1.14**	**224**	⇓*eP*		**Pb**	**20 21 32.9**	**-0.8**
ABRA	**Dolores**	**1.23**	**207**	*eP*		**Pn**	**20 21 34.7**	**-0.4**
ABRA				*eS*		**Sn**	**20 21 56.2**	**+4.5**
PALP	**Palanan**	**1.99**	**147**	*eP*		**Pg**	**20 21 51.2**	**+1.1**
BCPH	**Baguio City Da**	**2.45**	**196**	⇑*iP*		**Pn**	**20 21 53.9**	**+1.7**
BCPH				*i* S		**Sb**	**20 22 25.0**	**-1.5**
BOLP	**Bolinao**	**2.70**	**209**	*eP*		**Pb**	**20 21 58.3**	**-2.0**
BALP	**Baler**	**3.00**	**175**	*eP*		**Pb**	**20 22 03.9**	**-1.6**
SCZP	**Santa Cruz**	**3.24**	**204**	*eP*		**Pn**	**20 22 05.2**	**+2.5**
DAV	**Davao City (W)**	**12.34**	**160**	LR		LR	20 29 44.3	
	comp=Z,64nm,21.2s,baz=235,slow=42							
CMAR	**Chiang Mai Arr**	**21.19**	**273**	P		**P**	**20 25 59.2**	**+1.6**
	0.8nm,0.6s,baz=77,slow=8.3,SNR=10.0							
MJAR	**Matsushiro Arr**	**23.14**	**37**	P		**P**	**20 26 18.4**	**0.0**
	0.9nm,0.8s,baz=234,slow=12,SNR=3.2							
SONM	**Songino Array**	**31.45**	**341**	P		**P**	**20 27 34.3**	**+0.7**
	0.3nm,0.5s,baz=150,slow=9.8,SNR=3.3							
WRA	**Warramunga Arr**	**40.52**	**161**	P		**P**	**20 28 48.9**	**-2.5**
	0.4nm,0.6s,baz=341,slow=9.1,SNR=5.5							
MKAR	**Makanchi Array**	**42.43**	**320**	P		**P**	**20 29 08.3**	**+1.5**
	0.7nm,0.5s,baz=114,slow=9.9,SNR=13							
ASAR	**Alice Springs**	**43.92**	**163**	P		**P**	**20 29 16.7**	**-2.3**
	0.2nm,0.3s,baz=340,slow=6.7,SNR=5.0							

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**18.38**	**33**	LR	LR	21 50 08.7	
	comp=Z,97nm,18.4s,baz=202,slow=32						
STKA	**Stephens Creek**	**31.96**	**71**	P	P	21 46 53.5	-0.1
	1.9nm,0.8s,baz=239,slow=7.1,SNR=2.9						
ASAR	**Alice Springs**	**33.77**	**51**	P	P	21 47 09.8	+0.3
	0.3nm,0.5s,baz=216,slow=7.2,SNR=5.7						
VNDA	**Vanda**	**35.38**	**162**	P	P	21 47 22.8	-0.1
	1.1nm,0.9s,baz=291,slow=8.5,SNR=5.5						
WRA	**Warramunga Arr**	**37.11**	**49**	P	P	21 47 37.7	-0.5
	1.3nm,0.8s,baz=209,slow=8.1,SNR=5.7						
NVAR	**Mina Array Bea**	**146.98**	**92**	PKPbc	PKPbc	22 00 10.1	-0.3
	1.8nm,0.8s,baz=218,slow=6.9,SNR=5.1						
TXAR	**Lajitas Array**	**150.21**	**121**	PKPbc	PKPbc	22 00 18.1	-0.8
	0.9nm,0.8s,baz=216,slow=4.5,SNR=6.7						

ISCJB ***06*** *21:47:02.4±0.3,21°.64S±0°.05×68°.28W±0°.07,h118km, mb4.2/27, Error ellipse: s-maj=8.8km s-min=6.7km az=0.8*
NEIC ***06*** *21:47:02.9±0.5,21°.73S×68°.31W,h110km±4km, mb4.4/18, Error ellipse: s-maj=7.2km s-min=5.7km az=66.0*
IDC ***06*** *21:47:03.8±0.5,21°.75S×68°.33W,h115km±4km, mb3.8/14, mb1 3.9/17,mb1mx3.9/21,mbtmp3.8/17, Error ellipse: s-maj=13.7km s-min=9.6km az=126.0*

ISC 06 21:47:04.3±0.4,21°.67S±0°.06×68°.21W±0°.06,h121km, n310,σ0°.84/317,mb4.3/27,129C-107D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.14**	**215**	P	Pn	21 47 26.0	-2.2
LVC				S	Sn	21 47 42.5	-3.7
LVC	**Limon Verde**	**1.14**	**215**	P	Pn	21 47 26.0	-2.2
	151nm,0.3s,baz=17,slow=8.2,SNR=910						
LVC				S	Sn	21 47 42.5	-3.7
	479nm,0.3s,baz=68,slow=14,SNR=106						
LPAZ	**La Paz**	**5.35**	**1**	P	Pn	21 48 22.8	+0.2
LPAZ				S	Sn	21 49 18.9	-4.6
LPAZ	**La Paz**	**5.35**	**1**	P	Pn	21 48 22.8	+0.2
	3.6nm,0.3s,baz=162,slow=7.8,SNR=79						
LPAZ				S	Sn	21 49 18.9	-4.6
	1.0nm,0.3s,baz=215,slow=8.1,SNR=3.7						
SIV	**San Ignacio**	**8.80**	**51**	P	Pn	21 49 08.4	-0.4
SIV				S	Sn	21 50 41.7	-4.6
SIV	**San Ignacio**	**8.80**	**51**	P	Pn	21 49 08.4	-0.4
	4.9nm,0.3s,baz=244,slow=12,SNR=97						
SIV				S	Sn	21 50 41.7	-4.6
	0.6nm,0.3s,baz=308,slow=23,SNR=7.5						
CFAA	**Coronel Fontan**	**9.90**	**180**	P	Pn	21 49 18.9	-4.5
CFAA				S	Sn	21 51 03.0	-10
CFAA	**Coronel Fontan**	**9.90**	**180**	P	Pn	21 49 18.9	-4.5
	0.1nm,0.3s,baz=353,slow=12,SNR=13						
CFAA				S	Sn	21 51 03.0	-10
	0.1nm,0.3s,baz=301,slow=12,SNR=4.0						
CPUP	**Villa Florida**	**10.97**	**117**	P	Pn	21 49 37.9	0.0
CPUP	**Villa Florida**	**10.97**	**117**	P	Pn	21 49 37.9	0.0
	0.9nm,0.3s,baz=284,slow=13,SNR=11						
TRQA	**Tornquist**	**17.20**	**163**	*eP*	Pn	21 50 57.0	-0.1
	10.0nm,0.6s						
BDFB	**Brasilia**	**20.04**	**76**	P	P	21 51 28.9	+0.7
BDFB	**Brasilia**	**20.04**	**76**	P	P	21 51 28.9	+0.7
	3.1nm,0.5s,baz=301,slow=9.8,SNR=4.2						
OTAV	**Otavalo**	**23.96**	**334**	*eP*	P	21 52 07.8	-0.3
	6.0nm,0.8s						
RCBR	**Riachuelo**	**34.99**	**68**	*eP*	P	21 53 45.4	0.0
RCBR	**Riachuelo**	**34.99**	**68**	P	P	21 53 44.8	-0.6
	6.4nm,0.8s,baz=236,slow=7.3,SNR=3.6						
RPN	**Rapa Nui**	**37.72**	**253**	P	P	21 54 08.8	+0.4
	0.2nm,0.3s,baz=166,slow=19,SNR=4.0						
TIGA	**Tifton**	**54.83**	**344**	⇓P	P	21 56 21.4	-0.5
	baz=55						
KMSC	**Kings Mountain**	**57.85**	**347**	⇑P	P	21 56 43.1	-0.2
	baz=58						
732A	**Laxson Ranch,**	**58.73**	**327**	⇓P	P	21 56 49.0	-0.5
	baz=59						
CPCT	**Cooper Cave**	**58.87**	**344**	*eP*	P	21 56 49.5	-0.9
631A	**Perdido Creek**	**59.59**	**327**	⇓P	P	21 56 54.7	-0.8
	baz=60,SNR=5.2						
BLA	**Blacksburg**	**59.68**	**349**	*eP*	P	21 56 55.9	-0.1
	6.9nm,0.6s						
532A	**Rocksprings**	**59.84**	**328**	⇑P	P	21 56 56.4	-0.8
	baz=60						
JCT	**Junction City**	**60.08**	**329**	*eP*	P	21 56 58.6	-0.3
	8.8nm,0.8s						
JCT	**Junction City**	**60.08**	**329**	⇓P	P	21 56 58.0	-0.9
	baz=60						
531A	**Rocksprings**	**60.19**	**328**	⇓P	P	21 56 59.5	-0.1
	baz=60,SNR=8.3						
WHTX	**Lake Whitney**	**60.26**	**331**	⇓P	P	21 56 59.6	-0.4
	baz=60						
432A	**Menard**	**60.41**	**329**	⇑P	P	21 57 00.4	-0.7
	baz=61						
WVT	**Waverly**	**60.41**	**342**	*eP*	P	21 56 59.5	-1.4
	22nm,1.0s						
530A	**J-C Ranch, Com**	**60.57**	**327**	⇓P	P	21 57 01.8	-0.5
	baz=61,SNR=11						
431A	**Sonora**	**60.64**	**328**	⇓P	P	21 57 01.9	-0.8
	baz=61,SNR=5.5						
332A	**Millersview**	**60.80**	**329**	⇑P	P	21 57 03.1	-0.6
	baz=61,SNR=8.7						
628A	**Black Gap, Mar**	**60.84**	**325**	⇓P	P	21 57 04.1	0.0
	baz=61,SNR=6.8						
MIAR	**Mount Ida**	**60.88**	**336**	*eP*	P	21 57 03.8	-0.4
	20nm,1.4s						
529A	**Stev Forest Ra**	**61.01**	**326**	⇓P	P	21 57 04.9	-0.3
	baz=61,SNR=13						
430A	**Baggett Ranch,**	**61.04**	**328**	⇑P	P	21 57 04.8	-0.6
	baz=61,SNR=5.7						
331A	**San Angelo**	**61.07**	**329**	⇑P	P	21 57 04.9	-0.7
	baz=61						
627A	**Terlingua Ranc**	**61.08**	**325**	⇑P	P	21 57 05.4	-0.4
	baz=61						
TXAR	**Lajitas Array**	**61.14**	**325**	P	P	21 57 05.6	-0.5
TXAR				pP	pP	21 57 35.0	-0.4
TXAR	**Lajitas Array**	**61.14**	**325**	P	P	21 57 05.6	-0.5
	0.9nm,0.7s,baz=153,slow=8.7,SNR=9.4						
TXAR				pP	pP	21 57 35.0	-0.4
	0.4nm,0.7s,baz=142,slow=11,SNR=3.3						
232A	**Coleman**	**61.17**	**330**	⇓P	P	21 57 05.7	-0.6
	baz=61,SNR=6.2						
429A	**Davenport Ranc**	**61.24**	**327**	⇓P	P	21 57 06.2	-0.6
	baz=62,SNR=5.6						
528A	**Cox Ranch, San**	**61.33**	**326**	⇑P	P	21 57 06.5	-0.9
	baz=62						
330A	**Mertzon**	**61.51**	**328**	⇓P	P	21 57 07.6	-0.9
	baz=62						
231A	**Bronte**	**61.53**	**329**	⇓P	P	21 57 07.6	-1.0
	baz=62						
626A	**Big Bend Ranch**	**61.56**	**324**	⇑P	P	21 57 08.9	-0.1
	baz=62						
527A	**Woodward Ranch**	**61.75**	**325**	⇓P	P	21 57 09.5	-0.8
	baz=62						
ABTX	**Abilene, Hawle**	**61.78**	**330**	⇓P	P	21 57 09.5	-0.8
	baz=62						
SNAA	**Sanae**	**61.91**	**161**	*eP*	P	21 57 10.1	-0.6
	1.4nm,0.7s						
SNAA	**Sanae**	**61.91**	**161**	P	P	21 57 11.0	+0.3
	0.8nm,0.8s,baz=251,slow=8.8,SNR=6.3						
526A	**Mary Lane Ranc**	**61.94**	**325**	⇑P	P	21 57 11.4	-0.1
	baz=62,SNR=6.5						
329A	**Wagon Wheel Ra**	**61.98**	**327**	⇑P	P	21 57 10.9	-0.8
	baz=62						
131A	**Roby**	**62.17**	**329**	⇑P	P	21 57 12.1	-0.8
	baz=62						
427A	**Hayter Ranch,**	**62.20**	**326**	⇓P	P	21 57 12.8	-0.4
	baz=62						
Z32A	**Haskell**	**62.28**	**331**	⇑P	P	21 57 12.7	-0.8
	baz=62						
229A	**Bryant Ranch,**	**62.28**	**328**	⇓P	P	21 57 13.0	-0.7
	baz=62						
328A	**Wristen Ranch,**	**62.31**	**327**	⇑P	P	21 57 13.3	-0.6
	baz=63						
426A	**McDonald Obser**	**62.38**	**325**	⇓P	P	21 57 14.2	-0.4
	baz=63						
130A	**Snyder**	**62.38**	**329**	⇑P	P	21 57 13.6	-0.7
	baz=63						
Z31A	**Sharp Cattle R**	**62.59**	**330**	⇓P	P	21 57 15.0	-0.7
	baz=63						
Y32A	**R-V Farms, Ver**	**62.84**	**331**	⇑P	P	21 57 16.7	-0.6
	baz=63						
129A	**Stewart Farms,**	**62.85**	**328**	⇓P	P	21 57 17.0	-0.5
	baz=63						
326A	**Caldwell Ranch**	**62.87**	**326**	⇓P	P	21 57 17.1	-0.5
	baz=63						
425A	**Indio Mountain**	**62.98**	**325**	⇑P	P	21 57 18.0	-0.5
	baz=63,SNR=6.9						
Z30A	**Sanderson Ranc**	**63.03**	**329**	⇑P	P	21 57 17.8	-0.9
	baz=63,SNR=5.6						
227A	**Bennet, Jal**	**63.06**	**327**	⇓P	P	21 57 18.6	-0.3
	baz=63						
128A	**Castleberry Fa**	**63.15**	**328**	⇑P	P	21 57 18.6	-0.9
	baz=63						
Y31A	**Rekieta Farm,**	**63.18**	**330**	⇑P	P	21 57 18.9	-0.7
	baz=64						
Y30A	**Stafford Cattl**	**63.41**	**330**	⇓P	P	21 57 20.0	-1.1
	baz=64						
325A	**Bean Ranch, Si**	**63.43**	**325**	⇓P	P	21 57 21.0	-0.5
	baz=64,SNR=12						
226B	**Tecolote Peak,**	**63.56**	**326**	⇓P	P	21 57 22.2	0.0
	baz=64						
X31A	**McDonald Ranch**	**63.61**	**331**	⇓P	P	21 57 21.7	-0.7
	baz=64						
Y29A	**Porterfield Fa**	**63.76**	**329**	⇑P	P	21 57 22.4	-1.0
	baz=64						
324A	**Moseley Ranch,**	**63.76**	**325**	⇑P	P	21 57 22.7	-0.9
	baz=64,SNR=7.0						
225A	**Deer Hill, Car**	**63.93**	**326**	⇑P	P	21 57 24.5	-0.2
	baz=64						
126A	**Clayton Basin,**	**63.94**	**327**	⇓P	P	21 57 24.2	-0.5
	baz=64						
W31A	**Holland Ranch,**	**64.06**	**331**	⇑P	P	21 57 24.5	-0.9
	baz=64						
Z27A	**Tatum**	**64.07**	**328**	⇑P	P	21 57 24.6	-1.0
	baz=64,SNR=5.1						
SFIN	**Scholer Farm**	**64.19**	**344**	⇓P	P	21 57 24.4	-1.6
	baz=64						
X29A	**Tulia**	**64.25**	**330**	⇑P	P	21 57 26.0	-0.7
	baz=64						
224A	**Cornudas Mount**	**64.28**	**325**	⇑P	P	21 57 26.2	-0.8
	baz=64,SNR=5.5						
125A	**Gardner Draw,**	**64.28**	**326**	⇑P	P	21 57 26.3	-0.6
	baz=64						
MSTX	**Muleshoe**	**64.38**	**328**	⇓P	P	21 57 26.4	-1.1
	baz=65,SNR=6.9						
Y27A	**Causey**	**64.50**	**328**	⇓P	P	21 57 27.5	-0.9
	baz=65						
V31A	**Spring Creek L**	**64.51**	**332**	⇑P	P	21 57 28.2	-0.1
	baz=65						
X28A	**Dimmitt**	**64.55**	**329**	⇑P	P	21 57 28.0	-0.7
	baz=65						
124A	**Stringfield Ra**	**64.72**	**326**	⇓P	P	21 57 29.6	-0.4
	baz=65						
Z25A	**Roswell**	**64.80**	**327**	⇓P	P	21 57 29.5	-0.8
	baz=65						
222A	**Williams Famil**	**65.15**	**324**	⇓P	P	21 57 32.9	+0.3
	baz=65						
Y25A	**Mesa, Roswell**	**65.29**	**327**	⇑P	P	21 57 32.7	-0.8
	baz=66						
X26A	**CR and CF Fran**	**65.35**	**328**	⇑P	P	21 57 33.3	-0.5
	baz=66						
W27A	**Bowe Ranch, En**	**65.40**	**329**	⇑P	P	21 57 33.6	-0.5
	baz=66						
Y24A	**Capitan**	**65.67**	**326**	⇑P	P	21 57 36.1	+0.1
	baz=66						
W26A	**Owens Ranch, T**	**65.76**	**328**	⇓P	P	21 57 36.3	-0.2
	baz=66						
220A	**Playas Peak, P**	**65.78**	**323**	⇓P	P	21 57 37.2	+0.5
	baz=66						
319A	**Douglas**	**65.82**	**322**	⇓P	P	21 57 37.6	+0.7
	baz=66						
121A	**Cookes Peak, D**	**65.85**	**324**	⇑P	P	21 57 37.6	+0.4
	baz=66						
Z22A	**Elephant Butte**	**65.95**	**325**	⇑P	P	21 57 38.2	+0.4
	baz=66,SNR=8.6						
Y23A	**Lovelace Mesa,**	**66.00**	**326**	⇓P	P	21 57 38.0	-0.1
	baz=66						
U28A	**Malt**	**66.08**	**330**	⇓P	P	21 57 38.0	-0.5
	baz=66						
X24A	**Lazy VL Ranch,**	**66.17**	**327**	⇓P	P	21 57 39.0	-0.3
	baz=66						
W25A	**X Bar L Ranch,**	**66.21**	**328**	⇑P	P	21 57 39.1	-0.2
	baz=66						
120A	**U Bar Ranch, L**	**66.33**	**323**	⇑P	P	21 57 40.8	+0.6
	baz=67						
V26A	**Tequesquite Ra**	**66.34**	**329**	⇑P	P	21 57 39.9	-0.3
	baz=67						
Z21A	**St. Cloud Mine**	**66.38**	**324**	⇑P	P	21 57 41.4	+0.8
	baz=67						
X23A	**Hourglass Bar**	**66.57**	**326**	⇓P	P	21 57 41.8	+0.1
	baz=67						
W24A	**Lazy 6 Ranch,**	**66.67**	**327**	⇑P	P	21 57 42.0	-0.4
	baz=67						
Z20A	**Nine Sixteen R**	**66.73**	**324**	⇑P	P	21 57 43.3	+0.5
	baz=67						
V25A	**Rancho No Teng**	**66.78**	**328**	⇑P	P	21 57 42.8	-0.3
	baz=67						
U26A	**Atchley Ranch,**	**66.80**	**329**	⇑P	P	21 57 43.1	-0.1
	baz=67						
T27A	**Campo**	**66.87**	**330**	⇑P	P	21 57 43.4	-0.1
	baz=67						
Y21A	**Point of Rocks**	**66.91**	**325**	⇑P	P	21 57 44.9	+0.9
	baz=67,SNR=5.0						
S28A	**Manter**	**66.93**	**331**	⇑P	P	21 57 43.8	-0.1
	baz=67						
X22A	**Berardo**	**66.94**	**326**	⇓P	P	21 57 45.4	+1.3
	baz=67						
W23A	**Werner Place,**	**67.01**	**327**	⇓P	P	21 57 44.7	+0.2
	baz=67						
V24A	**Rampart Ranch,**	**67.01**	**328**	⇑P	P	21 57 44.4	-0.1
	baz=67						
Q31A	**Ellis**	**67.05**	**334**	⇑P	P	21 57 44.5	0.0
	baz=67						
U25A	**Circle Dot Ran**	**67.12**	**329**	⇓P	P	21 57 45.0	-0.2
	baz=67						
Y20A	**Horse Springs,**	**67.21**	**324**	⇓P	P	21 57 46.4	+0.5
	baz=67						
X21A	**Alamocita Cree**	**67.30**	**325**	⇑P	P	21 57 47.3	+0.8
	baz=68						
W22A	**Albuquerque**	**67.31**	**326**	⇑P	P	21 57 47.4	+1.0
	baz=68						
T26A	**Comanche Natio**	**67.36**	**330**	⇓P	P	21 57 46.8	+0.1
	baz=68						
Q30A	**Quinter**	**67.37**	**333**	⇑P	P	21 57 46.4	-0.1
	baz=68						
V23A	**Ortiz Mt. (NFS**	**67.48**	**327**	⇑P	P	21 57 48.2	+0.7
	baz=68						
R28A	**Tribune**	**67.52**	**332**	⇑P	P	21 57 47.8	+0.3
	baz=68						
S26A	**Kim**	**67.67**	**330**	⇑P	P	21 57 48.9	+0.3
	baz=68						
X20A	**Quemado**	**67.76**	**325**	⇑P	P	21 57 50.2	+0.9
	baz=68						
V22A	**San Miguel Ran**	**67.98**	**327**	⇓P	P	21 57 51.3	+0.6
	baz=68						
S25A	**Robets Cordova**	**68.15**	**330**	⇓P	P	21 57 51.9	+0.3
	baz=68						
DBIC	**Dimbokro**	**68.16**	**73**	*eP*	P	21 57 52.5	+0.6
	4.8nm,0.6s						
DBIC	**Dimbokro**	**68.16**	**73**	P	P	21 57 52.3	+0.4
	3.4nm,0.6s,baz=198,slow=7.1,SNR=9.6						
W20A	**Ramah**	**68.20**	**325**	⇓P	P	21 57 52.6	+0.5
	baz=68						
R26A	**Arlington**	**68.21**	**331**	⇑P	P	21 57 51.8	-0.1
	baz=68,SNR=5.5						
214A	**Organ Pipe Nat**	**68.31**	**320**	⇑P	P	21 57 54.0	+1.4
	baz=68						
S24A	**Houchin Ranch,**	**68.50**	**329**	⇓P	P	21 57 54.5	+0.5
	baz=69						
X18A	**Snowflake**	**68.54**	**324**	⇓P	P	21 57 55.2	+1.1
	baz=69						
BGNE	**Belgrade**	**68.63**	**336**	⇓P	P	21 57 54.2	-0.1
	baz=69						
SDCO	**Great Sand Dun**	**68.72**	**329**	*eP*	P	21 57 55.5	+0.2
	2.3nm,0.6s						
Q26A	**Hugo**	**68.75**	**331**	⇓P	P	21 57 55.8	+0.5
	baz=69						
U21A	**Nageezi**	**68.76**	**327**	⇓P	P	21 57 56.2	+0.7
	baz=69						
T22A	**Edith**	**68.83**	**328**	⇓P	P	21 57 56.6	+0.6
	baz=69						
W18A	**Petrified Fore**	**68.86**	**324**	⇑P	P	21 57 56.9	+0.8
	baz=69						
R24A	**Sanders Place,**	**68.92**	**330**	⇑P	P	21 57 56.9	+0.5
	baz=69,SNR=7.1						
T21A	**Navajo Lake**	**69.13**	**327**	⇑P	P	21 57 58.3	+0.5
	baz=69						
U20A	**Newcomb**	**69.17**	**326**	⇓P	P	21 57 58.5	+0.6
	baz=69						
P26A	**Davis Ranch, A**	**69.19**	**332**	⇑P	P	21 57 58.3	+0.3
	baz=70						
R23A	**Moffat**	**69.23**	**329**	⇑P	P	21 57 58.9	+0.4
	baz=70						
X16A	**Lo Mia Camp, P**	**69.28**	**323**	⇓P	P	21 58 00.2	+1.4
	baz=70						
S22A	**4UR Ranch, Cre**	**69.37**	**328**	⇑P	P	21 57 59.5	+0.2
	baz=70						
113A	**Mohawk Valley,**	**69.45**	**320**	⇑P	P	21 58 01.1	+1.5
	baz=70						
P25A	**Willow Gulch B**	**69.52**	**331**	⇓P	P	21 58 00.5	+0.5
	baz=70						
Q24A	**Divide**	**69.53**	**330**	⇑P	P	21 58 00.7	+0.4
	baz=70						
S21A	**Coal Bank Pass**	**69.78**	**327**	⇓P	P	21 58 02.3	+0.4
	baz=70						
MVCO	**Mesa Verde**	**69.79**	**327**	*eP*	P	21 58 01.2	-0.7
	4.6nm,0.7s						
MVCO	**Mesa Verde**	**69.79**	**327**	⇑P	P	21 58 02.5	+0.6
	baz=70						
Y14A	**Wickenburg**	**69.83**	**321**	⇑P	P	21 58 03.3	+1.4
	baz=70						
M28A	**Bar X Bar Ranc**	**69.88**	**334**	⇑P	P	21 58 02.7	+0.6
	baz=70						
WUAZ	**Wupatki**	**70.05**	**324**	*eP*	P	21 58 03.6	+0.2
	5.6nm,0.9s						
WUAZ	**Wupatki**	**70.05**	**324**	⇓P	P	21 58 04.8	+1.4
	baz=70						
L29A	**Maesberg Ranch**	**70.08**	**335**	⇑P	P	21 58 03.9	+0.5
	baz=70						
P23A	**Jefferson**	**70.18**	**330**	⇓P	P	21 58 04.9	+0.6
	baz=70						
S20A	**Disappointment**	**70.20**	**327**	⇑P	P	21 58 05.0	+0.6
	baz=70						
R21A	**Cimarron**	**70.21**	**328**	⇑P	P	21 58 05.2	+0.8
	baz=70						
GLA	**Glamis**	**70.29**	**320**	⇑P	P	21 58 06.1	+1.4
	baz=70						
ISCO	**Idaho Springs**	**70.41**	**330**	⇑P	P	21 58 06.0	+0.4
	baz=71						
R20A	**Redvale**	**70.48**	**327**	⇑P	P	21 58 07.0	+0.9
	baz=71						
Q21A	**Lamborn Mesa,**	**70.58**	**328**	⇑P	P	21 58 06.8	+0.2
	baz=71						
Y12C	**Blythe**	**70.59**	**320**	⇓P	P	21 58 08.1	+1.6
	baz=71						
K29A	**Lazy Trails An**	**70.61**	**335**	⇑P	P	21 58 06.8	+0.3
	baz=71						
Q20A	**Ridgley Place,**	**71.03**	**328**	⇑P	P	21 58 09.7	+0.4
	baz=71						
BC3	**Big Chuckawall**	**71.08**	**320**	⇓P	P	21 58 11.0	+1.4
	baz=71						
O22A	**Kremmling**	**71.14**	**330**	⇑P	P	21 58 10.3	+0.3
	baz=71						
W13A	**Hualapai Mount**	**71.17**	**322**	⇓P	P	21 58 10.3	0.0
	baz=71						
U15A	**North Rim**	**71.22**	**324**	⇓P	P	21 58 11.8	+1.2
	baz=72,SNR=6.7						
IRM	**Iron Mountain**	**71.25**	**320**	⇓P	P	21 58 11.9	+1.4
	baz=72						
N23A	**Red Feather La**	**71.44**	**331**	⇓P	P	21 58 12.0	+0.2
	baz=72						
P20A	**De Beque**	**71.50**	**328**	⇑P	P	21 58 12.5	+0.4
	baz=72						
J28A	**Allard Ranch,**	**71.53**	**335**	⇓P	P	21 58 12.2	+0.2
	baz=72						
L25A	**Engebretsen Ra**	**71.59**	**333**	⇑P	P	21 58 12.9	+0.4
	baz=72						
N22A	**Wattenberg Ran**	**71.60**	**330**	⇑P	P	21 58 13.5	+0.7
	baz=72						
BELC	**Belle Mtn. Jos**	**71.65**	**320**	⇑P	P	21 58 14.2	+1.1
	baz=72						
PFO	**Pinyon Flat Ob**	**71.66**	**319**	⇑P	P	21 58 14.1	+1.0
	baz=72						
P19A	**Cripple Cowboy**	**71.89**	**328**	⇓P	P	21 58 15.2	+0.7
	baz=72,SNR=14						
GMRC	**Granite Mounta**	**71.98**	**320**	⇑P	P	21 58 16.2	+1.2
	baz=72,SNR=7.1						
N21A	**Black Mountain**	**72.06**	**330**	⇑P	P	21 58 16.1	+0.6
	baz=72						
M22A	**Cedar Creek Ra**	**72.14**	**331**	⇑P	P	21 58 16.3	+0.3
	baz=72						
L23A	**Garrett**	**72.31**	**332**	⇓P	P	21 58 17.1	+0.2
	baz=73						
HEC	**Hector,Ludlow**	**72.42**	**320**	⇑P	P	21 58 19.0	+1.5
	baz=73						
Q16A	**Castle Valley**	**72.46**	**326**	⇑P	P	21 58 19.2	+1.4
	baz=73						
N20A	**Spence Gulch,**	**72.47**	**329**	⇑P	P	21 58 18.0	0.0
	baz=73						
O19A	**Miners Draw (B**	**72.47**	**328**	⇑P	P	21 58 18.5	+0.6
	baz=73,SNR=5.4						
H28A	**Mission Ridge**	**72.51**	**336**	⇑P	P	21 58 17.8	0.0
	baz=73						
L22A	**Ellis Ranch, M**	**72.57**	**331**	⇓P	P	21 58 19.4	+1.0
	baz=73						
CCUT	**Cedar City**	**72.63**	**324**	*eP*	P	21 58 18.5	-0.4
	9.4nm,1.0s						
M21A	**Separation Pea**	**72.66**	**330**	⇓P	P	21 58 18.8	-0.2
	baz=73						
BFSC	**Mount Baldy Ra**	**72.82**	**319**	⇑P	P	21 58 21.3	+1.3
	baz=73						
L21A	**Rawlins**	**72.94**	**330**	⇑P	P	21 58 20.8	+0.2
	baz=73,SNR=5.8						
M20A	**Sweetwater, Wa**	**72.95**	**330**	⇓P	P	21 58 21.1	+0.4
	baz=73						
GSC	**Goldstone**	**73.02**	**320**	⇑P	P	21 58 22.3	+1.2
	baz=73						
I25A	**Rochford**	**73.02**	**334**	⇓P	P	21 58 21.6	+0.6
	baz=73						
L20A	**Wamsutter**	**73.42**	**330**	⇑P	P	21 58 23.9	+0.4
	baz=74						
EDW2	**Edwards Air Fo**	**73.45**	**319**	⇓P	P	21 58 24.8	+1.2
	baz=74						
J22A	**Midwest**	**73.69**	**332**	⇑P	P	21 58 25.2	+0.3
	baz=74						
K20A	**Yellowstone Ra**	**73.93**	**330**	⇑P	P	21 58 26.7	+0.3
	baz=74						
MPMC	**Manual Prospec**	**73.94**	**320**	⇓P	P	21 58 27.8	+1.2
	baz=74						
H24A	**Dirks Ranch, A**	**73.96**	**334**	⇓P	P	21 58 26.4	0.0
	baz=74						
L19A	**Farson**	**73.97**	**329**	⇓P	P	21 58 27.5	+0.7
	baz=74						
J21A	**Lysite**	**74.07**	**331**	⇑P	P	21 58 27.5	+0.3
	baz=74						
I22A	**9 Mile Ranch,**	**74.08**	**332**	⇓P	P	21 58 27.6	+0.4
	baz=74						
L18A	**Fontenelle, Gr**	**74.16**	**329**	⇑P	P	21 58 28.5	+0.7
	baz=74						
DUG	**Dugway**	**74.26**	**326**	⇑P	P	21 58 29.4	+1.0
	baz=74						
ISA	**Isabella**	**74.27**	**319**	⇓P	P	21 58 29.0	+0.6
	baz=74						
K19A	**Absolon Red Bu**	**74.30**	**330**	⇑P	P	21 58 28.9	+0.4
	baz=75						
J20A

2.7nm,0.6s
E21A Keefer Ranch, 76.45 334 ⇓P **P** **21 58 41.3 +0.7**
baz=77
G18A Lazy EL Ranch, 76.55 331 ⇓P **P** **21 58 42.1 +0.8**
baz=77
F19A Roth Farm, Mol 76.70 332 ⇓P **P** **21 58 42.5 +0.4**
baz=77,SNR=5.4
TOA0 Torodi Ar. Sit 76.80 70 *eP* **P** **21 58 43.9 +0.7**
TORD Torodi Ar. Bea 76.80 70 P **P** **21 58 43.9 +0.7**
TORD pP **pP** **21 59 15.1 +1.4**
TORD Torodi Ar. Bea 76.80 70 P **P** **21 58 43.8 +0.7**
2.1nm,0.5s,baz=254,slow=5.0,SNR=25
TORD pP **pP** **21 59 15.1 +1.4**
2.3nm,0.8s,baz=253,slow=5.6,SNR=4.0
D21A La Casta Ranch 76.83 334 ⇓P **P** **21 58 43.4 +0.7**
baz=77
E20A Meyer Farm, Mu 76.86 333 ⇓P **P** **21 58 43.7 +0.8**
baz=77
DGMT Dagmar 76.89 336 ⇓P **P** **21 58 43.7 +0.7**
baz=77
C22A Vida 76.94 335 ⇑P **P** **21 58 43.3 +0.1**
baz=77
F18A Big Timber 77.08 332 ⇑P **P** **21 58 44.8 +0.6**
baz=77,SNR=7.3
E19A Rath Farm, Rou 77.11 333 ⇓P **P** **21 58 44.8 +0.5**
baz=77,SNR=10
C21A Desert Coulee 77.49 334 ⇑P **P** **21 58 47.1 +0.7**
baz=78
F17A Fitzpatrick Pl 77.50 331 ⇓P **P** **21 58 47.4 +0.8**
baz=78
E18A Harlowton 77.68 332 ⇓P **P** **21 58 48.1 +0.6**
baz=78
D19A Cripps Ranch, 77.70 333 ⇑P **P** **21 58 48.1 +0.5**
baz=78
MCMT McKenzie Canyo 77.70 329 *eP* **P** **21 58 48.3 +0.5**
2.5nm,0.9s
C20A Veseth Ranch, 77.77 334 ⇑P **P** **21 58 48.2 +0.3**
baz=78
B21A Ellsworth Farm 77.94 335 ⇑P **P** **21 58 49.4 +0.6**
baz=78
A22A Carney Farms, 77.96 336 ⇓P **P** **21 58 49.6 +0.6**
baz=78
E17A Martinsdale 78.01 331 ⇓P **P** **21 58 50.3 +0.8**
baz=78
MFID Camas Ranch 78.14 327 ⇑P **P** **21 58 51.8 +1.6**
baz=78
F15A Butte 78.29 330 ⇑P **P** **21 58 51.9 +0.9**
baz=78
B20A Solberg Farm, 78.35 334 ⇓P **P** **21 58 51.8 +0.7**
baz=79
E16A East Helena 78.43 331 ⇑P **P** **21 58 52.7 +1.0**
baz=79
H12A Diamond D Ranc 78.47 328 ⇓P **P** **21 58 53.0 +0.9**
baz=79
D17A Six Diamond Ra 78.47 332 ⇑P **P** **21 58 52.6 +0.7**
baz=79
A20A Cobblestone Ra 78.66 335 ⇑P **P** **21 58 53.5 +0.7**
baz=79
B19A Brinkman Farms 78.74 334 ⇑P **P** **21 58 54.0 +0.7**
baz=79
D16A Dana Ranch, Ca 78.75 331 ⇑P **P** **21 58 54.1 +0.6**
baz=79
A19A Klindworth Far 79.03 334 ⇑P **P** **21 58 55.2 +0.3**
baz=79
B18A Beardsley Farm 79.04 333 ⇓P **P** **21 58 55.4 +0.5**
baz=79
B17A L&G Farms, Che 79.39 333 ⇓P **P** **21 58 57.3 +0.5**
baz=80
C16A Fuhringer Ranc 79.43 332 ⇑P **P** **21 58 57.7 +0.6**
baz=80
A18A Metzger Ranch, 79.47 334 ⇑P **P** **21 58 57.2 0.0**
baz=80
MOD Modoc 79.49 323 *eP* **P** **21 58 57.1 -0.5**
1.9nm,0.8s
C15A Salmond Ranch, 79.79 331 ⇑P **P** **21 58 59.9 +0.8**
baz=80
A17A Triple J Farms 79.85 333 ⇑P **P** **21 58 59.7 +0.4**
baz=80
D13A Huson 80.13 330 ⇑P **P** **21 59 01.6 +0.7**
baz=80
E12A Beaver Dam Sad 80.16 329 ⇓P **P** **21 59 01.8 +0.7**
baz=80
B15A Bradley Ranch, 80.17 332 ⇑P **P** **21 59 01.4 +0.3**
baz=80
C14A Swan Lake 80.30 331 ⇑P **P** **21 59 02.5 +0.7**
baz=81
B14A Marquette Ranc 80.52 331 ⇑P **P** **21 59 03.6 +0.6**
baz=81
C13A Hot Springs 80.61 330 ⇓P **P** **21 59 04.2 +0.8**
baz=81
A14A Double T Ranch 81.04 332 ⇑P **P** **21 59 06.1 +0.4**
baz=81
B13A Whitefish 81.07 331 ⇓P **P** **21 59 06.8 +0.9**
baz=81
B12A Libby 81.65 330 ⇓P **P** **21 59 09.7 +0.9**
baz=82
A12A Yaak River Ran 82.02 331 ⇑P **P** **21 59 11.5 +0.7**
baz=82
BOSA Boshof 82.79 118 *eP* **P** **21 59 16.0 +0.5**
5.1nm,1.0s
BOSA Boshof 82.79 118 P **P** **21 59 17.1 +1.5**
4.2nm,0.9s,baz=212,slow=3.7,SNR=3.2
MAW Mawson 83.98 163 P **P** **21 59 21.8 +1.1**
0.9nm,0.7s,baz=207,slow=2.3,SNR=4.9
ESDC Sonseca Array 85.50 44 P **P** **21 59 28.6 -0.1**
ESDC Sonseca Array 85.50 44 P **P** **21 59 28.6 -0.1**
0.1nm,0.3s,baz=236,slow=5.1,SNR=4.8
YKA Yellowknife Ar 91.56 340 P **P** **21 59 57.0 +0.1**
YKA Yellowknife Ar 91.56 340 P **P** **21 59 57.0 +0.1**
5.5nm,0.7s,baz=134,slow=4.5,SNR=25
ASAR Alice Springs 130.06 207 PKP **PKPdf** **22 06 00.6 -0.1**
ASAR Alice Springs 130.06 207 PKP **PKPdf** **22 06 00.6 -0.1**
0.6nm,0.7s,baz=121,slow=1.7,SNR=5.2
WRA Warramunga Arr 133.14 210 PKP **PKPdf** **22 06 07.0 +0.4**
WRA Warramunga Arr 133.14 210 PKP **PKPdf** **22 06 07.0 +0.4**
0.9nm,0.6s,baz=160,slow=1.7,SNR=9.3
BVAR Borovoye Array 135.56 35 PKP **PKPdf** **22 06 11.4 +1.4**
BVAR Borovoye Array 135.56 35 PKP **PKPdf** **22 06 11.4 +1.4**
0.3nm,0.5s,baz=261,slow=2.8,SNR=3.1
KURK Kurchatov 141.11 34 PKP **PKPdf** **22 06 20.8 +0.6**
KURBB Kurchatov Arra 141.12 34 PKP **PKPdf** **22 06 20.8 +0.6**
0.5nm,0.6s,baz=309,slow=2.8,SNR=9.1
ZALV Zalesovo Beam 141.82 26 PKP **PKPdf** **22 06 21.6 +0.3**
ZALV Zalesovo Beam 141.82 26 PKP **PKPdf** **22 06 21.6 +0.3**
1.8nm,0.7s,baz=298,slow=2.1,SNR=5.9
MK31 Makanchi Array 145.38 37 *e*PKP **PKPab** **22 06 28.6 +0.3**
MKAR Makanchi Array 145.38 37 PKPbc **PKPbc** **22 06 28.0 -0.1**
MKAR pPKPbc pPKPbc 22 07 00.5 +0.1
MKAR Makanchi Array 145.38 37 PKPbc **PKPbc** **22 06 28.0 -0.1**
1.9nm,0.6s,baz=329,slow=4.5,SNR=29
MKAR pPKPbc pPKPbc 22 07 00.5 +0.1
2.3nm,1.0s,baz=314,slow=3.8,SNR=4.7
ASAJ Asahikawa 146.11 319 PKPbc **PKPdf** **22 06 29.1 0.0**
ASAJ Asahikawa 146.11 319 PKPbc **PKPdf** **22 06 29.1 0.0**
1.3nm,0.3s,baz=68,slow=9.9,SNR=3.8
USRK Ussuriysk Arra 152.00 328 PKP **PKPdf** **22 06 39.8 +1.2**
1.7nm,0.6s,baz=146,slow=42,SNR=1.6
USRK PKPbc **PKiKP** **22 06 45.7 +0.1**
3.9nm,0.8s,baz=337,slow=2.4,SNR=7.5
MJAR Matsushiro Arr 152.69 309 PKPbc **PKPbc** **22 06 47.0 -0.1**
MJAR Matsushiro Arr 152.69 309 PKPbc **PKPbc** **22 06 47.0 -0.1**
1.1nm,0.8s,baz=113,slow=1.3,SNR=4.9
SONM Songino Array 153.53 8 PKPbc **PKPbc** **22 06 49.0 +0.2**
SONM Songino Array 153.53 8 PKPbc **PKPbc** **22 06 49.0 +0.2**
0.5nm,0.3s,baz=11,slow=1.5,SNR=2.0

*ISCJB **06** 22:03:07.7±1.0,38°.82N±0°.05×141°.68E±0°.10,h69km±5km, mb3.3/3, Error ellipse: s-maj=12.9km s-min=7.0km az=19.9*
*JMA **06** 22:03:08.7,38°.83N×141°.65E,h64km±1km,M2.9*
JMA Felt I J1.
*IDC **06** 22:03:12.8±3.1,40°.54N×140°.75E,h0km,mb3.5/4, mb1 3.5/5,mb1mx3.4/25,mbtmp3.4/5,ML2.7/1, Error ellipse: s-maj=93.5km s-min=26.8km az=67.0*

ISC 06 22:03:08.2±1.5,38.82N±0°.05×141.70E±0°.10,h65km±8km, n16,σ0s25/21,mb3.5/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.26**	**355**	P	**Pn**	**22 03 19.0**	**+0.4**
OFUJ				S	**Sn**	**22 03 26.1**	**-0.1**
JMK	**Ichinoseki**	**0.40**	**290**	P	**Pn**	**22 03 19.6**	**0.0**
JMK				S	**Sn**	**22 03 27.4**	**-0.5**
JIO	**Ouri**	**0.46**	**217**	P	**Pn**	**22 03 20.4**	**+0.3**
JIO				S	**Sn**	**22 03 28.6**	**-0.2**
JOM	**Ohasama**	**0.73**	**334**	P	**Pn**	**22 03 23.2**	**+0.1**
JOM				S	**Sn**	**22 03 34.0**	**0.0**
JOU	**Okura**	**0.93**	**241**	P	**Pn**	**22 03 25.8**	**+0.2**
JOU				S	**Sn**	**22 03 38.4**	**0.0**
JRG	**Rokugo**	**1.01**	**305**	P	**Pn**	**22 03 26.6**	**0.0**
JRG				S	**Sn**	**22 03 39.9**	**-0.3**
JYK	**Kaneyama**	**1.05**	**276**	P	**Pn**	**22 03 27.3**	**+0.2**
JYK				*e*S	**Sn**	**22 03 41.2**	**0.0**
JMM	**Marumori**	**1.19**	**217**	P	**Pn**	**22 03 28.8**	**-0.1**
JMM				*e*S	**Sn**	**22 03 43.9**	**-0.4**
JYS	**Shirataka**	**1.42**	**246**	S	**Sn**	**22 03 49.6**	**-0.1**
JANG	**Nango**	**1.56**	**355**	P	**Pn**	**22 03 33.8**	**0.0**
JYA	**Atsumi**	**1.57**	**262**	P	**Pn**	**22 03 34.2**	**+0.3**
MJAR	**Matsushiro Arr**	**3.58**	**232**	Pn	Pn	22 04 20.8	+19
	0.4nm,0.3s,baz=32,slow=13,SNR=3.4						
MJAR				Sn	Sn	22 05 04.5	+22
	0.3nm,0.3s,baz=27,slow=27,SNR=3.3						
MKAR	**Makanchi Array**	**43.39**	**301**	P	**P**	**22 11 04.3**	**+0.2**
	0.3nm,0.7s,baz=91,slow=9.3,SNR=5.1						
KURBB	**Kurchatov Arra**	**45.10**	**307**	P	**P**	**22 11 17.6**	**-0.1**
	0.2nm,0.4s,baz=81,slow=8.0,SNR=5.9						
WRA	**Warramunga Arr**	**58.86**	**188**	P	P	22 13 25.4	+25
	0.4nm,0.9s,baz=18,slow=6.2,SNR=2.8						
ASAR	**Alice Springs**	**62.58**	**188**	P	P	22 13 48.6	+23
	0.3nm,0.6s,baz=8.9,slow=6.6,SNR=3.6						

MEX 06 22:06:22.5±0.4,15°.81N×99°.59W,h17km±39km, MD4.2, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**1.39**	**332**	*i* P	Pn	22 06 42.9	-4.3
CAIG				*e*S	Sn	22 07 00.2	-5.1
PNIG	**Pinotepa**	**1.52**	**67**	*i* P	Pn	22 06 46.3	-2.6
PNIG				*e*S	Sn	22 07 02.8	-5.5
ZIIG	**Zihuatanejo**	**2.54**	**315**	*i* P	Pn	22 07 00.6	-2.4
ZIIG				*i* S	Sn	22 07 29.1	-4.4
ARIG	**Puente Sto Nin**	**2.56**	**344**	*i* P	Pn	22 07 00.8	-2.5
ARIG				*e*S	Sn	22 07 30.6	-3.6
PLIG	**Platanillo**	**2.57**	**2**	*i* P	Pn	22 07 01.1	-2.4
PLIG				*e*S	Sn	22 07 30.9	-3.6
YAIG	**Yautepec**	**3.08**	**9**	*i* P	Pn	22 07 08.2	-2.3
YAIG				*e*S	Sn	22 07 43.2	-3.9

*IDC **06** 22:22:25.7±0.9,34°.10N×25°.67E,h0km,mb3.8/12, mb1 3.9/20,mb1mx3.8/34,mbtmp3.8/20,ML3.7/6,MS2.6/1, Ms1 2.6/1,ms1mx2.0/52,Error ellipse: s-maj=22.3km s-min=14.2km az=176.0*
*DDA **06** 22:22:27.8,33°.88N×25°.95E,h14km,MD3.5*
*ISCJB **06** 22:22:29.1±0.3,33°.96N±0°.02×25°.76E±0°.03,h44km±6km, mb3.8/12,Error ellipse: s-maj=4.6km s-min=3.4km az=146.8*
*HLW **06** 22:22:29.7,34°.03N×25°.79E,h31km±26km,Md3.1,Ml3.4*
*CSEM **06** 22:22:30.2±0.1,33°.97N×25°.67E,h30km,MD3.6,Error ellipse: s-maj=4.2km s-min=2.7km az=52.0*
*THE **06** 22:22:31.8,34°.17N×25°.59E,h10km±2km,ML3.1/1,Error ellipse: s-maj=2.5km s-min=0.7km az=233.0*
*ATH **06** 22:22:34.9,34°.45N×25°.63E,h37km±2km,MD3.6/17*

ISC 06 22:22:29.6±1.7,33°.99N±0°.03×25°.68E±0°.04,h29km±13km, n114,σ1s47/135,mb3.8/12,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**1.18**	**352**	P	**Pn**	**22 22 49.9**	**-0.3**
LAST				S	**Sn**	**22 23 04.4**	**-0.9**
LAST	**Lasithi**	**1.18**	**352**	*e*PN	**Pn**	**22 22 49.8**	**-0.4**
LAST				*e*SN	**Sn**	**22 23 00.5**	**-4.8**
LAST	**Lasithi**	**1.18**	**352**	P	**Pn**	**22 22 49.9**	**-0.3**
LAST				*e*Sn	**Sn**	**22 23 00.5**	**-4.8**
LAST				S		22 23 04.4	
ZKR	**Zakros**	**1.20**	**21**	P	**Pn**	**22 22 51.3**	**+0.8**
ZKR				S	**Sn**	**22 23 06.6**	**+0.8**
ZKR	**Zakros**	**1.20**	**21**	*e*PN	**Pn**	**22 22 50.8**	**+0.3**
ZKR				*e*SN	**Sn**	**22 23 02.7**	**-3.1**
ZKR	**Zakros**	**1.20**	**21**	*e*Pn	**Pn**	**22 22 50.8**	**+0.3**
ZKR	**Zakros**	**1.20**	**21**	P	**Pn**	**22 22 51.3**	**+0.8**
ZKR				*e*Sn	**Sn**	**22 23 02.7**	**-3.1**
ZKR				S		22 23 06.1	
SIVA	**Sivas**	**1.25**	**325**	P	**Pn**	**22 22 51.1**	**0.0**
SIVA	**Sivas**	**1.25**	**325**	*e*PN	**Pn**	**22 22 51.6**	**+0.5**
SIVA				*e*SN	**Sn**	**22 23 04.8**	**-2.2**
SIVA	**Sivas**	**1.25**	**325**	P	**Pn**	**22 22 51.1**	**0.0**
SIVA	**Sivas**	**1.25**	**325**	*e*Pn	**Pn**	**22 22 51.6**	**+0.5**
SIVA				*e*Sn	**Sn**	**22 23 04.8**	**-2.2**
NPS	**Neapolis**	**1.27**	**357**	P	**Pn**	**22 22 51.5**	**+0.1**
NPS	**Neapolis**	**1.27**	**357**	*e*PN	**Pn**	**22 22 50.7**	**-0.7**
NPS				*e*SN	Sn	22 23 01.7	-5.8
NPS	**Neapolis**	**1.27**	**357**	*e*Pn	**Pn**	**22 22 50.7**	**-0.7**
NPS	**Neapolis**	**1.27**	**357**	P	**Pn**	**22 22 51.5**	**+0.1**
NPS				*e*Sn	Sn	22 23 01.7	-5.8
IDI	**Anoyia**	**1.45**	**333**	P	**Pn**	**22 22 53.9**	**0.0**
IDI	**Anoyia**	**1.45**	**333**	*e*PN	**Pn**	**22 22 54.9**	**+1.0**
IDI				*e*SN	**Sn**	**22 23 08.9**	**-3.1**
IDI	**Anoyia**	**1.45**	**333**	P	**Pn**	**22 22 53.9**	**0.0**
IDI	**Anoyia**	**1.45**	**333**	*e*Pn	**Pn**	**22 22 54.9**	**+1.0**
IDI				*e*Sn	**Sn**	**22 23 08.9**	**-3.1**
VAM	**Vamos**	**1.87**	**320**	P	**Pn**	**22 23 01.2**	**+1.6**
VAM	**Vamos**	**1.87**	**320**	*e*PB	**Pn**	**22 23 01.3**	**+1.6**
VAM				*e*SN	**Sn**	**22 23 20.5**	**-1.7**
VAM	**Vamos**	**1.87**	**320**	P	**Pn**	**22 23 01.2**	**+1.6**
VAM				*e*Sn	**Sn**	**22 23 20.5**	**-1.7**
KARP	**Karpathos**	**1.97**	**38**	P	**Pn**	**22 23 02.7**	**+1.6**
KARP				S	**Sn**	**22 23 26.6**	**+1.8**
KARP	**Karpathos**	**1.97**	**38**	*e*PB	**Pb**	**22 23 04.1**	**-0.7**
KARP	**Karpathos**	**1.97**	**38**	P	**Pn**	**22 23 02.7**	**+1.6**
KARP	**Karpathos**	**1.97**	**38**	*e*Pb	**Pb**	**22 23 04.1**	**-0.7**
KARP				S	**Sn**	**22 23 26.6**	**+1.8**
SANT	**Santorini**	**2.38**	**356**	P	**Pn**	**22 23 07.6**	**+0.9**
SANT	**Santorini**	**2.38**	**356**	*e*PN	**Pn**	**22 23 07.1**	**+0.4**
SANT	**Santorini**	**2.38**	**356**	*e*Pn	**Pn**	**22 23 07.1**	**+0.4**
SANT	**Santorini**	**2.38**	**356**	P	**Pn**	**22 23 07.6**	**+0.9**
LTBQ	**Tobruq**	**2.43**	**218**	*i* P	Pn	22 23 11.0	+3.6
	SNR=50						
LTBQ				*e*S	**Sn**	**22 23 40.0**	**+3.8**
	64nm,0.5s,SNR=50						
SLUM		**2.52**	**189**	S	**Sn**	**22 23 38.5**	**+0.1**
	baz=191						
SLUM		**2.52**	**189**	P	**Pn**	**22 23 08.9**	**+0.3**
SLUM				S	**Sn**	**22 23 38.5**	**+0.1**
MATC	**Matruh**	**2.94**	**153**	P	**Pn**	**22 23 14.3**	**-0.1**
	baz=155						
ARG	**Arkhangelos**	**2.99**	**41**	*e*PN	Pn	22 23 18.0	+3.0
APE	**Arkhangelos**	**2.99**	**41**	*e*Pn	Pn	22 23 18.0	+3.0
APE	**Apeiranthos**	**3.07**	**358**	*e*PN	**Pn**	**22 23 17.2**	**+1.0**
APE	**Apeiranthos**	**3.07**	**358**	*e*Pn	**Pn**	**22 23 17.2**	**+1.0**
HMAT	**Matruh**	**3.13**	**157**	P	**Pn**	**22 23 16.8**	**-0.1**
	baz=158						
HMAT				AMP		22 23 00.0	
	comp=N,170μm,0.4s,logA/T=5.7,baz=158						
HMAT				S	**Sn**	**22 23 52.2**	**-1.1**
	baz=158						
HMAT	**Matruh**	**3.13**	**157**	P	**Pn**	**22 23 16.8**	**-0.1**
HMAT				S	**Sn**	**22 23 52.2**	**-1.1**
KYTH	**Kithira**	**3.15**	**317**	*e*PN	**Pn**	**22 23 18.7**	**+1.4**
KYTH	**Kithira**	**3.15**	**317**	*e*Pn	**Pn**	**22 23 18.7**	**+1.4**
VLI	**Veliai**	**3.53**	**321**	*e*PN	**Pn**	**22 23 23.8**	**+1.4**
VLI	**Veliai**	**3.53**	**321**	*e*Pn	**Pn**	**22 23 23.8**	**+1.4**
SMG	**Samos**	**3.83**	**14**	*e*PN	**Pn**	**22 23 27.6**	**+1.1**
SMG	**Samos**	**3.83**	**14**	*e*Pn	**Pn**	**22 23 27.6**	**+1.1**
AKAS	**Kas**	**3.92**	**54**	*i* P	Pn	**22 23 28.9**	**+1.0**
AKAS				*i* S	Sn	**22 24 13.3**	**+0.4**
AKAS	**Kas**	**3.92**	**54**	*i* P	Pn	**22 23 28.9**	**+1.0**
AKAS				*i* S	Sn	**22 24 13.3**	**+0.4**
DID	**Didima**	**4.03**	**331**	*e*PN	**Pn**	**22 23 30.8**	**+1.4**
DID	**Didima**	**4.03**	**331**	*e*Pn	**Pn**	**22 23 30.8**	**+1.4**
AYDN	**Tasoluk**	**4.07**	**25**	*e*P	**Pn**	**22 23 31.9**	**+1.9**
AYDN				*e*S	Sn	22 24 10.5	-6.2
AYDN	**Tasoluk**	**4.07**	**25**	*e*P	**Pn**	**22 23 31.9**	**+1.9**
ITM	**Ithomi**	**4.41**	**317**	*e*PN	**Pn**	**22 23 36.2**	**+1.6**
ITM	**Ithomi**	**4.41**	**317**	*e*Pn	**Pn**	**22 23 36.2**	**+1.6**
GOLH	**Golhisar**	**4.52**	**43**	*i* P	**Pn**	**22 23 38.1**	**+1.9**
GOLH				*e*S	Sn	22 24 21.8	-6.1
GOLH	**Golhisar**	**4.52**	**43**	*i* P	**Pn**	**22 23 38.1**	**+1.9**
SWA2		**4.74**	**182**	P	**Pn**	**22 23 39.7**	**+0.6**
	baz=184						
SWA2		**4.74**	**182**	P	**Pn**	**22 23 39.7**	**+0.6**
GUR	**Goura**	**4.78**	**326**	*e*PN	**Pn**	**22 23 42.1**	**+2.4**
GUR	**Goura**	**4.78**	**326**	*e*Pn	**Pn**	**22 23 42.1**	**+2.4**
KLV	**Kalavryta, Ach**	**4.95**	**326**	*e*PN	**Pn**	**22 23 44.4**	**+2.3**
KLV	**Kalavryta, Ach**	**4.95**	**326**	*e*Pn	**Pn**	**22 23 44.4**	**+2.3**
KHAL	**Karahalli**	**5.34**	**34**	*e*P	**Pn**	**22 23 47.4**	**-0.1**
KHAL				*e*S	Sn	22 24 37.5	-11
KHAL	**Karahalli**	**5.34**	**34**	*e*P	**Pn**	**22 23 47.4**	**-0.1**
LJBD	**Adjabya**	**5.56**	**238**	*i* P	**Pn**	**22 23 51.3**	**+0.9**
	SNR=48						
LJBD				*e*S	**Sn**	**22 24 51.0**	**-2.3**
	SNR=48						
AWBH		**6.29**	**153**	P	**Pn**	**22 24 00.3**	**-0.1**
	baz=154						
AWBH		**6.29**	**153**	P	**Pn**	**22 24 00.3**	**-0.1**
CSS	**Prodhromos**	**6.39**	**79**	Pn	**Pn**	**22 24 03.4**	**+1.6**
ERMK	**Ermenek**	**6.47**	**64**	*i* P	**Pn**	**22 24 04.2**	**+1.1**
ERMK				*i* S	Sn	22 25 04.8	-11
ERMK	**Ermenek**	**6.47**	**64**	*i* P	**Pn**	**22 24 04.2**	**+1.1**
GLL	**Jalalah**	**6.76**	**129**	P	**Pn**	**22 24 06.6**	**-0.3**
	baz=129						
GLL	**Jalalah**	**6.76**	**129**	P	**Pn**	**22 24 06.6**	**-0.3**
HFRF	**Wahat Farafira**	**7.19**	**161**	P	**Pn**	**22 24 12.3**	**-0.4**
	baz=161						
HFRF	**Wahat Farafira**	**7.19**	**161**	P	**Pn**	**22 24 12.3**	**-0.4**
AMAG	**Maghara**	**7.19**	**116**	P	**Pn**	**22 24 12.2**	**-0.6**
	baz=116						
AMAG	**Maghara**	**7.19**	**116**	P	**Pn**	**22 24 12.2**	**-0.6**
RSH		**7.43**	**112**	P	**Pn**	**22 24 15.6**	**-0.5**
	baz=112						
RSH		**7.43**	**112**	P	**Pn**	**22 24 15.6**	**-0.5**
KZIT	**Kziot**	**7.98**	**110**	Pn	**Pn**	**22 24 24.1**	**+0.5**
SLTI	**Sal'it**	**8.04**	**100**	Pn	**Pn**	**22 24 24.8**	**+0.3**
HNKL	**Nakhl**	**8.13**	**118**	P	**Pn**	**22 24 25.5**	**-0.2**
	baz=118						
HNKL	**Nakhl**	**8.13**	**118**	P	**Pn**	**22 24 25.5**	**-0.2**
RTMI	**Retamim**	**8.15**	**109**	Pn	**Pn**	**22 24 26.1**	**+0.1**
MMAI	**Mount Meron Ar**	**8.18**	**94**	Pn	**Pn**	**22 24 25.1**	**-1.3**
	comp=N,1.3nm,0.3s,baz=274,slow=12,SNR=8.9						
MMAI				Sn	**Sn**	**22 25 55.7**	**-2.1**
	comp=N,3.9nm,0.3s,baz=255,slow=21,SNR=9.0						
MMLI	**Mount Malkishu**	**8.31**	**98**	Pn	**Pn**	**22 24 28.9**	**+0.8**
KSDI	**Kefar Szold**	**8.36**	**93**	Pn	**Pn**	**22 24 29.8**	**+1.0**
HMDT	**Nahal Hemdat**	**8.44**	**99**	Pn	**Pn**	**22 24 30.3**	**+0.4**
DSI	**Dead Sea**	**8.51**	**104**	Pn	**Pn**	**22 24 31.7**	**+0.8**
BRTR	**Keskin Array B**	**8.56**	**46**	Pn	**Pn**	**22 24 31.0**	**-0.7**
	comp=N,0.1nm,0.3s,baz=233,slow=10,SNR=5.3						
BRTR				Sn	**Sn**	**22 26 04.0**	**-3.5**
	comp=N,0.1nm,0.3s,baz=207,slow=28,SNR=2.5						
KRMI	**Paran Flat**	**8.59**	**114**	Pn	**Pn**	**22 24 32.8**	**+0.8**
PRNI	**Paran**	**8.69**	**112**	Pn	**Pn**	**22 24 34.0**	**+0.6**
ZFRI	**Zfri**	**8.74**	**111**	Pn	**Pn**	**22 24 34.3**	**+0.3**
HRFI	**Mount Harif**	**8.87**	**114**	Pn	**Pn**	**22 24 36.5**	**+0.7**
MBRI	**Mt Berech**	**8.89**	**116**	Pn	**Pn**	**22 24 36.4**	**+0.2**
EIL	**Elat**	**8.98**	**116**	Pn	**Pn**	**22 24 36.4**	**-1.0**
	comp=N,0.7nm,0.3s,baz=326,slow=11,SNR=20						
EIL				Sn	**Sn**	**22 26 13.2**	**-4.4**
	comp=N,0.7nm,0.3s,baz=37,slow=15,SNR=4.2						
EIL	**Elat**	**8.98**	**116**	Pn	**Pn**	**22 24 38.6**	**+1.2**
ASF	**Jabal al Asfar**	**9.58**	**98**	Pn	**Pn**	**22 24 44.0**	**-1.6**
KEST	**Kesra**	**13.53**	**282**	Pn	**Pn**	**22 25 40.7**	**+1.0**
	comp=N,0.0nm,0.3s,baz=51,slow=14,SNR=3.3						
KBZ	**Khabaz**	**16.53**	**49**	Pn	**Pn**	**22 26 20.4**	**+1.1**
	comp=N,0.1nm,0.3s,baz=243,slow=6.8,SNR=1.8						
GERES	**GERESS Array B**	**17.31**	**333**	Pn	**Pn**	**22 26 28.1**	**-1.0**
	comp=N,0.2nm,0.3s,baz=148,slow=13,SNR=20						
DAVOX	**Davos/Dischmat**	**17.51**	**322**	P	**Pn**	**22 26 30.2**	**-1.5**
	comp=N,0.1nm,0.3s,baz=164,slow=18,SNR=1.8						
DAVOX				LR	LR	22 34 15.2	
	comp=N,18nm,18.2s,baz=264,slow=41						
ESDC	**Sonseca Array**	**24.33**	**292**	P	**P**	**22 27 44.7**	**-0.2**
	comp=N,0.5nm,0.4s,baz=91,slow=10,SNR=6.8						
MDT	**Midelt**	**25.28**	**276**	P	**P**	**22 27 54.3**	**+0.7**
	comp=N,1.8nm,0.8s,baz=103,slow=11,SNR=2.7						
FINES	**FINESS Array B**	**27.47**	**0**	P	**P**	**22 28 11.8**	**-1.1**
	comp=N,1.6nm,0.7s,baz=153,slow=13,SNR=6.0						
AKTO	**Aktyubinsk**	**28.74**	**45**	P	**P**	**22 28 24.4**	**0.0**
	comp=N,1.0nm,0.8s,baz=232,slow=12,SNR=3.7						
JOF	**Joensuu**	**29.16**	**5**	ep	**P**	**22 28 28.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**30.09**	**232**	P	**P**	**22 28 37.4**	**+0.8**
	comp=N,1.3nm,0.6s,baz=31,slow=8.5,SNR=19						
ARCES	**ARCESS Array B**	**35.59**	**360**	P	**P**	**22 29 22.6**	**-1.5**
	comp=N,1.4nm,0.8s,baz=182,slow=8.5,SNR=4.0						
MKAR	**Makanchi Array**	**44.07**	**56**	P	**P**	**22 30 36.1**	**+1.2**
	comp=N,0.7nm,0.7s,baz=277,slow=5.4,SNR=6.5						
ZALV	**Zalesovo Beam**	**45.51**	**45**	P	**P**	**22 30 46.4**	**+0.2**
	comp=N,1.2nm,0.4s,baz=262,slow=11,SNR=5.5						
SONM	**Songino Array**	**59.90**	**50**	P	**P**	**22 32 33.9**	**+1.1**
	comp=N,0.7nm,0.4s,baz=282,slow=8.7,SNR=2.6						
SCHQ	**Schefferville**	**64.36**	**320**	P	**P**	**22 33 02.1**	**-0.3**
	comp=N,3.0nm,0.7s,baz=52,slow=19,SNR=3.3						
CMAR	**Chiang Mai Arr**	**66.28**	**83**	P	**P**	**22 33 15.9**	**+0.4**
	comp=N,0.4nm,0.5s,baz=302,slow=8.4,SNR=3.5						
ILAR	**Eielson Array**	**81.39**	**357**	P	**P**	**22 34 43.4**	**+0.2**
	comp=N,0.4nm,0.8s,baz=19,slow=3.1,SNR=2.7						

IDC 06 22:24:20.9±0.9,52°.80S×118°.81W,h0km,mb3.8/5, mb1 4.1/5,mb1mx3.9/16,mbtmp3.8/5,MS3.7/3,Ms1 3.7/3, ms1mx3.5/24,Error ellipse: s-maj=44.0km s-min=31.3km az=116.0,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

MS5.7/35,Error ellipse: s-maj=6.2km s-min=3.6km az=112.6

GCMT ***06*** *22:35:08.4±0.1,24.4°N×128.6°E,h12km,MW5.7, Moment Tensor Solution. s92,c178; s63,c85; Moment tensor: Scale 10^{17}Nm; Mrr=4.28±.04; Mθθ2.95±.04; Mφφ1.34±.04; Mrθ-1.12±.10; Mθφ2.44±.03; Mφr-0.97±.11; Best double couple: M=4.70000×10^{17} NP1:φ=236.00000°, δ36.00000°,λ-87.00000°. NP2:φ=52.00000°,δ54.00000°, λ-92.00000°. Principal axes: T 4.9500, Plg9.0000°, Azm144.0000°; N -0.4200, Plg2.0000°, Azm54.0000°; P -4.5200, Plg81.0000°, Azm313.0000°; Data Used: II IU IC G CN. Surface waves: sta=119, comp=254, per= 50.*

BGS ***06*** *22:35:08.0±1.9,25.2°N×127.8°E,h10km,mb5.8*

DJA ***06*** *22:35:10.2±2.2,25.1°N×126.6°E,h39km±18km,MS.7/20, mB6.1/20,mb5.5/19,MLv5.7/1,Mw(mB)5.7/20,Mwp5.7/2*

PDG ***06*** *22:35:19.3,24.9°N×127.9°E,h10km,mb6.0/1*

NEIC ***06*** *22:35:23.7±0.0,24.9°N×128.0°E,h10km,Moment Tensor Solution. s109 Moment tensor: Scale 10^{17}Nm; Mrr=4.25; Mθθ3.10; Mφφ 1.15; Mrθ-0.41; Mθφ2.08; Mφr1.54; Best double couple: M=4.60000×10^{17} NP1:φ=75.00000°, δ45.00000°,λ-63.00000°. NP2:φ=220.00000°,δ51.00000°, λ-113.00000°. Principal axes: T 4.4500, Plg3.0000°, Azm326.0000°; N 0.3300, Plg18.0000°, Azm235.0000°; P -4.7800, Plg71.0000°, Azm66.0000°;*

ISC 06 22:35:05.6±0.3,24.88N±0.02,128.11E±0.02,h17km±1km, h16km;pP-P,n1734,s1137/1942,mb5.9/392,MS5.3/234, 252C-475D,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**1.29**	**346**	P	**Pn**	**22 35 28.5**	**-0.4**
JJT2				S	**Sb**	**22 35 43.9**	**-1.9**
JKE	**Kume jima 2**	**1.87**	**321**	P	**Pn**	**22 35 36.2**	**-0.6**
JKE				S	**Sn**	**22 35 58.1**	**-1.9**
JAGN	**Aguni-jima**	**1.87**	**336**	P	**Pn**	**22 35 36.5**	**-0.3**
JAGN				S	**Sn**	**22 35 57.4**	**-2.7**
JOW	**Kunigami**	**1.95**	**4**	↑*i*P	**Pn**	**22 35 37.0**	**-0.9**
JOW				S	**Sn**	**22 35 58.8**	**-3.2**
JOW	**Kunigami**	**1.95**	**4**	P	**Pn**	**22 35 37.0**	**-0.9**
JOW				S	**Sn**	**22 35 57.7**	**-4.3**
JIH	**Iheya**	**2.15**	**357**	P	**Pn**	**22 35 40.3**	**-0.4**
JIH				*e*S	**Sn**	**22 36 03.6**	**-3.3**
JOGS	**Gusukube**	**2.46**	**268**	P	**Pn**	**22 35 45.0**	**+0.1**
JOGS				*e*S	**Sn**	**22 36 12.3**	**-2.3**
JMJ	**Miyako jima 2**	**2.56**	**269**	P	**Pn**	**22 35 46.3**	**0.0**
JMJ				S	**Sn**	**22 36 14.7**	**-2.4**
JMZ	**Minamidaito 2**	**2.97**	**71**	P	**Pn**	**22 35 48.9**	**-3.0**
JMZ				S	Sn	22 36 21.0	-6.2
JTK	**Tokunoshima**	**2.99**	**14**	P	**Pn**	**22 35 51.1**	**-1.1**
JTK				S	Sn	22 36 21.4	-6.3
JTJ	**Tarama**	**3.10**	**266**	P	**Pn**	**22 35 53.4**	**-0.4**
JTJ				S	**Sn**	**22 36 26.7**	**-3.9**
JAMN	**Amaminishikomi**	**3.48**	**16**	P	**Pn**	**22 35 57.8**	**-1.2**
JAMN				S	**Sn**	**22 36 34.7**	**-5.1**
JIJ	**Ishigaki jima**	**3.65**	**263**	P	**Pn**	**22 36 00.5**	**-0.8**
JIJ				S	**Sn**	**22 36 39.0**	**-4.9**
JAM	**Amami Oshima**	**3.76**	**21**	P	**Pn**	**22 36 01.5**	**-1.4**
JAM				S	**Sn**	**22 36 41.1**	**-5.6**
JKRS	**Kuro-shima**	**3.79**	**261**	P	**Pn**	**22 36 02.5**	**-0.7**
JKRS				S	**Sn**	**22 36 44.6**	**-2.8**
JZK	**Kikaishima**	**3.80**	**26**	P	**Pn**	**22 36 02.8**	**-0.7**
JZK				S	**Sn**	**22 36 43.8**	**-4.0**
HATJ	**Hateruma jima**	**4.01**	**259**	P	**Pn**	**22 36 05.2**	**-1.0**
HATJ				*e*S	**Sn**	**22 36 47.5**	**-5.3**
IRIF	**Iriomote-Funau**	**4.02**	**263**	P	**Pn**	**22 36 05.2**	**-1.3**
IRIF				*e*S	**Sn**	**22 36 50.0**	**-3.2**
YOJ	**Yonaguni jima**	**4.66**	**266**	P	**Pn**	**22 36 13.8**	**-1.4**
YOJ				S	Sn	22 37 02.9	-5.9
JNN	**Nakanoshima**	**5.18**	**17**	P	**Pn**	**22 36 21.5**	**-0.9**
JNN				*e*S	Sn	22 37 15.6	-6.2
JKC	**Kuchinoerabu**	**5.86**	**18**	P	**Pn**	**22 36 30.9**	**-0.8**
JKC				S	Sn	22 37 31.3	-7.1
NACB	**Ninganchiao**	**5.97**	**265**	↓*i*Pn	**Pn**	**22 36 31.3**	**-2.0**
NACB				Sn	**Sn**	**22 37 36.2**	**-5.2**
TATO	**Taipei**	**6.01**	**272**	↓*e*Pn	**Pn**	**22 36 34.5**	**+0.7**
TATO				Sn	Sn	22 37 36.3	-5.9
YHNB	**Yeheng**	**6.12**	**269**	↓*e*Pn	**Pn**	**22 36 35.7**	**+0.3**
YULB	**Yu-li**	**6.40**	**258**	*e*Pn	**Pn**	**22 36 36.2**	**-2.9**
SSLB	**Suanglung**	**6.62**	**262**	*e*Pn	**Pn**	**22 36 40.1**	**-2.1**
SSLB				*e*Sn	Sn	22 37 49.9	-7.4
JTSR	**Tashiro 2**	**6.74**	**21**	P	**Pn**	**22 36 43.1**	**-0.7**
JTSR				S	Sn	22 37 51.6	-8.5
TWG	**Pinlang**	**6.76**	**254**	↓*e*Pn	Pn	22 36 40.9	-3.3
TWG				*e*Sn	Sn	22 37 50.5	-10
JSU	**Suzuyama**	**6.92**	**17**	P	**Pn**	**22 36 45.0**	**-1.2**
JSJ	**Shimokoshiki**	**6.92**	**11**	P	**Pn**	**22 36 46.2**	**0.0**
TPUB	**Ta-pu**	**7.01**	**259**	*e*Pn	**Pn**	**22 36 46.5**	**-1.1**
TPUB				*e*Sn	**Sn**	**22 38 03.6**	**-3.4**
JNAR	**Kushima--Naru**	**7.18**	**22**	P	**Pn**	**22 36 49.2**	**-0.7**
JTZ	**Takazaki**	**7.47**	**20**	P	**Pn**	**22 36 52.9**	**-0.9**
JTZ				S	Sn	22 38 11.2	-6.9
JZO	**Okuchi**	**7.55**	**16**	P	**Pn**	**22 36 54.1**	**-0.9**
JZO				S	**Sn**	**22 38 16.9**	**-3.4**
JHD	**Hondo**	**7.76**	**13**	P	**Pn**	**22 36 58.8**	**+1.0**
JFU	**Fukue jima 2**	**7.76**	**4**	P	**Pn**	**22 36 59.0**	**+1.1**
NGSJ	**Nagasakinomoza**	**7.86**	**10**	P	**Pn**	**22 37 01.0**	**+1.8**
JTSN	**Tsuno**	**7.92**	**21**	P	**Pn**	**22 36 58.8**	**-1.2**
JIU2	**Izumi 2**	**8.00**	**17**	P	**Pn**	**22 37 01.3**	**+0.2**
JKIT	**Kitakata**	**8.25**	**20**	P	**Pn**	**22 37 03.2**	**-1.4**
JTA	**Tamana**	**8.33**	**14**	P	**Pn**	**22 37 05.6**	**0.0**
JUR	**Ureshino**	**8.34**	**11**	P	**Pn**	**22 37 07.0**	**+1.3**
JNU	**Nakatsue**	**8.56**	**16**	*e*Pn	**Pn**	**22 37 08.9**	**+0.1**
JNU				*e*Sn	**Sn**	**22 38 40.0**	**-5.1**
JNU	**Nakatsue**	**8.56**	**16**	P	**Pn**	**22 37 08.1**	**-0.7**
JNU	**Nakatsue**	**8.56**	**16**	Pn	**Pn**	**22 37 09.2**	**+0.3**
	20nm,0.3s,baz=185,slow=7.4,SNR=122						
JNU				Sn	Sn	22 38 38.5	-6.5
	21nm,0.3s,baz=154,slow=20,SNR=8.9						
JNU				LR	LR	22 40 53.0	
	comp=Z,8μm,20.4s,baz=206,slow=41						
QZH	**Quanzhou**	**8.64**	**272**	↓*i*P	**Pn**	**22 37 09.1**	**-0.8**
QZH				S	**Sn**	**22 38 47.0**	**0.0**
QZH				LR	LR		
	comp=N,28μm,11.0s						
QZH				LR	LR		
	comp=E,26μm,10.7s						
QZH				LR	LR		
	comp=Z,34μm,17.9s						
SSE	**Sheshan**	**8.70**	**317**	P	**Pn**	**22 37 10.9**	**+0.2**
SSE				pmax	pmax		
	comp=Z,120nm,1.5s						
SSE				pmax	pmax		
	comp=Z,3μm,9.4s						
SSE				LR	LR		
	comp=N,25μm,16.9s						
SSE				LR	LR		
	comp=E,30μm,16.9s						
SSE				LR	LR		
	comp=Z,41μm,13.3s						
JFI	**Itaya**	**8.74**	**13**	P	**Pn**	**22 37 11.9**	**+0.5**
JUS	**Usuki**	**8.75**	**21**	P	**Pn**	**22 37 08.9**	**-2.5**
JUS				S	Sn	22 38 40.4	-9.4
JFA	**Akaike**	**9.11**	**14**	P	**Pn**	**22 37 16.6**	**+0.3**
NJ2	**Nanjing**	**10.83**	**313**	*e*P	**Pn**	**22 37 41.2**	**+1.4**
NJ2				pP		22 37 44.4	
NJ2				sP		22 37 47.4	
NJ2				PP	**PnPn**	**22 37 49.7**	**+2.1**
NJ2				S	**Sn**	**22 39 45.0**	**+4.4**
NJ2				sS		22 39 50.0	
NJ2				pmax	pmax		
	comp=Z,40nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,3μm,9.3s						
NJ2				LR	LR		
	comp=N,38μm,16.4s						
NJ2				LR	LR		
	comp=E,32μm,15.5s						
NJ2				LR	LR		
	comp=Z,42μm,16.1s						
KSAR	**Wonju Array Be**	**12.52**	**359**	Pn	**Pn**	**22 38 04.0**	**+0.9**
KSRS	**Korea Array**	**12.53**	**359**	Pn	**Pn**	**22 38 04.0**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=177,slow=14,SNR=59						
KSRS				LR	LR	22 43 33.3	
	comp=Z,13μm,18.5s,baz=180,slow=41						
INCN	**Inchon** SNR=10	**12.62**	**355**	P	**Pn**	**22 38 06.3**	**+1.8**
INCN	**Inchon**	**12.62**	**355**	↑*e*Pn	**Pn**	**22 38 05.1**	**+0.7**
INCN				*e*Sn	**Sn**	**22 40 25.8**	**+1.2**
TGY	**Tagaytay City**	**12.67**	**214**	Pn	**Pn**	**22 38 04.7**	**-0.6**
TGY				Sn	**Sn**	**22 40 20.5**	**-5.6**
TGY	**Tagaytay City**	**12.67**	**214**	Pn	**Pn**	**22 38 04.7**	**-0.6**
	baz=108,slow=12,SNR=1.5						
TGY				Sn	**Sn**	**22 40 20.5**	**-5.6**
	baz=49,slow=20,SNR=2.0						
HKC	**Hong Kong Obse**	**13.03**	**261**	P	Pn	22 38 14.0	+3.9
WHN	**Wuhan**	**13.42**	**298**	P	**Pn**	**22 38 16.8**	**+1.4**
WHN				LR	LR		
	comp=N,115μm,13.0s						
WHN				LR	LR		
	comp=E,68μm,13.6s						
WHN				LR	LR		
	comp=Z,107μm,15.3s						
GZH	**Guangzhou**	**13.62**	**265**	P	Pn	22 38 12.3	-5.7
GZH				S	**Sn**	**22 40 44.5**	**-4.5**
GZH				LR	LR		
	comp=N,15μm,11.3s						
GZH				LR	LR		
	comp=E,16μm,11.1s						
PLP	**Palo**	**13.96**	**193**	↑*i*P	**Pn**	**22 38 22.8**	**-0.1**
RCP	**Roxas**	**14.19**	**202**	↑*e*P	P	22 38 37.1	+3.7
MAJO	**Matsushiro**	**14.50**	**34**	*e*P	**Pn**	**22 38 32.2**	**+2.2**
MAJO	**Matsushiro**	**14.50**	**34**	*e*Pn	**Pn**	**22 38 32.2**	**+2.2**
MAT	**Matsushiro**	**14.50**	**34**	P	**Pn**	**22 38 28.5**	**-1.6**
MAT				S	**Sn**	**22 41 13.2**	**+2.8**
MJAR	**Matsushiro Arr**	**14.50**	**34**	Pn	**Pn**	**22 38 30.1**	**+0.1**
MJAR	**Matsushiro Arr**	**14.50**	**34**	Pn	**Pn**	**22 38 30.1**	**+0.1**
	comp=E,1.7nm,0.3s,baz=227,slow=12,SNR=26						
TIA	**Tai'an**	**14.72**	**323**	↑↑P	**Pn**	**22 38 34.9**	**+1.8**
TIA				S	Sn	22 41 22.8	+7.0
TIA				pmax	pmax		
	comp=Z,190nm,1.6s						
TIA				pmax	pmax		
	comp=Z,6μm,8.4s						
TIA				LR	LR		
	comp=N,28μm,15.7s						
TIA				LR	LR		
	comp=E,30μm,14.7s						
TIA				LR	LR		
	comp=Z,31μm,16.7s						
DL2	**Dalian**	**15.02**	**340**	↑*i*P	**Pn**	**22 38 38.4**	**+1.3**
DL2				S	**Sn**	**22 41 27.8**	**+4.8**
DL2				pmax	pmax		
	comp=Z,780nm,1.5s						
DL2				pmax	pmax		
	comp=Z,4μm,6.7s						
DL2				LR	LR		
	comp=N,21μm,16.0s						
DL2				LR	LR		
	comp=E,12μm,19.4s						
DL2				LR	LR		
	comp=Z,25μm,16.5s						
DCPH	**Dipolog City**	**16.83**	**196**	*e*P	**P**	**22 39 04.3**	**+1.7**
SNY	**Shenyang**	**17.31**	**349**	↑↑P	**Pn**	**22 39 07.0**	**+0.5**
SNY				S	**Sn**	**22 42 17.7**	**-1.0**
SNY				pmax	pmax		
	comp=Z,220nm,1.6s						
SNY				pmax	pmax		
	comp=Z,7μm,7.5s						
SNY				LR	LR		
	comp=N,32μm,15.1s						
SNY				LR	LR		
	comp=E,12μm,12.9s						
SNY				LR	LR		
	comp=Z,38μm,16.2s						
ENH	**Enshi**	**17.35**	**292**	↑↑*e*Pn	**Pn**	**22 39 07.7**	**+0.5**
	comp=Z,817nm,1.6s						
ENH				*e*Sn	**Sn**	**22 42 17.8**	**-2.1**
DAV	**Davao City (W)**	**17.88**	**188**	↑*e*P	**P**	**22 39 14.1**	**-0.1**
DAV	**Davao City (W)**	**17.88**	**188**	Pn	**Pn**	**22 39 13.8**	**+0.2**
DAV	**Davao City (W)**	**17.88**	**188**	Pn	**Pn**	**22 39 13.8**	**+0.2**
	comp=Z,47nm,0.3s,baz=15,slow=7.4,SNR=2.8						
DAV				LR	LR	22 44 48.5	
	comp=Z,7μm,21.2s,baz=4.0,slow=33						
QIZ	**Qiongzhong**	**17.91**	**255**	P	**Pn**	**22 39 13.8**	**-0.2**
QIZ				pP	**pP**	**22 39 17.5**	**-1.9**
QIZ				sP	**sP**	**22 39 22.0**	**+0.5**
QIZ				S	**Sn**	**22 42 32.0**	**-1.5**
QIZ				pmax	pmax		
	comp=Z,55nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,5μm,8.9s						
QIZ				LR	LR		
	comp=N,7μm,15.1s						
QIZ				LR	LR		
	comp=E,3μm,17.1s						
QIZ				LR	LR		
	comp=Z,11μm,17.9s						
QIZ	**Qiongzhong**	**17.91**	**255**	↓*e*Pn	**P**	**22 39 15.9**	**+1.3**
	comp=Z,280nm,1.4s						
QIZ				*e*Sn	**Sn**	**22 42 30.6**	**-2.8**
CTBH	**Cotabato--PC H**	**17.95**	**193**	↑*i*P	**P**	**22 39 18.4**	**+3.4**
BJT	**Baijiatuan**	**18.12**	**329**	↓*i*Pn	**P**	**22 39 16.9**	**+0.2**
	comp=Z,962nm,1.4s						
BJT				*e*Sn	**Sn**	**22 42 40.3**	**+2.0**
BJI	**Beijing**	**18.13**	**329**	P	**P**	**22 39 17.0**	**+0.1**
BJI				S	**S**	**22 42 41.9**	**-2.1**
BJI				pmax	pmax		
	comp=Z,270nm,1.7s						
BJI				pmax	pmax		
	comp=Z,8μm,3.7s						
BJI				LR	LR		
	comp=N,19μm,14.7s						
BJI				LR	LR		
	comp=E,5μm,13.3s						
BJI				LR	LR		
	comp=Z,11μm,25.2s						
VLA	**Vladivostok**	**18.45**	**9**	*e*P	**Pn**	**22 39 20.7**	**+0.2**
VLA				pmax	pmax		
	comp=Z,713nm,1.7s						
VLA				MLR	MLR		
	comp=Z,7μm,17.0s						
TIY	**Taiyuan**	**18.49**	**317**	*e*P	**Pn**	**22 39 21.0**	**-0.1**
TIY				pP	**pP**	**22 39 25.2**	**-0.5**
TIY				PP	**PnPn**	**22 39 37.2**	**+4.4**
TIY				S	**S**	**22 42 49.5**	**-1.9**
TIY				sS	**sS**	**22 42 55.3**	**-3.7**
TIY				pmax	pmax		
	comp=Z,7μm,4.0s						
TIY				LR	LR		
	comp=N,9μm,11.0s						
TIY				LR	LR		
	comp=E,19μm,13.3s						
TIY				LR	LR		
	comp=Z,22μm,14.1s						
CN2	**Changchun**	**19.00**	**354**	*e*P	**P**	**22 39 26.0**	**-0.4**
CN2				epP	**pP**	**22 39 29.6**	**-1.5**
CN2				esP	**sP**	**22 39 33.0**	**-0.4**
CN2				*e*S	**Sn**	**22 42 59.7**	**+0.2**
CN2				pmax	pmax		
	comp=Z,300nm,1.0s						
CN2				pmax	pmax		
	comp=Z,2μm,3.0s						
CN2				LR	LR		
	comp=N,13μm,15.0s						
CN2				LR	LR		
	comp=E,21μm,15.0s						
CN2				LR	LR		
	comp=Z,14μm,18.0s						
XAN	**Xi'an**	**19.01**	**303**	P	**P**	**22 39 26.4**	**-0.3**
XAN				pP	**pP**	**22 39 30.2**	**-1.3**
XAN				sP	**sP**	**22 39 33.4**	**-0.3**
XAN				PP	**PnPn**	**22 39 44.0**	**+4.0**
XAN				S	**Sn**	**22 42 59.3**	**-0.7**
XAN				sS	**S**	**22 43 04.8**	**+2.8**
XAN				SS	SnSn	22 43 25.8	+12
XAN				pmax	pmax		
	comp=Z,43nm,1.3s						
XAN				pmax	pmax		
	comp=Z,1μm,7.8s						
XAN				LR	LR		
	comp=N,16μm,13.4s						
XAN				LR	LR		
	comp=E,10μm,14.5s						
XAN				LR	LR		
	comp=Z,11μm,15.6s						
GUMO	**Guam**	**19.38**	**122**	*e*Pn	**Pn**	**22 39 33.4**	**+1.5**
	comp=Z,43nm,1.3s						
GYA	**Guiyang**	**19.39**	**279**	↓*i*P	**Pn**	**22 39 32.2**	**0.0**
GYA				PP	**PnPn**	**22 39 50.8**	**+5.5**
GYA				SS	SS	22 43 30.0	
GYA				pmax	pmax		
	comp=Z,120nm,1.0s						
GYA				pmax	pmax		
	comp=Z,4μm,7.8s						
GYA				LR	LR		
	comp=N,10μm,14.3s						
GYA				LR	LR		
	comp=E,14μm,16.1s						
GYA				LR	LR		
	comp=Z,16μm,16.1s						
USRK	**Ussuriysk Arra**	**19.53**	**8**	P	**Pn**	**22 39 33.7**	**+0.2**
	comp=Z,7.4nm,0.3s,baz=193,slow=9.3,SNR=35						
USRK				S	**S**	**22 43 08.0**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=291,slow=32,SNR=2.3						
USRK				LR	LR	22 47 40.5	
	comp=Z,7μm,18.1s,baz=179,slow=39						
MDJ	**Mudanjiang**	**19.72**	**3**	P	**Pn**	**22 39 36.7**	**+0.9**
MDJ				pP	**pP**	**22 39 39.6**	**+0.5**
MDJ				sP	**sP**	**22 39 41.1**	**-0.2**
MDJ				S	**S**	**22 43 16.2**	**+0.1**
MDJ				PcP	**PcP**	**22 43 54.1**	**+1.4**
MDJ				ScP	**ScP**	**22 47 30.3**	**+2.2**
MDJ				PcS	**PcS**	**22 47 31.6**	**+1.8**
MDJ				ScS	**ScS**	**22 51 13.5**	**+3.3**
MDJ				pmax	pmax		
	comp=Z,150nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,2μm,4.7s						
MDJ				LR	LR		
	comp=N,4μm,30.0s						
MDJ				LR	LR		
	comp=E,6μm,19.1s						
MDJ				LR	LR		
	comp=Z,4μm,22.5s						
MDJ	**Mudanjiang**	**19.72**	**3**	↑*e*P	**P**	**22 39 34.6**	**+0.3**
	comp=Z,283nm,1.4s						
MDJ				S	Sn	22 43 26.0	+9.0
KDM	**Kudat**	**20.87**	**213**	P	Pn	22 39 49.0	-0.6
HHC	**Hu-ho-hao-te**	**21.07**	**323**	*e*P	**P**	**22 39 48.6**	**-0.6**
HHC				sP	**sP**	**22 39 55.5**	**-0.7**
HHC				PP	**PnPn**	**22 40 11.2**	**+2.9**
HHC				S	**S**	**22 43 39.6**	**-3.6**
HHC				sS	Sn	22 43 46.8	-3.0
HHC				SS	**SnSn**	**22 44 07.3**	**+2.5**
HHC				pmax	pmax		
	comp=Z,170nm,1.2s						
HHC				pmax	pmax		
	comp=Z,11μm,5.7s						
HHC				LR	LR		
	comp=N,27μm,15.1s						
HHC				LR	LR		
	comp=E,29μm,15.7s						
HHC				LR	LR		
	comp=Z,37μm,16.7s						
ERM	**Erimo**	**21.15**	**32**	*c i*P	**P**	**22 39 48.9**	**-0.9**
ERM				pmax	pmax		
	comp=Z,614nm,1.7s						
ERM				MLR	MLR		
	comp=Z,8μm,23.0s						
ERM	**Erimo**	**21.15**	**32**	*e*P	**P**	**22 39 49.5**	**-0.3**
	comp=Z,1μm,2.0s						
ERM				LR	LR		
	comp=Z,7μm,20.0s						
MYLDM	**Lahad Datu**	**21.66**	**207**	P	**P**	**22 39 58.3**	**+2.8**
BTO	**Baotou**	**21.78**	**320**	*e*P	**P**	**22 39 54.7**	**-2.0**
SDKM	**Sandakan**	**21.81**	**210**	P	**P**	**22 39 58.7**	**+1.5**
KKM	**Kota Kinabalu**	**21.93**	**213**	↓*i*P	**P**	**22 39 58.8**	**+0.3**
KKM				LR	LR		
	comp=Z,4μm,20.0s						
KKM	**Kota Kinabalu**	**21.93**	**213**	P	**P**	**22 40 00.8**	**+2.3**
CD2	**Chengdu**	**22.32**	**291**	↓P	**P**	**22 40 01.7**	**-0.9**
CD2				pP	**pP**	**22 40 06.1**	**-1.3**
CD2				sP	**sP**	**22 40 09.0**	**-0.6**
CD2				PP	**PnPn**	**22 40 28.4**	**+3.0**
CD2				PcP	**PcP**	**22 43 58.8**	**+0.8**
CD2				S	**S**	**22 44 00.9**	**-6.6**
CD2				sS	sS	22 44 08.0	-7.4
CD2				SS	**SnSn**	**22 44 40.8**	**+5.5**
CD2				pmax	pmax		
	comp=Z,470nm,1.2s						
CD2				pmax	pmax		
	comp=Z,4μm,7.0s						
CD2				LR	LR		
	comp=N,34μm,13.9s						
CD2				LR	LR		
	comp=E,28μm,13.3s						
CD2				LR	LR		
	comp=Z,39μm,10.8s						
ASAJ	**Asahikawa**	**22.54**	**28**	*e*P	**P**	**22 40 03.8**	**-0.8**
ASAJ				S	**S**	**22 44 10.4**	**-0.7**
ASAJ	**Asahikawa**	**22.54**	**28**	P	**P**	**22 40 03.5**	**-1.2**
	comp=Z,49nm,0.9s,baz=238,slow=19,SNR=31						
ASAJ				S	**S**	**22 44 10.4**	**-0.7**
	comp=Z,18nm,0.8s,baz=252,slow=20,SNR=4.6						
ASAJ				LR	LR	22 49 06.9	
	comp=Z,6μm,19.6s,baz=236,slow=38						
TSM	**Tawau**	**22.72**	**207**	P	**P**	**22 40 07.3**	**+0.5**
GAMI	**Galela, Maluku**	**22.91**	**181**	P	**P**	**22 40 10.3**	**+1.4**
	comp=Z,406nm,1.2s,comp=Z,7μm						
KMI	**Kunming**	**22.98**	**276**	↓P	**P**	**22 40 11.3**	**+1.5**
KMI				pP	**pP**	**22 40 16.0**	**+1.3**
KMI				PP	**PnPn**	**22 40 41.5**	**+6.8**
KMI				S	**S**	**22 44 19.5**	**-0.4**
KMI				pmax	pmax		
	comp=Z,370nm,1.5s						
KMI				pmax	pmax		
	comp=Z,6μm,6.8s						
KMI				LR	LR		
	comp=N,6μm,11.5s						
KMI				LR	LR		
	comp=E,10μm,11.8s						
KMI				LR	LR		
	comp=Z,10μm,12.1s						
PANO	**Nakornpanom**	**23.22**	**255**	P	**P**	**22 40 14.0**	**+2.0**
	comp=Z,747nm,1.9s,comp=Z,33μm						
UBPT	**Khong Chiam**	**23.28**	**250**	P	**P**	**22 40 12.8**	**+0.2**
	comp=Z,124nm,2.1s,comp=Z,6μm						
UBPT	**Khong Chiam**	**23.28**	**250**	P	**P**	**22 40 12.8**	**+0.2**
	comp=Z,460nm,1.5s,comp=Z,6μm						
MNI	**Manado**	**23.52**	**188**	P	**P**	**22 40 15.1**	**+0.1**
	comp=Z,592nm,0.9s,comp=Z,7μm						
LZH	**Lanzhou**	**23.64**	**304**	↓P	**P**	**22 40 15.5**	**-0.8**
LZH				pP	**pP**	**22 40 21.3**	**0.0**
LZH				sP	**sP**	**22 40 23.3**	**-0.1**
LZH				S	**S**	**22 44 25.3**	**-5.1**
LZH				sS	sS	22 44 32.0	-6.8
LZH				SS	**SnSn**	**22 45 10.5**	**+2.7**
LZH				pmax	pmax		
	comp=Z,140nm,1.1s						
LZH				pmax	pmax		
	comp=Z,1μm,5.9s						
LZH				LR	LR		
	comp=N,22μm,14.8s						
LZH				LR	LR		
	comp=E,17μm,11.1s						
LZH				LR	LR		
	comp=Z,28μm,15.6s						
SKNT	**Sakolnakorn**	**23.84**	**255**	P	**P**	**22 40 19.4**	**+1.2**
	comp=Z,345nm,2.0s,comp=Z,12μm						
YUK	**Yuzh-Kuril'sk**	**23.98**	**33**	*i* P	**P**	**22 40 20.0**	**+0.9**
YUK				*i* S	**S**	**22 44 40.3**	**+5.2**
YUK				pmax	pmax		
	comp=Z,8μm,2.1s						
YUK				pmax	pmax		
	comp=E,1μm,2.0s						
YUK				pmax	pmax		
	comp=Z,3μm,2.0s						
YUK				pmax	pmax		
	comp=N,265nm,1.0s						
YUK				MLR	MLR		
	comp=N,731nm,21.0s						
YUK				MLR	MLR		
	comp=E,3μm,21.0s						
YUK				MLR	MLR		
	comp=Z,4μm,21.0s						
TNTI	**Ternate**	**23.98**	**182**	P	**P**	**22 40 20.2**	**+0.8**
	comp=Z,502nm,1.4s,comp=Z,10μm						
HABR	**Khabarovsk**	**24.17**	**11**	*i* P	**P**	**22 40 19.0**	**-1.9**
HABR				*e**SP	**sP**	**22 40 27.8**	**-0.4**
HABR				*e*	

HABR pmax pmax
comp=Z,4μm,6.5s
HABR MLR MLR
comp=E,8μm,17.0s
HABR MLR MLR
comp=Z,6μm,17.0s
HABR MLR MLR
comp=N,4μm,14.0s
GTOI Gorontalo 24.60 192 P **P** **22 40 23.6 -1.5**
comp=N,184nm,1.7s,comp=N,5μm
YSS Yuzh-Sakhalins 24.93 24κ *i*P **P** **22 40 29.5 +1.6**
YSS *e**SP **sP** **22 40 36.5 +1.4**
YSS *e* 22 44 05.0
YSS *e*S **S** **22 44 50.0 -0.5**
YSS *e* 22 45 02.0
YSS pmax pmax
comp=Z,950nm,1.1s
YSS pmax pmax
comp=Z,7μm,7.0s
YSS smax smax
comp=E,800nm,8.0s
YSS smax smax
comp=N,2μm,7.0s
YSS MLR MLR
comp=Z,4μm,19.0s
YSS MLR MLR
comp=N,5μm,18.0s
YSS MLR MLR
comp=E,3μm,18.0s
MRSI Marisa 24.99 195 P **P** **22 40 28.8 +0.2**
comp=E,111nm,1.4s,comp=E,3μmcomp=E,5μm
HIA Hailar 25.20 347⇓ *e*P **P** **22 40 29.3 -1.1**
comp=E,142nm,1.4s
HIA *e*PcP **PcP** **22 44 04.0 +0.2**
HIA *e*S **S** **22 44 51.7 -3.3**
HIA LR LR
comp=Z,9μm,19.0s
LBMI Labuha 25.38 181 P **P** **22 40 32.6 +0.5**
comp=Z,260nm,1.5s,comp=Z,4μm
KUR Kuril'sk 25.83 33*c i*P **P** **22 40 33.4 -2.6**
KUR *i* S **S** **22 45 00.7 -4.1**
KUR pmax pmax
comp=E,142nm,1.6s
KUR pmax pmax
comp=Z,914nm,1.6s
KUR pmax pmax
comp=N,222nm,1.6s
KUR pmax pmax
comp=Z,2μm,2.3s
KUR MLR MLR
comp=N,4μm,20.0s
KUR MLR MLR
comp=Z,4μm,20.0s
KUR MLR MLR
comp=E,3μm,17.0s
BTM Bintulu 25.97 216 P **P** **22 40 38.5 +1.0**
CRAI Chiangrai 26.01 265 P **P** **22 40 40.4 +2.5**
comp=E,148nm,1.8s
LOEI Loei 26.05 259 P **P** **22 40 35.8 -2.5**
comp=E,359nm,1.2s,comp=E,12μm
LUWI Luwuk 26.29 192 P **P** **22 40 39.3 -1.1**
comp=E,102nm,1.0s,comp=E,2μm
PBKT Sadao Pong 26.66 257 P **P** **22 40 45.3 +1.5**
comp=E,71nm,1.7s,comp=E,2μm
PBKT Sadao Pong 26.66 257 P **P** **22 40 44.8 +1.0**
comp=E,144nm,1.4s,comp=E,2μm
BAKI Biak 27.05 162 P **P** **22 40 50.3 +3.0**
SBUM Sibu 27.06 217 P **P** **22 40 48.6 +1.3**
CHBT CHBT 27.16 248 P **P** **22 40 49.2 +0.9**
comp=E,65nm,0.7s,comp=E,2μm
CHBT CHBT 27.16 248 P **P** **22 40 49.6 +1.3**
comp=E,196nm,1.4s,comp=E,2μm
LAMP Lampang 27.17 262 P **P** **22 40 49.6 +1.2**
comp=E,17nm,0.8s,comp=E,193nm
SGKI Sangatta, Kali 27.23 203 P P 22 40 43.4 -5.6
comp=E,235nm,1.5s,comp=E,5μm
NAYO Nakonayok 27.29 252 P **P** **22 40 50.9 +1.5**
comp=E,521nm,1.0s,comp=E,22μm
CMAI Chiengmai2 27.29 265 P **P** **22 40 51.1 +1.4**
comp=E,354nm,0.7s,comp=E,18μm
CMMT Chiang Mai 27.70 263 P **P** **22 40 54.2 +1.0**
comp=E,72nm,2.1s,comp=E,2μm
CMMT Chiang Mai 27.70 263 P **P** **22 40 53.7 +0.5**
comp=E,104nm,0.7s,comp=E,2μm
CHTO Chiang Mai 27.70 263 *e*P **P** **22 40 54.1 +0.9**
CHTO pmax pmax
comp=Z,291nm,1.9s
CHTO MLR MLR
comp=Z,6μm,19.0s
CHTO Chiang Mai 27.70 263 P **P** **22 40 54.5 +1.3**
SNR=29
CHTO Chiang Mai 27.70 263 *e*P **P** **22 40 54.1 +0.9**
comp=Z,73nm,1.9s
CHTO LR LR
comp=Z,6μm,19.0s
CHTO Chiang Mai 27.70 263 P **P** **22 40 54.0 +0.9**
comp=Z,79nm,2.1s,comp=Z,2μm
CHTO Chiang Mai 27.70 263 P **P** **22 40 53.8 +0.6**
comp=Z,79nm,2.1s,comp=Z,2μm
CMAR Chiang Mai Arr 27.81 262 P **P** **22 40 55.2 +1.0**
CMAR PcP **PcP** **22 44 11.1 +0.7**
CMAR ScP **ScP** **22 47 51.0 +0.5**
CMAR Chiang Mai Arr 27.81 262 P **P** **22 40 55.2 +1.0**
comp=Z,12nm,0.8s,baz=62,slow=7.2,SNR=50
CMAR PcP **PcP** **22 44 11.1 +0.7**
comp=Z,5.0nm,0.7s,baz=48,slow=1.4,SNR=14
CMAR ScP **ScP** **22 47 51.0 +0.5**
comp=Z,1.9nm,1.1s,baz=45,slow=3.9,SNR=4.1
CMAR LR LR 22 53 49.3
comp=Z,8μm,18.0s,baz=75,slow=40
GTA Gaotai 27.85 308 ⇓P **P** **22 40 53.9 -0.6**
GTA pP **pP** **22 40 58.3 -1.3**
GTA sP **sP** **22 41 00.9 -0.9**
GTA PcP **PcP** **22 44 11.0 +0.7**
GTA S **S** **22 45 34.4 -2.8**
GTA sS **sS** **22 45 42.0 -3.7**
GTA SS **SnSn** **22 46 54.2 +3.6**
GTA pmax pmax
comp=Z,92nm,1.2s
GTA pmax pmax
comp=Z,2μm,7.1s
GTA LR LR
comp=N,15μm,13.8s
GTA LR LR
comp=E,14μm,16.4s
GTA LR LR
comp=Z,16μm,16.4s
FAKI Fak Fak 27.93 171 P **P** **22 40 55.2 +0.1**
comp=Z,166nm,0.9s,comp=Z,2μm
MSAI Masohi 28.07 178 P P 22 41 05.6 +9.2
ULN Ulaanbaatar 28.34 329 P **P** **22 40 58.5 -0.3**
SNR=103
ULN Ulaanbaatar 28.34 329 *e*P **P** **22 40 57.6 -1.2**
comp=Z,567nm,1.8s
ULN LR LR
comp=Z,9μm,20.0s
ULN Ulaanbaatar 28.34 329 P **P** **22 40 58.0 -0.8**
comp=Z,153nm,2.1s,comp=Z,3μm
SONM Songino Array 28.63 329 P **P** **22 41 00.6 -0.7**
SONM PcP **PcP** **22 44 12.8 +0.8**
SONM *e* 23 13 17.6
SONM Songino Array 28.63 329 P **P** **22 41 00.6 -0.7**
comp=Z,19nm,0.8s,baz=145,slow=9.0,SNR=33
SONM PcP **PcP** **22 44 12.8 +0.8**
comp=Z,22nm,1.1s,baz=161,slow=3.9,SNR=6.3
SONM LR LR 22 54 58.0
comp=Z,13μm,18.0s,baz=203,slow=42
SONM P3KPbc 23 13 17.6
comp=Z,0.2nm,0.3s,baz=306,slow=5.0,SNR=3.8
MTKI Muara Teweh, K 28.69 208 P **P** **22 41 03.1 +1.2**
TTSI Tana Toraja 28.91 197 P **P** **22 41 05.0 +1.2**
KSM Kuching 28.93 219⇓ *i*P **P** **22 41 05.2 +1.1**
comp=Z,141nm,0.8s
KSM *e*PcP **PcP** **22 44 13.7 +0.6**
KSM *e*S **S** **22 45 51.8 -2.5**
KSM LR LR
comp=Z,2μm,21.0s
KSM Kuching 28.93 219 P **P** **22 41 05.7 +1.6**
CIT Chita 29.28 341 *e*P **P** **22 41 09.8 +2.8**
CIT *e* 22 41 22.6
CIT *e* 22 42 05.6
CIT *e* 22 44 14.4
CIT *e* 22 47 55.4
CIT pmax pmax
comp=Z,206nm,2.2s
PHET Kaeng Krachan 29.39 251 P **P** **22 41 09.6 +1.4**
comp=Z,125nm,0.9s,comp=Z,2μm
KAPI Kappang 30.81 196 *e*P **P** **22 41 19.3 -1.4**
KAPI LR LR
comp=Z,2nm,1.8s
comp=Z,2μm,21.0s
KTGM Kuala Trenggan 30.86 235 P **P** **22 41 22.5 +1.3**
IMP Imphal 30.97 277 *e*P **P** **22 41 21.0 -1.2**
IMP *ex* x 22 46 22.0
ZAK Zakamensk 31.88 329⇓ *i*P **P** **22 41 28.5 -1.5**
ZAK *e* 22 44 20.9
TRTT Trang 31.99 243 P **P** **22 41 32.4 +1.2**
comp=Z,130nm,1.0s,comp=Z,1μm
CLNS Chul'man 32.01 357 *e*P **P** **22 41 30.9 -0.1**
CLNS *e**PP pP 22 41 43.7 +7.6
CLNS *e* 22 42 34.1
CLNS *e*PPP PPP 22 43 00.8
CLNS *e* 22 44 20.0
CLNS *e*S **S** **22 46 42.7 +0.9**
CLNS *e*SS **SnSn** **22 48 32.0 +0.7**
CLNS pmax pmax
comp=N,207nm,1.7s
CLNS pmax pmax
comp=Z,252nm,1.7s
CLNS pmax pmax
comp=E,63nm,2.2s
CLNS pmax pmax
comp=N,22nm,1.1s
CLNS pmax pmax
comp=E,19nm,1.1s
CLNS pmax pmax
comp=Z,55nm,2.0s
CLNS smax smax
comp=N,533nm,7.3s
CLNS smax smax
comp=E,633nm,11.4s
CLNS MLR MLR
comp=Z,9μm,14.0s
CLNS MLR MLR
comp=E,3μm,11.0s
CLNS MLR MLR
comp=N,7μm,13.0s
TLY Talaya 32.63 331*d i*P **P** **22 41 35.7 -0.8**
TLY *i* 22 42 51.8
TLY *e*PPP PPP 22 43 04.9
TLY *e*S S 22 46 41.6 -10
TLY 22 51 59.0
TLY pmax pmax
comp=Z,96nm,2.0s
TLY MLR MLR
comp=Z,12μm,16.0s
TLY Talaya 32.63 331 P **P** **22 41 36.4 -0.1**
comp=Z,179nm,1.1s,SNR=17
SHL Shillong 32.72 279 *i*P **P** **22 41 39.0 +1.3**
SHL *i*PCP **PcP** **22 44 25.0 +1.8**
SHL *i*S **S** **22 46 55.0 +1.2**
SHL *i*PCS **PcS** **22 48 08.5 -0.3**
KULM Kulim 32.77 238⇓ *e*P **P** **22 41 39.0 +1.0**
comp=Z,499nm,1.8s
KULM *e*PcP **PcP** **22 44 24.1 +0.8**
KULM LR LR
comp=Z,3μm,21.0s
KULM Kulim 32.77 238 P **P** **22 41 39.3 +1.3**
IRK Irkutsk 32.77 333 *e*P **P** **22 41 36.4 -1.3**
IRK pmax pmax
comp=Z,149nm,2.3s
MYKOM Kota Tinggi 32.79 229 P **P** **22 41 39.7 +1.5**
IPM Ipoh 33.00 236⇓ *e*P **P** **22 41 40.3 +0.2**
comp=Z,477nm,1.7s
IPM *e*PcP **PcP** **22 44 23.9 -0.1**
IPM *e*S **S** **22 46 59.6 +1.6**
IPM *e*ScP ScP 22 48 00.1 -7.3
IPM Ipoh 33.00 236 P **P** **22 41 40.7 +0.6**
KGM Kluang 33.00 230 P **P** **22 41 41.3 +1.3**
PKDT Phuket 33.06 244 P **P** **22 41 42.1 +1.5**
comp=Z,237nm,1.0s,comp=Z,2μm
LSA Lhasa 33.10 287 P **P** **22 41 42.6 +1.2**
LSA S **S** **22 46 57.3 -2.9**
LSA sS **sS** **22 47 12.9 +4.1**
LSA LR LR
comp=E,9μm,14.5s
LSA LR LR
comp=Z,10μm,13.0s
LSA Lhasa 33.10 287⇓ *i*P **P** **22 41 42.4 +1.0**
LSA *e* 22 44 24.2
LSA *e*S **S** **22 46 58.2 -2.0**
LSA pmax pmax
comp=Z,71nm,0.8s
LSA MLR MLR
comp=Z,6μm,20.0s
LSA Lhasa 33.10 287⇓ *i*P **P** **22 41 42.4 +1.0**
comp=Z,71nm,0.8s
LSA *e*PcP **PcP** **22 44 24.2 -0.4**
LSA *e*S **S** **22 46 58.2 -2.0**
LSA LR LR
comp=Z,6μm,20.0s
FRIM Kepong 33.37 234 P **P** **22 41 44.5 +1.2**
SKR Severo-Kuril's 33.59 33 *e*P P 22 41 40.7 -4.1
SKR *e* 22 41 51.8
SKR *e*PPP PPP 22 43 10.0
SKR *e*S **S** **22 47 04.0 -2.5**
SKR pmax pmax
comp=E,110nm,1.0s
SKR pmax pmax
comp=Z,160nm,1.0s
SKR pmax pmax
comp=N,1μm,4.0s
SKR pmax pmax
comp=E,1μm,4.0s
SKR pmax pmax
comp=Z,2μm,4.0s
SKR smax smax
comp=N,3μm,6.0s
SKR smax smax
comp=E,2.0nm,6.0s
SKR MLR MLR
comp=N,1μm,16.0s
SKR MLR MLR
comp=E,3μm,16.0s
SKR MLR MLR
comp=Z,3μm,16.0s
MOY Mondy 33.81 329 *e*P **P** **22 41 46.0 -0.9**
MOY pmax pmax
comp=Z,106nm,3.1s
DGPR DIGLIPUR 35.13 257 *e*P **P** **22 41 59.2 +0.7**
PETK Petropavlovsk- 35.90 31 P **P** **22 42 05.0 +0.2**
PETK 22 44 31.0
PETK Petropavlovsk- 35.90 31 P **P** **22 42 05.0 +0.2**
PETK PcP **PcP** **22 44 31.0 -0.6**
PETK Petropavlovsk- 35.90 31 P **P** **22 42 05.0 +0.2**
comp=Z,136nm,1.0s,baz=208,slow=5.9,SNR=85
PETK PcP **PcP** **22 44 31.0 -0.6**
comp=Z,14nm,0.9s,baz=207,slow=1.7,SNR=3.7
PETK LR LR 22 59 08.8
comp=Z,2μm,19.2s,baz=222,slow=40
WAKE Wake Island 36.07 91 *e*P **P** **22 42 07.4 +0.9**
comp=Z,328nm,1.4s
WAKE LR LR
comp=Z,2μm,21.0s
TAPN Taplejung 36.25 283⇓ *i*P **P** **22 42 10.0 +1.6**
comp=Z,303nm,0.7s
PET Petropavlovsk 36.30 31κ *i*P **P** **22 42 08.6 +0.5**
PET *e* 22 43 30.1
PET *e* 22 44 32.7
PET *e*S **S** **22 47 46.1 -1.9**
PET *e*SS **SnSn** **22 50 10.7 -4.5**
PET *e*SSS SSS 22 50 41.2
PET pmax pmax
comp=Z,2μm,5.5s
PET pmax pmax
comp=Z,321nm,1.2s
PET pmax pmax
comp=Z,900nm,6.3s
PET MLR MLR
comp=Z,2μm,20.0s
PET MLR MLR
comp=Z,2μm,20.0s
ODAN Odare 36.58 282⇓ *i*P **P** **22 42 12.6 +1.4**
comp=Z,571nm,0.8s
UGM Wanagama 36.83 210 *e*P **P** **22 42 14.1 +1.0**
comp=Z,1μm,2.0s
HVS Khovu-Aksy 37.15 324*d i*P **P** **22 42 15.3 -0.2**
HVS pmax pmax
comp=Z,198nm,1.2s
HVS MLR MLR
comp=Z,110μm,24.0s
YAK Yakutsk 37.15 1*de*P **P** **22 42 15.1 -0.1**
YAK *e**PP pP 22 42 27.2 +6.7
YAK *e* 22 44 34.4
YAK *i*S **S** **22 48 00.0 -0.8**
YAK *e* 22 48 18.6
YAK *e*SS SS 22 50 55.5 +12
YAK pmax pmax
comp=Z,408nm,1.5s
YAK pmax pmax
comp=N,299nm,1.5s
YAK pmax pmax
comp=E,98nm,1.5s
YAK smax smax
comp=N,2μm,4.1s
YAK smax smax
comp=E,1μm,3.5s
YAK MLR MLR
comp=Z,3μm,15.0s
YAK MLR MLR
comp=N,2μm,13.0s
RAMN Ramite 37.27 282⇓ *i*P **P** **22 42 18.2 +1.1**
comp=N,131nm,0.8s
JIRN Jiri 37.56 284⇓ *i*P **P** **22 42 21.1 +1.4**
comp=N,354nm,0.9s
GUN Gumba 37.81 284⇓ *i*P **P** **22 42 23.2 +1.4**
WMQ Urumqi 37.88 310 P **P** **22 42 21.9 +0.1**
WMQ pP **pP** **22 42 26.4 -0.7**
WMQ sP **sP** **22 42 28.9 -0.3**
WMQ PP **PnPn** **22 43 51.1 +1.5**
WMQ PcP **PcP** **22 44 38.9 +1.0**
WMQ S **S** **22 48 11.9 -0.7**
WMQ sS **sS** **22 48 19.3 -1.9**
WMQ ScP **ScP** **22 48 24.7 -0.1**
WMQ SS **SnSn** **22 50 47.0 -7.0**
WMQ ScS **ScS** **22 52 32.1 -1.7**
WMQ pmax pmax
comp=Z,110nm,1.9s
WMQ pmax pmax
comp=Z,2μm,5.4s
WMQ LR LR
comp=N,11μm,13.0s
WMQ LR LR
comp=E,13μm,17.0s
WMQ LR LR
comp=Z,10μm,17.5s
PKI Pulchoki 38.26 284⇓ *i*P **P** **22 42 26.5 +0.9**
comp=Z,369nm,0.9s
PKIN Phulchoki 38.27 284⇓ *i*P **P** **22 42 26.4 +0.8**
comp=Z,157nm,0.5s
KKN Kakani 38.35 284⇓ *i*P **P** **22 42 27.4 +1.2**
comp=Z,174nm,0.6s
BOK Bokaro 38.37 277 *e*P **P** **22 42 27.7 +1.6**
BOK AMB AMB 22 42 28.8
comp=Z,332nm,2.5s
DMN Daman 38.52 284⇓ *i*P **P** **22 42 28.8 +1.1**
PMG Port Moresby 38.82 149 *e*P **P** **22 42 30.4 +0.6**
comp=Z,21nm,0.9s
PMG Port Moresby 38.82 149 LR LR 22 56 36.7
comp=Z,4μm,19.9s,baz=135,slow=33
DANN Dangsing 39.63 285⇓ *i*P **P** **22 42 38.6 +1.6**
comp=Z,849nm,0.8s
KOLN Koldanda 39.84 284⇓ *i*P **P** **22 42 39.8 +1.2**
comp=Z,336nm,0.8s
KWAJ Kwajalein Atol 40.87 106 *e*P **P** **22 42 48.6 +1.6**
KWAJ pmax pmax
comp=Z,189nm,1.0s
KWAJ Kwajalein Atol 40.87 106 *e*P **P** **22 42 48.6 +1.6**
comp=Z,189nm,1.0s
COEN Coen 41.31 158 *e*P **P** **22 42 51.3 +0.8**
comp=Z,749nm,2.2s
XMIS Christmas Isla 41.42 215 *e*P **P** **22 42 50.1 -1.4**
comp=Z,2μm,1.9s
VIS Vishakhapatnam 42.18 269 *e*P **P** **22 42 57.5 -0.2**
VIS *i*P **P** **22 42 57.7 0.0**
VIS AMB AMB 22 43 00.3
comp=Z,227nm,0.8s
MK31 Makanchi Array 42.36 313*ce*P **P** **22 42 58.7 -0.2**
MK31 pmax pmax
comp=Z,88nm,0.6s
MK31 Makanchi Array 42.36 313 *e*P **P** **22 42 58.9 0.0**
MK31 *e*PP **PP** **22 44 37.5 +0.5**
MK31 *e*PcP **PcP** **22 44 52.3 +0.2**
MK31 *e*ScP **ScP** **22 48 42.6 +0.4**
MK31 *e*S **S** **22 49 17.6 -1.8**
MKAR Makanchi Array 42.36 313*ce*P **P** **22 42 58.9 0.0**
MKAR pmax pmax
comp=Z,62nm,0.5s
MKAR Makanchi Array 42.36 313 *e*P **P** **22 42 59.0 +0.2**
MKAR PcP **PcP** **22 44 52.2 0.0**
MKAR S **S** **22 49 16.7 -2.7**
MKAR Makanchi Array 42.36 313 P **P** **22 42 58.9 0.0**
comp=Z,62nm,0.5s,baz=99,slow=11,SNR=198
MKAR PcP **PcP** **22 44 52.2 0.0**
comp=Z,67nm,1.1s,baz=97,slow=4.9,SNR=8.5
MKAR S **S** **22 49 16.7 -2.7**
comp=Z,1.1nm,0.6s,baz=91,slow=7.5,SNR=3.4
MKAR LR LR 23 02 07.1
comp=Z,5μm,18.8s,baz=108,slow=38
FITZ Fitzroy Crossi 42.79 183 LR LR 22 59 29.0
comp=Z,632nm,18.6s,baz=146,slow=34
ZAA0 Zalesovo Array 43.26 324⇓ *i*P **P** **22 43 05.5 -0.5**
ZAA0 *e*PP **PP** **22 44 48.1 +1.7**
ZAA0 *e*ScP **ScP** **22 48 45.4 -0.2**
ZAA0 *e*S **S** **22 49 29.2 -3.1**
ZALV Zalesovo Beam 43.26 324 *i*P **P** **22 43 05.5 -0.4**
ZALV pmax pmax
comp=Z,54nm,0.5s
ZALV Zalesovo Beam 43.26 324 P **P** **22 43 05.6 -0.4**
ZALV PcP **PcP** **22 44 54.3 -0.6**
ZALV Zalesovo Beam 43.26 324 P **P** **22 43 05.6 -0.4**
comp=Z,54nm,0.5s,baz=112,slow=8.5,SNR=269
ZALV PcP **PcP** **22 44 54.3 -0.6**
comp=Z,26nm,1.0s,baz=111,slow=3.3,SNR=5.2
ZALV LR LR 23 02 45.2
comp=Z,9μm,18.7s,baz=70,slow=38
FX1 Attu Island--F 43.81 38 *e*P **P** **22 43 11.6 +1.1**
FX1 PcP **PcP** **22 44 56.2 -0.6**
FX1 Attu Island--F 43.81 38 P **P** **22 43 11.3 +0.8**
comp=Z,141nm,1.0s,baz=319,slow=1.5,SNR=49
FX1 PcP **PcP** **22 44 56.2 -0.6**
comp=Z,17nm,0.6s,baz=256,slow=2.1,SNR=6.7
FX1 LR LR 22 59 40.8
comp=Z,748nm,19.8s,baz=83,slow=34
JBP Jabalpur 43.81 278⇓ *e*P **P** **22 43 10.6 -0.2**
JBP *e*S **S** **22 49 41.5 +0.4**
SMY Shemya 44.28 39 *e*P **P** **22 43 15.4 +1.1**
SMY pmax pmax
comp=Z,290nm,1.2s
SMY Shemya 44.28 39 *e*P **P** **22 43 15.4 +1.1**
comp=Z,290nm,1.2s
DDI Dehra Dun 44.40 289 *e*P **P** **22 43 17.1 +1.5**
DDI AMB AMB 22 43 18.8
comp=Z,2μm,3.0s
NVS Novosibirsk 44.47 324⇓ *i*P **P** **22 43 15.3 -0.4**
NVS *i* 22 44 59.3
NVS *e*S **S** **22 49 49.0 -0.9**
NVS pmax pmax
comp=N,70nm,1.5s
NVS pmax pmax
comp=E,130nm,1.5s
NVS pmax pmax
comp=Z,178nm,1.5s
NVS smax smax
comp=N,57nm,1.8s
NVS smax smax
comp=E,606nm,3.6s
WRAB Tennant Creek 44.96 172⇓ *e*P **P** **22 43 20.0 0.0**
WRAB *e* 22 44 58.4
WRAB *e*S **S** **22 49 54.5 -3.2**
WRAB pmax pmax
comp=Z,170nm,0.9s
WRAB MLR MLR
comp=Z,2μm,20.0s
WRAB Tennant Creek 44.96 172⇓ *e*P **P** **22 43 19.9 0.0**
comp=Z,170nm,0.9s
WRAB *e*PcP **PcP** **22 44 58.4 -2.8**
WRAB *e*S **S** **22 49 54.5 -3.2**
WRAB LR LR
comp=Z,2μm,20.0s
WRA Warramunga Arr 44.97 172 P **P** **22 43 20.0 -0.1**
WRA PcP **PcP** **22 45 01.5 +0.3**
WRA ScP **ScP** **22 48 53.1 +0.1**
WRA S **S** **22 49 55.5 -2.3**
WRA Warramunga Arr 44.97 172 P **P** **22 43 20.0 -0.1**
comp=Z,49nm,0.7s,baz=352,slow=8.6,SNR=189

WRA PcP **PcP** **22 45 01.5 +0.3**
comp=Z,11nm,0.7s,baz=349,slow=3.8,SNR=4.8
WRA ScP **ScP** **22 48 53.1 +0.1**
comp=Z,1.0nm,0.7s,baz=351,slow=4.8,SNR=4.9
WRA S **S** **22 49 55.5 -2.3**
comp=Z,2.4nm,1.0s,baz=349,slow=13,SNR=9.3
WRA LR LR 23 01 46.6
comp=Z,1μm,18.9s,baz=15,slow=36
SMLA Simla **45.09 290** ⇓*i* P **P** **22 43 22.2 +1.2**
SMLA AMb AMB 22 43 23.0
comp=Z,3μm,0.5s
SMLA *i* x x 22 49 48.3
NGP Nagpur **45.12 276** *eP* **P** **22 43 20.3 -1.1**
NGP *ex* x 22 50 04.2
NDI New Delhi **45.32 286** *ex* **P** **22 43 20.0 -2.9**
NDI *eS* **S** **22 50 02.5 -0.5**
AAA Alma-Ata **45.42 307** *i* P **P** **22 43 25.5 +1.9**
AAA *i* S **S** **22 50 08.7 +4.4**
AAA pmax pmax
comp=Z,3μm,7.9s
AAA smax smax
comp=E,2μm,7.7s
AAA MLR MLR
comp=Z,15μm,16.0s
BHK Bhakra **45.70 290** *ex* **P** **22 43 28.5 +2.6**
KURK Kurchatov **45.73 318** P **P** **22 43 25.4 -0.4**
comp=Z,676nm,1.2s
KURK Kurchatov **45.73 318** P **P** **22 43 26.0 +0.2**
KURK 22 45 03.6
KURK 22 45 16.3
KURK Kurchatov **45.73 318** P **P** **22 43 26.0 +0.2**
KURK PcP **PcP** **22 45 03.6 +0.1**
KURK PP **PP** **22 45 16.2 +3.4**
DHRM DHARAMSHALA **45.73 292** *eP* **P** **22 43 26.5 +0.1**
DHRM AMB AMB 22 43 27.4
comp=Z,232nm,1.2s
KURBB Kurchatov Arra **45.76 317** P **P** **22 43 26.0 0.0**
comp=Z,38nm,0.6s,baz=105,slow=8.7,SNR=7.4
KURBB PcP **PcP** **22 45 03.6 0.0**
comp=Z,16nm,0.8s,baz=105,slow=3.6,SNR=4.6
KURBB PP **PP** **22 45 16.2 +3.1**
comp=Z,11nm,1.0s,baz=108,slow=9.1,SNR=4.4
ULHL Ulahol **45.84 305** P **P** **22 43 28.4 +1.3**
SNR=7.8
KSH Kashi **45.86 302** ⇓*i* P 22 43 31.5 +4.3
KSH pP pP 22 43 35.2 +2.7
KSH sP sP 22 43 38.3 +3.7
KSH PP PP 22 45 20.1 +5.5
KSH S **S** **22 50 14.1 +3.3**
KSH sS sS 22 50 23.0 +3.5
KSH ScS **ScS** **22 53 23.6 +0.8**
KSH SS **SS** **22 53 31.1 -4.2**
KSH pmax pmax
comp=Z,810nm,1.8s
KSH pmax pmax
comp=Z,2μm,5.3s
KSH LR LR
comp=N,3μm,13.3s
KSH LR LR
comp=E,7μm,14.6s
KSH LR LR
comp=Z,8μm,15.1s
PONG Pong **46.05 291** *ex* P 22 43 25.3 -3.3
BHPL Bhopal **46.09 279** *eP* **P** **22 43 29.0 -0.1**
BHPL AMB AMB 22 43 30.5
comp=Z,136nm,0.6s
HNR Honiara **46.12 134** *eP* **P** **22 43 29.5 +0.2**
comp=Z,4.8nm,1.1s
HNR Honiara **46.12 134** LR LR 23 00 38.7
comp=Z,1μm,20.1s,baz=128,slow=33
TKM2 Tokmak 2 **46.37 306** *i* P **P** **22 43 31.7 +0.4**
TKM2 pmax pmax
comp=Z,277nm,1.5s
TKM2 Tokmak 2 **46.37 306** P **P** **22 43 32.8 +1.5**
SNR=116
TKM2 Tokmak 2 **46.37 306** *eP* **P** **22 43 32.8 +1.5**
comp=Z,450nm,1.6s
TKM2 LR LR
comp=Z,4μm,21.0s
MBWA Marble Bar **46.48 191** P **P** **22 43 31.9 -0.1**
SNR=7.1
MBWA Marble Bar **46.48 191** *eP* **P** **22 43 31.5 -0.5**
comp=Z,449nm,2.1s
MBWA LR LR
comp=Z,860nm,20.0s
KZA Kyzart **46.56 305** P **P** **22 43 35.0 +2.0**
SNR=191
HYB Hyderabad **46.61 271** *i* P **P** **22 43 34.0 +0.8**
HYB Hyderabad **46.61 271** *eP* **P** **22 43 34.1 +0.9**
TIXI Tiksi **46.80 0** *d* *iP* **P** **22 43 33.3 -0.6**
TIXI pmax pmax
comp=Z,318nm,1.7s
TIXI MLR MLR
comp=Z,7μm,16.0s
KBK Karagaybulak **46.83 306** P **P** **22 43 36.3 +1.5**
SNR=38
AMKA Amchitka **46.94 42** *eP* **P** **22 43 35.8 +0.5**
CHMS Chumysh **47.00 306** P **P** **22 43 37.1 +1.1**
SNR=95
AKL Akola **47.07 276** ⇓*iP* **P** **22 43 38.3 +1.5**
AKL *i* x x 22 50 32.0
FRU Bishkek **47.08 306** ⇓*iP* **P** **22 43 37.5 +0.9**
FRU *e* 22 43 48.0
FRU *i* 22 45 29.0
FRU *eS* **S** **22 50 28.0 -0.1**
FRU pmax pmax
comp=Z,610nm,1.9s
UCH Uchtor **47.11 305** P **P** **22 43 39.6 +2.2**
SNR=44
AAK Ala-Archa **47.16 306** *d* *iP* **P** **22 43 38.5 +1.1**
AAK MLR MLR
comp=Z,36μm,17.0s
AAK Ala-Archa **47.16 306** P **P** **22 43 38.9 +1.5**
SNR=55
AAK Ala-Archa **47.16 306** P **P** **22 43 38.6 +1.2**
SNR=32
AAK Ala-Archa **47.16 306** *eP* **P** **22 43 38.5 +1.1**
comp=Z,153nm,1.4s
AAK PcP **PcP** **22 45 08.1 -0.8**
AAK S **S** **22 50 27.6 -1.8**
AAK Ala-Archa **47.16 306** P **P** **22 43 38.5 +1.1**
baz=74,slow=7.3
AAK PcP **PcP** **22 45 08.1 -0.8**
comp=Z,13nm,0.8s,baz=51,slow=9.5,SNR=2.4
AAK S **S** **22 50 27.6 -1.8**
comp=Z,0.7nm,0.3s,baz=73,slow=19,SNR=1.6
AAK LR LR 23 06 29.6
comp=Z,12μm,18.1s,baz=84,slow=40
USP Ospenovka **47.20 307** P **P** **22 43 38.6 +1.0**
SNR=61
EKS2 Erkin-Say **47.69 306** *eP* **P** **22 43 42.7 +1.2**
EKS2 pmax pmax
comp=Z,190nm,1.4s
EKS2 MLR MLR
comp=Z,6μm,22.0s
EKS2 Erkin-Say **47.69 306** P **P** **22 43 42.7 +1.2**
SNR=85
EKS2 Erkin-Say **47.69 306** *eP* **P** **22 43 42.7 +1.2**
comp=Z,190nm,1.4s
EKS2 LR LR
comp=Z,6μm,22.0s
AML Almayashu **47.72 305** P **P** **22 43 43.8 +1.8**
SNR=128
COCO West Island **47.84 223** *eP* **P** **22 43 42.5 -0.2**
COCO pmax pmax
comp=Z,471nm,1.6s
COCO MLR MLR
comp=Z,1μm,19.0s
COCO West Island **47.84 223** *eP* **P** **22 43 42.5 -0.2**
comp=Z,471nm,1.6s
COCO LR LR
comp=Z,1μm,19.0s
AJM Ajmer **47.92 284** *i* P **P** **22 43 43.0 -0.4**
CTA Charters Tower **48.06 157** LR LR 23 03 38.9
comp=Z,1μm,19.8s,baz=330,slow=36
CTAO Charters Tower **48.06 157** *eP* **P** **22 43 45.3 +1.0**
CTAO pmax pmax
comp=Z,471nm,2.1s
CTAO MLR MLR
comp=Z,2μm,20.0s
CTAO Charters Tower **48.06 157** *eP* **P** **22 43 45.3 +1.0**
comp=Z,471nm,2.1s
CTAO LR LR
comp=Z,2μm,20.0s
PALK Pallekele **48.51 257** P **P** **22 43 50.3 +2.2**
SNR=8.2
PALK Pallekele **48.51 257** *eP* **P** **22 43 49.8 +1.7**
comp=Z,306nm,2.0s
MIDW Midway **48.55 74** *eP* **P** **22 43 48.4 +0.3**
comp=Z,229nm,1.1s
MIDW LR LR
comp=Z,1μm,21.0s
AS31 Alice Springs **48.59 173** *eP* **P** **22 43 48.6 +0.2**
AS31 *e*PcP **PcP** **22 45 13.4 -0.6**
AS31 *eS* **S** **22 50 48.6 -0.9**
ASAR Alice Springs **48.59 173** P **P** **22 43 48.9 +0.5**
ASAR PcP **PcP** **22 45 14.1 +0.1**
ASAR S **S** **22 50 48.3 -1.3**
ASAR Alice Springs **48.59 173** P **P** **22 43 48.9 +0.5**
comp=Z,24nm,0.8s,baz=356,slow=7.5,SNR=186
ASAR PcP **PcP** **22 45 14.1 +0.1**
comp=Z,11nm,0.8s,baz=351,slow=3.6,SNR=4.6
ASAR S **S** **22 50 48.3 -1.3**
comp=Z,3.3nm,1.0s,baz=6.5,slow=20,SNR=8.8
ASAR LR LR 23 02 58.7
comp=Z,2μm,20.7s,baz=344,slow=34
BILL Bilibino **48.98 18** ⇓*iP* **P** **22 43 51.5 +0.6**
BILL *e* 22 45 46.1
BILL *eS* **S** **22 50 52.3 -1.9**
BILL pmax pmax
comp=Z,106nm,1.0s
BILL MLR MLR
comp=Z,800nm,17.0s
TARA Tarawa **49.16 111** *eP* **P** **22 43 54.4 +1.4**
comp=Z,568nm,1.8s
KK31 Karatay Array **50.10 306** *ceP* **P** **22 44 00.8 +0.9**
KK31 pmax pmax
comp=Z,280nm,1.0s
KKAR Karatay Array **50.10 306** *eP* **P** **22 44 00.8 +0.9**
KKAR Karatay Array **50.10 306** *eP* **P** **22 44 00.8 +0.9**
POO Poona **50.54 274** ⇓*iP* **P** **22 44 01.0 -2.5**
comp=Z,70nm,1.0s
BVAR Borovoye Array **51.21 319** P **P** **22 44 08.7 +0.7**
BVAR 22 45 23.3
BVAR S **S** **22 51 25.8 +0.1**
BVAR Borovoye Array **51.21 319** P **P** **22 44 08.7 +0.7**
BVAR PcP **PcP** **22 45 23.3 +0.1**
BVAR S **S** **22 51 25.8 +0.1**
BVAR *e* 23 21 37.8
BVAR Borovoye Array **51.21 319** P **P** **22 44 08.7 +0.7**
comp=Z,90nm,0.6s,baz=92,slow=8.0,SNR=333
BVAR PcP **PcP** **22 45 23.3 +0.1**
comp=Z,22nm,0.6s,baz=109,slow=3.2,SNR=5.9
BVAR S **S** **22 51 25.8 +0.1**
comp=Z,2.4nm,1.1s,baz=111,slow=16,SNR=4.6
BVAR LR LR 23 07 29.4
comp=Z,7μm,19.0s,baz=90,slow=38
BVAR P4KPbc 23 21 37.8
comp=Z,0.6nm,0.7s,baz=141,slow=4.8,SNR=4.6
BRVK Borovoye **51.28 319** *d* *iP* **P** **22 44 09.3 +0.8**
BRVK pmax pmax
comp=Z,668nm,1.2s
BRVK MLR MLR
comp=Z,9μm,17.0s
BRVK Borovoye **51.28 319** P **P** **22 44 09.6 +1.1**
SNR=359
BRVK Borovoye **51.28 319** *eP* **P** **22 44 09.5 +0.9**
comp=Z,816nm,1.4s
BRVK LR LR
comp=Z,8μm,21.0s
TRD Trivandrum **51.31 261** ⇑*ex* x 22 44 17.4
GOA Goa **51.52 270** *eP* **P** **22 44 12.3 +1.5**
GOA AMB AMB 22 44 13.4
comp=Z,127nm,0.0s
KBL Kabul **51.57 295** *eP* **P** **22 44 12.6 +1.3**
KBL Kabul **51.57 295** *eP* **P** **22 44 12.6 +1.3**
comp=Z,3μm,1.8s
EIDS Eidsvold **54.68 154** *eP* **P** **22 44 34.2 +0.4**
comp=Z,324nm,2.3s
FORT Forrest **55.35 180** *eP* **P** **22 44 39.1 +0.5**
comp=Z,174nm,1.0s
SVE Sverdlovsk **57.26 323** *c* *iP* **P** **22 44 52.9 +0.9**
SVE *eS* **S** **22 52 47.0 -0.1**
SVE pmax pmax
comp=Z,537nm,1.6s
SVE pmax pmax
comp=Z,1μm,8.9s
SVE MLR MLR
comp=Z,15μm,17.0s
SVE MLR MLR
comp=E,11μm,17.0s
AB31 Akbulak array **57.49 314** *ceP* **P** **22 44 54.3 +0.5**
AB31 pmax pmax
comp=Z,73nm,0.6s
ABKAR Akbulak array **57.49 314** *eP* **P** **22 44 54.8 +1.0**
BBOO Buckleboo **57.87 172** *eP* **P** **22 44 57.0 +0.5**
comp=Z,220nm,1.6s
STKA Stephens Creek **57.89 166** *eP* **P** **22 44 57.0 +0.2**
comp=Z,8.8nm,0.9s
STKA Stephens Creek **57.89 166** P **P** **22 44 56.8 +0.1**
comp=Z,23nm,0.8s,baz=344,slow=6.9,SNR=55
STKA LR LR 23 09 31.8
comp=Z,1μm,19.7s,baz=337,slow=36
ARU Arti **58.38 322** *d* *iP* **P** **22 45 00.3 +0.4**
ARU *e* 22 45 50.3
ARU 22 47 08.1
ARU S **S** **22 53 02.3 +0.4**
ARU 22 54 45.7
ARU pmax pmax
comp=Z,693nm,1.7s
ARU MLR MLR
comp=Z,17μm,18.0s
ARU Arti **58.38 322** P **P** **22 45 00.5 +0.6**
comp=Z,1μm,1.7s
NWAO Narrogin (SRO) **58.41 191** *eP* **P** **22 45 00.7 +0.4**
comp=Z,202nm,1.6s
NWAO LR LR
comp=Z,977nm,20.0s
AKTO Aktyubinsk **58.70 315** *i* P **P** **22 45 02.6 +0.3**
AKTO pmax pmax
comp=Z,192nm,1.4s
AKTO Aktyubinsk **58.70 315** P **P** **22 45 03.0 +0.7**
AKTO S **S** **22 53 02.5 -3.7**
AKTO ⇑*e* 23 14 48.1
AKTO Aktyubinsk **58.70 315** P **P** **22 45 03.0 +0.7**
comp=Z,51nm,0.9s,baz=86,slow=6.9,SNR=128
AKTO S **S** **22 53 02.5 -3.7**
comp=Z,0.7nm,0.6s,baz=59,slow=19,SNR=1.8
AKTO LR LR 23 12 30.1
comp=Z,6μm,18.2s,baz=88,slow=38
AKTO PKP2bc 23 14 48.1
comp=Z,1.5nm,1.0s,baz=34,slow=23,SNR=3.8
ARMA Armidale **59.43 156** *eP* **P** **22 45 08.8 +1.2**
comp=Z,46nm,1.3s
SOKR Solikamsk **59.45 326** *c* *iP* **P** **22 45 07.9 +0.7**
SOKR S **S** **22 53 15.3 -0.3**
SOKR pmax pmax
comp=Z,720nm,2.3s
SOKR MLR MLR
comp=Z,7μm,17.0s
DZM Mont Dzumac **59.70 138** *eP* **P** **22 45 08.6 -1.0**
comp=Z,195nm,1.4s
DZM *eS* **S** **22 53 14.7 -5.2**
comp=Z,7μm,27.9s
DZM *e*LR LR 23 02 48.7
comp=Z,5μm,24.7s
DZM Mont Dzumac **59.70 138** *eP* **P** **22 45 10.3 +0.7**
comp=Z,90nm,1.2s
DZM *e*PcP **PcP** **22 45 57.1 +0.6**
DZM *e*PP **PP** **22 47 22.4 +0.7**
FUNA Funafuti **59.83 117** *eP* P 22 45 16.3 +5.8
comp=Z,420nm,1.6s
FUNA LR LR
comp=Z,3μm,19.0s
CHGN Chignik **60.57 38** *eP* **P** **22 45 14.2 -0.8**
SVW2 Sparrevohn **61.95 32** *eP* **P** **22 45 26.0 +1.6**
comp=Z,102nm,1.0s
WBK Wadi Bani Khal **62.69 284** P **P** **22 45 31.4 +1.4**
SNR=8.8
CAN Canberra **63.06 161** *eP* **P** **22 45 33.4 +1.4**
CAN pmax pmax
comp=Z,235nm,1.8s
CAN MLR MLR
comp=Z,973nm,20.0s
CAN Canberra **63.06 161** *eP* **P** **22 45 33.4 +1.4**
comp=Z,235nm,1.8s
CAN LR LR
comp=Z,973nm,20.0s
OHAK Old Harbor **63.34 37** *eP* **P** **22 45 33.8 +0.2**
comp=Z,524nm,2.0s
RSO Redoubt South **63.37 33** *eP* **P** **22 45 35.1 +1.1**
SMDO Samad **63.37 284** P **P** **22 45 35.4 +0.8**
SNR=8.5
JMDO Jabal Madar **63.52 284** ⇑P **P** **22 45 36.3 +0.8**
SNR=6.2
SPU Mount Spurr **63.66 32** *eP* **P** **22 45 36.6 +0.8**
KDAK Kodiak Island **63.67 36** *eP* **P** **22 45 36.1 +0.4**
comp=Z,300nm,1.4s
KDAK S **S** **22 54 11.7 +2.6**
KDAK Kodiak Island **63.67 36** P **P** **22 45 36.2 +0.4**
comp=Z,99nm,1.1s,baz=288,slow=2.7,SNR=28
KDAK S **S** **22 54 11.7 +2.6**
comp=Z,4.5nm,0.8s,baz=308,slow=17,SNR=2.4
KDAK LR LR 23 17 03.9
comp=Z,492nm,18.3s,baz=277,slow=40
HOQ Hoqain **63.86 285** P **P** **22 45 38.5 +0.8**
SNR=17
COLD Coldfoot **64.12 25** *eP* **P** **22 45 40.3 +1.7**
comp=Z,185nm,1.3s
BSY Bisya **64.21 284** P **P** **22 45 40.8 +0.8**
SNR=9.7
MSVF Nonsavu **64.51 126** *eP* **P** **22 45 43.2 +1.2**
MSVF pmax pmax
comp=Z,152nm,1.4s
MSVF MLR MLR
comp=Z,1μm,22.0s
MSVF Nonsavu **64.51 126** *eP* **P** **22 45 43.2 +1.2**
comp=Z,172nm,1.4s
MSVF LR LR
comp=Z,2μm,22.0s
ARQ Araqi **64.63 285** P **P** **22 45 43.7 +1.0**
SNR=8.2
ASHO Ashiyiah **64.63 287** P **P** **22 45 43.7 +0.9**
SNR=7.6
MCK McKinley **64.89 29** *eP* **P** **22 45 44.3 +0.5**
MCK pmax pmax
comp=Z,376nm,1.2s
MCK McKinley **64.89 29** *eP* **P** **22 45 44.3 +0.5**
comp=Z,376nm,1.2s
PMR Palmer **65.03 32** *eP* **P** **22 45 44.6 0.0**
PMR pmax pmax
comp=Z,398nm,1.6s
PMR Palmer **65.03 32** *eP* **P** **22 45 44.6 0.0**
comp=Z,398nm,1.6s
COLA College **65.25 28** *eP* **P** **22 45 47.4 +1.4**
COLA pmax pmax
comp=Z,244nm,1.4s
COLA MLR MLR
comp=Z,777nm,20.0s
COLA College **65.25 28** *eP* **P** **22 45 47.4 +1.4**
comp=Z,65nm,1.4s
COLA LR LR
comp=Z,777nm,20.0s
ILAR Eielson Array **65.67 28** P **P** **22 45 48.3 -0.5**
ILAR PP **PP** **22 48 14.6 +1.5**
ILAR S **S** **22 54 32.2 -1.5**
ILAR P'P' 23 14 23.9
ILAR Eielson Array **65.67 28** P **P** **22 45 48.3 -0.5**
comp=Z,8.5nm,0.8s,baz=292,slow=5.6,SNR=7.3
ILAR PP **PP** **22 48 14.6 +1.5**
comp=Z,1.9nm,0.4s,baz=254,slow=9.3,SNR=5.6
ILAR S **S** **22 54 32.2 -1.5**
comp=Z,0.2nm,0.5s,baz=261,slow=17,SNR=2.6
ILAR PKPPKP P'P'df 23 14 23.9 -8.8
comp=Z,3.7nm,1.2s,baz=75,slow=1.3,SNR=6.6
ILAR LR LR 23 18 39.9
comp=Z,738nm,18.4s,baz=112,slow=40
PAX Paxson **66.54 30** *eP* **P** **22 45 55.2 +0.7**
PAX pmax pmax
comp=Z,522nm,2.0s
PAX Paxson **66.54 30** *eP* **P** **22 45 55.1 +0.7**
comp=Z,522nm,2.0s
MID Middleton Isla **66.69 34** *eP* **P** **22 45 55.7 +0.3**
MID Middleton Isla **66.69 34** *eP* **P** **22 45 55.7 +0.3**
MAK Makhachkala **66.86 308** *eP* **P** **22 45 57.6 +0.9**
MAK *e* 22 46 23.8
MAK *e* 22 48 26.7
MAK *eS* **S** **22 54 50.4 +1.6**
MAK pmax pmax
comp=Z,240nm,1.3s
MAK MLR MLR
comp=Z,8μm,18.0s
KIP Kipapa **67.24 76** *eP* **P** **22 46 00.6 +1.1**
KIP pmax pmax
comp=Z,174nm,2.5s
KIP Kipapa **67.24 76** PFAKE 22 46 10.0 +11
KIP LR LR
comp=Z,1μm,21.0s
TMCR Tamitsa **67.94 332** *eP* **P** **22 46 02.0 -1.2**
TMCR *e* 22 46 16.0
TMCR pmax pmax
comp=Z,488nm,1.4s
EGAK Eagle **68.09 28** *eP* **P** **22 46 05.1 +0.9**
comp=Z,54nm,1.0s
EGAK LR LR
comp=Z,901nm,20.0s
LVZ Lovozero **68.49 336** *d* *iP* **P** **22 46 06.7 0.0**
LVZ pmax pmax
comp=Z,241nm,2.5s
LVZ MLR MLR
comp=Z,6μm,20.0s
LVZ Lovozero **68.49 336** P **P** **22 46 06.5 -0.2**
comp=Z,394nm,1.5s,SNR=5.6
RBK Rabkut **68.57 280** P **P** **22 46 08.8 +0.8**
SNR=11
DGRG David-gareji **68.76 307** P **P** **22 46 10.5 +1.6**
DGRG S **S** **22 55 15.2 +3.4**
APA Apatity **69.03 336** ⇓*iP* **P** **22 46 11.0 +1.0**
APA *i* 22 46 30.0
APA *i* 22 48 45.0
APA *iS* **S** **22 55 13.0 -1.0**
APA *i* 22 56 08.0
APA pmax pmax
comp=Z,254nm,1.4s
APA MLR MLR
comp=E,7μm,16.0s
TBLG Delisi **69.15 307** *eP* **P** **22 46 11.7 +0.5**
TBLG *eS* **S** **22 55 15.2 -1.1**
TBLG Delisi **69.15 307** P **P** **22 46 11.7 +0.5**
TBLG S **S** **22 55 15.3 -1.1**
ABTO Aybut **69.43 280** P **P** **22 46 14.2 +0.8**
SNR=7.7
ZEI Tsey **69.47 309** *eP* **P** **22 46 12.0 -1.4**
ZEI *eS* **S** **22 55 22.2 +1.8**
ZEI pmax pmax
comp=Z,268nm,1.4s
ZEI pmax pmax
comp=E,148nm,1.1s
ZEI pmax pmax
comp=N,222nm,1.6s
ZEI pmax pmax
comp=Z,839nm,8.1s
ZEI MLR MLR
comp=Z,6μm,18.0s
KZR Kazreti **69.47 307** P **P** **22 46 14.2 +0.9**
GOF Gofitskoye **69.48 311** *eP* P 22 46 19.9 +6.7
GOF *eS* S 22 55 27.4 +7.4
GOF pmax pmax
comp=Z,460nm,1.3s
GOF smax smax
comp=N,30nm,1.2s
GOF smax smax
comp=E,60nm,1.2s
GNI Garni **69.56 306** P **P** **22 46 16.0 +2.0**
SNR=40
GNI Garni **69.56 306** *eP* **P** **22 46 14.1 +0.1**
comp=E,361nm,1.5s
GNI *e*PcP **PcP** **22 46 37.8 +0.8**
GNI LR LR
comp=Z,2μm,19.0s
TAU Tasmania Unive **69.74 165** PFAKE 22 46 30.0 +15
TAU LR LR
comp=Z,2μm,22.0s
ONI Oni **69.84 308** P **P** **22 46 17.5 +1.9**
ONI S **S** **22 55 27.9 +3.4**
KBZ Khabaz **69.93 310** P **P** **22 46 17.2 +1.3**
KBZ S **S** **22 55 27.5 +2.2**
KBZ Khabaz **69.93 310** P **P** **22 46 17.2 +1.3**
KBZ S **S** **22 55 27.4 +2.2**
KBZ Khabaz **69.93 310** P **P** **22 46 17.2 +1.3**
comp=Z,196nm,1.1s,baz=84,slow=4.4,SNR=162
KBZ S **S** **22 55 27.4 +2.2**
comp=Z,0.6nm,0.4s,baz=72,slow=20,SNR=2.2
KBZ LR LR 23 21 05.3
comp=Z,5μm,20.2s,baz=73,slow=40
KIV Kislovodsk **70.01 310** *d* *iP* **P** **22 46 18.0 +1.4**
KIV *e* 22 46 39.0
KIV *eS* **S** **22 55 27.8 +1.2**

KIV eSS SS 22 59 58.2 +2.6
KIV pmax pmax
comp=Z,542nm,1.1s
KIV pmax pmax
comp=Z,558nm,3.5s
KIV Kislovodsk 70.01 310 P P 22 46 18.0 +1.4
comp=Z,3μm,0.9s,SNR=100
MOS Moscow 70.08 323 eP P 22 46 14.4 -2.2
MOS e 22 46 36.3
MOS e 22 48 49.4
MOS iS S 22 55 23.0 -3.6
MOS e 22 56 11.8
MOS pmax pmax
comp=E,800nm,2.0s
MOS pmax pmax
comp=Z,2μm,2.0s
MOS pmax pmax
comp=N,700nm,2.2s
MOS pmax pmax
comp=Z,868nm,1.6s
MOS pmax pmax
comp=N,271nm,1.3s
MOS pmax pmax
comp=E,248nm,1.3s
MOS smax smax
comp=N,1μm,3.4s
MOS smax smax
comp=E,1μm,4.0s
MOS MLR MLR
comp=E,7μm,20.0s
MOS MLR MLR
comp=Z,10μm,20.0s
MOS MLR MLR
comp=N,4μm,18.0s
SPA0 Spitsbergen Ar 70.12 348⇓ iP P 22 46 16.8 +0.2
SPA0 eS S 22 55 27.6 +1.0
SPITS Spitsbergen Ar 70.12 348 P P 22 46 16.6 0.0
SPITS Spitsbergen Ar 70.12 348 P P 22 46 16.6 0.0
comp=N,182nm,1.2s,baz=101,slow=17,SNR=33
AKH Akhalkalaki 70.13 307 P P 22 46 19.7 +2.1
AKH S S 22 55 33.6 +5.3
AFI Afiamalu 70.16 116 LR LR 23 17 29.5
comp=N,884nm,18.2s,baz=292,slow=36
INK Inuvik 70.17 23 P P 22 46 17.9 +0.9
INK Inuvik 70.17 23 P P 22 46 17.9 +0.9
comp=N,160nm,1.1s,baz=288,slow=7.2,SNR=101
VOR Voronezh 70.22 319⇓ iP P 22 46 17.0 -0.6
VOR pmax pmax
comp=Z,1μm,1.4s
VORD Divnogorie 70.36 318 eP P 22 46 18.5 0.0
VORD eS S 22 55 21.1 -9.0
VORD pmax pmax
comp=Z,310nm,1.6s
VORD pmax pmax
comp=N,170nm,0.7s
VORD pmax pmax
comp=E,210nm,0.8s
VORD smax smax
comp=Z,150nm,6.4s
VORD smax smax
comp=N,300nm,8.8s
VORD smax smax
comp=E,530nm,8.2s
VORD MLR MLR
comp=Z,5μm,16.0s
VORD MLR MLR
comp=N,2μm,18.0s
VORD MLR MLR
comp=E,3μm,15.0s
VSR Storozhevoye 70.37 318 eP P 22 46 18.4 -0.1
VSR eS S 22 55 24.9 -5.4
VSR pmax pmax
comp=Z,430nm,1.3s
VSR pmax pmax
comp=N,110nm,1.2s
VSR pmax pmax
comp=E,370nm,1.4s
VSR smax smax
comp=Z,170nm,6.6s
VSR smax smax
comp=N,350nm,8.7s
VSR smax smax
comp=E,500nm,7.8s
VSR MLR MLR
comp=E,3μm,17.0s
VSR MLR MLR
comp=Z,6μm,17.0s
VSR MLR MLR
comp=N,2μm,16.0s
DIGO Kars 70.50 306 iP P 22 46 21.4 +1.5
DYDN Diyadin 70.51 305 iP P 22 46 21.7 +1.8
KBS Kingsbay 70.54 349⇓ iP P 22 46 19.3 +0.2
KBS AMB AMB 22 46 22.6
comp=Z,125nm,2.0s
KBS eS S 22 55 31.9 +0.5
KBS AMS AMS 23 21 18.5
comp=Z,2μm,17.6s
KBS Kingsbay 70.54 349d iP P 22 46 19.4 +0.2
KBS pmax pmax
comp=Z,98nm,1.2s
KBS MLR MLR
comp=Z,2μm,18.0s
KBS Kingsbay 70.54 349 eP P 22 46 19.6 +0.5
comp=Z,23nm,1.2s
KBS LR LR
comp=Z,2μm,20.0s
KEV Kevo 70.65 339 ep P 22 46 20.1 +0.2
comp=Z,85nm,1.1s
KEV Kevo 70.65 339 eP P 22 46 20.1 +0.2
KEV pmax pmax
comp=Z,85nm,1.1s
KEV Kevo 70.65 339 eP P 22 46 19.4 -0.4
comp=Z,106nm,1.2s
KEV LR LR
comp=Z,3μm,21.0s
IBDR Badra 70.66 298 iP P 22 46 12.0 -8.6
IBDR iS S 22 55 30.0 -4.2
CHVG Ch'k'valeri 70.78 309 P P 22 46 22.6 +1.4
OBN Obninsk 70.82 323⇓ iP P 22 46 21.5 +0.3
OBN e 22 48 54.2
OBN iS S 22 55 35.7 +0.4
OBN pmax pmax
comp=Z,569nm,1.2s
OBN MLR MLR
comp=Z,6μm,17.0s
OBN Obninsk 70.82 323 P P 22 46 21.3 +0.1
comp=Z,2μm,1.7s,SNR=42
HAKT HAKKARI 71.07 303 iP P 22 46 24.3 +0.9
BJO Bjornoya 71.10 344 eS S 22 55 38.9 +0.9
BJO AMS AMS 23 23 04.3
comp=Z,6μm,16.0s
JOF Joensuu 71.16 331 ep P 22 46 23.2 +0.1
comp=Z,801nm,1.8s
JOF Joensuu 71.16 331 eP P 22 46 23.2 +0.1
JOF pmax pmax
comp=Z,801nm,1.8s
TUTA Tutak 71.20 305 iP P 22 46 25.7 +1.6
ARCES ARCESS Array B 71.22 339 P P 22 46 23.5 +0.2
ARCES ARCESS Array B 71.22 339 P P 22 46 23.5 +0.2
comp=Z,48nm,1.1s,baz=60,slow=5.9,SNR=38
ARCES LR LR 23 25 18.1
comp=Z,5μm,18.3s,baz=63,slow=42
ARE0 ARCESS Array S 71.22 339⇓ iP P 22 46 22.4 -0.9
ARE0 eS S 22 55 39.3 -0.2
ARE0 ARCESS Array S 71.22 339 eP P 22 46 23.3 -0.1
ARE0 ePP PP 22 49 03.2 +2.4
ARTV Artvin 71.33 307 iP P 22 46 26.1 +1.3
DAGI Agillar 71.37 307 iP P 22 46 26.2 +1.2
DDEM Demirkent 71.54 307 iP P 22 46 27.3 +1.3
DBAD Bademkaya 71.54 307 iP P 22 46 27.3 +1.3
HOMI Horasan 71.68 306 iP P 22 46 28.5 +1.5
TATV Tatvan 71.87 305 iP P 22 46 29.4 +1.3
ERZM Erzurum 72.12 306 iP P 22 46 31.2 +1.5
SKAG Skagway 72.14 32 eP P 22 46 30.6 +1.5
comp=Z,166nm,1.2s
KTK1 Kautokeino 72.16 339⇓ iP P 22 46 29.2 +0.1
KTK1 AMB AMB 22 46 30.4
comp=Z,712nm,1.7s
KTK1 eS S 22 55 50.9 +0.4
SOC Sochi 72.18 310d iP P 22 46 30.0 +0.4
SOC ePPP PPP 22 50 53.6
SOC iS S 22 55 52.8 +1.3
SOC e 22 56 35.6
SOC eSS SS 23 00 24.0 -4.6
SOC eSSS SSS 23 03 39.3

SOC pmax pmax
comp=Z,295nm,1.3s
SOC pmax pmax
comp=Z,1μm,2.0s
BNGL BINGOL 72.57 305 iP P 22 46 34.0 +1.7
PUL Pulkovo 72.63 328d iP P 22 46 33.0 +1.1
PUL pmax pmax
comp=Z,472nm,1.2s
PUL MLR MLR
comp=Z,7μm,15.0s
ALE Alert 72.69 1 P P 22 46 33.3 +1.3
comp=Z,734nm,1.2s,SNR=9.1
KOPT Kop Dagi 72.72 307 iP P 22 46 34.9 +1.6
SIT Sitka 72.92 35 eP P 22 46 35.3 +1.6
SIT pmax pmax
comp=Z,152nm,1.1s
SIT Sitka 72.92 35 eP P 22 46 35.3 +1.6
comp=Z,152nm,1.1s
MACK Trabzon 72.96 308 iP P 22 46 35.1 +0.7
TRO Tromso 73.29 340⇓ iP P 22 46 34.2 -1.5
TRO AMB AMB 22 46 38.7
comp=Z,108nm,2.2s
TRO eS S 22 56 02.3 -0.9
TRO AMS AMS 23 25 50.2
comp=Z,10μm,17.4s
MARD Mardin 73.36 304 iP P 22 46 38.1 +1.1
ANN Anapa 73.37 312d iP P 22 46 36.7 +0.1
ANN iS S 22 56 05.0 +0.1
ANN pmax pmax
comp=Z,617nm,1.9s
ANN MLR MLR
comp=Z,4μm,21.0s
KAF Kangasniemi 73.62 331 ep P 22 46 38.1 +0.3
comp=Z,658nm,1.6s
KAF Kangasniemi 73.62 331 eP P 22 46 38.1 +0.3
KAF pmax pmax
comp=Z,658nm,1.6s
KBSD Kabsdagh 73.64 304 eP P 22 46 37.6 -0.8
DIYA Diyarbakir 73.66 305 iP P 22 46 40.0 +1.4
MZRK Al-Mazaregh 73.94 302 eP P 22 46 41.9 +1.6
FIA1 FINESS Array S 73.98 331 eP P 22 46 40.5 +0.6
FIA1 ePcP PcP 22 46 54.0 -1.1
FIA1 ePP PP 22 49 22.1 -2.5
FINES FINESS Array B 73.98 331 P P 22 46 40.4 +0.5
FINES S S 22 56 11.8 +0.6
FINES FINESS Array B 73.98 331 P P 22 46 40.4 +0.5
comp=Z,68nm,1.0s,baz=66,slow=4.2,SNR=109
FINES S S 22 56 11.8 +0.6
comp=Z,3.0nm,1.1s,baz=70,slow=4.6,SNR=2.6
FINES LR LR 23 23 16.1
comp=Z,13μm,18.7s,baz=65,slow=39
RAYN Ar Rayn 74.14 289 eP P 22 46 42.1 +0.5
comp=Z,285nm,1.4s
ELZG Elazig 74.32 305 iP P 22 46 44.3 +1.7
SUSE Susehri 74.32 307 iP P 22 46 42.7 +0.2
KEMA Kemaliye 74.42 306 iP P 22 46 44.3 +1.2
CRAG Craig 74.62 36 eP P 22 46 44.4 +0.6
comp=Z,243nm,1.5s
WRAK Wrangell Islan 74.68 35 eP P 22 46 44.9 +0.8
comp=Z,176nm,1.4s
WRAK LR LR
comp=Z,602nm,20.0s
MALT Malatya 74.79 305 PFAKE 22 47 00.0 +15
MALT LR LR
comp=Z,2μm,19.0s
VSU Vasula 74.82 328d iP P 22 46 45.7 +0.9
VSU pmax pmax
comp=Z,499nm,1.2s
XMAS Kiritimati 75.04 95 PFAKE 22 47 00.0 +13
XMAS LR LR
comp=Z,2μm,20.0s
DLBC Dease Lake 75.07 32 P P 22 46 48.1 +1.6
DLBC Dease Lake 75.07 32 P P 22 46 48.1 +1.6
comp=Z,52nm,1.2s,baz=304,slow=5.5,SNR=46
AKCD Akcadag 75.17 306 iP P 22 46 49.0 +1.5
ATAB Bozova 75.18 305 iP P 22 46 48.8 +1.4
KSRV Kasrt alli 75.19 303 eP P 22 46 47.1 -0.4
SCER sogukcermik 75.22 307 iP P 22 46 49.1 +1.4
STEI Steigen 75.28 339 eP P 22 46 47.1 -0.2
SIM Simferopol' 75.54 313⇓ iP P 22 46 49.8 +0.5
SIM iPPP PPP 22 51 27.0
SIM iS S 22 56 29.2 -0.1
SIM iPS PnS 22 57 01.0 -4.8
SIM pmax pmax
comp=Z,263nm,1.2s
SIM pmax pmax
comp=Z,140nm,8.8s
GZT Gaziantep 75.76 305 iP P 22 46 52.3 +1.4
MIGM Minsk 75.77 324⇓ iP P 22 46 50.0 -0.4
MNK Minsk 75.79 324⇓ iP P 22 46 50.0 -0.5
MNK e 22 49 40.0
MNK ePPP PPP 22 51 28.0
MNK eS S 22 56 30.0 -1.8
MNK pmax pmax
comp=N,440nm,1.0s
MNK pmax pmax
comp=Z,1μm,1.0s
MNK pmax pmax
comp=E,1μm,1.0s
MNK smax smax
comp=N,3μm,4.0s
MNK MLR MLR
comp=N,9μm,16.0s
MNK MLR MLR
comp=Z,20μm,18.0s
MNK MLR MLR
comp=E,15μm,14.0s
NACGM Naroch 76.20 324 eP P 22 46 51.0 -1.8
MSEY Mahe Island 76.33 258 PFAKE 22 47 00.0 +5.7
MSEY LR LR
comp=Z,942nm,21.0s
KIEV Kiev 76.49 320 eP P 22 46 54.8 +0.2
KIEV pmax pmax
comp=Z,324nm,1.4s
KIEV MLR MLR
comp=Z,7μm,19.0s
KIEV Kiev 76.49 320 eP P 22 46 54.8 +0.2
comp=Z,324nm,1.4s
KIEV LR LR
comp=Z,7μm,19.0s
DAG Danmarks Havn 76.57 353⇓ iP P 22 46 54.4 -0.2
DAG iS S 22 56 37.9 -1.7
DAG pmax pmax
comp=Z,70nm,1.0s
DAG MLR MLR
comp=Z,2μm,18.0s
DAG Danmarks Havn 76.57 353⇓ iP P 22 46 54.4 -0.2
comp=Z,70nm,1.0s
DAG
comp=Z,2μm,17.0s
CTKT Corum 76.62 309 iP P 22 46 56.5 +0.7
DRWC Darouich 76.69 304 eP P 22 47 00.4 +4.2
RES Resolute Bay 76.89 11 P P 22 46 57.0 +0.6
RES S S 22 56 43.4 +0.3
RES Resolute Bay 76.89 11 P P 22 46 57.0 +0.6
comp=Z,98nm,1.0s,baz=314,slow=6.4,SNR=40
RES S S 22 56 43.4 +0.3
comp=Z,5.9nm,0.8s,baz=270,slow=20,SNR=2.0
ILGA Ilgaz 77.22 309 iP P 22 46 59.8 +0.5
BALT Daday 77.27 310 iP P 22 47 00.5 +1.0
WRDH Warideh 77.29 303 eP P 22 47 00.1 +0.6
YAYL Yayladag 77.33 304 iP P 22 47 00.6 +0.8
ZALF Zalf 77.52 301 eP P 22 47 02.1 +1.3
HAWK Haweek 77.66 302 eP P 22 47 02.5 +0.9
BR131 Keskin Array S 77.77 308 eP P 22 47 02.5 +0.3
comp=Z,285nm,1.5s
BR131 ePP PP 22 49 51.0 -6.5
BRTR Keskin Array B 77.77 308 P P 22 47 02.8 +0.5
BRTR PP PP 22 49 51.5 -5.9
BRTR Keskin Array B 77.77 308 P P 22 47 02.8 +0.5
comp=Z,101nm,1.1s,baz=100,slow=3.0,SNR=162
BRTR PP PP 22 49 51.5 -5.9
comp=Z,9.7nm,1.1s,baz=77,slow=6.7,SNR=4.8
BRTR LR LR 23 29 43.5
comp=Z,1μm,18.7s,baz=324,slow=42
URZ Urewera 77.82 143 eP P 22 47 01.7 -0.4
comp=Z,210nm,1.7s
URZ Urewera 77.82 143 LR LR 23 17 42.5
comp=Z,1μm,21.9s,baz=319,slow=33
GULE Gulek 77.86 305 iP P 22 47 04.0 +1.2
TOTH TOTAH 78.07 301 eP P 22 47 04.8 +1.0
SALA Sala 78.07 301 eP P 22 47 05.3 +1.2
ASF Jabal al Asfar 78.14 300 LR LR 23 26 35.7
comp=Z,2μm,18.3s,baz=305,slow=40
KIS Kishinev 78.19 316⇓ iP P 22 47 03.0 -1.2
comp=Z,600nm,2.0s
KIS Kishinev 78.19 316 iPcP PcP 22 47 26.0 +12
KIS Kishinev 78.19 316 ePP PP 22 50 05.0 +4.5
KIS Kishinev 78.19 316K iP P 22 47 03.0 -1.2
KIS e 22 50 05.0
KIS ePPP PPP 22 51 58.0
KIS eS S 22 56 56.0 -2.1
KIS e 22 57 20.0
KIS ePS PnS 22 57 30.0 -10
KIS pmax pmax
comp=N,200nm,2.0s
KIS pmax pmax
comp=Z,600nm,2.0s
KIS pmax pmax
comp=E,300nm,2.5s
KIS pmax pmax
comp=Z,2μm,6.0s
KIS pmax pmax
comp=N,200nm,2.0s
KIS pmax pmax
comp=E,600nm,4.0s
KIS MLR MLR
comp=Z,3μm,16.0s
KIS MLR MLR
comp=N,2μm,17.0s
KIS MLR MLR
comp=E,2μm,17.0s
KIS MLR MLR
comp=Z,4μm,16.0s
KIS Kishinev 78.19 316⇓ iP P 22 47 04.2 0.0
ANTO Ankara 78.32 309 eP P 22 47 06.1 +0.9
ANTO pmax pmax
comp=Z,160nm,1.2s
ANTO MLR MLR
comp=Z,2μm,20.0s
ANTO Ankara 78.32 309 P P 22 47 06.3 +1.1
SNR=66
ANTO Ankara 78.32 309 eP P 22 47 06.1 +0.9
comp=Z,160nm,1.2s
ANTO LR LR
comp=Z,2μm,20.0s
ANTO Ankara 78.32 309⇓ iP P 22 47 05.9 +0.7
BRBR Barbar 78.42 301 eP P 22 47 06.9 +0.9
SUW Suwalki 78.48 324 eP P 22 47 05.5 -0.1
SUW pmax pmax
comp=Z,720nm,1.3s
SUW Suwalki 78.48 324 eP P 22 47 05.5 -0.1
comp=Z,720nm,1.3s
SUW Suwalki 78.48 324 iP P 22 47 06.2 +0.6
SUW eS S 22 57 02.4 +1.4
SUW LMZ LR 23 24 27.2
BBB Bella Bella 78.67 38 P P 22 47 07.0 +0.4
BBB Bella Bella 78.67 38 P P 22 47 07.0 +0.4
comp=Z,39nm,1.1s,baz=256,slow=5.7,SNR=7.8
TCHB Talchebab 78.69 301 eP P 22 47 08.5 +1.2
SNZO South Karori 78.76 146 PFAKE 22 47 20.0 +13
SNZO LR LR
comp=Z,1μm,22.0s
LEOM Leova 78.76 316⇓ P P 22 47 08.0 +0.7
LEOM Leova 78.76 316⇓ iP P 22 47 08.0 +0.7
RPZ Rata Peaks 78.82 150 eP P 22 47 07.7 +0.2
comp=Z,726nm,2.3s
RPZ Rata Peaks 78.82 150 LR LR 23 19 06.5
comp=Z,1μm,19.9s,baz=328,slow=34
IAS Iasi 78.89 317⇑ iP P 22 47 08.7 +0.7
IAS Iasi 78.89 317⇑ iP P 22 47 08.7 +0.7
TLCR 78.92 315⇓ P P 22 47 08.9 +0.7
TLCR 78.92 315⇓ iP P 22 47 08.9 +0.7
MMAI Mount Meron Ar 78.99 301 P P 22 47 10.0 +1.0
MMAI Mount Meron Ar 78.99 301 P P 22 47 10.0 +1.0
comp=Z,30nm,0.9s,baz=75,slow=9.6,SNR=41
MMAI LR LR 23 27 55.9
comp=Z,2μm,18.0s,baz=60,slow=40
KHZ Kahutara 79.00 147 eP P 22 47 07.9 -0.6
comp=Z,65nm,1.1s
PHNC Paralimni 79.28 304 P P 22 47 12.9 +2.5
comp=Z,2.7nm,1.6s
KDHN Kadinhani 79.33 307 iP P 22 47 11.1 +0.3
CFR Carcaliu 79.36 315⇓ P P 22 47 11.1 +0.4
CFR Carcaliu 79.36 315⇓ iP P 22 47 11.1 +0.4
TIRR Tirgusor 79.48 314 eP P 22 47 11.8 +0.5
TIRR pmax pmax
comp=Z,157nm,1.4s
TIRR Tirgusor 79.48 314 eP P 22 47 11.8 +0.5
comp=Z,157nm,1.4s
TIRR Tirgusor 79.48 314⇓ iP P 22 47 11.8 +0.5
ERMK Ermenek 79.48 305 iP P 22 47 12.1 +0.3
TBLU Trondheim 79.56 336 eP P 22 47 10.4 -0.9
TBLU AMS AMS 23 28 53.7
comp=Z,5μm,15.7s
PRAR RASCA 79.64 317⇑ iP P 22 47 12.6 +0.4
ODZ Otahua Downs 79.67 151 eP P 22 47 15.8 +3.7
comp=Z,51nm,1.3s
JMIC Jan Mayen 79.69 347⇓ iP P 22 47 12.5 +0.5
JMIC AMB AMB 22 47 15.6
comp=Z,496nm,1.5s
JMIC ePP PP 22 50 12.6 +0.3
JMIC eS S 22 57 12.8 -0.5
JMIC AMS AMS 23 27 50.1
comp=Z,1μm,12.8s
JMIC Jan Mayen 79.69 347 P P 22 47 12.7 +0.8
JMIC Jan Mayen 79.69 347 P P 22 47 12.7 +0.8
comp=Z,132nm,0.9s,baz=103,slow=7.3,SNR=17
PETR Petresti 79.71 316⇓ iP P 22 47 14.6 +2.0
YKW3 Yellowknife Ar 79.75 25 eP P 22 47 13.1 +0.7
comp=Z,5.2nm,1.4s
TESR Tescani 79.75 317⇓ iP P 22 47 13.4 +0.6
YKA Yellowknife Ar 79.79 25 P P 22 47 13.2 +0.6
YKA PKKPbc PKKPbc 23 05 57.3 -2.9
YKA Yellowknife Ar 79.79 25 P P 22 47 13.2 +0.6
comp=Z,78nm,1.0s,baz=300,slow=5.5,SNR=147
YKA PKKPbc PKKPbc 23 05 57.3 -2.9
comp=Z,0.7nm,0.8s,baz=126,slow=3.6,SNR=4.0
YKA LR LR 23 29 14.5
comp=Z,89nm,18.2s,baz=160,slow=41
CSS Prodhromos 79.83 304 P P 22 47 13.9 +0.5
comp=Z,1.5nm,0.9s
CSS Prodhromos 79.83 304 P P 22 47 13.9 +0.5
CSS Prodhromos 79.83 304 eP P 22 47 14.0 +0.5
comp=Z,172nm,1.8s
CSS LR LR
comp=Z,373nm,22.0s
MAMC Mammari 79.83 304 P P 22 47 14.0 +0.6
SEYT Eskypehyr 79.84 309 iP P 22 47 13.4 -0.1
LVV L'vov 79.88 320 eP P 22 47 14.1 +0.7
LVV e 22 47 24.1
LVV e 22 50 16.7
LVV e 22 52 08.7
LVV eS S 22 57 13.1 -3.0
LVV e 22 58 00.5
LVV MLR MLR
comp=E,5μm,18.0s
LVV MLR MLR
comp=N,2μm,19.0s
LVV MLR MLR
comp=E,4μm,18.0s
PSN Preselentsi 79.95 313 P P 22 47 15.0 +1.1
HFS Hagfors 79.96 332 P P 22 47 13.8 +0.2
HFS Hagfors 79.96 332 P P 22 47 13.8 +0.2
comp=E,48nm,0.9s,baz=57,slow=5.8,SNR=53
BORA Eskisehir 79.97 309 iP P 22 47 14.2 0.0
VRI Vrincioaia 79.97 316⇓ P P 22 47 15.2 +1.2
VRI Vrincioaia 79.97 316⇓ iP P 22 47 15.2 +1.2
GRER 80.02 315⇓ iP P 22 47 16.4 +2.1
PLOR Plostina 80.03 316⇑ P P 22 47 15.5 +1.2
PLOR Plostina 80.03 316⇑ iP P 22 47 15.5 +1.2
BOLV Bolvadin 80.09 308 iP P 22 47 15.6 +0.7
AMRR Amara 80.12 315⇓ P P 22 47 16.2 +1.4
AMRR Amara 80.12 315⇓ iP P 22 47 16.2 +1.4
BUR08 Bucovina Ar. S 80.15 318 eS S 22 57 19.7 +0.4
ALFC Alevga 80.30 304 P P 22 47 15.9 -0.1
comp=E,1.1nm,0.6s
ISR Istrita 80.41 315⇑ P P 22 47 18.0 +1.6
ISR Istrita 80.41 315⇑ iP P 22 47 18.0 +1.6
ISK Istanbul-Kandi 80.45 311 P P 22 47 16.8 +0.1
NB2 NORSAR Subarra 80.47 334 P P 22 47 16.1 -0.3
comp=Z,161nm,1.0s,baz=54,slow=5.3
NB2 NORSAR Subarra 80.47 334 P P 22 47 16.1 -0.3
baz=54,slow=5.3
NOA NORSAR Array B 80.47 334 P P 22 47 16.2 -0.2
NOA NORSAR Array B 80.47 334 P P 22 47 16.2 -0.2
comp=Z,52nm,0.8s,baz=52,slow=5.5,SNR=108
NOA LR LR 23 26 20.7
comp=Z,4μm,20.0s,baz=60,slow=38
BUY Buyukada 80.50 311 iP P 22 47 17.2 +0.3

NC602 **NORSAR Array S** 80.51 334 ⇓ *i* P **P** 22 47 15.9 -0.7
NC602 *e* S **S** 22 57 21.3 -1.0
ALT Altintas 80.55 309 *i* P **P** 22 47 17.6 +0.2
AKMC Akamas 80.56 304 P **P** 22 47 17.4 0.0
PPCY Paphos 80.60 304 P **P** 22 47 17.3 -0.3
MLR Muntele Rosu 80.63 316 P **P** 22 47 18.4 +0.7
MLR S **S** 22 57 28.3 +3.9
MLR PKKPbc **PKKPbc** 23 05 57.5 -0.4
MLR Muntele Rosu 80.63 316 ⇓ *i* P **P** 22 47 18.4 +0.7
MLR Muntele Rosu 80.63 316 P **P** 22 47 18.4 +0.7
comp=Z,23nm,1.1s,baz=9.3,slow=4.9
MLR S **S** 22 57 28.3 +3.9
comp=Z,0.1nm,0.4s,baz=266,slow=19,SNR=3.3
MLR PKKPbc **PKKPbc** 23 05 57.5 -0.4
baz=352,slow=19
EIL Elat 80.64 298 P **P** 22 47 18.8 +0.9
EIL Elat 80.64 298 P **P** 22 47 18.8 +0.9
comp=Z,106nm,1.3s,baz=76,slow=2.0,SNR=49
EIL LR LR 23 28 46.4
comp=Z,2μm,18.2s,baz=199,slow=40
PRD Provadia 80.68 313 P **P** 22 47 18.9 +1.1
KWP Kalwaria Pacla 80.73 321 ⇓ P **P** 22 47 19.1 +1.1
KWP Kalwaria Pacla 80.73 321 ⇓ *i* P **P** 22 47 18.9 +0.9
comp=Z,561nm,1.4s
KWP *e* S **S** 22 57 25.0 0.0
KWP LR LR
comp=Z,7μm,19.0s
KWP Kalwaria Pacla 80.73 321 ⇓ *i* P **P** 22 47 19.1 +1.1
KWP Kalwaria Pacla 80.73 321 *i* P **P** 22 47 19.1 +1.1
KWP *e* S **S** 22 57 27.2 +2.1
KWP LMZ LR 23 27 07.9
SECR 80.75 315 ⇓ *i* P **P** 22 47 19.6 +1.4
ISP Isparta 80.76 307 P **P** 22 47 18.3 -0.3
ISP Isparta 80.76 307 ⇓ P **P** 22 47 18.2 -0.3
ISP Isparta 80.76 307 *e* P **P** 22 47 18.9 +0.4
comp=Z,191nm,1.2s
ISP LR LR
comp=Z,3μm,19.0s
ISP Isparta 80.76 307 ⇓ *i* P **P** 22 47 18.2 -0.3
BEL Belsk 80.77 323 *i* P **P** 22 47 19.3 +1.2
BEL *e* S **S** 22 57 28.8 +3.5
BEL LMZ LR 23 25 48.6
SULR 80.78 315 ⇓ *i* P **P** 22 47 19.7 +1.3
ULDT Uludag 80.78 310 *i* P **P** 22 47 19.0 +0.3
ELBA Catalca 80.85 311 *i* P **P** 22 47 19.3 +0.4
MOL Molde 80.97 336 *e* P **P** 22 47 21.5 +2.6
MOL *e* S **S** 22 57 28.1 +1.2
GDZ Gediz 80.98 309 *i* P **P** 22 47 19.8 0.0
ATD Arta Tunnel 80.99 279 P **P** 22 47 21.0 +0.9
ATD Arta Tunnel 80.99 279 P **P** 22 47 21.0 +0.9
comp=Z,36nm,1.1s,baz=66,slow=8.8,SNR=3.2
BMR Baia Mare 81.17 319 ⇓ P **P** 22 47 21.8 +1.4
BMR Baia Mare 81.17 319 ⇓ *i* P **P** 22 47 21.8 +1.4
VOIR 81.22 316 ⇓ P **P** 22 47 21.1 +0.3
VOIR 81.22 316 ⇓ *i* P **P** 22 47 21.1 +0.3
KHAL Karahalli 81.27 308 *i* P **P** 22 47 21.1 -0.1
KOLS Kolonicke sedl 81.31 320 *e* P **P** 22 47 21.9 +0.8
KOLS pmax pmax
comp=Z,62nm,1.4s
KOLS Kolonicke sedl 81.31 320 *e* P **P** 22 47 21.9 +0.8
KOLS Kolonicke sedl 81.31 320 *e* S **S** 22 57 30.6 -0.5
KOLS *e* SS SS 23 03 25.3 +39
UZH Uzhgorod 81.44 320 *e* P **P** 22 47 21.9 +0.2
UZH *i* S **S** 22 57 32.0 -0.4
UZH MLR MLR
comp=N,2μm,16.0s
UZH MLR MLR
comp=E,2μm,16.0s
UZH MLR MLR
comp=Z,200nm,16.0s
DURS Dursunbey 81.47 310 *i* P **P** 22 47 21.6 -0.7
ARR Arges 81.51 316 ⇓ *i* P **P** 22 47 23.5 +1.2
TRPA Tarpa 81.53 319 ⇓ *i* P **P** 22 47 23.3 +1.1
TRPA Tarpa 81.53 319 ⇓ *e* P **P** 22 47 23.4 +1.2
JMB Yambol 81.53 313 P **P** 22 47 23.9 +1.5
JMB Yambol 81.53 313 P **P** 22 47 24.2 +1.8
DEMI Demirci 81.54 309 *i* P **P** 22 47 22.7 +0.1
CJR Cluj-Napoca 81.54 318 ⇓ *i* P **P** 22 47 23.9 +1.4
SZH Strazhica 81.61 314 P **P** 22 47 23.9 +1.1
HUMR Humele 81.67 315 ⇓ *i* P **P** 22 47 23.5 +0.4
STHS Stebnicka Huta 81.67 321 *e* P **P** 22 47 24.3 +1.3
STHS pmax pmax
comp=Z,49nm,1.4s
STHS Stebnicka Huta 81.67 321 *e* P **P** 22 47 24.3 +1.3
GOLH Golhisar 81.70 307 *i* P **P** 22 47 23.3 -0.2
ZIMR 81.81 314 ⇑ P **P** 22 47 25.1 +1.3
ZIMR 81.81 314 ⇑ *i* P **P** 22 47 25.1 +1.3
DNZL Cakiroluk 81.88 308 *i* P **P** 22 47 24.7 +0.1
SART Tekirdag 81.90 311 *i* P **P** 22 47 25.0 +0.5
KONO Kongsberg 81.93 333 ⇓ *i* P **P** 22 47 23.1 -1.1
KONO *e* S S 22 57 37.3 +0.2
KONO AMS AMS 23 28 28.2
comp=Z,9μm,14.8s
KONO Kongsberg 81.93 333 PFAKE 22 47 30.0 +5.8
KONO LR LR
comp=Z,8μm,19.0s
GKP Gorka Klasztor 81.94 325 *i* P **P** 22 47 25.0 +0.7
GKP *e* S **S** 22 57 39.7 +2.3
GKP LMZ LR 23 27 11.8
BALY Balya 82.01 310 *i* P **P** 22 47 25.1 0.0
LOT Lotru 82.02 316 ⇓ *i* P **P** 22 47 26.1 +1.0
PVL Pavlikeni 82.03 314 P **P** 22 47 26.3 +1.3
DRGR 82.05 318 ⇓ P **P** 22 47 26.0 +0.9
DRGR 82.05 318 ⇓ *i* P **P** 22 47 26.0 +0.9
AKAS Kas 82.09 306 *i* P **P** 22 47 24.8 -0.8
OJC Ojcow 82.10 322 *e* P **P** 22 47 25.7 +0.4
OJC pmax pmax
comp=Z,225nm,1.2s
OJC Ojcow 82.10 322 *e* P **P** 22 47 25.7 +0.4
comp=Z,225nm,1.2s
OJC Ojcow 82.10 322 *i* P **P** 22 47 26.2 +0.9
OJC *e* pP **PcP** 22 47 30.0 -0.7
OJC *e* S **S** 22 57 41.0 +1.8
OJC *e* SKSac **SKSac** 22 57 45.8 +0.7
OJC L L 23 25 50.8
comp=Z,5μm,22.2s
BSD Bornholm Skovb 82.13 328 ⇓ *i* P **P** 22 47 25.8 +0.6
BSD *i* S **S** 22 57 39.5 +0.3
BSD pmax pmax
comp=Z,47nm,1.3s
BSD MLR MLR
comp=Z,7μm,16.0s
BSD Bornholm Skovb 82.13 328 ⇓ *i* P **P** 22 47 25.8 +0.6
comp=Z,47nm,1.3s
BSD Bornholm Skovb 82.13 328 *i* S **S** 22 57 39.5 +0.3
BSD
comp=Z,7μm,15.0s
NIE Niedzica 82.20 321 ⇓ *i* P **P** 22 47 28.7 +2.8
NIE *e* S **S** 22 57 44.8 +4.4
NIE Niedzica 82.20 321 *i* P **P** 22 47 28.7 +2.8
NIE *e* pP **pP** 22 47 32.0 +0.5
NIE *e* S **S** 22 57 44.8 +4.4
AKHS Akhisar 82.25 309 *i* P **P** 22 47 25.8 -0.5
HYA Hoyanger 82.35 335 ⇓ *i* P **P** 22 47 26.4 +0.1
HYA AMB AMB 22 47 28.9
comp=Z,242nm,1.2s
DEV Deva 82.35 317 ⇓ P **P** 22 47 28.0 +1.3
DEV Deva 82.35 317 ⇓ *i* P **P** 22 47 28.0 +1.3
SUMG Summit 82.36 356 ⇓ *i* P **P** 22 47 27.6 +0.9
SUMG *i* S **S** 22 57 43.8 +1.8
SUMG pmax pmax
comp=Z,160nm,0.9s
SUMG Summit 82.36 356 *e* P **P** 22 47 27.6 +0.9
comp=Z,404nm,1.2s
SUMG *e* PP **PP** 22 50 35.0 +0.2
SUMG Summit 82.36 356 ⇓ *i* P **P** 22 47 27.6 +0.9
comp=Z,155nm,0.9s
SUMG Summit 82.36 356 *i* S **S** 22 57 43.8 +1.8
TURN Turunc 82.55 307 *i* P **P** 22 47 29.9 +2.1
SCO Scoresbysund 82.55 350 ⇓ *i* P **P** 22 47 27.8 +0.6
SCO pmax pmax
comp=Z,81nm,1.0s
SCO Scoresbysund 82.55 350 ⇓ *i* P **P** 22 47 27.8 +0.6
comp=Z,81nm,1.0s
KECS Kecovo 82.56 320 *e* P **P** 22 47 28.8 +1.1
KECS pmax pmax
comp=Z,41nm,1.3s
KECS Kecovo 82.56 320 *e* P **P** 22 47 28.8 +1.1
GZR Gura Zlata 82.66 317 ⇓ P **P** 22 47 29.1 +0.7
GZR Gura Zlata 82.66 317 ⇓ *i* P **P** 22 47 29.1 +0.7
KDZ Kurdzhali 82.67 313 P **P** 22 47 29.2 +0.8
AYDN Tasoluk 82.73 308 *i* P **P** 22 47 29.9 +1.0
AYVA Ayvalik 82.85 310 *i* P **P** 22 47 29.7 +0.3

PLD Plovdiv 82.94 313 P **P** 22 47 30.4 +0.6
PLD Plovdiv 82.94 313 P **P** 22 47 30.6 +0.8
SUE Sulen 82.95 336 ⇓ *i* P **P** 22 47 29.5 +0.1
SUE AMB AMB 22 47 31.4
comp=Z,238nm,1.2s
PGC Sidney 82.95 39 *e* P **P** 22 47 31.3 +1.6
comp=Z,188nm,1.3s
ODD1 Odda 82.96 334 *e* P **P** 22 47 30.2 +0.6
ODD1 *e* S **S** 22 57 47.7 0.0
COP Copenhagen 82.99 329 ⇓ *i* P **P** 22 47 30.8 +1.1
COP *i* S **S** 22 57 50.9 +2.9
COP pmax pmax
comp=Z,52nm,1.2s
COP MLR MLR
comp=Z,2μm,17.0s
COP Copenhagen 82.99 329 ⇓ *i* P **P** 22 47 30.8 +1.1
comp=Z,52nm,1.1s
COP Copenhagen 82.99 329 *i* S **S** 22 57 50.9 +2.9
COP
comp=Z,1μm,16.0s
MPEP Malo Peshtene 83.00 315 P **P** 22 47 31.4 +1.3
BOZC Bozcaada 83.05 311 *i* P **P** 22 47 31.7 +1.3
RAC Raciborz 83.06 322 *e* P **P** 22 47 31.4 +1.2
RAC MLR MLR
comp=Z,6μm,19.6s
PGB Panagyurishte 83.09 314 P **P** 22 47 32.1 +1.4
RZN Rozhen 83.12 313 P **P** 22 47 31.6 +0.6
SMTH Samothraki Isl 83.13 311 P **P** 22 47 30.7 -0.1
RUND Rundenannen 83.14 335 *e* P **P** 22 47 29.6 -0.9
RUND AMB AMB 22 47 33.7
comp=Z,201nm,1.8s
ASK Askoy 83.16 335 *e* P **P** 22 47 29.5 -1.0
ASK AMB AMB 22 47 31.6
comp=Z,233nm,1.6s
PRK Paraskevi 83.17 310 P **P** 22 47 31.0 0.0
BER Bergen 83.17 335 ⇓ *i* P **P** 22 47 29.6 -0.9
BER AMB AMB 22 47 32.9
comp=Z,133nm,2.2s
BER AMS AMS 23 28 49.9
comp=Z,10μm,15.5s
GCAM G?zelcaml? 83.17 308 *i* P **P** 22 47 31.7 +0.6
PSZ Piszkesteto 83.18 320 *e* P **P** 22 47 31.4 +0.4
PSZ pmax pmax
comp=Z,139nm,1.4s
PSZ MLR MLR
comp=Z,5μm,19.0s
PSZ Piszkesteto 83.18 320 *e* P **P** 22 47 31.4 +0.4
comp=Z,139nm,1.4s
PSZ LR LR
comp=Z,5μm,19.0s
PSZ Piszkesteto 83.18 320 ⇓ *i* P **P** 22 47 31.9 +0.9
PSZ Piszkesteto 83.18 320 ⇓ *e* P **P** 22 47 31.8 +0.8
HOMB Homborsund 83.22 332 *e* P **P** 22 47 30.2 -0.6
HOMB *e* S **S** 22 57 49.3 -0.9
HOMB AMS AMS 23 29 09.8
comp=Z,5μm,13.8s
OKC Ostrava-Krasne 83.22 322 ⇓ *e* P **P** 22 47 31.8 +0.8
OKC *e* 22 50 41.8
OKC *e* 22 57 52.9
OKC MLR MLR
comp=Z,5μm,18.8s
OKC Ostrava-Krasne 83.22 322 ⇓ *e* P **P** 22 47 31.8 +0.8
OKC *e* PP **PP** 22 50 41.8 -0.2
OKC *e* S **S** 22 57 52.9 +2.3
OKC AMS AMS 23 26 50.0
comp=Z,5μm,18.8s
BZS Buzias 83.27 317 ⇓ P **P** 22 47 31.7 +0.3
BZS Buzias 83.27 317 ⇓ *i* P **P** 22 47 31.7 +0.3
EGD Espegrend 83.28 335 *e* P **P** 22 47 30.4 -0.8
EGD AMB AMB 22 47 32.2
comp=Z,194nm,1.5s
LLD Lille Linde 83.29 329 *i* P **P** 22 47 32.0 +0.7
LLD pmax pmax
comp=Z,71nm,1.0s
LLD Lille Linde 83.29 329 *i* P **P** 22 47 32.0 +0.7
comp=Z,71nm,1.0s
URLA Izmir 83.33 309 *i* P **P** 22 47 32.1 +0.2
NLWA Neilton Lookou 83.33 41 *e* P **P** 22 47 33.4 +1.6
comp=Z,234nm,1.4s
NLWA LR LR
comp=Z,548nm,19.0s
BLS5 Blasjo 83.34 334 ⇓ *i* P **P** 22 47 31.4 -0.2
BLS5 AMB AMB 22 47 33.6
comp=Z,252nm,1.2s
SMG Samos 83.45 308 P **P** 22 47 32.4 -0.1
TIM Timisoara 83.46 318 ⇑ P **P** 22 47 33.6 +1.2
TIM Timisoara 83.46 318 ⇑ *i* P **P** 22 47 33.6 +1.2
SIGR SIGRI 83.47 310 P **P** 22 47 32.7 +0.1
VYHS Vyhne 83.51 321 *e* P **P** 22 47 33.9 +1.3
VYHS pmax pmax
comp=Z,726nm,2.8s
VYHS Vyhne 83.51 321 *e* P **P** 22 47 33.9 +1.3
VYHS Vyhne 83.51 321 *e* S **S** 22 57 57.4 +3.7
VYHS *e* SS SS 23 03 41.0 +22
KAVA Kavala 83.58 312 P **P** 22 47 33.1 0.0
LIA Limnos Island 83.62 311 P **P** 22 47 32.7 -0.6
CHOS Chios island 83.70 309 P **P** 22 47 33.3 -0.6
VTS Vitosha 83.70 314 P **P** 22 47 34.6 +0.7
VTS Vitosha 83.70 314 ⇓ P **P** 22 47 35.2 +1.3
VTS Vitosha 83.70 314 P **P** 22 47 35.0 +1.1
VTS Vitosha 83.70 314 ⇓ *i* P **P** 22 47 35.2 +1.3
RAR Rarotonga 83.70 117 LR LR 23 18 03.3
comp=Z,805nm,19.7s,baz=51,slow=31
KSP Ksiaz 83.71 324 ⇓ *e* P **P** 22 47 34.6 +1.0
KSP *e* *PP pP 22 47 47.9 +8.7
KSP *e* S S **22 57 55.8 +0.3**
KSP *e* SS **SS** 23 03 21.0 -0.5
KSP Ksiaz 83.71 324 *i* P **P** 22 47 34.8 +1.2
KSP *e* S **S** 22 57 59.1 +3.6
KSP LMZ LR 23 27 29.9
SNART Snartemo 83.71 333 ⇓ *i* P **P** 22 47 33.6 +0.2
SNART AMB AMB 22 47 36.5
comp=Z,215nm,1.5s
MBW Mount Baker 83.77 39 P **P** 22 47 35.2 +1.0
MMB Musomiste 83.83 313 P **P** 22 47 34.8 +0.4
NVR Nevrokopi 83.85 313 P **P** 22 47 35.2 +0.7
BUD Budapest 83.91 320 ⇓ *e* P **P** 22 47 35.6 +0.9
DPC Dobruska-Polom 83.95 323 ⇓ *i* P **P** 22 47 36.1 +1.2
DPC *e* 22 47 47.1
DPC *e* 22 50 48.9
DPC *e* 22 57 58.1
DPC Dobruska-Polom 83.95 323 ⇓ *i* P **P** 22 47 36.1 +1.2
DPC *ex* x 22 47 47.1
DPC *e* PP **PP** 22 50 48.9 +0.9
DPC *e* S **S** 22 57 58.1 0.0
KMY Karmoy 83.95 334 ⇓ *i* P **P** 22 47 34.8 +0.2
KMY AMB AMB 22 47 37.9
comp=Z,217nm,1.8s
MUD Monsted U'grnd 84.03 331 ⇓ *i* P **P** 22 47 35.6 +0.6
MUD *i* S **S** 22 58 03.2 +4.8
MUD pmax pmax
comp=Z,87nm,1.1s
MUD MLR MLR
comp=Z,15μm,16.0s
MUD Monsted U'grnd 84.03 331 ⇓ *i* P **P** 22 47 35.6 +0.6
comp=Z,87nm,1.1s
MUD
comp=Z,15μm,15.0s
PKS6 Bocsa 84.04 319 *e* P **P** 22 47 33.0 -2.3
UPC Upice 84.04 323 ⇓ *e* P **P** 22 47 36.4 +1.1
UPC *e* 22 47 48.0
UPC Upice 84.04 323 ⇓ *e* P **P** 22 47 36.4 +1.1
UPC *ex* x 22 47 48.0
PKS7 Kunszentmiklos 84.05 319 ⇓ *e* P **P** 22 47 35.8 +0.4
JCW Jim Creek 84.06 39 P **P** 22 47 36.7 +1.2
KKB Krupnik 84.12 314 P **P** 22 47 36.9 +1.0
RUE Ruedersdorf 84.13 326 *e* P **P** 22 47 36.4 +0.7
comp=Z,583nm,1.4s
SRS Serrai 84.14 313 P **P** 22 47 35.5 -0.5
KARP Karpathos 84.17 306 P **P** 22 47 36.1 -0.2
OUR Ouranopolis 84.24 312 P **P** 22 47 36.1 -0.4
PKS2 Kecel 84.30 319 ⇓ *e* P **P** 22 47 37.6 +1.0
SMOL Smolenice 84.30 321 *e* P **P** 22 47 38.5 +1.8
SMOL Smolenice 84.30 321 *e* P **P** 22 47 38.5 +1.8
PKSG 84.33 320 ⇓ *e* P **P** 22 47 37.6 +0.8
VRAC Vranov 84.36 322 P **P** 22 47 38.3 +1.4
VRAC S **S** 22 58 02.5 +0.4
VRAC PKKPbc **PKKPbc** 23 05 49.2 -0.3
VRAC Vranov 84.36 322 P **P** 22 47 38.3 +1.4
comp=Z,153nm,1.2s,baz=66,slow=5.0,SNR=179
VRAC S **S** 22 58 02.5 +0.4
comp=Z,0.8nm,0.5s,baz=59,slow=19,SNR=1.8
VRAC PKKPbc **PKKPbc** 23 05 49.2 -0.3

comp=Z,3.1nm,0.3s,baz=342,slow=16,SNR=3.6
CSKK Cs˘‡kako 84.42 320 ⇓ *e* P **P** 22 47 38.1 +0.8
PKST T˘'s 84.60 320 ⇓ *e* P **P** 22 47 38.7 +0.5
ZST Bratislava 84.65 321 *e* P **P** 22 47 38.9 +0.5
ZST *e* S **S** 22 58 06.8 +1.7
ZST Bratislava 84.65 321 *e* P **P** 22 47 38.8 +0.4
APE Apeiranthos 84.67 308 P **P** 22 47 37.3 -1.5
APE Apeiranthos 84.67 308 ⇓ P **P** 22 47 37.7 -1.1
APE Apeiranthos 84.67 308 ⇓ *i* P **P** 22 47 37.7 -1.1
HORT Hortiatis 84.71 312 P **P** 22 47 38.8 -0.2
VAY Valandovo 84.72 313 P **P** 22 47 38.5 -0.4
VAY Valandovo 84.72 313 ⇓ *i* P **P** 22 47 39.0 +0.1
PNT Pentiction 84.77 37 P **P** 22 47 39.8 +0.7
PNT Pentiction 84.77 37 P **P** 22 47 39.8 +0.7
PKSM Moragy 84.78 319 ⇓ P **P** 22 47 39.6 +0.5
PKSM Moragy 84.78 319 ⇓ *i* P **P** 22 47 39.6 +0.5
PKSM Moragy 84.78 319 ⇓ *e* P **P** 22 47 39.8 +0.7
THE Thessaloniki 84.79 312 P **P** 22 47 38.9 -0.3
PVCC Panska Ves 84.80 324 ⇓ *i* P **P** 22 47 40.4 +1.3
PVCC *e* 22 47 54.2
PVCC *e* 22 50 55.8
PVCC *e* 22 58 04.9
PVCC MLR MLR
comp=Z,8μm,15.1s
PVCC Panska Ves 84.80 324 ⇓ *i* P **P** 22 47 40.4 +1.3
PVCC *ex* x 22 47 54.2
PVCC *ex* x 22 48 00.6
PVCC *e* PP **PP** 22 50 55.8 +1.0
PVCC *e* S **S** 22 58 04.9 -1.6
PVCC AMS AMS 23 31 20.0
comp=Z,8μm,15.1s
PKS9 Tamasi 84.81 319 ⇓ *e* P **P** 22 47 39.8 +0.6
AOS Alonnisos 84.85 311 P **P** 22 47 39.2 -0.4
LON Longmire 84.87 40 *e* P **P** 22 47 40.5 +0.9
LON pmax pmax
comp=Z,63nm,1.2s
LON Longmire 84.87 40 *e* P **P** 22 47 40.5 +0.9
comp=Z,63nm,1.2s
RCM Mount Rainier- 84.87 40 P **P** 22 47 41.5 +1.4
BRG Berggiesshubel 84.94 325 ⇓ *i* P **P** 22 47 40.8 +1.0
comp=Z,366nm,1.5s
BRG *i* 22 47 50.6
comp=Z,40nm,1.2s
BRG PP **PP** 22 50 56.0 0.0
BRG S **S** 22 58 08.0 +0.1
BRG SS **SS** 23 03 46.0 +6.3
BRG PKPPKP P'P'df 23 13 32.5 -26
comp=Z,22nm,2.1s
BRG
comp=N,3μm,17.8s
BRG
comp=E,6μm,18.7s
BRG
comp=Z,9μm,18.9s
BRG Berggiesshubel 84.94 325 ⇓ *i* P **P** 22 47 40.8 +1.0
BRG *i* 22 47 50.6
BRG 22 50 56.0
BRG S **S** 22 58 08.0 +0.1
BRG SS **SS** 23 03 46.0 +6.3
BRG MLR MLR
comp=N,22μm,17.8s
BRG MLR MLR
comp=E,3μm,18.7s
BRG MLR MLR
comp=Z,6μm,18.9s
TREC Trest 84.97 323 ⇓ *i* P **P** 22 47 41.2 +1.1
TREC *e* 22 47 54.4
TREC *e* 22 50 57.4
TREC *e* 22 58 08.7
TREC MLR MLR
comp=Z,6μm,21.2s
TREC Trest 84.97 323 ⇓ *i* P **P** 22 47 41.2 +1.1
TREC *ex* x 22 47 54.4
TREC *e* PP **PP** 22 50 57.4 +1.1
TREC *e* S **S** 22 58 08.7 +0.4
TREC AMS AMS 23 27 40.0
comp=Z,6μm,21.2s
BSEG Bad Segeberg 85.00 328 *e* P **P** 22 47 40.8 +0.8
comp=Z,445nm,1.4s
BSEG Bad Segeberg 85.00 328 *e* P **P** 22 47 40.8 +0.8
MRMA Marmari 85.03 310 P **P** 22 47 40.7 +0.2
SANT Santorini 85.03 308 P **P** 22 47 39.3 -1.3
SANT Santorini 85.03 308 *e* P **P** 22 47 39.5 -1.1
comp=Z,705nm,1.3s
SANT LR LR
comp=Z,1μm,19.0s
THR1 Thera Island 85.03 308 P **P** 22 47 40.0 -0.6
WPW White Pass 85.05 40 P **P** 22 47 41.6 +0.9
ZKR Zakros 85.06 306 P **P** 22 47 41.1 +0.4
THR3 Thira Island, 85.06 308 P **P** 22 47 40.1 -0.6
COR Corvallis 85.08 43 *e* P **P** 22 47 43.1 +2.5
COR pmax pmax
comp=Z,481nm,1.3s
COR Corvallis 85.08 43 *e* P **P** 22 47 43.1 +2.5
comp=Z,80nm,1.3s
PRU Pruhonice 85.11 324 ⇓ *i* P **P** 22 47 41.5 +0.8
PRU *e* 22 50 58.6
PRU *e* 22 58 08.9
PRU MLR MLR
comp=Z,6μm,16.4s
PRU Pruhonice 85.11 324 ⇓ *i* P **P** 22 47 41.5 +0.8
PRU *ex* x 22 48 01.6
PRU *ex* x 22 48 14.7
PRU *e* PP **PP** 22 50 58.6 +1.2
PRU *e* S **S** 22 58 08.9 -0.7
PRU AMS AMS 23 30 00.0
comp=Z,6μm,16.4s
PRA Prague 85.12 324 ⇓ P **P** 22 47 42.0 +1.3
PRA PP **PP** 22 50 59.0 +1.5
PRA S **S** 22 58 10.0 +0.3
PRA AMS AMS 23 30 30.0
SKIA Skiathos 85.14 311 P **P** 22 47 40.4 -0.7
SKO Skopje 85.15 314 *e* P **P** 22 47 43.2 +2.1
CLL Collm 85.19 325 *e* P **P** 22 47 41.5 +0.5
comp=Z,362nm,1.5s
CLL Collm 85.19 325 ⇓ *i* P **P** 22 47 41.6 +0.5
CLL *e* S **S** 22 58 09.0 -1.3
CLL pmax pmax
comp=Z,361nm,1.5s
CLL MLR MLR
comp=Z,10μm,20.3s
CLL Collm 85.19 325 ⇓ *i* P **P** 22 47 41.6 +0.5
comp=Z,361nm,1.5s
CLL *e* PP **PP** 22 50 58.0 0.0
CLL *e* S **S** 22 58 09.0 -1.3
CLL *e* PS **PnS** 22 59 05.0 -1.1
CLL *e* SS SS 23 03 54.0 +11
CLL *e* 23 08 24.0
CLL L L 23 28 00.0
comp=N,6μm,21.3s
CLL L L 23 28 00.0
comp=E,7μm,19.2s
CLL L L 23 28 00.0
comp=Z,10μm,20.3s
XOR Xorichti 85.23 311 P **P** 22 47 40.7 -0.9
NEO Neokhori 85.24 311 P **P** 22 47 40.7 -0.9
MRKA Markates 85.27 311 P **P** 22 47 40.7 -1.1
KEBM Edson Butte 85.28 45 *e* P **P** 22 47 43.5 +1.7
comp=Z,450nm,1.4s
ETW Entiat 85.28 39 P **P** 22 47 42.5 +0.7
LIT Litokhoron 85.36 312 P **P** 22 47 41.7 -0.5
TBM Table Mountain 85.36 40 P **P** 22 47 43.1 +1.0
PTL Penteli 85.39 310 P **P** 22 47 41.3 -1.1
NPS Neapolis 85.43 307 P **P** 22 47 42.5 -0.1
SMIA Simia 85.45 311 P **P** 22 47 42.1 -0.6
ATHU Athens Univers 85.48 310 P **P** 22 47 41.6 -1.2
ATH Athens Observa 85.53 310 P **P** 22 47 42.1 -0.9
LAST Lasithi 85.57 307 P **P** 22 47 43.8 +0.4
KBO Bosley Butte 85.68 45 *e* P **P** 22 47 44.5 +0.7
comp=Z,452nm,1.7s
IVA Berane 85.70 316 ⇓ *i* P **P** 22 47 44.6 +0.7
KZN Kozani 85.74 313 P **P** 22 47 43.3 -0.8
BEHE Becsehely 85.75 320 ⇓ *e* P **P** 22 47 45.0 +1.0
BROR Big Rock Looko 85.76 43 P **P** 22 47 45.1 +1.1
FNA Florina 85.77 313 P **P** 22 47 43.5 -0.8
PLE Pljevlja 85.79 316 *e* P **P** 22 47 44.5 +0.1
PVY Plav 85.80 315 *e* P **P** 22 47 44.4 0.0
VFP Flag Point 85.82 42 P **P** 22 47 45.6 +1.1
AXAR Agios Charalam 85.88 311 P **P** 22 47 43.9 -0.9
THL Klokotos Trika 85.94 312 P **P** 22 47 42.8 -2.2
PHP Peshkopia 85.94 314 P **P** 22 47 44.8 -0.3
IDI Anoyia 85.94 307 P **P** 22 47 44.3 -0.9
IDI Anoyia 85.94 307 *e* P **P** 22 47 44.7 -0.5

comp=Z,317nm,1.6s
NRDL Niedersach Rie 85.96 327 *e*P **P 22 47 45.7 +0.9**
comp=Z,249nm,2.0s
AGG Agios Georgios 85.98 311 P **P 22 47 44.6 -0.7**
ARSA Arzberg 86.06 321 *i* PcP **P 22 47 46.3 +0.7**
comp=Z,150nm,1.4s,SNR=31
DID Didima 86.08 310 P **P 22 47 43.3 -2.5**
KHC Kasperske Hory 86.11 323⇓*i*P **P 22 47 46.2 +0.5**
KHC *e* 22 47 54.9
KHC *e* 22 48 00.3
KHC *e* 22 51 07.6
KHC *e* 22 58 16.6
KHC MLR MLR
comp=Z,6µm,19.6s
KHC Kasperske Hory 86.11 323⇓*i*P **P 22 47 46.2 +0.5**
KHC *ex* x 22 47 54.9
KHC *ex* x 22 48 00.3
KHC *ex* x 22 48 06.1
KHC *e*PP **PP 22 51 07.6 +2.0**
KHC *e*S **S 22 58 16.6 -3.0**
KHC AMS AMS 23 28 50.0
comp=Z,6µm,19.6s
KHC Kasperske Hory 86.11 323 *e*P **P 22 47 45.5 -0.3**
comp=Z,250nm,1.5s
MAKR Makrakomi, Fth 86.12 311 P **P 22 47 44.9 -1.1**
SIVA Sivas 86.13 307 P **P 22 47 46.3 +0.3**
DSF Desfina 86.14 311 P **P 22 47 44.3 -1.8**
UPM Unac-Piva 86.16 316⇓*i*P **P 22 47 46.1 -0.2**
NEST Nestorio 86.17 313 P **P 22 47 45.4 -0.9**
GEC2 GERESS Array S 86.20 323 *e*P **P 22 47 46.8 +0.5**
comp=Z,222nm,1.4s
GEC2 GERESS Array S 86.20 323 *e*P **P 22 47 46.8 +0.5**
GERES GERESS Array B 86.20 323 P **P 22 47 46.7 +0.4**
GERES S S 22 58 11.9 -8.7
GERES PKKPbc **PKKPbc 23 05 44.3 -0.9**
GERES GERESS Array B 86.20 323 P **P 22 47 46.7 +0.4**
comp=Z,52nm,1.1s,baz=56,slow=3.4,SNR=121
GERES S S 22 58 11.9 -8.7
comp=Z,0.1nm,0.3s,baz=29,slow=6.7,SNR=2.7
GERES PKKPbc **PKKPbc 23 05 44.3 -0.9**
comp=Z,0.8nm,0.7s,baz=204,slow=2.9,SNR=8.3
GERES LR LR 23 29 22.8
comp=Z,6µm,19.9s,baz=52,slow=38
CLZ Clausthal 86.22 327 *e*P **P 22 47 47.4 +1.2**
comp=Z,220nm,1.4s
CLZ Clausthal 86.22 327 *e*P **P 22 47 47.4 +1.2**
KRMB Red Mountain 86.23 46 *e*P **P 22 47 48.0 +1.4**
comp=Z,366nm,1.7s
KBN Korca 86.24 313 P **P 22 47 46.0 -0.6**
MOX Moxa 86.29 325 *e*P **P 22 47 47.3 +0.7**
comp=Z,172nm,1.5s
MOX *e*L L 23 30 39.9
comp=Z,10µm,18.7s
MOX Moxa 86.29 325 *e*P **P 22 47 47.3 +0.7**
MOX pmax pmax
comp=Z,25nm,1.5s
MOX MLR MLR
comp=Z,172µm,18.7s
HUMO Hull Mountain 86.29 44 *e*P **P 22 47 48.2 +1.4**
comp=Z,190nm,1.4s
NKY Niksic 86.30 316 *e*P **P 22 47 46.7 -0.2**
OD2 Odessa Site #2 86.33 39 P **P 22 47 47.5 +0.7**
TTG Podgorica 86.33 315⇓*i*P **P 22 47 46.8 -0.1**
C09A Chrisman Ranch 86.35 38 P **P 22 47 47.9 +1.0**
VAM Vamos 86.39 307 P **P 22 47 47.1 -0.2**
EVR Evrytania 86.39 311 P **P 22 47 46.4 -1.0**
HAWA Hanford 86.39 40 *e*P **P 22 47 48.4 +1.3**
comp=Z,197nm,1.3s
HAWA LR LR
comp=Z,495nm,19.0s
KALE Kalithea 86.42 311 P **P 22 47 46.2 -1.3**
MOA Molln 86.44 322⇑*i*PcP **P 22 47 48.3 +0.9**
comp=Z,91nm,1.4s,SNR=38
WET Wettzell 86.48 323 *e*P **P 22 47 48.2 +0.6**
comp=Z,241nm,1.7s
WET Wettzell 86.48 323 *e*P **P 22 47 48.2 +0.6**
TIR Tirane 86.48 314 *e*P **P 22 47 48.0 +0.3**
TIR pmax pmax
comp=Z,409nm,1.5s
TIR MLR MLR
comp=Z,4µm,19.0s
TIR Tirane 86.48 314 *e*P **P 22 47 48.0 +0.3**
comp=Z,409nm,1.5s
TIR LR LR
comp=Z,4µm,19.0s
ROTZ Rotzenmuhle 86.48 324 *e*P **P 22 47 48.4 +0.9**
comp=Z,262nm,1.4s
GUR Goura 86.50 310 P **P 22 47 46.4 -1.6**
BRY Bratogost 86.54 316⇓*i*P **P 22 47 48.1 0.0**
ULC Ulcinj 86.57 315⇓*i*P **P 22 47 47.9 -0.3**
WNDE Wendo Genet 86.58 276 *e*P **P 22 47 51.1 +2.2**
LAKA Lakka 86.60 311 P **P 22 47 47.3 -1.1**
BUM Brajici-Budva 86.63 315⇓*i*P **P 22 47 48.4 -0.1**
PERS Pernice 86.63 321 *i* P **P 22 47 48.8 +0.4**
PERS *e*PcP **PcP 22 47 52.1 +1.3**
PERS *e*S **S 22 58 19.6 -5.1**
SOKA Soboth 86.65 321⇓*i*PcP **P 22 47 49.0 +0.4**
comp=Z,139nm,1.4s
KHMM Horse Mountain 86.67 46 *e*P **P 22 47 50.2 +1.4**
comp=Z,206nm,1.4s
JAN Janina 86.68 312 P **P 22 47 48.5 -0.2**
NEW Newport 86.73 37 *e*P **P 22 47 49.7 +0.9**
comp=Z,116nm,1.1s
NEW LR LR
comp=Z,658nm,19.0s
NEW Newport 86.73 37⇑P **P 22 47 49.8 +0.9**
baz=87
NEW ⇑S **S 22 58 25.5 -0.2**
baz=87
NEW ⇑S **S 22 58 25.5 -0.2**
baz=87
NEW ⇑S **S 22 58 25.5 -0.2**
baz=87
NEW ⇑S **S 22 58 25.5 -0.2**
baz=87
NEW ⇑S **S 22 58 25.5 -0.2**
baz=87
NEW ⇑S **S 22 58 25.5 -0.2**
baz=87
GVD Gavdhos 86.73 307 *e*P **P 22 47 48.1 -0.9**
comp=Z,456nm,1.1s
VLX Vlachokerasia 86.75 310 P **P 22 47 47.6 -1.6**
VIPM Ingram Point 86.76 42 P **P 22 47 50.4 +1.2**
VIPM Ingram Point 86.76 42 P **P 22 47 50.4 +1.2**
HCY Herceg Novi 86.81 316⇓*i*P **P 22 47 49.0 -0.3**
YBH Yreka Blue Hor 86.90 45 *e*P **P 22 47 51.0 +1.2**
UBBA Unterbreizbach 87.02 326 *e*P **P 22 47 49.9 0.0**
comp=Z,122nm,1.6s
OBKA Obir 87.03 321 *i* PcP **P 22 47 50.5 +0.1**
comp=Z,81nm,1.4s,SNR=45
AXS Araxos 87.04 311 P **P 22 47 50.0 -0.4**
GRF Grafenberg Arr 87.05 325 *e*P **P 22 47 51.0 +0.7**
comp=Z,309nm,1.4s
GRF *e*L L 23 29 39.4
comp=Z,7µm,20.5s
GRF Grafenberg Arr 87.05 325 *e*P **P 22 47 51.0 +0.7**
GRF pmax pmax
comp=Z,18nm,1.4s
GRF MLR MLR
comp=Z,309µm,20.5s
GRFO Grafenberg 87.05 325 *e*P **P 22 47 50.9 +0.6**
GRFO pmax pmax
comp=Z,229nm,1.3s
GRFO Grafenberg 87.05 325 *e*P **P 22 47 50.9 +0.6**
comp=Z,229nm,1.3s
DYR Agios Nikonas 87.07 309 P **P 22 47 49.8 -0.9**
IGT Igoumenitsa 87.08 312 P **P 22 47 49.9 -0.8**
E09A Wood Farm, Sta 87.13 39 P **P 22 47 52.0 +1.2**
SRN Sarande 87.13 313 P **P 22 47 49.9 -1.0**
A12A Yaak River Ran 87.15 36⇓P **P 22 47 52.4 +1.5**
baz=87,SNR=17
ITM Ithomi 87.15 310 P **P 22 47 50.2 -0.9**
BOJS Bojanci 87.17 320 *i* P **P 22 47 51.5 +0.6**
BOJS *e*PcP **pP 22 47 55.0 -1.6**
BOJS *e*S S 22 58 22.1 -7.7
BOJS *e*SS SS 23 04 44.8 +32
IBBN Ibbenburen 87.22 328 *e*P **P 22 47 51.1 +0.1**
comp=Z,136nm,1.5s
LKD2 Lefkada island 87.24 312 P **P 22 47 50.7 -0.8**
RJOB Jochberg 87.33 322 *e*P **P 22 47 52.5 +0.7**
comp=Z,291nm,2.1s
KEK Kerkira 87.35 313 P **P 22 47 51.2 -0.8**
KCPM Cahto Peak 87.36 47 *e*P **P 22 47 52.7 +0.5**
comp=Z,156nm,1.4s
KIPM Iron Peak 87.37 47 *e*P **P 22 47 53.1 +0.9**
comp=Z,177nm,1.3s
KBA Koelnbreinsper 87.39 322 *i* PcP **P 22 47 52.4 +0.1**
comp=Z,45nm,1.4s,SNR=13
C11A Tepee Creek (N 87.45 37⇑P **P 22 47 53.6 +1.2**
baz=87
B12A Libby 87.45 37⇓P **P 22 47 53.3 +1.0**
baz=87
MYKA Terra Mystica 87.48 321⇓*i*P **P 22 47 52.2 -0.3**
comp=Z,46nm,1.7s
BORG Borgarnes 87.56 347 *e*P **P 22 47 54.5 +2.1**
comp=Z,122nm,1.3s
BORG LR LR
comp=Z,1µm,21.0s
VLS Valsamata 87.59 311 P **P 22 47 52.2 -0.9**
WDC Whiskeytown Da 87.60 46 *e*P **P 22 47 53.7 +0.6**
WDC *e* 22 51 17.9
WDC pmax pmax
comp=Z,134nm,1.3s
WDC Whiskeytown Da 87.60 46 *e*P **P 22 47 53.7 +0.6**
comp=Z,134nm,1.3s
WDC *e*PP **PP 22 51 17.9 +0.1**
JAVS Javornik 87.65 320 *i* P **P 22 47 53.2 -0.2**
JAVS *e* 22 47 56.5
JAVS *e*S S 22 58 24.0 -11
VOY Vojsko 87.67 321 *e*P **P 22 47 53.3 -0.2**
VOY *e* 22 48 11.6
A13A Flathead Natio 87.81 36⇑P **P 22 47 55.2 +1.1**
baz=88
FUR Furstenfeldbru 87.91 323 *e*P **P 22 47 54.8 +0.3**
comp=Z,328nm,1.4s
FUR Furstenfeldbru 87.91 323 *e*P **P 22 47 54.8 +0.3**
FUR pmax pmax
comp=Z,143nm,1.4s
TRI Trieste 87.92 320 *e*P **P 22 47 54.2 -0.4**
TRI pmax pmax
comp=Z,84nm,1.3s
TRI Trieste 87.92 320 *e*P **P 22 47 54.2 -0.4**
comp=Z,84nm,1.3s
C12B Naegeli Ranch, 87.95 37⇑P **P 22 47 55.8 +1.0**
baz=88,SNR=6.1
WALA Waterton Lakes 88.00 36 *e*P **P 22 47 55.7 +0.7**
comp=Z,132nm,1.3s
WALA *e*PP **PP 22 51 21.8 +0.9**
ABTA Abfaltersbach 88.05 322⇑*i*P **P 22 47 54.5 -0.8**
comp=Z,56nm,1.4s,SNR=17
HOPS Hopland 88.06 48 *e*P **P 22 47 56.3 +0.9**
comp=Z,38nm,1.4s
HOPS *e*PP **PP 22 51 22.3 +0.8**
B13A Whitefish 88.11 36⇑P **P 22 47 57.0 +1.5**
baz=88,SNR=45
TNS Taunus Mts 88.17 326 *e*P **P 22 47 55.8 +0.1**
comp=Z,53nm,1.5s
TNS Taunus Mts 88.17 326 *e*P **P 22 47 55.8 +0.1**
WATA Walderalm 88.23 322⇓*i*PcP **P 22 47 56.0 -0.2**
comp=Z,17nm,1.0s
WTTA Wattenberg 88.24 322⇓*i*PcP **P 22 47 56.2 -0.1**
comp=Z,72nm,1.9s,SNR=17
BSMT Bassoo Peak 88.25 37 *e*P **P 22 47 57.6 +1.2**
A14A Double T Ranch 88.31 35⇑P **P 22 47 57.7 +1.2**
baz=88,SNR=139
MOD Modoc 88.34 44 *e*P **P 22 47 58.0 +1.2**
comp=Z,62nm,1.1s
TOD Tromm 88.36 325⇓*e*P **P 22 47 56.9 +0.3**
TOD Tromm 88.36 325⇓*e*P **P 22 47 56.9 +0.3**
BLMT Blacktail Moun 88.38 37 *e*P **P 22 47 58.3 +1.3**
SFJD Kangerlussuaq 88.40 360 PFAKE 22 48 10.0 +14
SFJD LR LR
comp=Z,1µm,20.0s
C13A Hot Springs 88.47 37⇑P **P 22 47 58.4 +1.2**
baz=88,SNR=22
MOTA Moosalm 88.49 323⇓*i*P **P 22 47 57.1 -0.4**
comp=Z,25nm,1.3s,SNR=12
BMO Blue Mountains 88.55 40 *e*P **P 22 47 58.2 +0.5**
BMO pmax pmax
comp=Z,109nm,1.4s
BMO Blue Mountains 88.55 40 *e*P **P 22 47 58.1 +0.5**
comp=Z,109nm,1.4s
BMO *e*PP PP 22 51 19.4 -6.0
BMO LR LR
comp=Z,439nm,20.0s
JTMT Jette 88.58 37 *e*P **P 22 47 59.0 +1.2**
MCCM Marconi Confer 88.62 48 *e*P **P 22 47 58.2 +0.2**
comp=Z,173nm,1.2s
E12A Beaver Dam Sad 88.65 38⇑P **P 22 47 59.1 +0.9**
baz=88,SNR=70
YBMT Yellow Bay 88.66 37 *e*P **P 22 47 58.6 +0.4**
comp=Z,133nm,2.1s
STU Stuttgart 88.67 325 *e*P **P 22 47 57.6 -0.4**
comp=Z,75nm,1.2s
STU Stuttgart 88.67 325 *e*P **P 22 47 58.0 0.0**
STU pmax pmax
comp=Z,77nm,1.2s
STU Stuttgart 88.67 325 *e*P **P 22 47 58.0 0.0**
comp=Z,76nm,1.2s
A15A Johnson Ranch, 88.67 35⇑P **P 22 47 58.7 +0.5**
baz=88,SNR=65
B14A Marquette Ranc 88.76 36⇑P **P 22 48 00.2 +1.5**
baz=89,SNR=128
ABH Alteburg 88.83 326 *e*P **P 22 47 59.3 +0.5**
C14A Swan Lake 88.86 37⇑P **P 22 48 00.1 +1.0**
baz=89,SNR=31
D13A Huson 88.87 37⇓P **P 22 47 59.3 +0.2**
baz=89,SNR=12
SWMT Swartz Lake 88.88 37 *e*P **P 22 48 00.0 +0.8**
FETA Feichten 88.89 323⇓*i*PcP **P 22 47 59.3 -0.1**
comp=Z,38nm,1.8s,SNR=13
KTD Kalmit 88.91 325 *e*P **P 22 47 59.4 +0.2**
KTD Kalmit 88.91 325 *e*P **P 22 47 59.4 +0.2**
OHCM Honcut 88.94 47 *e*P **P 22 47 57.4 -2.0**
WVOR Wild Horse Val 89.09 43 P **P 22 48 01.6 +1.3**
WVOR Wild Horse Val 89.09 43 P **P 22 48 01.6 +1.3**
KAC Achnashellach 89.12 337 *e*P **P 22 47 59.2 -0.8**
MEM Membach 89.14 327 P **P 22 48 00.1 -0.2**
B15A Bradely Ranch, 89.17 36⇑P **P 22 48 01.1 +0.6**
baz=89,SNR=46
BEBN Eben Emael 89.18 328 P **P 22 48 01.0 +0.7**
comp=Z,22nm,1.6s
RUP Ruppelstein 89.19 326 *e*P **P 22 48 01.0 +0.5**
RUP Ruppelstein 89.19 326 *e*P **P 22 48 01.0 +0.5**
DAVA Damuels 89.19 323⇓*i*PcP **P 22 48 00.9 +0.1**
comp=Z,50nm,1.2s,SNR=10
LANF Langenberg 89.26 325⇓*e*P **P 22 48 01.1 +0.3**
LANF Langenberg 89.26 325⇓*e*P **P 22 48 01.1 +0.3**
LANF Langenberg 89.26 325⇓*e*P **P 22 48 01.1 +0.3**
A16A West Butte Ran 89.28 35 P **P 22 48 01.6 +0.5**
baz=89
SPAK Spaichingen-Ko 89.29 324 *e*P **P 22 48 00.8 -0.3**
ESY Stoneypath 89.30 335 *e*P **P 22 48 00.1 -0.8**
SLMT Seeley Lake 89.31 37 *e*P **P 22 48 02.0 +0.7**
MSO Missoula 89.32 37 *e*P **P 22 48 01.3 0.0**
comp=Z,92nm,1.5s
MSO LR LR
comp=Z,305nm,20.0s
MSO Missoula 89.32 37⇓P **P 22 48 01.5 +0.2**
baz=89,SNR=29
KPL Plockton 89.37 337 *e*P **P 22 48 00.5 -0.6**
KPL AMB AMB 22 48 01.6
comp=Z,75nm,1.5s
FUORN Ofenpass-Fuorn 89.38 322 *e*P **P 22 48 02.1 +0.3**
comp=Z,2µm,3.0s
BFO Black Forest 89.39 325 *e*P **P 22 48 01.1 -0.4**
comp=Z,93nm,1.5s
BFO Black Forest 89.39 325 *e*P **P 22 48 01.1 -0.4**
BFO Black Forest 89.39 325 *e*P **P 22 48 01.1 -0.4**
comp=Z,79nm,1.4s
BFO LR LR
comp=Z,7µm,20.0s
D14A Greenough 89.40 37⇓P **P 22 48 02.0 +0.3**
baz=89,SNR=29
C15A Salmond Ranch, 89.47 36⇑P **P 22 48 03.1 +1.0**
baz=89,SNR=106
DAVOX Davos/Dischmat 89.50 323 P **P 22 48 02.6 +0.4**
DAVOX S **SKSac 22 58 30.9 -1.2**
DAVOX Davos/Dischmat 89.50 323 P **P 22 48 02.6 +0.4**
comp=Z,12nm,0.6s,baz=49,slow=3.4,SNR=20
DAVOX S **SKSac 22 58 30.9 -1.2**
comp=Z,1.5nm,0.7s,baz=337,slow=15,SNR=1.9
G12A Big Creek, Yel 89.54 39⇓P **P 22 48 03.1 +0.6**
baz=89,SNR=72
B16A M & M Farms, S 89.55 35⇑P **P 22 48 02.9 +0.6**
baz=89
TIP Timpagrande 89.64 314 *e*P **P 22 48 03.0 +0.1**
comp=Z,106nm,1.5s
TIP *e*PP **PP 22 51 35.2 +1.0**
TIP LR LR
comp=Z,4µm,19.0s
CHMT Chamberlain Mo 89.64 37 *e*P **P 22 48 03.4 +0.5**
WLF Walferdange 89.67 327 *e*P **P 22 48 02.9 +0.2**
comp=Z,139nm,1.3s
WLF Walferdange 89.67 327 PFAKE 22 48 10.0 +7.3
WLF LR LR
comp=Z,9µm,19.0s
A17A Triple J Farms 89.74 34⇓P **P 22 48 04.0 +0.8**
baz=90,SNR=89
EAB Aberfoyle 89.76 336 *e*P **P 22 48 02.3 -0.7**
CUC Castrocucco 89.82 315 *e*P **P 22 48 02.6 -1.0**
comp=Z,38nm,1.3s
CUC LR LR
comp=Z,1µm,19.0s
FFC Flin Flon 89.84 26*c**e*P **P 22 48 03.7 +0.3**
FFC Flin Flon 89.84 26 *e*P **P 22 48 03.5 +0.1**
comp=Z,91nm,1.2s
FFC LR LR
comp=Z,1µm,21.0s
FELD Feldberg im Sc 89.84 324⇓*e*P **P 22 48 03.3 -0.5**
LIBD Limburg 89.88 325 *e*P **P 22 48 03.7 0.0**
LIBD Limburg 89.88 325 *e*P **P 22 48 03.7 0.0**
CDF Champ du Feu 89.89 325 *e*P **P 22 48 03.6 -0.3**
comp=Z,287nm,1.5s
C16A Fuhringer Ranc 89.91 36⇓P **P 22 48 04.7 +0.6**
baz=90,SNR=44
EKA Eskdalemuir Ar 89.94 335 P **P 22 48 03.3 -0.5**
EKA PP **PP 22 51 38.0 +2.1**
EKA Eskdalemuir Ar 89.94 335 P **P 22 48 03.3 -0.5**
comp=Z,4.2nm,0.6s,baz=34,slow=5.6,SNR=21
EKA PP **PP 22 51 38.0 +2.1**
comp=Z,4.3nm,0.9s,baz=65,slow=10,SNR=4.7
ABPO Ambohimpanom 89.96 249 PFAKE 22 48 10.0 +5.2
ABPO LR LR
comp=Z,714nm,22.0s
D15A Lincoln 89.96 37⇓P **P 22 48 05.0 +0.6**
baz=90,SNR=6.5
ESK Eskdalemuir 89.97 335 *e*P **P 22 48 03.1 -0.8**
ESK AMB AMB 22 48 03.8
comp=Z,38nm,1.5s
ESK Eskdalemuir 89.97 335 *e*P **P 22 48 04.1 +0.1**
ESK pmax pmax
comp=Z,70nm,1.5s
ESK MLR MLR
comp=Z,5µm,20.0s
ESK Eskdalemuir 89.97 335 *e*P **P 22 48 04.1 +0.1**
comp=Z,70nm,1.5s
ESK LR LR
comp=Z,5µm,20.0s
TUE Stuetta 89.98 323 *e*P **P 22 48 04.7 +0.2**
comp=Z,363nm,2.2s
TUE LR LR
comp=Z,7µm,20.0s
AQU L'Aquila 90.03 318 *e*P **P 22 48 05.0 +0.4**
comp=Z,255nm,1.4s
AQU *e*PP **PP 22 51 38.8 +1.6**
AQU LR LR
comp=Z,5µm,22.0s
ECK Cauldkaine Hil 90.03 334 *e*P **P 22 48 03.2 -1.1**
GIVF Givet 90.05 327 *e*P **P 22 48 04.1 -0.4**
comp=Z,199nm,1.4s
PGBU Glenifferbraes 90.09 335 *e*P **P 22 48 03.8 -0.8**
PGBU AMB AMB 22 48 05.1
comp=Z,67nm,1.4s
B17A L&G Farms, Che 90.10 35⇓P **P 22 48 05.8 +1.0**
baz=90,SNR=16
PAHR Pah Rah Range 90.11 45 *e*P **P 22 48 06.2 +1.0**
comp=Z,120nm,1.3s
PAHR *e*PP **PP 22 51 37.6 -0.5**
H12A Diamond D Ranc 90.15 40⇓P **P 22 48 06.4 +1.0**
baz=90,SNR=80
A18A Metzger Ranch, 90.19 34⇓P **P 22 48 06.2 +0.9**
baz=90,SNR=55
MFID Camas Ranch 90.24 41 *e*P **P 22 48 07.0 +1.4**
comp=Z,195nm,1.3s
MFID Camas Ranch 90.24 41⇓P **P 22 48 07.1 +1.4**
baz=90,SNR=68
F14A Wisdom 90.24 38⇓P **P 22 48 06.7 +0.9**
baz=90,SNR=14
SAO San Andreas Ge 90.31 49 *e*P **P 22 48 07.2 +1.2**
SAO pmax pmax
comp=Z,108nm,1.5s
SAO San Andreas Ge 90.31 49 *e*P **P 22 48 07.2 +1.2**
comp=Z,28nm,1.5s
MOF Molkenrain 90.32 325⇓*e*P **P 22 48 05.6 -0.3**
MOF Molkenrain 90.32 325⇓*e*P **P 22 48 05.6 -0.3**
MOF Molkenrain 90.32 325⇓*e*P **P 22 48 05.6 -0.3**
CMB Columbia Colle 90.35 47 *e*P **P 22 48 07.0 +0.8**
CMB pmax pmax
comp=Z,188nm,1.4s
CMB Columbia Colle 90.35 47 *e*P **P 22 48 07.0 +0.8**
comp=Z,188nm,1.4s
BBS Basel-Blauen 90.36 324⇓*e*P **P 22 48 05.8 -0.3**
BBS Basel-Blauen 90.36 324⇓*e*P **P 22 48 05.8 -0.3**
BAIF Baives 90.38 328⇓*i*P **P 22 48 05.7 -0.3**
comp=Z,222nm,1.6s
I12A Atlanta 90.43 40⇑P **P 22 48 07.7 +1.1**
baz=90
HINF Hinteralfeld 90.48 325⇓*i*P **P 22 48 05.8 -0.8**
comp=Z,82nm,1.4s
D16A Dana Ranch, Ca 90.49 36⇓P **P 22 48 07.8 +1.0**
baz=90,SNR=54
C17A Wharram Farm, 90.54 35⇓P **P 22 48 07.2 +0.3**
baz=90
HRY Holter Researc 90.54 37 *e*P **P 22 48 08.3 +1.3**
PPT Papeete 90.56 109 P **P 22 48 09.9 +2.5**
PPT Papeete 90.56 109 P **P 22 48 09.9 +2.5**
comp=Z,20nm,0.4s,baz=256,slow=14,SNR=5.3
PPT LR LR 23 20 35.7
comp=Z,1µm,20.2s,baz=9.1,slow=30
B18A Beardsley Farm 90.56 34⇓P **P 22 48 08.0 +0.9**
baz=90,SNR=53
PPT2 Papeete2 90.56 109 *e*P **P 22 48 06.1 -1.4**
comp=Z,98nm,1.4s
PPT2 Papeete2 90.56 109 *e*SP **SP 23 00 02.4 -7.2**
comp=Z,646nm,24.5s
PPT2 Papeete2 90.56 109 *e*LQ LQ 23 13 15.9
comp=Z,4µm,29.5s
PPT2 *e*LR LR 23 17 07.4
comp=Z,7µm,30.5s,baz=297
PAE Paea 90.59 109 *e*P **P 22 48 05.9 -1.6**
comp=Z,19nm,1.3s
PAGF Fort de Pagny 90.60 326⇓*i*P **P 22 48 06.9 -0.2**
comp=Z,46nm,1.4s
HAU Haudompre 90.63 325⇓*i*P **P 22 48 06.5 -0.8**
comp=Z,132nm,1.5s
HAU *e*R
comp=Z,10µm,20.8s
THEF They Montfort 90.67 326 *e*P **P 22 48 06.7 -0.8**
THEF They Montfort 90.67 326 *e*P **P 22 48 06.7 -0.8**
THEF They Montfort 90.67 326 *e*P **P 22 48 06.7 -0.8**
CEL Celeste 90.70 313 *e*P **P 22 48 07.8 0.0**
comp=Z,320nm,1.3s
CEL LR LR
comp=Z,3µm,19.0s
F15A Butte 90.71 38⇑P **P 22 48 09.0 +1.0**
baz=90,SNR=52
WAKR Walker 90.73 46 *e*P **P 22 48 09.4 +1.2**
WAKR *e*PP **PP 22 51 41.8 -1.3**
E16A East Helena 90.73 37⇑P **P 22 48 09.1 +1.2**
baz=90,SNR=11
A19A Klindworth Far 90.75 34⇓P **P 22 48 08.6 +0.8**
baz=90,SNR=47
LRM Limekiln Ridge 90.75 38 *e*P **P 22 48 09.1 +0.9**
TIAR Tiarei 90.75 109 *e*P **P 22 48 06.8 -1.4**
comp=Z,79nm,1.1s
VLC Villacollemand 90.78 320 *e*P **P 22 48 09.0 +1.0**
comp=Z,165nm,1.5s
VLC LR LR
comp=Z,4µm,20.0s
LOMF Lomont 90.79 324⇓*e*P **P 22 48 07.9 -0.2**
LOMF Lomont 90.79 324⇓*e*P **P 22 48 07.9 -0.2**
LOMF Lomont 90.79 324⇓*e*P **P 22 48 07.9 -0.2**
EGMT Eagleton 90.81 35 *e*P **P 22 48 09.0 +0.8**
comp=Z,203nm,1.1s
EGMT LR LR
comp=Z,521nm,21.0s
EGMT Eagleton 90.81 35⇑P **P 22 48 09.1 +0.8**
baz=91,SNR=39
D17A Six Diamond Ra 90.88 36⇓P **P 22 48 09.5 +0.9**
baz=91,SNR=64
TVO Taravao 90.93 109 *e*P **P 22 48 07.9 -1.2**
comp=Z,149nm,1.4s
DLMT Dillon 90.95 38 *e*P **P 22 48 10.2 +1.2**
comp=Z,160nm,1.1s
B19A Brinkman Farms 90.95 34⇑P **P 22 48 09.7 +1.0**
baz=91,SNR=33

MEZF Maizieres J'vi 90.97 326⇓*i*P P 22 48 08.7 -0.1
comp=Z,320nm,1.7s,baz=52
BMN Battle Mountai 91.09 44 *e*P P 22 48 10.9 +1.1
BMN pmax pmax
comp=Z,153nm,1.4s
BMN MLR MLR
comp=Z,569nm,19.0s
BMN Battle Mountai 91.09 44 *e*P P 22 48 10.9 +1.1
BMN LR LR
comp=Z,569nm,19.0s
MCMT McKenzie Canyo 91.13 38 *e*P P 22 48 10.6 +0.7
comp=Z,320nm,1.6s
MCMT *e*PP **PP 22 51 46.9 +0.8**
SENIN Lac Senin/Sane 91.16 323 *e*P P 22 48 09.8 -0.2
comp=Z,33nm,1.3s
SFTF Sexfontaines 91.17 326⇓*i*P P 22 48 09.2 -0.6
comp=Z,261nm,1.5s,baz=34
A20A Cobblestone Ra 91.19 33 ⇓P P 22 48 10.7 +0.8
baz=91,SNR=20
E17A Martinsdale 91.22 36 ⇑P P 22 48 11.7 +1.5
baz=91,SNR=35
F16A Kennard Place, 91.23 37 ⇑P P 22 48 11.1 +0.9
baz=91,SNR=9.8
KMBO Kilima Mbogo 91.25 269 P P 22 48 12.1 +1.1
SNR=14
KMBO Kilima Mbogo 91.25 269 *e*P P 22 48 11.6 +0.6
comp=Z,19nm,1.5s
KMBO PP **PP 22 51 47.5 -0.8**
KMBO LR LR
comp=Z,713nm,20.0s
KMBO Kilima Mbogo 91.25 269 P P 22 48 11.5 +0.6
comp=Z,21nm,1.2s,baz=46,slow=5.1,SNR=20
KMBO PP **PP 22 51 47.5 -0.8**
comp=Z,0.5nm,0.2s,baz=54,slow=12,SNR=7.5
BOZ Bozeman (W) 91.31 37 *e*P P 22 48 11.4 +0.7
BOZ pmax pmax
comp=Z,60nm,1.3s
BOZ MLR MLR
comp=Z,479nm,19.0s
BOZ Bozeman (W) 91.31 37 *e*P P 22 48 11.4 +0.7
comp=Z,67nm,1.3s
BOZ LR LR
comp=Z,437nm,19.0s
D18A Linhart Farms, 91.32 35 ⇑P P 22 48 11.7 +1.1
baz=91,SNR=8.5
I14A Mackay 91.33 39 ⇑P P 22 48 12.6 +1.8
baz=91
C19A Slack Wire Ran 91.36 35 ⇓P P 22 48 12.0 +1.3
baz=91,SNR=55
B20A Solberg Farm, 91.43 34 ⇑P P 22 48 11.7 +0.7
baz=91,SNR=35
NVAR Mina Array Bea 91.52 46 P P 22 48 12.7 +0.8
NVAR PP **PP 22 51 51.5 +2.2**
NVAR Mina Array Bea 91.52 46 P P 22 48 12.6 +0.8
comp=Z,50nm,1.1s,baz=273,slow=4.6,SNR=136
NVAR PP **PP 22 51 51.5 +2.2**
comp=Z,4.6nm,1.1s,baz=291,slow=7.9,SNR=4.6
NVAR LR LR 23 31 27.9
comp=Z,633nm,18.1s,baz=249,slow=37
MLAC Mammoth Lakes 91.60 47 ⇓P P 22 48 13.6 +1.3
baz=92,SNR=8.0
A21A Bergtoll Ranch 91.61 33 ⇓P P 22 48 12.7 +0.9
baz=91,SNR=16
CABF La Chapelle 91.65 324⇓*i*P P 22 48 11.6 -0.5
comp=Z,154nm,1.6s
E18A Harlowton 91.66 36 ⇓P P 22 48 13.5 +1.3
baz=92,SNR=87
F17A Fitzpatrick Pl 91.68 37 ⇓P P 22 48 13.4 +1.1
baz=92,SNR=26
DRV Dumont d'Urvil 91.71 175 PP PP 22 51 39.0 -12
DRV S S 23 00 00.0 +49
DRV SS SS 23 04 45.0 -34
DRV L L 23 12 00.0
DRV R 23 19 00.0
FOEL Foel Wylfa 91.74 333 *e*P P 22 48 12.2 -0.1
FOEL AMB AMB 22 48 13.2
comp=Z,118nm,1.5s
PTRM Twissleman Ran 91.74 49 *e*P P 22 48 14.7 +1.9
WPM1 Penmaenmawr 91.76 333 *e*P P 22 48 11.8 -0.6
WME Myndd Eilian 91.82 334 *e*P P 22 48 12.9 +0.3
D19A Cripps Ranch, 91.82 35 ⇑P P 22 48 14.0 +1.2
baz=92,SNR=82
SSW Stow on the Wo 91.84 332 *e*P P 22 48 12.6 -0.2
CASY Casey 91.86 187 *e*P P 22 48 12.4 +0.2
comp=Z,116nm,1.5s
CASY LR LR
comp=Z,537nm,20.0s
HLM1 Long Mynd 91.88 333 *e*P P 22 48 12.7 -0.3
HLM1 AMB AMB 22 48 13.6
comp=Z,85nm,1.5s
C20A Veseth Ranch, 91.91 34 ⇑P P 22 48 14.4 +1.1
baz=92,SNR=36
QLMT Earthquake Lak 91.93 38 *e*P P 22 48 15.6 +2.0
B21A Ellsworth Farm 91.94 33 ⇑P P 22 48 13.8 +0.5
baz=92
MTUM Tungsten Hills 91.94 47 *e*P P 22 48 14.8 +1.0
LPL La Plagne 92.00 323⇓*i*P P 22 48 13.9 0.0
comp=Z,72nm,1.1s
G17A Pierce Place, 92.00 37 ⇑P P 22 48 15.4 +1.5
baz=92,SNR=11
LPG La Plagne 92.00 323⇓*i*P P 22 48 13.9 -0.1
comp=Z,136nm,1.3s
RCTC Rector, Farmer 92.05 48 ⇑P P 22 48 14.8 +0.7
baz=92
SMMC Simmler 92.07 49 ⇓P P 22 48 15.4 +1.2
baz=92
A22A Carney Farms, 92.10 32 ⇓P P 22 48 14.6 +0.5
baz=92,SNR=34
H16A Russell Place, 92.11 38 ⇓P P 22 48 16.1 +1.7
baz=92,SNR=9.4
ELK Elko 92.15 43 *e*P P 22 48 16.1 +1.4
comp=Z,106nm,1.5s
YRE Yr Eifl 92.18 334 *e*P P 22 48 13.9 -0.3
F18A Big Timber 92.19 36 ⇓P P 22 48 15.6 +0.9
baz=92,SNR=38
GCMT Greycliff 92.29 36 *e*P P 22 48 16.1 +0.9
comp=Z,46nm,1.2s
YMR Madison River 92.29 38 *e*P P 22 48 15.9 +0.6
comp=Z,396nm,1.8s
C21A Desert Coulee 92.30 34 ⇓P P 22 48 15.8 +0.8
baz=92,SNR=13
MCH1 Michaelchurch 92.31 332 *e*P P 22 48 14.3 -0.6
MCH1 AMB AMB 22 48 15.3
comp=Z,215nm,1.5s
BNI Bardonecchia 92.32 323 *e*P P 22 48 15.3 0.0
BNI pmax pmax
comp=Z,48nm,1.1s
BNI MLR MLR
comp=Z,8µm,20.0s
BNI Bardonecchia 92.32 323 *e*P P 22 48 15.3 0.0
comp=Z,48nm,1.1s
BNI LR LR
comp=Z,8µm,20.0s
E19A Rath Farm, Rou 92.32 35 ⇓P P 22 48 16.2 +0.9
baz=92,SNR=72
TIN Tinemaha 92.33 47 ⇑P P 22 48 16.7 +1.2
baz=92,SNR=10
LOR Lormes 92.39 326 *e*P P 22 48 14.5 -0.9
comp=Z,124nm,1.7s,baz=60
LOR *e*R
comp=Z,7µm,19.2s
VES Vestal, Richgr 92.41 49 ⇓P P 22 48 16.0 +0.3
baz=92,SNR=15
YNR Norris Junctio 92.42 38 *e*P P 22 48 16.3 +0.4
TPH Tonopah 92.42 46 PFAKE 22 48 30.0 +14
TPH LR LR
comp=Z,690nm,20.0s
PKM Peak Mountain 92.42 50 ⇓P P 22 48 17.5 +1.5
baz=92,SNR=17
MBDF Montbardon 92.48 322⇓*i*P P 22 48 15.2 -0.9
comp=Z,47nm,1.2s
I16A Newdale 92.49 39 ⇓P P 22 48 18.1 +1.9
baz=92,SNR=12
YFT Old Faithful 92.50 38 *e*P P 22 48 18.0 +1.7
comp=Z,133nm,1.1s
SAOF Saorge 92.50 322⇓*e*P P 22 48 15.9 -0.1
SAOF Saorge 92.50 322⇓*e*P P 22 48 15.9 -0.1
SAOF Saorge 92.50 322⇓*e*P P 22 48 15.9 -0.1
B22A Reddig Ranch S 92.53 33 ⇑P P 22 48 16.7 +0.6
baz=92,SNR=7.5
PGF Pioggiola 92.55 320 *e*P P 22 48 16.8 +0.4
comp=Z,422nm,1.4s
AUTN L'Aution 92.57 322 *e*P P 22 48 16.5 -0.1
AUTN L'Aution 92.57 322 *e*P P 22 48 16.5 -0.1
AUTN L'Aution 92.57 322 *e*P P 22 48 16.5 -0.1
A23A Redstone 92.62 32 ⇓P P 22 48 17.2 +0.7
baz=92,SNR=9.4
F19A Roth Farm, Mol 92.63 36 ⇑P P 22 48 17.3 +0.6
baz=92,SNR=25
E20A Meyer Farm, Mu 92.64 35 ⇑P P 22 48 17.7 +1.0
baz=92,SNR=20
G18A Lazy EL Ranch, 92.65 37 ⇓P P 22 48 17.3 +0.5
baz=92
SBF Sospel 92.65 321⇓*i*P P 22 48 16.1 -0.7
comp=Z,133nm,1.2s
TOUF Mont Tournerai 92.66 322 *e*P P 22 48 16.7 -0.3
TOUF Mont Tournerai 92.66 322 *e*P P 22 48 16.7 -0.3
TOUF Mont Tournerai 92.66 322 *e*P P 22 48 16.7 -0.3
LKWY Lake 92.67 38 PFAKE 22 48 30.0 +13
LKWY LR LR
comp=Z,1µm,19.0s
H17A Grant Village 92.67 38 ⇑P P 22 48 20.2 +3.1
baz=92,SNR=8.9
SSF Saint Saulge 92.71 326 *e*P P 22 48 16.2 -0.7
comp=Z,56nm,1.5s
SBC Santa Barbara 92.74 50 ⇑P P 22 48 18.5 +1.2
baz=93
REVF Revere 92.76 321 *e*P P 22 48 17.0 -0.3
REVF Revere 92.76 321 *e*P P 22 48 17.0 -0.3
REVF Revere 92.76 321 *e*P P 22 48 17.0 -0.3
CWC Cottonwood Cre 92.76 48 ⇑P P 22 48 18.3 +0.7
baz=93,SNR=6.8
IMW Indian Meadow 92.78 38 *e*P P 22 48 19.6 +1.9
comp=Z,69nm,1.1s
MVIF Mont Vial 92.79 322 *e*P P 22 48 17.3 -0.2
MVIF Mont Vial 92.79 322 *e*P P 22 48 17.3 -0.2
MVIF Mont Vial 92.79 322 *e*P P 22 48 17.3 -0.2
SMF Signal de Mont 92.81 325⇓*i*P P 22 48 16.7 -0.7
comp=Z,140nm,1.5s
ORIF Oris-en-Rattie 92.85 323⇓*i*P P 22 48 17.4 -0.3
comp=Z,103nm,1.4s
ORIF *e*R
comp=Z,12µm,19.8s
D21A La Casta Ranch 92.86 34 ⇓P P 22 48 18.5 +0.9
baz=93,SNR=36
B23A Brockton 92.90 32 ⇓P P 22 48 18.7 +0.9
baz=93,SNR=25
RRI2 Red Ridge 92.91 39 *e*P P 22 48 19.9 +1.6
comp=Z,370nm,2.5s
GRAC Grapevine Rang 92.92 47 ⇓P P 22 48 19.3 +1.1
baz=93,SNR=12
ISA Isabella 92.93 48 *e*P P 22 48 18.3 +0.1
ISA pmax pmax
comp=Z,66nm,1.3s
ISA Isabella 92.93 48 *e*P P 22 48 18.3 +0.1
comp=Z,116nm,1.3s
ISA Isabella 92.93 48 ⇓P P 22 48 18.4 +0.2
baz=93,SNR=15
WDD Wield Dalam 92.93 312 *e*P P 22 48 17.4 -0.7
comp=Z,209nm,1.5s
WDD LR LR
comp=Z,1µm,21.0s
RLMT Red Lodge 92.93 37 *e*P P 22 48 18.6 +0.3
comp=Z,104nm,1.2s
RLMT LR LR
comp=Z,520nm,19.0s
C22A Vida 92.96 33 ⇓P P 22 48 18.6 +0.5
baz=93,SNR=7.0
AVF Avril sur Loir 92.97 326⇓*i*P P 22 48 17.3 -0.8
comp=Z,168nm,1.7s
I17A Pilgrim Ck. 92.97 38 ⇓P P 22 48 20.6 +2.1
baz=93
ARVC Arvin 92.98 49 ⇓P P 22 48 19.2 +0.8
baz=93,SNR=8.7
MOOW Moose Ponds 92.99 38 *e*P P 22 48 20.1 +1.5
comp=Z,101nm,1.7s
H18A Shoshone NF, C 93.00 37 ⇓P P 22 48 19.8 +1.2
baz=93,SNR=19
HYF Humbligny 93.01 326⇓*i*P P 22 48 18.3 0.0
HVU Hansel Valley 93.03 41 *e*P P 22 48 20.3 +1.6
HVU pmax pmax
comp=Z,64nm,1.2s
HVU Hansel Valley 93.03 41 *e*P P 22 48 20.3 +1.6
comp=Z,53nm,1.2s
TPAW Teton Pass 93.03 39 *e*P P 22 48 20.5 +1.7
comp=Z,57nm,1.2s
A24A Westby 93.06 31 ⇑P P 22 48 19.4 +0.9
baz=93,SNR=13
F20A Billings 93.09 36 ⇓P P 22 48 19.3 +0.4
baz=93,SNR=5.2
TBI Tubuai 93.15 114 *e*S S 22 59 17.9 -7.8
comp=Z,715nm,26.0s
TBI Tubuai 93.15 114 *e*LQ LQ 23 14 12.7
comp=Z,573nm,25.2s
TBI *e*LR LR 23 18 06.6
comp=Z,1µm,29.5s,baz=296
LOHW Long Hollow 93.15 38 *e*P P 22 48 21.1 +1.7
comp=Z,50nm,1.4s
SNOW Snow King Moun 93.16 39 *e*P P 22 48 21.4 +2.0
comp=Z,50nm,1.4s
E21A Keefer Ranch, 93.16 35 ⇑P P 22 48 20.0 +0.9
baz=93,SNR=8.3
REDW Red Top Meadow 93.17 39 *e*P P 22 48 21.3 +1.9
comp=Z,1.8nm,1.8s
D22A Cohagen 93.21 34 ⇑P P 22 48 20.1 +0.8
baz=93,SNR=13
C23A Lambert 93.26 33 ⇑P P 22 48 20.5 +1.0
baz=93,SNR=17
FRF La Foret Royal 93.28 322⇓*i*P P 22 48 19.1 -0.5
comp=Z,172nm,1.5s
DGMT Dagmar 93.28 32 *e*P P 22 48 20.4 +0.8
comp=Z,165nm,1.2s
DGMT LR LR
comp=Z,855nm,19.0s
DGMT Dagmar 93.28 32 ⇓P P 22 48 20.2 +0.7
baz=93,SNR=18
OSI Osito Adit 93.33 49 *e*P P 22 48 21.2 +1.1
comp=Z,61nm,1.7s
OSI Osito Adit 93.33 49 ⇑P P 22 48 21.2 +1.1
baz=93
SSB Saint Sauveur 93.34 324 PFAKE 22 48 30.0 +10
SSB LR LR
comp=Z,5µm,20.0s
MPMC Manual Prospec 93.37 48 ⇓P P 22 48 21.4 +1.0
baz=93,SNR=82
H19A Powell 93.38 37 ⇑P P 22 48 21.7 +1.5
baz=93,SNR=8.7
BGF Bois d'Agland 93.38 326 *e*P P 22 48 19.4 -0.6
comp=Z,76nm,1.6s
BGU Big Grassy Mou 93.39 42 *e*P P 22 48 21.8 +1.5
comp=Z,169nm,1.9s
G20A Bridger 93.44 36 ⇑P P 22 48 20.9 +0.5
baz=93,SNR=6.7
LDF La Druitiere 93.45 329⇓*i*P P 22 48 19.7 -0.6
comp=Z,201nm,1.4s
FLN La Foliniere 93.50 329⇓*i*P P 22 48 19.9 -0.6
comp=Z,83nm,1.3s
FLN *e*R
comp=Z,7µm,17.5s
LMR La Mourre 93.50 321⇓*i*P P 22 48 20.4 -0.2
comp=Z,201nm,1.4s
I18A Diamond G Ranc 93.54 38 ⇓P P 22 48 22.5 +1.4
baz=93,SNR=8.9
VIVF Saint-Julien-l 93.54 324⇓*i*P P 22 48 20.4 -0.4
comp=Z,90nm,1.4s
FURC Furnace Creek, 93.56 47 ⇓P P 22 48 22.3 +1.4
baz=93,SNR=76
LRMC Laurel Mountai 93.56 48 ⇓P P 22 48 22.1 +0.9
baz=93,SNR=5.9
AGO Saint Agoulin 93.57 325 *e*P P 22 48 22.0 +1.1
AGO Saint Agoulin 93.57 325 *e*P P 22 48 22.0 +1.1
F21A Absaloka Mine, 93.61 35 ⇑P P 22 48 21.5 +0.3
baz=93
SMRF Simiane la Rot 93.62 322⇓*i*P P 22 48 21.1 -0.1
comp=Z,100nm,1.3s
D23A Lindsay 93.68 33 ⇑P P 22 48 22.6 +1.1
baz=94,SNR=6.6
EDW2 Edwards Air Fo 93.69 49 ⇑P P 22 48 22.8 +1.1
baz=94,SNR=44
I19A Meeteetse 93.78 37 ⇓P P 22 48 23.3 +1.2
baz=94,SNR=15
DECC Green Verdugo 93.80 50 ⇓P P 22 48 22.9 +0.6
baz=94
E22A Miles City 93.81 34 ⇓P P 22 48 22.7 +0.6
baz=94,SNR=11
C24A Savage 93.82 33 ⇓P P 22 48 22.9 +0.8
baz=94
PYM Petit Puy Mans 93.84 325 *e*P P 22 48 23.1 +0.9
PYM Petit Puy Mans 93.84 325 *e*P P 22 48 23.1 +0.9
PYM Petit Puy Mans 93.84 325 *e*P P 22 48 23.1 +0.9
HWUT Hardware Ranch 93.85 40 PFAKE 22 48 30.0 +7.5
HWUT LR LR
comp=Z,410nm,19.0s
TCF Toulx Ste Croi 93.89 326⇓*i*P P 22 48 21.7 -0.7
comp=Z,90nm,1.5s
GRR Gorron 93.94 329⇓*i*P P 22 48 22.1 -0.4
comp=Z,238nm,1.6s
PASC Pasadena Art C 93.95 50 *e*P P 22 48 23.3 +0.4
comp=Z,141nm,1.5s
DUG Dugway 93.96 42 *e*P P 22 48 24.3 +1.3
DUG pmax pmax
comp=Z,160nm,1.8s
DUG MLR MLR
comp=Z,436nm,21.0s
DUG Dugway 93.96 42 *e*P P 22 48 24.2 +1.3
comp=Z,160nm,1.8s
DUG LR LR
comp=Z,436nm,21.0s
DUG Dugway 93.96 42 ⇓P P 22 48 24.2 +1.2
baz=94,SNR=35
G21A Lodge Grass 93.97 36 ⇑P P 22 48 23.1 +0.2
baz=94
MWC Mount Wilson 94.00 49 *e*P P 22 48 24.1 +0.8
MWC *e* 22 52 06.8
MWC pmax pmax
comp=Z,161nm,1.4s
MWC Mount Wilson 94.00 49 *e*P P 22 48 24.1 +0.8
comp=Z,161nm,1.4s
MWC *e*PP **PP 22 52 06.8 -2.1**
H20A Greybull 94.03 37 ⇓P P 22 48 23.8 +0.6
baz=94
LBL Lubilhac 94.06 324 *e*P P 22 48 25.0 +1.8
LBL Lubilhac 94.06 324 *e*P P 22 48 25.0 +1.8
LBL Lubilhac 94.06 324 *e*P P 22 48 25.0 +1.8
E23A Ismay 94.09 34 ⇓P P 22 48 24.2 +0.9
baz=94,SNR=9.0
F22A Rosebud 94.09 35 ⇑P P 22 48 23.9 +0.5
baz=94
NOQ North Oquirrh 94.11 41 *e*P P 22 48 26.0 +2.4
comp=Z,399nm,2.2s
FMP Fort Macarthur 94.12 50 ⇓P P 22 48 24.4 +0.7
baz=94
D24A Glendive 94.16 33 ⇑P P 22 48 24.5 +0.8
baz=94,SNR=14
VSL Villasalto 94.17 317 *e*P P 22 48 23.3 -0.5
comp=Z,60nm,1.3s
VSL LR LR
comp=Z,2µm,19.0s
CIS Catalina Islan 94.22 50 ⇑P P 22 48 24.6 +0.5
baz=94,SNR=9.1
J19A Crowheart 94.24 38 ⇓P P 22 48 25.1 +0.8
baz=94,SNR=7.9
GSC Goldstone 94.26 48 *e*P P 22 48 25.4 +1.0
GSC *e* 22 52 08.3
GSC pmax pmax
comp=Z,172nm,1.2s
GSC Goldstone 94.26 48 *e*P P 22 48 25.4 +1.0
comp=Z,41nm,1.2s
GSC *e*PP **PP 22 52 08.3 -2.4**
GSC Goldstone 94.26 48 ⇑P P 22 48 25.4 +1.0
baz=94,SNR=82
SHOC Shoshone 94.27 47 ⇓P P 22 48 25.4 +1.1
baz=94,SNR=19
BFSC Mount Baldy Ra 94.27 49 ⇑P P 22 48 25.0 +0.5
baz=94,SNR=24
BW06 Boulder Array 94.28 39 *e*P P 22 48 24.8 +0.3
comp=Z,40nm,1.4s
BW06 LR LR
comp=Z,697nm,22.0s
PDAR Pinedale Array 94.28 39 P P 22 48 24.8 +0.2
PDAR PP **PP 22 52 12.6 +1.7**
PDAR Pinedale Array 94.28 39 P P 22 48 24.8 +0.2
comp=Z,17nm,1.0s,baz=318,slow=2.0,SNR=77
PDAR PP **PP 22 52 12.6 +1.7**
comp=Z,3.4nm,1.0s,baz=320,slow=2.3,SNR=3.6
CTU Camp Tracy 94.30 41 *e*P P 22 48 26.1 +1.5
comp=Z,48nm,1.2s
I20A Worland 94.31 37 ⇑P P 22 48 25.5 +1.0
baz=94,SNR=6.2
SCI San Clemente I 94.35 51 ⇓P P 22 48 25.3 +0.6
baz=94
RRX Edison Barstow 94.36 48 ⇓P P 22 48 25.7 +0.9
baz=94
H21A Big Horn, Sher 94.45 36 ⇓P P 22 48 25.7 +0.6
baz=94
G22A Birney 94.45 35 ⇑P P 22 48 25.7 +0.6
baz=94,SNR=8.3
M17A Scullys Gap (B 94.46 40 ⇓P P 22 48 26.1 +0.7
baz=94,SNR=9.0
LASF Ste Croix 94.49 323⇓*i*P P 22 48 25.1 -0.1
comp=Z,169nm,1.6s
L18A Fontenelle, Gr 94.54 39 ⇑P P 22 48 26.4 +0.6
baz=94
E24A Baker 94.55 33 ⇑P P 22 48 26.3 +0.8
baz=94,SNR=5.6
NLU North Lily Min 94.56 42 *e*P P 22 48 27.2 +1.3
comp=Z,221nm,2.3s
F23A Volborg 94.57 34 ⇓P P 22 48 26.1 +0.5
baz=94,SNR=12
K19A Absolon Red Bu 94.64 38 ⇑P P 22 48 25.7 -0.4
baz=94
SHPR Sheep Range 94.66 46 *e*P P 22 48 27.5 +1.2
J20A Shoshoni 94.73 37 ⇓P P 22 48 27.1 +0.7
baz=94,SNR=11
BBRC Big Bear Solar 94.77 49 ⇓P P 22 48 27.4 +0.4
baz=95
TUQ Turquoise Moun 94.77 47 ⇑P P 22 48 27.8 +1.0
baz=95,SNR=44
MPU Maple Canyon 94.79 42 *e*P P 22 48 28.5 +1.6
comp=Z,58nm,1.3s
L19A Farson 94.82 39 ⇑P P 22 48 27.8 +0.8
baz=95,SNR=15
SGMF Saint Gilles 94.83 329⇓*i*P P 22 48 26.3 -0.3
comp=Z,58nm,1.0s
H22A Clearmont 94.84 36 ⇑P P 22 48 27.3 +0.4
baz=95
HEC Hector,Ludlow 94.85 48 ⇑P P 22 48 28.1 +1.0
baz=95,SNR=58
MFF Saint Martin d 94.86 327 *e*P P 22 48 26.3 -0.5
comp=Z,232nm,1.6s
I21A Big Trails, Te 94.86 37 ⇑P P 22 48 27.6 +0.6
baz=95,SNR=7.6
CAF Calviac 94.88 325⇓*i*P P 22 48 27.0 0.0
comp=Z,80nm,1.3s
RJF Les Rejaudoux 94.91 325⇓*i*P P 22 48 26.9 -0.2
comp=Z,106nm,1.3s
RJF *e*R
comp=Z,5µm,19.8s
G23A Biddle 94.94 35 ⇑P P 22 48 27.7 +0.4
baz=95,SNR=6.7
MIR Mirnyy 94.94 193⇓*i*P P 22 48 27.0 +0.6
MIR pmax pmax
comp=Z,134nm,2.0s
MURC Murrieta 94.94 50 ⇓P P 22 48 28.2 +0.8
baz=95,SNR=16
F24A Ekalaka 94.98 34 ⇑P P 22 48 28.1 +0.6
baz=95
K20A Yellowstone Ra 95.03 38 ⇓P P 22 48 28.1 +0.2
baz=95,SNR=5.4
E25A Miller Ranch, 95.04 33 ⇑P P 22 48 28.5 +0.8
baz=95,SNR=7.0
J21A Lysite 95.08 37 ⇑P P 22 48 28.9 +0.7
baz=95,SNR=32
ROSF Rostrenen 95.10 330⇓*i*P P 22 48 27.6 -0.2
comp=Z,116nm,1.2s
CCUT Cedar City 95.21 45 *e*P P 22 48 30.1 +1.2
comp=Z,68nm,1.8s
I22A 9 Mile Ranch, 95.24 36 ⇑P P 22 48 29.3 +0.5
baz=95,SNR=15
M19A Rock Springs 95.32 39 ⇓P P 22 48 29.5 +0.2
baz=95
GMRC Granite Mounta 95.33 48 ⇓P P 22 48 30.4 +1.1
baz=95,SNR=49
G24A Alzada 95.35 34 ⇑P P 22 48 29.1 -0.1
baz=95
QUIF Quistinic 95.36 329⇓*i*P P 22 48 28.4 -0.6
comp=Z,65nm,1.2s
MVU Marysvale 95.36 43 *e*P P 22 48 31.2 +1.6
comp=Z,219nm,2.2s
MVU LR LR
comp=Z,541nm,20.0s
H23A Clabaugh Cattl 95.36 35 ⇑P P 22 48 29.5 +0.2
baz=95
MSU Marysvale 95.38 43 *e*P P 22 48 31.3 +1.7
MSU Marysvale 95.38 43 *e*P P 22 48 31.2 +1.7
MSU *e*PP PP 22 52 12.4 -7.1
109C Camp Elliot, M 95.41 50 ⇓P P 22 48 30.1 +0.6
baz=95
PFO Pinyon Flat Ob 95.45 49 *e*P P 22 48 30.2 +0.3
comp=Z,175nm,1.3s

PFO					LR		LR				
	comp=Z,1μm,19.0s										
PFO	**Pinyon Flat Ob**	**95.45**	**49**	⇑	P		**P**		**22 48 30.8**	**+0.9**	
	baz=95,SNR=38										
L20A	**Wamsutter**	**95.46**	**39**	⇑	P		**P**		**22 48 30.4**	**+0.5**	
	baz=95,SNR=8.2										
TMUT	**Trail Mountain**	**95.49**	**42**		*e*P		**P**		**22 48 31.8**	**+1.6**	
	comp=Z,238nm,2.7s										
LDFC	**Landfair**	**95.52**	**47**		*e*P		**P**		**22 48 31.8**	**+1.6**	
E26A	**Carlson Angus**	**95.53**	**32**	⇑	P		**P**		**22 48 30.5**	**+0.6**	
	baz=95,SNR=9.2										
BELC	**Belle Mtn. Jos**	**95.54**	**49**	⇓	P		**P**		**22 48 31.0**	**+0.6**	
	baz=95,SNR=13										
LFF	**La Frestale**	**95.56**	**325**		*e*P		**P**		**22 48 29.9**	**-0.1**	
	comp=Z,72nm,1.2s										
J22A	**Midwest**	**95.56**	**37**	⇓	P		**P**		**22 48 30.4**	**+0.1**	
	baz=95,SNR=27										
ULM	**Lac du Bonnet**	**95.67**	**27**		*e*P		**P**		**22 48 30.1**	**-0.3**	
ULM					PP		**PP**		**22 52 20.5**	**-0.5**	
ULM	**Lac du Bonnet**	**95.67**	**27**		P		**P**		**22 48 29.8**	**-0.5**	
	comp=Z,27nm,1.1s,baz=315,slow=4.8,SNR=20										
ULM					PP		**PP**		**22 52 20.5**	**-0.5**	
	comp=Z,2.0nm,0.4s,baz=295,slow=5.9,SNR=3.4										
ULM					LR		LR		23 33 42.6		
	comp=Z,726nm,21.5s,baz=336,slow=37										
H24A	**Dirks Ranch, A**	**95.68**	**35**	⇑	P		**P**		**22 48 30.8**	**+0.1**	
	baz=96,SNR=8.0										
I23A	**Meade Ranch, G**	**95.74**	**36**	⇓	P		**P**		**22 48 31.2**	**+0.2**	
	baz=96										
Q16A	**Castle Valley**	**95.75**	**42**	⇓	P		**P**		**22 48 32.5**	**+1.3**	
	baz=96,SNR=7.6										
BAR	**Barrett**	**95.83**	**50**		*e*P		**P**		**22 48 32.1**	**+0.6**	
MTLF	**Montolieu**	**95.87**	**324**	⇓	*i*P		**P**		**22 48 31.3**	**-0.2**	
	comp=Z,112nm,1.6s										
MDND	**Maddock**	**95.88**	**30**	⇓	P		**P**		**22 48 32.0**	**+0.5**	
	baz=96,SNR=5.7										
M20A	**Sweetwater, Wa**	**95.88**	**39**	⇓	P		**P**		**22 48 32.9**	**+1.0**	
	baz=96,SNR=10										
MONP	**Monument Peak**	**95.88**	**50**	⇑	P		**P**		**22 48 32.9**	**+0.9**	
	baz=96,SNR=24										
SRU	**San Rafael**	**96.02**	**42**		*e*P		**P**		**22 48 33.4**	**+0.9**	
SRU					pmax		pmax				
	comp=Z,22nm,1.1s										
SRU	**San Rafael**	**96.02**	**42**		*e*P		**P**		**22 48 33.4**	**+0.9**	
	comp=Z,22nm,1.1s										
IRM	**Iron Mountain**	**96.03**	**48**	⇑	P		**P**		**22 48 33.6**	**+1.2**	
	baz=96,SNR=18										
NEE2	**Needles Airpor**	**96.03**	**47**	⇑	P		**P**		**22 48 33.2**	**+0.8**	
	baz=96										
L21A	**Rawlins**	**96.03**	**38**	⇑	P		**P**		**22 48 32.9**	**+0.3**	
	baz=96,SNR=15										
K22A	**Casper**	**96.05**	**37**	⇑	P		**P**		**22 48 32.8**	**+0.2**	
	baz=96										
J23A	**Dilts Ranch, B**	**96.07**	**36**	⇓	P		**P**		**22 48 32.2**	**-0.4**	
	baz=96										
O19A	**Miners Draw (B**	**96.11**	**40**	⇓	P		**P**		**22 48 33.1**	**+0.3**	
	baz=96,SNR=7.3										
BC3	**Big Chuckawall**	**96.11**	**49**	⇓	P		**P**		**22 48 33.9**	**+1.0**	
	baz=96,SNR=17										
DVTC	**Desert V Tower**	**96.23**	**50**	⇓	P		**P**		**22 48 34.5**	**+1.0**	
	baz=96,SNR=8.9										
I24A	**Kuemmerle Ranc**	**96.25**	**35**	⇑	P		**P**		**22 48 33.3**	**-0.1**	
	baz=96										
H25A	**Fruitdale**	**96.26**	**34**	⇓	P		**P**		**22 48 33.7**	**+0.4**	
	baz=96										
N20A	**Spence Gulch,**	**96.26**	**39**	⇓	P		**P**		**22 48 34.6**	**+1.0**	
	baz=96,SNR=10										
M21A	**Separation Pea**	**96.27**	**38**	⇓	P		**P**		**22 48 34.0**	**+0.4**	
	baz=96,SNR=12										
SWSC	**Sam W. Stewart**	**96.29**	**49**	⇑	P		**P**		**22 48 34.5**	**+0.9**	
	baz=96,SNR=12										
W13A	**Hualapai Mount**	**96.33**	**47**	⇑	P		**P**		**22 48 35.0**	**+1.0**	
	baz=96,SNR=20										
RSSD	**Black Hills**	**96.38**	**35**		*e*P		**P**		**22 48 34.4**	**+0.3**	
RSSD					*e*				22 52 24.3		
RSSD					pmax		pmax				
	comp=Z,53nm,1.4s										
RSSD	**Black Hills**	**96.38**	**35**		*e*P		**P**		**22 48 34.4**	**+0.3**	
	comp=Z,13nm,1.4s										
RSSD					*e*PP		**PP**		**22 52 24.3**	**-2.7**	
KEST	**Kesra**	**96.45**	**314**		*e*P		**P**		**22 48 34.9**	**+0.5**	
KEST					PP		**PP**		**22 52 27.3**	**-0.4**	
KEST	**Kesra**	**96.45**	**314**		P		**P**		**22 48 34.8**	**+0.4**	
	comp=Z,8.7nm,1.2s,baz=56,slow=0.3,SNR=17										
KEST					PP		**PP**		**22 52 27.3**	**-0.4**	
	comp=Z,8.1nm,1.4s,baz=89,slow=9.9,SNR=5.6										
KEST					LR		LR		23 38 49.4		
	comp=Z,667nm,18.4s,baz=201,slow=40										
K23A	**Bowen Ranch, D**	**96.47**	**37**	⇑	P		**P**		**22 48 34.2**	**-0.2**	
	baz=96										
L22A	**Ellis Ranch, M**	**96.51**	**38**	⇓	P		**P**		**22 48 35.2**	**+0.5**	
	baz=96,SNR=5.5										
G27A	**Dupree**	**96.56**	**33**	⇓	P		**P**		**22 48 35.1**	**+0.5**	
	baz=96										
U15A	**North Rim**	**96.57**	**45**	⇓	P		**P**		**22 48 36.4**	**+1.2**	
	baz=96,SNR=30										
J24A	**Dixon Ranch, L**	**96.60**	**36**	⇑	P		**P**		**22 48 35.0**	**+0.1**	
	baz=96										
I25A	**Rochford**	**96.61**	**35**	⇓	P		**P**		**22 48 35.4**	**+0.3**	
	baz=96										
VALF	**Valcebollere**	**96.61**	**323**		*e*P		**P**		**22 48 35.3**	**+0.2**	
VALF	**Valcebollere**	**96.61**	**323**		*e*P		**P**		**22 48 35.3**	**+0.2**	
P19A	**Cripple Cowboy**	**96.62**	**41**	⇓	P		**P**		**22 48 35.9**	**+0.7**	
	baz=96,SNR=23										
PDMCI	**Parker Dam,Lak**	**96.63**	**48**	⇓	P		**P**		**22 48 36.2**	**+1.1**	
	baz=96,SNR=9.1										
H26A	**Fairpoint**	**96.68**	**34**	⇑	P		**P**		**22 48 35.7**	**+0.5**	
	baz=96										
Y12C	**Blythe**	**96.69**	**48**	⇑	P		**P**		**22 48 36.6**	**+1.3**	
	baz=96,SNR=9.8										
O20A	**White River Ci**	**96.73**	**40**	⇑	P		**P**		**22 48 36.2**	**+0.5**	
	baz=96										
N21A	**Black Mountain**	**96.74**	**39**	⇑	P		**P**		**22 48 36.4**	**+0.6**	
	baz=97,SNR=5.9										
M22A	**Cedar Creek Ra**	**96.84**	**38**	⇓	P		**P**		**22 48 36.6**	**+0.3**	
	baz=97										
L23A	**Garrett**	**96.86**	**37**	⇑	P		**P**		**22 48 36.2**	**-0.1**	
	baz=97,SNR=13										
GLA	**Glamis**	**96.89**	**49**		*e*P		**P**		**22 48 38.2**	**+1.8**	
GLA					pmax		pmax				
	comp=Z,101nm,1.4s										
GLA	**Glamis**	**96.89**	**49**		*e*P		**P**		**22 48 38.1**	**+1.8**	
	comp=Z,25nm,1.4s										
GLA	**Glamis**	**96.89**	**49**	⇑	P		**P**		**22 48 37.5**	**+1.1**	
	baz=97,SNR=5.9										
K24A	**Anderson Ranch**	**96.93**	**36**	⇓	P		**P**		**22 48 36.2**	**-0.3**	
	baz=97										
MBAR	**Mbarara**	**96.94**	**273**		LR		LR		23 31 23.5		
	comp=Z,635nm,21.5s,baz=68,slow=35										
J25A	**Sunshine Ranch**	**97.01**	**35**	⇑	P		**P**		**22 48 36.7**	**-0.1**	
	baz=97										
H27A	**Howes**	**97.02**	**34**	⇓	P		Pdif		22 48 36.9	+0.1	
	baz=97										
I26A	**New Underwood**	**97.05**	**34**	⇑	P		Pdif		22 48 37.5	+0.5	
	baz=97										
P20A	**De Beque**	**97.05**	**41**	⇓	P		Pdif		22 48 37.8	+0.5	
	baz=97										
EPF	**Esparros**	**97.09**	**324**	⇓	*i*P		**P**		**22 48 36.3**	**-0.8**	
	comp=Z,39nm,1.4s										
O21A	**Pagoda**	**97.12**	**40**	⇑	P		Pdif		22 48 38.0	+0.4	
	baz=97										
CMAH	**Djebel Manchou**	**97.14**	**316**		P		**P**		**22 48 37.1**	**-0.4**	
AGMN	**Agassiz Nation**	**97.18**	**28**		*e*P		**P**		**22 48 37.1**	**-0.2**	
	comp=Z,23nm,1.2s										
AGMN					*e*PP		**PP**		**22 52 33.0**	**+0.4**	
AGMN					LR		LR				
	comp=Z,857nm,22.0s										
RESF	**Ens**	**97.24**	**324**		*e*P		Pdif		22 48 38.4	+0.5	
RESF	**Ens**	**97.24**	**324**		*e*P		Pdif		22 48 38.4	+0.5	
G28A	**Parade**	**97.28**	**33**	⇓	P		Pdif		22 48 38.3	+0.4	
	baz=97										
N22A	**Wattenberg Ran**	**97.32**	**39**	⇑	P		Pdif		22 48 39.3	+0.7	
	baz=97										
ABSA	**Djebel Ababsia**	**97.32**	**315**		P		**P**		**22 48 38.1**	**-0.2**	
L24A	**Wheatland**	**97.33**	**37**	⇑	P		Pdif		22 48 38.6	+0.3	
	baz=97										
I27A	**Quinn**	**97.43**	**34**	⇑	P		Pdif		22 48 39.0	+0.3	
	baz=97										
PV04	**Paradox Valley**	**97.46**	**42**		*e*P		Pdif		22 48 40.6	+1.6	
Q20A	**Ridgley Place,**	**97.46**	**41**	⇑	P		Pdif		22 48 39.5	+0.4	
	baz=97,SNR=15										
K25A	**Mack Ranch, Ha**	**97.51**	**36**	⇓	P		Pdif		22 48 39.7	+0.5	
	baz=97										
H28A	**Mission Ridge**	**97.52**	**33**	⇑	P		Pdif		22 48 39.3	+0.3	
	baz=97										
PHWY	**Pilot Hill**	**97.54**	**38**		*e*P		Pdif		22 48 40.3	+0.7	
	comp=Z,58nm,1.8s										
N23A	**Red Feather La**	**97.55**	**38**	⇑	P		Pdif		22 48 40.1	+0.6	
	baz=97,SNR=12										
Y14A	**Wickenburg**	**97.60**	**47**	⇓	P		Pdif		22 48 40.0	+0.4	
	baz=98,SNR=10.0										
ETSF	**Etsaut**	**97.65**	**325**	⇓	*i*P		Pdif		22 48 39.9	+0.2	
	comp=Z,84nm,1.7s										
O22A	**Kremmling**	**97.69**	**39**	⇑	P		Pdif		22 48 40.5	+0.2	
	baz=98,SNR=10										
WUAZ	**Wupatki**	**97.72**	**45**		*e*P		Pdif		22 48 41.1	+0.8	
	comp=Z,34nm,1.1s										
WUAZ					LR		LR				
	comp=Z,600nm,21.0s										
WUAZ	**Wupatki**	**97.72**	**45**	⇓	P		Pdif		22 48 41.4	+1.2	
	baz=98,SNR=14										
CKFL	**Kef-Lekhel**	**97.72**	**316**		P		**P**		**22 48 39.9**	**-0.3**	
L25A	**Engebretsen Ra**	**97.78**	**36**	⇓	P		Pdif		22 48 40.9	+0.5	
	baz=98										
113A	**Mohawk Valley,**	**97.78**	**49**	⇑	P		Pdif		22 48 41.2	+0.8	
	baz=98										
M24A	**Cheyenne**	**97.78**	**37**	⇑	P		Pdif		22 48 41.4	+0.9	
	baz=98										
K26A	**Motz Farm, Whi**	**97.82**	**35**	⇑	P		Pdif		22 48 40.6	+0.1	
	baz=98										
PV01	**Paradox Valley**	**97.82**	**42**		*e*P		Pdif		22 48 40.8	-0.1	
	comp=Z,3μm,1.4s										
SJPF	**Ste Jean**	**97.85**	**325**		*e*P		Pdif		22 48 40.6	+0.1	
	comp=Z,67nm,1.3s										
R20A	**Redvale**	**97.90**	**42**	⇓	P		Pdif		22 48 41.9	+0.8	
	baz=98,SNR=18										
I28A	**Midland**	**97.93**	**34**	⇑	P		Pdif		22 48 41.0	+0.1	
	baz=98										
P22A	**Eagle**	**97.94**	**40**	⇓	P		Pdif		22 48 42.2	+0.9	
	baz=98,SNR=7.6										
CASM	**Ain Smara**	**97.96**	**316**		P		**P**		**22 48 40.9**	**-0.2**	
Q21A	**Lamborn Mesa,**	**97.97**	**41**	⇓	P		Pdif		22 48 42.1	+0.8	
	baz=98										
Z14A	**Wintersburg**	**97.98**	**48**	⇓	P		Pdif		22 48 42.2	+0.9	
	baz=98										
O23A	**Lake Granby, G**	**98.02**	**39**	⇑	P		Pdif		22 48 42.5	+0.8	
	baz=98										
S20A	**Disappointment**	**98.15**	**42**	⇓	P		Pdif		22 48 43.0	+0.7	
	baz=98,SNR=6.9										
DFRA	**Djebel Bou Aff**	**98.16**	**317**		P		**P**		**22 48 41.9**	**-0.2**	
N24A	**Carr**	**98.18**	**38**	⇓	P		Pdif		22 48 43.0	+0.7	
	baz=98										
M25A	**Palm-Egli Farm**	**98.22**	**37**	⇓	P		Pdif		22 48 43.1	+0.7	
	baz=98										
R21A	**Cimarron**	**98.28**	**41**	⇓	P		Pdif		22 48 43.8	+1.0	
	baz=98,SNR=9.8										
K27A	**Flueckinger Fa**	**98.31**	**35**	⇑	P		Pdif		22 48 42.7	0.0	
	baz=98										
J28A	**Allard Ranch,**	**98.31**	**34**	⇑	P		**P**		**22 48 42.5**	**0.0**	
	baz=98										
L26A	**Underwood Farm**	**98.33**	**36**	⇓	P		Pdif		22 48 43.1	+0.2	
	baz=98										
Q22A	**Crested Butte,**	**98.34**	**40**	⇓	P		Pdif		22 48 44.3	+1.2	
	baz=98,SNR=8.7										
X16A	**Lo Mia Camp, P**	**98.34**	**46**	⇓	P		Pdif		22 48 44.3	+1.2	
	baz=98,SNR=13										
MVCO	**Mesa Verde**	**98.46**	**42**		*e*P		Pdif		22 48 44.8	+1.2	
	comp=Z,33nm,1.5s										
MVCO					*e*PP		**PP**		**22 52 42.8**	**-0.4**	
MVCO					LR		LR				
	comp=Z,425nm,20.0s										
MVCO	**Mesa Verde**	**98.46**	**42**	⇓	P		Pdif		22 48 44.1	+0.5	
	baz=98										
ISCO	**Idaho Springs**	**98.47**	**39**		*e*P		Pdif		22 48 44.8	+1.1	
ISCO					pmax		pmax				
	comp=Z,87nm,2.7s										
ISCO					MLR		MLR				
	comp=Z,663nm,19.0s										
ISCO	**Idaho Springs**	**98.47**	**39**		*e*P		Pdif		22 48 44.8	+1.1	
	comp=Z,87nm,2.7s										
ISCO					LR		LR				
	comp=Z,663nm,19.0s										
ISCO	**Idaho Springs**	**98.47**	**39**	⇓	P		Pdif		22 48 44.1	+0.4	
	baz=98										
O24A	**Longmont**	**98.56**	**38**	⇓	Pdiff		Pdif		22 48 44.4	+0.5	
	baz=98										
S21A	**Coal Bank Pass**	**98.60**	**42**	⇓	Pdiff		Pdif		22 48 45.3	+0.9	
	baz=98										
P23A	**Jefferson**	**98.62**	**39**	⇓	Pdiff		Pdif		22 48 45.5	+1.0	
	baz=98										
N25A	**Grover**	**98.63**	**37**	⇑	Pdiff		**P**		**22 48 43.3**	**-1.0**	
	baz=98										
SET	**Setif**	**98.68**	**316**		P		Pdif		22 48 46.0	+1.6	
BRSD	**Miller**	**98.69**	**32**	⇑	Pdiff		Pdif		22 48 44.2	0.0	
	baz=98										
M26A	**McRoberts Ranc**	**98.70**	**36**	⇑	Pdiff		**P**		**22 48 43.9**	**-0.5**	
	baz=98										
L27A	**T5 Ranch, Ells**	**98.70**	**35**	⇓	Pdiff		Pdif		22 48 44.7	+0.3	
	baz=98										
K28A	**Ten Mile Ranch**	**98.75**	**35**	⇑	Pdiff		**P**		**22 48 44.0**	**-0.6**	
	baz=98										
R22A	**Saguache, Gunn**	**98.85**	**41**	⇑	Pdiff		Pdif		22 48 46.0	+0.5	
	baz=99										
214A	**Organ Pipe Nat**	**98.91**	**49**	⇓	Pdiff		Pdif		22 48 45.6	+0.2	
	baz=99										
214A					⇑S		**S**		**23 00 15.8**	**+0.4**	
	baz=99										
214A					⇑S		**S**		**23 00 15.8**	**+0.4**	
	baz=99										
214A					⇑S		**S**		**23 00 15.8**	**+0.4**	
	baz=99										
Q23A	**Hartsel**	**98.94**	**40**	⇑	Pdiff		Pdif		22 48 46.2	+0.4	
	baz=99										
U20A	**Newcomb**	**98.98**	**43**	⇑	Pdiff		**P**		**22 48 45.7**	**-0.2**	
	baz=99										
W18A	**Petrified Fore**	**99.01**	**45**	⇓	Pdiff		**Pdif**		**22 48 46.7**	**+0.6**	
	baz=99										
M27A	**Reverse DX Ran**	**99.06**	**36**	⇓	Pdiff		**Pdif**		**22 48 44.9**	**-1.2**	
	baz=99										
P24A	**Kohler Place,**	**99.06**	**39**	⇑	Pdiff		**Pdif**		**22 48 45.7**	**-0.5**	
	baz=99										
N26A	**Koester Ranch,**	**99.10**	**37**	⇓	Pdiff		**Pdif**		**22 48 46.1**	**-0.2**	
	baz=99										
O25A	**Wiggins**	**99.10**	**38**	⇓	Pdiff		**Pdif**		**22 48 46.6**	**+0.3**	
	baz=99										
S22A	**4UR Ranch, Cre**	**99.12**	**41**	⇑	Pdiff		**Pdif**		**22 48 46.2**	**-0.5**	
	baz=99										
L28A	**Connealy Angus**	**99.18**	**35**	⇓	Pdiff		**Pdif**		**22 48 46.7**	**+0.1**	
	baz=99										
T21A	**Navajo Lake**	**99.19**	**42**	⇓	Pdiff		**Pdif**		**22 48 47.6**	**+0.8**	
	baz=99										
X18A	**Snowflake**	**99.24**	**45**	⇑	Pdiff		**Pdif**		**22 48 47.6**	**+0.5**	
	baz=99										
EYMN	**Ely**	**99.25**	**26**		PFAKE				22 49 00.0	+13	
EYMN					LR		LR				
	comp=Z,519nm,19.0s										
K29A	**Lazy Trails An**	**99.25**	**34**	⇓	Pdiff		**Pdif**		**22 48 46.5**	**-0.4**	
	baz=99										
Q24A	**Divide**	**99.30**	**39**	⇓	Pdiff		**Pdif**		**22 48 47.3**	**-0.1**	
	baz=99										
V20A	**Brimhall**	**99.38**	**43**	⇓	Pdiff		**Pdif**		**22 48 47.2**	**-0.5**	
	baz=99										
R23A	**Moffat**	**99.42**	**40**	⇑	Pdiff		**Pdif**		**22 48 47.5**	**-0.5**	
	baz=99										
O26A	**Horse Wrangler**	**99.45**	**37**	⇑	Pdiff		**Pdif**		**22 48 48.1**	**+0.2**	
	baz=99										
U21A	**Nageezi**	**99.48**	**43**	⇓	Pdiff		**Pdif**		**22 48 48.6**	**+0.5**	
	baz=99										
P25A	**Willow Gulch B**	**99.48**	**38**	⇓	Pdiff		**Pdif**		**22 48 48.3**	**+0.3**	
	baz=99										
N27A	**Anderson Farm,**	**99.48**	**37**	⇓	Pdiff		**Pdif**		**22 48 47.9**	**0.0**	
	baz=99										
T22A	**Edith**	**99.56**	**42**	⇓	Pdiff		**Pdif**		**22 48 49.1**	**+0.6**	
	baz=99										
SCHQ	**Schefferville**	**99.58**	**9**		PP		PP		22 52 50.5	-0.2	
SCHQ	**Schefferville**	**99.58**	**9**		PP		PP		22 52 50.5	-0.2	
	comp=Z,14nm,1.1s,baz=9.5,slow=7.0,SNR=4.9										
SCHQ					LR		LR		23 37 56.5		
	comp=Z,886nm,18.1s,baz=350,slow=38										
S23A	**Nye Farm, Mont**	**99.64**	**41**	⇓	Pdiff		**Pdif**		**22 48 49.6**	**+0.7**	
	baz=100										
OGNE	**Ogallala**	**99.66**	**36**		PFAKE				22 49 00.0	+11	
OGNE					LR		LR				
	comp=Z,735nm,19.0s										
OGNE	**Ogallala**	**99.66**	**36**	⇓	Pdiff		**Pdif**		**22 48 48.8**	**+0.1**	
	baz=100										
L29A	**Massberg Ranch**	**99.68**	**35**	⇑	Pdiff		**Pdif**		**22 48 48.4**	**-0.3**	
	baz=100										
M28A	**Bar X Bar Ranc**	**99.69**	**35**	⇓	Pdiff		**Pdif**		**22 48 48.6**	**-0.3**	
	baz=100										
W20A	**Ramah**	**99.79**	**44**	⇑	Pdiff		**Pdif**		**22 48 49.7**	**+0.1**	
	baz=100										
R24A	**Sanders Place,**	**99.81**	**40**	⇑	Pdiff		**Pdif**		**22 48 49.7**	**+0.1**	
	baz=100										
Q25A	**Bedland, Calha**	**99.84**	**39**	⇓	Pdiff		**Pdif**		**22 48 49.8**	**+0.1**	
	baz=100										
V21A	**Milan**	**99.89**	**43**	⇑	Pdiff		**Pdif**		**22 48 50.5**	**+0.5**	
	baz=100										
P26A	**Davis Ranch, A**	**99.91**	**38**	⇑	Pdiff		**Pdif**		**22 48 50.1**	**+0.2**	
	baz=100										
SDCO	**Great Sand Dun**	**99.91**	**40**		*e*Pdif		**Pdif**		**22 48 50.0**	**-0.1**	
	comp=Z,21nm,1.7s										
SDCO					*e*PP		**PP**		**22 52 52.8**	**-1.5**	
SDCO					LR		LR				
	comp=Z,595nm,20.0s										
O27A	**Beecher Island**	**99.95**	**37**	⇓	Pdiff		**Pdif**		**22 48 50.0**	**0.0**	
	baz=100										
U22A	**Llaves**	**100.00**	**42**	⇑	Pdiff		**Pdif**		**22 48 50.7**	**+0.2**	
	baz=100										
M29A	**Burnside Ranch**	**100.01**	**35**	⇑	Pdiff		**Pdif**		**22 48 50.4**	**+0.1**	
	baz=100										
T23A	**Casias Ranch,**	**100.06**	**41**	⇑	Pdiff		**Pdif**		**22 48 51.4**	**+0.6**	
	baz=100										
TUC	**Tucson**	**100.06**	**47**		*e*P		**Pdif**		**22 48 50.9**	**+0.2**	
TUC					*e*				22 52 54.4		
TUC					MLR		MLR				
	comp=Z,1μm,19.0s										
TUC	**Tucson**	**100.06**	**47**		*e*Pdif		**Pdif**		**22 48 50.9**	**+0.2**	
TUC					*e*PP		**PP**		**22 52 54.4**	**-1.0**	
TUC					LR		LR				
	comp=Z,1μm,19.0s										
N28A	**Pribbeno Ranch**	**100.10**	**36**	⇑	Pdiff		**Pdif**		**22 48 50.7**	**0.0**	
	baz=100										
S24A	**Houchin Ranch,**	**100.15**	**40**	⇑	Pdiff		**Pdif**		**22 48 51.5**	**+0.3**	
	baz=100										
X20A	**Quemado**	**100.16**	**44**	⇑	Pdiff		**Pdif**		**22 48 51.6**	**+0.3**	
	baz=100										
Q26A	**Hugo**	**100.25**	**38**	⇑	Pdiff		**Pdif**		**22 48 51.5**	**0.0**	
	baz=100										
V22A	**San Miguel Ran**	**100.27**	**43**	⇓	Pdiff		**Pdif**		**22 48 51.4**	**-0.3**	
	baz=100										
W21A	**San Fidel**	**100.33**	**44**	⇓	Pdiff		**Pdif**		**22 48 52.5**	**+0.5**	
	baz=100										
P27A	**Ficken Ranch,**	**100.34**	**37**	⇑	Pdiff		**Pdif**		**22 48 51.2**	**-0.6**	
	baz=100										
ECSD	**EROS Data Cent**	**100.34**	**31**		*e*Pdif		**Pdif**		**22 48 52.0**	**+0.4**	
ECSD					LR		LR				
	comp=Z,848nm,20.0s										
R25A	**Fountain Ranch**	**100.35**	**39**	⇓	Pdiff		**Pdif**		**22 48 51.7**	**-0.2**	
	baz=100										
M30A	**Dale-Ortello V**	**100.37**	**35**	⇓	Pdiff		**Pdif**		**22 48 51.7**	**-0.1**	
	baz=100										
O28A	**Krutsinger Ran**	**100.38**	**37**	⇑	Pdiff		**Pdif**		**22 48 51.5**	**-0.4**	
	baz=100										
U23A	**El Rito**	**100.44**	**42**	⇑	Pdiff		**Pdif**		**

PAB MLR MLR
comp=Z,3µm,19.0s
PAB San Pablo 102.05 324 *e*Pdif **Pdif** **22 48 59.3 0.0**
PAB LR LR
comp=Z,2µm,19.0s
X24A Lazy VL Ranch, 102.07 43 ⇓Pdiff **Pdif** **22 49 00.2 +0.5**
baz=102
P31A Stockton 102.09 36 ⇓Pdiff **Pdif** **22 48 59.0 -0.5**
baz=102
S28A Manter 102.09 38 ⇓Pdiff **Pdif** **22 49 00.2 +0.6**
baz=102
Y23A Lovelace Mesa, 102.10 44 ⇓Pdiff **Pdif** **22 49 00.5 +0.6**
baz=102
320A Kipp Ranch, An 102.17 47 ⇓Pdiff **Pdif** **22 49 01.1 +1.0**
baz=102
PGAV Gavieira, Arco 102.21 328 *e*PP PP 22 53 15.2 +4.0
MVO Moncorvo 102.22 327 *e*Pdif **Pdif** **22 48 59.9 -0.2**
MVO Moncorvo 102.22 327 *e*PP PP 22 53 14.7 +3.4
W25A X Bar L Ranch, 102.23 42 ⇓Pdiff **Pdif** **22 49 00.9 +0.5**
baz=102
W25A ⇑Sdiff **Sdif** **23 00 42.5 -0.9**
baz=102
W25A ⇑Sdiff **Sdif** **23 00 42.5 -0.9**
baz=102
W25A ⇑Sdiff **Sdif** **23 00 42.5 -0.9**
baz=102
V26A Tequesquite Ra 102.24 41 ⇓Pdiff **Pdif** **22 49 01.0 +0.7**
baz=102
221A Mesquite Ranch 102.24 46 ⇑Pdiff **Pdif** **22 49 01.4 +1.0**
baz=102
T28A Walsh 102.30 39 ⇑Pdiff **Pdif** **22 49 00.7 +0.2**
baz=102
122A Conniff Cattle 102.30 45 ⇓Pdiff **Pdif** **22 49 01.3 +0.6**
baz=102
U27A Thompson Grove 102.38 40 ⇑Pdiff **Pdif** **22 49 01.1 +0.2**
baz=102
Z23A Rita Site, Whi 102.43 44 ⇓Pdiff **Pdif** **22 49 02.1 +0.8**
baz=102
POLO Lamas de Olo 102.44 328 *e*Pdif Pdif 22 49 12.0 +11
POLO Lamas de Olo 102.44 328 *e*PP PP 22 53 20.6 +7.7
Q31A Ellis 102.46 36 ⇑Pdiff **Pdif** **22 49 01.5 +0.4**
baz=102
Y24A Capitan 102.49 43 ⇑Pdiff **Pdif** **22 49 01.9 +0.4**
baz=102
R30A Dighton 102.50 37 ⇓Pdiff **Pdif** **22 49 01.7 +0.4**
baz=102
S29A Ulysses 102.51 38 ⇑Pdiff **Pdif** **22 49 01.8 +0.3**
baz=102
X25A Clemmons Ranch 102.57 42 ⇓Pdiff **Pdif** **22 49 02.3 +0.4**
baz=102
222A Williams Famil 102.62 46 ⇓Pdiff **Pdif** **22 49 02.6 +0.5**
baz=102
W26A Owens Ranch, T 102.73 41 ⇓Pdiff **Pdif** **22 49 03.4 +0.8**
baz=103
T29A Hugoton 102.74 38 ⇓Pdiff **Pdif** **22 49 02.5 +0.1**
baz=102
U28A Mallet 102.75 40 ⇑Pdiff **Pdif** **22 49 03.1 +0.6**
baz=103
123A Bell Site, Whi 102.82 45 ⇑Pdiff **Pdif** **22 49 03.3 +0.3**
baz=103
V27A Dan Oppiter Fa 102.83 40 ⇑Pdiff **Pdif** **22 49 03.5 +0.6**
baz=103
S30A Montezuma 102.86 38 ⇓Pdiff **Pdif** **22 49 02.8 -0.2**
baz=103
R31A Burdett 102.91 37 ⇓Pdiff **Pdif** **22 49 03.1 0.0**
baz=103
Z24A Sheeppen Canyo 102.93 44 ⇑Pdiff **Pdif** **22 49 04.0 +0.5**
baz=103
Y25A Mesa, Roswell 102.95 43 ⇓Pdiff **Pdif** **22 49 04.2 +0.7**
baz=103
MTE Manteigas 103.05 327 *e*PP PP 22 53 21.2 +3.7
MTE Manteigas 103.05 327 PFAKE 22 49 10.0 +6.2
MTE LR LR
comp=Z,4µm,19.0s
X26A CR and CF Fran 103.07 42 ⇑Pdiff **Pdif** **22 49 05.0 +0.9**
baz=103
223A Chaparral, Ant 103.12 45 ⇑Pdiff **Pdif** **22 49 05.2 +0.8**
baz=103
W27A Bowe Ranch, En 103.17 41 ⇑Pdiff **Pdif** **22 49 05.7 +1.2**
baz=103
V28A Channing 103.19 40 ⇑Pdiff **Pdif** **22 49 04.9 +0.4**
baz=103
T30A Plains 103.25 38 ⇓Pdiff **Pdif** **22 49 04.1 -0.6**
baz=103
U29A Oasis Ranch, S 103.25 39 ⇑Pdiff **Pdif** **22 49 04.2 -0.6**
baz=103
124A Stringfield Ra 103.29 44 ⇓Pdiff **Pdif** **22 49 05.0 -0.2**
baz=103
SCIA State Center 103.34 30 PFAKE 22 49 20.0 +15
SCIA LR LR
comp=Z,668nm,20.0s
Z25A Roswell 103.37 43 ⇓Pdiff **Pdif** **22 49 05.3 -0.1**
baz=103
S31A Mullinville 103.42 37 ⇓Pdiff **Pdif** **22 49 04.9 -0.6**
baz=103
X27A F and S Farms, 103.44 41 ⇓Pdiff **Pdif** **22 49 05.8 +0.1**
baz=103
Y26A Elida 103.49 42 ⇓Pdiff **Pdif** **22 49 05.9 0.0**
baz=103
V29A Stinnett 103.51 40 ⇓Pdiff **Pdif** **22 49 05.9 -0.1**
baz=103
W28A Vega 103.54 40 ⇓Pdiff **Pdif** **22 49 06.3 +0.2**
baz=103
U30A WK&E Inc. Balk 103.55 39 ⇓Pdiff **Pdif** **22 49 05.7 -0.3**
baz=103
224A Cornudas Mount 103.66 45 ⇑Pdiff **Pdif** **22 49 07.3 +0.5**
baz=104
T31A Randall Ranch, 103.69 38 ⇓Pdiff **Pdif** **22 49 06.7 +0.1**
baz=104
PMRV Marv??o 103.71 326 *e*Pdif **Pdif** **22 49 07.9 +1.2**
PMRV Marv??o 103.71 326 *e*PP PP 22 53 25.9 +3.5
125A Gardner Draw, 103.82 44 ⇓Pdiff **Pdif** **22 49 08.0 +0.6**
baz=104
Z26A Caprock 103.83 43 ⇓Pdiff **Pdif** **22 49 07.6 +0.2**
baz=104
JFWS Jewell Farm 103.85 28 PFAKE 22 49 20.0 +13
JFWS LR LR
comp=Z,649nm,19.0s
KSU1 Kansas State U 103.85 34 PFAKE 22 49 20.0 +13
KSU1 LR LR
comp=Z,667nm,21.0s
Y27A Causey 103.92 42 ⇑Pdiff **Pdif** **22 49 07.8 0.0**
baz=104
MAW Mawson 103.93 201 Pdif **Pdif** **22 49 06.1 -0.5**
MAW PKKPbc **PKKPbc** **23 04 56.1 -2.9**
MAW Mawson 103.93 201 Pdiff **Pdif** **22 49 06.1 -0.5**
comp=Z,5.9nm,1.2s,baz=82,slow=5.2,SNR=4.3
MAW PKKPbc **PKKPbc** **23 04 56.1 -2.9**
comp=Z,9.6nm,1.1s,baz=221,slow=20,SNR=10.0
W29A Amraillo 103.97 40 ⇓Pdiff **Pdif** **22 49 08.3 +0.3**
baz=104
MNTX Cornudas Mount 103.99 45 PFAKE 22 49 20.0 +12
MNTX LR LR
comp=Z,582nm,19.0s
X28A Dimmitt 104.06 41 ⇑Pdiff **Pdif** **22 49 08.3 -0.1**
baz=104
V30A Spur Ranch, Mi 104.07 39 ⇑Pdiff **Pdif** **22 49 08.9 +0.4**
baz=104
225A Deer Hill, Car 104.08 44 ⇓Pdiff **Pdif** **22 49 09.7 +1.0**
baz=104
MSTX Muleshoe 104.09 42 ⇓Pdiff **Pdif** **22 49 08.8 +0.2**
baz=104
324A Moseley Ranch, 104.10 45 ⇓Pdiff **Pdif** **22 49 08.5 -0.3**
baz=104
U31A Nine Bar Ranch 104.11 38 ⇑Pdiff **Pdif** **22 49 09.2 +0.6**
baz=104
VNDA Vanda 104.13 173 Pdif **Pdif** **22 49 08.6 +1.2**
VNDA PKiKP **PKiKP** **22 53 24.7 +0.5**
VNDA PKKPbc **PKKPbc** **23 04 55.8 -2.8**
VNDA Vanda 104.13 173 Pdiff **Pdif** **22 49 08.6 +1.2**
comp=Z,0.7nm,0.9s,baz=310,slow=6.7,SNR=3.1
VNDA PKiKP **PKiKP** **22 53 24.7 +0.5**
comp=Z,3.7nm,1.1s,baz=284,slow=2.2,SNR=7.6
VNDA PKKPbc **PKKPbc** **23 04 55.8 -2.8**
comp=Z,3.1nm,1.1s,baz=182,slow=1.8,SNR=4.9
126A Clayton Basin, 104.22 43 ⇓Pdiff **Pdif** **22 49 08.7 -0.5**
baz=104
PESTR Estremoz 104.24 326 *e*PP PP 22 53 27.1 +0.8
Z27A Tatum 104.27 42 ⇓Pdiff **Pdif** **22 49 09.3 -0.1**
baz=104
PMTG Montargil 104.41 326 *e*Pdif **Pdif** **22 49 10.0 +0.3**
X29A Tulia 104.41 41 ⇓Pdiff **Pdif** **22 49 09.7 -0.2**
baz=104
Y28A McKinney Farm, 104.45 41 ⇑Pdiff **Pdif** **22 49 10.2 0.0**
baz=104
GLMI Grayling 104.46 23 PFAKE 22 49 20.0 +10
GLMI LR LR
comp=Z,733nm,20.0s
325A Bean Ranch, Si 104.47 45 ⇓Pdiff **Pdif** **22 49 10.4 0.0**
baz=104
PBAR Barrancos 104.47 325 *e*PP PP 22 53 33.7 +5.6
226B Tecolote Peak, 104.52 44 ⇓Pdiff **Pdif** **22 49 10.4 -0.1**
baz=104
V31A Spring Creek L 104.55 39 ⇓Pdiff **Pdif** **22 49 09.9 -0.6**
baz=104
W30A Crocket Farms 104.55 39 ⇑Pdiff **Pdif** **22 49 10.2 -0.3**
baz=104
127A Arkansas Junct 104.62 43 ⇑Pdiff **Pdif** **22 49 11.4 +0.4**
baz=104
EVO Evora 104.70 326 *e*P **Pdif** **22 49 10.3 -0.8**
comp=Z,53nm,1.5s
EVO *e*R
comp=Z,3µm,21.2s
EVO Evora 104.70 326 *e*PP PP 22 53 33.1 +3.3
Z28A Tucker Farm, M 104.80 42 ⇓Pdiff **Pdif** **22 49 11.1 -0.6**
baz=105
Y29A Porterfield Fa 104.83 41 ⇓Pdiff **Pdif** **22 49 11.1 -0.8**
baz=105
425A Indio Mountain 104.85 45 ⇓Pdiff **Pdif** **22 49 11.0 -1.0**
baz=105
X30A Coker Ranch, T 104.89 40 ⇓Pdiff **Pdif** **22 49 10.2 -1.9**
baz=105
W31A Holland Ranch, 104.91 39 ⇑Pdiff **Pdif** **22 49 11.8 -0.3**
baz=105
SBA Scott Base 104.99 172 PFAKE 22 49 20.0 +8.8
SBA LR LR
comp=Z,801nm,22.0s
PMAFR Mafra 105.02 327 *e*PP PP 22 53 34.3 +2.2
LSZ Lusaka 105.10 260 *e*Pdif **Pdif** **22 49 12.6 -0.7**
LSZ LR LR
comp=Z,786nm,21.0s
227A Bennet, Jal 105.11 43 ⇓Pdiff **Pdif** **22 49 13.0 -0.1**
baz=105
LIS Lisbon 105.14 327 *e*PP PP 22 53 34.2 +1.2
LIS AMS AMS 23 44 43.0
comp=N,6µm,15.4s
LIS Lisbon 105.14 327 *e*PP PP 22 53 34.2 +1.2
326A Caldwell Ranch 105.14 44 ⇑PKiKP **PKiKP** **22 53 27.2 -0.6**
baz=105
128A Castleberry Fa 105.19 43 ⇓PKiKP **PKiKP** **22 53 28.0 +0.2**
baz=105
Z29A Hungry Hill Ra 105.23 42 ⇓PKiKP **PKiKP** **22 53 27.7 -0.2**
baz=105
Y30A Stafford Cattl 105.28 41 ⇑PKiKP **PKiKP** **22 53 28.0 +0.1**
baz=105
X31A McDonald Ranch 105.28 40 ⇓PKiKP **PKiKP** **22 53 27.9 +0.1**
baz=105
PNCL Nicolau / Gran 105.29 326 *e*Pdif **Pdif** **22 49 12.1 -1.5**
RKT Rikitea 105.31 109 *e*SKSac **SKSac** **22 59 47.8 -5.9**
comp=N,189nm,26.2s
RKT *e*SP **SP** **23 02 44.0 -5.1**
comp=N,312nm,31.2s
RKT *e*SS **SS** **23 08 26.6 -5.2**
comp=N,622nm,34.8s
RKT Rikitea 105.31 109 *e*LQ LQ 23 19 19.3
comp=N,1µm,34.0s
RKT *e*LR LR 23 23 59.0
comp=N,3µm,34.2s,baz=291
PCVE Castro Verde 105.40 325 *e*PP PP 22 53 36.1 +1.1
PVAQ Vaqueiros 105.41 325 *e*Pdif **Pdif** **22 49 07.4 -6.8**
327A Balmorhea Ranc 105.42 44 ⇓PKiKP **PKiKP** **22 53 28.0 -0.2**
baz=105
228A UT Block 9, Go 105.47 43 ⇓PKiKP **PKiKP** **22 53 28.3 -0.1**
baz=105
228A ⇓Sdiff **Sdif** **23 01 09.3 -1.1**
baz=105
228A ⇓Sdiff **Sdif** **23 01 09.3 -1.1**
baz=105
228A ⇓Sdiff **Sdif** **23 01 09.3 -1.1**
baz=105
426A McDonald Obser 105.54 45 ⇑PKiKP **PKiKP** **22 53 28.2 -0.5**
baz=105
Z30A Sanderson Ranc 105.56 41 ⇑PKiKP **PKiKP** **22 53 28.4 0.0**
baz=105
129A Stewart Farms, 105.56 42 ⇓PKiKP **PKiKP** **22 53 28.4 0.0**
baz=105
Y31A Rekieta Farm, 105.59 40 ⇓PKiKP **PKiKP** **22 53 28.3 -0.1**
baz=105
PBDV Barranco-do-Ve 105.64 325 *e*PP PP 22 53 41.5 +4.7
427A Hayter Ranch, 105.82 44 ⇓PKiKP **PKiKP** **22 53 29.1 0.0**
baz=106
328A Wristen Ranch, 105.84 44 ⇑PKiKP **PKiKP** **22 53 28.8 -0.2**
baz=106
WMOK Wichita Mounta 105.89 39 PFAKE 22 53 40.0
WMOK LR LR
comp=Z,592nm,20.0s
526A Mary Lane Ranc 105.91 45 ⇑PKiKP **PKiKP** **22 53 29.0 -0.3**
baz=106
MORF Marmelete 105.96 325 *e*PP PP 22 53 40.9 +1.7
Y32A R-V Farms, Ver 106.04 40 ⇓PKiKP **PKiKP** **22 53 28.9 -0.3**
baz=106
229A Bryant Ranch, 106.06 43 ⇓PKiKP **PKiKP** **22 53 29.1 -0.3**
baz=106
Z31A Sharp Cattle R 106.12 41 ⇑PKiKP **PKiKP** **22 53 29.2 -0.2**
baz=106
130A Snyder 106.14 42 ⇓PKiKP **PKiKP** **22 53 29.0 -0.5**
baz=106
527A Woodward Ranch 106.16 45 ⇑PKiKP **PKiKP** **22 53 28.9 -0.8**
baz=106
HDIL Hopedale 106.18 29 PFAKE 22 53 40.0
HDIL LR LR
comp=Z,9µm,19.0s
PFVI Vila Bisbo 106.19 325 *e*PP PP 22 53 40.3 -0.5
626A Big Bend Ranch 106.21 46 ⇑PKiKP **PKiKP** **22 53 29.0 -0.8**
baz=106
329A Wagon Wheel Ra 106.28 43 ⇑PKiKP **PKiKP** **22 53 29.0 -0.8**
baz=106
131A Roby 106.43 41 ⇓PKiKP **PKiKP** **22 53 29.5 -0.5**
baz=106
Z32A Haskell 106.52 40 ⇑PKiKP **PKiKP** **22 53 29.4 -0.7**
baz=106
230A Sterling City 106.54 42 ⇑PKiKP **PKiKP** **22 53 30.0 -0.3**
baz=106
TXAR Lajitas Array 106.66 46 Pdif **Pdif** **22 49 20.6 +0.5**
TXAR PKiKP **PKiKP** **22 53 30.4 -0.2**
TXAR PP **PP** **22 53 41.0 -3.8**
TXAR Lajitas Array 106.66 46 Pdiff **Pdif** **22 49 20.6 +0.5**
comp=Z,3.5nm,1.0s,baz=301,slow=2.6,SNR=12
TXAR PKiKP **PKiKP** **22 53 30.4 -0.2**
comp=Z,4.1nm,1.2s,baz=318,slow=1.7,SNR=5.3
TXAR PP **PP** **22 53 41.0 -3.8**
comp=Z,2.0nm,0.9s,baz=309,slow=6.0,SNR=7.1
TUL1 Tulsa 106.67 36 ⇑PKiKP **PKiKP** **22 53 30.2 -0.2**
baz=106
528A Cox Ranch, San 106.67 45 ⇓PKiKP **PKiKP** **22 53 30.0 -0.7**
baz=106
627A Terlingua Ranc 106.77 45 ⇑PKiKP **PKiKP** **22 53 30.4 -0.4**
baz=107
330A Mertzon 106.83 43 ⇓PKiKP **PKiKP** **22 53 30.1 -0.7**
baz=107
TAM Tamanrasset 106.87 306 PFAKE 22 53 40.0
TAM LR LR
comp=Z,840nm,19.0s
ABTX Abilene, Hawle 106.91 41 ⇓PKiKP **PKiKP** **22 53 30.6 -0.2**
baz=107
429A Davenport Ranc 106.93 44 ⇓PKiKP **PKiKP** **22 53 30.4 -0.6**
baz=107
231A Bronte 106.99 42 ⇓PKiKP **PKiKP** **22 53 30.2 -0.9**
baz=107
MDT Midelt 107.05 320 PP PP 22 53 39.6 -7.8
MDT Midelt 107.05 320 PP PP 22 53 39.6 -7.8
comp=Z,7.7nm,1.1s,baz=63,slow=9.2,SNR=5.3
529A Stev Forest Ra 107.06 44 ⇑PKiKP **PKiKP** **22 53 30.7 -0.6**
baz=107
628A Black Gap, Mar 107.07 45 ⇑PKiKP **PKiKP** **22 53 30.5 -0.8**
baz=107
430A Baggett Ranch, 107.22 43 ⇓PKiKP **PKiKP** **22 53 31.0 -0.6**
baz=107
SFIN Scholer Farm 107.27 27 ⇓PKiKP **PKiKP** **22 53 31.1 -0.2**
baz=107
331A San Angelo 107.36 42 ⇓PKiKP **PKiKP** **22 53 31.1 -0.7**
baz=107
232A Coleman 107.42 41 ⇓PKiKP **PKiKP** **22 53 31.5 -0.4**
baz=107
RTC Rabat Centre 107.48 322 PFAKE 22 53 40.0
RTC LR LR
comp=Z,2µm,21.0s
530A J-C Ranch, Com 107.60 44 ⇑PKiKP **PKiKP** **22 53 31.8 -0.4**
baz=107
431A Sonora 107.69 43 ⇑PKiKP **PKiKP** **22 53 32.0 -0.4**
baz=108
332A Millersview 107.72 42 ⇓PKiKP **PKiKP** **22 53 32.3 -0.1**
baz=108
LONY Lake Ozonia 107.79 17 PFAKE 22 53 40.0
LONY LR LR
comp=Z,908nm,19.0s
432A Menard 108.05 42 ⇑PKiKP **PKiKP** **22 53 33.0 0.0**
baz=108
531A Rocksprings 108.08 43 ⇓PKiKP **PKiKP** **22 53 31.8 -1.4**
baz=108
JCT Junction City 108.32 42 PFAKE 22 53 40.0
JCT LR LR
comp=Z,582nm,19.0s
JCT Junction City 108.32 42 ⇑PKiKP **PKiKP** **22 53 32.9 -0.7**
baz=108
NCB Newcomb 108.49 17 PFAKE 22 53 40.0
NCB LR LR
comp=Z,950nm,20.0s
532A Rocksprings 108.51 43 ⇓PKiKP **PKiKP** **22 53 33.8 -0.2**
baz=108
BLO Bloomington 108.52 28 *e*P **Pdif** **22 49 28.5 +0.5**
BLO Bloomington 108.52 28 *e*Pdif **Pdif** **22 49 28.5 +0.5**
631A Perdido Creek 108.59 44 ⇓PKiKP **PKiKP** **22 53 33.4 -0.7**
baz=108
WHTX Lake Whitney 108.64 40 ⇑PKiKP **PKiKP** **22 53 33.7 -0.3**
baz=108
LBNH Lisbon 108.81 15 PFAKE 22 53 40.0
LBNH LR LR
comp=Z,881nm,19.0s
MIAR Mount Ida 108.89 35 PFAKE 22 53 50.0
MIAR LR LR
comp=Z,675nm,21.0s
632A Uvalde 109.01 43 ⇑PKiKP **PKiKP** **22 53 35.1 +0.2**
baz=109
ACSO Alum Creek Sta 109.04 25 PFAKE 22 53 50.0
ACSO LR LR
comp=Z,836nm,19.0s
732A Laxson Ranch, 109.44 44 ⇑PKiKP **PKiKP** **22 53 35.3 -0.4**
baz=109
BINY Binghamton 109.64 19 PFAKE 22 53 50.0
BINY LR LR
comp=Z,1µm,22.0s
KVTX Kingsville 111.57 43 PFAKE 22 53 50.0
KVTX LR LR
comp=Z,1µm,19.0s
BOSA Boshof 112.15 248 PKiKP **PKiKP** **22 53 41.1 +0.3**
BOSA Boshof 112.15 248 PKiKP **PKiKP** **22 53 41.1 +0.3**
comp=Z,3.1nm,1.0s,baz=124,slow=3.6,SNR=4.1
VBMS Vicksburg 112.30 35 PFAKE 22 53 50.0
VBMS LR LR
comp=Z,639nm,20.0s
PGRA Graciosa 112.60 340 *e*PP PP 22 54 18.8 -8.1
PGRA Graciosa 112.60 340 *e*LR LR 23 29 01.9
comp=Z,102nm,13.9s
BLA Blacksburg 112.65 24 PFAKE 22 53 50.0
BLA LR LR
comp=Z,731nm,19.0s
CBN Corbin 112.84 22 PFAKE 22 53 50.0
CBN LR LR
comp=Z,1µm,20.0s
MSKU Masuku 112.86 279 PFAKE 22 53 50.0
MSKU LR LR
comp=Z,2.0nm,21.0s
CMLA Cha da Macela 112.94 338 *e*PP PP 22 54 29.8 +0.4
CMLA Cha da Macela 112.94 338 *e*LR LR 23 29 09.2
comp=Z,61nm,15.4s
CMLA Cha da Macela 112.94 338 PFAKE 22 53 50.0
CMLA LR LR
comp=Z,6µm,20.0s
PSET Sete Cidades 112.95 338 *e*PP PP 22 54 31.0 +1.5
ROSA Rosais 112.96 340 *e*PP PP 22 54 37.1 +7.6
ROSA Rosais 112.96 340 *e*LR LR 23 29 41.3
comp=Z,297nm,11.8s
PMPST Porto Santo, M 113.14 328 *e*PP PP 22 54 34.1 +3.0
LRAL Lakeview Retre 113.40 32 PFAKE 22 53 50.0
LRAL LR LR
comp=Z,735nm,19.0s
PSMN Pico do Norte, 113.46 337 *e*PP PP 22 54 31.0 -2.1
KMSC Kings Mountain 114.11 26 ⇑PKiKP **PKiKP** **22 53 43.9 -0.5**
baz=114
QSPA South Pole Qui 114.67 180 PKKPbc PKKPbc 23 04 22.1 -2.9
QSPA LR LR
comp=Z,821nm,20.0s
QSPA South Pole Qui 114.67 180 PKKPbc PKKPbc 23 04 22.0 -2.9
comp=Z,4.0nm,1.1s,baz=77,slow=0.3,SNR=4.5
BRAL Brewton 115.02 33 PFAKE 22 54 00.0 +14
BRAL LR LR
comp=Z,620nm,19.0s
TORD Torodi Ar. Bea 115.51 300 PKP **PKPdf** **22 53 46.9 -0.7**
TORD PP PP 22 54 42.5 -6.4
TORD PKKPbc **PKKPbc** **23 04 15.9 -4.2**
TORD Torodi Ar. Bea 115.51 300 PKP **PKPdf** **22 53 46.9 -0.7**
comp=Z,8.1nm,0.9s,baz=44,slow=1.5,SNR=57
TORD PP PP 22 54 42.5 -6.4
comp=Z,3.1nm,0.8s,baz=75,slow=3.1,SNR=5.1
TORD PKKPbc **PKKPbc** **23 04 15.9 -4.2**
comp=Z,0.6nm,0.9s,baz=240,slow=5.8,SNR=2.8
TSUM Tsumeb 115.96 260 PKKPbc PKKPbc 23 04 18.9 +0.2
TSUM LR LR
comp=Z,704nm,19.0s
TSUM Tsumeb 115.96 260 PKKPbc PKKPbc 23 04 18.9 +0.2
comp=Z,0.8nm,0.3s,baz=232,slow=2.0,SNR=2.0
TIGA Tifton 116.32 30 ⇑PKiKP **PKiKP** **22 53 48.6 -0.1**
baz=116
NHSC New Hope 116.35 26 PFAKE 22 54 00.0 +11
NHSC LR LR
comp=Z,2µm,19.0s
SUR Sutherland 116.84 245 PFAKE 22 54 00.0 +10
SUR LR LR
comp=Z,1µm,19.0s
BBSR BB Station 121.77 13 PFAKE 22 54 10.0 +11
BBSR LR LR
comp=Z,597nm,19.0s
TEIG Tepich 122.88 42 *e*PKPdf **PKPdf** **22 54 01.6 0.0**
TEIG LR LR
comp=Z,634nm,19.0s
DBIC Dimbokro 124.51 298 PKP **PKPdf** **22 54 05.0 +0.1**
DBIC PP **PP** **22 55 49.4 -1.4**
DBIC Dimbokro 124.51 298 PKP **PKPdf** **22 54 05.0 +0.1**
comp=Z,16nm,0.8s,baz=132,slow=1.0,SNR=21
DBIC PP **PP** **22 55 49.4 -1.4**
comp=Z,3.1nm,0.7s,baz=70,slow=8.9,SNR=4.1
LIC Lamto 124.91 298 *e*PKiKP **PKPdf** **22 54 04.8 -0.9**
comp=Z,68nm,1.0s
LIC *e*R
comp=Z,2µm,21.2s
SNAA Sanae 125.82 197 *e*PKP **PKPdf** **22 54 05.5 -0.2**
SNAA Sanae 125.82 197 *e*PKPdf **PKPdf** **22 54 05.2 -0.6**
SNAA PP **PP** **22 55 56.8 -1.8**
SNAA *e*PP PP 22 55 58.2 -0.4
SNAA Sanae 125.82 197 PP PP 22 55 56.8 -1.8
comp=Z,1.2nm,1.1s,baz=159,slow=16,SNR=3.0
VNA1 Neumayer--Stat 127.85 197 *e*PKP **PKPdf** **22 54 10.3 +0.8**
TGUH Tegucigalpa,Un 128.14 46 PFAKE 22 54 20.0 +8.3
TGUH LR LR
comp=Z,569nm,20.0s
GTBY Guantanamo Bay 130.06 29 PFAKE 22 54 30.0 +15
GTBY LR LR
comp=Z,615nm,19.0s
GRTK Grand Turk 130.24 24 PFAKE 22 54 30.0 +14
GRTK LR LR
comp=Z,908nm,19.0s
SDDR Presa de Saban 132.48 25 PFAKE 22 54 30.0 +10
SDDR LR LR
comp=Z,1µm,22.0s
SJG San Juan 135.06 19 PFAKE 22 54 40.0 +15
SJG LR LR
comp=Z,415nm,20.0s
STVI Saint Thomas 135.18 18 *e*PKPdf **PKPdf** **22 54 24.9 -0.1**
MTP Monte Pirata 135.25 19 *e*PKPdf **PKPdf** **22 54 25.1 -0.1**
BCIP Isla Barro Col 136.55 42 PFAKE 22 54 40.0 +12
BCIP LR LR
comp=Z,697nm,19.0s
ANWB Willy Bob 136.62 14 PFAKE 22 54 40.0 +12
ANWB LR LR
comp=Z,573nm,20.0s
PMSA Palmer Station 139.34 172 PFAKE 22 54 40.0 +8.8
PMSA LR LR
comp=Z,526nm,20.0s
ASCN Ascension 140.43 289 PFAKE 22 54 50.0 +15
ASCN LR LR
comp=Z,951nm,21.0s
SDV Santo Domingo 141.78 31 *e*PKPpre PKPpre 22 54 33.0
SDV *e*PKPdf **PKPdf** **22 54 38.1 +0.6**
SDV *e*PP **PP** **22 57 42.6 +2.1**
GRGR Grenville 142.00 16 PFAKE 22 54 50.0 +12
GRGR LR LR
comp=Z,458nm,20.0s
ROSC El Rosal 143.26 39 PKPpre PKPpre 22 54 38.2

ROSC	**El Rosal**	**143.26**	**39**	PKhKP	PKPpre	22 54 38.2		
	comp=Z,53nm,1.3s,baz=297,slow=4.5,SNR=21							
OTAV	**Otavalo**	**144.16**	**50**	*e*PKPdf	**PKPab**	**22 54 39.4**	**-0.2**	
OTAV				*e*PP	**PP**	**22 57 56.2**	**+0.4**	
OTAV				LR	LR			
	comp=Z,558nm,19.0s							
USHA	**Ushuaia**	**147.68**	**162**	PKPbc	**PKPbc**	**22 54 49.7**	**+0.8**	
USHA	**Ushuaia**	**147.68**	**162**	PKPbc	**PKPbc**	**22 54 49.7**	**+0.8**	
	comp=Z,107nm,1.2s,baz=186,slow=3.6,SNR=14							
ATAH	**Atahualpa**	**149.12**	**60**	PKP	**PKPbc**	**22 54 52.4**	**-2.0**	
ATAH				PKPbc	**PKiKP**	**22 54 55.9**	**+0.2**	
ATAH	**Atahualpa**	**149.12**	**60**	PKP	**PKPbc**	**22 54 52.4**	**-2.0**	
	comp=Z,226nm,1.4s,baz=325,slow=4.0,SNR=14							
ATAH				PKPbc	**PKiKP**	**22 54 55.9**	**+0.2**	
	comp=Z,226nm,1.4s,baz=272,slow=3.0,SNR=31							
EFI	**East Falkland**	**152.84**	**172**	PFAKE		22 55 00.0	-1.4	
EFI				LR	LR			
	comp=Z,2μm,21.0s							
NNA	**Nana**	**153.14**	**66**	*e*PKPdf	**PKPdf**	**22 54 56.0**	**0.0**	
NNA				*e*PKPbc	**PKiKP**	**22 55 03.6**	**+0.1**	
NNA				*e*PKPab	**PKPab**	**22 55 14.6**	**-0.3**	
NNA				LR	LR			
	comp=Z,426nm,20.0s							
RCBR	**Riachuelo**	**155.62**	**318**	PKP	**PKPdf**	**22 54 59.2**	**-0.2**	
RCBR				PKPab	**PKPab**	**22 55 25.4**	**0.0**	
RCBR				LR	LR			
	comp=Z,1μm,21.0s							
RCBR	**Riachuelo**	**155.62**	**318**	PKP	**PKPdf**	**22 54 59.2**	**-0.2**	
	comp=Z,17nm,1.1s,baz=90,slow=9.1,SNR=2.8							
RCBR				PKPab	**PKPab**	**22 55 25.4**	**0.0**	
	comp=Z,34nm,1.1s,baz=47,slow=9.5,SNR=4.7							
PLCA	**Paso Flores**	**157.81**	**140**	PKP	**PKPdf**	**22 55 02.2**	**+0.7**	
PLCA				PKPab	**PKPab**	**22 55 35.1**	**+1.0**	
PLCA	**Paso Flores**	**157.81**	**140**	PKP	**PKPdf**	**22 55 02.2**	**+0.7**	
	comp=Z,4.2nm,0.9s,baz=227,slow=22,SNR=5.0							
PLCA				PKPab	**PKPab**	**22 55 35.1**	**+1.0**	
	comp=Z,10nm,1.0s,baz=219,slow=3.8,SNR=6.5							
SAML	**Samuel**	**160.84**	**36**	*e*PKPdf	**PKPdf**	**22 55 05.9**	**+0.2**	
SAML				*e*PKPab	**PKPab**	**22 55 46.5**	**-1.3**	
SAML				*e*PP	**PP**	**22 59 30.0**	**+0.4**	
SAML				LR	LR			
	comp=Z,927nm,19.0s							
LPAZ	**La Paz**	**162.57**	**64**	PKP	**PKPdf**	**22 55 09.2**	**+1.0**	
LPAZ				PKPab	**PKPab**	**22 55 55.4**	**-0.9**	
LPAZ	**La Paz**	**162.57**	**64**	PKP	**PKPdf**	**22 55 09.2**	**+1.0**	
	comp=Z,20nm,1.2s,baz=353,slow=2.8,SNR=38							
LPAZ				PKPab	**PKPab**	**22 55 55.4**	**-0.9**	
	comp=Z,17nm,1.2s,baz=346,slow=6.9,SNR=7.7							
CFAA	**Coronel Fontan**	**164.12**	**119**	PKP	**PKPdf**	**22 55 08.4**	**-0.2**	
CFAA				PKPab	**PKPab**	**22 56 03.0**	**+0.9**	
CFAA	**Coronel Fontan**	**164.12**	**119**	PKP	**PKPdf**	**22 55 08.4**	**-0.2**	
	comp=Z,2.4nm,1.2s,baz=239,slow=1.6,SNR=11							
CFAA				PKPab	**PKPab**	**22 56 03.0**	**+0.9**	
	comp=Z,0.8nm,0.8s,baz=257,slow=3.7,SNR=5.0							
LVC	**Limon Verde**	**164.25**	**85**	PKP	**PKPdf**	**22 55 10.1**	**+0.9**	
LVC				PKPab	**PKPab**	**22 56 04.5**	**+1.3**	
LVC	**Limon Verde**	**164.25**	**85**	PKP	**PKPdf**	**22 55 10.1**	**+0.9**	
	comp=Z,19nm,1.3s,baz=257,slow=2.2,SNR=4.9							
LVC				PKPab	**PKPab**	**22 56 04.5**	**+1.3**	
	comp=Z,15nm,1.1s,baz=288,slow=4.8,SNR=5.2							
TRQA	**Tornquist**	**164.31**	**149**	PFAKE		22 55 20.0	+12	
TRQA				LR	LR			
	comp=Z,1μm,20.0s							
SIV	**San Ignacio**	**167.66**	**46**	PKP	**PKPdf**	**22 55 12.2**	**+0.5**	
SIV				PKPab	**PKPab**	**22 56 17.0**	**-0.9**	
SIV				PP	**PP**	**23 00 04.2**	**-1.6**	
SIV	**San Ignacio**	**167.66**	**46**	PKP	**PKPdf**	**22 55 12.2**	**+0.5**	
	comp=Z,20nm,1.1s,baz=247,slow=1.4,SNR=43							
SIV				PKPab	**PKPab**	**22 56 17.0**	**-0.9**	
	comp=Z,14nm,1.1s,baz=320,slow=4.5,SNR=6.9							
SIV				PP	**PP**	**23 00 04.2**	**-1.6**	
	comp=Z,13nm,1.3s,baz=282,slow=6.9,SNR=5.8							
BDFB	**Brasilia**	**170.11**	**338**	PKP	**PKPdf**	**22 55 13.3**	**-0.2**	
BDFB				PKPab	**PKPab**	**22 56 27.9**	**-0.7**	
BDFB	**Brasilia**	**170.11**	**338**	PKP	**PKPdf**	**22 55 13.3**	**-0.2**	
	comp=Z,18nm,1.1s,baz=6.1,slow=4.2,SNR=11							
BDFB				PKPab	**PKPab**	**22 56 27.9**	**-0.7**	
	comp=Z,22nm,1.1s,baz=360,slow=5.5,SNR=9.3							
CPUP	**Villa Florida**	**174.88**	**108**	PKP	**PKPdf**	**22 55 15.2**	**+0.1**	
CPUP				PKPab	**PKPab**	**22 56 50.9**	**+1.0**	
CPUP	**Villa Florida**	**174.88**	**108**	PKP	**PKPdf**	**22 55 15.2**	**+0.1**	
	comp=Z,25nm,1.3s,baz=295,slow=0.6,SNR=10.0							
CPUP				PKPab	**PKPab**	**22 56 50.9**	**+1.0**	
	comp=Z,9.7nm,1.1s,baz=258,slow=5.8,SNR=6.7							

IDC 06 23:05:11.8±0.7, 11°35N×143°09E, h0km, mb4.0/17, mb1 4.1/17, mb1mx4.0/27, mbtmp4.0/17, Error ellipse: s-maj=25.8km s-min=16.7km az=90.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.27**	**196**	P	P	23 11 42.3	-0.1
	0.4nm,0.7s,baz=20,slow=9.3,SNR=3.2						
FITZ	**Fitzroy Crossi**	**33.96**	**211**	P	P	23 11 56.6	-0.6
	1.5nm,0.8s,baz=16,slow=7.4,SNR=1.7						
ASAR	**Alice Springs**	**35.94**	**194**	P	P	23 12 13.7	-0.7
	0.2nm,0.5s,baz=24,slow=11,SNR=3.5						
STKA	**Stephens Creek**	**43.01**	**182**	P	P	23 13 12.9	-0.2
	1.5nm,0.8s,baz=30,slow=8.1,SNR=3.3						
CMAR	**Chiang Mai Arr**	**43.15**	**285**	P	P	23 13 15.5	+0.9
	3.5nm,0.8s,baz=86,slow=6.6,SNR=22						
PETK	**Petropavlovsk-**	**43.27**	**13**	P	P	23 13 13.4	-1.6
	0.9nm,0.6s,baz=166,slow=8.6,SNR=2.2						
SONM	**Songino Array**	**47.60**	**327**	P	P	23 13 49.3	-0.3
	0.3nm,0.3s,baz=141,slow=7.1,SNR=2.8						
MKAR	**Makanchi Array**	**61.91**	**317**	P	P	23 15 33.8	+0.4
	1.0nm,0.6s,baz=94,slow=7.7,SNR=8.5						
ZALV	**Zalesovo Beam**	**62.44**	**325**	P	P	23 15 36.5	-0.2
	0.9nm,0.5s,baz=114,slow=7.7,SNR=4.0						
KURBB	**Kurchatov Arra**	**65.22**	**321**	P	P	23 15 55.5	+0.4
	2.0nm,0.5s,baz=106,slow=6.6,SNR=17						
BVAR	**Borovoye Array**	**70.61**	**322**	P	P	23 16 29.4	+0.4
	3.8nm,0.5s,baz=103,slow=7.3,SNR=25						
ILAR	**Eielson Array**	**71.32**	**25**	P	P	23 16 34.0	+0.8
	0.3nm,0.4s,baz=245,slow=5.2,SNR=5.0						
AKTO	**Aktyubinsk**	**78.22**	**319**	P	P	23 17 12.0	-1.4
	0.6nm,0.5s,baz=84,slow=9.1,SNR=4.5						
YKA	**Yellowknife Ar**	**85.63**	**27**	P	P	23 17 50.3	-1.8
	0.3nm,0.5s,baz=276,slow=8.7,SNR=2.3						
ARCES	**ARCESS Array B**	**88.66**	**342**	P	P	23 18 05.5	-1.2
	1.5nm,0.8s,baz=72,slow=8.1,SNR=6.6						
NVAR	**Mina Array Bea**	**89.67**	**51**	P	P	23 18 14.3	+1.9
	1.5nm,0.7s,baz=268,slow=5.9,SNR=8.6						
FINES	**FINESS Array B**	**92.44**	**335**	P	P	23 18 24.4	-0.1
	1.0nm,0.6s,baz=46,slow=5.8,SNR=8.3						
LPAZ	**La Paz**	**149.31**	**103**	PKPbc	PKPbc	23 25 04.5	+0.1
	0.4nm,0.5s,baz=180,slow=2.0,SNR=2.6						

*LDG **06** 23:09:32.9±0.1, 42°.59N×13°.16E, h2km, Ml2.8/5, Error ellipse: s-maj=4.2km s-min=3.0km az=71.0*
*ISCJB **06** 23:09:33.7±0.2, 42°.55N±0°.02×13°.15E±0°.03, h16km±4km, Error ellipse: s-maj=3.5km s-min=2.8km az=145.1*
*CSEM **06** 23:09:33.4±0.1, 42°.56N×13°.18E, h12km, ML3.5/8, Error ellipse: s-maj=2.9km s-min=2.0km az=61.0*
*ROM **06** 23:09:33.5±0.1, 42°.56N×13°.19E, h10km, Ml3.0/32, Error ellipse: s-maj=1.3km s-min=0.8km az=56.0*

ISC 06 23:09:32.5±0.9, 42°59N±0°02×13°22E±0°02, h23km±5km, n102, σ1§29/123, 1C, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.13**	**275**	Pg	**Pb**	**23 09 36.9**	**-0.4**
LNSS				Sg	**Sb**	**23 09 39.3**	**-1.3**
	12μm,0.3s						
LNSS	**Leonessa**	**0.13**	**275**	Pg	**Pb**	**23 09 36.9**	**-0.4**
LNSS				Sg	**Sb**	**23 09 39.3**	**-1.3**
	12μm,0.3s						
NRCA	**Norcia**	**0.25**	**342**	Pg	**Pb**	**23 09 39.4**	**+0.6**
NRCA				Sg	**Sb**	**23 09 43.7**	**+0.6**
	3μm,0.1s						
NRCA	**Norcia**	**0.25**	**342**	Pg	**Pb**	**23 09 39.4**	**+0.6**
NRCA				Sg	**Sb**	**23 09 43.7**	**+0.6**
	3μm,0.1s						
GAVE	**Gavelli**	**0.26**	**293**	Pg	**Pb**	**23 09 39.2**	**+0.3**
GAVE	**Gavelli**	**0.26**	**293**	Pg	**Pb**	**23 09 39.2**	**+0.3**
AQU	**L'Aquila**	**0.27**	**150**	Pg	**Pb**	**23 09 39.3**	**+0.3**
AQU				Sg	**Sb**	**23 09 42.8**	**-0.7**
	2μm,0.5s						
AQU	**L'Aquila**	**0.27**	**150**	Pg	**Pb**	**23 09 39.3**	**+0.3**
AQU				Sg	**Sb**	**23 09 42.8**	**-0.7**
	2μm,0.5s						
TERO	**Teramo**	**0.29**	**84**	Pg	**Pb**	**23 09 39.8**	**+0.6**
TERO				Sg	**Sb**	**23 09 44.5**	**+0.7**
	2μm,0.5s						
TERO	**Teramo**	**0.29**	**84**	Pg	**Pb**	**23 09 39.8**	**+0.6**
TERO				Sg	**Sb**	**23 09 44.5**	**+0.7**
	2μm,0.5s						
FIAM	**Fiamignano**	**0.33**	**193**	Pg	**Pb**	**23 09 40.0**	**+0.1**
FIAM				Sg	**Sb**	**23 09 44.8**	**-0.2**
FIAM	**Fiamignano**	**0.33**	**193**	Pg	**Pb**	**23 09 40.0**	**+0.1**
FIAM				Sg	**Sb**	**23 09 44.8**	**-0.2**
MNS	**Montasola**	**0.45**	**243**	Pg	**Pb**	**23 09 42.0**	**+0.2**
	817nm,0.3s						
MNS	**Montasola**	**0.45**	**243**	Pg	**Pb**	**23 09 42.0**	**+0.2**
	817nm,0.3s						
FDMO	**Fiordimonte**	**0.46**	**348**	Pg	**Pb**	**23 09 42.9**	**+1.0**
FDMO				Sg	**Sn**	**23 09 50.2**	**-0.9**
	729nm,0.3s						
FDMO	**Fiordimonte**	**0.46**	**348**	Pg	**Pb**	**23 09 42.9**	**+1.0**
FDMO				Sg	**Sn**	**23 09 50.2**	**-0.9**
	729nm,0.3s						
CESX	**Cesi**	**0.47**	**272**	Pg	**Pb**	**23 09 42.5**	**+0.3**
CESX				Sg	**Sn**	**23 09 49.7**	**-1.7**
	786nm,0.3s						
CESX	**Cesi**	**0.47**	**272**	Pg	**Pb**	**23 09 42.5**	**+0.3**
CESX				Sg	**Sn**	**23 09 49.7**	**-1.7**
	786nm,0.3s						
CESI	**CESI - Serrava**	**0.47**	**331**	Pg	**Pn**	**23 09 43.2**	**-0.7**
CESI				Sg	**Sn**	**23 09 51.1**	**-0.5**
	482nm,0.4s						
CESI	**CESI - Serrava**	**0.47**	**331**	Pg	**Pn**	**23 09 43.2**	**-0.7**
CESI				Sg	**Sn**	**23 09 51.1**	**-0.5**
	482nm,0.4s						
OFFI	**Offida**	**0.49**	**45**	Pg	**Pn**	**23 09 44.6**	**+0.6**
	4μm,0.5s						
OFFI	**Offida**	**0.49**	**45**	Pg	**Pn**	**23 09 44.6**	**+0.6**
	4μm,0.5s						
VCEL	**Villa Celiera**	**0.50**	**113**	Pg	**Pb**	**23 09 43.8**	**+1.1**
VCEL				Sg	**Sn**	**23 09 52.3**	**+0.1**
	1μm,0.7s						
VCEL	**Villa Celiera**	**0.50**	**113**	Pg	**Pb**	**23 09 43.8**	**+1.1**
VCEL				Sg	**Sn**	**23 09 52.3**	**+0.1**
	1μm,0.7s						
TRTR	**Tortoreto Alta**	**0.56**	**67**	Pg	**Pn**	**23 09 46.0**	**+1.1**
TRTR	**Tortoreto Alta**	**0.56**	**67**	Pg	**Pn**	**23 09 46.0**	**+1.1**
PTQR	**Pietraquaria**	**0.58**	**167**	Pg	**Pn**	**23 09 44.1**	**0.0**
	47nm,0.3s						
PTQR	**Pietraquaria**	**0.58**	**167**	Pg	**Pb**	**23 09 44.1**	**0.0**
	47nm,0.3s						
ASSB	**Assisi San Ben**	**0.61**	**318**	Pg	**Pn**	**23 09 45.4**	**-0.4**
	827nm,0.5s						
ASSB	**Assisi San Ben**	**0.61**	**318**	Pg	**Pn**	**23 09 45.4**	**-0.4**
	827nm,0.5s						
CERT	**Cerreto**	**0.67**	**195**	Pg	**Pb**	**23 09 45.4**	**-0.1**
	851nm,0.4s						
CERT	**Cerreto**	**0.67**	**195**	Pg	**Pb**	**23 09 45.4**	**-0.1**
	851nm,0.4s						
MTCE	**Montecelio**	**0.67**	**212**	Pg	**Pb**	**23 09 45.4**	**-0.1**
	319nm,0.6s						
MTCE	**Montecelio**	**0.67**	**212**	Pg	**Pb**	**23 09 45.4**	**-0.1**
	319nm,0.6s						
SNTG	**Esanatoglia**	**0.69**	**343**	Pg	**Pn**	**23 09 47.1**	**+0.2**
	149nm,0.3s						
SNTG	**Esanatoglia**	**0.69**	**343**	Pg	**Pn**	**23 09 47.1**	**+0.2**
	149nm,0.3s						
GUMA	**Gualdo di Mace**	**0.71**	**48**	Pg	**Pb**	**23 09 43.9**	**-2.2**
GUMA				Sg	**Sb**	**23 09 52.4**	**-3.1**
	4μm,0.4s						
GUMA	**Gualdo di Mace**	**0.71**	**48**	Pg	**Pb**	**23 09 43.9**	**-2.2**
GUMA				Sg	**Sb**	**23 09 52.4**	**-3.1**
	4μm,0.4s						
INTR	**Introdacqua**	**0.77**	**139**	Pg	**Pb**	**23 09 47.9**	**+0.6**
	504nm,0.7s						
INTR	**Introdacqua**	**0.77**	**139**	Pg	**Pb**	**23 09 47.9**	**+0.6**
	504nm,0.7s						
VVLD	**Villa Vallelon**	**0.78**	**157**	Pg	**Pn**	**23 09 48.5**	**+0.4**
	233nm,0.5s						
VVLD	**Villa Vallelon**	**0.78**	**157**	Pg	**Pn**	**23 09 48.5**	**+0.4**
	233nm,0.5s						
CING	**Cingoli**	**0.78**	**359**	Pg	**Pn**	**23 09 48.9**	**+0.8**
	299nm,0.5s						
CING	**Cingoli**	**0.78**	**359**	Pg	**Pn**	**23 09 48.9**	**+0.8**
	299nm,0.5s						
GUAR	**Guarcino**	**0.80**	**175**	Pg	**Pn**	**23 09 48.8**	**+0.5**
	512nm,0.7s						
GUAR	**Guarcino**	**0.80**	**175**	Pg	**Pn**	**23 09 48.8**	**+0.5**
	512nm,0.7s						
MURB	**Monte Urbino**	**0.84**	**323**	Pg	**Pn**	**23 09 49.9**	**+0.9**
	958nm,0.3s						
MURB	**Monte Urbino**	**0.84**	**323**	Pg	**Pn**	**23 09 49.9**	**+0.9**
	958nm,0.3s						
MGAB	**Montegabbione**	**0.88**	**292**	Pg	**Pn**	**23 09 50.1**	**+0.7**
	670nm,0.5s						
MGAB	**Montegabbione**	**0.88**	**292**	Pg	**Pn**	**23 09 50.1**	**+0.7**
	670nm,0.5s						
LPEL	**Lama dei Pelig**	**0.90**	**127**	Pg	**Pn**	**23 09 50.2**	**+0.5**
	211nm,0.6s						
LPEL	**Lama dei Pelig**	**0.90**	**127**	Pg	**Pn**	**23 09 50.2**	**+0.5**
	211nm,0.6s						
RDP	**Rocca di Papa**	**0.91**	**204**	Pg	**Pn**	**23 09 49.9**	**0.0**
	820nm,0.5s						
RDP	**Rocca di Papa**	**0.91**	**204**	Pg	**Pn**	**23 09 49.9**	**0.0**
	820nm,0.5s						
ARVD	**Arcevia**	**0.93**	**347**	Pg	**Pn**	**23 09 51.2**	**+1.1**
	330nm,0.8s						
ARVD	**Arcevia**	**0.93**	**347**	Pg	**Pn**	**23 09 51.2**	**+1.1**
	330nm,0.8s						
POFI	**Posta Fibreno**	**0.95**	**157**	Pg	**Pn**	**23 09 51.2**	**+0.8**
	153nm,0.5s						
POFI	**Posta Fibreno**	**0.95**	**157**	Pg	**Pn**	**23 09 51.2**	**+0.8**
	153nm,0.5s						
SDI	**San Donato**	**0.98**	**153**	Pg	**Pn**	**23 09 52.0**	**+1.1**
	119nm,0.5s						
SDI	**San Donato**	**0.98**	**153**	Pg	**Pn**	**23 09 52.0**	**+1.1**
	119nm,0.5s						
AOI	**Ancona**	**1.00**	**16**	Pg	**Pn**	**23 09 53.1**	**+2.0**
	178nm,0.5s						
AOI	**Ancona**	**1.00**	**16**	Pg	**Pn**	**23 09 53.1**	**+2.0**
	178nm,0.5s						
SACS	**San Casciano d**	**1.00**	**285**	Pg	**Pn**	**23 09 52.4**	**+1.3**
	223nm,0.5s						
GIUL	**Giuliano Di Ro**	**1.03**	**179**	Pg	**Pn**	**23 09 52.9**	**+1.4**
	289nm,1.0s						
GIUL	**Giuliano Di Ro**	**1.03**	**179**	Pg	**Pn**	**23 09 52.9**	**+1.4**
	289nm,1.0s						
TOLF	**Tolfa**	**1.05**	**240**	Pg	**Pn**	**23 09 52.6**	**+0.9**
TOLF	**Tolfa**	**1.05**	**240**	Pg	**Pn**	**23 09 52.6**	**+0.9**
FSSB	**Fossombrone**	**1.15**	**344**	Pg	**Pn**	**23 09 55.4**	**+1.8**
	553nm,0.3s						
FSSB	**Fossombrone**	**1.15**	**344**	Pg	**Pn**	**23 09 55.4**	**+1.8**
	553nm,0.3s						
CAFI	**Castiglion Fio**	**1.18**	**309**	Pg	**Pb**	**23 09 56.2**	**+2.0**
	216nm,0.6s						
CAFI	**Castiglion Fio**	**1.18**	**309**	Pg	**Pb**	**23 09 56.2**	**+2.0**
	216nm,0.6s						
MIDA	**Miranda**	**1.22**	**141**	Pg	**Pb**	**23 09 55.8**	**+0.9**
	120nm,0.7s						
MIDA	**Miranda**	**1.22**	**141**	Pg	**Pb**	**23 09 55.8**	**+0.9**
	120nm,0.7s						
NVLJ	**Novalja**	**2.31**	**31**	*e*Pn	**Pb**	**23 10 12.7**	**-0.7**
NVLJ				Sn	**Sb**	**23 10 42.5**	**+1.1**
UDBI	**Udbina**	**2.68**	**43**	*e*Pn	**Pb**	**23 10 19.4**	**-0.4**
UDBI				Sn	**Sb**	**23 10 53.5**	**+1.3**
PGF	**Pioggiola**	**3.12**	**271**	*e*P	**Pn**	**23 10 22.3**	**+2.0**
PGF				*e*Sn	**Sn**	**23 10 56.4**	**-0.4**
	1.4nm,0.4s						
PGF	**Pioggiola**	**3.12**	**271**	*e*P	**Pn**	**23 10 22.3**	**+2.0**
PGF				*e*Sn	**Sn**	**23 10 56.4**	**-0.4**
	0.7nm,0.4s						
BOJS	**Bojanci**	**3.26**	**26**	*i* Pn	Pb	23 10 27.0	-2.6
BOJS				*i* Sn	**Sb**	**23 11 09.9**	**+1.1**
STON	**Ston**	**3.31**	**84**	*i* Pn	Pn	23 10 27.0	+4.2
STON				Sn	**Sb**	**23 11 07.3**	**-3.0**
JAVS	**Javornik**	**3.36**	**10**	*i* Pn	Pn	23 10 26.9	+3.4
JAVS				*i* Sn	**Sb**	**23 11 11.2**	**-0.6**
ABTA	**Abfaltersbach**	**4.19**	**353**	*i* Pn	Pn	23 10 39.2	+4.3
PERS	**Pernice**	**4.26**	**18**	*i* Pn	Pb	23 10 43.4	-3.4
PERS				*i* Sn	**Sb**	**23 11 34.2**	**-3.6**
FRF	**La Foret Royal**	**4.91**	**284**	*e*P	**Pn**	**23 10 46.8**	**+2.0**
FRF	**La Foret Royal**	**4.91**	**284**	*e*P	**Pn**	**23 10 46.8**	**+2.0**
LMR	**La Mourre**	**4.98**	**281**	*e*P	**Pn**	**23 10 47.6**	**+1.9**
LMR	**La Mourre**	**4.98**	**281**	*e*P	**Pn**	**23 10 47.6**	**+1.9**
MBDF	**Montbardon**	**5.14**	**297**	*e*P	Pn	23 10 51.5	+3.4
MBDF	**Montbardon**	**5.14**	**297**	*e*P	Pn	23 10 51.5	+3.4
LPG	**La Plagne**	**5.49**	**304**	*e*P	Pn	23 10 56.4	+3.3
LPG				*e*Sn	**Sn**	**23 11 54.5**	**-1.1**
	0.7nm,0.3s						
LPG	**La Plagne**	**5.49**	**304**	*e*P	Pn	23 10 56.4	+3.3
LPG				*e*Sn	**Sn**	**23 11 54.5**	**-1.1**
	0.3nm,0.3s						
LPL	**La Plagne**	**5.51**	**304**	*e*P	Pn	23 10 56.7	+3.4
LPL	**La Plagne**	**5.51**	**304**	*e*P	Pn	23 10 56.7	+3.4
KHC	**Kasperske Hory**	**6.54**	**2**	*e*PN	Pn	23 11 10.9	+3.6
KHC				*e*SN	**Sn**	**23 12 24.0**	**+2.8**
KHC	**Kasperske Hory**	**6.54**	**2**	Pn	Pn	23 11 10.9	+3.6
KHC				Sn	**Sn**	**23 12 24.0**	**+2.8**
HINF	**Hinteralfeld**	**6.89**	**321**	*e*P	Pn	23 11 15.4	+3.4
HINF				*e*Sn	**Sn**	**23 12 28.0**	**-1.7**
	2.6nm,0.5s						
HINF	**Hinteralfeld**	**6.89**	**321**	*e*P	Pn	23 11 15.4	+3.4
HINF				*e*Sn	**Sn**	**23 12 28.0**	**-1.7**
	1.3nm,0.5s						
CDF	**Champ du Feu**	**7.16**	**326**	*e*Pn	**Pn**	**23 11 16.1**	**+0.3**
CDF	**Champ du Feu**	**7.16**	**326**	*e*P	Pn	23 11 20.3	+4.5
CDF				*e*Sn	**Sn**	**23 12 33.7**	**-2.7**
	2.6nm,0.5s						
CDF	**Champ du Feu**	**7.16**	**326**	*e*Pn	**Pn**	**23 11 16.1**	**+0.3**
CDF	**Champ du Feu**	**7.16**	**326**	*e*P	Pn	23 11 20.3	+4.5
CDF				*e*Sn	**Sn**	**23 12 33.7**	**-2.7**
	1.3nm,0.5s						
HAU	**Haudompre**	**7.26**	**321**	*e*Pn	**Pn**	**23 11 17.3**	**+0.2**
HAU				*e*Sn	**Sn**	**23 12 36.6**	**-2.2**
	5.6nm,0.5s						
HAU	**Haudompre**	**7.26**	**321**	*e*Pn	**Pn**	**23 11 17.3**	**+0.2**
HAU				*e*Sn	**Sn**	**23 12 36.6**	**-2.2**
	2.8nm,0.5s						

*IDC **06** 23:14:30.2±0.8, 17°.70S×167°.28E, h0km, mb4.2/13, mb1 4.4/14, mb1mx4.3/22, mbtmp4.2/14, ML3.9/1, MS4.0/5, Ms1 4.0/5, ms1mx3.7/30, Error ellipse: s-maj=24.9km s-min=17.2km az=129.0*
*ISCJB **06** 23:14:31.7±0.5, 17°.69S±0°.04×167°.27E±0°.09, h19km, mb4.2/17, MS3.9/4, Error ellipse: s-maj=12.1km s-min=6.0km az=8.2*
*NOU **06** 23:14:34.0±0.4, 17°.83S×168°.51E, h30km, MD3.4, MS1.5*
*NEIC **06** 23:14:35.5±2.0, 17°.73S×167°.24E, h36km±18km, mb4.2/7, Error ellipse: s-maj=14.1km s-min=10.8km az=169.0*
*AUST **06** 23:15:36.5±2.7, 19°.58S×165°.69E, h580km, Error ellipse: s-maj=2.1km s-min=1.7km az=37.0*

ISC 06 23:14:33.0±0.6, 17.71S±0°.07×167°.4E±0°.1, h19km, n56, σ1§25/57, mb4.2/17, MS4.0/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.43**	**191**	Pn	**Pn**	**23 15 39.7**	**+0.3**
DZM				Sn	**Sn**	**23 16 29.5**	**-1.0**
DZM	**Mont Dzumac**	**4.43**	**191**	Pn	**Pn**	**23 15 39.7**	**+0.3**
	5.9nm,0.3s,baz=90,slow=24,SNR=54						
DZM				Sn	**Sn**	**23 16 29.5**	**-1.0**
	3.6nm,0.3s,baz=90,slow=20,SNR=2.2						
BAYA	**Yate Dam**	**4.45**	**186**	*e*P	**Pn**	**23 15 40.1**	**+0.6**
BAYA				*e*S	**Sn**	**23 16 28.5**	**-2.3**
NOUC	**Port Laguerre**	**4.49**	**193**	*e*P	**Pn**	**23 15 42.3**	**+2.3**
NOUC				*e*S	**Sn**	**23 16 32.9**	**+1.1**
NOUC				AMP		23 16 43.0	
	comp=Z,14nm,10.4s						
NORM	**Noumea**	**4.58**	**191**	*e*P	**Pn**	**23 15 42.5**	**+1.2**
HNR	**Honiara**	**10.95**	**318**	LR	LR	23 20 03.7	
	comp=Z,367nm,20.6s,baz=74,slow=31						
RMQ	**Roma**	**19.33**	**240**	P	**Pn**	**23 19 00.1**	**+1.7**
	baz=17,SNR=4.7						
CTA	**Charters Tower**	**20.13**	**260**	P	**P**	**23 19 05.8**	**-0.3**
CTA	**Charters Tower**	**20.13**	**260**	P	**P**	**23 19 05.8**	**-0.3**
	comp=Z,5.1nm,0.7s,baz=81,slow=12,SNR=6.5						
PMG	**Port Moresby**	**21.31**	**290**	LR	LR	23 24 49.0	
	comp=Z,332nm,19.5s,baz=222,slow=29						
MTSU	**Mount

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.90**	**268**	P	**Pn**	**23 15 48.6**	**+0.7**
JHCJ	**Hachijojimakas**	**0.91**	**266**	P	**Pn**	**23 15 48.7**	**+0.5**
JHCJ				*e*S	**Sn**	**23 15 59.3**	**-0.9**
JMY	**Miyakejima3**	**1.47**	**309**	P	**Pn**	**23 15 55.8**	**0.0**
BSO1	**Boso 1**	**1.51**	**3**	P	**Pn**	**23 15 54.7**	**-1.1**
BSO1				*e*S	**Sn**	**23 16 14.2**	**+0.2**
BSO2	**Boso 2**	**1.61**	**356**	*e*S	**Sn**	**23 16 18.3**	**+1.5**
BSO3	**Boso 3**	**1.68**	**349**	P	**Pn**	**23 15 58.4**	**-0.1**
BSO3				*e*S	**Sn**	**23 16 17.8**	**-0.9**
JKO	**Kozu shima**	**1.79**	**306**	P	**Pn**	**23 16 00.7**	**+0.5**
JKO				*e*S	**Sn**	**23 16 21.1**	**-0.6**
BSO4	**Boso 4**	**1.90**	**346**	P	**Pn**	**23 16 01.8**	**+0.3**
JIM2	**Oshima 3**	**1.98**	**323**	P	**Pn**	**23 16 02.8**	**0.0**
JIM2				*e*S	**Sn**	**23 16 26.3**	**-0.1**
JIZS	**Izushimoda**	**2.29**	**314**	P	**Pn**	**23 16 07.7**	**+0.7**
JIZS				*e*S	**Sn**	**23 16 33.3**	**-0.7**
JOD2	**Odawara 2**	**2.58**	**325**	P	**Pn**	**23 16 11.1**	**0.0**
JOD2				*e*S	**Sn**	**23 16 40.5**	**-0.8**
JYN	**Shimob**	**3.04**	**321**	P	**Pn**	**23 16 18.8**	**+1.4**
MJAR	**Matsushiro Arr**	**4.04**	**328**	P	**Pn**	**23 16 32.1**	**+1.1**
	3.0nm,0.3s,baz=160,slow=13,SNR=40						
MJAR				S	**Sn**	**23 17 19.0**	**+1.8**
	0.8nm,0.3s,baz=200,slow=27,SNR=5.7						
MAT	**Matsushiro**	**4.04**	**328**	P	**Pn**	**23 16 32.7**	**+1.6**
MAT				S	**Sn**	**23 17 14.0**	**-3.2**
MKAR	**Makanchi Array**	**45.91**	**305**	P	**P**	**23 23 49.5**	**-0.5**
	0.2nm,0.6s,baz=90,slow=9.7,SNR=2.3						
KURBB	**Kurchatov Arra**	**48.13**	**311**	P	**P**	**23 24 06.6**	**-0.6**
	0.3nm,0.3s,baz=89,slow=7.0,SNR=5.2						
ILAR	**Eielson Array**	**53.03**	**31**	P	**P**	**23 24 44.9**	**+1.0**
	0.3nm,0.5s,baz=284,slow=7.3,SNR=3.5						
WRA	**Warramunga Arr**	**53.16**	**188**	P	**P**	**23 24 44.6**	**-0.7**
	1.1nm,0.4s,baz=4.7,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**56.88**	**188**	P	**P**	**23 25 12.2**	**0.0**
	0.5nm,0.5s,baz=9.6,slow=8.6,SNR=9.5						

IDC 06 23:22:26.0±14.0, 17°.68S×166°.97E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=238.7km s-min=38.6km az=67.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.40**	**186**	Pn	Pn	23 23 34.3	+0.1
	3.1nm,0.3s,baz=271,slow=24,SNR=12						
DZM				Sn	Sn	23 24 25.3	-1.1
	6.6nm,0.3s,baz=90,slow=20,SNR=8.3						
STKA	**Stephens Creek**	**26.94**	**234**	P	P	23 28 09.4	+0.1
	2.4nm,0.7s,baz=55,slow=8.3,SNR=4.0						
WRA	**Warramunga Arr**	**30.95**	**261**	P	P	23 28 45.0	-0.1
	0.6nm,0.8s,baz=88,slow=9.2,SNR=3.0						
ASAR	**Alice Springs**	**31.46**	**253**	P	P	23 28 49.5	0.0
	0.6nm,0.6s,baz=81,slow=8.6,SNR=9.5						

*IDC **06** 23:23:14.5±1.0, 25°.78N×90°.12E, h0km, mb3.7/11, mb1 3.8/11, mb1mx3.7/27, mbtmp3.7/11, Error ellipse: s-maj=41.0km s-min=18.5km az=57.0*
*ISCJB **06** 23:23:17.3±0.9, 25°.8N±0°.1×90°.07E±0°.10, h32km, mb3.7/11, Error ellipse: s-maj=22.7km s-min=8.8km az=26.5*

ISC 06 23:23:19.6±1.2, 25°.8N±0°.2×90°.3E±0°.1, h32km, n13, σ0s64/14, mb3.7/11, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.45**	**100**	*i* PG	**Pb**	**23 23 46.0**	**-0.1**
SHL				*e*SG	**Sb**	**23 24 04.0**	**-0.2**
GTK	**Gangtok**	**2.13**	**315**	*ex*	**Sn**	**23 24 19.5**	**+0.9**
MKAR	**Makanchi Array**	**21.88**	**345**	P	**P**	**23 28 09.4**	**-0.2**
	1.4nm,0.5s,baz=160,slow=12,SNR=19						
SONM	**Songino Array**	**25.36**	**26**	P	**P**	**23 28 44.7**	**+0.8**
	0.3nm,0.3s,baz=213,slow=9.8,SNR=3.4						
KURBB	**Kurchatov Arra**	**26.36**	**343**	P	**P**	**23 28 52.5**	**-0.2**
	0.4nm,0.7s,baz=157,slow=10.0,SNR=5.3						
ZALV	**Zalesovo Beam**	**28.39**	**353**	P	**P**	**23 29 10.3**	**-0.5**
	0.6nm,0.3s,baz=199,slow=7.5,SNR=3.3						
FINES	**FINESS Array B**	**55.37**	**328**	P	**P**	**23 32 49.8**	**-0.4**
	1.2nm,0.6s,baz=108,slow=8.9,SNR=7.7						
ARCES	**ARCESS Array B**	**57.28**	**338**	P	**P**	**23 33 03.7**	**-0.1**
	2.5nm,1.0s,baz=97,slow=7.7,SNR=4.2						
GERES	**GERESS Array B**	**62.40**	**314**	P	**P**	**23 33 38.9**	**-0.5**
	0.4nm,0.6s,baz=46,slow=7.0,SNR=3.2						
WRA	**Warramunga Arr**	**62.44**	**132**	P	**P**	**23 33 40.4**	**+0.5**
	1.0nm,0.8s,baz=322,slow=7.0,SNR=6.1						
NOA	**NORSAR Array B**	**62.51**	**327**	P	**P**	**23 33 38.7**	**-1.2**
	1.6nm,1.0s,baz=17,slow=14,SNR=2.8						
ASAR	**Alice Springs**	**64.82**	**136**	P	**P**	**23 33 56.2**	**+0.7**
	0.3nm,0.8s,baz=322,slow=6.9,SNR=4.6						
ILAR	**Eielson Array**	**79.50**	**21**	P	**P**	**23 35 23.0**	**+0.3**
	0.2nm,0.6s,baz=306,slow=3.2,SNR=2.6						

*IDC **06** 23:28:13.1±1.4, 17°.67S×167°.29E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.9/22, mbtmp4.0/10, ML4.3/1, Error ellipse: s-maj=31.8km s-min=26.9km az=92.0*
*ISCJB **06** 23:28:15.6±1.3, 17°.77S±0°.06×167°.1E±0°.2, h19km, mb3.9/8, Error ellipse: s-maj=26.2km s-min=7.2km az=172.3*
*NOU **06** 23:28:15.7±1.3, 17°.58S×167°.86E, h30km, MD3.1, ML2.7, MS2.8*

ISC 06 23:28:16.1±1.4, 17°.72S±0°.08×167°.3E±0°.2, h19km, n14, σ0s97/17, mb3.9/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.41**	**190**	*e*P	**Pn**	**23 29 22.4**	**+0.2**
DZM				AMP		23 30 11.8	
	comp=Z,446nm,16.4s						
DZM				*e*S	**Sn**	**23 30 12.0**	**-1.1**
DZM	**Mont Dzumac**	**4.41**	**190**	Pn	**Pn**	**23 29 22.4**	**+0.2**
	comp=Z,14nm,0.3s,baz=270,slow=24,SNR=58						
DZM				Sn	**Sn**	**23 30 12.4**	**-0.7**
	comp=Z,7.5nm,0.3s,baz=271,slow=24,SNR=7.5						
BAYA	**Yate Dam**	**4.43**	**185**	*e*S	**Sn**	**23 30 12.6**	**-1.0**
NOUC	**Port Laguerre**	**4.46**	**192**	*e*P	**Pn**	**23 29 24.4**	**+1.6**
NOUC				*e*S	**Sn**	**23 30 14.6**	**+0.3**
NOUC				AMP		23 30 19.5	
	comp=Z,25nm,1.6s						
CTA	**Charters Tower**	**20.06**	**260**	P	**P**	**23 32 49.1**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=66,slow=10.0,SNR=3.2						
STKA	**Stephens Creek**	**27.18**	**234**	P	**P**	**23 33 59.1**	**+0.5**
	comp=Z,6.4nm,0.9s,baz=51,slow=13,SNR=6.6						
WRA	**Warramunga Arr**	**31.25**	**261**	P	**P**	**23 34 33.6**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=84,slow=7.8,SNR=6.4						
ASAR	**Alice Springs**	**31.75**	**254**	P	**P**	**23 34 38.2**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=79,slow=8.6,SNR=19						
FITZ	**Fitzroy Crossi**	**39.59**	**263**	P	**P**	**23 35 46.2**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=85,slow=17,SNR=3.7						
QSPA	**South Pole Qui**	**72.33**	**180**	P	**P**	**23 39 40.9**	**+0.5**
	comp=Z,3.0nm,1.0s,baz=23,slow=0.8						
CMAR	**Chiang Mai Arr**	**76.21**	**295**	P	**P**	**23 40 04.9**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=142,slow=4.5,SNR=4.0						
SONM	**Songino Array**	**84.91**	**324**	P	**P**	**23 40 49.3**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=123,slow=5.3,SNR=2.5						
MKAR	**Makanchi Array**	**99.37**	**316**	P	**Pdif**	**23 41 58.0**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=94,slow=5.8,SNR=2.5						
ARCES	**ARCESS Array B**	**123.13**	**345**	PKP	**PKPdf**	**23 47 09.8**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=50,slow=1.9,SNR=4.8						

IDC 06 23:31:03.4±1.2, 17°.57S×167°.29E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.8/22, mbtmp3.9/10, ML4.0/1, MS3.8/2, Ms1 3.8/2, ms1mx3.4/29, Error ellipse: s-maj=30.4km s-min=25.4km az=115.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.55**	**190**	Pn	Pn	23 32 13.1	-0.6
	6.9nm,0.3s,baz=90,slow=24,SNR=8.2						
DZM				Sn	Sn	23 33 03.2	-4.2
	1.5nm,0.3s,baz=90,slow=20,SNR=6.2						
DZM				LR	LR	23 33 36.7	
	comp=Z,171nm,18.5s,baz=180,slow=34						
CTA	**Charters Tower**	**20.06**	**260**	P	P	23 35 39.1	+0.6
	2.6nm,0.6s,baz=80,slow=12,SNR=2.8						
STKA	**Stephens Creek**	**27.25**	**234**	P	P	23 36 50.2	+0.8
	3.8nm,0.8s,baz=87,slow=9.0,SNR=3.8						
WRA	**Warramunga Arr**	**31.26**	**260**	P	P	23 37 24.0	-1.2
	0.9nm,0.9s,baz=89,slow=9.4,SNR=5.1						
ASAR	**Alice Springs**	**31.78**	**253**	P	P	23 37 28.9	-0.9
	0.8nm,0.6s,baz=80,slow=8.7,SNR=9.3						
FITZ	**Fitzroy Crossi**	**39.59**	**263**	P	P	23 38 37.3	+0.4
	1.5nm,0.8s,baz=111,slow=16,SNR=2.4						
QSPA	**South Pole Qui**	**72.47**	**180**	P	P	23 42 32.0	+0.3
	1.3nm,0.9s,baz=32,slow=3.0,SNR=4.8						
CMAR	**Chiang Mai Arr**	**76.13**	**295**	P	P	23 42 53.9	+0.2
	0.4nm,0.7s,baz=104,slow=3.8,SNR=2.9						
SONM	**Songino Array**	**84.78**	**324**	P	P	23 43 40.3	+0.6
	0.4nm,0.3s,baz=46,slow=6.4,SNR=4.0						
ILAR	**Eielson Array**	**89.21**	**18**	P	P	23 44 00.1	-0.6
	0.3nm,0.7s,baz=254,slow=5.5,SNR=3.2						
USHA	**Ushuaia**	**93.79**	**151**	LR	LR	00 17 54.4	
	comp=Z,261nm,19.9s,baz=131,slow=30						

IDC 06 23:36:52.3±7.3, 49°.33S×106°.36E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/15, mbtmp3.6/3, MS3.5/1, Ms1 3.5/1, ms1mx3.2/18, Error ellipse: s-maj=238.5km s-min=30.6km az=106.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**18.29**	**30**	LR	LR	23 45 15.5	
	comp=Z,153nm,19.5s,baz=185,slow=28						
ASAR	**Alice Springs**	**33.52**	**50**	P	P	23 43 33.7	+0.2
	0.4nm,0.8s,baz=207,slow=11,SNR=3.2						
VNDA	**Vanda**	**35.03**	**162**	P	P	23 43 46.1	0.0
	1.5nm,0.9s,baz=299,slow=9.7,SNR=5.7						
WRA	**Warramunga Arr**	**36.87**	**47**	P	P	23 44 02.2	-0.3
	0.6nm,0.6s,baz=208,slow=7.0,SNR=5.7						
NVAR	**Mina Array Bea**	**146.47**	**92**	PKPbc	PKPdf	23 56 34.2	+0.4
	0.4nm,0.5s,baz=231,slow=5.7,SNR=3.3						

IDC 06 23:45:23.6±5.8, 2°.61S×138°.87E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, Error ellipse: s-maj=234.8km s-min=32.7km az=86.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.79**	**194**	P	Pn	23 49 31.5	-1.4
	baz=15,slow=13,SNR=2.5						
ASAR	**Alice Springs**	**21.48**	**193**	P	P	23 50 14.7	+0.6
	0.3nm,0.6s,baz=23,slow=8.9,SNR=4.3						
MKAR	**Makanchi Array**	**69.81**	**322**	P	P	23 56 36.1	0.0
	0.1nm,0.4s,baz=123,slow=5.3,SNR=3.5						

DDA 06 23:49:57.0, 39°.89N×26°.30E, h7km, MD2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.20**	**257**	*i* P	Pg	23 50 00.5	-0.6
BOZC				*i* S	Sg	23 50 05.8	+2.0
BALY	**Balya**	**1.02**	**98**	*i* P	Pg	23 50 16.0	-0.8
BALY				*i* S	Sn	23 50 32.3	-0.3

*CSEM **06** 23:50:36.1, 43°.09N×13°.02E, h16km, MD1.5/4, After ROM*
ROM 06 23:50:36.1±0.1, 43°.09N×13°.02E, h16km±1km, Md1.5/4, Ml0.9/3, Error ellipse: s-maj=3.3km s-min=0.9km az=12.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.07**	**140**	Pg	Pg	23 50 39.6	+0.3
FDMO				Sg	Sg	23 50 41.7	+0.3
	12nm,0.3s						
FDMO	**Fiordimonte**	**0.07**	**140**	Pg	Pg	23 50 39.6	+0.3
FDMO				Sg	Sg	23 50 41.7	+0.3
	12nm,0.3s						
CESI	**CESI - Serrava**	**0.12**	**225**	Pg	Pb	23 50 40.2	0.0
CESI				Sg	Sb	23 50 43.0	+0.1
	19nm,0.1s						
CESI	**CESI - Serrava**	**0.12**	**225**	Pg	Pb	23 50 40.2	0.0
CESI				Sg	Sb	23 50 43.0	+0.1
	19nm,0.1s						
NRCA	**Norcia**	**0.27**	**166**	Pg	Pg	23 50 42.2	+0.1
NRCA				Sg	Sb	23 50 46.7	-0.4
	18nm,0.1s						
NRCA	**Norcia**	**0.27**	**166**	Pg	Pg	23 50 42.2	+0.1
NRCA				Sg	Sb	23 50 46.7	-0.4
	18nm,0.1s						
ASSB	**Assisi San Ben**	**0.27**	**260**	Pg	Pg	23 50 42.3	+0.2
ASSB				Sg	Sb	23 50 46.8	-0.4
	12nm,0.1s						
ASSB	**Assisi San Ben**	**0.27**	**260**	Pg	Pg	23 50 42.3	+0.2
ASSB				Sg	Sb	23 50 46.8	-0.4
	12nm,0.1s						

*ISCJB **06** 23:51:13.6±0.3, 42°.41N±0°.02×13°.36E±0°.03, h10km±3km, Error ellipse: s-maj=3.6km s-min=3.1km az=35.5*
*ROM **06** 23:51:13.8±0.1, 42°.41N×13°.37E, h11km, Ml2.9/34, Error ellipse: s-maj=1.4km s-min=1.1km az=53.0*
*CSEM **06** 23:51:13.9±0.1, 42°.42N×13°.38E, h2km, ML3.5/4, Error ellipse: s-maj=2.8km s-min=2.3km az=68.0*
*LDG **06** 23:51:13.6±0.1, 42°.39N×13°.38E, h2km, Ml2.8/4, Error ellipse: s-maj=3.5km s-min=2.4km az=50.0*

ISC 06 23:51:13.7±0.8, 42°.41N±0°.02×13°.36E±0°.02, h16km±5km, n104, σ1s22/112, 1C, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.06**	**149**	Pg	**Pg**	**23 51 16.5**	**-0.3**
AQU				Sg	**Sg**	**23 51 18.2**	**-0.7**
	12μm,0.3s						
AQU	**L'Aquila**	**0.06**	**149**	Pg	**Pg**	**23 51 16.5**	**-0.3**
AQU				Sg	**Sg**	**23 51 18.2**	**-0.7**
	12μm,0.3s						
FIAM	**Fiamignano**	**0.23**	**232**	Pg	**Pb**	**23 51 19.1**	**-0.4**
FIAM				Sg	**Sg**	**23 51 22.9**	**+0.5**
	2μm,0.6s						
FIAM	**Fiamignano**	**0.23**	**232**	Pg	**Pb**	**23 51 19.1**	**-0.4**
FIAM				Sg	**Sg**	**23 51 22.9**	**+0.5**
	2μm,0.6s						
TERO	**Teramo**	**0.28**	**40**	Pg	**Pb**	**23 51 19.6**	**-0.8**
	2μm,0.4s						
TERO	**Teramo**	**0.28**	**40**	Pg	**Pb**	**23 51 19.6**	**-0.8**
	2μm,0.4s						
LNSS	**Leonessa**	**0.31**	**310**	Pg	**Pb**	**23 51 20.5**	**-0.4**
LNSS				Sg	**Sb**	**23 51 26.0**	**+0.3**
	2μm,0.3s						
LNSS	**Leonessa**	**0.31**	**310**	Pg	**Pb**	**23 51 20.5**	**-0.4**
LNSS				Sg	**Sb**	**23 51 26.0**	**+0.3**
	2μm,0.3s						
VCEL	**Villa Celiera**	**0.36**	**92**	Pg	**Pb**	**23 51 21.0**	**-0.7**
VCEL				Sg	**Sb**	**23 51 27.6**	**+0.5**
	3μm,0.6s						
VCEL	**Villa Celiera**	**0.36**	**92**	Pg	**Pb**	**23 51 21.0**	**-0.7**
PTQR	**Pietraquaria**	**0.39**	**175**	Pg	**Pb**	**23 51 21.6**	**-0.6**
	154nm,0.4s						
PTQR	**Pietraquaria**	**0.39**	**175**	Pg	**Pb**	**23 51 21.6**	**-0.6**
	154nm,0.4s						
NRCA	**Norcia**	**0.46**	**337**	Pg	**Pb**	**23 51 22.9**	**-0.6**
NRCA				Sg	**Sb**	**23 51 30.2**	**0.0**
	1μm,0.1s						
NRCA	**Norcia**	**0.46**	**337**	Pg	**Pb**	**23 51 22.9**	**-0.6**
NRCA				Sg	**Sb**	**23 51 30.2**	**0.0**
	1μm,0.1s						
MNS	**Montasola**	**0.50**	**268**	Pg	**Pb**	**23 51 23.6**	**-0.6**
	598nm,0.6s						
MNS	**Montasola**	**0.50**	**268**	Pg	**Pb**	**23 51 23.6**	**-0.6**
	598nm,0.6s						
CERT	**Cerreto**	**0.54**	**212**	Pg	**Pb**	**23 51 24.2**	**-0.5**
	2μm,0.4s						
CERT	**Cerreto**	**0.54**	**212**	Pg	**Pb**	**23 51 24.2**	**-0.5**
	2μm,0.4s						
INTR	**Introdacqua**	**0.57**	**134**	Pg	**Pb**	**23 51 24.7**	**-0.6**
	1μm,0.8s						
INTR	**Introdacqua**	**0.57**	**134**	Pg	**Pb**	**23 51 24.7**	**-0.6**
	1μm,0.8s						
VVLD	**Villa Vallelon**	**0.57**	**160**	Pg	**Pg**	**23 51 24.6**	**-0.4**
	379nm,0.5s						
VVLD	**Villa Vallelon**	**0.57**	**160**	Pg	**Pg**	**23 51 24.6**	**-0.4**
	379nm,0.5s						
TRTR	**Tortoreto Alta**	**0.57**	**45**	Pg	**Pb**	**23 51 25.9**	**+0.6**
	3μm,0.5s						
TRTR	**Tortoreto Alta**	**0.57**	**45**	Pg	**Pb**	**23 51 25.9**	**+0.6**
	3μm,0.5s						
OFFI	**Offida**	**0.58**	**24**	Pg	**Pb**	**23 51 25.8**	**+0.3**
	3μm,0.6s						
OFFI	**Offida**	**0.58**	**24**	Pg	**Pb**	**23 51 25.8**	**+0.3**
	3μm,0.6s						
MTCE	**Montecelio**	**0.60**	**230**	Pg	**Pb**	**23 51 25.8**	**0.0**
	505nm,0.6s						
CESX	**Cesi**	**0.61**	**290**	Pg	**Pb**	**23 51 25.5**	**-0.5**
	307nm,0.6s						
CESX	**Cesi**	**0.61**	**290**	Pg	**Pb**	**23 51 25.5**	**-0.5**
	307nm,0.6s						
GUAR	**Guarcino**	**0.61**	**183**	Pg	**Pn**	**23 51 26.9**	**-0.9**
	416nm,0.3s						
GUAR	**Guarcino**	**0.61**	**183**	Pg	**Pn**	**23 51 26.9**	**-0.9**
	416nm,0.3s						
FDMO	**Fiordimonte**	**0.66**	**342**	Pg	**Pg**	**23 51 26.2**	**-0.5**
	247nm,0.3s						
FDMO	**Fiordimonte**	**0.66**	**342**	Pg	**Pg**	**23 51 26.2**	**-0.5**
	247nm,0.3s						
CESI	**CESI - Serrava**	**0.69**	**331**	Pg	**Pb**	**23 51 26.9**	**-0.4**
	198nm,0.4s						
CESI	**CESI - Serrava**	**0.69**	**331**	Pg	**Pb**	**23 51 26.9**	**-0.4**
	198nm,0.4s						
LPEL	**Lama dei Pelig**	**0.71**	**120**	Pg	**Pb**	**23 51 27.2**	**-0.5**
	501nm,0.3s						
LPEL	**Lama dei Pelig**	**0.71**	**120**	Pg	**Pb**	**23 51 27.2**	**-0.5**
	501nm,0.3s						
POFI	**Posta Fibreno**	**0.74**	**159**	Pg	**Pb**	**23 51 28.2**	**0.0**
	296nm,0.9s						
POFI	**Posta Fibreno**	**0.74**	**159**	Pg	**Pb**	**23 51 28.2**	**0.0**
	296nm,0.9s						
CAFR	**Castel Frentan**	**0.75**	**103**	Pg	**Pb**	**23 51 28.3**	**-0.1**
	791nm,0.6s						
CAFR	**Castel Frentan**	**0.75**	**103**	Pg	**Pb**	**23 51 28.3**	**-0.1**
	791nm,0.6s						
RMP	**Rome, Mte Porz**	**0.77**	**220**	Pg	**Pn**	**23 51 29.5**	**-0.4**
	556nm,0.5s						
RMP	**Rome, Mte Porz**	**0.77**	**220**	Pg	**Pn**	**23 51 29.5**	**-0.4**
	556nm,0.5s						
SDI	**San Donato**	**0.77**	**154**	Pg	**Pg**	**23 51 28.3**	**-0.5**
	109nm,0.3s						
SDI	**San Donato**	**0.77**	**154**	Pg	**Pg**	**23 51 28.3**	**-0.5**
	109nm,0.3s						
GUMA	**Gualdo di Mace**	**0.78**	**33**	Pg	**Pg**	**23 51 26.5**	**-2.4**
	1μm,0.4s						
GUMA	**Gualdo di Mace**	**0.78**	**33**	Pg	**Pg**	**23 51 26.5**	**-2.4**
	1μm,0.4s						
RDP	**Rocca di Papa**	**0.81**	**217**	Pg	**Pn**	**23 51 30.1**	**-0.3**
	1μm,0.6s						
RDP	**Rocca di Papa**	**0.81**	**217**	Pg	**Pn**	**23 51 30.1**	**-0.3**
	1μm,0.6s						
ASSB	**Assisi San Ben**	**0.82**	**321**	Pg	**Pb**	**23 51 29.2**	**-0.4**
	274nm,0.2s						
ASSB	**Assisi San Ben**	**0.82**	**321**	Pg	**Pb**	**23 51 29.2**	**-0.4**
	274nm,0.2s						
GIUL	**Giuliano Di Ro**	**0.85**	**185**	Pg	**Pn**	**23 51 30.6**	**-0.4**
	282nm,0.7s						
GIUL	**Giuliano Di Ro**	**0.85**	**185**	Pg	**Pn**	**23 51 30.6**	**-0.4**
	282nm,0.7s						
SNTG	**Esanatoglia**	**0.90**	**340**	Pg	**Pg**	**23 51 30.5**	**-0.7**
	63nm,0.3s						
SNTG	**Esanatoglia**	**0.90**	**340**	Pg	**Pg**	**23 51 30.5**	**-0.7**
	63nm,0.3s						
CERA	**Filignano**	**0.95**	**148**	Pg	**Pb**	**23 51 31.6**	**-0.1**
	318nm,0.7s						
CERA	**Filignano**	**0.95**	**148**	Pg	**Pb**	**23 51 31.6**	**-0.1**
	318nm,0.7s						
CING	**Cingoli**	**0.98**	**353**	Pg	**Pg**	**23 51 31.8**	**-0.8**
	222nm,0.5s						
CING	**Cingoli**	**0.98**	**353**	Pg	**Pg**	**23 51 31.8**	**-0.8**
	222nm,0.5s						
MIDA	**Miranda**	**1.01**	**139**	Pg	**Pg**	**23 51 32.5**	**-0.8**
	161nm,0.6s						
MIDA	**Miranda**	**1.01**	**139**	Pg	**Pg**	**23 51 32.5**	**-0.8**
	161nm,0.6s						
MGAB	**Montegabbione**	**1.05**	**299**	Pg	**Pn**	**23 51 33.6**	**-0.2**
	175nm,0.4s						
MGAB	**Montegabbione**	**1.05**	**299**	Pg	**Pn**	**23 51 33.6**	**-0.2**
	175nm,0.4s						
MURB	**Monte Urbino**	**1.05**	**325**	Pg	**Pn**	**23 51 33.7**	**-0.2**
	460nm,0.4s						
MURB	**Monte Urbino**	**1.05**	**325**	Pg	**Pn**	**23 51 33.7**	**-0.2**
	460nm,0.4s						
TOLF	**Tolfa**	**1.07**	**252**	Pg	**Pn**	**23 51 34.7**	**+0.7**
	318nm,0.7s						
TOLF	**Tolfa**	**1.07**	**252**	Pg	**Pn**	**23 51 34.7**	**+0.7**
	318nm,0.7s						
ARVD	**Arcevia**	**1.13**	**344**	Pg	**Pb**	**23 51 34.7**	**-0.2**
	135nm,0.5s						
ARVD	**Arcevia**	**1.13**	**344**	Pg	**Pb**	**23 51 34.7**	**-0.2**
	135nm,0.5s						
AOI	**Ancona**	**1.16**	**9**	Pg	**Pg**	**23 51 35.4**	**-0.6**
	160nm,0.5s						
AOI	**Ancona**	**1.16**	**9**	Pg	**Pg**	**23 51 35.4**	**-0.6**
	160nm,0.5s						
SACS	**San Cascciano d**	**1.16**	**293**	Pg	**Pg**	**23 51 35.9**	**-0.1**
	68nm,0.6s						
NVLJ	**Novalja**	**2.42**	**27**	*i* Pn	**Pn**	**23 51 54.2**	**+1.6**
NVLJ				Sn	**Sb**	**23 52 24.7**	**-1.7**
NVLJ	**Novalja**	**2.42**	**27**	*i* Pn	**Pn**	**23 51 54.1**	**+1.6**
NVLJ				Sn	**Sb**	**23 52 24.7**	**-1.7**
UDBI	**Udbina**	**2.75**	**39**	*i* Pn	**Pb**	**23 51 59.9**	**-2.6**
UDBI				Sn	**Sb**	**23 52 33.9**	**-2.0**
UDBI	**Udbina**	**2.75**	**39**	*i* Pn	**Pb**	**23 51 59.8**	**-2.7**
UDBI				Sn	**Sb**	**23 52 33.9**	**-2.1**
PGF	**Pioggiola**	**3.23**	**274**	*e*P	**Pn**	**23

20nm,0.3s,baz=15,slow=9.3,SNR=194

LVC				S	Sn	00 04 22.8	-0.1
	124nm,0.3s,baz=273,slow=23,SNR=203						
LPAZ	**La Paz**	**4.85**	**3**	P	Pn	00 04 46.2	+0.7
	2.4nm,0.3s,baz=208,slow=5.4,SNR=64						
LPAZ				S	Sn	00 05 41.0	-0.1
	0.4nm,0.3s,baz=200,slow=7.8,SNR=1.9						
SIV	**San Ignacio**	**8.66**	**55**	P	Pn	00 05 34.7	-1.6
	6.9nm,0.3s,baz=258,slow=12,SNR=85						
CFAA	**Coronel Fontan**	**10.41**	**179**	P	Pn	00 05 55.9	-4.0
	0.2nm,0.3s,baz=356,slow=13,SNR=6.0						
CFAA				S	Sn	00 07 45.8	-8.9
	0.1nm,0.3s,baz=245,slow=16,SNR=3.9						
CPUP	**Villa Florida**	**11.39**	**119**	P	Pn	00 06 14.7	+1.7
	0.3nm,0.3s,baz=267,slow=12,SNR=5.7						
PLCA	**Paso Flores**	**19.60**	**185**	P	P	00 07 52.1	-0.8
	0.2nm,0.3s,baz=13,slow=12,SNR=4.7						
BDFB	**Brasilia**	**20.12**	**78**	P	P	00 07 59.4	+0.7
	2.5nm,0.4s,baz=251,slow=11,SNR=7.1						
TORD	**Torodi Ar. Bea**	**76.81**	**70**	P	P	00 15 12.4	-0.6
	1.6nm,0.6s,baz=251,slow=5.1,SNR=35						
ZALV	**Zalesovo Beam**	**141.45**	**25**	PKP	PKPdf	00 22 50.0	-0.5
	0.6nm,0.6s,baz=320,slow=3.8,SNR=3.6						
MKAR	**Makanchi Array**	**145.09**	**36**	PKPbc	PKPab	00 22 57.0	0.0
	1.5nm,0.7s,baz=324,slow=3.0,SNR=21						

ROM 07 00:03:35.0±0.5, 40°33'N×15°93'E, h4km, Md1.8/3, Ml0.9/2, Error ellipse: s-maj=5.0km s-min=2.3km az=139.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHR	**S. Chirico Rap**	**0.18**	**139**	Pg	Pg	00 03 38.9	+0.3
SCHR				Sg	Sg	00 03 41.7	+0.7
CUC	**Castrocucco**	**0.35**	**194**	Pg	Pg	00 03 42.8	+1.0
CUC				Sg	Sb	00 03 49.0	-0.8
	11nm,1.0s						
CRAC	**Craco**	**0.39**	**85**	Pg	Pg	00 03 43.5	+0.9
CRAC				Sg	Sb	00 03 50.6	-0.4
	22nm,0.3s						

IDC 07 00:06:23.4±2.0, 3°00'N×128°59'E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/21, mbtmp3.7/4, Error ellipse: s-maj=151.4km s-min=23.6km az=67.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.49**	**166**	P	P	00 11 34.5	-0.6
	1.9nm,0.4s,baz=346,slow=11,SNR=11						
ASAR	**Alice Springs**	**27.01**	**169**	P	P	00 12 07.8	+0.4
	0.6nm,0.8s,baz=2.0,slow=7.9,SNR=4.4						
STKA	**Stephens Creek**	**36.83**	**161**	P	P	00 13 33.3	-0.1
	1.2nm,0.4s,baz=327,slow=8.8,SNR=11						
MKAR	**Makanchi Array**	**59.21**	**325**	P	P	00 16 26.6	+0.1
	0.2nm,0.5s,baz=113,slow=8.2,SNR=7.0						

IDC 07 00:15:18.6±1.4, 49°36S×105°75E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/16, mbtmp3.9/5, MS3.5/1, Ms1 3.5/1, ms1mx3.0/24, Error ellipse: s-maj=54.2km s-min=22.6km az=100.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**18.52**	**32**	LR	LR	00 24 39.4	
	comp=Z,175nm,21.9s,baz=107,slow=30						
ASAR	**Alice Springs**	**33.84**	**51**	P	P	00 22 02.3	-0.4
	0.4nm,0.7s,baz=206,slow=8.2,SNR=5.4						
VNDA	**Vanda**	**35.13**	**162**	P	P	00 22 12.6	-0.7
	1.8nm,1.0s,baz=304,slow=7.1,SNR=7.5						
WRA	**Warramunga Arr**	**37.19**	**48**	P	P	00 22 31.7	+0.3
	2.3nm,1.0s,baz=208,slow=8.5,SNR=3.5						
QSPA	**South Pole Qui**	**40.78**	**180**	P	P	00 23 01.7	+0.5
	2.0nm,1.0s,baz=295,slow=3.6,SNR=4.0						
CMAR	**Chiang Mai Arr**	**67.78**	**353**	P	P	00 26 17.9	-0.1
	1.1nm,0.9s,baz=211,slow=6.6,SNR=4.4						
NVAR	**Mina Array Bea**	**146.87**	**92**	PKPbc	PKPbc	00 35 01.9	-0.7
	1.6nm,0.8s,baz=222,slow=3.6,SNR=6.2						
TXAR	**Lajitas Array**	**150.01**	**121**	PKPbc	PKPbc	00 35 10.1	-0.8
	0.9nm,0.9s,baz=242,slow=2.7,SNR=4.9						
TXAR				PKPab	PKPab	00 35 16.7	0.0
	0.6nm,1.1s,baz=232,slow=6.8,SNR=1.7						

ROM 07 00:19:15.6±0.1, 42°58N×13°23E, h10km, Ml1.1/3, Error ellipse: s-maj=0.9km s-min=0.3km az=146.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.14**	**280**	Pg	Pg	00 19 19.5	+0.5
LNSS				Sg	Sg	00 19 21.9	+0.6
	99nm,0.1s						
NRCA	**Norcia**	**0.27**	**342**	Pg	Pg	00 19 21.9	+0.7
NRCA				Sg	Sb	00 19 26.3	-1.1
	21nm,0.2s						
TERO	**Teramo**	**0.28**	**81**	Pg	Pg	00 19 22.1	+0.7
TERO				Sg	Sb	00 19 26.7	-1.0
	7.0nm,0.3s						

TRN 07 00:21:37.1, 15°10N×60°45W, h25km, MD3.7, M3.2(FDF), 4C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVM	**Montagne Vaucl**	**0.69**	**218**⇑	eP	Pn	00 21 52.9	+1.5
MVM			⇑	eS	Sn	00 22 03.6	+2.3
FDF	**Fort de France**	**0.77**	**242**⇓	eP	Pn	00 21 53.5	+1.1
FDF			⇓	eS	Sn	00 22 05.5	+2.3
DSHT	**Scott's Head**	**0.90**	**278**	eP	Pn	00 21 56.1	+2.0
DSHT				eS	Sn	00 22 09.6	+3.2
DPMT	**Pointe Michel**	**0.91**	**280**	eP	Pn	00 21 56.3	+2.0
DPMT				eS	Sn	00 22 10.6	+4.1
MDN	**Morne-Daniel**	**0.93**	**284**	eP	Pn	00 21 57.2	+2.5
MDN				eS	Sn	00 22 10.4	+3.2
DWS	**Wesley**	**0.95**	**300**	eP	Pb	00 21 56.5	+1.5
DWS				eS	Sn	00 22 10.4	+2.8
DVCT	**Vielle Casse P**	**1.05**	**299**	eP	Pb	00 21 58.0	+1.3
DVCT				eS	Sn	00 22 12.9	+2.7
MGG	**Marie-Galante**	**1.17**	**315**	eP	Pb	00 21 58.7	+0.1
SLW	**Petit Monier**	**1.17**	**204**⇑	iP	Pb	00 21 59.5	+0.8
SLW	**Petit Monier**	**1.17**	**204**⇑	eP	Pb	00 21 59.5	+0.8
SLW	**Petit Monier**	**1.17**	**204**	e	Sn	00 22 12.2	-0.9
SLW				eS	Sb	00 22 15.4	+1.9
DEG	**La Desirade**	**1.34**	**334**	eP	Pn	00 22 00.1	-0.3
DEG				eS	Sn	00 22 17.4	-0.1
SLPE	**Piton Saint Es**	**1.35**	**203**	eP	Pb	00 22 01.5	-0.4
SLPE	**Piton Saint Es**	**1.35**	**203**	e	Sn	00 22 16.8	-0.9
SLPE				eS	Sb	00 22 19.2	+0.4
TBG	**Guadaloupe-3**	**1.37**	**303**	eP	Pn	00 22 01.4	+0.7
TBG				eS	Sb	00 22 20.4	+1.2
SLB	**Belfond**	**1.39**	**204**	eP	Pb	00 22 03.5	+1.1
SLB				eS	Sb	00 22 21.1	+1.3
SLDE	**Delcer**	**1.41**	**205**	eP	Pb	00 22 02.8	0.0
DOG	**Dongo Capester**	**1.46**	**310**	eP	Pb	00 22 03.0	-0.7
MCLT	**Moule a Chique**	**1.46**	**199**	eP	Pb	00 22 03.4	-0.2
MCLT				eS	Sb	00 22 22.6	+0.9
PHG	**Guadaloupe-2**	**1.47**	**309**	eP	Pb	00 22 03.3	-0.5
HMG	**Houelmont**	**1.49**	**306**	eP	Pb	00 22 03.8	-0.4
SCG	**Saint Claude**	**1.50**	**308**	eP	Pn	00 22 03.5	+0.9
LZG	**Guadaloupe-1**	**1.64**	**309**	eP	Pb	00 22 06.1	-0.6
SFAN	**Fancy Village**	**1.84**	**202**	eP	Pn	00 22 08.0	+0.8
BHS	**Barnard House**	**1.91**	**200**	eP	Pb	00 22 10.3	-0.9
BHS				eS	Sb	00 22 33.0	-1.6
SVB	**Belmont**	**1.97**	**203**	eP	Pb	00 22 11.0	-1.4
SVB				eS	Sb	00 22 35.8	-0.8
SKI	**Saint Kitts**	**3.12**	**316**	eP	Pn	00 22 27.2	+2.4
SKI				eS	Sn	00 23 04.3	+2.9
GRW	**Mount Saint Ca**	**3.15**	**202**	eP	Pn	00 22 27.8	+2.6
TOSP	**Speyside**	**3.78**	**181**	eS	Sn	00 23 19.8	+2.4

*NEIC **07** 00:29:33.4, 38°.83N×122°.81W, h3km, MW3.9(BRK), After NCEDC.*

NEIC Felt [III] at Kelseyville and [II] at Clearlake. Also felt at Calistoga, Cloverdale and Windsor.

*IDC **07** 00:29:33.4±3.1, 38°.73N×122°.95W, h0km, mb1 3.5/5, mb1mx3.4/30, mbtmp3.1/5, ML3.1/4, Error ellipse: s-maj=36.7km s-min=10.3km az=45.0*

ISC 07 00:29:33.6±1.3, 38°.86N±0°.03×122°.79W±0°.05, h3km±12km, n26, σ1829/33, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPS	**Hopland**	**0.26**	**301**	eP	Pg	00 29 38.7	+0.1
MCCM	**Marconi Confer**	**0.72**	**186**	eP	Pb	00 29 47.5	-1.2
KCPM	**Cahto Peak**	**1.03**	**324**	eP	Pb	00 29 53.8	-0.3
KIPM	**Iron Peak**	**1.09**	**331**	eP	Pb	00 29 54.8	-0.3
KIPM				eS	Sg	00 30 09.3	+0.8
SAC	**San Andreas**	**1.31**	**167**	eP	Pn	00 29 56.8	-1.9
SAC				eS	Sg	00 30 18.1	+2.4
WDC	**Whiskeytown Da**	**1.73**	**6**	ePn	Pb	00 30 04.8	-1.2
CMB	**Columbia Colle**	**2.06**	**113**	ePn	Pn	00 30 08.0	-1.1
CMB				eS	Sn	00 30 34.5	-0.9
BEKR	**Beckworth**	**2.14**	**61**	ePn	Pn	00 30 10.7	+0.4
BEKR				eSn	Sn	00 30 37.3	-0.1
KHMM	**Horse Mountain**	**2.14**	**341**	ePn	Pn	00 30 11.0	+0.7
SAO	**San Andreas Ge**	**2.35**	**153**	ePn	Pn	00 30 12.3	-0.7
SAO				Sn	Sn	00 30 41.3	-1.1
KRMB	**Red Mountain**	**2.79**	**343**	ePn	Pn	00 30 20.3	+1.0
YBH	**Yreka Blue Hor**	**2.87**	**1**	Pn	Pb	00 30 24.5	-0.9
YBH				Pg	Pg	00 30 26.6	-2.0
YBH				Lg	Lg	00 31 11.8	
YBH	**Yreka Blue Hor**	**2.87**	**1**	Pn	Pb	00 30 24.5	-0.9
	0.5nm,0.3s,baz=185,slow=7.1,SNR=8.2						
YBH				Pg	Pg	00 30 26.6	-2.0
	0.6nm,0.3s,baz=186,slow=7.0,SNR=10						
YBH				Lg	Lg	00 31 11.8	
	0.3nm,0.3s,baz=9.8,slow=5.6,SNR=6.4						
NVAR	**Mina Array Bea**	**3.54**	**96**	Pn	Pn	00 30 30.1	+0.5
NVAR				Pg	Pb	00 30 37.5	+0.6
NVAR				Lg	Lg	00 31 29.4	
NVAR	**Mina Array Bea**	**3.54**	**96**	Pn	Pn	00 30 30.1	+0.5
	1.1nm,0.3s,baz=269,slow=15,SNR=20						
NVAR				Pg	Pb	00 30 37.5	+0.6
	4.9nm,0.3s,baz=264,slow=19,SNR=53						
NVAR				Lg	Lg	00 31 29.4	
	2.0nm,0.3s,baz=272,slow=30,SNR=2.8						
MOD	**Modoc**	**3.58**	**31**	ePn	Pn	00 30 30.8	+0.6
NV11	**Mina Array Sit**	**3.66**	**95**	ePn	Pn	00 30 30.4	-0.7
HUMO	**Hull Mountain**	**3.75**	**358**	ePn	Pn	00 30 31.8	-0.4
ISA	**Isabella**	**4.70**	**132**	ePn	Pn	00 30 45.2	-0.2
ISA				ePg	Pg	00 31 02.7	-0.9
ISA				eSn	Sn	00 31 39.6	-0.7
WVOR	**Wild Horse Val**	**4.77**	**40**	ePn	Pn	00 30 44.7	-1.7
ELK	**Elko**	**6.11**	**70**	Pn	Pn	00 31 07.5	+2.5
ELK	**Elko**	**6.11**	**70**	Pn	Pn	00 31 07.5	+2.5
	0.2nm,0.3s,baz=263,slow=16,SNR=4.1						
PDAR	**Pinedale Array**	**10.76**	**65**	Pn	Pn	00 32 14.2	+5.5
PDAR	**Pinedale Array**	**10.76**	**65**	Pn	Pn	00 32 14.2	+5.5
	baz=244,slow=13,SNR=5.6						
TXAR	**Lajitas Array**	**18.44**	**115**	P	Pn	00 33 52.9	+2.6
TXAR	**Lajitas Array**	**18.44**	**115**	P	Pn	00 33 52.9	+2.6
	0.0nm,0.3s,baz=312,slow=8.4,SNR=5.3						

*SFS **07** 00:32:35.0, 34°.24N×26°.71E, h0km, ML4.8*

*DDA **07** 00:32:40.5, 33°.60N×24°.96E, h11km, MD4.1*

*BJI **07** 00:32:41.3, 34°.04N×24°.94E, h5km, mB5.1/26, mb4.8/39, Ms4.8/20, Ms7 4.4/20*

*ISCJB **07** 00:32:43.1±0.5, 33°.95N±0°.01×25°.22E±0°.01, h10km±3km, mb4.8/142, MS4.2/34, Error ellipse: s-maj=2.2km s-min=1.7km az=20.4*

*ATH **07** 00:32:43.7, 33°.98N×25°.14E, h12km±1km, MD4.0/39, ML4.3*

*NEIC **07** 00:32:43.7, 33°.98N×25°.14E, h12km, mb4.9/54, ML4.3(ATH), After ATH.*

*IDC **07** 00:32:44.2±0.5, 34°.14N×25°.21E, h0km, mb4.7/36, mb1 4.7/44, mb1mx4.7/47, mbtmp4.6/44, ML4.3/6, MS4.1/15, Ms1 4.1/15, ms1mx3.8/48, Error ellipse: s-maj=12.5km s-min=9.6km az=176.0*

*HLW **07** 00:32:45.1, 34°.23N×25°.30E, h32km±27km, Md3.6, Ml3.7*

*MOS **07** 00:32:46.7±1.1, 34°.21N×25°.21E, h25km, mb5.0/67, MS4.2/23, Error ellipse: s-maj=5.3km s-min=2.7km az=96.3*

*CSEM **07** 00:32:47.1±0.1, 33°.97N×25°.23E, h30km, mb4.9/64, Ms3.9, Mw4.3, Error ellipse: s-maj=3.0km s-min=2.0km az=27.0*

*DJA **07** 00:32:48.3±2.6, 34°N±24°×2°5E±3°8, h10km, M5.0/8, mB5.8/4, mb4.8/8, Mw(mB)5.4/4*

*THE **07** 00:32:50.9, 34°.41N×25°.23E, h0km±1km, ML4.2/4, Error ellipse: s-maj=5.7km s-min=1.4km az=181.0*

ISC 07 00:32:45.8±0.3, 34°03N±0°03×25°19E±0°02, h16km±1km, h15km:pP-P, n1029, σ1948/1160, mb4.9/142, MS4.2/33, 25C-26D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.03**	**342**	P	Pb	00 33 05.5	+0.2
SIVA	**Sivas**	**1.03**	**342**	ePN	Pb	00 33 04.5	-0.8
SIVA				eSB	Sb	00 33 18.5	-0.2
SIVA	**Sivas**	**1.03**	**342**	ePn	Pb	00 33 04.5	-0.8
SIVA	**Sivas**	**1.03**	**342**	P	Pb	00 33 05.3	+0.2
SIVA				eSb	Sb	00 33 18.5	-0.2
LAST	**Lasithi**	**1.15**	**12**	P	Pn	00 33 05.9	-1.5
LAST	**Lasithi**	**1.15**	**12**	ePG	Pn	00 33 06.4	-1.0
LAST				eSB	Sn	00 33 23.3	+0.4
LAST	**Lasithi**	**1.15**	**12**	ePg	Pn	00 33 06.4	-1.0
LAST				eSb	Sn	00 33 23.3	+0.4
GVD	**Gavdhos**	**1.22**	**312**	ePN	Pn	00 33 06.4	-1.8
GVD				eSB	Sb	00 33 23.4	-0.6
GVD	**Gavdhos**	**1.22**	**312**	ePn	Pb	00 33 08.7	+0.2
GVD				Sn	Sb	00 33 20.5	-3.5
GVD	**Gavdhos**	**1.22**	**312**	ePn	Pb	00 33 08.7	+0.2
GVD				eSb	Sb	00 33 23.4	-0.6
NPS	**Neapolis**	**1.28**	**16**	P	Pn	00 33 08.4	-0.6
NPS	**Neapolis**	**1.28**	**16**	ePB	Pn	00 33 08.4	-0.6
NPS				eSB	Sg	00 33 27.0	-0.1
NPS	**Neapolis**	**1.28**	**16**	P	Pn	00 33 08.4	-0.6
NPS				eSb	Sg	00 33 27.0	-0.1
IDI	**Anoyia**	**1.28**	**349**	P	Pn	00 33 08.0	-0.1
IDI	**Anoyia**	**1.28**	**349**	ePB	Pn	00 33 09.0	-0.1
IDI				eSB	Sn	00 33 26.4	+0.5
IDI	**Anoyia**	**1.28**	**349**	ePn	Pn	00 33 07.7	-1.4
IDI				eS	Sn	00 33 26.4	+0.5
IDI	**Anoyia**	**1.28**	**349**	ePn	Pn	00 33 07.7	-1.4
IDI	**Anoyia**	**1.28**	**349**	ePb	Pn	00 33 09.0	-0.1
IDI				eS	Sn	00 33 26.5	+0.5
ZKR	**Zakros**	**1.37**	**38**	P	Pn	00 33 10.7	+0.4
ZKR	**Zakros**	**1.37**	**38**	ePB	Pn	00 33 10.6	+0.3
ZKR				eSB	Sg	00 33 30.0	-0.1
ZKR	**Zakros**	**1.37**	**38**	P	Pn	00 33 10.7	+0.4
ZKR				eSb	Sg	00 33 30.0	-0.1
VAM	**Vamos**	**1.60**	**329**	P	Pb	00 33 14.6	-0.4
VAM	**Vamos**	**1.60**	**329**	ePB	Pb	00 33 14.7	-0.3
VAM	**Vamos**	**1.60**	**329**	ePb	Pb	00 33 14.7	-0.3
KARP	**Karpathos**	**2.22**	**46**	P	Pb	00 33 24.6	-0.9
KARP				S	Sn	00 33 49.7	+0.6
KARP	**Karpathos**	**2.22**	**46**	PN	Pn	00 33 23.8	+1.8
KARP	**Karpathos**	**2.22**	**46**	ePn	Pn	00 33 23.8	+1.8
KARP	**Karpathos**	**2.22**	**46**	P	Pb	00 33 24.6	-0.9
KARP				S	Sn	00 33 49.7	+0.6
LTBQ	**Tobruq**	**2.24**	**209**	iP	Pn	00 33 23.6	+1.3
	SNR=24						
SANT	**Santorini**	**2.34**	**5**	P	Pn	00 33 25.2	+1.5
SANT	**Santorini**	**2.34**	**5**	ePN	Pn	00 33 25.5	+1.8
SANT	**Santorini**	**2.34**	**5**	ePg	Pn	00 33 25.3	+1.6
SANT				eS	Sg	00 34 00.1	-1.1
SANT	**Santorini**	**2.34**	**5**	P	Pn	00 33 25.2	+1.5
SANT	**Santorini**	**2.34**	**5**	ePn	Pn	00 33 25.5	+1.8
ANKY	**Antikythira Is**	**2.40**	**320**	ePN	Pn	00 33 25.3	+0.8
ANKY	**Antikythira Is**	**2.40**	**320**	ePn	Pn	00 33 25.3	+0.8
SLUM		**2.53**	**180**	S	Sn	00 33 57.6	+0.8
	baz=182						
SLUM				AMP		00 34 00.0	
	comp=E,440μm,1.1s,logA/T=5.6,baz=182						
SLUM		**2.53**	**180**	P	Pn	00 33 26.6	+0.3
SLUM				S	Sn	00 33 57.6	+0.8
KYTH	**Kithira**	**2.86**	**322**	ePB	Pn	00 33 32.3	+1.5
KYTH	**Kithira**	**2.86**	**322**	ePb	Pn	00 33 32.3	+1.5
NIS1	**Nisyros Isl.**	**3.04**	**32**	P	Pn	00 33 34.6	+1.4
NIS1				S	Sn	00 34 08.6	-0.7
NIS1	**Nisyros Isl.**	**3.04**	**32**	P	Pn	00 33 34.6	+1.4
NIS1				S	Sn	00 34 08.6	-0.7
APE	**Apeiranthos**	**3.04**	**5**	P	Pn	00 33 34.5	+1.1
APE	**Apeiranthos**	**3.04**	**5**	ePN	Pn	00 33 34.4	+1.1
APE	**Apeiranthos**	**3.04**	**5**	P	Pn	00 33 34.5	+1.1
ARG	**Arkhangelos**	**3.25**	**47**	ePB	Pn	00 33 38.8	+2.7
ARG	**Arkhangelos**	**3.25**	**47**	ePb	Pn	00 33 38.8	+2.7
VLI	**Veliai**	**3.25**	**326**	P	Pn	00 33 37.5	+1.3
VLI				S	Sn	00 34 15.1	+0.5
VLI	**Veliai**	**3.25**	**326**	ePN	Pn	00 33 37.3	+1.1
VLI	**Veliai**	**3.25**	**326**	P	Pn	00 33 37.5	+1.3
VLI				S	Sn	00 34 15.1	+0.5
DAT	**Datca**	**3.32**	**35**	ePN	Pn	00 33 37.7	+0.4
DAT	**Datca**	**3.32**	**35**	eSN	Sn	00 34 19.0	+2.5
HMAT	**Matruh**	**3.34**	**151**	P	Pn	00 33 37.1	-0.2
	baz=153						
HMAT				S	Sn	00 34 16.0	-0.7
	baz=153						
HMAT	**Matruh**	**3.34**	**151**	P	Pn	00 33 37.2	-0.2
HMAT				S	Sn	00 34 16.0	-0.7
BODT	**Bodrum**	**3.48**	**29**	ePN	Pn	00 33 40.1	+0.7
DYR	**Agios Nikonas**	**3.59**	**320**	P	Pn	00 33 43.8	+3.0
DYR				S	Sn	00 34 23.8	+0.9
DYR	**Agios Nikonas**	**3.59**	**320**	ePN	Pn	00 33 42.9	+2.1
DYR	**Agios Nikonas**	**3.59**	**320**	ePn	Pn	00 33 42.9	+2.1
DYR	**Agios Nikonas**	**3.59**	**320**	P	Pn	00 33 43.8	+3.0
DYR				S	Sn	00 34 23.8	+0.9
DID	**Didima**	**3.82**	**336**	P	Pn	00 33 44.4	+0.4
DID	**Didima**	**3.82**	**336**	ePN	Pn	00 33 45.5	+1.5
DID	**Didima**	**3.82**	**336**	P	Pn	00 33 44.4	+0.4
DID	**Didima**	**3.82**	**336**	ePn	Pn	00 33 45.5	+1.5
MLSB	**Milas**	**3.88**	**32**	ePN	Pn	00 33 44.8	-0.1
DALY	**Dalyan (Mu¨la**	**3.96**	**44**	ePN	Pn	00 33 47.2	+1.2
NAIG	**Nisos Aigina**	**3.97**	**340**	ePN	Pn	00 33 47.0	+1.0
NAIG	**Nisos Aigina**	**3.97**	**340**	ePn	Pn	00 33 47.0	+1.0
TURN	**Turunc**	**3.97**	**43**	iP	Pn	00 33 44.3	-1.8
TURN				iS	Sn	00 34 24.3	-8.0
TURN	**Turunc**	**3.97**	**43**	iP	Pn	00 33 44.3	-1.8
YER	**Yerkesik**	**3.99**	**38**	ePN	Pn	00 33 47.1	+0.7
PYL	**PYLOS**	**4.01**	**316**	ePN	Pn	00 33 47.8	+1.2
PYL	**PYLOS**	**4.01**	**316**	ePn	Pn	00 33 47.8	+1.2
VLX	**Vlachokerasia**	**4.04**	**326**	P	Pn	00 33 49.3	+2.1
VLX	**Vlachokerasia**	**4.04**	**326**	ePN	Pn	00 33 49.2	+2.1
VLX	**Vlachokerasia**	**4.04**	**326**	ePn	Pn	00 33 49.2	+2.1
ATHU	**Athens Univers**	**4.09**	**344**	P	Pn	00 33 48.9	+1.2
ATHU	**Athens Univers**	**4.09**	**344**	P	Pn	00 33 48.9	+1.2
FETY	**Fethiye**	**4.11**	**50**	ePN	Pn	00 33 48.9	+0.9
ATH	**Athens Observa**	**4.11**	**344**	ePN	Pn	00 33 48.9	+0.9
ITM	**Ithomi**	**4.12**	**321**	ePN	Pn	00 33 49.1	+1.0
ITM	**Ithomi**	**4.12**	**321**	ePn	Pn	00 33 49.1	+1.0
PTL	**Penteli**	**4.15**	**345**	P	Pn	00 33 50.1	+1.5
PTL	**Penteli**	**4.15**	**345**	ePN	Pn	00 33 49.8	+1.2
PTL	**Penteli**	**4.15**	**345**	ePn	Pn	00 33 49.8	+1.2
PTL	**Penteli**	**4.15**	**345**	P	Pn	00 33 50.1	+1.5
KSL	**Kastellorizon**	**4.17**	**58**	ePN	Pn	00 33 50.5	+1.7
AYDN	**Tasoluk**	**4.23**	**30**	iP	Pn	00 33 52.2	+2.6
AYDN	**Tasoluk**	**4.23**	**30**	iP	Pn	00 33 52.2	+2.6
AKAS	**Kas**	**4.23**	**57**	iP	Pn	00 33 51.0	+1.2
AKAS				iS	Sn	00 34 34.1	-4.9
AKAS	**Kas**	**4.23**	**57**	iP	Pn	00 33 51.0	+1.2
AKAS				iS	Sn	00 34 34.1	-4.9
LTK	**Loutraki**	**4.37**	**336**	ePN	Pn	00 33 53.5	+1.9
LTK	**Loutraki**	**4.37**	**336**	ePn	Pn	00 33 53.5	+1.9
CHOS	**Chios island**	**4.40**	**9**	P	Pn	00 33 53.7	+1.6
CHOS	**Chios island**	**4.40**	**9**	ePN	Pn	00 33 53.5	+1.4
CHOS	**Chios island**	**4.40**	**9**	ePn	Pn	00 33 53.5	+1.4
URLA	**Izmir**	**4.47**	**14**	iP	Pn	00 33 54.1	+1.2
URLA	**Izmir**	**4.47**	**14**	iP	Pn	00 33 54.1	+1.2
AMT	**Artemida-Makis**	**4.50**	**322**	ePN	Pn	00 33 55.3	+2.0
AMT	**Artemida-Makis**	**4.50**	**322**	ePn	Pn	00 33 55.3	+2.0
GUR	**Goura**	**4.53**	**330**	ePN	Pn	00 33 55.6	+1.7
GUR	**Goura**	**4.53**	**330**	ePn	Pn	00 33 55.6	+1.7
BLCB	**Balcova**	**4.60**	**18**	ePN	Pn	00 33 55.5	+0.9
IZM	**Izmir**	**4.67**	**20**	ePN	Pn	00 33 56.5	+0.8
KLV	**Kalavryta, Ach**	**4.70**	**329**	ePN	Pn	00 33 57.3	+1.1
KLV	**Kalavryta, Ach**	**4.70**	**329**	ePn	Pn	00 33 57.3	+1.1
ELL	**Elmali**	**4.71**	**54**	ePN	Pn	00 33 57.2	+0.9
SWA2		**4.78**	**177**	P	Pn	00 33 57.4	+0.3
	baz=178						
SWA2		**4.78**	**177**	P	Pn	00 33 57.4	+0.3
GOLH	**Golhisar**	**4.78**	**47**	iP	Pn	00 33 59.5	+2.2
GOLH				iS	Sn	00 34 59.9	+7.4
GOLH	**Golhisar**	**4.78**	**47**	iP	Pn	00 33 59.5	+2.2
DNZL	**Cakiroluk**	**4.81**	**39**	iP	Pn	00 33 59.8	+2.1
DNZL	**Cakiroluk**	**4.81**	**39**	iP	Pn	00 33 59.8	+2.1
DENT	**Denizli**	**4.85**	**39**	ePN	Pn	00 33 59.4

KOT Kottamia 6.96 124 P Pn 00 34 26.1 -1.1
LFK Lefkose 6.98 77 ePN Pn 00 34 28.4 +0.9
KONT Konya--Tatoy 7.00 54 ePN Pn 00 34 29.3 +1.6
GLL Jalalah 7.10 127 P Pn 00 34 28.4 -0.8
baz=128
GLL Jalalah 7.10 127 P Pn 00 34 28.4 -0.8
RDO Rodhopi 7.11 2 ePN Pn 00 34 31.7 +2.6
RDO Rodhopi 7.11 2 ePn Pn 00 34 31.7 +2.6
KEK Kerkira 7.13 324 ePN Pn 00 34 29.2 -0.2
KEK Kerkira 7.13 324 ePn Pn 00 34 29.2 -0.2
HHAG Hagoal 7.14 123 P Pn 00 34 28.6 -1.0
baz=124
HHAG Hagoal 7.14 123 P Pn 00 34 28.6 -1.0
LADK Ladik-KONYA 7.14 52 ePN Pn 00 34 31.1 +1.4
ARMT Armutlu 7.15 23 ePN Pn 00 34 30.8 +1.1
KDHN Kadinhani 7.16 49 iP Pn 00 34 30.7 +0.7
KDHN Kadinhani 7.16 49 iP Pn 00 34 30.7 +0.7
SRN Sarande 7.17 326 ePN Pn 00 34 28.6 -1.3
SRN iPN Sn 00 35 47.3 -3.7
KIZT Kizilcal 7.24 46 ePN Pn 00 34 32.2 +1.1
IKL Isikli 7.30 70 ePN Pn 00 34 32.3 +0.5
ADVT Abdulvahap 7.35 28 ePN Pn 00 34 32.8 +0.4
NVR Nevrokopi 7.38 352 ePN Pn 00 34 34.5 +1.6
NVR Nevrokopi 7.38 352 ePn Pn 00 34 34.5 +1.6
FNA Florina 7.39 337 ePN Pn 00 34 34.5 +1.4
FNA Florina 7.39 337 ePn Pn 00 34 34.5 +1.4
EREN Erenkoy 7.54 76 ePN Pn 00 34 36.0 +0.9
VAY Valandovo 7.57 345 ePg Pn 00 34 37.4 +2.0
SLVT Silivri 7.57 18 ePN Pn 00 34 35.9 +0.4
AMAG Maghara 7.58 114 P Pn 00 34 33.5 -2.1
baz=116
AMAG Maghara 7.58 114 P Pn 00 34 33.5 -2.1
KDZ Kurdzhali 7.61 1 eP Pn 00 34 37.2 +1.2
BIA Bitola 7.62 337 ePg Pn 00 34 37.7 +1.4
MMB Musomiste 7.63 352 P Pn 00 34 37.5 +1.1
RZN Rozhen 7.65 357 eP Pn 00 34 38.3 +1.5
HRT Hereke 7.66 26 ePN Pn 00 34 38.0 +1.3
CTKS Kestanelik-??a 7.66 19 ePN Pn 00 34 36.8 +0.2
GULT Gulveren 7.67 32 ePN Pn 00 34 38.1 +1.2
BGKT Bogazkoy 7.68 21 ePN Pn 00 34 37.7 +0.7
LSRT Sirt 7.78 250 iP Pn 00 34 37.6 -0.8
SNR=22
SPNC Sapanca-Adapaz 7.79 30 ePN Pn 00 34 40.1 +1.6
CTYL Yal??k??y-??at 7.83 17 ePN Pn 00 34 39.9 +0.9
RSH 7.83 111 P Pn 00 34 37.0 -2.0
baz=112
RSH 7.83 111 P Pn 00 34 37.0 -2.0
KLYT Kilyos 7.83 22 ePN Pn 00 34 40.1 +1.1
SULT Sultanhani-AKS 7.91 56 ePN Pn 00 34 41.5 +1.2
SILT Sile 7.94 25 ePN Pn 00 34 41.5 +1.0
KKB Krupnik 8.00 349 eP Pn 00 34 45.4 +4.0
DIM Dimitrovgrad 8.01 2 eP Pn 00 34 43.5 +2.0
MDUB Mudurnu 8.01 35 ePN Pn 00 34 42.7 +1.1
PLD Plovdiv 8.07 357 eP Pn 00 34 44.7 +2.4
KZIT Kziot 8.38 109 Pn Pn 00 34 45.2 -1.4
KZIT Sn Sn 00 36 15.4 -5.5
ANTO Ankara 8.42 44 eP Pn 00 34 47.1 -0.1
ANTO Ankara 8.42 44 ePn Pn 00 34 47.1 -0.1
ANTO Ankara 8.42 44 ⇑iP Pn 00 34 49.7 +2.5
ANTO Ankara 8.42 44 eP Pn 00 34 47.1 -0.1
TIR Tirane 8.44 332 ePN Px 00 34 58.2
TIR Tirane 8.44 332 eP Pn 00 34 45.7 -1.6
TIR e 00 36 18.7
TIR Tirane 8.44 332 ePn Pn 00 34 45.7 -1.6
TIR eSn Sn 00 36 18.7 -3.5
GULE Gulek 8.45 65 iP Pn 00 34 49.7 +2.0
GULE iS Sn 00 36 22.9 +0.1
GULE Gulek 8.45 65 iP Pn 00 34 49.7 +2.0
GULE iS Sn 00 36 22.9 +0.1
SLTI Sal'it 8.45 99 Pn Pn 00 34 46.4 -1.2
SLTI Sn Sn 00 36 18.6 -4.1
JMB Yambol 8.49 7 eP Pn 00 34 50.4 +2.3
TIP Timpagrande 8.51 310 ePn Pn 00 34 47.3 -1.1
comp=E,88nm,0.9s
TIP eSn Sn 00 36 22.4 -1.7
TIP Timpagrande 8.51 310 ePn Pn 00 34 47.3 -1.1
comp=E,88nm,0.9s
HNKL Nakhl 8.51 116 P Pn 00 34 47.2 -1.2
baz=117
HNKL Nakhl 8.51 116 P Pn 00 34 47.2 -1.2
LZLA Zalla 8.51 232 iP Pn 00 34 47.8 -0.6
SNR=22
PHP Peshkopia 8.51 335 ePN Pn 00 34 47.5 -0.9
PHP iSN Sn 00 36 21.1 -3.1
PGB Panagyurishte 8.54 355 eP Pn 00 34 51.7 +2.8
RTMI Retamim 8.55 108 Pn Pn 00 34 47.6 -1.4
RTMI Sn Sn 00 36 19.8 -5.3
MMAI Mount Meron Ar 8.59 94 Pn Pn 00 34 47.8 -1.7
MMAI Sn Sn 00 36 26.1 0.0
MMAI Mount Meron Ar 8.59 94 Pn Pn 00 34 47.8 -1.7
comp=E,3,3nm,0.3s,baz=261,slow=11,SNR=23
MMAI Sn Sn 00 36 26.1 0.0
comp=E,5.7nm,0.3s,baz=270,slow=26,SNR=6.1
MMAI Mount Meron Ar 8.59 94 Pn Pn 00 34 47.8 -1.7
MMAI Sn Sn 00 36 26.1 0.0
CEL Celeste 8.62 302 ePn Pn 00 34 48.9 -1.1
CEL eSn Sn 00 36 22.2 -4.8
CEL Celeste 8.62 302 ePn Pn 00 34 48.9 -1.1
NIG Nigde 8.64 59 ePN Pn 00 34 51.2 +0.8
KARA Karaisali 8.65 65 ePN Pn 00 34 50.9 +0.6
GRB Gharib 8.68 129 P Pn 00 34 50.1 -0.6
baz=130
GRB Gharib 8.68 129 P Pn 00 34 50.1 -0.6
VTS Vitosha 8.69 350 ⇑P Pn 00 34 52.6 +1.6
VTS Vitosha 8.69 350 eP Pn 00 34 52.3 +1.3
VTS Vitosha 8.69 350 ⇑iP Pn 00 34 52.6 +1.6
VTS Vitosha 8.69 350 P Pn 00 34 52.6 +1.6
LMSR Misrath 8.71 261 iP Pn 00 34 50.0 -1.1
SNR=22
MMLI Mount Malkishu 8.71 98 Pn Pn 00 34 50.1 -1.2
MMLI Sn Sn 00 36 25.1 -4.1
KSDI Kefar Szold 8.77 93 Pn Pn 00 34 51.9 -0.1
KSDI Sn Sn 00 36 28.1 -2.4
BR131 Keskin Array S 8.83 48 ePn Pn 00 34 52.3 -0.7
comp=E,14nm,1.0s
BR131 eSn Sn 00 36 32.4 +0.1
BR131 Keskin Array S 8.83 48 ePn Pn 00 34 52.3 -0.7
comp=E,14nm,1.0s
BR131 eSn Sn 00 36 32.4 +0.1
BRTR Keskin Array B 8.83 48 Pn Pn 00 34 53.4 +0.4
BRTR Sn Sn 00 36 34.1 +1.8
BRTR Keskin Array B 8.83 48 Pn Pn 00 34 53.4 +0.4
comp=E,0.2nm,0.3s,baz=225,slow=14,SNR=21
BRTR Sn Sn 00 36 34.1 +1.8
comp=E,0.2nm,0.3s,baz=115,slow=28,SNR=3.7
BRTR Keskin Array B 8.83 48 Pn Pn 00 34 53.3 +0.4
BRTR Keskin Array B 8.83 48 iP Pn 00 34 54.2 +1.2
comp=E,4.0nm,0.9s
BRTR Sn Sn 00 36 34.1 +1.8
HMDT Nahal Hemdat 8.84 99 Pn Pn 00 34 51.5 -1.5
HMDT Sn Sn 00 36 28.3 -4.0
DSI Dead Sea 8.92 103 Pn Pn 00 34 53.6 -0.4
DSI Sn Sn 00 36 30.6 -3.6
WDD Wield Dalam 8.95 285 ePn Pn 00 34 52.4 -2.0
comp=E,134nm,1.0s
WDD eSn Sn 00 36 31.9 -2.9
KRMI Paran Flat 8.98 113 Pn Pn 00 34 54.0 -0.9
KRMI Sn Sn 00 36 30.4 -5.3
MZDA Masada 8.99 105 Pn Pn 00 34 53.8 -1.2
MZDA Sn Sn 00 36 30.8 -5.1
PUK Puka 9.02 334 ePN Pn 00 34 54.3 -1.2
PUK iSN Sn 00 36 32.5 -4.3
PRNI Paran 9.09 111 Pn Pn 00 34 55.8 -0.5
PRNI Sn Sn 00 36 33.4 -5.0
ZFRI Zfri 9.13 110 Pn Pn 00 34 55.0 -1.9
ZFRI Sn Sn 00 36 33.8 -5.6
YAYL Yayladag 9.17 74 iP Pn 00 34 57.7 +0.1
YAYL iS Sn 00 36 35.0 -5.6
YAYL Yayladag 9.17 74 iP Pn 00 34 57.7 +0.1
TR2 9.22 125 P Pn 00 34 57.5 -0.6
baz=126
TR2 9.22 125 P Pn 00 34 57.5 -0.6
SZH Strazhica 9.24 3 eP Pn 00 35 02.6 +4.2
HRFI Mount Harif 9.26 113 Pn Pn 00 34 58.1 -0.6
HRFI Sn Sn 00 36 36.8 -5.7
MBRI Mt Berech 9.28 114 Pn Pn 00 34 58.0 -1.0
MBRI Sn Sn 00 36 37.6 -5.5
KOZT Kozan 9.30 65 ePN Pn 00 34 60.0 +0.7
HKAT Jabal Katrina 9.32 124 P Pn 00 34 58.9 -0.8
baz=125
HKAT Jabal Katrina 9.32 124 P Pn 00 34 58.9 -0.8

PRD Provadia 9.32 10 eP Pn 00 35 00.3 +0.9
EIL Elat 9.37 115 Pn Pn 00 34 58.9 -1.2
EIL Sn Sn 00 36 42.3 -2.9
EIL Elat 9.37 115 Pn Pn 00 34 58.9 -1.2
comp=E,3.7nm,0.3s,baz=351,slow=18,SNR=33
EIL Sn Sn 00 36 42.3 -2.9
comp=E,1.1nm,0.3s,baz=294,slow=20,SNR=3.1
EIL Elat 9.37 115 Pn Pn 00 34 59.1 -1.1
EIL Sn Sn 00 36 38.7 -6.5
MPEP Malo Peshtene 9.38 353 P Pn 00 35 03.3 +3.0
LJFR Jufra 9.39 241 iP Pn 00 34 58.6 -1.9
SNR=22
CUC Castrocucco 9.57 311 ePn Pn 00 35 03.6 +0.6
CUC eSn Sn 00 36 47.5 -2.7
CUC Castrocucco 9.57 311 ePn Pn 00 35 03.6 +0.6
LKFR Kufra 9.98 190 iP Pn 00 35 07.5 -1.2
SNR=22
ASF Jabal al Asfar 9.99 97 Pn Pn 00 35 10.4 +1.6
ASF Sn Sn 00 37 00.4 -0.3
ASF Jabal al Asfar 9.99 97 Pn Pn 00 35 10.4 +1.6
ASF Sn Sn 00 37 00.4 -0.3
AYKD Aykdinkavak 10.03 67 iP Pn 00 35 08.5 -0.7
AYKD iS Sn 00 36 59.8 -1.7
LSHF Shwairf 10.13 250 iP Pn 00 35 09.1 -1.5
SNR=22
HUMR Humele 10.48 359 ⇑iP Pn 00 35 17.4 +2.0
STON Ston 10.60 329 ePn Pn 00 35 14.1 -2.9
STON Sn Sn 00 37 04.0 -11
TIRR Tirgusor 10.71 13 eP Pn 00 35 17.5 -0.9
TIRR Tirgusor 10.71 13 ePn Pn 00 35 17.5 -0.9
TIRR Tirgusor 10.71 13 ⇓iP Pn 00 35 19.7 +1.3
TIRR Tirgusor 10.71 13 eP Pn 00 35 17.5 -0.9
ISR Istrita 11.12 5 ⇓P Pn 00 35 26.4 +2.2
ISR Istrita 11.12 5 ⇓iP Pn 00 35 26.4 +2.2
ISR Istrita 11.12 5 P Pn 00 35 26.4 +2.2
CFR Carcaliu 11.36 11 ⇓P Pn 00 35 28.1 +0.7
CFR Carcaliu 11.36 11 ⇓iP Pn 00 35 28.1 +0.7
CFR Carcaliu 11.36 11 P Pn 00 35 28.1 +0.7
VOIR 11.39 359 ⇓P Pn 00 35 28.9 +1.0
VOIR 11.39 359 ⇓iP Pn 00 35 28.9 +1.0
VOIR 11.39 359 P Pn 00 35 28.9 +1.0
LOT Lotru 11.46 355 ⇑iP Pn 00 35 29.9 +1.1
MLR Muntele Rosu 11.46 3 Pn Pn 00 35 29.8 +0.9
MLR Muntele Rosu 11.46 3 ⇓iP Pn 00 35 29.7 +0.8
MLR Muntele Rosu 11.46 3 Pn Pn 00 35 29.8 +0.9
comp=E,0.0nm,0.3s,baz=183,slow=5.5,SNR=9.2
MLR Muntele Rosu 11.46 3 Pn Pn 00 35 29.8 +0.9
GZR Gura Zlata 11.50 351 ⇓P Pn 00 35 30.8 +1.4
GZR Gura Zlata 11.50 351 ⇓iP Pn 00 35 30.8 +1.4
GZR Gura Zlata 11.50 351 P Pn 00 35 30.8 +1.4
PLOR Plostina 11.86 5 ⇑P Pn 00 35 35.6 +1.3
PLOR Plostina 11.86 5 ⇑iP Pn 00 35 35.6 +1.3
PLOR Plostina 11.86 5 P Pn 00 35 35.6 +1.3
VRI Vrincioaia 11.88 5 ⇓P Pn 00 35 35.4 +0.9
VRI Vrincioaia 11.88 5 ⇓iP Pn 00 35 35.4 +0.9
VRI Vrincioaia 11.88 5 P Pn 00 35 35.4 +0.9
BZS Buzias 11.89 348 ⇑iP Pn 00 35 34.3 -0.4
TESR Tescani 12.52 5 ⇓iP Pn 00 35 43.7 +0.5
UDBI Udbina 12.77 328 iPn Pn 00 35 45.3 -1.4
DRGR 12.89 352 ⇑P Pn 00 35 49.1 +0.8
DRGR 12.89 352 ⇑iP Pn 00 35 49.1 +0.8
DRGR 12.89 352 P Pn 00 35 49.1 +0.8
SIM Simferopol' 12.89 30 P Pn 00 35 53.3 +5.0
SIM pmax pmax
comp=Z,7.0nm,1.0s
SIM pmax pmax
comp=Z,19nm,1.1s
KEST Kesra 13.12 282 ePn Pn 00 35 49.5 -2.1
KEST Kesra 13.12 282 Pn Pn 00 35 52.8 +1.1
comp=Z,0.0nm,0.3s,baz=290,slow=22,SNR=4.2
PKSM Moragy 13.15 340 epPn P 00 36 03.9 +2.0
NVLJ Novalja 13.20 326 iPn Pn 00 35 50.8 -1.7
NVLJ Sn Sn 00 38 08.2 -11
KIS Kishinev 13.24 11 eP Pn 00 35 52.0 -1.1
KIS eS Sn 00 38 20.0 +0.1
KIS LRM MLR 00 41 42.0
comp=Z,3μm,12.0s
KIS Kishinev 13.24 11 eP Pn 00 35 52.0 -1.1
KIS eS Sn 00 38 20.0 +0.1
KIS MLR MLR
KIS MLR MLR
comp=E,1μm,10.0s
KIS MLR MLR
comp=Z,5μm,10.0s
KIS MLR MLR
comp=N,2μm,12.0s
KIS MLR MLR
comp=Z,3μm,12.0s
KIS Kishinev 13.24 11 eP Pn 00 35 52.0 -1.1
PKSN Nyarlorinc 13.47 344 epPn P 00 36 07.7 +2.2
PKS9 Tamasi 13.60 339 ⇓ePn Pn 00 36 01.8 +3.9
PKS9 Tamasi 13.60 339 ⇓eP Pn 00 36 01.8 +3.9
BUR08 Bucovina Ar. S 13.60 0 ePn Pn 00 35 57.2 -0.9
BUR08 Bucovina Ar. S 13.60 0 ePn Pn 00 35 57.2 -0.9
BOJS Bojanci 13.76 329 iPn Pn 00 35 57.5 -2.7
VSL Villasalto 13.80 298 ePn Pn 00 35 59.2 -1.5
comp=Z,22nm,1.0s
VSL Villasalto 13.80 298 ePn Pn 00 35 59.2 -1.5
comp=Z,22nm,1.0s
BEHE Becsehely 13.98 335 epPn P 00 36 13.1 +2.0
BEHE Becsehely 13.98 335 eP P 00 36 13.1 +2.0
BUD Budapest 14.22 343 epPn P 00 36 16.2 +2.4
BUD Budapest 14.22 343 eP P 00 36 16.2 +2.4
TRPA Tarpa 14.23 353 ⇓ePn Pn 00 36 07.5 +1.0
PKST T''s 14.28 340 ⇓ePn Pn 00 36 09.5 +2.2
PKSG 14.30 341 ⇓ePn Pn 00 36 10.3 +2.7
ANN Anapa 14.30 38 eP Pn 00 36 06.2 -1.4
ANN eS Sn 00 38 47.2 +1.3
ANN pmax pmax
comp=Z,38nm,1.3s
CSKK Cs̈tkako 14.31 341 ePn Pn 00 36 10.0 +2.3
PDKS Podkum 14.31 330 iPn Pn 00 36 08.9 +1.1
PSZ Piszkesteto 14.43 346 eP Pn 00 36 08.2 -1.3
PSZ Piszkesteto 14.43 346 ePn Pn 00 36 08.2 -1.3
PSZ Piszkesteto 14.43 346 ⇓iP Pn 00 36 08.9 -0.6
TRI Trieste 14.58 327 eP Pn 00 36 10.2 -1.1
TRI Trieste 14.58 327 ePn Pn 00 36 10.2 -1.1
TRI Trieste 14.58 327 ePn Pn 00 36 10.2 -1.1
ABSA Djebel Ababsia 14.67 284 P P 00 36 20.0 +1.1
PERS Pernice 14.73 332 iPn Pn 00 36 12.1 -1.4
CMAH Djebel Manchou 14.74 285 P P 00 36 19.0 -0.7
UZH Uzhgorod 14.75 352 eP Pn 00 36 13.5 -0.1
VOY Vojsko 14.77 328 ePn Pn 00 36 11.5 -2.5
VOY e 00 36 21.3
VOY e 00 36 55.9
SOC Sochi 14.79 46 eP Pn 00 36 13.7 -0.5
SOC e 00 38 55.8
SOC pmax pmax
comp=Z,15nm,0.8s
SOC MLR MLR
comp=Z,1μm,14.0s
SOKA Soboth 14.80 332 ⇑iPn Pn 00 36 10.5 -4.0
comp=Z,33nm,0.9s
KECS Kecovo 14.86 348 eP Pn 00 36 14.9 -0.3
KECS Kecovo 14.86 348 ePN Pn 00 36 14.9 -0.3
CADS Cadrg 14.99 328 iPn Pn 00 36 16.5 -0.4
KOLS Kolonicke sedl 15.05 353 eP Pn 00 36 18.1 +0.4
KOLS Kolonicke sedl 15.05 353 ePN Pn 00 36 18.1 +0.4
KOLS Kolonicke sedl 15.05 353 ePn Pn 00 36 18.1 +0.4
ARSA Arzberg 15.09 334 ⇑iPn Pn 00 36 15.4 -2.9
comp=Z,33nm,0.9s,SNR=7.3
VYHS Vyhne 15.21 344 eP Pn 00 36 18.4 -1.5
VYHS Vyhne 15.21 344 ePN Pn 00 36 18.4 -1.5
VYHS Vyhne 15.21 344 eP P 00 36 26.1 +1.3
VYHS epP pP 00 36 34.1 +4.9
VYHS Vyhne 15.21 344 eP P 00 36 26.1 +1.3
PGF Pioggiola 15.28 309 eP P 00 36 24.2 -1.5
comp=Z,235nm,1.1s
PGF Pioggiola 15.28 309 eP P 00 36 24.2 -1.5
comp=Z,118nm,1.1s
CASM Ain Smara 15.46 284 P P 00 36 27.3 -0.4
SMOL Smolenice 15.59 340 eP P 00 36 29.3 +0.3
SMOL Smolenice 15.59 340 eP P 00 36 29.3 +0.3
SMOL Smolenice 15.59 340 eP P 00 36 29.3 +0.3
STHS Stebnicka Huta 15.65 350 eP Pn 00 36 25.3 -0.3
STHS Stebnicka Huta 15.65 350 ePN Pn 00 36 25.3 -0.3
STHS Stebnicka Huta 15.65 350 eP P 00 36 30.8 +1.1
STHS Stebnicka Huta 15.65 350 ePn Pn 00 36 25.3 -0.3
STHS Stebnicka Huta 15.65 350 eP P 00 36 30.8 +1.1
KWP Kalwaria Pacla 15.70 354 eP Pn 00 36 25.0 -1.2
KWP pmax pmax
comp=Z,46nm,1.2s
KWP Kalwaria Pacla 15.70 354 ePn Pn 00 36 25.0 -1.2
comp=Z,46nm,1.2s
KWP Kalwaria Pacla 15.70 354 eP Pn 00 36 26.4 +0.2
KWP Kalwaria Pacla 15.70 354 ePn Pn 00 36 25.0 -1.2
comp=Z,46nm,1.2s
NIE Niedzica 15.80 348 eP P 00 36 30.2 -1.1
NIE eS Sn 00 39 24.1 +1.9
NIE Niedzica 15.80 348 eP P 00 36 30.2 -1.1
NIE eS Sn 00 39 24.1 +1.9
NIE Niedzica 15.80 348 eP P 00 36 30.2 -1.1
LVV L'vov 15.80 357 eP Pn 00 36 28.0 +0.5
LVV eS Sn 00 39 22.0 -0.3
LVV MLR MLR
comp=Z,1μm,10.0s
CHVG Ch'k'valeri 15.81 52 P P 00 36 30.8 -0.7
ABTA Abfaltersbach 15.93 327 ⇓iPn Pn 00 36 26.4 -2.9
comp=Z,51nm,0.7s,SNR=23
MOA Molln 16.06 333 ⇑iPn Pn 00 36 28.2 -2.7
comp=Z,49nm,0.8s,SNR=12
AKH Akhalkalaki 16.23 58 P P 00 36 35.0 -1.4
AKH Akhalkalaki 16.23 58 P P 00 36 35.0 -1.4
SET Setif 16.34 283 P P 00 36 41.0 +3.5
VRAC Vranov 16.54 340 Pn Pn 00 36 37.1 0.0
VRAC Sn Sn 00 39 41.1 +0.8
VRAC Vranov 16.54 340 Pn Pn 00 36 37.1 0.0
comp=Z,0.8nm,0.3s,baz=156,slow=8.7,SNR=23
VRAC Sn Sn 00 39 41.1 +0.8
baz=153,slow=20,SNR=1.6
VRAC Vranov 16.54 340 Pn Pn 00 36 37.1 0.0
VRAC Sn Sn 00 39 41.1 +0.8
RJOB Jochberg 16.56 329 eP P 00 36 40.9 +1.0
comp=Z,46nm,1.3s
OKC Ostrava-Krasne 16.63 344 eP Pn 00 36 36.9 -1.2
OKC MLR MLR
comp=Z,1μm,9.2s
OKC Ostrava-Krasne 16.63 344 eP Pn 00 36 36.9 -1.2
OKC epP P 00 36 41.9 +1.4
OKC eS S 00 39 54.5 +0.8
OKC AMS AMS 00 44 50.0
comp=Z,1μm,9.2s
OJC Ojcow 16.66 348 eP Pn 00 36 37.4 -1.1
OJC Ojcow 16.66 348 ePn Pn 00 36 37.4 -1.1
comp=Z,23nm,1.2s
OJC Ojcow 16.66 348 eP Pn 00 36 37.4 -1.1
OJC Ojcow 16.66 348 ePn Pn 00 36 37.4 -1.1
comp=Z,23nm,1.2s
ONI Oni 16.66 54 P P 00 36 41.4 +0.4
ONI Oni 16.66 54 P P 00 36 41.4 +0.4
WTTA Wattenberg 16.72 326 ⇑iP P 00 36 40.8 -0.9
SNR=12
WTTA Wattenberg 16.72 326 P P 00 36 40.8 -0.9
SNR=12
GNI Garni 16.74 63 ePn Pn 00 36 38.8 -0.9
comp=Z,120nm,1.3s
GNI Garni 16.74 63 ePn Pn 00 36 38.8 -0.9
comp=Z,120nm,1.3s
GNI Garni 16.74 63 iP P 00 36 41.7 -0.3
comp=Z,131nm,1.7s
KIV Kislovodsk 16.80 49 eP Pn 00 36 41.2 +0.8
KIV eS Sn 00 39 46.8 +0.1
KIV pmax pmax
comp=Z,49nm,0.9s
KIV MLR MLR
comp=Z,324nm,13.0s
KIV Kislovodsk 16.80 49 eP Pn 00 36 41.2 +0.8
comp=Z,49nm,0.9s
KBZ Khabaz 16.82 50 P P 00 36 42.5 -0.1
KBZ Khabaz 16.82 50 Pn P 00 36 42.5 -0.1
KBZ Khabaz 16.82 50 Pn P 00 36 42.5 -0.1
comp=Z,0.2nm,0.3s,baz=255,slow=9.0,SNR=27
KBZ Khabaz 16.82 50 P P 00 36 42.5 -0.1
TREC Trest 16.86 338 eP Pn 00 36 41.5 +0.4
TREC eS Sn 00 39 53.4 +5.3
TREC MLR MLR
comp=Z,900nm,11.9s
TREC Trest 16.86 338 eP Pn 00 36 41.5 +0.4
TREC epP pP 00 36 47.2 -0.4
TREC eS Sn 00 39 53.4 +5.3
TREC AMS AMS 00 44 10.0
comp=Z,900nm,11.9s
TREC Trest 16.86 338 eP Pn 00 36 41.5 +0.4
SAOF Saorge 16.90 311 eP P 00 36 42.8 -0.8
SAOF Saorge 16.90 311 eP P 00 36 42.8 -0.8
SAOF Saorge 16.90 311 eP P 00 36 42.8 -0.8
SAOF Saorge 16.90 311 eP P 00 36 42.8 -0.8
KIEV Kiev 16.91 9 eP Pn 00 36 40.7 -0.9
KIEV e 00 39 49.3
KIEV pmax pmax
comp=Z,74nm,1.1s
KIEV Kiev 16.91 9 ePn Pn 00 36 40.7 -0.9
comp=Z,74nm,1.1s
KIEV eSn Sn 00 39 49.3 +0.1
KIEV Kiev 16.91 9 ePn Pn 00 36 40.7 -0.9
comp=Z,74nm,1.1s
KIEV eSn Sn 00 39 49.3 +0.1
SBF Sospel 16.92 311 eP Pn 00 36 42.5 +0.6
comp=Z,121nm,1.0s
SBF Sospel 16.92 311 eP Pn 00 36 42.5 +0.6
comp=Z,60nm,1.0s
FUORN Ofenpass-Fuorn 16.93 322 ePn P 00 36 43.2 -0.9
comp=Z,146nm,1.4s
FUORN Ofenpass-Fuorn 16.93 322 ePn P 00 36 43.2 -0.9
comp=Z,146nm,1.4s
FETA Feichten 16.97 324 ⇑iPn Pn 00 36 42.4 -0.2
comp=Z,41nm,1.0s,SNR=33
AUTN L'Aution 16.99 311 eP P 00 36 44.2 -0.6
AUTN L'Aution 16.99 311 eP P 00 36 44.2 -0.6
AUTN L'Aution 16.99 311 eP P 00 36 44.2 -0.6
AUTN L'Aution 16.99 311 eP P 00 36 44.2 -0.6
ZEI Tsey 17.04 54 eP P 00 36 44.9 -0.4
ZEI pmax pmax
comp=Z,41nm,1.0s
ZEI Tsey 17.04 54 eP P 00 36 44.9 -0.4
comp=Z,41nm,1.0s
NAX Nakhchivan 17.08 67 P P 00 36 46.2 +0.5
SNR=47
NAX Nakhchivan 17.08 67 Pn P 00 36 46.2 +0.5
SNR=47
NAX Nakhchivan 17.08 67 P P 00 36 46.2 +0.5
SNR=47
GEC2 GERESS Array S 17.09 333 eP Pn 00 36 43.6 -0.5
comp=Z,115nm,1.0s
GEC2 GERESS Array S 17.09 333 eP Pn 00 36 43.6 -0.5
GEC2 pmax pmax
comp=Z,222nm,1.0s
GEC2 GERESS Array S 17.09 333 ePn Pn 00 36 43.6 -0.5
GEC2 GERESS Array S 17.09 333 ePn Pn 00 36 43.6 -0.5
GERES GERESS Array B 17.09 333 Pn Pn 00 36 43.3 -0.8
GERES GERESS Array B 17.09 333 Pn Pn 00 36 43.3 -0.8
comp=Z,0.6nm,0.3s,baz=150,slow=14,SNR=47
GERES GERESS Array B 17.09 333 Pn Pn 00 36 43.3 -0.8
TOUF Mont Tournerai 17.11 311 eP P 00 36 46.3 +0.2
TOUF Mont Tournerai 17.11 311 eP P 00 36 46.3 +0.2
TOUF Mont Tournerai 17.11 311 eP P 00 36 46.3 +0.2
TOUF Mont Tournerai 17.11 311 eP P 00 36 46.3 +0.2
MVIF Mont Vial 17.11 310 eP P 00 36 48.3 +2.2
MVIF Mont Vial 17.11 310 eP P 00 36 48.3 +2.2
MVIF Mont Vial 17.11 310 eP P 00 36 48.3 +2.2
MVIF Mont Vial 17.11 310 eP P 00 36 48.3 +2.2
CALN Calern 17.21 310 eP P 00 36 49.4 +2.3
CALN Calern 17.21 310 eP P 00 36 49.4 +2.3
CALN Calern 17.21 310 eP P 00 36 49.4 +2.3
CALN Calern 17.21 310 eP P 00 36 49.4 +2.3
TBLG Delisi 17.22 58 eP P 00 36 47.0 -0.1
TBLG Delisi 17.22 58 P P 00 36 47.1 -0.1
TBLG Delisi 17.22 58 eP P 00 36 47.0 -0.1
DAVOX Davos/Dischmat 17.23 322 P P 00 36 46.8 -0.6
DAVOX Davos/Dischmat 17.23 322 P P 00 36 46.8 -0.6
comp=Z,0.2nm,0.3s,baz=134,slow=15,SNR=17
DAVOX Davos/Dischmat 17.23 322 P P 00 36 46.8 -0.6
LMR La Mourre 17.26 308 eP Pn 00 36 46.2 +0.1
LMR La Mourre 17.26 308 eP Pn 00 36 46.2 +0.1
FRF La Foret Royal 17.28 309 eP P 00 36 48.5 +0.8
comp=Z,138nm,1.6s
FRF La Foret Royal 17.28 309 eP P 00 36 48.5 +0.8
comp=Z,69nm,1.6s
TUE Stuetta 17.30 321 ePn Pn 00 36 44.6 -2.2
comp=Z,93nm,1.6s
KHC Kasperske Hory 17.38 334 eP Pn 00 36 46.7 -0.9
KHC MLR MLR
comp=Z,2μm,11.9s
KHC Kasperske Hory 17.38 334 eP Pn 00 36 46.7 -0.9
KHC epP P 00 36 50.2 +1.3
KHC ex x 00 36 54.2
KHC eS S 00 40 09.1 +0.1

KHC AMS AMS 00 44 40.0
comp=Z,2µm,11.9s
KHC Kasperske Hory 17.38 334 *e*Pn **Pn 00 36 46.2 -1.4**
comp=Z,179nm,1.3s
KHC Kasperske Hory 17.38 334 *e*Pn **Pn 00 36 46.2 -1.4**
comp=Z,179nm,1.3s
FUR Furstenfeldbru 17.55 328 *e*P **P 00 36 51.4 +0.7**
comp=Z,194nm,1.2s
FUR Furstenfeldbru 17.55 328 *e*P **P 00 36 51.4 +0.7**
FUR pmax pmax
comp=Z,328nm,1.2s
FUR Furstenfeldbru 17.55 328 *e*P **P 00 36 51.4 +0.7**
comp=Z,328nm,1.2s
DPC Dobruska-Polom 17.56 341 *e*P **Pn 00 36 49.3 -0.6**
DPC Dobruska-Polom 17.56 341 *e*P **Pn 00 36 49.3 -0.6**
DPC *ex* x 00 36 59.5
DPC *ex* x 00 37 04.8
DPC Dobruska-Polom 17.56 341 *e*P **Pn 00 36 49.3 -0.6**
DAVA Damuels 17.57 323 ⇓ *i*P **Pn 00 36 49.9 -0.2**
comp=Z,30nm,0.8s,SNR=24
DAVA Damuels 17.57 323 P **Pn 00 36 49.9 -0.2**
comp=Z,30nm,0.8s,SNR=24
DGRG David-gareji 17.57 59 P **P 00 36 51.6 +0.5**
DGRG David-gareji 17.57 59 P **P 00 36 51.6 +0.5**
GOF Gofitskoye 17.58 46 *e*P P 00 36 56.2 +5.1
GOF pmax pmax
comp=Z,80nm,1.3s
SURF Saint Ours 17.61 312 *e*P **P 00 36 51.9 +0.3**
SURF Saint Ours 17.61 312 *e*P **P 00 36 51.9 +0.3**
SURF Saint Ours 17.61 312 *e*P **P 00 36 51.9 +0.3**
WET Wettzell 17.65 332 *e*P **P 00 36 52.5 +0.6**
comp=Z,242nm,1.3s
WET Wettzell 17.65 332 *e*P **P 00 36 52.5 +0.6**
WET pmax pmax
comp=Z,241nm,1.3s
WET Wettzell 17.65 332 *e*P **P 00 36 52.5 +0.6**
comp=Z,241nm,1.3s
MAHO Mahon 17.70 295 *i* S **S 00 40 12.7 -3.0**
MBDF Montbardon 17.76 312 *e*P **P 00 36 54.1 +0.8**
comp=Z,102nm,1.1s
MBDF Montbardon 17.76 312 *e*P **P 00 36 54.1 +0.8**
comp=Z,51nm,1.1s
PRU Pruhonice 17.77 337 *e*P **P 00 36 53.0 -0.1**
PRU MLR MLR
comp=Z,1µm,9.6s
PRU Pruhonice 17.77 337 *e*P **P 00 36 53.0 -0.1**
PRU *epP* **pP 00 36 57.0 -0.6**
PRU *ex* x 00 37 03.2
PRU *eS* **S 00 40 21.2 +4.3**
PRU AMS AMS 00 45 40.0
comp=Z,1µm,9.6s
PRU Pruhonice 17.77 337 *e*P **P 00 36 53.0 -0.1**
comp=Z,1µm,9.6s
UPC Upice 17.79 341 *e*P **Pn 00 36 52.0 -0.6**
UPC Upice 17.79 341 *e*P **Pn 00 36 52.0 -0.6**
UPC *epP* **pP 00 37 01.4 +3.6**
UPC *ex* x 00 37 06.9
UPC Upice 17.79 341 *e*P **Pn 00 36 52.0 -0.6**
PRA Prague 17.88 337 P **Pn 00 36 53.0 -0.7**
PRA AMS AMS 00 46 00.0
BNI Bardonecchia 17.99 313 *e*P **Pn 00 36 53.5 -1.7**
BNI pmax pmax
comp=Z,40nm,1.5s
BNI Bardonecchia 17.99 313 *e*P **Pn 00 36 53.5 -1.7**
comp=Z,40nm,1.5s
BNI Bardonecchia 17.99 313 *e*P **Pn 00 36 53.5 -1.7**
comp=Z,40nm,1.5s
KSP Ksiaz 18.02 342 *e*P **Pn 00 36 54.8 -0.6**
KSP *eS* **Sn 00 40 15.5 -0.5**
KSP Ksiaz 18.02 342 *e*P **Pn 00 36 54.9 -0.5**
KSP Ksiaz 18.02 342 *e*P **Pn 00 36 54.8 -0.6**
BEL Belsk 18.08 351 *e*P **Pn 00 36 56.0 -0.2**
BEL *eS* **S 00 40 24.1 +1.0**
BEL Belsk 18.08 351 *e*P **Pn 00 36 56.0 -0.2**
BEL *eS* **S 00 40 24.1 +1.0**
SMRF Simiane la Rot 18.16 309 *e*P **P 00 36 59.1 +1.6**
comp=Z,93nm,1.2s
SMRF Simiane la Rot 18.16 309 *e*P **P 00 36 59.1 +1.6**
comp=Z,46nm,1.2s
LPG La Plagne 18.18 315 *e*P **P 00 37 00.5 +2.5**
comp=Z,41nm,1.0s
LPG La Plagne 18.18 315 *e*P **P 00 37 00.5 +2.5**
comp=Z,20nm,1.0s
LPL La Plagne 18.20 315 *e*P **P 00 37 02.0 +3.9**
comp=Z,41nm,1.0s
PVCC Panska Ves 18.23 338 *e*P **Pn 00 36 57.8 -0.3**
PVCC MLR MLR
comp=Z,900nm,11.4s
PVCC Panska Ves 18.23 338 *e*P **Pn 00 36 57.8 -0.3**
PVCC *epP* **pP 00 37 04.0 +1.4**
PVCC *esP* sP 00 37 12.6 +7.9
PVCC AMS AMS 00 44 50.0
comp=Z,900nm,11.4s
PVCC Panska Ves 18.23 338 *e*P **Pn 00 36 57.8 -0.3**
comp=Z,900nm,11.4s
SENIN Lac Senin/Sane 18.35 317 *e*P **P 00 37 00.5 +0.6**
comp=Z,16nm,0.8s
SENIN Lac Senin/Sane 18.35 317 *e*P **P 00 37 00.4 +0.6**
comp=Z,16nm,0.8s
ORIF Oris-en-Rattie 18.41 312 *e*P **Pn 00 37 01.5 +1.2**
comp=Z,41nm,1.1s
ORIF *eR*
comp=Z,634nm,17.8s
ORIF Oris-en-Rattie 18.41 312 *e*P **Pn 00 37 01.5 +1.2**
comp=Z,21nm,1.1s
ROTZ Rotzenmuhle 18.41 333 *e*P **Pn 00 37 00.7 +0.4**
comp=Z,66nm,1.5s
SPAK Spaichingen-Ko 18.67 324 *e*P **Pn 00 37 04.2 +0.7**
SPAK Spaichingen-Ko 18.67 324 *e*P **Pn 00 37 04.2 +0.7**
BRG Berggiesshubel 18.73 337 *e*P **P 00 37 03.3 -0.4**
comp=Z,22nm,1.0s
BRG *i* 00 37 06.8
comp=Z,33nm,1.1s
BRG S **Sn 00 40 32.0 -1.2**
BRG SCP **ScP 00 45 04.3 -1.7**
comp=Z,10nm,1.8s
BRG
comp=N,749nm,10.4s
BRG
comp=E,972nm,13.5s
BRG
comp=Z,945nm,11.4s
BRG Berggiesshubel 18.73 337 *e*P **P 00 37 03.3 -0.4**
BRG S **Sn 00 40 32.0 -1.2**
BRG pmax pmax
comp=Z,22nm,1.0s
BRG MLR MLR
comp=N,749nm,10.4s
BRG MLR MLR
comp=E,972nm,13.5s
BRG MLR MLR
comp=Z,945nm,11.4s
BRG Berggiesshubel 18.73 337 *e*P **P 00 37 03.3 -0.4**
comp=Z,22nm,1.0s
GRA1 Grafenberg Arr 18.74 331 *e*P **Pn 00 37 04.1 -0.2**
comp=Z,7.0nm,1.2s
GRF Grafenberg Arr 18.74 331 *e*P **Pn 00 37 04.1 -0.2**
comp=Z,259nm,1.2s
GRF *eL* L 00 43 57.7
comp=Z,342nm,19.6s
GRF Grafenberg Arr 18.74 331 *e*P **Pn 00 37 04.1 -0.2**
GRF pmax pmax
comp=Z,7.0nm,1.2s
GRFO Grafenberg 18.74 331 *e*P **P 00 37 02.7 -1.1**
GRFO pmax pmax
comp=Z,255nm,1.3s
GRFO Grafenberg 18.74 331 *e*P **P 00 37 02.7 -1.1**
comp=Z,255nm,1.3s
GRFO Grafenberg 18.74 331 *e*P **P 00 37 02.7 -1.1**
comp=Z,255nm,1.3s
SEKA Sheki 18.82 61 P **Pn 00 37 05.5 +0.1**
SNR=6.3
SEKA Sheki 18.82 61 P **Pn 00 37 05.5 +0.1**
SNR=6.3
SEKA Sheki 18.82 61 P **Pn 00 37 05.5 +0.1**
SNR=6.3
BBS Basel-Blauen 18.90 320 *e*P **P 00 37 05.7 0.0**
BBS Basel-Blauen 18.90 320 *e*P **P 00 37 05.7 0.0**
BBS Basel-Blauen 18.90 320 *e*P **P 00 37 05.7 0.0**
FELD Feldberg im Sc 18.91 322 *e*P **Pn 00 37 06.3 -0.2**
FELD Feldberg im Sc 18.91 322 *e*P **Pn 00 37 06.3 -0.2**
STU Stuttgart 18.94 326 *e*P **Pn 00 37 07.1 +0.4**
comp=Z,42nm,1.0s
STU Stuttgart 18.94 326 *e*P **P 00 37 05.2 -0.8**
STU pmax pmax
comp=Z,53nm,1.0s
STU Stuttgart 18.94 326 *e*P **P 00 37 05.2 -0.8**
comp=Z,52nm,1.0s
STU Stuttgart 18.94 326 *e*P **P 00 37 05.2 -0.8**
comp=Z,52nm,1.0s
BFO Black Forest 19.05 324 *e*P **Pn 00 37 08.7 +0.7**
comp=Z,17nm,1.0s
BFO Black Forest 19.05 324 *e*P **P 00 37 05.7 -1.6**
BFO pmax pmax
comp=Z,60nm,1.2s
BFO Black Forest 19.05 324 *e*P **P 00 37 05.7 -1.6**
comp=Z,60nm,1.2s
BFO Black Forest 19.05 324 *e*P **P 00 37 05.7 -1.6**
comp=Z,60nm,1.2s
VIVF Saint-Julien-l 19.13 310 *e*P **P 00 37 08.1 -0.1**
comp=Z,60nm,1.3s
VIVF Saint-Julien-l 19.13 310 *e*P **P 00 37 08.1 -0.1**
comp=Z,30nm,1.3s
CABF La Chapelle 19.18 317 *e*P **P 00 37 08.7 0.0**
comp=Z,77nm,1.2s
CABF La Chapelle 19.18 317 *e*P **P 00 37 08.7 0.0**
comp=Z,38nm,1.2s
LOMF Lomont 19.20 319 *e*P **Pn 00 37 10.0 +0.1**
LOMF Lomont 19.20 319 *e*P **Pn 00 37 10.0 +0.1**
LOMF Lomont 19.20 319 *e*P **Pn 00 37 10.0 +0.1**
LOMF Lomont 19.20 319 *e*P **Pn 00 37 10.0 +0.1**
GLBA Clilabad 19.31 68 P **Pn 00 37 11.7 +0.5**
SNR=22
GLBA Clilabad 19.31 68 P **Pn 00 37 11.7 +0.5**
SNR=22
GLBA Clilabad 19.31 68 P **Pn 00 37 11.7 +0.5**
SNR=22
LASF Ste Croix 19.32 308 *e*P **P 00 37 10.7 +0.5**
comp=Z,175nm,1.4s
LASF Ste Croix 19.32 308 *e*P **P 00 37 10.7 +0.5**
comp=Z,88nm,1.4s
MOF Molkenrain 19.34 321 *e*P **Pn 00 37 11.5 -0.2**
MOF Molkenrain 19.34 321 *e*P **Pn 00 37 11.5 -0.2**
MOF Molkenrain 19.34 321 *e*P **Pn 00 37 11.5 -0.2**
MOF Molkenrain 19.34 321 *e*P **Pn 00 37 11.5 -0.2**
MOX Moxa 19.35 333 *e*P **P 00 37 10.8 +0.3**
comp=Z,31nm,0.9s
MOX *eL* L 00 45 09.1
comp=Z,753nm,18.7s
MOX Moxa 19.35 333 *e*P **P 00 37 10.8 +0.3**
MOX pmax pmax
comp=Z,10.0nm,0.9s
MOX MLR MLR
comp=Z,31µm,18.7s
MOX Moxa 19.35 333 *e*P **P 00 37 10.8 +0.3**
comp=Z,31µm,18.7s
CLL Collm 19.41 336 *e*P **P 00 37 11.2 +0.1**
comp=Z,68nm,1.1s
CLL Collm 19.41 336 *i* P **P 00 37 11.6 +0.5**
CLL *eS* **Sn 00 40 47.0 -2.6**
CLL pmax pmax
comp=Z,68nm,1.1s
CLL Collm 19.41 336 *i* P **P 00 37 11.6 +0.5**
comp=Z,68nm,1.1s
CLL *i* sP **sP 00 37 14.7 -2.9**
CLL *i* 00 37 16.2
CLL *eS* **Sn 00 40 47.0 -2.6**
CLL Lmax 00 45 00.0
CLL Collm 19.41 336 *i* P **P 00 37 11.6 +0.5**
comp=Z,68nm,1.1s
SSB Saint Sauveur 19.41 311 *e*P **P 00 37 09.4 -1.9**
SSB pmax pmax
comp=Z,16nm,0.9s
SSB Saint Sauveur 19.41 311 *e*P **P 00 37 09.4 -1.9**
comp=Z,16nm,0.9s
SSB Saint Sauveur 19.41 311 *e*P **P 00 37 09.4 -1.9**
comp=Z,16nm,0.9s
IML Ismayilli 19.44 63 P **Pn 00 37 12.4 -0.4**
SNR=4.9
IML Ismayilli 19.44 63 P **Pn 00 37 12.4 -0.4**
SNR=4.9
IML Ismayilli 19.44 63 P **Pn 00 37 12.4 -0.4**
SNR=4.9
HINF Hinteralfeld 19.47 320 *e*P **Pn 00 37 13.3 +0.2**
comp=Z,54nm,1.0s
HINF Hinteralfeld 19.47 320 *e*P **Pn 00 37 13.3 +0.2**
comp=Z,27nm,1.0s
MAK Makhachkala 19.56 56 *e*P **Pn 00 37 15.1 +0.9**
MAK pmax pmax
comp=Z,384nm,1.6s
CDF Champ du Feu 19.63 322 *e*P **Pn 00 37 14.9 -0.2**
comp=Z,54nm,1.0s
CDF Champ du Feu 19.63 322 *e*P **Pn 00 37 14.9 -0.2**
comp=Z,27nm,1.0s
FILF Fillols 19.66 302 *e*P **Pn 00 37 17.0 +1.6**
FILF Fillols 19.66 302 *e*P **Pn 00 37 17.0 +1.6**
TOD Tromm 19.71 327 *e*P **Pn 00 37 15.7 -0.3**
TOD Tromm 19.71 327 *e*P **Pn 00 37 15.7 -0.3**
TOD Tromm 19.71 327 *e*P **Pn 00 37 15.7 -0.3**
PQL Pirkuli 19.74 63 P **Pn 00 37 16.8 +0.3**
SNR=21
PQL Pirkuli 19.74 63 P **Pn 00 37 16.8 +0.3**
SNR=21
PQL Pirkuli 19.74 63 P **Pn 00 37 16.8 +0.3**
SNR=21
LANF Langenberg 19.75 324 *e*P **Pn 00 37 17.9 +1.5**
LANF Langenberg 19.75 324 *e*P **Pn 00 37 17.9 +1.5**
LANF Langenberg 19.75 324 *e*P **Pn 00 37 17.9 +1.5**
LRDF Laroque-de-Fa 19.79 303 *e*P **Pn 00 37 16.4 -0.6**
LRDF Laroque-de-Fa 19.79 303 *e*P **Pn 00 37 16.4 -0.6**
LRDF Laroque-de-Fa 19.79 303 *e*P **Pn 00 37 16.4 -0.6**
QUBA Quba, Azerbaij 19.80 62 P **Pn 00 37 17.5 +0.4**
SNR=2.8
QUBA Quba, Azerbaij 19.80 62 P **Pn 00 37 17.5 +0.4**
SNR=2.8
QUBA Quba, Azerbaij 19.80 62 P **Pn 00 37 17.5 +0.4**
SNR=2.8
VORD Divnogorie 19.80 27 *e*P **P 00 37 15.5 +0.1**
VORD pmax pmax
comp=N,90nm,0.8s
VORD pmax pmax
comp=E,70nm,0.8s
VORD pmax pmax
comp=Z,70nm,0.8s
VORD MLR MLR
comp=N,480nm,17.0s
VORD MLR MLR
comp=E,260nm,17.0s
VORD MLR MLR
comp=Z,700nm,17.0s
VORD Divnogorie 19.80 27 *e*P **P 00 37 15.5 +0.1**
KTD Kalmit 19.85 325 *e*P **Pn 00 37 19.5 +1.9**
KTD Kalmit 19.85 325 *e*P **Pn 00 37 19.5 +1.9**
HAU Haudompre 19.85 320 *e*P **Pn 00 37 18.1 +0.4**
comp=Z,59nm,0.8s
HAU *eR*
comp=Z,798nm,19.0s
HAU Haudompre 19.85 320 *e*P **Pn 00 37 18.1 +0.4**
comp=Z,30nm,0.8s
ALIB Äli-Bayra 19.89 66 P **Pn 00 37 19.8 +1.7**
SNR=8.2
ALIB Äli-Bayra 19.89 66 P **Pn 00 37 19.8 +1.7**
SNR=8.2
ALIB Äli-Bayra 19.89 66 P **Pn 00 37 19.8 +1.7**
SNR=8.2
VSR Storozhevoye 19.96 26 *e*P **P 00 37 16.8 -0.3**
VSR pmax pmax
comp=N,70nm,1.2s
VSR pmax pmax
comp=E,50nm,1.2s
VSR pmax pmax
comp=Z,70nm,1.2s
VSR MLR MLR
comp=N,330nm,17.0s
VSR MLR MLR
comp=E,440nm,17.0s
VSR MLR MLR
comp=Z,820nm,17.0s
VSR Storozhevoye 19.96 26 *e*P **P 00 37 16.8 -0.3**
VALF Valcebollere 19.99 302 *e*P **Pn 00 37 20.1 +0.6**
VALF Valcebollere 19.99 302 *e*P **Pn 00 37 20.1 +0.6**
VALF Valcebollere 19.99 302 *e*P **Pn 00 37 20.1 +0.6**
SUW Suwalki 20.03 357 *e*P **P 00 37 16.7 -1.1**
SUW pmax pmax
comp=Z,248nm,1.0s
SUW Suwalki 20.03 357 *e*P **P 00 37 16.7 -1.1**
comp=Z,248nm,1.0s
SUW Suwalki 20.03 357 *e*P **P 00 37 16.3 -1.5**
SUW *eS* **S 00 40 59.7 -2.6**
SUW Suwalki 20.03 357 *e*P **P 00 37 16.7 -1.1**
comp=Z,248nm,1.0s
SIZA Siyzn 20.03 63 P **Pn 00 37 20.1 +0.2**
SNR=5.5
SIZA Siyzn 20.03 63 P **Pn 00 37 20.1 +0.2**
SNR=5.5
SIZA Siyzn 20.03 63 P **Pn 00 37 20.1 +0.1**
SNR=5.5
GKP Gorka Klasztor 20.05 346 *e*P **P 00 37 16.9 -1.1**
GKP Gorka Klasztor 20.05 346 *e*P **P 00 37 17.0 -1.1**
UBBA Unterbreizbach 20.11 331 *e*P **P 00 37 18.9 +0.2**
comp=Z,62nm,1.4s
MTLF Montolieu 20.15 304 *e*P **P 00 37 17.8 -1.5**
comp=Z,44nm,1.2s
MTLF Montolieu 20.15 304 *e*P **P 00 37 17.8 -1.5**
comp=Z,22nm,1.2s
THEF They Montfort 20.18 320 *e*P Pn 00 37 21.0 -0.5
THEF They Montfort 20.18 320 *e*P Pn 00 37 21.0 -0.5
THEF They Montfort 20.18 320 *e*P Pn 00 37 21.0 -0.5
THEF They Montfort 20.18 320 *e*P Pn 00 37 21.0 -0.5
RUE Ruedersdorf 20.18 339 *e*P **P 00 37 19.1 -0.4**
comp=Z,102nm,1.0s
RUE Ruedersdorf 20.18 339 *e*P **P 00 37 19.1 -0.4**
comp=Z,102nm,1.0s
LBL Lubilhac 20.20 310 *e*P Pn 00 37 21.1 -0.8
LBL Lubilhac 20.20 310 *e*P Pn 00 37 21.1 -0.8
LBL Lubilhac 20.20 310 *e*P Pn 00 37 21.1 -0.8
LBL Lubilhac 20.20 310 *e*P Pn 00 37 21.1 -0.8
TNS Taunus Mts 20.32 328 *e*P **P 00 37 21.6 +0.5**
comp=Z,150nm,2.1s
TNS Taunus Mts 20.32 328 *e*P **P 00 37 21.6 +0.5**
TNS pmax pmax
comp=Z,53nm,2.1s
TNS Taunus Mts 20.32 328 *e*P **P 00 37 21.6 +0.5**
comp=Z,53nm,2.1s
VOR Voronezh 20.39 26 *e*P **P 00 37 22.0 +0.2**
VOR pmax pmax
comp=Z,250nm,1.6s
VOR Voronezh 20.39 26 *e*P **P 00 37 22.0 +0.2**
comp=Z,250nm,1.6s
ABH Alteburg 20.49 326 *e*P Pn 00 37 24.9 -0.2
ABH Alteburg 20.49 326 *e*P Pn 00 37 24.9 -0.2
SMF Signal de Mont 20.50 314 *e*P **P 00 37 23.0 -0.1**
comp=Z,50nm,0.9s
SMF Signal de Mont 20.50 314 *e*P **P 00 37 23.0 -0.1**
comp=Z,25nm,0.9s
GOBA Gobu 20.52 65 P **Pn 00 37 26.6 +1.0**
SNR=15
GOBA Gobu 20.52 65 P **Pn 00 37 26.6 +1.0**
SNR=15
GOBA Gobu 20.52 65 P **Pn 00 37 26.6 +1.1**
SNR=15
PAGF Fort de Pagny 20.52 321 *e*P Pn 00 37 25.7 +0.2
comp=Z,55nm,1.1s,baz=139
PAGF Fort de Pagny 20.52 321 *e*P Pn 00 37 25.7 +0.2
comp=Z,28nm,1.1s,baz=139
TAM Tamanrasset 20.57 242 *e*P **P 00 37 22.6 -1.6**
TAM pmax pmax
comp=Z,14nm,0.8s
TAM Tamanrasset 20.57 242 *e*P **P 00 37 22.6 -1.6**
comp=Z,14nm,0.8s
TAM Tamanrasset 20.57 242 *e*P **P 00 37 22.6 -1.6**
comp=Z,14nm,0.8s
PYM Petit Puy Mans 20.59 311 *e*P **P 00 37 23.9 -0.2**
PYM Petit Puy Mans 20.59 311 *e*P **P 00 37 23.9 -0.2**
PYM Petit Puy Mans 20.59 311 *e*P **P 00 37 23.9 -0.2**
PYM Petit Puy Mans 20.59 311 *e*P **P 00 37 23.9 -0.2**
RUP Ruppelstein 20.59 325 *e*P Pn 00 37 25.4 -1.0
RUP Ruppelstein 20.59 325 *e*P Pn 00 37 25.4 -1.0
RUP Ruppelstein 20.59 325 *e*P Pn 00 37 25.4 -1.0
RAYN Ar Rayn 20.62 115 *e*P Pn 00 37 27.0 +0.1
comp=Z,35nm,1.4s
SFTF Sexfontaines 20.68 319 *e*P **P 00 37 25.7 +0.7**
comp=Z,90nm,1.0s,baz=130
SFTF Sexfontaines 20.68 319 *e*P **P 00 37 25.7 +0.7**
comp=Z,45nm,1.0s,baz=130
CLZ Clausthal 20.78 333 *e*P **P 00 37 26.2 +0.2**
comp=Z,136nm,1.4s
CLZ Clausthal 20.78 333 *e*P **P 00 37 26.2 +0.2**
CLZ pmax pmax
comp=Z,220nm,1.4s
CLZ Clausthal 20.78 333 *e*P **P 00 37 26.2 +0.2**
comp=Z,220nm,1.4s
LOR Lormes 20.82 316 *e*P **P 00 37 26.3 -0.2**
comp=Z,74nm,1.0s,baz=128
LOR *eR*
comp=Z,752nm,22.0s
LOR Lormes 20.82 316 *e*P **P 00 37 26.3 -0.2**
comp=Z,37nm,1.0s,baz=128
CAF Calviac 20.84 308 *e*P **P 00 37 27.4 +0.6**
comp=Z,47nm,1.0s
CAF Calviac 20.84 308 *e*P **P 00 37 27.4 +0.6**
comp=Z,24nm,1.0s
MEZF Maizieres J'vi 20.84 320 *e*P **P 00 37 26.9 +0.1**
comp=Z,300nm,1.1s,baz=113
MEZF Maizieres J'vi 20.84 320 *e*P **P 00 37 26.9 +0.1**
comp=Z,150nm,1.1s,baz=113
AVF Avril sur Loir 20.87 314 *e*P **P 00 37 27.9 +0.9**
comp=Z,49nm,1.2s
AVF Avril sur Loir 20.87 314 *e*P **P 00 37 27.9 +0.9**
comp=Z,25nm,1.2s
NACGM Naroch 20.90 3 *e*P **P 00 37 23.0 -4.2**
SSF Saint Saulge 20.91 315 *e*P **P 00 37 27.9 +0.4**
comp=Z,124nm,1.2s
SSF Saint Saulge 20.91 315 *e*P **P 00 37 27.9 +0.4**
comp=Z,62nm,1.2s
WLF Walferdange 21.01 324 P **P 00 37 29.5 +1.0**
comp=Z,92nm,1.3s
WLF Walferdange 21.01 324 *e*P **P 00 37 31.9 +3.4**
comp=Z,153nm,1.1s
WLF Walferdange 21.01 324 *e*P **P 00 37 26.9 -1.6**
WLF pmax pmax
comp=Z,115nm,1.0s
WLF Walferdange 21.01 324 *e*P **P 00 37 26.9 -1.6**
comp=Z,116nm,1.0s
WLF Walferdange 21.01 324 *e*P **P 00 37 26.9 -1.6**
comp=Z,115nm,1.0s
BGF Bois d'Agland 21.06 313 *e*P **P 00 37 29.6 +0.5**
comp=Z,112nm,0.9s
BGF Bois d'Agland 21.06 313 *e*P **P 00 37 29.6 +0.5**
comp=Z,56nm,0.9s
RESF Ens 21.30 302 *e*P **P 00 37 33.7 +1.9**
RESF Ens 21.30 302 *e*P **P 00 37 33.7 +1.9**
RESF Ens 21.30 302 *e*P **P 00 37 33.7 +1.9**
TCF Toulx Ste Croi 21.32 312 *e*P **P 00 37 32.5 +0.5**
comp=Z,107nm,1.1s
TCF Toulx Ste Croi 21.32 312 *e*P **P 00 37 32.5 +0.5**
comp=Z,54nm,1.1s
RJF Les Rejaudoux 21.34 309 *e*P **P 00 37 33.0 +0.8**
comp=Z,62nm,0.9s
RJF *eR*
comp=Z,620nm,22.8s
RJF Les Rejaudoux 21.34 309 *e*P **P 00 37 33.0 +0.8**
comp=Z,31nm,0.9s
EPF Esparros 21.36 302 *e*P **P 00 37 33.7 +1.3**
comp=Z,30nm,1.1s
EPF Esparros 21.36 302 *e*P **P 00 37 33.7 +1.3**
comp=Z,15nm,1.1s
NRDL Niedersach Rie 21.40 334 *e*P **P 00 37 32.6 0.0**
comp=Z,102nm,1.6s
HYF Humbligny 21.53 315 *e*P **P 00 37 36.8 +2.6**
HYF Humbligny 21.53 315 *e*P **P 00 37 36.8 +2.6**
MEM Membach 21.71 326 P **P 00 37 37.2 +1.2**
comp=Z,37nm,1.2s
LFF La Frestale 21.71 307 *e*P **P 00 37 37.0 +0.9**
comp=Z,67nm,0.9s
LFF La Frestale 21.71 307 *e*P **P 00 37 37.0 +0.9**
comp=Z,34nm,0.9s
HGN Heimansgroeve 21.85 326 *e*P **P 00 37 39.0 +1.5**
comp=Z,64nm,1.0s
HGN *eS* Sn 00 41 48.8 +0.6
HGN *eL* L 00 47 30.0
comp=Z,511nm,21.4s
GIVF Givet 21.95 323 *e*P **P 00 37 41.3 +2.7**
comp=Z,129nm,1.1s
GIVF Givet 21.95 323 *e*P **P 00 37 41.3 +2.7**
comp=Z,64nm,1.1s
ETSF Etsaut 21.96 301 *e*P **P 00 37 41.0 +2.1**
comp=Z,40nm,1.0s
ETSF Etsaut 21.96 301 *e*P **P 00 37 41.0 +2.1**
comp=Z,20nm,1.0s
BEBN Eben Emael 21.99 326 P **P 00 37 42.3 +3.3**
comp=Z,16nm,1.5s
DOU Dourbes 22.06 323 P **P 00 37 40.2 +0.5**
comp=Z,13nm,0.8s
RGN Rugen 22.14 341 *e*P **P 00 37 38.9 -1.7**
comp=Z,104nm,1.0s
RGN Rugen 22.14 341 *e*P **P 00 37 38.9 -1.7**
comp=Z,104nm,1.0s

IBBN Ibbenburen 22.16 331 *e*P **P 00 37 41.9 +1.1**
comp=Z,124nm,1.4s
BAIF Baives 22.23 322 *e*P **P 00 37 41.3 -0.3**
comp=Z,84nm,0.8s
BAIF Baives 22.23 322 *e*P **P 00 37 41.3 -0.3**
comp=Z,42nm,0.8s
BSD Bornholm Skovb 22.27 344 *e*P P 00 37 46.8 +4.8
BSD pmax pmax
comp=Z,17nm,0.9s
BSD MLR MLR
comp=Z,670nm,13.0s
BSD Bornholm Skovb 22.27 344 *i* P P 00 37 46.8 +4.8
comp=Z,17nm,0.9s
BSD
comp=Z,670nm,13.0s
WTSB Winterswijk 22.30 329 *e*P **P 00 37 43.1 +0.8**
comp=Z,183nm,1.5s
WTSB Winterswijk 22.30 329 *e*P **P 00 37 43.1 +0.8**
comp=Z,183nm,1.5s
SJPF Ste Jean 22.48 302 *e*P **P 00 37 48.1 +3.6**
comp=Z,76nm,1.4s
BSEG Bad Segeberg 22.51 337 *e*P **P 00 37 42.7 -1.8**
comp=Z,280nm,1.3s
BSEG Bad Segeberg 22.51 337 *e*P **P 00 37 42.7 -1.8**
BSEG pmax pmax
comp=Z,445nm,1.3s
BSEG Bad Segeberg 22.51 337 *e*P **P 00 37 42.7 -1.8**
comp=Z,445nm,1.3s
OBN Obninsk 22.53 17*d i*P **P 00 37 42.8 -1.9**
OBN *i* 00 37 54.5
OBN *i* 00 38 09.7
OBN pmax pmax
comp=Z,70nm,1.1s
OBN MLR MLR
comp=Z,1μm,21.0s
OBN Obninsk 22.53 17 *i* P **P 00 37 42.8 -1.9**
comp=Z,70nm,1.1s
MFF Saint Martin d 22.93 311 *e*P **P 00 37 49.3 +0.2**
comp=Z,64nm,0.9s
MFF Saint Martin d 22.93 311 *e*P **P 00 37 49.3 +0.2**
comp=Z,32nm,0.9s
LLD Lille Linde 23.14 341 *i* P **P 00 37 49.8 -1.3**
LLD pmax pmax
comp=Z,56nm,0.9s
LLD Lille Linde 23.14 341 *i* P **P 00 37 49.8 -1.3**
comp=Z,56nm,0.9s
LLD Lille Linde 23.14 341 *i* P **P 00 37 49.8 -1.3**
comp=Z,56nm,0.9s
MOS Moscow 23.35 18 *e*P P 00 37 47.6 -5.7
MOS pmax pmax
comp=Z,200nm,1.6s
MOS pmax pmax
comp=Z,80nm,1.2s
MOS MLR MLR
comp=N,800nm,12.0s
MOS MLR MLR
comp=Z,900nm,12.0s
COP Copenhagen 23.39 342 *e*P **P 00 37 52.8 -0.8**
COP *i* S **S 00 42 08.6 +2.7**
COP pmax pmax
comp=Z,21nm,0.8s
COP MLR MLR
comp=Z,230nm,14.0s
COP Copenhagen 23.39 342 *i* P **P 00 37 52.8 -0.8**
comp=Z,21nm,0.8s
COP *i* S **S 00 42 08.6 +2.7**
COP
comp=Z,230nm,13.0s
COP Copenhagen 23.39 342 *e*P **P 00 37 52.8 -0.8**
comp=Z,21nm,0.8s
LDF La Druitiere 23.80 315 *e*P **P 00 37 57.6 -0.1**
comp=Z,69nm,0.8s
ESDC Sonseca Array 23.94 292 P **P 00 37 59.7 +0.5**
ESDC Sonseca Array 23.94 292 P **P 00 37 59.7 +0.5**
comp=Z,7.4nm,0.7s,baz=82,slow=9.1,SNR=46
ESLA Sonseca Array 23.94 292 *e*P **P 00 37 57.2 -2.1**
comp=Z,10nm,1.1s
FLN La Foliniere 24.09 315 *e*P **P 00 38 00.5 0.0**
comp=Z,180nm,1.2s,baz=122
FLN *e*R
comp=Z,527nm,20.8s
GRR Gorron 24.14 314 *e*P **P 00 38 00.1 -0.8**
comp=Z,176nm,1.2s
PAB San Pablo 24.23 292 *e*P **P 00 38 00.3 -1.7**
PAB pmax pmax
comp=Z,33nm,1.2s
PAB San Pablo 24.23 292 *e*P **P 00 38 00.3 -1.7**
comp=Z,33nm,1.2s
VSU Vasula 24.46 2*d i*P **P 00 38 02.9 -0.8**
VSU pmax pmax
comp=Z,46nm,1.0s
MDT Midelt 24.87 276 P **P 00 38 09.1 +1.2**
MDT Midelt 24.87 276 P **P 00 38 09.1 +1.2**
comp=Z,14nm,1.0s,baz=93,slow=11,SNR=9.8
MDT LR LR 00 51 27.4
comp=Z,132nm,18.3s,baz=224,slow=45
REAL Reales 24.90 284 *e*P **P 00 38 09.0 +0.8**
MUD Monsted U'grnd 24.98 339 *i* P **P 00 38 08.5 +0.1**
MUD *i* S S 00 42 40.8 +9.4
MUD pmax pmax
comp=Z,39nm,0.9s
MUD Monsted U'grnd 24.98 339 *i* P **P 00 38 08.5 +0.1**
comp=Z,39nm,0.8s
MUD *i* S S 00 42 40.8 +9.4
LIJA Lijar 25.03 285 *i* P **P 00 38 09.0 -0.3**
SGMF Saint Gilles 25.10 313 *e*P **P 00 38 10.5 +0.8**
comp=Z,146nm,1.1s
QUIF Quistinic 25.34 312 *e*P **P 00 38 12.1 +0.3**
comp=Z,95nm,1.0s
ROSF Rostrenen 25.57 313 *e*P **P 00 38 16.2 +2.3**
comp=Z,50nm,0.9s
PBRG Braganca 26.25 297 *e*P **P 00 38 20.6 +0.3**
comp=Z,31nm,1.3s
PBRG Braganca 26.25 297 *e*P **P 00 38 20.6 +0.3**
comp=Z,31nm,1.3s
PBAR Barrancos 26.29 288 *e*P **P 00 38 21.3 +0.7**
comp=Z,31nm,1.0s
PBAR Barrancos 26.29 288 *e*P **P 00 38 21.3 +0.7**
comp=Z,31nm,1.0s
MVO Moncorvo 26.40 295 *e*P **P 00 38 22.6 +1.0**
comp=Z,54nm,1.3s
MVO Moncorvo 26.40 295 *e*P **P 00 38 22.6 +1.0**
comp=Z,54nm,1.3s
PMRV Marv??o 26.58 291 *e*P **P 00 38 23.4 +0.2**
comp=Z,30nm,1.0s
PMRV Marv??o 26.58 291 *e*P **P 00 38 23.4 +0.2**
comp=Z,30nm,1.0s
PCBR Castelo Branco 26.66 292 *e*P **P 00 38 24.8 +0.9**
comp=Z,26nm,0.9s
PCBR Castelo Branco 26.66 292 *e*P **P 00 38 24.8 +0.9**
comp=Z,26nm,0.9s
PESTR Estremoz 26.72 290 *e*P **P 00 38 24.2 -0.3**
comp=Z,26nm,1.3s
PESTR Estremoz 26.72 290 *e*P **P 00 38 24.2 -0.3**
comp=Z,26nm,1.3s
PVAQ Vaqueiros 26.86 287 *e*P **P 00 38 25.8 +0.1**
comp=Z,44nm,1.3s
PVAQ Vaqueiros 26.86 287 *e*P **P 00 38 25.8 +0.1**
comp=Z,44nm,1.3s
PVRL Vila Real 26.93 295 *e*P **P 00 38 27.0 +0.7**
comp=Z,23nm,2.8s
PVRL Vila Real 26.93 295 *e*P **P 00 38 27.0 +0.7**
comp=Z,23nm,2.8s
PBEJ Beja 26.95 288 *e*P **P 00 38 24.1 -2.4**
comp=Z,27nm,0.9s
PBEJ Beja 26.95 288 *e*P **P 00 38 24.1 -2.4**
comp=Z,27nm,0.9s
PBDV Barranco-do-Ve 27.04 286 *e*P **P 00 38 27.8 +0.5**
comp=Z,60nm,1.2s
PBDV Barranco-do-Ve 27.04 286 *e*P **P 00 38 27.8 +0.5**
comp=Z,60nm,1.2s
EVO Evora 27.05 289 *e*P **P 00 38 28.4 +0.9**
comp=Z,42nm,1.0s
EVO *e*R
comp=Z,459nm,19.2s
EVO Evora 27.05 289 *e*P **P 00 38 28.4 +0.9**
comp=Z,30nm,1.4s
EVO Evora 27.05 289 *e*P **P 00 38 28.4 +0.9**
comp=Z,30nm,1.4s
PCVE Castro Verde 27.10 287 *e*P **P 00 38 28.0 +0.1**
comp=Z,22nm,1.5s
PCVE Castro Verde 27.10 287 *e*P **P 00 38 28.0 +0.1**
comp=Z,22nm,1.5s
HFS Hagfors 27.18 347 P **P 00 38 28.4 +0.1**
HFS Hagfors 27.18 347 P **P 00 38 28.4 +0.1**
comp=Z,9.5nm,0.6s,baz=156,slow=11,SNR=19
PMTG Montargil 27.22 290 *e*P **P 00 38 30.0 +1.1**
comp=Z,26nm,1.4s
PMTG Montargil 27.22 290 *e*P **P 00 38 30.0 +1.1**
comp=Z,26nm,1.4s
FINES FINESS Array B 27.43 1 P **P 00 38 29.5 -1.1**
FINES PcP **PcP 00 41 50.1 +1.3**
FINES FINESS Array B 27.43 1 P **P 00 38 29.5 -1.1**
comp=Z,10nm,0.8s,baz=157,slow=10,SNR=23
FINES PcP **PcP 00 41 50.1 +1.3**
comp=Z,3.0nm,1.0s,baz=126,slow=3.3,SNR=4.3
FINES FINESS Array B 27.43 1 PcP **PcP 00 41 50.1 +1.3**
FIA1 FINESS Array S 27.44 1 *e*P **P 00 38 29.0 -1.6**
NAO01 NORSAR Array S 28.39 345 *e*P **P 00 38 37.6 -1.5**
comp=Z,35nm,1.0s
NB2 NORSAR Subarra 28.50 346 P **P 00 38 39.6 -0.6**
comp=Z,21nm,1.0s,baz=159,slow=9.3
NB2 NORSAR Subarra 28.50 346 P **P 00 38 39.6 -0.6**
comp=Z,21nm,1.0s,baz=159,slow=9.1,SNR=4.2
NOA NORSAR Array B 28.50 346 P **P 00 38 39.5 -0.7**
NOA NORSAR Array B 28.50 346 P **P 00 38 39.5 -0.7**
comp=Z,11nm,0.9s,baz=158,slow=9.2,SNR=27
NOA LR LR 00 50 48.7
comp=Z,204nm,18.5s,baz=180,slow=38
EKA Eskdalemuir Ar 28.98 326 P **P 00 38 44.1 -0.4**
EKA PcP **PcP 00 41 54.0 +1.2**
EKA Eskdalemuir Ar 28.98 326 P **P 00 38 44.1 -0.4**
comp=Z,18nm,0.8s,baz=125,slow=9.3,SNR=55
EKA PcP **PcP 00 41 54.0 +1.2**
comp=Z,2.0nm,0.7s,baz=96,slow=3.4,SNR=5.6
EKA Eskdalemuir Ar 28.98 326 PcP **PcP 00 41 54.0 +1.2**
ESK Eskdalemuir 29.00 326 *i* P **P 00 38 45.7 +1.1**
ESK Eskdalemuir 29.00 326 *e*P **P 00 38 43.2 -1.4**
comp=Z,31nm,1.1s
AKTO Aktyubinsk 29.01 46 P **P 00 38 44.7 -0.1**
AKTO pmax pmax
comp=Z,6.0nm,1.0s
AKTO Aktyubinsk 29.01 46 P **P 00 38 44.7 -0.1**
AKTO Aktyubinsk 29.01 46 P **P 00 38 44.7 -0.1**
comp=Z,5.9nm,1.0s,baz=249,slow=9.8,SNR=17
ABKAR Akbulak array 29.78 49 *e*P **P 00 38 50.7 -1.0**
TOA0 Torodi Ar. Sit 29.80 231 *e*P **P 00 38 50.3 -1.7**
TORD Torodi Ar. Bea 29.80 231 P **P 00 38 52.7 +0.6**
TORD PcP **PcP 00 41 56.7 +1.1**
TORD Torodi Ar. Bea 29.80 231 P **P 00 38 52.7 +0.6**
comp=Z,9.5nm,0.7s,baz=32,slow=8.7,SNR=102
TORD PcP **PcP 00 41 56.7 +1.1**
comp=Z,1.5nm,0.9s,baz=29,slow=1.6,SNR=4.4
TMCR Tamitsa 31.18 11 *e*P **P 00 39 02.5 -1.3**
TMCR *e* 00 41 55.6
TMCR pmax pmax
comp=Z,16nm,1.0s
TMCR Tamitsa 31.18 11 *e*P **P 00 39 02.5 -1.3**
comp=Z,16nm,1.0s
TMCR Tamitsa 31.18 11 *e*PcP **PcP 00 41 55.6 -2.7**
ARU Arti 31.95 35*c i*P **P 00 39 10.4 -0.3**
ARU 00 40 10.8
ARU 00 42 02.1
ARU S **S 00 44 22.4 +1.2**
ARU SS **SnSn 00 46 05.2 -4.8**
ARU pmax pmax
comp=Z,36nm,1.7s
ARU MLR MLR
comp=Z,292nm,14.0s
ARU Arti 31.95 35 *i* P **P 00 39 10.4 -0.3**
comp=Z,36nm,1.7s
SOKR **Solikamsk 32.91 29***d i*P **P 00 39 19.4 +0.4**
SOKR pmax pmax
comp=Z,40nm,1.0s
SOKR MLR MLR
comp=Z,370nm,17.0s
SOKR Solikamsk 32.91 29 *i* P **P 00 39 19.4 +0.4**
comp=Z,370nm,17.0s
SVE Sverdlovsk 33.15 36⇑*i*P **P 00 39 21.7 +0.5**
SVE pmax pmax
comp=Z,30nm,1.2s
SVE MLR MLR
comp=Z,403nm,14.0s
SVE Sverdlovsk 33.15 36 *i* P **P 00 39 21.7 +0.5**
comp=Z,403nm,14.0s
APA Apatity 33.92 6⇑*i*P **P 00 39 27.0 -0.7**
APA MLR MLR
comp=Z,600nm,10.0s
APA Apatity 33.92 6 *i* P **P 00 39 27.0 -0.7**
comp=Z,600nm,10.0s
MBAR Mbarara 34.84 170 LR LR 00 57 30.7
comp=Z,443nm,18.0s,baz=351,slow=42
ARCES ARCESS Array B 35.56 0 P **P 00 39 40.7 -1.2**
ARCES PcP **PcP 00 42 11.1 +0.6**
ARCES ARCESS Array B 35.56 0 P **P 00 39 40.7 -1.2**
comp=Z,6.5nm,0.8s,baz=182,slow=8.3,SNR=18
ARCES PcP **PcP 00 42 11.1 +0.6**
comp=Z,1.8nm,0.8s,baz=160,slow=3.9,SNR=3.7
ARCES ARCESS Array B 35.56 0 P **P 00 39 40.7 -1.2**
comp=Z,7.0nm,0.8s
ARE0 ARCESS Array S 35.56 0 *e*P **P 00 39 40.6 -1.2**
ARE0 ARCESS Array S 35.56 0 *e*P **P 00 39 40.7 -1.2**
KKAR Karatay Array 36.20 62 *e*P **P 00 39 47.0 -0.8**
KKAR Karatay Array 36.20 62 *e*P **P 00 39 47.0 -0.8**
KKAR Karatay Array 36.20 62 *e*P **P 00 39 47.0 -0.8**
KMBO Kilima Mbogo 36.76 160 LR LR 00 58 26.3
comp=Z,371nm,18.8s,baz=164,slow=42
BRVK Borovoye 37.06 45*d i*P **P 00 39 55.8 +0.9**
BRVK pmax pmax
comp=Z,21nm,1.7s
BRVK Borovoye 37.06 45 *e*P **P 00 39 55.3 +0.4**
comp=Z,18nm,1.3s
BRVK Borovoye 37.06 45 *e*P **P 00 39 55.3 +0.4**
comp=Z,18nm,1.3s
BVAR Borovoye Array 37.11 45 P **P 00 39 55.7 +0.3**
BVAR pmax pmax
comp=Z,6.0nm,1.0s
BVAR Borovoye Array 37.11 45 P **P 00 39 55.7 +0.3**
BVAR Borovoye Array 37.11 45 P **P 00 39 55.7 +0.3**
comp=Z,5.9nm,1.0s,baz=246,slow=6.3,SNR=34
BVAR LR LR 01 00 17.7
comp=Z,202nm,18.8s,baz=263,slow=45
BVAR Borovoye Array 37.11 45 P **P 00 39 55.7 +0.3**
comp=Z,6.0nm,1.0s
EKS2 Erkin-Say 38.62 62 *e*P **P 00 40 06.7 -1.7**
EKS2 pmax pmax
comp=Z,6.0nm,0.9s
EKS2 Erkin-Say 38.62 62 *e*P **P 00 40 06.7 -1.7**
comp=Z,6.3nm,0.9s
EKS2 Erkin-Say 38.62 62 *e*P **P 00 40 06.7 -1.7**
comp=Z,6.3nm,0.9s
DBIC Dimbokro 38.89 232 *e*P **P 00 40 08.4 -2.4**
comp=Z,77nm,1.8s
DBIC Dimbokro 38.89 232 P **P 00 40 12.2 +1.4**
comp=Z,5.4nm,0.8s,baz=16,slow=11,SNR=3.8
DBIC LR LR 00 58 56.9
comp=Z,893nm,18.5s,baz=16,slow=40
DBIC Dimbokro 38.89 232 *e*P **P 00 40 08.4 -2.4**
comp=Z,77nm,1.8s
AAK Ala-Archa 39.14 62 *e*P **P 00 40 12.7 -0.2**
AAK pmax pmax
comp=Z,36nm,1.7s
AAK Ala-Archa 39.14 62 *e*P **P 00 40 11.3 -1.6**
comp=Z,15nm,1.4s
AAK Ala-Archa 39.14 62 P **P 00 40 13.5 +0.7**
comp=Z,1.2nm,0.4s,baz=230,slow=6.6,SNR=9.9
AAK Ala-Archa 39.14 62 *e*P **P 00 40 12.7 -0.2**
comp=Z,36nm,1.7s
FRU Bishkek 39.22 62 *e*P **P 00 40 14.0 +0.7**
FRU Bishkek 39.22 62 *e*P **P 00 40 14.0 +0.7**
TKM2 Tokmak 2 39.93 62 *e*P **P 00 40 17.9 -1.6**
TKM2 pmax pmax
comp=Z,17nm,1.6s
TKM2 Tokmak 2 39.93 62 *e*P **P 00 40 17.9 -1.6**
comp=Z,17nm,1.6s
TKM2 Tokmak 2 39.93 62 *e*P **P 00 40 17.9 -1.6**
comp=Z,17nm,1.6s
KSH Kashi 40.60 67 P **P 00 40 23.8 -1.2**
KSH pP **pP 00 40 26.9 -3.0**
KSH sP **sP 00 40 29.7 -2.1**
KSH PP **PP 00 41 58.7 +0.2**
KSH S S 00 46 27.7 -6.4
KSH ScS **ScS 00 50 28.1 -2.2**
KSH pmax pmax
comp=Z,9.0nm,1.2s
KSH pmax pmax
comp=Z,100nm,6.3s
KSH LR LR
comp=N,59nm,5.1s
KSH LR LR
comp=E,160nm,7.8s
KSH LR LR
comp=Z,140nm,5.7s
KURBB Kurchatov Arra 41.82 50 P **P 00 40 34.8 +0.2**
comp=Z,18nm,1.0s,baz=278,slow=8.7,SNR=133
KURK Kurchatov 41.88 50 P **P 00 40 34.8 -0.3**
KURK pmax pmax
comp=Z,18nm,1.0s
KURK Kurchatov 41.88 50 P **P 00 40 34.8 -0.3**
KURK Kurchatov 41.88 50 P **P 00 40 34.8 -0.3**
comp=Z,18nm,1.0s
MK31 Makanchi Array 44.38 56 *e*P **P 00 40 54.5 -1.0**
MK31 *e* 00 42 39.7
MK31 Makanchi Array 44.38 56 *e*P **P 00 40 54.5 -1.0**
MK31 *e*PcP **PcP 00 42 39.7 +0.5**
MK31 Makanchi Array 44.38 56 *e*P **P 00 40 54.5 -1.0**
MKAR Makanchi Array 44.38 56 P **P 00 40 56.3 +0.8**
MKAR 00 42 41.1
MKAR pmax pmax
comp=Z,11nm,0.8s
MKAR Makanchi Array 44.38 56 P **P 00 40 56.2 +0.8**
MKAR PcP **PcP 00 42 41.1 +1.9**
MKAR Makanchi Array 44.38 56 P **P 00 40 56.2 +0.8**
comp=Z,11nm,0.8s,baz=276,slow=6.4,SNR=106
MKAR PcP **PcP 00 42 41.1 +1.9**
comp=Z,1.5nm,0.7s,baz=276,slow=5.1,SNR=2.8
MKAR Makanchi Array 44.38 56 P **P 00 40 56.2 +0.8**
SCO Scoresbysund 44.40 339 *i* P **P 00 40 56.7 +1.5**
SCO pmax pmax
comp=Z,13nm,0.8s
SCO Scoresbysund 44.40 339 *i* P **P 00 40 56.7 +1.5**
comp=Z,13nm,0.8s
SCO Scoresbysund 44.40 339 *i* P **P 00 40 56.7 +1.5**
comp=Z,13nm,0.8s
NVS Novosibirsk 44.87 44⇑*i*P **P 00 41 00.0 +0.8**
NVS *e* 00 42 40.5
NVS pmax pmax
comp=Z,36nm,1.3s
NVS pmax pmax
comp=N,5.0nm,0.8s
NVS pmax pmax
comp=E,8.0nm,0.8s
NVS Novosibirsk 44.87 44 *i* P **P 00 41 00.0 +0.8**
comp=E,36nm,1.3s
NVS Novosibirsk 44.87 44 *e*PcP **PcP 00 42 40.5 -0.2**
KBS Kingsbay 45.35 356*d i*P **P 00 41 03.1 +0.4**
KBS pmax pmax
comp=Z,46nm,2.5s
KBS Kingsbay 45.35 356 *e*P **P 00 41 01.5 -1.2**
comp=Z,20nm,1.0s
KBS Kingsbay 45.35 356 *i* P **P 00 41 03.1 +0.4**
comp=Z,46nm,2.5s
ZAA0 Zalesovo Array 45.77 45 *e*P **P 00 41 04.8 -1.6**
ZAA0 Zalesovo Array 45.77 45 *e*P **P 00 41 04.8 -1.6**
ZALV Zalesovo Beam 45.77 45 P **P 00 41 06.4 0.0**
ZALV pmax pmax
comp=Z,16nm,0.8s
ZALV MLR MLR
comp=Z,157nm,20.8s
ZALV Zalesovo Beam 45.77 45 P **P 00 41 06.4 0.0**
ZALV Zalesovo Beam 45.77 45 P **P 00 41 06.4 0.0**
comp=Z,16nm,0.8s,baz=267,slow=9.4,SNR=51
ZALV LR LR 01 03 11.2
comp=Z,157nm,20.8s,baz=160,slow=40
ZALV Zalesovo Beam 45.77 45 P **P 00 41 06.4 0.0**
comp=Z,157nm,20.8s
WMQ Urumqi 48.55 59 P **P 00 41 29.4 +1.1**
WMQ pP **pP 00 41 33.9 +0.6**
WMQ sP **sP 00 41 36.4 +1.2**
WMQ S **S 00 48 29.0 -0.3**
WMQ sS **sS 00 48 36.6 -0.9**
WMQ ScS **ScS 00 51 18.8 -1.7**
WMQ SS **SS 00 51 53.9 -5.1**
WMQ pmax pmax
comp=Z,12nm,1.4s
WMQ pmax pmax
comp=Z,180nm,5.1s
WMQ LR LR
comp=N,310nm,13.1s
WMQ LR LR
comp=E,160nm,15.0s
WMQ LR LR
comp=Z,170nm,20.0s
PYUN Piuthan 49.31 80 *e*P **P 00 41 35.2 +0.7**
comp=Z,87nm,1.1s
DANN Dangsing 49.84 80 *e*P **P 00 41 39.6 +0.9**
comp=Z,100nm,1.1s
KOLN Koldanda 49.93 80 *e*P **P 00 41 39.6 +0.3**
comp=Z,31nm,1.1s
SUMG Summit 50.04 339 *e*P **P 00 41 37.6 -2.1**
SUMG 00 42 58.3
SUMG pmax pmax
comp=Z,13nm,1.0s
SUMG Summit 50.04 339 *e*P **P 00 41 37.6 -2.1**
comp=Z,13nm,1.0s
SUMG PcP **PcP 00 42 58.3 -1.0**
SUMG Summit 50.04 339 *i* P **P 00 41 40.4 +0.7**
comp=Z,7.8nm,0.8s
SUMG Summit 50.04 339 *e*P **P 00 41 37.6 -2.1**
comp=Z,13nm,1.0s
DMN Daman 51.23 80 *e*P **P 00 41 49.9 +0.8**
comp=Z,54nm,0.9s
KKN Kakani 51.30 80 *e*P **P 00 41 49.9 +0.3**
comp=Z,58nm,1.1s
PKIN Phulchoki 51.48 80 *e*P **P 00 41 51.6 +0.6**
comp=Z,43nm,1.2s
PKI Pulchoki 51.49 80 *e*P **P 00 41 51.3 +0.1**
comp=Z,50nm,1.0s
GUN Gumba 51.74 79 *e*P **P 00 41 53.2 +0.1**
comp=Z,97nm,1.1s
JIRN Jiri 52.09 79 *e*P **P 00 41 56.1 +0.4**
comp=Z,28nm,0.8s
RAMN Ramite 52.71 80 *e*P **P 00 41 59.6 -0.5**
comp=Z,101nm,1.5s
ODAN Odare 53.39 80 *e*P **P 00 42 05.0 -0.2**
comp=Z,40nm,1.3s
TAPN Taplejung 53.45 79 *e*P **P 00 42 05.7 0.0**
LSA Lhasa 55.32 75 P **P 00 42 19.5 0.0**
MOY Mondy 55.76 47 *e*P **P 00 42 23.9 +2.1**
MOY pmax pmax
comp=Z,27nm,1.8s
TLY Talaya 57.35 46 *e*P **P 00 42 35.9 +2.8**
TLY pmax pmax
comp=Z,34nm,1.9s
TLY MLR MLR
comp=Z,123nm,18.0s
ZAK Zakamensk 57.47 48⇑*i*P **P 00 42 35.6 +1.5**
ZAK pmax pmax
comp=Z,14nm,1.0s
ZAK Zakamensk 57.47 48 *i* P **P 00 42 35.6 +1.5**
comp=Z,14nm,1.0s
IRK Irkutsk 57.58 46 *e*P **P 00 42 35.1 +0.4**
IRK pmax pmax
comp=Z,48nm,1.8s
IRK Irkutsk 57.58 46 *e*P **P 00 42 35.1 +0.4**
comp=Z,48nm,1.8s
GTA Gaotai 58.48 61 *e*P **P 00 42 42.5 +1.2**
GTA pP **pP 00 42 47.1 +0.7**
GTA sP **sP 00 42 49.6 +1.3**
GTA S **S 00 50 45.9 +1.7**
GTA sS **sS 00 50 53.2 +0.7**
GTA pmax pmax
comp=Z,8.0nm,1.3s
GTA pmax pmax
comp=Z,66nm,5.0s
GTA LR LR
comp=N,150nm,21.4s
GTA LR LR
comp=E,200nm,18.1s
GTA LR LR
comp=Z,76nm,20.9s
LBTB Lobatse 58.72 180 *e*P **P 00 42 45.5 +2.6**
comp=Z,21nm,1.3s
SONM Songino Array 60.18 50 P **P 00 42 53.8 +0.8**
SONM Songino Array 60.18 50 P **P 00 42 53.8 +0.8**
comp=Z,7.7nm,0.8s,baz=280,slow=8.9,SNR=64
SONM Songino Array 60.18 50 P **P 00 42 53.8 +0.8**
comp=Z,8.0nm,0.8s
ULN Ulaanbaatar 60.59 50 *e*P **P 00 42 55.3 -0.5**
comp=Z,20nm,1.1s
ULN Ulaanbaatar 60.59 50 P **P 00 42 56.9 +1.1**
comp=Z,19nm,1.1s,comp=Z,185nm
ULN Ulaanbaatar 60.59 50 *e*P **P 00 42 55.3 -0.5**
comp=Z,20nm,1.1s
FRB Frobisher Bay 61.65 330 P **P 00 43 02.8 +0.3**
FRB Frobisher Bay 61.65 330 P **P 00 43 02.8 +0.3**
comp=Z,11nm,0.7s,baz=77,slow=8.2,SNR=15
FRB Frobisher Bay 61.65 330 P **P 00 43 02.8 +0.3**
comp=Z,11nm,0.7s

TIXI	**Tiksi**	**62.21**	**20**	*d*	*i* P		**P**	**00 43 06.3**	**+0.2**
TIXI					pmax		pmax		
	comp=Z,13nm,2.5s								
TIXI					MLR		MLR		
	comp=Z,455nm,20.0s								
TIXI	**Tiksi**	**62.21**	**20**		*i* P		**P**	**00 43 06.3**	**+0.2**
	comp=Z,455nm,20.0s								
BOSA	**Boshof**	**62.30**	**180**		P		**P**	**00 43 09.2**	**+1.8**
BOSA	**Boshof**	**62.30**	**180**		P		**P**	**00 43 09.2**	**+1.8**
	comp=Z,7.0nm,0.9s,baz=5.9,slow=8.2,SNR=6.0								
BOSA					LR		LR	01 09 28.3	
	comp=Z,189nm,19.4s,baz=355,slow=35								
LZH	**Lanzhou**	**62.67**	**63**		*e*P		**P**	**00 43 11.7**	**+1.6**
LZH					pP		**pP**	**00 43 15.7**	**+0.6**
LZH					sP		**sP**	**00 43 17.9**	**+0.9**
LZH					PP		**PP**	**00 45 29.1**	**+1.4**
LZH					*e*S		**S**	**00 51 35.0**	**-3.1**
LZH					sS		**sS**	**00 51 44.6**	**-1.9**
LZH					pmax		pmax		
	comp=Z,13nm,1.0s								
LZH					pmax		pmax		
	comp=Z,69nm,6.4s								
LZH					LR		LR		
	comp=N,160nm,13.4s								
LZH					LR		LR		
	comp=E,260nm,14.6s								
LZH					LR		LR		
	comp=Z,430nm,17.2s								
SCHQ	**Schefferville**	**64.06**	**320**		*e*P		**P**	**00 43 16.9**	**-1.9**
	comp=Z,15nm,0.7s								
SCHQ	**Schefferville**	**64.06**	**320**		P		**P**	**00 43 19.6**	**+0.9**
	comp=Z,18nm,0.8s,baz=72,slow=8.2,SNR=23								
SCHQ					LR		LR	01 11 16.9	
	comp=Z,106nm,19.4s,baz=70,slow=36								
SCHQ	**Schefferville**	**64.06**	**320**		*e*P		**P**	**00 43 16.9**	**-1.9**
	comp=Z,15nm,0.7s								
CD2	**Chengdu**	**64.77**	**69**		P		**P**	**00 43 25.7**	**+1.9**
CD2					pP		**pP**	**00 43 30.4**	**+1.5**
CD2					sP		**sP**	**00 43 32.7**	**+1.9**
CD2					PcP		**PcP**	**00 43 59.6**	**+2.3**
CD2					PP		**PP**	**00 45 49.6**	**+3.5**
CD2					ScP			00 48 01.0	
CD2					PcS			00 48 02.1	
CD2					S		**S**	**00 52 03.7**	**-0.4**
CD2					sS		**sS**	**00 52 10.9**	**-1.6**
CD2					SKS		**SKSac**	**00 53 17.5**	**-0.6**
CD2					SS		**SS**	**00 56 15.8**	**+0.8**
CD2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
CD2					pmax		pmax		
	comp=Z,120nm,5.2s								
HHC	**Hu-ho-hao-te**	**64.25**	**56**		*e*P		**P**	**00 43 32.6**	**-0.7**
HHC					pP		**pP**	**00 43 36.9**	**-1.5**
HHC					sP		**sP**	**00 43 39.3**	**-1.0**
HHC					PcP		**PcP**	**00 44 04.5**	**+1.2**
HHC					PP		**PP**	**00 45 59.6**	**+0.8**
HHC					ScP			00 48 05.4	
HHC					S		**S**	**00 52 19.6**	**-2.4**
HHC					ScS		**SKSac**	**00 53 23.1**	**-6.0**
HHC					pmax		pmax		
	comp=Z,87nm,1.3s								
HHC					pmax		pmax		
	comp=Z,190nm,6.0s								
HHC					LR		LR		
	comp=N,300nm,19.2s								
HHC					LR		LR		
	comp=E,390nm,19.2s								
HHC					LR		LR		
	comp=Z,430nm,18.0s								
CHTO	**Chiang Mai**	**66.50**	**83**		*e*P		**P**	**00 43 33.4**	**-1.7**
CHTO					pmax		pmax		
	comp=Z,7.0nm,1.1s								
CHTO	**Chiang Mai**	**66.50**	**83**		*e*P		**P**	**00 43 33.4**	**-1.7**
	comp=Z,6.7nm,1.1s								
CHTO	**Chiang Mai**	**66.50**	**83**		P		**P**	**00 43 36.5**	**+1.4**
	comp=Z,7.6nm,1.8s								
CHTO	**Chiang Mai**	**66.50**	**83**		*e*P		**P**	**00 43 33.4**	**-1.7**
	comp=Z,6.7nm,1.1s								
CMMT	**Chiang Mai**	**66.51**	**83**		P		**P**	**00 43 36.5**	**+1.3**
	comp=Z,12nm,1.6s,comp=Z,618nm								
KMI	**Kunming**	**66.58**	**75**		P		**P**	**00 43 36.8**	**+1.0**
KMI					S		**S**	**00 52 27.8**	**+1.2**
KMI					pmax		pmax		
	comp=Z,10.0nm,0.7s								
KMI					LR		LR		
	comp=Z,100nm,14.7s								
CMAR	**Chiang Mai Arr**	**66.68**	**83**		P		**P**	**00 43 36.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**66.68**	**83**		P		**P**	**00 43 36.6**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=300,slow=7.7,SNR=15								
CMAR	**Chiang Mai Arr**	**66.68**	**83**		P		**P**	**00 43 36.7**	**+0.4**
	comp=Z,2.0nm,0.7s								
YAK	**Yakutsk**	**66.84**	**30**		*e*P		**P**	**00 43 34.6**	**-1.9**
YAK					pmax		pmax		
	comp=Z,12nm,1.0s								
YAK					pmax		pmax		
	comp=N,4.0nm,1.4s								
YAK					pmax		pmax		
	comp=E,8.0nm,1.6s								
YAK	**Yakutsk**	**66.84**	**30**		*e*P		**P**	**00 43 34.6**	**-1.9**
	comp=E,4.0nm,1.4s								
CLNS	**Chul'man**	**67.14**	**36**		*e*P		**P**	**00 43 39.5**	**+0.9**
CLNS					pmax		pmax		
	comp=Z,11nm,1.1s								
CLNS					pmax		pmax		
	comp=N,3.0nm,1.2s								
CLNS					pmax		pmax		
	comp=E,4.0nm,1.0s								
CLNS	**Chul'man**	**67.14**	**36**		*e*P		**P**	**00 43 39.5**	**+0.9**
	comp=E,3.0nm,1.2s								
HIA	**Hailar**	**67.81**	**45**		*e*P		**P**	**00 43 42.7**	**-0.3**
	comp=E,7.2nm,0.6s								
HIA	**Hailar**	**67.81**	**45**		*e*P		**P**	**00 43 42.7**	**-0.3**
	comp=E,7.2nm,0.6s								
GYA	**Guiyang**	**69.07**	**72**		P		**P**	**00 43 53.2**	**+1.9**
GYA					PP		**PP**	**00 46 27.5**	**+3.8**
GYA					ScP			00 48 20.2	
GYA					S		**S**	**00 52 56.6**	**+0.4**
GYA					SKS		**SKSac**	**00 53 48.9**	**-2.1**
GYA					SS		**SS**	**00 57 22.3**	**+0.4**
GYA					pmax		pmax		
	comp=Z,10.0nm,1.0s								
GYA					pmax		pmax		
	comp=Z,110nm,5.0s								
GYA					LR		LR		
	comp=N,480nm,19.3s								
GYA					LR		LR		
	comp=E,370nm,20.1s								
GYA					LR		LR		
	comp=Z,410nm,18.8s								
PBKT	**Sadao Pong**	**69.29**	**84**		P		**P**	**00 43 54.0**	**+1.3**
BJI	**Beijing**	**69.75**	**55**		P		**P**	**00 43 56.7**	**+1.5**
BJI					pmax		pmax		
	comp=Z,10.0nm,1.0s								
BJI					pmax		pmax		
	comp=Z,93nm,4.9s								
LONY	**Lake Ozonia**	**73.19**	**313**		*e*P		**P**	**00 44 13.7**	**-2.2**
	comp=Z,22nm,1.5s								
LONY	**Lake Ozonia**	**73.19**	**313**		*e*P		**P**	**00 44 13.7**	**-2.2**
	comp=Z,22nm,1.5s								
CN2	**Changchun**	**73.91**	**48**		*e*P		**P**	**00 44 20.8**	**+0.7**
CN2					*e*pP		**pP**	**00 44 25.5**	**+0.2**
CN2					PP		**PP**	**00 47 06.8**	**+2.2**
CN2					*e*S		**SKiKP**	**00 53 49.2**	**+0.9**
CN2					SS		**SS**	**00 58 34.6**	**-0.3**
CN2					pmax		pmax		
	comp=Z,20nm,0.9s								
CN2					pmax		pmax		
	comp=Z,80nm,5.0s								
CN2					LR		LR		
	comp=N,400nm,22.0s								
CN2					LR		LR		
	comp=E,300nm,22.0s								
CN2					LR		LR		
	comp=Z,300nm,23.0s								
BILL	**Bilibino**	**74.15**	**14**	⇓	*i* P		**P**	**00 44 21.5**	**+0.4**
BILL					*i*			00 44 27.6	
BILL					*i*			00 44 37.3	
BILL					*i*			00 47 03.4	
BILL					*i* S		SKSac	00 54 49.7	+22
BILL					pmax		pmax		
	comp=Z,9.0nm,1.2s								
BILL					MLR		MLR		
	comp=Z,200nm,21.0s								
BILL	**Bilibino**	**74.15**	**14**		*i* P		**P**	**00 44 21.5**	**+0.4**
	comp=Z,9.0nm,1.2s								

KLR	**Kul'dur**	**74.60**	**41**		*e*P		**P**	**00 44 21.0**	**-3.0**
KLR					pmax		pmax		
	comp=Z,42nm,1.6s								
KLR	**Kul'dur**	**74.60**	**41**		*e*P		**P**	**00 44 21.0**	**-3.0**
	comp=Z,42nm,1.6s								
PSI	**Prapat**	**74.96**	**97**		P		**P**	**00 44 28.2**	**+1.4**
PSI	**Prapat**	**74.96**	**97**		P		**P**	**00 44 28.2**	**+1.4**
	comp=Z,3.7nm,0.4s,baz=166,slow=13,SNR=5.1								
QIZ	**Qiongzhong**	**75.30**	**77**		P		**P**	**00 44 30.9**	**+2.3**
QIZ					S		**S**	**00 54 11.0**	**+3.4**
QIZ					pmax		pmax		
	comp=Z,16nm,1.4s								
BINY	**Binghamton**	**75.34**	**311**		*e*P		**P**	**00 44 26.0**	**-2.5**
	comp=Z,19nm,1.4s								
BINY	**Binghamton**	**75.34**	**311**		*e*P		**P**	**00 44 26.0**	**-2.5**
	comp=Z,19nm,1.4s								
SADO	**Sadowa**	**75.85**	**315**		P		**P**	**00 44 31.0**	**-0.3**
SADO	**Sadowa**	**75.85**	**315**		P		**P**	**00 44 31.0**	**-0.3**
	comp=Z,11nm,0.9s,baz=74,slow=4.4,SNR=7.0								
INK	**Inuvik**	**76.74**	**352**		P		**P**	**00 44 36.5**	**+0.6**
INK	**Inuvik**	**76.74**	**352**		P		**P**	**00 44 36.5**	**+0.6**
	comp=Z,8.2nm,1.0s,baz=19,slow=9.1,SNR=15								
USRK	**Ussuriysk Arra**	**77.62**	**45**		P		**P**	**00 44 41.7**	**+0.4**
	comp=Z,12nm,0.8s,baz=283,slow=4.5,SNR=20								
YKA	**Yellowknife Ar**	**78.53**	**342**		P		**P**	**00 44 46.5**	**+0.6**
YKA	**Yellowknife Ar**	**78.53**	**342**		P		**P**	**00 44 46.5**	**+0.6**
	comp=Z,3.8nm,0.8s,baz=36,slow=5.5,SNR=11								
KSAR	**Wonju Array Be**	**78.93**	**52**		P		**P**	**00 44 49.5**	**+0.8**
KSRS	**Korea Array**	**78.95**	**52**		P		**P**	**00 44 49.5**	**+0.7**
	comp=Z,4.8nm,0.8s,baz=309,slow=5.1,SNR=12								
KSRS					LR		LR	01 24 56.8	
	comp=Z,116nm,18.6s,baz=320,slow=40								
COLD	**Coldfoot**	**79.00**	**358**		*e*P		**P**	**00 44 50.1**	**+1.6**
	comp=Z,14nm,1.0s								
FFC	**Flin Flon**	**80.64**	**332**	*c*	*e*P		**P**	**00 44 59.0**	**+1.4**
FFC	**Flin Flon**	**80.64**	**332**		*e*P		**P**	**00 44 58.8**	**+1.2**
COWI	**Conover**	**80.68**	**320**		*e*P		**P**	**00 44 56.5**	**-1.6**
	comp=Z,18nm,0.8s								
EGAK	**Eagle**	**80.94**	**354**		*e*P		**P**	**00 44 57.9**	**-1.2**
	comp=Z,4.0nm,0.3s								
ULM	**Lac du Bonnet**	**81.26**	**326**		P		**P**	**00 45 01.6**	**+0.6**
ULM	**Lac du Bonnet**	**81.26**	**326**		P		**P**	**00 45 01.6**	**+0.6**
	comp=Z,3.6nm,0.5s,baz=354,slow=0.8,SNR=3.8								
ULM					LR		LR	01 22 17.6	
	comp=Z,105nm,19.9s,baz=350,slow=37								
COLA	**College**	**81.27**	**357**		*e*P		**P**	**00 44 59.9**	**-0.9**
COLA					pmax		pmax		
	comp=Z,7.0nm,0.8s								
COLA	**College**	**81.27**	**357**		*e*P		**P**	**00 44 59.9**	**-0.9**
	comp=Z,6.7nm,0.8s								
ILAR	**Eielson Array**	**81.33**	**357**		P		**P**	**00 45 02.1**	**+1.0**
ILAR	**Eielson Array**	**81.33**	**357**		P		**P**	**00 45 02.1**	**+1.0**
	comp=Z,5.3nm,0.9s,baz=356,slow=3.6,SNR=40								
YSS	**Yuzh-Sakhalins**	**81.80**	**38**		*e*P		**P**	**00 45 06.0**	**+2.1**
MCK	**McKinley**	**82.46**	**357**		*e*P		**P**	**00 45 05.2**	**-1.9**
MCK					pmax		pmax		
	comp=Z,32nm,1.1s								
MCK	**McKinley**	**82.46**	**357**		*e*P		**P**	**00 45 05.2**	**-1.9**
	comp=Z,32nm,1.1s								
AGMN	**Agassiz Nation**	**82.61**	**325**		*e*P		**P**	**00 45 06.2**	**-1.9**
	comp=Z,6.7nm,0.9s								
TRF	**Thorofare Moun**	**82.78**	**358**		*e*P		**P**	**00 45 06.7**	**-2.3**
	comp=Z,19nm,0.9s								
ASAJ	**Asahikawa**	**83.62**	**40**		P		**P**	**00 45 14.6**	**+1.1**
ASAJ	**Asahikawa**	**83.62**	**40**		P		**P**	**00 45 14.6**	**+1.1**
	comp=Z,3.0nm,0.5s,baz=117,slow=27,SNR=3.7								
ASAJ					LR		LR	01 27 16.0	
	comp=Z,178nm,18.4s,baz=353,slow=39								
PETK	**Petropavlovsk-**	**83.91**	**27**		P		**P**	**00 45 15.5**	**+0.7**
PETK					pmax		pmax		
	comp=Z,2.0nm,1.0s								
PETK	**Petropavlovsk-**	**83.91**	**27**		P		**P**	**00 45 15.5**	**+0.7**
PETK	**Petropavlovsk-**	**83.91**	**27**		P		**P**	**00 45 15.5**	**+0.7**
	comp=Z,2.4nm,1.0s,baz=311,slow=7.7,SNR=3.5								
TKL	**Tuckaleechee C**	**84.06**	**309**		P		**P**	**00 45 17.3**	**+1.4**
TKL	**Tuckaleechee C**	**84.06**	**309**		P		**P**	**00 45 17.3**	**+1.4**
	comp=Z,12nm,1.2s,baz=89,slow=9.5,SNR=3.0								
SML	**Sawmill**	**84.36**	**357**		*e*P		**P**	**00 45 18.3**	**+1.3**
SML					pmax		pmax		
	comp=Z,4.0nm,0.9s								
SML	**Sawmill**	**84.36**	**357**		*e*P		**P**	**00 45 18.2**	**+1.3**
	comp=Z,3.8nm,0.9s								
PMR	**Palmer**	**84.61**	**357**		*e*P		**P**	**00 45 16.9**	**-1.2**
PMR					pmax		pmax		
	comp=Z,29nm,1.2s								
PMR	**Palmer**	**84.61**	**357**		*e*P		**P**	**00 45 16.9**	**-1.2**
	comp=Z,29nm,1.2s								
SPU	**Mount Spurr**	**85.10**	**359**		*e*P		**P**	**00 45 21.4**	**+0.6**
RC01	**Rabbit Creek A**	**85.13**	**358**		*e*P		**P**	**00 45 22.2**	**+1.4**
	comp=Z,22nm,0.8s								
SVW2	**Sparrevohn**	**85.21**	**0**		*e*P		**P**	**00 45 23.0**	**+1.7**
	comp=Z,8.3nm,0.8s								
BDFB	**Brasilia**	**85.30**	**248**		P		**P**	**00 45 24.0**	**+1.5**
BDFB	**Brasilia**	**85.30**	**248**		P		**P**	**00 45 24.0**	**+1.5**
	comp=Z,2.4nm,0.7s,baz=133,slow=2.4,SNR=3.6								
DLBC	**Dease Lake**	**85.57**	**347**		P		**P**	**00 45 24.8**	**+1.6**
DLBC	**Dease Lake**	**85.57**	**347**		P		**P**	**00 45 24.8**	**+1.6**
	comp=Z,3.7nm,0.8s,baz=324,slow=6.8,SNR=5.2								
DLBC					LR		LR	01 27 31.1	
	comp=Z,144nm,18.2s,baz=115,slow=38								
MAT	**Matsushiro**	**86.06**	**48**		P		**P**	**00 45 25.5**	**-0.4**
MJAR	**Matsushiro Arr**	**86.06**	**48**		P		**P**	**00 45 26.9**	**+1.0**
MJAR	**Matsushiro Arr**	**86.06**	**48**		P		**P**	**00 45 26.9**	**+1.0**
	comp=Z,5.8nm,0.9s,baz=295,slow=5.8,SNR=20								
SIUC	**Southern Illin**	**86.15**	**314**		*e*P		**P**	**00 45 27.6**	**+1.3**
	comp=Z,30nm,1.2s								
ECSD	**EROS Data Cent**	**86.19**	**322**		*e*P		**P**	**00 45 27.6**	**+1.1**
	comp=Z,11nm,0.8s								
KDAK	**Kodiak Island**	**88.52**	**359**		P		**P**	**00 45 38.2**	**+0.9**
KDAK	**Kodiak Island**	**88.52**	**359**		P		**P**	**00 45 38.2**	**+0.9**
	comp=Z,11nm,0.9s,baz=28,slow=5.3,SNR=3.7								
EGMT	**Eagleton**	**88.91**	**332**		*e*P		**P**	**00 45 38.8**	**-0.8**
	comp=Z,41nm,0.8s								
FX1	**Attu Island--F**	**89.06**	**19**		*e*P		**P**	**00 45 38.1**	**-1.9**
FX1	**Attu Island--F**	**89.06**	**19**		LR		LR	01 30 11.5	
	comp=Z,112nm,19.9s,baz=183,slow=39								
RSSD	**Black Hills**	**89.53**	**326**		*e*P		**P**	**00 45 44.0**	**+1.3**
RSSD	**Black Hills**	**89.53**	**326**		*e*P		**P**	**00 45 44.0**	**+1.3**
JTMT	**Jette**	**90.86**	**334**		*e*P		**P**	**00 45 50.7**	**+2.0**
SWMT	**Swartz Lake**	**90.95**	**334**		*e*P		**P**	**00 45 50.5**	**+1.4**
NEW	**Newport**	**91.42**	**336**		*e*P		**P**	**00 45 52.7**	**+1.5**
	comp=Z,8.4nm,0.9s								
NEW	**Newport**	**91.42**	**336**		LR		LR	01 28 56.9	
	comp=Z,92nm,19.8s,baz=4.3,slow=37								
PHWY	**Pilot Hill**	**92.37**	**325**		*e*P		**P**	**00 45 57.0**	**+1.0**
	comp=Z,7.2nm,0.8s								
PDAR	**Pinedale Array**	**93.08**	**328**		P		**P**	**00 45 59.3**	**+0.1**
PDAR					PP		**PP**	**00 49 45.0**	**+3.6**
PDAR	**Pinedale Array**	**93.08**	**328**		P		**P**	**00 45 59.3**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=47,slow=6.5,SNR=12								
PDAR					PP		**PP**	**00 49 45.0**	**+3.6**
	comp=Z,0.5nm,0.9s,baz=91,slow=5.9,SNR=4.0								
ISCO	**Idaho Springs**	**93.61**	**324**		*e*P		**P**	**00 46 02.3**	**+0.5**
ISCO					pmax		pmax		
	comp=Z,8.0nm,1.5s								
ISCO	**Idaho Springs**	**93.61**	**324**		*e*P		**P**	**00 46 02.3**	**+0.5**
	comp=Z,7.6nm,1.5s								
WRA	**Warramunga Arr**	**116.43**	**97**		PKP		**PKPdf**	**00 51 29.5**	**+0.3**
WRA	**Warramunga Arr**	**116.43**	**97**		PKP		**PKPdf**	**00 51 29.5**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=297,slow=2.1,SNR=4.7								
ASAR	**Alice Springs**	**117.81**	**101**		PKP		**PKPdf**	**00 51 31.9**	**0.0**
ASAR	**Alice Springs**	**117.81**	**101**		PKP		**PKPdf**	**00 51 31.9**	**0.0**
	comp=Z,0.9nm,0.7s,baz=258,slow=1.3,SNR=7.1								

MEX 07 00:33:22.7±0.5, 17°.29N×94°.77W, h124km±11km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUIG	**Tuzandepetl**	**0.81**	**24**	*i* P	Pn	00 33 41.8	-1.5
TUIG				*i* S	Sn	00 33 57.5	-1.5
TGIG		**1.66**	**108**	*i* P	Pn	00 33 51.3	-1.0
TGIG				*i* S	Sn	00 34 12.7	-2.1
HUIG	**Huatulco**	**1.98**	**221**	*i* P	Pn	00 33 54.6	-1.6
HUIG				*i* S	Sn	00 34 20.6	-1.1
PCIG		**2.17**	**136**	*e*P	Pn	00 33 57.6	-0.9
PCIG				*i* S	Sn	00 34 24.3	-1.5
TPIG	**Tehuac#an**	**2.71**	**295**	*i* P	Pn	00 34 04.3	-1.3
TPIG				*i* S	Sn	00 34 37.5	-1.1
CCIG	**Comitan**	**2.71**	**111**	*i* P	Pn	00 34 03.9	-1.8
CCIG				*i* S	Sn	00 34 36.0	-2.7
PNIG	**Pinotepa**	**3.33**	**255**	*i* P	Pn	00 34 12.3	-1.3
PNIG				*i* S	Sn	00 34 51.1	-1.7

IDC ***07*** *00:43:55.3±1.1, 1°.19N×96°.97E, h0km, mb4.1/12, mb1 4.1/14, mb1mx3.9/29, mbtmp4.1/14, ML3.7/2, Error ellipse: s-maj=27.9km s-min=18.1km az=47.0*

ISCJB ***07*** *00:43:57.2±0.5, 1°.23N±0°.06×96°.98E±0°.06, h28km, mb4.1/15, Error ellipse: s-maj=9.5km s-min=8.1km az=138.0*

NEIC ***07*** *00:44:00.6±0.4, 1°.29N×97°.10E, h35km, mb4.1/3, Error ellipse: s-maj=9.8km s-min=6.8km az=59.0*

ISC 07 00:43:59.5±0.8, 1°.27N±0°.09×97°.10E±0°.09, h28km, n40, σ0s97/43, mb4.2/15, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.37**	**50**	Pn	**Pn**	**00 44 37.4**	**+0.7**
PSI				Sn	**Sb**	**00 45 08.3**	**-2.2**
PSI	**Prapat**	**2.37**	**50**	Pn	**Pn**	**00 44 37.4**	**+0.7**
	5.3nm,0.3s,baz=236,slow=4.5,SNR=23						
PSI				Sn	**Sb**	**00 45 08.3**	**-2.2**
	7.1nm,0.3s,baz=130,slow=10,SNR=4.6						
IPM	**Ipoh**	**5.05**	**51**	*e*Pn	**Pn**	**00 45 13.8**	**+0.4**
	13nm,0.6s						
KULM	**Kulim**	**5.34**	**41**	*e*Pn	**Pn**	**00 45 17.1**	**-0.3**
	16nm,0.6s						
KULM				Sn	**Sn**	**00 46 21.6**	**+3.6**
CMAR	**Chiang Mai Arr**	**17.18**	**6**	P	**Pn**	**00 47 57.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**17.18**	**6**	P	**Pn**	**00 47 57.1**	**-0.5**
	0.2nm,0.3s,baz=200,slow=11,SNR=10						
CHTO	**Chiang Mai**	**17.53**	**6**	*e*Pn	**Pn**	**00 48 01.8**	**-0.2**
ENH	**Enshi**	**31.15**	**21**	*e*P	**P**	**00 50 14.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**34.05**	**126**	*e*P	**P**	**00 50 42.1**	**+0.5**
WRA	**Warramunga Arr**	**42.15**	**122**	P	**P**	**00 51 50.4**	**+0.4**
WRA	**Warramunga Arr**	**42.15**	**122**	P	**P**	**00 51 50.4**	**+0.4**
	1.0nm,0.6s,baz=304,slow=9.0,SNR=4.4						
WRAB	**Tennant Creek**	**42.16**	**122**	*e*P	**P**	**00 51 49.8**	**-0.2**
	1.9nm,0.7s						
ASAR	**Alice Springs**	**43.51**	**127**	P	**P**	**00 52 01.7**	**+0.7**
ASAR	**Alice Springs**	**43.51**	**127**	P	**P**	**00 52 01.7**	**+0.7**
	0.4nm,0.5s,baz=312,slow=8.5,SNR=3.7						
KSAR	**Wonju Array Be**	**45.82**	**35**	P	**P**	**00 52 19.4**	**+0.3**
KSRS	**Korea Array**	**45.85**	**35**	P	**P**	**00 52 19.4**	**+0.1**
	3.2nm,0.8s,baz=219,slow=9.2,SNR=10						
AAK	**Ala-Archa**	**45.90**	**337**	*e*P	**P**	**00 52 19.0**	**-0.9**
	2.5nm,1.0s						
SONM	**Songino Array**	**47.08**	**9**	P	**P**	**00 52 29.6**	**+0.6**
SONM	**Songino Array**	**47.08**	**9**	P	**P**	**00 52 29.6**	**+0.6**
	2.4nm,0.7s,baz=186,slow=8.6,SNR=17						
MK31	**Makanchi Array**	**47.15**	**346**	*e*P	**P**	**00 52 28.8**	**-0.6**
MKAR	**Makanchi Array**	**47.15**	**346**	P	**P**	**00 52 30.4**	**+1.0**
MKAR	**Makanchi Array**	**47.15**	**346**	P	**P**	**00 52 30.4**	**+1.0**
	1.3nm,0.5s,baz=158,slow=8.8,SNR=28						
KURBB	**Kurchatov Arra**	**51.64**	**345**	P	**P**	**00 53 04.2**	**+0.7**
	1.5nm,0.7s,baz=168,slow=7.4,SNR=14						
USRK	**Ussuriysk Arra**	**52.77**	**31**	P	**P**	**00 53 13.0**	**+0.9**
	5.5nm,0.8s,baz=231,slow=6.0,SNR=16						
STKA	**Stephens Creek**	**53.48**	**132**	*e*P	**P**	**00 53 17.2**	**-0.3**
ZAA0	**Zalesovo Array**	**53.48**	**351**	*e*P	**P**	**00 53 17.5**	**+0.4**
ZALV	**Zalesovo Beam**	**53.48**	**351**	P	**P**	**00 53 17.9**	**+0.7**
ZALV	**Zalesovo Beam**	**53.48**	**351**	P	**P**	**00 53 17.9**	**+0.7**
	4.6nm,0.6s,baz=178,slow=6.2,SNR=27						
BVAR	**Borovoye Array**	**56.15**	**341**	P	**P**	**00 53 36.5**	**0.0**
BVAR	**Borovoye Array**	**56.15**	**341**	P	**P**	**00 53 36.5**	**0.0**
	1.7nm,0.7s,baz=140,slow=7.8,SNR=12						
ABKAR	**Akbulak array**	**57.41**	**332**	*e*P	**P**	**00 53 45.4**	**-0.1**
	2.4nm,0.8s						
ASAJ	**Asahikawa**	**58.66**	**37**	*e*P	**P**	**00 53 54.7**	**+0.2**
AKTO	**Aktyubinsk**	**59.12**	**332**	P	**P**	**00 53 57.6**	**+0.1**
AKTO	**Aktyubinsk**	**59.12**	**332**	P	**P**	**00 53 57.6**	**+0.1**
	1.0nm,0.8s,baz=103,slow=20,SNR=5.2						
FINES	**FINESS Array B**	**79.89**	**333**	P	**P**	**00 56 05.4**	**-0.1**
FINES	**FINESS Array B**	**79.89**	**333**	P	**P**	**00 56 05.4**	**-0.1**
	1.0nm,0.8s,baz=140,slow=6.2,SNR=5.2						
ARCES	**ARCESS Array B**	**82.44**	**340**	P	**P**	**00 56 19.1**	**+0.1**
ARCES	**ARCESS Array B**	**82.44**	**340**	P	**P**	**00 56 19.1**	**+0.1**
	4.7nm,1.1s,baz=102,slow=3.8,SNR=5.2						
TXAR	**Lajitas Array**	**143.66**	**32**	PKP	**PKPdf**	**01 03 31.

GVD	Gavdhos	1.45	302	*e*Pn	Pn	01 03 13.5	0.0
GVD				*e*S	Sg	01 03 34.7	-0.3
GVD	Gavdhos	1.45	302	*e*Pn	Pn	01 03 13.5	0.0
GVD				*e*Sn	Sn	01 03 32.0	-0.1
GVD				*e*S	Sg	01 03 34.7	-0.3
VAM	Vamos	1.75	320	P	Pn	01 03 16.9	-0.7
VAM	Vamos	1.75	320	*e*PN	Pn	01 03 18.0	+0.4
VAM	Vamos	1.75	320	P	Pn	01 03 16.9	-0.7
VAM	Vamos	1.75	320	*e*Pn	Pn	01 03 18.0	+0.4
KARP	Karpathos	1.95	41	P	Pb	01 03 23.1	-0.1
KARP				S	Sn	01 03 44.7	+0.2
KARP	Karpathos	1.95	41	*e*PN	Pb	01 03 22.2	-1.0
KARP	Karpathos	1.95	41	*e*Pn	Pb	01 03 22.2	-1.0
KARP				S	Sn	01 03 44.7	+0.2
SANT	Santorini	2.28	357	*e*PB	Pn	01 03 25.9	+0.9
SANT	Santorini	2.28	357	*e*Pn	Pn	01 03 26.4	+1.4
SANT	Santorini	2.28	357	*e*Pb	Pn	01 03 25.9	+0.9
SANT	Santorini	2.28	357	*e*Pn	Pn	01 03 26.4	+1.4
LTBQ	Tobruq	2.46	215	*i* P	Pn	01 03 27.0	-0.4
	SNR=24						
LTBQ				*e*S	Sn	01 03 57.6	+0.6
	219nm,0.6s,SNR=24						
ANKY	Antikythira Is	2.58	314	*e*PB	Pn	01 03 30.1	+1.0
ANKY	Antikythira Is	2.58	314	*e*Pb	Pn	01 03 30.1	+1.0
SLUM		2.60	187	P	Pn	01 03 28.2	-1.2
NIS1	Nisyros Isl.	2.83	27	P	Pn	01 03 33.9	+1.4
NIS1	Nisyros Isl.	2.83	27	*e*PN	Pn	01 03 34.0	+1.4
NIS1	Nisyros Isl.	2.83	27	P	Pn	01 03 33.9	+1.4
ARG	Arkhangelos	2.98	44	P	Pn	01 03 37.0	+2.5
ARG	Arkhangelos	2.98	44	*e*PN	Pn	01 03 36.7	+2.2
ARG	Arkhangelos	2.98	44	*e*Pn	Pn	01 03 36.7	+2.2
APE	Apeiranthos	2.98	359	*e*PN	Pn	01 03 35.2	+0.6
APE	Apeiranthos	2.98	359	*e*Pn	Pn	01 03 35.2	+0.6
KYTH	Kithira	3.03	317	*e*PN	Pn	01 03 36.0	+0.8
KYTH	Kithira	3.03	317	*e*Pn	Pn	01 03 36.0	+0.8
MATC	Matruh	3.06	153	P	Pn	01 03 34.3	-1.4
	baz=154						
DAT	Datca	3.10	31	*e*PN	Pn	01 03 37.6	+1.3
DAT	Datca	3.10	31	*e*SN	Sb	01 04 22.6	+2.2
HMAT	Matruh	3.24	156	P	Pn	01 03 37.0	-1.2
	baz=157						
HMAT				AMP		01 04 00.0	
	comp=N,810µm,0.5s,logA/T=6.2,baz=157						
HMAT				S	Sn	01 04 16.1	-0.2
	baz=157						
HMAT	Matruh	3.24	156	P	Pn	01 03 37.0	-1.2
HMAT				S	Sn	01 04 16.1	-0.2
BODT	Bodrum	3.29	25	*e*PN	Pn	01 03 40.0	+1.2
VLI	Veliai	3.40	321	P	Pn	01 03 40.4	0.0
VLI				S	Sn	01 04 15.1	-5.2
VLI	Veliai	3.40	321	*e*PN	Pn	01 03 40.4	0.0
VLI	Veliai	3.40	321	P	Pn	01 03 40.4	0.0
MLSB	Milas	3.67	28	*e*PN	Pn	01 03 45.4	+1.4
DALY	Dalyan (Mu˘la	3.70	42	*e*PN	Pn	01 03 45.8	+1.4
TURN	Turunc	3.71	41	*i* P	Pn	01 03 43.1	-1.5
TURN	Turunc	3.71	41	P	Pn	01 03 43.1	-1.5
YER	Yerkesik	3.75	35	*e*PN	Pn	01 03 46.8	+1.6
SMG	Samos	3.76	15	*e*PN	Pn	01 03 46.4	+1.2
SMG	Samos	3.76	15	*e*Pn	Pn	01 03 46.4	+1.2
DYR	Agios Nikonas	3.77	316	P	Pn	01 03 46.4	+1.0
DYR				S	Sn	01 04 26.3	-3.0
DYR	Agios Nikonas	3.77	316	*e*PN	Pn	01 03 46.5	+1.0
DYR	Agios Nikonas	3.77	316	P	Pn	01 03 46.4	+1.0
FETY	Fethiye	3.83	47	*e*PN	Pn	01 03 47.0	+0.8
KSL	Kastellorizon	3.87	57	*e*PN	Pn	01 03 48.4	+1.6
DID	Didima	3.91	331	P	Pn	01 03 47.4	0.0
DID	Didima	3.91	331	*e*PN	Pn	01 03 47.4	0.0
DID	Didima	3.91	331	P	Pn	01 03 47.4	0.0
AKAS	Kas	3.93	56	*i* P	Pn	01 03 49.3	+1.6
AKAS	Kas	3.93	56	*i* P	Pn	01 03 49.3	+1.6
AYDN	Tasoluk	4.03	27	*i* P	Pn	01 03 50.8	+1.8
AYDN	Tasoluk	4.03	27	*i* P	Pn	01 03 50.8	+1.8
NAIG	Nisos Aigina	4.04	336	*e*PN	Pn	01 03 50.1	+1.0
NAIG	Nisos Aigina	4.04	336	*e*Pn	Pn	01 03 50.1	+1.0
ATH	Athens Observa	4.17	339	*e*PN	Pn	01 03 51.3	+0.5
ATH	Athens Observa	4.17	339	*e*Pn	Pn	01 03 51.3	+0.5
VLX	Vlachokerasia	4.19	322	P	Pn	01 03 51.7	+0.4
VLX	Vlachokerasia	4.19	322	*e*PN	Pn	01 03 51.6	+0.3
VLX	Vlachokerasia	4.19	322	P	Pn	01 03 51.7	+0.4
PTL	Penteli	4.20	341	*e*PN	Pn	01 03 52.3	+1.0
PTL	Penteli	4.20	341	*e*Pn	Pn	01 03 52.3	+1.0
PYL	PYLOS	4.21	313	*e*PN	Pn	01 03 52.4	+1.0
PYL	PYLOS	4.21	313	*e*Pn	Pn	01 03 52.4	+1.0
ITM	Ithomi	4.29	317	*e*PN	Pn	01 03 53.5	+0.9
ITM	Ithomi	4.29	317	*e*Pn	Pn	01 03 53.5	+0.9
CHOS	Chios island	4.31	5	*e*PN	Pn	01 03 54.5	+1.6
CHOS	Chios island	4.31	5	*e*Pn	Pn	01 03 54.5	+1.6
ELL	Elmali	4.42	52	*e*PN	Pn	01 03 55.8	+1.4
BLCB	Balcova	4.45	15	*e*PN	Pn	01 03 56.4	+1.7
LTK	Loutraki	4.47	332	*e*PN	Pn	01 03 55.7	+0.7
LTK	Loutraki	4.47	332	*e*Pn	Pn	01 03 55.7	+0.7
GOLH	Golhisar	4.51	45	*i* P	Pn	01 03 57.7	+2.0
GOLH	Golhisar	4.51	45	*i* P	Pn	01 03 57.7	+2.0
IZM	Izmir	4.51	17	*e*PN	Pn	01 03 57.2	+1.5
DNZL	Cakiroluk	4.56	37	*i* P	Pn	01 03 59.0	+2.5
DNZL	Cakiroluk	4.56	37	*i* P	Pn	01 03 59.0	+2.5
DENT	Denizli	4.61	36	*e*PN	Pn	01 03 59.2	+2.2
GUR	Goura	4.66	327	*e*PN	Pn	01 03 58.2	+0.5
GUR	Goura	4.66	327	*e*Pn	Pn	01 03 58.2	+0.5
AMT	Artemida-Makis	4.67	319	*e*PN	Pn	01 03 58.8	+1.1
AMT	Artemida-Makis	4.67	319	*e*Pn	Pn	01 03 58.8	+1.1
SWA2		4.83	181	P	Pn	01 03 59.1	-0.9
	baz=182						
SWA2				AMP		01 05 00.0	
	comp=N,440µm,0.5s,logA/T=5.9,baz=182						
SWA2		4.83	181	P	Pn	01 03 59.1	-0.9
KLV	Kalavryta, Ach	4.83	326	*e*PN	Pn	01 04 01.1	+1.0
KLV	Kalavryta, Ach	4.83	326	*e*Pn	Pn	01 04 01.1	+1.0
ANTB	Antalya	5.00	54	*e*PN	Pn	01 04 03.8	+1.6
MANT	Manisa	5.01	28	*i* P	Pn	01 04 03.4	+0.8
MANT	Manisa	5.01	28	*i* P	Pn	01 04 03.4	+0.8
LKR	Lokris	5.01	336	*e*PN	Pn	01 04 03.7	+1.2
LKR	Lokris	5.01	336	*e*Pn	Pn	01 04 03.7	+1.2
HBRG	Burj al 'Arab	5.02	133	P	Pn	01 04 01.0	-1.6
	baz=134						
KULA	Kula-Manisa	5.07	28	*e*PN	Pn	01 04 05.3	+1.9
LAKA	Lakka	5.07	326	*e*PN	Pn	01 04 03.7	+0.4
LAKA	Lakka	5.07	326	*e*Pn	Pn	01 04 03.7	+0.4
KALE	Kalithea	5.12	328	*e*PN	Pn	01 04 05.0	+1.0
KALE	Kalithea	5.12	328	*e*Pn	Pn	01 04 05.0	+1.0
TRIZ	Trizonia	5.13	327	*e*PN	Pn	01 04 05.7	+1.6
TRIZ	Trizonia	5.13	327	*e*Pn	Pn	01 04 05.7	+1.6
PRK	Paraskevi	5.18	6	*e*PN	Pn	01 04 06.5	+1.7
PRK	Paraskevi	5.18	6	*e*Pn	Pn	01 04 06.5	+1.7
RLS	Riolos of Patr	5.18	321	*e*PN	Pn	01 04 05.9	+1.1
RLS	Riolos of Patr	5.18	321	*e*Pn	Pn	01 04 05.9	+1.1
EFP	Efpalio	5.25	327	*e*PN	Pn	01 04 07.0	+1.2
EFP	Efpalio	5.25	327	*e*Pn	Pn	01 04 07.0	+1.2
AOS	Alonnisos	5.26	345	*e*PN	Pn	01 04 06.6	+0.8
AOS	Alonnisos	5.26	345	*e*Pn	Pn	01 04 06.6	+0.8
BCK	Bucak	5.28	49	*e*PN	Pn	01 04 07.7	+1.5
KHL	Karahalli	5.29	36	*e*PN	Pn	01 04 08.9	+2.5
KHAL	Karahalli	5.32	35	*i* P	Pn	01 04 07.8	+1.0
KHAL	Karahalli	5.32	35	*i* P	Pn	01 04 07.8	+1.0
ISP	Isparta	5.47	46	*e*PN	Pn	01 04 10.7	+1.8
ISP	Isparta	5.47	46	⇑P	Pn	01 04 11.9	+3.0
ISP	Isparta	5.47	46	*e*Pn	Pn	01 04 09.8	+0.9
ISP	Isparta	5.47	46	⇑*i*P	Pn	01 04 11.9	+3.0
ISP	Isparta	5.47	46	*e*Pn	Pn	01 04 09.8	+0.9
LJBD	Adjabya	5.54	237	*i* P	Pn	01 04 09.7	-0.1
	SNR=23						
NEO	Neokhori	5.55	341	*e*PN	Pn	01 04 11.1	+1.3
NEO	Neokhori	5.55	341	*e*Pn	Pn	01 04 11.1	+1.3
SUTC	Sutluce-Ispart	5.55	51	*e*PN	Pn	01 04 12.1	+2.1
DEMI	Demirci	5.55	26	*i* P	Pn	01 04 11.4	+1.4
DEMI	Demirci	5.55	26	*i* P	Pn	01 04 11.4	+1.4
AGG	Agios Georgios	5.58	333	*e*PN	Pn	01 04 11.6	+1.3
AGG	Agios Georgios	5.58	333	*e*Pn	Pn	01 04 11.6	+1.3
PPCY	Paphos	5.64	80	P	Pn	01 04 10.3	-0.8
PPCY	Paphos	5.64	80	P	Pn	01 04 10.3	-0.8
AKMC	Akamas	5.64	79	P	Pn	01 04 10.4	-0.8
AKMC	Akamas	5.64	79	P	Pn	01 04 10.4	-0.8
EVR	Evrytania	5.70	329	*e*PN	Pn	01 04 14.1	+2.1
EVR	Evrytania	5.70	329	*e*Pn	Pn	01 04 14.1	+2.1
VLS	Valsamata	5.75	317	*e*PN	Pn	01 04 14.0	+1.4
VLS	Valsamata	5.75	317	*e*Pn	Pn	01 04 14.0	+1.4
BALB	Balikesir	5.84	18	*e*PN	Pn	01 04 16.2	+2.4
ALFC	Alevga	5.88	78	P	Pn	01 04 13.7	-0.7
	comp=N,9.6nm,0.3s						
ALFC				S	Sn	01 05 19.2	-2.2
ALFC	Alevga	5.88	78	P	Pn	01 04 13.7	-0.7
	comp=N,9.6nm,0.3s						
ALFC				S	Sn	01 05 19.2	-2.2
SHUT	Suhut-Afyon	6.00	41	*e*PN	Pn	01 04 17.7	+1.6
LEF	Lefka	6.11	78	*e*PN	Pn	01 04 16.2	-1.4
LKD2	Lefkada island	6.15	321	*e*PN	Pn	01 04 18.6	+0.5
LKD2	Lefkada island	6.15	321	*e*Pn	Pn	01 04 18.6	+0.5
ALT	Altintas	6.15	35	*e*PN	Pn	01 04 20.6	+2.3
LUJL	Ujela	6.15	218	*i* P	Pn	01 04 17.0	-1.1
	SNR=23						
THL	Klokotos Trika	6.17	333	*e*PN	Pn	01 04 20.3	+1.9
THL	Klokotos Trika	6.17	333	*e*Pn	Pn	01 04 20.3	+1.9
GONE	Gonen-Balikesi	6.18	15	*e*PN	Pn	01 04 20.7	+2.2
TVSB	Tavsanli	6.19	29	*e*PN	Pn	01 04 20.2	+1.5
HDMB	Hadim	6.32	61	*e*PN	Pn	01 04 21.6	+0.9
BOLV	Bolvadin	6.33	42	*i* P	Pn	01 04 22.1	+1.4
BOLV	Bolvadin	6.33	42	*i* P	Pn	01 04 22.1	+1.4
GELI	Tayfur-Gelibol	6.34	6	*e*PN	Pn	01 04 22.4	+1.7
LPK	Lapseki	6.35	8	*e*PN	Pn	01 04 22.4	+1.6
SMTH	Samothraki Isl	6.38	360	*e*PN	Pn	01 04 23.2	+2.0
SMTH	Samothraki Isl	6.38	360	*e*Pn	Pn	01 04 23.2	+2.0
MAMC	Mammari	6.38	78	P	Pn	01 04 21.4	+0.1
MAMC	Mammari	6.38	78	P	Pn	01 04 21.4	+0.1
AWBH		6.41	153	P	Pn	01 04 20.7	-1.0
	baz=153						
AWBH		6.41	153	P	Pn	01 04 20.7	-1.0
AYT	Al 'Ayyat	6.44	131	P	Pn	01 04 20.9	-1.2
	baz=132						
AYT	Al 'Ayyat	6.44	131	P	Pn	01 04 20.9	-1.2
KRBG	Karabiga-Canak	6.44	12	*e*PN	Pn	01 04 23.9	+1.8
CSS	Prodhromos	6.45	80	P	Pn	01 04 21.5	-0.8
	comp=N,9.8nm,1.0s						
CSS				S	Sn	01 05 34.0	-1.5
CSS	Prodhromos	6.45	80	*e*Pn	Pn	01 04 20.7	-1.6
	comp=N,161nm,1.1s						
CSS				*e*S	Sn	01 05 34.9	-0.6
CSS	Prodhromos	6.45	80	*e*Pn	Pn	01 04 20.7	-1.6
	comp=N,161nm,1.1s						
CSS	Prodhromos	6.45	80	P	Pn	01 04 21.5	-0.8
	comp=N,9.8nm,1.0s						
CSS				S	Sn	01 05 34.0	-1.5
LIT	Litokhoron	6.50	339	*e*PN	Pn	01 04 23.7	+0.8
LIT	Litokhoron	6.50	339	*e*Pn	Pn	01 04 23.7	+0.8
PLG	Polygyros	6.51	345	*e*PN	Pn	01 04 23.7	+0.7
PLG	Polygyros	6.51	345	*e*Pn	Pn	01 04 23.7	+0.7
ERMK	Ermenek	6.51	65	*i* P	Pn	01 04 24.2	+1.0
ERMK	Ermenek	6.51	65	*i* P	Pn	01 04 24.2	+1.0
BNT	Bandirma	6.53	16	*e*PN	Pn	01 04 25.0	+1.7
KCTX	Karacabey (Bur	6.55	19	*e*PN	Pn	01 04 25.3	+1.6
LFK	Lefkose	6.65	77	*e*PN	Pn	01 04 24.5	-0.6
ENEZ	Enez	6.66	4	*e*PN	Pn	01 04 26.4	+1.4
KONT	Konya--Tatoy	6.71	53	*e*PN	Pn	01 04 27.2	+1.4
RKY	Sarkoy-Tekirda	6.71	10	*e*PN	Pn	01 04 27.6	+1.8
KOT	Kottamia	6.73	126	P	Pn	01 04 24.2	-1.9
	baz=127						
KOT	Kottamia	6.73	126	P	Pn	01 04 24.2	-1.9
JAN	Janina	6.73	327	*e*PN	Pn	01 04 26.2	+0.1
JAN	Janina	6.73	327	*e*Pn	Pn	01 04 26.2	+0.1
LADK	Ladik-KONYA	6.85	51	*e*PN	Pn	01 04 29.3	+1.5
ESKT	Eskisehir	6.87	36	*e*PN	Pn	01 04 30.2	+2.1
GLL	Jalalah	6.88	129	P	Pn	01 04 26.8	-1.4
	baz=130						
GLL	Jalalah	6.88	129	P	Pn	01 04 26.8	-1.4
HHAG	Hagoal	6.89	125	P	Pn	01 04 26.4	-2.0
	baz=126						
HHAG	Hagoal	6.89	125	P	Pn	01 04 26.4	-2.0
KZN	Kozani	6.92	335	*e*PN	Pn	01 04 30.8	+2.1
KZN	Kozani	6.92	335	*e*Pn	Pn	01 04 30.8	+2.1
KIZT	Kizilcal	6.97	45	*e*PN	Pn	01 04 31.0	+1.5
IKL	Isikli	6.97	70	*e*PN	Pn	01 04 29.4	0.0
ARMT	Armutlu	6.97	21	*e*PN	Pn	01 04 31.4	+2.0
CAVI	Cavuskoy	6.99	28	*e*PN	Pn	01 04 31.6	+1.9
PHNC	Paralimni	7.03	80	P	Pn	01 04 31.2	+1.0
	comp=N,6.2nm,0.7s						
PHNC				S	Sn	01 05 48.2	-1.5
PHNC	Paralimni	7.03	80	P	Pn	01 04 31.2	+1.0
	comp=N,6.2nm,0.7s						
PHNC				S	Sn	01 05 48.2	-1.5
RDO	Rodhopi	7.05	360	*e*PN	Pn	01 04 32.6	+2.2
RDO	Rodhopi	7.05	360	*e*Pn	Pn	01 04 32.6	+2.2
YLV	Yalova	7.14	24	*e*PN	Pn	01 04 33.7	+2.0
SVRH	Sivrihisar-ESK	7.16	40	*e*PN	Pn	01 04 33.8	+1.7
EREN	Erenkoy	7.21	76	*e*PN	Pn	01 04 32.0	-0.6
KEK	Kerkira	7.28	322	*e*PN	Pn	01 04 34.0	+0.3
KEK	Kerkira	7.28	322	*e*Pn	Pn	01 04 34.0	+0.3
HFRF	Wahat Farafira	7.30	161	AMP		01 06 00.0	
	comp=N,210µm,1.5s,logA/T=5.2,baz=161						
AMAG	Maghara	7.30	116	P	Pn	01 04 32.1	-1.9
	baz=117						
AMAG	Maghara	7.30	116	P	Pn	01 04 32.1	-1.9
SRN	Sarande	7.31	324	*e*PN	Pn	01 04 32.5	-1.5
SRN				*i* PN	Sn	01 05 57.3	+0.8
NVR	Nevrokopi	7.38	350	*e*PN	Pn	01 04 35.8	+0.8
SLVT	Silivri	7.43	15	*e*PN	Pn	01 04 37.5	+1.9
GULT	Gulveren	7.45	30	*e*PN	Pn	01 04 38.2	+2.1
HRT	Hereke	7.47	25	*e*PN	Pn	01 04 38.3	+2.1
SUZ		7.47	123	P	Pn	01 04 35.2	-1.0
	baz=124						
SUZ		7.47	123	P	Pn	01 04 35.2	-1.0
FNA	Florina	7.48	335	*e*PN	Pn	01 04 36.5	+0.1
ISK	Istanbul-Kandi	7.49	21	*e*PN	Pn	01 04 38.5	+1.9
CTKS	Kestanelik-??a	7.50	17	*e*PN	Pn	01 04 38.4	+1.8
RSH		7.54	112	P	Pn	01 04 35.2	-2.0
	baz=113						
RSH		7.54	112	P	Pn	01 04 35.2	-2.0
SULT	Sultanhani-AKS	7.62	55	*e*PN	Pn	01 04 39.5	+1.2
RZN	Rozhen	7.62	355	*e*P	Pn	01 04 40.3	+1.8
KLYT	Kilyos	7.66	20	*e*PN	Pn	01 04 40.9	+2.0
CTYL	Yal??k??y-??at	7.68	15	*e*PN	Pn	01 04 40.9	+1.8
SILT	Sile	7.75	23	*e*PN	Pn	01 04 42.0	+1.9
MDUB	Mudurnu	7.79	33	*e*PN	Pn	01 04 42.6	+2.0
OFRI	'Ofer	8.00	98	Pn	Pn	01 04 42.1	-1.4
KKB	Krupnik	8.02	346	*e*P	Pn	01 04 52.7	+9.0
PLD	Plovdiv	8.04	355	*e*P	Pn	01 04 47.2	+3.2
KZIT	Kziot	8.09	111	Pn	Pn	01 04 43.5	-1.2
KZIT				Sn	Sn	01 06 11.6	-4.2
GULE	Gulek	8.13	64	*i* P	Pn	01 04 47.3	+1.9
GULE	Gulek	8.13	64	*i* P	Pn	01 04 47.3	+1.9
SLTI	Sal'it	8.14	100	Pn	Pn	01 04 44.5	-0.9
SLTI				Sn	Sn	01 06 12.5	-4.4
ANTO	Ankara	8.16	43	*e*P	Pn	01 04 46.7	+1.0
ANTO	Ankara	8.16	43	*e*Pn	Pn	01 04 46.7	+1.0
ANTO	Ankara	8.16	43	*e*P	Pn	01 04 46.7	+1.0
HNKL	Nakhl	8.24	118	P	Pn	01 04 45.4	-1.5
	baz=119						
HNKL	Nakhl	8.24	118	P	Pn	01 04 45.4	-1.5
RTMI	Retamim	8.26	109	Pn	Pn	01 04 45.9	-1.1
RTMI				Sn	Sn	01 06 16.0	-3.9
MMAI	Mount Meron Ar	8.26	95	Pn	Pn	01 04 46.0	-1.2
MMAI				Sn	Sn	01 06 18.0	-2.1
MMAI	Mount Meron Ar	8.26	95	Pn	Pn	01 04 46.0	-1.2
	comp=N,6.1nm,0.3s,baz=264,slow=12,SNR=26						
MMAI				Sn	Sn	01 06 18.0	-2.1
	comp=N,19nm,0.3s,baz=259,slow=20,SNR=9.8						
MMAI	Mount Meron Ar	8.26	95	Pn	Pn	01 04 46.0	-1.2
MMAI				Sn	Sn	01 06 18.0	-2.1
KARA	Karaisali	8.33	65	*e*PN	Pn	01 04 48.2	+0.1
NIG	Nigde	8.33	59	*e*PN	Pn	01 04 48.8	+0.4
MMLI	Mount Malkishu	8.40	99	Pn	Pn	01 04 47.6	-1.4
ASUT		8.42	141	P	Pn	01 04 48.7	-0.6
	baz=141						
ASUT		8.42	141	P	Pn	01 04 48.7	-0.6
KSDI	Kefar Szold	8.45	93	Pn	Pn	01 04 48.1	-1.5
KSDI				Sn	Sn	01 06 20.7	-3.8
GRB	Gharib	8.46	131	P	Pn	01 04 49.0	-0.9
	baz=132						
GRB	Gharib	8.46	131	P	Pn	01 04 49.0	-0.9
RMNI	Mount Ramon	8.51	112	Pn	Pn	01 04 49.9	-0.6
PGB	Panagyurishte	8.53	353	*e*P	Pn	01 04 59.8	+9.0
HMDT	Nahal Hemdat	8.53	100	Pn	Pn	01 04 49.2	-1.6
HMDT				Sn	Sn	01 06 23.3	-3.3
TIR	Tirane	8.55	330	*e*PN	Pn	01 04 51.4	+0.5
TIR	Tirane	8.55	330	*e*P	Pn	01 04 51.5	+0.5
TIR				*e*S	Sn	01 06 25.6	-1.4
TIR	Tirane	8.55	330	*e*Pn	Pn	01 04 51.5	+0.5
TIR				*e*S	Sn	01 06 25.6	-1.4
TIR	Tirane	8.55	330	*e*P	Pn	01 04 51.5	+0.5
BR131	Keskin Array S	8.56	47	*e*Pn	Pn	01 04 52.7	+1.4
	comp=N,13nm,0.8s						
BR131				*e*S	Sn	01 06 30.1	+2.6
BR131	Keskin Array S	8.56	47	*e*Pn	Pn	01 04 52.7	+1.4
	comp=N,13nm,0.8s						
BRTR	Keskin Array B	8.56	47	Pn	Pn	01 04 52.2	+0.9
BRTR				Sn	Sn	01 06 25.6	-1.9
BRTR	Keskin Array B	8.56	47	Pn	Pn	01 04 52.2	+0.9
	comp=N,0.6nm,0.3s,baz=221,slow=13,SNR=37						
BRTR				Sn	Sn	01 06 25.6	-1.9
	comp=N,0.6nm,0.3s,baz=212,slow=26,SNR=5.8						
BRTR	Keskin Array B	8.56	47	Pn	Pn	01 04 52.2	+0.9
BRTR	Keskin Array B	8.56	47	*i* P	Pn	01 04 52.9	+1.6
	comp=N,27nm,1.1s						
BRTR				Sn	Sn	01 06 25.6	-1.9
KSHT	Keshet	8.61	94	Pn	Pn	01 04 50.9	-1.0
PHP	Peshkopia	8.61	333	*e*PN	Pn	01 04 50.2	-1.7
PHP				*i* SN	Sn	01 06 26.0	-2.5
DSI	Dead Sea	8.61	104	Pn	Pn	01 04 50.8	-1.2
DSI				Sn	Sn	01 06 25.2	-3.5
BRBR	Barbar	8.66	92	*e*P	Pn	01 04 51.6	-1.1
BRBR				*e*S	Sn	01 06 25.6	-4.5
BRBR				AML	AML	01 06 34.9	
	comp=E,121nm,0.9s						
BRBR				AML	AML	01 06 39.4	
	comp=N,1.4nm,0.0s						
BRBR	Barbar	8.66	92	*e*P	Pn	01 04 51.6	-1.1
	SNR=90						
BRBR				*e*S	Sn	01 06 25.6	-4.5
	comp=N,1.4nm,0.0s,SNR=90						
MZDA	Masada	8.69	106	Pn	Pn	01 04 51.6	-1.3
MZDA				Sn	Sn	01 06 26.4	-4.1
VTS	Vitosha	8.70	348	⇓P	Pn	01 04 55.0	+1.8
VTS	Vitosha	8.70	348	*e*P	Pn	01 05 01.7	+8.5
VTS	Vitosha	8.70	348	⇓*i*P	Pn	01 04 55.0	+1.8
VTS	Vitosha	8.70	348	P	Pn	01 04 55.0	+1.8
KRMI	Paran Flat	8.70	115	Pn	Pn	01 04 52.4	-0.8
KRMI				Sn	Sn	01 06 26.3	-4.6
ARNB	Al Arnab	8.71	75	*e*P	Pn	01 04 49.5	-3.8
ARNB				*e*S	Sn	01 06 20.7	-10
ARNB				AML	AML	01 06 32.3	
	comp=N,11nm,0.9s						
ARNB				AML	AML	01 06 38.8	
	comp=E,96nm,0.7s						
TIP	Timpagrande	8.73	308	*e*Pn	Pn	01 04 51.9	-1.6
	comp=E,23nm,0.6s						
TIP				*e*S	Sn	01 06 20.6	-11
TIP	Timpagrande	8.73	308	*e*Pn	Pn	01 04 51.9	-1.6
	comp=E,23nm,0.6s						
CEYT	Ceyhan	8.78	68	*e*PN		01 03 53.9	
TCHB	Talchebab	8.80	96	*e*P	Pn	01 04 53.8	-0.7
TCHB				*e*S	Sn	01 06 29.4	-3.8
TCHB				AML	AML	01 06 35.0	
	comp=N,279nm,0.7s						
TCHB				AML	AML	01 06 52.2	
	comp=E,269nm,0.6s						
TCHB	Talchebab	8.80	96	*e*P	Pn

CFR	**Carcaliu**	**11.25**	**9**	⇑P		**Pn**	**01 05 30.7**	**+2.7**
CFR	**Carcaliu**	**11.25**	**9**	⇑*i*P		**Pn**	**01 05 30.7**	**+2.7**
CFR	**Carcaliu**	**11.25**	**9**	P		**Pn**	**01 05 30.7**	**+2.7**
VOIR		**11.35**	**358**	⇓P		**Pn**	**01 05 31.1**	**+1.7**
VOIR		**11.35**	**358**	⇓*i*P		**Pn**	**01 05 31.1**	**+1.7**
VOIR		**11.35**	**358**	P		**Pn**	**01 05 31.1**	**+1.7**
MLR	**Muntele Rosu**	**11.40**	**1**	P		**Pn**	**01 05 31.7**	**+1.6**
MLR				Sn		**Sn**	**01 07 42.4**	**+5.4**
MLR	**Muntele Rosu**	**11.40**	**1**	⇓*i*P		**Pn**	**01 05 33.0**	**+2.9**
MLR	**Muntele Rosu**	**11.40**	**1**	Pn		**Pn**	**01 05 31.7**	**+1.6**
MLR				Sn		**Sn**	**01 07 42.4**	**+5.4**
	baz=104,slow=11,SNR=1.3							
MLR	**Muntele Rosu**	**11.40**	**1**	Pn		**Pn**	**01 05 31.7**	**+1.6**
MLR	**Muntele Rosu**	**11.40**	**1**	P		**Pn**	**01 05 33.0**	**+2.9**
LOT	**Lotru**	**11.44**	**354**	⇑*i*P		**Pn**	**01 05 32.1**	**+1.5**
PLOR	**Plostina**	**11.78**	**4**	⇑P		**Pn**	**01 05 37.5**	**+2.2**
PLOR	**Plostina**	**11.78**	**4**	⇑*i*P		**Pn**	**01 05 37.5**	**+2.2**
PLOR	**Plostina**	**11.78**	**4**	P		**Pn**	**01 05 37.5**	**+2.2**
VRI	**Vrincioaia**	**11.80**	**4**	⇑P		**Pn**	**01 05 38.1**	**+2.6**
VRI	**Vrincioaia**	**11.80**	**4**	⇑*i*P		**Pn**	**01 05 38.1**	**+2.6**
VRI	**Vrincioaia**	**11.80**	**4**	P		**Pn**	**01 05 38.1**	**+2.6**
BZS	**Buzias**	**11.91**	**346**	⇑P		**Pn**	**01 05 37.4**	**+0.3**
BZS	**Buzias**	**11.91**	**346**	⇑*i*P		**Pn**	**01 05 37.4**	**+0.3**
BZS	**Buzias**	**11.91**	**346**	P		**Pn**	**01 05 37.4**	**+0.3**
TESR	**Tescani**	**12.44**	**3**	⇑*i*P		**Pn**	**01 05 47.3**	**+3.0**
SIM	**Simferopol'**	**12.68**	**29**	P		**Pn**	**01 05 50.2**	**+2.6**
SIM				MLR	MLR			
	comp=Z,350nm,13.0s							
DRGR		**12.88**	**351**	⇓P		**Pn**	**01 05 51.9**	**+1.6**
DRGR		**12.88**	**351**	⇓*i*P		**Pn**	**01 05 51.9**	**+1.6**
DRGR		**12.88**	**351**	P		**Pn**	**01 05 51.9**	**+1.6**
UDBI	**Udbina**	**12.90**	**327**	*e*Pn		**Pn**	**01 05 48.5**	**-2.1**
UDBI				Sn		Sn	01 08 06.4	-7.2
KIS	**Kishinev**	**13.13**	**10**	*e*P		**Pn**	**01 05 51.0**	**-2.7**
KIS				*e*S		Sn	01 08 26.0	+6.8
KIS				LRM	MLR	MLR	01 11 44.0	
	comp=Z,2µm,13.0s							
KIS	**Kishinev**	**13.13**	**10**	*e*P		**Pn**	**01 05 54.0**	**+0.3**
KIS				*e*S		Sn	01 08 26.0	+6.8
KIS				MLR	MLR			
	comp=N,1µm,12.0s							
KIS				MLR	MLR			
	comp=Z,2µm,12.0s							
KIS				MLR	MLR			
	comp=E,1µm,9.0s							
KIS				MLR	MLR			
	comp=Z,2µm,13.0s							
KIS	**Kishinev**	**13.13**	**10**	*e*P		**Pn**	**01 05 54.0**	**+0.3**
PKSM	**Moragy**	**13.22**	**338**	*e*Pn		**Pn**	**01 05 52.2**	**-2.7**
NVLJ	**Novalja**	**13.34**	**325**	*e*Pn		**Pn**	**01 05 53.8**	**-2.7**
NVLJ				Sn		Sn	01 08 15.1	-9.2
KEST	**Kesra**	**13.43**	**282**	*e*Pn		**Pn**	**01 05 58.5**	**+0.5**
KEST	**Kesra**	**13.43**	**282**	Pn		Pn	01 06 01.6	+3.6
	comp=Z,0.0nm,0.3s,baz=47,slow=12,SNR=2.9							
KEST				LR		LR	01 13 34.8	
	comp=Z,195nm,18.5s,baz=205,slow=48							
KEST	**Kesra**	**13.43**	**282**	*e*Pn		**Pn**	**01 05 58.5**	**+0.5**
BUR08	**Bucovina Ar. S**	**13.55**	**359**	*e*Pn		**Pn**	**01 05 59.5**	**0.0**
BUR08	**Bucovina Ar. S**	**13.55**	**359**	*e*Pn		**Pn**	**01 05 59.5**	**0.0**
BOJS	**Bojanci**	**13.88**	**328**	*i* Pn		**Pn**	**01 06 02.1**	**-1.9**
VSL	**Villasalto**	**14.06**	**297**	*e*Pn		**Pn**	**01 06 06.2**	**-0.2**
	comp=Z,18nm,1.0s							
VSL	**Villasalto**	**14.06**	**297**	*e*Pn		**Pn**	**01 06 06.2**	**-0.2**
	comp=Z,18nm,1.0s							
ANN	**Anapa**	**14.06**	**37**	*e*P		Pn	01 06 00.0	-6.4
ANN				*e*S		Sn	01 08 35.2	-6.8
ANN				pmax	pmax			
	comp=Z,27nm,1.0s							
TRPA	**Tarpa**	**14.22**	**352**	*e*		**P**	**01 06 17.8**	**+2.0**
TRPA	**Tarpa**	**14.22**	**352**	*e*P		**P**	**01 06 17.8**	**+2.0**
CSKK	**Cs˙‡kako**	**14.37**	**340**	*e*Pn		**P**	**01 06 14.9**	**-2.6**
PSZ	**Piszkesteto**	**14.47**	**345**	*e*P		**Pn**	**01 06 11.4**	**-0.6**
PSZ	**Piszkesteto**	**14.47**	**345**	*e*Pn		**Pn**	**01 06 11.4**	**-0.6**
PSZ	**Piszkesteto**	**14.47**	**345**	*e*Pn		**Pn**	**01 06 12.0**	**0.0**
PSZ	**Piszkesteto**	**14.47**	**345**	*e*Pn		**Pn**	**01 06 11.4**	**-0.6**
SOC	**Sochi**	**14.52**	**45**	*d* *i*P		**Pn**	**01 06 13.4**	**+0.8**
SOC				*e*			01 08 52.7	
SOC				pmax	pmax			
	comp=Z,73nm,1.2s							
SOC				MLR	MLR			
	comp=Z,385nm,11.0s							
TRI	**Trieste**	**14.71**	**326**	*e*P		**Pn**	**01 06 14.7**	**-0.6**
TRI	**Trieste**	**14.71**	**326**	*e*Pn		**Pn**	**01 06 14.7**	**-0.6**
TRI	**Trieste**	**14.71**	**326**	*e*Pn		**Pn**	**01 06 14.7**	**-0.6**
UZH	**Uzhgorod**	**14.74**	**351**	*e*P		**Pn**	**01 06 15.1**	**-0.5**
KECS	**Kecovo**	**14.88**	**347**	*e*P		P	01 06 27.5	+4.3
KECS	**Kecovo**	**14.88**	**347**	*e*pP		P	01 06 27.5	+4.3
VOY	**Vojsko**	**14.90**	**327**	*e*Pn		**Pn**	**01 06 15.4**	**-2.5**
VOY				*e*			01 06 23.3	
VOY				*e*			01 06 34.9	
VOY				*e*			01 08 54.6	
VOY				*e*			01 09 17.9	
ABSA	**Djebel Ababsia**	**14.97**	**284**	P		P	01 06 28.2	+3.8
KOLS	**Kolonicke sedl**	**15.04**	**352**	*e*P		**Pn**	**01 06 19.0**	**-0.7**
KOLS	**Kolonicke sedl**	**15.04**	**352**	*e*PN		**Pn**	**01 06 19.0**	**-0.7**
KOLS	**Kolonicke sedl**	**15.04**	**352**	*e*P		**P**	**01 06 25.8**	**+0.8**
KOLS	**Kolonicke sedl**	**15.04**	**352**	*e*Pn		**Pn**	**01 06 19.0**	**-0.7**
KOLS	**Kolonicke sedl**	**15.04**	**352**	*e*P		**P**	**01 06 25.8**	**+0.8**
CMAH	**Djebel Manchou**	**15.04**	**285**	P		**P**	**01 06 27.2**	**+2.1**
CMAH	**Djebel Manchou**	**15.04**	**285**	P		**P**	**01 06 27.2**	**+2.1**
VYHS	**Vyhne**	**15.25**	**343**	*e*P		**Pn**	**01 06 19.1**	**-3.5**
VYHS	**Vyhne**	**15.25**	**343**	*e*PN		**Pn**	**01 06 19.1**	**-3.5**
VYHS	**Vyhne**	**15.25**	**343**	*e*P		**P**	**01 06 28.2**	**+0.8**
VYHS	**Vyhne**	**15.25**	**343**	*e*P		**P**	**01 06 28.2**	**+0.8**
ZST	**Bratislava**	**15.46**	**338**	*e*P		P	01 06 36.7	+7.0
ZST	**Bratislava**	**15.46**	**338**	*e*pP		P	01 06 36.7	+7.0
PGF	**Pioggiola**	**15.50**	**308**	*e*P		**Pn**	**01 06 24.4**	**-1.5**
	comp=Z,93nm,1.1s							
CHVG	**Ch'k'valeri**	**15.52**	**51**	P		**P**	**01 06 28.5**	**-1.9**
CHVG	**Ch'k'valeri**	**15.52**	**51**	P		**P**	**01 06 28.5**	**-1.9**
CKFL	**Kef-Lekhel**	**15.59**	**284**	P		**P**	**01 06 34.2**	**+2.9**
SMOL	**Smolenice**	**15.65**	**340**	*e*P		**P**	**01 06 35.5**	**+3.7**
SMOL	**Smolenice**	**15.65**	**340**	*e*P		**P**	**01 06 35.5**	**+3.7**
STHS	**Stebnicka Huta**	**15.65**	**349**	*e*P		**P**	**01 06 32.7**	**+0.9**
STHS	**Stebnicka Huta**	**15.65**	**349**	*e*P		**P**	**01 06 32.7**	**+0.9**
STHS				*e*pP		**pP**	**01 06 38.4**	**+1.6**
STHS	**Stebnicka Huta**	**15.65**	**349**	*e*P		**P**	**01 06 32.7**	**+0.9**
KWP	**Kalwaria Pacla**	**15.68**	**353**	*e*P		**Pn**	**01 06 27.8**	**-0.3**
KWP				pmax	pmax			
	comp=Z,35nm,1.3s							
KWP	**Kalwaria Pacla**	**15.68**	**353**	*e*Pn		**Pn**	**01 06 27.8**	**-0.3**
	comp=Z,35nm,1.3s							
KWP	**Kalwaria Pacla**	**15.68**	**353**	*e*P		**Pn**	**01 06 28.4**	**+0.3**
KWP				*e*pP		**pP**	**01 06 36.7**	**-0.4**
KWP	**Kalwaria Pacla**	**15.68**	**353**	*e*Pn		**Pn**	**01 06 27.8**	**-0.3**
	comp=Z,35nm,1.3s							
LVV	**L'vov**	**15.77**	**356**	*e*P		**Pn**	**01 06 30.0**	**+0.8**
LVV				*e*S		**Sn**	**01 09 25.0**	**+1.6**
LVV				MLR	MLR			
	comp=Z,600nm,10.0s							
CASM	**Ain Smara**	**15.77**	**283**	P		**P**	**01 06 37.5**	**+4.3**
NIE	**Niedzica**	**15.81**	**347**	*e*P		**P**	**01 06 31.9**	**-1.7**
NIE	**Niedzica**	**15.81**	**347**	*e*P		**P**	**01 06 31.9**	**-1.7**
NIE	**Niedzica**	**15.81**	**347**	*e*P		**P**	**01 06 31.9**	**-1.7**
AKH	**Akhalkalaki**	**15.92**	**57**	P		**Pn**	**01 06 32.9**	**+1.4**
AKH	**Akhalkalaki**	**15.92**	**57**	P		**Pn**	**01 06 32.9**	**+1.4**
ABTA	**Abfaltersbach**	**16.07**	**326**	⇓*i*Pn		**Pn**	**01 06 32.0**	**-1.2**
	comp=Z,28nm,0.6s,SNR=20							
MOA	**Molln**	**16.17**	**332**	⇓*i*Pn		**Pn**	**01 06 31.5**	**-2.9**
	comp=Z,9.5nm,0.7s,SNR=7.9							
DFRA	**Djebel Bou Aff**	**16.27**	**284**	P		**P**	**01 06 41.3**	**+2.4**
DFRA	**Djebel Bou Aff**	**16.27**	**284**	P		**P**	**01 06 41.3**	**+2.4**
ONI	**Oni**	**16.37**	**54**	P		**Pn**	**01 06 38.1**	**+1.1**
ONI	**Oni**	**16.37**	**54**	P		**Pn**	**01 06 38.1**	**+1.1**
GNI	**Garni**	**16.42**	**63**	*e*Pn		**Pn**	**01 06 38.8**	**+0.9**
	comp=Z,143nm,1.4s							
GNI	**Garni**	**16.42**	**63**	*e*Pn		**Pn**	**01 06 38.8**	**+0.9**
	comp=Z,143nm,1.4s							
GNI	**Garni**	**16.42**	**63**	*i* P		**Pn**	**01 06 39.2**	**+1.4**
	comp=Z,129nm,1.2s							
KIV	**Kislovodsk**	**16.52**	**48**	*e*P		**Pn**	**01 06 39.3**	**+0.4**
KIV				*e*S		**Sn**	**01 09 42.5**	**+0.7**
KIV				pmax	pmax			
	comp=Z,122nm,1.0s							
KIV				MLR	MLR			
	comp=Z,149nm,13.0s							
KIV	**Kislovodsk**	**16.52**	**48**	*e*P		**Pn**	**01 06 39.3**	**+0.4**
	comp=Z,122nm,1.0s							
KBZ	**Khabaz**	**16.53**	**49**	P		**P**	**01 06 40.8**	**-0.7**
KBZ							01 09 47.1	
KBZ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KBZ	**Khabaz**	**16.53**	**49**	Pn		**P**	**01 06 40.8**	**-0.7**
KBZ				Sn		**Sn**	**01 09 47.1**	**+5.1**
KBZ	**Khabaz**	**16.53**	**49**	Pn		**P**	**01 06 40.8**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=254,slow=8.6,SNR=29							
KBZ				Sn		**Sn**	**01 09 47.1**	**+5.1**
	comp=Z,0.1nm,0.3s,baz=260,slow=18,SNR=1.5							
KBZ	**Khabaz**	**16.53**	**49**	P		**P**	**01 06 40.8**	**-0.7**
	comp=Z,1.0nm,0.3s							
CKHR	**Kef el Ahmar**	**16.55**	**282**	P		P	01 06 48.0	+6.0
VRAC	**Vranov**	**16.61**	**339**	Pn		**Pn**	**01 06 40.6**	**+0.6**
VRAC				Sn		**Sn**	**01 09 48.5**	**+4.7**
VRAC	**Vranov**	**16.61**	**339**	Pn		**Pn**	**01 06 40.6**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=154,slow=10.0,SNR=9.5							
VRAC				Sn		**Sn**	**01 09 48.5**	**+4.7**
	comp=Z,0.2nm,0.3s,baz=44,slow=15,SNR=2.1							
VRAC	**Vranov**	**16.61**	**339**	P		**Pn**	**01 06 40.6**	**+0.6**
	comp=Z,1.0nm,0.3s							
SET	**Setif**	**16.65**	**283**	P		**P**	**01 06 47.0**	**+4.0**
OKC	**Ostrava-Krasne**	**16.67**	**343**	*e*P		**Pn**	**01 06 37.7**	**-3.0**
OKC				*e*S		**Sn**	**01 09 47.0**	**+1.7**
OKC				MLR	MLR			
	comp=Z,1µm,10.2s							
OKC	**Ostrava-Krasne**	**16.67**	**343**	*e*P		**Pn**	**01 06 37.7**	**-3.0**
OKC				*ex*		x	01 06 43.8	
OKC				*e*S		**Sn**	**01 09 47.0**	**+1.7**
OKC				AMS	AMS		01 14 20.0	
	comp=Z,1µm,10.2s							
OJC	**Ojcow**	**16.68**	**347**	*e*P		**Pn**	**01 06 39.5**	**-1.3**
OJC				pmax	pmax			
	comp=Z,10.0nm,1.1s							
OJC	**Ojcow**	**16.68**	**347**	*e*Pn		**Pn**	**01 06 39.5**	**-1.3**
	comp=Z,9.5nm,1.1s							
OJC	**Ojcow**	**16.68**	**347**	*e*P		**Pn**	**01 06 39.1**	**-1.7**
OJC	**Ojcow**	**16.68**	**347**	*e*Pn		**Pn**	**01 06 39.5**	**-1.3**
	comp=Z,9.5nm,1.1s							
ZEI	**Tsey**	**16.74**	**53**	*e*P		**P**	**01 06 43.4**	**-0.7**
ZEI				pmax	pmax			
	comp=Z,147nm,1.2s							
ZEI	**Tsey**	**16.74**	**53**	*e*P		**P**	**01 06 43.4**	**-0.7**
	comp=Z,147nm,1.2s							
KIEV	**Kiev**	**16.81**	**8**	*e*P		**Pn**	**01 06 41.7**	**-0.8**
KIEV				*e*S		**S**	**01 09 55.3**	**-3.9**
KIEV				pmax	pmax			
	comp=Z,45nm,0.8s							
KIEV	**Kiev**	**16.81**	**8**	*e*Pn		**Pn**	**01 06 41.7**	**-0.8**
	comp=Z,45nm,0.8s							
KIEV				*e*S		**S**	**01 09 55.3**	**-3.9**
KIEV	**Kiev**	**16.81**	**8**	*e*Pn		**Pn**	**01 06 41.7**	**-0.8**
	comp=Z,45nm,0.8s							
TBLG	**Delisi**	**16.91**	**58**	*e*P		**Pn**	**01 06 44.8**	**+0.9**
TBLG	**Delisi**	**16.91**	**58**	P		**Pn**	**01 06 44.9**	**+0.9**
TBLG	**Delisi**	**16.91**	**58**	*e*P		**Pn**	**01 06 44.8**	**+0.9**
TREC	**Trest**	**16.94**	**337**	*e*P		**Pn**	**01 06 42.2**	**-2.0**
TREC				*e*S		**Sn**	**01 09 51.9**	**-0.1**
TREC				MLR	MLR			
	comp=Z,700nm,10.7s							
TREC	**Trest**	**16.94**	**337**	*e*P		**Pn**	**01 06 42.2**	**-2.0**
TREC				*e*pP		**pP**	**01 06 49.4**	**-1.7**
TREC				*e*S		**Sn**	**01 09 51.9**	**-0.1**
TREC				*ex*		x	01 10 19.7	
TREC				AMS	AMS		01 15 20.0	
	comp=Z,700nm,10.7s							
FUORN	**Ofenpass-Fuorn**	**17.08**	**322**	*e*P		**P**	**01 06 48.6**	**+0.7**
	comp=Z,61nm,1.1s							
FUORN	**Ofenpass-Fuorn**	**17.08**	**322**	*e*P		**P**	**01 06 48.6**	**+0.7**
	comp=Z,61nm,1.1s							
SAOF	**Saorge**	**17.11**	**311**	*e*P		**P**	**01 06 48.3**	**+0.3**
SAOF	**Saorge**	**17.11**	**311**	*e*P		**P**	**01 06 48.3**	**+0.3**
SAOF	**Saorge**	**17.11**	**311**	*e*P		**P**	**01 06 48.3**	**+0.3**
SAOF	**Saorge**	**17.11**	**311**	*e*P		**P**	**01 06 48.3**	**+0.3**
FETA	**Feichten**	**17.12**	**323**	⇓*i*P		**P**	**01 06 48.3**	**0.0**
	comp=Z,26nm,0.9s,SNR=13							
SBF	**Sospel**	**17.13**	**310**	*e*P		**Pn**	**01 06 46.8**	**+0.1**
	comp=Z,114nm,1.2s							
SBF	**Sospel**	**17.13**	**310**	*e*P		**Pn**	**01 06 46.8**	**+0.1**
	comp=Z,57nm,1.2s							
MOTA	**Moosalm**	**17.17**	**325**	⇓*i*Pn		**Pn**	**01 06 47.2**	**0.0**
	comp=Z,18nm,0.8s,SNR=16							
GEC2	**GERESS Array S**	**17.20**	**333**	*e*P		**Pn**	**01 06 47.4**	**-0.1**
GEC2	**GERESS Array S**	**17.20**	**333**	*e*Pn		**Pn**	**01 06 47.4**	**-0.1**
GEC2	**GERESS Array S**	**17.20**	**333**	*e*P		**Pn**	**01 06 47.4**	**-0.1**
GERES	**GERESS Array B**	**17.20**	**333**	P		**Pn**	**01 06 46.5**	**-1.0**
GERES				S		**S**	**01 10 05.6**	**-1.7**
GERES	**GERESS Array B**	**17.20**	**333**	P		**Pn**	**01 06 46.5**	**-1.0**
	comp=Z,1.4nm,0.3s,baz=151,slow=12,SNR=36							
GERES				S		**S**	**01 10 05.6**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=143,slow=15,SNR=2.3							
AUTN	**L'Aution**	**17.20**	**310**	*e*P		**P**	**01 06 49.7**	**+0.5**
AUTN	**L'Aution**	**17.20**	**310**	*e*P		**P**	**01 06 49.7**	**+0.5**
AUTN	**L'Aution**	**17.20**	**310**	*e*P		**P**	**01 06 49.7**	**+0.5**
AUTN	**L'Aution**	**17.20**	**310**	*e*P		**P**	**01 06 49.7**	**+0.5**
DGRG	**David-gareji**	**17.27**	**59**	P		**P**	**01 06 50.1**	**+0.3**
DGRG	**David-gareji**	**17.27**	**59**	P		**P**	**01 06 50.1**	**+0.3**
GOF	**Gofitskoye**	**17.31**	**46**	*e*P		**P**	**01 06 53.7**	**+3.5**
GOF				pmax	pmax			
	comp=Z,120nm,1.4s							
TOUF	**Mont Tournerai**	**17.32**	**310**	*e*P		**P**	**01 06 51.7**	**+1.2**
TOUF	**Mont Tournerai**	**17.32**	**310**	*e*P		**P**	**01 06 51.7**	**+1.2**
TOUF	**Mont Tournerai**	**17.32**	**310**	*e*P		**P**	**01 06 51.7**	**+1.2**
TOUF	**Mont Tournerai**	**17.32**	**310**	*e*P		**P**	**01 06 51.7**	**+1.2**
MVIF	**Mont Vial**	**17.33**	**310**	*e*P		**P**	**01 06 52.5**	**+2.0**
MVIF	**Mont Vial**	**17.33**	**310**	*e*P		**P**	**01 06 52.5**	**+2.0**
MVIF	**Mont Vial**	**17.33**	**310**	*e*P		**P**	**01 06 52.5**	**+2.0**
MVIF	**Mont Vial**	**17.33**	**310**	*e*P		**P**	**01 06 52.5**	**+2.0**
DAVOX	**Davos/Dischmat**	**17.39**	**321**	P		**Pn**	**01 06 50.3**	**+0.3**
DAVOX				S		**S**	**01 10 14.2**	**+2.8**
DAVOX	**Davos/Dischmat**	**17.39**	**321**	P		**Pn**	**01 06 50.3**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=134,slow=9.7,SNR=19							
DAVOX				S		**S**	**01 10 14.2**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=147,slow=20,SNR=2.4							
DAVOX	**Davos/Dischmat**	**17.39**	**321**	P		**Pn**	**01 06 50.3**	**+0.3**
	comp=Z,1.0nm,0.3s							
DAVOX				S		**S**	**01 10 14.2**	**+2.8**
CALN	**Calern**	**17.43**	**309**	*e*P		**P**	**01 06 53.6**	**+2.0**
CALN	**Calern**	**17.43**	**309**	*e*P		**P**	**01 06 53.6**	**+2.0**
CALN	**Calern**	**17.43**	**309**	*e*P		**P**	**01 06 53.6**	**+2.0**
CALN	**Calern**	**17.43**	**309**	*e*P		**P**	**01 06 53.6**	**+2.0**
RETA	**Reutte**	**17.43**	**325**	⇓*i*Pn		**Pn**	**01 06 48.2**	**-2.1**
	comp=Z,9.2nm,0.6s,SNR=13							
TUE	**Stuetta**	**17.47**	**320**	*e*Pn		**Pn**	**01 06 51.3**	**+0.3**
	comp=Z,38nm,1.1s							
TUE	**Stuetta**	**17.47**	**320**	*e*Pn		**Pn**	**01 06 51.3**	**+0.3**
	comp=Z,38nm,1.1s							
KHC	**Kasperske Hory**	**17.48**	**333**	*e*P		**Pn**	**01 06 48.8**	**-2.1**
KHC				*e*S		**S**	**01 10 11.2**	**-1.7**
KHC				MLR	MLR			
	comp=Z,1µm,12.4s							
KHC	**Kasperske Hory**	**17.48**	**333**	*e*P		**Pn**	**01 06 48.8**	**-2.1**
KHC				*ex*		x	01 06 51.5	
KHC				*ex*		x	01 07 06.1	
KHC				*e*S		**S**	**01 10 11.2**	**-1.7**
KHC				*ex*		x	01 10 29.2	
KHC				AMS	AMS		01 14 40.0	
	comp=Z,1µm,12.4s							
KHC	**Kasperske Hory**	**17.48**	**333**	*e*Pn		**Pn**	**01 06 48.8**	**-2.1**
	comp=Z,77nm,1.9s							
LMR	**La Mourre**	**17.49**	**307**	*e*P		**Pn**	**01 06 50.0**	**-1.0**
	comp=Z,153nm,1.8s							
FRF	**La Foret Royal**	**17.50**	**308**	*e*P		**Pn**	**01 06 48.8**	**-2.4**
	comp=Z,36nm,1.1s							
DPC	**Dobruska-Polom**	**17.62**	**340**	*e*P		**P**	**01 06 53.1**	**-0.5**
DPC				*e*S		**S**	**01 10 14.3**	**-1.5**
DPC	**Dobruska-Polom**	**17.62**	**340**	*e*P		**P**	**01 06 53.1**	**-0.5**
DPC				*e*pP		**pP**	**01 06 59.2**	**+0.6**
DPC				*ex*		x	01 07 05.9	
DPC				*e*S		**S**	**01 10 14.3**	**-1.5**
DPC	**Dobruska-Polom**	**17.62**	**340**	*e*P		**P**	**01 06 53.1**	**-0.5**
DAVA	**Damuels**	**17.73**	**323**	⇑*i*P		**Pn**	**01 06 52.5**	**-1.6**
	comp=Z,12nm,0.6s,SNR=12							
UPC	**Upice**	**17.85**	**340**	*e*P		**Pn**	**01 06 54.1**	**-1.4**
UPC	**Upice**	**17.85**	**340**	*e*P		**Pn**	**01 06 54.1**	**-1.4**
UPC				*e*pP		**P**	**01 06 58.3**	**+2.2**
UPC				*e*sP		**sP**	**01 07 02.0**	**-1.4**
UPC				*ex*		x	01 07 08.8	
UPC				*ex*		x	01 10 35.9	
UPC	**Upice**	**17.85**	**340**	*e*P		**Pn**	**01 06 54.1**	**-1.4**
PRU	**Pruhonice**	**17.85**	**336**	*e*P		**Pn**	**01 06 53.4**	**-2.1**
PRU				*e*S		**Sn**	**01 10 09.4**	**-4.6**
PRU				MLR	MLR			
	comp=Z,700nm,10.2s							
PRU	**Pruhonice**	**17.85**	**336**	*e*P		**Pn**	**01 06 53.4**	**-2.1**
PRU				*e*pP		**P**	**01 06 57.2**	**+1.1**
PRU				*ex*		x	01 07 08.4	
PRU				*e*S		**Sn**	**01 10 09.4**	**-4.6**
PRU				*ex*		x	01 10 35.2	
PRU				AMS	AMS		01 15 50.0	
	comp=Z,700nm,10.2s							
PRA	**Prague**	**17.96**	**336**	P		**Pn**	**01 06 54.0**	**-2.8**
PRA				AMS	AMS		01 16 00.0	
MBDF	**Montbardon**	**17.97**	**312**	*e*P		**P**	**01 06 58.6**	**+1.0**
	comp=Z,56nm,0.9s							
MBDF	**Montbardon**	**17.97**	**312**	*e*P		**P**	**01 06 58.6**	**+1.0**
	comp=Z,28nm,0.9s							
MAHO	**Mahon**	**17.98**	**295**	*i* P		P	01 07 08.9	+11
MAHO				*i* S		**S**	**01 10 21.4**	**-1.7**
KSP	**Ksiaz**	**18.07**	**341**	*e*P		**Pn**	**01 06 56.7**	**-1.5**
KSP				*e*S		**Sn**	**01 10 19.0**	**-0.3**
KSP	**Ksiaz**	**18.07**	**341**	*e*P		**Pn**	**01 06 58.1**	**-0.1**
KSP	**Ksiaz**	**18.07**	**341**	*e*P		**Pn**	**01 06 56.7**	**-1.5**
BEL	**Belsk**	**18.08**	**350**	*e*P		**P**	**01 06 58.7**	**+0.1**
BEL				*e*S		**S**	**01 10 28.5**	**+3.5**
BEL				*es*S		**sS**	**01 10 36.6**	**+3.6**
BEL	**Belsk**	**18.08**	**350**	*e*P		**P**	**01 06 58.7**	**+0.1**
BEL				*e*S		**S**	**01 10 28.5**	**+3.5**
BNI	**Bardonecchia**	**18.19**	**313**	*e*P		**Pn**	**01 06 57.7**	**-2.1**
BNI	**Bardonecchia**	**18.19**	**313**	*e*Pn		**Pn**	**01 06 57.7**	**-2.1**
PVCC	**Panska Ves**	**18.31**	**337**	*e*P		**Pn**	**01 06 59.8**	**-1.3**
PVCC				MLR	MLR			
	comp=Z,1µm,10.3s							
PVCC	**Panska Ves**	**18.31**	**337**	*e*P		**Pn**	**01 06 59.8**	**-1.3**
PVCC				*e*pP		**pP**	**01 07 07.2**	**+1.1**
PVCC				*e*sP		**sP**	**01 07 12.8**	**+4.3**
PVCC				AMS	AMS		01 16 10.0	
	comp=Z,1µm,10.3s							
PVCC	**Panska Ves**	**18.31**	**337**	*e*P		**Pn**	**01 06 59.8**	**-1.3**
	comp=Z,1µm,10.3s							
LPG	**La Plagne**	**18.38**	**314**	*e*P		**Pn**	**01 07 03.9**	**+1.7**
	comp=Z,20nm,0.8s							
LPG	**La Plagne**	**18.38**	**314**	*e*P		**Pn**	**01 07 03.9**	**+1.7**
	comp=Z,10.0nm,0.8s							
SMRF	**Simiane la Rot**	**18.38**	**308**	*e*P		**Pn**	**01 07 02.5**	**+0.5**
	comp=Z,60nm,1.2s							
SMRF	**Simiane la Rot**	**18.38**	**308**	*e*P		**Pn**	**01 07 02.5**	**+0.5**
	comp=Z,30nm,1

VORD pmax pmax
comp=Z,70nm,1.1s
VORD smax smax
comp=N,200nm,2.6s
VORD smax smax
comp=Z,70nm,2.6s
VORD smax smax
comp=E,50nm,0.9s
VORD MLR MLR
comp=N,200nm,13.0s
VORD MLR MLR
comp=E,290nm,13.0s
VORD MLR MLR
comp=Z,250nm,13.0s
VORD Divnogorie 19.61 27 *e*P **P 01 07 15.4 +0.1**
VORD *e*S **S 01 10 55.7 -0.1**
HINF Hinteralfeld 19.64 320 *e*P **P 01 07 15.9 +0.1**
comp=Z,21nm,0.7s
HINF Hinteralfeld 19.64 320 *e*P **P 01 07 15.9 +0.1**
comp=Z,11nm,0.7s
VSR Storozhevoye 19.77 26 *e*P **P 01 07 16.5 -0.6**
VSR *e*S **S 01 10 56.6 -2.4**
VSR pmax pmax
comp=N,30nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,30nm,0.9s
VSR pmax pmax
comp=N,130nm,1.3s
VSR pmax pmax
comp=Z,80nm,1.3s
VSR pmax pmax
comp=E,60nm,0.6s
VSR smax smax
comp=Z,120nm,2.9s
VSR smax smax
comp=N,100nm,1.5s
VSR smax smax
comp=E,90nm,1.5s
VSR MLR MLR
comp=N,140nm,16.0s
VSR MLR MLR
comp=E,210nm,16.0s
VSR MLR MLR
comp=Z,210nm,16.0s
VSR Storozhevoye 19.77 26 *e*P **P 01 07 16.5 -0.6**
CDF Champ du Feu 19.79 322 *e*P **Pn 01 07 18.3 -0.7**
comp=Z,37nm,0.9s
CDF Champ du Feu 19.79 322 *e*P **Pn 01 07 18.3 -0.7**
comp=Z,18nm,0.9s
TOD Tromm 19.85 326 *e*P **Pn 01 07 19.8 +0.1**
TOD Tromm 19.85 326 *e*P **Pn 01 07 19.8 +0.1**
TOD Tromm 19.85 326 *e*P **Pn 01 07 19.8 +0.1**
LANF Langenberg 19.89 324 *e*P **Pn 01 07 20.2 0.0**
LANF Langenberg 19.89 324 *e*P **Pn 01 07 20.2 0.0**
LANF Langenberg 19.89 324 *e*P **Pn 01 07 20.2 0.0**
LANF Langenberg 19.89 324 *e*P **Pn 01 07 20.2 0.0**
KTD Kalmit 19.99 325 *e*P **Pn 01 07 21.1 -0.2**
KTD Kalmit 19.99 325 *e*P **Pn 01 07 21.1 -0.2**
KTD Kalmit 19.99 325 *e*P **Pn 01 07 21.1 -0.2**
SUW Suwalki 20.00 356 *e*P **P 01 07 19.0 -0.5**
SUW *e*S **S 01 10 58.0 -5.6**
SUW pmax pmax
comp=Z,90nm,0.8s
SUW Suwalki 20.00 356 *e*P **P 01 07 19.0 -0.5**
comp=Z,90nm,0.8s
SUW *e*S **S 01 10 58.0 -5.6**
SUW Suwalki 20.00 356 *e*P **P 01 07 19.1 -0.5**
SUW *e*S S 01 10 56.1 -7.5
SUW Suwalki 20.00 356 *e*P **P 01 07 19.0 -0.5**
comp=Z,90nm,0.8s
HAU Haudompre 20.02 320 *e*P **P 01 07 20.2 +0.2**
comp=Z,63nm,1.0s
HAU *e*R
comp=Z,794nm,20.8s
HAU Haudompre 20.02 320 *e*P **P 01 07 20.2 +0.2**
comp=Z,32nm,1.0s
LRDF Laroque-de-Fa 20.04 303 *e*P Pn 01 07 21.0 -1.0
LRDF Laroque-de-Fa 20.04 303 *e*P Pn 01 07 21.0 -1.0
LRDF Laroque-de-Fa 20.04 303 *e*P Pn 01 07 21.0 -1.0
GKP Gorka Klasztor 20.08 345 *e*P Pn 01 07 21.9 -0.4
GKP Gorka Klasztor 20.08 345 *e*P Pn 01 07 21.9 -0.4
VOR Voronezh 20.20 25 *e*P **P 01 07 22.0 +0.2**
VOR Voronezh 20.20 25 *e*P **P 01 07 22.0 +0.2**
VALF Valcebollere 20.24 301 *e*P Pn 01 07 25.6 +1.0
VALF Valcebollere 20.24 301 *e*P Pn 01 07 25.6 +1.0
VALF Valcebollere 20.24 301 *e*P Pn 01 07 25.6 +1.0
RAYN Ar Rayn 20.34 116 *e*Pn Pn 01 07 25.6 -0.2
comp=Z,88nm,1.9s
RAYN Ar Rayn 20.34 116 *e*Pn Pn 01 07 25.6 -0.2
comp=Z,88nm,1.9s
THEF They Montfort 20.35 320 *e*P Pn 01 07 24.7 -0.9
THEF They Montfort 20.35 320 *e*P Pn 01 07 24.7 -0.9
THEF They Montfort 20.35 320 *e*P Pn 01 07 24.7 -0.9
THEF They Montfort 20.35 320 *e*P Pn 01 07 24.7 -0.9
MTLF Montolieu 20.39 304 *e*P **P 01 07 23.4 -0.6**
comp=Z,80nm,1.5s
MTLF Montolieu 20.39 304 *e*P **P 01 07 23.4 -0.6**
comp=Z,40nm,1.5s
LBL Lubilhac 20.42 310 *e*P Pn 01 07 32.6 +6.1
LBL Lubilhac 20.42 310 *e*P Pn 01 07 32.6 +6.1
LBL Lubilhac 20.42 310 *e*P Pn 01 07 32.6 +6.1
PAGF Fort de Pagny 20.69 320 *e*P Pn 01 07 29.3 -0.2
comp=Z,20nm,1.0s
PAGF Fort de Pagny 20.69 320 *e*P Pn 01 07 29.3 -0.2
comp=Z,10nm,1.0s
SMF Signal de Mont 20.70 314 *e*P **P 01 07 26.9 -0.4**
comp=Z,34nm,1.1s
SMF Signal de Mont 20.70 314 *e*P **P 01 07 26.9 -0.4**
comp=Z,17nm,1.1s
RUP Ruppelstein 20.74 324 *e*P Pn 01 07 28.9 -1.3
RUP Ruppelstein 20.74 324 *e*P Pn 01 07 28.9 -1.3
RUP Ruppelstein 20.74 324 *e*P Pn 01 07 28.9 -1.3
PYM Petit Puy Mans 20.80 311 *e*P **P 01 07 28.4 0.0**
PYM Petit Puy Mans 20.80 311 *e*P **P 01 07 28.4 0.0**
PYM Petit Puy Mans 20.80 311 *e*P **P 01 07 28.4 0.0**
PYM Petit Puy Mans 20.80 311 *e*P **P 01 07 28.4 0.0**
NACGM Naroch 20.83 2 *e*P **P 01 07 28.0 -0.6**
SFTF Sexfontaines 20.85 319 *e*P **P 01 07 29.4 +0.5**
comp=Z,166nm,1.4s
SFTF Sexfontaines 20.85 319 *e*P **P 01 07 29.4 +0.5**
comp=Z,83nm,1.4s
AGO Saint Agoulin 20.85 312 *e*P **P 01 07 29.8 +0.8**
AGO Saint Agoulin 20.85 312 *e*P **P 01 07 29.8 +0.8**
AGO Saint Agoulin 20.85 312 *e*P **P 01 07 29.8 +0.8**
TAM Tamanrasset 20.89 243 *e*P **P 01 07 30.1 +0.5**
TAM pmax pmax
comp=Z,57nm,1.5s
TAM Tamanrasset 20.89 243 *e*P **P 01 07 30.1 +0.5**
comp=Z,57nm,1.5s
TAM Tamanrasset 20.89 243 *e*P **P 01 07 30.1 +0.5**
comp=Z,57nm,1.5s
LOR Lormes 21.01 315 *e*P **P 01 07 30.4 -0.2**
comp=Z,44nm,1.2s
LOR *e*R
comp=Z,919nm,21.0s
LOR Lormes 21.01 315 *e*P **P 01 07 30.4 -0.2**
comp=Z,22nm,1.2s
MEZF Maizieres J'vi 21.02 319 *e*P **P 01 07 33.5 +2.8**
comp=Z,250nm,1.3s
MEZF Maizieres J'vi 21.02 319 *e*P **P 01 07 33.5 +2.8**
comp=Z,125nm,1.3s
CAF Calviac 21.06 308 *e*P **P 01 07 31.5 +0.3**
comp=Z,35nm,1.0s
CAF Calviac 21.06 308 *e*P **P 01 07 31.5 +0.3**
comp=Z,18nm,1.0s
AVF Avril sur Loir 21.07 314 *e*P **P 01 07 31.0 -0.2**
comp=Z,11nm,0.7s
AVF Avril sur Loir 21.07 314 *e*P **P 01 07 31.0 -0.2**
comp=Z,5.6nm,0.7s
SSF Saint Saulge 21.11 314 *e*P **P 01 07 32.1 +0.4**
comp=Z,27nm,0.9s
SSF Saint Saulge 21.11 314 *e*P **P 01 07 32.1 +0.4**
comp=Z,13nm,0.9s
WLF Walferdange 21.16 323 P **P 01 07 33.8 +1.6**
comp=Z,19nm,1.3s
BGF Bois d'Agland 21.26 313 *e*P **P 01 07 33.4 0.0**
comp=Z,56nm,0.8s
BGF Bois d'Agland 21.26 313 *e*P **P 01 07 33.4 0.0**
comp=Z,28nm,0.8s
TCF Toulx Ste Croi 21.53 311 *e*P **P 01 07 36.6 +0.3**
comp=Z,79nm,1.3s
TCF Toulx Ste Croi 21.53 311 *e*P **P 01 07 36.6 +0.3**
comp=Z,40nm,1.3s
RJF Les Rejaudoux 21.56 308 *e*P **P 01 07 36.9 +0.3**
comp=Z,121nm,1.3s
RJF *e*R
comp=Z,776nm,19.8s
RJF Les Rejaudoux 21.56 308 *e*P **P 01 07 36.9 +0.3**
comp=Z,60nm,1.3s
EPF Esparros 21.61 302 *e*P **P 01 07 37.8 +0.7**
EPF Esparros 21.61 302 *e*P **P 01 07 37.8 +0.7**
MEM Membach 21.85 325 P **P 01 07 37.3 -2.3**
comp=Z,32nm,1.1s
LFF La Frestale 21.94 307 *e*P **P 01 07 41.5 +0.9**
comp=Z,107nm,1.2s
LFF La Frestale 21.94 307 *e*P **P 01 07 41.5 +0.9**
comp=Z,54nm,1.2s
HGN Heimansgroeve 21.99 325 *e*P **P 01 07 42.6 +1.6**
comp=Z,45nm,1.2s
HGN *e*S Sn 01 11 49.3 -4.2
HGN *e*L L 01 19 23.3
comp=Z,336nm,20.8s
HGN Heimansgroeve 21.99 325 *e*P **P 01 07 42.6 +1.6**
comp=Z,45nm,1.2s
GIVF Givet 22.10 323 *e*P **P 01 07 44.4 +2.1**
comp=Z,116nm,1.1s
GIVF Givet 22.10 323 *e*P **P 01 07 44.4 +2.1**
comp=Z,58nm,1.1s
ETSF Etsaut 22.21 301 *e*P **P 01 07 45.7 +2.1**
ETSF Etsaut 22.21 301 *e*P **P 01 07 45.7 +2.1**
DOU Dourbes 22.21 322 P **P 01 07 42.3 -1.2**
OBN Obninsk 22.38 17 *e*P **P 01 07 43.8 -1.4**
OBN *i* 01 07 47.6
OBN *i* 01 07 53.6
OBN *i* 01 08 07.6
OBN *i*S **S 01 11 47.4 -2.8**
OBN pmax pmax
comp=Z,30nm,0.9s
OBN MLR MLR
comp=Z,300nm,18.0s
OBN Obninsk 22.38 17 *e*P **P 01 07 43.8 -1.4**
comp=Z,30nm,0.9s
BAIF Baives 22.39 322 *e*P **P 01 07 45.9 +0.5**
comp=Z,72nm,1.0s
BAIF Baives 22.39 322 *e*P **P 01 07 45.9 +0.5**
comp=Z,36nm,1.0s
WTSB Winterswijk 22.43 329 *e*P **P 01 07 45.9 +0.2**
comp=Z,118nm,1.5s
WTSB Winterswijk 22.43 329 *e*P **P 01 07 45.9 +0.2**
comp=Z,118nm,1.5s
SJPF Ste Jean 22.73 301 *e*P **P 01 07 49.6 +0.4**
comp=Z,40nm,1.1s
MFF Saint Martin d 23.14 310 *e*P **P 01 07 53.4 +0.1**
comp=Z,70nm,1.1s
MOS Moscow 23.20 17 *e*P P 01 07 48.3 -5.5
MOS *e* 01 08 26.6
MOS *e*S **S 01 11 57.8 -6.9**
MOS pmax pmax
comp=Z,43nm,1.4s
LDF La Druitiere 23.99 315 *e*P **P 01 08 01.3 -0.3**
comp=Z,35nm,0.8s
ESDC Sonseca Array 24.22 292 P **P 01 08 03.7 -0.2**
ESDC Sonseca Array 24.22 292 P **P 01 08 03.7 -0.2**
comp=Z,1.9nm,0.5s,baz=86,slow=9.5,SNR=26
ESDC LR LR 01 17 52.2
comp=Z,171nm,18.7s,baz=85,slow=38
ESLA Sonseca Array 24.22 292 *e*P **P 01 08 03.8 -0.2**
comp=Z,6.6nm,1.2s
FLN La Foliniere 24.28 315 *e*P **P 01 08 04.1 -0.2**
comp=Z,55nm,1.0s
FLN *e*R
comp=Z,934nm,21.2s
GRR Gorron 24.33 314 *e*P **P 01 08 04.3 -0.5**
VSU Vasula 24.40 1 *e*P **P 01 08 05.7 +0.5**
VSU pmax pmax
comp=Z,22nm,0.7s
PAB San Pablo 24.51 292 *e*P **P 01 08 07.1 +0.5**
PAB pmax pmax
comp=Z,120nm,2.1s
PAB San Pablo 24.51 292 *e*P **P 01 08 07.1 +0.5**
comp=Z,120nm,2.1s
MUD Monsted U'grnd 25.05 338 *e*P **P 01 08 11.1 0.0**
MUD *i*S S 01 12 42.7 +8.4
MUD pmax pmax
comp=Z,20nm,0.9s
MUD MLR MLR
comp=Z,570nm,12.0s
MUD Monsted U'grnd 25.05 338 *i*P **P 01 08 11.1 0.0**
comp=Z,20nm,0.8s
MUD *i*S S 01 12 42.7 +8.4
MUD
comp=Z,560nm,12.0s
MDT Midelt 25.19 276 P **P 01 08 13.4 +0.6**
MDT Midelt 25.19 276 P **P 01 08 13.4 +0.6**
comp=Z,9.5nm,0.9s,baz=88,slow=10,SNR=11
REAL Reales 25.20 284 *e*P **P 01 08 14.5 +1.6**
SGMF Saint Gilles 25.30 312 *e*P **P 01 08 13.0 -0.6**
comp=Z,164nm,1.5s
LIJA Lijar 25.33 285 *i*P **P 01 08 12.0 -2.1**
QUIF Quistinic 25.55 311 *e*P **P 01 08 16.6 +0.8**
comp=Z,51nm,1.0s
PBRG Braganca 26.52 296 *e*P **P 01 08 25.0 +0.3**
comp=Z,32nm,1.1s
PBRG Braganca 26.52 296 *e*P **P 01 08 25.0 +0.3**
comp=Z,32nm,1.1s
PBAR Barrancos 26.59 288 *e*P **P 01 08 25.9 +0.6**
comp=Z,37nm,1.3s
PBAR Barrancos 26.59 288 *e*P **P 01 08 25.9 +0.6**
comp=Z,37nm,1.3s
MVO Moncorvo 26.67 295 *e*P **P 01 08 26.1 0.0**
comp=Z,29nm,1.3s
MVO Moncorvo 26.67 295 *e*P **P 01 08 26.1 0.0**
comp=Z,29nm,1.3s
PMRV Marv??o 26.86 291 *e*P **P 01 08 29.6 +1.8**
comp=Z,31nm,1.3s
PMRV Marv??o 26.86 291 *e*P **P 01 08 29.6 +1.8**
comp=Z,31nm,1.3s
PESTR Estremoz 27.01 290 *e*P **P 01 08 29.4 +0.2**
comp=Z,26nm,0.8s
PESTR Estremoz 27.01 290 *e*P **P 01 08 29.4 +0.2**
comp=Z,26nm,0.8s
PVAQ Vaqueiros 27.15 287 *e*P **P 01 08 30.8 +0.4**
comp=Z,37nm,1.1s
PVAQ Vaqueiros 27.15 287 *e*P **P 01 08 30.8 +0.4**
comp=Z,37nm,1.1s
HFS Hagfors 27.20 347 P **P 01 08 29.7 -0.9**
HFS Hagfors 27.20 347 P **P 01 08 29.7 -0.9**
comp=Z,2.3nm,0.5s,baz=164,slow=8.8,SNR=18
EVO Evora 27.35 289 *e*P **P 01 08 33.3 +1.2**
comp=Z,85nm,1.6s
EVO *e*R
comp=Z,307nm,17.8s
EVO Evora 27.35 289 *e*P **P 01 08 33.1 +1.0**
comp=Z,44nm,1.9s
EVO Evora 27.35 289 *e*P **P 01 08 33.1 +1.0**
comp=Z,44nm,1.9s
FINES FINESS Array B 27.38 1 P **P 01 08 30.9 -1.3**
FINES FINESS Array B 27.38 1 P **P 01 08 30.9 -1.3**
comp=Z,7.0nm,0.8s,baz=166,slow=10,SNR=22
FIA1 FINESS Array S 27.38 1 *e*P **P 01 08 30.8 -1.3**
PGAV Gavieira, Arco 27.67 297 *e*P P 01 08 28.9 -6.2
comp=Z,40nm,1.3s
PGAV Gavieira, Arco 27.67 297 *e*P P 01 08 28.9 -6.2
comp=Z,40nm,1.3s
KAF Kangasniemi 28.05 1 *e*p **P 01 08 36.1 -2.1**
comp=Z,2.3nm,0.8s
KAF Kangasniemi 28.05 1 *e*P **P 01 08 36.1 -2.1**
KAF pmax pmax
comp=Z,2.0nm,0.8s
NAO01 NORSAR Array S 28.42 345 *e*P **P 01 08 41.5 0.0**
comp=Z,4.4nm,0.6s
NB2 NORSAR Subarra 28.53 345 P **P 01 08 41.7 -0.8**
comp=Z,4.2nm,1.0s,baz=156,slow=9.3
NB2 NORSAR Subarra 28.53 345 P **P 01 08 41.7 -0.8**
comp=Z,4.2nm,1.0s,baz=156,slow=0.9,SNR=8.6
NOA NORSAR Array B 28.53 345 P **P 01 08 41.4 -1.0**
NOA NORSAR Array B 28.53 345 P **P 01 08 41.4 -1.0**
comp=Z,2.2nm,0.7s,baz=166,slow=6.3,SNR=9.0
AKTO Aktyubinsk 28.74 46 P **P 01 08 44.3 -0.1**
AKTO pmax pmax
comp=Z,15nm,1.0s
AKTO Aktyubinsk 28.74 46 P **P 01 08 44.3 -0.1**
AKTO Aktyubinsk 28.74 46 P **P 01 08 44.3 -0.1**
comp=Z,14nm,1.0s,baz=247,slow=9.9,SNR=36
JOF Joensuu 29.08 5 *e*p **P 01 08 45.2 -2.1**
comp=Z,4.5nm,0.8s
JOF Joensuu 29.08 5 *e*P **P 01 08 45.2 -2.1**
JOF pmax pmax
comp=Z,5.0nm,0.8s
EKA Eskdalemuir Ar 29.12 326 P **P 01 08 47.0 -0.8**
EKA Eskdalemuir Ar 29.12 326 P **P 01 08 47.0 -0.8**
comp=Z,4.6nm,0.6s,baz=128,slow=10,SNR=15
AB31 Akbulak array 29.50 49 *i*P **P 01 08 51.3 +0.1**
AB31 pmax pmax
comp=Z,2.0nm,0.4s
ABKAR Akbulak array 29.50 49 *e*P **P 01 08 51.1 -0.1**
TORD Torodi Ar. Bea 30.09 232 P **P 01 08 56.3 -0.4**
TORD Torodi Ar. Bea 30.09 232 P **P 01 08 56.3 -0.4**
comp=Z,1.4nm,0.4s,baz=34,slow=8.0,SNR=22
TORD LR LR 01 23 48.4
comp=Z,917nm,19.0s,baz=45,slow=42
TMCR Tamitsa 31.07 11 *e*P P 01 09 08.4 +3.6
TMCR *e* 01 10 12.1
TMCR pmax pmax
comp=Z,23nm,1.3s
ARU Arti 31.72 35*d*iP **P 01 09 10.5 -0.2**
ARU 01 10 14.5
ARU 01 12 00.5
ARU S **S 01 14 21.4 +2.0**
ARU SS **SnSn 01 16 02.9 -3.5**
ARU pmax pmax
comp=Z,20nm,1.2s
ARU MLR MLR
comp=Z,280nm,19.0s
ARU Arti 31.72 35 PcP **PcP 01 12 00.5 -1.4**
ARU S **S 01 14 21.4 +2.0**
comp=Z,280nm,19.0s
SOKR Solikamsk 32.70 29*d*iP **P 01 09 19.5 +0.3**
SOKR pmax pmax
comp=Z,30nm,1.0s
SOKR MLR MLR
comp=Z,390nm,21.0s
SVE Sverdlovsk 32.91 36⇑*e*P **P 01 09 21.3 +0.1**
SVE pmax pmax
comp=Z,25nm,1.1s
APA Apatity 33.83 5⇑*i*P **P 01 09 28.6 -0.4**
APA MLR MLR
comp=Z,600nm,16.0s
APA Apatity 33.83 5 *i*P **P 01 09 28.6 -0.4**
comp=Z,600nm,16.0s
ARCES ARCESS Array B 35.50 360 P **P 01 09 42.3 -1.2**
ARCES ARCESS Array B 35.50 360 P **P 01 09 42.3 -1.2**
comp=Z,5.0nm,0.8s,baz=179,slow=8.5,SNR=17
ARCES ARCESS Array B 35.50 360 P **P 01 09 42.3 -1.2**
comp=Z,5.0nm,0.8s
KK31 Karatay Array 35.88 62 *i*P **P 01 09 47.3 +0.2**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KK31 Karatay Array 35.88 62 *i*P **P 01 09 47.3 +0.2**
comp=Z,2.0nm,0.4s
KKAR Karatay Array 35.88 62 *e*P **P 01 09 47.9 +0.8**
KKAR Karatay Array 35.88 62 *e*P **P 01 09 47.9 +0.8**
KKAR Karatay Array 35.88 62 *e*P **P 01 09 47.9 +0.8**
KMBO Kilima Mbogo 36.70 160 LR LR 01 24 24.5
comp=Z,434nm,21.1s,baz=111,slow=35
BRVK Borovoye 36.79 45 *e*P **P 01 09 55.2 +0.5**
BRVK pmax pmax
comp=Z,35nm,1.2s
BRVK Borovoye 36.79 45 *e*P **P 01 09 55.2 +0.5**
comp=Z,35nm,1.2s
BRVK Borovoye 36.79 45 *e*P **P 01 09 55.2 +0.5**
comp=Z,35nm,1.2s
BVA0 Borovoye Array 36.84 45 *i*P **P 01 09 54.6 -0.5**
BVA0 pmax pmax
comp=Z,54nm,1.5s
BVA0 Borovoye Array 36.84 45 *i*P **P 01 09 54.6 -0.5**
comp=Z,54nm,1.5s
BVAR Borovoye Array 36.84 45 P **P 01 09 55.5 +0.3**
BVAR pmax pmax
comp=Z,14nm,1.0s
BVAR MLR MLR
comp=Z,293nm,21.0s
BVAR Borovoye Array 36.84 45 P **P 01 09 55.5 +0.3**
BVAR Borovoye Array 36.84 45 P **P 01 09 55.5 +0.3**
comp=Z,14nm,1.0s,baz=244,slow=6.4,SNR=65
BVAR LR LR 01 27 48.1
comp=Z,293nm,21.0s,baz=262,slow=41
BVAR Borovoye Array 36.84 45 P **P 01 09 55.5 +0.3**
comp=Z,293nm,21.0s
VOSK Vostochnaya 37.13 46 P **P 01 09 56.8 -0.8**
VOSK pmax pmax
comp=Z,35nm,1.1s
VOSK Vostochnaya 37.13 46 P **P 01 09 56.8 -0.8**
comp=Z,35nm,1.1s
EKS2 Erkin-Say 38.30 63 *e*P **P 01 10 09.2 +1.4**
EKS2 pmax pmax
comp=Z,9.0nm,1.0s
EKS2 Erkin-Say 38.30 63 P **P 01 10 09.2 +1.4**
SNR=7.7
EKS2 Erkin-Say 38.30 63 *e*P **P 01 10 09.2 +1.4**
comp=Z,9.3nm,1.0s
EKS2 Erkin-Say 38.30 63 *e*P **P 01 10 09.1 +1.3**
comp=Z,9.3nm,1.0s
AAK Ala-Archa 38.83 63 *e*P **P 01 10 13.7 +1.5**
AAK Ala-Archa 38.83 63 P **P 01 10 13.8 +1.5**
SNR=6.4
AAK Ala-Archa 38.83 63 *e*P **P 01 10 13.2 +0.9**
comp=Z,21nm,1.3s
AAK Ala-Archa 38.83 63 P **P 01 10 13.5 +1.2**
comp=Z,3.9nm,0.8s,baz=240,slow=9.8,SNR=19
AAK Ala-Archa 38.83 63 *e*P **P 01 10 13.2 +0.9**
comp=Z,21nm,1.3s
FRU Bishkek 38.91 62 *e*P **P 01 10 13.0 +0.2**
FRU pmax pmax
comp=Z,60nm,1.8s
FRU Bishkek 38.91 62 *e*P **P 01 10 13.0 +0.2**
comp=Z,60nm,1.8s
CHMS Chumysh 38.99 62 P **P 01 10 14.7 +1.2**
SNR=9.0
KBK Karagaybulak 39.16 62 P **P 01 10 17.3 +2.2**
SNR=5.2
DBIC Dimbokro 39.18 233 P **P 01 10 14.4 -0.9**
DBIC Dimbokro 39.18 233 P **P 01 10 14.4 -0.9**
comp=Z,5.2nm,0.8s,baz=32,slow=6.3,SNR=5.0
DBIC LR LR 01 29 02.4
comp=Z,584nm,18.5s,baz=21,slow=40
DBIC Dimbokro 39.18 233 P **P 01 10 14.4 -0.9**
comp=Z,584nm,18.5s
KZA Kyzart 39.43 63 P **P 01 10 19.4 +1.8**
SNR=12
TKM2 Tokmak 2 39.62 62 *e*P **P 01 10 19.6 +0.6**
TKM2 pmax pmax
comp=Z,6.0nm,0.8s
TKM2 Tokmak 2 39.62 62 *e*P **P 01 10 19.6 +0.6**
comp=Z,6.0nm,0.8s
TKM2 Tokmak 2 39.62 62 *e*P **P 01 10 19.5 +0.6**
comp=Z,6.0nm,0.8s
KSH Kashi 40.28 67 P P **P 01 10 23.3 -1.1**
KSH pP **pP 01 10 28.8 -1.1**
KSH sP **sP 01 10 31.7 -0.4**
KSH PP **PnPn 01 11 59.1 -1.6**
KSH S **S 01 16 27.5 -3.6**
KSH sS **sS 01 16 35.5 -4.7**
KSH ScS **ScS 01 20 27.9 -2.2**
KSH pmax pmax
comp=Z,9.0nm,1.1s
KSH pmax pmax
comp=Z,58nm,4.4s
KSH LR LR
comp=N,120nm,7.7s
KSH LR LR
comp=E,120nm,5.7s
KSH LR LR
comp=Z,120nm,7.7s
KURBB Kurchatov Arra 41.53 50 P **P 01 10 33.7 -0.6**
comp=Z,37nm,1.0s,baz=276,slow=8.6,SNR=174
KURK Kurchatov 41.59 50 P **P 01 10 33.7 -1.1**
KURK pmax pmax
comp=Z,37nm,1.0s
KURK Kurchatov 41.59 50 P **P 01 10 33.7 -1.1**
KURK Kurchatov 41.59 50 P **P 01 10 33.7 -1.1**
comp=Z,37nm,1.0s
BORG Borgarnes 41.66 332 LR LR 01 27 29.2
comp=Z,53nm,21.6s,baz=229,slow=36
SMLA Simla 43.18 79 *i*P **P 01 10 49.7 +1.7**
SMLA Simla 43.18 79 *i*P **P 01 10 49.7 +1.7**
MK31 Makanchi Array 44.08 56 P **P 01 10 54.9 -0.2**
MK31 Makanchi Array 44.08 56 *e*P **P 01 10 55.4 +0.3**
MK31 Makanchi Array 44.08 56 P **P 01 10 54.9 -0.2**
MKAR Makanchi Array 44.08 56 *e*P **P 01 10 55.6 +0.4**
MKAR Makanchi Array 44.08 56 *e*P **P 01 10 55.5 +0.4**
MKAR Makanchi Array 44.08 56 P **P 01 10 55.5 +0.4**
comp=Z,15nm,0.6s,baz=276,slow=4.4,SNR=114
MKAR Makanchi Array 44.08 56 *e*P **P 01 10 55.5 +0.4**
SPITS Spitsbergen Ar 44.38 357 P **P 01 10 56.6 -0.4**
SPITS Spitsbergen Ar 44.38 357 P **P 01 10 56.6 -0.4**
comp=Z,1.6nm,0.5s,baz=149,slow=15,SNR=7.9

SPITS	**Spitsbergen Ar**	**44.38**	**357**	P		**P**	**01 10 56.6**	**-0.4**
	comp=Z,2.0nm,0.5s								
SCO	**Scoresbysund**	**44.46**	**339**	*e*P		P	01 11 07.9	+10	
SCO				pmax	pmax				
	comp=Z,10.0nm,1.1s								
SCO	**Scoresbysund**	**44.46**	**339**	*i* P		P	01 11 07.9	+10	
	comp=Z,9.7nm,1.1s								
NVS	**Novosibirsk**	**44.61**	**44**	⇑*i*P		**P**	**01 10 59.6**	**+0.5**	
NVS				*i*			01 12 43.0		
NVS				pmax	pmax				
	comp=N,9.0nm,1.2s								
NVS				pmax	pmax				
	comp=E,17nm,1.2s								
NVS				pmax	pmax				
	comp=Z,45nm,1.2s								
NVS	**Novosibirsk**	**44.61**	**44**	*i* P		**P**	**01 10 59.6**	**+0.5**	
NVS	**Novosibirsk**	**44.61**	**44**	*i* PcP		**PcP**	**01 12 43.0**	**+1.2**	
ZAA0	**Zalesovo Array**	**45.50**	**45**	*e*P		**P**	**01 11 06.2**	**-0.1**	
ZAA0	**Zalesovo Array**	**45.50**	**45**	*e*P		**P**	**01 11 06.2**	**-0.1**	
ZALV	**Zalesovo Beam**	**45.50**	**45**	P		**P**	**01 11 06.4**	**+0.1**	
ZALV				pmax	pmax				
	comp=Z,13nm,0.7s								
ZALV	**Zalesovo Beam**	**45.50**	**45**	P		**P**	**01 11 06.4**	**+0.1**	
ZALV	**Zalesovo Beam**	**45.50**	**45**	P		**P**	**01 11 06.4**	**+0.1**	
	comp=Z,13nm,0.7s,baz=267,slow=8.9,SNR=55								
ZALV	**Zalesovo Beam**	**45.50**	**45**	P		**P**	**01 11 06.4**	**+0.1**	
	comp=Z,13nm,0.7s								
WMQ	**Urumqi**	**48.25**	**59**	P		**P**	**01 11 29.2**	**+1.2**	
WMQ				pP		**pP**	**01 11 33.7**	**+0.1**	
WMQ				sP		**sP**	**01 11 36.2**	**+0.4**	
WMQ				PcP		**PcP**	**01 12 56.7**	**+1.8**	
WMQ				PP		**PP**	**01 13 21.0**	**+0.7**	
WMQ				ScP		**ScP**	**01 13 27.0**	**+0.7**	
WMQ				S		**S**	**01 18 27.0**	**+0.2**	
WMQ				sS		**sS**	**01 18 34.5**	**-1.5**	
WMQ				ScS		**ScS**	**01 21 19.0**	**-1.2**	
WMQ				SS		**SS**	**01 21 51.1**	**-4.8**	
WMQ				pmax	pmax				
	comp=Z,23nm,1.3s								
WMQ				pmax	pmax				
	comp=Z,250nm,5.7s								
WMQ				LR	LR				
	comp=N,370nm,21.9s								
WMQ				LR	LR				
	comp=E,180nm,25.9s								
WMQ				LR	LR				
	comp=Z,190nm,26.1s								
PYUN	**Piuthan**	**48.98**	**81**	*e*P		**P**	**01 11 34.5**	**+0.5**	
	comp=Z,234nm,1.4s								
DANN	**Dangsing**	**49.51**	**80**	*e*P		**P**	**01 11 38.8**	**+0.6**	
	comp=Z,78nm,0.7s								
KOLN	**Koldanda**	**49.60**	**81**	*e*P		**P**	**01 11 39.0**	**+0.2**	
	comp=Z,18nm,0.8s								
SUMG	**Summit**	**50.11**	**339**	*e*P		P	01 11 47.4	+5.2	
SUMG				pmax	pmax				
	comp=Z,3.0nm,1.2s								
SUMG	**Summit**	**50.11**	**339**	*i* P		P	01 11 47.4	+5.2	
	comp=Z,3.4nm,1.2s								
DMN	**Daman**	**50.90**	**80**	*e*P		**P**	**01 11 48.8**	**+0.2**	
	comp=Z,139nm,1.2s								
KKN	**Kakani**	**50.97**	**80**	*e*P		**P**	**01 11 49.2**	**+0.1**	
	comp=Z,98nm,1.1s								
PKIN	**Phulchoki**	**51.15**	**80**	*e*P		**P**	**01 11 51.0**	**+0.5**	
	comp=Z,18nm,0.7s								
PKI	**Pulchoki**	**51.16**	**80**	*e*P		**P**	**01 11 50.7**	**0.0**	
	comp=Z,116nm,1.2s								
GUN	**Gumba**	**51.41**	**80**	*e*P		**P**	**01 11 52.6**	**0.0**	
	comp=Z,123nm,1.1s								
JIRN	**Jiri**	**51.76**	**80**	*e*P		**P**	**01 11 55.1**	**-0.2**	
RAMN	**Ramite**	**52.38**	**80**	*e*P		**P**	**01 11 59.1**	**-0.6**	
	comp=Z,108nm,1.4s								
ODAN	**Odare**	**53.06**	**80**	*e*P		**P**	**01 12 04.1**	**-0.6**	
	comp=Z,37nm,1.2s								
TAPN	**Taplejung**	**53.12**	**79**	*e*P		**P**	**01 12 04.9**	**-0.4**	
	comp=Z,39nm,1.0s								
LSA	**Lhasa**	**54.99**	**75**	P		**P**	**01 12 18.4**	**-0.7**	
MOY	**Mondy**	**55.48**	**47**	*e*P		**P**	**01 12 23.9**	**+2.0**	
MOY				pmax	pmax				
	comp=Z,8.0nm,1.5s								
MOY	**Mondy**	**55.48**	**47**	*e*P		**P**	**01 12 23.9**	**+2.0**	
	comp=Z,8.0nm,1.5s								
TLY	**Talaya**	**57.08**	**47**	*e*P		**P**	**01 12 34.6**	**+1.4**	
TLY				pmax	pmax				
	comp=Z,15nm,0.8s								
TLY				MLR	MLR				
	comp=Z,164nm,20.0s								
TLY	**Talaya**	**57.08**	**47**	*e*P		**P**	**01 12 34.6**	**+1.4**	
	comp=Z,164nm,20.0s								
ZAK	**Zakamensk**	**57.20**	**48**	⇑*i*P		**P**	**01 12 35.1**	**+1.0**	
ZAK				pmax	pmax				
	comp=Z,17nm,1.2s								
ZAK	**Zakamensk**	**57.20**	**48**	*i* P		**P**	**01 12 35.1**	**+1.0**	
	comp=Z,17nm,1.2s								
IRK	**Irkutsk**	**57.31**	**46**	*e*P		**P**	**01 12 34.6**	**-0.2**	
IRK				pmax	pmax				
	comp=Z,51nm,1.5s								
IRK	**Irkutsk**	**57.31**	**46**	*e*P		**P**	**01 12 34.6**	**-0.2**	
	comp=Z,51nm,1.5s								
GTA	**Gaotai**	**58.16**	**61**	P		**P**	**01 12 41.9**	**+0.7**	
GTA				pP		**pP**	**01 12 46.5**	**-0.4**	
GTA				sP		**sP**	**01 12 48.9**	**-0.1**	
GTA				S		**S**	**01 20 44.5**	**+2.6**	
GTA				sS		**sS**	**01 20 52.3**	**+1.0**	
GTA				SS		**SS**	**01 24 39.6**	**+6.4**	
GTA				pmax	pmax				
	comp=Z,14nm,1.6s								
GTA				pmax	pmax				
	comp=Z,49nm,5.2s								
GTA				LR	LR				
	comp=N,140nm,20.9s								
GTA				LR	LR				
	comp=E,140nm,20.9s								
GTA				LR	LR				
	comp=Z,120nm,20.4s								
SONM	**Songino Array**	**59.90**	**50**	P		**P**	**01 12 53.6**	**+0.6**	
SONM	**Songino Array**	**59.90**	**50**	P		**P**	**01 12 53.6**	**+0.6**	
	comp=Z,8.2nm,0.9s,baz=270,slow=7.4,SNR=55								
SONM	**Songino Array**	**59.90**	**50**	P		**P**	**01 12 53.6**	**+0.6**	
	comp=Z,8.0nm,0.9s								
ULN	**Ulaanbaatar**	**60.31**	**50**	*e*P		**P**	**01 12 56.4**	**+0.5**	
	comp=Z,15nm,1.0s								
ULN	**Ulaanbaatar**	**60.31**	**50**	P		**P**	**01 12 56.6**	**+0.7**	
	comp=Z,18nm,1.2s								
ULN	**Ulaanbaatar**	**60.31**	**50**	*e*P		**P**	**01 12 56.4**	**+0.5**	
	comp=Z,15nm,1.0s								
TIXI	**Tiksi**	**62.05**	**20**	*e*P		**P**	**01 13 07.3**	**+0.2**	
TIXI				pmax	pmax				
	comp=Z,7.0nm,1.0s								
TIXI				MLR	MLR				
	comp=Z,146nm,17.0s								
TIXI	**Tiksi**	**62.05**	**20**	*e*P		**P**	**01 13 07.3**	**+0.2**	
	comp=Z,146nm,17.0s								
LZH	**Lanzhou**	**62.36**	**64**	*e*P		**P**	**01 13 10.3**	**+0.3**	
LZH				pP		**pP**	**01 13 14.8**	**-0.9**	
LZH				sP		**sP**	**01 13 17.3**	**-0.6**	
LZH				PP		**PP**	**01 15 30.1**	**+3.1**	
LZH				*e*S		**S**	**01 21 33.2**	**-2.7**	
LZH				pmax	pmax				
	comp=Z,14nm,1.0s								
LZH				pmax	pmax				
	comp=Z,48nm,5.6s								
LZH				LR	LR				
	comp=N,190nm,15.3s								
LZH				LR	LR				
	comp=E,230nm,16.2s								
LZH				LR	LR				
	comp=Z,340nm,16.5s								
BOSA	**Boshof**	**62.36**	**180**	P		**P**	**01 13 11.3**	**+1.6**	
BOSA	**Boshof**	**62.36**	**180**	P		**P**	**01 13 11.3**	**+1.6**	
	comp=Z,1.6nm,0.5s,baz=33,slow=4.4,SNR=8.1								
BOSA				LR	LR		01 41 11.6		
	comp=Z,292nm,19.8s,baz=269,slow=37								
BOSA	**Boshof**	**62.36**	**180**	P		**P**	**01 13 11.3**	**+1.6**	
	comp=Z,292nm,19.8s								
SCHQ	**Schefferville**	**64.23**	**320**	*e*P		**P**	**01 13 21.9**	**0.0**	
	comp=Z,325nm,3.0s								
SCHQ	**Schefferville**	**64.23**	**320**	P		**P**	**01 13 22.4**	**+0.5**	
	comp=Z,5.8nm,0.5s,baz=57,slow=6.9,SNR=18								
SCHQ	**Schefferville**	**64.23**	**320**	*e*P		**P**	**01 13 21.9**	**0.0**	
	comp=Z,325nm,3.0s								
CD2	**Chengdu**	**64.45**	**69**	P		**P**	**01 13 24.0**	**+0.3**	
CD2				pP		**pP**	**01 13 28.7**	**-0.8**	
CD2				sP		**sP**	**01 13 31.0**	**-0.6**	
CD2				PcP		**PcP**	**01 13 58.5**	**+0.5**	
CD2				PP		**PP**	**01 15 47.3**	**+2.0**	
CD2				ScP			01 17 59.9		
CD2				PcS			01 18 01.0		
CD2				S		**S**	**01 22 00.4**	**-1.5**	
CD2				SKS		**SKSac**	**01 23 15.5**	**-1.9**	
CD2				SS		**SS**	**01 26 11.5**	**-0.3**	
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CD2				pmax	pmax				
	comp=Z,100nm,5.6s								
HHC	**Hu-ho-hao-te**	**65.94**	**56**	*e*P		**P**	**01 13 33.4**	**0.0**	
HHC				pP		**pP**	**01 13 38.0**	**-1.1**	
HHC				sP		**sP**	**01 13 40.4**	**-0.9**	
HHC				PcP		**PcP**	**01 14 04.3**	**+0.2**	
HHC				PP		**PP**	**01 15 59.4**	**+1.2**	
HHC				ScP			01 18 05.3		
HHC				S		**S**	**01 22 19.4**	**-0.7**	
HHC				ScS		**SKSac**	**01 23 24.2**	**-4.4**	
HHC				pmax	pmax				
	comp=Z,49nm,1.3s								
HHC				pmax	pmax				
	comp=Z,210nm,6.0s								
HHC				LR	LR				
	comp=N,360nm,26.4s								
HHC				LR	LR				
	comp=E,360nm,25.8s								
HHC				LR	LR				
	comp=Z,420nm,25.2s								
CHTO	**Chiang Mai**	**66.17**	**83**	*e*P		**P**	**01 13 35.1**	**+0.1**	
CHTO				pmax	pmax				
	comp=Z,28nm,1.5s								
CHTO	**Chiang Mai**	**66.17**	**83**	*e*P		**P**	**01 13 35.1**	**+0.1**	
	comp=Z,28nm,1.5s								
CHTO	**Chiang Mai**	**66.17**	**83**	P		**P**	**01 13 34.9**	**-0.1**	
	comp=Z,16nm,1.6s								
CHTO	**Chiang Mai**	**66.17**	**83**	*e*P		**P**	**01 13 35.1**	**+0.1**	
	comp=Z,28nm,1.5s								
CHTO	**Chiang Mai**	**66.17**	**83**	P		**P**	**01 13 35.4**	**+0.4**	
	comp=Z,16nm,1.6s								
CMMT	**Chiang Mai**	**66.18**	**83**	P		**P**	**01 13 34.8**	**-0.3**	
	comp=Z,14nm,1.5s,comp=Z,761nm								
CMMT	**Chiang Mai**	**66.18**	**83**	P		**P**	**01 13 35.4**	**+0.3**	
	comp=Z,14nm,1.5s,comp=Z,701nm								
KMI	**Kunming**	**66.25**	**75**	P		**P**	**01 13 37.8**	**+2.1**	
KMI				pP		**pP**	**01 13 40.8**	**-0.7**	
KMI				PP		**PP**	**01 16 05.3**	**+3.9**	
KMI				S		**S**	**01 22 25.1**	**+0.7**	
KMI				SS		**SS**	**01 26 42.0**	**+1.7**	
KMI				pmax	pmax				
	comp=Z,4.0nm,0.5s								
KMI				LR	LR				
	comp=N,140nm,18.0s								
KMI				LR	LR				
	comp=E,120nm,19.7s								
KMI				LR	LR				
	comp=Z,130nm,15.3s								
CMAR	**Chiang Mai Arr**	**66.35**	**83**	P		**P**	**01 13 36.1**	**0.0**	
CMAR	**Chiang Mai Arr**	**66.35**	**83**	P		**P**	**01 13 36.1**	**0.0**	
	comp=Z,6.7nm,1.1s,baz=300,slow=7.5,SNR=21								
CMAR	**Chiang Mai Arr**	**66.35**	**83**	P		**P**	**01 13 36.1**	**0.0**	
	comp=Z,7.0nm,1.1s								
YAK	**Yakutsk**	**66.63**	**30**	*e*P		**P**	**01 13 36.1**	**-1.1**	
YAK				pmax	pmax				
	comp=Z,14nm,1.1s								
YAK				pmax	pmax				
	comp=N,3.0nm,1.4s								
YAK				pmax	pmax				
	comp=E,8.0nm,1.6s								
YAK	**Yakutsk**	**66.63**	**30**	*e*P		**P**	**01 13 36.1**	**-1.1**	
	comp=E,3.0nm,1.4s								
LAMP	**Lampang**	**66.88**	**83**	P		**P**	**01 13 40.6**	**+1.1**	
	comp=E,5.6nm,1.2s								
CLNS	**Chul'man**	**66.91**	**36**	*e*P		**P**	**01 13 39.8**	**+0.7**	
CLNS				pmax	pmax				
	comp=N,2.0nm,0.9s								
CLNS				pmax	pmax				
	comp=Z,13nm,1.0s								
CLNS				pmax	pmax				
	comp=E,5.0nm,1.3s								
CLNS	**Chul'man**	**66.91**	**36**	*e*P		**P**	**01 13 39.8**	**+0.7**	
	comp=E,13nm,1.0s								
XAN	**Xi'an**	**67.00**	**64**	P		**P**	**01 13 40.6**	**+0.5**	
XAN				pmax	pmax				
	comp=Z,3.0nm,1.5s								
XAN				pmax	pmax				
	comp=Z,22nm,7.9s								
HIA	**Hailar**	**67.54**	**45**	*e*P		**P**	**01 13 44.2**	**+0.9**	
	comp=Z,40nm,1.1s								
HIA	**Hailar**	**67.54**	**45**	*e*P		**P**	**01 13 44.2**	**+0.9**	
	comp=Z,40nm,1.1s								
LOEI	**Loei**	**68.73**	**83**	P		**P**	**01 13 53.5**	**+2.3**	
	comp=Z,12nm,2.2s								
GYA	**Guiyang**	**68.74**	**72**	⇑*i*P		**P**	**01 13 50.7**	**-0.6**	
GYA				PP		**PP**	**01 16 25.6**	**+2.7**	
GYA				ScP			01 18 19.2		
GYA				S		**S**	**01 22 53.8**	**-0.4**	
GYA				SKS		**SKSac**	**01 23 47.0**	**-3.3**	
GYA				SS		**SS**	**01 27 20.5**	**+1.8**	
GYA				pmax	pmax				
	comp=Z,20nm,0.8s								
GYA				pmax	pmax				
	comp=Z,110nm,5.0s								
GYA				LR	LR				
	comp=N,440nm,19.0s								
GYA				LR	LR				
	comp=E,320nm,20.0s								
GYA				LR	LR				
	comp=Z,450nm,18.0s								
PBKT	**Sadao Pong**	**68.96**	**84**	P		**P**	**01 13 52.5**	**-0.1**	
PBKT	**Sadao Pong**	**68.96**	**84**	P		**P**	**01 13 53.5**	**+0.9**	
	comp=Z,13nm,1.4s								
BJI	**Beijing**	**69.46**	**55**	P		**P**	**01 13 56.2**	**+0.8**	
BJI				pmax	pmax				
	comp=Z,16nm,1.2s								
BJI				pmax	pmax				
	comp=Z,45nm,3.0s								
NAYO	**Nakonayok**	**70.41**	**86**	P		**P**	**01 14 02.0**	**+0.4**	
	comp=Z,20nm,1.5s								
SKNT	**Sakolnakorn**	**71.24**	**82**	P		**P**	**01 14 07.3**	**+0.7**	
	comp=Z,19nm,1.5s,comp=Z,2μm								
PANO	**Nakornpanom**	**71.67**	**81**	P		**P**	**01 14 10.2**	**+1.0**	
CN2	**Changchun**	**73.63**	**48**	*e*P		**P**	**01 14 20.4**	**-0.1**	
CN2				PP		**PP**	**01 17 06.5**	**+2.2**	
CN2				*e*S		**SKiKP**	**01 23 47.9**	**-1.7**	
CN2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
CN2				pmax	pmax				
	comp=Z,100nm,3.0s								
CN2				LR	LR				
	comp=N,500nm,20.0s								
CN2				LR	LR				
	comp=E,300nm,20.0s								
CN2				LR	LR				
	comp=Z,200nm,22.0s								
BILL	**Bilibino**	**74.02**	**14**	⇓*i*P		**P**	**01 14 22.5**	**+0.2**	
BILL				*i*			01 14 29.1		
BILL				*e*			01 14 40.6		
BILL				*e*			01 17 07.7		
BILL				pmax	pmax				
	comp=Z,6.0nm,1.2s								
BILL	**Bilibino**	**74.02**	**14**	*i* P		**P**	**01 14 22.5**	**+0.2**	
	comp=Z,6.0nm,1.2s								
KLR	**Kul'dur**	**74.35**	**41**	*e*P		P	01 14 20.3	-4.3	
KLR				pmax	pmax				
	comp=Z,50nm,1.6s								
PSI	**Prapat**	**74.65**	**97**	P		**P**	**01 14 26.9**	**-0.1**	
PSI	**Prapat**	**74.65**	**97**	P		**P**	**01 14 26.9**	**-0.1**	
	comp=Z,2.5nm,0.3s,baz=286,slow=10,SNR=9.6								
QIZ	**Qiongzhong**	**74.97**	**77**	P		**P**	**01 14 28.8**	**+0.1**	
QIZ				S		**S**	**01 24 06.8**	**+1.0**	
QIZ				pmax	pmax				
	comp=Z,13nm,1.6s								
MDJ	**Mudanjiang**	**75.70**	**46**	P		**P**	**01 14 32.0**	**-0.5**	
MDJ				pmax	pmax				
	comp=Z,4.0nm,1.0s								
MDJ				pmax	pmax				
	comp=Z,14nm,3.2s								
INK	**Inuvik**	**76.73**	**352**	P		**P**	**01 14 37.5**	**-0.4**	
INK	**Inuvik**	**76.73**	**352**	P		**P**	**01 14 37.5**	**-0.4**	
	comp=Z,5.8nm,0.9s,baz=30,slow=6.8,SNR=12								
USRK	**Ussuriysk Arra**	**77.36**	**45**	P		**P**	**01 14 41.4**	**-0.4**	
	comp=Z,9.9nm,0.9s,baz=295,slow=5.1,SNR=29								
USRK				LR	LR		01 52 46.1		
	comp=Z,121nm,19.6s,baz=137,slow=39								
YKA	**Yellowknife Ar**	**78.58**	**342**	P		**P**	**01 14 48.2**	**-0.1**	
YKA	**Yellowknife Ar**	**78.58**	**342**	P		**P**	**01 14 48.2**	**-0.1**	
	comp=Z,1.6nm,0.5s,baz=33,slow=5.0,SNR=13								
KSAR	**Wonju Array Be**	**78.64**	**52**	P		**P**	**01 14 49.6**	**+0.6**	
KSRS	**Korea Array**	**78.66**	**52**	P		**P**	**01 14 49.6**	**+0.5**	
	comp=Z,6.2nm,0.9s,baz=303,slow=4.9,SNR=15								
KSRS				LR	LR		01 53 56.6		
	comp=Z,88nm,21.2s,baz=117,slow=39								
COLD	**Coldfoot**	**78.95**	**358**	*e*P		**P**	**01 14 50.8**	**+0.5**	
	comp=Z,11nm,1.1s								
FFC	**Flin Flon**	**80.74**	**332**	*ce*P		**P**	**01 15 01.2**	**+1.0**	
FFC	**Flin Flon**	**80.74**	**332**	*e*P		**P**	**01 14 59.4**	**-0.8**	
	comp=Z,6.6nm,0.9s								
COWI	**Conover**	**80.84**	**320**	*e*P		**P**	**01 15 01.6**	**+0.6**	
	comp=Z,7.6nm,0.8s								
EGAK	**Eagle**	**80.92**	**354**	*e*P		**P**	**01 15 01.9**	**+0.9**	
ILAR	**Eielson Array**	**81.29**	**357**	P		**P**	**01 15 03.3**	**+0.3**	
ILAR	**Eielson Array**	**81.29**	**357**	P		**P**	**01 15 03.3**	**+0.3**	
	comp=Z,3.3nm,0.9s,baz=354,slow=3.4,SNR=28								
ILAR				LR	LR		01 53 53.2		
	comp=Z,62nm,19.3s,baz=352,slow=38								
YSS	**Yuzh-Sakhalins**	**81.56**	**38**	⇓*e*P		**P**	**01 15 07.0**	**+2.3**	
YSS				pmax	pmax				
	comp=Z,30nm,1.0s								
MCK	**McKinley**	**82.42**	**358**	*e*P		**P**	**01 15 09.7**	**+0.8**	
MCK				pmax	pmax				
	comp=Z,15nm,1.0s								
MCK	**McKinley**	**82.42**	**358**	*e*P		**P**	**01 15 09.7**	**+0.8**	
	comp=Z,14nm,1.0s								
TRF	**Thorofare Moun**	**82.74**	**358**	*e*P		**P**	**01 15 11.1**	**+0.3**	
	comp=Z,12nm,1.0s								
MENT	**Mentasta**	**82.93**	**355**	*e*P		**P**	**01 15 12.8**	**+1.2**	
JNU	**Nakatsue**	**83.13**	**55**	LR		LR	01 56 50.9		
	comp=Z,88nm,21.3s,baz=296,slow=39								
ASAJ	**Asahikawa**	**83.37**	**40**	LR		LR	01 56 35.2		
	comp=Z,123nm,18.9s,baz=350,slow=39								
PETK	**Petropavlovsk-**	**83.71**	**27**	P		**P**	**01 15 14.6**	**-1.2**	
PETK				pmax	pmax				
	comp=Z,3.0nm,1.0s								
PETK	**Petropavlovsk-**	**83.71**	**27**	P		**P**	**01 15 14.6**	**-1.2**	
PETK	**Petropavlovsk-**	**83.71**	**27**	P		**P**	**01 15 14.6**	**-1.2**	
	comp=Z,3.0nm,1.0s,baz=62,slow=10,SNR=5.0								
PETK				LR	LR		01 58 58.0		
	comp=Z,120nm,21.0s,baz=173,slow=40								
SML	**Sawmill**	**84.32**	**357**	*e*P		**P**	**01 15 19.8**	**+1.0**	
SML				pmax	pmax				
	comp=Z,2.0nm,0.9s								
SML	**Sawmill**	**84.32**	**357**	*e*P		**P**	**01 15 19.8**	**+1.0**	
	comp=Z,2.2nm,0.9s								
PMR	**Palmer**	**84.57**	**357**	*e*P		**P**	**01 15 21.2**	**+1.3**	
PMR				pmax	pmax				
	comp=Z,8.0nm,0.9s								
PMR	**Palmer**	**84.57**	**357**	*e*P		**P**	**01 15 21.2**	**+1.3**	
	comp=Z,8.2nm,0.9s								
ERM	**Erimo**	**85.08**	**42**	*e*P		**P**	**01 15 24.7**	**+1.8**	
ERM				pmax	pmax				
	comp=Z,21nm,1.2s								
SVW2	**Sparrevohn**	**85.16**	**1**	*e*P		**P**	**01 15 24.6**	**+1.6**	
	comp=Z,8.8nm,1.1s								
BDFB	**Brasilia**	**85.62**	**248**	P		**P**	**01 15 26.5**	**+0.4**	
BDFB	**Brasilia**	**85.62**	**248**	P		**P**	**01 15 26.5**	**+0.4**	
	comp=Z,3.5nm,0.7s,baz=20,slow=9.1,SNR=5.1								
BDFB				LR	LR		01 54 16.3		
	comp=Z,314nm,18.3s,baz=183,slow=36								
MAT	**Matsushiro**	**85.78**	**48**	P		**P**	**01 15 26.0**	**-0.6**	
MJAR	**Matsushiro Arr**	**85.78**	**48**	P		**P**	**01 15 27.1**	**+0.5**	
MJAR	**Matsushiro Arr**	**85.78**	**48**	P		**P**	**01 15 27.1**	**+0.5**	
	comp=Z,8.1nm,1.1s,baz=298,slow=5.9,SNR=20								
MJAR				LR	LR		01 57 36.7		
	comp=Z,92nm,20.9s,baz=55,slow=38								
ECSD	**EROS Data Cent**	**86.35**	**322**	*e*P		**P**	**01 15 30.2**	**+1.0**	
	comp=Z,8.9nm,1.1s								
LRAL	**Lakeview Retre**	**88.00**	**309**	*e*P		**P**	**01 15 38.3**	**+0.9**	
	comp=Z,12nm,1.0s								
KDAK	**Kodiak Island**	**88.47**	**359**	P		**P**	**01 15 40.7**	**+1.6**	
KDAK	**Kodiak Island**	**88.47**	**359**	P		**P**	**01 15 40.7**	**+1.6**	
	comp=Z,5.9nm,1.0s,baz=15,slow=4.4,SNR=4.0								
RSSD	**Black Hills**	**89.67**	**326**	*e*P		**P**	**01 15 44.6**	**-0.8**	
RSSD				pmax	pmax				
	comp=Z,3.0nm,0.9s								
RSSD	**Black Hills**	**89.67**	**326**	*e*P		**P**	**01 15 44.6**	**-0.8**	
	comp=Z,3.3nm,0.9s								
NEW	**Newport**	**91.50**	**336**	*e*P		**P**	**01 15 54.2**	**+0.6**	
	comp=Z,4.9nm,0.8s								
NEW	**Newport**	**91.50**	**336**	P		**P**	**01 15 53.7**	**+0.2**	
	comp=Z,3.4nm,0.9s,baz=75,slow=5.2,SNR=5.1								
PDAR	**Pinedale Array**	**93.20**	**329**	P		**P**	**01 16 01.2**	**-0.6**	
PDAR	**Pinedale Array**	**93.20**	**329**	P		**P**	**01 16 01.2**	**-0.6**	
	comp=Z,0.7nm,1.0s,baz=32,slow=5.8,SNR=4.7								
PDAR				LR	LR		01 59 04.0		
	comp=Z,148nm,20.9s,baz=313,slow=36								
CPUP	**Villa Florida**	**98.87**	**244**	LR		LR	02 00 11.0		
	comp=Z,148nm,19.2s,baz=152,slow=35								
WRA	**Warramunga Arr**	**116.11**	**97**	PKP		**PKPdf**	**01 21 28.2**	**-2.4**	
WRA	**Warramunga Arr**	**116.11**	**97**	PKP		**PKPdf**	**01 21 28.2**	**-2.4**	
	comp=Z,0.8nm,1.1s,baz=313,slow=2.5,SNR=3.9								
ASAR	**Alice Springs**	**117.50**	**101**	PKP		**PKPdf**	**01 21 31.9**	**-1.4**	
ASAR	**Alice Springs**	**117.50**	**101**	PKP		**PKPdf**	**01 21 31.9**	**-1.4**	
	comp=Z,1.1nm,1.0s,baz=288,slow=1.5,SNR=6.0								
QSPA	**South Pole Qui**	**123.94**	**180**	PKP		**PKPdf**	**01 21 43.6**	**-0.7**	
QSPA				*e*PKPdf		**PKiKP**	**01 21 44.1**	**-0.5**	
QSPA	**South Pole Qui**	**123.94**	**180**	PKP		**PKPdf**	**01 21 43.6**	**-0.7**	
	comp=Z,5.1nm,1.0s,baz=244,slow=2.3,SNR=7.2								

WEL 07 01:11:09.8±0.4, 38°.43S×175°.64E, h167$^{km}_{\pm 3km}$, ML3.8/19, 14C-3D, Error ellipse: s-maj=2.6km s-min=2.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.66**	**194**	⇑PN		Pn	01 11 34.0	0.0
KRVZ	**Karewarewa**	**0.66**	**180**	PN	

MRZ					AML	AML	01 12 17.1	
MRZ					AML	AML	01 12 17.2	
MXZ	**Matakaoa Point**	**2.28**	**68**	⇓PN	Pn	01 11 49.2	0.0	
MXZ					AML	AML	01 12 41.4	
BFZ	**Birch Farm**	**2.29**	**168**	PN	Pn	01 11 48.1	-1.2	
BFZ					AML	AML	01 11 49.6	
BFZ					AML	AML	01 11 49.7	
OGWZ	**Otaki Gorge**	**2.41**	**188**	PN	Pn	01 11 49.3	-1.3	
HOWZ	**Holdsworth Sta**	**2.46**	**182**	PN	Pn	01 11 49.6	-1.7	
KIW	**Kapiti Island**	**2.49**	**193**	PN	Pn	01 11 49.9	-1.7	
KIW					AML	AML	01 12 22.9	
TMWZ	**Te Maipa**	**2.68**	**176**	PN	Pn	01 11 52.1	-1.8	
DUWZ	**D'Urville Isla**	**2.71**	**209**	PN	Pn	01 11 52.8	-1.5	
MTW	**Mount Morrison**	**2.73**	**182**	PN	Pn	01 11 52.3	-2.1	
MTW					AML	AML	01 12 26.6	
MTW					AML	AML	01 12 26.7	
WEL	**Wellington**	**2.93**	**193**	PN	Pn	01 11 54.8	-2.1	
PAWZ	**Paruwai Farm**	**2.95**	**183**	PN	Pn	01 11 54.9	-2.3	
PAWZ					AML	AML	01 12 29.6	
PAWZ					AML	AML	01 12 31.5	
SNZO	**South Karori**	**2.96**	**194**	PN	Pn	01 11 55.1	-2.2	
SNZO					AML	AML	01 12 31.9	
SNZO					AML	AML	01 12 32.0	
TRWZ	**Traveller**	**2.96**	**179**	PN	Pn	01 11 55.2	-2.2	
TRWZ					AML	AML	01 12 31.5	
TCW	**Tory Channel**	**2.97**	**200**	⇓PN	Pn	01 11 55.5	-1.9	
TCW					AML	AML	01 12 31.4	
TCW					AML	AML	01 12 32.0	
MSWZ	**Moikau Station**	**3.00**	**186**	⇑PN	Pn	01 11 55.4	-2.3	
MSWZ					AML	AML	01 12 32.4	
MSWZ					AML	AML	01 12 32.9	
BHW	**Baring Head**	**3.03**	**191**	PN	Pn	01 11 55.1	-3.0	
BHW					AML	AML	01 12 32.4	
PLWZ	**Palliser**	**3.15**	**185**	PN	Pn	01 11 57.0	-2.6	
TUWZ	**Tuamarina**	**3.27**	**203**	PN	Pn	01 11 58.9	-2.1	
TUWZ					AML	AML	01 12 38.1	
TUWZ					AML	AML	01 12 38.2	
NNZ	**Nelson**	**3.28**	**211**	PN	Pn	01 11 58.9	-2.4	
QRZ	**Quartz Range**	**3.39**	**224**	PN	Pn	01 12 00.0	-2.6	
BSWZ	**Blackbirch Sta**	**3.55**	**202**	PN	Pn	01 12 02.3	-2.3	
THZ	**Tophouse**	**3.93**	**211**	PN	Pn	01 12 06.7	-3.0	
KHZ	**Kahutara**	**4.29**	**201**	PN	Pn	01 12 11.6	-2.6	
KHZ					AML	AML	01 13 00.8	

*ISCJB **07** 01:14:58.3±2.8, 24.7°S±0.3°×179.9°W±0.4, h505km, mb3.9/6, Error ellipse: s-maj=56.7km s-min=15.4km az=140.7*
*IDC **07** 01:14:60.0±5.8, 24.66°S×179.90°W, h511km±51km, mb3.4/7, mb1 3.5/9, mb1mx3.2/23, mbtmp3.4/9, Error ellipse: s-maj=56.4km s-min=18.3km az=49.0*
*AUST **07** 01:15:02.0±0.0, 24.88°S×178.09°E, h328km±1km, Error ellipse: s-maj=3.2km s-min=1.9km az=277.0*

ISC 07 01:15:00.5±2.0, 24.7°S±0.2°×180.0°W±0.2, h505km, n17, σ1§43/17, mb3.8/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.74**	**279**	P	**P**	**01 17 48.8**	**+1.7**
	0.6nm,0.3s,baz=270,slow=24,SNR=5.4						
URZ	**Urewera**	**13.79**	**190**	P	**P**	**01 17 55.8**	**-1.9**
	2.1nm,0.3s,baz=45,slow=5.5,SNR=6.9						
URZ				S	**S**	**01 20 26.4**	**+2.6**
	0.7nm,0.3s,baz=78,slow=22,SNR=4.4						
RPZ	**Rata Peaks**	**20.39**	**199**	P	**P**	**01 19 00.8**	**-1.4**
	7.7nm,0.6s,baz=116,slow=4.0,SNR=8.6						
CTA	**Charters Tower**	**31.52**	**271**	P	**P**	**01 20 41.0**	**+0.2**
	9.3nm,0.5s,baz=95,slow=10,SNR=19						
MTSU	**Mount Surprise**	**33.81**	**274**	P	**P**	**01 21 00.7**	**+0.3**
	baz=32,SNR=8.8						
STKA	**Stephens Creek**	**34.47**	**249**	P	**P**	**01 21 05.9**	**+0.2**
	0.9nm,0.4s,baz=89,slow=12,SNR=5.1						
STKA	**Stephens Creek**	**34.47**	**249**	P	**P**	**01 21 06.0**	**+0.3**
	baz=33,SNR=3.9						
ASAR	**Alice Springs**	**41.95**	**261**	P	**P**	**01 22 06.2**	**-0.6**
	1.9nm,0.9s,baz=93,slow=7.7,SNR=12						
WRA	**Warramunga Arr**	**42.39**	**267**	P	**P**	**01 22 09.2**	**-1.2**
	3.8nm,0.4s,baz=103,slow=8.1,SNR=34						
KDU	**Kakadu**	**46.39**	**276**	P	**P**	**01 22 40.0**	**-1.2**
	baz=45,SNR=4.4						
MTN	**Manton Dam**	**47.55**	**275**	P	**P**	**01 22 48.7**	**-1.3**
	baz=46,SNR=3.2						
MTN				S	**S**	**01 29 06.4**	**-1.3**
	baz=46,SNR=3.6						
KNRA	**Kununurra**	**48.72**	**270**	P	**P**	**01 22 58.3**	**-0.4**
	baz=47,SNR=3.2						
FITZ	**Fitzroy Crossi**	**50.80**	**266**	P	**P**	**01 23 13.2**	**-0.9**
	2.8nm,0.6s,baz=131,slow=7.8,SNR=7.6						
PALU	**Palau**	**54.60**	**300**	P	P	01 23 51.1	+10
	baz=53,SNR=4.7						
QSPA	**South Pole Qui**	**65.43**	**180**	P	**P**	**01 24 52.3**	**-0.4**
	1.3nm,0.7s,baz=209,slow=6.4,SNR=8.1						
LHMI	**Lhok Sumawe**	**85.90**	**278**	P	P	01 26 52.1	+5.0
	baz=84,SNR=7.3						
BRTR	**Keskin Array B**	**148.05**	**306**	PKPbc	**PKPdf**	**01 33 47.7**	**+2.4**
	0.4nm,0.6s,baz=136,slow=5.7,SNR=3.5						

TRN 07 01:15:23.4, 11.53N×60.65W, h28km, MD2.6, 1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOSP	**Speyside**	**0.26**	**154**	*i* P	Pn	01 15 31.4	+0.1
TOSP				*e*S	Sn	01 15 36.8	+0.4
TPR	**Prospect**	**0.36**	**200**	⇓*i*P	Pn	01 15 33.6	+0.7
TPR				*e*S	Sn	01 15 39.4	+0.3
BOT	**Bacolet**	**0.37**	**190**	*e*P	Pn	01 15 33.6	+0.7
BOT				*e*S	Sn	01 15 40.1	+1.0
SVB	**Belmont**	**1.83**	**341**	*e*P	Pb	01 15 54.8	-1.4
SVB				*e*S	Sn	01 16 16.1	+0.9
MCLT	**Moule a Chique**	**2.18**	**353**	*e*S	Sn	01 16 25.4	+1.4

*IDC **07** 01:23:35.0±2.4, 49.97°N×152.87°E, h197km±23km, mb3.0/7, mb1 3.3/7, mb1mx3.0/25, mbtmp3.0/7, MS3.9/1, Ms1 3.9/1, ms1mx2.3/13, Error ellipse: s-maj=22.8km s-min=19.4km az=120.0*
*KRSC **07** 01:23:37.7±1.5, 49.68°N×153.76°E, h306km±45km, ML4.3*
*MOS **07** 01:23:38.3±2.0, 50.11°N×152.83°E, h246km, mb4.2/4, Error ellipse: s-maj=35.7km s-min=15.8km az=60.5*

ISC 07 01:23:41.6±1.2, 50.3°N±0.2°×152.72°E±0.09, h239km, n28, σ2§16/26, mb3.1/7, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.21**	**79**	P	**Pn**	**01 24 24.0**	**-1.0**
PAU	**Pauzhetka**	**2.84**	**64**	PN	**Pn**	**01 24 31.6**	**0.0**
PAU	**Pauzhetka**	**2.84**	**64**	*e*P	**Pn**	**01 24 31.6**	**0.0**
MIPR	**Malaya Ipel'ka**	**3.21**	**51**	*e*P	**Pn**	**01 24 37.1**	**+1.4**
APC	**Apacha**	**3.81**	**45**	*e*P	Pn	01 24 44.6	+2.1
APC				*e*S	**S**	**01 25 33.5**	**+2.7**
ASAK	**Asacha**	**3.86**	**55**	S	**S**	**01 25 33.9**	**+1.9**
MTVR	**Mutnovka**	**4.06**	**55**	P	**Pn**	**01 24 45.2**	**-0.4**
MTVR				S	**S**	**01 25 35.4**	**-0.9**
PETK	**Petropavlovsk-**	**4.18**	**46**	PN	Pn	01 24 41.4	-5.5
PETK				S	**S**	**01 25 33.2**	**-5.6**
PETK				smax	smax		
	comp=N,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.18**	**46**	P	Pn	01 24 41.4	-5.5
	comp=N,0.1nm,0.3s,baz=206,slow=13,SNR=3.7						
PETK				S	**S**	**01 25 33.1**	**-5.6**
	comp=N,0.6nm,0.3s,baz=145,slow=15,SNR=4.4						
RUS	**Russkaya**	**4.21**	**57**	PN	**Pn**	**01 24 47.7**	**+0.4**
RUS				S	**S**	**01 25 37.7**	**-1.6**
RUS	**Russkaya**	**4.21**	**57**	*e*P	**Pn**	**01 24 47.7**	**+0.4**
RUS				*e*S	**S**	**01 25 37.7**	**-1.6**
GNL	**Ganaly**	**4.68**	**42**	*e*P	Pn	01 24 55.1	+2.0
NLC	**Nalytchevo**	**5.02**	**53**	*e*S	**S**	**01 25 53.8**	**-3.4**
TUMR	**Tumrok**	**6.72**	**39**	P	**Pn**	**01 25 19.7**	**+1.2**
MKZ	**Mys Kozlova**	**6.96**	**49**	PN	**Pn**	**01 25 19.6**	**-1.8**
MKZ				S	S	01 26 34.0	-7.4
MKZ	**Mys Kozlova**	**6.96**	**49**	*e*P	**Pn**	**01 25 19.6**	**-1.8**
MKZ				*e*S	S	01 26 34.0	-7.4
KMNR	**Kamenistaya**	**7.09**	**37**	P	**Pn**	**01 25 24.3**	**+1.0**
BKI	**Bering**	**9.41**	**54**	S	S	01 27 28.0	-10
SONM	**Songino Array**	**30.07**	**283**	LR	LR	01 41 53.2	
	comp=N,239nm,21.5s,baz=201,slow=36						
ILAR	**Eielson Array**	**34.00**	**42**	P	**P**	**01 30 01.4**	**-1.0**
	comp=N,0.2nm,0.4s,baz=264,slow=5.2,SNR=5.2						
MKAR	**Makanchi Array**	**45.16**	**294**	P	**P**	**01 31 33.7**	**-0.7**
MKAR	**Makanchi Array**	**45.16**	**294**	P	**P**	**01 31 33.7**	**-0.7**
	comp=N,0.2nm,0.6s,baz=46,slow=5.5,SNR=2.8						
KURK	**Kurchatov**	**45.25**	**301**	P	**P**	**01 31 35.3**	**+0.3**
KURBB	**Kurchatov Arra**	**45.34**	**301**	P	**P**	**01 31 35.2**	**-0.5**
	comp=N,0.3nm,0.4s,baz=66,slow=8.1,SNR=4.4						
YKA	**Yellowknife Ar**	**48.26**	**38**	P	**P**	**01 31 57.1**	**-1.0**
	comp=N,0.6nm,0.7s,baz=316,slow=10,SNR=3.3						
FINES	**FINESS Array B**	**60.72**	**334**	P	**P**	**01 33 26.7**	**-0.7**
	comp=N,1.1nm,0.8s,baz=39,slow=9.5,SNR=5.6						
WRA	**Warramunga Arr**	**71.80**	**198**	P	P	01 34 33.6	-4.5
	comp=N,0.7nm,0.6s,baz=17,slow=6.3,SNR=5.6						
ASAR	**Alice Springs**	**75.51**	**198**	P	P	01 34 56.2	-3.3
	comp=N,0.5nm,0.5s,baz=12,slow=5.2,SNR=8.0						

*BJI **07** 01:30:52.1, 40.16°N×77.55°E, h5km, ML3.7/6, Ms3.7/1, Ms7 3.4/1*
*IDC **07** 01:30:52.4±1.4, 40.15°N×77.36°E, h0km, mb3.8/6, mb1 3.8/11, mb1mx3.6/31, mbtmp3.7/11, ML3.3/5, MS2.9/1, Ms1 2.9/1, ms1mx2.4/38, Error ellipse: s-maj=19.1km s-min=16.4km az=129.0*
*NNC **07** 01:30:53.8±1.9, 40.26°N×77.68°E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=18.6km s-min=14.6km az=169.0*
*MOS **07** 01:30:54.9±1.2, 39.88°N×77.41°E, h33km, mb4.1/7, Error ellipse: s-maj=14.0km s-min=6.1km az=108.5*
*ISCJB **07** 01:30:57.2±0.7, 40.44°N±0.07°×77.73°E±0.06, h21km, mb3.8/9, MS3.4/1, Error ellipse: s-maj=10.2km s-min=6.7km az=9.4*

ISC 07 01:30:58.5±0.7, 40.36°N±0.06°×77.57°E±0.05, h21km, n54, σ1§92/58, mb3.9/9, 13C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.48**	**236**	Pg	**Pb**	**01 31 25.6**	**+0.2**
KSH				Sg	Sb	01 31 51.5	+7.7
KSH				smax	smax		
	comp=N,480nm,0.6s						
KSH				smax	smax		
	comp=E,870nm,0.5s						
ULHL	**Ulahol**	**2.14**	**333**	*i* PN	**Pn**	**01 31 34.1**	**+1.0**
ULHL	**Ulahol**	**2.14**	**333**	P	**Pn**	**01 31 34.1**	**+1.0**
	SNR=56						
KZA	**Kyzart**	**2.45**	**315**	*i* PN	**Pn**	**01 31 38.4**	**+0.8**
KZA	**Kyzart**	**2.45**	**315**	P	**Pn**	**01 31 38.4**	**+0.8**
	SNR=51						
KNDC	**Almaty**	**2.90**	**351**	⇑Pn	**Pn**	**01 31 44.5**	**+1.1**
	comp=E,205nm,1.0s						
KNDC				⇓Lg	Lg	01 32 29.3	
	comp=E,219nm,0.6s						
AAA	**Alma-Ata**	**2.95**	**351**	*i* PN	**Pb**	**01 31 49.2**	**-1.2**
AAA				*i* S	**Sb**	**01 32 29.5**	**+3.5**
AAA				pmax	pmax		
	comp=Z,459nm,0.3s						
AAA				smax	smax		
	comp=E,923nm,0.3s						
TKM2	**Tokmak 2**	**2.96**	**331**	⇑Pn	**Pn**	**01 31 45.3**	**+0.9**
	comp=E,53nm,0.8s						
TKM2				⇓Lg	Lg	01 32 29.8	
	comp=E,88nm,0.9s						
TKM2	**Tokmak 2**	**2.96**	**331**	*i* PN	**Pn**	**01 31 45.5**	**+1.1**
TKM2	**Tokmak 2**	**2.96**	**331**	P	**Pn**	**01 31 45.5**	**+1.1**
	SNR=55						
UCH	**Uchtor**	**2.96**	**310**	*i* PN	**Pn**	**01 31 44.9**	**+0.2**
UCH	**Uchtor**	**2.96**	**310**	P	**Pn**	**01 31 44.9**	**+0.2**
	SNR=16						
KBK	**Karagaybulak**	**3.02**	**320**	*i* PN	**Pn**	**01 31 46.4**	**+1.1**
KBK	**Karagaybulak**	**3.02**	**320**	P	**Pn**	**01 31 46.4**	**+1.1**
	SNR=47						
AAK	**Ala-Archa**	**3.24**	**316**	*i* PN	**Pn**	**01 31 48.4**	**+0.2**
AAK	**Ala-Archa**	**3.24**	**316**	P	**Pb**	**01 31 52.5**	**-2.9**
	SNR=12						
AAK	**Ala-Archa**	**3.24**	**316**	Pn	**Pn**	**01 31 46.5**	**-1.7**
	comp=E,6.8nm,0.3s,baz=117,slow=9.4,SNR=26						
AAK				Pg	**Pb**	**01 31 53.0**	**-2.4**
	comp=E,11nm,0.3s,baz=120,slow=11,SNR=36						
AAK				Lg	Lg	01 32 37.3	
	comp=E,11nm,0.3s,baz=206,slow=19,SNR=14						
AAK				LR	LR	01 32 49.5	
	comp=E,196nm,21.9s,baz=282,slow=36						
FRU	**Bishkek**	**3.32**	**319**	⇓*i* PN	**Pn**	**01 31 50.5**	**+1.3**
FRU				*i* S	**Sb**	**01 32 40.0**	**+3.4**
FRU				pmax	pmax		
	comp=Z,80nm,1.2s						
FRU				smax	smax		
	comp=N,320nm,1.8s						
CHMS	**Chumysh**	**3.38**	**322**	*i* PN	**Pn**	**01 31 50.8**	**+0.8**
CHMS	**Chumysh**	**3.38**	**322**	P	**Pn**	**01 31 50.8**	**+0.8**
	SNR=12						
AML	**Almayashu**	**3.42**	**303**	*i* PN	**Pn**	**01 31 51.2**	**+0.3**
AML	**Almayashu**	**3.42**	**303**	P	**Pn**	**01 31 51.2**	**+0.3**
	SNR=64						
EKS2	**Erkin-Say**	**3.66**	**310**	P	**Pn**	**01 31 54.8**	**+0.8**
	SNR=17						
USP	**Ospenovka**	**3.70**	**323**	*i* PN	**Pn**	**01 31 56.4**	**+2.0**
USP	**Ospenovka**	**3.70**	**323**	P	**Pn**	**01 31 56.5**	**+2.0**
	SNR=6.7						
KK31	**Karatay Array**	**5.95**	**300**	⇑Pn	**Pn**	**01 32 26.8**	**+1.5**
	comp=N,3.5nm,0.5s,baz=129,slow=17,SNR=6.6						
KK31				⇓Lg	Lg	01 34 00.1	
	comp=N,7.0nm,0.5s,baz=120,slow=27,SNR=5.4						
MK31	**Makanchi Array**	**7.29**	**26**	⇑Pn	**Pn**	**01 32 43.4**	**-0.3**
	comp=N,1.6nm,0.5s,baz=203,slow=14,SNR=17						
MK31				⇑Lg	Lg	01 34 45.9	
	comp=N,10nm,0.9s,baz=210,slow=26,SNR=3.6						
MKAR	**Makanchi Array**	**7.29**	**26**	*e*P	**Pn**	**01 32 44.4**	**+0.7**
MKAR	**Makanchi Array**	**7.29**	**26**	Pn	**Pn**	**01 32 43.5**	**-0.2**
	comp=N,0.2nm,0.3s,baz=205,slow=15,SNR=11						
MKAR				Lg	Lg	01 34 51.8	
	comp=N,0.5nm,0.3s,baz=223,slow=28,SNR=4.1						
KURBB	**Kurchatov Arra**	**10.29**	**3**	⇑Pn	**Pn**	**01 33 23.7**	**-1.0**
	comp=N,4.4nm,0.8s						
KURBB				⇑Lg	Lg	01 36 22.7	
	comp=N,26nm,0.8s						
KURBB	**Kurchatov Arra**	**10.29**	**3**	Pn	**Pn**	**01 33 23.7**	**-1.0**
	comp=N,0.1nm,0.3s,baz=193,slow=12,SNR=27						
KURBB				Lg	Lg	01 36 22.9	
	comp=N,0.1nm,0.3s,baz=192,slow=31,SNR=8.8						
KURK	**Kurchatov**	**10.39**	**4**	P	**Pn**	**01 33 23.7**	**-2.4**
VOSK	**Vostochnaya**	**13.17**	**342**	⇑Pn	**Pn**	**01 34 04.1**	**0.0**
	comp=N,1.3nm,0.8s						
VOSK				⇑Lg	Lg	01 37 49.0	
	comp=N,11nm,1.1s						
BVA0	**Borovoye Array**	**13.59**	**341**	⇑Pn	**Pn**	**01 34 08.3**	**-1.5**
	comp=N,1.7nm,0.7s,baz=146,slow=13,SNR=10						
BVA0				⇑Lg	Lg	01 38 06.6	
	comp=N,15nm,1.1s,baz=154,slow=31,SNR=4.9						
BVAR	**Borovoye Array**	**13.59**	**341**	P	Pn	01 34 06.8	-3.0
BVAR	**Borovoye Array**	**13.59**	**341**	Pn	Pn	01 34 06.8	-3.0
	comp=N,0.2nm,0.3s,baz=150,slow=3,SNR=6.1						
BVAR				Lg	Lg	01 38 06.0	
	comp=N,0.2nm,0.3s,baz=154,slow=29,SNR=5.5						
BRVK	**Borovoye**	**13.64**	**341**	⇓Pn	**Pn**	**01 34 10.3**	**-0.2**
	comp=N,3.9nm,0.8s						
BRVK				⇑Lg	Lg	01 38 06.7	
	comp=N,33nm,1.0s						
BRVK	**Borovoye**	**13.64**	**341**	*e*P	**Pn**	**01 34 11.5**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZRNK	**Zerenda**	**13.89**	**338**	⇓Pn	Pn	01 34 10.5	-3.4
	comp=Z,2.2nm,0.9s						
ZRNK				⇑Lg	Lg	01 38 13.9	
	comp=Z,13nm,1.2s						
ZALV	**Zalesovo Beam**	**14.45**	**17**	P	**Pn**	**01 34 20.2**	**-1.4**
ZALV	**Zalesovo Beam**	**14.45**	**17**	Pn	**Pn**	**01 34 20.2**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=207,slow=13,SNR=5.7						
HVS	**Khovu-Aksy**	**15.55**	**41**	*e*P	**P**	**01 34 40.9**	**+0.3**
HVS				pmax	pmax		
	comp=Z,12nm,1.0s						
ARU	**Arti**	**20.33**	**329**	P	**P**	**01 35 32.7**	**-0.3**
ARU						01 35 51.8	
ARU				S	**S**	**01 39 21.0**	**+1.2**
ARU				SS	**SnSn**	**01 39 37.3**	**-0.6**
ZAK	**Zakamensk**	**20.57**	**52**	*e*P	**P**	**01 35 35.1**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s						
SONM	**Songino Array**	**21.92**	**60**	P	**P**	**01 35 51.1**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=243,slow=9.8,SNR=3.9						
CD2	**Chengdu**	**23.21**	**106**	P	**P**	**01 36 03.0**	**-1.0**
CD2				PP	**PnPn**	**01 36 34.2**	**+4.5**
CD2				PcP	**PcP**	**01 39 51.9**	**+0.2**
CD2				S	**S**	**01 40 08.8**	**-6.1**
CD2				SS	**SnSn**	**01 40 55.5**	**+6.6**
CD2				LR	LR		
	comp=N,280nm,27.9s						
CD2				LR	LR		
	comp=Z,180nm,25.9s						
OBN	**Obninsk**	**30.76**	**313**	*e*P	**P**	**01 37 11.9**	**-0.1**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRTR	**Keskin Array B**	**33.38**	**283**	P	P	01 37 31.8	-3.6
	comp=Z,0.6nm,0.7s,baz=78,slow=8.4,SNR=5.3						
FINES	**FINESS Array B**	**37.41**	**322**	P	**P**	**01 38 06.8**	**-2.8**
	comp=Z,1.8nm,0.8s,baz=114,slow=9.2,SNR=12						
ARCES	**ARCESS Array B**	**39.73**	**334**	P	**P**	**01 38 27.3**	**-1.7**
	comp=Z,1.5nm,0.6s,baz=102,slow=8.9,SNR=7.2						
TIXI	**Tiksi**	**40.26**	**22**	*e*P	**P**	**01 38 35.0**	**+1.7**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
GERES	**GERESS Array B**	**45.04**	**303**	P	**P**	**01 39 11.1**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=73,slow=8.9,SNR=6.6						
BILL	**Bilibino**	**52.83**	**28**	*e*P	**P**	**01 40 12.1**	**+0.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
TORD	**Torodi Ar. Bea**	**70.88**	**271**	P	P	01 42 09.5	-4.6
	comp=Z,1.8nm,0.6s,baz=50,slow=5.2,SNR=19						

*MOS **07** 01:38:01.1±2.1, 51.27°N×103.71°E, h12km, mb4.3/1, Error ellipse: s-maj=26.2km s-min=12.1km az=78.7*
*BYKL **07** 01:38:01.6±0.3, 51.25°N×103.71°E*

ISC 07 01:38:01.3±0.8, 51.24°N±0.02°×103.74°E±0.02, h10km, n31, σ1§83/58, 5C-8D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLY	**Talaya**	**0.44**	**353**	⇑*i* Pg	**Pg**	**01 38 09.6**	**-0.5**
	744nm,0.2s						
TLY				⇓*i* Pg	**Pg**	**01 38 09.6**	**-0.5**
	465nm,0.2s						
TLY				⇑*i* Pg	**Pg**	**01 38 09.6**	**-0.5**
	1μm,0.2s						
TLY				*e*Pb	**Pb**	**01 38 11.2**	**-0.1**
TLY				*i* Sg	**Sg**	**01 38 15.3**	**-0.6**
TLY				*e*Sb	**Sb**	**01 38 18.3**	**+0.3**
TLY				Pmax			
	907nm,0.1s						
TLY				max			
	1μm,0.1s						
TLY	**Talaya**	**0.44**	**353**	*e*PG	**Pg**	**01 38 09.4**	**-0.7**
TLY				*e*		01 38 15.1	
TLY				pmax	pmax		
	comp=Z,970nm,0.1s						
TLY				smax	smax		
	comp=E,1μm,0.1s						
ZAK	**Zakamensk**	**0.91**	**199**	*i* Pg	**Pg**	**01 38 18.2**	**-0.6**
ZAK				*e*Pb	**Pb**	**01 38 19.2**	**0.0**
ZAK				*e*		01 38 22.0	
ZAK				*e*Sg	**Sg**	**01 38 31.0**	**+0.4**
ZAK				*e*Sb	**Sb**	**01 38 32.2**	**+0.8**
ZAK				max			
	comp=E,192nm,0.1s						
ZAK				max			
	comp=E,839nm,0.2s						
ZAK	**Zakamensk**	**0.91**	**199**	⇑PG	**Pg**	**01 38 18.1**	**-0.7**
ZAK				*e*S	**Sg**	**01 38 30.0**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,191nm,0.1s						
ZAK				smax	smax		
	comp=E,851nm,0.1s						
LSTR	**Listvyanka**	**0.93**	**47**	⇓*i* Pg	**Pg**	**01 38 18.8**	**-0.4**
	comp=E,8.0nm,0.3s						
LSTR				⇓*i* Pg	**Pg**	**01 38 18.8**	**-0.4**
	comp=E,15nm,0.3s						
LSTR				⇓*i* Pg	**Pg**	**01 38 18.8**	**-0.4**
	comp=E,17nm,0.3s						
LSTR				*e*Pb	**Pn**	**01 38 20.0**	**-0.5**
LSTR				*i* Sg	**Sg**	**01 38 31.3**	**0.0**
LSTR				Pmax			
	comp=E,36nm,0.2s						
LSTR				Smax			
	comp=E,408nm,0.2s						
IRK	**Irkutsk**	**1.06**	**18**	*e*Pg	**Pb**	**01 38 21.4**	**-0.3**
IRK				*i* Sg	**Sb**	**01 38 35.4**	**-0.2**
IRK				*e*		01 38 40.4	
IRK				Pmax			
	comp=E,303nm,0.2s						
IRK				Smax			
	comp=E,887nm,0.6s						
IRK	**Irkutsk**	**1.06**	**18**	*e*PG	**Pg**	**01 38 18.7**	**-3.0**
IRK				*e*		01 38 33.6	
IRK				pmax	pmax		
	comp=Z,208nm,0.1s						
IRK				smax	smax		
	comp=E,878nm,0.3s						
ARS	**Arshan**	**1.06**	**310**	⇓*i* Pg	**Pg**	**01 38 20.5**	**-1.3**
ARS				*e*		01 38 23.9	
ARS				*e*Sg	**Sg**	**01 38 34.7**	**-1.0**
ARS				max			
	comp=E,100nm,0.2s						
ARS				Smax			
	comp=E,1μm,0.4s						
MOY	**Mondy**	**1.77**	**285**	⇓*i* Pg	**Pb**	**01 38 32.8**	**-1.1**
	comp=E,13nm,0.6s						
MOY				⇑*i* Pg	**Pb**	**01 38 32.8**	**-1.1**
	comp=E,23nm,0.6s						
MOY				⇓*i* Pg	**Pb**	**01 38 32.8**	**-1.1**
	comp=E,23nm,0.6s						
MOY				*e*		01 38 35.2	
MOY				*i* Sg	**Sg**	**01 38 56.9**	**-1.3**
MOY				*e*		01 39 00.4	
MOY				max			
	comp=E,100nm,0.5s						
MOY				max			
	comp=E,884nm,1.3s						
MOY	**Mondy**	**1.77**	**285**	*e*PN	**Pb**	**01 38

comp=Z,30nm,0.6s
OGRR smax smax
comp=N,279nm,1.4s
MXMB Maximikha 3.68 55 *e*Pg **Pb 01 39 07.1 +0.6**
MXMB *e*Sg **Sg 01 39 57.4 -2.2**
MXMB Pmax
comp=N,30nm,1.3s
MXMB Smax
comp=N,130nm,0.7s
ULN Ulaanbaatar 4.01 146 *e* **Pn 01 39 03.6 +0.7**
ULN *e*Pg **Pb 01 39 12.8 +0.7**
ULN *e*Sg **Sg 01 40 06.1 -3.9**
SYVR Suvo 4.53 55 *e*Pn Pn 01 38 59.0 -11
SYVR *e*Pg **Pb 01 39 22.0 +1.1**
SYVR *e* 01 39 48.2
SYVR *e* 01 39 58.8
SYVR *e*Sg **Sb 01 40 20.7 +5.2**
SYVR Pmax
comp=N,10.0nm,0.7s
SYVR Smax
comp=N,285nm,0.7s
NIZ Nizh Angarsk 5.71 35 *e*Pn **Pn 01 39 27.7 +1.6**
NIZ *e* 01 39 37.0
NIZ *e*Pg Pb 01 39 44.1 +3.1
NIZ *e* 01 40 34.1
NIZ *e*Sg Sg 01 40 57.4 -7.1
NIZ Pmax
comp=N,7.0nm,0.3s
NIZ Smax
comp=N,76nm,1.0s
KPC Khapcheranga 5.73 102 *e* 01 40 53.3
KPC *e*Sg **Sg 01 40 59.4 -5.7**
KPC Smax
comp=N,110nm,2.2s
YLYR Ulyunkhan 5.77 48 *e*Pn **Pn 01 39 29.5 +2.5**
YLYR *e*Pg **Pb 01 39 44.7 +2.7**
YLYR *e* 01 40 31.4
YLYR *e*Sg Sg 01 41 00.0 -6.4
YLYR Pmax
comp=N,2.0nm,0.4s
YLYR Smax
comp=N,41nm,1.2s
CIT Chita 6.16 79 *e*Sg Sg 01 41 11.7 -7.3
CIT Smax
comp=N,75nm,0.3s
KMO Kumora 6.43 41 *e*Pg Pb 01 39 58.6 +5.3
KMO *e* 01 40 06.3
KMO *e* 01 40 54.5
KMO *e*Sg **Sg 01 41 22.1 -5.6**
KMO max
comp=N,6.0nm,0.4s
KMO Smax
comp=N,165nm,1.2s
UKT Uakit 7.29 50 *e*Pg Pb 01 40 12.2 +4.4
UKT *e*Sg Sg 01 41 45.3 -10
UKT Smax
comp=N,37nm,1.8s
BOD Bodaibo 8.88 38 *e* 01 42 22.2
BOD *e*Sg Sg 01 42 37.4 -8.8
BOD Bodaibo 8.88 38 *e*PN **Pn 01 40 10.6 +1.0**
BOD *e* 01 40 42.6
BOD *e*S **Sn 01 41 49.0 -0.7**
BOD *e* 01 42 35.2
BOD pmax pmax
comp=Z,4.0nm,0.4s
BOD smax smax
comp=E,25nm,1.3s
CRS Chara 10.24 51 *e*Sg Sn 01 43 17.9 +55
CRS Smax
comp=E,28nm,0.2s
TUP Tupik 10.32 66 *e*Sg Sn 01 43 19.5 +55
TUP *e* 01 43 28.1
TUP Smax
comp=E,22nm,1.7s

*ISCJB **07** 01:38:30.0±1.2,31°.42S±0°.07×178°.3W±0°.2, h61km, mb4.6/7, Error ellipse: s-maj=26.6km s-min=7.5km az=17.1*
*IDC **07** 01:38:30.4±1.7,31°.29S×178°.29W, h44km±16km, mb4.1/5, mb1 4.2/7, mb1mx3.8/22, mbtmp4.2/7, ML3.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.6/23, Error ellipse: s-maj=24.4km s-min=11.2km az=110.0*
*NEIC **07** 01:38:31.3±1.2,31°.35S×178°.22W, h58km±11km, mb4.5/2, Error ellipse: s-maj=16.8km s-min=11.6km az=111.0*
ISC 07 01:38:31.5±0.8,31°.35S±0°.08×178°.2W±0°.2, h61km, n29, σ1s09/35, mb4.5/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.11**	**8**	*e*Pn	**Pn**		**01 39 04.5**	**+0.1**
RAO				*e*S	**Sn**		**01 39 30.3**	**+0.7**
RAO	**Raoul Island**	**2.11**	**8**	P	**Pn**		**01 39 03.3**	**-1.2**
	26nm,0.3s,baz=45,slow=20,SNR=3.1							
RAO				S	**Sn**		**01 39 27.2**	**-2.4**
	231nm,0.3s,baz=261,slow=23,SNR=6.3							
RAO				LR	LR		01 39 33.8	
	comp=Z,480nm,19.6s,baz=194,slow=31							
URZ	**Urewera**	**7.88**	**208**	P	**Pn**		**01 40 22.5**	**-1.0**
URZ				S	**Sn**		**01 41 49.3**	**-1.8**
URZ	**Urewera**	**7.88**	**208**	P	**Pn**		**01 40 22.5**	**-1.0**
	1.1nm,0.3s,baz=360,slow=19,SNR=7.6							
URZ				S	**Sn**		**01 41 49.3**	**-1.8**
	4.0nm,0.3s,baz=19,slow=23,SNR=8.6							
CTA	**Charters Tower**	**33.76**	**281**	P	**P**		**01 45 09.4**	**+1.9**
CTA	**Charters Tower**	**33.76**	**281**	P	**P**		**01 45 09.4**	**+1.9**
	4.3nm,0.6s,baz=102,slow=11,SNR=7.7							
CTAO	**Charters Tower**	**33.76**	**281**	*e*P	**P**		**01 45 08.8**	**+1.3**
	4.6nm,0.6s							
STKA	**Stephens Creek**	**34.08**	**258**	P	**P**		**01 45 10.8**	**+0.6**
STKA	**Stephens Creek**	**34.08**	**258**	P	**P**		**01 45 10.8**	**+0.6**
	2.3nm,0.8s,baz=132,slow=14,SNR=5.4							
AS31	**Alice Springs**	**42.86**	**268**	*e*P	**P**		**01 46 23.7**	**-0.3**
ASAR	**Alice Springs**	**42.86**	**268**	P	**P**		**01 46 23.5**	**-0.5**
ASAR	**Alice Springs**	**42.86**	**268**	P	**P**		**01 46 23.5**	**-0.5**
	7.9nm,0.5s,baz=104,slow=7.3,SNR=58							
WRAB	**Tennant Creek**	**43.93**	**273**	*e*P	**P**		**01 46 32.4**	**-0.2**
	18nm,0.6s							
WRA	**Warramunga Arr**	**43.94**	**273**	P	**P**		**01 46 32.2**	**-0.4**
WRA	**Warramunga Arr**	**43.94**	**273**	P	**P**		**01 46 32.2**	**-0.4**
	23nm,0.4s,baz=112,slow=8.0,SNR=98							
FITZ	**Fitzroy Crossi**	**52.16**	**271**	P	**P**		**01 47 36.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**52.16**	**271**	P	**P**		**01 47 36.6**	**+0.5**
	1.2nm,0.5s,baz=99,slow=4.1,SNR=6.4							
QSPA	**South Pole Qui**	**58.76**	**180**	*e*P	**P**		**01 48 24.8**	**+1.7**
	1.4nm,0.4s							
QSPA	**South Pole Qui**	**58.76**	**180**	P	**P**		**01 48 25.2**	**+2.1**
	2.0nm,0.6s,baz=240,slow=0.6,SNR=12							
MKAR	**Makanchi Array**	**118.22**	**310**	PKP		**PKPdf**	**01 57 10.9**	**-0.6**
MKAR	**Makanchi Array**	**118.22**	**310**	PKP		**PKPdf**	**01 57 10.9**	**-0.6**
	0.1nm,0.4s,baz=176,slow=0.5,SNR=4.3							
ARCES	**ARCESS Array B**	**139.47**	**347**	PKP		**PKPdf**	**01 57 50.5**	**-0.5**
ARCES	**ARCESS Array B**	**139.47**	**347**	PKP		**PKPdf**	**01 57 50.5**	**-0.5**
	3.0nm,1.1s,baz=316,slow=3.3,SNR=3.6							
FINES	**FINESS Array B**	**145.96**	**339**	PKPbc		**PKPbc**	**01 58 02.8**	**-0.7**
FINES	**FINESS Array B**	**145.96**	**339**	PKPbc		**PKPbc**	**01 58 02.8**	**-0.7**
	2.1nm,0.4s,baz=47,slow=4.1,SNR=39							
NOA	**NORSAR Array B**	**149.65**	**351**	PKPbc		**PKPbc**	**01 58 14.0**	**+0.4**
NOA				PKPab		**PKPab**	**01 58 18.4**	**-0.5**
NOA	**NORSAR Array B**	**149.65**	**351**	PKPbc		**PKPbc**	**01 58 14.0**	**+0.4**
	0.6nm,0.6s,baz=13,slow=4.1,SNR=3.2							
NOA				PKPab		**PKPab**	**01 58 18.4**	**-0.5**
	0.6nm,0.7s,baz=15,slow=4.1,SNR=3.3							
TORD	**Torodi Ar. Bea**	**161.88**	**180**	PKPab		**PKPab**	**01 59 12.8**	**+0.6**
TORD	**Torodi Ar. Bea**	**161.88**	**180**	PKPab		**PKPab**	**01 59 12.8**	**+0.6**
	0.7nm,0.5s,baz=164,slow=3.0,SNR=14							

IDC 07 01:42:43.7±17.0,19°.33S×175°.38W, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.8/21, mbtmp4.2/5, Error ellipse: s-maj=330.1km s-min=145.5km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.07**	**262**	P	P		01 49 47.7	+0.3
	3.0nm,0.5s,baz=84,slow=8.4,SNR=5.7							
STKA	**Stephens Creek**	**40.51**	**243**	P	P		01 50 24.2	-0.5
	0.8nm,0.6s,baz=106,slow=13,SNR=4.0							
ASAR	**Alice Springs**	**47.19**	**255**	P	P		01 51 18.4	-0.2
	4.1nm,0.5s,baz=98,slow=7.5,SNR=44							
WRA	**Warramunga Arr**	**47.21**	**260**	P	P		01 51 18.7	0.0
	1.0nm,0.3s,baz=96,slow=7.6,SNR=29							
FITZ	**Fitzroy Crossi**	**55.63**	**261**	P	P		01 52 21.6	-0.2
	1.6nm,0.8s,baz=264,slow=16,SNR=6.1							

*IDC **07** 02:04:02.5±0.8,33°.98N×25°.76E, h0km, mb3.9/13, mb1 4.0/21, mb1mx3.9/34, mbtmp3.8/21, ML3.6/7, MS3.2/3, Ms1 3.2/3, ms1mx2.6/44, Error ellipse: s-maj=17.0km s-min=14.0km az=1.0*
*ISCJB **07** 02:04:03.0±0.8,33°.95N±0°.02×25°.68E±0°.02, h17km±6km, mb3.8/17, MS3.5/2, Error ellipse: s-maj=4.4km s-min=3.0km az=32.9*
*HLW **07** 02:04:04.1,34°.18N×25°.61E, h33km±25km, Md3.4, Ml3.3*
*ATH **07** 02:04:04.5,34°.13N×25°.44E, h14km±1km, MD3.8/19*
*CSEM **07** 02:04:05.2±0.2,33°.98N×25°.58E, h20km, MD3.8, Error ellipse: s-maj=5.0km s-min=3.4km az=45.0*
*VIE **07** 02:04:09.8,33°.78N×26°.05E, h45km, mb3.6, ML3.7 190 km SSE of Iraklion*
*ISK **07** 02:04:20.7,34°.96N×26°.48E, h24km, MD4.4*
ISC 07 02:04:03.3±1.2,34°.08N±0°.03×25°.49E±0°.03, h6km±8km, n158, σ1s73/144, mb3.9/17, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.08**	**359**	*e*PB	**Pn**		**02 04 24.1**	**-1.0**
LAST				*e*SB	**Sn**		**02 04 38.5**	**-1.9**
LAST	**Lasithi**	**1.08**	**359**	*e*Pb	**Pn**		**02 04 24.1**	**-1.0**
LAST				*e*Sb	**Sn**		**02 04 38.5**	**-1.9**
SIVA	**Sivas**	**1.09**	**329**	*e*PN	**Pn**		**02 04 24.3**	**-0.9**
SIVA				*e*SB	**Sn**		**02 04 38.7**	**-1.9**
SIVA	**Sivas**	**1.09**	**329**	*e*Pn	**Pn**		**02 04 24.3**	**-0.9**
SIVA				*e*Sb	**Sn**		**02 04 38.7**	**-1.9**
NPS	**Neapolis**	**1.18**	**5**	*e*PN	**Pg**		**02 04 26.0**	**0.0**
NPS				*e*SB	**Sn**		**02 04 41.2**	**-1.7**
NPS	**Neapolis**	**1.18**	**5**	*e*Pn	**Pg**		**02 04 26.0**	**0.0**
NPS				*e*Sb	**Sn**		**02 04 41.2**	**-1.7**
ZKR	**Zakros**	**1.19**	**30**	*e*PN	**Pb**		**02 04 26.3**	**-0.1**
ZKR				*e*SB	**Sg**		**02 04 43.0**	**+1.3**
ZKR	**Zakros**	**1.19**	**30**	*e*Pn	**Pb**		**02 04 26.3**	**-0.1**
ZKR				*e*Sb	**Sg**		**02 04 43.0**	**+1.3**
IDI	**Anoyia**	**1.30**	**338**	*e*PG	**Pg**		**02 04 27.8**	**-0.5**
IDI				*e*SB	**Sg**		**02 04 44.6**	**-0.6**
IDI	**Anoyia**	**1.30**	**338**	*e*Pg	**Pg**		**02 04 27.8**	**-0.5**
GVD	**Gavdhos**	**1.39**	**303**	*e*PB	**Pg**		**02 04 30.1**	**+0.2**
GVD				*e*SB	**Sg**		**02 04 47.1**	**-0.8**
GVD	**Gavdhos**	**1.39**	**303**	*e*Pb	**Pg**		**02 04 30.1**	**+0.2**
VAM	**Vamos**	**1.70**	**322**	*e*PG	**Pg**		**02 04 34.7**	**-1.2**
VAM	**Vamos**	**1.70**	**322**	*e*Pg	**Pg**		**02 04 34.7**	**-1.2**
KARP	**Karpathos**	**2.01**	**43**	*e*PN	**Pb**		**02 04 40.4**	**+0.1**
KARP	**Karpathos**	**2.01**	**43**	*e*Pn	**Pb**		**02 04 40.4**	**+0.1**
SANT	**Santorini**	**2.29**	**359**	*e*PN	**Pb**		**02 04 43.2**	**-1.8**
SANT	**Santorini**	**2.29**	**359**	*e*Pn	**Pb**		**02 04 43.2**	**-1.8**
LTBQ	**Tobrug**	**2.41**	**214**	*i* P	**Pb**		**02 04 47.5**	**+0.4**
	SNR=92							
ANKY	**Antikythira Is**	**2.53**	**315**	*e*PN	**Pb**		**02 04 47.1**	**-2.1**
ANKY	**Antikythira Is**	**2.53**	**315**	*e*Pn	**Pb**		**02 04 47.1**	**-2.1**
SLUM		**2.59**	**185**	P	**Pn**		**02 04 45.1**	**-0.7**
KYTH	**Kithira**	**2.98**	**318**	*e*PN	Pb		02 04 53.1	-3.7
KYTH	**Kithira**	**2.98**	**318**	*e*Pn	Pb		02 04 53.1	-3.7
DAT	**Datca**	**3.14**	**32**	*e*PN	**Pn**		**02 04 53.7**	**+0.2**
DAT				*e*SN	Sn		02 05 17.9	-14
DAT	**Datca**	**3.14**	**32**	*e*Pn	**Pn**		**02 04 53.7**	**+0.2**
HMAT	**Matruh**	**3.27**	**155**	P	**Pn**		**02 04 54.0**	**-1.2**
	baz=157							
HMAT				AMP			02 05 00.0	
	comp=E,120μm,0.7s,logA/T=5.2,baz=157							
HMAT				S	**Sn**		**02 05 31.1**	**-3.3**
	baz=157							
HMAT	**Matruh**	**3.27**	**155**	P	**Pn**		**02 04 54.0**	**-1.2**
HMAT				S	**Sn**		**02 05 31.1**	**-3.3**
BODT	**Bodrum**	**3.32**	**26**	*e*PN	**Pn**		**02 04 56.8**	**+0.9**
BODT	**Bodrum**	**3.32**	**26**	*e*Pn	**Pn**		**02 04 56.8**	**+0.9**
VLI	**Veliai**	**3.36**	**322**	*e*PN	**Pn**		**02 04 58.2**	**+1.8**
VLI	**Veliai**	**3.36**	**322**	*e*Pn	**Pn**		**02 04 58.2**	**+1.8**
MLSB	**Milas**	**3.71**	**29**	*e*PN	**Pn**		**02 05 01.9**	**+0.7**
MLSB	**Milas**	**3.71**	**29**	*e*Pn	**Pn**		**02 05 01.9**	**+0.7**
DALY	**Dalyan (Mu¨la**	**3.76**	**42**	*e*PN	**Pn**		**02 05 02.0**	**+0.2**
DALY	**Dalyan (Mu¨la**	**3.76**	**42**	*e*Pn	**Pn**		**02 05 02.0**	**+0.2**
YER	**Yerkesik**	**3.80**	**36**	*e*PN	**Pn**		**02 05 02.7**	**+0.2**
YER	**Yerkesik**	**3.80**	**36**	*e*Pn	**Pn**		**02 05 02.7**	**+0.2**
DID	**Didima**	**3.88**	**332**	*e*PN	**Pn**		**02 05 05.5**	**+2.0**
DID	**Didima**	**3.88**	**332**	*e*Pn	**Pn**		**02 05 05.5**	**+2.0**
FETY	**Fethiye**	**3.89**	**48**	*e*PN	**Pn**		**02 05 04.0**	**+0.3**
FETY	**Fethiye**	**3.89**	**48**	*e*Pn	**Pn**		**02 05 04.0**	**+0.3**
VLX	**Vlachokerasia**	**4.14**	**323**	*e*PN	Pn		02 05 09.6	+2.3
VLX	**Vlachokerasia**	**4.14**	**323**	*e*Pn	Pn		02 05 09.6	+2.3
ITM	**Ithomi**	**4.24**	**318**	*e*PN	**Pn**		**02 05 09.9**	**+1.4**
ITM	**Ithomi**	**4.24**	**318**	*e*Pn	**Pn**		**02 05 09.9**	**+1.4**
LTK	**Loutraki**	**4.43**	**333**	*e*PN	Pn		02 05 14.2	+3.0
LTK	**Loutraki**	**4.43**	**333**	*e*Pn	Pn		02 05 14.2	+3.0
BLCB	**Balcova**	**4.47**	**16**	*e*PN	Pn		02 05 14.6	+2.9
BLCB	**Balcova**	**4.47**	**16**	*e*Pn	Pn		02 05 14.6	+2.9
ELL	**Elmali**	**4.48**	**52**	*e*PN	**Pn**		**02 05 12.8**	**+0.9**
ELL	**Elmali**	**4.48**	**52**	*e*Pn	**Pn**		**02 05 12.8**	**+0.9**
IZM	**Izmir**	**4.54**	**18**	*e*PN	Pn		02 05 15.5	+2.9
IZM	**Izmir**	**4.54**	**18**	*e*Pn	Pn		02 05 15.5	+2.9
AMT	**Artemida-Makis**	**4.62**	**319**	*e*PN	**Pn**		**02 05 15.4**	**+1.7**
AMT	**Artemida-Makis**	**4.62**	**319**	*e*Pn	**Pn**		**02 05 15.4**	**+1.7**
GUR	**Goura**	**4.62**	**327**	*e*PN	**Pn**		**02 05 15.6**	**+1.8**
GUR	**Goura**	**4.62**	**327**	*e*Pn	**Pn**		**02 05 15.6**	**+1.8**
KLV	**Kalavryta, Ach**	**4.79**	**327**	*e*PN	**Pn**		**02 05 18.0**	**+1.9**
KLV	**Kalavryta, Ach**	**4.79**	**327**	*e*Pn	**Pn**		**02 05 18.0**	**+1.9**
SWA2		**4.82**	**180**	P	**Pn**		**02 05 15.6**	**-0.9**
	baz=182							
SWA2		**4.82**	**180**	P	**Pn**		**02 05 15.6**	**-0.9**
KULA	**Kula-Manisa**	**5.11**	**29**	*e*PN	**Pn**		**02 05 21.7**	**+1.2**
KULA	**Kula-Manisa**	**5.11**	**29**	*e*Pn	**Pn**		**02 05 21.7**	**+1.2**
BCK	**Bucak**	**5.34**	**49**	*e*PN	**Pn**		**02 05 25.2**	**+1.5**
BCK	**Bucak**	**5.34**	**49**	*e*Pn	**Pn**		**02 05 25.2**	**+1.5**
LJBD	**Adjabya**	**5.47**	**236**	*i* P	**Pn**		**02 05 26.7**	**+1.3**
	SNR=76							
LJBD				*e*S	**Sn**		**02 06 28.3**	**-0.4**
	SNR=76							
SUTC	**Sutluce-Ispart**	**5.61**	**51**	*e*PN	**Pn**		**02 05 29.3**	**+1.8**
SUTC	**Sutluce-Ispart**	**5.61**	**51**	*e*Pn	**Pn**		**02 05 29.3**	**+1.8**
EVR	**Evrytania**	**5.67**	**329**	*e*PN	Pn		02 05 31.1	+3.0
EVR	**Evrytania**	**5.67**	**329**	*e*Pn	Pn		02 05 31.1	+3.0
VLS	**Valsamata**	**5.70**	**317**	*e*PN	Pn		02 05 31.7	+3.2
VLS	**Valsamata**	**5.70**	**317**	*e*Pn	Pn		02 05 31.7	+3.2
SHUT	**Suhut-Afyon**	**6.05**	**41**	*e*PN	**Pn**		**02 05 34.6**	**+1.2**
SHUT	**Suhut-Afyon**	**6.05**	**41**	*e*Pn	**Pn**		**02 05 34.7**	**+1.2**
LUJL	**Ujela**	**6.10**	**217**	*i* P	**Pn**		**02 05 35.3**	**+1.2**
	SNR=76							
THL	**Klokotos Trika**	**6.14**	**334**	*e*PN	Pn		02 05 37.5	+2.9
THL	**Klokotos Trika**	**6.14**	**334**	*e*Pn	Pn		02 05 37.5	+2.9
LEF	**Lefka**	**6.19**	**78**	*e*PN	Pn		02 05 39.8	+4.5
GELI	**Tayfur-Gelibol**	**6.35**	**7**	*e*PN	Pn		02 05 43.1	+5.6
LPK	**Lapseki**	**6.36**	**9**	*e*PN	Pn		02 05 43.0	+5.4
HDMB	**Hadim**	**6.39**	**61**	*e*PN	**Pn**		**02 05 40.6**	**+2.4**
AWBH		**6.44**	**152**	P	**Pn**		**02 05 37.5**	**-1.2**
	baz=153							
AWBH		**6.44**	**152**	P	**Pn**		**02 05 37.5**	**-1.2**
KONT	**Konya--Tatoy**	**6.77**	**53**	*e*PN	**Pn**		**02 05 45.4**	**+2.1**
KONT	**Konya--Tatoy**	**6.77**	**53**	*e*Pn	**Pn**		**02 05 45.4**	**+2.1**
GLL	**Jalalah**	**6.94**	**129**	P	**Pn**		**02 05 44.2**	**-1.4**
	baz=129							
GLL	**Jalalah**	**6.94**	**129**	P	**Pn**		**02 05 44.2**	**-1.4**
KIZT	**Kizilcal**	**7.03**	**45**	*e*PN	**Pn**		**02 05 48.7**	**+1.8**
KIZT	**Kizilcal**	**7.03**	**45**	*e*Pn	**Pn**		**02 05 48.7**	**+1.8**
AMAG	**Maghara**	**7.37**	**116**	P	**Pn**		**02 05 49.5**	**-2.1**
	baz=116							
AMAG	**Maghara**	**7.37**	**116**	P	**Pn**		**02 05 49.5**	**-2.1**
GULT	**Gulveren**	**7.50**	**31**	*e*PN	**Pn**		**02 05 55.6**	**+2.3**
GULT	**Gulveren**	**7.50**	**31**	*e*Pn	**Pn**		**02 05 55.6**	**+2.3**
RSH		**7.61**	**112**	P	**Pn**		**02 05 52.4**	**-2.4**
	baz=112							
RSH		**7.61**	**112**	P	**Pn**		**02 05 52.4**	**-2.4**
KZIT	**Kziot**	**8.16**	**110**	Pn	**Pn**		**02 05 59.7**	**-2.6**
KZIT				Sn	Sn		02 07 28.5	-6.4
SLTI	**Sal'it**	**8.21**	**100**	Pn	**Pn**		**02 06 02.3**	**-0.8**
SLTI				Sn	**Sn**		**02 07 31.6**	**-4.6**
RTMI	**Retamim**	**8.33**	**109**	Pn	**Pn**		**02 06 02.9**	**-1.8**
RTMI				Sn	Sn		02 07 33.4	-5.7
MMAI	**Mount Meron Ar**	**8.34**	**95**	Pn	Pn		02 06 01.1	-3.8
	comp=E,1.2nm,0.3s,baz=256,slow=14,SNR=4.4							
MMAI				Sn	**Sn**		**02 07 35.1**	**-4.3**
	comp=E,1.7nm,0.3s,baz=254,slow=21,SNR=3.8							
MMLI	**Mount Malkishu**	**8.48**	**98**	Pn	**Pn**		**02 06 06.4**	**-0.3**
MMLI				Sn	Sn		02 07 36.6	-6.1
KSDI	**Kefar Szold**	**8.53**	**93**	Pn	**Pn**		**02 06 07.8**	**+0.5**
KSDI				Sn	**Sn**		**02 07 39.7**	**-4.1**
BRTR	**Keskin Array B**	**8.62**	**47**	Pn	**Pn**		**02 06 08.8**	**+0.1**
	baz=230,slow=12,SNR=0.4							
DSI	**Dead Sea**	**8.69**	**104**	Pn	**Pn**		**02 06 08.1**	**-1.5**
DSI				Sn	Sn		02 07 42.1	-5.8
MZDA	**Masada**	**8.77**	**106**	Pn	**Pn**		**02 06 10.0**	**-0.6**
MZDA				Sn	**Sn**		**02 07 44.6**	**-5.1**
KRMI	**Paran Flat**	**8.77**	**114**	Pn	**Pn**		**02 06 08.7**	**-2.0**
PRNI	**Paran**	**8.87**	**112**	Pn	**Pn**		**02 06 10.7**	**-1.4**
HRFI	**Mount Harif**	**9.05**	**114**	Pn	**Pn**		**02 06 13.0**	**-1.5**
MBRI	**Mt Berech**	**9.07**	**116**	Pn	**Pn**		**02 06 13.6**	**-1.3**
EIL	**Elat**	**9.16**	**116**	Pn	Pn		02 06 12.9	-3.2
	comp=E,0.8nm,0.3s,baz=312,slow=16,SNR=13							
EIL				Sn	Sn		02 07 52.7	-6.9
	comp=E,0.4nm,0.3s,baz=302,slow=19,SNR=2.8							
EIL	**Elat**	**9.16**	**116**	Pn	**Pn**		**02 06 14.7**	**-1.4**
MLR	**Muntele Rosu**	**11.40**	**2**	Pn	Pn		02 06 50.0	+3.2
	comp=E,0.0nm,0.3s,baz=194,slow=12,SNR=4.5							
MLR				LR	LR		02 11 29.1	
	comp=E,30nm,21.1s,baz=183,slow=39							
KECS	**Kecovo**	**14.87**	**347**	*e*PN	P		02 07 45.9	+6.0
KOLS	**Kolonicke sedl**	**15.03**	**352**	*e*PN	P		02 07 44.3	+2.6
VYHS	**Vyhne**	**15.23**	**343**	*e*PN	P		02 07 51.8	+7.8
ABTA	**Abfaltersbach**	**16.03**	**326**	*i* /*i*Pn	**P**		**02 07 54.6**	**+1.7**
	comp=E,4.8nm,0.7s							
ABTA	**Abfaltersbach**	**16.03**	**326**	P	**P**		**02 07 54.6**	**+1.7**
	comp=E,4.8nm,0.7s							
VRAC	**Vranov**	**16.58**	**339**	Pn	**P**		**02 07 59.9**	**+1.0**
	comp=E,0.2nm,0.3s,baz=164,slow=12,SNR=3.9							
KBZ	**Khabaz**	**16.59**	**49**	Pn	**Pn**		**02 07 57.2**	**+0.7**
	comp=E,0.1nm,0.3s,baz=275,slow=12,SNR=8.8							
GERES	**GERESS Array B**	**17.16**	**333**	P	**P**		**02 08 06.0**	**+0.5**
	comp=E,0.2nm,0.3s,baz=149,slow=11,SNR=14							
DAVOX	**Davos/Dischmat**	**17.34**	**322**	P	**P**		**02 08 10.1**	**+2.5**
	comp=E,0.2nm,0.3s,baz=149,slow=19,SNR=2.9							
FRF	**La Foret Royal**	**17.44**	**308**	*e*P	**P**		**02 08 10.3**	**+1.9**
	comp=E,45nm,1.3s							
KHC	**Kasperske Hory**	**17.44**	**333**	*e*P	**P**		**02 08 12.0**	**+3.5**
KHC				*e*x	x		02 08 17.1	
KHC	**Kasperske Hory**	**17.44**	**333**	P	**P**		**02 08 12.0**	**+3.5**
DPC	**Dobruska-Polom**	**17.60**	**340**	*e*P	**P**		**02 08 12.6**	**+2.4**
DPC				*e*x	x		02 08 16.4	
UPC	**Upice**	**17.82**	**340**	*e*P	**P**		**02 08 12.9**	**+0.2**
UPC				*e*x	x		02 08 23.9	
UPC	**Upice**	**17.82**	**340**	P	**P**		**02 08 12.9**	**+0.2**
CABF	**La Chapelle**	**19.31**	**316**	*e*P	**Pn**		**02 08 32.2**	**+2.1**
	comp=E,12nm,0.9s							
CABF	**La Chapelle**	**19.31**	**316**	*e*P	**Pn**		**02 08 32.2**	**+2.1**
	comp=E,11nm,0.9s							
HINF	**Hinteralfeld**	**19.59**	**320**	*e*P	**Pn**		**02 08 34.6**	**+1.2**
	comp=E,6.5nm,0.8s							
HINF	**Hinteralfeld**	**19.59**	**320**	*e*P	**Pn**		**02 08 34.6**	**+1.2**
	comp=E,6.0nm,0.8s							
CDF	**Champ du Feu**	**19.74**	**322**	*e*P	**Pn**		**02 08 36.8**	**+1.5**
	comp=E,16nm,1.1s							
CDF	**Champ du Feu**	**19.74**	**322**	*e*P	**Pn**		**02 08 36.8**	**+1.5**
	comp=E,16nm,1.1s							
HAU	**Haudompre**	**19.98**	**320**	*e*P	**Pn**		**02 08 40.2**	**+2.2**
HAU	**Haudompre**	**19.98**	**320**	*e*P	**Pn**		**02 08 40.2**	**+2.2**
SMF	**Signal de Mont**	**20.65**	**314**	*e*P	Pn		02 08 44.5	-1.4
SMF	**Signal de Mont**	**20.65**	**314**	*e*P	Pn		02 08 44.5	-1.4
LOR	**Lormes**	**20.95**	**315**	*e*P	Pn		02 08 47.9	-1.6
LOR	**Lormes**	**20.95**	**315**	*e*P	Pn		02 08 47.9	-1.6
BGF	**Bois d'Agland**	**21.21**	**313**	*e*P	**P**		**02 08 51.4**	**+1.8**
	comp=E,16nm,0.8s							
BGF	**Bois d'Agland**	**21.21**	**313**	*e*P	**P**		**02 08 51.4**	**+1.8**
	comp=E,16nm,0.8s							
ESDC	**Sonseca Array**	**24.15**	**292**	P	**P**		**02 09 23.5**	**+3.3**
	comp=E,2.0nm,0.7s,baz=87,slow=9.7,SNR=11							
MDT	**Midelt**	**25.11**	**276**	P	**P**		**02 09 32.0**	**+2.9**
	comp=E,2.9nm,0.8s,baz=52,slow=8.7,SNR=4.0							
HFS	**Hagfors**	**27.19**	**347**	P	**P**		**02 09 46.9**	**-0.5**
	comp=E,3.0nm,0.9s,baz=179,slow=5.9,SNR=2.6							
FINES	**FINESS Array B**	**27.38**	**1**	P	**P**		**02 09 47.6**	**-1.6**
	comp=E,1.0nm,0.5s,baz=167,slow=9.6,SNR=4.3							

ANKY Antikythira Is 2.65 315 *e*Pb **Pn** 02 08 40.4 +0.2
NIS1 Nisyros Isl. 2.90 26 *e*PN **Pn** 02 08 45.7 +2.0
NIS1 Nisyros Isl. 2.90 26 *e*Pn **Pn** 02 08 45.7 +2.0
MATC Matruh 2.98 152 P **Pn** 02 08 45.9 +1.0
baz=154
ARG Arkhangelos 3.04 42 *e*PB **Pb** 02 08 49.5 -2.1
ARG Arkhangelos 3.04 42 *e*Pb **Pb** 02 08 49.5 -2.1
APE Apeiranthos 3.06 359 *e*PN **Pn** 02 08 48.3 +2.3
APE Apeiranthos 3.06 359 *e*Pn **Pn** 02 08 48.3 +2.3
KYTH Kithira 3.09 318 *e*PB **Pn** 02 08 47.7 +1.4
KYTH Kithira 3.09 318 *e*Pb **Pn** 02 08 47.7 +1.4
HMAT Matruh 3.16 156 P **Pn** 02 08 47.9 +0.6
baz=157
HMAT AMP 02 09 00.0
comp=N,260µm,0.6s,logA/T=5.6,baz=157
HMAT S **Sn** 02 09 26.9 +1.9
baz=157
HMAT Matruh 3.16 156 P **Pn** 02 08 47.9 +0.6
HMAT S **Sn** 02 09 26.9 +1.9
DAT Datca 3.17 30 *e*P **Pn** 02 08 47.7 +0.2
BODT Bodrum 3.36 24 *e*P **Pn** 02 08 50.2 +0.2
VLI Veliai 3.47 322 *e*PN **Pn** 02 08 51.9 +0.4
VLI *e*SN **Sn** 02 09 33.8 +1.2
VLI Veliai 3.47 322 *e*Pn **Pn** 02 08 51.9 +0.4
VLI *e*Sn **Sn** 02 09 33.8 +1.2
MLSB Milas 3.74 28 *e*P **Pn** 02 08 55.8 +0.6
DALY Dalyan (Mu˘la 3.76 41 *e*P **Pn** 02 08 56.5 +1.0
YER Yerkesik 3.82 34 *e*P **Pn** 02 08 57.0 +0.7
DYR Agios Nikonas 3.83 317 *e*PN **Pn** 02 08 58.3 +1.8
DYR Agios Nikonas 3.83 317 *e*Pn **Pn** 02 08 58.3 +1.8
SMG Samos 3.84 15 *e*PN **Pn** 02 08 58.4 +1.8
SMG Samos 3.84 15 *e*Pn **Pn** 02 08 58.4 +1.8
FETY Fethiye 3.88 46 *e*P **Pn** 02 08 57.7 +0.5
DID Didima 3.99 332 *e*PN **Pn** 02 08 59.1 +0.4
DID Didima 3.99 332 *e*Pn **Pn** 02 08 59.1 +0.4
NAIG Nisos Aigina 4.12 336 *e*PN **Pn** 02 09 01.7 +1.3
NAIG Nisos Aigina 4.12 336 *e*Pn **Pn** 02 09 01.7 +1.3
ATH Athens Observa 4.25 340 *e*PN **Pn** 02 09 04.4 +2.3
ATH Athens Observa 4.25 340 *e*Pn **Pn** 02 09 04.4 +2.3
VLX Vlachokerasia 4.26 323 *e*PN **Pn** 02 09 04.3 +1.9
PYL PYLOS 4.27 314 *e*PN **Pn** 02 09 03.6 +1.1
ITM Ithomi 4.36 318 *e*PN **Pn** 02 09 04.5 +0.8
CHOS Chios island 4.39 5 *e*PN **Pn** 02 09 07.6 +3.3
CHOS Chios island 4.39 5 *e*Pn Pn 02 09 07.6 +3.3
ELL Elmali 4.47 51 *e*P **Pn** 02 09 06.2 +0.9
BLCB Balcova 4.53 15 *e*P **Pn** 02 09 07.0 +0.9
LTK Loutraki 4.54 333 *e*PN **Pn** 02 09 07.5 +1.2
IZM Izmir 4.59 17 *e*P **Pn** 02 09 08.1 +1.1
GUR Goura 4.73 327 *e*PN **Pn** 02 09 10.3 +1.4
GUR *e*SN **Sn** 02 10 05.4 +1.6
GUR Goura 4.73 327 *e*Pn **Pn** 02 09 10.3 +1.4
GUR *e*Sn **Sn** 02 10 05.4 +1.6
AMT Artemida-Makis 4.73 319 *e*PN **Pn** 02 09 10.0 +1.1
AMT Artemida-Makis 4.73 319 *e*Pn **Pn** 02 09 10.0 +1.1
SWA2 4.74 181 P **Pn** 02 09 09.7 +0.7
baz=181
SWA2 4.74 181 P **Pn** 02 09 09.7 +0.7
KLV Kalavryta, Ach 4.91 326 *e*PN **Pn** 02 09 12.8 +1.5
KLV Kalavryta, Ach 4.91 326 *e*Pn **Pn** 02 09 12.8 +1.5
KULA Kula-Manisa 5.14 28 *e*P **Pn** 02 09 15.8 +1.2
LAKA Lakka 5.14 326 *e*PN **Pn** 02 09 15.9 +1.4
LAKA Lakka 5.14 326 *e*Pn **Pn** 02 09 15.9 +1.4
EFP Efpalio 5.33 327 *e*PN **Pn** 02 09 18.6 +1.6
EFP Efpalio 5.33 327 *e*Pn **Pn** 02 09 18.6 +1.6
BCK Bucak 5.33 48 *e*P **Pn** 02 09 19.1 +1.9
LJBD Adjabya 5.50 237 *i* P **Pn** 02 09 20.1 +0.7
SNR=76
ISP Isparta 5.53 45 *e*P **Pn** 02 09 22.0 +2.2
SUTC Sutluce-Ispart 5.60 50 *e*P **Pn** 02 09 22.9 +2.0
NEO Neokhori 5.63 341 *e*PN **Pn** 02 09 23.4 +2.2
NEO Neokhori 5.63 341 *e*Pn **Pn** 02 09 23.4 +2.2
AGG Agios Georgios 5.66 333 *e*PN **Pn** 02 09 24.6 +3.0
AGG Agios Georgios 5.66 333 *e*Pn **Pn** 02 09 24.6 +3.0
VLS Valsamata 5.81 317 *e*PN **Pn** 02 09 25.1 +1.4
VLS Valsamata 5.81 317 *e*Pn **Pn** 02 09 25.1 +1.4
LUJL Ujela 6.09 218 *i* P **Pn** 02 09 27.6 +0.1
SNR=76
LKD2 Lefkada island 6.22 322 *e*PN **Pn** 02 09 31.2 +1.9
LKD2 *e*SN **Sn** 02 10 41.3 +0.9
LKD2 Lefkada island 6.22 322 *e*Pn **Pn** 02 09 31.2 +1.9
THL Klokotos Trika 6.25 334 *e*PN **Pn** 02 09 31.4 +1.7
THL Klokotos Trika 6.25 334 *e*Pn **Pn** 02 09 31.4 +1.7
AWBH 6.33 152 P **Pn** 02 09 31.4 +0.6
baz=153
AWBH 6.33 152 P **Pn** 02 09 31.4 +0.6
HDMB Hadim 6.36 60 *e*P **Pn** 02 09 32.9 +1.6
CSS Prodhromos 6.46 79 Pn **Pn** 02 09 32.4 -0.3
CSS Sn **Sn** 02 11 44.1 -2.3
JAN Janina 6.81 327 *e*PN **Pn** 02 09 39.2 +1.8
JAN Janina 6.81 327 *e*Pn **Pn** 02 09 39.2 +1.8
GLL Jalalah 6.82 129 P **Pn** 02 09 38.3 +0.7
baz=130
GLL Jalalah 6.82 129 P **Pn** 02 09 38.3 +0.7
AMAG Maghara 7.26 115 P **Pn** 02 09 42.6 -1.1
baz=117
AMAG Maghara 7.26 115 P **Pn** 02 09 42.6 -1.1
KEK Kerkira 7.35 323 *e*PN **Pn** 02 09 45.4 +0.6
KEK Kerkira 7.35 323 *e*Pn **Pn** 02 09 45.4 +0.6
NVR Nevrokopi 7.46 350 *e*PN Pn 02 09 49.9 +3.5
NVR Nevrokopi 7.46 350 *e*Pn Pn 02 09 49.9 +3.5
RSH 7.51 112 P **Pn** 02 09 46.2 -0.8
baz=113
RSH 7.51 112 P **Pn** 02 09 46.2 -0.8
FNA Florina 7.56 335 *e*PN **Pn** 02 09 49.9 +2.2
FNA *e*SN **Sn** 02 11 14.2 +0.9
FNA Florina 7.56 335 *e*Pn **Pn** 02 09 49.9 +2.2
KZIT Kziot 8.05 110 Pn **Pn** 02 09 55.1 +0.6
KZIT Sn **Sn** 02 11 22.1 -3.5
SLTI Sal'it 8.12 100 Pn **Pn** 02 09 55.8 +0.4
SLTI Sn **Sn** 02 11 23.6 -3.5
HNKL Nakhl 8.20 117 P **Pn** 02 09 56.2 -0.3
baz=119
HNKL Nakhl 8.20 117 P **Pn** 02 09 56.2 -0.3
RTMI Retamim 8.22 108 Pn **Pn** 02 09 56.5 -0.3
RTMI Sn **Sn** 02 11 27.1 -2.7
MMAI Mount Meron Ar 8.25 94 Pn **Pn** 02 09 57.6 +0.3
comp=N,1.7nm,0.3s,baz=276,slow=11,SNR=6.2
MMAI Sn **Sn** 02 11 32.2 +1.7
comp=N,2.4nm,0.3s,baz=278,slow=39,SNR=5.1
MMLI Mount Malkishu 8.38 98 Pn **Pn** 02 09 59.1 +0.1
MMLI Sn **Sn** 02 11 30.4 -3.3
KSDI Kefar Szold 8.44 93 Pn **Pn** 02 10 00.3 +0.6
KSDI Sn **Sn** 02 11 32.4 -2.6
HMDT Nahal Hemdat 8.51 99 Pn **Pn** 02 10 00.9 +0.1
HMDT Sn **Sn** 02 11 34.6 -2.2
DSI Dead Sea 8.59 104 Pn **Pn** 02 10 02.3 +0.5
DSI Sn **Sn** 02 11 35.6 -3.1
BRTR Keskin Array B 8.62 46 Pn **Pn** 02 10 03.3 +1.0
comp=N,0.3nm,0.3s,baz=226,slow=14,SNR=7.4
BRTR Sn **Sn** 02 11 38.1 -1.4
comp=N,0.1nm,0.3s,baz=209,slow=12,SNR=2.5
BRTR Keskin Array B 8.62 46 *e*P **Pn** 02 10 04.9 +2.6
comp=N,3.0nm,0.8s
KRMI Paran Flat 8.66 114 Pn **Pn** 02 10 03.0 +0.1
KRMI Sn **Sn** 02 11 37.9 -2.7
PRNI Paran 8.77 112 Pn **Pn** 02 10 04.3 0.0
PRNI Sn **Sn** 02 11 40.1 -3.0
HRFI Mount Harif 8.94 114 Pn **Pn** 02 10 06.8 +0.2
HRFI Sn **Sn** 02 11 44.6 -2.8
MBRI Mt Berech 8.96 115 Pn **Pn** 02 10 07.7 +0.6
MBRI Sn **Sn** 02 11 45.4 -2.7
EIL Elat 9.05 116 Pn **Pn** 02 10 08.6 +0.4
comp=N,1.4nm,0.3s,baz=310,slow=11,SNR=8.7
EIL Sn **Sn** 02 11 51.4 +1.3
comp=N,1.0nm,0.3s,baz=299,slow=19,SNR=4.3
EIL Elat 9.05 116 Pn **Pn** 02 10 08.1 -0.1
EIL Sn **Sn** 02 11 47.4 -2.8
MLR Muntele Rosu 11.48 1 Pn **Pn** 02 10 41.8 +0.3
comp=N,0.0nm,0.3s,baz=157,slow=13,SNR=5.0
MLR Muntele Rosu 11.48 1 P **Pn** 02 10 41.8 +0.3
KOLS Kolonicke sedl 15.12 352 *e*P **Pn** 02 11 31.1 0.0
KOLS Kolonicke sedl 15.12 352 *e*PN **Pn** 02 11 31.1 0.0
KOLS Kolonicke sedl 15.12 352 *e*Pn **Pn** 02 11 31.1 0.0
VYHS Vyhne 15.34 343 *e*P **Pn** 02 11 32.5 -1.4
VYHS Vyhne 15.34 343 *e*PN **Pn** 02 11 32.5 -1.4
VYHS Vyhne 15.34 343 *e*Pn **Pn** 02 11 32.5 -1.4
AKH Akhalkalaki 15.97 57 P **Pn** 02 11 42.6 +0.4
ABTA Abfaltersbach 16.14 326⇓ *i*Pn **Pn** 02 11 45.8 +1.4
comp=N,8.0nm,0.7s
ABTA Abfaltersbach 16.14 326 P **Pn** 02 11 45.8 +1.4
comp=N,8.0nm,0.7s
ONI Oni 16.41 53 P **P** 02 11 50.9 +0.2
ONI Oni 16.41 53 P **P** 02 11 50.9 +0.2
GNI Garni 16.46 63 *e*P **P** 02 11 51.0 -0.3
comp=N,27nm,2.5s
KIV Kislovodsk 16.57 48 *e*P **P** 02 11 53.7 +1.3
KIV pmax pmax
comp=Z,15nm,1.0s
KBZ Khabaz 16.59 49 P **P** 02 11 52.4 -0.1
KBZ Khabaz 16.59 49 Pn **P** 02 11 52.4 -0.1
comp=Z,0.1nm,0.3s,baz=259,slow=6.2,SNR=9.7
KBZ Khabaz 16.59 49 P **P** 02 11 52.4 -0.1
VRAC Vranov 16.69 339 Pn **Pn** 02 11 51.3 0.0
comp=Z,0.3nm,0.3s,baz=125,slow=12,SNR=3.8
ZEI Tsey 16.79 53 *e*P **P** 02 11 56.8 +1.8
ZEI pmax pmax
comp=Z,18nm,1.1s
ZEI Tsey 16.79 53 *e*P **P** 02 11 56.8 +1.8
comp=Z,18nm,1.1s
TBLG Delisi 16.95 57 *e*P **P** 02 11 58.8 +2.2
TBLG Delisi 16.95 57 P **P** 02 11 58.9 +2.2
TREC Trest 17.02 337 *e*P **Pn** 02 11 55.6 +0.1
TREC Trest 17.02 337 *e*P **Pn** 02 11 55.6 +0.1
TREC *e*pP **P** 02 11 57.2 -0.1
TREC Trest 17.02 337 *e*P **Pn** 02 11 55.6 +0.1
GERES GERESS Array B 17.27 333 P **Pn** 02 11 57.5 -1.2
comp=Z,0.5nm,0.3s,baz=148,slow=12,SNR=32
DGRG David-gareji 17.31 59 P **P** 02 12 02.3 +1.7
DGRG David-gareji 17.31 59 P **P** 02 12 02.3 +1.7
KHC Kasperske Hory 17.55 333 *e*P **P** 02 12 02.6 -0.6
KHC Kasperske Hory 17.55 333 *e*P **P** 02 12 02.6 -0.6
KHC *e*pP **Pn** 02 12 04.0 +1.9
KHC Kasperske Hory 17.55 333 *e*P **P** 02 12 02.6 -0.6
DPC Dobruska-Polom 17.70 340 *e*P **Pn** 02 12 04.0 0.0
DPC Dobruska-Polom 17.70 340 *e*P **Pn** 02 12 04.0 0.0
DPC Dobruska-Polom 17.70 340 *e*P **Pn** 02 12 04.0 0.0
UPC Upice 17.93 340 *e*P **Pn** 02 12 06.8 +0.1
UPC Upice 17.93 340 *e*P **Pn** 02 12 06.8 +0.1
UPC Upice 17.93 340 *e*P **Pn** 02 12 06.8 +0.1
PRU Pruhonice 17.93 336 *e*P **Pn** 02 12 04.3 -2.4
PRU Pruhonice 17.93 336 *e*P **Pn** 02 12 04.3 -2.4
MBDF Montbardon 18.03 312 *e*P **P** 02 12 09.4 +0.8
MBDF Montbardon 18.03 312 *e*P **P** 02 12 09.4 +0.8
LPL La Plagne 18.46 314 *e*P **Pn** 02 12 17.0 +3.5
CABF La Chapelle 19.43 316 *e*P **P** 02 12 23.8 -0.1
comp=Z,11nm,0.8s
CABF La Chapelle 19.43 316 *e*P **P** 02 12 23.8 -0.1
comp=Z,11nm,0.8s
CLL Collm 19.57 336 *e*P **Pn** 02 12 26.0 -0.6
CLL Collm 19.57 336 *e*(P) **Pn** 02 12 26.0 -0.6
CLL Collm 19.57 336 *e*P **Pn** 02 12 26.0 -0.6
VORD Divnogorie 19.68 26 *e*P **P** 02 12 26.0 -0.5
VORD pmax pmax
comp=Z,10.0nm,1.1s
VORD pmax pmax
comp=N,30nm,0.6s
VORD pmax pmax
comp=E,40nm,0.6s
VORD Divnogorie 19.68 26 *e*P **P** 02 12 26.0 -0.5
comp=E,10.0nm,1.1s
HINF Hinteralfeld 19.70 320 *e*P **Pn** 02 12 28.4 +0.1
HINF Hinteralfeld 19.70 320 *e*P **Pn** 02 12 28.4 +0.1
VSR Storozhevoye 19.84 26 *e*P **P** 02 12 27.6 -0.6
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=E,3.0nm,0.3s
VSR Storozhevoye 19.84 26 *e*P **P** 02 12 27.6 -0.6
CDF Champ du Feu 19.86 322 *e*P **Pn** 02 12 30.4 +0.2
comp=E,9.2nm,0.9s
CDF Champ du Feu 19.86 322 *e*P **Pn** 02 12 30.4 +0.2
comp=E,9.0nm,0.9s
PAGF Fort de Pagny 20.75 320 *e*P Pn 02 12 41.1 +0.5
comp=E,4.1nm,0.8s
PAGF Fort de Pagny 20.75 320 *e*P Pn 02 12 41.1 +0.5
comp=E,4.0nm,0.8s
SMF Signal de Mont 20.76 314 *e*P **P** 02 12 38.2 -0.2
SMF Signal de Mont 20.76 314 *e*P **P** 02 12 38.2 -0.2
MEZF Maizieres J'vi 21.08 320 *e*P **P** 02 12 42.1 +0.4
MEZF Maizieres J'vi 21.08 320 *e*P **P** 02 12 42.1 +0.4
SSF Saint Saulge 21.17 315 *e*P **P** 02 12 43.0 +0.3
SSF Saint Saulge 21.17 315 *e*P **P** 02 12 43.0 +0.3
BGF Bois d'Agland 21.32 313 *e*P **P** 02 12 45.3 +0.9
comp=E,14nm,0.8s
BGF Bois d'Agland 21.32 313 *e*P **P** 02 12 45.3 +0.9
comp=E,13nm,0.8s
OBN Obninsk 22.46 17⇓ *i*P **P** 02 12 56.9 +0.5
OBN pmax pmax
comp=Z,36nm,2.5s
OBN Obninsk 22.46 17 *i* P **P** 02 12 56.9 +0.5
comp=Z,36nm,2.5s
LDF La Druitiere 24.05 315 *e*P **P** 02 13 12.3 -0.3
LDF La Druitiere 24.05 315 *e*P **P** 02 13 12.3 -0.3
ESDC Sonseca Array 24.26 292 P **P** 02 13 14.9 +0.2
comp=Z,0.8nm,0.5s,baz=80,slow=9.2,SNR=9.0
MDT Midelt 25.20 276 P **P** 02 13 24.0 +0.7
comp=Z,1.3nm,0.6s,baz=93,slow=7.9,SNR=4.6
HFS Hagfors 27.29 347 P **P** 02 13 40.5 -1.2
comp=Z,2.3nm,0.7s,baz=172,slow=12,SNR=3.9
HFS Hagfors 27.29 347 P **P** 02 13 40.5 -1.2
comp=Z,2.0nm,0.7s
FINES FINESS Array B 27.46 1 P **P** 02 13 41.7 -1.6
comp=Z,1.0nm,0.5s,baz=156,slow=11,SNR=6.7
FINES PcP **PcP** 02 17 01.1 -0.4
comp=Z,2.1nm,1.0s,baz=151,slow=4.4,SNR=3.8
FINES LR LR 02 25 09.1
comp=Z,61nm,18.5s,baz=20,slow=38
FINES FINESS Array B 27.46 1 P **P** 02 13 41.7 -1.6
comp=Z,1.0nm,0.5s
FINES FINESS Array B 27.46 1 PcP **PcP** 02 17 01.1 -0.4
comp=Z,61nm,18.5s
NB2 NORSAR Subarra 28.61 345 P **P** 02 13 52.2 -1.4
comp=Z,1.1nm,0.8s,baz=156,slow=9.3
NB2 NORSAR Subarra 28.61 345 P **P** 02 13 52.2 -1.4
comp=Z,1.1nm,0.8s,baz=156,slow=9.0,SNR=4.1
NOA NORSAR Array B 28.61 345 P **P** 02 13 52.4 -1.3
comp=Z,1.3nm,0.8s,baz=146,slow=9.5,SNR=4.4
NOA NORSAR Array B 28.61 345 P **P** 02 13 52.4 -1.3
comp=Z,1.0nm,0.8s
AKTK Aktyubinsk 28.79 45 P **P** 02 13 54.7 -0.7
comp=Z,2.0nm,0.8s
AKTO Aktyubinsk 28.79 45 P **P** 02 13 54.7 -0.7
AKTO pmax pmax
comp=Z,2.0nm,0.8s
AKTO Aktyubinsk 28.79 45 P **P** 02 13 54.6 -0.7
comp=Z,1.7nm,0.8s,baz=246,slow=9.6,SNR=6.1
JOF Joensuu 29.16 5 *e*p **P** 02 13 56.4 -2.1
comp=Z,1.0nm,0.5s
JOF Joensuu 29.16 5 *e*P **P** 02 13 56.4 -2.1
JOF pmax pmax
comp=Z,1.0nm,0.5s
JOF Joensuu 29.16 5 *e*P **P** 02 13 56.4 -2.1
comp=Z,1.0nm,0.5s
EKA Eskdalemuir Ar 29.19 326 P **P** 02 13 57.5 -1.3
comp=Z,2.3nm,0.8s,baz=138,slow=9.0,SNR=5.7
EKA Eskdalemuir Ar 29.19 326 P **P** 02 13 57.5 -1.3
comp=Z,2.0nm,0.8s
TORD Torodi Ar. Bea 30.04 232 P **P** 02 14 07.4 +0.7
comp=Z,0.7nm,0.7s,baz=32,slow=8.6,SNR=12
ARU Arti 31.79 35*d* *i*P **P** 02 14 22.2 +0.5
ARU 02 15 24.3
ARU S **S** 02 19 35.5 +3.9
ARU pmax pmax
comp=Z,3.0nm,1.0s
ARU Arti 31.79 35 *i* P **P** 02 14 22.2 +0.5
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 35.59 360 P **P** 02 14 53.0 -1.6
comp=Z,2.9nm,0.9s,baz=184,slow=8.1,SNR=8.4
ARCES ARCESS Array B 35.59 360 P **P** 02 14 53.0 -1.6
comp=Z,3.0nm,0.9s
BRVK Borovoye 36.85 45 *e*P **P** 02 15 07.1 +1.5
BRVK pmax pmax
comp=Z,11nm,2.5s
BRVK Borovoye 36.85 45 *e*P **P** 02 15 07.1 +1.5
comp=Z,11nm,2.5s
MKAR Makanchi Array 44.13 56 P **P** 02 16 06.3 +0.4
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 44.13 56 P **P** 02 16 06.3 +0.4
comp=Z,3.4nm,0.6s,baz=268,slow=6.8,SNR=28
MKAR Makanchi Array 44.13 56 P **P** 02 16 06.3 +0.4
comp=Z,3.0nm,0.6s
NVS Novosibirsk 44.67 44 *e*P **P** 02 16 10.7 +0.6
NVS Novosibirsk 44.67 44 *e*P **P** 02 16 10.7 +0.6
ZALV Zalesovo Beam 45.56 45 *i* P **P** 02 16 17.2 0.0
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 45.56 45 P **P** 02 16 17.1 -0.1
comp=Z,2.5nm,0.5s,baz=267,slow=9.4,SNR=9.1
ZALV Zalesovo Beam 45.56 45 *i* P **P** 02 16 17.2 0.0
comp=Z,3.0nm,0.5s
TLY Talaya 57.14 46 *e*P P 02 17 47.8 +3.7
TLY pmax pmax
comp=Z,2.0nm,0.7s
ZAK Zakamensk 57.25 48 *e*P **P** 02 17 46.3 +1.3
ZAK pmax pmax
comp=Z,2.0nm,1.3s
ZAK Zakamensk 57.25 48 *e*P **P** 02 17 46.3 +1.3
comp=Z,2.0nm,1.3s
SONM Songino Array 59.95 50 P **P** 02 18 04.2 +0.3
comp=Z,0.7nm,0.5s,baz=279,slow=8.4,SNR=7.2
SONM Songino Array 59.95 50 P **P** 02 18 04.2 +0.3
comp=Z,1.0nm,0.5s
SCHQ Schefferville 64.30 320 P **P** 02 18 32.8 0.0
comp=Z,1.9nm,0.4s,baz=76,slow=6.9,SNR=9.0
CMAR Chiang Mai Arr 66.36 83 P **P** 02 18 47.1 +0.4
comp=Z,0.4nm,0.4s,baz=310,slow=8.6,SNR=3.6
CMAR Chiang Mai Arr 66.36 83 P **P** 02 18 47.1 +0.4
USRK Ussuriysk Arra 77.42 45 P **P** 02 19 52.6 0.0
comp=Z,1.2nm,0.5s,baz=307,slow=3.7,SNR=4.9
YKA Yellowknife Ar 78.66 342 P **P** 02 19 59.1 -0.2
comp=Z,0.9nm,0.7s,baz=32,slow=5.3,SNR=4.3
YKA Yellowknife Ar 78.66 342 P **P** 02 19 59.1 -0.2
comp=Z,1.0nm,0.7s
KSRS Korea Array 78.71 52 P **P** 02 19 59.6 -0.3
comp=Z,1.1nm,0.7s,baz=302,slow=4.2,SNR=4.4
KSRS Korea Array 78.71 52 P **P** 02 19 59.6 -0.3
comp=Z,1.0nm,0.7s
ILAR Eielson Array 81.38 357 P **P** 02 20 14.4 +0.5
comp=Z,0.8nm,0.8s,baz=348,slow=4.2,SNR=8.4
ILAR Eielson Array 81.38 357 P **P** 02 20 14.4 +0.5
comp=Z,1.0nm,0.9s

IDC 07 02:17:50.0±9.7, **55.99S**×**27.66W**, **h164**km±89km, **mb3.3**/4, **mb1 3.5**/4, **mb1mx3.3**/16, **mbtmp3.3**/4, **Error ellipse: s-maj=32.8km s-min=21.1km az=63.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**40.35**	**144**	P		P	P	02 25 10.5	-0.4
	0.5nm,0.4s,baz=233,slow=10,SNR=6.4								
VNDA	**Vanda**	**46.62**	**183**	P		P	P	02 26 01.0	+0.1
	1.2nm,0.6s,baz=193,slow=8.3,SNR=18								
LPAZ	**La Paz**	**50.13**	**306**	P		P	P	02 26 28.9	-0.3
	0.4nm,0.3s,baz=122,slow=6.1,SNR=2.8								
TORD	**Torodi Ar. Bea**	**73.14**	**30**	P		P	P	02 29 02.6	+0.2
	0.3nm,0.6s,baz=200,slow=6.2,SNR=12								
ILAR	**Eielson Array**	**149.88**	**312**	PKPbc		PKPbc	PKPbc	02 37 18.8	-0.4
	1.2nm,0.7s,baz=127,slow=3.7,SNR=12								
SONM	**Songino Array**	**150.99**	**87**	PKPbc		PKPbc	PKPbc	02 37 22.0	-0.4
	1.2nm,0.5s,baz=237,slow=3.0,SNR=8.7								

CSEM ***07*** *02:42:47.6, 33.91N×25.42E, h10km, MD3.8, After ATH*
ATH ***07*** *02:42:47.6, 33.91N×25.42E, h10km±3km, MD3.8/18*
ISCJB ***07*** *02:42:48.6±0.8, 33.87N±0.06×25.51E±0.06, h17km, mb3.4/2, Error ellipse: s-maj=8.5km s-min=7.5km az=27.0*
IDC ***07*** *02:42:49.0±1.5, 33.95N×25.64E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.4/26, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=39.8km s-min=27.6km az=154.0*

ISC 07 02:42:51.6±1.1, **34.07N**±0.07×**25.50E**±0.05, **h17**km, **n46,** σ1.9 **19**/50, **Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.09**	**359**	*e*PG		**Pb**	**Pb**	**02 43 10.8**	**-1.2**
LAST	**Lasithi**	**1.09**	**359**	*e*Pg		**Pb**	**Pb**	**02 43 10.8**	**-1.2**
SIVA	**Sivas**	**1.10**	**329**	*e*PB		**Pn**	**Pn**	**02 43 11.0**	**-1.3**
SIVA				*e*SB		**Sg**	**Sg**	**02 43 27.9**	**+0.5**
SIVA	**Sivas**	**1.10**	**329**	*e*Pb		**Pn**	**Pn**	**02 43 11.0**	**-1.3**
SIVA				*e*Sb		**Sg**	**Sg**	**02 43 27.9**	**+0.5**
NPS	**Neapolis**	**1.19**	**4**	*e*PB		**Pn**	**Pn**	**02 43 12.4**	**-1.1**
NPS	**Neapolis**	**1.19**	**4**	*e*Pb		**Pn**	**Pn**	**02 43 12.4**	**-1.1**
ZKR	**Zakros**	**1.20**	**29**	*e*PG		**Pb**	**Pb**	**02 43 13.2**	**-0.7**
ZKR				*e*SB		**Sg**	**Sg**	**02 43 32.1**	**+1.7**
ZKR	**Zakros**	**1.20**	**29**	*e*Pg		**Pb**	**Pb**	**02 43 13.2**	**-0.7**
ZKR				*e*Sb		**Sg**	**Sg**	**02 43 32.1**	**+1.7**
IDI	**Anoyia**	**1.31**	**338**	*e*PB		**Pb**	**Pb**	**02 43 15.4**	**-0.5**
IDI	**Anoyia**	**1.31**	**338**	*e*Pb		**Pb**	**Pb**	**02 43 15.4**	**-0.5**
VAM	**Vamos**	**1.71**	**322**	*e*PN		**Pn**	**Pn**	**02 43 20.9**	**+0.3**
VAM	**Vamos**	**1.71**	**322**	*e*Pn		**Pn**	**Pn**	**02 43 20.9**	**+0.3**
KARP	**Karpathos**	**2.01**	**42**	*e*PN		**Pb**	**Pb**	**02 43 27.0**	**-0.7**
KARP	**Karpathos**	**2.01**	**42**	*e*Pn		**Pb**	**Pb**	**02 43 27.0**	**-0.7**
SANT	**Santorini**	**2.30**	**359**	*e*PN		**Pb**	**Pb**	**02 43 30.4**	**-2.2**
SANT	**Santorini**	**2.30**	**359**	*e*Pn		**Pb**	**Pb**	**02 43 30.4**	**-2.2**
ANKY	**Antikythira Is**	**2.54**	**315**	*e*PB		**Pn**	**Pn**	**02 43 31.5**	**-0.6**
ANKY	**Antikythira Is**	**2.54**	**315**	*e*Pb		**Pn**	**Pn**	**02 43 31.5**	**-0.6**
KYTH	**Kithira**	**2.99**	**318**	*e*PB		**Pn**	**Pn**	**02 43 39.8**	**+1.6**
KYTH	**Kithira**	**2.99**	**318**	*e*Pb		**Pn**	**Pn**	**02 43 39.8**	**+1.6**
APE	**Apeiranthos**	**2.99**	**0**	*e*PN		**Pn**	**Pn**	**02 43 39.0**	**+0.7**
APE	**Apeiranthos**	**2.99**	**0**	*e*Pn		**Pn**	**Pn**	**02 43 39.0**	**+0.7**
ARG	**Arkhangelos**	**3.04**	**44**	*e*PB		**Pn**	**Pn**	**02 43 41.0**	**+2.2**
ARG	**Arkhangelos**	**3.04**	**44**	*e*Pb		**Pn**	**Pn**	**02 43 41.0**	**+2.2**
VLI	**Veliai**	**3.37**	**322**	*e*PN		**Pn**	**Pn**	**02 43 43.6**	**+0.1**
VLI	**Veliai**	**3.37**	**322**	*e*Pn		**Pn**	**Pn**	**02 43 43.6**	**+0.1**
DYR	**Agios Nikonas**	**3.73**	**317**	*e*PN		**Pn**	**Pn**	**02 43 49.1**	**+0.7**
DYR	**Agios Nikonas**	**3.73**	**317**	*e*Pn		**Pn**	**Pn**	**02 43 49.1**	**+0.7**
DID	**Didima**	**3.89**	**332**	*e*PN		**Pn**	**Pn**	**02 43 51.6**	**+1.0**
DID	**Didima**	**3.89**	**332**	*e*Pn		**Pn**	**Pn**	**02 43 51.6**	**+1.0**
PYL	**PYLOS**	**4.17**	**314**	*e*PN		**Pn**	**Pn**	**02 43 54.4**	**0.0**
PYL	**PYLOS**	**4.17**	**314**	*e*Pn		**Pn**	**Pn**	**02 43 54.4**	**0.0**
ITM	**Ithomi**	**4.25**	**318**	*e*PN		**Pn**	**Pn**	**02 43 56.5**	**+0.9**
ITM	**Ithomi**	**4.25**	**318**	*e*Pn		**Pn**	**Pn**	**02 43 56.5**	**+0.9**
AMT	**Artemida-Makis**	**4.63**	**319**	*e*PN		**Pn**	**Pn**	**02 44 01.8**	**+1.0**
AMT	**Artemida-Makis**	**4.63**	**319**	*e*Pn		**Pn**	**Pn**	**02 44 01.8**	**+1.0**
GUR	**Goura**	**4.63**	**327**	*e*PN		**Pn**	**Pn**	**02 44 01.0**	**+0.1**
GUR	**Goura**	**4.63**	**327**	*e*Pn		**Pn**	**Pn**	**02 44 01.0**	**+0.1**
KLV	**Kalavryta, Ach**	**4.80**	**327**	*e*PN		**Pn**	**Pn**	**02 44 04.0**	**+0.8**
KLV	**Kalavryta, Ach**	**4.80**	**327**	*e*Pn		**Pn**	**Pn**	**02 44 04.0**	**+0.8**
VLS	**Valsamata**	**5.71**	**317**	*e*PN		**Pn**	**Pn**	**02 44 17.6**	**+2.0**
VLS	**Valsamata**	**5.71**	**317**	*e*Pn		**Pn**	**Pn**	**02 44 17.6**	**+2.0**
EIL	**Elat**	**9.15**	**116**	Pn		**Pn**	**Pn**	**02 45 00.1**	**-2.8**
	0.3nm,0.3s,baz=302,slow=9.5,SNR=4.3								
GERES	**GERESS Array B**	**17.18**	**333**	P		**P**	**P**	**02 46 52.4**	**0.0**
	0.2nm,0.3s,baz=144,slow=11,SNR=8.9								
TORD	**Torodi Ar. Bea**	**30.02**	**232**	P		**P**	**P**	**02 48 59.8**	**+0.1**
	0.5nm,0.8s,baz=29,slow=8.5,SNR=4

	9.4nm,0.5s,baz=94,slow=10,SNR=21						
STKA	**Stephens Creek**	**35.41**	**248**	P	P	03 28 57.7	-0.1
	1.8nm,0.5s,baz=95,slow=11,SNR=13						
ASAR	**Alice Springs**	**42.73**	**260**	P	P	03 29 56.8	0.0
	0.5nm,0.3s,baz=94,slow=7.2,SNR=12						
WRA	**Warramunga Arr**	**43.09**	**266**	P	P	03 29 59.6	0.0
	3.4nm,0.5s,baz=96,slow=8.4,SNR=99						
VNDA	**Vanda**	**54.59**	**185**	P	P	03 31 23.8	+0.4
	0.9nm,0.8s,baz=58,slow=8.2,SNR=4.2						
BRTR	**Keskin Array B**	**148.02**	**308**	PKPbc	PKPbc	03 41 30.1	-0.2
	0.8nm,0.7s,baz=127,slow=3.8,SNR=5.5						
TORD	**Torodi Ar. Bea**	**169.42**	**185**	PKPab	PKPab	03 43 06.8	-1.5
	0.8nm,1.2s,baz=194,slow=2.6,SNR=4.1						

DHMR 07 03:39:38.5±4.0, 14°.33N×51°.12E, h2km±165km, ML3.5, 1D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MUKL	**Al Mukalla**	**2.03**	**274**	*i* P	Pn	03 40 14.6	+0.9
MUKL				*i* S	Sg	03 40 43.1	-0.6
MUKL				AML	AML	03 40 45.2	
	comp=N,421nm,0.3s						
BDHA	**Al Bayda'**	**5.40**	**267**	*i* P	Pn	03 41 02.5	+2.0
BDHA				*e*		03 41 02.6	
	baz=122,slow=16						
BDHA				*i* S	Sn	03 42 07.6	+4.0
LBOS		**5.72**	**266**	*i* P	Pn	03 41 06.7	+1.8
LBOS				*i* S	Sn	03 42 15.5	+4.0

*IDC **07** 03:54:10.6±3.2, 35°.20N×140°.05E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.4/24, mbtmp3.6/2, Error ellipse: s-maj=101.2km s-min=23.7km az=60.0*
*ISCJB **07** 03:54:15.6±0.6, 35°.37N±0°.04×140°.14E±0°.05, h61km±5km, mb3.6/2, Error ellipse: s-maj=7.7km s-min=4.8km az=142.1*
*JMA **07** 03:54:15.9±0.1, 35°.43N×140°.14E, h57km±2km, M3.0*
JMA Felt I J1.

ISC 07 03:54:16.7±1.0, 35°.38N±0°.04×140°.13E±0°.05, h56km±7km, n16, σ1°.952/30, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.07**	**58**	P	**Pn**	**03 54 24.9**	**-0.2**
JCN				S	**Sn**	**03 54 31.7**	**+0.5**
KTR	**Katsuura**	**0.28**	**146**	P	**Pn**	**03 54 25.7**	**-0.5**
KTR				S	**Sn**	**03 54 32.7**	**-0.3**
TOK	**Tokyo**	**0.43**	**316**	P	**Pn**	**03 54 27.3**	**-0.2**
TOK				S	**Sn**	**03 54 35.3**	**0.0**
BSO3	**Boso 3**	**0.66**	**151**	P	**Pn**	**03 54 29.6**	**-0.3**
BSO3				S	**Sn**	**03 54 40.7**	**+1.2**
JOD2	**Odawara 2**	**0.86**	**263**	P	**Pn**	**03 54 32.5**	**-0.2**
JOD2				S	**Sn**	**03 54 44.2**	**-0.3**
JIM2	**Oshima 3**	**0.87**	**221**	P	**Pn**	**03 54 32.4**	**-0.5**
JIM2				S	**Sn**	**03 54 44.3**	**-0.5**
BSO1	**Boso 1**	**1.01**	**136**	P	**Pn**	**03 54 33.4**	**-0.7**
BSO1				S	**Sn**	**03 54 46.9**	**-0.2**
JAG	**Ashikaga**	**1.18**	**333**	P	**Pn**	**03 54 36.1**	**-0.8**
JAG				S	**Sn**	**03 54 51.2**	**-0.8**
JRY	**Ryogami san**	**1.18**	**303**	P	**Pn**	**03 54 36.8**	**-0.2**
JRY				S	**Sn**	**03 54 52.3**	**+0.1**
JIZS	**Izushimoda**	**1.22**	**238**	P	**Pn**	**03 54 37.0**	**-0.5**
JIZS				S	**Sn**	**03 54 52.3**	**-0.7**
JYN	**Shimob**	**1.30**	**276**	P	**Pn**	**03 54 38.5**	**-0.1**
JYN				S	**Sn**	**03 54 55.1**	**+0.1**
JKT	**Katashina**	**1.56**	**333**	P	**Pn**	**03 54 41.6**	**-0.5**
JKT				S	**Sn**	**03 55 00.7**	**-0.6**
MJAR	**Matsushiro Arr**	**1.94**	**307**	Pn	**Pn**	**03 54 47.1**	**-0.2**
	3.4nm,0.3s,baz=129,slow=13,SNR=28						
MJAR				Sn	**Sn**	**03 55 11.0**	**+0.5**
	7.2nm,0.3s,baz=99,slow=15,SNR=12						
MAT	**Matsushiro**	**1.94**	**307**	P	**Pn**	**03 54 47.7**	**+0.4**
MAT				S	**Sn**	**03 55 10.4**	**-0.2**
MKAR	**Makanchi Array**	**44.13**	**303**	P	**P**	**04 02 20.2**	**+0.6**
	0.6nm,0.6s,baz=86,slow=9.3,SNR=7.6						
WRA	**Warramunga Arr**	**55.29**	**187**	P	**P**	**04 03 44.7**	**+0.2**
	0.3nm,0.4s,baz=3.3,slow=7.7,SNR=8.7						

KRSC 07 04:14:56.0±0.1, 55°.35N×164°.45E, h20km±20km, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.88**	**99**	P	Pb	04 15 11.5	-1.1
BKI				S	Sb	04 15 23.8	-0.1
KBG	**Krutoberegovo**	**1.34**	**313**	P	Pn	04 15 18.2	-1.3
KBG				S	Sn	04 15 35.8	-0.9
MKZ	**Mys Kozlova**	**1.76**	**244**	P	Pn	04 15 26.3	+1.0
MKZ				S	Sn	04 15 47.6	+0.6
SMKR	**Semkarok**	**2.08**	**308**	P	Pn	04 15 30.5	+0.6
SMKR				S	Sn	04 15 55.9	+0.6
LGNR	**Loginova**	**2.25**	**291**	S	Sn	04 16 01.4	+1.5
SRKR	**Sorokina**	**2.26**	**307**	P	Pn	04 15 33.5	+1.2
KLY	**Klyuchi**	**2.35**	**296**	S	Sn	04 16 01.3	-0.3
KMNR	**Kamenistaya**	**2.43**	**281**	P	Pb	04 15 37.2	-1.9
TUMR	**Tumrok**	**2.46**	**270**	P	Pn	04 15 37.2	+2.1
KPT	**Kopyto**	**2.47**	**286**	P	Pn	04 15 37.4	+2.1
SRDR	**Sredinnyy**	**2.84**	**292**	P	Pn	04 15 42.4	+2.1
NLC	**Nalytchevo**	**3.71**	**236**	S	Sn	04 16 35.2	+0.2
SDLR	**Sedlovina**	**3.86**	**240**	P	Pn	04 15 56.8	+2.4
SDLR				S	Sn	04 16 40.2	+0.9
SMAR	**Somma**	**3.91**	**240**	P	Pn	04 15 57.0	+1.8
SMAR				S	Sn	04 16 41.2	+0.5
KRER	**Koryakskii**	**3.92**	**241**	P	Pn	04 15 57.4	+2.2
UGLR	**Uglovaya**	**3.93**	**239**	P	Pn	04 15 57.5	+2.2
UGLR				S	Sn	04 16 42.4	+1.4
KOK	**Koryaka**	**3.98**	**241**	P	Pn	04 15 57.3	+1.3
GNL	**Ganaly**	**4.14**	**249**	P	Pn	04 16 00.4	+2.2
GNL				S	Sn	04 16 48.2	+2.2
RUS	**Russkaya**	**4.57**	**233**	P	Pn	04 16 05.6	+1.7
RUS				S	Sn	04 16 55.6	-0.7
MTVR	**Mutnovka**	**4.69**	**235**	P	Pn	04 16 08.0	+2.3
MTVR				S	Sn	04 17 00.2	+0.6
ASAK	**Asacha**	**4.88**	**235**	P	Pn	04 16 11.3	+2.9
ASAK				S	Sn	04 17 06.2	+1.9

MEX 07 04:19:56.5±0.4, 15°.72N×98°.60W, h17km±16km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.81**	**34**	*i* P	Pb	04 20 09.6	-2.5
PNIG				*i* S	Sb	04 20 19.1	-3.7
CAIG	**El Cayaco**	**2.08**	**310**	*i* P	Pn	04 20 27.7	-2.9
CAIG				*i* S	Sn	04 20 51.5	-4.7
PLIG	**Platanillo**	**2.80**	**342**	*i* P	Pn	04 20 37.8	-2.9
PLIG				*i* S	Sn	04 21 10.6	-3.5
TPIG	**Tehuac#an**	**2.93**	**24**	*i* P	Pn	04 20 39.6	-3.0
TPIG				*i* S	Sn	04 21 13.8	-3.9
ARIG	**Puente Sto Nin**	**3.05**	**327**	*i* P	Pn	04 20 41.5	-2.5
ARIG				*i* S	Sn	04 21 17.1	-3.1
YAIG	**Yautepec**	**3.16**	**352**	*i* P	Pn	04 20 43.6	-2.1
YAIG				*i* S	Sn	04 21 20.2	-3.0

*IDC **07** 04:34:21.8±1.1, 55°.33N×163°.87E, h0km, mb3.4/4, mb1 3.7/6, mb1mx3.4/29, mbtmp3.4/6, ML3.3/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/32, Error ellipse: s-maj=30.3km s-min=15.9km az=3.0*
*KRSC **07** 04:34:23.5±0.5, 55°.03N×163°.95E, h33km±32km, ML3.9*

ISC 07 04:34:21.2±3.0, 55°.05N±0°.04×163°.91E±0°.03, h6km±21km, n40, σ1°.939/55, mb3.6/4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.20**	**82**	P	**Pb**	**04 34 45.0**	**+0.7**
BKI				S	**Sb**	**04 35 00.0**	**0.0**
MKZ	**Mys Kozlova**	**1.35**	**250**	P	**Pn**	**04 34 47.4**	**+0.7**
MKZ				S	**Sb**	**04 35 04.0**	**-0.6**
KBG	**Krutoberegovo**	**1.39**	**331**	P	**Pn**	**04 34 46.7**	**-0.5**
KBG				S	**Sb**	**04 35 04.1**	**-1.5**
ZLN	**Zelenaya**	**2.02**	**300**	P	**Pn**	**04 34 57.2**	**+1.3**
ZLN				S	**Sn**	**04 35 22.2**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**2.04**	**297**	P	**Pb**	**04 34 58.0**	**-0.7**
BZGR				S	**Sn**	**04 35 23.2**	**+1.2**
SMKR	**Semkarok**	**2.06**	**319**	P	**Pn**	**04 34 57.9**	**+1.3**
SMKR				S	**Sn**	**04 35 23.6**	**+0.9**
CIRR	**Tsirk**	**2.09**	**302**	S	**Sn**	**04 35 24.4**	**+1.0**
LGNR	**Loginova**	**2.10**	**301**	P	**Pn**	**04 34 57.4**	**+0.1**
LGNR				S	**Sn**	**04 35 22.6**	**-1.3**
BZMR	**Bezymyannaya**	**2.14**	**296**	P	**Pb**	**04 34 59.6**	**-0.9**
BZMR				S	**Sb**	**04 35 26.3**	**-1.0**
BZWR	**Bezymyannyi-We**	**2.15**	**297**	P	**Pb**	**04 34 59.9**	**-0.8**
BZWR				S	**Sb**	**04 35 26.9**	**-0.7**
BDR	**Baidarnaya**	**2.16**	**316**	P	**Pn**	**04 34 59.5**	**+1.7**
BDR				S	**Sb**	**04 35 26.5**	**-1.3**
TUMR	**Tumrok**	**2.17**	**278**	P	**Pn**	**04 34 59.9**	**+1.8**
KMNR	**Kamenistaya**	**2.21**	**290**	P	**Pb**	**04 35 00.8**	**-0.9**
KMNR				S	**Sn**	**04 35 27.7**	**+1.4**
KIRR	**Kirishev**	**2.22**	**296**	P	**Pb**	**04 35 01.4**	**-0.5**
KIRR				S	**Sb**	**04 35 28.8**	**-1.0**
KRSR	**Krestovskiy**	**2.23**	**303**	P	**Pn**	**04 35 00.2**	**+1.4**
KRSR				S	**Sn**	**04 35 27.6**	**+0.8**
SRKR	**Sorokina**	**2.23**	**317**	P	**Pn**	**04 35 00.4**	**+1.5**
SRKR				S	**Sn**	**04 35 27.7**	**+0.9**
KLY	**Klyuchi**	**2.24**	**306**	P	**Pn**	**04 34 59.1**	**+0.2**
KLY				S	**Sn**	**04 35 25.4**	**-1.4**
KPT	**Kopyto**	**2.29**	**295**	P	**Pb**	**04 35 02.0**	**-1.0**
KPT				S	**Sn**	**04 35 29.7**	**+1.4**
KOZ	**Kozyrevsk**	**2.51**	**295**	P	**Pn**	**04 35 04.4**	**+1.8**
KOZ				S	**Sn**	**04 35 34.8**	**+1.3**
SRDR	**Sredinnyy**	**2.69**	**300**	P	Pn	04 35 07.6	+2.4
SRDR				S	**Sn**	**04 35 39.5**	**+1.4**
ESO	**Esso**	**3.09**	**289**	P	**Pn**	**04 35 12.0**	**+1.4**
NLC	**Nalytchevo**	**3.28**	**237**	P	**Pn**	**04 35 13.7**	**+0.6**
NLC				S	**Sn**	**04 35 50.7**	**-1.7**
SDLR	**Sedlovina**	**3.44**	**241**	P	**Pn**	**04 35 17.7**	**+2.1**
SDLR				S	**Sn**	**04 35 56.2**	**-0.6**
SMAR	**Somma**	**3.50**	**241**	P	Pn	04 35 18.7	+2.4
SMAR				S	**Sn**	**04 35 58.5**	**+0.4**
KRER	**Koryakskii**	**3.50**	**242**	P	Pn	04 35 18.9	+2.5
UGLR	**Uglovaya**	**3.51**	**240**	P	**Pn**	**04 35 18.6**	**+2.1**
UGLR				S	**Sn**	**04 35 58.4**	**0.0**
AVH	**Avacha**	**3.53**	**242**	P	Pn	04 35 18.9	+2.3
AVH				S	**Sn**	**04 35 59.8**	**+1.1**
KOK	**Koryaka**	**3.56**	**243**	P	**Pn**	**04 35 19.0**	**+1.8**
GNL	**Ganaly**	**3.74**	**251**	P	Pn	04 35 22.2	+2.5
RUS	**Russkaya**	**4.14**	**233**	P	**Pn**	**04 35 26.4**	**+1.5**
RUS				S	**Sn**	**04 36 11.4**	**-2.2**
PETK	**Petropavlovsk-**	**4.14**	**245**	Pn	Pn	04 35 27.7	+2.7
	2.5nm,0.3s,baz=79,slow=18,SNR=11						
PETK				Sn	**Sn**	**04 36 15.5**	**+1.7**
	0.6nm,0.3s,baz=84,slow=21,SNR=3.4						
MTVR	**Mutnovka**	**4.26**	**235**	P	Pn	04 35 29.1	+2.3
MTVR				S	**Sn**	**04 36 16.1**	**-0.7**
ASAK	**Asacha**	**4.46**	**236**	P	Pn	04 35 32.4	+3.0
ASAK				S	**Sn**	**04 36 22.5**	**+0.9**
APC	**Apacha**	**4.52**	**245**	P	Pn	04 35 33.5	+3.4
FX1	**Attu Island--F**	**5.88**	**108**	Pn	Pn	04 35 50.6	+1.7
	2.0nm,0.3s,baz=243,slow=20,SNR=17						
FX1				Sn	**Sn**	**04 36 51.7**	**-4.8**
	1.9nm,0.3s,baz=153,slow=20,SNR=9.0						
ASAJ	**Asahikawa**	**17.55**	**240**	LR	LR	04 45 08.6	
	comp=Z,23nm,18.3s,baz=48,slow=37						
MJAR	**Matsushiro Arr**	**25.52**	**234**	P	P	04 39 53.3	+2.9
	0.7nm,0.5s,baz=29,slow=9.0,SNR=3.6						
ILAR	**Eielson Array**	**25.84**	**48**	P	**P**	**04 39 53.0**	**0.0**
	0.3nm,0.6s,baz=242,slow=7.3,SNR=4.3						
KURBB	**Kurchatov Arra**	**48.70**	**302**	P	**P**	**04 43 05.8**	**-0.2**
	0.3nm,0.4s,baz=57,slow=7.7,SNR=5.4						
TXAR	**Lajitas Array**	**67.83**	**70**	P	P	04 45 21.1	+0.9
	0.2nm,0.5s,baz=301,slow=5.5,SNR=6.6						

*CRAAG **07** 04:41:41.1, 35°.97N×1°.42E, Ml4.3*
*IDC **07** 04:41:42.9±2.1, 36°.06N×1°.17E, h0km, mb3.1/1, mb1 3.2/4, mb1mx3.0/31, mbtmp3.1/4, ML3.3/3, MS3.1/1, Ms1 3.1/1, ms1mx2.1/19, Error ellipse: s-maj=33.9km s-min=26.6km az=36.0*
*CSEM **07** 04:41:43.5±0.2, 35°.94N×1°.20E, h8km, ML3.2/11, Error ellipse: s-maj=6.1km s-min=4.2km az=3.0*
*ISCJB **07** 04:41:43.2±0.5, 36°.03N±0°.03×1°.21E±0°.03, h16km±6km, mb3.1/1, MS2.9/1, Error ellipse: s-maj=5.8km s-min=4.4km az=173.1*
*MDD **07** 04:41:43.9±0.5, 35°.97N×1°.30E, h4km±4km, mb4.1/12, Error ellipse: s-maj=5.9km s-min=4.4km az=134.0, PRXIMO*
*NEIC **07** 04:41:43.7±1.0, 35°.90N×1°.17E, h10km, MG4.1(MDD), Error ellipse: s-maj=13.0km s-min=6.6km az=162.0*

ISC 07 04:41:44.8±1.0, 35°.99N±0°.03×1°.26E±0°.03, h17km±7km, n139, σ1°.54/185, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EANR	**'Ain N'Sour**	**0.13**	**254**	P	**Pg**	**04 41 48.0**	**-0.7**
EANR	**'Ain N'Sour**	**0.13**	**254**	P	**Pg**	**04 41 48.0**	**-0.7**
EANR	**'Ain N'Sour**	**0.13**	**254**	P	**Pg**	**04 41 48.0**	**-0.7**
ECHF	**Ech Chlef**	**0.18**	**22**	P	**Pg**	**04 41 47.0**	**-2.3**
ECHF	**Ech Chlef**	**0.18**	**22**	P	**Pg**	**04 41 47.0**	**-2.3**
ECHA	**Ech Chlef**	**0.18**	**29**	P	**Pg**	**04 41 47.0**	**-2.4**
ECHA	**Ech Chlef**	**0.18**	**29**	P	**Pg**	**04 41 47.0**	**-2.4**
EBNR	**Beni Rached**	**0.38**	**36**	P	Pg	04 41 47.0	-5.6
EBNR	**Beni Rached**	**0.38**	**36**	P	Pg	04 41 47.0	-5.6
ETRT	**Tiaret**	**0.60**	**177**	P	**Pg**	**04 41 54.0**	**-2.6**
ETRT	**Tiaret**	**0.60**	**177**	P	**Pg**	**04 41 54.0**	**-2.6**
ETRT	**Tiaret**	**0.60**	**177**	P	**Pg**	**04 41 54.0**	**-2.6**
OJGS	**Djebel Guires**	**0.64**	**221**	P	**Pg**	**04 41 55.0**	**-2.3**
OJGS	**Djebel Guires**	**0.64**	**221**	P	**Pg**	**04 41 55.0**	**-2.3**
OJGS	**Djebel Guires**	**0.64**	**221**	P	**Pg**	**04 41 55.0**	**-2.3**
ODJA	**Bouhanifia**	**1.32**	**241**	P	Pn	04 41 56.0	-13
EMHD	**Djebel Mahouad**	**1.39**	**81**	P	Pn	04 41 54.0	-16
USTO	**Oran**	**1.49**	**261**	P	**Pb**	**04 42 12.0**	**0.0**
USTO	**Oran**	**1.49**	**261**	P	**Pb**	**04 42 12.0**	**0.0**
ABA	**Alger-Bouzarea**	**1.65**	**60**	P	**Pb**	**04 42 15.7**	**+1.0**
ABA	**Alger-Bouzarea**	**1.65**	**60**	P	**Pb**	**04 42 15.7**	**+1.0**
ABA	**Alger-Bouzarea**	**1.65**	**60**	P	**Pb**	**04 42 15.7**	**+1.0**
ADJB	**Djebel Djoaub**	**1.77**	**84**	P	**Pn**	**04 42 14.6**	**-0.2**
ADJB	**Djebel Djoaub**	**1.77**	**84**	P	**Pn**	**04 42 14.6**	**-0.2**
ADJB	**Djebel Djoaub**	**1.77**	**84**	P	**Pn**	**04 42 14.6**	**-0.2**
AKET	**Djebel Ketaf**	**2.13**	**88**	P	Pn	04 42 14.9	-4.8
AKET	**Djebel Ketaf**	**2.13**	**88**	P	Pn	04 42 14.9	-4.8
AKET	**Djebel Ketaf**	**2.13**	**88**	P	Pn	04 42 14.9	-4.8
ODZI	**Dziouia**	**2.14**	**252**	P	Pn	04 41 54.0	-26
EMUR	**La Murta**	**2.73**	**314**	Pn	**Pn**	**04 42 26.1**	**-1.7**
EMUR				Sn	**Sn**	**04 42 57.9**	**-2.6**
EMUR	**La Murta**	**2.73**	**314**	Pn	**Pn**	**04 42 26.1**	**-1.7**
	2.0nm,0.2s,SNR=7.9						
EMUR				Sn	**Sn**	**04 42 57.9**	**-2.6**
	1.5nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**2.73**	**314**	Pn	**Pn**	**04 42 26.1**	**-1.7**
	2.0nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**2.96**	**337**	Pn	**Pn**	**04 42 30.7**	**-0.4**
EBEN				Sn	**Sn**	**04 43 02.7**	**-3.5**
EBEN	**Beniarda**	**2.96**	**337**	Pn	**Pn**	**04 42 30.7**	**-0.4**
	0.3nm,0.1s,SNR=10.0						
EBEN				Sn	**Sn**	**04 43 02.7**	**-3.5**
	1.4nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**2.96**	**337**	Pn	**Pn**	**04 42 30.7**	**-0.4**
	0.3nm,0.1s,SNR=10.0						
ENIJ	**Nijar**	**2.96**	**290**	Pn	**Pn**	**04 42 29.8**	**-1.3**
ENIJ				Sn	**Sn**	**04 43 04.9**	**-1.3**
ENIJ	**Nijar**	**2.96**	**290**	Pn	**Pn**	**04 42 29.8**	**-1.3**
	7.4nm,0.3s,SNR=7.9						
ENIJ				Sn	**Sn**	**04 43 04.9**	**-1.3**
	9.7nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**2.96**	**290**	Pn	**Pn**	**04 42 29.8**	**-1.3**
	7.4nm,0.3s,SNR=7.9						
ENIJ				Sn	**Sn**	**04 43 04.9**	**-1.3**
	9.7nm,0.2s,SNR=7.9						
SET	**Setif**	**3.36**	**85**	P	Pn	04 42 41.0	+4.3
SET	**Setif**	**3.36**	**85**	P	Pn	04 42 41.0	+4.3
EBER	**Berja**	**3.46**	**286**	Pn	**Pn**	**04 42 36.5**	**-1.7**
EBER				Sn	**Sn**	**04 43 17.2**	**-1.7**
EBER	**Berja**	**3.46**	**286**	Pn	**Pn**	**04 42 36.5**	**-1.7**
	2.8nm,0.1s,SNR=42						
EBER				Sn	**Sn**	**04 43 17.2**	**-1.7**
	7.1nm,0.3s,SNR=7.9						
EBER	**Berja**	**3.46**	**286**	Pn	**Pn**	**04 42 36.5**	**-1.7**
	2.8nm,0.1s,SNR=42						
EBER				Sn	**Sn**	**04 43 17.2**	**-1.7**
	7.1nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.47**	**321**	Pn	**Pn**	**04 42 38.1**	**0.0**
ETOB				Sn	**Sn**	**04 43 18.8**	**-0.1**
ETOB	**Tobarra**	**3.47**	**321**	Pn	**Pn**	**04 42 38.1**	**0.0**
	5.2nm,0.1s,SNR=43						
ETOB				Sn	**Sn**	**04 43 18.8**	**-0.1**
	4.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.47**	**321**	Pn	**Pn**	**04 42 38.1**	**0.0**
	5.2nm,0.1s,SNR=43						
ETOB				Sn	**Sn**	**04 43 18.8**	**-0.1**
	4.2nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**3.58**	**302**	Pn	**Pn**	**04 42 40.1**	**+0.4**
EHUE				Sn	**Sn**	**04 43 21.7**	**0.0**
EHUE	**Huescar**	**3.58**	**302**	Pn	**Pn**	**04 42 40.1**	**+0.4**
	0.3nm,0.1s,SNR=7.9						
EHUE				Sn	**Sn**	**04 43 21.7**	**0.0**
	6.4nm,0.4s,SNR=7.9						
EHUE	**Huescar**	**3.58**	**302**	Pn	**Pn**	**04 42 40.1**	**+0.4**
	0.3nm,0.1s,SNR=7.9						
EHUE				Sn	**Sn**	**04 43 21.7**	**0.0**
	6.4nm,0.4s,SNR=7.9						
DFRA	**Djebel Bou Aff**	**3.77**	**80**	P	**Pn**	**04 42 42.0**	**-0.3**
DFRA	**Djebel Bou Aff**	**3.77**	**80**	P	**Pn**	**04 42 42.0**	**-0.3**
DFRA	**Djebel Bou Aff**	**3.77**	**80**	P	**Pn**	**04 42 42.0**	**-0.3**
EQES	**Quesada**	**3.91**	**299**	Pn	**Pn**	**04 42 44.6**	**+0.4**
EQES				Sn	**Sn**	**04 43 29.9**	**0.0**
EQES	**Quesada**	**3.91**	**299**	Pn	**Pn**	**04 42 44.6**	**+0.4**
	1.8nm,0.1s,SNR=22						
EQES				Sn	**Sn**	**04 43 29.9**	**0.0**
	5.8nm,0.3s,SNR=7.9						
EQES	**Quesada**	**3.91**	**299**	Pn	**Pn**	**04 42 44.6**	**+0.4**
	1.8nm,0.1s,SNR=22						
EQES				Sn	**Sn**	**04 43 29.9**	**0.0**
	5.8nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**3.97**	**289**	Pn	**Pn**	**04 42 44.9**	**-0.1**
	8.3nm,0.2s,SNR=20						
EQUE				Sn	**Sn**	**04 43 32.2**	**+0.9**
	0.8nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**3.97**	**289**	Pn	**Pn**	**04 42 44.9**	**-0.1**
	8.3nm,0.2s,SNR=20						
EQUE				Sn	**Sn**	**04 43 32.2**	**+0.9**
	0.8nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**3.97**	**18**	Pn	**Pn**	**04 42 44.5**	**-0.4**
ETOS				Sn	**Sn**	**04 43 27.1**	**-4.0**
ETOS	**Mallorca**	**3.97**	**18**	Pn	**Pn**	**04 42 44.5**	**-0.4**
	0.3nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**04 43 27.1**	**-4.0**
	0.6nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.97**	**18**	Pn	**Pn**	**04 42 44.5**	**-0.4**
	0.3nm,0.1s,SNR=7.9						
EGUA	**Guajares**	**3.98**	**284**	Pn	**Pn**	**04 42 43.1**	**-2.0**
EGUA				Sn	**Sn**	**04 43 30.9**	**-0.5**
EGUA	**Guajares**	**3.98**	**284**	Pn	**Pn**	**04 42 43.1**	**-2.0**
	1.0nm,0.1s,SNR=7.9						
EGUA				Sn	**Sn**	**04 43 30.9**	**-0.5**
	56nm,0.5s,SNR=7.9						
EGUA	**Guajares**	**3.98**	**284**	Pn	**Pn**	**04 42 43.1**	**-2.0**
	1.0nm,0.1s,SNR=7.9						
EGUA				Sn	**Sn**	**04 43 30.9**	**-0.5**
	56nm,0.5s,SNR=7.9						
EVIA	**Vianos**	**4.00**	**313**	Pn	**Pn**	**04 42 45.2**	**-0.2**
EVIA				Sn	**Sn**	**04 43 31.6**	**-0.4**
EVIA	**Vianos**	**4.00**	**313**	Pn	**Pn**	**04 42 45.2**	**-0.2**
	1.1nm,0.1s,SNR=7.9						
EVIA				Sn	**Sn**	**04 43 31.6**	**-0.4**
	16nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**4.00**	**313**	Pn	**Pn**	**04 42 45.2**	**-0.2**
	1.1nm,0.1s,SNR=7.9						
EVIA				Sn	**Sn**	**04 43 31.6**	**-0.4**
	16nm,0.3s,SNR=7.9						
ECOG	**Cogollos-Vega**	**4.09**	**290**	Pn	**Pn**	**04 42 46.9**	**+0.2**
ECOG				Sn	**Sn**	**04 43 33.2**	**-1.0**
ECOG	**Cogollos-Vega**	**4.09**	**290**	Pn	**Pn**	**04 42 46.8**	**+0.2**
	4.5nm,0.2s,SNR=7.9						
ECOG				Sn	**Sn**	**04 43 33.2**	**-1.0**
	0.5nm,0.1s,SNR=7.9						
ECOG	**Cogollos-Vega**	**4.09**	**290**	Pn	**Pn**	**04 42 46.8**	**+0.2**
	4.5nm,0.2s,SNR=7.9						
ECOG				Sn	**Sn**	**04 43 33.2**	**-1.0**
	0.5nm,0.1s,SNR=7.9						
ERON	**Agron**	**4.21**	**286**	Pn	**Pn**	**04 42 47.2**	**-1.1**
ERON				Sn	**Sn**	**04 43 37.1**	**0.0**
ERON	**Agron**	**4.21**	**286**	Pn	**Pn**	**04 42 47.2**	**-1.1**
	0.7nm,0.2s,SNR=7.9						
ERON				Sn	**Sn**	**04 43 37.1**	**0.0**

CSOR	**Sort**	**6.38**	**359**	Pn		**Pn**	**04 43 19.3**	**+1.1**
	2.2nm,0.2s,SNR=13							
KEST	**Kesra**	**6.57**	**90**	*e*Pn		**Pn**	**04 43 22.0**	**+1.2**
KEST	**Kesra**	**6.57**	**90**	Pn		**Pn**	**04 43 22.4**	**+1.6**
	0.2nm,0.3s,baz=277,slow=5.9,SNR=10.0							
KEST	**Kesra**	**6.57**	**90**	*e*Pn		**Pn**	**04 43 22.0**	**+1.2**
EMIN	**Mina Concepcio**	**6.60**	**288**	Pn		**Pn**	**04 43 19.0**	**-2.1**
EMIN	**Mina Concepcio**	**6.60**	**288**	Pn		**Pn**	**04 43 19.0**	**-2.1**
	0.1nm,0.1s,SNR=4.0							
EMIN	**Mina Concepcio**	**6.60**	**288**	Pn		**Pn**	**04 43 19.0**	**-2.1**
	0.1nm,0.1s,SNR=4.0							
PBAR	**Barrancos**	**6.98**	**291**	*e*Pn		**Pn**	**04 43 25.5**	**-0.8**
PBAR				*e*Sn		**Sn**	**04 44 42.8**	**-2.5**
PBAR	**Barrancos**	**6.98**	**291**	Pn		**Pn**	**04 43 25.5**	**-0.8**
PBAR				Sn		**Sn**	**04 44 42.8**	**-2.5**
PBAR	**Barrancos**	**6.98**	**291**	Pn		**Pn**	**04 43 25.5**	**-0.8**
PBAR				Sn		**Sn**	**04 44 42.8**	**-2.5**
EBAD	**Badajoz**	**7.14**	**295**	Pn		**Pn**	**04 43 26.7**	**-1.8**
EBAD				Sn		**Sn**	**04 44 45.8**	**-3.5**
EBAD	**Badajoz**	**7.14**	**295**	Pn		**Pn**	**04 43 26.7**	**-1.8**
	0.1nm,0.1s,SNR=7.9							
EBAD				Sn		**Sn**	**04 44 45.8**	**-3.5**
	0.7nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**7.14**	**295**	Pn		**Pn**	**04 43 26.7**	**-1.8**
	0.1nm,0.1s,SNR=7.9							
PVAQ	**Vaqueiros**	**7.35**	**284**	*e*Pn		**Pn**	**04 43 29.4**	**-1.9**
PVAQ	**Vaqueiros**	**7.35**	**284**	Pn		**Pn**	**04 43 29.4**	**-1.9**
PVAQ	**Vaqueiros**	**7.35**	**284**	Pn		**Pn**	**04 43 29.4**	**-1.9**
PBDV	**Barranco-do-Ve**	**7.50**	**282**	*e*Pn		**Pn**	**04 43 32.9**	**-0.5**
PBDV	**Barranco-do-Ve**	**7.50**	**282**	Pn		**Pn**	**04 43 32.9**	**-0.5**
PBDV	**Barranco-do-Ve**	**7.50**	**282**	Pn		**Pn**	**04 43 32.9**	**-0.5**
ELAN	**Lanestosa**	**8.09**	**335**	Pn		**Pn**	**04 43 43.5**	**+2.1**
	5.5nm,0.7s							
ELAN	**Lanestosa**	**8.09**	**335**	Pn		**Pn**	**04 43 43.5**	**+2.1**
	5.5nm,0.7s,SNR=6.1							
ELAN	**Lanestosa**	**8.09**	**335**	Pn		**Pn**	**04 43 43.5**	**+2.1**
	5.5nm,0.7s,SNR=6.1							
ECAL	**Calabor**	**8.61**	**316**	Pn		**Pn**	**04 43 49.1**	**+0.4**
	14nm,1.0s							
ECAL	**Calabor**	**8.61**	**316**	Pn		**Pn**	**04 43 49.1**	**+0.4**
	14nm,1.0s,SNR=6.8							
ECAL	**Calabor**	**8.61**	**316**	Pn		**Pn**	**04 43 49.1**	**+0.4**
	14nm,1.0s,SNR=6.8							
EARI	**Arriondas**	**8.84**	**328**	Pn		**Pn**	**04 43 53.5**	**+1.7**
EARI	**Arriondas**	**8.84**	**328**	Pn		**Pn**	**04 43 53.6**	**+1.7**
	SNR=7.9							
EARI	**Arriondas**	**8.84**	**328**	Pn		**Pn**	**04 43 53.5**	**+1.7**
TORD	**Torodi Ar. Bea**	**22.75**	**179**	P		**P**	**04 46 47.0**	**+0.8**
	0.6nm,0.7s,baz=353,slow=9.7,SNR=5.7							
TORD				LR		LR	04 56 11.8	
	comp=Z,44nm,19.7s,baz=230,slow=38							

IDC 07 04:49:32.0±6.7, 25°38N×112°84W, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.5/25, mbtmp3.1/4, ML3.5/3, Error ellipse: s-maj=104.5km s-min=39.6km az=14.0, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**9.05**	**62**	Pn	Pn	04 51 45.0	+0.8
	0.1nm,0.3s,baz=238,slow=12,SNR=5.3						
NVAR	**Mina Array Bea**	**13.81**	**342**	Pn	Pn	04 52 50.7	+1.2
	0.1nm,0.3s,baz=132,slow=16,SNR=3.4						
PDAR	**Pinedale Array**	**17.56**	**8**	P	P	04 53 39.7	0.0
	0.0nm,0.3s,baz=152,slow=9.7,SNR=2.8						
ILAR	**Eielson Array**	**45.06**	**340**	P	P	04 57 49.4	-0.1
	0.4nm,0.6s,baz=145,slow=7.1,SNR=4.2						

*IDC **07** 04:55:44.8±1.5, 34°06N×25°46E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.7/26, mbtmp3.8/9, ML3.9/1, Error ellipse: s-maj=33.9km s-min=22.7km az=152.0*
*ISCJB **07** 04:55:45.4±0.6, 34°01N±0°06×25°5E±0°1, h17km, mb3.6/8, Error ellipse: s-maj=13.7km s-min=7.3km az=164.7*
*HLW **07** 04:55:48.4, 33°96N×25°54E, h15km±11km, Md3.4, Ml3.0*
ISC 07 04:55:47.2±0.7, 33°99N±0°08×25°4E±0°1, h17km, n12, σ0s83/13, mb3.8/8, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMAT	**Matruh**	**3.21**	**154**	P	**Pn**	**04 56 36.8**	**-0.2**
	baz=154						
HMAT				AMP		04 57 00.0	
	comp=E,50μm,0.7s,logA/T=4.9,baz=154						
HMAT				S	**Sn**	**04 57 13.9**	**-0.9**
	baz=154						
SWA2		**4.73**	**180**	P	**Pn**	**04 56 58.5**	**+0.6**
	baz=181						
SWA2				AMP		04 57 00.0	
	comp=N,50μm,0.5s,logA/T=5.0,baz=181						
BRTR	**Keskin Array B**	**8.71**	**47**	Pn	**Pn**	**04 57 54.1**	**+1.5**
	comp=N,0.1nm,0.3s,baz=192,slow=13,SNR=3.0						
GERES	**GERESS Array B**	**17.22**	**333**	P	**Pn**	**04 59 46.6**	**-0.3**
	comp=N,0.2nm,0.3s,baz=149,slow=14,SNR=7.5						
ESDC	**Sonseca Array**	**24.14**	**292**	P	**P**	**05 01 02.8**	**+0.4**
	comp=N,0.5nm,0.5s,baz=86,slow=8.6,SNR=3.6						
HFS	**Hagfors**	**27.26**	**347**	P	**P**	**05 01 30.3**	**0.0**
	comp=N,4.4nm,1.0s,baz=150,slow=12,SNR=2.8						
FINES	**FINESS Array B**	**27.47**	**1**	P	**P**	**05 01 31.7**	**-0.5**
	comp=N,1.7nm,0.9s,baz=155,slow=17,SNR=3.6						
TORD	**Torodi Ar. Bea**	**29.93**	**232**	P	**P**	**05 01 55.0**	**+0.5**
	comp=N,0.3nm,0.8s,baz=31,slow=7.8,SNR=4.0						
ARCES	**ARCESS Array B**	**35.59**	**0**	P	**P**	**05 02 42.2**	**-1.3**
	comp=N,1.2nm,0.8s,baz=178,slow=9.9,SNR=4.0						
MKAR	**Makanchi Array**	**44.24**	**56**	P	**P**	**05 03 55.8**	**+0.2**
	comp=N,0.5nm,0.6s,baz=272,slow=7.1,SNR=8.8						
ZALV	**Zalesovo Beam**	**45.66**	**45**	P	**P**	**05 04 05.9**	**-0.9**
	comp=N,0.4nm,0.4s,baz=297,slow=6.3,SNR=2.6						
SCHQ	**Schefferville**	**64.22**	**320**	P	**P**	**05 06 20.8**	**-0.2**
	comp=N,2.4nm,0.7s,baz=100,slow=6.1,SNR=5.3						

*ISCJB **07** 04:58:00.9±0.8, 53°0S±0°2×118°2W±0°3, h10km, mb3.9/8, MS3.9/15, Error ellipse: s-maj=27.4km s-min=17.7km az=39.9*
*IDC **07** 04:58:00.6±0.7, 52°98S×118°32W, h0km, mb3.9/8, mb1 4.2/8, mb1mx4.1/17, mbtmp3.9/8, MS3.8/15, Ms1 3.8/15, ms1mx3.7/24, Error ellipse: s-maj=27.5km s-min=20.1km az=145.0*
*NEIC **07** 04:58:02.0±0.5, 52°96S×118°26W, h10km, mb4.4/2, Error ellipse: s-maj=17.2km s-min=13.3km az=140.0*
ISC 07 04:58:02.1±0.7, 53°0S±0°1×118°2W±0°2, h10km, n41, σ0s70/29, mb4.2/8, MS3.9/15, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**32.42**	**330**	*e*LR	LR	05 13 00.1	
	242nm,27.5s,baz=159						
PLCA	**Paso Flores**	**34.20**	**89**	LR	LR	05 15 00.6	
	comp=Z,211nm,20.6s,baz=179,slow=30						
VNDA	**Vanda**	**36.84**	**201**	P	**P**	**05 05 10.4**	**+0.6**
VNDA	**Vanda**	**36.84**	**201**	P	**P**	**05 05 10.4**	**+0.6**
	1.1nm,0.9s,baz=96,slow=8.2,SNR=4.1						
VNDA				LR	LR	05 17 10.6	
	comp=Z,151nm,19.3s,baz=102,slow=31						
QSPA	**South Pole Qui**	**37.23**	**180**	*e*P	**P**	**05 05 14.5**	**+1.0**
	6.5nm,1.0s						
QSPA	**South Pole Qui**	**37.23**	**180**	P	**P**	**05 05 14.3**	**+0.8**
	5.5nm,1.0s,baz=118,slow=7.6,SNR=5.4						
CFAA	**Coronel Fontan**	**41.66**	**79**	LR	LR	05 18 37.7	
	comp=Z,36nm,21.0s,baz=240,slow=30						
PPT2	**Papeete2**	**42.95**	**313**	*e*LQ	LQ	05 15 49.6	
	298nm,26.0s						
PPT2				*e*LR	LR	05 17 45.5	
	122nm,25.2s						
PPT	**Papeete**	**42.97**	**313**	LR	LR	05 18 07.7	
	comp=Z,14nm,20.6s,baz=164,slow=28						
SNAA	**Sanae**	**47.67**	**157**	P	**P**	**05 06 37.7**	**-0.4**
SNAA	**Sanae**	**47.67**	**157**	P	**P**	**05 06 37.7**	**-0.4**
	0.4nm,0.9s,baz=252,slow=9.6,SNR=3.8						
LVC	**Limon Verde**	**48.03**	**70**	LR	LR	05 21 23.7	
	comp=Z,232nm,21.3s,baz=313,slow=29						
CPUP	**Villa Florida**	**52.03**	**84**	P	**P**	**05 07 11.3**	**-0.4**
CPUP	**Villa Florida**	**52.03**	**84**	P	**P**	**05 07 11.3**	**-0.4**
	3.5nm,0.7s,baz=228,slow=6.6,SNR=9.7						
CPUP				LR	LR	05 26 00.8	
	comp=Z,316nm,20.4s,baz=199,slow=32						
LPAZ	**La Paz**	**53.52**	**66**	*e*P	**P**	**05 07 23.6**	**+0.1**
	5.3nm,1.2s						
LPAZ	**La Paz**	**53.52**	**66**	P	**P**	**05 07 24.4**	**+0.8**
	4.5nm,1.1s,baz=208,slow=6.5,SNR=8.3						
LPAZ				LR	LR	05 24 44.0	
	comp=Z,84nm,21.8s,baz=201,slow=30						
SIV	**San Ignacio**	**57.76**	**73**	LR	LR	05 28 18.1	
	comp=Z,90nm,20.5s,slow=31						
MAW	**Mawson**	**59.75**	**180**	LR	LR	05 31 22.0	
	comp=Z,91nm,19.6s,baz=352,slow=34						
DZM	**Mont Dzumac**	**63.92**	**268**	*e*LR	LR	05 27 29.6	
	207nm,24.8s						
BDFB	**Brasilia**	**65.76**	**84**	LR	LR	05 34 23.5	
	comp=Z,144nm,20.6s,baz=197,slow=33						
STKA	**Stephens Creek**	**70.87**	**242**	LR	LR	05 36 06.9	
	comp=Z,80nm,18.0s,baz=25,slow=32						
ASAR	**Alice Springs**	**81.50**	**242**	P	**P**	**05 10 18.8**	**-0.9**
ASAR	**Alice Springs**	**81.50**	**242**	P	**P**	**05 10 18.8**	**-0.9**
	1.3nm,0.9s,baz=149,slow=4.9,SNR=9.4						
ASAR				LR	LR	05 41 10.7	
	comp=Z,110nm,20.2s,baz=89,slow=32						
NWAO	**Narrogin (SRO)**	**81.81**	**224**	LR	LR	05 36 39.4	
	comp=Z,104nm,20.6s,baz=17,slow=28						
TXAR	**Lajitas Array**	**82.93**	**13**	P	**P**	**05 10 28.1**	**+1.3**
TXAR	**Lajitas Array**	**82.93**	**13**	P	**P**	**05 10 28.1**	**+1.3**
	0.1nm,0.7s,baz=178,slow=6.3,SNR=2.6						
TXAR				LR	LR	05 37 08.7	
	comp=Z,31nm,19.3s,baz=90,slow=28						
WRA	**Warramunga Arr**	**84.28**	**244**	P	**P**	**05 10 33.7**	**-0.5**
WRA	**Warramunga Arr**	**84.28**	**244**	P	**P**	**05 10 33.7**	**-0.5**
	3.2nm,1.1s,baz=143,slow=4.2,SNR=9.5						
PDAR	**Pinedale Array**	**95.65**	**6**	LR	LR	05 46 47.6	
	comp=Z,59nm,20.4s,baz=241,slow=31						
GERES	**GERESS Array B**	**149.87**	**78**	PKPbc	**PKPbc**	**05 17 51.1**	**-0.6**
GERES	**GERESS Array B**	**149.87**	**78**	PKPbc	**PKPbc**	**05 17 51.1**	**-0.6**
	1.8nm,0.8s,baz=207,slow=2.7,SNR=11						
CLL	**Collm**	**150.48**	**73**	*e*PKPbc	**PKPbc**	**05 17 53.0**	**+0.1**
CLL				*i* pPKPbc	**PKPab**	**05 17 58.3**	**-1.3**
ULN	**Ulaanbaatar**	**151.08**	**278**	*e*PKPdf	**PKPbc**	**05 17 54.9**	**+0.2**
SONM	**Songino Array**	**151.46**	**278**	PKPbc	**PKPbc**	**05 17 54.8**	**-0.7**
SONM	**Songino Array**	**151.46**	**278**	PKPbc	**PKPbc**	**05 17 54.8**	**-0.7**
	1.3nm,0.8s,baz=121,slow=1.6,SNR=9.6						
BRTR	**Keskin Array B**	**156.68**	**113**	PKPab	**PKPab**	**05 18 26.1**	**-0.2**
BRTR	**Keskin Array B**	**156.68**	**113**	PKPab	**PKPab**	**05 18 26.1**	**-0.2**
	1.7nm,0.8s,baz=190,slow=6.2,SNR=6.5						
MKAR	**Makanchi Array**	**165.42**	**253**	PKPab	**PKPab**	**05 19 03.9**	**-0.3**
MKAR	**Makanchi Array**	**165.42**	**253**	PKPab	**PKPab**	**05 19 03.9**	**-0.3**
	1.3nm,1.0s,baz=116,slow=5.5,SNR=8.6						
ZALV	**Zalesovo Beam**	**166.24**	**283**	PKPab	**PKPab**	**05 19 07.7**	**+0.1**
ZALV	**Zalesovo Beam**	**166.24**	**283**	PKPab	**PKPab**	**05 19 07.7**	**+0.1**
	0.6nm,0.4s,baz=131,slow=4.4,SNR=3.2						

*ISCJB **07** 05:03:30.2±0.5, 38°87N±0°03×122°72W±0°05, h8km, Error ellipse: s-maj=6.4km s-min=4.5km az=153.1*
*NEIC **07** 05:03:30.3, 38°84N×122°80W, h3km, MW3.7(BRK), After NCEDC.*
NEIC Felt [IV] at Kelseyville. Also felt at Cloverdale, Geyserville, Healdsburg, Napa, Saint Helena, San Francisco, San Jose and Santa Rosa.
*IDC **07** 05:03:38.7±2.3, 39°15N×122°31W, h35km±24km, mb1 3.4/6, mb1mx3.2/31, mbtmp3.0/6, ML2.9/6, Error ellipse: s-maj=28.1km s-min=8.8km az=47.0*
ISC 07 05:03:30.3±0.9, 38°86N±0°04×122°84W±0°05, h8km, n25, σ1s22/30, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPS	**Hopland**	**0.23**	**305**	*e*Pg	**Pg**	**05 03 36.0**	**+1.1**
MCCM	**Marconi Confer**	**0.72**	**183**	*e*Pg	**Pg**	**05 03 44.3**	**+0.2**
KCPM	**Cahto Peak**	**1.01**	**325**	*e*Pg	**Pn**	**05 03 50.8**	**-0.1**
KIPM	**Iron Peak**	**1.07**	**332**	*e*Pg	**Pn**	**05 03 52.1**	**+0.3**
KIPM				*e*Sg	**Sg**	**05 04 04.0**	**-0.8**
SAC	**San Andreas**	**1.32**	**165**	*e*P	**Pn**	**05 03 55.0**	**0.0**
SAC				*e*S	**Sb**	**05 04 11.6**	**-0.8**
WDC	**Whiskeytown Da**	**1.73**	**7**	*e*Pn	**Pb**	**05 04 02.1**	**-0.2**
CMB	**Columbia Colle**	**2.09**	**113**	*e*Pn	**Pn**	**05 04 04.8**	**-0.9**
CMB				*e*Sn	**Sn**	**05 04 29.8**	**-2.2**
KHMM	**Horse Mountain**	**2.12**	**341**	Pn	Pg	05 04 15.6	+4.6
BEKR	**Beckworth**	**2.17**	**62**	*e*Pn	**Pn**	**05 04 07.6**	**+0.7**
BEKR				*e*Sn	**Sn**	**05 04 32.0**	**-2.0**
SAO	**San Andreas Ge**	**2.37**	**152**	*e*Pn	**Pn**	**05 04 08.8**	**-0.6**
KRMB	**Red Mountain**	**2.78**	**343**	*e*Pn	**Pb**	**05 04 18.9**	**-1.5**
YBH	**Yreka Blue Hor**	**2.87**	**2**	Pn	**Pb**	**05 04 20.2**	**-1.6**
YBH				Pg	**Pg**	**05 04 26.3**	**+1.0**
YBH	**Yreka Blue Hor**	**2.87**	**2**	Pn	**Pb**	**05 04 20.2**	**-1.6**
	0.1nm,0.3s,baz=176,slow=13,SNR=3.0						
YBH				Pg	**Pg**	**05 04 26.3**	**+1.0**
	1.1nm,0.3s,baz=183,slow=8.0,SNR=15						
NVAR	**Mina Array Bea**	**3.57**	**96**	Pn	**Pn**	**05 04 26.5**	**+0.3**
NVAR				Pg	**Pb**	**05 04 34.4**	**+0.5**
NVAR				Lg	Lg	05 05 22.9	
NVAR	**Mina Array Bea**	**3.57**	**96**	Pn	**Pn**	**05 04 26.5**	**+0.3**
	0.8nm,0.3s,baz=274,slow=14,SNR=19						
NVAR				Pg	**Pb**	**05 04 34.4**	**+0.5**
	3.4nm,0.3s,baz=268,slow=21,SNR=38						
NVAR				Lg	Lg	05 05 22.9	
	1.9nm,0.3s,baz=304,slow=30,SNR=4.5						
MOD	**Modoc**	**3.60**	**32**	*e*Pn	**Pb**	**05 04 32.5**	**-1.8**
HUMO	**Hull Mountain**	**3.74**	**359**	*e*Pn	**Pb**	**05 04 36.9**	**+0.3**
ISA	**Isabella**	**4.72**	**131**	*e*Pn	**Pn**	**05 04 42.5**	**+0.6**
ELK	**Elko**	**6.14**	**70**	Pn	**Pn**	**05 05 00.8**	**-0.8**
ELK	**Elko**	**6.14**	**70**	Pn	**Pn**	**05 05 00.8**	**-0.8**
	0.1nm,0.3s,baz=258,slow=15,SNR=3.3						
PFO	**Pinyon Flat Ob**	**7.35**	**134**	Pn	Pn	05 05 24.3	+6.2
PFO	**Pinyon Flat Ob**	**7.35**	**134**	Pn	Pn	05 05 24.3	+6.2
	0.2nm,0.3s,baz=317,slow=13,SNR=4.3						
MSU	**Marysvale**	**8.34**	**89**	*e*Pn	**Pn**	**05 05 31.0**	**-0.8**
	1.2nm,0.6s						
PDAR	**Pinedale Array**	**10.79**	**65**	Pn	**Pn**	**05 06 06.5**	**+1.2**
	0.1nm,0.3s,baz=249,slow=12,SNR=3.0						
TXAR	**Lajitas Array**	**18.47**	**115**	P	**Pn**	**05 07 50.1**	**+3.3**
	0.0nm,0.3s,baz=296,slow=9.3,SNR=9.6						

*ISCJB **07** 05:17:59.1±0.6, 22°26S±0°04×70°33W±0°08, h69km±7km, mb3.5/5, Error ellipse: s-maj=12.7km s-min=6.1km az=3.4*
*NEIC **07** 05:18:00.8, 22°22S×70°17W, h62km, MG4.4(GUC), After GUC.*
NEIC Felt [III] at Tocopilla.
*GUC **07** 05:18:00.8±1.1, 22°22S×70°17W, h62km±6km, ML4.4*
*IDC **07** 05:18:01.4±2.0, 22°43S×70°23W, h82km±18km, mb3.4/5, mb1 3.8/7, mb1mx3.6/18, mbtmp3.4/7, Error ellipse: s-maj=31.4km s-min=23.5km az=36.0*
ISC 07 05:17:58.6±1.0, 22°25S±0°04×70°36W±0°07, h56km±10km, n30, σ1s39/40, mb3.7/5, 8C-6D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB07	**Plate Boundary**	**0.68**	**40**	↓*i*P	**Pn**	**05 18 14.1**	**+1.5**
PB07				*i* S	**Sn**	**05 18 23.8**	**+1.0**
PB07	**Plate Boundary**	**0.68**	**40**	↓*i*P	**Pn**	**05 18 14.1**	**+1.5**
PB07				*i* S	**Sn**	**05 18 23.8**	**+1.0**
PB07				AML	AML	05 18 24.4	
	comp=N,32μm,0.1s						
PB04	**Plate Boundary**	**0.81**	**91**	↓*i*P	Pn	05 18 10.5	-3.5
PB04				*i* S	Sn	05 18 17.8	-7.4
PB04	**Plate Boundary**	**0.81**	**91**	↓*i*P	Pn	05 18 10.5	-3.5
PB04				*i* S	Sn	05 18 17.8	-7.4
PB04				AML	AML	05 18 19.0	
	comp=N,21μm,0.3s						
PB06	**Plate Boundary**	**0.86**	**122**	↑*i*P	**Pn**	**05 18 16.1**	**+1.2**
PB06				*i* S	**Sn**	**05 18 27.6**	**+1.0**
PB06	**Plate Boundary**	**0.86**	**122**	↑*i*P	**Pn**	**05 18 16.1**	**+1.2**
PB06				*i* S	**Sn**	**05 18 27.6**	**+1.0**
PB06				AML	AML	05 18 28.4	
	comp=N,21μm,0.4s						
PB09	**Plate Boundary**	**1.13**	**67**	↓*i*P	**Pn**	**05 18 19.9**	**+1.5**
PB09				*i* S	**Sn**	**05 18 34.3**	**+1.2**
PB09	**Plate Boundary**	**1.13**	**67**	↓*i*P	**Pn**	**05 18 19.9**	**+1.5**
PB09				*i* S	**Sn**	**05 18 34.3**	**+1.2**
PB09				AML	AML	05 18 34.7	
	comp=E,43μm,0.3s						
LVC	**Limon Verde**	**1.39**	**105**	*e*P	**Pn**	**05 18 23.2**	**+1.3**
LVC	**Limon Verde**	**1.39**	**105**	*e*P	**Pn**	**05 18 23.2**	**+1.3**
LVC	**Limon Verde**	**1.39**	**105**	P	**Pn**	**05 18 23.6**	**+1.7**
	comp=E,146nm,0.3s,baz=286,slow=12,SNR=13						
LVC				S	**Sn**	**05 18 40.5**	**+1.1**
	comp=E,558nm,0.3s,baz=197,slow=19,SNR=84						
ANCH	**Antofagasta**	**1.43**	**182**	P	**Pn**	**05 18 23.8**	**+1.5**
ANCH				S	**Sn**	**05 18 41.4**	**+1.5**
ANCH	**Antofagasta**	**1.43**	**182**	↑*i*P	**Pn**	**05 18 23.8**	**+1.5**
ANCH				*i* S	**Sn**	**05 18 41.4**	**+1.5**
PB01	**Plate Boundary**	**1.45**	**34**	↑*i*P	**Pn**	**05 18 23.9**	**+1.3**
PB01				*i* S	**Sn**	**05 18 41.4**	**+0.7**
PB01	**Plate Boundary**	**1.45**	**34**	↑*i*P	**Pn**	**05 18 23.9**	**+1.3**
PB01				*i* S	**Sn**	**05 18 41.4**	**+0.7**
PB01				AML	AML	05 18 42.6	
	comp=N,12μm,0.2s						
HMBC	**Humberstone**	**2.01**	**13**	↑*i*P	**Pn**	**05 18 31.1**	**+0.7**
HMBC				*i* S	**Sn**	**05 18 55.9**	**+1.4**
HMBC	**Humberstone**	**2.01**	**13**	↑*i*P	**Pn**	**05 18 31.1**	**+0.7**
HMBC				*i* S	**Sn**	**05 18 55.9**	**+1.4**
HMBC				AML	AML	05 19 02.6	
	comp=E,3μm,0.4s						
PSGC	**Pisagua**	**2.65**	**5**	P	**Pn**	**05 18 39.5**	**+0.4**
PSGC	**Pisagua**	**2.65**	**5**	↑*i*P	**Pn**	**05 18 39.5**	**+0.4**
PSGC				AML	AML	05 19 10.8	
	comp=N,1μm,0.4s						
LPAZ	**La Paz**	**6.29**	**20**	*e*Pn	**Pn**	**05 19 32.4**	**+2.9**
	comp=N,20nm,0.7s						
LPAZ	**La Paz**	**6.29**	**20**	P	Pn	05 19 32.7	+3.3
	comp=N,4.5nm,0.3s,baz=196,slow=5.5,SNR=109						
LCO	**Las Campanas**	**6.74**	**183**	*e*Pn	**Pn**	**05 19 33.4**	**-1.8**
	comp=N,22nm,0.4s						
CFAA	**Coronel Fontan**	**9.51**	**169**	P	**Pn**	**05 20 11.7**	**-1.2**
	comp=N,0.1nm,0.3s,baz=346,slow=14,SNR=14						
SIV	**San Ignacio**	**10.76**	**56**	P	**Pn**	**05 20 27.9**	**-2.2**
	comp=N,1.4nm,0.3s,baz=261,slow=12,SNR=25						
TXAR	**Lajitas Array**	**60.49**	**327**	P	**P**	**05 28 04.2**	**+1.1**
	comp=N,0.3nm,0.8s,baz=146,slow=8.6,SNR=4.0						
PDAR	**Pinedale Array**	**74.10**	**331**	P	**P**	**05 29 30.3**	**+1.2**
	comp=N,0.3nm,0.6s,baz=142,slow=7.5,SNR=2.9						
NVAR	**Mina Array Bea**	**75.27**	**323**	P	**P**	**05 29 37.8**	**+1.9**
	comp=N,0.6nm,0.7s,baz=162,slow=6.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**78.87**	**71**	P	**P**	**05 29 55.4**	**-1.0**
	comp=N,1.0nm,0.6s,baz=258,slow=5.5,SNR=13						
YKA	**Yellowknife Ar**	**91.45**	**341**	P	**P**	**05 30 58.5**	**+0.2**
	comp=N,0.5nm,0.5s,baz=148,slow=5.6,SNR=3.9						
MKAR	**Makanchi Array**	**147.03**	**35**	PKPbc	**PKPbc**	**05 37 35.0**	**-0.2**
	comp=N,1.6nm,0.8s,baz=309,slow=4.8,SNR=11						

*IDC **07** 05:26:30.8±0.7, 0°35S×132°74E, h0km, mb4.2/12, mb1 4.4/15, mb1mx4.3/26, mbtmp4.3/15, ML4.6/3, MS3.1/3, Ms1 3.1/3, ms1mx2.6/25, Error ellipse: s-maj=28.5km s-min=13.5km az=71.0*
*AUST **07** 05:26:30.3±2.5, 0°29S×132°59E, h2km, Error ellipse: s-maj=2.2km s-min=1.2km az=24.0*
*ISCJB **07** 05:26:34.2±0.4, 0°40S±0°05×132°74E±0°04, h33km, mb4.2/15, MS2.9/1, Error ellipse: s-maj=7.2km s-min=5.3km az=32.7*
*DJA **07** 05:26:35.5±3.4, 0°S±5°×13°3E±°, h23km±39km, M4.8/5, mb5.0/5, mB5.8/2, MLv4.7/5, Mw(mB)5.3/2*
*NEIC **07** 05:26:36.1±0.3, 0°40S×132°74E, h35km, mb4.4/6, Error ellipse: s-maj=9.9km s-min=5.5km az=64.0*
ISC 07 05:26:35.9±0.5, 0°46S±0°05×132°74E±0°06, h33km, n66, σ1s10/69, mb4.3/15, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.50**	**191**	P	**Pn**	**05 27 16.2**	**+2.0**
FAKI				S	**Sb**	**05 27 49.1**	**-1.3**
FAKI	**Fak Fak**	**2.50**	**191**	P	**Pn**	**05 27 15.9**	**+1.7**
	baz=2.6,SNR=149						
FAKI				S	**Sb**	**05 27 49.0**	**-1.5**
	baz=2.6,SNR=5.0						
BAKI	**Biak**	**3.45**	**102**	P	**Pn**	**05 27 27.4**	**+0.1**
BAKI				S	**Sn**	**05 28 07.5**	**+0.5**
GAMI	**Galela, Maluku**	**5.45**	**295**	P	**Pn**	**05 27 55.7**	**+0.9**
	107nm,0.6s,4μm0.4nm						
AAI	**Ambon**	**5.56**	**235**	P	**Pn**	**05 27 58.5**	**+2.1**
AAI	**Ambon**	**5.56**	**235**	P	**Pn**	**05 27 58.9**	**+2.5**
	baz=5.6,SNR=11						
NLAI	**Namlea**	**6.28**	**244**	P	**Pn**	**05 28 08.0**	**+1.8**
	75nm,0.6s,0.4nm						
GTOI	**Gorontalo**	**9.79**	**276**	P	**Pn**	**05 28 57.2**	**+2.8**
	52nm,1.0s						
KDU	**Kakadu**	**12.16**	**181**	P	**Pn**	**05 29 26.4**	**-0.4**
	baz=12,SNR=41						
KDU				S	**Sn**	**05 31 39.0**	**-2.3**
	baz=12,SNR=6.2						
MTN	**Manton Dam**	**12.41**	**187**	P	**Pn**	**05 29 30.0**	**-0.3**
	baz=13,SNR=40						
SPSI	**Sidrap Palu**	**13.42**	**255**	P	**Pn**	**05 29 45.9**	**+1.8**
KAPI	**Kappang**	**13.74**	**251**	Pn	**

KKAR	Karatay Array	70.37	317	*eP*		P		05 37 46.2	-0.5
	0.8nm,0.5s								
VNDA	Vanda	78.59	174	P		P		05 38 34.6	+0.8
VNDA	Vanda	78.59	174	P		P		05 38 34.6	+0.8
	1.0nm,0.8s,baz=332,slow=5.6,SNR=6.1								
ABKAR	Akbulak array	79.17	320	*eP*		P		05 38 36.6	-0.9
	9.6nm,0.7s								
AKTO	Aktyubinsk	80.65	321	P		P		05 38 44.0	-1.5
AKTO	Aktyubinsk	80.65	321	P		P		05 38 44.0	-1.5
	0.9nm,0.5s,baz=104,slow=5.4,SNR=3.6								
ILAR	Eielson Array	86.30	25	P		P		05 39 13.0	-1.2
ILAR	Eielson Array	86.30	25	P		P		05 39 13.0	-1.2
	0.3nm,0.6s,baz=263,slow=5.0,SNR=5.0								
TORD	Torodi Ar. Bea	129.90	287	PKP		PKPdf		05 45 42.4	-0.8
TORD	Torodi Ar. Bea	129.90	287	PKP		PKPdf		05 45 42.4	-0.8
	0.2nm,0.3s,baz=73,slow=2.1,SNR=3.1								
CPUP	Villa Florida	151.66	161	PKPbc		PKPbc		05 46 27.8	+0.1
CPUP	Villa Florida	151.66	161	PKPbc		PKPbc		05 46 27.8	+0.1
	1.8nm,0.7s,baz=225,slow=4.3,SNR=5.6								

DDA **07** *05:35:14.2,33.27N×24.71E,h20km,MD3.4*
ISCJB **07** *05:35:25.9±1.1,34.01N±0.03×25.67E±0.03,h4km±8km, mb4.0/25,MS3.3/1,Error ellipse: s-maj=5.0km s-min=3.6km az=139.3*
ATH **07** *05:35:26.4,33.95N×25.53E,h20km±4km,MD3.4/8*
IDC **07** *05:35:27.4±0.9,34.15N×25.62E,h0km,mb4.0/17, mb1 4.1/24,mb1mx4.0/34,mbtmp3.9/24,ML3.9/7,MS3.3/1, Ms1 3.3/1,ms1mx2.3/37,Error ellipse: s-maj=21.5km s-min=14.3km az=12.0*
CSEM **07** *05:35:28.1±0.2,34.03N×25.52E,h10km,mb4.2/12,Error ellipse: s-maj=6.1km s-min=3.2km az=51.0*
HLW **07** *05:35:28.2,34.26N×25.59E,h31km±17km,Md3.6,Ml3.8*
MOS **07** *05:35:30.1±1.1,34.10N×25.38E,h33km,mb4.3/19,Error ellipse: s-maj=12.7km s-min=6.6km az=73.4*
THE **07** *05:35:36.1,34.50N×25.36E,h16km±2km,ML3.4/1,Error ellipse: s-maj=2.3km s-min=0.6km az=325.0*

ISC 07 05:35:26.9±1.4,**34.06N**±0.04×**25.57E**±0.03,**h2**km±9km, **n161**,σ1**s23**/177,**mb4.0**/25,**6C-1D**,**Crete**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LAST	**Lasithi**	**1.10**	**356**	P		**Pb**	**05 35 48.9**	**+0.1**
LAST				S		**Sg**	**05 35 59.1**	**-3.2**
LAST	**Lasithi**	**1.10**	**356**	*e*PN		**Pb**	**05 35 48.9**	**+0.1**
LAST	**Lasithi**	**1.10**	**356**	P		**Pb**	**05 35 48.9**	**+0.1**
SIVA	**Sivas**	**1.14**	**327**	P		**Pb**	**05 35 49.2**	**-0.2**
SIVA				*e*SN		**Sn**	**05 36 06.8**	**+0.6**
SIVA	**Sivas**	**1.14**	**327**	*e*PN		**Pb**	**05 35 49.3**	**-0.2**
SIVA				*e*SN		**Sn**	**05 36 06.8**	**+0.6**
SIVA	**Sivas**	**1.14**	**327**	P		**Pb**	**05 35 49.2**	**-0.2**
SIVA				*e*Sn		**Sn**	**05 36 06.8**	**+0.6**
ZKR	**Zakros**	**1.18**	**27**	*e*PN		**Pg**	**05 35 50.9**	**+1.4**
ZKR				*e*SN		**Sn**	**05 36 08.9**	**+1.7**
ZKR	**Zakros**	**1.18**	**27**	*e*Pn		**Pg**	**05 35 50.9**	**+1.4**
ZKR				*e*Sn		**Sn**	**05 36 08.9**	**+1.7**
NPS	**Neapolis**	**1.20**	**2**	P		**Pg**	**05 35 50.9**	**+1.0**
NPS	**Neapolis**	**1.20**	**2**	*e*PN		**Pb**	**05 35 50.7**	**+0.3**
NPS	**Neapolis**	**1.20**	**2**	P		**Pg**	**05 35 50.9**	**+1.0**
IDI	**Anoyia**	**1.35**	**336**	P		**Pn**	**05 35 52.5**	**-0.3**
IDI	**Anoyia**	**1.35**	**336**	*e*PN		**Pn**	**05 35 52.5**	**-0.3**
IDI	**Anoyia**	**1.35**	**336**	P		**Pn**	**05 35 52.5**	**-0.3**
GVD	**Gavdhos**	**1.45**	**303**	*e*PN		**Pb**	**05 35 54.8**	**+0.2**
GVD				*e*SN		**Sg**	**05 36 14.0**	**+0.5**
GVD	**Gavdhos**	**1.45**	**303**	*e*Pn		**Pb**	**05 35 54.8**	**+0.2**
GVD				*e*Sn		**Sg**	**05 36 14.0**	**+0.5**
VAM	**Vamos**	**1.75**	**320**	*e*PN		**Pb**	**05 35 59.7**	**-0.1**
VAM	**Vamos**	**1.75**	**320**	*e*Pn		**Pb**	**05 35 59.7**	**-0.1**
KARP	**Karpathos**	**1.98**	**41**	P		**Pg**	**05 36 05.4**	**+0.6**
KARP				S		**Sb**	**05 36 28.1**	**-0.8**
KARP	**Karpathos**	**1.98**	**41**	*e*PN		**Pg**	**05 36 05.3**	**+0.5**
KARP	**Karpathos**	**1.98**	**41**	*e*Pn		**Pg**	**05 36 05.3**	**+0.5**
KARP				S		**Sb**	**05 36 28.1**	**-0.8**
SLUM		**2.58**	**187**	P		**Pn**	**05 36 10.2**	**+0.5**
APE	**Apeiranthos**	**3.00**	**359**	*e*PN		**Pn**	**05 36 17.3**	**+1.7**
APE				*e*SN		**Sb**	**05 36 55.6**	**-2.8**
APE	**Apeiranthos**	**3.00**	**359**	*e*PN		**Pn**	**05 36 17.0**	**+1.4**
APE	**Apeiranthos**	**3.00**	**359**	*e*Pn		**Pn**	**05 36 17.0**	**+1.4**
DAT	**Datca**	**3.13**	**31**	*e*PN		**Pn**	**05 36 17.7**	**+0.3**
HMAT	**Matruh**	**3.23**	**156**	P		**Pn**	**05 36 18.7**	**+0.1**
	baz=157							
HMAT				AMP			05 36 00.0	
	comp=E,380μm,0.6s,logA/T=5.8,baz=157							
HMAT				S		**Sn**	**05 36 57.4**	**-0.3**
	baz=157							
HMAT	**Matruh**	**3.23**	**156**	P		**Pn**	**05 36 18.7**	**+0.1**
HMAT				S		**Sn**	**05 36 57.3**	**-0.3**
BODT	**Bodrum**	**3.32**	**25**	*e*PN		**Pn**	**05 36 20.6**	**+0.7**
MLSB	**Milas**	**3.70**	**28**	*e*PN		**Pn**	**05 36 25.8**	**+0.7**
DALY	**Dalyan (Mu˘la**	**3.73**	**42**	*e*PN		**Pn**	**05 36 25.5**	**0.0**
YER	**Yerkesik**	**3.78**	**35**	*e*PN		**Pn**	**05 36 26.7**	**+0.4**
FETY	**Fethiye**	**3.85**	**47**	*e*PN		**Pn**	**05 36 26.9**	**-0.4**
AKAS	**Kas**	**3.96**	**56**	*i* P		**Pn**	**05 36 30.9**	**+2.1**
AKAS				*i* S		**Sb**	**05 37 23.0**	**-2.9**
AKAS	**Kas**	**3.96**	**56**	*i* P		**Pn**	**05 36 30.9**	**+2.1**
AYDN	**Tasoluk**	**4.05**	**27**	*i* P		**Pn**	**05 36 32.7**	**+2.6**
AYDN	**Tasoluk**	**4.05**	**27**	*i* P		**Pn**	**05 36 32.7**	**+2.6**
GOLH	**Golhisar**	**4.54**	**45**	*i* P		**Pn**	**05 36 39.7**	**+2.9**
GOLH	**Golhisar**	**4.54**	**45**	*i* P		**Pn**	**05 36 39.7**	**+2.9**
SWA2		**4.80**	**181**	P		**Pn**	**05 36 41.1**	**+0.8**
	baz=182							
SWA2		**4.80**	**181**	P		**Pn**	**05 36 41.1**	**+0.8**
ANTB	**Antalya**	**5.03**	**54**	*e*PN		**Pn**	**05 36 42.9**	**-0.4**
MANT	**Manisa**	**5.04**	**28**	*i* P		**Pn**	**05 36 45.1**	**+1.4**
MANT	**Manisa**	**5.04**	**28**	*i* P		**Pn**	**05 36 45.1**	**+1.4**
KULA	**Kula-Manisa**	**5.10**	**28**	*e*PN		**Pn**	**05 36 45.8**	**+1.3**
BCK	**Bucak**	**5.31**	**49**	*e*PN		**Pn**	**05 36 47.3**	**0.0**
KHL	**Karahalli**	**5.32**	**36**	*e*PN		**Pn**	**05 36 48.5**	**+1.0**
SUTC	**Sutluce-Ispart**	**5.58**	**51**	*e*PN		**Pn**	**05 36 51.1**	**0.0**
GAZI	**Gazipasa**	**5.94**	**67**	*i* P		**Pn**	**05 36 56.7**	**+0.8**
GAZI	**Gazipasa**	**5.94**	**67**	*i* P		**Pn**	**05 36 56.7**	**+0.8**
SHUT	**Suhut-Afyon**	**6.02**	**40**	*e*PN		**Pn**	**05 36 57.6**	**+0.5**
HDMB	**Hadim**	**6.34**	**61**	*e*PN		**Pn**	**05 37 00.5**	**-1.1**
AWBH		**6.39**	**153**	P		**Pn**	**05 37 02.9**	**+0.8**
	baz=153							
AWBH		**6.39**	**153**	P		**Pn**	**05 37 02.9**	**+0.8**
CSS	**Prodhromos**	**6.47**	**80**	*e*PN		**Pn**	**05 37 00.7**	**-2.5**
ERMK	**Ermenek**	**6.53**	**65**	*i* P		**Pn**	**05 37 06.7**	**+2.5**
ERMK	**Ermenek**	**6.53**	**65**	*i* P		**Pn**	**05 37 06.7**	**+2.5**
LFK	**Lefkose**	**6.67**	**77**	*e*PN		**Pn**	**05 37 03.6**	**-2.4**
KONT	**Konya--Tatoy**	**6.73**	**53**	*e*PN		**Pn**	**05 37 06.3**	**-0.5**
GLL	**Jalalah**	**6.87**	**129**	P		**Pn**	**05 37 09.2**	**+0.3**
	baz=130							
GLL	**Jalalah**	**6.87**	**129**	P		**Pn**	**05 37 09.1**	**+0.3**
LADK	**Ladik-KONYA**	**6.88**	**51**	*e*PN		**Pn**	**05 37 08.3**	**-0.6**
IKL	**Isikli**	**7.00**	**70**	*e*PN		**Pn**	**05 37 08.4**	**-1.9**
KIZT	**Kizilcal**	**7.00**	**45**	*e*PN		**Pn**	**05 37 10.4**	**-0.1**
EREN	**Erenkoy**	**7.23**	**76**	*e*PN		**Pn**	**05 37 11.1**	**-2.4**
AMAG	**Maghara**	**7.30**	**116**	P		**Pn**	**05 37 14.5**	**-0.2**
	baz=117							
AMAG	**Maghara**	**7.30**	**116**	P		**Pn**	**05 37 14.5**	**-0.2**
SUZ		**7.47**	**122**	P		**Pn**	**05 37 16.9**	**0.0**
	baz=123							
SUZ		**7.47**	**122**	P		**Pn**	**05 37 16.9**	**0.0**
RSH		**7.55**	**112**	P		**Pn**	**05 37 17.7**	**-0.3**
	baz=113							
RSH		**7.55**	**112**	P		**Pn**	**05 37 17.7**	**-0.3**
SULT	**Sultanhani-AKS**	**7.64**	**55**	*e*PN		**Pn**	**05 37 18.3**	**-1.0**
HNKL	**Nakhl**	**8.24**	**118**	P		**Pn**	**05 37 27.3**	**-0.3**
	baz=119							
HNKL	**Nakhl**	**8.24**	**118**	P		**Pn**	**05 37 27.3**	**-0.3**
MMAI	**Mount Meron Ar**	**8.28**	**94**	Pn		**Pn**	**05 37 27.9**	**-0.2**
	comp=E,2.9nm,0.3s,baz=277,slow=10.0,SNR=5.1							
MMAI				Sn		**Sn**	**05 39 00.5**	**-1.7**
	comp=E,3.9nm,0.3s,baz=250,slow=21,SNR=4.7							
KARA	**Karaisali**	**8.35**	**65**	*e*PN		**Pn**	**05 37 27.1**	**-2.0**
NIG	**Nigde**	**8.36**	**58**	*e*PN		**Pn**	**05 37 27.7**	**-1.6**
GRB	**Gharib**	**8.46**	**131**	P		**Pn**	**05 37 31.1**	**+0.6**
	baz=132							
GRB	**Gharib**	**8.46**	**131**	P		**Pn**	**05 37 31.1**	**+0.6**
BRTR	**Keskin Array B**	**8.59**	**46**	Pn		**Pn**	**05 37 32.2**	**-0.1**
	comp=E,0.3nm,0.3s,baz=225,slow=14,SNR=13							
HTY	**Hatay**	**8.90**	**74**	*e*PN		**Pn**	**05 37 33.8**	**-2.8**
KOZT	**Kozan**	**9.01**	**65**	*e*PN		**Pn**	**05 37 35.8**	**-2.2**
HKAT	**Jabal Katrina**	**9.07**	**125**	P		**Pn**	**05 37 39.3**	**+0.2**
	baz=126							
HKAT	**Jabal Katrina**	**9.07**	**125**	P		**Pn**	**05 37 39.3**	**+0.2**
EIL	**Elat**	**9.10**	**116**	Pn		**Pn**	**05 37 39.3**	**0.0**
	comp=E,2.0nm,0.3s,baz=312,slow=1.2,SNR=14							
EIL				Sn		**Sn**	**05 39 19.5**	**-2.8**
	comp=E,1.5nm,0.3s,baz=353,slow=16,SNR=3.5							
BARS	**Barje**	**9.22**	**343**	*e*Pn		**Pn**	**05 37 40.1**	**-0.9**
SARI	**SarD1z-Kayseri**	**9.78**	**61**	*e*PN		**Pn**	**05 37 46.6**	**-2.1**
BBLS	**Lazići**	**10.90**	**336**	*e*Pn		**Pn**	**05 38 02.3**	**-1.7**
MLR	**Muntele Rosu**	**11.42**	**1**	Pn		**Pn**	**05 38 12.4**	**+1.3**
	comp=E,0.0nm,0.3s,baz=185,slow=11,SNR=3.4							
MLR	**Muntele Rosu**	**11.42**	**1**	P		**Pn**	**05 38 12.4**	**+1.3**
KOLS	**Kolonicke sedl**	**15.06**	**352**	*e*P		**Pn**	**05 39 00.0**	**-0.7**
KOLS	**Kolonicke sedl**	**15.06**	**352**	*e*PN		**Pn**	**05 39 00.0**	**-0.7**
KOLS	**Kolonicke sedl**	**15.06**	**352**	*e*Pn		**Pn**	**05 39 00.0**	**-0.7**
STHS	**Stebnicka Huta**	**15.68**	**349**	*e*P		**Pn**	**05 39 10.6**	**+1.8**
STHS	**Stebnicka Huta**	**15.68**	**349**	*e*		**Pn**	**05 39 10.6**	**+1.8**
KBA	**Koelnbreinsper**	**15.95**	**328**	⇑*i*Pn		**Pn**	**05 39 11.8**	**-0.8**
	comp=E,6.6nm,0.6s							
ONI	**Oni**	**16.39**	**53**	P		**P**	**05 39 21.2**	**+0.1**
GNI	**Garni**	**16.45**	**63**	*i* P		**P**	**05 39 23.4**	**+1.6**
KIV	**Kislovodsk**	**16.54**	**48**	*e*P		**P**	**05 39 21.7**	**-1.1**
KIV				pmax		pmax		
	comp=Z,10.0nm,0.7s							
KIV	**Kislovodsk**	**16.54**	**48**	*e*P		**P**	**05 39 21.7**	**-1.1**
	comp=Z,10.0nm,0.7s							
KBZ	**Khabaz**	**16.56**	**49**	P		**P**	**05 39 22.8**	**-0.1**
KBZ	**Khabaz**	**16.56**	**49**	Pn		**P**	**05 39 22.8**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=254,slow=9.6,SNR=7.1							
KBZ	**Khabaz**	**16.56**	**49**	P		**P**	**05 39 22.8**	**-0.1**
VRAC	**Vranov**	**16.63**	**339**	Pn		**P**	**05 39 22.6**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=114,slow=13,SNR=3.3							
VRAC	**Vranov**	**16.63**	**339**	P		**P**	**05 39 22.6**	**-1.0**
	comp=Z,1.0nm,0.3s							
ZEI	**Tsey**	**16.77**	**53**	*e*P		**P**	**05 39 26.7**	**+1.3**
ZEI				pmax		pmax		
	comp=Z,24nm,1.2s							
ZEI	**Tsey**	**16.77**	**53**	*e*P		**P**	**05 39 26.7**	**+1.3**
	comp=Z,24nm,1.2s							
GERES	**GERESS Array B**	**17.21**	**333**	*e*P		**Pn**	**05 39 28.7**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=152,slow=15,SNR=22							
GERES	**GERESS Array B**	**17.21**	**333**	*e*P		**Pn**	**05 39 28.7**	**+0.2**
DGRG	**David-gareji**	**17.29**	**59**	P		**P**	**05 39 33.1**	**+2.1**
DGRG	**David-gareji**	**17.29**	**59**	P		**P**	**05 39 33.1**	**+2.1**
MBDF	**Montbardon**	**17.97**	**312**	*e*P		**P**	**05 39 39.2**	**+0.5**
	comp=Z,13nm,1.0s							
MBDF	**Montbardon**	**17.97**	**312**	*e*P		**P**	**05 39 39.2**	**+0.5**
	comp=Z,13nm,1.0s							
VSR	**Storozhevoye**	**19.80**	**26**	*e*P		**Pn**	**05 39 59.7**	**-0.2**
VSR				pmax		pmax		
	comp=N,10.0nm,0.7s							
VSR				pmax		pmax		
	comp=E,5.0nm,0.7s							
VSR				pmax		pmax		
	comp=Z,8.0nm,0.7s							
VSR	**Storozhevoye**	**19.80**	**26**	*e*P		**Pn**	**05 39 59.7**	**-0.2**
CDF	**Champ du Feu**	**19.80**	**322**	*e*P		**Pn**	**05 40 00.8**	**+0.7**
	comp=Z,11nm,0.9s							
CDF	**Champ du Feu**	**19.80**	**322**	*e*P		**Pn**	**05 40 00.8**	**+0.7**
	comp=Z,11nm,0.9s							
SSF	**Saint Saulge**	**21.12**	**315**	*e*P		**P**	**05 40 13.0**	**+0.2**
	comp=Z,7.3nm,0.7s							
SSF	**Saint Saulge**	**21.12**	**315**	*e*P		**P**	**05 40 13.0**	**+0.2**
	comp=Z,7.0nm,0.7s							
GIVF	**Givet**	**22.11**	**323**	*e*P		**P**	**05 40 25.2**	**+1.7**
GIVF	**Givet**	**22.11**	**323**	*e*P		**P**	**05 40 25.2**	**+1.7**
OBN	**Obninsk**	**22.41**	**17**	⇑*e*P		**P**	**05 40 25.8**	**-0.8**
OBN				pmax		pmax		
	comp=Z,10.0nm,0.5s							
OBN	**Obninsk**	**22.41**	**17**	*e*P		**P**	**05 40 25.8**	**-0.8**
	comp=Z,10.0nm,0.5s							
ESDC	**Sonseca Array**	**24.22**	**292**	P		**P**	**05 40 46.1**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=81,slow=7.7,SNR=3.4							
VSU	**Vasula**	**24.42**	**1**	⇑*i*P		**P**	**05 40 46.6**	**0.0**
VSU				*i* *PP		pP	05 40 59.5	+12
VSU				pmax		pmax		
	comp=Z,37nm,1.5s							
VSU	**Vasula**	**24.42**	**1**	*i* P		**P**	**05 40 46.6**	**0.0**
	comp=Z,37nm,1.5s							
HFS	**Hagfors**	**27.22**	**347**	P		**P**	**05 41 12.0**	**0.0**
	comp=Z,1.6nm,0.7s,baz=223,slow=7.7,SNR=2.9							
FINES	**FINESS Array B**	**27.40**	**1**	P		**P**	**05 41 12.6**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=168,slow=9.8,SNR=5.0							
NOA	**NORSAR Array B**	**28.55**	**345**	P		**P**	**05 41 23.0**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=148,slow=10,SNR=3.6							
AKTK	**Aktyubinsk**	**28.77**	**45**	P		**P**	**05 41 26.4**	**+0.5**
	comp=Z,2.0nm,0.8s							
AKTO	**Aktyubinsk**	**28.77**	**45**	P		**P**	**05 41 26.4**	**+0.5**
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.8s							
AKTO	**Aktyubinsk**	**28.77**	**45**	P		**P**	**05 41 26.4**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=261,slow=9.6,SNR=5.4							
EKA	**Eskdalemuir Ar**	**29.14**	**326**	P		**P**	**05 41 29.4**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=131,slow=10,SNR=3.5							
EKA	**Eskdalemuir Ar**	**29.14**	**326**	P		**P**	**05 41 29.4**	**+0.3**
	comp=Z,1.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**30.06**	**232**	P		**P**	**05 41 39.2**	**+1.6**
	comp=Z,0.7nm,0.6s,baz=37,slow=9.7,SNR=4.3							
ARCES	**ARCESS Array B**	**35.53**	**360**	P		**P**	**05 42 24.5**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=186,slow=8.2,SNR=6.2							
ARCES	**ARCESS Array B**	**35.53**	**360**	P		**P**	**05 42 24.5**	**-0.4**
	comp=Z,2.0nm,0.8s							
BRVK	**Borovoye**	**36.82**	**45**	*ce*P		**P**	**05 42 36.9**	**+0.8**
BRVK				pmax		pmax		
	comp=Z,4.0nm,1.2s							
BRVK	**Borovoye**	**36.82**	**45**	*e*P		**P**	**05 42 36.9**	**+0.8**
	comp=Z,4.0nm,1.2s							
AAK	**Ala-Archa**	**38.85**	**62**	⇑*e*P		**P**	**05 42 54.3**	**+0.6**
AAK				pmax		pmax		
	comp=Z,9.0nm,1.4s							
AAK	**Ala-Archa**	**38.85**	**62**	*e*P		**P**	**05 42 54.3**	**+0.6**
	comp=Z,9.0nm,1.4s							
MKAR	**Makanchi Array**	**44.11**	**56**	P		**P**	**05 43 37.4**	**+0.8**
MKAR				pmax		pmax		
	comp=Z,5.0nm,0.6s							
MKAR				MLR		MLR		
	comp=Z,37nm,18.4s							
MKAR	**Makanchi Array**	**44.11**	**56**	P		**P**	**05 43 37.4**	**+0.8**
	comp=Z,4.6nm,0.6s,baz=270,slow=6.7,SNR=33							
MKAR				LR		LR	06 03 27.5	
	comp=Z,37nm,18.4s,baz=147,slow=38							
MKAR	**Makanchi Array**	**44.11**	**56**	P		**P**	**05 43 37.4**	**+0.8**
	comp=Z,37nm,18.4s							
ZALV	**Zalesovo Beam**	**45.53**	**45**	*i* P		**P**	**05 43 48.0**	**+0.2**
ZALV				pmax		pmax		
	comp=Z,3.0nm,0.5s							
ZALV	**Zalesovo Beam**	**45.53**	**45**	P		**P**	**05 43 47.8**	**0.0**
	comp=Z,2.8nm,0.5s,baz=267,slow=9.1,SNR=11							
HVS	**Khovu-Aksy**	**51.12**	**49**	⇑*e*P		**P**	**05 44 30.9**	**-0.2**
HVS	**Khovu-Aksy**	**51.12**	**49**	*e*P		**P**	**05 44 30.9**	**-0.2**
ZAK	**Zakamensk**	**57.22**	**48**	*e*P		**P**	**05 45 17.2**	**+1.5**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.0s							
SONM	**Songino Array**	**59.93**	**50**	P		**P**	**05 45 35.5**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=286,slow=7.9,SNR=8.3							
TIXI	**Tiksi**	**62.08**	**20**	⇑*e*P		**P**	**05 45 48.3**	**-0.3**
TIXI				pmax		pmax		
	comp=Z,4.0nm,1.2s							
TIXI	**Tiksi**	**62.08**	**20**	*e*P		**P**	**05 45 48.3**	**-0.3**
	comp=Z,4.0nm,1.2s							
SCHQ	**Schefferville**	**64.24**	**320**	P		**P**	**05 46 04.3**	**+1.0**
	comp=Z,2.5nm,0.6s,baz=59,slow=6.5,SNR=11							
CMAR	**Chiang Mai Arr**	**66.37**	**83**	P		**P**	**05 46 17.5**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=309,slow=5.7,SNR=4.5							
CMAR	**Chiang Mai Arr**	**66.37**	**83**	P		**P**	**05 46 17.5**	**-0.1**
USRK	**Ussuriysk Arra**	**77.39**	**45**	P		**P**	**05 47 23.6**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=267,slow=4.8,SNR=5.9							
YKA	**Yellowknife Ar**	**78.60**	**342**	P		**P**	**05 47 29.5**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=32,slow=5.6,SNR=8.2							
YKA	**Yellowknife Ar**	**78.60**	**342**	P		**P**	**05 47 29.5**	**-0.3**
	comp=Z,1.0nm,0.6s							
KSRS	**Korea Array**	**78.69**	**52**	P		**P**	**05 47 30.9**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=299,slow=4.5,SNR=3.3							
ILAR	**Eielson Array**	**81.32**	**357**	P		**P**	**05 47 45.1**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=350,slow=3.6,SNR=8.9							
ILAR	**Eielson Array**	**81.32**	**357**	P		**P**	**05 47 45.1**	**+0.6**
	comp=Z,1.0nm,0.7s							

PRE 07 06:28:47.5±2.6,**25.32S**×**16.77E**,**h10**km,**ML4.7**,**Namibia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WIN	**Windhoek**	**2.76**	**6**	*e*P		Pn	06 29 34.3	+2.2
WIN				*e*S		Sn	06 30 06.0	+0.3
WIN				AML		AML	06 30 17.9	
	comp=Z,185nm,0.6s							
KOMG	**Komaggas**	**4.50**	**172**	*e*P		Pn	06 29 56.5	+0.7
KOMG				*e*S		Sn	06 30 44.9	-3.3
KOMG				AML		AML	06 31 13.4	
	comp=Z,245nm,0.6s							
TSUM	**Tsumeb**	**6.14**	**7**	*e*P		Pn	06 30 17.1	-1.4
TSUM				*e*S		Sn	06 31 25.3	-3.6
CVNA	**Calvinia**	**6.68**	**157**	*e*P		Pn	06 30 26.8	+0.9
CVNA				*e*S		Sn	06 31 40.0	-2.1
CVNA				AML		AML	06 32 16.2	
	comp=Z,127nm,0.8s							
SUR	**Sutherland**	**7.87**	**154**	*e*P		Pn	06 30 43.9	+1.6
SUR				*e*S		Sn	06 32 07.7	-4.1
SUR				AML		AML	06 32 56.2	
	comp=Z,55nm,0.5s							
SWZ	**Schweizer**	**7.90**	**105**	*e*P		Pn	06 30 44.5	+1.8
SWZ				*e*S		Sn	06 32 07.7	-4.7
SWZ				AML		AML	06 33 01.1	
	comp=Z,48nm,0.6s							
LBTB	**Lobatse**	**8.00**	**90**	*e*P		Pn	06 30 44.0	0.0
LBTB				*e*S		Sn	06 32 10.6	-4.2
LBTB				AML		AML	06 33 19.6	
	comp=Z,16nm,0.6s							
BOSA	**Boshof**	**8.25**	**115**	*e*P		Pn	06 30 48.1	+0.7
BOSA				*e*S		Sn	06 32 15.5	-5.3
BOSA				AML		AML	06 33 18.8	
	comp=Z,47nm,0.6s							
KSR	**Koster**	**9.16**	**95**	*e*P		Pn	06 31 02.5	+2.6
KSR				*e*S		Sn	06 32 39.5	-3.8
KSR				AML		AML	06 33 34.4	
	comp=Z,49nm,0.5s							
HVD	**Gariep Dam**	**9.33**	**126**	*e*S		Sn	06 32 42.9	-4.7
HVD				AML		AML	06 33 54.0	
	comp=Z,39nm,0.7s							
ELIM	**Elim**	**9.59**	**165**	*e*S		Sn	06 32 49.9	-3.8
ELIM				AML		AML	06 33 54.5	
	comp=Z,36nm,0.6s							
ERPM	**east rand prop**	**10.38**	**98**	*e*S		Sn	06 33 07.1	-6.3
ERPM				AML		AML	06 34 29.9	
	comp=Z,17nm,0.6s							
SLR	**Silverton**	**10.40**	**95**	*e*P		Pn	06 31 18.4	+1.4
SLR				*e*S		Sn	06 33 07.5	-6.3
SLR				AML		AML	06 34 23.9	
	comp=Z,30nm,0.6s							
SOE	**Somerset East**	**10.64**	**136**	*e*S		Sn	06 33 12.3	-7.2
SOE				AML		AML	06 34 28.2	
	comp=Z,35nm,0.7s							
KSD	**Kokstad**	**12.32**	**118**	*e*S		Sn	06 33 55.9	-5.1
KSD				AML		AML	06 35 21.5	
	comp=Z,19nm,0.6s							
POGA	**Pongola**	**13.46**	**102**	*e*S		Sn	06 34 23.9	-4.5
POGA				AML		AML	06 36 02.5	
	comp=Z

	baz=227							
YUS				S		Sg	06 44 33.3	+2.0
	baz=227							
WNT	**Mingjian**	**1.02**	**252**	*e*P		**Pg**	06 44 19.4	+1.5
	baz=248							
WNT				*e*S		**Sg**	06 44 33.8	+2.5
	baz=248							
TWY	**Chenhua**	**1.07**	**353**	*e*P		**Pg**	06 44 20.5	+1.6
	baz=352							
ALS	**Alishan**	**1.10**	**231**	⇑*i*P		**Pg**	06 44 20.1	+0.6
	baz=233							
ALS				*e*S		**Sg**	06 44 35.7	+1.7
	baz=233							
CHN5	**Tsauling**	**1.15**	**238**	P		**Pg**	06 44 21.5	+1.2
	baz=240							
CHN5				S		**Sg**	06 44 38.4	+3.1
	baz=240							
CHKT	**Chengkung**	**1.16**	**198**	*e*P		**Pb**	06 44 19.6	-0.3
	baz=185							
YOJ	**Yonaguni jima**	**1.18**	**77**	*i*P		**Pb**	06 44 20.3	-0.2
	baz=69							
YOJ				S		**Sg**	06 44 37.0	+0.7
	baz=69							
YOJ	**Yonaguni jima**	**1.18**	**77**	P		**Pb**	06 44 20.2	-0.2
YOJ				S		**Sg**	06 44 37.5	+1.1
WGK	**Gukeng**	**1.20**	**245**	*e*P		**Pg**	06 44 22.5	+1.2
	baz=229							
ELDTW	**Lidau**	**1.21**	**214**	*e*P		**Pn**	06 44 20.1	-0.8
	baz=215							
WTCT	**Ta-ch'eng**	**1.38**	**256**	*e*P		**Pg**	06 44 25.2	+0.5
	baz=257							
WTCT				*e*S		**Sg**	06 44 44.4	+1.7
	baz=257							
CHY	**Chiayi**	**1.40**	**240**	*e*P		**Pg**	06 44 25.5	+0.4
	baz=242							
WTP	**Ta-pu**	**1.41**	**228**	⇑P		**Pg**	06 44 24.8	-0.5
	baz=230							
WTP				*e*S		**Sg**	06 44 45.4	+1.7
	baz=230							
TWK	**Hsinying**	**1.48**	**231**	*e*P		**Pg**	06 44 26.2	-0.5
	baz=234							
TWK				*e*S		**Sg**	06 44 47.6	+1.6
	baz=234							
CHN1	**Nanshi**	**1.51**	**228**	*e*P		**Pg**	06 44 26.8	-0.4
	baz=231							
TWG	**Pinlang**	**1.51**	**204**	*e*P		**Pn**	06 44 23.4	-1.5
	baz=191							
CHN8	**Yiju**	**1.65**	**239**	*e*P		**Pg**	06 44 29.1	-0.6
	baz=242							
ECL	**Taimali**	**1.76**	**205**	*e*P		**Pb**	06 44 29.4	-0.8
	baz=193							
IRIF	**Iriomote-Funau**	**1.82**	**86**	P		**Pn**	06 44 29.3	+0.2
IRIF				*e*S		**Sb**	06 44 52.7	-1.2
HATJ	**Hateruma jima**	**1.89**	**94**	P		**Pn**	06 44 30.3	+0.2
HATJ				*e*S		**Sn**	06 44 54.1	+0.4
JKRS	**Kuro-shima**	**2.07**	**89**	P		**Pn**	06 44 33.3	+0.8
SCZT	**Fangliau**	**2.10**	**210**	*e*P		**Pb**	06 44 35.1	-1.0
	baz=196							
PNG	**Penghu**	**2.10**	**253**	*e*P		**Pb**	06 44 35.0	-1.2
	baz=256							
JIJ	**Ishigaki jima**	**2.19**	**85**	P		**Pn**	06 44 34.3	0.0
JIJ				S		**Sn**	06 45 01.3	0.0
JTJ	**Tarama**	**2.73**	**80**	P		**Pn**	06 44 42.7	+1.0
JTJ				*e*S		**Sn**	06 45 16.0	+1.5

TAP 07 06:44:19.6,24°21N×121°74E,h10km,ML3.6,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.10**	**358**	*i*P	Pg	06 44 22.3	0.0
	baz=2.0						
EHP				*i*S	Sg	06 44 24.6	+0.4
	baz=2.0						
TWD	**Chiawan**	**0.19**	**226**	P	Pg	06 44 23.6	0.0
	baz=226						
TWD				*i*S	Sg	06 44 26.9	+0.6
	baz=226						
ENA	**Nanau**	**0.22**	**359**	*i*P	Pg	06 44 24.4	+0.2
	baz=1.0						
ENA				S	Sg	06 44 27.6	+0.4
	baz=1.0						
HWA	**Hwalien**	**0.26**	**209**	*e*P	Pb	06 44 25.9	-0.5
	baz=218						
ESF	**Shoufeng Towns**	**0.40**	**213**	*e*P	Pg	06 44 28.1	+0.6
	baz=224						
NNS	**Nan Shan**	**0.41**	**304**	P	Pg	06 44 28.2	+0.4
	baz=304						
NNS				S	Sg	06 44 33.7	+0.3
	baz=304						
TWC	**Suao**	**0.41**	**14**	*e*P	Pg	06 44 27.9	+0.3
	baz=7.0						
TWC				*e*S	Sg	06 44 33.3	+0.3
	baz=7.0						
WHF	**Hehuan Shan**	**0.44**	**262**	P	Pg	06 44 28.5	-0.3
	baz=262						
WHF				S	Sg	06 44 35.0	-0.1
	baz=262						
ENTT	**Nioudou**	**0.46**	**339**	P	Pb	06 44 29.2	-0.5
	baz=340						
ENTT				S	Sg	06 44 35.5	+0.9
	baz=340						
ESL	**Shilin**	**0.49**	**216**	*e*P	Pg	06 44 28.9	-0.2
	baz=225						
TWE	**Neicheng**	**0.51**	**352**	*i*P	Pg	06 44 30.1	+0.5
	baz=353						
TWE				*e*S	Sg	06 44 36.3	-0.1
	baz=353						
TWT	**Tachien**	**0.52**	**275**	*e*P	Pb	06 44 31.8	+0.8
	baz=275						
TWT				*e*S	Sb	06 44 38.2	-0.6
	baz=275						
NSK	**Sanguang**	**0.58**	**323**	*i*P	Pg	06 44 31.4	+0.4
	baz=323						
NSK				*i*S	Sg	06 44 39.3	+0.5
	baz=323						
TWB1	**Santiao Chiao**	**0.82**	**16**	*e*P	Pn	06 44 37.6	+0.4
	baz=8.0						
TWB1				*e*S	Sg	06 44 46.3	0.0
	baz=8.0						
NWF	**Wu-fen Shan**	**0.86**	**2**	*e*P	Pn	06 44 37.5	-0.3
	baz=353						
NWF				*e*S	Sg	06 44 47.7	+0.2
	baz=353						
NCU	**National Centr**	**0.91**	**326**	*e*P	Pn	06 44 38.7	+0.3
	baz=321						
NSY	**Sanyi**	**0.92**	**283**	*e*P	Pn	06 44 39.2	+0.7
	baz=283						
TCU	**Taichung**	**0.98**	**267**	*e*P	Pn	06 44 40.7	+1.4
	baz=267						

JMA ***07*** *06:59:00.9±0.1,24°.50N×122°.90E,h61km±1km,M2.5*
TAP ***07*** *06:59:00.8,24°.38N×122°.87E,h65km±1km,ML3.3,C*
ISCJB ***07*** *06:59:01.1±0.5,24°.32N±0°.04×122°.88E±0°.02,h55km±9km, Error ellipse: s-maj=6.4km s-min=3.1km az=-2.5*

ISC 07 06:59:01.5±1.3,24°.31N±0°.05×122°.88E±0°.03,h54km±12km, n34,σ0§83/67,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.19**	**39**	P	**Pn**	**06 59 10.1**	**-0.1**
YOJ				S	**Sn**	**06 59 16.8**	**+0.4**
IRIF	**Iriomote-Funau**	**0.78**	**88**	P	**Pn**	**06 59 16.1**	**-0.2**
IRIF				S	**Sn**	**06 59 27.6**	**+0.4**
HATJ	**Hateruma jima**	**0.88**	**107**	P	**Pn**	**06 59 18.3**	**+0.6**
HATJ				S	**Sn**	**06 59 31.0**	**+1.3**
TWC	**Suao**	**0.98**	**288**	*i*P	**Pn**	**06 59 18.5**	**-0.6**
	baz=284						
TWC				S	**Sn**	**06 59 31.1**	**-1.0**
	baz=284						
JKRS	**Kuro-shima**	**1.03**	**94**	P	**Pn**	**06 59 19.9**	**+0.2**
JKRS				S	**Sn**	**06 59 34.2**	**+1.0**
ENA	**Nanau**	**1.04**	**277**	P	**Pn**	**06 59 19.9**	**0.0**
	baz=281						
ENA				*e*S	**Sn**	**06 59 33.8**	**+0.2**
	baz=281						
TWB1	**Santiao Chiao**	**1.07**	**311**	*e*P	**Pn**	**06 59 19.6**	**-0.6**
	baz=308						
TWB1				*e*S	**Sn**	**06 59 33.1**	**-1.0**
	baz=308						
JIJ	**Ishigaki jima**	**1.15**	**87**	P	**Pn**	**06 59 20.9**	**-0.4**
JIJ				S	**Sn**	**06 59 35.4**	**-0.7**
TWE	**Neicheng**	**1.18**	**291**	P	**Pn**	**06 59 21.3**	**-0.4**
	baz=293						
TWE				S	**Sn**	**06 59 36.4**	**-0.3**
	baz=293						
TWD	**Chiawan**	**1.20**	**259**	*e*P	**Pn**	**06 59 22.3**	**+0.4**
	baz=247						
TWD				S	**Sn**	**06 59 36.9**	**-0.2**
	baz=247						
ENTT	**Nioudou**	**1.24**	**286**	*e*P	**Pn**	**06 59 22.8**	**+0.3**
	baz=290						
ENTT				S	**Sn**	**06 59 38.5**	**+0.2**
	baz=290						
NWF	**Wu-fen Shan**	**1.25**	**307**	*e*P	**Pn**	**06 59 22.2**	**-0.5**
	baz=305						
NWF				S	**Sn**	**06 59 37.6**	**-1.1**
	baz=305						
NNS	**Nan Shan**	**1.38**	**276**	*e*P	**Pn**	**06 59 24.5**	**-0.1**
	baz=273						
NNS				S	**Sn**	**06 59 41.9**	**+0.1**
	baz=273						
ESL	**Shilin**	**1.41**	**250**	*e*P	**Pn**	**06 59 24.6**	**-0.3**
	baz=241						
ESL				*e*S	**Sn**	**06 59 41.8**	**-0.6**
	baz=241						
NSK	**Sanguang**	**1.43**	**285**	P	**Pn**	**06 59 25.4**	**+0.2**
	baz=282						
NSK				S	**Sn**	**06 59 43.1**	**+0.1**
	baz=282						
WHF	**Hehuan Shan**	**1.48**	**264**	*e*P	**Pn**	**06 59 26.3**	**+0.1**
	baz=262						
WHF				*e*S	**Sn**	**06 59 44.7**	**0.0**
	baz=262						
TWT	**Tachien**	**1.56**	**268**	*e*P	**Pn**	**06 59 27.1**	**+0.1**
	baz=266						
TWT				*e*S	**Sn**	**06 59 46.7**	**+0.6**
	baz=266						
EHY	**Hungye**	**1.64**	**241**	*e*P	**Pn**	**06 59 27.8**	**-0.1**
	baz=249						
EHY				*e*S	**Sn**	**06 59 46.9**	**-0.9**
	baz=249						
JTJ	**Tarama**	**1.69**	**78**	P	**Pn**	**06 59 28.6**	**0.0**
JTJ				S	**Sn**	**06 59 48.7**	**-0.5**
TWF1	**Yuli**	**1.74**	**237**	*e*P	**Pn**	**06 59 29.2**	**0.0**
	baz=229						
TWF1				*e*S	**Sn**	**06 59 49.6**	**-0.7**
	baz=229						
NSTT	**Nanjuang**	**1.74**	**281**	*e*P	**Pn**	**06 59 29.6**	**+0.3**
	baz=279						
NSTT				*e*S	**Sn**	**06 59 50.6**	**+0.2**
	baz=279						
CHKT	**Chengkung**	**1.84**	**229**	*e*P	**Pn**	**06 59 31.5**	**+0.8**
	baz=221						
CHKT				*e*S	**Sn**	**06 59 51.3**	**-1.5**
	baz=221						
SMLT	**Sun Moon Lake**	**1.86**	**257**	*e*P	**Pn**	**06 59 31.9**	**+0.8**
	baz=256						
SMLT				S	**Sn**	**06 59 54.0**	**+0.5**
	baz=256						
TYC	**Yuchr**	**1.89**	**258**	*e*P	**Pn**	**06 59 32.3**	**+1.0**
	baz=250						
TYC				*e*S	**Sn**	**06 59 53.8**	**-0.3**
	baz=250						
TWQ1	**Liyutan**	**1.92**	**272**	*e*P	**Pn**	**06 59 32.5**	**+0.7**
	baz=281						
TWQ1				*e*S	**Sn**	**06 59 55.5**	**+0.6**
	baz=281						
YUS	**Yu-Shan**	**1.94**	**246**	*e*P	**Pn**	**06 59 33.3**	**+0.8**
	baz=244						
YUS				S	**Sn**	**06 59 55.8**	**-0.3**
	baz=244						
ELDTW	**Lidau**	**2.04**	**237**	*e*P	**Pn**	**06 59 32.8**	**-0.7**
	baz=236						
ALS	**Alishan**	**2.06**	**248**	*e*P	**Pn**	**06 59 35.0**	**+1.1**
	baz=247						
ALS				*e*S	**Sn**	**06 59 59.0**	**+0.3**
	baz=247						
CHN5	**Tsauling**	**2.14**	**251**	*e*P	**Pn**	**06 59 36.2**	**+1.4**
	baz=250						
CHN5				*e*S	**Sn**	**07 00 01.4**	**+1.2**
	baz=250						
TWG	**Pinlang**	**2.23**	**229**	*e*P	**Pn**	**06 59 36.0**	**+0.1**
	baz=237						
TWG				*e*S	**Sn**	**07 00 01.1**	**-1.1**
	baz=237						
WTP	**Ta-pu**	**2.33**	**243**	*e*P	**Pn**	**06 59 38.9**	**+1.5**
	baz=243						
WTP				*e*S	**Sn**	**07 00 06.4**	**+1.5**
	baz=243						
CHY	**Chiayi**	**2.39**	**251**	*e*P	**Pn**	**06 59 38.8**	**+0.7**
	baz=250						
CHY				*e*S	**Sn**	**07 00 07.4**	**+1.1**
	baz=250						
CHN1	**Nanshi**	**2.43**	**243**	*e*P	**Pn**	**06 59 40.1**	**+1.3**
	baz=243						
CHN1				*e*S	**Sn**	**07 00 08.5**	**+1.2**
	baz=243						
LAY	**Lan-yu**	**2.57**	**209**	*e*P	**Pn**	**06 59 39.0**	**-1.7**
	baz=208						
LAY				*e*S	**Sn**	**07 00 08.2**	**-2.6**
	baz=208						

NIED ***07*** *07:22:00,40°.10N×142°.40E,h38km,Mw3.6 Best double couple: M₀2.71000×10¹⁴ NP1:φs38.00000°,δ74.00000°, λ104.00000°. NP2:φs175.00000°,δ22.00000°,λ49.00000°.*

JMA 07 07:22:26.4±0.1,40°.14N×142°.44E,h36km±1km,M3.7,5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.49**	**246**	⇓P	Pn	07 22 36.9	+0.1
JTH				*e*S	Sn	07 22 44.4	+0.4
MIYJ	**Miyakonagasawa**	**0.74**	**221**	P	Pn	07 22 39.9	-0.4
MIYJ				*e*S	Sn	07 22 50.0	-0.3
JANG	**Nango**	**0.74**	**289**	⇓P	Pn	07 22 40.3	-0.1
JANG				*e*S	Sn	07 22 50.0	-0.5
JKZ	**Kuzumaki**	**0.87**	**260**	⇓P	Pn	07 22 42.6	+0.5
JKZ				*e*S	Sn	07 22 54.0	+0.4
JOM	**Ohasama**	**1.11**	**233**	⇓P	Pn	07 22 46.2	+0.9
JOM				*e*S	Sn	07 23 00.5	+1.1
OFUJ	**Ofunato**	**1.22**	**210**	P	Pn	07 22 47.6	+0.8
OFUJ				*e*S	Sn	07 23 03.1	+1.1
JTM	**Tenmabayashi**	**1.23**	**302**	⇓P	Pn	07 22 47.8	+0.8
JTM				*e*S	Sn	07 23 03.7	+1.3
JAH	**Hinai**	**1.38**	**273**	P	Pn	07 22 50.2	+1.1
JAH				*e*S	Sn	07 23 08.2	+2.0
JMK	**Ichinoseki**	**1.52**	**219**	P	Pn	07 22 51.8	+0.8
JMK				*e*S	Sn	07 23 11.3	+1.9
JRG	**Rokugo**	**1.58**	**242**	P	Pn	07 22 53.4	+1.6
JRG				*e*S	Sn	07 23 15.4	+4.4
MAT	**Matsushiro**	**4.90**	**224**	P	Pn	07 23 39.8	+2.3

IDC 07 07:26:07.9±3.9,6°.77S×154°.92E,h0km,mb3.8/6, mb1 3.9/6,mb1mx3.7/19,mbtmp3.8/6,Error ellipse: s-maj=120.4km s-min=29.5km az=114.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.88**	**235**	P	P	07 31 23.6	+0.2
	0.4nm,0.7s,baz=61,slow=9.9,SNR=4.5						
ASAR	**Alice Springs**	**26.27**	**228**	P	P	07 31 45.6	+0.4
	0.1nm,0.5s,baz=42,slow=9.1,SNR=2.7						
SONM	**Songino Array**	**69.10**	**327**	P	P	07 37 17.5	+1.5
	1.0nm,0.6s,baz=143,slow=6.9,SNR=4.6						
MKAR	**Makanchi Array**	**83.18**	**319**	P	P	07 38 36.4	+0.3
	2.7nm,0.7s,baz=104,slow=5.7,SNR=32						
ZALV	**Zalesovo Beam**	**83.95**	**326**	P	P	07 38 38.8	-1.1
	2.2nm,0.6s,baz=107,slow=5.0,SNR=5.1						
KURBB	**Kurchatov Arra**	**86.63**	**322**	P	P	07 38 52.0	-1.3
	0.4nm,0.3s,baz=109,slow=3.8,SNR=5.7						

NNC 07 07:48:07.7±8.3,53°.66N×87°.75E,h0km,mb3.6,mpv3.2, 3C-5D,Error ellipse: s-maj=71.8km s-min=50.7km az=77.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**6.44**	**245**	⇑Pn	Pn	07 49 42.1	-1.5
	2.3nm,0.6s						
KURBB				⇓Sn	Sn	07 51 02.5	+4.7
	2.7nm,0.5s						
KURBB				⇓Lg	Lg	07 51 30.1	
	7.3nm,0.9s						
MK31	**Makanchi Array**	**7.71**	**209**	⇑Pn	Pn	07 50 05.9	+4.6
	0.2nm,0.3s,baz=27,slow=14,SNR=9.6						
MK31				⇓Sn	Sn	07 51 34.3	+5.0
	0.5nm,0.6s,baz=21,slow=26,SNR=2.5						
MK31				⇑Lg	Lg	07 52 10.2	
	0.7nm,0.7s,baz=33,slow=28						
VOSK	**Vostochnaya**	**10.11**	**271**	⇓Pn	Pn	07 50 29.7	-4.3
	0.8nm,0.3s						
ZRNK	**Zerenda**	**11.24**	**274**	⇓Pn	Pn	07 50 45.2	-4.3
	0.5nm,0.4s						

IDC 07 07:49:06.7±3.5,5°.10N×93°.60E,h0km,mb3.4/3,mb1 3.7/4, mb1mx3.4/26,mbtmp3.5/4,ML3.5/1,Error ellipse: s-maj=148.1km s-min=26.4km az=54.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.78**	**113**	Pn	Pn	07 50 35.7	+1.7
	1.4nm,0.3s,baz=317,slow=15,SNR=4.4						
MKAR	**Makanchi Array**	**42.67**	**349**	P	P	07 57 05.1	0.0
	0.4nm,0.6s,baz=173,slow=7.6,SNR=2.7						
WRA	**Warramunga Arr**	**47.15**	**123**	P	P	07 57 40.8	-0.5
	0.5nm,0.7s,baz=304,slow=9.1,SNR=8.1						
ASAR	**Alice Springs**	**48.61**	**128**	P	P	07 57 52.4	-0.2
	0.2nm,0.3s,baz=298,slow=7.5,SNR=4.2						

IDC ***07*** *07:56:54.3±54.0,22°.38S×176°.23W,h0km,mb4.5/3, mb1 4.6/3,mb1mx3.9/19,mbtmp4.5/3,Error ellipse: s-maj=998.6km s-min=157.9km az=86.0*
AUST ***07*** *07:58:19.4±0.1,22°.70S×179°.40E,h585km±1km,Error ellipse: s-maj=5.2km s-min=2.4km az=9.0*

ISC 07 07:56:52.3±13.0,22°.7S±0°.8×17°6W±°,h10km,n11,σ0§57/9, mb4.6/3,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIDS	**Eidsvold**	**30.48**	**258**	P	P	08 03 06.5	+0.9
	baz=26,SNR=4.2						
MTSU	**Mount Surprise**	**37.73**	**269**	P	P	08 04 10.3	+1.7
	baz=33,SNR=7.1						
STKA	**Stephens Creek**	**38.91**	**247**	P	**P**	**08 04 18.4**	**0.0**
	1.5nm,0.4s,baz=89,slow=12,SNR=6.9						
STKA	**Stephens Creek**	**38.91**	**247**	P	**P**	**08 04 19.1**	**+0.8**
	baz=35,SNR=5.8						
ASAR	**Alice Springs**	**46.21**	**258**	P	**P**	**08 05 17.4**	**-0.4**
	3.2nm,0.4s,baz=94,slow=7.2,SNR=65						
WRA	**Warramunga Arr**	**46.52**	**264**	P	**P**	**08 05 19.6**	**-0.7**
	3.0nm,0.3s,baz=102,slow=8.3,SNR=310						
KDU	**Kakadu**	**50.22**	**272**	P	**P**	**08 05 49.2**	**+0.4**
	baz=46,SNR=8.9						
FORT	**Forrest**	**50.50**	**248**	P	**P**	**08 05 50.2**	**-0.6**
	baz=46,SNR=10						
KNRA	**Kununurra**	**52.73**	**267**	P	**P**	**08 06 08.0**	**+0.3**
	baz=48,SNR=5.8						
FITZ	**Fitzroy Crossi**	**54.95**	**263**	P	**P**	**08 06 24.0**	**+0.1**
	baz=50,SNR=6.6						
MORW	**Morawa**	**61.07**	**248**	P	**P**	**08 07 06.8**	**0.0**
	baz=57,SNR=4.2						

BJI ***07*** *07:59:43.8,57°.32N×34°.36W,h8km,mB5.0/17,mb4.8/27, Ms4.8/17,Ms7 4.3/15*
IDC ***07*** *07:59:45.4±0.4,56°.99N×33°.62W,h0km,mb4.2/29, mb1 4.4/33,mb1mx4.3/42,mbtmp4.2/33,ML3.2/4,MS4.2/38, Ms1 4.2/38,ms1mx4.2/43,Error ellipse: s-maj=14.4km s-min=9.2km az=7.0*
ISCJB ***07*** *07:59:46.7±0.2,57°.12N±0°.04×33°.71W±0°.04,h13km, mb4.5/98,MS4.2/48,Error ellipse: s-maj=5.6km s-min=3.1km az=12.5*
CSEM ***07*** *07:59:47.6±0.1,57°.11N×33°.73W,h10km,mb4.7/56, Mw5.1,Error ellipse: s-maj=7.5km s-min=3.8km az=15.0*
NEIC ***07*** *07:59:47.1±0.2,56°.98N×33°.58W,h10km,mb4.7/52,Error ellipse: s-maj=6.9km s-min=3.8km az=181.0*
GCMT ***07*** *07:59:49.4±0.2,57°.09N×33°.47W,h12km,MW5.1, Moment Tensor Solution. s33,c35; s89,c149; Moment tensor: Scale 10¹⁶Nm; Mrr-5.83±.14; Mθθ2.60±.16; Mφφ3.23±.12; Mrθ1.66±.52; Mθφ3.00±.11; Mφr-1.96±.52; Best double couple: M₀6.40000×10¹⁶ NP1:φs241.00000°, δ47.00000°,λ-61.00000°. NP2:φs22.00000°,δ50.00000°, λ-117.00000°. Principal axes: T 5.9400, Plg2.0000°, Azm131.0000°; N 0.8600, Plg21.0000°, Azm41.0000°; P -6.8100, Plg69.0000°, Azm226.0000°; Data Used: II CN G IU IC.*

ISC 07 07:59:47.5±0.3,57°.02N±0°.05×33°.79W±0°.04,h13km,n569, σ1§22/600,mb4.6/98,MS4.3/48,119C-124D,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**9.83**	**33**	*e*Pn	**Pn**	**08 02 09.8**	**+1.5**
BORG				Sn	**Sn**	**08 03 59.1**	**+0.8**
BORG	**Borgarnes**	**9.83**	**33**	Pn	**Pn**	**08 02 08.5**	**+0.2**
	0.4nm,0.3s,baz=234,slow=13,SNR=3.3						
BORG				Sn	**Sn**	**08 03 59.1**	**+0.8**
	0.2nm,0.3s,baz=248,slow=15,SNR=2.1						
BORG				LR	LR	08 05 00.8	
	comp=Z,3μm,19.9s,baz=151,slow=32						
BORG	**Borgarnes**	**9.83**	**33**	*e*Pn	**Pn**	**08 02 09.8**	**+1.5**
BORG				Sn	**Sn**	**08 03 59.2**	**+0.8**
SCO	**Scoresbysund**	**14.45**	**16**	*i*P	**P**	**08 03 19.5**	**+1.4**
	6.3nm,1.0s						
SCO	**Scoresbysund**	**14.45**	**16**	*i*P	**P**	**08 03 19.5**	**+1.4**
	6.3nm,1.0s,SNR=42						
SUMG	**Summit**	**15.74**	**355**	*e*Pn	**Pn**	**08 03 29.3**	**+0.4**
	113nm,2.0s						
SUMG	**Summit**	**15.74**	**355**	*i*P	**Pn**	**08 03 28.4**	**-0.6**
	6.1nm,1.0s						
SUMG							
	comp=Z,2μm,15.0s						
SUMG	**Summit**	**15.74**	**355**	*e*Pn	**Pn**	**08 03 29.3**	**+0.4**
	comp=Z,113nm,2.0s						
EKA	**Eskdalemuir Ar**	**17.07**	**83**	Pn	**Pn**	**08 03 44.5**	**-1.0**
EKA	**Eskdalemuir Ar**	**17.07**	**83**	Pn	**Pn**	**08 03 44.5**	**-1.0**
	baz=283,slow=11,SNR=8.3						
EKA	**Eskdalemuir Ar**	**17.07**	**83**	Pn	**Pn**	**08 03 44.5**	**-1.0**
FRB	**Frobisher Bay**	**18.26**	**306**	P	**Pn**	**08 03 59.5**	**-0.7**
FRB	**Frobisher Bay**	**18.26**	**306**	P	**Pn**	**08 03 59.5**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=103,slow=12,SNR=14						
FRB				LR	LR	08 09 56.9	
	comp=Z,948nm,20.6s,baz=66,slow=33						
FRB	**Frobisher Bay**	**18.26**	**306**	P	**Pn**	**08 03 59.5**	**-0.7**
SCHQ	**Schefferville**	**18.55**	**277**	*e*P	**P**	**08 04 03.3**	**-0.3**
	comp=Z,42nm,1.3s						
SCHQ	**Schefferville**	**18.55**	**277**	P	**P**	**08 04 03.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=78,slow=13,SNR=10.0						
SCHQ				LR	LR	08 09 58.6	
	comp=Z,1μm,19.6s,baz=84,slow=33						
ROSF	**Rostrenen**	**20.29**	**102**	*e*P	Pn	08 04 24.5	-0.2
	comp=Z,86nm,1.2s						
ROSF	**Rostrenen**	**20.29**	**102**	*e*P	Pn	08 04 24.5	-0.2
	comp=Z,86nm,1.2s						
DAG	**Danmarks Havn**	**20.57**	**10**	*i*P	Pn	08 04 29.4	+1.7
DAG							
	comp=Z,680nm,13.0s						
GRR	**Gorron**	**21.55**	**100**	*e*P	**P**	**08 04 39.5**	**+3.2**
	comp=Z,70nm,1.1s						
GRR	**Gorron**	**21.55**	**100**	*e*P	**P**	**08 04 39.5**	**+3.2**
	comp=Z,69nm,1.1s						
PGAV	**Gavieira, Arco**	**22.20**	**122**	*e*P	**P**	**08 04 46.5**	**+3.0**
PGAV				*e*LR	LR	08 09 54.6	
	comp=Z,2μm,20.0s						
PGAV	**Gavieira, Arco**	**22.20**	**122**	*e*P	**P**	**08 04 46.5**	**+3.0**
POLO	**Lamas de Olo**	**22.89**	**122**	*e*P	**P**	**08 04 51.3**	**+0.5**
POLO	**Lamas de Olo**	**22.89**	**122**	*e*P	**P**	**08 04 51.3**	**+0.5**
PBRG	**Braganca**	**23.05**	**120**	*e*P	**P**	**08 04 52.9**	**+0.6**
PBRG	**Braganca**	**23.05**	**120**	*e*P	**P**	**08 04 52.9**	**+0.6**

GIVF **Givet** 23.69 90 *e*P P 08 05 01.2 +2.5
comp=Z,28nm,1.0s
MTE **Manteigas** 23.78 123 *e*P P 08 05 00.7 +1.1
MTE *e*LR LR 08 10 39.7
comp=Z,1µm,18.0s
MTE **Manteigas** 23.78 123 *e*P P 08 05 00.7 +1.1
PMAFR **Mafra** 24.18 128 *e*P P 08 05 05.8 +2.4
PMAFR **Mafra** 24.18 128 *e*P P 08 05 05.8 +2.4
TCF **Toulx Ste Croi** 24.49 101 *e*P P 08 05 07.6 +1.4
TCF **Toulx Ste Croi** 24.49 101 *e*P P 08 05 07.6 +1.4
HFS **Hagfors** 24.53 63 P P 08 05 05.9 -0.5
HFS **Hagfors** 24.53 63 P P 08 05 05.9 -0.5
comp=Z,5.8nm,1.0s,baz=245,slow=10,SNR=3.9
HFS LR LR 08 13 36.9
comp=Z,320nm,18.9s,baz=280,slow=34
HFS **Hagfors** 24.53 63 P P 08 05 05.9 -0.5
PMTG **Montargil** 24.55 126 *e*P P 08 05 09.0 +2.3
PMTG **Montargil** 24.55 126 *e*P P 08 05 09.0 +2.3
PMRV **Marv??o** 24.63 124 *e*P P 08 05 05.6 -1.9
PMRV *e*LR LR 08 11 08.7
comp=Z,1µm,20.0s
SSF **Saint Saulge** 24.71 98 *e*P P 08 05 11.0 +2.9
SSF **Saint Saulge** 24.71 98 *e*P P 08 05 11.0 +2.9
AVF **Avril sur Loir** 24.79 98 *e*P P 08 05 10.9 +2.1
AVF **Avril sur Loir** 24.79 98 *e*P P 08 05 10.9 +2.1
PESTR **Estremoz** 25.00 125 *e*P P 08 05 13.0 +2.2
PESTR **Estremoz** 25.00 125 *e*P P 08 05 13.0 +2.2
EVOP **Sao Brissos** 25.04 127 *e*P P 08 05 10.7 -0.4
comp=Z,48nm,1.3s
EVO **Evora** 25.09 126 *e*P P 08 05 10.7 -0.9
comp=Z,48nm,1.3s
SMF **Signal de Mont** 25.15 98 *e*P P 08 05 13.4 +1.3
SMF **Signal de Mont** 25.15 98 *e*P P 08 05 13.4 +1.3
PNCL **Nicolau / Gran** 25.21 128 *e*P P 08 05 13.5 +0.8
PNCL **Nicolau / Gran** 25.21 128 *e*P P 08 05 13.5 +0.8
COP **Copenhagen** 25.27 73 *i* P P 08 05 15.7 +2.6
COP
comp=Z,230nm,25.0s
PBAR **Barrancos** 25.81 125 *e*P P 08 05 18.9 +0.8
PBAR **Barrancos** 25.81 125 *e*P P 08 05 18.9 +0.8
PCVE **Castro Verde** 25.82 128 *e*P P 08 05 19.2 +1.0
PCVE **Castro Verde** 25.82 128 *e*P P 08 05 19.2 +1.0
MORF **Marmelete** 25.83 129 *e*P P 08 05 19.9 +1.5
MORF **Marmelete** 25.83 129 *e*P P 08 05 19.9 +1.5
PFVI **Vila Bisbo** 25.91 129 *e*P P 08 05 21.5 +2.5
PFVI **Vila Bisbo** 25.91 129 *e*P P 08 05 21.5 +2.5
PAB **San Pablo** 25.95 120 *e*P P 08 05 17.1 -2.4
comp=Z,9.2nm,1.0s
CDF **Champ du Feu** 25.97 92 *e*P P 08 05 22.2 +2.6
comp=Z,25nm,1.1s
CDF **Champ du Feu** 25.97 92 *e*P P 08 05 22.2 +2.6
comp=Z,25nm,1.1s
ESDC **Sonseca Array** 26.03 119 P P 08 05 19.0 -1.2
ESDC **Sonseca Array** 26.03 119 P P 08 05 19.0 -1.2
comp=Z,0.5nm,0.4s,baz=312,slow=8.3,SNR=11
ESDC LR LR 08 13 36.5
comp=Z,906nm,19.2s,baz=310,slow=32
ESDC **Sonseca Array** 26.03 119 P P 08 05 19.0 -1.2
PVAQ **Vaqueiros** 26.15 127 *e*P P 08 05 22.4 +1.2
PVAQ *e*LR LR 08 11 49.3
comp=Z,2µm,22.0s
PVAQ **Vaqueiros** 26.15 127 *e*P P 08 05 22.4 +1.2
PBDV **Barranco-do-Ve** 26.20 128 *e*P P 08 05 24.4 +2.7
PBDV **Barranco-do-Ve** 26.20 128 *e*P P 08 05 24.4 +2.7
MTLF **Montolieu** 26.45 106 *e*P P 08 05 25.1 +1.2
comp=Z,25nm,1.1s
MTLF **Montolieu** 26.45 106 *e*P P 08 05 25.1 +1.2
comp=Z,25nm,1.1s
VIVF **Saint-Julien-l** 26.73 100 *e*P P 08 05 28.0 +1.5
comp=Z,46nm,1.4s
VIVF **Saint-Julien-l** 26.73 100 *e*P P 08 05 28.0 +1.5
comp=Z,45nm,1.4s
BSD **Bornholm Skovb** 26.80 73 *i* P P 08 05 29.2 +2.3
BSD
comp=Z,360nm,20.0s
BSD **Bornholm Skovb** 26.80 73 *e*P P 08 05 29.2 +2.3
CLL **Collm** 27.53 82 *e*P P 08 05 32.0 -1.5
CLL *e* 08 05 46.0
CLL *e*PP PnPn 08 06 18.0 -0.2
CLL *e*S S 08 10 13.0 -1.0
CLL *e* 08 10 50.0
CLL LV 08 15 00.0
comp=Z,700nm,21.0s
ARCES **ARCESS Array B** 28.13 40 P P 08 05 38.4 -0.3
ARCES **ARCESS Array B** 28.13 40 P P 08 05 38.4 -0.3
comp=Z,3.1nm,0.8s,baz=283,slow=7.9,SNR=3.8
ARCES LR LR 08 14 36.3
comp=Z,518nm,20.2s,baz=268,slow=32
ARCES **ARCESS Array B** 28.13 40 P P 08 05 38.4 -0.3
DAVOX **Davos/Dischmat** 28.35 92 LR LR 08 16 25.6
comp=Z,2µm,18.9s,baz=297,slow=35
RES **Resolute Bay** 28.69 331 LR LR 08 16 58.7
comp=Z,650nm,18.3s,baz=92,slow=36
PVCC **Panska Ves** 28.78 82 AMS AMS 08 17 10.0
comp=Z,800nm,15.0s
KHC **Kasperske Hory** 29.00 85 AMS AMS 08 16 30.0
comp=Z,600nm,16.1s
PRU **Pruhonice** 29.06 83 AMS AMS 08 16 20.0
comp=Z,600nm,21.6s
GERES **GERESS Array B** 29.23 86 P P 08 05 49.2 +0.4
GERES **GERESS Array B** 29.23 86 P P 08 05 49.3 +0.4
comp=Z,0.3nm,0.2s,baz=317,slow=8.1,SNR=2.0
GERES LR LR 08 16 58.1
comp=Z,443nm,18.1s,baz=298,slow=35
GERES **GERESS Array B** 29.23 86 P P 08 05 49.2 +0.4
UPC **Upice** 29.57 81 *e*P P 08 05 52.0 +0.3
DPC **Dobruska-Polom** 29.83 81 *e*P P 08 05 53.6 -0.4
TREC **Trest** 29.95 84 AMS AMS 08 17 30.0
comp=Z,700nm,16.1s
FINES **FINESS Array B** 29.99 56 P P 08 05 55.1 -0.2
FINES **FINESS Array B** 29.99 56 P P 08 05 55.1 -0.2
comp=Z,5.6nm,0.9s,baz=284,slow=7.7,SNR=5.2
FINES LR LR 08 16 52.5
comp=Z,156nm,21.4s,baz=180,slow=34
FINES **FINESS Array B** 29.99 56 P P 08 05 55.1 -0.2
SADO **Sadowa** 30.53 266 LR LR 08 17 00.7
comp=Z,1µm,19.0s,baz=13,slow=34
OKC **Ostrava-Krasne** 31.09 81 AMS AMS 08 18 50.0
comp=Z,700nm,17.9s
MDT **Midelt** 31.38 128 P P 08 06 07.9 -0.1
MDT **Midelt** 31.38 128 P P 08 06 07.9 -0.1
comp=Z,5.1nm,0.9s,baz=325,slow=8.1,SNR=6.7
MDT **Midelt** 31.38 128 P P 08 06 07.9 -0.1
VYHS **Vyhne** 32.23 82 *e*P P 08 06 14.8 -0.3
VYHS **Vyhne** 32.23 82 *e*P P 08 06 14.8 -0.3
KECS **Kecovo** 33.12 81 *e*P P 08 06 21.2 -1.7
KECS **Kecovo** 33.12 81 *e*P P 08 06 21.3 -1.7
KOLS **Kolonicke sedl** 33.83 79 *e*P P 08 06 29.2 +0.1
KOLS **Kolonicke sedl** 33.83 79 *e*P P 08 06 29.2 +0.1
COWI **Conover** 35.15 276 *e*P P 08 06 41.5 +0.9
comp=Z,12nm,0.9s
COWI **Conover** 35.15 276 *e*P P 08 06 41.5 +0.9
comp=Z,12nm,0.9s
EYMN **Ely** 35.30 280 *e*P P 08 06 42.0 +0.1
comp=Z,46nm,1.4s
EYMN **Ely** 35.30 280 *e*P P 08 06 42.0 +0.1
comp=Z,46nm,1.4s
KEST **Kesra** 35.76 108 *e*P P 08 06 45.3 -0.7
KEST **Kesra** 35.76 108 P P 08 06 45.2 -0.7
comp=Z,2.6nm,1.0s,baz=102,slow=0.6,SNR=6.7
KEST LR LR 08 19 26.7
comp=Z,172nm,20.1s,baz=200,slow=33
KEST **Kesra** 35.76 108 *e*P P 08 06 45.3 -0.7
BUR08 **Bucovina Ar. S** 36.17 79 *e*P P 08 06 49.5 +0.1
BUR08 **Bucovina Ar. S** 36.17 79 *e*P P 08 06 49.5 +0.1
ULM **Lac du Bonnet** 36.27 286 P P 08 06 52.4 +2.3
ULM **Lac du Bonnet** 36.27 286 P P 08 06 52.4 +2.3
comp=Z,4.9nm,0.7s,baz=46,slow=9.7,SNR=4.4
ULM LR LR 08 20 23.0
comp=Z,939nm,19.0s,baz=91,slow=34
ULM **Lac du Bonnet** 36.27 286 P P 08 06 52.4 +2.3
KIEV **Kiev** 36.49 72 *e*P P 08 06 50.1 -1.9
comp=Z,15nm,0.9s
KIEV **Kiev** 36.49 72 *e*P P 08 06 50.1 -1.9
comp=Z,15nm,0.9s
FFC **Flin Flon** 36.89 296 *e*P P 08 06 55.6 +0.2
comp=Z,8.9nm,1.1s
FFC **Flin Flon** 36.89 296 *e*P P 08 06 55.6 +0.2
comp=Z,8.9nm,1.1s
AGMN **Agassiz Nation** 37.42 284 *e*P P 08 07 01.3 +1.4
comp=Z,92nm,2.5s
AGMN **Agassiz Nation** 37.42 284 *e*P P 08 07 01.3 +1.4
comp=Z,92nm,2.5s
SPMN **St. Paul** 37.70 278 ⇓P P 08 07 02.4 +0.1
baz=38

JFWS **Jewell Farm** 37.82 273 *e*P P 08 07 04.6 +1.2
comp=Z,7.7nm,0.8s
JFWS **Jewell Farm** 37.82 273 *e*P P 08 07 04.6 +1.2
comp=Z,7.7nm,0.8s
SFIN **Scholer Farm** 37.83 267 ⇑P P 08 07 03.6 +0.2
baz=38
KMSC **Kings Mountain** 38.53 256 ⇑P P 08 07 10.2 +0.7
baz=38
YKA **Yellowknife Ar** 38.56 313 P P 08 07 09.3 -0.1
YKA **Yellowknife Ar** 38.56 313 P P 08 07 09.3 -0.1
comp=Z,2.8nm,0.8s,baz=58,slow=9.4,SNR=6.5
YKA LR LR 08 22 27.7
comp=Z,170nm,18.6s,baz=130,slow=35
YKA **Yellowknife Ar** 38.56 313 P P 08 07 09.3 -0.1
MDND **Maddock** 39.67 286 ⇓P P 08 07 19.4 +0.5
baz=40
USIN **University of** 39.85 265 *e*P P 08 07 21.4 +1.0
comp=Z,16nm,0.5s
USIN **University of** 39.85 265 *e*P P 08 07 21.4 +1.0
comp=Z,16nm,0.5s
SCIA **State Center** 40.12 274 *e*P P 08 07 23.8 +1.2
comp=Z,12nm,0.8s
SCIA **State Center** 40.12 274 *e*P P 08 07 23.8 +1.2
comp=Z,12nm,0.8s
ECSD **EROS Data Cent** 40.73 279 *e*P P 08 07 29.5 +1.8
comp=Z,20nm,1.4s
ECSD **EROS Data Cent** 40.73 279 *e*P P 08 07 29.5 +1.8
comp=Z,20nm,1.4s
SIUC **Southern Illin** 40.88 266 *e*P P 08 07 31.3 +2.4
comp=Z,36nm,1.1s
SIUC **Southern Illin** 40.88 266 *e*P P 08 07 31.3 +2.4
comp=Z,36nm,1.1s
WVT **Waverly** 41.28 263 *e*P P 08 07 32.7 +0.4
comp=Z,12nm,1.3s
WVT **Waverly** 41.28 263 *e*P P 08 07 32.7 +0.4
comp=Z,11nm,1.3s
BRSD **Miller** 41.52 281 ⇑P P 08 07 34.3 +0.1
baz=42
DGMT **Dagmar** 41.68 289 *e*P P 08 07 37.2 +1.7
comp=Z,25nm,1.1s
DGMT **Dagmar** 41.68 289 *e*P P 08 07 37.2 +1.7
comp=Z,25nm,1.1s
DGMT **Dagmar** 41.68 289 ⇓P P 08 07 35.8 +0.4
baz=42
INK **Inuvik** 42.03 327 P P 08 07 38.2 +0.2
INK **Inuvik** 42.03 327 P P 08 07 38.2 +0.2
comp=Z,3.6nm,1.1s,baz=36,slow=8.4,SNR=5.4
INK **Inuvik** 42.03 327 P P 08 07 38.2 +0.2
E26A **Carlson Angus** 42.06 286 ⇑P P 08 07 38.9 +0.4
baz=42
B23A **Brockton** 42.09 290 ⇑P P 08 07 39.5 +0.7
baz=42,SNR=9.6
C24A **Savage** 42.40 289 ⇑P P 08 07 41.6 +0.2
baz=42
G27A **Dupree** 42.49 284 ⇓P P 08 07 42.3 +0.1
baz=42
C23A **Lambert** 42.61 289 ⇓P P 08 07 43.3 +0.2
baz=42,SNR=7.7
D24A **Glendive** 42.61 288 ⇑P P 08 07 43.1 0.0
baz=43
B22A **Reddig Ranch S** 42.71 290 ⇑P P 08 07 44.3 +0.4
baz=43,SNR=6.6
A21A **Bergtoll Ranch** 42.74 292 ⇓P P 08 07 44.1 -0.1
baz=43
I28A **Midland** 43.00 282 ⇓P P 08 07 46.4 +0.1
baz=43
C22A **Vida** 43.01 290 ⇑P P 08 07 46.4 +0.1
baz=43
H27A **Howes** 43.06 284 ⇓P P 08 07 47.3 +0.5
baz=43
K29A **Lazy Trails An** 43.39 280 ⇑P P 08 07 49.6 +0.1
baz=43
J28A **Allard Ranch,** 43.43 282 ⇑P P 08 07 49.9 +0.1
baz=43
I27A **Quinn** 43.43 283 ⇑P P 08 07 50.1 +0.3
baz=43
F24A **Ekalaka** 43.51 287 ⇑P P 08 07 50.6 +0.1
baz=43
E23A **Ismay** 43.53 288 ⇑P P 08 07 50.9 +0.4
baz=44,SNR=6.3
D22A **Cohagen** 43.55 289 ⇑P P 08 07 50.3 -0.4
baz=44
C21A **Desert Coulee** 43.58 291 ⇓P P 08 07 51.1 +0.2
baz=44
B20A **Solberg Farm,** 43.66 292 ⇑P P 08 07 51.7 +0.1
baz=44
A19A **Klindworth Far** 43.70 293 ⇑P P 08 07 52.1 +0.1
baz=44
H25A **Fruitdale** 43.88 285 ⇓P P 08 07 53.7 +0.3
baz=44
E22A **Miles City** 43.90 288 ⇓P P 08 07 53.7 +0.2
baz=44,SNR=8.7
KSU1 **Kansas State U** 43.93 274 *e*P P 08 07 54.7 +1.0
comp=Z,14nm,0.9s
KSU1 **Kansas State U** 43.93 274 *e*P P 08 07 54.7 +1.0
comp=Z,14nm,0.9s
K28A **Ten Mile Ranch** 43.98 281 ⇑P P 08 07 55.1 +0.8
baz=44
D21A **La Casta Ranch** 44.03 290 ⇑P P 08 07 54.4 -0.1
baz=44
F23A **Volborg** 44.09 287 ⇓P P 08 07 55.6 +0.5
baz=44
B19A **Brinkman Farms** 44.11 292 ⇑P P 08 07 55.7 +0.5
baz=44
C20A **Veseth Ranch,** 44.12 291 ⇑P P 08 07 55.9 +0.6
baz=44
H24A **Dirks Ranch, A** 44.30 286 ⇑P P 08 07 56.7 -0.1
baz=44,SNR=7.0
G23A **Biddle** 44.43 287 ⇓P P 08 07 58.1 +0.3
baz=44
C19A **Slack Wire Ran** 44.64 292 ⇑P P 08 07 59.5 +0.1
baz=45,SNR=6.6
A17A **Triple J Farms** 44.68 294 ⇑P P 08 07 59.7 0.0
baz=45
EGMT **Eagleton** 44.80 292 *e*P P 08 08 03.0 +2.2
comp=Z,45nm,1.6s
EGMT **Eagleton** 44.80 292 *e*P P 08 08 03.0 +2.2
comp=Z,45nm,1.6s
EGMT **Eagleton** 44.80 292 ⇑P P 08 08 00.6 -0.2
baz=45
J25A **Sunshine Ranch** 44.82 284 ⇑P P 08 08 01.1 +0.1
baz=45
H23A **Clabaugh Cattl** 44.87 286 ⇓P P 08 08 01.8 +0.5
baz=45
G22A **Birney** 44.89 287 ⇑P P 08 08 01.9 +0.4
baz=45
N29A **Votaw Ranch, W** 44.90 279 ⇓P P 08 08 01.9 +0.4
baz=45
D19A **Cripps Ranch,** 44.93 291 ⇑P P 08 08 01.7 0.0
baz=45,SNR=8.9
E20A **Meyer Farm, Mu** 44.98 290 ⇑P P 08 08 02.6 +0.4
baz=45
B17A **L&G Farms, Che** 45.15 293 ⇑P P 08 08 03.5 0.0
baz=45,SNR=12
E19A **Rath Farm, Rou** 45.35 290 ⇑P P 08 08 05.2 +0.1
baz=45
D18A **Linhart Farms,** 45.38 292 ⇑P P 08 08 05.3 -0.1
baz=45,SNR=7.2
F20A **Billings** 45.47 289 ⇑P P 08 08 06.0 0.0
baz=45
B16A **M & M Farms, S** 45.53 294 ⇓P P 08 08 06.2 -0.3
baz=45,SNR=6.4
C17A **Wharram Farm,** 45.57 293 ⇑P P 08 08 06.5 -0.4
baz=46,SNR=10
P30A **Selden** 45.59 277 ⇑P P 08 08 06.9 -0.2
baz=46
MIAR **Mount Ida** 45.59 267 *e*P P 08 08 08.4 +1.3
comp=Z,25nm,1.4s
MIAR **Mount Ida** 45.59 267 *e*P P 08 08 08.4 +1.3
comp=Z,25nm,1.4s
A15A **Johnson Ranch,** 45.66 295 ⇑P P 08 08 07.0 -0.6
baz=46,SNR=13
TUL1 **Tulsa** 45.79 270 ⇓P P 08 08 08.8 +0.2
baz=46
F19A **Roth Farm, Mol** 45.84 290 ⇑P P 08 08 08.9 -0.2
baz=46
D17A **Six Diamond Ra** 45.86 292 ⇓P P 08 08 09.3 +0.1
baz=46
I22A **9 Mile Ranch,** 45.90 286 ⇓P P 08 08 09.6 +0.1
baz=46
P29A **Atwood** 45.92 278 ⇑P P 08 08 09.8 +0.1
baz=46
C16A **Fuhringer Ranc** 45.96 293 ⇑P P 08 08 09.7 -0.2
baz=46,SNR=10
BRTR **Keskin Array B** 45.98 82 P P 08 08 10.1 -0.2
BRTR **Keskin Array B** 45.98 82 P P 08 08 10.0 -0.2
comp=Z,8.7nm,1.0s,baz=313,slow=6.2,SNR=24
BRTR LR LR 08 28 23.2
comp=Z,98nm,19.0s,baz=126,slow=37
BRTR **Keskin Array B** 45.98 82 P P 08 08 10.1 -0.2
A14A **Double T Ranch** 46.01 296 ⇑P P 08 08 10.3 0.0
baz=46,SNR=12
B15A **Bradely Ranch,** 46.02 295 ⇑P P 08 08 09.8 -0.6
baz=46
WALA **Waterton Lakes** 46.19 296 *e*P P 08 08 13.3 +1.5
comp=Z,0.9nm,1.4s
WALA **Waterton Lakes** 46.19 296 *e*P P 08 08 13.3 +1.5
comp=Z,0.9nm,1.4s
J22A **Midwest** 46.22 286 ⇓P P 08 08 11.6 -0.6
baz=46
H20A **Greybull** 46.28 288 ⇑P P 08 08 12.5 0.0
baz=46,SNR=12
O27A **Beecher Island** 46.34 279 ⇑P P 08 08 12.9 -0.2
baz=46
B14A **Marquette Ranc** 46.34 295 ⇓P P 08 08 12.2 -0.8
baz=46
D16A **Dana Ranch, Ca** 46.37 293 ⇓P P 08 08 13.0 -0.3
baz=46,SNR=12
I21A **Big Trails, Te** 46.37 286 ⇑P P 08 08 13.0 -0.3
baz=46,SNR=7.7
P28A **Saint Francis** 46.39 278 ⇓P P 08 08 13.2 -0.2
baz=46
C15A **Salmond Ranch,** 46.41 294 ⇑P P 08 08 13.2 -0.3
baz=46,SNR=8.1
Q29A **Oakley** 46.46 277 ⇑P P 08 08 13.9 0.0
baz=46
RLMT **Red Lodge** 46.50 289 *e*P P 08 08 15.7 +1.3
comp=Z,7.3nm,1.1s
RLMT **Red Lodge** 46.50 289 *e*P P 08 08 15.7 +1.3
comp=Z,7.3nm,1.1s
R30A **Dighton** 46.51 276 ⇓P P 08 08 14.5 +0.2
baz=46
A13A **Flathead Natio** 46.52 296 ⇑P P 08 08 14.5 +0.1
baz=46
G18A **Lazy EL Ranch,** 46.52 290 ⇑P P 08 08 14.6 +0.1
baz=46
S31A **Mullinville** 46.56 275 ⇑P P 08 08 14.4 -0.3
baz=46
EGAK **Eagle** 46.65 326 *e*P P 08 08 14.8 -0.2
comp=Z,8.5nm,1.0s
EGAK **Eagle** 46.65 326 *e*P P 08 08 14.9 -0.2
comp=Z,8.5nm,1.0s
H19A **Powell** 46.67 288 ⇓P P 08 08 15.5 -0.1
baz=47
F17A **Fitzpatrick Pl** 46.69 291 ⇓P P 08 08 15.6 -0.1
baz=47
I20A **Worland** 46.72 287 ⇓P P 08 08 15.7 -0.3
baz=47
O26A **Horse Wrangler** 46.75 280 ⇓P P 08 08 16.4 +0.1
baz=47
K22A **Casper** 46.77 285 ⇑P P 08 08 16.7 +0.2
baz=47
E16A **East Helena** 46.77 292 ⇓P P 08 08 16.5 +0.1
baz=47
Q28A **Sharon Springs** 46.80 278 ⇓P P 08 08 16.8 +0.2
baz=47
P27A **Ficken Ranch,** 46.85 279 ⇑P P 08 08 16.9 -0.1
baz=47
D15A **Lincoln** 46.86 293 ⇑P P 08 08 16.4 -0.7
baz=47,SNR=8.1
B13A **Whitefish** 46.92 296 ⇓P P 08 08 17.1 -0.3
baz=47,SNR=7.0
C14A **Swan Lake** 46.98 295 ⇑P P 08 08 16.6 -1.4
baz=47
H18A **Shoshone NF, C** 47.01 289 ⇑P P 08 08 17.6 -0.8
baz=47
T31A **Randall Ranch,** 47.05 274 ⇑P P 08 08 18.3 -0.2
baz=47
DLBC **Dease Lake** 47.10 314 P P 08 08 20.1 +1.4
DLBC **Dease Lake** 47.10 314 P P 08 08 20.1 +1.4
comp=Z,5.7nm,1.1s,baz=68,slow=5.4,SNR=5.9
DLBC **Dease Lake** 47.10 314 P P 08 08 20.1 +1.4
J20A **Shoshoni** 47.11 287 ⇑P P 08 08 18.2 -0.8
baz=47
I19A **Meeteetse** 47.11 288 ⇓P P 08 08 18.6 -0.6
baz=47
L22A **Ellis Ranch, M** 47.16 284 ⇑P P 08 08 19.3 -0.3
baz=47
SLMT **Seeley Lake** 47.21 294 *e*P P 08 08 21.0 +1.2
SLMT **Seeley Lake** 47.21 294 *e*P P 08 08 21.0 +1.2
P26A **Davis Ranch, A** 47.26 279 ⇑P P 08 08 20.2 -0.1
baz=47
KSCO **Kaye Shedlock'** 47.26 278 ⇑P P 08 08 20.2 -0.1
baz=47
SWMT **Swartz Lake** 47.28 295 *e*P P 08 08 21.8 +1.5
SWMT **Swartz Lake** 47.28 295 *e*P P 08 08 21.8 +1.5
R28A **Tribune** 47.30 277 ⇑P P 08 08 20.4 -0.2
baz=47
D14A **Greenough** 47.32 294 ⇑P P 08 08 20.7 0.0
baz=47
BOZ **Bozeman (W)** 47.36 291 *e*P P 08 08 21.5 +0.5
comp=Z,4.6nm,1.0s
BOZ **Bozeman (W)** 47.36 291 *e*P P 08 08 21.5 +0.5
comp=Z,4.6nm,1.0s
B12A **Libby** 47.41 297 ⇑P P 08 08 21.7 +0.4
baz=47
BSMT **Bassoo Peak** 47.44 295 *e*P P 08 08 23.4 +1.8
BSMT **Bassoo Peak** 47.44 295 *e*P P 08 08 23.4 +1.8
COLD **Coldfoot** 47.44 332 *e*P P 08 08 22.3 +1.1
comp=Z,3.6nm,1.1s
COLD **Coldfoot** 47.44 332 *e*P P 08 08 22.3 +1.1
comp=Z,3.6nm,1.1s
C13A **Hot Springs** 47.45 295 ⇑P P 08 08 22.0 +0.4
baz=47
S29A **Ulysses** 47.45 276 ⇓P P 08 08 22.0 +0.2
baz=47
LRM **Limekiln Ridge** 47.65 292 *e*P P 08 08 25.9 +2.5
LRM **Limekiln Ridge** 47.65 292 *e*P P 08 08 25.9 +2.5
F15A **Butte** 47.66 292 ⇑P P 08 08 23.2 -0.2
baz=48
N23A **Red Feather La** 47.70 283 ⇑P P 08 08 23.3 -0.6
baz=48
L21A **Rawlins** 47.70 285 ⇓P P 08 08 23.6 -0.2
baz=48
MSO **Missoula** 47.71 294 *e*P P 08 08 25.8 +2.1
comp=Z,4.9nm,1.2s
MSO **Missoula** 47.71 294 *e*P P 08 08 25.8 +2.1
comp=Z,4.9nm,1.2s
MSO **Missoula** 47.71 294 ⇓P P 08 08 23.7 0.0
baz=48
K20A **Yellowstone Ra** 47.73 286 ⇓P P 08 08 23.2 -0.7
baz=48
D13A **Huson** 47.79 294 ⇓P P 08 08 23.8 -0.5
baz=48
Q26A **Hugo** 47.81 279 ⇑P P 08 08 24.2 -0.4
baz=48,SNR=6.3
C12B **Naegeli Ranch,** 47.87 296 ⇓P P 08 08 24.4 -0.5
baz=48
K19A **Absolon Red Bu** 47.88 287 ⇑P P 08 08 24.9 -0.2
baz=48
R27A **Eads** 47.88 278 ⇓P P 08 08 24.6 -0.4
baz=48
T29A **Hugoton** 47.88 276 ⇑P P 08 08 24.8 -0.2
baz=48
S28A **Manter** 47.90 277 ⇓P P 08 08 24.7 -0.5
baz=48
M21A **Separation Pea** 47.95 284 ⇑P P 08 08 25.8 +0.1
baz=48
DLMT **Dillon** 48.05 292 *e*P P 08 08 29.1 +2.7
comp=Z,4.8nm,1.2s
DLMT **Dillon** 48.05 292 *e*P P 08 08 29.0 +2.7
comp=Z,4.8nm,1.2s
KBZ **Khabaz** 48.09 71 P P 08 08 26.8 +0.4
KBZ **Khabaz** 48.09 71 P P 08 08 26.8 +0.4
comp=Z,6.6nm,1.0s,baz=304,slow=8.0,SNR=7.6
KBZ LR LR 08 29 54.0
comp=Z,251nm,18.3s,baz=161,slow=38
KBZ **Khabaz** 48.09 71 P P 08 08 26.8 +0.4
O23A **Lake Granby, G** 48.17 282 ⇓P P 08 08 27.5 -0.1
baz=48
L20A **Wamsutter** 48.19 285 ⇓P P 08 08 26.9 -0.7
baz=48,SNR=8.8
Q25A **Bedland, Calha** 48.21 280 ⇑P P 08 08 27.4 -0.3
baz=48
R26A **Arlington** 48.22 278 ⇓P P 08 08 27.4 -0.3
baz=48,SNR=9.9
BW06 **Boulder Array** 48.29 287 *e*P P 08 08 28.5 +0.1
comp=Z,1.8nm,0.8s
BW06 **Boulder Array** 48.29 287 *e*P P 08 08 28.5 +0.1
comp=Z,1.8nm,0.8s
PDAR **Pinedale Array** 48.29 287 P P 08 08 29.0 +0.6
PDAR PP PP 08 10 21.3 +0.8
PDAR **Pinedale Array** 48.29 287 P P 08 08 29.0 +0.6
comp=Z,1.7nm,0.9s,baz=61,slow=7.4,SNR=12
PDAR PP PP 08 10 21.3 +0.8
comp=Z,1.4nm,1.0s,baz=50,slow=8.4,SNR=4.3

PDAR LR LR 08 27 48.0
comp=Z,780nm,18.2s,baz=31,slow=35
PDAR Pinedale Array 48.29 287 P P 08 08 29.0 +0.6
WMOK Wichita Mounta 48.30 271 eP P 08 08 27.5 -0.7
comp=Z,11nm,1.1s
WMOK Wichita Mounta 48.30 271 eP P 08 08 27.5 -0.7
comp=Z,11nm,1.1s
NEW Newport 48.30 297 eP P 08 08 29.7 +1.6
comp=Z,6.7nm,1.1s
NEW Newport 48.30 297 P P 08 08 29.2 +1.1
comp=Z,3.5nm,0.9s,baz=59,slow=7.5,SNR=9.7
NEW Newport 48.30 297 eP P 08 08 29.7 +1.6
comp=Z,6.7nm,1.1s
NEW Newport 48.30 297 ⇓P P 08 08 28.0 -0.1
baz=48
ISCO Idaho Springs 48.31 281 eP P 08 08 30.7 +2.1
comp=Z,8.2nm,1.2s
ISCO Idaho Springs 48.31 281 eP P 08 08 30.7 +2.1
comp=Z,8.2nm,1.2s
ISCO Idaho Springs 48.31 281 ⇑P P 08 08 28.6 0.0
baz=48
ILAR Eielson Array 48.36 328 P P 08 08 28.7 +0.4
ILAR Eielson Array 48.36 328 P P 08 08 28.7 +0.4
comp=Z,4.1nm,0.9s,baz=37,slow=6.3,SNR=34
ILAR LR LR 08 29 03.9
comp=Z,546nm,18.9s,baz=239,slow=36
ILAR Eielson Array 48.36 328 P P 08 08 28.7 +0.4
SNOW Snow King Moun 48.42 289 eP P 08 08 30.7 +1.3
comp=Z,5.5nm,0.9s
SNOW Snow King Moun 48.42 289 eP P 08 08 30.7 +1.3
comp=Z,5.5nm,0.9s
M20A Sweetwater, Wa 48.47 285 ⇓P P 08 08 29.4 -0.3
baz=48
I16A Newdale 48.51 289 ⇓P P 08 08 29.9 0.0
baz=48
MCMT McKenzie Canyo 48.55 291 eP P 08 08 32.1 +1.8
comp=Z,3.5nm,1.3s
MCMT McKenzie Canyo 48.55 291 eP P 08 08 32.1 +1.8
comp=Z,3.5nm,1.3s
O22A Kremmling 48.55 282 ⇑P P 08 08 30.2 -0.2
baz=48
COLA College 48.56 329 eP P 08 08 30.1 +0.3
comp=Z,12nm,1.2s
COLA College 48.56 329 eP P 08 08 30.1 +0.3
comp=Z,12nm,1.2s
W31A Holland Ranch, 48.60 273 ⇓P P 08 08 30.8 +0.2
baz=49
N21A Black Mountain 48.64 284 ⇑P P 08 08 30.5 -0.6
baz=49
L19A Farson 48.65 286 ⇓P P 08 08 30.8 -0.3
baz=49
Q24A Divide 48.66 280 ⇑P P 08 08 31.5 +0.1
baz=49
S26A Kim 48.73 278 ⇓P P 08 08 31.8 +0.1
baz=49
T27A Campo 48.73 277 ⇑P P 08 08 31.3 -0.3
baz=49,SNR=8.9
P23A Jefferson 48.73 281 ⇓P P 08 08 31.8 -0.1
baz=49
R25A Fountain Ranch 48.78 279 ⇓P P 08 08 32.2 +0.1
baz=49
E12A Beaver Dam Sad 48.81 295 ⇑P P 08 08 31.7 -0.6
baz=49,SNR=7.6
P22A Eagle 49.07 282 ⇓P P 08 08 34.3 0.0
baz=49
T26A Comanche Natio 49.12 277 ⇓P P 08 08 34.5 -0.3
baz=49,SNR=6.0
R24A Sanders Place, 49.17 280 ⇓P P 08 08 35.0 -0.1
baz=49
Y32A R-V Farms, Ver 49.21 271 ⇓P P 08 08 35.3 0.0
baz=49,SNR=5.2
S25A Robets Cordova 49.22 279 ⇓P P 08 08 35.8 +0.3
baz=49
U27A Thompson Grove 49.26 276 ⇓P P 08 08 35.4 -0.3
baz=49,SNR=6.1
PAX Paxson 49.28 326 eP P 08 08 36.7 +1.2
comp=Z,14nm,1.3s
PAX Paxson 49.28 326 eP P 08 08 36.7 +1.2
comp=Z,14nm,1.3s
V28A Channing 49.42 275 ⇓P P 08 08 37.1 +0.1
baz=49
O20A White River Ci 49.47 284 ⇓P P 08 08 37.0 -0.4
baz=49
I14A Mackay 49.48 291 ⇓P P 08 08 37.1 -0.3
baz=49
R23A Moffat 49.58 280 ⇓P P 08 08 38.6 +0.2
baz=50
T25A Trinidad 49.59 278 ⇓P P 08 08 38.2 -0.2
baz=50
G12A Big Creek, Yel 49.59 293 ⇓P P 08 08 38.0 -0.2
baz=50
WHTX Lake Whitney 49.65 268 ⇑P P 08 08 38.5 0.0
baz=50
X30A Coker Ranch, T 49.66 273 ⇑P P 08 08 38.7 0.0
baz=50
Q22A Crested Butte, 49.68 282 ⇑P P 08 08 38.3 -0.9
baz=50
Y31A Rekieta Farm, 49.69 272 ⇓P P 08 08 39.3 +0.4
baz=50
MCK McKinley 49.74 328 eP P 08 08 39.7 +0.8
comp=Z,16nm,1.0s
MCK McKinley 49.74 328 eP P 08 08 39.7 +0.8
comp=Z,16nm,1.0s
Z32A Haskell 49.75 271 ⇓P P 08 08 39.6 +0.1
baz=50,SNR=6.9
H12A Diamond D Ranc 49.76 292 ⇓P P 08 08 39.3 -0.2
baz=50
AMTX Amarillo 49.77 274 eP P 08 08 41.4 +1.8
comp=Z,32nm,1.3s
AMTX Amarillo 49.77 274 eP P 08 08 41.4 +1.8
comp=Z,32nm,1.3s
U26A Atchley Ranch, 49.77 277 ⇓P P 08 08 39.7 0.0
baz=50
R22A Saguache, Gunn 50.06 281 ⇓P P 08 08 41.5 -0.5
baz=50
Y30A Stafford Cattl 50.10 272 ⇑P P 08 08 42.2 +0.1
baz=50,SNR=5.5
Z31A Sharp Cattle R 50.11 271 ⇑P P 08 08 41.7 -0.4
baz=50
U25A Circle Dot Ran 50.13 277 ⇓P P 08 08 42.4 0.0
baz=50,SNR=8.5
HWUT Hardware Ranch 50.16 287 eP P 08 08 43.1 +0.5
comp=Z,6.8nm,1.1s
HWUT Hardware Ranch 50.16 287 eP P 08 08 43.1 +0.5
comp=Z,6.8nm,1.1s
V26A Tequesquite Ra 50.24 276 ⇓P P 08 08 42.8 -0.4
baz=50
X28A Dimmitt 50.33 274 ⇓P P 08 08 44.0 +0.1
baz=50
TRF Thorofare Moun 50.34 329 eP P 08 08 43.2 -0.5
comp=Z,78nm,2.2s
TRF Thorofare Moun 50.34 329 eP P 08 08 43.2 -0.5
comp=Z,78nm,2.2s
ABTX Abilene, Hawle 50.36 270 ⇑P P 08 08 44.4 +0.4
baz=50
I12A Atlanta 50.44 292 ⇑P P 08 08 43.7 -1.0
baz=50
S22A 4UR Ranch, Cre 50.45 280 ⇓P P 08 08 44.5 -0.5
baz=50
Y29A Porterfield Fa 50.53 273 ⇓P P 08 08 45.1 -0.3
baz=50
V25A Rancho No Teng 50.66 277 ⇓P P 08 08 46.2 -0.3
baz=51,SNR=6.3
Z30A Sanderson Ranc 50.67 272 ⇑P P 08 08 46.1 -0.3
baz=51
X27A F and S Farms, 50.72 275 ⇓P P 08 08 47.2 +0.3
baz=51
131A Roby 50.73 271 ⇓P P 08 08 47.0 +0.1
baz=51,SNR=5.6
BMO Blue Mountains 50.78 294 eP P 08 08 47.8 +0.7
comp=Z,5.6nm,1.2s
BMO Blue Mountains 50.78 294 eP P 08 08 47.8 +0.7
comp=Z,5.6nm,1.2s
DAU Daniels Canyon 50.86 286 eP P 08 08 48.6 +0.5
DAU Daniels Canyon 50.86 286 eP P 08 08 48.6 +0.5
232A Coleman 50.92 270 ⇓P P 08 08 48.6 +0.3
baz=51
R20A Redvale 50.95 282 ⇑P P 08 08 48.4 -0.3
baz=51
Z29A Hungry Hill Ra 51.01 273 ⇓P P 08 08 48.9 -0.1
baz=51
S21A Coal Bank Pass 51.03 281 ⇑P P 08 08 49.1 -0.2
baz=51
T22A Edith 51.03 280 ⇑P P 08 08 48.9 -0.4
baz=51
SML Sawmill 51.04 326 eP P 08 08 49.3 +0.5
comp=Z,5.6nm,1.0s
SML Sawmill 51.04 326 eP P 08 08 49.3 +0.5
comp=Z,5.6nm,1.0s
W25A X Bar L Ranch, 51.04 276 ⇑P P 08 08 49.2 -0.1
baz=51
MSTX Muleshoe 51.05 274 ⇓P P 08 08 49.5 +0.1
baz=51
PV01 Paradox Valley 51.10 282 eP P 08 08 50.9 +1.1
PV01 Paradox Valley 51.10 282 eP P 08 08 50.9 +1.1
V24A Rampart Ranch, 51.10 278 ⇓P P 08 08 49.6 -0.2
baz=51
130A Snyder 51.10 271 ⇑P P 08 08 49.5 -0.1
baz=51,SNR=5.4
PV10 Paradox Valley 51.17 283 eP P 08 08 52.1 +1.8
comp=Z,77nm,1.0s
PV10 Paradox Valley 51.17 283 eP P 08 08 52.1 +1.8
comp=Z,77nm,1.0s
X26A CR and CF Fran 51.18 275 ⇓P P 08 08 50.3 -0.1
baz=51
231A Bronte 51.25 270 ⇑P P 08 08 51.0 +0.3
baz=51
Y27A Causey 51.33 274 ⇑P P 08 08 51.7 +0.2
baz=51
Z28A Tucker Farm, M 51.36 273 ⇑P P 08 08 52.0 +0.4
baz=51
332A Millersview 51.36 269 ⇓P P 08 08 50.9 -0.7
baz=51,SNR=6.6
PMR Palmer 51.45 326 eP P 08 08 52.0 +0.3
comp=Z,9.5nm,1.1s
PMR Palmer 51.45 326 eP P 08 08 52.0 +0.3
comp=Z,9.5nm,1.1s
TORD Torodi Ar. Bea 51.46 134 P P 08 08 50.0 -2.4
TORD Torodi Ar. Bea 51.46 134 P P 08 08 50.0 -2.4
comp=Z,4.9nm,1.0s,baz=338,slow=5.9,SNR=15
TORD LR LR 08 28 25.4
comp=Z,407nm,20.3s,baz=270,slow=34
U22A Llaves 51.47 279 ⇓P P 08 08 52.2 -0.4
baz=51
W24A Lazy R Ranch, 51.56 277 ⇓P P 08 08 52.9 -0.3
baz=52,SNR=10
V23A Ortiz Mt. (NFS 51.58 278 ⇓P P 08 08 53.2 -0.2
baz=52
X25A Clemmons Ranch 51.66 276 ⇑P P 08 08 53.9 -0.1
baz=52,SNR=5.2
230A Sterling City 51.72 271 ⇑P P 08 08 54.6 +0.2
baz=52,SNR=8.6
MVCO Mesa Verde 51.74 281 eP P 08 08 56.9 +2.3
comp=Z,41nm,1.9s
MVCO Mesa Verde 51.74 281 eP P 08 08 56.9 +2.3
comp=Z,41nm,1.9s
MVCO Mesa Verde 51.74 281 ⇓P P 08 08 54.3 -0.3
baz=52
432A Menard 51.78 269 ⇑P P 08 08 54.5 -0.2
baz=52
Z27A Tatum 51.79 274 ⇑P P 08 08 54.0 -0.9
baz=52
331A San Angelo 51.79 270 ⇑P P 08 08 54.6 -0.2
baz=52
DUG Dugway 51.84 287 ⇓P P 08 08 55.1 -0.1
baz=52
V22A San Miguel Ran 51.85 279 ⇑P P 08 08 55.1 -0.4
baz=52
MMAI Mount Meron Ar 51.88 87 LR LR 08 30 51.2
comp=Z,162nm,21.3s,baz=25,slow=36
128A Castleberry Fa 51.92 273 ⇑P P 08 08 55.2 -0.6
baz=52
RC01 Rabbit Creek A 52.02 326 eP P 08 08 56.4 +0.3
comp=Z,17nm,1.0s
RC01 Rabbit Creek A 52.02 326 eP P 08 08 56.4 +0.3
comp=Z,17nm,1.0s
229A Bryant Ranch, 52.05 272 ⇓P P 08 08 57.0 +0.2
baz=52
X24A Lazy VL Ranch, 52.06 277 ⇓P P 08 08 57.0 +0.1
baz=52
JCT Junction City 52.09 269 eP P 08 08 56.1 -1.0
comp=Z,13nm,0.9s
JCT Junction City 52.09 269 eP P 08 08 56.1 -1.0
comp=Z,13nm,0.9s
JCT Junction City 52.09 269 ⇓P P 08 08 56.8 -0.2
baz=52,SNR=9.3
330A Mertzon 52.13 271 ⇓P P 08 08 57.0 -0.4
baz=52,SNR=8.6
Y25A Mesa, Roswell 52.13 276 ⇑P P 08 08 57.8 +0.3
baz=52
Z26A Carock 52.24 274 ⇓P P 08 08 58.0 -0.3
baz=52,SNR=7.3
ANMO Albuquerque 52.32 278 eP P 08 09 01.2 +2.2
comp=Z,11nm,1.8s
ANMO Albuquerque 52.32 278 P P 08 09 00.6 +1.6
comp=Z,1.3nm,0.8s,baz=73,slow=9.0,SNR=8.0
ANMO Albuquerque 52.32 278 eP P 08 09 01.2 +2.2
comp=Z,11nm,1.8s
127A Arkansas Junct 52.35 273 ⇓P P 08 08 58.9 -0.1
baz=52
431A Sonora 52.37 270 ⇓P P 08 08 58.7 -0.5
baz=52,SNR=9.6
532A Rocksprings 52.42 269 ⇓P P 08 08 59.5 0.0
baz=52
329A Wagon Wheel Ra 52.51 271 ⇑P P 08 09 00.3 +0.1
baz=52
Y24A Capitan 52.54 276 ⇓P P 08 09 00.3 -0.3
baz=52
Z25A Roswell 52.63 275 ⇑P P 08 09 01.4 +0.2
baz=53
430A Baggett Ranch, 52.64 270 ⇑P P 08 09 01.5 +0.4
baz=53
SPU Mount Spurr 52.64 328 eP P 08 09 00.1 -0.6
SPU Mount Spurr 52.64 328 eP P 08 09 00.1 -0.6
ELK Elko 52.70 289 P P 08 09 02.5 +0.8
ELK Elko 52.70 289 P P 08 09 02.5 +0.8
comp=Z,0.6nm,0.3s,baz=29,slow=4.6,SNR=7.3
ELK Elko 52.70 289 P P 08 09 02.5 +0.8
126A Clayton Basin, 52.73 274 ⇑P P 08 09 02.0 +0.1
baz=53
531A Rocksprings 52.74 269 ⇓P P 08 09 01.4 -0.5
baz=53,SNR=7.0
632A Uvalde 52.83 268 ⇓P P 08 09 02.1 -0.4
baz=53
Y23A Lovelace Mesa, 52.87 277 ⇑P P 08 09 02.6 -0.4
baz=53
Z24A Sheeppen Canyo 52.95 276 ⇓P P 08 09 03.3 -0.3
baz=53
BNM Barren Site 53.02 277 eP P 08 09 05.9 +1.8
comp=Z,3.0nm,1.0s
BNM Barren Site 53.02 277 eP P 08 09 05.9 +1.8
comp=Z,3.0nm,1.0s
328A Wristen Ranch, 53.04 272 ⇓P P 08 09 04.2 +0.1
baz=53
429A Davenport Ranc 53.12 271 ⇓P P 08 09 04.3 -0.4
baz=53,SNR=7.2
530A J-C Ranch, Com 53.18 270 ⇓P P 08 09 05.2 0.0
baz=53
226B Tecolote Peak, 53.25 274 ⇓P P 08 09 05.2 -0.5
baz=53
GDL2 Guadalupe Moun 53.26 274 eP P 08 09 07.3 +1.5
comp=Z,1.0nm,0.3s
GDL2 Guadalupe Moun 53.26 274 eP P 08 09 07.3 +1.5
comp=Z,1.0nm,0.3s
631A Perdido Creek 53.34 269 ⇑P P 08 09 06.5 +0.2
baz=53
Y22A Socorro 53.36 277 ⇓P P 08 09 06.6 0.0
baz=53,SNR=6.3
X21A Alamocita Cree 53.42 278 ⇑P P 08 09 06.9 -0.2
baz=53
Z23A Rita Site, Whi 53.47 276 ⇑P P 08 09 07.2 -0.2
baz=53
124A Stringfield Ra 53.48 275 ⇓P P 08 09 07.2 -0.3
baz=53,SNR=6.2
732A Laxson Ranch, 53.54 267 ⇓P P 08 09 08.1 +0.4
baz=54
225A Deer Hill, Car 53.58 274 ⇓P P 08 09 07.9 -0.3
baz=54,SNR=8.3
Y21A Point of Rocks 53.69 278 ⇓P P 08 09 09.1 0.0
baz=54
326A Caldwell Ranch 53.73 273 ⇓P P 08 09 09.5 +0.3
baz=54
X20A Quemado 53.73 279 ⇑P P 08 09 09.1 -0.2
baz=54
427A Hayter Ranch, 53.77 272 ⇓P P 08 09 09.6 +0.1
baz=54,SNR=8.4
Z22A Elephant Butte 53.88 277 ⇑P P 08 09 10.0 -0.3
baz=54,SNR=6.5
528A Cox Ranch, San 53.97 271 ⇓P P 08 09 11.3 +0.3
baz=54
224A Cornudas Mount 53.99 275 ⇓P P 08 09 11.4 +0.2
baz=54
CCUT Cedar City 54.08 285 eP P 08 09 13.2 +1.4
comp=Z,2.7nm,1.1s
CCUT Cedar City 54.08 285 eP P 08 09 13.2 +1.4
comp=Z,2.7nm,1.1s
Y20A Horse Springs, 54.15 278 ⇓P P 08 09 12.6 +0.1
baz=54
MNTX Cornudas Mount 54.20 274 eP P 08 09 13.0 +0.4
comp=Z,1.5nm,0.8s
MNTX Cornudas Mount 54.20 274 eP P 08 09 13.0 +0.4
comp=Z,1.5nm,0.8s
Z21A St. Cloud Mine 54.22 277 ⇑P P 08 09 13.1 +0.2
baz=54
325A Bean Ranch, Si 54.23 274 ⇑P P 08 09 13.3 +0.3
baz=54
426A McDonald Obser 54.25 272 ⇓P P 08 09 13.0 -0.2
baz=54,SNR=12
U15A North Rim 54.35 283 ⇑P P 08 09 13.7 -0.2
baz=54
MOD Modoc 54.42 294 eP P 08 09 15.3 +1.1
comp=Z,17nm,1.6s
MOD Modoc 54.42 294 eP P 08 09 15.3 +1.1
comp=Z,17nm,1.6s
527A Woodward Ranch 54.43 272 ⇓P P 08 09 14.8 +0.4
baz=54
324A Moseley Ranch, 54.45 274 ⇑P P 08 09 15.0 +0.5
baz=54
628A Black Gap, Mar 54.55 271 ⇓P P 08 09 15.5 +0.4
baz=54
526A Mary Lane Ranc 54.76 272 ⇓P P 08 09 16.7 -0.1
baz=55,SNR=11
627A Terlingua Ranc 54.84 271 ⇓P P 08 09 16.9 -0.4
baz=55,SNR=10
Z20A Nine Sixteen R 54.87 278 ⇓P P 08 09 17.8 +0.3
baz=55
121A Cookes Peak, D 54.87 277 ⇓P P 08 09 17.6 0.0
baz=55
TXAR Lajitas Array 55.09 271 P P 08 09 18.4 -0.8
TXAR Lajitas Array 55.09 271 P P 08 09 18.4 -0.8
comp=Z,1.7nm,0.8s,baz=54,slow=5.6,SNR=22
TXAR LR LR 08 32 23.1
comp=Z,266nm,20.4s,baz=5.0,slow=36
TXAR Lajitas Array 55.09 271 P P 08 09 18.4 -0.8
DBIC Dimbokro 55.10 144 P P 08 09 19.3 +0.2
DBIC Dimbokro 55.10 144 P P 08 09 19.3 +0.2
comp=Z,5.6nm,0.6s,baz=334,slow=8.0,SNR=8.4
DBIC LR LR 08 30 14.0
comp=Z,630nm,18.4s,baz=343,slow=33
DBIC Dimbokro 55.10 144 P P 08 09 19.3 +0.2
626A Big Bend Ranch 55.17 272 ⇑P P 08 09 19.6 -0.2
baz=55,SNR=8.1
120A U Bar Ranch, L 55.32 278 ⇓P P 08 09 21.2 +0.4
baz=55
X16A Lo Mia Camp, P 55.41 281 ⇓P P 08 09 22.2 +0.7
baz=55
KDAK Kodiak Island 55.55 325 LR LR 08 33 31.0
comp=Z,281nm,18.7s,baz=202,slow=36
220A Playas Peak, P 55.76 277 ⇓P P 08 09 24.8 +0.8
baz=56
NVAR Mina Array Bea 56.00 289 LR LR 08 32 35.6
comp=Z,621nm,18.6s,baz=309,slow=35
320A Kipp Ranch, An 56.19 277 ⇓P P 08 09 27.3 +0.2
baz=56
W13A Hualapai Mount 56.20 284 ⇑P P 08 09 27.4 +0.2
baz=56
MPMC Manual Prospec 57.37 287 ⇑P P 08 09 35.5 +0.1
baz=57
EDW2 Edwards Air Fo 58.53 286 ⇑P P 08 09 43.3 -0.2
baz=58
ZALV Zalesovo Beam 58.64 37 LR LR 08 35 03.0
comp=Z,71nm,19.2s,baz=250,slow=36
PFO Pinyon Flat Ob 58.70 284 P P 08 09 46.4 +1.7
PFO Pinyon Flat Ob 58.70 284 P P 08 09 46.4 +1.7
comp=Z,3.4nm,0.8s,baz=61,slow=5.2,SNR=7.1
PFO Pinyon Flat Ob 58.70 284 P P 08 09 46.4 +1.7
SWSC Sam W. Stewart 58.87 283 ⇑P P 08 09 46.1 +0.4
baz=59
ROSC El Rosal 61.02 228 eP P 08 10 02.1 +1.0
ROSC El Rosal 61.02 228 P P 08 10 01.9 +0.8
comp=Z,17nm,1.1s,baz=58,slow=3.5,SNR=13
ROSC El Rosal 61.02 228 eP P 08 10 02.1 +1.0
EKS2 Erkin-Say 63.67 52 eP P 08 10 19.4 +1.1
comp=Z,18nm,1.8s
EKS2 Erkin-Say 63.67 52 eP P 08 10 19.4 +1.1
comp=Z,18nm,1.8s
MK31 Makanchi Array 63.70 44 eP P 08 10 17.9 -0.4
MK31 Makanchi Array 63.70 44 eP P 08 10 17.9 -0.4
MKAR Makanchi Array 63.70 44 P P 08 10 17.1 -1.2
MKAR Makanchi Array 63.70 44 P P 08 10 17.1 -1.2
comp=Z,2.4nm,0.9s,baz=335,slow=5.4,SNR=18
MKAR LR LR 08 37 52.2
comp=Z,102nm,19.8s,baz=236,slow=36
MKAR Makanchi Array 63.70 44 P P 08 10 17.1 -1.2
OTAV Otavalo 66.89 230 eP P 08 10 40.1 +0.3
comp=Z,8.5nm,1.1s
OTAV Otavalo 66.89 230 eP P 08 10 40.1 +0.3
comp=Z,8.5nm,1.1s
KSH Kashi 67.20 52 eP P 08 10 43.1 +1.9
KSH pP **pP 08 10 46.9 +1.5**
KSH sP **sP 08 10 48.8 +1.8**
KSH PP **PP 08 13 13.7 +5.0**
KSH S **S 08 19 35.5 +0.2**
KSH sS **sS 08 19 45.7 +3.4**
KSH ScS **SKSac 08 20 38.3 +0.1**
KSH SS **SS 08 23 55.2 +1.5**
KSH pmax pmax
comp=Z,9.0nm,1.3s
KSH pmax pmax
comp=Z,170nm,4.9s
KSH LR LR
comp=N,260nm,11.7s
KSH LR LR
comp=E,120nm,5.7s
KSH LR LR
comp=Z,78nm,10.3s
WMQ Urumqi 68.23 42 P P 08 10 49.4 +1.9
WMQ pP **pP 08 10 54.1 +2.3**
WMQ sP **sP 08 10 56.4 +3.1**
WMQ PcP **PcP 08 11 15.3 +2.0**
WMQ PP **PP 08 13 22.0 +4.5**
WMQ ScP 08 15 17.1
WMQ S **S 08 19 47.8 +0.4**
WMQ sS **sS 08 19 55.6 +1.2**
WMQ ScS **SKSac 08 20 44.5 -1.2**
WMQ SS **SS 08 24 12.0 +2.7**
WMQ pmax pmax
comp=Z,7.0nm,0.9s
WMQ pmax pmax
comp=Z,81nm,6.5s
WMQ LR LR
comp=N,170nm,18.0s
WMQ LR LR
comp=E,190nm,12.4s
WMQ LR LR
comp=Z,140nm,20.9s
PETK Petropavlovsk- 69.83 353 LR LR 08 43 05.2
comp=Z,151nm,19.4s,baz=17,slow=37
SONM Songino Array 70.39 27 P P 08 11 00.3 -0.7
SONM Songino Array 70.39 27 P P 08 11 00.3 -0.7
comp=Z,5.2nm,1.0s,baz=332,slow=6.5,SNR=17
SONM LR LR 08 43 19.9
comp=Z,87nm,18.8s,baz=246,slow=37
SONM Songino Array 70.39 27 P P 08 11 00.3 -0.7
ULN Ulaanbaatar 70.53 27 eP P 08 11 01.5 -0.3
comp=Z,14nm,1.3s
ULN Ulaanbaatar 70.53 27 eP P 08 11 01.5 -0.3
comp=Z,14nm,1.3s
BDFB Brasilia 73.35 194 LR LR 08 37 41.7
comp=Z,198nm,21.7s,baz=174,slow=31
GTA Gaotai 76.28 35 eP P 08 11 35.0 -0.8
GTA pP **pP 08 11 39.8 -0.3**
GTA sP **sP 08 11 42.0 +0.4**
GTA S **S 08 21 17.2 -2.7**
GTA sS **sS 08 21 25.8 -1.2**
GTA SKS **SKSac 08 21 40.5 -6.1**
GTA SS **SS 08 26 13.4 +0.9**
GTA pmax pmax
comp=Z,9.0nm,1.5s
GTA pmax pmax
comp=Z,93nm,6.4s
GTA LR LR
comp=N,190nm,15.2s
GTA LR LR
comp=E,170nm,16.9s
GTA LR LR
comp=Z,150nm,16.9s
MDJ Mudanjiang 77.78 12 P P 08 11 43.7 -0.2
MDJ pP **pP 08 11 46.9 -1.3**
MDJ sP **sP 08 11 48.1 -1.7**
MDJ S **S 08 21 36.8 +1.0**
MDJ ScS **ScS 08 22 01.8 -0.5**

MDJ					SS	**SS**	**08 26 36.1**	**+1.6**
MDJ					pmax	pmax		
	comp=Z,4.0nm,0.9s							
MDJ					pmax	pmax		
	comp=Z,23nm,3.1s							
MDJ					LR	LR		
	comp=N,24nm,28.1s							
MDJ					LR	LR		
	comp=E,60nm,30.7s							
HHC	**Hu-ho-hao-te**	**78.22**	**26**	*e*P	**P**	**08 11 44.2**	**-2.4**
HHC				pP	**pP**	**08 11 49.2**	**-1.7**
HHC				sP	**sP**	**08 11 50.3**	**-2.2**
HHC				PcP	**PcP**	**08 11 55.1**	**-1.0**
HHC				PP	**PP**	**08 14 40.6**	**-2.0**
HHC				S	S	08 21 34.2	-6.7
HHC				SKS	SKSac	08 21 52.1	-8.5
HHC				ScS	**SKKSac**	**08 21 58.1**	**-3.5**
HHC				SS	**SS**	**08 26 36.3**	**-5.3**
HHC				pmax	pmax		
	comp=Z,37nm,1.2s							
HHC				pmax	pmax		
	comp=Z,170nm,6.0s							
HHC				LR	LR		
	comp=N,250nm,19.2s							
HHC				LR	LR		
	comp=E,230nm,16.8s							
HHC				LR	LR		
	comp=Z,230nm,14.4s							
LPAZ	**La Paz**	**78.44**	**214**	P	**P**	**08 11 47.6**	**-0.9**
LPAZ	**La Paz**	**78.44**	**214**	P	**P**	**08 11 47.6**	**-0.9**
	comp=Z,1.1nm,1.0s,baz=31,slow=8.4,SNR=3.3							
LPAZ				LR	LR	08 43 39.0		
	comp=Z,65nm,20.8s,baz=214,slow=34							
LPAZ	**La Paz**	**78.44**	**214**	P	**P**	**08 11 47.7**	**-0.9**
USRK	**Ussuriysk Arra**	**78.45**	**10**	LR	LR	08 50 10.9		
	comp=Z,97nm,19.9s,baz=261,slow=39							
BJI	**Beijing**	**80.04**	**23**	P	**P**	**08 11 56.5**	**+0.1**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s							
BJI				pmax	pmax		
	comp=Z,120nm,5.8s							
BJI				LR	LR		
	comp=N,76nm,23.0s							
BJI				LR	LR		
	comp=E,140nm,22.1s							
LZH	**Lanzhou**	**80.58**	**34**	*e*P	**P**	**08 11 59.6**	**0.0**
LZH				pP	**pP**	**08 12 04.6**	**+0.7**
LZH				sP	**sP**	**08 12 08.5**	**+3.0**
LZH				pmax	pmax		
	comp=Z,15nm,1.0s							
KMBO	**Kilima Mbogo**	**80.72**	**107**	LR	LR	08 51 44.2		
	comp=Z,127nm,18.4s,baz=274,slow=39							
KSRS	**Korea Array**	**84.63**	**15**	P	**P**	**08 12 18.9**	**-1.5**
	comp=Z,2.3nm,0.9s,baz=339,slow=4.6,SNR=5.6							
KSRS				LR	LR	08 52 36.4		
	comp=Z,71nm,18.9s,baz=159,slow=38							
KSAR	**Wonju Array Be**	**84.63**	**15**	P	**P**	**08 12 18.9**	**-1.6**
KSAR	**Wonju Array Be**	**84.63**	**15**	P	**P**	**08 12 18.9**	**-1.6**
CD2	**Chengdu**	**85.35**	**36**	P	**P**	**08 12 23.0**	**-1.3**
CD2				pP	**PcP**	**08 12 27.8**	**+0.5**
CD2				sP	**sP**	**08 12 30.0**	**-0.1**
CD2				PP	**PP**	**08 15 41.6**	**+0.2**
CD2				SKS	**SKSac**	**08 22 44.2**	**-4.7**
CD2				S	**S**	**08 22 50.8**	**-3.8**
CD2				sS	**SKKSac**	**08 22 58.3**	**+2.8**
CD2				SS	**SS**	**08 28 26.9**	**-1.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax		
	comp=Z,110nm,5.5s							
CPUP	**Villa Florida**	**85.37**	**201**	LR	LR	08 44 53.2		
	comp=Z,173nm,21.6s,baz=354,slow=32							
KMI	**Kunming**	**90.36**	**39**	P	**P**	**08 12 46.2**	**-2.4**
KMI				S	**S**	**08 23 42.2**	**-0.8**
KMI				pmax	pmax		
	comp=Z,12nm,0.7s							
GYA	**Guiyang**	**90.41**	**35**	*e*P	**P**	**08 12 47.9**	**-0.8**
GYA				PP	**PP**	**08 16 23.0**	**+0.8**
GYA				SKS	**SKSac**	**08 23 17.2**	**-2.6**
GYA				S	**S**	**08 23 39.0**	**-4.1**
GYA				SS	**SS**	**08 29 41.8**	**-0.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s							
GYA				pmax	pmax		
	comp=Z,90nm,5.4s							
GYA				LR	LR		
	comp=N,410nm,20.8s							
GYA				LR	LR		
	comp=E,370nm,21.0s							
GYA				LR	LR		
	comp=Z,450nm,20.4s							
CFAA	**Coronel Fontan**	**92.97**	**209**	LR	LR	08 50 57.3		
	comp=Z,26nm,20.9s,baz=168,slow=33							
CMAR	**Chiang Mai Arr**	**95.10**	**44**	P	**P**	**08 13 09.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**95.10**	**44**	P	**P**	**08 13 09.6**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=322,slow=6.0,SNR=8.8							
CMAR				LR	LR	09 01 14.0		
	comp=Z,42nm,19.7s,baz=305,slow=39							
CMAR	**Chiang Mai Arr**	**95.10**	**44**	P	**P**	**08 13 09.6**	**-0.7**
QIZ	**Qiongzhong**	**98.36**	**35**	P	**P**	**08 13 23.5**	**-1.5**
QIZ				S	**S**	**08 24 51.1**	**-1.7**
QIZ				pmax	pmax		
	comp=Z,16nm,2.0s							
QIZ				pmax	pmax		
	comp=Z,37nm,3.4s							
QIZ				LR	LR		
	comp=Z,120nm,32.8s							
BOSA	**Boshof**	**98.71**	**130**	LR	LR	08 59 16.3		
	comp=Z,215nm,19.2s,baz=153,slow=36							
PPT2	**Papeete2**	**118.58**	**282**	*e*LR	LR	08 54 50.8		
	comp=Z,334nm,23.2s							
WRA	**Warramunga Arr**	**141.94**	**18**	PKP	**PKPdf**	**08 19 17.6**	**-1.3**
WRA	**Warramunga Arr**	**141.94**	**18**	PKP	**PKPdf**	**08 19 17.6**	**-1.3**
	comp=Z,0.9nm,1.0s,baz=333,slow=2.9,SNR=4.7							
WRA	**Warramunga Arr**	**141.94**	**18**	PKIKP	**PKPdf**	**08 19 17.6**	**-1.3**
AS31	**Alice Springs**	**145.50**	**20**	*e*PKPdf	**PKPbc**	**08 19 24.0**	**-1.1**
AS31	**Alice Springs**	**145.50**	**20**	*e*PKIKP	**PKPbc**	**08 19 24.0**	**-1.1**
ASAR	**Alice Springs**	**145.50**	**20**	PKPbc	**PKPbc**	**08 19 23.6**	**-1.5**
ASAR	**Alice Springs**	**145.50**	**20**	PKPbc	**PKPbc**	**08 19 23.6**	**-1.5**
	comp=Z,9.1nm,1.0s,baz=349,slow=2.9,SNR=40							
ASAR	**Alice Springs**	**145.50**	**20**	PKPbc	**PKPbc**	**08 19 23.6**	**-1.5**
QSPA	**South Pole Qui**	**146.91**	**180**	*e*PKPdf	**PKPdf**	**08 19 25.7**	**-0.4**

IDC 07 08:04:12.0±0.9, 11°.19N×142°.91E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.6/23, mbtmp3.6/6, Error ellipse: s-maj=32.6km s-min=24.3km az=104.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.06**	**195**	P	P	08 10 40.4	-0.4
	0.4nm,0.7s,baz=18,slow=9.6,SNR=4.7						
ASAR	**Alice Springs**	**35.74**	**194**	P	P	08 11 13.1	+0.3
	0.2nm,0.4s,baz=21,slow=11,SNR=5.2						
CMAR	**Chiang Mai Arr**	**43.02**	**285**	P	P	08 12 14.0	+0.2
	1.3nm,0.7s,baz=87,slow=7.6,SNR=9.7						
MKAR	**Makanchi Array**	**61.91**	**317**	P	P	08 14 33.0	-0.5
	0.4nm,0.6s,baz=92,slow=7.7,SNR=4.6						
ILAR	**Eielson Array**	**71.55**	**25**	P	P	08 15 34.7	0.0
	0.2nm,0.5s,baz=247,slow=5.7,SNR=3.9						
NVAR	**Mina Array Bea**	**89.91**	**51**	P	P	08 17 14.3	+0.5
	0.7nm,0.7s,baz=270,slow=5.1,SNR=5.6						
LPAZ	**La Paz**	**149.45**	**103**	PKPbc	PKPbc	08 24 04.0	-1.0
	0.6nm,0.4s,baz=14,slow=4.9,SNR=5.0						

IDC 07 08:09:45.8±6.8, 7°.49S×155°.72E, h98km±53km, mb3.3/6, mb1 3.5/7, mb1mx3.4/19, mbtmp3.4/7, MS3.8/1, Ms1 3.8/1, ms1mx2.6/16, Error ellipse: s-maj=50.7km s-min=28.6km az=112.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.68**	**257**	P	Pn	08 11 50.4	+1.8
	1.1nm,0.3s,baz=41,slow=20,SNR=3.6						
PMG				S	Sn	08 13 25.1	+0.3
	0.5nm,0.3s,baz=156,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**24.14**	**237**	P	P	08 14 51.4	-1.5
	0.4nm,0.6s,baz=60,slow=9.5,SNR=4.3						
WRA				PcP	PcP	08 18 32.9	+1.2
	0.3nm,0.7s,baz=62,slow=2.7,SNR=4.0						
ASAR	**Alice Springs**	**26.40**	**230**	P	P	08 15 13.4	0.0
	0.2nm,0.5s,baz=60,slow=9.7,SNR=3.0						

AFI	**Afiamalu**	**32.55**	**104**	LR	LR	08 26 30.4		
	comp=Z,182nm,22.0s,baz=150,slow=31								
CMAR	**Chiang Mai Arr**	**61.64**	**296**	P	P	08 19 54.2	+0.5		
	0.6nm,0.6s,baz=118,slow=5.2,SNR=4.7								
SONM	**Songino Array**	**70.14**	**327**	P	P	08 20 47.4	-0.5		
	1.6nm,0.8s,baz=140,slow=7.0,SNR=5.2								
ILAR	**Eielson Array**	**83.57**	**21**	P	P	08 22 02.2	-0.6		
	0.4nm,0.8s,baz=243,slow=5.3,SNR=3.8								
MKAR	**Makanchi Array**	**84.25**	**319**	P	P	08 22 06.8	+0.2		
	1.8nm,0.7s,baz=102,slow=5.3,SNR=25								

IDC 07 08:13:57.9±3.1, 4°.08S×101°.16E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/22, mbtmp3.5/5, Error ellipse: s-maj=134.0km s-min=20.9km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**22.50**	**354**	P	P	08 18 59.6	+0.3
	0.7nm,0.7s,baz=182,slow=9.0,SNR=5.6						
WRA	**Warramunga Arr**	**35.96**	**119**	P	P	08 20 58.7	-2.0
	0.1nm,0.3s,baz=285,slow=10,SNR=8.3						
ASAR	**Alice Springs**	**37.11**	**125**	P	P	08 21 10.7	+0.1
	0.6nm,0.6s,baz=303,slow=8.2,SNR=6.7						
STKA	**Stephens Creek**	**46.91**	**131**	P	P	08 22 32.2	+1.7
	1.6nm,0.8s,baz=317,slow=10,SNR=3.9						
MKAR	**Makanchi Array**	**53.33**	**344**	P	P	08 23 18.5	-0.4
	0.2nm,0.6s,baz=146,slow=6.1,SNR=2.2						

IDC 07 08:16:09.9±2.8, 0°.38S×29°.98E, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.6/25, mbtmp3.8/4, ML3.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.1/30, Error ellipse: s-maj=73.8km s-min=25.6km az=11.0, Zaire

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**7.32**	**96**	Pn	Pn	08 17 59.5	+1.0
	0.9nm,0.3s,baz=261,slow=18,SNR=11						
KMBO				Pg	Pb	08 18 23.6	+5.4
	1.3nm,0.3s,baz=264,slow=18,SNR=5.9						
KMBO				Sn	Sn	08 19 17.8	-4.7
	1.8nm,0.3s,baz=248,slow=19,SNR=3.5						
KMBO				Lg	Lg	08 19 53.0		
	8.8nm,0.3s,baz=172,slow=23,SNR=9.4						
KMBO				LR	LR	08 21 07.9		
	comp=Z,106nm,19.5s,baz=278,slow=41						
LSZ	**Lusaka**	**14.91**	**187**	Sn	Sn	08 22 34.5	+6.1
	0.1nm,0.3s,baz=120,slow=16,SNR=1.9						
LSZ				Lg	Lg	08 23 54.9		
	0.4nm,0.3s,baz=122,slow=16,SNR=3.5						
TORD	**Torodi Ar. Bea**	**31.09**	**297**	P	P	08 22 30.4	+0.1
	2.5nm,0.7s,baz=105,slow=7.9,SNR=15						
BRTR	**Keskin Array B**	**40.05**	**4**	P	P	08 23 48.0	+0.8
	0.5nm,0.4s,baz=176,slow=8.7,SNR=3.5						
MKAR	**Makanchi Array**	**65.47**	**37**	P	P	08 26 54.0	-0.9
	0.5nm,0.7s,baz=240,slow=4.8,SNR=6.6						

*MOS **07** 08:18:38.3±1.5, 54°.09N×159°.14E, h128km, mb3.9/3, Error ellipse: s-maj=19.6km s-min=10.7km az=69.0*
*ISCJB **07** 08:18:39.8±0.3, 53°.84N±0°.03×159°.35E±0°.08, h138km±2km, mb3.4/7, Error ellipse: s-maj=9.0km s-min=2.8km az=25.9*
*KRSC **07** 08:18:39.3±0.7, 53°.84N×159°.39E, h137km±36km, ML3.8*
*IDC **07** 08:18:40.9±0.9, 54°.02N×159°.07E, h137km±10km, mb3.3/7, mb1 3.6/8, mb1mx3.3/27, mbtmp3.3/8, Error ellipse: s-maj=25.9km s-min=15.5km az=154.0*
ISC 07 08:18:40.4±0.7, 53°.86N±0°.03×159°.35E±0°.05, h133km±5km, n55, σ1°.14/84, mb3.4/7, 4C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KII	**Karymskiy**	**0.18**	**20**	*e*P	**Pn**	**08 18 58.5**	**-0.1**
KII				*i* S	**Sn**	**08 19 12.3**	**-0.2**
SDLR	**Sedlovina**	**0.65**	**205**	*e*P	**Pn**	**08 19 00.8**	**0.0**
SDLR				*i* S	**Sn**	**08 19 16.6**	**+0.3**
KRER	**Koryakskii**	**0.66**	**213**	*e*P	**Pn**	**08 19 01.6**	**+0.6**
KRER				*i* S	**Sn**	**08 19 18.2**	**+1.6**
SMAR	**Somma**	**0.68**	**209**	*e*P	**Pn**	**08 19 01.4**	**+0.2**
SMAR				*i* S	**Sn**	**08 19 17.5**	**+0.6**
NLC	**Nalytchevo**	**0.69**	**180**	*e*P	**Pn**	**08 19 00.8**	**-0.2**
NLC				*i* S	**Sn**	**08 19 16.8**	**+0.3**
AVH	**Avacha**	**0.70**	**211**	*e*P	**Pn**	**08 19 01.7**	**+0.6**
AVH				*i* S	**Sn**	**08 19 18.4**	**+1.6**
KOK	**Koryaka**	**0.71**	**217**	*e*P	**Pn**	**08 19 01.8**	**+0.6**
KOK				*i* S	**Sn**	**08 19 18.5**	**+1.5**
UGLR	**Uglovaya**	**0.73**	**206**	*e*P	**Pn**	**08 19 01.5**	**+0.1**
UGLR				*i* S	**Sn**	**08 19 18.0**	**+0.8**
GNL	**Ganaly**	**0.85**	**259**	*e*P	**Pn**	**08 19 02.3**	**0.0**
GNL				*i* S	**Sn**	**08 19 18.9**	**-0.1**
PET	**Petropavlovsk**	**0.94**	**206**	‖*i*PN	**Pn**	**08 19 03.0**	**+0.1**
PET				*i* S	**Sn**	**08 19 20.3**	**+0.3**
PET				pmax	pmax		
	comp=Z,218nm,0.3s						
PET				smax	smax		
	comp=N,908nm,0.8s						
PET				smax	smax		
	comp=E,664nm,0.7s						
PET	**Petropavlovsk**	**0.94**	**206**	*e*P	**Pn**	**08 19 03.0**	**+0.1**
PET				*i* S	**Sn**	**08 19 20.3**	**+0.3**
PETK	**Petropavlovsk-**	**1.24**	**233**	*e*PN	**Pn**	**08 19 06.0**	**+0.2**
PETK				pmax	pmax		
	comp=Z,51nm,0.3s						
PETK	**Petropavlovsk-**	**1.24**	**233**	P	**Pn**	**08 19 06.1**	**+0.2**
	comp=Z,51nm,0.3s,baz=67,slow=14,SNR=524						
PETK				S	**Sn**	**08 19 26.2**	**+1.0**
	comp=Z,11nm,0.3s,baz=38,slow=24,SNR=10						
TUMR	**Tumrok**	**1.50**	**18**	*e*P	**Pn**	**08 19 09.2**	**+0.5**
RUS	**Russkaya**	**1.52**	**200**	*e*P	**Pn**	**08 19 08.4**	**-0.4**
RUS				*i* S	**Sn**	**08 19 29.4**	**-1.1**
GRL	**Gorelyy**	**1.52**	**211**	*e*P	**Pn**	**08 19 10.0**	**+1.0**
MTVR	**Mutnovka**	**1.55**	**207**	*e*P	**Pn**	**08 19 09.8**	**+0.4**
MTVR				*i* S	**Sn**	**08 19 31.7**	**+0.3**
MKZ	**Mys Kozlova**	**1.56**	**63**	*e*P	**Pn**	**08 19 08.6**	**-0.7**
MKZ				*i* S	**Sn**	**08 19 29.8**	**-1.6**
APC	**Apacha**	**1.61**	**235**	*e*P	**Pn**	**08 19 10.7**	**+0.8**
APC				*i* S	**Sn**	**08 19 33.2**	**+0.8**
ASAK	**Asacha**	**1.72**	**211**	*e*P	**Pn**	**08 19 11.8**	**+0.6**
ASAK				*i* S	**Sn**	**08 19 35.6**	**+0.8**
KMNR	**Kamenistaya**	**1.96**	**15**	*e*P	**Pn**	**08 19 14.7**	**+0.6**
KMNR				*i* S	**Sn**	**08 19 41.0**	**+1.0**
ESO	**Esso**	**2.10**	**350**	*e*P	**Pn**	**08 19 15.6**	**0.0**
ESO				*i* S	**Sn**	**08 19 42.3**	**-0.4**
KPT	**Kopyto**	**2.17**	**13**	*e*P	**Pn**	**08 19 16.7**	**+0.2**
KIRR	**Kirishev**	**2.17**	**15**	*e*P	**Pn**	**08 19 17.5**	**+0.8**
BZMR	**Bezymyannaya**	**2.18**	**17**	*e*P	**Pn**	**08 19 17.4**	**+0.7**
BZMR				*i* S	**Sn**	**08 19 45.6**	**+0.9**
BZWR	**Bezymyannyi-We**	**2.21**	**17**	*e*P	**Pn**	**08 19 18.1**	**+1.0**
BZWR				*i* S	**Sn**	**08 19 46.4**	**+1.0**
KOZ	**Kozyrevsk**	**2.22**	**8**	*e*P	**Pn**	**08 19 17.3**	**+0.2**
KOZ				*i* S	**Sn**	**08 19 45.4**	**0.0**
BZGR	**Bezymyannyi-Gr**	**2.22**	**20**	*e*P	**Pn**	**08 19 18.4**	**+1.2**
BZGR				*i* S	**Sn**	**08 19 47.5**	**+1.9**
MIPR	**Malaya Ipel'ka**	**2.23**	**225**	*e*P	**Pn**	**08 19 17.9**	**+0.6**
ZLN	**Zelenaya**	**2.32**	**21**	*e*P	**Pn**	**08 19 20.3**	**+1.9**
ZLN				*i* S	**Sn**	**08 19 50.3**	**+2.6**
LGNR	**Loginova**	**2.35**	**19**	*e*P	**Pn**	**08 19 20.0**	**+0.9**
LGNR				*i* S	**Sn**	**08 19 50.1**	**+1.3**
CIRR	**Tsirk**	**2.40**	**19**	*e*P	**Pn**	**08 19 22.0**	**+2.6**
KRSR	**Krestovskiy**	**2.46**	**16**	*e*P	**Pn**	**08 19 21.3**	**+1.1**
KRSR				*i* S	**Sn**	**08 19 52.1**	**+1.2**
SRDR	**Sredinnyy**	**2.47**	**5**	*e*P	**Pn**	**08 19 20.3**	**+0.1**
KLY	**Klyuchi**	**2.57**	**16**	*e*P	**Pn**	**08 19 22.9**	**+1.5**
KLY				*i* S	**Sn**	**08 19 54.6**	**+1.5**
PAU	**Pauzhetka**	**2.85**	**214**	*e*P	**Pn**	**08 19 26.1**	**+1.0**
SMKR	**Semkarok**	**2.98**	**23**	*e*P	**Pn**	**08 19 27.7**	**+0.9**
SRKR	**Sorokina**	**2.98**	**20**	*e*P	**Pn**	**08 19 27.8**	**+1.0**
SRKR				*i* S	**Sn**	**08 20 03.1**	**+0.3**
KBG	**Krutoberegovo**	**3.08**	**38**	*e*P	**Pn**	**08 19 28.6**	**+0.7**
KBG				*i* S	**Sn**	**08 20 05.2**	**+0.5**
SKR	**Severo-Kuril's**	**3.75**	**213**	*e*PN	Pn	08 19 33.4	-3.4
SKR				*e*S	**Sn**	**08 20 20.5**	**-0.1**
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
SKR				smax	smax		
	comp=E,50nm,0.4s						
SKR				smax	smax		
	comp=Z,20nm,0.4s						
SKR				smax	smax		
	comp=N,120nm,0.2s						

FX1	**Attu Island--F**	**8.32**	**91**	P	**Pn**	**08 20 39.7**	**+1.7**		
	comp=N,1.0nm,0.3s,baz=265,slow=18,SNR=12								
FX1				S	**Sn**	**08 22 05.9**	**-4.4**		
	comp=N,7.6nm,0.3s,baz=120,slow=17,SNR=14								
YSS	**Yuzh-Sakhalins**	**12.62**	**244**	*e*PN	**Pn**	**08 21 35.9**	**+0.8**		
BILL	**Bilibino**	**14.60**	**10**	‖*e*P	Pn	08 21 55.4	-4.7		
ERM	**Erimo**	**16.02**	**229**	‖*e*P	**P**	**08 22 18.5**	**-0.3**		
YAK	**Yakutsk**	**17.60**	**309**	‖*e*P	**P**	**08 22 32.9**	**-3.1**		
COLA	**College**	**28.18**	**46**	*e*P	**P**	**08 24 21.1**	**+1.3**		
ILAR	**Eielson Array**	**28.60**	**46**	P	**P**	**08 24 23.2**	**-0.3**		
	comp=N,0.2nm,0.4s,baz=262,slow=9.3,SNR=5.3								
TLY	**Talaya**	**33.04**	**289**	‖*e*P	**P**	**08 25 01.7**	**-1.0**		
MKAR	**Makanchi Array**	**47.42**	**295**	*e*P	**P**	**08 27 00.7**	**-0.4**		
MKAR	**Makanchi Array**	**47.42**	**295**	P	**P**	**08 26 59.7**	**-1.4**		
	comp=N,0.2nm,0.3s,baz=61,slow=6.1,SNR=6.2								
PDAR	**Pinedale Array**	**57.54**	**61**	P	**P**	**08 28 16.9**	**+1.1**		
	comp=N,1.4nm,0.7s,baz=328,slow=2.4,SNR=14								
FINES	**FINESS Array B**	**59.23**	**336**	P	**P**	**08 28 25.1**	**-1.9**		
	comp=N,1.5nm,0.8s,baz=15,slow=8.3,SNR=4.8								
TXAR	**Lajitas Array**	**70.74**	**67**	P	**P**	**08 29 42.9**	**+0.9**		
	comp=N,0.8nm,0.5s,baz=294,slow=5.1,SNR=26								
WRA	**Warramunga Arr**	**76.60**	**204**	P	**P**	**08 30 16.1**	**+0.1**		
	comp=N,0.2nm,0.5s,baz=19,slow=6.3,SNR=5.4								
ASAR	**Alice Springs**	**80.28**	**204**	P	**P**	**08 30 36.7**	**+0.6**		
	comp=N,0.5nm,0.7s,baz=19,slow=5.9,SNR=5.4								

IDC 07 08:25:42.0±5.2, 5°.82S×151°.34E, h47km±44km, mb3.7/5, mb1 3.9/6, mb1mx3.5/19, mbtmp3.8/6, ML3.2/1, Error ellipse: s-maj=60.6km s-min=30.3km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.47**	**229**	P	Pn	08 27 02.4	+1.4
	4.7nm,0.3s,baz=36,slow=7.6,SNR=12						
PMG				S	Sn	08 28 02.8	+0.2
	2.2nm,0.3s,baz=207,slow=16,SNR=2.7						
WRA	**Warramunga Arr**	**21.68**	**228**	P	P	08 30 28.6	-0.6
	1.1nm,0.5s,baz=54,slow=10,SNR=11						
ASAR	**Alice Springs**	**24.43**	**222**	P	P	08 30 56.1	-0.4
	2.6nm,0.7s,baz=52,slow=9.0,SNR=28						
STKA	**Stephens Creek**	**27.48**	**198**	P	P	08 31 24.1	0.0
	6.0nm,1.2s,baz=18,slow=9.9,SNR=4.2						
FITZ	**Fitzroy Crossi**	**27.90**	**242**	P	P	08 31 28.1	+0.3
	1.8nm,0.7s,baz=44,slow=8.0,SNR=7.8						
ILAR	**Eielson Array**	**83.64**	**22**	P	P	08 38 04.7	-0.6
	0.5nm,0.6s,baz=243,slow=5.3,SNR=12						
TORD	**Torodi Ar. Bea**	**149.21**	**286**	PKPbc	PKPbc	08 45 26.9	+0.3
	0.6nm,0.5s,baz=76,slow=2.2,SNR=7.6						

IDC 07 08:30:48.1±1.6, 55°.52S×116°.98W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/16, mbtmp4.0/3, MS3.5/4, Ms1 3.5/4, ms1mx3.2/25, Error ellipse: s-maj=54.3km s-min=46.0km az=76.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**27.11**	**131**	LR	LR	08 45 24.7	
	comp=Z,83nm,18.1s,baz=235,slow=32						
QSPA	**South Pole Qui**	**34.67**	**180**	P	P	08 37 38.5	-0.5
	5.4nm,0.9s,baz=239,slow=6.3,SNR=15						
QSPA				LR	LR	08 50 40.8	
	comp=Z,95nm,20.0s,baz=122,slow=34						
VNDA	**Vanda**	**34.73**	**202**	LR	LR	08 48 38.5	
	comp=Z,68nm,21.0s,baz=351,slow=31						
CPUP	**Villa Florida**	**51.63**	**81**	LR	LR	08 58 48.0	
	comp=Z,71nm,21.7s,baz=72,slow=32						
ASAR	**Alice Springs**	**80.93**	**241**	P	P	08 43 05.2	+0.9
	0.7nm,0.8s,baz=146,slow=4.9,SNR=5.6						
WRA	**Warramunga Arr**	**83.83**	**244**	P	P	08 43 20.4	+1.1
	1.3nm,1.0s,baz=144,slow=4.6,SNR=6.2						
GERES	**GERESS Array B**	**149.59**	**82**	PKPbc	PKPbc	08 50 39.2	+0.7
	0.2nm,0.3s,baz=217,slow=3.1,SNR=4.6						
SONM	**Songino Array**	**152.42**	**272**	PKPbc	PKPbc	08 50 42.6	-2.6
	0.8nm,0.6s,baz=124,slow=2.9,SNR=4.4						
MKAR	**Makanchi Array**	**165.12**	**242**	PKPab	PKPab	08 51 49.5	-0.9
	0.3nm,0.6s,baz=122,slow=4.6,SNR=4.3						

*ISCJB **07** 08:45:40.9±1.2, 18°.82N±0°.09×64°.25W±0°.03, h8km±7km, Error ellipse: s-maj=14.7km s-min=3.8km az=9.4*
*TRN **07** 08:45:41.2, 18°.67N×64°.31W, h13km, MD4.0*
*NEIC **07** 08:45:41.6, 18°.56N×63°.97W, h15km, MD3.7(RSPR), After RSPR.*
*RSPR **07** 08:45:41.6, 18°.56N×63°.97W, h15km±18km, MD3.7/12*
ISC 07 08:45:41.0±2.8, 18°.7N±0°.1×64°.18W±0°.04, h7km±18km, n60, σ0°.67/76, 41C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBVI	**Tortola**	**0.47**	**240**	‖*e*P	**Pb**	**08 45 51.9**	**+0.2**
TBVI	**Tortola**	**0.47**	**240**	‖*e*P	**Pb**	**08 45 51.9**	**+0.2**
TBVI	**Tortola**	**0.47**	**240**	‖

CRPR	Cabo Rojo, PR	2.85 257	eS	Sn	08 47 01.8	+0.2
CRPR	Cabo Rojo, PR	2.85 257‖	eP	Pn	08 46 27.0	0.0
CRPR			eS	Sn	08 47 01.8	+0.2
CRPR	Cabo Rojo, PR	2.85 257‖	eP	Pn	08 46 27.0	0.0
CRPR			eS	Sn	08 47 01.8	+0.2
LZG	Guadaloupe-1	3.40 137	eP	Pb	08 46 38.0	-3.6
SEG	Port Louis	3.40 131	eP	Pb	08 46 37.9	-3.7
BCG	Bois Riant Cap	3.54 136	eP	Pb	08 46 40.0	-4.0
HMG	Houelmont	3.56 138	eP	Pn	08 46 39.8	+3.0
MGG	Marie-Galante	3.86 134	eP	Pb	08 46 44.9	-4.6

IDC ***07*** *08:46:52.9±0.8,5°.36S×153°.21E, h0km, mb3.8/11, mb1 3.9/12, mb1mx3.8/22, mbtmp3.8/12, ML3.0/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/27, Error ellipse: s-maj=26.9km s-min=17.3km az=104.0*

ISCJB ***07*** *08:46:56.7±0.6,5°.42S±0°.08×153°.11E±0°.09, h37km, mb3.8/10, MS3.3/2, Error ellipse: s-maj=15.0km s-min=9.4km az=40.6*

NEIC ***07*** *08:47:00.2±2.4,5°.43S×153°.12E, h54km±21km, mb4.1/4, Error ellipse: s-maj=17.5km s-min=13.7km az=71.0*

ISC 07 08:46:58.6±0.7,5°.39S±0°.09×153°.2E±0°.1, h37km, n27, σ0§86/28, mb3.8/10, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.17	236	Pn	Pn	08 48 41.9	+1.0
PMG				Sn	Sn	08 50 00.6	-0.6
PMG	Port Moresby	7.17	236	Pn	Pn	08 48 41.9	+1.0
	1.3nm,0.3s,baz=67,slow=7.7,SNR=3.0						
PMG				Sn	Sn	08 50 00.6	-0.6
	0.9nm,0.3s,baz=13,slow=19,SNR=3.0						
EIDS	Eidsvold	19.96	186	eP	P	08 51 27.2	-0.4
	11nm,1.1s						
DZM	Mont Dzumac	20.97	143	P	P	08 51 39.4	+0.7
DZM	Mont Dzumac	20.97	143	P	P	08 51 39.4	+0.7
	4.3nm,0.8s,baz=270,slow=20,SNR=3.1						
WRA	Warramunga Arr	23.34	230	P	P	08 52 02.6	-1.1
WRA	Warramunga Arr	23.34	230	P	P	08 52 02.6	-1.1
	0.6nm,0.5s,baz=53,slow=9.8,SNR=16						
ASAR	Alice Springs	25.97	224	P	P	08 52 27.9	0.0
ASAR	Alice Springs	25.97	224	P	P	08 52 27.9	0.0
	1.1nm,0.8s,baz=59,slow=8.9,SNR=8.5						
STKA	Stephens Creek	28.49	201	LR	LR	09 04 51.6	
	comp=Z,86nm,18.4s,baz=24,slow=38						
FITZ	Fitzroy Crossi	29.71	243	eP	P	08 53 00.3	-1.1
	4.2nm,0.9s						
FITZ	Fitzroy Crossi	29.71	243	P	P	08 53 00.7	-0.7
	1.6nm,0.8s,baz=60,slow=15,SNR=4.3						
USRK	Ussuriysk Arra	52.92	341	P	P	08 56 11.4	+0.4
	0.9nm,0.6s,baz=162,slow=5.7,SNR=5.1						
PETK	Petropavlovsk-	58.41	3	P	P	08 56 50.6	+0.4
PETK	Petropavlovsk-	58.41	3	P	P	08 56 50.6	+0.4
	1.9nm,0.6s,baz=170,slow=8.8,SNR=4.3						
PETK				LR	LR	09 17 12.5	
	comp=Z,19nm,20.7s,baz=284,slow=31						
SONM	Songino Array	67.02	328	P	P	08 57 48.7	+0.7
SONM	Songino Array	67.02	328	P	P	08 57 48.7	+0.7
	0.6nm,0.5s,baz=168,slow=7.2,SNR=3.8						
VNDA	Vanda	72.23	178	eP	P	08 58 19.7	+0.2
	0.8nm,0.8s						
VNDA	Vanda	72.23	178	P	P	08 58 19.9	+0.5
	0.9nm,1.0s,baz=317,slow=4.2,SNR=4.9						
MKAR	Makanchi Array	81.01	319	P	P	08 59 10.2	+0.5
MKAR	Makanchi Array	81.01	319	P	P	08 59 10.2	+0.5
	0.6nm,0.8s,baz=106,slow=7.7,SNR=5.8						
ILAR	Eielson Array	82.57	22	P	P	08 59 15.4	-2.0
ILAR	Eielson Array	82.57	22	P	P	08 59 15.4	-2.0
	0.3nm,0.7s,baz=246,slow=5.4,SNR=3.7						
QSPA	South Pole Qui	84.57	180	eP	P	08 59 27.8	-0.1
	1.7nm,0.7s						
QSPA	South Pole Qui	84.57	180	P	P	08 59 27.9	+0.1
	1.3nm,0.8s,baz=281,slow=4.7,SNR=6.1						
TORD	Torodi Ar. Bea	150.84	287	PKPbc	PKPbc	09 06 47.7	-0.5
TORD	Torodi Ar. Bea	150.84	287	PKPbc	PKPbc	09 06 47.7	-0.5
	1.5nm,0.7s,baz=61,slow=1.9,SNR=10						

CSEM ***07*** *08:53:05.4,34°.20N×25°.31E, h5km, MD3.5, After ATH*

ATH 07 08:53:05.4,34°.20N×25°.31E, h5km, MD3.5/8, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	Sivas	0.91	333	ePN	Pb	08 53 23.9	+0.1
SIVA	Sivas	0.91	333	ePn	Pb	08 53 23.9	+0.1
LAST	Lasithi	0.97	8	ePN	Pg	08 53 24.4	+0.2
LAST	Lasithi	0.97	8	ePn	Pg	08 53 24.4	+0.2
NPS	Neapolis	1.09	13	ePN	Pg	08 53 26.3	-0.1
NPS	Neapolis	1.09	13	ePn	Pg	08 53 26.3	-0.1
IDI	Anoyia	1.14	342	ePG	Pg	08 53 26.5	-0.9
IDI	Anoyia	1.14	342	ePg	Pg	08 53 26.5	-0.9
ZKR	Zakros	1.18	39	ePG	Pg	08 53 27.6	-0.5
ZKR	Zakros	1.18	39	ePg	Pg	08 53 27.6	-0.5
VAM	Vamos	1.51	323	ePG	Pn	08 53 33.0	-0.2
VAM	Vamos	1.51	323	ePg	Pn	08 53 33.0	-0.2
KARP	Karpathos	2.03	48	ePN	Pb	08 53 43.0	+0.1
KARP	Karpathos	2.03	48	ePn	Pb	08 53 43.0	+0.1
KYTH	Kithira	2.79	319	ePN	Pb	08 53 54.6	-1.2
KYTH	Kithira	2.79	319	ePn	Pb	08 53 54.6	-1.2

IDC 07 09:04:35.3±2.4,5°.33S×153°.14E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/20, mbtmp3.6/6, ML2.9/1, Error ellipse: s-maj=84.7km s-min=21.6km az=123.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.18	235	Pn	Pn	09 06 23.9	+2.2
	1.3nm,0.3s,baz=50,slow=7.9,SNR=3.5						
PMG				Sn	Sn	09 07 44.2	+0.1
	1.9nm,0.3s,baz=139,slow=20,SNR=4.7						
WRA	Warramunga Arr	23.36	230	P	P	09 09 45.2	-0.4
	0.2nm,0.4s,baz=55,slow=10,SNR=6.6						
ASAR	Alice Springs	26.00	224	P	P	09 10 10.7	+0.5
	0.4nm,0.8s,baz=60,slow=8.3,SNR=5.3						
FITZ	Fitzroy Crossi	29.71	242	P	P	09 10 42.7	-0.7
	1.8nm,0.9s,baz=63,slow=6.7,SNR=2.5						
PETK	Petropavlovsk-	58.35	3	P	P	09 14 32.3	+0.2
	1.1nm,0.8s,baz=157,slow=7.0,SNR=4.6						
MKAR	Makanchi Array	80.95	319	P	P	09 16 52.0	+0.1
	0.2nm,0.5s,baz=102,slow=6.5,SNR=2.9						
TORD	Torodi Ar. Bea	150.79	287	PKPbc	PKPbc	09 24 30.1	-0.7
	0.6nm,0.7s,baz=70,slow=2.4,SNR=4.9						

CSEM ***07*** *09:09:17.8±0.1,42°.26N×13°.52E, h2km, ML2.9/6, Error ellipse: s-maj=2.7km s-min=1.9km az=84.0*

ROM 07 09:09:17.2±0.1,42°.27N×13°.52E, h11km, Ml2.5/15, Error ellipse: s-maj=0.9km s-min=0.9km az=134.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	L'Aquila	0.12	315	Pg	Pg	09 09 20.7	+0.4
AQU				Sg	Sg	09 09 23.1	+0.7
	2µm,0.4s						
AQU	L'Aquila	0.12	315	Pg	Pg	09 09 20.7	+0.4
AQU				Sg	Sg	09 09 23.1	+0.7
	2µm,0.4s						
PTQR	Pietraquaria	0.26	199	Pg	Pg	09 09 23.2	+0.5
PTQR				Sg	Sg	09 09 27.4	+1.0
PTQR	Pietraquaria	0.26	199	Pg	Pg	09 09 23.2	+0.5
PTQR				Sg	Sg	09 09 27.4	+1.0
VCEL	Villa Celiera	0.27	62	Pg	Pg	09 09 23.3	+0.4
VCEL				Sg	Sg	09 09 27.9	+1.2
	1µm,0.5s						
VCEL	Villa Celiera	0.27	62	Pg	Pg	09 09 23.3	+0.4
VCEL				Sg	Sg	09 09 27.9	+1.2
	1µm,0.5s						
FIAM	Fiamignano	0.30	270	Pg	Pg	09 09 23.8	+0.4
FIAM				Sg	Sg	09 09 28.6	+1.1
	413nm,0.6s						
FIAM	Fiamignano	0.30	270	Pg	Pg	09 09 23.8	+0.4
FIAM				Sg	Sg	09 09 28.6	+1.1
	413nm,0.6s						
TERO	Teramo	0.36	10	Pg	Pg	09 09 24.5	0.0
TERO				Sg	Sg	09 09 30.0	+0.7
	498nm,0.4s						
TERO	Teramo	0.36	10	Pg	Pg	09 09 24.5	0.0
TERO				Sg	Sg	09 09 30.0	+0.7
	498nm,0.4s						
INTR	Introdacqua	0.39	132	Pg	Pg	09 09 25.3	+0.3
INTR				Sg	Sb	09 09 31.7	-0.6
	422nm,0.2s						
INTR	Introdacqua	0.39	132	Pg	Pg	09 09 25.3	+0.3
INTR				Sg	Sb	09 09 31.7	-0.6
	422nm,0.2s						
VVLD	Villa Vallelon	0.41	169	Pg	Pg	09 09 25.7	+0.3
VVLD				Sg	Sb	09 09 31.9	-1.0
	241nm,0.3s						
VVLD	Villa Vallelon	0.41	169	Pg	Pg	09 09 25.7	+0.3
VVLD				Sg	Sb	09 09 31.9	-1.0
	241nm,0.3s						
LNSS	Leonessa	0.48	313	Pg	Pb	09 09 27.6	-0.4
	219nm,0.6s						
LNSS	Leonessa	0.48	313	Pg	Pb	09 09 27.6	-0.4
	219nm,0.6s						
GUAR	Guarcino	0.50	198	Pg	Pg	09 09 27.3	+0.3
	203nm,0.3s						
GUAR	Guarcino	0.50	198	Pg	Pg	09 09 27.3	+0.3
	203nm,0.3s						
CERT	Cerreto	0.51	231	Pg	Pg	09 09 27.4	+0.1
	336nm,0.4s						
CERT	Cerreto	0.51	231	Pg	Pg	09 09 27.4	+0.1
	336nm,0.4s						
POFI	Posta Fibreno	0.57	165	Pg	Pg	09 09 28.5	+0.1
POFI	Posta Fibreno	0.57	165	Pg	Pg	09 09 28.5	+0.1
SDI	San Donato	0.60	159	Pg	Pg	09 09 28.9	-0.1
	143nm,0.1s						
SDI	San Donato	0.60	159	Pg	Pg	09 09 28.9	-0.1
	143nm,0.1s						
NRCA	Norcia	0.64	332	Pg	Pg	09 09 29.5	-0.2
	110nm,0.2s						
NRCA	Norcia	0.64	332	Pg	Pg	09 09 29.5	-0.2
	110nm,0.2s						
OFFI	Offida	0.68	11	Pg	Pb	09 09 31.3	+0.2
	483nm,0.8s						
OFFI	Offida	0.68	11	Pg	Pb	09 09 31.3	+0.2
	483nm,0.8s						
GIUL	Giuliano Di Ro	0.74	195	Pg	Pg	09 09 31.5	0.0
	115nm,0.7s						
GIUL	Giuliano Di Ro	0.74	195	Pg	Pg	09 09 31.5	0.0
	115nm,0.7s						
FDMO	Fiordimonte	0.83	338	Pg	Pg	09 09 33.5	+0.2
	53nm,0.3s						
FDMO	Fiordimonte	0.83	338	Pg	Pg	09 09 33.5	+0.2
	53nm,0.3s						
MIDA	Miranda	0.83	139	Pg	Pg	09 09 32.7	-0.7
	64nm,0.2s						
MIDA	Miranda	0.83	139	Pg	Pg	09 09 32.7	-0.7
	64nm,0.2s						
NVLJ	Novalja	2.50	23	ePn	Pn	09 09 59.1	+1.4
NVLJ				Sn	Sb	09 10 31.1	-1.7
NVLJ	Novalja	2.50	23	ePn	Pn	09 09 59.1	+1.3
NVLJ				Sn	Sb	09 10 31.0	-1.8
UDBI	Udbina	2.79	35	ePn	Pn	09 10 04.5	+2.6
UDBI				Sn	Sb	09 10 38.7	-2.7
UDBI	Udbina	2.79	35	ePn	Pn	09 10 04.4	+2.5
UDBI				Sn	Sb	09 10 38.6	-2.8

CSEM ***07*** *09:10:03.0,42°.57N×13°.21E, h11km, Md1.8/3, After ROM*

ROM 07 09:10:03.0±0.0,42°.57N×13°.21E, h11km, Md1.8/3, Ml1.8/1, Error ellipse: s-maj=0.3km s-min=0.2km az=156.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	Leonessa	0.13	286	Pg	Pg	09 10 06.7	+0.4
LNSS				Sg	Sg	09 10 09.3	+0.6
	246nm,0.6s						
LNSS	Leonessa	0.13	286	Pg	Pg	09 10 06.7	+0.4
LNSS				Sg	Sg	09 10 09.3	+0.6
	246nm,0.6s						
NRCA	Norcia	0.28	345	Pg	Pg	09 10 09.2	+0.4
NRCA				Sg	Sg	09 10 13.6	+0.9
NRCA	Norcia	0.28	345	Pg	Pg	09 10 09.2	+0.4
NRCA				Sg	Sg	09 10 13.6	+0.9
TERO	Teramo	0.30	79	Pg	Pg	09 10 09.6	+0.5
TERO				Sg	Sg	09 10 14.2	+0.9
TERO	Teramo	0.30	79	Pg	Pg	09 10 09.6	+0.5
TERO				Sg	Sg	09 10 14.2	+0.9
FIAM	Fiamignano	0.31	193	Pg	Pg	09 10 09.7	+0.3
FIAM				Sg	Sg	09 10 14.5	+0.9
FIAM	Fiamignano	0.31	193	Pg	Pg	09 10 09.7	+0.3
FIAM				Sg	Sg	09 10 14.5	+0.9

IDC 07 09:26:33.5±1.8,16°.45S×178°.40W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.7/19, mbtmp3.8/5, Error ellipse: s-maj=102.5km s-min=25.0km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.35	240	P	P	09 34 04.7	-0.2
	1.2nm,0.9s,baz=85,slow=11,SNR=6.4						
WRA	Warramunga Arr	44.92	258	P	P	09 34 50.5	0.0
	0.3nm,0.3s,baz=90,slow=8.0,SNR=27						
ASAR	Alice Springs	45.21	253	P	P	09 34 52.5	-0.3
	3.6nm,0.6s,baz=88,slow=8.4,SNR=71						
ILAR	Eielson Array	84.47	13	P	P	09 39 08.0	+0.3
	0.3nm,0.8s,baz=224,slow=3.8,SNR=2.9						
TXAR	Lajitas Array	85.21	58	P	P	09 39 12.1	-0.3
	0.4nm,0.8s,baz=228,slow=5.4,SNR=4.5						

IDC 07 10:00:33.1±1.6,2°.19N×128°.18E, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.8/22, mbtmp4.1/6, ML4.6/1, Error ellipse: s-maj=51.0km s-min=24.2km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	11.05	230	Pn	Pn	10 03 14.1	+1.6
	4.5nm,0.3s,baz=12,slow=9.3,SNR=12						
FITZ	Fitzroy Crossi	20.32	187	P	P	10 05 09.7	-1.2
	0.8nm,0.7s,baz=3.7,slow=8.0,SNR=3.4						
WRA	Warramunga Arr	22.81	165	P	P	10 05 38.3	+0.6
	5.3nm,0.4s,baz=345,slow=11,SNR=88						
ASAR	Alice Springs	26.30	168	P	P	10 06 09.8	-0.8
	1.8nm,0.4s,baz=344,slow=7.6,SNR=80						
STKA	Stephens Creek	36.19	160	P	P	10 07 38.0	+0.3
	5.4nm,0.9s,baz=345,slow=6.5,SNR=5.9						
MKAR	Makanchi Array	59.64	325	P	P	10 10 39.2	0.0
	0.3nm,0.5s,baz=108,slow=8.0,SNR=4.7						

DJA ***07*** *10:03:06.5±0.6,6°.S±7°.×12°.2E±°, h40km, M3.6/5, MLv3.6/5*

IDC ***07*** *10:03:07.2±1.7,5°.83S×121°.85E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.4/22, mbtmp3.4/4, ML3.2/2, MS3.0/1, Ms1 3.0/1, ms1mx2.2/12, Error ellipse: s-maj=69.4km s-min=21.8km az=40.0*

ISC 07 10:03:08.8±1.2,5°.54S±0°.08×121°.98E±0°.07, h17km, n17, σ1§50/18, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	Bau Bau	0.59	85	P	Pg	10 03 14.5	-6.0
BSSI	Bau Bau, Buton	1.60	248	P	Pb	10 03 37.2	-0.8
BSSI				S	Sg	10 04 01.7	+1.1
BSSI	Bau Bau, Buton	1.60	248	P	Pb	10 03 37.1	-0.9
BKSI	Bulukumba	1.86	277	P	Pb	10 03 41.0	-1.5
BKSI				S	Sg	10 04 07.4	-1.6
BKSI	Bulukumba	1.86	277	P	Pb	10 03 41.0	-1.5
KAPI	Kappang	2.28	283	P	Pn	10 03 46.4	+0.6
KAPI	Kappang	2.28	283	P	Pn	10 03 46.4	+0.6
KAPI	Kappang	2.28	283	Pn	Pn	10 03 45.1	-0.6
	14nm,0.3s,baz=141,slow=8.4,SNR=28						
KAPI				Sn	Sn	10 04 14.0	+0.5
	8.9nm,0.3s,baz=274,slow=20,SNR=2.5						
SPSI	Sidrap Palu	2.70	305	P	Pn	10 03 53.3	+1.7
SPSI				S	Sb	10 04 28.5	-1.2
SPSI	Sidrap Palu	2.70	305	P	Pn	10 03 53.2	+1.7
SKSI	Soroako, Sulaw	3.06	348	P	Pn	10 03 55.7	-0.8
TTSI	Tana Toraja	3.29	319	P	Pb	10 04 04.0	-2.7
TTSI	Tana Toraja	3.29	319	P	Pn	10 04 00.8	+1.2
WRA	Warramunga Arr	18.69	141	P	P	10 07 24.0	-2.5
	0.1nm,0.3s,baz=317,slow=12,SNR=5.3						
ASAR	Alice Springs	21.37	149	P	P	10 07 55.5	-0.1
	0.4nm,0.5s,baz=328,slow=12,SNR=2.9						
KSRS	Korea Array	43.13	7	LR	LR	10 29 38.0	
	comp=Z,16nm,18.7s,baz=340,slow=37						
MKAR	Makanchi Array	62.83	330	P	P	10 13 36.4	+2.7
	0.6nm,0.9s,baz=134,slow=6.2,SNR=3.2						

ISCJB ***07*** *10:04:47.2±1.2,61°.09N±0°.06×30°.3E±0°.1, h0km, Error ellipse: s-maj=11.1km s-min=5.7km az=44.4*

CSEM ***07*** *10:04:47.7±0.6,61°.06N×30°.32E, h1km, ML2.2, Error ellipse: s-maj=13.8km s-min=6.6km az=133.0, Mining explosion.*

IDC ***07*** *10:04:48.2±2.2,60°.95N×30°.04E, h0km, mb1 3.4/2, mb1mx3.0/25, mbtmp3.2/2, ML3.2/2, Error ellipse: s-maj=21.9km s-min=12.3km az=168.0*

HEL ***07*** *10:04:48.7±0.2,61°.08N×30°.28E, h0km, ML2.2, Explosion*

BER ***07*** *10:04:48.8±4.5,61°.19N×30°.19E, h0km, ML2.4(NAO), Suspected explosion*

NAO ***07*** *10:04:51.1±2.1,61°.27N×29°.94E, ML2.4*

ISC 07 10:04:46.6±1.3,61°.13N±0°.07×30°.27E±0°.06, h0km, n31, σ1§76/50, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	Virojoki	1.45	247	eP	Pn	10 05 13.8	-0.3
VJF				eS	Sg	10 05 33.0	-0.2
VJF	Virojoki	1.45	247	P	Pn	10 05 13.8	-0.3
JOF	Joensuu	1.87	15	eP	Pb	10 05 22.3	+0.7
JOF				eS	Sb	10 05 46.4	+1.0
JOF	Joensuu	1.87	15	P	Pb	10 05 22.2	+0.7
JOF				S	Sb	10 05 46.3	+1.0
FIA0	FINESS Array S	2.05	281	Pg	Pn	10 05 23.6	+1.3
	baz=106,slow=16						
FIA0				Lg	Lg	10 05 50.3	
	baz=92,slow=28						
FIA0	FINESS Array S	2.05	281	Pg	Pn	10 05 23.6	+1.3
	baz=106,slow=16						
FIA0				Lg	Lg	10 05 50.3	
	baz=92,slow=28						
FIA0	FINESS Array S	2.05	281	eP	Pn	10 05 24.1	+1.8
FIA0				eS	Sn	10 05 50.2	+1.7
FIA0	FINESS Array S	2.05	281	Pg	Pn	10 05 23.6	+1.3
	baz=106,slow=14,SNR=6.4						
FIA0	FINESS Array S	2.05	281	P	Pn	10 05 24.1	+1.8
FIA0				S	Sn	10 05 50.2	+1.7
FINES	FINESS Array B	2.05	281	Pn	Pn	10 05 23.9	+1.7
	2.2nm,0.3s,baz=98,slow=15,SNR=48						
FINES				Lg	Lg	10 05 50.4	
	4.3nm,0.3s,baz=92,slow=27,SNR=28						
KAF	Kangasniemi	2.14	299	eP	Pn	10 05 25.9	+2.4
KAF				eS	Sb	10 05 52.9	-0.3
KAF	Kangasniemi	2.14	299	P	Pn	10 05 25.8	+2.4
KAF				S	Sb	10 05 52.8	-0.3
PVF	Pernaja	2.24	257	eP	Pn	10 05 26.5	+1.7
PVF				eS	Sn	10 05 54.8	+1.7
PVF	Pernaja	2.24	257	P	Pn	10 05 26.5	+1.7
PVF				S	Sn	10 05 54.8	+1.7
SUF	Sumiainen	2.52	311	eP	Pb	10 05 31.8	-0.9
SUF				eS	Sn	10 06 02.0	+1.9
SUF	Sumiainen	2.52	311	P	Pb	10 05 31.8	-0.9
SUF				S	Sn	10 06 02.0	+1.9
KEF	Keuruu	2.78	294	eP	Pn	10 05 35.1	+2.8
KEF				eS	Sn	10 06 08.5	+2.0
KEF	Keuruu	2.78	294	P	Pn	10 05 35.1	+2.8
KEF				S	Sn	10 06 08.5	+2.0
MEF	Metsahovi	3.03	255	eP	Pn	10 05 38.0	+2.3
MEF				eS	Sn	10 06 13.8	+1.1
MEF				eSG	Sb	10 06 22.0	+3.2
MEF				MSG		10 06 22.8	
	comp=Z,8.2nm,0.3s						
MEF	Metsahovi	3.03	255	P	Pn	10 05 38.0	+2.3
MEF				S	Sn	10 06 13.8	+1.1
HFS	Hagfors	8.21	270	Pn	Pn	10 06 47.3	+0.5
	baz=83,slow=10						
HFS				Sn	Sn	10 08 15.6	-4.6
	baz=77,slow=28						
HFS	Hagfors	8.21	270	Pn	Pn	10 06 47.3	+0.5
	baz=83,slow=10						
HFS				Sn	Sn	10 08 15.6	-4.6
	baz=77,slow=28						
HFS	Hagfors	8.21	270	Pn	Pn	10 06 47.3	+0.5
	baz=83,slow=9.4,SNR=8.4						
ARA0	ARCESS Array S	8.67	349	Pn	Pn	10 06 53.4	+0.3
	baz=164,slow=14						
ARA0				Sn	Sn	10 08 24.8	-6.8
	baz=198,slow=37						
ARA0	ARCESS Array S	8.67	349	Pn	Pn	10 06 53.4	+0.3
	baz=164,slow=14						
ARA0				Sn	Sn	10 08 24.8	-6.8
	baz=198,slow=37						
ARA0	ARCESS Array S	8.67	349	Pn	Pn	10 06 53.4	+0.3
	baz=164,slow=13,SNR=7.8						
ARCES	ARCESS Array B	8.67	349	Pn	Pn	10 06 53.8	+0.6
	comp=Z,0.1nm,0.3s,baz=160,slow=14,SNR=4.9						
ARCES				Sn	Sn	10 08 31.0	-0.5
	comp=Z,0.2nm,0.3s,baz=165,slow=24,SNR=1.4						
ARCES				Lg	Lg	10 09 17.9	
	comp=Z,0.7nm,0.3s,baz=167,slow=28,SNR=6.6						
NB2	NORSAR Subarra	9.23	278	Pn	Pn	10 07 00.8	0.0
	baz=80,slow=16						
NB2	NORSAR Subarra	9.23	278	Pn	Pn	10 07 00.8	0.0
	baz=80,slow=16						
NB2	NORSAR Subarra	9.23	278	Pn	Pn	10 07 00.8	0.0
	baz=80,slow=14,SNR=4.4						
NOA	NORSAR Array B	9.23	278	Pn	Pn	10 06 60.0	-0.9
	comp=Z,0.3nm,0.3s,baz=75,slow=11,SNR=6.0						

ISCJB ***07*** *10:11:46.5±1.0, 13°.99N±0°.08×91°.85W±0°.05, h64km±17km, Error ellipse: s-maj=14.5km s-min=4.5km az=30.4*

MEX ***07*** *10:11:49.5±0.3, 13°.98N×92°.00W, h20km±8km, MD4.1*

CASC ***07*** *10:11:49.8±2.4, 13°.93N×91°.58W, h21km±12km, MD3.7*

ISC 07 10:11:45.8±1.9, 13°.9N±0°.1×91°.92W±0°.08, h49km±29km, n16, σ1§40/29, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.51	32	eP	Pn	10 11 58.7	+1.5
THIG		1.07	342	*i* P	Pn	10 12 04.6	+0.1
THIG				*i* S	Sn	10 12 16.5	-1.9
FUG	Fuego 3	1.18	62	eP	Pn	10 12 06.0	-0.2
PCG	Pacaya	1.37	68	eP	Pn	10 12 09.3	+0.6
PCG				eS	Sn	10 12 24.6	-1.3
NBG	Las Nubes	1.68	65	eP	Pn	10 12 14.7	+1.7
NBG				eS	Sn	10 12 34.8	+1.3
RBDL	Robledal	2.18	84	eP	Pn	10 12 20.5	+0.7
RBDL				eS	Sn	10 12 44.2	-1.4
PCIG		2.20	325	*i* P	Pn	10 12 20.8	+0.8
PCIG				*i* S	Sn	10 12 44.6	-1.4

baz=223
ENA **Nanau** **0.29 352**⇑*iP* **Pg** **10 20 48.4 +0.1**
baz=2.0
ENA *eS* **Sg** **10 20 52.2 -0.1**
baz=2.0
ESF **Shoufeng Towns** **0.37 224** *eP* **Pg** **10 20 49.8 +0.2**
baz=224
ESF *eS* **Sg** **10 20 55.1 +0.6**
baz=224
ESL **Shilin** **0.46 225**⇑*iP* **Pb** **10 20 51.6 -0.7**
baz=226
ESL S **Sg** **10 20 57.4 +0.1**
baz=226
TWC **Suao** **0.47 7**⇑*iP* **Pg** **10 20 51.9 +0.4**
baz=7.0
TWC S **Sg** **10 20 58.3 +0.4**
baz=7.0
WHF **Hehuan Shan** **0.48 271**⇑*iP* **Pg** **10 20 51.5 -0.2**
baz=269
NNS **Nan Shan** **0.48 309**⇑*iP* **Pg** **10 20 51.5 -0.3**
baz=310
NNS S **Sg** **10 20 57.6 -0.7**
baz=310
ENTT **Nioudou** **0.54 338**⇑*iP* **Pg** **10 20 52.9 +0.1**
baz=342
ENTT *i* S **Sg** **10 20 59.7 -0.4**
baz=342
TWT **Tachien** **0.57 282**⇑*iP* **Pg** **10 20 53.7 +0.2**
baz=280
TWT *eS* **Sg** **10 21 00.6 -0.4**
baz=280
TWE **Neicheng** **0.59 349**⇑*iP* **Pg** **10 20 54.0 +0.2**
baz=354
TWE *i* S **Sg** **10 21 01.6 -0.1**
baz=354
ILA **Ilan** **0.63 357** *eP* **Pb** **10 20 55.0 -0.2**
baz=1.0
ILA *eS* **Sg** **10 21 03.3 +0.5**
baz=1.0
NSK **Sanguang** **0.67 324**⇑*iP* **Pg** **10 20 55.0 -0.2**
baz=326
NSK S **Sg** **10 21 02.7 -1.2**
baz=326
EHY **Hungye** **0.76 214**⇓*iP* **Pg** **10 20 56.7 -0.3**
baz=221
EHY *eS* **Sb** **10 21 07.9 +0.2**
baz=221
SMLT **Sun Moon Lake** **0.85 253**⇑*iP* **Pg** **10 20 58.7 0.0**
baz=251
SMLT S **Sg** **10 21 09.2 -0.6**
baz=251
TWA **Mucha** **0.86 348** P **Pg** **10 20 59.1 +0.2**
baz=350
TWA *eS* **Sg** **10 21 10.0 -0.2**
baz=350
NSTT **Nanjuang** **0.87 305**⇑*iP* **Pg** **10 20 58.9 -0.1**
baz=305
NSTT *eS* **Sg** **10 21 09.4 -1.1**
baz=305
TYC **Yuchr** **0.88 255**⇑*iP* **Pg** **10 20 59.0 -0.2**
baz=246
TYC *i* S **Sg** **10 21 09.7 -1.1**
baz=246
TWB1 **Santiao Chiao** **0.89 12** *eP* **Pg** **10 20 59.5 +0.1**
baz=8.0
TWB1 S **Sg** **10 21 11.2 +0.2**
baz=8.0
TWF1 **Yuli** **0.90 210** *eP* **Pg** **10 20 59.0 -0.7**
baz=218
TWF1 *eS* **Sb** **10 21 12.1 +0.3**
baz=218
TAP1 **Taipei** **0.93 345** *eP* **Pg** **10 21 00.3 +0.1**
baz=346
TAP1 *eS* **Sg** **10 21 12.1 -0.2**
baz=346
NWF **Wu-fen Shan** **0.93 360** P **Pb** **10 21 00.6 +0.2**
baz=353
NWF *eS* **Sg** **10 21 11.5 -0.9**
baz=353
TAP **Taipei** **0.94 344** *eP* **Pb** **10 21 00.9 +0.5**
baz=346
TAP *eS* **Sg** **10 21 12.4 -0.1**
baz=346
TWQ1 **Liyutan** **0.95 283** P **Pb** **10 21 01.0 +0.3**
baz=282
TWQ1 *eS* **Sb** **10 21 13.7 +0.4**
baz=282
NSY **Sanyi** **0.98 287**⇑*iP* **Pn** **10 21 01.9 0.0**
baz=286
NSY *eS* **Sg** **10 21 14.2 +0.3**
baz=286
NCU **National Centr** **0.99 327** P **Pn** **10 21 02.0 -0.1**
baz=328
NCU S **Sn** **10 21 15.9 -0.1**
baz=328
HSN **Hsinchu** **1.00 312** *eP* **Pn** **10 21 02.0 -0.1**
baz=315
HSN *eS* **Sn** **10 21 15.9 -0.2**
baz=315
YUS **Yu-Shan** **1.00 230**⇑*iP* **Pg** **10 21 01.9 +0.3**
baz=219
YUS *eS* **Sb** **10 21 16.0 +0.9**
baz=219
TCU **Taichung** **1.01 271**⇑*iP* **Pn** **10 21 03.0 +0.7**
baz=270
TCU *eS* **Sn** **10 21 16.0 -0.5**
baz=270
TWS1 **Kuangyinshan** **1.02 341** P **Pn** **10 21 02.3 -0.1**
baz=350
TWS1 S **Sb** **10 21 16.2 +1.0**
baz=350
WNT **Mingjian** **1.04 256** P **Pn** **10 21 03.3 +0.6**
baz=250
WNT *eS* **Sn** **10 21 18.2 +1.0**
baz=250
ALS **Alishan** **1.09 235**⇓*iP* **Pn** **10 21 03.8 +0.2**
baz=236
CHKT **Chengkung** **1.10 201** *eP* **Pb** **10 21 03.0 -0.3**
baz=192
CHKT *eS* **Sn** **10 21 19.6 +0.9**
baz=192
TWY **Chenhua** **1.15 351** *eP* **Pg** **10 21 05.2 +0.8**
baz=338
CHN5 **Tsauling** **1.15 242**⇑*iP* **Pg** **10 21 05.1 +0.8**
baz=242
CHN5 S **Sn** **10 21 21.6 +1.6**
baz=242
YOJ **Yonaguni jima** **1.16 74**⇑*iP* **Pg** **10 21 05.3 +0.7**
baz=66
YOJ *eS* **Sn** **10 21 22.4 +2.3**
baz=66
YOJ **Yonaguni jima** **1.16 74** P **Pg** **10 21 05.3 +0.7**
YOJ *eS* **Sn** **10 21 21.4 +1.2**
ELDTW **Lidau** **1.18 217** *eP* **Pb** **10 21 03.4 -1.2**
baz=218
WGK **Gukeng** **1.21 248** *eP* **Pg** **10 21 05.7 +0.3**
baz=249
WGK *eS* **Sn** **10 21 23.1 +1.8**
baz=249
CHN4 **Tsaushan** **1.34 235** *i* P **Pg** **10 21 08.2 +0.1**
baz=224
CHN4 *eS* **Sg** **10 21 27.7 +2.1**
baz=224
WTP **Ta-pu** **1.39 231**⇓*iP* **Pg** **10 21 08.6 -0.4**
baz=232
WTP *eS* **Sg** **10 21 28.5 +1.4**
baz=232
CHY **Chiayi** **1.40 243** *eP* **Pg** **10 21 09.1 -0.1**
baz=244
CHY *eS* **Sg** **10 21 28.6 +1.2**
baz=244
WTCT **Ta-ch'eng** **1.40 259** *eP* **Pb** **10 21 08.6 +0.2**
baz=259
WTCT *eS* **Sg** **10 21 27.9 +0.5**
baz=259
TWG **Pinlang** **1.47 207** *eP* **Pn** **10 21 07.0 -1.6**
baz=192
TWK **Hsinying** **1.47 234** P **Pg** **10 21 10.0 -0.5**
baz=236
TWK *eS* **Sg** **10 21 30.8 +1.1**
baz=236
CHN1 **Nanshi** **1.49 231** P **Pg** **10 21 10.6 -0.4**
baz=222
CHN1 *eS* **Sg** **10 21 31.8 +1.5**
baz=222
WSF **Szhu** **1.52 251** *eP* **Pb** **10 21 10.2 -0.1**
baz=252
WSF *eS* **Sg** **10 21 31.2 +0.2**
baz=252
SGST **Jiashian** **1.52 227**⇓*eP* **Pb** **10 21 10.7 +0.2**
baz=229
CHN8 **Yiju** **1.65 242** *eP* **Pb** **10 21 12.5 0.0**
baz=228
CHN8 *eS* **Sg** **10 21 36.0 +0.8**
baz=228
CHN3 **Shinhua** **1.68 231** *eP* **Pg** **10 21 14.3 -0.1**
baz=234
CHN3 *eS* **Sg** **10 21 39.9 +3.6**
baz=234
ECL **Taimali** **1.71 207** *eP* **Pb** **10 21 13.1 -0.6**
baz=195
SCLT **Jiali** **1.75 237** *eP* **Pb** **10 21 14.8 +0.6**
baz=240
SCLT *eS* **Sg** **10 21 38.5 +0.1**
baz=240
IRIF **Iriomote-Funau** **1.78 83** P **Pb** **10 21 13.9 -1.0**
IRIF *eS* **Sn** **10 21 35.3 -0.2**
TWM1 **Shoushan** **1.81 224** *eP* **Pg** **10 21 16.2 -0.8**
baz=227
SGLT **Jiouru** **1.84 221** *eP* **Pb** **10 21 15.7 -0.2**
baz=239
HATJ **Hateruma jima** **1.84 92** P **Pn** **10 21 14.3 +0.6**
HATJ *eS* **Sn** **10 21 36.5 -0.5**
EAST **Anshuo** **1.95 207** *eP* **Pn** **10 21 14.4 -0.8**
baz=197
TAW **Tawu** **1.95 205** *eP* **Pn** **10 21 15.4 +0.2**
baz=195
JKRS **Kuro-shima** **2.03 87** P **Pb** **10 21 18.1 -1.0**
JKRS *eS* **Sb** **10 21 43.0 -1.3**
SCZT **Fangliau** **2.06 212** *eP* **Pb** **10 21 18.8 -0.8**
baz=198
JIJ **Ishigaki jima** **2.16 84** P **Pn** **10 21 19.1 +1.0**
JIJ *eS* **Sb** **10 21 46.4 -1.7**
TWP **Hsiaoliuchiu** **2.21 217** *eP* **Pb** **10 21 21.1 -1.1**
baz=240
TSEB **Hengchuen, Pin** **2.37 200** *eP* **Pb** **10 21 22.9 -2.0**
baz=194
JTJ **Tarama** **2.70 79** P **Pn** **10 21 27.1 +1.5**
QZH **Quanzhou** **3.02 286**⇑*iPn* **Pn** **10 21 29.7 -0.2**
QZH Sn **Sn** **10 22 03.1 -2.9**
QZH smax smax
comp=N,490nm,0.8s
QZH smax smax
comp=E,230nm,0.8s
QZH LR LR
comp=Z,920nm,11.9s
KSRS **Korea Array** **14.28 20** Pn **Pn** **10 24 04.6 +0.4**
comp=Z,0.1nm,0.3s,baz=197,slow=12,SNR=2.7
MJAR **Matsushiro Arr** **18.77 45** P **Pn** **10 25 03.8 +2.0**
comp=Z,0.1nm,0.3s,baz=156,slow=13,SNR=3.1
SONM **Songino Array** **26.63 336** P **P** **10 26 21.2 +0.4**
comp=Z,0.3nm,0.4s,baz=145,slow=10,SNR=3.5
MKAR **Makanchi Array** **38.76 316** P **P** **10 28 06.4 -0.1**
comp=Z,0.9nm,0.7s,baz=103,slow=10,SNR=11
ZALV **Zalesovo Beam** **40.59 327** P **P** **10 28 21.2 -0.3**
comp=Z,0.9nm,0.5s,baz=124,slow=21,SNR=3.3
WRA **Warramunga Arr** **45.49 163** P **P** **10 29 00.4 -1.2**
comp=Z,0.4nm,0.5s,baz=344,slow=8.6,SNR=7.3
ASAR **Alice Springs** **48.95 165** P **P** **10 29 28.9 +0.2**
comp=Z,0.5nm,0.8s,baz=342,slow=7.2,SNR=6.4
KBZ **Khabaz** **65.94 309** P **P** **10 31 28.0 -0.2**
comp=Z,1.2nm,0.6s,baz=0.0,slow=1.0,SNR=3.1
YKA **Yellowknife Ar** **82.80 23** P **P** **10 33 05.3 -0.8**
comp=Z,0.6nm,0.7s,baz=314,slow=5.3,SNR=3.5

ATH 07 10:23:28.0, 33.30N×24.62E, h7km, MD3.5/6, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.72**	**5**	*e*PN		Pb		10 24 00.3	+0.4
SIVA				*e*SN		Sg		10 24 23.6	+0.3
LAST	**Lasithi**	**1.99**	**21**	*e*PN		Pb		10 24 04.0	-0.6
IDI	**Anoyia**	**2.00**	**6**	*e*PN		Pb		10 24 04.2	-0.6
NPS	**Neapolis**	**2.12**	**22**	*e*PN		Pb		10 24 05.7	-1.2
VAM	**Vamos**	**2.13**	**351**	*e*PN		Pb		10 24 06.0	-1.0
VAM				*e*SN		Sb		10 24 34.4	+0.8
ZKR	**Zakros**	**2.24**	**36**	*e*PN		Pb		10 24 07.7	-1.2
ZKR				*e*SN		Sb		10 24 36.6	-0.3
KYTH	**Kithira**	**3.25**	**337**	*e*PN		Pn		10 24 21.8	+2.4

*IDC **07** 10:30:02.0±1.8, 35.73N×90.17E, h0km, mb3.6/2, mb1 3.7/6, mb1mx3.5/28, mbtmp3.5/6, ML3.4/4, MS3.0/5, Ms1 3.0/5, ms1mx2.6/35, Error ellipse: s-maj=75.2km s-min=23.6km az=71.0*
*BJI **07** 10:30:06.7, 35.93N×90.19E, h7km, mb3.7/1, ML3.6/4, Ms3.9/2, Ms7 3.6/2*
ISC 07 10:30:03.4±1.2, 35.9N±0.1×90.3E±0.1, h10km, n11, σ0.93/7, MS3.2/3, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**8.19**	**347**	P		Pg		10 32 33.1	-7.1
WMQ				pmax		pmax			
comp=Z,9.0nm,0.8s									
WMQ				pmax		pmax			
comp=Z,110nm,5.6s									
GTA	**Gaotai**	**8.31**	**62**	*e*P		**Pg**		**10 32 42.1**	**-0.5**
GTA				pP		pP		10 32 46.7	
GTA				sP		sP		10 32 49.1	
GTA				pmax		pmax			
comp=Z,3.0nm,1.7s									
MKAR	**Makanchi Array**	**12.46**	**334**	Pn		**Pn**		**10 33 00.6**	**-0.3**
comp=Z,0.1nm,0.3s,baz=146,slow=14,SNR=6.1									
SONM	**Songino Array**	**16.88**	**40**	P		**P**		**10 34 03.3**	**+1.5**
comp=Z,0.1nm,0.3s,baz=224,slow=12,SNR=7.4									
SONM				LR		LR		10 40 48.1	
comp=Z,38nm,18.3s,baz=66,slow=38									
ZALV	**Zalesovo Beam**	**18.48**	**350**	P		**P**		**10 34 19.1**	**-0.2**
comp=Z,0.3nm,0.3s,baz=162,slow=10.0,SNR=4.7									
ZALV				LR		LR		10 41 36.9	
comp=Z,53nm,19.8s,baz=250,slow=37									
CMAR	**Chiang Mai Arr**	**18.95**	**154**	P		**Pn**		**10 34 25.5**	**+0.1**
comp=Z,0.1nm,0.3s,baz=327,slow=9.9,SNR=2.9									
MJAR	**Matsushiro Arr**	**38.33**	**74**	LR		LR		10 54 15.6	
comp=Z,38nm,18.6s,baz=50,slow=38									
HFS	**Hagfors**	**53.20**	**323**	LR		LR		11 01 15.5	
comp=Z,3.8nm,18.6s,baz=59,slow=35									
JMIC	**Jan Mayen**	**59.31**	**338**	LR		LR		11 09 15.8	
comp=Z,22nm,19.2s,baz=258,slow=40									
WRA	**Warramunga Arr**	**69.41**	**136**	P		**P**		**10 41 10.9**	**-0.8**
comp=Z,0.5nm,0.8s,baz=329,slow=5.8,SNR=3.1									
ASAR	**Alice Springs**	**72.15**	**138**	P		**P**		**10 41 28.9**	**+0.5**
comp=Z,0.5nm,0.9s,baz=327,slow=5.8,SNR=3.8									

*ISCJB **07** 10:30:44.3±0.4, 5.48S±0.04×122.16E±0.04, h17km, mb3.9/11, MS3.6/5, Error ellipse: s-maj=6.3km s-min=5.5km az=158.4*
*DJA **07** 10:30:46.8±0.4, 6°S±4°×12°2E±°, h25km, M4.8/8, mb5.2/6, mB5.4/3, MLv4.5/8, Mw(mB)4.8/3*
*IDC **07** 10:30:49.6±2.5, 5.65S×121.70E, h48km±27km, mb3.7/11, mb1 3.8/13, mb1mx3.7/24, mbtmp3.7/13, ML3.8/2, MS3.4/7, Ms1 3.4/7, ms1mx2.9/38, Error ellipse: s-maj=30.5km s-min=15.2km az=60.0*
ISC 07 10:30:45.4±0.6, 5.45S±0.05×122.04E±0.04, h17km, n36, σ1.47/33, mb4.1/11, MS3.6/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**0.53**	**94**	P		**Pg**		**10 30 53.4**	**-2.6**
BSSI	**Bau Bau, Buton**	**1.69**	**246**	P		**Pb**		**10 31 15.5**	**-0.4**
BSSI				S		**Sg**		**10 31 40.1**	**+0.3**
BKSI	**Bulukumba**	**1.91**	**274**	P		**Pn**		**10 31 18.1**	**+0.9**
BKSI				S		**Sg**		**10 31 48.0**	**+1.1**
KAPI	**Kappang**	**2.32**	**281**	P		**Pn**		**10 31 24.6**	**+1.8**
KAPI	**Kappang**	**2.32**	**281**	P		**Pn**		**10 31 22.4**	**-0.4**
45nm,0.3s,baz=113,slow=7.9,SNR=169									
KAPI				S		**Sb**		**10 31 53.7**	**-1.3**
96nm,0.3s,baz=233,slow=23,SNR=3.7									
SPSI	**Sidrap Palu**	**2.70**	**303**	P		**Pn**		**10 31 30.2**	**+2.2**
SKSI	**Soroako, Sulaw**	**2.99**	**346**	P		**Pn**		**10 31 34.5**	**+2.4**
TTSI	**Tana Toraja**	**3.26**	**317**	P		**Pb**		**10 31 41.5**	**-1.2**
LUWI	**Luwuk**	**4.44**	**10**	P		**Pn**		**10 31 51.4**	**-0.6**
SOEI	**Soe**	**4.81**	**153**	P		**Pb**		**10 32 08.3**	**-1.1**
BASI	**Baing, Sumba**	**4.95**	**197**	P		**Pn**		**10 32 00.7**	**+1.7**
MRSI	**Marisa**	**5.89**	**359**	P		**Pn**		**10 32 11.1**	**-0.8**
97nm,0.9s,883nm									
GTOI	**Gorontalo**	**6.12**	**9**	P		**Pn**		**10 32 16.0**	**+0.9**
156nm,0.7s,1μm									
LBMI	**Labuha**	**7.25**	**49**	P		**Pn**		**10 32 32.1**	**+1.4**
79nm,0.8s									
MNI	**Manado**	**7.40**	**22**	P		**Pn**		**10 32 34.4**	**+1.7**
211nm,0.8s									
TNTI	**Ternate**	**8.16**	**41**	P		**Pn**		**10 32 43.4**	**+0.3**
182nm,0.7s,0.7nm									
GAMI	**Galela, Maluku**	**9.24**	**39**	P		**Pn**		**10 33 00.3**	**+2.3**
DAV	**Davao City (W)**	**12.93**	**16**	LR		LR		10 39 29.6	
comp=Z,137nm,18.3s,baz=244,slow=39									
FITZ	**Fitzroy Crossi**	**13.06**	**165**	P		**Pn**		**10 33 49.6**	**-0.6**
0.3nm,0.3s,baz=16,slow=8.3,SNR=9.8									
FITZ				LR		LR		10 39 21.7	
comp=Z,93nm,19.7s,baz=166,slow=40									
WRA	**Warramunga Arr**	**18.73**	**141**	P		**P**		**10 35 01.9**	**-1.5**
0.4nm,0.3s,baz=320,slow=12,SNR=29									
ASAR	**Alice Springs**	**21.42**	**149**	P		**P**		**10 35 33.6**	**+0.9**
2.9nm,0.6s,baz=331,slow=12,SNR=20									
PSI	**Prapat**	**24.50**	**289**	P		**P**		**10 36 02.4**	**-1.8**
3.6nm,0.7s,baz=137,slow=18,SNR=2.0									
STKA	**Stephens Creek**	**32.04**	**148**	P		**P**		**10 37 11.9**	**+0.7**
3.3nm,1.1s,baz=348,slow=11,SNR=2.9									
STKA				LR		LR		10 51 31.8	
comp=Z,119nm,18.1s,baz=290,slow=39									
CMAR	**Chiang Mai Arr**	**32.91**	**317**	P		**P**		**10 37 17.6**	**-1.5**
0.4nm,0.5s,baz=238,slow=30,SNR=4.1									
KSRS	**Korea Array**	**43.03**	**7**	LR		LR		10 57 30.8	
comp=Z,24nm,19.2s,baz=169,slow=37									
MJAR	**Matsushiro Arr**	**44.43**	**19**	P		**P**		**10 38 58.2**	**+2.7**
0.7nm,0.7s,baz=192,slow=9.8,SNR=4.6									
USRK	**Ussuriysk Arra**	**50.23**	**9**	P		P		10 39 44.2	+3.7
1.0nm,0.5s,baz=180,slow=4.2,SNR=4.8									
ASAJ	**Asahikawa**	**52.71**	**19**	P		**P**		**10 40 01.3**	**+2.3**
4.2nm,0.8s,baz=225,slow=6.8,SNR=4.4									
SONM	**Songino Array**	**54.82**	**347**	P		**P**		**10 40 15.0**	**+0.3**
1.2nm,0.6s,baz=163,slow=10.0,SNR=5.6									
MKAR	**Makanchi Array**	**62.78**	**330**	P		**P**		**10 41 10.1**	**+0.2**
1.2nm,0.8s,baz=142,slow=7.0,SNR=9.0									
ZALV	**Zalesovo Beam**	**66.89**	**337**	P		**P**		**10 41 36.3**	**-0.2**
1.8nm,0.8s,baz=116,slow=6.6,SNR=5.9									
MAW	**Mawson**	**73.58**	**200**	LR		LR		11 10 09.0	
comp=Z,48nm,20.9s,baz=103,slow=32									
VNDA	**Vanda**	**75.02**	**172**	P		**P**		**10 42 25.2**	**-0.3**
0.4nm,0.7s,baz=293,slow=7.5,SNR=2.3									
QSPA	**South Pole Qui**	**84.52**	**180**	LR		LR		11 20 32.9	
comp=Z,41nm,18.2s,baz=128,slow=35									
SNAA	**Sanae**	**95.20**	**195**	LR		LR		11 26 28.6	
comp=Z,14nm,18.5s,baz=6.9,slow=35									
TORD	**Torodi Ar. Bea**	**120.75**	**282**	PKP		**PKPdf**		**10 49 37.7**	**+0.1**
0.5nm,0.8s,baz=63,slow=2.2,SNR=2.7									

MEX 07 10:36:14.3±0.5, 17.27N×95.18W, h127km±17km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.74**	**211**	*i* P		Pn		10 36 43.8	-1.2
HUIG				*i* S		Sn		10 37 06.9	-1.5
TGIG		**2.03**	**104**	*i* P		Pn		10 36 47.5	-1.1
TGIG				*i* S		Sn		10 37 12.7	-2.1
TPIG	**Tehuac#an**	**2.37**	**299**	*i* P		Pn		10 36 52.2	-0.8
TPIG				*i* S		Sn		10 37 20.9	-1.8
PCIG		**2.44**	**129**	*i* P		Pn		10 36 53.0	-0.7
PCIG				*i* S		Sn		10 37 21.7	-2.2
PNIG	**Pinotepa**	**2.95**	**253**	*i* P		Pn		10 36 58.7	-1.5
PNIG				*i* S		Sn		10 37 33.3	-2.4

IDC 07 10:57:54.8±0.9, 23.53S×66.64W, h199km±10km, mb3.0/3, mb1 3.2/9, mb1mx3.1/21, mbtmp3.0/9, Error ellipse: s-maj=16.5km s-min=13.0km az=56.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.29**	**293**	P		Pn		10 58 38.1	+1.5
43nm,0.3s,baz=112,slow=6.5,SNR=215									
LVC				S		Sn		10 59 09.4	+0.2
17nm,0.3s,baz=302,slow=20,SNR=12									
LPAZ	**La Paz**	**7.34**	**349**	P		Pn		10 59 40.3	0.0
0.9nm,0.3s,baz=163,slow=8.1,SNR=22									
LPAZ				S		Sn		11 01 01.1	-3.0
0.2nm,0.3s,baz=301,slow=21,SNR=4.1									
CFAA	**Coronel Fontan**	**8.17**	**190**	P		Pn		10 59 50.9	+0.7
0.1nm,0.3s,baz=15,slow=15,SNR=14									
CFAA				S		Sn		11 01 18.0	-4.2
0.1nm,0.3s,baz=112,slow=22,SNR=8.2									
CPUP	**Villa Florida**	**8.89**	**110**	P		Pn		11 00 01.1	+1.5
0.3nm,0.3s,baz=251,slow=12,SNR=2.7									
SIV	**San Ignacio**	**9.15**	**36**	P		Pn		11 00 01.4	-1.7
0.2nm,0.3s,baz=225,slow=16,SNR=3.5									
BDFB	**Brasilia**	**19.21**	**69**	P		P		11 02 05.1	+1.1
0.4nm,0.3s,baz=284,slow=9.5,SNR=3.7									
TXAR	**Lajitas Array**	**63.50**	**324**	P		P		11 08 03.9	0.0
0.1nm,0.4s,baz=128,slow=5.8,SNR=3.3									
TORD	**Torodi Ar. Bea**	**76.09**	**69**	P		P		11 09 20.5	-0.4
0.6nm,0.5s,baz=254,slow=5.6,SNR=14									
PDAR	**Pinedale Array**	**76.92**	**329**	P		P		11 09 26.1	+0.8
0.1nm,0.4s,baz=139,slow=4.8,SNR=3.5									
MKAR	**Makanchi Array**	**145.95**	**39**	PKPbc		PKPdf		11 17 10.0	+0.2
0.6nm,0.8s,baz=289,slow=4.2,SNR=6.0									

*ISCJB **07** 10:58:35.4±1.2, 61.12N±0.06×30.32E±0.1, h0km, Error ellipse: s-maj=11.0km s-min=5.6km az=44.1*
*CSEM **07** 10:58:36.5±0.6, 61.11N×30.32E, h1km, ML2.2, Error ellipse: s-maj=14.0km s-min=6.7km az=137.0, Mining explosion.*
*HEL **07** 10:58:37.0±0.4, 61.10N×30.30E, h0km, ML2.2, Explosion*
*IDC **07** 10:58:40.0±1.9, 61.29N×29.94E, h0km, mb1 3.2/3, mb1mx3.0/27, mbtmp3.1/3, ML2.9/3, Error ellipse: s-maj=20.2km s-min=10.6km az=157.0*
*BER **07** 10:58:39.1±3.8, 61.28N×29.96E, h0km, ML2.3(NAO), Suspected explosion*
*NAO **07** 10:58:40.9±2.3, 61.38N×29.78E, ML2.3*
ISC 07 10:58:36.8±1.6, 61.20N±0.07×30.17E±0.07, h0km, n30, σ1.34/47, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**1.44**	**244**	*e*P		**Pn**		**10 59 02.4**	**-1.7**
VJF				*e*S		**Sg**		**10 59 22.7**	**-0.2**
JOF	**Joensuu**	**1.81**	**17**	*e*P		**Pb**		**10 59 10.4**	**-0.3**
JOF				*e*S		**Sg**		**10 59 34.0**	**-0.8**
JOF	**Joensuu**	**1.81**	**17**	P		**Pb**		**10 59 10.4**	**-0.3**
JOF				S		**Sg**		**10 59 33.9**	**-0.8**
FIA0	**FINESS Array S**	**1.99**	**279**	Pg		**Pn**		**10 59 12.3**	**+0.7**
baz=103,slow=16									
FIA0				Lg		Lg		10 59 37.9	
baz=89,slow=28									
FIA0	**FINESS Array S**	**1.99**	**279**	Pg		**Pn**		**10 59 12.3**	**+0.7**
baz=103,slow=16									
FIA0				Lg		Lg		10 59 37.9	
baz=89,slow=28									
FIA0	**FINESS Array S**	**1.99**	**279**	*e*P		**Pn**		**10 59 12.6**	**+0.9**
FIA0				*e*S		**Sb**		**10 59 39.7**	**+0.7**
FIA0	**FINESS Array S**	**1.99**	**279**	P		**Pn**		**10 59 12.5**	**+0.9**
FIA0				Lg		Lg		10 59 37.9	
baz=89,slow=24,SNR=8.0									
FIA0				S		**Sb**		**10 59 39.7**	**+0.7**
FINES	**FINESS Array B**	**1.99**	**279**	Pg		**Pn**		**10 59 12.1**	**+0.5**
1.3nm,0.3s,baz=95,slow=15,SNR=91									
FINES				Lg		Lg		10 59 39.2	
2.9nm,0.3s,baz=89,slow=28,SNR=24									
KAF	**Kangasniemi**	**2.06**	**298**	*e*P		**Pb**		**10 59 14.4**	**-0.6**
KAF				*e*S		**Sb**		**10 59 40.9**	**-0.1**
KAF	**Kangasniemi**	**2.06**	**298**	P		**Pb**		**10 59 14.3**	**-0.6**
KAF				S		**Sb**		**10 59 40.9**	**-0.1**
PVF	**Pernaja**	**2.21**	**255**	*e*P		**Pn**		**10 59 15.1**	**+0.5**
PVF				*e*S		**Sn**		**10 59 44.1**	**+1.6**
PVF	**Pernaja**	**2.21**	**255**	P		**Pn**		**10 59 15.0**	**+0.5**
PVF				S		**Sn**		**10 59 44.1**	**+1.6**
SUF	**Sumiainen**	**2.43**	**311**	*e*P		**Pb**		**10 59 20.2**	**-1.2**
SUF				*e*S		**Sn**		**10 59 49.9**	**+1.8**
SUF	**Sumiainen**	**2.43**	**311**	P		**Pb**		**10 59 20.2**	**-1.2**
SUF				S		**Sn**		**10 59 49.9**	**+1.8**
KEF	**Keuruu**	**2.71**	**293**	*e*P		**Pn**		**10 59 23.7**	**+2.3**
KEF				*e*S		**Sn**		**10 59 56.8**	**+2.0**
KEF	**Keuruu**	**2.71**	**293**	P		**Pn**		**10 59 23.7**	**+2.3**
KEF				S		**Sn**		**10 59 56.8**	**+2.0**
MEF	**Metsahovi**	**3.00**	**253**	*e*P		**Pn**		**10 59 26.4**	**+0.8**
MEF				*e*S		**Sn**		**11 00 02.3**	**+0.1**
MEF				MSG				11 00 09.6	
comp=Z,7.5nm,0.3s									
MEF				*e*SG		**Sb**		**11 00 09.7**	**+1.4**

MEF	**Metsahovi**	**3.00 253**	P	**Pn**	**10 59 26.3**	**+0.8**
MEF			S	**Sn**	**11 00 02.2**	**+0.1**
HFS	**Hagfors**	**8.16 270**	Pn	**Pn**	**11 00 36.3**	**0.0**
	baz=85,slow=12					
HFS			Sn	Sn	11 02 01.4	-7.7
	baz=53,slow=28					
HFS	**Hagfors**	**8.16 270**	Pn	**Pn**	**11 00 36.3**	**0.0**
	baz=85,slow=12					
HFS			Sn	Sn	11 02 01.4	-7.7
	baz=53,slow=28					
HFS	**Hagfors**	**8.16 270**	Pn	**Pn**	**11 00 36.0**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=74,slow=11,SNR=22					
HFS			Sn	**Sn**	**11 02 03.8**	**-5.3**
	comp=Z,0.3nm,0.3s,baz=80,slow=25,SNR=3.3					
HFS			Lg	Lg	11 02 51.5	
	comp=Z,0.3nm,0.3s,baz=85,slow=32,SNR=3.3					
HFS	**Hagfors**	**8.16 270**	Pn	**Pn**	**11 00 36.3**	**0.0**
	baz=85,slow=12,SNR=4.7					
ARA0	**ARCESS Array S**	**8.59 349**	Pn	**Pn**	**11 00 41.9**	**-0.3**
	baz=172,slow=12					
ARA0			Sn	Sn	11 02 12.4	-7.2
	baz=183,slow=28					
ARA0			Lg	Lg	11 03 00.6	
	baz=168,slow=28					
ARA0	**ARCESS Array S**	**8.59 349**	Pn	**Pn**	**11 00 41.9**	**-0.3**
	baz=172,slow=12					
ARA0			Sn	Sn	11 02 12.4	-7.2
	baz=183,slow=28					
ARA0			Lg	Lg	11 03 00.6	
	baz=168,slow=28					
ARA0	**ARCESS Array S**	**8.59 349**	Pn	**Pn**	**11 00 41.9**	**-0.3**
	baz=172,slow=12,SNR=4.4					
ARA0			Lg	Lg	11 03 00.6	
	baz=168,slow=26,SNR=3.6					
ARCES	**ARCESS Array B**	**8.59 349**	Pn	**Pn**	**11 00 41.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=165,slow=14,SNR=7.8					
ARCES			Lg	Lg	11 03 04.7	
	comp=Z,0.4nm,0.3s,baz=165,slow=24,SNR=5.3					
NB2	**NORSAR Subarra**	**9.17 277**	Pn	**Pn**	**11 00 49.1**	**-1.1**
	baz=81,slow=14					
NB2	**NORSAR Subarra**	**9.17 277**	Pn	**Pn**	**11 00 49.1**	**-1.1**
	baz=81,slow=14					
NB2	**NORSAR Subarra**	**9.17 277**	Pn	**Pn**	**11 00 49.1**	**-1.1**
	baz=81,slow=13,SNR=6.4					
NOA	**NORSAR Array B**	**9.17 277**	Pn	**Pn**	**11 00 48.7**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=99,slow=11,SNR=6.3					

*ISCJB **07** 11:26:50.7±1.0, 61.10N×04.30E±0.1, h0km, Error ellipse: s-maj=8.6km s-min=5.0km az=35.4*
*CSEM **07** 11:26:51.0±0.5, 61.07N×30.31E, h1km, ML2.0, Error ellipse: s-maj=11.5km s-min=6.1km az=130.0, Mining explosion.*
*HEL **07** 11:26:51.7±0.4, 61.08N×30.28E, h0km, ML2.0, Explosion*
*BER **07** 11:26:52.1±3.2, 61.09N×30.15E, h0km, ML2.3(NAO), Suspected explosion*
*NAO **07** 11:26:54.5±2.2, 61.22N×29.86E, ML2.3*
*IDC **07** 11:26:56.3±2.0, 61.42N×29.71E, h0km, mb1 3.2/3, mb1mx3.0/27, mbtmp3.1/3, ML2.9/3, Error ellipse: s-maj=20.6km s-min=9.8km az=152.0*

ISC 07 11:26:50.1±1.3, 61.09N±0.05×30.17E±0.06, h0km, n34, σ1s82/55, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**1.39**	**248**	*e*P	**Pn**	**11 27 17.1**	**+0.3**
VJF				*e*S	**Sg**	**11 27 36.5**	**+1.7**
VJF	**Virojoki**	**1.39**	**248**	P	**Pn**	**11 27 17.0**	**+0.3**
VJF				S	**Sg**	**11 27 36.4**	**+1.7**
JOF	**Joensuu**	**1.91**	**16**	*e*P	**Pn**	**11 27 25.4**	**+1.5**
JOF				*e*S	**Sn**	**11 27 49.0**	**+0.3**
JOF	**Joensuu**	**1.91**	**16**	P	**Pn**	**11 27 25.3**	**+1.5**
JOF				S	**Sn**	**11 27 48.9**	**+0.3**
FIA0	**FINESS Array S**	**2.01**	**282**	Pg	**Pn**	**11 27 26.9**	**+1.8**
	baz=107,slow=16						
FIA0				Lg	Lg	11 27 52.4	
	baz=80,slow=28						
FIA0	**FINESS Array S**	**2.01**	**282**	Pg	**Pn**	**11 27 26.9**	**+1.8**
	baz=107,slow=16						
FIA0				Lg	Lg	11 27 52.4	
	baz=80,slow=28						
FIA0	**FINESS Array S**	**2.01**	**282**	*e*P	**Pn**	**11 27 27.1**	**+2.0**
FIA0				*e*S	**Sn**	**11 27 53.3**	**+2.3**
FIA0	**FINESS Array S**	**2.01**	**282**	P	**Pn**	**11 27 27.1**	**+2.0**
FIA0				Lg	Lg	11 27 52.4	
	baz=80,slow=26,SNR=3.2						
FIA0				S	**Sn**	**11 27 53.2**	**+2.3**
FINES	**FINESS Array B**	**2.01**	**282**	Pg	**Pn**	**11 27 26.9**	**+1.8**
	1.2nm,0.3s,baz=85,slow=16,SNR=82						
FINES				Lg	Lg	11 27 51.9	
	2.8nm,0.3s,baz=84,slow=29,SNR=23						
KAF	**Kangasniemi**	**2.11**	**301**	*e*P	**Pn**	**11 27 28.9**	**+2.3**
KAF				*e*S	**Sb**	**11 27 56.1**	**+0.2**
KAF	**Kangasniemi**	**2.11**	**301**	P	**Pn**	**11 27 28.9**	**+2.3**
KAF				S	**Sb**	**11 27 56.1**	**+0.2**
PVF	**Pernaja**	**2.18**	**257**	*e*P	**Pn**	**11 27 29.4**	**+1.9**
PVF				*e*S	**Sb**	**11 27 58.5**	**+0.7**
PVF	**Pernaja**	**2.18**	**257**	P	**Pn**	**11 27 29.4**	**+1.9**
PVF				S	**Sb**	**11 27 58.5**	**+0.7**
SUF	**Sumiainen**	**2.51**	**312**	*e*P	**Pn**	**11 27 35.1**	**+3.1**
SUF				*e*S	**Sn**	**11 28 04.7**	**+1.5**
SUF	**Sumiainen**	**2.51**	**312**	P	**Pn**	**11 27 35.1**	**+3.1**
SUF				S	**Sn**	**11 28 04.7**	**+1.5**
KEF	**Keuruu**	**2.75**	**295**	*e*P	**Pn**	**11 27 38.5**	**+3.1**
KEF				*e*S	**Sb**	**11 28 13.3**	**-0.9**
KEF	**Keuruu**	**2.75**	**295**	P	**Pn**	**11 27 38.4**	**+3.1**
KEF				S	**Sb**	**11 28 13.3**	**-0.9**
MEF	**Metsahovi**	**2.97**	**255**	*e*PB	**Pb**	**11 27 43.7**	**-0.1**
MEF				*e*SB	**Sb**	**11 28 21.3**	**+0.6**
MEF				MSG		11 28 24.3	
	comp=Z,4.8nm,0.2s						
MEF				*e*SG	**Sg**	**11 28 24.5**	**-1.0**
MEF	**Metsahovi**	**2.97**	**255**	*e*P	**Pb**	**11 27 43.8**	**-0.1**
	SNR=51						
MEF				*e*S	**Sb**	**11 28 20.2**	**-0.5**
	comp=Z,18nm,0.4s,SNR=51						
VSU	**Vasula**	**3.16**	**215**	*e*S	**Sn**	**11 28 23.0**	**+3.8**
	comp=Z,96nm,0.4s,SNR=51						
RAF	**Rauma**	**4.08**	**273**	*e*P	**Pn**	**11 27 55.9**	**+2.2**
	SNR=51						
RAF				*e*S	**Sn**	**11 28 43.8**	**+1.7**
	comp=Z,8.6nm,0.3s,SNR=51						
SLIT	**Slitere, Latvi**	**5.32**	**233**	*e*P	**Pn**	**11 28 13.1**	**+2.5**
	SNR=51						
SLIT				*e*S	**Sn**	**11 29 10.8**	**-1.6**
	SNR=51						
HFS	**Hagfors**	**8.16**	**270**	Pn	**Pn**	**11 28 50.3**	**+0.7**
	baz=84,slow=12						
HFS				Sn	**Sn**	**11 30 18.1**	**-4.3**
	baz=78,slow=22						
HFS				Lg	Lg	11 31 04.1	
	baz=64,slow=28						
HFS	**Hagfors**	**8.16**	**270**	Pn	**Pn**	**11 28 50.3**	**+0.7**
	baz=84,slow=12						
HFS				Sn	**Sn**	**11 30 18.1**	**-4.3**
	baz=78,slow=22						
HFS				Lg	Lg	11 31 04.1	
	baz=64,slow=28						
HFS	**Hagfors**	**8.16**	**270**	Pn	**Pn**	**11 28 50.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=76,slow=12,SNR=17						
HFS				Sn	Sn	11 30 17.5	-4.9
	comp=Z,0.2nm,0.3s,baz=79,slow=26,SNR=2.1						
HFS	**Hagfors**	**8.16**	**270**	Pn	**Pn**	**11 28 50.3**	**+0.7**
	baz=84,slow=11,SNR=9.9						
HFS				Lg	Lg	11 31 04.1	
	baz=64,slow=28,SNR=2.6						
ARA0	**ARCESS Array S**	**8.70**	**349**	Pn	**Pn**	**11 28 56.7**	**-0.3**
	baz=163,slow=16						
ARA0				Lg	Lg	11 31 21.3	
	baz=162,slow=37						
ARA0	**ARCESS Array S**	**8.70**	**349**	Pn	**Pn**	**11 28 56.7**	**-0.3**
	baz=163,slow=16						
ARA0				Lg	Lg	11 31 21.3	
	baz=162,slow=37						
ARA0	**ARCESS Array S**	**8.70**	**349**	Pn	**Pn**	**11 28 56.7**	**-0.3**
	baz=163,slow=14,SNR=8.3						
ARA0				Lg	Lg	11 31 21.3	
	baz=162,slow=32,SNR=5.2						
ARCES	**ARCESS Array B**	**8.70**	**349**	Pn	**Pn**	**11 28 56.7**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=163,slow=14,SNR=13						
ARCES				Lg	Lg	11 31 14.5	
	comp=Z,0.5nm,0.3s,baz=148,slow=30,SNR=6.1						
NB2	**NORSAR Subarra**	**9.19**	**278**	Pn	**Pn**	**11 29 04.0**	**+0.4**
	baz=83,slow=14						
NB2	**NORSAR Subarra**	**9.19**	**278**	Pn	**Pn**	**11 29 04.0**	**+0.4**
	baz=83,slow=14						
NB2	**NORSAR Subarra**	**9.19**	**278**	Pn	**Pn**	**11 29 04.1**	**+0.4**
	baz=83,slow=13,SNR=5.4						
NOA	**NORSAR Array B**	**9.19**	**278**	Pn	**Pn**	**11 29 03.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=67,slow=10,SNR=4.5						

*ATH **07** 11:39:32.9, 38.93N×23.62E, h27km, MD3.2/17, ML3.8*
*ISCJB **07** 11:39:33.5±0.4, 38.94N±0.01×23.64E±0.02, h14km±2km, Error ellipse: s-maj=2.7km s-min=2.2km az=24.6*
*CSEM **07** 11:39:33.7±0.1, 38.91N×23.61E, h12km, ML3.7/6, Error ellipse: s-maj=2.5km s-min=1.9km az=104.0*
*THE **07** 11:39:33.9, 38.91N×23.60E, h10km, ML3.7/6, Error ellipse: s-maj=0.8km s-min=0.4km az=220.0*
*SKO **07** 11:39:34.7, 39.08N×23.55E, h0km*

ISC 07 11:39:33.9±0.8, 38.92N±0.01×23.60E±0.02, h15km±6km, n113, σ0s63/177, 6C-6D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRKA	**Markates**	**0.22**	**182**	P	**Pg**	**11 39 38.5**	**-0.3**
MRKA				S	**Sg**	**11 39 41.8**	**-0.3**
MRKA	**Markates**	**0.22**	**182**	P	**Pg**	**11 39 38.5**	**-0.3**
MRKA				S	**Sg**	**11 39 41.8**	**-0.3**
SKIA	**Skiathos**	**0.27**	**337**	P	**Pg**	**11 39 39.8**	**+0.2**
SKIA				S	**Sg**	**11 39 43.9**	**+0.4**
SKIA	**Skiathos**	**0.27**	**337**	P	**Pg**	**11 39 39.8**	**+0.2**
SKIA				S	**Sg**	**11 39 43.9**	**+0.4**
SMIA	**Simia**	**0.31**	**262**	P	**Pg**	**11 39 40.3**	**0.0**
SMIA				S	**Sg**	**11 39 45.0**	**+0.3**
SMIA	**Simia**	**0.31**	**262**	P	**Pg**	**11 39 40.3**	**0.0**
SMIA				S	**Sg**	**11 39 45.0**	**+0.3**
AOS	**Alonnisos**	**0.33**	**41**	P	**Pg**	**11 39 40.6**	**-0.1**
AOS				S	**Sg**	**11 39 45.6**	**+0.2**
AOS	**Alonnisos**	**0.33**	**41**	*e*PB	**Pg**	**11 39 40.6**	**-0.1**
AOS				*e*SB	**Sg**	**11 39 45.5**	**+0.2**
AOS	**Alonnisos**	**0.33**	**41**	P	**Pg**	**11 39 40.6**	**-0.1**
AOS				S	**Sg**	**11 39 45.6**	**+0.2**
NEO	**Neokhori**	**0.48**	**323**	P	**Pg**	**11 39 43.4**	**-0.1**
NEO				S	**Sg**	**11 39 50.0**	**-0.1**
NEO	**Neokhori**	**0.48**	**323**	*e*PB	**Pg**	**11 39 43.5**	**-0.1**
NEO				*e*SB	**Sg**	**11 39 49.9**	**-0.1**
NEO	**Neokhori**	**0.48**	**323**	P	**Pg**	**11 39 43.4**	**-0.1**
NEO				*e*Sb	**Sg**	**11 39 49.9**	**-0.1**
LKR	**Lokris**	**0.54**	**240**	*e*PN	**Pg**	**11 39 44.2**	**-0.4**
LKR				*e*SN	**Sg**	**11 39 51.9**	**+0.1**
LKR	**Lokris**	**0.54**	**240**	*e*Pn	**Pg**	**11 39 44.2**	**-0.4**
LKR				*e*Sn	**Sg**	**11 39 51.9**	**+0.1**
XOR	**Xorichti**	**0.55**	**325**	P	**Pg**	**11 39 44.6**	**-0.1**
XOR				S	**Sg**	**11 39 51.9**	**-0.1**
XOR	**Xorichti**	**0.55**	**325**	P	**Pg**	**11 39 44.6**	**-0.1**
XOR				S	**Sg**	**11 39 51.9**	**-0.1**
AXAR	**Agios Charalam**	**0.75**	**258**	P	**Pg**	**11 39 48.0**	**-0.5**
AXAR				S	**Sb**	**11 39 58.6**	**-0.2**
AXAR	**Agios Charalam**	**0.75**	**258**	P	**Pg**	**11 39 48.0**	**-0.5**
AXAR				S	**Sb**	**11 39 58.6**	**-0.2**
VIL2	**Platees**	**0.76**	**200**	P	**Pg**	**11 39 47.8**	**-0.8**
VIL2				S	**Sb**	**11 39 59.3**	**+0.4**
PTL	**Penteli**	**0.90**	**166**	P	**Pb**	**11 39 50.6**	**-0.6**
PTL				S	**Sb**	**11 40 03.1**	**+0.1**
PTL	**Penteli**	**0.90**	**166**	*e*PN	**Pb**	**11 39 50.6**	**-0.6**
PTL				*e*SN	**Sg**	**11 40 02.7**	**-0.3**
PTL	**Penteli**	**0.90**	**166**	P	**Pb**	**11 39 50.6**	**-0.6**
PTL				*e*Sn	**Sg**	**11 40 02.7**	**-0.3**
PTL				S	**Sb**	**11 40 03.1**	**+0.1**
ATH	**Athens Observa**	**0.95**	**174**	P	**Pb**	**11 39 51.8**	**-0.4**
ATH				S	**Sg**	**11 40 05.0**	**+0.2**
ATH	**Athens Observa**	**0.95**	**174**	*e*PN	**Pb**	**11 39 51.7**	**-0.4**
ATH				*e*SN	**Sb**	**11 40 04.6**	**+0.1**
ATH	**Athens Observa**	**0.95**	**174**	P	**Pb**	**11 39 51.8**	**-0.4**
ATH				*e*Sn	**Sb**	**11 40 04.6**	**+0.1**
ATH				S	**Sg**	**11 40 05.0**	**+0.2**
ATHU	**Athens Univers**	**0.96**	**171**	P	**Pb**	**11 39 51.8**	**-0.5**
ATHU				S	**Sg**	**11 40 05.5**	**+0.3**
ATHU	**Athens Univers**	**0.96**	**171**	P	**Pb**	**11 39 51.8**	**-0.5**
ATHU				S	**Sg**	**11 40 05.5**	**+0.3**
DSF	**Desfina**	**0.98**	**239**	P	**Pb**	**11 39 51.6**	**-1.1**
DSF				S	**Sg**	**11 40 05.7**	**0.0**
DSF	**Desfina**	**0.98**	**239**	P	**Pb**	**11 39 51.6**	**-1.1**
DSF				S	**Sg**	**11 40 05.7**	**0.0**
AGG	**Agios Georgios**	**0.99**	**276**	P	**Pb**	**11 39 52.0**	**-0.9**
AGG				S	**Sn**	**11 40 07.4**	**+0.2**
AGG	**Agios Georgios**	**0.99**	**276**	*e*PN	**Pb**	**11 39 52.0**	**-0.9**
AGG				*e*SN	**Sn**	**11 40 07.1**	**-0.1**
AGG	**Agios Georgios**	**0.99**	**276**	P	**Pb**	**11 39 52.0**	**-0.9**
AGG				S	**Sn**	**11 40 07.4**	**+0.2**
LTK	**Loutraki**	**1.02**	**209**	P	**Pb**	**11 39 52.5**	**-0.9**
LTK				S	**Sg**	**11 40 07.4**	**+0.3**
LTK	**Loutraki**	**1.02**	**209**	*e*PN	**Pb**	**11 39 52.5**	**-0.9**
LTK				*e*SN	**Sn**	**11 40 08.9**	**+1.0**
LTK	**Loutraki**	**1.02**	**209**	P	**Pb**	**11 39 52.5**	**-0.9**
LTK				S	**Sg**	**11 40 07.4**	**+0.3**
LTK				*e*Sn	**Sn**	**11 40 08.9**	**+1.0**
MRMA	**Marmari**	**1.06**	**144**	P	**Pb**	**11 39 54.0**	**+0.1**
MRMA				S	**Sn**	**11 40 09.0**	**+0.3**
MRMA	**Marmari**	**1.06**	**144**	P	**Pb**	**11 39 54.0**	**+0.1**
MRMA				S	**Sn**	**11 40 09.0**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.15**	**275**	P	**Pb**	**11 39 55.1**	**-0.4**
MAKR				S	**Sn**	**11 40 12.2**	**+1.2**
MAKR	**Makrakomi, Fth**	**1.15**	**275**	P	**Pb**	**11 39 55.1**	**-0.4**
MAKR				S	**Sn**	**11 40 12.2**	**+1.2**
THAL	**Thalero**	**1.15**	**220**	P	**Pb**	**11 39 55.0**	**-0.5**
THAL	**Thalero**	**1.15**	**220**	P	**Pb**	**11 39 55.0**	**-0.5**
NAIG	**Nisos Aigina**	**1.17**	**184**	*e*PN	**Pn**	**11 39 55.5**	**-0.2**
NAIG	**Nisos Aigina**	**1.17**	**184**	*e*Pn	**Pn**	**11 39 55.5**	**-0.2**
KALE	**Kalithea**	**1.26**	**246**	P	**Pn**	**11 39 56.6**	**-0.5**
KALE	**Kalithea**	**1.26**	**246**	*e*PN	**Pn**	**11 39 56.5**	**-0.5**
KALE				*e*SN	**Sn**	**11 40 13.7**	**-0.1**
KALE	**Kalithea**	**1.26**	**246**	P	**Pn**	**11 39 56.6**	**-0.5**
KALE				*e*Sn	**Sn**	**11 40 13.7**	**-0.1**
TRIZ	**Trizonia**	**1.32**	**246**	P	**Pb**	**11 39 58.2**	**-0.1**
TRIZ	**Trizonia**	**1.32**	**246**	*e*PN	**Pb**	**11 39 58.1**	**-0.2**
TRIZ				*e*SN	**Sn**	**11 40 15.4**	**+0.3**
TRIZ	**Trizonia**	**1.32**	**246**	*e*Pn	**Pb**	**11 39 58.1**	**-0.2**
TRIZ				*e*Sn	**Sn**	**11 40 15.4**	**+0.3**
THL	**Klokotos Trika**	**1.39**	**298**	P	**Pn**	**11 39 58.9**	**+0.1**
THL	**Klokotos Trika**	**1.39**	**298**	*e*PN	**Pn**	**11 39 58.6**	**-0.2**
THL				*e*SN	**Sb**	**11 40 17.2**	**+0.1**
THL	**Klokotos Trika**	**1.39**	**298**	*e*Pn	**Pn**	**11 39 58.6**	**-0.2**
THL	**Klokotos Trika**	**1.39**	**298**	P	**Pn**	**11 39 58.9**	**+0.1**
THL				*e*Sn	**Sb**	**11 40 17.2**	**+0.1**
GUR	**Goura**	**1.39**	**225**	P	**Pn**	**11 39 58.9**	**0.0**
GUR	**Goura**	**1.39**	**225**	*e*PN	**Pn**	**11 39 58.8**	**-0.1**
GUR				*e*SN	**Sb**	**11 40 17.6**	**+0.2**
GUR	**Goura**	**1.39**	**225**	P	**Pn**	**11 39 58.9**	**0.0**
GUR				*e*Sn	**Sb**	**11 40 17.6**	**+0.2**
EVR	**Evrytania**	**1.40**	**270**	*e*PN	**Pb**	**11 39 59.8**	**0.0**
EVR	**Evrytania**	**1.40**	**270**	*e*Pn	**Pb**	**11 39 59.8**	**0.0**
KLV	**Kalavryta, Ach**	**1.44**	**233**	P	**Pn**	**11 39 59.4**	**-0.1**
KLV	**Kalavryta, Ach**	**1.44**	**233**	*e*PN	**Pn**	**11 39 59.3**	**-0.2**
KLV				*e*SN	**Sg**	**11 40 20.4**	**+0.2**
KLV	**Kalavryta, Ach**	**1.44**	**233**	P	**Pn**	**11 39 59.4**	**-0.1**
KLV				*e*Sn	**Sg**	**11 40 20.4**	**+0.2**
LAKA	**Lakka**	**1.44**	**242**	P	**Pn**	**11 39 59.6**	**+0.1**
LAKA	**Lakka**	**1.44**	**242**	*e*PN	**Pn**	**11 40 00.0**	**+0.5**
LAKA				*e*SN	**Sn**	**11 40 18.3**	**+0.1**
LAKA	**Lakka**	**1.44**	**242**	P	**Pn**	**11 39 59.6**	**+0.1**
LAKA	**Lakka**	**1.44**	**242**	*e*Pn	**Pn**	**11 40 00.0**	**+0.5**
LAKA				*e*Sn	**Sn**	**11 40 18.3**	**+0.1**
DID	**Didima**	**1.44**	**192**	P	**Pn**	**11 39 59.4**	**-0.1**
DID	**Didima**	**1.44**	**192**	*e*PN	**Pn**	**11 39 59.4**	**-0.1**
DID				*e*SN	**Sn**	**11 40 18.4**	**+0.2**
DID	**Didima**	**1.44**	**192**	P	**Pn**	**11 39 59.4**	**-0.1**
DID				*e*Sn	**Sn**	**11 40 18.4**	**+0.2**
OUR	**Ouranopolis**	**1.44**	**12**	P	**Pn**	**11 39 59.2**	**-0.3**
OUR	**Ouranopolis**	**1.44**	**12**	P	**Pn**	**11 39 59.2**	**-0.3**
PLG	**Polygyros**	**1.46**	**355**	P	**Pn**	**11 39 59.3**	**-0.4**
PLG	**Polygyros**	**1.46**	**355**	*e*PN	**Pn**	**11 39 59.3**	**-0.4**
PLG				*e*SN	**Sn**	**11 40 17.3**	**-1.3**
PLG	**Polygyros**	**1.46**	**355**	P	**Pn**	**11 39 59.3**	**-0.4**
PLG				*e*Sn	**Sn**	**11 40 17.3**	**-1.3**
LIT	**Litokhoron**	**1.46**	**324**	P	**Pn**	**11 39 59.3**	**-0.5**
LIT	**Litokhoron**	**1.46**	**324**	*e*PN	**Pn**	**11 39 59.4**	**-0.4**
LIT				*e*SN	**Sg**	**11 40 20.2**	**-0.7**
LIT	**Litokhoron**	**1.46**	**324**	*e*Pn	**Pn**	**11 39 59.4**	**-0.4**
LIT				*e*Sn	**Sg**	**11 40 20.2**	**-0.7**
LIA	**Limnos Island**	**1.57**	**51**	P	**Pn**	**11 40 00.8**	**-0.4**
LIA				S	**Sn**	**11 40 21.7**	**+0.4**
LIA	**Limnos Island**	**1.57**	**51**	*e*PN	**Pn**	**11 40 00.6**	**-0.6**
LIA				*e*SN	**Sn**	**11 40 21.1**	**-0.2**
LIA	**Limnos Island**	**1.57**	**51**	P	**Pn**	**11 40 00.8**	**-0.4**
LIA				*e*Sn	**Sn**	**11 40 21.1**	**-0.2**
HORT	**Hortiatis**	**1.72**	**347**	P	**Pn**	**11 40 03.2**	**-0.2**
HORT	**Hortiatis**	**1.72**	**347**	P	**Pn**	**11 40 03.2**	**-0.2**
RLS	**Riolos of Patr**	**1.88**	**243**	*e*PN	**Pb**	**11 40 06.9**	**-1.1**
RLS	**Riolos of Patr**	**1.88**	**243**	*e*Pn	**Pb**	**11 40 06.9**	**-1.1**
CHOS	**Chios island**	**2.00**	**105**	*e*PB	**Pn**	**11 40 07.4**	**+0.2**
CHOS				*e*SN	**Sn**	**11 40 30.7**	**-1.3**
CHOS	**Chios island**	**2.00**	**105**	*e*Pb	**Pn**	**11 40 07.4**	**+0.2**
CHOS				*e*Sn	**Sn**	**11 40 30.7**	**-1.3**
PRK	**Paraskevi**	**2.11**	**80**	*e*PN	**Pn**	**11 40 08.4**	**-0.2**
PRK	**Paraskevi**	**2.11**	**80**	*e*Pn	**Pn**	**11 40 08.4**	**-0.2**
BOZC	**Bozcaada**	**2.11**	**63**	*e*Pn	**Pn**	**11 40 08.4**	**-0.3**
SMTH	**Samothraki Isl**	**2.15**	**43**	*e*PN	**Pn**	**11 40 08.0**	**-1.2**
SMTH	**Samothraki Isl**	**2.15**	**43**	*e*Pn	**Pn**	**11 40 08.0**	**-1.2**
GRG	**Griva**	**2.23**	**336**	*e*PN	**Pn**	**11 40 10.3**	**-0.1**
GRG	**Griva**	**2.23**	**336**	*e*Pn	**Pn**	**11 40 10.3**	**-0.1**
APE	**Apeiranthos**	**2.40**	**140**	‖ *i* P	**Pg**	**11 40 20.4**	**+0.5**
URLA	**Izmir**	**2.41**	**102**	*i* Pn	**Pn**	**11 40 13.1**	**+0.2**
AYVA	**Ayvalik**	**2.44**	**80**	*e*Pn	**Pn**	**11 40 12.8**	**-0.3**
VAY	**Valandovo**	**2.52**	**342**	*e*PN	**Pn**	**11 40 15.1**	**+0.7**
VAY	**Valandovo**	**2.52**	**342**	*e*Pn	**Pn**	**11 40 15.0**	**+0.7**
BALY	**Balya**	**3.22**	**74**	*e*Pn	**Pn**	**11 40 24.4**	**+0.3**
SART	**Tekirdag**	**3.27**	**56**	*e*Pn	**Pn**	**11 40 25.0**	**+0.2**
VTS	**Vitosha**	**3.68**	**356**	‖ *i* P	**Pn**	**11 40 31.8**	**+1.4**
VTS	**Vitosha**	**3.68**	**356**	‖ *i* P	**Pn**	**11 40 31.8**	**+1.4**
DURS	**Dursunbey**	**3.84**	**78**	*e*Pn	**Pn**	**11 40 33.2**	**+0.6**
BARS	**Barje**	**4.12**	**341**	*e*Pn	**Pn**	**11 40 36.8**	**+0.5**
ARR	**Arges**	**6.49**	**6**	‖ *i* P	**Pn**	**11 41 09.3**	**+0.4**
ARR	**Arges**	**6.49**	**6**	‖ *i* P	**Pn**	**11 41 09.3**	**+0.4**
VOIR		**6.60**	**9**	‖ *i* P	**Pn**	**11 41 10.8**	**+0.3**
VOIR		**6.60**	**9**	‖ *i* P	**Pn**	**11 41 10.8**	**+0.3**
MLR	**Muntele Rosu**	**6.79**	**14**	‖ *i* P	Pn	11 41 16.6	+3.5
PLOR	**Plostina**	**7.28**	**17**	⇑ *i* P	**Pn**	**11 41 22.2**	**+2.4**
PLOR	**Plostina**	**7.28**	**17**	⇑ *i* P	**Pn**	**11 41 22.2**	**+2.4**
VRI	**Vrincioaia**	**7.32**	**17**	⇑ *i* P	**Pn**	**11 41 22.7**	**+2.5**
VRI	**Vrincioaia**	**7.32**	**17**	⇑ *i* P	**Pn**	**11 41 22.7**	**+2.5**
KOLS	**Kolonicke sedl**	**10.05**	**355**	*e*PN	**Pn**	**11 41 59.2**	**+1.4**

IDC 07 12:00:35.2±1.8, 18.21S×69.25W, h137km±12km, mb3.5/2, mb1 3.6/5, mb1mx3.3/21, mbtmp3.4/5, Error ellipse: s-maj=42.1km s-min=10.0km az=101.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.19**	**29**	P	Pn	12 01 13.3	+0.6
	14nm,0.3s,baz=218,slow=7.2,SNR=333						
LPAZ				S	Sn	12 01 41.2	-0.1
	2.0nm,0.3s,baz=54,slow=15,SNR=6.5						
LVC	**Limon Verde**	**4.39**	**176**	P	Pn	12 01 42.6	+1.9
	1.3nm,0.3s,baz=352,slow=12,SNR=18						
LVC				S	Sn	12 02 30.8	-0.7
	2.0nm,0.3s,baz=276,slow=23,SNR=7.7						
SIV	**San Ignacio**	**8.12**	**75**	P	Pn	12 02 30.9	+0.4
	1.4nm,0.3s,baz=276,slow=12,SNR=18						
TORD	**Torodi Ar. Bea**	**76.58**	**71**	P	P	12 12 11.2	0.0
	0.7nm,0.8s,baz=243,slow=4.6,SNR=4.2						
YKA	**Yellowknife Ar**	**87.99**	**341**	P	P	12 13 09.0	-0.4
	0.2nm,0.4s,baz=132,slow=5.5,SNR=4.4						

*CSEM **07** 12:02:39.4, 33.82N×25.46E, h3km, MD3.3, After ATH*
*ATH **07** 12:02:39.4, 33.82N×25.46E, h3km±2km, MD3.3/

13nm,0.9s,baz=15,slow=6.5,SNR=6.7
HNR Honiara 22.59 289 P P 12 46 18.5 +0.2
HNR Honiara 22.59 289 P P 12 46 18.5 +0.2
81nm,0.6s,baz=356,slow=5.6,SNR=6.5
PPT Papeete 27.53 94 P P 12 47 01.4 -0.4
PPT Papeete 27.53 94 P P 12 47 01.4 -0.4
6.3nm,0.6s,baz=80,slow=18,SNR=3.6
EIDS Eidsvold 29.15 250 eP P 12 47 15.4 -0.3
27nm,0.8s
EIDS Eidsvold 29.15 250 P P 12 47 15.4 -0.3
baz=29,SNR=14
ARMA Armidale 29.82 240 P P 12 47 22.3 +0.8
baz=30,SNR=34
MGCD Mangrove Creek 31.16 235 P P 12 47 34.9 +2.0
baz=31,SNR=12
RMQ Roma 31.39 249 P P 12 47 35.6 +0.8
baz=32,SNR=41
CNB Canberra Magne 33.30 232 P P 12 47 51.7 +0.8
baz=34,SNR=95
CTAO Charters Tower 33.34 261 eP P 12 47 51.4 -0.1
41nm,0.6s
CAN Canberra 33.57 233 eP P 12 47 53.8 +0.6
15nm,0.5s
YNG Young 33.66 235 P P 12 47 55.1 +1.1
baz=34,SNR=10.0
MILA Mila 34.15 230 P P 12 47 58.9 +0.8
baz=34,SNR=11
PMG Port Moresby 34.39 280 eP P 12 48 01.3 +1.0
142nm,0.7s
PMG Port Moresby 34.39 280 P P 12 48 01.2 +0.9
212nm,0.9s,2µm50µm
CMSA Cobar Meteorol 35.02 241 P P 12 48 05.6 +0.3
baz=35,SNR=107
MTSU Mount Surprise 35.31 264 P P 12 48 07.8 -0.1
baz=36,SNR=80
COEN Coen 37.02 271 eP P 12 48 22.6 +0.7
596nm,0.6s
COEN Coen 37.02 271 P P 12 48 22.6 +0.7
baz=37,SNR=100
TOO Toolangi 37.04 231 P P 12 48 22.4 +0.6
baz=37,SNR=32
MANU Manus Island 37.05 291 S S 12 53 19.1 -7.9
baz=37,SNR=4.5
MOO Moorlands 37.96 223 P P 12 48 30.2 +1.0
baz=38,SNR=3.6
STKA Stephens Creek 38.51 241 eP P 12 48 34.4 +0.6
49nm,1.9s
STKA Stephens Creek 38.51 241 P P 12 48 34.4 +0.6
28nm,0.7s,baz=84,slow=8.3,SNR=96
STKA Stephens Creek 38.51 241 P P 12 48 34.4 +0.6
baz=39,SNR=80
ARPS Mount Arapiles 39.52 234 P P 12 48 41.8 0.0
baz=40,SNR=13
JAY Jayapura 42.85 286 P P 12 49 09.1 +0.6
136nm,0.8s,2µm
JAY Jayapura 42.85 286 P P 12 49 09.0 +0.6
baz=43,SNR=28
BBOO Buckleboo 43.28 241 eP P 12 49 11.4 -0.1
555nm,0.6s
BBOO Buckleboo 43.28 241 P P 12 49 11.5 0.0
baz=43,SNR=48
WRAB Tennant Creek 44.52 260 eP P 12 49 20.9 -0.4
16nm,0.4s
WRA Warramunga Arr 44.53 260 P P 12 49 20.4 -0.9
WRA PcP PcP 12 50 51.5 +0.3
WRA ScP ScP 12 53 50.0 +2.7
WRA S S 12 55 12.5 -2.1
WRA Warramunga Arr 44.53 260 P P 12 49 20.4 -0.9
28nm,0.5s,baz=96,slow=7.1,SNR=639
WRA PcP PcP 12 50 51.6 +0.3
2.2nm,0.5s,baz=89,slow=3.6,SNR=3.4
WRA ScP ScP 12 53 50.0 +2.7
0.8nm,0.7s,baz=91,slow=4.8,SNR=3.6
WRA S S 12 55 12.5 -2.1
0.7nm,0.6s,baz=93,slow=12,SNR=3.4
AS31 Alice Springs 44.68 254 eP P 12 49 22.3 -0.2
ASAR Alice Springs 44.68 254 P P 12 49 22.1 -0.3
ASAR PcP PcP 12 50 52.3 +0.5
ASAR ScP ScP 12 53 51.3 +3.4
ASAR S S 12 55 16.7 -0.1
ASAR Alice Springs 44.68 254 P P 12 49 22.1 -0.3
138nm,0.6s,baz=88,slow=8.6,SNR=1116
ASAR PcP PcP 12 50 52.3 +0.5
4.3nm,0.5s,baz=110,slow=3.5,SNR=4.4
ASAR ScP ScP 12 53 51.3 +3.4
1.1nm,0.6s,baz=100,slow=4.3,SNR=4.7
ASAR S S 12 55 16.7 -0.1
1.4nm,0.6s,baz=88,slow=16,SNR=5.9
KDU Kakadu 47.47 269 P P 12 49 43.0 -0.5
baz=48,SNR=63
MTN Manton Dam 48.71 269 P P 12 49 51.9 -0.9
baz=49,SNR=79
FORT Forrest 49.89 245 eP P 12 50 00.5 -0.7
60nm,0.6s
FORT Forrest 49.89 245 P P 12 50 00.4 -0.7
baz=50,SNR=59
KNRA Kununurra 50.39 264 P P 12 50 04.5 -0.6
baz=50,SNR=39
FAKI Fak Fak 50.51 281 P P 12 50 05.5 -0.5
34nm,1.9s,739nm
FAKI Fak Fak 50.51 281 P P 12 50 06.0 0.0
baz=51,SNR=5.4
FITZ Fitzroy Crossi 52.93 261 eP P 12 50 23.3 0.0
9.8nm,0.5s
FITZ Fitzroy Crossi 52.93 261 P P 12 50 23.1 -0.1
baz=53,SNR=69
AAI Ambon 54.05 279 P P 12 50 31.5 +0.2
baz=54,SNR=10
KMBL Kambalda 55.19 244 P P 12 50 38.6 -0.3
baz=55,SNR=11
LBMI Labuha 55.76 282 P P 12 50 44.8 +1.7
80nm,0.9s
SOEI Soe 55.98 270 P P 12 50 46.3 +1.5
166nm,0.7s,2µm
SOEI Soe 55.98 270 P P 12 50 46.1 +1.3
baz=56,SNR=15
TNTI Ternate 56.40 283 P P 12 50 49.2 +1.7
MBWA Marble Bar 57.97 256 eP P 12 50 57.6 -0.5
28nm,0.5s
MEEK Meekatharra 58.32 249 P P 12 50 59.5 -0.9
baz=58,SNR=41
KLBR Kellerberrin 58.71 244 P P 12 51 02.3 -0.6
baz=59,SNR=29
BLDU Balliduu 59.66 245 P P 12 51 08.6 -0.6
baz=60,SNR=25
LUWI Luwuk 60.04 279 P P 12 51 12.5 +0.5
baz=60,SNR=5.4
VNDA Vanda 60.34 185 P P 12 51 13.7 +0.9
VNDA Vanda 60.34 185 P P 12 51 13.7 +0.9
0.7nm,0.5s,baz=16,slow=3.7,SNR=6.2
MORW Morawa 60.36 246 P P 12 51 13.3 -0.6
baz=60,SNR=17
JAGI Jajag, Banyuwa 65.95 269 P P 12 51 48.3 -1.6
baz=66,SNR=15
MJAR Matsushiro Arr 67.94 323 P P 12 52 01.1 -0.5
MJAR Matsushiro Arr 67.94 323 P P 12 52 01.1 -0.5
3.4nm,0.5s,baz=165,slow=6.4,SNR=21
MAJO Matsushiro 67.94 323 eP P 12 52 01.7 +0.1
5.4nm,0.6s
MAT Matsushiro 67.94 323 P P 12 52 01.0 -0.6
MAT S S 13 00 10.8 -3.5
UGM Wanagama 69.56 268 eP P 12 52 11.8 -0.1
UGM Wanagama 69.56 268 P P 12 52 11.7 -0.1
baz=70,SNR=36
SMRI Semarang 69.88 269 P P 12 52 19.1 +5.4
baz=70,SNR=5.7
FX1 Attu Island--F 70.96 355 eP P 12 52 18.1 -1.1
FX1 Attu Island--F 70.96 355 P P 12 52 17.8 -1.3
9.5nm,0.6s,baz=183,slow=2.8,SNR=21
SBUM Sibu 71.14 279 P P 12 52 22.0 +0.9
TWG Pinlang 71.65 302 eP P 12 52 21.7 -2.1
QSPA South Pole Qui 72.04 180 eP P 12 52 25.8 +0.2
7.3nm,1.0s
SSLB Suanglung 72.22 303 eP P 12 52 26.6 -0.6
10nm,0.5s
TPUB Ta-pu 72.24 303 eP P 12 52 26.0 -1.3
25nm,0.6s
KSM Kuching 72.61 277 eP P 12 52 30.1 +0.5
42nm,0.8s
KSM Kuching 72.61 277 P P 12 52 30.6 +1.0
KSM Kuching 72.61 277 P P 12 52 30.1 +0.5
baz=73,SNR=9.9
LEM Lembang 72.63 268 P P 12 52 30.8 +0.9
baz=73,SNR=4.9
PETK Petropavlovsk- 73.76 345 P P 12 52 35.0 -0.2
PETK Petropavlovsk- 73.76 345 P P 12 52 35.0 -0.2
6.5nm,0.7s,baz=125,slow=7.7,SNR=42
KSRS Korea Array 74.72 318 P P 12 52 41.8 +0.8
1.1nm,0.6s,baz=127,slow=6.0,SNR=8.6
KSAR Wonju Array Be 74.74 318 P P 12 52 41.8 +0.7
CHGN Chignik 75.94 11 eP P 12 52 46.1 -1.1
SAO San Andreas Ge 76.56 44 eP P 12 52 51.9 +0.7
USRK Ussuriysk Arra 76.65 326 P P 12 52 53.2 +1.7
1.3nm,0.6s,baz=116,slow=4.4,SNR=4.2
MWC Mount Wilson 77.47 48 eP P 12 52 56.6 +0.2
16nm,0.6s
VES Vestal, Richgr 77.63 46 ⇑P P 12 52 56.7 -0.3
baz=78,SNR=5.6
MURC Murrieta 77.75 49 ⇓P P 12 52 57.5 -0.2
baz=78
BFSC Mount Baldy Ra 77.76 48 ⇓P P 12 52 57.6 -0.4
baz=78,SNR=5.7
MNAI Manna 77.78 269 P P 12 52 59.7 +1.4
baz=78,SNR=4.0
OHAK Old Harbor 77.85 14 eP P 12 52 57.3 -0.3
26nm,1.0s
EDW2 Edwards Air Fo 77.87 47 ⇓P P 12 52 58.6 +0.2
baz=78,SNR=10.0
MONP Monument Peak 77.95 49 ⇓P P 12 52 59.3 +0.3
baz=78
ISA Isabella 77.95 46 eP P 12 52 58.8 +0.1
12nm,0.8s
ISA Isabella 77.95 46 ⇑P P 12 52 58.9 +0.1
baz=78,SNR=8.5
CMB Columbia Colle 77.97 43 eP P 12 52 58.9 0.0
9.8nm,0.8s
OHCM Honcut 78.01 42 eP P 12 52 58.7 -0.2
DVTC Desert V Tower 78.06 50 ⇓P P 12 52 59.6 +0.1
baz=78
WDC Whiskeytown Da 78.08 40 eP P 12 52 59.8 +0.6
29nm,1.5s
MDJ Mudanjiang 78.22 325 P P 12 53 01.3 +1.4
MDJ pP pP 12 55 03.2 -1.4
MDJ sP sP 12 56 02.1 -3.2
MDJ S SKSac 13 02 12.4 -5.5
MDJ ScS ScS 13 02 27.9 +2.1
MDJ pmax pmax
comp=Z,5.0nm,0.7s
MDJ pmax pmax
comp=Z,31nm,4.2s
PFO Pinyon Flat Ob 78.29 49 ⇑P P 12 53 00.8 0.0
baz=78
BBRC Big Bear Solar 78.29 48 ⇓P P 12 53 00.9 0.0
baz=78
LRMC Laurel Mountai 78.39 47 ⇑P P 12 53 01.5 +0.2
baz=79
SWSC Sam W. Stewart 78.42 50 ⇑P P 12 53 01.5 +0.2
baz=79
KDAK Kodiak Island 78.52 14 eP P 12 53 02.1 +0.9
comp=Z,70nm,1.6s
CWC Cottonwood Cre 78.64 46 ⇓P P 12 53 02.5 -0.1
baz=79,SNR=8.4
YBH Yreka Blue Hor 78.66 39 eP P 12 53 03.0 +0.5
comp=Z,7.0nm,0.5s
YBH Yreka Blue Hor 78.66 39 P P 12 53 02.9 +0.5
comp=Z,8.5nm,0.5s,baz=200,slow=1.7,SNR=45
MLAC Mammoth Lakes 78.77 44 ⇓P P 12 53 03.7 +0.3
baz=79
MTUM Tungsten Hills 78.80 45 eP P 12 53 03.8 +0.4
BELC Belle Mtn. Jos 78.81 49 ⇑P P 12 53 03.8 +0.2
baz=79,SNR=11
MPMC Manual Prospec 78.84 46 ⇑P P 12 53 03.8 +0.1
baz=79,SNR=9.8
WAKR Walker 78.85 43 eP P 12 53 04.2 +0.4
TIN Tinemaha 78.86 45 ⇓P P 12 53 04.0 +0.2
baz=79
GSC Goldstone 78.91 47 eP P 12 53 04.5 +0.6
comp=Z,37nm,1.8s
GSC Goldstone 78.91 47 ⇑P P 12 53 04.1 +0.2
baz=79
HEC Hector,Ludlow 79.00 48 ⇓P P 12 53 04.4 0.0
baz=79
BEKR Beckworth 79.03 42 eP P 12 53 05.1 +0.5
comp=Z,4.0nm,0.5s
BC3 Big Chuckawall 79.03 49 ⇑P P 12 53 05.0 +0.4
baz=79,SNR=5.2
HUMO Hull Mountain 79.03 38 eP P 12 53 04.8 +0.4
comp=Z,35nm,1.5s
GLA Glamis 79.19 50 eP P 12 53 06.3 +0.9
comp=Z,55nm,1.8s
GLA Glamis 79.19 50 ⇓P P 12 53 06.0 +0.6
baz=79
QIZ Qiongzhong 79.42 294 P P 12 53 07.7 +0.9
QIZ pP pP 12 55 10.1 -1.9
QIZ S S 13 02 22.5 +2.3
QIZ pmax pmax
comp=Z,6.0nm,1.2s
GRAC Grapevine Rang 79.42 45 ⇑P P 12 53 06.9 +0.3
baz=80,SNR=5.7
GMRC Granite Mounta 79.45 48 ⇓P P 12 53 06.9 0.0
baz=80,SNR=5.5
FURC Furnace Creek, 79.48 46 ⇓P P 12 53 07.0 +0.2
baz=80
IRM Iron Mountain 79.50 49 ⇓P P 12 53 07.4 +0.4
baz=80,SNR=6.3
PAHR Pah Rah Range 79.56 42 eP P 12 53 07.9 +0.6
comp=Z,80nm,1.9s
NVAR Mina Array Bea 79.56 44 P P 12 53 07.3 -0.1
NVAR Mina Array Bea 79.56 44 P P 12 53 07.3 -0.1
comp=Z,6.6nm,0.6s,baz=224,slow=8.7,SNR=69
SHOC Shoshone 79.59 47 ⇑P P 12 53 07.5 +0.1
baz=80
TUQ Turquoise Moun 79.60 47 ⇑P P 12 53 07.7 +0.1
baz=80
NV11 Mina Array Sit 79.66 44 eP P 12 53 07.9 0.0
Y12C Blythe 79.75 50 ⇓P P 12 53 08.8 +0.5
baz=80
113A Mohawk Valley, 79.82 51 ⇓P P 12 53 09.0 +0.3
baz=80
LDFC Landfair 79.99 48 eP P 12 53 10.6 +0.9
comp=Z,17nm,0.8s
CN2 Changchun 80.05 322 eP P 12 53 10.4 +0.8
214A Organ Pipe Nat 80.14 52 ⇑P P 12 53 11.0 +0.5
baz=80
NEE2 Needles Airpor 80.19 49 ⇓P P 12 53 11.0 +0.5
baz=80
MOD Modoc 80.22 40 eP P 12 53 11.0 +0.3
comp=Z,16nm,0.7s
PDMCI Parker Dam,Lak 80.30 49 ⇓P P 12 53 11.6 +0.5
baz=80
Z14A Wintersburg 80.71 51 ⇑P P 12 53 14.0 +0.7
baz=81
W13A Hualapai Mount 80.87 49 ⇑P P 12 53 14.5 +0.2
baz=81,SNR=5.8
RSO Redoubt South 80.92 13 eP P 12 53 13.6 -0.4
Y14A Wickenburg 80.95 50 ⇑P P 12 53 14.9 +0.3
baz=81
SVW2 Sparrevohn 80.96 11 eP P 12 53 12.5 -1.4
BMN Battle Mountai 81.34 43 eP P 12 53 16.8 +0.3
comp=Z,82nm,1.8s
NLWA Neilton Lookou 81.44 34 eP P 12 53 17.3 +0.6
comp=Z,21nm,1.1s
VIPM Ingram Point 81.53 38 P P 12 53 17.5 0.0
WVOR Wild Horse Val 81.54 40 P P 12 53 17.7 +0.2
TDL Tradedollar La 81.71 36 P P 12 53 18.5 +0.2
SPU Mount Spurr 81.72 13 eP P 12 53 16.6 -1.2
TUC Tucson 81.83 52 eP P 12 53 19.9 +0.8
comp=Z,3.4nm,0.6s
I07A Izee 81.94 39 P P 12 53 19.7 +0.2
RC01 Rabbit Creek A 82.14 14 eP P 12 53 19.2 -0.7
LON Longmire 82.17 35 eP P 12 53 20.6 +0.1
comp=Z,12nm,1.4s
X16A Lo Mia Camp, P 82.31 50 ⇑P P 12 53 22.1 +0.5
baz=82,SNR=15
IPM Ipoh 82.35 277 eP P 12 53 22.8 +0.7
comp=Z,14nm,0.7s
CCUT Cedar City 82.44 47 eP P 12 53 23.0 +0.6
comp=Z,53nm,1.8s
BBB Bella Bella 82.45 29 P P 12 53 21.9 +0.2
BBB Bella Bella 82.45 29 P P 12 53 21.9 +0.2
comp=Z,11nm,0.9s,baz=258,slow=8.0,SNR=11
ARUT Antelope Range 82.51 46 eP P 12 53 23.2 +0.7
comp=Z,19nm,1.3s
319A Douglas 82.56 54 ⇑P P 12 53 23.9 +1.0
baz=83,SNR=7.6
RMW Rattlesnake Mo 82.60 35 P P 12 53 22.9 +0.2
U15A North Rim 82.65 48 ⇓P P 12 53 23.9 +0.5
baz=83,SNR=34
PMR Palmer 82.72 14 eP P 12 53 22.1 -0.6
comp=Z,8.4nm,0.4s
ELK Elko 82.79 43 P P 12 53 23.9 -0.1
ELK Elko 82.79 43 P P 12 53 23.9 -0.1
comp=Z,5.1nm,0.8s,baz=236,slow=4.5,SNR=28
WUAZ Wupatki 82.88 49 eP P 12 53 25.3 +0.8
comp=Z,29nm,1.4s
WUAZ Wupatki 82.88 49 ⇑P P 12 53 25.0 +0.5
baz=83
SML Sawmill 83.09 14 eP P 12 53 24.0 -0.7
comp=Z,7.2nm,1.5s
320A Kipp Ranch, An 83.12 54 ⇓P P 12 53 26.7 +1.0
baz=83,SNR=10
DIV Divide 83.12 15 eP P 12 53 24.4 -0.5
comp=Z,14nm,0.7s
220A Playas Peak, P 83.36 54 ⇑P P 12 53 27.7 +0.7
baz=84,SNR=6.4
X18A Snowflake 83.46 51 ⇓P P 12 53 27.8 +0.4
baz=84,SNR=5.6
120A U Bar Ranch, L 83.56 53 ⇓P P 12 53 28.8 +0.9
baz=84
BMO Blue Mountains 83.68 39 eP P 12 53 27.8 -0.3
comp=Z,59nm,2.1s
MVU Marysvale 83.70 46 eP P 12 53 29.6 +1.0
comp=Z,31nm,1.6s
MSU Marysvale 83.73 46 eP P 12 53 29.8 +1.1
MAW Mawson 83.73 200 P P 12 53 27.1 -0.8
MAW Mawson 83.73 200 P P 12 53 27.1 -0.8
comp=Z,1.8nm,0.4s,baz=142,slow=3.1,SNR=6.2
BJI Beijing 83.80 315 P P 12 53 29.3 +0.7
BJI pmax pmax
comp=Z,12nm,0.4s
MFID Camas Ranch 83.81 41 eP P 12 53 29.2 +0.4
comp=Z,4.3nm,0.5s
MFID Camas Ranch 83.81 41 ⇑P P 12 53 28.8 0.0
baz=84
SKNT Sakolnakorn 83.82 290 P P 12 53 31.1 +1.8
comp=Z,16nm,1.4s
Z20A Nine Sixteen R 83.84 52 ⇑P P 12 53 29.1 -0.2
baz=84
W18A Petrified Fore 83.88 50 ⇓P P 12 53 29.4 0.0
baz=84
221A Mesquite Ranch 83.98 54 ⇓P P 12 53 30.6 +0.6
baz=84
DUG Dugway 84.11 45 eP P 12 53 31.4 +1.0
comp=Z,3.9nm,0.8s
DUG Dugway 84.11 45 ⇑P P 12 53 30.3 -0.1
baz=84
TRF Thorofare Moun 84.13 12 eP P 12 53 28.2 -1.7
comp=Z,24nm,0.6s
121A Cookes Peak, D 84.20 53 ⇑P P 12 53 31.6 +0.5
baz=84,SNR=9.5
ENH Enshi 84.26 304 eP P 12 53 32.2 +0.9
comp=Z,28nm,1.2s
Y20A Horse Springs, 84.35 52 ⇓P P 12 53 32.5 +0.6
baz=84,SNR=10
X20A Quemado 84.54 51 ⇑P P 12 53 33.3 +0.5
baz=85
222A Williams Famil 84.54 54 ⇓P P 12 53 33.3 +0.6
baz=85
Q16A Castle Valley 84.61 46 ⇑P P 12 53 33.6 +0.6
baz=85
MCK McKinley 84.66 13 eP P 12 53 31.6 -0.8
TMUT Trail Mountain 84.77 46 eP P 12 53 34.1 +0.2
PAX Paxson 84.77 14 eP P 12 53 32.0 -1.0
W20A Ramah 84.79 51 ⇓P P 12 53 34.2 +0.2
baz=85
122A Conniff Cattle 84.87 53 ⇑P P 12 53 34.9 +0.6
baz=85
HVU Hansel Valley 84.92 43 eP P 12 53 34.8 +0.4
comp=Z,6.3nm,0.9s
Y21A Point of Rocks 84.92 52 ⇓P P 12 53 35.1 +0.4
baz=85,SNR=8.1
H12A Diamond D Ranc 85.00 40 ⇑P P 12 53 34.6 -0.1
baz=85
G12A Big Creek, Yel 85.01 39 ⇑P P 12 53 34.6 -0.2
baz=85
GYA Guiyang 85.01 300 eP P 12 53 35.8 +0.7
GYA pP pP 12 55 42.6 0.0
GYA sP sP 12 56 40.0 -2.6
GYA PP PP 12 57 05.4 +1.7
GYA SKS SKSac 13 03 02.3 -1.4
GYA S S 13 03 16.8 +1.0
GYA pmax pmax
comp=Z,10.0nm,1.0s
X21A Alamocita Cree 85.03 52 ⇓P P 12 53 35.3 +0.2
baz=85,SNR=6.0
Z22A Elephant Butte 85.14 53 ⇓P P 12 53 35.8 +0.2
baz=85,SNR=10
SRU San Rafael 85.15 46 eP P 12 53 35.9 +0.3
comp=Z,6.3nm,0.7s
MENT Mentasta 85.17 15 eP P 12 53 34.6 -0.3
U20A Newcomb 85.33 50 ⇓P P 12 53 36.4 -0.1
baz=86
Y22A Socorro 85.42 52 ⇑P P 12 53 37.1 +0.1
baz=86
LAZ Ladron 85.49 52 eP P 12 53 38.1 +0.8
comp=Z,1.3nm,0.7s
324A Moseley Ranch, 85.52 55 ⇓P P 12 53 37.7 +0.3
baz=86
E12A Beaver Dam Sad 85.54 38 ⇑P P 12 53 36.0 -1.2
baz=86,SNR=7.9
I14A Mackay 85.55 41 ⇑P P 12 53 37.7 +0.3
baz=86
HWUT Hardware Ranch 85.62 44 eP P 12 53 37.6 -0.2
comp=Z,3.2nm,0.6s
X22A Bernardo 85.63 52 ⇑P P 12 53 37.5 -0.5
baz=86
NEW Newport 85.64 36 eP P 12 53 36.9 -0.5
comp=Z,4.4nm,0.8s
NEW Newport 85.64 36 P P 12 53 37.0 -0.5
comp=Z,3.8nm,0.7s,baz=270,slow=4.2,SNR=12
NEW Newport 85.64 36 ⇑P P 12 53 36.8 -0.8
baz=86,SNR=7.2
425A Indio Mountain 85.65 56 ⇑P P 12 53 38.6 +0.6
baz=86,SNR=15
Z23A Rita Site, Whi 85.69 53 ⇑P P 12 53 38.5 +0.3
baz=86
MNTX Cornudas Mount 85.71 55 eP P 12 53 38.9 +0.7
comp=Z,2.4nm,0.6s
V21A Milan 85.72 50 ⇓P P 12 53 38.4 0.0
baz=86
224A Cornudas Mount 85.75 54 ⇓P P 12 53 38.9 +0.4
baz=86,SNR=12
626A Big Bend Ranch 85.83 57 ⇑P P 12 53 39.7 +0.8
baz=86,SNR=20
COLA College 85.89 13 eP P 12 53 37.2 -0.9
comp=Z,12nm,0.6s
325A Bean Ranch, Si 85.89 55 ⇑P P 12 53 39.3 +0.1
baz=86,SNR=7.4
PV04 Paradox Valley 85.95 48 eP P 12 53 39.7 +0.3
DLBC Dease Lake 85.96 23 P P 12 53 38.9 +0.1
DLBC Dease Lake 85.96 23 P P 12 53 38.9 +0.1
comp=Z,2.5nm,0.6s,baz=200,slow=2.4,SNR=7.3
U21A Nageezi 85.98 50 ⇓P P 12 53 39.6 0.0
baz=86,SNR=15
ILAR Eielson Array 86.01 13 P P 12 53 37.1 -1.7
ILAR PP PP 12 57 02.1 -8.5
ILAR Eielson Array 86.01 13 P P 12 53 37.1 -1.7
comp=Z,3.6nm,0.4s,baz=220,slow=5.0,SNR=138
ILAR PP PP 12 57 02.1 -8.5
comp=Z,0.5nm,0.9s,baz=220,slow=7.4,SNR=3.9
124A Stringfield Ra 86.06 54 ⇑P P 12 53 40.2 +0.1
baz=86,SNR=10
526A Mary Lane Ranc 86.07 57 ⇓P P 12 53 40.6 +0.5
baz=86,SNR=11
PV01 Paradox Valley 86.07 48 eP P 12 53 40.2 +0.2
comp=Z,344nm,0.9s
S20A Disappointment 86.08 48 ⇓P P 12 53 40.2 +0.1
baz=86
Y23A Lovelace Mesa, 86.11 53 ⇓P P 12 53 40.1 -0.2
baz=86
TXAR Lajitas Array 86.12 58 P P 12 53 41.1 +0.8
TXAR Lajitas Array 86.12 58 P P 12 53 41.1 +0.8
comp=Z,7.1nm,0.6s,baz=219,slow=6.2,SNR=99
M17A Scullys Gap (B 86.16 44 ⇑P P 12 53 40.0 -0.3
baz=86
ANMO Albuquerque 86.23 52 eP P 12 53 38.3 -2.5
comp=Z,11nm,1.4s
R20A Redvale 86.23 48 ⇓P P 12 53 40.5 -0.2
baz=86
XAN Xi'an 86.25 307 P P 12 53 41.4 +0.7
XAN pmax pmax
comp=Z,2.0nm,1.1s
XAN pmax pmax
comp=Z,13nm,6.5s
X23A Hourglass Bar 86.28 52 ⇓P P 12 53 40.9 -0.1
baz=86
C12B Naegeli Ranch, 86.28 37 ⇓P P 12 53 40.6 0.0
baz=86
225A Deer Hill, Car 86.31 55 ⇑P P 12 53 41.4 +0.2
baz=86,SNR=9.3
426A McDonald Obser 86.36 56 ⇑P P 12 53 41.9 +0.4

baz=86,SNR=8.9
MCMT McKenzie Canyo 86.37 41 P P 12 53 42.0 +0.6
Z24A Sheeppen Canyo 86.38 53 ⇑P P 12 53 41.6 0.0
baz=87
627A Terlingua Ranc 86.39 58 ⇓P P 12 53 42.4 +0.8
baz=87,SNR=27
S21A Coal Bank Pass 86.42 49 ⇑P P 12 53 41.7 0.0
baz=87,SNR=6.2
P19A Cripple Cowboy 86.45 46 ⇑P P 12 53 41.8 0.0
baz=87
527A Woodward Ranch 86.48 57 ⇑P P 12 53 42.3 +0.2
baz=87
U22A Llaves 86.54 50 ⇑P P 12 53 42.1 -0.2
baz=87
F14A Wisdom 86.54 39 ⇑P P 12 53 41.9 -0.1
baz=87
W23A Werner Place, 86.55 51 ⇑P P 12 53 42.3 -0.1
baz=87
D13A Huson 86.55 38 ⇓P P 12 53 41.4 -0.4
baz=87,SNR=8.5
Y24A Capitan 86.57 53 ⇑P P 12 53 42.3 -0.2
baz=87,SNR=13
RRI2 Red Ridge 86.61 42 eP P 12 53 43.1 +0.6
comp=Z,134nm,2.2s
B12A Libby 86.62 36 ⇓P P 12 53 42.1 +0.1
baz=87
Q20A Ridgley Place, 86.62 47 ⇑P P 12 53 42.3 -0.2
baz=87
326A Caldwell Ranch 86.65 56 ⇑P P 12 53 42.8 0.0
baz=87
O19A Miners Draw (B 86.65 46 ⇑P P 12 53 42.3 -0.3
baz=87
125A Gardner Draw, 86.66 54 ⇓P P 12 53 42.8 +0.1
baz=87
MSO Missoula 86.72 38 eP P 12 53 42.8 +0.1
comp=Z,3.0nm,0.4s
MSO Missoula 86.72 38 ⇑P P 12 53 43.1 +0.4
baz=87,SNR=8.7
BSMT Bassoo Peak 86.75 37 eP P 12 53 42.6 -0.3
I16A Newdale 86.76 42 ⇓P P 12 53 43.8 +0.7
baz=87,SNR=6.9
V23A Ortiz Mt. (NFS 86.77 51 ⇑P P 12 53 43.7 +0.3
baz=87,SNR=5.2
T22A Edith 86.78 50 ⇓P P 12 53 43.2 -0.2
baz=87
DLMT Dillon 86.79 40 eP P 12 53 43.7 +0.6
comp=Z,6.1nm,0.6s
P20A De Beque 86.80 47 ⇓P P 12 53 43.3 0.0
baz=87
226B Tecolote Peak, 86.81 55 ⇓P P 12 53 43.7 +0.2
baz=87,SNR=8.4
628A Black Gap, Mar 86.81 58 ⇑P P 12 53 44.1 +0.6
baz=87,SNR=14
A12A Yaak River Ran 86.83 36 ⇑P P 12 53 43.3 +0.2
baz=87
X24A Lazy VL Ranch, 86.83 52 ⇑P P 12 53 43.3 -0.4
baz=87
Z25A Roswell 86.86 54 ⇑P P 12 53 43.8 +0.1
baz=87
R21A Cimarron 86.89 48 ⇑P P 12 53 44.1 +0.2
baz=87
TPAW Teton Pass 86.92 42 eP P 12 53 44.1 +0.2
comp=Z,9.6nm,1.0s
TPAW epP pP 12 55 55.7 +3.4
427A Hayter Ranch, 86.92 56 ⇑P P 12 53 44.7 +0.7
baz=87,SNR=14
U23A El Rito 87.00 50 ⇓P P 12 53 44.5 +0.1
baz=87
SNOW Snow King Moun 87.03 42 eP P 12 53 44.8 +0.3
327A Balmorhea Ranc 87.05 56 ⇑P P 12 53 44.6 0.0
baz=87
Q21A Lamborn Mesa, 87.08 48 ⇓P P 12 53 44.8 +0.1
baz=87
F15A Butte 87.09 40 ⇑P P 12 53 44.3 -0.3
baz=87,SNR=7.7
D14A Greenough 87.10 38 ⇓P P 12 53 43.5 -1.0
baz=87,SNR=6.8
LRM Limekiln Ridge 87.11 40 eP P 12 53 44.9 +0.2
W24A Lazy 6 Ranch, 87.12 52 ⇓P P 12 53 44.7 -0.3
baz=87
Y25A Mesa, Roswell 87.14 53 ⇑P P 12 53 44.6 -0.4
baz=87,SNR=7.8
S22A 4UR Ranch, Cre 87.14 49 ⇓P P 12 53 45.2 +0.1
baz=87,SNR=7.5
528A Cox Ranch, San 87.15 57 ⇑P P 12 53 45.7 +0.6
baz=87,SNR=14
CHMT Chamberlain Mo 87.17 39 eP P 12 53 44.6 -0.3
CHMT epP pP 12 55 56.7 +3.3
MOOW Moose Ponds 87.17 42 eP P 12 53 45.5 +0.4
comp=Z,26nm,1.8s
M19A Rock Springs 87.18 45 ⇑P P 12 53 44.9 -0.2
baz=87
O20A White River Ci 87.18 46 ⇑P P 12 53 45.1 -0.1
baz=87
SLMT Seeley Lake 87.19 38 eP P 12 53 44.2 -0.8
LOHW Long Hollow 87.20 42 eP P 12 53 45.6 +0.4
comp=Z,32nm,1.6s
B13A Whitefish 87.20 37 ⇓P P 12 53 44.5 -0.4
baz=87
QLMT Earthquake Lak 87.25 41 eP P 12 53 46.5 +1.1
QLMT epP pP 12 55 56.6 +2.8
QLMT ePP PP 12 57 19.3 -1.9
HHC Hu-ho-hao-te 87.28 314 eP P 12 53 44.0 -1.5
HHC PP PP 12 57 22.5 +1.1
HHC SKS SKSac 13 03 15.0 -1.8
HHC sS sS 13 07 17.1 -8.3
HHC pmax pmax
comp=Z,49nm,1.1s
HHC pmax pmax
comp=Z,130nm,9.6s
L19A Farson 87.31 44 ⇓P P 12 53 45.7 0.0
baz=88,SNR=9.0
EGAK Eagle 87.33 15 eP P 12 53 44.1 -0.9
comp=Z,4.1nm,0.7s
EGAK epP pP 12 55 56.3 +2.9
I17A Pilgrim Ck. 87.36 42 ⇓P P 12 53 46.3 +0.3
baz=88
R22A Saguache, Gunn 87.40 48 ⇑P P 12 53 46.4 0.0
baz=88,SNR=5.3
Z26A Caprock 87.42 54 ⇑P P 12 53 46.0 -0.3
baz=88,SNR=9.1
V24A Rampart Ranch, 87.43 51 ⇑P P 12 53 46.4 -0.1
baz=88
227A Bennet, Jal 87.46 55 ⇑P P 12 53 46.5 0.0
baz=88
N20A Spence Gulch, 87.48 46 ⇓P P 12 53 46.3 -0.2
baz=88,SNR=6.8
BW06 Boulder Array 87.48 43 eP P 12 53 45.9 -0.7
comp=Z,4.4nm,0.5s
BW06 epP pP 12 55 57.2 +2.2
PDAR Pinedale Array 87.48 43 P P 12 53 46.0 -0.6
PDAR PP PP 12 57 17.4 -5.7
PDAR Pinedale Array 87.48 43 P P 12 53 46.0 -0.6
comp=Z,6.5nm,0.7s,baz=214,slow=3.0,SNR=68
PDAR PP PP 12 57 17.5 -5.7
comp=Z,0.6nm,0.7s,baz=247,slow=11,SNR=6.8
BOZ Bozeman (W) 87.52 40 eP P 12 53 46.8 +0.2
comp=Z,14nm,1.4s
COLD Coldfoot 87.53 11 eP P 12 53 45.9 0.0
comp=Z,5.6nm,0.6s
Q22A Crested Butte, 87.56 48 ⇑P P 12 53 47.0 -0.1
baz=88,SNR=5.3
H17A Grant Village 87.58 42 ⇑P P 12 53 48.0 +1.0
baz=88,SNR=6.0
529A Stev Forest Ra 87.59 57 ⇓P P 12 53 47.3 +0.1
baz=88
F16A Kennard Place, 87.59 40 ⇓P P 12 53 47.1 +0.2
baz=88
328A Wristen Ranch, 87.60 56 ⇑P P 12 53 47.1 -0.1
baz=88
D15A Lincoln 87.67 39 ⇓P P 12 53 46.8 -0.4
baz=88,SNR=8.6
127A Arkansas Junct 87.67 55 ⇓P P 12 53 47.1 -0.4
baz=88
I18A Diamond G Ranc 87.75 43 ⇑P P 12 53 47.5 -0.3
baz=88
O21A Pagoda 87.75 46 ⇓P P 12 53 47.7 -0.2
baz=88
KMI Kunming 87.80 297 P P 12 53 50.1 +1.7
KMI pmax pmax
comp=Z,8.0nm,1.1s
M20A Sweetwater, Wa 87.82 45 ⇑P P 12 53 48.1 -0.1
baz=88
W25A X Bar L Ranch, 87.83 52 ⇑P P 12 53 47.6 -0.7
baz=88,SNR=5.4
B14A Marquette Ranc 87.88 37 ⇑P P 12 53 47.5 -0.7
baz=88,SNR=21
HRY Holter Researc 87.92 39 eP P 12 53 48.8 +0.4
E16A East Helena 87.92 39 ⇑P P 12 53 48.2 -0.2
baz=88
L20A Wamsutter 87.95 45 ⇑P P 12 53 48.6 -0.1
baz=88,SNR=7.1
N21A Black Mountain 87.95 46 ⇓P P 12 53 48.6 -0.2
baz=88,SNR=8.8
V25A Rancho No Teng 87.97 51 ⇑P P 12 53 48.6 -0.4
baz=88,SNR=6.8
C15A Salmond Ranch, 87.98 38 ⇑P P 12 53 47.9 -0.7
baz=88,SNR=11
K19A Absolon Red Bu 87.98 44 ⇑P P 12 53 48.0 -0.8
baz=88,SNR=8.8
P22A Eagle 87.98 47 ⇑P P 12 53 48.6 -0.3
baz=88
Z27A Tatum 88.03 54 ⇓P P 12 53 48.5 -0.7
baz=88
429A Davenport Ranc 88.04 57 ⇓P P 12 53 49.2 0.0
baz=88
J19A Crowheart 88.04 43 ⇑P P 12 53 48.9 -0.2
baz=88
R23A Moffat 88.05 49 ⇓P P 12 53 49.2 -0.1
baz=88
228A UT Block 9, Go 88.05 55 ⇓P P 12 53 49.0 -0.3
baz=88
X26A CR and CF Fran 88.06 53 ⇑P P 12 53 49.1 -0.2
baz=88
SDCO Great Sand Dun 88.09 49 eP P 12 53 49.7 +0.1
comp=Z,0.7nm,0.6s
SDCO epP pP 12 55 59.9 +1.6
A14A Double T Ranch 88.11 37 ⇑P P 12 53 48.6 -0.6
baz=88,SNR=11
K20A Yellowstone Ra 88.23 44 ⇑P P 12 53 49.2 -0.8
baz=88,SNR=14
D16A Dana Ranch, Ca 88.24 39 ⇓P P 12 53 49.6 -0.3
baz=88,SNR=9.2
F17A Fitzpatrick Pl 88.24 40 ⇑P P 12 53 50.4 +0.5
baz=88
S24A Houchin Ranch, 88.26 50 ⇑P P 12 53 50.6 +0.2
baz=88
B15A Bradely Ranch, 88.27 38 ⇑P P 12 53 49.1 -0.8
baz=88
Y27A Causey 88.29 54 ⇓P P 12 53 49.9 -0.5
baz=88,SNR=5.8
329A Wagon Wheel Ra 88.29 56 ⇑P P 12 53 50.4 0.0
baz=88
H18A Shoshone NF, C 88.29 42 ⇑P P 12 53 50.4 +0.1
baz=88
W26A Owens Ranch, T 88.30 52 ⇓P P 12 53 50.1 -0.4
baz=88
530A J-C Ranch, Com 88.31 58 ⇑P P 12 53 50.4 0.0
baz=88
128A Castleberry Fa 88.33 55 ⇑P P 12 53 50.4 -0.2
baz=88,SNR=7.2
U25A Circle Dot Ran 88.34 51 ⇓P P 12 53 50.0 -0.7
baz=88
O22A Kremmling 88.37 47 ⇓P P 12 53 50.8 -0.1
baz=89,SNR=8.9
M21A Separation Pea 88.43 45 ⇓P P 12 53 50.6 -0.4
baz=89,SNR=7.5
I19A Meeteetse 88.43 43 ⇓P P 12 53 51.0 +0.2
baz=89,SNR=6.3
C16A Fuhringer Ranc 88.50 38 ⇑P P 12 53 50.5 -0.5
baz=89
A15A Johnson Ranch, 88.50 37 ⇑P P 12 53 50.2 -0.8
baz=89,SNR=11
P23A Jefferson 88.53 48 ⇑P P 12 53 52.2 +0.6
baz=89
V26A Tequesquite Ra 88.57 52 ⇓P P 12 53 51.9 +0.2
baz=89
L21A Rawlins 88.58 45 ⇓P P 12 53 51.2 -0.4
baz=89,SNR=6.8
R24A Sanders Place, 88.58 49 ⇓P P 12 53 51.6 -0.1
baz=89
229A Bryant Ranch, 88.61 56 ⇓P P 12 53 51.2 -0.7
baz=89
MSTX Muleshoe 88.62 54 ⇑P P 12 53 51.6 -0.3
baz=89,SNR=7.6
430A Baggett Ranch, 88.62 57 ⇑P P 12 53 51.7 -0.2
baz=89
X27A F and S Farms, 88.64 53 ⇓P P 12 53 51.6 -0.4
baz=89
T25A Trinidad 88.64 50 ⇑P P 12 53 51.8 -0.3
baz=89
631A Perdido Creek 88.65 59 ⇑P P 12 53 52.3 +0.3
baz=89
G18A Lazy EL Ranch, 88.65 41 ⇓P P 12 53 52.2 +0.3
baz=89
Z28A Tucker Farm, M 88.66 54 ⇑P P 12 53 51.6 -0.5
baz=89
N22A Wattenberg Ran 88.70 46 ⇑P P 12 53 52.2 -0.1
baz=89,SNR=8.8
J20A Shoshoni 88.71 43 ⇑P P 12 53 52.4 +0.2
baz=89,SNR=8.5
H19A Powell 88.72 42 ⇓P P 12 53 52.5 +0.3
baz=89,SNR=5.5
GCMT Greycliff 88.80 41 eP P 12 53 53.3 +0.8
comp=Z,2.0nm,0.8s
129A Stewart Farms, 88.81 55 ⇓P P 12 53 52.7 -0.1
baz=89
B16A M M M Farms, S 88.82 38 ⇓P P 12 53 51.5 -0.9
baz=89,SNR=9.5
D17A Six Diamond Ra 88.82 39 ⇓P P 12 53 52.4 -0.1
baz=89,SNR=12
W27A Bowe Ranch, En 88.82 53 ⇓P P 12 53 51.5 -1.3
baz=89
O23A Lake Granby, G 88.82 47 ⇑P P 12 53 53.0 +0.1
baz=89
S25A Robets Cordova 88.83 50 ⇓P P 12 53 52.6 -0.3
baz=89
CMAR Chiang Mai Arr 88.84 290 P P 12 53 54.0 +0.9
CMAR Chiang Mai Arr 88.84 290 P P 12 53 54.0 +0.9
comp=Z,2.7nm,0.8s,baz=114,slow=2.8,SNR=18
Q24A Divide 88.85 48 ⇓P P 12 53 52.3 -0.8
baz=89
ISCO Idaho Springs 88.86 47 ⇓P P 12 53 52.6 -0.6
baz=89
732A Laxson Ranch, 88.90 59 ⇑P P 12 53 53.6 +0.5
baz=89
330A Mertzon 88.90 57 ⇓P P 12 53 53.5 +0.3
baz=89
531A Rocksprings 88.95 58 ⇓P P 12 53 53.7 +0.3
baz=89
I20A Worland 88.95 43 ⇓P P 12 53 53.1 -0.1
baz=89,SNR=6.2
CHTO Chiang Mai 88.95 290 eP P 12 53 54.8 +1.2
comp=Z,4.2nm,0.8s
CHTO Chiang Mai 88.95 290 P P 12 53 55.5 +1.9
C17A Wharram Farm, 89.00 39 ⇓P P 12 53 52.9 -0.4
baz=89,SNR=13
Y28A McKinney Farm, 89.00 54 ⇓P P 12 53 53.0 -0.7
baz=89,SNR=5.9
431A Sonora 89.09 57 ⇓P P 12 53 53.9 -0.2
baz=89
N23A Red Feather La 89.09 46 ⇓P P 12 53 54.1 0.0
baz=89,SNR=7.1
230A Sterling City 89.13 56 ⇑P P 12 53 53.4 -0.8
baz=89
J21A Lysite 89.13 44 ⇑P P 12 53 54.1 0.0
baz=89,SNR=16
R25A Fountain Ranch 89.14 49 ⇓P P 12 53 54.2 -0.1
baz=89
Z29A Hungry Hill Ra 89.17 55 ⇓P P 12 53 53.8 -0.7
baz=89
L22A Ellis Ranch, M 89.24 45 ⇓P P 12 53 54.9 +0.2
baz=89,SNR=11
P24A Kohler Place, 89.24 48 ⇓P P 12 53 54.7 -0.1
baz=89
T26A Comanche Natio 89.25 50 ⇓P P 12 53 53.9 -1.0
baz=89
V27A Dan Oppiter Fa 89.26 52 ⇑P P 12 53 54.6 -0.3
baz=89
H20A Greybull 89.27 42 ⇓P P 12 53 54.0 -0.7
baz=90
X28A Dimmitt 89.27 53 ⇑P P 12 53 54.3 -0.7
baz=89
F19A Roth Farm, Mol 89.28 41 ⇑P P 12 53 54.5 -0.1
baz=90,SNR=5.5
B17A L&G Farms, Che 89.29 38 ⇓P P 12 53 54.1 -0.5
baz=90
632A Uvalde 89.33 59 ⇓P P 12 53 55.1 0.0
baz=90
D18A Linhart Farms, 89.37 39 ⇓P P 12 53 55.3 +0.3
baz=90
Y29A Porterfield Fa 89.43 54 ⇑P P 12 53 55.1 -0.5
baz=90
I21A Big Trails, Te 89.43 43 ⇑P P 12 53 54.8 -0.7
baz=90,SNR=10
K22A Casper 89.44 45 ⇑P P 12 53 54.9 -0.6
baz=90
532A Rocksprings 89.45 58 ⇓P P 12 53 55.7 -0.1
baz=90
331A San Angelo 89.46 57 ⇓P P 12 53 54.8 -1.0
baz=90
Q25A Bedland, Calha 89.47 49 ⇓P P 12 53 54.7 -1.2
baz=90
S26A Kim 89.52 50 ⇑P P 12 53 55.3 -0.8
baz=90
U27A Thompson Grove 89.53 51 ⇑P P 12 53 55.5 -0.6
baz=90
PHWY Pilot Hill 89.59 46 eP P 12 53 56.5 0.0
comp=Z,3.0nm,0.6s
X29A Tulia 89.62 54 ⇑P P 12 53 55.9 -0.6
baz=90
Z30A Sanderson Ranc 89.63 55 ⇓P P 12 53 56.3 -0.3
baz=90
E19A Rath Farm, Rou 89.66 40 ⇑P P 12 53 56.5 +0.1
baz=90,SNR=5.1
A17A Triple J Farms 89.66 38 ⇑P P 12 53 56.0 -0.3
baz=90,SNR=10.0
JCT Junction City 89.66 58 eP P 12 53 57.0 +0.2
comp=Z,5.1nm,0.8s
JCT Junction City 89.66 58 ⇓P P 12 53 56.4 -0.4
baz=90
F20A Billings 89.76 41 ⇓P P 12 53 57.1 +0.2
baz=90
L23A Garrett 89.77 45 ⇑P P 12 53 56.9 -0.3
baz=90,SNR=12
P25A Willow Gulch B 89.77 48 ⇓P P 12 53 57.4 +0.2
baz=90
231A Bronte 89.78 56 ⇓P P 12 53 57.1 -0.2
baz=90
EGMT Eagleton 89.78 39 eP P 12 53 56.5 -0.5
comp=Z,15nm,1.6s
EGMT Eagleton 89.78 39 ⇓P P 12 53 57.4 +0.5
baz=90
N24A Carr 89.80 47 ⇓P P 12 53 57.7 +0.5
baz=90
432A Menard 89.81 57 ⇑P P 12 53 57.5 +0.1
baz=90
T27A Campo 89.85 51 ⇑P P 12 53 57.5 -0.1
baz=90
D19A Cripps Ranch, 89.92 40 ⇓P P 12 53 57.8 +0.3
baz=90
B18A Beardsley Farm 89.94 38 ⇑P P 12 53 57.5 -0.1
baz=90,SNR=8.1
H21A Big Horn, Sher 89.95 43 ⇑P P 12 53 57.8 0.0
baz=90
131A Roby 89.99 56 ⇑P P 12 53 57.7 -0.5
baz=90
I22A 9 Mile Ranch, 89.99 43 ⇓P P 12 53 58.0 -0.1
baz=90
Y30A Stafford Cattl 90.03 54 ⇑P P 12 53 58.2 -0.1
baz=90
332A Millersview 90.03 57 ⇑P P 12 53 58.4 0.0
baz=90
C19A Slack Wire Ran 90.07 39 ⇑P P 12 53 58.5 +0.2
baz=90,SNR=6.4
K23A Bowen Ranch, D 90.08 45 ⇓P P 12 53 58.7 +0.2
baz=90
M24A Cheyenne 90.10 46 ⇓P P 12 53 58.8 +0.1
baz=90
G21A Lodge Grass 90.10 42 ⇑P P 12 53 59.3 +0.8
baz=90
X30A Coker Ranch, T 90.26 54 ⇓P P 12 53 59.6 +0.2
baz=90
R27A Eads 90.27 50 ⇓P P 12 54 00.0 +0.6
baz=90
232A Coleman 90.29 57 ⇓P P 12 53 59.9 +0.3
baz=90
H22A Cleamont 90.38 43 ⇓P P 12 53 59.6 -0.2
baz=91
Z31A Sharp Cattle R 90.41 55 ⇓P P 12 54 00.0 -0.1
baz=91
B19A Brinkman Farms 90.46 39 ⇓P P 12 53 59.8 -0.2
baz=91
SNAA Sanae 90.50 179 eP P 12 53 58.7 -1.2
Y31A Rekieta Farm, 90.55 54 ⇑P P 12 54 00.2 -0.6
baz=91
ABTX Abilene, Hawle 90.56 56 ⇑P P 12 54 00.7 -0.1
baz=91
M25A Palm-Egli Farm 90.61 46 ⇑P P 12 54 00.8 -0.2
baz=91
G22A Birney 90.68 42 ⇓P P 12 54 01.6 +0.5
baz=91
C20A Veseth Ranch, 90.69 40 ⇓P P 12 54 01.3 +0.2
baz=91,SNR=9.7
E21A Keefer Ranch, 90.75 41 ⇓P P 12 54 01.6 +0.3
baz=91
A19A Klindworth Far 90.79 38 ⇓P P 12 54 01.7 +0.1
baz=91
V30A Spur Ranch, Mi 90.88 53 ⇓P P 12 54 02.3 0.0
baz=91
LZH Lanzhou 90.89 308 eP P 12 54 02.3 -0.1
LZH pP pP 12 56 12.6 +0.9
LZH sP sP 12 57 11.4 +0.3
LZH pmax pmax
comp=Z,14nm,1.0s
Z32A Haskell 90.93 55 ⇑P P 12 54 02.0 -0.5
baz=91
J24A Dixon Ranch, L 90.97 45 ⇓P P 12 54 02.6 +0.1
baz=91
B20A Solberg Farm, 91.00 39 ⇓P P 12 54 02.1 -0.4
baz=91
R28A Tribune 91.01 50 ⇓P P 12 54 02.6 -0.2
baz=91
D21A La Casta Ranch 91.03 40 ⇑P P 12 54 03.2 +0.6
baz=91
Y32A R-V Farms, Ver 91.20 55 ⇓P P 12 54 03.5 -0.3
baz=91
K25A Mack Ranch, Ha 91.21 45 ⇓P P 12 54 03.9 +0.2
baz=91
O27A Beecher Island 91.23 48 ⇑P P 12 54 03.8 0.0
baz=91
W31A Holland Ranch, 91.24 53 ⇑P P 12 54 03.5 -0.4
baz=91
G23A Biddle 91.25 43 ⇑P P 12 54 03.6 -0.2
baz=91
A20A Cobblestone Ra 91.25 39 ⇓P P 12 54 03.6 0.0
baz=92
M26A McRoberts Ranc 91.26 47 ⇑P P 12 54 03.8 -0.2
baz=91
C21A Desert Coulee 91.29 40 ⇑P P 12 54 03.6 -0.2
baz=92
VNA1 Neumayer--Stat 91.31 177 eP P 12 54 03.3 -0.2
E22A Miles City 91.41 41 ⇑P P 12 54 04.5 +0.1
baz=92
N27A Anderson Farm, 91.42 47 ⇓P P 12 54 04.5 -0.2
baz=92
F23A Volborg 91.46 42 ⇑P P 12 54 04.5 -0.2
baz=92
R29A Marienthal 91.53 50 ⇓P P 12 54 05.0 -0.2
baz=92
V31A Spring Creek L 91.53 53 ⇓P P 12 54 05.5 +0.2
baz=92
D22A Cohagen 91.57 41 ⇓P P 12 54 05.4 +0.2
baz=92
B21A Ellsworth Farm 91.60 39 ⇓P P 12 54 05.4 +0.1
baz=92
H24A Dirks Ranch, A 91.61 43 ⇓P P 12 54 05.4 -0.1
baz=92
K26A Motz Farm, Whi 91.71 46 ⇓P P 12 54 06.4 +0.4
baz=92
Q29A Oakley 91.82 50 ⇑P P 12 54 07.0 +0.5
baz=92
I25A Rochford 91.86 44 ⇓P P 12 54 06.5 -0.2
baz=92
R30A Dighton 92.11 50 ⇑P P 12 54 08.3 +0.4
baz=92
F24A Ekalaka 92.12 42 ⇑P P 12 54 07.7 0.0
baz=92
B22A Reddig Ranch S 92.16 40 ⇓P P 12 54 08.4 +0.6
baz=92
H25A Fruitdale 92.18 44 ⇓P P 12 54 08.5 +0.5
baz=92
Q30A Quinter 92.40 50 ⇓P P 12 54 09.3 +0.1
baz=93
O29A 4D Ranch, Culb 92.40 49 ⇓P P 12 54 09.0 -0.2
baz=93
C23A Lambert 92.45 40 ⇓P P 12 54 09.6 +0.4
baz=93
S31A Mullinville 92.45 51 ⇓P P 12 54 09.5 +0.1
baz=93
A22A Carney Farms, 92.50 39 ⇑P P 12 54 09.0 -0.4
baz=93
D24A Glendive 92.71 41 ⇓P P 12 54 10.7 +0.4

baz=93
H26A Fairpoint 92.72 44 ⇑P P 12 54 10.8 +0.3
baz=93
B23A Brockton 92.84 40 ⇓P P 12 54 11.5 +0.6
baz=93
K28A Ten Mile Ranch 92.95 46 ⇑P P 12 54 12.5 +0.8
baz=93
N30A Hueftle Ranch, 93.14 48 ⇓P P 12 54 11.6 -0.9
baz=93
J28A Allard Ranch, 93.30 45 ⇑P P 12 54 13.4 +0.2
baz=94
DGMT Dagmar 93.33 40 eP P 12 54 13.6 +0.4
comp=Z,14nm,0.6s
DGMT Dagmar 93.33 40 ⇑P P 12 54 13.9 +0.7
baz=94
K29A Lazy Trails An 93.69 46 ⇓P P 12 54 15.3 +0.3
baz=94
YKA Yellowknife Ar 94.46 25 P P 12 54 17.0 -0.9
YKA Yellowknife Ar 94.46 25 P P 12 54 17.0 -0.9
comp=Z,1.9nm,0.7s,baz=237,slow=4.6,SNR=20
MKAR Makanchi Array 109.14 314 PKiKP PKiKP 12 59 22.8 -1.1
MKAR Makanchi Array 109.14 314 PKiKP PKiKP 12 59 22.8 -1.1
comp=Z,0.4nm,0.6s,baz=163,slow=2.4,SNR=3.4
ARCES ARCESS Array B 126.40 350 PKP PKPdf 12 59 56.1 -0.2
ARCES ARCESS Array B 126.40 350 PKP PKPdf 12 59 56.1 -0.2
comp=Z,2.1nm,0.8s,baz=297,slow=0.5,SNR=5.9
FINES FINESS Array B 133.26 344 PKP PKPdf 13 00 09.4 -0.1
FINES SKPbc SKPbc 13 02 44.0 +1.5
FINES FINESS Array B 133.26 344 PKP PKPdf 13 00 09.4 -0.1
comp=Z,0.8nm,0.6s,baz=104,slow=3.4,SNR=3.1
FINES SKPbc SKPbc 13 02 44.0 +1.5
comp=Z,1.2nm,0.6s,baz=7.1,slow=4.5,SNR=4.9
HFS Hagfors 137.02 351 PKPpre PKPpre 13 00 08.0
HFS Hagfors 137.02 351 PKhKP PKPpre 13 00 08.0
comp=Z,2.1nm,0.8s,baz=97,slow=6.1,SNR=5.0
EKA Eskdalemuir Ar 142.57 4 PKPpre PKPpre 13 00 22.8
EKA Eskdalemuir Ar 142.57 4 PKhKP PKPpre 13 00 22.8
comp=Z,0.7nm,0.5s,baz=327,slow=1.4,SNR=3.5
BUR08 Bucovina Ar. S 144.65 332 ePKPbc PKPab 13 00 32.4 +0.4
BR131 Keskin Array S 144.79 315 ePKPbc PKPbc 13 00 31.9 -0.1
BRTR Keskin Array B 144.79 315 PKP PKPdf 13 00 31.2 0.0
BRTR Keskin Array B 144.79 315 PKP PKPdf 13 00 31.2 0.0
comp=Z,2.7nm,0.7s,baz=142,slow=5.4,SNR=14
STHS Stebnicka Huta 144.85 337 ePKP PKPab 13 00 32.5 0.0
KOLS Kolonicke sedl 144.86 336 ePKP PKPbc 13 00 31.9 +0.3
CLL Collm 145.54 347 ⇑iPKPbc PKPbc 13 00 33.5 0.0
comp=Z,13nm,0.8s
UPC Upice 145.56 344 ePKP PKPbc 13 00 33.7 +0.1
DPC Dobruska-Polom 145.62 343 ePKP PKPbc 13 00 33.9 +0.1
BRG Berggiesshubel 145.74 346 ePKP PKPbc 13 00 34.0 -0.1
comp=Z,6.6nm,0.8s
MLR Muntele Rosu 145.87 329 PKPbc PKPbc 13 00 34.5 -0.3
MLR Muntele Rosu 145.87 329 PKPbc PKPbc 13 00 34.5 -0.3
comp=Z,0.5nm,0.5s,baz=29,slow=1.5,SNR=4.5
KECS Kecovo 145.91 337 ePKP PKPbc 13 00 34.4 -0.2
MMAI Mount Meron Ar 146.12 303 PKPbc PKPbc 13 00 36.0 +0.1
MMAI Mount Meron Ar 146.12 303 PKPbc PKPbc 13 00 35.9 +0.1
comp=Z,4.7nm,0.5s,baz=53,slow=4.6,SNR=8.1
PRA Prague 146.37 345 PKP PKPbc 13 00 36.0 +0.1
PRU Pruhonice 146.42 345 ePKP PKPbc 13 00 35.7 -0.3
VRAC Vranov 146.48 342 PKPbc PKPbc 13 00 36.0 -0.3
VRAC Vranov 146.48 342 PKPbc PKPbc 13 00 36.0 -0.3
comp=Z,2.1nm,0.3s,baz=30,slow=11,SNR=3.2
VYHS Vyhne 146.48 339 ePKP PKPbc 13 00 36.6 +0.3
TREC Trest 146.81 343 ePKP PKPbc 13 00 37.2 +0.1
TREC ex x 13 00 40.9
KHC Kasperske Hory 147.45 345 ePKP PKPbc 13 00 38.7 -0.1
KHC ex x 13 00 42.7
KHC Kasperske Hory 147.45 345 ePKPdf PKPdf 13 00 35.5 +0.2
KHC ePKPbc PKPbc 13 00 39.2 +0.3
KHC ePKPab PKPab 13 00 43.5 +0.5
GERES GERESS Array B 147.69 345 PKPbc PKPbc 13 00 39.5 0.0
GERES GERESS Array B 147.69 345 PKPbc PKPbc 13 00 39.5 0.0
comp=Z,2.7nm,0.5s,baz=29,slow=3.0,SNR=24
CONA Conrad Observa 147.93 342 ⇑iPKPdf PKPdf 13 00 35.6 -0.6
comp=Z,7.4nm,1.2s
KBA Koelnbreinsper 149.41 344 ⇑iPKPbc PKPbc 13 00 43.0 -0.9
comp=Z,6.7nm,1.1s
CRES Cresnjev 149.94 340 ePKPbc PKPbc 13 00 44.5 -0.4
LJU Ljubljana 150.03 342 iPKPbc PKPbc 13 00 44.8 -0.4
CRNS Crni Vrh 150.07 342 iPKPbc PKPbc 13 00 44.6 -0.7
FETA Feichten 150.09 347 ⇑iPKPdf PKPdf 13 00 39.8 +0.1
comp=Z,6.6nm,0.9s
BOJS Bojanci 150.29 340 iPKPbc PKPbc 13 00 45.8 0.0
DAVOX Davos/Dischmat 150.49 348 PKPbc PKPbc 13 00 46.5 +0.1
DAVOX Davos/Dischmat 150.49 348 PKPbc PKPbc 13 00 46.5 +0.1
comp=Z,7.5nm,0.6s,baz=143,slow=1.4,SNR=9.4
ESDC Sonseca Array 157.90 11 PKPab PKPab 13 01 27.0 -0.5
ESDC Sonseca Array 157.90 11 PKPab PKPab 13 01 27.0 -0.5
comp=Z,0.3nm,0.3s,baz=331,slow=2.8,SNR=5.1
TORD Torodi Ar. Bea 175.16 182 PKP PKPdf 13 01 02.9 -1.3
TORD PKPab PKPab 13 02 43.3 -0.8
TORD Torodi Ar. Bea 175.16 182 PKP PKPdf 13 01 02.9 -1.3
comp=Z,1.7nm,1.2s,baz=197,slow=15,SNR=3.7
TORD PKPab PKPab 13 02 43.3 -0.8
comp=Z,0.4nm,0.9s,baz=178,slow=2.9,SNR=3.8

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*ISK **07** 12:50:06.7, 35°.09N×28°.43E, h29km, ML3.9*
*IDC **07** 12:50:06.5±0.9, 35°.35N×28°.47E, h0km, mb3.7/10, mb1 3.8/16, mb1mx3.7/31, mbtmp3.7/16, ML3.7/5, MS2.5/1, Ms1 2.5/1, ms1mx1.9/39, Error ellipse: s-maj=21.7km s-min=16.0km az=178.0*
*ISCJB **07** 12:50:10.4±0.3, 35°.28N±0°.03×28°.60E±0°.02, h47km±6km, mb3.5/10, Error ellipse: s-maj=4.5km s-min=2.9km az=171.8*
*CSEM **07** 12:50:10.4±0.1, 35°.34N×28°.60E, h20km, MD3.5, Error ellipse: s-maj=4.3km s-min=3.0km az=174.0*
*ATH **07** 12:50:11.1, 35°.46N×28°.55E, h79km±3km*
*THE **07** 12:50:12.9, 35°.42N×28°.62E, h48km±6km, ML3.6/1, Error ellipse: s-maj=6.2km s-min=1.1km az=350.0*
*HLW **07** 12:50:16.9, 34°.90N×28°.44E, h31km±28km, Md3.1, Ml3.2*
*DDA **07** 12:50:20.8, 36°.09N×28°.63E, h50km, MD3.5*

ISC 07 12:50:10.9±1.1, 35°.31N±0°.03×28°.60E±0°.02, h34km±3km, n134, σ1°30/161, mb3.6/10, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	Arkhangelos	0.98	337	P	Pn	12 50 28.7	+0.5
ARG				S	Sn	12 50 40.6	-0.4
ARG	Arkhangelos	0.98	337	eP	Pn	12 50 28.7	+0.5
ARG	Arkhangelos	0.98	337	P	Pn	12 50 28.7	+0.5
ARG				S	Sn	12 50 40.6	-0.4
KARP	Karpathos	1.20	282	P	Pn	12 50 32.5	+1.2
KARP				S	Sb	12 50 48.3	-0.1
KARP	Karpathos	1.20	282	eP	Pn	12 50 32.5	+1.2
KARP				eS	Sb	12 50 49.0	+0.6
KARP	Karpathos	1.20	282	P	Pn	12 50 32.5	+1.2
KARP				eS	Sb	12 50 49.0	+0.6
AKAS	Kas	1.23	41	iP	Pb	12 50 33.5	-0.2
AKAS				iS	Sb	12 50 49.7	+0.4
FETY	Fethiye	1.38	16	ePN	Pn	12 50 34.1	+0.4
FETY				eSN	Sb	12 50 54.1	+0.7
FETY	Fethiye	1.38	16	ePn	Pn	12 50 34.1	+0.4
FETY				eSn	Sb	12 50 54.1	+0.7
DALY	Dalyan (Mu¨la	1.50	2	ePN	Pn	12 50 35.6	+0.2
DALY	Dalyan (Mu¨la	1.50	2	ePn	Pn	12 50 35.6	+0.2
TURN	Turunc	1.56	360	iP	Pn	12 50 36.5	+0.4
TURN				iS	Sn	12 50 54.5	-0.7
TURN	Turunc	1.56	360	iP	Pn	12 50 36.5	+0.4
DAT	Datca	1.64	330	ePN	Pn	12 50 36.2	-1.2
DAT	Datca	1.64	330	ePn	Pn	12 50 36.2	-1.2
NIS1	Nisyros Isl.	1.73	318	P	Pn	12 50 38.9	+0.3
NIS1	Nisyros Isl.	1.73	318	eP	Pn	12 50 38.9	+0.3
NIS1	Nisyros Isl.	1.73	318	P	Pn	12 50 38.9	+0.3
ELL	Elmali	1.78	36	ePN	Pn	12 50 40.1	+0.7
ELL	Elmali	1.78	36	ePn	Pn	12 50 40.1	+0.7
ZKR	Zakros	1.96	265	P	Pn	12 50 43.1	+1.4
ZKR				S	Sn	12 51 07.2	+2.0
ZKR	Zakros	1.96	265	eP	Pn	12 50 43.3	+1.6
ZKR				eS	Sn	12 51 06.4	+1.2
ZKR	Zakros	1.96	265	P	Pn	12 50 43.1	+1.4
ZKR				eS	Sn	12 51 06.4	+1.2
BODT	Bodrum	2.04	329	ePN	Pn	12 50 41.7	-1.0
BODT	Bodrum	2.04	329	ePn	Pn	12 50 41.7	-1.0
GOLH	Golhisar	2.07	22	iP	Pb	12 50 45.8	-2.1
GOLH				iS	Sb	12 51 11.5	-1.8
MLSB	Milas	2.09	342	ePN	Pn	12 50 43.1	-0.4
MLSB	Milas	2.09	342	ePn	Pn	12 50 43.1	-0.4
KORT	Korkueli	2.20	39	iP	Pn	12 50 47.7	+2.6
ANTB	Antalya	2.29	46	ePN	Pn	12 50 47.3	+1.0
ANTB	Antalya	2.29	46	ePn	Pn	12 50 47.3	+1.0
DNZL	Cakiroluk	2.40	8	iP	Pn	12 50 48.9	+0.9
DNZL				iS	Sn	12 51 07.7	-8.6
AYDN	Tasoluk	2.42	346	iP	Pn	12 50 49.2	+1.2
AYDN				iS	Sn	12 51 16.8	+0.4
NPS	Neapolis	2.45	270	P	Pn	12 50 49.9	+1.5
NPS	Neapolis	2.45	270	P	Pn	12 50 49.9	+1.5
DENT	Denizli	2.46	8	ePN	Pn	12 50 49.5	+0.8
DENT	Denizli	2.46	8	ePn	Pn	12 50 49.5	+0.8
LAST	Lasithi	2.56	268	P	Pn	12 50 51.9	+1.9
LAST				S	Sn	12 51 20.9	+0.8
LAST	Lasithi	2.56	268	eP	Pn	12 50 52.2	+2.2
LAST	Lasithi	2.56	268	P	Pn	12 50 51.9	+1.9
LAST				S	Sn	12 51 20.9	+0.8
BCK	Bucak	2.68	36	ePN	Pn	12 50 52.8	+1.2
BCK	Bucak	2.68	36	ePn	Pn	12 50 52.8	+1.2
SANT	Santorini	2.76	293	P	Pn	12 50 53.1	+0.3
SANT	Santorini	2.76	293	P	Pn	12 50 53.1	+0.3
SMG	Samos	2.78	330	eP	Pn	12 50 53.2	+0.2
SMG	Samos	2.78	330	eP	Pn	12 50 53.2	+0.2
THR3	Thira Island,	2.82	294	P	Pn	12 50 53.6	+0.1
THR3	Thira Island,	2.82	294	P	Pn	12 50 53.6	+0.1
SUTC	Sutluce-Ispart	2.90	41	ePN	Pn	12 50 56.0	+1.3
SUTC	Sutluce-Ispart	2.90	41	ePn	Pn	12 50 56.1	+1.3
ISP	Isparta	2.94	31	ePN	Pn	12 50 56.7	+1.4
ISP	Isparta	2.94	31	ePn	Pn	12 50 56.7	+1.4
IDI	Anoyia	3.04	271	P	Pn	12 50 57.7	+1.1
IDI				S	Sn	12 51 32.0	+0.1
IDI	Anoyia	3.04	271	eP	Pn	12 50 57.7	+1.1
IDI				eS	Sn	12 51 31.9	+0.1
IDI	Anoyia	3.04	271	P	Pn	12 50 57.7	+1.1
IDI				eS	Sn	12 51 31.9	+0.1
APE	Apeiranthos	3.04	306	ePN	Pn	12 50 54.8	-1.8
APE	Apeiranthos	3.04	306	eP	Pn	12 50 57.0	+0.4
APE	Apeiranthos	3.04	306	ePn	Pn	12 50 54.8	-1.8
APE	Apeiranthos	3.04	306	eP	Pn	12 50 57.0	+0.4
KHL	Karahalli	3.10	14	ePN	Pn	12 50 58.6	+1.2
KHL	Karahalli	3.10	14	ePn	Pn	12 50 58.6	+1.2
SIVA	Sivas	3.12	266	P	Pn	12 50 59.7	+2.1
SIVA	Sivas	3.12	266	eP	Pn	12 50 59.7	+2.1
SIVA	Sivas	3.12	266	P	Pn	12 50 59.7	+2.1
KHAL	Karahalli	3.13	13	iP	Pn	12 50 58.9	+1.0
GAZI	Gazipasa	3.16	72	iP	Pn	12 50 59.0	+0.9
GAZI				eS	Sn	12 51 33.1	-1.6
GAZI	Gazipasa	3.16	72	iP	Pn	12 50 59.0	+0.9
MANT	Manisa	3.17	359	eP	Pn	12 50 55.7	-2.9
KULA	Kula-Manisa	3.20	1	ePN	Pn	12 50 59.6	+0.8
KULA	Kula-Manisa	3.20	1	ePn	Pn	12 50 59.6	+0.8
IZM	Izmir	3.26	341	ePN	Pn	12 50 59.8	+0.1
IZM	Izmir	3.26	341	ePn	Pn	12 50 59.8	+0.1
BLCB	Balcova	3.31	338	ePN	Pn	12 51 00.4	+0.1
BLCB	Balcova	3.31	338	ePn	Pn	12 51 00.4	+0.1
URLA	Izmir	3.44	333	iP	Pn	12 51 02.2	+0.1
URLA	Izmir	3.44	333	iP	Pn	12 51 02.2	+0.1
LEF	Lefka	3.52	92	ePN	Pn	12 51 02.3	-0.8
LEF	Lefka	3.52	92	ePn	Pn	12 51 02.3	-0.8
HDMB	Hadim	3.55	61	ePN	Pn	12 51 04.8	+1.1
HDMB	Hadim	3.55	61	ePn	Pn	12 51 04.8	+1.1
VAM	Vamos	3.60	273	P	Pn	12 51 05.9	+1.7
VAM	Vamos	3.60	273	eP	Pn	12 51 06.6	+2.4
VAM	Vamos	3.60	273	P	Pn	12 51 05.9	+1.7
CHOS	Chios island	3.69	327	eP	Pn	12 51 05.6	+0.1
CHOS	Chios island	3.69	327	eP	Pn	12 51 05.6	+0.1
ERMK	Ermenek	3.74	68	iP	Pn	12 51 09.7	+3.3
ERMK				iS	Sn	12 51 53.3	+4.0
CSS	Prodhromos	3.89	94	ePN	Pn	12 51 08.3	+0.1
CSS	Prodhromos	3.89	94	P	Pn	12 51 09.2	+1.0
CSS				S	Sn	12 51 53.0	+0.2
CSS	Prodhromos	3.89	94	ePn	Pn	12 51 08.3	+0.1
CSS	Prodhromos	3.89	94	P	Pn	12 51 09.2	+1.0
CSS				S	Sn	12 51 53.0	+0.2
KONT	Konya--Tatoy	4.00	48	ePN	Pn	12 51 11.6	+1.8
KONT	Konya--Tatoy	4.00	48	ePn	Pn	12 51 11.6	+1.8
LFK	Lefkose	4.03	89	ePN	Pn	12 51 10.4	+0.2
LFK	Lefkose	4.03	89	ePn	Pn	12 51 10.4	+0.2
LADK	Ladik-KONYA	4.17	45	ePN	Pn	12 51 14.1	+1.8
LADK	Ladik-KONYA	4.17	45	ePn	Pn	12 51 14.1	+1.8
ANKY	Antikythira Is	4.36	279	P	Pn	12 51 16.3	+1.7
ANKY	Antikythira Is	4.36	279	P	Pn	12 51 16.3	+1.7
EREN	Erenkoy	4.55	86	ePN	Pn	12 51 18.2	+0.9
EREN	Erenkoy	4.55	86	ePn	Pn	12 51 18.2	+0.9
KYTH	Kithira	4.63	284	P	Pn	12 51 19.1	+0.7
KYTH	Kithira	4.63	284	P	Pn	12 51 19.1	+0.7
SLUM		4.75	218	P	Pn	12 51 20.6	+0.5
	baz=220						
SLUM				AMP		12 52 00.0	
	comp=E,60μm,0.2s,logA/T=5.4,baz=220						
SLUM				S	Sn	12 52 08.9	-5.0
	baz=220						
SLUM		4.75	218	P	Pn	12 51 20.6	+0.5
VLI	Veliai	4.80	289	P	Pn	12 51 21.5	+0.7
VLI	Veliai	4.80	289	P	Pn	12 51 21.5	+0.7
HBRG	Burj al 'Arab	4.84	167	P	Pn	12 51 22.5	+1.3
	baz=164						
HBRG				S	Sn	12 52 12.2	-3.9
	baz=164						
HBRG	Burj al 'Arab	4.84	167	P	Pn	12 51 22.5	+1.3
GULE	Gulek	5.36	67	iP	Pn	12 51 33.0	+4.4
GULE				iS	Sn	12 52 27.8	-1.4
KARA	Karaisali	5.56	68	ePN	Pn	12 51 33.2	+1.9
GUR	Goura	5.67	299	P	Pn	12 51 32.8	-0.1
PYL	PYLOS	5.78	288	P	Pn	12 51 34.6	+0.5
YURE	YUREGIR	5.89	73	iP	Pn	12 51 36.6	+0.9
YURE				eS	Sn	12 52 44.0	+1.9
YURE	YUREGIR	5.89	73	iP	Pn	12 51 36.6	+0.9
HNAT	Natroun	5.91	163	P	Pn	12 51 37.1	+1.0
	baz=160						
BRTR	Keskin Array B	5.95	41	Pn	Pn	12 51 38.7	+2.0
	comp=E,0.1nm,0.3s,baz=217,slow=12,SNR=5.5						
BRTR				Sn	Sn	12 52 43.2	-0.5
	comp=E,0.5nm,0.3s,baz=204,slow=23,SNR=8.6						
MMAI	Mount Meron Ar	6.08	110	Pn	Pn	12 51 38.5	+0.1
	comp=E,3.0nm,0.3s,baz=296,slow=12,SNR=7.0						
MMAI				Sn	Sn	12 52 46.0	-1.0
	comp=E,6.3nm,0.3s,baz=297,slow=22,SNR=6.4						
KOZT	Kozan	6.21	68	ePN	Pn	12 51 42.4	+2.2
SWA2		6.61	205	P	Pn	12 51 46.3	+0.7
	baz=205						
ASF	Jabal al Asfar	7.58	112	LR	LR	12 55 36.7	
	comp=E,36nm,19.8s,baz=73,slow=43						
EIL	Elat	7.77	135	Pn	Pn	12 52 01.7	+0.2
	comp=E,1.8nm,0.3s,baz=330,slow=12,SNR=17						
EIL				Sn	Sn	12 53 25.2	-3.2
	comp=E,3.7nm,0.3s,baz=334,slow=19,SNR=9.0						
KBZ	Khabaz	13.86	48	Pn	P	12 53 30.7	-1.8
	comp=E,0.2nm,0.3s,baz=203,slow=7.7,SNR=2.2						
KEST	Kesra	15.69	277	Pn	Pn	12 53 48.8	-0.6
	comp=E,0.1nm,0.3s,baz=153,slow=6.8,SNR=3.2						
GERES	GERESS Array B	17.43	325	P	Pn	12 54 09.6	-1.6
	comp=E,0.1nm,0.3s,baz=130,slow=12,SNR=4.6						
AKTO	Aktyubinsk	26.11	46	P	P	12 55 42.7	+1.4
	comp=E,1.5nm,0.7s,baz=260,slow=9.9,SNR=6.0						
ESDC	Sonseca Array	26.12	289	P	P	12 55 41.5	-0.2
	comp=E,1.2nm,0.6s,baz=76,slow=9.4,SNR=7.5						
FINES	FINESS Array B	26.20	357	P	P	12 55 41.6	-0.4
	comp=E,0.5nm,0.3s,baz=358,slow=33,SNR=3.8						
HFS	Hagfors	26.65	343	P	P	12 55 46.5	+0.3
	comp=E,1.0nm,0.6s,baz=157,slow=7.9,SNR=3.9						
TORD	Torodi Ar. Bea	32.81	234	P	P	12 56 42.1	+0.9
	comp=E,0.5nm,0.7s,baz=36,slow=9.4,SNR=3.7						
MKAR	Makanchi Array	41.33	57	P	P	12 57 54.5	+1.2
	comp=E,0.5nm,0.7s,baz=293,slow=6.3,SNR=5.2						
ZALV	Zalesovo Beam	42.86	46	P	P	12 58 06.7	+1.1
	comp=E,0.5nm,0.5s,baz=297,slow=6.3,SNR=2.7						
CMAR	Chiang Mai Arr	63.75	85	P	P	13 00 40.9	+1.3
	comp=E,0.2nm,0.3s,baz=226,slow=27,SNR=3.9						
KSRS	Korea Array	75.93	54	P	P	13 01 55.1	+1.0
	comp=E,0.8nm,0.8s,baz=313,slow=6.5,SNR=3.3						
YKA	Yellowknife Ar	78.14	343	P	P	13 02 05.2	-0.9
	comp=E,0.3nm,0.5s,baz=25,slow=6.1,SNR=3.5						

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*IDC **07** 12:51:56.0±1.1, 17°.56S×167°.21E, h0km, mb4.0/6, mb1 4.3/7, mb1mx3.9/19, mbtmp4.1/7, ML4.3/1, MS3.3/4, Ms1 3.3/4, ms1mx3.1/23, Error ellipse: s-maj=42.6km s-min=23.4km az=138.0*
*ISCJB **07** 12:51:57.5±0.9, 17°.72S±0°.05×167°.3E±0°.1, h19km, mb4.0/6, MS3.4/2, Error ellipse: s-maj=19.1km s-min=7.8km az=179.6*
*AUST **07** 12:52:55.0±9.8, 18°.05S×164°.48E, h430km, Error ellipse: s-maj=7.1km s-min=1.8km az=265.0*

ISC 07 12:51:58.8±1.0, 17°.69S±0°.09×167°.4E±0°.2, h19km, n26, σ1°20/20, mb4.0/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	4.45	191	Pn	Pn	12 53 05.6	+0.2
	14nm,0.3s,baz=90,slow=24,SNR=30						
DZM				Sn	Sn	12 53 55.6	-1.2
	1.0nm,0.3s,baz=270,slow=24,SNR=6.3						
NOUC	Port Laguerre	4.51	193	eP	Pn	12 53 06.2	0.0
NOUC				eS	Sn	12 53 57.5	-0.6
NORM	Noumea	4.60	190	eP	Pn	12 53 07.8	+0.4
HNR	Honiara	10.93	318	LR	LR	12 57 41.3	
	comp=Z,120nm,21.2s,baz=92,slow=32						
RAO	Raoul Island	17.71	133	LR	LR	13 00 06.4	
	comp=Z,88nm,21.8s,baz=210,slow=27						
RMQ	Roma	19.34	240	P	Pn	12 56 26.1	+1.7
	baz=17,SNR=4.8						
RABL	Rabaul	20.05	310	P	Pn	12 56 42.5	+10
	baz=18,SNR=3.4						
MTSU	Mount Surprise	21.95	265	P	P	12 56 53.8	+2.1
	baz=19,SNR=8.1						
URZ	Urewera	22.20	159	LR	LR	13 04 30.4	
	comp=Z,62nm,18.3s,baz=248,slow=34						
COEN	Coen	23.58	276	P	P	12 57 01.5	-7.1
	baz=21,SNR=7.7						
CNB	Canberra Magne	23.77	219	P	P	12 57 11.7	+1.4
	baz=22,SNR=5.4						
CMSA	Cobar Meteorol	24.00	231	P	P	12 57 13.1	+0.6
	baz=22,SNR=7.1						
MANU	Manus Island	25.06	306	S	S	13 01 23.0	-23
	baz=23,SNR=3.2						
STKA	Stephens Creek	27.26	234	P	P	12 57 42.3	+0.3
	7.9nm,0.8s,baz=65,slow=8.4,SNR=11						
STKA	Stephens Creek	27.26	234	P	P	12 57 42.7	+0.7
	baz=25,SNR=7.9						
WRA	Warramunga Arr	31.34	261	P	P	12 58 16.4	-2.0
	1.2nm,0.8s,baz=90,slow=9.0,SNR=8.5						
ASAR	Alice Springs	31.84	254	P	P	12 58 21.1	-1.7
	1.8nm,0.6s,baz=80,slow=8.7,SNR=34						
FAKI	Fak Fak	37.45	289	P	P	12 59 10.7	-0.6
	baz=35,SNR=3.9						
PPT	Papeete	40.95	97	LR	LR	13 12 29.3	
	comp=Z,82nm,18.3s,baz=271,slow=30						
MEEK	Meekatharra	45.81	250	P	P	13 00 19.2	-0.6
	baz=43,SNR=3.1						
WSI	Waingapu	46.34	273	P	P	13 00 17.4	-6.7
	baz=44,SNR=3.6						
CMAR	Chiang Mai Arr	76.26	295	P	P	13 03 47.1	+0.3
	0.9nm,0.5s,baz=124,slow=4.5,SNR=7.4						
NVAR	Mina Array Bea	89.11	49	P	P	13 04 54.8	+1.5
	0.5nm,0.7s,baz=237,slow=5.1,SNR=4.5						
ILAR	Eielson Array	89.29	18	P	P	13 04 51.8	-1.5
	0.5nm,0.8s,baz=232,slow=4.7,SNR=6.3						
ARCES	ARCESS Array B	123.12	345	PKP	PKPdf	13 10 53.6	+0.1
	2.4nm,0.9s,baz=35,slow=4.4,SNR=6.2						
TORD	Torodi Ar. Bea	165.49	254	PKP	PKPdf	13 12 03.1	0.0
	0.9nm,1.0s,baz=225,slow=1.8,SNR=3.4						

IDC 07 12:53:24.7±3.6, 31°.53S×179°.72E, h465km±52km, mb2.8/2, mb1 3.3/3, mb1mx2.9/18, mbtmp3.1/3, Error ellipse: s-maj=62.7km s-min=28.6km az=163.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	7.05	197	P	P	12 55 10.8	+0.7
	6.2nm,0.3s,baz=11,slow=3.2,SNR=42						
URZ				S	S	12 56 36.2	-0.4
	3.6nm,0.3s,baz=34,slow=23,SNR=20						
ASAR	Alice Springs	41.12	269	P	P	13 00 26.5	-0.6
	0.5nm,0.6s,baz=107,slow=7.4,SNR=6.2						
WRA	Warramunga Arr	42.21	275	P	P	13 00 36.0	+0.2
	1.1nm,0.5s,baz=111,slow=8.1,SNR=16						
WRA				S	S	13 06 22.1	+0.4
	0.4nm,0.8s,baz=109,slow=15,SNR=4.8						
FINES	FINESS Array B	145.49	338	PKPbc	PKPdf	13 12 08.5	+0.2
	1.7nm,0.7s,baz=31,slow=3.7,SNR=6.4						

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*IDC **07** 13:37:41.9±2.0, 31°.69N×138°.49E, h0km, mb3.2/3, mb1 3.3/4, mb1mx3.2/24, mbtmp3.1/4, ML2.6/1, Error ellipse: s-maj=81.6km s-min=25.7km az=77.0*
*ISCJB **07** 13:37:53.1±0.7, 33°.26N±0°.06×139°.2E±0°.1, h214km, mb2.9/3, Error ellipse: s-maj=12.7km s-min=7.9km az=19.3*
*JMA **07** 13:37:53.7±0.3, 33°.24N×139°.21E, h214km±3km, M2.7*

ISC 07 13:37:53.7±1.2, 33°.26N±0°.08×139°.22E±0°.09, h214km, n15, σ0°72/17, mb2.9/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	Hachijojimakas	0.52	111	P	Pn	13 38 22.3	-0.2
JHJ2	Mitsune	0.52	106	P	Pn	13 38 23.0	+0.5
JKO	Kozu shima	0.93	356	P	Pn	13 38 24.5	+0.1
TK02	Tokai 2	1.40	300	P	Pn	13 38 27.8	+0.3
TK02				eS	S	13 38 54.0	+0.3
BSO3	Boso 3	1.87	35	P	Pn	13 38 32.4	+0.7
JIE	Ise	2.38	299	P	Pn	13

RAHZ				SN	S	13 47 33.6	+0.4	
MHGZ	Mahia Peninsul	6.69	190	PN	P	13 46 15.1	+0.1	
NMHZ	Naumai	6.85	197	PN	P	13 46 16.9	-0.1	
BKZ	Black Stump Fm	7.00	199	PN	Pn	13 46 17.6	+0.1	
MCHZ	McNeill Hill	7.21	197	PN	P	13 46 21.4	+0.5	
BHHZ	Black Hill Sta	7.42	200	PN	Pn	13 46 22.9	+0.5	
KAHZ	Kahuranaki	7.50	195	PN	Pn	13 46 23.5	+0.2	
PXZ	Pawanui	7.73	195	PN	Pn	13 46 25.8	0.0	
TSZ	Takapari Road	7.98	199	PN	Pn	13 46 29.2	+0.4	
PRHZ	Porangahau	8.00	195	PN	Pn	13 46 29.8	+0.7	
WAZ	Wanganui	8.01	205	PN	P	13 46 30.4	-0.6	
DVHZ	Dannevirke	8.15	198	PN	Pn	13 46 30.4	-0.4	
ANWZ	Angora Road	8.22	196	PN	P	13 46 32.5	-0.7	
POWZ	Post Office Ro	8.34	199	PN	Pn	13 46 33.3	+0.2	
BFZ	Birch Farm	8.49	196	PN	Pn	13 46 35.0	+0.2	
MRZ	Mangatainoka R	8.64	200	PN	Pn	13 46 35.9	-0.7	
TIWZ	Tintock	8.67	198	PN	Pn	13 46 37.2	+0.3	
HOWZ	Holdsworth Sta	8.88	199	PN	Pn	13 46 38.8	-0.5	
OGWZ	Otaki Gorge	8.91	201	PN	Pn	13 46 39.2	-0.5	
TMWZ	Te Maipa	8.98	197	PN	Pn	13 46 40.5	0.0	
KIW	Kapiti Island	9.03	202	PN	Pn	13 46 40.6	-0.5	
MTW	Mount Morrison	9.13	199	PN	Pn	13 46 41.6	-0.7	
CAW	Cannon Point	9.21	201	PN	Pn	13 46 42.4	-0.8	
MSWZ	Moikau Station	9.44	199	PN	Pn	13 46 45.2	-0.7	
SNZO	South Karori	9.50	202	PN	Pn	13 46 45.7	-0.9	
TCW	Tory Channel	9.55	204	PN	Pn	13 46 46.8	-0.4	
PLWZ	Palliser	9.58	199	PN	Pn	13 46 47.2	-0.4	
TUWZ	Tuamarina	9.86	205	PN	Pn	13 46 50.7	-0.2	
QRZ	Quartz Range	9.91	212	PN	Pn	13 46 51.7	+0.2	
THZ	Tophouse	10.54	208	PN	Pn	13 46 59.0	+0.1	
ASAR	Alice Springs 0.5nm,0.7s,baz=106,slow=7.1,SNR=10.0	40.83	271	P	P	13 51 42.5	+0.6	
WRA	Warramunga Arr 1.0nm,0.5s,baz=113,slow=8.0,SNR=26	42.02	276	P	P	13 51 51.5	+0.1	
FINES	FINESS Array B 2.0nm,0.8s,baz=48,slow=2.8,SNR=5.0	146.33	337	PKPbc	PKPdf	14 03 29.0	-0.6	

WEL 07 14:12:21.0±0.2, 38.62S×175.77E, h158km±1km, ML3.9/19, 29C-2D, Error ellipse: s-maj=1.6km s-min=1.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	Wairara	0.09	197	PN	Pn	14 12 42.1	-0.1
WHTZ	Whakaora	0.15	106	PN	Pn	14 12 42.3	-0.1
RATZ	Rangitukua	0.24	179	↑PN	Pn	14 12 42.2	-0.2
TLZ	Tolley Road	0.34	328	↑PN	Pn	14 12 42.4	-0.4
TLZ				SN	Sn	14 12 59.5	+0.2
KATZ	Kakaramea	0.36	189	↑PN	Pn	14 12 42.8	-0.1
RITZ	Rihia Road	0.36	169	PN	Pn	14 12 42.9	+0.1
HATZ	Hinemaiaia	0.37	137	PN	Pn	14 12 42.5	-0.3
HATZ				SN	Sn	14 12 58.9	-0.6
KRVZ	Karewarewa	0.48	192	PN	Pn	14 12 43.3	0.0
WTVZ	West Tongariro	0.51	196	PN	Pn	14 12 43.4	-0.1
WTVZ				SN	Sn	14 13 01.2	+0.4
TWVZ	Taurewa	0.52	210	↑PN	Pn	14 12 43.4	-0.1
OTVZ	Oturere	0.55	188	PN	Pn	14 12 43.6	-0.1
OTVZ				SN	Sn	14 13 01.7	+0.5
NGZ	Ngauruhoe	0.57	193	PN	Pn	14 12 43.7	-0.1
WPVZ	Whakapapa	0.61	196	PN	Pn	14 12 43.8	-0.2
TUVZ	Tukino	0.65	188	PN	Pn	14 12 44.5	+0.2
TUVZ				SN	Sn	14 13 02.3	0.0
FWVZ	Far West T-bar	0.65	195	PN	Pn	14 12 44.2	-0.2
DRZ	Dome Shelter	0.67	194	PN	Pn	14 12 44.6	0.0
WHVZ	Whangaehu Hut	0.67	192	↑PN	Pn	14 12 44.4	-0.1
TRVZ	Turoa	0.70	194	PN	Pn	14 12 44.8	+0.1
WNVZ	Wahianoa	0.72	191	↑PN	Pn	14 12 44.8	+0.1
HIZ	Hauiti	0.72	278	↑PN	Pn	14 12 44.1	-0.4
HIZ				SN	Sn	14 13 01.7	-0.9
PKVZ	Pokaka	0.74	206	↑PN	Pn	14 12 44.8	0.0
MOVZ	Moawhango	0.78	181	↑PN	Pn	14 12 44.9	-0.2
BKZ	Black Stump Fm	0.78	134	↑PN	Pn	14 12 44.9	-0.1
BKZ				SN	Sn	14 13 02.7	-0.8
BKZ				AML	AML	14 13 06.6	
MTVZ	Mangateitei	0.80	197	PN	Pn	14 12 45.2	+0.1
BHHZ	Black Hill Sta	0.89	165	↑PN	Pn	14 12 45.7	-0.1
BHHZ				SN	Sn	14 13 03.7	-1.3
VRZ	Vera Road	0.93	237	↑PN	Pn	14 12 45.9	-0.1
NMHZ	Naumai	0.94	121	PN	Pn	14 12 46.9	+0.7
RAHZ	Arahi	1.07	106	PN	Pn	14 12 47.4	+0.1
MCHZ	McNeill Hill	1.09	139	↑PN	Pn	14 12 48.2	+0.8
URZ	Urewera	1.11	71	↑PN	Pn	14 12 46.3	-1.3
URZ				AML	AML	14 13 07.1	
URZ				AML	AML	14 13 07.5	
MHEZ	Mangahewa	1.22	248	↑PN	Pn	14 12 48.6	+0.1
RAEZ	Rainy Point	1.26	238	PN	Pn	14 12 49.1	+0.2
WAZ	Wanganui	1.28	208	PN	Pn	14 12 48.9	-0.2
DREZ	Durham Road	1.35	245	PN	Pn	14 12 49.6	-0.1
MWZ	Matawai	1.41	79	PN	Pn	14 12 49.9	-0.5
MWZ				AML	AML	14 13 12.9	
MWZ				AML	AML	14 13 13.1	
MWZ				AML	AML	14 13 13.1	
MWZ				AML	AML	14 13 13.2	
TSZ	Takapari Road	1.44	174	↑PN	Pn	14 12 50.5	-0.1
TSZ				AML	AML	14 12 50.7	
TSZ				AML	AML	14 13 15.2	
CKHZ	Cape Kidnapper	1.45	136	PN	Pn	14 12 51.1	+0.4
KAHZ	Kahuranaki	1.45	144	PN	Pn	14 12 51.2	+0.4
NEZ	North Egmont	1.46	243	PN	Pn	14 12 50.9	0.0
DFE	Dawson Falls	1.48	241	PN	Pn	14 12 51.0	0.0
PKE	Pukeiti	1.50	247	PN	Pn	14 12 51.0	-0.2
KHEZ	Kahui Hut	1.52	243	PN	Pn	14 12 51.3	-0.2
WPHZ	Waipukurau	1.53	160	↑PN	Pn	14 12 51.5	0.0
KNZ	Kokohu	1.54	106	PN	Pn	14 12 51.3	-0.3
KNZ				AML	AML	14 13 16.0	
NWEZ	Newall Road	1.62	246	PN	Pn	14 12 52.1	-0.3
PXZ	Pawanui	1.64	149	PN	Pn	14 12 52.5	-0.1
PXZ				AML	AML	14 13 18.5	
PXZ				AML	AML	14 13 18.5	
PXZ				AML	AML	14 13 19.6	
PXZ				AML	AML	14 13 19.6	
NMEZ	Namu Road	1.67	241	PN	Pn	14 12 52.7	-0.3
PRGZ	Paritu Road	1.68	101	PN	Pn	14 12 52.7	-0.5
DVHZ	Dannevirke	1.70	170	↑PN	Pn	14 12 52.8	-0.6
MHGZ	Mahia Peninsul	1.75	108	↑PN	Pn	14 12 53.8	-0.1
POWZ	Post Office Ro	1.77	180	↑PN	Pn	14 12 53.4	-0.7
PRHZ	Porangahau	1.77	158	PN	Pn	14 12 53.9	-0.2
ANWZ	Angora Road	1.92	164	PN	Pn	14 12 55.4	-0.3
CNGZ	Carnagh Station	1.92	87	PN	Pn	14 12 55.5	-0.2
PRWZ	Pori Road	1.94	175	PN	Pn	14 12 55.4	-0.5
PUZ	Puketiti	2.03	75	PN	Pn	14 12 55.5	-1.6
PUZ				AML	AML	14 13 22.4	
PUZ				AML	AML	14 13 22.9	
MRZ	Mangatainoka R	2.04	184	↑PN	Pn	14 12 56.0	-1.1
MRZ				AML	AML	14 13 25.4	
MRZ				AML	AML	14 13 25.5	
BFZ	Birch Farm	2.09	170	↑PN	Pn	14 12 56.8	-0.8
BFZ				AML	AML	14 13 24.0	
BFZ				AML	AML	14 13 26.5	
BFZ				AML	AML	14 13 26.5	
BFZ				AML	AML	14 13 26.8	
TIWZ	Tintock	2.15	178	PN	Pn	14 12 57.4	-1.1
OGWZ	Otaki Gorge	2.24	192	↑PN	Pn	14 12 58.3	-1.1
MXZ	Matakaoa Point	2.27	63	PN	Pn	14 12 58.3	-1.4
HOWZ	Holdsworth Sta	2.28	185	PN	Pn	14 12 58.4	-1.5
KIW	Kapiti Island	2.33	196	↑PN	Pn	14 12 58.9	-1.6
KIW				AML	AML	14 13 30.4	
KIW				AML	AML	14 13 30.9	
TMWZ	Te Maipa	2.48	178	PN	Pn	14 13 00.9	-1.5
CAW	Cannon Point	2.54	192	PN	Pn	14 13 01.3	-1.7
CAW				AML	AML	14 13 34.5	
CAW				AML	AML	14 13 35.6	
MTW	Mount Morrison	2.54	185	↑PN	Pn	14 13 01.2	-1.8
MTW				AML	AML	14 13 34.5	
MTW				AML	AML	14 13 34.9	
DUWZ	D'Urville Isla	2.60	213	↓PN	Pn	14 13 01.8	-1.9
PAWZ	Paruwai Farm	2.77	185	↑PN	Pn	14 13 03.7	-2.1
PAWZ				AML	AML	14 13 39.6	
PAWZ				AML	AML	14 13 40.5	
WEL	Wellington	2.77	196	PN	Pn	14 13 03.7	-2.1
TRWZ	Traveller	2.77	181	PN	Pn	14 13 04.1	-1.8
TRWZ				AML	AML	14 13 39.7	
TRWZ				AML	AML	14 13 39.9	
SNZO	South Karori	2.80	197	PN	Pn	14 13 04.0	-2.2
SNZO				AML	AML	14 13 40.8	
SNZO				AML	AML	14 13 41.2	
MSWZ	Moikau Station	2.82	188	↑PN	Pn	14 13 04.3	-2.1
MSWZ				AML	AML	14 13 40.1	
MSWZ				AML	AML	14 13 40.1	
TCW	Tory Channel	2.83	203	PN	Pn	14 13 04.5	-2.1
TCW				AML	AML	14 13 41.9	
TCW				AML	AML	14 13 41.9	
BHW	Baring Head	2.87	194	PN	Pn	14 13 04.8	-2.2
BHW				AML	AML	14 13 05.1	
BHW				AML	AML	14 13 39.0	
PLWZ	Palliser	2.97	187	PN	Pn	14 13 05.9	-2.5
TUWZ	Tuamarina	3.13	206	↓PN	Pn	14 13 07.8	-2.5
TUWZ				AML	AML	14 13 46.6	
TUWZ				AML	AML	14 13 47.0	
NNZ	Nelson	3.18	215	⇑PN	Pn	14 13 08.2	-2.7
QRZ	Quartz Range	3.33	228	PN	Pn	14 13 09.5	-3.3
CMWZ	Cape Campbell	3.34	200	PN	Pn	14 13 11.3	-1.7
BSWZ	Blackbirch Sta	3.41	205	PN	Pn	14 13 11.3	-2.5
THZ	Tophouse	3.83	214	PN	Pn	14 13 16.1	-3.2
KHZ	Kahutara	4.15	203	⇑PN	Pn	14 13 20.6	-2.8
DSZ	Dennistone Nort	4.35	223	PN	Pn	14 13 22.0	-4.1
LTZ	Lake Taylor	4.93	212	PN	Pn	14 13 29.1	-4.6
OXZ	Oxford	5.48	210	PN	Pn	14 13 35.2	-5.6
CRLZ	Canterbury Las	5.49	205	PN	Pn	14 13 36.1	-4.8
MQZ	McQueen's Vall	5.60	204	PN	Pn	14 13 37.4	-4.9
RPZ	Rata Peaks	6.21	213	PN	Pn	14 13 46.1	-4.4
LBZ	Lake Benmore	7.12	214	PN	Pn	14 13 57.5	-5.1
ODZ	Otahua Downs	7.47	209	PN	Pn	14 14 02.3	-4.9

IDC 07 14:49:15.4±9.3, 16.15S×176.80W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/19, mbtmp4.0/4, Error ellipse: s-maj=213.0km s-min=50.6km az=34.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek 1.8nm,0.7s,baz=84,slow=9.2,SNR=7.5	40.83	240	P	P	14 56 58.8	-0.2
WRA	Warramunga Arr 1.0nm,0.7s,baz=91,slow=8.0,SNR=27	46.49	258	P	P	14 57 45.0	+0.2
ASAR	Alice Springs 5.0nm,0.6s,baz=88,slow=8.4,SNR=108	46.77	253	P	P	14 57 46.7	-0.3
VNDA	Vanda 0.2nm,0.4s,baz=21,slow=7.2,SNR=3.1	62.32	185	P	P	14 59 39.0	-0.2

NEIC 07 14:54:49.9, 40.84N×125.39W, h7km, MW3.6(BRK), After NCEDC., Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	Horse Mountain	1.25	88	*e*P	Pn	14 55 12.0	-2.0
KRMB	Red Mountain	1.31	58	*e*P	Pn	14 55 12.2	-2.5
KSXB	Camp Six Broad	1.51	48	P	Pn	14 55 15.2	-2.2
KBO	Bosley Butte	1.63	32	*e*Pn	Pn	14 55 17.0	-2.1
KCPM	Cahto Peak	1.79	129	*e*Pn	Pn	14 55 19.5	-1.9
KTRM	Thompson Ridge	1.85	54	P	Pn	14 55 20.3	-1.9
WDC	Whiskeytown Da	2.18	96	*e*Pn	Pn	14 55 24.9	-1.6
WDC				*e*Sn	Sn	14 55 52.7	-1.0
KEBM	Edson Butte	2.18	21	*e*Pn	Pn	14 55 24.4	-2.3
KEBM				*e*Sn	Sn	14 55 45.1	-8.8
YBH	Yreka Blue Hor	2.21	65	*e*Pn	Pn	14 55 25.8	-1.2
YBH				*e*Sn	Sn	14 55 52.0	-2.6
LAMM	Antelope Mount	2.22	69	P	Pn	14 55 25.8	-1.5
HUMO	Hull Mountain	2.54	45	*e*Pn	Pn	14 55 29.4	-2.0
HUMO				*e*Sn	Sn	14 55 59.0	-3.6
LAB	Little Aspen B	2.87	59	P	Pn	14 55 36.4	+0.1
VSP	Spence Mountai	2.98	59	P	Pn	14 55 37.7	-0.1
LBCM	Butte Creek Ri	3.06	89	P	Pn	14 55 37.7	-1.1
BEKR	Beckworth	3.96	103	*e*P	Pn	14 55 50.6	-0.6
MOD	Modoc	3.97	73	*e*Pn	Pn	14 55 50.3	-1.0
CMB	Columbia Colle	4.78	124	*e*Pn	Pn	14 56 02.3	0.0
SAO	San Andreas Ge	5.10	142	P	Pn	14 56 05.8	-0.8
WVOR	Wild Horse Val 3.0nm,0.4s	5.30	70	*e*Pn	Pn	14 56 08.2	-1.4
BMO	Blue Mountains 5.0nm,0.7s	7.17	53	*e*Pn	Pn	14 56 36.0	+0.8
ISA	Isabella 3.9nm,0.6s	7.50	131	*e*P	Pn	14 56 40.5	+0.8
MCMT	McKenzie Canyo 1.4nm,0.9s	10.03	62	*e*Pn	Pn	14 57 14.5	-0.1

IDC 07 14:58:44.6±19.0, 22.39S×179.68W, h660km±221km, mb2.9/5, mb1 3.0/5, mb1mx2.7/19, mbtmp2.9/5, Error ellipse: s-maj=147.1km s-min=72.2km az=107.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower 1.4nm,0.3s,baz=91,slow=11,SNR=3.2	31.79	268	P	P	15 04 19.0	+0.2
STKA	Stephens Creek 1.7nm,0.7s,baz=98,slow=11,SNR=5.9	35.58	246	P	P	15 04 50.1	+0.1
ASAR	Alice Springs 0.5nm,0.3s,baz=90,slow=8.3,SNR=10.0	42.59	259	P	P	15 05 46.4	+0.3
WRA	Warramunga Arr 0.4nm,0.3s,baz=102,slow=8.8,SNR=40	42.82	264	P	P	15 05 47.6	-0.2
PETK	Petropavlovsk- 1.4nm,0.7s,baz=137,slow=5.4,SNR=4.1	77.70	346	P	P	15 09 35.7	+0.4
HFS	Hagfors 1.0nm,0.3s,baz=75,slow=3.5,SNR=11	141.12	349	PKP	PKPdf	15 16 58.5	-2.9

IDC 07 15:45:48.9±2.2, 17.24S×175.25W, h233km±24km, mb3.5/6, mb1 3.7/7, mb1mx3.4/21, mbtmp3.5/7, Error ellipse: s-maj=37.1km s-min=18.5km az=129.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu 6.4nm,0.3s,baz=20,slow=10,SNR=34	4.71	46	P	Pn	15 47 00.8	+0.1
AFI				S	S	15 47 52.7	-4.9
URZ	Urewera 27nm,0.3s,baz=50,slow=22,SNR=16	21.98	196	P	P	15 50 23.8	-0.3
STKA	Stephens Creek 3.9nm,0.5s,baz=122,slow=20,SNR=7.2	41.59	241	P	P	15 53 14.7	+0.4
WRA	Warramunga Arr 1.4nm,0.6s,baz=40,slow=13,SNR=8.8	47.72	259	P	P	15 54 02.1	-0.6
WRA				PcP	PcP	15 55 27.8	-0.3
ASAR	Alice Springs 0.8nm,0.5s,baz=96,slow=7.2,SNR=29	47.87	253	P	P	15 54 03.9	0.0
ASAR				PcP	PcP	15 55 28.5	-0.2
ILAR	Eielson Array 0.3nm,0.7s,baz=93,slow=3.6,SNR=3.2	84.59	12	P	P	15 57 55.0	-0.7
CMAR	Chiang Mai Arr 4.1nm,0.6s,baz=87,slow=8.4,SNR=114	91.51	289	P	P	15 58 29.4	-0.2
GERES	GERESS Array B 0.6nm,0.5s,baz=102,slow=4.1,SNR=9.7 0.9nm,0.7s,baz=321,slow=3.4,SNR=4.7	147.65	349	PKPbc	PKPbc	16 05 05.9	0.0

IDC 07 15:50:47.8±1.7, 32.55N×111.19E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/24, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=63.0km s-min=26.8km az=51.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr 0.0nm,0.3s,baz=31,slow=16,SNR=3.8	17.84	221	P	Pn	15 54 57.7	+0.1
MKAR	Makanchi Array 0.5nm,0.7s,baz=125,slow=10,SNR=7.3	26.22	311	P	P	15 56 24.2	-0.1
WRA	Warramunga Arr 0.5nm,0.6s,baz=338,slow=8.2,SNR=12	56.70	154	P	P	16 00 33.5	+0.2
ASAR	Alice Springs 0.3nm,0.6s,baz=332,slow=7.1,SNR=6.2	59.96	156	P	P	16 00 55.6	-0.4

*NSSC **07** 15:56:37.9±21.0, 39.88N×39.82E, h5km±797km, ML4.4*
*ISK **07** 15:57:01.4, 38.24N×38.76E, h5km, ML4.5*
*NEIC **07** 15:57:01.5, 38.24N×38.77E, h5km, mb4.3/9, ML4.5(ISK), After ISK.*
*DDA **07** 15:57:02.5, 38.26N×38.74E, h12km, ML5.0*
*MOS **07** 15:57:02.7±1.2, 38.16N×38.74E, h10km, mb4.4/23, Error ellipse: s-maj=6.7km s-min=4.7km az=106.5*
*CSEM **07** 15:57:03.2±0.1, 38.23N×38.79E, h2km, mb4.4/10, Error ellipse: s-maj=2.6km s-min=2.4km az=154.0*
*BJI **07** 15:57:03.8, 38.20N×38.70E, h25km, mB4.9/6, mb4.3/12, Ms4.5/6, Ms7 4.1/6*
*TEH **07** 15:57:03.8, 38.24N×38.79E, h2km, ML4.5*
*IDC **07** 15:57:08.1±2.0, 38.18N×38.77E, h35km±18km, mb3.8/17, mb1 3.9/22, mb1mx3.8/33, mbtmp3.9/22, ML3.9/4, MS3.5/23, Ms1 3.5/23, ms1mx3.3/54, Error ellipse: s-maj=13.5km s-min=10.2km az=139.0*

ISC 07 15:57:03.4±0.6, 38.23N±0.01×38.78E±0.01, h3km±4km, n496, σ1.826/500, mb4.3/45, MS3.6/24, 19C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYA	Malataya	0.30	288	PG	Pg	15 57 08.1	-1.1
MYA	Malataya	0.30	288	P	Pg	15 57 08.3	-0.8
MYA	Malataya	0.30	288	Pg	Pg	15 57 08.3	-0.8
MYA	Malataya	0.30	288	P	Pg	15 57 08.3	-0.8
ELZG	Elazig	0.31	31	*i* P	Pg	15 57 08.9	-0.4
ELZG				*i* S	Sg	15 57 13.2	-0.2
ELZG	Elazig	0.31	31	*i* P	Pg	15 57 08.9	-0.4
ELZG				*i* S	Sg	15 57 13.2	-0.2
SVRC	Sivrice-ELAZID	0.44	70	*e*PG	Pg	15 57 10.8	-1.0
SVRC	Sivrice-ELAZID	0.44	70	*e*Pg	Pg	15 57 10.8	-1.0
AKCD	Akcadag	0.68	276	*i* P	Pg	15 57 15.4	-1.0
AKCD				*i* S	Sg	15 57 24.3	-1.0
AKCD	Akcadag	0.68	276	*i* P	Pg	15 57 15.4	-1.0
AKCD				*i* S	Sg	15 57 24.3	-1.0
URFA	Urfa	0.79	178	*e*PG	Pb	15 57 18.5	-1.3
URFA	Urfa	0.79	178	Pg	Pb	15 57 18.6	-1.0
URFA	Urfa	0.79	178	*e*Pg	Pb	15 57 18.5	-1.3
PTK	Pertek	0.81	36	*e*PG	Pg	15 57 17.9	-1.0
PTK				*e*SG	Sb	15 57 30.5	-1.3
PTK	Pertek	0.81	36	Pg	Pg	15 57 17.9	-1.0
PTK	Pertek	0.81	36	*e*Pg	Pg	15 57 17.9	-1.0
PTK				*e*Sg	Sb	15 57 30.5	-1.3
ATAB	Bozova	0.85	207	*i* P	Pb	15 57 19.6	-1.3
ATAB				*i* S	Sb	15 57 31.6	-1.1
ATAB	Bozova	0.85	207	*i* P	Pb	15 57 19.6	-1.3
ATAB				*i* S	Sb	15 57 31.6	-1.1
KEMA	Kemaliye	1.06	348	*i* P	Pg	15 57 22.0	-1.7
KEMA				*i* S	Sg	15 57 37.6	+0.1
KEMA	Kemaliye	1.06	348	*i* P	Pg	15 57 22.0	-1.7
KEMA				*i* S	Sg	15 57 37.6	+0.1
DARE	Darende-Malaty	1.08	289	*e*PG	Pb	15 57 21.9	-2.8
DIYA	Diyarbakir	1.10	106	*i* P	Pn	15 57 24.6	-1.1
DIYA				*i* S	Sn	15 57 40.9	-0.6
DIYA	Diyarbakir	1.10	106	*i* P	Pn	15 57 24.6	-1.1
DIYA				*i* S	Sn	15 57 40.9	-0.6
DIY	Diyarbakir	1.19	106	*e*PN	Pg	15 57 25.9	-0.2
DIY	Diyarbakir	1.19	106	Pn	Pb	15 57 22.0	-4.6
DIY	Diyarbakir	1.19	106	*e*Pn	Pg	15 57 25.9	-0.2
ILIC	ilic-Erzincan	1.23	352	*e*PN	Pn	15 57 25.4	-2.2
ILIC	ilic-Erzincan	1.23	352	*e*Pn	Pn	15 57 25.4	-2.2
GZT	Gaziantep	1.30	228	*i* P	Pb	15 57 27.5	-1.1
BINT	Bingol	1.48	64	*e*Pn	Pg	15 57 33.2	+1.4
MAZI	Mazidag	1.53	120	*e*PN	Pb	15 57 31.5	-0.9
MAZI	Mazidag	1.53	120	*e*Pn	Pb	15 57 31.5	-0.9
ERZN	Erzincan	1.54	28	*e*PN	Pn	15 57 31.2	-0.6
EZC	Erzincan	1.58	16	*e*PN	Pn	15 57 31.8	-0.7
EZC	Erzincan	1.58	16	P	Pn	15 57 31.8	-0.7
EZC	Erzincan	1.58	16	Pn	Pn	15 57 31.8	-0.7
EZC	Erzincan	1.58	16	*e*Pn	Pn	15 57 31.8	-0.7
KMRS	Kahramanmaras	1.66	245	*e*PN	Pn	15 57 32.2	-1.2
KMRS	Kahramanmaras	1.66	245	*e*Pn	Pn	15 57 32.2	-1.2
BNGL	Bing¶l	1.67	62	*e*PN	Pb	15 57 33.2	-1.8
AYKD	Aykdinkavak	1.77	243	*i* P	Pn	15 57 33.8	-1.1
AYKD				*i* S	Sg	15 57 59.4	-0.7
MARD	Mardin	1.83	120	*i* P	Pn	15 57 34.9	-0.9
MARD				*i* S	Sb	15 58 00.5	-0.4
SARI	SarD1z-Kayseri	1.87	276	*e*PN	Pn	15 57 35.8	-0.7
PINB	Pinarbasi	1.92	284	*i* P	Pn	15 57 37.0	-0.3
PINB				*i* S	Sg	15 58 05.2	+0.1
PINB	Pinarbasi	1.92	284	*i* P	Pn	15 57 37.0	-0.3
PINB				*i* S	Sg	15 58 05.2	+0.1
KELT	Kelkit	1.95	11	*i* P	Pb	15 57 37.8	-1.9
KELT				*i* S	Sb	15 58 03.0	-1.4
KELT	Kelkit	1.95	11	*i* P	Pb	15 57 37.8	-1.9
KELT				*i* S	Sb	15 58 03.0	-1.4
BNGL	BINGOL	1.99	68	*i* P	Pb	15 57 38.3	-2.0
BNGL				*i* S	Sg	15 58 06.7	-0.6
KUZU	Kuzuini	1.99	224	*i* P	Pn	15 57 37.0	-1.0
KUZU				*i* S	Sg	15 58 07.4	+0.1
KUZU	Kuzuini	1.99	224	*i* P	Pn	15 57 37.0	-1.0
KUZU				*i* S	Sg	15 58 07.4	+0.1
SUSE	Susehri	2.02	347	*i* P	Pb	15 57 39.4	-1.5
SUSE				*i* S	Sg	15 58 07.9	-0.5
SUSE	Susehri	2.02	347	*i* P	Pb	15 57 39.4	-1.5
SUSE				*i* S	Sg	15 58 07.9	-0.5
SFNV	Sufian	2.10	149	*e*P	Pb	15 57 40.9	-1.2
SFNV				*e*S	Sg	15 58 11.5	+0.7
SFNV				AML	AML	15 58 13.7	
	comp=Z,8μm,0.4s						
SFNV				AML	AML	15 58 18.7	
	comp=N,5μm,0.4s						
SFNV				AML	AML	15 58 22.0	
	comp=E,8μm,0.5s						
SFNV	Sufian SNR=51	2.10	149	*e*P	Pb	15 57 40.9	-1.2
BTMT	Batman	2.13	90	*e*PN	Pn

CEYT	**Ceyhan**	**2.70**	**244**	*e*Pn	**Pn**	**15 57 47.1**	**-0.6**
TOKT	**Tokat**	**2.71**	**321**	*e*PN	**Pn**	**15 57 47.5**	**-0.5**
TOKT	**Tokat**	**2.71**	**321**	*e*Pn	**Pn**	**15 57 47.5**	**-0.5**
GRSN	**GIRESUNGRSN**	**2.72**	**352**	*i* P	**Pb**	**15 57 50.2**	**-2.5**
GRSN				*e*S	**Sn**	**15 58 22.2**	**+0.8**
GRSN	**GIRESUNGRSN**	**2.72**	**352**	*i* P	**Pb**	**15 57 50.2**	**-2.5**
GRSN				*e*S	**Sn**	**15 58 22.2**	**+0.8**
TATV	**Tatvan**	**2.75**	**83**	*i* P	**Pn**	**15 57 48.3**	**-0.3**
TATV				*i* S	**Sb**	**15 58 25.6**	**-1.9**
TATV	**Tatvan**	**2.75**	**83**	*i* P	**Pn**	**15 57 48.3**	**-0.3**
TATV				*i* S	**Sb**	**15 58 25.6**	**-1.9**
MZRK	**Al-Mazaregh**	**2.83**	**148**	*e*P	**Pn**	**15 57 48.0**	**-1.5**
MZRK				*e*S	**Sb**	**15 58 28.5**	**-1.1**
MZRK	comp=E,6μm,0.4s			AML	AML	15 58 37.0	
MZRK	comp=Z,5μm,0.4s			AML	AML	15 58 37.1	
MZRK	comp=N,4μm,0.5s			AML	AML	15 58 38.4	
MZRK	**Al-Mazaregh** SNR=51	**2.83**	**148**	*e*P	**Pn**	**15 57 48.0**	**-1.5**
MZRK	comp=N,4μm,0.5s,SNR=49			*e*S	**Sb**	**15 58 28.5**	**-1.1**
BTCH	**Batrach**	**2.87**	**221**	*e*P	**Pn**	**15 57 49.5**	**-0.6**
BTCH				*e*S	**Sg**	**15 58 35.4**	**-0.3**
BTCH				*e*S	Sb	15 58 35.8	+4.9
BTCH	comp=E,4μm,0.6s			AML	AML	15 58 42.6	
BTCH	comp=Z,9μm,0.7s			AML	AML	15 58 45.2	
BTCH	comp=N,8μm,0.6s			AML	AML	15 58 47.1	
BTCH	**Batrach** SNR=51	**2.87**	**221**	*e*P	**Pn**	**15 57 49.5**	**-0.6**
ERBA	**Erbaa**	**2.91**	**328**	*i* P	**Pn**	**15 57 50.9**	**+0.3**
ERBA				*i* S	**Sb**	**15 58 33.1**	**+1.3**
ERBA	**Erbaa**	**2.91**	**328**	*i* P	**Pn**	**15 57 50.9**	**+0.3**
SIRN	**S¨–rnak**	**2.96**	**103**	*i* P	**Pn**	**15 57 50.8**	**-0.6**
SIRN				*i* S	**Sg**	**15 58 36.8**	**-1.7**
SIRN	**S¨–rnak**	**2.96**	**103**	*i* P	**Pn**	**15 57 50.8**	**-0.6**
SIRT	**Sirnak**	**2.98**	**103**	*e*PN	**Pn**	**15 57 51.2**	**-0.5**
SIRT	**Sirnak**	**2.98**	**103**	*e*Pn	**Pn**	**15 57 51.2**	**-0.5**
HTY	**Hatay**	**2.98**	**226**	*e*PN	**Pn**	**15 57 51.1**	**-0.5**
HTY	**Hatay**	**2.98**	**226**	*e*Pn	**Pn**	**15 57 51.1**	**-0.5**
HOMI	**Horasan**	**3.03**	**52**	*i* P	**Pn**	**15 57 53.2**	**+0.7**
HOMI				*i* S	Sg	15 58 47.4	+6.8
YOZ	**Yozgat**	**3.04**	**299**	*e*PN	**Pn**	**15 57 52.3**	**-0.3**
YOZ	**Yozgat**	**3.04**	**299**	*e*Pn	**Pn**	**15 57 52.3**	**-0.3**
YAYL	**Yayladag**	**3.06**	**225**	*i* P	**Pn**	**15 57 51.5**	**-1.3**
YAYL				*i* S	**Sg**	**15 58 41.5**	**-0.3**
YAYL	**Yayladag**	**3.06**	**225**	*i* P	**Pn**	**15 57 51.5**	**-1.3**
KARA	**Karaisali**	**3.11**	**253**	*e*PN	**Pn**	**15 57 53.2**	**-0.2**
KARA	**Karaisali**	**3.11**	**253**	*e*Pn	**Pn**	**15 57 53.2**	**-0.2**
KRTS	**Karatas**	**3.18**	**240**	*e*PN	**Pn**	**15 57 54.0**	**-0.3**
KRTS	**Karatas**	**3.18**	**240**	*e*Pn	**Pn**	**15 57 54.0**	**-0.3**
ARNB	**Al Arnab**	**3.27**	**224**	*e*P	**Pn**	**15 57 54.6**	**-1.0**
ARNB				*e*S	**Sg**	**15 58 45.7**	**-2.5**
ARNB				*e*S	Sb	15 58 47.3	+5.1
ARNB	comp=N,694nm,0.7s			AML	AML	15 58 53.0	
ARNB	comp=Z,2μm,0.6s			AML	AML	15 58 53.5	
ARNB	comp=E,1μm,0.6s			AML	AML	15 59 00.3	
ARNB	**Al Arnab** SNR=51	**3.27**	**224**	*e*P	**Pn**	**15 57 54.6**	**-1.0**
NIG	**Nigde**	**3.29**	**269**	*e*PN	**Pn**	**15 57 55.7**	**-0.4**
NIG	**Nigde**	**3.29**	**269**	*e*Pn	**Pn**	**15 57 55.7**	**-0.4**
GULE	**Gulek**	**3.31**	**255**	*i* P	**Pn**	**15 57 55.5**	**-0.8**
GULE				*e*S	**Sg**	**15 58 48.3**	**-1.5**
GULE	**Gulek**	**3.31**	**255**	*i* P	**Pn**	**15 57 55.5**	**-0.8**
SLNF	**Slenfeh**	**3.34**	**219**	*e*P	Pn	15 57 53.4	-3.2
SLNF				*e*S	**Sb**	**15 58 46.2**	**+1.9**
SLNF	comp=N,5μm,0.7s			AML	AML	15 58 54.0	
SLNF	comp=Z,5μm,0.7s			AML	AML	15 59 01.0	
SLNF	comp=E,938nm,0.7s			AML	AML	15 59 04.2	
SLNF	**Slenfeh** SNR=51	**3.34**	**219**	*e*P	Pn	15 57 53.4	-3.2
PZAR	**Pazar-Rize**	**3.36**	**28**	*e*PN	**Pn**	**15 57 57.0**	**+0.2**
PZAR	**Pazar-Rize**	**3.36**	**28**	*e*Pn	**Pn**	**15 57 57.0**	**+0.2**
GEVA	**Gevas**	**3.37**	**87**	*i* P	**Pn**	**15 57 57.0**	**0.0**
GEVA				*i* S	**Sb**	**15 58 43.4**	**-1.8**
GEVA	**Gevas**	**3.37**	**87**	*i* P	**Pn**	**15 57 57.0**	**0.0**
DDEM	**Demirkent**	**3.51**	**40**	*i* P	**Pn**	**15 57 59.8**	**+0.9**
DDEM				*i* S	Sg	15 59 02.1	+6.0
DDEM	**Demirkent**	**3.51**	**40**	*i* P	**Pn**	**15 57 59.8**	**+0.9**
KVT	**Kavak**	**3.54**	**324**	*e*PN	**Pn**	**15 57 59.5**	**+0.1**
KVT	**Kavak**	**3.54**	**324**	*e*Pn	**Pn**	**15 57 59.5**	**+0.1**
AGRB	**Hanur-Agry**	**3.55**	**66**	*e*PN	**Pn**	**15 58 00.0**	**+0.5**
AGRB	**Hanur-Agry**	**3.55**	**66**	*e*Pn	**Pn**	**15 58 00.0**	**+0.5**
DBAD	**Bademkaya**	**3.58**	**38**	*i* P	**Pn**	**15 58 00.6**	**+0.7**
DBAD				*e*S	**Sg**	**15 58 55.7**	**-2.5**
DBAD	**Bademkaya**	**3.58**	**38**	*i* P	**Pn**	**15 58 00.6**	**+0.7**
CDAG	**Cicekdag**	**3.71**	**293**	*i* P	**Pn**	**15 58 02.0**	**+0.3**
CDAG				*e*S	**Sg**	**15 58 58.5**	**-4.1**
CDAG	**Cicekdag**	**3.71**	**293**	*i* P	**Pn**	**15 58 02.0**	**+0.3**
DAGI	**Agillar**	**3.73**	**39**	*i* P	**Pn**	**15 58 02.8**	**+0.8**
DAGI				*i* S	**Sg**	**15 59 06.5**	**+3.3**
CORM	**Corum**	**3.77**	**302**	*e*PN	**Pn**	**15 58 01.9**	**-0.6**
CORM	**Corum**	**3.77**	**302**	*e*Pn	**Pn**	**15 58 01.9**	**-0.6**
ARTV	**Artvin**	**3.82**	**38**	*i* P	**Pn**	**15 58 03.8**	**+0.6**
ARTV				*i* S	**Sg**	**15 59 05.8**	**-0.2**
ARTV	**Artvin**	**3.82**	**38**	*i* P	**Pn**	**15 58 03.8**	**+0.6**
DBOC	**Borcka**	**3.82**	**35**	*i* P	**Pn**	**15 58 04.0**	**+0.9**
DBOC				*i* S	**Sg**	**15 59 04.3**	**-1.8**
DBOC	**Borcka**	**3.82**	**35**	*i* P	**Pn**	**15 58 04.0**	**+0.9**
CTKT	**Corum**	**3.91**	**309**	*i* P	**Pn**	**15 58 06.0**	**+1.5**
CTKT	**Corum**	**3.91**	**309**	*i* P	**Pn**	**15 58 06.0**	**+1.5**
CUKT	**Cukurca**	**3.95**	**103**	*e*PN	**Pn**	**15 58 04.9**	**-0.1**
CUKT	**Cukurca**	**3.95**	**103**	*e*Pn	**Pn**	**15 58 04.9**	**-0.1**
HAKT	**HAKKARI**	**3.95**	**98**	*i* P	**Pn**	**15 58 04.8**	**-0.3**
HAKT				*e*S	**Sg**	**15 59 11.9**	**+1.6**
HAKT	**HAKKARI**	**3.95**	**98**	*i* P	**Pn**	**15 58 04.8**	**-0.3**
CLDR	**Caldiran**	**4.12**	**76**	*e*PN	**Pn**	**15 58 07.9**	**+0.5**
CLDR	**Caldiran**	**4.12**	**76**	*e*Pn	**Pn**	**15 58 07.9**	**+0.5**
ROOS	**tl_alroos**	**4.23**	**197**	*e*P	**Pn**	**15 58 08.4**	**-0.4**
ROOS				*e*S	**Sg**	**15 59 21.5**	**+2.2**
ROOS	comp=Z,10nm,0.8s			AML	AML	15 59 25.5	
ROOS	comp=E,8.5nm,0.5s			AML	AML	15 59 32.2	
ROOS	comp=N,9,3nm,0.6s			AML	AML	15 59 35.4	
ROOS	**tl_alroos** SNR=51	**4.23**	**197**	*e*P	**Pn**	**15 58 08.4**	**-0.4**
BR131	**Keskin Array S**	**4.28**	**292**	*e*Pn	**Pn**	**15 58 09.9**	**+0.4**
BR131	**Keskin Array S**	**4.28**	**292**	*e*Pn	**Pn**	**15 58 09.9**	**+0.4**
BRTR	**Keskin Array B**	**4.28**	**292**	Pn	**Pn**	**15 58 09.8**	**+0.4**
BRTR				Lg	Lg	15 59 23.6	
BRTR	**Keskin Array B**	**4.28**	**292**	Pn	**Pn**	**15 58 09.8**	**+0.4**
BRTR	comp=N,6.0nm,0.3s,baz=119,slow=14,SNR=94 baz=124,slow=28,SNR=3.6			Lg	Lg	15 59 23.6	
BRTR	**Keskin Array B** comp=N,33nm,0.6s	**4.28**	**292**	*i* P	**Pn**	**15 58 09.8**	**+0.3**
BRTR				Lg	Lg	15 59 23.6	
DIKM	**Dikmen**	**4.36**	**323**	*e*PN	**Pn**	**15 58 10.9**	**+0.5**
DIKM	**Dikmen**	**4.36**	**323**	*e*Pn	**Pn**	**15 58 11.0**	**+0.5**
FKH	**Fakeheh**	**4.42**	**206**	*e*P	**Pn**	**15 58 11.2**	**-0.2**
IKL	**Isikli**	**4.53**	**245**	*e*PN	**Pn**	**15 58 12.9**	**+0.1**
IKL	**Isikli**	**4.53**	**245**	*e*Pn	**Pn**	**15 58 12.9**	**+0.1**
HWQ	**Hawqa**	**4.56**	**211**	*e*P	**Pn**	**15 58 12.9**	**-0.5**
HWQ	**Hawqa**	**4.56**	**211**	*e*P	**Pn**	**15 58 12.9**	**-0.5**
TOS	**Tosya**	**4.62**	**309**	*e*PN	**Pn**	**15 58 14.7**	**+0.5**
TOS	**Tosya**	**4.62**	**309**	*e*Pn	**Pn**	**15 58 14.7**	**+0.5**
AFSR	**Af˘ar-Bala (A**	**4.62**	**287**	*e*PN	**Pn**	**15 58 14.7**	**+0.5**
AFSR	**Af˘ar-Bala (A**	**4.62**	**287**	*e*Pn	**Pn**	**15 58 14.7**	**+0.5**
AKH	**Akhalkalaki**	**4.82**	**47**	P	**Pg**	**15 58 34.0**	**-1.7**
AKH				S	Sg	16 00 11.1	+33
ILGA	**Ilgaz**	**4.82**	**307**	*i* P	**Pn**	**15 58 18.1**	**+1.1**
ILGA	**Ilgaz**	**4.82**	**307**	*i* P	**Pn**	**15 58 18.1**	**+1.1**
ANTO	**Ankara**	**4.94**	**291**	*e*PN	**Pn**	**15 58 19.2**	**+0.6**
ANTO	**Ankara**	**4.94**	**291**	*e*P	**Pn**	**15 58 19.4**	**+0.8**
ANTO	**Ankara**	**4.94**	**291**	*e*Pn	**Pn**	**15 58 19.4**	**+0.8**
ANTO	**Ankara**	**4.94**	**291**	*e*Pn	**Pn**	**15 58 19.2**	**+0.6**
PHNC	**Paralimni** comp=N,6.6nm,0.9s	**5.00**	**231**	P	Pn	15 58 23.0	+3.7
PHNC	**Paralimni** comp=N,6.6nm,0.9s	**5.00**	**231**	P	Pn	15 58 23.0	+3.7
BHL	**Bhannes**	**5.01**	**211**	*e*P	**Pn**	**15 58 19.2**	**-0.3**
BHL	**Bhannes**	**5.01**	**211**	*e*P	**Pn**	**15 58 19.2**	**-0.3**
GNI	**Garni** comp=N,162nm,1.2s	**5.01**	**66**	*e*Pn	**Pn**	**15 58 18.0**	**-1.6**
GNI	**Garni** comp=N,3.1nm,0.3s,baz=261,slow=19,SNR=2.9	**5.01**	**66**	Pn	**Pn**	**15 58 18.4**	**-1.2**
GNI	comp=N,928nm,21.0s,baz=353,slow=43			LR	LR	16 00 43.9	
GNI	**Garni** comp=N,162nm,1.2s	**5.01**	**66**	*e*P	**Pn**	**15 58 18.0**	**-1.6**
LADK	**Ladik-KONYA**	**5.06**	**272**	*e*PN	**Pn**	**15 58 20.7**	**+0.5**
LADK	**Ladik-KONYA**	**5.06**	**272**	*e*Pn	**Pn**	**15 58 20.7**	**+0.5**
QASN	**Qassioun**	**5.11**	**204**	*e*P	**Pn**	**15 58 18.2**	**-2.7**
QASN				*e*S	Sb	15 59 40.2	+4.9
QASN	comp=E,644nm,0.6s			AML	AML	15 59 56.5	
QASN	comp=N,1μm,0.6s			AML	AML	16 00 01.2	
QASN	comp=Z,675nm,0.6s			AML	AML	16 00 07.9	
QASN	**Qassioun** SNR=51	**5.11**	**204**	*e*P	**Pn**	**15 58 18.2**	**-2.7**
CHVG	**Ch'k'valeri**	**5.14**	**28**	P	Pn	15 58 24.4	+3.2
CHVG				S	Sg	16 00 05.2	+17
CHVG	**Ch'k'valeri**	**5.14**	**28**	P	Pn	15 58 24.4	+3.2
TOTH	**TOTAH**	**5.22**	**202**	*e*P	**Pn**	**15 58 22.9**	**+0.4**
TOTH				*e*S	**Sg**	**15 59 49.3**	**-1.8**
TOTH	comp=Z,404nm,0.7s			AML	AML	16 00 08.2	
TOTH	comp=E,408nm,0.7s			AML	AML	16 00 14.4	
TOTH	comp=N,441nm,0.7s			AML	AML	16 00 19.5	
TOTH	**TOTAH** SNR=51	**5.22**	**202**	*e*P	**Pn**	**15 58 22.9**	**+0.4**
RCY	**Rachaya**	**5.30**	**208**	*e*P	**Pn**	**15 58 24.3**	**+0.8**
BRBR	**Barbar**	**5.33**	**206**	*e*P	**Pn**	**15 58 24.9**	**+0.8**
BRBR				*e*S	**Sb**	**15 59 44.8**	**+3.0**
BRBR	comp=N,728nm,0.7s			AML	AML	16 00 02.4	
BRBR	comp=E,542nm,0.7s			AML	AML	16 00 13.7	
BRBR	comp=Z,361nm,0.7s			AML	AML	16 00 20.3	
BRBR	**Barbar** SNR=51	**5.33**	**206**	*e*P	**Pn**	**15 58 24.9**	**+0.8**
NAX	**Nakhchivan** SNR=13	**5.33**	**78**	P	Pb	15 58 31.4	-5.8
NAX				S	Sg	16 00 04.8	+10
ISHB	**Shabestar**	**5.38**	**87**	*e*P	**Pn**	**15 58 23.8**	**-0.9**
ISHB	**Shabestar**	**5.38**	**87**	*e*P	**Pn**	**15 58 23.8**	**-0.9**
SOC	**Sochi**	**5.39**	**7**	*e*P	Pn	15 58 27.7	+3.0
SOC				*e*		15 59 31.2	
SOC	comp=Z,20nm,0.7s			pmax	pmax		
SOC	comp=Z,690nm,12.0s			MLR	MLR		
SOC	comp=E,164nm,12.0s			MLR	MLR		
SOC	comp=N,684nm,12.0s			MLR	MLR		
ZALF	**Zalf**	**5.43**	**193**	*e*P	**Pn**	**15 58 25.1**	**-0.2**
ZALF				*e*S	**Sg**	**15 59 56.0**	**-1.8**
ZALF	comp=E,275nm,0.7s			AML	AML	16 00 03.1	
ZALF	comp=Z,310nm,0.6s			AML	AML	16 00 09.8	
ZALF	comp=N,416nm,0.6s			AML	AML	16 00 15.0	
CSS	**Prodhromos** comp=N,1.2nm,0.9s	**5.47**	**235**	P	**Pn**	**15 58 26.5**	**+0.7**
CSS	**Prodhromos**	**5.47**	**235**	*e*PN	**Pn**	**15 58 26.5**	**+0.7**
CSS	**Prodhromos** comp=N,42nm,0.6s	**5.47**	**235**	*e*Pn	**Pn**	**15 58 23.0**	**-2.8**
CSS	**Prodhromos** comp=N,42nm,0.6s	**5.47**	**235**	*e*Pn	**Pn**	**15 58 23.0**	**-2.8**
ONI	**Oni**	**5.62**	**38**	P	Pn	15 58 21.0	-7.0
ONI				S	Sg	16 00 26.4	+22
KSDI	**Kefar Szold**	**5.63**	**208**	Pn	**Pn**	**15 58 29.0**	**+1.0**
KSDI				Sn	**Sg**	**16 00 06.3**	**+2.0**
IAZR	**Azarshahr**	**5.71**	**93**	*e*P	Pn	15 58 32.9	+3.5
TBLG	**Delisi**	**5.75**	**51**	P	Pg	15 58 50.7	-2.9
TBLG				S	Sg	16 00 28.2	+20
SALA	**Sala**	**5.76**	**198**	*e*P	**Pn**	**15 58 30.1**	**+0.2**
SALA				*e*S	**Sg**	**16 00 06.8**	**-1.4**
SALA	comp=N,512nm,0.6s			AML	AML	16 00 19.8	
SALA	comp=Z,495nm,0.6s			AML	AML	16 00 21.9	
SALA	comp=E,35nm,0.6s			AML	AML	16 00 28.7	
KSHT	**Keshet**	**5.77**	**206**	Pn	**Pn**	**15 58 31.2**	**+1.2**
KSHT				Sn	**Sg**	**16 00 10.1**	**+1.4**
ALFC	**Alevga** comp=E,1.5nm,0.8s	**5.84**	**240**	P	Pn	15 58 27.6	-3.3
MMA1	**Mount Meron ar**	**5.88**	**209**	Pn	**Pn**	**15 58 32.5**	**+1.0**
MMA1				Sn	**Sg**	**16 00 12.3**	**-0.1**
MMC7	**Mount Meron ar**	**5.89**	**209**	Pn	**Pn**	**15 58 32.4**	**+0.8**
MMC7				Sn	**Sg**	**16 00 11.9**	**-0.5**
MMAI	**Mount Meron Ar**	**5.89**	**209**	Pn	**Pn**	**15 58 32.0**	**+0.4**
MMAI				Lg	Lg	16 00 17.3	
MMAI	**Mount Meron Ar** comp=E,9.1nm,0.3s,baz=48,slow=14,SNR=44	**5.89**	**209**	Pn	**Pn**	**15 58 32.0**	**+0.4**
MMAI	comp=E,24nm,0.3s,baz=10,slow=24,SNR=4.3			Lg	Lg	16 00 17.3	
MMAI	**Mount Meron Ar**	**5.89**	**209**	Pn	**Pn**	**15 58 32.0**	**+0.4**
MMAI				Lg	Lg	16 00 17.3	
MMB2	**Mount Meron ar**	**5.90**	**209**	Pn	**Pn**	**15 58 32.5**	**+0.8**
MMB2				Sn	**Sg**	**16 00 11.9**	**-0.8**
ZEI	**Tsey**	**5.98**	**39**	*e*P	Pn	15 58 35.0	+2.1
ZEI	comp=Z,3.0nm,0.3s			pmax	pmax		
ZEI	**Tsey** comp=Z,3.0nm,0.3s	**5.98**	**39**	*e*P	Pn	15 58 35.0	+2.1
DGRG	**David-gareji**	**6.00**	**56**	P	**Pg**	**15 58 57.3**	**-1.0**
DGRG				S	Sg	16 00 38.5	+22
TCHB	**Talchebab**	**6.01**	**203**	*e*P	**Pn**	**15 58 32.0**	**-1.2**
TCHB				*e*S	Sg	16 00 08.9	-7.4
TCHB	comp=Z,453nm,0.7s			AML	AML	16 00 29.4	
TCHB	comp=E,462nm,0.6s			AML	AML	16 00 32.3	
ASF	**Jabal al Asfar**	**6.24**	**195**	Pn	**Pn**	**15 58 37.1**	**+0.6**
ASF				Lg	Lg	16 00 27.9	
ASF	**Jabal al Asfar**	**6.24**	**195**	Pn	**Pn**	**15 58 37.1**	**+0.6**
ASF				Lg	Lg	16 00 27.9	
ASF	comp=E,618nm,19.0s,baz=292,slow=41			LR	LR	16 01 21.5	
KBZ	**Khabaz**	**6.31**	**28**	P	Pn	15 58 41.9	+4.6
KBZ	comp=Z,1.0nm,0.3s			pmax	pmax		
KBZ	**Khabaz**	**6.31**	**28**	Pn	Pn	15 58 41.9	+4.6
KBZ	**Khabaz** comp=Z,0.5nm,0.3s,baz=224,slow=7.8,SNR=5.6	**6.31**	**28**	Pn	Pn	15 58 41.9	+4.6
KBZ	**Khabaz**	**6.31**	**28**	Pn	Pn	15 58 41.9	+4.6
GANJ	**Ganja** SNR=8.2	**6.31**	**65**	P	Pn	15 58 42.6	+5.2
MMLI	**Mount Malkishu**	**6.40**	**206**	Pn	**Pn**	**15 58 40.2**	**+1.6**
MMLI				Sn	**Sg**	**16 00 26.5**	**-2.4**
KIV	**Kislovodsk**	**6.43**	**26**	*e*P	**Pn**	**15 58 40.5**	**+1.4**
KIV				*e*S	**Sn**	**15 59 55.2**	**+2.2**
KIV	comp=Z,14nm,0.9s			pmax	pmax		
KIV	comp=Z,152nm,7.0s			MLR	MLR		
KIV	**Kislovodsk** comp=Z,14nm,0.9s	**6.43**	**26**	*e*P	**Pn**	**15 58 40.5**	**+1.4**
KIV	comp=Z,152nm,7.0s			*e*S	**Sn**	**15 59 55.2**	**+2.2**
HMDT	**Nahal Hemdat**	**6.53**	**205**	Pn	Pn	15 58 42.6	+2.2
HMDT				Sn	**Sg**	**16 00 29.9**	**-3.3**
ANN	**Anapa**	**6.64**	**352**	*e*P	Pb	15 58 51.1	-8.3
ANN	comp=Z,13nm,0.7s			pmax	pmax		
ANN	comp=N,133nm,10.0s			MLR	MLR		
ANN	comp=E,199nm,10.0s			MLR	MLR		
ANN	comp=Z,294nm,10.0s			MLR	MLR		
SLTI	**Sal'it**	**6.72**	**208**	Pn	**Pn**	**15 58 43.7**	**+0.8**
SLTI				Sn	Sg	16 00 32.9	-6.1
BHD	**Baghdad**	**6.72**	**136**	*e*Pn	Pn	15 58 38.0	-5.0
BHD				*e*Sn	**Sn**	**15 59 58.0**	**-2.1**
BRDA	**Brd**	**6.82**	**70**	P	Pn	15 58 49.8	+5.5
BRDA	SNR=4.1			S	Sg	16 01 07.4	+25
ISRB	**Sarab**	**7.02**	**91**	*e*P	**Pn**	**15 58 48.7**	**+1.4**
ISRB	**Sarab**	**7.02**	**91**	*e*P	**Pn**	**15 58 48.7**	**+1.4**
IDHR	**Dehrash**	**7.07**	**118**	*e*P	**Pn**	**15 58 48.4**	**+0.5**
IDHR	**Dehrash**	**7.07**	**118**	*e*P	**Pn**	**15 58 48.4**	**+0.5**
SEKA	**Sheki** SNR=6.6	**7.13**	**63**	P	Pn	15 58 51.9	+3.2
ILIN	**Lien**	**7.36**	**114**	*e*P	**Pn**	**15 58 52.1**	**+0.1**
ILIN	**Lien**	**7.36**	**114**	*e*P	**Pn**	**15 58 52.1**	**+0.1**
GLBA	**Ciilabad** SNR=3.2	**7.58**	**79**	P	Pn	15 58 59.1	+4.4
GLBA				S	Sg	16 01 24.0	+17
IML	**Ismayilli** SNR=2.9	**7.70**	**68**	P	Pn	15 59 00.6	+4.1
IBDR	**Badra**	**7.74**	**129**	*e*Pn	Pn	15 58 53.0	-3.9
IBDR				*e*Sn	Sn	16 00 18.6	-6.5
PQL	**Pirkuli** SNR=3.5	**8.00**	**68**	P	Pn	15 59 04.8	+4.1
QUBA	**Quba, Azerbaij** SNR=5.8	**8.10**	**64**	P	Pn	15 59 06.6	+4.7
IKOM	**Komasi**	**8.13**	**117**	*e*P	**Pn**	**15 59 01.8**	**-0.7**
IKOM	**Komasi**	**8.13**	**117**	*e*P	**Pn**	**15 59 01.8**	**-0.7**
MAK	**Makhachkala**	**8.14**	**52**	*e*P	**Pn**	**15 59 00.9**	**-1.5**
MAK				*e*S	**Sn**	**16 00 34.4**	**-0.5**
MAK	comp=Z,31nm,0.4s			pmax	pmax		
MAK	comp=Z,4μm,14.0s			MLR	MLR		
MAK	**Makhachkala** comp=Z,31nm,0.4s	**8.14**	**52**	*e*P	**Pn**	**15 59 00.9**	**-1.5**
SIZA	**Siyzn** SNR=3.6	**8.30**	**67**	P	Pn	15 59 09.6	+4.9
PRNI	**Paran**	**8.46**	**203**	Pn	**Pn**	**15 59 07.6**	**+0.8**
PRNI				Sn	Sb	16 01 18.4	+6.8
EIL	**Elat**	**9.11**	**202**	Pn	**Pn**	**15 59 16.0**	**+0.2**
EIL				Lg	Lg	16 01 58.1	
EIL	**Elat** comp=Z,0.5nm,0.3s,baz=24,slow=11,SNR=4.3	**9.11**	**202**	Pn	**Pn**	**15 59 16.0**	**+0.2**
EIL	comp=Z,1.2nm,0.3s,baz=234,slow=23,SNR=4.9			Lg	Lg	16 01 58.1	
EIL	comp=Z,984nm,18.6s,baz=280,slow=40			LR	LR	16 03 14.1	
EIL	**Elat**	**9.11**	**202**	Pn	**Pn**	**15 59 16.0**	**+0.2**
EIL				Lg	Lg	16 01 58.1	
IPIR	**Pirpir**	**11.31**	**116**	*e*P	**Pn**	**15 59 46.5**	**+0.3**
IPIR	**Pirpir**	**11.31**	**116**	*e*P	**Pn**	**15 59 46.5**	**+0.3**
IDI	**Anoyia** comp=Z,16nm,0.6s	**11.53**	**259**	*e*P	**Pn**	**15 59 48.7**	**-0.2**
IDI	**Anoyia** comp=Z,16nm,0.6s	**11.53**	**259**	*e*P	**Pn**	**15 59 48.7**	**-0.2**
VRI	**Vrincioaia**	**11.76**	**314**	⇓*i* P	Pn	15 59 54.5	+2.5
PLOR	**Plostina**	**11.79**	**314**	⇓*i* P	Pn	15 59 55.2	+2.7
MLR	**Muntele Rosu**	**12.00**	**311**	⇓*i* P	Pn	15 59 59.5	+4.1
MLR	**Muntele Rosu** comp=Z,64nm,20.5s,baz=125,slow=40	**12.00**	**311**	LR	LR	16 05 10.3	
IZEF	**Zefreh**	**12.24**	**112**	*e*P	**Pn**	**15 59 58.2**	**-0.7**
IZEF	**Zefreh**	**12.24**	**112**	*e*P	**Pn**	**15 59 58.2**	**-0.7**
VOIR		**12.51**	**309**	⇓*i* P	Pn	16 00 13.7	+11
VSR	**Storozhevoye**	**12.99**	**1**	*e*P	Pn	16 00 11.9	+3.2
VSR	comp=N,4.0nm,0.6s			pmax	pmax		
VSR	comp=Z,5.0nm,0.6s			pmax	pmax		
VSR	comp=E,2.0nm,0.3s			pmax	pmax		
VSR	comp=N,140nm,16.0s			MLR	MLR		
VSR	comp=E,90nm,16.0s			MLR	MLR		
VSR	comp=Z,220nm,16.0s			MLR	MLR		
BUR08	**Bucovina Ar. S**	**13.67**	**318**	*e*P	**Pn**	**16 00 18.1**	**-0.1**
BUR08	**Bucovina Ar. S**	**13.67**	**318**	*e*P	**Pn**	**16 00 18.1**	**-0.1**
KIEV	**Kiev**	**14.20**	**334**	*e*P	**Pn**	**16 00 25.4**	**+0.2**
LVV	**L'vov**	**15.67**	**322**	*e*P	**P**	**16 00 49.1**	**-0.2**
LVV	**L'vov**	**15.67**	**322**	*e*P	**P**	**16 00 49.1**	**-0.2**
UZH	**Uzhgorod**	**15.83**	**316**	*e*P	P	16 00 58.1	+7.1
KOLS	**Kolonicke sedl**	**16.01**	**317**	*e*P	**P**	**16 00 54.8**	**+1.7**
KOLS	comp=Z,51nm,2.7s			pmax	pmax		
KOLS	**Kolonicke sedl**	**16.01**	**317**	*e*P	**P**	**16 00 54.8**	**+1.7**
KOLS	**Kolonicke sedl** comp=Z,51nm,2.7s	**16.01**	**317**	*e*P	**P**	**16 00 54.8**	**+1.7**
ISRO	**Mashad**	**16.58**	**90**	*e*P	**P**	**16 00 57.7**	**-1.8**
ISRO	**Mashad**	**16.58**	**90**	*e*P	**P**	**16 00 57.7**	**-1.8**
KECS	**Kecovo**	**16.75**	**314**	*e*P	**P**	**16 01 01.3**	**0.0**
KECS	comp=Z,2.0nm,0.8s			pmax	pmax		
KECS	**Kecovo**	**16.75**	**314**	*e*P	**P**	**16 01 01.2**	**0.0**
KECS	**Kecovo** comp=Z,2.0nm,0.8s	**16.75**	**314**	*e*P	**P**	**16 01 01.3**	**0.0**
STHS	**Stebnicka Huta**	**16.84**	**317**	*e*P	**P**	**16 01 03.9**	**+1.6**
STHS	comp=Z,3.0nm,0.8s			pmax	pmax		
STHS	**Stebnicka Huta**	**16.84**	**317**	*e*P	**P**	**16 01 03.9**	**+1.6**
STHS	**Stebnicka

DPC *e* 16 01 52.1
DPC Dobruska-Polom 20.04 314⇑ *i*P Pn 16 01 38.6 -0.6
DPC *ex* x 16 01 52.1
DPC Dobruska-Polom 20.04 314 *i* P Pn 16 01 38.6 -0.6
TREC Trest 20.05 311 *e*P Pn 16 01 38.5 -0.8
TREC Trest 20.05 311⇑ *e*P Pn 16 01 38.5 -0.8
TREC Trest 20.05 311 *e*P Pn 16 01 38.5 -0.8
MOA Molln 20.26 306⇑ *i*P Pn 16 01 41.4 -0.4
comp=Z,15nm,0.9s
MOA Molln 20.26 306 P Pn 16 01 41.4 -0.4
comp=Z,15nm,0.9s
UPC Upice 20.29 315 *e*P Pn 16 01 41.1 -1.0
UPC *e* 16 01 54.9
UPC Upice 20.29 315⇑ *e*P Pn 16 01 41.1 -1.0
UPC *ex* x 16 01 54.9
UPC Upice 20.29 315 *e*P Pn 16 01 41.1 -1.0
MYKA Terra Mystica 20.30 302⇑ *i*pP pP 16 01 43.3 +2.1
comp=Z,9.7nm,0.7s
PRU Pruhonice 20.90 312⇑ *i*P Pn 16 01 47.7 -1.5
PRU *e* 16 02 05.0
PRU MLR MLR
comp=Z,200nm,13.1s
PRU Pruhonice 20.90 312⇑ *i*P Pn 16 01 47.7 -1.5
PRU *ex* x 16 01 58.2
PRU *ex* x 16 02 05.0
PRU *eS* Sn 16 05 48.0 +2.5
PRU AMS AMS 16 12 10.0
comp=Z,200nm,13.1s
PRU Pruhonice 20.90 312 *i* P Pn 16 01 47.7 -1.5
GERES GERESS Array B 20.96 308 P Pn 16 01 48.0 -2.1
GERES GERESS Array B 20.96 308 P Pn 16 01 48.0 -2.1
comp=Z,4.1nm,0.7s,baz=112,slow=10,SNR=36
GERES LR LR 16 12 02.7
comp=Z,76nm,18.9s,baz=282,slow=43
GERES GERESS Array B 20.96 308 P Pn 16 01 48.0 -2.0
comp=Z,76nm,18.9s
PRA Prague 21.00 312⇑ P **P** **16 01 48.0 +0.2**
PRA AMS AMS 16 12 30.0
PVCC Panska Ves 21.12 313 *e*P **P** **16 01 48.4 -0.7**
PVCC *e* 16 01 51.2
PVCC Panska Ves 21.12 313⇑ *e*P **P** **16 01 48.4 -0.7**
PVCC *e*pP **pP** **16 01 51.2 +1.3**
PVCC *ex* x 16 01 55.9
PVCC Panska Ves 21.12 313 *e*P **P** **16 01 48.4 -0.7**
KHC Kasperske Hory 21.14 309⇑ *e*P **P** **16 01 49.7 +0.3**
KHC *e* 16 01 53.2
KHC *eS* Sn 16 05 51.7 +0.3
KHC MLR MLR
comp=Z,200nm,12.1s
KHC Kasperske Hory 21.14 309⇑ *e*P **P** **16 01 49.7 +0.3**
KHC *e*pP **pP** **16 01 53.2 +3.0**
KHC *ex* x 16 02 00.7
KHC *eS* Sn 16 05 51.7 +0.3
KHC AMS AMS 16 11 50.0
comp=Z,200nm,12.1s
KHC Kasperske Hory 21.14 309 *e*P **P** **16 01 49.6 +0.3**
comp=Z,4.9nm,0.8s
KHC Kasperske Hory 21.14 309 *e*P **P** **16 01 49.6 +0.2**
comp=Z,4.9nm,0.8s
VSU Vasula 21.70 343⇓ *e*P **P** **16 01 58.4 +3.1**
VSU pmax pmax
comp=Z,35nm,1.2s
MOTA Moosalm 22.16 303⇑ *i*sP **P** **16 02 00.3 -0.2**
comp=Z,11nm,0.7s
MOTA Moosalm 22.16 303 P **P** **16 02 00.3 -0.2**
comp=Z,11nm,0.7s
CLL Collm 22.35 314 *i* P **P** **16 02 02.4 +0.1**
CLL *i* 16 02 06.2
CLL *eS* **S** **16 06 12.0 +3.5**
CLL pmax pmax
comp=Z,8.0nm,1.2s
CLL Collm 22.35 314 *i* P **P** **16 02 02.4 +0.1**
comp=Z,8.0nm,1.2s
CLL *i* 16 02 06.2
CLL *eS* **S** **16 06 12.0 +3.5**
CLL Collm 22.35 314 *i* P **P** **16 02 02.4 +0.1**
comp=Z,8.0nm,1.2s
RETA Reutte 22.43 303⇑ *i*pP pP 16 02 03.4 -0.7
comp=Z,7.3nm,0.8s
RETA Reutte 22.43 303 P pP 16 02 03.4 -0.7
comp=Z,7.3nm,0.8s
ARU Arti 22.46 29*d i*P **P** **16 02 03.2 -0.3**
ARU 16 02 27.0
ARU S **S** **16 06 11.4 +0.9**
ARU pmax pmax
comp=Z,51nm,1.7s
ARU MLR MLR
comp=Z,146nm,15.0s
ARU Arti 22.46 29 *i* P **P** **16 02 03.2 -0.3**
comp=Z,51nm,1.7s
GRA1 Grafenberg Arr 22.77 309 *e*P **P** **16 02 05.0 -1.9**
comp=Z,26µm,18.0s
GRF Grafenberg Arr 22.77 309 *e*P **P** **16 02 05.0 -1.9**
comp=Z,26nm,2.3s
GRF *eL* L 16 14 30.0
comp=Z,82nm,18.0s
GRF Grafenberg Arr 22.77 309 *e*P **P** **16 02 05.0 -1.9**
GRF MLR MLR
comp=Z,26µm,18.0s
DAVOX Davos/Dischmat 22.86 301 P **P** **16 02 07.9 -0.1**
DAVOX Davos/Dischmat 22.86 301 P **P** **16 02 07.9 -0.1**
comp=Z,4.3nm,0.6s,baz=102,slow=11,SNR=5.4
DAVOX LR LR 16 11 16.0
comp=Z,46nm,20.9s,baz=268,slow=37
DAVOX Davos/Dischmat 22.86 301 P **P** **16 02 07.9 -0.1**
DAVA Damuels 22.96 302⇑ *i*sP **P** **16 02 08.9 -0.1**
comp=Z,15nm,0.7s
DAVA Damuels 22.96 302 P **P** **16 02 08.9 -0.1**
comp=Z,15nm,0.7s
SVE Sverdlovsk 23.56 31⇓ *e*P **P** **16 02 14.7 -0.1**
SVE pmax pmax
comp=Z,34nm,1.5s
KEST Kesra 23.61 273 *e*P **P** **16 02 16.7 +1.1**
KEST Kesra 23.61 273 P **P** **16 02 16.5 +1.0**
comp=Z,6.3nm,0.9s,baz=42,slow=3.2,SNR=16
KEST LR LR 16 12 27.8
comp=Z,34nm,21.4s,baz=139,slow=39
KEST Kesra 23.61 273 *e*P **P** **16 02 16.7 +1.1**
SPAK Spaichingen-Ko 23.86 304 *e*P **P** **16 02 17.2 -0.8**
SPAK Spaichingen-Ko 23.86 304 *e*P **P** **16 02 17.2 -0.8**
SAOF Saorge 24.13 294 *e*P **P** **16 02 20.1 -0.4**
SAOF Saorge 24.13 294 *e*P **P** **16 02 20.1 -0.4**
SAOF Saorge 24.13 294 *e*P **P** **16 02 20.1 -0.4**
SAOF Saorge 24.13 294 *e*P **P** **16 02 20.1 -0.4**
TOD Tromm 24.24 308 *e*P **P** **16 02 21.9 +0.5**
TOD Tromm 24.24 308 *e*P **P** **16 02 21.9 +0.5**
TOD Tromm 24.24 308 *e*P **P** **16 02 21.9 +0.5**
REVF Revere 24.26 293 *e*P **P** **16 02 18.8 -2.9**
REVF Revere 24.26 293 *e*P **P** **16 02 18.8 -2.9**
REVF Revere 24.26 293 *e*P **P** **16 02 18.8 -2.9**
REVF Revere 24.26 293 *e*P **P** **16 02 18.8 -2.9**
FELD Feldberg im Sc 24.33 303 *e*P **P** **16 02 21.9 -0.5**
FELD Feldberg im Sc 24.33 303 *e*P **P** **16 02 21.9 -0.5**
TOUF Mont Tournerai 24.36 294 *e*P **P** **16 02 22.8 +0.1**
TOUF Mont Tournerai 24.36 294 *e*P **P** **16 02 22.8 +0.1**
TOUF Mont Tournerai 24.36 294 *e*P **P** **16 02 22.8 +0.1**
TOUF Mont Tournerai 24.36 294 *e*P **P** **16 02 22.8 +0.1**
MVIF Mont Vial 24.42 293 *e*P **P** **16 02 22.9 -0.4**
MVIF Mont Vial 24.42 293 *e*P **P** **16 02 22.9 -0.4**
MVIF Mont Vial 24.42 293 *e*P **P** **16 02 22.9 -0.4**
MVIF Mont Vial 24.42 293 *e*P **P** **16 02 22.9 -0.4**
FINES FINESS Array B 24.55 345 P **P** **16 02 24.4 +0.4**
FINES FINESS Array B 24.55 345 P **P** **16 02 24.4 +0.4**
comp=Z,2.4nm,0.5s,baz=144,slow=7.3,SNR=14
FINES FINESS Array B 24.55 345 P **P** **16 02 24.4 +0.4**
BBS Basel-Blauen 24.58 302 *e*P **P** **16 02 23.4 -1.1**
BBS Basel-Blauen 24.58 302 *e*P **P** **16 02 23.4 -1.1**
BBS Basel-Blauen 24.58 302 *e*P **P** **16 02 23.4 -1.1**
CALN Calern 24.60 293 *e*P **P** **16 02 22.1 -2.8**
CALN Calern 24.60 293 *e*P **P** **16 02 22.1 -2.8**
CALN Calern 24.60 293 *e*P **P** **16 02 22.1 -2.8**
CALN Calern 24.60 293 *e*P **P** **16 02 22.1 -2.8**
LANF Langenberg 24.71 306 *e*P **P** **16 02 25.4 -0.3**
LANF Langenberg 24.71 306 *e*P **P** **16 02 25.4 -0.3**
LANF Langenberg 24.71 306 *e*P **P** **16 02 25.4 -0.3**
LANF Langenberg 24.71 306 *e*P **P** **16 02 25.4 -0.3**
MBDF Montbardon 24.74 295 *e*P **P** **16 02 25.3 -0.8**
comp=Z,19nm,0.8s
LPG La Plagne 24.82 297 *e*P **P** **16 02 26.7 -0.3**
BNI Bardonecchia 24.83 296 *e*P **P** **16 02 26.5 -0.5**
BNI pmax pmax
comp=Z,17nm,1.0s
BNI Bardonecchia 24.83 296 *e*P **P** **16 02 26.4 -0.5**
comp=Z,17nm,1.0s
BNI Bardonecchia 24.83 296 *e*P **P** **16 02 26.5 -0.5**
comp=Z,17nm,0.9s
LPL La Plagne 24.83 297 *e*P **P** **16 02 27.1 0.0**
MOF Molkenrain 24.90 303 *e*P **P** **16 02 30.6 +3.1**
MOF Molkenrain 24.90 303 *e*P **P** **16 02 30.6 +3.1**
MOF Molkenrain 24.90 303 *e*P **P** **16 02 30.6 +3.1**
CMAH Djebel Manchou 24.90 276 P **P** **16 02 28.6 +1.0**
CMAH Djebel Manchou 24.90 276 P **P** **16 02 28.6 +1.0**
CDF Champ du Feu 24.92 304 *e*P **P** **16 02 29.6 +2.0**
comp=Z,9.8nm,0.8s
HINF Hinteralfeld 25.08 303 *e*P **P** **16 02 29.6 +0.6**
comp=Z,17nm,0.9s
JOF Joensuu 25.13 352 *e*p **P** **16 02 32.0 +2.7**
comp=Z,2.5nm,0.7s
JOF Joensuu 25.13 352 *e*P **P** **16 02 32.0 +2.7**
JOF pmax pmax
comp=Z,3.0nm,0.7s
ORIF Oris-en-Rattie 25.38 296 *e*P **P** **16 02 31.8 -0.1**
comp=Z,14nm,0.8s
CABF La Chapelle 25.40 300 *e*P **P** **16 02 31.2 -0.9**
comp=Z,22nm,0.7s
CKFL Kef-Lekhel 25.50 276 P **P** **16 02 35.6 +2.5**
CKFL Kef-Lekhel 25.50 276 P **P** **16 02 35.6 +2.5**
SMRF Simiane la Rot 25.56 294 *e*P **P** **16 02 31.4 -2.1**
comp=Z,53nm,1.1s
CASM Ain Smara 25.72 276 P **P** **16 02 37.3 +2.3**
CASM Ain Smara 25.72 276 P **P** **16 02 37.3 +2.3**
DFRA Djebel Bou Aff 26.13 277 P **P** **16 02 42.0 +3.2**
DFRA Djebel Bou Aff 26.13 277 P **P** **16 02 42.0 +3.2**
VIVF Saint-Julien-l 26.24 296 *e*P **P** **16 02 37.3 -2.3**
comp=Z,18nm,0.9s
BRVK Borovoye 26.28 45*de*P **P** **16 02 40.5 +0.7**
BRVK pmax pmax
comp=Z,19nm,2.5s
BRVK Borovoye 26.28 45 *e*P **P** **16 02 40.2 +0.4**
comp=Z,32nm,1.8s
BRVK Borovoye 26.28 45 *e*P **P** **16 02 40.2 +0.4**
comp=Z,32nm,1.8s
BVAR Borovoye Array 26.32 46 P **P** **16 02 40.3 0.0**
BVAR pmax pmax
comp=Z,2.0nm,0.9s
BVAR MLR MLR
comp=Z,202nm,20.0s
BVAR Borovoye Array 26.32 46 P **P** **16 02 40.3 0.0**
BVAR Borovoye Array 26.32 46 P **P** **16 02 40.3 0.0**
comp=Z,2.3nm,0.9s,baz=232,slow=7.3,SNR=9.2
BVAR LR LR 16 15 03.0
comp=Z,202nm,20.0s,baz=255,slow=41
BVAR Borovoye Array 26.32 46 P **P** **16 02 40.3 0.0**
ATD Arta Tunnel 26.84 171 LR LR 16 13 03.0
comp=Z,63nm,19.1s,baz=10,slow=36
SMF Signal de Mont 26.95 299 *e*P **P** **16 02 45.4 -0.5**
HFS Hagfors 27.06 332 P **P** **16 02 48.8 +2.0**
HFS Hagfors 27.06 332 P **P** **16 02 48.8 +2.0**
comp=Z,1.5nm,0.6s,baz=99,slow=9.2,SNR=5.1
HFS LR LR 16 15 53.3
comp=Z,57nm,18.4s,baz=126,slow=42
HFS Hagfors 27.06 332 P **P** **16 02 48.8 +2.0**
SSF Saint Saulge 27.22 300 *e*P **P** **16 02 48.2 -0.1**
AVF Avril sur Loir 27.29 300 *e*P **P** **16 02 48.1 -0.9**
comp=Z,17nm,1.0s
AAK Ala-Archa 27.40 69 LR LR 16 15 29.3
comp=Z,142nm,18.9s,baz=273,slow=40
NOA NORSAR Array B 28.58 332 LR LR 16 16 12.7
comp=Z,42nm,20.2s,baz=140,slow=40
KURBB Kurchatov Arra 30.60 53 P **P** **16 03 19.5 +1.2**
comp=Z,2.0nm,0.5s,baz=266,slow=8.9,SNR=24
KURK Kurchatov 30.67 53 P **P** **16 03 19.5 +0.6**
KURK pmax pmax
comp=Z,2.0nm,0.5s
KURK Kurchatov 30.67 53 P **P** **16 03 19.5 +0.6**
KURK Kurchatov 30.67 53 P **P** **16 03 19.5 +0.6**
ARCES ARCESS Array B 32.17 351 P **P** 16 03 33.9 +1.8
ARCES ARCESS Array B 32.17 351 P **P** 16 03 33.9 +1.8
comp=Z,0.7nm,0.6s,baz=163,slow=8.9,SNR=6.2
ARCES LR LR 16 18 51.6
comp=Z,75nm,19.5s,baz=135,slow=40
ARCES ARCESS Array B 32.17 351 P **P** 16 03 33.8 +1.8
TAM Tamanrasset 32.32 251 *e*P **P** **16 03 35.2 +1.2**
TAM pmax pmax
comp=Z,9.0nm,1.1s
TAM Tamanrasset 32.32 251 *e*P **P** **16 03 35.2 +1.2**
comp=Z,9.1nm,1.1s
TAM Tamanrasset 32.32 251 *e*P **P** **16 03 35.2 +1.2**
comp=Z,9.1nm,1.1s
MKAR Makanchi Array 32.84 61 LR LR 16 19 31.0
comp=Z,124nm,18.4s,baz=260,slow=41
KUDL Kundal 32.92 96 *ex* P 16 03 34.2 -4.8
KUDL *e*4 x 16 05 37.4
KUDL AML AML 16 05 48.5
comp=E,5.5nm,0.6s
KUDL AML AML 16 05 48.8
comp=N,3.3nm,0.6s
ESDC Sonseca Array 33.05 286 P **P** **16 03 39.0 -1.1**
ESDC Sonseca Array 33.05 286 P **P** **16 03 39.0 -1.1**
comp=N,2.1nm,0.7s,baz=67,slow=9.0,SNR=8.1
ESDC LR LR 16 18 29.4
comp=N,56nm,20.8s,baz=345,slow=39
ESDC Sonseca Array 33.05 286 P **P** **16 03 39.0 -1.1**
NVS Novosibirsk 34.12 46 *e*P **P** **16 03 50.5 +1.4**
NVS pmax pmax
comp=N,6.0nm,1.4s
NVS pmax pmax
comp=E,8.0nm,1.4s
NVS pmax pmax
comp=Z,16nm,1.4s
ZALV Zalesovo Beam 34.89 48 *i* P P 16 03 59.0 +3.2
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 34.89 48 P **P** **16 03 56.5 +0.7**
ZALV Zalesovo Beam 34.89 48 P **P** **16 03 56.5 +0.7**
comp=Z,0.9nm,0.4s,baz=269,slow=7.4,SNR=6.6
ZALV LR LR 16 20 16.2
comp=Z,146nm,18.1s,baz=250,slow=40
ZALV Zalesovo Beam 34.89 48 P **P** **16 03 56.5 +0.7**
WMQ Urumqi 36.88 65 P **P** **16 04 14.3 +1.1**
WMQ pP pP 16 04 24.0 +10
WMQ sP sP 16 04 28.0 +14
WMQ pmax pmax
comp=Z,11nm,2.2s
WMQ pmax pmax
comp=Z,160nm,6.2s
WMQ LR LR
comp=N,290nm,12.8s
WMQ LR LR
comp=E,250nm,14.6s
WMQ LR LR
comp=Z,91nm,14.1s
KMBO Kilima Mbogo 39.19 182 P **P** **16 04 33.0 0.0**
KMBO Kilima Mbogo 39.19 182 LR LR 16 20 01.7
comp=Z,70nm,18.3s,baz=93,slow=35
KMBO Kilima Mbogo 39.19 182 P **P** **16 04 33.0 0.0**
SPITS Spitsbergen Ar 41.13 353 LR LR 16 22 16.2
comp=Z,38nm,20.0s,baz=180,slow=37
TORD Torodi Ar. Bea 41.30 243 P **P** **16 04 49.1 -1.2**
TORD Torodi Ar. Bea 41.30 243 P **P** **16 04 49.1 -1.2**
comp=Z,2.0nm,0.8s,baz=42,slow=7.2,SNR=11
TORD Torodi Ar. Bea 41.30 243 P **P** **16 04 49.1 -1.2**
TLY Talaya 46.33 51 *e*P P 16 05 35.0 +4.6
TLY pmax pmax
comp=Z,6.0nm,0.7s
TLY MLR MLR
comp=Z,127nm,16.0s
ZAK Zakamensk 46.33 53 *e*P **P** **16 05 31.4 +0.9**
ZAK *e* 16 07 07.0
ZAK pmax pmax
comp=Z,2.0nm,1.4s
GTA Gaotai 46.75 69 *e*P **P** **16 05 34.9 +0.9**
GTA pP pP 16 05 42.0 +7.1
GTA sP sP 16 05 46.0 +11
GTA pmax pmax
comp=Z,3.0nm,1.5s
SONM Songino Array 48.89 56 P **P** **16 05 50.7 +0.2**
SONM Songino Array 48.89 56 P **P** **16 05 50.7 +0.2**
comp=Z,0.3nm,0.5s,baz=275,slow=7.1,SNR=5.9
SONM LR LR 16 29 02.6
comp=Z,761nm,18.2s,baz=285,slow=39
SONM Songino Array 48.89 56 P **P** **16 05 50.7 +0.2**
ULN Ulaanbaatar 49.31 56 *e*P **P** **16 05 54.9 +1.1**
comp=Z,9.5nm,1.3s
ULN Ulaanbaatar 49.31 56 *e*P **P** **16 05 54.9 +1.1**
comp=Z,9.5nm,1.3s
DBIC Dimbokro 50.41 243 P **P** **16 06 00.6 -1.7**
DBIC Dimbokro 50.41 243 P **P** **16 06 00.6 -1.7**
comp=Z,3.0nm,0.6s,baz=306,slow=23,SNR=5.0
DBIC Dimbokro 50.41 243 P **P** **16 06 00.6 -1.7**
TIXI Tiksi 54.25 23*de*P P 16 06 32.7 +2.6
TIXI pmax pmax
comp=Z,4.0nm,1.2s
CMAR Chiang Mai Arr 55.53 93 P **P** **16 06 39.3 -0.8**
CMAR Chiang Mai Arr 55.53 93 P **P** **16 06 39.3 -0.8**
comp=Z,1.0nm,0.9s,baz=291,slow=8.5,SNR=6.3
CMAR LR LR 16 35 28.9
comp=Z,50nm,20.6s,baz=185,slow=41
CMAR Chiang Mai Arr 55.53 93 P **P** **16 06 39.3 -0.8**
QIZ Qiongzhong 63.80 86 P **P** **16 07 34.8 -2.3**
QIZ S **S** **16 16 09.0 -4.0**
QIZ pmax pmax
comp=Z,12nm,1.7s
BILL Bilibino 67.00 19⇓ *e*P P 16 07 59.3 +2.2
KSAR Wonju Array Be 67.48 59 P **P** **16 08 00.7 0.0**
KSAR Wonju Array Be 67.48 59 P **P** **16 08 00.7 0.0**
KSRS Korea Array 67.50 59 P **P** **16 08 00.7 -0.1**
comp=Z,3.7nm,1.0s,baz=295,slow=6.4,SNR=8.9
KSRS LR LR 16 41 10.3
comp=Z,174nm,18.6s,baz=310,slow=39
SCHQ Schefferville 67.67 323 P **P** **16 08 02.8 +1.2**
SCHQ Schefferville 67.67 323 P **P** **16 08 02.8 +1.2**
comp=Z,1.4nm,0.5s,baz=58,slow=15,SNR=4.8
SCHQ Schefferville 67.67 323 P **P** **16 08 02.8 +1.2**
COCO West Island 73.85 120 *i* P **P** **16 08 39.9 +0.3**
MJAR Matsushiro Arr 74.84 55 LR LR 16 44 54.6
comp=Z,150nm,18.5s,baz=0.0,slow=38
YKA Yellowknife Ar 77.36 348 P **P** **16 08 59.4 +0.2**
YKA Yellowknife Ar 77.36 348 P **P** **16 08 59.3 +0.2**
comp=Z,0.8nm,0.9s,baz=19,slow=6.4,SNR=4.2
YKA Yellowknife Ar 77.36 348 P **P** **16 08 59.3 +0.2**

*IDC **07** 16:00:44.2±1.0,38°.73N×71°.44E,h0km,mb3.9/11, mb1 4.1/17,mb1mx3.9/34,mbtmp4.0/17,ML3.7/6,MS2.9/1, Ms1 2.9/1,ms1mx1.9/59,Error ellipse: s-maj=20.7km s-min=12.1km az=145.0*

*NNC **07** 16:00:45.5±2.2,38°.85N×71°.27E,h0km,mb4.6,mpv4.5, Error ellipse: s-maj=21.6km s-min=11.1km az=176.0*

ISC 07 16:00:48.0±0.6,39°.17N±0°.05×71°.62E±0°.07,h10km,n44,
σ1s90/34,mb3.8/11,8C-8D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.35**	**27**	P	**Pb**	**16 01 48.0**	**+0.1**
	SNR=42						
EKS2	**Erkin-Say**	**3.85**	**24**	P	**Pb**	**16 01 54.7**	**-1.5**
	SNR=38						
KZA	**Kyzart**	**4.01**	**42**	P	**Pb**	**16 01 56.6**	**-2.4**
	SNR=19						
KK31	**Karatay Array**	**4.02**	**348**	⇑Pn	Pn	16 01 55.3	+5.7
	65nm,0.4s,baz=182,slow=14,SNR=1069						
KK31				⇓Lg	Lg	16 02 59.4	
	42nm,0.5s,baz=172,slow=27,SNR=4.4						
AAK	**Ala-Archa**	**4.09**	**31**	P	**Pb**	**16 01 58.1**	**-2.1**
	SNR=35						
AAK	**Ala-Archa**	**4.09**	**31**	Pn	**Pb**	**16 01 58.1**	**-2.1**
	10nm,0.3s,baz=202,slow=6.3,SNR=43						
AAK				Sn	**Sb**	**16 02 52.2**	**+2.4**
	7.4nm,0.3s,baz=278,slow=18,SNR=5.8						
AAK				LR	LR	16 03 52.1	
	comp=Z,120nm,19.5s,baz=23,slow=41						
KBK	**Karagaybulak**	**4.30**	**35**	P	**Pb**	**16 02 02.2**	**-1.6**
	SNR=34						
CHMS	**Chumysh**	**4.50**	**31**	P	Pb	16 02 03.5	-3.6
	SNR=13						
USP	**Ospenovka**	**4.64**	**27**	P	Pb	16 02 05.8	-3.6
	SNR=24						
ULHL	**Ulahol**	**4.67**	**47**	P	Pb	16 02 04.9	-5.2
	SNR=10						
TKM2	**Tokmak 2**	**4.81**	**37**	⇓Pn	Pb	16 02 07.2	-5.3
	29nm,0.9s						
TKM2				⇓Sn	**Sb**	**16 03 08.6**	**-1.9**
	37nm,0.8s						
TKM2				⇓Lg	Lg	16 03 30.4	
	124nm,1.2s						
TKM2	**Tokmak 2**	**4.81**	**37**	P	Pb	16 02 08.4	-4.1
	SNR=24						
KNDC	**Almaty**	**5.71**	**43**	⇓Lg	Lg	16 03 55.8	
	230nm,1.1s						
DLH	**Dalhousie**	**7.50**	**151**	*e*S	**Sn**	**16 04 02.0**	**-0.8**
THN	**Thein Dam**	**7.50**	**152**	*e*P	**Pn**	**16 02 40.2**	**+2.8**
THN				*e*S	**Sn**	**16 04 05.3**	**+2.8**
DHRM	**DHARAMSHALA**	**7.88**	**150**	*e*P	**Pn**	**16 02 44.8**	**+1.9**
DHRM				*e*S	**Sn**	**16 04 10.0**	**-2.3**
DHRM				AML	AML	16 04 18.0	
	comp=E,112nm,0.5s						
DHRM				AML	AML	16 04 19.1	
	comp=N,63nm,0.3s						
SMLA	**Simla**	**9.22**	**149**	*e*P	**Pn**	**16 03 01.2**	**+0.2**
SMLA				*e*S	Sn	16 04 38.2	-6.5
SMLA				AML	AML	16 04 45.2	
	comp=N,38nm,0.5s						
SMLA				AML	AML	16 04 46.4	
	comp=E,56nm,0.4s						
MK31	**Makanchi Array**	**10.91**	**42**	Pn	Pn	16 03 29.6	+5.4
	comp=E,3.5nm,0.7s,baz=230,slow=12,SNR=54						
MK31				⇑Lg	Lg	16 06 38.9	
	comp=E,3.7nm,0.8s						
MK31	**Makanchi Array**	**10.91**	**42**	*e*P	Pn	16 03 29.5	+5.4
MK31				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MKAR	**Makanchi Array**	**10.91**	**42**	P	Pn	16 03 29.9	+5.7
MKAR	**Makanchi Array**	**10.91**	**42**	Pn	Pn	16 03 29.9	+5.7
	comp=Z,0.1nm,0.3s,baz=234,slow=15,SNR=12						
KURBB	**Kurchatov Arra**	**12.45**	**21**	⇑Lg	Lg	16 07 31.1	
	comp=Z,18nm,0.8s						
KURBB	**Kurchatov Arra**	**12.45**	**21**	Pn	**Pn**	**16 03 47.3**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=213,slow=12,SNR=6.0						
KURBB				Lg	Lg	16 07 27.0	
	comp=Z,0.1nm,0.3s,baz=212,slow=30,SNR=4.9						
AB31	**Akbulak array**	**13.09**	**324**	Pn	**Pn**	**16 03 53.5**	**-0.3**
	comp=Z,12nm,0.6s,baz=146,slow=11,SNR=104						
AB31				⇑Sn	**Sn**	**16 06 18.4**	**-1.0**
	comp=Z,12nm,0.8s,baz=136,slow=22,SNR=5.3						
VOSK	**Vostochnaya**	**13.56**	**358**	⇑Pn	Pn	16 04 03.7	+3.3
	comp=Z,4.3nm,0.8s						
VOSK				⇓Lg	Lg	16 08 04.5	
	comp=Z,16nm,1.0s						
BVA0	**Borovoye Array**	**13.88**	**357**	Pn	Pn	16 04 09.0	+4.2
	comp=Z,2.9nm,0.6s,baz=182,slow=9.2,SNR=8.7						
BVAR	**Borovoye Array**	**13.88**	**357**	Pn	**Pn**	**16 04 06.7**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=182,slow=8.7,SNR=3.4						
BVAR				Lg	Lg	16 08 11.4	
	baz=167,slow=27,SNR=2.3						
ZRNK	**Zerenda**	**13.90**	**353**	⇑Pn	**Pn**	**16 04 07.8**	**+2.8**
	comp=Z,7.9nm,0.7s						
ZRNK				⇑Lg	Lg	16 08 12.2	
	comp=Z,25nm,1.4s						
BRVK	**Borovoye**	**13.92**	**357**	⇓Pn	**Pn**	**16 04 08.3**	**+3.1**
	comp=Z,15nm,1.3s						
AKTO	**Aktyubinsk**	**14.81**	**324**	⇓Pn	**Pn**	**16 04 16.2**	**-1.1**
	comp=Z,24nm,0.8s						
AKTO				⇑Sn	**Sn**	**16 07 05.2**	**+3.9**
	comp=Z,9.1nm,0.9s						
AKTO	**Aktyubinsk**	**14.81**	**324**	Pn	**Pn**	**16 04 16.6**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=131,slow=14,SNR=13						
BHPL	**Bhopal**	**16.63**	**161**	*e*S	**S**	**16 07 58.4**	**+0.9**
ZALV	**Zalesovo Beam**	**17.30**	**27**	P	**P**	**16 04 51.1**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=226,slow=13,SNR=28						
KBZ	**Khabaz**	**21.95**	**291**	P	**P**	**16 05 39.4**	**-2.2**
	comp=Z,2.7nm,0.8s,baz=142,slow=7.6,SNR=5.1						
BRTR	**Keskin Array B**	**29.19**	**283**	P	P	16 06 46.1	-3.6
	comp=Z,0.8nm,0.7s,baz=70,slow=12,SNR=4.0						
FINES	**FINESS Array B**	**35.58**	**324**	P	**P**	**16 07 43.7**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=107,slow=6.6,SNR=4.7						
ARCES	**ARCESS Array B**	**38.88**	**336**	P	**P**	**16 08 14.0**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=106,slow=8.9,SNR=6.5						
HFS	**Hagfors**	**41.30**	**320**	P	**P**	**16 08 33.2**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=97,slow=7.6,SNR=9.0						
PETK	**Petropavlovsk-**	**57.73**	**45**	P	**P**	**16 10 38.1**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=88,slow=4.6,SNR=6.4						
TORD	**Torodi Ar. Bea**	**66.29**	**268**	P	P	16 11 34.0	-2.8
	comp=Z,1.1nm,0.6s,baz=53,slow=5.3,SNR=13						
INK	**Inuvik**	**71.20**	**10**	P	**P**	**16 12 07.2**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=155,slow=31,SNR=6.3						
ILAR	**Eielson Array**	**72.08**	**16**	P	**P**	**16 12 12.3**	**+0.3**
	comp=Z,0.6nm,1.0s,baz=343,slow=4.2,SNR=5.2						
YKA	**Yellowknife Ar**	**78.56**	**3**	P	**P**	**16 12 49.6**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=351,slow=5.7,SNR=4.3						
WRA	**Warramunga Arr**	**83.00**	**123**	P	**P**	**16 13 11.8**	**-1.8**
	comp=Z,0.9nm,0.9s,baz=326,slow=4.6,SNR=4.6						

*NIED **07** 16:01:00,41°.90N×142°.30E,h56km,Mw3.9 Best double*

couple: $M_0$7.57000×10^{14} NP1:ϕ_s32.00000°, δ64.00000°, λ83.00000°. NP2:ϕ_s226.00000°, δ27.00000°, λ103.00000°.

*ISCJB **07** 16:01:26.1±0.3, 41°.95N±0°.03×142°.32E±0°.04, h71$^{km}_{\pm}$3^{km}, mb3.8/16, Error ellipse: s-maj=5.8km s-min=3.6km az=139.0*

*JMA **07** 16:01:26.6±0.2, 41°.94N×142°.33E, h68$^{km}_{\pm}$3^{km}, M3.6 Broadband fault plane solution: P waves. NP1: ϕ_s34.00000°, δ66.00000°, λ90.00000°. NP2:ϕ_s215.00000°, δ24.00000°, λ91.00000°. Principal axes: T Plg69.0000°, Azm303.0000°; N Plg0.0000°, Azm34.0000°; P Plg21.0000°, Azm124.0000°;*

JMA Felt I J1.

*MOS **07** 16:01:26.9±1.1, 41°.99N×142°.32E, h78^{km}, mb4.4/8 Error ellipse: s-maj=17.6km s-min=11.2km az=70.6*

*IDC **07** 16:01:28.0±1.6, 42°.00N×142°.32E, h73$^{km}_{\pm}$13^{km}, mb3.6/15, mb1 3.7/19, mb1mx3.6/30, mbtmp3.6/19, Error ellipse: s-maj=16.3km s-min=11.4km az=120.0*

ISC 07 16:01:27.2±0.8, 41°.96N±0°.04×142°.31E±0°.03, h63$^{km}_{\pm}$7^{km}, n41, σ0°89/58, mb3.8/16, 5C-9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNBK	**Urakawa-nobuka**	**0.46**	**45**	⇑P	**Pn**	**16 01 38.3**	**-0.7**
JNBK				*e*S	**Sn**	**16 01 47.3**	**-0.3**
JEM	**Erimo**	**0.64**	**84**	⇑P	**Pn**	**16 01 40.7**	**-0.1**
JEM				*e*S	**Sn**	**16 01 51.1**	**+0.3**
JBT2	**Biratori 2**	**0.82**	**3**	⇓P	**Pn**	**16 01 42.9**	**-0.2**
JBT2				*e*S	**Sn**	**16 01 55.1**	**+0.3**
JKB	**Kayabe**	**0.95**	**266**	⇓P	**Pn**	**16 01 44.5**	**-0.2**
JKB				*e*S	**Sn**	**16 01 57.8**	**+0.1**
JCH	**Churui**	**1.02**	**50**	⇑P	**Pn**	**16 01 45.5**	**-0.1**
JCH				*e*S	**Sn**	**16 01 59.4**	**+0.1**
JNB	**Noboribetsu**	**1.07**	**299**	⇓P	**Pn**	**16 01 45.7**	**-0.6**
JNB				*e*S	**Sn**	**16 01 59.9**	**-0.6**
JEW	**Eniwo**	**1.09**	**325**	⇓P	**Pn**	**16 01 46.7**	**+0.2**
JEW				*e*S	**Sn**	**16 02 01.1**	**+0.3**
JOT	**Ohata**	**1.10**	**239**	⇓P	**Pn**	**16 01 46.5**	**-0.2**
JOT				*e*S	**Sn**	**16 02 01.1**	**0.0**
JFR	**Furan**	**1.23**	**10**	⇓P	**Pn**	**16 01 48.0**	**-0.3**
JFR				*e*S	**Sn**	**16 02 04.1**	**0.0**
JYM2	**Yakumo 2**	**1.45**	**277**	⇓P	**Pn**	**16 01 51.0**	**-0.3**
JYM2				*e*S	**Sn**	**16 02 08.7**	**-0.7**
JANG	**Nango**	**1.69**	**201**	⇑P	**Pn**	**16 01 54.5**	**0.0**
JANG				*e*S	**Sn**	**16 02 15.3**	**+0.2**
JAR	**Ashorobuto**	**1.72**	**38**	P	**Pn**	**16 01 54.7**	**-0.2**
JAR				*e*S	**Sn**	**16 02 16.8**	**+0.9**
JHR	**Hokuryu**	**1.84**	**347**	⇓P	**Pn**	**16 01 57.4**	**+0.9**
JHR				*e*S	**Sn**	**16 02 21.5**	**+2.8**
ASAJ	**Asahikawa**	**2.17**	**6**	P	**Pn**	**16 02 01.7**	**+0.7**
	21nm,0.3s,baz=213,slow=13,SNR=166						
ASAJ				S	**Sn**	**16 02 27.4**	**+0.6**
	16nm,0.3s,baz=352,slow=25,SNR=6.0						
YUK	**Yuzh-Kuril'sk**	**3.33**	**50**	*c* *i*P	**Pn**	**16 02 17.5**	**+0.7**
YUK				*i* S	**Sn**	**16 02 54.0**	**-1.2**
YUK				pmax	pmax		
	comp=N,38nm,0.3s						
YUK				pmax	pmax		
	comp=E,24nm,0.3s						
YUK				pmax	pmax		
	comp=Z,60nm,0.3s						
YUK				smax	smax		
	comp=E,132nm,0.5s						
YUK				smax	smax		
	comp=N,219nm,0.5s						
KUR	**Kuril'sk**	**5.20**	**49**	*d* *i*P	**Pn**	**16 02 42.8**	**+0.5**
KUR				*e*S	**Sn**	**16 03 42.5**	**+1.6**
KUR				pmax	pmax		
	comp=E,9.0nm,0.7s						
KUR				pmax	pmax		
	comp=Z,13nm,0.7s						
KUR				pmax	pmax		
	comp=N,9.0nm,0.7s						
KUR				smax	smax		
	comp=E,8.0nm,0.4s						
KUR				smax	smax		
	comp=N,21nm,0.4s						
MAT	**Matsushiro**	**6.27**	**212**	P	**Pn**	**16 02 59.4**	**+2.3**
MAT				*e*S	**Sn**	**16 04 07.8**	**+0.5**
MJAR	**Matsushiro Arr**	**6.27**	**212**	P	**Pn**	**16 02 59.0**	**+1.9**
	comp=N,0.4nm,0.3s,baz=24,slow=13,SNR=6.0						
USRK	**Ussuriysk Arra**	**7.87**	**290**	P	**Pn**	**16 03 19.7**	**+0.8**
	comp=N,0.2nm,0.3s,baz=83,slow=15,SNR=13						
KSRS	**Korea Array**	**11.95**	**253**	P	**Pn**	**16 04 17.5**	**+2.8**
	comp=N,0.4nm,0.3s,baz=61,slow=14,SNR=8.8						
SONM	**Songino Array**	**25.95**	**295**	P	**P**	**16 06 53.0**	**-0.6**
	comp=N,1.1nm,0.5s,baz=75,slow=8.7,SNR=8.8						
ZALV	**Zalesovo Beam**	**39.27**	**308**	P	**P**	**16 08 49.2**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**39.27**	**308**	P	**P**	**16 08 49.2**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=91,slow=8.1,SNR=6.6						
MKAR	**Makanchi Array**	**42.26**	**298**	P	**P**	**16 09 14.0**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**42.26**	**298**	P	**P**	**16 09 14.0**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=88,slow=9.2,SNR=5.7						
KURK	**Kurchatov**	**43.59**	**304**	P	**P**	**16 09 25.0**	**+0.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KURBB	**Kurchatov Arra**	**43.66**	**304**	P	**P**	**16 09 25.0**	**-0.5**
	comp=Z,2.0nm,0.4s,baz=78,slow=8.9,SNR=8.6						
ILAR	**Eielson Array**	**45.02**	**35**	P	**P**	**16 09 35.5**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=275,slow=8.5,SNR=5.7						
BVAR	**Borovoye Array**	**47.88**	**309**	P	**P**	**16 09 58.8**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR	**Borovoye Array**	**47.88**	**309**	P	**P**	**16 09 58.8**	**+0.1**
	comp=Z,2.1nm,0.3s,baz=81,slow=9.1,SNR=13						
YKA	**Yellowknife Ar**	**59.24**	**32**	P	**P**	**16 11 21.4**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=308,slow=6.2,SNR=3.6						
WRA	**Warramunga Arr**	**62.02**	**188**	P	**P**	**16 11 40.3**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=6.9,slow=6.8,SNR=9.7						
FINES	**FINESS Array B**	**64.80**	**332**	P	**P**	**16 11 58.0**	**-0.8**
	comp=Z,1.8nm,0.4s,baz=58,slow=6.9,SNR=29						
ASAR	**Alice Springs**	**65.75**	**188**	P	**P**	**16 12 04.8**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=3.5,slow=7.5,SNR=4.3						
HFS	**Hagfors**	**69.90**	**335**	P	**P**	**16 12 30.5**	**-0.6**
	comp=Z,1.5nm,0.3s,baz=21,slow=6.7,SNR=17						
NB2	**NORSAR Subarra**	**69.93**	**337**	P	**P**	**16 12 30.1**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=35,slow=6.5						
NOA	**NORSAR Array B**	**69.93**	**337**	P	**P**	**16 12 30.5**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=40,slow=5.8,SNR=5.0						
NVAR	**Mina Array Bea**	**71.54**	**55**	P	**P**	**16 12 41.8**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=246,slow=6.8,SNR=3.2						
PDAR	**Pinedale Array**	**73.76**	**47**	P	**P**	**16 12 53.2**	**-1.6**
	comp=Z,0.7nm,0.7s,baz=289,slow=4.5,SNR=5.9						
TXAR	**Lajitas Array**	**86.59**	**53**	P	**P**	**16 14 04.3**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=348,slow=4.0,SNR=3.2						
SNAA	**Sanae**	**145.64**	**199**	PKPbc	**PKPdf**	**16 20 57.0**	**-0.1**
	comp=Z,0.3nm,1.0s,baz=113,slow=5.4,SNR=5.8						

*ISCJB **07** 16:04:03.4±0.6, 28°.5S±0°.1×74°.3E±0°.2, h10^{km}, mb4.0/13, MS3.6/3, Error ellipse: s-maj=23.5km s-min=14.5km az=172.6*

*IDC **07** 16:04:03.8±0.8, 28°.48S×74°.28E, h0^{km}, mb3.9/11, mb1 4.0/11, mb1mx3.8/26, mbtmp3.9/11, MS3.7/3, Ms1 3.6/3, ms1mx2.9/41, Error ellipse: s-maj=31.4km s-min=18.0km az=92.0*

*NEIC **07** 16:04:05.3±0.4, 28°.49S×74°.27E, h10^{km}, mb4.5/3, Error ellipse: s-maj=17.1km s-min=10.6km az=83.0*

ISC 07 16:04:05.4±0.7, 28°.5S±0°.1×74°.3E±0°.2, h10^{km}, n31, σ0°63/28, mb4.1/13, MS3.6/3, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**26.68**	**286**	LR	LR	16 17 22.0	
	comp=Z,132nm,21.6s,baz=154,slow=30						
NWAO	**Narrogin (SRO)**	**37.01**	**108**	LR	LR	16 23 53.4	
	comp=Z,90nm,19.0s,baz=200,slow=32						
BOSA	**Boshof**	**42.81**	**258**	LR	LR	16 26 25.0	
	comp=Z,110nm,18.6s,baz=254,slow=31						
CMAR	**Chiang Mai Arr**	**52.42**	**30**	P	**P**	**16 13 19.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**52.42**	**30**	P	**P**	**16 13 19.1**	**+0.9**
	1.3nm,0.9s,baz=218,slow=8.0,SNR=6.8						
ASAR	**Alice Springs**	**53.31**	**99**	P	**P**	**16 13 24.9**	**0.0**
ASAR	**Alice Springs**	**53.31**	**99**	P	**P**	**16 13 24.9**	**0.0**
	1.3nm,0.5s,baz=252,slow=6.4,SNR=38						
WRA	**Warramunga Arr**	**54.96**	**95**	P	**P**	**16 13 36.9**	**-0.1**
WRA	**Warramunga Arr**	**54.96**	**95**	P	**P**	**16 13 36.9**	**-0.1**
	3.7nm,0.8s,baz=252,slow=7.4,SNR=11						
WRAB	**Tennant Creek**	**54.97**	**95**	P	**P**	**16 13 37.4**	**+0.3**
	6.0nm,1.0s						
SNAA	**Sanae**	**59.18**	**201**	P	**P**	**16 14 07.1**	**+0.9**
SNAA	**Sanae**	**59.18**	**201**	P	**P**	**16 14 07.1**	**+0.9**
	0.4nm,1.0s,baz=51,slow=6.5,SNR=3.1						
QSPA	**South Pole Qui**	**61.64**	**180**	P	**P**	**16 14 22.8**	**-0.4**
QSPA	**South Pole Qui**	**61.64**	**180**	P	**P**	**16 14 22.8**	**-0.4**
	0.6nm,0.7s,baz=248,slow=3.2,SNR=3.9						
VNDA	**Vanda**	**61.88**	**166**	*e*P	**P**	**16 14 24.1**	**-0.3**
	1.6nm,0.9s						
VNDA	**Vanda**	**61.88**	**166**	P	**P**	**16 14 24.2**	**-0.3**
	0.9nm,0.9s,baz=279,slow=9.2,SNR=6.3						
KKAR	**Karatay Array**	**71.33**	**357**	*e*P	**P**	**16 15 25.5**	**+0.3**
	4.2nm,1.0s						
MKAR	**Makanchi Array**	**75.29**	**6**	P	**P**	**16 15 46.9**	**-1.5**
MKAR	**Makanchi Array**	**75.29**	**6**	P	**P**	**16 15 46.9**	**-1.5**
	0.6nm,0.7s,baz=189,slow=6.1,SNR=4.4						
ABKAR	**Akbulak array**	**78.45**	**350**	*e*P	**P**	**16 16 06.1**	**0.0**
KURBB	**Kurchatov Arra**	**78.86**	**3**	P	**P**	**16 16 08.4**	**0.0**
	0.8nm,0.9s,baz=194,slow=6.0,SNR=5.6						
KURK	**Kurchatov**	**78.96**	**3**	P	**P**	**16 16 08.4**	**-0.5**
BVAR	**Borovoye Array**	**81.25**	**358**	P	**P**	**16 16 21.6**	**+0.3**
BVAR	**Borovoye Array**	**81.25**	**358**	P	**P**	**16 16 21.6**	**+0.3**
	2.6nm,0.8s,baz=146,slow=11,SNR=7.7						
SONM	**Songino Array**	**81.28**	**21**	P	**P**	**16 16 22.0**	**+0.2**
SONM	**Songino Array**	**81.28**	**21**	P	**P**	**16 16 22.0**	**+0.2**
	1.1nm,0.8s,baz=191,slow=5.6,SNR=5.1						
ZALV	**Zalesovo Beam**	**82.61**	**6**	P	**P**	**16 16 27.9**	**-0.5**
ZALV	**Zalesovo Beam**	**82.61**	**6**	P	**P**	**16 16 27.9**	**-0.5**
	0.8nm,0.5s,baz=222,slow=3.8,SNR=5.6						
COLD	**Coldfoot**	**132.97**	**22**	*e*P	**PKPdf**	**16 23 19.9**	**-0.4**
YKA	**Yellowknife Ar**	**145.50**	**7**	PKPbc	**PKPdf**	**16 23 42.9**	**-0.2**
YKA	**Yellowknife Ar**	**145.50**	**7**	PKPbc	**PKPdf**	**16 23 42.9**	**-0.2**
	1.3nm,0.8s,baz=342,slow=3.9,SNR=8.7						

*IDC **07** 16:06:28.2±1.2, 34°.90N×25°.84E, h0^{km}, mb3.9/5, mb1 3.9/8, mb1mx3.6/29, mbtmp3.8/8, ML3.6/4, Error ellipse: s-maj=27.1km s-min=21.3km az=144.0*

*ISCJB **07** 16:06:30.3±1.0, 34°.60N±0°.05×25°.96E±0°.04, h23$^{km}_{\pm}$7^{km}, mb3.8/5, Error ellipse: s-maj=8.7km s-min=5.0km az=176.9*

*CSEM **07** 16:06:33.7±0.4, 34°.81N×25°.85E, h15^{km}, ML3.5/1, Error ellipse: s-maj=10.4km s-min=4.1km az=173.0*

*ATH **07** 16:06:33.8, 34°.85N×25°.85E, h31$^{km}_{\pm}$1^{km}, MD3.7/18*

*THE **07** 16:06:34.8, 34°.85N×25°.87E, h10$^{km}_{\pm}$1^{km}, ML3.5/1, Error ellipse: s-maj=2.2km s-min=0.9km az=351.0*

ISC 07 16:06:32.2±1.1, 34°.72N±0°.06×25°.94E±0°.02, h31$^{km}_{\pm}$9^{km}, n75, σ1°41/93, mb3.8/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.46**	**30**	P	**Pn**	**16 06 42.6**	**-0.1**
ZKR				S	**Sb**	**16 06 48.5**	**-0.3**
ZKR	**Zakros**	**0.46**	**30**	*e*PB	**Pn**	**16 06 42.6**	**-0.1**
ZKR	**Zakros**	**0.46**	**30**	P	**Pn**	**16 06 42.6**	**-0.1**
ZKR				S	**Sb**	**16 06 48.5**	**-0.3**
LAST	**Lasithi**	**0.58**	**319**	P	**Pb**	**16 06 43.5**	**-0.7**
LAST				S	**Sb**	**16 06 50.9**	**-1.4**
LAST	**Lasithi**	**0.58**	**319**	*e*PB	**Pb**	**16 06 43.7**	**-0.5**
LAST	**Lasithi**	**0.58**	**319**	P	**Pb**	**16 06 43.5**	**-0.7**
LAST				S	**Sb**	**16 06 50.9**	**-1.4**
NPS	**Neapolis**	**0.61**	**334**	P	**Pb**	**16 06 44.0**	**-0.5**
NPS	**Neapolis**	**0.61**	**334**	*e*PB	**Pb**	**16 06 44.2**	**-0.3**
NPS				*e*SB	**Sb**	**16 06 51.7**	**-1.2**
NPS	**Neapolis**	**0.61**	**334**	P	**Pb**	**16 06 44.0**	**-0.5**
NPS				*e*Sb	**Sb**	**16 06 51.7**	**-1.2**
SIVA	**Sivas**	**0.98**	**288**	P	**Pb**	**16 06 51.6**	**+0.9**
SIVA				S	**Sb**	**16 07 03.8**	**+0.6**
SIVA	**Sivas**	**0.98**	**288**	*e*PN	**Pb**	**16 06 51.6**	**+0.9**
SIVA	**Sivas**	**0.98**	**288**	P	**Pb**	**16 06 51.6**	**+0.9**
SIVA				S	**Sb**	**16 07 03.8**	**+0.6**
IDI	**Anoyia**	**1.03**	**304**	P	**Pn**	**16 06 51.2**	**+0.5**
IDI				S	**Sb**	**16 07 05.3**	**+0.4**
IDI	**Anoyia**	**1.03**	**304**	*e*PN	**Pb**	**16 06 51.5**	**-0.2**
IDI	**Anoyia**	**1.03**	**304**	P	**Pn**	**16 06 51.2**	**+0.5**
IDI	**Anoyia**	**1.03**	**304**	*e*Pn	**Pb**	**16 06 51.5**	**-0.2**
IDI				S	**Sb**	**16 07 05.3**	**+0.4**
KARP	**Karpathos**	**1.30**	**50**	P	**Pb**	**16 06 57.6**	**+1.5**
KARP				S	**Sb**	**16 07 14.4**	**+2.0**
KARP	**Karpathos**	**1.30**	**50**	*e*PN	**Pb**	**16 06 58.3**	**+2.2**
KARP	**Karpathos**	**1.30**	**50**	P	**Pb**	**16 06 57.6**	**+1.5**
KARP	**Karpathos**	**1.30**	**50**	*e*Pn	**Pb**	**16 06 58.3**	**+2.2**
KARP				S	**Sb**	**16 07 14.4**	**+2.0**
VAM	**Vamos**	**1.59**	**296**	P	**Pb**	**16 07 00.6**	**-0.3**
VAM	**Vamos**	**1.59**	**296**	*e*PN	**Pb**	**16 07 00.6**	**-0.3**
VAM	**Vamos**	**1.59**	**296**	P	**Pb**	**16 07 00.6**	**-0.3**
THR1	**Thera Island**	**1.69**	**347**	P	**Pn**	**16 07 00.9**	**+1.2**
THR1	**Thera Island**	**1.69**	**347**	P	**Pn**	**16 07 00.9**	**+1.2**
SANT	**Santorini**	**1.70**	**347**	P	**Pn**	**16 07 00.8**	**+1.0**
SANT				S	**Sn**	**16 07 21.6**	**+1.2**
SANT	**Santorini**	**1.70**	**347**	*e*PB	**Pn**	**16 07 00.8**	**+0.8**
SANT	**Santorini**	**1.70**	**347**	P	**Pn**	**16 07 00.8**	**+1.0**
SANT				S	**Sn**	**16 07 21.6**	**+1.2**
THR3	**Thira Island,**	**1.74**	**345**	P	**Pn**	**16 07 01.7**	**+1.3**
THR3	**Thira Island,**	**1.74**	**345**	P	**Pn**	**16 07 01.7**	**+1.3**
ARG	**Arkhangelos**	**2.33**	**49**	*e*PN	**Pb**	**16 07 11.5**	**-2.0**
ARG				*e*SN	**Sb**	**16 07 40.2**	**-1.6**
ARG	**Arkhangelos**	**2.33**	**49**	*e*Pn	**Pb**	**16 07 11.5**	**-2.0**
ARG				*e*Sn	**Sb**	**16 07 40.2**	**-1.6**
APE	**Apeiranthos**	**2.37**	**352**	*e*P	**Pn**	**16 07 10.3**	**+1.3**
APE	**Apeiranthos**	**2.37**	**352**	P	**Pn**	**16 07 09.9**	**+0.9**
APE	**Apeiranthos**	**2.37**	**352**	*e*PN	**Pn**	**16 07 10.2**	**+1.2**
APE	**Apeiranthos**	**2.37**	**352**	P	**Pn**	**16 07 09.9**	**+0.9**
APE	**Apeiranthos**	**2.37**	**352**	*e*Pn	**Pn**	**16 07 10.2**	**+1.2**
DAT	**Datca**	**2.41**	**33**	*e*P	**Pn**	**16 07 11.5**	**+1.9**
ANKY	**Antikythira Is**	**2.45**	**299**	P	**Pn**	**16 07 12.7**	**+2.7**
ANKY	**Antikythira Is**	**2.45**	**299**	*e*PB	**Pb**	**16 07 14.1**	**-1.4**
ANKY	**Antikythira Is**	**2.45**	**299**	P	**Pn**	**16 07 12.7**	**+2.7**
ANKY	**Antikythira Is**	**2.45**	**299**	*e*Pb	**Pb**	**16 07 14.1**	**-1.4**
BODT	**Bodrum**	**2.59**	**25**	*e*P	**Pn**	**16 07 14.1**	**+2.0**
KYTH	**Kithira**	**2.84**	**304**	P	**Pn**	**16 07 16.6**	**+1.2**
KYTH	**Kithira**	**2.84**	**304**	P	**Pn**	**16 07 16.6**	**+1.2**
YER	**Yerkesik**	**3.07**	**38**	*e*P	**Pn**	**16 07 21.2**	**+2.6**
VLI	**Veliai**	**3.16**	**310**	P	**Pn**	**16 07 20.5**	**+0.7**
VLI	**Veliai**	**3.16**	**310**	*e*PN	**Pn**	**16 07 20.5**	**+0.7**
VLI	**Veliai**	**3.16**	**310**	P	**Pn**	**16 07 20.5**	**+0.7**
DID	**Didima**	**3.54**	**323**	P	**Pn**	**16 07 25.9**	**+0.8**
DID	**Didima**	**3.54**	**323**	*e*PN	**Pn**	**16 07 26.0**	**+0.8**
DID	**Didima**	**3.54**	**323**	*e*Pn	**Pn**	**16 07 26.0**	**+0.8**
DYR	**Agios Nikonas**	**3.58**	**306**	*e*PN	**Pn**	**16 07 28.0**	**+2.4**
DYR	**Agios Nikonas**	**3.58**	**306**	*e*Pn	**Pn**	**16 07 28.0**	**+2.4**
PYL	**PYLOS**	**4.05**	**304**	*e*PN	**Pn**	**16 07 31.7**	**-0.3**
PYL	**PYLOS**	**4.05**	**304**	*e*Pn	**Pn**	**16 07 31.7**	**-0.3**
LTK	**Loutraki**	**4.08**	**325**	*e*PN	**Pn**	**16 07 33.5**	**+1.0**
LTK	**Loutraki**	**4.08**	**325**	*e*Pn	**Pn**	**16 07 33.5**	**+1.0**
GUR	**Goura**	**4.33**	**319**	P	**Pn**	**16 07 37.2**	**+1.2**
GUR	**Goura**	**4.33**	**319**	*e*PN	**Pn**	**16 07 37.8**	**+1.8**
GUR	**Goura**	**4.33**	**319**	P	**Pn**	**16 07 37.2**	**+1.2**
GUR	**Goura**	**4.33**	**319**	*e*Pn	**Pn**	**16 07 37.8**	**+1.8**
AGG	**Agios Georgios**	**5.18**	**327**	P	**Pn**	**16 07 49.7**	**+2.1**
AGG	**Agios Georgios**	**5.18**	**327**	P	**Pn**	**16 07 49.7**	**+2.1**
VLS	**Valsamata**	**5.53**	**310**	*e*PN	**Pn**	**16 07 55.0**	**+2.6**
VLS	**Valsamata**	**5.53**	**310**	*e*Pn	**Pn**	**16 07 55.0**	**+2.6**
BRTR	**Keskin Array B**	**7.91**	**49**	Pn	**Pn**	**16 08 24.7**	**-0.6**
	0.1nm,0.3s,baz=234,slow=12,SNR=2.4						
MMAI	**Mount Meron Ar**	**8.05**	**100**	Pn	**Pn**	**16 08 27.2**	**+0.1**
	3.3nm,0.3s,baz=315,slow=12,SNR=7.6						
MMAI				Sn	**Sn**	**16 09 55.4**	**-1.6**
	1.6nm,0.3s,baz=314,slow=26,SNR=3.3						
EIL	**Elat**	**9.14**	**121**	Pn	**Pn**	**16 08 41.6**	**-0.4**
	0.6nm,0.3s,baz=240,slow=7.5,SNR=12						
EIL				Sn	**Sn**	**16 10 20.4**	**-3.4**
	0.7nm,0.3s,baz=193,slow=23,SNR=5.5						
KBZ	**Khabaz**	**15.90**	**50**	Pn	**Pn**	**16 10 13.6**	**0.0**
	0.1nm,0.3s,baz=233,slow=10,SNR=2.3						
FINES	**FINESS Array B**	**26.74**	**0**	P	**P**	**16 12 07.3**	**-1.4**
	0.8nm,0.3s,baz=165,slow=10,SNR=11						
TORD	**Torodi Ar. Bea**	**30.71**	**232**	P	**P**	**16 12 45.5**	**+1.1**
	0.8nm,0.5s,baz=33,slow=8.8,SNR=12						
ARCES	**ARCESS Array B**	**34.87**	**360**	P	**P**	**16 13 18.1**	**-2.2**
	1.7nm,0.9s,baz=183,slow=8.0,SNR=7.7						
KURBB	**Kurchatov Arra**	**40.90**	**51**	P	**P**	**16 14 12.3**	**+0.9**
	1.1nm,0.6s,baz=273,slow=8.6,SNR=12						
MKAR	**Makanchi Array**	**43.48**	**56**	P	**P**	**16 14 33.6**	**+1.0**
	1.6nm,0.7s,baz=280,slow=6.8,SNR=15						

IDC 07 16:12:43.3±1.3, 34°.02N×25°.40E, h0^{km}, mb3.7/7, mb1 3.8/11, mb1mx3.6/29, mbtmp3.7/11, ML4.0/3, Error ellipse: s-maj=28.8km s-min=22.9km az=150.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMAI	**Mount Meron Ar**	**8.42**	**94**	Pn	**Pn**	**16 14 44.9**	**-1.8**
	1.9nm,0.3s,baz=268,slow=12,SNR=7.0						
MMAI				Sn	**Sn**	**16 16 12.9**	**-10**
	0.5nm,0.3s,baz=259,slow=22,SNR=2.2						
BRTR	**Keskin Array B**	**8.72**	**47**	Pn	**Pn**	**16 14 52.1**	**+1.2**
	baz=226,slow=10,SNR=3.9						
EIL	**Elat**	**9.21**	**116**	Pn	**Pn**	**16 14 56.1**	**-1.4**
	1.0nm,0.3s,baz=111,slow=23,SNR=7.8						
EIL				Sn	**Sn**	**16 16 34.7**	**-7.1**
	0.3nm,0.3s,baz=14,slow=18,SNR=2.9						
KBZ	**Khabaz**	**16.69**	**49**	Pn	**P**	**16 16 44.1**	**+3.1**
	0.2nm,0.3s,baz=234,slow=8.7,SNR=2.6						
GERES	**GERESS Array B**	**17.18**	**333**	P	**P**	**16 16 48.1**	**+1.5**
	0.1nm,0.3s,baz=144,slow=12,SNR=4.2						
FINES	**FINESS Array B**	**27.44**	**1**	P	**P**	**16 18 30.4**	**-0.3**
	2.4nm,0.9s,baz=162,slow=10,SNR=2.5						
TORD	**Torodi Ar. Bea**	**29.92**	**232**	P	**P**	**16 18 53.8**	**+0.7**
	0.2nm,0.3s,baz=35,slow=9.5,SNR=5.0						
ARCES	**ARCESS Array B**	**35.56**	**0**	P	**P**	**16 19 40.7**	**-1.3**
	2.2nm,0.9s,baz=177,slow=7.0,SNR=2.6						
KURBB	**Kurchatov Arra**	**41.69**	**50**	P	**P**	**16 20 34.1**	**+0.5**
	0.7nm,0.6s,baz=276,slow=8.7,SNR=13						
MKAR	**Makanchi Array**	**44.25**	**56**	P	**P**	**16 20 54.8**	**+0.4**
	0.5nm,0.5s,baz=272,slow=5.7,SNR=8.4						
ZALV	**Zalesovo Beam**	**45.66**	**45**	P	**P**	**16 21 05.6**	**+0.1**
	0.6nm,0.4s,baz=255,slow=7.3,SNR=3.4						
SONM	**Songino Array**	**60.06**	**50**	P	**P**	**16 22 51.6**	**-0.6**
	0.1nm,0.3s,baz=286,slow=7.7,SNR=2.6						

*ISCJB **07** 16:18:11.0±0.5, 6°.03S±0°.06×148°.83E±0°.09, h60^{km}, mb3.9/10, MS3.4/1, Error ellipse: s-maj=13.9km s-min=7.0km az=26.5*

*IDC **07** 16:18:12.9±1.9, 6°.09S×148°.88E, h64$^{km}_{\pm}$15^{km}, mb3.7/10, mb1 3.9/13, mb1mx3.8/20, mbtmp3.8/13, MS3.2/3, Ms1 3.2/3, ms1mx2.5/37, Error ellipse: s-maj=25.0km s-min=9.5km az=114.0*

*AUST **07** 16:18:15.6±0.0, 6°.27S×148°.86E, h75^{km}, Error ellipse: s-maj=1.4km s-min=0.9km az=296.0*

ISC 07 16:18:12.7±0.6, 6°.06S±0°.08×148°.8E±0°.1, h60^{km}, n30, σ1°24/30, mb3.9/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.70**	**206**	P	**Pn**	**16 19 08.2**	**+0.8**
	65nm,0.3s,baz=45,slow=5.5,SNR=127						
PMG				S	**Sn**	**16 19 50.6**	**+0.8**
	56nm,0.3s,baz=37,slow=23,SNR=15						
PMG				LR	LR	16 20 39.7	
	comp=Z,269nm,18.3s,baz=26,slow=40						
RABL	**Rabaul**	**3.83**	**61**	P	**Pn**	**16 19 09.7**	**+0.4**
	baz=3.9,SNR=9.9						
MANU	**Manus Island**	**4.24**	**340**	P	P

NBG **Las Nubes** **1.19 339** *e*P Pn 16 27 44.3 +0.6
NBG *e*S Sn 16 28 00.5 +0.9
FUG Fuego 3 **1.33 317** *e*P Pn 16 27 45.6 +0.2
CAHU Cacacuatique **1.67 80** *i* P Pn 16 27 49.6 -0.3
CAHU *e*S Sn 16 28 11.9 +1.1
JAT Jato **1.88 297** *e*P Pn 16 27 54.1 +1.6
JAT *e*S Sn 16 28 14.5 -0.8
CNCH Conchagua **2.02 95**⇑*i*P Pn 16 27 54.9 +0.3

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*PDG **07** 16:31:24.3,26˙70S×67˙40E,h2km,mb5.7/1*
*BJI **07** 16:31:35.6,27˙00S×66˚92E,h10km,mB5.5/53,mb5.2/57, Ms5.4/57,Ms7 5.1/53*
*IDC **07** 16:31:39.6±0.4,26˙75S×67˙54E,h0km,mb5.2/41, mb1 5.3/41,mb1mx5.3/41,mbtmp5.2/41,MS4.9/37, Ms1 4.9/37,ms1mx4.7/48,Error ellipse: s-maj=13.6km s-min=9.7km az=38.0*
*ISCJB **07** 16:31:39.7±0.2,26˙68S±0˙03×67˙52E±0˙03,h10km, mb5.5/262,MS5.0/180,Error ellipse: s-maj=4.8km s-min=3.6km az=174.9*
*MOS **07** 16:31:39.8±0.8,26˙65S×67˙56E,h10km,mb5.7/78, MS4.9/59,Error ellipse: s-maj=9.4km s-min=4.9km az=108.5*
*TEH **07** 16:31:40.0,26˙74S×67˙44E,h4km,ML5.6*
*DJA **07** 16:31:40.9±0.2,27˚S±5˚×6˚8E±˚,h10km,M5.3/34, mB5.8/21,mb5.3/34,Mw(mB)5.3/21*
*NEIC **07** 16:31:41.1±0.1,26˙74S×67˙48E,h10km,mb5.6/68, MS5.1/109,MW5.7, Error ellipse: s-maj=5.1km s-min=3.7km az=210.0*
*BKK **07** 16:31:42.7±0.2,27˚S±5˚×6˚7E±˚,h10km,M5.5/38, mB5.9/27,mb5.4/38,Mw(mB)5.5/27*
*GCMT **07** 16:31:45.4±0.1,26˙74S×67˙40E,h12km,MW5.5,Moment Tensor Solution. s79,c135; s39,c41; Moment tensor: Scale 10^{17}Nm; M_{rr}-1.49±.03; $M_{\theta\theta}$2.05±.02; $M_{\phi\phi}$-0.56±.03; $M_{r\theta}$-0.47±.06; $M_{\theta\phi}$0.59±.02; $M_{\phi r}$-0.52±.07; Best double couple: $M_{\odot}$2.00000×10^{17} NP1:ϕ_s279.00000°,δ41.00000°, λ-57.00000°. NP2:ϕ_s59.00000°,δ57.00000°, λ-115.00000°. Principal axes: T 2.2700, Plg9.0000°, Azm167.0000°; N -0.5400, Plg21.0000°, Azm73.0000°; P -1.7300, Plg67.0000°, Azm278.0000°; Data Used: II IU IC G CN. Surface waves: sta= 84, comp=182, per= 50.*
*SZGRF **07** 16:31:58.0,23˙38S×65˙11E,h10km,mb5.5,MS4.6, Mauritius - Reunion region*
*NEIC **07** 16:32:02.4±0.0,26˙37S×67˙47E,h10km,Moment Tensor Solution. s118 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.73; $M_{\theta\theta}$2.34; $M_{\phi\phi}$-0.61; $M_{r\theta}$-2.97; $M_{\theta\phi}$0.43; $M_{\phi r}$-1.19; Best double couple: $M_{\odot}$3.80000×10^{17} NP1:ϕ_s69.00000°, δ74.00000°,λ-99.00000°. NP2:ϕ_s281.00000°,δ19.00000°, λ-58.00000°. Principal axes: T 4.1000, Plg28.0000°, Azm166.0000°; N -0.5500, Plg9.0000°, Azm71.0000°; P -3.5500, Plg59.0000°, Azm325.0000°;*
ISC 07 16:31:42.0±0.3,26˙67S±0˙04×67˙41E±0˙04,h14km±1km, h14km:pP-P,n1314,σ1913/1361,mb5.6/271,MS5.1/181, 214C-393D,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRIV	**Mauritius Mete**	**11.09**	**303**	P	Pn	16 34 15.6	-4.6
RER	**Riviere de l'E**	**11.99**	**295**	*e*P	**Pn**	**16 34 29.6**	**-3.0**
	331nm,0.8s						
DGAR	**Diego Garcia**	**19.74**	**15**⇓	*e*P	**P**	**16 36 08.0**	**-3.5**
ABPO	**Ambohimpanom**	**20.08**	**288**	*e*P	Pn	16 36 16.5	-0.8
ABPO				pmax	pmax		
	comp=Z,209nm,1.6s						
ABPO				MLR	MLR		
	comp=Z,7μm,20.0s						
ABPO	**Ambohimpanom**	**20.08**	**288**	*e*P	Pn	16 36 16.5	-0.8
	comp=Z,209nm,1.6s						
ABPO				LR	LR		
	comp=Z,7μm,20.0s						
OPO	**Ambohidratompo**	**20.32**	**289**	P	**P**	**16 36 18.7**	**+0.8**
OPO	**Ambohidratompo**	**20.32**	**289**	P	**P**	**16 36 18.7**	**+0.8**
	comp=Z,36nm,0.9s,baz=108,slow=11,SNR=9.9						
OPO				LR	LR	16 42 06.9	
	comp=Z,7μm,18.8s,baz=115,slow=31						
PAF	**Port-aux-Franc**	**22.75**	**175**	P	**P**	**16 36 45.1**	**+1.5**
PAF	**Port-aux-Franc**	**22.75**	**175**	P	**P**	**16 36 45.1**	**+1.5**
MSEY	**Mahe Island**	**24.67**	**330**	PFAKE		16 37 10.0	+7.4
MSEY				LR	LR		
	comp=Z,7μm,19.0s						
COCO	**West Island**	**31.16**	**68**	PFAKE		16 38 10.0	+9.4
COCO				LR	LR		
	comp=Z,2μm,20.0s						
POGA	**Pongola**	**31.84**	**260**⇓	*i*P	**P**	**16 38 07.2**	**+0.7**
POGA				AMB	AMB	16 38 07.6	
	comp=Z,81nm,1.2s						
KSD	**Kokstad**	**33.48**	**254**⇓	*i*P	**P**	**16 38 22.1**	**+1.1**
KSD				AMB	AMB	16 38 23.2	
	comp=Z,186nm,2.6s						
ERPM	**east rand prop**	**34.96**	**262**⇓	*i*P	**P**	**16 38 34.9**	**+0.8**
ERPM				AMB	AMB	16 38 35.7	
	comp=Z,171nm,1.0s						
SLR	**Silverton**	**35.03**	**263**⇓	*i*P	**P**	**16 38 34.9**	**+0.3**
SLR				AMB	AMB	16 38 35.8	
	comp=Z,221nm,1.1s						
KLOF	**Kloof**	**35.52**	**261**	*e*P	**P**	**16 38 39.9**	**+1.1**
KLOF				AMB	AMB	16 38 40.7	
	comp=Z,194nm,0.9s						
PRYS	**Parys**	**35.65**	**260**⇓	*i*P	**P**	**16 38 40.0**	**+0.1**
PRYS				AMB	AMB	16 38 41.0	
	comp=Z,158nm,1.1s						
GRM	**Grahamstown**	**35.87**	**249**	*e*P	**P**	**16 38 42.4**	**+0.8**
GRM				AMB	AMB	16 38 54.0	
	comp=Z,90nm,1.7s						
KSR	**Koster**	**36.24**	**262**	*e*P	**P**	**16 38 45.3**	**+0.3**
KSR				AMB	AMB	16 38 48.2	
	comp=Z,19nm,1.0s						
SOE	**Somerset East**	**36.68**	**250**	*e*P	**P**	**16 38 49.8**	**+1.2**
SOE				AMB	AMB	16 38 50.4	
	comp=Z,79nm,1.4s						
HVD	**Gariep Dam**	**36.85**	**254**	*e*P	**P**	**16 38 51.2**	**+1.1**
HVD				AMB	AMB	16 38 51.8	
	comp=Z,63nm,1.2s						
BOSA	**Boshof**	**37.26**	**257**⇓	*i*P	**P**	**16 38 54.0**	**+0.4**
BOSA				AMB	AMB	16 38 54.8	
	comp=Z,134nm,1.1s						
BOSA	**Boshof**	**37.26**	**257**	*e*P	**P**	**16 38 53.8**	**+0.1**
	comp=Z,116nm,0.8s						
BOSA	**Boshof**	**37.26**	**257**	P	**P**	**16 38 53.9**	**+0.3**
	comp=Z,110nm,0.8s,baz=99,slow=8.2,SNR=155						
BOSA				LR	LR	16 52 23.9	
	comp=Z,3μm,18.0s,baz=154,slow=33						
SWZ	**Schweizer**	**37.40**	**259**⇓	*i*P	**P**	**16 38 54.6**	**-0.2**
SWZ				AMB	AMB	16 38 55.5	
	comp=Z,109nm,1.1s						
LBTB	**Lobatse**	**37.55**	**263**⇓	*i*P	**P**	**16 38 56.3**	**+0.2**
LBTB				AMB	AMB	16 38 57.2	
	comp=Z,120nm,1.1s						
LBTB	**Lobatse**	**37.55**	**263**	*e*P	**P**	**16 38 56.0**	**-0.1**
	comp=Z,104nm,0.9s						
LBTB	**Lobatse**	**37.55**	**263**	LR	LR	16 52 24.7	
	comp=Z,2μm,18.9s,baz=108,slow=33						
LSZ	**Lusaka**	**38.20**	**279**⇓	*i*P	**P**	**16 39 02.2**	**+0.6**
LSZ	**Lusaka**	**38.20**	**279**	LR	LR	16 53 10.9	
	comp=Z,3μm,19.0s,baz=106,slow=34						
KMBO	**Kilima Mbogo**	**38.53**	**306**⇓	*i*P	**P**	**16 39 06.2**	**+1.6**
KMBO	**Kilima Mbogo**	**38.53**	**306**	P	**P**	**16 39 06.7**	**+2.1**
	SNR=10						
KMBO	**Kilima Mbogo**	**38.53**	**306**	*e*P	**P**	**16 39 06.0**	**+1.4**
	comp=Z,234nm,2.2s						
KMBO				PcP	**PcP**	**16 41 18.6**	**+1.1**
KMBO	**Kilima Mbogo**	**38.53**	**306**	P	**PcP**	**16 39 06.2**	**+1.6**
	comp=Z,14nm,0.9s,baz=126,slow=7.2,SNR=22						
KMBO				PcP	**PcP**	**16 41 18.6**	**+1.1**
	comp=Z,5.2nm,0.9s,baz=68,slow=5.5,SNR=3.1						
KMBO				LR	LR	16 51 46.4	
	comp=Z,2μm,19.3s,baz=106,slow=31						
SUR	**Sutherland**	**40.70**	**251**⇓	*i*P	**P**	**16 39 23.7**	**+1.2**
SUR				AMB	AMB	16 39 24.9	
	comp=Z,66nm,3.2s						
SUR	**Sutherland**	**40.70**	**251**	P	**P**	**16 39 23.7**	**+1.2**
	SNR=5.1						
SUR	**Sutherland**	**40.70**	**251**	*e*P	**P**	**16 39 23.2**	**+0.7**
	comp=Z,94nm,1.0s						
SUR	**Sutherland**	**40.70**	**251**	LR	LR	16 53 37.1	
	comp=Z,2μm,18.4s,baz=291,slow=32						
MAW	**Mawson**	**41.05**	**183**	*e*P	**P**	**16 39 24.0**	**-0.6**
MAW	**Mawson**	**41.05**	**183**	P	**P**	**16 39 24.4**	**-0.2**
	comp=Z,46nm,0.8s,baz=360,slow=9.1,SNR=90						
MAW				LR	LR	16 52 10.1	
	comp=Z,2μm,21.2s,baz=358,slow=30						
ELIM	**Elim**	**41.46**	**247**	*e*P	**P**	**16 39 28.4**	**-0.2**
ELIM				AMB	AMB	16 39 29.9	
	comp=Z,117nm,1.2s						
CVNA	**Calvinia**	**41.67**	**252**	*e*P	**P**	**16 39 30.8**	**+0.4**
CVNA				AMB	AMB	16 39 31.6	
	comp=Z,128nm,1.1s						
BSI	**Banda Aceh**	**41.85**	**44**	P	**P**	**16 39 31.1**	**-0.7**
	comp=Z,21nm,1.7s						
PSI	**Prapat**	**42.24**	**51**	P	**P**	**16 39 35.4**	**+0.2**
PSI	**Prapat**	**42.24**	**51**	P	**P**	**16 39 35.4**	**+0.2**
	comp=Z,4.8nm,0.5s,baz=190,slow=11,SNR=6.4						
PSI				LR	LR	16 53 24.5	
	comp=Z,710nm,19.5s,baz=216,slow=31						
DBJI	**Dramaga**	**42.42**	**69**	P	**P**	**16 39 35.8**	**-0.7**
	comp=Z,85nm,1.2s						
MIR	**Mirnyy**	**42.94**	**165**⇑	*i*P	**P**	**16 39 40.5**	**+0.4**
MIR				pmax	pmax		
	comp=Z,186nm,1.3s						
NWAO	**Narrogin (SRO)**	**43.36**	**111**	*e*P	**P**	**16 39 43.3**	**-0.7**
NWAO	**Narrogin (SRO)**	**43.36**	**111**	P	**P**	**16 39 43.0**	**-1.0**
	comp=Z,14nm,0.9s,baz=280,slow=12,SNR=4.1						
NWAO				LR	LR	16 54 32.9	
	comp=Z,2μm,18.4s,baz=270,slow=32						
MBAR	**Mbarara**	**43.75**	**300**	*e*P	**P**	**16 39 48.5**	**+1.0**
MBAR	**Mbarara**	**43.75**	**300**	LR	LR	16 55 18.7	
	comp=Z,3μm,19.4s,baz=130,slow=32						
KOMG	**Komaggas**	**43.83**	**254**	*e*P	**P**	**16 39 47.7**	**-0.1**
KOMG				AMB	AMB	16 39 48.8	
	comp=Z,79nm,1.2s						
BTDF	**Bukit Timah Da**	**44.77**	**57**	P	**P**	**16 39 56.3**	**+0.8**
	comp=Z,28nm,1.2s,comp=Z,406nm						
ATD	**Arta Tunnel**	**44.85**	**325**	P	**P**	**16 39 57.8**	**+1.8**
ATD	**Arta Tunnel**	**44.85**	**325**	P	**P**	**16 39 57.8**	**+1.8**
	comp=Z,39nm,0.8s,baz=195,slow=3.3,SNR=14						
ATD				LR	LR	16 56 20.1	
	comp=Z,2μm,18.4s,baz=145,slow=33						
KGM	**Kluang**	**44.87**	**56**	P	**P**	**16 39 57.9**	**+1.7**
IPM	**Ipoh**	**44.90**	**51**	*e*P	**P**	**16 39 58.1**	**+1.6**
	comp=Z,103nm,1.1s						
IPM	**Ipoh**	**44.90**	**51**	P	**P**	**16 39 58.7**	**+2.3**
MYKOM	**Kota Tinggi**	**45.11**	**57**	P	**P**	**16 39 58.9**	**+0.7**
	comp=Z,38nm,1.4s,comp=Z,590nm						
HYB	**Hyderabad**	**45.14**	**15**	*i* P	**P**	**16 39 58.5**	**+0.2**
KULM	**Kulim**	**45.22**	**50**	P	**P**	**16 40 00.0**	**+1.0**
	comp=Z,85nm,1.4s						
KULM				LR	LR		
	comp=Z,312nm,19.0s						
KULM	**Kulim**	**45.22**	**50**	P	**P**	**16 40 01.3**	**+2.3**
WIN	**Windhoek**	**45.69**	**264**	*e*P	**P**	**16 40 03.4**	**+0.5**
WIN				AMB	AMB	16 40 05.7	
	comp=Z,15nm,5.1s						
ABTO	**Aybut**	**45.86**	**341**	P	**P**	**16 40 05.2**	**+1.2**
	SNR=12						
PWJI	**Pagerwojo**	**45.96**	**75**	P	**P**	**16 40 06.8**	**+1.9**
	comp=Z,45nm,1.2s,comp=Z,1μm						
SJI	**Sawahan**	**46.07**	**74**	P	P	16 40 09.4	+3.5
TSUM	**Tsumeb**	**46.25**	**268**⇓	*i*P	**P**	**16 40 07.9**	**+0.5**
TSUM	**Tsumeb**	**46.25**	**268**	*e*P	**P**	**16 40 07.2**	**-0.2**
	comp=Z,41nm,0.9s						
TSUM	**Tsumeb**	**46.25**	**268**	LR	LR	16 57 03.0	
	comp=Z,2μm,21.1s,baz=98,slow=33						
TRTT	**Trang**	**46.44**	**47**	P	**P**	**16 40 11.2**	**+2.6**
	comp=Z,58nm,1.6s,comp=Z,1μm						
CASY	**Casey**	**47.74**	**158**	*e*P	**P**	**16 40 17.4**	**-0.8**
	comp=Z,119nm,1.5s						
CASY				LR	LR		
	comp=Z,3μm,22.0s						
MBWA	**Marble Bar**	**47.88**	**95**	P	**P**	**16 40 19.7**	**-0.1**
	SNR=7.3						
MBWA	**Marble Bar**	**47.88**	**95**	*e*P	**P**	**16 40 19.1**	**-0.7**
	comp=Z,77nm,1.4s						
MBWA				LR	LR		
	comp=Z,2μm,20.0s						
WBK	**Wadi Bani Khal**	**49.66**	**350**	P	**P**	**16 40 34.6**	**+1.2**
	SNR=14						
WBK	**Wadi Bani Khal**	**49.66**	**350**	P	**P**	**16 40 34.2**	**+0.8**
	SNR=19						
KSM	**Kuching**	**49.91**	**63**	PFAKE		16 40 50.0	+14
KSM				LR	LR		
	comp=Z,913nm,19.0s						
STKI	**Sintang**	**50.02**	**65**	P	**P**	**16 40 37.5**	**+1.1**
	comp=Z,26nm,1.1s,comp=Z,1μm						
BSY	**Bisya**	**50.10**	**348**	P	**P**	**16 40 37.6**	**+0.8**
	SNR=17						
SMDO	**Samad**	**50.26**	**349**	P	**P**	**16 40 39.0**	**+0.9**
	SNR=26						
SMDO	**Samad**	**50.26**	**349**	P	**P**	**16 40 38.9**	**+0.9**
	SNR=27						
ARQ	**Araqi**	**50.81**	**347**	P	**P**	**16 40 42.9**	**+0.7**
	SNR=13						
ARQ	**Araqi**	**50.81**	**347**	P	**P**	**16 40 42.6**	**+0.5**
	SNR=12						
HOQ	**Hoqain**	**50.90**	**348**	P	**P**	**16 40 43.5**	**+0.7**
	SNR=13						
CHBT	**CHBT**	**51.83**	**45**	P	P	16 40 55.7	+5.8
SBUM	**Sibu**	**52.02**	**63**	P	**P**	**16 40 53.3**	**+1.9**
SBUM	**Sibu**	**52.02**	**63**	P	**P**	**16 40 52.0**	**+0.6**
	comp=Z,49nm,1.2s,comp=Z,787nm						
ASHO	**Ashiyiah**	**52.22**	**347**	P	**P**	**16 40 52.9**	**+0.3**
	SNR=11						
FORT	**Forrest**	**52.78**	**110**	*e*P	**P**	**16 40 56.1**	**-0.8**
	comp=Z,133nm,1.4s						
PBKT	**Sadao Pong**	**53.94**	**41**	P	**P**	**16 41 05.8**	**+0.4**
	comp=Z,71nm,1.4s,comp=Z,1μm						
CHAI	**Chaiyaphum**	**54.03**	**42**	P	**P**	**16 41 06.6**	**+0.5**
	comp=Z,13nm,1.5s,comp=Z,162nm						
FITZ	**Fitzroy Crossi**	**54.12**	**94**	*e*P	**P**	**16 41 06.1**	**-0.8**
	comp=Z,35nm,1.0s						
FITZ	**Fitzroy Crossi**	**54.12**	**94**	P	**P**	**16 41 06.3**	**-0.6**
	comp=Z,32nm,1.0s,baz=260,slow=5.3,SNR=20						
FITZ				LR	LR	17 00 51.4	
	comp=Z,1μm,19.4s,baz=328,slow=32						
CM31	**Chiang Mai Arr**	**54.30**	**38**	*e*P	**P**	**16 41 08.3**	**+0.2**
	comp=Z,48nm,0.9s						
CMAR	**Chiang Mai Arr**	**54.30**	**38**	P	**P**	**16 41 08.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**54.30**	**38**	P	**P**	**16 41 08.3**	**+0.3**
	comp=Z,18nm,0.8s,baz=229,slow=7.1,SNR=127						
CMAR				LR	LR	17 00 44.5	
	comp=Z,449nm,18.1s,baz=224,slow=32						
KAPI	**Kappang**	**54.31**	**76**	P	**P**	**16 41 08.1**	**-0.2**
KAPI	**Kappang**	**54.31**	**76**	P	**P**	**16 41 08.1**	**-0.2**
	comp=Z,31nm,1.2s,baz=232,slow=5.2,SNR=4.0						
KAPI				LR	LR	17 02 51.8	
	comp=Z,632nm,18.0s,baz=289,slow=34						
CHTO	**Chiang Mai**	**54.59**	**37**	*e*P	**P**	**16 41 09.9**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,58nm,1.4s						
CHTO				MLR	MLR		
	comp=Z,646nm,20.0s						
CHTO	**Chiang Mai**	**54.59**	**37**	P	**P**	**16 41 10.4**	**+0.2**
	SNR=22						
CHTO	**Chiang Mai**	**54.59**	**37**	*e*P	**P**	**16 41 09.9**	**-0.3**
	comp=Z,58nm,1.4s						
CHTO				LR	LR		
	comp=Z,646nm,20.0s						
CHTO	**Chiang Mai**	**54.59**	**37**	P	**P**	**16 41 10.2**	**0.0**
	comp=Z,34nm,1.6s,comp=Z,614nm						
CMMT	**Chiang Mai**	**54.59**	**37**	P	**P**	**16 41 10.3**	**+0.1**
	comp=Z,31nm,1.5s,comp=Z,532nm						
MMRI	**Maumere**	**54.81**	**81**	P	**P**	**16 41 11.8**	**-0.1**
	comp=Z,113nm,1.8s,comp=Z,3μm						
IBND	**Bandar-abas**	**54.81**	**348**	*e*P	**P**	**16 41 11.4**	**-0.2**
UBPT	**Khong Chiam**	**55.73**	**46**	P	**P**	**16 41 18.5**	**+0.1**
	comp=Z,68nm,1.4s,comp=Z,1μm						
UBPT	**Khong Chiam**	**55.73**	**46**	P	**P**	**16 41 18.9**	**+0.5**
	comp=Z,68nm,1.4s,comp=Z,1μm						
NDI	**New Delhi**	**55.83**	**10**	*e*P	**P**	**16 41 17.0**	**-1.9**
SOEI	**Soe**	**56.12**	**84**	P	**P**	**16 41 22.3**	**+0.8**
	comp=Z,115nm,1.1s,comp=Z,2μm						
KOLN	**Koldanda**	**56.32**	**17**	*e*P	**P**	**16 41 22.9**	**+0.2**
	comp=Z,42nm,0.8s						
RAMN	**Ramite**	**56.42**	**21**	*e*P	**P**	**16 41 23.9**	**+0.4**
	comp=Z,78nm,0.9s						
DMN	**Daman**	**56.58**	**19**	*e*P	**P**	**16 41 24.7**	**+0.1**
	comp=Z,56nm,0.9s						
ODAN	**Odare**	**56.59**	**21**	*e*P	**P**	**16 41 25.1**	**+0.4**
	comp=Z,74nm,1.0s						
PKI	**Pulchoki**	**56.64**	**19**	*e*P	**P**	**16 41 24.8**	**-0.3**
	comp=Z,51nm,1.1s						
PKIN	**Phulchoki**	**56.64**	**19**	*e*P	**P**	**16 41 24.6**	**-0.4**
	comp=Z,23nm,1.0s						
KKN	**Kakani**	**56.80**	**19**	*e*P	**P**	**16 41 26.0**	**-0.2**
	comp=Z,71nm,1.0s						
DANN	**Dangsing**	**56.91**	**17**	*e*P	**P**	**16 41 27.0**	**0.0**
JIRN	**Jiri**	**56.95**	**20**	*e*P	**P**	**16 41 27.5**	**+0.1**
	comp=Z,45nm,0.7s						
SHL	**Shillong**	**57.04**	**26**	*e*P	**P**	**16 41 30.0**	**+2.2**
SHL				*e*S	S	16 49 30.0	+7.7
GUN	**Gumba**	**57.09**	**20**	*e*P	**P**	**16 41 28.6**	**+0.2**
	comp=Z,60nm,0.7s						
TAPN	**Taplejung**	**57.15**	**22**	*e*P	**P**	**16 41 29.1**	**+0.4**
	comp=Z,142nm,1.2s						
MSKU	**Masuku**	**57.24**	**286**	PFAKE		16 41 40.0	+11
MSKU				LR	LR		
	comp=Z,2.0nm,21.0s						
KKM	**Kota Kinabalu**	**57.35**	**63**	PFAKE		16 41 40.0	+10
KKM				LR	LR		
	comp=Z,784nm,19.0s						
ISRV	**Sarvestan**	**57.39**	**345**	*e*P	**P**	**16 41 31.1**	**+0.7**
SDKM	**Sandakan**	**57.90**	**64**	P	**P**	**16 41 32.7**	**-1.3**
MYLDM	**Lahad Datu**	**58.68**	**65**	P	**P**	**16 41 41.3**	**+1.9**
MYLDM	**Lahad Datu**	**58.68**	**65**	P	**P**	**16 41 40.0**	**+0.6**
	comp=Z,50nm,1.2s						
SNAA	**Sanae**	**58.73**	**200**	*e*P	**P**	**16 41 38.7**	**-0.4**
SNAA	**Sanae**	**58.73**	**200**	*e*P	**P**	**16 41 38.6**	**-0.4**
SNAA	**Sanae**	**58.73**	**200**	*e*P	**P**	**16 41 38.6**	**-0.4**
	comp=Z,24nm,0.9s						
SNAA	**Sanae**	**58.73**	**200**	LR	LR	17 04 00.9	
	comp=Z,224nm,18.2s,baz=71,slow=33						
DRV	**Dumont d'Urvil**	**58.93**	**154**	PP	PP	16 43 37.0	-13
DRV				S	S	16 49 27.0	-19
DRV				SS	**SS**	**16 53 41.0**	**+2.1**
DRV				L	L	16 55 00.0	
DRV				R		16 59 00.0	
MRSI	**Marisa**	**58.97**	**72**	P	**P**	**16 41 39.5**	**-1.9**
BBOO	**Buckleboo**	**58.99**	**114**	*e*P	**P**	**16 41 39.9**	**-1.5**
	comp=Z,3μm,1.8s						
IDAH	**Dahanechah**	**59.51**	**353**	*e*P	**P**	**16 41 45.7**	**+0.6**
ASAR	**Alice Springs**	**59.64**	**103**	P	**P**	**16 41 44.9**	**-1.2**
ASAR				⇑*e*		17 11 27.1	
ASAR	**Alice Springs**	**59.64**	**103**	P	**P**	**16 41 44.9**	**-1.2**
	comp=Z,33nm,0.8s,baz=250,slow=6.0,SNR=180						
ASAR				LR	LR	17 03 40.8	
	comp=Z,2μm,19.6s,baz=251,slow=32						
ASAR				PKP2bc		17 11 27.1	
	comp=Z,1.7nm,1.0s,baz=63,slow=2.9,SNR=4.9						
AS31	**Alice Springs**	**59.64**	**103**	*e*P	**P**	**16 41 44.8**	**-1.3**
ITEG	**Tejag**	**59.80**	**352**	*e*P	**P**	**16 41 47.3**	**+0.3**
VNA1	**Neumayer--Stat**	**60.35**	**202**	*e*P	**P**	**16 41 51.4**	**+1.3**
LSA	**Lhasa**	**60.49**	**24**	P	**P**	**16 41 52.4**	**+0.4**
LSA				sP	**sP**	**16 42 02.9**	**+4.5**
LSA				S	**S**	**16 50 03.8**	**-3.7**
LSA				pmax	pmax		
	comp=Z,30nm,1.9s						
LSA				pmax	pmax		
	comp=Z,370nm,6.2s						
LSA				LR	LR		
	comp=E,600nm,20.2s						
LSA				LR	LR		
	comp=Z,1μm,24.8s						
LSA	**Lhasa**	**60.49**	**24**	*e*P	**P**	**16 41 52.5**	**+0.4**
LSA				pmax	pmax		
	comp=Z,53nm,1.4s						
LSA				MLR	MLR		
	comp=Z,814nm,20.0s						
LSA	**Lhasa**	**60.49**	**24**	*e*P	**P**	**16 41 52.5**	**+0.4**
	comp=Z,53nm,1.4s						
LSA				LR	LR		
	comp=Z,814nm,20.0s						
KBL	**Kabul**	**60.89**	**2**	*e*P	**P**	**16 41 54.9**	**+0.4**
KBL				pmax	pmax		
	comp=Z,57nm,0.9s						
KBL	**Kabul**	**60.89**	**2**	*e*P	**P**	**16 41 54.9**	**+0.4**
	comp=Z,57nm,0.9s						
IZEF	**Zefreh**	**60.95**	**345**	*e*P	**P**	**16 41 54.2**	**-0.7**
IPIR	**Pirpir**	**61.08**	**344**	*e*P	**P**	**16 41 57.0**	**+1.1**
WRA	**Warramunga Arr**	**61.23**	**99**	P	**P**	**16 41 55.8**	**-1.2**
WRA	**Warramunga Arr**	**61.23**	**99**	P	**P**	**16 41 55.8**	**-1.2**
	comp=Z,56nm,0.9s,baz=250,slow=6.4,SNR=140						
WRA				LR	LR	17 06 13.6	
	comp=Z,3μm,18.4s,baz=260,slow=34						
WRAB	**Tennant Creek**	**61.24**	**99**	P	**P**	**16 41 56.0**	**-1.1**
	comp=Z,501nm,0.8s,SNR=28						
WRAB	**Tennant Creek**	**61.24**	**99**	*e*P	**P**	**16 41 55.7**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,77nm,0.9s						
WRAB				MLR	MLR		
	comp=Z,3μm,20.0s						
WRAB	**Tennant Creek**	**61.24**	**99**	*e*P	**P**	**16 41 55.7**	**-1.3**
	comp=Z,77nm,0.9s						
WRAB				LR	LR		
	comp=Z,3μm,20.0s						
QIZ	**Qiongzhong**	**61.30**	**47**	P	**P**	**16 41 58.1**	**+0.8**
QIZ				pP	**pP**	**16 41 59.9**	**-2.0**
QIZ				sP	**sP**	**16 42 02.3**	**-1.3**
QIZ				S	**S**	**16 50 19.9**	**+2.5**
QIZ				pmax	pmax		
	comp=Z,10.0nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,120nm,6.6s						
QIZ				LR	LR		
	comp=N,620nm,18.8s						
QIZ				LR	LR		
	comp=Z,430nm,29.7s						
QIZ	**Qiongzhong**	**61.30**	**47**	PFAKE		16 42 10.0	+13
QIZ				LR	LR		
	comp=Z,310nm,19.0s						
IKLH	**Kolahrood**	**61.52**	**345**	*e*P	**P**	**16 41 59.5**	**+0.7**
KMI	**Kunming**	**61.75**	**37**	P	**P**	**16 42 01.4**	**+0.9**
KMI				pP	**pP**	**16 42 04.4**	**-0.7**
KMI				sP	**sP**	**16 42 05.8**	**-1.0**
KMI				PcP	**PcP**	**16 42 42.9**	**+1.3**
KMI				PP	**PP**	**16 44 20.7**	**+4.0**
KMI		

GYA SKS **ScS** **16 52 16.6 +0.3**
GYA SS **SS** **16 55 20.0 +4.5**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,180nm,5.3s
GYA LR LR
comp=N,810nm,19.8s
GYA LR LR
comp=E,670nm,20.0s
GYA LR LR
comp=Z,850nm,19.4s
VNDA **Vanda** **65.12 166** *e*P **P** **16 42 20.6 -1.3**
comp=Z,61nm,1.1s
VNDA ⇑*e* 17 11 05.4
VNDA **Vanda** **65.12 166** P **P** **16 42 20.9 -0.9**
comp=Z,36nm,1.0s,baz=268,slow=7.5,SNR=152
VNDA LR LR 17 08 27.9
comp=Z,1μm,18.2s,baz=237,slow=34
VNDA PKP2bc 17 11 05.4
comp=Z,4.4nm,1.2s,baz=241,slow=0.9,SNR=4.6
TAU **Tasmania Unive** **65.29 127** PFAKE 16 42 30.0 +6.5
TAU LR LR
comp=Z,3μm,19.0s
ASF **Jabal al Asfar** **65.34 332** P **P** **16 42 25.3 +1.4**
ASF **Jabal al Asfar** **65.34 332** P **P** **16 42 25.3 +1.4**
comp=Z,29nm,1.0s
DAV **Davao City (W)** **65.55 68** LR LR 17 08 28.7
comp=Z,433nm,20.3s,baz=265,slow=34
SBA **Scott Base** **66.08 167** *e*P **P** **16 42 27.7 -0.3**
SBA pmax pmax
comp=Z,103nm,1.5s
SBA MLR MLR
comp=Z,952nm,19.0s
SBA **Scott Base** **66.08 167** *e*P **P** **16 42 27.7 -0.3**
comp=Z,103nm,1.5s
SBA LR LR
comp=Z,952nm,19.0s
KSH **Kashi** **66.32 7**⇓*i*P **P** **16 42 27.4 -2.7**
KSH pP **pP** **16 42 33.9 -0.9**
KSH sP **sP** **16 42 36.1 -0.4**
KSH PP **PP** **16 44 54.6 -2.0**
KSH S **S** **16 51 15.7 -3.7**
KSH sS **sS** **16 51 21.9 -5.1**
KSH ScS **SKSac** **16 52 19.6 -6.4**
KSH SS **SS** **16 55 33.6 -2.8**
KSH pmax pmax
comp=Z,43nm,1.0s
KSH pmax pmax
comp=Z,280nm,2.9s
KSH LR LR
comp=N,560nm,11.8s
KSH LR LR
comp=E,650nm,13.0s
KSH LR LR
comp=Z,2μm,18.9s
MMAI **Mount Meron Ar** **66.71 331** P **P** **16 42 34.2 +1.5**
MMAI **Mount Meron Ar** **66.71 331** P **P** **16 42 34.2 +1.5**
comp=Z,48nm,0.9s,baz=133,slow=7.3,SNR=39
ISRB **Sarab** **66.78 343** *e*P **P** **16 42 32.2 -1.0**
CD2 **Chengdu** **66.97 34** P **P** **16 42 33.8 -0.5**
CD2 pP **pP** **16 42 38.5 -0.4**
CD2 sP **sP** **16 42 40.8 +0.1**
CD2 PcP **PcP** **16 43 01.6 -1.1**
CD2 PP **PP** **16 45 03.7 +1.5**
CD2 ScP 16 47 03.8
CD2 PcS 16 47 05.0
CD2 S **S** **16 51 27.3 0.0**
CD2 SKS **SKSac** **16 52 28.4 -2.7**
CD2 SS **SS** **16 55 48.4 +1.9**
CD2 pmax pmax
comp=Z,60nm,0.9s
CD2 pmax pmax
comp=Z,350nm,5.7s
CD2 LR LR
comp=N,800nm,15.7s
CD2 LR LR
comp=E,660nm,13.2s
CD2 LR LR
comp=Z,1μm,16.2s
IAZR **Azarshahr** **67.10 342** *e*P **P** **16 42 35.3 0.0**
ISHB **Shabestar** **67.76 342** *e*P **P** **16 42 38.6 -0.8**
SHEL **Horse Pasture** **68.20 263** PFAKE 16 42 50.0 +7.5
SHEL LR LR
comp=Z,1μm,20.0s
CAN **Canberra** **68.65 120** *e*P **P** **16 42 44.8 -0.3**
CAN pmax pmax
comp=Z,32nm,1.0s
CAN MLR MLR
comp=Z,1μm,20.0s
CAN **Canberra** **68.65 120** *e*P **P** **16 42 44.8 -0.3**
comp=Z,32nm,1.0s
CAN LR LR
comp=Z,1μm,20.0s
AML **Almayashu** **68.70 5** P **P** **16 42 45.8 +0.4**
SNR=28
KZA **Kyzart** **68.78 6** P **P** **16 42 46.3 +0.4**
SNR=7.6
ULHL **Ulahol** **69.05 7** P **P** **16 42 47.9 +0.5**
SNR=22
EKS2 **Erkin-Say** **69.23 5** *e*P **P** **16 42 48.7 +0.3**
EKS2 pmax pmax
comp=Z,60nm,1.1s
EKS2 MLR MLR
comp=Z,1μm,22.0s
EKS2 **Erkin-Say** **69.23 5** P **P** **16 42 49.3 +0.9**
SNR=42
EKS2 **Erkin-Say** **69.23 5** *e*P **P** **16 42 48.7 +0.3**
comp=Z,60nm,1.1s
EKS2 LR LR
comp=Z,1μm,22.0s
AAK **Ala-Archa** **69.26 6** P **P** **16 42 49.3 +0.7**
AAK pmax pmax
comp=Z,18nm,1.0s
AAK **Ala-Archa** **69.26 6** P **P** **16 42 49.6 +0.9**
SNR=26
AAK **Ala-Archa** **69.26 6** P **P** **16 42 49.4 +0.7**
SNR=17
AAK **Ala-Archa** **69.26 6** *e*P **P** **16 42 49.0 +0.3**
comp=Z,49nm,1.3s
AAK *e* 16 42 58.6
AAK LR LR
comp=Z,1μm,21.0s
AAK **Ala-Archa** **69.26 6** P **P** **16 42 49.3 +0.7**
comp=Z,18nm,1.0s,baz=183,slow=6.3,SNR=51
CSS **Prodhromos** **69.26 331** P **P** **16 42 49.2 +0.6**
CSS **Prodhromos** **69.26 331** *e*P **P** **16 42 49.0 +0.4**
comp=Z,53nm,0.8s
CSS *e* 16 42 57.4
CSS LR LR
comp=Z,1μm,20.0s
KBK **Karagaybulak** **69.33 6** P **P** **16 42 49.7 +0.6**
SNR=9.1
ENH **Enshi** **69.47 38** *e*P **P** **16 42 48.7 -1.3**
comp=Z,71nm,1.3s
ENH *e* 16 42 58.9
ENH LR LR
comp=Z,1μm,20.0s
FRU **Bishkek** **69.47 6**⇓*i*P **P** **16 42 49.0 -0.8**
FRU *e* 16 45 23.0
FRU pmax pmax
comp=Z,120nm,2.1s
KKAR **Karatay Array** **69.48 2** *e*P **P** **16 42 50.1 +0.3**
KKAR *e* 16 42 59.3
KKAR pmax pmax
comp=Z,46nm,0.9s
KKAR **Karatay Array** **69.48 2** *e*P **P** **16 42 50.1 +0.3**
comp=Z,46nm,0.9s
KKAR *e* 16 42 59.2
CHMS **Chumysh** **69.65 6** P **P** **16 42 50.8 -0.1**
SNR=7.9
TKM2 **Tokmak 2** **69.65 6** P **P** **16 42 51.0 -0.1**
TKM2 pmax pmax
comp=Z,44nm,1.0s
TKM2 **Tokmak 2** **69.65 6** P **P** **16 42 51.3 +0.2**
SNR=34
TKM2 **Tokmak 2** **69.65 6** *e*P **P** **16 42 51.0 -0.1**
comp=Z,88nm,1.3s
TKM2 LR LR
comp=Z,1μm,22.0s
GNI **Garni** **69.75 342** P **P** **16 42 53.6 +1.9**
SNR=24
GNI **Garni** **69.75 342** *e*P **P** **16 42 53.1 +1.4**
comp=Z,47nm,0.8s
GNI LR LR
comp=Z,2μm,20.0s
GNI **Garni** **69.75 342** P P **16 42 53.3 +1.6**
comp=Z,48nm,0.9s,baz=331,slow=2.0,SNR=30
USP **Ospenovka** **69.89 6** P **P** **16 42 52.4 0.0**
SNR=26
MALT **Malatya** **70.11 336** PFAKE 16 43 10.0 +16
MALT LR LR
comp=Z,3μm,19.0s
MALT **Malatya** **70.11 336**⇓*i*P Px 16 43 12.2
DGRG **David-gareji** **70.78 343** P **P** **16 42 58.9 +1.1**
QZH **Quanzhou** **71.22 48** P **P** **16 43 01.0 +0.2**
QZH S **S** **16 52 20.1 +2.4**
QZH LR LR
comp=N,1μm,14.2s
QZH LR LR
comp=E,570nm,12.9s
QZH LR LR
comp=Z,840nm,17.4s
TBLG **Delisi** **71.22 342** *e*P **P** **16 43 01.1 +0.7**
TBLG **Delisi** **71.22 342** P **P** **16 43 01.2 +0.7**
LZH **Lanzhou** **71.25 31**⇓P **P** **16 43 01.4 +0.4**
LZH pP **pP** **16 43 06.0 +0.4**
LZH sP **sP** **16 43 08.6 +1.3**
LZH PP **PP** **16 45 39.5 +0.1**
LZH S **S** **16 52 16.0 -2.1**
LZH SS **SS** **16 56 53.0 +0.2**
LZH pmax pmax
comp=Z,43nm,1.2s
LZH pmax pmax
comp=Z,200nm,4.7s
LZH LR LR
comp=N,690nm,13.5s
LZH LR LR
comp=E,1μm,15.3s
LZH LR LR
comp=Z,1μm,17.5s
AKH **Akhalkalaki** **71.27 341** P **P** **16 43 02.3 +1.3**
CTA **Charters Tower** **71.63 104** P **P** **16 43 03.0 -0.5**
CTA **Charters Tower** **71.63 104** P **P** **16 43 03.0 -0.5**
comp=Z,26nm,1.2s,baz=256,slow=8.3,SNR=11
CTAO **Charters Tower** **71.63 104** *e*P **P** **16 43 02.8 -0.8**
CTAO pmax pmax
comp=Z,68nm,1.5s
CTAO MLR MLR
comp=Z,2μm,21.0s
CTAO **Charters Tower** **71.63 104** *e*P **P** **16 43 02.8 -0.8**
comp=Z,68nm,1.5s
CTAO LR LR
comp=Z,2μm,21.0s
MAK **Makhachkala** **71.67 345** *e*P P 16 42 58.9 -4.2
MAK *e* 16 43 17.4
MAK *e*PPP PPP 16 47 22.3
MAK *e*S **S** **16 52 20.0 -2.2**
MAK *e* 16 53 00.2
MAK pmax pmax
comp=Z,218nm,1.2s
YULB **Yu-li** **72.04 51** *e*P **P** **16 43 07.1 +1.3**
comp=Z,23nm,1.3s
SSLB **Suanglung** **72.06 51** *e*P **P** **16 43 06.8 +0.9**
comp=Z,62nm,1.2s
XAN **Xi'an** **72.08 35** P **P** **16 43 05.1 -0.8**
XAN pP **pP** **16 43 09.8 -0.7**
XAN sP **sP** **16 43 12.1 -0.1**
XAN PP **PP** **16 45 47.6 +1.2**
XAN S **S** **16 52 26.9 -0.6**
XAN SS **SS** **16 57 06.4 +1.1**
XAN pmax pmax
comp=Z,8.0nm,1.3s
XAN pmax pmax
comp=Z,70nm,5.9s
XAN LR LR
comp=N,150nm,16.1s
XAN LR LR
comp=E,110nm,18.9s
XAN LR LR
comp=Z,110nm,17.3s
GTA **Gaotai** **72.36 26**⇓P **P** **16 43 07.6 +0.1**
GTA pP **pP** **16 43 12.4 +0.2**
GTA sP **sP** **16 43 14.7 +0.8**
GTA PP **PP** **16 45 51.0 +2.2**
GTA S **S** **16 52 31.0 +0.4**
GTA SKS **SKSac** **16 53 06.9 -4.9**
GTA SS **SS** **16 57 12.2 +2.6**
GTA pmax pmax
comp=Z,37nm,1.7s
GTA pmax pmax
comp=Z,360nm,6.7s
GTA LR LR
comp=N,370nm,20.7s
GTA LR LR
comp=E,510nm,17.8s
GTA LR LR
comp=Z,580nm,21.9s
ONI **Oni** **72.37 342** P **P** **16 43 08.2 +0.8**
ARMA **Armidale** **72.38 116** *e*P **P** **16 43 07.3 -0.7**
comp=Z,141nm,1.6s
ZEI **Tsey** **72.43 342** *e*P **P** **16 43 06.6 -1.3**
ZEI pmax pmax
comp=Z,71nm,1.3s
WMQ **Urumqi** **72.57 15** P **P** **16 43 09.5 +0.9**
WMQ pP **pP** **16 43 14.2 +0.9**
WMQ sP **sP** **16 43 16.5 +1.5**
WMQ PcP **PcP** **16 43 27.3 +1.2**
WMQ PP **PP** **16 45 53.0 +2.5**
WMQ S **S** **16 52 32.6 -0.1**
WMQ sS **sS** **16 52 40.4 0.0**
WMQ SKS **SKSac** **16 53 09.3 -3.7**
WMQ ScS **SKKSac** **16 53 12.6 -0.6**
WMQ SS **SS** **16 57 13.8 +1.3**
WMQ pmax pmax
comp=Z,37nm,2.0s
WMQ pmax pmax
comp=Z,580nm,4.5s
WMQ LR LR
comp=N,1μm,18.7s
WMQ LR LR
comp=E,680nm,18.6s
WMQ LR LR
comp=Z,820nm,21.0s
NACB **Ninganchiao** **72.75 51** *e*P **P** **16 43 11.5 +1.5**
comp=Z,17nm,0.8s
ZKR **Zakros** **72.76 326** P **P** **16 43 10.2 +0.4**
ISP **Isparta** **72.89 330** PFAKE 16 43 20.0 +9.3
ISP LR LR
comp=Z,481nm,19.0s
YHNB **Yeheng** **72.92 50** PFAKE 16 43 20.0 +8.9
YHNB LR LR
comp=Z,391nm,19.0s
LAST **Lasithi** **73.17 325** P **P** **16 43 12.8 +0.4**
BRTR **Keskin Array B** **73.17 333** P **P** **16 43 12.7 +0.3**
BRTR **Keskin Array B** **73.17 333** P **P** **16 43 12.7 +0.3**
comp=Z,42nm,0.8s,baz=155,slow=6.8,SNR=204
BRTR LR LR 17 13 48.7
comp=Z,448nm,18.7s,baz=296,slow=34
BR131 **Keskin Array S** **73.17 333** *e*P **P** **16 43 12.4 +0.1**
comp=Z,44nm,0.9s
NPS **Neapolis** **73.18 325** P **P** **16 43 12.8 +0.4**
TATO **Taipei** **73.20 50** PFAKE 16 43 20.0 +7.4
TATO LR LR
comp=Z,303nm,20.0s
SIVA **Sivas** **73.41 325** P **P** **16 43 14.3 +0.7**
IDI **Anoyia** **73.57 325** P **P** **16 43 15.3 +0.6**
IDI **Anoyia** **73.57 325** *e*P **P** **16 43 15.0 +0.3**
comp=Z,93nm,0.9s
KBZ **Khabaz** **73.58 342** P **P** **16 43 15.1 +0.7**
KBZ pmax pmax
comp=Z,25nm,0.9s
KBZ MLR MLR
comp=Z,1μm,19.2s
KBZ **Khabaz** **73.58 342** P **P** **16 43 15.1 +0.7**
KBZ **Khabaz** **73.58 342** P **P** **16 43 15.1 +0.7**
comp=Z,25nm,0.9s,baz=170,slow=4.6,SNR=46
KBZ LR LR 17 14 20.9
comp=Z,1μm,19.2s,baz=160,slow=35
ANTO **Ankara** **73.64 333**⇓P **P** **16 43 15.6 +0.6**
ANTO **Ankara** **73.64 333** P **P** **16 43 16.0 +1.0**
SNR=18
ANTO **Ankara** **73.64 333** *e*P **P** **16 43 15.5 +0.5**
comp=Z,17nm,0.8s
ANTO LR LR
comp=Z,815nm,20.0s
ANTO **Ankara** **73.64 333**⇓*i*P **P** **16 43 15.6 +0.6**
GVD **Gavdhos** **73.64 324** *e*P **P** **16 43 14.4 -0.6**
comp=Z,78nm,0.6s
EIDS **Eidsvold** **73.77 111** *e*P **P** **16 43 14.8 -1.4**
comp=Z,135nm,1.6s
KIV **Kislovodsk** **73.84 342***d i*P **P** **16 43 16.6 +0.5**
KIV *e* 16 43 31.7
KIV *e* 16 46 00.9
KIV *e*PPP PPP 16 47 46.2
KIV *e*S **S** **16 52 49.7 +2.5**
KIV pmax pmax
comp=Z,85nm,1.1s
KIV pmax pmax
comp=Z,148nm,3.5s
KIV **Kislovodsk** **73.84 342** P **P** **16 43 16.4 +0.3**
comp=Z,464nm,0.9s,SNR=16
VAM **Vamos** **74.02 324** P **P** **16 43 18.2 +0.9**
SANT **Santorini** **74.12 326** P **P** **16 43 17.2 -0.7**
SANT **Santorini** **74.12 326** *e*P **P** **16 43 16.8 -1.1**
comp=Z,175nm,1.2s
SANT *e*pP **pP** **16 43 26.9 +4.3**
SANT LR LR
comp=Z,344nm,19.0s
THR1 **Thera Island** **74.12 326** P **P** **16 43 17.5 -0.4**
MK31 **Makanchi Array** **74.34 11** *e*P **P** **16 43 18.2 -0.7**
MK31 **Makanchi Array** **74.34 11** *e*P **P** **16 43 18.2 -0.7**
MKAR **Makanchi Array** **74.34 11** P **P** **16 43 18.4 -0.5**
MKAR pmax pmax
comp=Z,11nm,0.8s
MKAR MLR MLR
comp=Z,645nm,20.0s
MKAR **Makanchi Array** **74.34 11** P **P** **16 43 18.4 -0.5**
MKAR **Makanchi Array** **74.34 11** P **P** **16 43 18.4 -0.5**
comp=Z,11nm,0.8s,baz=198,slow=5.5,SNR=123
MKAR LR LR 17 14 48.4
comp=Z,644nm,20.0s,baz=197,slow=35
SOC **Sochi** **74.39 339***d i*P **P** **16 43 19.1 -0.1**
SOC *e**PP **pP** **16 43 21.2 -2.7**
SOC *e* 16 43 31.3
SOC *e* 16 46 03.3
SOC *e*PPP PPP 16 47 48.1
SOC *e*S **S** **16 52 54.9 +1.8**
SOC *e* 16 53 28.0
SOC pmax pmax
comp=Z,88nm,1.0s
SOC MLR MLR
comp=Z,1μm,17.0s
APE **Apeiranthos** **74.64 326** P **P** **16 43 20.6 -0.3**
APE **Apeiranthos** **74.64 326**⇓P **P** **16 43 20.7 -0.2**
APE **Apeiranthos** **74.64 326**⇓*i*P **P** **16 43 20.7 -0.2**
GOF **Gofitskoye** **74.76 342** *e*P P 16 43 29.4 +8.1
GOF pmax pmax
comp=Z,120nm,0.8s
TOA0 **Torodi Ar. Sit** **75.07 293** *e*P **P** **16 43 23.8 -0.1**
TORD **Torodi Ar. Bea** **75.07 293** P **P** **16 43 23.8 0.0**
TORD PP PP 16 46 04.0 -8.1
TORD **Torodi Ar. Bea** **75.07 293** P **P** **16 43 23.8 0.0**
comp=Z,33nm,0.8s,baz=105,slow=5.9,SNR=132
TORD PP PP 16 46 04.0 -8.1
comp=Z,5.0nm,0.8s,baz=114,slow=8.6,SNR=5.2
TORD LR LR 17 13 37.8
comp=Z,3μm,21.7s,baz=145,slow=34
AB31 **Akbulak array** **75.87 355** *i* P **P** **16 43 27.7 +0.1**
AB31 pmax pmax
comp=Z,76nm,0.6s
ABKAR **Akbulak array** **75.87 355** *e*P **P** **16 43 27.8 +0.2**
comp=Z,69nm,0.6s
ABKAR *e* 16 43 37.0
DIDY **Didyma** **76.12 325** P **P** **16 43 28.5 -1.0**
DID **Didima** **76.13 325** P **P** **16 43 28.6 -0.8**
ANN **Anapa** **76.21 339** *e*P **P** **16 43 29.6 0.0**
ANN *e**PP **pP** **16 43 32.3 -2.0**
ANN *e* 16 43 41.7
ANN *e* 16 46 25.0
ANN *e*S **S** **16 53 14.5 +1.2**
ANN *e*SS **SS** **16 58 09.2 +1.5**
ANN pmax pmax
comp=Z,174nm,1.6s
ANN MLR MLR
comp=N,1μm,18.0s
ANN MLR MLR
comp=E,102nm,18.0s
ANN MLR MLR
comp=Z,628nm,18.0s
ANN **Anapa** **76.21 339** *i* P **P** **16 43 29.7 +0.1**
NJ2 **Nanjing** **76.24 43** *e*P **P** **16 43 29.0 -1.1**
NJ2 pP **pP** **16 43 34.8 0.0**
NJ2 sP **sP** **16 43 39.0 +2.5**
NJ2 S **S** **16 53 17.6 +3.4**
NJ2 sS **sS** **16 53 22.0 +0.1**
NJ2 ScS **ScS** **16 53 43.4 -1.5**
NJ2 pmax pmax
comp=Z,17nm,1.0s
NJ2 LR LR
comp=N,2μm,14.2s
NJ2 LR LR
comp=E,2μm,12.2s
NJ2 LR LR
comp=Z,2μm,15.1s
ITM **Ithomi** **76.56 324** P **P** **16 43 31.7 -0.2**
LTK **Loutraki** **76.66 325** P **P** **16 43 31.8 -0.6**
TIY **Taiyuan** **76.72 35** *e*P **P** **16 43 32.1 -0.7**
TIY S **S** **16 53 21.1 +1.7**
TIY pmax pmax
comp=Z,230nm,6.2s
TIY LR LR
comp=N,1μm,11.6s
TIY LR LR
comp=E,320nm,9.7s
TIY LR LR
comp=Z,1μm,12.3s
PMG **Port Moresby** **76.72 94** P **P** **16 43 33.2 -0.1**
PMG **Port Moresby** **76.72 94** P **P** **16 43 33.2 -0.1**
comp=Z,14nm,0.9s,baz=280,slow=6.7,SNR=5.8
PMG LR LR 17 16 01.0
comp=Z,1μm,19.0s,baz=84,slow=35
MRKA **Markates** **76.87 326** P **P** **16 43 33.0 -0.6**
GUR **Goura** **76.92 325** P **P** **16 43 33.7 -0.3**
AOS **Alonnisos** **77.09 327** P **P** **16 43 34.3 -0.5**
KLV **Kalavryta, Ach** **77.09 325** P **P** **16 43 34.8 -0.1**
LIC **Lamto** **77.27 284**⇓*i*P **P** **16 43 37.2 +0.8**
comp=Z,246nm,0.8s,baz=117
LIC *e*R
comp=Z,2μm,21.0s
SMTH **Samothraki Isl** **77.31 329** P **P** **16 43 35.6 -0.4**
LAKA **Lakka** **77.33 325** P **P** **16 43 36.3 +0.1**
DBIC **Dimbokro** **77.34 284** *e*P **P** **16 43 37.4 +0.7**
DBIC **Dimbokro** **77.34 284** *e*P **P** **16 43 37.7 +0.9**
comp=Z,126nm,0.9s
DBIC **Dimbokro** **77.34 284** P **P** **16 43 37.6 +0.9**
comp=Z,94nm,0.8s,baz=108,slow=6.1,SNR=53
DBIC LR LR 17 17 26.3
comp=Z,1μm,18.2s,baz=111,slow=36
KALE **Kalithea** **77.36 325** P **P** **16 43 36.5 +0.1**
TAM **Tamanrasset** **77.46 304** *e*P **P** **16 43 39.2 +1.8**
TAM pmax pmax
comp=Z,53nm,1.1s
TAM MLR MLR
comp=Z,729nm,19.0s
TAM **Tamanrasset** **77.46 304** *e*P **P** **16 43 39.2 +1.8**
comp=Z,53nm,1.1s
TAM LR LR
comp=Z,729nm,19.0s
RLS **Riolos of Patr** **77.46 324** P **P** **16 43 37.6 +0.7**
SIM **Simferopol'** **77.48 336***de*P **P** **16 43 37.3 +0.5**
SIM *e*S **S** **16 53 31.0 +3.8**
SIM pmax pmax
comp=Z,50nm,0.8s
SIM pmax pmax
comp=Z,160nm,9.7s
SIM MLR MLR
comp=Z,260nm,17.0s
NEO **Neokhori** **77.52 326** P P 16 43 33.2 -4.0
KURBB **Kurchatov Arra** **77.58 7** P **P** **16 43 37.1 -0.1**
comp=Z,12nm,0.9s,baz=204,slow=6.3,SNR=111
XOR **Xorichti** **77.58 326** P **P** **16 43 36.7 -0.8**
AXS **Araxos** **77.61 325** P **P** **16 43 38.0 +0.3**
KURK **Kurchatov** **77.68 7** P **P** **16 43 37.2 -0.6**
comp=Z,150nm,1.3s,SNR=27
KURK **Kurchatov** **77.68 7** P **P** **16 43 37.1 -0.6**
KURK pmax pmax
comp=Z,13nm,0.9s
KURK **Kurchatov** **77.68 7** P **P** **16 43 37.1 -0.6**
AGG **Agios Georgios** **77.75 326** P **P** **16 43 37.9 -0.6**
BTO **Bacotou** **77.76 32** *e*P **P** **16 43 37.5 -1.1**
MAKR **Makrakomi, Fth** **77.84 326** P **P** **16 43 38.9 -0.1**
RDO **Rodhopi** **77.84 329** P **P** **16 43 39.0 +0.1**
EVR **Evrytania** **77.93 325** P **P** **16 43 39.8 +0.2**
VLS **Valsamata** **78.01 324** P **P** **16 43 40.1 +0.1**

KDZ	Kurdzhali	78.30	329	*i*	P		P	16 43 40.0	-1.5
THL	Klokotos Trika	78.32	326		P		P	16 43 41.1	-0.5
JMB	Yambol	78.42	330		P		P	16 43 42.9	+0.8
JMB	Yambol	78.42	330	*i*	P		P	16 43 43.1	+1.0
LIT	Litokhoron	78.49	326		P		P	16 43 42.1	-0.5
RZN	Rozhen	78.65	329	*i*	P		P	16 43 43.9	+0.3
RZN				*i*	P		pP	16 43 44.8	-3.5
HHC	Hu-ho-hao-te	78.69	33	*e*	P		P	16 43 44.7	+0.9
HHC					pP		pP	16 43 48.0	-0.5
HHC					sP		sP	16 43 51.5	+1.3
HHC					PcP		PcP	16 43 53.9	+1.3
HHC					PP		PP	16 46 45.4	+3.1
HHC					S		S	16 53 41.4	+0.8
HHC					SKS		SKSac	16 53 53.3	-5.2
HHC					ScS		SKKSac	16 54 00.5	+0.8
HHC					SS		SS	16 58 47.0	+1.5
HHC					pmax		pmax		
	comp=Z,65nm,1.4s								
HHC					pmax		pmax		
	comp=Z,610nm,6.0s								
HHC					LR		LR		
	comp=N,2μm,13.2s								
HHC					LR		LR		
	comp=E,1μm,16.8s								
HHC					LR		LR		
	comp=Z,2μm,18.0s								
SRS	Serrai	78.73	328		P		P	16 43 42.8	-1.1
NVR	Nevrokopi	78.79	328		P		P	16 43 43.9	-0.3
IGT	Igoumenitsa	79.15	325		P		P	16 43 46.6	+0.4
ASCN	Ascension	79.16	267		PFAKE			16 44 00.0	+13
ASCN					LR		LR		
	comp=Z,554nm,19.0s								
TIRR	Tirgusor	79.26	333	⇓	P		P	16 43 47.0	+0.4
TIRR	Tirgusor	79.26	333	*e*	P		P	16 43 46.5	-0.1
	comp=Z,82nm,0.9s								
TIRR	Tirgusor	79.26	333	⇓	*i* P		P	16 43 47.0	+0.4
ZRNK	Zerenda	79.29	1		P		P	16 43 45.9	-0.7
ZRNK					pmax		pmax		
	comp=Z,37nm,1.1s								
BVA0	Borovoye Array	79.39	2	*i*	P		P	16 43 46.8	-0.4
BVA0					pmax		pmax		
	comp=Z,27nm,1.1s								
BVAR	Borovoye Array	79.39	2		P		P	16 43 47.0	-0.2
BVAR					pmax		pmax		
	comp=Z,11nm,0.8s								
BVAR	Borovoye Array	79.39	2		P		P	16 43 47.0	-0.2
BVAR	Borovoye Array	79.39	2		P		P	16 43 47.0	-0.2
	comp=Z,11nm,0.8s,baz=167,slow=7.0,SNR=63								
BRVK	Borovoye	79.43	2		P		P	16 43 47.2	-0.2
	comp=Z,112nm,1.0s,SNR=10								
BRVK	Borovoye	79.43	2	*d*	*i* P		P	16 43 47.1	-0.3
BRVK					pmax		pmax		
	comp=Z,65nm,2.5s								
BRVK	Borovoye	79.43	2		P		P	16 43 47.6	+0.2
	SNR=15								
BRVK	Borovoye	79.43	2	*e*	P		P	16 43 46.9	-0.5
	comp=Z,35nm,1.2s								
BRVK					LR		LR		
	comp=Z,1μm,22.0s								
KKB	Krupnik	79.56	328	*i*	P		P	16 43 48.6	+0.2
FNA	Florina	79.56	326		P		P	16 43 48.2	-0.3
KEK	Kerkira	79.56	325		P		P	16 43 49.0	+0.6
WDD	Wield Dalam	79.74	319	*e*	P		P	16 43 49.9	+0.4
	comp=Z,187nm,1.0s								
WDD					LR		LR		
	comp=Z,971nm,21.0s								
CFR	Carcaliu	79.96	333	⇓	P		P	16 43 50.8	+0.4
CFR	Carcaliu	79.96	333	⇓	*i* P		P	16 43 50.8	+0.4
VTS	Vitosha	80.06	328		P		P	16 43 50.8	-0.5
VTS	Vitosha	80.06	328	⇓	P		P	16 43 51.2	-0.1
VTS	Vitosha	80.06	328	*i*	P		P	16 43 51.2	-0.1
VTS	Vitosha	80.06	328	⇓	*i* P		P	16 43 51.2	-0.1
BJT	Baijiatuau	80.38	36		PFAKE			16 44 00.0	+7.1
BJT					LR		LR		
	comp=Z,268nm,19.0s								
BJI	Beijing	80.40	36		P		P	16 43 52.5	-0.4
BJI					PP		PP	16 46 57.1	+0.7
BJI					S		S	16 53 59.9	+1.4
BJI					pmax		pmax		
	comp=Z,17nm,0.9s								
BJI					pmax		pmax		
	comp=Z,310nm,5.3s								
BJI					LR		LR		
	comp=N,760nm,15.4s								
BJI					LR		LR		
	comp=E,630nm,25.9s								
BJI					LR		LR		
	comp=Z,420nm,24.0s								
ISR	Istrita	80.57	332	⇑	P		P	16 43 55.0	+1.2
ISR	Istrita	80.57	332	⇑	*i* P		P	16 43 55.0	+1.2
CEL	Celeste	80.61	321	*e*	P		P	16 43 54.1	-0.1
	comp=Z,34nm,0.8s								
CEL					LR		LR		
	comp=Z,506nm,19.0s								
PHP	Peshkopia	80.70	326		P		P	16 43 54.7	+0.1
TIR	Tirane	80.74	326	*e*	P		P	16 43 55.5	+0.8
TIR					pmax		pmax		
	comp=Z,106nm,0.8s								
TIR					MLR		MLR		
	comp=Z,424nm,20.0s								
TIR	Tirane	80.74	326	*e*	P		P	16 43 55.5	+0.8
	comp=Z,106nm,0.8s								
TIR					LR		LR		
	comp=Z,424nm,20.0s								
TIP	Timpagrande	80.79	322		PFAKE			16 44 10.0	+15
TIP					LR		LR		
	comp=Z,403nm,19.0s								
HVS	Khovu-Aksy	80.86	16	*d*	*i* P		P	16 43 54.7	-0.6
HVS					pmax		pmax		
	comp=Z,257nm,1.7s								
VRI	Vrincioaia	81.09	333	⇓	P		P	16 43 57.4	+0.8
VRI	Vrincioaia	81.09	333	⇓	*i* P		P	16 43 57.4	+0.8
PLOR	Plostina	81.11	332	⇓	P		P	16 43 57.6	+0.8
PLOR	Plostina	81.11	332	⇓	*i* P		P	16 43 57.5	+0.8
MLR	Muntele Rosu	81.12	332		P		P	16 43 57.3	+0.4
MLR	Muntele Rosu	81.12	332	⇓	*i* P		P	16 43 57.2	+0.4
MLR	Muntele Rosu	81.12	332		P		P	16 43 57.3	+0.4
	comp=Z,10nm,0.8s,baz=169,slow=2.9,SNR=82								
KIS	Kishinev	81.18	334	⇓	*i* P		P	16 43 56.0	-1.0
	comp=Z,300nm,2.0s								
KIS					*e*S		S	16 54 06.0	-0.4
KIS	Kishinev	81.18	334	*e*	PS			16 54 48.0	
KIS					LRM		MLR	17 20 00.0	
	comp=Z,600nm,22.0s								
KIS	Kishinev	81.18	334	*k*	*i* P		P	16 43 56.0	-1.0
KIS					*e*S		S	16 54 06.0	-0.4
KIS					*e*PS		PnS	16 54 48.0	-6.3
KIS					pmax		pmax		
	comp=Z,300nm,2.0s								
KIS					pmax		pmax		
	comp=Z,400nm,6.0s								
KIS					MLR		MLR		
	comp=Z,600nm,20.0s								
KIS					MLR		MLR		
	comp=Z,600nm,22.0s								
VORD	Divnogorie	81.19	342	*e*	P		P	16 43 56.6	-0.3
VORD					*e*S		S	16 54 05.2	-1.0
VORD					pmax		pmax		
	comp=N,70nm,0.9s								
VORD					pmax		pmax		
	comp=E,10.0nm,0.9s								
VORD					pmax		pmax		
	comp=Z,70nm,0.9s								
VORD					smax		smax		
	comp=Z,40nm,2.3s								
VORD					smax		smax		
	comp=N,10.0nm,0.8s								
VORD					smax		smax		
	comp=E,210nm,4.5s								
PMSA	Palmer Station	81.41	199		PFAKE			16 44 10.0	+12
PMSA					LR		LR		
	comp=Z,1μm,20.0s								
VSR	Storozhevoye	81.45	342	*d*	*i* P		P	16 43 58.0	-0.3
VSR				*e*				16 47 04.0	
VSR				*e*S			S	16 54 09.2	+0.2
VSR					pmax		pmax		
	comp=N,70nm,0.9s								
VSR					pmax		pmax		
	comp=E,30nm,0.9s								
VSR					pmax		pmax		
	comp=Z,120nm,0.9s								
VSR					pmax		pmax		
	comp=Z,10.0nm,1.4s								
VSR					pmax		pmax		
	comp=N,10.0nm,0.9s								
VSR					pmax		pmax		
	comp=E,9.0nm,0.9s								
VSR					smax		smax		
	comp=Z,120nm,3.2s								
VSR					smax		smax		
	comp=N,230nm,6.4s								
VSR					smax		smax		
	comp=E,260nm,6.4s								
VOIR		81.46	331	⇑	P		P	16 43 58.3	-0.3
VOIR		81.46	331	⇑	*i* P		P	16 43 58.3	-0.3
ULC	Ulcinj	81.50	326	⇓	*i* P		P	16 43 59.2	+0.3
ARR	Arges	81.58	331	⇓	*i* P		P	16 43 58.9	-0.3
ZAA0	Zalesovo Array	81.68	10	*e*	P		P	16 43 59.3	-0.2
ZALV	Zalesovo Beam	81.68	10		P		P	16 43 59.5	0.0
ZALV					pmax		pmax		
	comp=Z,50nm,0.8s								
ZALV					MLR		MLR		
	comp=Z,624nm,21.7s								
ZALV	Zalesovo Beam	81.68	10		P		P	16 43 59.5	0.0
ZALV	Zalesovo Beam	81.68	10		P		P	16 43 59.5	0.0
	comp=Z,50nm,0.8s,baz=201,slow=4.4,SNR=242								
ZALV					LR		LR	17 18 38.1	
	comp=Z,624nm,21.7s,baz=250,slow=34								
TTG	Podgorica	81.84	326	⇓	*i* P		P	16 44 01.0	+0.4
IVA	Berane	81.86	327	⇓	*i* P		P	16 44 01.0	+0.2
CUC	Castrocucco	81.88	323	*e*	P		P	16 43 59.5	-1.4
	comp=Z,22nm,0.8s								
CUC					LR		LR		
	comp=Z,368nm,20.0s								
BUM	Brajici-Budva	81.93	326	⇓	*i* P		P	16 44 01.6	+0.4
LOT	Lotru	82.02	331	⇑	*i* P		P	16 44 01.1	-0.5
SONM	Songino Array	82.02	25		P		P	16 44 01.7	+0.1
SONM	Songino Array	82.02	25		P		P	16 44 01.7	+0.1
	comp=Z,15nm,0.8s,baz=211,slow=5.1,SNR=82								
SONM					LR		LR	17 16 41.2	
	comp=Z,764nm,20.8s,baz=208,slow=33								
HCY	Herceg Novi	82.24	326	⇓	*i* P		P	16 44 03.0	+0.3
NKY	Niksic	82.26	326	⇓	*i* P		P	16 44 03.2	+0.3
ULN	Ulaanbaatar	82.30	26		P		P	16 44 03.2	+0.1
	SNR=28								
ULN	Ulaanbaatar	82.30	26	*e*	P		P	16 44 02.9	-0.2
	comp=Z,30nm,0.8s								
ULN					LR		LR		
	comp=Z,694nm,19.0s								
NVS	Novosibirsk	82.31	9	⇓	*i* P		P	16 44 03.1	+0.4
NVS				*e*				16 44 11.8	
NVS				*e*S			S	16 54 17.7	0.0
NVS					pmax		pmax		
	comp=N,52nm,1.1s								
NVS					pmax		pmax		
	comp=Z,106nm,1.1s								
NVS					pmax		pmax		
	comp=E,18nm,1.2s								
NVS					smax		smax		
	comp=N,65nm,3.4s								
NVS					smax		smax		
	comp=E,48nm,3.0s								
PLE	Pljevlja	82.44	327	⇓	*i* P		P	16 44 03.6	-0.3
BRY	Bratogost	82.55	326	⇓	*i* P		P	16 44 04.8	+0.3
DL2	Dalian	82.59	40		P		P	16 44 04.4	-0.2
DL2					S		S	16 54 22.7	+1.5
DL2					pmax		pmax		
	comp=Z,36nm,1.4s								
DL2					pmax		pmax		
	comp=Z,290nm,5.6s								
DL2					LR		LR		
	comp=N,550nm,14.2s								
DL2					LR		LR		
	comp=Z,690nm,14.5s								
UPM	Unac-Piva	82.59	326	⇓	*i* P		P	16 44 04.8	+0.1
DIVS	Divibare	82.72	328		P		P	16 44 05.8	+0.5
KEST	Kesra	82.79	316	*e*	P		P	16 44 07.0	+1.1
KEST	Kesra	82.79	316		P		P	16 44 07.5	+1.7
	comp=Z,11nm,0.8s,baz=121,slow=1.2,SNR=36								
KEST					LR		LR	17 22 00.3	
	comp=Z,447nm,18.5s,baz=160,slow=36								
ZAK	Zakamensk	83.03	22	*e*	P		P	16 44 06.3	-0.5
ZAK					pmax		pmax		
	comp=Z,10.0nm,1.5s								
CJR	Cluj-Napoca	83.09	331	⇑	*i* P		P	16 44 07.7	+0.6
ARU	Arti	83.11	355	*d*	*i* P		P	16 44 07.2	+0.4
ARU					PPP		PPP	16 49 08.8	
ARU					S		S	16 54 28.6	+2.8
ARU					SS		SS	16 59 47.4	-3.3
ARU					pmax		pmax		
	comp=Z,70nm,1.0s								
ARU					MLR		MLR		
	comp=Z,827nm,21.0s								
ARU	Arti	83.11	355		P		P	16 44 07.5	+0.7
	comp=Z,367nm,1.0s,SNR=20								
BZS	Buzias	83.11	330	⇓	P		P	16 44 07.3	+0.2
BZS	Buzias	83.11	330	⇓	*i* P		P	16 44 07.3	+0.2
SVE	Sverdlovsk	83.36	356	*c*	*i* P		P	16 44 08.9	+0.8
SVE				*e*S			S	16 54 32.1	+3.7
SVE					pmax		pmax		
	comp=Z,124nm,1.5s								
SVE					MLR		MLR		
	comp=Z,897nm,19.0s								
MOY	Mondy	83.39	20	*e*	P		P	16 44 09.0	+0.4
MOY					pmax		pmax		
	comp=Z,78nm,2.5s								
DRGR		83.53	331	⇑	P		P	16 44 09.6	+0.2
DRGR		83.53	331	⇑	*i* P		P	16 44 09.6	+0.2
BMR	Baia Mare	83.88	332	⇑	P		P	16 44 11.5	+0.5
BMR	Baia Mare	83.88	332	⇑	*i* P		P	16 44 11.5	+0.5
KIEV	Kiev	84.10	337	*e*	P		P	16 44 12.0	-0.1
KIEV					pmax		pmax		
	comp=Z,69nm,0.8s								
KIEV					MLR		MLR		
	comp=Z,475nm,22.0s								
KIEV	Kiev	84.10	337	*e*	P		P	16 44 12.0	-0.1
	comp=Z,69nm,0.8s								
KIEV					LR		LR		
	comp=Z,475nm,22.0s								
TLY	Talaya	84.26	22	*e*	P		P	16 44 13.1	+0.2
TLY				*e*				16 47 22.1	
TLY					pmax		pmax		
	comp=Z,36nm,2.0s								
TLY	Talaya	84.26	22		P		P	16 44 13.9	+1.0
	comp=Z,68nm,1.9s,SNR=6.9								
ABSA	Djebel Ababsia	84.30	315		P		P	16 44 15.4	+1.8
CMAH	Djebel Manchou	84.56	316		P		P	16 44 15.2	+0.3
INCN	Inchon	84.62	43		PFAKE			16 44 30.0	+15
INCN					LR		LR		
	comp=Z,317nm,19.0s								
TRPA	Tarpa	84.64	332	⇓	*i* P		P	16 44 14.9	0.0
TRPA	Tarpa	84.64	332	⇓	*e* P		P	16 44 14.9	0.0
SNZO	South Karori	84.65	134		PFAKE			16 44 30.0	+15
SNZO					LR		LR		
	comp=Z,1μm,22.0s								
AQU	L'Aquila	84.83	323		PFAKE			16 44 30.0	+14
AQU					LR		LR		
	comp=Z,254nm,20.0s								
CTEI	Djebel Teioual	84.85	315		P		P	16 44 17.2	+0.8
CKFL	Kef-Lekhel	84.86	315		P		P	16 44 17.8	+1.3
PKSM	Moragy	84.93	328	⇓	P		P	16 44 16.4	0.0
PKSM	Moragy	84.93	328	⇓	*i* P		P	16 44 16.4	0.0
PKSM	Moragy	84.93	328	⇓	*e* P		P	16 44 16.5	0.0
IRK	Irkutsk	84.94	22	*e*	P		P	16 44 15.8	-0.5
IRK					pmax		pmax		
	comp=Z,82nm,1.8s								
UZH	Uzhgorod	85.13	332	*d*	*i* P		P	16 44 15.9	-1.4
UZH				*e*	PPP		PPP	16 49 31.3	
UZH				*e*S			S	16 54 43.1	-3.3
GUMO	Guam	85.14	72		PFAKE			16 44 30.0	+12
GUMO					LR		LR		
	comp=Z,370nm,21.0s								
VSL	Villasalto	85.19	319	*e*	P		P	16 44 18.2	+0.3
	comp=Z,18nm,0.8s								
VSL					LR		LR		
	comp=Z,366nm,20.0s								
LVV	L'vov	85.34	333	*e*	P		P	16 44 18.3	-0.1
LVV				*e*				16 47 43.5	
LVV				*e*				16 49 35.5	
LVV				*e*S			S	16 54 42.5	-6.0
LVV				*e*				16 55 46.7	
LVV					MLR		MLR		
	comp=N,100nm,19.0s								
LVV					MLR		MLR		
	comp=E,200nm,19.0s								
LVV					MLR		MLR		
	comp=Z,300nm,19.0s								
KSAR	Wonju Array Be	85.37	44		P		P	16 44 18.2	-0.5
KOLS	Kolonicke sedl	85.37	332	*e*	P		P	16 44 19.0	+0.4
KOLS					pmax		pmax		
	comp=Z,34nm,1.1s								
KOLS	Kolonicke sedl	85.37	332	*e*	P		P	16 44 19.0	+0.4
KOLS	Kolonicke sedl	85.37	332	*e*S			S	16 54 49.8	+0.9
PKS9	Tamasi	85.38	328	⇓	*e* P		P	16 44 18.9	+0.3
CKHR	Kef el Ahmar	85.39	314		P		P	16 44 20.6	+1.5
KSRS	Korea Array	85.40	44		P		P	16 44 18.2	-0.7
	comp=Z,3.7nm,0.8s,baz=233,slow=5.3,SNR=16								
DFRA	Djebel Bou Aff	85.48	315		P		P	16 44 20.6	+1.0
SET	Setif	85.58	314		P		P	16 44 21.0	+1.0
PSZ	Piszkesteto	85.63	330	⇓	P		P	16 44 19.3	-0.7
PSZ	Piszkesteto	85.63	330	*e*	P		P	16 44 18.8	-1.2
	comp=Z,16nm,0.9s								
PSZ					LR		LR		
	comp=Z,400nm,19.0s								
PSZ	Piszkesteto	85.63	330	⇓	*i* P		P	16 44 19.3	-0.7
PSZ	Piszkesteto	85.63	330	⇓	*e* P		P	16 44 19.5	-0.5
OBN	Obninsk	85.64	343	*d*	*i* P		P	16 44 19.8	+0.1
OBN				*i*				16 44 26.2	
OBN				*i*				16 47 38.3	
OBN				*i*	S		S	16 54 45.8	-5.3
OBN				*i*	PS		PnS	16 55 48.0	-0.6
OBN				*i*	SS		SS	17 00 24.9	-3.2
OBN					pmax		pmax		
	comp=Z,167nm,1.6s								
OBN					MLR		MLR		
	comp=Z,1μm,23.0s								
OBN	Obninsk	85.64	343		P		P	16 44 20.3	+0.6
	comp=Z,461nm,1.1s,SNR=5.5								
SNY	Shenyang	85.65	39	⇓	P		P	16 44 19.0	-1.1
SNY					pmax		pmax		
	comp=Z,17nm,2.5s								
SNY					pmax		pmax		
	comp=Z,400nm,5.0s								
SNY					LR		LR		
	comp=N,500nm,13.7s								
SNY					LR		LR		
	comp=E,420nm,15.7s								
SNY					LR		LR		
	comp=Z,670nm,13.7s								
BUD	Budapest	85.70	329	⇓	*e* P		P	16 44 20.2	0.0
KWP	Kalwaria Pacla	85.73	333	*e*	P		P	16 44 20.5	+0.2
KWP					pmax		pmax		
	comp=Z,68nm,0.9s								
KWP					MLR		MLR		
	comp=Z,485nm,20.0s								
KWP	Kalwaria Pacla	85.73	333	*e*	P		P	16 44 20.5	+0.2
	comp=Z,68nm,0.9s								
KWP					LR		LR		
	comp=Z,485nm,20.0s								
KWP	Kalwaria Pacla	85.73	333	*e*	P		P	16 44 20.6	+0.2
KECS	Kecovo	85.80	331	*e*	P		P	16 44 20.8	+0.1
KECS					pmax		pmax		
	comp=Z,16nm,0.9s								
KECS	Kecovo	85.80	331	*e*	P		P	16 44 20.8	+0.1
PKSG		85.92	329	⇓	*e* P		P	16 44 21.3	0.0
MOS	Moscow	85.92	344	*e*	P		P	16 44 18.0	-3.1
MOS				*e*				16 47 36.5	
MOS					pmax		pmax		
	comp=Z,117nm,1.2s								
MOS					pmax		pmax		
	comp=Z,600nm,2.0s								
CSKK	Cs˘ŧkako	85.96	329	*e*	P		P	16 44 21.8	+0.3
PKST	T˜'s	85.99	329	⇓	*e* P		P	16 44 21.3	-0.4
BEHE	Becsehely	86.01	328	⇓	*e* P		P	16 44 22.0	+0.2
BOJS	Bojanci	86.06	326	*i*	P		P	16 44 21.8	-0.3
BOJS				*e*	PP		PP	16 47 41.2	-1.6
STHS	Stebnicka Huta	86.18	332	*e*	P		P	16 44 23.2	+0.6
STHS					pmax		pmax		
	comp=Z,16nm,0.9s								
STHS	Stebnicka Huta	86.18	332	*e*	P		P	16 44 23.2	+0.6
GOLS	Golise	86.24	327	*i*	P		P	16 44 23.1	+0.1
SOKR	Solikamsk	86.39	355	*d*	*i* P		P	16 44 24.0	+0.8
SOKR					S		S	16 55 02.9	+4.7
SOKR					pmax		pmax		
	comp=Z,60nm,1.1s								
VYHS	Vyhne	86.53	330	*e*	P		P	16 44 24.4	+0.1
VYHS					pmax		pmax		
	comp=Z,34nm,1.3s								
VYHS	Vyhne	86.53	330	*e*	P		P	16 44 24.4	+0.1
NIE	Niedzica	86.58	331	⇓	*i* P		P	16 44 26.2	+1.6
NIE	Niedzica	86.58	331	*i*	P		P	16 44 26.2	+1.6
LJU	Ljubljana	86.80	326	*i*	P		P	16 44 25.7	0.0
LJU				*e*	S		S	16 54 54.4	-8.6
LJU				*e*				16 56 09.8	
LJU				*e*				17 00 56.9	
PERS	Pernice	86.93	327	*i*	P		P	16 44 26.3	0.0
SOKA	Soboth	87.00	327	⇓	*i* P		P	16 44 26.8	+0.1
	comp=Z,34nm,1.6s								
ZST	Bratislava	87.10	329	*e*	P		P	16 44 26.0	-1.1
ZST				*e*	S		S	16 55 02.1	-3.6
ZST	Bratislava	87.10	329	*e*	P		P	16 44 26.0	-1.1
ZST	Bratislava	87.10	329	*e*	S		S	16 55 02.1	-3.6
ZST				*e*	pS		pS	16 55 11.6	-0.2
ZST				*e*	sS		ScS	16 55 11.8	-1.4
OBKA	Obir	87.12	327	*i*	P		P	16 44 27.4	+0.1
	comp=Z,58nm,1.6s,SNR=10								
EMHD	Djebel Mahouad	87.16	313		P		P	16 44 29.0	+1.1
ARSA	Arzberg	87.17	328	*i*	P		P	16 44 27.7	+0.2
	comp=Z,52nm,1.2s,SNR=12								
CADS	Cadrg	87.33	326	*e*	P		P	16 44 27.9	-0.4
CADS				*e*	PP		PP	16 47 47.3	-5.7
OJC	Ojcow	87.40	332	⇓	*i* P		P	16 44 28.5	0.0
OJC				*e*	S		S	16 55 06.2	-2.3
OJC					MLR		MLR		
	comp=Z,400nm,18.7s								
OJC	Ojcow	87.40	332	*i*	P		P	16 44 28.5	0.0
OJC				*e*	S		S	16 55 06.2	-2.3
OJC					L		L	17 25 36.3	
	comp=Z,400nm,18.7s								
CONA	Conrad Observa	87.49	328	*i*	P		P	16 44 29.1	+0.1
	comp=Z,119nm,1.2s,SNR=63								
MYKA	Terra Mystica	87.65	326	⇓	*i* P		P	16 44 29.9	0.0
	comp=Z,52nm,1.6s								
VLC	Villacollemand	87.67	323		PFAKE			16 44 40.0	+10
VLC					LR		LR		
	comp=Z,314nm,20.0s								
ETRT	Tiaret	87.78	312		P		P	16 44 32.5	+1.6
OKC	Ostrava-Krasne	87.83	331	⇓	*i* P		P	16 44 30.7	+0.2
OKC				*e*				16 44 36.6	
OKC				*e*				16 54 59.8	
OKC				*e*	PS		PnS	16 56 14.7	-0.5
OKC					MLR		MLR		
	comp=Z,400nm,21.3s								
OKC	Ostrava-Krasne	87.83	331	⇓	*i* P		P	16 44 30.7	+0.2
OKC				*e*	pP		pP	16 44 36.6	+1.3
OKC				*e*	x		x	16 44 39.8	
OKC				*e*	x		x	16 47 45.0	
OKC				*e*	SKS		SKSac	16 54 59.8	+1.7
OKC				*e*	PS		PnS	16 56 14.7	-0.5
OKC				*e*	x		x	17 01 19.7	
OKC					AMS		AMS	17 21 40.0	
	comp=Z,400nm,21.3s								
DZM	M

VRAC **Vranov** 88.14 329 P **P** 16 44 32.7 +0.7
VRAC **Vranov** 88.14 329 P **P** 16 44 32.7 +0.7
comp=Z,9,6nm,0.8s,baz=128,slow=7.6,SNR=28
EBNR **Beni Rached** 88.15 312 P **P** 16 44 35.0 +2.5
CIT **Chita** 88.16 26 *e*P **P** 16 44 32.0 -0.1
CIT *e* 16 55 17.9
CIT pmax pmax
comp=Z,144nm,2.1s
ECHA **Ech Chlef** 88.17 312 P **P** 16 44 34.5 +2.0
MOA **Molln** 88.19 327 *i*P **P** 16 44 32.4 0.0
comp=Z,107nm,0.9s,SNR=81
BEL **Belsk** 88.21 333 *e*P **P** 16 44 33.2 +0.9
EANR **'Ain N'Sour** 88.24 312 P **P** 16 44 34.0 +1.1
ABTA **Abfaltersbach** 88.30 326 *i*P **P** 16 44 33.4 +0.4
comp=Z,108nm,0.9s,SNR=50
NACGM **Naroch** 88.41 338 *e*P **P** 16 44 32.0 -1.1
KRLC **Kraliky** 88.61 330 *e*P **P** 16 44 34.6 +0.3
KRLC **Kraliky** 88.61 330⇓*e*P **P** 16 44 34.6 +0.3
IDID **Didziasalis** 88.76 338 *e*P **P** 16 44 35.4 +0.6
IDID AMB AMB 16 44 37.1
comp=Z,20nm,1.2s
HIA **Hailar** 88.80 31 *e*P **P** 16 44 34.9 -0.3
comp=Z,71nm,1.5s
HIA LR LR
comp=Z,468nm,20.0s
RJOB **Jochberg** 88.83 327 *e*P **P** 16 44 34.9 -0.6
comp=Z,46nm,1.0s
IIGN **Ignalina** 88.96 338 *e*P **P** 16 44 36.4 +0.6
IIGN AMB AMB 16 44 38.0
comp=Z,29nm,1.0s
SUW **Suwalki** 88.97 336 *e*P **P** 16 44 36.4 +0.6
SUW pmax pmax
comp=Z,188nm,0.9s
SUW **Suwalki** 88.97 336 *e*P **P** 16 44 36.4 +0.6
comp=Z,188nm,0.9s
SUW **Suwalki** 88.97 336 *e*P **P** 16 44 36.0 +0.2
DPC **Dobruska-Polom** 89.01 330⇓*i*P **P** 16 44 36.7 +0.5
DPC *e* 16 44 44.4
DPC *e* 16 55 06.4
DPC *e*PS **PS** 16 56 33.1 +2.9
DPC **Dobruska-Polom** 89.01 330⇓*i*P **P** 16 44 36.7 +0.5
DPC *ex* x 16 44 44.4
DPC *e*SKS **SKSac** 16 55 06.4 +1.1
DPC *e*PS **PS** 16 56 33.1 +2.9
WTTA **Wattenberg** 89.09 326 *i*P **P** 16 44 36.9 +0.1
comp=Z,142nm,1.1s,SNR=32
SBF **Sospel** 89.11 321⇓*i*P **P** 16 44 37.3 +0.5
comp=Z,179nm,0.8s
GEC2 **GERESS Array S** 89.16 328 *e*P **P** 16 44 36.1 -0.9
comp=Z,38nm,1.1s
GEC2 **GERESS Array S** 89.16 328 *e*P **P** 16 44 36.1 -0.9
GEC2 pmax pmax
comp=Z,115nm,1.1s
GERES **GERESS Array B** 89.16 328 P **P** 16 44 36.3 -0.7
GERES PP **PP** 16 48 12.3 +4.6
GERES **GERESS Array B** 89.16 328 P **P** 16 44 36.3 -0.7
comp=Z,11nm,0.8s,baz=140,slow=5.2,SNR=72
GERES PP **PP** 16 48 12.3 +4.6
comp=Z,1.6nm,0.9s,baz=140,slow=8.5,SNR=4.3
GERES LR LR 17 25 32.7
comp=Z,267nm,20.7s,baz=165,slow=36
WATA **Walderalm** 89.17 326⇓*i*P **P** 16 44 37.0 -0.1
comp=Z,94nm,1.1s,SNR=18
ISAL **Salakas** 89.17 338 *e*P **P** 16 44 37.4 +0.6
ISAL AMB AMB 16 44 38.7
comp=Z,22nm,1.0s
AUTN **L'Aution** 89.19 321⇓*e*P **P** 16 44 38.2 +0.7
AUTN **L'Aution** 89.19 321⇓*e*P **P** 16 44 38.2 +0.7
AUTN **L'Aution** 89.19 321⇓*e*P **P** 16 44 38.2 +0.7
UPC **Upice** 89.26 330⇓*i*P **P** 16 44 37.9 +0.6
UPC **Upice** 89.26 330⇓*i*P **P** 16 44 37.9 +0.6
UPC *ex* x 16 44 47.3
IZAR **Zarasai** 89.27 338 *e*P **P** 16 44 37.9 +0.6
IZAR AMB AMB 16 44 39.3
comp=Z,24nm,1.2s
MVIF **Mont Vial** 89.29 321⇓*e*P **P** 16 44 38.5 +0.7
MVIF **Mont Vial** 89.29 321⇓*e*P **P** 16 44 38.5 +0.7
MVIF **Mont Vial** 89.29 321⇓*e*P **P** 16 44 38.5 +0.7
LMR **La Mourre** 89.30 320⇓*i*P **P** 16 44 38.1 +0.4
comp=Z,98nm,1.0s
TOUF **Mont Tournerai** 89.31 321⇓*e*P **P** 16 44 38.7 +0.8
TOUF **Mont Tournerai** 89.31 321⇓*e*P **P** 16 44 38.7 +0.8
TOUF **Mont Tournerai** 89.31 321⇓*e*P **P** 16 44 38.7 +0.8
CALN **Calern** 89.34 321⇓*e*P **P** 16 44 38.9 +0.8
CALN **Calern** 89.34 321⇓*e*P **P** 16 44 38.9 +0.8
CALN **Calern** 89.34 321⇓*e*P **P** 16 44 38.9 +0.8
FRF **La Foret Royal** 89.36 321⇓*i*P **P** 16 44 38.5 +0.5
comp=Z,170nm,1.1s
KSP **Ksiaz** 89.38 330 *e*P **P** 16 44 38.4 +0.6
KSP *e**PP **pP** 16 44 46.8 +4.2
KSP *e* 16 55 07.0
KSP **Ksiaz** 89.38 330 *e*pP **P** 16 44 38.6 +0.8
FETA **Feichten** 89.39 325 *i*P **P** 16 44 38.4 +0.2
comp=Z,178nm,0.9s,SNR=138
KHC **Kasperske Hory** 89.41 328⇓*i*P **P** 16 44 37.5 -0.6
KHC *e* 16 44 43.0
KHC *e* 16 48 06.0
KHC *e* 16 55 08.7
KHC *e*PS **PS** 16 56 36.1 +1.4
KHC *e*SS SS 17 01 27.8 +4.1
KHC MLR MLR
comp=Z,400nm,21.5s
KHC **Kasperske Hory** 89.41 328⇓*i*P **P** 16 44 37.5 -0.6
KHC *e*pP **pP** 16 44 43.0 +0.1
KHC *e*sP **sP** 16 44 46.0 +1.4
KHC *ex* x 16 47 46.2
KHC *e*PP **PP** 16 48 06.0 -3.7
KHC *e*SKS **SKSac** 16 55 08.7 +1.0
KHC *e*PS **PS** 16 56 36.1 +1.4
KHC *e*SS **SS** 17 01 27.8 +4.1
KHC AMS AMS 17 27 30.0
comp=Z,400nm,21.5s
KHC **Kasperske Hory** 89.41 328 *e*P **P** 16 44 37.3 -0.8
comp=Z,43nm,1.0s
KHC *e* 16 44 46.5
MOTA **Moosalm** 89.41 326⇓*i*P **P** 16 44 38.2 -0.1
comp=Z,85nm,0.8s,SNR=40
PRU **Pruhonice** 89.56 329 *e*P **P** 16 44 38.9 +0.2
PRU *e* 16 44 47.3
PRU *e* 16 55 12.3
PRU *e*PS **PS** 16 56 40.5 +4.3
PRU *e*SS SS 17 01 20.6 -5.1
PRU MLR MLR
comp=Z,400nm,20.6s
PRU **Pruhonice** 89.56 329⇓*e*P **P** 16 44 38.9 +0.2
PRU *ex* x 16 44 47.3
PRU *ex* x 16 47 45.1
PRU *e*SKS **SKSac** 16 55 12.3 +3.9
PRU *e*PS **PS** 16 56 40.5 +4.3
PRU *e*SS **SS** 17 01 20.6 -5.1
PRU AMS AMS 17 26 10.0
comp=Z,400nm,20.6s
PRA **Prague** 89.67 329 ⇓P **P** 16 44 39.0 -0.2
PRA AMS AMS 17 26 30.0
RETA **Reutte** 89.68 325 *i*P **P** 16 44 39.8 +0.3
comp=Z,114nm,1.1s,SNR=29
TUE **Stuetta** 89.74 324 *e*P **P** 16 44 39.8 -0.1
comp=Z,51nm,0.8s
TUE LR LR
comp=Z,334nm,20.0s
WET **Wettzell** 89.75 328 *e*P **P** 16 44 38.9 -0.8
comp=Z,42nm,1.0s
WET **Wettzell** 89.75 328 *e*P **P** 16 44 38.9 -0.8
WET pmax pmax
comp=Z,242nm,1.0s
SURF **Saint Ours** 89.84 321⇓*e*P **P** 16 44 41.8 +1.4
SURF **Saint Ours** 89.84 321⇓*e*P **P** 16 44 41.8 +1.4
FUR **Furstenfeldbru** 89.87 326 *e*P **P** 16 44 40.6 +0.3
comp=Z,309nm,0.9s
FUR **Furstenfeldbru** 89.87 326 *e*P **P** 16 44 40.6 +0.3
FUR pmax pmax
comp=Z,194nm,0.9s
PVCC **Panska Ves** 89.93 329 *e*P **P** 16 44 41.0 +0.6
PVCC *e* 16 44 49.3
PVCC MLR MLR
comp=Z,400nm,16.4s
PVCC **Panska Ves** 89.93 329⇓*e*P **P** 16 44 41.0 +0.6
PVCC *ex* x 16 44 49.3
PVCC *ex* x 16 47 48.7
PVCC AMS AMS 17 28 00.0
comp=Z,400nm,16.4s
DAVA **Damuels** 90.00 325 *i*P **P** 16 44 41.2 +0.2
comp=Z,140nm,0.9s,SNR=51
MBDF **Montbardon** 90.02 322 *e*P **P** 16 44 42.0 +0.8
comp=Z,160nm,0.9s
OG25 **Le Caire** 90.19 321⇓*e*P **P** 16 44 42.8 +0.9
OG25 **Le Caire** 90.19 321⇓*e*P **P** 16 44 42.8 +0.9
SMRF **Simiane la Rot** 90.23 320⇓*i*P **P** 16 44 43.4 +1.3
comp=Z,153nm,1.0s
BNI **Bardonecchia** 90.28 322 *e*P **P** 16 44 42.7 +0.3
BNI pmax pmax
comp=Z,64nm,1.1s
BNI MLR MLR
comp=Z,421nm,21.0s
BNI **Bardonecchia** 90.28 322 *e*P **P** 16 44 42.7 +0.3
comp=Z,64nm,1.1s
BNI LR LR
comp=Z,421nm,21.0s
ROTZ **Rotzenmuhle** 90.50 328 *e*P **P** 16 44 43.1 0.0
comp=Z,31nm,1.3s
LPG **La Plagne** 90.51 322⇓*i*P **P** 16 44 43.4 -0.3
comp=Z,59nm,0.9s
LPL **La Plagne** 90.53 322⇓*i*P **P** 16 44 43.4 -0.3
comp=Z,56nm,0.9s
ORIF **Oris-en-Rattie** 90.64 321⇓*i*P **P** 16 44 44.5 +0.5
comp=Z,119nm,1.1s
ORIF *e*R
comp=Z,446nm,22.5s
GDM **Grand'Maison** 90.68 322 *e*P **P** 16 44 44.7 +0.4
GDM **Grand'Maison** 90.68 322 *e*P **P** 16 44 44.7 +0.4
GKP **Gorka Klasztor** 90.73 333 *e*pP **P** 16 44 45.5 +1.4
MDJ **Mudanjiang** 90.81 39 P **P** 16 44 45.2 +0.5
MDJ pP **pP** 16 44 48.5 -1.0
MDJ sP **sP** 16 44 49.9 -1.3
MDJ PP **PP** 16 48 21.1 +0.2
MDJ S **ScS** 16 55 42.8 -1.4
MDJ SS **SS** 17 01 47.4 +3.3
MDJ pmax pmax
comp=Z,3.0nm,0.6s
MDJ pmax pmax
comp=Z,97nm,5.8s
MDJ LR LR
comp=N,370nm,24.4s
MDJ LR LR
comp=E,300nm,16.5s
MDJ LR LR
comp=Z,630nm,14.2s
MDJ **Mudanjiang** 90.81 39 PFAKE 16 45 00.0 +15
MDJ LR LR
comp=Z,384nm,19.0s
TANN **Tannenbergstha** 90.82 328 *e*P **P** 16 44 45.1 +0.4
comp=Z,48nm,1.4s
GRN **Grenoble** 90.91 322⇓*e*P **P** 16 44 46.2 +0.9
GRN **Grenoble** 90.91 322⇓*e*P **P** 16 44 46.2 +0.9
GRN **Grenoble** 90.91 322⇓*e*P **P** 16 44 46.2 +0.9
GRF **Grafenberg Arr** 90.92 327 *e*P **P** 16 44 45.1 0.0
comp=Z,73nm,1.1s
GRF *e*L L 17 30 35.0
comp=Z,389nm,19.5s
GRF **Grafenberg Arr** 90.92 327 *e*P **P** 16 44 45.1 0.0
GRFO **Grafenberg** 90.92 327 *e*P **P** 16 44 45.4 +0.3
GRFO pmax pmax
comp=Z,25nm,0.8s
GRFO **Grafenberg** 90.92 327 *e*P **P** 16 44 45.4 +0.3
comp=Z,26nm,0.8s
SPAK **Spaichingen-Ko** 91.09 325⇓*e*P **P** 16 44 46.4 +0.4
CLL **Collm** 91.18 329 *e*P **P** 16 44 46.6 +0.3
comp=Z,60nm,1.7s
CLL **Collm** 91.18 329⇓*i*P **P** 16 44 46.5 +0.3
CLL *e* 16 55 20.0
CLL *e*S **ScS** 16 55 51.0 +4.1
CLL pmax pmax
comp=Z,196nm,2.3s
CLL MLR MLR
comp=Z,200nm,20.7s
CLL **Collm** 91.18 329⇓*i*P **P** 16 44 46.5 +0.3
comp=Z,196nm,2.3s
CLL *e*PP PP 16 48 31.0 +7.4
CLL *e*SKSac **SKSac** 16 55 20.0 +2.3
CLL *e*S **ScS** 16 55 51.0 +4.1
CLL *e*PS **PS** 16 56 48.0 -6.2
CLL *e*SS **SS** 17 01 48.0 -1.1
CLL LV 17 31 00.0
comp=Z,200nm,20.7s
CLL LH 17 31 00.0
comp=N,200nm,19.8s
CLL LH 17 31 00.0
comp=E,300nm,20.5s
VLA **Vladivostok** 91.24 41*d*i*P **P** 16 44 45.8 -0.9
VLA pmax pmax
comp=Z,21nm,1.7s
LASF **Ste Croix** 91.27 320⇓*i*P **P** 16 44 47.4 +0.5
comp=Z,90nm,1.1s
VIVF **Saint-Julien-l** 91.28 321⇓*i*P **P** 16 44 47.2 +0.3
comp=Z,72nm,1.2s
STU **Stuttgart** 91.31 326 *e*P **P** 16 44 47.3 +0.4
STU pmax pmax
comp=Z,23nm,0.8s
STU **Stuttgart** 91.31 326 *e*P **P** 16 44 47.3 +0.4
comp=Z,23nm,0.8s
VSU **Vasula** 91.32 340*d*i*P **P** 16 44 46.7 0.0
VSU pmax pmax
comp=Z,122nm,0.8s
BBS **Basel-Blauen** 91.34 324⇓*e*P **P** 16 44 47.3 +0.1
BBS **Basel-Blauen** 91.34 324⇓*e*P **P** 16 44 47.3 +0.1
FELD **Feldberg im Sc** 91.35 325⇓*e*P **P** 16 44 47.1 -0.2
PUL **Pulkovo** 91.37 342⇓*e*P **P** 16 44 43.7 -3.2
MOX **Moxa** 91.37 328 *e*P **P** 16 44 47.5 +0.3
comp=Z,49nm,1.4s
MOX *e*L L 17 22 45.7
comp=Z,151nm,21.6s
MOX **Moxa** 91.37 328 *e*P **P** 16 44 47.5 +0.3
MOX MLR MLR
comp=Z,49µm,21.6s
BFO **Black Forest** 91.47 325 *e*P **P** 16 44 47.7 0.0
comp=Z,31nm,1.1s
BFO **Black Forest** 91.47 325 *e*P **P** 16 44 47.7 0.0
BFO pmax pmax
comp=Z,17nm,1.1s
BFO **Black Forest** 91.47 325 *e*P **P** 16 44 47.6 0.0
comp=Z,12nm,0.8s
BFO LR LR
comp=Z,284nm,19.0s
OG35 **Corcelles** 91.50 322⇓*e*P **P** 16 44 48.2 +0.2
CABF **La Chapelle** 91.57 323⇓*i*P **P** 16 44 48.6 +0.3
comp=Z,212nm,1.6s
MAJO **Matsushiro** 91.58 50 *e*P **P** 16 44 47.5 -1.0
MAJO pmax pmax
comp=Z,40nm,1.5s
MAJO MLR MLR
comp=Z,218nm,20.0s
MAJO **Matsushiro** 91.58 50 *e*P **P** 16 44 47.5 -1.0
comp=Z,40nm,1.5s
MAJO LR LR
comp=Z,218nm,20.0s
MJAR **Matsushiro Arr** 91.58 50 P **P** 16 44 47.3 -1.2
MJAR **Matsushiro Arr** 91.58 50 P **P** 16 44 47.3 -1.2
comp=Z,3.1nm,0.8s,baz=237,slow=6.5,SNR=10
MJAR LR LR 17 23 04.7
comp=Z,215nm,19.6s,baz=240,slow=34
SSB **Saint Sauveur** 91.61 321 *e*P **P** 16 44 48.0 -0.4
SSB pmax pmax
comp=Z,45nm,1.5s
SSB MLR MLR
comp=Z,729nm,21.0s
SSB **Saint Sauveur** 91.61 321 *e*P **P** 16 44 48.0 -0.4
comp=Z,45nm,1.5s
SSB LR LR
comp=Z,729nm,21.0s
SSB **Saint Sauveur** 91.61 321⇓*e*P **P** 16 44 48.7 +0.3
LOMF **Lomont** 91.63 324 *e*P **P** 16 44 48.9 +0.3
LOMF **Lomont** 91.63 324 *e*P **P** 16 44 48.9 +0.3
LOMF **Lomont** 91.63 324 *e*P **P** 16 44 48.9 +0.3
MOF **Molkenrain** 91.79 324⇓*e*P **P** 16 44 48.9 -0.4
MOF **Molkenrain** 91.79 324⇓*e*P **P** 16 44 48.9 -0.4
MOF **Molkenrain** 91.79 324⇓*e*P **P** 16 44 48.9 -0.4
MTLF **Montolieu** 91.80 319⇓*i*P **P** 16 44 49.8 +0.5
comp=Z,40nm,0.9s
HINF **Hinteralfeld** 91.91 324⇓*i*P **P** 16 44 49.4 -0.4
comp=Z,49nm,1.0s
USRK **Ussuriysk Arra** 91.94 41 P **P** 16 44 49.0 -0.9
comp=Z,1.1nm,0.5s,baz=267,slow=3.8,SNR=5.5
TOD **Tromm** 92.05 326 *e*P **P** 16 44 50.3 -0.1
TOD **Tromm** 92.05 326 *e*P **P** 16 44 50.3 -0.1
CDF **Champ du Feu** 92.06 325⇓*i*P **P** 16 44 50.2 -0.3
comp=Z,40nm,1.1s
LANF **Langenberg** 92.15 325⇓*e*P **P** 16 44 51.0 +0.2
LANF **Langenberg** 92.15 325⇓*e*P **P** 16 44 51.0 +0.2
LANF **Langenberg** 92.15 325⇓*e*P **P** 16 44 51.0 +0.2
KTD **Kalmit** 92.23 326 *e*P **P** 16 44 51.7 +0.5
KTD **Kalmit** 92.23 326 *e*P **P** 16 44 51.7 +0.5
HAU **Haudompre** 92.29 324⇓*i*P **P** 16 44 51.3 -0.2
comp=Z,51nm,1.0s
HAU *e*R
comp=Z,288nm,18.2s
LBL **Lubilhac** 92.31 320 *e*P **P** 16 44 53.2 +1.4
LBL **Lubilhac** 92.31 320 *e*P **P** 16 44 53.2 +1.4
LBL **Lubilhac** 92.31 320 *e*P **P** 16 44 53.2 +1.4
THEF **They Montfort** 92.62 324⇓*e*P **P** 16 44 53.0 0.0
THEF **They Montfort** 92.62 324⇓*e*P **P** 16 44 53.0 0.0
THEF **They Montfort** 92.62 324⇓*e*P **P** 16 44 53.0 0.0
TNS **Taunus Mts** 92.62 327 *e*P **P** 16 44 53.1 +0.1
comp=Z,29nm,1.3s
TNS **Taunus Mts** 92.62 327 *e*P **P** 16 44 53.1 +0.1
TNS pmax pmax
comp=Z,150nm,1.3s
RTC **Rabat Centre** 92.68 307 PFAKE 16 45 00.0 +6.4
RTC LR LR
comp=Z,1µm,20.0s
EPF **Esparros** 92.75 317⇓*i*P **P** 16 44 54.0 +0.2
comp=Z,27nm,0.8s
PYM **Petit Puy Mans** 92.75 321⇓*e*P **P** 16 44 55.5 +1.7
PYM **Petit Puy Mans** 92.75 321⇓*e*P **P** 16 44 55.5 +1.7
PYM **Petit Puy Mans** 92.75 321⇓*e*P **P** 16 44 55.5 +1.7
CLZ **Clausthal** 92.75 329 *e*P **P** 16 44 53.7 +0.1
comp=Z,33nm,1.2s
CLZ **Clausthal** 92.75 329 *e*P **P** 16 44 53.7 +0.1
CLZ pmax pmax
comp=Z,136nm,1.2s
CAF **Calviac** 92.81 320⇓*i*P **P** 16 44 54.6 +0.6
comp=Z,64nm,0.9s
SMF **Signal de Mont** 92.82 322⇓*i*P **P** 16 44 53.8 -0.2
comp=Z,50nm,1.0s
ABH **Alteburg** 92.86 326 *e*P **P** 16 44 54.3 +0.2
AGO **Saint Agoulin** 92.86 321⇓*e*P **P** 16 44 55.7 +1.5
AGO **Saint Agoulin** 92.86 321⇓*e*P **P** 16 44 55.7 +1.5
PAGF **Fort de Pagny** 92.96 324⇓*i*P **P** 16 44 54.7 +0.1
comp=Z,21nm,0.9s
RUP **Ruppelstein** 92.99 326 *e*P **P** 16 44 54.9 +0.2
RUP **Ruppelstein** 92.99 326 *e*P **P** 16 44 54.9 +0.2
VERF **Verneugheol** 93.05 321⇓*e*P **P** 16 44 55.9 +0.8
VERF **Verneugheol** 93.05 321⇓*e*P **P** 16 44 55.9 +0.8
SFTF **Sexfontaines** 93.11 324⇓*i*P **P** 16 44 55.4 +0.1
comp=Z,90nm,1.0s
AVF **Avril sur Loir** 93.17 322⇓*i*P **P** 16 44 55.4 -0.2
comp=Z,30nm,0.9s
LOR **Lormes** 93.18 322⇓*i*P **P** 16 44 55.6 0.0
comp=Z,68nm,1.1s
LOR *e*R
comp=Z,336nm,22.5s
ETSF **Etsaut** 93.22 317⇓*i*P **P** 16 44 56.5 +0.5
comp=Z,51nm,1.1s
SSF **Saint Saulge** 93.25 322⇓*i*P **P** 16 44 56.0 +0.1
comp=Z,33nm,0.8s
MEZF **Maizieres J'vi** 93.28 324⇓*i*P **P** 16 44 56.3 +0.3
comp=Z,70nm,1.0s
BGF **Bois d'Agland** 93.32 321⇓*i*P **P** 16 44 56.6 +0.3
comp=Z,77nm,0.9s
RJF **Les Rejaudoux** 93.35 320⇓*i*P **P** 16 44 56.9 +0.5
comp=Z,80nm,0.9s
RJF *e*R
comp=Z,645nm,21.0s
TMCR **Tamitsa** 93.42 348 *e*P **P** 16 44 55.7 -0.5
TMCR *e* 16 48 40.1
TMCR pmax pmax
comp=Z,8.0nm,0.3s
WLF **Walferdange** 93.42 325 P **P** 16 44 57.1 +0.4
comp=Z,24nm,1.6s
WLF **Walferdange** 93.42 325 PFAKE 16 45 10.0 +13
WLF LR LR
comp=Z,311nm,19.0s
TCF **Toulx Ste Croi** 93.52 321⇓*i*P **P** 16 44 57.5 +0.3
comp=Z,24nm,0.9s
LFF **La Frestale** 93.59 319⇓*i*P **P** 16 44 57.9 +0.4
comp=Z,90nm,1.2s
ESDC **Sonseca Array** 93.63 313 P **P** 16 44 58.5 +0.6
ESDC **Sonseca Array** 93.63 313 P **P** 16 44 58.5 +0.6
comp=Z,25nm,0.8s,baz=109,slow=3.6,SNR=96
ESDC LR LR 17 29 06.7
comp=Z,319nm,19.1s,baz=130,slow=37
ESLA **Sonseca Array** 93.63 313 *e*P **P** 16 44 58.5 +0.6
comp=Z,7.3nm,0.8s
ESLA *e* 16 45 07.8
SJPF **Ste Jean** 93.74 317⇓*i*P **P** 16 44 59.0 +0.7
comp=Z,38nm,0.9s
JOF **Joensuu** 93.78 344 *e*p **P** 16 44 57.5 -0.5
comp=Z,3.4nm,0.9s
JOF **Joensuu** 93.78 344 *e*P **P** 16 44 57.5 -0.5
JOF pmax pmax
comp=Z,3.0nm,0.9s
PAB **San Pablo** 93.81 313 *e*P **P** 16 44 59.6 +0.7
PAB pmax pmax
comp=Z,46nm,0.9s
PAB MLR MLR
comp=Z,674nm,19.0s
PAB **San Pablo** 93.81 313 *e*P **P** 16 44 59.5 +0.7
comp=Z,46nm,0.9s
PAB LR LR
comp=Z,674nm,19.0s
HYF **Humbligny** 93.85 322 *e*P **P** 16 44 59.1 +0.4
FINES **FINESS Array B** 93.94 341 P **P** 16 44 57.6 -1.1
FINES PP **PP** 16 48 45.1 0.0
FINES **FINESS Array B** 93.94 341 P **P** 16 44 57.6 -1.1
comp=Z,12nm,0.9s,baz=123,slow=7.0,SNR=18
FINES PP **PP** 16 48 45.1 0.0
comp=Z,4.8nm,0.9s,baz=143,slow=3.8,SNR=4.7
FINES LR LR 17 27 21.9
comp=Z,676nm,21.3s,baz=170,slow=36
BEBN **Eben Emael** 94.36 326 P **P** 16 45 01.7 +0.7
GIVF **Givet** 94.37 325 *e*P **P** 16 45 01.2 +0.2
comp=Z,45nm,0.9s
KAF **Kangasniemi** 94.41 342 *e*p **P** 16 45 00.1 -0.8
comp=Z,14nm,0.8s
KAF **Kangasniemi** 94.41 342 *e*P **P** 16 45 00.1 -0.8
KAF pmax pmax
comp=Z,14nm,0.8s
DOU **Dourbes** 94.49 325 P **P** 16 45 02.0 +0.5
comp=Z,22nm,2.3s
BAIF **Baives** 94.66 325⇓*i*P **P** 16 45 02.7 +0.4
KLR **Kul'dur** 94.77 36 *e*P P 16 44 57.9 -4.9
PBAR **Barrancos** 94.92 310 *e*P **P** 16 45 04.3 +0.5
comp=Z,27nm,2.0s
PBAR **Barrancos** 94.92 310 *e*PP PP 16 48 57.0 +3.7
PVAQ **Vaqueiros** 95.00 309 *e*PP PP 16 48 55.4 +1.5
PVAQ **Vaqueiros** 95.00 309 *e*LR LR 17 18 00.4
comp=Z,560nm,18.0s
MFF **Saint Martin d** 95.04 320⇓*i*P **P** 16 45 04.2 0.0
comp=Z,79nm,1.0s
PBDV **Barranco-do-Ve** 95.07 309 *e*PP PP 16 48 59.8 +5.3
PCVE **Castro Verde** 95.33 309 *e*P **P** 16 45 07.3 +1.6
comp=Z,40nm,1.6s
PCVE **Castro Verde** 95.33 309 *e*PP PP 16 49 03.5 +6.9
PBEJ **Beja** 95.41 310 *e*P **P** 16 45 07.6 +1.5
comp=Z,26nm,1.1s
MESJ **Messejana** 95.56 310 *e*P **P** 16 45 06.4 -0.4
MESJ AMb AMB 16 45 10.3
comp=Z,40nm,2.2s
MESJ *e*PP **PP** 16 48 57.4 -0.9
MESJ **Messejana** 95.56 310 *e*P **P** 16 45 06.4 -0.4
comp=Z,40nm,2.2s
MESJ **Messejana** 95.56 310 *e*P **P** 16 45 06.4 -0.4
MESJ *e* 16 48 57.4
MORF **Marmelete** 95.60 309 *e*PP PP 16 49 03.5 +4.8
MORF **Marmelete** 95.60 309 *e*P **P** 16 45 06.5 -0.5
MORF *e* 16 48 57.4
PESTR **Estremoz** 95.64 311 *e*P **P** 16 45 08.2 +1.1
comp=Z,46nm,1.2s
PESTR **Estremoz** 95.64 311 *e*PP PP 16 49 06.0 +7.1
PFVI **Vila Bisbo** 95.64 309 *e*PP PP 16 49 07.5 +8.6
EVO **Evora** 95.76 310⇑*i*P **P** 16 45 09.6 +1.9
comp=Z,75nm,1.1s
EVO *e*R
comp=Z,1µm,20.5s
PMRV **Marv??o** 95.78 311 *e*P **P** 16 45 08.1 +0.3
comp=Z,36nm,1.9s
PMRV **Marv??o** 95.78 311 *e*PP PP 16 49 05.4 +5.4
PMRV **Marv??o** 95.78 311 *e*LR LR 17 18 30.1
comp=Z,602nm,16.0s
PNCL **Nicolau / Gran** 95.91 310 *e*P **P** 16 45 09.6 +1.3
comp=Z,40nm,1.8s
PNCL **Nicolau / Gran** 95.91 310 *e*PP PP 16 49 02.6 +1.6
PCBR **Castelo Branco** 96.04 312 *e*P **P** 16 45 10.5 +1.6
comp=Z,32nm,1.5s
HABR **Khabarovsk** 96.12 38 P **P** 16 45 06.2 -2.8

HABR e*PP PcP 16 45 09.5 +0.3
HABR 16 48 59.3
HABR ePPP PPP 16 51 01.6
HABR e*SS SKSac 16 55 48.4 +3.5
HABR e 16 56 25.6
HABR ePS PS 16 57 46.5 -2.4
HABR eSS SS 17 02 59.0 -0.9
HABR eSSS SSS 17 06 43.4
HABR MLR MLR
comp=Z,203nm,18.0s
LDF La Druitiere 96.13 322 ⇓*i*P P 16 45 08.9 -0.2
comp=Z,70nm,1.2s
PMTG Montargil 96.17 311 *e*P P 16 45 10.6 +1.1
comp=Z,44nm,1.4s
PMTG Montargil 96.17 311 *e*PP PP 16 49 07.8 +4.8
MTE Manteigas 96.36 312 *e*P P 16 45 12.2 +1.7
MTE Manteigas 96.36 312 *e*PP PP 16 49 08.8 +4.2
MTE Manteigas 96.36 312 *e*LR LR 17 18 20.0
comp=Z,736nm,18.0s
MTE Manteigas 96.36 312 PFAKE 16 45 20.0 +10
MTE LR LR
comp=Z,906nm,20.0s
MVO Moncorvo 96.40 313 *e*P P 16 45 11.4 +0.8
comp=Z,40nm,1.2s
MVO Moncorvo 96.40 313 *e*PP PP 16 49 11.6 +6.7
MVO Moncorvo 96.40 313 *e*LR LR 17 18 29.2
comp=Z,689nm,18.0s
FLN La Foliniere 96.42 322 ⇓*i*P P 16 45 10.3 -0.1
comp=Z,46nm,0.9s
FLN *e*R
comp=Z,652nm,21.0s
GRR Gorron 96.43 321 *e*P P 16 45 10.0 -0.4
comp=Z,60nm,1.3s
PBRG Braganca 96.53 314 *e*P P 16 45 11.6 +0.4
comp=Z,29nm,1.4s
PBRG Braganca 96.53 314 *e*PP PP 16 49 10.3 +4.5
LIS Lisbon 96.63 310 *e*P P 16 45 10.7 -0.9
LIS AMb AMB 16 45 16.1
comp=Z,103nm,1.1s
LIS *e*PP PP 16 49 05.7 -0.8
LIS Lisbon 96.63 310 *e*P P 16 45 10.7 -0.9
comp=Z,103nm,1.1s
LIS Lisbon 96.63 310 *e*P P 16 45 10.7 -0.9
LIS *e* 16 49 05.7
PVIS Viseu 96.75 312 *e*P P 16 45 13.5 +1.3
comp=Z,36nm,2.0s
PMAFR Mafra 96.83 310 *e*PP PP 16 49 13.3 +5.2
PVRL Vila Real 96.91 313 *e*P P 16 45 14.0 +1.1
comp=Z,37nm,1.3s
POLO Lamas de Olo 97.01 313 *e*P Pdif 16 45 14.6 +1.1
comp=Z,15nm,1.1s
POLO Lamas de Olo 97.01 313 *e*PP PP 16 49 15.6 +6.0
PGAV Gavieira, Arco 97.61 313 *e*PP PP 16 49 21.7 +7.5
PGAV Gavieira, Arco 97.61 313 *e*LR LR 17 19 06.5
comp=Z,523nm,18.0s
ERM Erimo 97.67 47 PFAKE 16 45 30.0 +14
ERM LR LR
comp=Z,269nm,22.0s
KONO Kongsberg 98.19 334 PFAKE 16 45 30.0 +12
KONO LR LR
comp=Z,528nm,20.0s
NB2 NORSAR Subarra 98.49 336 P P 16 45 18.4 -1.1
comp=Z,5.7nm,0.8s,baz=137,slow=6.2
NB2 NORSAR Subarra 98.49 336 P P 16 45 18.4 -1.1
baz=137,slow=6.2
NOA NORSAR Array B 98.49 336 P P 16 45 19.0 -0.5
NOA NORSAR Array B 98.49 336 P P 16 45 19.0 -0.5
comp=Z,6.7nm,0.8s,baz=120,slow=4.4,SNR=16
NOA LR LR 17 30 55.0
comp=Z,342nm,18.2s,baz=180,slow=36
RCBR Riachuelo 99.21 259 PFAKE 16 45 30.0 +6.1
RCBR LR LR
comp=Z,845nm,20.0s
MSVF Nonsavu 99.52 115 PFAKE 16 45 40.0 +15
MSVF LR LR
comp=Z,2µm,20.0s
KEV Kevo 100.45 347 PFAKE 16 45 40.0 +12
KEV LR LR
comp=Z,577nm,19.0s
ARCES ARCESS Array B 100.58 346 P **Pdif 16 45 29.0 +0.4**
ARCES PP **PP 16 49 36.2 +0.2**
ARCES ARCESS Array B 100.58 346 P **Pdif 16 45 29.0 +0.4**
comp=Z,2.2nm,0.9s,baz=104,slow=3.9,SNR=4.5
ARCES PP **PP 16 49 36.2 +0.2**
comp=Z,3.7nm,0.8s,baz=109,slow=6.6,SNR=6.4
ESK Eskdalemuir 101.33 327 PFAKE 16 45 40.0 +7.8
ESK LR LR
comp=Z,543nm,22.0s
TARA Tarawa 104.46 96 PFAKE 16 46 00.0 +13
TARA LR LR
comp=Z,503nm,21.0s
KBS Kingsbay 109.87 350 PFAKE 16 50 20.0
KBS LR LR
comp=Z,469nm,20.0s
BILL Bilibino 117.74 25 *e*PKIKP **PKPdf 16 50 25.4 -1.6**
BILL *i* 16 51 41.3
BILL pmax pmax
comp=Z,15nm,0.9s
BILL MLR MLR
comp=Z,200nm,18.0s
TBI Tubuai 118.81 141 *e*SS SS 17 08 09.1 +2.9
comp=Z,612nm,32.2s
TBI Tubuai 118.81 141 *e*LR LR 17 26 39.9
comp=Z,941nm,29.2s
FX1 Attu Island--F 120.15 42 *e*P **PKPdf 16 50 31.1 -1.0**
FX1 Attu Island--F 120.15 42 PKP **PKPdf 16 50 30.9 -1.2**
comp=Z,5.7nm,0.7s,baz=230,slow=5.1,SNR=7.1
SAML Samuel 120.42 240 PFAKE 16 50 50.0 +16
SAML LR LR
comp=Z,381nm,19.0s
PPT2 Papeete2 123.21 137 *e*SS SS 17 09 06.1 +3.1
comp=Z,554nm,32.0s
PPT2 Papeete2 123.21 137 *e*LR LR 17 28 47.4
comp=Z,2µm,31.8s
RKT Rikitea 125.98 154 *e*LR LR 17 30 02.2
comp=Z,618nm,24.0s
GRGR Grenville 130.15 263 PFAKE 16 51 00.0 +7.6
GRGR LR LR
comp=Z,234nm,21.0s
ANWB Willy Bob 132.37 270 PFAKE 16 51 10.0 +14
ANWB LR LR
comp=Z,363nm,21.0s
COLA College 135.69 21 PFAKE 16 51 10.0 +8.7
COLA LR LR
comp=Z,452nm,21.0s
TRF Thorofare Moun 135.80 23 *e*PKPdf **PKPdf 16 51 01.7 -0.1**
ILAR Eielson Array 136.07 20 PKPpre PKPpre 16 50 54.1
ILAR PKP **PKPdf 16 51 02.6 +0.6**
ILAR Eielson Array 136.07 20 PKhKP PKPpre 16 50 54.1
comp=Z,0.5nm,0.7s,baz=314,slow=4.1,SNR=4.1
ILAR PKP **PKPdf 16 51 02.6 +0.6**
comp=Z,1.4nm,0.7s,baz=297,slow=4.2,SNR=8.6
SJG San Juan 136.42 269 PFAKE 16 51 20.0 +16
SJG LR LR
comp=Z,373nm,20.0s
INK Inuvik 136.48 11 PKP **PKPdf 16 51 02.0 -0.6**
INK PP **PP 16 53 43.0 -0.9**
INK PKKP **PKKPdf 17 00 42.5 0.0**
INK Inuvik 136.48 11 PKP **PKPdf 16 51 02.0 -0.6**
comp=Z,5.1nm,0.8s,baz=322,slow=1.9,SNR=7.7
INK PP **PP 16 53 43.0 -0.9**
comp=Z,3.2nm,1.0s,baz=338,slow=8.6,SNR=3.7
INK PKKP **PKKPdf 17 00 42.5 0.0**
comp=Z,0.7nm,0.4s,baz=134,slow=12,SNR=5.1
RC01 Rabbit Creek A 137.46 26 *e*PKPdf **PKPdf 16 51 04.0 -0.7**
EGAK Eagle 137.74 18 *e*PKPdf **PKPdf 16 51 04.6 -0.6**
EGAK LR LR
comp=Z,471nm,20.0s
OTAV Otavalo 137.94 237 PKPdf **PKPdf 16 51 07.4 -0.3**
OTAV LR LR
comp=Z,389nm,20.0s
KDAK Kodiak Island 138.09 31 PFAKE 16 51 20.0 +14
KDAK LR LR
comp=Z,455nm,20.0s
BBSR BB Station 138.21 290 PFAKE 16 51 20.0 +13
BBSR LR LR
comp=Z,593nm,20.0s
SDDR Presa de Saban 141.31 267 PFAKE 16 51 20.0 +6.9
SDDR LR LR
comp=Z,413nm,21.0s
GRTK Grand Turk 141.93 271 PFAKE 16 51 30.0 +16
GRTK LR LR
comp=Z,374nm,19.0s
LBNH Lisbon 142.96 309 PFAKE 16 51 30.0 +15
LBNH LR LR
comp=Z,444nm,20.0s
SKAG Skagway 143.63 19 *e*PKPpre PKPpre 16 51 13.1
MDV Middlebury 143.90 309 *e*PKPdf PKPbc 16 51 15.1 +0.5
FRNY Flat Rock 143.95 310 *e*PKP PKPab 16 51 14.0 -0.2
YKW3 Yellowknife Ar 144.09 2 *e*PKP **PKPab 16 51 14.0 -0.1**
YKA Yellowknife Ar 144.15 2 PKP **PKPab 16 51 14.6 +0.2**
YKA Yellowknife Ar 144.15 2 PKP **PKPab 16 51 14.5 +0.2**
comp=Z,13nm,0.9s,baz=344,slow=3.6,SNR=11
ACCN Adirondack Com 144.40 308 *e*PKPdf **PKPab 16 51 16.0 +0.1**
BCIP Isla Barro Col 144.46 247 PFAKE 16 51 30.0 +11
BCIP LR LR
comp=Z,285nm,20.0s
NCB Newcomb 144.63 309 *e*PKP PKPbc 16 51 17.0 0.0
NCB LR LR
comp=Z,825nm,21.0s
LONY Lake Ozonia 144.69 310 *e*PKPdf **PKPab 16 51 16.9 -0.1**
LONY LR LR
comp=Z,557nm,20.0s
MSNY Massena 144.76 311 *e*PKP **PKPab 16 51 17.2 0.0**
GTBY Guantanamo Bay 145.02 267 *e*PKP **PKPbc 16 51 16.8 -2.0**
GTBY LR LR
comp=Z,374nm,19.0s
CPNY Central Park 145.21 304 *e*PKP **PKPbc 16 51 18.3 -0.6**
BINY Binghamton 146.36 307 *e*PKPdf **PKPdf 16 51 21.7 +0.5**
BINY LR LR
comp=Z,574nm,19.0s
WRAK Wrangell Islan 147.05 20 *e*PKPbc **PKPbc 16 51 23.8 -0.1**
WRAK LR LR
comp=Z,319nm,21.0s
CRAG Craig 147.58 22 *e*PKPbc **PKPbc 16 51 25.7 +0.3**
SDMD Soldier's Deli 147.66 302 *e*PKPbc **PKPbc 16 51 25.7 -0.5**
CBN Corbin 148.31 300 PKPdf **PKPdf 16 51 24.4 -0.1**
CBN LR LR
comp=Z,514nm,21.0s
JSRW J. Sargeant Re 148.80 299 *e*PKPbc **PKPbc 16 51 29.0 -0.2**
JSRW *e*PKPab **PKPab 16 51 33.3 +0.2**
CNNC Cliffs of the 149.16 295 *e*PKPdf **PKPdf 16 51 25.2 -0.8**
CNNC LR LR
comp=Z,749nm,20.0s
ERPA Erie 149.22 308 *e*PKPbc **PKPbc 16 51 29.9 -0.2**
ERPA LR LR
comp=Z,474nm,19.0s
ALLY Alegheny Colle 149.49 308 *e*PKPbc **PKPbc 16 51 30.4 -0.5**
BLA Blacksburg 150.87 299 *e*PKIKP **PKPbc 16 51 34.3 -0.1**
BLA *e* 16 51 41.9
BLA MLR MLR
comp=Z,595nm,21.0s
BLA Blacksburg 150.87 299 *e*PKPbc **PKPbc 16 51 34.3 -0.1**
BLA *e*PKPab **PKPab 16 51 41.9 +0.2**
BLA LR LR
comp=Z,595nm,21.0s
FFC Flin Flon 150.91 347 *e*PKIKP **PKPdf 16 51 27.2 -1.0**
FFC *e* 16 51 33.0
FFC *e* 16 51 40.8
FFC MLR MLR
comp=Z,401nm,20.0s
FFC Flin Flon 150.91 347 *e*PKPdf **PKPdf 16 51 27.1 -1.0**
FFC *e*PKPbc **PKPbc 16 51 33.0 -0.8**
FFC *e*PKPab **PKPab 16 51 40.8 -0.3**
FFC LR LR
comp=Z,401nm,20.0s
GLMI Grayling 151.17 316 *e*PKPbc **PKPbc 16 51 34.8 0.0**
GLMI LR LR
comp=Z,759nm,20.0s
NHSC New Hope 151.25 291 PFAKE 16 51 40.0 -3.3
NHSC LR LR
comp=Z,1µm,20.0s
KMSC Kings Mountain 151.97 295 ⇑PKPab **PKPab 16 51 46.1 -0.2**
baz=152
EYMN Ely 153.09 328 PKPdf **PKPdf 16 51 29.9 -1.7**
EYMN *e*PKPbc **PKPbc 16 51 38.5 -0.5**
EYMN LR LR
comp=Z,617nm,20.0s
COWI Conover 153.10 322 PKPdf **PKPdf 16 51 30.9 -0.9**
COWI *e*PKPbc **PKPbc 16 51 38.7 -0.4**
COWI LR LR
comp=Z,562nm,19.0s
ULM Lac du Bonnet 153.19 336 PKP **PKPdf 16 51 30.1 -1.6**
ULM PKPbc **PKPbc 16 51 37.7 -1.4**
ULM Lac du Bonnet 153.19 336 PKP **PKPdf 16 51 30.1 -1.6**
comp=Z,1.7nm,0.3s,baz=35,slow=5.1,SNR=3.1
ULM PKPbc **PKPbc 16 51 37.7 -1.4**
comp=Z,14nm,0.9s,baz=69,slow=1.8,SNR=11
TGUH Tegucigalpa,Un 153.22 247 PFAKE 16 51 40.0 -0.2
TGUH LR LR
comp=Z,259nm,20.0s
TIGA Tifton 154.25 288 ⇓PKPab **PKPab 16 51 56.3 +0.3**
baz=154
AGMN Agassiz Nation 154.76 333 *e*PKPbc **PKPbc 16 51 41.8 -0.7**
AGMN *e*PKPab **PKPab 16 51 56.8 -0.7**
AGMN LR LR
comp=Z,664nm,21.0s
SFIN Scholer Farm 154.84 309 ⇑PKPab **PKPab 16 51 57.3 -0.9**
baz=155
SPMN St. Paul 155.63 325 ⇓PKPab **PKPab 16 52 00.9 -0.5**
baz=156
JFWS Jewell Farm 155.63 317 PFAKE 16 51 50.0 -11
JFWS LR LR
comp=Z,648nm,21.0s
USIN University of 156.19 304 *e*PKPab **PKPab 16 52 02.9 -1.1**
OLIL Olney 156.22 306 *e*PKPab **PKPab 16 52 03.2 -0.9**
HDIL Hopedale 156.25 312 *e*PKPab **PKPab 16 52 04.1 -0.1**
HDIL LR LR
comp=Z,492nm,20.0s
MDND Maddock 156.53 338 ⇓PKPab **PKPab 16 52 04.3 -0.8**
baz=157
A24A Westby 156.80 346 ⇓PKPab **PKPab 16 52 06.3 0.0**
baz=157
TEIG Tepich 156.81 259 PKP **PKPdf 16 51 38.2 +0.7**
TEIG LR LR
comp=Z,454nm,19.0s
TEIG Tepich 156.81 259 PKP **PKPdf 16 51 38.2 +0.7**
comp=Z,8.2nm,1.0s,baz=42,slow=21,SNR=3.1
WVT Waverly 156.91 300 *e*PKP2 **PKPab 16 52 06.1 -1.1**
WVT Waverly 156.91 300 *e*PKPab **PKPab 16 52 06.1 -1.1**
LRAL Lakeview Retre 156.95 292 PFAKE 16 51 50.0 +13
LRAL LR LR
comp=Z,591nm,21.0s
A23A Redstone 156.95 347 ⇑PKPab **PKPab 16 52 06.7 -0.2**
baz=157
A22A Carney Farms, 157.12 349 ⇑PKPab **PKPab 16 52 07.3 -0.4**
baz=157
DGMT Dagmar 157.27 345 PFAKE 16 51 50.0 +13
DGMT LR LR
comp=Z,577nm,20.0s
DGMT Dagmar 157.27 345 ⇓PKPab **PKPab 16 52 08.1 -0.2**
baz=157
A21A Bergtoll Ranch 157.28 350 ⇑PKPab **PKPab 16 52 07.9 -0.5**
baz=157
B23A Brockton 157.45 347 ⇓PKPab **PKPab 16 52 09.3 +0.2**
baz=158
NLWA Neilton Lookou 157.49 20 PFAKE 16 51 50.0 +12
NLWA LR LR
comp=Z,632nm,20.0s
A20A Cobblestone Ra 157.53 352 ⇑PKPab **PKPab 16 52 09.5 +0.1**
baz=158
A19A Klindworth Far 157.57 353 ⇓PKPab **PKPab 16 52 09.6 -0.1**
baz=158
A12A Yaak River Ran 157.64 5 ⇑PKPab **PKPab 16 52 08.8 -1.2**
baz=158
A17A Triple J Farms 157.71 357 ⇑PKPab **PKPab 16 52 09.6 -0.6**
baz=158
A14A Double T Ranch 157.72 1 ⇓PKPab **PKPab 16 52 09.4 -1.0**
baz=158
A15A Johnson Ranch, 157.73 0 ⇑PKPab **PKPab 16 52 09.4 -1.0**
baz=158
A16A West Butte Ran 157.74 358 ⇑PKPab **PKPab 16 52 09.5 -0.9**
baz=158
B22A Reddig Ranch S 157.80 348 ⇓PKPab **PKPab 16 52 10.9 +0.3**
baz=158
B21A Ellsworth Farm 157.84 350 ⇓PKPab **PKPab 16 52 10.2 -0.6**
baz=158
B20A Solberg Farm, 157.97 352 ⇑PKPab **PKPab 16 52 10.8 -0.5**
baz=158
SCIA State Center 158.00 319 PFAKE 16 51 50.0 +12
SCIA LR LR
comp=Z,455nm,20.0s
B19A Brinkman Farms 158.06 353 ⇑PKPab **PKPab 16 52 11.2 -0.6**
baz=158
B12A Libby 158.11 5 ⇓PKPab **PKPab 16 52 11.1 -0.8**
baz=158
C23A Lambert 158.12 347 ⇑PKPab **PKPab 16 52 11.9 -0.1**
baz=158
NEW Newport 158.15 8 PKP **PKPdf 16 51 38.1 -0.3**
NEW PKPab **PKPab 16 52 11.7 -0.4**
NEW LR LR
comp=Z,627nm,20.0s
NEW Newport 158.15 8 PKP **PKPdf 16 51 38.1 -0.3**
comp=Z,1.8nm,0.4s,baz=107,slow=6.6,SNR=5.5
NEW PKPab **PKPab 16 52 11.7 -0.4**
comp=Z,5.7nm,0.8s,baz=304,slow=6.8,SNR=7.2
NEW Newport 158.15 8 ⇑PKPab **PKPab 16 52 11.4 -0.7**
baz=158
B18A Beardsley Farm 158.20 355 ⇑PKPab **PKPab 16 52 11.5 -0.9**
baz=158
C24A Savage 158.21 345 ⇑PKPab **PKPab 16 52 11.6 -0.8**
baz=158
B16A M & M Farms, S 158.28 358 ⇑PKPab **PKPab 16 52 11.7 -1.0**
baz=158
B13A Whitefish 158.28 3 ⇑PKPab **PKPab 16 52 11.9 -0.8**
baz=158
C22A Vida 158.31 348 ⇓PKPab **PKPab 16 52 12.4 -0.5**
baz=158
B14A Marquette Ranc 158.34 1 ⇓PKPab **PKPab 16 52 12.2 -0.8**
baz=158
B17A L&G Farms, Che 158.37 357 ⇓PKPab **PKPab 16 52 12.3 -0.8**
baz=158
B15A Bradely Ranch, 158.39 360 ⇑PKPab **PKPab 16 52 12.1 -1.2**
baz=158
C21A Desert Coulee 158.44 350 ⇑PKPab **PKPab 16 52 13.4 0.0**
baz=158
EGMT Eagleton 158.56 355 PFAKE 16 51 50.0 +11
EGMT LR LR
comp=Z,457nm,21.0s
EGMT Eagleton 158.56 355 ⇓PKPab **PKPab 16 52 13.3 -0.7**
baz=159
D24A Glendive 158.57 344 ⇓PKPab **PKPab 16 52 13.7 -0.3**
baz=159
ECSD EROS Data Cent 158.61 327 PFAKE 16 51 50.0 +11
ECSD LR LR
comp=Z,588nm,20.0s
E26A Carlson Angus 158.66 340 ⇑PKPab **PKPab 16 52 14.6 +0.1**
baz=159
C11A Tepee Creek (N 158.67 7 ⇓PKPab **PKPab 16 52 13.6 -0.8**
baz=159
C20A Veseth Ranch, 158.69 351 ⇓PKPab **PKPab 16 52 14.2 -0.3**
baz=159
C19A Slack Wire Ran 158.79 353 ⇑PKPab **PKPab 16 52 14.7 -0.3**
baz=159
C12B Naegeli Ranch, 158.87 5 ⇑PKPab **PKPab 16 52 14.3 -1.0**
baz=159
C16A Fuhringer Ranc 158.89 358 ⇓PKPab **PKPab 16 52 14.7 -0.8**
baz=159
E25A Miller Ranch, 158.90 342 ⇓PKPab **PKPab 16 52 15.5 0.0**
baz=159
C15A Salmond Ranch, 158.93 0 ⇓PKPab **PKPab 16 52 14.7 -0.9**
baz=159
D22A Cohagen 158.94 348 ⇓PKPab **PKPab 16 52 15.6 0.0**
baz=159
C13A Hot Springs 158.97 4 ⇑PKPab **PKPab 16 52 15.0 -0.7**
baz=159
C17A Wharram Farm, 159.02 357 ⇓PKPab **PKPab 16 52 15.6 -0.4**
baz=159
E24A Baker 159.09 344 ⇑PKPab **PKPab 16 52 15.8 -0.5**
baz=159
BRSD Miller 159.13 332 ⇑PKPab **PKPab 16 52 16.0 -0.5**
baz=159
D21A La Casta Ranch 159.16 349 ⇓PKPab **PKPab 16 52 16.6 0.0**
baz=159
SWMT Swartz Lake 159.17 3 *e*PKPdf **PKPdf 16 51 39.2 -0.6**
D19A Cripps Ranch, 159.33 353 ⇓PKPab **PKPab 16 52 16.8 -0.5**
baz=159
E23A Ismay 159.38 346 ⇓PKPab **PKPab 16 52 17.0 -0.5**
baz=159
G28A Parade 159.38 336 ⇑PKPab **PKPab 16 52 17.5 -0.1**
baz=159
D18A Linhart Farms, 159.39 355 ⇓PKPab **PKPab 16 52 17.1 -0.5**
baz=159
SLMT Seeley Lake 159.45 2 *e*PKPdf **PKPdf 16 51 39.2 -1.0**
G27A Dupree 159.47 338 ⇓PKPab **PKPab 16 52 17.4 -0.6**
baz=160
D17A Six Diamond Ra 159.50 356 ⇑PKPab **PKPab 16 52 17.7 -0.4**
baz=160
HAWA Hanford 159.55 14 PFAKE 16 51 50.0 +10
HAWA LR LR
comp=Z,529nm,19.0s
D13A Huson 159.56 4 ⇓PKPab **PKPab 16 52 17.5 -0.7**
baz=160
E22A Miles City 159.57 347 ⇑PKPab **PKPab 16 52 18.0 -0.4**
baz=160
D14A Greenough 159.61 2 ⇑PKPab **PKPab 16 52 17.5 -1.1**
baz=160
D16A Dana Ranch, Ca 159.66 358 ⇑PKPab **PKPab 16 52 17.9 -0.9**
baz=160
D15A Lincoln 159.66 360 ⇑PKPab **PKPab 16 52 17.8 -1.1**
baz=160
E21A Keefer Ranch, 159.69 349 ⇓PKPab **PKPab 16 52 18.1 -0.8**
baz=160
H28A Mission Ridge 159.76 336 ⇑PKPab **PKPab 16 52 18.8 -0.4**
baz=160
CHMT Chamberlain Mo 159.78 1 *e*PKPdf **PKPdf 16 51 40.0 -0.7**
CHMT *e*PKPab **PKPab 16 52 18.7 -0.8**
F24A Ekalaka 159.79 343 ⇓PKPab **PKPab 16 52 19.6 +0.2**
baz=160
MSO Missoula 159.85 3 PKPdf **PKPdf 16 51 39.9 -0.7**
MSO LR LR
comp=Z,426nm,20.0s
MSO Missoula 159.85 3 ⇑PKPab **PKPab 16 52 18.4 -1.2**
baz=160
E20A Meyer Farm, Mu 159.89 351 ⇑PKPab **PKPab 16 52 19.1 -0.7**
baz=160
VBMS Vicksburg 160.01 291 PFAKE 16 51 50.0 +8.9
VBMS LR LR
comp=Z,1µm,20.0s
E19A Rath Farm, Rou 160.01 352 ⇑PKPab **PKPab 16 52 19.8 -0.5**
baz=160
E18A Harlowton 160.03 355 ⇑PKPab **PKPab 16 52 20.3 -0.1**
baz=160
F23A Volborg 160.14 345 ⇑PKPab **PKPab 16 52 20.6 -0.3**
baz=160
E12A Beaver Dam Sad 160.15 6 ⇓PKPab **PKPab 16 52 19.1 -1.9**
baz=160
E16A East Helena 160.16 358 ⇓PKPab **PKPab 16 52 20.2 -0.8**
baz=160
H27A Howes 160.17 337 ⇓PKPab **PKPab 16 52 20.3 -0.8**
baz=160
G24A Alzada 160.26 343 ⇓PKPab **PKPab 16 52 21.1 -0.3**
baz=160
F22A Rosebud 160.27 347 ⇑PKPab **PKPab 16 52 21.0 -0.4**
baz=160
F21A Absaloka Mine, 160.39 349 ⇑PKPab **PKPab 16 52 21.4 -0.6**
baz=160
H26A Fairpoint 160.42 339 ⇑PKPab **PKPab 16 52 21.9 -0.2**
baz=160
F20A Billings 160.58 351 ⇓PKPab **PKPab 16 52 22.3 -0.5**
baz=161
G23A Biddle 160.62 345 ⇑PKPab **PKPab 16 52 22.5 -0.5**
baz=161
F19A Roth Farm, Mol 160.63 352 ⇑PKPab **PKPab 16 52 22.6 -0.4**
baz=161
I27A Quinn 160.66 337 ⇑PKPab **PKPab 16 52 22.8 -0.4**
baz=161
H25A Fruitdale 160.68 340 ⇓PKPab **PKPab 16 52 23.0 -0.3**
baz=161
F17A Fitzpatrick Pl 160.74 356 ⇓PKPab **PKPab 16 52 23.2 -0.3**
baz=161
G22A Birney 160.81 346 ⇓PKPab **PKPab 16 52 23.3 -0.5**
baz=161
H24A Dirks Ranch, A 160.83 342 ⇓PKPab **PKPab 16 52 23.6 -0.4**
baz=161
F15A Butte 160.86 360 ⇓PKPab **PKPab 16 52 23.5 -0.7**
baz=161
F14A Wisdom 160.88 2 ⇑PKPab **PKPab 16 52 23.6 -0.6**
baz=161
LRM Limekiln Ridge 160.88 360 *e*PKPdf **PKPdf 16 51 41.4 -0.5**
J28A Allard Ranch, 160.90 334 ⇓PKPab **PKPab 16 52 24.3 0.0**
baz=161
F16A Kennard Place, 160.91 358 ⇓PKPab **PKPab 16 52 24.0 -0.2**
baz=161
I26A New Underwood 160.97 338 ⇑PKPab **PKPab 16 52 24.5 -0.1**
baz=161
G21A Lodge Grass 160.98 348 ⇓PKPab **PKPab 16 52 23.9 -0.7**
baz=161
BOZ Bozeman (W) 161.04 358 *e*PKIKP **PKPdf 16 51 41.9 -0.1**
BOZ MLR MLR
comp=Z,539nm,20.0s
BOZ Bozeman (W) 161.04 358 *e*PKPdf **PKPdf 16 51 41.9 -0.1**
BOZ LR LR
comp=Z,539nm,20.0s
K29A Lazy Trails An 161.07 331 ⇓PKPab **PKPab 16 52 24.9 -0.2**
baz=161
BGNE Belgrade 161.08 325 ⇑PKPab **PKPab 16 52 24.7 -0.5**
baz=161

G20A	Bridger	161.16	350	⇑PKPab	PKPab	16 52 24.8	-0.6	
	baz=161							
H23A	Clabaugh Cattl	161.23	344	⇓PKPab	PKPab	16 52 25.2	-0.5	
	baz=161							
G18A	Lazy EL Ranch,	161.23	353	⇓PKPab	PKPab	16 52 24.6	-1.1	
	baz=161							
I25A	Rochford	161.26	340	⇑PKPab	PKPab	16 52 25.9	0.0	
	baz=161							
RSSD	Black Hills	161.26	341	*e*PKIKP	PKPdf	16 51 41.6	-0.8	
RSSD	Black Hills	161.26	341	*e*PKPdf	PKPdf	16 51 41.5	-0.8	
G17A	Pierce Place,	161.32	356	⇓PKPab	PKPab	16 52 26.2	+0.1	
	baz=161							
DLMT	Dillon	161.34	0	*e*PKPdf	PKPdf	16 51 42.7	+0.4	
RLMT	Red Lodge	161.39	353	PFAKE		16 51 50.0	+7.5	
RLMT				LR	LR			
	comp=Z,586nm,19.0s							
H22A	Clearmont	161.42	346	⇓PKPab	PKPab	16 52 26.0	-0.6	
	baz=162							
BMO	Blue Mountains	161.46	11	PFAKE		16 51 50.0	+7.6	
BMO				LR	LR			
	comp=Z,556nm,20.0s							
H21A	Big Horn, Sher	161.53	347	⇑PKPab	PKPab	16 52 26.6	-0.4	
	baz=162							
K28A	Ten Mile Ranch	161.55	333	⇓PKPab	PKPab	16 52 26.9	-0.3	
	baz=162							
I24A	Kuemmerle Ranc	161.67	341	⇓PKPab	PKPab	16 52 27.4	-0.3	
	baz=162							
L29A	Maesberg Ranch	161.71	330	⇓PKPab	PKPab	16 52 27.7	-0.2	
	baz=162							
KSU1	Kansas State U	161.76	317	PFAKE		16 51 50.0	+7.2	
KSU1				LR	LR			
	comp=Z,585nm,19.0s							
H19A	Powell	161.80	352	⇓PKPab	PKPab	16 52 27.6	-0.6	
	baz=162							
I23A	Meade Ranch, G	161.81	343	⇓PKPab	PKPab	16 52 27.6	-0.7	
	baz=162							
H20A	Greybull	161.84	349	⇓PKPab	PKPab	16 52 27.9	-0.5	
	baz=162							
M30A	Dale-Ortello V	161.84	328	⇓PKPab	PKPab	16 52 28.4	0.0	
	baz=162							
J25A	Sunshine Ranch	161.85	339	⇓PKPab	PKPab	16 52 28.6	+0.1	
	baz=162							
MIAR	Mount Ida	161.86	300	PFAKE		16 51 50.0	+7.0	
MIAR				LR	LR			
	comp=Z,494nm,21.0s							
H18A	Shoshone NF, C	161.88	353	⇑PKPab	PKPab	16 52 28.1	-0.6	
	baz=162							
K27A	Flueckinger Fa	161.90	335	⇑PKPab	PKPab	16 52 28.6	-0.1	
	baz=162							
LKWY	Lake	162.05	355	PFAKE		16 51 50.0	+6.7	
LKWY				LR	LR			
	comp=Z,1µm,19.0s							
H12A	Diamond D Ranc	162.06	5	⇑PKPab	PKPab	16 52 29.0	-0.4	
	baz=162							
I22A	9 Mile Ranch,	162.12	346	⇑PKPab	PKPab	16 52 29.3	-0.3	
	baz=162							
J24A	Dixon Ranch, L	162.17	341	⇓PKPab	PKPab	16 52 29.4	-0.5	
	baz=162							
L28A	Connealy Angus	162.20	332	⇑PKPab	PKPab	16 52 29.9	-0.1	
	baz=162							
H17A	Grant Village	162.24	355	⇑PKPab	PKPab	16 52 30.5	+0.2	
	baz=162							
K26A	Motz Farm, Whi	162.25	337	⇓PKPab	PKPab	16 52 29.6	-0.6	
	baz=162							
M29A	Burnside Ranch	162.29	329	⇓PKPab	PKPab	16 52 29.9	-0.6	
	baz=162							
J23A	Dilts Ranch, B	162.35	343	⇓PKPab	PKPab	16 52 29.7	-1.0	
	baz=162							
I21A	Big Trails, Te	162.36	347	⇓PKPab	PKPab	16 52 29.6	-1.2	
	baz=162							
I20A	Worland	162.38	349	⇓PKPab	PKPab	16 52 30.6	-0.2	
	baz=162							
I19A	Meeteetse	162.43	351	⇑PKPab	PKPab	16 52 30.6	-0.5	
	baz=162							
L27A	T5 Ranch, Ells	162.46	334	⇓PKPab	PKPab	16 52 30.8	-0.4	
	baz=162							
N30A	Hueftle Ranch,	162.52	327	⇓PKPab	PKPab	16 52 31.0	-0.5	
	baz=163							
K25A	Mack Ranch, Ha	162.57	338	⇓PKPab	PKPab	16 52 31.4	-0.3	
	baz=163							
M28A	Bar X Bar Ranc	162.64	331	⇑PKPab	PKPab	16 52 31.7	-0.3	
	baz=163							
I17A	Pilgrim Ck.	162.71	355	⇑PKPab	PKPab	16 52 32.3	-0.1	
	baz=163							
N29A	Votaw Ranch, W	162.76	328	⇑PKPab	PKPab	16 52 32.0	-0.5	
	baz=163							
I14A	Mackay	162.76	2	⇓PKPab	PKPab	16 52 32.3	-0.2	
	baz=163							
K24A	Anderson Ranch	162.77	340	⇑PKPab	PKPab	16 52 31.7	-0.9	
	baz=163							
I12A	Atlanta	162.79	6	⇑PKPab	PKPab	16 52 31.6	-1.1	
	baz=163							
I16A	Newdale	162.81	357	⇓PKPab	PKPab	16 52 33.0	+0.3	
	baz=163							
J21A	Lysite	162.84	347	⇓PKPab	PKPab	16 52 32.3	-0.6	
	baz=163							
I18A	Diamond G Ranc	162.86	353	⇓PKPab	PKPab	16 52 33.0	0.0	
	baz=163							
J20A	Shoshoni	162.95	349	⇑PKPab	PKPab	16 52 32.6	-0.7	
	baz=163							
M27A	Reverse DX Ran	162.96	333	⇑PKPab	PKPab	16 52 32.5	-0.9	
	baz=163							
TUL1	Tulsa	162.96	307	⇓PKPab	PKPab	16 52 32.4	-1.1	
	baz=163							
O30A	MW Ranch, Wils	162.97	325	⇑PKPab	PKPab	16 52 32.6	-0.9	
	baz=163							
K23A	Bowen Ranch, D	162.97	342	⇓PKPab	PKPab	16 52 32.8	-0.7	
	baz=163							
L25A	Engebretsen Ra	163.01	338	⇑PKPab	PKPab	16 52 33.1	-0.5	
	baz=163							
MFID	Camas Ranch	163.08	8	*e*PKPdf	PKPdf	16 51 44.2	+0.1	
MFID	Camas Ranch	163.08	8	⇓PKPab	PKPab	16 52 33.2	-0.6	
	baz=163							
TPAW	Teton Pass	163.16	356	*e*PKPdf	PKPdf	16 51 44.2	-0.2	
J19A	Crowheart	163.19	351	⇓PKPab	PKPab	16 52 33.7	-0.7	
	baz=163							
N28A	Pribbeno Ranch	163.29	330	⇑PKPab	PKPab	16 52 34.2	-0.6	
	baz=163							
OGNE	Ogallala	163.29	331	PFAKE		16 51 50.0	+5.6	
OGNE				LR	LR			
	comp=Z,644nm,19.0s							
OGNE	Ogallala	163.29	331	⇓PKPab	PKPab	16 52 34.0	-0.9	
	baz=163							
K22A	Casper	163.30	344	⇑PKPab	PKPab	16 52 34.1	-0.8	
	baz=163							
M26A	McRoberts Ranc	163.31	335	⇓PKPab	PKPab	16 52 34.5	-0.5	
	baz=163							
Q31A	Ellis	163.46	321	⇓PKPab	PKPab	16 52 34.8	-0.9	
	baz=164							
WVOR	Wild Horse Val	163.51	16	PFAKE		16 52 00.0	+15	
WVOR				LR	LR			
	comp=Z,322nm,19.0s							
MOD	Modoc	163.53	21	*e*PKPdf	PKPdf	16 51 44.6	-0.1	
P30A	Selden	163.54	324	⇓PKPab	PKPab	16 52 34.7	-1.2	
	baz=164							
L23A	Garrett	163.59	342	⇓PKPab	PKPab	16 52 35.5	-0.8	
	baz=164							
K19A	Absolon Red Bu	163.59	350	⇓PKPab	PKPab	16 52 34.9	-1.3	
	baz=164							
N27A	Anderson Farm,	163.62	332	⇑PKPab	PKPab	16 52 35.8	-0.6	
	baz=164							
K20A	Yellowstone Ra	163.67	349	⇑PKPab	PKPab	16 52 35.2	-1.4	
	baz=164							
M25A	Palm-Egli Farm	163.68	337	⇑PKPab	PKPab	16 52 36.1	-0.5	
	baz=164							
PDAR	Pinedale Array	163.75	352	PKP	PKPdf	16 51 43.6	-1.3	
PDAR				PP	PP	16 56 24.4	+2.8	
PDAR	Pinedale Array	163.75	352	PKP	PKPdf	16 51 43.6	-1.3	
	comp=Z,2.2nm,0.9s,baz=114,slow=1.8,SNR=13							
PDAR				PP	PP	16 56 24.4	+2.8	
	comp=Z,0.8nm,0.8s,baz=29,slow=6.8,SNR=3.5							
BW06	Boulder Array	163.75	352	*e*PKPdf	PKPdf	16 51 44.0	-1.0	
BW06				LR	LR			
	comp=Z,742nm,22.0s							
O28A	Krutsinger Ran	163.84	329	⇓PKPab	PKPab	16 52 36.6	-0.7	
	baz=164							
P29A	Atwood	163.84	326	⇑PKPab	PKPab	16 52 36.5	-0.8	
	baz=164							
L22A	Ellis Ranch, M	163.86	343	⇓PKPab	PKPab	16 52 37.2	-0.2	
	baz=164							
N26A	Koester Ranch,	163.89	334	⇓PKPab	PKPab	16 52 37.2	-0.4	
	baz=164							
M24A	Cheyenne	163.91	339	⇑PKPab	PKPab	16 52 37.9	+0.3	
	baz=164							
Q30A	Quinter	163.94	323	⇓PKPab	PKPab	16 52 37.2	-0.5	
	baz=164							
O27A	Beecher Island	164.11	331	⇓PKPab	PKPab	16 52 38.1	-0.4	
	baz=164							
L21A	Rawlins	164.15	346	⇓PKPab	PKPab	16 52 38.1	-0.6	
	baz=164							
N25A	Grover	164.23	336	⇓PKPab	PKPab	16 52 39.0	-0.1	
	baz=164							
P28A	Saint Francis	164.27	328	⇑PKPab	PKPab	16 52 38.5	-0.7	
	baz=164							
L20A	Wamsutter	164.30	348	⇑PKPab	PKPab	16 52 38.8	-0.6	
	baz=164							
L19A	Farson	164.38	351	⇑PKPab	PKPab	16 52 38.8	-0.9	
	baz=164							
Q29A	Oakley	164.40	324	⇓PKPab	PKPab	16 52 38.9	-0.9	
	baz=164							
O26A	Horse Wrangler	164.42	333	⇑PKPab	PKPab	16 52 39.1	-0.8	
	baz=164							
S31A	Mullinville	164.45	318	⇑PKPab	PKPab	16 52 39.4	-0.6	
	baz=164							
R30A	Dighton	164.46	321	⇓PKPab	PKPab	16 52 39.7	-0.4	
	baz=164							
M21A	Separation Pea	164.49	345	⇓PKPab	PKPab	16 52 39.4	-0.8	
	baz=164							
M22A	Cedar Creek Ra	164.49	343	⇑PKPab	PKPab	16 52 39.6	-0.7	
	baz=164							
N24A	Carr	164.50	338	⇓PKPab	PKPab	16 52 39.9	-0.3	
	baz=165							
L18A	Fontenelle, Gr	164.64	353	⇓PKPab	PKPab	16 52 40.2	-0.7	
	baz=165							
P27A	Ficken Ranch,	164.67	329	⇑PKPab	PKPab	16 52 40.5	-0.5	
	baz=165							
Q28A	Sharon Springs	164.70	327	⇑PKPab	PKPab	16 52 40.3	-0.9	
	baz=165							
M20A	Sweetwater, Wa	164.78	347	⇓PKPab	PKPab	16 52 40.7	-0.8	
	baz=165							
N23A	Red Feather La	164.78	340	⇓PKPab	PKPab	16 52 40.8	-0.8	
	baz=165							
R29A	Marienthal	164.83	323	⇑PKPab	PKPab	16 52 40.7	-1.0	
	baz=165							
T31A	Randall Ranch,	164.90	317	⇑PKPab	PKPab	16 52 41.1	-1.0	
	baz=165							
M19A	Rock Springs	164.93	350	⇑PKPab	PKPab	16 52 40.9	-1.2	
	baz=165							
P26A	Davis Ranch, A	165.00	331	⇓PKPab	PKPab	16 52 42.1	-0.4	
	baz=165							
S30A	Montezuma	165.01	320	⇓PKPab	PKPab	16 52 42.2	-0.4	
	baz=165							
N22A	Wattenberg Ran	165.01	342	⇓PKPab	PKPab	16 52 42.0	-0.6	
	baz=165							
HWUT	Hardware Ranch	165.07	357	PFAKE		16 52 00.0	+14	
HWUT				LR	LR			
	comp=Z,872nm,22.0s							
KSCO	Kaye Shedlock'	165.13	328	⇓PKPab	PKPab	16 52 42.7	-0.3	
	baz=165							
M17A	Scullys Gap (B	165.15	354	⇑PKPab	PKPab	16 52 42.5	-0.6	
	baz=165							
O24A	Longmont	165.19	337	⇓PKPab	PKPab	16 52 42.9	-0.4	
	baz=165							
R28A	Tribune	165.24	325	⇑PKPab	PKPab	16 52 43.2	-0.4	
	baz=165							
N21A	Black Mountain	165.33	345	⇓PKPab	PKPab	16 52 43.6	-0.3	
	baz=165							
P25A	Willow Gulch B	165.39	333	⇓PKPab	PKPab	16 52 43.3	-0.9	
	baz=166							
O23A	Lake Granby, G	165.40	339	⇑PKPab	PKPab	16 52 44.0	-0.4	
	baz=166							
S29A	Ulysses	165.40	321	⇑PKPab	PKPab	16 52 43.5	-0.8	
	baz=166							
N20A	Spence Gulch,	165.42	347	⇓PKPab	PKPab	16 52 43.7	-0.7	
	baz=166							
T30A	Plains	165.45	318	⇑PKPab	PKPab	16 52 44.0	-0.5	
	baz=166							
U31A	Nine Bar Ranch	165.47	315	⇓PKPab	PKPab	16 52 44.4	-0.2	
	baz=166							
TCUT	Toone Canyon	165.55	356	*e*PKPdf	PKPdf	16 51 44.8	-1.8	
Q26A	Hugo	165.61	330	⇓PKPab	PKPab	16 52 44.4	-0.8	
	baz=166							
O22A	Kremmling	165.63	341	⇑PKPab	PKPab	16 52 44.8	-0.7	
	baz=166							
WMOK	Wichita Mounta	165.66	307	*e*PKIKP	PKPdf	16 51 46.6	0.0	
WMOK				MLR	MLR			
	comp=Z,592nm,20.0s							
WMOK	Wichita Mounta	165.66	307	*e*PKPdf	PKPdf	16 51 46.6	0.0	
WMOK				LR	LR			
	comp=Z,592nm,20.0s							
ISCO	Idaho Springs	165.67	338	*e*PKIKP	PKPdf	16 51 46.8	0.0	
ISCO				MLR	MLR			
	comp=Z,673nm,19.0s							
ISCO	Idaho Springs	165.67	338	*e*PKPdf	PKPdf	16 51 46.8	0.0	
ISCO				LR	LR			
	comp=Z,673nm,19.0s							
ISCO	Idaho Springs	165.67	338	⇑PKPab	PKPab	16 52 44.9	-0.7	
	baz=166							
P24A	Kohler Place,	165.67	335	⇓PKPab	PKPab	16 52 44.9	-0.6	
	baz=166							
BMN	Battle Mountai	165.74	15	PFAKE		16 52 00.0	+13	
BMN				LR	LR			
	comp=Z,557nm,19.0s							
WHTX	Lake Whitney	165.78	295	⇓PKPab	PKPab	16 52 45.2	-1.0	
	baz=166							
R27A	Eads	165.78	327	⇓PKPab	PKPab	16 52 44.8	-1.2	
	baz=166							
T29A	Hugoton	165.82	320	⇑PKPab	PKPab	16 52 45.7	-0.5	
	baz=166							
V31A	Spring Creek L	165.82	313	⇑PKPab	PKPab	16 52 46.4	+0.2	
	baz=166							
O21A	Pagoda	165.83	344	⇑PKPab	PKPab	16 52 45.4	-0.8	
	baz=166							
S28A	Manter	165.85	323	⇑PKPab	PKPab	16 52 45.6	-0.7	
	baz=166							
U30A	WK&E Inc. Balk	165.87	317	⇓PKPab	PKPab	16 52 45.9	-0.5	
	baz=166							
Q25A	Bedland, Calha	165.93	332	⇓PKPab	PKPab	16 52 45.9	-0.8	
	baz=166							
R26A	Arlington	166.08	329	⇓PKPab	PKPab	16 52 46.9	-0.4	
	baz=166							
O20A	White River Ci	166.09	346	⇑PKPab	PKPab	16 52 46.3	-1.0	
	baz=166							
O19A	Miners Draw (B	166.10	349	⇑PKPab	PKPab	16 52 46.6	-0.6	
	baz=166							
P23A	Jefferson	166.13	338	⇑PKPab	PKPab	16 52 47.4	-0.3	
	baz=166							
P22A	Eagle	166.22	341	⇑PKPab	PKPab	16 52 47.6	-0.3	
	baz=166							
W31A	Hilland Ranch,	166.23	311	⇑PKPab	PKPab	16 52 47.8	-0.2	
	baz=166							
Q24A	Divide	166.24	335	⇑PKPab	PKPab	16 52 46.9	-1.3	
	baz=166							
U29A	Oasis Ranch, S	166.29	318	⇓PKPab	PKPab	16 52 48.2	-0.1	
	baz=166							
S27A	Las Animas	166.30	326	⇑PKPab	PKPab	16 52 47.9	-0.4	
	baz=166							
T28A	Walsh	166.31	322	⇓PKPab	PKPab	16 52 47.7	-0.6	
	baz=166							
V30A	Spur Ranch, Mi	166.38	315	⇑PKPab	PKPab	16 52 48.1	-0.5	
	baz=166							
Y32A	R-V Farms, Ver	166.50	306	⇑PKPab	PKPab	16 52 49.0	-0.3	
	baz=167							
DUG	Dugway	166.51	1	PFAKE		16 52 00.0	+13	
DUG				LR	LR			
	comp=Z,531nm,21.0s							
DUG	Dugway	166.51	1	⇓PKPab	PKPab	16 52 48.4	-0.6	
	baz=166							
Q23A	Hartsel	166.55	337	⇓PKPab	PKPab	16 52 48.5	-1.0	
	baz=167							
X31A	McDonald Ranch	166.56	309	⇑PKPab	PKPab	16 52 49.3	-0.2	
	baz=167							
R25A	Fountain Ranch	166.58	331	⇑PKPab	PKPab	16 52 48.9	-0.6	
	baz=167							
S26A	Kim	166.63	327	⇓PKPab	PKPab	16 52 49.2	-0.6	
	baz=167							
W30A	Crooked Farms	166.66	312	⇑PKPab	PKPab	16 52 49.2	-0.7	
	baz=167							
SMCO	Snowmass	166.67	341	PKPdf	PKPdf	16 51 48.2	+0.5	
T27A	Campo	166.68	323	⇑PKPab	PKPab	16 52 49.1	-0.9	
	baz=167							
P19A	Cripple Cowboy	166.72	348	⇑PKPab	PKPab	16 52 49.0	-1.1	
	baz=167							
P20A	De Beque	166.73	346	⇓PKPab	PKPab	16 52 49.2	-0.8	
	baz=167							
V29A	Stinnett	166.83	317	⇓PKPab	PKPab	16 52 50.1	-0.5	
	baz=167							
Z32A	Haskell	166.86	303	⇓PKPab	PKPab	16 52 50.2	-0.6	
	baz=167							
R24A	Sanders Place,	166.86	333	⇑PKPab	PKPab	16 52 50.1	-0.7	
	baz=167							
KVTX	Kingsville	166.88	277	PFAKE		16 52 00.0	+12	
KVTX				LR	LR			
	comp=Z,712nm,21.0s							
U28A	Mallet	166.90	320	⇓PKPab	PKPab	16 52 50.4	-0.6	
	baz=167							
Q22A	Crested Butte,	166.94	340	⇓PKPab	PKPab	16 52 51.4	+0.2	
	baz=167							
T26A	Comanche Natio	167.04	326	⇑PKPab	PKPab	16 52 51.4	-0.3	
	baz=167							
S25A	Robets Cordova	167.05	330	⇓PKPab	PKPab	16 52 51.2	-0.4	
	baz=167							
Y31A	Rekieta Farm,	167.11	307	⇑PKPab	PKPab	16 52 51.9	0.0	
	baz=167							
Q21A	Lamborn Mesa,	167.16	342	⇓PKPab	PKPab	16 52 51.8	-0.2	
	baz=167							
R23A	Moffat	167.18	335	⇓PKPab	PKPab	16 52 51.8	-0.4	
	baz=167							
U27A	Thompson Grove	167.21	322	⇓PKPab	PKPab	16 52 51.9	-0.5	
	baz=167							
Q20A	Ridgley Place,	167.23	345	⇑PKPab	PKPab	16 52 51.2	-1.1	
	baz=167							
ABTX	Abilene, Hawle	167.28	301	⇑PKPab	PKPab	16 52 52.5	-0.2	
	baz=167							
X30A	Coker Ranch, T	167.28	310	⇓PKPab	PKPab	16 52 52.3	-0.4	
	baz=167							
NVAR	Mina Array Bea	167.32	21	PKP	PKPdf	16 51 48.6	+0.6	
NVAR				PP	PP	16 56 45.7	+5.3	
NVAR	Mina Array Bea	167.32	21	PKP	PKPdf	16 51 48.6	+0.6	
	comp=Z,0.6nm,0.8s,baz=270,slow=0.3,SNR=5.4							
NVAR				PP	PP	16 56 45.7	+5.3	
	comp=Z,0.8nm,0.8s,baz=13,slow=3.2,SNR=4.6							
V28A	Channing	167.33	318	⇓PKPab	PKPab	16 52 52.2	-0.7	
	baz=167							
Z31A	Sharp Cattle R	167.35	305	⇑PKPab	PKPab	16 52 52.6	-0.4	
	baz=167							
W29A	Amraillo	167.39	315	⇓PKPab	PKPab	16 52 52.6	-0.6	
	baz=168							
S24A	Houchin Ranch,	167.41	332	⇑PKPab	PKPab	16 52 52.5	-0.8	
	baz=168							
SDCO	Great Sand Dun	167.44	333	*e*PKPdf	PKPdf	16 51 48.3	+0.1	
SDCO				LR	LR			
	comp=Z,838nm,19.0s							
R22A	Saguache, Gunn	167.47	338	⇑PKPab	PKPab	16 52 53.0	-0.5	
	baz=168							
T25A	Trinidad	167.47	328	⇓PKPab	PKPab	16 52 52.9	-0.6	
	baz=168							
SRU	San Rafael	167.47	353	*e*PKIKP	PKPdf	16 51 48.5	+0.5	
SRU	San Rafael	167.47	353	*e*PKPdf	PKPdf	16 51 48.5	+0.5	
232A	Coleman	167.57	298	⇓PKPab	PKPab	16 52 53.4	-0.7	
	baz=168							
R21A	Cimarron	167.59	341	⇓PKPab	PKPab	16 52 53.4	-0.6	
	baz=168							
Y30A	Stafford Cattl	167.61	308	⇑PKPab	PKPab	16 52 53.5	-0.7	
	baz=168							
W28A	Vega	167.65	316	⇑PKPab	PKPab	16 52 54.2	-0.2	
	baz=168							
S23A	Nye Farm, Mont	167.67	335	⇓PKPab	PKPab	16 52 53.4	-1.0	
	baz=168							
V27A	Dan Oppiter Fa	167.69	320	⇓PKPab	PKPab	16 52 53.7	-0.8	
	baz=168							
U26A	Atchley Ranch,	167.72	324	⇓PKPab	PKPab	16 52 54.2	-0.5	
	baz=168							
Q16A	Castle Valley	167.73	355	⇓PKPab	PKPab	16 52 54.9	+0.4	
	baz=168							
332A	Millersview	167.82	296	⇑PKPab	PKPab	16 52 54.2	-1.0	
	baz=168							
131A	Roby	167.82	302	⇓PKPab	PKPab	16 52 54.6	-0.6	
	baz=168							
X29A	Tulia	167.84	312	⇑PKPab	PKPab	16 52 54.7	-0.5	
	baz=168							
MLAC	Mammoth Lakes	167.86	24	⇓PKPab	PKPab	16 52 54.5	-0.7	
	baz=168							
S22A	4UR Ranch, Cre	167.93	338	⇓PKPab	PKPab	16 52 55.1	-0.5	
	baz=168							
TPH	Tonopah	167.97	18	PFAKE		16 52 00.0	+12	
TPH				LR	LR			
	comp=Z,615nm,22.0s							
R20A	Redvale	167.98	344	⇓PKPab	PKPab	16 52 55.3	-0.4	
	baz=168							
432A	Menard	168.02	293	⇑PKPab	PKPab	16 52 55.2	-1.0	
	baz=168							
U25A	Circle Dot Ran	168.06	326	⇓PKPab	PKPab	16 52 55.7	-0.4	
	baz=168							
231A	Bronte	168.08	299	⇑PKPab	PKPab	16 52 55.7	-0.6	
	baz=168							
Z30A	Sanderson Ranc	168.08	306	⇑PKPab	PKPab	16 52 55.9	-0.4	
	baz=168							
X28A	Dimmitt	168.12	314	⇑PKPab	PKPab	16 52 56.1	-0.3	
	baz=168							
JCT	Junction City	168.14	292	*e*PKIKP	PKPdf	16 51 48.5	-0.1	
JCT				MLR	MLR			
	comp=Z,597nm,20.0s							
JCT	Junction City	168.14	292	*e*PKPdf	PKPdf	16 51 48.5	-0.1	
JCT				LR	LR			
	comp=Z,597nm,20.0s							
JCT	Junction City	168.14	292	⇓PKPab	PKPab	16 52 56.0	-0.7	
	baz=168							
Y29A	Porterfield Fa	168.16	310	⇓PKPab	PKPab	16 52 56.5	-0.1	
	baz=168							
MSU	Marysvale	168.18	358	*e*PKIKP	PKPdf	16 51 50.1	+1.5	
MSU	Marysvale	168.18	358	*e*PKPdf	PKPdf	16 51 50.0	+1.5	
MVU	Marysvale	168.19	359	*e*PKPdf	PKPdf	16 51 49.4	+0.8	
MVU				LR	LR			
	comp=Z,544nm,19.0s							
V26A	Tequesquite Ra	168.19	323	⇓PKPab	PKPab	16 52 55.7	-1.0	
	baz=168							
T23A	Casias Ranch,	168.26	333	⇑PKPab	PKPab	16 52 56.5	-0.6	
	baz=168							
130A	Snyder	168.29	303	⇑PKPab	PKPab	16 52 56.7	-0.5	
	baz=168							
W27A	Bowe Ranch, En	168.30	318	⇓PKPab	PKPab	16 52 56.6	-0.6	
	baz=168							
S20A	Disappointment	168.31	343	⇓PKPab	PKPab	16 52 57.0	-0.2	
	baz=168							
S21A	Coal Bank Pass	168.31	341	⇑PKP

	baz=169								
X26A	CR and CF Fran	169.10	318	⇑PKPab	PKPab	16 53 00.5	-0.3		
	baz=169								
CCUT	Cedar City	169.13	3	*e*PKPdf	PKPdf	16 51 50.5	+1.2		
Y27A	Causey	169.14	314	⇑PKPab	PKPab	16 53 00.3	-0.7		
	baz=169								
U22A	Llaves	169.16	335	⇓PKPab	PKPab	16 53 01.1	+0.1		
	baz=169								
CWC	Cottonwood Cre	169.19	24	⇓PKPab	PKPab	16 53 00.1	-0.9		
	baz=169								
229A	Bryant Ranch,	169.22	302	⇑PKPab	PKPab	16 53 01.1	-0.3		
	baz=169								
430A	Baggett Ranch,	169.23	295	⇑PKPab	PKPab	16 53 01.2	-0.3		
	baz=169								
SMMC	Simmler	169.30	35	⇑PKPab	PKPab	16 53 00.2	-1.3		
	baz=169								
128A	Castleberry Fa	169.40	306	⇓PKPab	PKPab	16 53 01.8	-0.4		
	baz=170								
U21A	Nageezi	169.40	338	⇓PKPab	PKPab	16 53 01.4	-0.7		
	baz=170								
V23A	Ortiz Mt. (NFS	169.42	330	⇑PKPab	PKPab	16 53 02.1	-0.1		
	baz=170								
W24A	Lazy 6 Ranch,	169.49	326	⇓PKPab	PKPab	16 53 02.5	-0.1		
	baz=170								
530A	J-C Ranch, Com	169.51	292	⇓PKPab	PKPab	16 53 02.1	-0.6		
	baz=170								
Z27A	Tatum	169.52	311	⇑PKPab	PKPab	16 53 02.4	-0.3		
	baz=170								
Y26A	Elida	169.53	316	⇓PKPab	PKPab	16 53 02.3	-0.5		
	baz=170								
329A	Wagon Wheel Ra	169.55	300	⇓PKPab	PKPab	16 53 02.2	-0.8		
	baz=170								
FURC	Furnace Creek,	169.57	19	⇑PKPab	PKPab	16 53 02.5	0.0		
	baz=170								
V22A	San Miguel Ran	169.58	334	⇓PKPab	PKPab	16 53 02.8	-0.1		
	baz=170								
X25A	Clemmons Ranch	169.61	321	⇑PKPab	PKPab	16 53 02.6	-0.5		
	baz=170								
PKM	Peak Mountain	169.71	35	⇑PKPab	PKPab	16 53 02.8	-0.7		
	baz=170								
ISA	Isabella	169.72	28	⇓PKPab	PKPab	16 53 02.7	-0.6		
	baz=170								
U20A	Newcomb	169.72	341	⇓PKPab	PKPab	16 53 03.1	-0.3		
	baz=170								
228A	UT Block 9, Go	169.73	304	⇓PKPab	PKPab	16 53 03.1	-0.5		
	baz=170								
MPMC	Manual Prospec	169.74	23	⇑PKPab	PKPab	16 53 03.1	-0.5		
	baz=170								
429A	Davenport Ranc	169.81	295	⇑PKPab	PKPab	16 53 03.2	-0.9		
	baz=170								
W23A	Werner Place,	169.89	328	⇑PKPab	PKPab	16 53 03.5	-0.9		
	baz=170								
V21A	Milan	169.96	336	⇑PKPab	PKPab	16 53 04.2	-0.3		
	baz=170								
127A	Arkansas Junct	169.99	309	⇑PKPab	PKPab	16 53 04.5	-0.3		
	baz=170								
X24A	Lazy VL Ranch,	170.01	324	⇓PKPab	PKPab	16 53 04.8	-0.1		
	baz=170								
ARVC	Arvin	170.01	31	⇓PKPab	PKPab	16 53 03.9	-0.7		
	baz=170								
Z26A	Caprock	170.05	313	⇓PKPab	PKPab	16 53 04.8	-0.2		
	baz=170								
Y25A	Mesa, Roswell	170.06	319	⇑PKPab	PKPab	16 53 04.8	-0.2		
	baz=170								
LRMC	Laurel Mountai	170.19	25	⇓PKPab	PKPab	16 53 05.0	-0.5		
	baz=170								
ANMO	Albuquerque	170.21	329	*e*PKPdf	PKPdf	16 51 50.8	+0.8		
ANMO				LR	LR				
	comp=Z,910nm,21.0s								
328A	Wristen Ranch,	170.24	301	⇑PKPab	PKPab	16 53 05.4	-0.5		
	baz=170								
V20A	Brimhall	170.24	340	⇓PKPab	PKPab	16 53 05.8	0.0		
	baz=170								
529A	Stev Forest Ra	170.24	293	⇑PKPab	PKPab	16 53 05.0	-1.0		
	baz=170								
U15A	North Rim	170.26	359	⇓PKPab	PKPab	16 53 05.6	-0.3		
	baz=170								
SHOC	Shoshone	170.27	18	⇑PKPab	PKPab	16 53 05.5	-0.1		
	baz=170								
W22A	Albuquerque	170.29	331	⇓PKPab	PKPab	16 53 05.7	-0.3		
	baz=170								
227A	Bennet, Jal	170.30	305	⇓PKPab	PKPab	16 53 05.3	-0.9		
	baz=170								
X23A	Hourglass Bar	170.38	327	⇑PKPab	PKPab	16 53 05.6	-0.9		
	baz=170								
126A	Clayton Basin,	170.46	311	⇓PKPab	PKPab	16 53 06.4	-0.5		
	baz=171								
OSI	Osito Adit	170.48	32	⇓PKPab	PKPab	16 53 05.7	-1.0		
	baz=170								
Y24A	Capitan	170.49	321	⇓PKPab	PKPab	16 53 06.8	-0.2		
	baz=171								
Z25A	Roswell	170.52	316	⇓PKPab	PKPab	16 53 07.2	+0.1		
	baz=171								
W21A	San Fidel	170.57	334	⇑PKPab	PKPab	16 53 07.3	0.0		
	baz=171								
EDW2	Edwards Air Fo	170.59	28	⇓PKPab	PKPab	16 53 06.8	-0.4		
	baz=171								
GSC	Goldstone	170.66	22	⇑PKPab	PKPab	16 53 07.1	-0.4		
	baz=171								
528A	Cox Ranch, San	170.70	294	⇑PKPab	PKPab	16 53 07.4	-0.7		
	baz=171								
327A	Balmorhea Ranc	170.76	303	⇓PKPab	PKPab	16 53 07.6	-0.7		
	baz=171								
TUQ	Turquoise Mou	170.80	17	⇓PKPab	PKPab	16 53 07.7	-0.5		
	baz=171								
Y23A	Lovelace Mesa,	170.82	324	⇓PKPab	PKPab	16 53 08.0	-0.5		
	baz=171								
X22A	Bernardo	170.83	330	⇑PKPab	PKPab	16 53 07.6	-0.8		
	baz=171								
W20A	Ramah	170.87	338	⇑PKPab	PKPab	16 53 07.9	-0.7		
	baz=171								
Z24A	Sheeppen Canyo	170.88	318	⇓PKPab	PKPab	16 53 08.5	-0.3		
	baz=171								
125A	Gardner Draw,	170.88	313	⇑PKPab	PKPab	16 53 08.4	-0.4		
	baz=171								
226B	Tecolote Peak,	170.89	308	⇓PKPab	PKPab	16 53 09.0	+0.2		
	baz=171								
427A	Hayter Ranch,	170.93	299	⇓PKPab	PKPab	16 53 08.5	-0.5		
	baz=171								
BNM	Barren Site	170.94	327	*e*PKPdf	PKPdf	16 51 50.8	+0.4		
DECC	Green Verdugo	170.97	32	⇑PKPab	PKPab	16 53 08.0	-0.9		
	baz=171								
LAZ	Ladron	170.97	330	*e*PKPdf	PKPdf	16 51 51.1	+0.7		
RRX	Edison Barstow	170.98	24	⇑PKPab	PKPab	16 53 08.5	-0.3		
	baz=171								
628A	Black Gap, Mar	170.99	290	⇑PKPab	PKPab	16 53 08.3	-1.0		
	baz=171								
WUAZ	Wupatki	171.12	354	PFAKE		16 52 00.0	+10		
WUAZ				LR	LR				
	comp=Z,607nm,20.0s								
WUAZ	Wupatki	171.12	354	⇑PKPab	PKPab	16 53 08.6	-0.9		
	baz=171								
Y22D	IRIS PASSCAL I	171.15	328	⇓PKPab	PKPab	16 53 09.0	-0.8		
	baz=171								
326A	Caldwell Ranch	171.15	304	⇓PKPab	PKPab	16 53 10.0	0.0		
	baz=171								
X21A	Alamocita Cree	171.21	333	⇑PKPab	PKPab	16 53 10.2	0.0		
	baz=171								
W18A	Petrified Fore	171.23	344	⇑PKPab	PKPab	16 53 09.3	-0.8		
	baz=171								
HEC	Hector,Ludlow	171.25	21	⇓PKPab	PKPab	16 53 09.8	-0.3		
	baz=171								
BFSC	Mount Baldy Ra	171.28	29	⇓PKPab	PKPab	16 53 09.5	-0.8		
	baz=171								
Y22A	Socorro	171.28	328	⇓PKPab	PKPab	16 53 09.8	-0.6		
	baz=171								
225A	Deer Hill, Car	171.32	311	⇓PKPab	PKPab	16 53 09.8	-1.0		
	baz=171								
124A	Stringfield Ra	171.36	316	⇑PKPab	PKPab	16 53 10.6	-0.4		
	baz=171								
527A	Woodward Ranch	171.37	296	⇓PKPab	PKPab	16 53 10.2	-0.9		
	baz=172								
X20A	Quemado	171.40	337	⇑PKPab	PKPab	16 53 10.9	-0.1		
	baz=172								
627A	Terlingua Ranc	171.41	291	⇓PKPab	PKPab	16 53 10.5	-0.8		
	baz=172								
FMP	Fort Macarthur	171.42	34	⇓PKPab	PKPab	16 53 09.5	-1.3		
	baz=171								
Z23A	Rita Site, Whi	171.42	322	⇑PKPab	PKPab	16 53 10.8	-0.3		
	baz=172								
426A	McDonald Obser	171.49	300	⇓PKPab	PKPab	16 53 11.3	-0.4		
	baz=172								
GMRC	Granite Mounta	171.49	17	⇑PKPab	PKPab	16 53 10.4	-0.8		
	baz=172								
W13A	Hualapai Mount	171.52	7	⇑PKPab	PKPab	16 53 10.3	-1.1		
	baz=172								
Y21A	Point of Rocks	171.54	331	⇓PKPab	PKPab	16 53 11.8	+0.1		
	baz=172								
BBRC	Big Bear Solar	171.56	25	⇓PKPab	PKPab	16 53 10.4	-1.3		
	baz=172								
CIS	Catalina Islan	171.60	35	⇓PKPab	PKPab	16 53 10.5	-1.2		
	baz=172								
TXAR	Lajitas Array	171.68	291	PKP	PKPdf	16 51 51.2	+0.4		
TXAR	Lajitas Array	171.68	291	PKP	PKPdf	16 51 51.2	+0.4		
	comp=Z,1.0nm,0.8s,baz=168,slow=1.5,SNR=9.6								
NEE2	Needles Airpor	171.74	12	⇑PKPab	PKPab	16 53 12.5	+0.4		
	baz=172								
526A	Mary Lane Ranc	171.79	296	⇓PKPab	PKPab	16 53 12.2	-0.8		
	baz=172								
224A	Cornudas Mount	171.81	313	⇓PKPab	PKPab	16 53 12.6	-0.4		
	baz=172								
Z22A	Elephant Butte	171.82	325	⇑PKPab	PKPab	16 53 12.2	-0.7		
	baz=172								
X18A	Snowflake	171.84	344	⇓PKPab	PKPab	16 53 12.8	0.0		
	baz=172								
325A	Bean Ranch, Si	171.85	307	⇑PKPab	PKPab	16 53 12.2	-1.0		
	baz=172								
SCI	San Clemente I	171.85	38	⇓PKPab	PKPab	16 53 12.5	-0.3		
	baz=172								
123A	Bell Site, Whi	171.90	319	⇓PKPab	PKPab	16 53 13.2	0.0		
	baz=172								
Y20A	Horse Springs,	171.92	334	⇑PKPab	PKPab	16 53 12.9	-0.5		
	baz=172								
MNTX	Cornudas Mount	171.95	310	*e*PKPdf	PKPdf	16 51 51.0	+0.3		
MNTX				LR	LR				
	comp=Z,649nm,20.0s								
626A	Big Bend Ranch	172.00	293	⇑PKPab	PKPab	16 53 13.2	-0.7		
	baz=172								
MURC	Murrieta	172.02	29	⇑PKPab	PKPab	16 53 12.7	-0.8		
	baz=172								
BELC	Belle Mtn. Jos	172.12	21	⇑PKPab	PKPab	16 53 13.5	-0.5		
	baz=172								
425A	Indio Mountain	172.17	303	⇑PKPab	PKPab	16 53 13.7	-0.8		
	baz=172								
324A	Meseta Ranch,	172.17	309	⇑PKPab	PKPab	16 53 13.6	-1.0		
	baz=172								
IRM	Iron Mountain	172.21	16	⇓PKPab	PKPab	16 53 14.5	+0.2		
	baz=172								
X16A	Lo Mia Camp, P	172.21	353	⇑PKPab	PKPab	16 53 14.1	-0.4		
	baz=172								
122A	Conniff Cattle	172.27	322	⇓PKPab	PKPab	16 53 15.1	+0.3		
	baz=172								
PDMCI	Parker Dam,Lak	172.28	10	⇓PKPab	PKPab	16 53 14.2	-0.2		
	baz=172								
PFO	Pinyon Flat Ob	172.31	25	PFAKE		16 52 00.0	+9.1		
PFO				LR	LR				
	comp=Z,632nm,20.0s								
PFO	Pinyon Flat Ob	172.31	25	⇓PKPab	PKPab	16 53 14.4	-0.6		
	baz=172								
BC3	Big Chuckawall	172.61	19	⇓PKPab	PKPab	16 53 15.8	-0.4		
	baz=173								
109C	Camp Elliot, M	172.66	31	⇓PKPab	PKPab	16 53 16.1	-0.2		
	baz=173								
Z20A	Nine Sixteen R	172.70	333	⇓PKPab	PKPab	16 53 16.4	-0.3		
	baz=173								
Y14A	Wickenburg	172.74	3	⇑PKPab	PKPab	16 53 16.1	-0.6		
	baz=173								
Y12C	Blythe	172.75	13	⇑PKPab	PKPab	16 53 16.3	-0.3		
	baz=173								
222A	Williams Famil	172.77	320	⇓PKPab	PKPab	16 53 16.7	-0.4		
	baz=173								
121A	Cookes Peak, D	172.81	326	⇓PKPab	PKPab	16 53 17.0	-0.3		
	baz=173								
MONP	Monument Peak	172.96	27	⇓PKPab	PKPab	16 53 17.1	-0.8		
	baz=173								
SWSC	Sam W. Stewart	173.16	23	⇑PKPab	PKPab	16 53 17.7	-0.8		
	baz=173								
120A	U Bar Ranch, L	173.21	331	⇑PKPab	PKPab	16 53 18.5	-0.5		
	baz=173								
221A	Mesquite Ranch	173.22	323	⇑PKPab	PKPab	16 53 18.9	-0.2		
	baz=173								
DVTC	Desert V Tower	173.29	26	⇓PKPab	PKPab	16 53 18.3	-1.0		
	baz=173								
Z14A	Wintersburg	173.32	3	⇓PKPab	PKPab	16 53 19.2	0.0		
	baz=173								
GLA	Glamis	173.35	16	⇑PKPab	PKPab	16 53 19.9	+0.5		
	baz=173								
220A	Playas Peak, P	173.69	327	⇓PKPab	PKPab	16 53 20.7	-0.5		
	baz=174								
113A	Mohawk Valley,	173.83	9	⇑PKPab	PKPab	16 53 21.7	+0.3		
	baz=174								
320A	Kipp Ranch, An	174.15	324	⇑PKPab	PKPab	16 53 23.2	0.0		
	baz=174								
TUC	Tucson	174.16	345	*e*PKIKP	PKPdf	16 51 52.8	+1.1		
TUC				MLR	MLR				
	comp=Z,533nm,20.0s								
TUC	Tucson	174.16	345	*e*PKPdf	PKPdf	16 51 52.8	+1.1		
TUC				LR	LR				
	comp=Z,533nm,20.0s								
319A	Douglas	174.49	329	⇓PKPab	PKPab	16 53 24.4	-0.2		
	baz=175								
214A	Organ Pipe Nat	174.73	2	⇑PKPab	PKPab	16 53 24.6	-0.8		
	baz=175								

MAN 07 16:34:06,17°.67N×120°.13E,h25km,mb3.8,ML2.6,MS2.2, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	Brgy, Tapao	0.40	51	⇓*e*P	Pn	16 34 15.9	-0.3
SIPP				*i* S	Sn	16 34 22.1	-0.8
ABRA	Dolores	0.55	92	*e*P	Pb	16 34 17.0	-0.1
ABRA				*e*S	Sb	16 34 23.5	-1.1
PIP	Pasuquin	0.80	35	⇑*i*P	Pn	16 34 22.5	+0.8
PIP				*e*S	Sn	16 34 33.9	+1.0
APYP	Conner	1.07	80	*e*P	Pb	16 34 25.8	-0.1
APYP				*e*S	Sn	16 34 40.2	+0.6
BOLP	Bolinao	1.30	189	*e*P	Pn	16 34 28.5	-0.1
CAUP	Cauayan	1.77	114	*e*P	Pb	16 34 37.0	-0.7

IDC 07 16:36:00.9±1.8,9°.92S×123°.85E,h0km,mb3.6/1, mb1 3.4/4,mb1mx3.3/20,mbtmp3.3/4,ML2.7/2,Error ellipse: s-maj=118.3km s-min=28.2km az=62.0,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	8.31	168	Pn	Pn	16 38 03.6	+0.8
	0.1nm,0.3s,baz=262,slow=17,SNR=8.1						
FITZ				Sn	Sn	16 39 25.9	-12
	0.3nm,0.3s,baz=253,slow=18,SNR=6.8						
WRA	Warramunga Arr	14.20	136	Pn	Pn	16 39 21.9	-1.7
	0.1nm,0.3s,baz=312,slow=12,SNR=3.4						
ASAR	Alice Springs	16.70	146	Pn	Pn	16 39 56.9	+0.3
	0.0nm,0.3s,baz=317,slow=12,SNR=4.6						
MKAR	Makanchi Array	67.53	330	P	P	16 46 59.1	0.0
	0.3nm,0.4s,baz=120,slow=7.7,SNR=4.3						

IDC ***07*** *16:37:40.3±1.3,40°.13N×144°.31E,h0km,mb3.6/6, mb1 3.7/9,mb1mx3.5/28,mbtmp3.6/9,ML3.0/3,Error ellipse: s-maj=28.7km s-min=23.8km az=89.0*
ISCJB ***07*** *16:37:41.9±0.7,40°.27N±0°.04×144°.14E±0°.08,h16km, mb3.7/6,Error ellipse: s-maj=9.2km s-min=4.3km az=25.9*
JMA ***07*** *16:37:44.5±0.2,40°.28N×144°.01E,h38km,M3.2*

ISC 07 16:37:43.1±1.2,40°.25N±0°.06×144°.17E±0°.08,h16km,n23, σ1°.33/30,mb3.6/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	Tanohata	1.80	261	P	Pn	16 38 12.2	-1.2
JEM	Erimo	1.92	337	P	Pn	16 38 15.0	-0.1
MIYJ	Miyakonagasawa	1.93	250	P	Pn	16 38 14.5	-0.7
JANG	Nango	2.03	274	P	Pn	16 38 15.8	-0.9
JNBK	Urakawa-nobuka	2.29	333	P	Pn	16 38 20.4	+0.2
JNBK				*e*S	Sn	16 38 46.6	-1.5
JOM	Ohasama	2.35	252	P	Pn	16 38 21.0	0.0
JCH	Churui	2.44	346	P	Pn	16 38 21.9	-0.3
JCH				*e*S	Sn	16 38 49.5	-2.2
JMK	Ichinoseki	2.62	241	P	Pn	16 38 24.6	-0.1
JMK				*e*S	Sn	16 38 54.2	-2.0
JOT	Ohata	2.62	297	P	Pn	16 38 24.7	-0.1
JOT				*e*S	Sn	16 38 54.1	-2.2
JAK	Akkeshi	2.77	8	P	Pn	16 38 26.7	-0.1
JAK				*e*S	Sn	16 38 59.2	-0.7
JKB	Kayabe	2.88	306	P	Pn	16 38 28.2	-0.1
NEM2	Nemuro 2	3.33	20	P	Pn	16 38 34.0	-0.4
NEM2				*e*S	Sn	16 39 10.7	-2.9
JTKR	Abashiri--Toko	3.72	357	P	Pn	16 38 40.0	+0.1
JTKR				*e*S	Sn	16 39 21.0	-2.3
ASAJ	Asahikawa	4.04	344	Pn	Pn	16 38 45.0	+0.8
	1.0nm,0.3s,baz=127,slow=6.3,SNR=11						
ASAJ				Sn	Sn	16 39 32.3	+1.2
	0.6nm,0.3s,baz=156,slow=18,SNR=2.5						
MJAR	Matsushiro Arr	5.97	234	Pn	Pn	16 39 11.8	+1.1
	0.8nm,0.3s,baz=45,slow=11,SNR=11						
MAT	Matsushiro	5.97	234	P	Pn	16 39 11.2	+0.4
MAT				*e*S	Sn	16 40 16.9	-1.9
USRK	Ussuriysk Arra	9.85	298	Pn	Pn	16 40 06.2	+2.3
	0.3nm,0.3s,baz=140,slow=40,SNR=5.5						
SONM	Songino Array	27.97	298	P	P	16 43 34.3	+1.3
	0.4nm,0.4s,baz=83,slow=9.4,SNR=4.7						
MKAR	Makanchi Array	44.32	300	P	P	16 45 51.9	-0.2
	0.8nm,0.9s,baz=80,slow=10,SNR=2.8						
ILAR	Eielson Array	45.62	34	P	P	16 46 02.8	+0.6
	0.4nm,0.7s,baz=273,slow=5.1,SNR=3.3						
KURBB	Kurchatov Arra	45.80	306	P	P	16 46 04.9	+1.1
	1.6nm,0.6s,baz=79,slow=8.8,SNR=4.4						
BVAR	Borovoye Array	50.06	311	P	P	16 46 37.4	+0.6
	1.3nm,0.8s,baz=70,slow=8.2,SNR=3.0						
WRA	Warramunga Arr	60.58	191	P	P	16 47 51.4	-1.4
	0.3nm,0.8s,baz=8.3,slow=6.9,SNR=2.9						

CSEM ***07*** *16:45:45.5,33°.76N×25°.33E,h5km,MD3.7,After ATH*

ATH 07 16:45:45.5,33°.76N×25°.33E,h5km,MD3.7/6,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	Sivas	1.33	341	*e*PB	Pg	16 46 11.5	+0.5
SIVA	Sivas	1.33	341	*e*Pb	Pg	16 46 11.5	+0.5
LAST	Lasithi	1.40	5	*e*PG	Pn	16 46 11.6	-0.3
LAST	Lasithi	1.40	5	*e*Pg	Pn	16 46 11.6	-0.3
ZKR	Zakros	1.54	28	*e*PG	Pb	16 46 14.1	-0.4
ZKR				*e*SB	Sg	16 46 36.4	+1.4
ZKR	Zakros	1.54	28	*e*Pg	Pb	16 46 14.1	-0.4
ZKR				*e*Sb	Sg	16 46 36.4	+1.4
IDI	Anoyia	1.57	347	*e*PN	Pn	16 46 13.2	-0.9
IDI	Anoyia	1.57	347	*e*Pn	Pn	16 46 13.2	-0.9
VAM	Vamos	1.89	331	*e*PN	Pg	16 46 22.4	+0.6
VAM	Vamos	1.89	331	*e*Pn	Pg	16 46 22.4	+0.6
KARP	Karpathos	2.34	40	*e*PN	Pb	16 46 27.7	-0.5
KARP	Karpathos	2.34	40	*e*Pn	Pb	16 46 27.7	-0.5

MOS ***07*** *16:46:12.1±1.3,29°.35S×71°.17W,h33km,mb5.6/29,Error ellipse: s-maj=14.0km s-min=7.2km az=104.2*
ISCJB ***07*** *16:46:14.2±0.5,29°.37S±0°.02×71°.18W±0°.05,h53km±4km, mb5.1/120,MS4.8/16,Error ellipse: s-maj=7.9km s-min=3.7km az=178.8*
IDC ***07*** *16:46:15.6±0.4,29°.30S×71°.24W,h51km±3km,mb4.7/27, mb1 4.8/30,mb1mx4.8/33,mbtmp4.7/30,MS4.6/15, Ms1 4.6/15,ms1mx4.4/28,Error ellipse: s-maj=12.5km s-min=7.8km az=59.0*
GUC ***07*** *16:46:15.9±0.6,29°.37S×70°.50W,h72km±13km,ML5.4*
BJI ***07*** *16:46:15.3,29°.40S×71°.10W,h48km,mB5.3/16,Ms5.1/12, Ms7 5.0/16*
NEIC ***07*** *16:46:15.3±0.1,29°.36S×71°.13W,mb5.3/98,Error ellipse: s-maj=5.1km s-min=2.6km az=78.0*
NEIC Felt [V] at La Serena and Ovalle; [IV] at Alto del Carmen, Andacollo, Copiapo, Coquimbo, Huasco, Hurtado, Tierra Amarilla and Vallenar; [III] at Freirina and Punitaqui; [II] at Illapel, Salamanca, San Antonio and Santiago. Also felt at Vicuna.
GCMT ***07*** *16:46:19.4±0.2,29°.30S×71°.57W,h47km±1km,MW5.4, Moment Tensor Solution. s61,c86; s76,c132; Moment tensor: Scale 10^17^Nm; Mrr-0.13±.04; Mθθ0.59±.03; Mφφ-0.46±.04; Mrθ-0.08±.03; Mθφ-1.05±.03; Mφr1.00±.04; Best double couple: M0 1.50000×10^17^ NP1:φs260.00000°, δ50.00000°,λ-174.00000°. NP2:φs165.00000°, δ85.00000°,λ-40.00000°. Principal axes: T 1.5000, Plg23.0000°, Azm219.0000°; N 0.1000, Plg50.0000°, Azm340.0000°; P -1.6000, Plg31.0000°, Azm115.0000°; Data Used: II IU IC G CN.*
DJA ***07*** *16:46:46.6±9.6,30°.5±40°×7°.1W±2°.7,h297km±83km, M4.8/9,mB5.3/1,mb4.8/9,Mw(mB)4.7/1*

ISC 07 16:46:15.1±0.3,29°.34S±0°.02×71°.26W±0°.05,h49km±2km, h49km:pP-P,n764,σ1°.09/1003,mb5.2/121,MS4.8/16, 193C-219D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	Las Campanas	0.59	56	⇓*e*P	Pn	16 46 28.3	+0.6
LCO				*e*S	Sn	16 46 37.6	+0.9
LCO	Las Campanas	0.59	56	⇓*e*P	Pn	16 46 28.3	+0.6
LCO				*e*S	Sn	16 46 37.6	+0.9
LCO				AML	AML	16 46 40.6	
	comp=E,315μm,0.6s						
TLL	Tololo Astrono	0.91	155	⇓*i*P	Pn	16 46 33.1	+1.2
TLL				*e*S	Sn	16 46 46.0	+1.8
TLL	Tololo Astrono	0.91	155	⇓*i*P	Pn	16 46 33.1	+1.2
TLL				*e*S	Sn	16 46 46.0	+1.8
TLL	Tololo Astrono	0.91	155	⇓*i*P	Pn	16 46 33.1	+1.2
TLL				*e*S	Sn	16 46 46.0	+1.8
TLL				AML	AML	16 46 47.4	
	comp=E,125μm,0.3s						
CMCH	Combarbala	1.84	173	*e*P	Pn	16 46 43.8	-0.6
CMCH				*e*S	Sn	16 47 06.3	-0.2
CMCH	Combarbala	1.84	173	*e*P	Pn	16 46 43.8	-0.6
CMCH				*e*S	Sn	16 47 06.3	-0.2
CMCH				AML	AML	16 47 07.7	
	comp=N,112μm,1.0s						
CPC

comp=N,46nm,0.6s
LPAZ La Paz 13.31 13 P Pn 16 49 19.1 -2.9
comp=N,2.0nm,0.3s,baz=204,slow=6.6,SNR=36
SIV San Ignacio 16.26 37 P Pn 16 49 54.0 -6.3
SIV San Ignacio 16.26 37 P Pn 16 49 54.0 -6.3
comp=N,1.7nm,0.3s,baz=234,slow=9.3,SNR=25
NNA Nana 18.04 342 *e*P **Pn 16 50 25.1 +2.8**
comp=N,103nm,1.5s
SAML Samuel 21.66 22 *e*P **P 16 51 01.2 -0.4**
comp=N,53nm,1.1s
EFI East Falkland 24.38 160 *e*P **P 16 51 26.2 -2.3**
EFI East Falkland 24.38 160 *e*P **P 16 51 28.4 -0.1**
EFI pmax pmax
comp=Z,96nm,0.7s
EFI East Falkland 24.38 160 *e*P **P 16 51 28.4 -0.1**
comp=Z,96nm,0.7s
BDFB Brasilia 25.37 63 P **P 16 51 36.9 -1.1**
BDFB Brasilia 25.37 63 P **P 16 51 36.9 -1.1**
comp=Z,35nm,0.8s,baz=228,slow=9.4,SNR=44
BDFB LR LR 17 02 11.8
comp=Z,1μm,18.9s,baz=229,slow=38
USHA Ushuaia 25.55 176 P **P 16 51 38.9 -0.2**
USHA Ushuaia 25.55 176 P **P 16 51 38.9 -0.2**
comp=Z,41nm,0.7s,baz=316,slow=3.1,SNR=16
USHA LR LR 17 02 20.9
comp=Z,1μm,19.1s,baz=165,slow=38
CAM4 Nova Friburgo 26.70 82 i/P **P 16 51 48.9 -1.2**
CAM4 *i* 16 51 52.9
CAM4 *i* 16 51 55.3
CAM4 *i* 16 51 57.8
CAM4 *i* 16 52 03.4
CAM4 *i* 16 52 06.3
CAM4 *i* 16 52 10.4
CAM4 *i* 16 52 19.6
CAM4 *i* 16 52 25.8
CAM4 *i* 16 52 46.4
CAM4 *i* 16 52 53.9
PMSA Palmer Station 35.74 175 P **P 16 53 09.7 +0.9**
PMSA Palmer Station 35.74 175 P **P 16 53 09.7 +0.9**
comp=Z,26nm,1.0s,baz=75,slow=2.2,SNR=3.7
SDV Santo Domingo 38.01 1 *e*P **P 16 53 28.5 -0.4**
comp=Z,18nm,0.9s
SDV *e*pP **pP 16 53 40.5 -1.4**
RCBR Riachuelo 40.74 62 *e*P **P 16 53 51.7 +0.1**
comp=Z,60nm,1.4s
RCBR Riachuelo 40.74 62 P **P 16 53 52.3 +0.7**
comp=Z,22nm,0.9s,baz=222,slow=11,SNR=6.2
TGUH Tegucigalpa,Un 45.84 338 *e*pP pP 16 54 46.9 +1.2
comp=Z,61nm,1.0s
CELP Cerrillos 47.36 6 *e*P **P 16 54 47.3 +3.0**
SJG San Juan 47.44 7 P **P 16 54 45.9 +1.0**
comp=Z,21nm,0.3s
SJG *e*pP **pP 16 54 56.6 -1.6**
CBYP Canovanas 47.62 7 P **P 16 54 45.9 -0.6**
comp=Z,45nm,1.1s
CBYP *e*pP **pP 16 54 58.0 -1.8**
TEIG Tepich 51.94 340 *e*P **P 16 55 19.4 +0.2**
TEIG *e*pP **pP 16 55 31.6 -1.0**
TEIG Tepich 51.94 340 P **P 16 55 19.3 +0.1**
comp=Z,6.7nm,0.5s,baz=181,slow=11,SNR=5.9
VNA1 Neumayer--Stat 53.71 158 *e*P **P 16 55 32.2 +0.5**
VNA1 Neumayer--Stat 53.71 158 *e*sP sP 16 55 52.1 +1.2
SNAA Sanae 55.66 159 *e*P **P 16 55 45.7 -0.2**
SNAA Sanae 55.66 159 *e*sP sP 16 56 08.1 +3.0
SNAA Sanae 55.66 159 *e*SKiKP **SKiKP 17 06 43.4 -0.4**
SNAA Sanae 55.66 159 *e*P **P 16 55 45.7 -0.2**
SNAA Sanae 55.66 159 *e*P **P 16 55 45.4 -0.5**
comp=Z,140nm,1.3s
SNAA P **P 16 55 45.7 -0.2**
SNAA Sanae 55.66 159 P **P 16 55 45.7 -0.2**
comp=Z,10nm,0.5s,baz=283,slow=7.5,SNR=622
RKT Rikitea 56.89 260 *e*LR LR 17 12 38.4
comp=Z,958nm,24.2s,baz=116
QSPA South Pole Qui 60.88 180 P **P 16 56 22.5 0.0**
QSPA South Pole Qui 60.88 180 P **P 16 56 22.5 0.0**
comp=Z,17nm,0.6s,baz=153,slow=1.9,SNR=156
VBMS Vicksburg 63.90 342 P **P 16 56 43.7 +0.9**
comp=Z,156nm,1.2s
VBMS *e*pP **pP 16 56 57.7 +1.1**
732A Laxson Ranch, 63.94 332 P **P 16 56 44.3 +1.1**
baz=64
732A ⇑pP **pP 16 56 58.2 +1.2**
baz=64,SNR=18
632A Uvalde 64.55 333 P **P 16 56 48.6 +1.4**
baz=65
632A ⇑pP **pP 16 57 02.0 +1.0**
baz=65,SNR=7.8
631A Perdido Creek 64.79 332 P **P 16 56 49.7 +1.0**
baz=65
631A ⇑pP **pP 16 57 03.1 +0.6**
baz=65,SNR=6.3
KMSC Kings Mountain 64.84 351 P **P 16 56 49.4 +0.5**
baz=65
532A Rocksprings 65.14 333 P **P 16 56 52.5 +1.4**
baz=66
532A ⇑pP **pP 16 57 06.2 +1.3**
baz=66
JCT Junction City 65.42 333 *e*P **P 16 56 53.4 +0.6**
JCT *e**PP **pP 16 57 07.6 +0.9**
JCT pmax pmax
comp=Z,15nm,0.6s
JCT Junction City 65.42 333 *e*P **P 16 56 53.4 +0.6**
comp=Z,14nm,0.6s
JCT *e*pP **pP 16 57 07.6 +0.9**
JCT Junction City 65.42 333 P **P 16 56 53.8 +1.0**
baz=66
JCT ⇓pP **pP 16 57 07.6 +0.9**
baz=66,SNR=6.2
531A Rocksprings 65.44 332 P **P 16 56 54.1 +1.2**
baz=66
531A ⇑pP **pP 16 57 08.0 +1.1**
baz=66
TKL Tuckaleechee C 65.72 349 *e*P **P 16 56 53.9 -0.7**
TKL P **P 16 56 54.3 -0.3**
TKL *e*pP **pP 16 57 08.-7**
TKL pP **pP 16 57 08.3 -0.2**
TKL Tuckaleechee C 65.72 349 P **P 16 56 54.3 -0.3**
comp=Z,6.5nm,0.9s,baz=170,slow=11,SNR=4.2
TKL pP **pP 16 57 08.3 -0.2**
comp=Z,35nm,0.9s,baz=161,slow=7.7,SNR=14
530A J-C Ranch, Com 65.75 332 ⇑pP pP 16 57 09.8 +1.0
baz=66
432A Menard 65.76 333 P **P 16 56 56.0 +1.0**
baz=66
432A ⇑pP **pP 16 57 09.5 +0.6**
baz=66,SNR=10
628A Black Gap, Mar 65.83 330 P **P 16 56 57.2 +1.7**
baz=66
628A ⇓pP **pP 16 57 10.3 +0.8**
baz=66,SNR=16
WHTX Lake Whitney 65.88 336 ⇑pP pP 16 57 10.2 +0.7
baz=66,SNR=7.4
431A Sonora 65.92 332 P **P 16 56 57.2 +1.2**
baz=66
431A ⇑pP **pP 16 57 10.6 +0.7**
baz=66,SNR=8.1
627A Terlingua Ranc 66.03 329 P **P 16 56 57.6 +0.7**
baz=66
627A ⇑pP **pP 16 57 11.4 +0.7**
baz=66,SNR=6.8
TXAR Lajitas Array 66.05 329 P **P 16 56 57.8 +0.8**
TXAR pP **pP 16 57 11.6 +0.7**
TXAR Lajitas Array 66.05 329 P **P 16 56 57.8 +0.8**
comp=Z,3.0nm,0.7s,baz=152,slow=8.5,SNR=23
TXAR pP **pP 16 57 11.6 +0.7**
comp=Z,17nm,0.9s,baz=123,slow=4.6,SNR=29
TXAR LR LR 17 20 34.9
comp=Z,147nm,18.9s,baz=180,slow=31
529A Stev Forest Ra 66.10 331 P **P 16 56 58.1 +0.8**
baz=66
529A ⇑pP **pP 16 57 12.2 +1.1**
baz=66
332A Millersview 66.19 334 P **P 16 56 58.5 +0.7**
baz=67
332A ⇑pP **pP 16 57 12.3 +0.7**
baz=67,SNR=7.1
430A Baggett Ranch, 66.26 332 P **P 16 56 59.3 +1.0**
baz=67
430A ⇑pP **pP 16 57 12.8 +0.6**
baz=67,SNR=9.1
528A Cox Ranch, San 66.37 330 P **P 16 56 59.3 +0.2**
baz=67
528A ⇓pP **pP 16 57 13.8 +0.9**
baz=67
528A ⇑S **S 17 05 51.4 +5.9**
baz=67
429A Davenport Ranc 66.39 331 ⇓pP pP 16 57 14.1 +1.0
baz=67,SNR=6.2
331A San Angelo 66.39 333 P **P 16 56 60.0 +0.9**
baz=67
331A ⇑pP **pP 16 57 13.6 +0.6**
baz=67,SNR=7.2
626A Big Bend Ranch 66.44 329 P **P 16 57 00.4 +0.8**
baz=67
626A ⇑pP **pP 16 57 14.7 +1.3**
baz=67,SNR=8.4
TZTN Tazewell 66.55 349 *e*pP pP 16 57 13.3 -0.5
comp=Z,51nm,1.4s
232A Coleman 66.60 334 P **P 16 57 01.0 +0.6**
baz=67
232A ⇑pP **pP 16 57 15.2 +0.9**
baz=67,SNR=7.0
527A Woodward Ranch 66.72 330 P **P 16 57 01.5 +0.2**
baz=67
527A ⇓pP **pP 16 57 15.9 +0.7**
baz=67,SNR=9.3
330A Mertzon 66.78 332 ⇓pP pP 16 57 16.1 +0.6
baz=67,SNR=8.6
UALR University of 66.81 341 P **P 16 57 02.3 +0.7**
comp=Z,34nm,1.1s
UALR *e*pP **pP 16 57 15.7 +0.2**
526A Mary Lane Ranc 66.86 329 P **P 16 57 03.2 +1.0**
baz=67
526A ⇑pP **pP 16 57 17.3 +1.2**
baz=67,SNR=13
231A Bronte 66.91 333 P **P 16 57 02.9 +0.6**
baz=67
231A ⇑pP **pP 16 57 16.8 +0.5**
baz=67,SNR=5.9
MIAR Mount Ida 66.95 340 *e*P **P 16 57 03.2 +0.7**
MIAR *e**PP **pP 16 57 17.1 +0.7**
MIAR pmax pmax
comp=Z,54nm,1.1s
MIAR Mount Ida 66.95 340 *e*P **P 16 57 03.1 +0.7**
comp=Z,54nm,1.1s
MIAR *e*pP **pP 16 57 17.1 +0.7**
WVT Waverly 66.97 345 *e*P **P 16 57 01.6 -1.0**
WVT *e**PP **pP 16 57 15.4 -1.1**
WVT pmax pmax
comp=Z,53nm,0.9s
WVT Waverly 66.97 345 *e*P **P 16 57 01.6 -1.0**
comp=Z,53nm,0.9s
WVT *e*pP **pP 16 57 15.4 -1.1**
JSRW J. Sargeant Re 66.97 354 *e*P **P 16 57 03.4 +0.9**
JSRW *e*pP **pP 16 57 16.8 +0.4**
230A Sterling City 67.18 333 ⇓pP pP 16 57 18.6 +0.6
baz=68,SNR=6.0
329A Wagon Wheel Ra 67.18 332 P **P 16 57 04.8 +0.6**
baz=68
329A ⇓pP **pP 16 57 18.7 +0.7**
baz=68,SNR=6.7
427A Hayter Ranch, 67.23 330 ⇓pP pP 16 57 19.4 +1.0
baz=68
ABTX Abilene, Hawle 67.26 334 P **P 16 57 05.2 +0.6**
baz=68
ABTX ⇓pP **pP 16 57 19.2 +0.8**
baz=68,SNR=11
426A McDonald Obser 67.35 330 ⇑pP pP 16 57 20.3 +1.0
baz=68,SNR=5.7
328A Wristen Ranch, 67.44 331 P **P 16 57 06.0 +0.3**
baz=68
328A ⇓pP **pP 16 57 20.1 +0.4**
baz=68,SNR=6.1
229A Bryant Ranch, 67.53 332 ⇓pP pP 16 57 20.7 +0.5
baz=68,SNR=7.2
131A Roby 67.59 334 P **P 16 57 06.9 +0.3**
baz=68
131A ⇑pP **pP 16 57 21.4 +0.9**
baz=68,SNR=8.8
327A Balmorhea Ranc 67.72 330 ⇓pP pP 16 57 22.0 +0.5
baz=68
130A Snyder 67.75 333 ⇓pP pP 16 57 22.1 +0.5
baz=68,SNR=7.5
SBA Scott Base 67.76 191 *e*P **P 16 57 07.7 +0.6**
SBA pmax pmax
comp=Z,9.0nm,1.0s
SBA Scott Base 67.76 191 *e*P **P 16 57 07.7 +0.6**
comp=Z,8.8nm,1.0s
Z32A Haskell 67.80 335 P **P 16 57 08.1 +0.1**
baz=68
Z32A ⇓pP **pP 16 57 22.6 +0.7**
baz=68,SNR=9.3
425A Indio Mountain 67.88 329 ⇓pP pP 16 57 23.1 +0.5
baz=68
326A Caldwell Ranch 67.88 330 P **P 16 57 08.6 0.0**
baz=68
326A ⇑pP **pP 16 57 23.1 +0.6**
baz=68
PARMO Parma 67.92 344 P **P 16 57 09.5 +0.9**
PARMO *e*pP **pP 16 57 22.5 0.0**
228A UT Block 9, Go 67.98 332 P **P 16 57 08.9 -0.4**
baz=68
228A ⇑pP **pP 16 57 23.9 +0.8**
baz=68,SNR=7.3
Z31A Sharp Cattle R 68.06 334 P **P 16 57 10.0 +0.4**
baz=68
Z31A ⇑pP **pP 16 57 24.4 +0.8**
baz=68,SNR=7.1
129A Stewart Farms, 68.14 332 ⇑pP pP 16 57 24.5 +0.4
baz=68,SNR=8.0
227A Bennet, Jal 68.19 331 ⇑pP pP 16 57 25.5 +1.1
baz=69,SNR=5.6
325A Bean Ranch, Si 68.37 329 P **P 16 57 12.1 +0.3**
baz=69
325A ⇑pP **pP 16 57 26.0 +0.3**
baz=69,SNR=6.8
128A Castleberry Fa 68.38 332 P **P 16 57 10.0 -1.6**
baz=69
128A ⇓pP **pP 16 57 26.1 +0.5**
baz=69,SNR=8.2
Y32A R-V Farms, Ver 68.41 335 ⇑pP pP 16 57 26.1 +0.4
baz=69,SNR=7.5
Z30A Sanderson Ranc 68.42 333 P **P 16 57 11.7 -0.2**
baz=69
Z30A ⇑pP **pP 16 57 26.1 +0.3**
baz=69,SNR=8.3
SDMD Soldier's Deli 68.60 355 *e*pP pP 16 57 27.6 +0.9
comp=Z,41nm,1.1s
226B Tecolote Peak, 68.62 330 ⇑pP pP 16 57 28.1 +1.0
baz=69,SNR=8.2
Z29A Hungry Hill Ra 68.62 333 ⇓pP pP 16 57 27.3 +0.2
baz=69,SNR=5.3
324A Moseley Ranch, 68.66 329 P **P 16 57 13.4 -0.1**
baz=69
324A ⇓pP **pP 16 57 27.2 -0.2**
baz=69,SNR=6.7
Y31A Rekieta Farm, 68.68 334 P **P 16 57 14.2 +0.8**
baz=69
Y31A ⇓pP **pP 16 57 28.1 +0.6**
baz=69,SNR=8.1
USIN University of 68.70 346 *e*pP pP 16 57 26.8 -0.5
comp=Z,133nm,1.3s
VNDA Vanda 68.79 191 *e*P **P 16 57 14.3 +0.7**
comp=Z,6.6nm,1.0s
VNDA P **P 16 57 14.4 +0.9**
VNDA Vanda 68.79 191 P **P 16 57 14.4 +0.9**
comp=Z,4.8nm,0.8s,baz=126,slow=5.4,SNR=25
127A Arkansas Junct 68.79 331 ⇓pP pP 16 57 28.8 +0.6
baz=69,SNR=6.2
SIUC Southern Illin 68.80 345 *e*P **P 16 57 14.2 +0.2**
comp=Z,28nm,0.6s
SIUC *e*pP **pP 16 57 27.9 -0.1**
GDL2 Guadalupe Moun 68.81 330 *e*pP pP 16 57 29.4 +1.0
comp=Z,3.0nm,0.4s
MNTX Cornudas Mount 68.83 329 *e*P **P 16 57 13.9 -0.5**
comp=Z,28nm,1.1s
MNTX *e*pP **pP 16 57 28.1 -0.3**
TUL1 Tulsa 68.89 339 ⇑pP pP 16 57 28.9 +0.2
baz=69,SNR=7.2
Z28A Tucker Farm, M 68.92 332 ⇑pP pP 16 57 28.8 -0.2
baz=69,SNR=5.4
225A Deer Hill, Car 68.93 330 ⇓pP pP 16 57 29.6 +0.3
baz=69
126A Clayton Basin, 69.04 331 P **P 16 57 16.7 +0.9**
baz=69
126A ⇓pP **pP 16 57 30.4 +0.6**
baz=69,SNR=6.9
TBI Tubuai 69.14 254 *e*LR LR 17 18 14.8
comp=Z,771nm,29.0s,baz=105
Y29A Porterfield Fa 69.14 333 P **P 16 57 17.1 +0.8**
baz=70
Y29A ⇑pP **pP 16 57 30.8 +0.4**
baz=70,SNR=6.7
X31A McDonald Ranch 69.17 335 ⇑pP pP 16 57 31.0 +0.6
baz=70,SNR=6.9
224A Cornudas Mount 69.21 329 P **P 16 57 17.1 +0.1**
baz=70
224A ⇑pP **pP 16 57 30.9 0.0**
baz=70,SNR=5.2
Z27A Tatum 69.28 332 ⇑pP pP 16 57 31.7 +0.5
baz=70,SNR=11
125A Gardner Draw, 69.33 330 P **P 16 57 17.8 +0.2**
baz=70
125A ⇓pP **pP 16 57 31.9 +0.3**
baz=70
X30A Coker Ranch, T 69.34 334 ⇑pP pP 16 57 31.9 +0.3
baz=70
Y28A McKinney Farm, 69.41 333 ⇑pP pP 16 57 32.6 +0.6
baz=70
OLIL Olney 69.53 346 P **P 16 57 19.0 +0.5**
comp=Z,115nm,1.2s
OLIL *e*pP **pP 16 57 31.9 -0.6**
Z26A Caprock 69.56 331 P **P 16 57 19.5 +0.5**
baz=70
Z26A ⇑pP **pP 16 57 33.6 +0.5**
baz=70,SNR=6.8
W31A Holland Ranch, 69.65 335 ⇑pP pP 16 57 33.6 +0.1
baz=70,SNR=6.4
X29A Tulia 69.66 333 P **P 16 57 20.2 +0.6**
baz=70
X29A ⇑pP **pP 16 57 34.0 +0.4**
baz=70,SNR=7.3
MSTX Muleshoe 69.67 332 P **P 16 57 19.3 -0.4**
baz=70
MSTX ⇑pP **pP 16 57 34.0 +0.3**
baz=70,SNR=8.7
124A Stringfield Ra 69.71 330 ⇓pP pP 16 57 34.4 +0.3
baz=70,SNR=10
Y27A Causey 69.75 332 ⇓pP pP 16 57 34.4 +0.2
baz=70,SNR=8.0
Z25A Roswell 69.89 331 P **P 16 57 20.9 -0.1**
baz=70
Z25A ⇑pP **pP 16 57 35.2 +0.2**
baz=70,SNR=9.3
SLM Saint Louis 69.91 344 *e*P **P 16 57 21.2 +0.3**
SLM *e**PP **pP 16 57 34.5 -0.4**
SLM pmax pmax
comp=Z,121nm,0.9s
SLM Saint Louis 69.91 344 *e*P **P 16 57 21.1 +0.3**
comp=Z,121nm,0.9s
SLM *e*pP **pP 16 57 34.5 -0.4**
X28A Dimmitt 69.92 333 ⇓pP pP 16 57 35.5 +0.3
baz=70,SNR=6.5
SYO Syowa Base 69.95 159 ⇑*e*P **P 16 57 19.0 -1.8**
222A Williams Famil 69.95 328 P **P 16 57 22.5 +1.0**
baz=70
222A ⇑pP **pP 16 57 36.7 +1.2**
baz=70,SNR=5.3
320A Kipp Ranch, An 69.99 327 ⇓pP pP 16 57 37.2 +1.5
baz=70,SNR=5.3
AMTX Amarillo 70.04 334 *e*P **P 16 57 22.9 +1.0**
comp=Z,8.9nm,0.8s
AMTX *e*pP **pP 16 57 36.8 +0.9**
Y26A Elida 70.06 332 ⇑pP pP 16 57 36.8 +0.7
baz=70,SNR=6.7
V31A Spring Creek L 70.14 336 ⇓pP pP 16 57 37.5 +1.1
baz=70
221A Mesquite Ranch 70.19 327 ⇓pP pP 16 57 38.5 +1.6
baz=70
Z24A Sheeppen Canyo 70.21 330 P **P 16 57 24.0 +0.9**
baz=71
Z24A ⇓pP **pP 16 57 38.0 +0.9**
baz=71,SNR=6.4
W29A Amraillo 70.24 334 ⇓pP pP 16 57 37.7 +0.6
baz=71
319A Douglas 70.39 326 ⇓pP pP 16 57 39.6 +1.4
baz=71,SNR=5.9
X27A F and S Farms, 70.39 333 ⇓pP pP 16 57 38.4 +0.3
baz=71
Y25A Mesa, Roswell 70.43 331 P **P 16 57 24.4 0.0**
baz=71
Y25A ⇓pP **pP 16 57 38.5 +0.1**
baz=71,SNR=6.8
V30A Spur Ranch, Mi 70.44 335 ⇓pP pP 16 57 39.6 +1.3
baz=71,SNR=5.4
220A Playas Peak, P 70.46 327 P **P 16 57 25.3 +0.7**
baz=71
220A ⇓pP **pP 16 57 40.2 +1.7**
baz=71
Z23A Rita Site, Whi 70.53 329 ⇑pP pP 16 57 40.1 +1.1
baz=71,SNR=7.1
W28A Vega 70.57 333 ⇓pP pP 16 57 39.5 +0.3
baz=71,SNR=6.0
X26A CR and CF Fran 70.60 332 P **P 16 57 25.9 +0.6**
baz=71
X26A ⇑pP **pP 16 57 40.0 +0.6**
baz=71,SNR=8.4
121A Cookes Peak, D 70.63 328 ⇓pP pP 16 57 40.7 +1.0
baz=71,SNR=7.1
U31A Nine Bar Ranch 70.68 336 ⇓pP pP 16 57 40.6 +0.8
baz=71
W27A Bowe Ranch, En 70.74 333 P **P 16 57 26.2 0.0**
baz=71
W27A ⇑pP **pP 16 57 40.8 +0.6**
baz=71,SNR=6.7
Y24A Capitan 70.75 330 ⇓pP pP 16 57 40.8 +0.4
baz=71,SNR=5.6
V29A Stinnett 70.85 334 ⇓pP pP 16 57 41.5 +0.6
baz=71
Z22A Elephant Butte 70.86 329 P **P 16 57 27.6 +0.6**
baz=71
Z22A ⇓pP **pP 16 57 42.3 +1.3**
baz=71,SNR=8.6
SFIN Scholer Farm 70.91 347 P **P 16 57 26.3 -0.6**
baz=71
SFIN ⇓pP **pP 16 57 40.1 -0.8**
baz=71,SNR=7.5
X25A Clemmons Ranch 70.93 331 ⇓pP pP 16 57 41.7 +0.2
baz=71
V28A Channing 71.01 334 P **P 16 57 28.6 +0.7**
baz=71
V28A ⇑pP **pP 16 57 42.8 +1.0**
baz=71,SNR=6.0
Y23A Lovelace Mesa, 71.02 330 P **P 16 57 29.2 +1.2**
baz=71
Y23A ⇓pP **pP 16 57 43.3 +1.3**
baz=71,SNR=9.4
120A U Bar Ranch, L 71.04 327 P **P 16 57 29.5 +1.4**
baz=71
120A ⇑pP **pP 16 57 43.3 +1.1**
baz=71,SNR=10
W26A Owens Ranch, T 71.05 332 P **P 16 57 29.2 +1.1**
baz=71
W26A ⇑pP **pP 16 57 43.1 +1.0**
baz=71,SNR=6.0
U30A WK&E Inc. Balk 71.11 335 ⇓pP pP 16 57 43.4 +1.0
baz=72
Z21A St. Cloud Mine 71.22 328 pP pP 16 57 44.9 +1.6
baz=72
V27A Dan Oppiter Fa 71.26 333 P **P 16 57 30.4 +1.0**
baz=72
V27A ⇑pP **pP 16 57 44.3 +1.0**
baz=72
T31A Randall Ranch, 71.27 336 ⇑pP pP 16 57 44.0 +0.7
baz=72
U29A Oasis Ranch, S 71.27 335 ⇓pP pP 16 57 44.2 +0.9
baz=72
X24A Lazy VL Ranch, 71.29 331 ⇑pP pP 16 57 44.8 +1.1
baz=72
BINY Binghamton 71.32 356 *e*P **P 16 57 30.4 +1.0**
comp=Z,37nm,1.2s
BINY *e*pP **pP 16 57 44.0 +0.6**
Y22A Socorro 71.43 329 ⇑pP pP 16 57 45.3 +0.8
baz=72
W25A X Bar L Ranch, 71.44 332 P **P 16 57 30.1 -0.4**
baz=72
W25A ⇑pP **pP 16 57 45.2 +0.7**
baz=72,SNR=10.0
Z20A Nine Sixteen R 71.49 328 P **P 16 57 31.0 +0.2**
baz=72
Z20A ⇓pP **pP 16 57 46.2 +1.3**
baz=72,SNR=10
T30A Plains 71.53 336 P **P 16 57 31.6 +0.7**
baz=72
T30A ⇓pP **pP 16 57 45.7 +0.8**
baz=72
HDIL Hopedale 71.53 346 *e*P **P 16 57 30.1 -0.6**
comp=Z,111nm,1.1s
HDIL *e*pP **pP 16 57 44.4 -0.3**
U28A Mallet 71.56 334 P **P 16 57 32.0 +0.9**
baz=72
U28A ⇓pP **pP 16 57 45.8 +0.7**

baz=72,SNR=6.2
LPM Los Pinos Moun 71.60 330 eP P 16 57 32.9 +1.4
comp=Z,26nm,1.3s
LPM epP **pP 16 57 47.2 +1.7**
X23A Hourglass Bar 71.63 330 P P 16 57 31.6 -0.1
baz=72
X23A ⇑pP **pP 16 57 46.9 +1.1**
baz=72,SNR=11
PPT2 Papeete2 71.64 260 eLR LR 17 19 30.7
comp=Z,1µm,23.2s,baz=109
PPT Papeete 71.65 260 P P 16 57 33.2 +1.2
PPT Papeete 71.65 260 P P 16 57 33.2 +1.2
comp=Z,8.5nm,0.3s,baz=60,slow=22,SNR=3.7
V26A Tequesquite Ra 71.67 333 P P 16 57 32.1 +0.3
baz=72
V26A ⇓pP **pP 16 57 46.3 +0.5**
baz=72,SNR=6.1
S31A Mullinville 71.67 337 ⇓pP pP 16 57 46.5 +0.7
baz=72
Y21A Point of Rocks 71.81 329 P P 16 57 33.5 +0.7
baz=72
Y21A ⇑pP **pP 16 57 48.7 +1.8**
baz=72,SNR=8.8
U27A Thompson Grove 71.83 334 ⇑pP pP 16 57 47.5 +0.7
baz=72,SNR=5.9
W24A Lazy 6 Ranch, 71.83 331 P P 16 57 33.4 +0.5
baz=72
W24A ⇑pP **pP 16 57 47.7 +0.8**
baz=72
TUC Tucson 71.89 325 eP pP 16 57 48.0 +0.8
TUC pmax pmax
comp=Z,63nm,2.3s
TUC Tucson 71.89 325 epP pP 16 57 48.0 +0.8
comp=Z,63nm,2.3s
LAZ Ladron 71.90 329 eP P 16 57 35.0 +1.7
comp=Z,53nm,1.8s
LAZ epP **pP 16 57 49.3 +2.0**
S30A Montezuma 72.03 336 ⇓pP pP 16 57 48.3 +0.4
baz=72
V25A Rancho No Teng 72.04 332 P P 16 57 34.3 +0.2
baz=72
V25A ⇓pP **pP 16 57 48.7 +0.5**
baz=72,SNR=8.4
Y20A Horse Springs, 72.05 328 ⇑pP pP 16 57 49.8 +1.5
baz=72,SNR=9.0
ANMO Albuquerque 72.06 330 P P 16 57 35.1 +0.8
comp=Z,187nm,2.4s
ANMO epP **pP 16 57 49.4 +1.1**
W23A Werner Place, 72.11 330 ⇓pP pP 16 57 50.0 +1.3
baz=72,SNR=6.2
U26A Atchley Ranch, 72.17 333 ⇓pP pP 16 57 49.7 +0.8
baz=72,SNR=6.3
T28A Walsh 72.17 334 P P 16 57 34.6 -0.2
baz=73
T28A ⇑pP **pP 16 57 49.3 +0.5**
baz=73
V24A Rampart Ranch, 72.22 331 ⇓pP pP 16 57 50.2 +0.9
baz=73,SNR=5.5
X21A Alamocita Cree 72.22 329 P P 16 57 37.0 +1.6
baz=73
X21A ⇓pP **pP 16 57 51.0 +1.7**
baz=73,SNR=7.7
S29A Ulysses 72.25 335 ⇑pP pP 16 57 50.3 +1.1
baz=73
W22A Albuquerque 72.34 330 ⇓pP pP 16 57 51.8 +1.8
baz=73
T27A Campo 72.35 334 P P 16 57 36.5 +0.6
baz=73
T27A ⇓pP **pP 16 57 50.7 +0.7**
baz=73,SNR=5.7
ACCN Adirondack Com 72.41 358 eP P 16 57 36.0 +0.1
comp=Z,21nm,1.1s
ACCN epP **pP 16 57 51.2 +1.3**
U25A Circle Dot Ran 72.44 332 P P 16 57 37.3 +0.8
baz=73
U25A ⇓pP **pP 16 57 51.5 +0.9**
baz=73,SNR=7.5
FFD Franklin Falls 72.46 360 eP P 16 57 37.3 +1.1
comp=Z,44nm,0.6s
S28A Manter 72.51 335 P P 16 57 37.7 +0.9
baz=73
S28A ⇓pP **pP 16 57 51.5 +0.7**
baz=73,SNR=7.4
V23A Ortiz Mt. (NFS 72.62 331 ⇑pP pP 16 57 53.1 +1.5
baz=73
214A Organ Pipe Nat 72.63 324 ⇓pP pP 16 57 53.2 +1.6
baz=73,SNR=11
X20A Quemado 72.63 328 P P 16 57 38.1 +0.4
baz=73
X20A ⇑pP **pP 16 57 53.5 +1.7**
baz=73
HNH Hanover 72.70 359 P P 16 57 39.1 +1.5
comp=Z,57nm,1.2s
HNH epP **pP 16 57 51.6 -0.1**
T26A Comanche Natio 72.79 333 P P 16 57 39.7 +1.1
baz=73
T26A ⇓pP **pP 16 57 53.6 +1.0**
baz=73,SNR=5.7
Q31A Ellis 72.89 337 ⇑pP pP 16 57 53.9 +0.9
baz=73
S27A Las Animas 72.97 334 ⇓pP pP 16 57 54.2 +0.6
baz=73
R29A Marienthal 72.97 336 P P 16 57 40.2 +0.7
baz=73
R29A ⇑pP **pP 16 57 54.5 +1.0**
baz=73,SNR=6.2
V22A San Miguel Ran 73.07 330 P P 16 57 41.5 +1.1
baz=73
V22A ⇓pP **PcP 16 57 56.2 -0.6**
baz=73,SNR=6.5
T25A Trinidad 73.08 333 P P 16 57 41.4 +1.1
baz=74
T25A ⇑pP **pP 16 57 56.0 +1.6**
baz=74,SNR=6.9
DBIC Dimbokro 73.08 72 eP **P 16 57 40.2 -0.4**
comp=Z,31nm,0.7s
DBIC Dimbokro 73.08 72 P P 16 57 40.6 0.0
comp=Z,34nm,0.7s,baz=217,slow=6.5,SNR=16
DBIC LR LR 17 26 42.1
comp=Z,784nm,19.9s,baz=202,slow=33
W20A Ramah 73.11 329 P P 16 57 41.6 +1.0
baz=74
W20A ⇑pP **pP 16 57 56.0 +1.4**
baz=74,SNR=7.9
S26A Kim 73.13 334 P P 16 57 41.4 +0.9
baz=74
S26A ⇓pP **pP 16 57 55.8 +1.2**
baz=74,SNR=6.2
R28A Tribune 73.14 335 P P 16 57 41.1 +0.6
baz=74
R28A ⇓pP **pP 16 57 55.3 +0.7**
baz=74,SNR=6.9
Q30A Quinter 73.14 337 P P 16 57 41.2 +0.8
baz=74
Q30A ⇓pP **pP 16 57 55.5 +1.0**
baz=74,SNR=5.8
LBNH Lisbon 73.23 359 eP **pP 16 57 55.4 +0.6**
LBNH pmax pmax
comp=Z,23nm,1.1s
LBNH Lisbon 73.23 359 epP pP 16 57 55.4 +0.6
comp=Z,24nm,1.1s
X18A Snowflake 73.29 327 P P 16 57 42.8 +1.2
baz=74
X18A ⇑pP **pP 16 57 56.8 +1.2**
baz=74,SNR=5.9
V21A Milan 73.30 330 ⇓pP pP 16 57 57.4 +1.7
baz=74
Q29A Oakley 73.33 336 P P 16 57 42.5 +0.9
baz=74
Q29A ⇑pP **pP 16 57 56.1 +0.5**
baz=74
P31A Stockton 73.35 338 pP pP 16 57 56.6 +0.9
baz=74
U22A Llaves 73.44 331 ⇑pP pP 16 57 58.3 +1.7
baz=74,SNR=6.8
R27A Eads 73.46 335 P P 16 57 43.2 +0.8
baz=74
R27A ⇓pP **pP 16 57 57.0 +0.5**
baz=74,SNR=7.4
S25A Robets Cordova 73.54 333 P P 16 57 44.1 +1.1
baz=74
S25A ⇓pP **pP 16 57 58.3 +1.3**
baz=74,SNR=9.4
T23A Casias Ranch, 73.65 332 ⇓pP pP 16 57 59.2 +1.4
baz=74
P30A Selden 73.66 337 ⇓pP pP 16 57 58.1 +0.5
baz=74
V20A Brimhall 73.66 329 ⇑pP pP 16 57 59.0 +1.2
baz=74,SNR=5.0
W18A Petrified Fore 73.67 328 P P 16 57 44.9 +1.1
baz=74
W18A ⇑pP **pP 16 57 59.1 +1.2**
baz=74,SNR=10
R26A Arlington 73.72 334 P P 16 57 45.1 +1.2
baz=74
R26A ⇓pP **pP 16 57 59.1 +1.1**
baz=74,SNR=7.7
SCIA State Center 73.74 343 P P 16 57 44.7 +0.9
comp=Z,52nm,1.1s
SCIA epP **pP 16 57 58.1 +0.2**
113A Mohawk Valley, 73.76 324 ⇑pP pP 16 57 59.5 +1.3
baz=74
Q28A Sharon Springs 73.78 336 ⇓pP pP 16 57 59.3 +0.9
baz=74
Z14A Wintersburg 73.81 325 ⇑pP pP 16 57 59.7 +1.2
baz=74
U21A Nageezi 73.83 330 P P 16 57 46.1 +1.3
baz=74
U21A ⇑pP **PcP 16 58 00.2 +0.2**
baz=74,SNR=5.3
S24A Houchin Ranch, 73.83 333 P P 16 57 46.6 +1.7
baz=74
S24A ⇓pP **PcP 16 58 00.7 +0.5**
baz=74,SNR=9.9
FRNY Flat Rock 73.85 358 eP **P 16 57 44.5 +0.2**
comp=Z,23nm,1.1s
FRNY epP **pP 16 57 59.2 +0.7**
X16A Lo Mia Camp, P 73.91 326 P P 16 57 46.8 +1.6
baz=74
X16A ⇓pP **PcP 16 58 00.7 +0.2**
baz=74,SNR=5.0
P29A Atwood 73.95 337 ⇑pP pP 16 58 00.5 +1.2
baz=74
JFWS Jewell Farm 73.99 346 eP **P 16 57 45.3 0.0**
JFWS e*PP **pP 16 57 59.4 +0.1**
JFWS pmax pmax
comp=Z,98nm,1.2s
JFWS Jewell Farm 73.99 346 eP **P 16 57 45.3 0.0**
comp=Z,98nm,1.2s
JFWS epP **pP 16 57 59.4 +0.1**
T22A Edith 74.00 331 P P 16 57 47.4 +1.6
baz=74
T22A ⇑pP **PcP 16 58 01.6 +0.8**
baz=74,SNR=9.2
KSCO Kaye Shedlock' 74.03 335 ⇓pP pP 16 58 01.3 +1.5
baz=74
SDCO Great Sand Dun 74.04 332 eP **P 16 57 46.8 +0.8**
comp=Z,62nm,1.6s
SDCO epP **PcP 16 58 01.3 +0.2**
SADO Sadowa 74.11 354 P P 16 57 46.0 +0.2
SADO pP **pP 16 58 00.7 +0.7**
SADO Sadowa 74.11 354 P P 16 57 46.0 +0.2
comp=Z,8.6nm,0.7s,baz=130,slow=1.5,SNR=5.2
SADO pP **pP 16 58 00.7 +0.7**
comp=Z,23nm,0.9s,baz=242,slow=2.7,SNR=8.3
U20A Newcomb 74.16 329 ⇑pP pP 16 58 02.0 +1.2
baz=74
O30A MW Ranch, Wils 74.17 337 ⇑pP pP 16 58 01.4 +0.9
baz=74
P28A Saint Francis 74.21 336 ⇓pP pP 16 58 02.0 +1.2
baz=75
Q26A Hugo 74.29 334 ⇓pP pP 16 58 02.7 +1.3
baz=75
Y14A Wickenburg 74.30 325 P P 16 57 48.7 +1.3
baz=75
Y14A ⇑pP **PcP 16 58 02.5 +0.6**
baz=75,SNR=6.1
R24A Sanders Place, 74.30 333 P P 16 57 49.1 +1.6
baz=75
R24A ⇓pP **PcP 16 58 02.5 +0.5**
baz=75,SNR=6.0
O29A 4D Ranch, Culb 74.37 337 pP pP 16 58 02.6 +0.9
baz=75
P27A Ficken Ranch, 74.49 335 ⇑pP pP 16 58 03.9 +1.4
baz=75
GLA Glamis 74.54 323 eP **pP 16 58 03.9 +1.1**
GLA pmax pmax
comp=Z,50nm,1.4s
GLA Glamis 74.54 323 epP pP 16 58 03.9 +1.1
comp=Z,50nm,1.4s
GLA Glamis 74.54 323 ⇑pP pP 16 58 04.3 +1.4
baz=75
R23A Moffat 74.56 332 P P 16 57 50.3 +1.3
baz=75
R23A ⇑pP **pP 16 58 04.6 +1.4**
baz=75
Q25A Bedland, Calha 74.56 334 ⇑pP pP 16 58 03.9 +0.9
baz=75
S22A 4UR Ranch, Cre 74.59 331 P P 16 57 50.8 +1.6
baz=75
S22A ⇓pP **pP 16 58 04.5 +1.2**
baz=75,SNR=5.2
BGNE Belgrade 74.66 339 ⇓pP pP 16 58 04.0 +0.7
baz=75
O28A Krutsinger Ran 74.71 336 ⇑pP pP 16 58 05.0 +1.3
baz=75
ELIM Elim 74.75 121 eP **P 16 57 50.0 -0.2**
ELIM AMB AMB 16 57 52.9
comp=Z,59nm,2.4s
WUAZ Wupatki 74.77 327 eP **P 16 57 51.5 +1.3**
comp=Z,12nm,1.1s
WUAZ epP **pP 16 58 05.9 +1.7**
WUAZ Wupatki 74.77 327 P P 16 57 51.9 +1.7
baz=75
WUAZ ⇓pP **pP 16 58 06.0 +1.7**
baz=75,SNR=8.2
P26A Davis Ranch, A 74.78 335 ⇑pP pP 16 58 05.5 +1.3
baz=75,SNR=5.1
MVCO Mesa Verde 74.85 330 eP **P 16 57 51.3 +0.6**
comp=Z,7.8nm,1.0s
MVCO epP **pP 16 58 05.9 +1.1**
MVCO Mesa Verde 74.85 330 P P 16 57 52.0 +1.3
baz=75
MVCO ⇑pP **pP 16 58 06.2 +1.3**
baz=75,SNR=7.3
S21A Coal Bank Pass 74.92 331 P P 16 57 52.7 +1.5
baz=75
S21A ⇓pP **pP 16 58 06.6 +1.3**
baz=75,SNR=5.5
Y12C Blythe 74.92 324 ⇑pP pP 16 58 06.4 +1.4
baz=75
N29A Votaw Ranch, W 74.93 337 ⇑pP pP 16 58 06.1 +1.1
baz=75
Q24A Divide 74.95 333 P P 16 57 52.7 +1.3
baz=75
Q24A ⇑pP **pP 16 58 06.8 +1.3**
baz=75,SNR=6.2
SWSC Sam W. Stewart 74.96 322 ⇓pP pP 16 58 06.6 +1.3
baz=75
R22A Saguache, Gunn 74.97 332 ⇓pP pP 16 58 07.0 +1.5
baz=75
O27A Beecher Island 75.02 336 P P 16 57 53.0 +1.6
baz=75
O27A ⇑pP **pP 16 58 07.1 +1.6**
baz=75,SNR=5.1
P25A Willow Gulch B 75.05 334 P P 16 57 53.1 +1.4
baz=75
P25A ⇑pP **pP 16 58 07.6 +1.7**
baz=75,SNR=6.8
KOMG Komaggas 75.06 116 eP **P 16 57 52.6 +0.6**
KOMG AMB AMB 16 57 53.6
comp=Z,42nm,2.3s
N28A Pribbeno Ranch 75.12 337 ⇑pP pP 16 58 07.9 +1.8
baz=76
PDMCI Parker Dam,Lak 75.16 324 P P 16 57 53.8 +1.6
baz=76
BAR Barrett 75.23 322 epP pP 16 58 07.9 +1.0
comp=Z,100nm,1.8s
MONP Monument Peak 75.26 322 ⇑pP pP 16 58 08.6 +1.3
baz=76,SNR=5.3
S20A Disappointment 75.31 330 P P 16 57 55.0 +1.6
baz=76
S20A ⇓pP **pP 16 58 09.2 +1.7**
baz=76,SNR=5.6
M30A Dale-Ortello V 75.33 338 ⇑pP pP 16 58 08.6 +1.4
baz=76
P24A Kohler Place, 75.33 334 ⇑pP pP 16 58 09.4 +1.9
baz=76
BC3 Big Chuckawall 75.33 323 ⇑pP pP 16 58 08.9 +1.4
baz=76
O26A Horse Wrangler 75.36 335 P P 16 57 55.1 +1.7
baz=76
O26A ⇓pP **pP 16 58 09.0 +1.4**
baz=76,SNR=5.4
R21A Cimarron 75.42 331 ⇓pP pP 16 58 09.7 +1.6
baz=76,SNR=7.4
M29A Burnside Ranch 75.51 338 ⇓pP pP 16 58 09.6 +1.2
baz=76
OGNE Ogallala 75.53 336 epP pP 16 58 09.2 +0.8
comp=Z,37nm,1.2s
OGNE Ogallala 75.53 336 ⇓pP pP 16 58 09.5 +1.1
baz=76
IRM Iron Mountain 75.57 324 P P 16 57 55.8 +1.1
baz=76
IRM ⇑pP **pP 16 58 09.9 +1.1**
baz=76,SNR=5.7
Q22A Crested Butte, 75.57 332 ⇓pP pP 16 58 10.5 +1.5
baz=76
P23A Jefferson 75.57 333 ⇓pP pP 16 58 10.5 +1.4
baz=76
N27A Anderson Farm, 75.58 336 ⇑pP pP 16 58 10.2 +1.4
baz=76
R20A Redvale 75.62 331 P P 16 57 56.8 +1.8
baz=76
R20A ⇑pP **pP 16 58 10.8 +1.6**
baz=76,SNR=5.7
PV01 Paradox Valley 75.65 330 eP **P 16 57 56.6 +1.3**
comp=Z,542nm,1.0s
PV01 epP **pP 16 58 10.0 +0.6**
W13A Hualapai Mount 75.66 325 P P 16 57 56.9 +1.5
baz=76
W13A ⇓pP **pP 16 58 11.0 +1.5**
baz=76,SNR=5.8
M28A Bar X Bar Ranc 75.70 337 ⇓pP pP 16 58 10.7 +1.3
baz=76
NEE2 Needles Airpor 75.77 324 ⇓pP pP 16 58 11.2 +1.3
baz=76
Q21A Lamborn Mesa, 75.82 332 ⇓pP pP 16 58 11.9 +1.5
baz=76
PFO Pinyon Flat Ob 75.83 322 P pP 16 58 12.0 +1.6
comp=Z,137nm,1.1s,SNR=5.8
PFO Pinyon Flat Ob 75.83 322 eP **P 16 57 57.2 +0.9**
PFO epP **pP 16 58 11.8 +1.4**
PFO Pinyon Flat Ob 75.83 322 P P 16 57 56.9 +0.6
comp=Z,2.6nm,0.7s,baz=128,slow=7.8,SNR=4.1
PFO pP **pP 16 58 11.9 +1.4**
comp=Z,18nm,1.0s,baz=133,slow=5.0,SNR=11
PFO Pinyon Flat Ob 75.83 322 P P 16 57 58.0 +1.7
baz=76
PFO ⇓pP **pP 16 58 11.8 +1.4**
baz=76
N26A Koester Ranch, 75.84 336 ⇑pP pP 16 58 11.8 +1.5
baz=76
ISCO Idaho Springs 75.85 333 eP **P 16 57 57.4 +0.9**
ISCO e*PP **pP 16 58 11.7 +1.1**
ISCO pmax pmax
comp=Z,55nm,1.5s
ISCO Idaho Springs 75.85 333 eP **P 16 57 57.4 +0.9**
comp=Z,55nm,1.5s
ISCO epP **pP 16 58 11.7 +1.1**
ISCO Idaho Springs 75.85 333 P P 16 57 57.7 +1.3
baz=76
ISCO ⇓pP **pP 16 58 11.9 +1.3**
baz=76,SNR=5.8
ISCO ⇓pP **pP 16 58 11.9 +1.3**
baz=76,SNR=5.8
SMCO Snowmass 75.86 332 eP **P 16 57 58.4 +1.7**
comp=Z,110nm,1.4s
SMCO epP **pP 16 58 12.4 +1.6**
BELC Belle Mtn. Jos 75.89 323 P P 16 57 58.1 +1.5
baz=76
BELC ⇑pP **pP 16 58 12.0 +1.3**
baz=76
O24A Longmont 75.92 334 ⇓pP pP 16 58 12.6 +1.8
baz=76
U15A North Rim 75.94 327 P P 16 57 59.0 +2.0
baz=76
U15A ⇓pP **pP 16 58 12.9 +1.7**
baz=76,SNR=5.2
L29A Maesberg Ranch 76.00 338 ⇓pP pP 16 58 12.8 +1.7
baz=76
PV04 Paradox Valley 76.02 330 eP **P 16 57 58.3 +1.0**
PV04 epP **pP 16 58 12.2 +0.8**
CVNA Calvinia 76.11 118 ⇓i/P **P 16 57 58.6 +0.5**
CVNA AMB AMB 16 57 59.6
comp=Z,60nm,1.1s
P22A Eagle 76.13 332 ⇑pP pP 16 58 13.6 +1.5
baz=76
M27A Reverse DX Ran 76.17 336 ⇓pP pP 16 58 13.9 +1.8
baz=76
MURC Murrieta 76.22 322 P P 16 57 59.9 +1.5
baz=77
MURC ⇓pP **pP 16 58 14.1 +1.5**
baz=77,SNR=5.8
Q20A Ridgley Place, 76.22 331 P P 16 57 59.8 +1.4
baz=77
Q20A ⇓pP **pP 16 58 13.8 +1.2**
baz=77
LDFC Landfair 76.26 324 epP pP 16 58 14.4 +1.5
GMRC Granite Mounta 76.31 324 P P 16 58 00.1 +1.1
baz=77
GMRC ⇓pP **pP 16 58 14.7 +1.5**
baz=77,SNR=6.8
O23A Lake Granby, G 76.32 333 P P 16 58 00.6 +1.5
baz=77
O23A ⇑pP **pP 16 58 14.8 +1.5**
baz=77,SNR=6.1
ECSD EROS Data Cent 76.35 341 eP **P 16 57 58.8 0.0**
comp=Z,18nm,0.9s
ECSD epP **pP 16 58 12.4 -0.6**
N24A Carr 76.46 334 ⇓pP pP 16 58 15.5 +1.6
baz=77,SNR=5.1
SCI San Clemente I 76.49 321 ⇓pP pP 16 58 15.3 +1.3
baz=77
SUR Sutherland 76.52 120 ⇓i/P **P 16 58 01.6 +1.1**
SUR AMB AMB 16 58 01.9
comp=Z,33nm,0.9s
SUR Sutherland 76.52 120 eP **P 16 58 01.6 +1.1**
SUR epP **pP 16 58 15.3 +0.6**
SUR pP **pP 16 58 15.5 +0.9**
SUR Sutherland 76.52 120 P P 16 58 01.5 +0.9
comp=Z,18nm,0.7s,baz=249,slow=6.4,SNR=15
SUR pP **pP 16 58 15.5 +0.9**
comp=Z,12nm,0.7s,baz=234,slow=3.9,SNR=4.3
O22A Kremmling 76.53 333 P P 16 58 01.6 +1.2
baz=77
O22A ⇓pP **pP 16 58 15.7 +1.2**
baz=77,SNR=6.4
K29A Lazy Trails An 76.57 338 P P 16 58 01.2 +1.0
baz=77
K29A ⇑pP **pP 16 58 15.4 +1.0**
baz=77
L27A T5 Ranch, Ells 76.63 337 ⇓pP pP 16 58 16.1 +1.3
baz=77
M25A Palm-Egli Farm 76.68 335 ⇓pP pP 16 58 16.3 +1.2
baz=77
HEC Hector,Ludlow 76.70 323 P P 16 58 02.5 +1.4
baz=77
HEC ⇑pP **pP 16 58 17.1 +1.8**
baz=77,SNR=5.5
P20A De Beque 76.72 331 P P 16 58 03.0 +1.8
baz=77
P20A ⇓pP **pP 16 58 16.8 +1.4**
baz=77,SNR=5.1
CIS Catalina Islan 76.73 321 ⇓pP pP 16 58 16.9 +1.5
baz=77
COWI Conover 76.82 347 P P 16 58 01.2 -0.2
comp=Z,54nm,1.5s
COWI epP **pP 16 58 16.1 +0.5**
K28A Ten Mile Ranch 76.87 338 ⇓pP pP 16 58 17.2 +1.1
baz=77
N23A Red Feather La 76.92 334 P P 16 58 04.1 +1.6
baz=77
N23A ⇑pP **pP 16 58 17.8 +1.2**
baz=77,SNR=6.8
O21A Pagoda 76.95 332 P P 16 58 04.6 +2.0
baz=77
O21A ⇑pP **pP 16 58 18.6 +1.8**
baz=77
BFSC Mount Baldy Ra 76.95 322 P P 16 58 03.8 +1.2
baz=77
BFSC ⇓pP **pP 16 58 18.1 +1.3**
baz=77,SNR=5.8
TUQ Turquoise Moun 76.96 324 ⇓pP pP 16 58 18.3 +1.5
baz=77
M24A Cheyenne 76.99 335 P P 16 58 04.5 +1.7
baz=77
M24A ⇑pP **pP 16 58 18.5 +1.6**
baz=77,SNR=7.7
N22A Wattenberg Ran 77.04 333 P P 16 58 05.1 +2.0
baz=77
N22A ⇓pP **pP 16 58 18.9 +1.5**
baz=77,SNR=5.6

P19A **Cripple Cowboy** **77.08 331** P **P**
baz=78
P19A ⇓pP **pP** **16 58 19.2 +1.7**
baz=78,SNR=12
PHWY **Pilot Hill** **77.08 334** eP **P** **16 58 04.5 +1.1**
comp=Z,8.2nm,1.0s
PHWY epP **pP** **16 58 18.4 +0.8**
RRX **Edison Barstow** **77.09 323** ⇑pP pP 16 58 19.3 +1.9
baz=77
K27A **Flueckinger Fa** **77.15 337** ⇑pP pP 16 58 19.0 +1.3
baz=78
PASC **Pasadena Art C** **77.19 322** epP pP 16 58 19.8 +1.9
comp=Z,119nm,1.6s
O20A **White River Ci** **77.19 332** P **P** **16 58 05.6 +1.7**
baz=78
O20A ⇑pP **pP** **16 58 19.4 +1.4**
baz=78,SNR=6.4
L25A **Engebretsen Ra** **77.28 336** ⇓pP pP 16 58 19.7 +1.3
baz=78
GSC **Goldstone** **77.31 323** eP **P** **16 58 06.4 +1.8**
GSC e*PP **pP** **16 58 20.0 +1.2**
GSC pmax pmax
comp=Z,6.0nm,1.0s
GSC **Goldstone** **77.31 323** eP **P** **16 58 06.4 +1.8**
comp=Z,5.6nm,1.0s
GSC epP **pP** **16 58 20.0 +1.2**
GSC **Goldstone** **77.31 323** P **P** **16 58 06.2 +1.6**
baz=78
GSC ⇑pP **pP** **16 58 19.9 +1.2**
baz=78,SNR=6.1
SRU **San Rafael** **77.32 330** eP **P** **16 58 05.5 +0.9**
SRU e*PP **pP** **16 58 19.6 +0.8**
SRU pmax pmax
comp=Z,42nm,1.1s
SRU **San Rafael** **77.32 330** eP **P** **16 58 05.5 +0.9**
comp=Z,42nm,1.1s
SRU epP **pP** **16 58 19.6 +0.8**
DECC **Green Verdugo** **77.33 322** ⇓pP pP 16 58 19.7 +0.9
baz=78
CCUT **Cedar City** **77.35 327** eP **P** **16 58 06.6 +1.7**
comp=Z,12nm,1.1s
CCUT epP **pP** **16 58 20.7 +1.6**
N21A **Black Mountain** **77.43 333** P **P** **16 58 06.9 +1.7**
baz=78
N21A ⇑pP **pP** **16 58 21.1 +1.7**
baz=78,SNR=5.9
MAW **Mawson** **77.44 164** P **P** **16 58 04.8 +0.1**
MAW **Mawson** **77.44 164** P **P** **16 58 04.8 +0.1**
comp=Z,21nm,0.6s,baz=206,slow=6.4,SNR=73
MAW LR LR 17 31 08.6
comp=Z,520nm,19.9s,baz=228,slow=35
Q16A **Castle Valley** **77.44 329** P **P** **16 58 07.1 +1.8**
baz=78
Q16A ⇓pP **pP** **16 58 21.0 +1.4**
baz=78,SNR=5.5
J28A **Allard Ranch,** **77.46 338** P **P** **16 58 06.5 +1.4**
baz=78
J28A ⇓pP **pP** **16 58 20.6 +1.3**
baz=78,SNR=6.8
K26A **Motz Farm, Whi** **77.48 336** ⇑pP pP 16 58 20.7 +1.2
baz=78
L24A **Wheatland** **77.53 335** P **P** **16 58 07.4 +1.7**
baz=78
MSU **Marysvale** **77.57 328** eP **P** **16 58 07.3 +1.2**
MSU e*PP **pP** **16 58 21.6 +1.3**
MSU pmax pmax
comp=Z,27nm,1.0s
MSU **Marysvale** **77.57 328** eP **P** **16 58 07.3 +1.2**
comp=Z,27nm,1.0s
MSU epP **pP** **16 58 21.6 +1.3**
ARUT **Antelope Range** **77.58 327** P **P** **16 58 07.3 +1.2**
ARUT e*PP **pP** **16 58 21.9 +1.6**
ARUT pmax pmax
comp=Z,55nm,1.3s
ARUT **Antelope Range** **77.58 327** P **P** **16 58 07.3 +1.2**
comp=Z,55nm,1.3s
ARUT epP **pP** **16 58 21.9 +1.6**
M22A **Cedar Creek Ra** **77.61 334** ⇓pP pP 16 58 21.9 +1.4
baz=78
EDW2 **Edwards Air Fo** **77.62 322** P **P** **16 58 07.4 +1.1**
baz=78
EDW2 ⇑pP **pP** **16 58 21.4 +1.0**
baz=78,SNR=6.0
K25A **Mack Ranch, Ha** **77.64 336** ⇓pP pP 16 58 22.2 +1.7
baz=78
O19A **Miners Draw (B** **77.70 331** P **P** **16 58 08.2 +1.5**
baz=78
O19A ⇓pP **pP** **16 58 22.1 +1.2**
baz=78,SNR=5.7
TMUT **Trail Mountain** **77.77 329** eP **P** **16 58 08.6 +1.3**
comp=Z,39nm,1.4s
TMUT epP **pP** **16 58 23.0 +1.5**
N20A **Spence Gulch,** **77.79 332** P **P** **16 58 08.6 +1.3**
baz=78
N20A ⇑pP **pP** **16 58 22.8 +1.3**
baz=78,SNR=5.2
OSI **Osito Adit** **77.81 322** P **P** **16 58 07.6 +0.2**
comp=Z,72nm,1.2s
OSI epP **pP** **16 58 22.8 +1.3**
OSI **Osito Adit** **77.81 322** ⇑pP pP 16 58 22.8 +1.3
baz=78
L23A **Garrett** **77.88 335** P **P** **16 58 09.0 +1.3**
baz=78
L23A ⇓pP **pP** **16 58 23.0 +1.1**
baz=78
LRMC **Laurel Mountai** **77.91 323** ⇑pP pP 16 58 23.7 +1.6
baz=78
WIN **Windhoek** **77.93 109** ⇓*iP* **P** **16 58 08.8 +0.3**
WIN AMB AMB 16 58 09.6
comp=Z,14nm,1.3s
K24A **Anderson Ranch** **78.08 335** ⇓pP pP 16 58 24.5 +1.6
baz=78
M21A **Separation Pea** **78.08 333** P **P** **16 58 10.2 +1.3**
baz=78
M21A ⇑pP **pP** **16 58 24.3 +1.2**
baz=78,SNR=6.5
L22A **Ellis Ranch, M** **78.08 334** P **P** **16 58 10.4 +1.5**
baz=78
L22A ⇑pP **pP** **16 58 24.6 +1.6**
baz=78
SBC **Santa Barbara** **78.22 321** ⇓pP pP 16 58 25.3 +1.6
baz=79
FURC **Furnace Creek,** **78.24 324** P **P** **16 58 11.3 +1.8**
baz=79
FURC ⇓pP **pP** **16 58 25.4 +1.7**
baz=79
MPMC **Manual Prospec** **78.25 323** P **P** **16 58 11.2 +1.3**
baz=79
MPMC ⇓pP **pP** **16 58 25.0 +0.9**
baz=79,SNR=5.3
J25A **Sunshine Ranch** **78.30 336** P **P** **16 58 11.3 +1.4**
baz=79
J25A ⇓pP **pP** **16 58 25.6 +1.5**
baz=79,SNR=5.9
I27A **Quinn** **78.31 338** ⇑pP pP 16 58 25.1 +1.1
baz=79
M20A **Sweetwater, Wa** **78.31 333** P **P** **16 58 11.3 +1.2**
baz=79
M20A ⇓pP **pP** **16 58 25.4 +1.0**
baz=79,SNR=6.4
L21A **Rawlins** **78.39 333** P **P** **16 58 11.4 +0.8**
baz=79
L21A ⇓pP **pP** **16 58 25.9 +1.2**
baz=79,SNR=9.4
K23A **Bowen Ranch, D** **78.40 335** P **P** **16 58 12.0 +1.5**
baz=79
K23A ⇓pP **pP** **16 58 25.9 +1.2**
baz=79,SNR=5.8
ISA **Isabella** **78.47 322** eP **P** **16 58 12.3 +1.3**
ISA e*PP **pP** **16 58 26.6 +1.4**
ISA pmax pmax
comp=Z,49nm,1.2s
ISA **Isabella** **78.47 322** eP **P** **16 58 12.3 +1.3**
comp=Z,49nm,1.2s
ISA epP **pP** **16 58 26.6 +1.4**
ISA **Isabella** **78.47 322** P **P** **16 58 12.4 +1.5**
baz=79
ISA ⇓pP **pP** **16 58 26.9 +1.7**
baz=79,SNR=6.1
H28A **Mission Ridge** **78.51 339** ⇓pP pP 16 58 25.8 +0.6
baz=79
I26A **New Underwood** **78.54 337** ⇓pP pP 16 58 26.3 +0.9
baz=79
MPU **Maple Canyon** **78.55 329** eP **P** **16 58 12.5 +1.1**
comp=Z,12nm,1.0s
MPU epP **pP** **16 58 26.9 +1.2**
J24A **Dixon Ranch, L** **78.55 336** P **P** **16 58 12.9 +1.6**
baz=79
J24A ⇓pP **pP** **16 58 27.4 +1.9**
baz=79,SNR=7.1
PKM **Peak Mountain** **78.62 321** P **P** **16 58 13.2 +1.2**
baz=79
PKM ⇓pP **pP** **16 58 27.9 +1.8**
baz=79,SNR=6.3
K22A **Casper** **78.65 334** P **P** **16 58 13.1 +1.2**
baz=79
K22A ⇑pP **pP** **16 58 27.6 +1.5**
baz=79
DAU **Daniels Canyon** **78.71 330** eP **P** **16 58 13.4 +0.9**
DAU e*PP **pP** **16 58 27.7 +1.0**
DAU pmax pmax
comp=Z,121nm,1.6s
DAU **Daniels Canyon** **78.71 330** eP **P** **16 58 13.4 +0.9**
comp=Z,121nm,1.6s
DAU epP **pP** **16 58 27.7 +1.0**
M19A **Rock Springs** **78.72 332** P **P** **16 58 13.4 +1.0**
baz=79
M19A ⇓pP **pP** **16 58 27.7 +1.1**
baz=79,SNR=5.7
L20A **Wamsutter** **78.81 333** P **P** **16 58 14.0 +1.1**
baz=79
L20A ⇑pP **pP** **16 58 28.1 +1.0**
baz=79,SNR=6.8
H27A **Howes** **78.81 338** P **P** **16 58 13.8 +1.1**
baz=79
H27A ⇓pP **pP** **16 58 27.7 +0.9**
baz=79
I25A **Rochford** **78.83 337** P **P** **16 58 14.3 +1.4**
baz=79
I25A ⇓pP **pP** **16 58 28.5 +1.4**
baz=79
G28A **Parade** **78.84 339** ⇑pP pP 16 58 27.8 +0.8
baz=79
CWC **Cottonwood Cre** **78.85 323** ⇑pP pP 16 58 28.6 +1.3
baz=79
GRAC **Grapevine Rang** **78.91 324** ⇑pP pP 16 58 29.2 +1.7
baz=79
VES **Vestal, Richgr** **78.93 322** P **P** **16 58 15.3 +2.0**
baz=79
VES ⇑pP **pP** **16 58 29.2 +1.6**
baz=79,SNR=5.6
J23A **Dilts Ranch, B** **78.94 335** ⇓pP pP 16 58 28.9 +1.3
baz=79
I24A **Kuemmerle Ranc** **79.00 336** P **P** **16 58 15.1 +1.3**
baz=79
I24A ⇑pP **pP** **16 58 29.2 +1.2**
baz=79,SNR=6.0
RSSD **Black Hills** **79.02 337** eP **P** **16 58 14.8 +0.8**
RSSD e*PP **pP** **16 58 28.4 +0.2**
RSSD pmax pmax
comp=Z,6.0nm,1.0s
RSSD **Black Hills** **79.02 337** eP **P** **16 58 14.8 +0.8**
comp=Z,5.8nm,1.0s
RSSD epP **pP** **16 58 28.4 +0.2**
SMMC **Simmler** **79.03 321** P **P** **16 58 15.8 +1.8**
baz=79
SMMC ⇑pP **pP** **16 58 29.9 +1.7**
baz=79
H26A **Fairpoint** **79.03 338** ⇓pP pP 16 58 28.8 +0.8
baz=79
EYMN **Ely** **79.06 346** eP **P** **16 58 13.7 -0.1**
comp=Z,3.4nm,0.8s
EYMN epP **pP** **16 58 27.5 -0.5**
DUG **Dugway** **79.22 329** eP **P** **16 58 16.1 +1.0**
DUG e*PP **pP** **16 58 30.5 +1.2**
DUG pmax pmax
comp=Z,78nm,1.4s
DUG **Dugway** **79.22 329** eP **P** **16 58 16.1 +1.0**
comp=Z,78nm,1.4s
DUG epP **pP** **16 58 30.5 +1.2**
DUG **Dugway** **79.22 329** P **P** **16 58 16.4 +1.4**
baz=80
DUG ⇓pP **pP** **16 58 30.8 +1.5**
baz=80,SNR=6.6
J22A **Midwest** **79.29 335** P **P** **16 58 16.2 +0.8**
baz=80
J22A pP **pP** **16 58 30.3 +0.7**
baz=80
L19A **Farson** **79.30 332** P **P** **16 58 17.0 +1.4**
baz=80
L19A ⇑pP **pP** **16 58 31.0 +1.2**
baz=80,SNR=7.8
H25A **Fruitdale** **79.31 337** P **P** **16 58 16.4 +1.1**
baz=80
H25A ⇓pP **pP** **16 58 30.2 +0.7**
baz=80
M17A **Scullys Gap (B** **79.32 331** P **P** **16 58 16.3 +0.6**
baz=80
M17A ⇑pP **pP** **16 58 30.4 +0.5**
baz=80
K20A **Yellowstone Ra** **79.36 333** ⇓pP pP 16 58 30.7 +0.7
baz=80,SNR=6.0
RCTC **Rector, Farmer** **79.36 322** ⇓pP pP 16 58 30.4 +0.4
baz=80
TIN **Tinemaha** **79.39 323** ⇑pP pP 16 58 31.2 +0.9
baz=80
G27A **Dupree** **79.43 339** P **P** **16 58 16.6 +0.6**
baz=80
G27A ⇑pP **pP** **16 58 30.8 +0.6**
baz=80
L18A **Fontenelle, Gr** **79.43 332** ⇑pP pP 16 58 31.3 +0.8
baz=80,SNR=5.2
J21A **Lysite** **79.60 334** P **P** **16 58 18.0 +0.9**
baz=80
J21A ⇓pP **pP** **16 58 32.1 +0.8**
baz=80,SNR=8.4
I22A **9 Mile Ranch,** **79.70 335** P **P** **16 58 18.2 +0.7**
baz=80
I22A ⇑pP **pP** **16 58 32.5 +0.6**
baz=80,SNR=6.6
K19A **Absolon Red Bu** **79.70 333** P **P** **16 58 18.4 +0.7**
baz=80
K19A ⇓pP **pP** **16 58 32.4 +0.5**
baz=80,SNR=10
H24A **Dirks Ranch, A** **79.75 337** P **P** **16 58 18.6 +0.8**
baz=80
H24A ⇑pP **pP** **16 58 32.5 +0.5**
baz=80,SNR=8.0
HWUT **Hardware Ranch** **79.82 330** eP **P** **16 58 18.8 +0.5**
HWUT epP **pP** **16 58 33.3 +0.7**
J20A **Shoshoni** **79.85 334** P **P** **16 58 19.9 +1.5**
baz=80
J20A ⇑pP **pP** **16 58 34.0 +1.3**
baz=80,SNR=5.1
TSUM **Tsumeb** **79.86 106** ⇓*iP* **P** **16 58 19.6 +0.4**
TSUM **Tsumeb** **79.86 106** eP **P** **16 58 19.5 +0.4**
comp=Z,37nm,0.9s
TSUM **Tsumeb** **79.86 106** P **P** **16 58 19.7 +0.6**
comp=Z,24nm,0.8s,baz=240,slow=5.3,SNR=66
H23A **Clabaugh Cattl** **79.89 336** ⇑pP pP 16 58 33.2 +0.4
baz=80
SOE **Somerset East** **79.93 122** eP **P** **16 58 19.2 -0.1**
SOE AMB AMB 16 58 22.9
comp=Z,61nm,4.6s
I21A **Big Trails, Te** **79.93 334** P **P** **16 58 19.5 +0.7**
baz=80
I21A ⇑pP **pP** **16 58 33.7 +0.6**
baz=80,SNR=11
PDAR **Pinedale Array** **79.94 332** P **P** **16 58 19.3 +0.3**
PDAR pP **pP** **16 58 34.0 +0.8**
PDAR PKKPbc **PKKPbc** **17 17 03.4 -2.7**
PDAR **Pinedale Array** **79.94 332** P **P** **16 58 19.3 +0.3**
comp=Z,3.5nm,0.6s,baz=134,slow=7.7,SNR=21
PDAR pP **pP** **16 58 34.0 +0.8**
comp=Z,11nm,0.9s,baz=145,slow=5.4,SNR=19
PDAR PKKPbc **PKKPbc** **17 17 03.4 -2.7**
comp=Z,0.5nm,0.6s,baz=286,slow=1.9,SNR=4.4
BW06 **Boulder Array** **79.94 332** eP **P** **16 58 19.1 0.0**
comp=Z,44nm,1.3s
BW06 epP **pP** **16 58 34.0 +0.8**
MLAC **Mammoth Lakes** **80.14 323** ⇑pP pP 16 58 35.5 +1.0
baz=80
J19A **Crowheart** **80.15 333** P **P** **16 58 21.2 +1.1**
baz=80
J19A ⇑pP **pP** **16 58 35.2 +0.8**
baz=80,SNR=7.8
G24A **Alzada** **80.21 337** ⇑pP pP 16 58 35.2 +0.7
baz=81
H22A **Clearmont** **80.26 335** P **P** **16 58 21.1 +0.6**
baz=81
H22A ⇓pP **pP** **16 58 35.3 +0.6**
baz=81,SNR=8.1
GRM **Grahamstown** **80.34 123** eP **P** **16 58 20.8 -0.6**
GRM AMB AMB 16 58 22.4
comp=Z,76nm,1.8s
I20A **Worland** **80.37 334** P **P** **16 58 21.8 +0.6**
baz=81
I20A ⇑pP **pP** **16 58 36.3 +0.9**
baz=81,SNR=5.2
AGMN **Agassiz Nation** **80.38 344** eP **P** **16 58 20.2 -0.8**
comp=Z,9.3nm,0.9s
AGMN epP **pP** **16 58 34.8 -0.3**
G23A **Biddle** **80.44 336** ⇑pP pP 16 58 36.3 +0.6
baz=81,SNR=5.4
NVAR **Mina Array Bea** **80.47 324** P **P** **16 58 23.2 +1.2**
NVAR pP **pP** **16 58 37.1 +0.9**
NVAR PKKPbc **PKKPbc** **17 17 03.3 -1.3**
NVAR **Mina Array Bea** **80.47 324** P **P** **16 58 23.2 +1.2**
comp=Z,2.6nm,0.8s,baz=157,slow=5.4,SNR=12
NVAR pP **pP** **16 58 37.1 +0.9**
comp=Z,8.4nm,1.0s,baz=154,slow=6.2,SNR=15
NVAR PKKPbc **PKKPbc** **17 17 03.3 -1.3**
comp=Z,0.2nm,0.6s,baz=299,slow=2.6,SNR=3.5
HVU **Hansel Valley** **80.48 330** eP **P** **16 58 22.3 +0.4**
HVU e*PP **pP** **16 58 36.6 +0.5**
HVU pmax pmax
comp=Z,37nm,1.0s
HVU **Hansel Valley** **80.48 330** eP **P** **16 58 22.3 +0.4**
comp=Z,37nm,1.0s
HVU epP **pP** **16 58 36.6 +0.5**
H21A **Big Horn, Sher** **80.54 335** P **P** **16 58 22.6 +0.5**
baz=81
H21A ⇑pP **pP** **16 58 36.6 +0.2**
baz=81
E26A **Carlson Angus** **80.57 339** P **P** **16 58 23.0 +0.9**
baz=81
E26A ⇓pP **pP** **16 58 37.0 +0.6**
baz=81
F24A **Ekalaka** **80.67 337** P **P** **16 58 23.7 +1.0**
baz=81
F24A ⇓pP **pP** **16 58 37.5 +0.6**
baz=81
G22A **Birney** **80.77 336** P **P** **16 58 24.1 +0.8**
baz=81
G22A ⇓pP **pP** **16 58 37.9 +0.4**
baz=81
ELK **Elko** **80.77 328** eP **P** **16 58 24.3 +0.7**
comp=Z,6.5nm,1.0s
ELK epP **pP** **16 58 38.5 +0.7**
H20A **Greybull** **80.78 334** P **P** **16 58 24.2 +0.9**
baz=81
H20A ⇓pP **pP** **16 58 38.2 +0.6**
baz=81,SNR=8.4
I19A **Meeteetse** **80.78 333** P **P** **16 58 24.6 +1.1**
baz=81
I19A ⇓pP **pP** **16 58 38.6 +0.8**
baz=81,SNR=8.6
I18A **Diamond G Ranc** **80.82 333** P **P** **16 58 24.8 +1.0**
baz=81
I18A ⇑pP **pP** **16 58 38.9 +0.9**
baz=81,SNR=8.7
HVD **Gariep Dam** **80.88 120** eP **P** **16 58 25.0 +0.5**
HVD AMB AMB 16 58 26.1
comp=Z,45nm,3.0s
F23A **Volborg** **80.89 337** P **P** **16 58 24.7 +0.8**
baz=81
F23A ⇓pP **pP** **16 58 38.8 +0.7**
baz=81,SNR=6.0
E25A **Miller Ranch,** **80.90 338** P **P** **16 58 24.6 +0.7**
baz=81
E25A ⇓pP **pP** **16 58 39.2 +1.1**
baz=81
MDND **Maddock** **80.95 341** P **P** **16 58 24.8 +0.7**
baz=81
MDND ⇑pP **pP** **16 58 39.0 +0.7**
baz=81,SNR=5.5
LOHW **Long Hollow** **81.07 332** eP **P** **16 58 25.5 +0.4**
comp=Z,2.2nm,0.6s
LOHW epP **pP** **16 58 40.0 +0.7**
TPAW **Teton Pass** **81.11 332** eP **P** **16 58 26.4 +1.1**
comp=Z,52nm,1.4s
TPAW epP **pP** **16 58 40.1 +0.5**
G21A **Lodge Grass** **81.11 335** P **P** **16 58 25.5 +0.5**
baz=82
G21A ⇑pP **pP** **16 58 39.8 +0.5**
baz=82
RRI2 **Red Ridge** **81.14 332** P **P** **16 58 26.5 +0.9**
comp=Z,19nm,1.0s
RRI2 epP **pP** **16 58 40.3 +0.5**
MOOW **Moose Ponds** **81.24 332** P **P** **16 58 26.2 +0.2**
comp=Z,25nm,1.6s
MOOW epP **pP** **16 58 40.3 +0.1**
F22A **Rosebud** **81.24 336** P **P** **16 58 26.2 +0.5**
baz=82
F22A ⇓pP **pP** **16 58 40.5 +0.6**
baz=82,SNR=6.4
E24A **Baker** **81.25 338** P **P** **16 58 26.8 +1.0**
baz=82
E24A ⇑pP **pP** **16 58 40.9 +0.9**
baz=82,SNR=5.1
H19A **Powell** **81.31 334** ⇑pP pP 16 58 41.2 +0.8
baz=82
I17A **Pilgrim Ck.** **81.31 332** ⇑pP pP 16 58 41.7 +1.1
baz=82
DRV **Dumont d'Urvil** **81.38 192** SS SS 17 14 03.0 +14
DRV L L 17 20 00.0
DRV R 17 24 00.0
IMW **Indian Meadow** **81.44 332** eP **P** **16 58 27.8 +0.7**
comp=Z,2.5nm,0.5s
IMW epP **pP** **16 58 41.8 +0.5**
G20A **Bridger** **81.48 335** P **P** **16 58 27.2 +0.2**
baz=82
G20A ⇓pP **pP** **16 58 41.6 +0.2**
baz=82,SNR=5.3
E23A **Ismay** **81.53 337** ⇓pP pP 16 58 41.7 +0.2
baz=82
H18A **Shoshone NF, C** **81.58 333** P **P** **16 58 28.5 +0.8**
baz=82
H18A ⇑pP **pP** **16 58 42.4 +0.4**
baz=82,SNR=16
F21A **Absaloka Mine,** **81.59 336** ⇓pP pP 16 58 42.8 +1.0
baz=82
I16A **Newdale** **81.64 332** P **P** **16 58 29.1 +1.0**
baz=82
I16A ⇑pP **pP** **16 58 43.2 +0.9**
baz=82,SNR=5.2
BOSA **Boshof** **81.65 118** ⇓*iP* **P** **16 58 28.4 -0.2**
BOSA AMB AMB 16 58 29.3
comp=Z,33nm,0.7s
BOSA **Boshof** **81.65 118** eP **P** **16 58 28.1 -0.4**
comp=Z,34nm,0.6s
BOSA **Boshof** **81.65 118** P **P** **16 58 28.4 -0.2**
comp=Z,34nm,0.6s,baz=247,slow=4.1,SNR=62
BOSA LR LR 17 29 20.8
comp=Z,531nm,18.9s,baz=165,slow=32
E22A **Miles City** **81.70 337** ⇑pP pP 16 58 42.7 +0.3
baz=82
D24A **Glendive** **81.75 338** P **P** **16 58 29.3 +1.0**
baz=82
D24A ⇑pP **pP** **16 58 43.7 +1.1**
baz=82
RLMT **Red Lodge** **81.80 334** eP **P** **16 58 29.0 +0.1**
comp=Z,2.7nm,0.4s
RLMT epP **pP** **16 58 43.8 +0.6**
WCN **Washoe City** **81.88 324** eP **P** **16 58 29.9 +0.5**
WCN e*PP **pP** **16 58 43.8 +0.1**
WCN pmax pmax
comp=Z,2.0nm,0.6s
WCN **Washoe City** **81.88 324** eP **P** **16 58 29.9 +0.5**
comp=Z,2.5nm,0.6s
WCN epP **pP** **16 58 43.8 +0.1**
F20A **Billings** **81.95 335** ⇑pP pP 16 58 44.2 +0.5
baz=82
TOA0 **Torodi Ar. Sit** **82.00 70** eP **P** **16 58 29.9 -0.5**
TORD **Torodi Ar. Bea** **82.00 70** P **P** **16 58 30.2 -0.1**
TORD **Torodi Ar. Bea** **82.00 70** P **P** **16 58 30.2 -0.1**
comp=Z,32nm,0.7s,baz=271,slow=5.1,SNR=150
TORD LR LR 17 33 29.9
comp=Z,505nm,19.1s,baz=225,slow=35
G18A **Lazy EL Ranch,** **82.07 334** P **P** **16 58 31.0 +0.7**
baz=82
G18A ⇓pP **pP** **16 58 45.1 +0.6**
baz=82
YMR **Madison River** **82.09 333** P **P** **16 58 30.7 +0.3**
comp=Z,106nm,1.5s
YMR epP **pP** **16 58 46.0 +1.3**
D23A **Lindsay** **82.09 337** P **P** **16 58 31.0 +0.9**
baz=82
D23A pP **pP** **16 58 45.5 +1.1**
baz=82
C24A **Savage** **82.14 338** P **P** **16 58 31.3 +0.9**

C24A baz=82 ⇓pP pP 16 58 45.7 +1.0
E21A **Keefer Ranch,** 82.19 336 P P 16 58 31.5 +0.9
E21A baz=83 ⇑pP pP 16 58 45.8 +0.8
ULM **Lac du Bonnet** 82.20 344 P P 16 58 30.4 -0.2
ULM pP pP 16 58 44.8 0.0
ULM **Lac du Bonnet** 82.20 344 P P 16 58 30.4 -0.2
ULM comp=Z,10nm,0.7s,baz=163,slow=5.9,SNR=8.4 pP pP 16 58 44.8 0.0
F19A **Roth Farm, Mol** 82.29 334 P P 16 58 31.8 +0.5
F19A baz=83 ⇑pP pP 16 58 46.1 +0.5
SWZ **Schweizer** 82.40 117 ⇓*i*P P 16 58 32.0 -0.6
SWZ comp=Z,57nm,2.3s AMB AMB 16 58 32.6
D22A **Cohagen** 82.40 337 P P 16 58 32.8 +1.0
D22A baz=83 ⇑pP pP 16 58 46.9 +0.9
QLMT **Earthquake Lak** 82.41 332 P P 16 58 33.2 +1.1
QLMT comp=Z,0.3nm,0.4s epP pP 16 58 47.1 +0.7
GCMT **Greycliff** 82.51 334 *e*P P 16 58 32.5 0.0
GCMT comp=Z,3.2nm,0.9s epP pP 16 58 46.7 -0.1
I14A **Mackay** 82.51 331 ⇑pP pP 16 58 48.2 +1.3
G17A **Pierce Place,** 82.54 333 ⇓pP pP 16 58 48.0 +1.1
E20A **Meyer Farm, Mu** 82.54 335 P P 16 58 33.4 +0.9
E20A baz=83 ⇓pP pP 16 58 47.4 +0.6
BEKR **Beckworth** 82.61 324 *e*P P 16 58 33.8 +0.6
BEKR comp=Z,3.6nm,1.1s epP pP 16 58 48.6 +1.1
D21A **La Casta Ranch** 82.61 336 P P 16 58 33.2 +0.4
D21A baz=83 ⇑pP pP 16 58 47.9 +0.7
F18A **Big Timber** 82.62 334 P P 16 58 33.7 +0.7
F18A baz=83 pP pP 16 58 48.0 +0.7
C23A **Lambert** 82.63 338 P P 16 58 33.5 +0.6
C23A baz=83,SNR=7.3 ⇓pP pP 16 58 48.0 +0.8
E19A **Rath Farm, Rou** 82.74 335 P P 16 58 34.2 +0.6
E19A baz=83,SNR=12 ⇑pP pP 16 58 48.6 +0.7
C22A **Vida** 82.81 337 P P 16 58 34.5 +0.6
C22A baz=83 ⇑pP pP 16 58 48.7 +0.5
DGMT **Dagmar** 82.89 339 *e*P P 16 58 35.0 +0.7
DGMT comp=Z,40nm,1.0s epP pP 16 58 48.3 -0.2
DGMT **Dagmar** 82.89 339 P P 16 58 35.3 +1.0
DGMT baz=83,SNR=5.9 ⇓pP pP 16 58 49.6 +1.1
DGMT baz=83,SNR=5.9 ⇓pP pP 16 58 49.6 +1.1
MCMT **McKenzie Canyo** 82.99 332 *e*P P 16 58 36.0 +0.9
MCMT comp=Z,2.1nm,0.8s epP pP 16 58 50.5 +1.1
F17A **Fitzpatrick Pl** 82.99 333 P P 16 58 35.5 +0.5
F17A baz=83 ⇓pP pP 16 58 50.1 +0.8
I12A **Atlanta** 83.14 330 P P 16 58 36.8 +1.0
I12A baz=84 ⇑pP pP 16 58 51.1 +0.9
B23A **Brockton** 83.14 338 P P 16 58 36.4 +0.9
B23A baz=84 ⇑pP pP 16 58 50.9 +1.0
MFID **Camas Ranch** 83.15 329 *e*P P 16 58 36.2 +0.4
MFID comp=Z,1.9nm,0.8s epP pP 16 58 50.5 +0.3
MFID **Camas Ranch** 83.15 329 P P 16 58 36.6 +0.8
MFID baz=84,SNR=7.9 ⇑pP pP 16 58 50.7 +0.6
A24A **Westby** 83.23 339 P P 16 58 37.2 +1.2
A24A baz=84 ⇓pP pP 16 58 51.2 +0.9
E18A **Harlowton** 83.25 334 P P 16 58 37.3 +1.0
E18A baz=84 ⇑pP pP 16 58 51.1 +0.5
F16A **Kennard Place,** 83.27 333 ⇑pP pP 16 58 51.4 +0.7
C21A **Desert Coulee** 83.30 337 P P 16 58 36.7 +0.3
C21A baz=84 ⇑pP pP 16 58 51.1 +0.4
DLMT **Dillon** 83.32 332 *e*P P 16 58 36.9 +0.3
DLMT comp=Z,36nm,1.4s epP pP 16 58 51.5 +0.5
B22A **Reddig Ranch S** 83.33 337 ⇑pP pP 16 58 51.5 +0.6
D19A **Cripps Ranch,** 83.37 335 P P 16 58 37.2 +0.4
D19A baz=84,SNR=5.8 ⇓pP pP 16 58 51.7 +0.5
C20A **Veseth Ranch,** 83.52 336 P P 16 58 37.6 +0.1
C20A baz=84 ⇓pP pP 16 58 51.9 +0.1
A23A **Redstone** 83.54 338 ⇑pP pP 16 58 52.5 +0.6
H12A **Diamond D Ranc** 83.61 330 ⇓pP pP 16 58 53.3 +0.8
LRM **Limekiln Ridge** 83.63 332 *e*P P 16 58 39.5 +1.1
LRM comp=Z,43nm,1.2s epP pP 16 58 53.6 +0.8
LBTB **Lobatse** 83.66 115 ⇓*i*P P 16 58 38.8 -0.3
LBTB AMB AMB 16 58 39.5
LBTB **Lobatse** 83.66 115 *e*P P 16 58 38.7 -0.3
LBTB comp=Z,67nm,0.8s epP pP 16 58 52.6 -0.7
LBTB **Lobatse** 83.66 115 P P 16 58 38.9 -0.1
F15A **Butte** 83.66 332 ⇑pP pP 16 58 53.6 +0.8
WVOR **Wild Horse Val** 83.69 327 *e*P P 16 58 39.3 +0.6
WVOR comp=Z,29nm,1.4s *e**PP pP 16 58 52.0 -0.9
WVOR pmax pmax
WVOR **Wild Horse Val** 83.69 327 *e*P P 16 58 39.3 +0.6
WVOR comp=Z,29nm,1.4s epP pP 16 58 52.0 -0.9
D18A **Linhart Farms,** 83.74 335 P P 16 58 39.1 +0.4
D18A baz=84 ⇓pP pP 16 58 53.5 +0.5
B21A **Ellsworth Farm** 83.79 337 P P 16 58 39.3 +0.4
B21A baz=84 ⇑pP pP 16 58 53.8 +0.6
A22A **Carney Farms,** 83.91 338 P P 16 58 39.9 +0.5
A22A baz=84,SNR=8.0 ⇓pP pP 16 58 54.4 +0.6
E16A **East Helena** 83.91 333 ⇓pP pP 16 58 54.8 +0.8
C19A **Slack Wire Ran** 83.91 335 P P 16 58 39.7 +0.2
C19A baz=84 ⇑pP pP 16 58 54.3 +0.4
SCHQ **Schefferville** 83.92 3 P P 16 58 39.3 0.0
SCHQ **Schefferville** 83.92 3 P P 16 58 39.3 0.0
F14A **Wisdom** 84.00 332 ⇓pP pP 16 58 55.6 +1.1
D17A **Six Diamond Ra** 84.03 334 P P 16 58 40.7 +0.4

D17A baz=84 ⇑pP pP 16 58 55.4 +0.8
MOD **Modoc** 84.10 325 *e*P P 16 58 41.5 +0.7
MOD comp=Z,39nm,1.1s epP pP 16 58 54.6 -0.5
PRYS **Parys** 84.10 117 ⇓*i*P P 16 58 40.6 -0.7
PRYS AMB AMB 16 58 41.4
B20A **Solberg Farm,** 84.14 336 ⇓pP pP 16 58 55.5 +0.5
A21A **Bergtoll Ranch** 84.24 337 ⇑pP pP 16 58 55.8 +0.3
WDC **Whiskeytown Da** 84.26 323 *e*P P 16 58 41.2 -0.2
WDC comp=Z,65nm,1.7s *e**PP pP 16 58 55.1 -0.6
WDC pmax pmax
WDC **Whiskeytown Da** 84.26 323 *e*P P 16 58 41.2 -0.2
WDC comp=Z,65nm,1.7s epP pP 16 58 55.1 -0.6
D16A **Dana Ranch, Ca** 84.27 334 P P 16 58 42.0 +0.6
D16A baz=85 ⇓pP pP 16 58 56.7 +0.9
G12A **Big Creek, Yel** 84.28 330 P P 16 58 41.8 +0.1
EGMT **Eagleton** 84.41 335 *e*P P 16 58 41.0 -1.2
EGMT comp=Z,47nm,1.5s epP pP 16 58 56.3 -0.1
EGMT **Eagleton** 84.41 335 P P 16 58 42.0 -0.1
EGMT baz=85 ⇓pP pP 16 58 56.8 +0.4
C17A **Wharram Farm,** 84.46 334 P P 16 58 42.5 +0.1
C17A baz=85 ⇓pP pP 16 58 57.1 +0.3
B19A **Brinkman Farms** 84.48 336 P P 16 58 42.5 0.0
B19A baz=85 ⇓pP pP 16 58 57.1 +0.3
A20A **Cobblestone Ra** 84.49 337 P P 16 58 42.4 0.0
A20A baz=85,SNR=6.5 ⇓pP pP 16 58 57.0 +0.2
D15A **Lincoln** 84.66 333 ⇓pP pP 16 58 58.5 +0.7
B18A **Beardsley Farm** 84.73 335 P P 16 58 43.8 +0.1
B18A baz=85 ⇓pP pP 16 58 58.4 +0.3
A19A **Klindworth Far** 84.81 336 P P 16 58 44.1 0.0
A19A baz=85,SNR=7.5 ⇑pP pP 16 58 58.8 +0.4
CHMT **Chamberlain Mo** 84.84 333 *e*P P 16 58 44.9 +0.4
CHMT baz=85 comp=Z,23nm,1.7s epP pP 16 58 59.2 +0.4
C16A **Fuhringer Ranc** 84.98 334 ⇓pP pP 16 58 59.8 +0.5
B17A **L&G Farms, Che** 85.02 335 P P 16 58 45.8 +0.6
B17A baz=85 ⇑pP pP 16 58 59.6 +0.1
MSO **Missoula** 85.05 332 ⇓pP pP 16 59 00.6 +0.8
D14A **Greenough** 85.08 333 P P 16 58 46.0 +0.4
D14A baz=86 ⇓pP pP 16 59 00.6 +0.7
KHMM **Horse Mountain** 85.10 323 *e*P P 16 58 47.3 +1.5
KHMM comp=Z,73nm,1.6s epP pP 16 59 01.5 +1.3
YBH **Yreka Blue Hor** 85.19 324 *e*P P 16 58 44.6 -1.6
YBH comp=Z,18nm,1.3s epP pP 16 59 00.4 -0.2
YBH pP pP 16 59 00.5 0.0
YBH **Yreka Blue Hor** 85.19 324 P P 16 58 46.1 0.0
YBH comp=Z,2.6nm,0.6s,baz=101,slow=5.8,SNR=6.0 pP pP 16 59 00.5 0.0
comp=Z,6.2nm,0.8s,baz=110,slow=5.0,SNR=7.8
A18A **Metzger Ranch,** 85.20 336 P P 16 58 46.0 0.0
SLMT **Seeley Lake** 85.20 333 *e*P P 16 58 46.2 0.0
SLMT comp=Z,32nm,1.6s epP pP 16 59 01.0 +0.4
C15A **Salmond Ranch,** 85.29 333 P P 16 58 47.3 +0.7
C15A baz=86 ⇓pP pP 16 59 01.7 +0.7
E12A **Beaver Dam Sad** 85.40 331 P P 16 58 47.3 +0.1
E12A baz=86 ⇑pP pP 16 59 01.8 +0.2
SLR **Silverton** 85.41 117 *e*P P 16 58 46.7 -1.3
SLR comp=Z,53nm,3.7s AMB AMB 16 58 47.0
B16A **M & M Farms, S** 85.46 334 P P 16 58 47.9 +0.5
B16A baz=86 ⇓pP pP 16 59 01.8 +0.1
D13A **Huson** 85.48 332 P P 16 58 48.0 +0.5
D13A baz=86,SNR=5.7 ⇓pP pP 16 59 02.6 +0.7
A17A **Triple J Farms** 85.53 335 P P 16 58 47.8 +0.2
A17A baz=86,SNR=5.8 ⇑pP pP 16 59 02.1 +0.1
SWMT **Swartz Lake** 85.62 333 *e*P P 16 58 49.2 +1.0
SWMT comp=Z,1.2nm,0.7s epP pP 16 59 03.1 +0.5
B15A **Bradely Ranch,** 85.71 334 P P 16 58 48.5 -0.2
B15A baz=86,SNR=7.9 ⇑pP pP 16 59 02.9 -0.1
C14A **Swan Lake** 85.73 333 P P 16 58 49.1 +0.3
C14A baz=86 pP pP 16 59 03.7 +0.5
A16A **West Butte Ran** 85.86 335 P P 16 58 49.6 +0.2
A16A baz=86,SNR=14 ⇓pP pP 16 59 04.1 +0.4
C13A **Hot Springs** 85.99 332 P P 16 58 50.4 +0.3
C13A baz=86 ⇑pP pP 16 59 05.0 +0.6
B14A **Marquette Ranc** 86.02 333 P P 16 58 50.7 +0.5
B14A baz=86 ⇓pP pP 16 59 04.7 0.0
VIPM **Ingram Point** 86.20 327 P P 16 58 52.5 +1.2
VIPM **Ingram Point** 86.20 327 P P 16 58 52.5 +1.2
BSMT **Bassoo Peak** 86.22 332 *e*P P 16 58 51.6 +0.3
BSMT comp=Z,16nm,1.1s epP pP 16 59 06.0 +0.3
A15A **Johnson Ranch,** 86.32 334 P P 16 58 51.5 -0.1
A15A baz=87 ⇑pP pP 16 59 05.6 -0.4
C12B **Naegeli Ranch,** 86.39 332 ⇓pP pP 16 59 06.8 +0.5
B13A **Whitefish** 86.51 333 ⇓pP pP 16 59 07.3 +0.4
A14A **Double T Ranch** 86.58 334 P P 16 58 52.9 0.0
A14A baz=87 ⇑pP pP 16 59 07.5 +0.2
FRIS **Frissel Point** 86.69 326 P P 16 58 54.4 +0.8
C11A **Tepee Creek (N** 86.81 332 P P 16 58 53.9 -0.2
C11A baz=87 ⇑pP pP 16 59 08.5 +0.1
WALA **Waterton Lakes** 86.84 333 *e*P P 16 58 54.3 +0.1
WALA comp=Z,1.3nm,1.2s epP pP 16 59 08.5 -0.1
BROR **Big Rock Looko** 86.91 326 P P 16 58 54.8 +0.3
A13A **Flathead Natio** 86.93 333 P P 16 58 55.2 +0.6
A13A baz=87 pP pP 16 59 09.8 +0.8
B12A **Libby** 87.03 332 ⇓pP pP 16 59 10.0 +0.6
HAWA **Hanford** 87.12 329 *e*pP pP 16 59 10.3 +0.5
comp=Z,10.0nm,0.9s
URZ **Urewera** 87.29 227 LR LR 17 27 43.4
comp=Z,830nm,19.4s,baz=132,slow=28

A12A **Yaak River Ran** 87.43 332 ⇑pP pP 16 59 11.7 +0.3
NEW **Newport** 87.51 331 ⇑pP pP 16 59 11.4 -0.4
RPZ **Rata Peaks** 87.62 220 LR LR 17 27 56.8
MPOR **Mary's Peak** 87.62 325 P P 16 58 59.4 +1.3
FFC **Flin Flon** 87.81 343 P P 16 58 58.4 -0.2
FFC *e**PP pP 16 59 12.0 -1.0
FFC pmax pmax
FFC **Flin Flon** 87.81 343 P P 16 58 58.4 -0.2
FFC comp=Z,23nm,1.7s *e*pP pP 16 59 12.0 -1.0
FL2 **Flat Top 2** 88.27 327 P P 16 59 01.9 +0.7
LON **Longmire** 88.43 328 *e*P P 16 59 01.7 -0.1
LON *e**PP pP 16 59 16.1 -0.1
LON pmax pmax
LON **Longmire** 88.43 328 *e*P P 16 59 01.7 -0.1
LON comp=Z,2.5nm,0.8s *e*pP pP 16 59 16.1 -0.1
TAM **Tamanrasset** 90.20 64 *e*P P 16 59 11.2 +0.4
TAM pmax pmax
TAM **Tamanrasset** 90.20 64 *e*P P 16 59 11.2 +0.4
LSZ **Lusaka** 90.61 108 *e*P P 16 59 14.2 +1.3
LSZ **Lusaka** 90.61 108 *e*P P 16 59 14.0 +1.1
LSZ **Lusaka** 90.61 108 P P 16 59 14.1 +1.2
AFI **Afiamalu** 92.20 253 LR LR 17 30 16.5
KIP **Kipapa** 97.53 290 ⇓*e*P P 16 59 43.0 -1.3
KIP pmax pmax
YKA **Yellowknife Ar** 97.88 341 P P 16 59 44.7 -0.1
YKA pP pP 16 59 59.3 0.0
YKA **Yellowknife Ar** 97.88 341 P P 16 59 44.7 -0.1
YKA pP pP 16 59 59.3 0.0
KEST **Kesra** 99.64 55 LR LR 17 47 29.8
DZM **Mont Dzumac** 104.51 234 *e*LR LR 17 34 47.1
KHC **Kasperske Hory** 108.42 44 *e*PKP PKiKP 17 04 34.3 -3.6
KHC AMS AMS 17 44 40.0
PRU **Pruhonice** 109.33 43 AMS AMS 17 48 00.0
TREC **Trest** 109.64 44 AMS AMS 17 45 40.0
VYHS **Vyhne** 111.41 46 *i* P Pdif 17 00 44.6 -0.8
VYHS **Vyhne** 111.41 46 PDIF Pdif 17 00 44.6 -0.8
OKC **Ostrava-Krasne** 111.45 44 AMS AMS 17 48 10.0
FINES **FINESS Array B** 118.76 33 PKP PKPdf 17 04 57.0 -0.1
FINES **FINESS Array B** 118.76 33 PKP PKPdf 17 04 57.0 -0.1
BRTR **Keskin Array B** 118.91 58 PKP PKPdf 17 04 58.2 -0.2
BRTR **Keskin Array B** 118.91 58 PKP PKPdf 17 04 58.2 -0.2
ASAR **Alice Springs** 122.00 207 PKP PKPdf 17 05 03.4 -1.4
ASAR PKKPbc PKKPbc 17 15 01.9 +0.2
ASAR **Alice Springs** 122.00 207 PKP PKPdf 17 05 03.4 -1.4
ASAR PKKPbc PKKPbc 17 15 01.9 +0.2
WRA **Warramunga Arr** 125.13 210 PKP PKPdf 17 05 09.8 -1.1
WRA **Warramunga Arr** 125.13 210 PKP PKPdf 17 05 09.8 -1.1
WRAB **Tennant Creek** 125.14 210 *e*PKIKP PKPdf 17 05 09.8 -1.0
WRAB **Tennant Creek** 125.14 210 *e*PKPdf PKPdf 17 05 09.8 -1.0
KIV **Kislovodsk** 126.38 55 *i* PKIKP PKPdf 17 05 09.2 -3.3
KIV pmax pmax
KIV MLR MLR
KBZ **Khabaz** 126.50 55 PKIKP PKPdf 17 05 12.8 +0.2
KBZ **Khabaz** 126.50 55 PKP PKPdf 17 05 12.8 +0.2
KBZ **Khabaz** 126.50 55 PKP PKPdf 17 05 12.8 +0.2
FITZ **Fitzroy Crossi** 130.09 201 PKP PKPdf 17 05 19.2 -1.1
FITZ **Fitzroy Crossi** 130.09 201 PKP PKPdf 17 05 19.2 -1.1
ARU **Arti** 135.72 38 *i* PKIKP PKPdf 17 05 31.6 +2.0
ARU 17 08 14.2
PETK **Petropavlovsk-** 137.28 318 PKIKP PKPdf 17 05 32.8 +0.2
PETK **Petropavlovsk-** 137.28 318 PKP PKPdf 17 05 32.8 +0.2
PETK **Petropavlovsk-** 137.28 318 PKP PKPdf 17 05 32.8 +0.2
AB31 **Akbulak array** 138.17 48 PKHKP PKPpre 17 05 24.2
ZRNK **Zerenda** 142.60 40 PKIKP PKPdf 17 05 39.0 -3.3
ZRNK pmax pmax
BRVK **Borovoye** 143.26 39 PKIKP PKPab 17 05 40.0 +0.7
BRVK pmax pmax
BRVK **Borovoye** 143.26 39 *e*PKPpre PKPbc 17 05 41.2 +0.6
BVA0 **Borovoye Array** 143.33 39 *i* PKIKP PKPbc 17 05 41.0 +0.2
BVA0 pmax pmax
KAPI **Kappang** 144.24 199 PKP PKPab 17 05 43.1 -1.1
KAPI **Kappang** 144.24 199 PKP PKPab 17 05 43.1 -1.1
YAK **Yakutsk** 144.53 343 *e*PKIKP PKPab 17 05 44.2 +0.3
YAK *e* 17 05 58.8
YAK pmax pmax
YAK pmax pmax
YAK pmax pmax
KBL **Kabul** 146.07 71 *e*PKP2 PKPdf 17 05 49.8 +0.6
KBL **Kabul** 146.07 71 *e*PKPbc PKPdf 17 05 49.8 +0.6
KK31 **Karatay Array** 146.54 55 *i* PKP2 PKPdf 17 05 50.6 +1.1
KKAR **Karatay Array** 146.54 55 *e*PKP2 PKPbc 17 05 51.0 0.0
KKAR **Karatay Array** 146.54 55 *e*PKPbc PKPbc 17 05 51.0 0.0
NVS **Novosibirsk** 148.59 29 *e*PKIKP PKPdf 17 05 53.0 +0.6
NVS pmax pmax
EKS2 **Erkin-Say** 148.98 55 PKIKP PKPdf 17 05 54.0 +0.3
EKS2 *e* 17 05 59.1
EKS2 **Erkin-Say** 148.98 55 P PKPdf 17 05 55.2 +1.5
EKS2 **Erkin-Say** 148.98 55 PKPdf PKPdf 17 05 54.0 +0.3
EKS2 *e*PKPbc PKiKP 17 05 59.0 0.0
AML **Almayashu** 149.04 56 P PKPbc 17 05 59.4 +1.1
USP **Ospenovka** 149.34 54 P PKPbc 17 05 59.6 +1.1
ASAJ **Asahikawa** 149.37 308 *e*PKPdf PKPdf 17 05 54.0 -0.1
ASAJ PKPbc PKPbc 17 05 58.7 +0.2
ASAJ **Asahikawa** 149.37 308 PKPbc PKPbc 17 05 58.7 +0.2
AAK **Ala-Archa** 149.50 55 *e*PKHKP PKPdf 17 05 55.3 +0.7
AAK *e* 17 06 00.0
AAK **Ala-Archa** 149.50 55 P PKPbc 17 06 00.6 +1.5
AAK **Ala-Archa** 149.50 55 *e*PKPdf PKPdf 17 05 55.3 +0.7
AAK *e*PKPbc PKPbc 17 05 60.0 +0.9
AAK *e*PKPab PKPab 17 06 05.2 +1.1
ERM **Erimo** 149.53 304 *e*PKP2 PKPbc 17 05 59.7 +0.8
ERM **Erimo** 149.53 304 *e*PKPbc PKPbc 17 05 59.7 +0.8
CHMS **Chumysh** 149.59 54 P PKPbc 17 06 00.3 +1.1
KBK **Karagaybulak** 149.81 55 P PKPbc 17 06 01.2 +1.3
ZAA0 **Zalesovo Array** 149.88 29 *e*PKPdf PKPdf 17 05 54.8 +0.2
ZAA0 *e*PKPbc PKPbc 17 05 59.8 +0.4
ZALV **Zalesovo Beam** 149.88 29 PKP PKPdf 17 05 55.0 +0.5
ZALV PKPbc PKPbc 17 06 00.1 +0.7
ZALV **Zalesovo Beam** 149.88 29 PKP PKPdf 17 05 55.0 +0.5
ZALV PKPbc PKPbc 17 06 00.1 +0.7
HYB **Hyderabad** 149.94 107 *i* PKP PKPbc 17 05 59.5 -1.2
KZA **Kyzart** 150.18 56 P PKPbc 17 06 02.6 +1.5
TKM2 **Tokmak 2** 150.20 54 *e*PKIKP PKPdf 17 05 56.2 +0.4
TKM2 *e* 17 06 01.4

TKM2				*e*			17 06 07.7	
TKM2	**Tokmak 2**	**150.20**	**54**	P		**PKPbc**	**17 06 01.7**	**+0.8**
	SNR=16							
TKM2	**Tokmak 2**	**150.20**	**54**	*e*PKPdf		**PKPdf**	**17 05 56.2**	**+0.4**
TKM2				*e*PKPbc		**PKPbc**	**17 06 01.4**	**+0.5**
TKM2				*e*PKPab		**PKPab**	**17 06 07.7**	**+0.6**
CLNS	**Chul'man**	**150.25**	**342**	*e*PKIKP		**PKPbc**	**17 06 00.0**	**-0.3**
CLNS				*e**PP		**PKPab**	**17 06 08.4**	**+1.8**
CLNS				pmax	pmax			
	comp=Z,5.0nm,1.4s							
CLNS				pmax	pmax			
	comp=Z,19nm,0.9s							
CLNS				pmax	pmax			
	comp=N,7.0nm,1.0s							
ULHL	**Ulahol**	**150.85**	**55**	P		**PKPbc**	**17 06 03.9**	**+1.5**
	SNR=26							
KSH	**Kashi**	**151.27**	**61**	*i* PKPbc		**PKPbc**	**17 06 03.8**	**+0.4**
KSH				pPKP		**PKPab**	**17 06 11.2**	**-0.3**
KSH				sPKP			17 06 17.3	
KSH				PP	PP		17 09 52.3	+10
KSH				SKS		**SKSdf**	**17 13 04.9**	**+3.9**
THN	**Thein Dam**	**151.55**	**75**	*e*P		**PKPbc**	**17 06 02.7**	**-1.3**
PSI	**Prapat**	**152.00**	**159**	PKPbc		**PKPbc**	**17 06 04.6**	**-1.2**
PSI	**Prapat**	**152.00**	**159**	PKPbc		**PKPbc**	**17 06 04.6**	**-1.2**
	comp=N,6.2nm,0.5s,baz=155,slow=5.8,SNR=5.6							
HABR	**Khabarovsk**	**152.22**	**321**	*e*PKIKP		**PKPdf**	**17 05 54.7**	**-3.6**
HABR				*e*			17 06 09.9	
HABR				*e*			17 06 12.2	
HABR				*e*			17 09 44.6	
HABR				*e*			17 12 57.9	
HABR				*e*			17 13 24.2	
HABR				*e*SS		SS	17 29 10.9	-1.0
HABR				pmax	pmax			
	comp=N,17nm,1.5s							
HABR				pmax	pmax			
	comp=Z,10.0nm,1.5s							
HABR				pmax	pmax			
	comp=E,9.0nm,1.0s							
MK31	**Makanchi Array**	**153.04**	**42**	*e*PKIKP		**PKPdf**	**17 05 59.2**	**-0.5**
MK31				*e*			17 06 07.0	
MK31	**Makanchi Array**	**153.04**	**42**	*e*PKPdf		**PKPdf**	**17 05 59.2**	**-0.5**
MK31				*e*PKPbc		**PKPbc**	**17 06 07.0**	**0.0**
MKAR	**Makanchi Array**	**153.04**	**42**	PKIKP		**PKPdf**	**17 05 59.8**	**+0.1**
MKAR							17 06 06.8	
MKAR	**Makanchi Array**	**153.04**	**42**	PKP		**PKPdf**	**17 05 59.8**	**+0.1**
MKAR				PKPbc		**PKPbc**	**17 06 06.8**	**-0.2**
MKAR	**Makanchi Array**	**153.04**	**42**	PKP		**PKPdf**	**17 05 59.8**	**+0.1**
	comp=E,1.4nm,0.8s,baz=45,slow=1.9,SNR=6.5							
MKAR				PKPbc		**PKPbc**	**17 06 06.8**	**-0.2**
	comp=E,6.5nm,0.6s,baz=314,slow=1.3,SNR=31							
MJAR	**Matsushiro Arr**	**154.32**	**294**	PKP		**PKPdf**	**17 06 01.1**	**-0.7**
MJAR				PKPbc		**PKPbc**	**17 06 09.9**	**-0.2**
MJAR				PKPab		**PKPab**	**17 06 25.0**	**+0.6**
MJAR				pPKPab		**pPKPab**	**17 06 38.9**	**+0.1**
MJAR	**Matsushiro Arr**	**154.32**	**294**	PKP		**PKPdf**	**17 06 01.1**	**-0.7**
	comp=E,3.4nm,1.1s,baz=180,slow=1.4,SNR=5.2							
MJAR				PKPbc		**PKPbc**	**17 06 09.9**	**-0.2**
	comp=E,1.1nm,0.5s,baz=67,slow=2.0,SNR=5.2							
MJAR				PKPab		**PKPab**	**17 06 25.0**	**+0.6**
	comp=E,6.0nm,0.7s,baz=118,slow=2.2,SNR=14							
MJAR				pPKPab		**pPKPab**	**17 06 38.9**	**+0.1**
	comp=E,17nm,1.0s,baz=122,slow=2.2,SNR=14							
MAJO	**Matsushiro**	**154.32**	**294**	*e*PKP2		**PKPab**	**17 06 25.1**	**+0.7**
MAJO	**Matsushiro**	**154.32**	**294**	*e*PKPab		**PKPab**	**17 06 25.1**	**+0.7**
MAT	**Matsushiro**	**154.32**	**294**	PKP		**PKPbc**	**17 06 09.5**	**-0.6**
USRK	**Ussuriysk Arra**	**156.31**	**315**	PKPab		**PKPab**	**17 06 30.2**	**-2.3**
	comp=E,2.6nm,0.9s,baz=29,slow=4.4,SNR=5.5							
USRK				pPKPab		**pPKPab**	**17 06 47.8**	**+0.8**
	comp=E,8.2nm,0.9s,baz=65,slow=2.8,SNR=5.7							
TLY	**Talaya**	**157.36**	**8**	*e*PKIKP		**PKPdf**	**17 06 06.9**	**+1.6**
TLY				pmax	pmax			
	comp=Z,10.0nm,1.4s							
MDJ	**Mudanjiang**	**157.52**	**318**	PKP		**PKPdf**	**17 06 05.8**	**+0.1**
WMQ	**Urumqi**	**157.85**	**44**	PKP		**PKPdf**	**17 06 07.8**	**+1.5**
WMQ				AMB	AMB			
	comp=Z,2.0nm,12.1s							
DMN	**Daman**	**159.15**	**89**	*e*P		**PKPab**	**17 06 45.1**	**-0.7**
	comp=Z,50nm,0.8s							
KKN	**Kakani**	**159.34**	**89**	*e*P		**PKPab**	**17 06 45.9**	**-0.6**
	comp=Z,54nm,0.7s							
PKIN	**Phulchoki**	**159.40**	**89**	*e*P		**PKPab**	**17 06 46.0**	**-0.8**
	comp=Z,9.8nm,0.6s							
PKI	**Pulchoki**	**159.41**	**89**	*e*P		**PKPab**	**17 06 46.0**	**-1.0**
	comp=Z,24nm,0.8s							
GUN	**Gumba**	**159.88**	**89**	*e*P		**PKPab**	**17 06 48.3**	**-0.7**
	comp=Z,39nm,0.7s							
JIRN	**Jiri**	**160.11**	**89**	*e*P		**PKPab**	**17 06 49.4**	**-0.7**
	comp=Z,19nm,0.6s							
RAMN	**Ramite**	**160.33**	**92**	*e*P		**PKPab**	**17 06 49.9**	**-1.0**
CN2	**Changchun**	**160.35**	**322**	*e*PKP		**PKPdf**	**17 06 06.5**	**-2.6**
CN2				PP		**PP**	**17 10 33.2**	**+1.0**
CN2				SKKS			17 17 16.1	
CN2				SS		**SS**	**17 30 38.7**	**-0.6**
CN2				LR	LR			
	comp=N,500nm,25.0s							
CN2				LR	LR			
	comp=E,400nm,25.0s							
CN2				LR	LR			
	comp=Z,200nm,25.0s							
ODAN	**Odare**	**161.00**	**92**	*e*P		**PKPab**	**17 06 53.3**	**-0.5**
	comp=Z,16nm,0.6s							
SONM	**Songino Array**	**161.45**	**5**	PKP		**PKPdf**	**17 06 09.6**	**-0.8**
SONM				PKPab		**PKPab**	**17 06 54.7**	**-0.1**
SONM				pPKPab		**pPKPab**	**17 07 12.3**	**+3.0**
SONM	**Songino Array**	**161.45**	**5**	PKP		**PKPdf**	**17 06 09.6**	**-0.8**
	comp=Z,2.0nm,0.9s,baz=222,slow=1.9,SNR=2.3							
SONM				PKPab		**PKPab**	**17 06 54.7**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=328,slow=3.3,SNR=3.8							
SONM				pPKPab		**pPKPab**	**17 07 12.3**	**+3.0**
	comp=Z,2.1nm,0.8s,baz=324,slow=4.3,SNR=3.4							
KSRS	**Korea Array**	**162.08**	**302**	PKP		**PKPdf**	**17 06 11.1**	**0.0**
	comp=Z,3.0nm,1.0s,baz=186,slow=1.2,SNR=7.4							
KSAR	**Wonju Array Be**	**162.11**	**302**	PKP		**PKPdf**	**17 06 11.1**	**0.0**
CMAR	**Chiang Mai Arr**	**165.95**	**138**	PKP		**PKPdf**	**17 06 15.9**	**+0.7**
CMAR				PKPab		**PKPab**	**17 07 14.1**	**-1.1**
CMAR	**Chiang Mai Arr**	**165.95**	**138**	PKP		**PKPdf**	**17 06 15.9**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=252,slow=3.0,SNR=4.5							
CMAR				PKPab		**PKPab**	**17 07 14.1**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=246,slow=5.2,SNR=4.5							
GTA	**Gaotai**	**167.55**	**34**	*e*PKP		**PKPdf**	**17 06 17.4**	**+1.4**
GTA				PKPab		**PKPab**	**17 07 22.9**	**+1.0**
GTA				PP		**PP**	**17 11 12.9**	**+2.8**
GTA				SKS		**SKSdf**	**17 13 16.1**	**+0.2**
GTA				SKKS		**SKKSac**	**17 17 54.3**	**+0.6**
GTA				SS		**SS**	**17 31 51.6**	**-1.8**
GTA				AMB	AMB			
	comp=Z,490nm,6.6s							
GTA				LR	LR			
	comp=N,130nm,19.5s							
GTA				LR	LR			
	comp=E,140nm,20.0s							
GTA				LR	LR			
	comp=Z,270nm,22.8s							
HHC	**Hu-ho-hao-te**	**168.29**	**349**	*e*PKP		**PKPdf**	**17 06 17.4**	**+1.0**
HHC				pPKP		**pPKPdf**	**17 06 27.8**	**-3.6**
HHC				sPKP			17 06 32.6	
HHC				PKS		**PKSdf**	**17 09 49.2**	**+0.2**
HHC				PP	PP		17 11 20.3	+7.0
HHC				SKS		**SKSdf**	**17 13 15.4**	**-0.8**
HHC				SKKS		**SKKSac**	**17 18 00.6**	**+3.5**
HHC				SS		**SS**	**17 32 03.7**	**+3.9**
HHC				AMB	AMB			
	comp=Z,2μm,9.4s							
HHC				LR	LR			
	comp=N,440nm,14.4s							
HHC				LR	LR			
	comp=E,340nm,16.8s							
HHC				LR	LR			
	comp=Z,220nm,13.2s							
QIZ	**Qiongzhong**	**169.68**	**186**	PKP		**PKPdf**	**17 06 18.2**	**+0.4**
QIZ				pPKP		**pPKPdf**	**17 06 28.8**	**-4.0**
QIZ				PP		**PP**	**17 11 22.2**	**+2.1**
QIZ				SS		SS	17 32 18.2	+4.9
QIZ				LR	LR			
	comp=Z,170nm,31.2s							
LZH	**Lanzhou**	**172.11**	**30**	*e*PKP		**PKPdf**	**17 06 17.1**	**-1.7**
LZH				pPKP		**pPKPdf**	**17 06 34.2**	**+0.4**
LZH				sPKP			17 06 43.6	
LZH				PKPab		**PKPab**	**17 07 40.4**	**-1.8**
LZH				LR	LR			
	comp=N,160nm,17.7s							
LZH				LR	LR			
	comp=E,150nm,18.6s							
LZH				LR	LR			
	comp=Z,280nm,20.2s							
KMI	**Kunming**	**173.20**	**127**	PKP		**PKPdf**	**17 06 18.4**	**-1.3**
KMI				PP		**PP**	**17 11 37.5**	**-1.7**
KMI				AMB	AMB			
	comp=Z,350nm,9.7s							
KMI				LR	LR			
	comp=Z,190nm,19.6s							
CD2	**Chengdu**	**175.41**	**69**	PKP		**PKPdf**	**17 06 19.2**	**-0.8**
CD2				pPKP		**pPKPdf**	**17 06 34.1**	**-0.9**
CD2				sPKP			17 06 39.4	
CD2				PKPab		**PKPab**	**17 07 57.6**	**+0.5**
CD2				PKS		**PKSdf**	**17 09 50.0**	**-2.3**
CD2				PP		**PP**	**17 11 51.4**	**+1.3**
CD2				SKS		**SKSdf**	**17 13 15.4**	**-3.7**
CD2				SKKS		**SKKSac**	**17 18 30.8**	**-1.5**
CD2				SS		**SS**	**17 33 08.2**	**-4.3**
CD2				AMB	AMB			
	comp=Z,180nm,5.4s							
GYA	**Guiyang**	**176.59**	**147**	PKP		**PKPdf**	**17 06 19.2**	**-1.3**
GYA				sPKP			17 06 39.5	
GYA				PKPab		**PKPab**	**17 08 03.6**	**+1.3**
GYA				PKS		**PKSdf**	**17 09 50.0**	**-2.8**
GYA				PP		**PP**	**17 11 56.4**	**+1.8**
GYA				SKKS			17 18 36.2	
GYA				SS		**SS**	**17 33 18.9**	**-2.8**
GYA				AMB	AMB			
	comp=Z,120nm,8.2s							
GYA				LR	LR			
	comp=N,190nm,24.8s							
GYA				LR	LR			
	comp=E,170nm,25.0s							
GYA				LR	LR			
	comp=Z,150nm,23.4s							

*ISCJB **07** 16:55:53.9±0.5, 11°.70N±0°.03×125°.32E±0°.05, h70km±4km, mb3.9/16, Error ellipse: s-maj=9.1km s-min=4.7km az=164.5*
*MAN **07** 16:55:54, 11°.74N×125°.27E, h47km, mb5.0, ML3.9, MS4.0*
MAN INTENSITY II - BORONGAN.
*IDC **07** 16:55:58.3±3.5, 11°.60N×125°.21E, h100km±32km, mb3.7/15, mb1 3.9/15, mb1mx3.7/24, mbtmp3.7/15, Error ellipse: s-maj=29.8km s-min=11.5km az=69.0*
ISC 07 16:55:54.7±0.8, 11°.67N±0°.04×125°.29E±0°.06, h61km±6km, n46, σ1°47/50, mb4.0/16, 4C-3D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.16**	**116**	*e*P	**Pn**	**16 56 04.2**	**+0.1**
BESP				*e*S	**Sn**	**16 56 10.3**	**-0.6**
PLP	**Palo**	**0.59**	**211**	↓*e*P	**Pn**	**16 56 07.2**	**-0.5**
PLP				*i* S	**Sn**	**16 56 16.6**	**-0.6**
OCLP	**Ormoc**	**0.91**	**227**	*e*P	**Pn**	**16 56 12.5**	**+0.9**
CNP	**Catarman**	**1.03**	**324**	*e*P	**Pn**	**16 56 13.4**	**+0.2**
CNP				*e*S	**Sn**	**16 56 29.9**	**+3.0**
MSLP	**Maasin**	**1.59**	**195**	*e*P	**Pn**	**16 56 22.4**	**+1.8**
MMPH	**Masbate**	**1.77**	**293**	↑*e*P	**Pn**	**16 56 22.6**	**-0.3**
MMPH				*e*S	Sn	16 56 36.5	-7.9
LLP	**Lapu-Lapu**	**1.87**	**224**	↓*e*P	**Pn**	**16 56 24.2**	**-0.2**
LLP				*e*S	**Sn**	**16 56 45.5**	**-1.6**
TBP	**Tagbilaran**	**2.42**	**216**	*e*P	**Pn**	**16 56 32.7**	**+0.8**
BUTP	**Butuan**	**2.71**	**173**	*e*P	**Pn**	**16 56 36.5**	**+0.7**
GUIM	**Jordan**	**2.85**	**249**	*e*P	**Pn**	**16 56 37.8**	**+0.1**
AUQP	**San Andres**	**3.03**	**303**	*e*P	**Pn**	**16 56 41.9**	**+1.6**
CGP	**Cagayan de Oro**	**3.25**	**190**	↑*i*P	**Pn**	**16 56 46.2**	**+3.0**
CGP				*i* S	**Sn**	**16 57 24.1**	**+3.4**
OTRP	**Odiongan**	**3.27**	**282**	*e*P	**Pn**	**16 56 43.6**	**+0.1**
GQP	**Guinayangan**	**3.55**	**309**	↓*e*P	**Pn**	**16 56 48.0**	**+0.7**
GQP				*e*S	**Sn**	**16 57 28.3**	**+0.2**
DCPH	**Dipolog City**	**3.62**	**212**	↑*e*P	**Pn**	**16 56 49.0**	**+0.8**
BUKP	**Musuan**	**3.78**	**183**	*e*P	Pn	16 56 53.8	+3.3
SJMP	**San Jose**	**4.15**	**281**	*e*P	**Pn**	**16 56 56.8**	**+1.2**
PAGZ	**Pagadian**	**4.24**	**206**	*e*P	**Pn**	**16 56 59.3**	**+2.5**
CTBH	**Cotabato--PC H**	**4.54**	**193**	↑*i*P	**Pn**	**16 57 03.1**	**+2.2**
IPIL	**Ipil**	**4.70**	**215**	*e*P	**Pn**	**16 57 05.5**	**+2.4**
TGY	**Tagaytay City**	**4.88**	**300**	P	**Pn**	**16 57 08.7**	**+3.1**
	110nm,0.3s,baz=194,slow=8.3,SNR=3.4						
BUSP	**Coron**	**4.99**	**274**	*e*P	**Pn**	**16 57 07.7**	**+0.6**
BALP	**Baler**	**5.42**	**319**	*e*P	**Pn**	**16 57 13.2**	**+0.3**
ENPP	**El Nido**	**5.77**	**266**	*e*P	**Pn**	**16 57 18.8**	**+1.1**
PALP	**Palanan**	**6.03**	**333**	*e*P	**Pn**	**16 57 21.2**	**-0.1**
CAUP	**Cauayan**	**6.22**	**328**	*e*P	**Pn**	**16 57 24.4**	**+0.4**
SCZP	**Santa Cruz**	**6.63**	**309**	*e*P	Pn	16 57 32.9	+3.5
BOLP	**Bolinao**	**7.01**	**313**	*e*P	**Pn**	**16 57 37.1**	**+2.4**
APYP	**Conner**	**7.29**	**328**	*e*P	**Pn**	**16 57 39.9**	**+1.3**
ABRA	**Dolores**	**7.41**	**324**	*e*P	**Pn**	**16 57 42.5**	**+2.3**
CMAR	**Chiang Mai Arr**	**26.30**	**288**	P	**P**	**17 01 25.0**	**+0.2**
	1.7nm,0.6s,baz=98,slow=7.8,SNR=20						
FITZ	**Fitzroy Crossi**	**29.59**	**179**	P	**P**	**17 01 52.1**	**-2.0**
	2.3nm,0.9s,baz=347,slow=14,SNR=3.5						
WRA	**Warramunga Arr**	**32.66**	**164**	P	**P**	**17 02 20.0**	**-1.1**
	0.2nm,0.5s,baz=354,slow=8.5,SNR=5.7						
ASAR	**Alice Springs**	**36.12**	**167**	P	**P**	**17 02 51.0**	**-0.1**
	0.5nm,0.5s,baz=350,slow=7.1,SNR=16						
SONM	**Songino Array**	**39.38**	**340**	P	**P**	**17 03 18.7**	**+0.3**
	1.0nm,0.4s,baz=154,slow=9.6,SNR=12						
STKA	**Stephens Creek**	**46.03**	**161**	P	**P**	**17 04 12.2**	**-0.1**
	2.0nm,0.8s,baz=330,slow=8.4,SNR=5.3						
PETK	**Petropavlovsk-**	**48.78**	**25**	P	**P**	**17 04 34.8**	**+1.3**
	2.1nm,0.8s,baz=121,slow=8.4,SNR=52						
MKAR	**Makanchi Array**	**50.33**	**323**	P	**P**	**17 04 45.3**	**-0.1**
	4.8nm,0.8s,baz=188,slow=8.8,SNR=4.0						
ZALV	**Zalesovo Beam**	**52.94**	**331**	P	**P**	**17 05 04.0**	**-0.7**
	3.9nm,0.7s,baz=121,slow=7.1,SNR=22						
ILAR	**Eielson Array**	**78.61**	**26**	P	**P**	**17 07 48.8**	**-0.9**
	0.4nm,0.7s,baz=118,slow=5.2,SNR=5.4						
JOF	**Joensuu**	**81.51**	**333**	*ep*	**P**	**17 08 04.9**	**-0.4**
	2.1nm,0.6s						
ARCES	**ARCESS Array B**	**82.55**	**340**	P	**P**	**17 08 09.3**	**-1.3**
	2.6nm,0.6s,baz=74,slow=7.1,SNR=14						
BRTR	**Keskin Array B**	**83.90**	**309**	P	**P**	**17 08 17.1**	**-1.3**
	1.0nm,0.7s,baz=103,slow=5.6,SNR=4.6						
FINES	**FINESS Array B**	**84.21**	**332**	P	**P**	**17 08 18.6**	**-0.7**
	1.8nm,0.5s,baz=73,slow=5.3,SNR=9.6						
VNDA	**Vanda**	**91.44**	**173**	P	**P**	**17 08 53.5**	**-0.1**
	0.7nm,0.9s,baz=324,slow=4.0,SNR=4.8						
GERES	**GERESS Array B**	**95.00**	**322**	P	**P**	**17 09 09.7**	**-1.2**
	0.4nm,0.6s,baz=15,slow=8.1,SNR=3.0						

*NIED **07** 16:59:00, 24°.10N×122°.40E, h38km, Mw4.8 Best double couple: M0 1.50000×10^16 NP1:φs249.00000°, δ89.00000°, λ-78.00000°. NP2:φs343.00000°, δ12.00000°, λ-176.00000°.*
*DJA **07** 16:59:02.2±0.6, 24°N±7°×12°3E±°, h10km, M4.8/8, mb4.6/8, MLv4.8/1*
*IDC **07** 16:59:03.0±0.5, 24°.13N×122°.59E, h0km, mb4.6/25, mb1 4.6/26, mb1mx4.6/31, mbtmp4.5/26, ML3.8/1, MS4.2/8, Ms1 4.2/8, ms1mx3.5/53, Error ellipse: s-maj=15.9km s-min=13.6km az=84.0*
*BJI **07** 16:59:03.7, 24°.02N×122°.38E, h6km, mB4.6/26, mb4.5/38, ML4.3/8, Ms4.4/35, Ms7 4.2/33*
*NEIC **07** 16:59:04.3±1.8, 24°.03N×122°.60E, h8km±11km, mb4.9/14, ML4.9(TAP), Error ellipse: s-maj=7.5km s-min=6.5km az=107.0*
NEIC Recorded [1 TAP] in Hua-lien, I-lan and T'ai-tung.
*BKK **07** 16:59:05.5±0.6, 24°N±7°×12°3E±°, h10km, M4.8/13, mB6.5/1, mb4.6/13, MLv4.8/1, Mw(mB)6.3/1*
*MOS **07** 16:59:06.3±0.9, 24°.12N×122°.63E, h33km, mb5.0/19, Error ellipse: s-maj=11.0km s-min=6.9km az=111.0*
*TAP **07** 16:59:07.3, 23°.96N×122°.48E, h26km, ML4.9, C*
*ISCJB **07** 16:59:07.8±0.2, 23°.93N±0°.02×122°.53E±0°.01, h45km±2km, mb4.6/74, MS4.3/12, Error ellipse: s-maj=2.8km s-min=2.0km az=156.3*
*JMA **07** 16:59:07.8±0.2, 24°.06N×122°.42E, h42km, M4.8*
ISC 07 16:59:05.3±0.4, 23°.95N±0°.02×122°.54E±0°.02, h16km±2km, n267, σ1°63/350, mb4.7/74, MS4.5/13, 22C-36D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.67**	**40**	↓*i*P	**Pn**	**16 59 20.9**	**+0.7**
	baz=52						
YOJ				*i* S	**Sn**	**16 59 30.0**	**-0.3**
	baz=52						
YOJ	**Yonaguni jima**	**0.67**	**40**	P	**Pn**	**16 59 20.9**	**+0.7**
YOJ				*e*S	**Sn**	**16 59 30.1**	**-0.3**
HWA	**Hwalien**	**0.85**	**272**	↓*i*P	**Pg**	**16 59 22.3**	**+0.3**
	baz=259						
HWA				*e*S	**Sb**	**16 59 33.4**	**+0.4**
	baz=259						
ENA	**Nanau**	**0.87**	**303**	↑*i*P	**Pn**	**16 59 22.7**	**-0.2**
	baz=305						
TWD	**Chiawan**	**0.87**	**279**	↓*i*P	**Pb**	**16 59 22.2**	**+0.2**
	baz=279						
TWD				S	**Sb**	**16 59 33.2**	**-0.3**
	baz=279						
NACB	**Ninganchiao**	**0.89**	**285**	*e*P	**Pb**	**16 59 22.3**	**-0.1**
TWC	**Suao**	**0.91**	**316**	↑*i*P	**Pn**	**16 59 23.3**	**-0.2**
	baz=319						
TWC				*e*S	**Sb**	**16 59 34.3**	**-0.3**
	baz=319						
ESL	**Shilin**	**1.02**	**263**	↓*i*P	**Pb**	**16 59 24.0**	**-0.7**
	baz=261						
ESL				S	**Sb**	**16 59 36.3**	**-1.5**
	baz=261						
ILA	**Ilan**	**1.09**	**319**	↓*i*P	**Pg**	**16 59 27.2**	**+0.8**
	baz=321						
ILA				*e*S	**Sn**	**16 59 42.2**	**+1.5**
	baz=321						
TWE	**Neicheng**	**1.10**	**314**	↑*i*P	**Pg**	**16 59 27.0**	**+0.3**
	baz=316						
TWE				*e*S	**Sn**	**16 59 42.8**	**+1.7**
	baz=316						
ENTT	**Nioudou**	**1.12**	**308**	↓*i*P	**Pg**	**16 59 27.1**	**+0.1**
	baz=295						
IRIF	**Iriomote-Funau**	**1.16**	**70**	P	**Pg**	**16 59 28.9**	**+1.2**
IRIF				*e*S	**Sg**	**16 59 44.9**	**+2.1**
HATJ	**Hateruma jima**	**1.16**	**84**	P	**Pg**	**16 59 29.3**	**+1.5**
HATJ				*e*S	**Sg**	**16 59 45.7**	**+2.6**
TWB1	**Santiao Chiao**	**1.17**	**335**	↓*i*P	**Pg**	**16 59 27.8**	**-0.1**
	baz=337						
NNS	**Nan Shan**	**1.17**	**295**	↓*i*P	**Pn**	**16 59 27.4**	**+0.2**
	baz=284						
WHF	**Hehuan Shan**	**1.18**	**280**	↓*i*P	**Pn**	**16 59 27.3**	**-0.3**
	baz=267						
WHF				*e*S	**Sb**	**16 59 41.5**	**-1.3**
	baz=267						
EHY	**Hungye**	**1.20**	**249**	↓*i*P	**Pn**	**16 59 27.1**	**-0.4**
	baz=247						
EHY				S	**Sb**	**16 59 41.6**	**-1.3**
	baz=247						
YULB	**Yu-li**	**1.27**	**244**	*e*P	**Pn**	**16 59 28.0**	**-0.4**
YHNB	**Yeheng**	**1.28**	**304**	*e*P	**Pb**	**16 59 29.1**	**0.0**
TWT	**Tachien**	**1.28**	**284**	↓*i*P	**Pb**	**16 59 29.3**	**+0.1**
	baz=272						
TWT				S	**Sb**	**16 59 45.5**	**0.0**
	baz=272						
TWF1	**Yuli**	**1.28**	**243**	↑*i*P	**Pn**	**16 59 28.4**	**-0.2**
	baz=241						
TWF1				*e*S	**Sb**	**16 59 42.8**	**-2.6**
	baz=241						
NSK	**Sanguang**	**1.30**	**304**	↓*i*P	**Pb**	**16 59 29.5**	**+0.1**
	baz=292						
NSK				*e*S	**Sb**	**16 59 46.0**	**+0.2**
	baz=292						
NWF	**Wu-fen Shan**	**1.31**	**328**	↓*i*P	**Pg**	**16 59 30.2**	**-0.5**
	baz=330						
TWA	**Mucha**	**1.34**	**320**	↓*i*P	**Pg**	**16 59 30.9**	**-0.4**
	baz=322						
TWA				*e*S	**Sb**	**16 59 47.6**	**+0.4**
	baz=322						
CHKT	**Chengkung**	**1.37**	**232**	↑*i*P	**Pn**	**16 59 28.9**	**-0.9**
	baz=218						
CHKT				*e*S	**Sn**	**16 59 44.0**	**-3.6**
	baz=218						
JKRS	**Kuro-shima**	**1.38**	**78**	P	**Pg**	**16 59 32.6**	**+0.8**
JKRS				*e*S	**Sg**	**16 59 51.3**	**+1.5**
TATO	**Taipei**	**1.40**	**317**	*e*P	**Pb**	**16 59 31.2**	**+0.1**
TAP1	**Taipei**	**1.43**	**320**	↓*e*P	**Pb**	**16 59 31.8**	**+0.3**
	baz=321						
TAP1				*e*S	**Sg**	**16 59 51.3**	**-0.1**
	baz=321						
TAP	**Taipei**	**1.44**	**319**	*e*P	**Pb**	**16 59 32.1**	**+0.3**
	baz=321						
TAP				*e*S	**Sg**	**16 59 51.6**	**-0.1**
	baz=321						
SSLB	**Suanglung**	**1.46**	**264**	*e*P	**Pn**	**16 59 30.9**	**-0.2**
SSLB				*e*S	**Sn**	**16 59 48.7**	**-1.2**
SMLT	**Sun Moon Lake**	**1.50**	**268**	↓*i*P	**Pn**	**16 59 32.2**	**+0.5**
	baz=267						
SMLT				S	**Sn**	**16 59 50.1**	**-0.9**
	baz=267						
JIJ	**Ishigaki jima**	**1.52**	**74**	P	**Pg**	**16 59 33.9**	**-0.8**
JIJ				*e*S	**Sg**	**16 59 53.8**	**-0.7**
YUS	**Yu-Shan**	**1.52**	**253**	↓*i*P	**Pn**	**16 59 32.7**	**+0.3**
	baz=251						
YUS				S	**Sn**	**16 59 50.8**	**-1.4**
	baz=251						
TWS1	**Kuangyinshan**	**1.53**	**319**	↓*i*P	**Pb**	**16 59 33.5**	**+0.1**
	baz=336						
TYC	**Yuchr**	**1.54**	**269**	↓*i*P	**Pn**	**16 59 32.7**	**+0.6**
	baz=268						
TYC				*e*S	**Sn**	**16 59 50.9**	**-0.9**
	baz=268						
NSTT	**Nanjuang**	**1.56**	**296**	↓*i*P	**Pb**	**16 59 34.1**	**+0.3**
	baz=284						
NSTT				S	**Sb**	**16 59 53.0**	**-0.3**
	baz=284						

baz=267
WTCT *e*S **Sn** **17 00 06.8 +1.9**
baz=267
JTJ **Tarama** **2.09 70** P **Pb** **16 59 42.1 -0.8**
LAY **Lan-yu** **2.11 206**⇑*i*P **Pn** **16 59 39.1 -0.9**
baz=204
LAY *e*S **Sn** **17 00 02.6 -3.3**
baz=204
WSF **Szhu** **2.14 262** P **Pb** **16 59 42.6 -1.2**
baz=261
WSF S **Sn** **17 00 08.5 +1.7**
baz=261
CHN3 **Shinhua** **2.18 247** *e*P **Pb** **16 59 43.8 -0.6**
baz=246
CHN3 *e*S **Sb** **17 00 11.0 -0.1**
baz=246
TAW **Tawu** **2.19 224** ⇑P **Pn** **16 59 40.8 -0.3**
baz=232
CHN8 **Yiju** **2.22 255** P **Pb** **16 59 43.2 +1.8**
baz=254
CHN8 *e*S **Sn** **17 00 10.0 +1.5**
baz=254
SGLT **Jiouru** **2.24 237** *e*P **Pb** **16 59 45.1 -0.4**
baz=236
SGLT *e*S **Sb** **17 00 12.6 -0.4**
baz=236
TWM1 **Shoushan** **2.24 240** P **Pb** **16 59 45.2 -0.3**
baz=239
TWM1 *e*S **Sb** **17 00 13.6 +0.5**
baz=239
SCLT **Jiali** **2.28 251** P **Pn** **16 59 44.6 +2.2**
baz=250
SCLT S **Sn** **17 00 12.4 +2.2**
baz=250
TAI1 **Yung-k'ang** **2.31 247** P **Pb** **16 59 45.2 -1.3**
baz=246
TAI1 *e*S **Sn** **17 00 12.7 +2.0**
baz=246
SCZT **Fangliau** **2.36 229** ⇓P **Pn** **16 59 44.4 +0.9**
baz=219
KAU **Kaohsiung** **2.47 237** *e*P **Pb** **16 59 48.2 -1.1**
baz=235
TSEB **Hengchuen, Pin** **2.54 217** *e*P **Pn** **16 59 46.7 +0.8**
baz=225
TSEB *e*S **Sn** **17 00 17.0 +0.5**
baz=225
HEN **Hengchun** **2.55 221**⇑*i*P **Pn** **16 59 47.0 +0.9**
baz=220
HEN *e*S **Sn** **17 00 16.4 -0.3**
baz=220
TWP **Hsiaoliuchiu** **2.56 232** *e*P **Pb** **16 59 49.9 -1.1**
baz=245
JMJ **Miyako jima 2** **2.66 71** *e*P **Pb** **16 59 50.6 -1.9**
baz=72
JMJ **Miyako jima 2** **2.66 71** P **Pb** **16 59 50.8 -1.8**
JMJ *e*S **Sb** **17 00 22.4 -2.5**
JOGS **Gusukube** **2.74 72** P **Pb** **16 59 52.0 -1.9**
JOGS *e*S **Sb** **17 00 24.8 -2.5**
QZH **Quanzhou** **3.73 286**⇑*i*Pn **Pn** **17 00 02.3 0.0**
QZH Sn **Sn** **17 00 43.1 -2.8**
QZH smax smax
comp=N,1μm,0.7s
QZH smax smax
comp=E,810nm,1.0s
QZH LR LR
comp=N,2μm,9.6s
QZH LR LR
comp=E,5μm,14.7s
QZH LR LR
comp=Z,4μm,13.8s
KNM **Kinmen** **3.78 278**⇓*e*P **Pn** **17 00 04.9 +2.0**
baz=277
JKE **Kume jima 2** **4.52 58** P **Pn** **17 00 14.9 +1.8**
JKE *e*S **Sn** **17 01 07.7 +2.3**
JAGN **Aguni-jima** **5.00 57** P **Pn** **17 00 21.5 +1.7**
JJT2 **Tamagusuku 2** **5.20 64** P **Pn** **17 00 25.3 +2.7**
JJT2 *e*S **Sn** **17 01 25.6 +3.3**
JIH **Iheya** **5.79 57** P Pn 17 00 20.8 -10
PIP **Pasuquin** **5.88 198**⇑*i*P **Pn** **17 00 33.0 +1.2**
JOW **Kunigami** **5.93 60** *e*P Pn 17 00 25.4 -7.1
comp=Z,42nm,0.6s
JOW **Kunigami** **5.93 60** P Pn 17 00 26.8 -5.7
APYP **Conner** **6.18 192** *e*P **Pn** **17 00 36.5 +0.6**
APYP *e*S **Pb** **17 00 51.5 -1.1**
SIPP **Brgy, Tapao** **6.30 198**⇑*e*P **Pn** **17 00 39.6 +1.9**
ABRA **Dolores** **6.50 196** *e*P **Pn** **17 00 42.6 +2.2**
PALP **Palanan** **6.85 181** *e*P **Pn** **17 00 47.3 +2.1**
CAUP **Cauayan** **7.00 186** *e*P **Pn** **17 00 50.3 +3.0**
BOLP **Bolinao** **7.92 199** *e*P **Pn** **17 01 01.7 +1.8**
JMZ **Minamidaito 2** **8.10 75** P **Pn** **17 01 01.3 -1.1**
BALP **Baler** **8.22 186** *e*P **Pn** **17 01 06.1 +2.2**
GZH **Guangzhou** **8.48 266** P Pn 17 01 04.0 -3.6
GZH S Sn 17 02 28.4 -15
GZH smax smax
comp=N,220nm,1.0s
GZH smax smax
comp=E,140nm,0.9s
SCZP **Santa Cruz** **8.50 197** *e*P **Pn** **17 01 08.8 +1.0**
NJ2 **Nanjing** **8.70 339** *e*P **Pn** **17 01 11.2 +0.6**
NJ2 S **Sn** **17 02 46.4 -2.0**
NJ2 smax smax
comp=N,120nm,1.2s
NJ2 smax smax
comp=E,170nm,1.3s
NJ2 LR LR
comp=N,2μm,8.4s
NJ2 LR LR
comp=E,2μm,11.7s
NJ2 LR LR
comp=Z,2μm,13.6s
JNU **Nakatsue** **11.71 37** LR LR 17 06 36.3
comp=Z,440nm,19.9s,baz=228,slow=39
QIZ **Qiongzhong** **12.79 250** P **Pn** **17 02 06.9 +0.3**
QIZ S **Sn** **17 04 33.1 +4.4**
QIZ pmax pmax
comp=Z,7.0nm,1.5s
QIZ **Qiongzhong** **12.79 250** *e*P **Pn** **17 02 08.9 +2.2**
ENH **Enshi** **13.21 301** *e*P **Pn** **17 02 14.4 +2.0**
comp=Z,13nm,1.1s
INCN **Inchon** **13.94 14** P **P** **17 02 29.1 -1.3**
comp=Z,42nm,0.8s
KSAR **Wonju Array Be** **14.21 18** Pn Pn 17 02 29.4 +3.5
KSRS **Korea Array** **14.23 18** Pn Pn 17 02 29.4 +3.2
comp=Z,0.9nm,0.3s,baz=193,slow=11,SNR=48
KSRS LR LR 17 08 38.7
comp=Z,589nm,19.7s,baz=220,slow=41
GYA **Guiyang** **14.59 283** P **Pn** **17 02 32.4 +1.1**
GYA PP **PnPn** **17 02 43.7 +4.5**
GYA SS **S** **17 05 31.6 -0.4**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.6s
GYA LR LR
comp=N,460nm,15.3s
GYA LR LR
comp=E,380nm,16.0s
GYA LR LR
comp=Z,420nm,15.4s
CGP **Cagayan de Oro** **15.55 172**⇓*e*P Pn 17 02 37.7 -6.3
XAN **Xi'an** **15.57 313** P **P** **17 02 49.8 +1.3**
XAN pmax pmax
comp=Z,6.0nm,1.0s
XAN pmax pmax
comp=Z,11nm,4.6s
XAN LR LR
comp=N,250nm,13.6s
XAN LR LR
comp=E,250nm,14.5s
XAN LR LR
comp=Z,240nm,13.4s
BJI **Beijing** **16.92 343** P **Pn** **17 03 01.7 +0.3**
BJI S **Sn** **17 06 04.2 -4.9**
BJI pmax pmax
comp=Z,9.0nm,0.5s
BJI LR LR
comp=N,500nm,10.8s
BJI LR LR
comp=E,510nm,23.9s
BJI LR LR
comp=Z,400nm,21.0s
CD2 **Chengdu** **18.04 297** P **P** **17 03 17.2 +1.3**
CD2 pP **pP** **17 03 20.8 +0.4**
CD2 sP **sP** **17 03 24.2 +1.7**
CD2 PP **PnPn** **17 03 32.1 +5.5**
CD2 S **Sn** **17 06 35.8 -0.8**
CD2 sS **S** **17 06 41.2 -1.2**
CD2 SS **SnSn** **17 06 58.7 +8.4**
CD2 pmax pmax
comp=Z,50nm,0.5s
CD2 pmax pmax
comp=Z,260nm,5.0s
CD2 LR LR
comp=N,800nm,15.7s
CD2 LR LR
comp=E,660nm,13.2s
CD2 LR LR
comp=Z,1μm,16.2s
KMI **Kunming** **18.05 278** P **P** **17 03 17.2 +0.9**
KMI pP **pP** **17 03 19.9 -0.9**
KMI sP **sP** **17 03 21.1 -1.7**
KMI PP **PnPn** **17 03 32.6 +5.7**
KMI S **Sn** **17 06 36.0 -1.1**
KMI sS **S** **17 06 40.1 -2.9**
KMI SS **SnSn** **17 06 56.6 +5.8**
KMI pmax pmax
comp=Z,11nm,0.5s
KMI pmax pmax
comp=Z,200nm,8.8s
KMI LR LR
comp=N,870nm,13.8s
KMI LR LR
comp=E,750nm,13.8s
KMI LR LR
comp=Z,650nm,11.9s
PANO **Nakornpanom** **18.09 251** P P 17 03 24.2 +7.8
comp=Z,2μm,1.0s,comp=Z,25μm
MJAR **Matsushiro Arr** **18.43 43** P **P** **17 03 19.1 -1.1**
MJAR **Matsushiro Arr** **18.43 43** P **P** **17 03 19.1 -1.1**
comp=Z,0.3nm,0.3s,baz=244,slow=13,SNR=6.2
HHC **Hu-ho-hao-te** **19.20 334** *e*P **Pn** **17 03 29.7 +0.1**
HHC pP **pP** **17 03 32.9 -0.3**
HHC sP **sP** **17 03 35.9 +0.7**
HHC PP **PnPn** **17 03 45.9 +3.4**
HHC S **Sn** **17 07 00.7 -3.8**
HHC sS **S** **17 07 04.7 -1.1**
HHC SS **SnSn** **17 07 26.7 +7.9**
HHC PcP **PcP** **17 07 52.6 +0.7**
HHC ScP **ScP** **17 11 27.4 +0.2**
HHC pmax pmax
comp=Z,30nm,1.4s
HHC pmax pmax
comp=Z,410nm,5.0s
HHC LR LR
comp=N,2μm,13.0s
HHC LR LR
comp=E,1μm,15.0s
HHC LR LR
comp=Z,2μm,16.0s
CN2 **Changchun** **19.95 6** *e*P **P** **17 03 37.0 +0.4**
CN2 PP **PnPn** **17 03 56.3 +3.7**
CN2 *e*S **S** **17 07 16.3 -4.2**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,90nm,5.0s
CN2 LR LR
comp=N,900nm,14.0s
CN2 LR LR
comp=E,400nm,14.0s
CN2 LR LR
comp=Z,900nm,14.0s
LZH **Lanzhou** **20.17 311** ⇑P Pn 17 03 41.1 -0.1
LZH pP pP 17 03 44.9 +1.1
LZH sP sP 17 03 48.7 +2.8
LZH PP **PnPn** **17 04 02.2 +6.4**
LZH *e*S **S** **17 07 21.7 -3.6**
LZH sS Sn 17 07 27.1 -0.9
LZH SS SnSn 17 07 53.0 +10
LZH pmax pmax
comp=Z,40nm,1.3s
LZH pmax pmax
comp=Z,150nm,6.4s
LZH LR LR
comp=N,500nm,13.0s
LZH LR LR
comp=E,630nm,12.2s
LZH LR LR
comp=Z,990nm,13.8s
VLA **Vladivostok** **20.62 20**⇓*e*P **P** **17 03 43.4 -0.6**
VLA pmax pmax
comp=Z,12nm,1.7s
LOEI **Loei** **20.89 256** P **P** **17 03 48.7 +1.6**
comp=Z,66nm,1.1s
CHAI **Chaiyaphum** **20.90 251** P Pn 17 03 50.0 +0.3
comp=Z,7.5nm,0.9s
MDJ **Mudanjiang** **21.41 14** P **P** **17 03 52.2 -0.2**
MDJ pP **pP** **17 03 55.0 -2.0**
MDJ S **S** **17 07 50.0 +0.5**
MDJ sS **sS** **17 07 54.7 -2.0**
MDJ ScP **ScP** **17 11 32.9 +0.7**
MDJ PcS **PcS** **17 11 34.2 +0.4**
MDJ pmax pmax
comp=Z,4.0nm,0.6s
MDJ pmax pmax
comp=Z,13nm,3.5s
MDJ LR LR
comp=N,410nm,24.8s
MDJ LR LR
comp=E,310nm,17.4s
MDJ LR LR
comp=Z,630nm,15.1s
PBKT **Sadao Pong** **21.51 254** P **P** **17 03 55.8 +2.1**
comp=Z,13nm,1.0s
PBKT **Sadao Pong** **21.51 254** P P 17 03 58.8 +5.1
comp=Z,14nm,1.2s
USRK **Ussuriysk Arra** **21.64 19** P **P** **17 03 53.5 -1.3**
comp=Z,8.3nm,0.8s,baz=204,slow=10,SNR=18
LAMP **Lampang** **22.01 260** P **P** **17 04 02.4 +3.2**
comp=Z,7.9nm,0.9s
NAYO **Nakonayok** **22.19 248** P P 17 04 06.4 +5.3
comp=Z,67nm,1.2s
CHTO **Chiang Mai** **22.55 261** *e*P **P** **17 04 06.3 +1.4**
CHTO pmax pmax
comp=Z,6.0nm,1.0s
CHTO **Chiang Mai** **22.55 261** *e*P **P** **17 04 06.3 +1.4**
comp=Z,5.9nm,1.0s
CHTO **Chiang Mai** **22.55 261** P **P** **17 04 05.9 +1.0**
comp=Z,6.8nm,2.8s
CHTO **Chiang Mai** **22.55 261** P P 17 04 13.5 +8.6
comp=Z,6.3nm,1.2s
CMAR **Chiang Mai Arr** **22.65 261** P **P** **17 04 07.6 +1.6**
CMAR PcP **PcP** **17 07 59.5 +0.8**
CMAR **Chiang Mai Arr** **22.65 261** P **P** **17 04 07.6 +1.6**
comp=Z,3.3nm,0.9s,baz=62,slow=9.2,SNR=16
CMAR PcP **PcP** **17 07 59.5 +0.8**
comp=Z,0.4nm,0.7s,baz=82,slow=3.6,SNR=4.8
CMAR LR LR 17 14 40.7
comp=Z,104nm,18.7s,baz=95,slow=41
GTOI **Gorontalo** **23.18 179** P **P** **17 04 10.5 -1.0**
comp=Z,51nm,0.9s
TNTI **Ternate** **23.51 168** P P 17 04 09.0 -5.8
comp=Z,116nm,1.2s
SBUM **Sibu** **23.59 207** P **P** **17 04 15.8 +0.3**
comp=Z,17nm,0.8s
GTA **Gaotai** **24.63 314** ⇑P **P** **17 04 25.0 -0.3**
GTA pP **pP** **17 04 29.4 -0.7**
GTA sP **sP** **17 04 32.1 0.0**
GTA S **S** **17 08 46.5 +0.4**
GTA sS **sS** **17 08 53.7 -0.4**
GTA pmax pmax
comp=Z,11nm,1.3s
GTA pmax pmax
comp=Z,100nm,4.5s
GTA LR LR
comp=N,420nm,18.5s
GTA LR LR
comp=E,510nm,18.1s
GTA LR LR
comp=Z,520nm,18.0s
ERM **Erimo** **24.87 39**⇓*e*P **P** **17 04 24.3 -2.9**
ERM pmax pmax
comp=Z,10.0nm,1.2s
ASAJ **Asahikawa** **25.97 34** P **P** **17 04 34.7 -2.5**
ASAJ **Asahikawa** **25.97 34** P **P** **17 04 34.7 -2.5**
comp=Z,2.7nm,0.4s,baz=245,slow=12,SNR=14
KLR **Kul'dur** **26.25 14** *e*P **P** **17 04 35.2 -4.5**
KLR MLR MLR
comp=Z,1μm,12.5s
ULN **Ulaanbaatar** **26.86 337** *e*P **P** **17 04 44.5 -0.9**
comp=Z,5.8nm,0.8s
ULN **Ulaanbaatar** **26.86 337** P **P** **17 04 44.3 -1.1**
comp=Z,9.6nm,0.8s
SONM **Songino Array** **27.08 336** P **P** **17 04 46.5 -0.8**
SONM PcP **PcP** **17 08 08.2 +0.1**
SONM **Songino Array** **27.08 336** P **P** **17 04 46.5 -0.8**
comp=Z,16nm,0.9s,baz=151,slow=8.3,SNR=46
SONM PcP **PcP** **17 08 08.2 +0.1**
comp=Z,0.9nm,0.5s,baz=161,slow=2.4,SNR=4.2
YSS **Yuzh-Sakhalins** **28.09 30** *e*P **P** **17 04 57.0 +0.8**
YSS *e* 17 05 56.0
YSS MLR MLR
comp=Z,200nm,17.0s
LSA **Lhasa** **28.54 288** *e*P **P** **17 05 01.6 +0.7**
LSA pmax pmax
comp=Z,7.0nm,0.6s
LSA **Lhasa** **28.54 288** *e*P **P** **17 05 01.6 +0.7**
comp=Z,6.8nm,0.6s
KAPI **Kappang** **28.92 186** LR LR 17 16 38.3
comp=Z,201nm,18.5s,baz=327,slow=36
TLY **Talaya** **31.26 337** *e*P **P** **17 05 23.8 -0.5**
TLY *e* 17 05 35.8
TLY pmax pmax
comp=Z,7.0nm,1.1s
MOY **Mondy** **32.24 335** *e*P **P** **17 05 32.9 -0.1**
WMQ **Urumqi** **34.71 313** P **P** **17 05 55.3 +0.7**
WMQ pP pP 17 06 05.1 +5.6
WMQ sP sP 17 06 09.1 +7.6
WMQ pmax pmax
comp=Z,9.0nm,0.8s
WMQ pmax pmax
comp=Z,120nm,11.4s
WMQ LR LR
comp=N,1μm,18.6s
WMQ LR LR
comp=E,680nm,17.8s
WMQ LR LR
comp=Z,820nm,20.9s
HVS **Khovu-Aksy** **35.07 328**⇑*i*P **P** **17 05 57.3 -0.4**
HVS pmax pmax
comp=Z,35nm,1.2s
MKAR **Makanchi Array** **39.37 316** P **P** **17 06 32.6 -1.6**
MKAR **Makanchi Array** **39.37 316** P **P** **17 06 32.5 -1.6**
MKAR **Makanchi Array** **39.37 316** P **P** **17 06 32.5 -1.6**
comp=Z,6.7nm,0.5s,baz=346,slow=1.3,SNR=35
PETK **Petropavlovsk-** **39.38 33** P **P** **17 06 32.3 -1.8**
PETK **Petropavlovsk-** **39.38 33** P **P** **17 06 32.2 -1.8**
PETK **Petropavlovsk-** **39.38 33** P **P** **17 06 32.2 -1.8**
comp=Z,2.4nm,0.8s,baz=154,slow=4.4,SNR=4.1
ZALV **Zalesovo Beam** **41.12 327** P **P** **17 06 46.2 -2.2**
ZALV 17 08 46.8
ZALV **Zalesovo Beam** **41.12 327** P **P** **17 06 46.2 -2.2**
ZALV PcP **PcP** **17 08 46.8 -1.0**
ZALV **Zalesovo Beam** **41.12 327** P **P** **17 06 46.2 -2.2**
comp=Z,23nm,0.7s,baz=128,slow=3.6,SNR=5.7
ZALV PcP **PcP** **17 08 46.8 -1.0**
comp=Z,2.3nm,0.6s,baz=120,slow=4.3,SNR=3.0
FITZ **Fitzroy Crossi** **41.91 176** P **P** **17 06 53.1 -2.1**
FITZ **Fitzroy Crossi** **41.91 176** P **P** **17 06 53.1 -2.1**
comp=Z,2.4nm,0.6s,baz=322,slow=9.0,SNR=12
COEN **Coen** **42.73 150** *e*P **P** **17 07 03.6 +1.5**
comp=Z,95nm,0.8s
WRAB **Tennant Creek** **45.11 164** *e*P **P** **17 07 21.6 +0.5**
WRAB pmax pmax
comp=Z,36nm,1.4s
WRAB **Tennant Creek** **45.11 164** *e*P **P** **17 07 21.6 +0.5**
comp=Z,36nm,1.4s
WRA **Warramunga Arr** **45.12 164** P **P** **17 07 21.9 +0.8**
WRA **Warramunga Arr** **45.12 164** P **P** **17 07 21.9 +0.8**
comp=Z,8.7nm,0.8s,baz=346,slow=8.5,SNR=27
KBL **Kabul** **47.38 296** *e*P **P** **17 07 40.4 +1.2**
KBL pmax pmax
comp=Z,5.0nm,0.5s
KBL **Kabul** **47.38 296** *e*P **P** **17 07 40.4 +1.2**
comp=Z,5.3nm,0.5s
TIXI **Tiksi** **47.86 3**⇓*e*P **P** **17 07 39.4 -2.7**
TIXI pmax pmax
comp=Z,7.0nm,1.2s
TIXI MLR MLR
comp=Z,634nm,19.0s
AS31 **Alice Springs** **48.60 166** *e*P **P** **17 07 49.6 +1.2**
ASAR **Alice Springs** **48.60 166** P **P** **17 07 49.8 +1.4**
ASAR **Alice Springs** **48.60 166** P **P** **17 07 49.8 +1.4**
comp=Z,3.4nm,0.4s,baz=344,slow=7.0,SNR=63
BRVK **Borovoye** **48.71 321***c**e*P **P** **17 07 48.2 -0.7**
BRVK pmax pmax
comp=Z,11nm,1.0s
ABKAR **Akbulak array** **54.49 314** *e*P **P** **17 08 32.0 -0.2**
SVE **Sverdlovsk** **54.96 324**⇑*e*P **P** **17 08 35.1 -0.4**
SVE pmax pmax
comp=Z,12nm,0.8s
ARU **Arti** **56.04 323***c**i*P **P** **17 08 41.9 -1.3**
ARU 17 09 37.3
ARU 17 10 43.8
ARU S **S** **17 16 27.3 -3.7**
ARU pmax pmax
comp=Z,11nm,1.0s
STKA **Stephens Creek** **58.43 161** *e*P **P** **17 09 02.5 +2.2**
STKA **Stephens Creek** **58.43 161** P **P** **17 09 01.1 +0.8**
comp=Z,5.3nm,0.6s,baz=342,slow=6.4,SNR=17
GNI **Garni** **65.95 305** P **P** **17 09 51.6 +0.5**
GNI **Garni** **65.95 305** P **P** **17 09 51.6 +0.5**
comp=Z,2.7nm,0.4s,baz=5.8,slow=22,SNR=3.9
ZEI **Tsey** **66.06 308** *e*P **P** **17 09 51.1 -0.7**
ZEI pmax pmax
comp=Z,22nm,1.0s
KBZ **Khabaz** **66.59 309** P **P** **17 09 55.0 +0.1**
KBZ **Khabaz** **66.59 309** P **P** **17 09 55.0 +0.1**
KBZ **Khabaz** **66.59 309** P **P** **17 09 55.0 +0.1**
comp=Z,11nm,0.9s,baz=170,slow=4.5,SNR=18
KIV **Kislovodsk** **66.69 309** *e*P **P** **17 09 56.1 +0.4**
KIV pmax pmax
comp=Z,23nm,1.0s
COLD **Coldfoot** **67.12 25** P **P** **17 09 58.6 +0.7**
KDAK **Kodiak Island** **67.38 35** P **P** **17 09 59.4 -0.3**
KDAK **Kodiak Island** **67.38 35** P **P** **17 09 59.4 -0.3**
comp=Z,2.8nm,0.4s,baz=174,slow=5.9,SNR=6.3
TRF **Thorofare Moun** **67.61 29** *e*P **P** **17 10 01.2 -0.1**
VORD **Divnogorie** **67.62 317** *e*P **P** **17 10 00.6 -0.7**
VORD pmax pmax
comp=N,30nm,0.7s
VORD pmax pmax
comp=E,80nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s
VSR **Storozhevoye** **67.65 318** *e*P **P** **17 10 00.6 -0.9**
VSR pmax pmax
comp=N,9.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
ILAR **Eielson Array** **68.85 27** P **P** **17 10 07.4 -1.4**
ILAR **Eielson Array** **68.85 27** P **P** **17 10 07.4 -1.4**
comp=Z,0.4nm,0.4s,baz=264,slow=4.8,SNR=8.2
JOF **Joensuu** **69.52 331** *ep* **P** **17 10 11.6 -1.3**
comp=Z,1.6nm,0.5s
JOF **Joensuu** **69.52 331** *e*P **P** **17 10 11.6 -1.3**
JOF pmax pmax
comp=Z,2.0nm,0.5s
ANN **Anapa** **70.18 311** *e*P **P** **17 10 16.5 -0.9**
ANN pmax pmax
comp=Z,38nm,1.3s
ARCES **ARCESS Array B** **70.22 338** P **P** **17 10 16.4 -0.8**
ARCES **ARCESS Array B** **70.22 338** P **P** **17 10 16.4 -0.8**
comp=Z,2.4nm,0.6s,baz=69,slow=8.0,SNR=8.4
FINES **FINESS Array B** **72.27 330** P **P** **17 10 28.9 -0.8**
FINES **FINESS Array B** **72.27 330** P **P** **17 10 28.9 -0.8**
comp=Z,6.7nm,0.8s,baz=60,slow=6.1,SNR=25
INK **Inuvik** **72.98 22** P **P** **17 10 33.0 -0.8**
INK **Inuvik** **72.98 22** P **P** **17 10 33.0 -0.8**
comp=Z,3.9nm,0.9s,baz=340,slow=8.7,SNR=8.6
BR131 **Keskin Array S** **74.31 307** *e*P **P** **17 10 42.4 +0.1**
comp=Z,14nm,0.9s
BRTR **Keskin Array B** **74.31 307** P **P** **17 10 42.6 +0.3**
BRTR **Keskin Array B** **74.31 307** P **P** **17 10 42.6 +0.3**
comp=Z,12nm,0.8s,baz=109,slow=5.7,SNR=53
ANTO **Ankara** **74.88 307** *e*P **P** **17 10 45.3 -0.3**
ANTO pmax pmax
comp=Z,14nm,0.8s
ANTO **Ankara** **74.88 307** *e*P **P** **17 10 45.3 -0.3**
comp=Z,14nm,0.8s
HFS **Hagfors** **78.37 331** LR LR 17 45 17.6
comp=Z,353nm,21.9s,baz=232,slow=36
DLBC **Dease Lake** **78.52 31** P **P** **17 11 06.5 +0.7**
DLBC **Dease Lake** **78.52 31** P **P** **17 11 06.5 +0.7**
comp=Z,1.3nm,0.4s,baz=230,slow=10.0,SNR=4.9

KOLS	Kolonicke sedl	78.70	319	*e*P		P	17 11 07.6	+0.7
KOLS	Kolonicke sedl	78.70	319	*e*P		P	17 11 07.6	+0.7
NB2	NORSAR Subarra	79.01	332	P		P	17 11 07.1	-1.3
	comp=Z,1.8nm,0.6s,baz=58,slow=5.6							
NOA	NORSAR Array B	79.01	332	P		P	17 11 07.5	-0.9
NOA	NORSAR Array B	79.01	332	P		P	17 11 07.5	-0.9
	comp=Z,3.5nm,0.8s,baz=56,slow=5.6,SNR=10							
STHS	Stebnicka Huta	79.12	319	*e*P		P	17 11 08.7	-0.5
STHS				pmax	pmax			
	comp=Z,2.0nm,0.9s							
STHS	Stebnicka Huta	79.12	319	*e*P		P	17 11 08.7	-0.5
JMIC	Jan Mayen	79.37	345	LR		LR	17 45 55.9	
	comp=Z,222nm,20.9s,baz=76,slow=36							
KECS	Kecovo	79.97	319	*e*P		P	17 11 14.8	+1.0
KECS				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KECS	Kecovo	79.97	319	*e*P		P	17 11 14.8	+1.0
VYHS	Vyhne	80.95	319	*e*P		P	17 11 19.4	+0.3
VYHS				pmax	pmax			
	comp=Z,4.0nm,1.1s							
VYHS	Vyhne	80.95	319	*e*P		P	17 11 19.4	+0.3
KRLC	Kraliky	81.45	321	*e*P		P	17 11 24.3	+2.5
KRLC	Kraliky	81.45	321	*e*P		P	17 11 24.3	+2.5
DPC	Dobruska-Polom	81.59	322	*e*P		P	17 11 22.9	+0.4
DPC	Dobruska-Polom	81.59	322	*e*P		P	17 11 22.9	+0.4
VRAC	Vranov	81.91	321	LR		LR	17 48 09.9	
	comp=Z,355nm,19.9s,baz=230,slow=36							
YKW3	Yellowknife Ar	82.66	23	*e*P		P	17 11 26.9	-0.9
	comp=Z,0.1nm,0.6s							
YKA	Yellowknife Ar	82.70	23	P		P	17 11 27.6	-0.5
YKA	Yellowknife Ar	82.70	23	P		P	17 11 27.5	-0.5
	comp=Z,2.8nm,0.7s,baz=311,slow=5.1,SNR=29							
PRU	Pruhonice	82.77	322	*e*P		P	17 11 28.4	-0.2
PRU	Pruhonice	82.77	322	*e*P		P	17 11 28.4	-0.2
KHC	Kasperske Hory	83.73	321	*e*P		P	17 11 33.6	-0.1
KHC	Kasperske Hory	83.73	321	*e*P		P	17 11 33.6	-0.1
KHC				*e*pP		PcP	17 11 36.5	-1.3
GERES	GERESS Array B	83.81	321	P		P	17 11 34.5	+0.3
GERES	GERESS Array B	83.81	321	P		P	17 11 34.5	+0.3
	comp=Z,3.5nm,0.9s,baz=57,slow=4.9,SNR=23							
KMBO	Kilima Mbogo	86.14	267	P		P	17 11 46.7	+0.1
KMBO	Kilima Mbogo	86.14	267	P		P	17 11 46.7	+0.1
	comp=Z,2.2nm,0.8s,baz=234,slow=23,SNR=4.9							
CEL	Celeste	87.56	311	*e*P		P	17 11 53.5	+0.6
	comp=Z,4.9nm,0.7s							
CDF	Champ du Feu	87.66	323	*e*P		P	17 11 52.8	-0.5
	comp=Z,12nm,1.1s							
PAGF	Fort de Pagny	88.42	324	*e*P		P	17 11 56.5	-0.3
MEZF	Maizieres J'vi	88.82	324	*e*P		P	17 11 58.5	-0.1
SFTF	Sexfontaines	89.00	324	*e*P		P	17 11 59.1	-0.4
CABF	La Chapelle	89.34	322	*e*P		P	17 12 01.4	+0.1
LPG	La Plagne	89.60	321	*e*P		P	17 12 02.5	-0.2
	comp=Z,23nm,1.0s							
LPL	La Plagne	89.60	321	*e*P		P	17 12 02.4	-0.3
	comp=Z,25nm,1.1s							
LOR	Lormes	90.20	323	*e*P		P	17 12 05.3	+0.1
	comp=Z,14nm,0.9s							
NEW	Newport	90.49	35	*e*P		P	17 12 06.9	+0.3
	comp=Z,12nm,1.0s							
SMF	Signal de Mont	90.58	323	*e*P		P	17 12 06.3	-0.6
	comp=Z,24nm,1.0s							
AVF	Avril sur Loir	90.76	323	*e*P		P	17 12 07.1	-0.7
WALA	Waterton Lakes	91.64	33	*e*P		P	17 12 12.2	+0.3
	comp=Z,0.3nm,1.0s							
TCF	Toulx Ste Croi	91.69	323	*e*P		P	17 12 11.9	-0.2
	comp=Z,10nm,0.9s							
FRB	Frobisher Bay	92.16	5	P		P	17 12 12.6	-1.2
FRB	Frobisher Bay	92.16	5	P		P	17 12 12.6	-1.2
	comp=Z,1.4nm,0.3s,baz=28,slow=5.9,SNR=4.1							
BMO	Blue Mountains	92.47	38	*e*P		P	17 12 16.3	+0.4
	comp=Z,2.6nm,0.9s							
MOD	Modoc	92.47	42	*e*P		P	17 12 16.6	+0.6
	comp=Z,1.3nm,0.6s							
CAF	Calviac	92.61	322	*e*P		P	17 12 17.6	+1.2
	comp=Z,37nm,1.2s							
RJF	Les Rejaudoux	92.68	323	*e*P		P	17 12 16.9	+0.2
	comp=Z,27nm,1.0s							
FFC	Flin Flon	92.84	24	*i* P		P	17 12 17.3	+0.1
FFC	Flin Flon	92.84	24	*e*P		P	17 12 16.7	-0.5
	comp=Z,13nm,1.0s							
DLMT	Dillon	94.73	35	P		P	17 12 27.1	+0.8
	comp=Z,3.7nm,1.1s							
NVAR	Mina Array Bea	95.75	44	P		P	17 12 30.8	-0.5
NVAR	Mina Array Bea	95.75	44	P		P	17 12 30.8	-0.5
	comp=Z,1.1nm,0.8s,baz=284,slow=5.1,SNR=7.3							
ULM	Lac du Bonnet	98.67	24	LR		LR	18 04 00.8	
	comp=Z,730nm,19.5s,baz=259,slow=40							
OTAV	Otavalo	148.49	43	PKPbc		PKPab	17 18 54.7	-1.4
LPAZ	La Paz	167.42	55	PKP		PKPdf	17 19 13.4	+1.1
LPAZ	La Paz	167.42	55	PKP		PKPdf	17 19 13.4	+1.1
	comp=Z,1.1nm,1.0s,baz=354,slow=6.9,SNR=3.9							

CSEM ***07*** *17:12:19.2±0.2,34.51N×4.02W,h10km,ML2.8/5, Error ellipse: s-maj=6.0km s-min=4.2km az=99.0*
MDD ***07*** *17:12:19.6±0.5,34.52N×4.01W,h0km, mb3.8/1, Error ellipse: s-maj=6.3km s-min=3.5km az=120.0,PRXIMO*
IGIL ***07*** *17:12:19.6,34.30N×4.18W, h0km,ML2.1*
INMG ***07*** *17:12:19.4±0.9,34.37N×4.15W, h5km,ML2.1, Error ellipse: s-maj=9.2km s-min=6.6km az=58.0*
CNRM ***07*** *17:12:19.8,34.68N×4.15W,h17km,MD3.0*
ISC 07 17:12:17.6±1.4,34.47N±0.03×4.03W±0.04,h4km±11km, n43,σ1§27/85,Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TZK	Tazeka	0.40	199	P		Pn	17 12 30.0	-0.3
TZK				S		Sb	17 12 39.0	+5.1
TZK	Tazeka	0.40	199	*i* P		Pn	17 12 30.0	-0.3
TOU	Touzarine	0.54	25	P		Pg	17 12 28.0	0.0
TOU				S		Sg	17 12 35.0	-0.1
TOU	Touzarine	0.54	25	*i* P		Pg	17 12 28.0	0.0
TOU				*i* S		Sg	17 12 35.0	-0.1
TGT	Taghat	0.94	245	P		Pn	17 12 37.0	-0.6
TGT				S		Sn	17 12 50.0	-1.5
TGT	Taghat	0.94	245	*i* P		Pn	17 12 37.0	-0.6
TGT				*i* S		Sn	17 12 50.0	-1.5
ZAI	Zaio	1.17	64	P		Pn	17 12 40.0	-0.8
ZAI				S		Sb	17 12 56.0	0.0
ZAI	Zaio	1.17	64	*i* P		Pn	17 12 40.0	-0.8
ZAI				*i* S		Sb	17 12 56.0	0.0
MIF	Mishlifen	1.45	224	P		Pb	17 12 45.0	-0.3
MIF				S		Sb	17 13 04.0	-0.2
MIF	Mishlifen	1.45	224	*i* P		Pb	17 12 45.0	-0.3
MIF				*i* S		Sb	17 13 04.0	-0.2
CZD	Col de Zad	1.66	211	P		Pn	17 12 48.0	+0.2
CZD				S		Sb	17 13 11.0	+0.7
CZD	Col de Zad	1.66	211	*i* P		Pn	17 12 48.0	+0.2
CZD				*i* S		Sb	17 13 11.0	+0.7
ZFT	Errachidia	2.44	186	P		Pb	17 13 01.0	-1.2
ZFT				S		Sn	17 13 30.0	+1.1
ZFT	Errachidia	2.44	186	*i* P		Pb	17 13 01.0	-1.2
ZFT				*i* S		Sn	17 13 30.0	+1.1
EADA	Adamuz	3.72	353	P		Pn	17 13 17.3	+1.5
	0.3nm,0.2s,SNR=7.9							
EADA				S		Sn	17 14 00.7	+0.6
	0.4nm,0.2s,SNR=7.9							
EADA	Adamuz	3.72	353	P		Pn	17 13 17.3	+1.5
	0.3nm,0.2s,SNR=7.9							
EADA				S		Sn	17 14 00.7	+0.6
	0.4nm,0.2s,SNR=7.9							
EMIN	Mina Concepcio	3.93	328	P		Pn	17 13 20.7	+2.0
	0.8nm,0.3s,SNR=7.9							
EMIN				S		Sn	17 14 05.1	-0.1
	1.2nm,0.2s,SNR=7.9							
EMIN	Mina Concepcio	3.93	328	P		Pn	17 13 20.7	+2.0
	0.8nm,0.3s,SNR=7.9							
EMIN				S		Sn	17 14 05.1	-0.1
	1.2nm,0.2s,SNR=7.9							
EGRO	El Granado	4.15	319	P		Pn	17 13 22.4	+0.7
	1.6nm,0.2s,SNR=5.6							
EGRO				S		Sn	17 14 09.1	-1.5
	2.5nm,0.2s,SNR=7.9							
EGRO	El Granado	4.15	319	P		Pn	17 13 22.4	+0.7
	1.6nm,0.2s,SNR=5.6							
EGRO				S		Sn	17 14 09.1	-1.5
	2.5nm,0.2s,SNR=7.9							
PVAQ	Vaqueiros	4.19	315	*e*Pn		Pn	17 13 22.7	+0.5
PVAQ				*e*Sn		Sn	17 14 10.5	-1.1
PVAQ				A		A	17 14 14.2	
	3.4nm,0.2s							
PVAQ	Vaqueiros	4.19	315	Pn		Pn	17 13 22.7	+0.5
PVAQ				Sn		Sn	17 14 10.5	-1.1
	3.4nm,0.2s							
PBDV	Barranco-do-Ve	4.21	312	*e*Pn		Pn	17 13 23.3	+0.7
PBDV				*e*Sn		Sn	17 14 10.8	-1.4
PBDV				A		A	17 14 13.2	
	2.1nm,0.4s							
PBDV	Barranco-do-Ve	4.21	312	Pn		Pn	17 13 23.3	+0.7
PBDV				Sn		Sn	17 14 10.8	-1.4
	2.1nm,0.4s							
PBDV	Barrancos	4.21	312	Pn		Pn	17 13 23.3	+0.7
PBDV				*e*Sn		Sn	17 14 10.8	-1.4
	2.1nm,0.4s							
PBAR	Barrancos	4.43	328	*e*Pn		Pn	17 13 27.4	+1.9
PBAR				*e*Sn		Sn	17 14 16.8	-0.7
PBAR				A		A	17 14 19.4	
	1.7nm,0.4s							
PBAR	Barrancos	4.43	328	Pn		Pn	17 13 27.4	+1.9
PBAR				Sn		Sn	17 14 16.8	-0.7
	1.7nm,0.4s							
PBAR	Barrancos	4.43	328	Pn		Pn	17 13 27.4	+1.9
PBAR				*e*Sn		Sn	17 14 16.8	-0.7
	1.7nm,0.4s							
PCVE	Castro Verde	4.53	315	*e*Pn		Pn	17 13 27.6	+0.6
PCVE				*e*Sn		Sn	17 14 19.2	-0.9
PCVE				A		A	17 14 22.3	
	2.7nm,0.5s							
PCVE	Castro Verde	4.53	315	Pn		Pn	17 13 27.6	+0.6
PCVE				Sn		Sn	17 14 19.2	-0.9
	2.7nm,0.5s							
PCVE	Castro Verde	4.53	315	Pn		Pn	17 13 27.6	+0.6
PCVE				*e*Sn		Sn	17 14 19.2	-0.9
	2.7nm,0.5s							
MESJ	Messejana	4.78	316	*e*P		Pn	17 13 31.0	+0.7
MESJ				*e*S		Sn	17 14 23.8	-2.4
MESJ				AML		AML	17 14 28.5	
	comp=E,2.9nm,0.3s							
MESJ	Messejana	4.78	316	*e*P		Pn	17 13 31.0	+0.7
MESJ				*e*S		Sn	17 14 23.8	-2.4
MESJ	Messejana	4.78	316	P		Pn	17 13 31.0	+0.7
MESJ				S		Sn	17 14 23.8	-2.4
MESJ	Messejana	4.78	316	P		Pn	17 13 31.0	+0.7
MESJ				S		Sn	17 14 23.8	-2.4
PTEO	Sao Teotonio	4.89	310	*e*Pn		Pn	17 13 32.8	+0.9
PTEO				*e*Sn		Sn	17 14 27.9	-1.0
PTEO	Sao Teotonio	4.89	310	Pn		Pn	17 13 32.8	+0.9
PTEO				Sn		Sn	17 14 27.9	-1.0
PTEO	Sao Teotonio	4.89	310	Pn		Pn	17 13 32.8	+0.9
PTEO				Sn		Sn	17 14 27.9	-1.0
PNCL	Nicolau / Gran	5.14	316	*e*Pn		Pn	17 13 36.3	+1.0
PNCL				*e*Sn		Sn	17 14 33.7	-1.4
PNCL				A		A	17 14 39.2	
	comp=E,1.8nm,0.4s							
PNCL				A		A	17 14 39.2	
	comp=E,1.8nm,0.4s							
PNCL	Nicolau / Gran	5.14	316	*e*Pn		Pn	17 13 36.3	+1.0
PNCL				*e*Sn		Sn	17 14 33.7	-1.4
	comp=E,1.8nm,0.4s							
PMTG	Montargil	5.69	325	*e*Pn		Pn	17 13 44.9	+2.0
PMTG				*e*Sn		Sn	17 14 49.5	+0.7
PMTG	Montargil	5.69	325	*e*Pn		Pn	17 13 44.9	+2.0
PMTG				*e*Sn		Sn	17 14 49.5	+0.7

IDC 07 17:17:39.5±7.6,21.69N×143.43E,h263km±73km,mb3.1/8, mb1 3.2/8,mb1mx3.0/25,mbtmp3.1/8,Error ellipse: s-maj=57.0km s-min=13.4km az=77.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSRS	Korea Array	20.66	323	P		P	17 21 59.8	+0.1
	1.6nm,0.7s,baz=145,slow=9.5,SNR=8.7							
CMAR	Chiang Mai Arr	41.81	274	P		P	17 25 04.1	+0.1
	0.2nm,0.7s,baz=100,slow=5.5,SNR=4.1							
WRA	Warramunga Arr	42.32	193	P		P	17 25 07.9	-0.1
	1.3nm,0.4s,baz=17,slow=9.9,SNR=32							
ASAR	Alice Springs	46.02	192	P		P	17 25 36.8	-0.5
	0.3nm,0.4s,baz=12,slow=8.5,SNR=14							
STKA	Stephens Creek	53.29	182	P		P	17 26 31.9	+0.3
	0.7nm,0.9s,baz=18,slow=6.4,SNR=4.3							
MKAR	Makanchi Array	54.88	313	P		P	17 26 42.8	-0.2
	0.2nm,0.5s,baz=95,slow=9.3,SNR=3.3							
ARCES	ARCESS Array B	79.01	342	P		P	17 29 14.4	+0.4
	2.5nm,0.9s,baz=54,slow=11,SNR=4.7							
FINES	FINESS Array B	83.29	335	P		P	17 29 36.2	-0.4
	1.0nm,0.7s,baz=27,slow=5.1,SNR=4.6							

NIED ***07*** *17:19:00,38.80N×143.40E,h17km,Mw3.9 Best double couple: M0 7.07000×10^14 NP1:φs 32.00000°,δ65.00000°, λ91.00000°. NP2:φs 209.00000°,δ25.00000°,λ87.00000°.*
IDC ***07*** *17:19:33.0±1.6,38.81N×143.55E,h0km,mb3.7/6, mb1 3.7/9,mb1mx3.6/26,mbtmp3.6/9,ML3.4/3,MS3.0/1, Ms1 3.0/1,ms1mx1.7/35,Error ellipse: s-maj=34.5km s-min=21.1km az=75.0*
ISCJB ***07*** *17:19:34.8±0.8,38.79N±0.06×143.39E±0.08,h20km, mb3.6/6,Error ellipse: s-maj=10.1km s-min=6.6km az=39.1*
JMA ***07*** *17:19:35.2±0.1,38.80N×143.37E,h28km±4km,M4.0*
ISC 07 17:19:36.7±1.2,38.88N±0.06×143.32E±0.10,h20km,n24, σ1§54/29,mb3.8/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OFUJ	Ofunato	1.30	279	P		Pn	17 19 59.0	-0.8
MIYJ	Miyakonagasawa	1.36	301	P		Pn	17 19 59.8	-0.7
JIO	Ouri	1.60	255	P		Pn	17 20 02.6	-1.3
JIO				*e*S		Sn	17 20 22.2	-1.8
JMK	Ichinoseki	1.64	273	P		Pn	17 20 03.9	-0.5
JMK				*e*S		Sn	17 20 24.8	-0.1
JOM	Ohasama	1.69	291	P		Pn	17 20 04.8	-0.2
JANG	Nango	2.04	317	P		Pn	17 20 09.5	-0.4
JOU	Okura	2.15	257	P		Pn	17 20 10.8	-0.6
JRG	Rokugo	2.15	285	P		Pn	17 20 11.6	+0.1
JMM	Marumori	2.23	244	P		Pn	17 20 11.1	-1.4
JMM				*e*S		Sn	17 20 37.6	-1.9
JYK	Kaneyama	2.31	272	P		Pn	17 20 13.7	0.0
JFK	Kawauchi	2.45	233	P		Pn	17 20 14.1	-1.5
JAH	Hinai	2.45	303	P		Pn	17 20 16.1	+0.5
JFT	Otama	2.72	241	P		Pn	17 20 18.7	-0.5
JFT				*e*S		Sn	17 20 50.6	-0.9
MJAR	Matsushiro Arr	4.68	242	Pn		Pn	17 20 47.4	+1.2
	4.3nm,0.3s,baz=53,slow=9.6,SNR=58							
MJAR				Sn		Sn	17 21 44.1	+4.2
	0.6nm,0.3s,baz=55,slow=8.9,SNR=2.8							
MAT	Matsushiro	4.68	242	P		Pn	17 20 47.0	+0.8
MAT				*e*S		Sn	17 21 42.6	+2.6
ASAJ	Asahikawa	5.26	354	Pn		Pn	17 20 56.3	+2.1
	1.0nm,0.3s,baz=186,slow=16,SNR=16							
ASAJ				Sn		Sn	17 21 50.8	-3.4
	0.9nm,0.3s,baz=38,slow=18,SNR=2.1							
ASAJ				LR		LR	17 23 10.7	
	comp=Z,131nm,18.6s,baz=345,slow=41							
USRK	Ussuriysk Arra	10.01	306	Pn		Pn	17 22 03.4	+4.1
	0.2nm,0.3s,baz=122,slow=14,SNR=7.1							
KSRS	Korea Array	12.21	268	Pn		Pn	17 22 32.8	+3.4
	0.1nm,0.3s,baz=80,slow=14,SNR=2.9							
SONM	Songino Array	28.07	301	P		P	17 25 26.9	0.0
	1.2nm,0.4s,baz=90,slow=10,SNR=12							
ZALV	Zalesovo Beam	41.82	311	P		P	17 27 25.4	+0.6
	0.7nm,0.5s,baz=100,slow=7.7,SNR=4.8							
CMAR	Chiang Mai Arr	43.43	255	P		P	17 27 38.7	+0.4
	0.2nm,0.5s,baz=54,slow=5.6,SNR=3.3							
MKAR	Makanchi Array	44.44	301	P		P	17 27 46.9	+0.7
	1.3nm,0.6s,baz=85,slow=11,SNR=16							
WRA	Warramunga Arr	59.12	190	P		P	17 29 34.4	-1.4
	0.5nm,0.5s,baz=8.0,slow=6.9,SNR=9.4							
ASAR	Alice Springs	62.84	190	P		P	17 30 01.1	0.0
	0.2nm,0.7s,baz=2.9,slow=5.3,SNR=5.2							

ISCJB ***07*** *17:25:31.9±0.6,17.9S±0.1×178.47W±0.09,h579km, mb3.9/9, Error ellipse: s-maj=19.1km s-min=9.2km az=156.6*
IDC ***07*** *17:25:32.4±1.6,17.92S×178.45W,h570km±23km, mb3.4/9, mb1 3.6/11,mb1mx3.3/23,mbtmp3.4/11, Error ellipse: s-maj=35.3km s-min=12.7km az=156.0*
AUST ***07*** *17:26:05.3±20.0,17.98S×177.92E,h677km±5km, Error ellipse: s-maj=8.5km s-min=3.0km az=252.0*
ISC 07 17:25:32.7±0.7,17.9S±0.1×178.4W±0.1,h579km,n26, σ0§73/24,mb3.9/9,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.54	59	P		P	17 27 26.1	-1.0
	1.1nm,0.3s,baz=96,slow=18,SNR=3.0							
RAO	Raoul Island	11.28	178	P		P	17 28 04.3	+0.4
	143nm,0.3s,baz=72,slow=20,SNR=3.9							
DZM	Mont Dzumac	14.80	251	P		P	17 28 38.9	-0.9
	0.1nm,0.3s,baz=270,slow=24,SNR=3.1							
RMQ	Roma	31.48	248	P		P	17 31 09.2	+0.9
	baz=28,SNR=5.6							
RABL	Rabaul	31.86	292	P		P	17 31 12.7	+1.0
	baz=29,SNR=3.9							
CTA	Charters Tower	33.43	261	P		P	17 31 24.7	-0.2
	2.0nm,0.3s,baz=91,slow=13,SNR=6.4							
PATS	Pohnpei	33.66	315	S		S	17 35 42.3	-28
	baz=32,SNR=5.2							
PMG	Port Moresby	34.45	280	P		P	17 31 34.5	+1.1
	8.0nm,0.6s,baz=169,slow=10,SNR=3.6							
CMSA	Cobar Meteorol	35.12	240	P		P	17 31 39.1	+0.2
	baz=32,SNR=7.8							
MTSU	Mount Surprise	35.39	264	P		P	17 31 41.5	+0.1
	baz=32,SNR=9.6							
COEN	Coen	37.09	270	P		P	17 31 56.2	+0.9
	baz=34,SNR=8.7							
STKA	Stephens Creek	38.60	241	P		P	17 32 07.5	+0.1
	2.2nm,0.5s,baz=100,slow=13,SNR=11							
STKA	Stephens Creek	38.60	241	P		P	17 32 08.3	+0.9
	baz=36,SNR=3.9							
WRA	Warramunga Arr	44.61	260	P		P	17 32 53.9	-1.0
	1.4nm,0.4s,baz=92,slow=8.3,SNR=38							
ASAR	Alice Springs	44.77	254	P		P	17 32 55.9	-0.2
	13nm,0.6s,baz=88,slow=8.8,SNR=319							
KDU	Kakadu	47.54	269	P		P	17 33 16.9	-0.1
	baz=44,SNR=3.8							
KDU				S		S	17 38 58.0	-32
	baz=44,SNR=5.8							
MTN	Manton Dam	48.78	268	P		P	17 33 25.9	-0.4
	baz=45,SNR=6.6							
MTN				S		S	17 39 04.6	-43
	baz=45,SNR=4.3							
KNRA	Kununurra	50.47	264	P		P	17 33 38.3	-0.2
	baz=47,SNR=6.6							
FITZ	Fitzroy Crossi	53.01	261	P		P	17 33 57.0	+0.2
	baz=50,SNR=4.1							
MEEK	Meekatharra	58.41	249	P		P	17 34 33.1	-1.0
	baz=55,SNR=3.3							
LUWI	Luwuk	60.09	279	S		S	17 41 56.4	-19
	baz=57,SNR=4.5							
NVAR	Mina Array Bea	79.45	44	P		P	17 36 41.1	+1.0
	1.2nm,0.7s,baz=225,slow=9.3,SNR=8.2							
ILAR	Eielson Array	85.91	13	P		P	17 37 10.9	-0.7
	0.6nm,0.4s,baz=219,slow=5.0,SNR=10							
TXAR	Lajitas Array	86.02	58	P		P	17 37 13.8	+0.7
	1.5nm,0.8s,baz=212,slow=8.5,SNR=3.8							
PDAR	Pinedale Array	87.38	43	P		P	17 37 19.9	+0.5
	1.0nm,0.6s,baz=209,slow=3.6,SNR=8.6							
GERES	GERESS Array B	147.63	345	PKPbc		PKPbc	17 44 12.9	+0.1
	1.0nm,0.6s,baz=37,slow=3.6,SNR=6.5							

IDC 07 17:30:34.4±1.9,15.04S×175.85W,h220km±27km, mb3.4/4,mb1 3.5/5,mb1mx3.2/20,mbtmp3.4/5,MS3.9/1, Ms1 3.8/1,ms1mx3.2/18,Error ellipse: s-maj=35.3km s-min=24.3km az=164.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.10	75	P		Pn	17 31 38.9	+0.5
	8.7nm,0.3s,baz=329,slow=3.7,SNR=13							
AFI				S		S	17 32 28.9	+0.4
	5.3nm,0.3s,baz=307,slow=12,SNR=3.8							
STKA	Stephens Creek	42.18	239	P		P	17 38 05.5	-0.3
	0.5nm,0.3s,baz=81,slow=10,SNR=12							
STKA				LR		LR	17 53 26.1	
	comp=Z,157nm,20.6s,baz=203,slow=32							
WRA	Warramunga Arr	47.62	257	P		P	17 38 49.0	+0.1
	0.3nm,0.3s,baz=91,slow=8.5,SNR=18							
ASAR	Alice Springs	47.97	252	P		P	17 38 51.2	-0.3
	6.0nm,0.5s,baz=88,slow=7.8,SNR=175							
VNDA	Vanda	63.50	185	P		P	17 40 40.8	+0.1
	0.6nm,0.9s,baz=345,slow=3.4,SNR=3.1							
ESDC	Sonseca Array	154.45	15	PKPab		PKPab	17 50 23.8	-0.5
	0.2nm,0.3s,baz=294,slow=6.4,SNR=4.2							

ATH ***07*** *17:37:21.5,33.83N×25.40E,h5km,MD3.4/7*
THE ***07*** *17:37:22.9,33.84N×25.62E,h0km±7km, Error ellipse: s-maj=18.3km s-min=1.4km az=174.0*
ISCJB ***07*** *17:37:23.4±0.8,33.81N±0.05×25.54E±0.07,h17km, mb3.6/5, Error ellipse: s-maj=9.0km s-min=6.1km az=144.9*
CSEM ***07*** *17:37:23.0±1.1,33.90N×25.50E,h2km,MD3.4, Error ellipse: s-maj=20.9km s-min=11.4km az=161.0*
IDC ***07*** *17:37:23.4±1.2,34.07N×25.56E,h0km,mb3.7/5, mb1 3.7/8,mb1mx3.6/27,mbtmp3.7/8,ML3.8/3, Error ellipse: s-maj=29.2km s-min=23.8km az=156.0*
ISC 07 17:37:25.4±0.9,33.99N±0.07×25.45E±0.04,h17km,n28, σ0§87/36,mb3.6/5,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIVA	Sivas	1.16	333	*e*PB		Pb	17 37 46.6	-0.4
SIVA				*e*SB		Sg	17 38 04

WRA				PcP	PcP	17 50 27.0	+0.6	
	0.1nm,0.3s,baz=29,slow=1.8,SNR=6.8							
ASAR	**Alice Springs**	**21.90**	**214**	P	P	17 46 31.8	-0.6	
	0.9nm,0.5s,baz=52,slow=8.5,SNR=26							
STKA	**Stephens Creek**	**26.50**	**191**	P	P	17 47 17.1	+0.4	
	0.8nm,0.5s,baz=355,slow=11,SNR=3.8							
VNDA	**Vanda**	**72.14**	**177**	P	P	17 53 02.9	-0.6	
	0.8nm,0.6s,baz=328,slow=8.0,SNR=8.7							
ILAR	**Eielson Array**	**85.20**	**23**	P	P	17 54 15.3	-0.3	
	0.4nm,0.6s,baz=264,slow=3.6,SNR=3.1							
TORD	**Torodi Ar. Bea**	**145.17**	**285**	PKPbc	PKPbc	18 01 17.2	-0.5	
	0.7nm,0.7s,baz=85,slow=3.8,SNR=4.2							

IDC 07 17:56:57.2±2.4, 6.87S×129.52E, h0km, mb3.3/1, mb1 3.9/4, mb1mx3.5/20, mbtmp3.7/4, ML3.8/2, Error ellipse: s-maj=103.5km s-min=28.8km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.79**	**198**	Pn	Pn	17 59 47.4	+0.7
	0.4nm,0.3s,baz=53,slow=13,SNR=15						
FITZ				Sn	Sn	18 01 45.4	-14
	0.3nm,0.3s,baz=90,slow=18,SNR=4.8						
WRA	**Warramunga Arr**	**13.81**	**161**	Pn	Pn	18 00 12.9	-1.5
	0.6nm,0.3s,baz=334,slow=13,SNR=36						
WRA				Sn	Sn	18 02 36.9	-12
	0.5nm,0.3s,baz=336,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.23**	**166**	P	P	18 00 60.0	+0.6
	0.4nm,0.3s,baz=337,slow=9.5,SNR=42						
MKAR	**Makanchi Array**	**67.86**	**327**	P	P	18 07 57.4	0.0
	0.2nm,0.4s,baz=114,slow=6.9,SNR=4.4						

*IDC **07** 17:59:34.8±1.2, 3.40S×131.51E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.9/20, mbtmp4.0/8, ML3.9/2, Error ellipse: s-maj=51.1km s-min=19.7km az=69.0*
*ISCJB **07** 17:59:38.0±0.5, 3.63S±0.04×130.97E±0.06, h30km, mb3.7/5, Error ellipse: s-maj=8.7km s-min=5.9km az=24.4*
*DJA **07** 17:59:41.2±1.9, 3°S±9'×13°1E±°, h31km±25km, M4.3/5, MLv4.3/5*
*AUST **07** 17:59:56.2, 4.48S×130.52E, h100km*

ISC 07 17:59:40.2±0.7, 3.60S±0.06×130.99E±0.06, h30km, n21, σ1s24/21, mb3.8/5, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.41**	**230**	P	**Pb**	**18 00 07.4**	**+1.4**
FAKI	**Fak Fak**	**1.43**	**62**	P	**Pn**	**18 00 03.5**	**-0.7**
RKPI	**Ransiki, Papua**	**3.81**	**57**	P	**Pn**	**18 00 36.1**	**-0.8**
LBMI	**Labuha**	**4.56**	**310**	P	**Pn**	**18 00 46.4**	**-0.9**
BAKI	**Biak**	**5.65**	**65**	P	**Pn**	**18 01 01.6**	**-0.6**
BAKI				S	**Sn**	**18 02 07.3**	**+1.1**
SOEI	**Soe**	**9.05**	**227**	P	Pn	18 01 55.9	+6.9
	baz=8.1,SNR=5.9						
MTN	**Manton Dam**	**9.18**	**179**	P	**Pn**	**18 01 53.0**	**+2.3**
	baz=8.4,SNR=8.6						
MTN				S	**Sn**	**18 03 33.0**	**-0.1**
	baz=8.4,SNR=6.8						
KAPI	**Kappang**	**11.29**	**262**	Pn	Pn	18 02 25.1	+5.4
	1.4nm,0.3s,baz=97,slow=6.1,SNR=6.0						
KNRA	**Kununurra**	**12.20**	**190**	P	**Pn**	**18 02 31.5**	**-0.6**
	baz=11,SNR=6.8						
KNRA				S	**Sn**	**18 04 45.2**	**-1.9**
	baz=11,SNR=6.1						
WRA	**Warramunga Arr**	**16.57**	**169**	Pn	**Pn**	**18 03 30.2**	**-0.2**
	0.3nm,0.3s,baz=347,slow=11,SNR=3.1						
MTSU	**Mount Surprise**	**19.47**	**139**	P	**Pn**	**18 04 07.9**	**+1.7**
	baz=19,SNR=5.2						
ASAR	**Alice Springs**	**20.14**	**172**	P	Pn	18 04 13.8	-0.3
	3.5nm,0.4s,baz=352,slow=11,SNR=27						
MEEK	**Meekatharra**	**25.79**	**206**	P	**P**	**18 05 08.0**	**-0.8**
	baz=25,SNR=8.6						
MORW	**Morawa**	**29.03**	**208**	P	**P**	**18 05 38.0**	**+0.2**
	baz=28,SNR=4.7						
STKA	**Stephens Creek**	**29.84**	**162**	P	**P**	**18 05 42.2**	**-2.7**
	1.6nm,1.0s,baz=359,slow=3.5,SNR=3.1						
KLBR	**Kellerberrin**	**30.50**	**203**	P	**P**	**18 05 51.0**	**+0.2**
	baz=30,SNR=7.9						
CMAR	**Chiang Mai Arr**	**38.43**	**306**	P	**P**	**18 07 00.5**	**+0.9**
	0.9nm,0.8s,baz=140,slow=8.0,SNR=7.6						
SONM	**Songino Array**	**55.58**	**340**	P	**P**	**18 09 12.6**	**-0.5**
	0.2nm,0.6s,baz=160,slow=4.6,SNR=3.8						
MKAR	**Makanchi Array**	**65.97**	**326**	P	**P**	**18 10 23.6**	**-0.1**
	1.4nm,0.8s,baz=123,slow=7.5,SNR=14						
ZALV	**Zalesovo Beam**	**69.01**	**333**	P	**P**	**18 10 42.6**	**-0.2**
	0.3nm,0.3s,baz=123,slow=5.5,SNR=4.0						
TORD	**Torodi Ar. Bea**	**129.03**	**284**	PKP	**PKPdf**	**18 18 47.3**	**+0.9**
	0.2nm,0.6s,baz=132,slow=2.1,SNR=2.0						

IDC 07 18:27:33.4±2.5, 5.83S×79.71W, h95km±26km, mb3.4/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, Error ellipse: s-maj=71.5km s-min=25.2km az=42.0, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**1.84**	**135**	P	Pn	18 28 05.1	+0.9
	39nm,0.3s,baz=346,slow=7.5,SNR=248						
ATAH				S	Sn	18 28 27.4	-0.2
	41nm,0.3s,baz=310,slow=2.4,SNR=8.6						
LPAZ	**La Paz**	**15.38**	**133**	P	P	18 31 08.6	0.0
	0.1nm,0.3s,baz=296,slow=12,SNR=3.9						
SIV	**San Ignacio**	**20.88**	**122**	P	P	18 32 08.5	+0.4
	0.7nm,0.5s,baz=317,slow=15,SNR=3.2						
NVAR	**Mina Array Bea**	**56.76**	**324**	P	P	18 37 07.7	-0.2
	0.2nm,0.5s,baz=114,slow=9.0,SNR=3.2						
ULM	**Lac du Bonnet**	**57.59**	**348**	P	P	18 37 13.0	-0.2
	2.7nm,0.4s,baz=194,slow=4.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**82.99**	**76**	P	P	18 39 48.9	+0.1
	0.4nm,0.6s,baz=265,slow=4.4,SNR=4.3						
ZALV	**Zalesovo Beam**	**130.41**	**12**	PKP	PKPdf	18 46 32.2	-0.6
	0.4nm,0.4s,baz=259,slow=1.5,SNR=5.1						
ASAR	**Alice Springs**	**136.00**	**227**	PKP	PKPdf	18 46 43.8	-0.5
	0.9nm,0.9s,baz=127,slow=2.4,SNR=8.0						
MKAR	**Makanchi Array**	**136.34**	**18**	PKP	PKPdf	18 46 43.8	-0.4
	0.3nm,0.8s,baz=280,slow=2.1,SNR=4.2						
WRA	**Warramunga Arr**	**137.84**	**232**	PKP	PKPdf	18 46 47.8	0.0
	0.4nm,0.6s,baz=118,slow=2.1,SNR=7.3						

WEL 07 18:31:09.6±0.1, 39.22S×175.74E, h76km, ML3.9/19, 6C-21D, Error ellipse: s-maj=0.7km s-min=0.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTVZ	**Oturere**	**0.08**	**315**	P*	Pn	18 31 20.3	-0.4
OTVZ				S*	Sn	18 31 29.0	+0.2
TUVZ	**Tukino**	**0.08**	**233**	⇓P*	Pn	18 31 20.6	-0.1
TUVZ				S*	Sn	18 31 28.7	-0.1
NGZ	**Ngauruhoe**	**0.11**	**293**	⇓P*	Pn	18 31 20.3	-0.5
NGZ				S*	Sn	18 31 29.1	+0.2
WHVZ	**Whangaehu Hut**	**0.13**	**242**	⇓P*	Pn	18 31 20.7	-0.2
WHVZ				S*	Sn	18 31 28.7	-0.6
DRZ	**Dome Shelter**	**0.14**	**248**	⇑P*	Pn	18 31 20.9	-0.1
DRZ				S*	Sn	18 31 29.5	+0.1
KRVZ	**Karewarewa**	**0.14**	**329**	⇓P*	Pn	18 31 20.2	-0.6
KRVZ				S*	Sn	18 31 29.3	+0.3
FWVZ	**Far West T-bar**	**0.15**	**256**	P*	Pn	18 31 20.7	-0.3
FWVZ				S*	Sn	18 31 29.3	0.0
WPVZ	**Whakapapa**	**0.15**	**276**	⇓P*	Pn	18 31 20.5	-0.3
WPVZ				S*	Sn	18 31 29.3	+0.3
WNVZ	**Wahianoa**	**0.15**	**225**	⇓P*	Pn	18 31 20.7	-0.2
WNVZ				S*	Sn	18 31 29.0	-0.2
WTVZ	**West Tongariro**	**0.15**	**312**	⇓P*	Pn	18 31 20.2	-0.6
WTVZ				S*	Sn	18 31 29.2	+0.1
TRVZ	**Turoa**	**0.17**	**242**	⇓P*	Pn	18 31 20.9	-0.2
TRVZ				S*	Sn	18 31 29.0	-0.5
MOVZ	**Moawhango**	**0.19**	**176**	P*	Pn	18 31 20.5	-0.4
MOVZ				S*	Sn	18 31 28.5	-0.7
KATZ	**Kakaramea**	**0.25**	**352**	⇓P*	Pn	18 31 20.9	-0.3
RITZ	**Rihia Road**	**0.26**	**21**	⇓P*	Pn	18 31 21.3	+0.1
MTVZ	**Mangateitei**	**0.27**	**231**	⇓P*	Pn	18 31 20.9	-0.3
MTVZ				S*	Sn	18 31 29.8	-0.1
TWVZ	**Taurewa**	**0.28**	**302**	⇓P*	Pn	18 31 20.9	-0.4
TWVZ				S*	Sn	18 31 29.5	-0.6
PKVZ	**Pokaka**	**0.31**	**257**	⇓P*	Pn	18 31 21.2	-0.3
PKVZ				S*	Sn	18 31 30.3	0.0
RATZ	**Rangitukua**	**0.35**	**4**	⇓P*	Pn	18 31 21.4	-0.4
BHHZ	**Black Hill Sta**	**0.37**	**137**	⇑P*	Pn	18 31 21.6	-0.3
BHHZ				S*	Sn	18 31 30.5	-0.5
HATZ	**Hinemaiaia**	**0.43**	**40**	⇓P*	Pn	18 31 22.1	-0.2
HATZ				S*	Sn	18 31 31.6	-0.1
WATZ	**Wairara**	**0.51**	**360**	⇓P*	Pn	18 31 22.9	-0.2
WHTZ	**Whakaora**	**0.58**	**17**	P*	Pn	18 31 23.9	+0.1
BKZ	**Black Stump Fm**	**0.59**	**85**	⇓P*	Pn	18 31 23.8	-0.1
BKZ				AML	AML	18 31 37.5	
BKZ				AML	AML	18 31 38.7	
VRZ	**Vera Road**	**0.77**	**277**	P*	Pn	18 31 25.2	-0.4
PNHZ	**Pukenui**	**0.78**	**153**	PN	Pn	18 31 26.0	+0.1
WAZ	**Wanganui**	**0.79**	**227**	⇑PN	Pn	18 31 25.9	0.0
ALRZ	**Allen Road**	**0.81**	**36**	⇑P*	Pn	18 31 26.1	0.0
TSZ	**Takapari Road**	**0.86**	**168**	PN	Pn	18 31 26.9	+0.1
TSZ				AML	AML	18 31 43.0	
TSZ				AML	AML	18 31 43.6	
PRRZ	**Plateau Road**	**0.88**	**36**	P*	Pn	18 31 26.9	-0.2
TLZ	**Tolley Road**	**0.90**	**350**	P*	Pn	18 31 27.0	-0.3
HRRZ	**Handcock Road**	**0.93**	**27**	⇓P*	Pn	18 31 27.7	+0.1
HIZ	**Hauiti**	**0.98**	**315**	PN	Pn	18 31 27.7	-0.5
WPHZ	**Waipukurau**	**1.00**	**147**	PN	Pn	18 31 28.3	-0.1
RAEZ	**Rainy Point**	**1.04**	**266**	⇓PN	Pn	18 31 29.1	+0.1
RRRZ	**Republican Roa**	**1.07**	**35**	P*	Pn	18 31 29.1	-0.1
RAHZ	**Arahi**	**1.09**	**74**	PN	Pn	18 31 30.2	+0.7
MHEZ	**Mangahewa**	**1.11**	**277**	PN	Pn	18 31 29.9	+0.2
DVHZ	**Dannevirke**	**1.13**	**163**	PN	Pn	18 31 29.6	-0.4
TARZ	**Mount Tarawera**	**1.15**	**32**	P*	Pn	18 31 30.5	+0.1
POWZ	**Post Office Ro**	**1.17**	**179**	PN	Pn	18 31 30.1	-0.4
PXZ	**Pawanui**	**1.19**	**133**	PN	Pn	18 31 30.9	+0.2
PXZ				AML	AML	18 31 59.7	
PXZ				AML	AML	18 31 59.7	
PXZ				AML	AML	18 32 02.4	
PXZ				AML	AML	18 32 02.4	
DREZ	**Durham Road**	**1.19**	**271**	PN	Pn	18 31 30.8	0.0
PRHZ	**Porangahau**	**1.25**	**147**	PN	Pn	18 31 31.4	-0.1
DFE	**Dawson Falls**	**1.27**	**265**	PN	Pn	18 31 32.2	+0.3
NEZ	**North Egmont**	**1.27**	**267**	PN	Pn	18 31 32.1	+0.2
KHEZ	**Kahui Hut**	**1.34**	**266**	PN	Pn	18 31 32.9	+0.1
PRWZ	**Pori Road**	**1.35**	**172**	PN	Pn	18 31 32.4	-0.3
PKE	**Pukeiti**	**1.36**	**271**	PN	Pn	18 31 32.7	-0.3
ANWZ	**Angora Road**	**1.36**	**156**	PN	Pn	18 31 32.7	-0.3
URZ	**Urewera**	**1.44**	**49**	⇓P*	Pn	18 31 33.7	-0.2
URZ				AML	AML	18 31 53.7	
URZ				AML	AML	18 31 54.7	
MRZ	**Mangatainoka R**	**1.45**	**185**	⇑PN	Pn	18 31 33.2	-0.8
MRZ				AML	AML	18 31 52.8	
MRZ				AML	AML	18 31 52.9	
TOZ	**Tahuroa Road**	**1.50**	**353**	⇓P*	Pn	18 31 34.6	-0.1
BFZ	**Birch Farm**	**1.51**	**165**	⇑PN	Pn	18 31 34.2	-0.6
BFZ				AML	AML	18 31 55.9	
BFZ				AML	AML	18 31 55.9	
BFZ				AML	AML	18 31 57.4	
BFZ				AML	AML	18 31 57.4	
OPRZ	**Ohinepanea**	**1.52**	**25**	P*	Pn	18 31 35.0	+0.1
KNZ	**Kokohu**	**1.52**	**83**	PN	Pn	18 31 35.1	+0.2
OGWZ	**Otaki Gorge**	**1.65**	**195**	PN	Pn	18 31 36.0	-0.8
MWZ	**Matawai**	**1.66**	**58**	P*	Pn	18 31 36.8	0.0
MWZ				AML	AML	18 32 05.4	
MWZ				AML	AML	18 32 05.5	
MWZ				AML	AML	18 32 07.6	
MWZ				AML	AML	18 32 07.6	
HOWZ	**Holdsworth Sta**	**1.69**	**186**	PN	Pn	18 31 36.1	-1.1
PRGZ	**Paritu Road**	**1.70**	**81**	PN	Pn	18 31 37.2	-0.2
KIW	**Kapiti Island**	**1.76**	**201**	PN	Pn	18 31 37.0	-1.1
KIW				AML	AML	18 32 04.2	
KIW				AML	AML	18 32 04.3	
TMWZ	**Te Maipa**	**1.89**	**176**	PN	Pn	18 31 38.6	-1.3
MTW	**Mount Morrison**	**1.94**	**185**	PN	Pn	18 31 39.0	-1.7
MTW				AML	AML	18 32 03.0	
MTW				AML	AML	18 32 13.7	
CAW	**Cannon Point**	**1.95**	**195**	PN	Pn	18 31 39.2	-1.4
CAW				AML	AML	18 32 12.0	
CAW				AML	AML	18 32 13.4	
DUWZ	**D'Urville Isla**	**2.11**	**221**	PN	Pn	18 31 41.4	-1.5
MKAZ	**Moumakai**	**2.15**	**348**	PN	Pn	18 31 42.9	-0.5
PAWZ	**Paruwai Farm**	**2.17**	**186**	AML	AML	18 32 08.0	
PAWZ				AML	AML	18 32 24.2	
TRWZ	**Traveller**	**2.18**	**181**	PN	Pn	18 31 42.2	-1.5
TRWZ				AML	AML	18 32 08.6	
TRWZ				AML	AML	18 32 08.8	
MSWZ	**Moikau Station**	**2.22**	**189**	PN	Pn	18 31 42.3	-2.1
MSWZ				AML	AML	18 32 07.9	
MSWZ				AML	AML	18 32 21.3	
SNZO	**South Karori**	**2.23**	**200**	PN	Pn	18 31 42.5	-1.9
SNZO				AML	AML	18 32 19.4	
SNZO				AML	AML	18 32 22.0	
PUZ	**Puketiti**	**2.28**	**61**	PN	Pn	18 31 44.6	-0.6
PUZ				AML	AML	18 32 26.6	
PUZ				AML	AML	18 32 26.6	
TCW	**Tory Channel**	**2.28**	**209**	PN	Pn	18 31 43.4	-1.8
TCW				AML	AML	18 32 18.2	
TCW				AML	AML	18 32 18.3	
BHW	**Baring Head**	**2.28**	**197**	AML	AML	18 32 21.3	
BHW				AML	AML	18 32 26.7	
PLWZ	**Palliser**	**2.38**	**189**	PN	Pn	18 31 44.3	-2.2
KUZ	**Kuaotunu**	**2.47**	**360**	PN	Pn	18 31 47.4	-0.2
TUWZ	**Tuamarina**	**2.60**	**211**	PN	Pn	18 31 47.3	-2.1
TUWZ				AML	AML	18 32 24.6	
TUWZ				AML	AML	18 32 31.1	
NNZ	**Nelson**	**2.69**	**221**	PN	Pn	18 31 48.5	-2.1
BSWZ	**Blackbirch Sta**	**2.87**	**209**	PN	Pn	18 31 50.6	-2.5
BSWZ				AML	AML	18 32 45.5	
QRZ	**Quartz Range**	**2.94**	**236**	PN	Pn	18 31 51.7	-2.3
THZ	**Tophouse**	**3.33**	**219**	PN	Pn	18 31 56.9	-2.5
KHZ	**Kahutara**	**3.60**	**207**	PN	Pn	18 31 59.9	-3.1
LTZ	**Lake Taylor**	**4.42**	**215**	PN	Pn	18 32 10.2	-4.1

*MDD **07** 18:41:12.4±3.6, 32.71N×6.92W, h0km, mb4.3/1, Error ellipse: s-maj=44.7km s-min=32.7km az=104.0, PRXIMO*
*INMG **07** 18:41:14.2±0.7, 32.78N×6.82W, h10km, ML2.1, Error ellipse: s-maj=5.5km s-min=3.1km az=13.0*
*CSEM **07** 18:41:15.7±0.5, 32.97N×6.87W, h10km, ML2.1, Error ellipse: s-maj=12.0km s-min=9.6km az=119.0*

ISC 07 18:41:16.1±4.2, 33.0N±0.2×6.9W±0.1, h10km, n29, σ0s55/42, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**4.33**	**349**	*e*Pn	**Pn**	**18 42 22.2**	**+0.1**
PBDV	**Barranco-do-Ve**	**4.33**	**349**	Pn	**Pn**	**18 42 22.2**	**+0.1**
PBDV	**Barranco-do-Ve**	**4.33**	**349**	*e*Pn	**Pn**	**18 42 22.2**	**+0.1**
PFVI	**Vila Bisbo**	**4.43**	**340**	*e*Pn	**Pn**	**18 42 23.5**	**+0.1**
PFVI	**Vila Bisbo**	**4.43**	**340**	P	**Pn**	**18 42 23.2**	**-0.2**
	1.1nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.43**	**340**	P	**Pn**	**18 42 23.2**	**-0.2**
	1.1nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.43**	**340**	*e*Pn	**Pn**	**18 42 23.5**	**+0.1**
PVAQ	**Vaqueiros**	**4.46**	**352**	*e*Pn	**Pn**	**18 42 23.7**	**-0.1**
PVAQ				*e*Sn	**Sn**	**18 43 16.5**	**+0.7**
PVAQ				A	A	18 43 25.1	
	3.4nm,0.9s						
PVAQ	**Vaqueiros**	**4.46**	**352**	Pn	**Pn**	**18 42 23.7**	**-0.1**
PVAQ				Sn	**Sn**	**18 43 16.5**	**+0.7**
	3.4nm,0.9s						
PVAQ	**Vaqueiros**	**4.46**	**352**	*e*Pn	**Pn**	**18 42 23.7**	**-0.1**
PVAQ				Sn	**Sn**	**18 43 16.5**	**+0.7**
	3.4nm,0.9s						
MORF	**Marmelete**	**4.55**	**342**	*e*Pn	**Pn**	**18 42 25.0**	**-0.1**
MORF	**Marmelete**	**4.55**	**342**	Pn	**Pn**	**18 42 25.0**	**-0.1**
MORF	**Marmelete**	**4.55**	**342**	*e*Pn	**Pn**	**18 42 25.0**	**-0.1**
EGRO	**El Granado**	**4.57**	**354**	P	**Pn**	**18 42 24.8**	**-0.5**
	0.1nm,0.1s,SNR=4.0						
EGRO	**El Granado**	**4.57**	**354**	P	**Pn**	**18 42 24.8**	**-0.5**
	0.1nm,0.1s,SNR=4.0						
PCVE	**Castro Verde**	**4.73**	**349**	*e*Pn	**Pn**	**18 42 28.0**	**+0.4**
PCVE				*e*Sn	**Sn**	**18 43 22.6**	**+0.1**
PCVE				A	A	18 43 26.0	
	0.7nm,0.1s						
PCVE	**Castro Verde**	**4.73**	**349**	Pn	**Pn**	**18 42 28.0**	**+0.4**
PCVE				Sn	**Sn**	**18 43 22.6**	**+0.1**
	0.7nm,0.1s						
PCVE	**Castro Verde**	**4.73**	**349**	*e*Pn	**Pn**	**18 42 28.0**	**+0.4**
PCVE				Sn	**Sn**	**18 43 22.6**	**+0.1**
	0.7nm,0.1s						
EMIN	**Mina Concepcio**	**4.78**	**2**	P	**Pn**	**18 42 27.6**	**-0.6**
	0.1nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**18 43 22.2**	**-1.4**
	0.0nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.78**	**2**	P	**Pn**	**18 42 27.6**	**-0.6**
	0.1nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**18 43 22.2**	**-1.4**
	SNR=7.9						
PBAR	**Barrancos**	**5.18**	**359**	*e*Pn	**Pn**	**18 42 34.1**	**+0.4**
PBAR				*e*Sn	**Sn**	**18 43 33.3**	**-0.3**
PBAR				A	A	18 43 40.1	
	1.3nm,0.3s						
PBAR	**Barrancos**	**5.18**	**359**	Pn	**Pn**	**18 42 34.1**	**+0.4**
PBAR				Sn	**Sn**	**18 43 33.3**	**-0.3**
	1.3nm,0.3s						
PBAR	**Barrancos**	**5.18**	**359**	*e*Pn	**Pn**	**18 42 34.1**	**+0.4**
PBAR				Sn	**Sn**	**18 43 33.3**	**-0.3**
	1.3nm,0.3s						
PNCL	**Nicolau / Gran**	**5.29**	**346**	*e*Pn	**Pn**	**18 42 35.1**	**-0.1**
PNCL	**Nicolau / Gran**	**5.29**	**346**	*e*Pn	**Pn**	**18 42 35.1**	**-0.1**
EADA	**Adamuz**	**5.50**	**19**	P	**Pn**	**18 42 37.9**	**-0.3**
	0.1nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**18 43 42.9**	**+1.3**
	0.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.50**	**19**	P	**Pn**	**18 42 37.9**	**-0.3**
	0.1nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**18 43 42.9**	**+1.3**
	0.2nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.76**	**359**	P	**Pn**	**18 42 41.2**	**-0.5**
	0.1nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.76**	**359**	P	**Pn**	**18 42 41.2**	**-0.5**
	0.1nm,0.1s,SNR=7.9						

NEIC 07 18:55:18.2, 58.13N×151.43W, h45km, ML3.5(AEIC), **After AEIC., Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**0.71**	**241**	P	Pn	18 55 31.0	-0.8
KDAK				S	Sn	18 55 40.5	-1.1
OHAK	**Old Harbor**	**1.35**	**228**	P	Pn	18 55 40.1	-0.5
OHAK				S	Sn	18 55 56.6	-0.7
FOSS	**Fourpeaked Sta**	**1.37**	**300**	P	Pn	18 55 39.8	-1.1
CNPM	**China Poot**	**1.40**	**4**	P	Pn	18 55 40.9	-0.5
CNPM				S	Sn	18 55 57.9	-0.8
FONW	**Fourpeaked Sta**	**1.49**	**299**	P	Pn	18 55 41.8	-0.8
HOM	**Homer**	**1.54**	**356**	P	Pn	18 55 42.9	-0.3
AUI	**Augustine Isla**	**1.60**	**320**	P	Pn	18 55 43.2	-0.7
AUI				S	Sn	18 56 03.0	-0.3
KAPH	**Katmai Pasha**	**1.61**	**288**	P	Pn	18 55 43.5	-0.8
AUW	**Augustine West**	**1.64**	**320**	P	Pn	18 55 44.1	-0.4
AUNW	**Augustine NWes**	**1.65**	**320**	P	Pn	18 55 44.6	0.0
BRLK	**Bradley Lake**	**1.66**	**9**	P	Pn	18 55 44.2	-0.8
BRLK				S	Sn	18 56 04.1	-1.0
OPT	**Oil Point**	**1.79**	**329**	P	Pn	18 55 46.6	-0.1
OPT				S	Sn	18 56 07.8	-0.5
MCNL	**McNeil River**	**1.85**	**306**	P	Pn	18 55 46.7	-0.7
MCNL				S	Sn	18 56 09.5	-0.2
KAKN	**Katmai Knife C**	**1.93**	**277**	P	Pn	18 55 47.8	-0.9
ILS	**Iliamna Low So**	**2.02**	**336**	P	Pn	18 55 49.2	-0.7
KABU	**Katmai Buttres**	**2.04**	**276**	P	Pn	18 55 49.7	-0.5
ILW	**Iliamna West**	**2.13**	**336**	P	Pn	18 55 51.0	-0.5
ANCK	**Angle Creek**	**2.16**	**274**	P	Pn	18 55 51.1	-0.6
RSO	**Redoubt South**	**2.44**	**344**	*e*P	Pn	18 55 54.8	-1.0
SLKM	**Skilak Lake**	**2.46**	**14**	P	Pn	18 55 55.3	-0.6
RDWB	**Redoubt West**	**2.47**	**344**	P	Pn	18 55 55.1	-1.1
DFR	**Drift River**	**2.55**	**346**	P	Pn	18 55 56.4	-0.8
NCT	**North Crescent**	**2.56**	**343**	P	Pn	18 55 56.4	-0.8
PLK1	**Peulik 1**	**2.78**	**265**	P	Pn	18 56 00.4	+0.3
MID	**Middleton Isla**	**2.95**	**62**	P	Pn	18 56 02.8	+0.3
SPU	**Mount Spurr**	**3.08**	**354**	P	Pn	18 56 03.6	-0.7
RC01	**Rabbit Creek A**	**3.09**	**15**	P	Pn	18 56 04.0	-0.5
CKL	**Chakachamna La**	**3.11**	**352**	P	Pn	18 56 04.6	-0.3
BGL	**Barrier Glacie**	**3.18**	**352**	P	Pn	18 56 05.6	-0.2
STLK	**Strandline Lak**	**3.39**	**357**	P	Pn	18 56 08.0	-0.6
SVW2	**Sparrevohn**	**3.65**	**326**	P	Pn	18 56 10.8	-1.3
PMR	**Palmer**	**3.66**	**17**	*e*P	Pn	18 56 14.5	+2.3
EYAK	**Cordova Ski Ar**	**3.79**	**48**	P	Pn	18 56 14.0	0.0
ANPK	**Aniakchak Peak**	**3.84**	**253**	P	Pn	18 56 14.6	-0.2
SKT	**Skwentna**	**3.86**	**359**	P	Pn	18 56

IDC ***07*** *19:59:43.9±1.2,34˚.10N×25˚.38E,h0km,mb3.7/6, mb1 3.8/10,mb1mx3.6/29,mbtmp3.7/10,ML3.6/4,Error ellipse: s-maj=26.1km s-min=22.5km az=165.0*

ISCJB ***07*** *18:59:45.3±2.5,33˚.96N±0˚.06×25˚.46E±0˚.06,h27km±21km, mb3.5/6,Error ellipse: s-maj=10.5km s-min=8.6km az=20.4*

CSEM ***07*** *18:59:49.3±0.6,34˚.33N×25˚.32E,h10km,MD3.3,Error ellipse: s-maj=10.8km s-min=5.5km az=12.0*

THE ***07*** *18:59:51.0,34˚.42N×25˚.34E,h7km±3km,ML2.8/1,Error ellipse: s-maj=3.7km s-min=1.3km az=302.0*

ATH ***07*** *18:59:52.1,34˚.48N×25˚.30E,h35km±5km,MD3.3/7*

ISC 07 18:59:46.0±1.8,34˚.14N±0˚.07×25˚.34E±0˚.04,h16km±11km, n35,σ0°91/46,mb3.7/6,Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.98**	**334**	P		**Pb**		**19 00 04.7**	**+0.1**
SIVA				S		**Sb**		19 00 15.6	-1.7
SIVA	**Sivas**	**0.98**	**334**	*e*PN		**Pn**		**19 00 05.7**	**+0.6**
SIVA	**Sivas**	**0.98**	**334**	P		**Pb**		**19 00 04.7**	**+0.1**
SIVA	**Sivas**	**0.98**	**334**	*e*Pn		**Pn**		**19 00 05.7**	**+0.6**
SIVA				S		**Sb**		19 00 15.6	-1.7
LAST	**Lasithi**	**1.03**	**6**	P		**Pb**		**19 00 05.5**	**+0.1**
LAST				S		**Sb**		19 00 17.4	-1.4
LAST	**Lasithi**	**1.03**	**6**	*e*PN		**Pb**		**19 00 05.6**	**+0.1**
LAST	**Lasithi**	**1.03**	**6**	P		**Pb**		**19 00 05.5**	**+0.1**
LAST				S		**Sb**		19 00 17.4	-1.4
NPS	**Neapolis**	**1.15**	**11**	P		**Pn**		**19 00 07.6**	**+0.2**
NPS	**Neapolis**	**1.15**	**11**	*e*PN		**Pg**		**19 00 07.9**	**-0.2**
NPS	**Neapolis**	**1.15**	**11**	P		**Pn**		**19 00 07.6**	**+0.2**
NPS	**Neapolis**	**1.15**	**11**	*e*Pn		**Pg**		**19 00 07.9**	**-0.2**
IDI	**Anoyia**	**1.21**	**342**	P		**Pg**		**19 00 09.1**	**-0.2**
IDI				S		**Sb**		19 00 22.5	-1.4
IDI	**Anoyia**	**1.21**	**342**	*e*PN		**Pg**		**19 00 09.3**	**0.0**
IDI	**Anoyia**	**1.21**	**342**	P		**Pg**		**19 00 09.1**	**-0.2**
IDI				S		**Sb**		19 00 22.5	-1.4
ZKR	**Zakros**	**1.22**	**36**	P		**Pg**		**19 00 09.1**	**-0.4**
ZKR				S		**Sb**		19 00 23.9	-0.2
ZKR	**Zakros**	**1.22**	**36**	*e*PN		**Pg**		**19 00 10.9**	**+1.4**
ZKR	**Zakros**	**1.22**	**36**	P		**Pg**		**19 00 09.1**	**-0.4**
ZKR	**Zakros**	**1.22**	**36**	*e*Pn		**Pg**		**19 00 10.9**	**+1.4**
ZKR				S		**Sb**		19 00 23.9	-0.2
VAM	**Vamos**	**1.58**	**324**	P		**Pb**		**19 00 15.5**	**+0.7**
VAM	**Vamos**	**1.58**	**324**	*e*PN		**Pb**		**19 00 15.7**	**+0.9**
VAM	**Vamos**	**1.58**	**324**	P		**Pb**		**19 00 15.5**	**+0.7**
KARP	**Karpathos**	**2.06**	**46**	P		**Pb**		**19 00 22.8**	**-0.2**
KARP				S		**Sn**		**19 00 45.8**	**+0.5**
KARP	**Karpathos**	**2.06**	**46**	*e*PN		**Pb**		**19 00 23.4**	**+0.4**
KARP	**Karpathos**	**2.06**	**46**	P		**Pb**		**19 00 22.8**	**-0.2**
KARP	**Karpathos**	**2.06**	**46**	*e*Pn		**Pb**		**19 00 23.4**	**+0.4**
KARP				S		**Sn**		**19 00 45.8**	**+0.5**
MMAI	**Mount Meron Ar**	**8.47**	**95**	Pn		**Pn**		**19 01 47.5**	**-0.6**
	0.8nm,0.3s,baz=270,slow=12,SNR=4.7								
MMAI				S		**Sn**		**19 03 21.2**	**-2.2**
	0.7nm,0.3s,baz=267,slow=26,SNR=3.8								
EIL	**Elat**	**9.30**	**116**	Pn		**Pn**		**19 01 57.8**	**-1.6**
	0.6nm,0.3s,baz=221,slow=7.3,SNR=5.6								
EIL				S		Sn		19 03 31.8	-12
	baz=17,slow=19,SNR=2.0								
KBZ	**Khabaz**	**16.66**	**50**	Pn		**P**		**19 03 40.5**	**-0.5**
	0.0nm,0.3s,baz=242,slow=8.6,SNR=1.8								
GERES	**GERESS Array B**	**17.06**	**333**	P		**P**		**19 03 46.3**	**+0.8**
	0.1nm,0.3s,baz=151,slow=11,SNR=7.6								
HFS	**Hagfors**	**27.11**	**347**	P		**P**		**19 05 28.6**	**+0.8**
	1.4nm,0.3s,baz=288,slow=24,SNR=3.4								
FINES	**FINESS Array B**	**27.33**	**1**	P		**P**		**19 05 29.1**	**-0.7**
	2.5nm,0.9s,baz=215,slow=17,SNR=2.6								
TORD	**Torodi Ar. Bea**	**29.95**	**231**	P		**P**		**19 05 53.8**	**+0.2**
	0.5nm,0.9s,baz=21,slow=9.9,SNR=3.0								
MKAR	**Makanchi Array**	**44.22**	**56**	P		**P**		**19 07 55.1**	**+0.8**
	0.7nm,0.6s,baz=268,slow=7.0,SNR=11								
ZALV	**Zalesovo Beam**	**45.61**	**45**	P		**P**		**19 08 05.4**	**+0.2**
	0.4nm,0.5s,baz=267,slow=9.5,SNR=3.8								
SONM	**Songino Array**	**60.02**	**50**	P		**P**		**19 09 53.2**	**+1.2**
	0.2nm,0.4s,baz=273,slow=7.7,SNR=3.1								

CSEM ***07*** *19:03:43.7±0.4,38˚.22N×38˚.78E,h20km,MD2.7,Error ellipse: s-maj=10.7km s-min=8.9km az=107.0*

ISCJB ***07*** *19:03:44.6±0.7,38˚.24N±0˚.04×38˚.77E±0˚.05,h8km±7km, Error ellipse: s-maj=7.8km s-min=5.3km az=144.4*

DDA ***07*** *19:03:44.3,38˚.25N×38˚.75E,h12km,MD2.7*

ISK ***07*** *19:03:44.2,38˚.23N×38˚.75E,h14km,MD2.2*

ISC 07 19:03:44.5±1.0,38˚.25N±0˚.04×38˚.77E±0˚.03,h16km±8km, n13,σ0°36/22,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MYA	**Malataya**	**0.28**	**285**	*e*PG		**Pg**		**19 03 50.6**	**0.0**
MYA				*e*SG		**Sg**		**19 03 54.7**	**0.0**
MYA	**Malataya**	**0.28**	**285**	*e*Pg		**Pg**		**19 03 50.6**	**0.0**
MYA				*e*Sg		**Sg**		**19 03 54.7**	**0.0**
ELZG	**Elazig**	**0.30**	**35**	*i* P		**Pg**		**19 03 51.0**	**0.0**
ELZG				*i* S		**Sg**		**19 03 55.5**	**+0.1**
ELZG	**Elazig**	**0.30**	**35**	*i* P		**Pg**		**19 03 51.0**	**0.0**
ELZG				*i* S		**Sg**		**19 03 55.5**	**+0.1**
SVRC	**Sivrice-ELAZID**	**0.44**	**74**	*e*PG		**Pg**		**19 03 54.0**	**+0.5**
AKCD	**Akcadag**	**0.66**	**274**	*i* P		**Pb**		**19 03 57.5**	**-0.3**
AKCD				*i* S		**Sb**		**19 04 06.5**	**-0.3**
AKCD	**Akcadag**	**0.66**	**274**	*i* P		**Pb**		**19 03 57.5**	**-0.3**
AKCD				*i* S		**Sb**		**19 04 06.5**	**-0.3**
PTK	**Pertek**	**0.81**	**37**	*e*PG		**Pg**		**19 04 00.4**	**+0.1**
URFA	**Urfa**	**0.81**	**177**	*e*PG		**Pb**		**19 03 59.8**	**-0.5**
URFA	**Urfa**	**0.81**	**177**	*e*Pg		**Pb**		**19 03 59.8**	**-0.5**
KEMA	**Kemaliye**	**1.03**	**348**	*e*P		**Pb**		**19 04 04.0**	**-0.1**
KEMA				*i* S		**Sg**		**19 04 18.6**	**+0.5**
KEMA	**Kemaliye**	**1.03**	**348**	*e*P		**Pb**		**19 04 04.0**	**-0.1**
KEMA				*i* S		**Sg**		**19 04 18.6**	**+0.5**
GZT	**Gaziantep**	**1.31**	**227**	*i* P		**Pg**		**19 04 10.6**	**+0.9**
GZT				*i* S		**Sn**		**19 04 25.5**	**+0.1**

PDG ***07*** *19:11:24.1,75˚.40N×72˚.60W,h10km,mb6.0/1*

BGS ***07*** *19:11:33.2±1.6,75˚.61N×78˚.75W,h20km,MS6.0*

BJI ***07*** *19:11:40.3,75˚.30N×72˚.30W,h5km,mB6.2/62,mb5.8/66, Ms6.2/70,Ms7 6.0/65*

ISCJB ***07*** *19:11:42.7±0.5,75˚.37N±0˚.02×72˚.47W±0˚.05,h5km±2km, mb5.7/401,MS5.8/258,Error ellipse: s-maj=2.8km s-min=1.8km az=153.4*

IDC ***07*** *19:11:43.4±0.3,75˚.36N×72˚.66W,h0km,mb5.4/43, mb1 5.5/47,mb1mx5.5/47,mbtmp5.4/47,ML5.7/5,MS5.7/42, Ms1 5.7/42,ms1mx5.6/46,Error ellipse: s-maj=9.4km s-min=7.8km az=153.0*

MOS ***07*** *19:11:43.5±0.9,75˚.39N×72˚.56W,h10km,mb6.0/110, MS5.8/87,Error ellipse: s-maj=14.1km s-min=4.2km az=79.5*

DJA ***07*** *19:11:44.0±1.4,75˚N±28˚×7˚3W±1˚8,h15km,M6.0/13, mB6.3/11,mb5.7/13,Mw(mB)6.0/11*

BKK ***07*** *19:11:45.1±1.4,75˚N±32˚×7˚3W±1˚6,h10km,M6.1/24, mb5.9/24,mB6.4/15,Mw(mB)6.2/15*

OTT ***07*** *19:11:45.3±0.6,75˚.19N×73˚.40W,h18km,Mw5.9*

OTT 237km southeast from Craig Harbour, Nu. Felt. Felt in Grise Fiord, Nu Baffin Bay Seismic Zone.

NEIC ***07*** *19:11:46.7±0.1,75˚.35N×72˚.45W,h19km,mb5.9/176, ME6.1,MS5.7/136,MW5.9,MW6.1,Error ellipse: s-maj=3.1km s-min=2.0km az=150.0 Broadband fault plane solution: P waves. NP1:φs355.00000°,δ60.00000°, λ140.00000°. NP2:φs108.00000°,δ56.00000°,λ37.00000°. Principal axes: T Plg48.0000°, Azm320.0000°; N Plg0.0000°, Azm0.0000°; P Plg2.0000°, Azm52.0000°; Moment Tensor Solution. s77 Moment tensor: Scale 10¹⁷ Nm; Mrr4.87; Mθθ3.99; Mφφ-8.86; Mrθ2.23; Mθφ-1.92; Mφr0.28; Best double couple: Mo8.20000×10¹⁷ NP1: φs41.00000°,δ60.00000°,λ139.00000°. NP2: φs155.00000°,δ56.00000°,λ38.00000°. Principal axes: T 6.7700, Plg49.0000°, Azm5.0000°; N 2.4000, Plg40.0000°, Azm190.0000°; P -9.1700, Plg2.0000°, Azm98.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Qaanaaq and Thule Air Base, Greenland. Also felt at Grise Fiord, Nunavut, Canada.

GCMT ***07*** *19:11:49.2±0.1,75˚.33N×72˚.49W,h16km,MW6.0, Moment Tensor Solution. s113,c251; s83,c120; Moment tensor: Scale 10¹⁸Nm; Mrr1.19±.01; Mθθ0.23±.01; Mφφ-1.42±.01; Mrθ0.37±.02; Mθφ0.11±.01; Mφr-0.17±.02; Best double couple: Mo1.40000×10¹⁸ NP1:φs14.00000°, δ44.00000°,λ117.00000°. NP2:φs159.00000°,δ52.00000°, λ67.00000°. Principal axes: T 1.3200, Plg71.0000°, Azm8.0000°; N 0.1200, Plg18.0000°, Azm174.0000°; P -1.4400, Plg4.0000°, Azm265.0000°; Data Used: II IU CN IC G. Surface waves: sta=117, comp=272, per= 50.*

SZGRF ***07*** *19:11:52.2,75˚.23N×68˚.08W,h10km,mb5.0,MS5.6, Baffin Bay*

NEIC ***07*** *19:11:58.9±0.0,74˚.99N×72˚.69W,h18km,Moment Tensor Solution. s121 Moment tensor: Scale 10¹⁸Nm; Mrr1.19; Mθθ0.09; Mφφ-1.28; Mrθ0.84; Mφθ0.03; Mφr0.50; Best double couple: Mo1.50000×10¹⁸ NP1:φs27.00000°, δ62.00000°,λ119.00000°. NP2:φs157.00000°,δ39.00000°, λ47.00000°. Principal axes: T 1.7100, Plg61.0000°, Azm341.0000°; N -0.3200, Plg25.0000°, Azm192.0000°; P -1.3900, Plg12.0000°, Azm96.0000°;*

ISC 07 19:11:45.5±0.3,75˚.34N±0˚.03×72˚.69W±0˚.03,h15km±1km, h15km:pP-P,n1768,σ1932/1910,mb5.7/411,MS5.8/259, 349C-270D,Baffin Bay

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EUNU	**Eureka**	**5.55**	**335**	PN		**Pn**		**19 13 07.0**	**-0.4**
EUNU				mb				19 13 08.7	
	comp=Z,692nm,0.3s								
EUNU				SN		**Sn**		**19 14 05.7**	**-5.1**
EUNU				Trac				19 14 12.3	
	comp=Z,3μm,0.3s								
EUNU	**Eureka**	**5.55**	**335**	Pn		**Pn**		**19 13 07.0**	**-0.4**
EUNU				Sn		**Sn**		**19 14 05.7**	**-5.1**
RES	**Resolute Bay**	**5.78**	**274**	⇓PN		**Pn**		**19 13 08.6**	**-2.0**
RES				mb				19 13 10.1	
	comp=Z,3μm,0.5s								
RES				SN		Sn		19 14 07.2	-9.1
RES				Trac				19 14 13.5	
	comp=Z,11μm,0.7s								
RES	**Resolute Bay**	**5.78**	**274**	Pn		**Pn**		**19 13 08.5**	**-2.0**
RES				Sn		Sn		19 14 09.7	-6.7
RES	**Resolute Bay**	**5.78**	**274**	Pn		**Pn**		**19 13 08.5**	**-2.0**
	691nm,0.3s,baz=60,slow=11,SNR=2053								
RES				Sn		Sn		19 14 09.7	-6.7
	2μm,0.3s,baz=280,slow=15,SNR=13								
GIFN	**Gifford Fjord,**	**5.99**	**211**	⇓PN		**Pn**		**19 13 10.7**	**-2.7**
GIFN				mb				19 13 13.1	
	comp=Z,965nm,0.5s								
GIFN				SN		Sn		19 14 12.5	-9.1
GIFN				Trac				19 14 15.8	
	comp=Z,8μm,0.6s								
GIFN	**Gifford Fjord,**	**5.99**	**211**	⇓Pn		**Pn**		**19 13 10.7**	**-2.7**
GIFN				Sn		Sn		19 14 12.5	-9.1
ILON	**Igloolik, Nuna**	**6.60**	**209**	⇓PN		**Pn**		**19 13 18.8**	**-3.0**
ILON				mb				19 13 26.4	
	comp=Z,2μm,0.8s								
ILON				SN		Sn		19 14 25.2	-11
ILON				Trac				19 14 30.4	
	comp=Z,7μm,0.7s								
ILON	**Igloolik, Nuna**	**6.60**	**209**	Pn		**Pn**		**19 13 18.8**	**-3.0**
ILON				Sn		Sn		19 14 25.2	-11
AP3N	**Apex site 3 Nu**	**6.89**	**217**	⇓PN		Pn		19 13 22.1	-3.6
AP3N				mb				19 13 25.2	
	comp=Z,751nm,0.4s								
AP3N				SN		Sn		19 14 32.1	-12
AP3N				Trac				19 14 36.6	
	comp=Z,8μm,0.6s								
AP3N	**Apex site 3 Nu**	**6.89**	**217**	⇓Pn		Pn		19 13 22.1	-3.6
AP3N				Sn		Sn		19 14 32.1	-12
LAIN	**Lailor River,**	**7.07**	**213**	⇓PN		Pn		19 13 24.9	-3.4
LAIN				mb				19 13 26.4	
	comp=Z,1μm,1.0s								
LAIN				SN		Sn		19 14 36.7	-12
LAIN				Trac				19 14 42.3	
	comp=Z,7μm,0.7s								
LAIN	**Lailor River,**	**7.07**	**213**	⇓Pn		Pn		19 13 24.9	-3.4
LAIN				Sn		Sn		19 14 36.7	-12
ALE	**Alert**	**7.45**	**10**	Pn		**Pn**		**19 13 31.2**	**-2.1**
	27μm,0.6s								
SRLN	**Sarcpa Lake, N**	**7.56**	**211**	⇓PN		Pn		19 13 31.1	-3.8
SRLN				mb				19 13 35.0	
	comp=Z,206nm,0.2s								
SRLN				SN		Sn		19 14 46.2	-14
SRLN				Trac				19 15 10.1	
	comp=Z,6μm,0.7s								
SRLN	**Sarcpa Lake, N**	**7.56**	**211**	⇓Pn		Pn		19 13 31.1	-3.8
SRLN				Sn		Sn		19 14 46.2	-14
KUGN	**Kugaaruk Camp,**	**9.05**	**225**	PN		Pn		19 13 50.0	-5.3
KUGN				mb				19 13 54.1	
	comp=Z,1μm,0.6s								
KUGN				SN		Sn		19 15 23.7	-13
KUGN				Trac				19 15 30.7	
	comp=Z,3μm,0.5s								
KUGN	**Kugaaruk Camp,**	**9.05**	**225**	Pn		Pn		19 13 50.0	-5.3
KUGN				Sn		Sn		19 15 23.7	-13
SUMG	**Summit**	**9.76**	**89**	*e*P		Pn		19 14 01.8	-3.6
SUMG	**Summit**	**9.76**	**89**	*e*Pn		Pn		19 14 01.8	-3.6
SUMG	**Summit**	**9.76**	**89**	*i*P		Pn		19 14 01.5	-3.9
SUMG				*i* S		Sn		19 15 45.0	-10
	comp=Z,141μm,13.0s								
QILN	**Qililugaq Expl**	**9.76**	**214**	⇓PN		Pn		19 13 59.8	-5.3
QILN				mb				19 14 05.2	
	comp=Z,425nm,0.4s								
QILN				SN		Sn		19 15 38.2	-16
QILN				Trac				19 15 55.6	
	comp=Z,3μm,0.6s								
QILN	**Qililugaq Expl**	**9.76**	**214**	⇓Pn		Pn		19 13 59.8	-5.3
QILN				Sn		Sn		19 15 38.2	-16
STLN	**Stellar Camp,**	**10.28**	**229**	⇓PN		Pn		19 14 06.6	-5.5
STLN				mb				19 14 10.6	
	comp=Z,1μm,0.5s								
STLN				SN		Sn		19 15 51.9	-15
STLN				Trac				19 15 58.8	
	comp=Z,7μm,0.6s								
STLN	**Stellar Camp,**	**10.28**	**229**	Pn		Pn		19 14 06.6	-5.5
STLN				Sn		Sn		19 15 58.8	-8.0
SFJD	**Kangerlussuaq**	**10.90**	**129**	*i* P		Pn		19 14 17.0	-3.6
SFJD									
	comp=Z,28μm,20.0s								
WAGN	**Wager Bay**	**10.95**	**219**	PN		Pn		19 14 15.1	-6.1
WAGN				mb				19 14 19.2	
	comp=Z,1μm,0.5s								
WAGN				SN		Sn		19 16 07.0	-16
WAGN				Trac				19 16 15.6	
	comp=Z,3μm,0.8s								
WAGN	**Wager Bay**	**10.95**	**219**	Pn		Pn		19 14 15.1	-6.1
WAGN				Sn		Sn		19 16 07.0	-16
BULN	**Bullion Camp,**	**11.11**	**227**	PN		Pn		19 14 17.4	-6.1
BULN				mb				19 14 21.5	
	comp=Z,1μm,0.5s								
BULN				SN		Sn		19 16 11.4	-16
BULN				Trac				19 16 20.5	
	comp=Z,3μm,0.6s								
BULN	**Bullion Camp,**	**11.11**	**227**	Pn		Pn		19 14 17.4	-6.1
BULN				Sn		Sn		19 16 11.4	-16
CB31	**Cambridge Bay**	**11.53**	**254**	⇓PN		Pn		19 14 24.1	-5.0
CB31				mb				19 14 27.9	
	comp=Z,1μm,0.3s								
CB31				SN		Sn		19 16 24.9	-12
CB31				Trac				19 16 30.9	
	comp=Z,3μm,0.3s								
CB31	**Cambridge Bay**	**11.53**	**254**	⇓Pn		Pn		19 14 24.1	-5.0
CB31				Sn		Sn		19 16 24.9	-12
FRB	**Frobisher Bay**	**11.74**	**171**	⇑PN		Pn		19 14 27.1	-4.9
FRB				mb				19 14 30.3	
	comp=Z,99nm,0.2s								
FRB				SN		Sn		19 16 26.4	-16
FRB				Trac				19 16 31.5	
	comp=Z,554nm,0.3s								
FRB	**Frobisher Bay**	**11.74**	**171**	Pn		Pn		19 14 27.4	-4.6
FRB				Sn		Sn		19 16 28.2	-14
FRB	**Frobisher Bay**	**11.74**	**171**	Pn		Pn		19 14 27.4	-4.6
	comp=Z,39nm,0.3s,baz=3.1,slow=13,SNR=206								
FRB				Sn		Sn		19 16 28.2	-14
	comp=Z,178nm,0.3s,baz=81,slow=15,SNR=8.4								
FRB				LR		LR		19 19 02.4	
	comp=Z,66μm,18.9s,baz=359,slow=37								
NUNN	**Nunuq Camp, NU**	**11.83**	**220**	PN		Pn		19 14 27.2	-6.0
NUNN				mb				19 14 30.6	
	comp=Z,1μm,0.8s								
NUNN				SN		Sn		19 16 28.2	-17
NUNN				Trac				19 16 36.7	
	comp=Z,2μm,0.7s								
NUNN	**Nunuq Camp, NU**	**11.83**	**220**	Pn		Pn		19 14 27.2	-6.0
NUNN				Sn		Sn		19 16 28.2	-17
DAG	**Danmarks Havn**	**12.71**	**58**	⇓*i*P		Pn		19 14 40.2	-5.1
DAG				MLR		MLR			
	comp=Z,200μm,12.0s								
DAG	**Danmarks Havn**	**12.71**	**58**	⇓*i*P		Pn		19 14 40.2	-5.1
DAG				*i* S		Sn		19 16 49.5	-17
DAG									
	comp=Z,196μm,12.0s								
YBKN	**Baker Lake, Hu**	**13.52**	**228**	⇓PN		Pn		19 14 49.2	-7.0
YBKN				mb				19 14 53.1	
	comp=Z,2μm,1.0s								
YBKN				SN		Sn		19 17 06.8	-19
YBKN				Trac				19 17 14.8	
	comp=Z,3μm,0.6s								
SEDN	**First Sedna Si**	**13.68**	**217**	⇓PN		Pn		19 14 51.1	-7.4
SEDN				mb				19 14 57.8	
	comp=Z,407nm,0.7s								
SEDN				SN		Sn		19 17 12.1	-18
SEDN				Trac				19 17 26.4	
	comp=Z,2μm,0.7s								
JOSN	**Second Sedna S**	**13.82**	**218**	⇓PN		Pn		19 14 53.6	-6.8
JOSN				mb				19 14 56.4	
	comp=Z,573nm,0.8s								
JOSN				SN		Sn		19 17 16.9	-16
JOSN				Trac				19 17 18.5	
	comp=Z,2μm,0.8s								
SCO	**Scoresbysund**	**15.22**	**83**	⇓*i*P		Pn		19 15 12.5	-6.8
SCO				MLR		MLR			
	comp=Z,100μm,14.0s								
ARVN	**Arviat, NU**	**16.18**	**219**	⇓PN		Pn		19 15 24.0	-7.8
ARVN				mb				19 15 25.8	
	comp=Z,1μm,2.3s								
ARVN				SN		Sn		19 18 14.6	-16
ARVN				Trac				19 18 16.2	
	comp=Z,1μm,0.8s								
COKN	**Cook Lake**	**17.14**	**245**	⇓PN		Pn		19 15 35.7	-8.3
COKN				mb				19 15 40.0	
	comp=Z,658nm,0.6s								
COKN				SN		Sn		19 18 30.3	-24
COKN				Trac				19 18 37.8	
	comp=Z,772nm,0.5s								
WHFN	**White Fish Lak**	**17.38**	**241**	⇓PN		Pn		19 15 39.0	-8.0
WHFN				mb				19 15 43.6	
	comp=Z,470nm,0.6s								
WHFN				SN		Sn		19 18 37.9	-22
WHFN				Trac				19 18 44.8	
	comp=Z,1μm,0.7s								
KUQ	**Kuujjuuaa**	**17.39**	**172**	PN		Pn		19 15 37.3	-10
KUQ				mb				19 15 38.3	
	comp=Z,164nm,0.6s								
KUQ				SN		Sn		19 18 35.9	-24
KUQ				Trac				19 19 01.0	
	comp=Z,554nm,0.8s								
KUQ	**Kuujjuuaa**	**17.39**	**172**	Pn		Pn		19 15 37.3	-10
KUQ				Sn		Sn		19 18 35.9	-24
KBS	**Kingsbay**	**17.56**	**40**	*e*P		**Pn**		**19 15 44.4**	**-4.7**
KBS				AMB		AMB		19 16 04.1	
	comp=Z,575nm,1.7s								
KBS				*e*S		**S**		**19 19 08.8**	**-2.9**
KBS				AMS		AMS		19 22 38.9	
	comp=Z,66μm,15.1s								
KBS	**Kingsbay**	**17.56**	**40**	*d i*P		**Pn**		**19 15 45.0**	**-4.1**
KBS				pmax		pmax			
	comp=Z,351nm,1.5s								
KBS	**Kingsbay**	**17.56**	**40**	*e*Pn		Pn		19 15 44.0	-5.2
	comp=Z,327nm,0.9s								
GDLN	**Gardenia Lake,**	**17.62**	**239**	⇓PN		Pn		19 15 42.0	-8.0
GDLN				mb				19 15 45.7	
	comp=Z,696nm,0.8s								
GDLN				SN		Sn		19 18 45.2	-20
CTLN	**Castor Lake**	**17.90**	**256**	⇓PN		Pn		19 15 47.5	-5.9
CTLN				mb				19 15 51.5	
	comp=Z,1μm,0.6s								
CTLN				SN		Sn		19 18 50.7	-22
CTLN				Trac				19 19 00.7	
	comp=Z,1μm,0.8s								
JNW	**Jan Mayen West**	**18.19**	**71**	*e*		**Pn**		**19 15 53.3**	**-3.6**
JMIC	**Jan Mayen**	**18.20**	**71**	*e*P		**Pn**		**19 15 55.1**	**-1.9**
JMIC				AMB		AMB		19 15 56.9	
	comp=Z,2μm,1.4s								
JMIC				*e*S		**S**		**19 19 23.8**	**-1.0**
JMIC				AMS		AMS		19 23 18.5	
	comp=Z,50μm,11.2s								
JMIC	**Jan Mayen**	**18.20**	**71**	P		**Pn**		**19 15 53.3**	**-3.7**
JMIC	**Jan Mayen**	**18.20**	**71**	P		**Pn**		**19 15 53.3**	**-3.7**
	comp=Z,42nm,0.3s,baz=17,slow=2.4,SNR=34								
JMIC				LR		LR		19 22 46.0	
	comp=Z,23μm,19.6s,baz=322,slow=36								
FCC	**Fort Churchill**	**18.40**	**217**	PN		P		19 15 52.4	-7.0
FCC				SN		Sn		19 19 04.8	-20
FCC				Trac				19 19 14.3	
	comp=Z,1μm,1.2s								
GALN	**Gameti Lake**	**18.48**	**257**	⇓PN		P		19 15 54.4	-5.9
GALN				mb				19 16 00.4	
	comp=Z,750nm,0.6s								
GALN				SN		Sn		19 19 03.5	-23
GALN				Trac				19 19 09.1	
	comp=Z,2μm,1.0s								
SPA0	**Spitsbergen Ar**	**18.72**	**40**	*e*P		**P**		**19 16 00.9**	**-2.0**
SPA0				*e*S		**S**		**19 19 35.8**	**+0.6**
SPITS	**Spitsbergen Ar**	**18.72**	**40**	P		**P**		**19 16 00.9**	**-2.0**
SPITS				S		Sn		19 19 18.9	-13
SPITS	**Spitsbergen Ar**	**18.72**	**40**	P		**P**		**19 16 00.9**	**-2.0**
	baz=312,slow=7.4,SNR=83								
SPITS

comp=Z,407nm,0.7s
EGAK Eagle 23.96 281 *e*P **P 19 16 59.0 +0.4**
comp=Z,2µm,1.4s
EGAK LR LR
comp=Z,20µm,20.0s
COLD Coldfoot 24.19 292 *e*P **P 19 17 02.1 +1.4**
comp=Z,3µm,2.1s
FNBB Fort Nelson 24.37 256 ⇓PN **P 19 17 03.0 +0.6**
PKLO Pickle Lake 24.98 207 PN **P 19 17 07.3 -0.6**
ILAR Eielson Array 25.39 286 P **P 19 17 12.7 +1.1**
ILAR *e* 19 50 09.0
ILAR Eielson Array 25.39 286 P **P 19 17 12.7 +1.1**
comp=Z,48nm,0.8s,baz=36,slow=8.6,SNR=67
ILAR P3KPbc 19 50 09.0
comp=Z,1.4nm,0.9s,baz=233,slow=6.0,SNR=10
TRO Tromso 25.40 55 *e*P **P 19 17 11.9 +0.3**
TRO *e*S **S 19 21 37.2 0.0**
TRO AMS AMS 19 29 24.0
comp=Z,10µm,13.9s
COLA College 25.54 287 *e*P **P 19 17 14.9 +2.0**
COLA pmax pmax
comp=Z,1µm,1.4s
COLA MLR MLR
comp=Z,19µm,22.0s
COLA College 25.54 287 *e*P **P 19 17 14.9 +2.0**
comp=Z,1µm,1.4s
COLA LR LR
comp=Z,19µm,22.0s
STEI Steigen 26.00 59 *e*P **P 19 17 17.3 +0.3**
STEI AMB AMB 19 17 33.1
comp=Z,473nm,2.2s
DLBC Dease Lake 26.52 263 P **P 19 17 25.1 +3.0**
DLBC Dease Lake 26.52 263 P **P 19 17 25.1 +3.0**
comp=Z,70nm,0.8s,baz=16,slow=6.0,SNR=26
DLBC LR LR 19 27 21.5
comp=Z,6µm,19.4s,baz=338,slow=35
PAX Paxson 26.54 282 *e*P **P 19 17 23.8 +1.7**
PAX pmax pmax
comp=Z,797nm,1.3s
PAX Paxson 26.54 282 *e*P **P 19 17 23.8 +1.7**
comp=Z,797nm,1.3s
KONS Konsvik 26.70 63 *e*P **P 19 17 24.0 +0.5**
MCK McKinley 26.75 286 *e*P **P 19 17 25.6 +1.7**
MCK pmax pmax
comp=Z,1µm,1.3s
MCK McKinley 26.75 286 *e*P **P 19 17 25.6 +1.7**
comp=Z,1µm,1.3s
KTK1 Kautokeino 26.80 53 *e*P **P 19 17 23.7 -0.5**
KTK1 AMB AMB 19 17 42.1
comp=Z,5µm,0.0s
KTK1 *e*S **S 19 21 59.7 +0.4**
KTK1 AMS AMS 19 29 04.7
comp=Z,32µm,16.9s
ARCES ARCESS Array B 26.81 51 P **P 19 17 23.8 -0.7**
ARCES PKiKP **PKiKP 19 28 22.9 -0.9**
ARCES ARCESS Array B 26.81 51 P **P 19 17 23.8 -0.7**
comp=Z,63nm,0.7s,baz=329,slow=7.3,SNR=62
ARCES PKiKP **PKiKP 19 28 22.9 -0.9**
comp=Z,1.0nm,0.5s,baz=303,slow=0.2,SNR=7.3
ARCES LR LR 19 28 31.9
comp=Z,15µm,18.5s,baz=216,slow=38
ARE0 ARCESS Array S 26.81 51 *e*P **P 19 17 23.7 -0.7**
ARE0 *e*S **S 19 21 58.6 -1.0**
ARE0 ARCESS Array S 26.81 51 *e*P **P 19 17 23.5 -0.9**
FLOS Flostrand 26.89 63 *e*P **P 19 17 25.4 +0.3**
ULM Lac du Bonnet 26.91 214 *e*P **P 19 17 25.1 -0.4**
ULM Lac du Bonnet 26.91 214 P **P 19 17 24.8 -0.6**
comp=Z,40nm,0.7s,baz=12,slow=9.1,SNR=23
ULM LR LR 19 26 48.5
comp=Z,9µm,21.4s,baz=13,slow=34
KEV Kevo 26.92 49 *ep* **P 19 17 23.7 -1.7**
comp=Z,109nm,0.8s
KEV Kevo 26.92 49 *e*P **P 19 17 24.3 -1.1**
KEV pmax pmax
comp=Z,322nm,1.0s
KEV MLR MLR
comp=Z,9µm,19.0s
KEV Kevo 26.92 49 *e*P **P 19 17 24.2 -1.1**
comp=Z,322nm,1.0s
KEV LR LR
comp=Z,9µm,19.0s
DRLN Deer Lake 26.93 158 *e*P **P 19 17 24.8 -0.8**
comp=Z,116nm,0.8s
SKAG Skagway 26.98 269 *e*P **P 19 17 27.9 +1.9**
comp=Z,2µm,1.8s
MOR8 Moi Rana 27.28 62 *e*P **P 19 17 30.4 +1.7**
MOR8 AMB AMB 19 17 47.5
comp=Z,261nm,1.4s
TRF Thorofare Moun 27.32 287 *e*P **P 19 17 29.4 +0.2**
comp=Z,3µm,1.7s
PNL Peninsula 27.83 273 *e*P **P 19 17 37.5 +3.9**
comp=Z,188nm,0.9s
NSS Namsos 28.09 66 *e*P **P 19 17 38.1 +2.2**
NSS AMB AMB 19 17 53.3
comp=Z,111nm,2.4s
NSS *e*S **S 19 22 20.1 +0.5**
NSS AMS AMS 19 29 45.0
comp=Z,5µm,15.1s
DIV Divide 28.18 280 *e*P **P 19 17 38.4 +1.6**
comp=Z,488nm,1.4s
SML Sawmill 28.23 283 *e*P **P 19 17 39.0 +1.8**
SML pmax pmax
comp=Z,204nm,1.4s
SML Sawmill 28.23 283 *e*P **P 19 17 39.0 +1.8**
comp=Z,204nm,1.4s
EYMN Ely 28.61 207 *e*P **P 19 17 40.5 -0.1**
comp=Z,228nm,1.1s
EYMN LR LR
comp=Z,39µm,20.0s
PMR Palmer 28.62 284 *e*P **P 19 17 42.5 +1.9**
PMR pmax pmax
comp=Z,1µm,2.1s
PMR Palmer 28.62 284 *e*P **P 19 17 42.5 +1.9**
comp=Z,1µm,2.1s
LRW Lerwick 28.64 82 *e*P **P 19 17 40.9 +0.1**
LRW AMS AMS 19 28 54.2
comp=Z,21µm,15.1s
MOL Molde 28.71 72 *e*P **P 19 17 42.9 +1.5**
MOL *e*S **S 19 22 30.5 +1.1**
MOL AMS AMS 19 31 35.8
comp=Z,7µm,14.9s
TBLU Trondheim 28.77 69 *e*P **P 19 17 43.9 +1.9**
TBLU *e*S **S 19 22 28.3 -2.2**
TBLU AMS AMS 19 31 10.9
comp=Z,19µm,11.8s
AGMN Agassiz Nation 28.82 213 *e*P P 19 17 38.9 -3.6
comp=Z,534nm,1.4s
AGMN LR LR
comp=Z,12µm,20.0s
PQI Presque Isle 28.84 173 *e*P **P 19 17 42.1 -0.6**
comp=Z,0.6nm,0.8s
WRAK Wrangell Islan 28.90 263 *e*P **P 19 17 46.2 +3.1**
comp=Z,143nm,1.1s
SIT Sitka 29.09 267 *e*P P 19 17 52.0 +7.2
SIT pmax pmax
comp=Z,181nm,1.1s
SIT Sitka 29.09 267 *e*P P 19 17 52.0 +7.2
comp=Z,181nm,1.1s
RC01 Rabbit Creek A 29.20 284 *e*P **P 19 17 48.2 +2.5**
comp=Z,233nm,0.9s
A24A Westby 29.50 224 ⇑P **P 19 17 49.6 +1.0**
baz=29,SNR=18
TNA Tin City 29.57 303 *e*P **P 19 17 51.2 +2.2**
comp=Z,1µm,1.8s
HYA Hoyanger 29.59 74 *e*P **P 19 17 50.5 +1.4**
HYA *e* 19 22 36.5
A23A Redstone 29.62 225 ⇑P **P 19 17 50.0 +0.3**
baz=30
SPU Mount Spurr 29.69 286 *e*P **P 19 17 51.1 +1.0**
A22A Carney Farms, 29.78 227 ⇓P **P 19 17 51.9 +0.8**
baz=30,SNR=24
MDND Maddock 29.81 218 ⇓P **P 19 17 51.5 +0.2**
baz=30,SNR=9.0
MVH1 Achvaich 29.81 87 *e*P **P 19 17 51.1 -0.1**
ASK Askoy 29.93 76 *e*P **P 19 17 52.6 +0.4**
CRAG Craig 29.95 263 *e*P P 19 17 57.2 +4.8
comp=Z,466nm,1.6s
KPL Plockton 29.96 89 *e*P **P 19 17 52.9 +0.4**
KPL AMS AMS 19 30 58.9
comp=Z,26µm,12.9s
LVZ Lovozero 29.96 46*c i*P **P 19 17 52.2 -0.3**
LVZ pmax pmax
comp=Z,224nm,0.8s
LVZ Lovozero 29.96 46 P **P 19 17 52.2 -0.3**
SNR=29
A21A Bergtoll Ranch 29.97 228 ⇓P **P 19 17 53.8 +1.0**
baz=30
DGMT Dagmar 29.97 224 *e*P **P 19 17 53.9 +1.1**
comp=Z,405nm,0.9s
DGMT LR LR
comp=Z,9µm,20.0s
DGMT Dagmar 29.97 224 ⇑P **P 19 17 53.3 +0.5**
baz=30,SNR=22
APA Apatity 30.01 47 ⇓*i*P **P 19 17 52.0 -0.9**
APA *e*S **S 19 22 47.0 -2.8**
APA *i* SS **SnSn 19 24 22.0 +0.5**
APA pmax pmax
comp=Z,62nm,1.0s
APA MLR MLR
comp=Z,16µm,14.0s
RUND Rundenannen 30.04 76 *e*P **P 19 17 53.4 +0.2**
RUND AMB AMB 19 17 59.0
comp=Z,91nm,1.8s
BER Bergen 30.05 76 *e*P **P 19 17 53.2 -0.1**
BER AMB AMB 19 17 57.7
comp=Z,94nm,1.7s
BER *e*S **S 19 22 51.0 +0.5**
BER AMS AMS 19 29 41.1
comp=Z,18µm,18.4s
B23A Brockton 30.12 225 ⇑P **P 19 17 55.1 +1.0**
baz=30,SNR=20
EGD Espegrend 30.12 76 *e*P **P 19 17 53.6 -0.4**
KSB Sheil Bridge 30.13 89 *e*P **P 19 17 53.8 -0.2**
COWI Conover 30.18 203 *e*P **P 19 17 54.0 -0.6**
comp=Z,88nm,0.7s
COWI LR LR
comp=Z,32µm,21.0s
MDO Dochfour 30.20 88 *e*P **P 19 17 54.7 0.0**
A20A Cobblestone Ra 30.27 229 ⇓P **P 19 17 56.3 +0.9**
baz=30,SNR=17
A19A Klindworth Far 30.38 230 ⇓P **P 19 17 57.3 +0.9**
baz=30,SNR=14
MSNY Massena 30.46 183 *e*P **P 19 17 58.1 +1.1**
B22A Reddig Ranch S 30.46 226 ⇑P **P 19 17 57.3 +0.2**
baz=30
RSO Reoubt South 30.49 286 *e*P **P 19 17 58.9 +1.5**
B21A Ellsworth Farm 30.53 228 ⇑P **P 19 17 58.2 +0.5**
baz=30,SNR=14
A18A Metzger Ranch, 30.61 231 P **P 19 17 59.4 +1.0**
baz=30
FRNY Flat Rock 30.61 181 *e*P **P 19 17 58.6 +0.2**
comp=Z,722nm,1.9s
SVW2 Sparrevohn 30.62 289 *e*P **P 19 17 59.5 +1.1**
comp=Z,161nm,1.3s
MME1 Meikle Cairn 30.66 86 *e*P **P 19 17 58.7 -0.1**
B20A Solberg Farm, 30.71 229 ⇓P **P 19 17 59.9 +0.6**
baz=31,SNR=30
A17A Triple J Farms 30.75 233 ⇑P **P 19 18 00.2 +0.5**
baz=31,SNR=14
ODD1 Odda 30.79 75 *e*P **P 19 18 00.4 +0.6**
ODD1 *e*S **S 19 23 03.0 +0.8**
ODD1 AMS AMS 19 30 23.7
comp=Z,18µm,16.2s
C23A Lambert 30.79 225 ⇓P **P 19 18 01.2 +1.2**
baz=31,SNR=76
SADO Sadowa 30.80 189 P **P 19 18 01.3 +1.2**
SADO Sadowa 30.80 189 P **P 19 18 01.3 +1.2**
comp=Z,12nm,0.9s,baz=14,slow=3.5,SNR=7.2
SADO LR LR 19 30 21.3
comp=Z,27µm,18.8s,baz=3.9,slow=36
EMMW East Machias 30.82 173 *e*P **P 19 18 01.1 +0.9**
LONY Lake Ozonia 30.83 183 *e*P **P 19 18 00.8 +0.4**
comp=Z,541nm,1.8s
LONY LR LR
comp=Z,35µm,20.0s
B19A Brinkman Farms 30.87 230 ⇓P **P 19 18 01.9 +1.2**
baz=31,SNR=34
PTN Potsdam (NY) 30.89 183 *e*P **P 19 18 01.0 +0.2**
PTN pmax pmax
comp=Z,803nm,1.6s
PTN Potsdam (NY) 30.89 183 *e*P **P 19 18 01.0 +0.2**
comp=Z,803nm,1.6s
NB2 NORSAR Subarra 30.91 70 P **P 19 18 00.7 -0.3**
comp=Z,97nm,1.1s,baz=330,slow=9.3
NB2 NORSAR Subarra 30.91 70 P **P 19 18 00.7 -0.3**
baz=330,slow=9.3
NOA NORSAR Array B 30.91 70 P **P 19 18 01.1 +0.2**
NOA PcP **PcP 19 20 57.0 +0.2**
NOA *e* 19 49 48.2
NOA NORSAR Array B 30.91 70 P **P 19 18 01.1 +0.2**
comp=Z,36nm,0.7s,baz=326,slow=8.0,SNR=56
NOA PcP **PcP 19 20 57.0 +0.2**
comp=Z,24nm,0.9s,baz=348,slow=3.7,SNR=5.4
NOA LR LR 19 30 39.6
comp=Z,12µm,18.3s,baz=340,slow=37
NOA P3KPbc 19 49 48.2
comp=Z,0.9nm,0.8s,baz=143,slow=4.3,SNR=3.4
C24A Savage 30.92 224 ⇑P **P 19 18 01.9 +0.7**
baz=31,SNR=6.1
A16A West Butte Ran 30.93 234 ⇑P **P 19 18 01.3 0.0**
baz=31
C22A Vida 30.97 226 ⇑P **P 19 18 01.8 +0.2**
baz=31,SNR=43
GLMI Grayling 31.05 197 *e*P **P 19 18 02.9 +0.5**
comp=Z,187nm,0.9s
GLMI LR LR
comp=Z,38µm,19.0s
B18A Beardsley Farm 31.09 231 ⇑P **P 19 18 03.4 +0.7**
baz=31,SNR=9.1
C21A Desert Coulee 31.12 227 ⇑P **P 19 18 03.0 +0.1**
baz=31,SNR=15
A15A Johnson Ranch, 31.14 235 ⇑P **P 19 18 03.4 +0.2**
baz=31
BLS5 Blasjo 31.17 76 *e*P **P 19 18 04.0 +0.8**
LBNH Lisbon 31.20 179 *e*P **P 19 18 03.8 +0.2**
LBNH pmax pmax
comp=Z,87nm,0.5s
LBNH MLR MLR
comp=Z,26µm,19.0s
LBNH Lisbon 31.20 179 *e*P **P 19 18 03.8 +0.2**
comp=Z,86nm,0.5s
LBNH LR LR
comp=Z,26µm,19.0s
NC602 NORSAR Array S 31.26 70 *e*P **P 19 18 03.6 -0.4**
NC602 *e*S **S 19 23 10.3 +0.9**
A14A Double T Ranch 31.29 236 ⇓P **P 19 18 05.0 +0.4**
baz=31
D24A Glendive 31.30 224 ⇑P **P 19 18 05.0 +0.5**
baz=31,SNR=23
EAB Aberfoyle 31.32 89 *e*P **P 19 18 05.1 +0.6**
B17A L&G Farms, Che 31.40 232 ⇓P **P 19 18 05.7 +0.4**
baz=31
C20A Veseth Ranch, 31.40 229 ⇓P **P 19 18 05.5 +0.1**
baz=31,SNR=36
D23A Lindsay 31.40 225 ⇑P **P 19 18 06.5 +1.0**
baz=31
MDV Middlebury 31.44 181 *e*P **P 19 18 06.5 +0.7**
EGMT Eagleton 31.44 231 *e*P **P 19 18 07.0 +1.1**
comp=Z,2µm,1.4s
EGMT LR LR
comp=Z,13µm,21.0s
EGMT Eagleton 31.44 231 ⇑P **P 19 18 06.6 +0.8**
baz=31,SNR=7.5
SPMN St. Paul 31.44 208 ⇑P **P 19 18 06.1 +0.4**
baz=31,SNR=14
B16A M & M Farms, S 31.46 233 ⇑P **P 19 18 05.9 -0.1**
baz=31,SNR=10
NCB Newcomb 31.48 182 *e*P **P 19 18 03.3 -2.8**
comp=Z,130nm,0.5s
NCB LR LR
comp=Z,32µm,20.0s
A13A Flathead Natio 31.54 237 ⇓P **P 19 18 07.4 +0.7**
baz=32
C19A Slack Wire Ran 31.58 230 ⇑P **P 19 18 07.5 +0.4**
baz=32,SNR=12
D22A Cohagen 31.60 226 ⇓P **P 19 18 07.6 +0.4**
baz=32,SNR=19
E26A Carlson Angus 31.61 221 ⇓P **P 19 18 07.6 +0.3**
baz=32,SNR=22
PGBU Glenifferbraes 31.61 89 *e*P **P 19 18 07.4 +0.3**
PGBU AMS AMS 19 31 15.2
comp=Z,22µm,15.9s
B15A Bradely Ranch, 31.74 234 ⇑P **P 19 18 08.5 0.0**
baz=32,SNR=5.5
HNH Hanover 31.74 179 *e*P **P 19 18 09.6 +1.3**
E25A Miller Ranch, 31.74 222 ⇑P **P 19 18 08.9 +0.6**
baz=32,SNR=12
KONO Kongsberg 31.74 73 *e*P **P 19 18 09.8 +1.6**
KONO AMB AMB 19 18 20.2
comp=Z,115nm,1.7s
KONO *e*S **S 19 23 17.8 +0.8**
KONO Kongsberg 31.74 73 *e*P **P 19 18 08.5 +0.3**
KONO pmax pmax
comp=Z,228nm,1.6s
KONO MLR MLR
comp=Z,4µm,20.0s
KONO Kongsberg 31.74 73 *e*P **P 19 18 08.5 +0.3**
comp=Z,228nm,1.6s
KONO LR LR
comp=Z,4µm,20.0s
A12A Yaak River Ran 31.80 239 ⇑P **P 19 18 09.6 +0.7**
baz=32
D21A La Casta Ranch 31.83 227 ⇓P **P 19 18 09.6 +0.4**
baz=32,SNR=16
E24A Baker 31.84 223 ⇓P **P 19 18 09.8 +0.6**
baz=32
B14A Marquette Ranc 31.84 235 ⇑P **P 19 18 09.2 -0.2**
baz=32
EDI Edinburgh 31.85 88 *e*P **P 19 18 09.7 +0.6**
EDI AMB AMB 19 30 55.0
comp=Z,5µm,15.5s
EDI AMS AMS 19 30 57.4
comp=Z,21µm,16.7s
EAU Auchinoon 31.85 88 *e*P **P 19 18 09.6 +0.4**
GAMB Gambell 31.93 304 *e*P **P 19 18 12.2 +2.3**
comp=Z,338nm,1.4s
ESY Stoneypath 32.00 87 *e*P **P 19 18 10.5 0.0**
EBL Broad Law 32.02 88 *e*P **P 19 18 10.8 +0.1**
C17A Wharram Farm, 32.02 232 ⇑P **P 19 18 11.1 +0.2**
baz=32
C16A Fuhringer Ranc 32.06 233 ⇑P **P 19 18 11.4 +0.2**
baz=32,SNR=28
ACCN Adirondack Com 32.06 181 *e*P **P 19 18 11.8 +0.6**
comp=Z,404nm,2.0s
E23A Ismay 32.07 225 ⇑P **P 19 18 12.0 +0.7**
baz=32,SNR=23
B13A Whitefish 32.08 237 ⇓P **P 19 18 12.2 +0.9**
baz=32
D19A Cripps Ranch, 32.10 229 ⇑P **P 19 18 12.1 +0.5**
baz=32,SNR=27
BILL Bilibino 32.15 323*c i*P **P 19 18 12.5 +0.8**
BILL *i* 19 18 21.2
BILL *i* 19 19 28.1
BILL *i* 19 20 59.4
BILL *i* S **S 19 23 25.1 +1.8**
BILL pmax pmax
comp=Z,193nm,2.5s
BILL MLR MLR
comp=Z,3µm,20.0s
B12A Libby 32.23 238 ⇓P **P 19 18 13.3 +0.7**
baz=32
D18A Linhart Farms, 32.24 230 ⇑P **P 19 18 13.4 +0.5**
baz=32,SNR=24
E22A Miles City 32.25 225 ⇓P **P 19 18 13.6 +0.7**
baz=32,SNR=9.8
C15A Salmond Ranch, 32.26 234 ⇓P **P 19 18 13.1 0.0**
baz=32,SNR=20
HFS Hagfors 32.30 69 P **P 19 18 12.9 -0.2**
HFS PcP **PcP 19 21 00.3 -0.2**
HFS Hagfors 32.30 69 P **P 19 18 12.9 -0.2**
comp=Z,27nm,0.8s,baz=333,slow=5.0,SNR=67
HFS PcP **PcP 19 21 00.3 -0.2**
comp=Z,57nm,0.9s,baz=284,slow=1.2,SNR=6.9
SNART Snartemo 32.31 76 *e*P **P 19 18 14.2 +0.9**
SNART AMB AMB 19 18 17.2
comp=Z,36nm,2.0s
E21A Keefer Ranch, 32.35 227 ⇑P **P 19 18 14.5 +0.7**
baz=32
EKA Eskdalemuir Ar 32.38 88 P **P 19 18 14.2 +0.4**
EKA Eskdalemuir Ar 32.38 88 P **P 19 18 14.2 +0.4**
comp=Z,13nm,0.5s,baz=320,slow=8.3,SNR=61
ESK Eskdalemuir 32.38 88 P **P 19 18 14.3 +0.4**
comp=Z,425nm,0.5s,SNR=12
ESK Eskdalemuir 32.38 88 *e*P **P 19 18 13.7 -0.2**
ESK Eskdalemuir 32.38 88 *e*P **P 19 18 14.5 +0.6**
ESK pmax pmax
comp=Z,105nm,1.1s
ESK MLR MLR
comp=Z,24µm,19.0s
ESK Eskdalemuir 32.38 88 *e*P **P 19 18 14.5 +0.6**
comp=Z,105nm,1.1s
ESK LR LR
comp=Z,24µm,19.0s
GAL1 Galloway 32.41 90 *e*P **P 19 18 14.4 +0.3**
GAL1 AMS AMS 19 32 33.4
comp=Z,28µm,13.5s
D17A Six Diamond Ra 32.46 232 ⇑P **P 19 18 15.0 +0.1**
baz=32
C14A Swan Lake 32.50 236 ⇓P **P 19 18 15.4 +0.3**
baz=32
ECK Cauldkaine Hil 32.53 88 *e*P **P 19 18 14.7 -0.4**
F24A Ekalaka 32.55 223 ⇓P **P 19 18 16.2 +0.6**
baz=32
G27A Dupree 32.58 220 ⇑P **P 19 18 16.5 +0.8**
baz=32
E20A Meyer Farm, Mu 32.59 228 ⇓P **P 19 18 16.5 +0.6**
baz=32,SNR=12
TIXI Tiksi 32.62 348*c i*P **P 19 18 17.1 +1.3**
TIXI pmax pmax
comp=Z,318nm,0.9s
GMM Mts of Mourne 32.66 92 *e*P **P 19 18 16.3 0.0**
HOMB Homborsund 32.69 75 *e*S **S 19 23 33.5 +1.7**
HOMB AMS AMS 19 31 23.3
comp=Z,13µm,16.2s
G28A Parade 32.72 218 ⇑P **P 19 18 17.7 +0.7**
baz=33
D16A Dana Ranch, Ca 32.75 232 ⇑P **P 19 18 17.2 -0.2**
baz=33,SNR=11
E19A Rath Farm, Rou 32.75 229 ⇓P **P 19 18 17.8 +0.5**
baz=33,SNR=16
NEW Newport 32.76 240 PFAKE 19 18 30.0 +13
NEW LR LR
comp=Z,11µm,22.0s
NEW Newport 32.76 240 ⇓P **P 19 18 18.4 +1.1**
baz=33
C13A Hot Springs 32.76 236 ⇓P **P 19 18 18.0 +0.6**
baz=33
KDAK Kodiak Island 32.80 283 *e*P **P 19 18 19.4 +1.9**
comp=Z,1µm,2.0s
KDAK LR LR
comp=Z,16µm,19.0s
F23A Volborg 32.84 224 ⇑P **P 19 18 18.8 +0.7**
baz=33
E18A Harlowton 32.87 230 ⇑P **P 19 18 19.0 +0.6**
baz=33,SNR=21
C12B Naegeli Ranch, 32.92 238 ⇓P **P 19 18 19.5 +0.7**
baz=33,SNR=9.6
HRV Adam Dziewonsk 32.94 178 *e*P **P 19 18 19.4 +0.5**
HRV pmax pmax
comp=Z,263nm,1.6s
HRV Adam Dziewonsk 32.94 178 *e*P **P 19 18 19.4 +0.5**
comp=Z,263nm,1.6s
D15A Lincoln 32.94 234 ⇑P **P 19 18 19.3 +0.2**
baz=33,SNR=19
F22A Rosebud 32.94 225 ⇓P **P 19 18 19.4 +0.5**
baz=33,SNR=12
BRSD Miller 33.03 216 ⇑P **P 19 18 19.8 +0.1**
baz=33,SNR=9.5
G24A Alzada 33.05 223 ⇓P **P 19 18 20.3 +0.4**
baz=33,SNR=18
F21A Absaloka Mine, 33.05 226 ⇑P **P 19 18 20.9 +0.9**
baz=33
WES Weston 33.06 178 *e*P **P 19 18 20.4 +0.5**
WES Weston 33.06 178 *e*P **P 19 18 20.4 +0.5**
KESW Keswick, Cumbr 33.06 89 *e*P **P 19 18 19.7 -0.2**
KESW AMS AMS 19 32 09.4
comp=Z,26µm,15.9s
D14A Greenough 33.10 235 ⇑P **P 19 18 20.4 -0.1**
baz=33,SNR=16
HRY Holter Researc 33.11 233 *e*P **P 19 18 21.3 +0.7**
H28A Mission Ridge 33.12 218 ⇑P **P 19 18 21.0 +0.5**
baz=33
E17A Martinsdale 33.16 231 P **P 19 18 21.3 +0.3**
baz=33
B08A Colville Reser 33.16 242 P **P 19 18 22.3 +1.5**
E16A East Helena 33.25 232 ⇓P **P 19 18 21.4 -0.3**
baz=33,SNR=5.5
F20A Billings 33.27 228 ⇑P **P 19 18 21.9 +0.1**
baz=33,SNR=25
BINY Binghamton 33.27 184 *e*P **P 19 18 22.2 +0.4**
comp=Z,18nm,0.2s
BINY LR LR
comp=Z,23µm,20.0s
D13A Huson 33.29 236 ⇓P **P 19 18 22.4 +0.3**
baz=33,SNR=27
H27A Howes 33.33 220 ⇓P **P 19 18 22.9 +0.5**
baz=33
G23A Biddle 33.34 224 ⇑P **P 19 18 22.8 +0.3**
baz=33,SNR=18
F19A Roth Farm, Mol 33.37 229 ⇓P **P 19 18 23.5 +0.8**

baz=33,SNR=64
ECSD EROS Data Cent 33.40 212 eP P 19 18 23.3 +0.4
comp=Z,107nm,0.8s
ECSD LR LR
comp=Z,16µm,20.0s
KAF Kangasniemi 33.41 58 ep P 19 18 22.1 -0.7
comp=Z,41nm,0.6s
KAF Kangasniemi 33.41 58 eP P 19 18 22.1 -0.7
KAF pmax pmax
comp=Z,41nm,0.6s
MSO Missoula 33.44 235 PFAKE 19 18 40.0 +17
MSO LR LR
comp=Z,6µm,21.0s
MSO Missoula 33.44 235 ⇓P P 19 18 23.7 +0.4
baz=33,SNR=24
JFWS Jewell Farm 33.44 204 eP P 19 18 23.6 +0.4
JFWS pmax pmax
comp=Z,589nm,1.9s
JFWS MLR MLR
comp=Z,39µm,19.0s
JFWS Jewell Farm 33.44 204 eP P 19 18 23.6 +0.4
comp=Z,589nm,1.9s
JFWS LR LR
comp=Z,39µm,19.0s
H26A Fairpoint 33.46 220 ⇑P P 19 18 24.2 +0.7
baz=33
F18A Big Timber 33.47 230 P P 19 18 24.5 +0.9
baz=33
OHAK Old Harbor 33.48 283 eP P 19 18 25.1 +1.7
comp=Z,1µm,1.8s
ERPA Erie 33.48 190 eP P 19 18 22.0 -1.6
comp=Z,62nm,0.9s
ERPA LR LR
comp=Z,23µm,19.0s
G22A Birney 33.49 225 ⇑P P 19 18 24.5 +0.7
baz=33,SNR=13
BRYW Bryant College 33.53 178 eP P 19 18 27.0 +3.0
GCMT Greycliff 33.57 230 eP P 19 18 26.1 +1.6
comp=Z,214nm,0.4s
H25A Fruitdale 33.59 222 ⇓P P 19 18 25.4 +0.7
baz=34
H24A Dirks Ranch, A 33.64 223 ⇓P P 19 18 25.4 +0.4
baz=34,SNR=16
G21A Lodge Grass 33.65 226 ⇑P P 19 18 25.7 +0.5
baz=34,SNR=25
F17A Fitzpatrick Pl 33.65 231 ⇑P P 19 18 25.8 +0.5
baz=34,SNR=19
VAL Valentia 33.66 98 eP P 19 18 29.0 +4.0
VAL Valentia 33.66 98 i/S S 19 23 52.4 +5.6
JOF Joensuu 33.74 53 ep P 19 18 24.9 -0.7
comp=Z,63nm,0.8s
JOF Joensuu 33.74 53 eP P 19 18 24.9 -0.7
JOF pmax pmax
comp=Z,63nm,0.8s
I28A Midland 33.80 218 P P 19 18 27.2 +0.7
baz=34
PGC Sidney 33.84 247 eP P 19 18 27.1 +0.5
G20A Bridger 33.84 228 ⇑P P 19 18 26.8 -0.1
baz=34,SNR=18
I27A Quinn 33.88 219 ⇓P P 19 18 27.6 +0.5
baz=34
YRC Rhoscolyn 33.90 91 eP P 19 18 28.0 +0.9
WLF1 Llynfaes 33.91 91 eP P 19 18 27.1 -0.1
WLF1 AMS AMS 19 33 38.7
comp=Z,13µm,13.1s
TMCR Tamitsa 33.92 47 ⇑i P P 19 18 27.0 -0.2
TMCR e 19 21 05.1
TMCR eS S **19 23 53.2 +2.5**
TMCR pmax pmax
comp=Z,277nm,0.7s
WTV Waterville 33.92 243 P P 19 18 29.3 +1.8
OD2 Odessa Site #2 33.94 241 P P 19 18 28.8 +1.3
ALLY Alegheny Colle 33.96 190 eP P 19 18 28.5 +0.8
comp=Z,412nm,1.6s
FIA1 FINESS Array S 33.96 58 eP P 19 18 26.9 -0.6
FINES FINESS Array B 33.96 58 P P 19 18 27.1 -0.4
FINES PcP **PcP 19 21 05.3 +0.2**
FINES FINESS Array B 33.96 58 P P 19 18 27.1 -0.4
comp=Z,56nm,0.8s,baz=350,slow=9.7,SNR=90
FINES PcP **PcP 19 21 05.3 +0.2**
comp=Z,59nm,0.8s,baz=2.6,slow=4.2,SNR=7.2
FINES LR LR 19 31 40.2
comp=Z,18µm,18.5s,baz=339,slow=35
F16A Kennard Place, 33.96 232 ⇓P P 19 18 28.6 +0.7
baz=34,SNR=6.8
H23A Clabaugh Cattl 33.96 224 ⇓P P 19 18 28.9 +0.9
baz=34
G18A Lazy EL Ranch, 34.00 229 ⇑P P 19 18 29.0 +0.7
baz=34,SNR=32
HPK Haverah Park 34.01 88 AMS AMS 19 32 31.5
comp=Z,26µm,16.6s
I26A New Underwood 34.05 220 ⇑P P 19 18 29.2 +0.6
baz=34
WPM1 Penmaenmawr 34.06 91 eP P 19 18 28.9 +0.3
F15A Butte 34.08 233 ⇑P P 19 18 29.6 +0.6
baz=34,SNR=42
LRM Limekiln Ridge 34.09 233 eP P 19 18 30.2 +1.1
comp=Z,2µm,1.3s
BOZ Bozeman (W) 34.09 232 PFAKE 19 18 40.0 +11
BOZ LR LR
comp=Z,9µm,19.0s
H22A Clearmont 34.10 225 ⇑P P 19 18 29.5 +0.4
baz=34,SNR=50
YLE Yale 34.12 180 eP P 19 18 31.1 +2.0
RLMT Red Lodge 34.13 229 eP P 19 18 30.5 +1.0
comp=Z,82nm,1.4s
RLMT LR LR
comp=Z,26µm,19.0s
RSSD Black Hills 34.16 222 eP P 19 18 30.3 +0.6
RSSD Black Hills 34.16 222 eP P 19 18 30.3 +0.6
E12A Beaver Dam Sad 34.17 237 ⇑P P 19 18 30.3 +0.5
baz=34,SNR=32
H21A Big Horn, Sher 34.20 226 ⇑P P 19 18 30.8 +0.8
baz=34,SNR=15
I25A Rochford 34.20 221 ⇑P P 19 18 30.7 +0.6
baz=34
G17A Pierce Place, 34.23 231 ⇓P P 19 18 31.3 +1.1
baz=34,SNR=25
F14A Wisdom 34.29 234 ⇓P P 19 18 31.7 +0.9
baz=34,SNR=50
J28A Allard Ranch, 34.38 218 ⇑P P 19 18 32.0 +0.6
baz=34,SNR=18
PAL Palisades 34.44 182 eP P 19 18 32.3 +0.4
PAL Palisades 34.44 182 eP P 19 18 32.3 +0.4
comp=Z,4µm,2.2s
MUD Monsted U'grnd 34.48 76 eP P 19 18 33.7 +1.6
MUD pmax pmax
comp=Z,27nm,0.9s
MUD MLR MLR
comp=Z,13µm,18.0s
MUD Monsted U'grnd 34.48 76 i P P 19 18 33.7 +1.6
comp=Z,27nm,0.8s
MUD
comp=Z,13µm,17.0s
H20A Greybull 34.51 227 ⇑P P 19 18 33.0 +0.4
baz=34,SNR=56
I24A Kuemmerle Ranc 34.51 222 ⇓P P 19 18 33.1 +0.4
baz=34
H19A Powell 34.52 228 ⇓P P 19 18 33.7 +1.0
baz=34,SNR=9.1
I23A Meade Ranch, G 34.56 224 ⇑P P 19 18 33.4 +0.3
baz=34
DLMT Dillon 34.56 233 eP P 19 18 33.5 +0.4
comp=Z,138nm,0.7s
FOEL Foel Wylfa 34.58 90 eP P 19 18 32.8 -0.3
FOEL AMS AMS 19 33 26.5
comp=Z,19µm,15.5s
H18A Shoshone NF, C 34.64 229 ⇓P P 19 18 34.3 +0.4
baz=35,SNR=40
STNC Stoke 34.65 89 AMS AMS 19 33 07.0
comp=Z,22µm,16.0s
CPNY Central Park 34.65 182 eP P 19 18 33.9 +0.2
comp=Z,416nm,1.9s
SCIA State Center 34.76 207 eP P 19 18 35.5 +0.8
comp=Z,1µm,1.9s
SCIA LR LR
comp=Z,18µm,20.0s
BRNJ Basking Ridge 34.77 183 eP P 19 18 37.5 +2.8
YNR Norris Junctio 34.80 230 eP P 19 18 38.5 +3.2
comp=Z,452nm,1.7s
I22A 9 Mile Ranch, 34.80 225 ⇑P P 19 18 35.7 +0.5
baz=35,SNR=20
J25A Sunshine Ranch 34.83 221 ⇑P P 19 18 35.9 +0.6
baz=35,SNR=46
QLMT Earthquake Lak 34.84 231 eP P 19 18 37.1 +1.5
LUPA Lehigh Univers 34.86 184 eP P 19 18 36.7 +1.2
comp=Z,598nm,2.2s

K29A Lazy Trails An 34.88 217 ⇓P P 19 18 36.2 +0.4
baz=35
LKWY Lake 34.89 230 eP P 19 18 38.7 +2.6
LKWY pmax pmax
comp=Z,530nm,1.6s
LKWY MLR MLR
comp=Z,70µm,19.0s
LKWY Lake 34.89 230 eP P 19 18 38.7 +2.6
comp=Z,530nm,1.6s
LKWY LR LR
comp=Z,70µm,19.0s
YMR Madison River 34.90 231 eP P 19 18 37.9 +1.7
comp=Z,98nm,0.9s
H16A Russell Place, 34.92 231 ⇓P P 19 18 37.5 +1.2
baz=35
F10A Beach Ranch, E 34.95 239 P P 19 18 36.9 +0.5
E07A Sunnyside 34.98 242 P P 19 18 37.1 +0.5
HLM1 Long Mynd 35.00 90 eP P 19 18 36.9 +0.2
I21A Big Trails, Te 35.03 226 ⇓P P 19 18 37.4 +0.2
baz=35,SNR=113
J24A Dixon Ranch, L 35.03 222 ⇑P P 19 18 37.5 +0.3
baz=35,SNR=12
I20A Worland 35.05 227 ⇑P P 19 18 38.3 +1.0
baz=35,SNR=26
HAWA Hanford 35.06 242 eP P 19 18 38.2 +0.9
comp=Z,213nm,1.6s
HAWA LR LR
comp=Z,40µm,19.0s
YFT Old Faithful 35.08 230 eP P 19 18 41.3 +3.6
comp=Z,123nm,1.1s
H17A Grant Village 35.09 230 ⇓P P 19 18 40.1 +2.3
baz=35,SNR=26
K28A Ten Mile Ranch 35.09 218 ⇓P P 19 18 38.4 +0.8
baz=35
J23A Dilts Ranch, B 35.11 223 ⇑P P 19 18 37.9 0.0
baz=35
NLWA Neilton Lookou 35.12 247 eP P 19 18 40.4 +2.6
comp=Z,590nm,1.8s
NLWA LR LR
comp=Z,12µm,21.0s
MCMT McKenzie Canyo 35.12 233 eP P 19 18 39.0 +0.9
I19A Meeteetse 35.13 228 ⇑P P 19 18 38.7 +0.6
baz=35,SNR=66
K27A Flueckinger Fa 35.24 219 ⇑P P 19 18 39.1 +0.2
baz=35
LON Longmire 35.24 244 eP P 19 18 38.7 -0.2
LON Longmire 35.24 244 eP P 19 18 38.7 -0.2
comp=Z,24µm,0.8s
G12A Big Creek, Yel 35.35 236 P P 19 18 40.7 +0.7
baz=35
K26A Motz Farm, Whi 35.39 220 ⇓P P 19 18 40.6 +0.3
baz=35,SNR=12
MCH1 Michaelchurch 35.44 91 eP P 19 18 39.5 -0.9
MCH1 AMS AMS 19 34 02.3
comp=Z,12µm,14.6s
MVL Millersville 35.48 185 eP P 19 18 41.9 +1.0
comp=Z,497nm,1.8s
J21A Lysite 35.51 226 ⇓P P 19 18 42.1 +0.7
baz=35,SNR=59
I17A Pilgrim Ck. 35.54 230 ⇓P P 19 18 43.0 +1.3
baz=36
CHGN Chignik 35.56 287 eP P 19 18 41.0 -0.4
L29A Maesberg Ranch 35.59 217 ⇑P P 19 18 42.3 +0.4
baz=36,SNR=13
K25A Mack Ranch, Ha 35.59 221 ⇓P P 19 18 42.7 +0.6
baz=36
I18A Diamond G Ranc 35.61 229 ⇑P P 19 18 43.1 +0.8
baz=36,SNR=51
J20A Shoshoni 35.62 227 ⇑P P 19 18 43.2 +0.9
baz=36,SNR=159
IMW Indian Meadow 35.64 230 eP P 19 18 44.3 +1.7
comp=Z,123nm,0.9s
K24A Anderson Ranch 35.65 222 ⇑P P 19 18 42.8 +0.3
baz=36
SFIN Scholer Farm 35.66 199 ⇑P P 19 18 42.6 +0.1
baz=36,SNR=13
HDIL Hopedale 35.69 202 eP P 19 18 43.5 +0.9
comp=Z,869nm,1.8s
HDIL LR LR
comp=Z,12µm,20.0s
MOOW Moose Ponds 35.74 230 eP P 19 18 44.9 +1.5
comp=Z,75nm,1.0s
K23A Bowen Ranch, D 35.76 223 ⇓P P 19 18 43.5 +0.1
baz=36,SNR=18
I16A Newdale 35.77 231 ⇓P P 19 18 44.8 +1.3
baz=36,SNR=26
H12A Diamond D Ranc 35.80 235 ⇓P P 19 18 44.5 +0.6
baz=36,SNR=93
L28A Connealy Angus 35.80 218 ⇑P P 19 18 43.9 +0.1
baz=36
E03A Lebam 35.84 246 P P 19 18 45.6 +1.8
LOHW Long Hollow 35.84 230 eP P 19 18 45.7 +1.4
comp=Z,101nm,1.0s
L27A T5 Ranch, Ells 35.86 219 ⇑P P 19 18 44.2 -0.1
baz=36,SNR=9.1
J19A Cowheart 35.88 228 ⇑P P 19 18 45.8 +1.2
baz=36,SNR=66
BGNE Belgrade 35.89 213 ⇑P P 19 18 44.3 -0.2
baz=36
COP Copenhagen 35.98 74 eP P 19 18 49.5 +4.6
COP pmax pmax
comp=Z,48nm,0.8s
COP MLR MLR
comp=Z,5µm,14.0s
COP Copenhagen 35.98 74 i P P 19 18 49.5 +4.6
comp=Z,48nm,0.8s
COP
comp=Z,5µm,14.0s
DCID1 Drake Creek 35.98 230 eP P 19 18 48.0 +2.6
comp=Z,184nm,1.0s
G08A Pilot Rock 35.98 240 P P 19 18 46.5 +1.2
HTL Hartland 35.98 93 AMS AMS 19 34 14.2
comp=Z,29µm,15.6s
M30A Dale-Ortello V 36.01 216 ⇓P P 19 18 45.8 +0.3
baz=36
K22A Casper 36.02 224 ⇑P P 19 18 45.6 -0.1
baz=36,SNR=42
SNOW Snow King Moun 36.02 230 eP P 19 18 47.9 +2.1
comp=Z,492nm,1.8s
L26A Underwood Farm 36.02 220 P P 19 18 46.3 +0.6
baz=36
TPAW Teton Pass 36.03 230 eP P 19 18 47.6 +1.7
comp=Z,76nm,0.8s
BMO Blue Mountains 36.03 238 eP P 19 18 46.9 +1.1
BMO LR LR
comp=Z,12µm,19.0s
L25A Engebretsen Ra 36.06 221 ⇓P P 19 18 46.5 +0.5
baz=36,SNR=12
SDMD Soldier's Deli 36.08 185 eP P 19 18 45.9 -0.2
comp=Z,682nm,1.9s
I14A Mackay 36.11 233 ⇓P P 19 18 47.3 +0.8
baz=36,SNR=54
REDW Red Top Meadow 36.13 230 eP P 19 18 48.8 +2.1
comp=Z,8.0nm,2.1s
M29A Burnside Ranch 36.23 217 ⇑P P 19 18 47.6 +0.2
baz=36
LLD Lille Linde 36.24 74 eP P 19 18 44.2 -3.0
LLD pmax pmax
comp=Z,68nm,0.7s
RRI2 Red Ridge 36.24 230 eP P 19 18 49.8 +2.0
comp=Z,129nm,1.1s
K19A Absolon Red Bu 36.27 227 ⇓P P 19 18 48.1 +0.2
baz=36,SNR=24
L24A Wheatland 36.33 222 P P 19 18 49.0 +0.6
baz=36
K20A Yellowstone Ra 36.34 227 ⇑P P 19 18 48.8 +0.3
baz=36,SNR=60
M28A Bar X Bar Ranc 36.38 218 ⇑P P 19 18 49.1 +0.4
baz=36,SNR=8.5
PUL Pulkovo 36.38 56 ⇓eP P 19 18 48.4 0.0
PUL pmax pmax
comp=Z,256nm,0.8s
L23A Garrett 36.39 223 ⇓P P 19 18 48.8 -0.1
baz=36,SNR=22
M27A Reverse DX Ran 36.41 219 ⇑P P 19 18 49.0 +0.1
baz=36
BW06 Boulder Array 36.46 228 eP P 19 18 50.0 +0.4
comp=Z,206nm,1.3s
BW06 LR LR
comp=Z,18µm,19.0s
PDAR Pinedale Array 36.46 228 P P 19 18 50.1 +0.6
PDAR PcP **PcP 19 21 15.1 +1.9**
PDAR Pinedale Array 36.46 228 P P 19 18 50.1 +0.6
comp=Z,22nm,0.6s,baz=30,slow=5.9,SNR=68
PDAR PcP **PcP 19 21 15.1 +1.9**
comp=Z,27nm,0.9s,baz=40,slow=2.5,SNR=4.2
PDAR LR LR 19 34 06.7
comp=Z,12µm,20.5s,baz=23,slow=37

WOL Wolverton 36.52 89 AMS AMS 19 35 01.6
comp=Z,21µm,14.1s
I12A Atlanta 36.58 235 ⇑P P 19 18 51.3 +0.7
baz=36
M26A McRoberts Ranc 36.59 220 ⇓P P 19 18 50.7 +0.2
baz=36
L22A Ellis Ranch, M 36.60 224 ⇓P P 19 18 51.3 +0.6
baz=36,SNR=26
M25A Palm-Egli Farm 36.77 221 ⇑P P 19 18 52.6 +0.5
baz=37
N30A Hueftle Ranch, 36.77 216 ⇓P P 19 18 52.1 +0.1
baz=37
VSU Vasula 36.80 60 c i P P 19 18 51.3 -0.6
VSU pmax pmax
comp=Z,297nm,0.8s
BLO Bloomington 36.82 198 eP P 19 18 53.0 +0.7
BLO pmax pmax
comp=Z,578nm,1.8s
BLO Bloomington 36.82 198 eP P 19 18 53.0 +0.7
comp=Z,578nm,1.8s
N29A Votaw Ranch, W 36.83 216 ⇑P P 19 18 52.9 +0.4
baz=37
L21A Rawlins 36.83 225 ⇑P P 19 18 53.0 +0.2
baz=37,SNR=40
M24A Cheyenne 36.87 222 ⇓P P 19 18 53.8 +0.8
baz=37,SNR=10
OGNE Ogallala 36.92 218 eP P 19 18 53.8 +0.4
comp=Z,2µm,1.4s
OGNE LR LR
comp=Z,6µm,20.0s
OGNE Ogallala 36.92 218 ⇓P P 19 18 53.9 +0.5
baz=37,SNR=21
SDPT Sand Point 36.93 288 eP P 19 18 52.9 -0.2
comp=Z,115nm,0.8s
L20A Wamsutter 36.97 226 ⇓P P 19 18 54.5 +0.6
baz=37,SNR=27
BSEG Bad Segeberg 37.04 77 eP P 19 18 54.2 +0.1
comp=Z,63nm,1.1s
BSEG Bad Segeberg 37.04 77 eP P 19 18 54.2 +0.1
BSEG pmax pmax
comp=Z,280nm,1.1s
L19A Farson 37.07 228 ⇑P P 19 18 54.9 +0.2
baz=37,SNR=20
RWWY Rawlins 37.07 225 eP P 19 18 55.5 +0.7
comp=Z,433nm,1.6s
MFID Camas Ranch 37.09 236 eP P 19 18 54.8 0.0
comp=Z,69nm,0.9s
MFID Camas Ranch 37.09 236 ⇓P P 19 18 54.8 0.0
baz=37,SNR=21
VIPM Ingram Point 37.09 242 P P 19 18 57.2 +2.3
VIPM Ingram Point 37.09 242 P P 19 18 57.2 +2.3
BSD Bornholm Skovb 37.10 72 eP P 19 18 55.5 +1.0
BSD pmax pmax
comp=Z,38nm,0.8s
BSD MLR MLR
comp=Z,10µm,14.0s
BSD Bornholm Skovb 37.10 72 i P P 19 18 55.5 +1.0
comp=Z,38nm,0.7s
BSD
comp=Z,10µm,14.0s
N28A Pribbeno Ranch 37.10 217 ⇑P P 19 18 54.9 +0.1
baz=37
N27A Anderson Farm, 37.14 219 ⇓P P 19 18 55.8 +0.6
baz=37,SNR=18
PHWY Pilot Hill 37.14 222 eP P 19 18 55.6 +0.2
comp=Z,273nm,1.8s
M21A Separation Pea 37.18 225 ⇑P P 19 18 55.9 +0.2
baz=37,SNR=51
RGN Rugen 37.22 74 P P 19 18 56.0 +0.5
comp=Z,113nm,0.8s
N26A Koester Ranch, 37.23 220 ⇑P P 19 18 56.2 +0.3
baz=37
M22A Cedar Creek Ra 37.24 224 ⇑P P 19 18 56.5 +0.3
baz=37,SNR=15
I07A Izee 37.25 240 P P 19 18 58.4 +2.2
ELSH Elham, Standar 37.27 87 AMS AMS 19 34 33.6
comp=Z,24µm,16.7s
CBN Corbin 37.29 186 PFAKE 19 19 10.0 +14
CBN LR LR
comp=Z,34µm,19.0s
L18A Fontenelle, Gr 37.37 228 ⇓P P 19 18 57.7 +0.5
baz=37
O30A MW Ranch, Wils 37.37 215 ⇑P P 19 18 57.3 +0.2
baz=37
OLIL Olney 37.38 200 eP P 19 18 57.6 +0.5
comp=Z,870nm,1.8s
N25A Grover 37.38 221 ⇓P P 19 18 58.0 +0.7
baz=37
M20A Sweetwater, Wa 37.44 226 ⇑P P 19 18 58.5 +0.6
baz=37,SNR=34
N24A Carr 37.50 222 ⇓P P 19 18 59.2 +0.8
baz=37
M19A Rock Springs 37.61 227 ⇑P P 19 18 59.5 +0.3
baz=38,SNR=8.4
N23A Red Rather La 37.62 223 ⇑P P 19 19 00.2 +0.7
baz=38,SNR=52
COR Corvallis 37.63 245 eP P 19 19 01.7 +2.5
COR pmax pmax
comp=Z,1µm,1.8s
COR Corvallis 37.63 245 eP P 19 19 01.7 +2.5
comp=Z,1µm,1.8s
SLM Saint Louis 37.68 203 eP P 19 18 59.9 +0.3
SLM pmax pmax
comp=Z,114nm,0.7s
SLM Saint Louis 37.68 203 eP P 19 18 59.9 +0.3
comp=Z,114nm,0.7s
O28A Krutsinger Ran 37.68 218 ⇑P P 19 19 00.1 +0.3
baz=38
O27A Beecher Island 37.73 218 ⇓P P 19 19 00.6 +0.4
baz=38,SNR=9.9
WIFE Three Sisters- 37.79 243 P P 19 19 02.8 +2.0
N22A Wattenberg Ran 37.80 224 ⇑P P 19 19 01.6 +0.6
baz=38,SNR=37
O26A Horse Wrangler 37.81 219 ⇓P P 19 19 01.2 +0.3
baz=38,SNR=12
JSRW J. Sargeant Re 37.82 187 eP P 19 19 01.9 +1.0
IBBN Ibbenburen 37.89 80 eP P 19 19 01.2 0.0
comp=Z,38nm,1.1s
P31A Stockton 37.92 214 P P 19 19 01.7 0.0
baz=38
M17A Scullys Gap (B 37.92 229 ⇓P P 19 19 02.0 0.0
baz=38,SNR=8.7
URVA University of 37.93 186 eP P 19 19 02.9 +1.1
KSU1 Kansas State U 37.95 211 eP P 19 19 02.2 +0.3
comp=Z,2µm,2.8s
KSU1 LR LR
comp=Z,14µm,20.0s
WTSB Winterswijk 37.96 82 eP P 19 19 02.3 +0.5
comp=Z,300nm,0.8s
HWUT Hardware Ranch 37.97 230 eP P 19 19 02.6 +0.3
comp=Z,0.4nm,0.8s
HWUT LR LR
comp=Z,23µm,20.0s
P30A Selden 38.02 216 ⇑P P 19 19 02.7 +0.1
baz=38,SNR=7.8
N21A Black Mountain 38.03 225 ⇑P P 19 19 03.3 +0.4
baz=38,SNR=12
HVU Hansel Valley 38.04 231 eP P 19 19 03.5 +0.7
HVU pmax pmax
comp=Z,58nm,0.8s
HVU Hansel Valley 38.04 231 eP P 19 19 03.5 +0.7
comp=Z,58nm,0.8s
P29A Atwood 38.07 216 ⇓P P 19 19 03.1 +0.1
baz=38
MENF Mencas 38.07 87 eP P 19 19 03.4 +0.6
MENF Mencas 38.07 87 eP P 19 19 03.4 +0.6
O25A Wiggins 38.07 220 P P 19 19 03.7 +0.6
baz=38
FALS False Pass 38.08 290 eP P 19 19 02.6 -0.2
comp=Z,69nm,0.7s
N20A Spence Gulch, 38.09 226 ⇓P P 19 19 04.2 +0.8
baz=38,SNR=11
USIN University of 38.11 199 eP P 19 19 03.7 +0.4
comp=Z,1µm,1.8s
P28A Saint Francis 38.22 217 ⇑P P 19 19 04.4 +0.1
baz=38
O24A Longmont 38.22 222 ⇑P P 19 19 05.3 +0.8
baz=38
O23A Lake Granby, G 38.28 223 P P 19 19 05.7 +0.6
baz=38
NRDL Niedersach Rie 38.30 78 eP P 19 19 04.8 +0.1
comp=Z,27nm,1.2s
P27A Ficken Ranch, 38.37 218 ⇑P P 19 19 05.4 -0.2
baz=38
BLA Blacksburg 38.39 190 eP P 19 19 06.1 +0.4
BLA pmax pmax
comp=Z,853nm,1.8s

BLA MLR MLR
comp=Z,39µm,19.0s
BLA Blacksburg 38.39 190 *e*P **P 19 19 06.1 +0.4**
comp=Z,853nm,1.8s
BLA LR LR
comp=Z,39µm,19.0s
Q31A Ellis 38.43 214 ⇓P **P 19 19 05.9 -0.1**
baz=38,SNR=6.3
O22A Kremmling 38.44 223 ⇓P **P 19 19 06.9 +0.5**
baz=38,SNR=52
P26A Davis Ranch, A 38.48 219 ⇑P **P 19 19 07.0 +0.4**
baz=38
SIUC Southern Illin 38.49 201 *e*P **P 19 19 05.7 -0.8**
comp=Z,496nm,2.0s
O21A Pagoda 38.55 225 ⇑P **P 19 19 07.9 +0.6**
baz=38,SNR=8.4
BST Brest 38.57 94 *e*P **P 19 19 08.0 +0.9**
BST Brest 38.57 94 *e*P **P 19 19 08.0 +0.9**
Q30A Quinter 38.57 215 ⇓P **P 19 19 07.2 0.0**
baz=38,SNR=8.7
ISCO Idaho Springs 38.63 222 *e*P **P 19 19 08.8 +0.8**
ISCO pmax pmax
comp=Z,156nm,1.3s
ISCO MLR MLR
comp=Z,12µm,19.0s
ISCO Idaho Springs 38.63 222 *e*P **P 19 19 08.8 +0.8**
comp=Z,156nm,1.3s
ISCO LR LR
comp=Z,12µm,19.0s
ISCO Idaho Springs 38.63 222 ⇑P **P 19 19 08.3 +0.3**
baz=39,SNR=32
WVOR Wild Horse Val 38.63 238 *e*P P 19 19 04.3 -3.5
WVOR pmax pmax
comp=Z,265nm,1.4s
WVOR Wild Horse Val 38.63 238 *e*P P 19 19 04.2 -3.5
comp=Z,265nm,1.4s
P25A Willow Gulch B 38.67 220 ⇓P **P 19 19 08.8 +0.6**
baz=39,SNR=8.9
Q28A Sharon Springs 38.73 217 ⇓P **P 19 19 08.7 +0.1**
baz=39
ROSF Rostrenen 38.74 93 *e*P **P 19 19 08.2 -0.3**
comp=Z,182nm,1.2s
BEBN Eben Emael 38.75 83 P **P 19 19 09.5 +1.0**
comp=Z,28nm,0.9s
O20A White River Ci 38.77 225 ⇑P **P 19 19 10.0 +1.0**
baz=39,SNR=14
O19A Miners Draw (B 38.77 226 ⇑P **P 19 19 09.9 +0.9**
baz=39,SNR=77
Q29A Oakley 38.77 216 ⇓P **P 19 19 09.2 +0.3**
baz=39,SNR=12
P24A Kohler Place, 38.79 221 ⇓P **P 19 19 09.9 +0.7**
baz=39
HGN Heimansgroeve 38.84 83 *e*P **P 19 19 09.3 +0.1**
comp=Z,89nm,1.1s
HGN *e*S **S 19 25 02.5 -3.6**
CTU Camp Tracy 38.88 230 *e*P **P 19 19 11.8 +1.8**
comp=Z,219nm,1.4s
KSCO Kaye Shedlock' 38.91 218 ⇓P **P 19 19 10.3 +0.1**
baz=39
CLZ Clausthal 38.97 78 *e*P **P 19 19 10.8 +0.4**
comp=Z,53nm,1.5s
CLZ Clausthal 38.97 78 *e*P **P 19 19 10.8 +0.4**
CLZ pmax pmax
comp=Z,33nm,1.5s
SGMF Saint Gilles 39.00 93 *e*P **P 19 19 10.3 -0.3**
comp=Z,95nm,0.9s
MEM Membach 39.00 83 P **P 19 19 10.5 -0.2**
comp=Z,40nm,1.1s
P22A Eagle 39.02 223 ⇑P **P 19 19 11.9 +0.7**
baz=39
BAIF Baives 39.05 85 *e*P **P 19 19 10.8 -0.3**
comp=Z,154nm,1.1s
FLN La Foliniere 39.05 90 *e*P **P 19 19 10.6 -0.5**
comp=Z,191nm,0.8s
FLN *e*R
comp=Z,13µm,17.8s
DAU Daniels Canyon 39.06 229 *e*P **P 19 19 13.0 +1.3**
DAU Daniels Canyon 39.06 229 *e*P **P 19 19 13.0 +1.3**
P23A Jefferson 39.08 222 ⇓P **P 19 19 12.6 +0.7**
baz=39,SNR=16
DOU Dourbes 39.12 85 P **P 19 19 11.4 -0.2**
comp=Z,27nm,1.2s
Q26A Hugo 39.13 219 ⇓P **P 19 19 12.8 +0.7**
baz=39,SNR=12
R31A Burdett 39.15 214 P **P 19 19 11.6 -0.5**
baz=39
QUIF Quistinic 39.15 94 *e*P **P 19 19 11.9 0.0**
comp=Z,132nm,0.8s
GIVF Givet 39.17 85 *e*P **P 19 19 11.9 -0.2**
comp=Z,120nm,0.9s
IZAR Zarasai 39.17 62 *e*P **P 19 19 12.3 +0.3**
IZAR AMB AMB 19 19 24.2
comp=Z,76nm,1.4s
TZTN Tazewell 39.22 194 *e*P **P 19 19 12.5 -0.2**
comp=Z,558nm,1.9s
RUE Ruedersdorf 39.23 75 *e*P **P 19 19 12.8 +0.4**
comp=Z,68nm,0.9s
R29A Marienthal 39.25 216 ⇓P **P 19 19 12.8 -0.2**
baz=39,SNR=8.0
R30A Dighton 39.26 215 ⇓P **P 19 19 13.2 +0.2**
baz=39,SNR=12
Q25A Bedland, Calha 39.26 220 ⇓P **P 19 19 13.4 +0.2**
baz=39
LDF La Druitiere 39.30 90 *e*P **P 19 19 12.7 -0.5**
comp=Z,123nm,0.7s
GRR Gorron 39.30 91 *e*P **P 19 19 13.1 -0.1**
comp=Z,140nm,0.7s
ISAL Salakas 39.31 62 *e*P **P 19 19 13.4 +0.3**
ISAL AMB AMB 19 19 14.9
comp=Z,84nm,0.8s
GKP Gorka Klasztor 39.34 71 *e*P **P 19 19 14.1 +0.7**
GKP *e*S **S 19 25 14.0 +0.4**
GKP LMZ LR 19 36 04.3
Q24A Divide 39.36 221 ⇑P **P 19 19 14.2 0.0**
baz=39,SNR=29
P19A Cripple Cowboy 39.39 226 ⇑P **P 19 19 14.6 +0.4**
baz=39,SNR=26
P20A De Beque 39.41 225 ⇑P **P 19 19 15.2 +0.8**
baz=39
HUMO Hull Mountain 39.43 243 *e*P **P 19 19 15.9 +1.6**
comp=Z,138nm,1.4s
R28A Tribune 39.44 217 ⇓P **P 19 19 14.5 -0.1**
baz=39,SNR=15
SMCO Snowmass 39.47 224 *e*P **P 19 19 16.8 +1.7**
comp=Z,342nm,1.4s
KEBM Edson Butte 39.49 245 *e*P **P 19 19 17.9 +3.0**
comp=Z,222nm,1.4s
MOD Modoc 39.50 240 *e*P **P 19 19 16.9 +1.8**
comp=Z,342nm,1.6s
MPU Maple Canyon 39.52 229 *e*P **P 19 19 15.6 +0.3**
comp=Z,120nm,1.0s
ELK Elko 39.53 234 *e*P **P 19 19 16.9 +1.4**
comp=Z,130nm,1.4s
ELK PcP **PcP 19 21 23.1 +0.5**
ELK Elko 39.53 234 P P **19 19 16.9 +1.4**
comp=Z,14nm,0.6s,baz=8.8,slow=7.5,SNR=64
ELK PcP **PcP 19 21 23.1 +0.5**
comp=Z,32nm,0.9s,baz=15,slow=5.5,SNR=4.8
IIGN Ignalina 39.53 62 *e*P **P 19 19 15.3 +0.3**
IIGN AMB AMB 19 19 27.4
comp=Z,87nm,1.4s
Q23A Hartsel 39.54 222 ⇑P **P 19 19 16.0 +0.3**
baz=40
DUG Dugway 39.57 231 *e*P **P 19 19 16.9 +1.2**
DUG pmax pmax
comp=Z,202nm,0.8s
DUG MLR MLR
comp=Z,21µm,21.0s
DUG Dugway 39.57 231 *e*P **P 19 19 16.9 +1.2**
comp=Z,202nm,0.8s
DUG LR LR
comp=Z,21µm,21.0s
DUG Dugway 39.57 231 ⇓P **P 19 19 16.9 +1.2**
baz=40,SNR=130
PARMO Parma 39.59 202 *e*P **P 19 19 15.3 -0.4**
R27A Eads 39.64 218 ⇑P **P 19 19 16.5 +0.2**
baz=40,SNR=9.2
IDID Didziasalis 39.68 62 *e*P **P 19 19 16.5 +0.2**
IDID AMB AMB 19 19 28.4
comp=Z,72nm,1.1s
R26A Arlington 39.73 219 ⇓P **P 19 19 17.4 +0.4**
baz=40,SNR=18
UNV Unalaska Valle 39.74 292 *e*P **P 19 19 17.8 +1.1**
comp=Z,97nm,0.8s
Q22A Crested Butte, 39.76 223 ⇓P **P 19 19 18.2 +0.7**
baz=40,SNR=14
S31A Mullinville 39.80 214 ⇑P **P 19 19 17.6 +0.1**
baz=40
UBBA Unterbreizbach 39.81 79 *e*P **P 19 19 17.5 +0.2**
comp=Z,38nm,1.7s
Q21A Lamborn Mesa, 39.91 224 ⇓P **P 19 19 19.2 +0.6**
baz=40
WLF Walferdange 39.91 84 P **P 19 19 19.1 +0.9**
comp=Z,52nm,1.3s
WLF Walferdange 39.91 84 *e*P **P 19 19 19.1 +0.9**
WLF pmax pmax
comp=Z,96nm,1.2s
WLF MLR MLR
comp=Z,12µm,19.0s
WLF Walferdange 39.91 84 *e*P **P 19 19 19.1 +0.9**
comp=Z,96nm,1.2s
WLF LR LR
comp=Z,12µm,19.0s
Q20A Ridgley Place, 39.92 225 ⇓P **P 19 19 18.5 -0.2**
baz=40,SNR=14
S30A Montezuma 39.92 215 ⇑P **P 19 19 18.4 -0.1**
baz=40
WVT Waverly 39.94 199 *e*P **P 19 19 17.9 -0.8**
WVT pmax pmax
comp=Z,422nm,2.2s
WVT Waverly 39.94 199 *e*P **P 19 19 17.9 -0.8**
comp=Z,422nm,2.2s
TNS Taunus Mts 39.97 81 *e*P **P 19 19 18.8 0.0**
comp=Z,36nm,1.0s
TNS Taunus Mts 39.97 81 *e*P **P 19 19 18.8 0.0**
TNS pmax pmax
comp=Z,29nm,1.0s
R25A Fountain Ranch 40.02 220 ⇑P **P 19 19 19.4 -0.1**
baz=40,SNR=16
S29A Ulysses 40.04 216 ⇓P **P 19 19 19.1 -0.4**
baz=40
ABH Alteburg 40.06 82 *e*P **P 19 19 20.1 +0.6**
SUW Suwalki 40.07 66 *e*P **P 19 19 17.1 -2.4**
SUW pmax pmax
comp=Z,131nm,1.0s
SUW Suwalki 40.07 66 *e*P **P 19 19 17.1 -2.4**
comp=Z,131nm,1.0s
SUW Suwalki 40.07 66 *e*P **P 19 19 19.0 -0.5**
SUW *e*S **S 19 25 22.9 -1.5**
SUW *es*S **sS 19 25 32.6 +0.5**
SUW LMZ LR 19 38 02.9
R24A Sanders Place, 40.07 221 ⇓P **P 19 19 20.1 +0.1**
baz=40,SNR=7.5
NACGM Naroch 40.07 62 *e*P **P 19 19 17.0 -2.5**
KBO Bosley Butte 40.09 245 *e*P P 19 19 24.6 +4.7
comp=Z,435nm,1.7s
RUP Ruppelstein 40.10 83⇓ *e*P **P 19 19 20.9 +1.0**
RUP Ruppelstein 40.10 83⇓ *e*P **P 19 19 20.9 +1.0**
CLL Collm 40.11 76 *e*P **P 19 19 19.6 -0.3**
comp=Z,38nm,1.1s
CLL Collm 40.11 76⇑ *i*P **P 19 19 19.9 0.0**
CLL *e* 19 19 25.0
CLL *e*S **S 19 25 22.0 -3.1**
CLL pmax pmax
comp=Z,38nm,1.1s
CLL MLR MLR
comp=Z,10µm,19.1s
CLL Collm 40.11 76⇑ *i*P **P 19 19 19.9 0.0**
comp=Z,38nm,1.1s
CLL *ep*P **pP 19 19 25.0 +0.4**
CLL *es*P **sP 19 19 28.0 +1.6**
CLL *e* 19 19 38.0
CLL *es*PP 19 20 59.0
CLL *e* 19 21 06.0
CLL *e*S **S 19 25 22.0 -3.1**
comp=N,7µm,30.4s
CLL *e*S **S 19 25 22.0 -3.1**
comp=E,3µm,31.3s
CLL *e*S **S 19 25 22.0 -3.1**
comp=Z,5µm,30.1s
CLL *es*SS SSS 19 28 48.0
CLL LH 19 36 00.0
comp=N,11µm,18.6s
CLL LH 19 36 00.0
comp=E,3µm,18.9s
CLL LV 19 36 00.0
comp=Z,10µm,19.1s
TMUT Trail Mountain 40.13 229 *e*P **P 19 19 23.0 +2.4**
comp=Z,304nm,1.4s
SRU San Rafael 40.18 228 *e*P **P 19 19 22.1 +1.3**
SRU pmax pmax
comp=Z,38nm,0.4s
SRU San Rafael 40.18 228 *e*P **P 19 19 22.1 +1.3**
comp=Z,38nm,0.4s
S28A Manter 40.19 217 ⇑P **P 19 19 20.7 0.0**
baz=40,SNR=8.7
YBH Yreka Blue Hor 40.20 243 P **P 19 19 22.9 +2.0**
comp=Z,5.4nm,1.5s
YBH Yreka Blue Hor 40.20 243 P **P 19 19 22.9 +2.0**
comp=Z,8.1nm,0.9s,baz=33,slow=5.8,SNR=15
R23A Moffat 40.23 222 ⇓P **P 19 19 21.6 +0.3**
baz=40,SNR=14
BMN Battle Mountai 40.25 236 *e*P **P 19 19 23.5 +2.2**
BMN pmax pmax
comp=Z,149nm,1.4s
BMN MLR MLR
comp=Z,2µm,19.0s
BMN Battle Mountai 40.25 236 *e*P **P 19 19 23.5 +2.2**
comp=Z,149nm,1.4s
BMN LR LR
comp=Z,2µm,19.0s
S27A Las Animas 40.25 218 ⇓P **P 19 19 21.8 +0.5**
baz=40
CNNC Cliffs of the 40.27 187 PFAKE 19 19 30.0 +8.7
CNNC LR LR
comp=Z,33µm,20.0s
T31A Randall Ranch, 40.34 214 ⇑P **P 19 19 22.0 0.0**
baz=40,SNR=6.0
R22A Saguache, Gunn 40.35 223 ⇑P **P 19 19 23.2 +0.8**
baz=40,SNR=28
R21A Cimarron 40.36 224 ⇓P **P 19 19 23.6 +1.2**
baz=40,SNR=27
CPCT Cooper Cave 40.37 195 *e*P **P 19 19 22.4 +0.2**
MOX Moxa 40.38 78 *e*P **P 19 19 22.1 0.0**
comp=Z,35nm,1.1s
MOX *e*L L 19 36 10.7
comp=Z,11µm,19.6s
MOX Moxa 40.38 78 *e*P **P 19 19 22.1 0.0**
MOX MLR MLR
comp=Z,35µm,19.6s
S26A Kim 40.40 219 ⇓P **P 19 19 22.5 -0.1**
baz=40,SNR=15
Q16A Castle Valley 40.49 228 ⇓P **P 19 19 24.7 +1.3**
baz=40,SNR=14
KMSC Kings Mountain 40.50 191 ⇓P **P 19 19 23.3 0.0**
baz=40,SNR=11
T30A Plains 40.51 215 ⇑P **P 19 19 22.9 -0.5**
baz=40
S25A Robets Cordova 40.52 220 ⇑P **P 19 19 24.4 +0.8**
baz=40,SNR=30
T29A Hugoton 40.52 216 ⇓P **P 19 19 23.0 -0.5**
baz=40
PV04 Paradox Valley 40.58 226 *e*P **P 19 19 24.5 +0.4**
SDCO Great Sand Dun 40.61 221 *e*P **P 19 19 24.5 0.0**
comp=Z,3µm,1.4s
SDCO LR LR
comp=Z,14µm,19.0s
PV10 Paradox Valley 40.62 226 *e*P **P 19 19 26.3 +1.8**
TOD Tromm 40.63 81 *e*P **P 19 19 25.0 +0.8**
TOD Tromm 40.63 81 *e*P **P 19 19 25.0 +0.8**
S24A Houchin Ranch, 40.66 221 ⇓P **P 19 19 25.2 +0.2**
baz=41,SNR=21
KRMB Red Mountain 40.67 244 *e*P **P 19 19 27.0 +2.2**
comp=Z,484nm,2.2s
T28A Walsh 40.68 217 ⇑P **P 19 19 25.0 +0.2**
baz=41
MNK Minsk 40.68 62*ce*P **P 19 19 22.0 -2.5**
MNK *e* 19 19 22.0
MNK *e* 19 21 04.0
MNK *e*S **S 19 25 30.0 -3.5**
MNK *es*SS **SS 19 28 36.0 +2.5**
MNK *e*SSS SSS 19 29 10.0
MNK pmax pmax
comp=Z,340nm,1.0s
MNK MLR MLR
comp=Z,20µm,12.0s
MNK MLR MLR
comp=N,21µm,16.0s
R20A Redvale 40.68 225 ⇓P **P 19 19 25.6 +0.6**
baz=41,SNR=12
MICGM Minsk 40.69 62⇑ *e*P **P 19 19 22.0 -2.6**
MEZF Maizieres J'vi 40.70 85 *e*P **P 19 19 25.1 +0.3**
comp=N,238nm,1.1s
KTD Kalmit 40.71 82 *e*P **P 19 19 27.2 +2.3**
KTD Kalmit 40.71 82 *e*P **P 19 19 27.2 +2.3**
S23A Nye Farm, Mont 40.73 222 ⇑P **P 19 19 26.5 +1.0**
baz=41
PV01 Paradox Valley 40.77 225 *e*P **P 19 19 26.6 +0.9**
HBAR Harrisburg 40.77 203 *e*P **P 19 19 26.3 +0.9**
TANN Tannenbergstha 40.80 77 *e*P **P 19 19 25.7 0.0**
comp=Z,32nm,0.9s
PAGF Fort de Pagny 40.82 85 *e*P **P 19 19 26.2 +0.4**
comp=Z,52nm,0.8s
T27A Campo 40.83 218 ⇓P **P 19 19 26.2 0.0**
baz=41
S22A 4UR Ranch, Cre 40.84 223 ⇑P **P 19 19 27.2 +0.8**
baz=41,SNR=34
T26A Comanche Natio 40.86 219 ⇑P **P 19 19 26.2 -0.2**
baz=41
LANF Langenberg 40.96 82⇓ *e*P **P 19 19 27.8 +0.9**
LANF Langenberg 40.96 82⇓ *e*P **P 19 19 27.8 +0.9**
LANF Langenberg 40.96 82⇓ *e*P **P 19 19 27.8 +0.9**
SFTF Sexfontaines 40.97 85 *e*P **P 19 19 27.1 0.0**
comp=Z,274nm,0.9s
TUL1 Tulsa 40.99 209 ⇓P **P 19 19 26.5 -0.8**
baz=41,SNR=11
T25A Trinidad 41.02 220 ⇓P **P 19 19 28.0 +0.2**
baz=41,SNR=6.5
S20A Disappointment 41.03 225 ⇓P **P 19 19 28.9 +1.0**
baz=41,SNR=23
U30A WK&E Inc. Balk 41.04 215 ⇓P **P 19 19 27.6 -0.1**
baz=41,SNR=7.2
MSU Marysvale 41.08 229 *e*P **P 19 19 29.9 +1.6**
MSU Marysvale 41.08 229 *e*P **P 19 19 29.9 +1.6**
U31A Nine Bar Ranch 41.08 214 ⇑P **P 19 19 28.2 +0.1**
baz=41
S21A Coal Bank Pass 41.09 224 ⇑P **P 19 19 29.0 +0.5**
baz=41,SNR=32
MVU Marysvale 41.09 229 *e*P **P 19 19 30.1 +1.7**
comp=Z,260nm,1.5s
MFF Saint Martin d 41.14 91 *e*P **P 19 19 28.6 +0.2**
comp=Z,148nm,1.0s
GRF Grafenberg Arr 41.16 79 *e*P **P 19 19 29.0 +0.4**
comp=Z,59nm,1.2s
GRF *e*L L 19 36 37.2
comp=Z,8µm,19.1s
GRF Grafenberg Arr 41.16 79 *e*P **P 19 19 29.0 +0.4**
GRF MLR MLR
comp=Z,59µm,19.1s
GRFO Grafenberg 41.16 79 *e*P **P 19 19 29.5 +0.9**
GRFO pmax pmax
comp=Z,135nm,0.8s
GRFO Grafenberg 41.16 79 *e*P **P 19 19 29.4 +0.9**
comp=Z,136nm,0.8s
THEF They Montfort 41.19 85 *e*P **P 19 19 29.8 +0.9**
THEF They Montfort 41.19 85 *e*P **P 19 19 29.8 +0.9**
THEF They Montfort 41.19 85 *e*P **P 19 19 29.8 +0.9**
U29A Oasis Ranch, S 41.21 216 ⇑P **P 19 19 28.9 -0.2**
baz=41
PVCC Panska Ves 41.22 75 *e*P **P 19 19 29.3 +0.3**
PVCC *e* 19 19 33.9
PVCC *e* 19 21 09.7
PVCC *e*S **S 19 25 39.7 -1.9**
PVCC MLR MLR
comp=Z,12µm,16.1s
PVCC Panska Ves 41.22 75⇑ *e*P **P 19 19 29.3 +0.3**
PVCC *ep*P **pP 19 19 33.9 +0.2**
PVCC *es*P **sP 19 19 38.6 +3.0**
PVCC *e*PP **PnPn 19 21 09.7 +1.3**
PVCC *e*S **S 19 25 39.7 -1.9**
PVCC AMS AMS 19 38 20.0
comp=Z,12µm,16.1s
HYF Humbligny 41.23 88 *e*P **P 19 19 29.5 +0.3**
KHMM Horse Mountain 41.25 243 *e*P **P 19 19 32.1 +2.5**
comp=Z,225nm,1.3s
WDC Whiskeytown Da 41.26 242 *e*P **P 19 19 30.6 +1.1**
WDC pmax pmax
comp=Z,85nm,1.3s
WDC Whiskeytown Da 41.26 242 *e*P **P 19 19 30.6 +1.1**
comp=Z,85nm,1.3s
ROTZ Rotzenmuhle 41.33 78 *e*P **P 19 19 30.5 +0.5**
comp=Z,51nm,1.0s
KSP Ksiaz 41.35 74⇑ *e*P **P 19 19 30.8 +0.7**
KSP *e* 19 21 08.5
KSP *e*S **S 19 25 40.5 -3.1**
KSP MLR MLR
comp=Z,19µm,15.8s
KSP Ksiaz 41.35 74 *e*P **P 19 19 30.8 +0.7**
KSP *e*S **S 19 25 43.4 -0.2**
KSP *es*S sS 19 25 58.2 +6.9
KSP LMZ LR 19 36 52.2
CDF Champ du Feu 41.35 83 *e*P **P 19 19 30.4 +0.2**
comp=Z,156nm,0.8s
SOKR Solikamsk 41.39 36*c i*P **P 19 19 30.6 +0.4**
SOKR 19 21 22.8
SOKR S **S 19 25 43.7 -0.2**
SOKR SS **SS 19 28 43.7 -3.6**
SOKR pmax pmax
comp=Z,290nm,1.1s
SOKR MLR MLR
comp=Z,12µm,15.0s
T23A Casias Ranch, 41.39 222 ⇓P **P 19 19 31.3 +0.4**
baz=41
PAHR Pah Rah Range 41.40 238 *e*P **P 19 19 32.8 +2.0**
U28A Mallet 41.42 217 ⇑P **P 19 19 30.7 -0.3**
baz=41
BEKR Beckworth 41.46 239 *e*P **P 19 19 32.7 +1.3**
comp=Z,168nm,1.8s
U27A Thompson Grove 41.47 218 ⇑P **P 19 19 31.6 +0.2**
baz=41,SNR=16
HAU Haudompre 41.49 84 *e*P **P 19 19 31.4 +0.1**
comp=Z,95nm,0.8s
HAU *e*R
comp=Z,7µm,19.8s
STU Stuttgart 41.50 81 *e*P **P 19 19 31.5 +0.1**
comp=Z,24nm,0.8s
STU Stuttgart 41.50 81 *e*P **P 19 19 33.6 +2.2**
STU pmax pmax
comp=Z,95nm,1.0s
STU Stuttgart 41.50 81 *e*P **P 19 19 33.6 +2.2**
comp=Z,95nm,1.0s
BEL Belsk 41.52 69 *e*P **P 19 19 31.6 +0.2**
BEL *e*S **S 19 25 46.0 0.0**
BEL LMZ LR 19 36 31.9
LOR Lormes 41.54 87 *e*P **P 19 19 31.5 -0.3**
comp=Z,147nm,0.9s
LOR *e*R
comp=Z,41µm,17.0s
T22A Edith 41.56 223 ⇑P **P 19 19 33.1 +0.8**
baz=42,SNR=14
UPC Upice 41.59 74 *e*P **P 19 19 32.1 0.0**
UPC *e* 19 19 37.4
UPC Upice 41.59 74⇑ *e*P **P 19 19 32.1 0.0**
UPC *ep*P **pP 19 19 37.4 +0.6**
UPC *es*P **sP 19 19 43.1 +4.4**
PRA Prague 41.61 76 ⇑P **P 19 19 34.0 +1.8**
PRA PP **PnPn 19 21 15.0 +2.1**
PRA AMS AMS 19 39 00.0
MOS Moscow 41.62 53 *e*P P 19 19 28.6 -3.7
MOS *e* 19 21 07.6
MOS *e*PPP PPP 19 21 34.0
MOS *e*S **S 19 25 42.6 -4.9**
MOS *e*SS **SS 19 28 48.3 -3.8**
MOS pmax pmax
comp=Z,153nm,1.0s
MOS smax smax
comp=E,2µm,5.5s
MOS MLR MLR
comp=Z,12µm,15.0s
PGRA Graciosa 41.63 124 *e*LQ LQ 19 29 20.8
PGRA *e*LR LR 19 30 47.4
comp=Z,8µm,20.5s
U26A Atchley Ranch, 41.64 219 ⇓P **P 19 19 33.5 +0.6**
baz=42,SNR=14
SSF Saint Saulge 41.65 88 *e*P **P 19 19 32.4 -0.2**
comp=Z,202nm,0.9s
MVCO Mesa Verde 41.65 225 *e*P **P 19 19 34.8 +1.7**
comp=Z,529nm,1.4s
MVCO LR LR
comp=Z,10µm,21.0s
MVCO Mesa Verde 41.65 225 ⇑P **P 19 19 34.5 +1.5**
baz=42,SNR=17
V31A Spring Creek L 41.66 214 ⇑P **P 19 19 33.2 +0.3**
baz=42,SNR=8.9
LIBD Limburg 41.67 83 *e*P **P 19 19 33.9 +1.1**
LIBD Limburg 41.67 83 *e*P **P 19 19 33.9 +1.1**
BFO Black Forest 41.69 82 P **P 19 19 33.2 +0.3**
comp=Z,432nm,1.1s,SNR=13

BFO Black Forest 41.69 82 *e*P **P 19 19 32.9 -0.1**
comp=Z,19nm,1.2s
BFO Black Forest 41.69 82 *e*P **P 19 19 33.3 +0.3**
BFO MLR MLR
comp=Z,9µm,20.0s
BFO Black Forest 41.69 82 *e*P **P 19 19 33.3 +0.4**
BFO LR LR
comp=Z,9µm,20.0s
T21A Navajo Lake 41.70 223 ⇓P **P 19 19 34.1 +0.7**
baz=42,SNR=7.1
PRU Pruhonice 41.71 76⇑*i*P **P 19 19 33.8 +0.7**
PRU *e* 19 19 39.3
PRU *e* 19 21 14.7
PRU *e*S **S 19 25 44.5 -4.4**
PRU MLR MLR
comp=Z,15µm,16.2s
PRU Pruhonice 41.71 76⇑*i*P **P 19 19 33.8 +0.7**
PRU *e*pP **pP 19 19 39.3 +1.5**
PRU *e*sP **sP 19 19 43.8 +4.2**
PRU *e*PP **PnPn 19 21 14.7 +0.6**
PRU *e*S **S 19 25 44.5 -4.4**
PRU *e*SS **SnSn 19 29 01.3 -3.3**
PRU AMS AMS 19 38 40.0
comp=Z,15µm,16.2s
UALR University of 41.72 205 *e*P **P 19 19 32.7 -0.5**
comp=Z,138nm,1.4s
U25A Circle Dot Ran 41.74 220 ⇑P **P 19 19 34.1 +0.4**
baz=42,SNR=20
HINF Hinteralfeld 41.79 84 *e*P **P 19 19 33.8 0.0**
comp=Z,103nm,0.7s
V30A Spur Ranch, Mi 41.80 215 ⇓P **P 19 19 34.1 +0.1**
baz=42,SNR=8.9
V29A Stinnett 41.81 216 ⇑P **P 19 19 34.0 -0.1**
baz=42
DPC Dobruska-Polom 41.81 74⇑*i*P **P 19 19 34.5 +0.5**
DPC *e* 19 19 40.4
DPC *e* 19 21 18.6
DPC *e*S **S 19 25 46.9 -3.6**
DPC Dobruska-Polom 41.81 74⇑*i*P **P 19 19 34.5 +0.5**
DPC *e*pP **pP 19 19 40.4 +1.7**
DPC *e*sP **sP 19 19 45.4 +4.9**
DPC *e*PP **PnPn 19 21 18.6 +3.2**
DPC *e*S **S 19 25 46.9 -3.6**
MOF Molkenrain 41.83 84⇓*e*P **P 19 19 35.0 +0.8**
MOF Molkenrain 41.83 84⇓*e*P **P 19 19 35.0 +0.8**
MOF Molkenrain 41.83 84⇓*e*P **P 19 19 35.0 +0.8**
AVF Avril sur Loir 41.86 88 *e*P **P 19 19 34.1 -0.2**
comp=Z,256nm,1.0s
ROSA Rosais 41.87 125 *e*LQ LQ 19 29 05.1
ROSA *e*LR LR 19 30 47.4
comp=Z,6µm,23.4s
U24A Moreno Valley 41.88 221 ⇓P **P 19 19 36.2 +1.3**
baz=42
BGF Bois d'Agland 41.95 88 *e*P **P 19 19 34.6 -0.4**
comp=Z,164nm,0.7s
OBN Obninsk 41.99 54*c i*P **P 19 19 34.9 -0.4**
OBN *i* PPP PPP 19 21 37.8
OBN *i* S **S 19 25 52.3 -0.6**
OBN *i* SS **SS 19 28 58.7 -0.6**
OBN pmax pmax
comp=Z,232nm,1.0s
OBN MLR MLR
comp=Z,13µm,18.0s
OBN Obninsk 41.99 54 P **P 19 19 35.3 0.0**
comp=Z,1µm,0.7s,SNR=21
SPAK Spaichingen-Ko 42.02 82 *e*P **P 19 19 36.7 +1.0**
ARUT Antelope Range 42.02 231 *e*P **P 19 19 37.6 +1.7**
ARUT Antelope Range 42.02 231 *e*P **P 19 19 37.6 +1.7**
FELD Feldberg im Sc 42.03 83⇓*e*P **P 19 19 36.5 +0.6**
TCF Toulx Ste Croi 42.03 89 *e*P **P 19 19 35.5 -0.3**
comp=Z,163nm,0.9s
V28A Channing 42.04 217 ⇓P **P 19 19 36.0 0.0**
baz=42
MIAR Mount Ida 42.08 206 *e*P **P 19 19 35.3 -0.9**
MIAR pmax pmax
comp=Z,425nm,2.2s
MIAR MLR MLR
comp=Z,24µm,22.0s
MIAR Mount Ida 42.08 206 *e*P **P 19 19 35.3 -0.9**
comp=Z,425nm,2.2s
MIAR LR LR
comp=Z,24µm,22.0s
WET Wettzell 42.08 78 *e*P **P 19 19 36.6 +0.5**
comp=Z,38nm,1.0s
WET Wettzell 42.08 78 *e*P **P 19 19 36.6 +0.5**
WET pmax pmax
comp=Z,42nm,1.0s
U23A El Rito 42.11 222 ⇑P **P 19 19 37.3 +0.6**
baz=42,SNR=13
YAK Yakutsk 42.11 344 *i* P **P 19 19 36.1 -0.1**
YAK *e**PP **pP 19 19 45.1 +4.2**
YAK *e* 19 21 12.4
YAK *e* 19 21 31.2
YAK *e*S **S 19 25 53.6 -1.0**
YAK pmax pmax
comp=E,23nm,0.9s
YAK pmax pmax
comp=Z,335nm,0.9s
YAK pmax pmax
comp=N,74nm,1.3s
YAK pmax pmax
comp=E,36nm,0.7s
YAK pmax pmax
comp=Z,498nm,3.2s
YAK pmax pmax
comp=N,355nm,2.2s
YAK smax smax
comp=N,1µm,4.3s
YAK smax smax
comp=E,403nm,3.5s
YAK MLR MLR
comp=Z,11µm,22.0s
YAK MLR MLR
comp=N,10µm,22.0s
YAK MLR MLR
comp=E,5µm,18.0s
SMF Signal de Mont 42.12 87 *e*P **P 19 19 36.1 -0.4**
comp=E,181nm,1.0s
V27A Dan Oppiter Fa 42.12 218 ⇓P **P 19 19 36.2 -0.6**
baz=42,SNR=6.7
U22A Llaves 42.18 222 ⇑P **P 19 19 38.3 +1.0**
baz=42,SNR=15
KIPM Iron Peak 42.21 243 *e*P **P 19 19 40.1 +2.6**
LOMF Lomont 42.22 84 *e*P **P 19 19 38.2 +0.8**
LOMF Lomont 42.22 84 *e*P **P 19 19 38.2 +0.8**
LOMF Lomont 42.22 84 *e*P **P 19 19 38.2 +0.8**
CCUT Cedar City 42.24 230 *e*P **P 19 19 40.4 +2.7**
comp=E,453nm,0.4s
V26A Tequesquite Ra 42.24 219 ⇓P **P 19 19 37.3 -0.4**
baz=42,SNR=15
W31A Holland Ranch, 42.26 214 ⇓P **P 19 19 37.6 -0.1**
baz=42,SNR=22
KHC Kasperske Hory 42.26 77⇑*i*P **P 19 19 38.6 +0.9**
KHC *e* 19 19 42.8
KHC *e* 19 21 25.5
KHC *e* 19 21 35.0
KHC *e*S **S 19 25 57.9 +0.7**
KHC MLR MLR
comp=Z,16µm,13.9s
KHC Kasperske Hory 42.26 77⇑*i*P **P 19 19 38.6 +0.9**
KHC *e*pP **pP 19 19 42.8 +0.4**
KHC *e*sP **sP 19 19 48.8 +4.6**
KHC *e*PP PP 19 21 25.5 +10
KHC *e*PCP PCP 19 21 35.0
KHC *e*S **S 19 25 57.9 +0.7**
KHC *e*SS **SnSn 19 29 16.1 -1.9**
KHC AMS AMS 19 40 10.0
comp=Z,16µm,13.9s
KHC Kasperske Hory 42.26 77 *e*P **P 19 19 38.4 +0.8**
comp=Z,108nm,1.1s
U21A Nageezi 42.27 223 ⇓P **P 19 19 38.4 +0.4**
baz=42,SNR=7.6
BBS Basel-Blauen 42.29 84 *e*P **P 19 19 37.8 -0.1**
BBS Basel-Blauen 42.29 84 *e*P **P 19 19 37.8 -0.1**
V25A Rancho No Teng 42.33 220 ⇓P **P 19 19 39.4 +0.9**
baz=42,SNR=40
W30A Crocket Farms 42.35 215 ⇓P **P 19 19 38.9 +0.3**
baz=42
KCPM Cahto Peak 42.35 243 *e*P P 19 19 42.1 +3.5
comp=Z,399nm,2.3s
NVAR Mina Array Bea 42.40 236 P **P 19 19 39.6 +0.5**
NVAR PP **PP 19 21 20.5 +3.4**
NVAR Mina Array Bea 42.40 236 P **P 19 19 39.6 +0.5**
comp=Z,12nm,0.7s,baz=17,slow=5.9,SNR=63
NVAR PP **PP 19 21 20.5 +3.4**
comp=Z,16nm,0.8s,baz=16,slow=8.3,SNR=3.8
NVAR LR LR 19 36 43.1
comp=Z,6µm,19.2s,baz=350,slow=35
U20A Newcomb 42.47 224 ⇑P **P 19 19 40.4 +0.8**
baz=42,SNR=14
NHSC New Hope 42.47 189 *e*P **P 19 19 41.0 +1.6**
NHSC comp=Z,595nm,1.6s LR LR
comp=Z,30µm,19.0s
AGO Saint Agoulin 42.49 88 *e*P **P 19 19 41.2 +1.7**
AGO Saint Agoulin 42.49 88 *e*P **P 19 19 41.2 +1.7**
TPH Tonopah 42.51 235 PFAKE 19 19 50.0 +10
TPH LR LR
comp=Z,11µm,19.0s
RAC Raciborz 42.52 72 *e*P **P 19 19 40.2 +0.6**
RAC *e*S **S 19 26 00.8 0.0**
RAC MLR MLR
comp=N,13µm,16.6s
RAC MLR MLR
comp=Z,10µm,16.1s
RAC MLR MLR
comp=E,14µm,15.3s
W28A Vega 42.52 217 ⇑P **P 19 19 39.6 -0.4**
baz=42
WMOK Wichita Mounta 42.53 212 *e*P **P 19 19 39.9 -0.1**
WMOK pmax pmax
comp=Z,212nm,1.3s
WMOK Wichita Mounta 42.53 212 *e*P **P 19 19 39.9 -0.1**
comp=Z,212nm,1.3s
V24A Rampart Ranch, 42.55 220 ⇑P **P 19 19 40.8 +0.4**
baz=42,SNR=11
GEC2 GERESS Array S 42.56 77 *e*P **P 19 19 40.8 +0.7**
comp=Z,45nm,0.9s
GEC2 GERESS Array S 42.56 77 *e*P **P 19 19 40.8 +0.7**
GEC2 pmax pmax
comp=Z,38nm,0.9s
GERES GERESS Array B 42.56 77 P **P 19 19 40.9 +0.7**
GERES PcP **PcP 19 21 34.0 +1.8**
GERES GERESS Array B 42.56 77 P **P 19 19 40.9 +0.7**
comp=Z,32nm,0.8s,baz=339,slow=7.1,SNR=153
GERES PcP **PcP 19 21 34.0 +1.8**
comp=Z,18nm,0.9s,baz=347,slow=4.2,SNR=3.5
GERES LR LR 19 37 54.4
comp=Z,10µm,18.1s,baz=340,slow=37
W29A Amraillo 42.57 216 ⇓P **P 19 19 40.3 0.0**
baz=42
WAKR Walker 42.57 238 *e*P **P 19 19 42.3 +1.8**
TREC Trest 42.58 75⇑*i*P **P 19 19 40.8 +0.6**
TREC *e* 19 19 46.5
TREC *e* 19 21 28.0
TREC *e*S **S 19 26 04.0 +2.1**
TREC MLR MLR
comp=Z,17µm,15.4s
TREC Trest 42.58 75⇑*i*P **P 19 19 40.8 +0.6**
TREC *e*pP **pP 19 19 46.5 +1.5**
TREC *e*PP **PcP 19 21 28.0 -4.2**
TREC *e*S **S 19 26 04.0 +2.1**
TREC *e*SS **SS 19 29 16.1 +4.8**
TREC AMS AMS 19 39 10.0
comp=Z,17µm,15.4s
FUR Furstenfeldbru 42.59 80 *e*P **P 19 19 40.7 +0.4**
comp=Z,74nm,1.0s
FUR Furstenfeldbru 42.59 80 *e*P **P 19 19 40.7 +0.4**
FUR pmax pmax
comp=Z,309nm,1.0s
VERF Verneugheol 42.60 89 *e*P **P 19 19 41.0 +0.5**
VERF Verneugheol 42.60 89 *e*P **P 19 19 41.0 +0.5**
V22A San Miguel Ran 42.64 222 ⇑P **P 19 19 41.9 +0.8**
baz=43,SNR=29
MORC Moravsky Berou 42.64 73 *e*P **P 19 19 40.9 +0.2**
MORC pmax pmax
comp=Z,69nm,0.8s
MORC Moravsky Berou 42.64 73 *e*P **P 19 19 40.9 +0.2**
comp=Z,69nm,0.8s
V23A Ortiz Mt. (NFS 42.68 221 ⇑P **P 19 19 42.4 +1.1**
baz=43,SNR=8.5
CABF La Chapelle 42.72 85 *e*P **P 19 19 41.4 -0.1**
comp=Z,102nm,0.9s
OKC Ostrava-Krasne 42.73 73⇑*i*P **P 19 19 41.7 +0.3**
OKC *e* 19 19 46.2
OKC *e* 19 21 26.1
OKC *e*S **S 19 25 58.7 -5.3**
OKC MLR MLR
comp=Z,8µm,13.4s
OKC Ostrava-Krasne 42.73 73⇑*i*P **P 19 19 41.7 +0.3**
OKC *e*pP **pP 19 19 46.2 +0.1**
OKC *e*sP **sP 19 19 50.0 +2.0**
OKC *e*PP PP 19 21 26.1 +5.9
OKC *e*S **S 19 25 58.7 -5.3**
OKC *e*SS **SnSn 19 29 21.8 -7.3**
OKC AMS AMS 19 40 50.0
comp=Z,8µm,13.4s
PYM Petit Puy Mans 42.74 89 *e*P **P 19 19 42.6 +1.0**
PYM Petit Puy Mans 42.74 89 *e*P **P 19 19 42.6 +1.0**
PYM Petit Puy Mans 42.74 89 *e*P **P 19 19 42.6 +1.0**
RJF Les Rejaudoux 42.77 90 *e*P **P 19 19 41.4 -0.4**
comp=Z,133nm,0.8s
RJF *e*R
comp=Z,13µm,20.8s
OJC Ojcow 42.78 71⇑*i*P **P 19 19 42.1 +0.3**
OJC *e**PP **pP 19 19 45.5 -1.0**
OJC *e*S **S 19 26 03.3 -1.4**
OJC MLR MLR
comp=Z,13µm,16.5s
OJC Ojcow 42.78 71 *e*P **P 19 19 41.9 +0.1**
comp=Z,87nm,0.8s
OJC Ojcow 42.78 71 *i* P **P 19 19 41.9 +0.1**
OJC *e*pP **pP 19 19 45.5 -1.0**
OJC *e*S **S 19 26 03.3 -1.4**
OJC L L 19 38 29.7
comp=Z,13µm,16.5s
AMTX Amarillo 42.80 216 *e*P **P 19 19 42.5 +0.2**
comp=Z,108nm,1.4s
X31A McDonald Ranch 42.81 214 ⇓P **P 19 19 42.7 +0.5**
baz=43,SNR=9.2
W27A Bowe Ranch, En 42.84 218 ⇑P **P 19 19 42.4 -0.1**
baz=43,SNR=27
VRAC Vranov 42.84 74 P **P 19 19 43.0 +0.7**
VRAC Vranov 42.84 74 P **P 19 19 43.0 +0.7**
comp=Z,32nm,0.8s,baz=337,slow=8.0,SNR=38
V21A Milan 42.87 223 ⇑P **P 19 19 43.2 +0.3**
baz=43
HOPS Hopland 42.90 242 *e*P **P 19 19 45.7 +2.9**
comp=Z,410nm,1.6s
HOPS *e*PP **PcP 19 21 30.4 -2.9**
W25A X Bar L Ranch, 42.91 219 ⇓P **P 19 19 42.9 -0.3**
baz=43,SNR=10
LFF La Frestale 42.92 91 *e*P **P 19 19 43.1 +0.2**
comp=Z,126nm,0.8s
W26A Owens Ranch, T 42.92 218 ⇓P **P 19 19 42.8 -0.5**
baz=43
LRAL Lakeview Retre 42.95 198 *e*P **P 19 19 42.7 -0.7**
comp=Z,134nm,1.1s
LRAL LR LR
comp=Z,9µm,20.0s
V20A Brimhall 43.02 224 ⇓P **P 19 19 44.9 +0.8**
baz=43,SNR=10
DAVA Damuels 43.05 81⇑*i*P **P 19 19 44.8 +0.6**
comp=Z,813nm,3.5s,SNR=8.3
W24A Lazy 6 Ranch, 43.07 220 ⇑P **P 19 19 45.0 +0.5**
baz=43,SNR=20
RETA Reutte 43.09 81⇓*i*P **P 19 19 44.9 +0.5**
comp=Z,823nm,3.6s,SNR=15
OG35 Corcelles 43.12 86 *e*P **P 19 19 45.1 +0.5**
U15A North Rim 43.12 229 ⇑P **P 19 19 45.4 +0.4**
baz=43,SNR=22
X30A Coker Ranch, T 43.12 215 ⇑P **P 19 19 45.1 +0.4**
baz=43,SNR=14
CMB Columbia Colle 43.22 239 *e*P **P 19 19 46.4 +0.8**
CMB *e* 19 21 32.5
CMB pmax pmax
comp=Z,57nm,1.1s
CMB Columbia Colle 43.22 239 *e*P **P 19 19 46.4 +0.8**
comp=Z,57nm,1.1s
CMB *e*PP **PcP 19 21 32.5 -2.0**
BBSR BB Station 43.23 170 PFAKE 19 20 00.0 +14
BBSR LR LR
comp=Z,9µm,19.0s
X29A Tulia 43.24 216 ⇑P **P 19 19 45.3 -0.5**
baz=43
X28A Dimmitt 43.24 216 ⇓P **P 19 19 45.3 -0.5**
baz=43,SNR=17
W23A Werner Place, 43.24 221 ⇓P **P 19 19 46.1 +0.1**
baz=43,SNR=11
X27A F and S Farms, 43.25 218 ⇑P **P 19 19 45.6 -0.4**
baz=43,SNR=7.4
SENIN Lac Senin/Sane 43.26 84 *e*P **P 19 19 46.9 +0.9**
comp=Z,50nm,0.8s
CAF Calviac 43.27 90 *e*P **P 19 19 45.4 -0.4**
comp=Z,54nm,0.8s
PSET Sete Cidades 43.27 122 *e*LQ LQ 19 29 49.7
PSET *e*LR LR 19 33 22.1
comp=Z,14µm,18.6s
MLAC Mammoth Lakes 43.28 237 ⇑P **P 19 19 47.5 +1.3**
baz=43
LBL Lubilhac 43.28 89 *e*P **P 19 19 47.1 +1.1**
LBL Lubilhac 43.28 89 *e*P **P 19 19 47.1 +1.1**
LBL Lubilhac 43.28 89 *e*P **P 19 19 47.1 +1.1**
MOTA Moosalm 43.30 80⇓*i*P **P 19 19 46.8 +0.5**
comp=Z,61nm,0.9s,SNR=20
Y32A R-V Farms, Ver 43.35 213 ⇑P **P 19 19 46.5 -0.1**
baz=43,SNR=5.6
RJOB Jochberg 43.36 79 *e*P **P 19 19 46.8 +0.2**
comp=Z,20nm,1.0s
CMLA Cha da Macela 43.37 122 PFAKE 19 20 00.0 +13
CMLA LR LR
comp=Z,15µm,20.0s
PGAV Gavieira, Arco 43.43 102 *e*P **P 19 19 48.3 +1.1**
comp=Z,116nm,1.0s
PGAV *e*S **S 19 26 15.3 +0.7**
PGAV *i* P x 19 29 48.8
PGAV *e*LR LR 19 32 55.8
comp=Z,6µm,18.0s
WATA Walderalm 43.43 80⇑*i*P **P 19 19 48.1 +0.8**
comp=Z,60nm,1.0s,SNR=14
W22A Albuquerque 43.45 222 ⇓P **P 19 19 48.1 +0.5**
baz=43
X26A CR and CF Fran 43.46 218 ⇓P **P 19 19 46.9 -0.7**
baz=43,SNR=9.5
Y31A Rekieta Farm, 43.50 214 ⇑P **P 19 19 48.6 +0.7**
baz=43,SNR=8.4
ANMO Albuquerque 43.51 222 *e*P **P 19 19 48.1 +0.1**
comp=Z,288nm,1.5s
ANMO LR LR
comp=Z,25µm,22.0s
FETA Feichten 43.51 81⇑*i*P **P 19 19 48.4 +0.5**
comp=Z,854nm,4.1s,SNR=9.2
WTTA Wattenberg 43.51 80⇑*i*P **P 19 19 48.8 +0.9**
comp=Z,996nm,4.0s,SNR=7.0
DAVOX Davos/Dischmat 43.52 82 P **P 19 19 49.4 +1.4**
DAVOX Davos/Dischmat 43.52 82 P **P 19 19 49.4 +1.4**
comp=Z,25nm,0.8s,baz=323,slow=12,SNR=12
W21A San Fidel 43.54 223 ⇓P **P 19 19 49.7 +1.3**
baz=44
SSB Saint Sauveur 43.57 88 *e*P **P 19 19 48.2 -0.1**
SSB pmax pmax
comp=Z,57nm,0.8s
SSB MLR MLR
comp=Z,21µm,19.0s
SSB Saint Sauveur 43.57 88 *e*P **P 19 19 48.2 -0.1**
comp=Z,57nm,0.8s
SSB LR LR
comp=Z,21µm,19.0s
SSB Saint Sauveur 43.57 88 *e*P **P 19 19 49.0 +0.7**
GRAC Grapevine Rang 43.58 235 ⇓P **P 19 19 49.4 +1.0**
baz=44,SNR=11
X25A Clemmons Ranch 43.62 219 ⇓P **P 19 19 48.5 -0.4**
baz=44,SNR=7.0
MOA Molln 43.62 77⇑*i*P **P 19 19 48.5 -0.1**
comp=Z,477nm,3.5s,SNR=17
NIE Niedzica 43.64 71⇑*i*P **P 19 19 50.9 +2.1**
NIE *e**PP **pP 19 19 54.5 +1.0**
NIE *e*S **S 19 26 19.9 +2.4**
NIE Niedzica 43.64 71 *i* P **P 19 19 50.9 +2.1**
NIE *e*pP **pP 19 19 54.5 +1.0**
NIE *e*S **S 19 26 19.9 +2.4**
MCCM Marconi Confer 43.67 241 *e*PP PP 19 21 38.0 +7.5
TUE Stuetta 43.67 82 *e*P **P 19 19 50.5 +1.2**
TUE LR LR
comp=Z,10µm,19.0s
Y30A Stafford Cattl 43.68 215 ⇑P **P 19 19 49.4 +0.1**
baz=44,SNR=8.5
W20A Ramah 43.68 224 ⇑P **P 19 19 49.7 +0.2**
baz=44,SNR=5.7
TIN Tinemaha 43.70 236 ⇑P **P 19 19 50.6 +1.1**
baz=44
X24A Lazy VL Ranch, 43.71 220 ⇑P **P 19 19 50.0 +0.3**
baz=44
PCAB Cabril 43.73 102 *e*P **P 19 19 51.2 +1.6**
comp=Z,167nm,1.2s
PCAB *i* P pP 19 20 00.2 +5.9
SMOL Smolenice 43.79 74 *e*P **P 19 19 51.2 +1.3**
SMOL Smolenice 43.79 74 *e*P **P 19 19 51.2 +1.3**
Y29A Porterfield Fa 43.81 216 ⇑P **P 19 19 50.1 -0.2**
baz=44,SNR=9.2
X23A Hourglass Bar 43.82 221 ⇓P **P 19 19 50.8 +0.3**
baz=44,SNR=12
WUAZ Wupatki 43.83 227 *e*P **P 19 19 51.9 +1.3**
comp=Z,699nm,1.8s
WUAZ Wupatki 43.83 227 ⇑P **P 19 19 51.9 +1.3**
baz=44,SNR=19
Y28A McKinney Farm, 43.85 216 ⇓P **P 19 19 50.6 -0.1**
baz=44
MSTX Muleshoe 43.87 217 ⇑P **P 19 19 50.1 -0.8**
baz=44
STHS Stebnicka Huta 43.87 70 *e*P **P 19 19 51.6 +1.0**
STHS pmax pmax
comp=Z,22nm,0.9s
STHS Stebnicka Huta 43.87 70 *e*P **P 19 19 51.6 +1.0**
LPL La Plagne 43.90 85 *e*P **P 19 19 51.9 +0.7**
comp=Z,178nm,1.1s
GRN Grenoble 43.91 86 *e*P **P 19 19 52.7 +1.7**
GRN Grenoble 43.91 86 *e*P **P 19 19 52.7 +1.7**
GRN Grenoble 43.91 86 *e*P **P 19 19 52.7 +1.7**
W18A Petrified Fore 43.91 225 ⇑P **P 19 19 52.6 +1.3**
baz=44
LPG La Plagne 43.92 85 *e*P **P 19 19 52.2 +0.8**
comp=Z,182nm,1.0s
CONA Conrad Observa 43.95 76 *i* P **P 19 19 51.9 +0.6**
comp=Z,896nm,3.6s,SNR=27
PBRG Braganca 43.96 100 *e*P **P 19 19 52.7 +1.2**
comp=Z,69nm,1.0s
PBRG *e*S **S 19 26 23.9 +1.6**
FURC Furnace Creek, 43.98 234 ⇑P **P 19 19 52.0 +0.4**
baz=44
VIVF Saint-Julien-l 44.00 88 *e*P **P 19 19 51.8 +0.1**
comp=Z,160nm,1.2s
ZST Bratislava 44.00 74 *e*P **P 19 19 51.6 0.0**
ZST *e*S **S 19 26 22.0 -0.6**
ZST *e*SS **SS 19 29 42.0 +3.0**
ZST Bratislava 44.00 74 *e*P **P 19 19 51.6 0.0**
ZST *e*S **S 19 26 22.0 -0.6**
ZST *e*SS **SS 19 29 42.0 +3.0**
Y27A Causey 44.01 217 ⇓P **P 19 19 51.9 -0.1**
baz=44,SNR=15
KWP Kalwaria Pacla 44.02 69 ⇑P **P 19 19 52.5 +0.7**
KWP Kalwaria Pacla 44.02 69 PFAKE 19 20 00.0 +8.2
KWP LR LR
comp=Z,15µm,19.0s
KWP Kalwaria Pacla 44.02 69⇑*i*P **P 19 19 52.5 +0.7**
KWP Kalwaria Pacla 44.02 69 *e*P **P 19 19 52.5 +0.7**
KWP *e*S **S 19 26 22.9 0.0**
KWP LMZ LR 19 38 18.7
X22A Bernardo 44.03 222 ⇓P **P 19 19 52.4 +0.2**
baz=44,SNR=7.2
GDM Grand'Maison 44.04 86 *e*P **P 19 19 54.3 +2.1**
GDM Grand'Maison 44.04 86 *e*P **P 19 19 54.3 +2.1**
Z32A Haskell 44.04 213 ⇓P **P 19 19 52.7 +0.5**
baz=44,SNR=32
VBMS Vicksburg 44.06 202 *e*P **P 19 19 53.3 +1.0**
comp=Z,166nm,0.9s
VBMS LR LR
comp=Z,28µm,19.0s
Y26A Elida 44.08 218 ⇓P **P 19 19 52.6 0.0**
baz=44,SNR=9.3
POLO Lamas de Olo 44.10 102 *e*P **P 19 19 54.3 +1.6**
comp=Z,57nm,1.3s
POLO *e*S **S 19 26 25.1 +0.6**
POLO *i* P x 19 30 00.3
KBA Koelnbreinsper 44.11 78⇑*i*P **P 19 19 53.6 +0.8**
comp=Z,860nm,3.7s
Z31A Sharp Cattle R 44.12 214 ⇓P **P 19 19 53.0 +0.2**
baz=44,SNR=42
SJPF Ste Jean 44.12 94 *e*P **P 19 19 52.4 -0.3**
comp=Z,55nm,1.0s
VYHS Vyhne 44.15 73 *e*P **P 19 19 53.3 +0.5**
VYHS pmax pmax
comp=Z,405nm,3.3s
VYHS Vyhne 44.15 73 *e*P **P 19 19 53.3 +0.5**
VYHS *e*S **S 19 26 23.4 -1.4**
VYHS *e*SS **ScS 19 29 46.8 -3.3**
LAZ Ladron 44.15 222 *e*P **P 19 19 53.8 +0.6**

LPM	Los Pinos Moun	44.15	222	*e*P		P	19 19 53.6	+0.4
LVV	L'vov	44.16	67	*e*P		P	19 19 52.7	-0.2
LVV				*e*			19 21 42.7	
LVV				*e*			19 22 21.3	
LVV				*i* S		S	19 26 24.9	+0.1
LVV				*e*			19 29 51.5	
LVV					MLR	MLR		
	comp=N,10μm,16.0s							
LVV					MLR	MLR		
	comp=E,5μm,16.0s							
LVV					MLR	MLR		
	comp=Z,13μm,16.0s							
ABTA	Abfaltersbach	44.21	79	⇓*i* P		P	19 19 54.2	+0.8
	comp=Z,679nm,3.2s,SNR=18							
Y25A	Mesa, Roswell	44.21	219	⇓P		P	19 19 53.5	-0.2
	baz=44,SNR=12							
PVRL	Vila Real	44.22	102	*e*P		P	19 19 54.8	+1.3
	comp=Z,85nm,1.9s							
PVRL				*i* P		pP	19 20 03.7	+5.5
X21A	Alamocita Cree	44.22	223	⇓P		P	19 19 54.6	+0.7
	baz=44,SNR=14							
ORIF	Oris-en-Rattie	44.24	86	*e*P		P	19 19 54.1	+0.3
	comp=Z,159nm,0.8s							
ORIF				*e*R				
	comp=Z,24μm,18.5s							
X20A	Quemado	44.25	224	⇑P		P	19 19 54.6	+0.5
	baz=44,SNR=6.3							
CWC	Cottonwood Cre	44.27	235	⇓P		P	19 19 55.0	+0.9
	baz=44							
Z30A	Sanderson Ranc	44.29	215	⇓P		P	19 19 53.8	-0.4
	baz=44,SNR=8.5							
TIGA	Tifton	44.30	193	⇑P		P	19 19 53.6	-0.6
	baz=44							
BNM	Barren Site	44.31	222	*e*P		P	19 19 54.9	+0.3
BNI	Bardonecchia	44.32	86	*e*P		P	19 19 55.8	+1.4
BNI					pmax	pmax		
	comp=Z,88nm,1.1s							
BNI					MLR	MLR		
	comp=Z,20μm,19.0s							
BNI	Bardonecchia	44.32	86	*e*P		P	19 19 55.8	+1.4
	comp=Z,88nm,1.1s							
BNI					LR	LR		
	comp=Z,20μm,19.0s							
Y24A	Capitan	44.33	220	⇓P		P	19 19 55.0	+0.3
	baz=44,SNR=33							
LENM	Lemitar	44.35	222	*e*P		P	19 19 55.5	+0.6
Z29A	Hungry Hill Ra	44.40	216	⇑P		P	19 19 55.2	0.0
	baz=44,SNR=11							
SHOC	Shoshone	44.41	233	⇑P		P	19 19 55.7	+0.6
	baz=44,SNR=13							
Y23A	Lovelace Mesa,	44.43	221	⇑P		P	19 19 55.8	+0.3
	baz=44,SNR=29							
Y22D	IRIS PASSCAL I	44.44	222	⇑P		P	19 19 56.1	+0.6
	baz=44							
Z28A	Tucker Farm, M	44.48	216	⇑P		P	19 19 55.9	+0.1
	baz=44							
ARSA	Arzberg	44.49	76	*i* P		P	19 19 56.4	+0.8
	comp=Z,901nm,3.3s,SNR=22							
MVO	Moncorvo	44.49	101	*e*P		P	19 19 57.1	+1.3
	comp=Z,99nm,1.9s							
MVO	Moncorvo	44.49	101	*e*PP		PP	19 21 40.3	+0.9
MVO				*e*S		S	19 26 31.3	+1.2
MVO				*i* P		x	19 29 56.2	
MVO				*e*LR		LR	19 32 56.4	
	comp=Z,6μm,20.0s							
ETSF	Etsaut	44.50	94	*e*P		P	19 19 56.6	+0.8
MPMC	Manual Prospec	44.51	235	⇓P		P	19 19 57.0	+0.9
	baz=44,SNR=27							
LASF	Ste Croix	44.52	89	*e*P		P	19 19 56.4	+0.5
	comp=Z,160nm,0.8s							
X18A	Snowflake	44.52	225	⇓P		P	19 19 56.3	+0.1
	baz=44							
KIEV	Kiev	44.53	63	*e*P		P	19 19 55.0	-0.8
KIEV					MLR	MLR		
	comp=Z,7μm,20.0s							
KIEV	Kiev	44.53	63	*e*P		P	19 19 55.0	-0.8
KIEV					LR	LR		
	comp=Z,7μm,20.0s							
KECS	Kecovo	44.56	71	*e*P		P	19 19 56.4	+0.3
KECS					pmax	pmax		
	comp=Z,17nm,0.8s							
KECS	Kecovo	44.56	71	*e*P		P	19 19 56.4	+0.3
KOLS	Kolonicke sedl	44.57	69	*e*P		P	19 19 56.9	+0.7
KOLS					pmax	pmax		
	comp=Z,49nm,1.0s							
KOLS	Kolonicke sedl	44.57	69	*e*P		P	19 19 56.9	+0.7
KOLS				*e*S		S	19 26 31.6	+0.8
KOLS				*e*SS		SS	19 29 51.3	+1.2
Y22A	Socorro	44.58	222	⇑P		P	19 19 57.0	+0.3
	baz=44,SNR=10							
Z27A	Tatum	44.58	217	⇓P		P	19 19 56.6	0.0
	baz=44,SNR=20							
EPF	Esparros	44.60	93	*e*P		P	19 19 56.3	-0.3
	comp=Z,218nm,1.2s							
MYKA	Terra Mystica	44.60	78	⇑*i* P		P	19 19 57.1	+0.5
	comp=Z,712nm,4.1s							
OG22	Abries	44.60	86	*e*P		P	19 19 57.9	+1.2
OG22	Abries	44.60	86	*e*P		P	19 19 57.9	+1.2
SVE	Sverdlovsk	44.62	35	*d* P		P	19 19 57.2	+0.7
SVE				*e*			19 21 40.0	
SVE				*e*S		S	19 26 29.6	-1.9
SVE				*e*			19 29 51.3	
SVE					pmax	pmax		
	comp=Z,153nm,0.9s							
SVE					pmax	pmax		
	comp=Z,900nm,12.7s							
SVE					MLR	MLR		
	comp=Z,11μm,16.0s							
Y21A	Point of Rocks	44.63	223	⇓P		P	19 19 57.8	+0.7
	baz=45,SNR=33							
RCTC	Rector, Farmer	44.64	237	⇑P		P	19 19 57.8	+1.0
	baz=45							
MBDF	Montbardon	44.65	86	*e*P		P	19 19 57.7	+0.6
	comp=Z,112nm,0.7s							
SAO	San Andreas Ge	44.67	239	*e*P		P	19 19 59.9	+2.7
SAO					pmax	pmax		
	comp=Z,197nm,1.5s							
SAO	San Andreas Ge	44.67	239	*e*P		P	19 19 59.9	+2.7
	comp=Z,197nm,1.5s							
ARU	Arti	44.70	36	*c* P		P	19 19 57.3	+0.2
ARU				*e*			19 21 40.1	
ARU					PPP	PPP	19 22 20.8	
ARU				S		S	19 26 34.4	+1.8
ARU				SS		ScS	19 29 56.0	+2.7
ARU				SSS		SSS	19 30 38.7	
ARU					pmax	pmax		
	comp=Z,209nm,0.8s							
ARU					MLR	MLR		
	comp=Z,12μm,17.0s							
ARU	Arti	44.70	36	P		P	19 19 57.4	+0.3
	comp=Z,1μm,0.8s,SNR=59							
PVIS	Viseu	44.70	102	*e*P		P	19 19 58.3	+0.9
	comp=Z,107nm,1.8s							
W13A	Hualapai Mount	44.71	230	⇑P		P	19 19 59.3	+1.5
	baz=45,SNR=17							
ABTX	Abilene, Hawle	44.73	213	⇑P		P	19 19 57.9	+0.2
	baz=45,SNR=14							
Z26A	Caprock	44.74	218	⇑P		P	19 19 57.8	-0.1
	baz=45,SNR=32							
131A	Roby	44.79	214	⇑P		P	19 19 57.9	-0.3
	baz=45,SNR=19							
MTLF	Montolieu	44.79	91	*e*P		P	19 19 58.1	+0.1
	comp=Z,44nm,0.8s							
TUQ	Turquoise Moun	44.79	233	⇓P		P	19 19 58.9	+0.6
	baz=45							
OG25	Le Caire	44.81	87	*e*P		P	19 19 58.9	+0.7
OG25	Le Caire	44.81	87	*e*P		P	19 19 58.9	+0.7
Y20A	Horse Springs,	44.85	223	⇓P		P	19 19 59.0	+0.2
	baz=45,SNR=17							
Z25A	Roswell	44.85	219	⇓P		P	19 19 58.4	-0.3
	baz=45,SNR=11							
UZH	Uzhgorod	44.85	70	*d* P		P	19 19 58.1	-0.3
UZH				*i*			19 20 04.3	
UZH				*e*			19 21 39.7	
UZH				*e*PPP		PPP	19 22 22.1	
UZH				*e*S		S	19 26 34.1	-0.8
UZH					MLR	MLR		
	comp=N,6μm,18.0s							
UZH					MLR	MLR		
	comp=E,7μm,18.0s							
UZH					MLR	MLR		
	comp=Z,350nm,18.0s							
SURF	Saint Ours	44.89	86	*e*P		P	19 20 00.5	+1.5
SURF	Saint Ours	44.89	86	*e*P		P	19 20 00.5	+1.5
Z24A	Sheeppen Canyo	44.90	220	⇑P		P	19 19 58.9	-0.4
	baz=45,SNR=7.0							
SOKA	Soboth	44.91	77	⇑*i* P		P	19 19 59.5	+0.5
	comp=Z,576nm,3.0s							
X16A	Lo Mia Camp, P	44.91	227	⇑P		P	19 20 00.2	+1.0
	baz=45,SNR=24							
PSZ	Piszkesteto	44.94	72	*e*P		P	19 20 00.0	+0.8
PSZ					pmax	pmax		
	comp=Z,160nm,1.0s							
PSZ					MLR	MLR		
	comp=Z,6μm,19.0s							
PSZ	Piszkesteto	44.94	72	*e*P		P	19 19 60.0	+0.8
	comp=Z,160nm,1.0s							
PSZ					LR	LR		
	comp=Z,6μm,19.0s							
PSZ	Piszkesteto	44.94	72	⇑*i* P		P	19 19 59.4	+0.1
PSZ	Piszkesteto	44.94	72	⇑*e*P		P	19 20 00.1	+0.8
OBKA	Obir	44.94	78	⇑*i* P		P	19 19 59.4	+0.1
	comp=Z,816nm,3.4s,SNR=17							
130A	Snyder	44.95	214	⇑P		P	19 19 59.3	-0.2
	baz=45,SNR=6.3							
PERS	Pernice	44.97	77	*i* P		P	19 19 59.8	+0.4
PERS				*e*PcP		PcP	19 21 40.5	+0.2
PERS				*e*S		S	19 26 37.8	+1.0
CADS	Cadrg	45.00	78	*i* P		P	19 19 59.4	-0.3
CADS				*e*PcS		PcS	19 25 41.9	+7.8
CADS				*e*S		S	19 26 37.0	-0.3
CADS				*e*ScS		SS	19 29 57.6	-1.0
CADS				*e*SS		ScS	19 30 07.6	+12
SMY	Shemya	45.04	308	*e*P		P	19 20 01.5	+1.7
SMY					pmax	pmax		
	comp=Z,443nm,1.7s							
SMY	Shemya	45.04	308	*e*P		P	19 20 01.5	+1.7
	comp=Z,443nm,1.7s							
129A	Stewart Farms,	45.04	216	⇑P		P	19 20 00.4	+0.2
	baz=45							
SMRF	Simiane la Rot	45.05	87	*e*P		P	19 20 00.7	+0.6
	comp=Z,51nm,0.8s							
VES	Vestal, Richgr	45.05	236	⇓P		P	19 20 01.3	+1.2
	baz=45							
CSKK	Cs˙ŧkako	45.06	74	⇓*e*P		P	19 20 01.3	+1.2
WHTX	Lake Whitney	45.06	210	⇓P		P	19 20 00.2	-0.1
	baz=45,SNR=13							
PKSG		45.07	74	⇑*e*P		P	19 20 00.9	+0.8
FX1	Attu Island--F	45.08	309	P		P	19 20 00.8	+0.6
FX1	Attu Island--F	45.08	309	P		P	19 20 00.8	+0.6
	comp=Z,190nm,0.8s,baz=0.5,slow=4.1,SNR=96							
MTE	Manteigas	45.09	102	*e*P		P	19 20 01.6	+1.1
	comp=Z,104nm,1.8s							
MTE				*e*S		S	19 26 40.0	+1.3
MTE				*e*P		x	19 30 09.6	
MTE				*e*LR		LR	19 33 46.1	
	comp=Z,7μm,18.0s							
MTE	Manteigas	45.09	102	*e*P		P	19 20 00.8	+0.3
	comp=Z,48nm,0.9s							
MTE					LR	LR		
	comp=Z,6μm,20.0s							
ISA	Isabella	45.10	235	*e*P		P	19 20 02.2	+1.6
ISA					pmax	pmax		
	comp=Z,232nm,1.3s							
ISA	Isabella	45.10	235	*e*P		P	19 20 02.2	+1.6
	comp=Z,232nm,1.3s							
ISA	Isabella	45.10	235	⇑P		P	19 20 02.1	+1.6
	baz=45,SNR=30							
GSC	Goldstone	45.10	233	*e*P		P	19 20 02.0	+1.3
GSC					pmax	pmax		
	comp=Z,71nm,1.2s							
GSC	Goldstone	45.10	233	*e*P		P	19 20 02.0	+1.3
	comp=Z,71nm,1.2s							
GSC	Goldstone	45.10	233	⇑P		P	19 20 01.6	+0.9
	baz=45,SNR=15							
PKST	T˙˙s	45.10	74	⇑*e*P		P	19 20 01.1	+0.6
Z23A	Rita Site, Whi	45.11	221	⇑P		P	19 20 01.1	+0.3
	baz=45,SNR=8.6							
LRMC	Laurel Mountai	45.11	235	⇑P		P	19 20 01.7	+0.8
	baz=45							
BUD	Budapest	45.14	73	⇑*e*P		P	19 20 01.5	+0.8
128A	Castleberry Fa	45.15	216	⇑P		P	19 20 01.0	-0.1
	baz=45,SNR=11							
NEE2	Needles Airpor	45.18	231	⇓P		P	19 20 01.8	+0.7
	baz=45							
127A	Arkansas Junct	45.22	217	⇓P		P	19 20 01.3	-0.4
	baz=45							
VOY	Vojsko	45.23	78	*e*P		P	19 20 01.3	-0.3
VOY				*e*			19 20 06.0	
VOY				*e*			19 20 35.0	
VOY				*e*			19 21 42.3	
VOY				*e*			19 21 52.8	
AMKA	Amchitka	45.23	303	*e*P		P	19 20 01.6	+0.2
Z22A	Elephant Butte	45.24	222	⇑P		P	19 20 02.0	+0.1
	baz=45,SNR=9.1							
CRNS	Crni Vrh	45.27	78	*i* P		P	19 20 01.5	-0.3
Z21A	St. Cloud Mine	45.31	222	P		P	19 20 03.1	+0.6
	baz=45							
CARF	Carcanieres	45.34	91	*e*P		P	19 20 03.1	+0.5
CARF	Carcanieres	45.34	91	*e*P		P	19 20 03.1	+0.5
126A	Clayton Basin,	45.36	218	⇑P		P	19 20 02.1	-0.6
	baz=45,SNR=8.3							
GMRC	Granite Mounta	45.37	232	⇑P		P	19 20 03.6	+0.7
	baz=45,SNR=23							
LJU	Ljubljana	45.37	78	*e*P		P	19 20 02.6	0.0
LJU				*e*S		S	19 26 42.1	-0.5
LJU				*e*ScS		ScS	19 30 00.5	+2.5
LJU				*e*SS		SS	19 30 13.5	+8.3
TRPA	Tarpa	45.38	70	⇑*i* P		P	19 20 03.1	+0.5
TRPA	Tarpa	45.38	70	⇑*e*P		P	19 20 03.1	+0.5
KOGS	Kog	45.42	76	*i* P		P	19 20 03.3	+0.3
KOGS				*e*ScS		ScS	19 30 00.6	+2.4
KOGS				*e*SS		SS	19 30 14.0	+8.0
125A	Gardner Draw,	45.45	219	⇓P		P	19 20 03.6	+0.2
	baz=45,SNR=20							
232A	Coleman	45.46	213	⇑P		P	19 20 03.4	0.0
	baz=45,SNR=7.2							
HEC	Hector,Ludlow	45.46	233	⇓P		P	19 20 04.7	+1.2
	baz=45							
TRI	Trieste	45.49	79	*e*P		P	19 20 03.8	+0.2
TRI	Trieste	45.49	79	*e*P		P	19 20 03.8	+0.2
231A	Bronte	45.50	214	⇓P		P	19 20 03.5	-0.4
	baz=46,SNR=21							
BEHE	Becsehely	45.53	76	⇑*e*P		P	19 20 04.6	+0.7
124A	Stringfield Ra	45.53	220	⇓P		P	19 20 04.2	-0.1
	baz=45,SNR=21							
PDMCI	Parker Dam,Lak	45.54	230	⇓P		P	19 20 05.2	+1.2
	baz=46,SNR=7.9							
SAOF	Saorge	45.54	85	*e*P		P	19 20 06.6	+2.6
SAOF	Saorge	45.54	85	*e*P		P	19 20 06.6	+2.6
SAOF	Saorge	45.54	85	*e*P		P	19 20 06.6	+2.6
RRX	Edison Barstow	45.55	234	⇑P		P	19 20 04.7	+0.6
	baz=46							
PKS7	Kunszentmiklos	45.58	73	*e*P		P	19 20 05.6	+1.4
CALN	Calern	45.59	86	*e*P		P	19 20 06.7	+2.2
CALN	Calern	45.59	86	*e*P		P	19 20 06.7	+2.2
CALN	Calern	45.59	86	*e*P		P	19 20 06.7	+2.2
SBF	Sospel	45.63	86	*e*P		P	19 20 05.2	+0.5
	comp=Z,357nm,0.8s							
PCBR	Castelo Branco	45.63	102	*e*P		P	19 20 05.0	+0.3
	comp=Z,126nm,1.9s							
228A	UT Block 9, Go	45.66	216	⇓P		P	19 20 05.2	+0.1
	baz=46,SNR=11							
Z20A	Nine Sixteen R	45.66	223	⇓P		P	19 20 05.7	+0.5
	baz=46,SNR=18							
230A	Sterling City	45.66	214	⇓P		P	19 20 05.1	0.0
	baz=46,SNR=36							
Y14A	Wickenburg	45.67	229	⇓P		P	19 20 06.3	+1.1
	baz=46,SNR=21							
229A	Bryant Ranch,	45.69	215	⇓P		P	19 20 05.1	-0.3
	baz=46							
ARVC	Arvin	45.69	236	⇑P		P	19 20 05.6	+0.4
	baz=46							
FRF	La Foret Royal	45.71	86	*e*P		P	19 20 05.3	0.0
	comp=Z,118nm,0.8s							
VOR	Voronezh	45.72	54	*e*P		P	19 20 04.0	-1.2
VOR					pmax	pmax		
	comp=Z,360nm,1.0s							
123A	Bell Site, Whi	45.73	221	⇑P		P	19 20 05.6	-0.1
	baz=46							
EDW2	Edwards Air Fo	45.75	235	⇓P		P	19 20 06.6	+0.8
	baz=46,SNR=18							
SMMC	Simmler	45.76	237	⇑P		P	19 20 06.6	+0.7
	baz=46							
122A	Conniff Cattle	45.79	222	⇑P		P	19 20 06.5	+0.3
	baz=46							
PKS9	Tamasi	45.79	74	*e*P		P	19 20 06.8	+0.9
GCIS	Gornji Cirnik	45.81	77	*i* P		P	19 20 06.1	0.0
GCIS				*e*PcP		PcP	19 21 43.6	+0.4
227A	Bennet, Jal	45.87	217	⇓P		P	19 20 06.6	-0.1
	baz=46,SNR=6.2							
IRM	Iron Mountain	45.87	231	⇓P		P	19 20 07.7	+1.0
	baz=46,SNR=10							
LMR	La Mourre	45.89	87	*e*P		P	19 20 06.9	+0.2
	comp=Z,339nm,1.2s							
PKSN	Nyarlorinc	45.89	73	*e*P		P	19 20 08.2	+1.6
226B	Tecolote Peak,	45.94	218	⇑P		P	19 20 07.4	+0.1
	baz=46,SNR=10							
332A	Millersview	45.97	213	⇓P		P	19 20 07.5	0.0
	baz=46,SNR=37							
225A	Deer Hill, Car	46.01	219	⇑P		P	19 20 07.9	-0.1
	baz=46,SNR=18							
PMAFR	Mafra	46.02	104	*e*P		P	19 20 09.3	+1.5
	comp=Z,186nm,1.1s							
PMAFR				*e*S		S	19 26 53.3	+1.2
BMR	Baia Mare	46.03	69	⇑P		P	19 20 08.5	+0.7
BMR	Baia Mare	46.03	69	⇑*i* P		P	19 20 08.5	+0.7
PMRV	Marv??o	46.04	102	*e*P		P	19 20 08.9	+0.9
	comp=Z,59nm,1.2s							
PMRV	Marv??o	46.04	102	*e*PP		PP	19 21 52.5	-3.2
PMRV				*e*S		S	19 26 54.0	+1.6
PMRV				*i* P		x	19 30 28.4	
PMRV				*e*LR		LR	19 34 17.7	
	comp=Z,5μm,16.0s							
BOJS	Bojanci	46.06	77	*i* P		P	19 20 08.0	-0.1
BOJS				*e*PcP		PcP	19 21 45.0	+1.0
BOJS				*e*PcS		PcS	19 25 37.8	-0.5
BOJS				*e*S		S	19 26 52.0	-0.5
121A	Cookes Peak, D	46.09	222	⇓P		P	19 20 08.8	+0.1
	baz=46,SNR=11							
VLC	Villacollemand	46.10	83	*e*P		P	19 20 09.7	+1.3
VLC					LR	LR		
	comp=Z,10μm,20.0s							
PKS2	Kecel	46.11	73	*e*P		P	19 20 09.8	+1.4
PKM	Peak Mountain	46.12	237	⇑P		P	19 20 09.7	+0.9
	baz=46							
BBRC	Big Bear Solar	46.13	233	⇓P		P	19 20 10.1	+1.1
	baz=46							
331A	San Angelo	46.13	214	⇓P		P	19 20 09.1	+0.2
	baz=46,SNR=20							
Y12C	Blythe	46.14	230	⇓P		P	19 20 09.8	+1.0
	baz=46,SNR=8.1							
330A	Mertzon	46.15	214	⇑P		P	19 20 08.9	0.0
	baz=46,SNR=61							
224A	Cornudas Mount	46.16	220	⇓P		P	19 20 08.9	-0.2
	baz=46,SNR=11							
OSI	Osito Adit	46.16	235	*e*P		P	19 20 12.4	+3.4
	comp=Z,56nm,0.9s							
OSI	Osito Adit	46.16	235	⇑P		P	19 20 10.1	+1.1
	baz=46							
PMTG	Montargil	46.17	103	*e*P		P	19 20 09.6	+0.6
	comp=Z,138nm,1.6s							
PMTG				*e*S		S	19 26 55.1	+0.9
PMTG				*i* P		x	19 30 33.2	
329A	Wagon Wheel Ra	46.18	215	⇓P		P	19 20 09.0	-0.3
	baz=46,SNR=12							
BELC	Belle Mtn. Jos	46.20	232	⇓P		P	19 20 10.4	+1.0
	baz=46,SNR=12							
VSR	Storozhevoye	46.20	54	*c* P		P	19 20 08.6	-0.4
VSR				*e*PP		pP	19 20 11.8	-2.0
VSR				*e*			19 21 57.6	
VSR				*e*S		S	19 26 52.3	-1.9
VSR				*e*SS		SS	19 30 17.7	-1.2
VSR					pmax	pmax		
	comp=N,350nm,1.1s							
VSR					pmax	pmax		
	comp=E,90nm,1.1s							
VSR					pmax	pmax		
	comp=Z,260nm,1.1s							
VSR					pmax	pmax		
	comp=N,430nm,3.1s							
VSR					pmax	pmax		
	comp=Z,580nm,3.1s							
VSR					pmax	pmax		
	comp=E,60nm,0.8s							
VSR					smax	smax		
	comp=N,2μm,6.4s							
VSR					smax	smax		
	comp=E,1μm,6.4s							
VSR					smax	smax		
	comp=Z,2μm,6.4s							
VSR					MLR	MLR		
	comp=N,7μm,18.0s							
VSR					MLR	MLR		
	comp=E,5μm,18.0s							
VSR					MLR	MLR		
	comp=Z,14μm,18.0s							
Z14A	Wintersburg	46.22	229	⇓P		P	19 20 10.4	+1.0
	baz=46							
120A	U Bar Ranch, L	46.22	223	⇑P		P	19 20 10.3	+0.6
	baz=46,SNR=29							
PKSM	Moragy	46.23	74	⇑P		P	19 20 09.5	+0.1
PKSM	Moragy	46.23	74	⇑*i* P		P	19 20 09.5	+0.1
PKSM	Moragy	46.23	74	⇑*e*P		P	19 20 09.5	+0.1
LIS	Lisbon	46.28	104	*e*P		P	19 20 09.6	-0.2
LIS					AMb	AMB	19 20 17.5	
	comp=Z,272nm,1.7s							
LIS				*e*S		S	19 26 56.5	+0.8
LIS	Lisbon	46.28	104	*e*P		P	19 20 09.6	-0.2
	comp=Z,272nm,1.7s							
LIS				*e*S		S	19 26 56.5	+0.8
LIS	Lisbon	46.28	104	*e*P		P	19 20 09.6	-0.2
LIS				*e*S		S	19 26 56.5	+0.8
BFSC	Mount Baldy Ra	46.30	234	⇓P		P	19 20 11.6	+1.3
	baz=46,SNR=27							
SISC	Sisak	46.37	76	P		P	19 20 10.5	+0.1
222A	Williams Famil	46.39	221	⇑P		P	19 20 11.1	+0.2
	baz=46,SNR=5.6							
MWC	Mount Wilson	46.40	235	*e*P		P	19 20 12.9	+1.8
MWC	Mount Wilson	46.40	235	*e*P		P	19 20 12.9	+1.8
328A	Wristen Ranch,	46.41	216	⇑P		P	19 20 11.0	0.0
	baz=46,SNR=61							
BC3	Big Chuckawall	46.42	231	⇓P		P	19 20 12.0	+0.9
	baz=46,SNR=13							
DECC	Green Verdugo	46.43	235	⇓P		P	19 20 12.1	+1.0
	baz=46							
VORD	Divnogorie	46.46	54	*e*P		P	19 20 10.6	-0.5
VORD				*e*S		S	19 26 57.0	-1.0
VORD					pmax	pmax		
	comp=N,460nm,0.9s							
VORD					pmax	pmax		
	comp=E,60nm,0.9s							
VORD					pmax	pmax		
	comp=Z,210nm,0.9s							
VORD					smax	smax		
	comp=N,1μm,7.1s							
VORD					smax	smax		
	comp=E,550nm,7.1s							
VORD					smax	smax		
	comp=Z,400nm,7.1s							
VORD					MLR	MLR		
	comp=N,11μm,18.0s							
VORD					MLR	MLR		
	comp=E,3μm,18.0s							
VORD					MLR	MLR		
	comp=Z,13μm,18.0s							
432A	Menard	46.47	213	⇑P		P	19 20 11.4	-0.1
	ba

ESDC LR LR 19 37 55.5
comp=Z,5μm,21.0s,baz=345,slow=34
DRGR 46.67 70 ⇑P **P 19 20 13.4 +0.5**
DRGR 46.67 70 *i*P **P 19 20 13.4 +0.5**
PAB San Pablo 46.69 99 *e*P **P 19 20 13.5 +0.3**
PAB MLR MLR
comp=Z,5μm,20.0s
PAB San Pablo 46.69 99 *e*P **P 19 20 13.5 +0.3**
PAB LR LR
comp=Z,5μm,20.0s
EVO Evora 46.74 103 *e*P **P 19 20 13.3 -0.1**
comp=Z,61nm,0.8s
EVO *e*R
comp=Z,9μm,20.8s
EVO Evora 46.74 103 *e*P **P 19 20 14.9 +1.5**
comp=Z,52nm,1.6s
325A Bean Ranch, Si 46.76 219 ⇓P **P 19 20 13.2 -0.7**
baz=47
430A Baggett Ranch, 46.76 214 ⇓P **P 19 20 13.7 -0.1**
baz=47,SNR=35
324A Moseley Ranch, 46.77 219 ⇓P **P 19 20 13.7 -0.3**
baz=47
431A Sonora 46.78 214 ⇑P **P 19 20 14.3 +0.5**
baz=47,SNR=28
MURC Murrieta 46.83 233 ⇓P **P 19 20 15.0 +0.8**
baz=47
220A Playas Peak, P 46.83 223 ⇑P **P 19 20 14.7 +0.3**
baz=47,SNR=32
TUC Tucson 46.84 226 *e*P **P 19 20 14.9 +0.5**
TUC Tucson 46.84 226 *e*P **P 19 20 14.8 +0.5**
NVLJ Novalja 46.84 78 P **P 19 20 14.6 +0.5**
JCT Junction City 46.86 213 *e*P **P 19 20 14.9 +0.3**
JCT MLR MLR
comp=Z,11μm,20.0s
JCT Junction City 46.86 213 *e*P **P 19 20 14.9 +0.3**
JCT LR LR
comp=Z,11μm,20.0s
JCT Junction City 46.86 213 ⇓P **P 19 20 14.7 +0.1**
baz=47,SNR=24
GLA Glamis 46.88 231 *e*P **P 19 20 17.3 +2.6**
GLA Glamis 46.88 231 *e*P **P 19 20 17.2 +2.6**
GLA Glamis 46.88 231 ⇑P **P 19 20 15.9 +1.2**
baz=47
FMP Fort Macarthur 46.94 235 ⇓P **P 19 20 16.0 +1.0**
baz=47
113A Mohawk Valley, 46.95 229 ⇑P **P 19 20 16.2 +1.0**
baz=47,SNR=5.6
CJR Cluj-Napoca 46.96 69 ⇑*i*P **P 19 20 15.6 +0.5**
PRAR RASCA 46.97 67 ⇓*i*P **P 19 20 15.4 +0.2**
PNCL Nicolau / Gran 47.01 104 *e*P **P 19 20 16.8 +1.3**
comp=Z,152nm,1.7s
PNCL *e*S **S 19 27 06.7 +0.6**
PNCL *i*P x 19 30 46.8
429A Davenport Ranc 47.02 215 ⇑P **P 19 20 15.1 -0.7**
baz=47,SNR=60
427A Hayter Ranch, 47.02 217 ⇓P **P 19 20 16.1 +0.2**
baz=47,SNR=22
428A Kincaid Ranch, 47.03 216 P **P 19 20 16.4 +0.5**
baz=47
UDBI Udbina 47.10 77 P **P 19 20 16.1 -0.2**
SWSC Sam W. Stewart 47.18 232 ⇓P **P 19 20 18.1 +1.2**
baz=47
532A Rocksprings 47.22 213 ⇓P **P 19 20 18.0 +0.6**
baz=47,SNR=40
PBEJ Beja 47.25 103 *e*P **P 19 20 18.8 +1.3**
comp=Z,123nm,1.3s
PBEJ *i*P pP 19 21 03.0 +41
PGF Pioggiola 47.26 85 *e*P **P 19 20 17.5 -0.1**
comp=Z,253nm,1.5s
CIS Catalina Islan 47.26 235 ⇓P **P 19 20 18.9 +1.3**
baz=47
531A Rocksprings 47.28 213 ⇓P **P 19 20 18.0 +0.2**
baz=47,SNR=43
426A McDonald Obser 47.30 218 ⇑P **P 19 20 17.8 -0.4**
baz=47,SNR=23
PBAR Barrancos 47.32 102 *e*P **P 19 20 18.3 +0.4**
comp=Z,173nm,1.9s
PBAR *e*S **S 19 27 10.6 0.0**
PBAR *i*P x 19 30 44.8
425A Indio Mountain 47.33 219 ⇑P **P 19 20 17.8 -0.5**
baz=47,SNR=21
MESJ Messejana 47.34 104 *e*P **P 19 20 18.2 +0.1**
MESJ AMb AMB 19 20 26.1
comp=Z,128nm,2.6s
MESJ *e*S **S 19 27 11.8 +0.9**
MESJ Messejana 47.34 104 *e*P **P 19 20 18.2 +0.1**
comp=Z,128nm,2.6s
MESJ *e*S **S 19 27 11.8 +0.9**
MESJ Messejana 47.34 104 *e*P **P 19 20 18.2 +0.1**
MESJ *e*S **S 19 27 11.8 +0.9**
MONP Monument Peak 47.35 232 ⇑P **P 19 20 19.5 +0.9**
baz=47,SNR=14
320A Kipp Ranch, An 47.38 223 ⇓P **P 19 20 18.9 +0.2**
baz=47
530A J-C Ranch, Com 47.41 214 ⇓P **P 19 20 19.0 +0.3**
baz=47,SNR=73
IAS Iasi 47.44 66 ⇑P **P 19 20 18.4 -0.4**
IAS Iasi 47.44 66 ⇑*i*P **P 19 20 18.4 -0.4**
319A Douglas 47.48 224 ⇑P **P 19 20 19.2 -0.2**
baz=47,SNR=20
109C Camp Elliot, M 47.49 233 ⇓P **P 19 20 20.7 +1.3**
baz=47
PTEO Sao Teotonio 47.50 104 *e*P **P 19 20 19.7 +0.4**
comp=Z,111nm,2.1s
BZS Buzias 47.51 72 ⇑P **P 19 20 20.2 +0.8**
BZS Buzias 47.51 72 ⇑*i*P **P 19 20 20.2 +0.8**
DVTC Desert V Tower 47.51 232 ⇓P **P 19 20 21.2 +1.5**
baz=48,SNR=6.3
214A Organ Pipe Nat 47.56 228 ⇓P **P 19 20 20.7 +0.8**
baz=48
529A Stev Forest Ra 47.56 215 ⇑P **P 19 20 19.8 -0.2**
baz=48,SNR=37
PET Petropavlovsk 47.58 320*c i*P **P 19 20 20.0 +0.2**
PET *e* 19 21 49.4
PET *e*S **S 19 27 11.3 -2.6**
PET pmax pmax
comp=Z,3μm,6.4s
PET pmax pmax
comp=Z,308nm,0.8s
PET pmax pmax
comp=Z,2μm,7.1s
PCVE Castro Verde 47.58 104 *e*P **P 19 20 20.8 +0.8**
comp=Z,83nm,1.5s
PCVE *e*S **S 19 27 15.3 +0.9**
PCVE *i*P x 19 30 55.0
CLNS Chul'man 47.59 347 *e*P **P 19 20 20.1 +0.2**
CLNS *e* 19 21 49.3
CLNS *e* 19 22 11.0
CLNS *e*PPP PPP 19 22 56.2
CLNS *e*S **S 19 27 10.7 -3.4**
CLNS pmax pmax
comp=E,29nm,1.0s
CLNS pmax pmax
comp=N,35nm,1.0s
CLNS pmax pmax
comp=Z,82nm,1.0s
CLNS pmax pmax
comp=N,41nm,0.9s
CLNS pmax pmax
comp=Z,32nm,1.1s
CLNS pmax pmax
comp=E,33nm,0.8s
CLNS smax smax
comp=E,821nm,15.0s
CLNS smax smax
comp=N,3μm,13.3s
CLNS MLR MLR
comp=N,4μm,12.0s
CLNS MLR MLR
comp=Z,9μm,16.0s
CLNS MLR MLR
comp=E,3μm,18.0s
528A Cox Ranch, San 47.60 216 ⇓P **P 19 20 20.5 +0.1**
baz=48,SNR=29
BAR Barrett 47.61 232 *e*P **P 19 20 22.9 +2.5**
PETK Petropavlovsk- 47.65 321 P **P 19 20 20.7 +0.3**
PETK 19 21 50.1
PETK pmax pmax
comp=Z,42nm,0.8s
PETK MLR MLR
comp=Z,5μm,18.3s
PETK Petropavlovsk- 47.65 321 P **P 19 20 20.7 +0.3**
PETK PcP **PcP 19 21 50.0 +0.5**
PETK Petropavlovsk- 47.65 321 P **P 19 20 20.7 +0.3**
comp=Z,42nm,0.8s,baz=70,slow=6.8,SNR=72
PETK PcP **PcP 19 21 50.0 +0.5**
comp=Z,17nm,0.8s,baz=68,slow=6.3,SNR=5.7
PETK LR LR 19 44 30.4
comp=Z,5μm,18.3s,baz=20,slow=41
SCI San Clemente I 47.70 235 ⇓P **P 19 20 22.4 +1.4**
baz=48
MORF Marmelete 47.74 104 *e*P **P 19 20 21.7 +0.4**
comp=Z,151nm,1.9s
MORF *e*S **S 19 27 16.8 +0.1**
MORF *e*P x 19 30 59.2
MORF Marmelete 47.74 104 *e*P **P 19 20 21.2 -0.1**
MORF *e*S **S 19 27 17.7 +1.0**
527A Woodward Ranch 47.74 217 ⇓P **P 19 20 22.1 +0.5**
baz=48,SNR=49
632A Uvalde 47.82 212 ⇓P **P 19 20 22.0 +0.1**
baz=48,SNR=43
PFVI Vila Bisbo 47.86 105 *e*P **P 19 20 23.0 +0.8**
comp=Z,206nm,1.9s
PFVI *e*S **S 19 27 19.4 +1.1**
PFVI *i*P x 19 31 05.9
PVAQ Vaqueiros 47.88 103 *e*P **P 19 20 23.6 +1.3**
comp=Z,88nm,1.8s
PVAQ *e*S **S 19 27 19.9 +1.3**
PVAQ *i*P x 19 31 03.0
PVAQ *e*LR LR 19 35 04.8
comp=Z,7μm,22.0s
526A Mary Lane Ranc 47.90 217 ⇑P **P 19 20 22.5 -0.3**
baz=48,SNR=28
KIS Kishinev 47.91 65 ⇑*i*P **P 19 20 20.0 -2.5**
comp=Z,400nm,3.0s
KIS Kishinev 47.91 65 *e*PcP **PcP 19 21 50.0 -0.6**
KIS Kishinev 47.91 65 *e*PP PP 19 22 00.0 -14
KIS Kishinev 47.91 65 *e*PcS PcS 19 25 52.0 +5.9
KIS *i*S **S 19 27 16.0 -2.8**
comp=Z,3μm,9.0s
KIS *i*SS **SS 19 30 52.0 +5.1**
KIS *e*SSS SSS 19 32 40.0
KIS *i*LQ LQ 19 34 32.0
KIS LRM MLR 19 42 06.0
comp=Z,10μm,16.0s
KIS Kishinev 47.91 65α *i*P **P 19 20 20.0 -2.5**
KIS *e* 19 21 50.0
KIS *i*S **S 19 27 16.0 -2.8**
KIS pmax pmax
comp=Z,400nm,3.0s
KIS pmax pmax
comp=Z,2μm,11.0s
KIS smax smax
comp=N,3μm,9.0s
KIS smax smax
comp=E,3μm,12.0s
KIS MLR MLR
comp=N,9μm,14.0s
KIS MLR MLR
comp=E,6μm,14.0s
KIS MLR MLR
comp=Z,9μm,14.0s
KIS MLR MLR
comp=Z,10μm,16.0s
PBDV Barranco-do-Ve 47.98 104 *e*P **P 19 20 24.5 +1.4**
comp=Z,145nm,2.4s
PBDV *e*S **S 19 27 22.2 +2.2**
PBDV *i*P x 19 30 55.6
GZR Gura Zlata 48.00 71 ⇑P **P 19 20 24.0 +0.7**
GZR Gura Zlata 48.00 71 ⇑*i*P **P 19 20 24.0 +0.7**
631A Perdido Creek 48.02 213 ⇑P **P 19 20 23.2 -0.4**
baz=48,SNR=21
LOT Lotru 48.19 70 ⇓*i*P **P 19 20 25.2 +0.4**
LEOM Leova 48.28 65 ⇑P **P 19 20 25.2 -0.1**
LEOM Leova 48.28 65 ⇑*i*P **P 19 20 25.2 -0.1**
628A Black Gap, Mar 48.28 216 ⇑P **P 19 20 25.8 +0.2**
baz=48,SNR=59
627A Terlingua Ranc 48.39 217 ⇑P **P 19 20 26.9 +0.3**
baz=48,SNR=150
627A ⇑S **S 19 27 26.7 +0.5**
baz=48
627A ⇑S **S 19 27 26.7 +0.5**
baz=48
627A ⇑S **S 19 27 26.7 +0.5**
baz=48
626A Big Bend Ranch 48.41 217 ⇓P **P 19 20 26.8 +0.2**
baz=48,SNR=36
ARR Arges 48.47 69 ⇓*i*P **P 19 20 28.1 +1.2**
VRI Vrincioaia 48.49 67 ⇑P **P 19 20 27.7 +0.7**
VRI Vrincioaia 48.49 67 ⇑*i*P **P 19 20 27.7 +0.7**
VOIR 48.50 69 ⇑P **P 19 20 27.5 +0.3**
VOIR 48.50 69 ⇑*i*P **P 19 20 27.5 +0.3**
DIVS Divibare 48.55 74 P **P 19 20 27.5 0.0**
AQU L'Aquila 48.55 81 *e*P **P 19 20 29.1 +1.6**
comp=Z,151nm,0.9s
AQU LR LR
comp=Z,7μm,19.0s
TXAR Lajitas Array 48.55 217 P **P 19 20 28.0 +0.3**
TXAR PcP **PcP 19 21 53.6 +0.3**
TXAR Lajitas Array 48.55 217 P **P 19 20 28.0 +0.3**
comp=Z,31nm,0.7s,baz=15,slow=7.3,SNR=146
TXAR PcP **PcP 19 21 53.6 +0.3**
comp=Z,20nm,0.8s,baz=39,slow=3.8,SNR=3.9
TXAR LR LR 19 39 29.2
comp=Z,7μm,20.8s,baz=240,slow=34
732A Laxson Ranch, 48.61 212 ⇑P **P 19 20 28.4 +0.4**
baz=49,SNR=34
MLR Muntele Rosu 48.66 68 ⇑*i*P **P 19 20 29.4 +0.9**
UPM Unac-Piva 49.12 75 ⇑*i*P **P 19 20 31.5 -0.6**
NVS Novosibirsk 49.13 18 ⇑*i*P **P 19 20 31.8 +0.1**
NVS *e* 19 21 51.3
NVS *e*S **S 19 27 36.7 +0.9**
NVS pmax pmax
comp=N,103nm,0.9s
NVS pmax pmax
comp=Z,251nm,0.9s
NVS pmax pmax
comp=E,44nm,1.2s
NVS smax smax
comp=N,358nm,3.0s
NVS smax smax
comp=E,127nm,2.7s
STON Ston 49.13 76 P **P 19 20 30.8 -1.1**
ISR Istrita 49.16 67 ⇓P **P 19 20 32.7 +0.6**
ISR Istrita 49.16 67 ⇓*i*P **P 19 20 32.7 +0.6**
BRY Bratogost 49.31 76 ⇑*i*P **P 19 20 32.9 -0.6**
HUMR Humele 49.34 69 ⇑*i*P **P 19 20 33.4 -0.1**
CFR Carcaliu 49.47 66 ⇑P **P 19 20 34.4 -0.1**
CFR Carcaliu 49.47 66 ⇑*i*P **P 19 20 34.4 -0.1**
KVTX Kingsville 49.50 210 *e*P **P 19 20 36.8 +2.0**
KVTX LR LR
comp=Z,20μm,19.0s
NKY Niksic 49.51 75 ⇑*i*P **P 19 20 34.5 -0.4**
ZRNK Zerenda 49.53 30 P **P 19 20 34.5 -0.4**
ZRNK pmax pmax
comp=Z,126nm,1.0s
BRVK Borovoye 49.59 29 P **P 19 20 36.3 +1.1**
comp=Z,755nm,1.0s,SNR=65
BRVK Borovoye 49.59 29*c i*P **P 19 20 36.0 +0.8**
BRVK pmax pmax
comp=Z,126nm,0.9s
BRVK Borovoye 49.59 29 P **P 19 20 36.2 +0.9**
SNR=88
BRVK Borovoye 49.59 29 *e*P **P 19 20 36.1 +0.9**
BRVK LR LR
comp=Z,9μm,21.0s
TLCR 49.62 65 ⇑P **P 19 20 36.3 +0.7**
TLCR 49.62 65 ⇑*i*P **P 19 20 36.3 +0.7**
BVA0 Borovoye Array 49.63 28 *i*P **P 19 20 35.9 +0.3**
BVA0 pmax pmax
comp=Z,117nm,0.9s
IVA Berane 49.67 74 ⇑*i*P **P 19 20 36.3 +0.1**
HCY Herceg Novi 49.73 76 ⇑*i*P **P 19 20 35.7 -0.8**
PDG Podgorica 49.94 75 P **P 19 20 37.6 -0.4**
TTG Podgorica 49.94 75 ⇑*i*P **P 19 20 37.7 -0.3**
PVY Plav 49.95 74 *e*P **P 19 20 38.0 -0.3**
BUM Brajici-Budva 49.97 76 *e*P **P 19 20 37.8 -0.6**
PMOZ Porto Moniz, M 49.97 115 *e*LQ LQ 19 32 27.6
PMOZ *e*LR LR 19 36 04.6
comp=Z,9μm,20.0s
ZAA0 Zalesovo Array 50.14 17 *e*P **P 19 20 39.5 +0.1**
ZALV Zalesovo Beam 50.14 17 *i*P **P 19 20 39.5 +0.1**
ZALV pmax pmax
comp=Z,484nm,0.6s
ZALV Zalesovo Beam 50.14 17 P **P 19 20 39.6 +0.1**
ZALV *e* 19 58 11.9
ZALV Zalesovo Beam 50.14 17 P **P 19 20 39.6 +0.1**
comp=Z,484nm,0.7s,baz=345,slow=7.4,SNR=1311
ZALV LR LR 19 43 48.9
comp=Z,5μm,18.8s,baz=343,slow=38
ZALV P4KPbc 19 58 11.9
comp=Z,1.9nm,0.8s,baz=350,slow=4.8,SNR=6.8
BCI Bajram Curri 50.19 74 *e*PN **P 19 20 40.0 0.0**
TIRR Tirgusor 50.22 66 ⇓P **P 19 20 40.3 +0.2**
TIRR Tirgusor 50.22 66 *e*P **P 19 20 40.3 +0.2**
TIRR Tirgusor 50.22 66 ⇓*i*P **P 19 20 40.3 +0.2**
VSL Villasalto 50.22 86 *e*P **P 19 20 40.0 -0.3**
comp=Z,136nm,0.8s
VSL LR LR
comp=Z,13μm,20.0s
SKR Severo-Kuril's 50.25 321 *e*P P 19 20 36.0 -4.3
SKR *e* 19 21 56.0
SKR *e* 19 22 37.0
SKR *e*S S 19 27 44.0 -7.5
SKR pmax pmax
comp=Z,110nm,0.8s
SKR pmax pmax
comp=Z,3μm,6.0s
SKR pmax pmax
comp=N,2μm,5.0s
SKR pmax pmax
comp=E,1μm,5.0s
SKR pmax pmax
comp=Z,1μm,6.0s
SKR pmax pmax
comp=E,1μm,8.0s
SKR smax smax
comp=N,2μm,14.0s
SKR smax smax
comp=E,2μm,14.0s
SKR MLR MLR
comp=N,4μm,20.0s
SKR MLR MLR
comp=Z,5μm,20.0s
SKR MLR MLR
comp=E,8μm,18.0s
ZIMR 50.26 69 P **P 19 20 40.8 +0.4**
ZIMR 50.26 69 ⇓*i*P **P 19 20 40.8 +0.4**
ULC Ulcinj 50.37 75 *e*P **P 19 20 41.1 -0.3**
AKTO Aktyubinsk 50.41 39 P **P 19 20 42.0 +0.5**
AKTO pmax pmax
comp=Z,76nm,0.9s
AKTO Aktyubinsk 50.41 39 P **P 19 20 42.0 +0.5**
AKTO Aktyubinsk 50.41 39 P **P 19 20 42.0 +0.5**
comp=Z,76nm,0.9s,baz=336,slow=7.8,SNR=164
PUK Puka 50.46 75 *e*PN **P 19 20 42.0 -0.1**
PVL Pavlikeni 50.67 69 *i*P **P 19 20 43.7 +0.2**
VTS Vitosha 50.75 72 P **P 19 20 42.9 -1.5**
VTS Vitosha 50.75 72 ⇑P **P 19 20 43.9 -0.5**
VTS Vitosha 50.75 72 *i*P **P 19 20 44.2 -0.2**
VTS Vitosha 50.75 72 ⇑*i*P **P 19 20 43.9 -0.5**
PSN Preselentsi 50.90 67 *i*P **P 19 20 45.9 +0.6**
SKO Skopje 50.90 73 P **P 19 20 45.7 +0.3**
PHP Peshkopia 50.93 74 *e*PN **P 19 20 45.7 +0.1**
PHP Peshkopia 50.93 74 P **P 19 20 45.2 -0.4**
PGB Panagyurishte 51.02 71 *i*P **P 19 20 46.3 0.0**
SIM Simferopol' 51.05 61*ce*P **P 19 20 46.8 +0.4**
SIM *e*S **S 19 28 04.0 +1.2**
SIM pmax pmax
comp=Z,500nm,10.0s
SIM MLR MLR
comp=Z,7μm,12.0s
TIR Tirane 51.11 75 P **P 19 20 46.8 -0.1**
TIR Tirane 51.11 75 *e*P **P 19 20 46.9 0.0**
TIR MLR MLR
comp=Z,8μm,19.0s
TIR Tirane 51.11 75 *e*P **P 19 20 46.9 0.0**
TIR LR LR
comp=Z,8μm,19.0s
PRD Provadia 51.17 68 *i*P **P 19 20 47.1 -0.2**
RTC Rabat Centre 51.34 104 PFAKE 19 21 00.0 +11
RTC LR LR
comp=Z,3μm,19.0s
CUC Castrocucco 51.38 79 *e*P **P 19 20 48.2 -0.8**
CUC LR LR
comp=Z,6μm,19.0s
KKB Krupnik 51.40 72 *i*P **P 19 20 49.7 +0.6**
PLD Plovdiv 51.57 70 P **P 19 20 49.2 -1.1**
PLD Plovdiv 51.57 70 *i*P **P 19 20 49.3 -1.1**
JMB Yambol 51.67 69 P **P 19 20 51.5 +0.4**
VAY Valandovo 51.79 73 P **P 19 20 51.3 -0.7**
VAY Valandovo 51.79 73 ⇑*i*Pn **P 19 20 51.9 -0.1**
MMB Musomiste 51.82 71 *i*P **P 19 20 52.7 +0.4**
AB31 Akbulak array 51.86 38 *i*P **P 19 20 52.2 -0.2**
AB31 pmax pmax
comp=Z,73nm,0.7s
ABKAR Akbulak array 51.86 38 *e*P **P 19 20 52.6 +0.2**
ANN Anapa 51.92 58 *e*P **P 19 20 52.4 -0.5**
ANN *e**PP **pP 19 20 55.9 -1.8**
ANN *e* 19 22 01.3
ANN *e*S **S 19 28 14.5 -0.3**
ANN *e*SS **SS 19 31 54.8 +3.9**
ANN pmax pmax
comp=Z,762nm,6.8s
ANN pmax pmax
comp=N,247nm,6.9s
ANN pmax pmax
comp=Z,339nm,1.4s
ANN MLR MLR
comp=E,5μm,17.0s
ANN MLR MLR
comp=Z,16μm,17.0s
RZN Rozhen 51.96 71 *i*P **P 19 20 53.2 -0.3**
FNA Florina 52.01 74 P **P 19 20 53.0 -0.7**
KBN Korca 52.02 75 *e*PN **P 19 20 55.1 +1.3**
KBN Korca 52.02 75 P **P 19 20 53.5 -0.3**
NVR Nevrokopi 52.08 71 P **P 19 20 54.1 -0.1**
GRG Griva 52.10 73 P **P 19 20 54.5 +0.2**
SRS Serrai 52.23 72 P **P 19 20 54.8 -0.5**
NEST Nestorio 52.28 74 P **P 19 20 55.4 -0.4**
TIP Timpagrande 52.38 79 P **P 19 20 55.8 -0.8**
TIP Timpagrande 52.38 79 *e*P **P 19 20 55.6 -1.0**
comp=Z,61nm,0.9s
TIP LR LR
comp=Z,9μm,19.0s
SRN Sarande 52.53 76 *e*PN **P 19 20 57.5 0.0**
SRN Sarande 52.53 76 P **P 19 20 57.2 -0.3**
THE Thessaloniki 52.54 73 P **P 19 20 57.4 -0.2**
KNS Konitsa 52.54 75 P **P 19 20 57.1 +2.3**
KZN Kozani 52.56 74 P **P 19 20 57.0 -0.8**
KAVA Kavala 52.57 71 P **P 19 20 57.9 +0.1**
HORT Hortiatis 52.61 72 P **P 19 20 58.4 +0.2**
KEK Kerkira 52.63 76 P **P 19 20 57.8 -0.5**
RDO Rodhopi 52.67 70 P **P 19 20 58.5 -0.1**
IRK Irkutsk 52.68 2 *e*P **P 19 20 57.8 -0.7**
IRK pmax pmax
comp=Z,393nm,2.2s
KURK Kurchatov 52.81 23 P **P 19 20 59.1 -0.3**
comp=Z,2μm,0.8s
CIT Chita 52.85 355 *e*P **P 19 21 00.6 +0.8**
CIT *e* 19 21 09.3
CIT *e* 19 22 07.4
CIT *e* 19 28 41.6
CIT pmax pmax
comp=Z,516nm,3.1s
PLG Polygyros 52.90 72 P **P 19 21 00.4 +0.1**
LIT Litokhoron 52.93 73 P **P 19 21 00.2 -0.3**
IGT Igoumenitsa 52.94 75 P **P 19 21 00.3 -0.3**
JAN Janina 52.95 75 P **P 19 21 00.7 0.0**
MDT Midelt 53.01 102 P **P 19 21 02.0 +0.6**
MDT Midelt 53.01 102 P **P 19 21 02.0 +0.6**
comp=Z,26nm,0.9s,baz=346,slow=7.6,SNR=29
MDT LR LR 19 41 41.7
comp=Z,3μm,20.3s,baz=348,slow=34
ALN Alexandroupoli 53.03 70 P **P 19 21 00.2 -1.0**
CEL Celeste 53.04 80 *e*P **P 19 20 59.4 -2.0**
CEL LR LR
comp=Z,6μm,19.0s
OUR Ouranopolis 53.07 72 P **P 19 21 01.4 -0.1**
MOY Mondy 53.20 5 *e*P **P 19 21 04.1 +1.6**
MOY pmax pmax
comp=Z,450nm,3.2s
TLY Talaya 53.23 3*c i*P **P 19 21 03.0 +0.4**
TLY *e* 19 22 10.9
TLY *e*S **S 19 28 35.4 +2.7**
TLY *e*PS **PKiKP 19 28 44.7 -2.3**
TLY *e* 19 28 51.8
TLY pmax pmax
comp=Z,71nm,1.5s
TLY MLR MLR
comp=Z,6μm,16.0s
TLY Talaya 53.23 3 P **P 19 21 03.7 +1.1**
comp=Z,281nm,0.9s,SNR=30
SMTH Samothraki Isl 53.31 70 P **P 19 21 03.1 -0.2**
THL Klokotos Trika 53.32 74 P **P 19 21 02.5 -0.8**

ELBA Catalca 53.36 67 *i* P **P** **19 21 04.3 +0.6**
HVS Khovu-Aksy 53.48 11*c i* P **P** **19 21 04.6 +0.1**
HVS pmax pmax
comp=Z,567nm,0.8s
SART Tekirdag 53.50 69 *i* P **P** **19 21 05.2 +0.5**
SOC Sochi 53.57 57*c i* P **P** **19 21 05.2 0.0**
SOC *e* 19 22 11.0
SOC *e*PPP PPP 19 24 09.2
SOC *i* S **S** **19 28 37.2 -0.1**
SOC *i* 19 30 54.1
SOC *e*SS **SS** **19 32 10.3 -6.7**
SOC pmax pmax
comp=Z,44nm,0.8s
SOC MLR MLR
comp=Z,7µm,14.0s
ISK Istanbul-Kandi 53.59 67 P **P** **19 21 05.6 +0.3**
LKD2 Lefkada island 53.72 75 P **P** **19 21 06.2 -0.2**
LIA Limnos Island 53.77 71 P **P** **19 21 07.0 +0.4**
KEST Kesra 53.78 87 P **P** **19 21 07.1 +0.2**
KEST Kesra 53.78 87 P **P** **19 21 07.1 +0.2**
comp=Z,11nm,0.7s,baz=283,slow=3.5,SNR=26
XOR Xorichti 53.80 73 P **P** **19 21 07.0 +0.1**
BUY Buyukada 53.80 67 *i* P **P** **19 21 06.7 -0.1**
KIV Kislovodsk 53.84 54 *e*P **P** **19 21 07.6 +0.4**
KIV *e* 19 23 09.6
KIV *e*S **S** **19 28 43.3 +2.1**
KIV *e*SS **SS** **19 32 23.4 +2.0**
KIV pmax pmax
comp=Z,361nm,3.7s
KIV pmax pmax
comp=Z,113nm,0.9s
KIV MLR MLR
comp=Z,7µm,17.0s
KIV Kislovodsk 53.84 54 P **P** **19 21 07.2 0.0**
comp=Z,606nm,0.9s,SNR=20
NEO Neokhori 53.86 73 P **P** **19 21 07.2 -0.2**
MAKR Makrakomi, Fth 53.87 74 P **P** **19 21 06.6 -0.9**
GRTK Grand Turk 53.87 178 PFAKE 19 21 20.0 +12
GRTK LR LR
comp=Z,14µm,20.0s
EVR Evrytania 53.88 74 P **P** **19 21 07.8 +0.2**
AGG Agios Georgios 53.91 74 P **P** **19 21 07.1 -0.6**
BOZC Bozcaada 54.03 70 *i* P **P** **19 21 07.5 -1.1**
SKIA Skiathos 54.05 73 P **P** **19 21 08.7 0.0**
KBZ Khabaz 54.10 54 P **P** **19 21 10.2 +1.2**
KBZ pmax pmax
comp=Z,239nm,0.9s
KBZ MLR MLR
comp=Z,7µm,18.5s
KBZ Khabaz 54.10 54 P **P** **19 21 10.2 +1.2**
KBZ P'P' 19 51 31.9
KBZ ⇑*e* 19 51 38.2
KBZ Khabaz 54.10 54 P **P** **19 21 10.2 +1.2**
comp=Z,239nm,0.9s,baz=335,slow=4.7,SNR=256
KBZ LR LR 19 43 59.2
comp=Z,7µm,18.5s,baz=344,slow=36
KBZ PKPPKP **P'P'df** **19 51 31.9 +3.2**
comp=Z,0.9nm,0.7s,baz=328,slow=4.8,SNR=4.2
KBZ PKP2bc 19 51 38.2
comp=Z,2.0nm,0.9s,baz=163,slow=5.8,SNR=4.3
AOS Alonnisos 54.15 72 P **P** **19 21 09.4 0.0**
AXAR Agios Charalam 54.23 74 P **P** **19 21 09.8 -0.3**
SMIA Simia 54.26 73 P **P** **19 21 10.2 -0.1**
VLS Valsamata 54.28 76 P **P** **19 21 10.4 -0.1**
EFP Efpalio 54.37 74 P **P** **19 21 11.9 +0.9**
KFL Anninata 54.40 76 P **P** **19 21 11.4 +0.1**
AXS Araxos 54.46 75 P **P** **19 21 12.0 +0.3**
KALE Kalithea 54.46 74 P **P** **19 21 12.6 +0.8**
TRIZ Trizonia 54.47 74 P **P** **19 21 12.0 +0.2**
ULDT Uludag 54.48 67 *i* P **P** **19 21 12.8 +0.7**
BALY Balya 54.51 69 *i* P **P** **19 21 11.7 -0.4**
MRKA Markates 54.52 73 P **P** **19 21 12.0 -0.1**
ZAK Zakamensk 54.53 3⇓*i* P **P** **19 21 12.7 +0.5**
ZAK *e* 19 22 16.2
ZAK pmax pmax
comp=Z,41nm,1.4s
DSF Desfina 54.54 74 P **P** **19 21 11.7 -0.7**
LAKA Lakka 54.57 74 P **P** **19 21 12.8 +0.3**
RLS Riolos of Patr 54.61 75 P **P** **19 21 13.4 +0.6**
PRK Paraskevi 54.65 70 P **P** **19 21 13.1 0.0**
KLR Kul'dur 54.67 341⇓*i* P P 19 21 09.7 -3.4
KLR *e* 19 23 13.0
KLR pmax pmax
comp=N,2µm,6.0s
KLR pmax pmax
comp=Z,3µm,6.0s
KLR pmax pmax
comp=N,160nm,2.2s
KLR pmax pmax
comp=Z,850nm,2.2s
KLR MLR MLR
comp=N,11µm,13.0s
KLR MLR MLR
comp=Z,20µm,13.0s
ILGA Ilgaz 54.67 63 *i* P **P** **19 21 13.9 +0.4**
KLV Kalavryta, Ach 54.80 74 P **P** **19 21 14.2 0.0**
DURS Dursunbey 54.84 68 *i* P **P** **19 21 15.2 +0.6**
CHVG Ch'k'valeri 54.90 55 P **P** **19 21 16.0 +1.1**
THAL Thalero 54.93 74 P **P** **19 21 13.5 -1.6**
GUR Goura 54.94 74 P **P** **19 21 15.2 -0.2**
WDD Wield Dalam 54.96 82 *e*P **P** **19 21 15.3 0.0**
WDD LR LR
comp=Z,4µm,19.0s
LTK Loutraki 55.02 74 P **P** **19 21 15.0 -0.8**
HABR Khabarovsk 55.12 338*c i*P **P** **19 21 16.0 -0.3**
HABR *e**PP **pP** **19 21 18.9 -2.2**
HABR *e**SP **sP** **19 21 20.3 -2.7**
HABR *e* 19 22 16.5
HABR *e* 19 23 19.1
HABR *e*PPP PPP 19 24 30.4
HABR *e*S **S** **19 29 00.0 +2.0**
HABR *e**SS **sS** **19 29 05.2 -0.8**
HABR *e* 19 31 05.2
HABR SS **SS** **19 32 45.0 +3.9**
HABR pmax pmax
comp=E,47nm,1.0s
HABR pmax pmax
comp=Z,369nm,1.0s
HABR pmax pmax
comp=N,109nm,1.0s
HABR pmax pmax
comp=Z,4µm,4.2s
HABR smax smax
comp=E,520nm,9.4s
HABR smax smax
comp=N,530nm,4.7s
HABR smax smax
comp=Z,801nm,8.3s
HABR MLR MLR
comp=N,12µm,18.0s
HABR MLR MLR
comp=Z,15µm,18.0s
HABR MLR MLR
comp=E,7µm,18.0s
AMT Artemida-Makis 55.17 75 P **P** **19 21 17.4 +0.5**
ZEI Tsey 55.21 53 *e*P **P** **19 21 17.7 +0.4**
ZEI *e*S **S** **19 29 02.7 +2.9**
ZEI pmax pmax
comp=Z,92nm,0.9s
ZEI MLR MLR
comp=Z,2µm,12.0s
PTL Penteli 55.21 73 P **P** **19 21 17.1 -0.1**
ATH Athens Observa 55.25 73 P **P** **19 21 17.2 -0.2**
ATHU Athens Univers 55.27 73 P **P** **19 21 17.5 -0.1**
ONI Oni 55.30 54 P **P** **19 21 20.7 +2.8**
ONI S **S** **19 29 03.4 +2.6**
CTKT Corum 55.32 62 *i* P **P** **19 21 18.9 +0.7**
MRMA Marmari 55.33 72 P **P** **19 21 18.5 +0.5**
AKHS Akhisar 55.37 69 *i* P **P** **19 21 18.2 -0.1**
HIA Hailar 55.40 350 *e*P **P** **19 21 19.0 +0.5**
comp=Z,113nm,0.8s
HIA LR LR
comp=Z,8µm,21.0s
CHOS Chios island 55.42 71 P **P** **19 21 18.9 +0.2**
DEMI Demirci 55.43 68 *i* P **P** **19 21 18.7 -0.1**
GTBY Guantanamo Bay 55.46 183 *e*P **P** **19 21 19.9 +0.8**
GTBY LR LR
comp=Z,6µm,20.0s
SEYT Eskypehyr 55.47 66 *i* P **P** **19 21 19.4 +0.2**
VLX Vlachokerasia 55.49 74 P **P** **19 21 19.6 +0.3**
ITM Ithomi 55.56 75 P **P** **19 21 19.4 -0.3**
GDZ Gediz 55.56 67 *i* P **P** **19 21 20.0 +0.1**
DID Didima 55.57 74 P **P** **19 21 18.9 -0.9**

URLA Izmir 55.57 70 *i* P **P** **19 21 19.9 +0.1**
ANTO Ankara 55.59 64⇑*i* P **P** **19 21 21.0 +1.1**
ANTO Ankara 55.59 64 P **P** **19 21 21.2 +1.2**
SNR=36
ANTO Ankara 55.59 64 *e*P **P** **19 21 20.5 +0.6**
ANTO LR LR
comp=Z,4µm,19.0s
ANTO Ankara 55.59 64⇑*i* P **P** **19 21 21.0 +1.1**
DIDY Didyma 55.59 74 P **P** **19 21 19.0 -1.0**
ERBA Erbaa 55.70 60 *i* P **P** **19 21 21.8 +1.1**
ALT Altintas 55.74 67 P **P** **19 21 21.6 +0.5**
TEIG Tepich 55.76 198 *e*P **P** **19 21 21.4 +0.2**
TEIG Tepich 55.76 198 LR LR 19 45 58.0
comp=Z,19µm,20.0s,baz=7.2,slow=37
MAK Makhachkala 55.76 50 *e*P **P** **19 21 21.7 +0.7**
MAK *e* 19 22 18.7
MAK *e* 19 23 34.2
MAK *e*PPP PPP 19 24 38.7
MAK *e*S **S** **19 29 08.0 +1.3**
MAK *e* 19 31 08.9
MAK pmax pmax
comp=N,578nm,1.4s
MAK pmax pmax
comp=Z,1µm,1.9s
MAK pmax pmax
comp=E,251nm,0.9s
MAK smax smax
comp=E,3µm,7.7s
MAK smax smax
comp=N,5µm,7.8s
MAK MLR MLR
comp=N,34µm,18.0s
MAK MLR MLR
comp=Z,12µm,19.0s
MAK MLR MLR
comp=E,15µm,18.0s
YSS Yuzh-Sakhalins 55.78 331α *i*P **P** **19 21 22.5 +1.4**
YSS *e**SP **sP** **19 21 26.8 -1.0**
YSS *e* 19 23 27.0
YSS *e*S **S** **19 29 06.0 -0.9**
YSS *e*PS **PnS** **19 29 20.0 +2.9**
YSS *e*SS **SS** **19 32 47.0 -4.5**
YSS pmax pmax
comp=Z,160nm,0.9s
YSS pmax pmax
comp=Z,2µm,6.0s
YSS MLR MLR
comp=N,9µm,18.0s
YSS MLR MLR
comp=Z,11µm,18.0s
PYL PYLOS 55.78 75 P **P** **19 21 20.2 -1.1**
KULA Kula-Manisa 55.92 68 P **P** **19 21 22.4 +0.1**
BRTR Keskin Array B 55.92 63 P **P** **19 21 23.1 +0.7**
BRTR P'P' 19 51 20.6
BRTR Keskin Array B 55.92 63 P **P** **19 21 23.1 +0.7**
comp=Z,68nm,0.9s,baz=347,slow=5.1,SNR=226
BRTR LR LR 19 46 56.4
comp=Z,4µm,18.7s,baz=116,slow=38
BRTR PKPPKP **P'P'df** **19 51 20.6 -5.1**
comp=Z,0.8nm,0.7s,baz=175,slow=5.6,SNR=4.3
BBAL Bala 55.98 64 *i* P **P** **19 21 23.7 +0.9**
TOKA Tokat 55.99 61 *i* P **P** **19 21 23.9 +1.1**
DUS Dusheti 56.04 53 P **P** **19 21 25.6 +2.5**
DUS S S 19 29 03.4 -7.3
DYR Agios Nikonas 56.06 75 P **P** **19 21 23.5 +0.2**
DBOC Borcka 56.13 56 *i* P **P** **19 21 23.6 -0.1**
CDAG Cicekdag 56.18 63 *i* P **P** **19 21 24.0 -0.2**
VLI Veliai 56.25 74 P P 19 21 20.1 -4.5
SMG Samos 56.25 70 P **P** **19 21 24.4 -0.2**
KHAL Karahalli 56.25 68 *i* P **P** **19 21 24.7 0.0**
BOLV Bolvadin 56.26 66 *i* P **P** **19 21 24.8 0.0**
ARTV Artvin 56.34 56 *i* P **P** **19 21 25.9 +0.4**
SDDR Presa de Saban 56.39 178 *e*P **P** **19 21 28.1 +2.3**
SDDR LR LR
comp=Z,20µm,20.0s
TBLG Delisi 56.39 53 *e*P **P** **19 21 26.7 +1.1**
TBLG *e* 19 29 17.7
TBLG Delisi 56.39 53 P **P** **19 21 26.8 +1.1**
TBLG S **S** **19 29 17.8 +2.5**
DAGI Agillar 56.44 56 *i* P **P** **19 21 26.5 +0.5**
AKH Akhalkalaki 56.45 54 P **P** **19 21 27.3 +1.1**
AKH S **S** **19 29 20.6 +4.3**
SUSE Susehri 56.48 59 *i* P **P** **19 21 27.9 +1.5**
APE Apeiranthos 56.55 72 P **P** **19 21 25.6 -1.2**
APE Apeiranthos 56.55 72⇑*i* P **P** **19 21 25.8 -1.0**
APE Apeiranthos 56.55 72⇑*i* P **P** **19 21 25.8 -1.0**
AYDN Tasoluk 56.55 69 *i* P **P** **19 21 26.5 -0.2**
SCER sogukcermik 56.57 60 *i* P **P** **19 21 28.1 +1.0**
DDEM Demirkent 56.58 56 *i* P **P** **19 21 27.8 +0.7**
KZR Kazreti 56.66 53 P **P** **19 21 28.8 +1.2**
KDHN Kadinhani 56.72 65 *i* P **P** **19 21 28.3 +0.3**
DGRG David-gareji 56.79 52 P **P** **19 21 30.0 +1.5**
DGRG S **S** **19 29 23.6 +3.0**
DNZL Cakiroluk 56.79 68 *i* P **P** **19 21 28.7 -0.1**
KUR Kuril'sk 56.80 327*c i*P P 19 21 17.4 -11
KUR *i* 19 23 35.6
KUR *i* S **S** **19 29 17.3 -3.1**
KUR pmax pmax
comp=Z,1µm,5.3s
KUR MLR MLR
comp=E,1µm,14.0s
KUR MLR MLR
comp=N,4µm,18.0s
KUR MLR MLR
comp=Z,5µm,18.0s
ISP Isparta 57.01 67 P **P** **19 21 29.9 -0.3**
ISP Isparta 57.01 67 PFAKE 19 21 40.0 +10
ISP LR LR
comp=Z,4µm,20.0s
MK31 Makanchi Array 57.04 20 *i* P **P** **19 21 29.4 -0.7**
MK31 pmax pmax
comp=Z,101nm,0.9s
MKAR Makanchi Array 57.04 20 P **P** **19 21 29.8 -0.3**
MKAR 19 22 25.9
MKAR pmax pmax
comp=Z,92nm,0.9s
MKAR MLR MLR
comp=Z,8µm,19.7s
MKAR Makanchi Array 57.04 20 P **P** **19 21 29.8 -0.3**
MKAR PcP **PcP** **19 22 25.9 +0.9**
MKAR P'P' 19 51 21.9
MKAR *e* 19 58 42.5
MKAR Makanchi Array 57.04 20 P **P** **19 21 29.8 -0.3**
comp=Z,92nm,0.8s,baz=5.7,slow=4.9,SNR=234
MKAR PcP **PcP** **19 22 25.9 +0.9**
comp=Z,26nm,0.8s,baz=41,slow=3.9,SNR=3.7
MKAR LR LR 19 49 06.9
comp=Z,8µm,19.7s,baz=338,slow=39
MKAR PKPPKP **P'P'df** **19 51 21.9 -3.7**
comp=Z,1.0nm,0.9s,baz=159,slow=3.8,SNR=3.5
MKAR P4KPbc 19 58 42.5
comp=Z,1.7nm,0.9s,baz=8.5,slow=2.5,SNR=11
ULN Ulaanbaatar 57.08 0 P **P** **19 21 32.1 +1.6**
SNR=238
ULN Ulaanbaatar 57.08 0 *e*P **P** **19 21 31.9 +1.4**
ULN Ulaanbaatar 57.08 0 P **P** **19 21 31.2 +0.6**
comp=Z,344nm,0.8s,comp=Z,4µm
AOPR Arecibo Observ 57.10 173 *e*P **P** **19 21 31.1 +0.2**
SONM Songino Array 57.11 1 P **P** **19 21 31.9 +1.2**
SONM PcP **PcP** **19 22 27.0 +1.7**
SONM P'P' 19 51 16.6
SONM *e* 19 58 43.5
SONM Songino Array 57.11 1 P **P** **19 21 31.9 +1.2**
comp=Z,77nm,0.8s,baz=349,slow=6.9,SNR=439
SONM PcP **PcP** **19 22 27.0 +1.7**
comp=Z,39nm,0.8s,baz=336,slow=4.0,SNR=4.9
SONM LR LR 19 46 26.7
comp=Z,7µm,18.3s,baz=4.3,slow=36
SONM PKPPKP P'P'df 19 51 16.6 -9.2
comp=Z,0.9nm,1.1s,baz=183,slow=4.3,SNR=4.5
SONM P4KPbc 19 58 43.5
comp=Z,0.7nm,0.7s,baz=328,slow=5.1,SNR=6.7
ANKY Antikythira Is 57.15 74 P **P** **19 21 31.8 +0.8**
KOPT Kop Dagi 57.15 57 *i* P **P** **19 21 33.0 +1.6**
LRS Lares 57.16 173 *e*P **P** **19 21 31.5 +0.2**
STVI Saint Thomas 57.16 171 *e*P **P** **19 21 31.5 +0.3**
SANT Santorini 57.19 72 P **P** **19 21 29.0 -2.4**
SANT Santorini 57.19 72 PFAKE 19 21 40.0 +8.6
SANT LR LR
comp=Z,4µm,19.0s
CBYP Canovanas 57.21 172 *e*P **P** **19 21 31.6 0.0**
MPR Mayaguez 57.23 174 *e*P **P** **19 21 32.2 +0.6**
LSP Las Mesas 57.27 174 *e*P **P** **19 21 33.0 +1.0**
GOLH Golhisar 57.35 68 *i* P **P** **19 21 33.0 +0.4**

SJG San Juan 57.36 173 *e*P **P** **19 21 32.5 -0.1**
SJG LR LR
comp=Z,4µm,20.0s
CELP Cerrillos 57.38 173 *e*P **P** **19 21 33.0 +0.2**
NIS1 Nisyros Isl. 57.38 70 P **P** **19 21 33.4 +0.7**
MTP Monte Pirata 57.39 172 *e*P **P** **19 21 33.5 +0.6**
OBIP Obispado Ponce 57.41 173 *e*P **P** **19 21 33.3 +0.3**
HOMI Horasan 57.43 56 *i* P **P** **19 21 34.9 +1.7**
CRPR Cabo Rojo, PR 57.43 174 *e*P **P** **19 21 33.6 +0.5**
KEMA Kemaliye 57.44 59 *i* P **P** **19 21 34.3 +1.2**
CPD Cerro la Pandu 57.44 172 *e*P **P** **19 21 33.7 +0.5**
CPD Cerro la Pandu 57.44 172 *e*P **P** **19 21 33.7 +0.5**
PINB Pinarbasi 57.54 61 *i* P **P** **19 21 34.6 +0.5**
KORT Korkueli 57.76 67 *i* P **P** **19 21 36.0 +0.5**
CDVI St. Croix 57.77 171 *e*P **P** **19 21 35.4 -0.1**
comp=Z,95nm,0.7s
VAM Vamos 57.80 73 P **P** **19 21 35.2 -0.4**
GNI Garni 57.92 53 P **P** **19 21 38.1 +1.5**
SNR=29
GNI Garni 57.92 53 *e*P **P** **19 21 37.8 +1.2**
GNI Garni 57.92 53 LR LR 19 46 28.8
comp=Z,5µm,18.1s,baz=175,slow=36
ARG Arkhangelos 57.98 70 P **P** **19 21 35.4 -1.4**
ANWB Willy Bob 57.99 168 PFAKE 19 21 50.0 +13
ANWB LR LR
comp=Z,6µm,21.0s
IDI Anoyia 58.09 73 P **P** **19 21 35.0 -2.7**
IDI Anoyia 58.09 73 *e*P **P** **19 21 35.0 -2.7**
TUTA Tutak 58.24 55 *i* P **P** **19 21 40.0 +1.1**
AKCD Akcadag 58.25 60 *i* P **P** **19 21 40.0 +1.1**
YUK Yuzh-Kuril'sk 58.25 328*c i*P P 19 21 27.7 -11
YUK *i* PPP PPP 19 25 07.8
YUK *i* S S 19 29 32.9 -6.6
YUK *i* SS SS 19 33 38.2 +7.8
YUK pmax pmax
comp=Z,205nm,0.9s
YUK pmax pmax
comp=Z,219nm,0.8s
YUK pmax pmax
comp=N,130nm,0.9s
YUK pmax pmax
comp=E,121nm,0.9s
NPS Neapolis 58.28 72 P **P** **19 21 35.9 -3.1**
AKAS Kas 58.32 68 *i* P **P** **19 21 38.3 -1.0**
BNGL BINGOL 58.32 57 *i* P **P** **19 21 41.0 +1.5**
GVD Gavdhos 58.32 74 P **P** **19 21 38.3 -0.9**
GVD Gavdhos 58.32 74 *e*P **P** **19 21 38.5 -0.7**
comp=E,251nm,0.8s
SIVA Sivas 58.32 73 P **P** **19 21 38.8 -0.4**
MALT Malatya 58.34 60 PFAKE 19 21 50.0 +11
MALT LR LR
comp=Z,3µm,20.0s
LAST Lasithi 58.35 72 P **P** **19 21 37.5 -2.0**
KARP Karpathos 58.39 71 P **P** **19 21 37.5 -2.3**
GULE Gulek 58.51 63 *i* P **P** **19 21 39.5 -1.3**
ZKR Zakros 58.57 72 P **P** **19 21 39.5 -1.5**
ASAJ Asahikawa 58.59 331 *e*P **P** **19 21 39.4 -1.6**
comp=Z,52nm,0.8s
ASAJ P **P** **19 21 39.9 -1.1**
ASAJ PcP **PcP** **19 22 32.3 +1.3**
ASAJ Asahikawa 58.59 331 P **P** **19 21 39.9 -1.1**
comp=Z,142nm,0.8s,baz=334,slow=6.8,SNR=138
ASAJ PcP **PcP** **19 22 32.3 +1.3**
comp=Z,46nm,0.8s,baz=321,slow=16,SNR=4.2
ERMK Ermenek 58.70 65 *i* P **P** **19 21 41.2 -0.9**
AYKD Aykdinkavak 58.84 61 *i* P **P** **19 21 43.6 +0.7**
GAZI Gazipasa 58.95 66 *i* P **P** **19 21 41.8 -1.9**
GZT Gaziantep 59.07 61 *i* P **P** **19 21 45.6 +1.0**
ATAB Bozova 59.12 60 *i* P **P** **19 21 46.1 +1.3**
TVAN Van 59.20 55 *i* P **P** **19 21 47.4 +1.8**
GEVA Gevas 59.34 55 *i* P **P** **19 21 47.6 +1.1**
KK31 Karatay Array 59.40 31 *i* P **P** **19 21 47.3 +0.6**
KK31 pmax pmax
comp=Z,221nm,1.1s
KKAR Karatay Array 59.40 31 *e*P **P** **19 21 47.4 +0.7**
KKAR pmax pmax
comp=Z,107nm,0.7s
KKAR Karatay Array 59.40 31 *e*P **P** **19 21 47.4 +0.7**
comp=Z,107nm,0.7s
MDJ Mudanjiang 59.43 342 P **P** **19 21 46.6 -0.2**
MDJ pP **pP** **19 21 49.5 -2.2**
MDJ sP **sP** **19 21 51.1 -2.4**
MDJ ScP **ScP** **19 26 35.2 +1.1**
MDJ PcS **PcS** **19 26 36.7 +0.4**
MDJ S **S** **19 29 54.4 -0.4**
MDJ ScS **ScS** **19 31 36.2 +0.4**
MDJ SS **SS** **19 33 51.0 +2.1**
MDJ pmax pmax
comp=Z,160nm,0.9s
MDJ pmax pmax
comp=Z,2µm,6.0s
MDJ LR LR
comp=N,3µm,23.4s
MDJ LR LR
comp=E,7µm,17.8s
MDJ LR LR
comp=Z,12µm,16.9s
MDJ Mudanjiang 59.43 342 *e*P **P** **19 21 46.4 -0.4**
comp=Z,177nm,0.8s
MDJ LR LR
comp=Z,8µm,20.0s
KUZU Kuzuini 59.52 61 *i* P **P** **19 21 48.4 +0.8**
USRK Ussuriysk Arra 59.64 340 P **P** **19 21 48.2 0.0**
comp=Z,98nm,0.8s,baz=351,slow=7.3,SNR=179
USRK LR LR 19 48 44.8
comp=Z,6µm,19.8s,baz=3.0,slow=37
USP Ospenovka 59.73 27 P **P** **19 21 49.9 +0.9**
SNR=168
MARD Mardin 59.81 58 *i* P **P** **19 21 50.7 +0.9**
SIRN S¯¯rnak 59.98 56 *i* P **P** **19 21 52.4 +1.5**
AAA Alma-Ata 60.00 25 *i* P **P** **19 21 52.2 +1.4**
AAA *i* S **S** **19 30 05.7 +3.3**
AAA smax smax
comp=E,3µm,3.2s
AAA MLR MLR
comp=Z,14µm,11.0s
YAYL Yayladag 60.01 62 *i* P **P** **19 21 51.1 +0.1**
CHMS Chumysh 60.02 27 P **P** **19 21 52.3 +1.3**
SNR=72
ALFC Alevga 60.05 66⇑*i* P **P** **19 21 51.5 +0.3**
comp=Z,1.1nm,0.7s
AKMC Akamas 60.11 66 P **P** **19 21 50.7 -0.9**
FRU Bishkek 60.17 27⇑*i* P **P** **19 21 53.0 +1.0**
FRU *e* 19 22 00.0
FRU *e* 19 22 34.0
FRU *e* 19 24 06.0
FRU *i* S **S** **19 30 08.0 +3.5**
FRU *e*SS **SS** **19 34 06.0 +5.3**
FRU pmax pmax
comp=Z,3µm,5.0s
FRU pmax pmax
comp=Z,970nm,2.2s
FRU MLR MLR
comp=Z,10µm,15.0s
MAMC Mammari 60.17 65 P **P** **19 21 51.3 -0.8**
TKM2 Tokmak 2 60.20 26 *i* P **P** **19 21 53.6 +1.2**
TKM2 Tokmak 2 60.20 26 P **P** **19 21 53.6 +1.2**
SNR=140
TKM2 Tokmak 2 60.20 26 *e*P **P** **19 21 53.4 +1.0**
comp=Z,152nm,0.9s
TKM2 LR LR
comp=Z,6µm,20.0s
HAKT HAKKARI 60.20 55 *i* P **P** **19 21 54.1 +1.6**
EKS2 Erkin-Say 60.24 28 *e*P **P** **19 21 53.4 +0.8**
EKS2 pmax pmax
comp=Z,114nm,0.8s
EKS2 MLR MLR
comp=Z,8µm,21.0s
EKS2 Erkin-Say 60.24 28 P **P** **19 21 53.8 +1.2**
SNR=186
EKS2 Erkin-Say 60.24 28 *e*P **P** **19 21 53.4 +0.8**
comp=Z,114nm,0.8s
EKS2 LR LR
comp=Z,8µm,21.0s
PPCY Paphos 60.25 66 P **P** **19 21 51.4 -1.1**
AAK Ala-Archa 60.35 27*c i*P **P** **19 21 54.6 +1.2**
AAK pmax pmax
comp=Z,371nm,0.8s
AAK Ala-Archa 60.35 27 P **P** **19 21 55.1 +1.7**
SNR=130
AAK Ala-Archa 60.35 27 P **P** **19 21 54.9 +1.5**
SNR=111
AAK Ala-Archa 60.35 27 *e*P **P** **19 21 54.5 +1.0**
comp=Z,160nm,0.9s

AAK Ala-Archa 60.35 27 LR LR 19 51 12.1
comp=Z,11µm,18.3s,baz=332,slow=39
KBK Karagaybulak 60.38 27 P **P** **19 21 55.0 +1.3**
SNR=43
CSS Prodhromos 60.40 65 P **P** **19 21 53.7 +0.1**
comp=Z,2.5nm,1.3s
CSS Prodhromos 60.40 65 P **P** **19 21 53.0 -0.7**
CSS Prodhromos 60.40 65 *e*P **P** **19 21 53.0 -0.7**
comp=Z,215nm,1.3s
CSS LR LR
comp=Z,5µm,20.0s
WMQ Urumqi 60.42 16⇑ *i*P **P** **19 21 54.0 +0.3**
WMQ pP pP 19 22 04.1 +5.5
WMQ pmax pmax
comp=Z,93nm,0.8s
WMQ pmax pmax
comp=Z,2µm,4.4s
WMQ LR LR
comp=N,16µm,21.6s
WMQ LR LR
comp=E,13µm,18.3s
WMQ LR LR
comp=Z,8µm,21.0s
CN2 Changchun 60.54 345 *e*P **P** **19 21 54.2 -0.3**
CN2 *e*pP **pP** **19 21 58.9 -0.4**
CN2 PP **PP** **19 24 08.9 +1.6**
CN2 *e*S **S** **19 30 06.0 -3.2**
CN2 pmax pmax
comp=Z,200nm,0.8s
CN2 pmax pmax
comp=Z,4µm,5.0s
CN2 LR LR
comp=N,8µm,15.0s
CN2 LR LR
comp=E,6µm,15.0s
CN2 LR LR
comp=Z,9µm,16.0s
IAZR Azarshahr 60.55 53 *e*P **P** **19 21 55.0 +0.1**
ERM Erimo 60.59 330 P **P** **19 21 54.1 -0.7**
comp=Z,1µm,0.9s,SNR=50
ERM Erimo 60.59 330 *d i*P **P** **19 21 54.4 -0.4**
ERM pmax pmax
comp=Z,225nm,0.9s
ERM Erimo 60.59 330 *e*P **P** **19 21 54.6 -0.2**
comp=Z,226nm,0.9s
ERM LR LR
comp=Z,5µm,20.0s
VLA Vladivostok 60.72 340 *c i*P **P** **19 21 55.6 -0.1**
VLA pmax pmax
comp=Z,142nm,0.8s
AML Almayashu 60.75 28 P **P** **19 21 58.3 +1.9**
SNR=126
ULHL Ulahol 60.94 26 P **P** **19 21 59.4 +1.9**
SNR=8.7
KZA Kyzart 60.99 27 P **P** **19 21 59.3 +1.3**
SNR=72
HWQ Hawqa 61.66 63 *e*P **P** **19 22 02.5 +0.2**
TGUH Tegucigalpa,Un 61.80 196 *e*P **P** **19 22 03.0 -0.2**
comp=Z,278nm,1.5s
BHL Bhannes 61.95 63 *e*P **P** **19 22 04.3 +0.1**
RCY Rachaya 62.38 63 *e*P **P** **19 22 07.9 +0.7**
BBGH Gun Hill 62.61 166 PFAKE 19 22 20.0 +11
BBGH LR LR
comp=Z,8µm,20.0s
SNY Shenyang 62.62 346 ⇑P **P** **19 22 08.6 +0.1**
SNY S **S** **19 30 37.0 +1.4**
SNY pmax pmax
comp=Z,3µm,2.5s
SNY pmax pmax
comp=Z,2µm,5.9s
SNY LR LR
comp=N,4µm,22.6s
SNY LR LR
comp=E,9µm,12.9s
SNY LR LR
comp=Z,10µm,14.3s
MMAI Mount Meron Ar 62.74 64 P **P** **19 22 10.0 +0.5**
MMAI PP PP 19 24 33.0 +5.8
MMAI Mount Meron Ar 62.74 64 P **P** **19 22 10.0 +0.5**
comp=Z,25nm,0.6s,baz=15,slow=6.9,SNR=56
MMAI PP PP 19 24 33.0 +5.8
comp=Z,15nm,1.0s,baz=12,slow=8.7,SNR=3.7
MMAI LR LR 19 52 34.6
comp=Z,3µm,19.0s,baz=320,slow=39
GRGR Grenville 63.49 168 PFAKE 19 22 30.0 +15
GRGR LR LR
comp=Z,8µm,19.0s
KSH Kashi 63.60 27 P P 19 22 18.7 +3.5
KSH pP pP 19 22 22.4 +2.3
KSH sP sP 19 22 25.2 +3.3
KSH PP **PP** **19 24 38.3 +3.8**
KSH S **S** **19 30 49.1 +0.9**
KSH SS **SS** **19 34 58.6 +4.0**
KSH pmax pmax
comp=Z,220nm,1.0s
KSH pmax pmax
comp=Z,2µm,5.8s
KSH LR LR
comp=N,9µm,17.1s
KSH LR LR
comp=E,12µm,17.6s
KSH LR LR
comp=Z,5µm,19.7s
ASF Jabal al Asfar 63.89 63 LR LR 19 54 21.6
comp=Z,2µm,18.8s,baz=50,slow=40
IAKL Akhelmad 63.99 42 *e*P **P** **19 22 18.9 +0.9**
HHC Hu-ho-hao-te 64.06 356⇑ *i*P **P** **19 22 19.2 +1.0**
HHC pP **pP** **19 22 22.6 -0.5**
HHC sP **sP** **19 22 25.4 +0.5**
HHC PcP **PcP** **19 22 52.7 -0.6**
HHC PP **PP** **19 24 39.7 +1.2**
HHC ScP 19 26 54.1
HHC S **S** **19 30 53.2 -0.6**
HHC ScS **SKKSac** **19 32 08.1 -3.0**
HHC SS **SS** **19 35 00.6 -1.0**
HHC pmax pmax
comp=Z,64nm,1.5s
HHC pmax pmax
comp=Z,3µm,8.3s
HHC LR LR
comp=N,10µm,19.0s
HHC LR LR
comp=E,9µm,20.2s
HHC LR LR
comp=Z,12µm,17.8s
BTO Baotou 64.32 358 *e*P **P** **19 22 19.6 -0.3**
BTO pmax pmax
comp=Z,15nm,0.7s
BHD Baghdad 64.47 56 *i*P P 19 22 10.0 -11
BHD *i*S S 19 30 40.0 -19
BJI Beijing 64.75 352 P **P** **19 22 23.1 +0.5**
BJI S **S** **19 31 03.3 +1.2**
BJI SS SS 19 35 20.5 +8.3
BJI pmax pmax
comp=Z,110nm,0.8s
BJI pmax pmax
comp=Z,2µm,5.5s
BJI LR LR
comp=N,7µm,17.6s
BJI LR LR
comp=E,7µm,16.0s
BJI LR LR
comp=Z,6µm,22.4s
IBDR Badra 64.95 54 *i*P P 19 22 15.0 -9.0
IBDR *i*S S 19 30 49.0 -16
TRN Trinidad (W) 64.98 168 *e*P **P** **19 22 25.5 +1.2**
TAM Tamanrasset 65.14 95 *e*P **P** **19 22 26.0 +0.5**
TAM pmax pmax
comp=Z,27nm,0.9s
TAM MLR MLR
comp=Z,3µm,21.0s
TAM Tamanrasset 65.14 95 *e*P **P** **19 22 26.0 +0.5**
comp=Z,28nm,0.9s
TAM LR LR
comp=Z,3µm,21.0s
TBH Brigand Hill 65.16 167 *e*P **P** **19 22 27.5 +2.0**
TPP Pointe-a-Pierr 65.30 168 *e*P **P** **19 22 27.1 +0.8**
GTA Gaotai 65.42 6 ⇑P **P** **19 22 28.2 +1.1**
GTA pP **pP** **19 22 33.0 +1.0**
GTA sP **sP** **19 22 35.2 +1.3**
GTA PP **PP** **19 24 54.6 +4.1**
GTA S **S** **19 31 13.2 +2.5**
GTA sS **sS** **19 31 18.6 -0.1**
GTA SS **SS** **19 35 26.4 +3.4**
GTA pmax pmax
comp=Z,130nm,1.9s
GTA pmax pmax
comp=Z,2µm,8.1s
GTA LR LR
comp=N,5µm,18.0s
GTA LR LR
comp=E,7µm,16.6s
GTA LR LR
comp=Z,5µm,19.0s
DL2 Dalian 65.65 348 P **P** **19 22 27.7 -0.7**
DL2 S **S** **19 31 12.2 -0.9**
DL2 pmax pmax
comp=Z,130nm,0.9s
DL2 pmax pmax
comp=Z,1µm,5.6s
DL2 LR LR
comp=N,2µm,15.2s
DL2 LR LR
comp=E,3µm,18.6s
DL2 LR LR
comp=Z,3µm,19.1s
EIL Elat 65.85 65 LR LR 19 52 03.8
comp=Z,2µm,21.0s,baz=259,slow=37
BCIP Isla Barro Col 66.26 188 *e*P **P** **19 22 31.4 -1.2**
comp=Z,636nm,1.9s
BCIP LR LR
comp=Z,4µm,19.0s
MIDW Midway 66.55 291 *e*P **P** **19 22 34.4 0.0**
comp=Z,104nm,0.7s
MIDW LR LR
comp=Z,6µm,20.0s
MAJO Matsushiro 66.59 333 *e*P **P** **19 22 34.2 -0.3**
MAJO pmax pmax
comp=Z,104nm,0.8s
MAJO MLR MLR
comp=Z,6µm,22.0s
MAJO Matsushiro 66.59 333 *e*P **P** **19 22 34.2 -0.3**
comp=Z,104nm,0.8s
MAJO LR LR
comp=Z,6µm,22.0s
MAT Matsushiro 66.59 333 P **P** **19 22 34.0 -0.5**
MAT S **S** **19 31 25.8 +1.1**
MJAR Matsushiro Arr 66.59 333 P **P** **19 22 34.5 0.0**
MJAR P'P'ab **P'P'ab** **19 51 10.8 -4.6**
MJAR Matsushiro Arr 66.59 333 P **P** **19 22 34.5 0.0**
comp=Z,80nm,0.8s,baz=360,slow=6.5,SNR=153
MJAR PKP2ab 19 51 10.8
comp=Z,1.4nm,0.8s,baz=210,slow=6.9,SNR=4.1
MJAR LR LR 19 55 30.9
comp=Z,4µm,18.5s,baz=340,slow=40
KSRS Korea Array 66.68 342 P **P** **19 22 34.9 -0.1**
comp=Z,38nm,0.8s,baz=5.0,slow=5.9,SNR=153
KSRS LR LR 19 54 13.8
comp=Z,12µm,18.0s,baz=7.6,slow=38
KSAR Wonju Array Be 66.69 342 P **P** **19 22 34.9 -0.2**
INCN Inchon 66.75 343 P **P** **19 22 35.4 -0.1**
SNR=5.9
INCN Inchon 66.75 343 PFAKE 19 22 50.0 +14
INCN LR LR
comp=Z,8µm,19.0s
TIY Taiyuan 67.17 356 *e*P **P** **19 22 39.1 +0.8**
TIY sP **sP** **19 22 46.9 +1.9**
TIY S **S** **19 31 31.3 -0.5**
TIY SS **SS** **19 35 51.2 +1.2**
TIY pmax pmax
comp=Z,2µm,7.4s
TIY LR LR
comp=N,6µm,14.0s
TIY LR LR
comp=E,4µm,15.4s
TIY LR LR
comp=Z,10µm,17.0s
KBL Kabul 67.62 34 *e*P **P** **19 22 41.4 +0.1**
KBL pmax pmax
comp=Z,90nm,0.9s
KBL Kabul 67.62 34 *e*P **P** **19 22 41.4 +0.1**
comp=Z,90nm,0.9s
BBTS Babate 67.64 120 LR LR 19 47 22.1
comp=Z,7µm,20.1s,baz=147,slow=32
KIP Kipapa 68.25 271 *c i*P **P** **19 22 46.6 +1.4**
KIP pmax pmax
comp=Z,545nm,2.5s
KIP Kipapa 68.25 271 *e*P **P** **19 22 46.6 +1.4**
comp=Z,122nm,0.8s
KIP LR LR
comp=Z,4µm,20.0s
TIA Tai'an 68.54 351 ⇑P **P** **19 22 46.5 -0.3**
TIA pmax pmax
comp=Z,2µm,8.3s
TIA LR LR
comp=N,7µm,22.0s
TIA LR LR
comp=E,7µm,18.4s
TIA LR LR
comp=Z,12µm,20.8s
LZH Lanzhou 68.83 3 ⇑P **P** **19 22 50.2 +1.4**
LZH pP **pP** **19 22 54.3 +0.6**
LZH sP **sP** **19 22 56.7 +1.1**
LZH PP **PP** **19 25 23.3 +3.1**
LZH S **S** **19 31 51.1 -0.7**
LZH sS **sS** **19 31 59.0 -0.9**
LZH SS **SS** **19 36 13.0 -2.8**
LZH pmax pmax
comp=Z,120nm,1.2s
LZH pmax pmax
comp=Z,660nm,4.3s
LZH LR LR
comp=N,4µm,16.4s
LZH LR LR
comp=E,4µm,15.1s
LZH LR LR
comp=Z,6µm,17.4s
PUH Pauahi 69.50 268 *e*P **P** **19 22 54.0 +0.9**
ROSC El Rosal 70.43 182 P **P** **19 23 00.3 +1.1**
ROSC El Rosal 70.43 182 P **P** **19 23 00.3 +1.1**
comp=Z,27nm,0.7s,baz=114,slow=9.4,SNR=13
ROSC LR LR 19 53 48.5
comp=Z,5µm,19.8s,baz=274,slow=36
THN Thein Dam 70.56 28 *e*P **P** **19 22 57.8 -1.5**
JNU Nakatsue 70.73 339 P **P** **19 23 01.2 +0.8**
JNU Nakatsue 70.73 339 P **P** **19 23 01.2 +0.8**
comp=Z,47nm,0.8s,baz=48,slow=6.4,SNR=13
XAN Xi'an 70.89 359 P **P** **19 23 01.4 0.0**
XAN pP **pP** **19 23 06.0 -0.3**
XAN pmax pmax
comp=Z,10.0nm,0.8s
XAN pmax pmax
comp=Z,450nm,7.9s
XAN LR LR
comp=N,4µm,19.3s
XAN LR LR
comp=E,1µm,18.5s
XAN LR LR
comp=Z,2µm,18.5s
SDNR Sundarnagar 71.63 27 *e*P **P** **19 23 06.6 +0.7**
SMLA Simla 72.02 27 *i*P **P** **19 23 08.6 +0.4**
NJ2 Nanjing 72.61 350 *e*P **P** **19 23 11.5 -0.2**
NJ2 pP **pP** **19 23 13.8 -2.8**
NJ2 S **S** **19 32 34.8 -0.7**
NJ2 sS **SKiKP** **19 32 47.3 +2.5**
NJ2 pmax pmax
comp=Z,210nm,0.8s
NJ2 LR LR
comp=N,3µm,16.4s
NJ2 LR LR
comp=E,5µm,13.7s
NJ2 LR LR
comp=Z,6µm,19.6s
TOA0 Torodi Ar. Sit 73.42 102 *e*P **P** **19 23 15.7 -1.0**
TORD Torodi Ar. Bea 73.42 102 P **P** **19 23 15.9 -0.7**
TORD P'P' 19 50 52.6
TORD Torodi Ar. Bea 73.42 102 P **P** **19 23 15.9 -0.7**
comp=Z,31nm,0.9s,baz=334,slow=6.9,SNR=191
TORD PKPPKP **P'P'df** **19 50 52.6 -1.4**
comp=Z,0.4nm,0.9s,baz=186,slow=3.0,SNR=3.6
TORD LR LR 19 54 31.8
comp=Z,3µm,18.4s,baz=345,slow=35
SSE Sheshan 73.44 348 P **P** **19 23 16.1 -0.5**
SSE sP **sP** **19 23 20.6 -2.8**
SSE S **S** **19 32 45.1 +0.1**
SSE pmax pmax
comp=Z,84nm,0.8s
SSE pmax pmax
comp=Z,2µm,7.7s
SSE LR LR
comp=N,8µm,14.7s
SSE LR LR
comp=E,3µm,14.7s
SSE LR LR
comp=Z,10µm,14.7s
BANOM Banah 73.97 47 ⇓P **P** **19 23 19.4 -0.4**
CD2 Chengdu 73.99 3 P **P** **19 23 21.3 +1.4**
CD2 pP **pP** **19 23 25.4 +0.5**
CD2 sP **sP** **19 23 27.7 +1.0**
CD2 PcP **PcP** **19 23 36.6 +1.5**
CD2 PP **PP** **19 26 07.1 +2.7**
CD2 S **S** **19 32 50.7 -0.6**
CD2 sS **sS** **19 32 58.0 -1.5**
CD2 SKS **SKSac** **19 33 22.9 -3.4**
CD2 ScS **SKKSac** **19 33 26.9 +0.4**
CD2 SS **SS** **19 37 36.6 +1.8**
CD2 pmax pmax
comp=Z,160nm,0.8s
CD2 pmax pmax
comp=Z,2µm,5.7s
CD2 LR LR
comp=N,6µm,16.2s
CD2 LR LR
comp=E,6µm,18.1s
CD2 LR LR
comp=Z,6µm,16.8s
RAYN Ar Rayn 74.14 57 P **P** **19 23 21.0 +0.1**
comp=Z,256nm,1.0s,SNR=32
WHN Wuhan 74.28 354 ⇑P **P** **19 23 21.3 -0.2**
WHN PP **PP** **19 26 07.6 +0.8**
WHN S **S** **19 32 54.1 -0.3**
WHN pmax pmax
comp=Z,3µm,4.7s
WHN LR LR
comp=N,9µm,16.8s
WHN LR LR
comp=E,8µm,14.9s
WHN LR LR
comp=Z,11µm,20.2s
NDI New Delhi 74.44 27 *e*S S 19 33 07.0 +11
ENH Enshi 74.64 358 PFAKE 19 23 40.0 +16
ENH LR LR
comp=Z,4µm,20.0s
LSA Lhasa 74.70 15 P **P** **19 23 25.9 +1.3**
LSA S **S** **19 32 57.8 -2.4**
LSA SS **SS** **19 37 49.1 +2.6**
LSA pmax pmax
comp=Z,230nm,0.9s
LSA pmax pmax
comp=Z,1µm,6.1s
LSA LR LR
comp=Z,5µm,15.9s
LSA Lhasa 74.70 15 *e*P **P** **19 23 25.6 +1.0**
LSA pmax pmax
comp=Z,172nm,0.8s
LSA MLR MLR
comp=Z,5µm,20.0s
LSA Lhasa 74.70 15 *e*P **P** **19 23 25.6 +1.0**
comp=Z,172nm,0.8s
LSA LR LR
comp=Z,5µm,20.0s
UOSS Wadi Hilu 74.90 47 P **P** **19 23 24.2 -1.0**
comp=Z,162nm,1.2s,SNR=7.2
OTAV Otavalo 75.09 186 *e*P **P** **19 23 26.8 -0.1**
comp=Z,403nm,1.8s
OTAV LR LR
comp=Z,4µm,20.0s
ASHO Ashiyiah 75.13 47 ⇓P **P** **19 23 26.5 -0.1**
SNR=15
DANN Dangsing 75.46 21⇑ *i*P **P** **19 23 28.7 -0.1**
comp=Z,768nm,0.9s
KOLN Koldanda 76.02 22⇑ *i*P **P** **19 23 31.4 -0.5**
comp=Z,178nm,0.8s
GUN Gumba 76.08 19⇑ *i*P **P** **19 23 32.6 +0.2**
comp=Z,796nm,0.9s
KKN Kakani 76.15 20⇑ *i*P **P** **19 23 32.7 +0.1**
comp=Z,363nm,0.9s
AJM Ajmer 76.31 30 *i*P **P** **19 23 32.0 -1.3**
DMN Daman 76.31 20⇑ *i*P **P** **19 23 33.6 0.0**
comp=Z,155nm,0.8s
JIRN Jiri 76.36 19 *e*P **P** **19 23 34.3 +0.3**
comp=Z,378nm,0.5s
PKIN Phulchoki 76.37 20⇑ *i*P **P** **19 23 34.0 +0.1**
comp=Z,78nm,0.6s
PKI Pulchoki 76.38 20⇑ *i*P **P** **19 23 33.9 -0.2**
comp=Z,344nm,1.2s
HOQ Hoqain 76.44 46 ⇓P **P** **19 23 33.5 -0.5**
SNR=8.5
ARQ Araqi 76.53 47 P **P** **19 23 34.6 +0.1**
SNR=12
PAYG Puerto Ayora 76.62 198 PFAKE 19 23 50.0 +15
PAYG LR LR
comp=Z,3µm,22.0s
TAPN Taplejung 76.79 18⇑ *i*P **P** **19 23 36.5 +0.2**
comp=Z,500nm,0.9s
SMDO Samad 77.08 46 P **P** **19 23 37.9 +0.1**
SNR=15
RAMN Ramite 77.09 19⇑ *i*P **P** **19 23 37.9 -0.1**
comp=Z,298nm,0.8s
JOW Kunigami 77.19 341 *e*P **P** **19 23 38.0 -0.3**
comp=Z,33nm,0.8s
BSY Bisya 77.23 47 P **P** **19 23 38.2 -0.4**
SNR=26
ODAN Odare 77.25 18⇑ *i*P **P** **19 23 39.0 +0.1**
comp=Z,440nm,0.9s
JMDO Jabal Madar 77.76 46 P **P** **19 23 41.2 -0.3**
SNR=13
DBIC Dimbokro 78.05 110 P **P** **19 23 43.0 -0.1**
DBIC Dimbokro 78.05 110 P **P** **19 23 43.0 -0.1**
comp=Z,22nm,0.6s,baz=336,slow=6.8,SNR=50
DBIC LR LR 19 56 12.2
comp=Z,9µm,18.9s,baz=333,slow=34
LIC Lamto 78.44 110 *e*P **P** **19 23 44.1 -1.2**
comp=Z,164nm,0.6s
LIC *e*R
comp=Z,10µm,18.5s
GYA Guiyang 78.44 1⇑ *i*P **P** **19 23 46.3 +0.9**
GYA PP **PP** **19 26 43.6 +1.5**
GYA S **S** **19 33 39.0 -1.5**
GYA SKS **SKSac** **19 33 54.7 -4.7**
GYA SS **SS** **19 38 44.3 +1.8**
GYA pmax pmax
comp=Z,70nm,1.0s
GYA pmax pmax
comp=Z,2µm,5.7s
GYA LR LR
comp=N,4µm,22.8s
GYA LR LR
comp=E,3µm,23.0s
GYA LR LR
comp=Z,4µm,22.4s
SHL Shillong 78.85 14 *i*P **P** **19 23 49.0 +1.3**
SHL AMB AMB 19 23 52.5
comp=Z,441nm,2.1s
SHL *e*PP **PP** **19 26 45.0 -0.6**
SHL *ex* x 19 33 30.0
QZH Quanzhou 79.69 350⇑ *i*P **P** **19 23 52.2 +0.1**
QZH PP **PP** **19 26 53.1 +0.7**
QZH S **S** **19 33 52.4 -1.2**
QZH pmax pmax
comp=Z,4µm,7.0s
QZH LR LR
comp=N,17µm,14.8s
QZH LR LR
comp=E,3µm,14.0s
QZH LR LR
comp=Z,15µm,14.6s
KMI Kunming 79.73 4 ⇑P **P** **19 23 52.6 0.0**
KMI sP **sP** **19 23 57.3 -2.1**
KMI PP **PP** **19 26 52.8 -0.2**
KMI S **S** **19 33 52.4 -2.1**
KMI SS **SS** **19 39 02.3 +0.2**
KMI pmax pmax
comp=Z,80nm,0.9s
KMI pmax pmax
comp=Z,2µm,4.5s
KMI LR LR
comp=N,1µm,15.6s
KMI LR LR
comp=E,3µm,15.0s
KMI LR LR
comp=Z,2µm,17.8s
IMP Imphal 79.75 12 *e*P **P** **19 23 53.0 +0.5**
IMP *ex* x 19 26 51.0
YHNB Yeheng 79.82 347 *e*P **P** **19 23 53.5 +0.7**
comp=Z,28nm,1.0s
YHNB LR LR

comp=Z,4μm,19.0s
YULB Yu-li 81.10 347 *e*P **P 19 23 59.8 +0.1**
comp=Z,32nm,1.1s
TPUB Ta-pu 81.23 348 *e*P **P 19 24 00.9 +0.6**
comp=Z,61nm,0.9s
TWG Pinlang 81.68 347 *e*P **P 19 24 02.4 -0.3**
comp=Z,144nm,0.8s
GZH Guangzhou 81.73 354 P **P 19 24 00.3 -2.7**
GZH S **S 19 34 09.3 -5.6**
GZH LR LR
comp=N,4μm,22.6s
GZH LR LR
comp=E,4μm,18.8s
GZH LR LR
comp=Z,8μm,20.0s
NGP Nagpur 82.09 26 *e*P **P 19 24 02.5 -2.4**
NGP AMB AMB 19 24 06.0
comp=Z,115nm,1.2s
NGP *e*S **S 19 34 15.2 -3.6**
AKL Akola 82.30 28 *e*P **P 19 24 06.1 +0.1**
AKL AMP 19 24 07.2
comp=Z,158nm,1.0s
AKL *i* x x 19 34 16.9
ATAH Atahualpa 82.41 186 P **P 19 24 08.4 +1.4**
ATAH Atahualpa 82.41 186 P **P 19 24 08.4 +1.4**
comp=Z,24nm,0.9s,baz=346,slow=3.7,SNR=14
HKC Hong Kong Obse 82.49 354 *i* P **P 19 24 08.0 +1.1**
RCBR Riachuelo 83.95 143 P **P 19 24 14.4 -0.1**
RCBR LR LR
comp=Z,3μm,20.0s
RCBR Riachuelo 83.95 143 P **P 19 24 14.4 -0.1**
comp=Z,25nm,1.0s,baz=31,slow=4.2,SNR=6.8
POO Poona 84.04 32 *e*P **P 19 24 15.0 -0.1**
SAML Samuel 84.34 171 *e*P **P 19 24 15.3 -1.1**
comp=Z,366nm,1.8s
SAML LR LR
comp=Z,4μm,21.0s
LATR Latur 84.50 29 *e*P **P 19 24 17.0 -0.3**
ATD Arta Tunnel 85.16 63 P **P 19 24 21.9 +1.1**
ATD Arta Tunnel 85.16 63 P **P 19 24 21.9 +1.1**
comp=Z,32nm,0.8s,baz=334,slow=4.6,SNR=13
ATD LR LR 20 06 14.0
comp=Z,1μm,18.6s,baz=225,slow=38
HYB Hyderabad 85.72 27 *i* P **P 19 24 24.0 +0.5**
HYB *e*SKS S 19 34 48.0 -7.3
HYB *e*S **SKKSac 19 34 58.0 +2.7**
QIZ Qiongzhong 85.83 358 P **P 19 24 23.8 -0.2**
QIZ pP **PcP 19 24 26.8 0.0**
QIZ S **S 19 34 57.9 +1.6**
QIZ pmax pmax
comp=Z,58nm,1.0s
QIZ pmax pmax
comp=Z,1μm,7.5s
QIZ LR LR
comp=N,3μm,18.3s
QIZ LR LR
comp=E,2μm,19.9s
QIZ LR LR
comp=Z,5μm,18.7s
QIZ Qiongzhong 85.83 358 *e*P **P 19 24 23.5 -0.5**
comp=Z,60nm,0.9s
QIZ LR LR
comp=Z,4μm,19.0s
CHTO Chiang Mai 85.91 8 PFAKE 19 24 40.0 +16
CHTO LR LR
comp=Z,3μm,22.0s
CHTO Chiang Mai 85.91 8 P **P 19 24 23.1 -1.3**
comp=Z,52nm,1.3s,comp=Z,1μm
CHTO Chiang Mai 85.91 8 P **P 19 24 23.6 -0.8**
comp=Z,74nm,0.9s,comp=Z,1μm
CMMT Chiang Mai 85.91 8 P **P 19 24 22.9 -1.5**
comp=Z,46nm,1.3s,comp=Z,1μm
CM31 Chiang Mai Arr 86.26 8 *e*P **P 19 24 25.7 -0.5**
comp=Z,26nm,0.8s
CMAR Chiang Mai Arr 86.26 8 P **P 19 24 25.5 -0.7**
CMAR Chiang Mai Arr 86.26 8 P **P 19 24 25.5 -0.7**
comp=Z,33nm,0.9s,baz=343,slow=5.6,SNR=91
CMAR LR LR 20 04 13.9
comp=Z,2μm,21.2s,baz=214,slow=36
FURI Furi 86.74 67 *e*P **P 19 24 31.4 +2.5**
FURI S S 19 34 55.2 -11
NNA Nana 87.19 184 *e*P **P 19 24 29.1 -1.5**
comp=Z,284nm,1.8s
NNA LR LR
comp=Z,6μm,22.0s
PBKT Sadao Pong 88.20 6 P **P 19 24 34.8 -0.7**
comp=Z,23nm,2.1s,comp=Z,2μm
GUMO Guam 88.31 324 PFAKE 19 24 50.0 +14
GUMO LR LR
comp=Z,1μm,19.0s
UBPT Khong Chiam 89.56 2 P **P 19 24 41.1 -0.8**
comp=Z,37nm,2.4s,comp=Z,2μm
ASCN Ascension 90.01 123 PFAKE 19 25 00.0 +16
ASCN LR LR
comp=Z,597nm,21.0s
TGY Tagaytay City 90.34 347 P **P 19 24 46.2 +0.5**
TGY Tagaytay City 90.34 347 P **P 19 24 46.2 +0.5**
comp=Z,35nm,0.3s,baz=161,slow=13,SNR=4.2
LPAZ La Paz 91.48 176 P **P 19 24 50.4 -1.0**
LPAZ P'P' 19 50 23.3
LPAZ La Paz 91.48 176 P **P 19 24 50.4 -1.0**
comp=Z,10nm,0.8s,baz=357,slow=5.1,SNR=40
LPAZ PKPPKP **P'P'df 19 50 23.3 +4.5**
comp=Z,0.8nm,0.3s,baz=272,slow=7.6,SNR=5.2
LPAZ LR LR 20 07 31.9
comp=Z,3μm,18.6s,baz=202,slow=37
PHET Kaeng Krachan 91.80 7 P **P 19 24 53.6 +1.3**
comp=Z,78nm,0.9s
CHBT CHBT 92.03 5 P **P 19 24 53.6 +0.2**
comp=Z,32nm,1.1s
CHBT CHBT 92.03 5 P **P 19 24 55.0 +1.6**
comp=Z,35nm,1.4s
BDFB Brasilia 92.07 156 P **P 19 24 53.7 +0.1**
BDFB Brasilia 92.07 156 P **P 19 24 53.7 +0.1**
comp=Z,14nm,0.9s,baz=2.8,slow=4.1,SNR=15
BDFB LR LR 20 04 05.5
comp=Z,2μm,18.6s,baz=146,slow=34
KMBO Kilima Mbogo 96.07 71 P **P 19 25 11.9 -0.3**
KMBO Kilima Mbogo 96.07 71 P **P 19 25 11.9 -0.3**
comp=Z,2.3nm,0.7s,baz=231,slow=24,SNR=6.1
KMBO LR LR 20 13 45.5
comp=Z,2μm,18.7s,baz=281,slow=39
PKDT Phuket 96.73 9 P **P 19 25 15.3 +0.3**
comp=Z,74nm,1.5s,comp=Z,1μm
DAV Davao City (W) 96.99 342 PFAKE 19 25 30.0 +14
DAV LR LR
comp=Z,2μm,19.0s
LVC Limon Verde 97.75 176 *e*P Pdif 19 25 20.0 +0.4
comp=Z,76nm,1.6s
LVC LR LR
comp=Z,4μm,21.0s
KKM Kota Kinabalu 98.57 351 PFAKE 19 25 40.0 +17
KKM LR LR
comp=Z,3μm,19.0s
MYLDM Lahad Datu 99.33 349 P **Pdif 19 25 28.7 +2.1**
MYLDM Lahad Datu 99.33 349 P **Pdif 19 25 26.9 +0.3**
comp=Z,45nm,1.1s,comp=Z,887nm
KULM Kulim 99.40 7 PFAKE 19 25 40.0 +13
KULM LR LR
comp=Z,4μm,19.0s
KULM Kulim 99.40 7 P **Pdif 19 25 27.2 +0.2**
KTGM Kuala Trenggan 99.42 4 P **Pdif 19 25 28.4 +1.3**
SHEL Horse Pasture 99.69 116 PFAKE 19 25 40.0 +12
SHEL LR LR
comp=Z,2μm,19.0s
IPM Ipoh 100.21 6 *e*Pdif **Pdif 19 25 30.4 -0.2**
comp=Z,102nm,1.7s
PSI Prapat 101.81 9 P **Pdif 19 25 37.4 -0.4**
PSI Prapat 101.81 9 P **Pdif 19 25 37.4 -0.4**
comp=Z,7.2nm,0.7s,baz=270,slow=10,SNR=5.7
CPUP Villa Florida 101.90 166 PKKPbc PKKPbc 19 41 43.1 +3.3
CPUP Villa Florida 101.90 166 PKKPbc PKKPbc 19 41 43.1 +3.3
comp=Z,3.0nm,0.8s,baz=148,slow=3.0,SNR=6.9
KSM Kuching 103.27 357 PFAKE 19 26 00.0 +16
KSM LR LR
comp=Z,3μm,20.0s
MSEY Mahe Island 103.60 54 PFAKE 19 26 00.0 +14
MSEY LR LR
comp=Z,2μm,20.0s
PPT2 Papeete2 103.61 253 *e*PP PP 19 30 03.9 +1.9
comp=Z,472nm,25.2s
PPT2 Papeete2 103.61 253 *e*SS SS 19 44 56.0 +9.4
comp=Z,11μm,29.8s
PPT2 Papeete2 103.61 253 *e*LR LR 19 59 57.6
comp=Z,3μm,26.5s
LCO Las Campanas 104.10 178 PFAKE 19 26 00.0 +12
LCO LR LR
comp=Z,2μm,21.0s
RKT Rikitea 105.58 238 *e*PP PP 19 30 21.9 +5.4
comp=Z,329nm,27.2s
RKT Rikitea 105.58 238 *e*SS SS 19 45 21.5 +8.1
comp=Z,4μm,30.2s
RKT Rikitea 105.58 238 *e*LR LR 20 00 46.2
comp=Z,3μm,30.2s
AFI Afiamalu 105.67 275 PFAKE 19 30 20.0
AFI LR LR
comp=Z,3μm,19.0s
LSZ Lusaka 107.43 83 PFAKE 19 30 20.0
LSZ LR LR
comp=Z,4μm,19.0s
HNR Honiara 108.05 304 PFAKE 19 30 20.0
HNR LR LR
comp=Z,2μm,20.0s
TBI Tubuai 109.12 251 *e*PP PP 19 30 46.4 +3.9
comp=Z,404nm,28.5s
TBI Tubuai 109.12 251 *e*SS SS 19 46 07.1 +5.7
comp=Z,5μm,31.8s
TBI Tubuai 109.12 251 *e*LR LR 20 02 16.7
comp=Z,4μm,33.8s
DGAR Diego Garcia 109.34 37 PFAKE 19 30 30.0
DGAR LR LR
comp=Z,3μm,20.0s
KAPI Kappang 109.37 347 PFAKE 19 30 30.0
KAPI LR LR
comp=Z,1μm,20.0s
RAR Rarotonga 109.62 262 PFAKE 19 30 30.0
RAR LR LR
comp=Z,5μm,19.0s
PMG Port Moresby 110.48 318 PFAKE 19 30 30.0
PMG LR LR
comp=Z,1μm,19.0s
MSVF Nonsavu 111.89 284 PFAKE 19 30 30.0
MSVF LR LR
comp=Z,2μm,20.0s
OPO Ambohidratompo 115.24 65 PKP **PKPdf 19 30 25.1 -0.6**
OPO Ambohidratompo 115.24 65 PKP **PKPdf 19 30 25.2 -0.6**
comp=Z,5.4nm,0.9s,baz=302,slow=6.7,SNR=6.2
ABPO Ambohimpanom 115.68 65 PFAKE 19 30 40.0 +13
ABPO LR LR
comp=Z,2μm,19.0s
PLCA Paso Flores 115.80 178 PKP **PKPdf 19 30 25.4 -0.6**
PLCA Paso Flores 115.80 178 PKP **PKPdf 19 30 25.4 -0.6**
comp=Z,1.8nm,0.8s,baz=341,slow=8.2,SNR=4.9
COCO West Island 116.60 11 PFAKE 19 30 40.0 +12
COCO LR LR
comp=Z,2μm,19.0s
DZM Mont Dzumac 118.84 295 *e*SS SS 19 48 17.4 +7.7
comp=Z,3μm,38.4s
DZM Mont Dzumac 118.84 295 *e*LR LR 20 06 53.9
comp=Z,5μm,37.1s
BOSA Boshof 119.45 90 PKP **PKPdf 19 30 32.8 -0.7**
BOSA PKKPbc **PKKPab 19 40 46.2 -0.1**
BOSA Boshof 119.45 90 PKP **PKPdf 19 30 32.8 -0.7**
comp=Z,18nm,1.1s,baz=323,slow=1.2,SNR=14
BOSA PKKPbc **PKKPab 19 40 46.2 -0.1**
comp=Z,3.0nm,0.9s,baz=166,slow=4.8,SNR=4.9
CTA Charters Tower 121.09 316 PKP **PKPdf 19 30 36.5 -0.3**
CTA Charters Tower 121.09 316 PKP **PKPdf 19 30 36.5 -0.3**
comp=Z,4.5nm,0.8s,baz=46,slow=2.0,SNR=6.8
CTAO Charters Tower 121.09 316 PFAKE 19 30 50.0 +13
CTAO LR LR
comp=Z,858nm,20.0s
FITZ Fitzroy Crossi 121.91 339 PKP **PKPdf 19 30 38.1 -0.2**
FITZ Fitzroy Crossi 121.91 339 PKP **PKPdf 19 30 38.1 -0.2**
comp=Z,11nm,0.8s,baz=346,slow=2.9,SNR=26
RAO Raoul Island 121.91 277 PFAKE 19 30 50.0 +12
RAO LR LR
comp=Z,2μm,19.0s
SUR Sutherland 121.91 96 PKP **PKPdf 19 30 38.5 +0.2**
SUR LR LR
comp=Z,3μm,20.0s
SUR Sutherland 121.91 96 PKP **PKPdf 19 30 38.5 +0.2**
comp=Z,31nm,0.8s,baz=257,slow=2.0,SNR=25
WRAB Tennant Creek 122.76 329 *e*PKIKP **PKPdf 19 30 39.0 -1.0**
WRAB MLR MLR
comp=Z,1μm,22.0s
WRAB Tennant Creek 122.76 329 *e*PKPdf **PKPdf 19 30 39.0 -1.0**
WRAB LR LR
comp=Z,1μm,22.0s
WRA Warramunga Arr 122.77 329 PKP **PKPdf 19 30 39.3 -0.7**
WRA PKKPab **PKKPab 19 40 32.1 -1.3**
WRA Warramunga Arr 122.77 329 PKP **PKPdf 19 30 39.3 -0.7**
comp=Z,41nm,1.1s,baz=341,slow=2.0,SNR=118
WRA PKKPab **PKKPab 19 40 32.1 -1.3**
comp=Z,1.6nm,1.0s,baz=192,slow=3.5,SNR=6.3
MBWA Marble Bar 125.39 346 *e*PKPdf **PKPdf 19 30 44.0 -0.9**
MBWA LR LR
comp=Z,1μm,22.0s
AS31 Alice Springs 126.49 329 *e*PKPdf **PKPdf 19 30 46.4 -0.7**
ASAR Alice Springs 126.50 329 PKP **PKPdf 19 30 46.3 -0.8**
ASAR Alice Springs 126.50 329 PKP **PKPdf 19 30 46.3 -0.8**
comp=Z,35nm,0.8s,baz=14,slow=2.5,SNR=17
EFI East Falkland 127.11 169 PFAKE 19 31 00.0 +13
EFI LR LR
comp=Z,3μm,19.0s
URZ Urewera 131.72 278 PKP **PKPdf 19 30 56.6 +0.1**
URZ Urewera 131.72 278 PKP **PKPdf 19 30 56.6 +0.1**
comp=Z,24nm,0.6s,baz=284,slow=4.3,SNR=12
STKA Stephens Creek 133.41 319 PKPpre PKPpre 19 30 48.6
STKA PKP **PKPdf 19 30 59.3 -0.7**
STKA Stephens Creek 133.41 319 PKhKP PKPpre 19 30 48.6
comp=Z,1.4nm,0.4s,baz=360,slow=5.5,SNR=13
STKA PKP **PKPdf 19 30 59.3 -0.7**
comp=Z,22nm,0.9s,baz=357,slow=2.0,SNR=24
BBOO Buckleboo 135.19 325 *e*PKPpre PKPpre 19 30 58.2
CAN Canberra 135.41 309 PFAKE 19 31 20.0 +16
CAN LR LR
comp=Z,1μm,22.0s
NWAO Narrogin (SRO) 137.23 348 PFAKE 19 31 20.0 +13
NWAO LR LR
comp=Z,1μm,20.0s
PMSA Palmer Station 139.98 174 PFAKE 19 31 20.0 +9.1
PMSA LR LR
comp=Z,2μm,21.0s
TAU Tasmania Unive 143.06 308 *e*PKIKP PKPbc 19 31 14.0 -0.2
TAU MLR MLR
comp=Z,2μm,20.0s
TAU Tasmania Unive 143.06 308 *e*PKPpre PKPbc 19 31 13.9 -0.2
TAU LR LR
comp=Z,2μm,20.0s
VNA1 Neumayer--Stat 151.06 142 *e*PKPdf **PKPdf 19 31 26.8 -2.9**
VNA1 Neumayer--Stat 151.06 142 *e*PKP **PKPbc 19 31 35.2 -0.3**
VNA1 Neumayer--Stat 151.06 142 *e*Baffin **PKPab 19 31 44.5 +1.2**
SNAA Sanae 152.82 139 *e*PKPdf **PKPdf 19 31 27.9 -4.5**
SNAA Sanae 152.82 139 *e*PKP **PKPbc 19 31 38.6 -1.0**
SNAA Sanae 152.82 139 *es*PKP **PKPbc 19 31 44.3 +4.7**
SNAA Sanae 152.82 139 *e*Baffin **PKPab 19 31 49.8 -1.1**
SNAA Sanae 152.82 139 PKP **PKPdf 19 31 28.3 -4.2**
SNAA PKPbc **PKPbc 19 31 38.2 -1.4**
SNAA Sanae 152.82 139 PKP **PKPdf 19 31 28.3 -4.2**
comp=Z,1.4nm,0.9s,baz=303,slow=4.2,SNR=11
SNAA PKPbc **PKPbc 19 31 38.2 -1.4**
comp=Z,27nm,0.8s,baz=338,slow=1.6,SNR=139
MAW Mawson 164.34 84 PKP **PKPdf 19 31 41.1 -5.0**
MAW PKPab **PKPab 19 32 38.8 -1.9**
MAW Mawson 164.34 84 PKP **PKPdf 19 31 41.1 -5.0**
comp=Z,3.3nm,0.9s,baz=301,slow=2.2,SNR=6.5
MAW PKPab **PKPab 19 32 38.8 -1.9**
comp=Z,8.5nm,0.9s,baz=303,slow=2.5,SNR=6.0
QSPA South Pole Qui 165.31 180 PKP **PKPdf 19 31 42.2 -4.8**
QSPA PKPab **PKPab 19 32 45.7 +0.6**
QSPA PP PP 19 36 43.2 +10
QSPA LR LR
comp=Z,3μm,20.0s
QSPA South Pole Qui 165.31 180 PKP **PKPdf 19 31 42.2 -4.8**
comp=Z,3.2nm,0.9s,baz=200,slow=2.3,SNR=7.3
QSPA PKPab **PKPab 19 32 45.7 +0.6**
comp=Z,14nm,1.0s,baz=181,slow=3.3,SNR=8.0
QSPA PP PP 19 36 43.2 +10
comp=Z,8.5nm,1.0s,baz=179,slow=4.0,SNR=6.4
DRV Dumont d'Urvil 166.50 293 PP PP 19 36 13.0 -26
DRV SKKS 19 43 31.0
SBA Scott Base 166.53 232 *e*PKPpre PKPpre 19 31 42.6
SBA LR LR
comp=Z,3μm,19.0s
VNDA Vanda 167.43 234 PKP **PKPdf 19 31 44.2 -4.1**
VNDA PKPab **PKPab 19 32 55.2 +1.0**
VNDA PP PP 19 36 51.9 +8.2
VNDA Vanda 167.43 234 PKP **PKPdf 19 31 44.2 -4.1**
comp=Z,1.6nm,1.1s,baz=321,slow=3.9,SNR=5.5
VNDA PKPab **PKPab 19 32 55.2 +1.0**
comp=Z,5.8nm,0.9s,baz=93,slow=3.9,SNR=6.8
VNDA PP PP 19 36 51.9 +8.2
comp=Z,1.4nm,1.0s,baz=44,slow=3.2,SNR=3.8
MIR Mirnyy 170.06 35 *e*PKIKP **PKPdf 19 31 47.0 -3.3**
MIR *e* 19 31 48.0
CASY Casey 170.83 352 PFAKE 19 32 00.0 +9.3
CASY LR LR
comp=Z,3μm,20.0s

IDC ***07*** *19:14:03.0±0.7,5˚.49S×152˚.00E, h0km, mb4.8/14, mb1 4.9/14, mb1mx4.8/21, mbtmp4.8/14, MS4.4/9, Ms1 4.4/9, ms1mx3.9/36, Error ellipse: s-maj=25.8km s-min=15.0km az=98.0*
ISCJB ***07*** *19:14:08.0±0.3,5˚.58S±0˚.04×152˚.04E±0˚.05, h45km, mb5.1/41, MS5.0/13, Error ellipse: s-maj=6.8km s-min=5.0km az=12.2*
NEIC ***07*** *19:14:10.0±1.2,5˚.51S×151˚.95E, h47km±11km, mb5.1/14, Error ellipse: s-maj=9.1km s-min=7.3km az=95.0*
BJI ***07*** *19:14:09.8,5˚.50S×152˚.00E, h44km, mB5.4/15, mb5.0/22, Ms5.7/20, Ms7 5.4/19*
AUST ***07*** *19:14:11.2,5˚.66S×152˚.12E, h60km*
GCMT ***07*** *19:14:11.6±0.4,5˚.70S×152˚.07E, h24km±1km, MW5.2, Moment Tensor Solution. s28,c36; s46,c72; Moment tensor: Scale 10^16^Nm; Mrr5.50±.48; Mθθ-4.96±.29; Mφφ-0.54±.28; Mrθ4.13±.37; Mrφ-1.03±.15; Mθφ1.13±.42; Best double couple: Mo6.90000×10^16^ NP1:φ=259.00000°, δ26.00000°, λ93.00000°. NP2:φ=76.00000°, δ64.00000°, λ89.00000°. Principal axes: T 7.0100, Plg71.0000°, Azm343.0000°; N -0.3200, Plg1.0000°, Azm76.0000°; P -6.6900, Plg19.0000°, Azm167.0000°; Data Used: IU II G IC CN.*
BKK ***07*** *19:14:12.5±1.6,5˚.5S±5˚×15˚1E±2˚6, h10km, M5.4/15, mB6.0/6, mb5.0/15, MLv5.4/1, Mw(mB)5.7/6*
DJA ***07*** *19:14:18.6±1.9,6˚.5S±8˚×15˚2E±1˚4, h115km±12km, M5.1/20, mB5.6/10, mb4.9/20, Mw(mB)5.1/10, Mwp5.3/1*

ISC 07 19:14:09.7±0.4,5˚.60S±0˚.04×152˚.06E±0˚.06, h45km, n115, σ1°65/154, mb5.1/41, MS4.8/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.41**	**4**	P	**Pn**	**19 14 32.2**	**-0.7**
	baz=1.5,SNR=738						
RABL				S	**Sn**	**19 14 54.4**	**+4.0**
	baz=1.5,SNR=6.7						
MANU	**Manus Island**	**5.87**	**307**	P	Pn	19 15 38.3	+4.2
	baz=6.0,SNR=26						
PMG	**Port Moresby**	**6.15**	**232**	Pn	**Pn**	**19 15 39.0**	**+0.9**
PMG				Sn	**Sn**	**19 16 50.4**	**+3.3**
PMG	**Port Moresby**	**6.15**	**232**	Pn	**Pn**	**19 15 39.0**	**+0.9**
	18nm,0.3s,baz=42,slow=9.7,SNR=56						
PMG				Sn	**Sn**	**19 16 50.4**	**+3.3**
	23nm,0.3s,baz=12,slow=23,SNR=9.1						
PMG				LR	LR	19 17 28.0	
	comp=Z,542nm,20.6s,baz=38,slow=33						
HNR	**Honiara**	**8.70**	**116**	P	**Pn**	**19 16 13.1**	**0.0**
	107nm,0.9s						
HNR	**Honiara**	**8.70**	**116**	LR	LR	19 19 08.8	
	comp=Z,2μm,20.7s,baz=29,slow=35						
JAY	**Jayapura**	**11.73**	**285**	P	Pn	19 16 58.4	+3.8
	37nm,1.8s,3μm						
JAY	**Jayapura**	**11.73**	**285**	P	Pn	19 16 58.0	+3.4
	baz=12,SNR=4.0						
MTSU	**Mount Surprise**	**14.57**	**211**	P	**P**	**19 17 40.5**	**+1.8**
	baz=15,SNR=10						
CTA	**Charters Tower**	**15.46**	**201**	Pn	**P**	**19 17 46.8**	**-1.9**
CTA	**Charters Tower**	**15.46**	**201**	Pn	**P**	**19 17 46.8**	**-1.9**
	0.2nm,0.3s,baz=28,slow=16,SNR=9.3						
CTA				LR	LR	19 23 01.3	
	comp=Z,1μm,20.2s,baz=11,slow=35						
CTAO	**Charters Tower**	**15.46**	**201**	*e*P	**P**	**19 17 47.4**	**-1.3**
	45nm,1.5s						
BAKI	**Biak**	**16.51**	**285**	P	**Pn**	**19 17 59.0**	**+0.7**
RKPI	**Ransiki, Papua**	**18.30**	**282**	P	**Pn**	**19 18 20.6**	**+0.2**
	50nm,1.5s,3μm						
EIDS	**Eidsvold**	**19.68**	**183**	*e*P	**P**	**19 18 35.8**	**+0.7**
	86nm,0.9s						
EIDS	**Eidsvold**	**19.68**	**183**	P	**Pn**	**19 18 36.2**	**-0.6**
	baz=20,SNR=21						
FAKI	**Fak Fak**	**19.93**	**277**	P	**P**	**19 18 37.8**	**-0.2**
	baz=20,SNR=3.7						
GUMO	**Guam**	**20.36**	**340**	*e*P	**P**	**19 18 43.5**	**+0.9**
	504nm,1.3s						
KDU	**Kakadu**	**20.56**	**249**	P	**P**	**19 18 44.2**	**-0.7**
	baz=21,SNR=43						
KDU				S	Sn	19 22 40.3	+1.7
	baz=21,SNR=3.6						
RMQ	**Roma**	**21.00**	**188**	P	**P**	**19 18 50.6**	**+1.1**
	baz=21,SNR=36						
MTN	**Manton Dam**	**21.86**	**249**	P	**P**	**19 18 58.8**	**+0.1**
	baz=22,SNR=9.3						
MTN				S	**S**	**19 22 53.3**	**-4.7**
	baz=22,SNR=20						
WRAB	**Tennant Creek**	**22.35**	**229**	P	**P**	**19 19 03.0**	**-1.0**
	524nm,0.7s,SNR=18						
WRAB	**Tennant Creek**	**22.35**	**229**	*e*P	**P**	**19 19 03.3**	**-0.7**
	76nm,0.8s						
WRA	**Warramunga Arr**	**22.36**	**229**	P	**P**	**19 19 03.4**	**-0.7**
WRA				S	**S**	**19 23 04.3**	**-3.0**
WRA	**Warramunga Arr**	**22.36**	**229**	P	**P**	**19 19 03.4**	**-0.7**
	43nm,1.0s,baz=53,slow=9.8,SNR=44						
WRA				S	**S**	**19 23 04.3**	**-3.0**
	19nm,1.2s,baz=55,slow=19,SNR=8.2						
WRA				LR	LR	19 27 46.0	
	comp=Z,866nm,21.1s,baz=55,slow=37						
ARMA	**Armidale**	**24.69**	**181**	*e*P	**P**	**19 19 27.8**	**+1.1**
KNRA	**Kununurra**	**24.96**	**245**	P	**P**	**19 19 28.6**	**-0.5**
	baz=25,SNR=39						
KNRA				S	**S**	**19 23 55.9**	**+6.0**
	baz=25,SNR=6.2						
LBMI	**Labuha**	**25.00**	**281**	P	**P**	**19 19 30.1**	**+0.5**
	95nm,1.4s,1μm						
ASAR	**Alice Springs**	**25.06**	**222**	P	**P**	**19 19 29.6**	**-0.5**
ASAR	**Alice Springs**	**25.06**	**222**	P	**P**	**19 19 29.6**	**-0.5**
	56nm,0.8s,baz=56,slow=8.8,SNR=157						
ASAR				LR	LR	19 29 04.7	
	comp=Z,707nm,20.7s,baz=59,slow=36						
CMSA	**Cobar Meteorol**	**26.48**	**192**	P	**P**	**19 19 42.3**	**-0.5**
	baz=27,SNR=14						
STKA	**Stephens Creek**	**27.91**	**199**	*e*P	**P**	**19 19 55.5**	**-0.1**
	1.9nm,0.8s						
STKA	**Stephens Creek**	**27.91**	**199**	P	**P**	**19 19 55.3**	**-0.4**
	8.0nm,0.7s,baz=35,slow=13,SNR=19						
STKA				LR	LR	19 31 03.5	
	comp=Z,876nm,18.6s,baz=150,slow=36						
STKA	**Stephens Creek**	**27.91**	**199**	P	**P**	**19 19 55.5**	**-0.1**
	baz=28,SNR=14						
FITZ	**Fitzroy Crossi**	**28.63**	**242**	*e*P	**P**	**19 20 01.0**	**-1.2**
	66nm,1.1s						
FITZ	**Fitzroy Crossi**	**28.63**	**242**	P	**P**	**19 20 01.6**	**-0.6**
	16nm,0.5s,baz=57,slow=7.9,SNR=41						
FITZ	**Fitzroy Crossi**	**28.63**	**242**	P	**P**	**19 20 01.0**	**-1.2**
	baz=29,SNR=53						
DAV	**Davao City (W)**	**29.27**	**295**	LR	LR	19 31 18.4	
	comp=Z,841nm,18.0s,baz=105,slow=36						
BASI	**Baing, Sumba**	**31.50**	**260**	P	**P**	**19 20 26.2**	**-1.5**
	246nm,1.1s,2μm						
ARPS	**Mount Arapiles**	**32.40**	**195**	P	**P**	**19 20 35.5**	**+0.3**
	baz=32,SNR=11						
FORT	**Forrest**	**33.70**	**219**	*e*P	**P**	**19 20 45.8**	**-0.9**
	73nm,0.9s						
FORT	**Forrest**	**33.70**	**219**	P	**P**	**19 20 46.0**	**-0.7**
	baz=34,SNR=12						
MBWA	**Marble Bar**	**34.93**	**241**	*e*P	**P**	**19 20 56.7**	**-0.8**
	78nm,1.4s						
TGY	**Tagaytay City**	**36.56**	**303**	P	**P**	**19 21 10.7**	**-0.9**
TGY	**Tagaytay City**	**36.56**	**303**	P	**P**	**19 21 10.7**	**-0.9**
	40nm,0.4s,baz=175,slow=13,SNR=7.8						
MOO	**Moorlands**	**36.94**	**186**	P	P	19 21 05.0	-9.4
	baz=37,SNR=3.9						
MEEK	**Meekatharra**	**38.13**	**233**	P	**P**	**19 21 24.0**	**-0.7**
	baz=38,SNR=41						
JOW	**Kunigami**	**39.62**	**326**	*e*P	**P**	**19 21 36.4**	**-0.8**
	16nm,1.1s						
URZ	**Urewera**	**39.68**	**149**	LR	LR	19 36 41.6	
	comp=Z,799nm,18.8s,baz=301,slow=34						
MORW	**Morawa**	**41.27**	**231**	P	**P**	**19 21 51.2**	**+0.4**
	baz=41,SNR=12						
RPZ	**Rata Peaks**	**41.48**	**159**	LR	LR	19 36 48.3	
	comp=Z,1μm,19.7s,baz=33,slow=33						
YULB	**Yu-li**	**41.62**	**315**	*e*P	**P**	**19 21 51.8**	**-2.0**
	6.1nm,0.9s						
SSLB	**Suanglung**	**42.12**	**315**	*e*P	**P**	**19 21 56.6**	**-1.2**

14nm,1.0s
YHNB Yeheng 42.40 316 *e*P **P** **19 21 59.4 -0.7**
28nm,1.1s
JNU Nakatsue 43.44 334 P **P** **19 22 07.0 -1.4**
JNU Nakatsue 43.44 334 P **P** **19 22 07.0 -1.4**
14nm,0.9s,baz=85,slow=6.7,SNR=5.3
MJAR Matsushiro Arr 43.88 344 P **P** **19 22 08.8 -3.1**
MJAR Matsushiro Arr 43.88 344 P **P** **19 22 08.8 -3.1**
2.4nm,1.0s,baz=183,slow=9.6,SNR=5.9
CISI Cisompet, Garu 43.98 265 P **P** **19 22 11.0 -2.1**
baz=44,SNR=4.9
QIZ Qiongzhong 48.25 302 P **P** **19 22 45.6 -0.9**
PPI Padang Panjang 51.82 274 P **P** **19 23 12.4 -1.3**
baz=52,SNR=3.4
PANO Nakornpanom 52.04 297 P **P** **19 23 15.2 -0.1**
19nm,1.4s
SKNT Sakolnakorn 52.54 296 P **P** **19 23 18.6 -0.4**
12nm,1.3s,3µm
MDJ Mudanjiang 53.92 340 P **P** **19 23 29.0 +0.4**
MDJ pP **pP** **19 23 40.6 -0.7**
MDJ sP **sP** **19 23 45.5 -1.0**
MDJ ScP **ScP** **19 28 28.6 +0.4**
MDJ PcS **PcS** **19 28 32.8 0.0**
MDJ S **S** **19 31 01.9 +1.1**
MDJ sS **sS** **19 31 21.4 -0.6**
MDJ pmax pmax
comp=Z,9.0nm,0.9s
MDJ pmax pmax
comp=Z,150nm,3.8s
MDJ LR LR
comp=N,1µm,24.0s
MDJ LR LR
comp=E,5µm,23.7s
MDJ LR LR
comp=Z,3µm,21.6s
NAYO Nakonayok 54.07 292 P **P** **19 23 31.1 +0.8**
comp=Z,45nm,0.8s
ENH Enshi 54.16 314 *e*P P 19 23 23.7 -7.1
comp=Z,66nm,1.0s
GYA Guiyang 54.30 308 *e*P **P** **19 23 33.0 +1.1**
GYA sP **sP** **19 23 52.1 +2.3**
GYA PP **PP** **19 25 37.8 +3.5**
GYA ScP **ScP** **19 28 30.0 -0.5**
GYA S **S** **19 31 05.6 -1.3**
GYA sS **sS** **19 31 26.7 -1.3**
GYA SS **SS** **19 34 47.8 -1.9**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=N,590nm,19.8s
GYA LR LR
comp=E,470nm,20.0s
GYA LR LR
comp=Z,550nm,18.4s
CN2 Changchun 54.73 337 *e*P **P** **19 23 33.6 -1.0**
CN2 *ep*P **pP** **19 23 46.4 -0.9**
CN2 *es*P **sP** **19 23 51.4 -1.1**
CN2 *eS* **S** **19 31 09.5 -2.4**
CN2 SS **SS** **19 34 52.7 -3.0**
CN2 LR LR
comp=N,4µm,21.0s
CN2 LR LR
comp=E,3µm,21.0s
CN2 LR LR
comp=Z,5µm,23.0s
LOEI Loei 55.16 296 P P 19 23 34.8 -3.3
comp=Z,110nm,0.9s
NANT Nan 56.10 297 P **P** **19 23 44.9 0.0**
comp=Z,44nm,1.2s
LAMP Lampang 56.96 296 P **P** **19 23 51.3 +0.3**
comp=Z,4.3nm,0.8s
CMMT Chiang Mai 57.67 296 P **P** **19 23 55.7 -0.3**
comp=Z,39nm,0.9s,comp=Z,1µm
CMMT Chiang Mai 57.67 296 P **P** **19 23 55.8 -0.3**
comp=Z,10nm,1.5s,comp=Z,1µm
CHTO Chiang Mai 57.67 296 *e*P **P** **19 23 54.3 -1.8**
comp=Z,30nm,0.8s
CHTO Chiang Mai 57.67 296 P **P** **19 23 55.8 -0.3**
comp=Z,44nm,1.5s,comp=Z,1µm
CHTO Chiang Mai 57.67 296 P **P** **19 23 55.9 -0.2**
comp=Z,11nm,1.5s,comp=Z,1µm
CD2 Chengdu 58.70 311 P **P** **19 24 04.0 +0.9**
CD2 pP **pP** **19 24 16.6 +0.7**
CD2 sP **sP** **19 24 21.8 +0.7**
CD2 PcP **PcP** **19 24 53.3 +0.6**
CD2 PP **PP** **19 26 15.8 +2.4**
CD2 ScP **ScP** **19 28 48.5 -1.2**
CD2 PcS **PcS** **19 28 53.6 -1.0**
CD2 S **S** **19 32 03.6 -1.3**
CD2 sS **sS** **19 32 24.9 -1.4**
CD2 ScS **ScS** **19 33 46.3 -3.3**
CD2 SS **SS** **19 35 58.6 -0.2**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 pmax pmax
comp=Z,280nm,5.4s
CD2 LR LR
comp=N,6µm,16.2s
CD2 LR LR
comp=E,6µm,18.2s
CD2 LR LR
comp=Z,6µm,16.8s
HHC Hu-ho-hao-te 59.27 325 *e*P **P** **19 24 08.4 +1.5**
HHC pP **pP** **19 24 20.6 +0.8**
HHC sP **sP** **19 24 26.6 +1.7**
HHC PcP **PcP** **19 24 54.0 -0.8**
HHC PP **PP** **19 26 22.0 +3.6**
HHC S **S** **19 32 12.8 +0.7**
HHC sS **sS** **19 32 33.0 -0.5**
HHC ScS **ScS** **19 33 50.3 -3.3**
HHC SS **SS** **19 36 10.7 +3.2**
HHC pmax pmax
comp=Z,54nm,1.3s
HHC pmax pmax
comp=Z,2µm,8.3s
HHC LR LR
comp=N,2µm,16.7s
HHC LR LR
comp=E,2µm,16.7s
HHC LR LR
comp=Z,2µm,17.8s
LZH Lanzhou 61.29 316 *e*P **P** **19 24 22.6 +1.7**
LZH pP **pP** **19 24 34.0 +0.2**
LZH sP **sP** **19 24 39.0 0.0**
LZH PP **PP** **19 26 37.2 +0.8**
LZH *eS* **S** **19 32 38.3 0.0**
LZH sS sS 19 32 54.0 -5.8
LZH SS **SS** **19 36 39.3 -0.2**
LZH pmax pmax
comp=Z,32nm,1.0s
LZH pmax pmax
comp=Z,200nm,4.1s
LZH LR LR
comp=N,1µm,14.4s
LZH LR LR
comp=E,2µm,15.0s
LZH LR LR
comp=Z,2µm,16.2s
DRV Dumont d'Urvil 61.53 185 PKP **PKiKP** **19 31 21.0 +3.3**
GTA Gaotai 65.75 318 *e*P **P** **19 24 52.7 +2.5**
GTA pP **pP** **19 25 05.7 +2.5**
GTA sP **sP** **19 25 10.9 +2.5**
GTA pmax pmax
comp=Z,14nm,1.7s
SONM Songino Array 66.61 328 P **P** **19 24 55.3 -0.4**
SONM Songino Array 66.61 328 P **P** **19 24 55.3 -0.4**
comp=Z,11nm,0.7s,baz=147,slow=5.5,SNR=14
VNDA Vanda 72.06 178 *e*P **P** **19 25 29.2 +0.6**
comp=Z,5.4nm,0.9s
VNDA Vanda 72.06 178 P **P** **19 25 29.2 +0.6**
comp=Z,1.7nm,0.8s,baz=325,slow=7.4,SNR=11
SBA Scott Base 72.62 177 *e*P **P** **19 25 34.6 +2.6**
CHGN Chignik 73.77 26 *e*P **P** **19 25 38.2 -0.8**
MKAR Makanchi Array 80.44 319 P **P** **19 26 16.3 -0.5**
MKAR Makanchi Array 80.44 319 P **P** **19 26 16.3 -0.5**
comp=Z,1.8nm,0.5s,baz=90,slow=6.0,SNR=5.3
ZALV Zalesovo Beam 81.41 327 P **P** **19 26 20.1 -1.6**
ZALV Zalesovo Beam 81.41 327 P **P** **19 26 20.1 -1.6**
comp=Z,4.1nm,0.4s,baz=118,slow=6.3,SNR=11
KSH Kashi 82.89 311 *e*P P 19 26 33.6 +3.5
KSH pP pP 19 26 44.4 +1.0
KSH sP sP 19 26 49.9 +1.4
KSH PP PP 19 29 46.8 +5.8
KSH S **SKSac** **19 36 47.6 -0.8**
KSH sS sS 19 37 09.7 +1.6
KSH SS **SS** **19 42 16.6 +6.9**
KSH pmax pmax
comp=Z,47nm,1.8s
KSH pmax pmax
comp=Z,360nm,4.9s
KSH LR LR
comp=N,5µm,13.9s
KSH LR LR
comp=E,3µm,13.0s
KSH LR LR
comp=Z,4µm,14.7s
ILAR Eielson Array 83.18 22 P **P** **19 26 29.6 -1.2**
ILAR Eielson Array 83.18 22 P **P** **19 26 29.6 -1.2**
comp=Z,9.9nm,0.9s,baz=251,slow=5.2,SNR=8.1
PNL Peninsula 84.19 28 *e*P **P** **19 26 36.9 +0.8**
comp=Z,4µm,2.7s
MAW Mawson 84.55 203 P **P** **19 26 38.1 +0.3**
MAW Mawson 84.55 203 P **P** **19 26 38.1 +0.3**
comp=Z,3.0nm,0.9s,baz=55,slow=4.3,SNR=6.3
WRAK Wrangell Islan 86.74 33 *e*P **P** **19 26 49.1 +0.3**
comp=Z,5µm,2.8s
HUMO Hull Mountain 90.07 47 *e*P **P** **19 27 06.5 +1.5**
YBH Yreka Blue Hor 90.14 48 *e*P **P** **19 27 06.8 +1.4**
NVAR Mina Array Bea 93.16 52 P **P** **19 27 21.2 +1.5**
NVAR Mina Array Bea 93.16 52 P **P** **19 27 21.2 +1.5**
comp=Z,5.1nm,1.0s,baz=310,slow=3.3,SNR=4.9
KHC Kasperske Hory 124.24 328 *e*PKPdf **PKPdf** **19 33 03.7 0.0**
GERES GERESS Array B 124.34 328 PKP **PKPdf** **19 33 03.9 -0.1**
GERES GERESS Array B 124.34 328 PKP **PKPdf** **19 33 03.9 -0.1**
comp=Z,1.4nm,0.5s,baz=65,slow=1.7,SNR=20
CPUP Villa Florida 137.35 139 PKP **PKPdf** **19 33 29.5 +0.4**
CPUP Villa Florida 137.35 139 PKP **PKPdf** **19 33 29.5 +0.4**
comp=Z,1.2nm,0.6s,baz=313,slow=5.3,SNR=2.9
MDT Midelt 145.27 324 PKPbc **PKPbc** **19 33 43.0 -0.1**
MDT Midelt 145.27 324 PKPbc **PKPbc** **19 33 43.0 -0.1**
comp=Z,16nm,1.0s,baz=46,slow=4.8,SNR=12
TORD Torodi Ar. Bea 149.84 287 PKPbc **PKPbc** **19 33 55.2 -0.8**
TORD Torodi Ar. Bea 149.84 287 PKPbc **PKPbc** **19 33 55.2 -0.8**
comp=Z,35nm,1.0s,baz=58,slow=2.2,SNR=54
BDFB Brasilia 151.01 137 PKPbc **PKPbc** **19 33 59.4 +0.5**
BDFB Brasilia 151.01 137 PKPbc **PKPbc** **19 33 59.4 +0.5**
comp=Z,9.2nm,0.9s,baz=148,slow=3.0,SNR=5.7
DBIC Dimbokro 157.02 274 PKPab **PKPab** **19 34 30.9 -1.1**
DBIC Dimbokro 157.02 274 PKPab **PKPab** **19 34 30.9 -1.1**
comp=Z,9.3nm,0.9s,baz=115,slow=8.9,SNR=6.6

IDC 07 19:33:56.4±1.5, 33°.91N×25°.21E, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.3/27, mbtmp3.5/5, ML3.5/3, Error ellipse: s-maj=38.9km s-min=26.3km az=165.0, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMAI	**Mount Meron Ar**	**8.57**	**93**	Pn	Pn	19 36 02.7	+0.8
	0.5nm,0.3s,baz=260,slow=13,SNR=3.4						
EIL	**Elat**	**9.31**	**114**	Pn	Pn	19 36 11.7	-0.2
	0.2nm,0.3s,baz=26,slow=13,SNR=2.5						
GERES	**GERESS Array B**	**17.21**	**334**	P	Pn	19 37 58.8	+0.5
	0.1nm,0.3s,baz=149,slow=14,SNR=6.4						
TORD	**Torodi Ar. Bea**	**29.73**	**232**	P	P	19 40 04.5	0.0
	0.5nm,0.8s,baz=31,slow=8.9,SNR=5.0						
MKAR	**Makanchi Array**	**44.44**	**55**	P	P	19 42 08.7	-0.4
	0.4nm,0.5s,baz=266,slow=8.9,SNR=8.6						

IDC 07 19:47:54.3±1.6, 33°.98N×25°.23E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/26, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=41.4km s-min=28.9km az=155.0, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EIL	**Elat**	**9.32**	**115**	Pn	Pn	19 50 10.6	+0.7
	0.2nm,0.3s,baz=342,slow=20,SNR=3.6						
GERES	**GERESS Array B**	**17.16**	**333**	P	Pn	19 51 56.3	+0.8
	0.1nm,0.3s,baz=153,slow=9.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**29.79**	**232**	P	P	19 54 02.9	-0.1
	0.3nm,0.4s,baz=31,slow=8.4,SNR=7.2						
MKAR	**Makanchi Array**	**44.38**	**56**	P	P	19 56 06.0	-0.5
	0.3nm,0.6s,baz=269,slow=8.0,SNR=5.1						

*BJI **07** 20:12:06.6, 33°.83N×25°.32E, h16km, mB4.9/3, mb4.5/9, Ms7 4.8/1*
*IDC **07** 20:12:08.2±0.7, 34°.01N×25°.52E, h0km, mb4.2/19, mb1 4.3/28, mb1mx4.3/37, mbtmp4.2/28, ML4.1/7, Error ellipse: s-maj=17.9km s-min=12.6km az=5.0*
*ISCJB **07** 20:12:08.9±0.6, 33°.91N±0°.02×25°.48E±0°.02, h20km±5km, mb4.2/44, Error ellipse: s-maj=3.3km s-min=2.4km az=40.7*
*DDA **07** 20:12:09.9, 33°.97N×25°.59E, h27km, ML4.3*
*CSEM **07** 20:12:09.4±0.1, 33°.94N×25°.46E, h10km, mb4.3/34, Mw4.0, Error ellipse: s-maj=3.5km s-min=2.2km az=37.0*
*THE **07** 20:12:09.5, 33°.98N×25°.48E, h0km±2km, ML3.9/3, Error ellipse: s-maj=5.5km s-min=0.9km az=164.0*
*ISK **07** 20:12:10.6, 34°.12N×25°.39E, h23km, ML3.9*
*ATH **07** 20:12:11.8, 34°.17N×25°.46E, h23km±2km, MD3.4/7*
*MOS **07** 20:12:12.4±1.3, 34°.08N×25°.39E, h33km, mb4.5/18, Error ellipse: s-maj=9.7km s-min=5.1km az=84.1*
*HLW **07** 20:12:13.3, 33°.94N×25°.66E, h31km±32km, Md3.9, Ml4.1*
ISC 07 20:12:12.1±0.5, 33°.98N±0°.03×25°.48E±0°.03, h26km±3km, h26km:pP-P, n405, σ1§41/454, mb4.3/44, 7C-2D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**1.18**	**332**	P	**Pn**	**20 12 30.7**	**-2.2**
SIVA				S	**Sb**	**20 12 48.7**	**+0.1**
SIVA	**Sivas**	**1.18**	**332**	*e*PN	**Pn**	**20 12 31.0**	**-1.9**
SIVA				*e*SN	**Sn**	**20 12 45.2**	**-2.9**
SIVA	**Sivas**	**1.18**	**332**	P	**Pn**	**20 12 30.7**	**-2.2**
SIVA	**Sivas**	**1.18**	**332**	*e*Pn	**Pn**	**20 12 31.0**	**-1.9**
SIVA				S	**Sb**	**20 12 48.7**	**+0.1**
LAST	**Lasithi**	**1.18**	**360**	P	**Pn**	**20 12 30.6**	**-2.4**
LAST				S	**Sb**	**20 12 49.1**	**+0.3**
LAST	**Lasithi**	**1.18**	**360**	*e*PN	**Pn**	**20 12 31.0**	**-2.0**
LAST				*e*SN	**Sn**	**20 12 44.7**	**-3.6**
LAST	**Lasithi**	**1.18**	**360**	P	**Pn**	**20 12 30.6**	**-2.4**
LAST	**Lasithi**	**1.18**	**360**	*e*Pn	**Pn**	**20 12 31.0**	**-2.0**
LAST				S	**Sb**	**20 12 49.1**	**+0.3**
ZKR	**Zakros**	**1.29**	**28**	P	**Pn**	**20 12 33.0**	**-1.4**
ZKR				S	**Sb**	**20 12 51.8**	**0.0**
ZKR	**Zakros**	**1.29**	**28**	*e*PN	**Pn**	**20 12 33.3**	**-1.1**
ZKR				*e*SN	**Sn**	**20 12 49.1**	**-1.7**
ZKR	**Zakros**	**1.29**	**28**	P	**Pn**	**20 12 33.0**	**-1.4**
ZKR	**Zakros**	**1.29**	**28**	*e*Pn	**Pn**	**20 12 33.3**	**-1.1**
ZKR				S	**Sb**	**20 12 51.8**	**0.0**
NPS	**Neapolis**	**1.29**	**5**	P	**Pn**	**20 12 32.4**	**-2.0**
NPS				S	**Sb**	**20 12 52.1**	**+0.3**
NPS	**Neapolis**	**1.29**	**5**	*e*PN	**Pn**	**20 12 32.8**	**-1.6**
NPS				*e*SN	**Sn**	**20 12 47.2**	**-3.6**
NPS	**Neapolis**	**1.29**	**5**	P	**Pn**	**20 12 32.4**	**-2.0**
NPS	**Neapolis**	**1.29**	**5**	*e*Pn	**Pn**	**20 12 32.8**	**-1.6**
NPS				S	**Sb**	**20 12 52.1**	**+0.3**
IDI	**Anoyia**	**1.40**	**340**	P	**Pn**	**20 12 34.3**	**-1.7**
IDI				S	**Sb**	**20 12 54.6**	**-0.4**
IDI	**Anoyia**	**1.40**	**340**	*e*PN	**Pn**	**20 12 34.5**	**-1.5**
IDI	**Anoyia**	**1.40**	**340**	*e*Pn	**Pn**	**20 12 34.5**	**-1.5**
IDI				S	**Sb**	**20 12 54.6**	**-0.4**
GVD	**Gavdhos**	**1.44**	**307**	P	**Pn**	**20 12 35.5**	**-1.0**
GVD				S	**Sb**	**20 12 56.3**	**+0.2**
GVD	**Gavdhos**	**1.44**	**307**	*e*PN	**Pn**	**20 12 36.7**	**+0.2**
GVD	**Gavdhos**	**1.44**	**307**	P	**Pn**	**20 12 35.5**	**-1.0**
GVD	**Gavdhos**	**1.44**	**307**	*e*Pn	**Pn**	**20 12 36.7**	**+0.2**
GVD				S	**Sb**	**20 12 56.3**	**+0.2**
VAM	**Vamos**	**1.77**	**324**	P	**Pn**	**20 12 39.8**	**-1.3**
VAM	**Vamos**	**1.77**	**324**	*e*PN	**Pn**	**20 12 41.2**	**+0.1**
VAM	**Vamos**	**1.77**	**324**	P	**Pn**	**20 12 39.8**	**-1.3**
VAM	**Vamos**	**1.77**	**324**	*e*Pn	**Pn**	**20 12 41.2**	**+0.1**
KARP	**Karpathos**	**2.09**	**41**	P	**Pn**	**20 12 46.9**	**+1.4**
KARP				S	**Sb**	**20 13 15.2**	**+0.3**
KARP	**Karpathos**	**2.09**	**41**	P	**Pn**	**20 12 46.9**	**+1.4**
KARP				S	**Sb**	**20 13 15.2**	**+0.3**
LTBQ	**Tobruq**	**2.32**	**215**	*e*P	**Pb**	**20 12 51.5**	**-1.8**
	SNR=46						
SANT	**Santorini**	**2.39**	**360**	P	**Pn**	**20 12 49.6**	**0.0**
SANT	**Santorini**	**2.39**	**360**	P	**Pn**	**20 12 49.6**	**0.0**
THR3	**Thira Island,**	**2.43**	**358**	P	**Pn**	**20 12 50.4**	**+0.3**
THR3	**Thira Island,**	**2.43**	**358**	P	**Pn**	**20 12 50.4**	**+0.3**
SLUM		**2.49**	**185**	S	**Sn**	**20 13 19.7**	**-0.7**
	baz=189						
SLUM		**2.49**	**185**	P	**Pn**	**20 12 51.0**	**+0.1**
SLUM				S	**Sn**	**20 13 19.7**	**-0.7**
ANKY	**Antikythira Is**	**2.60**	**317**	P	**Pn**	**20 12 50.6**	**-1.9**
ANKY	**Antikythira Is**	**2.60**	**317**	P	**Pn**	**20 12 50.6**	**-1.9**
NIS1	**Nisyros Isl.**	**2.96**	**27**	P	**Pn**	**20 12 57.9**	**+0.4**
NIS1	**Nisyros Isl.**	**2.96**	**27**	P	**Pn**	**20 12 57.9**	**+0.4**
KYTH	**Kithira**	**3.05**	**320**	P	**Pn**	**20 12 59.5**	**+0.8**
KYTH	**Kithira**	**3.05**	**320**	P	**Pn**	**20 12 59.5**	**+0.8**
APE	**Apeiranthos**	**3.08**	**1**	*e*PN	**Pn**	**20 12 57.5**	**-1.7**
APE				*e*SN	**Sn**	**20 13 31.6**	**-3.6**
APE	**Apeiranthos**	**3.08**	**1**	P	**Pn**	**20 12 58.8**	**-0.4**
APE	**Apeiranthos**	**3.08**	**1**	*e*Pn	**Pn**	**20 12 57.5**	**-1.7**
APE	**Apeiranthos**	**3.08**	**1**	P	**Pn**	**20 12 58.8**	**-0.4**
APE				*e*Sn	**Sn**	**20 13 31.6**	**-3.6**
ARG	**Arkhangelos**	**3.11**	**43**	P	**Pn**	**20 13 00.6**	**+1.1**
ARG	**Arkhangelos**	**3.11**	**43**	P	**Pn**	**20 13 00.6**	**+1.1**
HMAT	**Matruh**	**3.18**	**154**	P	**Pn**	**20 12 59.9**	**-0.6**
HMAT	baz=156			S	**Sn**	**20 13 34.8**	**-2.8**
HMAT	baz=156 **Matruh**	**3.18**	**154**	P	**Pn**	**20 12 59.9**	**-0.6**
HMAT				S	**Sn**	**20 13 34.8**	**-2.8**
DAT	**Datca**	**3.24**	**31**	*e*PN	**Pn**	**20 13 00.5**	**-0.8**
DAT	**Datca**	**3.24**	**31**	*e*Pn	**Pn**	**20 13 00.5**	**-0.8**
BODT	**Bodrum**	**3.42**	**25**	*e*PN	**Pn**	**20 13 03.0**	**-0.8**
BODT	**Bodrum**	**3.42**	**25**	*e*Pn	**Pn**	**20 13 03.0**	**-0.8**
VLI	**Veliai**	**3.44**	**323**	P	**Pn**	**20 13 03.5**	**-0.5**
VLI				S	**Sn**	**20 13 43.7**	**-0.1**
VLI	**Veliai**	**3.44**	**323**	P	**Pn**	**20 13 03.5**	**-0.5**
VLI				S	**Sn**	**20 13 43.7**	**-0.1**
DYR	**Agios Nikonas**	**3.79**	**318**	P	**Pn**	**20 13 08.6**	**-0.2**
MLSB	**Milas**	**3.80**	**29**	*e*PN	**Pn**	**20 13 08.2**	**-0.8**
MLSB	**Milas**	**3.80**	**29**	*e*Pn	**Pn**	**20 13 08.2**	**-0.8**
DALY	**Dalyan (Mu˘la**	**3.84**	**42**	*e*PN	**Pn**	**20 13 09.7**	**+0.2**
DALY	**Dalyan (Mu˘la**	**3.84**	**42**	*e*Pn	**Pn**	**20 13 09.7**	**+0.2**
TURN	**Turunc**	**3.85**	**41**	*e*P	**Pn**	**20 13 07.0**	**-2.7**
TURN				*i*S	Sn	20 13 44.4	-10
TURN	**Turunc**	**3.85**	**41**	*e*P	**Pn**	**20 13 07.0**	**-2.7**
SMG	**Samos**	**3.88**	**16**	P	**Pn**	**20 13 09.9**	**-0.2**
SMG	**Samos**	**3.88**	**16**	P	**Pn**	**20 13 09.9**	**-0.2**
YER	**Yerkesik**	**3.89**	**35**	*e*PN	**Pn**	**20 13 09.9**	**-0.4**
YER	**Yerkesik**	**3.89**	**35**	*e*Pn	**Pn**	**20 13 09.9**	**-0.4**
DIDY	**Didyma**	**3.95**	**333**	P	**Pn**	**20 13 10.4**	**-0.7**
FETY	**Fethiye**	**3.96**	**47**	*e*PN	**Pn**	**20 13 11.3**	**+0.1**
FETY	**Fethiye**	**3.96**	**47**	*e*Pn	**Pn**	**20 13 11.3**	**+0.1**
DID	**Didima**	**3.97**	**333**	P	**Pn**	**20 13 10.3**	**-1.0**
DID				S	**Sn**	**20 13 58.8**	**+1.8**
AKAS	**Kas**	**4.06**	**55**	*i*P	**Pn**	**20 13 12.9**	**+0.2**
AKAS				*i*S	**Sn**	**20 13 54.9**	**-4.6**
AKAS	**Kas**	**4.06**	**55**	*i*P	**Pn**	**20 13 12.9**	**+0.2**
AYDN	**Tasoluk**	**4.16**	**27**	*i*P	**Pn**	**20 13 15.1**	**+1.1**
AYDN				*e*S	**Sn**	**20 13 55.9**	**-5.8**
AYDN	**Tasoluk**	**4.16**	**27**	*i*P	**Pn**	**20 13 15.1**	**+1.1**
MRMA	**Marmari**	**4.17**	**348**	P	**Pn**	**20 13 14.2**	**+0.2**
PYL	**PYLOS**	**4.22**	**315**	P	**Pn**	**20 13 13.7**	**-1.0**
PYL	**PYLOS**	**4.22**	**315**	P	**Pn**	**20 13 13.7**	**-1.0**
VLX	**Vlachokerasia**	**4.22**	**324**	P	**Pn**	**20 13 14.8**	**-0.1**
VLX	**Vlachokerasia**	**4.22**	**324**	P	**Pn**	**20 13 14.8**	**-0.1**
PTL	**Penteli**	**4.27**	**343**	P	**Pn**	**20 13 15.5**	**+0.1**
PTL	**Penteli**	**4.27**	**343**	P	**Pn**	**20 13 15.5**	**+0.1**
ITM	**Ithomi**	**4.31**	**319**	P	**Pn**	**20 13 15.6**	**-0.4**
ITM	**Ithomi**	**4.31**	**319**	P	**Pn**	**20 13 15.6**	**-0.4**
CHOS	**Chios island**	**4.42**	**6**	P	**Pn**	**20 13 17.1**	**-0.5**
CHOS	**Chios island**	**4.42**	**6**	P	**Pn**	**20 13 17.1**	**-0.5**
LTK	**Loutraki**	**4.52**	**334**	P	**Pn**	**20 13 18.1**	**-0.8**
LTK	**Loutraki**	**4.52**	**334**	P	**Pn**	**20 13 18.1**	**-0.8**
BLCB	**Balcova**	**4.58**	**16**	*e*PN	**Pn**	**20 13 19.1**	**-0.5**
BLCB	**Balcova**	**4.58**	**16**	*e*Pn	**Pn**	**20 13 19.1**	**-0.5**
IZM	**Izmir**	**4.64**	**18**	*e*PN	**Pn**	**20 13 20.1**	**-0.4**
IZM	**Izmir**	**4.64**	**18**	*e*Pn	**Pn**	**20 13 20.1**	**-0.4**
GOLH	**Golhisar**	**4.65**	**44**	*i*P	**Pn**	**20 13 21.5**	**+0.8**
GOLH				*i*S	**Sn**	**20 14 12.9**	**-1.0**
GOLH	**Golhisar**	**4.65**	**44**	*i*P	**Pn**	**20 13 21.5**	**+0.8**
GOLH				*i*S	**Sn**	**20 14 12.9**	**-1.0**
GUR	**Goura**	**4.70**	**328**	P	**Pn**	**20 13 20.6**	**-0.8**
GUR				S	**Sn**	**20 14 16.1**	**+0.9**
GUR	**Goura**	**4.70**	**328**	P	**Pn**	**20 13 20.6**	**-0.8**
GUR				S	**Sn**	**20 14 16.1**	**+0.9**
DNZL	**Cakiroluk**	**4.70**	**37**	*i*P	**Pn**	**20 13 21.8**	**+0.3**
DNZL				*e*S	**Sn**	**20 14 16.9**	**+1.6**
DNZL	**Cakiroluk**	**4.70**	**37**	*i*P	**Pn**	**20 13 21.8**	**+0.3**
DNZL				*e*S	**Sn**	**20 14 16.9**	**+1.6**
SWA2		**4.72**	**180**	P	**Pn**	**20 13 21.8**	**+0.2**
	baz=183						
SWA2		**4.72**	**180**	P	**Pn**	**20 13 21.8**	**+0.2**
DENT	**Denizli**	**4.75**	**36**	*e*PN	**Pn**	**20 13 22.3**	**+0.3**
DENT	**Denizli**	**4.75**	**36**	*e*Pn	**Pn**	**20 13 22.3**	**+0.3**
KLV	**Kalavryta, Ach**	**4.87**	**327**	P	**Pn**	**20 13 22.8**	**-1.0**
KLV	**Kalavryta, Ach**	**4.87**	**327**	P	**Pn**	**20 13 22.8**	**-1.0**
MRKA	**Markates**	**4.96**	**343**	P	**Pn**	**20 13 23.9**	**-1.0**
MRKA	**Markates**	**4.96**	**343**	P	**Pn**	**20 13 23.9**	**-1.0**
KORT	**Korkueli**	**4.99**	**51**	*i*P	**Pn**	**20 13 26.5**	**+1.1**
KORT				*i*S	**Sn**	**20 14 20.6**	**-1.7**
KORT	**Korkueli**	**4.99**	**51**	*i*P	**Pn**	**20 13 26.5**	**+1.1**
KORT				*i*S	**Sn**	**20 14 20.6**	**-1.7**
HBRG	**Burj al 'Arab**	**5.01**	**131**	P	**Pn**	**20 13 25.3**	**-0.3**
	baz=132						
ANTB	**Antalya**	**5.13**	**54**	*e*PN	**Pn**	**20 13 28.8**	**+1.6**
ANTB	**Antalya**	**5.13**	**54**	*e*Pn	**Pn**	**20 13 28.8**	**+1.6**
MANT	**Manisa**	**5.14**	**28**	*e*P	**Pn**	**20 13 26.4**	**-1.2**
MANT				*e*S	**Sn**	**20 14 21.4**	**-4.8**
MANT	**Manisa**	**5.14**	**28**	*e*P	**Pn**	**20 13 26.4**	**-1.2**
SMIA	**Simia**	**5.22**	**340**	P	**Pn**	**20 13 28.8**	**+0.3**
SMIA	**Simia**	**5.22**	**340**	P	**Pn**	**20 13 28.8**	**+0.3**
AXAR	**Agios Charalam**	**5.29**	**335**	P	**Pn**	**20 13 29.4**	**-0.1**
AXAR	**Agios Charalam**	**5.29**	**335**	P	**Pn**	**20 13 29.4**	**-0.1**
AOS	**Alonnisos**	**5.34**	**346**	P	**Pn**	**20 13 30.5**	**+0.4**
AOS	**Alonnisos**	**5.34**	**346**	P	**Pn**	**20 13 30.5**	**+0.4**
LJBD	**Adjabya**	**5.41**	**237**	*e*P	**Pn**	**20 13 32.2**	**+1.1**
	SNR=45						
LJBD				*e*S	**Sn**	**20 14 32.3**	**-0.2**
	SNR=45						
KHAL	**Karahalli**	**5.45**	**35**	*i*P	**Pn**	**20 13 31.6**	**-0.2**
KHAL				*i*S	**Sn**	**20 14 28.6**	**-5.1**
KHAL	**Karahalli**	**5.45**	**35**	*i*P	**Pn**	**20 13 31.6**	**-0.2**
ISP	**Isparta**	**5.61**	**45**	*e*PN	**Pn**	**20 13 34.3**	**+0.4**
ISP	**Isparta**	**5.61**	**45**	*e*Pn	**Pn**	**20 13 34.3**	**+0.4**
AGG	**Agios Georgios**	**5.64**	**334**	P	**Pn**	**20 13 34.5**	**+0.2**
AGG	**Agios Georgios**	**5.64**	**334**	P	**Pn**	**20 13 34.5**	**+0.2**
XOR	**Xorichti**	**5.68**	**342**	P	**Pn**	**20 13 35.4**	**+0.5**
XOR	**Xorichti**	**5.68**	**342**	P	**Pn**	**20 13 35.4**	**+0.5**
SUTC	**Sutluce-Ispart**	**5.69**	**51**	*e*PN	**Pn**	**20 13 36.1**	**+1.1**
SUTC	**Sutluce-Ispart**	**5.69**	**51**	*e*Pn	**Pn**	**20 13 36.1**	**+1.1**
MAKR	**Makrakomi, Fth**	**5.70**	**333**	P	**Pn**	**20 13 35.1**	**-0.1**
MAKR	**Makrakomi, Fth**	**5.70**	**333**	P	**Pn**	**20 13 35.1**	**-0.1**
VLS	**Valsamata**	**5.77**	**318**	P	**Pn**	**20 13 35.7**	**-0.3**
VLS	**Valsamata**	**5.77**	**318**	P	**Pn**	**20 13 35

HSAF	**As Saff**	6.75	128	P		Pn	20 13 49.0	-0.6	
KONT	**Konya--Tatoy**	6.84	53	*e*PN		Pn	20 13 52.0	+1.3	
KONT	**Konya--Tatoy**	6.84	53	*e*Pn		Pn	20 13 52.0	+1.3	
GLL	**Jalalah**	6.88	128	P		Pn	20 13 49.9	-1.5	
	baz=128								
GLL	**Jalalah**	6.88	128	P		Pn	20 13 49.9	-1.5	
IGT	**Igoumenitsa**	6.91	325	P		Pn	20 13 53.0	+1.3	
IGT	**Igoumenitsa**	6.91	325	P		Pn	20 13 53.0	+1.3	
LADK	**Ladik-KONYA**	6.99	51	*e*PN		Pn	20 13 54.0	+1.2	
LADK	**Ladik-KONYA**	6.99	51	*e*Pn		Pn	20 13 54.0	+1.2	
KIZT	**Kizilcal**	7.11	45	*e*PN		Pn	20 13 55.7	+1.2	
KIZT	**Kizilcal**	7.11	45	*e*Pn		Pn	20 13 55.7	+1.2	
ADVT	**Abdulvahap**	7.28	27	*e*PN		Pn	20 13 57.3	+0.5	
ADVT	**Abdulvahap**	7.28	27	*e*Pn		Pn	20 13 57.3	+0.5	
ZAF		7.63	126	P		Pn	20 14 00.6	-1.0	
	baz=126								
ZAF		7.63	126	P		Pn	20 14 00.6	-1.0	
KZIT	**Kziot**	8.13	110	Pn		Pn	20 14 06.4	-2.1	
SLTI	**Sal'it**	8.20	100	Pn		Pn	20 14 07.8	-1.7	
RTMI	**Retamim**	8.30	108	Pn		Pn	20 14 08.5	-2.4	
MMAI	**Mount Meron Ar**	8.34	94	Pn		Pn	20 14 09.6	-1.9	
	comp=N,8.5nm,0.3s,baz=262,slow=12,SNR=19								
MMAI				Sn		Sn	20 15 40.1	-4.7	
	comp=N,7.9nm,0.3s,baz=260,slow=23,SNR=8.5								
MMLI	**Mount Malkishu**	8.47	98	Pn		Pn	20 14 10.5	-2.6	
KSDI	**Kefar Szold**	8.53	92	Pn		Pn	20 14 11.7	-2.2	
HMDT	**Nahal Hemdat**	8.60	99	Pn		Pn	20 14 12.4	-2.5	
LZLA	**Zalla**	8.67	234	*e*P		Pn	20 14 14.9	-1.0	
	SNR=43								
DSI	**Dead Sea**	8.67	103	Pn		Pn	20 14 13.9	-2.0	
BRTR	**Keskin Array B**	8.70	46	Pn		Pn	20 14 17.1	+0.8	
	comp=N,0.8nm,0.3s,baz=225,slow=13,SNR=38								
BRTR	**Keskin Array B**	8.70	46	P		Pn	20 14 17.1	+0.8	
	comp=N,1.0nm,0.3s								
KRMI	**Paran Flat**	8.74	114	Pn		Pn	20 14 15.3	-1.5	
MZDA	**Masada**	8.75	105	Pn		Pn	20 14 15.1	-1.7	
PRNI	**Paran**	8.84	112	Pn		Pn	20 14 16.3	-2.0	
HRFI	**Mount Harif**	9.01	113	Pn		Pn	20 14 19.3	-1.3	
MBRI	**Mt Berech**	9.04	115	Pn		Pn	20 14 19.5	-1.5	
EIL	**Elat**	9.13	115	Pn		Pn	20 14 20.8	-1.3	
	comp=N,4.6nm,0.3s,baz=299,slow=6.5,SNR=32								
EIL				Sn		Sn	20 15 59.5	-4.5	
	comp=N,5.3nm,0.3s,baz=360,slow=14,SNR=6.4								
EIL	**Elat**	9.13	115	Pn		Pn	20 14 20.7	-1.4	
LJFR	**Jufra**	9.57	242	*e*P		Pn	20 14 26.5	-1.8	
	SNR=43								
ASF	**Jabal al Asfar**	9.75	97	Pn		Pn	20 14 28.0	-2.7	
ASF				Sn		Sn	20 16 15.4	-4.0	
STON	**Ston**	10.77	328	*e*Pn		Pn	20 14 39.7	-4.9	
STON				Sn		Sn	20 16 30.8	-13	
BBLS	**Lazići**	10.95	336	*e*Pn		Pn	20 14 44.7	-2.4	
MLR	**Muntele Rosu**	11.51	2	Pn		Pn	20 14 57.2	+2.5	
	comp=N,0.0nm,0.3s,baz=144,slow=8.4,SNR=6.5								
MLR	**Muntele Rosu**	11.51	2	P		Pn	20 14 57.2	+2.5	
UDBI	**Udbina**	12.94	327	*e*Pn		Pn	20 15 10.9	-3.4	
KEST	**Kesra**	13.37	282	Pn		P	20 15 27.7	-1.8	
	comp=N,0.0nm,0.3s,baz=184,slow=19,SNR=3.1								
NVLJ	**Novalja**	13.38	325	*e*Pn		Pn	20 15 16.5	-3.7	
NVLJ				Sn		Sn	20 17 36.7	-11	
KECS	**Kecovo**	14.97	347	*e*P		Pn	20 15 38.7	-3.1	
KECS	**Kecovo**	14.97	347	*e*PN		Pn	20 15 38.7	-3.1	
KOLS	**Kolonicke sedl**	15.13	352	*e*P		Pn	20 15 43.6	-0.4	
KOLS	**Kolonicke sedl**	15.13	352	*e*PN		Pn	20 15 43.6	-0.4	
KOLS	**Kolonicke sedl**	15.13	352	*e*Pn		Pn	20 15 43.6	-0.4	
VYHS	**Vyhne**	15.33	343	*e*P		Pn	20 15 47.0	+0.4	
VYHS	**Vyhne**	15.33	343	*e*PN		Pn	20 15 47.0	+0.4	
VYHS	**Vyhne**	15.33	343	*e*Pn		Pn	20 15 47.0	+0.4	
PGF	**Pioggiola**	15.50	308	*e*P		Pn	20 15 47.0	-2.0	
	comp=N,58nm,1.1s								
CHVG	**Ch'k'valeri**	15.66	51	P		P	20 15 52.7	-2.1	
CHVG	**Ch'k'valeri**	15.66	51	P		P	20 15 52.7	-2.1	
STHS	**Stebnicka Huta**	15.74	350	*e*P		P	20 15 57.3	+1.6	
STHS	**Stebnicka Huta**	15.74	350	*e*P		P	20 15 57.3	+1.6	
STHS	**Stebnicka Huta**	15.74	350	*e*P		P	20 15 57.3	+1.6	
AKH	**Akhalkalaki**	16.05	57	P		P	20 16 00.7	+1.3	
AKH	**Akhalkalaki**	16.05	57	P		P	20 16 00.7	+1.3	
ABTA	**Abfaltersbach**	16.11	326	*i*P		Pn	20 15 57.2	+0.4	
	comp=N,10nm,0.5s								
ABTA	**Abfaltersbach**	16.11	326	Pn		Pn	20 15 57.2	+0.4	
	comp=N,10nm,0.5s								
ONI	**Oni**	16.50	53	P		Pn	20 16 02.5	+0.7	
ONI	**Oni**	16.50	53	P		Pn	20 16 02.5	+0.7	
GNI	**Garni**	16.55	63	Pn		P	20 16 04.4	-0.5	
	comp=N,0.9nm,0.3s,baz=293,slow=4.0,SNR=12								
GNI	**Garni**	16.55	63	*e*P		P	20 16 03.5	-1.4	
	comp=N,48nm,2.5s								
KIV	**Kislovodsk**	16.65	48	*e*P		P	20 16 05.8	-0.1	
KIV				pmax		pmax			
	comp=Z,19nm,1.0s								
KIV				MLR		MLR			
	comp=Z,327nm,13.0s								
KIV	**Kislovodsk**	16.65	48	*e*P		P	20 16 05.8	-0.1	
	comp=Z,327nm,13.0s								
KBZ	**Khabaz**	16.67	49	P		P	20 16 05.5	-0.5	
KBZ	**Khabaz**	16.67	49	Pn		P	20 16 05.5	-0.5	
	comp=Z,0.3nm,0.3s,baz=249,slow=9.3,SNR=16								
KBZ	**Khabaz**	16.67	49	P		P	20 16 05.5	-0.5	
VRAC	**Vranov**	16.68	339	Pn		P	20 16 05.5	-0.6	
	comp=Z,0.4nm,0.3s,baz=150,slow=6.3,SNR=7.1								
VRAC	**Vranov**	16.68	339	P		P	20 16 05.5	-0.6	
KZR	**Kazreti**	16.69	58	P		P	20 16 06.0	-0.4	
KZR	**Kazreti**	16.69	58	P		P	20 16 06.0	-0.4	
OKC	**Ostrava-Krasne**	16.75	343	*e*P		Pn	20 16 04.5	-0.3	
OKC	**Ostrava-Krasne**	16.75	343	*e*P		Pn	20 16 04.5	-0.3	
OKC	**Ostrava-Krasne**	16.75	343	*e*P		Pn	20 16 04.5	-0.3	
ZEI	**Tsey**	16.87	53	*e*P		P	20 16 09.3	+0.8	
ZEI				pmax		pmax			
	comp=Z,32nm,1.0s								
ZEI	**Tsey**	16.87	53	*e*P		P	20 16 09.3	+0.8	
	comp=Z,32nm,1.0s								
TBLG	**Delisi**	17.04	57	*e*P		P	20 16 09.4	-0.8	
TBLG	**Delisi**	17.04	57	P		P	20 16 09.4	-0.8	
TBLG	**Delisi**	17.04	57	*e*P		P	20 16 09.4	-0.8	
DUS	**Dusheti**	17.15	56	P		P	20 16 13.8	+2.4	
DUS	**Dusheti**	17.15	56	P		P	20 16 13.8	+2.4	
FETA	**Feichten**	17.16	324	⇑*i*P		P	20 16 15.0	+3.4	
	comp=Z,4.1nm,0.6s								
GERES	**GERESS Array B**	17.25	333	P		P	20 16 11.7	-0.8	
	comp=Z,0.7nm,0.3s,baz=148,slow=11,SNR=37								
GERES	**GERESS Array B**	17.25	333	P		P	20 16 11.7	-0.8	
	comp=Z,1.0nm,0.3s								
DGRG	**David-gareji**	17.39	59	P		P	20 16 14.3	+0.2	
DGRG	**David-gareji**	17.39	59	P		P	20 16 14.3	+0.2	
FRF	**La Foret Royal**	17.50	309	*e*P		P	20 16 14.7	-0.5	
	comp=Z,46nm,1.2s								
FRF	**La Foret Royal**	17.50	309	*e*P		P	20 16 14.7	-0.5	
	comp=Z,23nm,1.2s								
KHC	**Kasperske Hory**	17.53	333	*e*P		Pn	20 16 14.3	-0.3	
KHC	**Kasperske Hory**	17.53	333	*e*P		Pn	20 16 14.3	-0.3	
KHC				*ex*		x	20 16 17.2		
KHC				*e*pP		pP	20 16 22.6	0.0	
KHC	**Kasperske Hory**	17.53	333	*e*P		Pn	20 16 14.3	-0.3	
DPC	**Dobruska-Polom**	17.69	340	*e*P		P	20 16 17.8	+0.5	
DPC	**Dobruska-Polom**	17.69	340	*e*P		P	20 16 17.8	+0.5	
DPC	**Dobruska-Polom**	17.69	340	*e*P		P	20 16 17.8	+0.5	
PRU	**Pruhonice**	17.91	337	*e*P		Pn	20 16 16.5	-2.8	
PRU	**Pruhonice**	17.91	337	*e*P		Pn	20 16 16.5	-2.8	
PRU				*ex*		x	20 16 19.6		
UPC	**Upice**	17.92	340	*e*P		Pn	20 16 14.8	-4.5	
UPC	**Upice**	17.92	340	*e*P		Pn	20 16 14.8	-4.5	
MBDF	**Montbardon**	17.98	312	*e*P		Pn	20 16 20.1	-0.1	
MBDF	**Montbardon**	17.98	312	*e*P		Pn	20 16 20.1	-0.1	
PVCC	**Panska Ves**	18.37	337	*e*P		Pn	20 16 24.7	-0.2	
PVCC	**Panska Ves**	18.37	337	*e*P		Pn	20 16 24.7	-0.2	
PVCC	**Panska Ves**	18.37	337	*e*P		Pn	20 16 24.7	-0.2	
ORIF	**Oris-en-Rattie**	18.62	312	*e*P		P	20 16 27.2	-0.5	
ORIF	**Oris-en-Rattie**	18.62	312	*e*P		P	20 16 27.2	-0.5	
GRA1	**Grafenberg Arr**	18.91	330	*e*P		Pn	20 16 32.9	+1.5	
	comp=Z,8.0nm,0.8s								
GRF	**Grafenberg Arr**	18.91	330	*e*P		Pn	20 16 32.9	+1.5	
	comp=Z,10.0nm,0.6s								
GRF	**Grafenberg Arr**	18.91	330	*e*P		Pn	20 16 32.9	+1.5	
GRF				pmax		pmax			
	comp=Z,8.0nm,0.8s								
BBS	**Basel-Blauen**	19.10	320	*e*P		Pn	20 16 33.2	-0.5	
CABF	**La Chapelle**	19.38	316	*e*P		P	20 16 34.6	-1.4	
CABF	**La Chapelle**	19.38	316	*e*P		P	20 16 34.6	-1.4	
MOF	**Molkenrain**	19.54	321	*e*P		Pn	20 16 43.4	+4.3	
LASF	**Ste Croix**	19.54	307	*e*P		P	20 16 37.0	-0.7	
	comp=Z,39nm,1.3s								
LASF	**Ste Croix**	19.54	307	*e*P		P	20 16 37.0	-0.7	
	comp=Z,20nm,1.3s								
CLL	**Collm**	19.55	336	*e*P		P	20 16 38.0	+0.3	
	comp=Z,3.0nm,0.6s				pmax		pmax		
CLL	**Collm**	19.55	336	*e*P		P	20 16 38.0	+0.3	
	comp=Z,3.0nm,0.6s								
CLL				*e*			20 16 45.0		
CLL				*e*			20 16 48.0		
CLL				*e*			20 16 54.0		
CLL	**Collm**	19.55	336	*e*P		P	20 16 38.0	+0.3	
	comp=Z,3.0nm,0.6s								
HINF	**Hinteralfeld**	19.66	320	*e*P		P	20 16 39.2	+0.2	
HINF	**Hinteralfeld**	19.66	320	*e*P		P	20 16 39.2	+0.2	
VORD	**Divnogorie**	19.74	27	*e*P		P	20 16 39.2	-0.5	
VORD				pmax		pmax			
	comp=N,20nm,0.5s								
VORD				pmax		pmax			
	comp=E,20nm,0.5s								
VORD				pmax		pmax			
	comp=Z,10.0nm,0.5s								
VORD	**Divnogorie**	19.74	27	*e*P		P	20 16 39.2	-0.5	
CDF	**Champ du Feu**	19.82	322	*e*P		P	20 16 40.7	0.0	
	comp=Z,14nm,1.0s								
CDF	**Champ du Feu**	19.82	322	*e*P		P	20 16 40.7	0.0	
	comp=Z,6.8nm,1.0s								
VSR	**Storozhevoye**	19.90	26	*e*P		Pn	20 16 43.1	-0.1	
VSR				pmax		pmax			
	comp=N,10.0nm,0.6s								
VSR				pmax		pmax			
	comp=E,7.0nm,0.6s								
VSR				pmax		pmax			
	comp=Z,10.0nm,0.6s								
VSR	**Storozhevoye**	19.90	26	*e*P		Pn	20 16 43.1	-0.1	
LANF	**Langenberg**	19.93	324	*e*P		Pn	20 16 45.4	+1.8	
HAU	**Haudompre**	20.05	320	*e*P		P	20 16 43.3	+0.1	
	comp=Z,9.0nm,0.6s								
HAU	**Haudompre**	20.05	320	*e*P		P	20 16 43.3	+0.1	
	comp=Z,4.5nm,0.6s								
THEF	**They Montfort**	20.38	320	*e*P		P	20 16 46.9	+0.2	
THEF	**They Montfort**	20.38	320	*e*P		P	20 16 46.9	+0.2	
LBL	**Lubilhac**	20.42	310	*e*P		Pn	20 16 48.3	-1.2	
LBL	**Lubilhac**	20.42	310	*e*P		Pn	20 16 48.3	-1.2	
SMF	**Signal de Mont**	20.71	314	*e*P		P	20 16 49.0	-1.4	
	comp=Z,8.3nm,0.8s								
SMF	**Signal de Mont**	20.71	314	*e*P		P	20 16 49.0	-1.4	
	comp=Z,4.2nm,0.8s								
RUP	**Ruppelstein**	20.77	325	*e*P		P	20 16 50.9	-0.2	
SFTF	**Sexfontaines**	20.87	319	*e*P		P	20 16 51.7	-0.4	
	comp=Z,12nm,0.6s								
SFTF	**Sexfontaines**	20.87	319	*e*P		P	20 16 51.7	-0.4	
	comp=Z,6.2nm,0.6s								
LOR	**Lormes**	21.02	316	*e*P		P	20 16 52.5	-1.2	
	comp=Z,6.4nm,0.5s								
LOR	**Lormes**	21.02	316	*e*P		P	20 16 52.5	-1.2	
	comp=Z,3.2nm,0.5s								
MEZF	**Maizieres J'vi**	21.04	320	*e*P		P	20 16 53.5	-0.4	
	comp=Z,15nm,0.6s								
MEZF	**Maizieres J'vi**	21.04	320	*e*P		P	20 16 53.5	-0.4	
	comp=Z,7.6nm,0.6s								
CAF	**Calviac**	21.06	308	*e*P		P	20 16 53.5	-0.6	
	comp=Z,22nm,1.1s								
CAF	**Calviac**	21.06	308	*e*P		P	20 16 53.5	-0.6	
	comp=Z,11nm,1.1s								
AVF	**Avril sur Loir**	21.08	314	*e*P		P	20 16 53.9	-0.4	
AVF	**Avril sur Loir**	21.08	314	*e*P		P	20 16 53.9	-0.4	
SSF	**Saint Saulge**	21.12	315	*e*P		P	20 16 54.0	-0.8	
	comp=Z,9.6nm,0.8s								
SSF	**Saint Saulge**	21.12	315	*e*P		P	20 16 54.0	-0.8	
	comp=Z,4.8nm,0.8s								
BGF	**Bois d'Agland**	21.27	313	*e*P		P	20 16 55.4	-1.0	
	comp=Z,15nm,0.6s								
BGF	**Bois d'Agland**	21.27	313	*e*P		P	20 16 55.4	-1.0	
	comp=Z,7.6nm,0.6s								
IDID	**Didziasalis**	21.35	2	*e*P		P	20 16 57.0	-0.1	
IDID	**Didziasalis**	21.35	2	*e*P		P	20 16 57.0	-0.1	
IIGN	**Ignalina**	21.38	1	*e*P		P	20 16 56.6	-0.8	
IIGN	**Ignalina**	21.38	1	*e*P		P	20 16 56.6	-0.8	
TCF	**Toulx Ste Croi**	21.54	312	*e*P		P	20 16 58.2	-1.1	
	comp=Z,32nm,1.2s								
TCF	**Toulx Ste Croi**	21.54	312	*e*P		P	20 16 58.2	-1.1	
	comp=Z,16nm,1.2s								
ISAL	**Salakas**	21.60	1	*e*P		P	20 16 57.4	-2.4	
MEM	**Membach**	21.89	325	P		P	20 17 03.8	+0.8	
	comp=Z,9.8nm,1.0s								
MEM	**Membach**	21.89	325	P		P	20 17 03.7	+0.8	
	comp=Z,9.8nm,1.0s								
GIVF	**Givet**	22.13	323	*e*P		P	20 17 05.6	0.0	
	comp=Z,15nm,0.7s								
GIVF	**Givet**	22.13	323	*e*P		P	20 17 05.6	0.0	
	comp=Z,7.6nm,0.7s								
ETSF	**Etsaut**	22.19	301	*e*P		P	20 17 06.5	+0.2	
	comp=Z,12nm,0.8s								
ETSF	**Etsaut**	22.19	301	*e*P		P	20 17 06.5	+0.2	
	comp=Z,5.8nm,0.8s								
DOU	**Dourbes**	22.25	323	P		P	20 17 09.5	+2.7	
BAIF	**Baives**	22.42	322	*e*P		P	20 17 07.4	-1.2	
	comp=Z,18nm,0.8s								
BAIF	**Baives**	22.42	322	*e*P		P	20 17 07.4	-1.2	
	comp=Z,8.8nm,0.8s								
OBN	**Obninsk**	22.51	17	⇑*e*P		P	20 17 10.7	+1.2	
OBN				pmax		pmax			
	comp=Z,12nm,0.7s								
OBN	**Obninsk**	22.51	17	*e*P		P	20 17 10.7	+1.2	
	comp=Z,12nm,0.7s								
SJPF	**Ste Jean**	22.72	302	*e*P		P	20 17 13.4	+1.5	
	comp=Z,29nm,1.0s								
SJPF	**Ste Jean**	22.72	302	*e*P		P	20 17 13.4	+1.5	
	comp=Z,14nm,1.0s								
MFF	**Saint Martin d**	23.15	311	*e*P		P	20 17 14.3	-2.0	
	comp=Z,23nm,1.0s								
MFF	**Saint Martin d**	23.15	311	*e*P		P	20 17 14.3	-2.0	
	comp=Z,11nm,1.0s								
LDF	**La Druitiere**	24.00	315	*e*P		P	20 17 22.9	-1.7	
	comp=Z,28nm,1.0s								
LDF	**La Druitiere**	24.00	315	*e*P		P	20 17 22.9	-1.7	
	comp=Z,14nm,1.0s								
ESDC	**Sonseca Array**	24.18	292	P		P	20 17 27.2	+0.8	
	comp=Z,1.4nm,0.6s,baz=82,slow=11,SNR=7.4								
FLN	**La Foliniere**	24.29	315	*e*P		P	20 17 26.5	-0.7	
FLN	**La Foliniere**	24.29	315	*e*P		P	20 17 26.5	-0.7	
VSU	**Vasula**	24.50	2	*ce*P		P	20 17 30.1	+1.1	
VSU				pmax		pmax			
	comp=Z,12nm,0.7s								
VSU	**Vasula**	24.50	2	*e*P		P	20 17 30.1	+1.1	
	comp=Z,12nm,0.7s								
MDT	**Midelt**	25.11	276	P		P	20 17 35.6	+0.6	
	comp=Z,3.6nm,0.8s,baz=90,slow=9.5,SNR=7.5								
HFS	**Hagfors**	27.29	347	P		P	20 17 53.0	-1.2	
	comp=Z,1.7nm,0.6s,baz=163,slow=11,SNR=8.5								
HFS	**Hagfors**	27.29	347	P		P	20 17 53.0	-1.2	
	comp=Z,2.0nm,0.6s								
FINES	**FINESS Array B**	27.48	1	P		P	20 17 54.1	-1.7	
	comp=Z,2.8nm,0.7s,baz=156,slow=11,SNR=13								
FINES				PcP		PcP	20 21 13.4	-0.1	
	comp=Z,0.1nm,0.3s,baz=239,slow=2.3,SNR=4.3								
FINES	**FINESS Array B**	27.48	1	P		P	20 17 54.2	-1.7	
	comp=Z,3.0nm,0.7s								
FINES	**FINESS Array B**	27.48	1	PcP		PcP	20 21 13.5	-0.1	
NB2	**NORSAR Subarra**	28.61	345	P		P	20 18 05.6	-0.4	
	comp=Z,0.8nm,0.6s,baz=156,slow=9.3								
NB2	**NORSAR Subarra**	28.61	345	P		P	20 18 05.6	-0.4	
	comp=Z,0.8nm,0.6s,baz=156,slow=9.0,SNR=4.2								
NOA	**NORSAR Array B**	28.61	345	P		P	20 18 05.3	-0.7	
	comp=Z,1.0nm,0.7s,baz=151,slow=9.2,SNR=6.1								
NOA	**NORSAR Array B**	28.61	345	P		P	20 18 05.3	-0.7	
	comp=Z,1.0nm,0.7s								
AKTK	**Aktyubinsk**	28.87	45	P		P	20 18 08.2	-0.3	
	comp=Z,3.0nm,0.8s								
AKTO	**Aktyubinsk**	28.87	45	P		P	20 18 08.2	-0.3	
AKTO				pmax		pmax			
	comp=Z,3.0nm,0.8s								
AKTO	**Aktyubinsk**	28.87	45	P		P	20 18 08.2	-0.3	
	comp=Z,3.3nm,0.8s,baz=258,slow=7.7,SNR=11								
EKA	**Eskdalemuir Ar**	29.16	326	P		P	20 18 11.3	+0.4	
	comp=Z,1.6nm,0.6s,baz=135,slow=9.5,SNR=5.2								
EKA	**Eskdalemuir Ar**	29.16	326	P		P	20 18 11.3	+0.4	
	comp=Z,2.0nm,0.6s								
JOF	**Joensuu**	29.20	5	*ep*		P	20 18 09.5	-1.6	
	comp=Z,1.4nm,0.5s								
JOF	**Joensuu**	29.20	5	*e*P		P	20 18 09.5	-1.6	
JOF				pmax		pmax			
	comp=Z,1.0nm,0.5s								
JOF	**Joensuu**	29.20	5	*e*P		P	20 18 09.5	-1.6	
	comp=Z,1.0nm,0.5s								
TORD	**Torodi Ar. Bea**	29.95	232	P		P	20 18 18.4	+0.1	
	comp=Z,1.2nm,0.7s,baz=32,slow=8.2,SNR=18								
ARU	**Arti**	31.86	35	*d*P		P	20 18 35.9	+1.2	
ARU							20 19 40.1		
ARU				S		S	20 23 45.6	+2.0	
ARU				pmax		pmax			
	comp=Z,9.0nm,2.5s								
ARU	**Arti**	31.86	35	*i* P		P	20 18 35.9	+1.2	
	comp=Z,9.0nm,2.5s								
ARU				S		S	20 23 45.6	+2.0	
ARCES	**ARCESS Array B**	35.61	0	P		P	20 19 05.1	-2.1	
	comp=Z,0.9nm,0.4s,baz=184,slow=9.5,SNR=15								
BRVK	**Borovoye**	36.92	45	⇑*i*P		P	20 19 19.6	+1.0	
BRVK				pmax		pmax			
	comp=Z,6.0nm,1.0s								
BRVK	**Borovoye**	36.92	45	*i* P		P	20 19 19.6	+1.0	
	comp=Z,6.0nm,1.0s								
AAK	**Ala-Archa**	38.96	62	⇓*e*P		P	20 19 38.7	+2.6	
AAK				pmax		pmax			
	comp=Z,12nm,1.5s								
AAK	**Ala-Archa**	38.96	62	*e*P		P	20 19 38.7	+2.6	
	comp=Z,12nm,1.5s								
MKAR	**Makanchi Array**	44.21	56	*ce*P		P	20 20 19.3	+0.3	
MKAR				pmax		pmax			
	comp=Z,7.0nm,0.7s								
MKAR	**Makanchi Array**	44.21	56	P		P	20 20 19.4	+0.3	
	comp=Z,6.7nm,0.7s,baz=277,slow=6.3,SNR=78								
MKAR	**Makanchi Array**	44.21	56	*e*P		P	20 20 19.3	+0.3	
	comp=Z,7.0nm,0.7s								
NVS	**Novosibirsk**	44.74	44	*e*P		P	20 20 23.2	+0.2	
NVS				pmax		pmax			
	comp=Z,10.0nm,0.8s								
NVS				pmax		pmax			
	comp=E,4.0nm,0.8s								
NVS	**Novosibirsk**	44.74	44	*e*P		P	20 20 23.2	+0.2	
	comp=E,10.0nm,0.8s								
ZALV	**Zalesovo Beam**	45.64	45	*i* P		P	20 20 29.8	-0.3	
ZALV				pmax		pmax			
	comp=Z,7.0nm,0.5s								
ZALV	**Zalesovo Beam**	45.64	45	P		P	20 20 29.9	-0.3	
	comp=Z,7.1nm,0.5s,baz=266,slow=9.5,SNR=27								
ZALV	**Zalesovo Beam**	45.64	45	*i* P		P	20 20 29.8	-0.3	
	comp=Z,7.0nm,0.5s								
WMQ	**Urumqi**	48.38	59	P		P	20 20 48.2	-3.6	
WMQ				pP		pP	20 20 58.0	-1.8	
WMQ				sP		sP	20 21 02.0	-0.9	
WMQ				pmax		pmax			
	comp=Z,5.0nm,0.8s								
WMQ				pmax		pmax			
	comp=Z,630nm,8.0s								
DANN	**Dangsing**	49.62	80	*e*P		P	20 21 02.6	+0.8	
	comp=Z,66nm,0.8s								
DMN	**Daman**	51.00	80	*e*P		P	20 21 12.3	+0.1	
	comp=Z,21nm,0.8s								
KKN	**Kakani**	51.07	80	*e*P		P	20 21 12.8	+0.1	
PKIN	**Phulchoki**	51.25	80	*e*P		P	20 21 13.8	-0.3	
PKI	**Pulchoki**	51.26	80	*e*P		P	20 21 14.1	-0.2	
GU

IDC 07 20:26:27.0±61.0, 19°74'S×179°79'E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/18, mbtmp3.9/3, Error ellipse: s-maj=1096.0km s-min=145.1km az=81.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.27**	**243**	P		P	20 33 32.6	+0.4
	1.0nm,0.7s,baz=67,slow=7.7,SNR=3.3							
WRA	**Warramunga Arr**	**42.65**	**262**	P		P	20 34 25.7	0.0
	0.6nm,0.3s,baz=98,slow=7.8,SNR=16							
ASAR	**Alice Springs**	**42.68**	**256**	P		P	20 34 25.1	-0.7
	1.1nm,0.6s,baz=96,slow=7.6,SNR=21							

TRN 07 20:34:28.7, 17°.60N×61°.88W, h28km, MD3.6, M3.5(FDF), 2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BPA	**Boggy Peak**	**0.55**	**178**	*e*P		Pn	20 34 42.3	+1.6
BPA				*e*S		Sn	20 34 50.8	+1.8
NEV	**Hard Times**	**0.80**	**235**	⇓*i*P		Pn	20 34 46.6	+2.4
NEV				*e*S		Sn	20 34 58.1	+2.9
SKI	**Saint Kitts**	**0.86**	**252**	⇓*i*P		Pb	20 34 46.1	+0.9
SKI				*e*S		Sn	20 34 59.0	+2.3
SEG	**Port Louis**	**1.24**	**163**	*e*P		Pb	20 34 51.5	0.0
LZG	**Guadaloupe-1**	**1.45**	**176**	*e*P		Pb	20 34 54.5	-0.6
LZG				*e*S		Sb	20 35 14.2	+1.0
BCG	**Bois Riant Cap**	**1.52**	**171**	*e*P		Pb	20 34 55.5	-0.9
SCG	**Saint Claude**	**1.57**	**173**	*e*P		Pb	20 34 56.7	-0.5
DOG	**Dongo Capester**	**1.58**	**171**	*e*P		Pb	20 34 56.4	-0.9
PHG	**Guadaloupe-2**	**1.59**	**172**	*e*P		Pb	20 34 57.0	-0.7
MGG	**Marie-Galante**	**1.75**	**162**	*e*P		Pb	20 34 59.1	-1.2
DVCT	**Vielle Casse P**	**2.02**	**167**	*e*P		Pn	20 35 01.8	+0.9
DVCT				*e*S		Sb	20 35 29.3	-0.3
DWS	**Wesley**	**2.09**	**165**	*e*P		Pn	20 35 03.3	+1.4
DWS				*e*S		Sb	20 35 32.8	+1.3

IDC 07 20:45:52.5±57.0, 16°.24S×178°.81E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/19, mbtmp3.8/3, Error ellipse: s-maj=1025.0km s-min=159.3km az=75.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.16**	**238**	P		P	20 53 06.2	+0.8
	1.1nm,0.8s,baz=71,slow=9.2,SNR=3.8							
WRA	**Warramunga Arr**	**42.34**	**258**	P		P	20 53 49.0	+0.4
	0.4nm,0.8s,baz=94,slow=8.1,SNR=3.6							
ASAR	**Alice Springs**	**42.71**	**253**	P		P	20 53 50.5	-1.2
	1.7nm,0.6s,baz=85,slow=8.8,SNR=37							

*IDC **07** 20:55:32.4±7.5, 16°.09N×97°.87W, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.7/22, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=190.8km s-min=125.3km az=70.0*
*MEX **07** 20:55:48.9±0.8, 16°.96N×98°.89W, h47km±27km, MD4.0*
ISC 07 20:55:46.3±1.4, 17°.04N±0°.05×98°.84W±0°.05, h26km±12km, n13, σ1§31/21, mb3.2/3, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.94**	**133**	*i*P		**Pn**	**20 56 04.3**	**+0.5**
PNIG				*i*S		**Sb**	**20 56 15.5**	**-0.6**
ACX	**Acapulco**	**0.99**	**260**	*i*P		Pn	20 56 10.0	+5.5
ACX				*i*S		**Sn**	**20 56 21.7**	**+4.1**
MEIG	**Mezcala**	**1.15**	**320**	*i*P		**Pb**	**20 56 08.2**	**+0.5**
MEIG				*i*S		**Sn**	**20 56 22.6**	**+0.8**
CAIG	**El Cayaco**	**1.36**	**271**	*i*P		**Pn**	**20 56 09.2**	**-0.5**
CAIG				*i*S		**Sn**	**20 56 24.8**	**-2.1**
PLIG	**Platanillo**	**1.49**	**335**	*i*P		**Pb**	**20 56 13.1**	**-0.3**
PLIG				*i*S		**Sb**	**20 56 31.7**	**-0.2**
YAIG	**Yautepec**	**1.83**	**353**	*i*P		**Pn**	**20 56 16.9**	**+0.7**
YAIG				*i*S		**Sn**	**20 56 39.6**	**+1.0**
ARIG	**Puente Sto Nin**	**1.89**	**311**	*e*P		**Pn**	**20 56 17.7**	**+0.7**
ARIG				*i*S		**Sn**	**20 56 39.5**	**-0.6**
ZIIG	**Zihuatanejo**	**2.57**	**283**	*i*P		**Pn**	**20 56 27.1**	**+0.9**
ZIIG				*i*S		**Sn**	**20 56 55.7**	**-1.0**
HUIG	**Huatulco**	**2.91**	**115**	*i*P		**Pn**	**20 56 31.6**	**+0.6**
HUIG				*i*S		**Sn**	**20 57 05.3**	**+0.1**
TXAR	**Lajitas Array**	**13.02**	**341**	Pn		**P**	**20 58 59.0**	**-0.9**
	0.1nm,0.3s,baz=156,slow=16,SNR=4.5							
PDAR	**Pinedale Array**	**27.23**	**343**	P		**P**	**21 01 27.8**	**-0.7**
	0.4nm,0.6s,baz=138,slow=8.2,SNR=4.7							
NVAR	**Mina Array Bea**	**27.29**	**325**	P		**P**	**21 01 30.0**	**+0.9**
	0.3nm,0.6s,baz=131,slow=8.9,SNR=5.0							
ILAR	**Eielson Array**	**57.51**	**338**	P		**P**	**21 05 32.7**	**-0.3**
	0.7nm,1.1s,baz=138,slow=5.2,SNR=4.6							

*IDC **07** 21:36:06.8±1.5, 2°.62N×125°.25E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/23, mbtmp3.6/6, Error ellipse: s-maj=164.5km s-min=19.5km az=65.0*
*ISCJB **07** 21:36:10.4±0.8, 3°.43N±0°.08×126°.74E±0°.09, h53km, mb3.6/6, Error ellipse: s-maj=13.7km s-min=10.5km az=30.5*
*DJA **07** 21:36:11.8±1.3, 3°N±34'×12°7'E±1°6, h57km±123km, M4.2/4, mb4.7/1, mB4.6/1, MLv4.0/4, Mw(mB)3.9/1*
ISC 07 21:36:12.4±1.0, 3°.4N±0°.1×126°.71E±0°.09, h53km, n10, σ1§01/11, mb3.7/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**1.89**	**145**	P		**Pn**	**21 36 42.6**	**+0.3**
MNI	**Manado**	**2.69**	**224**	P		**Pn**	**21 36 53.1**	**-0.2**
MNI				S		**Sn**	**21 37 26.4**	**+1.7**
GTOI	**Gorontalo**	**4.60**	**234**	P		**Pn**	**21 37 19.2**	**-0.3**
MRSI	**Marisa**	**5.58**	**239**	P		**Pn**	**21 37 32.1**	**-0.8**
WRA	**Warramunga Arr**	**24.37**	**162**	P		**P**	**21 41 24.5**	**-1.3**
	0.9nm,0.5s,baz=336,slow=11,SNR=10							
ASAR	**Alice Springs**	**27.80**	**166**	P		**P**	**21 41 55.2**	**-1.5**
	0.1nm,0.3s,baz=347,slow=7.9,SNR=2.9							
MKAR	**Makanchi Array**	**57.82**	**325**	P		**P**	**21 45 58.9**	**+0.3**
	0.6nm,0.5s,baz=119,slow=8.4,SNR=12							
KURBB	**Kurchatov Arra**	**62.01**	**327**	P		**P**	**21 46 27.6**	**+0.5**
	0.9nm,0.8s,baz=125,slow=5.5,SNR=9.5							
BVAR	**Borovoye Array**	**67.59**	**327**	P		**P**	**21 47 03.9**	**+0.5**
	0.3nm,0.5s,baz=124,slow=7.4,SNR=3.8							
BRTR	**Keskin Array B**	**90.22**	**310**	P		**P**	**21 49 07.8**	**0.0**
	0.4nm,0.5s,baz=90,slow=7.2,SNR=3.5							

MEX 07 21:38:07.3±0.4, 18°.20N×103°.48W, h8km±26km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.16**	**55**	*i*P		Pg	21 38 10.2	-0.4
MMIG				*i*S		Sg	21 38 12.8	-0.1
R15V		**1.08**	**334**	*i*P		Pg	21 38 24.9	-3.3
R15V				*i*S		Sg	21 38 38.8	-3.4
EZ5V		**1.28**	**355**	*i*P		Pn	21 38 28.5	-3.4
EZ5V				*i*S		Sb	21 38 43.9	-5.0

*IDC **07** 21:38:42.0±0.7, 15°.42S×173°.10W, h0km, mb3.8/7, mb1 4.2/7, mb1mx3.9/21, mbtmp3.8/7, MS3.3/1, Ms1 3.3/1, ms1mx3.0/34, Error ellipse: s-maj=38.5km s-min=16.9km az=132.0*
*ISCJB **07** 21:38:44.6±0.6, 15°.3S±0°.1×173°.2W±0°.1, h29km, mb3.9/8, Error ellipse: s-maj=24.9km s-min=8.3km az=137.6*
*NEIC **07** 21:38:44.4±5.2, 15°.42S×173°.12W, h16km±32km, mb4.2/2, Error ellipse: s-maj=19.0km s-min=9.5km az=139.0*
ISC 07 21:38:46.1±0.7, 15°.4S±0°.2×173°.1W±0°.2, h29km, n25, σ0§80/26, mb3.8/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.91**	**42**	Pn		**Pn**	**21 39 17.3**	**+0.5**
AFI				Sn		**Sn**	**21 39 38.3**	**-1.7**
AFI	**Afiamalu**	**1.91**	**42**	Pn		**Pn**	**21 39 17.3**	**+0.5**
	231nm,0.3s,baz=171,slow=2.0,SNR=97							
AFI				Sn		**Sn**	**21 39 38.3**	**-1.7**
	518nm,0.3s,baz=31,slow=22,SNR=13							
RAR	**Rarotonga**	**13.92**	**117**	LR		LR	21 45 22.3	
	comp=Z,124nm,19.2s,baz=275,slow=29							
URZ	**Urewera**	**24.41**	**199**	*e*P		**P**	**21 44 02.1**	**-0.1**
	21nm,0.4s							
URZ	**Urewera**	**24.41**	**199**	P		**P**	**21 44 01.8**	**-0.3**
	30nm,0.6s,baz=31,slow=4.7,SNR=22							
HNR	**Honiara**	**26.98**	**279**	*e*P		**P**	**21 44 24.9**	**-0.7**
WRAB	**Tennant Creek**	**50.15**	**257**	P		**P**	**21 47 39.2**	**-0.2**
WRA	**Warramunga Arr**	**50.16**	**257**	P		**P**	**21 47 39.5**	**0.0**
WRA	**Warramunga Arr**	**50.16**	**257**	P		**P**	**21 47 39.5**	**0.0**
	0.7nm,1.0s,baz=90,slow=7.0,SNR=3.5							
ASAR	**Alice Springs**	**50.42**	**252**	P		**P**	**21 47 41.0**	**-0.4**
ASAR	**Alice Springs**	**50.42**	**252**	P		**P**	**21 47 41.0**	**-0.4**
	0.6nm,0.5s,baz=89,slow=7.6,SNR=7.6							
VNDA	**Vanda**	**63.46**	**186**	*e*P		**P**	**21 49 11.7**	**-1.2**
	0.1nm,0.3s							
VNDA	**Vanda**	**63.46**	**186**	P		**P**	**21 49 12.8**	**-0.1**
	1.0nm,0.9s,baz=31,slow=4.6,SNR=4.5							
NVAR	**Mina Array Bea**	**74.08**	**42**	P		**P**	**21 50 21.4**	**+1.4**
NVAR	**Mina Array Bea**	**74.08**	**42**	P		**P**	**21 50 21.4**	**+1.4**
	1.6nm,0.7s,baz=224,slow=10,SNR=12							
TXAR	**Lajitas Array**	**80.33**	**56**	P		**P**	**21 50 55.5**	**+0.4**
TXAR	**Lajitas Array**	**80.33**	**56**	P		**P**	**21 50 55.5**	**+0.4**
	0.9nm,0.9s,baz=232,slow=6.2,SNR=8.2							
PDAR	**Pinedale Array**	**82.02**	**42**	P		**P**	**21 51 04.5**	**+0.6**
PDAR	**Pinedale Array**	**82.02**	**42**	P		**P**	**21 51 04.5**	**+0.6**
	1.1nm,1.0s,baz=225,slow=4.0,SNR=6.8							
ILAR	**Eielson Array**	**82.34**	**11**	P		**P**	**21 51 05.2**	**+0.5**
ILAR	**Eielson Array**	**82.34**	**11**	P		**P**	**21 51 05.2**	**+0.5**
	0.5nm,0.8s,baz=226,slow=6.7,SNR=5.7							
ARCES	**ARCESS Array B**	**124.60**	**352**	PKP		**PKPdf**	**21 57 41.7**	**-0.5**
ARCES	**ARCESS Array B**	**124.60**	**352**	PKP		**PKPdf**	**21 57 41.7**	**-0.5**
	7.0nm,1.2s,baz=347,slow=3.7,SNR=3.5							
BRTR	**Keskin Array B**	**146.31**	**321**	PKPbc		**PKPab**	**21 58 25.7**	**+0.3**
BRTR	**Keskin Array B**	**146.31**	**321**	PKPbc		**PKPab**	**21 58 25.7**	**+0.3**
	1.5nm,0.7s,baz=42,slow=0.9,SNR=8.7							

OTT 07 21:41:48.1±0.6, 75°.11N×73°.88W, h18km, ML3.5/7, Baffin Bay. Aftershock. 232km southeast from Craig Harbour, Nu 232km S-E de Craig Harbour, Nu Baffin Bay Seismic Zone., Baffin Bay

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RES	**Resolute Bay**	**5.50**	**276**	PN		Pn	21 43 08.1	-0.9
RES				mb			21 43 09.8	
	comp=Z,3.0nm,0.2s							
RES				SN		Sn	21 44 08.2	-3.4
RES				Trac			21 44 12.3	
	comp=Z,10.0nm,0.3s							
GIFN	**Gifford Fjord,**	**5.64**	**208**	PN		Pn	21 43 10.3	-0.6
GIFN				mb			21 43 11.7	
	comp=Z,0.9nm,0.2s							
GIFN				SN		Sn	21 44 11.2	-3.9
GIFN				Trac			21 44 18.0	
	comp=Z,4.0nm,0.3s							
ILON	**Igloolik, Nuna**	**6.25**	**207**	PN		Pn	21 43 18.4	-0.9
ILON				SN		Sn	21 44 24.8	-5.3
ILON				Trac			21 44 31.3	
	comp=Z,3.0nm,0.2s							
AP3N	**Apex site 3 Nu**	**6.52**	**215**	PN		Pn	21 43 23.3	+0.3
AP3N				SN		Sn	21 44 31.1	-5.8
LAIN	**Lailor River,**	**6.71**	**211**	PN		Pn	21 43 25.9	+0.2
LAIN				SN		Sn	21 44 36.9	-4.7
SRLN	**Sarcpa Lake, N**	**7.21**	**209**	PN		Pn	21 43 31.6	-0.8
SRLN				SN		Sn	21 44 49.1	-4.7
KUGN	**Kugaaruk Camp,**	**8.67**	**224**	PN		Pn	21 43 50.4	-2.0
KUGN				SN		Sn	21 45 22.5	-7.0
QILN	**Qililugaq Expl**	**9.40**	**212**	PN		Pn	21 44 00.4	-2.0
QILN				mb			21 44 02.2	
	comp=Z,1.0nm,0.3s							
QILN				SN		Sn	21 45 40.7	-6.8
QILN				Trac			21 45 42.3	
	comp=Z,1.0nm,0.2s							
CB31	**Cambridge Bay**	**11.17**	**254**	PN		Pn	21 44 25.6	-1.0
CB31				SN		Sn	21 46 22.4	-8.3
CB31				Trac			21 46 29.7	
	comp=Z,5.4nm,0.2s							
NUNN	**Nunuq Camp, NU**	**11.45**	**219**	PN		Pn	21 44 29.2	-1.3
NUNN				mb			21 44 32.6	
	comp=Z,0.3nm,0.1s							
NUNN				SN		Sn	21 46 29.2	-8.5
NUNN				Trac			21 46 32.7	
	comp=Z,0.9nm,0.2s							
SEDN	**First Sedna Si**	**13.31**	**216**	PN		Pn	21 44 53.3	-2.6
SEDN				SN		Sn	21 47 10.9	-12
SEDN				Trac			21 47 13.8	
	comp=Z,2.0nm,0.7s							

PRE 07 21:43:08.3±1.8, 27°.99S×26°.66E, h2km, ML2.7, 1C-2D, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BFSD	**Buffelsfontein**	**1.13**	**6**	*e*P		Pg	21 43 30.0	-0.2
BFSD				*e*S		Sg	21 43 45.4	+0.4
BFSD				AML		AML	21 43 48.9	
	comp=Z,104nm,0.1s							
PRYS	**Parys**	**1.23**	**30**	*e*P		Pg	21 43 32.0	-0.1
PRYS				*e*S		Sn	21 43 49.8	-0.2
PRYS				AML		AML	21 43 51.1	
	comp=Z,143nm,0.4s							
PRYS	**Parys**	**1.23**	**30**	*e*P		Pb	21 43 32.5	0.0
PRYS				*e*S		Sg	21 43 48.0	-0.2
PRYS				AML		AML	21 43 51.6	
	comp=Z,123nm,0.4s							
BOSA	**Boshof**	**1.39**	**243**	⇑*i*P		Pb	21 43 36.0	+0.8
BOSA				*e*S		Sb	21 43 53.5	0.0
BOSA				AML		AML	21 43 58.4	
	comp=Z,55nm,0.3s							
BOSA	**Boshof**	**1.39**	**243**	*e*P		Pb	21 43 35.6	+0.4
BOSA				*e*S		Sg	21 43 53.3	0.0
BOSA				AML		AML	21 43 58.6	
	comp=Z,55nm,0.3s							
SWZ	**Schweizer**	**1.43**	**304**	⇓*i*P		Pg	21 43 36.6	+0.6
SWZ				*e*S		Sg	21 43 54.6	-0.1
SWZ				AML		AML	21 43 57.7	
	comp=Z,208nm,0.2s							
SWZ	**Schweizer**	**1.43**	**304**	*e*P		Pg	21 43 36.4	+0.4
SWZ				*e*S		Sb	21 43 54.8	+0.1
SWZ				AML		AML	21 43 58.1	
	comp=Z,241nm,0.3s							
KSR	**Koster**	**2.14**	**6**	*e*P		Pn	21 43 46.6	+1.3
KSR				*e*S		Sn	21 44 11.7	-0.9
KSR				AML		AML	21 44 17.4	
	comp=Z,82nm,0.2s							
KSR	**Koster**	**2.14**	**6**	*e*P		Pn	21 43 46.3	+1.0
KSR				*e*S		Sb	21 44 14.4	-0.9
KSR				AML		AML	21 44 17.2	
	comp=Z,90nm,0.2s							
ERPM	**east rand prop**	**2.16**	**41**	⇓*i*P		Pn	21 43 46.6	+1.0
ERPM				*e*S		Sn	21 44 13.6	+0.4
ERPM				AML		AML	21 44 18.7	
	comp=Z,37nm,0.4s							
ERPM	**east rand prop**	**2.16**	**41**	*e*P		Pn	21 43 46.3	+0.7
ERPM				*e*S		Sn	21 44 13.8	+0.6
ERPM				AML		AML	21 44 18.6	
	comp=Z,38nm,0.5s							
SLR	**Silverton**	**2.67**	**33**	*e*P		Pn	21 43 52.9	+0.4
SLR				*e*S		Sn	21 44 24.6	-1.1
SLR				AML		AML	21 44 39.6	
	comp=Z,47nm,0.4s							
SLR	**Silverton**	**2.67**	**33**	*e*P		Pn	21 43 53.1	+0.5
SLR				*e*S		Sn	21 44 25.0	-0.7
SLR				AML		AML	21 44 39.8	
	comp=Z,47nm,0.4s							
HVD	**Gariep Dam**	**2.80**	**201**	*e*P		Pn	21 43 54.3	0.0
HVD				*e*S		Sn	21 44 24.3	-4.5
HVD				AML		AML	21 44 42.2	
	comp=Z,14nm,0.5s							
HVD	**Gariep Dam**	**2.80**	**201**	*e*P		Pn	21 43 54.7	+0.4
HVD				*e*S		Sn	21 44 28.3	-0.5
HVD				AML		AML	21 44 41.6	
	comp=Z,16nm,0.5s							
LBTB	**Lobatse**	**3.12**	**342**	*e*P		Pn	21 44 00.1	+1.4
LBTB				*e*S		Sn	21 44 36.6	+0.1
LBTB				AML		AML	21 44 54.2	
	comp=Z,19nm,0.5s							
LBTB	**Lobatse**	**3.12**	**342**	*e*P		Pn	21 43 59.8	+1.1
LBTB				*e*S		Sn	21 44 36.9	+0.4
LBTB				AML		AML	21 44 54.3	
	comp=Z,19nm,0.5s							
KSD	**Kokstad**	**3.50**	**137**	*e*P		Pn	21 44 04.6	+0.7
KSD				*e*S		Sn	21 44 45.3	-0.8
KSD				AML		AML	21 45 01.7	
	comp=Z,5.5nm,0.3s							
POGA	**Pongola**	**4.43**	**83**	*e*P		Pn	21 44 17.6	+1.0
POGA				*e*S		Sn	21 45 09.8	+1.0
POGA				AML		AML	21 45 26.7	
	comp=Z,4.7nm,0.5s							
SOE	**Somerset East**	**4.80**	**191**	*e*P		Pn	21 44 23.4	+1.7
SOE				*e*S		Sn	21 45 16.1	-1.9
SOE				AML		AML	21 45 50.6	
	comp=Z,6.3nm,0.7s							
SUR	**Sutherland**	**6.69**	**228**	*e*P		Pn	21 44 49.1	+1.2
SUR				*e*S		Sn	21 46 00.7	-4.2
SUR				AML		AML	21 46 18.7	
	comp=Z,2.6nm,0.8s							
SUR	**Sutherland**	**6.69**	**228**	*e*P		Pn	21 44 48.8	+0.9
SUR				*e*S		Sn	21 46 00.8	-4.1
SUR				AML		AML	21 46 47.3	
	comp=Z,3.9nm,0.3s							
CVNA	**Calvinia**	**6.94**	**238**	*e*S		Sn	21 46 07.2	-3.5
CVNA				AML		AML	21 46 44.6	
	comp=Z,10.0nm,0.8s							

*ISCJB **07** 21:46:41.9±0.4, 39°.40N±0°.03×73°.82E±0°.06, h10km, mb4.0/16, MS3.5/1, Error ellipse: s-maj=6.4km s-min=4.7km az=24.5*
*IDC **07** 21:46:41.6±0.8, 39°.41N×73°.86E, h0km, mb3.9/11, mb1 4.0/16, mb1mx3.9/31, mbtmp3.9/16, ML3.4/6, MS2.8/1, Ms1 2.8/1, ms1mx2.0/38, Error ellipse: s-maj=15.4km s-min=12.0km az=120.0*
*BJI **07** 21:46:42.9, 39°.46N×73°.59E, h16km, mb3.4/1, ML3.6/4*
*NEIC **07** 21:46:43.6±4.1, 39°.49N×73°.76E, h12km±26km, mb4.1/2, Error ellipse: s-maj=12.3km s-min=9.3km az=149.0*
*MOS **07** 21:46:45.3±1.2, 39°.34N×73°.60E, h3km, mb4.2/13, Error ellipse: s-maj=11.5km s-min=5.3km az=85.4*
*NNC **07** 21:46:45.9±2.2, 39°.69N×73°.67E, h10km±7km, mb4.2, mpv3.9, Error ellipse: s-maj=18.2km s-min=8.6km az=14.0*
ISC 07 21:46:43.6±0.6, 39°.50N±0°.05×73°.75E±0°.05, h10km, n105, σ1§76/102, mb4.0/16, 18C-8D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.72**	**89**	Pg		Pn	21 47 09.3	-4.5
KSH				Sg		Sn	21 47 28.1	-7.7
KSH				smax		smax		
	comp=N,430nm,0.4s							
KSH				smax		smax		
	comp=E,510nm,0.6s							
AML	**Almayashu**	**2.63**	**359**	*i* PN		**Pn**	**21 47 28.4**	**+1.9**
AML	**Almayashu**	**2.63**	**359**	P		**Pn**	**21 47 28.4**	**+1.9**
	SNR=144							
UCH	**Uchtor**	**2.79**	**12**	*i* PN		**Pb**	**21 47 33.7**	**-0.1**
UCH	**Uchtor**	**2.79**	**12**	P		**Pb**	**21 47 33.7**	**-0.1**
	SNR=14							
KZA	**Kyzart**	**2.82**	**23**	*i* PN		**Pb**	**21 47 34.0**	**-0.3**
KZA	**Kyzart**	**2.82**	**23**	P		**Pb**	**21 47 34.0**	**-0.3**
	SNR=207							
EKS2	**Erkin-Say**	**3.16**	**0**	*e*PN		**Pn**	**21 47 35.4**	**+1.8**
EKS2	**Erkin-Say**	**3.16**	**0**	P		**Pn**	**21 47 36.0**	**+2.5**
	SNR=40							
EKS2	**Erkin-Say**	**3.16**	**0**	*e*Pn		**Pn**	**21 47 35.4**	**+1.8**
EKS2				*e*Sn		**Sn**	**21 48 13.0**	**+1.6**
AAK	**Ala-Archa**	**3.18**	**10**	*c i* PN		**Pn**	**21 47 36.4**	**+2.5**
AAK	**Ala-Archa**	**3.18**	**10**	P		Pb	21 47 36.8	-3.5
	SNR=48							
AAK	**Ala-Archa**	**3.18**	**10**	Pn		Pb	21 47 36.8	-3.5
AAK				Lg		Lg	21 48 25.5	
AAK	**Ala-Archa**	**3.18**	**10**	Pn		Pb	21 47 36.8	-3.5
	comp=E,12nm,0.3s,baz=153,slow=9.5,SNR=35							
AAK				Lg		Lg	21 48 25.5	
	comp=E,24nm,0.3s,baz=18,slow=19,SNR=11							
AAK				LR		LR	21 49 07.1	
	comp=E,165nm,20.6s,baz=174,slow=45							
KBK	**Karagaybulak**	**3.28**	**16**	*i* PN		**Pb**	**21 47 39.7**	**-2.4**
KBK	**Karagaybulak**	**3.28**	**16**	P		**Pb**	**21 47 39.7**	**-2.4**
	SNR=47							
ULHL	**Ulahol**	**3.33**	**34**	*i* PN		**Pb**	**21 47 41.5**	**-1.4**
ULHL	**Ulahol**	**3.33**	**34**	P		**Pb**	**21 47 41.5**	**-1.4**
	SNR=31							
FRU	**Bishkek**	**3.39**	**11**	*e*PN		**Pb**	**21 47 42.0**	**-1.9**
FRU				*i*			22 48 26.0	
FRU				pmax		pmax		
	comp=Z,220nm,1.8s							
FRU				smax		smax		
	comp=N,1μm,1.7s							
CHMS	**Chumysh**	**3.58**	**12**	*i* PN		**Pn**	**21 47 41.9**	**+2.7**
CHMS	**Chumysh**	**3.58**	**12**	P		**Pn**	**21 47 41.9**	**+2.7**
	SNR=13							
TKM2	**Tokmak 2**	**3.69**	**22**	⇑Pn		**Pn**	**21 47 43.1**	**+2.1**
	comp=N,17nm,0.5s							
TKM2				⇓Lg		Lg	21 48 37.3	
	comp=N,58nm,0.6s							
TKM2	**Tokmak 2**	**3.69**	**22**	*i* PN		**Pn**	**21 47 43.6**	**+2.7**
TKM2	**Tokmak 2**	**3.69**	**22**	P		**Pn**	**21 47 43.6**	**+2.7**
	SNR=18							
TKM2	**Tokmak 2**	**3.69**	**22**	*e*Pn		**Pn**	**21 47 42.8**	**+1.8**
TKM2				*e*Sn		**Sn**	**21 48 25.5**	**+0.9**
USP	**Ospenovka**	**3.81**	**8**	*i* PN		**Pn**	**21 47 44.5**	**+2.1**
USP	**Ospenovka**	**3.81**	**8**	P		**Pn**	**21 47 44.5**	**+2.1**
	SNR=10							
KK31	**Karatay Array**	**4.35**	**327**	Pn		**Pn**	**21 47 51.5**	**+1.7**
	comp=N,7.1nm,0.5s,baz=130,slow=12,SNR=161							
KK31				⇑Pg		**Pb**	**21 48 02.6**	**+2.4**
	comp=N,9.8nm,0.5s,baz=140,slow=17,SNR=11							
KK31				⇑Sn		**Sn**	**21 48 44.9**	**+4.3**
	comp=N,16nm,0.5s,baz=131,slow=20,SNR=5.2							
KK31				⇑Lg		Lg	21 49 01.4	
	comp=N,60nm,0.6s,baz=133,slow=28,SNR=3.6							
KK31	**Karatay Array**	**4.35**	**327**	*i* PN		**Pn**	**21 47 51.5**	**+1.7**
KK31				pmax		pmax		
	comp=Z,7.0nm,0.2s							

	comp=Z,0.2nm,0.3s,baz=162,slow=13,SNR=24						
BVAR				Lg	Lg	21 53 59.3	
	comp=Z,0.1nm,0.3s,baz=153,slow=26,SNR=4.5						
BRVK	**Borovoye**	**13.77**	**351**	⇑Pn	**Pn**	**21 49 56.4**	**-2.3**
	comp=Z,8.6nm,0.8s						
BRVK				⇓Lg	Lg	21 53 56.2	
	comp=Z,26nm,1.5s						
BRVK	**Borovoye**	**13.77**	**351**	*ce*P	**Pn**	**21 49 57.6**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRVK	**Borovoye**	**13.77**	**351**	*e*Pn	**Pn**	**21 49 56.6**	**-2.2**
BRVK	comp=Z,5.1nm,0.8s			*e*Sn	**Sn**	**21 52 31.5**	**-0.2**
ZRNK	**Zerenda**	**13.85**	**348**	⇓Pn	**Pn**	**21 49 57.8**	**-2.1**
	comp=Z,3.7nm,0.8s						
ZRNK				⇓Lg	Lg	21 53 58.6	
	comp=Z,12nm,1.1s						
AB31	**Akbulak array**	**13.86**	**319**	Pn	**Pn**	**21 49 58.4**	**-1.6**
	comp=Z,1.0nm,0.5s,baz=125,slow=12,SNR=30						
AB31				⇑Sn	**Sn**	**21 52 29.1**	**-4.8**
	comp=Z,1.3nm,0.5s,baz=133,slow=26,SNR=3.4						
AB31	**Akbulak array**	**13.86**	**319**	*i* P	**Pn**	**21 49 58.4**	**-1.6**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ABKAR	**Akbulak array**	**13.86**	**319**	*e*Pn	**Pn**	**21 49 58.1**	**-1.9**
	comp=Z,1.9nm,0.5s						
ABKAR				*e*S	Sn	21 52 25.7	-8.2
AKTO	**Aktyubinsk**	**15.57**	**320**	⇑Pn	**Pn**	**21 50 22.3**	**-0.8**
	comp=Z,9.4nm,0.8s						
AKTO				⇓Sn	**Sn**	**21 53 10.2**	**-5.4**
	comp=Z,2.2nm,0.7s						
AKTO	**Aktyubinsk**	**15.57**	**320**	P	**Pn**	**21 50 23.4**	**+0.3**
AKTO	**Aktyubinsk**	**15.57**	**320**	Pn	**Pn**	**21 50 23.4**	**+0.3**
AKTO	**Aktyubinsk**	**15.57**	**320**	Pn	**Pn**	**21 50 23.4**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=128,slow=13,SNR=11						
ZALV	**Zalesovo Beam**	**16.29**	**24**	*i* P	**P**	**21 50 35.2**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**16.29**	**24**	Pn	**Pn**	**21 50 31.9**	**-0.5**
ZALV	**Zalesovo Beam**	**16.29**	**24**	Pn	**Pn**	**21 50 31.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=219,slow=12,SNR=8.0						
NVS	**Novosibirsk**	**16.62**	**19**	*e*P	**Pn**	**21 50 36.2**	**-0.3**
NVS				pmax	pmax		
	comp=N,13nm,1.8s						
NVS				pmax	pmax		
	comp=Z,12nm,1.8s						
ARU	**Arti**	**19.68**	**334**	*d* iP	**Pn**	**21 51 13.7**	**-0.4**
ARU				S	**S**	**21 54 52.0**	**-2.4**
ARU				pmax	pmax		
	comp=Z,12nm,1.7s						
GTA	**Gaotai**	**20.11**	**82**	*e*P	**P**	**21 51 17.8**	**+0.1**
GTA				pP	**pP**	**21 51 24.0**	**+3.5**
GTA				sP	sP	21 51 26.8	+5.0
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
TBLG	**Delisi**	**22.09**	**285**	*e*P	P	21 51 45.8	+6.9
TBLG	**Delisi**	**22.09**	**285**	P	P	21 51 45.9	+6.9
DUS	**Dusheti**	**22.10**	**286**	P	P	21 51 44.0	+5.0
GNI	**Garni**	**22.25**	**281**	*e*P	**P**	**21 51 40.9**	**+0.1**
	comp=Z,4.2nm,0.6s						
GNI	**Garni**	**22.25**	**281**	P	**P**	**21 51 41.6**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=28,slow=15,SNR=2.4						
ONI	**Oni**	**23.00**	**288**	P	**P**	**21 51 50.3**	**+1.7**
AKH	**Akhalkalaki**	**23.05**	**285**	P	**P**	**21 51 51.9**	**+2.7**
KBZ	**Khabaz**	**23.38**	**290**	P	P	21 52 00.0	+7.7
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KBZ	**Khabaz**	**23.38**	**290**	P	P	21 52 00.0	+7.7
KBZ	**Khabaz**	**23.38**	**290**	P	P	21 52 00.0	+7.7
	comp=Z,3.6nm,0.8s,baz=88,slow=7.4,SNR=6.2						
KIV	**Kislovodsk**	**23.53**	**291**	*e*P	**P**	**21 51 55.0**	**+1.0**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,105nm,14.0s						
CHVG	**Ch'k'valeri**	**24.00**	**288**	P	P	21 51 52.0	-6.4
SONM	**Songino Array**	**24.89**	**60**	P	**P**	**21 52 06.5**	**-0.1**
SONM	**Songino Array**	**24.89**	**60**	P	**P**	**21 52 06.5**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=249,slow=12,SNR=2.8						
CD2	**Chengdu**	**25.88**	**100**	P	P	21 52 23.0	+7.3
CD2				pP	pP	21 52 35.5	+17
CD2				sP	sP	21 52 41.8	+22
CD2				PP	PnPn	21 53 06.3	+14
CD2				PcP	PcP	21 55 49.6	+5.0
CD2				S	**S**	**21 56 49.1**	**+3.5**
CD2				sS	sS	21 57 10.6	+20
CD2				SS	SnSn	21 57 59.5	+18
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,80nm,5.6s						
VSR	**Storozhevoye**	**26.73**	**307**	*e*P	**P**	**21 52 22.3**	**-0.7**
VSR				pmax	pmax		
	comp=N,3.0nm,0.7s						
VSR				pmax	pmax		
	comp=E,4.0nm,0.7s						
VSR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRTR	**Keskin Array B**	**30.72**	**283**	P	**P**	**21 53 00.2**	**+1.3**
BRTR	**Keskin Array B**	**30.72**	**283**	P	**P**	**21 53 00.2**	**+1.3**
	comp=Z,1.8nm,0.9s,baz=77,slow=6.5,SNR=9.2						
KIEV	**Kiev**	**32.90**	**305**	*e*P	**P**	**21 53 17.5**	**-0.3**
KIEV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KIEV	**Kiev**	**32.90**	**305**	*e*P	**P**	**21 53 17.5**	**-0.3**
	comp=Z,1.3nm,0.4s						
FINES	**FINESS Array B**	**36.30**	**323**	P	**P**	**21 53 47.2**	**+0.2**
FINES	**FINESS Array B**	**36.30**	**323**	P	**P**	**21 53 47.2**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=111,slow=9.0,SNR=16						
ARCES	**ARCESS Array B**	**39.26**	**336**	P	**P**	**21 54 12.2**	**+0.2**
ARCES	**ARCESS Array B**	**39.26**	**336**	P	**P**	**21 54 12.2**	**+0.2**
	comp=Z,2.6nm,0.5s,baz=109,slow=8.6,SNR=28						
GERES	**GERESS Array B**	**43.05**	**303**	P	**P**	**21 54 44.3**	**+0.8**
GERES	**GERESS Array B**	**43.05**	**303**	P	**P**	**21 54 44.3**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=59,slow=6.4,SNR=8.1						
CLL	**Collm**	**43.07**	**307**	*e*P	**P**	**21 54 43.0**	**-0.5**
CLL	**Collm**	**43.07**	**307**	*e*P	**P**	**21 54 43.0**	**-0.5**
NB2	**NORSAR Subarra**	**43.36**	**321**	P	**P**	**21 54 45.2**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**43.36**	**321**	P	**P**	**21 54 45.5**	**-0.3**
NOA	**NORSAR Array B**	**43.36**	**321**	P	**P**	**21 54 45.5**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=91,slow=8.0,SNR=8.9						
TORD	**Torodi Ar. Bea**	**67.95**	**269**	P	**P**	**21 57 42.2**	**-0.8**
TORD	**Torodi Ar. Bea**	**67.95**	**269**	P	**P**	**21 57 42.2**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=42,slow=5.7,SNR=10						
ILAR	**Eielson Array**	**71.29**	**17**	P	**P**	**21 58 02.0**	**-0.9**
ILAR	**Eielson Array**	**71.29**	**17**	P	**P**	**21 58 02.0**	**-0.9**
	comp=Z,1.1nm,1.0s,baz=320,slow=3.9,SNR=6.2						
WRA	**Warramunga Arr**	**81.80**	**124**	P	**P**	**21 59 02.3**	**-0.6**
WRA	**Warramunga Arr**	**81.80**	**124**	P	**P**	**21 59 02.3**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=324,slow=5.1,SNR=7.8						
ASAR	**Alice Springs**	**84.25**	**127**	P	**P**	**21 59 14.8**	**-0.8**
ASAR	**Alice Springs**	**84.25**	**127**	P	**P**	**21 59 14.8**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=306,slow=4.6,SNR=5.2						

*ISCJB **07** 22:29:17.1±0.4, 14°.82N±0°.04×119°.44E±0°.06, h39km, mb4.0/17, MS3.7/11, Error ellipse: s-maj=7.8km s-min=5.4km az=167.4*
*MAN **07** 22:29:18, 15°.07N×119°.80E, h1km, mb4.8, ML3.7, MS3.7*
*NEIC **07** 22:29:22.6±0.9, 14°.88N×119°.85E, h79km±8km, mb4.2/3, Error ellipse: s-maj=12.1km s-min=6.4km az=71.0*
*IDC **07** 22:29:23.1±1.6, 14°.92N×119°.80E, h79km±15km, mb3.6/15, mb1 3.8/15, mb1mx3.6/26, mbtmp3.6/15, MS3.8/13, Ms1 3.8/13, ms1mx3.5/33, Error ellipse: s-maj=24.3km s-min=13.5km az=63.0*

ISC 07 22:29:18.8±0.6, **14°.84N**±0°.06×**119°.54E**±0°.08, **h39**km, **n58,** σ1ᵍ**45**/52, **mb4.1**/17, **MS3.7**/12, **1C-4D, Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**1.00**	**21**	*e*P	Pn	22 29 31.8	-4.5
TGY	**Tagaytay City**	**1.54**	**118**	P	**Pn**	**22 29 45.4**	**+1.6**
TGY				S	**Sn**	**22 30 04.9**	**+2.3**
TGY	**Tagaytay City**	**1.54**	**118**	⇓*e*P	**Pn**	**22 29 45.5**	**+1.7**
TGY				*e*S	Sn	22 30 11.1	+8.5
TGY	**Tagaytay City**	**1.54**	**118**	P	**Pn**	**22 29 45.4**	**+1.6**
	527nm,0.3s,baz=276,slow=2.8,SNR=36						
TGY				S	**Sn**	**22 30 04.9**	**+2.3**
	734nm,0.3s,baz=44,slow=12,SNR=8.3						
BOLP	**Bolinao**	**1.58**	**13**	*e*P	**Pn**	**22 29 42.4**	**-1.8**
LQP	**Lukban**	**2.07**	**110**	⇑*e*P	**Pn**	**22 29 52.1**	**+1.0**
BALP	**Baler**	**2.17**	**65**	*e*P	**Pn**	**22 29 50.2**	**-2.1**
GQP	**Guinayangan**	**2.97**	**108**	⇓*e*P	**Pn**	**22 30 04.9**	**+1.6**
CAUP	**Cauayan**	**3.04**	**46**	*e*P	**Pn**	**22 30 04.2**	**-0.1**
SIPP	**Brgy, Tapao**	**3.20**	**16**	⇓*e*P	**Pn**	**22 30 07.7**	**+1.2**
SIPP				*i* S	Sn	22 30 54.4	+11
APYP	**Conner**	**3.43**	**28**	*e*P	**Pn**	**22 30 10.7**	**+1.0**
PALP	**Palanan**	**3.55**	**51**	*e*P	**Pn**	**22 30 13.7**	**+2.3**
PIP	**Pasuquin**	**3.62**	**17**	⇓*i* P	**Pn**	**22 30 15.0**	**+2.6**
PIP				*e*S	**Sn**	**22 30 56.5**	**+2.6**
SSLB	**Suanglung**	**9.01**	**8**	*e*Pn	**Pn**	**22 31 29.3**	**+3.0**
	11nm,0.8s						
SSLB				*e*Sn	**Sn**	**22 33 07.2**	**+0.6**
DAV	**Davao City (W)**	**9.73**	**142**	LR	LR	22 36 14.6	
	comp=Z,940nm,18.4s,baz=340,slow=43						
CMAR	**Chiang Mai Arr**	**20.05**	**283**	P	Pn	22 33 53.1	+2.3
CMAR	**Chiang Mai Arr**	**20.05**	**283**	P	Pn	22 33 53.1	+2.3
	1.0nm,0.8s,baz=91,slow=10,SNR=8.9						
CMAR				LR	LR	22 41 54.8	
	comp=Z,162nm,19.1s,baz=100,slow=37						
JNU	**Nakatsue**	**20.92**	**28**	LR	LR	22 41 57.9	
	comp=Z,152nm,19.7s,baz=210,slow=36						
PSI	**Prapat**	**23.59**	**242**	LR	LR	22 43 37.9	
	comp=Z,156nm,18.4s,baz=264,slow=36						
KSAR	**Wonju Array Be**	**23.71**	**17**	P	**P**	**22 34 24.9**	**-2.2**
KSRS	**Korea Array**	**23.73**	**17**	P	**P**	**22 34 24.9**	**-2.3**
	0.7nm,0.6s,baz=197,slow=10,SNR=4.1						
KSRS				LR	LR	22 44 29.7	
	comp=Z,134nm,18.5s,baz=190,slow=38						
SONM	**Songino Array**	**34.66**	**344**	LR	LR	22 52 32.7	
	comp=Z,184nm,18.0s,baz=188,slow=40						
ASAJ	**Asahikawa**	**35.17**	**29**	*e*P	**P**	**22 36 06.7**	**-2.2**
ASAJ	**Asahikawa**	**35.17**	**29**	LR	LR	22 49 11.5	
	comp=Z,98nm,20.1s,baz=174,slow=34						
WRAB	**Tennant Creek**	**37.50**	**157**	*e*P	**P**	**22 36 27.8**	**-1.2**
	9.8nm,0.8s						
WRA	**Warramunga Arr**	**37.50**	**157**	P	**P**	**22 36 27.9**	**-1.1**
WRA	**Warramunga Arr**	**37.50**	**157**	P	**P**	**22 36 27.9**	**-1.1**
	5.9nm,0.7s,baz=338,slow=9.3,SNR=26						
AS31	**Alice Springs**	**40.76**	**160**	*e*P	**P**	**22 36 55.7**	**-0.6**
ASAR	**Alice Springs**	**40.76**	**160**	P	**P**	**22 36 56.3**	**0.0**
ASAR	**Alice Springs**	**40.76**	**160**	P	**P**	**22 36 56.3**	**0.0**
	3.7nm,0.7s,baz=331,slow=7.3,SNR=26						
MK31	**Makanchi Array**	**44.45**	**324**	*e*P	**P**	**22 37 27.3**	**+1.2**
MKAR	**Makanchi Array**	**44.45**	**324**	P	**P**	**22 37 26.6**	**+0.5**
MKAR	**Makanchi Array**	**44.45**	**324**	P	**P**	**22 37 26.6**	**+0.5**
	0.1nm,0.4s,baz=106,slow=7.9,SNR=3.6						
ZALV	**Zalesovo Beam**	**47.54**	**333**	P	**P**	**22 37 50.1**	**-0.1**
ZALV	**Zalesovo Beam**	**47.54**	**333**	P	**P**	**22 37 50.1**	**-0.1**
	0.4nm,0.5s,baz=108,slow=7.7,SNR=2.7						
NWAO	**Narrogin (SRO)**	**47.54**	**183**	*e*P	**P**	**22 37 50.5**	**+0.1**
PETK	**Petropavlovsk-**	**48.59**	**30**	P	**P**	**22 37 57.3**	**-1.1**
PETK	**Petropavlovsk-**	**48.59**	**30**	P	**P**	**22 37 57.3**	**-1.1**
	3.1nm,0.8s,baz=207,slow=6.2,SNR=6.5						
PETK				LR	LR	23 00 04.3	
	comp=Z,60nm,19.1s,baz=90,slow=38						
KURBB	**Kurchatov Arra**	**48.62**	**326**	P	**P**	**22 37 59.4**	**+0.8**
	1.3nm,0.9s,baz=120,slow=7.9,SNR=7.1						
KKAR	**Karatay Array**	**50.38**	**314**	*e*P	**P**	**22 38 12.5**	**+0.3**
	1.4nm,0.7s						
STKA	**Stephens Creek**	**51.04**	**156**	P	**P**	**22 38 18.4**	**+1.3**
	2.9nm,1.0s,baz=310,slow=5.3,SNR=3.7						
BVAR	**Borovoye Array**	**54.21**	**326**	LR	LR	23 01 52.5	
	comp=Z,91nm,20.0s,baz=81,slow=36						
ABKAR	**Akbulak array**	**59.14**	**319**	*e*P	**P**	**22 39 15.3**	**-0.2**
	0.7nm,0.6s						
ARCES	**ARCESS Array B**	**77.63**	**339**	P	**P**	**22 41 11.1**	**+0.4**
ARCES	**ARCESS Array B**	**77.63**	**339**	P	**P**	**22 41 11.1**	**+0.4**
	1.1nm,0.7s,baz=60,slow=4.8,SNR=5.9						
ARCES				LR	LR	23 17 03.6	
	comp=Z,55nm,18.6s,baz=276,slow=37						
ILAR	**Eielson Array**	**78.23**	**26**	P	**P**	**22 41 13.4**	**-0.7**
ILAR	**Eielson Array**	**78.23**	**26**	P	**P**	**22 41 13.4**	**-0.7**
	0.9nm,1.0s,baz=254,slow=6.5,SNR=5.2						
SPITS	**Spitsbergen Ar**	**78.26**	**348**	LR	LR	23 18 48.6	
	comp=Z,85nm,20.8s,baz=195,slow=38						
FINES	**FINESS Array B**	**78.75**	**331**	P	**P**	**22 41 18.1**	**+1.1**
FINES	**FINESS Array B**	**78.75**	**331**	P	**P**	**22 41 18.1**	**+1.1**
	3.3nm,0.9s,baz=35,slow=7.0,SNR=7.0						
FINES				LR	LR	23 19 27.7	
	comp=Z,57nm,18.9s,baz=217,slow=38						
HFS	**Hagfors**	**84.94**	**331**	P	**P**	**22 41 48.9**	**-0.7**
HFS	**Hagfors**	**84.94**	**331**	P	**P**	**22 41 48.9**	**-0.7**
	0.9nm,0.6s,baz=90,slow=3.0,SNR=5.1						
NB2	**NORSAR Subarra**	**85.74**	**332**	P	**P**	**22 41 54.0**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=70,slow=4.6						
NOA	**NORSAR Array B**	**85.74**	**332**	P	**P**	**22 41 54.0**	**+0.3**
NOA	**NORSAR Array B**	**85.74**	**332**	P	**P**	**22 41 54.0**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=67,slow=5.0,SNR=2.7						
NOA				LR	LR	23 26 41.0	
	comp=Z,53nm,18.1s,baz=60,slow=40						
CLL	**Collm**	**88.55**	**323**	*e*(P)	**P**	**22 42 10.0**	**+2.6**
YKA	**Yellowknife Ar**	**92.16**	**22**	P	**P**	**22 42 22.6**	**-1.4**
YKA	**Yellowknife Ar**	**92.16**	**22**	P	**P**	**22 42 22.6**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=312,slow=4.5,SNR=5.2						

*ISCJB **07** 22:35:41.0±0.7, 35°.74N±0°.04×27°.37E±0°.04, h3km±6km, Error ellipse: s-maj=7.8km s-min=3.3km az=148.9*
*CSEM **07** 22:35:41.4±0.2, 35°.73N×27°.34E, h5km, ML3.3/2, Error ellipse: s-maj=6.2km s-min=3.0km az=154.0*
*DDA **07** 22:35:41.2, 35°.73N×27°.37E, h25km, MD3.4*
*THE **07** 22:35:41.0, 35°.69N×27°.46E, h3km±3km, ML3.3/2, Error ellipse: s-maj=4.0km s-min=0.9km az=133.0*
*ISK **07** 22:35:42.6, 35°.69N×27°.32E, h28km, MD3.5*

ISC 07 22:35:40.4±1.0, **35°.73N**±0°.03×**27°.42E**±0°.02, **h13**km±10km, **n59,** σ1ᵍ**05**/75, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.28**	**230**	P	**Pb**	**22 35 46.8**	**-0.4**
KARP				S	**Sb**	**22 35 51.0**	**-0.8**
KARP	**Karpathos**	**0.28**	**230**	P	**Pb**	**22 35 46.8**	**-0.4**
KARP				S	**Sb**	**22 35 51.0**	**-0.8**
ARG	**Arkhangelos**	**0.75**	**49**	P	**Pb**	**22 35 56.2**	**+0.9**
ARG				S	**Sb**	**22 36 06.5**	**+1.1**
ARG	**Arkhangelos**	**0.75**	**49**	P	**Pb**	**22 35 56.2**	**+0.9**
ARG				S	**Sb**	**22 36 06.5**	**+1.1**
NIS1	**Nisyros Isl.**	**0.90**	**347**	P	**Pb**	**22 35 59.6**	**+0.9**
NIS1				S	**Sb**	**22 36 13.1**	**+1.5**
NIS1	**Nisyros Isl.**	**0.90**	**347**	P	**Pb**	**22 35 59.6**	**+0.9**
DAT	**Datca**	**1.01**	**7**	*e*Pn	**Pn**	**22 36 01.3**	**+1.0**
DAT	**Datca**	**1.01**	**7**	*e*Pn	**Pn**	**22 36 01.3**	**+1.0**
ZKR	**Zakros**	**1.16**	**239**	P	**Pb**	**22 36 02.0**	**-0.2**
ZKR				S	**Sn**	**22 36 18.9**	**+1.0**
ZKR	**Zakros**	**1.16**	**239**	P	**Pb**	**22 36 02.0**	**-0.2**
ZKR				S	**Sn**	**22 36 18.9**	**+1.0**
BODT	**Bodrum**	**1.34**	**356**	*e*PN	**Pg**	**22 36 06.7**	**+0.6**
BODT	**Bodrum**	**1.34**	**356**	*e*Pn	**Pg**	**22 36 06.7**	**+0.6**
DALY	**Dalyan (Mu¨la**	**1.48**	**42**	*e*PN	**Pg**	**22 36 08.9**	**+0.2**
DALY	**Dalyan (Mu¨la**	**1.48**	**42**	*e*Pn	**Pg**	**22 36 08.9**	**+0.2**
TURN	**Turunc**	**1.49**	**39**	*i* P	**Pn**	**22 36 04.5**	**-2.3**
TURN				*i* S	**Sn**	**22 36 23.0**	**-3.1**
TURN	**Turunc**	**1.49**	**39**	*i* P	**Pn**	**22 36 04.5**	**-2.3**
NPS	**Neapolis**	**1.55**	**253**	P	**Pb**	**22 36 08.6**	**-0.3**
NPS				S	**Sg**	**22 36 29.6**	**-0.6**
NPS	**Neapolis**	**1.55**	**253**	P	**Pb**	**22 36 08.6**	**-0.3**
NPS				S	**Sg**	**22 36 29.6**	**-0.6**
YER	**Yerkesik**	**1.57**	**26**	*e*PN	**Pg**	**22 36 10.6**	**+0.1**
YER	**Yerkesik**	**1.57**	**26**	*e*Pn	**Pg**	**22 36 10.6**	**+0.1**
MLSB	**Milas**	**1.59**	**10**	*e*PN	**Pg**	**22 36 10.5**	**-0.5**
MLSB	**Milas**	**1.59**	**10**	*e*Pn	**Pg**	**22 36 10.5**	**-0.5**
FETY	**Fethiye**	**1.62**	**55**	*e*PN	**Pg**	**22 36 11.2**	**-0.3**
FETY	**Fethiye**	**1.62**	**55**	*e*Pn	**Pg**	**22 36 11.2**	**-0.3**
LAST	**Lasithi**	**1.69**	**251**	P	**Pb**	**22 36 10.8**	**-0.5**
LAST				S	**Sb**	**22 36 33.1**	**+0.7**
LAST	**Lasithi**	**1.69**	**251**	P	**Pb**	**22 36 10.8**	**-0.5**
LAST				S	**Sb**	**22 36 33.1**	**+0.7**
SANT	**Santorini**	**1.72**	**293**	P	**Pn**	**22 36 10.5**	**+0.5**
SANT				S	**Sg**	**22 36 34.1**	**-1.6**
SANT	**Santorini**	**1.72**	**293**	P	**Pn**	**22 36 10.5**	**+0.5**
SANT				S	**Sg**	**22 36 34.1**	**-1.6**
THR1	**Thera Island**	**1.72**	**293**	P	**Pn**	**22 36 10.4**	**+0.4**
THR1	**Thera Island**	**1.72**	**293**	P	**Pn**	**22 36 10.4**	**+0.4**
THR2	**Thira island,**	**1.77**	**295**	P	**Pn**	**22 36 11.0**	**+0.4**
THR2	**Thira island,**	**1.77**	**295**	P	**Pn**	**22 36 11.0**	**+0.4**
THR3	**Thira Island,**	**1.78**	**293**	P	**Pn**	**22 36 11.4**	**+0.7**
THR3	**Thira Island,**	**1.78**	**293**	P	**Pn**	**22 36 11.4**	**+0.7**
AKAS	**Kas**	**1.84**	**73**	*i* P	**Pb**	**22 36 14.2**	**+0.2**
AKAS				*i* S	**Sg**	**22 36 39.7**	**+0.1**
AKAS	**Kas**	**1.84**	**73**	*i* P	**Pb**	**22 36 14.2**	**+0.2**
AKAS				*i* S	**Sg**	**22 36 39.7**	**+0.1**
AYDN	**Tasoluk**	**1.97**	**11**	*i* P	**Pb**	**22 36 15.5**	**-0.6**
AYDN				*i* S	**Sb**	**22 36 41.5**	**+1.0**
AYDN	**Tasoluk**	**1.97**	**11**	*i* P	**Pb**	**22 36 15.5**	**-0.6**
AYDN				*i* S	**Sb**	**22 36 41.5**	**+1.0**
APE	**Apeiranthos**	**2.03**	**312**	*e*PN	**Pn**	**22 36 15.2**	**+0.9**
APE	**Apeiranthos**	**2.03**	**312**	P	**Pn**	**22 36 15.3**	**+0.9**
APE	**Apeiranthos**	**2.03**	**312**	*e*Pn	**Pn**	**22 36 15.2**	**+0.9**
IDI	**Anoyia**	**2.11**	**259**	P	**Pn**	**22 36 16.2**	**+0.8**
IDI	**Anoyia**	**2.11**	**259**	P	**Pn**	**22 36 16.2**	**+0.8**
ELL	**Elmali**	**2.25**	**62**	*e*PN	**Pb**	**22 36 20.2**	**-0.7**
ELL	**Elmali**	**2.25**	**62**	*e*Pn	**Pb**	**22 36 20.3**	**-0.7**
GOLH	**Golhisar**	**2.29**	**48**	*i* P	**Pb**	**22 36 21.6**	**0.0**
GOLH				*i* S	**Sg**	**22 36 55.5**	**+1.5**
GOLH	**Golhisar**	**2.29**	**48**	*i* P	**Pb**	**22 36 21.6**	**0.0**
DNZL	**Cakiroluk**	**2.35**	**33**	*i* P	**Pb**	**22 36 22.6**	**-0.2**
DNZL				*i* S	**Sn**	**22 36 43.4**	**-4.4**
DNZL	**Cakiroluk**	**2.35**	**33**	*i* P	**Pb**	**22 36 22.6**	**-0.2**
DENT	**Denizli**	**2.40**	**32**	*e*PN	**Pb**	**22 36 22.5**	**-1.0**
DENT	**Denizli**	**2.40**	**32**	*e*Pn	**Pb**	**22 36 22.5**	**-1.0**
SUTC	**Sutluce-Ispart**	**3.37**	**58**	*e*PN	Pn	22 36 36.1	+3.4
SUTC	**Sutluce-Ispart**	**3.37**	**58**	*e*Pn	Pn	22 36 36.2	+3.4
KYTH	**Kithira**	**3.60**	**280**	P	**Pn**	**22 36 36.3**	**+0.4**
KYTH	**Kithira**	**3.60**	**280**	P	**Pn**	**22 36 36.3**	**+0.4**
GAZI	**Gazipasa**	**4.00**	**81**	*i* P	**Pn**	**22 36 42.5**	**+1.1**
GAZI	**Gazipasa**	**4.00**	**81**	*i* P	**Pn**	**22 36 42.5**	**+1.1**
ERMK	**Ermenek**	**4.53**	**77**	*i* P	Pn	22 36 53.1	+4.3
ERMK				*i* S	Sn	22 37 26.0	-16
ERMK	**Ermenek**	**4.53**	**77**	*i* P	Pn	22 36 53.1	+4.3

*ATH **07** 22:38:03.6, 33°.86N×25°.48E, h5km, MD3.4/7*
*CSEM **07** 22:38:05.9±0.3, 33°.99N×25°.49E, h2km, ML3.1/1, Error ellipse: s-maj=7.9km s-min=4.7km az=83.0*
*THE **07** 22:38:05.6, 33°.93N×25°.50E, h0km±4km, ML3.1/1, Error ellipse: s-maj=10.8km s-min=1.4km az=186.0*
*IDC **07** 22:38:05.8±2.0, 34°.14N×25°.51E, h0km, mb3.9/6, mb1 3.9/10, mb1mx3.7/29, mbtmp3.8/10, ML4.0/3, Error ellipse: s-maj=42.4km s-min=21.4km az=17.0*

ISC 07 22:38:05.1±1.4, **33°.96N**±0°.04×**25°.57E**±0°.04, **h1**km±10km, **n46,** σ0ᵍ**93**/68, **mb4.0**/6, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**1.20**	**356**	P	**Pg**	**22 38 27.7**	**-0.4**
LAST				S	**Sn**	**22 38 46.9**	**+0.8**
LAST	**Lasithi**	**1.20**	**356**	*e*PG	**Pg**	**22 38 27.9**	**-0.2**
LAST				*e*SB	**Sn**	**22 38 46.5**	**+0.4**
LAST	**Lasithi**	**1.20**	**356**	*e*Pg	**Pg**	**22 38 27.9**	**-0.2**
LAST				*e*Sb	**Sn**	**22 38 46.5**	**+0.4**
SIVA	**Sivas**	**1.23**	**329**	P	**Pg**	**22 38 27.7**	**-0.9**
SIVA				S	**Sn**	**22 38 45.9**	**-0.8**
SIVA	**Sivas**	**1.23**	**329**	*e*PB	**Pg**	**22 38 28.4**	**-0.2**
SIVA				*e*SB	**Sn**	**22 38 45.9**	**-0.8**
SIVA	**Sivas**	**1.23**	**329**	P	**Pg**

JAR	**Ashorobuto**	**2.63 168**	P	**Pn**	**22 42 46.1**	**+1.4**
JAR			*e*S	**S**	**22 43 31.3**	**+1.3**
JAK	**Akkeshi**	**3.12 156**	P	**Pn**	**22 42 48.9**	**0.0**
JAK			*e*S	**S**	**22 43 36.9**	**-0.8**
NEM2	**Nemuro 2**	**3.17 141**	P	**Pn**	**22 42 50.0**	**+0.5**
NEM2			*e*S	**S**	**22 43 36.4**	**-2.3**
JCH	**Churui**	**3.26 175**	P	**Pn**	**22 42 50.3**	**0.0**
JCH			*e*S	**S**	**22 43 37.4**	**-2.8**
JNBK	**Urakawa-nobuka**	**3.59 183**	P	**Pn**	**22 42 54.5**	**+1.1**
JNBK			*e*S	**S**	**22 43 44.4**	**-1.5**
JKB	**Kayabe**	**4.22 200**	P	**Pn**	**22 43 00.3**	**+0.5**
JKB			*e*S	**S**	**22 43 55.3**	**-2.2**
JOSM	**Okushiri--Mats**	**4.56 215**	P	**Pn**	**22 43 04.2**	**+0.9**
JOT	**Ohata**	**4.70 198**	P	**Pn**	**22 43 05.3**	**+0.4**
USRK	**Ussuriysk Arra**	**7.97 262**	P	**Pn**	**22 43 42.5**	**+0.4**
	0.5nm,0.3s,baz=70,slow=13,SNR=7.0					
MJAR	**Matsushiro Arr**	**9.99 203**	P	**P**	**22 44 08.5**	**+0.9**
	0.5nm,0.3s,baz=7.6,slow=11,SNR=7.0					
SONM	**Songino Array**	**24.97 288**	P	**P**	**22 46 40.1**	**-1.0**
	0.6nm,0.7s,baz=83,slow=7.9,SNR=4.8					
MKAR	**Makanchi Array**	**41.01 294**	P	**P**	**22 48 56.8**	**-1.3**
	0.3nm,0.6s,baz=80,slow=9.5,SNR=3.7					
WRA	**Warramunga Arr**	**65.96 189**	P	**P**	**22 51 59.1**	**+1.4**
	0.2nm,0.5s,baz=5.3,slow=6.4,SNR=6.1					

IDC 07 22:58:04.2±1.5, 3°.42'N×123°.45'E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.6/4, Error ellipse: s-maj=204.5km s-min=21.5km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.56 156**		P	P	23 03 34.7	-0.4
	0.2nm,0.3s,baz=333,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**28.79 160**		P	P	23 04 04.4	+0.3
	0.1nm,0.3s,baz=338,slow=7.8,SNR=3.1						
MKAR	**Makanchi Array**	**55.98 327**		P	P	23 07 45.0	+0.5
	0.7nm,0.4s,baz=120,slow=8.1,SNR=25						
KURBB	**Kurchatov Arra**	**60.27 329**		P	P	23 08 13.6	-0.8
	0.6nm,0.4s,baz=120,slow=5.6,SNR=4.3						

*MOS **07** 23:20:13.8±0.8, 42°.66N×148°.15E, h58km, mb4.1/6, Error ellipse: s-maj=36.1km s-min=14.8km az=124.4*
*ISCJB **07** 23:20:26.9±1.2, 43°.64N±0°.10×147°.2E±0°.1, h96km±7km, mb3.7/7, Error ellipse: s-maj=20.0km s-min=8.5km az=141.0*
*IDC **07** 23:20:26.9±5.7, 45°.45N×146°.76E, h0km, mb3.8/6, mb1 3.8/7, mb1mx3.5/26, mbtmp3.8/7, ML3.1/1, Error ellipse: s-maj=121.7km s-min=35.8km az=140.0*
*JMA **07** 23:20:28.8±0.2, 43°.57N×147°.14E, h77km±4km, M3.8*
ISC 07 23:20:26.8±1.8, 43°.7'N±0°.1×147°.3'E±0°.1, h81km±11km, n27, σ1s05/34, mb3.8/7, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**1.10 291**	*d*	*i* PN	**Pn**	**23 20 47.4**	**+0.2**
YUK				pmax	pmax		
	comp=N,54nm,0.2s						
YUK				pmax	pmax		
	comp=E,94nm,0.2s						
YUK				pmax	pmax		
	comp=Z,710nm,0.2s						
NEM2	**Nemuro 2**	**1.17 256**		P	**Pn**	**23 20 48.3**	**+0.4**
NEM2				*e*S	**Sn**	**23 21 03.0**	**-0.8**
JRA	**Rausu**	**1.60 281**		P	**Pn**	**23 20 54.4**	**+1.0**
JRA				*e*S	**Sn**	**23 21 14.1**	**+0.5**
KUR	**Kuril'sk**	**1.63**	**14**	*c i* PN	**Pn**	**23 20 54.7**	**+0.9**
KUR				pmax	pmax		
	comp=Z,51nm,0.6s						
KUR				pmax	pmax		
	comp=N,34nm,0.1s						
KUR				pmax	pmax		
	comp=E,23nm,0.1s						
JNK	**Nakash**	**1.87 269**		P	**Pn**	**23 20 57.4**	**+0.4**
JNK				*e*S	**Sn**	**23 21 18.9**	**-1.1**
JAK	**Akkeshi**	**2.01 252**		P	**Pn**	**23 20 59.3**	**+0.5**
JAK				*e*S	**Sn**	**23 21 22.0**	**-1.2**
JTKR	**Abashiri--Toko**	**2.47 278**		P	**Pn**	**23 21 06.2**	**+1.2**
JAR	**Ashorobuto**	**2.59 263**		P	**Pn**	**23 21 07.8**	**+1.1**
JAR				*e*S	**Sn**	**23 21 37.1**	**-0.1**
JOB	**Onbets**	**2.64 255**		P	**Pn**	**23 21 08.2**	**+1.0**
JOB				*e*S	**Sn**	**23 21 37.3**	**-1.0**
JMP	**Maruseppu**	**2.87 278**		P	**Pn**	**23 21 11.7**	**+1.3**
JCH	**Churui**	**3.06 251**		P	**Pn**	**23 21 13.7**	**+0.7**
JCH				*e*S	**Sn**	**23 21 47.0**	**-1.6**
ASAJ	**Asahikawa**	**3.43 279**		Pn	**Pn**	**23 21 19.2**	**+1.2**
	comp=E,1.5nm,0.3s,baz=90,slow=17,SNR=6.5						
ASAJ				Sn	Sn	23 22 08.0	+10
	comp=E,1.9nm,0.3s,baz=233,slow=31,SNR=6.2						
JEM	**Erimo**	**3.46 243**		*e*S	**Sn**	**23 21 58.7**	**+0.5**
ERM	**Erimo**	**3.46 243**	*c*	*i* PN	**Pn**	**23 21 21.2**	**+2.9**
JFR	**Furan**	**3.46 263**		*e*S	**Sn**	**23 21 59.0**	**+0.7**
JNBK	**Urakawa-nobuka**	**3.61 249**		P	**Pn**	**23 21 20.7**	**+0.3**
JNBK				*e*S	**Sn**	**23 22 00.1**	**-1.7**
JSE	**Soyaes**	**3.62 293**		P	**Pn**	**23 21 21.5**	**+0.9**
YSS	**Yuzh-Sakhalins**	**4.60 317**		*e*PN	Pn	23 21 29.1	-4.7
SONM	**Songino Array**	**28.61 293**		P	**P**	**23 26 16.1**	**+0.7**
	comp=E,0.7nm,0.5s,baz=75,slow=8.7,SNR=5.1						
MKAR	**Makanchi Array**	**44.72 298**		*e*P	**P**	**23 28 31.9**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**44.72 298**		P	**P**	**23 28 32.0**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**44.72 298**		P	**P**	**23 28 31.9**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=79,slow=9.0,SNR=8.6						
KURK	**Kurchatov**	**45.67 304**		P	**P**	**23 28 39.2**	**0.0**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**45.76 304**		P	**P**	**23 28 39.1**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=71,slow=8.8,SNR=6.5						
FINES	**FINESS Array B**	**65.01 333**		P	**P**	**23 30 56.3**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=46,slow=8.2,SNR=6.9						
NOA	**NORSAR Array B**	**69.73 339**		P	**P**	**23 31 27.3**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=28,slow=4.3,SNR=3.8						
HFS	**Hagfors**	**69.82 337**		P	**P**	**23 31 27.4**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=60,slow=7.0,SNR=6.9						

IDC 07 23:36:40.1±2.1, 5°.38N×126°.12E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/22, mbtmp3.4/3, MS3.7/1, Ms1 3.7/1, ms1mx2.7/18, Error ellipse: s-maj=166.3km s-min=27.0km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.43 162**		P	P	23 42 18.6	-0.2
	0.7nm,0.4s,baz=342,slow=10,SNR=2.9						
ASAR	**Alice Springs**	**29.85 166**		P	P	23 42 49.6	+0.2
	0.4nm,0.9s,baz=2.9,slow=9.3,SNR=4.1						
HNR	**Honiara**	**36.78 113**		LR	LR	23 56 19.6	
	comp=Z,117nm,20.6s,baz=132,slow=32						
MKAR	**Makanchi Array**	**55.87 325**		P	P	23 46 19.5	-0.1
	0.3nm,0.5s,baz=120,slow=7.1,SNR=5.7						

IDC 07 23:43:00.9±2.1, 7°.56S×121°.81E, h0km, mb3.1/1, mb1 3.5/3, mb1mx3.3/21, mbtmp3.2/3, ML3.5/2, Error ellipse: s-maj=288.5km s-min=27.7km az=55.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.29 137**		P	P	23 47 05.1	-0.4
	0.2nm,0.3s,baz=312,slow=12,SNR=5.6						
WRA				S	Sn	23 50 05.5	-12
	0.1nm,0.3s,baz=303,slow=21,SNR=2.8						
ASAR	**Alice Springs**	**19.77 145**		P	P	23 47 32.2	-0.6
	0.2nm,0.3s,baz=331,slow=13,SNR=12						
MKAR	**Makanchi Array**	**64.50 331**		P	P	23 53 39.6	0.0
	0.1nm,0.5s,baz=137,slow=7.2,SNR=3.1						

IDC 07 23:45:41.5±7.5, 24°.54S×179°.40E, h663km±94km, mb3.0/5, mb1 3.3/5, mb1mx2.9/18, mbtmp3.0/5, Error ellipse: s-maj=100.0km s-min=47.7km az=167.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**30.94 272**		P	P	23 51 08.8	+0.4
	4.5nm,0.4s,baz=90,slow=12,SNR=7.3						
STKA	**Stephens Creek**	**33.98 249**		P	P	23 51 33.0	-0.6
	1.6nm,0.7s,baz=106,slow=14,SNR=3.8						
ASAR	**Alice Springs**	**41.40 261**		P	P	23 52 33.7	+0.2
	0.5nm,0.3s,baz=88,slow=7.1,SNR=10.0						
WRA	**Warramunga Arr**	**41.83 267**		P	P	23 52 37.0	+0.1
	1.7nm,0.4s,baz=103,slow=8.1,SNR=9.0						
TXAR	**Lajitas Array**	**91.23 58**		P	P	23 57 38.8	+0.1
	0.5nm,0.8s,baz=216,slow=6.9,SNR=6.4						
BRTR	**Keskin Array B**	**147.52 306**		PKPbc	PKPbc	00 04 13.0	-0.6
	0.8nm,0.9s,baz=64,slow=2.9,SNR=3.7						

MEX 07 23:54:47.7±0.4, 15°.73N×92°.52W, h191km±6km, MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**0.67**	**34**	*i* P	Pn	23 55 13.1	-1.6
CCIG				*i* S	Sn	23 55 33.4	-2.2
PCIG		**0.67**	**268**	*i* P	Pn	23 55 13.0	-1.4
PCIG				*i* S	Sn	23 55 33.1	-1.9
THIG		**0.85**	**163**	*i* P	Pn	23 55 14.0	-1.5
THIG				*i* S	Sn	23 55 34.4	-2.7
TGIG		**1.19**	**331**	*i* P	Pn	23 55 17.0	-1.1
TGIG				*e*S	Sn	23 55 38.9	-2.8
HUIG	**Huatulco**	**3.45**	**271**	*i* P	Pn	23 55 41.6	-0.8
HUIG				*i* S	Sn	23 56 22.2	-2.9

IDC 07 23:55:09.9±2.5, 0°.48S×133°.27E, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.6/21, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=104.2km s-min=24.5km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.05 203**		P	P	23 59 34.1	+0.2
	0.1nm,0.3s,baz=38,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**19.37 177**		P	P	23 59 37.0	-0.4
	0.1nm,0.3s,baz=356,slow=11,SNR=10.0						
ASAR	**Alice Springs**	**23.06 179**		P	P	00 00 17.2	0.0
	1.9nm,0.8s,baz=2.8,slow=9.6,SNR=16						
MKAR	**Makanchi Array**	**64.75 324**		P	P	00 05 50.3	0.0
	0.2nm,0.6s,baz=115,slow=6.8,SNR=2.9						

IDC 08 00:00:14.1±11.0, 21°.46S×178°.59W, h527km±138km, mb3.3/4, mb1 3.7/5, mb1mx3.1/19, mbtmp3.3/5, Error ellipse: s-maj=79.0km s-min=31.3km az=177.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**17.16 192**		P	P	00 03 45.1	-0.1
	0.8nm,0.3s,baz=11,slow=16,SNR=5.0						
ASAR	**Alice Springs**	**43.77 258**		P	P	00 07 33.2	-0.1
	0.3nm,0.6s,baz=96,slow=8.8,SNR=3.9						
NVAR	**Mina Array Bea**	**82.09 44**		P	P	00 11 39.8	0.0
	0.4nm,0.4s,baz=224,slow=8.3,SNR=3.8						
TXAR	**Lajitas Array**	**88.03 58**		P	P	00 12 09.2	+0.6
	0.7nm,1.1s,baz=204,slow=2.7,SNR=4.5						
PDAR	**Pinedale Array**	**90.03 43**		P	P	00 12 17.2	-0.6
	0.9nm,0.6s,baz=219,slow=3.7,SNR=7.9						
ARCES	**ARCESS Array B**	**129.75 349**		PKP	PKPdf	00 18 22.4	-0.3
	1.7nm,0.8s,baz=19,slow=3.1,SNR=5.1						
GERES	**GERESS Array B**	**150.96 343**		PKPbc	PKPbc	00 19 07.0	-0.3
	0.7nm,0.7s,baz=3.8,slow=2.9,SNR=4.9						

CASC 08 00:02:07.3±1.5, 11°.71N×86°.60W, h92km±10km, MD3.8, 1C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.47**	**1**	*e*P	Pn	00 02 22.4	+0.4
MGAN	**Managua**	**0.56**	**38**	*e*P	Pn	00 02 22.9	+0.2
MGAN				*e*S	Sn	00 02 34.9	+0.7
HUEN		**0.75**	**34**	*e*P	Pn	00 02 24.2	-0.3
CNGN	**Cerro Negro**	**0.79**	**353**	*e*S	Sn	00 02 38.6	+0.5
GBS2	**Las Lilas**	**1.42**	**127**	*i* P	Pn	00 02 32.5	+0.3
GBS2				*i* S	Sn	00 02 51.9	+0.9
BUEV	**Buena Vista**	**1.48**	**128**	*i* P	Pn	00 02 33.7	+0.7
LAPC	**Finca la Perla**	**1.48**	**129**	*i* P	Pn	00 02 33.2	+0.3
LAPC				*i* S	Sn	00 02 52.7	+0.4
NY14	**Universidad de**	**1.49**	**135**	*i* P	Pn	00 02 33.6	+0.7
GPS3	**Bodega del ICE**	**1.54**	**128**	*i* P	Pn	00 02 34.0	+0.2
GPS2	**Hotel Rinc˜‡n**	**1.55**	**128**	*i* P	Pn	00 02 34.2	+0.3
GPS2				*i* S	Sn	00 02 55.7	+1.6
GUAB	**Guayabo de Bag**	**1.67**	**126**	*i* P	Pn	00 02 35.7	+0.3
MESS	**Mesas**	**1.68**	**125**	*i* P	Pn	00 02 35.7	+0.2
HORNC	**Hornillas**	**1.71**	**125**	*i* P	Pn	00 02 36.2	+0.3
HORNC				*i* S	Sn	00 02 58.3	+0.6
VCR	**Vista de Mar**	**1.84**	**149**	*i* P	Pn	00 02 39.0	+1.3
VCR				*e*S	Sn	00 03 01.3	+0.6
PTEN	**Parque Tenorio**	**1.87**	**122**	*i* P	Pn	00 02 38.2	+0.3
AMAS	**Alto Masis**	**1.92**	**124**	*i* P	Pn	00 02 39.5	+0.8
CNCH	**Conchagua**	**1.97**	**322**	*e*P	Pn	00 02 39.2	-0.1
JCR	**Jicaral**	**2.36**	**141**	*e*P	Pn	00 02 45.5	+1.1
JCR				*e*S	Sn	00 03 13.2	+0.5
TGUH	**Tegucigalpa,Un**	**2.42**	**344**	*e*P	Pn	00 02 45.4	+0.2
CGA2	**Cerro Gallo 2**	**2.69**	**129**	*e*P	Pn	00 02 49.5	+0.6
CGA2				*e*S	Sn	00 03 22.1	+1.2
SNVI	**San Vicente**	**2.89**	**311**	*e*S	Sn	00 03 25.9	+0.2
LFRS	**El Faro**	**3.06**	**309**	*e*P	Pn	00 02 54.5	+0.6
LFRS				*e*S	Sn	00 03 30.4	+0.6
BOQS	**Boqueron**	**3.30**	**308**	*e*P	Pn	00 02 58.2	+1.0
URSC	**Urasca**	**3.34**	**124**	*e*P	Pn	00 02 58.4	+0.7
BUS	**Buena Vista**	**3.52**	**127**	*e*P	Pn	00 03 01.5	+1.0
BUS				*e*S	Sn	00 03 42.8	+1.3
RBDL	**Robledal**	**3.84**	**309**	*e*P	Pn	00 03 05.5	+1.0
ACR	**Cerro Adams**	**4.54**	**132**	*e*P	Pn	00 03 14.6	+0.7
ACR				*e*S	Sn	00 04 04.8	-0.8

IDC 08 00:20:36.3±1.8, 30°.04S×177°.45W, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.0/19, mbtmp4.3/4, MS3.1/1, Ms1 3.1/1, ms1mx2.3/23, Error ellipse: s-maj=44.5km s-min=18.0km az=74.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.89 332**		Pn	Pn	00 20 56.9	+0.9
	824nm,0.3s,baz=96,slow=18,SNR=52						
RAO				Sn	Sn	00 21 09.7	+0.1
	2µm,0.3s,baz=77,slow=20,SNR=13						
URZ	**Urewera**	**9.35 207**		Pn	Pn	00 22 46.8	-5.5
	0.2nm,0.3s,baz=107,slow=14,SNR=3.0						
URZ				Sn	Sn	00 24 31.6	-6.7
	1.6nm,0.3s,baz=164,slow=22,SNR=7.2						
RAR	**Rarotonga**	**18.19 65**		LR	LR	00 29 44.1	
	comp=Z,71nm,21.5s,baz=270,slow=30						
STKA	**Stephens Creek**	**35.02 256**		P	P	00 27 31.5	+0.7
	1.8nm,0.4s,baz=117,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**43.61 266**		P	P	00 28 41.9	-0.7
	0.4nm,0.3s,baz=104,slow=7.4,SNR=6.3						
WRA	**Warramunga Arr**	**44.56 271**		P	P	00 28 49.7	-0.6
	1.6nm,0.3s,baz=110,slow=8.1,SNR=24						
QSPA	**South Pole Qui**	**60.07 180**		P	P	00 30 45.4	+0.4
	1.8nm,0.9s,baz=29,slow=6.5,SNR=2.7						
FINES	**FINESS Array B**	**144.97 340**		PKP	PKPab	00 40 12.7	-1.3
	1.7nm,0.5s,baz=50,slow=3.7,SNR=22						

*BJI **08** 00:27:19.8, 6°.01S×152°.37E, h60km, mB4.8/10, mb4.9/21, Ms4.7/7, Ms7 4.3/8*
*ISCJB **08** 00:27:23.0±1.0, 5°.53S±0°.05×151°.99E±0°.06, h48km±9km, mb4.5/39, MS3.9/11, Error ellipse: s-maj=11.6km s-min=6.9km az=26.8*
*IDC **08** 00:27:24.9±3.8, 5°.51S×151°.93E, h50km±33km, mb4.1/16, mb1 4.3/18, mb1mx4.2/22, mbtmp4.1/18, ML3.8/2, MS3.8/9, Ms1 3.7/9, ms1mx3.5/25, Error ellipse: s-maj=25.8km s-min=16.2km az=93.0*
*NEIC **08** 00:27:25.4±1.3, 5°.51S×151°.93E, h56km±12km, mb4.5/14, Error ellipse: s-maj=10.7km s-min=7.5km az=104.0*
*AUST **08** 00:27:25.2, 5°.66S×152°.12E, h35km*
ISC 08 00:27:25.8±0.5, 5°.59S±0°.05×152°.03E±0°.07, h58km±2km, h58km:pP-P, n96, σ1s25/122, mb4.5/38, MS3.9/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.40**	**6**	P	**Pn**	**00 27 46.8**	**-2.3**
	baz=1.5,SNR=69						
RABL				S	**Sn**	**00 28 08.7**	**+2.1**
	baz=1.5,SNR=5.4						
PMG	**Port Moresby**	**6.14 232**		*e*Pn	**Pn**	**00 28 53.7**	**-0.3**
PMG				*e*S	**Sn**	**00 30 02.0**	**-0.8**
PMG	**Port Moresby**	**6.14 232**		P	**Pn**	**00 28 53.7**	**-0.3**
	13nm,0.3s,baz=45,slow=8.3,SNR=20						
PMG				S	**Sn**	**00 30 02.0**	**-0.8**
	9.3nm,0.3s,baz=43,slow=16,SNR=6.5						
HNR	**Honiara**	**8.73 116**		LR	LR	00 32 32.8	
	comp=Z,268nm,19.6s,baz=285,slow=35						
COEN	**Coen**	**12.05 226**		*e*Pn	**Pn**	**00 30 14.3**	**-0.5**
	37nm,1.1s						
MTSU	**Mount Surprise**	**14.57 210**		P	**P**	**00 30 55.5**	**+1.6**
	baz=15,SNR=10						
CTA	**Charters Tower**	**15.47 201**		P	**Pn**	**00 31 01.7**	**+1.2**
CTA	**Charters Tower**	**15.47 201**		P	**Pn**	**00 31 01.7**	**+1.2**
	0.3nm,0.3s,baz=37,slow=15,SNR=4.0						
CTAO	**Charters Tower**	**15.47 201**		*e*Pn	**Pn**	**00 31 00.0**	**-0.5**
EIDS	**Eidsvold**	**19.69 183**		*e*P	**P**	**00 31 50.2**	**-0.2**
	22nm,0.9s						
EIDS	**Eidsvold**	**19.69 183**		P	**P**	**00 31 50.7**	**+0.4**
	baz=20,SNR=5.8						
KDU	**Kakadu**	**20.54 249**		P	**P**	**00 31 59.7**	**0.0**
	baz=21,SNR=8.1						
RMQ	**Roma**	**21.01 188**		P	**P**	**00 32 05.7**	**+1.0**
	baz=21,SNR=7.4						
MTN	**Manton Dam**	**21.83 249**		P	**P**	**00 32 15.0**	**+1.4**
	baz=22,SNR=13						
WRAB	**Tennant Creek**	**22.33 229**		*e*P	**P**	**00 32 18.3**	**-0.7**
	18nm,1.0s						
WRA	**Warramunga Arr**	**22.35 229**		P	**P**	**00 32 18.0**	**-1.1**
WRA	**Warramunga Arr**	**22.35 229**		P	**P**	**00 32 18.0**	**-1.1**
	11nm,0.9s,baz=53,slow=9.8,SNR=22						
KNRA	**Kununurra**	**24.93 244**		P	**P**	**00 32 45.8**	**+1.9**
	baz=25,SNR=24						
AS31	**Alice Springs**	**25.05 222**		*e*P	**P**	**00 32 45.4**	**+0.5**
ASAR	**Alice Springs**	**25.05 222**		P	**P**	**00 32 45.2**	**+0.3**
ASAR	**Alice Springs**	**25.05 222**		P	**P**	**00 32 45.2**	**+0.3**
	20nm,0.9s,baz=55,slow=9.3,SNR=82						
ASAR				LR	LR	00 42 15.8	
	comp=Z,108nm,18.1s,baz=314,slow=36						
SOEI	**Soe**	**27.81 260**		S	S	00 38 14.4	+25
	baz=28,SNR=4.7						
STKA	**Stephens Creek**	**27.92 199**		*e*P	**P**	**00 33 10.0**	**-0.6**
	0.4nm,0.6s						
STKA	**Stephens Creek**	**27.92 199**		P	**P**	**00 33 10.3**	**-0.3**
	4.0nm,0.8s,baz=20,slow=14,SNR=5.1						
STKA				LR	LR	00 45 13.7	
	comp=Z,129nm,18.6s,baz=25,slow=38						
STKA	**Stephens Creek**	**27.92 199**		P	**P**	**00 33 10.6**	**0.0**
	baz=28,SNR=4.9						
FITZ	**Fitzroy Crossi**	**28.61 242**		*e*P	**P**	**00 33 15.6**	**-1.3**
	11nm,0.8s						
FITZ	**Fitzroy Crossi**	**28.61 242**		P	**P**	**00 33 15.5**	**-1.3**
	6.4nm,0.4s,baz=68,slow=9.4,SNR=13						
FITZ	**Fitzroy Crossi**	**28.61 242**		P	**P**	**00 33 16.6**	**-0.3**
	baz=29,SNR=9.4						
RAO	**Raoul Island**	**36.88 133**		LR	LR	00 45 21.5	
	comp=Z,714nm,19.0s,baz=192,slow=29						
MEEK	**Meekatharra**	**38.12 233**		P	**P**	**00 34 39.6**	**+0.1**
	baz=38,SNR=23						
MORW	**Morawa**	**41.25 231**		P	P	00 35 09.0	+3.5
	baz=41,SNR=5.6						
SMRI	**Semarang**	**41.35 266**		S	S	00 41 02.0	-15
	baz=41,SNR=3.3						
MJAR	**Matsushiro Arr**	**43.86 344**		LR	LR	00 52 25.2	
	comp=Z,43nm,18.9s,baz=195,slow=34						
QIZ	**Qiongzhong**	**48.21 302**		P	**P**	**00 35 59.7**	**-1.4**
QIZ				pP	**pP**	**00 36 13.1**	**-3.2**
QIZ				S	**S**	**00 42 56.2**	**-0.4**
QIZ				pmax	pmax		
	comp=Z,20nm,1.8s						
QIZ				LR	LR		
	comp=Z,110nm,16.1s						
KSRS	**Korea Array**	**48.36 334**		P	**P**	**00 36 01.3**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=143,slow=9.0,SNR=3.7						
KSAR	**Wonju Array Be**	**48.37 334**		P	**P**	**00 36 01.3**	**-0.7**
NJ2	**Nanjing**	**48.98 322**		*e*P	**P**	**00 36 05.8**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
RAR	**Rarotonga**	**49.17 113**		LR	LR	00 51 35.8	
	comp=Z,213nm,19.6s,baz=280,slow=29						
WHN	**Wuhan**	**50.90 317**		P	**P**	**00 36 22.1**	**+0.8**
MDJ	**Mudanjiang**	**53.89 340**		P	**P**	**00 36 42.3**	**-0.9**
MDJ				pP	**pP**	**00 36 56.4**	**-2.3**
MDJ				PP	**PP**	**00 38 43.8**	**-1.3**
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,23nm,5.0s						
GYA	**Guiyang**	**54.27 308**		*e*P	**P**	**00 36 47.0**	**+0.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2	**Changchun**	**54.71 337**		*e*P	**P**	**00 36 51.0**	**+1.8**
BJI	**Beijing**	**56.13 327**		P	**P**	**00 36 58.8**	**-0.6**
XAN	**Xi'an**	**56.67 317**		P	**P**	**00 37 02.0**	**-1.5**
XAN				pmax	pmax		
	comp=Z,2.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,8.0nm,4.7s						
KMI	**Kunming**	**56.79 305**		P	**P**	**00 37 05.8**	**+1.0**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**57.52 296**		P	**P**	**00 37 09.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**57.52 296**		P	**P

	comp=Z,11nm,0.8s								
RC01	**Rabbit Creek A**	**80.21**	**25**	*e*P		**P**		**00 39 29.1**	**-0.7**
	comp=Z,20nm,1.3s								
MKAR	**Makanchi Array**	**80.41**	**319**	*e*P		**P**		**00 39 30.0**	**-1.3**
MKAR	**Makanchi Array**	**80.41**	**319**	P	P			**00 39 30.6**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=99,slow=6.9,SNR=19								
MKAR				LR		LR		01 13 11.3	
	comp=Z,34nm,19.8s,baz=70,slow=34								
PMR	**Palmer**	**80.72**	**24**	*e*P		**P**		**00 39 31.5**	**-1.0**
	comp=Z,9.5nm,1.1s								
SML	**Sawmill**	**81.16**	**25**	*e*P		**P**		**00 39 34.5**	**-0.5**
	comp=Z,4.4nm,0.7s								
TRF	**Thorofare Moun**	**81.22**	**23**	*e*P		**P**		**00 39 33.5**	**-1.9**
	comp=Z,4.1nm,0.8s								
ZALV	**Zalesovo Beam**	**81.38**	**327**	P		**P**		**00 39 34.4**	**-1.8**
ZALV	**Zalesovo Beam**	**81.38**	**327**	P	P			**00 39 34.4**	**-1.8**
	comp=Z,2.2nm,0.5s,baz=98,slow=5.3,SNR=10								
MCK	**McKinley**	**81.88**	**23**	*e*P		**P**		**00 39 37.6**	**-1.1**
	comp=Z,12nm,0.9s								
KSH	**Kashi**	**82.86**	**311**	*e*P		**P**		**00 39 45.0**	**+0.5**
KSH				pP		**pP**		**00 40 02.7**	**+1.8**
KSH				sP		**sP**		**00 40 08.5**	**+1.2**
KSH				PP	PP			**00 42 57.7**	**+2.1**
KSH				S		**S**		**00 49 58.0**	**-0.9**
KSH				sS		**sS**		**00 50 26.8**	**+0.2**
KSH				SS		**SS**		**00 55 26.7**	**+3.6**
KSH				pmax	pmax				
	comp=Z,3.0nm,1.0s								
KSH				pmax	pmax				
	comp=Z,110nm,5.3s								
KSH				LR	LR				
	comp=N,81nm,6.3s								
KSH				LR	LR				
	comp=E,120nm,5.5s								
KSH				LR	LR				
	comp=Z,97nm,5.2s								
ILAR	**Eielson Array**	**83.18**	**22**	P		**P**		**00 39 44.1**	**-1.3**
ILAR	**Eielson Array**	**83.18**	**22**	P	P			**00 39 44.1**	**-1.3**
	comp=Z,3.6nm,0.6s,baz=248,slow=5.4,SNR=29								
COLD	**Coldfoot**	**83.25**	**19**	*e*P		**P**		**00 39 45.3**	**-0.4**
	comp=Z,1.2nm,0.7s								
MENT	**Mentasta**	**83.59**	**24**	*e*P		**P**		**00 39 47.3**	**-0.3**
TKM2	**Tokmak 2**	**83.92**	**314**	*e*P		**P**		**00 39 48.8**	**-1.2**
	comp=Z,3.0nm,0.6s								
QSPA	**South Pole Qui**	**84.38**	**180**	*e*P		**P**		**00 39 52.0**	**+0.3**
QSPA				*e*pP		**pP**		**00 40 06.6**	**-1.6**
QSPA	**South Pole Qui**	**84.38**	**180**	P	P			**00 39 51.5**	**-0.2**
	comp=Z,2.0nm,1.1s,baz=26,slow=1.6,SNR=4.6								
AAK	**Ala-Archa**	**84.65**	**314**	*e*P		**P**		**00 39 53.0**	**-0.6**
	comp=Z,2.4nm,0.8s								
EKS2	**Erkin-Say**	**85.17**	**314**	*e*P		**P**		**00 39 55.5**	**-0.7**
	comp=Z,9.4nm,0.9s								
EGAK	**Eagle**	**85.38**	**23**	*e*P		**P**		**00 39 56.7**	**+0.1**
	comp=Z,4.8nm,0.9s								
KKAR	**Karatay Array**	**87.61**	**314**	*e*P		**P**		**00 40 06.8**	**-1.3**
NVAR	**Mina Array Bea**	**93.17**	**52**	P		**P**		**00 40 35.0**	**+0.6**
NVAR	**Mina Array Bea**	**93.17**	**52**	P	P			**00 40 35.0**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=256,slow=7.3,SNR=4.1								
YKA	**Yellowknife Ar**	**96.48**	**28**	P		**P**		**00 40 47.8**	**-0.8**
YKA	**Yellowknife Ar**	**96.48**	**28**	P	P			**00 40 47.8**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=269,slow=4.6,SNR=5.4								
PDAR	**Pinedale Array**	**99.95**	**48**	P		**Pdif**		**00 41 06.4**	**+1.4**
PDAR	**Pinedale Array**	**99.95**	**48**	P	P			**00 41 06.4**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=289,slow=2.8,SNR=3.2								
PDAR				LR		LR		01 25 20.5	
	comp=Z,55nm,18.0s,baz=64,slow=35								
KOLS	**Kolonicke sedl**	**119.50**	**324**	PDIF		**Pdif**		**00 42 33.8**	**+2.3**
STHS	**Stebnicka Huta**	**119.86**	**325**	PDIF		**Pdif**		**00 42 32.5**	**-0.6**
KECS	**Kecovo**	**120.76**	**325**	PDIF		**Pdif**		**00 42 38.3**	**+1.2**
GERES	**GERESS Array B**	**124.31**	**328**	PKP		**PKPdf**		**00 46 19.8**	**+1.3**
GERES	**GERESS Array B**	**124.31**	**328**	PKP	PKP			**00 46 19.8**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=103,slow=1.5,SNR=12								
TORD	**Torodi Ar. Bea**	**149.81**	**287**	PKPbc		**PKPbc**		**00 47 09.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**149.81**	**287**	PKPbc	PKPbc			**00 47 09.9**	**-0.5**
	comp=Z,8.9nm,1.0s,baz=82,slow=3.4,SNR=25								
BDFB	**Brasilia**	**151.04**	**137**	PKPbc		**PKPbc**		**00 47 14.1**	**+0.6**
BDFB	**Brasilia**	**151.04**	**137**	PKPbc	PKPbc			**00 47 14.1**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=160,slow=5.4,SNR=3.8								
DBIC	**Dimbokro**	**156.99**	**274**	PKPab		**PKPab**		**00 47 45.9**	**-0.5**
DBIC	**Dimbokro**	**156.99**	**274**	PKPab	PKPab			**00 47 45.9**	**-0.5**
	comp=Z,4.6nm,0.8s,baz=182,slow=7.6,SNR=4.9								

*THE **08** 00:44:11.5, 43°.85N×21°.43E, h0km±4km, Error ellipse: s-maj=6.6km s-min=1.3km az=209.0*
*CSEM **08** 00:44:11.2±0.2, 43°.92N×21°.50E, h5km, MD2.8, Error ellipse: s-maj=5.6km s-min=4.3km az=37.0*
*BEO **08** 00:44:11.6±0.2, 43°.88N×21°.50E, h9km±2km, ML2.6/1*
*SKO **08** 00:44:12.3, 43°.88N×21°.48E, h9km*
*SOF **08** 00:44:13.7, 43°.72N×21°.68E, h0km, MD2.8*
*TIR **08** 00:44:14.0, 43°.37N×21°.89E, h2km*

ISC 08 00:44:11.3±1.1, 43°.89N±0°.02×21°.45E±0°.02, h3km±9km, n102, σ1°.30/136, 16C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLS	**Boljevac**	**0.37**	**100**	⇑*i*Pg	**Pg**	**00 44 17.7**	**-0.7**
BOLS				*e*Sg	**Sg**	**00 44 23.0**	**-0.1**
BOLS	**Boljevac**	**0.37**	**100**	⇑*i*Pg	**Pg**	**00 44 17.7**	**-0.7**
BOLS				*e*Sg	**Sg**	**00 44 23.0**	**-0.1**
DIVS	**Divibare**	**1.07**	**282**	P	**Pg**	**00 44 31.9**	**0.0**
DIVS				S	**Sg**	**00 44 47.1**	**+1.3**
DIVS	**Divibare**	**1.07**	**282**	*e*Sg	**Sg**	**00 44 46.2**	**+0.4**
DIVS	**Divibare**	**1.07**	**282**	P	**Pg**	**00 44 31.9**	**0.0**
DIVS				*e*Sg	**Sg**	**00 44 46.2**	**+0.4**
DIVS				S	**Sg**	**00 44 47.1**	**+1.3**
DJES	**Djerdap**	**1.09**	**44**	*e*Pg	**Pg**	**00 44 30.0**	**-2.2**
DJES				*e*Sg	**Sg**	**00 44 46.1**	**-0.2**
BARS	**Barje**	**1.11**	**166**	⇑*i*Pg	**Pg**	**00 44 31.6**	**-0.9**
BARS				*e*Sg	**Sg**	**00 44 46.5**	**-0.4**
BARS	**Barje**	**1.11**	**166**	⇑*i*Pg	**Pg**	**00 44 31.6**	**-0.9**
BARS				*e*Sg	**Sg**	**00 44 46.5**	**-0.4**
BEO	**Beograd**	**1.16**	**323**	*e*Pg	**Pg**	**00 44 32.5**	**-1.0**
BEO				*e*Sg	**Sg**	**00 44 50.0**	**+1.5**
RMGR	**Halanga-Turnu**	**1.18**	**49**	⇑*i*P	**Pg**	**00 44 34.5**	**+0.6**
RMGR	**Halanga-Turnu**	**1.18**	**49**	S	**Sn**	**00 44 51.3**	**+0.1**
BBLS	**Lazići**	**1.48**	**270**	*e*Pn	**Pn**	**00 44 38.0**	**-0.9**
BBLS				*e*Sn	**Sn**	**00 44 58.6**	**-0.2**
BBLS	**Lazići**	**1.48**	**270**	*e*Pn	**Pn**	**00 44 38.0**	**-0.9**
BBLS				*e*Sn	**Sn**	**00 44 58.6**	**-0.2**
PEJK	**Peje**	**1.52**	**215**	P	**Pn**	**00 44 39.1**	**-0.3**
PEJK				S	**Sb**	**00 45 01.0**	**+1.3**
BEY	**Berane**	**1.53**	**229**	P	**Pn**	**00 44 39.0**	**-0.6**
ZATK	**Zatriq**	**1.57**	**203**	P	**Pb**	**00 44 41.5**	**+0.5**
FGSL	**Fruska Gora**	**1.73**	**318**	*e*Pn	**Pn**	**00 44 43.7**	**+1.5**
FGSL				*e*Sn	**Sn**	**00 45 06.0**	**+1.2**
FRGS	**Fruska Gora**	**1.73**	**318**	*e*Pn	**Pn**	**00 44 43.7**	**+1.4**
FRGS				*e*Sn	**Sn**	**00 45 06.0**	**+1.2**
BZS	**Buzias**	**1.73**	**4**	⇑*i*P	**Pn**	**00 44 40.6**	**-1.6**
BZS	**Buzias**	**1.73**	**4**	S	**Sb**	**00 45 07.4**	**+1.6**
MPEP	**Malo Peshtene**	**1.75**	**107**	*i*P	**Pn**	**00 44 43.3**	**+0.8**
PRZK	**Prizren**	**1.76**	**197**	P	**Pn**	**00 44 43.7**	**+1.0**
PRZK				S	**Sg**	**00 45 08.9**	**+1.2**
GZR	**Gura Zlata**	**1.77**	**32**	⇑*i*P	**Pn**	**00 44 43.3**	**+0.4**
GZR	**Gura Zlata**	**1.77**	**32**	S	**Sb**	**00 45 08.1**	**+0.9**
VTS	**Vitosha**	**1.83**	**135**	P	**Pn**	**00 44 42.9**	**-0.8**
VTS				S	**Sb**	**00 45 09.0**	**+0.3**
VTS	**Vitosha**	**1.83**	**135**	*i*P	**Pn**	**00 44 43.7**	**0.0**
VTS	**Vitosha**	**1.83**	**135**	⇑*i*P	**Pn**	**00 44 43.0**	**-0.8**
VTS	**Vitosha**	**1.83**	**135**	S	**Sb**	**00 45 08.5**	**-0.2**
VTS	**Vitosha**	**1.83**	**135**	*e*Sg	**Sg**	**00 45 10.4**	**+0.4**
VTS	**Vitosha**	**1.83**	**135**	*i*P	**Pn**	**00 44 43.7**	**0.0**
VTS				S	**Sb**	**00 45 09.0**	**+0.3**
VTS				*e*Sg	**Sg**	**00 45 10.4**	**+0.4**
BCI	**Bajram Curri**	**1.83**	**214**	*e*PN	**Pb**	**00 44 45.9**	**+0.4**
BCI				*i*PN	**Sg**	**00 45 06.7**	**-3.5**
SKO	**Skopje**	**1.92**	**180**	*e*Pg	**Pb**	**00 44 47.6**	**+0.7**
SKO				*e*Sg	**Sg**	**00 45 13.5**	**+0.6**
SKO	**Skopje**	**1.92**	**180**	*e*Pg	**Pb**	**00 44 47.6**	**+0.7**
SKO				*e*Sg	**Sg**	**00 45 13.5**	**+0.6**
UPM	**Unac-Piva**	**1.98**	**250**	P	**Pn**	**00 44 47.7**	**+1.9**
PDG	**Podgorica**	**2.17**	**228**	*e*Pn	**Pn**	**00 44 47.6**	**-0.7**
PDG				*e*Sn	**Sn**	**00 45 13.9**	**-1.8**
PDG	**Podgorica**	**2.17**	**228**	*e*Pn	**Pn**	**00 44 47.6**	**-0.7**
PDG				*e*Sn	**Sn**	**00 45 13.9**	**-1.8**
PUK	**Puka**	**2.17**	**212**	*e*PN	**Pb**	**00 44 51.5**	**+0.1**
PUK				*i*SN	**Sb**	**00 45 21.1**	**+2.4**
PUK	**Puka**	**2.17**	**212**	*e*Pn	**Pb**	**00 44 51.5**	**+0.1**
PUK				*i*Sn	**Sb**	**00 45 21.1**	**+2.4**
DEV	**Deva**	**2.24**	**27**	⇑*i*P	**Pn**	**00 44 50.0**	**+0.7**
DEV	**Deva**	**2.24**	**27**	S	**Sb**	**00 45 21.0**	**+0.4**
LOT	**Lotru**	**2.27**	**46**	⇓*i*P	**Pn**	**00 44 50.4**	**+0.6**
LOT	**Lotru**	**2.27**	**46**	S	**Sb**	**00 45 21.9**	**+0.4**
PHP	**Peshkopia**	**2.33**	**199**	*e*PN	**Pb**	**00 44 53.9**	**0.0**
PHP				*i*SN	**Sn**	**00 45 20.4**	**+0.7**
PHP	**Peshkopia**	**2.33**	**199**	*e*Pn	**Pb**	**00 44 53.9**	**0.0**
PHP				*i*Sn	**Sn**	**00 45 20.4**	**+0.7**
KKB	**Krupnik**	**2.35**	**149**	P	**Pn**	**00 44 51.5**	**+0.7**
KKB	**Krupnik**	**2.35**	**149**	P	**Pn**	**00 44 51.5**	**+0.7**
ULC	**Ulcinj**	**2.52**	**221**	P	**Sg**	**00 45 28.6**	**-3.6**
HUMR	**Humele**	**2.61**	**75**	⇓*i*P	**Pn**	**00 44 55.6**	**+1.2**
VAY	**Valandovo**	**2.70**	**162**	*e*Pn	**Pn**	**00 44 54.4**	**-1.2**
VAY	**Valandovo**	**2.70**	**162**	*e*Pn	**Pn**	**00 44 53.9**	**-1.7**
VAY				*e*Sg	**Sb**	**00 45 35.1**	**+1.4**
VAY	**Valandovo**	**2.70**	**162**	*e*Pn	**Pn**	**00 44 53.9**	**-1.7**
VAY				*e*Sg	**Sb**	**00 45 35.1**	**+1.4**
ARR	**Arges**	**2.71**	**56**	⇓*i*P	**Pn**	**00 44 56.5**	**+0.7**
ZIMR		**2.84**	**93**	S	**Sn**	**00 45 33.1**	**+0.8**
MMB	**Musomiste**	**2.85**	**143**	P	**Pn**	**00 44 57.5**	**-0.2**
MMB	**Musomiste**	**2.85**	**143**	P	**Pn**	**00 44 57.5**	**-0.2**
PVL	**Pavlikeni**	**2.90**	**102**	P	**Pn**	**00 44 58.9**	**+0.6**
PVL	**Pavlikeni**	**2.90**	**102**	P	**Pn**	**00 44 58.9**	**+0.6**
STON	**Ston**	**2.92**	**251**	*e*Pn	**Pn**	**00 44 59.2**	**+0.6**
STON					**Sn**	**00 45 35.2**	**+1.0**
PLD	**Plovdiv**	**2.98**	**126**	*i*P	**Pb**	**00 45 04.3**	**-0.7**
PLD	**Plovdiv**	**2.98**	**126**	*e*Pg	**Pb**	**00 45 04.7**	**-0.3**
PLD	**Plovdiv**	**2.98**	**126**	*i*P	**Pb**	**00 45 04.3**	**-0.7**
PLD	**Plovdiv**	**2.98**	**126**	*e*Pg	**Pb**	**00 45 04.7**	**-0.3**
VOIR		**3.00**	**58**	⇑*i*P	**Pn**	**00 45 01.2**	**+1.5**
VOIR		**3.00**	**58**	S	**Sn**	**00 45 39.1**	**+2.9**
GRG	**Griva**	**3.02**	**166**	P	**Pn**	**00 44 59.4**	**-0.6**
GRG	**Griva**	**3.02**	**166**	P	**Pn**	**00 44 59.4**	**-0.6**
PKS6	**Bocsa**	**3.02**	**334**	*e*Sn	**Sn**	**00 45 34.0**	**-2.6**
DRGR		**3.03**	**17**	⇓*i*P	**Pn**	**00 45 01.0**	**+0.8**
DRGR		**3.03**	**17**	S	**Sn**	**00 45 33.4**	**-3.7**
PKS2	**Kecel**	**3.04**	**329**	⇑*e*Pn	**Pn**	**00 44 59.1**	**-1.2**
PKSM	**Moragy**	**3.06**	**320**	⇑*i*P	**Pn**	**00 44 59.1**	**-1.4**
PKSM	**Moragy**	**3.06**	**320**	⇑*i*Pn	**Pn**	**00 44 59.2**	**-1.3**
PKSM	**Moragy**	**3.06**	**320**	⇓*e*Pn	**Pn**	**00 44 59.2**	**-1.3**
PKSM				*e*Sn	**Sn**	**00 45 36.2**	**-1.4**
PKSM	**Moragy**	**3.06**	**320**	⇑*i*Pn	**Pn**	**00 44 59.2**	**-1.3**
NVR	**Nevrokopi**	**3.10**	**144**	P	**Pn**	**00 45 00.6**	**-0.6**
NVR	**Nevrokopi**	**3.10**	**144**	P	**Pn**	**00 45 00.6**	**-0.6**
FNA	**Florina**	**3.11**	**181**	P	**Pn**	**00 45 01.0**	**-0.3**
FNA	**Florina**	**3.11**	**181**	P	**Pn**	**00 45 01.0**	**-0.3**
BLY	**Banja Luka**	**3.18**	**287**	*e*Pn	**Pn**	**00 45 03.4**	**+1.2**
BLY	**Banja Luka**	**3.18**	**287**	*e*Pn	**Pn**	**00 45 03.4**	**+1.2**
SRS	**Serrai**	**3.19**	**150**	P	**Pn**	**00 45 01.4**	**-1.0**
SRS	**Serrai**	**3.19**	**150**	P	**Pn**	**00 45 01.4**	**-1.0**
RZN	**Rozhen**	**3.26**	**131**	*i*P	**Pn**	**00 45 01.9**	**-1.6**
RZN	**Rozhen**	**3.26**	**131**	*i*P	**Pn**	**00 45 01.9**	**-1.6**
SZH	**Strazhica**	**3.31**	**99**	*i*P	**Pn**	**00 45 04.0**	**-0.1**
SZH	**Strazhica**	**3.31**	**99**	*i*P	**Pn**	**00 45 04.0**	**-0.1**
NEST	**Nestorio**	**3.49**	**185**	P	**Pn**	**00 45 06.5**	**0.0**
NEST	**Nestorio**	**3.49**	**185**	P	**Pn**	**00 45 06.5**	**0.0**
PKS9	**Tamasi**	**3.50**	**321**	⇓*e*Pn	**Pn**	**00 45 05.7**	**-1.0**
DIM	**Dimitrovgrad**	**3.52**	**120**	P	**Pn**	**00 45 09.0**	**+2.2**
DIM	**Dimitrovgrad**	**3.52**	**120**	P	**Pn**	**00 45 09.0**	**+2.2**
PKSG		**4.11**	**330**	⇓*e*Pn	**Pn**	**00 45 13.0**	**-1.9**
PKSG				*e*Sn	**Sn**	**00 46 00.1**	**-3.3**
CSKK	**Cs‡kako**	**4.13**	**328**	⇓*e*Pn	Pn	00 45 12.0	-3.3
CSKK				*e*Sn	**Sn**	**00 46 04.0**	**-0.1**
PKST	**T‡s**	**4.13**	**326**	⇑*e*Pn	**Pn**	**00 45 14.1**	**-1.2**
PKST				*e*Sn	**Sn**	**00 46 03.0**	**-1.2**
PSZ	**Piszkesteto**	**4.17**	**345**	*e*Pn	**Pn**	**00 45 14.1**	**-1.8**
PSZ				*e*Sn	**Sn**	**00 46 01.5**	**-3.7**
ROIA	**ROIAK**	**4.38**	**98**	P	**Pn**	**00 45 19.3**	**+0.5**
KECS	**Kecovo**	**4.64**	**352**	*e*SN	**Sn**	**00 46 14.9**	**-1.7**
NVLJ	**Novalja**	**4.78**	**280**	*e*Pn	**Pn**	**00 45 24.0**	**-0.2**
VYHS	**Vyhne**	**4.95**	**339**	*e*PN	**Pn**	**00 45 26.0**	**-0.5**
VYHS				*e*SN	Sn	00 46 18.0	-6.2
KOLS	**Kolonicke sedl**	**5.07**	**6**	*e*PG	**Pg**	**00 45 51.0**	**+2.5**
KOLS				*e*SN	**Sn**	**00 46 24.1**	**-3.2**
KOLS				*e*SG	**Sg**	**00 46 54.0**	**-0.2**
ARSA	**Arzberg**	**5.35**	**311**	⇓*i*Pn	Pn	00 45 28.5	-3.6
CONA	**Conrad Observa**	**5.61**	**318**	⇑*i*Pn	Pn	00 45 33.1	-2.6

*PRU **08** 00:48:57.2, 12°.73S×177°.93E, h30km*
*VIE **08** 00:49:34.8, 17°.71S×178°.32W, h460km, mb3.3 348 km E of Suva*
*IDC **08** 00:49:38.5±7.2, 17°.89S×178°.34W, h508km±77km, mb3.3/8, mb1 3.6/8, mb1mx3.3/19, mbtmp3.3/8, Error ellipse: s-maj=42.9km s-min=27.7km az=136.0*
*ISCJB **08** 00:49:43.3±1.1, 17°.9S×0°.3×178°.6W×0°.2, h579km, mb3.7/8, Error ellipse: s-maj=44.2km s-min=17.0km az=146.0*

ISC 08 00:49:44.4±1.2, 18°.05S×0°.3×178°.5W±0°.2, h579km, n24, σ0°.98/23, mb3.7/8, 3C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**00 56 18.6**	**0.0**
	3.4nm,1.0s,baz=94,slow=13,SNR=5.3						
WRA	**Warramunga Arr**	**44.57**	**260**	P	**P**	**00 57 05.5**	**-0.6**
	0.4nm,0.3s,baz=98,slow=6.9,SNR=12						
ASAR	**Alice Springs**	**44.72**	**254**	P	**P**	**00 57 07.0**	**-0.3**
	7.9nm,0.7s,baz=89,slow=8.3,SNR=95						
MJAR	**Matsushiro Arr**	**67.93**	**323**	P	**P**	**00 59 46.3**	**-0.1**
	2.6nm,0.7s,baz=162,slow=6.4,SNR=5.4						
PETK	**Petropavlovsk-**	**73.73**	**345**	P	**P**	**01 00 20.0**	**+0.1**
	3.3nm,0.8s,baz=134,slow=8.4,SNR=6.8						
ILAR	**Eielson Array**	**85.96**	**13**	P	**P**	**01 01 22.4**	**-1.1**
	0.4nm,0.4s,baz=219,slow=5.2,SNR=7.6						
TXAR	**Lajitas Array**	**86.07**	**58**	P	**P**	**01 01 25.1**	**+0.1**
	1.0nm,1.0s,baz=212,slow=5.9,SNR=8.4						
PDAR	**Pinedale Array**	**87.44**	**43**	P	**P**	**01 01 31.0**	**-0.3**
	0.4nm,0.6s,baz=213,slow=4.6,SNR=3.7						
ARCES	**ARCESS Array B**	**126.37**	**350**	PKP	**PKPdf**	**01 07 41.6**	**+0.2**
	3.7nm,0.9s,baz=42,slow=5.6,SNR=4.9						
OJC	**Ojcow**	**144.66**	**340**	ePX	**PKPab**	**01 08 20.2**	**+3.4**
BRTR	**Keskin Array B**	**144.79**	**315**	PKP	PKPbc	01 08 16.8	-0.3
	1.4nm,0.8s,baz=149,slow=3.2,SNR=8.6						
NIE	**Niedzica**	**145.16**	**338**	*e*PKP	**PKPab**	**01 08 19.8**	**+1.0**
CLL	**Collm**	**145.52**	**347**	⇓*i*PKP	**PKPbc**	**01 08 18.9**	**+0.4**
	comp=Z,12nm,1.0s						
OKC	**Ostrava-Krasne**	**145.52**	**341**	*e*PKPdf	**PKPbc**	**01 08 18.3**	**-0.3**
UPC	**Upice**	**145.54**	**344**	*e*PKPdf	**PKPab**	**01 08 19.4**	**-0.8**
DPC	**Dobruska-Polom**	**145.60**	**343**	*e*PKPdf	**PKPab**	**01 08 19.6**	**-0.9**
DPC				*ex*	x	01 08 21.6	
PVCC	**Panska Ves**	**145.89**	**345**	*e*PKPdf	**PKPbc**	**01 08 20.2**	**+0.6**
MMAI	**Mount Meron Ar**	**146.14**	**303**	PKPbc	**PKPbc**	**01 08 21.7**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=78,slow=4.6,SNR=3.6						
PRU	**Pruhonice**	**146.40**	**345**	*e*PKPdf	**PKPbc**	**01 08 21.6**	**+0.5**
PRU				*ex*	x	01 08 24.2	
KHC	**Kasperske Hory**	**147.43**	**345**	*e*PKPdf	**PKPbc**	**01 08 24.5**	**+0.6**
KHC				*ex*	x	01 08 27.8	
GERES	**GERESS Array B**	**147.66**	**345**	PKPbc	**PKPbc**	**01 08 25.1**	**+0.5**
	comp=Z,2.8nm,0.6s,baz=21,slow=3.1,SNR=27						
CONA	**Conrad Observa**	**147.91**	**342**	⇑*i*PKPbc	**PKPbc**	**01 08 26.1**	**+0.9**
	comp=Z,2.3nm,0.6s						
WTTA	**Wattenberg**	**149.63**	**346**	⇑*i*PKPbc	**PKPbc**	**01 08 29.9**	**+0.4**
	comp=Z,7.0nm,0.6s						
ABTA	**Abfaltersbach**	**149.91**	**345**	⇑*i*PKPbc	**PKPbc**	**01 08 29.8**	**-0.3**
	comp=Z,5.8nm,0.6s						

*AUST **08** 01:09:48.6, 7°.49S×119°.48E, h300km*
*IDC **08** 01:09:52.3±1.5, 6°.98S×120°.28E, h292km±15km, mb3.4/7, mb1 3.4/10, mb1mx3.2/24, mbtmp3.3/10, Error ellipse: s-maj=53.6km s-min=11.9km az=60.0*

ISC 08 01:09:52.5±0.7, 7°.12S±0°.09×120°.18E±0°.09, h300km, n19, σ2°.01/17, mb3.6/7, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**2.13**	**348**	P	**Pn**	**01 10 38.5**	**-1.9**
	3.7nm,0.3s,baz=176,slow=8.7,SNR=12						
WSI	**Waingapu**	**2.54**	**177**	P	Pn	01 10 37.0	-6.9
	baz=2.3,SNR=3.8						
WSI				S	S	01 11 10.8	-14
	baz=2.3,SNR=5.6						
SOEI	**Soe**	**4.82**	**123**	P	**Pn**	**01 11 08.9**	**+0.8**
	baz=5.2,SNR=127						
SMRI	**Semarang**	**9.67**	**270**	P	Pn	01 11 55.7	-11
	baz=9.0,SNR=95						
SMRI				S	**S**	**01 13 59.6**	**+3.5**
	baz=9.0,SNR=71						
KNRA	**Kununurra**	**11.96**	**136**	P	**Pn**	**01 12 33.9**	**-0.7**
	baz=12,SNR=23						
KNRA				S	**S**	**01 14 45.8**	**-2.0**
	baz=12,SNR=4.0						
FITZ	**Fitzroy Crossi**	**12.15**	**155**	P	**P**	**01 12 37.7**	**-0.3**
	0.3nm,0.3s,baz=54,slow=17,SNR=12						
FITZ				S	**S**	**01 14 47.9**	**-4.1**
	0.2nm,0.3s,baz=345,slow=20,SNR=3.4						
MTN	**Manton Dam**	**12.19**	**119**	P	**P**	**01 12 40.9**	**+2.2**
	baz=13,SNR=29						
MTN				S	**S**	**01 14 55.0**	**+1.9**
	baz=13,SNR=6.6						
FAKI	**Fak Fak**	**12.72**	**71**	P	P	01 12 51.3	+6.7
	baz=14,SNR=3.4						
KDU	**Kakadu**	**13.31**	**116**	P	P	01 12 56.9	+5.8
	baz=14,SNR=14						
WRA	**Warramunga Arr**	**18.74**	**134**	P	**P**	**01 13 51.6**	**+1.4**
	0.3nm,0.3s,baz=304,slow=12,SNR=11						
MEEK	**Meekatharra**	**19.47**	**184**	P	P	01 13 52.2	-5.7
	baz=19,SNR=6.7						
MEEK				S	S	01 17 32.7	+11
	baz=19,SNR=5.8						
PALU	**Palau**	**20.24**	**45**	S	S	01 17 22.5	-13
	baz=21,SNR=4.7						
ASAR	**Alice Springs**	**21.08**	**143**	P	**P**	**01 14 14.9**	**+0.7**
	1.1nm,0.3s,baz=316,slow=8.6,SNR=19						
STKA	**Stephens Creek**	**31.71**	**144**	P	**P**	**01 15 49.9**	**+0.9**
	0.6nm,0.3s,baz=312,slow=12,SNR=3.6						
MJAR	**Matsushiro Arr**	**46.60**	**20**	P	**P**	**01 17 49.4**	**-1.9**
	0.9nm,0.4s,baz=206,slow=7.8,SNR=3.1						
SONM	**Songino Array**	**56.05**	**349**	P	**P**	**01 19 02.4**	**+1.6**
	0.4nm,0.6s,baz=171,slow=9.4,SNR=3.4						
MKAR	**Makanchi Array**	**63.34**	**332**	P	**P**	**01 19 50.4**	**+0.2**
	0.8nm,0.4s,baz=153,slow=7.6,SNR=22						
AAK	**Ala-Archa**	**64.62**	**324**	P	**P**	**01 19 58.3**	**-0.5**
	1.2nm,0.3s,baz=180,slow=7.1,SNR=3.6						
ZALV	**Zalesovo Beam**	**67.72**	**338**	P	**P**	**01 20 17.6**	**-0.2**
	0.5nm,0.3s,baz=170,slow=4.4,SNR=4.2						

*DDA **08** 01:15:50.4, 39°.94N×40°.23E, h7km, MD2.7*
*CSEM **08** 01:15:51.8±0.3, 39°.89N×40°.20E, h10km, MD2.7, Error ellipse: s-maj=7.5km s-min=6.0km az=147.0*

**ISK 08 01:15:50.6, 39°.88N×40°.25E, h5km, MD2.

baz=14,SNR=5.7
WRA **Warramunga Arr 18.63 128** P **P** **02 12 45.9 -0.2**
0.3nm,0.3s,baz=302,slow=12,SNR=20
WRA S S 02 16 04.7 -8.7
0.2nm,0.3s,baz=303,slow=22,SNR=4.2
ASAR **Alice Springs 20.61 137** P Pn 02 13 08.4 -2.2
1.7nm,0.5s,baz=317,slow=11,SNR=22
PSI **Prapat 22.94 300** P **P** **02 13 31.8 -0.4**
3.5nm,0.7s,baz=169,slow=6.9,SNR=3.8
STKA **Stephens Creek 31.16 140** P **P** **02 14 46.7 +1.0**
0.9nm,0.4s,baz=325,slow=10,SNR=4.1
CMAR **Chiang Mai Arr 33.51 324** P **P** **02 15 07.4 +1.0**
0.6nm,0.3s,baz=157,slow=7.1,SNR=3.9
SONM **Songino Array 57.58 350** P **P** **02 18 14.9 -0.8**
1.4nm,0.5s,baz=167,slow=8.4,SNR=11
MKAR **Makanchi Array 64.29 333** P **P** **02 19 00.1 -0.9**
1.3nm,0.8s,baz=148,slow=7.6,SNR=11
ZALV **Zalesovo Beam 68.90 339** P **P** **02 19 27.8 -2.3**
1.0nm,0.4s,baz=138,slow=5.8,SNR=4.0

IDC 08 02:27:10.8±1.1,5°44N×94°04E,h0km,mb4.0/9, mb1 4.1/10,mb1mx3.9/26,mbtmp4.0/10,ML3.5/1, MS3.2/3,Ms1 3.2/3,ms1mx2.7/40,Error ellipse: s-maj=39.5km s-min=17.8km az=48.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.54**	**118**	Pn	Pn	02 28 36.2	+1.5
	1.5nm,0.3s,baz=309,slow=16,SNR=10						
CMAR	**Chiang Mai Arr**	**13.79**	**20**	Pn	P	02 30 34.4	-2.1
	0.7nm,0.3s,baz=214,slow=13,SNR=9.8						
MKAR	**Makanchi Array**	**42.42**	**348**	P	P	02 35 07.8	+0.6
	2.8nm,0.5s,baz=168,slow=8.1,SNR=36						
SONM	**Songino Array**	**43.54**	**12**	P	P	02 35 15.7	-0.8
	0.7nm,0.6s,baz=190,slow=7.5,SNR=5.1						
KSRS	**Korea Array**	**44.38**	**39**	P	P	02 35 22.9	-0.2
	0.5nm,0.4s,baz=232,slow=7.1,SNR=3.0						
KSRS				LR	LR	02 56 14.6	
	comp=Z,23nm,19.4s,baz=184,slow=39						
WRA	**Warramunga Arr**	**46.98**	**124**	P	P	02 35 42.4	-1.6
	0.5nm,0.5s,baz=302,slow=9.3,SNR=6.7						
ASAR	**Alice Springs**	**48.47**	**128**	P	P	02 35 56.8	+1.2
	0.4nm,0.4s,baz=299,slow=8.0,SNR=3.4						
ZALV	**Zalesovo Beam**	**48.94**	**353**	P	P	02 35 58.9	+0.2
	2.1nm,0.3s,baz=194,slow=7.7,SNR=9.9						
BRTR	**Keskin Array B**	**63.94**	**312**	P	P	02 37 46.6	+0.4
	0.5nm,0.7s,baz=119,slow=12,SNR=3.0						
FINES	**FINESS Array B**	**74.80**	**333**	P	P	02 38 52.0	-0.7
	1.0nm,0.5s,baz=87,slow=5.9,SNR=10.0						
FINES				LR	LR	03 15 35.3	
	comp=Z,20nm,19.2s,baz=241,slow=39						
GERES	**GERESS Array B**	**79.56**	**319**	P	P	02 39 19.8	-0.1
	0.2nm,0.3s,baz=82,slow=7.0,SNR=4.2						
NOA	**NORSAR Array B**	**81.78**	**331**	LR	LR	03 18 44.3	
	comp=Z,10nm,19.8s,baz=270,slow=38						

MAN 08 02:28:29.8±1.1,8°99N×126°28E,h43km,mb4.4,ML3.2,MS3.0, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.65**	**268**	*e*P	Pn	02 28 44.0	+2.1
BUTP				*e*S	Sn	02 28 51.6	+0.5
BUKP	**Musuan**	**1.63**	**228**	*e*P	Pn	02 28 56.5	+1.1
BUKP				*e*S	Sn	02 29 01.3	-14
CGP	**Cagayan de Oro**	**1.66**	**251**	↑*i*P	Pn	02 28 56.8	+1.2
CGP				*i* S	Sn	02 29 17.4	+1.7

*IDC **08** 02:30:28.9±1.1,52°57N×168°30W,h0km,mb3.9/12, mb1 4.1/14,mb1mx3.9/30,mbtmp3.9/14,ML3.6/2,MS2.8/1, Ms1 2.8/1,ms1mx2.3/52,Error ellipse: s-maj=31.8km s-min=13.9km az=2.0*
*NEIC **08** 02:30:30.0,52°27N×168°14W,h8km,mb3.9/2, ML3.4(AEIC),After AEIC.*
ISC 08 02:30:30.7±1.3,52°34N±0°07×168°21W±0°05,h16km±5km, n58,σt1§30/64,mb3.8/12,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.75**	**328**	P	**Pg**	**02 30 45.9**	**+0.6**
NIKH				S	**Sb**	**02 30 58.4**	**+3.1**
OKSP	**Okmok Steeple**	**0.92**	**357**	P	**Pg**	**02 30 48.9**	**+0.4**
OKSO	**Okmok South**	**1.02**	**2**	P	**Pg**	**02 30 50.3**	**-0.2**
OKSO				S	**Sn**	**02 31 06.3**	**+1.9**
OKTU	**Okmok Mt. Tuli**	**1.05**	**5**	P	**Pg**	**02 30 51.5**	**+0.4**
OKFG	**Magazine Ridge**	**1.09**	**9**	P	**Pg**	**02 30 51.2**	**-0.6**
OKCE	**Okmok Cone E**	**1.09**	**1**	P	**Pb**	**02 30 51.5**	**+0.3**
MREP	**Makushin Rep't**	**1.72**	**30**	P	**Pn**	**02 31 00.3**	**+0.3**
MSW	**Makushin Switc**	**1.80**	**28**	P	**Pn**	**02 31 01.0**	**0.0**
MSW				S	**Sn**	**02 31 24.4**	**+0.9**
MCIR	**Makushin Cirqu**	**1.80**	**26**	P	**Pn**	**02 31 02.2**	**+1.1**
UNV	**Unalaska Valle**	**1.83**	**34**	P	**Pn**	**02 31 00.8**	**-0.6**
UNV				S	**Sn**	**02 31 24.8**	**+0.6**
MTBL	**Makushin Table**	**1.87**	**29**	P	**Pn**	**02 31 02.4**	**+0.3**
ZRO	**Akutan Zero**	**2.21**	**36**	P	**Pn**	**02 31 07.0**	**+0.3**
LVA	**Lava Point**	**2.24**	**35**	P	**Pn**	**02 31 08.2**	**+1.0**
AKGG	**Akutan Green G**	**2.29**	**35**	P	**Pn**	**02 31 08.7**	**+1.0**
AKUT	**Akutan**	**2.32**	**38**	*e*Pn	**Pn**	**02 31 08.1**	**0.0**
AKUT				*e*Pg	**Pb**	**02 31 13.2**	**+1.1**
AKSA	**Akutan Strait**	**2.35**	**39**	P	**Pn**	**02 31 09.0**	**+0.5**
KOSE	**Korovin Southe**	**3.58**	**272**	P	**Pn**	**02 31 27.4**	**+1.8**
KOFP	**Korovin Flat P**	**3.62**	**271**	P	**Pn**	**02 31 28.3**	**+2.2**
ATKA	**Atka Island**	**3.68**	**270**	P	**Pn**	**02 31 27.8**	**+0.9**
ATKA				S	**Sn**	**02 32 10.5**	**+0.6**
DT1	**Dutton Round H**	**4.48**	**49**	P	**Pn**	**02 31 40.0**	**+2.1**
DTNA	**Dutton South F**	**4.52**	**49**	P	**Pn**	**02 31 39.9**	**+1.5**
SDPT	**Sand Point**	**5.48**	**54**	P	**Pn**	**02 31 52.4**	**+0.9**
CHGN	**Chignik**	**6.97**	**51**	*e*Pn	**Pn**	**02 32 12.6**	**+0.6**
AMKA	**Amchitka**	**7.80**	**268**	P	**Pn**	**02 32 24.1**	**+0.7**
KDAK	**Kodiak Island**	**10.48**	**52**	Pn	**Pn**	**02 32 59.3**	**-0.7**
KDAK	**Kodiak Island**	**10.48**	**52**	Pn	**Pn**	**02 32 59.3**	**-0.7**
	1.3nm,0.3s,baz=248,slow=5.9,SNR=13						
FX1	**Attu Island--F**	**11.34**	**280**	Pn	**Pn**	**02 33 13.1**	**+1.2**
FX1	**Attu Island--F**	**11.34**	**280**	Pn	**Pn**	**02 33 13.1**	**+1.2**
	1.0nm,0.3s,baz=135,slow=19,SNR=6.3						
ILAR	**Eielson Array**	**16.58**	**33**	Pn	**Pn**	**02 34 20.8**	**-1.4**
ILAR	**Eielson Array**	**16.58**	**33**	Pn	**Pn**	**02 34 20.8**	**-1.4**
	0.1nm,0.3s,baz=239,slow=11,SNR=11						
COLD	**Coldfoot**	**17.35**	**24**	*e*Pn	**Pn**	**02 34 32.4**	**+0.6**
	5.5nm,0.9s						
SKAG	**Skagway**	**19.60**	**56**	*e*P	**P**	**02 34 57.5**	**-0.3**
	6.8nm,0.6s						
PETK	**Petropavlovsk-**	**20.56**	**286**	P	**P**	**02 35 07.9**	**-0.4**
PETK	**Petropavlovsk-**	**20.56**	**286**	P	**P**	**02 35 07.9**	**-0.4**
	4.0nm,0.5s,baz=94,slow=13,SNR=11						
PETK				LR	LR	02 41 53.5	
	comp=Z,22nm,18.5s,baz=88,slow=34						
DLBC	**Dease Lake**	**22.29**	**59**	P	**P**	**02 35 30.1**	**+3.0**
DLBC	**Dease Lake**	**22.29**	**59**	P	**P**	**02 35 30.1**	**+3.0**
	1.5nm,0.4s,baz=288,slow=17,SNR=4.1						
INK	**Inuvik**	**22.98**	**33**	P	**P**	**02 35 31.9**	**-2.2**
INK	**Inuvik**	**22.98**	**33**	P	**P**	**02 35 31.9**	**-2.2**
	3.7nm,0.6s,baz=237,slow=14,SNR=4.8						
NVAR	**Mina Array Bea**	**36.95**	**92**	P	**P**	**02 37 41.5**	**+2.4**
NVAR	**Mina Array Bea**	**36.95**	**92**	P	**P**	**02 37 41.5**	**+2.4**
	1.2nm,0.8s,baz=287,slow=9.2,SNR=6.2						
PDAR	**Pinedale Array**	**39.71**	**80**	P	**P**	**02 38 02.6**	**+0.4**
PDAR	**Pinedale Array**	**39.71**	**80**	P	**P**	**02 38 02.6**	**+0.4**
	1.1nm,0.8s,baz=320,slow=4.0,SNR=11						
SONM	**Songino Array**	**51.93**	**301**	P	**P**	**02 39 37.5**	**-1.0**
SONM	**Songino Array**	**51.93**	**301**	P	**P**	**02 39 37.5**	**-1.0**
	0.3nm,0.4s,baz=104,slow=4.7,SNR=3.7						
TXAR	**Lajitas Array**	**52.03**	**90**	P	**P**	**02 39 40.0**	**+0.5**
TXAR	**Lajitas Array**	**52.03**	**90**	P	**P**	**02 39 40.0**	**+0.5**
	1.1nm,0.8s,baz=300,slow=5.9,SNR=16						
ARCES	**ARCESS Array B**	**58.02**	**354**	P	**P**	**02 40 20.8**	**-1.3**
ARCES	**ARCESS Array B**	**58.02**	**354**	P	**P**	**02 40 20.8**	**-1.3**
	1.3nm,0.7s,baz=20,slow=8.1,SNR=2.9						
MKAR	**Makanchi Array**	**64.34**	**314**	P	**P**	**02 41 04.0**	**-1.3**
MKAR	**Makanchi Array**	**64.34**	**314**	P	**P**	**02 41 04.0**	**-1.3**
	0.5nm,0.7s,baz=42,slow=7.4,SNR=5.1						
FINES	**FINESS Array B**	**66.00**	**353**	P	**P**	**02 41 14.3**	**-1.4**
FINES	**FINESS Array B**	**66.00**	**353**	P	**P**	**02 41 14.3**	**-1.4**
	6.1nm,1.0s,baz=28,slow=8.6,SNR=8.8						
NOA	**NORSAR Array B**	**66.97**	**0**	P	**P**	**02 41 21.6**	**-0.4**
NOA	**NORSAR Array B**	**66.97**	**0**	P	**P**	**02 41 21.6**	**-0.4**
	0.5nm,0.7s,baz=355,slow=5.6,SNR=2.7						
BRTR	**Keskin Array B**	**86.36**	**343**	P	**P**	**02 43 12.2**	**+0.2**
BRTR	**Keskin Array B**	**86.36**	**343**	P	**P**	**02 43 12.2**	**+0.2**
	0.7nm,0.5s,baz=25,slow=1.5,SNR=5.6						
ESDC	**Sonseca Array**	**87.34**	**12**	P	**P**	**02 43 16.7**	**0.0**
ESDC	**Sonseca Array**	**87.34**	**12**	P	**P**	**02 43 16.7**	**0.0**
	0.1nm,0.3s,baz=348,slow=4.3,SNR=4.1						

IDC 08 02:36:01.2±2.1,14°28S×177°63W,h0km,mb3.5/3, mb1 3.9/3,mb1mx3.6/18,mbtmp3.5/3,Error ellipse: s-maj=130.5km s-min=28.9km az=150.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.13**	**256**	P	P	02 44 27.6	-0.2
	0.3nm,0.4s,baz=91,slow=7.5,SNR=5.9						
ASAR	**Alice Springs**	**46.59**	**251**	P	P	02 44 31.4	0.0
	4.6nm,0.5s,baz=85,slow=8.4,SNR=78						
ILAR	**Eielson Array**	**82.20**	**13**	P	P	02 48 23.5	-0.3
	0.4nm,0.7s,baz=212,slow=4.9,SNR=3.5						
TXAR	**Lajitas Array**	**83.43**	**58**	P	P	02 48 31.4	+0.2
	0.4nm,0.9s,baz=202,slow=6.3,SNR=3.8						

IDC 08 02:52:51.2±7.6,3°18S×111°57W,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.5/25,mbtmp3.7/4,MS3.3/7,Ms1 3.3/7, ms1mx3.0/37,Error ellipse: s-maj=207.0km s-min=102.0km az=158.0,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**11.86**	**34**	LR	LR	02 59 02.8	
	comp=Z,81nm,20.8s,baz=126,slow=31						
BBTS	**Babate**	**18.40**	**345**	LR	LR	03 02 19.7	
	comp=Z,389nm,21.2s,baz=139,slow=31						
TORD	**Torodi Ar. Bea**	**20.89**	**39**	P	P	02 57 35.3	0.0
	1.5nm,0.9s,baz=230,slow=9.5,SNR=5.6						
TORD				LR	LR	03 04 38.0	
	comp=Z,54nm,18.0s,baz=185,slow=34						
ESDC	**Sonseca Array**	**43.22**		LR	LR	03 18 28.3	
	comp=Z,23nm,18.1s,baz=10,slow=36						
KMBO	**Kilima Mbogo**	**48.82**	**89**	LR	LR	03 20 54.8	
	comp=Z,59nm,18.4s,baz=325,slow=34						
CPUP	**Villa Florida**	**49.50**	**238**	LR	LR	03 19 38.5	
	comp=Z,36nm,20.3s,baz=359,slow=32						
GERES	**GERESS Array B**	**56.28**	**20**	P	P	03 02 33.7	0.0
	0.4nm,0.7s,baz=178,slow=10,SNR=3.7						
MLR	**Muntele Rosu**	**58.81**	**30**	LR	LR	03 29 13.8	
	comp=Z,9.0nm,20.1s,baz=73,slow=37						
BRTR	**Keskin Array B**	**59.51**	**39**	P	P	03 02 56.5	-0.1
	0.6nm,1.1s,baz=252,slow=2.9,SNR=2.8						
FINES	**FINESS Array B**	**70.64**	**18**	P	P	03 04 08.4	0.0
	2.2nm,0.8s,baz=220,slow=13,SNR=4.1						

*IDC **08** 03:02:44.1±1.7,34°01N×25°37E,h0km,mb3.5/2, mb1 3.6/3,mb1mx3.4/25,mbtmp3.5/3,ML3.8/1,Error ellipse: s-maj=60.4km s-min=29.2km az=141.0*
*ISCJB **08** 03:02:45.9±1.1,34°06N±0°07×25°26E±0°08,h17km, mb3.3/2,Error ellipse: s-maj=10.2km s-min=9.1km az=2.4*
*CSEM **08** 03:02:52.0,34°50N×25°31E,h0km,After THE THE **08** 03:02:52.0,34°50N×25°31E,h0km±1km,Error ellipse: s-maj=3.8km s-min=0.8km az=190.0*
ISC 08 03:02:47.0±1.3,34°17N±0°08×25°35E±0°05,h17km,n15, σt0§91/21,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.96**	**332**	P	**Pb**	**03 03 05.2**	**0.0**
SIVA				S	**Sb**	**03 03 15.4**	**-2.2**
SIVA	**Sivas**	**0.96**	**332**	P	**Pb**	**03 03 05.2**	**0.0**
SIVA				S	**Sb**	**03 03 15.4**	**-2.2**
LAST	**Lasithi**	**1.00**	**6**	P	**Pb**	**03 03 05.6**	**-0.3**
LAST	**Lasithi**	**1.00**	**6**	P	**Pb**	**03 03 05.6**	**-0.3**
IDI	**Anoyia**	**1.18**	**341**	P	**Pn**	**03 03 08.9**	**+0.1**
IDI	**Anoyia**	**1.18**	**341**	P	**Pn**	**03 03 08.9**	**+0.1**
ZKR	**Zakros**	**1.19**	**37**	P	**Pg**	**03 03 10.7**	**+0.8**
ZKR				S	**Sg**	**03 03 25.6**	**+0.2**
ZKR	**Zakros**	**1.19**	**37**	P	**Pg**	**03 03 10.7**	**+0.8**
ZKR				S	**Sg**	**03 03 25.6**	**+0.2**
VAM	**Vamos**	**1.56**	**323**	P	**Pb**	**03 03 16.2**	**+0.8**
VAM				S	**Sb**	**03 03 35.0**	**+0.1**
VAM	**Vamos**	**1.56**	**323**	P	**Pb**	**03 03 16.2**	**+0.8**
VAM				S	**Sb**	**03 03 35.0**	**+0.1**
KARP	**Karpathos**	**2.03**	**47**	P	**Pb**	**03 03 23.4**	**0.0**
KARP	**Karpathos**	**2.03**	**47**	P	**Pb**	**03 03 23.4**	**0.0**
GERES	**GERESS Array B**	**17.03**	**233**	P	**Pn**	**03 06 45.5**	**+1.1**
	0.1nm,0.3s,baz=149,slow=10,SNR=4.4						
TORD	**Torodi Ar. Bea**	**29.98**	**231**	P	**P**	**03 08 53.6**	**-1.1**
	0.4nm,0.9s,baz=39,slow=9.4,SNR=3.4						
MKAR	**Makanchi Array**	**44.20**	**56**	P	**P**	**03 10 55.2**	**+0.2**
	0.4nm,0.5s,baz=278,slow=6.5,SNR=7.3						

*CSEM **08** 03:23:57.5,33°87N×25°44E,h4km,MD3.5,After ATH ATH **08** 03:23:57.5,33°87N×25°44E,h4km,MD3.5/7*
*ISCJB **08** 03:23:59.0±0.8,33°86N±0°06×25°52E±0°07,h17km, mb3.3/2,Error ellipse: s-maj=9.8km s-min=7.0km az=142.1*
*IDC **08** 03:23:59.1±1.5,33°92N×25°55E,h0km,mb3.5/2, mb1 3.5/6,mb1mx3.4/28,mbtmp3.4/6,ML3.7/3,Error ellipse: s-maj=36.3km s-min=24.2km az=157.0*
ISC 08 03:24:00.9±1.0,34°01N±0°07×25°46E±0°05,h17km,n20, σt0§82/24,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.14**	**332**	*e*PB	**Pn**	**03 24 21.6**	**-0.5**
SIVA				*e*SB	**Sg**	**03 24 38.5**	**+0.7**
SIVA	**Sivas**	**1.14**	**332**	*e*Pb	**Pn**	**03 24 21.6**	**-0.5**
SIVA				*e*Sb	**Sg**	**03 24 38.5**	**+0.7**
LAST	**Lasithi**	**1.15**	**1**	*e*PB	**Pn**	**03 24 21.0**	**-1.3**
LAST	**Lasithi**	**1.15**	**1**	*e*Pb	**Pn**	**03 24 21.0**	**-1.3**
NPS	**Neapolis**	**1.25**	**6**	*e*PB	**Pn**	**03 24 23.3**	**-0.4**
NPS	**Neapolis**	**1.25**	**6**	*e*Pb	**Pn**	**03 24 23.3**	**-0.4**
ZKR	**Zakros**	**1.27**	**29**	*e*PB	**Pn**	**03 24 23.6**	**-0.3**
ZKR				*e*SB	**Sg**	**03 24 42.8**	**+0.9**
ZKR	**Zakros**	**1.27**	**29**	*e*Pb	**Pn**	**03 24 23.6**	**-0.3**
ZKR				*e*Sb	**Sg**	**03 24 42.8**	**+0.9**
IDI	**Anoyia**	**1.36**	**340**	*e*PB	**Pb**	**03 24 25.5**	**-0.4**
IDI	**Anoyia**	**1.36**	**340**	*e*Pb	**Pb**	**03 24 25.5**	**-0.4**
VAM	**Vamos**	**1.74**	**324**	*e*PG	**Pb**	**03 24 31.7**	**-0.7**
VAM	**Vamos**	**1.74**	**324**	*e*Pg	**Pb**	**03 24 31.7**	**-0.7**
KARP	**Karpathos**	**2.08**	**42**	*e*PN	**Pb**	**03 24 37.3**	**-0.9**
KARP	**Karpathos**	**2.08**	**42**	*e*Pn	**Pb**	**03 24 37.3**	**-0.9**
MMAI	**Mount Meron Ar**	**8.37**	**94**	Pn	**Pn**	**03 26 00.6**	**-0.9**
	1.8nm,0.3s,baz=303,slow=13,SNR=4.8						
BRTR	**Keskin Array B**	**8.69**	**47**	Pn	**Pn**	**03 26 07.2**	**+1.3**
	0.0nm,0.3s,baz=209,slow=9.9,SNR=4.9						
EIL	**Elat**	**9.16**	**116**	Pn	**Pn**	**03 26 11.9**	**-0.4**
	0.5nm,0.3s,baz=183,slow=13,SNR=3.8						
GERES	**GERESS Array B**	**17.21**	**333**	P	**P**	**03 28 03.2**	**+1.2**
	0.1nm,0.3s,baz=145,slow=12,SNR=3.1						
TORD	**Torodi Ar. Bea**	**29.98**		P	**P**	**03 30 09.2**	**+0.7**
	0.1nm,0.3s,baz=36,slow=8.5,SNR=6.9						
MKAR	**Makanchi Array**	**44.21**	**56**	P	**P**	**03 32 08.9**	**-0.1**
	0.9nm,0.7s,baz=264,slow=6.1,SNR=6.8						

KRSC 08 03:26:10.7±2.6,48°39N×157°85E,h5km±5km,ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAK	**Asacha**	**4.00**	**0**	P	Pn	03 27 14.5	+1.8
RUS	**Russkaya**	**4.07**	**6**	P	Pn	03 27 15.3	+1.8
RUS				*i* S	Sn	03 28 02.4	+0.9
MTVR	**Mutnovka**	**4.10**	**3**	P	Pn	03 27 15.9	+1.7
MTVR				*i* S	Sn	03 28 03.4	+0.7
GRL	**Gorelyy**	**4.17**	**2**	P	Pn	03 27 16.9	+1.8
UGLR	**Uglovaya**	**4.87**	**7**	P	Pn	03 27 27.1	+2.5
AVH	**Avacha**	**4.91**	**6**	P	Pn	03 27 27.4	+2.1
SMAR	**Somma**	**4.92**	**7**	P	Pn	03 27 28.0	+2.5
KOK	**Koryaka**	**4.93**	**5**	P	Pn	03 27 28.4	+2.8
KRER	**Koryakskii**	**4.95**	**6**	P	Pn	03 27 27.9	+1.9
GNL	**Ganaly**	**5.31**	**1**	P	Pn	03 27 33.0	+2.2
MKZ	**Mys Kozlova**	**6.63**	**20**	P	Pn	03 27 51.5	+2.8

*BJI **08** 03:42:43.0,13°90N×84°60W,h21km,Ms5.0/1,Ms7 4.7/1*
*IDC **08** 03:42:43.1±0.6,13°98N×84°61W,h26km±3km,mb3.9/14, mb1 4.1/16,mb1mx4.0/24,mbtmp3.9/16,ML3.3/2,MS3.9/22, Ms1 4.0/22,ms1mx3.8/30,Error ellipse: s-maj=28.3km s-min=10.4km az=58.0*

*NEIC **08** 03:42:43.3±0.3,13°91N×84°56W,mb4.6/20,Error ellipse: s-maj=9.5km s-min=5.3km az=60.0*
NEIC Felt at Managua, Matiguas, Puerto Cabezas, Siuna and Waslala. Also felt at Valle de Angeles, Honduras.
*CASC **08** 03:42:46.4±2.9,13°94N×84°54W,h0km±15km,MD4.7, ML4.4*
*GCMT **08** 03:42:47.3±0.3,14°13N×84°43W,h31km±1km,MW4.9, Moment Tensor Solution. s21,c25; s58,c79; Moment tensor: Scale 10¹⁶Nm; Mrr-1.38±.23; Mθθ-1.61±.16; Mφφ3.00±.20; Mrθ-0.19±.19; Mθφ2.08±.13; Mφr0.62±.23; Best double couple: M₀3.20000×10¹⁶ NP1:θ₁65.00000°, δ72.00000°,λ-10.00000°. NP2:θ₂158.00000°,δ80.00000°, λ-162.00000°. Principal axes: T 3.8500, Plg6.0000°, Azm291.0000°; N -1.2900, Plg70.0000°, Azm185.0000°; P -2.5500, Plg19.0000°, Azm23.0000°; Data Used: IU II CN G IC.*
ISC 08 03:42:43.0±0.4,13°96N±0°04×84°52W±0°04,h24km±3km, n217,σt1§36/223,mb4.4/33,MS4.0/21,53C-48D,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGN	**Cerro Negro**	**2.57**	**236**	*e*P	**Pb**	**03 43 28.9**	**+0.5**
CNGN				*e*S	**Sb**	**03 44 00.2**	**+0.6**
TGUH	**Tegucigalpa,Un**	**2.67**	**272**	*e*P	**Pb**	**03 43 30.3**	**+0.2**
TGUH				*e*S	**Sb**	**03 44 04.6**	**+2.0**
TGUH	**Tegucigalpa,Un**	**2.67**	**272**	*e*Pn	**Pn**	**03 43 24.2**	**-0.3**
TGUH				*e*S	**Sb**	**03 44 01.4**	**-1.1**
COPN	**Copaltepe**	**2.68**	**229**	*e*P	**Pb**	**03 43 28.7**	**-1.6**
GBS2	**Las Lilas**	**3.23**	**196**	*i* P	**Pb**	**03 43 36.9**	**-2.9**
GBS2				*i* S	**Sb**	**03 44 18.3**	**-0.4**
GB1A	**Borinquen Arri**	**3.23**	**195**	*i* P	**Pb**	**03 43 37.8**	**-2.0**
GB1A				*i* S	**Sb**	**03 44 19.4**	**+0.6**
BUEV	**Buena Vista**	**3.25**	**195**	*i* P	**Pb**	**03 43 38.6**	**-1.6**
BUEV				*i* S	**Sb**	**03 44 20.4**	**+1.0**
GPS3	**Bodega del ICE**	**3.29**	**195**	*i* P	**Pb**	**03 43 37.8**	**-2.9**
HORNC	**Hornillas**	**3.29**	**191**	*i* P	**Pb**	**03 43 38.4**	**-2.3**
CNCH	**Conchagua**	**3.29**	**259**	*e*P	**Pb**	**03 43 39.2**	**-1.6**
GUAB	**Guayabo de Bag**	**3.30**	**192**	*i* S	**Sb**	**03 44 21.0**	**+0.2**
COLC	**Colonia**	**3.34**	**192**	*i* P	**Pb**	**03 43 39.4**	**-2.2**
CUI	**Cuipilapa**	**3.34**	**191**	*i* P	**Pb**	**03 43 39.3**	**-2.2**
AMAS	**Alto Masis**	**3.36**	**188**	*i* P	**Pb**	**03 43 39.5**	**-2.4**
NY14	**Universidad de**	**3.43**	**197**	*i* P	**Pn**	**03 43 35.3**	**+0.3**
CAHU	**Cacacuatique**	**3.59**	**267**	*e*P	**Pb**	**03 43 44.6**	**-1.3**
CAHU				*e*S	**Sb**	**03 44 29.9**	**+0.8**
JTS	**JuntasAbangare**	**3.67**	**187**	Pn	**Pn**	**03 43 36.8**	**-1.5**
JTS				*e*S	**Sb**	**03 44 29.4**	**-1.8**
CGA2	**Cerro Gallo 2**	**3.92**	**179**	*e*P	Pb	03 43 47.4	-4.1
VCR	**Vista de Mar**	**3.96**	**196**	*e*P	Pb	03 43 48.4	-3.8
SJS	**Escuela Geolog**	**4.02**	**173**	*e*P	Pb	03 43 49.3	-3.9
JCR	**Jicaral**	**4.12**	**188**	*e*P	Pb	03 43 50.9	-4.0
JCR				*e*S	**Sb**	**03 44 44.6**	**+0.3**
URSC	**Urasca**	**4.16**	**170**	*e*P	Pb	03 43 52.0	-3.7
BUS	**Buena Vista**	**4.44**	**170**	*e*P	Pb	03 43 56.1	-4.5
BUS				*e*S	**Sb**	**03 44 58.3**	**+4.5**
QCR	**Quepos**	**4.52**	**176**	*e*P	Pb	03 43 57.6	-4.0
SNET	**Serv Nac Est T**	**4.58**	**267**	AML	AML	03 45 12.7	
	comp=Z,1μm,0.6s						
BOQS	**Boqueron**	**4.63**	**268**	*e*P	Pb	03 43 59.4	-4.3
ACR	**Cerro Adams**	**5.43**	**166**	*e*P	Pn	03 44 09.3	+6.7
BCIP	**Isla Barro Col**	**6.61**	**136**	*e*Pn	**Pn**	**03 44 17.1**	**-1.6**
BCIP				*e*S	**Sn**	**03 45 30.6**	**-2.8**
TEIG	**Tepich**	**7.19**	**331**	*e*Pn	**Pn**	**03 44 25.7**	**-1.0**
TEIG				*e*S	**Sn**	**03 45 53.2**	**+5.5**
TEIG	**Tepich**	**7.19**	**331**	Pn	**Pn**	**03 44 26.2**	**-0.5**
	comp=Z,3.3nm,0.3s,baz=143,slow=5.2,SNR=20						
TEIG				Sn	**Sn**	**03 45 42.7**	**-5.0**
	comp=Z,5.5nm,0.3s,baz=59,slow=19,SNR=3.1						
TEIG				LR	LR	03 47 11.4	
	comp=Z,1μm,19.3s,baz=45,slow=38						
GTBY	**Guantanamo Bay**	**10.78**	**55**	*e*Pn	**Pn**	**03 45 15.7**	**-0.3**
ROSC	**El Rosal**	**13.52**	**131**	*e*Pn	**Pn**	**03 45 53.4**	**-0.3**
ROSC	**El Rosal**	**13.52**	**131**	Pn	**Pn**	**03 45 56.1**	**+2.4**
	comp=Z,0.7nm,0.3s,baz=280,slow=19,SNR=4.5						
ROS

Z32A	**Haskell** baz=24,SNR=8.3	**23.59**	327	⇑P		**P**	03 47 52.2 +0.2
131A	**Roby** baz=24,SNR=6.0	**23.60**	325	⇑P		**P**	03 47 51.8 -0.4
428A	**Kincaid Ranch,** baz=24	**23.62**	318	⇑P		**P**	03 47 51.5 -0.9
329A	**Wagon Wheel Ra** baz=24	**23.68**	320	⇑P		**P**	03 47 52.4 -0.6
527A	**Woodward Ranch** baz=24,SNR=16	**23.87**	316	⇓P		**P**	03 47 55.5 +0.6
626A	**Big Bend Ranch** baz=24,SNR=9.7	**23.87**	314	⇑P		**P**	03 47 55.5 +0.6
229A	**Bryant Ranch,** baz=24	**23.91**	321	⇓P		**P**	03 47 54.9 -0.3
Z31A	**Sharp Cattle R** baz=24,SNR=11	**23.95**	326	⇑P		**P**	03 47 55.4 -0.1
SIUC	**Southern Illin** comp=Z,13nm,1.0s	**24.03**	351	*e*P		**P**	03 47 56.8 +0.6
TUL1	**Tulsa** baz=24	**24.09**	337	⇑P		**P**	03 47 57.3 +0.6
Y32A	**R-V Farms, Ver** baz=24	**24.11**	328	⇑P		**P**	03 47 57.9 +0.9
328A	**Wristen Ranch,** baz=24,SNR=15	**24.13**	319	⇓P		**P**	03 47 57.2 0.0
526A	**Mary Lane Ranc** baz=24,SNR=13	**24.14**	315	⇑P		**P**	03 47 57.9 +0.4
427A	**Hayter Ranch,** baz=24	**24.17**	317	⇑P		**P**	03 47 57.5 -0.1
WMOK	**Wichita Mounta** comp=Z,22nm,1.1s	**24.38**	331	*e*P		**P**	03 47 58.7 -0.7
129A	**Stewart Farms,** baz=24	**24.41**	323	⇑P		**P**	03 47 59.0 -0.9
Z30A	**Sanderson Ranc** baz=24,SNR=10	**24.47**	325	⇑P		**P**	03 48 00.3 +0.1
426A	**McDonald Obser** baz=24,SNR=14	**24.48**	316	⇓P		**P**	03 48 00.4 -0.2
228A	**UT Block 9, Go** baz=25	**24.49**	321	⇑P		**P**	03 48 00.5 0.0
Y31A	**Rekieta Farm,** baz=25,SNR=11	**24.50**	327	⇓P		**P**	03 48 01.4 +0.8
326A	**Caldwell Ranch** baz=25,SNR=9.8	**24.85**	317	⇓P		**P**	03 48 03.8 0.0
227A	**Bennet, Jal** baz=25	**24.86**	319	⇑P		**P**	03 48 04.2 +0.3
X31A	**McDonald Ranch** baz=25	**24.88**	329	⇑P		**P**	03 48 04.5 +0.6
OLIL	**Olney**	**24.88**	353	*e*P		**P**	03 48 05.6 +1.7
BLO	**Bloomington**	**25.18**	356	*e*P		**P**	03 48 08.6 +2.1
Z28A	**Tucker Farm, M** baz=25	**25.19**	323	⇑P		**P**	03 48 07.3 +0.4
Y29A	**Porterfield Fa** baz=25,SNR=6.8	**25.19**	325	⇓P		**P**	03 48 07.1 +0.2
425A	**Indio Mountain** baz=25,SNR=5.2	**25.20**	315	⇑P		**P**	03 48 07.1 +0.1
X30A	**Coker Ranch, T** baz=25,SNR=7.3	**25.20**	327	⇓P		**P**	03 48 07.6 +0.7
127A	**Arkansas Junct** baz=25	**25.35**	321	⇑P		**P**	03 48 08.6 +0.2
226B	**Tecolote Peak,** baz=26	**25.46**	318	⇑P		**P**	03 48 09.5 +0.2
325A	**Bean Ranch, Si** baz=26,SNR=19	**25.54**	316	⇓P		**P**	03 48 10.0 -0.2
Z27A	**Tatum** baz=26	**25.70**	322	⇓P		**P**	03 48 11.8 +0.2
V31A	**Spring Creek L** baz=26	**25.72**	330	⇑P		**P**	03 48 12.1 +0.5
225A	**Deer Hill, Car** baz=26	**25.91**	318	⇓P		**P**	03 48 13.7 +0.2
324A	**Moseley Ranch,** baz=26,SNR=20	**25.93**	316	⇓P		**P**	03 48 13.4 -0.3
AMTX	**Amarillo** comp=Z,28nm,1.0s	**25.96**	326	*e*P		**P**	03 48 14.3 +0.4
MNTX	**Cornudas Mount** comp=Z,19nm,1.0s	**26.02**	316	*e*P		**P**	03 48 14.3 -0.1
Y27A	**Causey** baz=26	**26.07**	323	⇓P		**P**	03 48 15.0 +0.1
Z26A	**Caprock** baz=26	**26.14**	321	⇑P		**P**	03 48 14.9 -0.5
125A	**Gardner Draw,** baz=26	**26.15**	319	⇓P		**P**	03 48 15.4 -0.2
SDMD	**Soldier's Deli** comp=Z,32nm,1.4s	**26.24**	14	*e*P		**P**	03 48 18.2 +2.0
224A	**Cornudas Mount** baz=26,SNR=9.3	**26.35**	317	⇓P		**P**	03 48 17.2 -0.3
SFIN	**Scholer Farm** baz=27	**26.42**	356	⇑P		**P**	03 48 18.2 +0.4
Z25A	**Roswell** baz=27	**26.60**	320	⇑P		**P**	03 48 19.6 -0.1
124A	**Stringfield Ra** baz=27,SNR=9.2	**26.69**	318	⇑P		**P**	03 48 20.9 +0.3
X26A	**CR and CF Fran** baz=27,SNR=5.6	**26.92**	323	⇓P		**P**	03 48 23.4 +0.8
Y24A	**Capitan** baz=28	**27.48**	320	⇑P		**P**	03 48 29.1 +1.4
W25A	**X Bar L Ranch,** baz=28	**27.77**	323	⇑P		**P**	03 48 30.6 +0.5
Y23A	**Lovelace Mesa,** baz=28	**27.87**	319	⇓P		**P**	03 48 32.6 +1.4
320A	**Kipp Ranch, An** baz=28	**28.00**	312	⇓P		**P**	03 48 33.9 +1.6
Z22A	**Elephant Butte** baz=28	**28.03**	317	⇑P		**P**	03 48 33.4 +0.8
121A	**Cookes Peak, D** baz=28	**28.15**	315	⇑P		**P**	03 48 34.6 +0.9
220A	**Playas Peak, P** baz=28	**28.31**	313	⇓P		**P**	03 48 36.1 +1.0
Y22A	**Socorro** baz=28	**28.45**	318	⇓P		**P**	03 48 37.1 +0.7
Q30A	**Quinter** baz=29	**28.52**	334	⇓P		**P**	03 48 38.5 +1.7
P31A	**Stockton** baz=29	**28.63**	336	⇓P		**P**	03 48 39.0 +1.3
120A	**U Bar Ranch, L** baz=29	**28.75**	314	⇓P		**P**	03 48 39.8 +0.9
Y21A	**Point of Rocks** baz=29	**28.96**	318	⇓P		**P**	03 48 42.2 +1.2
Y20A	**Horse Springs,** baz=29	**29.36**	317	⇓P		**P**	03 48 45.8 +1.3
TUC	**Tucson** comp=Z,2.7nm,1.1s	**30.15**	312	*e*P		**P**	03 48 52.6 +1.3
OGNE	**Ogallala** baz=31	**30.93**	334	⇑P		**P**	03 48 59.7 +1.6
SADO	**Sadowa** comp=Z,176nm,18.4s,baz=186,slow=37	**31.05**	7	LR	LR		04 01 55.9
SAML	**Samuel** comp=Z,12nm,0.9s	**31.09**	136	*e*P		**P**	03 49 00.8 +1.1
214A	**Organ Pipe Nat** baz=32	**31.47**	309	⇓P		**P**	03 49 03.9 +1.0
LONY	**Lake Ozonia** comp=Z,23nm,1.1s	**31.71**	14	*e*P		**P**	03 49 05.8 +1.0
LONY				*e*pP		**pP**	03 49 10.9 -1.3
X16A	**Lo Mia Camp, P** baz=32	**31.73**	315	⇑P		**P**	03 49 06.1 +0.7
WUAZ	**Wupatki** comp=Z,12nm,1.1s	**32.30**	316	*e*P		**P**	03 49 12.0 +1.6
WUAZ	**Wupatki** baz=32	**32.30**	316	⇑P		**P**	03 49 11.4 +1.0
113A	**Mohawk Valley,** baz=33	**32.56**	310	⇑P		**P**	03 49 12.4 -0.1
U15A	**North Rim** baz=34	**33.44**	317	⇑P		**P**	03 49 20.7 +0.3
L23A	**Garrett** baz=34	**33.52**	331	⇑P		**P**	03 49 22.1 +1.1
PDMCI	**Parker Dam,Lak** baz=34	**33.58**	312	⇓P		**P**	03 49 22.1 +0.8
LPAZ	**La Paz** comp=Z,0.7nm,0.8s	**34.14**	151	*e*P		**P**	03 49 27.5 +0.5
LPAZ				*e*pP		**pP**	03 49 35.5 +1.2
LPAZ				pP		**pP**	03 49 35.7 +1.4
LPAZ	**La Paz** comp=Z,0.6nm,0.5s,baz=332,slow=7.9,SNR=3.6	**34.14**	151	P		**P**	03 49 27.5 +0.5
LPAZ	comp=Z,5.6nm,0.7s,baz=337,slow=7.8,SNR=16			pP		**pP**	03 49 35.7 +1.4
LPAZ	comp=Z,249nm,20.4s,baz=284,slow=37			LR		LR	04 03 41.5
L21A	**Rawlins** baz=34	**34.22**	329	⇑P		**P**	03 49 28.8 +1.8
BELC	**Belle Mtn. Jos** baz=35	**34.79**	311	⇓P		**P**	03 49 32.8 +0.8
J22A	**Midwest** baz=35	**34.89**	332	⇓P		**P**	03 49 34.6 +1.9
GMRC	**Granite Mounta** baz=35	**34.91**	312	⇓P		**P**	03 49 34.1 +1.1
H24A	**Dirks Ranch, A** baz=35	**35.10**	335	⇑P		**P**	03 49 36.3 +1.7
AGMN	**Agassiz Nation** comp=Z,4.6nm,0.7s	**35.51**	347	*e*P		**P**	03 49 36.7 -1.2
PDAR	**Pinedale Array**	**35.91**	328	P		**P**	03 49 41.8 +0.1
PDAR				pP		**pP**	03 49 50.5 +1.6
PDAR	**Pinedale Array** comp=Z,0.3nm,0.6s,baz=135,slow=10,SNR=3.5	**35.91**	328	P		**P**	03 49 41.8 +0.1
PDAR	comp=Z,0.7nm,0.7s,baz=123,slow=9.6,SNR=4.8			pP		**pP**	03 49 50.5 +1.6
MDND	**Maddock** baz=36	**36.05**	343	⇓P		**P**	03 49 42.3 -0.2
MPMC	**Manual Prospec** baz=37	**36.83**	313	⇓P		**P**	03 49 49.4 -0.2
ULM	**Lac du Bonnet**	**37.36**	348	P		**P**	03 49 52.1 -1.5
ULM	**Lac du Bonnet** comp=Z,1.4nm,0.4s,baz=174,slow=12,SNR=2.6	**37.36**	348	P		**P**	03 49 52.1 -1.5
SIV	**San Ignacio**	**37.72**	141	P		**P**	03 49 56.6 -0.4
SIV				pP		**pP**	03 50 04.7 +0.3
SIV	**San Ignacio** comp=Z,0.7nm,0.4s,baz=305,slow=7.4,SNR=5.2	**37.72**	141	P		**P**	03 49 56.6 -0.4
SIV	comp=Z,4.6nm,0.6s,baz=328,slow=7.2,SNR=15			pP		**pP**	03 50 04.7 +0.3
E20A	**Meyer Farm, Mu** baz=38	**38.02**	333	⇑P		**P**	03 50 00.1 +0.7
NVAR	**Mina Array Bea**	**38.55**	316	P		**P**	03 50 05.6 +1.6
NVAR	**Mina Array Bea** comp=Z,1.2nm,0.9s,baz=119,slow=9.0,SNR=6.1	**38.55**	316	P		**P**	03 50 05.6 +1.6
NVAR	comp=Z,281nm,20.2s,baz=32,slow=40			LR		LR	04 08 09.8
C20A	**Veseth Ranch,** baz=39	**38.91**	335	⇓P		**P**	03 50 08.2 +1.4
MCMT	**McKenzie Canyo**	**39.06**	328	*e*P		**P**	03 50 09.4 +1.1
B20A	**Solberg Farm,** baz=40	**39.49**	335	⇓P		**P**	03 50 12.5 +0.8
I12A	**Atlanta** baz=40	**39.62**	325	⇑P		**P**	03 50 13.2 +0.3
D17A	**Six Diamond Ra** baz=40	**39.66**	332	⇓P		**P**	03 50 13.7 +0.5
H12A	**Diamond D Ranc** baz=40	**39.94**	326	⇑P		**P**	03 50 15.6 0.0
G12A	**Big Creek, Yel** baz=41	**40.57**	326	⇑P		**P**	03 50 20.9 +0.1
C15A	**Salmond Ranch,** baz=41	**41.00**	331	⇓P		**P**	03 50 24.9 +0.6
A15A	**Johnson Ranch,** baz=42	**41.93**	332	⇓P		**P**	03 50 33.1 +1.3
A14A	**Double T Ranch** baz=42	**42.24**	332	⇓P		**P**	03 50 35.9 +1.5
SCHQ	**Schefferville**	**43.06**	15	P		**P**	03 50 40.0 -0.8
SCHQ	**Schefferville** comp=Z,8.4nm,1.0s,baz=211,slow=9.0,SNR=5.7	**43.06**	15	P		**P**	03 50 40.0 -0.8
SCHQ	comp=Z,126nm,18.2s,baz=20,slow=38			LR		LR	04 10 18.9
BDFB	**Brasilia**	**46.56**	128	P		**P**	03 51 12.4 +3.1
BDFB	**Brasilia** comp=Z,3.4nm,0.9s,baz=270,slow=20,SNR=1.6	**46.56**	128	P		**P**	03 51 12.4 +3.1
BDFB	comp=Z,289nm,18.3s,baz=184,slow=38			LR		LR	04 11 56.6
CPUP	**Villa Florida** comp=Z,139nm,18.0s,baz=122,slow=40	**47.99**	146	LR		LR	04 14 22.6
RCBR	**Riachuelo**	**52.10**	109	P		**P**	03 51 52.7 +1.0
RCBR				pP		**pP**	03 52 01.7 +2.5
RCBR	**Riachuelo** comp=Z,15nm,1.1s,baz=315,slow=13,SNR=3.3	**52.10**	109	P		**P**	03 51 52.7 +1.0
RCBR	comp=Z,34nm,1.0s,baz=310,slow=7.1,SNR=8.3			pP		**pP**	03 52 01.7 +2.5
YKA	**Yellowknife Ar**	**52.97**	343	P		**P**	03 51 56.8 -0.4
YKA				pP		**pP**	03 52 03.3 -1.5
YKA	**Yellowknife Ar** comp=Z,2.1nm,0.9s,baz=135,slow=7.6,SNR=8.9	**52.97**	343	P		**P**	03 51 56.8 -0.4
YKA	comp=Z,2.7nm,0.8s,baz=137,slow=7.8,SNR=11			pP		**pP**	03 52 03.3 -1.5
PLCA	**Paso Flores** comp=Z,12nm,1.4s	**55.93**	167	*e*P		**P**	03 52 18.6 -0.6
PLCA				pP		**pP**	03 52 27.5 +0.7
PLCA	**Paso Flores** comp=Z,2.3nm,0.8s,baz=329,slow=7.8,SNR=3.2	**55.93**	167	P		**P**	03 52 18.3 -0.9
PLCA	comp=Z,4.0nm,0.8s,baz=340,slow=8.3,SNR=4.6			pP		**pP**	03 52 27.5 +0.7
SUMG	**Summit** comp=Z,16nm,1.2s	**64.44**	14	*e*P		**P**	03 53 16.8 -0.7
SUMG				*e*pP		**pP**	03 53 23.9 -1.2
SUMG	**Summit** comp=Z,7.1nm,1.0s	**64.44**	14	*i* P		**P**	03 53 16.2 -1.3
ILAR	**Eielson Array**	**65.82**	335	P		**P**	03 53 26.2 +0.1
ILAR				pP		**pP**	03 53 32.6 -1.2
ILAR				PcP		**PcP**	03 53 54.9 -2.2
ILAR	**Eielson Array** comp=Z,0.8nm,1.0s,baz=113,slow=4.9,SNR=9.3	**65.82**	335	P		**P**	03 53 26.2 +0.1
ILAR	comp=Z,2.1nm,0.8s,baz=115,slow=3.1,SNR=19			pP		**pP**	03 53 32.6 -1.2
ILAR	comp=Z,4.8nm,0.9s,baz=106,slow=3.6,SNR=11			PcP		**PcP**	03 53 54.9 -2.2
ILAR	comp=Z,106nm,18.2s,baz=126,slow=41			LR		LR	04 27 48.2
PPT	**Papeete** comp=Z,150nm,18.8s,baz=160,slow=29	**71.42**	246	LR		LR	04 17 20.2
PPT2	**Papeete2** comp=Z,129nm,24.5s	**71.42**	246	*e*LR		LR	04 15 52.9
TBI	**Tubuai** comp=Z,353nm,23.0s	**73.53**	240	*e*LR		LR	04 16 49.7
ESDC	**Sonseca Array**	**74.02**	52	P		**P**	03 54 16.8 -0.3
ESDC	**Sonseca Array** comp=Z,2.1nm,0.9s,baz=280,slow=6.6,SNR=7.7	**74.02**	52	P		**P**	03 54 16.8 -0.3
DBIC	**Dimbokro** comp=Z,76nm,19.3s,baz=261,slow=34	**78.42**	86	LR		LR	04 26 34.6
NOA	**NORSAR Array B** comp=Z,54nm,18.4s,baz=270,slow=35	**80.67**	29	LR		LR	04 30 19.2
RAR	**Rarotonga** comp=Z,144nm,21.3s,baz=97,slow=28	**81.70**	246	LR		LR	04 21 15.0
TORD	**Torodi Ar. Bea**	**83.31**	78	P		**P**	03 55 07.7 -0.8
TORD	**Torodi Ar. Bea** comp=Z,0.9nm,1.0s,baz=232,slow=9.1,SNR=3.6	**83.31**	78	P		**P**	03 55 07.7 -0.8
TORD	comp=Z,143nm,20.1s,baz=270,slow=33			LR		LR	04 28 03.1
ARCES	**ARCESS Array B** comp=Z,46nm,19.8s,baz=126,slow=34	**83.83**	19	LR		LR	04 30 35.0
GERES	**GERESS Array B**	**84.94**	41	P		**P**	03 55 16.8 +0.4
GERES	**GERESS Array B** comp=Z,0.2nm,0.4s,baz=258,slow=6.7,SNR=5.3	**84.94**	41	P		**P**	03 55 16.7 +0.4
GERES	comp=Z,75nm,19.1s,baz=275,slow=33			LR		LR	04 28 59.2
FINES	**FINESS Array B** comp=Z,52nm,18.1s,baz=192,slow=35	**87.36**	27	LR		LR	04 33 13.4
VYHS	**Vyhne**	**88.30**	40	*e*P		**P**	03 55 33.0 +0.3
AFI	**Afiamalu** comp=Z,92nm,19.5s,baz=117,slow=32	**90.69**	256	LR		LR	04 30 46.4
PETK	**Petropavlovsk-** comp=Z,35nm,21.2s,baz=248,slow=38	**94.68**	328	LR		LR	04 42 18.2
CN2	**Changchun**	**116.34**	336	*e*PKP		**PKPdf**	04 01 23.9 -0.9
GTA	**Gaotai**	**126.76**	356	*e*PKP		**PKPdf**	04 01 42.2 -2.9
GTA				sPKP			04 01 56.5
LZH	**Lanzhou**	**129.60**	351	*e*PKP		**PKPdf**	04 01 52.1 +1.4
LZH				sPKP			04 02 02.3
LZH	comp=N,120nm,18.1s			LR		LR	
LZH	comp=E,130nm,18.3s			LR		LR	
LZH	comp=Z,170nm,20.0s			LR		LR	
KMI	**Kunming**	**140.52**	350	PKP		**PKPdf**	04 02 11.8 +0.4
WRA	**Warramunga Arr**	**142.41**	255	PKPpre		PKPpre	04 02 09.5
WRA	**Warramunga Arr** comp=Z,0.3nm,0.4s,baz=92,slow=3.6,SNR=5.6	**142.41**	255	PKhKP		PKPpre	04 02 09.5
ASAR	**Alice Springs**	**142.47**	249	PKPpre		PKPpre	04 02 09.3
ASAR	**Alice Springs** comp=Z,1.0nm,0.7s,baz=105,slow=3.4,SNR=7.8	**142.47**	249	PKhKP		PKPpre	04 02 09.3
CMAR	**Chiang Mai Arr**	**147.61**	354	PKPbc		**PKPbc**	04 02 25.9 -0.4
CMAR	**Chiang Mai Arr** comp=Z,1.2nm,0.3s,baz=347,slow=3.7,SNR=6.7	**147.61**	354	PKPbc		**PKPbc**	04 02 25.9 -0.4

IDC 08 03:47:28.5±1.7, 2.38N×125.26E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/23, mbtmpg3.9/4, Error ellipse: s-maj=194.6km s-min=22.3km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=337,slow=11,SNR=8.3	**23.91**	159	P	P	03 52 43.9	-0.3
ASAR	**Alice Springs** 0.2nm,0.6s,baz=344,slow=12,SNR=3.9	**27.23**	162	P	P	03 53 15.1	+0.7
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=120,slow=8.4,SNR=3.6	**57.84**	326	P	P	03 57 22.2	+0.3
KURBB	**Kurchatov Arra** 0.5nm,0.2s,baz=127,slow=5.9,SNR=7.1	**62.09**	328	P	P	03 57 50.5	-0.5

*JMA **08** 03:56:22.7±0.3, 24.49N×121.87E, h42km, M3.1*
*TAP **08** 03:56:22.4, 24.82N×121.95E, h11km, ML3.9, B*

ISC 08 03:56:22.3±1.0, 24.80N±0.02×122.02E±0.02, h5km±9km, n52, σ0.96/88, 1C-9D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao** baz=11	**0.21**	351	⇓*i*P		**Pg**	03 56 26.8 +0.5
TWB1	baz=11			*i* S		**Sg**	03 56 29.5 +0.4
TWC	**Suao** baz=202	**0.25**	219	⇓*i*P		**Pg**	03 56 27.3 +0.1
TWC	baz=202			S		**Sg**	03 56 30.1 -0.4
ILA	**Ilan** baz=253	**0.25**	261	P		**Pg**	03 56 27.2 0.0
ILA	baz=253			S		**Sg**	03 56 30.6 0.0
TWE	**Neicheng** baz=239	**0.34**	256	⇓*i*P		**Pg**	03 56 28.3 -0.4
TWE	baz=239			S		**Sg**	03 56 32.2 -1.0
NWF	**Wu-fen Shan** baz=323	**0.34**	320	⇓*i*P		**Pg**	03 56 29.3 +0.3
NWF	baz=323			*i* S		**Sg**	03 56 33.9 +0.3
TWA	**Mucha** baz=295	**0.44**	294	⇓*i*P		**Pg**	03 56 30.6 -0.2
TWA	baz=295			*i* S		**Sg**	03 56 35.7 -0.7
ENTT	**Nioudou** baz=242	**0.45**	249	*e*P		**Pg**	03 56 30.5 -0.4
ENA	**Nanau** baz=209	**0.46**	215	*e*P		**Pg**	03 56 30.9 -0.2
ENA	baz=209			*e*S		**Sg**	03 56 36.4 -0.5
TAP1	**Taipei** baz=292	**0.51**	297	P		**Pg**	03 56 32.1 0.0
TAP1	baz=292			S		**Sg**	03 56 38.3 -0.5
TAP	**Taipei** baz=292	**0.53**	297	*e*P		**Pg**	03 56 32.4 0.0
TAP	baz=292			S		**Sg**	03 56 38.6 -0.7
EHP	**Heping Village** baz=200	**0.56**	208	*e*P		**Pg**	03 56 33.4 +0.4
TWY	**Chenhua** baz=317	**0.61**	321	*i* P		**Pg**	03 56 34.3 +0.4
NSK	**Sanguang** baz=263	**0.62**	258	⇓*i*P		**Pg**	03 56 33.3 -0.9
NSK	baz=263			*e*S		**Sg**	03 56 39.8 -2.4
TWS1	**Kuangyinshan** baz=299	**0.62**	298	*i* P		**Pg**	03 56 34.8 +0.5
TWS1	baz=299			*e*S		**Sg**	03 56 42.2 -0.2
NNS	**Nan Shan** baz=233	**0.69**	239	*e*P		**Pg**	03 56 35.0 -0.6
NNS	baz=233			*e*S		**Sg**	03 56 44.2 -0.4
NCU	**National Centr** baz=281	**0.78**	282	*e*P		**Pg**	03 56 37.7 +0.5
NCU	baz=281			*e*S		**Sg**	03 56 47.4 +0.1
TWD	**Chiawan** baz=203	**0.82**	209	*i* P		**Pg**	03 56 38.0 0.0
TWD	baz=203			S		**Sg**	03 56 48.4 -0.3
HWA	**Hwalien** baz=200	**0.91**	205	*e*P		**Pg**	03 56 40.5 +0.8
HWA	baz=200			*e*S		**Sg**	03 56 52.0 +0.5
NSTT	**Nanjuang** baz=250	**0.95**	260	*e*P		**Pg**	03 56 40.0 -0.4
NSTT	baz=250			*e*S		**Sg**	03 56 53.3 +0.6
TWT	**Tachien** baz=224	**0.95**	235	*e*P		**Pg**	03 56 39.3 -1.1
TWT	baz=224			*e*S		**Sg**	03 56 53.8 +1.0
WHF	**Hehuan Shan** baz=222	**0.95**	227	⇓P		**Pg**	03 56 40.0 -0.6
WHF	baz=222			*e*S		**Sg**	03 56 52.3 -0.7
HSN	**Hsinchu** baz=286	**0.96**	270	*e*P		**Pg**	03 56 40.9 +0.3
HSN	baz=286			*e*S		**Sg**	03 56 54.0 +0.9
YOJ	**Yonaguni jima** baz=112	**0.96**	111	⇑*i*P		**Pb**	03 56 41.3 -0.1
YOJ	baz=112			*e*S		**Sg**	03 56 55.5 +2.3
YOJ	**Yonaguni jima**	**0.96**	111	P		**Pb**	03 56 41.2 -0.2
YOJ				S		**Sg**	03 56 54.5 +1.3
ESL	**Shilin** baz=204	**1.12**	209	*e*P		**Pb**	03 56 42.9 -1.3
ESL	baz=204			*e*S		**Sb**	03 56 56.9 -2.3
NSY	**Sanyi** baz=247	**1.21**	252	P		**Pn**	03 56 45.7 -0.2
NSY	baz=247			*e*S		**Sn**	03 57 03.1 +0.4
TWQ1	**Liyutan** baz=244	**1.23**	249	*e*P		**Pn**	03 56 45.5 -0.6
TWQ1	baz=244			*e*S		**Sn**	03 57 03.6 +0.5
SMLT	**Sun Moon Lake** baz=212	**1.38**	228	⇓*e*P		**Pn**	03 56 48.2 -0.1
TCU	**Taichung** baz=238	**1.39**	242	*e*P		**Pg**	03 56 50.2 +1.2
TCU	baz=238			*e*S		**Sb**	03 57 07.4 +0.6
TYC	**Yuchr** baz=219	**1.39**	230	*e*P		**Pn**	03 56 48.4 0.0
TYC	baz=219			*e*S		**Sn**	03 57 07.3 +0.3
EHY	**Hungye** baz=200	**1.44**	207	*e*P		**Pn**	03 56 48.4 -0.7
WNT	**Mingjian** baz=227	**1.53**	233	*e*P		**Pn**	03 56 50.7 +0.4
TWF1	**Yuli** baz=208	**1.59**	205	*e*P		**Pn**	03 56 51.8 +0.7
IRIF	**Iriomote-Funau**	**1.62**	106	P		**Pn**	03 56 50.7 -0.8
IRIF				*e*S		**Sn**	03 57 10.5 -2.3
YUS	**Yu-Shan** baz=212	**1.64**	217	⇓*e*P		**Pn**	03 56 53.2 +1.1
YUS	baz=212			*e*S		**Sb**	03 57 14.9 +0.6
ALS	**Alishan** baz=201	**1.70**	221	*e*P		**Pn**	03 56 54.3 +1.4
ALS	baz=201			*e*S		**Sg**	03 57 18.3 +1.3
CHN5	**Tsauling** baz=221	**1.72**	226	*e*P		**Pn**	03 56 54.5 +1.6
CHN5	baz=221			S		**Sg**	03 57 18.1 +0.6
HATJ	**Hateruma jima**	**1.79**	114	P		**Pn**	03 56 52.2 -1.5
HATJ				*e*S		**Sn**	03 57 14.9 -1.9
CHKT	**Chengkung** baz=207	**1.80**	200	*e*P		**Pn**	03 56 55.2 +1.2
ELDTW	**Lidau** baz=200	**1.85**	210	*e*P		**Pn**	03 56 55.1 +0.3
JKRS	**Kuro-shima**	**1.89**	107	P		**Pn**	03 56 54.9 -0.3
JKRS				*e*S		**Sn**	03 57 18.8 -0.7
CHN4	**Tsaushan** baz=217	**1.95**	222	*e*P		**Pn**	03 56 57.9 +1.8
CHN4	baz=217			*e*S		**Sb**	03 57 23.7 +0.8
CHY	**Chiayi** baz=242	**1.96**	229	*e*P		**Pn**	03 56 57.3 +1.2
JIJ	**Ishigaki jima**	**1.98**	102	P		**Pn**	03 56 55.7 -0.7
JIJ				*e*S		**Sn**	03 57 21.2 -0.4
WTP	**Ta-pu** baz=201	**2.02**	220	*e*P		**Pn**	03 56 59.0 +2.0
WTP	baz=201			*e*S		**Sb**	03 57 26.2 +1.3
TWK	**Hsinying** baz=217	**2.08**	223	*e*P		**Pn**	03 56 59.2 +1.4
TWK	baz=217			*e*S		**Sb**	03 57 27.2 +0.6
CHN1	**Nanshi** baz=201	**2.12**	221	*e*P		**Pn**	03 57 00.5 +2.2
CHN1	baz=201			*e*S		**Sb**	03 57 27.6 0.0
TWG	**Pinlang** baz=200	**2.16**	204	*e*P		**Pn**	03 56 59.9 +1.0
ECL	**Taimali** baz=194	**2.41**	204	*e*P		**Pn**	03 57 03.2 +0.9
JTJ	**Tarama**	**2.44**	93	P		**Pn**	03 57 03.5 +0.7

TWM1	Shoushan baz=212	2.46	217	*e*P	Pb	03 57 07.0	+0.1
SCZT	Fangliau baz=202	2.74	208	*e*P	Pn	03 57 10.1	+3.2

IDC ***08*** *04:28:31.5±4.2,31°.97S×179°.53E,h435km±38km,mb3.7/2, mb1 4.1/3,mb1mx3.3/18,mbtmp4.0/3,Error ellipse: s-maj=48.9km s-min=21.6km az=46.0*

ISCJB ***08*** *04:28:32.9±1.3,32°.17S±0°.08×179°.2E±0°.2,h439km, mb3.4/3,Error ellipse: s-maj=27.7km s-min=10.0km az=175.1*

ISC 08 04:28:32.7±1.3,32°.2S±0°.1×179°.3E±0°.2,h439km,n32, σ1§70/38,mb3.3/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**5.96**	**188**	PN	**P**	**04 30 07.7**	**+1.6**
PUZ				SN	**S**	**04 31 19.2**	**-3.2**
MWZ	**Matawai**	**6.33**	**193**	PN	**P**	**04 30 11.8**	**+2.0**
URZ	**Urewera** 80nm,0.3s,baz=321,slow=1.7,SNR=170	**6.34**	**196**	P	**P**	**04 30 13.1**	**+3.1**
URZ	7.1nm,0.3s,baz=265,slow=23,SNR=13			S	**S**	**04 31 29.6**	**-0.1**
URZ	**Urewera**	**6.34**	**196**	PN	**P**	**04 30 11.5**	**+1.5**
URZ				*e*SN	**S**	**04 31 26.7**	**-3.0**
RRRZ	**Republican Roa**	**6.57**	**200**	PN	**P**	**04 30 15.4**	**+2.9**
RAHZ	**Arahi**	**6.98**	**194**	PN	**P**	**04 30 19.2**	**+2.3**
RAHZ				SN	**S**	**04 31 41.5**	**-0.6**
MHGZ	**Mahia Peninsul**	**7.07**	**189**	PN	**P**	**04 30 20.3**	**+2.5**
MHGZ				*e*SN	**S**	**04 31 41.5**	**-2.3**
NMHZ	**Naumai**	**7.21**	**196**	PN	**P**	**04 30 21.2**	**+1.8**
BKZ	**Black Stump Fm**	**7.35**	**197**	*e*PN	**P**	**04 30 20.5**	**-0.4**
MCHZ	**McNeill Hill**	**7.57**	**195**	PN	**P**	**04 30 25.1**	**+1.9**
WNVZ	**Wahianoa**	**7.76**	**202**	*e*PN	**P**	**04 30 27.3**	**+1.8**
BHHZ	**Black Hill Sta**	**7.77**	**199**	*e*PN	**P**	**04 30 25.3**	**-0.1**
KAHZ	**Kahuranaki**	**7.87**	**194**	PN	**P**	**04 30 28.2**	**+1.7**
PXZ	**Pawanui**	**8.10**	**193**	PN	**P**	**04 30 28.9**	**0.0**
TSZ	**Takapari Road**	**8.33**	**198**	PN	**P**	**04 30 31.5**	**+0.1**
DVHZ	**Dannevirke**	**8.51**	**196**	*e*PN	**P**	**04 30 33.7**	**+0.4**
ANWZ	**Angora Road**	**8.59**	**195**	*e*PN	**P**	**04 30 35.4**	**+1.2**
BFZ	**Birch Farm**	**8.85**	**195**	*e*PN	**P**	**04 30 39.5**	**+2.4**
BFZ				SN	**S**	**04 32 19.8**	**+0.3**
MRZ	**Mangatainoka R**	**8.99**	**198**	*e*PN	**P**	**04 30 38.7**	**0.0**
MRZ				SN	**S**	**04 32 21.9**	**-0.5**
OGWZ	**Otaki Gorge**	**9.25**	**200**	PN	**P**	**04 30 41.4**	**-0.1**
KIW	**Kapiti Island**	**9.37**	**201**	PN	**P**	**04 30 43.5**	**+0.7**
TCW	**Tory Channel**	**9.89**	**203**	PN	**P**	**04 30 49.0**	**+0.5**
TUWZ	**Tuamarina**	**10.20**	**203**	PN	**P**	**04 30 52.3**	**+0.5**
QRZ	**Quartz Range**	**10.22**	**210**	PN	**P**	**04 30 53.2**	**+1.1**
ASAR	**Alice Springs** 0.9nm,0.6s,baz=106,slow=7.0,SNR=8.8	**40.75**	**270**	P	**P**	**04 35 34.9**	**+0.8**
WRA	**Warramunga Arr** 1.3nm,0.3s,baz=111,slow=8.1,SNR=43	**41.91**	**276**	P	**P**	**04 35 43.9**	**+0.5**
QSPA	**South Pole Qui** 1.1nm,1.1s,baz=40,slow=3.3,SNR=6.0	**57.95**	**180**	P	**P**	**04 37 43.3**	**+2.0**
JOF	**Joensuu**	**143.15**	**336**	*e*pkp	PKPdf	04 47 30.8	+16
KAF	**Kangasniemi**	**145.37**	**338**	*e*pkp	**PKPdf**	**04 47 16.8**	**-1.9**
FINES	**FINESS Array B** 3.5nm,0.6s,baz=51,slow=4.5,SNR=20	**145.94**	**337**	PKPbc	**PKPdf**	**04 47 19.3**	**-0.4**
BRTR	**Keskin Array B** 0.8nm,0.5s,baz=147,slow=4.2,SNR=5.4	**151.32**	**295**	PKPbc	**PKPbc**	**04 47 34.1**	**-1.6**
TORD	**Torodi Ar. Bea** 0.3nm,0.7s,baz=165,slow=4.7,SNR=6.6	**160.94**	**187**	PKPab	**PKPab**	**04 48 25.6**	**-1.9**

NEIC ***08*** *04:39:26.2±1.1,18°.24N×107°.11W,h10km,mb4.1/32, MD4.0(MEX),Error ellipse: s-maj=16.1km s-min=6.6km az=196.0*

IDC ***08*** *04:39:29.0±1.5,18°.75N×107°.53W,h0km,mb3.6/5, mb1 4.0/8,mb1mx3.9/25,mbtmp3.7/8,ML3.5/3,MS3.6/16, Ms1 3.6/16,ms1mx3.5/25,Error ellipse: s-maj=28.1km s-min=24.3km az=56.0*

ISCJB ***08*** *04:39:31.4±1.5,18°.6N±0°.1×106°.92W±0°.06,h42km±13km, mb4.0/18,MS3.6/13,Error ellipse: s-maj=17.7km s-min=8.4km az=16.2*

MEX ***08*** *04:39:32.9±0.6,18°.65N×106°.93W,h10km,MD4.0*

ISC 08 04:39:27.2±1.0,18°.36N±0°.09×107°.03W±0°.04,h10km, n250,σ1§22/207,mb4.2/19,MS3.5/13,82C-93D,Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**2.20**	**59**	*i* P	**Pn**	**04 40 02.4**	**-1.4**
CJM				*i* S	**Sn**	**04 40 26.9**	**-4.2**
CJM	**Chamela**	**2.20**	**59**	*i* P	**Pn**	**04 40 02.4**	**-1.4**
CJM				*i* S	**Sn**	**04 40 26.9**	**-4.2**
R15V		**3.00**	**74**	*i* P	**Pn**	**04 40 15.4**	**+0.5**
R15V				*i* S	**Sn**	**04 40 47.9**	**-3.1**
EZ5V		**3.43**	**70**	*i* P	**Pn**	**04 40 22.5**	**+1.5**
EZ5V				*i* S	**Sn**	**04 40 59.7**	**-2.2**
MMIG	**Aquila**	**3.50**	**90**	*i* P	**Pn**	**04 40 23.6**	**+1.9**
MMIG				*i* S	**Sn**	**04 41 03.5**	**+0.3**
MMIG	**Aquila**	**3.50**	**90**	*i* P	**Pn**	**04 40 23.6**	**+1.9**
MMIG				*i* S	**Sn**	**04 41 03.5**	**+0.3**
SFJM	**Santa Fe**	**4.32**	**60**	*i* P	**Pn**	**04 40 33.7**	**+0.5**
SFJM				*i* S	**Sn**	**04 41 19.9**	**-3.9**
SFJM	**Santa Fe**	**4.32**	**60**	*i* P	**Pn**	**04 40 33.7**	**+0.5**
SFJM				*i* S	**Sn**	**04 41 19.9**	**-3.9**
TXAR	**Lajitas Array** 0.2nm,0.3s,baz=196,slow=13,SNR=18	**11.35**	**15**	Pn	**Pn**	**04 42 09.4**	**-0.2**
TXAR				LR	LR	04 46 16.8	
	comp=Z,291nm,19.5s,baz=180,slow=37						
626A	**Big Bend Ranch** baz=12,SNR=7.5	**11.46**	**13**	⇑P	**Pn**	**04 42 12.5**	**+1.5**
627A	**Terlingua Ranc** baz=12	**11.54**	**16**	⇑P	**Pn**	**04 42 12.3**	**+0.2**
628A	**Black Gap, Mar** baz=12,SNR=6.4	**11.71**	**18**	⇑P	**Pn**	**04 42 14.9**	**+0.5**
526A	**Mary Lane Ranc** baz=12,SNR=5.6	**11.96**	**12**	⇑P	**Pn**	**04 42 18.8**	**+0.8**
527A	**Woodward Ranch** baz=12	**12.14**	**14**	⇑P	**Pn**	**04 42 21.4**	**+0.9**
732A	**Laxson Ranch,** baz=12	**12.19**	**31**	⇑P	Pn	04 42 23.8	+2.9
528A	**Cox Ranch, San** baz=13	**12.37**	**17**	⇓P	**Pn**	**04 42 25.4**	**+1.8**
631A	**Perdido Creek** baz=13,SNR=11	**12.49**	**27**	⇓P	Pn	04 42 28.0	+3.0
529A	**Stev Forest Ra** baz=13	**12.51**	**20**	⇑P	**Pn**	**04 42 26.9**	**+1.5**
425A	**Indio Mountain** baz=13	**12.52**	**8**	⇓P	**Pn**	**04 42 26.2**	**+0.6**
426A	**McDonald Obser** baz=13	**12.56**	**12**	⇑P	**Pn**	**04 42 27.3**	**+1.1**
530A	**J-C Ranch, Com** baz=13	**12.84**	**23**	⇑P	Pn	04 42 32.0	+2.2
632A	**Uvalde** baz=13,SNR=10.0	**12.92**	**29**	⇑P	**Pn**	**04 42 33.2**	**+2.2**
428A	**Kincaid Ranch,** baz=13	**12.94**	**17**	⇑P	Pn	04 42 33.4	+2.2
320A	**Kipp Ranch, An** baz=13,SNR=7.2	**13.00**	**354**	⇑P	**Pn**	**04 42 33.0**	**+0.9**
429A	**Davenport Ranc** baz=13,SNR=6.4	**13.08**	**20**	⇑P	Pn	04 42 35.8	+2.6
325A	**Bean Ranch, Si** baz=13	**13.09**	**8**	⇓P	**Pn**	**04 42 34.2**	**+0.7**
324A	**Moseley Ranch,** baz=13	**13.11**	**6**	⇓P	**Pn**	**04 42 34.5**	**+0.8**
319A	**Douglas** baz=13,SNR=19	**13.12**	**352**	⇓P	**Pn**	**04 42 34.0**	**+0.2**
531A	**Rocksprings** baz=13	**13.16**	**25**	⇑P	Pn	04 42 36.7	+2.5
MNTX	**Cornudas Mount** 1.5nm,0.6s	**13.37**	**6**	*e*Pn	**Pn**	**04 42 37.1**	**0.0**
532A	**Rocksprings** baz=14,SNR=21	**13.40**	**28**	⇑P	Pn	04 42 40.2	+2.7
430A	**Baggett Ranch,** baz=14,SNR=17	**13.45**	**22**	⇑P	Pn	04 42 41.1	+2.9
328A	**Wristen Ranch,** baz=14	**13.52**	**16**	⇑P	**Pn**	**04 42 39.8**	**+0.6**
220A	**Playas Peak, P** baz=14,SNR=49	**13.56**	**355**	⇓P	**Pn**	**04 42 39.8**	**0.0**
431A	**Sonora** baz=14	**13.59**	**24**	⇑P	Pn	04 42 42.9	+2.8
221A	**Mesquite Ranch** baz=14	**13.61**	**357**	⇓P	**Pn**	**04 42 41.4**	**+0.8**
222A	**Williams Famil** baz=14	**13.69**	**360**	⇑P	**Pn**	**04 42 42.0**	**+0.4**
224A	**Cornudas Mount** baz=14	**13.73**	**5**	⇑P	**Pn**	**04 42 43.7**	**+1.6**
JCT	**Junction City**	**13.74**	**27**	*e*Pn	Pn	04 42 44.7	+2.5
JCT	**Junction City**	**13.74**	**27**	⇑P	Pn	04 42 46.0	+3.7
329A	**Wagon Wheel Ra** baz=14	**13.85**	**18**	⇑P	**Pn**	**04 42 45.6**	**+1.9**
226B	**Tecolote Peak,** baz=14	**13.91**	**10**	⇓P	**Pn**	**04 42 45.7**	**+1.2**
330A	**Mertzon** baz=14,SNR=6.0	**14.04**	**21**	⇓P	Pn	04 42 49.8	+3.5
432A	**Menard** baz=14,SNR=20	**14.09**	**26**	⇑P	Pn	04 42 50.1	+3.1
121A	**Cookes Peak, D** baz=14,SNR=10	**14.13**	**357**	⇓P	**Pn**	**04 42 48.2**	**+0.5**
120A	**U Bar Ranch, L** baz=14,SNR=8.9	**14.21**	**354**	⇑P	**Pn**	**04 42 49.0**	**+0.3**
331A	**San Angelo** baz=14,SNR=8.6	**14.22**	**24**	⇓P	Pn	04 42 52.0	+3.3
TUC	**Tucson**	**14.30**	**347**	*e*Pn	**Pn**	**04 42 49.5**	**-0.4**
229A	**Bryant Ranch,** baz=14	**14.35**	**18**	⇑P	Pn	04 42 53.6	+3.0
124A	**Stringfield Ra** baz=14,SNR=15	**14.36**	**5**	⇓P	Pn	04 42 53.5	+2.7
125A	**Gardner Draw,** baz=15	**14.40**	**8**	⇓P	**Pn**	**04 42 53.0**	**+1.6**
214A	**Organ Pipe Nat** baz=15,SNR=13	**14.51**	**340**	⇑P	**Pn**	**04 42 52.3**	**-0.4**
332A	**Millersview** baz=15,SNR=6.2	**14.55**	**26**	⇓P	Pn	04 42 56.4	+3.1
Z20A	**Nine Sixteen R** baz=15	**14.76**	**355**	⇓P	**Pn**	**04 42 56.3**	**0.0**
Z22A	**Elephant Butte** baz=15	**14.84**	**0**	⇑P	**Pn**	**04 42 58.1**	**+0.8**
129A	**Stewart Farms,** baz=15	**14.96**	**17**	⇑P	**Pn**	**04 43 00.6**	**+1.8**
Z24A	**Sheeppen Canyo** baz=15	**14.99**	**5**	⇓P	**Pn**	**04 43 00.4**	**+1.0**
Z25A	**Roswell** baz=15	**15.01**	**8**	⇑P	**Pn**	**04 43 01.0**	**+1.5**
232A	**Coleman** baz=15	**15.04**	**25**	⇑P	**Pn**	**04 43 01.7**	**+1.9**
Z26A	**Caprock** baz=15	**15.11**	**10**	⇓P	**Pn**	**04 43 02.7**	**+1.9**
Z27A	**Tatum** baz=16	**15.29**	**12**	⇑P	**Pn**	**04 43 04.8**	**+1.6**
Y22A	**Socorro** baz=16	**15.52**	**0**	⇓P	**Pn**	**04 43 07.1**	**+0.7**
Y20A	**Horse Springs,** baz=16,SNR=7.5	**15.54**	**356**	⇑P	**Pn**	**04 43 06.8**	**+0.1**
Y23A	**Lovelace Mesa,** baz=16	**15.54**	**3**	⇓P	**Pn**	**04 43 07.5**	**+0.9**
Y24A	**Capitan** baz=16	**15.57**	**5**	⇓P	**Pn**	**04 43 08.0**	**+0.9**
113A	**Mohawk Valley,** baz=16	**15.58**	**338**	⇓P	**Pn**	**04 43 06.6**	**-0.3**
Z29A	**Hungry Hill Ra** baz=16	**15.59**	**17**	⇓P	**Pn**	**04 43 08.9**	**+1.7**
Y21A	**Point of Rocks** baz=16	**15.60**	**358**	⇓P	**Pn**	**04 43 08.1**	**+0.6**
Y25A	**Mesa, Roswell** baz=16	**15.64**	**7**	⇑P	**Pn**	**04 43 08.1**	**+0.1**
ABTX	**Abilene, Hawle** baz=16	**15.69**	**24**	⇓P	**Pn**	**04 43 09.6**	**+1.2**
BNM	**Barren Site** 9.0nm,1.2s	**15.74**	**1**	*e*P	**Pn**	**04 43 09.9**	**+0.6**
Z30A	**Sanderson Ranc** baz=16	**15.79**	**18**	⇓P	**Pn**	**04 43 10.8**	**+1.1**
Y27A	**Causey** baz=16	**15.85**	**12**	⇑P	**Pn**	**04 43 11.8**	**+1.3**
Z14A	**Wintersburg** baz=16	**15.86**	**342**	⇓P	**Pn**	**04 43 09.0**	**-1.6**
LAZ	**Ladron** 4.5nm,1.2s	**15.98**	**360**	*e*Pn	**Pn**	**04 43 14.2**	**+1.8**
MSTX	**Muleshoe** baz=16	**16.01**	**13**	⇓P	**Pn**	**04 43 14.2**	**+1.6**
Z31A	**Sharp Cattle R** baz=16	**16.13**	**21**	⇓P	**Pn**	**04 43 14.9**	**+0.8**
X20A	**Quemado** baz=16,SNR=13	**16.18**	**356**	⇓P	**Pn**	**04 43 15.2**	**+0.3**
GLA	**Glamis** 74nm,1.4s	**16.22**	**336**	*e*Pn	**Pn**	**04 43 15.5**	**+0.2**
GLA	**Glamis** baz=16,SNR=11	**16.22**	**336**	⇓P	**Pn**	**04 43 14.8**	**-0.5**
X18A	**Snowflake** baz=16,SNR=12	**16.32**	**351**	⇑P	**Pn**	**04 43 16.6**	**-0.1**
Z32A	**Haskell** baz=17	**16.36**	**23**	⇓P	**Pn**	**04 43 19.0**	**+2.0**
X26A	**CR and CF Fran** baz=17	**16.39**	**9**	⇓P	**Pn**	**04 43 18.2**	**+0.8**
Y14A	**Wickenburg** baz=17,SNR=13	**16.41**	**342**	⇓P	**Pn**	**04 43 17.3**	**-0.5**
X16A	**Lo Mia Camp, P** baz=17,SNR=16	**16.48**	**347**	⇑P	**Pn**	**04 43 18.1**	**-0.6**
ANMO	**Albuquerque** 12nm,1.5s	**16.53**	**2**	*e*Pn	**Pn**	**04 43 20.8**	**+1.4**
ANMO	**Albuquerque** 0.1nm,0.3s,baz=169,slow=16,SNR=3.2	**16.53**	**2**	Pn	**Pn**	**04 43 18.1**	**-1.3**
ANMO				LR	LR	04 49 23.1	
	comp=Z,176nm,21.3s,baz=191,slow=37						
Y31A	**Rekieta Farm,** baz=17	**16.68**	**20**	⇑P	**Pn**	**04 43 23.0**	**+1.9**
BAR	**Barrett** 20nm,1.5s	**16.69**	**331**	*e*Pn	**Pn**	**04 43 21.1**	**-0.2**
Y12C	**Blythe** baz=17,SNR=5.7	**16.73**	**338**	⇑P	**Pn**	**04 43 20.8**	**-1.0**
MONP	**Monument Peak** baz=17	**16.75**	**332**	⇓P	**Pn**	**04 43 20.2**	**-2.0**
W20A	**Ramah** baz=17,SNR=8.0	**16.76**	**356**	⇓P	**Pn**	**04 43 22.5**	**+0.2**
W23A	**Werner Place,** baz=17	**16.76**	**3**	⇓P	**Pn**	**04 43 22.7**	**+0.5**
W24A	**Lazy 6 Ranch,** baz=17,SNR=6.6	**16.85**	**5**	⇑P	**Pn**	**04 43 24.3**	**+0.8**
W18A	**Petrified Fore** baz=17	**16.87**	**352**	⇑P	**Pn**	**04 43 22.8**	**-0.9**
X30A	**Coker Ranch, T** baz=17	**16.94**	**18**	⇓P	**Pn**	**04 43 26.5**	**+2.1**
W25A	**X Bar L Ranch,** baz=17	**16.95**	**7**	⇓P	**Pn**	**04 43 26.0**	**+1.3**
BC3	**Big Chuckawall** baz=17	**17.00**	**335**	⇑P	**Pn**	**04 43 24.5**	**-0.8**
PDMCI	**Parker Dam,Lak** baz=17	**17.10**	**340**	⇓P	**Pn**	**04 43 26.3**	**0.0**
V23A	**Ortiz Mt. (NFS** baz=18	**17.34**	**2**	⇑P	**Pn**	**04 43 30.6**	**+1.0**
V24A	**Rampart Ranch,** baz=18	**17.37**	**5**	⇓P	**Pn**	**04 43 31.1**	**+1.0**
PFO	**Pinyon Flat Ob** 37nm,1.2s	**17.38**	**333**	*e*Pn	**Pn**	**04 43 29.7**	**-0.2**
PFO	**Pinyon Flat Ob** 0.1nm,0.3s,baz=156,slow=10,SNR=20	**17.38**	**333**	Pn	Pn	04 43 27.1	-2.9
PFO				LR	LR	04 49 11.4	
	comp=Z,226nm,21.8s,baz=163,slow=35						
PFO	**Pinyon Flat Ob** baz=18,SNR=12	**17.38**	**333**	⇑P	**Pn**	**04 43 29.2**	**-0.7**
V20A	**Brimhall** baz=18	**17.42**	**356**	⇓P	**Pn**	**04 43 30.5**	**-0.1**
V22A	**San Miguel Ran** baz=18,SNR=12	**17.49**	**0**	⇑P	**Pn**	**04 43 32.7**	**+1.2**
BELC	**Bee Mtn. Jos** baz=18,SNR=14	**17.52**	**335**	⇓P	**Pn**	**04 43 31.2**	**-0.6**
WUAZ	**Wupatki** 16nm,1.1s	**17.52**	**348**	*e*Pn	**Pn**	**04 43 32.0**	**+0.2**
WUAZ	**Wupatki** baz=18,SNR=11	**17.52**	**348**	⇓P	**Pn**	**04 43 31.2**	**-0.7**
V25A	**Rancho No Teng** baz=18	**17.55**	**7**	⇓P	**Pn**	**04 43 32.9**	**+0.8**
V26A	**Tequesquite Ra** baz=18	**17.61**	**9**	⇑P	**Pn**	**04 43 33.2**	**+0.4**
MURC	**Murrieta** baz=18	**17.70**	**331**	⇓P	**Pn**	**04 43 32.4**	**-1.5**
W13A	**Hualapai Mount** baz=18	**17.75**	**341**	⇓P	**Pn**	**04 43 34.2**	**-0.6**
TEIG	**Tepich** comp=Z,68nm,20.2s,baz=30,slow=39	**17.80**	**81**	LR	LR	04 51 25.1	
WMOK	**Wichita Mounta** 3.7nm,0.6s	**17.89**	**23**	*e*P	**Pn**	**04 43 36.7**	**+0.4**
U23A	**El Rito** baz=18	**17.92**	**2**	⇓P	**Pn**	**04 43 37.5**	**+0.7**
U22A	**Llaves** baz=18	**17.95**	**0**	⇓P	**Pn**	**04 43 37.8**	**+0.6**
U20A	**Newcomb** baz=18	**18.00**	**356**	⇑P	**Pn**	**04 43 37.9**	**+0.1**
U21A	**Nageezi** baz=18	**18.01**	**358**	⇑P	**Pn**	**04 43 39.3**	**+1.4**
GMRC	**Granite Mounta** baz=18,SNR=5.3	**18.07**	**337**	⇑P	**Pn**	**04 43 37.8**	**-0.8**
U25A	**Circle Dot Ran** baz=18	**18.12**	**7**	⇑P	**Pn**	**04 43 39.7**	**+0.4**
LDFC	**Landfair**	**18.14**	**338**	*e*Pn	**Pn**	**04 43 40.2**	**+0.9**
U27A	**Thompson Grove**	**18.38**	**11**	⇓P	**Pn**	**04 43 43.0**	**+0.7**
BFSC	**Mount Baldy Ra** baz=19	**18.45**	**331**	⇑P	**Pn**	**04 43 41.3**	**-1.8**
V31A	**Spring Creek L** baz=19	**18.48**	**19**	⇓P	**Pn**	**04 43 44.6**	**+1.1**
T21A	**Navajo Lake** baz=19	**18.57**	**359**	⇑P	**Pn**	**04 43 44.5**	**-0.3**
T22A	**Edith** baz=19,SNR=12	**18.59**	**0**	⇑P	**Pn**	**04 43 45.5**	**+0.5**
U15A	**North Rim** baz=19,SNR=8.3	**18.59**	**347**	⇑P	**Pn**	**04 43 44.9**	**-0.2**
MWC	**Mount Wilson** 23nm,1.4s	**18.62**	**330**	*e*Pn	**P**	**04 43 47.5**	**+2.4**
T23A	**Casias Ranch,** baz=19	**18.63**	**2**	⇑P	**Pn**	**04 43 45.2**	**-0.3**
MVCO	**Mesa Verde** 9.7nm,1.1s	**18.83**	**356**	*e*P	**P**	**04 43 48.4**	**+1.0**
GSC	**Goldstone** 54nm,2.0s	**18.98**	**335**	*e*P	**P**	**04 43 48.3**	**-0.6**
GSC	**Goldstone** baz=19	**18.98**	**335**	⇓P	**P**	**04 43 47.1**	**-1.9**
S21A	**Coal Bank Pass** baz=19	**19.25**	**358**	⇓P	**P**	**04 43 51.6**	**-0.5**
S22A	**4UR Ranch, Cre** baz=20	**19.32**	**0**	⇓P	**P**	**04 43 54.1**	**+1.3**
SDCO	**Great Sand Dun** 8.7nm,1.5s	**19.37**	**4**	*e*P	**P**	**04 43 53.9**	**+0.5**
S20A	**Disappointment** baz=20	**19.44**	**357**	⇓P	**P**	**04 43 53.7**	**-0.4**
S26A	**Kim** baz=20	**19.45**	**9**	⇓P	**P**	**04 43 54.3**	**+0.2**
PV01	**Paradox Valley**	**19.75**	**356**	*e*P	**P**	**04 43 57.3**	**-0.2**
R20A	**Redvale** baz=20,SNR=8.1	**19.80**	**357**	⇓P	**P**	**04 43 58.0**	**0.0**
R22A	**Saguache, Gunn** baz=20	**19.80**	**1**	⇑P	**P**	**04 43 58.0**	**-0.2**
R25A	**Fountain Ranch** baz=20	**19.87**	**6**	⇑P	**P**	**04 43 59.7**	**+1.1**
MPMC	**Manual Prospec** baz=20	**19.91**	**334**	⇓P	**P**	**04 43 57.1**	**-2.1**
CCUT	**Cedar City** 16nm,1.6s	**19.91**	**345**	*e*P	**P**	**04 43 59.5**	**+0.2**
R21A	**Cimarron** baz=20	**19.95**	**359**	⇑P	**P**	**04 43 59.4**	**-0.2**
ISA	**Isabella** 8.0nm,1.1s	**20.00**	**332**	*e*Pn	**P**	**04 44 01.9**	**+1.8**
PV04	**Paradox Valley**	**20.03**	**356**	*e*P	**P**	**04 44 00.3**	**-0.2**
R26A	**Arlington** baz=20	**20.12**	**8**	⇑P	**P**	**04 44 01.0**	**-0.4**
VES	**Vestal, Richgr** baz=20	**20.42**	**331**	⇓P	**P**	**04 44 02.7**	**-1.9**
Q20A	**Ridgley Place,** baz=21	**20.56**	**357**	⇓P	**P**	**04 44 06.0**	**-0.1**
MVU	**Marysvale** 15nm,1.4s	**20.58**	**348**	*e*P	**P**	**04 44 06.5**	**0.0**
MSU	**Marysvale**	**20.58**	**348**	*e*P	**P**	**04 44 07.0**	**+0.4**
Q25A	**Bedland, Calha** baz=21	**20.63**	**6**	⇓P	**P**	**04 44 06.7**	**-0.3**
GRAC	**Grapevine Rang** baz=21	**20.68**	**336**	⇑P	**P**	**04 44 06.4**	**-1.0**
SMCO	**Snowmass** 4.8nm,1.0s	**20.75**	**0**	*e*P	**P**	**04 44 09.2**	**+0.7**
Q16A	**Castle Valley** baz=21,SNR=6.4	**20.80**	**351**	⇓P	**P**	**04 44 07.7**	**-1.2**
SRU	**San Rafael** 11nm,1.2s	**20.90**	**352**	*e*P	**P**	**04 44 09.8**	**-0.1**
P23A	**Jefferson** baz=21	**20.97**	**3**	⇓P	**P**	**04 44 11.4**	**+0.5**
P20A	**De Beque** baz=21	**21.10**	**357**	⇑P	**P**	**04 44 11.7**	**-0.4**
P22A	**Eagle** baz=21	**21.17**	**1**	⇓P	**P**	**04 44 12.4**	**-0.5**
TMUT	**Trail Mountain** 12nm,1.0s	**21.18**	**351**	*e*P	**P**	**04 44 13.4**	**+0.3**
P19A	**Cripple Cowboy** baz=22	**21.27**	**356**	⇑P	**P**	**04 44 12.6**	**-1.4**
ISCO	**Idaho Springs**	**21.41**	**3**	*e*P	**P**	**04 44 15.7**	**+0.2**
ISCO	**Idaho Springs** baz=22	**21.41**	**3**	⇓P	**P**	**04 44 15.4**	**-0.1**
O20A	**White River Ci** baz=22,SNR=8.4	**21.73**	**357**	⇑P	**P**	**04 44 18.2**	**-0.6**
O22A	**Kremmling** baz=22	**21.74**	**1**	⇑P	**P**	**04 44 17.9**	**-1.2**
O24A	**Longmont** baz=22	**21.76**	**4**	⇓P	**P**	**04 44 18.1**	**-1.0**
O23A	**Lake Granby, G** baz=22	**21.80**	**2**	⇓P	**P**	**04 44 18.9**	**-0.8**
O19A	**Miners Draw (B** baz=22	**21.94**	**356**	⇓P	**P**	**04 44 19.9**	**-1.2**
NV11	**Mina Array Sit**	**22.23**	**336**	*e*P	**P**	**04 44 23.4**	**-0.8**
DAU	**Daniels Canyon**	**22.28**	**351**	*e*P	**P**	**04 44 25.8**	**+0.8**
NVAR	**Mina Array Bea** 2.5nm,1.0s,baz=145,slow=12,SNR=11	**22.29**	**336**	P	**P**	**04 44 24.1**	**-0.9**
DUG	**Dugway** 20nm,1.4s	**22.33**	**348**	*e*P	**P**	**04 44 25.2**	**0.0**
DUG	**Dugway** baz=22,SNR=14	**22.33**	**348**	⇑P	**P**	**04 44 24.5**	**-0.8**
N20A	**Spence Gulch,** baz=23	**22.43**	**358**	⇓P	**P**	**04 44 25.3**	**-1.1**
N23A	**Red Feather La** baz=23	**22.48**	**2**	⇓P	**P**	**04 44 26.3**	**-0.8**
JLU	**Jordanelle** 9.9nm,1.1s	**22.50**	**351**	*e*P	**P**	**04 44 27.1**	**0.0**
CTU	**Camp Tracy** 13nm,1.3s	**22.63**	**351**	*e*P	**P**	**04 44 28.3**	**-0.2**
WAKR	**Walker**	**22.80**	**334**	*e*P	**P**	**04 44 30.6**	**+0.2**
CMB	**Columbia Colle** 8.4nm,1.2s	**22.82**	**332**	*e*P	**P**	**04 44 29.4**	**-0.9**
M24A	**Cheyenne** baz=23	**23.11**	**4**	⇑P	**P**	**04 44 33.0**	**-0.5**
ELK	**Elko** 5.1nm,1.1s	**23.41**	**344**	*e*P	**P**	**04 44 36.0**	**-0.6**
ELK	**Elko** 1.4nm,0.7s,baz=158,slow=7.1,SNR=8.3	**23.41**	**344**	P	**P**	**04 44 34.5**	**-2.1**
ELK				LR	LR	04 52 49.3	
	comp=Z,140nm,19.7s,baz=27,slow=35						
HWUT	**Hardware Ranch** 8.6nm,1.3s	**23.50**	**351**	*e*P	**P**	**04 44 37.1**	**-0.3**
L21A	**Rawlins** baz=24	**23.54**	**359**	⇑P	**P**	**04 44 36.8**	**-1.0**
L22A	**Ellis Ranch, M** baz=24	**23.61**	**1**	⇓P	**P**	**04 44 36.9**	**-1.6**
L19A	**Farson** baz=24	**23.75**	**356**	⇓P	P	04 44 37.1	-2.8
K22A	**Casper** baz=24	**24.22**	**1**	⇓P	**P**	**04 44 42.6**	**-1.8**
K20A	**Yellowstone Ra** baz=24	**24.25**	**358**	⇓P	**P**	**04 44 42.4**	**-2.2**
PDAR	**Pinedale Array** 0.9nm,0.9s,baz=171,slow=10,SNR=7.4	**24.43**	**356**	P	**P**	**04 44 45.2**	**-1.0**
K19A	**Absolon Red Bu** baz=25	**24.44**	**357**	⇑P	**P**	**04 44 44.9**	**-1.5**
J19A	**Crowheart** baz=25	**24.89**	**356**	⇓P	**P**	**04 44 49.3**	**-1.1**
SNOW	**Snow King Moun** 16nm,1.2s	**25.23**	**354**	*e*P	**P**	**04 44 53.2**	**-0.3**
TPAW	**Teton Pass** 11nm,1.3s	**25.28**	**353**	*e*P	**P**	**04 44 54.2**	**+0.3**
LOHW	**Long Hollow** 10nm,0.9s	**25.36**	**354**	*e*P	**P**	**04 44 54.3**	**-0.4**
I21A	**Big Trails, Te** baz=26	**25.38**	**360**	⇓P	**P**	**04 44 53.8**	**-1.0**
I22A	**9 Mile Ranch,** baz=26	**25.46**	**1**	⇑P	**P**	**04 44 54.5**	**-1.0**
MOOW	**Moose Ponds** 2.6nm,0.8s	**25.51**	**354**	*e*P	**P**	**04 44 55.5**	**-0.6**
I19A	**Meeteetse** baz=26	**25.66**	**357**	⇓P	**P**	**04 44 56.0**	**-1.3**
IMW	**Indian Meadow**	**25.68**	**353**	*e*P	**P**	**04 44 57.0**	**-0.7**
I16A	**Newdale** baz=26	**25.72

baz=27
F17A **Fitzpatrick Pl** **27.64** **355** ⇑P **P** **04 45 13.4 -1.8**
baz=28
E19A **Rath Farm, Rou** **28.07** **357** ⇓P **P** **04 45 17.5 -1.4**
baz=28
E20A **Meyer Farm, Mu** **28.09** **358** ⇑P **P** **04 45 17.8 -1.3**
baz=28
E17A **Martinsdale** **28.21** **354** ⇓P **P** **04 45 19.0 -1.3**
baz=28
E18A **Harlowton** **28.23** **356** ⇓P **P** **04 45 18.8 -1.7**
baz=28
D22A **Cohagen** **28.73 1** ⇓P P 04 45 23.4 -1.4
baz=29
D19A **Cripps Ranch,** **28.77** **357** ⇑P **P** **04 45 24.3 -0.8**
baz=29
E12A **Beaver Dam Sad** **28.86** **348** ⇓P P 04 45 24.2 -1.9
baz=29
D17A **Six Diamond Ra** **28.88** **355** ⇓P P 04 45 24.9 -1.3
baz=29
MSO **Missoula** **28.96** **350** *e*P **P** **04 45 26.6 -0.3**
MSO **Missoula** **28.96** **350** ⇓P P 04 45 26.0 -0.9
baz=29,SNR=6.5
D15A **Lincoln** **28.96** **352** ⇓P P 04 45 25.4 -1.5
baz=29
D14A **Greenough** **29.14** **351** ⇑P P 04 45 27.5 -1.0
baz=29,SNR=6.7
C20A **Veseth Ranch,** **29.29** **359** ⇓P **P** **04 45 29.5 -0.3**
baz=30
SLMT **Seeley Lake** **29.30** **351** *e*P **P** **04 45 29.4 -0.5**
C19A **Slack Wire Ran** **29.35** **357** ⇑P P 04 45 27.5 -2.8
baz=30
C17A **Wharram Farm,** **29.36** **355** ⇑P P 04 45 29.2 -1.2
baz=30
C16A **Fuhringer Ranc** **29.62** **354** ⇓P P 04 45 30.7 -2.0
baz=30
EGMT **Eagleton** **29.68** **356** ⇓P **P** **04 45 32.3 -0.9**
baz=30
B20A **Solberg Farm,** **30.02** **359** ⇓P **P** **04 45 35.5 -0.7**
baz=30,SNR=7.3
B18A **Beardsley Farm** **30.05** **356** ⇓P P 04 45 35.1 -1.4
baz=30
B15A **Bradely Ranch,** **30.22** **353** ⇑P P 04 45 36.4 -1.6
baz=30
A19A **Klindworth Far** **30.53** **358** ⇓P P 04 45 39.7 -1.0
baz=31
A18A **Metzger Ranch,** **30.57** **356** ⇑P P 04 45 40.1 -1.0
baz=31
A17A **Triple J Farms** **30.66** **355** ⇑P P 04 45 40.6 -1.3
baz=31
A15A **Johnson Ranch,** **30.89** **353** ⇓P P 04 45 42.9 -1.1
baz=31
A14A **Double T Ranch** **30.98** **352** ⇑P P 04 45 43.0 -1.8
baz=31
ULM **Lac du Bonnet** **33.05 13** LR LR 04 58 27.4
comp=Z,150nm,20.6s,baz=224,slow=35
YKA **Yellowknife Ar** **44.41** **355** LR LR 05 05 53.6
comp=Z,7.9nm,22.0s,baz=145,slow=36
RKT **Rikitea** **49.44** **215** *e*T T 05 41 29.5
7.9nm,0.3s
LPAZ **La Paz** **51.49** **130** P P 04 48 42.0 +8.0
0.8nm,0.6s,baz=296,slow=8.0,SNR=4.3
LPAZ LR LR 05 08 01.1
comp=Z,73nm,21.8s,baz=137,slow=33
ILAR **Eielson Array** **53.47** **340** P P 04 48 46.6 -0.7
1.5nm,1.0s,baz=149,slow=5.9,SNR=12
ILAR LR LR 05 14 31.6
comp=Z,34nm,18.8s,baz=185,slow=40
TRF **Thorofare Moun** **53.81** **338** *e*P P 04 48 49.0 -1.1
14nm,1.6s
PPT **Papeete** **55.00** **232** LR LR 05 07 26.2
comp=Z,165nm,18.2s,baz=1.9,slow=31
PPT2 **Papeete2** **55.01** **232** *e*S S 04 56 36.2 -5.6
68nm,28.0s
PPT2 *e*LR LR 05 04 51.5
222nm,27.2s,baz=51
RAR **Rarotonga** **64.92** **235** LR LR 05 09 47.4
comp=Z,164nm,21.7s,baz=228,slow=28
PLCA **Paso Flores** **67.86** **151** LR LR 05 13 16.4
comp=Z,104nm,20.6s,baz=355,slow=30
PETK **Petropavlovsk-** **78.63** **322** LR LR 05 18 57.9
comp=Z,23nm,20.1s,baz=81,slow=30
ARCES **ARCESS Array B** **86.15 15** LR LR 05 30 37.0
comp=Z,55nm,20.0s,baz=144,slow=36
NOA **NORSAR Array B** **86.87 25** LR LR 05 30 20.0
comp=Z,19nm,18.5s,baz=185,slow=35

IDC 08 04:46:36.2±4.5, 17°52S×178°45W, h674km±54km, mb3.0/7, mb1 3.4/7, mb1mx3.1/19, mbtmp3.0/7, Error ellipse: s-maj=76.8km s-min=22.0km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.78**	**241**	P	P	04 53 06.2	-0.6
	0.8nm,0.5s,baz=100,slow=18,SNR=2.6						
WRA	**Warramunga Arr**	**44.66**	**259**	P	P	04 53 53.0	+0.2
	1.1nm,0.3s,baz=95,slow=7.6,SNR=43						
WRA				PcP	PcP	04 55 20.1	+0.3
	0.2nm,0.3s,baz=95,slow=3.4,SNR=4.9						
ASAR	**Alice Springs**	**44.86**	**254**	P	P	04 53 54.2	0.0
	2.8nm,0.5s,baz=92,slow=7.8,SNR=41						
ASAR				PcP	PcP	04 55 20.4	-0.1
	0.5nm,0.4s,baz=100,slow=4.2,SNR=6.2						
NVAR	**Mina Array Bea**	**79.17**	**44**	P	P	04 57 34.7	+0.4
	0.4nm,0.7s,baz=228,slow=8.9,SNR=3.7						
ILAR	**Eielson Array**	**85.52**	**13**	P	P	04 58 05.5	+0.4
	0.4nm,0.4s,baz=224,slow=4.7,SNR=13						
TXAR	**Lajitas Array**	**85.82**	**58**	P	P	04 58 07.7	+0.2
	0.8nm,0.7s,baz=214,slow=5.8,SNR=14						
PDAR	**Pinedale Array**	**87.10**	**43**	P	P	04 58 12.9	-0.4
	0.4nm,0.6s,baz=208,slow=3.1,SNR=4.8						
ARCES	**ARCESS Array B**	**125.93**	**350**	PKP	PKPdf	05 04 22.2	-1.0
	2.7nm,1.1s,baz=35,slow=3.0,SNR=4.9						
BRTR	**Keskin Array B**	**144.48**	**315**	PKP	PKPab	05 04 59.5	-0.3
	0.6nm,0.4s,baz=45,slow=4.0,SNR=4.2						
GERES	**GERESS Array B**	**147.23**	**345**	PKPbc	PKPdf	05 05 04.4	+1.6
	0.7nm,0.6s,baz=47,slow=4.4,SNR=4.7						
DAVOX	**Davos/Dischmat**	**150.02**	**349**	PKPbc	PKPbc	05 05 13.3	+0.1
	1.7nm,0.3s,baz=69,slow=14,SNR=3.0						

*IDC **08** 04:51:47.0±1.4, 34°.04N×25°.29E, h0km, mb3.7/4, mb1 3.6/7, mb1mx3.5/27, mbtmp3.6/7, ML3.9/2, Error ellipse: s-maj=36.5km s-min=24.0km az=149.0*
*ISCJB **08** 04:51:52.4±1.1, 34°.34N±0°.08×25°.46E±0°.08, h30km, mb3.6/4, Error ellipse: s-maj=13.6km s-min=7.7km az=32.2*
*CSEM **08** 04:51:55.2, 34°.54N×25°.38E, h42km, MD3.4, After ATH ATH **08** 04:51:55.2, 34°.54N×25°.38E, h42km±3km, MD3.4/8*
ISC 08 04:51:53.3±1.3, 34°40N±0°.10×25°51E±0°.07, h30km, n23, σ0s91/28, mb3.6/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**0.76**	**358**	*e*P	**Pb**	**04 52 08.4**	**+0.3**
LAST				*e*S	**Sb**	**04 52 17.5**	**-0.8**
LAST	**Lasithi**	**0.76**	**358**	*e*P	**Pb**	**04 52 08.4**	**+0.3**
LAST				*e*S	**Sb**	**04 52 17.5**	**-0.8**
SIVA	**Sivas**	**0.85**	**317**	*e*P	**Pn**	**04 52 08.8**	**-0.4**
SIVA				*e*S	**Sb**	**04 52 20.2**	**-0.3**
SIVA	**Sivas**	**0.85**	**317**	*e*P	**Pn**	**04 52 08.8**	**-0.4**
SIVA				*e*S	**Sb**	**04 52 20.2**	**-0.3**
NPS	**Neapolis**	**0.87**	**5**	*e*P	**Pb**	**04 52 10.5**	**+0.7**
NPS	**Neapolis**	**0.87**	**5**	*e*P	**Pb**	**04 52 10.5**	**+0.7**
ZKR	**Zakros**	**0.92**	**39**	*e*P	**Pb**	**04 52 12.2**	**+1.5**
ZKR	**Zakros**	**0.92**	**39**	*e*P	**Pb**	**04 52 12.2**	**+1.5**
IDI	**Anoyia**	**1.03**	**330**	*e*P	**Pn**	**04 52 11.5**	**-0.2**
IDI				*e*S	**Sn**	**04 52 24.5**	**-0.6**
IDI	**Anoyia**	**1.03**	**330**	*e*P	**Pn**	**04 52 11.5**	**-0.2**
IDI				*e*S	**Sn**	**04 52 24.5**	**-0.6**
VAM	**Vamos**	**1.48**	**313**	*e*P	**Pn**	**04 52 17.6**	**-0.2**
VAM	**Vamos**	**1.48**	**313**	*e*P	**Pn**	**04 52 17.6**	**-0.2**
KARP	**Karpathos**	**1.78**	**49**	*e*P	**Pb**	**04 52 26.2**	**+1.0**
KARP	**Karpathos**	**1.78**	**49**	*e*P	**Pb**	**04 52 26.2**	**+1.0**
ANKY	**Antikythira Is**	**2.33**	**310**	*e*P	**Pn**	**04 52 30.1**	**+0.5**
ANKY	**Antikythira Is**	**2.33**	**310**	*e*P	**Pn**	**04 52 30.1**	**+0.5**
MMAI	**Mount Meron Ar**	**8.36**	**97**	Pn	**Pn**	**04 53 51.4**	**-1.0**
	2.4nm,0.3s,baz=275,slow=16,SNR=2.9						
MMAI				Sn	**Sn**	**04 55 23.3**	**-2.5**
	2.2nm,0.3s,baz=288,slow=20,SNR=3.2						
BRTR	**Keskin Array B**	**8.39**	**48**	Pn	Pn	04 53 56.9	+3.9
	0.1nm,0.3s,baz=212,slow=17,SNR=2.8						
GERES	**GERESS Array B**	**16.89**	**332**	P	**Pn**	**04 55 48.2**	**+0.8**
	0.2nm,0.3s,baz=152,slow=12,SNR=5.0						
HFS	**Hagfors**	**26.88**	**347**	P	**P**	**04 57 31.5**	**+0.3**
	1.3nm,0.8s,baz=148,slow=17,SNR=2.1						
TORD	**Torodi Ar. Bea**	**30.23**	**231**	P	P	04 57 56.5	-4.9
	1.0nm,1.1s,baz=29,slow=8.2,SNR=6.3						
MKAR	**Makanchi Array**	**43.96**	**56**	P	**P**	**04 59 57.8**	**+0.2**
	0.7nm,0.6s,baz=273,slow=6.5,SNR=8.2						
ZALV	**Zalesovo Beam**	**45.33**	**46**	P	**P**	**05 00 09.9**	**+1.6**
	0.8nm,0.5s,baz=271,slow=6.8,SNR=3.0						

*IDC **08** 05:41:33.9±1.7, 34°.29N×25°.69E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/26, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=62.4km s-min=29.6km az=144.0*
*CSEM **08** 05:41:33.9, 34°.06N×25°.42E, h23km, MD3.3, After ATH ATH **08** 05:41:33.9, 34°.06N×25°.42E, h23km±4km, MD3.3/4*
ISC 08 05:41:33.4±1.9, 34°01N±0°.10×25°41E±0°.06, h17km, n12, σ0s44/19, mb3.4/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**1.11**	**334**	*e*PB	**Pb**	**05 41 53.7**	**-0.5**
SIVA				*e*SN	**Sg**	**05 42 10.3**	**+0.7**
SIVA	**Sivas**	**1.11**	**334**	*e*Pb	**Pb**	**05 41 53.7**	**-0.5**
SIVA				*e*Sn	**Sg**	**05 42 10.3**	**+0.7**
LAST	**Lasithi**	**1.15**	**3**	*e*PN	**Pg**	**05 41 55.6**	**0.0**
LAST				*e*SN	**Sb**	**05 42 09.3**	**-0.1**
LAST	**Lasithi**	**1.15**	**3**	*e*Pn	**Pg**	**05 41 55.6**	**0.0**
LAST				*e*Sn	**Sb**	**05 42 09.3**	**-0.1**
ZKR	**Zakros**	**1.29**	**31**	*e*PN	**Pb**	**05 41 57.2**	**+0.1**
ZKR				*e*SN	**Sg**	**05 42 15.0**	**0.0**
ZKR	**Zakros**	**1.29**	**31**	*e*Pn	**Pb**	**05 41 57.2**	**+0.1**
ZKR				*e*Sn	**Sg**	**05 42 15.0**	**0.0**
IDI	**Anoyia**	**1.34**	**342**	*e*PN	**Pb**	**05 41 58.7**	**+0.6**
IDI				*e*SN	**Sg**	**05 42 16.3**	**-0.5**
IDI	**Anoyia**	**1.34**	**342**	*e*Pn	**Pb**	**05 41 58.7**	**+0.6**
IDI				*e*Sn	**Sg**	**05 42 16.3**	**-0.5**
GERES	**GERESS Array B**	**17.19**	**333**	P	**P**	**05 45 33.8**	**-0.4**
	0.1nm,0.3s,baz=149,slow=14,SNR=3.1						
TORD	**Torodi Ar. Bea**	**29.92**	**232**	P	P	05 47 46.8	+6.2
	0.3nm,0.7s,baz=38,slow=9.9,SNR=2.4						
KURBB	**Kurchatov Arra**	**41.69**	**50**	P	**P**	**05 49 20.9**	**-0.1**
	0.3nm,0.4s,baz=279,slow=8.3,SNR=3.4						
MKAR	**Makanchi Array**	**44.24**	**56**	P	**P**	**05 49 42.2**	**+0.4**
	0.4nm,0.7s,baz=282,slow=7.3,SNR=3.8						

IDC 08 05:46:26.6±5.8, 19°26N×145°49E, h201km±56km, mb3.5/12, mb1 3.6/13, mb1mx3.4/28, mbtmp3.4/13, MS3.6/3, Ms1 3.6/3, ms1mx2.7/26, Error ellipse: s-maj=26.4km s-min=12.5km az=93.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**18.36**	**341**	P	P	05 50 25.7	-0.6
	0.5nm,0.3s,baz=155,slow=8.8,SNR=4.0						
KSRS	**Korea Array**	**23.75**	**323**	P	P	05 51 20.6	0.0
	0.9nm,0.5s,baz=148,slow=8.6,SNR=5.2						
ASAJ	**Asahikawa**	**24.90**	**355**	P	P	05 51 31.8	+0.8
	2.5nm,0.4s,baz=218,slow=19,SNR=2.8						
PMG	**Port Moresby**	**28.54**	**177**	LR	LR	06 02 54.2	
	comp=Z,94nm,18.3s,baz=23,slow=35						
WRA	**Warramunga Arr**	**40.47**	**196**	P	P	05 53 45.6	-0.2
	2.6nm,0.6s,baz=19,slow=8.3,SNR=35						
ASAR	**Alice Springs**	**44.14**	**195**	P	P	05 54 15.3	-0.2
	1.0nm,0.5s,baz=16,slow=7.2,SNR=13						
STKA	**Stephens Creek**	**50.98**	**184**	LR	LR	06 15 29.2	
	comp=Z,81nm,19.4s,baz=22,slow=34						
AFI	**Afiamalu**	**53.45**	**125**	LR	LR	06 16 13.3	
	comp=Z,48nm,20.9s,baz=107,slow=33						
KURBB	**Kurchatov Arra**	**60.77**	**318**	P	P	05 56 17.6	+0.4
	0.6nm,0.4s,baz=90,slow=7.4,SNR=9.3						
ILAR	**Eielson Array**	**63.23**	**26**	P	P	05 56 32.5	-0.8
	1.5nm,0.5s,baz=255,slow=5.0,SNR=18						
BVAR	**Borovoye Array**	**65.92**	**320**	P	P	05 56 51.2	+0.3
	0.8nm,0.5s,baz=100,slow=6.0,SNR=3.6						
YKA	**Yellowknife Ar**	**77.58**	**28**	P	P	05 58 00.4	+0.3
	0.8nm,0.6s,baz=287,slow=5.3,SNR=4.4						
ARCES	**ARCESS Array B**	**81.90**	**342**	P	P	05 58 24.1	+0.8
	1.0nm,0.8s,baz=64,slow=8.2,SNR=4.2						
NVAR	**Mina Array Bea**	**82.95**	**52**	P	P	05 58 30.7	+1.1
	0.8nm,0.7s,baz=268,slow=5.8,SNR=5.8						
JOF	**Joensuu**	**83.43**	**335**	*e*p	P	05 58 29.7	-1.5
	1.7nm,0.5s						
FINES	**FINESS Array B**	**86.29**	**335**	P	P	05 58 44.1	-1.4
	0.8nm,0.4s,baz=70,slow=4.7,SNR=14						
PDAR	**Pinedale Array**	**87.57**	**45**	P	P	05 58 52.5	+0.1
	0.1nm,0.4s,baz=172,slow=1.8,SNR=3.5						

*ISCJB **08** 05:58:22.1±0.5, 5°.74S±0°.04×147°.25E±0°.08, h78km, mb4.3/18, Error ellipse: s-maj=11.8km s-min=5.7km az=9.2*
*IDC **08** 05:58:24.4±2.3, 5°.78S×147°.22E, h84km±21km, mb4.1/13, mb1 4.1/15, mb1mx4.1/20, mbtmp4.1/15, Error ellipse: s-maj=26.0km s-min=13.3km az=92.0*
*NEIC **08** 05:58:25.6±1.2, 5°.81S×147°.24E, h97km±12km, mb4.5/5, Error ellipse: s-maj=13.3km s-min=8.6km az=99.0*
*AUST **08** 05:58:29.7±0.8, 6°.16S×147°.04E, h102km, Error ellipse: s-maj=2.1km s-min=0.9km az=250.0*
*DJA **08** 05:58:31.0±2.1, 6°.S±14°×14°.7E±2°.2, h101km±9km, M4.9/7, mB6.2/2, mb5.2/7, MLv4.8/1, Mw(mB)5.8/2*
ISC 08 05:58:24.0±0.5, 5°80S±0°.05×147°14E±0°.09, h78km, n71, σ1s38/77, mb4.3/18, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.58**	**180**	P	**Pn**	**05 59 18.9**	**+1.6**
PMG				S	**Sn**	**05 59 59.1**	**+0.6**
PMG	**Port Moresby**	**3.58**	**180**	P	**Pn**	**05 59 18.4**	**+1.1**
PMG	**Port Moresby**	**3.58**	**180**	P	**Pn**	**05 59 18.9**	**+1.6**
	55nm,0.3s,baz=21,slow=5.1,SNR=63						
PMG				S	**Sn**	**05 59 59.1**	**+0.6**
	166nm,0.3s,baz=49,slow=19,SNR=14						
MANU	**Manus Island**	**3.74**	**4**	S	Sn	06 00 22.5	+20
	baz=4.1,SNR=3.2						
JAY	**Jayapura**	**7.20**	**297**	P	Pn	06 00 12.4	+5.8
	baz=7.3,SNR=10.0						
COEN	**Coen**	**9.00**	**205**	*e*Pn	**Pn**	**06 00 32.7**	**+1.6**
	111nm,0.3s						
COEN				*e*Sn	**Sn**	**06 02 07.2**	**-3.7**
COEN	**Coen**	**9.00**	**205**	P	**Pn**	**06 00 32.9**	**+1.8**
	baz=8.7,SNR=83						
COEN				S	**Sn**	**06 02 08.4**	**-2.5**
	baz=8.7,SNR=8.4						
MTSU	**Mount Surprise**	**12.56**	**192**	P	**Pn**	**06 01 21.8**	**+2.0**
	baz=12,SNR=17						
CTA	**Charters Tower**	**14.23**	**183**	P	**Pn**	**06 01 43.8**	**+2.0**
CTA	**Charters Tower**	**14.23**	**183**	P	**Pn**	**06 01 43.8**	**+2.0**
	0.6nm,0.3s,baz=358,slow=14,SNR=2.9						
CTAO	**Charters Tower**	**14.23**	**183**	*e*Pn	**Pn**	**06 01 42.3**	**+0.5**
FAKI	**Fak Fak**	**15.12**	**280**	P	**P**	**06 01 59.1**	**+2.3**
	baz=15,SNR=3.2						
KDU	**Kakadu**	**16.00**	**244**	P	**Pn**	**06 02 05.0**	**+0.5**
	baz=16,SNR=16						
MTN	**Manton Dam**	**17.27**	**245**	P	**P**	**06 02 21.3**	**+0.8**
	baz=17,SNR=9.2						
WRAB	**Tennant Creek**	**18.76**	**220**	*e*P	**P**	**06 02 37.7**	**+0.7**
	68nm,0.7s						
WRA	**Warramunga Arr**	**18.77**	**220**	P	**Pn**	**06 02 38.0**	**-0.4**
WRA				S	S	06 05 58.6	-8.0
WRA	**Warramunga Arr**	**18.77**	**220**	P	**Pn**	**06 02 38.0**	**-0.4**
	4.7nm,0.3s,baz=42,slow=12,SNR=122						
WRA				S	S	06 05 58.6	-8.0
	0.4nm,0.3s,baz=42,slow=21,SNR=4.0						
EIDS	**Eidsvold**	**19.82**	**169**	*e*P	**P**	**06 02 48.3**	**-0.2**
KNRA	**Kununurra**	**20.53**	**240**	P	**P**	**06 02 57.6**	**+1.4**
	baz=20,SNR=8.3						
ASAR	**Alice Springs**	**21.86**	**214**	P	**P**	**06 03 11.3**	**+0.9**
ASAR				S	**S**	**06 07 04.9**	**-2.9**
ASAR	**Alice Springs**	**21.86**	**214**	P	**P**	**06 03 11.3**	**+0.9**
	14nm,0.4s,baz=49,slow=9.1,SNR=141						
ASAR				S	**S**	**06 07 04.9**	**-2.9**
	5.6nm,0.8s,baz=31,slow=26,SNR=8.4						
SOEI	**Soe**	**22.99**	**259**	P	**P**	**06 03 24.0**	**+1.4**
	64nm,1.0s						
SOEI	**Soe**	**22.99**	**259**	P	**P**	**06 03 24.9**	**+2.3**
	baz=23,SNR=4.4						
FITZ	**Fitzroy Crossi**	**24.29**	**238**	P	**P**	**06 03 35.4**	**+1.2**
FITZ				S	**S**	**06 07 45.5**	**-2.4**
FITZ	**Fitzroy Crossi**	**24.29**	**238**	P	**P**	**06 03 35.4**	**+1.2**
	25nm,0.5s,baz=60,slow=9.3,SNR=163						
FITZ				S	**S**	**06 07 45.5**	**-2.4**
	2.3nm,0.8s,baz=35,slow=20,SNR=4.9						
FITZ	**Fitzroy Crossi**	**24.29**	**238**	P	**P**	**06 03 35.2**	**+1.0**
	baz=24,SNR=119						
STKA	**Stephens Creek**	**26.46**	**191**	*e*P	**P**	**06 03 53.1**	**-0.7**
STKA	**Stephens Creek**	**26.46**	**191**	P	**P**	**06 03 54.5**	**+0.7**
	1.1nm,0.3s,baz=319,slow=18,SNR=5.6						
BBOO	**Buckleboo**	**28.79**	**200**	P	**P**	**06 04 15.9**	**+1.3**
	baz=28,SNR=8.5						
MBWA	**Marble Bar**	**30.63**	**237**	*e*P	**P**	**06 04 31.1**	**+0.1**
	8.1nm,0.6s						
FORT	**Forrest**	**30.64**	**214**	P	**P**	**06 04 31.8**	**+0.8**
	baz=30,SNR=11						
MEEK	**Meekatharra**	**34.19**	**230**	P	**P**	**06 05 03.0**	**+0.8**
	baz=34,SNR=10.0						
KMBL	**Kambalda**	**34.74**	**220**	P	**P**	**06 05 07.6**	**+0.7**
	baz=34,SNR=6.7						
MORW	**Morawa**	**37.41**	**228**	P	**P**	**06 05 30.3**	**+0.7**
	baz=37,SNR=8.1						
KLBR	**Kellerberrin**	**37.61**	**223**	P	**P**	**06 05 31.6**	**+0.3**
	baz=37,SNR=11						
BLDU	**Balliduu**	**37.77**	**225**	P	**P**	**06 05 33.3**	**+0.6**
	baz=38,SNR=6.3						
NWAO	**Narrogin (SRO)**	**38.77**	**222**	P	**P**	**06 05 40.5**	**-0.5**
NWAO	**Narrogin (SRO)**	**38.77**	**222**	P	**P**	**06 05 40.5**	**-0.5**
	12nm,0.9s,baz=80,slow=6.7,SNR=2.9						
MJAR	**Matsushiro Arr**	**42.94**	**349**	P	**P**	**06 06 16.0**	**+0.8**
MJAR	**Matsushiro Arr**	**42.94**	**349**	P	**P**	**06 06 16.0**	**+0.8**
	2.8nm,0.9s,baz=169,slow=7.1,SNR=5.6						
KSRS	**Korea Array**	**46.61**	**339**	P	**P**	**06 06 44.8**	**+0.4**
	0.6nm,0.4s,baz=161,slow=8.0,SNR=4.4						
KSAR	**Wonju Array Be**	**46.62**	**339**	P	**P**	**06 06 44.8**	**+0.3**
ASAJ	**Asahikawa**	**49.85**	**356**	P	**P**	**06 07 08.0**	**-1.2**
ASAJ	**Asahikawa**	**49.85**	**356**	P	**P**	**06 07 08.0**	**-1.2**
	2.0nm,0.3s,baz=164,slow=18,SNR=2.2						
CMAR	**Chiang Mai Arr**	**53.27**	**298**	P	**P**	**06 07 37.6**	**+2.4**
CMAR	**Chiang Mai Arr**	**53.27**	**298**	P	**P**	**06 07 37.6**	**+2.4**
	0.6nm,0.3s,baz=140,slow=5.8,SNR=3.4						
PETK	**Petropavlovsk-**	**59.36**	**7**	P	**P**	**06 08 18.4**	**+0.4**
PETK	**Petropavlovsk-**	**59.36**	**7**	P	**P**	**06 08 18.4**	**+0.4**
	7.3nm,0.9s,baz=167,slow=7.4,SNR=5.7						
SONM	**Songino Array**	**64.30**	**331**	P	**P**	**06 08 51.4**	**+0.1**
SONM	**Songino Array**	**64.30**	**331**	P	**P**	**06 08 51.4**	**+0.1**
	0.9nm,0.5s,baz=144,slow=7.0,SNR=9.0						
VNDA	**Vanda**	**72.10**	**177**	*e*P	**P**	**06 09 39.1**	**-0.4**
	2.4nm,1.0s						
VNDA	**Vanda**	**72.10**	**177**	P	**P**	**06 09 39.5**	**0.0**
	0.8nm,0.6s,baz=302,slow=6.1,SNR=12						
MKAR	**Makanchi Array**	**77.43**	**320**	P	**P**	**06 10 09.9**	**-0.9**
MKAR	**Makanchi Array**	**77.43**	**320**	P	**P**	**06 10 09.9**	**-0.9**
	0.8nm,0.4s,baz=102,slow=7.8,SNR=13						
ZALV	**Zalesovo Beam**	**78.92**	**328**	P	**P**	**06 10 16.9**	**-1.9**
ZALV	**Zalesovo Beam**	**78.92**	**328**	P	**P**	**06 10 16.9**	**-1.9**
	1.2nm,0.3s,baz=131,slow=5.9,SNR=5.6						
RC01	**Rabbit Creek A**	**82.48**	**26**	*e*P	**P**	**06 10 36.6**	**-1.1**
	5.6nm,0.5s						
SML	**Sawmill**	**83.41**	**26**	*e*P	**P**	**06 10 42.0**	**-0.5**
	1.7nm,0.5s						
ILAR	**Eielson Array**	**85.25**	**23**	P	**P**	**06 10 50.1**	**-1.6**
ILAR	**Eielson Array**	**85.25**	**23**	P	**P**	**06 10 50.1**	**-1.6**
	2.3nm,0.6s,baz=252,slow=5.0,SNR=45						
PLCA	**Paso Flores**	**122.22**	**147**	PKP	**PKPdf**	**06 17 10.1**	**-0.3**
PLCA	**Paso Flores**	**122.22**	**147**	PKP	**PKPdf**	**06 17 10.1**	**-0.3**
	1.8nm,0.7s,baz=193,slow=1.5,SNR=5.4						
LPAZ	**La Paz**	**138.78**	**123**	PKPpre	PKPpre	06 17 37.1	
LPAZ	**La Paz**	**138.78**	**123**	PKhKP	PKPpre	06 17 37.1	
	0.7nm,0.7s,baz=264,slow=6.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**145.17**	**285**	PKPbc	**PKPbc**	**06 17 53.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**145.17**	**285**	PKPbc	**PKPbc**	**06 17 53.2**	**-0.2**
	0.7nm,0.5s,baz=90,slow=3.3,SNR=8.9						
SAML	**Samuel**	**146.41**	**116**	*e*PKPdf	**PKPdf**	**06 17 55.2**	**-0.6**
DBIC	**Dimbokro**	**152.15**	**273**	PKPbc	**PKPbc**	**06 18 09.9**	**-1.8**
DBIC	**Dimbokro**	**152.15**	**273**	PKPbc	**PKPbc**	**06 18 09.9**	**-1.8**
	14nm,1.2s,baz=180,slow=4.0,SNR=2.9						
BDFB	**Brasilia**	**153.94**	**145**	PKP	**PKPdf**	**06 18 08.3**	**+0.6**
BDFB				PKPbc	**PKPbc**	**06 18 15.3**	**-0.4**
BDFB	**Brasilia**	**153.94**	**145**	PKP	**PKPdf**	**06 18 08.3**	**+0.6**
	1.2nm,0.6s,baz=315,slow=1.4,SNR=3.0						
BDFB				PKPbc	**PKPbc**	**06 18 15.3**	**-0.4**
	5.9nm,0.8s,baz=266,slow=2.3,SNR=7.1						

*ISCJB **08** 06:03:07.1±0.5, 0°.26N±0°.05×120°.12E±0°.04, h32km, mb3.9/10, Error ellipse: s-maj=6.8km s-min=6.3km az=164.5*
*DJA **08** 06:03:09.0±0.3, 0°N±3°×12°0E±°, h10km, M4.6/9, mb4.7/3, mB5.5/2, MLv4.5/9, Mw(mB)4.9/2*
*IDC **08** 06:03:12.9±3.7, 0°.11S×120°.14E, h92km±36km, mb3.5/10, mb1 3.6/11, mb1mx3.5/24, mbtmp3.5/11, Error ellipse: s-maj=40.8km s-min=16.8km az=69.0*
ISC 08 06:03:08.4±0.7, 0°16N±0°07×120°13E±0°04, h32km, n27, σ2s02/26, mb3.9/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.84**	**80**	P	**Pb**	**06 03 41.3**	**-0.1**
MRSI				S	**Sn**	**06 04 02.8**	**+2.9**
SGKI	**Sangatta, Kali**	**2.62**	**255**	P	**Pn**	**06 03 50.9**	**+2.4**
SGKI				S	**Sn**	**06 04 22.1**	**+2.8**
SGKI	**Sangatta, K

n641,σ1ŝ24/700, mb4.6/112, MS3.9/20, 8C-5D, Crete

Code	Station Name	Δ°	ΔZ°	Phase ID Op	ISC	Time h m s	ISC	Res
XRY	**Khrisi**	**0.88**	**15**	*e*PG	**Pg**	**06 20 12.1**		**-2.2**
XRY	**Khrisi**	**0.88**	**15**	*e*Pg	**Pg**	**06 20 12.1**		**-2.2**
SIVA	**Sivas**	**1.12**	**333**	P	**Pb**	**06 20 15.5**		**-2.2**
SIVA				S	**Sn**	**06 20 32.8**		**+0.3**
SIVA	**Sivas**	**1.12**	**333**	*e*PB	**Pb**	**06 20 15.9**		**-1.8**
SIVA	**Sivas**	**1.12**	**333**	P	**Pb**	**06 20 15.5**		**-2.2**
SIVA	**Sivas**	**1.12**	**333**	*e*Pb	**Pb**	**06 20 15.9**		**-1.8**
SIVA				S	**Sn**	**06 20 32.8**		**+0.3**
LAST	**Lasithi**	**1.14**	**2**	P	**Pb**	**06 20 16.1**		**-2.1**
LAST	**Lasithi**	**1.14**	**2**	*e*PG	**Pb**	**06 20 16.4**		**-1.8**
LAST				*e*SB	**Sb**	**06 20 30.0**		**-2.6**
LAST	**Lasithi**	**1.14**	**2**	P	**Pb**	**06 20 16.1**		**-2.1**
LAST	**Lasithi**	**1.14**	**2**	*e*Pg	**Pb**	**06 20 16.4**		**-1.8**
NPS	**Neapolis**	**1.25**	**7**	*e*PB	**Pn**	**06 20 18.3**		**-1.2**
NPS				*e*SB	**Sb**	**06 20 34.6**		**-1.1**
NPS	**Neapolis**	**1.25**	**7**	*e*Pb	**Pn**	**06 20 18.3**		**-1.2**
NPS				*e*Sb	**Sb**	**06 20 34.6**		**-1.1**
ZKR	**Zakros**	**1.27**	**31**	*e*PN	**Pn**	**06 20 19.6**		**-0.2**
ZKR				*e*SB	**Sb**	**06 20 37.2**		**+0.8**
ZKR	**Zakros**	**1.27**	**31**	*e*Pn	**Pn**	**06 20 19.6**		**-0.2**
ZKR				*e*Sb	**Sb**	**06 20 37.2**		**+0.8**
IDI	**Anoyia**	**1.34**	**341**	P	**Pn**	**06 20 19.1**		**-1.7**
IDI				S	**Sb**	**06 20 38.0**		**-0.4**
IDI	**Anoyia**	**1.34**	**341**	*e*PN	**Pn**	**06 20 19.4**		**-1.4**
IDI				*e*SB	**Sb**	**06 20 36.3**		**-2.1**
IDI	**Anoyia**	**1.34**	**341**	*e*Pn	**Pn**	**06 20 19.1**		**-1.7**
IDI	**Anoyia**	**1.34**	**341**	P	**Pn**	**06 20 19.1**		**-1.7**
IDI	**Anoyia**	**1.34**	**341**	*e*Pn	**Pn**	**06 20 19.4**		**-1.4**
IDI				S	**Sb**	**06 20 38.0**		**-0.4**
GVD	**Gavdhos**	**1.38**	**307**	*e*PB	**Pb**	**06 20 21.6**		**-0.5**
GVD	**Gavdhos**	**1.38**	**307**	*e*Pn	**Pb**	**06 20 21.2**		**-0.9**
GVD	**Gavdhos**	**1.38**	**307**	*e*Pn	**Pb**	**06 20 21.2**		**-0.9**
GVD	**Gavdhos**	**1.38**	**307**	*e*Pb	**Pb**	**06 20 21.6**		**-0.5**
VAM	**Vamos**	**1.71**	**324**	*e*PG	**Pn**	**06 20 26.2**		**+0.4**
VAM	**Vamos**	**1.71**	**324**	*e*Pg	**Pn**	**06 20 26.2**		**+0.4**
KARP	**Karpathos**	**2.09**	**43**	*e*PN	**Pb**	**06 20 34.4**		**+0.1**
LTBQ	**Tobruq** SNR=94	**2.33**	**213**	*i* P	**Pn**	**06 20 34.7**		**+0.4**
SANT	**Santorini**	**2.35**	**1**	P	**Pn**	**06 20 34.6**		**0.0**
SANT	**Santorini**	**2.35**	**1**	*e*Pn	**Pn**	**06 20 35.2**		**+0.6**
SANT	**Santorini**	**2.35**	**1**	P	**Pn**	**06 20 34.6**		**0.0**
SANT	**Santorini**	**2.35**	**1**	*e*Pn	**Pn**	**06 20 35.2**		**+0.6**
SLUM		**2.53**	**184**	P	**Pn**	**06 20 37.0**		**0.0**
ANKY	**Antikythira Is**	**2.54**	**317**	*e*PN	**Pb**	**06 20 39.2**		**-2.7**
ANKY	**Antikythira Is**	**2.54**	**317**	*e*Pn	**Pb**	**06 20 39.2**		**-2.7**
NIS1	**Nisyros Isl.**	**2.95**	**29**	P	**Pn**	**06 20 44.0**		**+1.2**
NIS1	**Nisyros Isl.**	**2.95**	**29**	*e*PN	**Pn**	**06 20 45.3**		**+2.5**
NIS1	**Nisyros Isl.**	**2.95**	**29**	P	**Pn**	**06 20 44.0**		**+1.2**
KYTH	**Kithira**	**2.99**	**320**	*e*PB	**Pn**	**06 20 45.3**		**+1.9**
KYTH	**Kithira**	**2.99**	**320**	*e*Pb	**Pn**	**06 20 45.3**		**+1.9**
APE	**Apeiranthos**	**3.04**	**2**	*e*P	**Pn**	**06 20 42.8**		**-1.3**
APE				*e*PN	Pb	06 20 43.4		-7.2
APE	**Apeiranthos**	**3.04**	**2**	*e*SN	**Sn**	**06 21 23.6**		**+3.5**
APE	**Apeiranthos**	**3.04**	**2**	*e*PN	**Pn**	**06 20 45.7**		**+1.5**
APE	**Apeiranthos**	**3.04**	**2**	*e*Pn	**Pn**	**06 20 45.7**		**+1.5**
ARG	**Arkhangelos**	**3.12**	**45**	*e*PB	**Pb**	**06 20 49.0**		**-2.8**
ARG	**Arkhangelos**	**3.12**	**45**	*e*Pb	**Pb**	**06 20 49.0**		**-2.8**
DAT	**Datca**	**3.23**	**32**	*e*PN	**Pn**	**06 20 47.8**		**+1.0**
DAT				*e*P	Pb	06 20 48.6		-5.1
HMAT	**Matruh** baz=157	**3.24**	**154**	P	**Pn**	**06 20 45.3**		**-1.5**
HMAT				AMP		06 21 00.0		
	comp=E,320µm,0.7s,logA/T=5.6,baz=157							
HMAT				S	**Sn**	**06 21 21.7**		**-3.2**
	baz=157							
HMAT	**Matruh**	**3.24**	**154**	P	**Pn**	**06 20 45.3**		**-1.5**
HMAT				S	**Sn**	**06 21 21.7**		**-3.2**
VLI	**Veliai**	**3.37**	**324**	*e*PN	**Pn**	**06 20 50.4**		**+1.7**
VLI	**Veliai**	**3.37**	**324**	*e*Pn	**Pn**	**06 20 50.4**		**+1.7**
BODT	**Bodrum**	**3.40**	**26**	*e*P	**Pn**	**06 20 49.2**		**+0.1**
BODT				*e*PN	Pb	06 20 49.6		-7.1
DYR	**Agios Nikonas**	**3.72**	**318**	P	**Pn**	**06 20 55.0**		**+1.5**
DYR	**Agios Nikonas**	**3.72**	**318**	*e*PN	**Pn**	**06 20 56.0**		**+2.5**
DYR	**Agios Nikonas**	**3.72**	**318**	P	**Pn**	**06 20 55.0**		**+1.5**
MLSB	**Milas**	**3.79**	**30**	*e*P	**Pn**	**06 20 56.1**		**+1.8**
MLSB				*e*PN	**Pn**	**06 20 56.1**		**+1.8**
DALY	**Dalyan (Muˇla**	**3.84**	**42**	*e*PN	**Pn**	**06 20 56.8**		**+1.8**
DALY				*e*P	Pb	06 20 57.6		-6.5
TURN	**Turunc**	**3.85**	**41**	*e*Pn	Pn	06 20 51.6		-3.6
TURN				*e*Sn	**Sg**	**06 21 58.7**		**-2.0**
YER	**Yerkesik**	**3.88**	**36**	*e*P	**Pn**	**06 20 57.7**		**+1.9**
YER				*e*PN	**Pn**	**06 20 57.7**		**+1.9**
DID	**Didima**	**3.91**	**334**	P	**Pn**	**06 20 55.6**		**-0.4**
DID				S	**Sn**	**06 21 43.1**		**+1.7**
DID	**Didima**	**3.91**	**334**	P	**Pn**	**06 20 55.6**		**-0.4**
DID				S	**Sn**	**06 21 43.1**		**+1.7**
GCAM	**G?zelcaml?**	**3.96**	**21**	*e*Pn	**Pn**	**06 20 59.4**		**+2.8**
GCAM				*e*Sn	Sg	06 22 11.7		+7.7
FETY	**Fethiye**	**3.97**	**48**	*e*P	**Pn**	**06 20 57.7**		**+0.8**
FETY	**Fethiye**	**3.97**	**48**	*e*PN	**Pn**	**06 20 58.1**		**+1.2**
KSL	**Kastellorizon**	**4.02**	**57**	*e*PN	**Pn**	**06 20 59.2**		**+1.7**
NAIG	**Nisos Aigina**	**4.05**	**338**	*e*PN	**Pn**	**06 20 59.2**		**+1.3**
NAIG	**Nisos Aigina**	**4.05**	**338**	*e*Pn	**Pn**	**06 20 59.2**		**+1.3**
AKAS	**Kas**	**4.08**	**56**	*i* Pn	**Pn**	**06 20 56.6**		**+1.1**
AKAS				*i* Sn	**Sn**	**06 21 41.8**		**-3.9**
PYL	**PYLOS**	**4.16**	**315**	P	**Pn**	**06 21 00.1**		**+0.7**
PYL	**PYLOS**	**4.16**	**315**	*e*PN	**Pn**	**06 21 02.1**		**+2.7**
PYL	**PYLOS**	**4.16**	**315**	P	**Pn**	**06 21 00.1**		**+0.7**
ITM	**Ithomi**	**4.25**	**319**	*e*PN	**Pn**	**06 21 02.8**		**+2.1**
ITM	**Ithomi**	**4.25**	**319**	*e*Pn	**Pn**	**06 21 02.8**		**+2.1**
CHOS	**Chios island**	**4.39**	**6**	P	**Pn**	**06 21 03.5**		**+0.8**
CHOS				S	**Sn**	**06 21 56.5**		**+3.2**
CHOS	**Chios island**	**4.39**	**6**	*e*PN	**Pn**	**06 21 03.7**		**+1.0**
CHOS	**Chios island**	**4.39**	**6**	P	**Pn**	**06 21 03.5**		**+0.8**
CHOS				S	**Sn**	**06 21 56.5**		**+3.2**
LTK	**Loutraki**	**4.46**	**334**	*e*PN	**Pn**	**06 21 04.6**		**+0.9**
LTK	**Loutraki**	**4.46**	**334**	*e*Pn	**Pn**	**06 21 04.6**		**+0.9**
BLCB	**Balcova**	**4.55**	**16**	*e*PN	**Pn**	**06 21 05.2**		**+0.4**
BLCB	**Balcova**	**4.55**	**16**	*e*P	Pn	06 21 08.3		+3.6
ELL	**Elmali**	**4.56**	**52**	*e*P	**Pn**	**06 21 07.1**		**+2.0**
ELL				*e*PN	**Pn**	**06 21 07.1**		**+2.0**
IZM	**Izmir**	**4.62**	**18**	*e*PN	**Pn**	**06 21 06.6**		**+0.8**
IZM	**Izmir**	**4.62**	**18**	*e*P	**Pn**	**06 21 07.9**		**+2.1**
GUR	**Goura**	**4.64**	**328**	P	**Pn**	**06 21 06.7**		**+0.5**
GUR	**Goura**	**4.64**	**328**	*e*PN	**Pn**	**06 21 07.1**		**+0.9**
GUR	**Goura**	**4.64**	**328**	P	**Pn**	**06 21 06.7**		**+0.5**
GUR	**Goura**	**4.64**	**328**	*e*Pn	**Pn**	**06 21 07.1**		**+0.9**
GOLH	**Golhisar**	**4.65**	**45**	*e*Pn	**Pn**	**06 21 08.3**		**+2.0**
GOLH				*e*Sn	**Sn**	**06 22 04.1**		**+4.3**
DNZL	**Cakiroluk**	**4.70**	**38**	*e*Pn	**Pn**	**06 21 09.5**		**+2.5**
DNZL				*e*Sn	Sn	06 22 08.9		+7.9
SWA2	baz=183	**4.76**	**180**	P	**Pn**	**06 21 07.2**		**-0.5**
SWA2				S	**Sn**	**06 22 00.6**		**-1.8**
	baz=183							
SWA2		**4.76**	**180**	P	**Pn**	**06 21 07.2**		**-0.5**
SWA2				S	**Sn**	**06 22 00.6**		**-1.8**
KLV	**Kalavryta, Ach**	**4.81**	**327**	*e*PN	**Pn**	**06 21 08.9**		**+0.4**
KLV	**Kalavryta, Ach**	**4.81**	**327**	*e*Pn	**Pn**	**06 21 08.9**		**+0.4**
LAKA	**Lakka**	**5.05**	**327**	*e*PN	**Pn**	**06 21 14.4**		**+2.7**
KULA	**Kula-Manisa**	**5.19**	**29**	*e*P	**Pn**	**06 21 15.5**		**+1.8**
KULA				*e*PN	**Pn**	**06 21 15.5**		**+1.8**
AKHS	**Akhisar**	**5.22**	**21**	*e*Pn	**Pn**	**06 21 13.7**		**-0.3**
AKHS				*e*Sn	**Sg**	**06 22 41.1**		**-3.3**
AOS	**Alonnisos**	**5.29**	**347**	P	**Pn**	**06 21 15.5**		**+0.5**
AOS	**Alonnisos**	**5.29**	**347**	*e*PN	**Pn**	**06 21 15.8**		**+0.8**
AOS	**Alonnisos**	**5.29**	**347**	P	**Pn**	**06 21 15.5**		**+0.5**
AOS	**Alonnisos**	**5.29**	**347**	*e*Pn	**Pn**	**06 21 15.8**		**+0.8**
LJBD	**Adjabya** SNR=76	**5.39**	**236**	*e*P	**Pn**	**06 21 14.5**		**-1.9**
AGG	**Agios Georgios**	**5.58**	**334**	*e*PN	**Pn**	**06 21 20.6**		**+1.6**
AGG	**Agios Georgios**	**5.58**	**334**	*e*Pn	**Pn**	**06 21 20.6**		**+1.6**
ISP	**Isparta**	**5.61**	**46**	*e*PN	**Pn**	**06 21 22.4**		**+2.8**
SUTC	**Sutluce-Ispart**	**5.70**	**51**	*e*PN	**Pn**	**06 21 23.2**		**+2.5**
BALY	**Balya**	**5.97**	**16**	*e*Pn	**Pn**	**06 21 26.0**		**+1.6**
BALY				*e*Sn	**Sb**	**06 22 56.2**		**+4.6**
GAZI	**Gazipasa**	**6.06**	**67**	*e*Pn	**Pn**	**06 21 24.0**		**-1.6**
GAZI				*e*Sn	Sn	06 22 28.4		-6.1
LKD2	**Lefkada island**	**6.12**	**322**	*e*PN	**Pn**	**06 21 28.3**		**+1.9**
LKD2	**Lefkada island**	**6.12**	**322**	*e*Pn	**Pn**	**06 21 28.3**		**+1.9**
SHUT	**Suhut-Afyon**	**6.13**	**41**	*e*P	**Pn**	**06 21 27.4**		**+0.8**
SHUT	**Suhut-Afyon**	**6.13**	**41**	*e*PN	**Pn**	**06 21 28.5**		**+1.8**
LEF	**Lefka**	**6.26**	**78**	*e*P	**Pn**	**06 21 28.2**		**-0.1**
LEF				*e*PN	**Pn**	**06 21 28.2**		**-0.1**
GONE	**Gonen-Balikesi**	**6.28**	**16**	*e*P	**Pn**	**06 21 29.9**		**+1.3**
GONE				*e*PN	**Pn**	**06 21 29.9**		**+1.3**
ALT	**Altintas**	**6.28**	**36**	*e*PN	**Pn**	**06 21 30.4**		**+1.7**
TVSB	**Tavsanli**	**6.31**	**30**	*e*P	**Pn**	**06 21 29.9**		**+0.8**
TVSB				*e*PN	**Pn**	**06 21 29.9**		**+0.8**
AWBH		**6.42**	**151**	P	**Pn**	**06 21 29.3**		**-1.2**
	baz=153							
AWBH		**6.42**	**151**	P	**Pn**	**06 21 29.3**		**-1.2**
BOLV	**Bolvadin**	**6.47**	**42**	*e*Pn	**Pn**	**06 21 32.3**		**+1.0**
BOLV				*e*Sn	**Sg**	**06 23 20.9**		**-3.7**
KRBG	**Karabiga-Canak**	**6.54**	**13**	*e*PN	**Pn**	**06 21 32.3**		**+0.2**
CSS	**Prodhromos**	**6.59**	**80**	*e*P	**Pn**	**06 21 32.9**		**-0.1**
CSS				*e*PN	**Pn**	**06 21 32.9**		**-0.1**
CSS	**Prodhromos**	**6.59**	**80**	*e*Pn	**Pn**	**06 21 33.1**		**+0.1**
CSS				*e*Sn	**Sn**	**06 22 47.4**		**-0.2**
CSS	**Prodhromos**	**6.59**	**80**	*e*Pn	**Pn**	**06 21 33.1**		**+0.1**
CSS				*e*Sn	**Sn**	**06 22 47.4**		**-0.2**
KCTX	**Karacabey (Bur**	**6.66**	**20**	*e*P	**Pn**	**06 21 33.5**		**-0.4**
KCTX				*e*PN	**Pn**	**06 21 34.1**		**+0.3**
LFK	**Lefkose**	**6.80**	**77**	*e*PN	**Pn**	**06 21 36.1**		**+0.3**
LFK				*e*P	**Pn**	**06 21 37.5**		**+1.7**
RKY	**Sarkoy-Tekirda**	**6.80**	**11**	*e*P	**Pn**	**06 21 35.1**		**-0.7**
RKY				*e*PN	**Pn**	**06 21 35.1**		**-0.7**
GLL	**Jalalah** baz=129	**6.94**	**128**	P	**Pn**	**06 21 35.7**		**-2.1**
GLL	**Jalalah**	**6.94**	**128**	P	**Pn**	**06 21 35.7**		**-2.1**
LADK	**Ladik-KONYA**	**7.00**	**51**	*e*PN	**Pn**	**06 21 40.3**		**+1.8**
ARMT	**Armutlu**	**7.08**	**22**	*e*P	**Pn**	**06 21 40.9**		**+1.3**
ARMT				*e*PN	**Pn**	**06 21 40.9**		**+1.3**
CAVI	**Cavuskoy**	**7.11**	**28**	*e*PN	**Pn**	**06 21 41.5**		**+1.5**
CAVI	**Cavuskoy**	**7.11**	**28**	*e*P	**Pn**	**06 21 42.4**		**+2.4**
KIZT	**Kizilcal**	**7.11**	**45**	*e*P	**Pn**	**06 21 41.7**		**+1.6**
KIZT				*e*PN	**Pn**	**06 21 41.7**		**+1.6**
IKL	**Isikli**	**7.12**	**70**	*e*P	**Pn**	**06 21 40.4**		**+0.3**
IKL				*e*PN	**Pn**	**06 21 40.4**		**+0.3**
ADVT	**Abdulvahap**	**7.27**	**27**	*e*PN	**Pn**	**06 21 43.3**		**+1.2**
ADVT				*e*P	Pn	06 21 45.6		+3.4
SRN	**Sarande**	**7.28**	**325**	*e*PN	Pn	06 21 47.0		+4.6
SRN				*i* PN		06 23 34.4		
HFRF	**Wahat Farafira** baz=161	**7.29**	**159**	P	**Pn**	**06 21 41.4**		**-1.0**
HFRF	**Wahat Farafira**	**7.29**	**159**	P	**Pn**	**06 21 41.4**		**-1.0**
AMAG	**Maghara** baz=116	**7.40**	**115**	P	Pn	06 21 40.7		-3.3
AMAG	**Maghara**	**7.40**	**115**	P	Pn	06 21 40.7		-3.3
SUZ	baz=122	**7.55**	**121**	P	**Pn**	**06 21 43.1**		**-2.9**
SUZ		**7.55**	**121**	P	**Pn**	**06 21 43.1**		**-2.9**
GULT	**Gulveren**	**7.58**	**31**	*e*PN	**Pn**	**06 21 47.6**		**+1.1**
GULT				*e*P	**Pn**	**06 21 48.9**		**+2.5**
MMB	**Musomiste**	**7.67**	**350**	*e*P	Pn	06 21 51.3		+3.5
KKB	**Krupnik**	**8.05**	**347**	*e*P	Pn	06 22 01.2		+8.3
ANTO	**Ankara**	**8.30**	**43**	*e*P	**Pn**	**06 21 56.3**		**0.0**
ANTO	**Ankara**	**8.30**	**43**	*e*Pn	**Pn**	**06 21 56.3**		**0.0**
ANTO	**Ankara**	**8.30**	**43**	*e*P	**Pn**	**06 21 56.3**		**0.0**
HNKL	**Nakhl** baz=118	**8.33**	**117**	P	**Pn**	**06 21 54.7**		**-2.1**
HNKL	**Nakhl**	**8.33**	**117**	P	**Pn**	**06 21 54.7**		**-2.1**
MMAI	**Mount Meron Ar**	**8.39**	**94**	Pn	**Pn**	**06 21 56.2**		**-1.5**
MMAI				Sn	**Sn**	**06 23 28.3**		**-3.6**
MMAI	**Mount Meron Ar**	**8.39**	**94**	Pn	**Pn**	**06 21 56.2**		**-1.5**
	comp=E,6.4nm,0.3s,baz=280,slow=12,SNR=10							
MMAI				Sn	**Sn**	**06 23 28.3**		**-3.6**
	comp=E,9.5nm,0.3s,baz=265,slow=21,SNR=7.1							
MMAI	**Mount Meron Ar**	**8.39**	**94**	Pn	**Pn**	**06 21 56.2**		**-1.5**
KARA	**Karaisali**	**8.48**	**65**	*e*PN	**Pn**	**06 22 00.1**		**+1.3**
KARA				*e*P	**Pn**	**06 22 01.0**		**+2.2**
TIP	**Timpagrande** comp=E,21nm,0.8s	**8.66**	**309**	*e*Pn	**Pn**	**06 21 59.8**		**-1.6**
TIP				*e*Sn	Sn	06 23 29.3		-9.2
TIP	**Timpagrande**	**8.66**	**309**	*e*Pn	**Pn**	**06 21 59.8**		**-1.6**
	comp=E,21nm,0.8s							
BRTR	**Keskin Array B**	**8.70**	**47**	Pn	**Pn**	**06 22 02.4**		**+0.5**
BRTR				Sn	**Sn**	**06 23 42.0**		**+2.4**
BRTR	**Keskin Array B**	**8.70**	**47**	Pn	**Pn**	**06 22 02.4**		**+0.5**
	comp=E,0.4nm,0.3s,baz=224,slow=13,SNR=33							
BRTR				Sn	**Sn**	**06 23 42.0**		**+2.4**
	comp=E,0.2nm,0.3s,baz=220,slow=22,SNR=3.3							
BRTR	**Keskin Array B**	**8.70**	**47**	P	**Pn**	**06 22 02.4**		**+0.5**
BRTR				S	**Sn**	**06 23 42.0**		**+2.4**
VTS	**Vitosha**	**8.73**	**349**	*e*P	Pn	06 22 08.8		+6.4
CEL	**Celeste**	**8.79**	**301**	*e*Pn	**Pn**	**06 22 01.9**		**-1.2**
CEL				*e*Sn	Sn	06 23 34.0		-7.7
CEL	**Celeste**	**8.79**	**301**	*e*Pn	**Pn**	**06 22 01.9**		**-1.2**
KOZT	**Kozan**	**9.13**	**65**	*e*P	**Pn**	**06 22 07.9**		**+0.2**
KOZT				*e*PN	**Pn**	**06 22 07.9**		**+0.2**
EIL	**Elat**	**9.19**	**116**	Pn	**Pn**	**06 22 06.7**		**-1.8**
EIL				Sn	Sn	06 23 45.5		-5.9
EIL	**Elat**	**9.19**	**116**	Pn	**Pn**	**06 22 06.7**		**-1.8**
	comp=E,2.9nm,0.3s,baz=312,slow=14,SNR=16							
EIL				Sn	Sn	06 23 45.5		-5.9
	comp=E,0.8nm,0.3s,baz=331,slow=10,SNR=3.5							
EIL	**Elat**	**9.19**	**116**	Pn	**Pn**	**06 22 06.7**		**-1.8**
MPEP	**Malo Peshtene**	**9.41**	**352**	*e*P	Pn	06 22 14.8		+3.2
BNN	**Bunyan**	**9.68**	**57**	*e*PN	**Pn**	**06 22 16.4**		**+1.0**
BNN				*e*P	**Pn**	**06 22 16.7**		**+1.4**
CUC	**Castrocucco**	**9.72**	**311**	*e*Pn	**Pn**	**06 22 15.4**		**-0.5**
CUC	**Castrocucco**	**9.72**	**311**	*e*Pn	**Pn**	**06 22 15.4**		**-0.5**
ASF	**Jabal al Asfar**	**9.80**	**98**	Pn	**Pn**	**06 22 14.6**		**-2.3**
ASF	**Jabal al Asfar**	**9.80**	**98**	Pn	**Pn**	**06 22 14.6**		**-2.3**
MALT	**Malatya**	**11.35**	**64**	P	**Pn**	**06 22 39.6**		**+1.4**
MALT	**Malatya**	**11.35**	**64**	Pn	**Pn**	**06 22 39.6**		**+1.4**
MALT	**Malatya**	**11.35**	**64**	P	**Pn**	**06 22 39.6**		**+1.4**
TEKS	**Tekeris**	**11.46**	**338**	*e*Pn	**Pn**	**06 22 39.5**		**-0.1**
MLR	**Muntele Rosu**	**11.46**	**2**	Pn	**Pn**	**06 22 39.0**		**-0.7**
MLR	**Muntele Rosu**	**11.46**	**2**	Pn	**Pn**	**06 22 39.0**		**-0.7**
	comp=E,0.0nm,0.3s,baz=190,slow=9.0,SNR=19							
MLR				LR	LR	06 27 08.6		
	comp=E,61nm,21.5s,baz=189,slow=38							
MLR	**Muntele Rosu**	**11.46**	**2**	P	**Pn**	**06 22 39.0**		**-0.7**
KIS	**Kishinev**	**13.22**	**10**	*e*P	P	06 23 20.0		+6.6
KIS				LRM	MLR	06 28 56.0		
	comp=E,400nm,12.0s							
KIS	**Kishinev**	**13.22**	**10**	*e*P	P	06 23 20.0		+6.6
KIS				MLR	MLR			
	comp=Z,300nm,10.0s							
KIS				MLR	MLR			
	comp=Z,400nm,12.0s							
KEST	**Kesra**	**13.31**	**282**	*e*Pn	**Pn**	**06 23 06.1**		**+1.1**
KEST	**Kesra**	**13.31**	**282**	Pn	**Pn**	**06 23 04.0**		**-1.1**
	comp=Z,0.0nm,0.3s,baz=56,slow=9.5,SNR=2.1							
KEST	**Kesra**	**13.31**	**282**	*e*Pn	**Pn**	**06 23 06.1**		**+1.1**
BUR08	**Bucovina Ar. S**	**13.61**	**359**	*e*Pn	**Pn**	**06 23 08.4**		**-0.7**
BUR08	**Bucovina Ar. S**	**13.61**	**359**	*e*Pn	**Pn**	**06 23 08.4**		**-0.7**
ANN	**Anapa**	**14.20**	**37**	*e*P	**Pn**	**06 23 17.9**		**+1.0**
ANN				*e*S	**Sn**	**06 25 52.3**		**-1.5**
ANN				pmax	pmax			
	comp=Z,16nm,1.2s							
SOC	**Sochi**	**14.66**	**45**	*e*P	**P**	**06 23 27.9**		**-1.5**
SOC				*e*SS	S	06 26 15.8		-8.0
SOC				MLR	MLR			
	comp=Z,132nm,16.0s							
SOC	**Sochi**	**14.66**	**45**	*e*P	**P**	**06 23 27.9**		**-1.5**
UZH	**Uzhgorod**	**14.79**	**352**	*e*P	**Pn**	**06 23 24.3**		**-0.6**
VOY	**Vojsko**	**14.88**	**327**	*e*Pn	**P**	**06 23 30.9**		**-1.1**
VOY				*e*		06 23 33.4		
VOY				*e*		06 23 36.7		
VOY				*e*		06 23 41.0		
KECS	**Kecovo**	**14.91**	**347**	*e*P	**Pn**	**06 23 27.7**		**+1.0**
KECS	**Kecovo**	**14.91**	**347**	*e*PN	**Pn**	**06 23 27.7**		**+1.0**
KECS	**Kecovo**	**14.91**	**347**	*e*Pn	**Pn**	**06 23 27.7**		**+1.0**
KOLS	**Kolonicke sedl**	**15.09**	**352**	*e*P	**Pn**	**06 23 28.7**		**-0.3**
KOLS	**Kolonicke sedl**	**15.09**	**352**	*e*PN	**Pn**	**06 23 28.7**		**-0.3**
KOLS	**Kolonicke sedl**	**15.09**	**352**	*e*Pn	**Pn**	**06 23 28.7**		**-0.3**
VYHS	**Vyhne**	**15.28**	**343**	*e*P	**Pn**	**06 23 30.1**		**-1.4**
VYHS	**Vyhne**	**15.28**	**343**	*e*PN	**Pn**	**06 23 30.1**		**-1.4**
VYHS				*e*pP	**pP**	**06 23 41.6**		**-0.1**
VYHS	**Vyhne**	**15.28**	**343**	*e*Pn	**Pn**	**06 23 30.1**		**-1.4**
PGF	**Pioggiola** comp=Z,172nm,1.3s	**15.44**	**308**	*e*P	**Pn**	**06 23 34.0**		**+0.2**
CHVG	**Ch'k'valeri**	**15.67**	**51**	P	**P**	**06 23 40.0**		**-0.7**
CHVG	**Ch'k'valeri**	**15.67**	**51**	P	**P**	**06 23 40.0**		**-0.7**
STHS	**Stebnicka Huta**	**15.69**	**350**	*e*P	**P**	**06 23 41.8**		**+0.9**
STHS	**Stebnicka Huta**	**15.69**	**350**	*e*P	**P**	**06 23 41.8**		**+0.9**
STHS	**Stebnicka Huta**	**15.69**	**350**	*e*P	**P**	**06 23 41.8**		**+0.9**
KWP	**Kalwaria Pacla**	**15.73**	**353**	*e*P	**Pn**	**06 23 36.9**		**-0.5**
KWP				pmax	pmax			
	comp=Z,12nm,0.9s							
KWP	**Kalwaria Pacla** comp=Z,12nm,0.9s	**15.73**	**353**	*e*Pn	**Pn**	**06 23 36.9**		**-0.5**
KWP	**Kalwaria Pacla**	**15.73**	**353**	*e*P	**Pn**	**06 23 37.2**		**-0.2**
KWP	**Kalwaria Pacla** comp=Z,12nm,0.9s	**15.73**	**353**	*e*Pn	**Pn**	**06 23 36.9**		**-0.5**
NIE	**Niedzica**	**15.85**	**348**	*e*P	**P**	**06 23 42.7**		**+0.1**
NIE	**Niedzica**	**15.85**	**348**	*e*P	**P**	**06 23 42.7**		**+0.1**
NIE	**Niedzica**	**15.85**	**348**	*e*P	**P**	**06 23 42.7**		**+0.1**
KBA	**Koelnbreinsper** comp=Z,8.7nm,0.7s	**15.93**	**329**	*i*P	**P**	**06 23 42.9**		**-0.7**
KBA	**Koelnbreinsper** comp=Z,8.7nm,0.7s	**15.93**	**329**	P	**P**	**06 23 42.9**		**-0.7**
AKH	**Akhalkalaki**	**16.07**	**57**	P	**Pn**	**06 23 43.9**		**+1.9**
AKH	**Akhalkalaki**	**16.07**	**57**	P	**Pn**	**06 23 43.9**		**+1.9**
MOA	**Molln** comp=Z,15nm,0.8s	**16.16**	**332**	*i*P	**P**	**06 23 45.3**		**-0.8**
MOA	**Molln** comp=Z,15nm,0.8s	**16.16**	**332**	P	**P**	**06 23 45.3**		**-0.8**
ONI	**Oni**	**16.51**	**54**	P	**P**	**06 23 50.5**		**+0.4**
GNI	**Garni** comp=Z,24nm,0.8s	**16.57**	**63**	*e*Pn	**Pn**	**06 23 48.4**		**0.0**
GNI	**Garni** comp=Z,1.4nm,0.3s,baz=343,slow=4.3,SNR=11	**16.57**	**63**	Pn	**Pn**	**06 23 49.5**		**+1.0**
GNI	**Garni** comp=Z,24nm,0.8s	**16.57**	**63**	*e*Pn

comp=Z,22nm,1.1s
SPAK Spaichingen-Ko 18.79 323 *e*P **Pn 06 24 16.5 +0.7**
SPAK Spaichingen-Ko 18.79 323 *e*P **Pn 06 24 16.5 +0.7**
GRA1 Grafenberg Arr 18.85 330 *e*P **P 06 24 15.3 -0.4**
comp=Z,10µm,18.4s
GRF Grafenberg Arr 18.85 330 *e*P **P 06 24 15.3 -0.4**
GRF *e*L L 06 33 11.0
comp=Z,174nm,18.4s
GRF Grafenberg Arr 18.85 330 *e*P **P 06 24 15.3 -0.4**
GRF MLR MLR
comp=Z,10µm,18.4s
GRFO Grafenberg 18.85 330 *e*P **P 06 24 15.8 +0.1**
GRFO pmax pmax
comp=Z,119nm,1.6s
GRFO Grafenberg 18.85 330 *e*Pn **P 06 24 15.8 +0.1**
comp=Z,119nm,1.6s
GRFO Grafenberg 18.85 330 *e*P **P 06 24 15.8 +0.1**
comp=Z,119nm,1.6s
BBS Basel-Blauen 19.04 320 *e*P **Pn 06 24 18.2 -0.5**
BBS Basel-Blauen 19.04 320 *e*P **Pn 06 24 18.2 -0.5**
BBS Basel-Blauen 19.04 320 *e*P **Pn 06 24 18.2 -0.5**
FELD Feldberg im Sc 19.04 322 *e*P **P 06 24 18.2 +0.2**
FELD Feldberg im Sc 19.04 322 *e*P **P 06 24 18.2 +0.2**
BFO Black Forest 19.17 323 *e*P **P 06 24 19.2 -0.1**
BFO pmax pmax
comp=Z,17nm,1.0s
BFO Black Forest 19.17 323 *e*P **P 06 24 19.2 -0.1**
comp=Z,17nm,1.0s
BFO Black Forest 19.17 323 *e*P **P 06 24 19.2 -0.1**
comp=Z,17nm,1.0s
VIVF Saint-Julien-I 19.29 310 *e*P **P 06 24 20.1 -0.5**
comp=Z,23nm,1.1s
VIVF Saint-Julien-I 19.29 310 *e*P **P 06 24 20.1 -0.5**
comp=Z,11nm,1.1s
CABF La Chapelle 19.32 316 *e*P **P 06 24 19.2 -1.8**
comp=Z,36nm,0.9s
CABF La Chapelle 19.32 316 *e*P **P 06 24 19.2 -1.8**
comp=Z,18nm,0.9s
LOMF Lomont 19.33 319 *e*P **P 06 24 21.6 +0.4**
LOMF Lomont 19.33 319 *e*P **P 06 24 21.6 +0.4**
LOMF Lomont 19.33 319 *e*P **P 06 24 21.6 +0.4**
LOMF Lomont 19.33 319 *e*P **P 06 24 21.6 +0.4**
MOF Molkenrain 19.48 321 *e*P **Pn 06 24 25.0 +1.0**
MOF Molkenrain 19.48 321 *e*P **Pn 06 24 25.0 +1.0**
MOF Molkenrain 19.48 321 *e*P **Pn 06 24 25.0 +1.0**
MOF Molkenrain 19.48 321 *e*P **Pn 06 24 25.0 +1.0**
LASF Ste Croix 19.48 307 *e*P **P 06 24 21.9 -0.8**
comp=Z,67nm,1.4s
LASF Ste Croix 19.48 307 *e*P **P 06 24 21.9 -0.8**
comp=Z,34nm,1.4s
CLL Collm 19.50 336 *e*P **P 06 24 22.0 -0.8**
CLL *e*S **Sn 06 27 59.0 -3.2**
CLL pmax pmax
comp=Z,13nm,1.0s
CLL Collm 19.50 336 *e*P **P 06 24 22.0 -0.8**
comp=Z,13nm,1.0s
CLL *i* pP **pP 06 24 27.0 -1.3**
CLL *e* 06 24 35.0
CLL *e*S **Sn 06 27 59.0 -3.2**
CLL Collm 19.50 336 *e*P **P 06 24 22.0 -0.8**
comp=Z,13nm,1.0s
HINF Hinteralfeld 19.60 320 *e*P **Pn 06 24 25.5 0.0**
comp=Z,24nm,1.0s
HINF Hinteralfeld 19.60 320 *e*P **Pn 06 24 25.5 0.0**
comp=Z,12nm,1.0s
VORD Divnogorie 19.73 27 *e*P **P 06 24 24.2 -1.1**
VORD pmax pmax
comp=Z,20nm,1.1s
VORD pmax pmax
comp=N,30nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.7s
VORD Divnogorie 19.73 27 *e*P **P 06 24 24.2 -1.1**
comp=E,30nm,0.8s
CDF Champ du Feu 19.76 322 *e*P **Pn 06 24 26.7 -0.6**
comp=E,29nm,0.9s
CDF Champ du Feu 19.76 322 *e*P **Pn 06 24 26.7 -0.6**
comp=E,15nm,0.9s
TOD Tromm 19.83 327 *e*P **Pn 06 24 27.3 -0.8**
TOD Tromm 19.83 327 *e*P **Pn 06 24 27.3 -0.8**
TOD Tromm 19.83 327 *e*P **Pn 06 24 27.3 -0.8**
LANF Langenberg 19.87 324 *e*P **Pn 06 24 29.9 +1.3**
LANF Langenberg 19.87 324 *e*P **Pn 06 24 29.9 +1.3**
LANF Langenberg 19.87 324 *e*P **Pn 06 24 29.9 +1.3**
VSR Storozhevoye 19.88 26 *e*P **Pn 06 24 29.0 +0.3**
VSR pmax pmax
comp=Z,10.0nm,0.5s
VSR pmax pmax
comp=N,30nm,0.8s
VSR pmax pmax
comp=E,20nm,1.0s
VSR Storozhevoye 19.88 26 *e*P **Pn 06 24 29.0 +0.3**
comp=E,30nm,0.8s
KTD Kalmit 19.96 325 *e*P **Pn 06 24 30.8 +1.1**
KTD Kalmit 19.96 325 *e*P **Pn 06 24 30.8 +1.1**
HAU Haudompre 19.99 320 *e*P **P 06 24 28.0 -0.2**
comp=E,40nm,0.9s
HAU *e*R
comp=E,214nm,18.5s
HAU Haudompre 19.99 320 *e*P **P 06 24 28.0 -0.2**
comp=E,20nm,0.9s
SUW Suwalki 20.05 356 *e*P **P 06 24 28.3 -0.5**
SUW pmax pmax
comp=Z,91nm,0.9s
SUW Suwalki 20.05 356 *e*P **P 06 24 28.3 -0.5**
comp=Z,91nm,0.9s
SUW Suwalki 20.05 356 *e*P **P 06 24 29.3 +0.5**
SUW Suwalki 20.05 356 *e*P **P 06 24 28.3 -0.5**
comp=Z,91nm,0.9s
THEF They Montfort 20.31 320 *e*P **P 06 24 32.5 +0.7**
THEF They Montfort 20.31 320 *e*P **P 06 24 32.5 +0.7**
THEF They Montfort 20.31 320 *e*P **P 06 24 32.5 +0.7**
THEF They Montfort 20.31 320 *e*P **P 06 24 32.5 +0.7**
MTLF Montolieu 20.32 304 *e*P **P 06 24 32.3 +0.5**
comp=Z,13nm,1.0s
MTLF Montolieu 20.32 304 *e*P **P 06 24 32.3 +0.5**
comp=Z,6.3nm,1.0s
LBL Lubilhac 20.36 310 *e*P Pn 06 24 35.9 +1.4
LBL Lubilhac 20.36 310 *e*P Pn 06 24 35.9 +1.4
LBL Lubilhac 20.36 310 *e*P Pn 06 24 35.9 +1.4
RAYN Ar Rayn 20.44 116 *e*P **P 06 24 34.2 +0.8**
comp=Z,6.9nm,1.0s
RAYN Ar Rayn 20.44 116 *e*P **P 06 24 34.2 +0.8**
comp=Z,6.9nm,1.0s
PAGF Fort de Pagny 20.65 321 *e*P **P 06 24 34.4 -1.0**
comp=Z,14nm,0.8s
PAGF Fort de Pagny 20.65 321 *e*P **P 06 24 34.4 -1.0**
comp=Z,7.0nm,0.8s
SMF Signal de Mont 20.65 314 *e*P **P 06 24 34.9 -0.5**
comp=Z,15nm,0.7s
SMF Signal de Mont 20.65 314 *e*P **P 06 24 34.9 -0.5**
comp=Z,7.4nm,0.7s
RUP Ruppelstein 20.71 325 *e*P **P 06 24 36.6 +0.5**
RUP Ruppelstein 20.71 325 *e*P **P 06 24 36.6 +0.5**
RUP Ruppelstein 20.71 325 *e*P **P 06 24 36.6 +0.5**
TAM Tamanrasset 20.74 243 *e*P Pn 06 24 38.2 -1.0
TAM pmax pmax
comp=Z,19nm,0.9s
TAM Tamanrasset 20.74 243 *e*P Pn 06 24 38.2 -1.0
comp=Z,19nm,0.9s
AGO Saint Agoulin 20.80 312 *e*P Pn 06 24 38.3 -1.2
AGO Saint Agoulin 20.80 312 *e*P Pn 06 24 38.3 -1.2
AGO Saint Agoulin 20.80 312 *e*P Pn 06 24 38.3 -1.2
SFTF Sexfontaines 20.81 319 *e*P **P 06 24 36.3 -0.8**
SFTF Sexfontaines 20.81 319 *e*P **P 06 24 36.3 -0.8**
LOR Lormes 20.96 316 *e*P **P 06 24 38.8 0.0**
comp=Z,41nm,1.2s
LOR *e*R
comp=Z,243nm,22.8s
LOR Lormes 20.96 316 *e*P **P 06 24 38.8 0.0**
comp=Z,21nm,1.2s
MEZF Maizieres J'vi 20.98 320 *e*P **P 06 24 39.8 +0.9**
MEZF Maizieres J'vi 20.98 320 *e*P **P 06 24 39.8 +0.9**
CAF Calviac 20.99 308 *e*P **P 06 24 39.4 +0.2**
comp=Z,25nm,0.9s
CAF Calviac 20.99 308 *e*P **P 06 24 39.4 +0.2**
comp=Z,12nm,0.9s
AVF Avril sur Loir 21.02 314 *e*P **P 06 24 39.3 0.0**
comp=Z,24nm,1.0s
AVF Avril sur Loir 21.02 314 *e*P **P 06 24 39.3 0.0**
comp=Z,12nm,1.0s
SSF Saint Saulge 21.06 315 *e*P **P 06 24 38.4 -1.4**
comp=Z,26nm,1.0s
SSF Saint Saulge 21.06 315 *e*P **P 06 24 38.4 -1.4**
comp=Z,13nm,1.0s

WLF Walferdange 21.13 323 P **P 06 24 42.5 +1.9**
comp=Z,29nm,1.6s
WLF Walferdange 21.13 323 *e*P **P 06 24 42.0 +1.4**
WLF pmax pmax
comp=Z,49nm,1.2s
WLF Walferdange 21.13 323 *e*P **P 06 24 42.0 +1.4**
comp=Z,49nm,1.2s
WLF Walferdange 21.13 323 *e*P **P 06 24 42.0 +1.4**
comp=Z,49nm,1.2s
BGF Bois d'Agland 21.21 313 *e*P **P 06 24 41.9 +0.5**
comp=Z,54nm,0.9s
BGF Bois d'Agland 21.21 313 *e*P **P 06 24 41.9 +0.5**
comp=Z,27nm,0.9s
IDID Didziasalis 21.31 2 *e*P **P 06 24 42.4 -0.1**
IDID Didziasalis 21.31 2 *e*P **P 06 24 42.4 -0.1**
SNR=40
IIGN Ignalina 21.34 1 *e*P **P 06 24 42.3 -0.4**
IIGN AMB AMB 06 24 47.4
comp=Z,10.0nm,1.3s
IIGN Ignalina 21.34 1 *e*P **P 06 24 42.3 -0.4**
comp=Z,10.0nm,1.3s,SNR=40
TCF Toulx Ste Croi 21.48 312 *e*P **P 06 24 43.9 -0.4**
comp=Z,100nm,1.3s
TCF Toulx Ste Croi 21.48 312 *e*P **P 06 24 43.9 -0.4**
comp=Z,50nm,1.3s
RJF Les Rejaudoux 21.50 309 *e*P **P 06 24 44.1 -0.5**
comp=Z,46nm,1.1s
RJF *e*R
comp=Z,93nm,19.0s
RJF Les Rejaudoux 21.50 309 *e*P **P 06 24 44.1 -0.5**
comp=Z,23nm,1.1s
EPF Esparros 21.53 302 *e*P **P 06 24 44.5 -0.5**
EPF Esparros 21.53 302 *e*P **P 06 24 44.5 -0.5**
ISAL Salakas 21.55 1 *e*P **P 06 24 45.0 -0.1**
ISAL AMB AMB 06 24 48.7
comp=Z,12nm,0.9s
ISAL Salakas 21.55 1 *e*P **P 06 24 45.0 -0.1**
comp=Z,12nm,0.9s,SNR=40
IZAR Zarasai 21.74 1 *e*P **P 06 24 46.9 -0.1**
IZAR AMB AMB 06 24 51.0
comp=Z,9.0nm,0.9s
IZAR Zarasai 21.74 1 *e*P **P 06 24 46.9 -0.1**
comp=Z,9.0nm,0.9s,SNR=35
MEM Membach 21.82 325 P **P 06 24 49.9 +1.9**
comp=Z,25nm,1.0s
MEM Membach 21.82 325 P **P 06 24 49.9 +1.9**
comp=Z,25nm,1.0s
LFF La Frestale 21.87 307 *e*P **P 06 24 49.0 +0.5**
comp=Z,39nm,0.9s
LFF La Frestale 21.87 307 *e*P **P 06 24 49.0 +0.5**
comp=Z,20nm,0.9s
GIVF Givet 22.07 323 *e*P **P 06 24 51.2 +0.5**
comp=Z,31nm,0.9s
GIVF Givet 22.07 323 *e*P **P 06 24 51.2 +0.5**
comp=Z,15nm,0.9s
ETSF Etsaut 22.13 301 *e*P **P 06 24 50.9 -0.5**
comp=Z,25nm,1.0s
ETSF Etsaut 22.13 301 *e*P **P 06 24 50.9 -0.5**
comp=Z,12nm,1.0s
DOU Dourbes 22.18 323 P **P 06 24 50.8 -1.0**
comp=Z,13nm,1.1s
DOU Dourbes 22.18 323 P **P 06 24 50.8 -1.0**
comp=Z,13nm,1.1s
BAIF Baives 22.36 322 *e*P **P 06 24 53.2 -0.5**
comp=Z,24nm,0.7s
BAIF Baives 22.36 322 *e*P **P 06 24 53.2 -0.5**
comp=Z,12nm,0.7s
OBN Obninsk 22.48 17⇑ *e*P **P 06 24 55.6 +0.6**
OBN *e* 06 25 06.9
OBN *e* 06 25 18.2
OBN S **S 06 28 58.0 -2.6**
OBN SS SnSn 06 29 40.0 +10
OBN pmax pmax
comp=Z,54nm,1.7s
OBN Obninsk 22.48 17 *e*P **P 06 24 55.6 +0.6**
comp=Z,54nm,1.7s
SJPF Ste Jean 22.65 301 *e*P **P 06 24 57.3 +0.3**
comp=Z,70nm,1.3s
SJPF Ste Jean 22.65 301 *e*P **P 06 24 57.3 +0.3**
comp=Z,35nm,1.3s
MFF Saint Martin d 23.08 311 *e*P **P 06 25 00.9 -0.5**
comp=Z,78nm,1.2s
MFF Saint Martin d 23.08 311 *e*P **P 06 25 00.9 -0.5**
comp=Z,39nm,1.2s
MOS Moscow 23.30 18 *e*P P 06 24 58.9 -4.6
LDF La Druitiere 23.94 315 *e*P **P 06 25 08.9 -0.9**
comp=Z,28nm,0.8s
ESDC Sonseca Array 24.12 292 P **P 06 25 11.3 -0.4**
ESDC Sonseca Array 24.12 292 P **P 06 25 11.3 -0.4**
comp=Z,3.7nm,0.6s,baz=82,slow=8.8,SNR=19
ESLA Sonseca Array 24.12 292 *e*P **P 06 25 11.3 -0.3**
comp=Z,2.7nm,0.9s
FLN La Foliniere 24.23 315 *e*P **P 06 25 11.4 -1.1**
FLN *e*R
comp=Z,237nm,22.5s
GRR Gorron 24.28 314 *e*P **P 06 25 13.0 +0.1**
comp=Z,142nm,1.5s
PAB San Pablo 24.41 292 *e*P **P 06 25 13.9 -0.5**
PAB pmax pmax
comp=Z,19nm,1.2s
PAB San Pablo 24.41 292 *e*P **P 06 25 13.9 -0.5**
comp=Z,19nm,1.2s
ZFT Errachidia 25.01 274 *i* P **P 06 25 17.0 -2.9**
MUD Monsted U'grnd 25.06 338 *e*P **P 06 25 19.5 -0.3**
MUD pmax pmax
comp=Z,15nm,0.8s
MUD Monsted U'grnd 25.06 338 *i* P **P 06 25 19.5 -0.3**
comp=Z,15nm,0.8s
MUD Monsted U'grnd 25.06 338 *e*P **P 06 25 19.5 -0.3**
comp=Z,15nm,0.8s
MDT Midelt 25.06 276 P **P 06 25 19.7 -0.7**
MDT Midelt 25.06 276 P **P 06 25 19.7 -0.7**
comp=Z,6.4nm,0.9s,baz=91,slow=11,SNR=4.9
TGT Taghat 25.21 279 *i* P **P 06 25 22.0 +0.4**
SGMF Saint Gilles 25.25 313 *e*P **P 06 25 21.4 -0.3**
comp=Z,76nm,1.1s
MIF Mishlifen 25.46 277 *i* P **P 06 25 25.0 +0.9**
QUIF Quistinic 25.49 312 *e*P **P 06 25 23.8 -0.1**
comp=Z,87nm,1.3s
ROSF Rostrenen 25.72 312 *e*P **P 06 25 25.3 -0.7**
comp=Z,74nm,1.2s
PBRG Braganca 26.43 297 *e*P **P 06 25 31.9 -0.6**
comp=Z,29nm,1.1s
PBRG Braganca 26.43 297 *e*P **P 06 25 31.9 -0.6**
comp=Z,29nm,1.1s
PBAR Barrancos 26.48 288 *e*P **P 06 25 32.2 -0.8**
comp=Z,31nm,1.3s
PBAR Barrancos 26.48 288 *e*P **P 06 25 32.2 -0.8**
comp=Z,31nm,1.3s
MVO Moncorvo 26.58 295 *e*P **P 06 25 35.2 +1.3**
comp=Z,37nm,1.3s
MVO Moncorvo 26.58 295 *e*P **P 06 25 35.2 +1.3**
comp=Z,37nm,1.3s
PMRV Marv??o 26.76 291 *e*P **P 06 25 35.1 -0.4**
comp=Z,26nm,1.6s
PMRV Marv??o 26.76 291 *e*P **P 06 25 35.1 -0.4**
comp=Z,26nm,1.6s
PESTR Estremoz 26.91 290 *e*P **P 06 25 35.9 -1.0**
comp=Z,38nm,0.7s
PESTR Estremoz 26.91 290 *e*P **P 06 25 35.9 -1.0**
comp=Z,38nm,0.7s
MTE Manteigas 26.91 293 *e*P **P 06 25 38.2 +1.2**
comp=Z,30nm,1.8s
MTE Manteigas 26.91 293 *e*P **P 06 25 38.2 +1.2**
comp=Z,30nm,1.8s
PVAQ Vaqueiros 27.04 287 *e*P **P 06 25 37.6 -0.5**
comp=Z,45nm,1.4s
PVAQ Vaqueiros 27.04 287 *e*P **P 06 25 37.6 -0.5**
comp=Z,45nm,1.4s
PBDV Barranco-do-Ve 27.22 286 *e*P **P 06 25 39.4 -0.3**
comp=Z,50nm,1.9s
PBDV Barranco-do-Ve 27.22 286 *e*P **P 06 25 39.4 -0.3**
comp=Z,50nm,1.9s
HFS Hagfors 27.23 347 P **P 06 25 37.5 -2.0**
HFS Hagfors 27.23 347 P **P 06 25 37.5 -2.0**
comp=Z,4.7nm,0.7s,baz=157,slow=8.0,SNR=8.5
EVO Evora 27.24 289 *e*P **P 06 25 40.0 +0.2**
comp=Z,28nm,1.1s
EVO *e*R
comp=Z,126nm,20.5s
EVO Evora 27.24 289 *e*P **P 06 25 39.7 -0.1**
comp=Z,19nm,1.4s
EVO Evora 27.24 289 *e*P **P 06 25 39.7 -0.1**
comp=Z,19nm,1.4s
FINES FINESS Array B 27.44 1 P **P 06 25 37.9 -3.5**
FINES PcP **PcP 06 28 59.5 0.0**
FINES FINESS Array B 27.44 1 P **P 06 25 37.9 -3.5**
comp=Z,3.2nm,0.8s,baz=187,slow=11,SNR=6.4
FINES PcP **PcP 06 28 59.5 0.0**
comp=Z,2.1nm,0.8s,baz=132,slow=2.8,SNR=6.0
FINES LR LR 06 37 04.1
comp=Z,105nm,18.6s,baz=8.5,slow=38
FINES FINESS Array B 27.44 1 PcP **PcP 06 28 59.5 0.0**
NB2 NORSAR Subarra 28.55 346 P **P 06 25 50.0 -1.4**
comp=Z,1.4nm,0.6s,baz=152,slow=9.3
NB2 NORSAR Subarra 28.55 346 P **P 06 25 50.0 -1.4**
comp=Z,1.4nm,0.6s,SNR=5.8
NOA NORSAR Array B 28.55 346 P **P 06 25 50.4 -0.9**
NOA NORSAR Array B 28.55 346 P **P 06 25 50.4 -0.9**
comp=Z,3.1nm,0.9s,baz=154,slow=8.9,SNR=7.4
AKTK Aktyubinsk 28.88 46 P **P 06 25 53.5 -0.8**
comp=Z,2.0nm,0.7s
AKTO Aktyubinsk 28.88 46 P **P 06 25 53.5 -0.8**
AKTO pmax pmax
comp=Z,2.0nm,0.7s
AKTO Aktyubinsk 28.88 46 P **P 06 25 53.5 -0.8**
AKTO Aktyubinsk 28.88 46 P **P 06 25 53.5 -0.8**
comp=Z,2.1nm,0.7s,baz=250,slow=10.0,SNR=8.2
AKTO Aktyubinsk 28.88 46 P **P 06 25 53.5 -0.8**
EKA Eskdalemuir Ar 29.10 326 P **P 06 25 56.0 -0.2**
EKA PcP **PcP 06 29 04.0 +0.3**
EKA Eskdalemuir Ar 29.10 326 P **P 06 25 56.0 -0.2**
comp=Z,1.8nm,0.6s,baz=107,slow=9.8,SNR=4.8
EKA PcP **PcP 06 29 04.0 +0.3**
comp=Z,2.5nm,0.7s,baz=108,slow=2.7,SNR=4.8
EKA Eskdalemuir Ar 29.10 326 P **P 06 25 56.0 -0.2**
comp=Z,2.0nm,0.6s
ABKAR Akbulak array 29.65 49 *e*P **P 06 26 01.3 +0.2**
ABKAR Akbulak array 29.65 49 *e*P **P 06 26 01.3 +0.2**
TORD Torodi Ar. Bea 29.94 232 P **P 06 26 04.3 +0.3**
TORD PcP **PcP 06 29 06.7 +0.2**
TORD Torodi Ar. Bea 29.94 232 P **P 06 26 04.3 +0.3**
comp=Z,2.4nm,0.6s,baz=38,slow=9.0,SNR=18
TORD PcP **PcP 06 29 06.7 +0.2**
comp=Z,1.5nm,0.9s,baz=22,slow=1.9,SNR=3.5
TORD LR LR 06 40 24.8
comp=Z,379nm,18.6s,baz=35,slow=41
TORD Torodi Ar. Bea 29.94 232 P **P 06 26 04.3 +0.3**
TORD Torodi Ar. Bea 29.94 232 PcP **PcP 06 29 06.7 +0.2**
ARU Arti 31.85 35*d i*P **P 06 26 20.1 -0.4**
ARU 06 27 19.7
ARU S **S 06 31 28.4 -1.5**
ARU pmax pmax
comp=Z,7.0nm,1.2s
ARU Arti 31.85 35 *i* P **P 06 26 20.1 -0.4**
comp=Z,7.0nm,1.2s
APA Apatity 33.91 5⇓ *i*P **P 06 26 37.4 -1.0**
APA pmax pmax
comp=Z,12nm,0.8s
APA MLR MLR
comp=Z,4µm,12.0s
APA Apatity 33.91 5 *i* P **P 06 26 37.4 -1.0**
comp=Z,4µm,12.0s
ARCES ARCESS Array B 35.57 0 P **P 06 26 50.8 -1.9**
ARCES PcP **PcP 06 29 21.1 -0.1**
ARCES ARCESS Array B 35.57 0 P **P 06 26 50.8 -1.9**
comp=Z,3.1nm,0.8s,baz=188,slow=8.2,SNR=8.8
ARCES PcP **PcP 06 29 21.1 -0.1**
comp=Z,1.4nm,0.8s,baz=204,slow=2.7,SNR=3.6
ARCES LR LR 06 41 44.2
comp=Z,81nm,18.4s,baz=176,slow=37
ARCES ARCESS Array B 35.57 0 P **P 06 26 50.8 -1.9**
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 35.57 0 PcP **PcP 06 29 21.1 -0.1**
comp=Z,81nm,18.5s
KKAR Karatay Array 36.03 62 *e*P **P 06 26 57.6 +0.6**
KKAR Karatay Array 36.03 62 *e*P **P 06 26 57.6 +0.6**
KKAR Karatay Array 36.03 62 *e*P **P 06 26 57.6 +0.6**
KMBO Kilima Mbogo 36.69 160 LR LR 06 41 34.7
comp=Z,91nm,20.8s,baz=286,slow=35
BRVK Borovoye 36.93 45*d i*P **P 06 27 05.6 +1.1**
BRVK pmax pmax
comp=Z,10.0nm,2.5s
BRVK Borovoye 36.93 45 *i* P **P 06 27 05.6 +1.1**
comp=Z,10.0nm,2.5s
BVAR Borovoye Array 36.98 45 P **P 06 27 04.9 -0.1**
BVAR pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 36.98 45 P **P 06 27 04.9 -0.1**
BVAR Borovoye Array 36.98 45 P **P 06 27 04.9 -0.1**
comp=Z,3.2nm,0.9s,baz=238,slow=5.1,SNR=12
BVAR Borovoye Array 36.98 45 P **P 06 27 04.9 -0.1**
comp=Z,3.0nm,0.9s
EKS2 Erkin-Say 38.45 62 *e*P P 06 27 12.7 -5.0
EKS2 pmax pmax
comp=Z,40nm,1.4s
EKS2 Erkin-Say 38.45 62 *e*P P 06 27 12.7 -5.0
comp=Z,40nm,1.4s
AAK Ala-Archa 38.98 62*ce*P **P 06 27 24.0 +1.8**
AAK pmax pmax
comp=Z,34nm,1.7s
AAK Ala-Archa 38.98 62 *e*P **P 06 27 24.0 +1.8**
comp=Z,34nm,1.7s
DBIC Dimbokro 39.04 233 LR LR 06 45 39.5
comp=Z,276nm,18.4s,baz=24,slow=40
TKM2 Tokmak 2 39.77 62⇑Pg P 06 27 24.0 -4.8
comp=Z,4.8nm,0.8s
TKM2 ⇑Lg Lg 06 28 14.4
comp=Z,9.9nm,0.9s
TKM2 Tokmak 2 39.77 62 *e*P P 06 27 24.6 -4.2
TKM2 pmax pmax
comp=Z,8.0nm,0.6s
TKM2 Tokmak 2 39.77 62 *e*P P 06 27 24.6 -4.2
comp=Z,7.6nm,0.6s
KSH Kashi 40.43 67 *e*P **P 06 27 33.7 -0.5**
KSH pP **pP 06 27 40.2 -0.1**
KSH PP **PP 06 29 08.8 +1.5**
KSH S S 06 33 36.2 -5.6
KSH pmax pmax
comp=Z,13nm,0.8s
KSH LR LR
comp=N,180nm,8.4s
KSH LR LR
comp=E,110nm,5.6s
KSH LR LR
comp=Z,170nm,7.4s
KURBB Kurchatov Arra 41.67 50 P **P 06 27 44.5 +0.3**
comp=Z,11nm,0.9s,baz=277,slow=8.7,SNR=62
KURK Kurchatov 41.74 50 P **P 06 27 44.5 -0.1**
KURK pmax pmax
comp=Z,11nm,0.9s
KURK Kurchatov 41.74 50 P **P 06 27 44.5 -0.1**
KURK Kurchatov 41.74 50 P **P 06 27 44.5 -0.1**
comp=Z,11nm,0.9s
MK31 Makanchi Array 44.23 56 *e*P **P 06 28 05.3 +0.4**
MK31 Makanchi Array 44.23 56 *e*P **P 06 28 05.3 +0.4**
MK31 Makanchi Array 44.23 56 *e*P **P 06 28 05.3 +0.4**
MKAR Makanchi Array 44.23 56 *e*P **P 06 28 05.6 +0.7**
MKAR 06 29 48.3
MKAR Makanchi Array 44.23 56 *e*P **P 06 28 05.6 +0.7**
MKAR PcP **PP 06 29 48.2 +0.3**
MKAR Makanchi Array 44.23 56 P **P 06 28 05.7 +0.7**
comp=Z,9.0nm,0.6s,baz=278,slow=6.4,SNR=62
MKAR PcP **PP 06 29 48.2 +0.3**
comp=Z,1.2nm,0.7s,baz=266,slow=3.5,SNR=2.1
MKAR LR LR 06 48 49.5
comp=Z,42nm,21.2s,baz=356,slow=39
MKAR Makanchi Array 44.23 56 *e*P **P 06 28 05.6 +0.7**
NVS Novosibirsk 44.75 44 *e*P **P 06 28 09.5 +0.6**
NVS pmax pmax
comp=Z,9.0nm,0.8s
NVS Novosibirsk 44.75 44 *e*P **P 06 28 09.5 +0.6**
comp=Z,9.0nm,0.8s
ZALV Zalesovo Beam 45.64 45 P **P 06 28 16.0 0.0**
ZALV pmax pmax
comp=Z,6.0nm,0.5s
ZALV MLR MLR
comp=Z,43nm,18.4s
ZALV Zalesovo Beam 45.64 45 P **P 06 28 16.0 0.0**
ZALV Zalesovo Beam 45.64 45 P **P 06 28 16.0 0.0**
comp=Z,6.1nm,0.5s,baz=267,slow=9.0,SNR=18
ZALV LR LR 06 49 58.4
comp=Z,43nm,18.4s,baz=159,slow=40
ZALV Zalesovo Beam 45.64 45 P **P 06 28 16.0 0.0**
comp=Z,43nm,18.4s
DAG Danmarks Havn 47.21 347 *e*P **P 06 28 27.4 -0.6**
DAG pmax pmax
comp=Z,2.0nm,0.9s
DAG Danmarks Havn 47.21 347 *i* P **P 06 28 27.4 -0.6**
comp=Z,2.9nm,0.9s
PYUN Piuthan 49.12 80 *e*P **P 06 28 44.6 +0.9**
comp=Z,100nm,0.9s
DANN Dangsing 49.66 80 *e*P **P 06 28 49.1 +1.2**

	comp=Z,84nm,0.8s							
KOLN	**Koldanda**	**49.74**	**81**	*e*P		**P**	**06 28 49.0**	**+0.5**
	comp=Z,17nm,0.9s							
SUMG	**Summit**	**50.12**	**339**	*i* P		**P**	**06 28 51.5**	**+0.6**
SUMG				pmax	pmax			
	comp=Z,5.0nm,1.0s							
SUMG	**Summit**	**50.12**	**339**	*e*P		**P**	**06 28 50.6**	**-0.3**
	comp=Z,8.8nm,1.1s							
SUMG	**Summit**	**50.12**	**339**	*i* P		**P**	**06 28 51.5**	**+0.6**
	comp=Z,5.4nm,1.0s							
SUMG	**Summit**	**50.12**	**339**	*i* P		**P**	**06 28 51.5**	**+0.6**
	comp=Z,5.0nm,1.0s							
DMN	**Daman**	**51.04**	**80**	*e*P		**P**	**06 28 59.0**	**+0.6**
	comp=Z,46nm,1.0s							
KKN	**Kakani**	**51.11**	**80**	*e*P		**P**	**06 28 59.3**	**+0.4**
	comp=Z,63nm,1.3s							
HVS	**Khovu-Aksy**	**51.23**	**49***d*	*i* P		**P**	**06 29 00.2**	**+0.9**
HVS				pmax	pmax			
	comp=Z,43nm,0.8s							
HVS	**Khovu-Aksy**	**51.23**	**49**	*i* P		**P**	**06 29 00.2**	**+0.9**
	comp=Z,43nm,0.8s							
PKIN	**Phulchoki**	**51.29**	**80**	*e*P		**P**	**06 29 00.7**	**+0.5**
	comp=Z,13nm,0.7s							
PKI	**Pulchoki**	**51.30**	**80**	*e*P		**P**	**06 29 00.6**	**+0.2**
	comp=Z,39nm,1.0s							
GUN	**Gumba**	**51.55**	**79**	*e*P		**P**	**06 29 02.7**	**+0.4**
	comp=Z,56nm,1.0s							
JIRN	**Jiri**	**51.90**	**80**	*e*P		**P**	**06 29 05.3**	**+0.3**
	comp=Z,32nm,0.9s							
ODAN	**Odare**	**53.20**	**80**	*e*P		**P**	**06 29 14.3**	**-0.1**
	comp=Z,11nm,0.6s							
TAPN	**Taplejung**	**53.27**	**79**	*e*P		**P**	**06 29 14.9**	**-0.1**
	comp=Z,25nm,1.0s							
MOY	**Mondy**	**55.62**	**47**	*e*P		**P**	**06 29 33.3**	**+1.7**
MOY				pmax	pmax			
	comp=Z,11nm,2.4s							
MOY	**Mondy**	**55.62**	**47**	*e*P		**P**	**06 29 33.3**	**+1.7**
	comp=Z,11nm,2.4s							
TLY	**Talaya**	**57.22**	**46**	*e*P		**P**	**06 29 44.3**	**+1.5**
TLY				*e*			06 29 55.9	
TLY				*e*			06 31 50.5	
TLY				*e*S		S	06 37 32.4	-5.1
TLY				pmax	pmax			
	comp=Z,6.0nm,1.0s							
TLY				MLR	MLR			
	comp=Z,47nm,17.0s							
ZAK	**Zakamensk**	**57.34**	**48**	*e*P		**P**	**06 29 44.5**	**+0.7**
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.0s							
GTA	**Gaotai**	**58.31**	**61**	*e*P		**P**	**06 29 51.8**	**+1.0**
GTA				pmax	pmax			
	comp=Z,5.0nm,1.4s							
SONM	**Songino Array**	**60.04**	**50**	P		**P**	**06 30 03.6**	**+0.9**
SONM				PcP		**PcP**	**06 30 49.8**	**+1.3**
SONM	**Songino Array**	**60.04**	**50**	P		**P**	**06 30 03.6**	**+0.9**
	comp=Z,4.0nm,0.9s,baz=286,slow=8.7,SNR=25							
SONM				PcP		**PcP**	**06 30 49.8**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=288,slow=2.4,SNR=3.8							
TIXI	**Tiksi**	**62.16**	**20***d*	*i* P		**P**	**06 30 16.3**	**-0.1**
TIXI				pmax	pmax			
	comp=Z,4.0nm,1.7s							
BOSA	**Boshof**	**62.29**	**180**	P		**P**	**06 30 19.0**	**+1.1**
BOSA	**Boshof**	**62.29**	**180**	P		**P**	**06 30 19.0**	**+1.1**
	comp=Z,3.2nm,0.7s,baz=21,slow=12,SNR=5.9							
BOSA				LR		LR	07 01 01.7	
	comp=Z,79nm,19.2s,baz=353,slow=40							
LZH	**Lanzhou**	**62.51**	**63**	*e*P		**P**	**06 30 21.5**	**+1.9**
LZH				pP		pP	06 30 29.3	+3.4
LZH				sP		sP	06 30 33.6	+5.4
LZH				PP		**PP**	**06 32 40.7**	**+3.8**
LZH				pmax	pmax			
	comp=Z,21nm,1.3s							
LZH				pmax	pmax			
	comp=Z,73nm,6.8s							
LZH				LR		LR		
	comp=N,320nm,15.0s							
LZH				LR		LR		
	comp=E,320nm,15.3s							
LZH				LR		LR		
	comp=Z,400nm,17.9s							
SCHQ	**Schefferville**	**64.20**	**320**	*e*P		**P**	**06 30 30.2**	**-0.1**
	comp=Z,208nm,2.6s							
SCHQ	**Schefferville**	**64.20**	**320**	P		**P**	**06 30 30.2**	**-0.1**
	comp=Z,11nm,0.7s,baz=74,slow=6.0,SNR=22							
CD2	**Chengdu**	**64.59**	**69**	P		**P**	**06 30 34.6**	**+1.3**
CD2				pP		**pP**	**06 30 41.8**	**+2.2**
CD2				PcP		**PcP**	**06 31 08.7**	**+1.5**
CD2				PP		**PP**	**06 32 58.3**	**+3.0**
CD2				ScP			06 35 08.6	
CD2				PcS			06 35 11.3	
CD2				S		**S**	**06 39 10.3**	**-1.9**
CD2				SS		**SS**	**06 43 22.1**	**-0.4**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,100nm,5.4s							
KMI	**Kunming**	**66.39**	**75**	P		**P**	**06 30 45.9**	**+0.7**
KMI				pmax	pmax			
	comp=Z,12nm,0.5s							
CMAR	**Chiang Mai Arr**	**66.49**	**83**	P		**P**	**06 30 43.9**	**-1.7**
CMAR	**Chiang Mai Arr**	**66.49**	**83**	P		**P**	**06 30 43.9**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=299,slow=8.3,SNR=8.0							
HIA	**Hailar**	**67.68**	**45**	*e*P		**P**	**06 30 53.0**	**+0.2**
GYA	**Guiyang**	**68.89**	**72**	*e*P		**P**	**06 31 01.3**	**+0.4**
GYA				pP		**pP**	**06 31 09.4**	**+2.2**
GYA				PP		**PP**	**06 33 35.8**	**+2.9**
GYA				ScP			06 35 27.0	
GYA				SKS		**SKiKP**	**06 40 54.2**	**+2.6**
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
BJI	**Beijing**	**69.60**	**55**	P		**P**	**06 31 03.5**	**-1.4**
BJI				pmax	pmax			
	comp=Z,7.0nm,0.6s							
BJI				pmax	pmax			
	comp=Z,64nm,4.0s							
WHN	**Wuhan**	**72.84**	**65**	P		**P**	**06 31 25.6**	**+1.0**
CN2	**Changchun**	**73.77**	**48**	*e*P		**P**	**06 31 29.8**	**-0.1**
BILL	**Bilibino**	**74.11**	**14**	P		**P**	**06 31 32.0**	**+0.5**
BILL				*e*			06 31 43.5	
BILL				pmax	pmax			
	comp=Z,32nm,1.3s							
KLR	**Kul'dur**	**74.48**	**41**	*e*P		P	06 31 29.3	-4.7
QIZ	**Qiongzhong**	**75.11**	**77**	P		**P**	**06 31 37.9**	**-0.2**
QIZ				S		**S**	**06 41 14.8**	**-1.0**
QIZ				pmax	pmax			
	comp=Z,9.0nm,1.2s							
QIZ				LR		LR		
	comp=N,140nm,16.6s							
QIZ				LR		LR		
	comp=Z,88nm,15.1s							
NJ2	**Nanjing**	**75.41**	**61**	*e*P		**P**	**06 31 39.5**	**-0.1**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.9s							
MDJ	**Mudanjiang**	**75.84**	**46**	P		**P**	**06 31 41.1**	**-0.8**
MDJ				pmax	pmax			
	comp=Z,5.0nm,0.8s							
MDJ				pmax	pmax			
	comp=Z,27nm,4.7s							
USRK	**Ussuriysk Arra**	**77.50**	**45**	P		**P**	**06 31 50.5**	**-0.8**
	comp=Z,7.9nm,0.8s,baz=291,slow=5.1,SNR=19							
YKA	**Yellowknife Ar**	**78.60**	**342**	P		**P**	**06 31 56.8**	**-0.2**
YKA	**Yellowknife Ar**	**78.60**	**342**	P		**P**	**06 31 56.8**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=31,slow=5.7,SNR=12							
YKA				LR		LR	07 10 16.9	
	comp=Z,4.8nm,19.6s,baz=15,slow=38							
KSAR	**Wonju Array Be**	**78.78**	**52**	P		**P**	**06 31 59.2**	**+0.7**
KSRS	**Korea Array**	**78.80**	**52**	P		**P**	**06 31 59.2**	**+0.6**
	comp=Z,2.8nm,0.6s,baz=306,slow=4.7,SNR=11							
KSRS				LR		LR	07 12 04.9	
	comp=Z,49nm,19.6s,baz=335,slow=40							
COLD	**Coldfoot**	**79.01**	**358**	*e*P		**P**	**06 31 59.8**	**+0.5**
	comp=Z,6.1nm,1.0s							
FFC	**Flin Flon**	**80.74**	**332**	*ce*P		**P**	**06 32 09.2**	**+0.4**
FFC	**Flin Flon**	**80.74**	**332**	*e*P		**P**	**06 32 08.7**	**-0.1**
	comp=Z,5.2nm,0.8s							
COWI	**Conover**	**80.81**	**320**	*e*P		**P**	**06 32 09.3**	**-0.1**
	comp=Z,15nm,0.8s							
EGAK	**Eagle**	**80.97**	**354**	*e*P		**P**	**06 32 10.2**	**+0.4**
	comp=Z,4.3nm,0.7s							
ILAR	**Eielson Array**	**81.35**	**357**	P		**P**	**06 32 12.1**	**+0.2**
ILAR	**Eielson Array**	**81.35**	**357**	P		**P**	**06 32 12.1**	**+0.2**
	comp=Z,3.1nm,0.7s,baz=349,slow=3.3,SNR=42							
YSS	**Yuzh-Sakhalins**	**81.69**	**38**	*e*P		**P**	**06 32 15.5**	**+1.5**
MCK	**McKinley**	**82.48**	**357**	*e*P		**P**	**06 32 18.0**	**+0.1**
MCK				pmax	pmax			
	comp=Z,10.0nm,1.0s							
MCK	**McKinley**	**82.48**	**357**	*e*P		**P**	**06 32 18.0**	**+0.1**
	comp=Z,10nm,1.0s							
TRF	**Thorofare Moun**	**82.80**	**358**	*e*P		**P**	**06 32 19.0**	**-0.7**
	comp=Z,9.4nm,0.8s							
PETK	**Petropavlovsk-**	**83.83**	**27**	P		**P**	**06 32 24.6**	**-0.4**
PETK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
PETK				MLR	MLR			
	comp=Z,32nm,19.6s							
PETK	**Petropavlovsk-**	**83.83**	**27**	P		**P**	**06 32 24.6**	**-0.4**
PETK	**Petropavlovsk-**	**83.83**	**27**	P		**P**	**06 32 24.6**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=217,slow=6.9,SNR=3.5							
PETK				LR		LR	07 12 54.0	
	comp=Z,32nm,19.6s,baz=101,slow=38							
WCI	**Wyandotte Cave**	**84.20**	**313**	*e*P		**P**	**06 32 26.9**	**-0.3**
WCI				pmax	pmax			
	comp=Z,7.0nm,0.8s							
WCI	**Wyandotte Cave**	**84.20**	**313**	*e*P		**P**	**06 32 26.9**	**-0.3**
	comp=Z,7.2nm,0.8s							
SML	**Sawmill**	**84.38**	**357**	*e*P		**P**	**06 32 27.8**	**+0.1**
SML				pmax	pmax			
	comp=Z,2.0nm,0.7s							
SML	**Sawmill**	**84.38**	**357**	*e*P		**P**	**06 32 27.8**	**+0.1**
	comp=Z,2.2nm,0.7s							
PMR	**Palmer**	**84.62**	**357**	*e*P		**P**	**06 32 28.9**	**0.0**
PMR				pmax	pmax			
	comp=Z,9.0nm,1.0s							
PMR	**Palmer**	**84.62**	**357**	*e*P		**P**	**06 32 28.9**	**0.0**
	comp=Z,8.8nm,1.0s							
RC01	**Rabbit Creek A**	**85.15**	**358**	*e*P		**P**	**06 32 31.8**	**+0.2**
	comp=Z,10nm,0.7s							
BDFB	**Brasilia**	**85.48**	**248**	P		**P**	**06 32 34.6**	**+0.7**
BDFB	**Brasilia**	**85.48**	**248**	P		**P**	**06 32 34.6**	**+0.7**
	comp=Z,4.3nm,0.9s,baz=114,slow=12,SNR=5.1							
BDFB				LR		LR	07 13 06.2	
	comp=Z,95nm,20.5s,baz=35,slow=37							
MJAR	**Matsushiro Arr**	**85.92**	**48**	P		**P**	**06 32 36.6**	**+0.7**
MJAR	**Matsushiro Arr**	**85.92**	**48**	P		**P**	**06 32 36.6**	**+0.7**
	comp=Z,2.1nm,0.9s,baz=303,slow=4.8,SNR=4.2							
MJAR				LR		LR	07 12 17.7	
	comp=Z,30nm,18.4s,baz=220,slow=37							
SIUC	**Southern Illin**	**86.30**	**314**	*e*P		**P**	**06 32 37.5**	**-0.2**
	comp=Z,9.5nm,0.8s							
ECSD	**EROS Data Cent**	**86.32**	**322**	*e*P		**P**	**06 32 37.4**	**-0.3**
	comp=Z,7.0nm,0.8s							
WVT	**Waverly**	**86.48**	**312**	*e*P		**P**	**06 32 37.8**	**-0.8**
WVT				pmax	pmax			
	comp=Z,4.0nm,0.8s							
WVT	**Waverly**	**86.48**	**312**	*e*P		**P**	**06 32 37.8**	**-0.8**
	comp=Z,4.2nm,0.8s							
LRAL	**Lakeview Retre**	**87.94**	**309**	*e*P		**P**	**06 32 45.8**	**0.0**
	comp=Z,16nm,0.9s							
WALA	**Waterton Lakes**	**89.71**	**335**	*e*P		**P**	**06 32 53.7**	**-0.3**
	comp=Z,0.1nm,0.8s							
JTMT	**Jette**	**90.95**	**334**	*e*P		**P**	**06 33 00.1**	**+0.3**
	comp=Z,5.2nm,1.0s							
SWMT	**Swartz Lake**	**91.05**	**334**	*e*P		**P**	**06 32 59.6**	**-0.6**
	comp=Z,8.8nm,1.0s							
NEW	**Newport**	**91.50**	**336**	*e*P		**P**	**06 33 02.0**	**-0.2**
	comp=Z,4.1nm,0.7s							
NEW	**Newport**	**91.50**	**336**	LR		LR	07 16 41.1	
	comp=Z,41nm,20.5s,baz=180,slow=37							
IMW	**Indian Meadow**	**92.85**	**330**	*e*P		**P**	**06 33 09.4**	**+0.6**
	comp=Z,4.2nm,1.0s							
MOOW	**Moose Ponds**	**92.89**	**330**	*e*P		**P**	**06 33 08.6**	**-0.4**
	comp=Z,1.8nm,0.9s							
BW06	**Boulder Array**	**93.19**	**329**	*e*P		**P**	**06 33 09.7**	**-0.7**
	comp=Z,3.3nm,1.2s							
PDAR	**Pinedale Array**	**93.19**	**329**	P		**P**	**06 33 09.6**	**-0.8**
PDAR	**Pinedale Array**	**93.19**	**329**	P		**P**	**06 33 09.6**	**-0.8**
	comp=Z,1.9nm,1.0s,baz=59,slow=4.3,SNR=9.6							
PDAR				LR		LR	07 13 27.1	
	comp=Z,44nm,19.2s,baz=249,slow=34							
ISCO	**Idaho Springs**	**93.73**	**324**	*e*P		**P**	**06 33 12.9**	**-0.1**
ISCO				pmax	pmax			
	comp=Z,3.0nm,1.0s							
ISCO	**Idaho Springs**	**93.73**	**324**	*e*P		**P**	**06 33 12.9**	**-0.1**
	comp=Z,2.9nm,1.0s							
SMCO	**Snowmass**	**94.87**	**325**	*e*P		**P**	**06 33 19.3**	**+0.9**
	comp=Z,9.7nm,0.7s							
HWUT	**Hardware Ranch**	**95.00**	**329**	*e*P		**P**	**06 33 18.3**	**-0.3**
	comp=Z,6.2nm,1.1s							
MFID	**Camas Ranch**	**95.20**	**333**	*e*P		**P**	**06 33 19.4**	**-0.1**
	comp=Z,2.6nm,0.9s							
SIV	**San Ignacio**	**95.95**	**255**	LR		LR	07 16 41.2	
	comp=Z,51nm,18.5s,slow=36							
TXAR	**Lajitas Array**	**100.71**	**316**	P		**Pdif**	**06 33 43.5**	**-1.0**
TXAR				PP		**PP**	**06 37 54.0**	**+2.8**
TXAR	**Lajitas Array**	**100.71**	**316**	P		**Pdif**	**06 33 43.5**	**-1.0**
	comp=Z,0.5nm,1.1s,baz=33,slow=3.7,SNR=2.4							
TXAR				PP		**PP**	**06 37 54.0**	**+2.8**
	comp=Z,0.4nm,1.0s,baz=53,slow=4.8,SNR=4.3							
WRA	**Warramunga Arr**	**116.24**	**97**	PKP		**PKPdf**	**06 38 39.1**	**-0.4**
WRA	**Warramunga Arr**	**116.24**	**97**	PKP		**PKPdf**	**06 38 39.1**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=308,slow=1.4,SNR=10							
ASAR	**Alice Springs**	**117.62**	**101**	PKP		**PKPdf**	**06 38 41.9**	**-0.2**
ASAR	**Alice Springs**	**117.62**	**101**	PKP		**PKPdf**	**06 38 41.9**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=308,slow=1.2,SNR=11							
QSPA	**South Pole Qui**	**123.88**	**180**	*e*PKPdf		**PKPdf**	**06 38 52.4**	**-0.4**
STKA	**Stephens Creek**	**127.18**	**107**	PKP		**PKPdf**	**06 39 00.6**	**+0.4**
STKA	**Stephens Creek**	**127.18**	**107**	PKP		**PKPdf**	**06 39 00.6**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=287,slow=4.0,SNR=5.0							

*ISCJB **08** 06:22:32.5±0.6, 29.°79N±0.°05×138.°8E±0.°1, h414km, mb3.0/4, Error ellipse: s-maj=12.4km s-min=6.0km az=165.0*
*JMA **08** 06:22:32.3±0.2, 29.°90N×139.°20E, h450km, M3.5*
*IDC **08** 06:22:34.7±2.2, 30.°36N×140.°16E, h505km±59km, mb2.7/4, mb1 2.9/6, mb1mx2.6/26, mbtmp2.8/6, Error ellipse: s-maj=165.7km s-min=17.5km az=69.0*

ISC 08 06:22:33.0±0.9, 29.°85N±0.°07×138.°9E±0.°1, h414km, n19, σ1ᵗ49/22, mb3.1/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.34**	**13**	P	**P**	**06 23 42.3**	**+2.5**
CBIJ	**Chichi jima**	**3.96**	**133**	P	**P**	**06 23 46.5**	**+1.0**
CBIJ				*e*S	**S**	**06 24 44.9**	**+0.4**
TK02	**Tokai 2**	**4.21**	**346**	P	P	06 23 50.9	+3.5
JHHJ	**Haha-jima-NKT**	**4.29**	**137**	*e*S	**S**	**06 24 50.9**	**+0.7**
JIE	**Ise**	**4.91**	**338**	P	**P**	**06 23 57.5**	**+3.0**
JKN2	**Miekihoku**	**4.93**	**333**	P	**P**	**06 23 57.2**	**+2.6**
BSO1	**Boso 1**	**5.10**	**19**	P	**P**	**06 23 57.0**	**+1.3**
BSO1				*e*S	**S**	**06 25 04.4**	**+0.8**
BSO3	**Boso 3**	**5.12**	**15**	P	**P**	**06 23 57.3**	**+1.1**
BSO3				*e*S	**S**	**06 25 04.1**	**-0.4**
BSO4	**Boso 4**	**5.26**	**13**	P	**P**	**06 23 59.0**	**+1.1**
BSO4				*e*S	**S**	**06 25 07.2**	**-0.3**
JOD2	**Odawara 2**	**5.40**	**1**	P	**P**	**06 24 00.1**	**+0.6**
JOD2				*e*S	**S**	**06 25 09.9**	**-0.5**
JNY	**Yasuok**	**5.57**	**351**	P	**P**	**06 24 03.8**	**+2.5**
MJAR	**Matsushiro Arr**	**6.71**	**355**	P	**P**	**06 24 13.9**	**-0.1**
	1.8nm,0.3s,baz=172,slow=12,SNR=10						
MAT	**Matsushiro**	**6.71**	**355**	P	**P**	**06 24 14.1**	**+0.1**
JHS	**Saijyo**	**7.11**	**318**	P	**P**	**06 24 19.8**	**+1.3**
USRK	**Ussuriysk Arra**	**15.35**	**341**	P	**P**	**06 25 48.6**	**+0.1**
	0.3nm,0.3s,baz=126,slow=9.8,SNR=6.4						
MKAR	**Makanchi Array**	**46.53**	**308**	P	**P**	**06 30 19.3**	**-1.9**
	0.4nm,0.7s,baz=89,slow=9.5,SNR=2.9						
WRA	**Warramunga Arr**	**49.70**	**186**	P	**P**	**06 30 44.5**	**-0.8**
	0.4nm,0.3s,baz=14,slow=7.3,SNR=13						
ASAR	**Alice Springs**	**53.42**	**186**	P	**P**	**06 31 11.4**	**-1.0**
	0.2nm,0.4s,baz=1.3,slow=4.9,SNR=4.2						
BVAR	**Borovoye Array**	**54.09**	**316**	P	P	06 31 14.4	-2.4
	1.0nm,0.4s,baz=87,slow=7.0,SNR=4.8						

*ISCJB **08** 06:50:33.3±0.6, 20.°95S±0.°05×68.°66W±0.°08, h103km±9km, mb3.5/1, Error ellipse: s-maj=12.2km s-min=7.5km az=178.4*
*GUC **08** 06:50:34.2±0.8, 21.°07S×68.°97W, h115km±6km, ML3.6*
*IDC **08** 06:50:36.3±1.5, 21.°14S×68.°44W, h105km±15km, mb3.4/2, mb1 3.2/5, mb1mx3.1/19, mbtmp3.2/5, Error ellipse: s-maj=39.4km s-min=13.4km az=116.0*

ISC 08 06:50:34.4±0.8, 20.°96S±0.°05×68.°70W±0.°09, h98km±11km, n13, σ0°83/19, 6C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.74**	**264**⇑	*i*P	**Pn**	**06 50 52.1**	**0.0**
PB01				*i* S	**Sn**	**06 51 05.1**	**-0.4**
PB01				AML	AML	06 51 05.7	
	comp=N,4μm,0.2s						
PB09	**Plate Boundary**	**0.97**	**211**⇑	*i*P	**Pn**	**06 50 54.4**	**-0.2**
PB09				*i* S	**Sn**	**06 51 09.6**	**-0.2**
PB09				AML	AML	06 51 11.2	
	comp=N,3μm,0.5s						
HMBC	**Humberstone**	**1.31**	**301**⇑	*i*P	**Pn**	**06 50 58.5**	**+0.2**
HMBC				*i* S	**Sn**	**06 51 16.5**	**0.0**
HMBC				AML	AML	06 51 19.2	
	comp=N,2μm,0.4s						
LVC	**Limon Verde**	**1.66**	**187**⇑	*i*P	**Pn**	**06 51 02.9**	**+0.1**
LVC				*i* S	**Sn**	**06 51 24.4**	**+0.1**
LVC	**Limon Verde**	**1.66**	**187**	P	**Pn**	**06 51 03.0**	**+0.1**
	comp=N,10nm,0.3s,baz=22,slow=9.6,SNR=56						
LVC				S	**Sn**	**06 51 24.0**	**-0.3**
	comp=N,30nm,0.3s,baz=119,slow=21,SNR=31						
PSGC	**Pisagua**	**1.91**	**315**⇑	*i*P	**Pn**	**06 51 05.7**	**-0.1**
PSGC				*i* S	**Sn**	**06 51 29.9**	**+0.2**
PSGC				AML	AML	06 51 32.0	
	comp=N,352nm,0.2s						
CEN1	**Los Morros**	**2.79**	**210**⇓	*i*P	**Pn**	**06 51 19.2**	**+1.8**
CEN1				AML	AML	06 51 53.5	
	comp=N,76nm,0.4s						
ANCH	**Antofagasta**	**3.14**	**210**⇑	*i*P	**Pn**	**06 51 20.1**	**-1.9**
LPAZ	**La Paz**	**4.68**	**7**	P	Pn	06 51 48.2	+4.8
	comp=N,0.3nm,0.3s,baz=178,slow=6.4,SNR=9.8						
SIV	**San Ignacio**	**8.76**	**57**	P	**Pn**	**06 52 39.0**	**+0.6**
	comp=N,1.0nm,0.3s,baz=252,slow=11,SNR=12						
SIV				S	**Sn**	**06 54 14.5**	**-1.0**
	comp=N,0.2nm,0.3s,baz=214,slow=11,SNR=3.1						
PLCA	**Paso Flores**	**19.77**	**184**	P	**P**	**06 54 57.4**	**+0.6**
	comp=N,0.1nm,0.3s,baz=346,slow=8.3,SNR=2.5						
BDFB	**Brasilia**	**20.33**	**78**	P	**P**	**06 55 03.9**	**+0.8**
	comp=N,1.5nm,0.4s,baz=262,slow=11,SNR=6.1						
TORD	**Torodi Ar. Bea**	**76.99**	**70**	P	**P**	**07 02 16.0**	**-0.9**
	comp=N,0.5nm,0.5s,baz=252,slow=5.0,SNR=4.1						

IDC 08 07:07:54.7±9.0, 16.°27S×178.°20W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.5/3, Error ellipse: s-maj=404.8km s-min=37.0km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.15**	**258**	P	P	07 16 13.4	-0.1
	0.2nm,0.5s,baz=92,slow=7.2,SNR=6.7						
ASAR	**Alice Springs**	**45.44**	**253**	P	P	07 16 15.7	-0.2
	0.5nm,0.3s,baz=86,slow=7.9,SNR=15						
ILAR	**Eielson Array**	**84.26**	**13**	P	P	07 20 27.9	0.0
	0.3nm,0.7s,baz=205,slow=4.0,SNR=5.1						

IDC 08 07:20:32.3±1.1, 6.°55N×126.°87E, h190km±10km, mb3.4/12, mb1 3.5/12, mb1mx3.4/25, mbtmp3.4/12, Error ellipse: s-maj=27.0km s-min=11.3km az=84.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.38**	**292**	P	Pn	07 21 03.9	-0.1
	133nm,0.3s,baz=249,slow=11,SNR=4.0						
DAV				S	Sn	07 21 28.5	0.0
	63nm,0.3s,baz=327,slow=23,SNR=17						
FITZ	**Fitzroy Crossi**	**24.52**	**183**	P	P	07 25 34.9	+0.3
	2.0nm,0.5s,baz=9.7,slow=11,SNR=8.0						
WRA	**Warramunga Arr**	**27.33**	**165**	P	P	07 25 59.7	-0.1
	0.5nm,0.8s,baz=332,slow=11,SNR=3.8						
WRA				ScP	ScP	07 32 36.5	-0.5
	0.7nm,0.8s,baz=343,slow=2.9,SNR=5.7						
KSRS	**Korea Array**	**30.78**	**2**	P	P	07 26 30.6	+0.5
	0.5nm,0.3s,baz=185,slow=8.8,SNR=2.8						
ASAR	**Alice Springs**	**30.81**	**167**	P	P	07 26 30.9	+0.4
	0.2nm,0.3s,baz=345,slow=7.1,SNR=5.0						
MJAR	**Matsushiro Arr**	**31.61**	**18**	P	P	07 26 35.7	-1.6
	1.2nm,0.6s,baz=191,slow=9.2,SNR=3.4						
USRK	**Ussuriysk Arra**	**37.77**	**6**	P	P	07 27 31.3	+1.3
	2.7nm,0.5s,baz=186,slow=7.5,SNR=7.1						
ASAJ	**Asahikawa**	**39.88**	**18**	P	P	07 27 48.4	+0.8
	2.4nm,0.4s,baz=203,slow=7.7,SNR=4.6						
SONM	**Songino Array**	**44.70**	**340**	P	P	07 28 27.0	+0.5
	0.9nm,0.6s,baz=151,slow=9.2,SNR=5.4						
MKAR	**Makanchi Array**	**55.35**	**324**	P	P	07 29 46.8	+0.2
	0.8nm,0.4s,baz=117,slow=7.3,SNR=8.1						
ZALV	**Zalesovo Beam**	**58.16**	**332**	P	P	07 30 06.0	-0.1
	0.6nm,0.3s,baz=151,slow=6.3,SNR=3.1						
ILAR	**Eielson Array**	**82.52**	**26**	P	P	07 32 32.9	-0.7
	0.8nm,0.5s,baz=249,slow=5.4,SNR=22						
ARCES	**ARCESS Array B**	**87.87**	**340**	P	P	07 32 58.9	-1.1
	1.7nm,0.9s,baz=82,slow=5.6,SNR=10		

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.54**	**98**	LR	LR	07 35 22.5	
	comp=Z,50nm,18.7s,baz=270,slow=34						
MDT	**Midelt**	**21.85**	**116**	LR	LR	07 36 05.2	
	comp=Z,53nm,19.9s,baz=317,slow=31						
DAVOX	**Davos/Dischmat**	**26.24**	**73**	LR	LR	07 39 50.8	
	comp=Z,53nm,18.9s,baz=268,slow=34						
SCHQ	**Schefferville**	**26.49**	**306**	LR	LR	07 38 58.2	
	comp=Z,67nm,18.6s,baz=136,slow=32						
GERES	**GERESS Array B**	**28.45**	**67**	LR	LR	07 40 50.2	
	comp=Z,52nm,19.6s,baz=289,slow=34						
FRB	**Frobisher Bay**	**29.36**	**324**	P	P	07 31 01.0	0.0
	1.8nm,0.7s,baz=109,slow=10.0,SNR=4.4						
KEST	**Kesra**	**29.72**	**95**	P	P	07 31 05.6	+1.0
	0.8nm,0.6s,baz=280,slow=6.2,SNR=3.7						
KEST				LR	LR	07 42 04.2	
	comp=Z,32nm,18.3s,baz=186,slow=35						
TORD	**Torodi Ar. Bea**	**40.63**	**132**	P	P	07 32 38.3	-0.2
	0.4nm,0.8s,baz=350,slow=5.9,SNR=2.9						
TORD				LR	LR	07 48 03.4	
	comp=Z,58nm,19.4s,baz=345,slow=34						
ULM	**Lac du Bonnet**	**44.56**	**302**	LR	LR	07 49 46.6	
	comp=Z,50nm,18.5s,baz=253,slow=33						
KBZ	**Khabaz**	**49.15**	**65**	LR	LR	07 54 16.3	
	comp=Z,26nm,21.7s,baz=41,slow=36						
YKA	**Yellowknife Ar**	**49.86**	**323**	LR	LR	07 52 11.7	
	comp=Z,2.2nm,21.9s,baz=245,slow=33						
TXAR	**Lajitas Array**	**60.18**	**283**	P	P	07 35 07.0	+0.4
	0.2nm,0.7s,baz=70,slow=6.1,SNR=3.7						
TXAR				LR	LR	08 00 04.5	
	comp=Z,51nm,20.1s,baz=185,slow=35						
ILAR	**Eielson Array**	**60.59**	**334**	P	P	07 35 08.9	+0.3
	0.2nm,0.6s,baz=50,slow=5.0,SNR=4.5						
ZALV	**Zalesovo Beam**	**66.00**	**37**	LR	LR	08 06 12.8	
	comp=Z,19nm,18.1s,baz=247,slow=38						
WRA	**Warramunga Arr**	**150.37**	**36**	PKPbc	PKPbc	07 44 50.9	-0.8
	0.5nm,0.9s,baz=330,slow=2.1,SNR=6.0						
ASAR	**Alice Springs**	**154.05**	**41**	PKPbc	PKPbc	07 44 57.7	-0.9
	0.3nm,0.7s,baz=352,slow=2.1,SNR=3.2						

*MOS **08** 07:35:21.6±1.9,48.°62N×155.°44E,h17km,mb4.2/1,Error ellipse: s-maj=33.2km s-min=10.2km az=68.5*
*KRSC **08** 07:35:25.7±1.3,48.°70N×156.°58E,h10km±10km,ML4.4*
*IDC **08** 07:35:27.5±2.9,48.°63N×155.°34E,h53km±29km,mb3.3/6, mb1 3.6/9,mb1mx3.4/27,mbtmp3.5/9,ML3.6/3,Error ellipse: s-maj=48.5km s-min=16.7km az=136.0*

ISC 08 07:35:25.4±0.9,48.°53N±0.°09×155.°9E±0.°1,h35km,n29, σ2.°13/36,mb3.4/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.16**	**4**	*e*PN	Pn	07 35 53.0	-5.8
SKR				pmax	pmax		
	comp=Z,60nm,0.4s						
SKR	**Severo-Kuril's**	**2.16**	**4**	*e*P	**Pn**	**07 35 57.7**	**-1.1**
SKR				*e*S	**Sn**	**07 36 21.1**	**-3.2**
PAU	**Pauzhetka**	**3.00**	**12**	PN	**Pn**	**07 36 11.1**	**+0.7**
PAU				S	**Sn**	**07 36 43.8**	**-1.3**
PAU	**Pauzhetka**	**3.00**	**12**	*e*P	**Pn**	**07 36 11.1**	**+0.7**
PAU				*e*S	**Sn**	**07 36 43.8**	**-1.3**
MIPR	**Malaya Ipel'ka**	**3.79**	**8**	P	**Pn**	**07 36 22.4**	**+1.1**
ASAK	**Asacha**	**4.07**	**18**	*e*P	**Pn**	**07 36 27.6**	**+2.5**
ASAK				*e*S	**Sn**	**07 37 12.0**	**+0.4**
MTVR	**Mutnovka**	**4.23**	**20**	*e*P	**Pn**	**07 36 29.3**	**+2.0**
MTVR				*e*S	**Sn**	**07 37 15.3**	**-0.2**
RUS	**Russkaya**	**4.26**	**23**	PN	**Pn**	**07 36 28.7**	**+1.1**
RUS	**Russkaya**	**4.26**	**23**	*e*P	**Pn**	**07 36 28.7**	**+1.1**
RUS				*e*S	**Sn**	**07 37 14.1**	**-1.9**
GRL	**Gorelyy**	**4.27**	**19**	*e*P	**Pn**	**07 36 30.0**	**+2.1**
APC	**Apacha**	**4.48**	**10**	*e*P	**Pn**	**07 36 33.7**	**+3.1**
APC				S	**Sn**	**07 37 22.7**	**+1.3**
PETK	**Petropavlovsk-**	**4.73**	**14**	PN	**Pn**	**07 36 36.3**	**+2.2**
PETK				S	Sn	07 37 39.3	+12
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.73**	**14**	P	**Pn**	**07 36 36.3**	**+2.2**
	comp=Z,1.5nm,0.3s,baz=186,slow=14,SNR=11						
PETK				S	Sn	07 37 39.3	+12
	comp=Z,0.3nm,0.3s,baz=172,slow=20,SNR=2.2						
PET	**Petropavlovsk**	**4.83**	**20**	*e*S	**Sn**	**07 37 31.4**	**+1.2**
UGLR	**Uglovaya**	**5.05**	**21**	P	**Pn**	**07 36 40.5**	**+1.9**
UGLR				*e*S	**Sn**	**07 37 34.8**	**-0.8**
SDLR	**Sedlovina**	**5.12**	**21**	*e*P	**Pn**	**07 36 41.4**	**+1.8**
SDLR				*e*S	**Sn**	**07 37 36.1**	**-1.5**
GNL	**Ganaly**	**5.33**	**13**	*e*P	Pn	07 36 46.0	+3.5
MKZ	**Mys Kozlova**	**7.06**	**29**	PN	**Pn**	**07 37 06.0**	**0.0**
MKZ	**Mys Kozlova**	**7.06**	**29**	P	**Pn**	**07 37 06.0**	**0.0**
MKZ				*e*S	**Sn**	**07 38 19.3**	**-5.6**
TUMR	**Tumrok**	**7.26**	**20**	P	Pn	07 37 12.9	+3.9
BKI	**Bering**	**9.15**	**39**	S	**Sn**	**07 39 10.6**	**-5.7**
ASAJ	**Asahikawa**	**10.17**	**249**	P	**Pn**	**07 37 48.0**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=79,slow=11,SNR=8.5						
FX1	**Attu Island--F**	**11.80**	**62**	P	Pn	07 38 15.5	+4.5
	comp=Z,1.1nm,0.3s,baz=57,slow=19,SNR=16						
FX1				S	**Sn**	**07 40 20.2**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=26,slow=18,SNR=7.1						
KSRS	**Korea Array**	**23.11**	**252**	P	**P**	**07 40 25.6**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=50,slow=9.7,SNR=4.4						
ILAR	**Eielson Array**	**33.99**	**40**	P	**P**	**07 42 06.8**	**+1.5**
	comp=Z,0.1nm,0.5s,baz=272,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**70.83**	**201**	P	**P**	**07 46 37.5**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=16,slow=6.7,SNR=3.7						
SCHQ	**Schefferville**	**70.93**	**25**	P	**P**	**07 46 38.7**	**+0.1**
	comp=Z,3.1nm,1.1s,baz=354,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**74.51**	**201**	P	**P**	**07 47 00.7**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=12,slow=5.7,SNR=4.1						
TXAR	**Lajitas Array**	**75.02**	**63**	P	**P**	**07 47 05.8**	**+2.5**
	comp=Z,0.3nm,0.7s,baz=302,slow=4.1,SNR=4.6						

HEL 08 07:56:26.3±0.7,60.°43N×28.°69E,h0km,ML1.1, Explosion,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.57**	**281**	*e*P	Pg	07 56 36.8	-0.5
VJF				*e*S	Sg	07 56 43.7	-1.0
VJF				*e*RG	Rg	07 56 47.3	
FIA0	**FINESS Array S**	**1.63**	**310**	*e*P	Pn	07 56 54.5	-1.7
FIA0				MSG	Sg	07 57 16.8	-1.9
	comp=Z,0.9nm,0.1s						
FIA0				*e*SG	Sg	07 57 16.8	-1.9

*CSEM **08** 07:56:39.9,63.°99N×28.°06E,h0km,ML1.0,Mining explosion. After HEL*

HEL 08 07:56:39.9±0.1,63.°99N×28.°06E,h0km,ML1.0, Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUL	**Oulu**	**1.44**	**321**	SG	Sn	07 57 28.4	+1.5
OUL				MSG		07 57 28.4	
	comp=Z,0.4nm,0.2s						
OUL	**Oulu**	**1.44**	**321**	Sg	Sn	07 57 28.4	+1.5
JOF	**Joensuu**	**1.81**	**125**	PG	Pn	07 57 12.2	-0.1
	baz=313						
JOF				SG	Sn	07 57 35.4	-0.6
JOF				MSG		07 57 35.4	
	comp=Z,0.6nm,0.1s						
JOF	**Joensuu**	**1.81**	**125**	Pg	Pn	07 57 12.2	-0.1
JOF				Sg	Sn	07 57 35.4	-0.6
KAF	**Kangasniemi**	**2.05**	**204**	PN	Pn	07 57 16.2	+0.7
KAF				SG	Sn	07 57 42.3	+0.6
KAF				MSG		07 57 42.3	
	comp=Z,1.4nm,0.4s						
KAF	**Kangasniemi**	**2.05**	**204**	Pn	Pn	07 57 16.2	+0.7
KAF				Sg	Sn	07 57 42.3	+0.6
KU6	**Riekki**	**2.19**	**20**	SG	Sn	07 57 46.4	+1.2
KU6				MSG		07 57 46.4	
	comp=Z,0.3nm,0.2s						
KU6	**Riekki**	**2.19**	**20**	Sg	Sn	07 57 46.4	+1.2
KEF	**Keuruu**	**2.33**	**220**	SG	Sb	07 57 51.0	-1.1
KEF				MSG		07 57 51.0	
	comp=Z,0.7nm,0.2s						
KEF	**Keuruu**	**2.33**	**220**	Sg	Sb	07 57 51.0	-1.2
VAF	**Ylistaro**	**2.59**	**251**	SG	Sb	07 57 58.6	-1.0
VAF				MSG		07 57 58.6	
	comp=Z,0.3nm,0.1s						
VAF	**Ylistaro**	**2.59**	**251**	Sg	Sb	07 57 58.6	-1.0
FIA0	**FINESS Array S**	**2.71**	**201**	SG	Sb	07 58 01.8	-1.3
FIA0				MSG		07 58 01.8	
	comp=Z,1.0nm,0.3s						
FIA0	**FINESS Array S**	**2.71**	**201**	Sg	Sb	07 58 01.8	-1.3
RNF	**Rovaniemi**	**2.77**	**343**	SG	Sb	07 58 03.6	-0.9
RNF				MSG		07 58 03.6	
	comp=Z,0.4nm,0.2s						
RNF	**Rovaniemi**	**2.77**	**343**	Sg	Sb	07 58 03.6	-1.0

IDC 08 08:33:34.1±4.7,6.°45S×148.°83E,h93km±48km,mb3.5/3, mb1 3.7/5,mb1mx3.4/19,mbtmp3.5/5,Error ellipse: s-maj=87.8km s-min=29.1km az=134.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.37**	**209**	P	Pn	08 34 25.4	+0.7
	4.3nm,0.3s,baz=37,slow=6.7,SNR=10.0						
PMG				S	Sn	08 35 04.2	+0.4
	16nm,0.3s,baz=353,slow=18,SNR=8.3						
WRA	**Warramunga Arr**	**19.44**	**225**	P	P	08 37 53.3	-0.1
	0.3nm,0.3s,baz=52,slow=11,SNR=26						
ASAR	**Alice Springs**	**22.34**	**218**	P	P	08 38 25.1	+0.5
	0.7nm,0.3s,baz=50,slow=9.2,SNR=29						
ASAR				pP	pP	08 38 39.8	-3.1
	0.9nm,0.6s,baz=46,slow=11,SNR=6.4						
FITZ	**Fitzroy Crossi**	**25.41**	**241**	P	P	08 38 53.0	-0.2
	2.5nm,0.6s,baz=69,slow=6.3,SNR=8.6						
ILAR	**Eielson Array**	**85.18**	**23**	P	P	08 45 59.7	-0.1
	0.7nm,0.6s,baz=249,slow=4.9,SNR=18						

IDC 08 09:08:29.2±1.5,0.°63S×132.°96E,h0km,mb3.8/5, mb1 3.9/7,mb1mx3.6/23,mbtmp3.8/7,ML3.7/2,Error ellipse: s-maj=79.9km s-min=17.8km az=75.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.79**	**202**	P	P	09 12 50.3	0.0
	0.1nm,0.3s,baz=24,slow=15,SNR=6.1						
FITZ				S	Sn	09 16 07.9	-14
	0.1nm,0.3s,baz=173,slow=19,SNR=2.6						
WRA	**Warramunga Arr**	**19.24**	**176**	P	Pn	09 12 55.9	-0.3
	0.3nm,0.3s,baz=354,slow=11,SNR=20						
WRA				S	Sn	09 16 18.9	-14
	0.2nm,0.3s,baz=351,slow=23,SNR=6.0						
ASAR	**Alice Springs**	**22.91**	**178**	P	P	09 13 35.2	+0.3
	1.3nm,0.4s,baz=354,slow=7.5,SNR=29						
ASAR				S	S	09 17 40.6	-5.6
	0.5nm,0.9s,baz=354,slow=28,SNR=3.0						
STKA	**Stephens Creek**	**32.13**	**166**	P	P	09 14 57.5	-1.0
	1.3nm,0.7s,baz=346,slow=9.3,SNR=3.8						
MKAR	**Makanchi Array**	**64.69**	**324**	P	P	09 19 09.4	+0.3
	0.3nm,0.4s,baz=104,slow=7.5,SNR=5.5						
KURBB	**Kurchatov Arra**	**68.77**	**326**	P	P	09 19 35.1	0.0
	0.4nm,0.4s,baz=116,slow=6.5,SNR=4.4						
BVAR	**Borovoye Array**	**74.37**	**326**	P	P	09 20 08.8	0.0
	0.5nm,0.5s,baz=120,slow=10,SNR=2.5						

*ISCJB **08** 09:33:26.9±0.4,23.°86N±0.°02×121.°93E±0.°02,h30km±2km, Error ellipse: s-maj=3.3km s-min=2.3km az=135.6*
*JMA **08** 09:33:27.8±0.2,23.°91N×121.°96E,h68km,M3.0*
*TAP **08** 09:33:27.3,23.°88N×121.°88E,h36km,ML3.5,C*

ISC 08 09:33:27.3±1.0,23.°87N±0.°02×121.°91E±0.°03,h31km±8km, n52,σ0.°66/97,3C-3D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.30**	**291**	P	**Pb**	**09 33 34.8**	**-0.1**
HWA	baz=286			*e*S	**Sb**	**09 33 40.3**	**+0.3**
TWD	**Chiawan**	**0.36**	**306**	⇓*i*P	**Pb**	**09 33 35.4**	**-0.2**
TWD	baz=305			S	**Sb**	**09 33 41.3**	**0.0**
	baz=305						
ESL	**Shilin**	**0.44**	**263**	*e*P	**Pb**	**09 33 36.3**	**-0.5**
ESL	baz=256			S	**Sb**	**09 33 43.7**	**+0.3**
	baz=256						
ENA	**Nanau**	**0.58**	**345**	⇓P	**Pb**	**09 33 38.6**	**-0.4**
ENA	baz=341			*e*S	**Sb**	**09 33 46.9**	**-0.2**
	baz=341						
EHY	**Hungye**	**0.65**	**236**	*e*P	**Pn**	**09 33 40.0**	**-0.3**
EHY	baz=232			*e*S	**Sb**	**09 33 49.1**	**+0.1**
	baz=232						
WHF	**Hehuan Shan**	**0.65**	**295**	⇓P	**Pb**	**09 33 39.7**	**-0.8**
WHF	baz=288			S	**Sb**	**09 33 48.7**	**-0.8**
	baz=288						
TWC	**Suao**	**0.74**	**356**	P	**Pn**	**09 33 41.7**	**+0.1**
TWC	baz=359			S	**Sn**	**09 33 51.7**	**-0.1**
	baz=359						
NNS	**Nan Shan**	**0.75**	**319**	P	**Pn**	**09 33 41.3**	**-0.6**
NNS	baz=315			*e*S	**Sb**	**09 33 51.3**	**-0.7**
	baz=315						
TWF1	**Yuli**	**0.76**	**228**	⇑*i*P	**Pn**	**09 33 41.2**	**-0.7**
TWF1	baz=237			*e*S	**Sn**	**09 33 51.5**	**-0.8**
	baz=237						
TWT	**Tachien**	**0.77**	**300**	*e*P	**Pn**	**09 33 42.1**	**-0.1**
TWT	baz=299			S	**Sb**	**09 33 52.5**	**-0.2**
	baz=299						
ENTT	**Nioudou**	**0.83**	**338**	P	**Pn**	**09 33 42.6**	**-0.3**
ENTT	baz=332			*e*S	**Sn**	**09 33 53.4**	**-0.7**
	baz=332						
TWE	**Neicheng**	**0.88**	**345**	*e*P	**Pn**	**09 33 43.5**	**0.0**
TWE	baz=341			*e*S	**Sn**	**09 33 55.0**	**-0.2**
	baz=341						
CHKT	**Chengkung**	**0.92**	**213**	*e*P	**Pn**	**09 33 43.1**	**-0.9**
	baz=198						
SMLT	**Sun Moon Lake**	**0.93**	**271**	⇑P	**Pn**	**09 33 44.2**	**-0.1**
SMLT	baz=270			*e*S	**Sn**	**09 33 56.0**	**-0.6**
	baz=270						
NSK	**Sanguang**	**0.95**	**328**	⇑*i*P	**Pn**	**09 33 44.2**	**-0.3**
NSK	baz=330			S	**Sn**	**09 33 56.1**	**-1.0**
	baz=330						
YUS	**Yu-Shan**	**0.96**	**247**	P	**Pn**	**09 33 44.9**	**-0.1**
YUS	baz=244			*e*S	**Sn**	**09 33 57.2**	**-0.6**
	baz=244						
TYC	**Yuchr**	**0.96**	**272**	P	**Pn**	**09 33 44.4**	**-0.2**
TYC	baz=271			S	**Sn**	**09 33 56.8**	**-0.5**
	baz=271						
ELDTW	**Lidau**	**1.06**	**231**	*e*P	**Pn**	**09 33 45.3**	**-0.8**
ELDTW	baz=227			*e*S	**Sn**	**09 33 59.6**	**-0.3**
	baz=227						
ALS	**Alishan**	**1.07**	**251**	*e*P	**Pn**	**09 33 46.8**	**+0.3**
ALS	baz=248			*e*S	**Sn**	**09 34 00.1**	**-0.3**
	baz=248						
WNT	**Mingjian**	**1.12**	**271**	*e*P	**Pn**	**09 33 47.3**	**+0.4**
	baz=269						
NSTT	**Nanjuang**	**1.12**	**313**	P	**Pn**	**09 33 47.8**	**+0.9**
NSTT	baz=313			S	**Sn**	**09 34 01.1**	**-0.2**
	baz=313						
TWB1	**Santiao Chiao**	**1.14**	**4**	*e*P	**Pn**	**09 33 47.8**	**+0.7**
TWB1	baz=6.0			*e*S	**Sn**	**09 34 01.8**	**+0.2**
	baz=6.0						
TWQ1	**Liyutan**	**1.14**	**295**	*e*P	**Pn**	**09 33 48.0**	**+0.8**
TWQ1	baz=295			*e*S	**Sn**	**09 34 01.8**	**0.0**
	baz=295						
TWA	**Mucha**	**1.15**	**345**	*e*P	**Pn**	**09 33 47.3**	**+0.1**
TWA	baz=338			*e*S	**Sn**	**09 34 02.0**	**+0.1**
	baz=338						
CHN5	**Tsauling**	**1.16**	**257**	*e*P	**Pn**	**09 33 48.2**	**+0.7**
CHN5	baz=247			*e*S	**Sn**	**09 34 02.9**	**+0.6**
	baz=247						
TCU	**Taichung**	**1.16**	**284**	*e*P	**Pn**	**09 33 48.7**	**+1.3**
	baz=284						
YOJ	**Yonaguni jima**	**1.17**	**59**	P	**Pn**	**09 33 47.8**	**+0.4**
YOJ				S	**Sn**	**09 34 02.5**	**+0.2**
NSY	**Sanyi**	**1.18**	**298**	*e*P	**Pn**	**09 33 48.3**	**+0.5**
	baz=298						
NSY				*e*S	**Sb**	**09 34 03.9**	**-0.2**
	baz=298						
NWF	**Wu-fen Shan**	**1.20**	**354**	*e*P	**Pn**	**09 33 48.5**	**+0.5**
	baz=356						
NWF				*e*S	**Sn**	**09 34 03.8**	**+0.4**
	baz=356						
TAP1	**Taipei**	**1.22**	**343**	*e*P	**Pn**	**09 33 48.0**	**-0.1**
	baz=334						
TAP1				*e*S	**Sn**	**09 34 04.3**	**+0.8**
	baz=334						
TAP	**Taipei**	**1.22**	**343**	*e*P	**Pb**	**09 33 49.4**	**-0.4**
	baz=334						
TAP				*e*S	**Sn**	**09 34 04.5**	**+0.8**
	baz=334						
WGK	**Gukeng**	**1.25**	**262**	*e*P	**Pn**	**09 33 48.0**	**-0.5**
	baz=260						
WGK				*e*S	**Sn**	**09 34 05.0**	**+0.6**
	baz=260						
STYT	**Tauyuan**	**1.27**	**237**	*e*P	**Pn**	**09 33 49.5**	**+0.6**
	baz=233						
STYT				*e*S	**Sn**	**09 34 05.6**	**+0.6**
	baz=233						
NCU	**National Centr**	**1.28**	**329**	*e*P	**Pn**	**09 33 49.3**	**+0.2**
	baz=330						
NCU				*e*S	**Sn**	**09 34 06.0**	**+0.9**
	baz=330						
TWG	**Pinlang**	**1.30**	**217**	*e*P	**Pn**	**09 33 48.2**	**-1.1**
	baz=213						
TWG				*e*S	**Sn**	**09 34 04.4**	**-1.2**
	baz=213						
TWS1	**Kuangyinshan**	**1.31**	**340**	*e*P	**Pn**	**09 33 49.4**	**0.0**
	baz=342						
TWS1				*e*S	**Sn**	**09 34 06.1**	**+0.3**
	baz=342						
CHN4	**Tsaushan**	**1.31**	**247**	*e*P	**Pn**	**09 33 50.3**	**+0.8**
	baz=245						
CHN4				*e*S	**Sn**	**09 34 07.1**	**+1.1**
	baz=245						
WTP	**Ta-pu**	**1.34**	**243**	P	**Pn**	**09 33 50.7**	**+0.8**
	baz=240						
WTP				*e*S	**Sn**	**09 34 07.8**	**+1.1**
	baz=240						
CHY	**Chiayi**	**1.41**	**255**	*e*P	**Pn**	**09 33 51.7**	**+0.9**
	baz=253						
CHY				*e*S	**Sn**	**09 34 08.8**	**+0.4**
	baz=253						
TWY	**Chenhua**	**1.43**	**349**	*e*P	**Pn**	**09 33 51.7**	**+0.6**
	baz=335						
TWY				*e*S	**Sn**	**09 34 09.8**	**+0.9**
	baz=335						
TWK	**Hsinying**	**1.44**	**246**	*e*P	**Pn**	**09 33 52.3**	**+1.1**
	baz=243						
TWK				*e*S	**Sn**	**09 34 09.4**	**+0.4**
	baz=243						
CHN1	**Nanshi**	**1.44**	**242**	*e*P	**Pn**	**09 33 52.1**	**+0.8**
	baz=239						
CHN1				*e*S	**Sn**	**09 34 10.2**	**+1.1**
	baz=239						
SGST	**Jiashian**	**1.45**	**238**	*e*P	**Pn**	**09 33 52.5**	**+1.1**
	baz=234						
WTCT	**Ta-ch'eng**	**1.49**	**270**	*e*P	**Pn**	**09 33 52.4**	**+0.5**
	baz=269						
TWM1	**Shoushan**	**1.72**	**233**	*e*P	**Pn**	**09 33 54.5**	**-0.5**
	baz=229						
IRIF	**Iriomote-Funau**	**1.73**	**74**	P	**Pn**	**09 33 55.5**	**+0.3**
IRIF				S	**Sn**	**09 34 16.6**	**+0.5**
HATJ	**Hateruma jima**	**1.74**	**83**	P	**Pn**	**09 33 55.6**	**+0.2**
HATJ				S	**Sn**	**09 34 16.3**	**-0.3**
EAST	**Anshuo**	**1.77**	**214**	*e*P	**Pn**	**09 33 58.0**	**+2.1**
	baz=209						
SCZT	**Fangliau**	**1.91**	**219**	*e*P	**Pn**	**09 33 58.4**	**+0.8**
	baz=209						
SCZT				*e*S	**Sn**	**09 34 21.8**	**+1.3**
	baz=209						
JKRS	**Kuro-shima**	**1.95**	**79**	P	**Pn**	**09 33 58.9**	**+0.6**
JKRS				S	**Sn**	**09 34 22.0**	**+0.2**
JIJ	**Ishigaki jima**	**2.10**	**76**	P	**Pn**	**09 34 00.3**	**0.0**
JIJ				S	**Sn**	**09 34 24.9**	**-0.4**
JTJ	**Tarama**	**2.66**	**73**	P	**Pn**	**09 34 08.4**	**+0.4**
JTJ				S	**Sn**	**09 34 38.7**	**-0.5**

IDC 08 10:09:09.2±4.7,19.°57S×68.°89W,h130km±32km,mb3.3/1, mb1 3.2/3,mb1mx3.0/20,mbtmp3.0/3,Error ellipse: s-maj=67.9km s-min=31.3km az=76.0,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.34**	**13**	P	Pn	10 10 02.1	+1.0
	0.9nm,0.3s,baz=198,slow=8.1,SNR=17						
LPAZ				S	Sn	10 10 40.9	-0.3
	0.3nm,0.3s,baz=223,slow=18,SNR=1.8						
CPUP	**Villa Florida**	**12.59**	**124**	P	Pn	10 12 03.1	-0.7
	0.2nm,0.3s,baz=286,slow=16,SNR=3.3						
TORD	**Torodi Ar. Bea**	**76.70**	**71**	P	P	10 20 46.8	+0.2
	0.3nm,0.5s,baz=243,slow=5.6,SNR=8.6						
WRA	**Warramunga Arr**	**134.61**	**211**	PKP	PKPdf	10 28 12.0	-1.1
	0.4nm,0.9s,baz=144,slow=1.6,SNR=2.8						

IDC 08 10:59:13.6±2.9,31.°58S×179.°22W,h0km,mb3.4/2, mb1 3.7/3,mb1mx3.5/18,mbtmp3.5/3,ML3.0/1,Error ellipse: s-maj=64.4km s-min=35.4km az=105.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.31**	**203**	Pn	Pn	11 01 01.3	-0.4
	0.2nm,0.3s,baz=3.5,slow=19,SNR=2.6						
URZ				Sn	Sn	11 02 24.6	-0.8
	0.5nm,0.3s,baz=240,slow=20,SNR=5.4						
ASAR	**Alice Springs**	**42.02**	**269**	P	P	11 07 06.9	-0.1
	0.2nm,0.5s,baz=105,slow=7.3,SNR=5.5						
WRA	**Warramunga Arr**	**43.12**	**274**	P	P	11 07 15.9	0.0
	0.3nm,0.4s,baz=112,slow=7.9,SNR=12						
FINES	**FINESS Array B**	**145.88**	**339**	PKPbc	PKPdf	11 18 53.3	-0.2
	0.6nm,0.6s,baz=50,slow=2.2,SNR=3.3						

*CSEM **08** 10:59:25.6,42.°58N×13.°19E,h12km,MD1.6/4,After ROM*

ROM 08 10:59:25.6±0.1,42.°58N×13.°19E,h12km±1km,Md1.6/4, Ml1.4/2,Error ellipse: s-maj=1.6km s-min=0.6km az=17.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.12**	**282**	Pg	Pg	10 59 29.2	+0.4
LNSS				Sg	Sg	10 59 31.4	+0.3
	202nm,0.2s						
LNSS	**Leonessa**	**0.12**	**282**	Pg	Pg	10 59 29.2	+0.4
LNSS				Sg	Sg	10 59 31.4	+0.3
	202nm,0.2s						
CAMP	**Campotosto**	**0.17**	**105**	Pg	Pg	10 59 30.0	+0.4
CAMP				Sg	Sg	10 59 33.0	+0.6
	38nm,0.7s						
CAMP	**Campotosto**	**0.17**	**105**	Pg	Pg	10 59 30.0	+0.4
CAMP				Sg	Sg

LAST	**Lasithi**	**0.85**	**11**	*e*PB	**Pb**	**11 13 50.1**	**-1.3**
LAST	**Lasithi**	**0.85**	**11**	*e*Pb	**Pb**	**11 13 50.1**	**-1.3**
NPS	**Neapolis**	**0.97**	**16**	*e*PN	**Pb**	**11 13 53.9**	**+0.4**
NPS	**Neapolis**	**0.97**	**16**	*e*Pn	**Pb**	**11 13 53.9**	**+0.4**
IDI	**Anoyia**	**1.01**	**342**	*e*PN	**Pn**	**11 13 54.2**	**-0.3**
IDI	**Anoyia**	**1.01**	**342**	*e*Pn	**Pn**	**11 13 54.2**	**-0.3**
GVD	**Gavdhos**	**1.11**	**298**	*e*PN	**Pn**	**11 13 55.8**	**0.0**
GVD	**Gavdhos**	**1.11**	**298**	*e*Pn	**Pn**	**11 13 55.8**	**0.0**
VAM	**Vamos**	**1.40**	**321**	*e*PN	**Pb**	**11 14 01.4**	**+0.7**
VAM	**Vamos**	**1.40**	**321**	*e*Pn	**Pb**	**11 14 01.4**	**+0.7**
KARP	**Karpathos**	**1.97**	**51**	*e*PN	**Pn**	**11 14 08.5**	**+0.9**
KARP	**Karpathos**	**1.97**	**51**	*e*Pn	**Pn**	**11 14 08.5**	**+0.9**
ANKY	**Antikythira Is**	**2.24**	**314**	*e*PN	**Pn**	**11 14 11.4**	**+0.1**
ANKY	**Antikythira Is**	**2.24**	**314**	*e*Pn	**Pn**	**11 14 11.4**	**+0.1**
KYTH	**Kithira**	**2.68**	**317**	*e*PN	**Pn**	**11 14 17.6**	**+0.2**
KYTH	**Kithira**	**2.68**	**317**	*e*Pn	**Pn**	**11 14 17.6**	**+0.2**
APE	**Apeiranthos**	**2.75**	**4**	*e*PN	**Pn**	**11 14 19.8**	**+1.5**
APE	**Apeiranthos**	**2.75**	**4**	*e*Pn	**Pn**	**11 14 19.8**	**+1.5**
ARG	**Arkhangelos**	**3.00**	**50**	*e*PN	**Pn**	**11 14 24.6**	**+2.9**
ARG	**Arkhangelos**	**3.00**	**50**	*e*Pn	**Pn**	**11 14 24.6**	**+2.9**
VLI	**Veliai**	**3.06**	**322**	*e*PN	**Pn**	**11 14 24.4**	**+1.8**
VLI	**Veliai**	**3.06**	**322**	*e*Pn	**Pn**	**11 14 24.4**	**+1.8**
DYR	**Agios Nikonas**	**3.42**	**316**	*e*PN	**Pn**	**11 14 29.6**	**+2.0**
DYR				*e*SN	**Sn**	**11 15 06.5**	**-1.2**
DYR	**Agios Nikonas**	**3.42**	**316**	*e*Pn	**Pn**	**11 14 29.6**	**+2.0**
DYR				*e*Sn	**Sn**	**11 15 06.5**	**-1.2**
DID	**Didima**	**3.58**	**333**	*e*PN	**Pn**	**11 14 31.2**	**+1.4**
DID				*e*SN	**Sn**	**11 15 10.8**	**-1.0**
DID	**Didima**	**3.58**	**333**	*e*Pn	**Pn**	**11 14 31.2**	**+1.4**
DID				*e*Sn	**Sn**	**11 15 10.8**	**-1.0**
GUR	**Goura**	**4.32**	**327**	*e*PN	**Pn**	**11 14 40.4**	**+0.4**
GUR	**Goura**	**4.32**	**327**	*e*Pn	**Pn**	**11 14 40.4**	**+0.4**
MMAI	**Mount Meron Ar**	**8.54**	**96**	Pn	**Pn**	**11 15 37.3**	**-0.6**
	1.7nm,0.3s,baz=268,slow=13,SNR=2.6						
BRTR	**Keskin Array B**	**8.58**	**49**	Pn	**Pn**	**11 15 40.5**	**+2.0**
	0.1nm,0.3s,baz=218,slow=16,SNR=3.6						
EIL	**Elat**	**9.43**	**117**	Pn	Pn	11 15 45.7	-4.4
	0.7nm,0.3s,baz=297,slow=11,SNR=3.5						
MLR	**Muntele Rosu**	**11.16**	**2**	LR	LR	11 21 29.6	
	comp=Z,41nm,19.6s,baz=181,slow=42						
VRAC	**Vranov**	**16.30**	**339**	Pn	**P**	**11 17 26.0**	**+0.1**
	0.5nm,0.3s,baz=170,slow=11,SNR=4.1						
KBZ	**Khabaz**	**16.57**	**50**	Pn	**Pn**	**11 17 28.2**	**+1.8**
	0.1nm,0.3s,baz=245,slow=14,SNR=3.1						
GERES	**GERESS Array B**	**16.87**	**333**	P	**P**	**11 17 33.6**	**+1.3**
	0.3nm,0.3s,baz=145,slow=12,SNR=14						
GERES				LR	LR	11 24 36.1	
	comp=Z,37nm,19.4s,baz=18,slow=39						
ESDC	**Sonseca Array**	**23.90**	**291**	P	**P**	**11 18 46.8**	**-1.1**
	0.9nm,0.5s,baz=83,slow=10.0,SNR=3.9						
HFS	**Hagfors**	**26.91**	**347**	P	**P**	**11 19 16.2**	**+1.3**
	2.3nm,0.9s,baz=159,slow=8.7,SNR=4.0						
NOA	**NORSAR Array B**	**28.23**	**346**	LR	LR	11 32 04.3	
	comp=Z,20nm,18.6s,baz=185,slow=39						
TORD	**Torodi Ar. Bea**	**30.04**	**231**	P	P	11 19 38.5	-4.7
	2.2nm,0.7s,baz=37,slow=8.8,SNR=9.5						
ARCES	**ARCESS Array B**	**35.26**	**0**	P	**P**	**11 20 28.6**	**+0.2**
	0.4nm,0.5s,baz=173,slow=8.2,SNR=4.1						
ARCES				LR	LR	11 36 35.7	
	comp=Z,53nm,18.5s,baz=187,slow=39						
MKAR	**Makanchi Array**	**44.15**	**56**	P	**P**	**11 21 40.7**	**-2.0**
	0.7nm,0.4s,baz=267,slow=7.6,SNR=10						
ZALV	**Zalesovo Beam**	**45.51**	**46**	P	**P**	**11 21 52.8**	**-0.6**
	1.3nm,0.5s,baz=264,slow=8.1,SNR=5.5						
TSUM	**Tsumeb**	**53.73**	**189**	LR	LR	11 49 18.5	
	comp=Z,88nm,18.9s,baz=331,slow=40						
SONM	**Songino Array**	**59.94**	**50**	P	**P**	**11 23 38.7**	**-1.5**
	0.4nm,0.3s,baz=292,slow=8.9,SNR=3.1						
SCHQ	**Schefferville**	**63.89**	**320**	P	**P**	**11 24 06.2**	**-0.4**
	1.1nm,0.5s,baz=56,slow=6.2,SNR=4.7						
KSRS	**Korea Array**	**78.71**	**52**	LR	LR	12 07 21.3	
	comp=Z,23nm,18.3s,baz=225,slow=41						
ILAR	**Eielson Array**	**81.04**	**357**	P	**P**	**11 25 49.2**	**+0.6**
	0.2nm,0.6s,baz=347,slow=3.8,SNR=4.4						

IDC 08 11:21:11.6±0.9, 52.62S×119.05W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.9/16, mbtmp3.9/5, MS3.7/7, Ms1 3.7/7, ms1mx3.4/22, Error ellipse: s-maj=44.8km s-min=28.1km az=145.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**34.69**	**90**	LR	LR	11 38 58.8	
	comp=Z,40nm,18.6s,baz=186,slow=31						
VNDA	**Vanda**	**36.99**	**201**	LR	LR	11 40 58.0	
	comp=Z,95nm,18.0s,baz=101,slow=32						
QSPA	**South Pole Qui**	**37.58**	**180**	P	P	11 28 26.3	-1.2
	1.6nm,1.1s,baz=69,slow=10,SNR=2.6						
CPUP	**Villa Florida**	**52.49**	**85**	LR	LR	11 50 14.9	
	comp=Z,62nm,18.0s,baz=159,slow=33						
LPAZ	**La Paz**	**53.84**	**67**	P	P	11 30 36.5	-0.5
	0.6nm,0.4s,baz=199,slow=8.7,SNR=2.8						
MAW	**Mawson**	**60.09**	**181**	LR	LR	11 55 18.7	
	comp=Z,56nm,19.1s,baz=252,slow=34						
ASAR	**Alice Springs**	**81.23**	**242**	P	P	11 33 29.4	0.0
	1.4nm,1.0s,baz=133,slow=4.6,SNR=8.1						
TXAR	**Lajitas Array**	**82.70**	**14**	P	P	11 33 36.2	-0.6
	0.3nm,0.9s,baz=156,slow=6.8,SNR=2.8						
WRA	**Warramunga Ar**	**83.99**	**245**	P	P	11 33 43.6	-0.2
	2.1nm,1.0s,baz=148,slow=4.6,SNR=8.1						
FITZ	**Fitzroy Crossi**	**90.18**	**239**	LR	LR	12 07 06.8	
	comp=Z,51nm,20.3s,baz=176,slow=31						
YBH	**Yreka Blue Hor**	**94.03**	**357**	LR	LR	12 07 30.6	
	comp=Z,47nm,19.6s,baz=139,slow=30						
PDAR	**Pinedale Array**	**95.36**	**7**	LR	LR	12 10 20.9	
	comp=Z,46nm,19.5s,baz=87,slow=31						
GERES	**GERESS Array B**	**150.28**	**78**	PKPbc	PKPbc	11 41 03.0	-0.9
	1.5nm,0.8s,baz=188,slow=4.9,SNR=4.7						
BRTR	**Keskin Array B**	**157.27**	**114**	PKPab	PKPab	11 41 41.6	+1.6
	0.7nm,0.7s,baz=184,slow=6.9,SNR=4.0						
MKAR	**Makanchi Array**	**165.04**	**256**	PKPab	PKPab	11 42 14.3	+0.7
	1.0nm,1.0s,baz=122,slow=5.9,SNR=5.1						

CSEM ***08*** *11:27:50.8, 38.77N×23.46E, h11km, ML1.6/2, After THE*
THE 08 11:27:50.8, 38.77N×23.46E, h11km±2km, ML1.6/2, Error ellipse: s-maj=2.1km s-min=0.4km az=184.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRKA	**Markates**	**0.12**	**123**	P	Pg	11 27 53.9	+0.1
MRKA				S	Sg	11 27 55.9	0.0
MRKA	**Markates**	**0.12**	**123**	P	Pg	11 27 53.9	+0.1
MRKA				S	Sg	11 27 55.9	0.0
SMIA	**Simia**	**0.23**	**299**	P	Pg	11 27 55.5	-0.1
SMIA				S	Sg	11 27 59.2	+0.3
SMIA	**Simia**	**0.23**	**299**	P	Pg	11 27 55.5	-0.1
SMIA				S	Sg	11 27 59.2	+0.3
SKIA	**Skiathos**	**0.40**	**0**	P	Pg	11 27 58.9	+0.2
SKIA				S	Sg	11 28 04.8	+0.7
SKIA	**Skiathos**	**0.40**	**0**	P	Pg	11 27 58.9	+0.2
SKIA				S	Sg	11 28 04.8	+0.7
AOS	**Alonnisos**	**0.52**	**39**	P	Pg	11 28 00.4	-0.5
AOS				S	Sg	11 28 07.9	+0.1
AOS	**Alonnisos**	**0.52**	**39**	P	Pg	11 28 00.4	-0.5
AOS				S	Sg	11 28 07.9	+0.1
XOR	**Xorichti**	**0.63**	**341**	P	Pg	11 28 02.8	-0.4
XOR				S	Sg	11 28 12.1	+0.5
XOR	**Xorichti**	**0.63**	**341**	P	Pg	11 28 02.8	-0.4
XOR				S	Sg	11 28 12.1	+0.5

CSEM ***08*** *11:28:06.3, 37.95N×23.00E, h13km±5km, MD2.5, After ATH*
ATH 08 11:28:06.3, 37.95N×23.00E, h13km±5km, MD2.5/6, ML2.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTK	**Loutraki**	**0.08**	**340**	*e*PG	Pg	11 28 09.0	-0.1
LTK	**Loutraki**	**0.08**	**340**	*e*Pg	Pg	11 28 09.0	-0.1
NAIG	**Nisos Aigina**	**0.43**	**116**	*e*PG	Pg	11 28 14.3	-0.6
NAIG	**Nisos Aigina**	**0.43**	**116**	*e*Pg	Pg	11 28 14.3	-0.6
DID	**Didima**	**0.48**	**157**	*e*PB	Pg	11 28 15.4	-0.5
DID				*e*SB	Sb	11 28 23.2	-0.5
DID	**Didima**	**0.48**	**157**	*e*Pb	Pg	11 28 15.4	-0.5
DID				*e*Sb	Sb	11 28 23.2	-0.5
GUR	**Goura**	**0.52**	**269**	*e*PB	Pg	11 28 15.9	-0.8
GUR	**Goura**	**0.52**	**269**	*e*Pb	Pg	11 28 15.9	-0.8
ATH	**Athens Observa**	**0.57**	**88**	*e*PB	Pg	11 28 17.4	0.0
ATH	**Athens Observa**	**0.57**	**88**	*e*Pb	Pg	11 28 17.4	0.0
PSA1	**Psathopyrgos**	**0.96**	**293**	*e*PN	Pn	11 28 25.1	-0.3

CSEM ***08*** *11:28:28.1, 38.31N×21.97E, h7km, MD2.4, After ATH*
ATH 08 11:28:28.1, 38.31N×21.97E, h7km, MD2.4/4, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAKA	**Lakka**	**0.07**	**175**	*e*PG	Pg	11 28 30.0	0.0
LAKA				*e*SG	Sg	11 28 31.5	+0.2
LAKA	**Lakka**	**0.07**	**175**	*e*Pg	Pg	11 28 30.0	0.0
LAKA				*e*Sg	Sg	11 28 31.5	+0.2
TRIZ	**Trizonia**	**0.10**	**56**	*e*PG	Pg	11 28 30.6	+0.3
TRIZ				*e*SG	Sg	11 28 32.3	+0.4
TRIZ	**Trizonia**	**0.10**	**56**	*e*Pg	Pg	11 28 30.6	+0.3
TRIZ				*e*Sg	Sg	11 28 32.3	+0.4
EFP	**Efpalio**	**0.13**	**337**	*e*PG	Pg	11 28 31.0	+0.1
EFP	**Efpalio**	**0.13**	**337**	*e*Pg	Pg	11 28 31.0	+0.1
KALE	**Kalithea**	**0.16**	**59**	*e*PG	Pg	11 28 31.5	0.0
KALE				*e*SG	Sg	11 28 34.1	+0.4
KALE	**Kalithea**	**0.16**	**59**	*e*Pg	Pg	11 28 31.5	0.0
KALE				*e*Sg	Sg	11 28 34.1	+0.4

IDC ***08*** *11:54:01.6±1.6, 3.60S×130.76E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/20, mbtmp3.9/6, ML3.8/1, Error ellipse: s-maj=108.3km s-min=21.9km az=74.0*
ISCJB ***08*** *11:54:03.4±0.6, 3.75S±0.05×131.03E±0.07, h30km, mb3.6/4, Error ellipse: s-maj=10.4km s-min=6.7km az=27.6*
DJA ***08*** *11:54:06.0±1.7, 3°S±14"×13°1E±°, h16km±25km, M3.9/5, MLv3.9/5*
ISC 08 11:54:05.3±0.8, 3.72S±0.07×131.12E±0.06, h30km, n11, σ1s64/15, mb3.7/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.38**	**55**	P	**Pn**	**11 54 28.8**	**+0.3**
FAKI				S	**Sb**	**11 54 46.9**	**-0.7**
BNDI	**Bandanaira**	**1.46**	**237**	P	**Pb**	**11 54 33.8**	**+2.1**
BNDI				S	Sb	11 54 56.8	+6.9
MSAI	**Masohi**	**2.22**	**279**	P	**Pn**	**11 54 39.6**	**-0.5**
RKPI	**Ransiki, Papua**	**3.76**	**54**	P	**Pn**	**11 55 01.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**15.27**	**200**	Pn	**Pn**	**11 57 38.4**	**-0.4**
	0.3nm,0.3s,baz=34,slow=13,SNR=19						
FITZ				Sn	**Sn**	**12 00 23.8**	**-3.4**
	0.1nm,0.3s,baz=0.0,slow=20,SNR=2.5						
WRA	**Warramunga Arr**	**16.43**	**169**	Pn	**Pn**	**11 57 51.6**	**-2.2**
	0.2nm,0.3s,baz=353,slow=14,SNR=16						
WRA				Sn	**Sn**	**12 00 54.0**	**-1.3**
	0.3nm,0.3s,baz=356,slow=23,SNR=4.7						
ASAR	**Alice Springs**	**20.01**	**173**	P	**Pn**	**11 58 39.5**	**+1.9**
	4.6nm,0.5s,baz=350,slow=10,SNR=112						
ASAR				S	**S**	**12 02 19.1**	**-0.3**
	0.4nm,0.8s,baz=356,slow=27,SNR=3.5						
STKA	**Stephens Creek**	**29.69**	**162**	P	**P**	**12 00 10.1**	**+1.4**
	1.7nm,0.8s,baz=319,slow=9.3,SNR=2.6						
SONM	**Songino Array**	**55.73**	**340**	P	**P**	**12 03 39.5**	**+0.3**
	0.2nm,0.3s,baz=152,slow=6.5,SNR=4.6						
MKAR	**Makanchi Array**	**66.14**	**326**	P	**P**	**12 04 48.2**	**-1.7**
	0.4nm,0.7s,baz=154,slow=7.2,SNR=3.5						
KURBB	**Kurchatov Arra**	**70.34**	**328**	P	**P**	**12 05 15.2**	**-0.9**
	0.3nm,0.4s,baz=124,slow=5.7,SNR=3.1						

IDC 08 12:05:33.4±2.4, 17.84S×177.29W, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.4/4, Error ellipse: s-maj=142.3km s-min=30.9km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.69**	**259**	P	P	12 13 56.4	-0.1
	0.3nm,0.6s,baz=98,slow=7.3,SNR=4.1						
ASAR	**Alice Springs**	**45.83**	**254**	P	P	12 13 57.6	0.0
	0.2nm,0.4s,baz=93,slow=7.6,SNR=6.6						
TXAR	**Lajitas Array**	**85.06**	**57**	P	P	12 18 12.1	+0.5
	0.1nm,0.5s,baz=203,slow=6.5,SNR=3.5						
ILAR	**Eielson Array**	**85.58**	**13**	P	P	12 18 12.6	-0.6
	0.2nm,0.4s,baz=218,slow=4.2,SNR=4.1						

AUST ***08*** *12:13:49.4±0.0, 21.56S×178.63W, h567km, Error ellipse: s-maj=2.1km s-min=1.6km az=290.0*
IDC ***08*** *12:13:50.4±1.4, 21.50S×179.04W, h553km±14km, mb3.6/19, mb1 3.8/21, mb1mx3.7/26, mbtmp3.6/21, Error ellipse: s-maj=13.3km s-min=10.0km az=141.0*
NEIC ***08*** *12:13:51.5±0.9, 21.71S×179.08W, h574km±9km, mb4.4/20, Error ellipse: s-maj=16.0km s-min=7.7km az=143.0*
BJI ***08*** *12:13:51.4, 21.70S×179.10W, h574km, mB4.6/6, mb4.5/9*
ISC 08 12:13:51.5±0.6, 21.87S±0.07×179.00W±0.08, h574km±4km, h574km:pP-P, n99, σ1s54/122, mb4.3/40, 7C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.96**	**325**	*e*Pn	**P**	**12 15 21.3**	**-1.5**
MSVF				*e*Sn	**S**	**12 16 36.2**	**-0.8**
AFI	**Afiamalu**	**10.48**	**42**	*e*P	P	12 16 09.2	-5.7
AFI				*e*S	S	12 18 00.0	-13
AFI	**Afiamalu**	**10.48**	**42**	P	P	12 16 09.7	-5.2
	2.7nm,0.3s,baz=204,slow=6.8,SNR=8.5						
AFI				S	S	12 18 00.4	-12
	6.7nm,0.3s,baz=50,slow=16,SNR=7.1						
DZM	**Mont Dzumac**	**13.51**	**266**	*e*LR	LR	12 19 10.9	
	305nm,25.3s						
DZM	**Mont Dzumac**	**13.51**	**266**	*e*P	**P**	**12 16 45.1**	**-0.8**
DZM	**Mont Dzumac**	**13.51**	**266**	P	**P**	**12 16 45.3**	**-0.6**
	1.2nm,0.3s,baz=270,slow=24,SNR=14						
URZ	**Urewera**	**16.68**	**191**	*e*P	**P**	**12 17 16.2**	**+0.2**
	7.2nm,0.3s						
URZ				*e*S	**S**	**12 19 57.1**	**-5.5**
URZ	**Urewera**	**16.68**	**191**	P	**P**	**12 17 16.5**	**+0.4**
	3.2nm,0.3s,baz=333,slow=4.0,SNR=27						
URZ				S	**S**	**12 19 58.9**	**-3.8**
	0.6nm,0.3s,baz=338,slow=16,SNR=5.3						
URZ	**Urewera**	**16.68**	**191**	PN	**P**	**12 17 15.3**	**-0.8**
URZ				SN	**S**	**12 19 59.2**	**-3.5**
THZ	**Tophouse**	**20.98**	**197**	PN	**P**	**12 17 55.4**	**+0.3**
THZ				SN	**S**	**12 21 08.3**	**-3.5**
RPZ	**Rata Peaks**	**23.30**	**198**	P	**P**	**12 18 20.3**	**+4.4**
	3.2nm,0.4s,baz=68,slow=11,SNR=3.7						
EIDS	**Eidsvold**	**27.61**	**257**	*e*P	**P**	**12 18 54.5**	**+0.5**
	7.5nm,0.5s						
EIDS	**Eidsvold**	**27.61**	**257**	P	**P**	**12 18 54.5**	**+0.5**
	baz=28,SNR=6.2						
ARMA	**Armidale**	**27.65**	**246**	P	**P**	**12 18 53.4**	**-1.0**
	5.0nm,0.6s						
ARMA	**Armidale**	**27.65**	**246**	P	**P**	**12 18 56.4**	**+1.9**
	baz=28,SNR=8.3						
PPT2	**Papeete2**	**28.00**	**86**	*e*LR	LR	12 25 49.6	
	133nm,26.8s						
MGCD	**Mangrove Creek**	**28.71**	**240**	P	**P**	**12 19 06.7**	**+3.1**
	baz=29,SNR=6.3						
RMQ	**Roma**	**29.73**	**255**	P	**P**	**12 19 14.2**	**+1.8**
	baz=30,SNR=6.6						
CNB	**Canberra Magne**	**30.70**	**237**	P	**P**	**12 19 22.5**	**+1.8**
	baz=31,SNR=14						
CTA	**Charters Tower**	**32.45**	**267**	P	**P**	**12 19 36.2**	**+0.4**
	7.1nm,0.4s,baz=87,slow=11,SNR=20						
CTAO	**Charters Tower**	**32.45**	**267**	*e*P	**P**	**12 19 35.7**	**-0.1**
	7.7nm,0.5s						
CMSA	**Cobar Meteorol**	**32.86**	**245**	P	**P**	**12 19 39.9**	**+0.8**
	baz=33,SNR=32						
TOO	**Toolangi**	**34.34**	**235**	P	**P**	**12 19 53.0**	**+1.5**
	baz=35,SNR=7.8						
MTSU	**Mount Surprise**	**34.62**	**270**	P	**P**	**12 19 54.0**	**0.0**
	baz=35,SNR=12						
PMG	**Port Moresby**	**34.77**	**286**	*e*P	**P**	**12 19 54.4**	**-0.9**
	6.9nm,0.6s						
PMG	**Port Moresby**	**34.77**	**286**	P	**P**	**12 19 54.8**	**-0.5**
	7.3nm,0.6s,baz=90,slow=12,SNR=3.5						
STKA	**Stephens Creek**	**36.37**	**246**	*e*P	**P**	**12 20 08.4**	**+0.2**
	1.7nm,0.8s						
STKA	**Stephens Creek**	**36.37**	**246**	P	**P**	**12 20 09.3**	**+1.1**
	5.9nm,0.3s,baz=83,slow=9.7,SNR=38						
STKA	**Stephens Creek**	**36.37**	**246**	P	**P**	**12 20 09.3**	**+1.1**
	baz=37,SNR=16						
COEN	**Coen**	**36.77**	**276**	P	**P**	**12 20 12.0**	**+0.3**
	baz=37,SNR=6.1						
BBOO	**Buckleboo**	**41.11**	**245**	*e*P	**P**	**12 20 47.1**	**+0.5**
	188nm,0.8s						
BBOO	**Buckleboo**	**41.11**	**245**	P	**P**	**12 20 46.8**	**+0.3**
	baz=42,SNR=31						
AS31	**Alice Springs**	**43.31**	**258**	*e*P	**P**	**12 21 03.6**	**-0.3**
ASAR	**Alice Springs**	**43.31**	**258**	P	**P**	**12 21 03.8**	**-0.2**
	10nm,0.6s,baz=100,slow=7.7,SNR=208						

ASAR				PcP	**PcP**	**12 22 39.9**	**+0.1**
	1.3nm,0.7s,baz=102,slow=4.0,SNR=7.1						
ASAR				ScP	**ScP**	**12 25 41.1**	**+4.2**
	0.6nm,0.7s,baz=102,slow=4.2,SNR=5.5						
ASAR				S	**S**	**12 26 52.6**	**+1.9**
	0.6nm,0.8s,baz=101,slow=16,SNR=4.5						
WRAB	**Tennant Creek**	**43.50**	**264**	*e*P	**P**	**12 21 04.4**	**-1.0**
	10nm,0.8s						
WRA	**Warramunga Arr**	**43.51**	**264**	P	**P**	**12 21 04.5**	**-0.9**
	4.7nm,0.3s,baz=95,slow=7.9,SNR=279						
JAY	**Jayapura**	**43.62**	**291**	P	**P**	**12 21 05.8**	**-0.7**
	baz=44,SNR=6.3						
KDU	**Kakadu**	**47.07**	**273**	P	**P**	**12 21 31.9**	**-0.7**
	baz=47,SNR=9.3						
MTN	**Manton Dam**	**48.26**	**272**	P	**P**	**12 21 40.7**	**-0.8**
	baz=49,SNR=9.6						
KNRA	**Kununurra**	**49.66**	**268**	P	**P**	**12 21 51.4**	**-0.4**
	baz=50,SNR=6.0						
FITZ	**Fitzroy Crossi**	**51.94**	**264**	*e*P	**P**	**12 22 08.3**	**-0.1**
	9.1nm,1.3s						
FITZ	**Fitzroy Crossi**	**51.94**	**264**	P	**P**	**12 22 08.8**	**+0.4**
	2.7nm,0.3s,baz=123,slow=6.4,SNR=40						
SOEI	**Soe**	**55.63**	**273**	P	P	12 22 39.4	+4.8
	baz=56,SNR=3.8						
VNDA	**Vanda**	**56.47**	**185**	P	P	12 22 43.5	+4.3
	0.5nm,0.4s,baz=344,slow=6.4,SNR=7.7						
MEEK	**Meekatharra**	**56.60**	**252**	P	**P**	**12 22 40.6**	**-0.4**
	baz=57,SNR=4.3						
KLBR	**Kellerberrin**	**56.64**	**246**	P	**P**	**12 22 42.0**	**+0.8**
	baz=57,SNR=6.0						
MBWA	**Marble Bar**	**56.66**	**258**	*e*P	**P**	**12 22 40.7**	**-0.7**
	132nm,2.3s						
NWAO	**Narrogin (SRO)**	**56.93**	**244**	P	**P**	**12 22 44.2**	**+1.1**
	14nm,1.0s,baz=72,slow=6.4,SNR=2.4						
MORW	**Morawa**	**58.45**	**249**	P	**P**	**12 22 54.0**	**+0.5**
	baz=59,SNR=4.2						
QSPA	**South Pole Qui**	**68.20**	**180**	P	**P**	**12 23 57.6**	**+2.4**
	2.7nm,0.6s,baz=12,slow=1.6,SNR=33						
MJAR	**Matsushiro Arr**	**70.77**	**325**	P	**P**	**12 24 09.4**	**-1.4**
	2.8nm,1.0s,baz=149,slow=5.3,SNR=5.9						
TPUB	**Ta-pu**	**73.95**	**304**	*e*P	**P**	**12 24 27.8**	**-1.6**
	30nm,1.4s						
PETK	**Petropavlovsk-**	**77.36**	**346**	P	**P**	**12 24 46.2**	**-1.3**
	5.6nm,0.9s,baz=134,slow=6.2,SNR=12						
USRK	**Ussuriysk Arra**	**79.57**	**326**	P	**P**	**12 25 00.1**	**+0.6**
	3.0nm,0.9s,baz=134,slow=5.5,SNR=8.0						
MAW	**Mawson**	**79.97**	**200**	P	**P**	**12 25 03.0**	**+1.7**
	1.1nm,0.6s,baz=140,slow=5.5,SNR=5.7						
ISA	**Isabella**	**80.95**	**46**	*e*P	**P**	**12 25 07.9**	**+0.8**
	3.8nm,0.9s						
MDJ	**Mudanjiang**	**81.11**	**326**	P	**P**	**12 25 07.6**	**+0.1**
MDJ				pP	**pP**	**12 27 07.8**	**-1.5**
MDJ				PP	**PP**	**12 28 22.6**	**-1.2**
MDJ				S	**S**	**12 34 35.0**	**+4.6**
MDJ				sS	**sS**	**12 38 07.9**	**+0.4**
MDJ				SS	**SS**	**12 40 05.5**	**+2.4**
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,51nm,6.8s						
YBH	**Yreka Blue Hor**	**81.94**	**39**	*e*P	**P**	**12 25 10.3**	**-1.6**
	comp=Z,7.4nm,1.5s						
NVAR	**Mina Array Bea**	**82.65**	**44**	P	**P**	**12 25 16.0**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=226,slow=8.0,SNR=14						
BJI	**Beijing**	**86.22**	**316**	P	**P**	**12 25 32.4**	**-0.4**
BJI				pmax	pmax		
	comp=Z,12nm,0.4s						
BJI				pmax	pmax		
	comp=Z,48nm,4.4s						
GYA	**Guiyang**	**86.52**	**300**	*e*P	**P**	**12 25 33.8**	**-1.0**
GYA				pP	**pP**	**12 27 38.4**	**-0.3**
GYA				sP	**sP**	**12 28 35.0**	**-1.4**
GYA				SKS	**SKSac**	**12 35 04.5**	**-2.9**
GYA				S	**

Error ellipse: s-maj=10.9km s-min=6.7km az=172.6
*NNC **08** 12:38:19.6±0.5, 43.51N×76.50E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=5.8km s-min=2.8km az=34.0*
*KNET **08** 12:38:20.4±0.4, 43.31N×76.27E, h42km±2km, ml2.2, Error ellipse: s-maj=3.7km s-min=1.8km az=34.0*

ISC 08 12:38:18.8±1.4, **43.39N**±0.08×**76.34E**±0.04, **h8**km±14km, **n7**, **σ0s47/12**, **9C-4D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**0.49**	**110**	⇑P	**Pg**	**12 38 28.2**	**0.0**
KNDC				⇑S	**Sg**	**12 38 35.0**	**+0.4**
TKM2	**Tokmak 2**	**0.72**	**230**	⇑P	**Pb**	**12 38 33.5**	**-0.1**
	8.1nm,0.1s,SNR=45						
TKM2				⇓S	**Sb**	**12 38 44.4**	**+0.7**
	157nm,0.1s						
ULHL	**Ulahol**	**1.14**	**184**	⇓P	**Pn**	**12 38 41.0**	**-0.2**
	9.6nm,0.1s,SNR=6.0						
ULHL				⇓S	**Sn**	**12 38 56.8**	**-0.5**
	20nm,0.1s						
CHMS	**Chumysh**	**1.23**	**252**	⇑P	**Pn**	**12 38 42.4**	**+0.1**
	8.7nm,0.2s,SNR=24						
CHMS				⇑S	**Sn**	**12 38 59.2**	**+0.1**
	37nm,0.1s						
USP	**Ospenovka**	**1.35**	**266**	⇑P	**Pn**	**12 38 44.1**	**+0.1**
	7.7nm,0.1s,SNR=12						
USP				⇓S	**Sb**	**12 39 02.5**	**+0.7**
	23nm,0.1s						
KK31	**Karatay Array**	**4.27**	**268**	⇑Pg	**Pg**	**12 39 40.0**	**-0.6**
	0.4nm,0.4s,baz=83,slow=16,SNR=8.1						
KK31				Lg	Lg	12 40 38.5	
	3.0nm,0.5s,baz=82,slow=28,SNR=18						
MK31	**Makanchi Array**	**5.42**	**49**	⇑Pn	**Pn**	**12 39 39.7**	**-0.2**
	0.6nm,0.3s,baz=134,slow=54,SNR=12						
MK31				⇑Lg	Lg	12 41 05.8	
	1.0nm,0.6s,baz=234,slow=28,SNR=3.8						

MEX 08 12:43:42.1±0.4, **17.32N**×**101.33W**, **h10**km±3km, **MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.31**	**336**	*i* P	Pg	12 43 47.9	-0.4
ZIIG				*i* S	Sg	12 43 52.6	+0.1
CAIG	**El Cayaco**	**1.05**	**105**	*i* P	Pg	12 43 58.9	-3.5
CAIG				*i* S	Sg	12 44 12.5	-3.6
ARIG	**Puente Sto Nin**	**1.34**	**44**	*i* P	Pn	12 44 03.0	-4.0
ARIG				*i* S	Sb	12 44 19.3	-5.3
MEIG	**Mezcala**	**1.74**	**70**	*i* P	Pn	12 44 09.6	-3.0
MEIG				*i* S	Sn	12 44 30.6	-4.4
MMIG	**Aquila**	**2.15**	**297**	*i* P	Pn	12 44 15.3	-2.7
MMIG				*i* S	Sn	12 44 40.2	-4.6
YAIG	**Yautepec**	**2.64**	**54**	*i* P	Pn	12 44 22.1	-2.9
YAIG				*i* S	Sn	12 44 53.8	-3.6
PNIG	**Pinotepa**	**3.21**	**106**	*e*P	Pn	12 44 30.5	-2.1
PNIG				*i* S	Sn	12 45 07.8	-3.2

*IDC **08** 13:23:01.9±2.1, 6.96S×129.35E, h0km, mb4.0/1, mb1 3.8/3, mb1mx3.4/19, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=141.9km s-min=30.8km az=68.0*
*ISCJB **08** 13:23:09.4±0.8, 6.89S±0.05×130.13E±0.10, h104km, mb3.8/1, Error ellipse: s-maj=13.5km s-min=6.8km az=2.1*
*AUST **08** 13:23:10.3, 6.98S×130.04E, h60km*

ISC 08 13:23:10.8±1.0, **6.88S**±0.06×**130.1E**±0.1, **h104**km, **n9**, **σ1s55/13**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.47**	**28**	P	**Pn**	**13 24 16.4**	**+0.1**
	baz=4.6,SNR=8.4						
FAKI				S	**Sn**	**13 25 04.7**	**-2.6**
	baz=4.6,SNR=7.2						
MTN	**Manton Dam**	**6.01**	**171**	P	**Pn**	**13 24 38.5**	**+1.2**
	baz=6.0,SNR=19						
MTN				S	**Sn**	**13 25 44.8**	**0.0**
	baz=6.0,SNR=5.2						
KDU	**Kakadu**	**6.22**	**158**	P	**Pn**	**13 24 41.0**	**+0.9**
	baz=6.2,SNR=69						
KDU				S	**Sn**	**13 25 49.6**	**-0.2**
	baz=6.2,SNR=6.5						
SOEI	**Soe**	**6.46**	**243**	P	**Pn**	**13 24 43.0**	**-0.5**
	baz=6.3,SNR=3.1						
KNRA	**Kununurra**	**8.85**	**189**	P	**Pn**	**13 25 16.5**	**+0.7**
	baz=8.8,SNR=5.8						
KNRA				S	**Sn**	**13 26 51.6**	**-2.1**
	baz=8.8,SNR=4.5						
FITZ	**Fitzroy Crossi**	**11.98**	**201**	P	**Pn**	**13 25 56.6**	**-1.5**
	baz=12,SNR=11						
WRA	**Warramunga Arr**	**13.62**	**163**	Pn	**Pn**	**13 26 18.1**	**-1.6**
	0.4nm,0.3s,baz=342,slow=13,SNR=26						
WRA				Sn	Sn	13 28 40.7	-9.0
	0.9nm,0.3s,baz=343,slow=19,SNR=13						
ASAR	**Alice Springs**	**17.08**	**168**	P	**P**	**13 27 04.0**	**+0.6**
	0.2nm,0.3s,baz=346,slow=11,SNR=11						
ASAR				S	Sn	13 30 03.2	-10
	0.1nm,0.3s,baz=355,slow=26,SNR=4.6						
MKAR	**Makanchi Array**	**68.19**	**327**	P	**P**	**13 34 02.0**	**+2.0**
	0.8nm,0.5s,baz=118,slow=8.1,SNR=13						

*IDC **08** 13:29:50.5±3.4, 5.62S×102.82E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/22, mbtmp3.5/5, Error ellipse: s-maj=143.0km s-min=22.3km az=57.0*
*ISCJB **08** 13:29:58.5±0.7, 4.93S±0.09×103.85E±0.06, h49km, mb3.5/5, Error ellipse: s-maj=13.4km s-min=6.3km az=24.9*
*DJA **08** 13:29:59.0±0.4, 5°S±5°×10°4E±°, h10km, M3.9/7, MLv3.9/7*

ISC 08 13:30:00.0±0.9, **4.90S**±0.08×**103.82E**±0.06, **h49**km, **n13**, **σ2s22/15**, **mb3.5/5, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**0.27**	**116**	P	**Pn**	**13 30 05.9**	**-3.0**
LWLI				S	**Sn**	**13 30 11.1**	**-4.1**
KASI	**Kota Agung**	**0.92**	**133**	P	**Pn**	**13 30 16.9**	**+0.3**
KLSI		**0.93**	**77**	P	**Pn**	**13 30 15.3**	**-1.5**
KLSI				S	**Sn**	**13 30 27.5**	**-1.7**
MNAI	**Manna**	**1.01**	**302**	P	**Pn**	**13 30 17.2**	**-0.7**
MNAI				S	**Sn**	**13 30 31.6**	**+0.5**
BLSI	**Bandar Lampung**	**1.50**	**108**	P	**Pn**	**13 30 27.3**	**+2.8**
KSI	**Kapahiang**	**1.74**	**315**	P	**Pn**	**13 30 26.0**	**-1.9**
PMBI	**Palembang**	**2.18**	**26**	P	**Pn**	**13 30 33.5**	**-0.3**
PPBI	**Pangkal Pinang**	**3.57**	**40**	P	Pn	13 31 00.7	+7.7
WRA	**Warramunga Arr**	**33.25**	**119**	P	**P**	**13 36 35.7**	**+2.7**
	0.5nm,0.7s,baz=294,slow=9.6,SNR=6.4						
ASAR	**Alice Springs**	**34.48**	**126**	P	**P**	**13 36 43.5**	**-0.1**
	0.3nm,0.6s,baz=301,slow=7.9,SNR=5.7						
STKA	**Stephens Creek**	**44.39**	**132**	P	**P**	**13 38 04.3**	**-1.7**
	1.2nm,0.8s,baz=293,slow=7.7,SNR=2.4						
SONM	**Songino Array**	**52.56**	**2**	P	**P**	**13 39 10.9**	**+2.2**
	0.3nm,0.6s,baz=188,slow=7.3,SNR=2.5						
MKAR	**Makanchi Array**	**54.89**	**342**	P	**P**	**13 39 26.1**	**+0.5**
	0.3nm,0.5s,baz=160,slow=7.8,SNR=4.6						

*CSEM **08** 13:44:07.9, 34.05N×25.52E, h18km, MD3.5, After ATH*

ATH 08 13:44:07.9, 34.05N×25.52E, h18km±6km, **MD3.5/9, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.83**	**10**	*e*PN	Pg	13 44 24.2	0.0
XRY	**Khrisi**	**0.83**	**10**	*e*Pn	Pg	13 44 24.2	0.0
LAST	**Lasithi**	**1.11**	**358**	*e*PN	Pb	13 44 29.0	+0.3
LAST	**Lasithi**	**1.11**	**358**	*e*Pn	Pb	13 44 29.0	+0.3
SIVA	**Sivas**	**1.13**	**329**	*e*PN	Pb	13 44 29.3	+0.4
SIVA	**Sivas**	**1.13**	**329**	*e*Pn	Pb	13 44 29.3	+0.4
ZKR	**Zakros**	**1.21**	**28**	*e*PN	Pb	13 44 30.4	+0.1
ZKR	**Zakros**	**1.21**	**28**	*e*Pn	Pb	13 44 30.4	+0.1
NPS	**Neapolis**	**1.21**	**4**	*e*PN	Pb	13 44 30.3	-0.1
NPS	**Neapolis**	**1.21**	**4**	*e*Pn	Pb	13 44 30.3	-0.1
IDI	**Anoyia**	**1.34**	**337**	*e*PN	Pg	13 44 33.4	-0.5
IDI	**Anoyia**	**1.34**	**337**	*e*Pn	Pg	13 44 33.4	-0.5
VAM	**Vamos**	**1.74**	**322**	*e*PN	Pb	13 44 39.5	+0.2
VAM	**Vamos**	**1.74**	**322**	*e*Pn	Pb	13 44 39.5	+0.2
KARP	**Karpathos**	**2.01**	**42**	*e*PN	Pb	13 44 43.4	-0.7
KARP	**Karpathos**	**2.01**	**42**	*e*Pn	Pb	13 44 43.4	-0.7
KYTH	**Kithira**	**3.02**	**318**	*e*PN	Pn	13 44 56.9	+2.1
KYTH	**Kithira**	**3.02**	**318**	*e*Pn	Pn	13 44 56.9	+2.1

IDC 08 14:03:15.5±12.0, **0.96S**×**133.16E**, **h0km**, **mb3.7/2, mb1 3.9/4, mb1mx3.5/21, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=182.1km s-min=79.9km az=168.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.57**	**203**	P	Pn	14 07 34.6	+0.3
	0.1nm,0.3s,baz=30,slow=14,SNR=4.3						
FITZ				S	Sn	14 10 55.1	-7.5
	0.1nm,0.3s,baz=273,slow=21,SNR=1.3						
WRA	**Warramunga Arr**	**18.91**	**177**	P	Pn	14 07 38.6	+0.1
	0.3nm,0.3s,baz=355,slow=11,SNR=18						
WRA				S	Sn	14 11 07.7	-3.2
	0.0nm,0.3s,baz=357,slow=23,SNR=1.8						
ASAR	**Alice Springs**	**22.59**	**178**	P	P	14 08 18.0	+0.1
	1.1nm,0.4s,baz=356,slow=11,SNR=45						
STKA	**Stephens Creek**	**31.77**	**166**	P	P	14 09 40.8	-0.9
	1.0nm,0.7s,baz=352,slow=14,SNR=3.8						

*CSEM **08** 14:39:01.9, 39.11N×15.48E, h269km, After ROM*
*ROM **08** 14:39:01.9±0.2, 39.11N×15.48E, h269km±3km, Ml3.2/25, Error ellipse: s-maj=4.7km s-min=2.9km az=115.0*
*ISCJB **08** 14:39:02.2±0.4, 39.19N±0.06×15.50E±0.09, h267km±3km, mb3.3/6, Error ellipse: s-maj=12.2km s-min=8.4km az=27.7*
*IDC **08** 14:39:04.4±4.8, 39.41N×15.16E, h281km±70km, mb2.9/7, mb1 2.9/9, mb1mx2.8/32, mbtmp2.9/9, Error ellipse: s-maj=77.1km s-min=18.7km az=38.0*

ISC 08 14:39:02.1±0.8, **39.15N**±0.06×**15.46E**±0.07, **h266**km±6km, **n69**, **σ1s04/92**, **mb3.3/6, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARO	**Carolei**	**0.60**	**80**	Pg	**Pn**	**14 39 37.7**	**+0.5**
CARO				Sg	**S**	**14 40 03.6**	**-1.3**
	329nm,0.7s						
CARO	**Carolei**	**0.60**	**80**	Pg	**Pn**	**14 39 37.7**	**+0.5**
CARO				Sg	**S**	**14 40 03.6**	**-1.3**
	329nm,0.7s						
JOPP	**Joppolo**	**0.64**	**148**	Pg	**Pn**	**14 39 37.8**	**+0.4**
JOPP				Sg	**S**	**14 40 04.5**	**-0.7**
	92nm,0.3s						
JOPP	**Joppolo**	**0.64**	**148**	Pg	**Pn**	**14 39 37.8**	**+0.4**
JOPP				Sg	**S**	**14 40 04.5**	**-0.7**
	92nm,0.3s						
GRI	**Girifalco**	**0.82**	**113**	Pg	**Pn**	**14 39 39.4**	**+1.3**
	178nm,0.2s						
GRI	**Girifalco**	**0.82**	**113**	Pg	**Pn**	**14 39 39.4**	**+1.3**
	178nm,0.2s						
VPL	**Vulcano Piano**	**0.85**	**206**	Pg	**Pn**	**14 39 39.3**	**+1.1**
	151nm,0.3s						
VPL	**Vulcano Piano**	**0.85**	**206**	Pg	**Pn**	**14 39 39.3**	**+1.1**
	151nm,0.3s						
TDS	**Terranova Siba**	**0.85**	**53**	Pg	**Pn**	**14 39 39.9**	**+1.8**
	21nm,0.2s						
TDS	**Terranova Siba**	**0.85**	**53**	Pg	**Pn**	**14 39 39.9**	**+1.8**
	21nm,0.2s						
MSRU	**Castanea**	**0.89**	**177**	Pg	**Pn**	**14 39 38.6**	**+0.2**
MSRU				Sg	**S**	**14 40 06.2**	**-0.8**
	168nm,0.2s						
MSRU	**Castanea**	**0.89**	**177**	Pg	**Pn**	**14 39 38.6**	**+0.2**
MSRU				Sg	**S**	**14 40 06.2**	**-0.8**
	168nm,0.2s						
CUC	**Castrocucco**	**0.89**	**18**	Pg	**Pn**	**14 39 39.2**	**+0.9**
CUC				Sg	**S**	**14 40 06.4**	**-0.6**
	25nm,0.8s						
CUC	**Castrocucco**	**0.89**	**18**	Pg	**Pn**	**14 39 39.2**	**+0.9**
CUC				Sg	**S**	**14 40 06.4**	**-0.6**
	25nm,0.8s						
MILZ	**Milazzo**	**0.89**	**191**	Pg	**Pn**	**14 39 38.8**	**+0.4**
MILZ				Sg	**S**	**14 40 07.0**	**0.0**
	73nm,0.4s						
MILZ	**Milazzo**	**0.89**	**191**	Pg	**Pn**	**14 39 38.8**	**+0.4**
MILZ				Sg	**S**	**14 40 07.0**	**0.0**
	73nm,0.4s						
MSCL	**Scilla**	**0.95**	**164**	Pg	**Pn**	**14 39 39.0**	**+0.2**
	119nm,0.2s						
MSCL	**Scilla**	**0.95**	**164**	Pg	**Pn**	**14 39 39.0**	**+0.2**
	119nm,0.2s						
SERS	**Sersale**	**0.97**	**96**	Pg	**Pn**	**14 39 40.0**	**+1.2**
SERS				Sg	**S**	**14 40 07.4**	**-0.4**
	74nm,0.3s						
SERS	**Sersale**	**0.97**	**96**	Pg	**Pn**	**14 39 40.0**	**+1.2**
SERS				Sg	**S**	**14 40 07.4**	**-0.4**
	74nm,0.3s						
MGR	**Morigerati**	**0.99**	**4**	Pg	**Pn**	**14 39 39.9**	**+1.2**
	53nm,1.2s						
MGR	**Morigerati**	**0.99**	**4**	Pg	**Pn**	**14 39 39.9**	**+1.2**
	53nm,1.2s						
TIP	**Timpagrande**	**1.01**	**88**	Pg	**Pn**	**14 39 40.2**	**+1.2**
TIP				Sg	**S**	**14 40 07.6**	**-0.5**
	95nm,0.8s						
TIP	**Timpagrande**	**1.01**	**88**	Pg	**Pn**	**14 39 40.2**	**+1.2**
TIP				Sg	**S**	**14 40 07.6**	**-0.5**
	95nm,0.8s						
PLAC	**Placanica**	**1.04**	**132**	Pg	**Pn**	**14 39 40.1**	**+0.9**
PLAC				Sg	**S**	**14 40 07.5**	**-0.9**
	95nm,0.5s						
PLAC	**Placanica**	**1.04**	**132**	Pg	**Pn**	**14 39 40.1**	**+0.9**
PLAC				Sg	**S**	**14 40 07.5**	**-0.9**
	95nm,0.5s						
IACL	**Alicudi**	**1.05**	**235**	Pg	**Pn**	**14 39 40.1**	**+0.9**
	76nm,0.7s						
IACL	**Alicudi**	**1.05**	**235**	Pg	**Pn**	**14 39 40.1**	**+0.9**
	76nm,0.7s						
MTTG	**Motta San Giov**	**1.16**	**171**	Pg	**Pn**	**14 39 40.6**	**+0.7**
MTTG				Sg	**S**	**14 40 09.5**	**-0.2**
	92nm,0.5s						
MTTG	**Motta San Giov**	**1.16**	**171**	Pg	**Pn**	**14 39 40.6**	**+0.7**
MTTG				Sg	**S**	**14 40 09.5**	**-0.2**
	92nm,0.5s						
SOI	**Samo**	**1.17**	**156**	Pg	**Pn**	**14 39 40.5**	**+0.6**
SOI				Sg	**S**	**14 40 08.9**	**-0.9**
	54nm,0.6s						
SOI	**Samo**	**1.17**	**156**	Pg	**Pn**	**14 39 40.5**	**+0.6**
SOI				Sg	**S**	**14 40 08.9**	**-0.9**
	54nm,0.6s						
CMPR	**Campora**	**1.17**	**354**	Pg	**Pn**	**14 39 41.2**	**+1.4**
	26nm,1.0s						
CMPR	**Campora**	**1.17**	**354**	Pg	**Pn**	**14 39 41.2**	**+1.4**
	26nm,1.0s						
MMME	**Mongiuffi-Meli**	**1.22**	**187**	Pg	**Pn**	**14 39 41.3**	**+1.0**
	63nm,0.4s						
MMME	**Mongiuffi-Meli**	**1.22**	**187**	Pg	**Pn**	**14 39 41.3**	**+1.0**
	63nm,0.4s						
MPAZ	**Palizzi**	**1.27**	**160**	Pg	**Pn**	**14 39 41.2**	**+0.7**
MPAZ				Sg	**S**	**14 40 09.7**	**-1.2**
	179nm,0.3s						
MPAZ	**Palizzi**	**1.27**	**160**	Pg	**Pn**	**14 39 41.2**	**+0.7**
MPAZ				Sg	**S**	**14 40 09.7**	**-1.2**
	179nm,0.3s						
MNO	**Monte Soro**	**1.35**	**206**	Pg	**Pn**	**14 39 43.1**	**+1.8**
	81nm,0.3s						
MNO	**Monte Soro**	**1.35**	**206**	Pg	**Pn**	**14 39 43.1**	**+1.8**
	81nm,0.3s						
SGO	**Sicignano**	**1.41**	**355**	Pg	**Pn**	**14 39 43.0**	**+1.7**
	9.0nm,0.3s						
SGO	**Sicignano**	**1.41**	**355**	Pg	**Pn**	**14 39 43.0**	**+1.7**
	9.0nm,0.3s						
PLLN	**Pollina**	**1.55**	**222**	Pg	**Pn**	**14 39 43.1**	**+0.7**
	82nm,0.5s						
PLLN	**Pollina**	**1.55**	**222**	Pg	**Pn**	**14 39 43.1**	**+0.7**
	82nm,0.5s						
GIB	**Gibilmanna**	**1.61**	**224**	Pg	**Pn**	**14 39 43.6**	**+0.7**
GIB				Sg	**S**	**14 40 15.4**	**+0.2**
	158nm,0.5s						
GIB	**Gibilmanna**	**1.61**	**224**	Pg	**Pn**	**14 39 43.6**	**+0.7**
GIB				Sg	**S**	**14 40 15.4**	**+0.2**
	158nm,0.5s						
ECNV	**Catenanuova**	**1.66**	**201**	Pg	**Pn**	**14 39 45.1**	**+1.9**
	95nm,0.8s						
ECNV	**Catenanuova**	**1.66**	**201**	Pg	**Pn**	**14 39 45.1**	**+1.9**
	95nm,0.8s						
HCRL	**Carlentini**	**1.89**	**190**	Pg	**Pn**	**14 39 45.7**	**+0.6**
	47nm,0.5s						
HCRL	**Carlentini**	**1.89**	**190**	Pg	**Pn**	**14 39 45.7**	**+0.6**
	47nm,0.5s						
ALJA	**Alia**	**1.93**	**224**	Pg	**Pn**	**14 39 47.0**	**+1.5**
	45nm,0.4s						
ALJA	**Alia**	**1.93**	**224**	Pg	**Pn**	**14 39 47.0**	**+1.5**
	45nm,0.4s						
SSY	**Sortino**	**2.02**	**189**	Pg	**Pn**	**14 39 46.5**	**+0.3**
	78nm,0.2s						
SSY	**Sortino**	**2.02**	**189**	Pg	**Pn**	**14 39 46.5**	**+0.3**
	78nm,0.2s						
HVZN	**Vizzini**	**2.05**	**197**	Pg	**Pn**	**14 39 47.5**	**+1.0**
	125nm,0.4s						
HVZN	**Vizzini**	**2.05**	**197**	Pg	**Pn**	**14 39 47.5**	**+1.0**
	125nm,0.4s						
HAVL	**Avola**	**2.20**	**187**	Pg	**Pn**	**14 39 48.3**	**+0.5**
	98nm,0.5s						
HAVL	**Avola**	**2.20**	**187**	Pg	**Pn**	**14 39 48.3**	**+0.5**
	98nm,0.5s						
HMDC	**Modica**	**2.25**	**194**	Pg	**Pn**	**14 39 49.1**	**+0.8**
	77nm,1.0s						
HMDC	**Modica**	**2.25**	**194**	Pg	**Pn**	**14 39 49.1**	**+0.8**
	77nm,1.0s						
BRTR	**Keskin Array B**	**14.07**	**82**	P	P	14 42 15.8	+5.0
	0.1nm,0.3s,baz=259,slow=12,SNR=4.3						
MMAI	**Mount Meron Ar**	**17.23**	**105**	P	**Pn**	**14 42 49.6**	**+1.6**
	0.8nm,0.3s,baz=276,slow=7.1,SNR=1.9						
EKA	**Eskdalemuir Ar**	**20.43**	**329**	P	**P**	**14 43 17.5**	**-1.8**
	0.3nm,0.3s,baz=140,slow=11,SNR=5.2						
HFS	**Hagfors**	**21.04**	**358**	P	**P**	**14 43 23.1**	**-2.3**
	1.1nm,0.5s,baz=177,slow=12,SNR=8.0						
FINES	**FINESS Array B**	**23.27**	**13**	P	**P**	**14 43 45.7**	**-0.1**
	4.1nm,0.5s,baz=190,slow=8.5,SNR=35						
ARCES	**ARCESS Array B**	**30.92**	**7**	P	**P**	**14 44 53.0**	**-0.9**
	0.9nm,0.7s,baz=185,slow=8.5,SNR=7.7						
KURBB	**Kurchatov Arra**	**44.85**	**54**	P	**P**	**14 46 50.7**	**+0.9**
	0.1nm,0.3s,baz=287,slow=8.7,SNR=2.9						
ZALV	**Zalesovo Beam**	**48.00**	**48**	P	**P**	**14 47 15.2**	**+1.0**
	0.5nm,0.5s,baz=294,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**48.16**	**58**	P	**P**	**14 47 16.9**	**+1.2**
	0.4nm,0.5s,baz=280,slow=7.2,SNR=6.7						

*ISCJB **08** 14:43:59.9±0.3, 30.91S±0.03×69.94W±0.06, h120km±4km, mb4.1/15, Error ellipse: s-maj=8.1km s-min=4.9km az=0.5*
*NEIC **08** 14:44:00.3±0.4, 30.87S×69.83W, h108km±4km, mb4.3/4, Error ellipse: s-maj=8.7km s-min=6.0km az=98.0*
*GUC **08** 14:44:00.4±0.7, 30.93S×70.17W, h134km±8km, ML4.3*
*IDC **08** 14:44:02.4±0.7, 30.90S×69.78W, h123km±5km, mb3.9/12, mb1 4.0/14, mb1mx4.0/20, mbtmp3.9/14, Error ellipse: s-maj=21.2km s-min=9.8km az=38.0*

ISC 08 14:44:00.9±0.5, **30.87S**±0.04×**69.89W**±0.04, **h115**km±4km, **h115**km:**pP-P, n79**, **σ1s49/115**, **mb4.2/15, 9C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.00**	**252**	⇑*i*P	**Pn**	**14 44 21.9**	**-0.7**
CMCH				*i* S	**Sn**	**14 44 38.1**	**-0.9**
CMCH	**Combarbala**	**1.00**	**252**	⇑*i*P	**Pn**	**14 44 21.9**	**-0.7**
CMCH				*i* S	**Sn**	**14 44 38.1**	**-0.9**
CFAA	**Coronel Fontan**	**1.60**	**118**	P	**Pn**	**14 44 29.7**	**+0.5**
CFAA				S	**Sn**	**14 44 51.1**	**+0.3**
CFAA	**Coronel Fontan**	**1.60**	**118**	P	**Pn**	**14 44 29.7**	**+0.5**
	62nm,0.3s,baz=300,slow=11,SNR=3511						
CFAA				S	**Sn**	**14 44 51.1**	**+0.3**
	89nm,0.3s,baz=92,slow=18,SNR=50						
PTCH	**Petorca**	**1.65**	**212**	⇑*i*P	**Pn**	**14 44 29.1**	**-0.8**
PTCH				*i* S	**Sn**	**14 44 50.5**	**-1.5**
PTCH	**Petorca**	**1.65**	**212**	⇑*i*P	**Pn**	**14 44 29.1**	**-0.8**
PTCH				*i* S	**Sn**	**14 44 50.5**	**-1.5**
PTCH				AML	AML	14 44 51.2	
	comp=E,3μm,0.8s						
CHNG	**Los Chungos**	**1.71**	**233**	⇑*i*P	**Pn**	**14 44 29.0**	**-1.5**
CHNG				*i* S	**Sn**	**14 44 50.2**	**-2.9**
CHNG	**Los Chungos**	**1.71**	**233**	⇑*i*P	**Pn**	**14 44 29.0**	**-1.5**
CHNG				*i* S	**Sn**	**14 44 50.2**	**-2.9**
CHNG				AML	AML	14 44 55.5	
	comp=E,3μm,0.6s						
JACH	**Jahuel**	**1.91**	**198**	⇑*i*P	**Pn**	**14 44 33.1**	**0.0**
JACH				*i* S	**Sn**	**14 44 57.2**	**-0.4**
JACH	**Jahuel**	**1.91**	**198**	⇑*i*P	**Pn**	**14 44 33.1**	**0.0**
JACH				*i* S	**Sn**	**14 44 57.2**	**-0.4**
LCO	**Las Campanas**	**1.98**	**339**	*e*Pn	**Pn**	**14 44 34.7**	**+0.5**
LCO				*e*Sn	**Sn**	**14 44 59.9**	**+0.4**
ROCH	**El Roble**	**2.31**	**204**	*e*P	**Pn**	**14 44 36.4**	**-1.9**
ROCH				*e*S	**Sn**	**14 45 04.4**	**-2.4**
PEL	**Peldehue**	**2.37**	**196**	⇑*i*P	**Pn**	**14 44 37.8**	**-1.1**
PEL				*e*S	**Sn**	**14 45 06.6**	**-1.4**
PEL				AML	AML	14 45 10.5	
	comp=N,2μm,0.3s						
CLCH	**Cerro Calan**	**2.58**	**192**	⇓*i*P	**Pn**	**14 44 41.2**	**-0.5**
CLCH				*i* S	**Sn**	**14 45 12.1**	**-0.9**
CLCH				AML	AML	14 45 17.6	
	comp=E,2μm,0.5s						
STL	**Santa Lucia**	**2.64**	**194**	*e*P	**Pn**	**14 44 41.6**	**-0.8**
SAN	**Santiago**	**2.66**	**194**	*e*P	**Pn**	**14 44 41.8**	**-0.9**
SAN				*e*S	**Sn**	**14 45 13.3**	**-1.4**
SAN	**Santiago**	**2.66**	**194**	*e*P	**Pn**	**14 44 41.8**	**-0.9**
SAN				*e*S	**Sn**	**14 45 13.3**	**-1.4**
SAN				AML	AML	14 45 19.0	
	comp=N,830nm,0.4s						
ANTU	**Antumapu**	**2.77**	**193**	*e*P	**Pn**	**14 44 43.2**	**-0.9**
ANTU				*i* S	**Sn**	**14 45 16.0**	**-1.3**
ANTU	**Antumapu**	**2.77**	**193**	*e*P	**Pn**	**14 44 43.2**	**-0.9**
ANTU				*i* S	**Sn**	**14 45 16.0**	**-1.3**
ANTU				AML	AML	14 45 17.9	
	comp=N,2μm,0.3s						
PCH	**Pirque**	**2.80**	**191**	⇓*i*P	**Pn**	**14 44 43.9**	**-0.6**
PCH				*i* S	**Sn**	**14 45 16.9**	**-1.1**
PCH	**Pirque**	**2.80**	**191**	⇓*i*P	**Pn**	**14 44 43.9**	**-0.

TORD				pP		**pP**		**14 56 36.9**	**+2.0**
	comp=N,0.7nm,0.7s,baz=262,slow=4.7,SNR=1.9								
PDAR	**Pinedale Array**	**81.83**	**332**	P		**P**		**14 56 07.8**	**+0.4**
PDAR	**Pinedale Array**	**81.83**	**332**	P		**P**		**14 56 07.8**	**+0.4**
	comp=N,0.6nm,0.8s,baz=140,slow=9.5,SNR=4.3								
NVAR	**Mina Array Bea**	**82.40**	**324**	P		**P**		**14 56 10.5**	**+0.1**
NVAR	**Mina Array Bea**	**82.40**	**324**	P		**P**		**14 56 10.5**	**+0.1**
	comp=N,0.7nm,0.7s,baz=142,slow=7.5,SNR=4.0								
ULM	**Lac du Bonnet**	**83.98**	**344**	P		**P**		**14 56 17.9**	**-0.1**
ULM	**Lac du Bonnet**	**83.98**	**344**	P		**P**		**14 56 17.9**	**-0.1**
	comp=N,2.6nm,0.5s,baz=175,slow=7.3,SNR=3.2								
SCHQ	**Schefferville**	**85.39**	**2**	P		**P**		**14 56 24.6**	**-0.3**
SCHQ	**Schefferville**	**85.39**	**2**	P		**P**		**14 56 24.6**	**-0.3**
	comp=N,1.8nm,0.6s,baz=183,slow=9.2,SNR=4.4								
WRA	**Warramunga Arr**	**124.37**	**208**	PKP		**PKPdf**		**15 02 45.9**	**-1.1**
WRA				pPKP		**pPKPdf**		**15 03 19.2**	**+1.1**
WRA	**Warramunga Arr**	**124.37**	**208**	PKP		**PKPdf**		**15 02 45.9**	**-1.1**
	comp=N,0.6nm,0.7s,baz=161,slow=1.7,SNR=5.8								
WRA				pPKP		**pPKPdf**		**15 03 19.2**	**+1.1**
	comp=N,0.6nm,0.8s,baz=149,slow=1.7,SNR=2.3								
PETK	**Petropavlovsk-**	**139.19**	**317**	PKP		**PKPdf**		**15 03 15.1**	**+1.3**
PETK	**Petropavlovsk-**	**139.19**	**317**	PKP		**PKPdf**		**15 03 15.1**	**+1.3**
	comp=N,3.7nm,1.1s,baz=302,slow=2.8,SNR=3.6								
BVAR	**Borovoye Array**	**143.74**	**41**	PKP	PKPbc		15 03 19.9	0.0	
BVAR	**Borovoye Array**	**143.74**	**41**	PKP	PKPbc		15 03 19.9	0.0	
	comp=N,0.5nm,0.4s,baz=302,slow=3.1,SNR=3.3								
KURBB	**Kurchatov Arra**	**149.33**	**41**	PKPbc	**PKPbc**		**15 03 36.5**	**+0.6**	
	comp=N,3.4nm,0.6s,baz=299,slow=3.1,SNR=27								
KURBB				PKPab	**PKPab**		**15 03 42.0**	**+1.1**	
	comp=N,0.3nm,0.5s,baz=292,slow=4.0,SNR=8.9								
KURBB				pPKPbc	**pPKPbc**		**15 04 09.3**	**+2.4**	
	comp=N,0.5nm,0.6s,baz=286,slow=3.0,SNR=2.7								
KURK	**Kurchatov**	**149.34**	**41**	PKPbc	**PKPbc**		**15 03 36.5**	**+0.6**	
KURK				PKPab	**PKPab**		**15 03 42.0**	**+1.1**	
KURK				pPKPbc	**pPKPbc**		**15 04 09.3**	**+2.4**	
AAK	**Ala-Archa**	**149.36**	**57**	PKPbc	**PKPbc**		**15 03 38.1**	**+1.6**	
AAK	**Ala-Archa**	**149.36**	**57**	PKPbc	**PKPbc**		**15 03 38.1**	**+1.6**	
	comp=N,9.9nm,0.6s,baz=183,slow=3.0,SNR=17								
PSI	**Prapat**	**150.15**	**157**	PKPbc	**PKPbc**		**15 03 38.3**	**-0.9**	
PSI	**Prapat**	**150.15**	**157**	PKPbc	**PKPbc**		**15 03 38.3**	**-0.9**	
	comp=N,1.8nm,0.5s,baz=150,slow=7.5,SNR=3.8								
ZALV	**Zalesovo Beam**	**150.61**	**31**	PKPbc	**PKPbc**		**15 03 39.6**	**+0.8**	
ZALV				PKPab	**PKPab**		**15 03 47.0**	**+0.9**	
ZALV				pPKPbc	**pPKPbc**		**15 04 12.7**	**+2.9**	
ZALV	**Zalesovo Beam**	**150.61**	**31**	PKPbc	**PKPbc**		**15 03 39.6**	**+0.8**	
	comp=N,11nm,0.6s,baz=301,slow=3.2,SNR=51								
ZALV				PKPab	**PKPab**		**15 03 47.0**	**+0.9**	
	comp=N,1.8nm,0.4s,baz=314,slow=5.4,SNR=4.7								
ZALV				pPKPbc	**pPKPbc**		**15 04 12.7**	**+2.9**	
	comp=N,3.9nm,0.7s,baz=313,slow=2.9,SNR=4.8								
MKAR	**Makanchi Array**	**153.31**	**46**	PKPbc	**PKPbc**		**15 03 45.6**	**+0.4**	
MKAR				PKPab	**PKPab**		**15 03 58.5**	**+0.8**	
MKAR	**Makanchi Array**	**153.31**	**46**	PKPbc	**PKPbc**		**15 03 45.6**	**+0.4**	
	comp=N,2.4nm,0.7s,baz=290,slow=2.1,SNR=24								
MKAR				PKPab	**PKPab**		**15 03 58.5**	**+0.8**	
	comp=N,2.5nm,0.5s,baz=288,slow=3.1,SNR=23								

*IDC **08** 14:44:25.0±3.1,3.°00S×139.°79E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/19, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=105.9km s-min=24.9km az=93.0*
*AUST **08** 14:45:17.1±99.0, 6.°99S×138.°64E, h23km±1km, Error ellipse: s-maj=3.1km s-min=1.8km az=35.0*
ISC 08 14:44:31.1±2.8, 3.°4S±0.°2×139.°9E±0.°6, h56km, n8, σ2$@46/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**10.94**	**163**	P	Pn	14 47 15.6	+11
	baz=8.3,SNR=5.4						
KDU	**Kakadu**	**11.78**	**218**	P	**Pn**	**14 47 17.2**	**+0.7**
	baz=8.3,SNR=15						
MTN	**Manton Dam**	**12.76**	**222**	P	**Pn**	**14 47 30.8**	**+0.9**
	baz=9.4,SNR=5.2						
WRA	**Warramunga Arr**	**17.29**	**198**	P	**P**	**14 48 31.8**	**+2.2**
	0.5nm,0.3s,baz=18,slow=13,SNR=29						
WRA				S	**Sn**	**14 51 37.1**	**-3.4**
	0.1nm,0.3s,baz=2.1,slow=24,SNR=2.1						
FITZ	**Fitzroy Crossi**	**20.20**	**223**	P	Pn	14 49 04.3	+0.5
	2.0nm,0.8s,baz=49,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**20.94**	**196**	P	P	14 49 13.7	+4.3
	1.6nm,0.5s,baz=23,slow=8.4,SNR=37						
MKAR	**Makanchi Array**	**71.09**	**322**	P	**P**	**14 55 42.9**	**-0.7**
	0.4nm,0.5s,baz=107,slow=6.6,SNR=6.3						
BVAR	**Borovoye Array**	**80.59**	**325**	P	**P**	**14 56 37.2**	**-0.5**
	0.6nm,0.5s,baz=116,slow=8.2,SNR=4.0						

*IDC **08** 14:44:45.6±1.3,31.°67N×50.°81E, h0km, mb3.9/12, mb1 4.0/15, mb1mx3.8/32, mbtmp3.9/15, ML3.4/2, MS2.9/5, Ms1 2.9/5, ms1mx2.5/45, Error ellipse: s-maj=29.4km s-min=17.0km az=178.0*
*CSEM **08** 14:44:48.7±0.3,31.°74N×50.°92E, h2km, ML3.9, Error ellipse: s-maj=6.9km s-min=5.4km az=22.0*
*TEH **08** 14:44:48.9,31.°72N×50.°82E, h3km, ML3.9*
*THR **08** 14:44:50.9±1.1,31.°71N×51.°08E, h40km±8km, ML3.9*
ISC 08 14:44:47.5±1.8, 31.°69N±0.°04×50.°85E±0.°03, h4km±12km**, n93, σ1$68/92, mb3.9/12, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIR	**Pirpir**	**1.00**	**2**	*e*Sg	**Sg**	**14 45 19.6**	**+0.1**
IPIR				*e*Pg	**Pg**	**14 45 06.2**	**-0.4**
IPIR				*e*		14 45 37.1	
	comp=Z,18μm,0.2s						
IGAR	**Gharneh**	**1.24**	**54**	*e*Sg	**Sb**	**14 45 27.6**	**-0.5**
IGAR				*e*Pg	Pn	14 45 09.7	-2.2
IGAR				*e*		14 45 35.0	
	comp=Z,34μm,0.3s						
IZEF	**Zefreh**	**1.74**	**46**	*e*Pn	**Pn**	**14 45 18.6**	**-0.2**
IZEF				*e*		14 45 26.0	
	comp=Z,7μm,0.2s						
IZEF				*e*Sg	**Sn**	**14 45 42.1**	**+0.5**
IZEF	**Zefreh**	**1.74**	**46**	*e*Pn	**Pn**	**14 45 18.6**	**-0.2**
IZEF				*e*Sg	**Sn**	**14 45 42.1**	**+0.5**
IKLH	**Kolahrood**	**1.74**	**21**	*e*Pn	**Pn**	**14 45 18.9**	**+0.1**
IKLH				*e*		14 45 58.1	
	comp=Z,8μm,0.2s						
IKLH	**Kolahrood**	**1.74**	**21**	*e*Pn	**Pn**	**14 45 18.9**	**+0.1**
SHGR	**Shooshtar-Gavs**	**1.79**	**284**	*e*Pg	Pg	14 45 26.5	+4.7
SHGR				AML	AML	14 46 10.7	
	comp=E,1μm,0.6s						
SHGR				AML	AML	14 46 17.7	
	comp=N,1μm,0.7s						
SHGR	**Shooshtar-Gavs**	**1.79**	**284**	*e*Pg	Pg	14 45 26.5	+4.7
NASN	**Na'in**	**2.00**	**56**	*e*Pg	**Pn**	**14 45 23.8**	**+1.4**
NASN	**Na'in**	**2.00**	**56**	*e*Pg	**Pn**	**14 45 23.8**	**+1.4**
KHMZ	**Khomeyn**	**2.18**	**340**	*e*Pn	**Pn**	**14 45 26.7**	**+1.9**
KHMZ	**Khomeyn**	**2.18**	**340**	*e*Pn	**Pn**	**14 45 26.7**	**+1.9**
ISAD	**Sadrabad**	**2.43**	**84**	*e*Pn	**Pn**	**14 45 30.0**	**+1.8**
ISAD				*e*Sg	**Sb**	**14 46 05.1**	**+2.8**
ISAD				*e*		14 46 11.1	
	comp=Z,13μm,0.3s						
ISAD	**Sadrabad**	**2.43**	**84**	*e*Pn	**Pn**	**14 45 30.0**	**+1.8**
ISAD				*e*Sg	**Sb**	**14 46 05.1**	**+2.8**
SHI	**Shiraz**	**2.49**	**144**	*e*Pn	**Pn**	**14 45 30.5**	**+1.5**
SHI				*e*		14 46 21.5	
	comp=E,8μm,0.3s						
SHI	**Shiraz**	**2.49**	**144**	*e*Pn	**Pn**	**14 45 30.5**	**+1.5**
ISFB	**Sefidab**	**2.91**	**23**	*e*Pn	**Pn**	**14 45 35.7**	**+1.1**
ISFB				*e*		14 46 28.9	
	comp=Z,3μm,0.3s						
ISFB	**Sefidab**	**2.91**	**23**	*e*Pn	**Pn**	**14 45 35.7**	**+1.1**
ASAO	**Ashtian**	**2.94**	**347**	*e*Pn	**Pn**	**14 45 36.9**	**+1.7**
ASAO				AML	AML	14 46 30.1	
	comp=E,295nm,0.6s						
ASAO				AML	AML	14 46 33.1	
	comp=N,312nm,0.7s						
ASAO	**Ashtian**	**2.94**	**347**	*e*Pn	**Pn**	**14 45 36.9**	**+1.7**
ISRV	**Sarvestan**	**3.02**	**139**	*e*Pn	**Pn**	**14 45 37.6**	**+1.3**
ISRV				*e*		14 46 41.8	
	comp=Z,3μm,0.3s						
ISRV	**Sarvestan**	**3.02**	**139**	*e*Pn	**Pn**	**14 45 37.6**	**+1.3**
ICHK	**Chekchek**	**3.08**	**79**	*e*Pn	**Pn**	**14 45 38.7**	**+1.6**
ICHK				*e*		14 45 55.6	
	comp=Z,2μm,0.2s						
ICHK	**Chekchek**	**3.08**	**79**	*e*Pn	**Pn**	**14 45 38.7**	**+1.6**
IMEH	**Mehriz**	**3.23**	**94**	*e*Pn	**Pn**	**14 45 40.9**	**+1.7**
IMEH				*e*		14 46 42.7	
	comp=Z,2μm,0.3s						
IMEH	**Mehriz**	**3.23**	**94**	*e*Pn	**Pn**	**14 45 40.9**	**+1.7**
IVRN	**Varamin**	**3.38**	**12**	*e*Pn	**Pn**	**14 45 42.2**	**+1.0**
IVRN				*e*		14 45 59.1	
	comp=Z,2μm,0.2s						
IVRN	**Varamin**	**3.38**	**12**	*e*Pn	**Pn**	**14 45 42.2**	**+1.0**
IR5	**Iran Long-Peri**	**3.52**	**356**	*e*Pn	**Pn**	**14 45 44.2**	**+1.0**
IR5	**Iran Long-Peri**	**3.52**	**356**	*e*Pn	**Pn**	**14 45 44.2**	**+1.0**
IKOM	**Komasi**	**3.75**	**312**	*e*Pn	**Pn**	**14 45 46.7**	**+0.5**
IKOM				*e*		14 47 10.0	
	comp=Z,3μm,0.3s						
IKOM	**Komasi**	**3.75**	**312**	*e*Pn	**Pn**	**14 45 46.7**	**+0.5**
IR3	**Iran Long-Peri**	**3.78**	**2**	*e*Sg	**Sb**	**14 46 45.2**	**+4.1**
IR3	**Iran Long-Peri**	**3.78**	**2**	*e*Sg	**Sb**	**14 46 45.2**	**+4.1**
IRAZ	**Razeghan**	**3.79**	**349**	*e*Pn	**Pn**	**14 45 47.9**	**+1.0**
IRAZ				*e*		14 46 59.5	
	comp=Z,2μm,0.3s						
IRAZ	**Razeghan**	**3.79**	**349**	*e*Pn	**Pn**	**14 45 47.9**	**+1.0**
GHIR	**Ghir-Karzin**	**3.86**	**151**	*e*Pn	**Pn**	**14 45 48.6**	**+0.8**
GHIR	**Ghir-Karzin**	**3.86**	**151**	*e*Pn	**Pn**	**14 45 48.7**	**+0.8**
IMHD	**Mahdasht**	**3.99**	**358**	*e*Pn	**Pn**	**14 45 50.6**	**+1.0**
IMHD				*e*		14 46 06.1	
	comp=Z,1μm,0.2s						
IMHD	**Mahdasht**	**3.99**	**358**	*e*Pn	**Pn**	**14 45 50.6**	**+1.0**
IDMV	**Damavand**	**4.00**	**14**	*e*Pn	**Pn**	**14 45 50.7**	**+0.8**
IDMV				*e*		14 46 08.7	
	comp=Z,1μm,0.2s						
IDMV	**Damavand**	**4.00**	**14**	*e*Pn	**Pn**	**14 45 50.7**	**+0.8**
IBAF	**Bafgh**	**4.03**	**90**	*e*	**Pn**	**14 45 52.9**	**+2.8**
	comp=Z,1μm,0.2s						
DAMV	**Damavand**	**4.04**	**13**	*e*Pn	**Pn**	**14 45 52.0**	**+1.6**
DAMV	**Damavand**	**4.04**	**13**	*e*Pn	**Pn**	**14 45 52.0**	**+1.6**
ILAS	**Lasjerd**	**4.09**	**25**	*e*Pn	**Pn**	**14 45 52.0**	**+1.0**
ILAS				*e*		14 47 31.0	
	comp=Z,839nm,0.3s						
ILAS	**Lasjerd**	**4.09**	**25**	*e*Pn	**Pn**	**14 45 52.0**	**+1.0**
CHTH	**Charan**	**4.22**	**3**	*e*Pn	**Pn**	**14 45 54.5**	**+1.7**
CHTH	**Charan**	**4.22**	**3**	*e*Pn	**Pn**	**14 45 54.5**	**+1.7**
THKV	**Tehran--Karaj**	**4.22**	**0**	*e*Pn	**Pn**	**14 45 54.5**	**+1.7**
THKV	**Tehran--Karaj**	**4.22**	**0**	*e*Pn	**Pn**	**14 45 54.5**	**+1.7**
IFIR	**Firoozkooh**	**4.25**	**21**	*e*Pn	**Pn**	**14 45 54.1**	**+0.8**
IFIR				*e*		14 46 11.7	
	comp=Z,564nm,0.2s						
IFIR	**Firoozkooh**	**4.25**	**21**	*e*Pn	**Pn**	**14 45 54.1**	**+0.8**
IVIS	**Veis**	**4.39**	**311**	*e*Pn	**Pn**	**14 45 53.0**	**-2.1**
IVIS				*e*		14 47 25.2	
	comp=Z,1μm,0.4s						
IVIS	**Veis**	**4.39**	**311**	*e*Pn	**Pn**	**14 45 53.0**	**-2.1**
IBDR	**Badra**	**4.39**	**290**	*e*Pn	Pn	14 45 47.0	-8.0
IBDR				*e*Sn	Sn	14 46 38.0	-8.7
IGHG	**Ghaleghazi**	**4.46**	**307**	*e*Pn	**Pn**	**14 45 56.0**	**-0.1**
IGHG				*e*		14 47 29.6	
	comp=Z,2μm,0.4s						
IGHG	**Ghaleghazi**	**4.46**	**307**	*e*Pn	**Pn**	**14 45 56.0**	**-0.1**
ILIN	**Lien**	**4.58**	**316**	*e*Pn	**Pn**	**14 45 57.6**	**-0.2**
ILIN				*e*		14 47 40.0	
	comp=Z,1μm,0.4s						
ILIN	**Lien**	**4.58**	**316**	*e*Pn	**Pn**	**14 45 57.6**	**-0.2**
ISHM	**Shahmirzad**	**4.59**	**26**	*e*Pn	**Pn**	**14 45 58.8**	**+0.9**
ISHM				*e*Pn	**Pn**	**14 45 59.0**	**+1.1**
ISHM				*e*		14 46 24.7	
	comp=Z,1μm,0.2s						
ISHM				*e*		14 47 33.9	
	comp=E,2μm,0.3s						
ISHM	**Shahmirzad**	**4.59**	**26**	*e*Pn	**Pn**	**14 45 59.0**	**+1.1**
IALA	**Alasht**	**4.68**	**20**	*e*Pn	**Pn**	**14 46 00.7**	**+1.5**
IALA				*e*		14 46 23.1	
	comp=Z,978nm,0.2s						
IALA	**Alasht**	**4.68**	**20**	*e*Pn	**Pn**	**14 46 00.7**	**+1.5**
IPRN	**Peran**	**4.71**	**15**	*e*Pn	**Pn**	**14 46 00.4**	**+0.9**
IPRN				*e*		14 46 26.3	
	comp=Z,1μm,0.3s						
IGZV	**Ghazvin**	**4.72**	**354**	*e*Pn	**Pn**	**14 45 59.8**	**+0.1**
IGZV				*e*		14 46 20.1	
	comp=Z,754nm,0.2s						
IGZV	**Ghazvin**	**4.72**	**354**	*e*Pn	**Pn**	**14 45 59.8**	**+0.1**
IDHR	**Dehrash**	**4.80**	**310**	*e*Pn	**Pn**	**14 46 00.2**	**-0.5**
IDHR				*e*		14 47 07.8	
	comp=Z,1μm,0.2s						
IDHR	**Dehrash**	**4.80**	**310**	*e*Pn	**Pn**	**14 46 00.2**	**-0.5**
IKIA	**Kiasar**	**5.09**	**27**	*e*		14 46 35.0	
	comp=Z,402nm,0.3s						
IKIA				*e*Pn	**Pn**	**14 46 05.7**	**+0.9**
BHD	**Baghdad**	**5.69**	**288**	*e*Pn	**Pn**	**14 46 15.5**	**+2.7**
BHD				*e*Sn	**Sn**	**14 47 24.0**	**+5.4**
BHD	**Baghdad**	**5.69**	**288**	*e*Pn	**Pn**	**14 46 15.5**	**+2.7**
BHD				*e*Sn	**Sn**	**14 47 24.0**	**+5.4**
GNI	**Garni**	**9.79**	**331**	LR	LR	14 50 40.8	
	comp=Z,30nm,21.5s,baz=108,slow=36						
ASF	**Jabal al Asfar**	**11.86**	**276**	Pn	Pn	14 47 32.2	-5.4
ASF				LR	LR	14 52 37.1	
	comp=Z,22nm,18.1s,baz=142,slow=40						
MMAI	**Mount Meron Ar**	**13.13**	**280**	Pn	**Pn**	**14 47 54.1**	**-0.7**
	baz=96,slow=13,SNR=2.9						
EIL	**Elat**	**13.83**	**266**	LR	LR	14 53 48.3	
	comp=Z,35nm,18.4s,baz=280,slow=39						
BRTR	**Keskin Array B**	**16.10**	**305**	Pn	**Pn**	**14 48 34.1**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=134,slow=13,SNR=5.1						
AKTO	**Aktyubinsk**	**19.48**	**14**	P	**P**	**14 49 15.0**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=199,slow=15,SNR=5.1						
AAK	**Ala-Archa**	**21.71**	**53**	LR	LR	14 59 38.4	
	comp=Z,49nm,18.1s,baz=238,slow=41						
MLR	**Muntele Rosu**	**23.73**	**313**	P	**P**	**14 50 00.4**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=148,slow=5.4,SNR=4.8						
BVAR	**Borovoye Array**	**25.59**	**28**	P	**P**	**14 50 16.8**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=212,slow=5.3,SNR=5.6						
KURBB	**Kurchatov Arra**	**27.89**	**39**	P	**P**	**14 50 38.5**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=244,slow=9.2,SNR=6.1						
MKAR	**Makanchi Array**	**28.41**	**49**	P	**P**	**14 50 43.4**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=246,slow=8.5,SNR=6.4						
ZALV	**Zalesovo Beam**	**32.91**	**37**	P	P	14 51 19.9	-2.8
	comp=Z,1.3nm,0.5s,baz=250,slow=9.3,SNR=6.5						
FINES	**FINESS Array B**	**33.87**	**339**	P	**P**	**14 51 29.2**	**-1.7**
	comp=Z,1.4nm,0.5s,baz=147,slow=11,SNR=6.9						
HFS	**Hagfors**	**37.57**	**330**	P	**P**	**14 52 01.3**	**-1.5**
	comp=Z,5.0nm,0.6s,baz=125,slow=9.3,SNR=32						
NB2	**NORSAR Subarra**	**39.09**	**331**	P	**P**	**14 52 13.6**	**-2.0**
	comp=Z,2.1nm,0.6s,baz=123,slow=8.6						
NOA	**NORSAR Array B**	**39.09**	**331**	P	**P**	**14 52 13.6**	**-2.0**
	comp=Z,2.4nm,0.6s,baz=122,slow=8.3,SNR=9.0						
ARCES	**ARCESS Array B**	**40.51**	**347**	P	**P**	**14 52 25.9**	**-1.3**
	comp=Z,1.6nm,0.8s,baz=149,slow=11,SNR=4.6						
CMAR	**Chiang Mai Arr**	**45.17**	**95**	P	**P**	**14 53 04.8**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=292,slow=7.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**48.60**	**259**	P	**P**	**14 53 30.8**	**-1.7**
	comp=Z,2.1nm,0.6s,baz=56,slow=8.7,SNR=16						
SPITS	**Spitsbergen Ar**	**48.98**	**351**	LR	LR	15 17 47.4	
	comp=Z,33nm,18.3s,baz=0.0,slow=40						
KSRS	**Korea Array**	**52.08**	**61**	P	**P**	**14 55 07.9**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=286,slow=6.3,SNR=6.2						

DJA 08 14:50:31.1±3.8, 0.°0N±11.°1×12.°5E±1.°3, h10km, M3.8/5, MLv3.8/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.03**	**301**	P	Pg	14 50 49.5	-1.4
MNI	**Manado**	**1.40**	**359**	P	Pn	14 50 55.4	-1.3
GTOI	**Gorontalo**	**1.94**	**288**	P	Pn	14 51 05.2	+1.0
LUWI	**Luwuk**	**2.35**	**243**	P	Pn	14 51 10.3	+0.5
MRSI	**Marisa**	**2.95**	**278**	P	Pn	14 51 16.7	-1.4

*ISCJB **08** 14:50:49.9±0.4, 6.°98S±0.°05×127.°26E±0.°05, h315km, mb3.7/10, Error ellipse: s-maj=7.1km s-min=6.5km az=3.6*
*IDC **08** 14:50:57.2±2.9, 7.°08S×127.°40E, h385km±36km, mb3.5/9, mb1 3.5/13, mb1mx3.4/23, mbtmp3.5/13, Error ellipse: s-maj=18.0km s-min=11.8km az=78.0*
*AUST **08** 14:51:00.7±0.9, 7.°37S×127.°43E, h451km, Error ellipse: s-maj=1.3km s-min=1.1km az=318.0*
ISC 08 14:50:51.2±0.6, 7.°04S±0.°07×127.°30E±0.°08, h315km**, n31, σ1$87/27, mb3.7/10, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.03**	**228**	S	S	14 53 01.6	+8.7
	baz=3.9,SNR=6.1						
FAKI	**Fak Fak**	**6.41**	**51**	P	**Pn**	**14 52 28.7**	**+2.8**
	baz=6.5,SNR=30						
FAKI				S	**S**	**14 53 38.6**	**-3.8**
	baz=6.5,SNR=5.0						
MTN	**Manton Dam**	**6.89**	**147**	P	Pn	14 52 37.4	+5.8
	baz=6.6,SNR=24						
WSI	**Waingapu**	**7.40**	**249**	S	S	14 53 53.2	-11
	baz=7.4,SNR=6.4						
KDU	**Kakadu**	**7.58**	**138**	P	Pn	14 52 45.6	+5.7
	baz=7.3,SNR=18						
KNRA	**Kununurra**	**8.70**	**171**	P	**P**	**14 52 58.3**	**+0.5**
	baz=8.4,SNR=13						
FITZ	**Fitzroy Crossi**	**11.11**	**188**	P	**P**	**14 53 26.6**	**+2.0**
	2.0nm,0.3s,baz=17,slow=9.3,SNR=82						
JAGI	**Jajag, Banyuwa**	**13.10**	**263**	P	**Pn**	**14 53 47.2**	**+0.4**
	baz=13,SNR=5.9						
JAGI				S	S	14 56 04.4	-7.1
	baz=13,SNR=4.7						
JAY	**Jayapura**	**14.10**	**72**	P	Pn	14 54 03.0	+4.3
	baz=14,SNR=4.8						
WRA	**Warramunga Arr**	**14.53**	**153**	P	**Pn**	**14 54 04.6**	**+0.9**
	1.6nm,0.3s,baz=327,slow=12,SNR=60						
WRA				S	**S**	**14 56 37.8**	**-3.5**
	0.5nm,0.3s,baz=330,slow=17,SNR=12						
SMRI	**Semarang**	**16.73**	**269**	P	**P**	**14 54 22.3**	**-4.2**
	baz=17,SNR=60						
COEN	**Coen**	**17.05**	**115**	P	**P**	**14 54 31.6**	**+1.6**
	baz=17,SNR=14						
ASAR	**Alice Springs**	**17.71**	**160**	P	**Pn**	**14 54 39.3**	**-1.4**
	2.0nm,0.3s,baz=334,slow=12,SNR=78						
ASAR				S	**S**	**14 57 41.3**	**-3.1**
	0.4nm,0.3s,baz=350,slow=23,SNR=14						
PMG	**Port Moresby**	**19.80**	**98**	P	**P**	**14 54 59.5**	**+0.2**
	0.7nm,0.3s,baz=327,slow=17,SNR=3.4						
MANU	**Manus Island**	**20.61**	**77**	S	S	14 58 24.9	-13
	baz=21,SNR=4.5						
MEEK	**Meekatharra**	**21.17**	**202**	P	**P**	**14 55 13.0**	**+0.4**
	baz=21,SNR=38						
MORW	**Morawa**	**24.35**	**204**	P	**P**	**14 55 42.1**	**+0.8**
	baz=24,SNR=5.2						
KMBL	**Kambalda**	**24.73**	**191**	P	**P**	**14 55 45.4**	**+0.6**
	baz=24,SNR=4.7						
KLBR	**Kellerberrin**	**26.00**	**199**	P	**P**	**14 55 56.8**	**+0.6**
	baz=26,SNR=6.0						
NWAO	**Narrogin (SRO)**	**27.40**	**199**	P	**P**	**14 56 09.1**	**+0.5**
	6.1nm,0.7s,baz=9.9,slow=8.3,SNR=6.3						
STKA	**Stephens Creek**	**28.08**	**153**	P	**P**	**14 56 15.6**	**+1.0**
	0.9nm,0.4s,baz=324,slow=11,SNR=4.0						
PSI	**Prapat**	**29.96**	**288**	P	**P**	**14 56 32.5**	**+1.1**
	9.9nm,0.6s,baz=134,slow=6.0,SNR=20						
PSI	**Prapat**	**29.96**	**288**	P	**P**	**14 56 32.9**	**+1.4**
	baz=30,SNR=8.1						
CMAR	**Chiang Mai Arr**	**37.74**	**313**	P	P	14 57 41.5	+3.7
	1.1nm,0.5s,baz=143,slow=6.1,SNR=8.3						
KSRS	**Korea Array**	**44.27**	**1**	P	**P**	**14 58 30.4**	**+0.1**
	1.6nm,0.7s,baz=183,slow=11,SNR=10						
MJAR	**Matsushiro Arr**	**44.55**	**13**	P	**P**	**14 58 31.2**	**-1.4**
	2.1nm,0.6s,baz=179,slow=7.7,SNR=8.6						
USRK	**Ussuriysk Arra**	**51.18**	**4**	P	**P**	**14 59 22.7**	**-0.2**
	2.5nm,0.5s,baz=198,slow=7.2,SNR=6.8						
ASAJ	**Asahikawa**	**52.76**	**14**	P	**P**	**14 59 34.5**	**-0.1**
	2.0nm,0.5s,baz=288,slow=6.4,SNR=5.6						
PETK	**Petropavlovsk-**	**65.23**	**20**	P	**P**	**15 00 59.8**	**+0.4**
	4.4nm,0.9s,baz=203,slow=5.6,SNR=6.7						
MKAR	**Makanchi Array**	**66.81**	**328**	P	**P**	**15 01 09.5**	**-0.1**
	0.2nm,0.4s,baz=120,

URZ	**Urewera**	**34.26**	**152**	LR	LR	15 32 24.0	
	comp=Z,133nm,21.2s,baz=64,slow=30						
KAPI	**Kappang**	**37.71**	**273**	P	**P**	**15 22 33.1**	**+1.0**
	30nm,1.3s						
MEEK	**Meekatharra**	**40.94**	**239**	P	**P**	**15 22 58.9**	**-0.1**
	baz=41,SNR=3.1						
JAGI	**Jajag, Banyuwa**	**42.91**	**267**	P	**P**	**15 23 14.1**	**-1.1**
	baz=43,SNR=3.7						
NWAO	**Narrogin (SRO)**	**44.32**	**231**	LR	LR	15 40 55.5	
	comp=Z,399nm,19.5s,baz=221,slow=35						
KSM	**Kuching**	**48.17**	**280**	P	**P**	**15 23 56.1**	**-0.8**
	23nm,1.3s						
KSM	**Kuching**	**48.17**	**280**	P	P	15 24 01.7	+4.7
	baz=48,SNR=5.1						
YHNB	**Yeheng**	**48.46**	**314**	*e*P	**P**	**15 24 00.2**	**+1.2**
	15nm,0.9s						
MJAR	**Matsushiro Arr**	**48.58**	**339**	P	**P**	**15 23 58.8**	**-0.9**
MJAR	**Matsushiro Arr**	**48.58**	**339**	P	**P**	**15 23 58.8**	**-0.9**
	0.9nm,0.5s,baz=152,slow=8.1,SNR=4.9						
JNU	**Nakatsue**	**48.77**	**330**	P	**P**	**15 24 02.1**	**+0.8**
JNU	**Nakatsue**	**48.77**	**330**	P	**P**	**15 24 02.1**	**+0.8**
	10.0nm,0.9s,baz=130,slow=9.3,SNR=3.4						
PPT	**Papeete**	**52.08**	**105**	LR	LR	15 40 27.9	
	comp=Z,240nm,20.9s,baz=180,slow=29						
PPT2	**Papeete2**	**52.08**	**105**	*e*LQ	LQ	15 37 25.3	
	334nm,28.0s						
PPT2				*e*LR	LR	15 39 39.3	
	412nm,30.2s						
TBI	**Tubuai**	**52.66**	**113**	*e*LQ	LQ	15 37 40.8	
	461nm,31.0s						
TBI				*e*LR	LR	15 39 51.5	
	217nm,33.0s						
KSRS	**Korea Array**	**53.68**	**331**	P	**P**	**15 24 38.7**	**+0.8**
	3.5nm,1.0s,baz=152,slow=8.6,SNR=14						
KSRS				LR	LR	15 46 09.0	
	comp=Z,74nm,19.3s,baz=155,slow=34						
KSAR	**Wonju Array Be**	**53.69**	**331**	P	**P**	**15 24 38.7**	**+0.7**
WHN	**Wuhan**	**56.96**	**315**	P	**P**	**15 25 03.5**	**+1.7**
USRK	**Ussuriysk Arra**	**57.55**	**338**	P	**P**	**15 25 06.2**	**+0.5**
	6.9nm,1.1s,baz=152,slow=6.1,SNR=13						
PANO	**Nakornpanom**	**58.32**	**296**	P	P	15 25 16.3	+4.7
	60nm,0.8s						
KULM	**Kulim**	**58.43**	**282**	P	**P**	**15 25 11.0**	**-1.4**
	7.6nm,1.6s						
MDJ	**Mudanjiang**	**58.81**	**337**	P	**P**	**15 25 14.8**	**+0.3**
MDJ				pmax	pmax		
	comp=Z,11nm,1.8s						
MDJ				pmax	pmax		
	comp=Z,70nm,8.4s						
SKNT	**Sakolnakorn**	**58.81**	**296**	P	**P**	**15 25 16.7**	**+1.7**
	comp=Z,20nm,1.2s						
ENH	**Enshi**	**60.29**	**312**	*e*P	**P**	**15 25 25.0**	**0.0**
	comp=Z,42nm,1.3s						
NAYO	**Nakonayok**	**60.30**	**292**	P	P	15 25 29.4	+4.0
	comp=Z,84nm,1.2s						
PBKT	**Sadao Pong**	**61.37**	**294**	P	**P**	**15 25 33.1**	**+0.5**
	comp=Z,5.8nm,2.5s						
PBKT	**Sadao Pong**	**61.37**	**294**	P	**P**	**15 25 34.9**	**+2.3**
	comp=Z,8.7nm,0.9s						
LOEI	**Loei**	**61.43**	**295**	P	**P**	**15 25 32.0**	**-1.0**
	comp=Z,15nm,0.8s						
PETK	**Petropavlovsk-**	**61.61**	**0**	LR	LR	15 48 04.2	
	comp=Z,95nm,21.5s,baz=164,slow=32						
NANT	**Nan**	**62.38**	**296**	P	**P**	**15 25 40.7**	**+1.3**
	comp=Z,49nm,0.7s						
XAN	**Xi'an**	**62.72**	**315**	P	**P**	**15 25 41.6**	**+0.1**
XAN				pmax	pmax		
	comp=Z,4.0nm,1.3s						
XAN				pmax	pmax		
	comp=Z,22nm,6.0s						
LAMP	**Lampang**	**63.23**	**296**	P	**P**	**15 25 47.8**	**+2.7**
	comp=Z,4.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**63.83**	**295**	P	**P**	**15 25 50.5**	**+1.5**
CMAR	**Chiang Mai Arr**	**63.83**	**295**	P	**P**	**15 25 50.5**	**+1.5**
	comp=Z,10nm,1.1s,baz=111,slow=4.8,SNR=30						
CMMT	**Chiang Mai**	**63.94**	**296**	P	**P**	**15 25 49.1**	**-0.7**
	comp=Z,10nm,1.3s,comp=Z,542nm						
CMMT	**Chiang Mai**	**63.94**	**296**	P	**P**	**15 25 51.4**	**+1.6**
	comp=Z,10nm,1.3s,comp=Z,542nm						
CHTO	**Chiang Mai**	**63.95**	**296**	*e*P	**P**	**15 25 49.7**	**-0.1**
	comp=Z,12nm,1.2s						
CHTO	**Chiang Mai**	**63.95**	**296**	P	**P**	**15 25 49.2**	**-0.6**
	comp=Z,12nm,1.3s						
CHTO	**Chiang Mai**	**63.95**	**296**	P	**P**	**15 25 51.5**	**+1.7**
	comp=Z,12nm,1.3s						
LZH	**Lanzhou**	**67.34**	**315**	*e*P	**P**	**15 26 13.1**	**+1.5**
LZH				pmax	pmax		
	comp=Z,15nm,1.5s						
LZH				pmax	pmax		
	comp=Z,65nm,8.7s						
VNDA	**Vanda**	**68.79**	**179**	*e*P	**P**	**15 26 19.5**	**-0.3**
VNDA	**Vanda**	**68.79**	**179**	P	**P**	**15 26 19.4**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=355,slow=7.5,SNR=6.4						
VNDA				LR	LR	15 50 12.2	
	comp=Z,108nm,19.0s,baz=357,slow=30						
ULN	**Ulaanbaatar**	**71.84**	**327**	*e*P	**P**	**15 26 40.3**	**+1.1**
	comp=Z,14nm,1.4s						
ULN	**Ulaanbaatar**	**71.84**	**327**	P	**P**	**15 26 38.3**	**-0.8**
SONM	**Songino Array**	**72.18**	**327**	P	**P**	**15 26 41.9**	**+0.8**
SONM	**Songino Array**	**72.18**	**327**	P	**P**	**15 26 41.9**	**+0.8**
	comp=Z,3.2nm,1.0s,baz=137,slow=6.8,SNR=12						
SHL	**Shillong**	**72.37**	**300**	*e*P	**P**	**15 26 43.0**	**+0.2**
LSA	**Lhasa**	**74.35**	**304**	P	**P**	**15 26 55.8**	**+1.0**
LSA	**Lhasa**	**74.35**	**304**	*e*P	**P**	**15 26 56.5**	**+1.7**
	comp=Z,11nm,1.1s						
KDAK	**Kodiak Island**	**77.65**	**25**	P	**P**	**15 27 12.3**	**0.0**
KDAK	**Kodiak Island**	**77.65**	**25**	P	**P**	**15 27 12.3**	**0.0**
	comp=Z,3.4nm,0.9s,baz=260,slow=9.2,SNR=4.7						
PMR	**Palmer**	**81.38**	**23**	*e*P	**P**	**15 27 31.7**	**-0.9**
SML	**Sawmill**	**81.81**	**23**	*e*P	**P**	**15 27 34.6**	**-0.3**
	comp=Z,11nm,1.4s						
TRF	**Thorofare Moun**	**82.09**	**21**	*e*P	**P**	**15 27 34.5**	**-2.0**
	comp=Z,6.7nm,0.8s						
MCK	**McKinley**	**82.74**	**21**	*e*P	**P**	**15 27 38.5**	**-1.2**
	comp=Z,38nm,1.2s						
MAW	**Mawson**	**83.77**	**203**	P	**P**	**15 27 44.4**	**-0.6**
MAW	**Mawson**	**83.77**	**203**	P	**P**	**15 27 44.4**	**-0.6**
	comp=Z,3.2nm,1.0s,baz=94,slow=14,SNR=2.7						
ILAR	**Eielson Array**	**84.08**	**21**	P	**P**	**15 27 45.8**	**-0.8**
ILAR	**Eielson Array**	**84.08**	**21**	P	**P**	**15 27 45.8**	**-0.8**
	comp=Z,3.8nm,1.0s,baz=260,slow=5.0,SNR=25						
ILAR				LR	LR	15 58 07.6	
	comp=Z,76nm,21.3s,baz=215,slow=31						
MENT	**Mentasta**	**84.23**	**23**	*e*P	**P**	**15 27 47.8**	**+0.4**
COLD	**Coldfoot**	**84.46**	**18**	*e*P	**P**	**15 27 49.1**	**+0.7**
	comp=Z,34nm,2.2s						
EGAK	**Eagle**	**86.15**	**22**	*e*P	**P**	**15 27 57.4**	**+0.4**
	comp=Z,14nm,1.2s						
MK31	**Makanchi Array**	**86.39**	**318**	*e*P	**P**	**15 27 58.1**	**-0.4**
MKAR	**Makanchi Array**	**86.39**	**318**	P	**P**	**15 27 58.9**	**+0.3**
MKAR	**Makanchi Array**	**86.39**	**318**	P	**P**	**15 27 58.9**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=97,slow=6.0,SNR=16						
ZALV	**Zalesovo Beam**	**87.05**	**326**	P	**P**	**15 28 01.2**	**-0.3**
ZALV	**Zalesovo Beam**	**87.05**	**326**	P	**P**	**15 28 01.2**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=140,slow=5.1,SNR=3.6						
ZALV				LR	LR	16 06 29.4	
	comp=Z,35nm,18.4s,baz=69,slow=35						
BBB	**Bella Bella**	**87.39**	**36**	LR	LR	15 58 24.8	
	comp=Z,87nm,21.5s,baz=250,slow=30						
DLBC	**Dease Lake**	**88.36**	**30**	LR	LR	15 59 47.7	
	comp=Z,172nm,21.0s,baz=64,slow=30						
MWC	**Mount Wilson**	**90.25**	**56**	*e*P	**P**	**15 28 17.2**	**-0.2**
	comp=Z,17nm,1.2s						
INK	**Inuvik**	**90.46**	**20**	LR	LR	16 01 53.9	
	comp=Z,62nm,20.7s,baz=251,slow=31						
NVAR	**Mina Array Bea**	**90.81**	**51**	P	**P**	**15 28 19.2**	**-0.8**
NVAR	**Mina Array Bea**	**90.81**	**51**	P	**P**	**15 28 19.2**	**-0.8**
	comp=Z,5.1nm,1.0s,baz=249,slow=6.8,SNR=21						
WVOR	**Wild Horse Val**	**91.29**	**47**	*e*P	**P**	**15 28 22.6**	**+0.6**
	comp=Z,5.5nm,1.1s						
PFO	**Pinyon Flat Ob**	**91.45**	**56**	LR	LR	16 00 20.3	
	comp=Z,143nm,20.9s,baz=19,slow=30						
YKA	**Yellowknife Ar**	**96.68**	**28**	LR	LR	16 05 43.6	
	comp=Z,8.9nm,19.8s,baz=5.0,slow=31						
PDAR	**Pinedale Array**	**97.97**	**48**	P	**P**	**15 28 52.1**	**-0.6**
PDAR	**Pinedale Array**	**97.97**	**48**	P	**P**	**15 28 52.1**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=167,slow=2.6,SNR=5.2						
PDAR				LR	LR	16 05 35.8	
	comp=Z,78nm,20.1s,baz=157,slow=31						
BRTR	**Keskin Array B**	**121.44**	**311**	PKP	**PKPdf**	**15 34 08.7**	**-1.4**
BRTR				PP	**PP**	**15 35 43.6**	**+2.1**
BRTR	**Keskin Array B**	**121.44**	**311**	PKP	**PKPdf**	**15 34 08.7**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=61,slow=2.5,SNR=3.6						
BRTR				PP	**PP**	**15 35 43.6**	**+2.1**
	comp=Z,0.6nm,0.8s,baz=72,slow=4.0,SNR=3.6						
LPAZ	**La Paz**	**128.39**	**119**	PKP	**PKPdf**	**15 34 23.8**	**-0.9**
LPAZ	**La Paz**	**128.39**	**119**	PKP	**PKPdf**	**15 34 23.8**	**-0.9**
	comp=Z,1.3nm,0.9s,baz=225,slow=4.5,SNR=4.1						
GERES	**GERESS Array B**	**129.85**	**330**	PKP	**PKPdf**	**15 34 26.2**	**+0.4**
GERES	**GERESS Array B**	**129.85**	**330**	PKP	**PKPdf**	**15 34 26.2**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=68,slow=7.7,SNR=3.1						
BDFB	**Brasilia**	**144.95**	**134**	PKP	**PKPab**	**15 34 52.9**	**-0.8**
BDFB	**Brasilia**	**144.95**	**134**	PKP	**PKPab**	**15 34 52.9**	**-0.8**
	comp=Z,6.7nm,0.8s,baz=195,slow=2.9,SNR=5.8						
TORD	**Torodi Ar. Bea**	**155.91**	**283**	PKPbc	PKPdf	15 35 20.5	+9.1
TORD				PKPab	**PKPab**	**15 35 38.8**	**+0.5**
TORD	**Torodi Ar. Bea**	**155.91**	**283**	PKPbc	PKPdf	15 35 20.5	+9.1
	comp=Z,0.8nm,0.8s,baz=60,slow=1.9,SNR=4.6						
TORD				PKPab	**PKPab**	**15 35 38.8**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=82,slow=4.0,SNR=5.5						

IDC 08 15:37:38.6±3.1, 8.73S×157.54E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, Error ellipse: s-maj=73.9km s-min=42.1km az=95.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.06**	**241**	P	P	15 43 04.1	-0.8
	1.1nm,0.6s,baz=67,slow=9.5,SNR=11						
WRA				PcP	PcP	15 46 39.1	-0.8
	0.3nm,0.7s,baz=69,slow=2.8,SNR=6.6						
ASAR	**Alice Springs**	**27.06**	**234**	P	P	15 43 23.1	0.0
	0.1nm,0.3s,baz=65,slow=9.7,SNR=4.7						
STKA	**Stephens Creek**	**27.39**	**211**	P	P	15 43 26.4	+0.6
	1.8nm,0.7s,baz=36,slow=11,SNR=5.0						
CMAR	**Chiang Mai Arr**	**63.80**	**295**	P	P	15 48 13.8	+0.6
	0.4nm,0.6s,baz=125,slow=4.7,SNR=4.3						

*ISCJB **08** 15:39:02.6±0.5, 51.45N±0.09×175.08W±0.06, h40km, mb3.7/12, Error ellipse: s-maj=13.3km s-min=3.5km az=164.2*
*NEIC **08** 15:39:05.2±0.7, 51.63N×175.14W, h51km±6km, mb3.9/4, ML4.0(AEIC), Error ellipse: s-maj=15.7km s-min=4.3km az=165.0*
*IDC **08** 15:39:06.4±3.5, 51.81N×175.25W, h61km±30km, mb3.5/8, mb1 3.7/11, mb1mx3.5/28, mbtmp3.5/11, ML3.8/3, Error ellipse: s-maj=31.0km s-min=13.4km az=166.0*
ISC 08 15:39:04.0±0.7, 51.6N±0.1×175.13W±0.05, h40km, n54, σ1§41/60, mb3.8/12, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.88**	**41**	P	**Pn**	**15 39 18.9**	**-0.9**
KOKL	**Mount Kliuchef**	**0.97**	**36**	P	**Pn**	**15 39 21.3**	**+0.2**
KOFP	**Korovin Flat P**	**0.97**	**41**	P	**Pn**	**15 39 21.4**	**+0.2**
KOWE	**Korovin West**	**0.98**	**33**	P	**Pn**	**15 39 21.7**	**+0.4**
KOSE	**Korovin Southe**	**1.04**	**39**	P	**Pn**	**15 39 22.5**	**+0.4**
CERAA	**Semis' Rag'd T**	**3.25**	**278**	P	**Pn**	**15 39 53.4**	**+1.1**
CESW	**Semis' Southwe**	**3.32**	**278**	P	**Pn**	**15 39 54.3**	**+0.9**
AMKA	**Amchitka**	**3.49**	**269**	P	**Pn**	**15 39 55.9**	**+0.3**
AMKA				S	**Sn**	**15 40 38.9**	**+3.2**
LSSE	**Little Sitkin**	**3.94**	**278**	P	**Pn**	**15 40 03.1**	**+1.2**
LSNW	**Little Sitkin**	**3.97**	**279**	P	**Pn**	**15 40 03.3**	**+1.0**
LSSA	**Little Sitkin**	**3.97**	**278**	P	**Pn**	**15 40 04.0**	**+1.6**
NIKH	**Nikolski High**	**4.11**	**67**	P	**Pn**	**15 40 04.3**	**+0.1**
NIKH				S	**Sn**	**15 40 53.0**	**+2.0**
OKSO	**Okmok South**	**4.63**	**64**	P	**Pn**	**15 40 11.7**	**+0.3**
OKSO				S	**Sn**	**15 41 04.9**	**+1.0**
MSOM	**Makushin Julie**	**5.47**	**62**	P	**Pn**	**15 40 24.2**	**+1.4**
UNV	**Unalaska Valle**	**5.73**	**63**	P	**Pn**	**15 40 28.2**	**+1.8**
UNV				S	**Sn**	**15 41 33.6**	**+2.8**
AKAB	**Akutan Reef Bi**	**6.07**	**61**	P	**Pn**	**15 40 33.3**	**+2.2**
AHB	**Akutan Harbor**	**6.20**	**62**	P	**Pn**	**15 40 34.1**	**+1.2**
AKUT	**Akutan**	**6.23**	**62**	*e*Pn	**Pn**	**15 40 31.8**	**-1.5**
	55nm,1.2s						
SPIA	**Saint Paul Isl**	**6.32**	**25**	P	**Pn**	**15 40 36.9**	**+2.4**
FX1	**Attu Island--F**	**7.32**	**285**	*e*P	**Pn**	**15 40 50.3**	**+2.1**
FX1				S	**Sn**	**15 42 09.8**	**-0.1**
FX1	**Attu Island--F**	**7.32**	**285**	P	**Pn**	**15 40 48.7**	**+0.5**
	3.8nm,0.3s,baz=195,slow=6.4,SNR=16						
FX1				S	**Sn**	**15 42 09.8**	**-0.1**
	0.7nm,0.3s,baz=107,slow=21,SNR=1.9						
KDAK	**Kodiak Island**	**14.42**	**56**	P	**Pn**	**15 42 24.4**	**-0.8**
KDAK				S	**Sn**	**15 45 07.0**	**+3.4**
KDAK	**Kodiak Island**	**14.42**	**56**	P	**Pn**	**15 42 24.4**	**-0.8**
	0.3nm,0.3s,baz=259,slow=5.2,SNR=6.1						
KDAK				S	**Sn**	**15 45 07.0**	**+3.4**
	0.0nm,0.3s,baz=241,slow=19,SNR=2.4						
PAX	**Paxson**	**19.49**	**43**	*e*P	**P**	**15 43 27.4**	**0.0**
	1.7nm,0.6s						
ILAR	**Eielson Array**	**19.70**	**37**	P	**P**	**15 43 27.7**	**-1.8**
ILAR	**Eielson Array**	**19.70**	**37**	P	**P**	**15 43 27.7**	**-1.8**
	0.3nm,0.3s,baz=223,slow=9.6,SNR=13						
COLD	**Coldfoot**	**19.96**	**29**	*e*P	**Pn**	**15 43 33.5**	**-0.8**
	6.0nm,0.9s						
EGAK	**Eagle**	**21.93**	**40**	P	**P**	**15 43 54.5**	**+0.9**
	4.9nm,0.6s						
INK	**Inuvik**	**26.02**	**34**	P	**P**	**15 44 31.7**	**-1.0**
INK	**Inuvik**	**26.02**	**34**	P	**P**	**15 44 31.7**	**-1.0**
	0.4nm,0.3s,baz=281,slow=5.2,SNR=3.5						
BSMT	**Bassoo Peak**	**38.24**	**71**	*e*P	**P**	**15 46 21.1**	**+1.0**
MCMT	**McKenzie Canyo**	**40.93**	**74**	*e*P	**P**	**15 46 43.2**	**+0.6**
	0.9nm,0.5s						
NVAR	**Mina Array Bea**	**41.25**	**86**	P	P	15 46 51.3	+6.1
NVAR	**Mina Array Bea**	**41.25**	**86**	P	P	15 46 51.3	+6.1
	0.6nm,0.7s,baz=308,slow=7.3,SNR=4.8						
KSRS	**Korea Array**	**41.93**	**273**	P	**P**	**15 46 50.6**	**+0.1**
	1.0nm,0.7s,baz=62,slow=7.4,SNR=4.8						
KSAR	**Wonju Array Be**	**41.96**	**273**	P	**P**	**15 46 50.6**	**-0.1**
PDAR	**Pinedale Array**	**44.06**	**75**	P	**P**	**15 47 08.7**	**+0.7**
PDAR	**Pinedale Array**	**44.06**	**75**	P	**P**	**15 47 08.7**	**+0.7**
	1.8nm,0.5s,baz=301,slow=4.3,SNR=19						
TXAR	**Lajitas Array**	**56.35**	**84**	P	**P**	**15 48 41.5**	**+0.4**
TXAR	**Lajitas Array**	**56.35**	**84**	P	**P**	**15 48 41.5**	**+0.4**
	0.1nm,0.4s,baz=306,slow=3.2,SNR=2.5						
ARCES	**ARCESS Array B**	**58.29**	**352**	P	**P**	**15 48 52.1**	**-1.9**
ARCES	**ARCESS Array B**	**58.29**	**352**	P	**P**	**15 48 52.1**	**-1.9**
	2.6nm,1.1s,baz=6.3,slow=9.1,SNR=2.1						
MKAR	**Makanchi Array**	**61.70**	**310**	P	**P**	**15 49 15.4**	**-2.4**
MKAR	**Makanchi Array**	**61.70**	**310**	P	**P**	**15 49 15.4**	**-2.4**
	0.2nm,0.4s,baz=51,slow=6.6,SNR=7.4						
CMAR	**Chiang Mai Arr**	**73.27**	**279**	P	**P**	**15 50 31.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**73.27**	**279**	P	**P**	**15 50 31.3**	**+0.1**
	1.1nm,0.9s,baz=28,slow=8.0,SNR=7.1						
WRA	**Warramunga Arr**	**83.77**	**227**	P	**P**	**15 51 28.4**	**-0.4**
WRA	**Warramunga Arr**	**83.77**	**227**	P	**P**	**15 51 28.4**	**-0.4**
	0.4nm,0.6s,baz=34,slow=5.8,SNR=7.3						
ASAR	**Alice Springs**	**87.20**	**225**	P	**P**	**15 51 45.9**	**+0.1**
ASAR	**Alice Springs**	**87.20**	**225**	P	**P**	**15 51 45.9**	**+0.1**
	0.4nm,0.7s,baz=22,slow=5.5,SNR=8.7						
MAW	**Mawson**	**148.02**	**218**	PKPbc	**PKPbc**	**15 58 43.9**	**+0.3**
MAW	**Mawson**	**148.02**	**218**	PKPbc	**PKPbc**	**15 58 43.9**	**+0.3**
	1.0nm,0.5s,baz=252,slow=3.2,SNR=4.3						
BOSA	**Boshof**	**152.47**	**319**	PKPbc	**PKPbc**	**15 58 55.0**	**-0.6**
BOSA	**Boshof**	**152.47**	**319**	PKPbc	**PKPbc**	**15 58 55.0**	**-0.6**
	1.9nm,0.5s,baz=26,slow=4.9,SNR=9.0						

*ISCJB **08** 16:18:20.4±0.6, 52.31S±0.09×13.5E±0.2, h10km, mb4.4/12, MS3.7/9, Error ellipse: s-maj=16.9km s-min=12.7km az=153.1*
*IDC **08** 16:18:20.7±0.7, 52.30S×13.58E, h0km, mb4.3/12, mb1 4.4/12, mb1mx4.2/21, mbtmp4.3/12, MS3.8/9, Ms1 3.8/9, ms1mx3.6/26, Error ellipse: s-maj=24.0km s-min=16.6km az=60.0*
*NEIC **08** 16:18:22.4±0.3, 52.37S×13.48E, h10km, mb4.7/4, Error ellipse: s-maj=11.6km s-min=8.9km az=74.0*
ISC 08 16:18:22.2±0.6, 52.3S±0.1×13.5E±0.1, h10km, n46, σ0§68/35, mb4.5/12, MS3.7/9, 1D, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAIT	**Maitri**	**18.53**	**182**	*e*P	P	16 22 27.1	-11
SUR	**Sutherland**	**20.63**	**18**	*e*P	Pn	16 23 02.8	-1.2
SUR	**Sutherland**	**20.63**	**18**	P	**P**	**16 23 01.1**	**-0.7**
	3.4nm,0.7s,baz=342,slow=3.2,SNR=2.9						
SUR				LR	LR	16 29 09.9	
	comp=Z,207nm,19.9s,baz=162,slow=32						
SNAA	**Sanae**	**20.73**	**195**	*e*P	**P**	**16 23 02.1**	**-0.4**
SNAA	**Sanae**	**20.73**	**195**	*e*	Pn	16 23 05.3	+0.4
SNAA	**Sanae**	**20.73**	**195**	*e*P	**P**	**16 23 01.7**	**-0.8**
	30nm,1.0s						
SNAA	**Sanae**	**20.73**	**195**	P	**P**	**16 23 02.1**	**-0.4**
	10nm,1.0s,baz=29,slow=8.3,SNR=72						
SNAA				LR	LR	16 29 05.6	
	comp=Z,89nm,20.6s,baz=4.7,slow=31						
SYO	**Syowa Base**	**20.74**	**153**	*e*P	**P**	**16 23 00.9**	**-1.6**
BOSA	**Boshof**	**25.25**	**25**	LR	LR	16 32 05.1	
	comp=Z,224nm,20.1s,baz=181,slow=33						
MAW	**Mawson**	**28.05**	**142**	P	**P**	**16 24 13.5**	**+0.4**
MAW	**Mawson**	**28.05**	**142**	P	**P**	**16 24 13.5**	**+0.4**
	3.0nm,0.9s,baz=290,slow=16,SNR=2.9						
MAW				LR	LR	16 33 03.8	
	comp=Z,230nm,20.9s,baz=291,slow=32						
LBTB	**Lobatse**	**28.77**	**23**	LR	LR	16 34 19.6	
	comp=Z,172nm,18.9s,baz=225,slow=33						
QSPA	**South Pole Qui**	**37.91**	**180**	P	**P**	**16 25 39.3**	**0.0**
QSPA	**South Pole Qui**	**37.91**	**180**	P	**P**	**16 25 39.3**	**0.0**
	7.3nm,0.9s,baz=240,slow=5.3,SNR=13						
VNDA	**Vanda**	**48.93**	**171**	P	**P**	**16 27 08.4**	**+0.7**
VNDA	**Vanda**	**48.93**	**171**	P	**P**	**16 27 08.4**	**+0.7**
	0.8nm,0.5s,baz=232,slow=5.4,SNR=12						
VNDA				LR	LR	16 46 13.7	
	comp=Z,259nm,21.6s,baz=181,slow=34						
TRQA	**Tornquist**	**52.71**	**254**	*e*P	**P**	**16 27 36.2**	**-0.6**
	11nm,1.0s						
CPUP	**Villa Florida**	**58.08**	**267**	P	**P**	**16 28 15.1**	**-0.3**
CPUP	**Villa Florida**	**58.08**	**267**	P	**P**	**16 28 15.1**	**-0.3**
	6.0nm,0.7s,baz=118,slow=7.4,SNR=20						
BDFB	**Brasilia**	**60.45**	**283**	P	**P**	**16 28 32.4**	**+0.2**
BDFB	**Brasilia**	**60.45**	**283**	P	**P**	**16 28 32.4**	**+0.2**
	3.3nm,0.5s,baz=129,slow=6.5,SNR=5.3						
BDFB				LR	LR	16 48 03.7	
	comp=Z,62nm,19.2s,baz=341,slow=30						
TORD	**Torodi Ar. Bea**	**66.01**	**347**	P	**P**	**16 29 08.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**66.01**	**347**	P	**P**	**16 29 08.2**	**-0.5**
	1.6nm,0.8s,baz=192,slow=5.4,SNR=6.9						
ATD	**Arta Tunnel**	**68.43**	**31**	LR	LR	16 59 36.2	
	comp=Z,51nm,19.8s,baz=150,slow=36						
LPAZ	**La Paz**	**72.22**	**266**	*e*P	**P**	**16 29 48.7**	**+0.6**
	15nm,0.9s						
LPAZ	**La Paz**	**72.22**	**266**	P	**P**	**16 29 49.2**	**+1.0**
	12nm,0.8s,baz=121,slow=4.5,SNR=40						
SAML	**Samuel**	**74.86**	**275**	*e*P	**P**	**16 30 03.0**	**+0.1**
	6.3nm,1.0s						
STKA	**Stephens Creek**	**84.66**	**138**	P	**P**	**16 30 56.1**	**+0.1**
STKA	**Stephens Creek**	**84.66**	**138**	P	**P**	**16 30 56.1**	**+0.1**
	2.3nm,0.9s,baz=225,slow=2.9,SNR=5.6						
ASAR	**Alice Springs**	**88.24**	**128**	P	**P**	**16 31 14.2**	**+0.5**
ASAR	**Alice Springs**	**88.24**	**128**	P	**P**	**16 31 14.2**	**+0.5**
	2.1nm,0.8s,baz=204,slow=4.9,SNR=24						
URZ	**Urewera**	**88.65**	**167**	LR	LR	17 06 41.6	
	comp=Z,101nm,19.9s,baz=143,slow=33						
WRA	**Warramunga Arr**	**91.60**	**126**	P	**P**	**16 31 29.1**	**-0.3**
WRA	**Warramunga Arr**	**91.60**	**126**	P	**P**	**16 31 29.1**	**-0.3**
	0.5nm,0.7s,baz=216,slow=4.6,SNR=5.3						
TBI	**Tubuai**	**103.19**	**196**	*e*LR	LR	17 06 02.6	
	180nm,35.8s						
PPT2	**Papeete2**	**108.84**	**197**	*e*LR	LR	17 08 47.9	
	46nm,22.5s						
ZALV	**Zalesovo Beam**	**121.36**	**41**	PKP	**PKPdf**	**16 37 13.9**	**-0.5**
ZALV	**Zalesovo Beam**	**121.36**	**41**	PKP	**PKPdf**	**16 37 13.9**	**-0.5**
	0.2nm,0.3s,baz=204,slow=3.2,SNR=2.1						
PDAR	**Pinedale Array**	**141.35**	**279**	PKPpre	PKPpre	16 37 47.8	
PDAR	**Pinedale Array**	**141.35**	**279**	PKhKP	PKPpre

BURAR				*i* S		**Sn**	**16 32 19.9**	**+1.0**
LOT	**Lotru**	**2.12 261**	⇑	*i*P		**Pn**	**16 31 54.4**	**-0.3**
LOT				*i* S		**Sn**	**16 32 20.4**	**+0.2**
LOT	**Lotru**	**2.12 261**	⇑	*i*P		**Pn**	**16 31 54.4**	**-0.3**
LOT	**Lotru**	**2.12 261**	⇑	*i*P		**Pn**	**16 31 54.4**	**-0.3**
LOT				*i* S		**Sn**	**16 32 20.4**	**+0.2**
EFOR	**EFORIE**	**2.21 142**		*i* S		**Sn**	**16 32 21.2**	**-0.9**
EFOR	**EFORIE**	**2.21 142**		S		**Sn**	**16 32 21.2**	**-0.9**
EFOR	**EFORIE**	**2.21 142**		*i* S		**Sn**	**16 32 21.2**	**-0.9**
PSN	**Preselentsi**	**2.38 154**		*i* Pg		**Pn**	**16 31 58.7**	**+0.5**
PSN	**Preselentsi**	**2.38 154**		*i* Pg		**Pn**	**16 31 58.7**	**+0.5**
PRD	**Provadia**	**2.67 170**		*i* Pg		**Pn**	**16 32 03.0**	**+0.9**
PRD	**Provadia**	**2.67 170**		*i* Pg		**Pn**	**16 32 03.0**	**+0.9**
ROIA	**ROIAK**	**2.78 170**		*i* Pg		**Pn**	**16 32 03.9**	**+0.4**
DRGR		**2.95 290**	⇑	*i*P		**Pn**	**16 32 05.5**	**-0.4**
DRGR		**2.95 290**	⇑	*i*P		**Pn**	**16 32 05.5**	**-0.4**
DRGR		**2.95 290**	⇑	*i*P		**Pn**	**16 32 05.5**	**-0.4**
MPEP	**Malo Peshtene**	**3.27 222**		*i* P		**Pn**	**16 32 10.4**	**+0.1**

IDC 08 16:38:09.4±3.9, 8°79'S×157°81'E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/18, mbtmp3.6/5, MS2.9/1, Ms1 2.9/1, ms1mx2.4/24, Error ellipse: s-maj=99.2km s-min=33.5km az=102.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**10.54 266**		LR	LR	16 44 12.6	
	comp=Z,59nm,18.2s,baz=105,slow=34						
WRA	**Warramunga Arr**	**25.26 241**		P	P	16 43 36.7	-0.9
	0.7nm,0.5s,baz=67,slow=9.6,SNR=10						
ASAR	**Alice Springs**	**27.24 234**		P	P	16 43 55.8	+0.2
	0.3nm,1.0s,baz=66,slow=11,SNR=3.4						
STKA	**Stephens Creek**	**27.47 211**		P	P	16 43 57.9	+0.4
	0.9nm,0.5s,baz=70,slow=15,SNR=2.9						
CMAR	**Chiang Mai Arr**	**64.07 295**		P	P	16 48 46.2	+0.5
	0.7nm,0.7s,baz=133,slow=4.7,SNR=6.1						
MKAR	**Makanchi Array**	**86.59 318**		P	P	16 50 54.5	-0.3
	0.2nm,0.6s,baz=100,slow=4.9,SNR=3.0						

*IDC **08** 16:47:34.7±0.7,24°.86S×69°.97E,h0km,mb3.9/11, mb1 4.0/11,mb1mx3.8/27, mbtmp3.9/11, MS3.8/19, Ms1 3.8/19,ms1mx3.6/39, Error ellipse: s-maj=23.6km s-min=20.4km az=74.0*

*ISCJB **08** 16:47:35.5±0.6,24°.9S±0°.1×69°.9E±0°.1,h19km,mb4.1/15, MS3.9/19, Error ellipse: s-maj=19.2km s-min=15.5km az=147.3*

*NEIC **08** 16:47:36.3±0.4,24°.86S×69°.97E,h10km,mb4.5/4, Error ellipse: s-maj=13.6km s-min=11.2km az=55.0*

ISC 08 16:47:37.6±0.7,24°.9S±0°.1×69°.9E±0°.2,h19km,n40, σ0s76/28,mb4.2/15,MS3.9/19,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**22.03 282**		LR	LR	16 58 50.6	
	comp=Z,549nm,20.3s,baz=136,slow=31						
KMBO	**Kilima Mbogo**	**39.41 302**		LR	LR	17 07 50.4	
	comp=Z,64nm,18.6s,baz=97,slow=31						
BOSA	**Boshof**	**39.92 254**		LR	LR	17 08 19.9	
	comp=Z,258nm,19.9s,baz=161,slow=31						
MAW	**Mawson**	**42.99 184**		LR	LR	17 09 14.2	
	comp=Z,133nm,19.2s,baz=353,slow=30						
CMAR	**Chiang Mai Arr**	**51.49 36**		P	**P**	**16 56 41.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**51.49 36**		P	**P**	**16 56 41.4**	**-0.7**
	0.6nm,0.9s,baz=224,slow=8.2,SNR=5.9						
CMAR				LR	LR	17 13 59.7	
	comp=Z,135nm,21.9s,baz=225,slow=31						
FITZ	**Fitzroy Crossi**	**51.97 94**		P	**P**	**16 56 46.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**51.97 94**		P	**P**	**16 56 46.7**	**+0.8**
	1.2nm,0.6s,baz=261,slow=10,SNR=3.2						
FITZ				LR	LR	17 13 30.5	
	comp=Z,109nm,20.2s,baz=268,slow=30						
ASAR	**Alice Springs**	**57.83 103**		P	**P**	**16 57 28.2**	**-0.1**
ASAR	**Alice Springs**	**57.83 103**		P	**P**	**16 57 28.2**	**-0.1**
	0.5nm,0.5s,baz=249,slow=6.5,SNR=7.0						
ASAR				LR	LR	17 19 58.3	
	comp=Z,109nm,20.9s,baz=287,slow=34						
WRA	**Warramunga Arr**	**59.27 99**		P	**P**	**16 57 38.3**	**0.0**
WRA	**Warramunga Arr**	**59.27 99**		P	**P**	**16 57 38.3**	**0.0**
	1.4nm,0.5s,baz=258,slow=9.5,SNR=6.1						
WRAB	**Tennant Creek**	**59.28 99**	*eP*		**P**	**16 57 38.5**	**+0.1**
	2.0nm,0.4s						
SNAA	**Sanae**	**61.21 200**	*eP*		**P**	**16 57 51.1**	**+0.1**
	1.0nm,0.8s						
SNAA	**Sanae**	**61.21 200**		P	**P**	**16 57 51.3**	**+0.3**
	0.6nm,1.0s,baz=55,slow=4.0,SNR=4.0						
STKA	**Stephens Creek**	**62.42 114**		LR	LR	17 21 16.3	
	comp=Z,128nm,18.7s,baz=206,slow=32						
QSPA	**South Pole Qui**	**65.28 180**		P	**P**	**16 58 17.6**	**-0.4**
QSPA	**South Pole Qui**	**65.28 180**		P	**P**	**16 58 17.6**	**-0.4**
	2.4nm,0.7s,baz=275,slow=2.0,SNR=8.2						
KKAR	**Karatay Array**	**67.62 0**	*eP*		**P**	**16 58 33.5**	**+0.5**
	4.4nm,1.0s						
MKAR	**Makanchi Array**	**72.18 9**		P	**P**	**16 59 00.9**	**-0.1**
MKAR	**Makanchi Array**	**72.18 9**		P	**P**	**16 59 00.9**	**-0.1**
	1.4nm,0.5s,baz=202,slow=6.5,SNR=20						
MKAR				LR	LR	17 27 58.4	
	comp=Z,41nm,20.6s,baz=280,slow=34						
BRTR	**Keskin Array B**	**72.63 331**		P	**P**	**16 59 04.4**	**+0.4**
BRTR	**Keskin Array B**	**72.63 331**		P	**P**	**16 59 04.4**	**+0.4**
	0.6nm,0.8s,baz=169,slow=7.2,SNR=5.2						
BRTR				LR	LR	17 28 03.3	
	comp=Z,39nm,20.4s,baz=332,slow=33						
ABKAR	**Akbulak array**	**74.31 353**	*eP*		**P**	**16 59 13.0**	**-0.4**
	4.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**76.50 291**		P	**P**	**16 59 26.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**76.50 291**		P	**P**	**16 59 26.9**	**+0.1**
	1.4nm,1.1s,baz=120,slow=4.8,SNR=5.8						
TORD				LR	LR	17 31 30.8	
	comp=Z,80nm,20.0s,baz=165,slow=34						
DBIC	**Dimbokro**	**79.14 283**		LR	LR	17 33 17.6	
	comp=Z,122nm,18.1s,baz=103,slow=35						
SONM	**Songino Array**	**79.42 24**		P	**P**	**16 59 43.5**	**+0.9**
SONM	**Songino Array**	**79.42 24**		P	**P**	**16 59 43.5**	**+0.9**
	0.7nm,0.8s,baz=205,slow=4.1,SNR=5.1						
SONM				LR	LR	17 33 50.4	
	comp=Z,90nm,18.6s,baz=218,slow=35						
ZALV	**Zalesovo Beam**	**79.52 9**		P	**P**	**16 59 42.6**	**-0.1**
ZALV	**Zalesovo Beam**	**79.52 9**		P	**P**	**16 59 42.6**	**-0.1**
	1.8nm,0.5s,baz=200,slow=5.4,SNR=11						
MLR	**Muntele Rosu**	**80.64 330**		LR	LR	17 32 09.2	
	comp=Z,8.4nm,19.0s,baz=34,slow=33						
KSRS	**Korea Array**	**82.52 43**		LR	LR	17 32 48.6	
	comp=Z,52nm,18.4s,baz=346,slow=33						
VRAC	**Vranov**	**87.77 328**		LR	LR	17 40 14.5	
	comp=Z,28nm,18.1s,baz=73,slow=36						
MJAR	**Matsushiro Arr**	**88.67 48**		LR	LR	17 40 16.1	
	comp=Z,82nm,18.9s,baz=270,slow=36						
BRG	**Berggiesshubel**	**90.08 328**	*e*(P)		**P**	**17 00 33.7**	**-2.3**
	1.9nm,0.4s						
USHA	**Ushuaia**	**92.98 203**		LR	LR	17 33 32.0	
	comp=Z,104nm,18.6s,baz=119,slow=30						
ARCES	**ARCESS Array B**	**99.39 346**		LR	LR	17 45 12.7	
	comp=Z,22nm,18.6s,baz=48,slow=35						
TXAR	**Lajitas Array**	**172.76 310**		PKPab	**PKPab**	**17 09 13.4**	**+1.4**
TXAR	**Lajitas Array**	**172.76 310**		PKPab	**PKPab**	**17 09 13.4**	**+1.4**
	0.2nm,0.6s,baz=43,slow=4.1,SNR=2.9						

IDC 08 16:50:58.1±2.0, 5°65S×147°33E, h184km±17km, mb3.3/5, mb1 3.5/7, mb1mx3.2/19, mbtmp3.3/7, Error ellipse: s-maj=32.8km s-min=16.9km az=111.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.74 183**		P	Pn	16 51 57.0	+0.9
	12nm,0.3s,baz=29,slow=7.0,SNR=50						
PMG				S	Sn	16 52 41.4	-0.2
	10.0nm,0.3s,baz=145,slow=23,SNR=7.1						
WRA	**Warramunga Arr**	**19.01 220**		P	P	16 55 06.2	0.0
	0.8nm,0.3s,baz=44,slow=9.8,SNR=56						
WRA				S	S	16 58 29.8	-2.5
	0.1nm,0.3s,baz=41,slow=21,SNR=5.5						
ASAR	**Alice Springs**	**22.09 214**		P	P	16 55 39.0	+0.3
	3.5nm,0.7s,baz=50,slow=8.2,SNR=54						
ASAR				S	S	16 59 29.4	+0.4
	1.5nm,0.8s,baz=34,slow=20,SNR=4.4						
FITZ	**Fitzroy Crossi**	**24.53 238**		P	P	16 56 00.6	-0.4
	2.6nm,0.5s,baz=68,slow=8.8,SNR=18						
VNDA	**Vanda**	**72.24 177**		P	P	17 02 03.4	+0.7
	1.1nm,1.1s,baz=326,slow=7.4,SNR=4.5						
MKAR	**Makanchi Array**	**77.44 320**		P	P	17 02 34.1	+1.0
	0.2nm,0.8s,baz=99,slow=8.9,SNR=2.4						
ILAR	**Eielson Array**	**85.03 23**		P	P	17 03 11.0	-1.7
	0.2nm,0.6s,baz=251,slow=2.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	**145.32 285**		PKPbc	PKPdf	17 10 14.3	-0.8
	0.2nm,0.4s,baz=87,slow=3.7,SNR=3.8						

*ISCJB **08** 17:08:27.5±0.4,31°.30S±0°.03×68°.72W±0°.05,h108km±4km, mb4.6/59, Error ellipse: s-maj=7.6km s-min=4.9km az=174.1*

*GUC **08** 17:08:28.1±0.6,31°.31S×69°.05W,h151km±19km,ML4.9*

*BJI **08** 17:08:29.7,31°.20S×68°.60W,h116km,mB4.8/1*

*IDC **08** 17:08:29.5±0.4,31°.24S×68°.67W,h110km±2km,mb4.4/15, mb1 4.5/19,mb1mx4.5/22,mbtmp4.4/19,MS3.1/3, Ms1 3.1/3,ms1mx3.0/19, Error ellipse: s-maj=14.9km s-min=8.9km az=72.0*

*NEIC **08** 17:08:30.2±0.2,31°.40S×68°.88W,mb4.5/42,MD5.0(SJA), Error ellipse: s-maj=6.7km s-min=4.5km az=88.0*

NEIC Felt [IV] at San Juan.

ISC 08 17:08:29.3±0.4,31°.29S±0°.04×68°.79W±0°.04,h110km±3km, h110km:pP-P,n478,σ0s84/529,mb4.6/59,147C-178D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**0.56 124**		P	**Pn**	**17 08 47.4**	**+0.8**
CFAA				S	**Sn**	**17 09 01.0**	**+1.3**
CFAA	**Coronel Fontan**	**0.56 124**		P	**Pn**	**17 08 47.4**	**+0.8**
	266nm,0.3s,baz=304,slow=5.3						
CFAA				S	**Sn**	**17 09 01.0**	**+1.3**
	1µm,0.3s,baz=147,slow=18,SNR=359						
CMCH	**Combarbala**	**1.90 273**	⇓	*i*P	**Pn**	**17 09 00.2**	**-0.9**
CMCH				*i* S	**Sn**	**17 09 24.5**	**-0.9**
CMCH	**Combarbala**	**1.90 273**	⇓	*i*P	**Pn**	**17 09 00.2**	**-0.9**
CMCH				*i* S	**Sn**	**17 09 24.5**	**-0.9**
TLL	**Tololo Astrono**	**2.07 302**	⇑	*i*P	**Pn**	**17 09 04.0**	**+0.6**
TLL				*i* S	**Sn**	**17 09 30.3**	**+0.9**
TLL	**Tololo Astrono**	**2.07 302**	⇑	*i*P	**Pn**	**17 09 04.0**	**+0.6**
TLL				*i* S	**Sn**	**17 09 30.3**	**+0.9**
TLL				AML	AML	17 09 36.0	
	comp=E,7µm,0.3s						
JACH	**Jahuel**	**2.07 227**	⇑	*i*P	**Pn**	**17 09 02.9**	**-0.4**
JACH	**Jahuel**	**2.07 227**	⇑	*i*P	**Pn**	**17 09 02.9**	**-0.4**
CHNG	**Los Chungos**	**2.39 255**	⇓	*i*P	**Pn**	**17 09 05.6**	**-1.6**
CHNG	**Los Chungos**	**2.39 255**	⇓	*i*P	**Pn**	**17 09 05.6**	**-1.6**
PEL	**Peldehue**	**2.45 221**		*i* P	**Pn**	**17 09 07.2**	**-0.9**
PEL				*i* S	**Sn**	**17 09 37.2**	**-0.7**
PEL				AML	AML	17 09 39.1	
	comp=N,7µm,0.5s						
ROCH	**El Roble**	**2.53 228**	⇓	*i*P	**Pn**	**17 09 07.6**	**-1.7**
ROCH				*i* S	**Sn**	**17 09 38.0**	**-2.0**
ROCH				AML	AML	17 09 42.7	
	comp=E,5µm,0.4s						
LACH	**Col Las Americ**	**2.62 214**		AML	AML	17 09 49.6	
	comp=N,3µm,0.7s						
SAN	**Santiago**	**2.68 216**	⇑	*i*P	**Pn**	**17 09 10.6**	**-0.5**
SAN	**Santiago**	**2.68 216**	⇑	*i*P	**Pn**	**17 09 10.6**	**-0.5**
SAN				AML	AML	17 09 49.0	
	comp=N,3µm,0.5s						
PCH	**Pirque**	**2.75 212**	⇓	*i*P	**Pn**	**17 09 11.6**	**-0.4**
PCH	**Pirque**	**2.75 212**	⇓	*i*P	**Pn**	**17 09 11.6**	**-0.4**
LCO	**Las Campanas**	**2.81 323**	⇑	*i*P	**Pn**	**17 09 12.7**	**-0.3**
LCO				*i* S	**Sn**	**17 09 46.8**	**+0.2**
LCO	**Las Campanas**	**2.81 323**	⇑	*i*P	**Pn**	**17 09 12.7**	**-0.3**
LCO				*i* S	**Sn**	**17 09 46.8**	**+0.2**
LCO				AML	AML	17 09 51.8	
	comp=E,5µm,0.3s						
TACH	**Talagante**	**2.98 217**	*eP*		**Pn**	**17 09 13.8**	**-1.2**
TACH	**Talagante**	**2.98 217**	*eP*		**Pn**	**17 09 13.8**	**-1.2**
CHCH	**Chadas Angostu**	**3.07 210**	*i* P		**Pn**	**17 09 15.5**	**-0.8**
CHCH	**Chadas Angostu**	**3.07 210**	*i* P		**Pn**	**17 09 15.5**	**-0.8**
CACH	**El Canelo**	**3.21 208**	*eP*		**Pn**	**17 09 17.8**	**-0.4**
CACH	**El Canelo**	**3.21 208**	*eP*		**Pn**	**17 09 17.8**	**-0.4**
LVC	**Limon Verde**	**8.64 359**	*eP*		**Pn**	**17 10 29.5**	**-2.2**
	comp=E,86nm,0.5s						
LVC				S	**Sn**	**17 12 05.7**	**-1.9**
LVC	**Limon Verde**	**8.64 359**		P	**Pn**	**17 10 29.8**	**-1.9**
	comp=E,18nm,0.3s,baz=192,slow=9.0,SNR=95						
LVC				S	**Sn**	**17 12 05.7**	**-1.9**
	comp=E,8.7nm,0.3s,baz=264,slow=19,SNR=2.3						
TRQA	**Tornquist**	**8.77 142**	*eP*		**Pn**	**17 10 31.7**	**-1.5**
	comp=E,149nm,0.7s						
PLCA	**Paso Flores**	**9.53 188**		P	**Pn**	**17 10 41.3**	**-2.3**
PLCA	**Paso Flores**	**9.53 188**		P	**Pn**	**17 10 41.3**	**-2.3**
	comp=E,2.7nm,0.3s,baz=353,slow=12,SNR=29						
CPUP	**Villa Florida**	**11.19 67**		P	**Pn**	**17 11 04.1**	**-1.9**
CPUP	**Villa Florida**	**11.19 67**		P	**Pn**	**17 11 04.1**	**-1.9**
	comp=E,2.6nm,0.3s,baz=221,slow=12,SNR=21						
CPUP				LR	LR	17 15 42.0	
	comp=E,62nm,20.2s,baz=56,slow=39						
LPAZ	**La Paz**	**14.94 2**		P	**Pn**	**17 11 54.9**	**-0.6**
LPAZ	**La Paz**	**14.94 2**		P	**Pn**	**17 11 54.9**	**-0.6**
	comp=E,2.8nm,0.3s,baz=192,slow=8.1,SNR=47						
LPAZ				LR	LR	17 18 25.9	
	comp=E,129nm,19.8s,baz=28,slow=40						
SIV	**San Ignacio**	**16.77 27**		P	**Pn**	**17 12 16.1**	**-1.6**
SIV	**San Ignacio**	**16.77 27**		P	**Pn**	**17 12 16.1**	**-1.6**
	comp=E,1.3nm,0.3s,baz=229,slow=12,SNR=76						
EFI	**East Falkland**	**21.85 162**	*eP*		**P**	**17 13 11.6**	**-1.1**
SAML	**Samuel**	**22.83 14**	*eP*		**P**	**17 13 22.8**	**-0.2**
	comp=E,7.8nm,0.6s						
USHA	**Ushuaia**	**23.54 179**		P	**P**	**17 13 29.7**	**+0.4**
USHA	**Ushuaia**	**23.54 179**		P	**P**	**17 13 29.7**	**+0.4**
	comp=E,26nm,0.8s,baz=330,slow=6.9,SNR=15						
BDFB	**Brasilia**	**24.54 55**		P	**P**	**17 13 37.4**	**-1.5**
BDFB	**Brasilia**	**24.54 55**		P	**P**	**17 13 37.4**	**-1.5**
	comp=E,7.9nm,0.7s,baz=221,slow=9.5,SNR=8.2						
BDFB				LR	LR	17 23 26.6	
	comp=E,48nm,21.3s,baz=216,slow=37						
SNAA	**Sanae**	**53.09 159**	*eP*		**P**	**17 17 35.4**	**+0.5**
SNAA	**Sanae**	**53.09 159**	*es*P		sP	17 18 15.8	+2.4
SNAA	**Sanae**	**53.09 159**	*eP*		**P**	**17 17 34.9**	**-0.1**
	comp=E,12nm,0.9s						
SNAA	**Sanae**	**53.09 159**		P	**P**	**17 17 35.4**	**+0.5**
	comp=E,3.8nm,0.8s,baz=289,slow=7.4,SNR=53						
TEIG	**Tepich**	**54.53 337**		P	**P**	**17 17 45.4**	**-0.4**
TEIG				pP	**pP**	**17 18 15.4**	**+3.1**
TEIG	**Tepich**	**54.53 337**		P	**P**	**17 17 45.4**	**-0.4**
	comp=E,29nm,0.7s,baz=135,slow=5.5,SNR=16						
TEIG				pP	**pP**	**17 18 15.4**	**+3.1**
	comp=E,15nm,0.6s,baz=247,slow=2.3,SNR=4.3						
MAIT	**Maitri**	**57.70 157**	*eP*		P	17 17 58.1	-10
QSPA	**South Pole Qui**	**58.94 180**		P	**P**	**17 18 17.2**	**+0.4**
QSPA	**South Pole Qui**	**58.94 180**		P	**P**	**17 18 17.2**	**+0.4**
	comp=E,14nm,0.6s,baz=157,slow=1.7,SNR=160						
TIGA	**Tifton**	**63.94 346**	⇑	P	**P**	**17 18 50.5**	**-0.1**
	baz=64						
732A	**Laxson Ranch,**	**66.66 330**	⇑	P	**P**	**17 19 08.7**	**+0.5**
	baz=67,SNR=13						
KMSC	**Kings Mountain**	**67.12 349**	⇓	P	**P**	**17 19 10.8**	**-0.2**
	baz=68						
632A	**Uvalde**	**67.27 331**	⇑	P	**P**	**17 19 12.6**	**+0.6**
	baz=68,SNR=7.8						
VNDA	**Vanda**	**67.28 191**		P	**P**	**17 19 09.4**	**-2.1**
VNDA				pP	**PcP**	**17 19 41.4**	**+2.9**
VNDA	**Vanda**	**67.28 191**		P	**P**	**17 19 09.4**	**-2.1**
	comp=E,1.5nm,0.6s,baz=125,slow=3.8,SNR=11						
VNDA				pP	**PcP**	**17 19 41.4**	**+2.9**
	comp=E,2.4nm,0.7s,baz=120,slow=6.4,SNR=7.1						
631A	**Perdido Creek**	**67.52 330**	⇑	P	**P**	**17 19 13.9**	**+0.3**
	baz=68						
532A	**Rocksprings**	**67.86 331**	⇓	P	**P**	**17 19 16.2**	**+0.4**
	baz=68,SNR=23						
JCT	**Junction City**	**68.12 331**	*eP*		**P**	**17 19 17.9**	**+0.5**
	comp=E,12nm,0.6s						
JCT	**Junction City**	**68.12 331**	⇓	P	**P**	**17 19 17.7**	**+0.3**
	baz=68,SNR=6.3						
531A	**Rocksprings**	**68.16 331**	⇑	P	**P**	**17 19 18.1**	**+0.4**
	baz=68,SNR=12						
432A	**Menard**	**68.47 332**	⇓	P	**P**	**17 19 19.4**	**-0.2**
	baz=69,SNR=7.1						
530A	**J-C Ranch, Com**	**68.48 330**	⇓	P	**P**	**17 19 20.2**	**+0.5**
	baz=69,SNR=7.8						
WHTX	**Lake Whitney**	**68.54 334**	⇓	P	**P**	**17 19 19.9**	**0.0**
	baz=69						
628A	**Black Gap, Mar**	**68.59 328**	⇓	P	**P**	**17 19 21.0**	**+0.6**
	baz=69,SNR=16						
431A	**Sonora**	**68.64 331**	⇓	P	**P**	**17 19 20.7**	**+0.1**
	baz=69						
627A	**Terlingua Ranc**	**68.79 328**	⇑	P	**P**	**17 19 21.8**	**+0.2**
	baz=69						
TXAR	**Lajitas Array**	**68.82 328**		P	**P**	**17 19 22.4**	**+0.5**
TXAR	**Lajitas Array**	**68.82 328**		P	**P**	**17 19 22.4**	**+0.5**
	comp=E,3.1nm,0.6s,baz=151,slow=7.8,SNR=44						
529A	**Stev Forest Ra**	**68.84 329**	⇑	P	**P**	**17 19 22.3**	**+0.4**
	baz=69,SNR=24						
332A	**Millersview**	**68.89 332**	⇓	P	**P**	**17 19 22.1**	**-0.1**
	baz=69,SNR=8.5						
430A	**Baggett Ranch,**	**68.99 330**	⇓	P	**P**	**17 19 22.9**	**+0.1**
	baz=69,SNR=6.1						
331A	**San Angelo**	**69.11 331**	⇓	P	**P**	**17 19 23.3**	**-0.2**
	baz=70,SNR=5.3						
528A	**Cox Ranch, San**	**69.12 329**	⇓	P	**P**	**17 19 23.8**	**+0.1**
	baz=70,SNR=15						
429A	**Davenport Ranc**	**69.13 330**	⇓	P	**P**	**17 19 24.0**	**+0.3**
	baz=70,SNR=6.5						
626A	**Big Bend Ranch**	**69.22 327**	⇑	P	**P**	**17 19 24.8**	**+0.6**
	baz=70,SNR=15						
232A	**Coleman**	**69.30 332**	⇓	P	**P**	**17 19 24.4**	**-0.3**
	baz=70,SNR=10						
WVT	**Waverly**	**69.40 344**	*eP*		**P**	**17 19 24.3**	**-0.8**
	comp=E,61nm,0.6s						
527A	**Woodward Ranch**	**69.48 328**	⇓	P	**P**	**17 19 26.2**	**+0.3**
	baz=70,SNR=9.4						
330A	**Mertzon**	**69.50 331**	⇓	P	**P**	**17 19 25.7**	**-0.3**
	baz=70,SNR=9.9						
MIAR	**Mount Ida**	**69.52 338**	*eP*		**P**	**17 19 25.4**	**-0.6**
	comp=E,4.9nm,0.8s						
428A	**Kincaid Ranch,**	**69.56 329**	⇑	P	**P**	**17 19 26.7**	**+0.3**
	baz=70,SNR=7.4						
231A	**Bronte**	**69.61 332**	⇓	P	**P**	**17 19 26.7**	**+0.2**
	baz=70,SNR=12						
526A	**Mary Lane Ranc**	**69.63 328**	⇑	P	**P**	**17 19 27.6**	**+0.7**
	baz=70,SNR=12						
230A	**Sterling City**	**69.90 331**	⇑	P	**P**	**17 19 28.6**	**+0.3**
	baz=70						
329A	**Wagon Wheel Ra**	**69.91 330**	⇓	P	**P**	**17 19 28.5**	**+0.1**
	baz=70						
ABTX	**Abilene, Hawle**	**69.95 333**	⇓	P	**P**	**17 19 28.4**	**-0.2**
	baz=70						
427A	**Hayter Ranch,**	**69.98 329**	⇓	P	**P**	**17 19 29.2**	**+0.2**
	baz=70,SNR=5.5						
426A	**McDonald Obser**	**70.11 328**	⇑	P	**P**	**17 19 30.3**	**+0.4**
	baz=70,SNR=7.9						
328A	**Wristen Ranch,**	**70.18 329**	⇓	P	**P**	**17 19 30.5**	**+0.4**
	baz=70,SNR=11						
131A	**Roby**	**70.29 332**	⇓	P	**P**	**17 19 30.7**	**0.0**
	baz=71,SNR=8.0						
130A	**Snyder**	**70.45 332**	⇑	P	**P**	**17 19 31.6**	**-0.1**
	baz=71						
Z32A	**Haskell**	**70.48 333**	⇑	P	**P**	**17 19 32.1**	**+0.2**
	baz=71,SNR=6.2						
326A	**Caldwell Ranch**	**70.64 328**	⇓	P	**P**	**17 19 33.1**	**+0.2**
	baz=71						
425A	**Indio Mountain**	**70.65 327**	⇑	P	**P**	**17 19 33.2**	**+0.2**
	baz=71,SNR=9.9						
228A	**UT Block 9, Go**	**70.72 330**	⇑	P	**P**	**17 19 33.7**	**+0.3**
	baz=71,SNR=6.4						
Z31A	**Sharp Cattle R**	**70.75 333**	⇓	P	**P**	**17 19 33.6**	**+0.1**
	baz=71,SNR=13						
227A	**Bennet, Jal**	**70.93 329**	⇓	P	**P**	**17 19 35.1**	**+0.4**
	baz=71						
WCI	**Wyandotte Cave**	**71.06 345**	*eP*		**P**	**17 19 34.2**	**-1.1**
	comp=E,17nm,0.8s						
Y32A	**R-V Farms, Ver**	**71.09 333**	⇑	P	**P**	**17 19 35.8**	**+0.3**
	baz=72						
128A	**Castleberry Fa**	**71.11 330**	⇓	P	**P**	**17 19 35.8**	**0.0**
	baz=72,SNR=9.5						
Z30A	**Sanderson Ranc**	**71.12 332**	⇑	P	**P**	**17 19 35.6**	**-0.1**
	baz=72,SNR=9.1						
325A	**Bean Ranch, Si**	**71.14 328**	⇑	P	**P**	**17 19 36.0**	**0.0**
	baz=72,SNR=12						
Z29A	**Hungry Hill Ra**	**71.33 331**	⇓	P	**P**	**17 19 36.9**	**-0.2**
	baz=72,SNR=5.6						
Y31A	**Rekieta Farm,**	**71.37 333**	⇑	P	**P**	**17 19 37.2**	**0.0**
	baz=72						
226B	**Tecolote Peak,**	**71.37 329**	⇑

S31A **Mullinville** 74.31 335 ⇑P P 17 19 54.9 +0.4
baz=75
LPM **Los Pinos Moun** 74.36 328 eP P 17 19 55.9 +0.9
comp=E,3.8nm,0.7s
V26A **Tequesquite Ra** 74.38 331 ⇑P P 17 19 55.3 +0.2
baz=75
X23A **Hourglass Bar** 74.39 329 ⇓P P 17 19 56.2 +0.9
baz=75
U27A **Thompson Grove** 74.53 332 ⇑P P 17 19 56.8 +0.8
baz=75
W24A **Lazy 6 Ranch,** 74.57 330 ⇓P P 17 19 56.8 +0.4
baz=75,SNR=6.4
T29A **Hugoton** 74.57 334 ⇑P P 17 19 56.4 +0.3
baz=75
Y21A **Point of Rocks** 74.58 327 ⇓P P 17 19 57.7 +1.2
baz=75,SNR=8.6
S30A **Montezuma** 74.69 334 ⇓P P 17 19 56.9 +0.2
baz=75
V25A **Rancho No Teng** 74.77 330 ⇑P P 17 19 57.7 +0.3
baz=75
ANMO **Albuquerque** 74.81 329 eP P 17 19 58.5 +0.8
comp=E,4.5nm,0.8s
Y20A **Horse Springs,** 74.83 327 ⇑P P 17 19 58.8 +1.0
baz=75,SNR=6.6
W23A **Werner Place,** 74.86 329 ⇓P P 17 19 59.0 +1.1
baz=75,SNR=6.7
T28A **Walsh** 74.86 333 ⇓P P 17 19 58.0 +0.3
baz=75
U26A **Atchley Ranch,** 74.88 331 ⇑P P 17 19 58.6 +0.6
baz=75,SNR=5.0
S29A **Ulysses** 74.91 334 ⇑P P 17 19 58.6 +0.6
baz=75
R31A **Burdett** 74.92 335 ⇓P P 17 19 58.2 +0.2
baz=75
V24A **Rampart Ranch,** 74.95 330 ⇓P P 17 19 58.9 +0.3
baz=75
MAW **Mawson** 74.97 163 P P 17 19 58.0 0.0
MAW **Mawson** 74.97 163 P P 17 19 58.0 0.0
comp=E,5.3nm,0.6s,baz=228,slow=8.9,SNR=19
X21A **Alamocita Cree** 75.00 327 ⇓P P 17 19 60.0 +1.1
baz=75
T27A **Campo** 75.04 332 ⇓P P 17 19 59.4 +0.5
baz=75
U25A **Circle Dot Ran** 75.16 331 ⇑P P 17 20 00.5 +0.8
baz=76,SNR=8.2
S28A **Manter** 75.18 333 ⇓P P 17 20 00.2 +0.6
baz=76,SNR=11
R30A **Dighton** 75.19 335 ⇓P P 17 20 00.1 +0.6
baz=76
X20A **Quemado** 75.41 327 ⇓P P 17 20 02.2 +1.1
baz=76,SNR=5.9
214A **Organ Pipe Nat** 75.46 322 ⇓P P 17 20 02.3 +1.0
baz=76
T26A **Comanche Natio** 75.49 332 ⇓P P 17 20 02.2 +0.6
baz=76,SNR=5.4
Q31A **Ellis** 75.51 336 ⇑P P 17 20 02.0 +0.6
baz=76
R29A **Marienthal** 75.63 334 ⇓P P 17 20 02.5 +0.3
baz=76
Q30A **Quinter** 75.78 335 ⇑P P 17 20 03.7 +0.7
baz=76,SNR=5.9
T25A **Trinidad** 75.79 331 ⇓P P 17 20 04.3 +1.0
baz=76,SNR=10
R28A **Tribune** 75.81 334 ⇓P P 17 20 03.4 +0.2
baz=76
V22A **San Miguel Ran** 75.82 329 ⇓P P 17 20 04.8 +1.3
baz=76,SNR=15
S26A **Kim** 75.83 332 ⇑P P 17 20 03.9 +0.6
baz=76
W20A **Ramah** 75.89 327 ⇓P P 17 20 04.7 +0.8
baz=76
P31A **Stockton** 75.97 336 ⇓P P 17 20 04.3 +0.3
baz=76
X18A **Snowflake** 76.08 326 ⇓P P 17 20 05.4 +0.4
baz=76
R27A **Eads** 76.14 333 ⇓P P 17 20 06.2 +1.1
baz=76
U22A **Llaves** 76.19 329 ⇑P P 17 20 06.7 +1.1
baz=76
S25A **Robets Cordova** 76.25 332 ⇓P P 17 20 06.7 +0.8
baz=77,SNR=7.0
R26A **Arlington** 76.40 333 ⇓P P 17 20 07.2 +0.6
baz=77
JFWS **Jewell Farm** 76.42 344 eP P 17 20 05.5 -0.9
comp=E,8.1nm,0.5s
V20A **Brimhall** 76.43 328 ⇓P P 17 20 08.0 +1.1
baz=77,SNR=6.8
Q28A **Sharon Springs** 76.45 334 ⇓P P 17 20 07.3 +0.6
baz=77
W18A **Petrified Fore** 76.46 326 ⇓P P 17 20 08.0 +1.0
baz=77
S24A **Houchin Ranch,** 76.55 331 ⇑P P 17 20 08.6 +0.9
baz=77,SNR=13
U21A **Nageezi** 76.58 329 ⇑P P 17 20 08.8 +1.1
baz=77,SNR=16
R25A **Fountain Ranch** 76.61 332 ⇓P P 17 20 07.9 +0.2
baz=77
X16A **Lo Mia Camp, P** 76.72 325 ⇑P P 17 20 09.9 +1.3
baz=77
T22A **Edith** 76.74 329 ⇑P P 17 20 09.8 +1.1
baz=77,SNR=6.0
SDCO **Great Sand Dun** 76.76 331 eP P 17 20 09.6 +0.8
comp=E,4.2nm,0.7s
U20A **Newcomb** 76.93 328 ⇓P P 17 20 10.5 +0.8
baz=77
T21A **Navajo Lake** 77.00 329 ⇓P P 17 20 11.2 +1.1
baz=77
R24A **Sanders Place,** 77.01 331 ⇑P P 17 20 10.9 +0.8
baz=77
Y14A **Wickenburg** 77.12 324 ⇓P P 17 20 11.9 +1.2
baz=77
P27A **Ficken Ranch,** 77.16 334 ⇓P P 17 20 11.7 +0.9
baz=78
R23A **Moffat** 77.27 331 ⇓P P 17 20 12.6 +0.9
baz=78
TSUM **Tsumeb** 77.28 105 eP P 17 20 12.7 +0.6
comp=E,6.1nm,0.8s
S22A **4UR Ranch, Cre** 77.32 330 ⇓P P 17 20 12.8 +0.8
baz=78,SNR=7.3
N30A **Hueftle Ranch,** 77.35 336 ⇑P P 17 20 12.5 +0.7
baz=78
O28A **Krutsinger Ran** 77.36 335 ⇑P P 17 20 12.6 +0.8
baz=78
GLA **Glamis** 77.38 322 ⇑P P 17 20 13.1 +1.0
baz=78
WUAZ **Wupatki** 77.57 326 eP P 17 20 14.3 +1.1
comp=E,11nm,1.1s
WUAZ **Wupatki** 77.57 326 ⇑P P 17 20 14.1 +0.9
baz=78
MVCO **Mesa Verde** 77.61 329 ⇑P P 17 20 14.5 +0.9
baz=78
Q24A **Divide** 77.65 332 ⇓P P 17 20 14.5 +0.7
baz=78,SNR=9.7
S21A **Coal Bank Pass** 77.67 329 ⇑P P 17 20 14.8 +0.9
baz=78,SNR=6.0
O27A **Beecher Island** 77.67 334 ⇓P P 17 20 14.2 +0.6
baz=78
R22A **Saguache, Gunn** 77.70 330 ⇓P P 17 20 15.1 +1.0
baz=78
P25A **Willow Gulch B** 77.73 333 ⇑P P 17 20 15.0 +0.9
baz=78
Y12C **Blythe** 77.76 322 ⇓P P 17 20 15.6 +1.5
baz=78
M30A **Dale-Ortello V** 77.93 337 ⇑P P 17 20 15.8 +0.9
baz=78
O26A **Horse Wrangler** 78.03 334 ⇑P P 17 20 16.7 +1.0
baz=78
S20A **Disappointment** 78.06 329 ⇓P P 17 20 16.8 +0.8
baz=78,SNR=5.0
MONP **Monument Peak** 78.11 321 ⇑P P 17 20 17.3 +0.9
baz=78
M29A **Burnside Ranch** 78.13 336 ⇑P P 17 20 17.0 +0.9
baz=78
R21A **Cimarron** 78.15 330 ⇑P P 17 20 17.6 +1.1
baz=78
BC3 **Big Chuckawall** 78.17 322 ⇓P P 17 20 17.5 +0.9
baz=78,SNR=6.7
N27A **Anderson Farm,** 78.23 334 ⇓P P 17 20 17.2 +0.5
baz=79
P23A **Jefferson** 78.28 332 ⇓P P 17 20 18.1 +0.8
baz=79
R20A **Redvale** 78.36 329 ⇑P P 17 20 18.3 +0.7
baz=79
IRM **Iron Mountain** 78.40 322 ⇑P P 17 20 19.0 +1.2
baz=79
W13A **Hualapai Mount** 78.48 324 ⇓P P 17 20 19.5 +1.1
baz=79

N26A **Koester Ranch,** 78.51 334 ⇓P P 17 20 19.1 +0.9
baz=79
ISCO **Idaho Springs** 78.55 332 eP P 17 20 19.4 +0.7
comp=E,5.3nm,0.8s
ISCO **Idaho Springs** 78.55 332 ⇑P P 17 20 19.3 +0.5
baz=79,SNR=7.0
SMCO **Snowmass** 78.59 331 eP P 17 20 20.3 +1.2
comp=E,12nm,0.9s
PFO **Pinyon Flat Ob** 78.67 321 eP P 17 20 20.5 +1.2
comp=E,5.3nm,0.9s
BELC **Belle Mtn. Jos** 78.73 322 ⇓P P 17 20 21.1 +1.5
baz=79
U15A **North Rim** 78.74 326 ⇓P P 17 20 20.8 +0.9
baz=79,SNR=6.4
P22A **Eagle** 78.85 331 ⇓P P 17 20 21.3 +1.0
baz=79
BOSA **Boshof** 78.86 117 P P 17 20 20.8 0.0
BOSA **Boshof** 78.86 117 P P 17 20 20.8 0.0
comp=E,9.1nm,0.7s,baz=251,slow=5.0,SNR=19
ECSD **EROS Data Cent** 78.88 340 eP P 17 20 19.8 -0.3
comp=E,29nm,0.8s
O23A **Lake Granby, G** 79.03 332 ⇓P P 17 20 22.5 +1.1
baz=79
MURC **Murrieta** 79.07 321 ⇓P P 17 20 22.3 +0.9
baz=79
N24A **Carr** 79.14 333 ⇑P P 17 20 22.7 +0.9
baz=80
GMRC **Granite Mounta** 79.15 322 ⇓P P 17 20 23.1 +1.1
baz=80,SNR=6.4
K29A **Lazy Trails An** 79.17 337 ⇓P P 17 20 22.7 +0.9
baz=80
SPMN **St. Paul** 79.22 343 ⇑P P 17 20 21.9 0.0
baz=80
O22A **Kremmling** 79.24 331 ⇓P P 17 20 22.9 +0.4
baz=80,SNR=5.6
P20A **De Beque** 79.46 330 ⇑P P 17 20 24.4 +0.8
baz=80
K28A **Ten Mile Ranch** 79.49 336 ⇓P P 17 20 24.0 +0.5
baz=80,SNR=6.7
HEC **Hector,Ludlow** 79.54 322 ⇑P P 17 20 25.4 +1.4
baz=80
N23A **Red Feather La** 79.62 332 ⇑P P 17 20 25.1 +0.6
baz=80
O21A **Pagoda** 79.67 331 ⇑P P 17 20 25.5 +0.8
baz=80
M24A **Cheyenne** 79.67 333 ⇓P P 17 20 25.3 +0.7
baz=80
N22A **Wattenberg Ran** 79.74 332 ⇑P P 17 20 26.2 +1.0
baz=80
BFSC **Mount Baldy Ra** 79.80 321 ⇓P P 17 20 26.1 +0.6
baz=80
P19A **Cripple Cowboy** 79.82 330 ⇑P P 17 20 26.3 +0.7
baz=80,SNR=7.0
L25A **Engebretsen Ra** 79.94 334 ⇑P P 17 20 26.8 +0.8
baz=80
J28A **Allard Ranch,** 80.07 337 ⇓P P 17 20 27.3 +0.7
baz=80
N21A **Black Mountain** 80.14 331 ⇓P P 17 20 28.5 +1.2
baz=80
GSC **Goldstone** 80.15 322 ⇑P P 17 20 28.5 +1.2
baz=80
CCUT **Cedar City** 80.15 326 eP P 17 20 28.8 +1.4
comp=E,8.5nm,0.8s
Q16A **Castle Valley** 80.21 328 ⇓P P 17 20 28.6 +0.9
baz=81
BRSD **Miller** 80.24 339 ⇑P P 17 20 27.2 -0.2
baz=81
K25A **Mack Ranch, Ha** 80.30 335 ⇑P P 17 20 28.0 0.0
baz=81
ARUT **Antelope Range** 80.38 326 eP P 17 20 30.2 +1.6
comp=E,8.9nm,0.8s
O19A **Miners Draw (B** 80.43 330 ⇓P P 17 20 29.4 +0.6
baz=81
EDW2 **Edwards Air Fo** 80.46 321 ⇓P P 17 20 30.1 +1.2
baz=81
I28A **Midland** 80.56 337 ⇓P P 17 20 29.2 0.0
baz=81
TORD **Torodi Ar. Bea** 80.69 68 P P 17 20 30.7 +0.2
TORD pP pP 17 20 57.3 -1.3
TORD PKKPbc PKKPbc 17 39 09.6 +0.8
TORD **Torodi Ar. Bea** 80.69 68 P P 17 20 30.7 +0.2
comp=E,19nm,0.9s,baz=280,slow=6.0,SNR=92
TORD pP pP 17 20 57.3 -1.3
comp=E,4.4nm,0.8s,baz=278,slow=6.3,SNR=3.3
TORD PKKPbc PKKPbc 17 39 09.6 +0.8
comp=E,0.2nm,0.4s,baz=72,slow=1.4,SNR=5.2
K24A **Anderson Ranch** 80.74 334 ⇓P P 17 20 31.4 +1.1
baz=81
M21A **Separation Pea** 80.79 332 ⇓P P 17 20 31.1 +0.4
baz=81
J25A **Sunshine Ranch** 80.94 335 ⇑P P 17 20 32.3 +1.0
baz=81
M20A **Sweetwater, Wa** 81.03 331 ⇑P P 17 20 32.7 +0.7
baz=81
K23A **Bowen Ranch, D** 81.08 333 ⇑P P 17 20 31.8 -0.3
baz=82
MPMC **Manual Prospec** 81.09 322 ⇑P P 17 20 33.3 +0.9
baz=81
L21A **Rawlins** 81.09 332 ⇑P P 17 20 32.7 +0.4
baz=82,SNR=8.0
H28A **Mission Ridge** 81.11 337 ⇓P P 17 20 32.0 -0.1
baz=82
I26A **New Underwood** 81.17 336 ⇓P P 17 20 32.9 +0.4
baz=82
ISA **Isabella** 81.31 321 eP P 17 20 32.2 -1.2
comp=E,3.5nm,0.8s
ISA **Isabella** 81.31 321 ⇓P P 17 20 34.3 +0.9
baz=82
K22A **Casper** 81.34 333 ⇑P P 17 20 34.4 +0.9
baz=82
H27A **Howes** 81.42 337 ⇓P P 17 20 34.2 +0.5
baz=82
G28A **Parade** 81.43 338 ⇑P P 17 20 34.1 +0.3
baz=82
M19A **Rock Springs** 81.45 331 ⇑P P 17 20 34.8 +0.6
baz=82
EYMN **Ely** 81.47 345 eP P 17 20 33.3 -0.6
comp=E,15nm,1.1s
EYMN epP pP 17 21 02.9 +0.8
I25A **Rochford** 81.47 335 ⇓P P 17 20 34.8 +0.6
baz=82
PKM **Peak Mountain** 81.47 320 ⇑P P 17 20 36.0 +1.5
baz=82
L20A **Wamsutter** 81.52 331 ⇓P P 17 20 35.3 +0.7
baz=82
RSSD **Black Hills** 81.66 335 eP P 17 20 35.7 +0.4
comp=E,5.2nm,0.6s
GRAC **Grapevine Rang** 81.74 323 ⇓P P 17 20 37.1 +1.5
baz=82
SMMC **Ismler** 81.88 320 ⇑P P 17 20 37.5 +1.2
baz=82
J22A **Midwest** 81.97 333 ⇓P P 17 20 37.4 +0.6
baz=82
DUG **Dugway** 81.99 327 eP P 17 20 37.2 +0.2
comp=E,3.5nm,0.7s
DUG **Dugway** 81.99 327 ⇑P P 17 20 37.4 +0.4
baz=82,SNR=6.3
L19A **Farson** 82.02 331 ⇑P P 17 20 38.1 +0.9
baz=82
G27A **Dupree** 82.03 337 ⇓P P 17 20 37.4 +0.5
baz=82
M17A **Scullys Gap (B** 82.06 330 ⇑P P 17 20 38.1 +0.6
baz=82
K20A **Yellowstone Ra** 82.07 332 ⇓P P 17 20 37.8 +0.5
baz=82
I22A **9 Mile Ranch,** 82.37 334 ⇑P P 17 20 39.4 +0.6
baz=83
H24A **Dirks Ranch, A** 82.39 335 ⇓P P 17 20 38.9 +0.1
baz=83,SNR=5.6
K19A **Absolon Red Bu** 82.41 331 ⇑P P 17 20 39.1 0.0
baz=83,SNR=6.4
HWUT **Hardware Ranch** 82.57 329 eP P 17 20 40.2 +0.2
comp=E,4.9nm,0.5s
I21A **Big Trails, Te** 82.62 333 ⇓P P 17 20 40.2 +0.1
baz=83,SNR=5.9
PDAR **Pinedale Array** 82.66 331 P P 17 20 40.2 -0.3
PDAR PKKPbc PKKPbc 17 39 04.8 -1.6
PDAR **Pinedale Array** 82.66 331 P P 17 20 40.2 -0.3
comp=E,4.4nm,0.8s,baz=137,slow=6.4,SNR=27
PDAR PKKPbc PKKPbc 17 39 04.8 -1.6
comp=E,2.7nm,1.4s,baz=219,slow=2.3,SNR=3.7
CASY **Casey** 82.75 180 eP P 17 20 40.4 -0.1
comp=E,7.7nm,0.8s
CASY epP pP 17 21 10.8 +2.0
G24A **Alzada** 82.84 336 ⇑P P 17 20 41.5 +0.3
baz=83
J19A **Crowheart** 82.86 332 ⇓P P 17 20 41.6 +0.1
baz=83,SNR=7.7

H22A **Clearmont** 82.92 334 ⇑P P 17 20 42.2 +0.5
baz=83
MLAC **Mammoth Lakes** 82.98 322 ⇓P P 17 20 43.2 +0.9
baz=83
I20A **Worland** 83.06 333 ⇑P P 17 20 42.6 +0.2
baz=83,SNR=5.6
G23A **Biddle** 83.08 335 ⇑P P 17 20 42.6 +0.1
baz=84
E26A **Carlson Angus** 83.17 337 ⇓P P 17 20 43.0 +0.2
baz=84
H21A **Big Horn, Sher** 83.21 334 ⇓P P 17 20 43.6 +0.4
baz=84
NVAR **Mina Array Bea** 83.30 323 P P 17 20 43.9 0.0
NVAR **Mina Array Bea** 83.30 323 P P 17 20 43.9 0.0
comp=E,3.9nm,0.7s,baz=147,slow=5.2,SNR=8.4
G22A **Birney** 83.43 334 ⇓P P 17 20 44.6 +0.4
baz=84
H20A **Greybull** 83.46 333 ⇓P P 17 20 44.4 0.0
baz=84,SNR=5.5
I19A **Meeteetse** 83.48 332 ⇓P P 17 20 45.0 +0.3
baz=84
MDND **Maddock** 83.50 340 ⇓P P 17 20 44.6 +0.2
baz=84
I18A **Diamond G Ranc** 83.53 331 ⇓P P 17 20 45.5 +0.5
baz=84
ELK **Elko** 83.56 326 eP P 17 20 45.3 +0.1
comp=E,4.2nm,0.9s
G21A **Lodge Grass** 83.78 334 ⇓P P 17 20 46.0 0.0
baz=84,SNR=6.4
LOHW **Long Hollow** 83.79 331 eP P 17 20 46.4 +0.1
comp=E,2.8nm,0.6s
E24A **Baker** 83.87 336 ⇑P P 17 20 47.1 +0.7
baz=84
F22A **Rosebud** 83.89 335 ⇑P P 17 20 46.9 +0.3
baz=84
G20A **Bridger** 84.16 333 ⇓P P 17 20 47.9 -0.1
baz=84,SNR=7.2
IMW **Indian Meadow** 84.16 331 eP P 17 20 48.0 -0.2
comp=E,3.8nm,0.6s
E23A **Ismay** 84.17 336 ⇓P P 17 20 48.0 +0.1
baz=85
H18A **Shoshone NF, C** 84.28 332 ⇓P P 17 20 48.7 0.0
baz=85,SNR=14
E22A **Miles City** 84.34 335 ⇓P P 17 20 48.9 +0.1
baz=85
D24A **Glendive** 84.36 336 ⇑P P 17 20 49.1 +0.2
baz=85
RLMT **Red Lodge** 84.49 332 eP P 17 20 49.2 -0.6
comp=E,5.1nm,0.5s
ULM **Lac du Bonnet** 84.66 343 P P 17 20 50.0 -0.1
ULM pP pP 17 21 18.3 -0.3
ULM **Lac du Bonnet** 84.66 343 P P 17 20 50.0 -0.1
comp=E,13nm,0.7s,baz=155,slow=2.9,SNR=12
ULM pP pP 17 21 18.3 -0.3
comp=E,3.8nm,0.6s,baz=166,slow=6.2,SNR=2.4
D23A **Lindsay** 84.71 336 ⇑P P 17 20 51.1 +0.4
baz=85,SNR=14
C24A **Savage** 84.75 337 ⇑P P 17 20 51.2 +0.4
baz=85,SNR=8.9
G18A **Lazy EL Ranch,** 84.77 332 ⇑P P 17 20 51.1 -0.1
baz=85,SNR=5.9
E21A **Keefer Ranch,** 84.84 335 ⇑P P 17 20 51.6 +0.3
baz=85
F19A **Roth Farm, Mol** 84.97 333 ⇑P P 17 20 52.0 0.0
baz=85,SNR=6.5
D22A **Cohagen** 85.03 335 ⇑P P 17 20 52.6 +0.3
baz=85
E20A **Meyer Farm, Mu** 85.20 334 ⇓P P 17 20 53.4 +0.3
baz=86,SNR=7.2
D21A **La Casta Ranch** 85.26 335 ⇓P P 17 20 53.6 +0.2
baz=86,SNR=5.7
I14A **Mackay** 85.26 329 ⇑P P 17 20 54.6 +0.9
baz=86,SNR=8.9
F18A **Big Timber** 85.31 333 ⇓P P 17 20 54.0 +0.2
baz=86,SNR=17
E19A **Rath Farm, Rou** 85.42 334 ⇓P P 17 20 54.5 +0.2
baz=86,SNR=27
C22A **Vida** 85.44 336 ⇑P P 17 20 54.2 0.0
baz=86
DGMT **Dagmar** 85.49 337 ⇓P P 17 20 54.9 +0.5
baz=86,SNR=6.6
F17A **Fitzpatrick Pl** 85.69 332 ⇓P P 17 20 56.0 +0.3
baz=86,SNR=5.8
MCMT **McKenzie Canyo** 85.72 330 eP P 17 20 56.6 +0.6
comp=E,6.4nm,0.8s
SCHQ **Schefferville** 85.78 1 P P 17 20 55.0 -0.7
SCHQ **Schefferville** 85.78 1 P P 17 20 55.0 -0.7
comp=E,5.4nm,0.8s,baz=126,slow=2.0,SNR=6.1
A24A **Westby** 85.82 338 ⇓P P 17 20 56.8 +0.7
baz=86
BOZ **Bozeman (W)** 85.87 331 eP P 17 20 56.4 -0.1
comp=E,1.4nm,0.6s
I12A **Atlanta** 85.90 328 ⇓P P 17 20 56.8 0.0
baz=86
MFID **Camas Ranch** 85.92 328 ⇓P P 17 20 57.3 +0.5
baz=86
C21A **Desert Coulee** 85.94 335 ⇓P P 17 20 57.0 +0.3
baz=86
E18A **Harlowton** 85.94 333 ⇑P P 17 20 57.1 +0.2
baz=86,SNR=5.8
B22A **Reddig Ranch S** 85.95 336 ⇑P P 17 20 57.0 +0.2
baz=86,SNR=5.7
D19A **Cripps Ranch,** 86.04 334 ⇑P P 17 20 57.3 0.0
baz=86,SNR=9.3
DLMT **Dillon** 86.04 331 eP P 17 20 57.7 +0.3
comp=E,3.1nm,0.8s
A23A **Redstone** 86.14 337 ⇑P P 17 20 57.9 +0.2
baz=86
C20A **Veseth Ranch,** 86.17 335 ⇑P P 17 20 58.0 +0.1
baz=86,SNR=7.1
E17A **Martinsdale** 86.22 332 ⇑P P 17 20 58.5 +0.2
baz=87,SNR=5.7
LRM **Limekiln Ridge** 86.35 331 eP P 17 20 59.1 +0.1
comp=E,51nm,0.8s
H12A **Diamond D Ranc** 86.37 329 ⇑P P 17 20 59.5 +0.4
baz=87
F15A **Butte** 86.38 331 ⇓P P 17 20 59.4 +0.2
baz=87,SNR=12
D18A **Linhart Farms,** 86.41 333 ⇑P P 17 20 59.3 +0.1
baz=87,SNR=10
B21A **Ellsworth Farm** 86.42 336 ⇓P P 17 20 59.3 +0.3
baz=87
WVOR **Wild Horse Val** 86.49 325 eP P 17 21 00.2 +0.6
comp=E,5.8nm,1.2s
A22A **Carney Farms,** 86.52 337 ⇓P P 17 20 59.5 -0.1
baz=87,SNR=9.7
C19A **Slack Wire Ran** 86.58 334 ⇓P P 17 20 59.9 0.0
baz=87,SNR=9.4
D17A **Six Diamond Ra** 86.72 333 ⇓P P 17 21 00.9 +0.2
baz=87,SNR=30
F14A **Wisdom** 86.73 331 ⇑P P 17 21 01.2 +0.4
baz=87,SNR=9.6
B20A **Solberg Farm,** 86.79 335 ⇓P P 17 21 00.9 +0.1
baz=87,SNR=8.5
A21A **Bergtoll Ranch** 86.86 336 ⇑P P 17 21 01.2 0.0
baz=87
D16A **Dana Ranch, Ca** 86.96 332 ⇓P P 17 21 02.2 +0.3
baz=87,SNR=13
G12A **Big Creek, Yel** 87.03 329 ⇑P P 17 21 02.4 +0.1
baz=87
EGMT **Eagleton** 87.08 334 eP P 17 21 02.0 -0.3
comp=E,8.4nm,0.7s
EGMT **Eagleton** 87.08 334 ⇓P P 17 21 02.3 -0.1
baz=88,SNR=6.7
A20A **Cobblestone Ra** 87.12 335 ⇓P P 17 21 02.4 0.0
baz=88,SNR=7.8
B19A **Brinkman Farms** 87.14 335 ⇓P P 17 21 02.4 -0.2
baz=88
C17A **Wharram Farm,** 87.14 333 ⇑P P 17 21 02.9 +0.2
baz=88
D15A **Lincoln** 87.36 332 ⇓P P 17 21 04.4 +0.6
baz=88,SNR=12
B18A **Beardsley Farm** 87.40 334 ⇓P P 17 21 04.0 +0.1
baz=88,SNR=10
A19A **Klindworth Far** 87.46 335 ⇓P P 17 21 04.3 +0.2
baz=88,SNR=6.4
CHMT **Chamberlain Mo** 87.56 331 eP P 17 21 04.9 +0.1
comp=E,2.5nm,0.9s
C16A **Fuhringer Ranc** 87.67 333 ⇑P P 17 21 05.4 +0.2
baz=88,SNR=8.9
B17A **L&G Farms, Che** 87.70 333 ⇑P P 17 21 05.4 +0.1
baz=88
MSO **Missoula** 87.78 331 ⇓P P 17 21 06.0 +0.3
baz=88
D14A **Greenough** 87.80 331 ⇓P P 17 21 06.1 +0.2
baz=88
A18A **Metzger Ranch,** 87.86 334 ⇑P P 17 21 06.1 +0.2
baz=88

SLMT	**Seeley Lake** comp=E,8.9nm,0.9s	87.92	331	*e*P		P	17 21 06.2	-0.3
KHMM	**Horse Mountain**	87.94	322	*e*P		P	17 21 07.2	+0.5
C15A	**Salmond Ranch,** baz=88,SNR=18	87.99	332	⇑P		P	17 21 07.3	+0.5
YBH	**Yreka Blue Hor** comp=E,3.5nm,0.8s	88.02	323	*e*P		P	17 21 06.4	-0.6
E12A	**Beaver Dam Sad** baz=88	88.14	330	⇑P		P	17 21 07.9	+0.4
B16A	**M & M Farms, S** baz=88,SNR=6.0	88.15	333	⇓P		P	17 21 07.3	-0.1
A17A	**Triple J Farms** baz=89,SNR=13	88.20	334	⇑P		P	17 21 07.8	+0.2
D13A	**Huson** baz=89	88.20	331	⇓P		P	17 21 07.9	+0.2
SWMT	**Swartz Lake** comp=E,4.5nm,0.7s	88.34	331	*e*P		P	17 21 08.6	+0.2
B15A	**Bradely Ranch,** baz=89,SNR=6.5	88.40	332	⇑P		P	17 21 08.6	-0.1
C14A	**Swan Lake** baz=89	88.44	332	⇓P		P	17 21 09.2	+0.4
A16A	**West Butte Ran** baz=89,SNR=26	88.54	333	⇓P		P	17 21 09.7	+0.3
C13A	**Hot Springs** baz=89	88.71	331	⇑P		P	17 21 10.6	+0.6
B14A	**Marquette Ranc** baz=89	88.72	332	⇓P		P	17 21 10.1	-0.1
BLMT	**Blacktail Moun** comp=E,4.1nm,0.4s	88.89	331	*e*P		P	17 21 11.4	+0.3
BSMT	**Bassoo Peak** comp=E,3.7nm,0.8s	88.94	331	*e*P		P	17 21 09.5	-1.8
A15A	**Johnson Ranch,** baz=89	89.00	333	⇓P		P	17 21 11.3	-0.1
B13A	**Whitefish** baz=90	89.22	332	⇑P		P	17 21 12.6	+0.1
A14A	**Double T Ranch** baz=90	89.27	332	⇓P		P	17 21 12.7	-0.1
C11A	**Tepee Creek (N** baz=90	89.54	330	⇓P		P	17 21 14.1	+0.1
A13A	**Flathead Natio** baz=90	89.64	332	⇑P		P	17 21 14.9	+0.5
ESDC	**Sonseca Array**	92.72	44	P		P	17 21 29.4	+0.5
ESDC	**Sonseca Array** comp=E,0.2nm,0.3s,baz=255,slow=4.0,SNR=2.4	92.72	44	P		P	17 21 29.4	+0.5
GERES	**GERESS Array B**	108.30	44	Pdif		Pdif	17 22 38.1	-0.5
GERES	**GERESS Array B** comp=E,0.1nm,0.2s,baz=224,slow=5.4,SNR=2.4	108.30	44	Pdiff		Pdif	17 22 38.1	-0.5
ILAR	**Eielson Array**	113.03	333	Pdif		Pdif	17 22 59.5	+0.4
ILAR				PKiKP		PKiKP	17 26 51.9	-0.7
ILAR	**Eielson Array** comp=E,0.2nm,0.3s,baz=116,slow=2.1,SNR=5.1	113.03	333	Pdiff		Pdif	17 22 59.5	+0.4
ILAR	comp=E,0.3nm,0.8s,baz=174,slow=0.9,SNR=4.1			PKiKP		PKiKP	17 26 51.9	-0.7
MMAI	**Mount Meron Ar**	117.17	66	PKP		PKPdf	17 27 02.3	+0.6
MMAI	**Mount Meron Ar** comp=E,0.5nm,0.4s,baz=224,slow=4.0,SNR=2.5	117.17	66	PKP		PKPdf	17 27 02.3	+0.6
BRTR	**Keskin Array B**	118.10	59	PKP		PKPdf	17 27 03.1	-0.2
BRTR	**Keskin Array B** comp=E,1.1nm,0.7s,baz=172,slow=2.8,SNR=7.0	118.10	59	PKP		PKPdf	17 27 03.1	-0.2
FINES	**FINESS Array B**	119.21	33	PKP		PKPdf	17 27 04.9	+0.4
FINES	**FINESS Array B** comp=E,1.4nm,0.9s,baz=243,slow=1.9,SNR=3.2	119.21	33	PKP		PKPdf	17 27 04.9	+0.4
ARCES	**ARCESS Array B**	120.42	24	PKP		PKPdf	17 27 06.7	0.0
ARCES	**ARCESS Array B** comp=E,0.6nm,0.7s,baz=232,slow=2.9,SNR=5.3	120.42	24	PKP		PKPdf	17 27 06.7	0.0
ASAR	**Alice Springs**	121.19	204	PKP		PKPdf	17 27 08.0	-1.8
ASAR				pPKP		pPKPdf	17 27 40.4	+0.7
ASAR				PKKPbc		PKKPbc	17 37 11.2	-0.2
ASAR	**Alice Springs** comp=E,1.4nm,0.6s,baz=139,slow=2.0,SNR=32	121.19	204	PKP		PKPdf	17 27 08.0	-1.8
ASAR				pPKP		pPKPdf	17 27 40.4	+0.7
ASAR	comp=E,0.4nm,0.6s,baz=154,slow=1.7,SNR=2.2			PKKPbc		PKKPbc	17 37 11.2	-0.2
WRA	**Warramunga Arr**	124.44	207	PKP		PKPdf	17 27 14.9	-1.1
WRA				pPKP		pPKPdf	17 27 46.5	+0.5
WRA	comp=E,0.7nm,0.4s,baz=341,slow=3.5,SNR=22			PKKPbc		PKKPbc	17 36 59.3	+0.4
WRA	**Warramunga Arr** comp=E,3.9nm,0.6s,baz=161,slow=1.7,SNR=54	124.44	207	PKP		PKPdf	17 27 14.9	-1.1
WRA				pPKP		pPKPdf	17 27 46.5	+0.5
WRA	comp=E,1.1nm,0.5s,baz=170,slow=1.7,SNR=3.9			PKKPbc		PKKPbc	17 36 59.3	+0.4
GNI	**Garni**	126.43	61	PKP		PKPdf	17 27 18.3	-1.0
GNI	**Garni** comp=E,4.0nm,0.7s,baz=180,slow=9.1,SNR=3.1	126.43	61	PKP		PKPdf	17 27 18.3	-1.0
PETK	**Petropavlovsk-**	140.15	317	PKPpre		PKPpre	17 27 39.9	
PETK				PKP		PKPdf	17 27 45.4	+0.9
PETK	**Petropavlovsk-** comp=E,0.9nm,0.8s,baz=92,slow=2.4,SNR=3.3	140.15	317	PKhKP		PKPpre	17 27 39.9	
PETK	comp=E,1.0nm,0.7s,baz=63,slow=1.8,SNR=3.9			PKP		PKPdf	17 27 45.4	+0.9
KKAR	**Karatay Array**	145.81	58	*e*PKPdf		PKPdf	17 27 54.8	0.0
HYB	**Hyderabad**	147.34	107	*i* PKP		PKPbc	17 28 00.0	-0.6
EKS2	**Erkin-Say** SNR=20	148.25	58	P		PKPbc	17 28 01.1	-1.5
AML	**Almayashu** SNR=7.4	148.26	59	P		PKPbc	17 28 03.4	+0.5
USP	**Ospenovka** SNR=13	148.68	57	P		PKPbc	17 28 04.0	+0.5
AAK	**Ala-Archa** SNR=12	148.78	58	P		PKPbc	17 28 04.8	+0.9
AAK	**Ala-Archa**	148.78	58	*e*PKPdf		PKPdf	17 27 59.9	-0.1
AAK				*e*PKPbc		PKPbc	17 28 04.5	+0.6
CHMS	**Chumysh** SNR=15	148.90	58	P		PKPbc	17 28 04.4	+0.3
KBK	**Karagaybulak** SNR=11	149.10	58	P		PKPbc	17 28 05.5	+0.8
KZA	**Kyzart** SNR=7.6	149.42	59	P		PKPbc	17 28 07.2	+1.3
TKM2	**Tokmak 2** SNR=20	149.53	58	P		PKPbc	17 28 05.7	-0.1
KSH	**Kashi**	150.27	64	*e*PKPbc		PKPbc	17 28 07.9	+0.3
KSH				pPKP		pPKPdf	17 28 30.4	-2.0
KSH				sPKP			17 28 40.5	
KSH				PP		PP	17 31 46.8	+2.6
KSH				SKS		SKSdf	17 35 04.9	+4.7
ZALV	**Zalesovo Beam**	150.47	32	PKP		PKPdf	17 28 03.2	+1.2
ZALV				PKPbc		PKPbc	17 28 07.4	0.0
ZALV				pPKPbc		pPKPbc	17 28 38.1	+0.8
ZALV	**Zalesovo Beam** comp=E,26nm,0.6s,baz=279,slow=2.0,SNR=5.3	150.47	32	PKP		PKPdf	17 28 03.2	+1.2
ZALV	comp=E,36nm,0.7s,baz=269,slow=4.1,SNR=11			PKPbc		PKPbc	17 28 07.4	0.0
ZALV	comp=E,14nm,0.5s,baz=316,slow=3.4,SNR=8.3			pPKPbc		pPKPbc	17 28 38.1	+0.8
IPM	**Ipoh**	151.66	158	*e*PKPbc		PKPbc	17 28 10.1	-1.4
KULM	**Kulim**	152.30	157	*e*PKPbc		PKPbc	17 28 11.8	-1.1
MKAR	**Makanchi Array**	152.91	47	PKP		PKPdf	17 28 05.7	-0.3
MKAR				PKPbc		PKPbc	17 28 12.9	-0.4
MKAR				PKPab		PKPab	17 28 25.5	+0.6
MKAR				pPKPbc		pPKPbc	17 28 44.6	+1.4
MKAR	**Makanchi Array** comp=E,0.5nm,0.7s,baz=103,slow=0.3,SNR=6.3	152.91	47	PKP		PKPdf	17 28 05.7	-0.3
MKAR				PKPbc		PKPbc	17 28 12.9	-0.4
MKAR	comp=E,8.1nm,0.8s,baz=302,slow=1.9,SNR=66			PKPab		PKPab	17 28 25.5	+0.6
MKAR	comp=E,9.9nm,0.7s,baz=296,slow=4.3,SNR=26			pPKPbc		pPKPbc	17 28 44.6	+1.4
MJAR	**Matsushiro Arr**	157.03	291	PKPab		PKPab	17 28 43.0	+0.2
MJAR	**Matsushiro Arr** comp=E,3.1nm,0.9s,baz=116,slow=2.3,SNR=7.5	157.03	291	PKPab		PKPab	17 28 43.0	+0.2
USRK	**Ussuriysk Arra** comp=E,4.4nm,0.8s,baz=48,slow=2.8,SNR=10	159.19	314	PKPab		PKPab	17 28 51.4	-0.5
MDJ	**Mudanjiang**	160.38	318	PKP		PKPdf	17 28 15.0	-0.6
MDJ	comp=Z,46nm,5.1s			AMB		AMB		
SONM	**Songino Array**	163.07	11	PKP		PKPdf	17 28 18.9	+0.4
SONM				PKPab		PKPab	17 29 09.5	+0.8
SONM	**Songino Array** comp=E,2.0nm,0.8s,baz=154,slow=1.5,SNR=4.8	163.07	11	PKP		PKPdf	17 28 18.9	+0.4
SONM	comp=E,3.7nm,0.7s,baz=324,slow=4.6,SNR=21			PKPab		PKPab	17 29 09.5	+0.8
CMAR	**Chiang Mai Arr**	163.07	136	PKP		PKPdf	17 28 19.3	+0.1
CMAR				PKPab		PKPab	17 29 09.2	-0.3
CMAR	**Chiang Mai Arr** comp=E,0.9nm,0.9s,baz=250,slow=2.9,SNR=6.4	163.07	136	PKP		PKPdf	17 28 19.3	+0.1
CMAR	comp=E,0.9nm,0.8s,baz=241,slow=5.1,SNR=5.6			PKPab		PKPab	17 29 09.2	-0.3
CN2	**Changchun**	163.19	322	*e*PKP		PKPdf	17 28 20.4	+1.9
KSRS	**Korea Array** comp=E,0.9nm,0.7s,baz=68,slow=1.1,SNR=5.9	164.90	299	PKP		PKPdf	17 28 20.5	+0.3
KSAR	**Wonju Array Be**	164.93	299	PKP		PKPdf	17 28 20.5	+0.2
GTA	**Gaotai**	167.67	46	*e*PKP		PKPdf	17 28 23.4	+0.8
KMI	**Kunming**	170.33	127	PKP		PKPdf	17 28 23.6	-1.2
NJ2	**Nanjing**	173.44	279	*e*PKP		PKPdf	17 28 27.8	+2.1

*IDC **08** 17:27:30.2±1.4,34.°35N×23.°40E,h0km,mb3.7/5, mb1 3.7/9,mb1mx3.5/31,mbtmp3.6/9,ML3.4/3,Error ellipse: s-maj=27.7km s-min=24.3km az=24.0*
*THE **08** 17:27:34.3,34.°68N×23.°71E,h9km,Error ellipse: s-maj=1.5km s-min=1.0km az=103.0*
*ATH **08** 17:27:34.4,34.°63N×23.°78E,h8km±3km,MD3.3/20*
*CSEM **08** 17:27:36.8±1.3,34.°81N×23.°88E,h2km,MD3.3,Error ellipse: s-maj=34.0km s-min=9.1km az=19.0*

ISC 08 17:27:33.8±1.9,**34.°64N**±0.°08×**23.°80E**±0.°04,**h4**km±12km, **n56,**σ1**°27/65,mb3.8/5,Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	0.31	49	P	**Pb**	**17 27 41.2**	**-0.8**
GVD				S	**Sb**	**17 27 46.6**	**-0.8**
GVD	**Gavdhos**	0.31	49	*e*PB	**Pb**	**17 27 41.5**	**-0.5**
GVD				*e*SB	**Sb**	**17 27 46.4**	**-1.0**
GVD	**Gavdhos**	0.31	49	P	**Pb**	**17 27 41.2**	**-0.8**
GVD	**Gavdhos**	0.31	49	*e*Pb	**Pb**	**17 27 41.5**	**-0.5**
GVD				*e*Sb	**Sb**	**17 27 46.4**	**-1.0**
VAM	**Vamos**	0.83	23	P	**Pg**	**17 27 50.0**	**+0.1**
VAM				S	**Sb**	**17 28 02.3**	**-0.3**
VAM	**Vamos**	0.83	23	*e*PG	**Pg**	**17 27 50.0**	**+0.1**
VAM				*e*SB	**Sb**	**17 28 02.5**	**-0.1**
VAM	**Vamos**	0.83	23	P	**Pg**	**17 27 50.0**	**+0.1**
VAM				S	**Sb**	**17 28 02.3**	**-0.3**
SIVA	**Sivas**	0.91	65	P	**Pb**	**17 27 52.2**	**-0.1**
SIVA	**Sivas**	0.91	65	*e*PB	**Pb**	**17 27 52.1**	**-0.2**
SIVA				*e*SB	**Sb**	**17 28 05.3**	**+0.5**
SIVA	**Sivas**	0.91	65	*e*Pb	**Pb**	**17 27 52.1**	**-0.2**
IDI	**Anoyia**	1.10	54	P	**Pg**	**17 27 55.0**	**0.0**
IDI				S	**Sn**	**17 28 11.6**	**-0.4**
IDI	**Anoyia**	1.10	54	*e*PG	**Pg**	**17 27 54.8**	**-0.2**
IDI				*e*SB	**Sn**	**17 28 11.6**	**-0.4**
IDI	**Anoyia**	1.10	54	P	**Pg**	**17 27 55.0**	**0.0**
IDI				S	**Sn**	**17 28 11.6**	**-0.4**
ANKY	**Antikythira Is**	1.29	342	P	**Pg**	**17 27 58.9**	**+0.2**
ANKY	**Antikythira Is**	1.29	342	*e*PN	**Pn**	**17 27 58.2**	**-0.5**
ANKY	**Antikythira Is**	1.29	342	P	**Pg**	**17 27 58.9**	**+0.2**
LAST	**Lasithi**	1.48	69	P	**Pn**	**17 28 01.0**	**-0.3**
LAST	**Lasithi**	1.48	69	*e*PG	**Pb**	**17 28 01.7**	**-0.2**
LAST	**Lasithi**	1.48	69	P	**Pn**	**17 28 01.0**	**-0.3**
LAST	**Lasithi**	1.48	69	*e*Pg	**Pb**	**17 28 01.7**	**-0.2**
NPS	**Neapolis**	1.61	67	*e*PB	**Pb**	**17 28 04.4**	**+0.2**
NPS	**Neapolis**	1.61	67	*e*Pb	**Pb**	**17 28 04.4**	**+0.2**
ZKR	**Zakros**	2.04	76	*e*PN	**Pb**	**17 28 11.9**	**+0.4**
VLI	**Veliai**	2.19	342	*e*PN	**Pb**	**17 28 14.0**	**-0.1**
VLI	**Veliai**	2.19	342	*e*Pn	**Pb**	**17 28 14.0**	**-0.1**
SANT	**Santorini**	2.20	38	*e*PN	**Pb**	**17 28 13.6**	**-0.6**
SANT	**Santorini**	2.20	38	*e*Pn	**Pb**	**17 28 13.6**	**-0.6**
THR3	**Thira Island,**	2.20	36	P	**Pb**	**17 28 13.4**	**-0.8**
THR3	**Thira Island,**	2.20	36	P	**Pb**	**17 28 13.4**	**-0.8**
DYR	**Agios Nikonas**	2.43	331	*e*PG	**Pb**	**17 28 19.1**	**+0.9**
DYR	**Agios Nikonas**	2.43	331	*e*Pg	**Pb**	**17 28 19.1**	**+0.9**
APE	**Apeiranthos**	2.80	30	*e*PB	**Pn**	**17 28 20.7**	**+1.1**
APE	**Apeiranthos**	2.80	30	*e*Pb	**Pn**	**17 28 20.7**	**+1.1**
PYL	**PYLOS**	2.81	324	*e*PN	**Pb**	**17 28 22.2**	**-2.4**
PYL	**PYLOS**	2.81	324	*e*Pn	**Pb**	**17 28 22.2**	**-2.4**
DID	**Didima**	2.90	351	*e*PB	**Pn**	**17 28 23.2**	**+2.3**
DID	**Didima**	2.90	351	*e*Pb	**Pn**	**17 28 23.2**	**+2.3**
KARP	**Karpathos**	2.90	71	*e*PB	**Pb**	**17 28 23.9**	**-2.3**
ITM	**Ithomi**	2.96	330	*e*PB	**Pb**	**17 28 25.3**	**-1.9**
ITM	**Ithomi**	2.96	330	*e*Pb	**Pb**	**17 28 25.3**	**-1.9**
AMT	**Artemida-Makis**	3.35	330	*e*PN	**Pn**	**17 28 29.3**	**+2.3**
AMT	**Artemida-Makis**	3.35	330	*e*Pn	**Pn**	**17 28 29.3**	**+2.3**
LTK	**Loutraki**	3.45	349	*e*PN	**Pn**	**17 28 29.8**	**+1.4**
LTK	**Loutraki**	3.45	349	*e*Pn	**Pn**	**17 28 29.8**	**+1.4**
GUR	**Goura**	3.50	341	*e*PN	**Pn**	**17 28 31.7**	**+2.6**
GUR	**Goura**	3.50	341	*e*Pn	**Pn**	**17 28 31.7**	**+2.6**
ARG	**Arkhangelos**	3.87	65	*e*PN	**Pn**	**17 28 36.4**	**+2.3**
BRTR	**Keskin Array B** 0.2nm,0.3s,baz=226,slow=12,SNR=4.9	9.35	54	Pn	**Pn**	**17 29 52.4**	**+2.9**
MMAI	**Mount Meron Ar** 0.4nm,0.3s,baz=293,slow=12,SNR=2.6	9.79	96	Pn	**Pn**	**17 29 56.2**	**+0.7**
EIL	**Elat** 0.4nm,0.3s,baz=293,slow=6.5,SNR=7.3	10.67	115	Pn	**Pn**	**17 30 06.3**	**-1.1**
GERES	**GERESS Array B** baz=145,slow=12,SNR=2.0	16.05	335	Pn	**Pn**	**17 31 19.6**	**-0.8**
HFS	**Hagfors** 0.2nm,0.7s,baz=167,slow=13,SNR=6.7	26.35	349	P	**P**	**17 33 08.8**	**-2.0**
NOA	**NORSAR Array B** 1.9nm,1.0s,baz=150,slow=9.8,SNR=3.3	27.64	347	P	**P**	**17 33 21.1**	**-1.3**
TORD	**Torodi Ar. Bea** 0.1nm,0.6s,baz=42,slow=8.2,SNR=2.7	29.30	229	P	P	17 33 30.7	-6.8
ARCES	**ARCESS Array B** 1.2nm,0.8s,baz=179,slow=11,SNR=3.1	34.96	1	P	**P**	**17 34 28.0**	**+1.3**
MKAR	**Makanchi Array** 0.5nm,0.3s,baz=269,slow=8.0,SNR=12	44.99	56	P	**P**	**17 35 50.4**	**0.0**

IDC 08 17:32:40.4±1.0,**21.°37S×68.°38W,h111**km±10km,**mb3.8**/5, **mb1 3.8**/8,**mb1mx3.5**/19,**mbtmp3.7**/8,**Error ellipse: s-maj=25.1km s-min=14.8km az=122.0,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde** 161nm,0.3s,baz=13,slow=8.7,SNR=1182	1.33	202	P	Pn	17 33 05.6	-0.1
LVC				S	Sn	17 33 24.7	-0.2
LPAZ	62nm,0.3s,baz=93,slow=24,SNR=52 **La Paz** 2.3nm,0.3s,baz=217,slow=6.7,SNR=32	5.06	3	P	Pn	17 33 55.9	+1.0
LPAZ				S	Sn	17 34 50.6	-2.2
SIV	0.9nm,0.3s,baz=248,slow=9.4,SNR=4.2 **San Ignacio** 5.7nm,0.3s,baz=255,slow=12,SNR=102	8.74	54	P	Pn	17 34 42.9	-1.2
CFAA	**Coronel Fontan** 0.0nm,0.3s,baz=0,slow=13,SNR=2.2	10.20	179	P	Pn	17 35 00.6	-3.1
CPUP	**Villa Florida** 0.2nm,0.3s,baz=276,slow=10,SNR=3.8	11.25	118	P	Pn	17 35 18.9	+1.0
BDFB	**Brasilia** 4.2nm,0.4s,baz=252,slow=9.8,SNR=4.8	20.12	77	P	P	17 37 05.7	-0.2
DBIC	**Dimbokro** 1.8nm,0.5s,baz=217,slow=5.1,SNR=3.0	68.22	73	P	P	17 43 30.0	+0.5
NVAR	**Mina Array Bea** 0.5nm,0.8s,baz=170,slow=5.5,SNR=2.6	75.70	322	P	P	17 44 14.1	+0.1
TORD	**Torodi Ar. Bea** 1.4nm,0.6s,baz=254,slow=5.2,SNR=21	76.84	71	P	P	17 44 20.2	-0.5
MAW	**Mawson** 1.6nm,0.6s,baz=214,slow=3.6,SNR=6.8	84.31	163	P	P	17 45 00.4	+0.8
ASAR	**Alice Springs** 0.3nm,0.8s,baz=139,slow=1.6,SNR=4.6	130.26	207	PKP	PKPdf	17 51 37.6	-0.8
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=153,slow=1.9,SNR=3.3	133.32	210	PKP	PKPdf	17 51 43.6	-0.6
ZALV	**Zalesovo Beam** 0.7nm,0.8s,baz=302,slow=6.6,SNR=2.2	141.62	25	PKP	PKPdf	17 51 59.0	+0.7
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=346,slow=3.0,SNR=7.3	145.23	36	PKPbc	PKPdf	17 52 05.0	0.0
SONM	**Songino Array** 0.2nm,0.5s,baz=354,slow=2.0,SNR=2.8	153.26	8	PKPbc	PKPbc	17 52 23.8	-1.7

IDC 08 17:55:33.1±8.8,**5.°38S×153.°06E,h111**km±61km,**mb2.8**/3, **mb1 3.0**/4,**mb1mx2.9**/19,**mbtmp2.9**/4,**Error ellipse: s-maj=93.7km s-min=38.5km az=107.0,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 0.5nm,0.3s,baz=230,slow=18,SNR=3.4	7.09	235	P	Pn	17 57 13.9	-0.3
PMG				S	Sn	17 58 34.6	+1.3
WRA	0.4nm,0.3s,baz=354,slow=19,SNR=2.5 **Warramunga Arr** 0.3nm,0.5s,baz=54,slow=9.8,SNR=6.4	23.26	230	P	P	18 00 31.5	+0.4
ASAR	**Alice Springs** 0.4nm,0.9s,baz=58,slow=9.0,SNR=6.3	25.90	224	P	P	18 00 54.6	-0.4
MKAR	**Makanchi Array** 0.2nm,0.9s,baz=102,slow=5.6,SNR=3.0	80.93	319	P	P	18 07 35.3	0.0

*ISCJB **08** 18:59:15.5±0.7,6.°41S×0.°06×128.°68E±0.°08,h300km, mb3.6/2,Error ellipse: s-maj=10.9km s-min=7.3km az=21.5*
*AUST **08** 18:59:15.3±0.0,6.°25S×128.°60E,h303km,Error ellipse: s-maj=1.4km s-min=0.9km az=284.0*
*IDC **08** 18:59:18.6±2.5,6.°47S×128.°97E,h317km±21km,mb3.3/2, mb1 3.6/5,mb1mx3.1/20,mbtmp3.5/5,Error ellipse: s-maj=51.2km s-min=14.8km az=70.0*

ISC 08 18:59:16.8±0.8,**6.°38S**±0.°07×**128.°80E**±0.°08,**h300**km,**n16, s**°**59/23,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak** baz=4.9,SNR=32	4.86	45	P	**Pn**	**19 00 34.3**	**+1.5**
FAKI	baz=4.9,SNR=13			S	**S**	**19 01 33.0**	**-0.9**
SOEI	**Soe** baz=5.5,SNR=13	5.60	233	P	**Pn**	**19 00 39.6**	**-2.0**
SOEI	baz=5.5,SNR=7.4			S	S	19 01 43.3	-6.5
MTN	**Manton Dam** baz=7.0,SNR=4.7	6.83	160	P	**Pn**	**19 00 55.7**	**-0.4**
KDU	**Kakadu** baz=7.5,SNR=29	7.24	150	P	**Pn**	**19 01 01.4**	**+0.2**
KNRA	**Kununurra** baz=9.4,SNR=5.2	9.24	180	P	**P**	**19 01 30.6**	**+0.4**
KNRA	baz=9.4,SNR=3.1			S	**S**	**19 03 12.7**	**+2.1**
FITZ	**Fitzroy Crossi** 0.4nm,0.3s,baz=34,slow=11,SNR=19	12.05	195	P	**Pn**	**19 02 00.8**	**+0.8**
FITZ	0.4nm,0.3s,baz=180,slow=20,SNR=3.9			S	**S**	**19 04 15.9**	**+1.6**
FITZ	**Fitzroy Crossi** baz=12,SNR=8.7	12.05	195	P	**Pn**	**19 02 00.9**	**+0.8**
WRA	**Warramunga Arr** 1.7nm,0.3s,baz=339,slow=12,SNR=93	14.52	159	P	**P**	**19 02 28.5**	**-0.2**
WRA	0.4nm,0.3s,baz=335,slow=20,SNR=7.4			S	**S**	**19 05 04.4**	**-3.7**
WRA	0.0nm,0.3s,baz=1.2,slow=1.6,SNR=5.3			ScP	**ScP**	**19 10 24.1**	**-2.2**
COEN	**Coen** baz=16,SNR=9.2	16.02	119	P	**Pn**	**19 02 47.6**	**+0.2**
ASAR	**Alice Springs** 4.1nm,0.3s,baz=345,slow=12,SNR=484	17.88	165	P	**P**	**19 03 05.4**	**+0.1**
ASAR	0.2nm,0.3s,baz=340,slow=18,SNR=8.4			S	**S**	**19 06 11.9**	**-3.0**
ASAR	0.1nm,0.3s,baz=358,slow=2.0,SNR=7.0			ScP	**ScP**	**19 10 30.7**	**-2.2**
SMRI	**Semarang** baz=18,SNR=3.5	18.24	267	S	**S**	**19 06 22.6**	**+0.3**
BBOO	**Buckleboo** baz=27,SNR=5.8	27.16	167	P	**P**	**19 04 33.0**	**-0.2**
STKA	**Stephens Creek** 2.1nm,0.6s,baz=335,slow=11,SNR=8.6	28.05	156	P	**P**	**19 04 40.1**	**-1.0**
STKA	**Stephens Creek** baz=28,SNR=6.4	28.05	156	P	**P**	**19 04 41.4**	**+0.3**
CMSA	**Cobar Meteorol** baz=30,SNR=8.1	29.61	150	P	**P**	**19 04 55.8**	**+1.0**
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=122,slow=7.9,SNR=9.5	67.06	327	P	**P**	**19 09 39.1**	**+0.8**

*IDC **08** 19:23:36.0±0.4,35.°95S×102.°87W,h0km,mb5.2/21, mb1 5.3/21,mb1mx5.3/23,mbtmp5.2/21,MS5.3/27, Ms1 5.3/27,ms1mx5.3/31,Error ellipse: s-maj=14.3km s-min=11.7km az=159.0*
*MOS **08** 19:23:36.6±1.2,35.°89S×102.°91W,h10km,mb5.5/40, MS5.3/36,Error ellipse: s-maj=14.0km s-min=7.4km az=94.3*
*ISCJB **08** 19:23:37.0±0.2,35.°97S±0.°04×102.°73W±0.°05,h16km, mb5.3/152,MS5.4/204,Error ellipse: s-maj=6.1km s-min=5.7km az=19.3*
*BJI **08** 19:23:37.9,36.°00S×102.°40W,h10km,mB5.4/35, Ms5.7/46,Ms7 5.6/48*
*NEIC **08** 19:23:37.7±0.2,36.°00S×102.°69W,h12km,mb5.4/125, MS5.5/148,MW5.8,MWE6.0,Error ellipse: s-maj=7.4km s-min=6.3km az=79.0,Moment Tensor Solution. s47 Moment tensor: Scale 10¹⁷Nm; Mrr0.60; Mθθ0.19; Mφφ-0.79; Mrθ0.66; Mθφ-7.13; Mφr-1.58; Best double couple: M₀7.40000×10¹⁷ NP1:φs179.00000°,δ84.00000°, λ13.00000°. NP2:φs87.00000°,δ77.00000°,λ174.00000°. Principal axes: T 7.2200, Plg13.0000°, Azm43.0000°; N 0.2900, Plg75.0000°, Azm202.0000°; P -7.5100, Plg5.0000°, Azm312.0000°;*
*BKK **08** 19:23:40.4±0.3,36.°5S±12.°×10.°3W±2.°1,h10km*
*DJA **08** 19:23:40.6±0.3,36.°5S±12.°×10.°3W±2.°1,h10km,M5.2/3, mB5.9/1,mb5.2/3,Mw(mB)5.5/1*
*GCMT **08** 19:23:41.2±0.1,35.°99S×102.°75W,h18km,MW6.0, Moment Tensor Solution. s109,c237; s83,c121; Moment tensor: Scale 10¹⁸Nm; Mrr-0.06±.01; Mθθ-0.23±.01; Mφφ0.29±.01; Mrθ-0.10±.02; Mθφ-1.02±.01; Mφr-0.07±.02; Best double couple: M₀1.10000×10¹⁸ NP1:φs7.00000°,δ85.00000°,λ-5.00000°. NP2: φs97.00000°,δ85.00000°,λ-175.00000°. Principal axes: T 1.0800, Plg0.0000°, Azm232.0000°; N -0.0400, Plg83.0000°, Azm140.0000°; P -1.0400, Plg7.0000°, Azm322.0000°; Data Used: II IU CN IC G. Surface waves: sta=114, comp=244, per= 50.*
*NEIC **08** 19:23:58.9±0.0,35.°81S×102.°19W,h10km,Moment Tensor Solution. s116 Moment tensor: Scale 10¹⁸Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mθφ0.00; Mφr0.00; Best double couple: M₀1.10000×10¹⁸ NP1:φs184.00000°, δ81.00000°,λ-28.00000°. NP2:φs279.00000°,δ62.00000°, λ-168.00000°. Principal axes: T 1.0200, Plg12.0000°, Azm234.0000°; N 0.1700,

LPAZ LR LR 19 42 52.3
comp=Z,3µm,20.3s,baz=251,slow=32
PMSA Palmer Station 36.92 154 LR LR 19 40 28.8
comp=Z,2µm,20.0s,baz=302,slow=27
PAYG Puerto Ayora 36.92 21 PFAKE 19 31 00.0 +13
PAYG LR LR
comp=Z,13µm,20.0s
CPUP Villa Florida 39.69 89 P **P 19 31 10.4 +0.4**
CPUP Villa Florida 39.69 89 P **P 19 31 10.4 +0.4**
comp=Z,12nm,0.9s,baz=234,slow=8.2,SNR=18
CPUP LR LR 19 43 55.6
comp=Z,3µm,19.6s,baz=231,slow=31
SIV San Ignacio 41.97 73 P **P 19 31 29.5 +0.5**
SIV San Ignacio 41.97 73 P **P 19 31 29.5 +0.5**
comp=Z,81nm,0.9s,baz=249,slow=10.0,SNR=203
TBI Tubuai 42.17 274 eS **S 19 37 48.5 -1.6**
comp=Z,4µm,28.5s
TBI eLQ LQ 19 41 15.4
comp=Z,21µm,34.0s
TBI eLR LR 19 42 59.9
comp=Z,7µm,24.5s,baz=107
OTAV Otavalo 42.47 37 eP **P 19 31 33.5 0.0**
comp=Z,79nm,1.2s
OTAV LR LR
comp=Z,7µm,22.0s
MEH Mehetia 43.85 282 eP **P 19 31 43.8 -0.4**
comp=Z,347nm,1.4s
TVO Taravao 44.84 281 eP **P 19 31 52.3 +0.1**
comp=Z,285nm,1.5s
SAML Samuel 44.85 63 eP **P 19 31 52.0 -0.1**
comp=Z,148nm,1.0s
SAML LR LR
comp=Z,11µm,22.0s
TIAR Tiarei 45.04 281 eP **P 19 31 53.7 -0.1**
comp=Z,138nm,1.0s
PAE Paea 45.17 281 eP **P 19 31 54.8 0.0**
comp=Z,55nm,1.2s
PPT2 Papeete2 45.21 281 eS **S 19 38 31.9 -2.8**
comp=Z,1µm,25.0s
PPT2 eLQ LQ 19 42 04.7
comp=Z,8µm,23.5s
PPT2 eLR LR 19 42 57.5
comp=Z,5µm,26.8s
PPT Papeete 45.22 281 P **P 19 31 55.1 -0.1**
PPT Papeete 45.22 281 P **P 19 31 55.1 -0.1**
comp=Z,199nm,1.0s,baz=82,slow=9.0,SNR=12
PPT LR LR 19 44 55.0
comp=Z,2µm,20.6s,baz=116,slow=28
PMOR Pomariorio Ree 45.34 285 eP **P 19 31 55.8 -0.3**
comp=Z,191nm,1.5s
ROSC El Rosal 48.50 39 P **P 19 32 22.5 +1.2**
ROSC El Rosal 48.50 39 P **P 19 32 22.5 +1.2**
comp=Z,105nm,0.9s,baz=262,slow=10,SNR=56
ROSC LR LR 19 49 11.7
comp=Z,7µm,20.4s,baz=203,slow=32
BCIP Isla Barro Col 49.75 30 eP **P 19 32 29.4 -0.9**
comp=Z,46nm,0.9s
BCIP LR LR
comp=Z,10µm,20.0s
RAR Rarotonga 51.56 270 LR LR 19 49 48.5
comp=Z,1µm,19.0s,baz=126,slow=31
TGUH Tegucigalpa,Un 51.81 19 eP **P 19 32 46.1 +0.3**
comp=Z,78nm,1.1s
TGUH LR LR
comp=Z,4µm,19.0s
BDFB Brasilia 52.51 82 P **P 19 32 51.9 +0.7**
BDFB Brasilia 52.51 82 P **P 19 32 51.9 +0.7**
comp=Z,24nm,0.7s,baz=237,slow=7.0,SNR=35
BDFB LR LR 19 52 41.4
comp=Z,3µm,19.5s,baz=20,slow=33
CAM4 Nova Friburgo 53.47 93 ⇑iP **P 19 33 00.5 +2.0**
CAM4 i 19 33 02.2
CAM4 i 19 33 05.3
CAM4 i 19 33 11.7
CAM4 i 19 33 18.3
SDV Santo Domingo 53.84 41 eP **P 19 32 59.0 -2.1**
comp=Z,11µm,3.9s
QSPA South Pole Qui 54.28 180 eP **P 19 33 04.1 +0.4**
comp=Z,40nm,0.8s
QSPA LR LR
comp=Z,4µm,22.0s
SBA Scott Base 55.30 195 eP **P 19 33 11.4 +0.6**
SBA pmax pmax
comp=Z,42nm,1.1s
SBA MLR MLR
comp=Z,3µm,20.0s
SBA Scott Base 55.30 195 eP **P 19 33 11.3 +0.6**
comp=Z,42nm,1.1s
SBA LR LR
comp=Z,3µm,20.0s
VNDA Vanda 56.40 195 P **P 19 33 19.1 +0.5**
VNDA Vanda 56.40 195 P **P 19 33 19.1 +0.5**
comp=Z,4.8nm,0.7s,baz=101,slow=6.9,SNR=31
VNDA LR LR 19 51 56.0
comp=Z,4µm,20.1s,baz=98,slow=30
TEIG Tepich 57.49 16 eP **P 19 33 24.3 -2.6**
comp=Z,18nm,0.8s
TEIG LR LR
comp=Z,3µm,20.0s
VNA1 Neumayer--Stat 58.00 157 eP **P 19 33 31.1 +1.1**
VNA1 Neumayer--Stat 58.00 157 epP pP 19 33 34.2 -0.9
VNA1 Neumayer--Stat 58.00 157 esP sP 19 33 36.5 -0.6
SNAA Sanae 59.32 159 eP **P 19 33 39.4 +0.1**
SNAA Sanae 59.32 159 epP pP 19 33 42.2 -2.2
SNAA Sanae 59.32 159 esP sP 19 33 44.5 -1.9
SNAA Sanae 59.32 159 ePcP PcP 19 34 19.1 -8.1
SNAA Sanae 59.32 159 eP **P 19 33 39.0 -0.3**
comp=Z,88nm,1.2s
GTBY Guantanamo Bay 61.38 30 PFAKE 19 34 10.0 +16
GTBY LR LR
comp=Z,4µm,21.0s
GRGR Grenville 61.53 47 PFAKE 19 34 10.0 +15
GRGR LR LR
comp=Z,6µm,20.0s
URZ Urewera 62.03 241 eP **P 19 33 57.3 -0.9**
comp=Z,39nm,0.9s
URZ Urewera 62.03 241 P **P 19 33 57.5 -0.7**
comp=Z,35nm,0.9s,baz=104,slow=5.8,SNR=14
URZ LR LR 19 54 14.9
comp=Z,6µm,21.5s,baz=92,slow=30
SDDR Presa de Saban 62.18 34 eP **P 19 33 58.5 -0.8**
comp=Z,53nm,0.9s
SDDR LR LR
comp=Z,3µm,20.0s
RAO Raoul Island 62.30 253 PFAKE 19 34 10.0 +10
RAO LR LR
comp=Z,3µm,19.0s
SNZO South Karori 62.43 237 PFAKE 19 34 10.0 +9.2
SNZO LR LR
comp=Z,7µm,21.0s
KHZ Kahutara 62.76 236 eP **P 19 34 02.2 -0.8**
comp=Z,83nm,1.0s
KVTX Kingsville 63.29 5 PFAKE 19 34 20.0 +14
KVTX LR LR
comp=Z,2µm,22.0s
CRPR Cabo Rojo, PR 63.34 38 eP **P 19 34 06.5 -0.5**
comp=Z,168nm,1.3s
BBGH Gun Hill 63.57 48 PFAKE 19 34 20.0 +11
BBGH LR LR
comp=Z,6µm,19.0s
OBIP Obispado Ponce 63.62 39 eP P 19 34 05.5 -3.4
comp=Z,256nm,1.8s
LRS Lares 63.71 38 eP **P 19 34 06.9 -2.6**
RPZ Rata Peaks 63.85 234 eP **P 19 34 09.5 -0.7**
comp=Z,149nm,1.5s
RPZ Rata Peaks 63.85 234 P **P 19 34 09.8 -0.4**
comp=Z,24nm,1.0s,baz=169,slow=6.8,SNR=6.3
RPZ LR LR 19 55 04.1
comp=Z,6µm,21.1s,baz=74,slow=30
MAIT Maitri 63.89 160 eP P 19 34 01.0 -9.1
SJG San Juan 63.91 39 eP **P 19 34 08.3 -2.5**
comp=Z,69nm,0.9s
SJG LR LR
comp=Z,2µm,21.0s
CBYP Canovanas 64.20 39 eP P 19 34 09.4 -3.3
comp=Z,72nm,1.3s
732A Laxson Ranch, 64.36 3 ⇑P **P 19 34 12.4 -1.1**
baz=65
GRTK Grand Turk 64.46 33 PFAKE 19 34 30.0 +16
GRTK LR LR
comp=Z,2µm,20.0s
TXAR Lajitas Array 64.92 359 P **P 19 34 17.3 0.0**
TXAR Lajitas Array 64.92 359 P **P 19 34 17.3 0.0**
comp=Z,2.6nm,0.5s,baz=184,slow=8.8,SNR=23
TXAR LR LR 19 56 51.3
comp=Z,2µm,19.4s,baz=5.0,slow=31
631A Perdido Creek 65.02 2 ⇓P **P 19 34 19.0 +1.2**
baz=65
627A Terlingua Ranc 65.04 359 ⇓P **P 19 34 17.8 -0.3**
baz=66
628A Black Gap, Mar 65.07 360 ⇓P **P 19 34 19.2 +1.0**
baz=66,SNR=6.8
632A Uvalde 65.14 3 ⇓P **P 19 34 18.2 -0.4**
baz=66
626A Big Bend Ranch 65.15 359 ⇓P **P 19 34 19.5 +0.8**
baz=66,SNR=18
526A Mary Lane Ranc 65.65 359 ⇓P **P 19 34 21.9 -0.2**
baz=66,SNR=11
529A Stev Forest Ra 65.70 0 ⇑P **P 19 34 21.7 -0.6**
baz=66
527A Woodward Ranch 65.73 359 ⇓P **P 19 34 22.2 -0.4**
baz=66,SNR=23
530A J-C Ranch, Com 65.74 1 ⇓P **P 19 34 22.4 -0.1**
baz=66
528A Cox Ranch, San 65.74 360 ⇓P **P 19 34 22.3 -0.3**
baz=66
532A Rocksprings 65.76 3 ⇑P **P 19 34 22.6 -0.1**
baz=66
531A Rocksprings 65.77 2 ⇑P **P 19 34 22.4 -0.3**
baz=66
ANWB Willy Bob 65.88 43 PFAKE 19 34 40.0 +16
ANWB LR LR
comp=Z,2µm,21.0s
OUZ Omahuta 65.91 243 eP **P 19 34 22.5 -1.3**
comp=Z,43nm,1.1s
JCT Junction City 66.11 3 eP **P 19 34 25.3 +0.4**
JCT pmax pmax
comp=Z,38nm,0.9s
JCT MLR MLR
comp=Z,1µm,22.0s
JCT Junction City 66.11 3 eP **P 19 34 25.3 +0.4**
comp=Z,38nm,0.9s
JCT LR LR
comp=Z,1µm,22.0s
JCT Junction City 66.11 3 ⇑P **P 19 34 24.7 -0.2**
baz=66
429A Davenport Ranc 66.20 1 ⇑P **P 19 34 25.3 -0.2**
baz=67
426A McDonald Obser 66.26 359 ⇓P **P 19 34 25.0 -1.1**
baz=67,SNR=15
431A Sonora 66.29 2 ⇓P **P 19 34 25.7 -0.3**
baz=67
428A Kincaid Ranch, 66.30 0 ⇑P **P 19 34 26.1 -0.1**
baz=67
430A Baggett Ranch, 66.38 1 ⇑P **P 19 34 26.0 -0.6**
baz=67
430A ⇑S **S 19 43 18.6 +2.7**
baz=67
430A ⇑S **S 19 43 18.6 +2.7**
baz=67
430A ⇑S **S 19 43 18.6 +2.7**
baz=67
425A Indio Mountain 66.40 358 ⇓P **P 19 34 25.9 -1.0**
baz=67,SNR=9.0
427A Hayter Ranch, 66.43 359 ⇓P **P 19 34 26.1 -0.9**
baz=67,SNR=17
432A Menard 66.51 3 ⇑P **P 19 34 26.5 -0.9**
baz=67
326A Caldwell Ranch 66.90 359 ⇓P **P 19 34 29.0 -1.0**
baz=67
331A San Angelo 66.92 2 ⇑P **P 19 34 29.1 -0.9**
baz=67
328A Wristen Ranch, 66.95 360 ⇑P **P 19 34 29.4 -0.8**
baz=67,SNR=9.7
325A Bean Ranch, Si 66.98 358 ⇑P **P 19 34 29.3 -1.3**
baz=67,SNR=17
330A Mertzon 66.99 1 ⇑P **P 19 34 29.5 -1.1**
baz=67
332A Millersview 67.01 3 ⇓P **P 19 34 29.7 -1.0**
baz=67,SNR=16
329A Wagon Wheel Ra 67.06 1 ⇑P **P 19 34 30.0 -1.0**
baz=68
324A Moseley Ranch, 67.07 357 ⇓P **P 19 34 29.8 -1.3**
baz=68,SNR=18
320A Kipp Ranch, An 67.14 355 ⇓P **P 19 34 30.7 -0.8**
baz=68,SNR=19
DRV Dumont d'Urvil 67.20 203 S S 19 43 10.0 -15
DRV SP SKSac 19 44 20.0 -7.8
DRV SS SS 19 47 27.0 -16
DRV L L 19 50 00.0
DRV R 19 55 00.0
319A Douglas 67.23 354 ⇓P **P 19 34 32.3 +0.1**
baz=68,SNR=9.8
MNTX Cornudas Mount 67.32 358 eP **P 19 34 31.4 -1.2**
comp=Z,21nm,1.3s
MNTX LR LR
comp=Z,937nm,20.0s
230A Sterling City 67.48 1 ⇓P **P 19 34 32.8 -0.8**
baz=68
232A Coleman 67.52 3 ⇑P **P 19 34 33.3 -0.5**
baz=68
229A Bryant Ranch, 67.54 1 ⇓P **P 19 34 32.8 -1.2**
baz=68
231A Bronte 67.54 2 ⇓P **P 19 34 33.1 -0.9**
baz=68
227A Bennet, Jal 67.59 359 ⇓P **P 19 34 33.1 -1.2**
baz=68
226B Tecolote Peak, 67.66 359 ⇓P **P 19 34 33.9 -0.9**
baz=68,SNR=13
223A Chaparral, Ant 67.67 357 ⇑P **P 19 34 34.9 0.0**
baz=68
228A UT Block 9, Go 67.69 0 ⇓P **P 19 34 34.8 -0.2**
baz=68
220A Playas Peak, P 67.70 355 ⇓P **P 19 34 34.9 -0.2**
baz=68,SNR=46
225A Deer Hill, Car 67.71 358 ⇑P **P 19 34 34.6 -0.6**
baz=68
WHTX Lake Whitney 67.74 5 ⇓P **P 19 34 34.9 -0.3**
baz=68,SNR=6.8
221A Mesquite Ranch 67.75 355 ⇑P **P 19 34 35.6 +0.2**
baz=68
222A Williams Famil 67.80 356 ⇑P **P 19 34 35.7 0.0**
baz=68
RCBR Riachuelo 67.84 81 eP **P 19 34 36.7 +0.3**
comp=Z,102nm,1.4s
RCBR Riachuelo 67.84 81 LR LR 20 01 34.1
comp=Z,2µm,19.5s,baz=66,slow=34
130A Snyder 68.19 2 ⇓P **P 19 34 38.1 +0.1**
baz=69
128A Castleberry Fa 68.19 0 ⇓P **P 19 34 37.4 -0.7**
baz=69
214A Organ Pipe Nat 68.19 351 ⇓P **P 19 34 37.5 -0.5**
baz=69,SNR=7.7
129A Stewart Farms, 68.20 1 ⇓P **P 19 34 37.6 -0.6**
baz=69
126A Clayton Basin, 68.23 359 ⇑P **P 19 34 37.8 -0.6**
baz=69
127A Arkansas Junct 68.25 359 ⇓P **P 19 34 37.6 -0.9**
baz=69
125A Gardner Draw, 68.25 358 ⇑P **P 19 34 37.8 -0.7**
baz=69,SNR=27
ABTX Abilene, Hawle 68.25 3 ⇓P **P 19 34 37.7 -0.8**
baz=69
121A Cookes Peak, D 68.27 355 ⇑P **P 19 34 38.3 -0.5**
baz=69
131A Roby 68.28 2 ⇓P **P 19 34 38.3 -0.3**
baz=69
123A Bell Site, Whi 68.29 357 ⇑P **P 19 34 38.1 -0.6**
baz=69
TUC Tucson 68.30 353 eP **P 19 34 39.2 +0.4**
TUC pmax pmax
comp=Z,31nm,0.9s
TUC MLR MLR
comp=Z,931nm,19.0s
TUC Tucson 68.30 353 eP **P 19 34 39.2 +0.4**
comp=Z,31nm,0.9s
TUC LR LR
comp=Z,931nm,19.0s
124A Stringfield Ra 68.32 357 ⇑P **P 19 34 39.0 -0.1**
baz=69,SNR=19
120A U Bar Ranch, L 68.34 355 ⇑P **P 19 34 39.3 +0.1**
baz=69,SNR=47
122A Conniff Cattle 68.39 356 ⇓P **P 19 34 39.3 -0.2**
baz=69
VBMS Vicksburg 68.74 11 PFAKE 19 34 50.0 +8.6
VBMS LR LR
comp=Z,945nm,21.0s
Z29A Hungry Hill Ra 68.83 1 ⇓P **P 19 34 41.9 -0.2**
baz=69
Z26A Caprock 68.85 359 ⇑P **P 19 34 41.5 -0.7**
baz=69
Z28A Tucker Farm, M 68.86 0 ⇓P **P 19 34 41.8 -0.5**
baz=69
Z30A Sanderson Ranc 68.87 1 ⇑P **P 19 34 41.9 -0.4**
baz=69
Z27A Tatum 68.88 360 ⇑P **P 19 34 42.0 -0.5**
baz=69
Z20A Nine Sixteen R 68.90 355 ⇓P **P 19 34 42.3 -0.3**
baz=69
Z23A Rita Site, Whi 68.91 357 ⇓P **P 19 34 42.5 -0.1**
baz=69
Z31A Sharp Cattle R 68.93 2 ⇑P **P 19 34 42.0 -0.6**
baz=69,SNR=8.9
Z22A Elephant Butte 68.94 356 ⇑P **P 19 34 43.0 +0.1**
baz=69,SNR=23
Z32A Haskell 68.94 3 ⇑P **P 19 34 42.5 -0.1**
baz=69,SNR=6.7
Z24A Sheeppen Canyo 68.94 358 ⇓P **P 19 34 42.7 -0.2**
baz=69
Z21A St. Cloud Mine 69.03 356 ⇑P **P 19 34 43.4 -0.1**
baz=70,SNR=7.2
113A Mohawk Valley, 69.12 350 ⇓P **P 19 34 44.0 +0.2**
baz=70
TIGA Tifton 69.37 17 ⇑P **P 19 34 45.0 -0.4**
baz=70
DVTC Desert V Tower 69.38 348 ⇓P **P 19 34 44.1 -1.4**
baz=70
Y29A Porterfield Fa 69.43 1 ⇑P **P 19 34 46.4 +0.5**
baz=70
Y27A Causey 69.45 360 ⇓P **P 19 34 45.5 -0.5**
baz=70
Y30A Stafford Cattl 69.46 2 ⇓P **P 19 34 45.9 0.0**
baz=70
Y28A McKinney Farm, 69.48 0 ⇑P **P 19 34 45.8 -0.3**
baz=70
BAR Barrett 69.50 347 eP **P 19 34 46.6 +0.4**
comp=Z,85nm,1.4s
Y26A Elida 69.50 359 ⇓P **P 19 34 45.8 -0.5**
baz=70
Y25A Mesa, Roswell 69.51 358 ⇑P **P 19 34 45.9 -0.4**
baz=70,SNR=19
MSTX Muleshoe 69.53 360 ⇓P **P 19 34 45.8 -0.7**
baz=70
Y24A Capitan 69.54 358 ⇓P **P 19 34 46.1 -0.5**
baz=70,SNR=20
GLA Glamis 69.56 349 eP **P 19 34 47.1 +0.5**
GLA pmax pmax
comp=Z,53nm,1.3s
GLA Glamis 69.56 349 eP **P 19 34 47.0 +0.5**
comp=Z,53nm,1.3s
GLA Glamis 69.56 349 ⇓P **P 19 34 46.0 -0.6**
baz=70
Y31A Rekieta Farm, 69.56 2 ⇓P **P 19 34 46.0 -0.6**
baz=70,SNR=7.8
Y23A Lovelace Mesa, 69.57 357 ⇓P **P 19 34 46.3 -0.5**
baz=70,SNR=18
Z14A Wintersburg 69.59 351 ⇓P **P 19 34 46.5 -0.3**
baz=70
SWSC Sam W. Stewart 69.60 348 ⇓P **P 19 34 46.4 -0.4**
baz=70
Y22A Socorro 69.62 356 ⇑P **P 19 34 46.1 -0.9**
baz=70
Y32A R-V Farms, Ver 69.64 3 ⇑P **P 19 34 46.3 -0.7**
baz=70
MONP Monument Peak 69.66 348 ⇓P **P 19 34 46.8 -0.6**
baz=70
Y20A Horse Springs, 69.68 355 ⇓P **P 19 34 46.8 -0.7**
baz=70,SNR=42
Y21A Point of Rocks 69.73 356 ⇓P **P 19 34 48.0 +0.2**
baz=70,SNR=26
TRIS Tristan da Cun 69.73 122 PFAKE 19 35 00.0 +12
TRIS LR LR
comp=Z,4µm,19.0s
109C Camp Elliot, M 69.78 347 ⇑P **P 19 34 47.6 -0.3**
baz=70
BNM Barren Site 69.81 357 eP **P 19 34 48.8 +0.5**
comp=Z,11nm,1.1s
LENM Lemitar 69.85 356 eP **P 19 34 49.2 +0.7**
comp=Z,11nm,0.9s
LPM Los Pinos Moun 69.97 357 eP **P 19 34 52.1 +2.8**
comp=Z,6.6nm,0.8s
X29A Tulia 70.02 1 ⇓P **P 19 34 49.0 -0.4**
baz=70
X30A Coker Ranch, T 70.03 2 ⇓P **P 19 34 48.9 -0.5**
baz=70
X28A Dimmitt 70.08 0 ⇓P **P 19 34 49.1 -0.7**
baz=70
LAZ Ladron 70.09 356 eP **P 19 34 49.5 -0.6**
comp=Z,29nm,1.6s
X25A Clemmons Ranch 70.12 358 ⇓P **P 19 34 49.6 -0.5**
baz=71
X26A CR and CF Fran 70.12 359 ⇑P **P 19 34 49.6 -0.5**
baz=71,SNR=8.3
SCI San Clemente I 70.14 346 ⇓P **P 19 34 49.6 -0.4**
baz=71
LRAL Lakeview Retre 70.16 14 eP **P 19 34 49.7 -0.5**
comp=Z,25nm,0.7s
LRAL LR LR
comp=Z,3µm,22.0s
Y14A Wickenburg 70.17 351 ⇓P **P 19 34 50.6 +0.2**
baz=71,SNR=25
X22A Bernardo 70.19 356 ⇑P **P 19 34 50.9 +0.3**
baz=71
Y12C Blythe 70.19 350 ⇓P **P 19 34 50.8 +0.4**
baz=71
X27A F and S Farms, 70.21 360 ⇓P **P 19 34 50.8 +0.1**
baz=71
X23A Hourglass Bar 70.22 357 ⇑P **P 19 34 50.7 -0.1**
baz=71
X31A McDonald Ranch 70.24 2 ⇑P **P 19 34 50.3 -0.4**
baz=71
BC3 Big Chuckawall 70.24 349 ⇑P **P 19 34 50.9 +0.1**
baz=71
X20A Quemado 70.32 355 ⇑P **P 19 34 51.7 +0.2**
baz=71
PFO Pinyon Flat Ob 70.36 348 eP **P 19 34 52.4 +0.8**
comp=Z,40nm,1.3s
PFO LR LR
comp=Z,2µm,22.0s
PFO Pinyon Flat Ob 70.36 348 P **P 19 34 52.3 +0.7**
comp=Z,6.1nm,0.9s,baz=166,slow=7.1,SNR=12
WMOK Wichita Mounta 70.40 3 eP **P 19 34 50.6 -1.1**
WMOK pmax pmax
comp=Z,16nm,1.0s
WMOK MLR MLR
comp=Z,1µm,20.0s
WMOK Wichita Mounta 70.40 3 eP **P 19 34 50.6 -1.1**
comp=Z,16nm,1.0s
WMOK LR LR
comp=Z,1µm,20.0s
X18A Snowflake 70.42 354 ⇑P **P 19 34 51.8 -0.2**
baz=71,SNR=14
AMTX Amarillo 70.45 1 eP **P 19 34 52.1 +0.1**
comp=Z,6nm,1.0s
X16A Lo Mia Camp, P 70.46 352 ⇓P **P 19 34 52.1 -0.1**
baz=71
MURC Murrieta 70.49 347 ⇓P **P 19 34 52.0 -0.2**
baz=71
CIS Catalina Islan 70.52 346 ⇓P **P 19 34 52.5 0.0**
baz=71
ANMO Albuquerque 70.60 357 eP **P 19 34 52.9 -0.2**
comp=Z,28nm,1.3s
ANMO LR LR
comp=Z,2µm,20.0s
MIAR Mount Ida 70.62 8 eP **P 19 34 52.4 -0.6**
MIAR pmax pmax
comp=Z,27nm,1.2s
MIAR MLR MLR
comp=Z,935nm,22.0s
MIAR Mount Ida 70.62 8 eP **P 19 34 52.4 -0.6**
comp=Z,27nm,1.2s
MIAR LR LR
comp=Z,935nm,22.0s
W27A Bowe Ranch, En 70.63 360 ⇓P **P 19 34 53.1 -0.1**
baz=71
W26A Owens Ranch, T 70.66 359 ⇓P **P 19 34 53.1 -0.2**
baz=71
BELC Belle Mtn. Jos 70.67 348 ⇑P **P 19 34 53.9 +0.4**
baz=71,SNR=8.7
PDMCI Parker Dam,Lak 70.68 350 ⇑P **P 19 34 53.4 0.0**
baz=71
IRM Iron Mountain 70.69 349 ⇓P **P 19 34 53.3 -0.2**
baz=71
W29A Amraillo 70.69 1 ⇓P **P 19 34 52.7 -0.8**
baz=71
W22A Albuquerque 70.74 356 ⇑P **P 19 34 53.4 -0.6**
baz=71
W31A Holland Ranch, 70.80 2 ⇓P **P 19 34 54.0 -0.1**
baz=71
W23A Werner Place, 70.80 357 ⇓P **P 19 34 54.1 -0.2**
baz=71,SNR=26
W25A X Bar L Ranch, 70.80 358 ⇑P **P 19 34 54.3 0.0**
baz=71

W24A **Lazy 6 Ranch,** 70.82 358 ⇑P P 19 34 54.5 +0.1
baz=71,SNR=52
W28A **Vega** 70.82 0 ⇓P P 19 34 54.3 -0.1
baz=71
W20A **Ramah** 70.90 355 ⇑P P 19 34 55.5 +0.5
baz=71,SNR=16
W18A **Petrified Fore** 70.99 354 ⇑P P 19 34 55.5 0.0
baz=71
BFSC **Mount Baldy Ra** 71.19 347 ⇓P P 19 34 57.2 +0.5
baz=72
NEE2 **Needles Airpor** 71.21 350 ⇑P P 19 34 57.2 +0.6
baz=72
PASC **Pasadena Art C** 71.22 346 *e*P P 19 34 57.6 +1.0
comp=Z,18nm,0.4s
MWC **Mount Wilson** 71.25 347 *e*P P 19 35 00.1 +3.0
MWC pmax pmax
comp=Z,35nm,1.2s
MWC **Mount Wilson** 71.25 347 *e*P P 19 35 00.1 +3.0
comp=Z,35nm,1.2s
MSVF **Nonsavu** 71.28 261 *e*P P 19 34 56.9 -0.7
MSVF pmax pmax
comp=Z,112nm,1.4s
MSVF MLR MLR
comp=Z,2µm,20.0s
MSVF **Nonsavu** 71.28 261 *e*P P 19 34 56.9 -0.7
comp=Z,112nm,1.4s
MSVF LR LR
comp=Z,2µm,20.0s
V28A **Channing** 71.31 0 ⇑P P 19 34 57.9 +0.5
baz=72
V27A **Dan Oppiter Fa** 71.32 360 ⇑P P 19 34 57.8 +0.4
baz=72
V24A **Rampart Ranch,** 71.33 358 ⇓P P 19 34 58.2 +0.6
baz=72
BSC **Santa Cruz Isl** 71.34 345 ⇑P P 19 34 58.1 +0.6
baz=72
V30A **Spur Ranch, Mi** 71.35 2 ⇓P P 19 34 57.9 +0.5
baz=72
V26A **Tequesquite Ra** 71.36 359 ⇑P P 19 34 57.5 -0.1
baz=72
GMRC **Granite Mounta** 71.38 349 ⇑P P 19 34 57.9 +0.1
baz=72,SNR=22
V23A **Ortiz Mt. (NFS** 71.38 357 ⇑P P 19 34 57.6 -0.2
baz=72
V31A **Spring Creek L** 71.39 2 ⇑P P 19 34 57.4 -0.3
baz=72
V25A **Rancho No Teng** 71.42 358 ⇑P P 19 34 57.6 -0.5
baz=72,SNR=13
W13A **Hualapai Mount** 71.43 350 ⇑P P 19 34 57.9 -0.3
baz=72,SNR=9.3
V29A **Stinnett** 71.44 1 ⇓P P 19 34 58.0 0.0
baz=72
V21A **Milan** 71.52 356 ⇓P P 19 34 58.8 +0.1
baz=72
HEC **Hector,Ludlow** 71.54 348 ⇓P P 19 34 58.7 0.0
baz=72,SNR=13
WUAZ **Wupatki** 71.54 353 *e*P P 19 34 59.9 +1.1
comp=Z,60nm,1.4s
WUAZ **Wupatki** 71.54 353 ⇑P P 19 34 58.6 -0.2
baz=72
V20A **Brimhall** 71.56 355 ⇑P P 19 34 59.3 +0.4
baz=72,SNR=7.2
V22A **San Miguel Ran** 71.58 356 ⇑P P 19 34 59.6 +0.5
baz=72,SNR=15
RRX **Edison Barstow** 71.70 348 ⇑P P 19 35 00.1 +0.5
baz=72
SYO **Syowa Base** 71.72 167⇑*e*P P 19 34 57.6 -1.7
SYO **Syowa Base** 71.72 167⇓*e*P P 19 35 06.7 +7.4
TUL1 **Tulsa** 71.76 6 ⇑P P 19 34 59.4 -0.4
baz=72
NHSC **New Hope** 71.83 20 *e*P P 19 34 59.3 -1.0
comp=Z,95nm,1.1s
NHSC LR LR
comp=Z,3µm,20.0s
EDW2 **Edwards Air Fo** 71.88 347 ⇑P P 19 35 00.8 +0.1
baz=72
U28A **Mallet** 71.94 0 ⇑P P 19 35 01.4 +0.3
baz=72
U26A **Atchley Ranch,** 71.96 359 ⇓P P 19 35 01.0 -0.3
baz=72,SNR=11
U23A **El Rito** 71.96 357 ⇑P P 19 35 01.3 -0.1
baz=72
U25A **Circle Dot Ran** 71.98 359 ⇓P P 19 35 01.4 -0.1
baz=72
U31A **Nine Bar Ranch** 71.98 2 ⇑P P 19 35 01.1 -0.1
baz=72
U27A **Thompson Grove** 71.98 360 ⇑P P 19 35 01.3 -0.1
baz=72
U24A **Moreno Valley** 72.01 358 ⇓P P 19 35 01.5 -0.2
baz=72
U29A **Oasis Ranch, S** 72.02 1 ⇑P P 19 35 01.1 -0.4
baz=72
U22A **Llaves** 72.04 356 ⇓P P 19 35 02.1 +0.2
baz=72,SNR=6.4
TUQ **Turquoise Moun** 72.06 349 ⇑P P 19 35 01.4 -0.4
baz=72
GSC **Goldstone** 72.08 348 *e*P P 19 35 02.7 +0.8
GSC pmax pmax
comp=Z,45nm,1.1s
GSC **Goldstone** 72.08 348 *e*P P 19 35 02.7 +0.8
comp=Z,45nm,1.1s
GSC **Goldstone** 72.08 348 ⇓P P 19 35 01.9 0.0
baz=72,SNR=11
U30A **WK&E Inc. Balk** 72.11 2 ⇑P P 19 35 01.8 -0.3
baz=73
U21A **Nageezi** 72.14 356 ⇑P P 19 35 02.3 -0.1
baz=73,SNR=14
U20A **Newcomb** 72.14 355 ⇓P P 19 35 01.8 -0.5
baz=73
PKM **Peak Mountain** 72.25 345 ⇓P P 19 35 03.3 +0.3
baz=73,SNR=12
ARVC **Arvin** 72.28 346 ⇓P P 19 35 02.6 -0.4
baz=73
LRMC **Laurel Mountai** 72.40 347 ⇓P P 19 35 03.6 -0.3
baz=73
U15A **North Rim** 72.54 352 ⇑P P 19 35 04.9 0.0
baz=73,SNR=20
T27A **Campo** 72.62 360 ⇓P P 19 35 04.8 -0.3
baz=73
T30A **Plains** 72.64 2 ⇑P P 19 35 05.0 -0.1
baz=73
T23A **Casias Ranch,** 72.66 357 ⇓P P 19 35 05.2 -0.4
baz=73
T22A **Edith** 72.68 356 ⇓P P 19 35 05.7 +0.1
baz=73,SNR=15
T28A **Walsh** 72.68 0 ⇓P P 19 35 05.2 -0.3
baz=73
SMMC **Simmler** 72.69 345 ⇑P P 19 35 05.1 -0.3
baz=73
T31A **Randall Ranch,** 72.71 3 ⇑P P 19 35 05.2 -0.3
baz=73
T25A **Trinidad** 72.72 359 ⇑P P 19 35 05.5 -0.4
baz=73,SNR=14
ISA **Isabella** 72.73 347 *e*P P 19 35 06.6 +0.9
ISA pmax pmax
comp=Z,28nm,1.0s
ISA **Isabella** 72.73 347 *e*P P 19 35 06.6 +0.9
comp=Z,28nm,1.0s
ISA **Isabella** 72.73 347 ⇓P P 19 35 05.4 -0.4
baz=73
T29A **Hugoton** 72.73 1 ⇓P P 19 35 04.8 -0.9
baz=73
T26A **Comanche Natio** 72.74 359 ⇑P P 19 35 05.6 -0.3
baz=73,SNR=11
MPMC **Manual Prospec** 72.93 347 ⇓P P 19 35 07.0 -0.1
baz=73,SNR=18
MVCO **Mesa Verde** 72.97 355 *e*P P 19 35 07.4 +0.1
comp=Z,46nm,0.7s
MVCO LR LR
comp=Z,1µm,20.0s
MVCO **Mesa Verde** 72.97 355 ⇑P P 19 35 07.1 -0.2
baz=73,SNR=26
CPCT **Cooper Cave** 73.00 15 *e*P P 19 35 06.5 -0.8
S28A **Manter** 73.15 1 ⇓P P 19 35 08.2 -0.1
baz=74,SNR=7.4
S26A **Kim** 73.18 359 ⇑P P 19 35 08.7 +0.2
baz=74,SNR=24
S29A **Ulysses** 73.19 1 ⇓P P 19 35 08.1 -0.4
baz=74
FURC **Furnace Creek,** 73.23 348 ⇑P P 19 35 08.2 -0.3
baz=74
S30A **Montezuma** 73.23 2 ⇓P P 19 35 08.4 -0.3
baz=74
S24A **Houchin Ranch,** 73.24 358 ⇑P P 19 35 08.4 -0.6
baz=74,SNR=35
S25A **Robets Cordova** 73.24 359 ⇓P P 19 35 08.9 0.0
baz=74,SNR=55
S31A **Mullinville** 73.24 3 ⇓P P 19 35 08.5 -0.2
baz=74
S27A **Las Animas** 73.24 360 ⇓P P 19 35 08.9 0.0
baz=74
SDCO **Great Sand Dun** 73.35 358 *e*P P 19 35 09.3 -0.3
comp=Z,23nm,0.9s
SDCO LR LR
comp=Z,2µm,19.0s
S21A **Coal Bank Pass** 73.37 356 ⇑P P 19 35 10.0 +0.1
baz=74,SNR=39
S22A **4UR Ranch, Cre** 73.40 357 ⇓P P 19 35 10.0 0.0
baz=74,SNR=24
CWC **Cottonwood Cre** 73.41 347 ⇑P P 19 35 09.5 -0.4
baz=74
KMSC **Kings Mountain** 73.45 18 ⇓P P 19 35 09.6 -0.4
baz=74,SNR=6.2
S20A **Disappointment** 73.58 355 ⇓P P 19 35 10.8 -0.1
baz=74,SNR=17
R25A **Fountain Ranch** 73.72 359 ⇓P P 19 35 11.5 -0.1
baz=74,SNR=14
CCUT **Cedar City** 73.78 351 *e*P P 19 35 13.3 +1.2
comp=Z,101nm,1.3s
R23A **Moffat** 73.81 357 ⇑P P 19 35 11.9 -0.4
baz=74
R24A **Sanders Place,** 73.82 358 ⇓P P 19 35 12.1 -0.2
baz=74,SNR=18
R27A **Eads** 73.84 360 ⇓P P 19 35 11.8 -0.6
baz=74
R26A **Arlington** 73.86 359 ⇓P P 19 35 12.2 -0.2
baz=74,SNR=23
R30A **Dighton** 73.88 2 ⇑P P 19 35 12.4 0.0
baz=74
R22A **Saguache, Gunn** 73.88 357 ⇓P P 19 35 12.7 -0.1
baz=74
PV01 **Paradox Valley** 73.89 355 *e*P P 19 35 13.9 +1.1
comp=Z,3µm,1.0s
R28A **Tribune** 73.90 1 ⇑P P 19 35 12.2 -0.4
baz=74
R31A **Burdett** 73.90 3 ⇑P P 19 35 12.6 0.0
baz=74
R20A **Redvale** 73.93 355 ⇑P P 19 35 12.9 -0.1
baz=74,SNR=15
R29A **Marienthal** 74.00 1 ⇑P P 19 35 13.1 0.0
baz=74
ARUT **Antelope Range** 74.02 351 *e*P P 19 35 17.4 +4.0
ARUT pmax pmax
comp=Z,46nm,1.2s
ARUT **Antelope Range** 74.02 351 *e*P P 19 35 17.4 +4.0
comp=Z,46nm,1.2s
R21A **Cimarron** 74.06 356 ⇑P P 19 35 13.7 -0.1
baz=74,SNR=20
PV04 **Paradox Valley** 74.17 355 *e*P P 19 35 14.8 +0.4
TZTN **Tazewell** 74.27 16 *e*P P 19 35 12.6 -2.1
comp=Z,37nm,1.1s
SIUC **Southern Illin** 74.33 11 *e*P P 19 35 14.1 -1.0
comp=Z,67nm,1.1s
SAO **San Andreas Ge** 74.39 344 *e*P P 19 35 15.6 +0.2
SAO pmax pmax
comp=Z,26nm,0.9s
SAO **San Andreas Ge** 74.39 344 *e*P P 19 35 15.6 +0.2
comp=Z,26nm,0.9s
CNNC **Cliffs of the** 74.48 21 PFAKE 19 35 30.0 +14
CNNC LR LR
comp=Z,3µm,20.0s
Q26A **Hugo** 74.48 359 ⇑P P 19 35 16.2 +0.1
baz=75
Q25A **Bedland, Calha** 74.48 359 ⇓P P 19 35 16.1 -0.1
baz=75
Q23A **Hartsel** 74.52 357 ⇓P P 19 35 16.6 0.0
baz=75
Q22A **Crested Butte,** 74.52 357 ⇓P P 19 35 16.3 -0.2
baz=75
Q21A **Lamborn Mesa,** 74.53 356 ⇑P P 19 35 17.0 +0.6
baz=75
Q24A **Divide** 74.56 358 ⇑P P 19 35 16.9 +0.2
baz=75
KSCO **Kaye Shedlock'** 74.57 0 ⇓P P 19 35 17.0 +0.4
baz=75
Q30A **Quinter** 74.57 2 ⇑P P 19 35 16.2 -0.2
baz=75
MVU **Marysvale** 74.58 352 PFAKE 19 35 30.0 +13
MVU LR LR
comp=Z,2µm,22.0s
MSU **Marysvale** 74.59 352 *e*P P 19 35 17.8 +1.0
MSU pmax pmax
comp=Z,79nm,1.5s
MSU **Marysvale** 74.59 352 *e*P P 19 35 17.8 +1.0
comp=Z,79nm,1.5s
Q28A **Sharon Springs** 74.62 1 ⇑P P 19 35 16.3 -0.6
baz=75
Q31A **Ellis** 74.62 3 ⇑P P 19 35 16.7 -0.1
baz=75
Q20A **Ridgley Place,** 74.69 355 ⇓P P 19 35 17.5 +0.1
baz=75,SNR=12
MLAC **Mammoth Lakes** 74.70 347 ⇑P P 19 35 17.1 -0.5
baz=75
SMCO **Snowmass** 74.84 357 *e*P P 19 35 19.1 +0.6
comp=Z,64nm,1.1s
TPH **Tonopah** 74.85 348 PFAKE 19 35 30.0 +12
TPH LR LR
comp=Z,788nm,21.0s
KSU1 **Kansas State U** 74.87 5 *e*P P 19 35 17.3 -0.9
KSU1 LR LR
comp=Z,844nm,20.0s
Q16A **Castle Valley** 74.89 353 ⇑P P 19 35 19.1 +0.6
baz=75,SNR=7.9
CASY **Casey** 74.96 193 *e*P P 19 35 17.1 -1.3
comp=Z,54nm,1.4s
CASY LR LR
comp=Z,4µm,22.0s
P23A **Jefferson** 74.99 357 ⇑P P 19 35 19.8 +0.6
baz=75,SNR=19
SRU **San Rafael** 75.02 354 *e*P P 19 35 19.4 +0.1
SRU pmax pmax
comp=Z,36nm,0.9s
SRU **San Rafael** 75.02 354 *e*P P 19 35 19.4 +0.1
comp=Z,36nm,0.9s
P25A **Willow Gulch B** 75.08 359 ⇓P P 19 35 19.7 +0.2
baz=76,SNR=6.2
P24A **Kohler Place,** 75.10 358 ⇓P P 19 35 20.0 +0.3
baz=76
P27A **Ficken Ranch,** 75.11 0 ⇑P P 19 35 19.7 0.0
baz=76
P26A **Davis Ranch, A** 75.12 359 ⇑P P 19 35 20.3 +0.5
baz=76,SNR=8.7
P28A **Saint Francis** 75.13 1 ⇓P P 19 35 19.7 0.0
baz=76
P30A **Selden** 75.13 2 ⇑P P 19 35 19.9 +0.1
baz=76
P31A **Stockton** 75.14 3 ⇑P P 19 35 19.4 -0.3
baz=76
P22A **Eagle** 75.24 357 ⇓P P 19 35 20.5 -0.1
baz=76,SNR=14
TMUT **Trail Mountain** 75.26 353 *e*P P 19 35 20.7 -0.1
comp=Z,47nm,0.9s
WCI **Wyandotte Cave** 75.33 13 *e*P P 19 35 19.5 -1.3
WCI pmax pmax
comp=Z,34nm,1.0s
WCI **Wyandotte Cave** 75.33 13 *e*P P 19 35 19.5 -1.3
comp=Z,34nm,1.0s
NV11 **Mina Array Sit** 75.36 347 *e*P P 19 35 21.7 +0.5
NVAR **Mina Array Bea** 75.38 347 P P 19 35 22.2 +0.8
NVAR **Mina Array Bea** 75.38 347 P P 19 35 22.2 +0.8
comp=Z,15nm,0.7s,baz=184,slow=7.3,SNR=42
NVAR LR LR 20 01 00.2
comp=Z,2µm,19.9s,baz=187,slow=30
CMB **Columbia Colle** 75.40 346 *e*P P 19 35 21.8 +0.5
CMB pmax pmax
comp=Z,46nm,1.0s
CMB **Columbia Colle** 75.40 346 *e*P P 19 35 21.8 +0.5
comp=Z,46nm,1.0s
ISCO **Idaho Springs** 75.40 358 *e*P P 19 35 21.8 +0.2
ISCO pmax pmax
comp=Z,41nm,1.3s
ISCO MLR MLR
comp=Z,1µm,19.0s
ISCO **Idaho Springs** 75.40 358 *e*P P 19 35 21.8 +0.2
comp=Z,41nm,1.3s
ISCO LR LR
comp=Z,1µm,19.0s
ISCO **Idaho Springs** 75.40 358 ⇑P P 19 35 21.6 0.0
baz=76,SNR=6.1
P19A **Cripple Cowboy** 75.41 355 ⇑P P 19 35 21.2 -0.3
baz=76
OLIL **Olney** 75.50 12 *e*P P 19 35 21.0 -0.8
comp=Z,70nm,0.9s
BLA **Blacksburg** 75.65 18 PFAKE 19 35 30.0 +7.3
BLA LR LR
comp=Z,3µm,21.0s
O25A **Wiggins** 75.68 359 ⇑P P 19 35 23.2 +0.3
baz=76
O28A **Krutsinger Ran** 75.69 1 ⇓P P 19 35 23.0 +0.1
baz=76
O24A **Longmont** 75.71 358 ⇓P P 19 35 22.9 -0.2
baz=76
O27A **Beecher Island** 75.75 0 ⇓P P 19 35 23.1 -0.2
baz=76
O30A **MW Ranch, Wils** 75.77 2 ⇓P P 19 35 23.6 +0.3
baz=76
O26A **Horse Wrangler** 75.80 360 ⇓P P 19 35 23.9 +0.3
baz=76
O22A **Kremmling** 75.80 357 ⇓P P 19 35 24.2 +0.3
baz=76,SNR=6.8
O23A **Lake Granby, G** 75.82 357 ⇑P P 19 35 24.4 +0.4
baz=76
O20A **White River Ci** 75.86 356 ⇑P P 19 35 24.4 +0.3
baz=76
O21A **Pagoda** 75.90 356 ⇑P P 19 35 24.8 +0.5
baz=76
MPU **Maple Canyon** 76.02 353 *e*P P 19 35 26.1 +1.1
comp=Z,20nm,0.8s
O19A **Miners Draw (B** 76.08 355 ⇓P P 19 35 25.5 +0.2
baz=76,SNR=12
MAW **Mawson** 76.21 174 P P 19 35 25.3 -0.2
MAW **Mawson** 76.21 174 P P 19 35 25.3 -0.2
comp=Z,9.1nm,0.7s,baz=196,slow=5.7,SNR=17
MAW LR LR 20 07 06.4
comp=Z,3µm,20.4s,baz=190,slow=34
DUG **Dugway** 76.32 352 *e*P P 19 35 28.0 +1.4
DUG pmax pmax
comp=Z,49nm,1.3s
DUG MLR MLR
comp=Z,2µm,22.0s
DUG **Dugway** 76.32 352 *e*P P 19 35 28.0 +1.4
comp=Z,49nm,1.3s
DUG LR LR
comp=Z,2µm,22.0s
DUG **Dugway** 76.32 352 ⇓P P 19 35 27.4 +0.7
baz=77
N27A **Anderson Farm,** 76.36 0 ⇓P P 19 35 27.3 +0.6
baz=77
DAU **Daniels Canyon** 76.38 353 *e*P P 19 35 28.2 +1.1
DAU pmax pmax
comp=Z,120nm,1.0s
DAU **Daniels Canyon** 76.38 353 *e*P P 19 35 28.2 +1.1
comp=Z,120nm,1.0s
N26A **Koester Ranch,** 76.38 360 ⇓P P 19 35 27.4 +0.4
baz=77
N30A **Hueftle Ranch,** 76.39 2 ⇑P P 19 35 27.2 +0.4
baz=77
N29A **Votaw Ranch, W** 76.40 2 ⇑P P 19 35 27.3 +0.4
baz=77
N24A **Carr** 76.41 358 ⇓P P 19 35 27.4 +0.2
baz=77
N22A **Wattenberg Ran** 76.43 357 ⇑P P 19 35 27.1 -0.3
baz=77,SNR=7.5
N21A **Black Mountain** 76.44 356 ⇓P P 19 35 27.2 -0.2
baz=77,SNR=7.1
OGNE **Ogallala** 76.50 1 *e*P P 19 35 27.5 0.0
comp=Z,69nm,0.8s
OGNE LR LR
comp=Z,1µm,22.0s
OGNE **Ogallala** 76.50 1 ⇑P P 19 35 27.5 0.0
baz=77
N23A **Red Feather La** 76.51 357 ⇓P P 19 35 27.2 -0.6
baz=77,SNR=16
N20A **Spence Gulch,** 76.56 356 ⇓P P 19 35 28.5 +0.4
baz=77
JLU **Jordanelle** 76.58 353 *e*P P 19 35 29.6 +1.3
comp=Z,44nm,1.1s
CTU **Camp Tracy** 76.70 353 *e*P P 19 35 27.6 -1.2
comp=Z,40nm,1.3s
BBSR **BB Station** 76.70 32 PFAKE 19 35 40.0 +11
BBSR LR LR
comp=Z,2µm,21.0s
HOPS **Hopland** 76.89 344 *e*P P 19 35 29.0 -0.7
comp=Z,70nm,1.1s
M28A **Bar X Bar Ranc** 76.96 1 ⇑P P 19 35 30.5 +0.3
baz=77
M25A **Palm-Egli Farm** 77.00 359 ⇓P P 19 35 30.9 +0.5
baz=77
M29A **Burnside Ranch** 77.02 2 ⇑P P 19 35 30.8 +0.4
baz=78
M26A **McRoberts Ranc** 77.02 360 ⇑P P 19 35 30.7 +0.2
baz=78
M22A **Cedar Creek Ra** 77.04 357 ⇑P P 19 35 30.8 0.0
baz=78
M24A **Cheyenne** 77.05 358 ⇓P P 19 35 30.4 -0.3
baz=78,SNR=11
BGNE **Belgrade** 77.07 4 ⇓P P 19 35 30.2 -0.5
baz=78
M27A **Reese DX Ran** 77.08 0 ⇓P P 19 35 30.4 -0.4
baz=78
HDIL **Hopedale** 77.10 10 *e*P P 19 35 29.9 -0.9
comp=Z,49nm,0.8s
HDIL LR LR
comp=Z,2µm,21.0s
MIR **Mirnyy** 77.13 186 *e*P P 19 35 32.0 +1.2
MIR *e* 19 35 34.0
MIR *e* 19 35 50.0
MIR *e*S S 19 45 20.0 +1.1
MIR *e*PS PnS 19 45 56.0 -2.0
MIR MLR MLR
comp=N,4µm,20.0s
MIR MLR MLR
comp=E,2µm,20.0s
MIR MLR MLR
comp=Z,6µm,20.0s
BMN **Battle Mountai** 77.15 349 *e*P P 19 35 33.2 +1.9
BMN pmax pmax
comp=Z,31nm,1.0s
BMN MLR MLR
comp=Z,740nm,19.0s
BMN **Battle Mountai** 77.15 349 *e*P P 19 35 33.2 +1.9
comp=Z,31nm,1.0s
BMN LR LR
comp=Z,740nm,19.0s
BEKR **Beckworth** 77.16 346 *e*P P 19 35 32.2 +0.8
comp=Z,23nm,1.1s
ELK **Elko** 77.17 350 *e*P P 19 35 31.9 +0.4
comp=Z,14nm,1.0s
ELK **Elko** 77.17 350 LR LR 20 02 31.2
comp=Z,1µm,21.7s,baz=133,slow=30
M20A **Sweetwater, Wa** 77.21 356 ⇑P P 19 35 30.9 -0.8
baz=78,SNR=19
SFIN **Scholer Farm** 77.28 12 ⇓P P 19 35 31.7 -0.1
baz=78
M21A **Separation Pea** 77.28 356 ⇑P P 19 35 31.8 -0.4
baz=78
M19A **Rock Springs** 77.29 355 ⇑P P 19 35 31.7 -0.5
baz=78
M17A **Scullys Gap (B** 77.37 354 ⇓P P 19 35 32.4 -0.2
baz=78
CBN **Corbin** 77.39 20 PFAKE 19 35 40.0 +7.5
CBN LR LR
comp=Z,4µm,19.0s
KIP **Kipapa** 77.40 308 PFAKE 19 35 40.0 +7.0
KIP LR LR
comp=Z,4µm,19.0s
HWUT **Hardware Ranch** 77.59 353 *e*P P 19 35 35.8 +2.0
comp=Z,22nm,0.8s
HWUT LR LR
comp=Z,2µm,19.0s
L26A **Underwood Farm** 77.59 360 ⇓P P 19 35 33.6 -0.1
baz=78
L24A **Wheatland** 77.62 358 ⇑P P 19 35 33.7 -0.2
baz=78
L21A **Rawlins** 77.64 356 ⇑P P 19 35 33.1 -1.0
baz=78,SNR=11
L29A **Maesberg Ranch** 77.64 2 ⇑P P 19 35 33.8 -0.1
baz=78
L22A **Ellis Ranch, M** 77.66 357 ⇑P P 19 35 34.1 -0.1
baz=78
KCPM **Cahto Peak** 77.67 344 *e*P P 19 35 35.1 +0.9
comp=Z,21nm,1.1s
L23A **Garrett** 77.72 358 ⇑P P 19 35 34.1 -0.5
baz=78
L25A **Engebretsen Ra** 77.72 359 ⇓P P 19 35 34.3 -0.1
baz=78
L20A **Wamsutter** 77.73 356 ⇑P P 19 35 34.4 -0.2
baz=78
KIPM **Iron Peak** 77.76 344 *e*P P 19 35 36.2 +1.5
comp=Z,64nm,1.1s
L18A **Fontenelle, Gr** 77.77 354 ⇓P P 19 35 34.7 -0.1
baz=78
HVU **Hansel Valley** 77.88 352 *e*P P 19 35 34.5 -0.9
HVU pmax pmax

comp=Z,40nm,1.2s
HVU Hansel Valley 77.88 352 *e*P P 19 35 34.5 -0.9
comp=Z,40nm,1.2s
L19A Farson 77.89 355 ⇑P P 19 35 35.3 -0.2
baz=78
SCIA State Center 77.94 7 PFAKE 19 35 50.0 +14
SCIA LR LR
comp=Z,1µm,19.0s
DZM Mont Dzumac 78.06 251 *e*S S 19 45 29.0 -1.7
comp=Z,3µm,34.4s
DZM *e*SS SS 19 50 33.7 +1.9
comp=Z,1µm,27.9s
DZM *e*LQ LQ 19 56 27.9
comp=Z,4µm,29.6s
DZM *e*LR LR 19 59 47.8
comp=Z,12µm,27.7s
K25A Mack Ranch, Ha 78.17 359 ⇑P P 19 35 37.0 0.0
baz=79
K26A Motz Farm, Whi 78.25 360 ⇑P P 19 35 37.5 +0.2
baz=79
K27A Fluecknger Fa 78.26 0 ⇓P P 19 35 37.4 +0.1
baz=79
K28A Ten Mile Ranch 78.28 1 ⇓P P 19 35 37.4 0.0
baz=79
K22A Casper 78.28 357 ⇓P P 19 35 37.3 -0.3
baz=79,SNR=5.8
WDC Whiskeytown Da 78.29 345 *e*P P 19 35 36.4 -1.1
WDC pmax pmax
comp=Z,36nm,0.8s
WDC Whiskeytown Da 78.29 345 *e*P P 19 35 36.4 -1.1
comp=Z,36nm,0.8s
K24A Anderson Ranch 78.30 358 ⇓P P 19 35 37.2 -0.5
baz=79
K29A Lazy Trails An 78.34 2 ⇓P P 19 35 37.3 -0.5
baz=79
K23A Bowen Ranch, D 78.35 358 ⇓P P 19 35 37.6 -0.4
baz=79
K20A Yellowstone Ra 78.38 356 ⇓P P 19 35 37.7 -0.4
baz=79
BW06 Boulder Array 78.57 355 PFAKE 19 35 50.0 +11
BW06 LR LR
comp=Z,486nm,19.0s
PDAR Pinedale Array 78.57 355 P P 19 35 39.2 -0.1
PDAR PKKPbc PKKPbc 19 54 37.2 +0.2
PDAR Pinedale Array 78.57 355 P P 19 35 39.2 -0.1
comp=Z,21nm,0.6s,baz=163,slow=6.2,SNR=57
PDAR PKKPbc PKKPbc 19 54 37.2 +0.2
comp=Z,0.4nm,0.6s,baz=328,slow=3.2,SNR=3.9
PDAR LR LR 20 06 37.5
comp=Z,828nm,18.2s,baz=9.9,slow=33
K19A Absolon Red Bu 78.58 355 ⇓P P 19 35 38.4 -0.8
baz=79,SNR=18
SDMD Soldier's Deli 78.67 20 *e*P P 19 35 37.7 -1.9
comp=Z,32nm,1.1s
KHMM Horse Mountain 78.84 344 *e*P P 19 35 41.2 +0.6
comp=Z,73nm,1.3s
J24A Dixon Ranch, L 78.90 359 ⇓P P 19 35 41.1 +0.2
baz=79
TAU Tasmania Unive 78.91 225 PFAKE 19 35 50.0 +8.9
TAU LR LR
comp=Z,5µm,21.0s
J28A Allard Ranch, 78.99 1 ⇓P P 19 35 40.5 -0.8
baz=79,SNR=12
J23A Dilts Ranch, B 79.00 358 ⇓P P 19 35 41.1 -0.4
baz=80
J21A Lysite 79.02 356 ⇑P P 19 35 40.5 -1.1
baz=80,SNR=22
J19A Crowheart 79.03 355 ⇓P P 19 35 41.0 -0.7
baz=80
J22A Midwest 79.04 357 ⇓P P 19 35 42.0 +0.2
baz=80
J20A Shoshoni 79.06 356 ⇑P P 19 35 41.2 -0.6
baz=80,SNR=23
MOD Modoc 79.12 347 P P 19 35 42.5 +0.3
JFWS Jewell Farm 79.28 9 *e*P P 19 35 42.2 -0.7
JFWS pmax pmax
comp=Z,37nm,1.2s
JFWS MLR MLR
comp=Z,2µm,19.0s
JFWS Jewell Farm 79.28 9 *e*P P 19 35 42.1 -0.7
comp=Z,37nm,1.2s
JFWS LR LR
comp=Z,2µm,19.0s
RRI2 Red Ridge 79.29 354 *e*P P 19 35 44.1 +0.8
comp=Z,57nm,1.2s
WVOR Wild Horse Val 79.34 348 *e*P P 19 35 45.0 +1.7
WVOR pmax pmax
comp=Z,28nm,1.0s
WVOR Wild Horse Val 79.34 348 *e*P P 19 35 45.0 +1.7
comp=Z,28nm,1.0s
SNOW Snow King Moun 79.36 354 *e*P P 19 35 44.3 +0.7
comp=Z,39nm,0.9s
TPAW Teton Pass 79.40 354 *e*P P 19 35 43.9 +0.1
comp=Z,74nm,1.1s
I24A Kuemmerle Ranc 79.43 359 ⇑P P 19 35 43.5 -0.3
baz=80
YBH Yreka Blue Hor 79.43 345 *e*P P 19 35 43.4 -0.4
comp=Z,12nm,0.7s
YBH Yreka Blue Hor 79.43 345 LR LR 20 02 49.9
comp=Z,2µm,21.5s,baz=140,slow=30
I21A Big Trails, Te 79.47 357 ⇑P P 19 35 42.9 -1.2
baz=80,SNR=25
ECSD EROS Data Cent 79.48 4 *e*P P 19 35 43.5 -0.5
ECSD LR LR
comp=Z,1µm,21.0s
LOHW Long Hollow 79.49 354 *e*P P 19 35 44.6 +0.3
comp=Z,15nm,0.8s
KRMB Red Mountain 79.49 344 *e*P P 19 35 46.1 +1.9
comp=Z,35nm,1.6s
I18A Diamond G Ranc 79.52 355 ⇓P P 19 35 43.6 -0.9
baz=80
I22A 9 Mile Ranch, 79.52 357 ⇓P P 19 35 43.9 -0.4
baz=80
I28A Midland 79.56 1 ⇑P P 19 35 44.1 -0.4
baz=80
I25A Rochford 79.58 359 ⇑P P 19 35 45.1 +0.4
baz=80
I27A Quinn 79.62 0 ⇓P P 19 35 45.4 +0.6
baz=80
MOOW Moose Ponds 79.64 354 *e*P P 19 35 47.4 +2.3
comp=Z,28nm,1.2s
I20A Worland 79.66 356 ⇓P P 19 35 44.8 -0.3
baz=80,SNR=44
RSSD Black Hills 79.68 359 *e*P P 19 35 45.2 -0.1
RSSD pmax pmax
comp=Z,45nm,1.1s
RSSD Black Hills 79.68 359 *e*P P 19 35 45.2 -0.1
comp=Z,45nm,1.1s
I19A Meeteetse 79.79 355 ⇑P P 19 35 45.2 -0.7
baz=80,SNR=14
I17A Pilgrim Ck. 79.80 354 ⇓P P 19 35 45.8 -0.1
baz=80
IMW Indian Meadow 79.80 354 *e*P P 19 35 46.7 +0.6
comp=Z,49nm,1.1s
HLID Hailey 79.83 351 PFAKE 19 36 00.0 +14
HLID LR LR
comp=Z,807nm,22.0s
MFID Camas Ranch 79.87 350 *e*P P 19 35 47.0 +0.8
comp=Z,14nm,0.9s
MFID Camas Ranch 79.87 350 ⇑P P 19 35 46.6 +0.3
baz=80
ALLY Alegheny Colle 79.92 17 *e*P P 19 35 45.6 -0.7
comp=Z,61nm,1.0s
BRSD Miller 80.07 3 ⇓P P 19 35 47.4 +0.3
baz=80
I14A Mackay 80.08 352 ⇓P P 19 35 47.2 -0.2
baz=80,SNR=32
H23A Clabaugh Cattl 80.15 358 ⇑P P 19 35 48.0 +0.3
baz=81
H26A Fairpoint 80.17 360 ⇓P P 19 35 47.3 -0.4
baz=81
H25A Fruitdale 80.18 359 ⇓P P 19 35 48.0 +0.2
baz=81
H20A Greybull 80.18 356 ⇑P P 19 35 47.8 -0.1
baz=81
H27A Howes 80.19 0 ⇑P P 19 35 47.7 -0.1
baz=81
H22A Clearmont 80.22 357 ⇑P P 19 35 47.6 -0.5
baz=81
KBO Bosley Butte 80.22 344 *e*P P 19 35 48.0 -0.1
comp=Z,87nm,1.4s
H28A Mission Ridge 80.24 1 ⇑P P 19 35 48.2 +0.1
baz=81
H21A Big Horn, Sher 80.28 357 ⇑P P 19 35 48.4 0.0
baz=81
H24A Dirks Ranch, A 80.32 359 ⇑P P 19 35 48.3 -0.2
baz=81,SNR=13
HUMO Hull Mountain 80.32 345 *e*P P 19 35 49.5 +0.9
comp=Z,30nm,1.1s
ERPA Erie 80.40 17 PFAKE 19 36 00.0 +11
ERPA LR LR
comp=Z,3µm,20.0s
LKWY Lake 80.42 354 PFAKE 19 36 00.0 +11
LKWY LR LR
comp=Z,1µm,20.0s
H19A Powell 80.42 355 ⇓P P 19 35 49.1 -0.1
baz=81
H18A Shoshone NF, C 80.48 355 ⇑P P 19 35 49.5 -0.1
baz=81,SNR=5.9
BBOR Butler Butte 80.53 345 P P 19 35 52.0 +2.1
YMR Madison River 80.57 354 *e*P P 19 35 51.2 +1.1
comp=Z,316nm,1.6s
H16A Russell Place, 80.63 354 ⇑P P 19 35 50.0 -0.4
baz=81
G28A Parade 80.64 1 ⇓P P 19 35 50.0 -0.3
baz=81
QLMT Earthquake Lak 80.77 354 *e*P P 19 35 54.0 +2.8
comp=Z,6.3nm,1.2s
G23A Biddle 80.79 358 ⇑P P 19 35 51.0 -0.1
baz=81
G22A Birney 80.84 357 ⇑P P 19 35 51.4 +0.1
baz=81,SNR=8.1
H12A Diamond D Ranc 80.86 351 ⇑P P 19 35 51.7 +0.1
baz=81,SNR=13
KEBM Eldon Butte 80.88 344 *e*P P 19 35 54.2 +2.7
comp=Z,68nm,1.1s
G21A Lodge Grass 80.88 357 ⇓P P 19 35 51.5 -0.1
baz=81
RLMT Red Lodge 80.89 355 *e*P P 19 35 51.6 -0.2
comp=Z,48nm,1.1s
RLMT LR LR
comp=Z,1µm,20.0s
G24A Alzada 80.89 359 ⇓P P 19 35 51.3 -0.3
baz=81
MCMT McKenzie Canyo 80.91 353 *e*P P 19 35 53.1 +1.2
comp=Z,20nm,1.1s
G20A Bridger 80.93 356 ⇑P P 19 35 51.7 -0.1
baz=81
G27A Dupree 80.93 1 ⇓P P 19 35 51.5 -0.3
baz=81
G18A Lazy EL Ranch, 81.11 355 ⇑P P 19 35 52.8 0.0
baz=82,SNR=13
G17A Pierce Place, 81.20 354 ⇓P P 19 35 53.4 +0.1
baz=82
SPMN St. Paul 81.27 7 ⇑P P 19 35 53.7 +0.2
baz=82,SNR=7.3
F23A Volborg 81.31 358 ⇑P P 19 35 53.6 -0.2
baz=82
F22A Rosebud 81.39 357 ⇓P P 19 35 54.5 +0.3
baz=82,SNR=9.1
DLMT Dillon 81.41 353 *e*P P 19 35 55.0 +0.5
comp=Z,18nm,1.1s
F24A Ekalaka 81.41 359 ⇓P P 19 35 54.2 -0.2
baz=82
F21A Absaloka Mine, 81.47 357 ⇓P P 19 35 54.6 -0.1
baz=82
BMO Blue Mountains 81.49 350 *e*P P 19 35 55.5 +0.7
comp=Z,48nm,1.6s
BMO LR LR
comp=Z,1µm,19.0s
BINY Binghamton 81.50 20 *e*P P 19 35 52.6 -2.2
comp=Z,35nm,1.1s
BINY LR LR
comp=Z,4µm,19.0s
F20A Billings 81.50 356 ⇓P P 19 35 54.9 0.0
baz=82
BOZ Bozeman (W) 81.60 354 *e*P P 19 35 55.2 -0.2
BOZ pmax pmax
comp=Z,11nm,0.6s
BOZ MLR MLR
comp=Z,1µm,20.0s
BOZ Bozeman (W) 81.60 354 *e*P P 19 35 55.2 -0.2
comp=Z,11nm,0.6s
BOZ LR LR
comp=Z,1µm,20.0s
F19A Roth Farm, Mol 81.60 356 ⇓P P 19 35 55.3 -0.1
baz=82
F18A Big Timber 81.70 355 ⇓P P 19 35 55.9 0.0
baz=82
F16A Kennard Place, 81.73 354 ⇑P P 19 35 56.1 0.0
baz=82
F17A Fitzpatrick Pl 81.77 354 ⇑P P 19 35 56.6 +0.3
baz=82,SNR=17
LRM Limekiln Ridge 81.85 353 *e*P P 19 35 57.8 +0.9
comp=Z,90nm,1.0s
F15A Butte 81.87 353 ⇑P P 19 35 57.0 0.0
baz=82,SNR=8.7
F14A Wisdom 81.93 352 ⇑P P 19 35 57.3 0.0
baz=82
E26A Carlson Angus 82.02 0 ⇑P P 19 35 57.5 0.0
baz=82
GLMI Grayling 82.03 13 PFAKE 19 36 10.0 +12
GLMI LR LR
comp=Z,2µm,20.0s
E22A Miles City 82.04 358 ⇑P P 19 35 57.7 +0.1
baz=82
E25A Miller Ranch, 82.06 360 ⇑P P 19 35 57.7 -0.1
baz=82
E23A Ismay 82.08 358 ⇑P P 19 35 57.7 -0.2
baz=82
E24A Baker 82.12 359 ⇓P P 19 35 57.8 -0.3
baz=83
E21A Keefer Ranch, 82.19 357 ⇓P P 19 35 57.9 -0.5
baz=83
E19A Rath Farm, Rou 82.20 356 ⇓P P 19 35 58.2 -0.3
baz=83,SNR=15
E20A Meyer Farm, Mu 82.20 356 ⇓P P 19 35 58.4 -0.1
baz=83,SNR=15
E17A Martinsdale 82.34 354 ⇓P P 19 35 59.3 -0.1
baz=83,SNR=7.6
E18A Harlowton 82.38 355 ⇑P P 19 35 59.5 0.0
baz=83,SNR=13
COWI Conover 82.56 9 *e*P P 19 36 00.1 -0.2
comp=Z,94nm,1.4s
COWI LR LR
comp=Z,1µm,19.0s
VFP Flag Point 82.63 347 P P 19 36 01.1 +0.1
CAN Canberra 82.67 232 PFAKE 19 36 10.0 +8.5
CAN LR LR
comp=Z,4µm,21.0s
HRY Holter Researc 82.67 354 *e*P P 19 36 05.0 +4.0
comp=Z,20nm,0.8s
D24A Glendive 82.68 359 ⇓P P 19 36 00.7 -0.2
baz=83,SNR=11
D21A La Casta Ranch 82.71 357 ⇓P P 19 36 01.7 +0.5
baz=83,SNR=8.1
D23A Lindsay 82.76 358 ⇑P P 19 36 01.4 +0.1
baz=83,SNR=16
D22A Cohagen 82.76 358 ⇓P P 19 36 01.0 -0.4
baz=83,SNR=18
E12A Beaver Dam Sad 82.78 351 ⇓P P 19 36 01.3 -0.4
baz=83,SNR=7.2
D19A Cripps Ranch, 82.90 356 ⇑P P 19 36 02.5 +0.4
baz=83,SNR=5.4
D16A Dana Ranch, Ca 82.97 354 ⇑P P 19 36 02.9 +0.3
baz=83
D18A Linhart Farms, 82.99 355 ⇑P P 19 36 03.5 +0.9
baz=83
MSO Missoula 83.00 352 *e*P P 19 36 04.4 +1.7
comp=Z,14nm,1.2s
MSO LR LR
comp=Z,646nm,19.0s
MSO Missoula 83.00 352 ⇑P P 19 36 03.5 +0.8
baz=83
CHMT Chamberlain Mo 83.01 353 P P 19 36 04.7 +1.8
D17A Six Diamond Ra 83.02 355 ⇓P P 19 36 03.9 +1.0
baz=84,SNR=21
D15A Lincoln 83.06 353 ⇓P P 19 36 03.3 +0.2
baz=84,SNR=11
C24A Savage 83.10 359 ⇑P P 19 36 03.5 +0.5
baz=84
SADO Sadowa 83.11 17 LR LR 20 09 43.2
comp=Z,3µm,19.2s,baz=182,slow=33
D14A Greenough 83.20 353 ⇓P P 19 36 03.4 -0.4
baz=84,SNR=11
GULW Guler Mountain 83.24 347 P P 19 36 05.9 +2.0
ACCN Adirondack Com 83.25 21 *e*P P 19 36 04.9 +1.0
comp=Z,64nm,1.6s
D13A Huson 83.32 352 ⇓P P 19 36 04.8 +0.5
baz=84
HAWA Hanford 83.34 348 *e*P P 19 36 05.7 +1.4
comp=Z,72nm,1.4s
HAWA LR LR
comp=Z,3µm,22.0s
C22A Vida 83.35 358 ⇑P P 19 36 04.8 +0.4
baz=84,SNR=12
SLMT Seeley Lake 83.36 353 *e*P P 19 36 06.0 +1.4
comp=Z,36nm,0.9s
C23A Lambert 83.39 358 ⇑P P 19 36 04.9 +0.3
baz=84
C20A Veseth Ranch, 83.40 356 ⇑P P 19 36 05.1 +0.4
baz=84,SNR=18
MDND Maddock 83.45 2 ⇓P P 19 36 05.1 +0.2
baz=84
MTMW Mount Mitchell 83.46 346 P P 19 36 08.6 +3.5
C21A Desert Coulee 83.47 357 ⇓P P 19 36 05.9 +0.9
baz=84,SNR=6.6
C19A Slack Wire Ran 83.48 356 ⇓P P 19 36 05.8 +0.7
baz=84,SNR=15
C17A Wharram Farm, 83.50 355 ⇓P P 19 36 06.2 +1.0
baz=84,SNR=18
LVP Lakeview Peak 83.53 346 P P 19 36 07.5 +2.0
NCB Newcomb 83.63 20 PFAKE 19 36 20.0 +14
NCB LR LR
comp=Z,3µm,21.0s
FL2 Flat Top 2 83.65 346 P P 19 36 07.3 +1.2
SWMT Swartz Lake 83.68 352 *e*P P 19 36 07.7 +1.5
comp=Z,21nm,1.2s
C16A Fuhringer Ranc 83.75 354 ⇓P P 19 36 07.9 +1.4
baz=84,SNR=17
C15A Salmond Ranch, 83.80 353 ⇑P P 19 36 07.5 +0.7
baz=84,SNR=16
EGMT Eagleton 83.81 355 *e*P P 19 36 07.7 +0.9
comp=Z,18nm,0.9s
EGMT LR LR
comp=Z,2µm,19.0s
EGMT Eagleton 83.81 355 ⇑P P 19 36 07.3 +0.5
baz=84
NAC Naches 83.89 348 P P 19 36 09.3 +2.1
B22A Reddig Ranch S 83.91 358 ⇓P P 19 36 07.5 +0.3
baz=84
C13A Hot Springs 83.91 352 ⇓P P 19 36 08.3 +0.9
baz=84,SNR=16
JTMT Jette 83.94 352 *e*P P 19 36 08.8 +1.3
comp=Z,18nm,0.9s
HNH Hanover 83.95 22 *e*P P 19 36 06.4 -1.1
comp=Z,14nm,0.8s
MDV Middlebury 83.95 21 *e*P P 19 36 06.4 -1.1
WPW White Pass 83.98 347 P P 19 36 08.1 +0.3
ARMA Armidale 83.99 237 *e*P P 19 36 07.7 -0.7
comp=Z,31nm,1.0s
YBMT Yellow Bay 84.03 352 *e*P P 19 36 10.7 +2.8
comp=Z,11nm,0.8s
DGMT Dagmar 84.03 359 *e*P P 19 36 07.9 0.0
comp=Z,36nm,0.8s
DGMT LR LR
comp=Z,1µm,19.0s
DGMT Dagmar 84.03 359 ⇑P P 19 36 07.9 0.0
baz=84
B23A Brockton 84.04 358 ⇓P P 19 36 08.4 +0.4
baz=84
C12B Naegeli Ranch, 84.05 351 ⇓P P 19 36 08.5 +0.5
baz=84
ASCN Ascension 84.06 95 PFAKE 19 36 20.0 +11
ASCN LR LR
comp=Z,547nm,22.0s
B21A Ellsworth Farm 84.07 357 ⇓P P 19 36 08.9 +0.9
baz=84,SNR=9.5
LON Longmire 84.08 347 *e*P P 19 36 08.6 +0.4
LON pmax pmax
comp=Z,29nm,1.2s
LON Longmire 84.08 347 *e*P P 19 36 08.6 +0.4
comp=Z,29nm,1.2s
BMW Boistfort Moun 84.08 346 P P 19 36 06.8 -1.4
BMW Boistfort Moun 84.08 346 P P 19 36 06.8 -1.4
EYMN Ely 84.10 8 *e*P P 19 36 07.3 -0.9
comp=Z,26nm,1.0s
EYMN LR LR
comp=Z,2µm,20.0s
BSMT Bassoo Peak 84.10 352 P P 19 36 10.1 +1.7
LONY Lake Ozonia 84.12 20 *e*P P 19 36 06.3 -2.1
comp=Z,53nm,1.0s
LONY LR LR
comp=Z,3µm,20.0s
B20A Solberg Farm, 84.13 356 ⇓P P 19 36 09.1 +0.7
baz=85,SNR=12
B17A L&G Farms, Che 84.16 355 ⇓P P 19 36 09.3 +0.8
baz=85
OD2 Odessa Site #2 84.18 349 P P 19 36 10.3 +1.7
B18A Beardsley Farm 84.19 355 ⇑P P 19 36 09.4 +0.8
baz=85
B19A Brinkman Farms 84.19 356 ⇓P P 19 36 09.4 +0.7
baz=85
BLMT Blacktail Moun 84.21 352 *e*P P 19 36 08.8 -0.2
comp=Z,104nm,1.7s
B15A Bradely Ranch, 84.33 353 ⇓P P 19 36 09.9 +0.4
baz=85,SNR=21
B16A M & M Farms, S 84.35 354 ⇓P P 19 36 10.5 +0.9
baz=85,SNR=12
MSNY Massena 84.40 19 *e*P P 19 36 09.3 -0.4
comp=Z,401nm,1.0s
B14A Marquette Ranc 84.44 353 ⇑P P 19 36 11.1 +1.0
baz=85,SNR=19
A23A Redstone 84.53 359 ⇑P P 19 36 10.8 +0.4
baz=85
LBNH Lisbon 84.54 22 *e*P P 19 36 09.0 -1.5
LBNH pmax pmax
comp=Z,23nm,0.9s
LBNH MLR MLR
comp=Z,3µm,22.0s
LBNH Lisbon 84.54 22 *e*P P 19 36 08.9 -1.5
comp=Z,23nm,0.9s
LBNH LR LR
comp=Z,3µm,22.0s
A20A Cobblestone Ra 84.56 357 ⇑P P 19 36 11.0 +0.4
baz=85
B13A Whitefish 84.58 352 ⇓P P 19 36 10.8 +0.1
baz=85
A22A Carney Farms, 84.59 358 ⇑P P 19 36 11.4 +0.7
baz=85,SNR=13
FRNY Flat Rock 84.60 20 *e*P P 19 36 08.8 -2.0
comp=Z,36nm,1.2s
A21A Bergtoll Ranch 84.63 357 ⇓P P 19 36 11.3 +0.4
baz=85
A19A Klindworth Far 84.65 356 ⇑P P 19 36 11.5 +0.5
baz=85
A18A Metzger Ranch, 84.71 355 ⇓P P 19 36 12.3 +1.0
baz=85,SNR=6.9
A17A Triple J Farms 84.80 355 ⇑P P 19 36 12.9 +1.1
baz=85,SNR=13
NEW Newport 84.80 350 *e*P P 19 36 12.6 +0.8
comp=Z,25nm,0.9s
NEW Newport 84.80 350 LR LR 20 11 11.4
comp=Z,899nm,18.6s,baz=177,slow=34
NEW Newport 84.80 350 ⇓P P 19 36 12.6 +0.8
baz=85
B12A Libby 84.81 351 ⇓P P 19 36 12.5 +0.7
baz=85
A15A Johnson Ranch, 85.00 353 ⇑P P 19 36 13.4 +0.5
baz=86
A14A Double T Ranch 85.06 353 ⇑P P 19 36 14.2 +1.0
baz=86,SNR=36
NLWA Neilton Lookou 85.09 346 *e*P P 19 36 13.8 +0.5
comp=Z,48nm,1.1s
NLWA LR LR
comp=Z,1µm,19.0s
A13A Flathead Natio 85.13 352 ⇑P P 19 36 14.2 +0.7
baz=86
WALA Waterton Lakes 85.20 353 *e*P P 19 36 15.4 +1.5
comp=Z,0.8nm,0.8s
A12A Yaak River Ran 85.27 351 ⇑P P 19 36 15.2 +1.1
baz=86
ULM Lac du Bonnet 86.02 4 P P 19 36 16.7 -1.0
ULM Lac du Bonnet 86.02 4 P P 19 36 16.7 -1.0
comp=Z,9.6nm,0.7s,baz=200,slow=4.7,SNR=11
PGC Sidney 86.21 346 *e*P P 19 36 20.5 +1.8
comp=Z,2.3nm,1.2s
TARA Tarawa 86.24 274 PFAKE 19 36 30.0 +10
TARA LR LR
comp=Z,545nm,20.0s
SHEL Horse Pasture 86.26 107 PFAKE 19 36 30.0 +10
SHEL LR LR
comp=Z,1µm,22.0s
STKA Stephens Creek 89.58 230 P P 19 36 34.0 -1.5
STKA Stephens Creek 89.58 230 P P 19 36 34.0 -1.5
comp=Z,13nm,1.1s,baz=118,slow=4.7,SNR=8.4
STKA LR LR 20 10 29.0
comp=Z,5µm,19.2s,baz=157,slow=31
FFC Flin Flon 90.29 0 *i* P P 19 36 37.9 -0.1
FFC Flin Flon 90.29 0 *e*P P 19 36 36.5 -1.5
comp=Z,8.7nm,0.9s
FFC LR LR

comp=Z,1µm,21.0s
HNR Honiara 90.43 258 PFAKE 19 36 50.0 +10
HNR LR LR
comp=Z,2µm,22.0s
BBB Bella Bella 90.52 345 LR LR 20 11 39.5
comp=Z,552nm,18.1s,baz=40,slow=32
SUR Sutherland 93.88 135 PFAKE 19 37 10.0 +14
SUR LR LR
comp=Z,2µm,21.0s
CTAO Charters Tower 94.28 242 PFAKE 19 37 10.0 +12
CTAO LR LR
comp=Z,2µm,22.0s
MIDW Midway 94.91 301 PFAKE 19 37 10.0 +10
MIDW LR LR
comp=Z,2µm,19.0s
WRAK Wrangell Islan 95.38 344 PFAKE 19 37 10.0 +8.6
WRAK LR LR
comp=Z,896nm,20.0s
BBTS Babate 95.41 76 LR LR 20 16 45.9
comp=Z,2µm,19.4s,baz=253,slow=33
SCHQ Schefferville 95.50 20 LR LR 20 16 41.4
comp=Z,2µm,19.6s,baz=206,slow=33
DLBC Dease Lake 96.75 346 LR LR 20 14 53.6
comp=Z,914nm,18.0s,baz=134,slow=32
YKA Yellowknife Ar 98.55 354 P **P 19 37 14.6 -1.1**
YKA Yellowknife Ar 98.55 354 P **P 19 37 14.6 -1.1**
comp=Z,1.5nm,0.6s,baz=161,slow=5.1,SNR=3.2
YKA LR LR 20 16 00.9
comp=Z,110nm,21.3s,baz=265,slow=32
BOSA Boshof 99.23 135 LR LR 20 17 24.2
comp=Z,2µm,19.1s,baz=222,slow=32
ASAR Alice Springs 100.17 231 P **Pdif 19 37 21.6 -2.6**
ASAR PKKPbc **PKKPbc 19 53 39.9 -0.7**
ASAR Alice Springs 100.17 231 P **Pdif 19 37 21.6 -2.6**
comp=Z,1.8nm,1.0s,baz=123,slow=3.6,SNR=11
ASAR PKKPbc **PKKPbc 19 53 39.9 -0.7**
comp=Z,0.7nm,0.7s,baz=329,slow=2.6,SNR=11
PMG Port Moresby 100.43 250 PFAKE 19 37 40.0 +15
PMG LR LR
comp=Z,1µm,22.0s
TSUM Tsumeb 101.28 124 PFAKE 19 37 40.0 +11
TSUM LR LR
comp=Z,2µm,22.0s
WAKE Wake Island 101.57 285 PFAKE 19 37 40.0 +10
WAKE LR LR
comp=Z,887nm,19.0s
NWAO Narrogin (SRO) 101.97 213 PFAKE 19 37 40.0 +8.1
NWAO LR LR
comp=Z,3µm,22.0s
KDAK Kodiak Island 102.31 335 PFAKE 19 37 40.0 +7.5
KDAK LR LR
comp=Z,2µm,22.0s
CMLA Cha da Macela 102.32 52 PFAKE 19 37 40.0 +6.9
CMLA LR LR
comp=Z,2µm,21.0s
WRAB Tennant Creek 102.56 234 PFAKE 19 37 50.0 +15
WRAB LR LR
comp=Z,3µm,20.0s
WRA Warramunga Arr 102.56 234 P **Pdif 19 37 33.0 -1.8**
WRA PKiKP **PKiKP 19 41 56.0 0.0**
WRA Warramunga Arr 102.56 234 P **Pdif 19 37 33.0 -1.8**
comp=Z,1.7nm,1.0s,baz=134,slow=4.4,SNR=7.2
WRA PKiKP **PKiKP 19 41 55.9 0.0**
comp=Z,1.4nm,1.0s,baz=135,slow=1.6,SNR=4.4
EGAK Eagle 104.81 344 PFAKE 19 38 00.0 +17
EGAK LR LR
comp=Z,940nm,21.0s
ILAR Eielson Array 106.17 342 PKiKP **PKiKP 19 42 00.8 -0.2**
ILAR PKKPbc **PKKPbc 19 53 23.1 -1.3**
ILAR Eielson Array 106.17 342 PKiKP **PKiKP 19 42 00.8 -0.2**
comp=Z,0.4nm,0.7s,baz=146,slow=1.8,SNR=2.9
ILAR PKKPbc **PKKPbc 19 53 23.1 -1.3**
comp=Z,0.3nm,0.7s,baz=309,slow=2.9,SNR=3.7
TORD Torodi Ar. Bea 109.17 87 PKiKP **PKiKP 19 42 08.6 +0.4**
TORD PP **PP 19 42 37.2 +0.3**
TORD Torodi Ar. Bea 109.17 87 PKiKP **PKiKP 19 42 08.6 +0.4**
comp=Z,0.1nm,0.3s,baz=281,slow=1.2,SNR=5.0
TORD PP **PP 19 42 37.2 +0.3**
comp=Z,3.3nm,0.8s,baz=244,slow=7.3,SNR=8.5
MBWA Marble Bar 110.47 222 PFAKE 19 42 20.0
MBWA LR LR
comp=Z,2µm,21.0s
LSZ Lusaka 111.08 129 PFAKE 19 42 20.0
LSZ LR LR
comp=Z,2µm,20.0s
RTC Rabat Centre 113.18 64 PFAKE 19 42 30.0
RTC LR LR
comp=Z,2µm,20.0s
PFVI Vila Bisbo 113.25 60 *e*PP PP 19 43 08.4 +2.3
MORF Marmelete 113.46 60 *e*PP PP 19 43 10.5 +2.9
MORF *i* P PKKPbc 19 52 46.6 -13
MORF *e*SS SS 19 59 12.9 +19
LIS Lisbon 113.77 59 *e*PP PP 19 43 07.7 -2.1
LIS AMS AMS 20 23 34.3
comp=Z,3µm,18.9s
LIS Lisbon 113.77 59 *e*PP PP 19 43 07.7 -2.0
LIS Lisbon 113.77 59 A A 20 23 34.3
comp=Z,3µm,18.9s
PMAFR Mafra 113.79 58 *e*PP PP 19 43 10.9 +1.0
PMAFR *i* P PKKPbc 19 52 49.3 -9.4
PMAFR *e*SS SS 19 59 11.3 +13
PNCL Nicolau / Gran 113.92 59 *e*PP PP 19 43 13.3 +2.5
PNCL *i* P PKKPbc 19 52 51.6 -6.6
PNCL *e*SS SS 19 59 12.4 +12
PBDV Barranco-do-Ve 113.94 60 *e*PP PP 19 43 11.9 +0.9
MESJ Messejana 114.01 60 *e*PP **PP 19 43 09.6 -1.8**
MESJ *e*SS SS 19 59 01.1 0.0
MESJ AMS AMS 20 32 39.7
comp=Z,869nm,10.5s
MESJ Messejana 114.01 60 *e*PP **PP 19 43 09.6 -1.8**
MESJ Messejana 114.01 60 *e*SS SS 19 59 01.1 0.0
MESJ A A 20 32 39.7
comp=Z,869nm,10.5s
PCVE Castro Verde 114.04 60 *e*PP **PP 19 43 14.0 +2.3**
PCVE *i* P PKKPbc 19 52 45.9 -12
PCVE *e*SS SS 19 59 07.8 +6.2
PVAQ Vaqueiros 114.16 60 *e*PP **PP 19 43 15.1 +2.5**
PVAQ *i* P **PKKPbc 19 52 55.7 -1.7**
PVAQ *e*SS SS 19 59 11.2 +8.0
PVAQ Vaqueiros 114.16 60 *e*LR LR 20 17 52.7
comp=Z,884nm,20.0s
PMTG Montargil 114.57 59 *e*PP PP 19 43 18.4 +3.0
PMTG *i* P **PKKPbc 19 52 52.6 -3.4**
PMTG *e*SS SS 19 59 10.7 +2.2
PESTR Estremoz 114.92 59 *e*PP PP 19 43 19.7 +1.8
PESTR *i* P **PKKPbc 19 52 54.0 -0.9**
PESTR *e*SS SS 19 59 16.2 +3.0
PBAR Barrancos 114.99 60 *e*PP PP 19 43 20.4 +2.0
PBAR *i* P **PKKPab 19 52 58.2 -0.6**
PBAR *e*SS SS 19 59 16.7 +2.6
PMRV Marv??o 115.31 59 *e*PP PP 19 43 23.8 +3.1
PMRV *i* P **PKKPab 19 53 01.1 +3.8**
PMRV *e*SS SS 19 59 22.7 +4.4
PMRV Marv??o 115.31 59 *e*LR LR 20 18 20.8
comp=Z,3µm,22.0s
RKPI Ransiki, Papua 115.35 248 PKP **PKPdf 19 42 18.1 -2.0**
MTE Manteigas 115.64 58 *e*PP PP 19 43 25.3 +2.3
MTE *i* P PKKPab 19 53 03.6 +7.7
MTE *e*SS SS 19 59 33.5 +11
MTE Manteigas 115.64 58 *e*LR LR 20 18 34.9
comp=Z,4µm,22.0s
MTE Manteigas 115.64 58 PFAKE 19 42 30.0 +10
MTE LR LR
comp=Z,4µm,21.0s
PGAV Gavieira, Arco 115.83 56 *e*PP PP 19 43 25.4 +1.0
PGAV *i* P PKKPdf 19 53 07.5 -10
PGAV *e*SS SS 19 59 27.5 +2.3
PGAV Gavieira, Arco 115.83 56 *e*LR LR 20 18 45.6
comp=Z,2µm,24.0s
POLO Lamas de Olo 115.90 56 *e*PP PP 19 43 26.7 +1.9
POLO *i* P PKKPab 19 53 05.0 +10
POLO *e*SS SS 19 59 22.4 -3.6
GUMO Guam 115.96 268 PFAKE 19 42 30.0 +8.9
GUMO LR LR
comp=Z,893nm,22.0s
MVO Moncorvo 116.33 57 *e*PP PP 19 43 30.3 +2.5
MVO *i* P PKKPdf 19 53 07.9 -8.6
MVO *e*SS SS 19 59 41.5 +10
MVO Moncorvo 116.33 57 *e*LR LR 20 18 51.7
comp=Z,3µm,20.0s
PBRG Braganca 116.80 56 *e*PP PP 19 43 33.1 +2.0
TAM Tamanrasset 117.33 81 PFAKE 19 42 40.0 +16
TAM LR LR
comp=Z,2µm,20.0s
PAB San Pablo 117.48 60 PFAKE 19 42 40.0 +17
PAB LR LR
comp=Z,2µm,22.0s
ESDC Sonseca Array 117.81 60 PKP **PKPdf 19 42 24.3 +0.3**
ESDC Sonseca Array 117.81 60 PKP **PKPdf 19 42 24.3 +0.3**
comp=Z,0.6nm,0.5s,baz=262,slow=2.2,SNR=5.3
ABPO Ambohimpanom 118.37 147 PFAKE 19 42 40.0 +14
ABPO LR LR
comp=Z,1µm,21.0s
BORG Borgarnes 118.39 29 PFAKE 19 42 40.0 +16
BORG LR LR
comp=Z,920nm,20.0s
SJPF Ste Jean 121.06 57 *e*PKIKP **PKPdf 19 42 29.5 -0.6**
comp=Z,39nm,1.1s
ETSF Etsaut 121.43 57 *e*PKIKP **PKPdf 19 42 30.5 -0.4**
comp=Z,24nm,1.0s
EPF Esparros 122.10 57 *e*PKIKP **PKPdf 19 42 31.3 -0.9**
comp=Z,25nm,1.1s
MFF Saint Martin d 123.00 53 *e*PKIKP **PKPdf 19 42 33.5 -0.2**
comp=Z,58nm,1.5s
LFF La Frestale 123.03 55 *e*PKIKP **PKPdf 19 42 33.1 -0.7**
comp=Z,14nm,0.8s
KAPI Kappang 123.09 233 PFAKE 19 42 50.0 +15
KAPI LR LR
comp=Z,2µm,20.0s
GRR Gorron 123.12 51 *e*PKIKP **PKPdf 19 42 33.7 -0.2**
comp=Z,54nm,1.2s
PETK Petropavlovsk- 123.22 315 PKIKP **PKPdf 19 42 33.3 -0.6**
PETK Petropavlovsk- 123.22 315 PKP **PKPdf 19 42 33.3 -0.6**
PETK Petropavlovsk- 123.22 315 PKP **PKPdf 19 42 33.3 -0.6**
comp=Z,4.3nm,0.7s,baz=108,slow=4.7,SNR=3.4
FLN La Foliniere 123.47 51 *e*PKIKP **PKPdf 19 42 33.3 -1.2**
comp=Z,16nm,0.8s
FLN *e*R
comp=Z,1µm,20.2s
MTLF Montolieu 123.49 58 *e*PKIKP **PKPdf 19 42 33.5 -1.3**
comp=Z,16nm,1.1s
LDF La Druitiere 123.65 51 *e*PKIKP **PKPdf 19 42 34.4 -0.5**
comp=Z,92nm,1.5s
RJF Les Rejaudoux 123.67 55 *e*PKIKP **PKPdf 19 42 34.2 -0.9**
comp=Z,50nm,1.6s
RJF *e*R
comp=Z,1µm,21.2s
ESK Eskdalemuir 123.76 43 PFAKE 19 42 50.0 +15
ESK LR LR
comp=Z,1µm,21.0s
CAF Calviac 123.91 56 *e*PKIKP **PKPdf 19 42 34.5 -1.1**
comp=Z,27nm,1.4s
TCF Toulx Ste Croi 124.44 54 *e*PKIKP **PKPdf 19 42 36.5 0.0**
comp=Z,59nm,1.5s
LBL Lubilhac 124.81 56 PKP PKPdf 19 42 31.5 -5.8
JMIC Jan Mayen 124.84 23 *e*PP PP 19 44 23.3 -1.8
LASF Ste Croix 124.86 57 *e*PKIKP **PKPdf 19 42 36.5 -0.9**
comp=Z,27nm,1.3s
BGF Bois d'Agland 124.94 54 *e*PKIKP **PKPdf 19 42 36.5 -1.0**
comp=Z,92nm,1.5s
AGO Saint Agoulin 124.98 55 PKP **PKPdf 19 42 35.2 -2.4**
AVF Avril sur Loir 125.35 54 *e*PKIKP **PKPdf 19 42 37.8 -0.4**
comp=Z,19nm,1.0s
SSF Saint Sauige 125.53 54 *e*PKIKP **PKPdf 19 42 38.2 -0.4**
comp=Z,18nm,1.1s
SMF Signal de Mont 125.62 54 *e*PKIKP **PKPdf 19 42 37.9 -0.9**
comp=Z,58nm,1.4s
VIVF Saint-Julien-l 125.65 57 *e*PKIKP **PKPdf 19 42 38.1 -0.8**
comp=Z,13nm,1.0s
SSB Saint Sauveur 125.69 56 PFAKE 19 42 50.0 +11
SSB LR LR
comp=Z,2µm,22.0s
LOR Lormes 125.81 54 *e*PKIKP **PKPdf 19 42 38.6 -0.5**
comp=Z,35nm,1.3s
LOR *e*R
comp=Z,1µm,22.5s
SMRF Simiane la Rot 126.00 58 *e*PKIKP **PKPdf 19 42 38.9 -0.7**
comp=Z,48nm,1.3s
LMR La Mourre 126.45 59 *e*PKIKP **PKPdf 19 42 39.3 -1.1**
comp=Z,104nm,1.7s
ORIF Oris-en-Rattie 126.49 57 *e*PKIKP **PKPdf 19 42 40.0 -0.6**
comp=Z,22nm,1.0s
ORIF *e*R
comp=Z,3µm,22.8s
FRF La Foret Royal 126.62 59 *e*PKIKP **PKPdf 19 42 39.7 -1.1**
comp=Z,49nm,1.2s
BAIF Baives 126.77 50 *e*PKIKP **PKPdf 19 42 40.9 +0.1**
comp=Z,34nm,1.1s
SFTF Sexfontaines 126.83 53 *e*PKIKP **PKPdf 19 42 40.2 -0.8**
comp=Z,75nm,1.1s
MEZF Maizieres J'vi 126.92 52 *e*PKIKP **PKPdf 19 42 40.3 -0.9**
comp=Z,42nm,1.0s
MBDF Montbardon 127.04 57 *e*PKIKP **PKPdf 19 42 41.4 -0.3**
comp=Z,34nm,1.2s
BNI Bardonecchia 127.07 57 PFAKE 19 42 50.0 +8.2
BNI LR LR
comp=Z,2µm,22.0s
CABF La Chapelle 127.10 55 *e*PKIKP **PKPdf 19 42 41.0 -0.7**
comp=Z,87nm,1.6s
GIVF Givet 127.17 50 *e*PKIKP **PKPdf 19 42 41.8 +0.2**
comp=Z,72nm,1.5s
LPL La Plagne 127.24 56 *e*PKIKP **PKPdf 19 42 41.4 -0.8**
comp=Z,44nm,1.2s
LPG La Plagne 127.25 56 *e*PKIKP **PKPdf 19 42 41.6 -0.7**
comp=Z,89nm,1.6s
SBF Sospel 127.25 59 *e*PKIKP **PKPdf 19 42 41.3 -0.8**
comp=Z,64nm,1.0s
VSL Villasalto 127.30 64 PFAKE 19 42 50.0 +7.8
VSL LR LR
comp=Z,1µm,21.0s
PAGF Fort de Pagny 127.37 52 *e*PKIKP **PKPdf 19 42 41.1 -0.9**
comp=Z,20nm,1.4s
DAV Davao City (W) 127.42 249 PFAKE 19 42 50.0 +6.8
DAV LR LR
comp=Z,502nm,19.0s
THEF They Montfort 127.45 53 PKP **PKPdf 19 42 40.5 -1.7**
KMBO Kilima Mbogo 127.56 126 PFAKE 19 43 00.0 +16
KMBO LR LR
comp=Z,2µm,20.0s
HAU Haudompre 127.63 53 *e*PKIKP **PKPdf 19 42 41.9 -0.7**
HAU *e*R
comp=Z,1µm,21.2s
LOMF Lomont 127.78 54 PKP **PKPdf 19 42 38.8 -4.2**
WLF Walferdange 127.90 51 PFAKE 19 42 50.0 +7.0
WLF LR LR
comp=Z,1µm,22.0s
HINF Hinteralfeld 127.92 54 *e*PKIKP **PKPdf 19 42 41.9 -1.3**
PGF Pioggiola 127.97 61 *e*PKIKP **PKPdf 19 42 43.3 -0.2**
comp=Z,243nm,1.6s
MOF Molkenrain 128.11 54 PKP **PKPdf 19 42 42.1 -1.5**
ECH Echery 128.21 53 *e*PKIKP **PKPdf 19 42 43.4 -0.3**
ECH MLR MLR
comp=Z,1µm,22.0s
ECH Echery 128.21 53 *e*PKPdf **PKPdf 19 42 43.4 -0.3**
ECH LR LR
comp=Z,1µm,22.0s
CDF Champ du Feu 128.33 53 *e*PKIKP **PKPdf 19 42 43.0 -1.0**
COCO West Island 128.71 205 PFAKE 19 43 00.0 +14
COCO LR LR
comp=Z,2µm,19.0s
LANF Langenberg 128.80 52 PKP **PKPdf 19 42 43.1 -1.7**
LEM Lembang 128.82 220 PKP **PKPdf 19 42 48.4 +2.3**
BUG Bochum--Univer 128.97 49 *e*PKPdf **PKPdf 19 42 48.0 +3.1**
BFO Black Forest 129.00 53 *e*PKPdf **PKPdf 19 42 47.6 +2.4**
BFO Black Forest 129.00 53 *e*PKIKP **PKPdf 19 42 44.7 -0.5**
BFO MLR MLR
comp=Z,983nm,22.0s
BFO Black Forest 129.00 53 *e*PKPdf **PKPdf 19 42 44.7 -0.5**
BFO LR LR
comp=Z,983nm,22.0s
BER Bergen 129.18 38 AMS AMS 20 33 31.7
comp=Z,1µm,18.8s
TUE Stuetta 129.25 56 PFAKE 19 43 00.0 +14
TUE LR LR
comp=Z,917nm,20.0s
VLC Villacollemand 129.38 59 PFAKE 19 43 00.0 +14
VLC LR LR
comp=Z,2µm,22.0s
TNS Taunus Mts 129.47 51 *e*PKPdf **PKPdf 19 42 49.3 +3.2**
TNS Taunus Mts 129.47 51 *e*PKIKP **PKPdf 19 42 49.3 +3.2**
ERM Erimo 129.57 298 PFAKE 19 43 00.0 +14
ERM LR LR
comp=Z,1µm,22.0s
KBS Kingsbay 129.68 13 AMS AMS 20 35 48.5
comp=Z,1µm,19.1s
KBS Kingsbay 129.68 13 PFAKE 19 43 00.0 +14
KBS LR LR
comp=Z,1µm,20.0s
WDD Wield Dalam 129.96 70 PFAKE 19 43 00.0 +13
WDD LR LR
comp=Z,2µm,20.0s
FETA Feichten 130.29 55 ⇑ *i* PKPdf **PKPdf 19 42 48.5 +0.6**
comp=Z,30nm,1.2s
RETA Reutte 130.42 55 ⇓ *i* PKPdf **PKPdf 19 42 47.6 -0.4**
comp=Z,28nm,1.5s
UBBA Unterbreizbach 130.56 50 *e*PKPdf **PKPdf 19 42 51.2 +3.3**
SPA0 Spitsbergen Ar 130.76 14 *e*PP PP 19 45 04.6 +0.7
NRDL Niedersach Rie 130.88 48 *e*PKPdf **PKPdf 19 42 51.7 +3.2**
CLZ Clausthal 130.95 49 *e*PKPdf **PKPdf 19 42 52.1 +3.3**
CLZ Clausthal 130.95 49 *e*PKIKP **PKPdf 19 42 52.1 +3.3**
AQU L'Aquila 131.05 62 PFAKE 19 43 00.0 +11
AQU LR LR
comp=Z,1µm,22.0s
GRFO Grafenberg 131.13 52 *e*PKIKP **PKPdf 19 42 50.0 +0.8**
GRFO Grafenberg 131.13 52 *e*PKPdf **PKPdf 19 42 50.0 +0.8**
GRF Grafenberg Arr 131.13 52 *e*PKPdf **PKPdf 19 42 52.4 +3.2**
GRF *e*L L 20 35 40.5
comp=Z,699nm,21.4s
GRF Grafenberg Arr 131.13 52 *e*PKIKP **PKPdf 19 42 52.4 +3.2**
GRF MLR MLR
comp=Z,200nm,21.4s
BSEG Bad Segeberg 131.20 46 *e*PKPdf **PKPdf 19 42 52.2 +3.1**
BSEG Bad Segeberg 131.20 46 *e*PKIKP **PKPdf 19 42 52.2 +3.1**
KONO Kongsberg 131.26 39 AMS AMS 20 32 49.8
comp=Z,1µm,26.1s
KONO Kongsberg 131.26 39 PFAKE 19 43 00.0 +11
KONO LR LR
comp=Z,829nm,21.0s
MOX Moxa 131.54 51 *e*PKPdf **PKPdf 19 42 52.9 +3.0**
MOX *e*L L 20 38 30.2
comp=Z,834nm,19.5s
MOX Moxa 131.54 51 *e*PKIKP **PKPdf 19 42 52.9 +3.0**
MOX MLR MLR
comp=Z,11µm,19.5s
MAJO Matsushiro 131.63 290 PFAKE 19 43 00.0 +9.5
MAJO LR LR
comp=Z,563nm,21.0s
MAT Matsushiro 131.63 290 PKP **PKPdf 19 42 49.2 -1.3**
ROTZ Rotzenmuhle 131.78 52 *e*PKPdf **PKPdf 19 42 52.8 +2.4**
RJOB Jochberg 131.81 55 *e*PKPdf **PKPdf 19 42 53.7 +3.1**
TANN Tannenbergstha 132.04 51 *e*PKPdf **PKPdf 19 42 53.9 +3.0**
NB2 NORSAR Subarra 132.09 37 PKPdf **PKPdf 19 42 51.9 +1.2**
comp=Z,27nm,1.7s,baz=270,slow=1.9
NB2 NORSAR Subarra 132.09 37 PKPdf **PKPdf 19 42 51.9 +1.2**
baz=270,slow=1.9
NOA NORSAR Array B 132.09 37 PKP **PKPdf 19 42 50.6 -0.1**
NOA NORSAR Array B 132.09 37 PKP **PKPdf 19 42 50.6 -0.1**
comp=Z,2.9nm,1.0s,baz=280,slow=2.2,SNR=3.7
WET Wettzell 132.11 53 *e*PKPdf **PKPdf 19 42 53.6 +2.5**
WET Wettzell 132.11 53 *e*PKIKP **PKPdf 19 42 53.6 +2.5**
CUC Castrocucco 132.18 66 PFAKE 19 43 00.0 +8.5
CUC LR LR
comp=Z,1µm,21.0s
SKDS Skadanscina 132.21 58 *i* PKPdf **PKPdf 19 42 49.5 -1.9**
STKI Sintang 132.24 229 PKP **PKPdf 19 42 55.7 +3.3**
NC602 NORSAR Array S 132.26 37 *e*PP PP 19 45 12.4 -1.6
NC602 *e*SS SS 20 02 53.1 +1.7
CLL Collm 132.50 50 *e*PKPdf **PKPdf 19 42 54.5 +2.8**
CLL Collm 132.50 50 *e*PKIKP **PKPdf 19 42 51.0 -0.7**
CLL *i* 19 42 58.8
CLL pmax pmax
comp=Z,52nm,2.1s
CLL MLR MLR
comp=Z,900nm,20.3s
CLL Collm 132.50 50 *e*PKPdf **PKPdf 19 42 51.0 -0.7**
comp=Z,52nm,2.1s
CLL *i* (pPKPdf) 19 42 58.8
comp=Z,28nm,1.6s
CLL *e*PP **PP 19 45 18.0 +2.1**
CLL *e* 19 46 05.0
CLL *i* SKPdf **SKPdf 19 46 24.4 -1.8**
comp=Z,27nm,1.6s
CLL *e*PPP PPP 19 48 06.0
CLL *e*PS **PS 19 55 30.0 -2.2**
CLL *e*PPS PPS 19 57 15.0
CLL *e* 20 02 18.0
CLL *e*PPPPrev 20 02 48.0
CLL *e*PSS PSS 20 03 24.0
CLL *e* 20 06 48.0
CLL *e*SSS SSS 20 07 52.0
CLL LV 20 40 00.0
comp=Z,900nm,20.3s
CEY Cerknica 132.53 58 *i* PKPdf **PKPdf 19 42 51.8 -0.1**
KHC Kasperske Hory 132.56 53 *e*PKIKP **PKPdf 19 42 52.1 +0.2**
KHC *e* 19 42 54.0
KHC *e* 19 45 12.8
KHC *e* 19 57 09.8
KHC *e*SS SS 20 02 52.5 -3.5
KHC MLR MLR
comp=Z,900nm,17.5s
KHC Kasperske Hory 132.56 53 *e*PKPdf **PKPdf 19 42 52.1 +0.2**
KHC *e*PKP **PKiKP 19 42 54.0 +1.0**
KHC *ex* x 19 43 00.7
KHC *e*PP **PP 19 45 12.8 -3.7**
KHC *e*SKP 19 46 20.9
KHC *ex* x 19 57 09.8
KHC *e*SS SS 20 02 52.5 -3.5
KHC AMS AMS 20 38 50.0
comp=Z,900nm,17.5s
KHC Kasperske Hory 132.56 53 *e*PKPdf **PKPdf 19 42 51.8 -0.1**
GEC2 GERESS Array S 132.60 54 *e*PKPdf **PKPdf 19 42 53.9 +1.8**
GEC2 GERESS Array S 132.60 54 *e*PKIKP **PKPdf 19 42 53.9 +1.8**
GERES GERESS Array B 132.60 54 PKP **PKPdf 19 42 52.2 +0.2**
GERES GERESS Array B 132.60 54 PKP **PKPdf 19 42 52.2 +0.2**
comp=Z,4.3nm,0.9s,baz=54,slow=2.3,SNR=9.9
TIP Timpagrande 132.66 67 PFAKE 19 43 00.0 +7.5
TIP LR LR
comp=Z,408nm,19.0s
VISS Visnje 132.83 58 *i* PKPdf **PKPdf 19 42 50.1 -2.4**
BRG Berggiesshubel 133.03 51 *e*PKP **PKPdf 19 42 52.4 -0.3**
comp=Z,18nm,1.6s
BRG PP PP 19 45 03.0 -16
BRG PKS PKSdf 19 46 23.0 -5.9
BRG SS SS 20 02 53.0 -8.5
BRG
comp=N,565nm,29.0s
BRG
comp=E,2µm,29.7s
BRG
comp=Z,2µm,30.4s
BRG Berggiesshubel 133.03 51 *e*PKPdf **PKPdf 19 42 55.5 +2.8**
BRG Berggiesshubel 133.03 51 *e*PKIKP **PKPdf 19 42 52.4 -0.3**
BRG pmax pmax
comp=Z,18nm,1.5s
SOKA Soboth 133.12 57 ⇑ *i* PKPdf **PKPdf 19 42 52.6 -0.6**
comp=Z,12nm,1.2s
PRA Prague 133.25 52 PKPdf **PKPdf 19 42 52.0 -1.1**
PRA PP **PP 19 45 19.0 -1.8**
PRA AMS AMS 20 41 00.0
PRU Pruhonice 133.30 52 *e*PKIKP **PKPdf 19 42 51.5 -1.7**
PRU *e* 19 42 54.9
PRU *e* 19 45 18.6
PRU *e* 19 57 13.8
PRU *e*SS SS 20 03 01.6 -3.2
PRU *e* 20 08 04.8
PRU MLR MLR
comp=Z,900nm,18.2s
PRU Pruhonice 133.30 52 *e*PKPdf **PKPdf 19 42 51.5 -1.7**
PRU *e*PKP **PKiKP 19 42 54.9 +0.5**
PRU *e*PP **PP 19 45 18.6 -2.5**
PRU *e*SKP 19 46 28.0
PRU *ex* x 19 57 13.8
PRU *e*SS SS 20 03 01.6 -3.2
PRU *ex* x 20 08 04.8
PRU AMS AMS 20 40 50.0
comp=Z,900nm,18.2s
PVCC Panska Ves 133.39 51 *e*PKIKP **PKPdf 19 42 52.7 -0.7**
PVCC *e* 19 42 56.7
PVCC MLR MLR
comp=Z,900nm,20.4s
PVCC Panska Ves 133.39 51 *e*PKPdf **PKPdf 19 42 52.7 -0.7**
PVCC *e*PKP **PKiKP 19 42 56.7 +2.1**
PVCC *e*SKP 19 46 28.2
PVCC *ex* x 19 57 12.5
PVCC AMS AMS 20 33 00.0
comp=Z,900nm,20.4s
KKM Kota Kinabalu 133.57 240 PFAKE 19 43 10.0 +15
KKM LR LR
comp=Z,1µm,21.0s
TREC Trest 133.82 53 *e*PKIKP **PKPdf 19 42 53.3 -1.0**
TREC *e* 19 42 57.3
TREC *e* 19 42 59.9
TREC *e* 19 45 22.8

TREC *e* 19 57 17.1
TREC MLR MLR
comp=Z,1μm,19.7s
TREC Trest 133.82 53 *e*PKPdf **PKPdf 19 42 53.3 -1.0**
TREC *ep*PKP **PKiKP 19 42 57.3 +1.7**
TREC *ex* x 19 42 59.9
TREC *e*PP **PP 19 45 22.8 -1.7**
TREC *e*SKP 19 46 29.7
TREC *ex* x 19 57 17.1
TREC AMS AMS 20 39 30.0
comp=Z,1μm,19.7s
KSM Kuching 134.06 229 PFAKE 19 43 10.0 +14
KSM LR LR
comp=Z,1μm,22.0s
UPC Upice 134.30 51 *e*PKIKP **PKPdf 19 42 56.0 +0.9**
UPC Upice 134.30 51 *e*PKPdf **PKPdf 19 42 56.0 +0.9**
UPC *e*SKP 19 46 32.2
DPC Dobruska-Polom 134.48 52 *e*PKIKP **PKPdf 19 42 55.4 -0.1**
DPC *e* 19 42 58.1
DPC *e* 19 45 26.8
DPC *e* 19 57 25.1
DPC *e*SS SS 20 03 17.0 -2.2
DPC Dobruska-Polom 134.48 52 *e*PKPdf **PKPdf 19 42 55.4 -0.1**
DPC *ep*PKP **PKiKP 19 42 58.1 +1.2**
DPC *e*PP **PP 19 45 26.8 -1.9**
DPC *e*SKP 19 46 31.2
DPC *ex* x 19 57 25.1
DPC *e*SS SS 20 03 17.0 -2.2
KSP Ksiaz 134.51 51 *e*PKIKP **PKPdf 19 42 57.8 +2.3**
KSP *e* 19 45 27.0
KSP *e*SS SS 20 03 42.0 +23
KSP *e*SSS SSS 20 08 22.0
MSEY Mahe Island 134.72 149 PFAKE 19 43 10.0 +13
MSEY LR LR
comp=Z,2μm,21.0s
ZST Bratislava 134.74 55 *e*SS SS 20 03 21.3 -1.0
MORC Moravsky Berou 135.21 53 *e*PKIKP **PKPdf 19 42 57.9 +1.0**
MORC Moravsky Berou 135.21 53 *e*PKPdf **PKPdf 19 42 57.9 +1.0**
TIR Tirane 135.50 65 PFAKE 19 43 10.0 +12
TIR LR LR
comp=Z,852nm,21.0s
PKSM Moragy 135.51 58⇑ *i*P **PKPdf 19 43 00.3 +2.8**
TIXI Tiksi 135.56 339 *e*PKIKP **PKPdf 19 42 56.0 -0.8**
OKC Ostrava-Krasne 135.60 53 *e*PKIKP **PKPdf 19 43 00.7 +3.2**
OKC *e* 19 43 04.0
OKC *e*SS SS 20 03 39.9 +7.4
OKC *e* 20 08 45.1
OKC MLR MLR
comp=Z,700nm,18.9s
OKC Ostrava-Krasne 135.60 53 *e*PKPdf **PKPdf 19 43 00.7 +3.2**
OKC *ep*PKP **pPKPdf 19 43 04.0 +1.0**
OKC *e*PP PP 19 45 30.3 -5.4
OKC *e*SKP 19 46 35.6
OKC *ex* x 19 57 34.4
OKC *e*SS SS 20 03 39.9 +7.4
OKC *ex* x 20 08 45.1
OKC AMS AMS 20 41 20.0
comp=Z,700nm,18.9s
VYHS Vyhne 135.93 55 *e*PKIKP **PKPdf 19 42 59.5 +1.3**
VYHS *e* 19 45 37.7
VYHS Vyhne 135.93 55 *e*PKP **PKPdf 19 42 59.5 +1.3**
VYHS *e*PP **PP 19 45 37.7 -0.2**
VYHS *e*SKP 19 46 35.8
VYHS *e*SS SS 20 03 58.0 +21
ARCES ARCESS Array B 136.33 24 PKP **PKPdf 19 42 58.1 -0.2**
ARCES ARCESS Array B 136.33 24 PKP **PKPdf 19 42 58.1 -0.2**
comp=Z,3.0nm,0.6s,baz=298,slow=2.6,SNR=5.9
ARE0 ARCESS Array S 136.33 24 *e*SS SS 20 03 41.3 +1.4
HABR Khabarovsk 136.41 305 P **Pdif 19 40 01.8 -2.6**
HABR *i* 19 42 59.0
HABR *e* 19 45 37.9
HABR *e*PPP PPP 19 48 35.7
HABR PS **PS 19 56 01.9 -3.8**
HABR *e*SS SS 20 03 38.0 -4.2
HABR *e*SSS SSS 20 08 42.1
HABR pmax pmax
comp=N,31nm,2.4s
HABR pmax pmax
comp=E,77nm,3.6s
HABR pmax pmax
comp=Z,49nm,1.8s
PSZ Piszkesteto 136.57 56 PFAKE 19 43 10.0 +10
PSZ LR LR
comp=Z,1μm,21.0s
DGAR Diego Garcia 136.65 173 PFAKE 19 43 10.0 +9.3
DGAR LR LR
comp=Z,2μm,22.0s
OJC Ojcow 136.69 52 *e*PKIKP **PKPdf 19 43 00.0 +0.4**
OJC Ojcow 136.69 52 *e*PKPdf **PKPdf 19 43 00.0 +0.4**
KEV Kevo 136.72 23 *e*pkp **PKPdf 19 43 02.0 +3.0**
KEV Kevo 136.72 23 *e*PKIKP **PKPdf 19 43 02.0 +3.0**
KEV Kevo 136.72 23 PFAKE 19 43 10.0 +11
KEV LR LR
comp=Z,605nm,19.0s
NIE Niedzica 136.98 53 *e*PKIKP **PKPdf 19 43 00.9 +0.7**
NIE Niedzica 136.98 53 *e*PKPdf **PKPdf 19 43 00.9 +0.7**
BZS Buzias 137.49 59⇑ *i*P PKPdf 19 42 49.7 -11
STHS Stebnicka Huta 137.58 53 *e*PKIKP **PKPdf 19 43 01.7 +0.4**
STHS Stebnicka Huta 137.58 53 *e*PKP **PKPdf 19 43 01.7 +0.4**
KKB Krupnik 137.97 65 *i*P PP 19 45 56.4 +5.6
USRK Ussuriysk Arra 138.02 299 PKP **PKPdf 19 43 01.8 -0.4**
comp=Z,2.9nm,0.9s,baz=132,slow=2.4,SNR=4.9
MYKOM Kota Tinggi 138.06 222 PKP **PKPdf 19 43 07.0 +3.7**
VTS Vitosha 138.19 64 *i*P **PP 19 45 50.4 -1.9**
UZH Uzhgorod 138.23 55 *i*PKIKP **PKPdf 19 43 05.9 +3.5**
UZH *e*SS SS 20 04 00.0 -3.8
KOLS Kolonicke sedl 138.23 54 *e*PKIKP **PKPdf 19 43 03.6 +1.1**
KOLS *e* 19 45 53.0
KOLS *e*SS SS 20 04 40.8 +37
KOLS Kolonicke sedl 138.23 54 *e*PKP **PKPdf 19 43 03.6 +1.1**
KOLS *e*PP **PP 19 45 53.0 +0.8**
KOLS *e*SS SS 20 04 40.8 +37
YAK Yakutsk 138.49 326 *e*PKIKP **PKPdf 19 43 00.5 -2.0**
YAK *e* 19 45 51.9
YAK pmax pmax
comp=Z,23nm,1.1s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,42nm,3.1s
YAK pmax pmax
comp=Z,82nm,3.2s
YAK pmax pmax
comp=N,30nm,3.0s
KWP Kalwaria Pacla 138.55 53 PFAKE 19 43 10.0 +7.0
KWP LR LR
comp=Z,2μm,22.0s
SANT Santorini 138.55 74 PFAKE 19 43 20.0 +16
SANT LR LR
comp=Z,853nm,22.0s
KLR Kul'dur 138.64 306 *e*PKIKP **PKPdf 19 42 59.0 -4.2**
KLR *e* 19 43 07.0
MPEP Malo Peshtene 138.69 63 *e*P **PP 19 45 53.5 -1.8**
APE Apeiranthos 138.78 73⇓ *i*P **PKPdf 19 43 04.1 +0.2**
SUW Suwalki 138.78 47 *e*PKIKP **PKPdf 19 43 05.0 +1.7**
SUW Suwalki 138.78 47 *e*PKPdf **PKPdf 19 43 05.0 +1.7**
KAF Kangasniemi 139.09 34 *e*pkp **PKPdf 19 42 59.5 -4.1**
KAF Kangasniemi 139.09 34 *e*PKIKP **PKPdf 19 42 59.5 -4.1**
FINES FINESS Array B 139.16 35 PKPpre PKPpre 19 42 49.2
FINES PKP **PKPdf 19 43 03.4 -0.3**
FINES FINESS Array B 139.16 35 PKhKP PKPpre 19 42 49.2
comp=Z,2.5nm,0.9s,baz=197,slow=26,SNR=2.7
FINES PKP **PKPdf 19 43 03.4 -0.3**
comp=Z,7.0nm,1.1s,baz=210,slow=1.1,SNR=7.2
LVV L'vov 139.41 53 *e*PKIKP PKPdf 19 43 12.6 +8.0
LVV *e* 20 04 49.0
MDJ Mudanjiang 139.78 299 PKP **PKPdf 19 43 04.6 -0.8**
MDJ PP **PP 19 46 02.3 +0.4**
MDJ PKS **PKSdf 19 46 44.7 +3.4**
MDJ LR LR
comp=N,730nm,39.9s
MDJ LR LR
comp=Z,880nm,25.8s
MDJ Mudanjiang 139.78 299 PFAKE 19 43 20.0 +15
MDJ LR LR
comp=Z,871nm,21.0s
KSRS Korea Array 139.78 288 PKhKP PKPpre 19 43 01.0
comp=Z,1.3nm,0.7s,baz=129,slow=3.2,SNR=5.9
KSRS PKP **PKPdf 19 43 05.3 -0.4**
comp=Z,3.6nm,0.7s,baz=114,slow=2.7,SNR=14
KSAR Wonju Array Be 139.81 288 PKPpre PKPpre 19 43 01.0
KSAR PKP **PKPdf 19 43 05.3 -0.4**

PVL Pavlikeni 139.82 63 *e*P **PP 19 46 01.1 -1.1**
LVZ Lovozero 140.05 24 *i* PKIKP **PKPdf 19 43 09.4 +4.1**
BUR08 Bucovina Ar. S 140.12 56 *e*PKPdf **PKPdf 19 43 04.2 -1.9**
SZH Strazhica 140.26 63 *e*P **PP 19 46 03.7 -1.3**
MLR Muntele Rosu 140.50 60⇑ *i*P PKPdf 19 43 01.6 -5.3
YHNB Yeheng 140.63 266 PFAKE 19 43 20.0 +12
YHNB LR LR
comp=Z,580nm,21.0s
TATO Taipei 140.68 266 PFAKE 19 43 20.0 +12
TATO LR LR
comp=Z,460nm,20.0s
PLOR Plostina 141.02 59⇓ *i*P **PKPdf 19 43 11.6 +3.9**
JOF Joensuu 141.03 32 *e*pkp PKPpre 19 43 00.0
JOF Joensuu 141.03 32 *e*PKHKP PKPpre 19 43 00.0
VRI Vrincioaia 141.08 59⇑ *i*P **PKPdf 19 43 09.8 +2.0**
PRD Provadia 141.32 64 *e*P **PP 19 46 09.7 -1.7**
PSI Prapat 141.45 216 PKP **PKPdf 19 43 07.4 -2.2**
PSI Prapat 141.45 216 PKP **PKPdf 19 43 07.4 -2.2**
comp=Z,3.6nm,0.8s,baz=194,slow=8.5,SNR=6.0
IPM Ipoh 141.83 220 PKP **PKPdf 19 43 14.0 +3.9**
CFR Carcaliu 142.02 60⇑ *i*P **PKPdf 19 43 05.2 -4.2**
TSI Tuntungan 142.23 216 PKP **PKPdf 19 43 15.1 +4.3**
KIS Kishinev 142.56 57 *e*PKP PKPpre 19 43 04.0
KIS LRM MLR 20 39 12.0
comp=Z,3μm,22.0s
KIS Kishinev 142.56 57 *e*PKHKP PKPpre 19 43 04.0
KIS *e* 19 46 20.0
KIS *e* 20 05 28.0
CN2 Changchun 142.67 297 *e*PKP **PKPdf 19 43 13.8 +3.2**
CN2 PP PP 19 46 27.7 +8.1
CN2 SS SS 20 05 03.3 +7.2
CN2 AMB AMB
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,300nm,20.0s
CN2 LR LR
comp=E,200nm,20.0s
CN2 LR LR
comp=Z,200nm,22.0s
KIEV Kiev 142.70 51 *e*PKIKP PKPpre 19 43 06.5
KIEV MLR MLR
comp=Z,1μm,21.0s
KIEV Kiev 142.70 51 *e*PKPpre PKPpre 19 43 06.5
KIEV LR LR
comp=Z,1μm,21.0s
KULM Kulim 142.71 221 *e*PKPpre PKPpre 19 43 08.6
KULM LR LR
comp=Z,486nm,20.0s
KULM Kulim 142.71 221 PKP **PKPdf 19 43 09.6 -2.1**
ISP Isparta 142.82 73 PFAKE 19 43 20.0 +8.7
ISP LR LR
comp=Z,881nm,22.0s
QZH Quanzhou 143.01 264 PKP PKPab 19 43 06.3 -0.7
QZH LR LR
comp=N,380nm,13.4s
QZH LR LR
comp=E,510nm,18.1s
QZH LR LR
comp=Z,1μm,25.4s
TMCR Tamitsa 143.17 28 *e*PKHKP PKPab 19 43 06.5 0.0
TMCR pmax pmax
comp=Z,44nm,1.2s
SSE Sheshan 143.33 275 PKP PKPbc 19 43 09.5 +0.2
SSE pPKP pPKPdf 19 43 20.3 +2.6
SSE PP **PP 19 46 25.4 +1.5**
SSE AMB AMB
comp=Z,94nm,4.6s
SSE LR LR
comp=N,390nm,28.5s
SSE LR LR
comp=E,370nm,28.5s
SSE LR LR
comp=Z,660nm,21.1s
SNY Shenyang 143.85 294⇓ PKP **PKPdf 19 43 12.6 -0.2**
SNY SS SS 20 05 11.7 +1.9
SNY AMB AMB
comp=Z,290nm,8.2s
SNY LR LR
comp=N,210nm,24.5s
SNY LR LR
comp=E,580nm,20.4s
SNY LR LR
comp=Z,570nm,21.6s
CSS Prodhromos 144.38 78 *e*PKPdf PKPbc 19 43 12.3 -0.1
CSS LR LR
comp=Z,336nm,22.0s
ERMK Ermenek 144.44 75 *i* P **PKPab 19 43 12.5 -0.1**
LHMI Lhok Sumawe 144.51 215 PKP PKPbc 19 43 13.7 +0.4
ANTO Ankara 144.92 70 *e*PKP2 **PKPab 19 43 13.2 -0.8**
ANTO MLR MLR
comp=Z,626nm,22.0s
ANTO Ankara 144.92 70 *e*PKPdf **PKPab 19 43 13.2 -0.8**
ANTO LR LR
comp=Z,626nm,22.0s
ANTO Ankara 144.92 70⇑ *i*P PKPbc 19 43 14.0 -0.1
DL2 Dalian 144.94 288 PKPbc **PKPab 19 43 10.5 -3.5**
DL2 PP **PP 19 46 35.8 +2.5**
DL2 SS SS 20 05 27.3 +4.9
DL2 AMB AMB
comp=Z,180nm,6.3s
DL2 LR LR
comp=N,260nm,20.6s
DL2 LR LR
comp=Z,270nm,20.3s
BBAL Bala 145.13 71 *i* P **PKPbc 19 43 14.7 -0.1**
TRTT Trang 145.36 222 PKP **PKPbc 19 43 14.7 -1.4**
BSI Banda Aceh 145.49 213 PKP **PKPbc 19 43 15.0 -1.5**
NJ2 Nanjing 145.53 276 *e*PKPbc **PKPdf 19 43 14.7 -1.3**
NJ2 pPKP **pPKPdf 19 43 23.2 +1.7**
NJ2 sPKP 19 43 24.9
NJ2 PP **PP 19 46 38.8 +1.8**
NJ2 SKKS 19 53 31.8
NJ2 SS SS 20 05 37.2 +7.8
NJ2 AMB AMB
comp=Z,290nm,11.3s
NJ2 LR LR
comp=N,700nm,27.7s
NJ2 LR LR
comp=E,810nm,25.6s
NJ2 LR LR
comp=Z,700nm,26.8s
BRTR Keskin Array B 145.55 70 PKPbc **PKPdf 19 43 15.9 -0.1**
BRTR Keskin Array B 145.55 70 PKPbc **PKPdf 19 43 15.9 -0.1**
comp=Z,15nm,1.0s,baz=225,slow=3.3,SNR=34
BALT Daday 145.56 67 *i* P **PKPdf 19 43 15.7 -0.3**
ILGA Ilgaz 145.76 68 *i* P **PKPdf 19 43 15.9 -0.6**
TCHB Talchebab 145.87 83 *e*P **PKPab 19 43 19.6 +1.9**
TCHB Talchebab 145.87 83 *e*P **PKPab 19 43 19.6 +1.9**
SNR=46
GULE Gulek 146.03 75 *i* P **PKPdf 19 43 16.6 -0.4**
BRBR Barbar 146.07 82 *e*P **PKPab 19 43 18.3 -0.4**
BRBR Barbar 146.07 82 *e*P **PKPab 19 43 18.3 -0.4**
SNR=46
CDAG Cicekdag 146.09 71 *i* P **PKPdf 19 43 15.3 -1.6**
PKDT Phuket 146.12 220 PKP **PKPdf 19 43 17.3 -0.3**
OBN Obninsk 146.25 42*c* *i*PKP2 **PKPdf 19 43 16.6 +0.2**
OBN 19 50 19.0
OBN *e*SS SS 20 06 15.9 +40
OBN pmax pmax
comp=Z,121nm,1.0s
OBN MLR MLR
comp=Z,600nm,18.0s
SIM Simferopol' 146.25 61 *i* PKP2 **PKPbc 19 43 17.6 -0.4**
SIM pmax pmax
comp=Z,153nm,2.5s
TOTH TOTAH 146.44 82 *e*P **PKPab 19 43 20.3 +0.4**
TOTH TOTAH 146.44 82 *e*P **PKPab 19 43 20.3 +0.4**
SNR=46
HIA Hailar 146.49 307 PFAKE 19 43 30.0 +10
HIA LR LR
comp=Z,937nm,21.0s
SALA Sala 146.50 83 *e*P **PKPab 19 43 24.6 +4.3**
SALA Sala 146.50 83 *e*P **PKPab 19 43 24.6 +4.3**
SNR=46
CTKT Corum 146.53 69 *i* P **PKPbc 19 43 19.2 0.0**
MOS Moscow 146.62 41 *e*PKIKP **PKPdf 19 43 16.9 -0.2**
MOS pmax pmax
comp=Z,100nm,1.3s
MOS MLR MLR
comp=Z,800nm,19.0s
ARNB Al Arnab 146.69 78 *e*P **PKPab 19 43 21.8 +0.9**
ARNB Al Arnab 146.69 78 *e*P **PKPab 19 43 21.8 +0.9**
SNR=46
QIZ Qiongzhong 146.79 248 PKPbc **PKPdf 19 43 18.0 -0.5**

QIZ SS SS 20 05 45.5 +2.0
QIZ LR LR
comp=N,480nm,20.2s
QIZ LR LR
comp=E,81nm,31.6s
QIZ LR LR
comp=Z,1μm,41.2s
QIZ Qiongzhong 146.79 248 PFAKE 19 43 30.0 +8.4
QIZ LR LR
comp=Z,739nm,22.0s
YAYL Yayladag 146.83 77 *i* P **PKPbc 19 43 20.0 -0.1**
YAYL Yayladag 146.83 77 *i* P **PKPbc 19 43 20.0 -0.1**
ZALF Zalf 147.04 83 *e*P PKPab 19 43 28.5 +6.2
ZALF Zalf 147.04 83 *e*P PKPab 19 43 28.5 +6.2
SNR=46
COBT Iskenderun 147.05 77 *i* P **PKPab 19 43 24.2 +1.8**
COBT Iskenderun 147.05 77 *i* P **PKPab 19 43 24.2 +1.8**
BTCH Batrach 147.11 78 *e*P **PKPbc 19 43 20.9 +0.1**
BTCH Batrach 147.11 78 *e*P **PKPbc 19 43 20.9 +0.1**
SNR=46
HAVZ Havza 147.27 68 *i* P **PKPab 19 43 22.6 -0.3**
DRWC Darouich 147.39 77 *e*P **PKPab 19 43 27.6 +4.0**
DRWC Darouich 147.39 77 *e*P **PKPab 19 43 27.6 +4.0**
SNR=46
UBPT Khong Chiam 147.52 238 PKP **PKPbc 19 43 21.4 -1.0**
UBPT Khong Chiam 147.52 238 PKP **PKPbc 19 43 21.4 -1.0**
AYKD Aykdinkavak 147.65 75 *i* P **PKPdf 19 43 18.3 -1.2**
CHBT CHBT 147.75 231 PKP **PKPbc 19 43 21.9 -1.1**
CHBT CHBT 147.75 231 PKP **PKPbc 19 43 21.9 -1.1**
ANN Anapa 148.61 61 *i* PKP2 **PKPbc 19 43 23.5 -0.9**
ANN *e* 19 46 58.8
ANN pmax pmax
comp=Z,135nm,1.6s
AKCD Akcadag 148.66 74 *i* P **PKPbc 19 43 24.0 -1.0**
WHN Wuhan 148.69 271⇑ PKPbc **PKPbc 19 43 23.7 -1.4**
WHN LR LR
comp=Z,2μm,23.4s
VSR Storozhevoye 148.83 49 *e*PKP2 **PKPbc 19 43 26.1 +1.3**
VSR pmax pmax
comp=Z,90nm,1.5s
VSR pmax pmax
comp=N,20nm,1.7s
VSR pmax pmax
comp=E,20nm,1.3s
VORD Divnogorie 148.97 49 *e*PKP2 **PKPbc 19 43 24.7 -0.4**
VORD pmax pmax
comp=Z,70nm,1.5s
VORD pmax pmax
comp=N,100nm,0.8s
VORD pmax pmax
comp=E,170nm,0.6s
MALT Malatya 149.05 74 PFAKE 19 43 30.0 -0.3
MALT LR LR
comp=Z,160nm,21.0s
MALT Malatya 149.05 74⇓ *i*P PKPab 19 43 38.4 +8.2
MALT Malatya 149.05 74⇓ *i*P PKPab 19 43 38.4 +8.2
SUSE Susehri 149.09 70 *i* P **PKPbc 19 43 25.3 -0.8**
KSRV Kasrt alli 149.10 79 *e*P **PKPdf 19 43 22.4 +0.6**
KSRV Kasrt alli 149.10 79 *e*P **PKPdf 19 43 22.4 +0.6**
SNR=91
KEMA Kemaliye 149.22 72 *i* P **PKPab 19 43 28.6 -2.2**
BJI Beijing 149.26 290 PKPbc **PKPdf 19 43 19.8 -2.1**
BJI SS SS 20 06 14.0 +2.7
BJI AMB AMB
comp=Z,280nm,7.2s
BJI LR LR
comp=N,500nm,19.5s
BJI LR LR
comp=E,610nm,24.0s
BJI LR LR
comp=Z,490nm,27.5s
BJT Baijiatuau 149.27 289 PFAKE 19 43 30.0 -0.9
BJT LR LR
comp=Z,705nm,22.0s
MNKR ALMNKUR 149.32 79 *e*P **PKPbc 19 43 28.0 +1.4**
MNKR ALMNKUR 149.32 79 *e*P **PKPbc 19 43 28.0 +1.4**
SNR=46
ELZG Elazig 149.51 74 *i* P **PKPab 19 43 30.0 -2.2**
SKNT Sakolnakorn 149.72 238 PKP **PKPbc 19 43 26.8 -1.3**
CIT Chita 149.75 314 *e*PKHKP **PKPbc 19 43 25.3 -1.9**
CIT pmax pmax
comp=Z,141nm,1.7s
KELT Kelkit 149.89 70 *i* P **PKPbc 19 43 26.1 -2.0**
SFNV Sufian 150.08 78 *e*P **PKPab 19 43 31.9 -2.6**
SFNV Sufian 150.08 78 *e*P **PKPab 19 43 31.9 -2.6**
SNR=46
SOC Sochi 150.30 63 *i* PKIKP **PKPbc 19 43 27.7 -1.0**
SOC *e* 19 50 26.7
SOC *e*SS SS 20 06 21.9 -0.8
SOC *e*SSS SSS 20 12 07.5
SOC pmax pmax
comp=Z,102nm,1.0s
MZRK Al-Mazaregh 150.40 79 *e*P **PKPbc 19 43 31.1 +1.8**
MZRK Al-Mazaregh 150.40 79 *e*P **PKPbc 19 43 31.0 +1.8**
SNR=46
KBSD Kabsdagh 150.52 77 *e*P **PKPbc 19 43 28.7 -0.8**
KBSD Kabsdagh 150.52 77 *e*P **PKPbc 19 43 28.7 -0.8**
SNR=46
MARD Mardin 150.76 76 *i* P **PKPbc 19 43 27.6 -2.6**
PBKT Sadao Pong 151.46 234 PKP **PKPdf 19 43 27.7 +1.6**
PBKT Sadao Pong 151.46 234 PKP **PKPdf 19 43 27.7 +1.6**
DBOC Borcka 151.77 68 *i* P **PKPdf 19 43 28.5 +2.6**
ARTV Artvin 151.96 68 *i* P **PKPdf 19 43 27.4 +0.9**
CHVG Ch'k'valeri 152.06 65 P **PKPab 19 43 42.6 +0.2**
ENH Enshi 152.54 267 PFAKE 19 43 40.0 -4.8
ENH LR LR
comp=Z,741nm,19.0s
GOF Gofitskoye 152.56 60 *e*PKIKP **PKPdf 19 43 25.4 -1.5**
GOF pmax pmax
comp=Z,60nm,1.1s
KBZ Khabaz 152.59 63 PKIKP **PKPdf 19 43 27.0 +0.1**
KBZ 19 43 33.5
KBZ Khabaz 152.59 63 PKP **PKPdf 19 43 27.0 +0.1**
KBZ PKPbc **PKPbc 19 43 33.5 -0.5**
KBZ Khabaz 152.59 63 PKP **PKPdf 19 43 27.0 +0.1**
comp=Z,16nm,0.9s,baz=291,slow=1.3,SNR=9.7
KBZ PKPbc **PKPbc 19 43 33.5 -0.5**
comp=Z,19nm,0.8s,baz=264,slow=1.6,SNR=18
HHC Hu-ho-hao-te 152.82 291 *e*PKPbc **PKPdf 19 43 27.0 -0.6**
HHC PKS **PKSdf 19 47 00.0 -2.0**
HHC PP **PP 19 47 22.7 +3.4**
HHC SKS **SKSdf 19 50 32.7 -1.4**
HHC SKKS **SKKSac 19 54 10.6 +1.9**
HHC SS **SS 20 06 54.0 +3.0**
HHC AMB AMB
comp=Z,230nm,5.1s
HHC LR LR
comp=N,1μm,18.0s
HHC LR LR
comp=E,1μm,18.8s
HHC LR LR
comp=Z,1μm,19.6s
SOKR Solikamsk 152.82 23*d* *i*PKIKP **PKPdf 19 43 27.7 +1.0**
SOKR pmax pmax
comp=Z,30nm,1.1s
BHD Baghdad 152.83 86 *i* PKP **PP 19 47 16.5 -2.9**
ONI Oni 153.08 65 P **PKPdf 19 43 30.1 +2.3**
HAKT HAKKARI 153.10 76 *i* P **PKPdf 19 43 30.6 +2.3**
AKH Akhalkalaki 153.14 68 P **PKPdf 19 43 30.0 +1.9**
GYA Guiyang 153.26 258 PKPbc **PKPdf 19 43 28.0 -0.7**
GYA PKPab **PKPab 19 43 51.6 +3.5**
GYA PKS **PKSdf 19 47 01.4 -1.9**
GYA PP **PP 19 47 25.6 +3.6**
GYA SKKS 19 54 11.2
GYA SS **SS 20 06 58.9 +2.8**
GYA AMB AMB
comp=Z,190nm,7.9s
GYA LR LR
comp=N,3μm,23.8s
GYA LR LR
comp=E,1μm,25.0s
GYA LR LR
comp=Z,2μm,23.4s
ZEI Tsey 153.40 65 *i* PKIKP **PKPbc 19 43 36.2 +0.1**
ZEI pmax pmax
comp=Z,23nm,1.1s
KZR Kazreti 153.84 68 P PKPdf 19 43 23.4 -5.5
BTO Baotou 153.99 290 *e*PKPbc **PKPdf 19 43 29.6 +0.3**
DUS Dusheti 154.03 66 P **PKPbc 19 43 40.1 +2.8**
IBDR Badra 154.04 87 *i* PKP **PP 19 47 29.0 +2.7**
TBLG Delisi 154.07 67 *e*PKIKP **PKPdf 19 43 32.3 +3.1**
TBLG Delisi 154.07 67 P **PKPdf 19 43 32.4 +3.1**
GNI Garni 154.09 71 *e*PKPdf **PKPdf 19 43 31.7 +2.2**
GNI LR LR

comp=Z,569nm,20.0s
XAN Xi'an 154.09 275 PKPbc **PKPdf** 19 43 32.5 +3.0
XAN PP PP 19 47 35.7 +9.1
XAN SKS **SKSdf** 19 50 37.7 +1.9
XAN AMB AMB
comp=Z,42nm,9.1s
XAN LR LR
comp=N,370nm,33.6s
XAN LR LR
comp=E,270nm,32.7s
XAN LR LR
comp=Z,200nm,32.7s
CMAR Chiang Mai Arr 154.16 233 PKP **PKPdf** 19 43 29.1 -0.9
CMAR PKPbc **PKPbc** 19 43 37.9 -0.3
CMAR Chiang Mai Arr 154.16 233 PKP **PKPdf** 19 43 29.1 -0.9
comp=Z,3.7nm,0.9s,baz=208,slow=1.5,SNR=16
CMAR PKPbc **PKPbc** 19 43 37.9 -0.3
comp=Z,6.2nm,0.9s,baz=214,slow=1.6,SNR=14
CMMT Chiang Mai 154.41 234 PKP **PKPdf** 19 43 31.6 +1.2
CMMT Chiang Mai 154.41 234 PKP **PKPdf** 19 43 31.6 +1.2
CHTO Chiang Mai 154.41 234 *e*PKIKP **PKPdf** 19 43 29.4 -0.9
CHTO MLR MLR
comp=Z,867nm,22.0s
CHTO Chiang Mai 154.41 234 *e*PKPdf **PKPdf** 19 43 29.4 -0.9
CHTO LR LR
comp=Z,867nm,22.0s
CHTO Chiang Mai 154.41 234 PKP **PKPdf** 19 43 31.7 +1.3
CHTO Chiang Mai 154.41 234 PKP **PKPdf** 19 43 31.7 +1.3
DGRG David-gareji 154.56 68 P **PKPdf** 19 43 31.8 +1.9
IRK Irkutsk 154.89 319 *e*PKIKP **PKPdf** 19 43 28.6 -1.4
IRK pmax pmax
comp=Z,65nm,2.0s
ULN Ulaanbaatar 155.01 308 *e*PKPdf **PKPdf** 19 43 28.6 -1.9
ULN LR LR
comp=Z,1μm,22.0s
ULN Ulaanbaatar 155.01 308 PKP **PKPdf** 19 43 29.0 -1.5
SONM Songino Array 155.45 308 PKP **PKPdf** 19 43 29.4 -1.7
SONM PKPab **PKPab** 19 43 56.7 -0.1
SONM Songino Array 155.45 308 PKP **PKPdf** 19 43 29.4 -1.7
comp=Z,1.8nm,1.0s,baz=118,slow=1.6,SNR=11
SONM PKPab **PKPab** 19 43 56.7 -0.1
comp=Z,9.6nm,0.8s,baz=96,slow=5.3,SNR=9.1
TLY Talaya 155.51 318 *e*PKIKP **PKPdf** 19 43 30.6 -0.3
TLY *e* 19 47 33.1
TLY *e*SS SS 20 07 18.1 -0.7
TLY pmax pmax
comp=Z,19nm,1.6s
KMI Kunming 155.66 251 PKP **PKPdf** 19 43 32.0 -0.2
KMI pPKP **pPKPdf** 19 43 35.3 -2.4
KMI sPKP 19 43 36.5
KMI PKS **PKSdf** 19 47 04.7 -1.8
KMI PP **PP** 19 47 39.2 +3.7
KMI SKKS 19 54 25.5
KMI SS **SS** 20 07 22.6 +0.4
KMI AMB AMB
comp=Z,200nm,8.3s
KMI LR LR
comp=N,750nm,19.6s
KMI LR LR
comp=E,480nm,20.0s
KMI LR LR
comp=Z,1μm,18.8s
ARU Arti 155.88 26 *i* PKIKP **PKPdf** 19 43 32.2 +1.0
MAK Makhachkala 156.02 64 *e*PKIKP **PKPdf** 19 43 28.3 -3.5
MAK *e*PPP PPP 19 51 15.4
MAK pmax pmax
comp=Z,179nm,1.3s
ZAK Zakamensk 156.34 316 *e*PKIKP **PKPdf** 19 43 30.0 -2.1
ZAK *e* 19 43 58.0
ZAK pmax pmax
comp=Z,2.0nm,1.6s
MOY Mondy 156.92 320 *e*PKIKP **PKPdf** 19 43 36.0 +3.1
MOY pmax pmax
comp=Z,36nm,2.4s
CD2 Chengdu 157.40 265 PKP **PKPdf** 19 43 33.4 -0.6
CD2 PKPab **PKPab** 19 44 07.9 +2.3
CD2 PKS **PKSdf** 19 47 05.8 -2.1
CD2 PP **PP** 19 47 48.2 +3.2
CD2 SKS **SKSdf** 19 50 36.5 -3.0
CD2 SKKS **SKKSac** 19 54 34.4 +0.9
CD2 SS **SS** 20 07 42.1 +1.3
CD2 AMB AMB
comp=Z,460nm,5.2s
CD2 LR LR
comp=N,1μm,31.8s
CD2 LR LR
comp=E,680nm,21.1s
CD2 LR LR
comp=Z,820nm,22.5s
LZH Lanzhou 158.55 278 ⇑PKP PKPdf 19 43 41.2 +5.7
LZH pPKP pPKPdf 19 43 44.5 +3.5
LZH sPKP 19 43 45.7
LZH PKS **PKSdf** 19 47 12.5 +3.3
LZH SKS **SKSdf** 19 50 39.0 -1.6
LZH AMB AMB
comp=Z,330nm,6.0s
LZH LR LR
comp=N,410nm,18.2s
LZH LR LR
comp=E,780nm,19.0s
LZH LR LR
comp=Z,1μm,20.3s
AKTO Aktyubinsk 159.88 38 PKIKP **PKPdf** 19 43 35.3 -1.0
AKTO pmax pmax
comp=Z,30nm,1.6s
NVS Novosibirsk 160.65 350 *e*PKIKP **PKPdf** 19 43 33.2 -3.8
NVS *e* 19 44 17.9
NVS *e* 19 47 58.5
NVS pmax pmax
comp=Z,10.0nm,1.3s
ZALV Zalesovo Beam 161.23 346 PKIKP **PKPdf** 19 43 35.1 -2.6
ZALV Zalesovo Beam 161.23 346 PKP **PKPdf** 19 43 35.1 -2.6
ZALV Zalesovo Beam 161.23 346 PKP **PKPdf** 19 43 35.1 -2.6
comp=Z,9.2nm,1.0s,baz=294,slow=1.4,SNR=18
AB31 Akbulak array 161.59 38 PKIKP **PKPdf** 19 43 38.1 -0.1
AB31 pmax pmax
comp=Z,63nm,1.6s
ABKAR Akbulak array 161.59 38 *e*PKPdf **PKPdf** 19 43 38.0 -0.1
GTA Gaotai 161.86 288 PKP **PKPdf** 19 43 40.0 +1.0
GTA PKPab **PKPab** 19 44 29.2 +4.3
GTA PP **PP** 19 48 14.0 +4.8
GTA SKS **SKSdf** 19 50 43.7 +0.4
GTA SKKS **SKKSac** 19 55 00.0 +3.4
GTA SS **SS** 20 08 33.3 +5.4
GTA AMB AMB
comp=Z,190nm,5.9s
GTA LR LR
comp=N,650nm,21.4s
GTA LR LR
comp=E,690nm,21.9s
GTA LR LR
comp=Z,1μm,20.9s
ZRNK Zerenda 162.00 16 PKIKP **PKPdf** 19 43 36.8 -1.7
ZRNK pmax pmax
comp=Z,32nm,2.5s
BRVK Borovoye 162.17 14 *e*PKIKP **PKPdf** 19 43 37.9 -0.7
BRVK MLR MLR
comp=Z,880nm,21.0s
BRVK Borovoye 162.17 14 *e*PKPdf **PKPdf** 19 43 37.9 -0.7
BRVK LR LR
comp=Z,880nm,21.0s
BVA0 Borovoye Array 162.22 14 *i* PKIKP **PKPdf** 19 43 39.2 +0.5
VOSK Vostochnaya 162.62 13 PKIKP **PKPdf** 19 43 37.3 -1.8
VOSK pmax pmax
comp=Z,25nm,1.6s
SHL Shillong 163.79 234 *e*PKP1 **PKPdf** 19 43 40.0 -1.4
SHL *e*PKP2 PKPab 19 44 42.0 +8.4
SHL *e*PP PP 19 48 25.0 +6.0
LSA Lhasa 166.82 246 PKP **PKPdf** 19 43 42.0 -2.2
LSA Lhasa 166.82 246 PFAKE 19 43 50.0 +5.8
LSA LR LR
comp=Z,2μm,22.0s
ODAN Odare 167.53 226 *e*P **PKPab** 19 44 47.1 -3.0
comp=Z,29nm,1.0s
TAPN Taplejung 167.70 229 *e*P **PKPab** 19 44 48.9 -2.1
comp=Z,51nm,1.1s
MK31 Makanchi Array 168.52 343 *i* PKIKP **PKPdf** 19 43 44.0 -0.2
MK31 pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 168.52 343 PKIKP **PKPdf** 19 43 42.1 -2.1
MKAR 19 44 53.7
MKAR 19 48 44.3
MKAR Makanchi Array 168.52 343 PKP **PKPdf** 19 43 42.1 -2.1
MKAR PKPab **PKPab** 19 44 53.7 0.0
MKAR PP **PP** 19 48 44.3 +2.0
MKAR Makanchi Array 168.52 343 PKP **PKPdf** 19 43 42.1 -2.1
comp=Z,1.5nm,0.9s,baz=140,slow=1.1,SNR=11
MKAR PKPab **PKPab** 19 44 53.7 0.0
comp=Z,1.9nm,0.9s,baz=16,slow=4.7,SNR=2.6
MKAR PP **PP** 19 48 44.3 +2.0
comp=Z,0.7nm,0.8s,baz=44,slow=4.4,SNR=2.7
JIRN Jiri 168.83 225 *e*P **PKPab** 19 44 54.2 -1.8
comp=Z,41nm,1.0s
PKI Pulchoki 169.19 222 *e*P **PKPab** 19 44 55.4 -2.2
comp=Z,133nm,1.7s
GUN Gumba 169.20 225 *e*P **PKPab** 19 44 55.8 -1.8
comp=Z,109nm,1.2s
PKIN Phulchoki 169.21 222 *e*P **PKPab** 19 44 55.5 -2.1
comp=Z,9.9nm,0.7s
DMN Daman 169.39 221 *e*P **PKPab** 19 44 56.4 -1.9
comp=Z,45nm,1.1s
KKN Kakani 169.44 222 *e*P **PKPab** 19 44 56.6 -1.9
comp=Z,38nm,0.9s
KOLN Koldanda 170.27 215 *e*P **PKPab** 19 44 59.7 -2.5
comp=Z,15nm,0.8s
DANN Dangsing 170.68 218 *e*P **PKPab** 19 45 01.9 -2.2
comp=Z,49nm,0.8s
PYUN Piuthan 170.83 213 *e*P **PKPab** 19 45 03.1 -1.5
comp=Z,55nm,0.9s
KKAR Karatay Array 171.12 34 *e*PKIKP **PKPdf** 19 43 47.3 +1.4
KKAR Karatay Array 171.12 34 *e*PKPdf **PKPdf** 19 43 47.3 +1.4
FRU Bishkek 172.79 16 *e*PKIKP **PKPdf** 19 43 48.0 +1.3
FRU *e* 19 49 04.0
FRU pmax pmax
comp=Z,26nm,1.8s
FRU MLR MLR
comp=Z,2μm,21.0s
AAK Ala-Archa 172.96 17 *e*PKIKP **PKPdf** 19 43 46.1 -0.8
AAK MLR MLR
comp=Z,887nm,21.0s
AAK Ala-Archa 172.96 17 *e*PKPdf **PKPdf** 19 43 46.1 -0.8
AAK LR LR
comp=Z,887nm,21.0s
KSH Kashi 176.26 16 *e*PKP **PKPdf** 19 43 51.0 +3.0
KSH PP **PP** 19 49 21.9 +1.3
KSH SKKS 19 56 12.2
KSH AMB AMB
comp=Z,350nm,7.3s
KSH LR LR
comp=N,170nm,9.1s
KSH LR LR
comp=E,340nm,14.4s
KSH LR LR
comp=Z,270nm,16.6s

GUC 08 19:32:36.0±0.7, 20.79S×69.17W, h116km±4km, ML3.9, 3C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.39**	**229**	⇓*iP*		Pn		19 32 53.5	+0.5
PB01				*i*S		Sn		19 33 06.4	+0.6
PB01				AML		AML		19 33 06.7	
comp=N,18μm,0.2s									
HMBC	**Humberstone**	**0.84**	**307**	⇓*iP*		Pn		19 32 56.5	+0.2
HMBC				*i*S		Sn		19 33 12.4	+0.7
HMBC				AML		AML		19 33 13.9	
comp=N,3μm,0.2s									
PB09	**Plate Boundary**	**1.01**	**184**	⇑*iP*		Pn		19 32 58.6	+0.6
PB09				*i*S		Sn		19 33 15.6	+1.0
PB09				AML		AML		19 33 17.7	
comp=N,6μm,0.4s									
PB07	**Plate Boundary**	**1.15**	**215**	⇓*iP*		Pn		19 33 00.5	+1.0
PB07				*i*S		Sn		19 33 18.3	+1.0
PB07				AML		AML		19 33 19.5	
comp=E,3μm,0.2s									
PSGC	**Pisagua**	**1.48**	**323**	⇑*iP*		Pn		19 33 02.6	-0.5
PSGC				*i*S		Sn		19 33 23.8	0.0
PB04	**Plate Boundary**	**1.50**	**191**	⇓*iP*		Pn		19 33 07.8	+4.6
PB04				*i*S		Sn		19 33 31.6	+7.7
PB04				AML		AML		19 33 35.9	
comp=N,690nm,0.4s									
MNMC	**Minimini**	**1.69**	**346**	⇓*iP*		Pn		19 33 06.3	+0.4
MNMC				*i*S		Sn		19 33 30.0	+1.4
MNMC				AML		AML		19 33 34.4	
comp=N,993nm,0.2s									
LVC	**Limon Verde**	**1.83**	**173**	⇑*iP*		Pn		19 33 08.7	+1.1
LVC				*i*S		Sn		19 33 32.8	+1.2

GUC 08 20:00:37.8±0.6, 32.64S×71.11W, h3km±1km, MD3.5, ML2.3, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.34**	**166**	⇑*iP*		Pg		20 00 45.2	+0.5
ROCH				*i*S		Sg		20 00 50.7	+1.3
ROCH				AML		AML		20 00 53.6	
comp=E,271nm,0.3s									
JACH	**Jahuel**	**0.44**	**96**	⇑*iP*		Pg		20 00 47.0	+0.6
JACH				*i*S		Sg		20 00 53.7	+1.5
PEL	**Peldehue**	**0.61**	**145**	⇓*iP*		Pg		20 00 50.2	+0.5
PEL				*i*S		Sb		20 00 59.8	-0.6
PEL				AML		AML		20 01 00.8	
comp=N,411nm,0.3s									
CHNG	**Los Chungos**	**0.83**	**336**	⇑*iP*		Pb		20 00 54.2	-0.5
CHNG				*i*S		Sb		20 01 05.8	-0.4
CHNG				AML		AML		20 01 07.3	
comp=E,236nm,0.5s									
CLCH	**Cerro Calan**	**0.89**	**148**	*eP*		Pg		20 00 55.4	+0.3
CLCH				*i*S		Sb		20 01 08.4	0.0
CLCH				AML		AML		20 01 18.7	
comp=E,132nm,0.5s									
TACH	**Talagante**	**1.02**	**172**	⇑*iP*		Pg		20 00 57.2	-0.3
TACH				*i*S		Sb		20 01 11.9	-0.1
PCH	**Pirque**	**1.10**	**153**	⇑*iP*		Pg		20 00 58.5	-0.5
PCH				*i*S		Sg		20 01 13.8	+0.5
LMEL	**Las Melosas**	**1.42**	**148**	⇓*iP*		Pn		20 01 04.0	-0.7
LMEL				*i*S		Sb		20 01 23.7	-0.2
LMEL				AML		AML		20 01 25.0	
comp=N,250nm,0.3s									
CACH	**El Canelo**	**1.53**	**164**	*eP*		Pn		20 01 06.2	0.0
CACH				*eS*		Sg		20 01 27.9	+0.5

*IDC **08** 20:03:47.8±0.5, 7.48N×36.30W, h0km, mb4.4/26, mb1 4.5/27, mb1mx4.5/32, mbtmp4.4/27, ML4.6/1, MS4.4/8, Ms1 4.3/8, ms1mx4.0/45, Error ellipse: s-maj=18.7km s-min=10.8km az=136.0*

*ISCJB **08** 20:03:49.5±0.3, 7.45N±0.06×36.28W±0.06, h24km, mb4.5/58, MS4.4/7, Error ellipse: s-maj=11.2km s-min=5.9km az=43.5*

*NEIC **08** 20:03:49.4±0.2, 7.46N×36.31W, h10km, mb4.8/8, Error ellipse: s-maj=7.4km s-min=5.0km az=132.0*

ISC 08 20:03:51.4±0.4, 7.45N±0.08×36.28W±0.08, h24km, n115, σ0.97/113, mb4.7/58, MS4.3/7, 8C, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**13.20**	**178**	Pn		**Pn**		**20 06 56.9**	**-0.6**
RCBR				Sn		Sn		20 09 13.7	-10
RCBR				TT				20 19 36.8	
RCBR	**Riachuelo**	**13.20**	**178**	Pn		**Pn**		**20 06 56.9**	**-0.6**
3.2nm,0.3s,baz=354,slow=16,SNR=30									
RCBR				Sn		Sn		20 09 13.7	-10
6.3nm,0.3s,baz=246,slow=20,SNR=13									
RCBR				LR		LR		20 10 47.6	
comp=Z,1μm,18.5s,baz=214,slow=32									
RCBR				T		T		20 19 36.8	
1.3nm,0.3s,baz=300,slow=19,SNR=5.1									
BBTS	**Babate**	**20.65**	**68**	P		**P**		**20 08 30.2**	**+0.6**
BBTS	**Babate**	**20.65**	**68**	P		**P**		**20 08 30.2**	**+0.6**
64nm,1.1s,baz=217,slow=5.1,SNR=4.8									
BDFB	**Brasilia**	**25.72**	**207**	P		**P**		**20 09 20.4**	**+0.1**
BDFB	**Brasilia**	**25.72**	**207**	P		**P**		**20 09 20.4**	**+0.1**
21nm,0.9s,baz=38,slow=9.4,SNR=13									
BDFB				LR		LR		20 17 57.7	
comp=Z,643nm,21.3s,baz=168,slow=33									
PMOZ	**Porto Moniz, M**	**30.84**	**32**	*eT*		T		20 41 41.6	
FUL	**Funchal**	**30.87**	**33**	*eT*		T		20 41 43.5	
PMAR	**Madeira**	**30.91**	**33**	*eT*		T		20 41 45.2	
SAML	**Samuel**	**31.37**	**239**	*eP*		**P**		**20 10 09.9**	**-0.7**
16nm,1.0s									
SIV	**San Ignacio**	**33.84**	**226**	P		**P**		**20 10 32.5**	**+0.3**
SIV	**San Ignacio**	**33.84**	**226**	P		**P**		**20 10 32.5**	**+0.3**
8.4nm,0.7s,baz=73,slow=12,SNR=31									

TORD Torodi Ar. Bea 37.76 78 P **P** 20 11 05.2 -0.7
TORD Torodi Ar. Bea 37.76 78 P **P** 20 11 05.2 -0.7
9.2nm,1.1s,baz=272,slow=6.9,SNR=28
ROSC El Rosal 37.91 268 P **P** 20 11 07.5 -0.1
ROSC El Rosal 37.91 268 P **P** 20 11 07.5 -0.1
10nm,0.5s,baz=101,slow=19,SNR=5.1
PBDV Barranco-do-Ve 39.28 37 *e*P **P** 20 11 19.4 +1.0
36nm,1.6s
CPUP Villa Florida 39.31 211 P **P** 20 11 19.1 +0.4
CPUP Villa Florida 39.31 211 P **P** 20 11 19.1 +0.4
2.1nm,0.8s,baz=349,slow=7.2,SNR=3.8
CPUP LR LR 20 26 57.3
comp=Z,353nm,18.6s,baz=350,slow=35
LPAZ La Paz 39.37 233 P **P** 20 11 20.2 +0.1
LPAZ La Paz 39.37 233 P **P** 20 11 20.2 +0.1
21nm,0.7s,baz=56,slow=8.0,SNR=77
EVO Evora 40.10 35⇑*iP* **P** 20 11 24.6 -0.6
16nm,0.9s
PMRV Marv??o 41.06 35 *e*P **P** 20 11 33.4 +0.2
47nm,1.4s
TAM Tamanrasset 42.96 65 *e*P **P** 20 11 50.3 +1.2
21nm,1.7s
ESDC Sonseca Array 43.22 37 P **P** 20 11 50.7 -0.1
ESDC Sonseca Array 43.22 37 P **P** 20 11 50.7 -0.1
3.3nm,1.0s,baz=241,slow=8.8,SNR=10
ATAH Atahualpa 44.43 252 P **P** 20 12 00.8 -0.5
ATAH Atahualpa 44.43 252 P **P** 20 12 00.8 -0.5
4.0nm,0.5s,baz=51,slow=6.5,SNR=3.7
SJPF Ste Jean 46.98 35 *e*P **P** 20 12 21.6 +1.0
51nm,1.4s
ETSF Etsaut 47.23 36 *e*P **P** 20 12 23.9 +1.2
EPF Esparros 47.84 36 *e*P **P** 20 12 28.7 +1.4
54nm,1.4s
MTLF Montolieu 49.13 37⇑*iP* **P** 20 12 37.6 +0.4
22nm,1.1s
LFF La Frestale 49.23 34 *e*P **P** 20 12 38.6 +0.7
16nm,1.0s
MFF Saint Martin d 49.79 32 *e*P **P** 20 12 42.3 +0.1
CAF Calviac 49.97 35 *e*P **P** 20 12 44.1 +0.5
30nm,1.3s
KEST Kesra 50.27 49 P **P** 20 12 47.2 +1.0
KEST Kesra 50.27 49 P **P** 20 12 47.2 +1.0
5.1nm,1.0s,baz=260,slow=6.1,SNR=5.1
LASF Ste Croix 50.53 37⇑*iP* **P** 20 12 48.6 +0.7
19nm,0.9s
GRR Gorron 50.60 30 *e*P **P** 20 12 48.6 +0.3
TCF Toulx Ste Croi 50.87 34⇑*iP* **P** 20 12 50.9 +0.5
5.7nm,0.8s
LDF La Druitiere 51.10 30 *e*P **P** 20 12 52.1 0.0
BGF Bois d'Agland 51.38 34 *e*P **P** 20 12 54.8 +0.6
46nm,1.2s
VIVF Saint-Julien-l 51.45 37⇑*iP* **P** 20 12 55.9 +1.1
35nm,1.1s
SMRF Simiane la Rot 51.51 38 *e*P **P** 20 12 56.3 +1.0
32nm,1.3s
AVF Avril sur Loir 51.80 34 *e*P **P** 20 12 57.7 +0.4
8.4nm,0.8s
TEIG Tepich 51.85 290 LR LR 20 29 48.8
comp=Z,198nm,20.8s,baz=325,slow=30
FRF La Foret Royal 51.95 39 *e*P **P** 20 12 58.9 +0.4
37nm,1.3s
SMF Signal de Mont 51.99 34 *e*P **P** 20 12 59.3 +0.5
40nm,1.5s
SSF Saint Saulge 52.05 34 *e*P **P** 20 12 59.5 +0.3
28nm,1.5s
ORIF Oris-en-Rattie 52.20 37 *e*P **P** 20 13 01.3 +0.8
9.0nm,1.0s
LOR Lormes 52.36 34⇑*iP* **P** 20 13 01.9 +0.3
19nm,1.0s
SADO Sadowa 52.54 322 P **P** 20 13 03.0 +0.2
SADO Sadowa 52.54 322 P **P** 20 13 03.0 +0.2
1.6nm,0.4s,baz=103,slow=14,SNR=3.2
MBDF Montbardon 52.63 38 *e*P **P** 20 13 04.0 +0.2
SCHQ Schefferville 53.19 338 P **P** 20 13 06.8 -0.6
SCHQ Schefferville 53.19 338 P **P** 20 13 06.8 -0.6
8.4nm,0.8s,baz=138,slow=6.8,SNR=10
CABF La Chapelle 53.24 35 *e*P **P** 20 13 08.6 +0.4
SFTF Sexfontaines 53.56 33 *e*P **P** 20 13 10.7 +0.4
MEZF Maizieres J'vi 53.74 33 *e*P **P** 20 13 11.8 +0.2
PAGF Fort de Pagny 54.13 33⇑*iP* **P** 20 13 14.7 +0.2
13nm,1.2s
HAU Haudompre 54.17 34⇑*iP* **P** 20 13 15.0 +0.2
72nm,1.3s
BAIF Baives 54.22 31 *e*P **P** 20 13 15.2 +0.1
34nm,1.2s
HINF Hinteralfeld 54.34 35 *e*P **P** 20 13 16.2 +0.1
14nm,1.0s
GIVF Givet 54.57 31 *e*P **P** 20 13 17.5 -0.1
CDF Champ du Feu 54.91 34 *e*P **P** 20 13 20.2 -0.1
16nm,1.1s
DAVOX Davos/Dischmat 55.55 37 P **P** 20 13 25.0 -0.1
DAVOX Davos/Dischmat 55.55 37 P **P** 20 13 25.0 -0.1
3.7nm,0.8s,baz=254,slow=6.7,SNR=6.9
PLCA Paso Flores 57.38 211 P **P** 20 13 37.9 -0.1
PLCA Paso Flores 57.38 211 P **P** 20 13 37.9 -0.1
2.3nm,0.8s,baz=40,slow=5.4,SNR=4.0
PLCA LR LR 20 39 04.9
comp=Z,208nm,18.2s,baz=184,slow=37
GERES GERESS Array B 58.80 36 P **P** 20 13 47.8 -0.1
GERES GERESS Array B 58.80 36 P **P** 20 13 47.8 -0.1
6.0nm,0.6s,baz=216,slow=6.6,SNR=4.7
KHC Kasperske Hory 58.86 36 *e*P **P** 20 13 48.0 -0.3
KHC *ep*P **pP** 20 13 51.6 -4.2
KHC *ex* x 20 13 56.5
KHC Kasperske Hory 58.86 36 *e*P **P** 20 13 48.4 +0.1
9.6nm,1.4s
CLL Collm 59.58 33 *e*P **P** 20 13 54.0 +0.9
PRU Pruhonice 59.82 35 *e*P **P** 20 13 54.6 -0.2
PRU *ep*P **pP** 20 13 58.1 -4.2
PRU *ex* x 20 14 05.2
TREC Trest 60.05 36 *e*P **P** 20 13 56.7 +0.2
PVCC Panska Ves 60.08 35 *e*P **P** 20 13 56.9 +0.3
VRAC Vranov 60.72 37 P **P** 20 14 01.4 +0.4
VRAC Vranov 60.72 37 P **P** 20 14 01.4 +0.4
7.7nm,1.2s,baz=249,slow=7.0,SNR=6.6
UPC Upice 60.89 35 *e*P **P** 20 14 02.7 +0.6
UPC *ep*P **pP** 20 14 05.9 -3.8
DPC Dobruska-Polom 61.00 36 *e*P **P** 20 14 03.5 +0.6
VYHS Vyhne 61.74 38 *e*P **P** 20 14 07.0 -0.9
OKC Ostrava-Krasne 61.85 37 *e*P **P** 20 14 08.3 -0.3
STHS Stebnicka Huta 63.56 38 *e*P **P** 20 14 19.9 -0.1
NOA NORSAR Array B 63.98 24 P **P** 20 14 22.9 +0.2
NOA NORSAR Array B 63.98 24 P **P** 20 14 22.9 +0.2
2.1nm,0.9s,baz=235,slow=6.6,SNR=2.9
KOLS Kolonicke sedl 64.02 39 *e*P **P** 20 14 24.2 +1.1
SUMG Summit 65.07 359 *e*P **P** 20 14 30.7 +0.6
12nm,0.9s
MLR Muntele Rosu 65.38 43 P **P** 20 14 32.7 +0.6
MLR Muntele Rosu 65.38 43 P **P** 20 14 32.7 +0.6
3.0nm,0.9s,baz=250,slow=7.8,SNR=21
SDCO Great Sand Dun 69.05 307 *e*P **P** 20 14 55.7 -0.2
1.5nm,1.0s
BOSA Boshof 69.26 124 P **P** 20 14 56.9 -0.2
BOSA Boshof 69.26 124 P **P** 20 14 56.9 -0.2
4.3nm,1.0s,baz=263,slow=11,SNR=3.7
BOSA LR LR 20 39 16.3
comp=Z,457nm,18.0s,baz=300,slow=31
BRTR Keskin Array B 69.84 50 P **P** 20 15 00.7 +0.2
BRTR Keskin Array B 69.84 50 P **P** 20 15 00.7 +0.2
4.0nm,1.0s,baz=253,slow=5.9,SNR=18
BRTR LR LR 20 48 22.5
comp=Z,471nm,20.5s,baz=95,slow=38
LAZ Ladron 70.04 304 *e*P **P** 20 15 01.4 -0.5
7.6nm,1.0s
FINES FINESS Array B 70.48 27 P **P** 20 15 03.8 0.0
FINES FINESS Array B 70.48 27 P **P** 20 15 03.8 0.0
4.2nm,0.9s,baz=240,slow=6.4,SNR=8.7
KAF Kangasniemi 70.83 26 *ep* **P** 20 15 04.5 -1.4
PDAR Pinedale Array 72.70 312 P **P** 20 15 17.0 -0.9
PDAR Pinedale Array 72.70 312 P **P** 20 15 17.0 -0.9
0.5nm,0.7s,baz=110,slow=7.8,SNR=4.1
JOF Joensuu 73.29 26 *ep* **P** 20 15 18.1 -2.5
ARCES ARCESS Array B 73.41 19 P **P** 20 15 20.8 -0.4
ARCES ARCESS Array B 73.41 19 P **P** 20 15 20.8 -0.4
3.2nm,1.0s,baz=238,slow=5.1,SNR=4.6
HWUT Hardware Ranch 74.09 311 *e*P **P** 20 15 25.7 -0.3
6.5nm,0.9s
PMSA Palmer Station 74.95 192 LR LR 20 44 03.4
comp=Z,222nm,18.0s,baz=246,slow=32
YKA Yellowknife Ar 78.03 332 P **P** 20 15 48.1 +0.3
YKA Yellowknife Ar 78.03 332 P **P** 20 15 48.1 +0.3
1.9nm,0.8s,baz=100,slow=5.6,SNR=3.2
NVAR Mina Array Bea 79.17 308 P **P** 20 15 54.8 0.0
NVAR Mina Array Bea 79.17 308 P **P** 20 15 54.8 0.0
0.2nm,0.3s,baz=90,slow=5.0,SNR=4.6
SNAA Sanae 81.98 170 *e*P **P** 20 16 09.9 +1.0

	26nm,1.9s										
DLBC	**Dease Lake**	**85.67**	**328**	P		**P**	**20**	**16**	**30.9**	**+2.7**
DLBC	**Dease Lake**	**85.67**	**328**	P		**P**	**20**	**16**	**30.9**	**+2.7**
	2.6nm,0.8s,baz=108,slow=4.8,SNR=3.2										
ILAR	**Eielson Array**	**91.90**	**336**	P		**P**	**20**	**16**	**58.4**	**+0.9**
ILAR	**Eielson Array**	**91.90**	**336**	P		**P**	**20**	**16**	**58.4**	**+0.9**
	0.2nm,0.5s,baz=46,slow=3.9,SNR=3.7										

*BJI **08** 20:11:34.2, 0.22S× 126.67E, h60km, mB5.0/10, mb4.7/16, Ms4.8/2, Ms7.4.7/2*
*ISCJB **08** 20:11:39.7±0.2, 0.63N±0.03× 126.58E±0.04, h47km, mb4.6/40, MS4.9/2, Error ellipse: s-maj=5.8km s-min=3.5km az=152.8*
*NEIC **08** 20:11:43.7±0.9, 0.56N× 126.54E, h70km±8km, mb4.7/16, Error ellipse: s-maj=7.8km s-min=4.4km az=72.0*
*IDC **08** 20:11:43.9±1.6, 0.56N× 126.51E, h71km±14km, mb4.2/20, mb1 4.3/23, mb1mx4.2/28, mbtmp4.2/23, MS4.4/3, Ms1 4.4/3, ms1mx3.6/35, Error ellipse: s-maj=18.3km s-min=8.2km az=77.0*
*DJA **08** 20:11:43.5±0.7, 1°N±4'× 12°6E±°, h54km±19km, M4.9/6, MLv4.9/6*
*BKK **08** 20:11:46.8±0.4, 1°N±6'× 12°7E±°, h75km±5km, M5.0/11, mb4.9/11, MLv5.1/2*
*AUST **08** 20:11:46.2±0.5, 0.39N× 126.51E, h84km, Error ellipse: s-maj=1.5km s-min=0.8km az=9.0*

ISC 08 20:11:41.4±0.3, 0.54N±0.04× 126.50E±0.05, h47km, n123, σ1957/137, mb4.6/40, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.90**	**75**	P		20 12 00.4	+2.7
LBMI	**Labuha**	**1.54**	**139**	P		20 12 10.3	+3.9
GAMI	**Galela, Maluku**	**1.82**	**45**	P	**P**	**20 12 12.0**	**+1.6**
GAMI				S	**Sn**	**20 12 36.2**	**+3.9**
MNI	**Manado**	**1.89**	**298**	P	**Pn**	**20 12 12.9**	**+1.7**
MNI				S	**Sn**	**20 12 34.5**	**+0.6**
KMSI	**Cibinong**	**2.52**	**271**	P	**Pn**	**20 12 22.2**	**+2.3**
KMSI				S	**Sn**	**20 12 51.9**	**+2.5**
GTOI	**Gorontalo**	**3.49**	**272**	S	**Sn**	**20 13 18.1**	**+4.8**
LUWI	**Luwuk**	**4.04**	**247**	P	Pn	20 12 45.8	+4.9
	baz=4.0,SNR=9.6						
MSAI	**Masohi**	**4.56**	**148**	S	**Sn**	**20 13 43.2**	**+3.6**
MRSI	**Marisa**	**4.56**	**269**	P	**Pn**	**20 12 49.7**	**+1.8**
MATI	**Mati**	**6.37**	**358**	*eP*	**Pn**	**20 13 14.7**	**+1.9**
DAV	**Davao City (W)**	**6.55**	**352**	P	**Pn**	**20 13 17.9**	**+2.6**
DAV				S	**Sn**	**20 14 32.4**	**+3.6**
DAV	**Davao City (W)**	**6.55**	**352**	P	**Pn**	**20 13 17.9**	**+2.6**
	50nm,0.3s,baz=223,slow=13,SNR=4.5						
DAV				S	**Sn**	**20 14 32.4**	**+3.6**
	40nm,0.3s,baz=97,slow=16,SNR=2.9						
FAKI	**Fak Fak**	**6.69**	**121**	P	Pn	20 13 20.8	+3.5
	baz=6.6,SNR=23						
CTBH	**Cotabato--PC H**	**7.01**	**341**	⇑*i*P	**Pn**	**20 13 23.4**	**+1.8**
BUKP	**Musuan**	**7.43**	**349**	*eP*	**Pn**	**20 13 27.8**	**+0.4**
PAGZ	**Pagadian**	**7.90**	**337**	*eP*	**Pn**	**20 13 34.1**	**+0.3**
BUTP	**Butuan**	**8.42**	**354**	*eP*	Pn	20 13 37.1	-3.8
KAPI	**Kappang**	**8.71**	**231**	*eP*	**Pn**	**20 13 46.8**	**+1.9**
	69nm,0.8s						
KAPI				S	**Sn**	**20 15 20.5**	**-1.2**
KAPI	**Kappang**	**8.71**	**231**	P	**Pn**	**20 13 47.2**	**+2.3**
	11nm,0.3s,baz=76,slow=4.6,SNR=69						
KAPI				S	**Sn**	**20 15 20.5**	**-1.2**
	3.3nm,0.3s,baz=269,slow=22,SNR=7.5						
KAPI				LR	LR	20 18 00.2	
	comp=Z,257nm,19.2s,baz=327,slow=43						
SOEI	**Soe**	**10.46**	**192**	P	Pn	20 14 16.8	+7.8
	baz=10,SNR=4.9						
MTN	**Manton Dam**	**14.07**	**161**	P	**Pn**	**20 14 59.7**	**+1.6**
	baz=14,SNR=8.5						
KDU	**Kakadu**	**14.41**	**156**	P	**Pn**	**20 15 01.9**	**-0.9**
	baz=14,SNR=6.0						
JAY	**Jayapura**	**14.52**	**102**	P	**P**	**20 15 11.2**	**+1.4**
	baz=14,SNR=3.8						
JAY				S	Sn	20 17 32.0	-12
	baz=14,SNR=4.2						
KSM	**Kuching**	**16.22**	**273**	*eP*	**P**	**20 15 30.4**	**+1.7**
	28nm,0.8s						
KSM	**Kuching**	**16.22**	**273**	P	**P**	**20 15 31.0**	**+2.4**
	baz=16,SNR=8.5						
KNRA	**Kununurra**	**16.27**	**172**	P	**P**	**20 15 28.9**	**-0.2**
	baz=16,SNR=10						
SMRI	**Semarang**	**17.71**	**245**	S	Sn	20 18 35.5	-26
	baz=18,SNR=44						
FITZ	**Fitzroy Crossi**	**18.54**	**183**	P	**P**	**20 15 55.1**	**+0.9**
FITZ	**Fitzroy Crossi**	**18.54**	**183**	P	**P**	**20 15 55.1**	**+0.9**
	0.4nm,0.3s,baz=45,slow=12,SNR=14						
FITZ	**Fitzroy Crossi**	**18.54**	**183**	P	**P**	**20 15 55.1**	**+0.9**
	baz=18,SNR=11						
WRAB	**Tennant Creek**	**21.75**	**160**	*eP*	**P**	**20 16 29.5**	**+0.4**
	41nm,0.9s						
WRA	**Warramunga Arr**	**21.75**	**160**	P	**P**	**20 16 29.6**	**+0.4**
WRA				S	**S**	**20 20 24.1**	**-3.4**
WRA				ScP	**ScP**	**20 23 59.2**	**-2.9**
WRA	**Warramunga Arr**	**21.75**	**160**	P	**P**	**20 16 29.6**	**+0.4**
	18nm,0.3s,baz=340,slow=11,SNR=231						
WRA				S	**S**	**20 20 24.1**	**-3.4**
	12nm,0.9s,baz=333,slow=22,SNR=17						
WRA				ScP	**ScP**	**20 23 59.2**	**-2.9**
	0.4nm,0.7s,baz=324,slow=2.4,SNR=4.5						
COEN	**Coen**	**21.91**	**132**	*eP*	**P**	**20 16 30.0**	**-0.9**
	154nm,0.8s						
COEN	**Coen**	**21.91**	**132**	P	**P**	**20 16 30.8**	**-0.1**
	baz=22,SNR=8.5						
MBWA	**Marble Bar**	**22.56**	**197**	*eP*	**P**	**20 16 37.4**	**-0.4**
PMG	**Port Moresby**	**22.82**	**116**	P	**P**	**20 16 41.6**	**+1.0**
PMG	**Port Moresby**	**22.82**	**116**	P	**P**	**20 16 41.6**	**+1.0**
	29nm,0.8s,baz=311,slow=8.4,SNR=8.3						
YULB	**Yu-li**	**23.27**	**348**	*eP*	P	20 16 40.0	-5.1
	10nm,0.7s						
TPUB	**Ta-pu**	**23.34**	**346**	*eP*	**P**	**20 16 41.5**	**-4.2**
	43nm,0.8s						
SSLB	**Suanglung**	**23.73**	**347**	*eP*	**P**	**20 16 49.1**	**-0.3**
	18nm,0.8s						
YHNB	**Yeheng**	**24.50**	**349**	*eP*	**P**	**20 16 53.0**	**-3.5**
	11nm,0.6s						
AS31	**Alice Springs**	**25.11**	**164**	*eP*	**P**	**20 17 02.0**	**0.0**
ASAR	**Alice Springs**	**25.11**	**164**	P	**P**	**20 17 02.2**	**+0.1**
ASAR				PcP	**PcP**	**20 20 35.1**	**-0.5**
ASAR				S	**S**	**20 21 21.8**	**-2.0**
ASAR				ScP	**ScP**	**20 24 08.4**	**-2.7**
ASAR	**Alice Springs**	**25.11**	**164**	P	**P**	**20 17 02.2**	**+0.1**
	5.7nm,0.4s,baz=345,slow=7.9,SNR=92						
ASAR				PcP	**PcP**	**20 20 35.1**	**-0.5**
	0.9nm,0.7s,baz=358,slow=2.6,SNR=4.2						
ASAR				S	**S**	**20 21 21.8**	**-2.0**
	1.5nm,0.8s,baz=341,slow=14,SNR=6.7						
ASAR				ScP	**ScP**	**20 24 08.4**	**-2.7**
	0.3nm,0.5s,baz=344,slow=2.4,SNR=5.1						
MTSU	**Mount Surprise**	**25.52**	**138**	P	**P**	**20 17 07.0**	**+1.2**
	baz=26,SNR=5.1						
JOW	**Kunigami**	**26.20**	**4**	*eP*	**P**	**20 17 12.1**	**+0.3**
	33nm,0.9s						
PSI	**Prapat**	**27.65**	**275**	P	**P**	**20 17 25.5**	**+0.2**
PSI	**Prapat**	**27.65**	**275**	P	**P**	**20 17 25.5**	**+0.2**
	1.8nm,0.4s,baz=69,slow=12,SNR=5.0						
MEEK	**Meekatharra**	**28.07**	**195**	P	**P**	**20 17 30.2**	**+1.5**
	baz=28,SNR=4.6						
LOEI	**Loei**	**30.01**	**306**	P	P	20 17 49.8	+3.8
	238nm,1.1s						
NANT	**Nan**	**31.15**	**307**	P	P	20 18 02.6	+6.6
	19nm,0.5s						
FORT	**Forrest**	**31.18**	**177**	P	**P**	**20 17 56.8**	**+0.7**
	baz=31,SNR=16						
KMBL	**Kambalda**	**32.03**	**187**	P	**P**	**20 18 03.9**	**+0.2**
	baz=32,SNR=7.1						
CMAR	**Chiang Mai Arr**	**32.39**	**305**	P	**P**	**20 18 06.1**	**-0.9**
CMAR	**Chiang Mai Arr**	**32.39**	**305**	P	**P**	**20 18 06.1**	**-0.9**
	0.2nm,0.3s,baz=138,slow=7.3,SNR=2.9						
ENH	**Enshi**	**33.71**	**333**	*eP*	**P**	**20 18 17.1**	**-1.3**
BBOO	**Buckleboo**	**34.37**	**166**	P	**P**	**20 18 23.9**	**-0.1**
	baz=34,SNR=5.8						
NWAO	**Narrogin (SRO)**	**34.41**	**194**	P	**P**	**20 18 24.7**	**+0.3**
NWAO	**Narrogin (SRO)**	**34.41**	**194**	P	**P**	**20 18 24.7**	**+0.3**
	2.9nm,0.4s,baz=17,slow=7.8,SNR=3.6						
HNR	**Honiara**	**34.74**	**107**	*eP*	**P**	**20 18 27.1**	**-0.4**
	50nm,0.6s						
EIDS	**Eidsvold**	**35.05**	**139**	P	**P**	**20 18 32.1**	**+2.1**
	baz=35,SNR=5.7						
STKA	**Stephens Creek**	**35.27**	**157**	P	**P**	**20 18 32.3**	**+0.5**
STKA				PcP	**PcP**	**20 21 01.1**	**-0.7**
STKA	**Stephens Creek**	**35.27**	**157**	P	**P**	**20 18 32.3**	**+0.5**
	14nm,0.7s,baz=333,slow=8.2,SNR=32						
STKA				PcP	**PcP**	**20 21 01.1**	**-0.7**
	2.3nm,0.5s,baz=325,slow=4.5,SNR=6.1						
STKA	**Stephens Creek**	**35.27**	**157**	P	**P**	**20 18 32.2**	**+0.5**
	baz=35,SNR=26						
CMSA	**Cobar Meteorol**	**36.72**	**152**	P	**P**	**20 18 45.2**	**+0.9**
	baz=37,SNR=5.6						
KSAR	**Wonju Array Be**	**36.74**	**2**	P	**P**	**20 18 44.1**	**-0.2**
KSRS	**Korea Array**	**36.76**	**2**	P	**P**	**20 18 44.1**	**-0.3**
	3.9nm,0.7s,baz=182,slow=10.0,SNR=20						
CD2	**Chengdu**	**37.12**	**327**	P	**P**	**20 18 47.0**	**-0.7**
CD2				pP	**pP**	**20 19 02.2**	**+2.0**
CD2				sP	**sP**	**20 19 09.4**	**+3.6**
CD2				PP	**PnPn**	**20 20 15.1**	**+1.3**
CD2				PcP	**PcP**	**20 21 06.9**	**-0.5**
CD2				S	**S**	**20 24 28.2**	**-2.7**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.2s						
XAN	**Xi'an**	**37.18**	**335**	P	**P**	**20 18 46.3**	**-1.8**
MJAR	**Matsushiro Arr**	**37.43**	**16**	P	**P**	**20 18 48.6**	**-1.6**
MJAR	**Matsushiro Arr**	**37.43**	**16**	P	**P**	**20 18 48.6**	**-1.6**
	comp=Z,3.1nm,0.7s,baz=182,slow=9.3,SNR=10						
MAT	**Matsushiro**	**37.43**	**16**	P	**P**	**20 18 48.3**	**-1.9**
BJI	**Beijing**	**40.43**	**348**	P	**P**	**20 19 15.2**	**0.0**
BJI				pmax	pmax		
	comp=Z,45nm,0.6s						
BJI				pmax	pmax		
	comp=Z,93nm,4.2s						
USRK	**Ussuriysk Arra**	**43.75**	**6**	P	**P**	**20 19 41.6**	**-0.6**
	comp=Z,7.8nm,0.7s,baz=190,slow=6.0,SNR=24						
MDJ	**Mudanjiang**	**43.98**	**3**	P	**P**	**20 19 43.9**	**-0.1**
MDJ				pmax	pmax		
	comp=Z,13nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,78nm,10.4s						
MDJ	**Mudanjiang**	**43.98**	**3**	*eP*	**P**	**20 19 44.0**	**0.0**
	comp=Z,11nm,0.9s						
LSA	**Lhasa**	**44.42**	**314**	P	**P**	**20 19 47.1**	**-1.3**
LSA	**Lhasa**	**44.42**	**314**	*eP*	**P**	**20 19 47.9**	**-0.6**
	comp=Z,5.3nm,0.8s						
GTA	**Gaotai**	**45.73**	**331**	*eP*	**P**	**20 19 58.8**	**+0.5**
GTA				pmax	pmax		
	comp=Z,2.0nm,2.0s						
ULN	**Ulaanbaatar**	**50.07**	**343**	*eP*	**P**	**20 20 32.4**	**+0.6**
	comp=Z,11nm,1.0s						
SONM	**Songino Array**	**50.24**	**342**	P	**P**	**20 20 32.9**	**-0.1**
SONM	**Songino Array**	**50.24**	**342**	P	**P**	**20 20 32.9**	**-0.1**
	comp=Z,3.3nm,0.6s,baz=158,slow=8.5,SNR=27						
SONM				LR	LR	20 46 06.2	
	comp=Z,916nm,19.7s,baz=267,slow=41						
PEA0B	**Petropavlovsk-**	**58.46**	**21**	*eP*	**P**	**20 21 32.5**	**0.0**
PETK	**Petropavlovsk-**	**58.46**	**21**	P	**P**	**20 21 32.7**	**+0.2**
PETK	**Petropavlovsk-**	**58.46**	**21**	P	**P**	**20 21 32.7**	**+0.2**
	comp=Z,5.1nm,0.5s,baz=182,slow=4.3,SNR=10						
MK31	**Makanchi Array**	**60.05**	**326**	*eP*	**P**	**20 21 42.6**	**-1.0**
MKAR	**Makanchi Array**	**60.05**	**326**	P	**P**	**20 21 43.1**	**-0.6**
MKAR	**Makanchi Array**	**60.05**	**326**	P	**P**	**20 21 43.1**	**-0.6**
	comp=Z,4.8nm,0.5s,baz=120,slow=7.9,SNR=100						
ZAA0	**Zalesovo Array**	**63.32**	**334**	*eP*	**P**	**20 22 04.4**	**-1.0**
ZALV	**Zalesovo Beam**	**63.32**	**334**	P	**P**	**20 22 04.7**	**-0.8**
ZALV	**Zalesovo Beam**	**63.32**	**334**	P	**P**	**20 22 04.7**	**-0.8**
	comp=Z,6.2nm,0.7s,baz=116,slow=6.8,SNR=20						
ZALV				LR	LR	20 51 35.8	
	comp=Z,1μm,20.5s,baz=69,slow=38						
KURBB	**Kurchatov Arra**	**64.30**	**328**	P	**P**	**20 22 11.4**	**-0.6**
	comp=Z,6.1nm,0.6s,baz=128,slow=6.0,SNR=89						
KURK	**Kurchatov**	**64.31**	**328**	P	**P**	**20 22 11.4**	**-0.6**
KKAR	**Karatay Array**	**65.42**	**318**	*eP*	**P**	**20 22 18.6**	**-0.8**
	comp=Z,1.7nm,0.6s						
CASY	**Casey**	**67.64**	**187**	*eP*	**P**	**20 22 34.0**	**+0.9**
	comp=Z,3.4nm,0.5s						
BVAR	**Borovoye Array**	**69.87**	**328**	P	**P**	**20 22 47.0**	**-0.2**
BVAR	**Borovoye Array**	**69.87**	**328**	P	**P**	**20 22 47.0**	**-0.2**
	comp=Z,9.7nm,0.9s,baz=131,slow=6.5,SNR=39						
BRVK	**Borovoye**	**69.94**	**328**	*eP*	**P**	**20 22 47.4**	**-0.3**
	comp=Z,19nm,1.0s						
ABKAR	**Akbulak array**	**74.47**	**321**	*eP*	**P**	**20 23 13.9**	**-1.0**
	comp=Z,2.2nm,0.6s						
VNDA	**Vanda**	**80.31**	**173**	P	**P**	**20 23 47.2**	**+0.2**
VNDA	**Vanda**	**80.31**	**173**	P	**P**	**20 23 47.2**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=308,slow=5.7,SNR=24						
ILAR	**Eielson Array**	**88.07**	**25**	P	**P**	**20 24 25.1**	**-1.5**
ILAR	**Eielson Array**	**88.07**	**25**	P	**P**	**20 24 25.1**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=225,slow=6.1,SNR=3.2						
BRTR	**Keskin Array B**	**91.87**	**310**	P	**P**	**20 24 45.6**	**+0.5**
BRTR	**Keskin Array B**	**91.87**	**310**	P	**P**	**20 24 45.6**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=22,slow=8.1,SNR=2.6						
ARCES	**ARCESS Array B**	**93.34**	**340**	P	**P**	**20 24 52.0**	**+0.9**
ARCES	**ARCESS Array B**	**93.34**	**340**	P	**P**	**20 24 52.0**	**+0.9**
	comp=Z,1.8nm,1.0s,baz=76,slow=3.8,SNR=4.4						
KOLS	**Kolonicke sedl**	**98.92**	**320**	PDIF	**P**	**20 25 14.2**	**-2.7**
STBS	**Stebnicka Huta**	**99.48**	**320**	PDIF	**Pdif**	**20 25 20.7**	**+1.3**
KECS	**Kecovo**	**100.17**	**319**	PDIF	**Pdif**	**20 25 21.9**	**-0.5**
VYHS	**Vyhne**	**101.24**	**320**	PDIF	**Pdif**	**20 25 28.9**	**+1.7**
TORD	**Torodi Ar. Bea**	**123.63**	**286**	PKP	**PKPdf**	**20 30 34.2**	**-0.7**
TORD	**Torodi Ar. Bea**	**123.63**	**286**	PKP	**PKPdf**	**20 30 34.2**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=110,slow=2.0,SNR=3.4						
TXAR	**Lajitas Array**	**123.69**	**54**	PKP	**PKPdf**	**20 30 34.5**	**-0.4**
TXAR	**Lajitas Array**	**123.69**	**54**	PKP	**PKPdf**	**20 30 34.5**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=219,slow=0.6,SNR=5.6						
CFAA	**Coronel Fontan**	**146.10**	**157**	PKPbc	**PKPbc**	**20 31 17.1**	**0.0**
CFAA	**Coronel Fontan**	**146.10**	**157**	PKPbc	**PKPbc**	**20 31 17.1**	**0.0**
	comp=Z,0.6nm,0.5s,baz=189,slow=1.7,SNR=7.6						
LCO	**Las Campanas**	**147.26**	**151**	*e*PKPbc	**PKPbc**	**20 31 20.8**	**0.0**
CPUP	**Villa Florida**	**154.09**	**172**	PKPbc	**PKPbc**	**20 31 37.5**	**+0.6**
CPUP	**Villa Florida**	**154.09**	**172**	PKPbc	**PKPbc**	**20 31 37.5**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=77,slow=5.6,SNR=4.9						
SIV	**San Ignacio**	**162.92**	**154**	PKPab	**PKPab**	**20 32 28.0**	**-0.8**
SIV	**San Ignacio**	**162.92**	**154**	PKPab	**PKPab**	**20 32 28.0**	**-0.8**
	comp=Z,2.6nm,0.8s,baz=254,slow=3.9,SNR=9.3						

*IDC **08** 20:25:58.5±0.9, 13°41N× 145°03E, h0km, mb3.9/8, mb1 4.2/8, mb1mx3.9/25, mbtmp3.9/8, Error ellipse: s-maj=33.0km s-min=18.6km az=99.0*
*NEIC **08** 20:26:06.4±1.0, 13°35N× 144°95E, h59km±8km, mb4.3/1, Error ellipse: s-maj=23.0km s-min=12.0km az=95.0*
NEIC Felt at Barrigada, Hagatna Heights, Santa Rita and Tamuning.

ISC 08 20:26:05.7±0.9, 13°3N±0°1× 145°0E±0°2, h50km, n23, σ0991/22, mb4.1/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.31**	**341**	*e*Pg	**Pn**	**20 26 16.1**	**+1.2**
GUMO				*e*Sg	**Sn**	**20 26 22.6**	**+1.2**
WRAB	**Tennant Creek**	**34.64**	**198**	*eP*	**P**	**20 32 50.3**	**-0.1**
	2.7nm,0.7s						
WRA	**Warramunga Arr**	**34.65**	**198**	P	**P**	**20 32 50.7**	**+0.2**
WRA	**Warramunga Arr**	**34.65**	**198**	P	**P**	**20 32 50.7**	**+0.2**
	2.2nm,0.6s,baz=23,slow=9.6,SNR=17						
FITZ	**Fitzroy Crossi**	**36.57**	**212**	P	**P**	**20 33 07.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**36.57**	**212**	P	**P**	**20 33 07.5**	**+0.5**
	0.7nm,0.4s,baz=38,slow=14,SNR=8.5						
ASAR	**Alice Springs**	**38.30**	**197**	P	**P**	**20 33 21.8**	**+0.2**
ASAR	**Alice Springs**	**38.30**	**197**	P	**P**	**20 33 21.8**	**+0.2**
	1.3nm,0.5s,baz=21,slow=12,SNR=33						
CMAR	**Chiang Mai Arr**	**44.48**	**283**	P	**P**	**20 34 12.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**44.48**	**283**	P	**P**	**20 34 12.3**	**-0.1**
	0.7nm,0.5s,baz=79,slow=6.0,SNR=6.9						
SONM	**Songino Array**	**47.03**	**325**	P	**P**	**20 34 31.5**	**-0.7**
SONM	**Songino Array**	**47.03**	**325**	P	**P**	**20 34 31.5**	**-0.7**
	0.3nm,0.5s,baz=144,slow=8.0,SNR=3.9						
MK31	**Makanchi Array**	**61.77**	**316**	*eP*	**P**	**20 36 18.9**	**-0.3**
MKAR	**Makanchi Array**	**61.77**	**316**	P	**P**	**20 36 18.8**	**-0.5**
MKAR	**Makanchi Array**	**61.77**	**316**	P	**P**	**20 36 18.8**	**-0.5**
	0.8nm,0.5s,baz=92,slow=8.4,SNR=19						
ILAR	**Eielson Array**	**68.79**	**25**	P	**P**	**20 37 02.5**	**-1.8**
ILAR	**Eielson Array**	**68.79**	**25**	P	**P**	**20 37 02.5**	**-1.8**
	0.5nm,0.4s,baz=249,slow=5.7,SNR=8.4						
NVAR	**Mina Array Bea**	**87.02**	**51**	P	**P**	**20 38 47.7**	**+1.4**
NVAR	**Mina Array Bea**	**87.02**	**51**	P	**P**	**20 38 47.7**	**+1.4**
	0.5nm,0.4s,baz=270,slow=5.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**135.11**	**304**	PKP	**PKPdf**	**20 45 20.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**135.11**	**304**	PKP	**PKPdf**	**20 45 20.5**	**-0.1**
	0.7nm,0.7s,baz=35,slow=3.1,SNR=3.4						
DBIC	**Dimbokro**	**144.06**	**302**	PKP	PKPbc	20 45 35.0	+0.2
DBIC	**Dimbokro**	**144.06**	**302**	PKP	PKPbc	20 45 35.0	+0.2
	2.2nm,0.5s,baz=335,slow=2.3,SNR=4.7						

*MOS **08** 20:34:50.2±2.7, 44°50N× 149°47E, h41km, mb4.4/17, Error ellipse: s-maj=10.1km s-min=9.6km az=76.8*

*SKHL **08** 20:34:52.9±1.4, 44°47N× 149°35E, h64km±3km, mb5.1/3*
*JMA **08** 20:34:53.8±0.4, 44°57N× 149°10E, h30km, M4.7*
*BJI **08** 20:34:53.9, 44°30N× 149°00E, h40km, mB5.0/5, mb4.5/7*
*IDC **08** 20:34:57.7±2.8, 44°56N× 149°00E, h71km±25km, mb3.6/11, mb1 3.8/15, mb1mx3.7/28, mbtmp3.6/15, Error ellipse: s-maj=21.7km s-min=16.5km az=147.0*

ISC 08 20:34:51.3±1.3, 44°39N±0°06× 149°26E±0°06, h26km±7km, n96, σ1987/99, mb4.3/25, 12C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.30**	**311**	*d*iPN	**Pb**	**20 35 14.0**	**-1.0**
KUR				*i* S	**Sb**	**20 35 28.5**	**-2.8**
KUR				pmax	pmax		
	comp=E,183nm,0.2s						
KUR				pmax	pmax		
	comp=N,172nm,0.6s						
KUR				pmax	pmax		
	comp=Z,657nm,0.6s						
KUR				smax	smax		
	comp=E,2μm,0.4s						
KUR				smax	smax		
	comp=N,4μm,0.4s						
KUR	**Kuril'sk**	**1.30**	**311**	⇓*i*P	**Pb**	**20 35 14.1**	**-1.0**
KUR				AMB	AMB	20 35 20.0	
	comp=N,2μm,0.7s						
KUR				*i* S	**Sb**	**20 35 28.6**	**-2.8**
KUR				A	A	20 35 31.0	
	comp=N,25μm,1.4s						
KUR				A	A	20 35 31.0	
	comp=N,10μm,0.6s						
KUR				A	A	20 35 31.0	
	comp=N,3μm,0.6s						
KUR				A	A	20 35 31.0	
	comp=N,12μm,2.0s						
YUK	**Yuzh-Kuril'sk**	**2.47**	**263**	*i* PN	**Pn**	**20 35 31.0**	**+1.2**
YUK				*i* S	**Sn**	**20 36 00.3**	**+1.2**
YUK				pmax	pmax		
	comp=E,74nm,0.2s						
YUK				pmax	pmax		
	comp=N,51nm,0.2s						
YUK				pmax	pmax		
	comp=Z,244nm,0.2s						
YUK				smax	smax		
	comp=N,817nm,0.8s						
YUK				smax	smax		
	comp=E,1μm,0.8s						
YUK	**Yuzh-Kuril'sk**	**2.47**	**263**	⇑*i*P	**Pn**	**20 35 31.0**	**+1.2**
YUK				AMB	AMB	20 35 34.2	
	comp=E,51nm,0.2s						
YUK				AMB	AMB	20 35 34.2	
	comp=E,74nm,0.2s						
YUK				AMB	AMB	20 35 34.2	
	comp=E,244nm,0.2s						
YUK				*i* S	**Sn**	**20 36 00.3**	**+1.2**
YUK				A	A	20 36 06.7	
	comp=E,817nm,0.8s						
YUK				A	A	20 36 06.7	
	comp=E,1μm,0.8s						
NEM2	**Nemuro 2**	**2.74**	**249**	P	**Pn**	**20 35 34.1**	**+0.6**
NEM2				*e*S	**Sn**	**20 36 04.2**	**-1.6**
JRA	**Rausu**	**3.01**	**263**	P	**Pn**	**20 35 39.3**	**+2.0**
JRA				*e*S	**Sn**	**20 36 13.1**	**+0.6**
JNK	**Nakash**	**3.37**	**258**	P	**Pn**	**20 35 43.7**	**+1.4**
JAK	**Akkeshi**	**3.59**	**249**	P	**Pn**	**20 35 46.2**	**+1.0**
JAK				*e*S	**Sn**	**20 36 25.0**	**-1.8**
JTKR	**Abashiri--Toko**	**3.87**	**266**	P	**Pn**	**20 35 51.9**	**+2.8**
JAR	**Ashorobuto**	**4.12**	**257**	P	**Pn**	**20 35 54.7**	**+2.2**
JAR				*e*S	**Sn**	**20 36 40.3**	**+0.5**
JOB	**Onbets**	**4.21**	**251**	P	**Pn**	**20 35 55.5**	**+1.8**
JOB				*e*S	**Sn**	**20 36 42.2**	**+0.2**
JMP	**Maruseppu**	**4.26**	**267**	P	Pn	20 35 57.7	+3.2
JCH	**Churui**	**4.64**	**250**	P	**Pn**	**20 36 01.7**	**+2.0**
JCH				*e*S	**Sn**	**20 36 53.4**	**+0.7**
JKK2	**Kamakawa 2**	**4.72**	**266**	P	Pn	20 36 04.3	+3.6
ASAJ	**Asahikawa**	**4.79**	**269**	P	Pn	20 36 06.0	+4.2
ASAJ	**Asah

BRVK	**Borovoye**	**50.32 310**	*ce*	P		P	20 43 49.5	+4.1
BRVK					pmax	pmax		
	comp=Z,6.0nm,0.9s							
TAPN	**Taplejung**	**51.51 272**	*eP*			**P**	**20 43 57.0**	**+1.9**
	comp=Z,17nm,0.9s							
JIRN	**Jiri**	**52.41 274**	*eP*			**P**	**20 44 03.9**	**+2.0**
GUN	**Gumba**	**52.49 274**	*eP*			**P**	**20 44 03.4**	**+0.9**
	comp=Z,12nm,0.5s							
RAMN	**Ramite**	**52.54 273**	*eP*			**P**	**20 44 04.8**	**+2.1**
KKN	**Kakani**	**52.99 274**	*eP*			**P**	**20 44 07.0**	**+1.0**
	comp=Z,14nm,0.9s							
DMN	**Daman**	**53.22 274**	*eP*			**P**	**20 44 08.6**	**+0.8**
	comp=Z,8.3nm,0.5s							
SVE	**Sverdlovsk**	**53.72 317**	*eP*			**P**	**20 44 12.0**	**+1.4**
SVE					pmax	pmax		
	comp=Z,11nm,0.8s							
DANN	**Dangsing**	**53.75 276**	*eP*			**P**	**20 44 11.7**	**0.0**
	comp=Z,16nm,0.6s							
KOLN	**Koldanda**	**54.20 275**	*eP*			**P**	**20 44 15.1**	**+0.2**
	comp=Z,5.3nm,0.4s							
PYUN	**Piuthan**	**54.44 276**	*eP*			**P**	**20 44 17.6**	**+1.0**
	comp=Z,31nm,1.0s							
ARU	**Arti**	**54.91 317**	*d iP*			**P**	**20 44 19.9**	**+0.5**
ARU				*PP		**pP**	**20 44 29.8**	**+2.4**
ARU							20 46 19.6	
ARU				S		**S**	**20 51 59.0**	**0.0**
ARU					pmax	pmax		
	comp=Z,10.0nm,0.6s							
KEV	**Kevo**	**58.64 340**	*ep*	P		P	20 44 38.0	-7.6
	comp=Z,2.5nm,0.6s							
KEV	**Kevo**	**58.64 340**	*eP*	P		P	20 44 38.0	-7.6
KEV					pmax	pmax		
	comp=Z,3.0nm,0.6s							
JOF	**Joensuu**	**62.22 333**	*ep*	P		P	20 45 05.2	-5.0
	comp=Z,2.8nm,0.6s							
JOF	**Joensuu**	**62.22 333**	*eP*	P		P	20 45 05.2	-5.0
JOF					pmax	pmax		
	comp=Z,3.0nm,0.6s							
KAF	**Kangasniemi**	**64.41 334**	*ep*	P		P	20 45 18.9	-5.8
	comp=Z,2.6nm,0.7s							
KAF	**Kangasniemi**	**64.41 334**	*eP*	P		P	20 45 18.9	-5.8
KAF					pmax	pmax		
	comp=Z,3.0nm,0.7s							
WRA	**Warramunga Arr**	**65.46 195**		P		**P**	**20 45 33.5**	**+1.6**
	comp=Z,2.1nm,0.8s,baz=15,slow=6.7,SNR=9.4							
NVAR	**Mina Array Bea**	**65.95 59**		P		**P**	**20 45 35.5**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=337,slow=4.3,SNR=2.5							
PDAR	**Pinedale Array**	**68.33 51**		P		**P**	**20 45 53.0**	**+2.6**
	comp=Z,0.7nm,0.7s,baz=338,slow=1.9,SNR=4.2							
ASAR	**Alice Springs**	**69.17 195**		P		**P**	**20 45 57.1**	**+1.7**
	comp=Z,1.4nm,0.8s,baz=8.8,slow=6.8,SNR=8.1							
BURAR	**Bucovina Array**	**76.01 325**	*⇓ iP*			**P**	**20 46 35.6**	**-0.4**
MLR	**Muntele Rosu**	**77.38 323**	*⇑ iP*			**P**	**20 46 45.0**	**+1.1**
CLL	**Collm**	**77.43 334**	*i* P			**P**	**20 46 40.7**	**-3.2**
CLL					pmax	pmax		
	comp=Z,4.0nm,0.7s							
CLL	**Collm**	**77.43 334**	*i* P			**P**	**20 46 40.7**	**-3.2**
	comp=Z,4.0nm,0.7s							
VOIR		**77.81 323**	*⇑ iP*			**P**	**20 46 47.0**	**+0.8**
BRTR	**Keskin Array B**	**78.19 315**		P		**P**	**20 46 48.8**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=64,slow=5.6,SNR=6.0							
KHC	**Kasperske Hory**	**79.12 332**	*eP*			**P**	**20 46 54.9**	**+1.6**
KHC			*e*				20 46 59.9	
KHC	**Kasperske Hory**	**79.12 332**	*eP*			**P**	**20 46 54.9**	**+1.6**
KHC			*e*	PCP		**PcP**	**20 46 59.9**	**-1.8**
GERES	**GERESS Array B**	**79.33 332**		P		**P**	**20 46 52.4**	**-2.1**
	comp=Z,0.7nm,0.6s,baz=42,slow=6.2,SNR=5.0							
TXAR	**Lajitas Array**	**81.03 58**		P		**P**	**20 47 06.0**	**+2.0**
	comp=Z,0.6nm,0.7s,baz=298,slow=4.3,SNR=6.5							
PAGF	**Fort de Pagny**	**82.07 337**	*⇑ iP*			**P**	**20 47 06.6**	**-2.5**
	comp=Z,2.5nm,0.6s							
MEZF	**Maizieres J'vi**	**82.31 337**	*⇑ iP*			**P**	**20 47 09.8**	**-0.5**
LOR	**Lormes**	**83.77 337**	*⇑ iP*			**P**	**20 47 15.7**	**-2.2**
	comp=Z,7.4nm,0.8s							
SSF	**Saint Saulge**	**84.05 337**	*eP*			**P**	**20 47 17.3**	**-2.1**
	comp=Z,5.1nm,0.8s							
SMF	**Signal de Mont**	**84.34 337**	*⇑ iP*			**P**	**20 47 18.2**	**-2.7**
AVF	**Avril sur Loir**	**84.34 337**	*⇑ iP*			**P**	**20 47 18.4**	**-2.4**
LPG	**La Plagne**	**84.52 335**	*⇑ iP*			**P**	**20 47 20.3**	**-1.8**
	comp=Z,3.7nm,0.7s							
BGF	**Bois d'Agland**	**84.70 337**	*⇑ iP*			**P**	**20 47 20.7**	**-1.9**
	comp=Z,3.1nm,0.5s							
TCF	**Toulx Ste Croi**	**85.12 338**	*eP*			**P**	**20 47 22.6**	**-2.2**

IDC 08 20:35:58.8±3.6, **49°.19N**×**149°.46E, h462**km±43km, **mb3.5**/12, **mb1 3.5**/13, **mb1mx3.3**/27, **mbtmp3.4**/13, **Error ellipse: s-maj=19.0km s-min=11.9km az=150.0, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSRS	**Korea Array**	**19.50**	**241**	P		P	20 39 55.2	+0.3
	0.1nm,0.3s,baz=48,slow=9.8,SNR=5.7							
ILAR	**Eielson Array**	**36.23**	**41**	P		P	20 42 20.9	0.0
	2.3nm,0.7s,baz=274,slow=8.6,SNR=30							
ZALV	**Zalesovo Beam**	**39.21**	**302**	*i* P		P	20 42 44.7	-0.8
ZALV					pmax	pmax		
	comp=Z,2.0nm,0.5s							
ZALV	**Zalesovo Beam**	**39.21**	**302**	P		P	20 42 44.6	-0.9
	comp=Z,2.0nm,0.5s,baz=57,slow=6.8,SNR=12							
ZALV					PcP	PcP	20 44 42.5	-0.7
	comp=Z,0.3nm,0.4s,baz=52,slow=2.4,SNR=3.8							
INK	**Inuvik**	**40.94**	**34**	P		P	20 42 59.0	-0.1
	comp=Z,1.5nm,0.5s,baz=287,slow=7.2,SNR=11							
MKAR	**Makanchi Array**	**43.68**	**294**	P		P	20 43 20.9	-0.3
	comp=Z,2.4nm,0.7s,baz=70,slow=7.9,SNR=18							
MKAR					PcP	PcP	20 44 58.3	0.0
	comp=Z,0.7nm,0.7s,baz=61,slow=3.0,SNR=4.4							
KURBB	**Kurchatov Arra**	**44.08**	**300**	P		P	20 43 23.9	-0.3
	comp=Z,5.0nm,0.6s,baz=67,slow=8.3,SNR=21							
YKA	**Yellowknife Ar**	**50.44**	**37**	P		P	20 44 11.8	-0.2
	comp=Z,3.0nm,0.8s,baz=301,slow=7.1,SNR=3.8							
AAK	**Ala-Archa**	**50.59**	**293**	P		P	20 44 14.3	+0.5
AAK					pmax	pmax		
	comp=Z,2.0nm,0.7s							
AAK	**Ala-Archa**	**50.59**	**293**	P		P	20 44 14.3	+0.5
	comp=Z,2.4nm,0.7s,baz=146,slow=7.3,SNR=9.7							
ARCES	**ARCESS Array B**	**54.72**	**339**	P		P	20 44 43.4	+0.6
	comp=Z,4.1nm,0.9s,baz=55,slow=7.8,SNR=14							
FINES	**FINESS Array B**	**60.76**	**333**	P		P	20 45 24.0	-0.1
	comp=Z,4.2nm,0.4s,baz=34,slow=7.2,SNR=51							
NB2	**NORSAR Subarra**	**65.10**	**339**	P		P	20 45 51.8	-0.5
	comp=Z,0.9nm,0.4s,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**65.10**	**339**	P		P	20 45 52.1	-0.2
	comp=Z,1.7nm,0.5s,baz=28,slow=6.5,SNR=14							
SCHQ	**Schefferville**	**71.96**	**21**	P		P	20 46 33.7	-0.4
	comp=Z,2.8nm,0.6s,baz=322,slow=7.2,SNR=9.6							
ASAR	**Alice Springs**	**73.84**	**195**	P		P	20 46 45.3	+0.1
	comp=Z,0.3nm,0.5s,baz=10,slow=5.7,SNR=3.1							

*ISCJB **08** 20:37:59.9±1.2, 10°.06N±0°.05×126°.29E±0°.09, h68km±10km, mb3.8/13, Error ellipse: s-maj=15.0km s-min=7.1km az=167.1*
*MAN **08** 20:37:59, 10°.02N×126°.29E, h43km, mb4.8, ML3.7, MS3.7*
MAN INTENSITY III - GENERAL LUNA SIARGAO ISLAND; SURIGAO DEL NORTE.
*IDC **08** 20:38:03.9±8.3, 9°.97N×126°.04E, h86km±76km, mb3.6/13, mb1 3.7/13, mb1mx3.6/25, mbtmp3.6/13, Error ellipse: s-maj=45.4km s-min=14.0km az=64.0*

ISC 08 20:38:01.3±1.7, **10°.08N**±0°.06×**126°.3E**±0°.1, **h63**km±15km, **n28**, σ1**°22**/34, **mb4.0**/13, **4C-1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BUTP	**Butuan**	**1.27**	**209**	*eP*		**Pn**	**20 38 20.6**	**-2.3**
BUTP				*eS*		**Sn**	**20 38 39.9**	**+0.8**
MSLP	**Maasin**	**1.37**	**272**	*eP*		**Pn**	**20 38 22.7**	**-1.5**
PLP	**Palo**	**1.65**	**311**	*⇑ eP*		**Pn**	**20 38 26.7**	**-1.3**
PLP				*eS*		**Sn**	**20 38 49.2**	**+0.9**
OCLP	**Ormoc**	**1.88**	**301**	*eP*		**Pn**	**20 38 31.5**	**+0.4**
CGP	**Cagayan de Oro**	**2.23**	**224**	*⇑ iP*		**Pn**	**20 38 35.4**	**-0.5**
CGP				*i* S		**Sn**	**20 39 01.6**	**-0.8**
LLP	**Lapu-Lapu**	**2.26**	**276**	*⇑ iP*		**Pn**	**20 38 36.4**	**+0.1**
LLP				*i* S		**Sn**	**20 39 04.7**	**+1.6**
TBP	**Tagbilaran**	**2.38**	**261**	*eP*		**Pn**	**20 38 38.0**	**0.0**
BUKP	**Musuan**	**2.48**	**208**	*eP*		**Pn**	**20 38 39.9**	**+0.4**
DAV	**Davao City (W)**	**3.06**	**192**	P		Pn	20 38 54.8	+7.4
	54nm,0.3s,baz=73,slow=19,SNR=2.8							
DAV				S		**Sn**	**20 39 27.6**	**+4.7**
	31nm,0.3s,baz=321,slow=18,SNR=7.4							
DCPH	**Dipolog City**	**3.22**	**243**	*⇓ eP*		**Pn**	**20 38 49.3**	**-0.1**
DCPH				*eS*		**Sn**	**20 39 27.0**	**+0.3**
PAGZ	**Pagadian**	**3.60**	**232**	*eP*		**Pn**	**20 38 55.1**	**+0.5**
GUIM	**Jordan**	**3.64**	**279**	*eP*		**Pn**	**20 38 55.7**	**+0.5**
RCP	**Roxas**	**3.74**	**293**	*⇑ eP*		**Pn**	**20 38 57.6**	**+1.0**
IPIL	**Ipil**	**4.29**	**238**	*eP*		Pn	20 38 59.5	-4.5
CMAR	**Chiang Mai Arr**	**27.71**	**291**	P		**P**	**20 43 43.3**	**-0.7**
	0.9nm,0.7s,baz=100,slow=7.2,SNR=4.9							
FITZ	**Fitzroy Crossi**	**28.01**	**181**	P		**P**	**20 43 46.5**	**0.0**
	2.8nm,0.7s,baz=15,slow=12,SNR=11							
WRA	**Warramunga Arr**	**30.88**	**165**	P		**P**	**20 44 11.1**	**-0.9**
	0.4nm,0.5s,baz=342,slow=9.1,SNR=5.8							
ASAR	**Alice Springs**	**34.37**	**168**	P		**P**	**20 44 42.1**	**-0.4**
	0.8nm,0.5s,baz=352,slow=6.8,SNR=19							
SONM	**Songino Array**	**41.19**	**340**	P		**P**	**20 45 40.5**	**+0.6**
	0.9nm,0.6s,baz=145,slow=7.4,SNR=4.0							
STKA	**Stephens Creek**	**44.23**	**161**	P		**P**	**20 46 04.6**	**+0.1**
	0.9nm,0.3s,baz=353,slow=8.1,SNR=10							
MKAR	**Makanchi Array**	**52.16**	**323**	P		**P**	**20 47 05.6**	**0.0**
	2.3nm,0.7s,baz=122,slow=8.2,SNR=21							
MKAR					PcP	**PcP**	**20 48 16.2**	**-0.4**
	0.6nm,0.6s,baz=122,slow=4.1,SNR=3.3							
ZALV	**Zalesovo Beam**	**54.78**	**331**	P		**P**	**20 47 24.1**	**-0.5**
	1.1nm,0.7s,baz=130,slow=6.3,SNR=4.2							
ZALV					PcP	**PcP**	**20 48 25.8**	**-0.5**
	0.3nm,0.3s,baz=134,slow=4.2,SNR=2.4							
KURBB	**Kurchatov Arra**	**56.21**	**325**	P		**P**	**20 47 34.7**	**-0.2**
	1.8nm,0.6s,baz=128,slow=6.9,SNR=18							
ILAR	**Eielson Array**	**79.62**	**26**	P		**P**	**20 50 03.2**	**+1.6**
	0.4nm,0.7s,baz=252,slow=5.5,SNR=3.5							
ARCES	**ARCESS Array B**	**84.36**	**340**	P		**P**	**20 50 26.4**	**0.0**
	1.1nm,0.7s,baz=67,slow=7.0,SNR=7.4							
BRTR	**Keskin Array B**	**85.63**	**309**	P		**P**	**20 50 32.8**	**-0.8**
	0.7nm,0.8s,baz=129,slow=4.0,SNR=4.4							
FINES	**FINESS Array B**	**86.04**	**332**	P		**P**	**20 50 34.5**	**-0.5**
	0.7nm,0.6s,baz=75,slow=6.5,SNR=8.7							
TORD	**Torodi Ar. Bea**	**120.31**	**292**	PKP		**PKPdf**	**20 56 45.9**	**-0.5**
	0.5nm,0.8s,baz=90,slow=1.4,SNR=3.4							

*ISCJB **08** 20:40:17.5±1.4, 39°.02N±0°.07×110°.6E±0°.3, h10km, mb3.6/5, Error ellipse: s-maj=31.7km s-min=9.4km az=177.7*
*IDC **08** 20:40:18.1±1.8, 39°.06N×110°.57E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/26, mbtmp3.7/6, ML3.0/1, Error ellipse: s-maj=49.0km s-min=20.1km az=69.0*

ISC 08 20:40:19.1±1.5, **39°.16N**±0°.06×**110°.7E**±0°.2, **h10**km, **n8**, σ2**°62**/10, **mb3.7/5, Western Nei Mongol**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
XAN	**Xi'an**	**5.30**	**196**	Pg		**Pn**	**20 41 37.2**	**-1.1**
XAN				Sn		**Sn**	**20 42 35.5**	**-4.0**
XAN				Sg		**Sb**	**20 43 00.4**	**+4.9**
XAN				smax		smax		
	comp=N,27nm,1.0s							
XAN				smax		smax		
	comp=E,12nm,1.2s							
GTA	**Gaotai**	**8.43**	**275**	*eP*		Pg	20 42 51.0	-10
GTA				pP		pP	20 42 55.7	
GTA				sP		sP	20 42 58.0	
GTA				pmax		pmax		
	comp=Z,5.0nm,1.4s							
SONM	**Songino Array**	**9.22**	**342**	Pn		**Pn**	**20 42 33.4**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=153,slow=12,SNR=16							
SONM				Sn		**Sn**	**20 44 14.3**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=153,slow=19,SNR=2.9							
SONM				Lg		Lg	20 45 11.1	
	comp=Z,0.2nm,0.3s,baz=159,slow=29,SNR=5.8							
MKAR	**Makanchi Array**	**22.05**	**299**	P		**P**	**20 45 13.8**	**0.0**
	comp=Z,3.1nm,1.0s,baz=98,slow=12,SNR=11							
CMAR	**Chiang Mai Arr**	**23.01**	**210**	P		**P**	**20 45 22.8**	**-1.4**
	comp=Z,3.8nm,0.8s,baz=13,slow=9.3,SNR=24							
KURBB	**Kurchatov Arra**	**25.30**	**308**	P		**P**	**20 45 46.3**	**+0.7**
	comp=Z,0.3nm,0.2s,baz=106,slow=10,SNR=4.2							
BRTR	**Keskin Array B**	**57.67**	**297**	P		**P**	**20 50 10.2**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=79,slow=9.0,SNR=3.2							
ASAR	**Alice Springs**	**66.17**	**157**	P		**P**	**20 51 07.1**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=342,slow=6.6,SNR=4.3							

CASC 08 21:01:42.1±3.2, **13°.61N**×**90°.83W, h42**km±188km, **MD3.6, 1D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IXG	**Ixpaco**	**0.67**	**33**	*eP*		Pn	21 01 58.2	+2.8
FUG	**Fuego 3**	**0.84**	**359**	*eP*		Pn	21 01 58.1	+0.3
JAT	**Jato**	**1.06**	**312**	*⇓ eP*		Pn	21 01 58.8	-1.6
NBG	**Las Nubes**	**1.08**	**26**	*eP*		Pn	21 02 02.8	+1.6
RTR	**El Retiro**	**1.19**	**76**	*eP*		Pn	21 02 02.6	+0.1
SBLS	**San Blas**	**1.19**	**79**	*eP*		Pn	21 02 02.6	0.0
SBLS				*eS*		Sn	21 02 17.7	-0.2
RBDL	**Robledal**	**1.22**	**65**	*eP*		Pn	21 02 03.3	+0.4
BOQS	**Boqueron**	**1.51**	**85**	*eP*		Pn	21 02 07.5	+0.6
BOQS				*eS*		Sn	21 02 26.8	+1.1
LFRS	**El Faro**	**1.72**	**89**	*eP*		Pn	21 02 10.0	+0.3
LFRS				*eS*		Sn	21 02 31.1	+0.6
LBRS	**Las Brisas**	**1.74**	**85**	*eP*		Pn	21 02 10.4	+0.5

MAN 08 21:31:47, 10°.12N×126°.18E, h40km, mb4.4, ML3.3, MS3.1, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BUTP	**Butuan**	**1.27**	**206**	*eP*		Pn	21 32 08.2	0.0
BUTP				*eS*		Sn	21 32 25.4	+1.3
MSLP	**Maasin**	**1.30**	**271**	*eP*		Pn	21 32 09.6	+0.9
PLP	**Palo**	**1.58**	**311**	*⇑ eP*		Pn	21 32 12.7	+0.1
CGP	**Cagayan de Oro**	**2.21**	**222**	*⇓ eP*		Pn	21 32 21.5	+0.3
CGP				*eS*		Sn	21 32 48.1	+0.7
TBP	**Tagbilaran**	**2.33**	**260**	*eP*		Pn	21 32 24.6	+1.8
BUKP	**Musuan**	**2.49**	**207**	*eP*		Pn	21 32 26.9	+1.8
PAGZ	**Pagadian**	**3.57**	**231**	*eP*		Pn	21 32 41.5	+1.6

*LDG **08** 21:40:18.0, 15°.12N×61°.74W, h170km*
*NEIC **08** 21:40:19.8, 15°.11N×61°.21W, h179km, mb4.2/1, MD4.0(TRN), After TRN.*
*TRN **08** 21:40:20.0, 15°.07N×61°.26W, h184km, MD4.0, M3.3(FDF)*
*ISCJB **08** 21:40:20.3±0.2, 15°.02N±0°.02×61°.45W±0°.04, h183km±2km, mb4.0/27, Error ellipse: s-maj=6.4km s-min=3.1km az=160.2*
*IDC **08** 21:40:20.1±0.8, 15°.08N×61°.67W, h172km±4km, mb3.6/11, mb1 3.7/11, mb1mx3.5/25, mbtmp3.6/11, MS3.7/2, Ms1 3.7/2, ms1mx2.9/41, Error ellipse: s-maj=20.1km s-min=8.2km az=81.0*
*BJI **08** 21:40:23.4, 15°.10N×61°.50W, h177km*

ISC 08 21:40:21.7±0.6, **15°.05N**±0°.03×**61°.40W**±0°.05, **h179**km±4km, **n100**, σ1**°33**/130, **mb4.2**/27, **18C-4D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FDF	**Fort de France**	**0.39**	**142**	*⇑ iP*		**Pn**	**21 40 46.0**	**0.0**
FDF	**Fort de France**	**0.39**	**142**	*⇓ eP*		**Pn**	**21 40 46.1**	**0.0**
FDF				*⇓ eS*		**Sn**	**21 41 04.8**	**+0.1**
FDF				*⇓ eS*			21 41 05.8	
DWS	**Wesley**	**0.53**	**9**	P		**Pn**	**21 40 45.4**	**-1.0**
DWS				*eS*		**Sn**	**21 41 03.5**	**-2.2**
DWS	**Wesley**	**0.53**	**9**	*eP*		**Pn**	**21 40 45.4**	**-1.0**
DWS				*eS*		**Sn**	**21 41 05.7**	**+0.1**
DVCT	**Vielle Casse P**	**0.56**	**359**	*eP*		**Pn**	**21 40 46.5**	**-0.1**
DVCT				*eS*		**Sn**	**21 41 05.7**	**-0.2**
MVM	**Montagne Vaucl**	**0.69**	**135**	*eP*		**Pn**	**21 40 47.6**	**+0.3**
TBG	**Guadaloupe-3**	**0.83**	**343**	*⇑ iP*		**Pn**	**21 40 48.0**	**-0.2**
MGG	**Marie-Galante**	**0.87**	**5**	*⇑ iP*		**Pn**	**21 40 48.1**	**-0.2**
MGG				*⇑ eS*		**Sn**	**21 41 08.7**	**-0.4**
HMG	**Houelmont**	**0.97**	**343**	*⇑ iP*		**Pn**	**21 40 49.1**	**-0.1**
PHG	**Guadaloupe-2**	**0.99**	**346**	*⇑ iP*		**Pn**	**21 40 49.4**	**+0.1**
DOG	**Dongo Capester**	**1.00**	**348**	*⇑ iP*		**Pn**	**21 40 49.3**	**-0.1**
SCG	**Saint Claude**	**1.01**	**344**	*⇑ iP*		**Pn**	**21 40 49.5**	**0.0**
BCG	**Bois Riant Cap**	**1.05**	**348**	*⇑ eP*		**Pn**	**21 40 49.5**	**-0.2**
SLW	**Petit Monier**	**1.11**	**156**	*eP*		**Pn**	**21 40 48.5**	**-1.7**
SLW				*eS*		**Sn**	**21 41 11.2**	**-1.1**
SLW	**Petit Monier**	**1.11**	**156**	*eP*		**Pn**	**21 40 48.5**	**-1.7**
SLW	**Petit Monier**	**1.11**	**156**	*eP*		**Pn**	**21 40 50.0**	**-0.2**
SLW				*eS*		**Sn**	**21 41 11.2**	**-1.1**
LZG	**Guadaloupe-1**	**1.15**	**342**	*⇑ iP*		**Pn**	**21 40 50.3**	**-0.1**
SFG	**Saint Francois**	**1.22**	**9**	*⇑ iP*		**Pn**	**21 40 51.0**	**+0.1**
SLPE	**Piton Saint Es**	**1.26**	**162**	*eP*		**Pn**	**21 40 51.6**	**+0.2**
SLPE	**Piton Saint Es**	**1.26**	**162**	*eP*		**Pn**	**21 40 51.6**	**+0.2**
SLPE				*eS*		**Sn**	**21 41 13.8**	**-0.7**
SLB	**Belfond**	**1.26**	**164**	*eP*		**Pn**	**21 40 51.5**	**0.0**
SLB				*eS*		**Sn**	**21 41 13.5**	**-1.1**
SLB	**Belfond**	**1.26**	**164**	*eP*		**Pn**	**21 40 51.5**	**0.0**
SLB				*eS*		**Sn**	**21 41 13.5**	**-1.1**
SLPA	**Patience**	**1.27**	**159**	*eP*		**Pn**	**21 40 50.8**	**-0.8**
SLPA	**Patience**	**1.27**	**159**	*eP*		**Pn**	**21 40 50.8**	**-0.8**
SLDE	**Delcer**	**1.28**	**165**	*eP*		**Pn**	**21 40 51.2**	**-0.4**
SLDE	**Delcer**	**1.28**	**165**	*eP*		**Pn**	**21 40 51.2**	**-0.4**
SLDE				*eS*		**Sn**	**21 41 13.7**	**-1.1**
DEG	**La Desirade**	**1.30**	**14**	*⇑ iP*		**Pn**	**21 40 51.0**	**-0.7**
SEG	**Port Louis**	**1.35**	**356**	*⇑ iP*		**Pn**	**21 40 51.9**	**-0.3**
MCLT	**Moule a Chique**	**1.40**	**162**	*eP*		**Pn**	**21 40 52.4**	**-0.2**
MCLT	**Moule a Chique**	**1.40**	**162**	*eP*		**Pn**	**21 40 52.4**	**-0.2**
MCLT				*eS*		**Sn**	**21 41 15.3**	**-1.4**
BHS	**Barnard House**	**1.76**	**171**	*eP*		**Pn**	**21 40 56.0**	**-0.2**
BHS	**Barnard House**	**1.76**	**171**	*eP*		**Pn**	**21 40 56.0**	**-0.2**
BHS				*eS*		**Sn**	**21 41 22.2**	**-0.7**
SVB	**Belmont**	**1.77**	**175**	*⇑ iP*		**Pn**	**21 40 56.1**	**-0.2**
SVB				*eS*		**Sn**	**21 41 21.8**	**-1.4**
BPA	**Boggy Peak**	**2.04**	**348**	*⇓ iP*		**Pn**	**21 40 58.0**	**-1.1**
BPA				*eS*		**Sn**	**21 41 25.4**	**-2.8**
BBGH	**Gun Hill**	**2.60**	**136**	*ePn*		**Pn**	**21 41 06.7**	**+1.1**
BBGH				*eS*		**Sn**	**21 41 34.3**	**-5.4**
SKI	**Saint Kitts**	**2.61**	**331**	*eP*		**Pn**	**21 41 05.6**	**-0.1**
SKI	**Saint Kitts**	**2.61**	**331**	*⇑ eP*		**Pn**	**21 41 05.6**	**-0.1**
SKI				*eS*		**Sn**	**21 41 39.4**	**-0.6**
ANWB	**Willy Bob**	**2.63**	**352**	*ePn*		**Pn**	**21 41 04.1**	**-1.8**
ANWB				*eS*		**Sn**	**21 41 35.2**	**-5.2**
GRSS	**Sisters**	**2.74**	**184**	*eP*		**Pn**	**21 41 07.2**	**+0.1**
GRSS				*eS*		**Sn**	**21 41 42.4**	**-0.3**
GRHS	**Sauteurs**	**2.82**	**185**	*eP*		**Pn**	**21 41 08.5**	**+0.4**
GRW	**Mount Saint Ca**	**2.88**	**185**	*⇓ eP*		**Pn**	**21 41 08.5**	**-0.4**
GRW				*eS*		**Sn**	**21 41 45.0**	**-0.8**
GRGR	**Grenville**	**2.91**	**185**	*ePn*		**Pn**	**21 41 08.5**	**-0.7**
GRGR				*eS*		**Sn**	**21 41 45.2**	**-1.1**
TOSP	**Speyside**	**3.82**	**167**	*⇑ iP*		**Pn**	**21 41 19.8**	**-0.8**
TOSP				*eS*		**Sn**	**21 42 03.4**	**-3.1**
TPR	**Prospect**	**3.89**	**171**	*eP*		**Pn**	**21 41 20.3**	**-1.1**
TPR	**Prospect**	**3.89**	**171**	*eP*		**Pn**	**21 41 20.3**	**-1.1**
CDVI	**St. Croix**	**4.20**	**310**	*eP*		**Pn**	**21 41 24.9**	**-0.5**
TRN	**Trinidad (W)**	**4.37**	**180**	*⇑ eP*		**Pn**	**21 41 27.1**	**-0.5**
TRN				*eS*		**Sn**	**21 42 16.2**	**-3.0**
TBH	**Brigand Hill**	**4.55**	**176**	*eS*		**Sn**	**21 42 20.6**	**-2.7**
STVI	**Saint Thomas**	**4.73**	**314**	*ePn*		**Pn**	**21 41 30.6**	**-1.5**
STVI				*eSn*		**Sn**	**21 42 25.5**	**-2.0**
MTP	**Monte Pirata**	**5.01**	**308**	*ePn*		**Pn**	**21 41 35.2**	**-0.5**
CPD	**Cerro la Pandu**	**5.25**	**305**	*ePn*		**Pn**	**21 41 39.0**	**0.0**
HUMP	**Col San Antoni**	**5.26**	**306**	*ePn*		**Pn**	**21 41 38.0**	**-1.1**
HUMP				*eS*		**Sn**	**21 42 43.0**	**+3.2**
CBYP	**Canovanas**	**5.34**	**307**	*ePn*		**Pn**	**21 41 38.8**	**-1.3**
SJG

LAST	**Lasithi**	**0.80**	**17**	*e*PN	**Pb**	**21 40 50.7**	**-0.7**
LAST				*e*SN	**Sn**	**21 41 02.8**	**-0.3**
LAST	**Lasithi**	**0.80**	**17**	P	**Pb**	**21 40 50.8**	**-0.7**
LAST				*e*Sn	**Sn**	**21 41 02.8**	**-0.3**
IDI	**Anoyia**	**0.93**	**344**	P	**Pn**	**21 40 53.6**	**-0.1**
IDI				S	**Sn**	**21 41 06.0**	**-0.2**
IDI	**Anoyia**	**0.93**	**344**	*e*PN	**Pn**	**21 40 53.6**	**-0.1**
IDI	**Anoyia**	**0.93**	**344**	P	**Pn**	**21 40 53.6**	**-0.1**
IDI				S	**Sn**	**21 41 06.0**	**-0.2**
NPS	**Neapolis**	**0.93**	**21**	P	**Pb**	**21 40 53.0**	**-0.7**
NPS				S	**Sb**	**21 41 04.9**	**-0.7**
NPS	**Neapolis**	**0.93**	**21**	*e*PN	**Pb**	**21 40 53.0**	**-0.7**
NPS	**Neapolis**	**0.93**	**21**	P	**Pb**	**21 40 53.0**	**-0.7**
NPS				S	**Sb**	**21 41 04.9**	**-0.7**
GVD	**Gavdhos**	**1.02**	**296**	P	**Pn**	**21 40 54.5**	**-0.3**
GVD	**Gavdhos**	**1.02**	**296**	*e*PN	**Pn**	**21 40 54.1**	**-0.7**
GVD	**Gavdhos**	**1.02**	**296**	*e*Pn	**Pn**	**21 40 54.1**	**-0.7**
GVD	**Gavdhos**	**1.02**	**296**	P	**Pn**	**21 40 54.5**	**-0.3**
ZKR	**Zakros**	**1.11**	**49**	P	**Pn**	**21 40 56.1**	**+0.1**
ZKR				S	**Sn**	**21 41 10.2**	**-0.3**
ZKR	**Zakros**	**1.11**	**49**	*e*PN	**Pn**	**21 40 56.2**	**+0.2**
ZKR	**Zakros**	**1.11**	**49**	*e*Pn	**Pn**	**21 40 56.2**	**+0.2**
ZKR				S	**Sn**	**21 41 10.2**	**-0.3**
VAM	**Vamos**	**1.30**	**321**	P	**Pb**	**21 40 59.9**	**0.0**
VAM	**Vamos**	**1.30**	**321**	*e*PN	**Pb**	**21 40 59.7**	**-0.2**
VAM	**Vamos**	**1.30**	**321**	*e*Pn	**Pb**	**21 40 59.7**	**-0.2**
KARP	**Karpathos**	**1.98**	**54**	*e*PN	**Pn**	**21 41 09.6**	**+1.5**
KARP	**Karpathos**	**1.98**	**54**	*e*Pn	**Pn**	**21 41 09.6**	**+1.5**
SANT	**Santorini**	**1.99**	**6**	*e*PN	**Pn**	**21 41 09.7**	**+1.5**
SANT	**Santorini**	**1.99**	**6**	*e*Pn	**Pn**	**21 41 09.7**	**+1.5**
ANKY	**Antikythira Is**	**2.14**	**314**	*e*PB	**Pn**	**21 41 12.1**	**+1.9**
ANKY	**Antikythira Is**	**2.14**	**314**	*e*Pn	**Pn**	**21 41 12.1**	**+1.9**
KYTH	**Kithira**	**2.58**	**317**	*e*PN	**Pn**	**21 41 18.0**	**+1.6**
KYTH	**Kithira**	**2.58**	**317**	*e*Pn	**Pn**	**21 41 18.0**	**+1.6**
APE	**Apeiranthos**	**2.69**	**6**	*e*PN	**Pn**	**21 41 19.4**	**+1.6**
APE	**Apeiranthos**	**2.69**	**6**	*e*Pn	**Pn**	**21 41 19.4**	**+1.6**
VLI	**Veliai**	**2.96**	**322**	*e*PN	**Pn**	**21 41 22.5**	**+0.9**
VLI	**Veliai**	**2.96**	**322**	*e*Pn	**Pn**	**21 41 22.5**	**+0.9**
ARG	**Arkhangelos**	**3.01**	**52**	*e*PN	**Pn**	**21 41 23.2**	**+1.0**
ARG	**Arkhangelos**	**3.01**	**52**	*e*Pn	**Pn**	**21 41 23.2**	**+1.0**
ITM	**Ithomi**	**3.85**	**317**	*e*PN	**Pn**	**21 41 35.4**	**+1.7**
ITM	**Ithomi**	**3.85**	**317**	*e*Pn	**Pn**	**21 41 35.4**	**+1.7**

*ISCJB **08** 22:01:02.3±0.8, 23°.89N±0°.02×122°.33E±0°.02, h11km±5km, mb3.7/4, MS3.1/1, Error ellipse: s-maj=2.8km s-min=2.3km az=154.3*
*TAP **08** 22:01:03.4, 23°.96N×122°.29E, h20km, ML4.0, C*
*JMA **08** 22:01:04.4±0.4, 24°.02N×122°.30E, h35km, M3.3*
*IDC **08** 22:01:16.0±20.0, 24°.16N×122°.58E, h151km±221km, mb3.4/4, mb1 3.4/5, mb1mx3.1/25, mbtmp3.4/5, ML3.4/1, MS3.3/1, Ms1 3.3/1, ms1mx2.2/29, Error ellipse: s-maj=154.7km s-min=19.7km az=62.0*

ISC 08 22:01:03.5±0.8, 23°.92N±0°.03×122°.30E±0°.02, h20km±7km, n69, σ1§06/114, mb3.7/4, 3C-8D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.64**	**275**	P	**Pb**	**22 01 16.0**	**+0.1**
	baz=257						
HWA				*e*S	**Sb**	**22 01 25.1**	**+0.7**
	baz=257						
TWD	**Chiawan**	**0.66**	**284**	⇓*i*P	**Pb**	**22 01 16.0**	**-0.3**
	baz=280						
TWD				S	**Sb**	**22 01 25.1**	**0.0**
	baz=280						
ENA	**Nanau**	**0.72**	**315**	⇑P	**Pb**	**22 01 16.6**	**-0.7**
	baz=313						
ENA				*e*S	**Sb**	**22 01 27.3**	**+0.5**
	baz=313						
ESL	**Shilin**	**0.80**	**263**	*e*P	**Pn**	**22 01 17.6**	**-2.0**
	baz=247						
ESL				*e*S	**Sb**	**22 01 28.2**	**-0.8**
	baz=247						
TWC	**Suao**	**0.80**	**329**	⇑P	**Pb**	**22 01 17.6**	**-1.1**
	baz=337						
TWC				*e*S	**Sb**	**22 01 27.2**	**-1.9**
	baz=337						
YOJ	**Yonaguni jima**	**0.85**	**50**	P	**Pn**	**22 01 19.1**	**-1.1**
YOJ				*e*S	**Sb**	**22 01 29.3**	**-1.1**
WHF	**Hehuan Shan**	**0.97**	**284**	⇓*i*P	**Pn**	**22 01 21.1**	**-1.2**
	baz=281						
WHF				*e*S	**Sn**	**22 01 33.7**	**-2.0**
	baz=281						
ENTT	**Nioudou**	**0.98**	**317**	*e*P	**Pn**	**22 01 21.5**	**-0.7**
	baz=315						
ENTT				*e*S	**Sn**	**22 01 34.9**	**-0.5**
	baz=315						
ILA	**Ilan**	**0.98**	**329**	*e*P	**Pn**	**22 01 21.6**	**-0.5**
	baz=328						
ILA				*e*S	**Sn**	**22 01 35.1**	**-0.3**
	baz=328						
EHY	**Hungye**	**0.98**	**246**	*e*P	**Pn**	**22 01 21.1**	**-1.0**
	baz=243						
EHY				*e*S	**Sn**	**22 01 34.2**	**-1.3**
	baz=243						
TWE	**Neicheng**	**0.98**	**324**	⇑*i*P	**Pn**	**22 01 21.3**	**-0.9**
	baz=332						
TWE				*e*S	**Sn**	**22 01 35.1**	**-0.4**
	baz=332						
NNS	**Nan Shan**	**0.99**	**302**	⇓*e*P	**Pn**	**22 01 21.6**	**-0.8**
	baz=286						
NNS				*e*S	**Sn**	**22 01 34.7**	**-1.2**
	baz=286						
TWF1	**Yuli**	**1.08**	**239**	*e*P	**Pn**	**22 01 22.7**	**-0.7**
	baz=236						
TWT	**Tachien**	**1.08**	**288**	*e*P	**Pn**	**22 01 23.1**	**-0.5**
	baz=285						
TWT				*e*S	**Sn**	**22 01 37.3**	**-0.8**
	baz=285						
TWB1	**Santiao Chiao**	**1.12**	**346**	P	**Pn**	**22 01 23.3**	**-0.8**
	baz=331						
TWB1				S	**Sn**	**22 01 38.8**	**0.0**
	baz=331						
NSK	**Sanguang**	**1.14**	**312**	P	**Pn**	**22 01 23.8**	**-0.6**
	baz=309						
NSK				*e*S	**Sn**	**22 01 39.3**	**-0.2**
	baz=309						
CHKT	**Chengkung**	**1.18**	**227**	*e*P	**Pn**	**22 01 23.4**	**-1.5**
	baz=225						
CHKT				*e*S	**Sn**	**22 01 38.0**	**-2.3**
	baz=225						
NWF	**Wu-fen Shan**	**1.24**	**338**	⇓*i*P	**Pn**	**22 01 25.5**	**-0.3**
	baz=336						
NWF				S	**Sn**	**22 01 42.2**	**+0.3**
	baz=336						
TWA	**Mucha**	**1.24**	**329**	*e*P	**Pn**	**22 01 26.1**	**+0.4**
	baz=326						
TWA				*e*S	**Sb**	**22 01 42.7**	**+0.9**
	baz=326						
SMLT	**Sun Moon Lake**	**1.28**	**269**	⇓P	**Pn**	**22 01 26.1**	**-0.2**
	baz=266						
SMLT				*e*S	**Sn**	**22 01 42.1**	**-0.9**
	baz=266						
YUS	**Yu-Shan**	**1.30**	**251**	*e*P	**Pn**	**22 01 26.8**	**-0.2**
	baz=237						
TYC	**Yuchr**	**1.32**	**270**	⇓P	**Pn**	**22 01 26.5**	**-0.2**
	baz=268						
TYC				*e*S	**Sn**	**22 01 43.7**	**0.0**
	baz=268						
TAP1	**Taipei**	**1.32**	**328**	*e*P	**Pn**	**22 01 27.1**	**+0.4**
	baz=325						
TAP1				*e*S	**Sb**	**22 01 45.2**	**+1.2**
	baz=325						
TAP	**Taipei**	**1.33**	**327**	*e*P	**Pn**	**22 01 27.1**	**+0.2**
	baz=326						
IRIF	**Iriomote-Funau**	**1.37**	**72**	P	**Pn**	**22 01 27.5**	**0.0**
NSTT	**Nanjuang**	**1.38**	**301**	P	**Pn**	**22 01 28.3**	**+0.7**
	baz=285						
NSTT				S	**Sn**	**22 01 45.4**	**+0.2**
	baz=285						
ELDTW	**Lidau**	**1.38**	**239**	*e*P	**Pn**	**22 01 26.8**	**-0.9**
	baz=237						
ELDTW				*e*S	**Sn**	**22 01 43.9**	**-1.6**
	baz=237						
HATJ	**Hateruma jima**	**1.39**	**84**	P	**Pn**	**22 01 27.7**	**0.0**
HATJ				*e*S	**Sn**	**22 01 45.6**	**+0.2**
TWS1	**Kuangyinshan**	**1.42**	**326**	*e*P	**Pn**	**22 01 28.8**	**+0.6**
	baz=336						
TWS1				S	**Sb**	**22 01 47.4**	**+0.3**
	baz=336						
ALS	**Alishan**	**1.43**	**254**	⇓P	**Pn**	**22 01 28.8**	**+0.2**
	baz=241						
NCU	**National Centr**	**1.46**	**316**	*e*P	**Pn**	**22 01 28.4**	**-0.2**
	baz=315						
TWQ1	**Liyutan**	**1.46**	**287**	*e*P	**Pn**	**22 01 29.9**	**+1.2**
	baz=285						
TWQ1				*e*S	**Sb**	**22 01 48.5**	**+0.5**
	baz=285						
WNT	**Mingjian**	**1.48**	**269**	*e*P	**Pn**	**22 01 29.8**	**+0.8**
	baz=267						
WNT				*e*S	**Sn**	**22 01 48.9**	**+1.2**
	baz=267						
NSY	**Sanyi**	**1.49**	**290**	*e*P	**Pn**	**22 01 30.0**	**+0.9**
	baz=287						
NSY				*e*S	**Sb**	**22 01 49.9**	**+1.0**
	baz=287						
TWY	**Chenhua**	**1.49**	**335**	*e*P	**Pn**	**22 01 29.3**	**+0.1**
	baz=332						
TWY				S	**Sb**	**22 01 49.3**	**+0.3**
	baz=332						
TCU	**Taichung**	**1.50**	**279**	*e*P	**Pn**	**22 01 30.1**	**+0.9**
	baz=277						
TCU				*e*S	**Sb**	**22 01 50.0**	**+0.7**
	baz=277						
CHN5	**Tsauling**	**1.52**	**258**	⇓P	**Pn**	**22 01 30.4**	**+0.8**
	baz=244						
CHN5				*e*S	**Sn**	**22 01 49.8**	**+1.0**
	baz=244						
TTN	**Taitung**	**1.57**	**223**	*e*P	**Pn**	**22 01 29.6**	**-0.6**
	baz=220						
TWG	**Pinlang**	**1.57**	**226**	*e*P	**Pn**	**22 01 29.1**	**-1.1**
	baz=238						
TWG				*e*S	**Sn**	**22 01 48.9**	**-1.0**
	baz=238						
JKRS	**Kuro-shima**	**1.60**	**78**	P	**Pn**	**22 01 31.2**	**+0.6**
JKRS				*e*S	**Sb**	**22 01 52.3**	**+0.3**
WGK	**Gukeng**	**1.61**	**262**	*e*P	**Pn**	**22 01 31.5**	**+0.8**
	baz=260						
WGK				*e*S	**Sb**	**22 01 52.9**	**+0.6**
	baz=260						
CHN4	**Tsaushan**	**1.66**	**250**	*e*P	**Pn**	**22 01 32.6**	**+1.1**
	baz=249						
CHN4				*e*S	**Sn**	**22 01 54.0**	**+1.7**
	baz=249						
WTP	**Ta-pu**	**1.68**	**247**	P	**Pn**	**22 01 32.9**	**+1.0**
	baz=233						
WTP				*e*S	**Sn**	**22 01 53.8**	**+1.0**
	baz=233						
JIJ	**Ishigaki jima**	**1.74**	**75**	P	**Pn**	**22 01 32.2**	**-0.4**
JIJ				*e*S	**Sn**	**22 01 53.3**	**-0.9**
CHY	**Chiayi**	**1.77**	**257**	*e*P	**Pn**	**22 01 33.8**	**+0.9**
	baz=255						
CHN1	**Nanshi**	**1.78**	**246**	*e*P	**Pn**	**22 01 34.3**	**+1.2**
	baz=245						
CHN1				*e*S	**Sn**	**22 01 56.5**	**+1.4**
	baz=245						
SGST	**Jiashian**	**1.78**	**242**	*e*P	**Pn**	**22 01 34.1**	**+1.0**
	baz=230						
SGST				*e*S	**Sn**	**22 01 57.1**	**+2.0**
	baz=230						
TWK	**Hsinying**	**1.78**	**249**	*e*P	**Pn**	**22 01 33.9**	**+0.7**
	baz=248						
TWK				*e*S	**Sn**	**22 01 56.8**	**+1.6**
	baz=248						
ECL	**Taimali**	**1.81**	**223**	*e*P	**Pn**	**22 01 32.2**	**-1.3**
	baz=223						
ECL				*e*S	**Sn**	**22 01 54.4**	**-1.3**
	baz=223						
WTCT	**Ta-ch'eng**	**1.85**	**269**	*e*P	**Pn**	**22 01 35.1**	**+1.2**
	baz=267						
WTCT				*e*S	**Sb**	**22 01 59.0**	**-0.2**
	baz=267						
WSF	**Szhu**	**1.92**	**262**	*e*P	**Pn**	**22 01 36.8**	**+1.8**
	baz=261						
WSF				*e*S	**Sb**	**22 02 01.1**	**-0.2**
	baz=261						
LAY	**Lan-yu**	**1.99**	**200**	*e*P	**Pn**	**22 01 34.3**	**-1.8**
	baz=199						
CHN8	**Yiju**	**2.00**	**254**	*e*P	**Pn**	**22 01 37.2**	**+1.1**
	baz=253						
CHN8				*e*S	**Sn**	**22 02 02.1**	**+1.7**
	baz=253						
TWM1	**Shoushan**	**2.04**	**238**	*e*P	**Pn**	**22 01 37.6**	**+1.0**
	baz=236						
SCZT	**Fangliau**	**2.18**	**225**	*e*P	**Pn**	**22 01 41.0**	**+2.4**
	baz=217						
SCZT				*e*S	**Sn**	**22 02 06.6**	**+1.6**
	baz=217						
JTJ	**Tarama**	**2.31**	**71**	P	**Pn**	**22 01 41.3**	**+0.9**
TWP	**Hsiaoliuchiu**	**2.37**	**229**	*e*P	**Pb**	**22 01 44.7**	**-0.8**
	baz=228						
HEN	**Hengchun**	**2.39**	**217**	*e*P	**Pn**	**22 01 42.0**	**+0.6**
	baz=216						
TSEB	**Hengchuen, Pin**	**2.39**	**213**	*e*P	**Pn**	**22 01 42.5**	**+1.1**
	baz=215						
TSEB				*e*S	**Sn**	**22 02 10.5**	**+0.4**
	baz=215						
TWK1	**Hengchun**	**2.40**	**215**	*e*P	**Pn**	**22 01 42.0**	**+0.3**
	baz=214						
JMJ	**Miyako jima 2**	**2.87**	**71**	*e*S	**Sn**	**22 02 25.1**	**+3.0**
JOGS	**Gusukube**	**2.96**	**73**	*e*S	**Sn**	**22 02 24.8**	**+0.6**
JKE	**Kume jima 2**	**4.72**	**59**	P	**Pn**	**22 02 13.0**	**-0.6**
KSRS	**Korea Array**	**14.33**	**18**	P	**Pn**	**22 04 27.8**	**+2.6**
	0.2nm,0.3s,baz=210,slow=12,SNR=4.5						
USRK	**Ussuriysk Arra**	**21.74**	**19**	LR	LR	22 14 09.6	
	comp=Z,82nm,20.1s,baz=86,slow=36						
SONM	**Songino Array**	**27.01**	**336**	P	**P**	**22 06 43.0**	**-1.3**
	3.6nm,0.7s,baz=150,slow=10.0,SNR=18						
MKAR	**Makanchi Array**	**39.24**	**316**	P	**P**	**22 08 29.9**	**-0.6**
	0.4nm,0.4s,baz=100,slow=9.6,SNR=10						
ZALV	**Zalesovo Beam**	**41.02**	**327**	P	**P**	**22 08 43.2**	**-1.9**
	0.9nm,0.5s,baz=111,slow=8.1,SNR=7.9						
WRA	**Warramunga Arr**	**45.15**	**164**	P	**P**	**22 09 18.9**	**0.0**
	0.8nm,0.8s,baz=344,slow=8.7,SNR=4.2						

*ISCJB **08** 22:05:20.5±0.4, 37°.18N±0°.03×71°.70E±0°.08, h142km, mb3.5/8, Error ellipse: s-maj=9.2km s-min=3.4km az=156.7*
*IDC **08** 22:05:21.9±4.1, 37°.10N×71°.94E, h175km±31km, mb3.2/8, mb1 3.3/13, mb1mx3.2/31, mbtmp3.2/13, MS3.2/1, Ms1 3.2/1, ms1mx2.3/32, Error ellipse: s-maj=36.2km s-min=18.2km az=166.0*
*NNC **08** 22:05:30.9±5.4, 37°.60N×70°.66E, h159km±56km, mb3.3, mpv4.0, Error ellipse: s-maj=53.8km s-min=36.6km az=42.0*

ISC 08 22:05:21.3±0.7, 37°.22N±0°.06×71°.76E±0°.08, h142km, n48, σ1§63/41, mb3.5/8, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.39**	**178**	⇑P	**Pn**	**22 06 20.2**	**+6.7**
CEP				S	**Sn**	**22 06 55.0**	**+1.2**
CHCP	**Chirah Chowk**	**3.75**	**160**	⇑P	**Pn**	**22 06 24.7**	**+6.5**
THW	**Thamme Wali**	**4.41**	**180**	P	**Pn**	**22 06 32.5**	**+5.7**
AML	**Almayashu**	**5.13**	**16**	P	**Pn**	**22 06 40.1**	**+3.5**
	SNR=33						
SARP	**Sargodha**	**5.33**	**172**	P	**Pn**	**22 06 43.0**	**+4.0**
UCH	**Uchtor**	**5.44**	**22**	P	**Sn**	**22 07 43.2**	**+0.6**
	SNR=23						
KZA	**Kyzart**	**5.55**	**28**	P	**Pn**	**22 06 46.2**	**+4.0**
	SNR=5.2						
EKS2	**Erkin-Say**	**5.66**	**15**	P	**Pn**	**22 06 46.7**	**+3.4**
	SNR=12						
THN	**Thein Dam**	**5.77**	**145**	*i* P	**Pn**	**22 06 46.4**	**+1.6**
THN				*e*S	**Sn**	**22 07 51.5**	**+1.4**
DLH	**Dalhousie**	**5.80**	**142**	*e*P	**Pn**	**22 06 48.0**	**+2.5**
DLH				*e*S	**Sn**	**22 07 54.0**	**+2.8**
AAK	**Ala-Archa**	**5.80**	**20**	P	**Pn**	**22 06 48.9**	**+3.5**
	SNR=6.4						
AAK	**Ala-Archa**	**5.80**	**20**	P	**Pn**	**22 06 48.9**	**+3.5**
	2.0nm,0.3s,baz=187,slow=9.2,SNR=17						
AAK				S	**Sn**	**22 07 51.3**	**+0.2**
	4.5nm,0.3s,baz=204,slow=6.4,SNR=6.8						
KK31	**Karatay Array**	**5.96**	**351**	P	**Pn**	**22 06 50.7**	**+3.5**
	7.4nm,0.3s,baz=157,slow=10,SNR=397						
KK31				⇑S	**Sn**	**22 07 54.4**	**-0.1**
	24nm,0.4s,baz=168,slow=16,SNR=14						
DHRM	**DHARAMSHALA**	**6.20**	**142**	*e*P	**Pn**	**22 06 53.4**	**+2.5**
DHRM				*e*S	**Sn**	**22 08 01.9**	**+1.1**
DHRM				AML	AML	22 08 05.1	
	comp=N,234nm,0.2s						
DHRM				AML	AML	22 08 06.8	
	comp=E,247nm,0.4s						
CHMS	**Chumysh**	**6.21**	**21**	P	Pn	22 06 54.1	+3.4
	SNR=5.2						
TKM2	**Tokmak 2**	**6.41**	**26**	P	**Pn**	**22 06 56.4**	**+2.9**
	SNR=7.4						
SDNR	**Sundarnagar**	**7.14**	**141**	*e*P	**Pn**	**22 07 06.0**	**+2.8**
SDNR				*e*S	**Sn**	**22 08 21.4**	**-1.7**
SMLA	**Simla**	**7.54**	**142**	*e*P	**Pn**	**22 07 10.4**	**+1.9**
SMLA				*e*S	**Sn**	**22 08 30.3**	**-2.4**
SMLA				AML	AML	22 08 35.5	
	comp=N,91nm,0.4s						
SMLA				AML	AML	22 08 36.7	
	comp=E,103nm,0.3s						
MK31	**Makanchi Array**	**12.35**	**36**	P	P	22 08 25.5	+6.9
	comp=E,0.5nm,0.4s,baz=103,slow=9.3,SNR=7.2						
MKAR	**Makanchi Array**	**12.35**	**36**	P	**Pn**	**22 08 14.0**	**+1.7**
	comp=E,0.1nm,0.3s,baz=214,slow=10,SNR=5.9						
PYUN	**Piuthan**	**13.11**	**131**	*e*P	**Pn**	**22 08 21.1**	**-1.2**
	comp=E,34nm,0.3s						
DANN	**Dangsing**	**13.41**	**128**	*e*P	**Pn**	**22 08 25.6**	**-0.6**
	comp=E,12nm,0.2s						
KOLN	**Koldanda**	**13.72**	**130**	*e*P	**Pn**	**22 08 28.9**	**-1.2**
	comp=E,15nm,0.4s						
KKN	**Kakani**	**14.77**	**126**	*e*P	**Pn**	**22 08 41.1**	**-2.2**
	comp=E,14nm,0.4s						
AB31	**Akbulak array**	**14.78**	**328**	⇑P	**Pn**	**22 08 43.2**	**+0.2**
	comp=E,2.5nm,0.4s,baz=135,slow=12,SNR=98						
AB31				S	Sn	22 11 17.4	-9.3
	comp=E,1.1nm,0.4s,baz=152,slow=23,SNR=4.4						
DMN	**Daman**	**14.78**	**127**	*e*P	**Pn**	**22 08 42.2**	**-1.3**
	comp=E,14nm,0.3s						
PKIN	**Phulchoki**	**14.98**	**126**	*e*P	**Pn**	**22 08 45.1**	**-1.0**
PKI	**Pulchoki**	**15.00**	**126**	*e*P	**Pn**	**22 08 44.7**	**-1.6**
	comp=E,12nm,0.3s						
GUN	**Gumba**	**15.08**	**124**	*e*P	**Pn**	**22 08 45.7**	**-1.7**
	comp=E,17nm,0.3s						
JIRN	**Jiri**	**15.45**	**124**	*e*P	**Pn**	**22 08 50.5**	**-1.5**
	comp=E,46nm,0.4s						
BVA0	**Borovoye Array**	**15.84**	**357**	P	**P**	**22 08 59.4**	**+2.3**
	comp=E,1.8nm,0.8s,baz=159,slow=12,SNR=13						
BVAR	**Borovoye Array**	**15.84**	**357**	P	**P**	**22 08 56.9**	**-0.2**
	comp=E,0.4nm,0.3s,baz=166,slow=11,SNR=9.2						
ZRNK	**Zerenda**	**15.85**	**354**	⇓P	**P**	**22 08 57.7**	**+0.5**
	comp=E,2.7nm,0.5s						
RAMN	**Ramite**	**16.19**	**125**	*e*P	**Pn**	**22 08 59.8**	**-1.2**
	comp=E,29nm,0.4s						
AKTO	**Aktyubinsk**	**16.48**	**328**	⇓P	**P**	**22 09 04.7**	**+0.5**
	comp=E,7.2nm,0.5s						
AKTO	**Aktyubinsk**	**16.48**	**328**	P	**P**	**22 09 05.1**	**+0.9**
	comp=E,2.6nm,0.3s,baz=128,slow=10,SNR=41						
TAPN	**Taplejung**	**16.67**	**122**	*e*P	**P**	**22 09 07.2**	**+0.4**
	comp=E,14nm,0.3s						
ODAN	**Odare**	**16.78**	**124**	*e*P	**P**	**22 09 06.7**	**-1.2**
ZALV	**Zalesovo Beam**	**19.01**	**24**	P	**P**	**22 09 30.5**	**-1.3**
	comp=E,0.9nm,0.3s,baz=205,slow=9.9,SNR=14						
SONM	**Songino Array**	**27.43**	**56**	P	**P**	**22 10 51.5**	**-2.2**
	comp=E,0.3nm,0.4s,baz=254,slow=10,SNR=3.0						
BRTR	**Keskin Array B**	**29.81**	**287**	P	**P**	**22 11 15.8**	**+0.9**
	comp=E,0.4nm,0.6s,baz=97,slow=7.8,SNR=3.3						
FINES	**FINESS Array B**	**37.24**	**325**	P	**P**	**22 12 17.9**	**-0.8**
	comp=E,1.4nm,0.9s,baz=103,slow=12,SNR=3.9						
ARCES	**ARCESS Array B**	**40.72**	**337**	P	**P**	**22 12 46.5**	**-1.0**
	comp=E,0.5nm,0.4s,baz=114,slow=8.5,SNR=11						
GERES	**GERESS Array B**	**43.02**	**305**	LR	LR	22 32 39.0	
	comp=E,28nm,18.3s,baz=292,slow=38						
NOA	**NORSAR Array B**	**44.18**	**323**	P	**P**	**22 13 14.1**	**-1.5**
	comp=E,0.3nm,0.4s,baz=95,slow=7.7,SNR=2.9						
ESDC	**Sonseca Array**	**57.66**	**298**	P	**P**	**22 14 55.6**	**-1.1**
	comp=E,0.2nm,0.3s,baz=53,slow=8.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**66.34**	**269**	P	P	22 15 51.3	-3.7
	comp=E,0.3nm,0.4s,baz=47,slow=5.5,SNR=9.9						
INK	**Inuvik**	**73.10**	**10**	P	P	22 16 32.4	-3.0
	comp=E,0.7nm,0.5s,baz=352,slow=4.7,SNR=5.8						

IDC 08 22:06:15.1±2.7, 3°.60S×130°.85E, h0km, mb3.3/2, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=136.7km s-min=28.1km az=75.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.29**	**199**	Pn	Pn	22 09 51.3	-1.2
	0.1nm,0.3s,baz=26,slow=13,SNR=7.6						
FITZ				Sn	Sn	22 12 32.4	-10
	0.2nm,0.3s,baz=140,slow=23,SNR=3.2						
WRA	**Warramunga Arr**	**16.60**	**168**	Pn	Pn	22 10 08.0	-1.4
	0.3nm,0.3s,baz=352,slow=14,SNR=18						
WRA				Sn	Sn	22 13 04.5	-10
	0.6nm,0.3s,baz=360,slow=23,SNR=11						
ASAR	**Alice Springs**	**20.17**	**172**	P	Pn	22 10 52.3	-0.8
	0.8nm,0.4s,baz=353,slow=11,SNR=14						
ASAR				S	S	22 14 30.8	-8.0
	0.4nm,0.5s,baz=356,slow=28,SNR=5.4						
MKAR	**Makanchi Array**	**65.89**	**326**	P	P	22 17 02.8	0.0
	0.2nm,0.5s,baz=116,slow=6.6,SNR=4.6						

*AUST **08** 22:16:02.6±3.2, 11°.57S×118°.00E, h0km, Error ellipse: s-maj=0.7km s-min=0.6km az=22.0*
*IDC **08** 22:16:03.5±0.9, 11°.115×118°.44E, h0km, mb4.2/7, mb1 4.4/10, mb1mx4.1/22, mbtmp4.3/10, ML4.4/3, MS3.0/1, Ms1 3.0/1, ms1mx2.3/26, Error ellipse: s-maj=50.6km s-min=15.8km az=60.0*
*ISCJB **08** 22:16:04.4±0.3, 11°.65S±0°.04×117°.93E±0°.03, h36km, mb4.0/11, Error ellipse: s-maj=5.6km s-min=4.1km az=25.0*
*NEIC **08** 22:16:06.6±0.5, 11°.62S×118°.01E, h35km, mb4.0/5, Error ellipse: s-maj=19.6km s-min=7.4km az=58.0*
*DJA **08** 22:16:15.1±0.9, 11°.5S±8°.×11°.8E±°, h78km±35km, M5.1/12, mb5.3/12, mB5.5/9, MLv5.2/12, Mw(mB)5.0/9*

**ISC 08 22:16:06.5±0.6, 11°.50S±0°.06×117°.89E±0°.05, h36km, n68, σ1§99/62, mb4.2/

FITZ	**Fitzroy Crossi**	**9.96**	**132**	Pn		**Pn**	**22 18 26.3**	**-0.9**
	4.6nm,0.3s,baz=316,slow=10,SNR=124							
FITZ				Sn		Sn	22 20 08.5	-9.2
	8.7nm,0.3s,baz=176,slow=20,SNR=14							
FITZ				LR		LR	22 22 11.7	
	comp=Z,88nm,19.8s,baz=132,slow=37							
FITZ	**Fitzroy Crossi**	**9.96**	**132**	P		**Pn**	**22 18 25.4**	**-1.7**
	baz=9.9,SNR=74							
FITZ				S		Sn	22 20 09.9	-7.8
	baz=9.9,SNR=5.1							
CISI	**Cisompet, Garu**	**10.68**	**291**	P		**Pn**	**22 18 38.0**	**+1.0**
	172nm,0.6s,3µm							
CISI	**Cisompet, Garu**	**10.68**	**291**	P		**Pn**	**22 18 38.2**	**+1.2**
	baz=11,SNR=18							
CISI				S		**Sn**	**22 20 30.8**	**-4.6**
	baz=11,SNR=5.3							
LEM	**Lembang**	**11.15**	**294**	P		**Pn**	**22 18 45.0**	**+1.4**
LEM	**Lembang**	**11.15**	**294**	P		**Pn**	**22 18 46.4**	**+2.7**
	baz=11,SNR=3.1							
KNRA	**Kununurra**	**11.36**	**113**	P		**Pn**	**22 18 44.2**	**-2.0**
	baz=11,SNR=31							
XMIS	**Christmas Isla**	**12.05**	**274**	P		**Pn**	**22 18 55.3**	**-0.6**
	baz=12,SNR=4.2							
MTN	**Manton Dam**	**13.02**	**97**	P		Pn	22 19 03.0	-6.0
	baz=13,SNR=3.9							
MTN				S		Sn	22 21 21.5	-11
	baz=13,SNR=4.8							
KDU	**Kakadu**	**14.31**	**96**	S		Sn	22 21 53.5	-11
	baz=14,SNR=3.2							
MEEK	**Meekatharra**	**15.07**	**177**	P		**Pn**	**22 19 35.1**	**-1.8**
	baz=15,SNR=158							
MEEK				S		Sn	22 22 06.0	-17
	baz=15,SNR=14							
MNAI	**Manna**	**16.39**	**294**	P		**Pn**	**22 19 53.6**	**-0.4**
	baz=16,SNR=5.8							
FAKI	**Fak Fak**	**16.59**	**60**	P		**Pn**	**22 19 53.4**	**-3.1**
	baz=17,SNR=4.3							
MORW	**Morawa**	**17.56**	**185**	P		**Pn**	**22 20 06.9**	**-1.7**
	baz=18,SNR=14							
MORW				S		Sn	22 23 04.7	-18
	baz=18,SNR=5.5							
WRA	**Warramunga Arr**	**17.91**	**120**	P		**Pn**	**22 20 10.6**	**-2.3**
WRA				S		Sn	22 23 17.6	-14
WRA	**Warramunga Arr**	**17.91**	**120**	P		**Pn**	**22 20 10.6**	**-2.3**
	0.8nm,0.3s,baz=293,slow=13,SNR=47							
WRA				S		Sn	22 23 17.6	-14
	0.8nm,0.3s,baz=294,slow=23,SNR=8.1							
WRAB	**Tennant Creek**	**17.92**	**120**	*e*Pn		**Pn**	**22 20 10.8**	**-2.2**
	9.0nm,0.8s							
BLDU	**Ballidu**	**19.05**	**183**	P		**Pn**	**22 20 26.9**	**+0.2**
	baz=19,SNR=66							
AS31	**Alice Springs**	**19.46**	**131**	*e*P		**P**	**22 20 29.9**	**-0.3**
AS31				*e*S		S	22 23 55.1	-13
ASAR	**Alice Springs**	**19.46**	**131**	P		**Pn**	**22 20 31.6**	**-0.1**
ASAR				S		S	22 23 54.7	-14
ASAR	**Alice Springs**	**19.46**	**131**	P		**Pn**	**22 20 31.6**	**-0.1**
	0.9nm,0.3s,baz=309,slow=9.9,SNR=43							
ASAR				S		S	22 23 54.7	-14
	0.8nm,0.3s,baz=312,slow=24,SNR=14							
KLBR	**Kellerberrin**	**19.99**	**180**	P		Pn	22 20 39.1	+1.2
	baz=20,SNR=63							
KMBL	**Kambalda**	**20.11**	**170**	P		Pn	22 20 40.4	+1.1
	baz=20,SNR=21							
KMBL				S		S	22 24 03.3	-18
	baz=20,SNR=4.7							
NWAO	**Narrogin (SRO)**	**21.33**	**182**	*e*P		P	22 20 56.0	+5.6
	26nm,0.5s							
NWAO	**Narrogin (SRO)**	**21.33**	**182**	P		P	22 20 56.7	+6.3
	38nm,0.5s,baz=6.8,slow=11,SNR=68							
RKGY	**Rocky Gully**	**23.02**	**182**	P		P	22 21 20.2	+12
	baz=23,SNR=8.2							
STKA	**Stephens Creek**	**29.81**	**137**	*e*P		**P**	**22 22 09.1**	**-1.1**
	0.8nm,1.1s							
STKA	**Stephens Creek**	**29.81**	**137**	P		**P**	**22 22 10.9**	**+0.7**
	1.6nm,0.7s,baz=322,slow=11,SNR=4.3							
MANU	**Manus Island**	**30.71**	**74**	S		S	22 27 27.8	+8.8
	baz=31,SNR=3.7							
CHTO	**Chiang Mai**	**35.45**	**328**	*e*P		**P**	**22 23 00.6**	**+1.1**
	1.5nm,0.9s							
YNG	**Young**	**35.88**	**134**	P		**P**	**22 23 05.7**	**+2.4**
	baz=36,SNR=5.6							
XAN	**Xi'an**	**46.08**	**350**	P		**P**	**22 24 27.0**	**-0.1**
XAN				pmax		pmax		
	comp=Z,2.0nm,0.7s							
XAN				pmax		pmax		
	comp=Z,8.0nm,5.5s							
ULN	**Ulaanbaatar**	**59.88**	**352**	*e*P		**P**	**22 26 08.7**	**0.0**
	comp=Z,0.8nm,0.4s							
SONM	**Songino Array**	**59.95**	**351**	P		**P**	**22 26 10.1**	**+0.9**
SONM	**Songino Array**	**59.95**	**351**	P		**P**	**22 26 10.1**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=171,slow=8.3,SNR=11							
MK31	**Makanchi Array**	**66.19**	**334**	*e*P		**P**	**22 26 51.6**	**+1.1**
MKAR	**Makanchi Array**	**66.19**	**334**	P		**P**	**22 26 51.9**	**+1.4**
MKAR	**Makanchi Array**	**66.19**	**334**	P		**P**	**22 26 51.9**	**+1.4**
	comp=Z,1.2nm,0.4s,baz=147,slow=7.0,SNR=34							
KURBB	**Kurchatov Arra**	**70.73**	**335**	P		**P**	**22 27 20.2**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=149,slow=5.6,SNR=7.0							
ZALV	**Zalesovo Beam**	**70.99**	**340**	P		**P**	**22 27 20.9**	**+0.7**
ZALV	**Zalesovo Beam**	**70.99**	**340**	P		**P**	**22 27 20.9**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=137,slow=5.2,SNR=6.8							
BVAR	**Borovoye Array**	**75.99**	**333**	P		P	22 27 53.6	+3.9
BVAR	**Borovoye Array**	**75.99**	**333**	P		P	22 27 53.6	+3.9
	comp=Z,0.4nm,0.6s,baz=145,slow=3.5,SNR=2.8							
ABKAR	**Akbulak array**	**78.98**	**326**	*e*P		**P**	**22 28 07.2**	**+0.7**
	comp=Z,0.4nm,0.5s							

IDC 08 22:38:07.6±12.0,**5°.66S**×**134°.66E,h0**km,**mb3.8/1, mb1 3.6**/3,**mb1mx3.3**/17,**mbtmp3.4**/3,**ML2.9**/2,**Error ellipse: s-maj=184.6km s-min=113.8km az=145.0,Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.21**	**181**	Pn		Pn	22 41 30.6	+0.4
	0.0nm,0.3s,baz=1.0,slow=12,SNR=3.4							
ASAR	**Alice Springs**	**17.92**	**182**	P		Pn	22 42 17.0	-1.5
	0.1nm,0.3s,baz=2.4,slow=10,SNR=6.1							
STKA	**Stephens Creek**	**26.88**	**167**	P		P	22 43 50.7	+0.4
	0.7nm,0.5s,baz=326,slow=7.3,SNR=4.5							

IDC 08 22:47:53.0±11.0,**7°.87S**×**127°.16E,h126**km±125km, **mb2.9/1,mb1 3.0/4,mb1mx2.9/20,mbtmp2.8/4,ML3.2/3, Error ellipse: s-maj=80.0km s-min=48.7km az=28.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.28**	**188**	P		Pn	22 50 17.4	+0.1
	0.1nm,0.3s,baz=0.6,slow=18,SNR=4.3							
FITZ				S		Sn	22 52 12.3	+1.6
	0.4nm,0.3s,baz=168,slow=16,SNR=8.0							
WRA	**Warramunga Arr**	**13.87**	**151**	P		Pn	22 51 02.5	-1.9
	0.1nm,0.3s,baz=328,slow=14,SNR=4.8							
WRA				S		Sn	22 53 35.1	-2.6
	0.2nm,0.3s,baz=326,slow=25,SNR=6.1							
ASAR	**Alice Springs**	**16.99**	**158**	P		Pn	22 51 44.7	+1.5
	0.1nm,0.3s,baz=331,slow=10,SNR=3.7							
MKAR	**Makanchi Array**	**67.44**	**328**	P		P	22 58 35.2	0.0
	0.2nm,0.6s,baz=136,slow=7.2,SNR=3.0							

IDC 08 23:10:09.3±0.9,**1°.68N**×**125°.46E,h0**km,**mb3.9/5, mb1 3.9/6,mb1mx3.7/22,mbtmp3.8/6,ML3.6/1,Error ellipse: s-maj=73.7km s-min=17.2km az=72.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.65**	**179**	P		Pn	23 14 41.2	0.0
	0.1nm,0.3s,baz=355,slow=11,SNR=3.8							
WRA	**Warramunga Arr**	**23.18**	**158**	P		P	23 15 17.1	-0.7
	1.4nm,0.5s,baz=338,slow=10.0,SNR=20							
ASAR	**Alice Springs**	**26.50**	**162**	P		P	23 15 48.4	-0.2
	1.0nm,0.4s,baz=346,slow=12,SNR=21							
ASAR				PcP		PcP	23 19 13.8	0.0
	0.2nm,0.3s,baz=353,slow=2.0,SNR=4.6							
KSRS	**Korea Array**	**35.68**	**3**	P		P	23 17 09.6	+0.3
	1.9nm,0.9s,baz=178,slow=9.3,SNR=5.2							
STKA	**Stephens Creek**	**36.71**	**157**	P		P	23 17 18.1	-0.1
	1.5nm,0.7s,baz=342,slow=13,SNR=4.2							
MKAR	**Makanchi Array**	**58.53**	**327**	P		P	23 20 07.2	-0.5
	0.5nm,0.4s,baz=121,slow=7.1,SNR=14							
MKAR				PcP		PcP	23 20 57.7	-0.4
	0.4nm,0.7s,baz=143,slow=5.6,SNR=3.6							
TORD	**Torodi Ar. Bea**	**122.31**	**287**	PKP		PKPdf	23 29 07.3	-0.2

0.4nm,0.8s,baz=80,slow=2.5,SNR=4.0

TIR ***08*** *23:53:03.2±2.4,39°.75N×19°.30E,h9km±156km*
ATH ***08*** *23:53:03.5,39°.23N×19°.86E,h40km±1km,MD3.5/19, ML3.1*
CSEM ***08*** *23:53:04.2±0.2,39°.23N×19°.81E,h30km,ML2.9/6,Error ellipse: s-maj=5.2km s-min=2.5km az=71.0*
THE ***08*** *23:53:04.8,39°.23N×19°.89E,h23km,ML2.9/6,Error ellipse: s-maj=1.3km s-min=0.5km az=267.0*
SKO ***08*** *23:53:06.0,39°.33N×20°.01E,h28km,M2.1,ML2.7*

ISC 08 23:53:03.6±1.2,**39°.24N**±0°.02×**19°.78E**±0°.04,**h28**km±11km, **n122,**σ0**89**/166,**Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KEK	**Kerkira**	**0.48**	**2**	P		**Pn**	**23 53 14.6**	**-0.1**
KEK				S		**Sn**	**23 53 22.3**	**+0.2**
KEK	**Kerkira**	**0.48**	**2**	*e*P		**Pn**	**23 53 14.6**	**-0.1**
KEK				*e*S		**Sn**	**23 53 22.5**	**+0.4**
KEK	**Kerkira**	**0.48**	**2**	P		**Pn**	**23 53 14.6**	**-0.1**
KEK				S		**Sn**	**23 53 22.3**	**+0.2**
IGT	**Igoumenitsa**	**0.52**	**55**	P		**Pb**	**23 53 14.0**	**-0.3**
IGT				S		**Sb**	**23 53 21.3**	**-0.3**
IGT	**Igoumenitsa**	**0.52**	**55**	P		**Pb**	**23 53 14.0**	**-0.3**
IGT				S		**Sb**	**23 53 21.3**	**-0.3**
SRN	**Sarande**	**0.67**	**15**	*e*PN		**Pb**	**23 53 17.0**	**+0.3**
SRN				*i* SN		**Sn**	**23 53 27.3**	**+0.5**
SRN	**Sarande**	**0.67**	**15**	P		**Pb**	**23 53 17.1**	**+0.3**
SRN				S		**Sn**	**23 53 26.9**	**+0.1**
SRN	**Sarande**	**0.67**	**15**	P		**Pb**	**23 53 17.1**	**+0.3**
SRN				S		**Sn**	**23 53 26.9**	**+0.1**
SRN				*i* Sn		**Sn**	**23 53 27.3**	**+0.5**
LKD2	**Lefkada island**	**0.82**	**123**	P		Pn	23 53 18.9	-0.3
LKD2				S		**Sb**	**23 53 29.5**	**-0.4**
LKD2	**Lefkada island**	**0.82**	**123**	*e*P		**Pn**	**23 53 19.0**	**-0.3**
LKD2				*e*S		**Sb**	**23 53 30.2**	**+0.3**
LKD2	**Lefkada island**	**0.82**	**123**	*e*P		**Pn**	**23 53 19.0**	**-0.3**
LKD2				S		**Sb**	**23 53 29.5**	**-0.4**
JAN	**Janina**	**0.93**	**63**	P		**Pn**	**23 53 20.6**	**-0.3**
JAN				S		**Sn**	**23 53 32.8**	**-0.6**
JAN	**Janina**	**0.93**	**63**	*e*P		**Pn**	**23 53 20.7**	**-0.2**
JAN				*e*S		**Sn**	**23 53 32.7**	**-0.6**
JAN	**Janina**	**0.93**	**63**	*e*P		**Pn**	**23 53 20.7**	**-0.2**
JAN				S		**Sn**	**23 53 32.8**	**-0.6**
KNS	**Konitsa**	**1.12**	**42**	P		**Pn**	**23 53 23.7**	**+0.1**
KNS				S		**Sn**	**23 53 38.5**	**+0.4**
KNS	**Konitsa**	**1.12**	**42**	P		**Pn**	**23 53 23.7**	**+0.1**
KNS				S		**Sn**	**23 53 38.5**	**+0.4**
VLS	**Valsamata**	**1.23**	**149**	P		**Pn**	**23 53 24.9**	**-0.1**
VLS				S		**Sn**	**23 53 41.0**	**+0.3**
VLS	**Valsamata**	**1.23**	**149**	*e*P		**Pn**	**23 53 24.9**	**-0.1**
VLS				*e*S		**Sb**	**23 53 41.3**	**-0.4**
VLS	**Valsamata**	**1.23**	**149**	P		**Pn**	**23 53 24.9**	**-0.1**
VLS				S		**Sn**	**23 53 41.0**	**+0.3**
KFL	**Anninata**	**1.37**	**145**	P		**Pn**	**23 53 26.9**	**0.0**
KFL	**Anninata**	**1.37**	**145**	P		**Pn**	**23 53 26.9**	**0.0**
NEST	**Nestorio**	**1.53**	**39**	P		**Pn**	**23 53 30.2**	**+1.0**
NEST	**Nestorio**	**1.53**	**39**	P		**Pn**	**23 53 30.2**	**+1.0**
KBN	**Korca**	**1.59**	**29**	*e*PN		**Pb**	**23 53 32.0**	**-0.4**
KBN				*i* SN		**Sb**	**23 53 56.0**	**+3.9**
KBN	**Korca**	**1.59**	**29**	P		**Pb**	**23 53 31.4**	**-1.0**
KBN	**Korca**	**1.59**	**29**	P		**Pb**	**23 53 31.4**	**-1.0**
KBN	**Korca**	**1.59**	**29**	*e*Pn		**Pb**	**23 53 32.0**	**-0.4**
	SNR=40							
EVR	**Evrytania**	**1.61**	**101**	P		**Pn**	**23 53 31.1**	**+0.8**
EVR	**Evrytania**	**1.61**	**101**	*e*P		**Pn**	**23 53 31.2**	**+0.9**
EVR	**Evrytania**	**1.61**	**101**	P		**Pn**	**23 53 31.1**	**+0.8**
AXS	**Araxos**	**1.62**	**129**	P		**Pn**	**23 53 30.7**	**+0.3**
AXS	**Araxos**	**1.62**	**129**	P		**Pn**	**23 53 30.7**	**+0.3**
THL	**Klokotos Trika**	**1.76**	**79**	P		**Pn**	**23 53 32.5**	**+0.2**
THL				S		**Sn**	**23 53 51.8**	**-2.0**
THL	**Klokotos Trika**	**1.76**	**79**	*e*P		**Pn**	**23 53 32.7**	**+0.4**
THL				*e*S		**Sn**	**23 53 53.7**	**-0.1**
THL	**Klokotos Trika**	**1.76**	**79**	P		**Pn**	**23 53 32.5**	**+0.2**
THL				*e*S		**Sn**	**23 53 53.7**	**-0.1**
RLS	**Riolos of Patr**	**1.77**	**131**	P		**Pn**	**23 53 33.0**	**+0.7**
RLS	**Riolos of Patr**	**1.77**	**131**	*e*P		**Pn**	**23 53 33.1**	**+0.7**
RLS				*e*S		**Sn**	**23 53 54.7**	**+0.8**
RLS	**Riolos of Patr**	**1.77**	**131**	P		**Pn**	**23 53 33.0**	**+0.7**
RLS				*e*S		**Sn**	**23 53 54.7**	**+0.8**
MAKR	**Makrakomi, Fth**	**1.84**	**96**	P		**Pn**	**23 53 33.9**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.84**	**96**	P		**Pn**	**23 53 33.9**	**+0.5**
KZN	**Kozani**	**1.87**	**54**	P		**Pn**	**23 53 34.4**	**+0.6**
KZN				S		**Sn**	**23 53 56.9**	**+0.3**
KZN	**Kozani**	**1.87**	**54**	*e*P		**Pn**	**23 53 34.5**	**+0.6**
KZN	**Kozani**	**1.87**	**54**	P		**Pn**	**23 53 34.4**	**+0.6**
KZN				S		**Sn**	**23 53 56.9**	**+0.3**
FNA	**Florina**	**1.97**	**38**	P		**Pn**	**23 53 36.1**	**+0.8**
FNA				S		**Sn**	**23 54 00.1**	**+1.0**
FNA	**Florina**	**1.97**	**38**	*e*P		**Pn**	**23 53 36.0**	**+0.8**
FNA	**Florina**	**1.97**	**38**	*e*P		**Pn**	**23 53 36.0**	**+0.8**
FNA				S		**Sn**	**23 54 00.1**	**+1.0**
LAKA	**Lakka**	**1.98**	**119**	P		**Pn**	**23 53 33.7**	**-1.7**
LAKA	**Lakka**	**1.98**	**119**	P		**Pn**	**23 53 33.7**	**-1.7**
TRIZ	**Trizonia**	**1.99**	**115**	P		**Pn**	**23 53 34.0**	**-1.4**
TRIZ	**Trizonia**	**1.99**	**115**	P		**Pn**	**23 53 34.0**	**-1.4**
AGG	**Agios Georgios**	**1.99**	**95**	P		**Pn**	**23 53 36.2**	**+0.7**
AGG				S		**Sn**	**23 53 59.5**	**-0.1**
AGG	**Agios Georgios**	**1.99**	**95**	*e*P		**Pn**	**23 53 36.6**	**+1.1**
AGG	**Agios Georgios**	**1.99**	**95**	P		**Pn**	**23 53 36.2**	**+0.7**
AGG				S		**Sn**	**23 53 59.5**	**-0.1**
KALE	**Kalithea**	**2.03**	**114**	*e*P		**Pn**	**23 53 35.3**	**-0.7**
KALE	**Kalithea**	**2.03**	**114**	*e*PN		**Pn**	**23 53 35.3**	**-0.7**
TIR	**Tirane**	**2.11**	**2**	*e*PN		**Pn**	**23 53 38.2**	**+1.1**
TIR				*i* SN		**Sn**	**23 54 00.4**	**-2.0**
TIR	**Tirane**	**2.11**	**2**	*e*Pn		**Pn**	**23 53 38.2**	**+1.1**
	SNR=40							
TIR				*i* Sn		**Sn**	**23 54 00.4**	**-2.0**
	SNR=40							
BIA	**Bitola**	**2.14**	**33**	P		**Pn**	**23 53 37.6**	**0.0**
BIA	**Bitola**	**2.14**	**33**	*e*Pn		**Pn**	**23 53 37.4**	**-0.1**
BIA	**Bitola**	**2.14**	**33**	P		**Pn**	**23 53 37.6**	**0.0**
KLV	**Kalavryta, Ach**	**2.20**	**122**	P		**Pn**	**23 53 37.7**	**-0.7**
KLV	**Kalavryta, Ach**	**2.20**	**122**	*e*P		**Pn**	**23 53 38.0**	**-0.4**
KLV	**Kalavryta, Ach**	**2.20**	**122**	*e*P		**Pn**	**23 53 38.0**	**-0.4**
LIT	**Litokhoron**	**2.26**	**67**	P		**Pn**	**23 53 39.2**	**0.0**
LIT	**Litokhoron**	**2.26**	**67**	*e*P		**Pn**	**23 53 39.2**	**0.0**
LIT	**Litokhoron**	**2.26**	**67**	P		**Pn**	**23 53 39.2**	**0.0**
AMT	**Artemida-Makis**	**2.28**	**138**	*e*P		**Pn**	**23 53 40.4**	**+1.0**
AMT	**Artemida-Makis**	**2.28**	**138**	*e*P		**Pn**	**23 53 40.4**	**+1.0**
DSF	**Desfina**	**2.30**	**110**	P		**Pn**	**23 53 40.3**	**+0.6**
DSF	**Desfina**	**2.30**	**110**	P		**Pn**	**23 53 40.3**	**+0.6**
GUR	**Goura**	**2.39**	**122**	P		**Pn**	**23 53 41.1**	**+0.1**
GUR				S		**Sn**	**23 54 09.9**	**+0.5**
GUR	**Goura**	**2.39**	**122**	*e*P		**Pn**	**23 53 42.3**	**+1.3**
GUR	**Goura**	**2.39**	**122**	P		**Pn**	**23 53 41.1**	**+0.1**
GUR				S		**Sn**	**23 54 09.9**	**+0.5**
PHP	**Peshkopia**	**2.50**	**11**	*e*PN		**Pn**	**23 53 43.1**	**+0.6**
PHP				*i* SN		**Sn**	**23 54 13.0**	**+0.9**
PHP	**Peshkopia**	**2.50**	**11**	P		**Pn**	**23 53 43.3**	**+0.8**
PHP	**Peshkopia**	**2.50**	**11**	P		**Pn**	**23 53 43.3**	**+0.8**
PHP				*i* Sn		**Sn**	**23 54 13.0**	**+0.9**
	SNR=40							
LKR	**Lokris**	**2.58**	**102**	*e*P		**Pn**	**23 53 43.7**	**+0.2**
LKR	**Lokris**	**2.58**	**102**	*e*P		**Pn**	**23 53 43.7**	**+0.2**
GRG	**Griva**	**2.65**	**49**	P		**Pn**	**23 53 44.1**	**-0.4**
GRG	**Griva**	**2.65**	**49**	P		**Pn**	**23 53 44.1**	**-0.4**
XOR	**Xorichti**	**2.65**	**86**	P		**Pn**	**23 53 44.6**	**+0.1**
XOR	**Xorichti**	**2.65**	**86**	P		**Pn**	**23 53 44.6**	**+0.1**
ITM	**Ithomi**	**2.66**	**140**	*e*P		**Pn**	**23 53 45.9**	**+1.3**
ITM	**Ithomi**	**2.66**	**140**	*e*P		**Pn**	**23 53 45.9**	**+1.3**
NEO	**Neokhori**	**2.67**	**87**	P		**Pn**	**23 53 44.5**	**-0.4**
NEO	**Neokhori**	**2.67**	**87**	*e*P		**Pn**	**23 53 44.7**	**-0.2**
NEO	**Neokhori**	**2.67**	**87**	*e*P		**Pn**	**23 53 44.7**	**-0.2**
LTK	**Loutraki**	**2.77**	**115**	*e*P		**Pn**	**23 53 46.3**	**+0.1**
LTK	**Loutraki**	**2.77**	**115**	*e*P		**Pn**	**23 53 46.3**	**+0.1**
PYL	**PYLOS**	**2.80**	**146**	*e*P		**Pn**	**23 53 47.0**	**+0.4**
PYL	**PYLOS**	**2.80**	**146**	*e*P		**Pn**	**23 53 47.0**	**+0.4**
PUK	**Puka**	**2.81**	**2**	*e*PN		**Pn**	**23 53 46.9**	**+0.2**
PUK				*i* SN		**Sn**	**23 54 20.2**	**+0.5**
PUK	**Puka**	**2.81**	**2**	*e*Pn		**Pn**	**23 53 46.9**	**+0.2**
	SNR=40							
PUK				*i* Sn		**Sn**	**23 54 20.2**	**+0.5**
	SNR=40							
VAY	**Valandovo**	**2.98**	**45**	*e*Pn		**Pn**	**23 53 48.7**	**-0.4**
VAY				*e*Lg		Lg	23 54 21.7	
	comp=N,21nm,0.7s							
VAY				*e*Sn		**Sn**	**23 54 21.7**	**-2.3**
VAY				*e*Lg		Lg	23 54 21.9	
	comp=E,16nm,0.7s							
VAY	**Valandovo**	**2.98**	**45**	*e*Pn		**Pn**	**23 53 48.7**	**-0.4**
VAY				*e*Sn		**Sn**	**23 54 21.6**	**-2.3**
VAY				*e*Lg		Lg	23 54 21.9	
	comp=E,16nm,0.7s							
PLG	**Polygyros**	**3.04**	**67**	P		**Pn**	**23 53 49.0**	**-1.0**
PLG	**Polygyros**	**3.04**	**67**	*e*P		**Pn**	**23 53 49.2**	**-0.8**
PLG	**Polygyros**	**3.04**	**67**	*e*P		**Pn**	**23 53 49.2**	**-0.8**
AOS	**Alonnisos**	**3.19**	**90**	*e*P		**Pn**	**23 53 51.3**	**-0.6**
AOS	**Alonnisos**	**3.19**	**90**	*e*P		**Pn**	**23 53 51.3**	**-0.6**
DYR	**Agios Nikonas**	**3.19**	**140**	*e*P		**Pn**	**23 53 52.7**	**+0.8**
DYR	**Agios Nikonas**	**3.19**	**140**	*e*P		**Pn**	**23 53 52.7**	**+0.8**
DID	**Didima**	**3.22**	**121**	P		**Pn**	**23 53 52.0**	**-0.3**
DID	**Didima**	**3.22**	**121**	*e*P		**Pn**	**23 53 52.1**	**-0.3**
DID	**Didima**	**3.22**	**121**	*e*P		**Pn**	**23 53 52.1**	**-0.3**
NAIG	**Nisos Aigina**	**3.26**	**116**	*e*P		**Pn**	**23 53 52.7**	**-0.2**
NAIG	**Nisos Aigina**	**3.26**	**116**	*e*P		**Pn**	**23 53 52.7**	**-0.2**
ATH	**Athens Observa**	**3.33**	**111**	*e*P		**Pn**	**23 53 53.8**	**-0.1**
ATH	**Athens Observa**	**3.33**	**111**	*e*P		**Pn**	**23 53 53.8**	**-0.1**
VLI	**Veliai**	**3.54**	**134**	*e*P		**Pn**	**23 53 58.2**	**+1.5**
VLI	**Veliai**	**3.54**	**134**	*e*P		**Pn**	**23 53 58.2**	**+1.5**
KYTH	**Kithira**	**3.92**	**138**	P		**Pn**	**23 54 03.2**	**+1.2**
KYTH	**Kithira**	**3.92**	**138**	*e*P		**Pn**	**23 54 03.8**	**+1.8**
KYTH	**Kithira**	**3.92**	**138**	P		**Pn**	**23 54 03.2**	**+1.2**
STON	**Ston**	**3.96**	**337**	*e*Pn		**Pn**	**23 54 01.9**	**-0.6**
STON				Sn		**Sn**	**23 54 44.6**	**-3.4**
STON	**Ston**	**3.96**	**337**	*e*Pn		**Pn**	**23 54 01.8**	**-0.6**
STON				Sn		**Sn**	**23 54 44.5**	**-3.4**
CHOS	**Chios island**	**4.97**	**98**	*e*P		**Pn**	**23 54 16.7**	**+0.2**
CHOS	**Chios island**	**4.97**	**98**	*e*P		**Pn**	**23 54 16.7**	**+0.2**
UDBI	**Udbina**	**6.08**	**332**	*e*Pn		**Pn**	**23 54 32.8**	**+1.2**
UDBI	**Udbina**	**6.08**	**332**	*e*Pn		**Pn**	**23 54 32.8**	**+1.2**
NVLJ	**Novalja**	**6.46**	**327**	*e*Pn		**Pn**	**23 54 35.8**	**-1.0**
NVLJ	**Novalja**	**6.46**	**327**	*e*Pn		**Pn**	**23 54 35.8**	**-1.0**

ISCJB ***08*** *23:58:19.7±1.1,63°.6S±0°.1×173°.3E±0°.5,h10km,mb3.8/5, MS3.8/5,Error ellipse: s-maj=31.1km s-min=14.8km az=161.4*
IDC ***08*** *23:58:19.6±1.3,63°.56S×173°.51E,h0km,mb3.9/4, mb1 4.0/5,mb1mx3.9/12,mbtmp3.8/5,ML2.8/1,MS3.7/7, Ms1 3.7/7,ms1mx3.6/13,Error ellipse: s-maj=55.2km s-min=24.8km az=62.0*
NEIC ***08*** *23:58:21.2±0.8,63°.58S×173°.34E,h10km,mb4.1/3,Error ellipse: s-maj=25.2km s-min=13.1km az=75.0*

ISC 08 23:58:21.2±1.0,**63°.6S**±0°.1×**173°.4E**±0°.2,**h10**km,**n22,** σ0**93**/16,**mb3.9/5,MS3.7**/5,**Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNDA	**Vanda**	**14.45**	**190**	*e*Pn		**Pn**	**00 01 45.1**	**-0.2**
	8.0nm,1.3s							
VNDA	**Vanda**	**14.45**	**190**	Pn		**Pn**	**00 01 44.1**	**-1.3**
	0.0nm,0.3s,

JMI **Jan Mayen** 5.86 251 *e*P Pn **P** 00 32 23.1 -2.1
JMI **Jan Mayen** 5.86 251 *e*P Pn **P** 00 32 23.1 -2.1
SNR=49
KTK1 **Kautokeino** 6.60 127 *e*Pn Pn **P** 00 32 35.4 -0.1
KTK1 **Kautokeino** 6.60 127 *e*Pn Pn **P** 00 32 35.4 -0.1
SNR=50
ARA0 **ARCESS Array S** 6.75 118 Pn Pn **P** 00 32 36.6 -1.1
baz=316,slow=11
ARA0 Sn Sn 00 33 47.1 -7.4
baz=311,slow=22
ARA0 **ARCESS Array S** 6.75 118 Pn Pn **P** 00 32 36.6 -1.1
baz=316,slow=11
ARA0 Sn Sn 00 33 47.1 -7.4
baz=311,slow=22
ARA0 **ARCESS Array S** 6.75 118 Pn Pn **P** 00 32 36.6 -1.1
baz=316,slow=11,SNR=50
ARCES **ARCESS Array B** 6.75 118 Pn Pn **P** 00 32 36.5 -1.2
ARCES Sn Sn 00 33 47.5 -7.0
ARCES **ARCESS Array B** 6.75 118 Pn Pn **P** 00 32 36.5 -1.2
comp=Z,2.2nm,0.3s,baz=317,slow=12,SNR=73
ARCES Sn Sn 00 33 47.5 -7.0
comp=Z,0.7nm,0.3s,baz=309,slow=18,SNR=2.9
ARCES LR LR 00 35 33.2
comp=Z,507nm,20.9s,baz=25,slow=41
ARCES **ARCESS Array B** 6.75 118 P Pn **P** 00 32 36.5 -1.2
ARE0 **ARCESS Array S** 6.75 118 *e*P Pn **P** 00 32 36.7 -0.9
ARE0 **ARCESS Array S** 6.75 118 *e*Pn Pn **P** 00 32 36.3 -1.4
ARE0 *e*Sn **Sn** **00 33 49.6 -4.9**
ARE0 **ARCESS Array S** 6.75 118 *e*Pn Pn **P** 00 32 36.3 -1.4
ARE0 **ARCESS Array S** 6.75 118 *e*P Pn **P** 00 32 36.7 -0.9
SNR=47
KEV **Kevo** 6.99 114 *e*p **Sn** **00 33 56.7 -3.4**
comp=Z,3.6nm,0.3s
KEV **Kevo** 6.99 114 *e*P Pn **P** 00 32 39.8 -1.0
KEV *e* 00 34 00.5
KEV pmax pmax
comp=Z,7.0nm,0.6s
KEV **Kevo** 6.99 114 *e*Pn Pn **P** 00 32 39.8 -1.0
comp=Z,6.8nm,0.6s
KEV *e*Sn **Sn** **00 34 00.5 +0.4**
KEV **Kevo** 6.99 114 *e*P Pn **P** 00 32 39.8 -1.0
comp=Z,7.0nm,0.6s
KEV *e*S **Sn** **00 34 00.5 +0.4**
STOK **Stokkvaagen** 7.44 165 *e*Pn Pn **P** 00 32 46.4 -0.7
STOK *e*Sn Sn 00 34 03.2 -8.1
STOK AML AML 00 34 05.2
comp=N,19nm,0.5s
MOR8 **Moi Rana** 7.72 161 *e*Pn Pn **P** 00 32 49.1 -1.8
MOR8 *e* 00 32 49.4
MOR8 AML AML 00 34 14.1
comp=Z,22nm,0.5s
MOR8 **Moi Rana** 7.72 161 *e*Pn Pn **P** 00 32 49.1 -1.8
SNR=50
NSS **Namsos** 9.17 170 *e*Pn Pn **P** 00 33 10.4 -0.3
NSS **Namsos** 9.17 170 *e*Pn Pn **P** 00 33 10.4 -0.3
SNR=50
SCO **Scoresbysund** 9.79 267 *i* P Pn 00 33 15.1 -4.0
SCO **Scoresbysund** 9.79 267 *i* P Pn 00 33 15.1 -4.0
SCO *e*S Px 00 33 39.1
APA0 **Apatity Array** 10.06 114 Pn Pn **P** 00 33 20.6 -2.3
baz=320,slow=9.3
APA0 **Apatity Array** 10.06 114 Pn Pn **P** 00 33 20.6 -2.3
baz=320,slow=9.3
APA0 **Apatity Array** 10.06 114 Pn Pn **P** 00 33 20.6 -2.3
baz=320,slow=9.0,SNR=50
LVZ **Lovozero** 10.29 110 *i* P Pn **P** 00 33 24.0 -2.0
LVZ pmax pmax
comp=Z,58nm,2.2s
LVZ **Lovozero** 10.29 110 *i* P Pn **P** 00 33 24.0 -2.0
comp=Z,58nm,2.2s
NB2 **NORSAR Subarra** 12.63 174 Pn Pn **P** 00 33 56.7 -1.4
baz=357,slow=14
NB2 **NORSAR Subarra** 12.63 174 Pn Pn **P** 00 33 56.7 -1.4
baz=357,slow=14
NB2 **NORSAR Subarra** 12.63 174 Pn Pn **P** 00 33 56.7 -1.4
baz=357,slow=13,SNR=50
NOA **NORSAR Array B** 12.63 174 Pn Pn **P** 00 33 57.0 -1.1
NOA Sn Sn 00 36 08.2 -11
NOA **NORSAR Array B** 12.63 174 Pn Pn **P** 00 33 57.0 -1.1
comp=Z,0.6nm,0.3s,baz=352,slow=13,SNR=12
NOA Sn Sn 00 36 08.2 -11
comp=Z,0.3nm,0.3s,baz=226,slow=15,SNR=3.8
NOA LR LR 00 38 38.5
comp=Z,227nm,18.0s,baz=355,slow=37
NOA **NORSAR Array B** 12.63 174 P Pn **P** 00 33 57.0 -1.1
KAF **Kangasniemi** 13.25 141 *e*p Pn **P** 00 34 05.3 -1.1
comp=Z,13nm,0.6s
KAF **Kangasniemi** 13.25 141 *e*P Pn **P** 00 34 05.3 -1.1
KAF pmax pmax
comp=Z,13nm,0.6s
KAF **Kangasniemi** 13.25 141 *e*P Pn **P** 00 34 05.3 -1.1
comp=Z,13nm,0.6s
JOF **Joensuu** 13.52 130 *e*p Pn **P** 00 34 07.8 -2.2
comp=Z,12nm,0.7s
JOF **Joensuu** 13.52 130 *e*P Pn **P** 00 34 07.8 -2.2
JOF pmax pmax
comp=Z,12nm,0.7s
JOF **Joensuu** 13.52 130 *e*P Pn **P** 00 34 07.8 -2.2
comp=Z,12nm,0.7s
BORG **Borgarnes** 13.59 245 Pn Pn **P** 00 34 11.1 0.0
comp=Z,0.1nm,0.3s,baz=97,slow=6.1,SNR=2.6
BORG **Borgarnes** 13.59 245 P Pn **P** 00 34 11.1 0.0
HFS **Hagfors** 13.65 169 Pn Pn **P** 00 34 10.3 -1.5
baz=13,slow=10
HFS **Hagfors** 13.65 169 Pn Pn **P** 00 34 10.3 -1.5
baz=13,slow=10
HFS **Hagfors** 13.65 169 Pn Pn **P** 00 34 09.8 -2.1
HFS Sn Sn 00 36 33.7 -10
HFS **Hagfors** 13.65 169 Pn Pn **P** 00 34 09.8 -2.1
comp=Z,0.4nm,0.3s,baz=348,slow=12,SNR=14
HFS Sn Sn 00 36 33.7 -10
comp=Z,0.2nm,0.3s,baz=347,slow=19,SNR=3.4
HFS LR LR 00 39 01.7
comp=Z,369nm,19.9s,baz=346,slow=36
HFS **Hagfors** 13.65 169 P Pn **P** 00 34 09.8 -2.1
HFS **Hagfors** 13.65 169 Pn Pn **P** 00 34 10.3 -1.5
baz=13,slow=10.0,SNR=50
FIA0 **FINESS Array S** 13.83 142 Pn Pn **P** 00 34 12.3 -2.0
baz=344,slow=10
FIA0 **FINESS Array S** 13.83 142 Pn Pn **P** 00 34 12.3 -2.0
baz=344,slow=10
FIA0 **FINESS Array S** 13.83 142 Pn Pn **P** 00 34 12.3 -2.0
baz=344,slow=10,SNR=50
FINES **FINESS Array B** 13.83 142 Pn Pn **P** 00 34 12.5 -1.8
FINES **FINESS Array B** 13.83 142 Pn Pn **P** 00 34 12.5 -1.8
comp=Z,0.4nm,0.3s,baz=347,slow=9.6,SNR=17
FINES LR LR 00 39 38.0
comp=Z,171nm,19.0s,baz=343,slow=38
FINES **FINESS Array B** 13.83 142 P Pn **P** 00 34 12.5 -1.8
TMCR **Tamitsa** 14.05 117 *e*P Pn 00 34 14.1 -3.2
TMCR pmax pmax
comp=Z,22nm,0.5s
PUL **Pulkovo** 16.17 137 *i* P **P** **00 34 48.7 0.0**
PUL pmax pmax
comp=Z,47nm,0.7s
PUL MLR MLR
comp=Z,399nm,24.0s
PUL **Pulkovo** 16.17 137 *i* P **P** **00 34 48.7 0.0**
comp=Z,399nm,24.0s
VSU **Vasula** 16.76 145 *i* P **P** **00 34 54.1 -1.2**
VSU pmax pmax
comp=Z,90nm,1.2s
VSU MLR MLR
comp=Z,1μm,24.0s
VSU **Vasula** 16.76 145 *i* P **P** **00 34 54.1 -1.2**
comp=Z,1μm,24.0s
EKA **Eskdalemuir Ar** 18.90 201 P **P** **00 35 18.6 -0.3**
EKA **Eskdalemuir Ar** 18.90 201 P **P** **00 35 18.6 -0.3**
baz=14,slow=10,SNR=6.9
EKA **Eskdalemuir Ar** 18.90 201 P **P** **00 35 18.6 -0.3**
SFJD **Kangerlussuaq** 20.10 281 LR LR 00 42 15.9
comp=Z,466nm,19.3s,baz=329,slow=34
SUW **Suwalki** 20.57 155 *e*P **P** **00 35 35.6 -1.4**
SUW pmax pmax
comp=Z,35nm,0.9s
SUW **Suwalki** 20.57 155 *e*P **P** **00 35 35.6 -1.4**
comp=Z,35nm,0.9s
SUW **Suwalki** 20.57 155 *e*P **P** **00 35 36.8 -0.2**
SUW **Suwalki** 20.57 155 *e*P **P** **00 35 35.6 -1.4**
comp=Z,35nm,0.9s
MOS **Moscow** 21.40 131 *e*P P 00 35 40.1 -5.9
MOS pmax pmax
comp=Z,41nm,0.9s
OBN **Obninsk** 21.76 133⇓ *e*P **P** **00 35 49.3 -0.5**
OBN *e* 00 35 52.8
OBN pmax pmax
comp=Z,10.0nm,1.1s
OBN MLR MLR
comp=Z,300nm,24.0s
OBN **Obninsk** 21.76 133 *e*P **P** **00 35 49.3 -0.5**
comp=Z,10.0nm,1.1s
CLL **Collm** 22.43 172 *e*P **P** **00 35 57.0 -0.1**
CLL *i* 00 36 00.9
CLL *e*S **S** **00 40 07.0 +3.9**
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL MLR MLR
comp=Z,200nm,19.6s
CLL **Collm** 22.43 172 *e*P **P** **00 35 57.0 -0.1**
comp=Z,7.0nm,1.1s
CLL *i* sP **sP** **00 36 00.9 -0.4**
comp=Z,24nm,1.6s
CLL *e*S **S** **00 40 07.0 +3.9**
CLL Lm MLR 00 44 00.0
comp=Z,200nm,19.6s
CLL **Collm** 22.43 172 *e*P **P** **00 35 57.0 -0.1**
comp=Z,7.0nm,1.1s
BRG **Berggiesshubel** 22.91 171 *e*P **P** **00 36 02.2 +0.1**
comp=Z,6.6nm,1.1s
BRG **Berggiesshubel** 22.91 171 *e*P **P** **00 36 02.2 +0.1**
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG **Berggiesshubel** 22.91 171 *e*P **P** **00 36 02.2 +0.1**
comp=Z,7.0nm,1.1s
PVCC **Panska Ves** 23.28 170 *e*P P 00 36 12.2 +6.2
PVCC **Panska Ves** 23.28 170 *e*pP P 00 36 12.2 +6.2
UPC **Upice** 23.38 168 *e*P **P** **00 36 09.8 +2.8**
UPC *e* 00 36 17.4
UPC **Upice** 23.38 168 *e*P **P** **00 36 09.8 +2.8**
UPC *ex* x 00 36 17.4
DPC **Dobruska-Polom** 23.56 167 *e*P **P** **00 36 08.8 0.0**
DPC *e* 00 36 35.4
DPC **Dobruska-Polom** 23.56 167 *e*P **P** **00 36 08.8 0.0**
DPC *ex* x 00 36 35.4
DPC **Dobruska-Polom** 23.56 167 P **P** **00 36 08.8 0.0**
BAIF **Baives** 23.66 187 *e*P **P** **00 36 11.9 +2.1**
PRU **Pruhonice** 23.82 170 *e*P **P** **00 36 12.8 +1.5**
PRU *e* 00 36 40.1
PRU MLR MLR
comp=Z,200nm,23.3s
PRU **Pruhonice** 23.82 170 *e*P **P** **00 36 12.8 +1.5**
PRU *ex* x 00 36 40.1
PRU AMS AMS 00 44 50.0
comp=Z,200nm,23.3s
PRU **Pruhonice** 23.82 170 P **P** **00 36 12.8 +1.5**
OJC **Ojcow** 23.95 162 *e*P **P** **00 36 12.7 +0.2**
OJC **Ojcow** 23.95 162 *e*P **P** **00 36 12.7 +0.2**
OJC **Ojcow** 23.95 162 *e*P **P** **00 36 12.7 +0.2**
GRA1 **Grafenberg Arr** 24.00 175 *e*P **P** **00 36 13.6 +0.6**
comp=Z,3μm,20.2s
GRF **Grafenberg Arr** 24.00 175 *e*P **P** **00 36 13.6 +0.6**
GRF pmax pmax
comp=Z,1.0nm,0.9s
GRF MLR MLR
comp=Z,3μm,20.2s
OKC **Ostrava-Krasne** 24.19 164 *e*P **P** **00 36 16.4 +1.6**
OKC MLR MLR
comp=Z,200nm,18.1s
OKC **Ostrava-Krasne** 24.19 164 *e*P **P** **00 36 16.4 +1.6**
OKC *ex* x 00 36 25.5
OKC AMS AMS 00 45 30.0
comp=Z,200nm,18.1s
OKC **Ostrava-Krasne** 24.19 164 *e*P **P** **00 36 16.4 +1.6**
comp=Z,200nm,18.1s
MORC **Moravsky Berou** 24.21 165 *e*P **P** **00 36 14.2 -0.8**
MORC pmax pmax
comp=Z,8.0nm,1.1s
MORC **Moravsky Berou** 24.21 165 *e*P **P** **00 36 14.2 -0.8**
comp=Z,8.0nm,1.1s
MORC **Moravsky Berou** 24.21 165 *e*P **P** **00 36 14.2 -0.8**
comp=Z,8.0nm,1.1s
TREC **Trest** 24.56 169 AMS AMS 00 45 30.0
comp=Z,200nm,19.6s
VRAC **Vranov** 24.61 167 P **P** **00 36 19.5 +0.9**
VRAC **Vranov** 24.61 167 P **P** **00 36 19.5 +0.9**
comp=Z,5.2nm,0.7s,baz=355,slow=12,SNR=7.8
VRAC LR LR 00 46 01.3
comp=Z,178nm,18.7s,baz=359,slow=37
VRAC **Vranov** 24.61 167 P **P** **00 36 19.5 +0.9**
KHC **Kasperske Hory** 24.63 172 *e*P **P** **00 36 19.3 +0.5**
KHC MLR MLR
comp=Z,200nm,16.5s
KHC **Kasperske Hory** 24.63 172 *e*P **P** **00 36 19.3 +0.5**
KHC *ex* x 00 36 29.2
KHC AMS AMS 00 45 20.0
comp=Z,200nm,16.5s
KHC **Kasperske Hory** 24.63 172 *e*P **P** **00 36 19.3 +0.5**
comp=Z,200nm,16.5s
KIEV **Kiev** 24.64 147 *e*P **P** **00 36 18.2 -0.6**
KIEV pmax pmax
comp=Z,21nm,1.3s
KIEV **Kiev** 24.64 147 *e*P **P** **00 36 18.2 -0.6**
comp=Z,21nm,1.3s
KIEV **Kiev** 24.64 147 *e*P **P** **00 36 18.2 -0.6**
comp=Z,21nm,1.3s
NIE **Niedzica** 24.79 161 *e*P **P** **00 36 23.0 +2.7**
NIE **Niedzica** 24.79 161 *e*P **P** **00 36 23.0 +2.7**
KWP **Kalwaria Pacla** 24.82 157 *e*P **P** **00 36 20.0 -0.5**
KWP pmax pmax
comp=Z,21nm,1.0s
KWP **Kalwaria Pacla** 24.82 157 *e*P **P** **00 36 20.0 -0.5**
comp=Z,21nm,1.0s
KWP **Kalwaria Pacla** 24.82 157 *e*P **P** **00 36 21.3 +0.8**
KWP **Kalwaria Pacla** 24.82 157 *e*P **P** **00 36 20.0 -0.5**
comp=Z,21nm,1.0s
STHS **Stebnicka Huta** 24.88 160 *e*P **P** **00 36 22.8 +1.7**
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS **Stebnicka Huta** 24.88 160 *e*P **P** **00 36 22.8 +1.7**
STHS **Stebnicka Huta** 24.88 160 *e*P **P** **00 36 22.8 +1.7**
comp=Z,5.0nm,0.9s
GERES **GERESS Array B** 24.92 172 P **P** **00 36 22.7 +1.2**
GERES **GERESS Array B** 24.92 172 P **P** **00 36 22.7 +1.2**
comp=Z,5.2nm,1.1s,baz=9.8,slow=8.7,SNR=12
GERES LR LR 00 46 17.7
comp=Z,146nm,19.0s,baz=301,slow=37
GERES **GERESS Array B** 24.92 172 P **P** **00 36 22.7 +1.2**
RES **Resolute Bay** 24.93 322 LR LR 00 45 39.9
comp=Z,188nm,20.3s,baz=50,slow=35
PAGF **Fort de Pagny** 25.13 184 *e*P **P** **00 36 26.7 +3.4**
MEZF **Maizieres J'vi** 25.20 185 *e*P **P** **00 36 26.6 +2.7**
comp=Z,5.5nm,0.6s
BFO **Black Forest** 25.33 180 *e*P **P** **00 36 24.7 -0.4**
BFO pmax pmax
comp=Z,2.0nm,0.5s
BFO **Black Forest** 25.33 180 *e*P **P** **00 36 24.7 -0.4**
comp=Z,1.9nm,0.5s
BFO **Black Forest** 25.33 180 *e*P **P** **00 36 24.7 -0.4**
comp=Z,2.0nm,0.5s
LDF **La Druitiere** 25.34 193 *e*P **P** **00 36 24.9 -0.3**
comp=Z,17nm,1.0s
KOLS **Kolonicke sedl** 25.46 158 *e*P **P** **00 36 26.9 +0.6**
KOLS pmax pmax
comp=Z,6.0nm,0.8s
KOLS **Kolonicke sedl** 25.46 158 *e*P **P** **00 36 26.9 +0.6**
KOLS *e* 00 40 10.6
VYHS **Vyhne** 25.58 164 *e*P **P** **00 36 27.4 0.0**
VYHS pmax pmax
comp=Z,7.0nm,2.1s
VYHS **Vyhne** 25.58 164 *e*P **P** **00 36 27.4 0.0**
VYHS **Vyhne** 25.58 164 *e*P **P** **00 36 27.4 0.0**
comp=Z,7.0nm,2.1s
KECS **Kecovo** 25.73 161 *e*P **P** **00 36 29.0 +0.2**
KECS pmax pmax
comp=Z,3.0nm,1.3s
KECS **Kecovo** 25.73 161 *e*P **P** **00 36 29.0 +0.2**
KECS **Kecovo** 25.73 161 *e*P **P** **00 36 29.0 +0.2**
comp=Z,3.0nm,1.3s
ZST **Bratislava** 25.75 166 *e*P **P** **00 36 28.9 0.0**
ZST **Bratislava** 25.75 166 *e*P **P** **00 36 28.9 0.0**
ZST **Bratislava** 25.75 166 *e*P **P** **00 36 28.9 0.0**
UZH **Uzhgorod** 25.77 158 *e*P **P** **00 36 29.7 +0.7**
UZH *i* 00 36 37.8
UZH **Uzhgorod** 25.77 158 *e*P **P** **00 36 29.7 +0.7**
CONA **Conrad Observa** 25.94 168⇑ *i*P **P** **00 36 31.4 +0.6**
comp=Z,7.8nm,1.2s
VSR **Storozhevoye** 25.96 133 *e*P **P** **00 36 30.3 -0.5**
VSR pmax pmax
comp=N,9.0nm,0.6s
VSR pmax pmax
comp=Z,2.0nm,0.6s
VSR pmax pmax
comp=E,4.0nm,0.4s
VSR **Storozhevoye** 25.96 133 *e*P **P** **00 36 30.3 -0.5**
ARU **Arti** 26.06 104*d* *i*P **P** **00 36 32.8 +1.2**
ARU 00 37 09.5
ARU S **S** **00 41 05.7 +3.5**
ARU pmax pmax
comp=Z,17nm,2.5s
ARU **Arti** 26.06 104 *i* P **P** **00 36 32.8 +1.2**
comp=Z,17nm,2.5s
VORD **Divnogorie** 26.23 133 *e*P **P** **00 36 34.9 +1.7**
VORD pmax pmax
comp=Z,3.0nm,0.7s
VORD pmax pmax
comp=N,6.0nm,0.6s
VORD pmax pmax
comp=E,3.0nm,0.8s
VORD **Divnogorie** 26.23 133 *e*P **P** **00 36 34.9 +1.7**
comp=E,6.0nm,0.6s
LOR **Lormes** 26.47 187 *e*P **P** **00 36 36.8 +1.4**
comp=E,15nm,1.0s
DAVOX **Davos/Dischmat** 26.89 178 LR LR 00 46 50.9
comp=E,82nm,21.1s,baz=356,slow=36
BUR08 **Bucovina Ar. S** 27.07 155 *e*P **P** **00 36 40.3 -0.7**
OBKA **Obir** 27.29 171⇑ *i*pP pP 00 36 44.7 -1.3
comp=E,7.8nm,1.1s
FRB **Frobisher Bay** 27.47 290 LR LR 00 46 43.1
comp=E,128nm,19.7s,baz=58,slow=34
TCF **Toulx Ste Croi** 27.51 189 *e*P **P** **00 36 45.8 +0.9**
comp=E,31nm,1.3s
MLR **Muntele Rosu** 29.28 154 P **P** **00 36 59.8 -0.9**
MLR **Muntele Rosu** 29.28 154 P **P** **00 36 59.8 -0.9**
comp=E,0.2nm,0.9s,baz=41,slow=19
MLR LR LR 00 48 56.9
comp=E,61nm,20.3s,baz=1.7,slow=37
MLR **Muntele Rosu** 29.28 154 P **P** **00 36 59.8 -0.9**
TIXI **Tiksi** 30.28 33 *i* P **P** **00 37 10.9 +1.7**
TIXI pmax pmax
comp=Z,3.0nm,1.4s
TIXI MLR MLR
comp=Z,68nm,20.0s
TIXI **Tiksi** 30.28 33 *i* P **P** **00 37 10.9 +1.7**
comp=Z,68nm,20.0s
AKTO **Aktyubinsk** 31.25 110 LR LR 00 50 47.0
comp=Z,217nm,18.4s,baz=346,slow=38
BRVK **Borovoye** 32.30 95 *i* P **P** **00 37 28.6 +1.5**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK MLR MLR
comp=Z,107nm,19.0s
BRVK **Borovoye** 32.30 95 *e*P **P** **00 37 27.8 +0.6**
comp=Z,2.8nm,0.8s
BRVK **Borovoye** 32.30 95 *i* P **P** **00 37 28.6 +1.5**
comp=Z,107nm,19.0s
BVAR **Borovoye Array** 32.36 95 LR LR 00 52 17.9
comp=Z,107nm,18.5s,baz=62,slow=40
ABKAR **Akbulak array** 32.84 109 *e*P **P** **00 37 32.1 +0.2**
comp=Z,1.7nm,0.7s
KIV **Kislovodsk** 33.61 133 *e*P **P** **00 37 40.5 +1.8**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,135nm,16.0s
KIV **Kislovodsk** 33.61 133 *e*P **P** **00 37 40.5 +1.8**
comp=Z,135nm,16.0s
KBZ **Khabaz** 33.87 133 P **P** **00 37 41.8 +1.0**
KBZ **Khabaz** 33.87 133 P **P** **00 37 41.8 +1.0**
KBZ **Khabaz** 33.87 133 P **P** **00 37 41.8 +1.0**
comp=Z,1.3nm,0.8s,baz=18,slow=5.7,SNR=4.2
KBZ LR LR 00 51 37.0
comp=Z,217nm,21.2s,baz=9.1,slow=37
KBZ **Khabaz** 33.87 133 P **P** **00 37 41.8 +1.0**
ESDC **Sonseca Array** 34.50 197 P **P** **00 37 46.3 -0.1**
ESDC **Sonseca Array** 34.50 197 P **P** **00 37 46.3 -0.1**
comp=Z,0.9nm,0.7s,baz=16,slow=9.3,SNR=6.1
SCHQ **Schefferville** 34.52 279 *e*P **P** **00 37 46.0 -0.5**
SCHQ **Schefferville** 34.52 279 P **P** **00 37 47.3 +0.8**
comp=Z,2.4nm,0.9s,baz=43,slow=19,SNR=2.8
SCHQ LR LR 00 50 09.6
comp=Z,160nm,21.8s,baz=204,slow=33
ZALV **Zalesovo Beam** 35.64 80 *e*P **P** **00 37 56.9 +0.9**
ZALV pmax pmax
comp=Z,1.0nm,0.7s
ZALV **Zalesovo Beam** 35.64 80 P **P** **00 37 57.0 +0.9**
ZALV **Zalesovo Beam** 35.64 80 P **P** **00 37 57.0 +0.9**
comp=Z,1.1nm,0.7s,baz=324,slow=9.9,SNR=5.2
ZALV LR LR 00 55 50.6
comp=Z,118nm,18.8s,baz=249,slow=42
ZALV **Zalesovo Beam** 35.64 80 *e*P **P** **00 37 56.9 +0.9**
comp=Z,1.0nm,0.7s
BR131 **Keskin Array S** 36.03 146 *e*P **P** **00 38 00.2 +0.5**
comp=Z,0.6nm,0.5s
BRTR **Keskin Array B** 36.03 146 P **P** **00 38 01.2 +1.5**
BRTR **Keskin Array B** 36.03 146 P **P** **00 38 01.2 +1.5**
comp=Z,1.3nm,0.7s,baz=350,slow=6.9,SNR=12
BRTR LR LR 00 54 02.4
comp=Z,83nm,19.1s,baz=178,slow=38
BRTR **Keskin Array B** 36.03 146 *e*P **P** **00 38 01.2 +1.5**
comp=Z,1.0nm,0.7s
BILL **Bilibino** 37.90 13 *e*P **P** **00 38 16.2 +1.0**
BILL *e*S **S** **00 44 06.4 +0.3**
BILL pmax pmax
comp=Z,17nm,1.4s
BILL **Bilibino** 37.90 13 *e*P **P** **00 38 16.2 +1.0**
comp=Z,17nm,1.4s
BILL *e*S **S** **00 44 06.4 +0.3**
KEST **Kesra** 37.92 179 LR LR 00 53 49.9
comp=Z,12nm,20.9s,baz=306,slow=36
YKA **Yellowknife Ar** 39.00 322 LR LR 00 54 33.4
comp=Z,14nm,18.5s,baz=355,slow=36
HVS **Khovu-Aksy** 40.62 75 *i* P **P** **00 38 40.5 +2.4**
HVS pmax pmax
comp=Z,5.0nm,0.8s
HVS **Khovu-Aksy** 40.62 75 *i* P **P** **00 38 40.5 +2.4**
comp=Z,5.0nm,0.8s
ILAR **Eielson Array** 40.94 344 P **P** **00 38 41.5 +1.0**
ILAR **Eielson Array** 40.94 344 P **P** **00 38 41.5 +1.0**
comp=Z,0.9nm,0.8s,baz=360,slow=6.5,SNR=12
ILAR **Eielson Array** 40.94 344 P **P** **00 38 41.6 +1.0**
MK31 **Makanchi Array** 41.34 88 *e*P **P** **00 38 44.9 +0.8**
MK31 **Makanchi Array** 41.34 88 *e*P **P** **00 38 44.9 +0.8**
MK31 **Makanchi Array** 41.34 88 *e*P **P** **00 38 44.9 +0.8**
MKAR **Makanchi Array** 41.34 88 *e*P P 00 38 47.4 +3.3
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR **Makanchi Array** 41.34 88 P **P** **00 38 45.1 +1.0**
MKAR **Makanchi Array** 41.34 88 P **P** **00 38 45.1 +1.0**
comp=Z,0.6nm,0.7s,baz=326,slow=8.6,SNR=6.0
MKAR LR LR 00 59 58.4
comp=Z,91nm,18.6s,baz=336,slow=42
KKAR **Karatay Array** 41.40 102 *e*P **P** **00 38 44.6 +0.1**
KKAR pmax pmax
comp=Z,2.0nm,0.8s
KKAR **Karatay Array** 41.40 102 *e*P **P** **00 38 44.6 +0.1**
comp=Z,1.9nm,0.8s
KKAR **Karatay Array** 41.40 102 *e*P **P** **00 38 44.6 +0.1**
comp=Z,2.0nm,0.8s
AAK **Ala-Archa** 42.95 98 *i* P P 00 39 03.2 +5.8
AAK pmax pmax
comp=Z,4.0nm,0.9s
AAK **Ala-Archa** 42.95 98 LR LR 00 57 49.2
comp=Z,83nm,19.6s,baz=351,slow=38
AAK **Ala-Archa** 42.95 98 *i* P P 00 39 03.2 +5.8
comp=Z,4.0nm,0.9s
FFC **Flin Flon** 43.66 308 *i* P **P** **00 39 03.4 +0.6**
FFC **Flin Flon** 43.66 308 *i* P **P** **00 39 03.4 +0.6**
ULM **Lac du Bonnet** 46.37 301 LR LR 00 58 31.6
comp=Z,208nm,18.5s,baz=351,slow=36
SONM **Songino Array** 47.02 66 P **P** **00 39 31.1 +1.4**
SONM **Songino Array** 47.02 66 P **P** **00 39 31.1 +1.4**
comp=Z,0.3nm,0.3s,baz=334,slow=9.6,SNR=2.8
SONM LR LR 01 05 37.4
comp=Z,48nm,18.9s,baz=108,slow=44
SONM **Songino Array** 47.02 66 P **P** **00 39 31.1 +1.4**
ULN **Ulaanbaatar** 47.17 65 *e*P **P** **00 39 31.2 +0.4**
ULN **Ulaanbaatar** 47.17 65 *e*P **P** **00 39 31.2 +0.4**
PETK **Petropavlovsk-** 51.88 23 LR LR 01 00 31.7
comp=Z,43nm,20.9s,baz=75,slow=34
PDAR **Pinedale Array** 56.61 309 P **P** **00 40 41.0 -0.4**
PDAR **Pinedale Array** 56.61 309 P **P** **00 40 41.0 -0.4**
comp=Z,0.7nm,1.0s,baz=30,slow=6.8,SNR=5.7
PDAR **Pinedale Array** 56.61 309 P **P** **00 40 41.0 -0.4**
TORD **Torodi Ar. Bea** 60.53 187 P **P** **00 41 08.6 -0.1**
TORD **Torodi Ar. Bea** 60.53 187 P **P** **00 41 08.6 -0.1**
comp=Z,3.7nm,1.1s,baz=0.9,slow=4.7,SNR=9.1
TORD LR LR 01 06 52.3

comp=Z,41nm,18.4s,baz=160,slow=36
TORD Torodi Ar. Bea 60.53 187 P **P** **00 41 08.6 -0.1**
KSRS Korea Array 62.04 52 LR LR 01 11 26.9
comp=Z,42nm,18.3s,baz=29,slow=39
NVAR Mina Array Bea 62.62 315 P **P** **00 41 22.8 0.0**
NVAR Mina Array Bea 62.62 315 P **P** **00 41 22.8 0.0**
comp=Z,0.8nm,0.7s,baz=5.0,slow=3.3,SNR=4.9
NVAR LR LR 01 09 32.5
comp=Z,119nm,19.2s,baz=194,slow=37
NVAR Mina Array Bea 62.62 315 P **P** **00 41 22.8 0.0**
TXAR Lajitas Array 68.04 299 P **P** **00 41 57.5 -0.4**
TXAR Lajitas Array 68.04 299 P **P** **00 41 57.5 -0.4**
comp=Z,0.3nm,0.8s,baz=51,slow=4.7,SNR=3.2
TXAR LR LR 01 11 49.5
comp=Z,123nm,18.8s,baz=5.0,slow=36
TXAR Lajitas Array 68.04 299 P **P** **00 41 57.5 -0.4**
CMAR Chiang Mai Arr 72.60 84 LR LR 01 17 13.5
comp=Z,39nm,20.1s,baz=0.0,slow=38
SNAA Sanae 145.19 186 *e*PKP **PKPbc** **00 50 32.6 -1.3**
SNAA Sanae 145.19 186 *e*PKP **PKPbc** **00 50 33.3 -0.7**

*CSEM **09** 01:29:33.9, 34°.14N×25°.63E, h20km, MD3.6, After ATH*
ATH 09 01:29:33.9, 34°.14N×25°.63E, h20km±2km**, MD3.6**, **6**, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.03**	**353**	*e*PN	Pn	01 29 53.7	+0.4
LAST				*e*SN	Sn	01 30 07.7	+0.5
LAST	**Lasithi**	**1.03**	**353**	*e*Pn	Pn	01 29 53.7	+0.4
LAST				*e*Sn	Sn	01 30 07.7	+0.5
ZKR	**Zakros**	**1.09**	**26**	*e*Pn	Pb	01 29 54.5	+0.5
ZKR	**Zakros**	**1.09**	**26**	*e*Pn	Pb	01 29 54.5	+0.5
SIVA	**Sivas**	**1.11**	**323**	*e*PN	Pb	01 29 54.9	+0.5
SIVA				*e*SN	Sn	01 30 10.8	+1.9
SIVA	**Sivas**	**1.11**	**323**	*e*Pn	Pb	01 29 54.9	+0.5
SIVA				*e*Sn	Sn	01 30 10.8	+1.9
NPS	**Neapolis**	**1.12**	**359**	*e*PN	Pn	01 29 54.4	-0.1
NPS	**Neapolis**	**1.12**	**359**	*e*Pn	Pn	01 29 54.4	-0.1
IDI	**Anoyia**	**1.30**	**332**	*e*PN	Pb	01 29 58.4	+0.7
IDI	**Anoyia**	**1.30**	**332**	*e*Pn	Pb	01 29 58.4	+0.7
VAM	**Vamos**	**1.73**	**317**	*e*PN	Pb	01 30 04.9	-0.1
VAM	**Vamos**	**1.73**	**317**	*e*Pn	Pb	01 30 04.9	-0.1
KARP	**Karpathos**	**1.89**	**41**	*e*PN	Pb	01 30 07.7	0.0
KARP	**Karpathos**	**1.89**	**41**	*e*Pn	Pb	01 30 07.7	0.0
ANKY	**Antikythira Is**	**2.57**	**313**	*e*PN	Pb	01 30 17.1	-2.3
ANKY	**Antikythira Is**	**2.57**	**313**	*e*Pn	Pb	01 30 17.1	-2.3
APE	**Apeiranthos**	**2.92**	**358**	*e*PN	Pn	01 30 21.6	+2.3
APE	**Apeiranthos**	**2.92**	**358**	*e*Pn	Pn	01 30 21.6	+2.3
KYTH	**Kithira**	**3.01**	**316**	*e*PN	Pn	01 30 23.2	+2.7
KYTH	**Kithira**	**3.01**	**316**	*e*Pn	Pn	01 30 23.2	+2.7
VLI	**Veliai**	**3.38**	**320**	*e*PN	Pn	01 30 27.6	+2.0
VLI	**Veliai**	**3.38**	**320**	*e*Pn	Pn	01 30 27.6	+2.0
DID	**Didima**	**3.88**	**331**	*e*PN	Pn	01 30 35.0	+2.5
DID	**Didima**	**3.88**	**331**	*e*Pn	Pn	01 30 35.0	+2.5

IDC 09 01:36:25.8±7.4, **56°.19S×27°.68W, h121**km±68km**, mb3.8**/3, **mb1 3.7**/4, **mb1mx3.4**/17, **mbtmp3.6**/4, **Error ellipse: s-maj=41.6km s-min=23.9km az=34.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.73**	**156**	P	P	01 40 34.7	0.0
	0.3nm,0.3s,baz=302,slow=12,SNR=40						
LVC	**Limon Verde**	**45.13**	**301**	P	P	01 44 30.4	+0.1
	1.4nm,0.3s,baz=219,slow=13,SNR=4.8						
LPAZ	**La Paz**	**50.23**	**306**	P	P	01 45 09.8	-0.4
	0.9nm,0.4s,baz=91,slow=7.7,SNR=10						
TORD	**Torodi Ar. Bea**	**73.31**	**30**	P	P	01 47 44.0	+0.1
	1.4nm,0.6s,baz=198,slow=6.6,SNR=32						
ARCES	**ARCESS Array B**	**131.18**	**22**	PKP	PKPdf	01 55 21.3	-0.4
	0.6nm,0.8s,baz=241,slow=1.9,SNR=4.4						
INK	**Inuvik**	**145.74**	**321**	PKPbc	PKPdf	01 55 48.4	+0.2
	1.0nm,0.4s,baz=71,slow=2.3,SNR=9.7						
ILAR	**Eielson Array**	**150.00**	**312**	PKPbc	PKPbc	01 55 59.9	-0.5
	0.7nm,0.8s,baz=117,slow=1.0,SNR=8.6						
SONM	**Songino Array**	**151.01**	**87**	PKPbc	PKPbc	01 56 03.1	-0.4
	0.5nm,0.4s,baz=228,slow=4.4,SNR=5.2						

*ISCJB **09** 01:38:02.8±0.7, 37°.63N±0°.04×71°.40E±0°.08, h33km, mb3.7/3, MS3.3/1, Error ellipse: s-maj=9.6km s-min=6.1km az=166.5*
*NNC **09** 01:38:09.3±6.5, 37°.85N×71°.42E, h117km±92km, mb3.3, mpv4.0, Error ellipse: s-maj=54.9km s-min=33.1km az=7.0*
*IDC **09** 01:38:10.6±6.0, 37°.91N×72°.02E, h108km±57km, mb3.6/3, mb1 3.4/9, mb1mx3.2/32, mbtmp3.5/9, MS3.3/1, Ms1 3.3/1, ms1mx2.1/36, Error ellipse: s-maj=55.3km s-min=42.9km az=135.0*
*NDI **09** 01:39:49.7±1.0, 33°.93N×74°.41E, h10km, ML3.0*
ISC 09 01:38:05.9±0.8, **37°.78N**±0°.06×**71°.38E**±0°.08, **h35**km**, n31,** σ**1**§**77/26, mb3.7**/3**, 2C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.70**	**22**	P	**Pn**	**01 39 16.5**	**+1.9**
	SNR=107						
UCH	**Uchtor**	**5.05**	**27**	P	**Sn**	**01 40 14.5**	**-2.4**
	SNR=6.9						
EKS2	**Erkin-Say**	**5.21**	**20**	P	**Pn**	**01 39 23.6**	**+2.2**
	SNR=17						
KZA	**Kyzart**	**5.22**	**34**	P	**Pn**	**01 39 22.2**	**+0.4**
	SNR=34						
KK31	**Karatay Array**	**5.36**	**353**	P	Pn	01 39 27.7	+4.3
	8.4nm,0.3s,baz=169,slow=12,SNR=249						
KK31				⇓S	**Sn**	**01 40 24.8**	**+1.0**
	2.9nm,0.3s,baz=172,slow=24,SNR=7.1						
AAK	**Ala-Archa**	**5.40**	**25**	P	**Pn**	**01 39 25.8**	**+1.7**
	SNR=13						
AAK	**Ala-Archa**	**5.40**	**25**	P	**Pn**	**01 39 26.0**	**+1.8**
	5.1nm,0.3s,baz=236,slow=12,SNR=24						
AAK				S	**Sn**	**01 40 22.3**	**-2.9**
	3.9nm,0.3s,baz=248,slow=12,SNR=8.6						
CHMS	**Chumysh**	**5.81**	**25**	P	**Pn**	**01 39 31.3**	**+1.6**
	SNR=10						
ULHL	**Ulahol**	**5.81**	**38**	P	**Pn**	**01 39 30.0**	**+0.1**
	SNR=16						
USP	**Ospenovka**	**5.97**	**22**	P	**Pn**	**01 39 33.2**	**+1.4**
	SNR=13						
TKM2	**Tokmak 2**	**6.06**	**31**	⇓P	**Pn**	**01 39 33.9**	**+0.7**
	7.0nm,0.5s						
TKM2				⇑S	**Sn**	**01 40 45.6**	**+4.1**
	1.3nm,0.4s						
TKM2	**Tokmak 2**	**6.06**	**31**	P	**Pn**	**01 39 34.1**	**+0.9**
	SNR=7.5						
THN	**Thein Dam**	**6.41**	**145**	*e*4	**Pn**	**01 39 39.2**	**+1.4**
THN				*e*S	Sn	01 40 45.0	-4.7
DLH	**Dalhousie**	**6.43**	**143**	*ex*	x	01 40 46.0	
DLH				*e*S	**Sn**	**01 40 50.0**	**-0.7**
KALG	**Kalgarh**	**10.28**	**141**	*ex*	x	01 39 41.8	
AYAN	**Aya Nagar**	**10.45**	**151**	*e*S	Sn	01 42 20.6	-8.3
AYAN				AML	AML	01 42 24.4	
	comp=Z,20nm,0.3s						
KUDL	**Kundal**	**10.52**	**154**	*e*P	x	01 41 18.8	
KUDL				*e*S	Sn	01 42 24.1	-6.7
KUDL				AML	AML	01 42 28.1	
	comp=N,5.1nm,0.1s						
KUDL				AML	AML	01 42 29.1	
	comp=E,5.5nm,0.4s						
AGRA	**Agra**	**11.88**	**150**	*e*S	Sn	01 42 54.5	-10
AGRA				AML	AML	01 42 59.3	
	comp=E,46nm,0.3s						
AGRA				AML	AML	01 43 00.2	
	comp=N,43nm,0.3s						
MK31	**Makanchi Array**	**12.09**	**38**	⇓P	Pn	01 40 53.3	-2.3
	comp=N,0.7nm,0.5s,baz=226,slow=14,SNR=13						
MKAR	**Makanchi Array**	**12.09**	**38**	P	**Pn**	**01 40 54.1**	**-1.5**
	comp=N,0.2nm,0.3s,baz=226,slow=14,SNR=19						
KURBB	**Kurchatov Arra**	**13.82**	**19**	P	Pn	01 41 16.2	-2.9
	comp=N,0.1nm,0.3s,baz=208,slow=10,SNR=4.5						
AB31	**Akbulak array**	**14.14**	**328**	⇑P	**Pn**	**01 41 25.2**	**+1.7**
	comp=N,0.5nm,0.4s,baz=136,slow=12,SNR=30						
BVA0	**Borovoye Array**	**15.26**	**358**	⇓P	**Pn**	**01 41 38.6**	**0.0**
	comp=N,1.2nm,0.5s,baz=162,slow=11,SNR=9.5						
BVAR	**Borovoye Array**	**15.26**	**358**	P	**Pn**	**01 41 37.9**	**-0.7**
	comp=N,0.2nm,0.3s,baz=164,slow=12,SNR=3.8						
AKTO	**Aktyubinsk**	**15.85**	**327**	⇓P	**Pn**	**01 41 45.3**	**-0.9**
	comp=N,1.1nm,0.5s						
AKTO	**Aktyubinsk**	**15.85**	**327**	P	**P**	**01 41 49.2**	**-0.4**
	comp=N,0.5nm,0.3s,baz=127,slow=11,SNR=7.7						
AKTO				S	**Sn**	**01 44 38.0**	**-2.6**
	comp=N,0.1nm,0.3s,baz=108,slow=19,SNR=3.2						
ZALV	**Zalesovo Beam**	**18.63**	**25**	P	P	01 42 16.4	-3.8
	comp=N,1.1nm,0.3s,baz=213,slow=10,SNR=17						
HFS	**Hagfors**	**42.26**	**321**	P	**P**	**01 45 55.7**	**+0.2**
	comp=N,1.2nm,0.8s,baz=105,slow=11,SNR=3.2						
ASAJ	**Asahikawa**	**52.63**	**59**	LR	LR	02 12 25.6	
	comp=N,26nm,18.0s,baz=80,slow=39						
TORD	**Torodi Ar. Bea**	**66.06**	**268**	P	**P**	**01 48 49.7**	**+0.2**
	comp=N,0.2nm,0.4s,baz=52,slow=6.2,SNR=8.2						
DBIC	**Dimbokro**	**75.07**	**267**	P	**P**	**01 49 42.6**	**-1.8**
	comp=N,2.1nm,0.7s,baz=69,slow=3.4,SNR=3.1						

IDC 09 01:56:33.0±1.1, **13°.33N×143°.56E, h0**km**, mb3.6**/6, **mb1 3.8**/6, **mb1mx3.6**/23, **mbtmp3.6**/6, **Error ellipse: s-maj=57.6km s-min=22.4km az=96.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.28**	**196**	P	P	02 03 22.1	+0.9
	0.7nm,0.5s,baz=18,slow=9.4,SNR=6.3						
ASAR	**Alice Springs**	**37.96**	**194**	P	P	02 03 51.8	-0.8
	0.3nm,0.7s,baz=22,slow=10.0,SNR=3.5						
MKAR	**Makanchi Array**	**60.80**	**316**	P	P	02 06 47.8	+0.8
	0.2nm,0.5s,baz=100,slow=7.5,SNR=3.1						
ILAR	**Eielson Array**	**69.35**	**25**	P	P	02 07 42.8	+0.5
	0.2nm,0.6s,baz=252,slow=5.9,SNR=3.8						
ARCES	**ARCESS Array B**	**86.94**	**342**	P	P	02 09 19.3	-0.3
	0.7nm,0.8s,baz=83,slow=9.9,SNR=3.7						
FINES	**FINESS Array B**	**90.86**	**335**	P	P	02 09 36.3	-2.0
	3.1nm,1.1s,baz=26,slow=4.9,SNR=4.2						

IDC 09 02:07:58.5±7.7, **11°.28N×87°.03W, h0**km**, mb3.7**/7, **mb1 4.0**/7, **mb1mx3.8**/21, **mbtmp3.7**/7, **Error ellipse: s-maj=145.6km s-min=48.2km az=170.0, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**23.74**	**322**	P	P	02 13 11.8	-0.9
	0.7nm,0.9s,baz=142,slow=9.2,SNR=6.4						
TKL	**Tuckaleechee C**	**24.45**	**6**	P	P	02 13 20.1	+0.9
	3.6nm,0.8s,baz=195,slow=13,SNR=4.6						
PDAR	**Pinedale Array**	**37.00**	**332**	P	P	02 15 10.2	+0.1
	0.6nm,0.7s,baz=129,slow=12,SNR=5.9						
NVAR	**Mina Array Bea**	**38.86**	**319**	P	P	02 15 27.3	+1.4
	0.6nm,0.7s,baz=132,slow=6.2,SNR=4.6						
ULM	**Lac du Bonnet**	**39.54**	**351**	P	P	02 15 30.1	-1.0
	1.9nm,0.4s,baz=158,slow=5.4,SNR=2.3						
SCHQ	**Schefferville**	**46.28**	**16**	P	P	02 16 25.8	0.0
	0.9nm,0.5s,baz=261,slow=19,SNR=5.5						
ILAR	**Eielson Array**	**67.25**	**336**	P	P	02 18 54.1	-0.5
	0.3nm,0.7s,baz=124,slow=4.7,SNR=3.9						

IDC 09 02:14:38.9±2.9, **10°.02S×124°.16E, h48**km±39km**, mb3.2**/1, **mb1 3.6**/4, **mb1mx3.3**/19, **mbtmp3.5**/4, **ML3.7**/3, **Error ellipse: s-maj=190.9km s-min=27.3km az=51.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**6.62**	**318**	P	Pn	02 16 14.3	+0.6
	0.7nm,0.3s,baz=124,slow=18,SNR=4.1						
WRA	**Warramunga Arr**	**13.92**	**136**	P	Pn	02 17 53.0	-0.6
	0.4nm,0.3s,baz=312,slow=15,SNR=8.1						
WRA				S	Sn	02 20 18.8	-7.9
	1.1nm,0.3s,baz=299,slow=28,SNR=7.8						
ASAR	**Alice Springs**	**16.45**	**147**	P	Pn	02 18 27.5	+1.0
	0.4nm,0.3s,baz=318,slow=12,SNR=21						
ASAR				S	Sn	02 21 20.4	-7.9
	0.3nm,0.3s,baz=318,slow=23,SNR=10						
MKAR	**Makanchi Array**	**67.77**	**330**	P	P	02 25 31.4	-0.3
	0.3nm,0.5s,baz=151,slow=7.7,SNR=4.6						

GUC 09 02:17:44.6±0.7, **35°.15S×70°.61W, h16**km±6km**, MD3.8, ML3.0, 5C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACH	**El Canelo**	**1.03**	**1**	⇑*i*P	Pb	02 18 03.5	-0.8
CACH				*i*S	Sb	02 18 17.9	+0.2
CHCH	**Chadas Angostu**	**1.22**	**358**	⇑*i*P	Pn	02 18 07.0	+0.1
CHCH				*i*S	Sg	02 18 24.1	-0.1
LMEL	**Las Melosas**	**1.34**	**15**	⇓*i*P	Pb	02 18 09.3	-0.3
LMEL				*i*S	Sg	02 18 27.9	-0.5
LMEL				AML	AML	02 18 28.5	
	comp=N,273nm,0.2s						
LNV	**Longovilo**	**1.36**	**331**	⇑*i*P	Pn	02 18 09.2	+0.3
LNV				*i*S	Sg	02 18 28.0	-0.7
ANTU	**Antumapu**	**1.58**	**359**	*e*P	Pb	02 18 13.4	0.0
ANTU				*i*S	Sg	02 18 34.6	-1.0
ANTU				AML	AML	02 18 39.0	
	comp=E,210nm,0.2s						
CLCH	**Cerro Calan**	**1.75**	**2**	*e*P	Pb	02 18 16.0	-0.4
CLCH				*e*S	Sb	02 18 39.5	+1.2
CLCH				AML	AML	02 18 53.7	
	comp=E,184nm,0.4s						
FCH	**Farellones**	**1.84**	**8**	⇑*i*P	Pn	02 18 15.5	-0.5
FCH				*e*S	Sb	02 18 41.0	-0.4
FCH				AML	AML	02 18 51.2	
	comp=N,179nm,0.3s						
ROCH	**El Roble**	**2.20**	**351**	⇑*i*P	Pb	02 18 23.4	-0.9
ROCH				*i*S	Sg	02 18 53.8	-2.2
ROCH				AML	AML	02 18 55.7	
	comp=N,432nm,0.4s						

PRE 09 02:38:02.4±2.6, **28°.86S×20°.20E, h5**km**, ML3.6, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOMG	**Komaggas**	**2.55**	**248**	*e*P	Pn	02 38 46.0	+1.6
KOMG				*e*S	Sn	02 39 14.5	-1.3
KOMG				AML	AML	02 39 22.4	
	comp=Z,92nm,0.3s						
CVNA	**Calvinia**	**2.64**	**188**	*e*P	Pn	02 38 46.6	+0.7
CVNA				*e*S	Sn	02 39 19.0	+0.5
CVNA				AML	AML	02 39 26.5	
	comp=Z,117nm,0.3s						
SUR	**Sutherland**	**3.55**	**172**	*e*P	Pn	02 38 59.1	+0.6
SUR				*e*S	Sn	02 39 41.9	+0.8
BOSA	**Boshof**	**4.45**	**88**	*e*P	Pn	02 39 12.5	+1.8
BOSA				*e*S	Sn	02 40 00.7	-2.4
BOSA				AML	AML	02 40 22.1	
	comp=Z,36nm,0.5s						
SWZ	**Schweizer**	**4.83**	**71**	*e*P	Pn	02 39 17.4	+1.4
SWZ				*e*S	Sn	02 40 11.6	-1.0
SWZ				AML	AML	02 40 37.5	
	comp=Z,34nm,0.5s						
HVD	**Gariep Dam**	**4.93**	**112**	*e*P	Pn	02 39 18.8	+1.4
HVD				*e*S	Sn	02 40 13.0	-1.9
HVD				AML	AML	02 40 40.5	
	comp=Z,29nm,0.5s						
ELIM	**Elim**	**5.74**	**184**	*e*P	Pn	02 39 28.6	+0.3
ELIM				*e*S	Sn	02 40 29.8	-4.7
ELIM				AML	AML	02 41 06.5	
	comp=Z,41nm,0.7s						
LBTB	**Lobatse**	**6.15**	**53**	*e*P	Pn	02 39 35.8	+1.7
LBTB				*e*S	Sn	02 40 41.9	-3.1
LBTB				AML	AML	02 41 24.5	
	comp=Z,12nm,0.6s						
PRYS	**Parys**	**6.62**	**75**	*e*P	Pn	02 39 42.6	+2.0
PRYS				*e*S	Sn	02 40 53.0	-3.7
PRYS				AML	AML	02 41 33.6	
	comp=Z,17nm,0.5s						
KSR	**Koster**	**6.67**	**65**	*e*P	Pn	02 39 42.5	+1.2
KSR				*e*S	Sn	02 40 53.3	-4.6
KSR				AML	AML	02 41 31.6	
	comp=Z,21nm,0.4s						
GRM	**Grahamstown**	**7.00**	**131**	*e*S	Sn	02 41 03.5	-2.2
GRM				AML	AML	02 41 43.2	
	comp=Z,9.9nm,0.7s						
ERPM	**east rand prop**	**7.56**	**73**	*e*P	Pn	02 39 53.7	+0.1
ERPM				*e*S	Sn	02 41 15.0	-4.9
ERPM				AML	AML	02 42 06.8	
	comp=Z,7.4nm,0.4s						
SLR	**Silverton**	**7.83**	**69**	*e*S	Sn	02 41 23.3	-3.2
SLR				AML	AML	02 42 18.3	
	comp=Z,21nm,0.5s						
CNG	**Changalane**	**10.94**	**79**	*e*S	Sn	02 42 34.1	-8.4
CNG				AML	AML	02 43 59.2	
	comp=Z,6.9nm,0.7s						

*NIED **09** 02:43:00, 46°.90N×152°.70E, h20km, Mw3.7 Best double couple: M0 4.26000×10^14 NP1:φs128.00000°, δ89.00000°, λ-50.00000°. NP2:φs220.00000°, δ40.00000°, λ-178.00000°.*
*MOS **09** 02:43:23.8±1.7, 46°.89N×152°.56E, h39km, mb4.3/5, Error ellipse: s-maj=19.2km s-min=11.4km az=59.1*
*ISCJB **09** 02:43:24.4±1.0, 46°.9N±0°.2×152°.6E±0°.2, h40km, mb3.8/10, MS3.6/2, Error ellipse: s-maj=28.2km s-min=7.3km az=146.1*
*IDC **09** 02:43:28.6±2.9, 46°.98N×152°.53E, h61km±25km, mb3.6/11, mb1 3.7/15, mb1mx3.6/31, mbtmp3.6/15, ML3.4/4, MS3.5/2, Ms1 3.5/2, ms1mx2.6/42, Error ellipse: s-maj=45.9km s-min=20.1km az=155.0*
ISC 09 02:43:25.5±1.1, **46°.8N**±0°.2×**152°.6E**±0°.1, **h40**km**, n25,** σ**1**§**25/22, mb3.8**/10**, 1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.62**	**247**	⇓*i*PN	**Pn**	**02 44 20.3**	**+1.3**
KUR				*i*S	**Sn**	**02 45 01.9**	**+1.5**
KUR				pmax	pmax		
	comp=Z,38nm,0.1s						
KUR				pmax	pmax		
	comp=N,18nm,0.1s						
KUR				pmax	pmax		
	comp=E,19nm,0.1s						
KUR				smax	smax		
	comp=N,103nm,0.6s						
KUR				smax	smax		
	comp=E,45nm,0.6s						
SKR	**Severo-Kuril's**	**4.57**	**30**	*e*PN	Pn	02 44 27.5	-4.5
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
PETK	**Petropavlovsk-**	**7.16**	**26**	*e*PN	Pn	02 45 10.3	+2.7
PETK	**Petropavlovsk-**	**7.16**	**26**	P	**Pn**	**02 45 09.1**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=199,slow=18,SNR=5.3						
ASAJ	**Asahikawa**	**7.50**	**253**	P	**Pn**	**02 45 15.2**	**+2.9**
	comp=Z,0.9nm,0.3s,baz=43,slow=15,SNR=6.9						
ERM	**Erimo**	**8.24**	**238**	*i* PN	**Pn**	**02 45 21.7**	**-0.8**
FX1	**Attu Island--F**	**14.61**	**58**	P	**Pn**	**02 46 48.6**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=126,slow=23,SNR=7.5						
FX1				S	Sn	02 49 17.4	-12
	comp=Z,0.7nm,0.3s,baz=235,slow=18,SNR=4.2						
USRK	**Ussuriysk Arra**	**14.65**	**267**	P	**P**	**02 46 53.5**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=67,slow=12,SNR=6.6						
KSRS	**Korea Array**	**20.45**	**252**	P	Pn	02 48 02.5	+0.8
	comp=Z,1.0nm,0.5s,baz=61,slow=8.6,SNR=3.4						
ZALV	**Zalesovo Beam**	**42.30**	**306**	LR	LR	03 10 02.4	
	comp=Z,42nm,18.0s,baz=249,slow=38						
MKAR	**Makanchi Array**	**46.60**	**297**	*e*P	**P**	**02 51 48.6**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**46.60**	**297**	P	**P**	**02 51 47.9**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=68,slow=6.7,SNR=8.6						
BVAR	**Borovoye Array**	**50.56**	**309**	P	**P**	**02 52 19.4**	**-0.3**
BVAR	**Borovoye Array**	**50.56**	**309**	P	**P**	**02 52 19.4**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=87,slow=7.4,SNR=3.1						
FINES	**FINESS Array B**	**63.86**	**335**	P	**P**	**02 53 52.6**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=42,slow=8.9,SNR=12						
NB2	**NORSAR Subarra**	**68.09**	**341**	P	**P**	**02 54 20.3**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=29,slow=6.2						
NOA	**NORSAR Array B**	**68.09**	**341**	P	**P**	**02 54 20.2**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=27,slow=6.4,SNR=5.5						
HFS	**Hagfors**	**68.31**	**339**	P	**P**	**02 54 21.5**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=38,slow=7.5,SNR=16						
KIEV	**Kiev**	**71.33**	**326**	*i* P	**P**	**02 54 40.6**	**-0.1**
MLR	**Muntele Rosu**	**76.83**	**325**	P	**P**	**02 55 12.5**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=323,slow=3.5,SNR=4.9						
VRAC	**Vranov**	**76.96**	**332**	LR	LR	03 30 43.3	
	comp=Z,44nm,19.7s,baz=347,slow=37						
TXAR	**Lajitas Array**	**77.81**	**60**	P	**P**	**02 55 18.9**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=291,slow=2.9,SNR=4.3						
TXAR				pP	**pP**	**02 55 33.0**	**+2.1**
	comp=Z,0.7nm,0.7s,baz=300,slow=4.5,SNR=8.3						
BRTR	**Keskin Array B**	**78.12**	**316**	P	**P**	**02 55 20.4**	**0.0**
	comp=Z,0.9nm,0.9s,baz=60,slow=5.9,SNR=5.2						
GERES	**GERESS Array B**	**78.28**	**334**	P	**P**	**02 55 20.9**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=34,slow=7.3,SNR=3.1						
MMAI	**Mount Meron Ar**	**82.52**	**311**	P	**P**	**02 55 44.5**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=53,slow=8.5,SNR=3.8						

*IDC **09** 02:46:31.4±1.2, 34°.87N×25°.49E, h0km, mb3.5/4, mb1 3.5/6, mb1mx3.4/24, mbtmp3.5/6, ML3.4/2, Error ellipse: s-maj=36.0km s-min=23.8km az=166.0*
*ISCJB **09** 02:46:35.5±0.3, 34°.69N±0°.03×25°.68E±0°.04, h48km±6km, mb3.5/4, Error ellipse: s-maj=5.7km s-min=4.7km az=155.3*
*ISK **09** 02:46:36.7, 35°.09N×25°.96E, h5km, MD3.7*
*THE **09** 02:46:36.7, 34°.70N×25°.54E, h0km±1km, ML3.2/1, Error ellipse: s-maj=2.1km s-min=0.9km az=185.0*
*CSEM **09** 02:46:37.1±0.2, 34°.71N×25°.58E, h30km, MD3.6, Error ellipse: s-maj=5.3km s-min=4.6km az=62.0*
*ATH **09** 02:46:37.0, 34°.76N×25°.51E, h38km±1km, MD3.6/15*
*HLW **09** 02:46:37.9, 34°.60N×25°.56E, h24km±23km, Md3.7, Ml3.1*
ISC 09 02:46:36.6±1.1, **34°.71N**±0°.03×**25°.59E**±0°.02, **h33**km±6km**, n80,** σ**1**§**20**/112**, mb3.6**/4**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.46**	**349**	P	**Pb**	**02 46 46.1**	**-0.6**
LAST				S	**Sn**	**02 46 54.0**	**-0.2**
LAST	**Lasithi**	**0.46**	**349**	*e*PB	**Pb**	**02 46 46.1**	**-0.6**
LAST				*e

APE	**Apeiranthos**	**2.36**	**359**	*e*Pn	**Pn**	**02 47 13.6 +0.5**
APE				*e*Sn	**Sn**	**02 47 39.5 -1.4**
ARG	**Arkhangelos**	**2.56**	**53**	*e*PN	**Pn**	**02 47 18.4 +2.6**
ARG	**Arkhangelos**	**2.56**	**53**	*e*Pn	**Pn**	**02 47 18.4 +2.6**
DAT	**Datca**	**2.59**	**38**	*e*PN	**Pn**	**02 47 14.1 -2.2**
DAT	**Datca**	**2.59**	**38**	*e*Pn	**Pn**	**02 47 14.1 -2.2**
KYTH	**Kithira**	**2.61**	**308**	*e*PN	**Pn**	**02 47 17.6 +1.1**
KYTH	**Kithira**	**2.61**	**308**	*e*Pn	**Pn**	**02 47 17.6 +1.1**
VLI	**Veliai**	**2.95**	**314**	*e*PN	**Pn**	**02 47 21.3 +0.2**
VLI	**Veliai**	**2.95**	**314**	*e*Pn	**Pn**	**02 47 21.3 +0.2**
SMG	**Samos**	**3.16**	**18**	*e*PN	**Pn**	**02 47 25.2 +1.1**
SMG	**Samos**	**3.16**	**18**	*e*Pn	**Pn**	**02 47 25.2 +1.1**
SLUM		**3.22**	**186**	P	**Pn**	**02 47 25.8 +0.9**
YER	**Yerkesik**	**3.27**	**41**	*e*PN	**Pn**	**02 47 23.9 -1.6**
YER	**Yerkesik**	**3.27**	**41**	*e*Pn	**Pn**	**02 47 24.0 -1.6**
DYR	**Agios Nikonas**	**3.35**	**309**	*e*PN	**Pn**	**02 47 27.6 +0.9**
DYR	**Agios Nikonas**	**3.35**	**309**	*e*Pn	**Pn**	**02 47 27.6 +0.9**
DID	**Didima**	**3.38**	**326**	*e*PN	**Pn**	**02 47 27.2 +0.1**
DID	**Didima**	**3.38**	**326**	*e*Pn	**Pn**	**02 47 27.2 +0.1**
FETY	**Fethiye**	**3.44**	**55**	*e*PN	**Pn**	**02 47 26.6 -1.2**
FETY				*e*SN	**Sn**	**02 48 03.5 -4.0**
FETY	**Fethiye**	**3.44**	**55**	*e*Pn	**Pn**	**02 47 26.6 -1.2**
CHOS	**Chios island**	**3.69**	**6**	*e*PN	**Pn**	**02 47 32.3 +0.9**
CHOS	**Chios island**	**3.69**	**6**	*e*Pn	**Pn**	**02 47 32.3 +0.9**
VLX	**Vlachokerasia**	**3.72**	**317**	*e*PN	**Pn**	**02 47 33.0 +1.2**
VLX	**Vlachokerasia**	**3.72**	**317**	*e*Pn	**Pn**	**02 47 33.0 +1.2**
HMAT	**Matruh** baz=159	**3.82**	**160**	P	**Pn**	**02 47 33.7 +0.6**
HMAT				S	**Sn**	**02 48 16.6 -0.3**
	baz=159					
HMAT	**Matruh**	**3.82**	**160**	P	**Pn**	**02 47 33.7 +0.6**
HMAT				S	**Sn**	**02 48 16.6 -0.3**
BLCB	**Balcova**	**3.85**	**17**	*e*PN	**Pn**	**02 47 32.9 -0.6**
BLCB	**Balcova**	**3.85**	**17**	*e*Pn	**Pn**	**02 47 32.9 -0.6**
ITM	**Ithomi**	**3.86**	**311**	*e*PN	**Pn**	**02 47 34.2 +0.5**
ITM	**Ithomi**	**3.86**	**311**	*e*Pn	**Pn**	**02 47 34.2 +0.5**
ELL	**Elmali**	**4.06**	**59**	*e*PN	**Pn**	**02 47 35.9 -0.7**
ELL	**Elmali**	**4.06**	**59**	*e*Pn	**Pn**	**02 47 35.9 -0.7**
GUR	**Goura**	**4.15**	**322**	*e*PN	**Pn**	**02 47 38.0 +0.2**
GUR	**Goura**	**4.15**	**322**	*e*Pn	**Pn**	**02 47 38.0 +0.2**
AMT	**Artemida-Makis**	**4.22**	**313**	*e*PN	**Pn**	**02 47 40.7 +2.1**
AMT	**Artemida-Makis**	**4.22**	**313**	*e*Pn	**Pn**	**02 47 40.7 +2.1**
KLV	**Kalavryta, Ach**	**4.33**	**321**	*e*PN	**Pn**	**02 47 40.9 +0.7**
KLV	**Kalavryta, Ach**	**4.33**	**321**	*e*Pn	**Pn**	**02 47 40.9 +0.7**
SWA2	baz=181	**5.45**	**181**	P	**Pn**	**02 47 56.2 +0.7**
SWA2				AMP		02 48 00.0
	comp=E,30µm,0.3s,logA/T=5.0,baz=181					
SWA2				S	**Sn**	**02 48 55.5 -1.5**
	baz=181					
SWA2		**5.45**	**181**	P	**Pn**	**02 47 56.2 +0.7**
SWA2				S	**Sn**	**02 48 55.5 -1.5**
HFRF	**Wahat Farafira** baz=161	**7.89**	**162**	P	**Pn**	**02 48 30.0 +1.0**
HFRF	**Wahat Farafira**	**7.89**	**162**	P	**Pn**	**02 48 30.0 +1.0**
BRTR	**Keskin Array B**	**8.14**	**50**	Pn	Pn	02 48 38.9 +6.2
	comp=E,0.0nm,0.3s,baz=226,slow=15,SNR=5.6					
MMAI	**Mount Meron Ar**	**8.34**	**99**	Pn	**Pn**	**02 48 34.3 -0.9**
	comp=E,0.7nm,0.3s,baz=278,slow=14,SNR=4.3					
MMAI				Sn	**Sn**	**02 50 04.7 -3.6**
	comp=E,1.6nm,0.3s,baz=266,slow=28,SNR=5.1					
EIL	**Elat**	**9.39**	**120**	Pn	**Pn**	**02 48 48.9 -0.7**
	comp=E,0.3nm,0.3s,baz=292,slow=23,SNR=9.1					
EIL				Sn	Sn	02 50 28.1 -6.0
	comp=E,0.9nm,0.3s,baz=22,slow=20,SNR=8.2					
TORD	**Torodi Ar. Bea**	**30.47**	**231**	P	**P**	**02 52 46.8 +0.3**
	comp=E,0.3nm,0.3s,baz=34,slow=8.7,SNR=16					
MKAR	**Makanchi Array**	**43.73**	**56**	P	**P**	**02 54 38.8 +0.1**
	comp=E,0.2nm,0.5s,baz=272,slow=6.3,SNR=3.4					
SONM	**Songino Array**	**59.50**	**51**	P	**P**	**02 56 36.5 -0.1**
	comp=E,0.2nm,0.4s,baz=306,slow=5.4,SNR=2.5					
SCHQ	**Schefferville**	**63.76**	**320**	P	**P**	**02 57 02.9 -2.1**
	comp=E,1.6nm,1.1s,baz=45,slow=7.1,SNR=3.5					

IDC 09 03:13:44.7±1.8,4°41S×131°18E,h0km,mb3.9/2, mb1 3.9/5,mb1mx3.6/18,mbtmp3.8/5,ML3.6/3,MS3.1/1, Ms1 3.1/1,ms1mx2.3/29,Error ellipse: s-maj=74.6km s-min=23.9km az=75.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.65**	**201**	Pn	Pn	03 17 12.8	-0.5
	0.2nm,0.3s,baz=24,slow=13,SNR=9.1						
FITZ				Sn	Sn	03 19 56.9	+0.4
	0.1nm,0.3s,baz=343,slow=19,SNR=2.1						
FITZ				LR	LR	03 23 53.8	
	comp=Z,66nm,18.3s,baz=146,slow=42						
WRA	**Warramunga Arr**	**15.74**	**169**	Pn	Pn	03 17 28.1	+0.1
	0.2nm,0.3s,baz=352,slow=13,SNR=7.1						
WRA				Sn	Sn	03 20 24.0	+0.7
	0.1nm,0.3s,baz=346,slow=23,SNR=3.5						
ASAR	**Alice Springs**	**19.32**	**172**	P	Pn	03 18 13.4	+0.8
	0.6nm,0.3s,baz=351,slow=11,SNR=4.1						
STKA	**Stephens Creek**	**29.02**	**162**	P	P	03 19 45.6	-0.9
	1.5nm,0.9s,baz=349,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**66.73**	**326**	P	P	03 24 37.9	+0.1
	0.6nm,0.6s,baz=117,slow=7.0,SNR=4.8						

*IDC **09** 03:14:59.0±0.7,34°.08N×25°.47E,h0km,mb4.0/16, mb1 4.0/21,mb1mx3.9/30,mbtmp3.9/21,ML3.8/5,MS3.6/3, Ms1 3.6/3,ms1mx2.6/44,Error ellipse: s-maj=17.2km s-min=14.3km az=145.0*

*ISCJB **09** 03:14:58.8±1.2,33°.90N±0°.03×25°.54E±0°.03,h12km±9km, mb3.9/19,MS3.4/4,Error ellipse: s-maj=5.5km s-min=3.3km az=23.8*

*CSEM **09** 03:15:00.4±0.2,34°.01N×25°.58E,h2km,ML3.3/1,Error ellipse: s-maj=5.5km s-min=3.4km az=28.0*

*ATH **09** 03:15:03.2,34°.20N×25°.43E,h22km±1km,MD3.8/20*

*DDA **09** 03:15:04.2,34°.23N×25°.73E,h19km,MD3.3*

*THE **09** 03:15:06.3,34°.39N×25°.41E,h1km±2km,ML3.3/1,Error ellipse: s-maj=4.4km s-min=1.2km az=173.0*

*ISK **09** 03:15:12.4,35°.02N×26°.03E,h5km,ML3.3*

ISC 09 03:15:02.8±1.4,34°06N±0°.04×25°.52E±0°.04,h25km±11km, n177,σ1§46/184,mb4.0/19,MS3.5/4,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**1.09**	**358**	P	**Pn**	**03 15 21.6**	**-1.0**
LAST	**Lasithi**	**1.09**	**358**	*e*PN	**Pn**	**03 15 21.7**	**-0.9**
LAST	**Lasithi**	**1.09**	**358**	*e*Pn	**Pn**	**03 15 21.7**	**-0.9**
SIVA	**Sivas**	**1.12**	**329**	P	**Pn**	**03 15 21.8**	**-1.0**
SIVA	**Sivas**	**1.12**	**329**	*e*PN	**Pn**	**03 15 22.0**	**-0.8**
SIVA				*e*SN	**Sn**	**03 15 35.0**	**-2.3**
SIVA	**Sivas**	**1.12**	**329**	*e*Pn	**Pn**	**03 15 22.0**	**-0.8**
SIVA				*e*Sn	**Sn**	**03 15 35.0**	**-2.3**
ZKR	**Zakros**	**1.20**	**29**	P	**Pn**	**03 15 24.1**	**+0.2**
ZKR	**Zakros**	**1.20**	**29**	*e*PN	**Pn**	**03 15 24.0**	**+0.2**
ZKR				*e*SN	**Sb**	**03 15 40.7**	**+0.8**
ZKR	**Zakros**	**1.20**	**29**	P	**Pn**	**03 15 24.1**	**+0.2**
ZKR				*e*Sn	**Sb**	**03 15 40.7**	**+0.8**
NPS	**Neapolis**	**1.20**	**4**	P	**Pn**	**03 15 23.5**	**-0.4**
NPS	**Neapolis**	**1.20**	**4**	*e*PN	**Pn**	**03 15 23.5**	**-0.4**
NPS	**Neapolis**	**1.20**	**4**	P	**Pn**	**03 15 23.5**	**-0.4**
IDI	**Anoyia**	**1.33**	**337**	P	**Pn**	**03 15 25.4**	**-0.3**
IDI	**Anoyia**	**1.33**	**337**	*e*PN	**Pn**	**03 15 26.0**	**+0.3**
IDI	**Anoyia**	**1.33**	**337**	P	**Pn**	**03 15 25.4**	**-0.3**
IDI	**Anoyia**	**1.33**	**337**	*e*Pn	**Pn**	**03 15 26.0**	**+0.3**
GVD	**Gavdhos**	**1.41**	**304**	P	**Pn**	**03 15 28.2**	**+1.4**
GVD				S	**Sn**	**03 15 44.9**	**+0.3**
GVD	**Gavdhos**	**1.41**	**304**	*e*PN	**Pn**	**03 15 27.9**	**+1.1**
GVD	**Gavdhos**	**1.41**	**304**	*e*Pn	**Pn**	**03 15 27.9**	**+1.1**
GVD	**Gavdhos**	**1.41**	**304**	P	**Pn**	**03 15 28.2**	**+1.4**
GVD				S	**Sn**	**03 15 44.9**	**+0.3**
VAM	**Vamos**	**1.72**	**321**	P	**Pn**	**03 15 32.4**	**+1.3**
VAM	**Vamos**	**1.72**	**321**	*e*PN	**Pn**	**03 15 32.5**	**+1.3**
VAM	**Vamos**	**1.72**	**321**	*e*Pn	**Pn**	**03 15 32.5**	**+1.3**
KARP	**Karpathos**	**2.00**	**42**	P	**Pb**	**03 15 38.1**	**-0.5**
KARP				S	**Sb**	**03 16 02.4**	**-0.7**
KARP	**Karpathos**	**2.00**	**42**	*e*PN	**Pb**	**03 15 38.2**	**-0.4**
KARP	**Karpathos**	**2.00**	**42**	P	**Pb**	**03 15 38.1**	**-0.5**
KARP				S	**Sb**	**03 16 02.4**	**-0.7**
SANT	**Santorini**	**2.30**	**359**	*e*PB	**Pn**	**03 15 40.8**	**+1.7**
SANT	**Santorini**	**2.30**	**359**	*e*Pb	**Pn**	**03 15 40.8**	**+1.7**
LTBQ	**Tobruq** SNR=50	**2.41**	**214**	*i* P	**Pn**	**03 15 42.6**	**+2.0**
LTBQ				*e*S	**Sn**	**03 16 10.2**	**+1.0**
	40nm,0.5s,SNR=50						
ANKY	**Antikythira Is**	**2.56**	**315**	*e*PB	**Pn**	**03 15 45.0**	**+2.4**
ANKY	**Antikythira Is**	**2.56**	**315**	*e*Pb	**Pn**	**03 15 45.0**	**+2.4**
APE	**Apeiranthos**	**3.00**	**0**	*e*PN	**Pn**	**03 15 49.5**	**+0.8**
APE				*e*SN	Sn	03 16 17.8	-6.0
APE	**Apeiranthos**	**3.00**	**0**	*e*Pn	**Pn**	**03 15 50.0**	**+1.3**
APE	**Apeiranthos**	**3.00**	**0**	*e*Pn	**Pn**	**03 15 49.5**	**+0.8**
KYTH	**Kithira**	**3.00**	**318**	*e*PB	**Pn**	**03 15 51.0**	**+2.2**
KYTH	**Kithira**	**3.00**	**318**	*e*Pb	**Pn**	**03 15 51.0**	**+2.2**
ARG	**Arkhangelos**	**3.03**	**44**	*e*PN	**Pn**	**03 15 51.6**	**+2.5**
ARG	**Arkhangelos**	**3.03**	**44**	*e*Pn	**Pn**	**03 15 51.6**	**+2.5**
DAT	**Datca**	**3.15**	**32**	*e*PN	**Pn**	**03 15 49.7**	**-1.1**
DAT	**Datca**	**3.15**	**32**	*e*Pn	**Pn**	**03 15 49.7**	**-1.1**
BODT	**Bodrum**	**3.33**	**26**	*e*PN	**Pn**	**03 15 52.0**	**-1.2**
BODT	**Bodrum**	**3.33**	**26**	*e*Pn	**Pn**	**03 15 52.1**	**-1.2**
VLI	**Veliai**	**3.38**	**322**	*e*PN	**Pn**	**03 15 54.7**	**+0.7**
VLI	**Veliai**	**3.38**	**322**	*e*Pn	**Pn**	**03 15 54.7**	**+0.7**
MLSB	**Milas**	**3.71**	**29**	*e*PN	**Pn**	**03 15 58.7**	**+0.2**
MLSB	**Milas**	**3.71**	**29**	*e*Pn	**Pn**	**03 15 58.7**	**+0.2**
DYR	**Agios Nikonas**	**3.74**	**317**	*e*PN	**Pn**	**03 16 01.3**	**+2.4**
DYR	**Agios Nikonas**	**3.74**	**317**	*e*Pn	**Pn**	**03 16 01.3**	**+2.4**
DALY	**Dalyan (Mu¨la**	**3.75**	**42**	*e*PN	**Pn**	**03 16 00.3**	**+1.3**
DALY	**Dalyan (Mu¨la**	**3.75**	**42**	*e*Pn	**Pn**	**03 16 00.3**	**+1.3**
SMG	**Samos**	**3.79**	**16**	*e*PN	**Pn**	**03 16 00.9**	**+1.3**
SMG	**Samos**	**3.79**	**16**	*e*Pn	**Pn**	**03 16 00.9**	**+1.3**
YER	**Yerkesik**	**3.80**	**36**	*e*PN	**Pn**	**03 15 60.0**	**+0.2**
YER	**Yerkesik**	**3.80**	**36**	*e*Pn	**Pn**	**03 16 00.0**	**+0.2**
FETY	**Fethiye**	**3.88**	**48**	*e*PN	**Pn**	**03 16 02.4**	**+1.5**
FETY	**Fethiye**	**3.88**	**48**	*e*Pn	**Pn**	**03 16 02.4**	**+1.5**
DID	**Didima**	**3.90**	**332**	*e*PN	**Pn**	**03 16 02.0**	**+0.9**
DID	**Didima**	**3.90**	**332**	*e*Pn	**Pn**	**03 16 02.0**	**+0.9**
AKAS	**Kas**	**3.99**	**56**	*i* P	**Pn**	**03 16 04.1**	**+1.7**
AKAS				*i* S	**Sn**	**03 16 50.4**	**+2.0**
AKAS	**Kas**	**3.99**	**56**	*i* P	**Pn**	**03 16 04.1**	**+1.7**
AKAS				*i* S	**Sn**	**03 16 50.4**	**+2.0**
AYDN	**Tasoluk**	**4.07**	**27**	*e*P	**Pn**	**03 16 02.2**	**-1.2**
AYDN	**Tasoluk**	**4.07**	**27**	*e*P	**Pn**	**03 16 02.2**	**-1.2**
VLX	**Vlachokerasia**	**4.17**	**323**	*e*PN	**Pn**	**03 16 06.8**	**+1.9**
VLX	**Vlachokerasia**	**4.17**	**323**	*e*Pn	**Pn**	**03 16 06.8**	**+1.9**
PYL	**PYLOS**	**4.18**	**314**	*e*PN	**Pn**	**03 16 06.1**	**+1.2**
PYL	**PYLOS**	**4.18**	**314**	*e*Pn	**Pn**	**03 16 06.1**	**+1.2**
ITM	**Ithomi**	**4.27**	**318**	*e*PN	**Pn**	**03 16 07.6**	**+1.5**
ITM	**Ithomi**	**4.27**	**318**	*e*Pn	**Pn**	**03 16 07.6**	**+1.5**
CHOS	**Chios island**	**4.34**	**6**	*e*PN	**Pn**	**03 16 08.6**	**+1.5**
CHOS	**Chios island**	**4.34**	**6**	*e*Pn	**Pn**	**03 16 08.6**	**+1.5**
LTK	**Loutraki**	**4.46**	**333**	*e*PN	**Pn**	**03 16 11.0**	**+2.3**
ELL	**Elmali**	**4.48**	**52**	*e*PN	**Pn**	**03 16 11.2**	**+2.1**
ELL	**Elmali**	**4.48**	**52**	*e*Pn	**Pn**	**03 16 11.2**	**+2.1**
GOLH	**Golhisar**	**4.57**	**45**	*e*P	**Pn**	**03 16 12.5**	**+2.2**
GOLH	**Golhisar**	**4.57**	**45**	*e*P	**Pn**	**03 16 12.5**	**+2.2**
DNZL	**Cakiroluk**	**4.62**	**37**	*e*P	Pn	03 16 14.6	+3.6
DNZL	**Cakiroluk**	**4.62**	**37**	*e*P	Pn	03 16 14.6	+3.6
AMT	**Artemida-Makis**	**4.64**	**319**	*e*PN	**Pn**	**03 16 12.5**	**+1.2**
GUR	**Goura**	**4.64**	**327**	*e*PN	**Pn**	**03 16 12.2**	**+0.8**
KLV	**Kalavryta, Ach**	**4.82**	**326**	*e*PN	**Pn**	**03 16 14.8**	**+1.1**
KLV	**Kalavryta, Ach**	**4.82**	**326**	*e*Pn	**Pn**	**03 16 14.8**	**+1.1**
LKR	**Lokris**	**5.01**	**337**	*e*PN	**Pn**	**03 16 17.4**	**+1.1**
LKR	**Lokris**	**5.01**	**337**	*e*Pn	**Pn**	**03 16 17.4**	**+1.1**
MANT	**Manisa**	**5.05**	**28**	*e*P	**Pn**	**03 16 18.0**	**+0.9**
MANT	**Manisa**	**5.05**	**28**	*e*P	**Pn**	**03 16 18.0**	**+0.9**
LAKA	**Lakka**	**5.06**	**327**	*e*PN	**Pn**	**03 16 18.3**	**+1.3**
LAKA	**Lakka**	**5.06**	**327**	*e*Pn	**Pn**	**03 16 18.3**	**+1.3**
KALE	**Kalithea**	**5.11**	**329**	*e*PN	**Pn**	**03 16 20.2**	**+2.5**
KALE	**Kalithea**	**5.11**	**329**	*e*Pn	**Pn**	**03 16 20.2**	**+2.5**
TRIZ	**Trizonia**	**5.12**	**328**	*e*PN	**Pn**	**03 16 19.4**	**+1.7**
TRIZ	**Trizonia**	**5.12**	**328**	*e*Pn	**Pn**	**03 16 19.4**	**+1.7**
AKHS	**Akhisar**	**5.15**	**20**	*i* P	**Pn**	**03 16 20.6**	**+2.4**
AKHS	**Akhisar**	**5.15**	**20**	*i* P	**Pn**	**03 16 20.6**	**+2.4**
RLS	**Riolos of Patr**	**5.16**	**322**	*e*PN	**Pn**	**03 16 19.9**	**+1.5**
RLS	**Riolos of Patr**	**5.16**	**322**	*e*Pn	**Pn**	**03 16 19.9**	**+1.5**
EFP	**Efpalio**	**5.24**	**327**	*e*PN	**Pn**	**03 16 21.2**	**+1.7**
EFP	**Efpalio**	**5.24**	**327**	*e*Pn	**Pn**	**03 16 21.2**	**+1.7**
KHAL	**Karahalli**	**5.37**	**36**	*i* P	**Pn**	**03 16 22.8**	**+1.5**
KHAL	**Karahalli**	**5.37**	**36**	*i* P	**Pn**	**03 16 22.8**	**+1.5**
LJBD	**Adjabya** SNR=48	**5.48**	**236**	*i* P	**Pn**	**03 16 24.6**	**+1.8**
NEO	**Neokhori**	**5.55**	**341**	*e*PN	**Pn**	**03 16 26.3**	**+2.6**
NEO	**Neokhori**	**5.55**	**341**	*e*Pn	**Pn**	**03 16 26.3**	**+2.6**
AGG	**Agios Georgios**	**5.57**	**334**	*e*PN	**Pn**	**03 16 25.5**	**+1.4**
AGG	**Agios Georgios**	**5.57**	**334**	*e*Pn	**Pn**	**03 16 25.5**	**+1.4**
VLS	**Valsamata**	**5.72**	**317**	*e*PN	**Pn**	**03 16 28.5**	**+2.4**
VLS	**Valsamata**	**5.72**	**317**	*e*Pn	**Pn**	**03 16 28.5**	**+2.4**
GAZI	**Gazipasa**	**5.98**	**67**	*i* P	**Pn**	**03 16 28.7**	**-0.9**
GAZI	**Gazipasa**	**5.98**	**67**	*i* P	**Pn**	**03 16 28.7**	**-0.9**
LKD2	**Lefkada island**	**6.13**	**322**	*e*PN	**Pn**	**03 16 33.3**	**+1.6**
LKD2	**Lefkada island**	**6.13**	**322**	*e*Pn	**Pn**	**03 16 33.3**	**+1.6**
THL	**Klokotos Trika**	**6.17**	**334**	*e*PN	**Pn**	**03 16 34.2**	**+2.0**
THL	**Klokotos Trika**	**6.17**	**334**	*e*Pn	**Pn**	**03 16 34.2**	**+2.0**
LIT	**Litokhoron**	**6.49**	**339**	*e*PN	**Pn**	**03 16 38.7**	**+2.0**
LIT	**Litokhoron**	**6.49**	**339**	*e*Pn	**Pn**	**03 16 38.7**	**+2.0**
ERMK	**Ermenek**	**6.57**	**65**	*e*P	**Pn**	**03 16 36.9**	**-1.0**
ERMK	**Ermenek**	**6.57**	**65**	*e*P	**Pn**	**03 16 36.9**	**-1.0**
KEK	**Kerkira**	**7.26**	**323**	*e*PN	**Pn**	**03 16 47.9**	**+0.6**
KEK	**Kerkira**	**7.26**	**323**	*e*Pn	**Pn**	**03 16 47.9**	**+0.6**
KZIT	**Kziot**	**8.13**	**110**	Pn	**Pn**	**03 16 58.0**	**-1.2**
SLTI	**Sal'it**	**8.19**	**100**	Pn	**Pn**	**03 16 59.4**	**-0.6**
MMC7	**Mount Meron ar**	**8.31**	**94**	Pn	**Pn**	**03 17 01.8**	**+0.1**
MMA3	**Mount Meron ar**	**8.32**	**95**	Pn	**Pn**	**03 17 01.7**	**-0.1**
MMAI	**Mount Meron Ar**	**8.32**	**94**	Pn	**Pn**	**03 17 00.3**	**-1.5**
	2.2nm,0.3s,baz=266,slow=12,SNR=8.5						
MMAI				Sn	**Sn**	**03 18 32.1**	**-2.9**
	3.5nm,0.3s,baz=269,slow=18,SNR=8.7						
MMLI	**Mount Malkishu**	**8.45**	**98**	Pn	**Pn**	**03 17 03.0**	**-0.6**
KSDI	**Kefar Szold**	**8.50**	**93**	Pn	**Pn**	**03 17 05.2**	**+0.9**
HMDT	**Nahal Hemdat**	**8.58**	**99**	Pn	**Pn**	**03 17 05.1**	**-0.3**
BRTR	**Keskin Array B**	**8.61**	**47**	Pn	**Pn**	**03 17 06.7**	**+0.8**
	0.1nm,0.3s,baz=226,slow=13,SNR=14						
DSI	**Dead Sea**	**8.66**	**104**	Pn	**Pn**	**03 17 05.3**	**-1.2**
MZDA	**Masada**	**8.74**	**106**	Pn	**Pn**	**03 17 07.4**	**-0.1**
KRMI	**Paran Flat**	**8.74**	**114**	Pn	**Pn**	**03 17 05.4**	**-2.2**
PRNI	**Paran**	**8.85**	**112**	Pn	**Pn**	**03 17 08.3**	**-0.8**
HRFI	**Mount Harif**	**9.02**	**114**	Pn	**Pn**	**03 17 10.7**	**-0.7**
MBRI	**Mt Berech**	**9.05**	**116**	Pn	**Pn**	**03 17 10.3**	**-1.5**
EIL	**Elat**	**9.14**	**116**	Pn	**Pn**	**03 17 10.8**	**-2.3**
	1.1nm,0.3s,baz=12,slow=6.4,SNR=15						
EIL				Sn	**Sn**	**03 18 49.9**	**-5.2**
	0.8nm,0.3s,baz=32,slow=19,SNR=3.8						
EIL	**Elat**	**9.14**	**116**	Pn	**Pn**	**03 17 11.2**	**-1.8**
CHVG	**Ch'k'valeri**	**15.58**	**51**	P	**P**	**03 18 44.4**	**-0.3**
CHVG	**Ch'k'valeri**	**15.58**	**51**	P	**P**	**03 18 44.4**	**-0.3**
ONI	**Oni**	**16.43**	**54**	P	**P**	**03 18 56.0**	**+1.9**
ONI	**Oni**	**16.43**	**54**	P	**P**	**03 18 56.0**	**+1.9**
KBZ	**Khabaz**	**16.59**	**49**	Pn	**P**	**03 18 56.4**	**+0.5**
	0.2nm,0.3s,baz=225,slow=8.7,SNR=4.6						
DUS	**Dusheti**	**17.07**	**56**	P	Pn	03 18 52.2	-7.5
GERES	**GERESS Array B**	**17.19**	**333**	P	**Pn**	**03 19 01.4**	**+0.3**
	0.2nm,0.3s,baz=148,slow=11,SNR=12						
DGRG	**David-gareji**	**17.32**	**59**	P	**P**	**03 19 04.5**	**+0.4**
DGRG	**David-gareji**	**17.32**	**59**	P	**P**	**03 19 04.5**	**+0.4**
HINF	**Hinteralfeld** 2.8nm,0.5s	**19.62**	**320**	*e*P	**P**	**03 19 29.8**	**+0.6**
HINF	**Hinteralfeld** 2.0nm,0.5s	**19.62**	**320**	*e*P	**P**	**03 19 29.8**	**+0.6**
LOR	**Lormes**	**20.98**	**315**	*e*P	**P**	**03 19 45.3**	**+1.3**
LOR	**Lormes**	**20.98**	**315**	*e*P	**P**	**03 19 45.3**	**+1.3**
CAF	**Calviac**	**21.03**	**308**	*e*P	**P**	**03 19 45.4**	**+0.9**
CAF	**Calviac**	**21.03**	**308**	*e*P	**P**	**03 19 45.4**	**+0.9**
BGF	**Bois d'Agland** 12nm,0.9s	**21.23**	**313**	*e*P	**P**	**03 19 48.5**	**+1.8**
BGF	**Bois d'Agland** 12nm,0.9s	**21.23**	**313**	*e*P	**P**	**03 19 48.5**	**+1.8**
RJF	**Les Rejaudoux** 12nm,1.0s	**21.53**	**309**	*e*P	**P**	**03 19 52.3**	**+2.4**
RJF	**Les Rejaudoux** 12nm,1.0s	**21.53**	**309**	*e*P	**P**	**03 19 52.3**	**+2.4**
MFF	**Saint Martin d** 8.2nm,0.8s	**23.11**	**310**	*e*P	**P**	**03 20 07.5**	**+0.8**
MFF	**Saint Martin d** 8.0nm,0.8s	**23.11**	**310**	*e*P	**P**	**03 20 07.5**	**+0.8**
ESDC	**Sonseca Array** 0.3nm,0.4s,baz=84,slow=9.6,SNR=3.8	**24.18**	**292**	P	**P**	**03 20 17.5**	**+0.4**
FLN	**La Foliniere**	**24.25**	**315**	*e*P	**P**	**03 20 18.2**	**+0.6**
FLN	**La Foliniere**	**24.25**	**315**	*e*P	**P**	**03 20 18.2**	**+0.6**
HFS	**Hagfors** 2.3nm,0.8s,baz=148,slow=10,SNR=6.5	**27.21**	**347**	P	**P**	**03 20 44.1**	**-0.1**
FINES	**FINESS Array B** 1.7nm,0.7s,baz=172,slow=11,SNR=5.4	**27.40**	**1**	P	**P**	**03 20 44.7**	**-1.2**
AKTO	**Aktyubinsk** 0.8nm,0.7s,baz=226,slow=11,SNR=4.5	**28.79**	**46**	P	**P**	**03 20 59.0**	**+0.5**
EKA	**Eskdalemuir Ar** 1.0nm,0.6s,baz=127,slow=11,SNR=3.2	**29.11**	**326**	P	**P**	**03 21 00.6**	**-0.6**
TORD	**Torodi Ar. Bea** 0.2nm,0.3s,baz=36,slow=8.4,SNR=6.9	**30.03**	**232**	P	**P**	**03 21 09.7**	**-0.1**
TORD				LR	LR	03 36 02.4	
	comp=Z,73nm,18.4s,baz=50,slow=42						
ARCES	**ARCESS Array B** 1.4nm,0.8s,baz=177,slow=8.5,SNR=7.4	**35.52**	**360**	P	**P**	**03 21 56.4**	**-0.8**
DBIC	**Dimbokro** 3.2nm,1.0s,baz=52,slow=12,SNR=2.6	**39.13**	**233**	P	**P**	**03 22 28.4**	**0.0**
MKAR	**Makanchi Array** 1.5nm,0.7s,baz=278,slow=6.4,SNR=20	**44.14**	**56**	P	**P**	**03 23 10.3**	**+1.2**
ZALV	**Zalesovo Beam** 1.5nm,0.5s,baz=269,slow=8.2,SNR=5.9	**45.55**	**45**	P	**P**	**03 23 20.5**	**+0.3**
SONM	**Songino Array** 0.5nm,0.3s,baz=290,slow=8.7,SNR=3.8	**59.96**	**50**	P	**P**	**03 25 07.5**	**+0.6**
BOSA	**Boshof** 1.5nm,0.8s,baz=18,slow=6.4,SNR=3.7	**62.34**	**180**	P	**P**	**03 25 23.4**	**+0.3**
SCHQ	**Schefferville** 2.0nm,0.6s,baz=38,slow=9.0,SNR=8.6	**64.21**	**320**	P	**P**	**03 25 35.3**	**+0.1**
SUR	**Sutherland** comp=Z,63nm,18.1s,baz=170,slow=36	**66.24**	**184**	LR	LR	03 54 43.6	
RCBR	**Riachuelo** comp=Z,40nm,18.9s,baz=238,slow=38	**70.19**	**248**	LR	LR	03 59 51.5	
YKA	**Yellowknife Ar** 1.2nm,0.8s,baz=25,slow=5.0,SNR=2.9	**78.58**	**342**	P	**P**	**03 27 00.8**	**-1.0**
ILAR	**Eielson Array** 0.4nm,0.7s,baz=352,slow=4.8,SNR=7.6	**81.31**	**357**	P	**P**	**03 27 17.1**	**+0.6**
ASAJ	**

41nm,0.3s,baz=331,slow=5.1,SNR=178
FX1 Sn **Sn** 03 29 31.5 -2.5
57nm,0.3s,baz=304,slow=17,SNR=19
FX1 LR LR 03 30 16.7
comp=Z,500nm,18.3s,baz=312,slow=38
SMKR Semkarok 3.99 301 P **Pn** **03 28 54.2 +0.2**
SMKR *i* S **Sn** **03 29 38.8 -1.7**
BDR Baidarnaya 4.11 299 P **Pn** **03 28 56.2 +0.5**
BDR *i* S **Sn** **03 29 42.2 -1.3**
ZLN Zelenaya 4.14 291 P **Pn** **03 28 57.1 +1.0**
ZLN *i* S **Sn** **03 29 43.9 -0.3**
SRKR Sorokina 4.17 300 P **Pn** **03 28 56.4 -0.1**
SRKR *i* S **Sn** **03 29 42.7 -2.2**
BZGR Bezymyannyi-Gr 4.18 290 *e*P **Pn** **03 28 57.0 +0.4**
BZGR *i* S **Sn** **03 29 43.4 -1.7**
CIRR Tsirk 4.20 292 P **Pn** **03 28 57.3 +0.4**
CIRR *i* S **Sn** **03 29 44.1 -1.5**
LGNR Loginova 4.22 292 P **Pn** **03 28 57.9 +0.5**
LGNR *i* S **Sn** **03 29 45.3 -1.1**
BZMR Bezymyannaya 4.29 290 *e*P **Pn** **03 28 58.8 +0.6**
BZMR *i* S **Sn** **03 29 46.7 -1.2**
BZWR Bezymyannyi-We 4.29 290 *e*P **Pn** **03 28 58.9 +0.6**
BZWR *i* S **Sn** **03 29 46.4 -1.7**
SMY Shemya 4.30 115 PN **Pn** **03 28 58.5 +0.4**
SMY Shemya 4.30 115 P **Pn** **03 28 58.5 +0.4**
SMY S **Sn** **03 29 47.8 0.0**
KLY Klyuchi 4.31 295 PN **Pn** **03 28 57.4 -0.9**
KLY Klyuchi 4.31 295 P **Pn** **03 28 57.4 -0.9**
KLY *i* S **Sn** **03 29 44.5 -3.6**
KRSR Krestovskiy 4.32 293 P **Pn** **03 28 58.1 -0.5**
KRSR *i* S **Sn** **03 29 45.6 -3.1**
KIRR Kirishev 4.37 289 *e*P **Pn** **03 28 59.7 +0.3**
KIRR *i* S **Sn** **03 29 47.7 -2.3**
TUMR Tumrok 4.38 281 *e*P **Pn** **03 28 59.7 +0.3**
TUMR *i* S **Sn** **03 29 47.4 -2.7**
KMNR Kamenistaya 4.39 287 *e*P **Pn** **03 29 00.9 +1.3**
KMNR *i* S **Sn** **03 29 49.8 -0.6**
KPT Kopyto 4.44 289 *e*P **Pn** **03 29 00.9 +0.6**
KPT *i* S **Sn** **03 29 50.0 -1.6**
KOZR Kozyr 4.64 290 PN **Pn** **03 29 04.5 +1.5**
KOZ Kozyrevsk 4.66 290 *e*P **Pn** **03 29 04.5 +1.4**
KOZ *i* S **Sn** **03 29 56.5 -0.3**
SRDR Sredinnyy 4.81 293 *e*P **Pn** **03 29 05.9 +0.7**
SRDR *i* S **Sn** **03 29 58.7 -1.8**
KII Karymskiy 4.86 265 P **Pn** **03 29 06.9 +0.9**
KII *i* S **Sn** **03 30 00.7 -1.3**
NLC Nalytchevo 5.16 256 PN **Pn** **03 29 09.7 -0.3**
NLC Nalytchevo 5.16 256 P **Pn** **03 29 09.7 -0.3**
NLC *i* S **Sn** **03 30 05.7 -3.5**
ESO Esso 5.27 287 PN **Pn** **03 29 12.5 +0.9**
ESO Esso 5.27 287 P **Pn** **03 29 12.5 +0.9**
ESO *i* S **Sn** **03 30 10.8 -1.2**
SDLR Sedlovina 5.39 258 P **Pn** **03 29 13.7 +0.4**
SDLR *i* S **Sn** **03 30 12.5 -2.5**
SMAR Somma 5.44 258 P **Pn** **03 29 14.9 +0.8**
SMAR *i* S **Sn** **03 30 14.5 -1.9**
UGLR Uglovaya 5.45 258 P **Pn** **03 29 14.7 +0.7**
UGLR *i* S **Sn** **03 30 14.2 -2.2**
KRER Koryakskii 5.46 259 P **Pn** **03 29 15.1 +0.8**
KRER *i* S **Sn** **03 30 14.8 -2.0**
AVH Avacha 5.47 258 P **Pn** **03 29 15.2 +0.8**
AVH *i* S **Sn** **03 30 15.0 -2.1**
KOK Koryaka 5.53 259 P **Pn** **03 29 15.7 +0.6**
KOK *i* S **Sn** **03 30 16.0 -2.3**
PET Petropavlovsk 5.61 256 *e*PN Pn 03 29 19.7 +3.6
PET pmax pmax
comp=Z,111nm,1.0s
PET MLR MLR
comp=Z,500nm,18.0s
PET Petropavlovsk 5.61 256 P **Pn** **03 29 17.2 +1.1**
PET *i* S **Sn** **03 30 18.9 -1.2**
GNL Ganaly 5.81 264 P **Pn** **03 29 20.0 +0.9**
GNL *i* S **Sn** **03 30 23.2 -2.2**
RUS Russkaya 5.92 251 PN **Pn** **03 29 21.0 +0.5**
RUS Russkaya 5.92 251 P **Pn** **03 29 21.0 +0.5**
RUS *i* S **Sn** **03 30 25.4 -2.5**
MTVR Mutnovka 6.08 252 P **Pn** **03 29 24.0 +1.2**
MTVR *i* S **Sn** **03 30 30.4 -1.7**
PALN Palana 6.09 319 P **Pn** **03 29 24.3 +1.5**
GRL Gorelyy 6.12 253 P **Pn** **03 29 23.9 +0.7**
GRL *i* S **Sn** **03 30 30.2 -2.7**
PEA0B Petropavlovsk- 6.12 259 *e*Pn **Pn** **03 29 25.1 +1.9**
PEA0B *e*S **Sn** **03 30 35.2 +2.4**
PETK Petropavlovsk- 6.12 259 PN **Pn** **03 29 24.7 +1.5**
PETK Petropavlovsk- 6.12 259 Pn **Pn** **03 29 24.6 +1.5**
PETK Sn **Sn** **03 30 34.3 +1.5**
PETK Petropavlovsk- 6.12 259 Pn **Pn** **03 29 24.6 +1.5**
comp=Z,1.6nm,0.3s,baz=80,slow=18,SNR=30
PETK Sn **Sn** **03 30 34.3 +1.5**
comp=Z,2.2nm,0.3s,baz=86,slow=39,SNR=5.2
ASAK Asacha 6.28 252 P **Pn** **03 29 26.6 +1.1**
ASAK *i* S **Sn** **03 30 35.0 -1.9**
MIPR Malaya Ipel'ka 6.96 254 P **Pn** **03 29 35.7 +0.9**
LSNW Little Sitkin 7.04 109 P **Pn** **03 29 36.3 +0.4**
LSPA Little Sitkin 7.08 108 P **Pn** **03 29 36.9 +0.5**
LSPA S **Sn** **03 30 56.0 -0.4**
CESW Semis' Southwe 7.65 107 P **Pn** **03 29 45.5 +1.2**
CEPE Semis' Perret 7.67 106 P **Pn** **03 29 45.9 +1.4**
AMKA Amchitka 7.76 111 *e*Pn **Pn** **03 29 46.1 +0.5**
SKR Severo-Kuril's 8.10 245 *e*PN **Pn** **03 29 48.0 -2.4**
SKR pmax pmax
comp=Z,100nm,0.9s
SKR MLR MLR
comp=N,800nm,14.0s
SKR MLR MLR
comp=E,800nm,14.0s
SKR MLR MLR
comp=Z,80µm,14.0s
BILL Bilibino 13.39 358⇓ *e*PN P 03 31 07.1 -5.0
BILL pmax pmax
comp=Z,13nm,0.8s
BILL MLR MLR
comp=Z,100nm,15.0s
UNV Unalaska Valle 15.08 83 *e*P **Pn** **03 31 26.4 +0.8**
comp=Z,21nm,0.9s
AKUT Akutan 15.43 81 *e*Pn **Pn** **03 31 30.6 +0.4**
YUK Yuzh-Kuril'sk 17.70 242 *c i*P **P** **03 31 59.9 -0.1**
YUK *e*S **Sn** **03 35 13.6 -2.3**
YUK pmax pmax
comp=N,14nm,0.1s
YUK pmax pmax
comp=E,15nm,0.1s
YUK pmax pmax
comp=Z,47nm,0.3s
YUK pmax pmax
comp=Z,12µm,0.3s
YUK MLR MLR
comp=N,259nm,18.0s
YUK MLR MLR
comp=E,733nm,18.0s
YUK MLR MLR
comp=Z,375nm,18.0s
CHGN Chignik 19.16 71 *e*P **P** **03 32 15.3 -0.5**
ASAJ Asahikawa 19.36 247 P **Pn** **03 32 20.7 +1.5**
ASAJ Asahikawa 19.36 247 P **Pn** **03 32 20.7 +1.5**
comp=Z,0.3nm,0.3s,baz=66,slow=20,SNR=3.8
ASAJ LR LR 03 39 05.0
comp=Z,84nm,21.5s,baz=6.0,slow=35
YAK Yakutsk 20.96 306⇑ *e*P **P** **03 32 35.1 -0.4**
RSO Redoubt South 21.71 59 *e*P **P** **03 32 43.6 -0.1**
OHAK Old Harbor 21.78 67 *e*P **P** **03 32 42.4 -1.9**
comp=Z,31nm,1.0s
SPU Mount Spurr 22.03 57 *e*P **P** **03 32 47.7 +0.7**
KDAK Kodiak Island 22.06 66 P **P** **03 32 46.2 -1.0**
KDAK Kodiak Island 22.06 66 P **P** **03 32 46.2 -1.0**
comp=Z,7.3nm,0.8s,baz=237,slow=1.7,SNR=7.1
KLR Kul'dur 22.63 271 *e*P **P** **03 32 51.1 -2.4**
KLR pmax pmax
comp=Z,63nm,2.0s
TRF Thorofare Moun 22.89 51 *e*P **P** **03 32 55.2 -1.0**
comp=Z,15nm,0.9s
COLD Coldfoot 23.40 41 *e*P **P** **03 33 00.5 -0.7**
comp=Z,9.0nm,0.9s
PMR Palmer 23.42 55 *e*P **P** **03 33 02.5 +1.1**
PMR pmax pmax
comp=Z,14nm,1.3s
PMR Palmer 23.42 55 *e*P **P** **03 33 02.5 +1.1**
comp=Z,14nm,1.3s
MCK McKinley 23.50 50 *e*P **P** **03 33 00.5 -1.9**
MCK pmax pmax
comp=Z,15nm,1.1s
MCK McKinley 23.50 50 *e*P **P** **03 33 00.5 -1.9**
comp=Z,15nm,1.1s
TIXI Tiksi 23.70 330 *c e*P **P** **03 33 03.2 -0.8**
TIXI pmax pmax
comp=Z,28nm,2.5s
SML Sawmill 23.79 55 *e*P **P** **03 33 04.0 -1.1**
SML pmax pmax
comp=Z,5.0nm,0.7s
SML Sawmill 23.79 55 *e*P **P** **03 33 04.0 -1.1**
comp=Z,5.1nm,0.7s
ILAR Eielson Array 24.44 48 P **P** **03 33 09.7 -1.5**
ILAR Eielson Array 24.44 48 P **P** **03 33 09.7 -1.5**
comp=Z,5.9nm,0.8s,baz=247,slow=8.1,SNR=66
ILAR LR LR 03 42 48.3
comp=Z,124nm,19.3s,baz=284,slow=37
USRK Ussuriysk Arra 25.21 260 P **P** **03 33 19.7 +1.5**
comp=Z,2.2nm,0.9s,baz=41,slow=10,SNR=4.6
USRK LR LR 03 43 53.1
comp=Z,130nm,19.4s,baz=34,slow=38
MDJ Mudanjiang 26.34 263 P **P** **03 33 28.3 -0.1**
MDJ pP **pP** **03 33 31.3 -1.9**
MDJ S **S** **03 38 01.3 +0.7**
MDJ pmax pmax
comp=Z,7.0nm,1.1s
MDJ pmax pmax
comp=Z,36nm,4.3s
MDJ LR LR
comp=Z,71nm,26.4s
EGAK Eagle 26.90 48 *e*P **P** **03 33 31.8 -1.5**
comp=Z,18nm,0.9s
MAJO Matsushiro 27.17 240 *e*P **P** **03 33 37.0 +0.9**
MAJO pmax pmax
comp=Z,29nm,1.0s
MAJO Matsushiro 27.17 240 *e*P **P** **03 33 37.0 +0.9**
comp=Z,29nm,1.0s
MAT Matsushiro 27.17 240 P **P** **03 33 38.3 +2.2**
MAT S **S** **03 38 10.2 -3.8**
CN2 Changchun 29.21 266 *e*P **P** **03 33 56.9 +2.7**
CN2 *es*P **sP** **03 34 01.0 0.0**
CN2 *e*S **S** **03 38 48.4 +2.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,100nm,11.0s
CN2 LR LR
comp=E,300nm,11.0s
CN2 LR LR
comp=Z,200nm,13.0s
INK Inuvik 29.79 40 P **P** **03 33 58.4 -0.6**
INK Inuvik 29.79 40 P **P** **03 33 58.4 -0.6**
comp=Z,3.4nm,0.6s,baz=297,slow=7.3,SNR=18
INK LR LR 03 45 51.1
comp=Z,41nm,20.5s,baz=285,slow=36
KSRS Korea Array 31.99 254 P **P** **03 34 17.7 -0.9**
comp=Z,1.3nm,0.9s,baz=38,slow=8.6,SNR=3.4
KSRS LR LR 03 46 12.4
comp=Z,78nm,18.8s,baz=5.8,slow=34
KSAR Wonju Array Be 32.02 254 P **P** **03 34 17.8 -1.2**
WRAK Wrangell Islan 33.02 62 *e*P **P** **03 34 29.2 +1.7**
comp=Z,9.0nm,1.0s
JNU Nakatsue 33.61 245 LR LR 03 47 25.4
comp=Z,48nm,20.3s,baz=137,slow=35
BJI Beijing 36.95 268 P **P** **03 35 01.2 -0.4**
BJI S **S** **03 40 46.1 +0.2**
BJI pmax pmax
comp=Z,8.0nm,0.6s
BJI pmax pmax
comp=Z,58nm,3.6s
BJI LR LR
comp=N,130nm,15.6s
BJI LR LR
comp=E,53nm,15.9s
BJI LR LR
comp=Z,55nm,24.1s
SONM Songino Array 37.85 286 P **P** **03 35 09.9 +0.6**
SONM PcP **PcP** **03 37 26.1 +0.7**
SONM Songino Array 37.85 286 P **P** **03 35 09.9 +0.6**
comp=Z,3.0nm,0.9s,baz=54,slow=8.0,SNR=14
SONM PcP **PcP** **03 37 26.1 +0.7**
comp=Z,1.2nm,0.7s,baz=82,slow=2.5,SNR=5.3
ZAK Zakamensk 38.17 291 *e*P **P** **03 35 12.2 +0.2**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
YKA Yellowknife Ar 38.86 46 P **P** **03 35 17.3 -0.2**
YKA Yellowknife Ar 38.86 46 P **P** **03 35 17.3 -0.2**
comp=Z,5.7nm,0.8s,baz=295,slow=8.1,SNR=7.4
YKA LR LR 03 53 16.9
comp=Z,6.2nm,18.1s,baz=155,slow=39
HHC Hu-ho-hao-te 39.10 273 *e*P **P** **03 35 17.6 -2.3**
HHC pP **pP** **03 35 22.1 -2.7**
HHC sP **sP** **03 35 24.6 -2.2**
HHC PP **PnPn** **03 36 51.2 -0.7**
HHC S **ScP** **03 41 15.8 -1.0**
HHC PcS **PcS** **03 41 16.6 -2.4**
HHC sS **sS** **03 41 23.2 -3.6**
HHC SS SnSn 03 43 59.3 -11
HHC ScS **ScS** **03 45 24.7 -3.6**
HHC pmax pmax
comp=Z,35nm,1.1s
HHC pmax pmax
comp=Z,130nm,5.0s
HHC LR LR
comp=N,220nm,14.9s
HHC LR LR
comp=E,260nm,15.0s
HHC LR LR
comp=Z,110nm,15.1s
NJ2 Nanjing 41.02 257 *e*P **P** **03 35 37.4 +1.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NEW Newport 45.17 66⇑ P **P** **03 36 07.8 -1.4**
baz=45
ZALV Zalesovo Beam 45.61 305 *i*P **P** **03 36 14.8 +2.2**
ZALV pmax pmax
comp=Z,5.0nm,1.1s
ZALV Zalesovo Beam 45.61 305 P **P** **03 36 11.3 -1.3**
ZALV PcP **PcP** **03 37 51.0 +0.4**
ZALV Zalesovo Beam 45.61 305 P **P** **03 36 11.3 -1.3**
comp=Z,4.9nm,1.1s,baz=56,slow=5.6,SNR=5.8
ZALV PcP **PcP** **03 37 51.0 +0.4**
comp=Z,1.2nm,0.6s,baz=46,slow=3.5,SNR=4.5
ZALV LR LR 03 56 42.5
comp=Z,40nm,19.3s,baz=69,slow=38
NVS Novosibirsk 45.83 307 *e*P **P** **03 36 12.5 -1.7**
C11A Tepee Creek (N 45.89 66⇑ P **P** **03 36 14.5 -0.4**
baz=46
A13A Flathead Natio 46.17 63⇓ P **P** **03 36 16.6 -0.6**
baz=46
SPITS Spitsbergen Ar 46.21 352 P **P** **03 36 16.3 -0.8**
SPITS Spitsbergen Ar 46.21 352 P **P** **03 36 16.3 -0.8**
comp=Z,2.4nm,0.6s,baz=123,slow=18,SNR=3.3
WALA Waterton Lakes 46.36 63 *e*P **P** **03 36 18.8 +0.1**
comp=Z,0.2nm,0.7s
C12B Naegeli Ranch, 46.38 65⇑ P **P** **03 36 18.7 0.0**
baz=46
B13A Whitefish 46.49 64⇓ P **P** **03 36 19.2 -0.5**
baz=46
BSMT Bassoo Peak 46.65 65 *e*P **P** **03 36 21.3 +0.2**
A14A Double T Ranch 46.66 63⇑ P **P** **03 36 20.3 -0.8**
baz=46
LZH Lanzhou 46.78 274 *e*P **P** **03 36 23.5 +1.3**
LZH pP **pP** **03 36 26.7 -0.5**
LZH sP **sP** **03 36 28.3 -0.8**
LZH PP **PP** **03 38 14.2 +2.2**
LZH pmax pmax
comp=Z,17nm,1.3s
LZH pmax pmax
comp=Z,49nm,5.4s
LZH LR LR
comp=N,350nm,13.5s
LZH LR LR
comp=E,330nm,13.2s
LZH LR LR
comp=Z,400nm,16.8s
GTA Gaotai 46.82 280 *e*P **P** **03 36 22.8 +0.4**
GTA pP **pP** **03 36 28.7 +1.3**
GTA sP **sP** **03 36 31.2 +1.9**
GTA S **S** **03 43 13.8 +1.8**
GTA sS **sS** **03 43 21.4 +1.2**
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA LR LR
comp=N,80nm,15.2s
GTA LR LR
comp=E,100nm,17.1s
GTA LR LR
comp=Z,140nm,18.1s
C13A Hot Springs 46.87 65⇑ P **P** **03 36 22.1 -0.6**
baz=47
A15A Johnson Ranch, 47.02 62⇓ P **P** **03 36 22.6 -1.2**
baz=47
B14A Marquette Ranc 47.12 63⇓ P **P** **03 36 22.9 -1.8**
baz=47
E12A Beaver Dam Sad 47.15 67⇑ P **P** **03 36 23.9 -1.0**
baz=47
C14A Swan Lake 47.25 64⇓ P **P** **03 36 24.8 -0.9**
baz=47
D13A Huson 47.30 65⇓ P **P** **03 36 25.1 -0.9**
baz=47
MOD Modoc 47.49 74 *e*P **P** **03 36 27.9 +0.2**
comp=Z,2.2nm,0.9s
B15A Bradely Ranch, 47.52 63⇓ P **P** **03 36 26.7 -1.0**
baz=47
A16A West Butte Ran 47.62 62⇓ P **P** **03 36 28.0 -0.5**
baz=47
SLMT Seeley Lake 47.72 65 *e*P **P** **03 36 29.4 0.0**
MSO Missoula 47.75 65⇓ P **P** **03 36 28.7 -0.9**
baz=48
D14A Greenough 47.81 65⇑ P **P** **03 36 29.5 -0.5**
baz=48,SNR=5.8
C15A Salmond Ranch, 47.84 64⇓ P **P** **03 36 30.2 -0.1**
baz=48,SNR=5.6
B16A M & M Farms, S 47.90 62⇑ P **P** **03 36 29.4 -1.3**
baz=48
CHMT Chamberlain Mo 48.05 65 *e*P **P** **03 36 31.3 -0.7**
A17A Triple J Farms 48.08 61⇓ P **P** **03 36 31.1 -0.9**
baz=48
G12A Big Creek, Yel 48.11 68⇓ P **P** **03 36 31.4 -1.0**
baz=48
C16A Fuhringer Ranc 48.27 63⇓ P **P** **03 36 32.3 -1.3**
baz=48
D15A Lincoln 48.36 64⇑ P **P** **03 36 33.5 -0.8**
baz=48
A18A Metzger Ranch, 48.52 61⇑ P **P** **03 36 34.8 -0.6**
baz=48
FFC Flin Flon 48.59 51 *i*P **P** **03 36 36.5 +0.7**
D16A Dana Ranch, Ca 48.87 64⇑ P **P** **03 36 37.5 -0.7**
baz=49
C17A Wharram Farm, 48.89 63⇓ P **P** **03 36 37.1 -1.1**
baz=49
B18A Beardsley Farm 48.90 61⇓ P **P** **03 36 37.6 -0.8**
baz=49
MFID Camas Ranch 48.96 70 *e*P **P** **03 36 39.1 +0.2**
comp=Z,3.0nm,0.9s
MFID Camas Ranch 48.96 70⇓ P **P** **03 36 38.4 -0.5**
baz=49
A19A Klindworth Far 49.08 60⇑ P **P** **03 36 38.9 -0.8**
baz=49
I12A Atlanta 49.09 69⇑ P **P** **03 36 39.4 -0.6**
baz=49
E16A East Helena 49.13 64⇓ P **P** **03 36 39.5 -0.7**
baz=49
EGMT Eagleton 49.15 62⇓ P **P** **03 36 39.6 -0.7**
baz=49
F15A Butte 49.15 65⇑ P **P** **03 36 39.6 -0.9**
baz=49
LRM Limekiln Ridge 49.19 65 *e*P **P** **03 36 38.6 -2.2**
D17A Six Diamond Ra 49.24 63⇑ P **P** **03 36 40.2 -0.8**
baz=49
B19A Brinkman Farms 49.28 61⇓ P **P** **03 36 40.9 -0.4**
baz=49
E17A Martinsdale 49.60 64⇓ P **P** **03 36 44.5 +0.6**
baz=49,SNR=7.5
MCMT McKenzie Canyo 49.63 67 *e*P **P** **03 36 42.6 -1.6**
D18A Linhart Farms, 49.66 62⇓ P **P** **03 36 44.0 -0.3**
baz=49
C19A Slack Wire Ran 49.70 62⇑ P **P** **03 36 44.3 -0.1**
baz=49,SNR=5.9
BOZ Bozeman (W) 49.73 65 *e*P **P** **03 36 45.1 +0.3**
BOZ pmax pmax
comp=Z,1.0nm,0.8s
BOZ Bozeman (W) 49.73 65 *e*P **P** **03 36 45.1 +0.3**
comp=Z,1.2nm,0.8s
I14A Mackay 49.91 68⇓ P **P** **03 36 46.2 0.0**
baz=50,SNR=8.6
E18A Harlowton 50.02 63⇓ P **P** **03 36 47.1 +0.1**
baz=50
F17A Fitzpatrick Pl 50.07 64⇑ P **P** **03 36 47.0 -0.4**
baz=50
D19A Cripps Ranch, 50.16 62⇓ P **P** **03 36 47.6 -0.4**
baz=50
C20A Veseth Ranch, 50.24 61⇑ P **P** **03 36 48.3 -0.2**
baz=50
QLMT Earthquake Lak 50.38 66 *e*P **P** **03 36 50.3 +0.4**
comp=Z,0.4nm,0.5s
G17A Pierce Place, 50.42 65⇓ P **P** **03 36 50.3 +0.2**
baz=50
A22A Carney Farms, 50.45 58⇓ P **P** **03 36 49.5 -0.5**
baz=50
CD2 Chengdu 50.54 269 P **P** **03 36 51.6 +0.6**
CD2 pP **pP** **03 36 56.1 0.0**
CD2 sP **sP** **03 36 58.6 +0.6**
CD2 PP **PP** **03 38 48.2 +1.5**
CD2 ScP **ScP** **03 42 04.5 +0.7**
CD2 S **S** **03 44 03.7 -0.8**
CD2 sS **sS** **03 44 11.0 -1.8**
CD2 SS **SS** **03 47 34.7 -3.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,80nm,5.4s
H16A Russell Place, 50.56 66⇓ P **P** **03 36 51.1 -0.1**
baz=50
F18A Big Timber 50.56 64⇓ P **P** **03 36 50.6 -0.5**
baz=50
C21A Desert Coulee 50.63 60⇓ P **P** **03 36 51.3 -0.1**
baz=50
E19A Rath Farm, Rou 50.67 63⇓ P **P** **03 36 51.6 -0.3**
baz=50
NVAR Mina Array Bea 50.98 76 P **P** **03 36 55.2 +0.8**
NVAR Mina Array Bea 50.98 76 P **P** **03 36 55.2 +0.8**
comp=Z,1.8nm,0.7s,baz=299,slow=7.3,SNR=13
E20A Meyer Farm, Mu 50.98 62⇑ P **P** **03 36 54.1 -0.1**
baz=51
D21A La Casta Ranch 51.19 61⇑ P **P** **03 36 55.4 -0.3**
baz=51
B23A Brockton 51.25 58⇑ P **P** **03 36 55.6 -0.5**
baz=51
C22A Vida 51.29 60⇓ P **P** **03 36 55.8 -0.6**
baz=51
RLMT Red Lodge 51.32 64 *e*P **P** **03 36 55.6 -1.4**
comp=Z,4.5nm,0.8s
MK31 Makanchi Array 51.41 299 *e*P **P** **03 36 55.8 -1.5**
MK31 Makanchi Array 51.41 299 *e*P **P** **03 36 55.8 -1.5**
MKAR Makanchi Array 51.41 299 *e*P **P** **03 36 56.0 -1.3**
MKAR Makanchi Array 51.41 299 *e*P **P** **03 36 56.0 -1.3**
MKAR Makanchi Array 51.41 299 P **P** **03 36 56.0 -1.3**
comp=Z,1.2nm,0.5s,baz=54,slow=6.5,SNR=23
MKAR LR LR 03 59 00.1
comp=Z,43nm,18.1s,baz=264,slow=36
D22A Cohagen 51.54 60⇑ P **P** **03 36 58.0 -0.4**
baz=51
C23A Lambert 51.60 59⇑ P **P** **03 36 58.5 -0.3**
baz=51
GYA Guiyang 52.20 263 *e*P **P** **03 37 04.8 +1.2**
GYA pmax pmax
comp=Z,10.0nm,1.0s
I19A Meeteetse 52.20 65⇑ P **P** **03 37 03.4 -0.1**
baz=52
J19A Crowheart 52.70 66⇑ P **P** **03 37 07.5 +0.3**
baz=52
I20A Worland 52.72 65⇓ P **P** **03 37 07.1 -0.1**
baz=52
BW06 Boulder Array 52.78 67 *e*P **P** **03 37 08.2 +0.4**
comp=Z,2.7nm,0.9s
PDAR Pinedale Array 52.78 67 P **P** **03 37 07.9 +0.1**
PDAR Pinedale Array 52.78 67 P **P** **03 37 07.9 +0.1**
comp=Z,2.9nm,0.8s,baz=314,slow=4.4,SNR=22
G22A Birney 52.80 62⇑ P **P** **03 37 07.6 -0.2**
baz=52
BRVK Borovoye 52.83 311 *e*P **P** **03 37 07.0 -0.8**
BRVK pmax pmax
comp=Z,10.0nm,0.7s
BRVK Borovoye 52.83 311 *e*P **P** **03 37 07.0 -0.8**
comp=Z,10nm,0.7s
F23A Volborg 52.91 61⇓ P **P** **03 37 08.5 0.0**
baz=53
ARCES ARCESS Array B 53.05 344 P **P** **03 37 08.3 -0.9**
ARCES ARCESS Array B 53.05 344 P **P** **03 37 08.3 -0.9**
comp=Z,1.5nm,0.8s,baz=32,slow=7.7,SNR=5.3
M17A Scullys Gap (B 53.08 68⇓ P **P** **03 37 10.1 +0.1**
baz=53
MPMC Manual Prospec 53.10 78⇓ P **P** **03 37 10.1 -0.1**
baz=53
K19A Absolon Red Bu 53.12 66⇑ P **P** **03 37 09.8 -0.4**

	baz=53								
I21A	**Big Trails, Te**	53.25	64	⇑	P		P	03 37 11.4	+0.2
	baz=53								
I22A	**9 Mile Ranch,**	53.62	64	⇓	P		P	03 37 13.6	-0.3
	baz=53								
E26A	**Carlson Angus**	53.87	59	⇓	P		P	03 37 15.9	+0.3
	baz=54								
J22A	**Midwest**	53.95	64	⇓	P		P	03 37 16.7	+0.3
	baz=54								
L20A	**Wamsutter**	53.95	66	⇓	P		P	03 37 16.4	-0.1
	baz=54								
H24A	**Dirks Ranch, A**	54.02	62	⇑	P		P	03 37 16.3	-0.4
	baz=54								
GSC	**Goldstone**	54.03	78	⇑	P		P	03 37 17.6	+0.6
	baz=54								
MDND	**Maddock**	54.30	56	⇓	P		P	03 37 18.9	+0.2
	baz=54								
ULM	**Lac du Bonnet**	54.36	52		P		P	03 37 18.9	-0.1
ULM	**Lac du Bonnet**	54.36	52		P		P	03 37 18.9	-0.1
	comp=Z,2.9nm,0.6s,baz=312,slow=6.5,SNR=3.7								
CCUT	**Cedar City**	54.36	74		*e*P		P	03 37 20.2	+0.7
	comp=Z,2.1nm,0.7s								
M20A	**Sweetwater, Wa**	54.40	67	⇓	P		P	03 37 20.0	+0.3
	baz=54								
RSSD	**Black Hills**	54.72	62		*e*P		P	03 37 22.1	+0.1
RSSD					pmax		pmax		
	comp=Z,4.0nm,0.8s								
RSSD	**Black Hills**	54.72	62		*e*P		P	03 37 22.1	+0.1
	comp=Z,3.5nm,0.8s								
O19A	**Miners Draw (B**	54.74	68	⇑	P		P	03 37 22.5	+0.4
	baz=54								
M21A	**Separation Pea**	54.76	66	⇓	P		P	03 37 22.5	+0.1
	baz=54								
SRU	**San Rafael**	54.82	70		*e*P		P	03 37 21.8	-0.9
SRU					pmax		pmax		
	comp=Z,8.0nm,0.6s								
SRU	**San Rafael**	54.82	70		*e*P		P	03 37 21.8	-0.9
	comp=Z,7.7nm,0.6s								
N20A	**Spence Gulch,**	54.82	67	⇑	P		P	03 37 23.1	+0.3
	baz=55								
K23A	**Bowen Ranch, D**	54.86	64	⇓	P		P	03 37 23.3	+0.3
	baz=55								
I25A	**Rochford**	54.95	62	⇑	P		P	03 37 23.6	0.0
	baz=55								
GMRC	**Granite Mounta**	55.06	78	⇑	P		P	03 37 24.9	+0.4
	baz=55								
ARU	**Arti**	55.14	320	*d*	*i*P		P	03 37 23.5	-1.1
ARU					S		S	03 45 00.6	-5.8
ARU					pmax		pmax		
	comp=Z,17nm,2.5s								
LDFC	**Landfair**	55.16	77		*e*P		P	03 37 25.1	0.0
	comp=Z,8.7nm,1.0s								
TMCR	**Tamitsa**	55.26	336		*e*P		P	03 37 24.0	-1.3
TMCR					pmax		pmax		
	comp=Z,11nm,0.7s								
L23A	**Garrett**	55.27	65	⇑	P		P	03 37 26.0	0.0
	baz=55								
P19A	**Cripple Cowboy**	55.29	69	⇑	P		P	03 37 26.4	+0.2
	baz=55								
O20A	**White River Ci**	55.33	68	⇑	P		P	03 37 26.4	0.0
	baz=55								
BELC	**Belle Mtn. Jos**	55.43	79	⇓	P		P	03 37 27.4	+0.2
	baz=55								
PFO	**Pinyon Flat Ob**	55.46	79	⇓	P		P	03 37 27.8	+0.5
	baz=55								
KMI	**Kunming**	55.48	265		P		P	03 37 29.9	+2.2
KMI					pP		pP	03 37 33.5	+0.7
KMI					pmax		pmax		
	comp=Z,11nm,0.5s								
O21A	**Pagoda**	55.69	67	⇓	P		P	03 37 29.6	+0.5
	baz=55								
U15A	**North Rim**	55.76	74	⇓	P		P	03 37 30.1	+0.4
	baz=56								
IRM	**Iron Mountain**	55.80	78	⇑	P		P	03 37 30.2	+0.5
	baz=56								
W13A	**Hualapai Mount**	55.83	76	⇓	P		P	03 37 30.4	+0.3
	baz=56								
BC3	**Big Chuckawall**	55.99	78	⇑	P		P	03 37 31.2	0.0
	baz=56								
N23A	**Red Feather La**	56.01	66	⇑	P		P	03 37 31.9	+0.5
	baz=56,SNR=5.9								
Q20A	**Ridgley Place,**	56.14	69	⇑	P		P	03 37 32.2	-0.1
	baz=56								
I28A	**Midland**	56.26	60	⇑	P		P	03 37 33.0	+0.2
	baz=56								
PDMCI	**Parker Dam,Lak**	56.27	77	⇓	P		P	03 37 33.8	+0.9
	baz=56								
Y12C	**Blythe**	56.45	78	⇓	P		P	03 37 35.3	+1.0
	baz=56								
P22A	**Eagle**	56.51	67	⇑	P		P	03 37 35.8	+0.8
	baz=56								
O23A	**Lake Granby, G**	56.52	66	⇑	P		P	03 37 36.0	+1.0
	baz=56								
PV01	**Paradox Valley**	56.59	70		*e*P		P	03 37 35.9	+0.4
R20A	**Redvale**	56.65	70	⇓	P		P	03 37 36.3	+0.4
	baz=56								
GLA	**Glamis**	56.79	79	⇑	P		P	03 37 37.4	+0.6
	baz=57								
S20A	**Disappointment**	56.92	70	⇓	P		P	03 37 37.9	0.0
	baz=57								
WUAZ	**Wupatki**	56.94	74	⇓	P		P	03 37 38.5	+0.6
	baz=57								
Q22A	**Crested Butte,**	56.96	68	⇑	P		P	03 37 38.5	+0.3
	baz=57								
ISCO	**Idaho Springs**	56.98	67		*e*P		P	03 37 38.6	+0.3
ISCO					pmax		pmax		
	comp=Z,4.0nm,1.0s								
ISCO	**Idaho Springs**	56.98	67		*e*P		P	03 37 38.6	+0.3
	comp=Z,3.8nm,1.0s								
ISCO	**Idaho Springs**	56.98	67	⇓	P		P	03 37 38.4	+0.1
	baz=57								
P23A	**Jefferson**	57.16	67	⇑	P		P	03 37 39.8	+0.1
	baz=57								
Y14A	**Wickenburg**	57.17	76	⇑	P		P	03 37 40.4	+0.9
	baz=57								
MVCO	**Mesa Verde**	57.29	71	⇑	P		P	03 37 41.1	+0.5
	baz=57								
S21A	**Coal Bank Pass**	57.35	70	⇓	P		P	03 37 41.7	+0.7
	baz=57,SNR=6.0								
113A	**Mohawk Valley,**	57.60	78	⇑	P		P	03 37 43.0	+0.6
	baz=57								
X16A	**Lo Mia Camp, P**	57.70	75	⇑	P		P	03 37 44.4	+1.0
	baz=58								
S22A	**4UR Ranch, Cre**	57.81	69	⇓	P		P	03 37 45.1	+0.8
	baz=58								
N27A	**Anderson Farm,**	57.87	64	⇓	P		P	03 37 45.0	+0.7
	baz=58								
EYMN	**Ely**	58.02	51		*e*P		P	03 37 45.0	-0.2
	comp=Z,4.5nm,0.8s								
AAK	**Ala-Archa**	58.28	300	*ce*	P		P	03 37 46.7	-0.6
AAK					pmax		pmax		
	comp=Z,23nm,2.5s								
U21A	**Nageezi**	58.33	71	⇑	P		P	03 37 48.3	+0.6
	baz=58								
O27A	**Beecher Island**	58.34	64	⇑	P		P	03 37 48.3	+0.6
	baz=58								
P26A	**Davis Ranch, A**	58.35	65	⇓	P		P	03 37 48.5	+0.6
	baz=58								
X18A	**Snowflake**	58.45	74	⇑	P		P	03 37 49.3	+0.7
	baz=58								
Q26A	**Hugo**	58.73	66	⇓	P		P	03 37 51.2	+0.8
	baz=58								
214A	**Organ Pipe Nat**	58.75	78	⇑	P		P	03 37 51.3	+0.8
	baz=58								
U22A	**Llaves**	58.80	70	⇑	P		P	03 37 51.5	+0.4
	baz=58								
V22A	**San Miguel Ran**	59.11	71	⇑	P		P	03 37 53.7	+0.4
	baz=59								
S25A	**Robets Cordova**	59.17	67	⇓	P		P	03 37 53.6	0.0
	baz=59								
U23A	**El Rito**	59.20	70	⇑	P		P	03 37 54.4	+0.6
	baz=59,SNR=7.5								
R26A	**Arlington**	59.22	66	⇓	P		P	03 37 54.5	+0.6
	baz=59								
T25A	**Trinidad**	59.56	68	⇓	P		P	03 37 56.8	+0.4
	baz=59								
R27A	**Eads**	59.58	66	⇑	P		P	03 37 57.0	+0.7
	baz=59								
V23A	**Ortiz Mt. (NFS**	59.63	70	⇑	P		P	03 37 58.3	+1.5
	baz=59								
X21A	**Alamocita Cree**	59.72	72	⇓	P		P	03 37 58.5	+1.0
	baz=60,SNR=11								
Y20A	**Horse Springs,**	59.79	73	⇑	P		P	03 37 58.7	+0.8
	baz=60								
KSH	**Kashi**	59.82	297		P		P	03 38 01.3	+3.3
KSH					pP		pP	03 38 07.0	+3.9
KSH					sP		sP	03 38 08.5	+3.5
KSH					PP		PP	03 40 16.1	+6.5
KSH					S		**S**	03 46 12.4	+3.7
KSH					sS		sS	03 46 19.2	+2.2
KSH					ScS		**ScS**	03 47 50.9	+3.3
KSH					SS		**SS**	03 50 09.7	+5.6
KSH					pmax		pmax		
	comp=Z,32nm,2.0s								
KSH					LR		LR		
	comp=N,1µm,12.3s								
KSH					LR		LR		
	comp=E,440nm,10.7s								
KSH					LR		LR		
	comp=Z,110nm,6.6s								
KKAR	**Karatay Array**	59.90	303		*e*P		P	03 37 57.2	-1.2
KKAR					pmax		pmax		
	comp=Z,2.0nm,0.8s								
KKAR	**Karatay Array**	59.90	303		*e*P		P	03 37 57.2	-1.2
	comp=Z,2.2nm,0.8s								
AKTO	**Aktyubinsk**	59.92	316		P		P	03 37 57.4	-0.9
AKTO	**Aktyubinsk**	59.92	316		P		P	03 37 57.4	-0.9
AKTO	**Aktyubinsk**	59.92	316		P		P	03 37 57.4	-0.9
	comp=Z,2.9nm,0.8s,baz=35,slow=7.3,SNR=14								
T26A	**Comanche Natio**	59.98	67	⇓	P		P	03 37 59.0	-0.2
	baz=60								
ABKAR	**Akbulak array**	60.04	314		*e*P		P	03 37 58.3	-0.9
	comp=Z,4.1nm,1.0s								
ANMO	**Albuquerque**	60.08	71		LR		LR	04 02 17.0	
	comp=Z,44nm,18.5s,baz=29,slow=34								
Q29A	**Oakley**	60.09	64	⇓	P		P	03 37 59.6	-0.1
	baz=60								
LAZ	**Ladron**	60.10	72		*e*P		P	03 38 01.2	+1.1
	comp=Z,0.9nm,0.8s								
U25A	**Circle Dot Ran**	60.11	68	⇑	P		P	03 38 00.6	+0.5
	baz=60								
Z20A	**Nine Sixteen R**	60.26	74	⇓	P		P	03 38 01.6	+0.5
	baz=60								
FINES	**FINESS Array B**	60.28	340		P		P	03 38 00.4	-0.2
FINES	**FINESS Array B**	60.28	340		P		P	03 38 00.4	-0.2
	comp=Z,7.1nm,0.8s,baz=42,slow=6.2,SNR=6.1								
V25A	**Rancho No Teng**	60.42	69	⇑	P		P	03 38 02.9	+0.7
	baz=60								
W24A	**Lazy 6 Ranch,**	60.45	70	⇓	P		P	03 38 03.1	+0.6
	baz=60								
Y22A	**Socorro**	60.55	72	⇑	P		P	03 38 03.8	+0.7
	baz=60								
120A	**U Bar Ranch, L**	60.66	74	⇓	P		P	03 38 04.7	+0.8
	baz=60								
V26A	**Tequesquite Ra**	60.90	68	⇑	P		P	03 38 05.7	+0.3
	baz=61								
R30A	**Dighton**	60.90	64	⇓	P		P	03 38 05.5	+0.2
	baz=61								
X24A	**Lazy VL Ranch,**	60.92	71	⇑	P		P	03 38 05.9	+0.3
	baz=61								
U27A	**Thompson Grove**	60.95	67	⇑	P		P	03 38 06.0	+0.3
	baz=61								
W25A	**X Bar L Ranch,**	60.96	69	⇑	P		P	03 38 06.2	+0.3
	baz=61								
Y23A	**Lovelace Mesa,**	61.05	71	⇓	P		P	03 38 06.9	+0.3
	baz=61								
Z22A	**Elephant Butte**	61.06	73	⇑	P		P	03 38 06.9	+0.4
	baz=61								
220A	**Playas Peak, P**	61.20	75	⇑	P		P	03 38 08.1	+0.6
	baz=61								
Y24A	**Capitan**	61.40	71	⇑	P		P	03 38 09.4	+0.6
	baz=61,SNR=7.3								
Y25A	**Mesa, Roswell**	61.81	70	⇓	P		P	03 38 12.0	+0.4
	baz=62,SNR=8.0								
X26A	**CR and CF Fran**	61.82	69	⇑	P		P	03 38 11.6	0.0
	baz=62								
SCHQ	**Schefferville**	62.00	32		P		P	03 38 11.7	-0.7
SCHQ	**Schefferville**	62.00	32		P		P	03 38 11.7	-0.7
	comp=Z,2.1nm,0.9s,baz=342,slow=10,SNR=5.4								
Z25A	**Roswell**	62.28	71	⇓	P		P	03 38 15.4	+0.7
	baz=62								
Y27A	**Causey**	62.67	69	⇓	P		P	03 38 17.6	+0.3
	baz=62,SNR=5.0								
224A	**Cornudas Mount**	62.74	72	⇑	P		P	03 38 18.6	+0.7
	baz=62								
125A	**Gardner Draw,**	62.78	71	⇑	P		P	03 38 18.5	+0.4
	baz=62								
MSTX	**Muleshoe**	62.82	69	⇓	P		P	03 38 18.8	+0.5
	baz=63								
Z27A	**Tatum**	63.07	70	⇓	P		P	03 38 20.3	+0.3
	baz=63								
NB2	**NORSAR Subarra**	63.09	347		P		P	03 38 18.7	-0.9
	comp=Z,2.5nm,0.6s,baz=17,slow=6.9								
NOA	**NORSAR Array B**	63.09	347		P		P	03 38 19.0	-0.6
NOA	**NORSAR Array B**	63.09	347		P		P	03 38 19.0	-0.6
	comp=Z,3.0nm,0.7s,baz=17,slow=6.7,SNR=9.5								
MNTX	**Cornudas Mount**	63.11	73		*e*P		P	03 38 21.1	+1.0
	comp=Z,3.9nm,1.0s								
226B	**Tecolote Peak,**	63.49	71	⇑	P		P	03 38 23.4	+0.6
	baz=63								
Y29A	**Porterfield Fa**	63.50	68	⇓	P		P	03 38 23.3	+0.5
	baz=63								
325A	**Bean Ranch, Si**	63.58	73	⇓	P		P	03 38 23.7	+0.2
	baz=63								
HFS	**Hagfors**	63.63	346		P		P	03 38 21.0	-2.2
HFS	**Hagfors**	63.63	346		P		P	03 38 21.0	-2.2
	comp=Z,1.7nm,0.5s,baz=41,slow=4.7,SNR=20								
X31A	**McDonald Ranch**	63.82	67	⇓	P		P	03 38 25.4	+0.6
	baz=64								
Z29A	**Hungry Hill Ra**	63.93	69	⇑	P		P	03 38 26.1	+0.4
	baz=64								
128A	**Castleberry Fa**	64.00	70	⇑	P		P	03 38 26.3	+0.2
	baz=64								
425A	**Indio Mountain**	64.02	73	⇓	P		P	03 38 26.8	+0.5
	baz=64								
Z30A	**Sanderson Ranc**	64.23	68	⇓	P		P	03 38 28.0	+0.5
	baz=64								
426A	**McDonald Obser**	64.64	72	⇓	P		P	03 38 30.8	+0.3
	baz=64								
Z31A	**Sharp Cattle R**	64.73	68	⇑	P		P	03 38 31.1	+0.2
	baz=64								
328A	**Wristen Ranch,**	64.77	71	⇑	P		P	03 38 31.4	+0.3
	baz=64								
427A	**Hayter Ranch,**	64.85	72	⇑	P		P	03 38 32.0	+0.3
	baz=65								
526A	**Mary Lane Ranc**	65.07	73	⇓	P		P	03 38 33.6	+0.4
	baz=65								
131A	**Roby**	65.09	68	⇑	P		P	03 38 33.6	+0.4
	baz=65								
Z32A	**Haskell**	65.10	67	⇑	P		P	03 38 32.6	-0.6
	baz=65								
329A	**Wagon Wheel Ra**	65.14	70	⇑	P		P	03 38 34.1	+0.5
	baz=65								
527A	**Woodward Ranch**	65.27	72	⇓	P		P	03 38 34.9	+0.4
	baz=65								
428A	**Kincaid Ranch,**	65.34	71	⇑	P		P	03 38 35.3	+0.4
	baz=65,SNR=8.2								
626A	**Big Bend Ranch**	65.44	73	⇑	P		P	03 38 35.9	+0.3
	baz=65								
ABTX	**Abilene, Hawle**	65.53	68	⇓	P		P	03 38 36.6	+0.5
	baz=65								
330A	**Mertzon**	65.64	70	⇓	P		P	03 38 37.3	+0.5
	baz=65								
528A	**Cox Ranch, San**	65.71	72	⇓	P		P	03 38 37.9	+0.5
	baz=66								
429A	**Davenport Ranc**	65.85	71	⇓	P		P	03 38 38.0	-0.2
	baz=66								
TXAR	**Lajitas Array**	65.86	73		P		P	03 38 38.7	+0.4
TXAR	**Lajitas Array**	65.86	73		P		P	03 38 38.7	+0.4
	comp=Z,3.3nm,0.6s,baz=301,slow=4.4,SNR=73								
627A	**Terlingua Ranc**	65.93	73	⇓	P		P	03 38 38.7	-0.1
	baz=66,SNR=5.1								
529A	**Stev Forest Ra**	66.05	71	⇑	P		P	03 38 39.6	+0.1
	baz=66								
430A	**Baggett Ranch,**	66.08	70	⇑	P		P	03 38 39.8	+0.2
	baz=66								
232A	**Coleman**	66.10	68	⇑	P		P	03 38 39.9	+0.2
	baz=66								
331A	**San Angelo**	66.12	69	⇑	P		P	03 38 40.1	+0.2
	baz=66								
PMG	**Port Moresby**	66.17	202		LR		LR	04 04 48.9	
	comp=Z,35nm,18.5s,baz=210,slow=33								
628A	**Black Gap, Mar**	66.18	72	⇓	P		P	03 38 40.5	+0.3
	baz=66								
332A	**Millersview**	66.44	69	⇑	P		P	03 38 42.1	+0.2
	baz=66								
431A	**Sonora**	66.51	70	⇓	P		P	03 38 42.3	-0.1
	baz=66,SNR=5.4								
530A	**J-D Ranch, Com**	66.52	71	⇓	P		P	03 38 42.7	+0.2
	baz=66								
432A	**Menard**	66.80	69	⇓	P		P	03 38 44.3	+0.1
	baz=66								
531A	**Rocksprings**	66.94	70	⇑	P		P	03 38 45.2	+0.1
	baz=67								
WHTX	**Lake Whitney**	67.19	67	⇓	P		P	03 38 47.1	+0.5
	baz=67								
532A	**Rocksprings**	67.32	70	⇑	P		P	03 38 48.0	+0.5
	baz=67								
631A	**Perdido Creek**	67.51	71	⇓	P		P	03 38 48.7	+0.1
	baz=67								
632A	**Uvalde**	67.86	70	⇑	P		P	03 38 51.1	+0.2
	baz=68								
732A	**Laxson Ranch,**	68.37	71	⇓	P		P	03 38 55.1	+1.0
	baz=68								
WVT	**Waverly**	68.86	57		P		P	03 38 56.8	-0.2
WVT					pmax		pmax		
	comp=Z,3.0nm,0.6s								
WVT	**Waverly**	68.86	57		P		P	03 38 56.8	-0.2
	comp=Z,3.2nm,0.6s								
TKL	**Tuckaleechee C**	71.19	55		LR		LR	04 12 29.1	
	comp=Z,48nm,19.1s,baz=319,slow=38								
KBZ	**Khabaz**	71.28	321		P		P	03 39 11.2	-0.5
KBZ	**Khabaz**	71.28	321		P		P	03 39 11.2	-0.5
KBZ	**Khabaz**	71.28	321		P		P	03 39 11.2	-0.5
	comp=Z,3.4nm,0.8s,baz=18,slow=3.2,SNR=6.9								
KWP	**Kalwaria Pacla**	71.95	337		P		P	03 39 16.6	+0.9
KWP					pmax		pmax		
	comp=Z,7.0nm,0.7s								
KWP	**Kalwaria Pacla**	71.95	337		P		P	03 39 16.6	+0.9
	comp=Z,6.8nm,0.7s								
STHS	**Stebnicka Huta**	72.48	338		*e*P		P	03 39 20.2	+1.3
STHS					pmax		pmax		
	comp=Z,5.0nm,0.7s								
STHS	**Stebnicka Huta**	72.48	338		*e*P		P	03 39 20.2	+1.3
UPC	**Upice**	72.50	341		*e*P		P	03 39 19.9	+0.9
UPC					*e*			03 39 33.3	
UPC	**Upice**	72.50	341		*e*P		P	03 39 19.9	+0.9
UPC					*e*PCP		PcP	03 39 33.3	-3.4
DPC	**Dobruska-Polom**	72.60	341		*e*P		P	03 39 20.0	+0.4
DPC					*e*			03 39 26.9	
DPC					*e*			03 39 33.4	
DPC	**Dobruska-Polom**	72.60	341		*e*P		P	03 39 20.0	+0.4
DPC					*e*pP		pP	03 39 26.9	+2.1
DPC					*e*PCP		PcP	03 39 33.4	-3.7
KOLS	**Kolonicke sedl**	72.71	337		*e*P		P	03 39 20.8	+0.5
KOLS					pmax		pmax		
	comp=Z,18nm,2.2s								
KOLS	**Kolonicke sedl**	72.71	337		*e*P		P	03 39 20.8	+0.5
KMSC	**Kings Mountain**	72.76	53	⇓	P		P	03 39 20.5	-0.3
	baz=72								
UZH	**Uzhgorod**	72.99	337		*e*P		P	03 39 25.3	+3.4
UZH					*e*			03 39 32.1	
BUR08	**Bucovina Ar. S**	73.22	335		*e*P		P	03 39 23.4	0.0
PRU	**Pruhonice**	73.27	342		*e*P		P	03 39 24.5	+1.0
PRU	**Pruhonice**	73.27	342		*e*P		P	03 39 24.5	+1.0
VRAC	**Vranov**	73.54	341		P		P	03 39 25.7	+0.5
VRAC	**Vranov**	73.54	341		P		P	03 39 25.7	+0.5
	comp=Z,1.5nm,0.4s,baz=27,slow=11,SNR=3.7								
TREC	**Trest**	73.76	341		*e*P		P	03 39 31.3	+4.8
TREC	**Trest**	73.76	341		*e*pP		P	03 39 31.3	+4.8
KHC	**Kasperske Hory**	74.26	343		*e*P		P	03 39 30.5	+1.0
KHC	**Kasperske Hory**	74.26	343		*e*P		P	03 39 30.5	+1.0
GERES	**GERESS Array B**	74.52	343		P		P	03 39 31.1	+0.1
GERES	**GERESS Array B**	74.52	343		P		P	03 39 31.1	+0.1
	comp=Z,0.8nm,0.4s,baz=23,slow=5.2,SNR=9.5								
CONA	**Conrad Observa**	75.00	341	⇑	*i*pP		P	03 39 34.8	+1.0
	comp=Z,5.2nm,1.1s								
SOKA	**Soboth**	76.36	341	⇓	*i*pP		P	03 39 42.8	+1.1
	comp=Z,4.6nm,1.2s								
WTTA	**Wattenberg**	76.40	343	⇓	*i*pP		P	03 39 43.0	+1.0
	comp=Z,5.0nm,0.8s								
OBKA	**Obir**	76.62	341	⇑	*i*pP		P	03 39 44.5	+1.4
	comp=Z,7.3nm,0.8s								
CTA	**Charters Tower**	76.73	201		P		P	03 39 45.1	+1.4
CTA	**Charters Tower**	76.73	201		P		P	03 39 45.1	+1.4
	comp=Z,2.8nm,0.5s,baz=323,slow=5.1,SNR=3.0								
DAVOX	**Davos/Dischmat**	77.15	345		P		P	03 39 46.7	+0.5
DAVOX	**Davos/Dischmat**	77.15	345		P		P	03 39 46.7	+0.5
	comp=Z,1.5nm,0.4s,baz=356,slow=16,SNR=4.1								
BR131	**Keskin Array S**	78.03	325		*e*P		P	03 39 51.3	+0.1
	comp=Z,1.1nm,0.8s								
BRTR	**Keskin Array B**	78.03	325		P		P	03 39 51.2	+0.1
BRTR	**Keskin Array B**	78.03	325		P		P	03 39 51.2	+0.1
	comp=Z,1.4nm,0.8s,baz=64,slow=3.1,SNR=11								
WRAB	**Tennant Creek**	79.63	212		*e*P		P	03 40 01.0	+1.2
WRAB					pmax		pmax		
	comp=Z,7.0nm,0.9s								
WRAB	**Tennant Creek**	79.63	212		*e*P		P	03 40 01.0	+1.2
	comp=Z,6.7nm,0.9s								
WRA	**Warramunga Arr**	79.64	212		P		P	03 40 00.8	+0.9
WRA	**Warramunga Arr**	79.64	212		P		P	03 40 00.8	+0.9
	comp=Z,5.1nm,0.8s,baz=25,slow=5.9,SNR=21								
AS31	**Alice Springs**	83.27	211		*e*P		P	03 40 20.9	+1.8
ASAR	**Alice Springs**	83.27	211		P		P	03 40 20.6	+1.6
ASAR	**Alice Springs**	83.27	211		P		P	03 40 20.6	+1.6
	comp=Z,1.3nm,0.8s,baz=19,slow=4.9,SNR=48				

s-maj=52.9km s-min=15.1km az=75.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.66**	**182**	P	P	04 55 33.5	+0.6
	1.5nm,0.7s,baz=9.5,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**24.69**	**162**	P	P	04 56 02.9	-0.7
	3.1nm,0.7s,baz=342,slow=10,SNR=18						
ASAR	**Alice Springs**	**28.11**	**166**	P	P	04 56 34.4	-0.1
	0.2nm,0.4s,baz=346,slow=8.5,SNR=3.1						
ASAR				PcP	PcP	04 59 48.8	-0.3
	0.3nm,0.5s,baz=346,slow=2.4,SNR=4.1						
KSRS	**Korea Array**	**33.64**	**2**	P	P	04 57 22.6	-0.3
	1.1nm,0.6s,baz=176,slow=10,SNR=3.3						
STKA	**Stephens Creek**	**38.15**	**159**	P	P	04 58 02.0	+0.3
	1.8nm,0.7s,baz=324,slow=15,SNR=4.4						
SONM	**Songino Array**	**47.28**	**342**	P	P	04 59 14.7	-1.3
	0.5nm,0.6s,baz=148,slow=5.5,SNR=3.2						
PETK	**Petropavlovsk-**	**55.55**	**22**	P	P	05 00 18.3	+0.6
	1.6nm,0.5s,baz=222,slow=1.9,SNR=4.0						
MKAR	**Makanchi Array**	**57.49**	**325**	P	P	05 00 31.6	0.0
	1.0nm,0.5s,baz=118,slow=8.2,SNR=20						
KURBB	**Kurchatov Arra**	**61.68**	**327**	P	P	05 01 00.9	+0.5
	1.6nm,0.5s,baz=130,slow=6.5,SNR=20						
ARCES	**ARCESS Array B**	**90.43**	**340**	P	P	05 03 43.1	-0.6
	0.6nm,0.5s,baz=72,slow=7.8,SNR=7.8						

*ISCJB **09** 04:56:19.2s 0.7, 3.°84S±0.°05× 128.°82E±0.°08, h10km,*
mb3.9/1, Error ellipse: s-maj=11.5km s-min=7.2km
az=11.9
*IDC **09** 04:56:19.8s 2.0, 3.°88S× 128.°50E, h0km, mb4.0/2,*
mb1 4.2/4, mb1mx3.8/21, mbtmp4.0/4, ML3.3/2, Error
ellipse: s-maj=110.7km s-min=25.7km az=71.0
*DJA **09** 04:56:22.4s 0.4, 4°S± 5°× 12°9E± °, h15km, M3.9/5, MLv3.9/5*
ISC 09 04:56:20.3s 0.9, 3.°74S±0.°07× 128.°66E±0.°05, h10km, n9,
σ1s 43/10, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.47**	**276**	P	**Pn**	**04 56 32.2**	**-0.9**
MSAI	**Masohi**	**0.47**	**35**	P	**Pg**	**04 56 28.8**	**-0.7**
MSAI				S	**Sg**	**04 56 35.5**	**-0.2**
BNDI	**Bandanaira**	**1.47**	**122**	P	**Pn**	**04 56 48.1**	**+1.3**
NLAI	**Namlea**	**1.63**	**288**	P	**Pg**	**04 56 53.1**	**+1.4**
FAKI	**Fak Fak**	**3.67**	**77**	P	**Pn**	**04 57 18.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**14.58**	**191**	Pn	**Pn**	**04 59 44.7**	**-2.1**
	0.1nm,0.3s,baz=3.8,slow=15,SNR=3.1						
WRA	**Warramunga Arr**	**17.04**	**161**	Pn	**Pn**	**05 00 17.2**	**-1.6**
	0.2nm,0.3s,baz=343,slow=12,SNR=8.6						
ASAR	**Alice Springs**	**20.45**	**166**	P	**P**	**05 00 58.6**	**+0.4**
	10nm,0.7s,baz=348,slow=11,SNR=96						
MKAR	**Makanchi Array**	**64.78**	**327**	P	**P**	**05 07 00.5**	**+1.3**
	0.9nm,0.7s,baz=126,slow=7.6,SNR=8.8						

*ISCJB **09** 05:01:02.6s 0.4, 10.°69N±0.°03× 62.°46W±0.°03, h83km±7km,*
Error ellipse: s-maj=6.0km s-min=3.9km az=152.6
*TRN **09** 05:01:05.3, 10.°77N× 62.°33W, h85km, MD3.4*
*FUNV **09** 05:01:07.9, 10.°41N× 62.°54W, h32km, MW3.6*
ISC 09 05:01:02.3s 1.2, 10.°63N±0.°04× 62.°46W±0.°03, h90km±9km,
n25, σ2s 11/44, 5C-4D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.23**	**86↑**	*eP*	**Pn**	**05 01 15.9**	**+0.5**
GUIV				*eS*	**Sn**	**05 01 23.5**	**-1.7**
CRUV	**Carupano**	**0.77**	**273↓**	*iP*	**Pn**	**05 01 20.9**	**+1.4**
CRUV				*eS*	**Sn**	**05 01 31.4**	**-1.0**
TRN	**Trinidad (W)**	**1.03**	**89↑**	*iP*	**Pn**	**05 01 23.9**	**+1.5**
TRN				*eS*	**Sn**	**05 01 36.7**	**-0.8**
TPP	**Pointe-a-Pierr**	**1.04**	**107↑**	*iP*	**Pn**	**05 01 24.7**	**+2.3**
TPP				*eS*	**Sn**	**05 01 38.6**	**+1.1**
TBH	**Brigand Hill**	**1.37**	**96**	*eP*	**Pn**	**05 01 28.3**	**+1.8**
TBH				*eS*	**Sn**	**05 01 45.0**	**+0.3**
GRW	**Mount Saint Ca**	**1.71**	**27**	*eP*	**Pn**	**05 01 31.9**	**+1.1**
GRW				*eS*	**Sn**	**05 01 51.0**	**-1.5**
TPR	**Prospect**	**1.74**	**71**	*eS*	**Sn**	**05 01 52.1**	**-0.9**
GRHS	**Sauteurs**	**1.77**	**27**	*eP*	**Pn**	**05 01 32.5**	**+0.9**
GRHS				*eS*	**Sn**	**05 01 52.5**	**-1.3**
ORIV	**Oritupano**	**1.81**	**211**	*eP*	**Pn**	**05 01 32.9**	**+0.7**
ORIV				*eS*	**Sn**	**05 01 51.4**	**-3.4**
GRSS	**Sisters**	**1.85**	**26**	*eP*	**Pn**	**05 01 33.0**	**+0.3**
GRSS				*eS*	**Sn**	**05 01 53.3**	**-2.4**
TOSP	**Speyside**	**2.00**	**70**	*eP*	**Pn**	**05 01 35.5**	**+1.0**
TOSP				*eS*	**Sn**	**05 01 57.5**	**-1.6**
PCRV	**Puerto La Cruz**	**2.19**	**258**	*eP*	**Pn**	**05 01 39.7**	**+2.6**
PCRV				*eS*	**Sn**	**05 02 02.8**	**-0.9**
RIOV	**Rio Grande**	**2.62**	**166↓**	*eP*	**Pn**	**05 01 45.3**	**+2.4**
RIOV				*eS*	**Sn**	**05 02 12.6**	**-1.4**
PRGV	**PARIAGUAN**	**2.85**	**229↓**	*eP*	**Pn**	**05 01 48.5**	**+2.6**
PRGV				*eS*	**Sn**	**05 02 16.9**	**-2.5**
SVB	**Belmont**	**2.88**	**24**	*eP*	**Pn**	**05 01 46.3**	**+0.1**
SVB				*eS*	**Sn**	**05 02 17.6**	**-2.4**
GURV	**El Guri**	**2.92**	**192**	*eP*	**Pn**	**05 01 49.0**	**+2.1**
CUPV	**Cœpira**	**3.33**	**260↑**	*eP*	**Pn**	**05 01 55.2**	**+2.8**
CUPV				*eS*	**Sn**	**05 02 30.2**	**-0.8**
MCLT	**Moule a Chique**	**3.40**	**26**	*eP*	**Pn**	**05 01 54.2**	**+0.9**
MCLT				*eS*	**Sn**	**05 02 29.7**	**-2.9**
BIRV	**Birongo**	**3.75**	**268↑**	*eP*	Pn	05 02 01.5	+3.5
BIRV				*eS*	**Sn**	**05 02 40.9**	**-0.3**
MERV	**Las Mercedes**	**4.03**	**250**	*eP*	**Pn**	**05 02 03.9**	**+2.1**
MERV				*eS*	**Sn**	**05 02 45.3**	**-2.5**
LUEV	**Luepa**	**4.86**	**168**	*eP*	**Pn**	**05 02 14.1**	**+0.9**
LUEV				*eS*	**Sn**	**05 03 03.8**	**-4.6**
TURV	**Turiamo**	**5.30**	**269**	*eP*	**Pn**	**05 02 22.2**	**+3.1**
BAUV	**El Baul**	**5.76**	**254↓**	*eP*	**Pn**	**05 02 26.9**	**+1.6**
BAUV				*eS*	**Sn**	**05 03 25.4**	**-4.6**
PAYV	**Puerto Ayacuch**	**7.30**	**225**	*eP*	**Pn**	**05 02 47.5**	**+1.1**
PAYV				*eS*	Sn	05 04 00.8	-7.0
MONV	**Montecano**	**7.49**	**281**	*eP*	**Pn**	**05 02 51.8**	**+2.9**

*IDC **09** 05:33:11.5s 1.3, 4.°71N× 95.°66E, h0km, mb3.7/8,*
mb1 3.8/10, mb1mx3.7/27, mbtmp3.7/10, ML3.7/1, MS3.2/1,
Ms1 3.2/1, ms1mx2.4/31, Error ellipse: s-maj=54.0km
s-min=16.6km az=52.0
*ISCJB **09** 05:33:16.6s 0.7, 5.°10N±0.°09× 95.°96E±0.°08, h29km,*
mb3.7/8, Error ellipse: s-maj=16.9km s-min=6.3km
az=41.3
*DJA **09** 05:33:18.3s 0.4, 5°N± 6°× 9°6E± °, h10km, M4.3/5, MLv4.3/5*
ISC 09 05:33:17.4s 0.7, 4.°99N±0.°07× 96.°01E±0.°06, h29km, n19,
σ1s 82/20, mb3.8/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**0.87**	**306**	P	**Pn**	**05 33 33.3**	**-0.5**
BSI				S	**Sn**	**05 33 46.9**	**+1.3**
LHMI	**Lhok Sumawe**	**0.96**	**75**	P	**Pn**	**05 33 34.3**	**-0.8**
KCSI	**Kotacane, Aceh**	**2.28**	**130**	P	**Pn**	**05 33 55.4**	**+2.2**
KCSI				S	**Sb**	**05 34 25.1**	**-0.7**
SNSI	**Sinabang, Aceh**	**2.58**	**173**	P	**Pb**	**05 34 04.4**	**+1.4**
TSI	**Tuntungan**	**2.94**	**120**	P	**Pb**	**05 34 10.5**	**+1.2**
PSI	**Prapat**	**3.63**	**127**	Pn	**Pn**	**05 34 13.2**	**+1.3**
	5.4nm,0.3s,baz=313,slow=15,SNR=18						
PSI				Sn	**Sb**	**05 34 59.9**	**-4.7**
	4.4nm,0.3s,baz=268,slow=20,SNR=6.7						
PSI				LR	LR	05 35 57.8	
	comp=Z,291nm,19.8s,baz=287,slow=44						
KULM	**Kulim**	**4.63**	**86**	P	**Pn**	**05 34 27.9**	**+2.4**
IPM	**Ipoh**	**5.03**	**96**	P	**Pn**	**05 34 30.0**	**-1.0**
PBKT	**Sadao Pong**	**12.50**	**23**	P	Pn	05 36 18.8	+5.3
CMAR	**Chiang Mai Arr**	**13.69**	**12**	Pn	**Pn**	**05 36 32.4**	**+2.6**
	baz=198,slow=11,SNR=4.0						
STKI	**Sintang**	**16.20**	**107**	P	Pn	05 36 58.1	-5.1
MKAR	**Makanchi Array**	**43.31**	**346**	P	**P**	**05 41 16.6**	**-0.2**
	0.3nm,0.5s,baz=182,slow=9.2,SNR=4.7						
SONM	**Songino Array**	**43.61**	**10**	P	**P**	**05 41 19.7**	**+0.3**
	0.8nm,0.9s,baz=189,slow=6.7,SNR=2.6						
WRA	**Warramunga Arr**	**45.09**	**125**	P	**P**	**05 41 30.2**	**-1.2**
	0.6nm,0.4s,baz=303,slow=9.3,SNR=9.2						
ASAR	**Alice Springs**	**46.65**	**129**	P	**P**	**05 41 42.8**	**-0.9**
	1.5nm,0.5s,baz=299,slow=7.9,SNR=28						
KURBB	**Kurchatov Arra**	**47.79**	**345**	P	**P**	**05 41 52.0**	**-0.2**
	0.3nm,0.5s,baz=164,slow=6.8,SNR=3.0						
ZALV	**Zalesovo Beam**	**49.66**	**351**	P	**P**	**05 42 07.2**	**+0.8**
	0.3nm,0.3s,baz=178,slow=8.2,SNR=2.2						
BRTR	**Keskin Array B**	**65.72**	**311**	P	**P**	**05 43 58.7**	**-1.1**
	0.4nm,0.5s,baz=125,slow=7.7,SNR=3.6						
ARCES	**ARCESS Array B**	**78.59**	**340**	P	**P**	**05 45 14.3**	**-1.8**
	1.6nm,1.0s,baz=99,slow=7.5,SNR=3.9						

*IDC **09** 05:40:03.9s 0.6, 35.°81S× 103.°02W, h0km, mb4.6/13,*
mb1 4.7/13, mb1mx4.6/19, mbtmp4.6/13, MS4.2/18,
Ms1 4.1/18, ms1mx4.1/24, Error ellipse: s-maj=19.2km
s-min=17.2km az=156.0
*ISCJB **09** 05:40:04.2s 0.4, 36.°03S± 0.°07× 102.°71W± 0.°09, h12km,*
mb4.6/67, MS4.2/22, Error ellipse: s-maj=11.2km
s-min=9.1km az=148.3
*NEIC **09** 05:40:05.5s 0.3, 36.°01S× 102.°69W, h10km, mb4.7/58,*
Error ellipse: s-maj=10.4km s-min=8.5km az=55.0
*BJI **09** 05:40:05.2, 36.°00S× 102.°80W, h10km, mB5.0/3, Ms5.2/2,*
Ms7 5.0/2
*GCMT **09** 05:40:08.0s 0.2, 35.°96S× 103.°02W, h18km±1km, MW5.1,*
Moment Tensor Solution. s52,c67; s89,c141; Moment
tensor: Scale 10^16 Nm; Mrr-0.09±.15; Mθθ-0.88±.14;
Mφφ 0.98±.13; Mrθ-0.72±.31; Mθφ-5.31±.13; Mφr-0.05±.30;
Best double couple: M0 5.40000×10^16 NP1: φ 5.00000°,
δ 82.00000°, λ-1.00000°. NP2: φ 95.00000°, δ 89.00000°,
λ-172.00000°. Principal axes: T 5.4700, Plg 4.0000°,
Azm 230.0000°; N -0.0600, Plg 82.0000°, Azm 105.0000°;
P -5.4100, Plg 6.0000°, Azm 320.0000°; Data Used: II IU
G CN IC.
ISC 09 05:40:05.6s 0.4, 35.°84S±0.°09× 102.°80W±0.°09, h12km,
n353, σ1s 09/337, mb4.7/68, MS4.2/22, 95C-114D,
Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**25.69**	**111**	*eP*	**P**	**05 45 35.5**	**0.0**
	22nm,1.2s						
PLCA	**Paso Flores**	**25.69**	**111**	P	**P**	**05 45 38.4**	**+2.9**
	14nm,1.1s,baz=283,slow=10,SNR=8.1						
PLCA				LR	LR	05 53 10.1	
	comp=Z,309nm,22.0s,baz=7.2,slow=30						
LCO	**Las Campanas**	**27.85**	**85**	P	**P**	**05 45 54.4**	**-0.9**
	13nm,0.8s						
CFAA	**Coronel Fontan**	**28.96**	**92**	LR	LR	05 55 01.3	
	comp=Z,28nm,20.1s,baz=255,slow=31						
USHA	**Ushuaia**	**30.28**	**140**	LR	LR	05 55 24.4	
	comp=Z,1μm,21.6s,baz=248,slow=30						
LVC	**Limon Verde**	**32.20**	**75**	*eP*	**P**	**05 46 34.5**	**+0.6**
	43nm,1.3s						
LVC	**Limon Verde**	**32.20**	**75**	P	**P**	**05 46 36.3**	**+2.4**
	12nm,0.9s,baz=238,slow=7.5,SNR=9.9						
LVC				LR	LR	05 56 05.6	
	comp=Z,588nm,18.4s,baz=244,slow=30						
NNA	**Nana**	**33.37**	**51**	*eP*	**P**	**05 46 44.1**	**+0.2**
ATAH	**Atahualpa**	**36.27**	**44**	P	**P**	**05 47 11.6**	**+2.2**
ATAH	**Atahualpa**	**36.27**	**44**	P	**P**	**05 47 11.6**	**+2.2**
	4.8nm,0.7s,baz=129,slow=1.9,SNR=4.7						
LPAZ	**La Paz**	**36.46**	**67**	*eP*	**P**	**05 47 09.8**	**-1.5**
	36nm,1.2s						
LPAZ	**La Paz**	**36.46**	**67**	P	P	05 47 13.9	+2.7
	20nm,1.0s,baz=223,slow=5.9,SNR=35						
LPAZ				LR	LR	05 58 55.0	
	comp=Z,146nm,18.6s,baz=250,slow=31						
PMSA	**Palmer Station**	**37.03**	**154**	LR	LR	05 58 30.3	
	comp=Z,604nm,18.6s,baz=136,slow=30						
SIV	**San Ignacio**	**42.02**	**73**	P	**P**	**05 47 57.7**	**+0.6**
SIV	**San Ignacio**	**42.02**	**73**	P	**P**	**05 47 57.7**	**+0.6**
	6.8nm,0.9s,baz=243,slow=9.1,SNR=20						
TBI	**Tubuai**	**42.08**	**274**	*eLQ*	LQ	05 57 38.3	
	1μm,33.5s						
TBI				*eLR*	LR	05 59 19.1	
	315nm,23.5s,baz=111						
OTAV	**Otavalo**	**42.45**	**38**	*eP*	**P**	**05 48 01.7**	**+0.7**
	14nm,1.1s						
SAML	**Samuel**	**44.89**	**63**	*eP*	**P**	**05 48 20.4**	**+0.3**
	25nm,1.6s						
PPT2	**Papeete2**	**45.11**	**281**	*eLQ*	LQ	05 58 12.6	
	560nm,26.2s						
PPT2				*eLR*	LR	05 59 15.7	
	224nm,26.8s						
PPT	**Papeete**	**45.12**	**281**	P	**P**	**05 48 22.0**	**0.0**
PPT	**Papeete**	**45.12**	**281**	P	**P**	**05 48 22.0**	**0.0**
	50nm,0.8s,baz=90,slow=20,SNR=4.1						
ROSC	**El Rosal**	**48.49**	**39**	P	**P**	**05 48 49.4**	**+0.6**
ROSC	**El Rosal**	**48.49**	**39**	P	**P**	**05 48 49.4**	**+0.6**
	8.1nm,0.8s,baz=141,slow=2.6,SNR=9.2						
ROSC				LR	LR	06 05 41.3	
	comp=Z,335nm,19.9s,baz=190,slow=32						
BDFB	**Brasilia**	**52.58**	**82**	P	**P**	**05 49 19.9**	**+0.4**
BDFB	**Brasilia**	**52.58**	**82**	P	**P**	**05 49 19.9**	**+0.4**
	3.1nm,0.8s,baz=262,slow=7.7,SNR=5.1						
BDFB				LR	LR	06 10 37.7	
	comp=Z,138nm,19.1s,baz=189,slow=35						
QSPA	**South Pole Qui**	**54.37**	**180**	*eP*	**P**	**05 49 31.4**	**-0.5**
	12nm,0.8s						
QSPA	**South Pole Qui**	**54.37**	**180**	P	P	**05 49 32.2**	**+0.2**
	15nm,0.9s,baz=116,slow=3.7,SNR=31						
SBA	**Scott Base**	**55.36**	**195**	*eP*	**P**	**05 49 38.9**	**+0.1**
	136nm,3.0s						
VNDA	**Vanda**	**56.46**	**195**	*eP*	**P**	**05 49 46.4**	**-0.3**
	7.3nm,1.3s						
VNDA	**Vanda**	**56.46**	**195**	P	**P**	**05 49 46.9**	**+0.2**
	1.2nm,0.8s,baz=82,slow=5.5,SNR=6.4						
VNDA				LR	LR	06 08 22.1	
	comp=Z,202nm,20.6s,baz=98,slow=30						
VNA1	**Neumayer--Stat**	**58.11**	**157**	*eP*	**P**	**05 49 56.1**	**-2.3**
VNA1	**Neumayer--Stat**	**58.11**	**157**	*ePP*	**P**	**05 49 59.3**	**+0.9**
SNAA	**Sanae**	**59.43**	**159**	*eP*	**P**	**05 50 07.2**	**-0.5**
SNAA	**Sanae**	**59.43**	**159**	*eP*	**P**	**05 50 07.0**	**-0.7**
	19nm,1.4s						
SNAA	**Sanae**	**59.43**	**159**	LR	LR	06 13 47.5	
	comp=Z,96nm,18.1s,baz=198,slow=34						
RPZ	**Rata Peaks**	**63.83**	**234**	LR	LR	06 11 03.3	
	comp=Z,311nm,20.5s,baz=57,slow=29						
TXAR	**Lajitas Array**	**64.83**	**359**	P	**P**	**05 50 43.8**	**-0.5**
TXAR	**Lajitas Array**	**64.83**	**359**	P	**P**	**05 50 43.8**	**-0.5**
	0.4nm,0.6s,baz=174,slow=9.9,SNR=3.6						
TXAR				LR	LR	06 13 16.9	
	comp=Z,87nm,21.6s,baz=5.0,slow=31						
631A	**Perdido Creek**	**64.94**	**2**	**↓P**	**P**	**05 50 44.6**	**-0.3**
	baz=66						
627A	**Terlingua Ranc**	**64.95**	**359**	**↑P**	**P**	**05 50 44.5**	**-0.6**
	baz=66						
628A	**Black Gap, Mar**	**64.98**	**360**	**↓P**	**P**	**05 50 44.7**	**-0.6**
	baz=66						
AFI	**Afiamalu**	**65.03**	**271**	LR	LR	06 10 52.1	
	comp=Z,146nm,18.9s,baz=150,slow=28						
626A	**Big Bend Ranch**	**65.06**	**359**	**↓P**	**P**	**05 50 45.4**	**-0.5**
	baz=66						
632A	**Uvalde**	**65.06**	**3**	**↓P**	**P**	**05 50 45.2**	**-0.6**
	baz=66						
526A	**Mary Lane Ranc**	**65.57**	**359**	**↓P**	**P**	**05 50 48.6**	**-0.5**
	baz=66						
529A	**Stev Forest Ra**	**65.62**	**1**	**↓P**	**P**	**05 50 49.2**	**-0.2**
	baz=66						
527A	**Woodward Ranch**	**65.64**	**359**	**↑P**	**P**	**05 50 49.4**	**-0.3**
	baz=66						
528A	**Cox Ranch, San**	**65.66**	**0**	**↑P**	**P**	**05 50 48.9**	**-0.8**
	baz=66						
530A	**J-C Ranch, Com**	**65.66**	**1**	**↓P**	**P**	**05 50 49.0**	**-0.6**
	baz=66						
532A	**Rocksprings**	**65.68**	**3**	**↓P**	**P**	**05 50 48.9**	**-0.9**
	baz=66						
531A	**Rocksprings**	**65.69**	**2**	**↓P**	**P**	**05 50 48.9**	**-1.0**
	baz=66						
JCT	**Junction City**	**66.03**	**3**	*eP*	**P**	**05 50 51.6**	**-0.5**
JCT	**Junction City**	**66.03**	**3**	**↓P**	**P**	**05 50 51.0**	**-1.0**
	baz=66						
429A	**Davenport Ranc**	**66.12**	**1**	**↓P**	**P**	**05 50 51.9**	**-0.7**
	baz=67						
426A	**McDonald Obser**	**66.17**	**359**	**↓P**	**P**	**05 50 52.4**	**-0.7**
	baz=67						
431A	**Sonora**	**66.21**	**2**	**↑P**	**P**	**05 50 52.6**	**-0.6**
	baz=67						
428A	**Kincaid Ranch,**	**66.22**	**0**	**↓P**	**P**	**05 50 53.2**	**-0.1**
	baz=67						
430A	**Baggett Ranch,**	**66.29**	**1**	**↑P**	**P**	**05 50 53.3**	**-0.5**
	baz=67						
425A	**Indio Mountain**	**66.31**	**358**	**↓P**	**P**	**05 50 52.9**	**-1.0**
	baz=67						
427A	**Hayter Ranch,**	**66.34**	**359**	**↑P**	**P**	**05 50 53.2**	**-0.9**
	baz=67						
432A	**Menard**	**66.43**	**3**	**↑P**	**P**	**05 50 53.6**	**-1.0**
	baz=67						
326A	**Caldwell Ranch**	**66.81**	**359**	**↑P**	**P**	**05 50 56.3**	**-0.8**
	baz=67						
331A	**San Angelo**	**66.83**	**2**	**↑P**	**P**	**05 50 56.4**	**-0.7**
	baz=67						
328A	**Wristen Ranch,**	**66.87**	**360**	**↓P**	**P**	**05 50 57.0**	**-0.4**
	baz=67						
325A	**Bean Ranch, Si**	**66.89**	**358**	**↓P**	**P**	**05 50 57.1**	**-0.6**
	baz=67						
330A	**Mertzon**	**66.91**	**2**	**↓P**	**P**	**05 50 56.8**	**-0.8**
	baz=67						
332A	**Millersview**	**66.93**	**3**	**↑P**	**P**	**05 50 57.1**	**-0.7**
	baz=67						
324A	**Moseley Ranch,**	**66.98**	**358**	**↑P**	**P**	**05 50 57.0**	**-1.3**
	baz=68						
329A	**Wagon Wheel Ra**	**66.98**	**1**	**↑P**	**P**	**05 50 57.0**	**-1.1**
	baz=68						
320A	**Kipp Ranch, An**	**67.04**	**355**	**↓P**	**P**	**05 50 58.3**	**-0.3**
	baz=68						
319A	**Douglas**	**67.14**	**354**	**↓P**	**P**	**05 50 58.7**	**-0.5**
	baz=68						
MNTX	**Cornudas Mount**	**67.23**	**358**	*eP*	**P**	**05 51 01.5**	**+1.9**
	1.5nm,0.9s						
231A	**Bronte**	**67.46**	**2**	**↑P**	**P**	**05 51 00.0**	**-1.1**
	baz=68						
226B	**Tecolote Peak,**	**67.58**	**359**	**↑P**	**P**	**05 51 01.1**	**-0.8**
	baz=68						
220A	**Playas Peak, P**	**67.61**	**355**	**↓P**	**P**	**05 51 02.3**	**+0.2**
	baz=68						
224A	**Cornudas Mount**	**67.61**	**357**	**↓P**	**P**	**05 51 00.8**	**-1.4**
	baz=68						
225A	**Deer Hill, Car**	**67.62**	**358**	**↑P**	**P**	**05 51 01.2**	**-1.2**
	baz=68						
GDL2	**Guadalupe Moun**	**67.70**	**359**	*eP*	P	05 50 59.0	-3.7
214A	**Organ Pipe Nat**	**68.09**	**351**	**↑P**	**P**	**05 51 04.8**	**-0.3**
	baz=69						
128A	**Castleberry Fa**	**68.11**	**0**	**↑P**	**P**	**05 51 04.8**	**-0.5**
	baz=69						
127A	**Arkansas Junct**	**68.16**	**359**	**↓P**	**P**	**05 51 05.0**	**-0.6**
	baz=69						
125A	**Gardner Draw,**	**68.17**	**358**	**↑P**	**P**	**05 51 05.1**	**-0.6**
	baz=69						
121A	**Cookes Peak, D**	**68.18**	**355**	**↓P**	**P**	**05 51 05.6**	**-0.3**
	baz=69						
TUC	**Tucson**	**68.21**	**353**	*eP*	**P**	**05 51 06.2**	**+0.3**
	18nm,0.9s						
124A	**Stringfield Ra**	**68.23**	**358**	**↓P**	**P**	**05 51 05.6**	**-0.6**
	baz=69						
120A	**U Bar Ranch, L**	**68.25**	**355**	**↓P**	**P**	**05 51 06.0**	**-0.2**
	baz=69						
Z29A	**Hungry Hill Ra**	**68.75**	**1**	**↑P**	**P**	**05 51 09.1**	**-0.1**
	baz=69						
Z25A	**Roswell**	**68.79**	**358**	**↓P**	**P**	**05 51 09.2**	**-0.3**
	baz=69						
Z20A	**Nine Sixteen R**	**68.81**	**355**	**↑P**	**P**	**05 51 09.8**	**0.0**
	baz=69						
Z31A	**Sharp Cattle R**	**68.85**	**2**	**↓P**	**P**	**05 51 09.3**	**-0.5**
	baz=69						
Z22A	**Elephant Butte**	**68.85**	**356**	**↓P**	**P**	**05 51 09.2**	**-0.7**
	baz=69						
Z32A	**Haskell**	**68.86**	**3**	**↓P**	**P**	**05 51 09.0**	**-0.8**
	baz=69						
Z21A	**St. Cloud Mine**	**68.94**	**356**	**↓P**	**P**	**05 51 10.2**	**-0.4**
	baz=70						
113A	**Mohawk Valley,**	**69.02**	**350**	**↑P**	**P**	**05 51 10.6**	**-0.2**
	baz=70						
Y27A	**Causey**	**69.37**	**360**	**↑P**	**P**	**05 51 12.1**	**-1.0**
	baz=70						
Y28A	**McKinney Farm,**	**69.39**	**0**	**↑P**	**P**	**05 51 11.8**	**-1.5**
	baz=70						
Y25A	**Mesa, Roswell**	**69.43**	**358**	**↓P**	**P**	**05 51 12.4**	**-1.1**
	baz=70						
MSTX	**Muleshoe**	**69.45**	**0**	**↓P**	**P**	**05 51 12.6**	**-1.0**
	baz=70						
Y24A	**Capitan**	**69.45**	**358**	**↓P**	**P**	**05 51 13.1**	**-0.7**
	baz=70						
Y23A	**Lovelace Mesa,**	**69.48**	**357**	**↓P**	**P**	**05 51 13.2**	**-0.7**
	baz=70						
Y31A	**Rekieta Farm,**	**69.48**	**2**	**↓P**	**P**	**05 51 12.9**	**-0.8**
	baz=70						
Y20A	**Horse Springs,**	**69.59**	**355**	**↓P**	**P**	**05 51 14.6**	**-0.1**
	baz=70						
Y21A	**Point of Rocks**	**69.64**	**356**	**↑P**	**P**	**05 51 15.5**	**+0.5**
	baz=70						
X29A	**Tulia**	**69.93**	**1**	**↓P**	**P**	**05 51 16.1**	**-0.5**
	baz=70						
X30A	**Coker Ranch, T**	**69.95**	**2**	**↑P**	**P**	**05 51 15.9**	**-0.7**
	baz=70						
LAZ	**Ladron**	**70.00**	**356**	*eP*	**P**	**05 51 18.8**	**+1.7**
X28A	**Dimmitt**	**70.00**	**1**	**↑P**	**P**	**05 51 16.1**	**-0.9**
	baz=70						
X26A	**CR and CF Fran**	**70.04**	**359**	**↑P**	**P**	**05 51 17.3**	**0.0**
	baz=71						
Y14A	**Wickenburg**	**70.07**	**351**	**↓P**	**P**	**05 51 17.5**	**+0.1**
	baz=71						
X21A	**Alamocita Cree**	**70.08**	**356**	**↓P**	**P**	**05 51 17.5**

baz=73
SHPR Sheep Range 72.89 350 eP P 05 51 35.5 +1.0
PTRM Twissleman Ran 72.96 345 eP P 05 51 37.4 +2.7
S28A Manter 73.07 1 ⇑P P 05 51 34.7 -0.7
baz=74
S26A Kim 73.10 359 ⇓P P 05 51 34.5 -1.1
baz=74
S29A Ulysses 73.11 1 ⇑P P 05 51 34.8 -0.8
baz=74
S24A Houchin Ranch, 73.15 358 ⇑P P 05 51 34.6 -1.6
baz=74
S25A Robets Cordova 73.15 359 ⇓P P 05 51 35.6 -0.4
baz=74
SDCO Great Sand Dun 73.26 358 eP P 05 51 36.6 -0.2
4.4nm,0.9s
S21A Coal Bank Pass 73.28 356 ⇓P P 05 51 36.0 -0.9
baz=74
S22A 4UR Ranch, Cre 73.32 357 ⇑P P 05 51 35.7 -1.4
baz=74
S20A Disappointment 73.48 355 ⇓P P 05 51 36.4 -1.7
baz=74
R25A Fountain Ranch 73.63 359 ⇑P P 05 51 37.3 -1.5
baz=74
CCUT Cedar City 73.68 351 eP P 05 51 40.3 +1.1
6.9nm,1.0s
R23A Moffat 73.72 358 ⇑P P 05 51 38.2 -1.3
baz=74
GRAC Grapevine Rang 73.73 348 ⇓P P 05 51 38.0 -1.3
baz=74
R24A Sanders Place, 73.74 358 ⇓P P 05 51 38.0 -1.5
baz=74
R26A Arlington 73.78 359 ⇓P P 05 51 38.1 -1.5
baz=74
R22A Saguache, Gunn 73.79 357 ⇓P P 05 51 38.5 -1.4
baz=74
PV01 Paradox Valley 73.80 355 eP P 05 51 40.2 +0.3
401nm,0.9s
R28A Tribune 73.82 1 ⇑P P 05 51 38.1 -1.7
baz=74
R20A Redvale 73.84 355 ⇑P P 05 51 38.8 -1.3
baz=74
R21A Cimarron 73.97 356 ⇓P P 05 51 39.4 -1.5
baz=74
PV04 Paradox Valley 74.08 355 eP P 05 51 43.2 +1.7
Q29A Oakley 74.38 1 ⇓P P 05 51 41.6 -1.5
baz=75
Q25A Bedland, Calha 74.40 359 ⇓P P 05 51 41.5 -1.8
baz=75
Q24A Divide 74.47 358 ⇑P P 05 51 43.4 -0.5
baz=75
MSU Marysvale 74.49 352 eP P 05 51 47.3 +3.4
Q20A Ridgley Place, 74.60 356 ⇑P P 05 51 43.8 -0.6
baz=75
MLAC Mammoth Lakes 74.60 347 ⇓P P 05 51 44.1 -0.5
baz=75
SMCO Snowmass 74.75 357 eP P 05 51 47.2 +1.6
10nm,1.2s
P23A Jefferson 74.90 358 ⇑P P 05 51 45.7 -0.7
baz=75
SRU San Rafael 74.92 354 P P 05 51 47.8 +1.4
6.8nm,0.9s
P26A Davis Ranch, A 75.03 360 ⇑P P 05 51 46.0 -0.9
baz=76
P29A Atwood 75.09 1 ⇓P P 05 51 46.6 -0.6
baz=76
P20A De Beque 75.15 356 ⇓P P 05 51 47.4 -0.3
baz=76
P22A Eagle 75.16 357 ⇓P P 05 51 47.5 -0.2
baz=76
TMUT Trail Mountain 75.17 353 eP P 05 51 49.9 +2.0
12nm,1.0s
NV11 Mina Array Sit 75.26 348 eP P 05 51 48.7 +0.4
NVAR Mina Array Bea 75.28 347 P P 05 51 48.5 0.0
NVAR Mina Array Bea 75.28 347 P P 05 51 48.5 0.0
6.6nm,0.8s,baz=179,slow=7.5,SNR=18
NVAR LR LR 06 17 45.7
comp=Z,82nm,19.5s,baz=145,slow=30
CMB Columbia Colle 75.29 346 eP P 05 51 48.4 0.0
8.4nm,1.1s
ISCO Idaho Springs 75.32 358 eP P 05 51 50.9 +2.2
18nm,2.1s
ISCO Idaho Springs 75.32 358 ⇓P P 05 51 48.5 -0.2
baz=76
P19A Cripple Cowboy 75.32 355 ⇓P P 05 51 48.4 -0.3
baz=76
OLIL Olney 75.44 12 eP P 05 51 49.5 +0.4
21nm,1.1s
O25A Wiggins 75.59 359 ⇑P P 05 51 50.0 -0.1
baz=76
O20A White River Ci 75.77 356 ⇑P P 05 51 51.2 0.0
baz=76
NLU North Lily Min 75.91 353 eP P 05 51 53.4 +1.3
10nm,1.1s
O19A Miners Draw (B 75.99 355 ⇑P P 05 51 52.9 +0.5
baz=76
DUG Dugway 76.23 352 eP P 05 51 57.0 +3.3
9.9nm,1.4s
DUG Dugway 76.23 352 ⇓P P 05 51 54.2 +0.4
baz=77
DAU Daniels Canyon 76.28 353 eP P 05 51 55.0 +0.8
MAW Mawson 76.30 174 LR LR 06 21 56.5
comp=Z,123nm,18.1s,baz=14,slow=33
N22A Wattenberg Ran 76.35 357 ⇑P P 05 51 54.0 -0.5
baz=77
N21A Black Mountain 76.35 356 ⇓P P 05 51 54.0 -0.6
baz=77
N20A Spence Gulch, 76.47 356 ⇑P P 05 51 55.1 -0.1
baz=77
JLU Jordanelle 76.49 353 eP P 05 51 58.6 +3.2
5.1nm,0.9s
PAHR Pah Rah Range 76.72 347 eP P 05 51 59.0 +2.4
5.1nm,0.9s
BMN Battle Mountai 77.05 349 eP P 05 52 01.7 +3.2
7.5nm,1.0s
M21A Separation Pea 77.19 356 ⇑P P 05 51 58.9 -0.4
baz=78
HWUT Hardware Ranch 77.50 353 eP P 05 52 03.0 +2.0
2.9nm,0.9s
L21A Rawlins 77.55 357 ⇑P P 05 52 01.1 -0.1
baz=78
L22A Ellis Ranch, M 77.57 357 ⇓P P 05 52 01.6 +0.3
baz=78
L20A Wamsutter 77.64 356 ⇑P P 05 52 01.4 -0.3
baz=78
L19A Farson 77.80 355 ⇑P P 05 52 02.0 -0.7
baz=78
DZM Mont Dzumac 78.01 251 eLR LR 06 16 12.9
463nm,23.9s
WDC Whiskeytown Da 78.19 345 eP P 05 52 06.2 +1.6
8.4nm,1.0s
K22A Casper 78.19 357 ⇓P P 05 52 04.5 -0.3
baz=79
K20A Yellowstone Ra 78.29 356 ⇓P P 05 52 04.4 -0.9
baz=79,SNR=6.3
BW06 Boulder Array 78.48 355 eP P 05 52 06.2 -0.2
8.0nm,0.7s
PDAR Pinedale Array 78.48 355 P P 05 52 06.1 -0.3
PDAR Pinedale Array 78.48 355 P P 05 52 06.1 -0.3
7.0nm,0.9s,baz=157,slow=6.2,SNR=21
PDAR LR LR 06 23 05.1
comp=Z,51nm,18.9s,baz=147,slow=33
K19A Absolon Red Bu 78.49 355 ⇑P P 05 52 05.6 -0.8
baz=79
KHMM Horse Mountain 78.73 344 eP P 05 52 10.9 +3.1
16nm,1.1s
J19A Crowheart 78.94 355 ⇓P P 05 52 07.9 -0.9
baz=80
MOD Modoc 79.02 347 eP P 05 52 11.7 +2.4
9.8nm,1.1s
WVOR Wild Horse Val 79.24 348 eP P 05 52 11.1 +0.7
8.7nm,1.1s
SNOW Snow King Moun 79.26 354 eP P 05 52 12.3 +1.6
10nm,1.0s
TPAW Teton Pass 79.31 354 eP P 05 52 12.6 +1.6
12nm,1.0s
YBH Yreka Blue Hor 79.33 345 eP P 05 52 10.8 -0.2
5.9nm,0.9s
I21A Big Trails, Te 79.39 357 ⇑P P 05 52 09.7 -1.6
baz=80
LOHW Long Hollow 79.40 354 eP P 05 52 14.2 +2.8
7.8nm,1.4s
DCID1 Drake Creek 79.43 354 eP P 05 52 13.7 +2.1
18nm,1.1s
MOOW Moose Ponds 79.55 354 eP P 05 52 15.0 +2.7
4.1nm,0.9s
I20A Worland 79.57 356 ⇑P P 05 52 12.4 +0.2
baz=80,SNR=9.7
RSSD Black Hills 79.60 359 eP P 05 52 14.0 +1.5
5.3nm,1.1s
I19A Meeteetse 79.70 355 ⇑P P 05 52 12.6 -0.5
baz=80
IMW Indian Meadow 79.71 354 eP P 05 52 13.8 +0.5
5.4nm,0.9s
HLID Hailey 79.74 351 eP P 05 52 13.4 +0.2
12nm,0.8s
I16A Newdale 79.74 354 ⇓P P 05 52 13.5 +0.3
baz=80
I14A Mackay 79.99 352 ⇑P P 05 52 15.0 +0.4
baz=80
I12A Atlanta 80.05 351 ⇓P P 05 52 15.4 +0.4
baz=81
H26A Fairpoint 80.08 0 ⇑P P 05 52 15.2 +0.2
baz=81
H20A Greybull 80.09 356 ⇑P P 05 52 15.5 +0.5
baz=81
HUMO Hull Mountain 80.22 345 eP P 05 52 18.9 +3.3
7.4nm,1.2s
H24A Dirks Ranch, A 80.23 359 ⇓P P 05 52 15.9 +0.1
baz=81
H18A Shoshone NF, C 80.39 355 ⇑P P 05 52 17.4 +0.6
baz=81
H16A Russell Place, 80.54 354 ⇓P P 05 52 17.3 -0.3
baz=81,SNR=6.0
QLMT Earthquake Lak 80.68 354 eP P 05 52 21.2 +2.9
H12A Diamond D Ranc 80.76 351 ⇓P P 05 52 18.8 +0.1
baz=81
RLMT Red Lodge 80.80 355 eP P 05 52 20.6 +1.6
7.2nm,1.0s
MCMT McKenzie Canyo 80.81 353 eP P 05 52 19.5 +0.4
2.7nm,1.0s
G27A Dupree 80.85 1 ⇑P P 05 52 19.2 +0.2
baz=81
G18A Lazy EL Ranch, 81.02 355 ⇓P P 05 52 20.5 +0.4
baz=82
G17A Pierce Place, 81.11 354 ⇓P P 05 52 20.2 -0.3
baz=82
SPMN St. Paul 81.20 7 ⇑P P 05 52 20.7 -0.1
baz=82
F23A Volborg 81.22 358 ⇓P P 05 52 20.8 -0.3
baz=82
F22A Rosebud 81.31 358 ⇓P P 05 52 21.0 -0.5
baz=82
F24A Ekalaka 81.33 359 ⇓P P 05 52 21.7 +0.1
baz=82
G12A Big Creek, Yel 81.39 351 ⇓P P 05 52 21.6 -0.5
baz=82
BOZ Bozeman (W) 81.51 354 eP P 05 52 22.8 +0.1
4.4nm,0.9s
F19A Roth Farm, Mol 81.51 356 ⇓P P 05 52 22.4 -0.2
baz=82
F18A Big Timber 81.61 355 ⇓P P 05 52 22.8 -0.3
baz=82
F16A Kennard Place, 81.64 354 ⇓P P 05 52 23.3 0.0
baz=82
F17A Fitzpatrick Pl 81.68 354 ⇑P P 05 52 23.6 +0.1
baz=82,SNR=7.5
F14A Wisdom 81.84 353 ⇑P P 05 52 24.7 +0.3
baz=82
E19A Rath Farm, Rou 82.11 356 ⇑P P 05 52 26.0 +0.4
baz=83
E20A Meyer Farm, Mu 82.11 356 ⇓P P 05 52 25.4 -0.3
baz=83
E17A Martinsdale 82.25 354 ⇑P P 05 52 26.1 -0.5
baz=83
E18A Harlowton 82.28 355 ⇑P P 05 52 26.5 -0.2
baz=83
E16A East Helena 82.39 354 ⇓P P 05 52 27.5 +0.3
baz=83,SNR=7.4
COWI Conover 82.49 10 eP P 05 52 27.9 +0.2
4.9nm,0.8s
D24A Glendive 82.59 359 ⇑P P 05 52 28.0 -0.1
baz=83
D21A La Casta Ranch 82.62 357 ⇓P P 05 52 28.3 0.0
baz=83
D23A Lindsay 82.67 358 ⇓P P 05 52 28.5 0.0
baz=83
D22A Cohagen 82.67 358 ⇑P P 05 52 28.4 -0.1
baz=83
E12A Beaver Dam Sad 82.69 351 ⇓P P 05 52 28.7 -0.1
baz=83
D16A Dana Ranch, Ca 82.87 354 ⇑P P 05 52 29.5 -0.2
baz=83
D18A Linhart Farms, 82.90 355 ⇓P P 05 52 29.9 +0.1
baz=83
MSO Missoula 82.91 352 eP P 05 52 32.4 +2.6
2.4nm,1.0s
MSO Missoula 82.91 352 ⇓P P 05 52 29.7 -0.2
baz=84
CHMT Chamberlain Mo 82.92 353 eP P 05 52 31.2 +1.1
D17A Six Diamond Ra 82.92 355 ⇓P P 05 52 28.5 -1.5
baz=84
D14A Greenough 83.11 353 ⇓P P 05 52 30.5 -0.4
baz=84
D13A Huson 83.22 352 ⇓P P 05 52 30.7 -0.7
baz=84
HAWA Hanford 83.24 348 eP P 05 52 34.7 +3.2
6.1nm,0.9s
C22A Vida 83.26 358 ⇓P P 05 52 31.0 -0.6
baz=84
SLMT Seeley Lake 83.27 353 eP P 05 52 32.6 +0.8
C23A Lambert 83.30 358 ⇑P P 05 52 31.4 -0.4
baz=84
C20A Veseth Ranch, 83.31 356 ⇑P P 05 52 31.7 -0.1
baz=84
C19A Slack Wire Ran 83.39 356 ⇓P P 05 52 32.0 -0.3
baz=84
C17A Wharram Farm, 83.41 355 ⇑P P 05 52 32.0 -0.4
baz=84
SWMT Swartz Lake 83.58 352 eP P 05 52 34.8 +1.4
C16A Fuhringer Ranc 83.66 354 ⇓P P 05 52 34.4 +0.7
baz=84,SNR=6.3
C15A Salmond Ranch, 83.71 353 ⇓P P 05 52 33.7 -0.4
baz=84
EGMT Eagleton 83.72 355 ⇑P P 05 52 33.6 -0.4
baz=84
C14A Swan Lake 83.81 353 ⇑P P 05 52 33.8 -0.7
baz=84
C13A Hot Springs 83.81 352 ⇑P P 05 52 34.3 -0.1
baz=84
DGMT Dagmar 83.95 359 ⇑P P 05 52 34.8 -0.3
baz=84
LON Longmire 83.98 347 eP P 05 52 36.2 +0.9
5.5nm,1.1s
AGMN Agassiz Nation 84.00 5 eP P 05 52 35.4 +0.1
31nm,1.1s
BSMT Bassoo Peak 84.01 352 eP P 05 52 38.3 +2.7
EYMN Ely 84.03 8 eP P 05 52 37.9 +2.4
7.6nm,1.1s
B20A Solberg Farm, 84.04 357 ⇑P P 05 52 35.8 +0.2
baz=85
B17A L&G Farms, Che 84.07 355 ⇑P P 05 52 35.8 +0.1
baz=85
LONY Lake Ozonia 84.08 20 eP P 05 52 34.6 -1.2
6.4nm,1.0s
LONY ePP PP 05 55 45.8 -4.6
B18A Beardsley Farm 84.09 355 ⇓P P 05 52 35.8 -0.1
baz=85
B15A Bradely Ranch, 84.23 353 ⇓P P 05 52 36.6 -0.1
baz=85,SNR=6.7
B14A Marquette Ranc 84.35 353 ⇑P P 05 52 37.2 -0.1
baz=85
A22A Carney Farms, 84.51 358 ⇑P P 05 52 37.6 -0.3
baz=85
A19A Klindworth Far 84.56 356 ⇑P P 05 52 38.8 +0.5
baz=85
NEW Newport 84.71 350 eP P 05 52 39.3 +0.3
4.9nm,0.8s
NEW Newport 84.71 350 ⇓P P 05 52 39.2 +0.2
baz=85
A17A Triple J Farms 84.71 355 ⇓P P 05 52 39.2 +0.2
baz=85
A15A Johnson Ranch, 84.91 353 ⇓P P 05 52 40.2 +0.1
baz=86
A14A Double T Ranch 84.97 353 ⇓P P 05 52 40.1 -0.3
baz=86,SNR=6.9
A13A Flathead Natio 85.03 352 ⇓P P 05 52 40.7 0.0
baz=86
WALA Waterton Lakes 85.11 353 eP P 05 52 41.8 +0.7
0.2nm,1.1s
STKA Stephens Creek 89.56 230 LR LR 06 26 40.5
comp=Z,234nm,18.9s,baz=205,slow=31
SCHQ Schefferville 95.45 20 LR LR 06 30 25.3
comp=Z,144nm,21.6s,baz=234,slow=32
YKA Yellowknife Ar 98.46 354 LR LR 06 34 43.5
comp=Z,7.6nm,18.3s,baz=305,slow=33
BOSA Boshof 99.36 135 LR LR 06 34 05.5
comp=Z,129nm,18.8s,baz=165,slow=33
SJPF Ste Jean 121.09 57 ePKIKP PKPdf 05 58 57.9 0.0
25nm,1.2s
AVF Avril sur Loir 125.37 54 ePKIKP PKPdf 05 59 06.4 +0.5
6.6nm,0.8s
CLL Collm 132.51 50 ePKPdf PKPdf 05 59 21.0 +1.6
GERES GERESS Array B 132.62 53 PKP PKPdf 05 59 20.5 +0.7
GERES GERESS Array B 132.62 53 PKP PKPdf 05 59 20.5 +0.7
1.8nm,0.8s,baz=193,slow=3.8,SNR=10
VYHS Vyhne 135.95 55 ePKP PKPdf 05 59 30.4 +4.4
ARCES ARCESS Array B 136.29 24 PKP PKPdf 05 59 25.6 -0.3
ARCES ARCESS Array B 136.29 24 PKP PKPdf 05 59 25.6 -0.3
0.9nm,0.7s,baz=284,slow=3.6,SNR=4.5
FINES FINESS Array B 139.14 35 PKP PKPdf 05 59 31.2 -0.2
FINES FINESS Array B 139.14 35 PKP PKPdf 05 59 31.2 -0.2
1.5nm,0.7s,baz=260,slow=4.1,SNR=5.3
CN2 Changchun 142.55 297 ePKP PKPdf 05 59 36.0 -2.1
NJ2 Nanjing 145.43 276 ePKPbc PKPdf 05 59 41.2 -2.3
BR131 Keskin Array S 145.60 70 ePKPbc PKPab 05 59 44.2 -0.1
BRTR Keskin Array B 145.60 70 PKPbc PKPdf 05 59 43.6 -0.1
BRTR Keskin Array B 145.60 70 PKPbc PKPdf 05 59 43.6 -0.1
4.1nm,0.9s,baz=218,slow=2.2,SNR=15
ENH Enshi 152.46 268 ePKPbc PKPbc 06 00 01.5 -0.4
KBZ Khabaz 152.63 63 PKPbc PKPbc 06 00 01.8 +0.1
KBZ Khabaz 152.63 63 PKPbc PKPbc 06 00 01.8 +0.1
7.2nm,0.8s,baz=239,slow=0.5,SNR=13
HHC Hu-ho-hao-te 152.71 291 ePKPbc PKPdf 05 59 54.8 -0.3
HHC PKS PKSdf 06 03 27.8 -1.8
HHC PP PP 06 03 50.0 +3.7
HHC AMB AMB
comp=Z,26nm,5.2s
HHC LR LR
comp=N,150nm,18.2s
HHC LR LR
comp=E,200nm,18.0s
HHC LR LR
comp=Z,190nm,15.1s
GYA Guiyang 153.19 258 ePKPbc PKPdf 05 59 55.8 -0.5
GYA PKPab PKPab 06 00 18.0 +2.5
GYA PKS PKSdf 06 03 28.9 -2.0
GYA PP PP 06 03 52.4 +3.2
GYA AMB AMB
comp=Z,90nm,7.8s
CMAR Chiang Mai Arr 154.13 234 PKP PKPdf 05 59 57.7 0.0
CMAR Chiang Mai Arr 154.13 234 PKP PKPdf 05 59 57.7 0.0
comp=Z,0.5nm,0.3s,baz=222,slow=0.9,SNR=5.6
ULN Ulaanbaatar 154.90 308 ePKPab PKPab 06 00 20.5 -1.6
SONM Songino Array 155.32 308 PKP PKPdf 05 59 58.0 -0.6
SONM PKPbc PKPab 06 00 07.9 -16
SONM PKPab PKPab 06 00 24.1 +0.2
SONM Songino Array 155.32 308 PKP PKPdf 05 59 58.0 -0.6
comp=Z,0.2nm,0.4s,baz=162,slow=1.4,SNR=3.1
SONM PKPbc PKPab 06 00 07.9 -16
comp=Z,1.3nm,0.8s,baz=123,slow=1.7,SNR=8.2
SONM PKPab PKPab 06 00 24.1 +0.2
comp=Z,3.0nm,0.8s,baz=90,slow=2.2,SNR=13
KMI Kunming 155.61 251 PKP PKPdf 06 00 02.0 +2.2
CD2 Chengdu 157.32 265 PKP PKPdf 06 00 01.0 -0.6
LZH Lanzhou 158.46 279 ePKP PKPdf 06 00 05.1 +2.1
LZH pPKP pPKPdf 06 00 08.3 +1.1
LZH sPKP 06 00 09.6
LZH LR LR
comp=N,120nm,18.0s
LZH LR LR
comp=E,110nm,18.1s
LZH LR LR
comp=Z,160nm,20.2s
ZALV Zalesovo Beam 161.13 346 PKP PKPdf 06 00 02.4 -2.8
ZALV Zalesovo Beam 161.13 346 PKP PKPdf 06 00 02.4 -2.8
comp=Z,0.5nm,0.5s,baz=343,slow=1.5,SNR=2.7
ABKAR Akbulak array 161.58 38 ePKPdf PKPdf 06 00 04.8 -1.0

*MDD **09** 05:50:08.5±1.8,36°.79N×11°.58W,h0km,mb4.1/4,Error ellipse: s-maj=15.6km s-min=15.3km az=32.0,PRXIMO*
*INMG **09** 05:50:09.6±0.8,36°.71N×11°.63W,h10km,ML2.0,Error ellipse: s-maj=5.1km s-min=3.3km az=90.0*
*CSEM **09** 05:50:10.1±0.3,36°.88N×11°.45W,h10km,ML2.9/13,Error ellipse: s-maj=5.3km s-min=4.6km az=81.0*

ISC 09 05:50:07.9±3.6,36.8N±0.1×11.6W±0.2,h10km,n65,
σ0s90/111,1C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**2.22**	**81**	*e*Pn	**Pn**	**05 50 45.1**	**+0.3**
PFVI				*e*Sn	**Sn**	**05 51 12.1**	**-0.2**
PFVI				A	A	05 51 13.9	
	3.9nm,0.1s						
PFVI	**Vila Bisbo**	**2.22**	**81**	⇑P	**Pn**	**05 50 45.1**	**+0.3**
	4.6nm,0.1s,SNR=18						
PFVI				S	**Sn**	**05 51 11.6**	**-0.7**
	8.1nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.22**	**81**	P	**Pn**	**05 50 45.1**	**+0.3**
	4.6nm,0.1s,SNR=18						
PFVI				S	**Sn**	**05 51 11.6**	**-0.7**
	8.1nm,0.2s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**05 51 12.1**	**-0.2**
	3.9nm,0.1s						
MORF	**Marmelete**	**2.39**	**77**	*e*Pn	**Pn**	**05 50 47.9**	**+0.8**
MORF				*e*Sn	**Sn**	**05 51 16.2**	**-0.3**
MORF				A	A	05 51 25.8	
	4.9nm,0.9s						
MORF	**Marmelete**	**2.39**	**77**	Pn	**Pn**	**05 50 47.9**	**+0.8**
MORF				Sn	**Sn**	**05 51 16.2**	**-0.3**
	4.9nm,0.9s						
MORF	**Marmelete**	**2.39**	**77**	Pn	**Pn**	**05 50 47.9**	**+0.8**
MORF				*e*Sn	**Sn**	**05 51 16.2**	**-0.3**
	4.9nm,0.9s						
PTEO	**Sao Teotonio**	**2.39**	**71**	*e*Pn	**Pn**	**05 50 48.1**	**+1.0**
PTEO	**Sao Teotonio**	**2.39**	**71**	Pn	**Pn**	**05 50 48.1**	**+1.0**
PTEO	**Sao Teotonio**	**2.39**	**71**	Pn	**Pn**	**05 50 48.1**	**+1.0**
PNCL	**Nicolau / Gran**	**2.75**	**61**	*e*Pn	**Pn**	**05 50 53.2**	**+1.2**
PNCL				*e*Sn	**Sn**	**05 51 25.5**	**+0.3**
PNCL				A	A	05 51 28.0	
	3.5nm,0.1s						
PNCL	**Nicolau / Gran**	**2.75**	**61**	*e*Pn	**Pn**	**05 50 53.2**	**+1.2**
PNCL				*e*Sn	**Sn**	**05 51 25.5**	**+0.3**
	3.5nm,0.1s						
PMAFR	**Mafra**	**2.80**	**40**	*e*Sn	**Sn**	**05 51 27.6**	**+1.0**
PMAFR				A	A	05 51 29.1	
	17nm,0.2s						
PMAFR	**Mafra**	**2.80**	**40**	P	**Pn**	**05 50 52.8**	**0.0**
	1.1nm,0.1s,SNR=18						
PMAFR				S	**Sn**	**05 51 26.7**	**+0.1**
	12nm,0.1s,SNR=12						
PMAFR	**Mafra**	**2.80**	**40**	P	**Pn**	**05 50 52.8**	**0.0**
	1.1nm,0.1s,SNR=18						
PMAFR				S	**Sn**	**05 51 26.7**	**+0.1**
	12nm,0.1s,SNR=12						
PMAFR				*e*Sn	**Sn**	**05 51 27.6**	**+1.0**
	17nm,0.2s						
PCVE	**Castro Verde**	**2.94**	**73**	*e*Pn	**Pn**	**05 50 55.5**	**+0.9**
PCVE				*e*Sn	**Sn**	**05 51 30.1**	**+0.2**
PCVE				A	A	05 51 32.9	
	2.0nm,0.2s						
PCVE	**Castro Verde**	**2.94**	**73**	Pn	**Pn**	**05 50 55.5**	**+0.9**
PCVE				Sn	**Sn**	**05 51 30.1**	**+0.2**
	2.0nm,0.2s						
PCVE	**Castro Verde**	**2.94**	**73**	Pn	**Pn**	**05 50 55.5**	**+0.9**
PCVE				*e*Sn	**Sn**	**05 51 30.1**	**+0.2**
	2.0nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.94**	**81**	*e*Pn	**Pn**	**05 50 55.6**	**+0.8**
PBDV				*e*Sn	**Sn**	**05 51 30.7**	**+0.5**
PBDV				A	A	05 51 35.8	
	2.5nm,0.3s						
PBDV	**Barranco-do-Ve**	**2.94**	**81**	Pn	**Pn**	**05 50 55.6**	**+0.8**
PBDV				Sn	**Sn**	**05 51 30.7**	**+0.5**
	2.5nm,0.3s						
PBDV	**Barranco-do-Ve**	**2.94**	**81**	Pn	**Pn**	**05 50 55.6**	**+0.8**
PBDV				*e*Sn	**Sn**	**05 51 30.7**	**+0.5**
	2.5nm,0.3s						
MOE	**Montemor**	**3.07**	**55**	*e*Sn	**Sn**	**05 51 33.7**	**+0.4**
MOE	**Montemor**	**3.07**	**55**	Sn	**Sn**	**05 51 33.7**	**+0.4**
MOE	**Montemor**	**3.07**	**55**	Sn	**Sn**	**05 51 33.7**	**+0.4**
PVAQ	**Vaqueiros**	**3.14**	**78**	*e*Pn	**Pn**	**05 50 58.2**	**+0.8**
PVAQ				*e*Sn	**Sn**	**05 51 34.6**	**-0.3**
PVAQ				A	A	05 51 37.2	
	2.8nm,0.1s						
PVAQ	**Vaqueiros**	**3.14**	**78**	Pn	**Pn**	**05 50 58.2**	**+0.8**
PVAQ				Sn	**Sn**	**05 51 34.6**	**-0.3**
	2.8nm,0.1s						
PVAQ	**Vaqueiros**	**3.14**	**78**	Pn	**Pn**	**05 50 58.2**	**+0.8**
PVAQ				*e*Sn	**Sn**	**05 51 34.6**	**-0.3**
	2.8nm,0.1s						

PBEJ	**Beja**	**3.19**	**67**	*e*Sn		**Sn**	**05 51 36.5**	**+0.3**
PBEJ	**Beja**	**3.19**	**67**	Sn		**Sn**	**05 51 36.5**	**+0.3**
PBEJ	**Beja**	**3.19**	**67**	Sn		**Sn**	**05 51 36.5**	**+0.3**
EGRO	**El Granado**	**3.34**	**76**	P		**Pn**	**05 51 01.0**	**+0.8**
	0.6nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**05 51 39.3**	**-0.7**
	1.2nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**3.34**	**76**	P		**Pn**	**05 51 01.0**	**+0.8**
	0.6nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**05 51 39.3**	**-0.7**
	1.2nm,0.1s,SNR=7.9							
PMTG	**Montagril**	**3.47**	**49**	*e*Pn		**Pn**	**05 51 02.9**	**+0.9**
PMTG				*e*Sn		**Sn**	**05 51 43.2**	**0.0**
PMTG				A		A	05 51 48.6	
	2.2nm,0.1s							
PMTG	**Montagril**	**3.47**	**49**	*e*Pn		**Pn**	**05 51 02.9**	**+0.9**
PMTG				*e*Sn		**Sn**	**05 51 43.2**	**0.0**
	2.2nm,0.1s							
PESTR	**Estremoz**	**3.76**	**56**	*e*Sn		**Sn**	**05 51 50.0**	**-0.3**
PESTR	**Estremoz**	**3.76**	**56**	Sn		**Sn**	**05 51 50.0**	**-0.3**
PESTR	**Estremoz**	**3.76**	**56**	Sn		**Sn**	**05 51 50.0**	**-0.3**
PBAR	**Barrancos**	**3.85**	**68**	*e*Pn		**Pn**	**05 51 08.7**	**+1.5**
PBAR				*e*Sn		**Sn**	**05 51 51.8**	**-0.7**
PBAR				A		A	05 51 58.5	
	1.2nm,0.2s							
PBAR	**Barrancos**	**3.85**	**68**	Pn		**Pn**	**05 51 08.7**	**+1.5**
PBAR				Sn		**Sn**	**05 51 51.8**	**-0.7**
	1.2nm,0.2s							
PBAR	**Barrancos**	**3.85**	**68**	Pn		**Pn**	**05 51 08.7**	**+1.5**
PBAR				*e*Sn		**Sn**	**05 51 51.8**	**-0.7**
	1.2nm,0.2s							
EMIN	**Mina Concepcio**	**4.02**	**75**	P		**Pn**	**05 51 10.0**	**+0.5**
	0.8nm,0.1s,SNR=10							
EMIN				S		**Sn**	**05 51 55.7**	**-1.0**
	1.3nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.02**	**75**	P		**Pn**	**05 51 10.0**	**+0.5**
	0.8nm,0.1s,SNR=10							
EMIN				S		**Sn**	**05 51 55.7**	**-1.0**
	1.3nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**4.10**	**60**	P		**Pn**	**05 51 11.2**	**+0.6**
	0.6nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**05 51 58.2**	**-0.4**
	2.8nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**4.10**	**60**	P		**Pn**	**05 51 11.2**	**+0.6**
	0.6nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**05 51 58.2**	**-0.4**
	2.8nm,0.2s,SNR=7.9							
PMRV	**Marv??o**	**4.20**	**50**	*e*Pn		**Pn**	**05 51 12.7**	**+0.6**
PMRV				*e*Sn		**Sn**	**05 52 00.4**	**-0.8**
PMRV				A		A	05 52 04.7	
	2.7nm,0.2s							
PMRV	**Marv??o**	**4.20**	**50**	Pn		**Pn**	**05 51 12.7**	**+0.6**
PMRV				Sn		**Sn**	**05 52 00.4**	**-0.8**
	2.7nm,0.2s							
PMRV	**Marv??o**	**4.20**	**50**	Pn		**Pn**	**05 51 12.7**	**+0.6**
PMRV				*e*Sn		**Sn**	**05 52 00.4**	**-0.8**
	2.7nm,0.2s							
PCBR	**Castelo Branco**	**4.41**	**46**	*e*Pn		**Pn**	**05 51 16.0**	**+1.1**
PCBR				*e*Sn		**Sn**	**05 52 05.3**	**-1.1**
PCBR				A		A	05 52 10.6	
	1.3nm,0.3s							
PCBR	**Castelo Branco**	**4.41**	**46**	Pn		**Pn**	**05 51 16.0**	**+1.1**
PCBR				Sn		**Sn**	**05 52 05.3**	**-1.1**
	0.6nm,0.3s							
PCBR	**Castelo Branco**	**4.41**	**46**	Pn		**Pn**	**05 51 16.0**	**+1.1**
PCBR				*e*Sn		**Sn**	**05 52 05.3**	**-1.1**
	1.3nm,0.3s							
ESPR	**Espera**	**4.58**	**88**	P		**Pn**	**05 51 17.6**	**+0.4**
	3.2nm,0.1s,SNR=4.6							
ESPR				S		**Sn**	**05 52 08.8**	**-1.8**
	4.8nm,0.2s,SNR=7.9							
ESPR	**Espera**	**4.58**	**88**	P		**Pn**	**05 51 17.6**	**+0.4**
	3.2nm,0.1s,SNR=4.6							
ESPR				S		**Sn**	**05 52 08.8**	**-1.8**
	4.8nm,0.2s,SNR=7.9							
PVIS	**Viseu**	**4.84**	**35**	*e*Sn		**Sn**	**05 52 16.6**	**-0.4**
PVIS	**Viseu**	**4.84**	**35**	Sn		**Sn**	**05 52 16.6**	**-0.4**
PVIS	**Viseu**	**4.84**	**35**	Sn		**Sn**	**05 52 16.6**	**-0.4**
EPLA	**Plasencia**	**5.39**	**51**	P		**Pn**	**05 51 29.0**	**+0.5**
	0.1nm,0.1s,SNR=7.9							
EPLA				S		**Sn**	**05 52 29.0**	**-1.6**
	0.8nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**5.39**	**51**	P		**Pn**	**05 51 29.0**	**+0.5**
	0.1nm,0.1s,SNR=7.9							
EPLA				S		**Sn**	**05 52 29.0**	**-1.6**
	0.8nm,0.1s,SNR=7.9							
POLO	**Lamas de Olo**	**5.42**	**32**	*e*Sn		**Sn**	**05 52 29.7**	**-1.6**
POLO				A		A	05 52 32.4	
	0.8nm,0.3s							
POLO	**Lamas de Olo**	**5.42**	**32**	*e*Sn		**Sn**	**05 52 29.7**	**-1.6**
	0.8nm,0.3s							
MVO	**Moncorvo**	**5.60**	**38**	*e*Sn		**Sn**	**05 52 34.3**	**-1.4**
MVO				A		A	05 52 38.8	
	1.8nm,0.3s							
MVO	**Moncorvo**	**5.60**	**38**	P		**Pn**	**05 51 32.1**	**+0.8**
	0.5nm,0.2s,SNR=7.9							
MVO				S		**Sn**	**05 52 34.4**	**-1.4**
	2.5nm,0.1s,SNR=7.2							
MVO	**Moncorvo**	**5.60**	**38**	P		**Pn**	**05 51 32.1**	**+0.8**
	0.5nm,0.2s,SNR=7.9							
MVO				S		**Sn**	**05 52 34.4**	**-1.4**
	2.5nm,0.1s,SNR=7.2							
EADA	**Adamuz**	**5.72**	**74**	P		**Pn**	**05 51 33.5**	**+0.5**
	1.8nm,0.2s,SNR=7.9							
EADA				S		**Sn**	**05 52 36.5**	**-2.2**
	0.7nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**5.72**	**74**	P		**Pn**	**05 51 33.5**	**+0.5**
	1.8nm,0.2s,SNR=7.9							
EADA				S		**Sn**	**05 52 36.5**	**-2.2**
	0.7nm,0.1s,SNR=7.9							
PGAV	**Gavieira, Arco**	**5.74**	**25**	*e*Sn		**Sn**	**05 52 37.8**	**-1.5**
PGAV				A		A	05 52 42.1	
	1.9nm,0.2s							
PGAV	**Gavieira, Arco**	**5.74**	**25**	*e*Sn		**Sn**	**05 52 37.8**	**-1.5**
	1.9nm,0.2s							

IDC 09 05:57:32.3±0.7, 55°58S×26°36W, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.0/19, mbtmp4.1/7, ML3.1/1, MS3.6/2, Ms1 3.6/2, ms1mx3.1/21, Error ellipse: s-maj=25.4km s-min=19.5km az=70.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**18.99**	**157**	P	P	06 01 55.0	-0.1
	0.1nm,0.3s,baz=317,slow=8.2,SNR=11						
QSPA	**South Pole Qui**	**34.67**	**180**	P	P	06 04 23.1	-0.2
	6.0nm,0.6s,baz=206,slow=2.1,SNR=76						
CFAA	**Coronel Fontan**	**37.81**	**292**	P	P	06 04 49.4	-0.9
	0.5nm,0.7s,baz=147,slow=7.2,SNR=11						
VNDA	**Vanda**	**47.07**	**182**	P	P	06 06 05.0	0.0
	3.0nm,0.7s,baz=188,slow=6.3,SNR=29						
VNDA				LR	LR	06 26 00.9	
	comp=Z,42nm,20.8s,baz=15,slow=36						
LBTB	**Lobatse**	**48.42**	**73**	P	P	06 06 16.3	0.0
	2.2nm,0.8s,baz=225,slow=14,SNR=4.3						
LPAZ	**La Paz**	**50.49**	**304**	P	P	06 06 33.3	+0.5
	4.0nm,0.8s,baz=159,slow=6.0,SNR=16						
TORD	**Torodi Ar. Bea**	**72.42**	**29**	P	P	06 09 00.0	-0.1
	2.3nm,0.6s,baz=198,slow=6.4,SNR=22						
KEST	**Kesra**	**95.94**	**29**	LR	LR	06 47 09.9	
	comp=Z,45nm,21.7s,baz=219,slow=31						
ARCES	**ARCESS Array B**	**130.33**	**21**	PKP	PKPdf	06 16 42.6	-0.3
	1.4nm,1.0s,baz=236,slow=1.3,SNR=5.9						
ILAR	**Eielson Array**	**150.15**	**312**	PKPbc	PKPbc	06 17 23.4	0.0
	2.4nm,0.8s,baz=124,slow=1.8,SNR=19						
SONM	**Songino Array**	**150.23**	**85**	PKPbc	PKPbc	06 17 23.8	-0.6
	0.3nm,0.3s,baz=232,slow=1.6,SNR=3.8						

IDC 09 06:08:05.0±3.2, 31°64S×177°93W, h0km, mb4.3/2, mb1 4.4/4, mb1mx3.9/18, mbtmp4.2/4, ML3.7/2, MS3.5/2, Ms1 3.5/2, ms1mx2.6/36, Error ellipse: s-maj=74.2km s-min=29.7km az=116.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.38**	**0**	Pn	Pn	06 08 46.0	+0.8
	38nm,0.3s,baz=74,slow=21,SNR=4.3						
RAO				Sn	Sn	06 09 10.5	-4.7
	186nm,0.3s,baz=42,slow=21,SNR=7.7						
RAO				LR	LR	06 09 36.7	
	comp=Z,261nm,20.9s,baz=72,slow=38						
URZ	**Urewera**	**7.75**	**210**	Pn	Pn	06 09 59.6	+0.6
	0.6nm,0.3s,baz=90,slow=16,SNR=2.0						
ASAR	**Alice Springs**	**43.12**	**268**	P	P	06 16 07.3	0.0
	1.9nm,0.5s,baz=107,slow=7.6,SNR=30						
WRA	**Warramunga Arr**	**44.22**	**273**	P	P	06 16 15.8	-0.4
	2.5nm,0.3s,baz=111,slow=8.1,SNR=82						
KAPI	**Kappang**	**63.89**	**281**	LR	LR	06 41 56.7	
	comp=Z,139nm,20.9s,baz=108,slow=32						
FINES	**FINESS Array B**	**146.33**	**339**	PKPbc	PKPdf	06 27 45.6	-0.1
	2.6nm,0.9s,baz=40,slow=2.4,SNR=4.0						

IDC 09 06:29:00.4±3.0, 31°.58S×177°.69W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/17, mbtmp3.8/3, ML2.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.9/18, Error ellipse: s-maj=70.2km s-min=36.2km az=116.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.33**	**355**	LR	LR	06 30 10.4	
	comp=Z,526nm,20.1s,baz=93,slow=30						
URZ	**Urewera**	**7.91**	**211**	Pn	Pn	06 30 55.7	-1.0
	0.2nm,0.3s,baz=259,slow=5.2,SNR=3.4						
URZ				Sn	Sn	06 32 27.0	0.0
	0.5nm,0.3s,baz=161,slow=22,SNR=1.7						
ASAR	**Alice Springs**	**43.32**	**268**	P	P	06 37 04.8	+0.4
	0.8nm,0.6s,baz=103,slow=7.3,SNR=10						
WRA	**Warramunga Arr**	**44.42**	**273**	P	P	06 37 12.9	-0.3
	1.0nm,0.4s,baz=112,slow=8.0,SNR=18						
FINES	**FINESS Array B**	**146.34**	**340**	PKPbc	PKPdf	06 48 41.5	+0.3
	3.8nm,0.9s,baz=64,slow=6.3,SNR=4.3						

*IDC **09** 06:31:13.0±0.7, 15°.00N×119°.20E, h0km, mb4.0/15, mb1 4.1/16, mb1mx4.0/28, mbtmp4.0/16, ML4.5/1, MS3.2/2, Ms1 3.3/2, ms1mx2.7/31, Error ellipse: s-maj=23.1km s-min=15.0km az=69.0*

*ISCJB **09** 06:31:17.6±0.5, 15°.08N±0°.06×119°.07E±0°.05, h39km, mb4.0/15, Error ellipse: s-maj=9.6km s-min=6.9km az=18.6*

*MAN **09** 06:31:28, 15°.65N×119°.81E, h15km, mb4.6, ML3.6, MS3.6*

ISC 09 06:31:19.3±0.6, 15°.10N±0°.07×119°.15E±0°.09, h39km, n25, σ1§23/27, mb4.0/15, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**1.00**	**48**	*e*P	**Pn**	**06 31 34.0**	**-2.7**
SCZP				*e*S	Sn	06 31 42.3	-7.3
BOLP	**Bolinao**	**1.47**	**30**	*e*P	**Pn**	**06 31 41.9**	**-1.4**
BCPH	**Baguio City Da**	**1.88**	**47**	*i*P	**Pn**	**06 31 48.4**	**-0.7**
BCPH				*i* S	Sn	06 32 04.0	-7.6
TGY	**Tagaytay City**	**2.00**	**120**	Pn	**Pn**	**06 31 51.1**	**+0.5**
	55nm,0.3s,baz=238,slow=15,SNR=3.7						
TGY				Sn	**Sn**	**06 32 14.9**	**+0.5**
	153nm,0.3s,baz=241,slow=20,SNR=6.7						
BALP	**Baler**	**2.43**	**75**	*e*P	**Pn**	**06 31 57.0**	**+0.5**
ABRA	**Dolores**	**2.94**	**30**	*e*P	**Pn**	**06 32 04.1**	**+0.5**
CAUP	**Cauayan**	**3.16**	**54**	*e*P	**Pn**	**06 32 08.6**	**+2.1**
APYP	**Conner**	**3.40**	**36**	*e*P	**Pn**	**06 32 11.8**	**+1.9**
DAV	**Davao City (W)**	**10.17**	**141**	LR	LR	06 38 38.1	
	comp=Z,159nm,20.9s,baz=292,slow=44						
CMAR	**Chiang Mai Arr**	**19.63**	**283**	P	**P**	**06 35 44.8**	**+0.1**
	0.6nm,0.3s,baz=92,slow=10.0,SNR=4.8						
CMAR				LR	LR	06 42 09.5	
	comp=Z,61nm,20.1s,baz=180,slow=33						
PSI	**Prapat**	**23.39**	**240**	P	**P**	**06 36 26.3**	**+1.4**
	0.9nm,0.4s,baz=78,slow=9.3,SNR=3.9						
KSRS	**Korea Array**	**23.59**	**18**	P	**P**	**06 36 26.4**	**-0.1**
	0.4nm,0.3s,baz=164,slow=15,SNR=3.4						
SONM	**Songino Array**	**34.30**	**345**	P	**P**	**06 38 01.6**	**-0.5**
	1.2nm,0.6s,baz=166,slow=9.4,SNR=8.1						
WRA	**Warramunga Arr**	**37.90**	**156**	P	**P**	**06 38 30.2**	**-2.7**
	1.1nm,0.4s,baz=329,slow=10.0,SNR=25						
ASAR	**Alice Springs**	**41.14**	**159**	P	**P**	**06 38 58.0**	**-1.9**
	2.7nm,0.7s,baz=334,slow=7.2,SNR=25						
ASAR				PcP	**PcP**	**06 40 58.5**	**-0.4**
	1.1nm,0.8s,baz=348,slow=3.0,SNR=5.0						
MKAR	**Makanchi Array**	**44.02**	**324**	P	**P**	**06 39 23.2**	**+0.1**
	1.0nm,0.8s,baz=129,slow=9.7,SNR=12						
MKAR				PcP	**PcP**	**06 41 08.0**	**-0.2**
	0.4nm,0.8s,baz=112,slow=4.2,SNR=2.8						
ZALV	**Zalesovo Beam**	**47.13**	**333**	P	**P**	**06 39 46.7**	**-0.8**
	0.5nm,0.3s,baz=116,slow=3.4,SNR=3.9						
KURBB	**Kurchatov Arra**	**48.19**	**326**	P	**P**	**06 39 55.6**	**-0.2**
	1.3nm,0.7s,baz=116,slow=8.9,SNR=13						
PETK	**Petropavlovsk-**	**48.55**	**30**	P	**P**	**06 39 59.2**	**+0.6**
	8.3nm,0.7s,baz=213,slow=6.8,SNR=12						
BVAR	**Borovoye Array**	**53.77**	**326**	P	**P**	**06 40 37.7**	**0.0**
	1.0nm,0.6s,baz=126,slow=7.4,SNR=3.9						
AKTO	**Aktyubinsk**	**60.18**	**320**	P	**P**	**06 41 22.9**	**-0.2**
	2.4nm,0.8s,baz=88,slow=9.1,SNR=7.1						
KBZ	**Khabaz**	**69.83**	**311**	P	**P**	**06 42 26.0**	**0.0**
	1.6nm,0.9s,baz=152,slow=5.4,SNR=4.1						
KDAK	**Kodiak Island**	**76.45**	**33**	P	**P**	**06 43 05.3**	**+0.5**
	2.5nm,0.8s,baz=296,slow=11,SNR=3.8						
BRTR	**Keskin Array B**	**77.11**	**308**	P	**P**	**06 43 09.3**	**+0.2**
	0.4nm,0.5s,baz=141,slow=5.2,SNR=3.2						
ARCES	**ARCESS Array B**	**77.24**	**339**	P	**P**	**06 43 10.7**	**+1.6**
	1.2nm,0.8s,baz=76,slow=11,SNR=3.6						

*IDC **09** 07:43:24.2±0.8, 10°.17S×160°.58E, h0km, mb4.3/12, mb1 4.4/12, mb1mx4.3/19, mbtmp4.3/12, MS3.7/11, Ms1 3.7/11, ms1mx3.5/23, Error ellipse: s-maj=28.5km s-min=16.0km az=91.0*

*ISCJB **09** 07:43:27.8±0.7, 10°.18S±0°.06×160°.61E±0°.09, h37km, mb4.3/15, MS3.7/10, Error ellipse: s-maj=13.1km s-min=7.7km az=168.2*

*NEIC **09** 07:43:29.7±0.5, 10°.12S×160°.55E, h35km, mb4.5/3, Error ellipse: s-maj=12.2km s-min=9.5km az=100.0*

*AUST **09** 07:44:38.9, 12°.97S×157°.29E, h450km*

ISC 09 07:43:29.9±0.7, 10°.13S±0°.07×160°.6E±0°.1, h37km, n56, σ1§01/51, mb4.3/15, MS3.6/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.94**	**318**	*e*Pg	**Pn**	**07 43 46.5**	**-0.1**
HNR				*e*Sg	**Sn**	**07 43 59.6**	**+0.8**
PMG	**Port Moresby**	**13.25**	**272**	*e*Pn	**Pn**	**07 46 33.6**	**-2.0**
PMG	**Port Moresby**	**13.25**	**272**	LR	LR	07 51 22.7	
	comp=Z,266nm,19.6s,baz=176,slow=36						
CTA	**Charters Tower**	**17.00**	**233**	Pn	**P**	**07 47 26.2**	**-0.2**
CTA	**Charters Tower**	**17.00**	**233**	Pn	**P**	**07 47 26.2**	**-0.2**
	0.5nm,0.3s,baz=66,slow=15,SNR=7.7						
CTAO	**Charters Tower**	**17.00**	**233**	*e*P	**P**	**07 47 28.8**	**+2.3**
	13nm,0.8s						
COEN	**Coen**	**17.45**	**256**	*e*Pn	**Pn**	**07 47 30.0**	**-0.5**
COEN	**Coen**	**17.45**	**256**	P	**P**	**07 47 33.9**	**+2.4**
	baz=14,SNR=4.6						
EIDS	**Eidsvold**	**17.64**	**210**	*e*Pn	**P**	**07 47 34.7**	**+1.2**
EIDS	**Eidsvold**	**17.64**	**210**	P	**P**	**07 47 35.8**	**+2.4**
	baz=14,SNR=3.7						
MTSU	**Mount Surprise**	**17.66**	**241**	P	**P**	**07 47 36.7**	**+2.9**
	baz=14,SNR=7.2						
RMQ	**Roma**	**19.74**	**213**	P	**Pn**	**07 47 59.2**	**+1.0**
	baz=16,SNR=7.4						
CMSA	**Cobar Meteorol**	**25.39**	**211**	P	**P**	**07 48 53.9**	**+0.1**
	baz=21,SNR=24						
WRAB	**Tennant Creek**	**27.11**	**246**	*e*P	**P**	**07 49 09.0**	**-0.6**
	13nm,1.0s						
WRA	**Warramunga Arr**	**27.12**	**246**	P	**P**	**07 49 09.1**	**-0.5**
WRA	**Warramunga Arr**	**27.12**	**246**	P	**P**	**07 49 09.1**	**-0.5**
	10nm,0.7s,baz=73,slow=9.3,SNR=67						
AFI	**Afiamalu**	**27.28**	**101**	LR	LR	07 57 37.5	
	comp=Z,137nm,19.1s,baz=187,slow=31						
KDU	**Kakadu**	**27.67**	**262**	P	**P**	**07 49 14.1**	**-0.5**
	baz=24,SNR=4.5						
RAO	**Raoul Island**	**27.68**	**136**	LR	LR	07 58 11.8	
	comp=Z,71nm,21.1s,baz=252,slow=32						
STKA	**Stephens Creek**	**27.88**	**216**	*e*P	**P**	**07 49 16.3**	**0.0**
STKA	**Stephens Creek**	**27.88**	**216**	P	**P**	**07 49 16.1**	**-0.2**
	3.4nm,0.4s,baz=53,slow=13,SNR=14						
STKA				LR	LR	08 00 20.6	
	comp=Z,126nm,18.5s,baz=25,slow=36						
STKA	**Stephens Creek**	**27.88**	**216**	P	**P**	**07 49 16.3**	**0.0**
	baz=24,SNR=7.2						
ASAR	**Alice Springs**	**28.79**	**239**	P	**P**	**07 49 23.0**	**-1.5**
ASAR	**Alice Springs**	**28.79**	**239**	P	**P**	**07 49 23.0**	**-1.5**
	0.9nm,0.4s,baz=64,slow=10,SNR=14						
ASAR				LR	LR	08 00 35.6	
	comp=Z,224nm,18.7s,baz=88,slow=36						
MTN	**Manton Dam**	**28.98**	**262**	P	**P**	**07 49 25.8**	**-0.5**
	baz=26,SNR=3.3						
KNRA	**Kununurra**	**31.48**	**257**	P	**P**	**07 49 48.2**	**-0.2**
	baz=28,SNR=9.4						
KNRA				S	S	07 53 58.5	-56
	baz=28,SNR=5.4						

BBOO	**Buckleboo**	**31.94**	**221**	P		**P**	**07 49 52.0**	**-0.2**
	baz=28,SNR=11							
RPZ	**Rata Peaks**	**34.67**	**167**	P		**P**	**07 50 14.5**	**-1.4**
RPZ	**Rata Peaks**	**34.67**	**167**	P		**P**	**07 50 14.5**	**-1.4**
	8.0nm,0.9s,baz=40,slow=7.9,SNR=3.0							
FITZ	**Fitzroy Crossi**	**34.76**	**253**	*e*P		**P**	**07 50 16.3**	**-0.7**
	15nm,0.7s							
MEEK	**Meekatharra**	**42.85**	**242**	P		**P**	**07 51 24.7**	**-0.1**
	baz=39,SNR=4.5							
KSRS	**Korea Array**	**56.37**	**329**	P		**P**	**07 53 07.7**	**+0.3**
	2.0nm,0.8s,baz=151,slow=6.3,SNR=3.0							
KSRS				LR		LR	08 13 59.7	
	comp=Z,36nm,19.3s,baz=162,slow=32							
KSAR	**Wonju Array Be**	**56.38**	**329**	P		**P**	**07 53 07.7**	**+0.2**
ASAJ	**Asahikawa**	**56.41**	**345**	P		**P**	**07 53 07.8**	**+0.2**
ASAJ	**Asahikawa**	**56.41**	**345**	P		**P**	**07 53 07.8**	**+0.2**
	7.9nm,1.0s,baz=263,slow=28,SNR=4.9							
USRK	**Ussuriysk Arra**	**59.97**	**337**	P		**P**	**07 53 32.6**	**+0.1**
	2.4nm,0.7s,baz=142,slow=5.7,SNR=8.4							
PETK	**Petropavlovsk-**	**63.04**	**358**	LR		LR	08 17 09.2	
	comp=Z,53nm,20.2s,baz=352,slow=32							
VNDA	**Vanda**	**67.37**	**180**	*e*P		**P**	**07 54 21.6**	**+0.7**
VNDA	**Vanda**	**67.37**	**180**	P		**P**	**07 54 21.2**	**+0.4**
	2.1nm,0.6s,baz=338,slow=6.8,SNR=17							
VNDA				LR		LR	08 16 59.7	
	comp=Z,72nm,21.3s,baz=285,slow=30							
SONM	**Songino Array**	**74.99**	**326**	P		**P**	**07 55 08.2**	**+0.6**
SONM	**Songino Array**	**74.99**	**326**	P		**P**	**07 55 08.2**	**+0.6**
	1.3nm,0.6s,baz=137,slow=5.2,SNR=9.1							
MAW	**Mawson**	**83.64**	**202**	P		**P**	**07 55 54.2**	**0.0**
MAW	**Mawson**	**83.64**	**202**	P		**P**	**07 55 54.2**	**0.0**
	1.6nm,0.8s,baz=30,slow=0.9,SNR=5.2							
MAW				LR		LR	08 27 06.2	
	comp=Z,64nm,19.0s,baz=331,slow=31							
ILAR	**Eielson Array**	**84.33**	**20**	P		**P**	**07 55 57.5**	**-0.3**
ILAR	**Eielson Array**	**84.33**	**20**	P		**P**	**07 55 57.4**	**-0.3**
	0.5nm,0.5s,baz=249,slow=5.2,SNR=7.6							
ILAR				LR		LR	08 30 52.6	
	comp=Z,50nm,18.4s,baz=297,slow=34							
MKAR	**Makanchi Array**	**89.41**	**318**	P		**P**	**07 56 22.9**	**0.0**
MKAR	**Makanchi Array**	**89.41**	**318**	P		**P**	**07 56 22.9**	**0.0**
	0.4nm,0.7s,baz=89,slow=5.0,SNR=4.3							
ZALV	**Zalesovo Beam**	**89.88**	**325**	LR		LR	08 34 16.2	
	comp=Z,21nm,18.6s,baz=70,slow=34							
YKA	**Yellowknife Ar**	**96.51**	**28**	P		P	07 57 00.5	+5.3
YKA	**Yellowknife Ar**	**96.51**	**28**	P		P	07 57 00.5	+5.3
	0.5nm,0.7s,baz=266,slow=5.5,SNR=3.1							
BRTR	**Keskin Array B**	**124.59**	**312**	PKP		**PKPdf**	**08 02 27.0**	**+1.1**
BRTR	**Keskin Array B**	**124.59**	**312**	PKP		**PKPdf**	**08 02 27.0**	**+1.1**
	0.3nm,0.4s,baz=42,slow=2.3,SNR=2.9							
LPAZ	**La Paz**	**125.11**	**118**	PKP		**PKPdf**	**08 02 28.0**	**-0.2**
LPAZ				*e*PKPdf		**PKiKP**	**08 02 28.2**	**-0.3**
LPAZ	**La Paz**	**125.11**	**118**	PKP		**PKPdf**	**08 02 28.0**	**-0.2**
	1.0nm,0.9s,baz=252,slow=1.0,SNR=3.3							
TORD	**Torodi Ar. Bea**	**159.11**	**280**	PKPab		**PKPab**	**08 04 01.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**159.11**	**280**	PKPab		**PKPab**	**08 04 01.4**	**-0.6**
	0.8nm,1.0s,baz=79,slow=4.2,SNR=3.1							

*IDC **09** 08:14:21.0±1.2, 0°.18N×121°.63E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/21, mbtmp3.6/4, Error ellipse: s-maj=144.2km s-min=20.4km az=63.0*

*ISCJB **09** 08:14:37.7±0.9, 0°.28N±0°.09×121°.73E±0°.09, h148km, mb3.5/4, Error ellipse: s-maj=13.5km s-min=11.3km az=139.5*

*DJA **09** 08:14:41.8±1.1, 0°N±5°×12°2E±°, h128km±9km, M3.3/5, MLv3.3/5*

ISC 09 08:14:38.6±1.0, 0°.28N±0°.08×121°.80E±0°.09, h148km, n9, σ1§89/12, mb3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.24**	**34**	P	**Pn**	**08 14 59.8**	**+1.0**
MRSI				S	**Sn**	**08 15 16.0**	**+1.9**
GTOI	**

TPIG	**Tehuac#an**	**3.14**	**66**	*i* P		Pn	08 43 10.0	-0.8
TPIG				*i* S		**Sn**	**08 43 47.0**	**-0.4**
732A	**Laxson Ranch,** baz=12	**11.50**	**2**	⇑P		**Pn**	**08 45 05.1**	**-0.3**
TEIG	**Tepich**	**11.88**	**73**	Pn		Pn	08 45 08.2	-2.4
TEIG				Sn		Sn	08 47 17.4	-4.7
TEIG	**Tepich** 1.0nm,0.3s,baz=259,slow=20,SNR=7.8	**11.88**	**73**	Pn		Pn	08 45 08.2	-2.4
TEIG	1.8nm,0.3s,baz=67,slow=22,SNR=5.8			Sn		Sn	08 47 17.4	-4.7
TEIG	comp=Z,100nm,20.4s,baz=292,slow=42			LR		LR	08 50 33.7	
631A	**Perdido Creek** baz=12	**12.18**	**359**	⇓P		**Pn**	**08 45 14.8**	**+0.1**
632A	**Uvalde** baz=12	**12.29**	**3**	⇓P		**Pn**	**08 45 16.4**	**+0.3**
628A	**Black Gap, Mar** baz=12	**12.46**	**350**	⇓P		Pn	08 45 21.6	+3.1
TXAR	**Lajitas Array**	**12.46**	**347**	Pn		Pn	08 45 21.5	+2.9
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=161,slow=14,SNR=9.5	**12.46**	**347**	Pn		Pn	08 45 21.5	+2.9
TXAR	comp=Z,170nm,19.9s,baz=5.0,slow=40			LR		LR	08 50 35.0	
627A	**Terlingua Ranc** baz=13	**12.52**	**348**	⇓P		Pn	08 45 22.3	+2.9
626A	**Big Bend Ranch** baz=13	**12.79**	**345**	⇑P		Pn	08 45 27.2	+4.2
532A	**Rocksprings** baz=13	**12.90**	**2**	⇓P		**Pn**	**08 45 24.7**	**+0.2**
531A	**Rocksprings** baz=13	**12.93**	**359**	⇑P		**Pn**	**08 45 25.8**	**+0.9**
530A	**J-C Ranch, Com** baz=13	**12.94**	**356**	⇑P		**Pn**	**08 45 26.9**	**+1.8**
528A	**Cox Ranch, San** baz=13,SNR=6.7	**13.11**	**351**	⇓P		Pn	08 45 31.3	+3.9
527A	**Woodward Ranch** baz=13	**13.24**	**348**	⇓P		Pn	08 45 31.9	+2.7
526A	**Mary Lane Ranc** baz=13	**13.26**	**346**	⇓P		Pn	08 45 34.1	+4.6
431A	**Sonora** baz=14	**13.45**	**359**	⇑P		**Pn**	**08 45 32.8**	**+0.9**
429A	**Davenport Ranc** baz=14	**13.46**	**354**	⇓P		**Pn**	**08 45 34.5**	**+2.4**
430A	**Baggett Ranch,** baz=14,SNR=10	**13.57**	**357**	⇑P		**Pn**	**08 45 35.5**	**+1.8**
428A	**Kincaid Ranch,** baz=14	**13.65**	**352**	⇑P		Pn	08 45 37.6	+2.9
432A	**Menard** baz=14	**13.65**	**2**	⇓P		**Pn**	**08 45 35.3**	**+0.6**
426A	**McDonald Obser** baz=14	**13.83**	**347**	⇑P		Pn	08 45 40.7	+3.3
427A	**Hayter Ranch,** baz=14	**13.88**	**349**	⇑P		Pn	08 45 41.0	+3.0
331A	**San Angelo** baz=14	**14.07**	**360**	⇓P		**Pn**	**08 45 40.5**	**0.0**
332A	**Millersview** baz=14,SNR=5.4	**14.15**	**2**	⇓P		**Pn**	**08 45 41.3**	**-0.3**
425A	**Indio Mountain** baz=14	**14.18**	**344**	⇓P		**Pn**	**08 45 44.5**	**+2.4**
330A	**Mertzon** baz=14	**14.18**	**357**	⇑P		**Pn**	**08 45 43.3**	**+1.2**
328A	**Wristen Ranch,** baz=14	**14.31**	**352**	⇑P		**Pn**	**08 45 45.3**	**+1.6**
329A	**Wagon Wheel Ra** baz=14	**14.32**	**355**	⇑P		**Pn**	**08 45 44.4**	**+0.5**
230A	**Sterling City** baz=15	**14.66**	**358**	⇓P		**Pn**	**08 45 48.8**	**+0.3**
232A	**Coleman** baz=15	**14.66**	**3**	⇓P		**Pn**	**08 45 48.6**	**0.0**
231A	**Bronte** baz=15	**14.69**	**0**	⇓P		**Pn**	**08 45 48.3**	**-0.7**
325A	**Bean Ranch, Si** baz=15	**14.73**	**344**	⇑P		**P**	**08 45 53.6**	**-1.8**
324A	**Moseley Ranch,** baz=15,SNR=8.0	**14.93**	**343**	⇓P		**P**	**08 45 56.8**	**-0.8**
227A	**Bennet, Jal** baz=15	**15.00**	**350**	⇓P		**P**	**08 45 55.9**	**-2.3**
226B	**Tecolote Peak,** baz=15	**15.22**	**348**	⇑P		**Pn**	**08 45 57.0**	**+1.0**
130A	**Snyder** baz=15	**15.36**	**358**	⇓P		**Pn**	**08 45 56.9**	**-0.9**
ABTX	**Abilene, Hawle** baz=16	**15.39**	**2**	⇑P		**Pn**	**08 45 57.6**	**-0.6**
225A	**Deer Hill, Car** baz=16	**15.40**	**346**	⇓P		**Pn**	**08 45 59.6**	**+1.1**
131A	**Roby** baz=16	**15.43**	**0**	⇑P		**Pn**	**08 45 56.9**	**-1.9**
128A	**Castleberry Fa** baz=16,SNR=5.1	**15.49**	**353**	⇑P		**Pn**	**08 45 59.3**	**-0.3**
224A	**Cornudas Mount** baz=16	**15.54**	**344**	⇓P		**Pn**	**08 46 02.0**	**+1.7**
127A	**Arkansas Junct** baz=16	**15.66**	**351**	⇓P		**Pn**	**08 46 01.8**	**-0.1**
125A	**Gardner Draw,** baz=16,SNR=5.3	**15.89**	**347**	⇓P		**Pn**	**08 46 05.9**	**+1.1**
320A	**Kipp Ranch, An** baz=16	**15.92**	**334**	⇑P		**P**	**08 46 07.3**	**-1.2**
Z30A	**Sanderson Ranc** baz=16,SNR=5.7	**16.05**	**358**	⇓P		**Pn**	**08 46 06.5**	**-0.2**
Z31A	**Sharp Cattle R** baz=16,SNR=6.5	**16.07**	**1**	⇑P		**Pn**	**08 46 06.2**	**-0.8**
Z32A	**Haskell** baz=16	**16.08**	**3**	⇓P		Pn	08 46 04.4	-2.7
124A	**Stringfield Ra** baz=16	**16.12**	**344**	⇑P		**Pn**	**08 46 08.5**	**+0.8**
Z28A	**Tucker Farm, M** baz=16	**16.14**	**354**	⇑P		**Pn**	**08 46 06.9**	**-1.0**
Z27A	**Tatum** baz=16,SNR=10	**16.27**	**352**	⇑P		**Pn**	**08 46 09.0**	**-0.5**
319A	**Douglas** baz=16	**16.28**	**332**	⇓P		**P**	**08 46 12.9**	**+0.4**
220A	**Playas Peak, P** baz=16	**16.41**	**335**	⇑P		**P**	**08 46 13.8**	**-0.2**
Z25A	**Roswell** baz=17	**16.50**	**347**	⇓P		**Pn**	**08 46 13.6**	**+1.0**
Y29A	**Porterfield Fa** baz=17	**16.65**	**356**	⇓P		**Pn**	**08 46 12.8**	**-1.6**
121A	**Cookes Peak, D** baz=17	**16.68**	**338**	⇓P		**P**	**08 46 16.9**	**-0.1**
Z24A	**Sheeppen Canyo** baz=17	**16.69**	**345**	⇑P		**P**	**08 46 16.3**	**-0.9**
Y31A	**Rekieta Farm,** baz=17	**16.71**	**0**	⇑P		**Pn**	**08 46 12.6**	**-2.5**
Y28A	**McKinney Farm,** baz=17	**16.74**	**355**	⇓P		**Pn**	**08 46 14.5**	**-1.1**
Y27A	**Causey** baz=17	**16.82**	**352**	⇑P		**Pn**	**08 46 15.5**	**-1.0**
Z23A	**Rita Site, Whi** baz=17	**16.86**	**343**	⇓P		**Pn**	**08 46 17.6**	**+0.5**
MSTX	**Muleshoe** baz=17,SNR=6.7	**16.86**	**353**	⇓P		**Pn**	**08 46 16.5**	**-0.6**
120A	**U Bar Ranch, L** baz=17	**17.02**	**336**	⇓P		**P**	**08 46 21.5**	**+0.8**
Z22A	**Elephant Butte** baz=17,SNR=8.1	**17.07**	**341**	⇑P		**P**	**08 46 21.3**	**+0.1**
Y25A	**Mesa, Roswell** baz=17	**17.11**	**348**	⇑P		**P**	**08 46 21.3**	**-0.5**
X30A	**Coker Ranch, T** baz=17	**17.20**	**359**	⇑P		**Pn**	**08 46 19.6**	**-1.7**
X29A	**Tulia** baz=17	**17.23**	**356**	⇑P		**Pn**	**08 46 20.6**	**-1.2**
Y24A	**Capitan** baz=17	**17.28**	**346**	⇑P		**P**	**08 46 23.2**	**-0.4**
Z21A	**St. Cloud Mine** baz=17	**17.35**	**339**	⇓P		**P**	**08 46 25.5**	**+1.1**
X31A	**McDonald Ranch** baz=18	**17.39**	**1**	⇓P		**Pn**	**08 46 21.8**	**-1.7**
Y23A	**Lovelace Mesa,** baz=18	**17.44**	**344**	⇑P		**P**	**08 46 25.7**	**+0.3**
Z20A	**Nine Sixteen R** baz=18	**17.50**	**337**	⇓P		**P**	**08 46 27.6**	**+1.6**
X26A	**CR and CF Fran** baz=18	**17.57**	**351**	⇓P		**Pn**	**08 46 24.5**	**-1.4**
X25A	**Clemmons Ranch** baz=18	**17.69**	**348**	⇑P		**Pn**	**08 46 27.5**	**0.0**
Y22A	**Socorro** baz=18	**17.70**	**342**	⇓P		**Pn**	**08 46 28.0**	**+0.4**
TUC	**Tucson** 3.1nm,0.9s	**17.76**	**330**	*e*Pn		**P**	**08 46 29.7**	**+0.9**
W31A	**Holland Ranch,** baz=18	**17.94**	**1**	⇑P		**Pn**	**08 46 28.1**	**-2.3**
W27A	**Bowe Ranch, En** baz=18,SNR=6.2	**17.97**	**353**	⇓P		**Pn**	**08 46 28.9**	**-1.9**
Y20A	**Horse Springs,** baz=18	**18.14**	**338**	⇑P		**P**	**08 46 33.3**	**+0.2**
W25A	**X Bar L Ranch,** baz=18,SNR=5.3	**18.33**	**349**	⇓P		**P**	**08 46 33.6**	**-1.5**
MIAR	**Mount Ida**	**18.34**	**18**	*e*P		**P**	**08 46 34.8**	**-0.4**
	7.9nm,0.9s							
X21A	**Alamocita Cree** baz=18,SNR=8.2	**18.43**	**340**	⇑P		**Pn**	**08 46 37.1**	**+0.5**
ANMO	**Albuquerque**	**18.50**	**344**	P		**Pn**	**08 46 37.9**	**+0.5**
ANMO	**Albuquerque** 0.1nm,0.3s,baz=149,slow=15,SNR=5.0	**18.50**	**344**	P		**Pn**	**08 46 37.9**	**+0.5**
ANMO	comp=Z,209nm,18.3s,baz=181,slow=39			LR		LR	08 54 31.5	
W24A	**Lazy 6 Ranch,** baz=19	**18.51**	**347**	⇑P		**P**	**08 46 36.2**	**-1.0**
214A	**Organ Pipe Nat** baz=18	**18.52**	**325**	⇓P		**Pn**	**08 46 40.1**	**+2.6**
V31A	**Spring Creek L** baz=19	**18.53**	**1**	⇓P		P	08 46 34.1	-3.2
X20A	**Quemado** baz=19	**18.75**	**339**	⇓P		**P**	**08 46 40.3**	**+0.4**
V26A	**Tequesquite Ra** baz=19	**18.79**	**351**	⇓P		**P**	**08 46 38.3**	**-1.9**
V25A	**Rancho No Teng** baz=19	**18.96**	**349**	⇓P		**P**	**08 46 40.1**	**-2.1**
V24A	**Rampart Ranch,** baz=19	**18.98**	**348**	⇓P		**P**	**08 46 42.6**	**+0.2**
TUL1	**Tulsa** baz=19	**19.10**	**11**	⇓P		P	08 46 38.5	-5.0
U31A	**Nine Bar Ranch** baz=19	**19.12**	**1**	⇓P		P	08 46 40.4	-3.3
V23A	**Ortiz Mt. (NFS** baz=19	**19.20**	**346**	⇓P		**P**	**08 46 42.9**	**-1.9**
X18A	**Snowflake** baz=19	**19.28**	**335**	⇑P		**P**	**08 46 46.4**	**+0.7**
W20A	**Ramah** baz=19	**19.28**	**340**	⇑P		**P**	**08 46 45.6**	**-0.1**
U27A	**Thompson Grove** baz=19	**19.29**	**354**	⇑P		**P**	**08 46 44.0**	**-1.7**
U26A	**Atchley Ranch,** baz=19	**19.37**	**352**	⇓P		**P**	**08 46 45.3**	**-1.3**
U23A	**El Rito** baz=20	**19.75**	**346**	⇓P		**P**	**08 46 50.8**	**-0.1**
X16A	**Lo Mia Camp, P** baz=20	**19.81**	**332**	⇓P		**Pn**	**08 46 53.6**	**+0.4**
V20A	**Brimhall** baz=20	**19.89**	**340**	⇓P		**P**	**08 46 53.0**	**+0.7**
T26A	**Comanche Natio** baz=20	**20.12**	**353**	⇓P		**P**	**08 46 53.0**	**-1.8**
Y14A	**Wickenburg** baz=20	**20.16**	**328**	⇓P		Pn	08 46 57.2	0.0
T25A	**Trinidad** baz=20	**20.20**	**351**	⇓P		**P**	**08 46 54.3**	**-1.4**
U21A	**Nageezi** baz=20,SNR=7.7	**20.22**	**343**	⇑P		**P**	**08 46 55.9**	**-0.1**
S28A	**Manter** baz=20	**20.38**	**357**	⇑P		P	08 46 55.1	-2.4
T23A	**Casias Ranch,** baz=20	**20.40**	**347**	⇑P		**P**	**08 46 56.5**	**-1.4**
S26A	**Kim** baz=21	**20.54**	**353**	⇑P		**P**	**08 46 57.4**	**-2.0**
T22A	**Edith** baz=21	**20.58**	**345**	⇓P		**P**	**08 46 58.7**	**-1.1**
S25A	**Robets Cordova** baz=21	**20.71**	**351**	⇑P		**P**	**08 46 59.3**	**-2.0**
WUAZ	**Wupatki** 26nm,1.1s	**20.71**	**334**	*e*P		Pn	08 47 03.4	-0.4
WUAZ	**Wupatki** baz=21	**20.71**	**334**	⇑P		**P**	**08 47 02.0**	**+0.7**
S24A	**Houchin Ranch,** baz=21	**20.82**	**349**	⇓P		**P**	**08 47 01.1**	**-1.4**
DVTC	**Desert V Tower** baz=21	**20.94**	**320**	⇓P		Pn	08 47 07.0	+0.7
SDCO	**Great Sand Dun** 4.6nm,0.8s	**20.98**	**349**	*e*P		**P**	**08 47 03.7**	**-0.5**
R30A	**Dighton** baz=21	**21.03**	**0**	⇑P		P	08 47 01.1	-3.4
S23A	**Nye Farm, Mont** baz=21	**21.04**	**348**	⇓P		**P**	**08 47 03.3**	**-1.5**
R31A	**Burdett** baz=21	**21.05**	**2**	⇑P		P	08 47 01.2	-3.5
R28A	**Tribune** baz=21,SNR=5.5	**21.12**	**357**	⇑P		P	08 47 02.5	-3.0
R27A	**Eads** baz=21	**21.13**	**355**	⇓P		**P**	**08 47 03.6**	**-2.1**
R25A	**Fountain Ranch** baz=21	**21.17**	**351**	⇑P		**P**	**08 47 03.9**	**-2.2**
MVCO	**Mesa Verde** 6.3nm,0.7s	**21.20**	**342**	*e*P		**P**	**08 47 11.0**	**+4.5**
MVCO	**Mesa Verde** baz=21	**21.20**	**342**	⇓P		**P**	**08 47 07.3**	**+0.8**
R26A	**Arlington** baz=21,SNR=5.1	**21.21**	**353**	⇓P		P	08 47 04.2	-2.4
S22A	**4UR Ranch, Cre** baz=21	**21.26**	**346**	⇓P		**P**	**08 47 06.7**	**-0.6**
BC3	**Chuckawall** baz=21	**21.27**	**323**	⇓P		**P**	**08 47 09.3**	**+2.2**
S21A	**Coal Bank Pass** baz=22,SNR=6.5	**21.42**	**344**	⇓P		**P**	**08 47 08.2**	**-0.8**
Q26A	**Hugo** baz=22	**21.84**	**353**	⇓P		P	08 47 11.0	-2.3
KSCO	**Kaye Shedlock'** baz=22	**21.84**	**355**	⇓P		**P**	**08 47 11.5**	**-1.8**
U15A	**North Rim** baz=22	**21.88**	**334**	⇓P		**P**	**08 47 15.6**	**+1.7**
WVT	**Waverly** 7.7nm,0.6s	**21.92**	**28**	*e*P		**P**	**08 47 13.1**	**-0.9**
R21A	**Cimarron** baz=22	**22.02**	**345**	⇓P		**P**	**08 47 14.7**	**-0.7**
R20A	**Redvale** baz=22,SNR=7.7	**22.07**	**343**	⇓P		**P**	**08 47 16.3**	**+0.4**
PV01	**Paradox Valley** 236nm,0.8s	**22.07**	**343**	*e*P		**P**	**08 47 16.9**	**+1.0**
KSU1	**Kansas State U** 12nm,0.8s	**22.09**	**8**	*e*P		**P**	**08 47 13.8**	**-2.1**
Q22A	**Crested Butte,** baz=22	**22.34**	**347**	⇓P		**P**	**08 47 17.1**	**-1.8**
P28A	**Saint Francis** baz=22	**22.34**	**357**	⇓P		P	08 47 16.1	-2.6
P27A	**Ficken Ranch,** baz=22	**22.38**	**356**	⇓P		**P**	**08 47 16.8**	**-2.2**
P23A	**Jefferson** baz=23	**22.62**	**349**	⇓P		P	08 47 19.4	-2.4
SIUC	**Southern Illin**	**22.70**	**23**	*e*P		**P**	**08 47 22.9**	**+0.6**
ISCO	**Idaho Springs** 3.5nm,0.6s	**22.99**	**350**	*e*P		**P**	**08 47 25.2**	**-0.5**
CPCT	**Copper Cave**	**23.04**	**35**	*e*P		P	08 47 33.8	+7.8
SRU	**San Rafael** 4.4nm,0.8s	**23.57**	**340**	*e*P		**P**	**08 47 33.1**	**+1.8**
TKL	**Tuckaleechee C**	**23.61**	**36**	P		**P**	**08 47 30.3**	**-1.3**
TKL	**Tuckaleechee C** 2.0nm,0.6s,baz=193,slow=16,SNR=5.7	**23.61**	**36**	P		**P**	**08 47 30.3**	**-1.3**
TMUT	**Trail Mountain** 4.0nm,0.8s	**23.97**	**339**	*e*P		**P**	**08 47 35.8**	**+0.6**
TZTN	**Tazewell**	**24.38**	**34**	*e*P		**P**	**08 47 40.5**	**+1.8**
DAU	**Daniels Canyon** 8.5nm,1.2s	**24.99**	**340**	*e*P		**P**	**08 47 43.2**	**-1.3**
SCIA	**State Center** 11nm,0.5s	**25.40**	**13**	*e*P		**P**	**08 47 48.5**	**+0.6**
NV11	**Mina Array Sit**	**26.27**	**327**	*e*P		**P**	**08 47 57.8**	**+1.7**
NVAR	**Mina Array Bea**	**26.35**	**327**	P		**P**	**08 47 57.9**	**+1.1**
NVAR	**Mina Array Bea** 2.2nm,0.8s,baz=152,slow=9.7,SNR=16	**26.35**	**327**	P		**P**	**08 47 57.9**	**+1.1**
BLA	**Blacksburg** 11nm,0.6s	**26.61**	**38**	P		**P**	**08 48 03.1**	**+4.0**
ECSD	**EROS Data Cent** 11nm,1.0s	**26.66**	**6**	*e*P		**P**	**08 48 01.7**	**+2.3**
BW06	**Boulder Array** 4.0nm,0.9s	**26.67**	**345**	*e*P		**P**	**08 48 02.1**	**+2.4**
PDAR	**Pinedale Array**	**26.67**	**345**	P		**P**	**08 47 59.7**	**0.0**
PDAR				PcP		**PcP**	**08 51 21.5**	**-1.5**
PDAR	**Pinedale Array** 0.7nm,0.8s,baz=142,slow=11,SNR=5.5	**26.67**	**345**	P		**P**	**08 47 59.7**	**0.0**
PDAR	0.5nm,0.5s,baz=132,slow=4.1,SNR=5.0			PcP		**PcP**	**08 51 21.5**	**-1.5**
PDAR	comp=Z,108nm,21.6s,baz=172,slow=38			LR		LR	08 59 27.6	
ELK	**Elko** comp=Z,188nm,18.1s,baz=326,slow=40	**26.75**	**334**	LR		LR	09 00 19.2	
CNNC	**Cliffs of the** 13nm,0.6s	**26.93**	**44**	*e*P		**P**	**08 48 02.0**	**+0.2**
SNOW	**Snow King Moun** 4.3nm,0.9s	**27.64**	**344**	*e*P		**P**	**08 48 10.0**	**+1.7**
TPAW	**Teton Pass** 6.1nm,0.9s	**27.71**	**343**	*e*P		**P**	**08 48 12.7**	**+3.6**
LOHW	**Long Hollow** 2.4nm,0.6s	**27.73**	**344**	*e*P		**P**	**08 48 09.7**	**+0.5**
MOOW	**Moose Ponds** 3.5nm,1.0s	**27.90**	**344**	*e*P		**P**	**08 48 12.1**	**+1.5**
BOZ	**Bozeman (W)** 0.6nm,0.6s	**29.90**	**344**	*e*P		**P**	**08 48 29.0**	**+0.7**
SADO	**Sadowa**	**32.79**	**28**	P		P	08 48 50.1	-3.6
SADO	**Sadowa** 1.4nm,0.5s,baz=267,slow=14,SNR=3.0	**32.79**	**28**	P		P	08 48 50.1	-3.6
ULM	**Lac du Bonnet**	**33.19**	**5**	P		P	08 48 56.0	-1.1
ULM	**Lac du Bonnet** 1.7nm,0.4s,baz=170,slow=18,SNR=2.1	**33.19**	**5**	P		P	08 48 56.0	-1.1
SCHQ	**Schefferville**	**45.55**	**27**	P		P	08 50 38.5	-1.6
SCHQ	**Schefferville** 2.0nm,0.8s,baz=266,slow=13,SNR=4.5	**45.55**	**27**	P		P	08 50 38.5	-1.6
LPAZ	**La Paz**	**46.02**	**135**	P		P	08 50 44.0	-0.9
LPAZ				PcP		**PcP**	**08 52 20.8**	**-0.5**
LPAZ	**La Paz** 1.1nm,0.7s,baz=325,slow=6.8,SNR=6.2	**46.02**	**135**	P		P	08 50 44.0	-0.9
LPAZ	0.8nm,0.7s,baz=317,slow=2.7,SNR=4.0			PcP		**PcP**	**08 52 20.8**	**-0.5**
LPAZ	comp=Z,39nm,20.4s,baz=81,slow=32			LR		LR	09 07 09.8	
YKA	**Yellowknife Ar**	**46.35**	**351**	P		P	08 50 45.0	-1.2
YKA	**Yellowknife Ar** 0.4nm,0.6s,baz=155,slow=7.7,SNR=2.7	**46.35**	**351**	P		P	08 50 45.0	-1.2
YKA	comp=Z,13nm,19.1s,baz=170,slow=38			LR		LR	09 11 33.7	
TAOE	**Nuku Hiva Isla** 72nm,0.2s	**47.05**	**240**	*e*T		T	09 40 55.3	
SIV	**San Ignacio**	**50.89**	**128**	P		P	08 51 19.8	-1.9
SIV	**San Ignacio** 1.9nm,0.6s,baz=304,slow=8.1,SNR=14	**50.89**	**128**	P		P	08 51 19.8	-1.9
PMOR	**Pomariorio Ree** 5.9nm,0.2s	**56.73**	**238**	*e*T		T	09 53 00.9	
ILAR	**Eielson Array**	**56.82**	**338**	P		**P**	**08 52 04.4**	**0.0**
ILAR	**Eielson Array** 0.7nm,0.9s,baz=150,slow=5.6,SNR=7.0	**56.82**	**338**	P		**P**	**08 52 04.4**	**0.0**
RSO	**Redoubt South** 20nm,0.8s	**57.02**	**332**	*e*P		**P**	**08 52 09.1**	**+2.9**
TRF	**Thorofare Moun** 6.4nm,0.9s	**57.38**	**336**	*e*P		P	08 52 07.7	-1.0
CHGN	**Chignik**	**58.27**	**326**	*e*P		P	08 52 13.7	-1.0
PPT2	**Papeete2** 39nm,22.4s	**59.48**	**237**	*e*LR		LR	09 09 48.8	
BDFB	**Brasilia** comp=Z,30nm,21.7s,baz=311,slow=36	**61.09**	**119**	LR		LR	09 18 36.4	
SUMG	**Summit** 6.3nm,0.9s	**65.46**	**17**	*i* P		P	08 53 12.2	+8.9
DAG	**Danmarks Havn** 3.3nm,0.9s	**71.50**	**14**	*i* P		P	08 53 49.1	+8.6
NOA	**NORSAR Array B** comp=Z,19nm,21.8s,baz=280,slow=34	**85.12**	**27**	LR		LR	09 31 15.4	
ARCES	**ARCESS Array B**	**85.55**	**17**	P		**P**	**08 54 59.4**	**+1.3**
ARCES	**ARCESS Array B** 1.0nm,0.8s,baz=324,slow=12,SNR=2.9	**85.55**	**17**	P		**P**	**08 54 59.4**	**+1.3**
FINES	**FINESS Array B** comp=Z,28nm,21.1s,baz=177,slow=36	**90.89**	**23**	LR		LR	09 36 46.7	
MKAR	**Makanchi Array**	**116.28**	**358**	PKP		PKPdf	09 01 01.5	-2.3
MKAR	**Makanchi Array** 0.1nm,0.6s,baz=86,slow=6.1,SNR=2.1	**116.28**	**358**	PKP		PKPdf	09 01 01.5	-2.3
WRA	**Warramunga Arr**	**128.22**	**258**	PKP		**PKPdf**	**09 01 26.2**	**-1.2**
WRA	**Warramunga Arr** 1.1nm,0.6s,baz=81,slow=2.2,SNR=14	**128.22**	**258**	PKP		**PKPdf**	**09 01 26.2**	**-1.2**
ASAR	**Alice Springs**	**128.95**	**253**	PKP		**PKPdf**	**09 01 27.6**	**-1.0**
ASAR	**Alice Springs** 0.5nm,0.7s,baz=134,slow=2.7,SNR=4.0	**128.95**	**253**	PKP		**PKPdf**	**09 01 27.6**	**-1.0**

IDC ***09*** *09:00:45.0± 1.0, 24.˚68N× 122.˚17E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.8/25, mbtmp3.9/7, ML3.4/1, MS3.1/4, Ms1 3.1/4, ms1mx2.6/37, Error ellipse: s-maj=45.7km s-min=17.5km az=73.0*

TAP ***09*** *09:00:46.6, 24.˚80N× 122.˚34E, h17km, ML4.4, C*

NEIC ***09*** *09:00:47.0± 0.8, 24.˚73N× 122.˚33E, h10km, ML4.4(TAP), Error ellipse: s-maj=11.8km s-min=9.1km az=121.0*

NEIC Recorded [2 TAP] in I-lan and [1 TAP] in Hua-lien and T'ai-pei.

JMA ***09*** *09:00:47.3± 0.3, 24.˚76N× 122.˚38E, h44km, M3.1*

ISC 09 09:00:46.3±1.1, 24.˚74N±0.˚02× 122.˚38E±0.˚02, h10km±8km, n74, σ0=87/125, mb3.9/5, MS3.1/3, 1C-7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao** baz=304	**0.44**	**307**	⇓*i*P		**Pg**	**09 00 55.0**	**0.0**
TWB1	baz=304			*i* S		**Sg**	**09 00 59.7**	**-1.1**
TWC	**Suao** baz=252	**0.50**	**255**	⇓*i*P		**Pg**	**09 00 56.0**	**0.0**
TWC	baz=252			S		**Sg**	**09 01 02.4**	**-0.2**
ILA	**Ilan** baz=266	**0.57**	**272**	*e*P		**Pb**	**09 00 58.1**	**-0.4**
ILA	baz=266			*e*S		**Sg**	**09 01 05.2**	**+0.2**
NWF	**Wu-fen Shan** baz=310	**0.63**	**301**	P		**Pg**	**09 00 58.9**	**+0.3**
NWF	baz=310			*i* S		**Sg**	**09 01 06.9**	**-0.1**
YOJ	**Yonaguni jima** baz=119	**0.64**	**116**	⇓*i*P		**Pb**	**09 01 00.2**	**+0.5**
YOJ	baz=119			S		**Sb**	**09 01 09.1**	**+0.4**
YOJ	**Yonaguni jima**	**0.64**	**116**	P		**Pb**	**09 01 00.1**	**+0.5**
YOJ				*e*S		**Sb**	**09 01 09.2**	**+0.5**
TWE	**Neicheng** baz=262	**0.65**	**268**	⇓*i*P		**Pg**	**09 00 58.8**	**-0.1**
TWE	baz=262			S		**Sg**	**09 01 07.4**	**+0.1**
ENA	**Nanau** baz=242	**0.66**	**242**	⇓*i*P		**Pg**	**09 00 59.2**	**+0.1**
ENA	baz=242			*e*S		**Sg**	**09 01 07.2**	**-0.5**
EHP	**Heping Village** baz=241	**0.72**	**234**	*e*P		**Pb**	**09 01 00.8**	**-0.2**
EHP	baz=241			*e*S		**Sb**	**09 01 10.4**	**-0.6**
ENTT	**Nioudou** baz=263	**0.74**	**262**	P		**Pg**	**09 01 00.8**	**+0.1**
ENTT	baz=263			*e*S		**Sb**	**09 01 10.9**	**-0.8**
TWA	**Mucha** baz=284	**0.76**	**288**	P		**Pb**	**09 01 01.9**	**+0.2**
TWA	baz=284			S		**Sg**	**09 01 11.0**	**+0.1**
TAP1	**Taipei** baz=287	**0.83**	**291**	*e*P		**Pn**	**09 01 03.4**	**-0.7**
TAP1	baz=287			S		**Sb**	**09 01 13.5**	**-0.6**
TATO	**Taipei**	**0.84**	**286**	*e*Pg		**Pb**	**09 01 02.8**	**-0.2**
TATO				*e*Sg		**Sg**	**09 01 13.4**	**-0.1**
TAP	**Taipei** baz=287	**0.84**	**291**	*e*P		**Pb**	**09 01 03.2**	**+0.1**
TAP	baz=287			S		**Sb**	**09 01 14.0**	**-0.5**
TWY	**Chenhua** baz=305	**0.88**	**307**	*i* P		**Pg**	**09 01 03.2**	**-0.2**
TWY	baz=305			*i* S		**Sg**	**09 01 14.7**	**-0.2**
NACB	**Ninganchiao**	**0.91**	**232**	*e*Pg		**Pg**	**09 01 03.4**	**-0.5**
NACB				*e*Sg		**Sg**	**09 01 15.0**	**-0.7**
YHNB	**Yeheng**	**0.91**	**266**	*e*Pg		**Pg**	**09 01 03.6**	**-0.3**
YHNB				*e*Sg		**Sg**	**09 01 14.9**	**-1.0**
NSK	**Sanguang** baz=270	**0.93**	**266**	*e*P		**Pb**	**09 01 03.9**	**-0.8**
NSK	baz=270			*e*S		**Sg**	**09 01 15.1**	**-1.2**
TWS1	**Kuangyinshan** baz=289	**0.94**	**293**	*e*P		**Pg**	**09 01 04.7**	**+0.3**
TWS1	baz=289			*e*S		**Sg**	**09 01 16.5**	**-0.2**
NNS	**Nan Shan** baz=236	**0.96**	**252**	*e*P		**Pb**	**09 01 04.6**	**-0.6**
NNS	baz=236			*e*S		**Sb**	**09 01 17.1**	**-0.9**
TWD	**Chiawan** baz=231	**0.97**	**227**	⇓*i*P	

TWD				eS		Sn	09 01 18.5	-1.4	
	baz=231								
HWA	**Hwalien**	**1.04**	**223**	*e*P		**Pn**	**09 01 07.7**	**+0.7**	
	baz=231								
HWA				eS		Sn	09 01 22.1	+0.6	
	baz=231								
NCU	**National Centr**	**1.10**	**282**	*e*P		**Pb**	**09 01 07.3**	**-0.2**	
	baz=279								
NCU				eS		Sg	09 01 21.8	-0.1	
	baz=279								
WHF	**Hehuan Shan**	**1.17**	**240**	⇓P		**Pn**	**09 01 08.8**	**-0.5**	
	baz=236								
WHF				S		Sb	09 01 23.8	-0.7	
	baz=236								
TWT	**Tachien**	**1.20**	**246**	P		**Pg**	**09 01 09.6**	**+0.2**	
	baz=243								
TWT				eS		Sg	09 01 25.6	+0.6	
	baz=243								
NSTT	**Nanjuang**	**1.26**	**265**	P		**Pb**	**09 01 09.9**	**-0.3**	
	baz=262								
NSTT				eS		Sb	09 01 25.9	-0.5	
	baz=262								
ESL	**Shilin**	**1.26**	**223**	*e*P		**Pb**	**09 01 10.4**	**+0.1**	
	baz=203								
ESL				eS		Sg	09 01 27.4	+0.4	
	baz=203								
IRIF	**Iriomote-Funau**	**1.30**	**108**	P		**Pn**	**09 01 09.4**	**-1.2**	
IRIF				eS		Sb	09 01 26.5	-1.1	
HATJ	**Hateruma jima**	**1.47**	**117**	P		**Pn**	**09 01 11.7**	**-1.2**	
HATJ				eS		Sn	09 01 31.5	-0.8	
NSY	**Sanyi**	**1.51**	**258**	*e*P		**Pg**	**09 01 15.0**	**-0.3**	
	baz=255								
NSY				eS		Sg	09 01 35.6	+0.8	
	baz=255								
TWQ1	**Liyutan**	**1.51**	**255**	*e*P		**Pg**	**09 01 15.6**	**+0.3**	
	baz=252								
TWQ1				eS		Sg	09 01 34.3	-0.7	
	baz=252								
EHY	**Hungye**	**1.56**	**218**	*e*P		**Pn**	**09 01 14.2**	**0.0**	
	baz=215								
JKRS	**Kuro-shima**	**1.57**	**108**	P		**Pn**	**09 01 13.8**	**-0.5**	
JKRS				eS		Sn	09 01 32.2	-2.5	
SMLT	**Sun Moon Lake**	**1.60**	**238**	*e*P		**Pg**	**09 01 17.1**	**+0.1**	
	baz=241								
SMLT				eS		Sg	09 01 38.5	+0.8	
	baz=241								
SSLB	**Suanglung**	**1.61**	**234**	*e*Pn		**Pn**	**09 01 15.1**	**+0.2**	
SSLB				eSn		Sn	09 01 33.8	-1.9	
TYC	**Yuchr**	**1.62**	**239**	⇑P		**Pg**	**09 01 17.1**	**-0.3**	
	baz=248								
TYC				eS		Sg	09 01 37.9	-0.5	
	baz=248								
JIJ	**Ishigaki jima**	**1.65**	**103**	P		**Pn**	**09 01 14.3**	**-1.1**	
JIJ				eS		Sn	09 01 35.2	-1.6	
TCU	**Taichung**	**1.66**	**249**	*e*P		**Pg**	**09 01 18.4**	**+0.2**	
	baz=266								
TCU				eS		Sg	09 01 40.0	+0.3	
	baz=266								
YULB	**Yu-li**	**1.67**	**217**	*e*Pn		**Pn**	**09 01 15.4**	**-0.2**	
YULB				eSn		Sb	09 01 38.3	0.0	
TWF1	**Yuli**	**1.70**	**216**	*e*P		**Pn**	**09 01 15.9**	**-0.2**	
	baz=213								
WNT	**Mingjian**	**1.77**	**241**	*e*P		**Pg**	**09 01 19.5**	**-0.7**	
	baz=259								
WNT				eS		Sg	09 01 43.6	+0.4	
	baz=259								
YUS	**Yu-Shan**	**1.80**	**227**	P		**Pb**	**09 01 19.5**	**-0.2**	
	baz=209								
YUS				eS		Sb	09 01 42.7	+0.1	
	baz=209								
CHKT	**Chengkung**	**1.88**	**210**	*e*P		**Pn**	**09 01 16.8**	**-1.8**	
	baz=193								
ALS	**Alishan**	**1.89**	**230**	*e*P		**Pb**	**09 01 21.1**	**0.0**	
	baz=211								
ALS				eS		Sg	09 01 46.2	-0.9	
	baz=211								
CHN5	**Tsauling**	**1.93**	**234**	P		**Pb**	**09 01 22.1**	**+0.4**	
	baz=232								
CHN5				eS		Sg	09 01 47.7	-0.6	
	baz=232								
WGK	**Gukeng**	**1.96**	**238**	*e*P		**Pb**	**09 01 21.5**	**-0.7**	
	baz=253								
WGK				eS		Sg	09 01 49.0	-0.5	
	baz=253								
CHN4	**Tsaushan**	**2.14**	**230**	*e*P		**Pb**	**09 01 25.0**	**-0.2**	
	baz=212								
CHN4				eS		Sb	09 01 53.0	+1.2	
	baz=212								
TPUB	**Ta-pu**	**2.15**	**228**	*e*Pn		**Pb**	**09 01 24.5**	**-0.9**	
TPUB				eSn		Sn	09 01 47.4	-1.6	
CHY	**Chiayi**	**2.17**	**236**	*e*P		**Pb**	**09 01 24.3**	**-1.5**	
	baz=251								
CHY				eS		Sb	09 01 53.3	+0.5	
	baz=251								
WTP	**Ta-pu**	**2.19**	**228**	P		**Pb**	**09 01 25.4**	**-0.8**	
	baz=210								
WTP				eS		Sg	09 01 55.7	-1.2	
	baz=210								
WSF	**Szhu**	**2.25**	**241**	*e*P		**Pb**	**09 01 25.3**	**-1.9**	
	baz=256								
WSF				eS		Sb	09 01 55.0	-0.1	
	baz=256								
TWG	**Pinlang**	**2.25**	**212**	*e*P		**Pn**	**09 01 24.4**	**+0.6**	
	baz=210								
TWK	**Hsinying**	**2.27**	**230**	P		**Pb**	**09 01 26.5**	**-1.0**	
	baz=213								
TWK				eS		Sb	09 01 56.1	+0.5	
	baz=213								
CHN1	**Nanshi**	**2.29**	**228**	*e*P		**Pb**	**09 01 26.8**	**-1.1**	
	baz=211								
CHN1				eS		Sb	09 01 56.6	+0.3	
	baz=211								
SGST	**Jiashian**	**2.33**	**225**	*e*P		**Pb**	**09 01 27.2**	**-1.2**	
	baz=208								
SGST				eS		Sb	09 01 56.9	-0.5	
	baz=208								
TWM1	**Shoushan**	**2.62**	**224**	*e*P		**Pb**	**09 01 32.4**	**-1.1**	
	baz=221								
SCZT	**Fangliau**	**2.86**	**215**	*e*P		**Pn**	**09 01 34.5**	**+2.4**	
	baz=199								
SCZT				eS		Sn	09 02 08.4	+1.9	
	baz=199								
TSEB	**Hengchuen, Pin**	**3.14**	**206**	*e*P		**Pn**	**09 01 37.4**	**+1.5**	
	baz=205								
TWK1	**Hengchun**	**3.14**	**208**	*e*P		**Pn**	**09 01 37.1**	**+1.2**	
	baz=206								
TWK1				eS		Sn	09 02 13.3	-0.2	
	baz=206								
KSAR	**Wonju Array Be**	**13.51**	**19**	Pn		**Pn**	**09 04 00.9**	**+2.9**	
KSRS	**Korea Array**	**13.53**	**19**	Pn		**Pn**	**09 04 00.9**	**+2.6**	
	0.2nm,0.3s,baz=205,slow=14,SNR=3.1								
KSRS				LR		LR	09 09 29.5		
	comp=Z,57nm,20.2s,baz=168,slow=38								
USRK	**Ussuriysk Arra**	**20.94**	**20**	P		**P**	**09 05 30.0**	**+0.8**	
	1.3nm,0.7s,baz=194,slow=11,SNR=7.5								
ASAJ	**Asahikawa**	**25.41**	**35**	LR		LR	09 16 27.4		
	comp=Z,55nm,18.2s,baz=134,slow=37								
SONM	**Songino Array**	**26.30**	**335**	P		**P**	**09 06 22.3**	**0.0**	
SONM	**Songino Array**	**26.30**	**335**	P		**P**	**09 06 22.3**	**0.0**	
	2.4nm,0.9s,baz=148,slow=8.5,SNR=12								
SONM				LR		LR	09 16 54.6		
	comp=Z,60nm,18.0s,baz=238,slow=37								
MKAR	**Makanchi Array**	**38.70**	**315**	P		**P**	**09 08 10.1**	**-0.4**	
MKAR	**Makanchi Array**	**38.70**	**315**	P		**P**	**09 08 10.1**	**-0.4**	
	0.5nm,0.7s,baz=103,slow=10,SNR=6.5								
PETK	**Petropavlovsk-**	**38.80**	**34**	LR		LR	09 24 01.4		
	comp=Z,23nm,20.3s,baz=81,slow=36								
ZALV	**Zalesovo Beam**	**40.38**	**326**	P		**P**	**09 08 23.3**	**-1.0**	
ZALV	**Zalesovo Beam**	**40.38**	**326**	P		**P**	**09 08 23.3**	**-1.0**	
	0.4nm,0.4s,baz=129,slow=8.0,SNR=3.1								
WRA	**Warramunga Arr**	**45.92**	**164**	P		**P**	**09 09 09.2**	**-0.3**	
WRA	**Warramunga Arr**	**45.92**	**164**	P		**P**	**09 09 09.2**	**-0.3**	
	7.8nm,0.8s,baz=345,slow=8.5,SNR=32								
ASAR	**Alice Springs**	**49.40**	**166**	P		**P**	**09 09 36.8**	**+0.3**	
ASAR	**Alice Springs**	**49.40**	**166**	P		**P**	**09 09 36.8**	**+0.3**	
	2.8nm,0.8s,baz=344,slow=8.9,SNR=28								

CSEM ***09*** *09:06:17.6,35.84N×20.77E,h19km,MD3.5,After ATH*

ATH 09 09:06:17.6,35.84N×20.77E,h19km±9km,MD3.5/10,
Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**1.31**	**36**	*e*PN	Pb	09 06 42.0	+0.3
PYL	**PYLOS**	**1.31**	**36**	*e*Pn	Pb	09 06 42.0	+0.3
DYR	**Agios Nikonas**	**1.56**	**53**	*e*Pn	Pb	09 06 46.4	+0.4
ITM	**Ithomi**	**1.63**	**35**	*e*PN	Pb	09 06 46.8	-0.3
ITM	**Ithomi**	**1.63**	**35**	*e*Pn	Pb	09 06 46.8	-0.3
VLI	**Veliai**	**1.96**	**63**	*e*PN	Pb	09 06 52.7	0.0
VLI	**Veliai**	**1.96**	**63**	*e*Pn	Pb	09 06 52.7	0.0
VLX	**Vlachokerasia**	**2.00**	**40**	*e*PN	Pb	09 06 52.8	-0.8
VLX	**Vlachokerasia**	**2.00**	**40**	*e*Pn	Pb	09 06 52.8	-0.8
VLS	**Valsamata**	**2.34**	**357**	*e*PB	Pb	09 06 57.2	-2.0
VLS	**Valsamata**	**2.34**	**357**	*e*Pb	Pb	09 06 57.2	-2.0
GUR	**Goura**	**2.44**	**31**	*e*PB	Pb	09 06 59.4	-1.7
GUR	**Goura**	**2.44**	**31**	*e*Pb	Pb	09 06 59.4	-1.7
KLV	**Kalavryta, Ach**	**2.46**	**26**	*e*PB	Pb	09 06 59.5	-1.9
KLV	**Kalavryta, Ach**	**2.46**	**26**	*e*Pb	Pb	09 06 59.5	-1.9
DID	**Didima**	**2.59**	**49**	*e*PN	Pn	09 07 00.0	+1.5
DID	**Didima**	**2.59**	**49**	*e*Pn	Pn	09 07 00.0	+1.5
KALE	**Kalithea**	**2.77**	**23**	*e*PB	Pb	09 07 04.2	-2.4
KALE	**Kalithea**	**2.77**	**23**	*e*Pb	Pb	09 07 04.2	-2.4

ATH ***09*** *09:09:56.6,33.90N×25.40E,h5km±3km,MD3.7/9*
THE ***09*** *09:09:57.6,33.91N×25.39E,h0km±4km,Error ellipse: s-maj=10.3km s-min=1.5km az=187.0*
CSEM ***09*** *09:10:02.1±1.0,34.24N×25.40E,h2km,MD3.7,Error ellipse: s-maj=20.4km s-min=8.7km az=3.0*

ISC 09 09:09:54.3±2.6,33.8N±0.1×25.38E±0.04,h17km,n26,
σ0s91/35,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.34**	**340**	P	**Pb**	**09 10 20.0**	**+1.0**
SIVA				S	**Sg**	**09 10 37.2**	**-0.4**
SIVA	**Sivas**	**1.34**	**340**	*e*PB	**Pg**	**09 10 20.2**	**+0.1**
SIVA				*e*SB	**Sg**	**09 10 37.1**	**-0.5**
SIVA	**Sivas**	**1.34**	**340**	*e*Pb	**Pg**	**09 10 20.2**	**+0.1**
SIVA				*e*Sb	**Sg**	**09 10 37.1**	**-0.5**
LAST	**Lasithi**	**1.40**	**3**	P	**Pn**	**09 10 20.1**	**+0.9**
LAST				S	**Sg**	**09 10 39.7**	**+0.1**
LAST	**Lasithi**	**1.40**	**3**	*e*PG	**Pb**	**09 10 20.2**	**+0.1**
LAST	**Lasithi**	**1.40**	**3**	*e*Pg	**Pb**	**09 10 20.2**	**+0.1**
NPS	**Neapolis**	**1.51**	**7**	*e*PG	**Pn**	**09 10 21.8**	**+1.1**
NPS	**Neapolis**	**1.51**	**7**	*e*Pg	**Pn**	**09 10 21.8**	**+1.1**
ZKR	**Zakros**	**1.52**	**27**	P	**Pb**	**09 10 22.7**	**+0.6**
ZKR				S	**Sg**	**09 10 42.6**	**-0.8**
ZKR	**Zakros**	**1.52**	**27**	*e*PB	**Pg**	**09 10 23.3**	**-0.3**
ZKR				*e*SB	**Sg**	**09 10 42.4**	**-1.0**
ZKR	**Zakros**	**1.52**	**27**	P	**Pb**	**09 10 22.7**	**+0.6**
ZKR	**Zakros**	**1.52**	**27**	*e*Pb	**Pg**	**09 10 23.3**	**-0.3**
ZKR				S	**Sg**	**09 10 42.6**	**-0.8**
IDI	**Anoyia**	**1.57**	**345**	P	**Pb**	**09 10 23.6**	**+0.5**
IDI				S	**Sg**	**09 10 43.9**	**-1.3**
IDI	**Anoyia**	**1.57**	**345**	*e*PB	**Pb**	**09 10 23.9**	**+0.8**
IDI	**Anoyia**	**1.57**	**345**	P	**Pb**	**09 10 23.6**	**+0.5**
IDI	**Anoyia**	**1.57**	**345**	*e*Pb	**Pb**	**09 10 23.9**	**+0.8**
IDI				S	**Sg**	**09 10 43.9**	**-1.3**
VAM	**Vamos**	**1.91**	**330**	P	**Pb**	**09 10 29.3**	**+0.6**
VAM	**Vamos**	**1.91**	**330**	*e*PN	**Pg**	**09 10 30.6**	**-0.4**
VAM	**Vamos**	**1.91**	**330**	P	**Pb**	**09 10 29.3**	**+0.6**
VAM	**Vamos**	**1.91**	**330**	*e*Pn	**Pg**	**09 10 30.6**	**-0.4**
KARP	**Karpathos**	**2.31**	**39**	*e*PN	**Pb**	**09 10 36.8**	**+1.2**
KARP	**Karpathos**	**2.31**	**39**	*e*Pn	**Pb**	**09 10 36.8**	**+1.2**
KYTH	**Kithira**	**3.16**	**323**	*e*PN	**Pb**	**09 10 48.8**	**-1.3**
KYTH	**Kithira**	**3.16**	**323**	*e*Pn	**Pb**	**09 10 48.8**	**-1.3**
ARG	**Arkhangelos**	**3.33**	**42**	*e*PN	**Pb**	**09 10 51.3**	**-1.7**
ARG	**Arkhangelos**	**3.33**	**42**	*e*Pn	**Pb**	**09 10 51.3**	**-1.7**

IDC 09 09:21:57.1±1.7,6.80S×154.71E,h0km,mb3.6/4,
mb1 3.8/5,mb1mx3.6/18,mbtmp3.7/5,ML2.5/1,MS3.5/2,
Ms1 3.6/2,ms1mx2.9/18,Error ellipse: s-maj=70.8km
s-min=23.5km az=135.0,Bougainville - Solomon
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.91**	**250**	Pn	Pn	09 23 54.8	+1.3
	0.4nm,0.3s,baz=60,slow=8.1,SNR=2.4						
PMG				Sn	Sn	09 25 26.3	+2.5
	0.1nm,0.3s,baz=349,slow=10,SNR=1.7						
WRA	**Warramunga Arr**	**23.70**	**235**	P	P	09 27 11.9	+1.0
	1.0nm,0.5s,baz=56,slow=9.3,SNR=17						
ASAR	**Alice Springs**	**26.09**	**228**	P	P	09 27 31.3	-1.6
	0.4nm,0.7s,baz=61,slow=9.3,SNR=6.3						
STKA	**Stephens Creek**	**27.79**	**204**	LR	LR	09 37 01.3	
	comp=Z,62nm,21.1s,baz=24,slow=32						
MKAR	**Makanchi Array**	**83.07**	**319**	P	P	09 34 24.8	+0.1
	0.5nm,0.7s,baz=114,slow=4.8,SNR=6.0						
ILAR	**Eielson Array**	**83.30**	**22**	P	P	09 34 26.3	+0.8
	0.4nm,0.7s,baz=235,slow=4.3,SNR=2.4						
ILAR				LR	LR	10 09 44.6	
	comp=Z,49nm,18.5s,baz=252,slow=34						
TORD	**Torodi Ar. Bea**	**152.70**	**285**	PKPbc	PKPbc	09 41 56.2	-0.8
	1.5nm,0.7s,baz=65,slow=2.1,SNR=9.7						

ISCJB ***09*** *09:29:37.1±0.3,57.70N±0.05×156.31W±0.08,*
h122km±3km,mb3.3/6,Error ellipse: s-maj=9.2km
s-min=4.6km az=142.6
NEIC ***09*** *09:29:39.2,57.66N×156.29W,h112km,MG2.9(AEIC),*
After AEIC.
IDC ***09*** *09:29:39.8±6.8,58.11N×156.38W,h117km±67km,mb3.0/6,*
mb1 3.3/7,mb1mx3.2/26,mbtmp3.0/7,Error ellipse:
s-maj=50.0km s-min=17.4km az=16.0

ISC 09 09:29:38.4±0.8,57.67N±0.06×156.33W±0.05,
h116km±6km,n44,σ0s90/49,mb3.3/6,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK3	**Peulik 3**	**0.04**	**58**	P	**Pn**	**09 29 54.2**	**-0.1**
PLK3				S	**Sn**	**09 30 06.3**	**0.0**
PLK2	**Peulik 2**	**0.10**	**3**	P	**Pn**	**09 29 54.2**	**-0.2**
PLK1	**Peulik 1**	**0.20**	**313**	P	**Pn**	**09 29 54.1**	**-0.4**
PLBL	**Peulik Blue Cr**	**0.26**	**277**	P	**Pn**	**09 29 54.4**	**-0.4**
PLK5	**Peulik 5**	**0.44**	**319**	P	**Pn**	**09 29 55.2**	**-0.3**
ANCK	**Angle Creek**	**0.70**	**40**	P	**Pn**	**09 29 57.0**	**-0.4**
ACHA	**Angle Creek He**	**0.77**	**44**	P	**Pn**	**09 29 57.8**	**-0.2**
ACHA				S	**Sn**	**09 30 12.4**	**-0.4**
KABU	**Katmai Buttres**	**0.82**	**42**	P	**Pn**	**09 29 58.2**	**-0.3**
KABU				S	**Sn**	**09 30 13.5**	**-0.2**
KAKN	**Katmai Knife C**	**0.93**	**46**	P	**Pn**	**09 29 59.2**	**-0.2**
KAKN				S	**Sn**	**09 30 15.2**	**-0.2**
ANNW	**Aniakchak Nort**	**1.24**	**236**	P	**Pn**	**09 30 03.1**	**+0.5**
ANPK	**Aniakchak Peak**	**1.28**	**230**	P	**Pn**	**09 30 02.9**	**-0.2**
OHAK	**Old Harbor**	**1.71**	**104**	P	**Pn**	**09 30 07.3**	**-0.6**
OHAK				S	**Sn**	**09 30 29.0**	**-1.5**
CHGN	**Chignik**	**1.78**	**221**	*e*Pn	**Pn**	**09 30 08.6**	**-0.3**
FOSS	**Fourpeaked Sta**	**1.80**	**50**	P	**Pn**	**09 30 07.9**	**-1.3**
MCNL	**McNeil River**	**1.85**	**34**	P	**Pn**	**09 30 09.2**	**-0.5**
KDAK	**Kodiak Island**	**2.02**	**85**	P	**Pn**	**09 30 11.4**	**-0.3**
KDAK				S	**Sn**	**09 30 36.3**	**-0.9**
VNHG	**Veniaminof 1**	**2.12**	**228**	P	**Pn**	**09 30 14.4**	**+1.1**
VNSS	**Veniaminof 8**	**2.24**	**231**	P	**Pn**	**09 30 15.3**	**+0.5**
AUH	**Augustine H**	**2.28**	**40**	P	**Pn**	**09 30 15.1**	**-0.1**
OPT	**Oil Point**	**2.57**	**38**	P	**Pn**	**09 30 18.9**	**0.0**
SDPT	**Sand Point**	**3.27**	**226**	*e*Pn	**Pn**	**09 30 27.7**	**-0.3**
SDPT				*e*Sn	**Sn**	**09 31 04.5**	**-1.8**
NCT	**North Crescent**	**3.39**	**30**	P	**Pn**	**09 30 29.7**	**-0.1**
SVW2	**Sparrevohn**	**3.46**	**6**	P	**Pn**	**09 30 29.7**	**-0.9**
DT1	**Dutton Round H**	**4.18**	**235**	P	**Pn**	**09 30 40.4**	**+0.1**
SLKM	**Skilak Lake**	**4.25**	**45**	P	**Pn**	**09 30 40.9**	**-0.2**
RC01	**Rabbit Creek A**	**4.81**	**42**	P	**Pn**	**09 30 47.8**	**-0.8**
TT01	**Tatalina**	**5.26**	**2**	P	**Pn**	**09 30 55.0**	**+0.3**
CAST	**Castle Rocks**	**5.14**	**18**	P	**Pn**	**09 31 06.7**	**+0.2**
EYAK	**Cordova Ski Ar**	**6.17**	**58**	P	**Pn**	**09 31 05.8**	**-1.1**
SCM	**Sheep Creek Mo**	**6.17**	**44**	P	**Pn**	**09 31 06.7**	**-0.4**
TRF	**Thorofare Moun**	**6.52**	**25**	P	**Pn**	**09 31 10.5**	**-1.3**
KLU	**Klutina**	**6.53**	**50**	P	**Pn**	**09 31 11.2**	**-0.6**
NICHA	**Nichawak Mount**	**6.89**	**63**	P	**Pn**	**09 31 16.0**	**-0.8**
UNV	**Unalaska Valle**	**6.90**	**241**	P	**Pn**	**09 31 15.8**	**-1.0**
DHY	**Denali Highway**	**7.01**	**36**	P	**Pn**	**09 31 17.0**	**-1.4**
BARK	**Barkley Ridge**	**7.65**	**63**	P	**Pn**	**09 31 25.1**	**-2.0**
IL1	**Eielson Array**	**8.45**	**29**	P	**Pn**	**09 31 35.4**	**-2.4**
ILAR	**Eielson Array**	**8.45**	**29**	P	Pn	09 31 34.6	-3.2
	0.4nm,0.3s,baz=216,slow=13,SNR=16						
ILAR				S	Sn	09 33 02.5	-8.8
	0.3nm,0.3s,baz=5.5,slow=9.2,SNR=4.9						
YKA	**Yellowknife Ar**	**21.07**	**59**	P	**P**	**09 34 13.3**	**+0.4**
	0.3nm,0.5s,baz=274,slow=9.8,SNR=4.6						
PETK	**Petropavlovsk-**	**26.10**	**280**	P	**P**	**09 35 01.2**	**+0.2**
	0.6nm,0.4s,baz=77,slow=11,SNR=4.3						
NVAR	**Mina Array Bea**	**31.30**	**111**	P	P	09 35 50.5	+3.0
	0.4nm,0.6s,baz=313,slow=9.4,SNR=2.1						
PDAR	**Pinedale Array**	**32.69**	**97**	P	**P**	**09 36 01.1**	**+1.4**
	0.4nm,0.7s,baz=311,slow=5.9,SNR=3.3						
TXAR	**Lajitas Array**	**45.92**	**105**	P	**P**	**09 37 51.5**	**+2.1**
	0.1nm,0.6s,baz=313,slow=6.0,SNR=2.9						
SONM	**Songino Array**	**54.74**	**305**	P	**P**	**09 38 54.8**	**-0.7**
	0.5nm,0.4s,baz=26,slow=6.1,SNR=4.3						

ISCJB ***09*** *10:18:46.5±1.3,54.30N±0.06×85.8E±0.1,h10km,mb3.6/1,*
Error ellipse: s-maj=12.5km s-min=8.4km az=159.5
IDC ***09*** *10:18:46.5±1.4,54.26N×86.09E,h0km,mb3.4/1,*
mb1 3.7/5,mb1mx3.5/29,mbtmp3.6/5,ML3.4/4,Error
ellipse: s-maj=12.2km s-min=11.5km az=77.0
NNC ***09*** *10:18:49.4±6.2,54.23N×85.65E,h0km,mb4.1,mpv3.7,*
Error ellipse: s-maj=48.9km s-min=28.2km az=56.0

ISC 09 10:18:47.9±1.5,54.37N±0.09×85.8E±0.1,h10km,n12,
σ1s87/17,10C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**0.72**	**235**	Pg	**Pg**	**10 19 00.5**	**-1.4**
	4.4nm,0.3s,baz=64,slow=17,SNR=27						
ZALV				Lg	Lg	10 19 13.6	
	31nm,0.3s,baz=70,slow=27,SNR=84						
ZALV				Rg	Rg	10 19 18.1	
	349nm,1.2s,baz=64,slow=26,SNR=32						
KUR15	**Kurchatov Arra**	**5.81**	**233**	⇓Pn	**Pn**	**10 20 15.6**	**+1.6**
	3.2nm,0.8s,baz=54,slow=14						
KUR15				⇑Sn	**Sn**	**10 21 24.4**	**+3.8**
	0.6nm,0.6s						
KUR15				⇑Lg	Lg	10 21 48.6	
	2.9nm,0.7s,baz=52,slow=31						
KURBB	**Kurchatov Arra**	**5.82**	**233**	Pn	**Pn**	**10 20 15.6**	**+1.4**
	0.5nm,0.3s,baz=52,slow=13,SNR=96						
KURBB				Lg	Lg	10 21 53.9	
	0.3nm,0.3s,baz=101,slow=18,SNR=11						
MK31	**Makanchi Array**	**7.91**	**198**	⇑Pn	**Pn**	**10 20 42.8**	**-0.1**
	6.0nm,0.7s,baz=26,slow=13,SNR=61						
MK31				⇑Sn	**Sn**	**10 22 12.2**	**-0.2**
	1.3nm,0.5s,baz=25,slow=29,SNR=6.4						
MK31				⇑Lg	Lg	10 22 54.6	
	2.9nm,0.7s,baz=32,slow=30,SNR=7.7						
MKAR	**Makanchi Array**	**7.91**	**198**	Pn	**Pn**	**10 20 42.7**	**-0.2**
	0.8nm,0.3s,baz=25,slow=12,SNR=59						
MKAR				Sn	**Sn**	**10 22 12.0**	**-0.4**
	0.5nm,0.3s,baz=27,slow=27,SNR=11						
MKAR				Lg	Lg	10 22 52.5	
	0.3nm,0.3s,baz=34,slow=33,SNR=9.4						
VOSK	**Vostochnaya**	**8.99**	**265**	⇑Pn	**Pn**	**10 20 59.4**	**+1.7**
	2.1nm,0.7s						
VOSK				⇑Sn	**Sn**	**10 22 36.2**	**-2.7**
	3.8nm,0.6s						
BVA0	**Borovoye Array**	**9.25**	**268**	⇑Pn	Pn	10 21 04.8	+3.5
	1.9nm,0.7s,baz=80,slow=14,SNR=9.5						
BVA0				⇓Sn	**Sn**	**10 22 43.6**	**-1.7**
	2.0nm,0.5s						
BVAR	**Borovoye Array**	**9.25**	**268**	Pn	**Pn**	**10 21 04.2**	**+2.9**
	0.2nm,0.3s,baz=71,slow=14,SNR=5.8						
BVAR				Sn	**Sn**	**10 22 44.5**	**-0.9**
	0.8nm,0.3s,baz=71,slow=26,SNR=5.2						
ZRNK	**Zerenda**	**10.08**	**269**	⇑Pn	**Pn**	**10 21 13.5**	**+0.9**
	4.3nm,0.6s						
ZRNK				⇑Sn	**Sn**	**10 23 04.8**	**-0.8**
	1.6nm,0.6s						
SONM	**Songino Array**	**14.46**	**108**	Lg	Lg	10 26 16.9	
	0.1nm,0.3s,baz=285,slow=22,SNR=2.6						
AKTO	**Aktyubinsk**	**17.36**	**268**	P	**P**	**10 22 53.3**	**+1.9**
	0.1nm,0.3s,baz=54,slow=14,SNR=3.6						
ILAR	**Eielson Array**	**54.50**	**25**	P	**P**	**10 28 14.5**	**-0.7**
	0.5nm,0.9s,baz=293,slow=4.5,SNR=4.8						

TRN 09 10:56:04.8,15.06N×61.18W,h153km,MD3.6,M2.6(FDF),
2C-3D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDF	**Fort de France**	**0.33**	**174**	⇑*e*P	Pn	10 56 26.9	+1.0
FDF				⇑*e*S	Sn	10 56 43.0	+1.1
MVM	**Montagne Vaucl**	**0.58**	**151**	⇓*e*P	Pn	10 56 27.8	+0.9
MGG	**Marie-Galante**	**0.86**	**351**	*e*P	Pn	10 56 29.6	+1.0
PHG	**Guadaloupe-

δ84.00000°,λ-3.00000°. NP2:φ±294.00000°,δ87.00000°, λ-174.00000°. Principal axes: T 5.2700, Plg2.0000°, Azm69.0000°; N -0.3700, Plg84.0000°, Azm317.0000°; P -4.9000, Plg6.0000°, Azm159.0000°; Data Used: II IU G CN IC. Surface waves: sta=109, comp=230, per= 50.

DJA ***09*** *11:19:20.0±0.4,26°N±4°×10°1E±°,h10km,M5.5/41, mb5.5/41,mB5.9/31,Mw(mB)5.5/31,Mwp6.3/1*

BKK ***09*** *11:19:20.6±0.3,25°N±3°×10°1E±°,h10km,M5.6/43, mb5.4/43,mB5.9/34,MLv6.4/8,Mw(mB)5.5/34,Mwp5.9/3*

NEIC ***09*** *11:19:26.2±0.0,25.89N×100.86E,h10km,Moment Tensor Solution. s131 Moment tensor: Scale 10¹⁷Nm; Mrr0.63; Mθθ-3.10; Mφφ2.47; Mrθ1.55; Mθφ-2.47; Mrφ0.64; Best double couple: Mo4.00000×10¹⁷ NP1:φ±203.00000°, δ78.00000°,λ-13.00000°. NP2:φ±296.00000°,δ77.00000°, λ-167.00000°. Principal axes: T 3.4100, Plg1.0000°, Azm249.0000°; N 1.1700, Plg72.0000°, Azm342.0000°; P -4.5800, Plg17.0000°, Azm159.0000°;*

ISC 09 11:19:17.5±0.4,25.71N±0.03×101.10E±0.02,h14km±2km, h13km:pP-P,n844,σ1♀75/821,mb5.3/216,MS5.6/222, 50C-22D,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**1.59**	**111**	Pg	**Pn**	**11 19 45.7**	**+0.2**
KMI				Sg	**Sb**	**11 20 07.4**	**+0.4**
KMI	comp=N,203μm,1.4s			smax	smax		
KMI	comp=E,184μm,1.1s			smax	smax		
KMI	**Kunming**	**1.59**	**111**	P	**Pn**	**11 19 45.7**	**+0.2**
KMI						11 20 07.4	
KMI	**Kunming**	**1.59**	**111**	Pg	**Pn**	**11 19 45.7**	**+0.2**
KMI				Sg	**Sb**	**11 20 07.4**	**+0.4**
TGV	**Tuan Giao**	**4.62**	**152**	*e*Pn	**Pn**	**11 20 25.4**	**-1.5**
TGV				*e*Pg	**Pb**	**11 20 39.2**	**+0.8**
TGV				*e*Sg	**Sb**	**11 21 36.4**	**+2.5**
TGV	comp=E,2μm,1.1s			AML	AML	11 21 53.5	
DBV	**Dienbien**	**4.65**	**157**	*e*Pn	**Pn**	**11 20 25.9**	**-1.6**
DBV				*e*Pg	**Pb**	**11 20 39.5**	**+0.6**
DBV				*e*Sg	**Sb**	**11 21 34.4**	**-0.5**
GYA	**Guiyang**	**5.06**	**80**	⇑*i*Pn	**Pn**	**11 20 33.7**	**+0.6**
GYA				Sn	**Sn**	**11 21 34.0**	**+2.6**
GYA				Sg	**Sg**	**11 22 03.2**	**+3.2**
GYA	comp=N,256μm,11.2s			LR	LR		
GYA	comp=E,106μm,9.3s			LR	LR		
GYA	comp=Z,107μm,10.6s			LR	LR		
SLVN	**Son La**	**5.06**	**149**	*e*Pn	**Pn**	**11 20 31.7**	**-1.4**
SLVN				*e*Pg	**Pb**	**11 20 48.5**	**+2.5**
CD2	**Chengdu**	**5.69**	**24**	Pn	Pn	11 20 45.4	+3.8
CD2				Sn	Sn	11 21 55.2	+8.4
CD2	comp=N,543μm,8.8s			LR	LR		
CD2	comp=E,861μm,9.4s			LR	LR		
CD2	comp=Z,156μm,11.7s			LR	LR		
MCVV	**Moc Chau**	**5.88**	**146**	*e*Pg	**Pb**	**11 21 02.6**	**+2.8**
MCVV				*e*Sg	**Sb**	**11 22 12.8**	**+2.6**
CMAI	**Chiengmai2**	**6.05**	**199**	P	**Pn**	**11 20 44.8**	**-2.0**
	comp=E,345nm,1.0s,comp=Z,17μmcomp=Z,42nm						
PAYA	**Payao**	**6.42**	**190**	P	**Pn**	**11 20 48.8**	**-3.0**
	comp=Z,43nm,0.7s,comp=Z,5μmcomp=Z,10nm						
CMMT	**Chiang Mai**	**7.15**	**197**	P	**Pn**	**11 21 00.7**	**-1.0**
CMMT	**Chiang Mai**	**7.15**	**197**	P	**Pn**	**11 21 00.1**	**-1.6**
	comp=Z,87nm,0.7s,comp=Z,9μmcomp=Z,26nm						
CMAR	**Chiang Mai Arr**	**7.49**	**196**	Pn	**Pn**	**11 21 05.0**	**-1.5**
CMAR				Pg	Pb	11 21 33.5	+6.2
CMAR				Lg	Lg	11 23 09.9	
CMAR	**Chiang Mai Arr**	**7.49**	**196**	Pn	**Pn**	**11 21 05.0**	**-1.5**
	comp=Z,3.4nm,0.3s,baz=11,slow=13,SNR=78						
CMAR	comp=Z,18nm,0.3s,baz=9.7,slow=16,SNR=49			Pg	Pb	11 21 33.5	+6.2
CMAR	comp=Z,22nm,0.3s,baz=9.7,slow=29,SNR=9.4			Lg	Lg	11 23 09.9	
LOEI	**Loei**	**8.16**	**179**	P	**Pn**	**11 21 15.5**	**-0.2**
	comp=Z,179nm,1.7s,comp=Z,9μmcomp=Z,4.0nm						
SHL	**Shillong**	**8.32**	**271**	*i*P	**Pn**	**11 21 18.0**	**+0.1**
SHL				*ex*	Sb	11 23 23.0	+2.2
ENH	**Enshi**	**8.69**	**57**	*e*Pn	**Pn**	**11 21 24.2**	**+1.3**
	comp=Z,761nm,0.8s						
ENH				*e*Sn	**Sn**	**11 23 02.6**	**+1.7**
PBKT	**Sadao Pong**	**9.10**	**181**	P	**Pn**	**11 21 27.7**	**-0.7**
	comp=Z,70nm,1.7s,comp=Z,3μm						
PBKT	**Sadao Pong**	**9.10**	**181**	P	**Pn**	**11 21 28.4**	**0.0**
	comp=Z,94nm,1.2s,comp=Z,3μmcomp=Z,1.8nm						
SKNT	**Sakolnakorn**	**9.10**	**162**	P	**Pn**	**11 21 28.6**	**+0.1**
	comp=Z,1μm,1.0s,comp=Z,13μmcomp=Z,3.6nm						
PANO	**Nakornpanom**	**9.13**	**158**	P	**Pn**	**11 21 28.6**	**-0.3**
	comp=Z,874nm,1.3s,comp=Z,13μm						
LSA	**Lhasa**	**9.67**	**297**	P	**Pn**	**11 21 36.9**	**+0.2**
LSA				S	**Sn**	**11 23 25.7**	**+0.3**
LSA	comp=N,49μm,15.8s			LR	LR		
LSA	comp=E,37μm,16.2s			LR	LR		
LSA	comp=Z,31μm,13.0s			LR	LR		
LSA	**Lhasa**	**9.67**	**297**	*e*P	**Pn**	**11 21 37.2**	**+0.5**
LSA				*e*		11 23 26.7	
LSA	comp=Z,66nm,0.6s			pmax	pmax		
LSA	**Lhasa**	**9.67**	**297**	*e*Pn	**Pn**	**11 21 37.2**	**+0.5**
	comp=Z,66nm,0.6s						
LSA				*e*Sn	**Sn**	**11 23 26.7**	**+1.3**
QIZ	**Qiongzhong**	**10.47**	**128**	P	**Pn**	**11 21 45.4**	**-1.9**
QIZ				pP		11 21 48.3	
QIZ				S	**Sn**	**11 23 43.5**	**-0.9**
QIZ				sS		11 23 49.5	
QIZ	comp=Z,550nm,11.2s			pmax	pmax		
QIZ	comp=N,146μm,11.3s			LR	LR		
QIZ	comp=E,58μm,12.1s			LR	LR		
QIZ	comp=Z,51μm,8.7s			LR	LR		
QIZ	**Qiongzhong**	**10.47**	**128**	*e*Pn	**Pn**	**11 21 45.2**	**-2.1**
	comp=Z,119nm,0.9s						
LZH	**Lanzhou**	**10.61**	**12**	⇓P	Pn	11 21 53.5	+4.2
LZH				pP		11 21 55.7	
LZH				sP		11 21 57.6	
LZH				PP	**PnPn**	**11 22 02.1**	**+4.9**
LZH				S	**Sn**	**11 23 53.2**	**+5.2**
LZH				sS		11 24 04.3	
LZH				SS	SnSn	11 24 11.5	+11
LZH	comp=Z,320nm,1.0s			pmax	pmax		
LZH	comp=Z,1μm,4.0s			pmax	pmax		
LZH	comp=N,132μm,8.3s			LR	LR		
LZH	comp=E,280μm,8.0s			LR	LR		
LZH	comp=Z,82μm,10.2s			LR	LR		
XAN	**Xi'an**	**10.72**	**37**	P	**Pn**	**11 21 50.4**	**-0.3**
XAN				pP		11 21 53.4	
XAN				sP		11 21 56.4	
XAN				sS	Sn	11 23 59.8	+9.3
XAN	comp=Z,26nm,0.8s			pmax	pmax		
XAN	comp=Z,160nm,4.2s			pmax	pmax		
XAN	comp=N,128μm,12.6s			LR	LR		
XAN	comp=E,56μm,12.6s			LR	LR		
XAN	comp=Z,24μm,10.1s			LR	LR		
UBPT	**Khong Chiam**	**11.15**	**158**	P	**Pn**	**11 21 56.5**	**-0.2**
	comp=Z,496nm,1.8s						
UBPT	**Khong Chiam**	**11.15**	**158**	P	**Pn**	**11 21 56.2**	**-0.5**
	comp=Z,629nm,1.3s,comp=Z,9μm						
NAYO	**Nakonayok**	**11.34**	**179**	P	**Pn**	**11 22 00.2**	**+1.0**
	comp=Z,384nm,1.5s,comp=Z,6μm						
GZH	**Guangzhou**	**11.46**	**101**	P	**Pn**	**11 22 00.2**	**-0.6**
GZH				S	**Sn**	**11 24 10.3**	**+1.6**
GZH	comp=N,87μm,5.4s			LR	LR		
GZH	comp=E,30μm,6.7s			LR	LR		
TAPN	**Taplejung**	**12.10**	**281**	*e*P	**Pn**	**11 22 09.0**	**-0.9**
	comp=E,248nm,0.8s						
ODAN	**Odare**	**12.36**	**278**	*e*P	**Pn**	**11 22 11.7**	**-1.6**
	comp=E,616nm,1.2s						
HKC	**Hong Kong Obse**	**12.42**	**103**	*i*P	**Pn**	**11 22 16.0**	**+2.0**
WHN	**Wuhan**	**12.64**	**65**	P	**Pn**	**11 22 15.7**	**-1.3**
WHN				S	**Sn**	**11 24 35.0**	**-2.6**
WHN	comp=N,163μm,7.9s			LR	LR		
WHN	comp=E,87μm,6.9s			LR	LR		
WHN	comp=Z,118μm,14.7s			LR	LR		
PHET	**Kaeng Krachan**	**12.81**	**186**	P	**Pn**	**11 22 21.5**	**+2.2**
	comp=E,178nm,1.2s,comp=Z,2μm						
CHBT	**CHBT**	**12.94**	**175**	P	**Pn**	**11 22 23.0**	**+1.9**
	comp=Z,70nm,1.5s,comp=Z,3μm						
CHBT	**CHBT**	**12.94**	**175**	P	**Pn**	**11 22 23.4**	**+2.3**
	comp=Z,78nm,1.5s,comp=Z,3μm						
RAMN	**Ramite**	**13.06**	**279**	*e*P	**Pn**	**11 22 21.2**	**-1.8**
	comp=Z,285nm,0.8s						
JIRN	**Jiri**	**13.47**	**282**	*e*P	**Pn**	**11 22 26.6**	**-2.1**
	comp=Z,204nm,0.8s						
GTA	**Gaotai**	**13.70**	**356**	⇑P	**Pn**	**11 22 34.4**	**+2.8**
GTA				pP	**P**	**11 22 40.5**	**+0.2**
GTA				sP		11 22 43.1	
GTA				S	**Sn**	**11 25 07.2**	**+3.5**
GTA				sS	sS	11 25 12.3	
GTA				SS	**S**	**11 25 22.2**	**-4.2**
GTA	comp=Z,30nm,2.2s			pmax	pmax		
GTA	comp=Z,2μm,4.8s			pmax	pmax		
GTA	comp=N,64μm,9.5s			LR	LR		
GTA	comp=E,125μm,11.9s			LR	LR		
GTA	comp=Z,72μm,9.5s			LR	LR		
GUN	**Gumba**	**13.77**	**283**	*e*P	**Pn**	**11 22 30.2**	**-2.5**
	comp=Z,284nm,0.8s						
PKI	**Pulchoki**	**14.16**	**281**	*e*P	**Pn**	**11 22 35.5**	**-2.5**
	comp=Z,627nm,0.8s						
PKIN	**Phulchoki**	**14.17**	**281**	*e*P	**Pn**	**11 22 35.3**	**-2.8**
	comp=Z,494nm,0.8s						
KKN	**Kakani**	**14.29**	**282**	*e*P	**Pn**	**11 22 37.0**	**-2.7**
	comp=Z,431nm,0.8s						
DMN	**Daman**	**14.43**	**281**	*e*P	**Pn**	**11 22 38.8**	**-2.8**
	comp=Z,784nm,0.9s						
TIY	**Taiyuan**	**15.35**	**36**	*e*P	**Pn**	**11 22 50.3**	**-3.6**
TIY				S	**Sn**	**11 25 38.2**	**-5.6**
TIY	comp=Z,780nm,8.5s			pmax	pmax		
TIY	comp=N,68μm,8.5s			LR	LR		
TIY	comp=E,50μm,9.5s			LR	LR		
TIY	comp=Z,64μm,10.4s			LR	LR		
DANN	**Dangsing**	**15.68**	**284**	*e*P	**Pn**	**11 22 55.6**	**-2.7**
	comp=Z,562nm,0.9s						
KOLN	**Koldanda**	**15.77**	**281**	*e*P	**Pn**	**11 22 56.2**	**-3.3**
	comp=Z,198nm,0.9s						
QZH	**Quanzhou**	**15.84**	**89**	⇑*i*P	**Pn**	**11 22 58.0**	**-2.1**
QZH				S	**Sn**	**11 25 55.0**	**-0.6**
QZH	comp=Z,400nm,0.9s			pmax	pmax		
QZH	comp=N,298μm,8.3s			LR	LR		
QZH	comp=E,46μm,10.2s			LR	LR		
QZH	comp=Z,114μm,11.3s			LR	LR		
PYUN	**Piuthan**	**16.33**	**282**	*e*P	**Pn**	**11 23 03.8**	**-2.9**
	comp=Z,435nm,0.9s						
BTO	**Baotou**	**16.61**	**24**	*e*P	**Pn**	**11 23 07.8**	**-2.3**
BTO				S	**Sn**	**11 26 08.1**	**-6.3**
BTO	comp=Z,45nm,0.7s			pmax	pmax		
BTO	comp=N,21μm,11.8s			LR	LR		
BTO	comp=E,32μm,12.9s			LR	LR		
NJ2	**Nanjing**	**16.78**	**64**	*e*P	**Pn**	**11 23 10.3**	**-1.8**
NJ2				pP	**P**	**11 23 13.9**	**-0.4**
NJ2				sP	**sP**	**11 23 16.4**	**-3.6**
NJ2				PP	**PnPn**	**11 23 23.0**	**+1.5**
NJ2				S	**Sn**	**11 26 16.0**	**-2.3**
NJ2				sS	S	11 26 22.0	-7.1
NJ2	comp=Z,20nm,0.6s			pmax	pmax		
NJ2	comp=N,65μm,11.8s			LR	LR		
NJ2	comp=E,49μm,15.8s			LR	LR		
NJ2	comp=Z,67μm,18.8s			LR	LR		
TIA	**Tai'an**	**17.25**	**49**	P	**Pn**	**11 23 17.8**	**-0.3**
TIA	comp=Z,2μm,11.0s			pmax	pmax		
TIA	comp=N,41μm,12.2s			LR	LR		
TIA	comp=E,24μm,11.3s			LR	LR		
TIA	comp=Z,20μm,12.5s			LR	LR		
HHC	**Hu-ho-hao-te**	**17.43**	**27**	*e*P	**Pn**	**11 23 20.4**	**+0.1**
HHC				pP	**pP**	**11 23 24.0**	**-1.5**
HHC				sP	**sP**	**11 23 27.4**	**+0.1**
HHC				PP	**PnPn**	**11 23 34.8**	**+4.2**
HHC				S	**Sn**	**11 26 31.3**	**-2.9**
HHC				sS	**S**	**11 26 39.0**	**-3.5**
HHC				SS	**SnSn**	**11 26 57.7**	**+10**
HHC	comp=Z,63nm,1.1s			pmax	pmax		
HHC	comp=Z,2μm,5.0s			pmax	pmax		
HHC	comp=N,40μm,9.1s			LR	LR		
HHC	comp=E,32μm,6.4s			LR	LR		
HHC	comp=Z,30μm,10.4s			LR	LR		
TRTT	**Trang**	**17.83**	**185**	P	**Pn**	**11 23 25.2**	**-0.1**
	comp=Z,122nm,1.3s,comp=Z,4μm						
PKDT	**Phuket**	**17.91**	**189**	P	**P**	**11 23 27.8**	**+0.8**
	comp=Z,371nm,0.9s,comp=Z,6μm						
TPUB	**Ta-pu**	**17.93**	**94**	*e*Pn	**P**	**11 23 29.1**	**+1.9**
	comp=Z,285nm,1.0s						
SSLB	**Suanglung**	**18.14**	**92**	*e*Pn	**P**	**11 23 31.2**	**+1.8**
	comp=Z,150nm,1.1s						
TWG	**Pinlang**	**18.43**	**95**	*e*P	**Pn**	**11 23 34.2**	**+1.4**
	comp=Z,1μm,1.1s						
TATO	**Taipei**	**18.45**	**88**	P	**Pn**	**11 23 35.1**	**+2.2**
	SNR=8.2						
TATO	**Taipei**	**18.45**	**88**	*e*Pn	**Pn**	**11 23 33.5**	**+0.6**
	comp=Z,321nm,1.4s						
SSE	**Sheshan**	**18.46**	**69**	P	**Pn**	**11 23 33.9**	**+0.9**
SSE				S	**Sn**	**11 26 59.6**	**+0.5**
SSE	comp=Z,93nm,0.9s			pmax	pmax		
SSE	comp=Z,2μm,9.1s			pmax	pmax		
SSE	comp=N,15μm,16.4s			LR	LR		
SSE	comp=E,29μm,16.4s			LR	LR		
SSE	comp=Z,44μm,16.5s			LR	LR		
NACB	**Ninganchiao**	**18.65**	**90**	*e*Pn	**Pn**	**11 23 35.7**	**+0.3**
	comp=Z,249nm,1.1s						
PTH	**Pithoragarh**	**18.89**	**286**	*ex*	P	11 23 30.1	-7.8
BJT	**Baijiatuau**	**19.03**	**38**	*e*P	**Pn**	**11 23 40.6**	**+0.8**
	comp=Z,255nm,1.1s						
BJI	**Beijing**	**19.05**	**38**	P	**P**	**11 23 39.8**	**+0.5**
BJI				S	**S**	**11 27 15.3**	**+0.1**
BJI	comp=Z,140nm,1.7s			pmax	pmax		
BJI	comp=Z,3μm,4.7s			pmax	pmax		
BJI	comp=N,87μm,15.8s			LR	LR		
BJI	comp=E,92μm,15.5s			LR	LR		
BJI	comp=Z,12μm,21.3s			LR	LR		
JBP	**Jabalpur**	**19.39**	**267**	*e*P	**P**	**11 23 42.9**	**-0.3**
JBP				*ex*	**Sn**	**11 27 18.3**	**-3.4**
ABRA	**Dolores**	**19.90**	**110**	*e*P	Pn	11 23 55.4	+5.1
SCZP	**Santa Cruz**	**20.16**	**116**	*e*P	Pn	11 23 54.3	+0.8
APYP	**Conner**	**20.25**	**109**	*e*P	Pn	11 23 59.2	+4.6
KULM	**Kulim**	**20.31**	**181**	*e*P	**P**	**11 23 52.5**	**-0.7**
KULM	comp=Z,325nm,1.5s			LR	LR		
KULM	comp=Z,16μm,20.0s			LR	LR		
KULM	**Kulim**	**20.31**	**181**	P	**P**	**11 23 52.3**	**-0.9**
KULM	**Kulim**	**20.31**	**181**	P	**P**	**11 23 52.9**	**-0.3**
	comp=Z,162nm,1.6s,comp=Z,3μm						
KTGM	**Kuala Trenggan**	**20.36**	**174**	P	**P**	**11 23 53.6**	**-0.2**
BCPH	**Baguio City Da**	**20.39**	**113**	⇑*i*P	**P**	**11 23 52.5**	**-1.8**
NGP	**Nagpur**	**20.73**	**262**	*e*P	**P**	**11 23 56.3**	**-1.5**
NGP	comp=Z,228nm,1.3s			*ex*	x	11 24 09.8	
NGP				*e*S	**S**	**11 27 50.7**	**+1.7**
LHMI	**Lhok Sumawe**	**20.75**	**192**	P	Pn	11 24 05.9	+5.5
	comp=Z,217nm,1.2s,comp=Z,6μm						
BSI	**Banda Aceh**	**20.85**	**196**	P	**P**	**11 23 58.0**	**-1.1**
	comp=Z,243nm,1.6s,comp=Z,4μm						
WMQ	**Urumqi**	**21.11**	**332**	P	**P**	**11 24 02.9**	**+1.1**
IPM	**Ipoh**	**21.11**	**180**	*e*P	**P**	**11 23 59.8**	**-2.2**
	comp=Z,607nm,1.9s						
IPM	**Ipoh**	**21.11**	**180**	P	**P**	**11 23 59.5**	**-2.4**
IPM	**Ipoh**	**21.11**	**180**	P	**P**	**11 23 59.6**	**-2.4**
	comp=Z,204nm,0.9s,comp=Z,3μm						
CAUP	**Cauayan**	**21.16**	**110**	*e*P	**P**	**11 24 06.5**	**+4.0**
NDI	**New Delhi**	**21.44**	**283**	*e*P	**P**	**11 24 03.0**	**-2.4**
NDI				*ex*	x	11 27 58.0	
BALP	**Baler**	**21.54**	**113**	*e*P	**P**	**11 24 10.2**	**+3.7**
PALP	**Palanan**	**21.62**	**109**	*e*P	**P**	**11 24 11.3**	**+3.9**
DL2	**Dalian**	**21.71**	**48**	⇑*i*P	**P**	**11 24 09.2**	**+1.0**
DL2				S	**S**	**11 28 09.1**	**+0.9**
DL2	comp=Z,410nm,0.9s			pmax	pmax		
DL2	comp=Z,600nm,4.3s			pmax	pmax		
DL2	comp=N,22μm,13.0s			LR	LR		
DL2	comp=E,14μm,14.8s			LR	LR		
DL2	comp=Z,17μm,10.9s			LR	LR		
SMLA	**Simla**	**21.71**	**290**	*i*P	**P**	**11 24 07.8**	**-0.4**
SDNR	**Sundarnagar**	**21.94**	**291**	*e*P	**P**	**11 24 12.1**	**+1.4**
TSI	**Tuntungan**	**22.22**	**187**	P	**P**	**11 24 15.9**	**+2.1**
	comp=Z,412nm,1.5s,comp=Z,13μm						
FRIM	**Kepong**	**22.35**	**179**	P	**P**	**11 24 14.0**	**-1.2**
BHK	**Bhakra**	**22.39**	**290**	*e*P	**P**	**11 24 16.4**	**+0.8**
SONM	**Songino Array**	**22.48**	**9**	P	**P**	**11 24 16.6**	**+0.1**
SONM	**Songino Array**	**22.48**	**9**	P	**P**	**11 24 16.6**	**+0.1**
	comp=Z,60nm,0.8s,baz=192,slow=10,SNR=88						
SONM	comp=Z,12μm,19.7s,baz=188,slow=38			LR	LR	11 33 43.9	
HYB	**Hyderabad**	**22.51**	**253**	*i*P	**P**	**11 24 16.0**	**-1.0**
HYB				*e*S	**S**	**11 28 28.0**	**+4.3**
HYB	comp=Z,13nm,22.0s			LR	LR		
HYB	**Hyderabad**	**22.51**	**253**	*e*P	**P**	**11 24 16.0**	**-1.0**
HYB	**Hyderabad**	**22.51**	**253**	*e*P	**P**	**11 24 16.0**	**-1.0**
HYB				*e*S	**S**	**11 28 28.0**	**+4.3**
AKL	**Akola**	**22.68**	**262**	*e*P	**P**	**11 24 17.7**	**-1.0**
AKL				*i* x	x	11 28 23.8	
PSI	**Prapat**	**22.87**	**186**	P	**P**	**11 24 19.7**	**-1.2**
PSI	**Prapat**	**22.87**	**186**	P	**P**	**11 24 19.7**	**-1.2**
	comp=Z,75nm,0.9s,baz=338,slow=7.6,SNR=52						
DLH	**Dalhousie**	**22.95**	**293**	*e*P	**P**	**11 24 22.0**	**+0.2**
DLH				*ex*	x	11 24 36.0	
THN	**Thein Dam**	**23.14**	**293**	*e*P	**P**	**11 24 20.5**	**-2.9**
KGM	**Kluang**	**23.66**	**174**	P	**P**	**11 24 27.3**	**-1.3**
AJM	**Ajmer**	**23.76**	**278**	*i*P	**P**	**11 24 28.0**	**-1.7**
MYKOM	**Kota Tinggi**	**23.93**	**173**	P	**P**	**11 24 31.6**	**+0.4**
MYKOM	**Kota Tinggi**	**23.93**	**173**	P	**P**	**11 24 30.2**	**-1.1**
	comp=Z,214nm,1.9s,comp=Z,3μm						
KDM	**Kudat**	**23.98**	**139**	P	**P**	**11 24 32.3**	**+0.6**
KKM	**Kota Kinabalu**	**24.32**	**141**	*e*P	**P**	**11 24 35.3**	**+0.3**
KKM	comp=Z,340nm,1.3s			LR	LR		
KKM	comp=Z,7μm,21.0s			LR	LR		
KKM	**Kota Kinabalu**	**24.32**	**141**	P	**P**	**11 24 35.8**	**+0.8**
KKM	**Kota Kinabalu**	**24.32**	**141**	P	**P**	**11 24 37.3**	**+2.3**
	comp=Z,252nm,0.8s,comp=Z,4μm						
JOW	**Kunigami**	**24.38**	**81**	*e*P	**P**	**11 24 35.0**	**-0.4**
	comp=Z,75nm,1.6s						
SNY	**Shenyang**	**24.54**	**43**	⇑P	**P**	**11 24 35.8**	**-0.9**
SNY				S	**S**	**11 28 50.0**	**-6.9**
SNY	comp=Z,150nm,1.1s			pmax	pmax		
SNY	comp=Z,2μm,4.2s			pmax	pmax		
SNY	comp=N,40μm,18.3s			LR	LR		
SNY	comp=E,31μm,19.9s			LR	LR		
SNY	comp=Z,21μm,16.5s			LR	LR		
KSH	**Kashi**	**25.14**	**309**	P	**P**	**11 24 44.6**	**+2.2**
KSH				pP	**pP**	**11 24 49.9**	**+3.3**
KSH				sP	**sP**	**11 24 51.3**	**+3.0**
KSH				PP	PnPn	11 25 23.6	+7.3
KSH				S	**S**	**11 29 09.7**	**+2.7**
KSH				sS	**sS**	**11 29 13.8**	**-0.2**
KSH				SS	SnSn	11 30 08.8	+12
KSH	comp=Z,95nm,1.1s			pmax	pmax		
KSH	comp=Z,2μm,4.4s			pmax	pmax		
KSH	comp=N,38μm,15.3s			LR	LR		
KSH	comp=E,22μm,13.1s			LR	LR		
KSH	comp=Z,25μm,17.4s			LR	LR		
BTM	**Bintulu**	**25.17**	**151**	P	**P**	**11 24 42.3**	**-0.3**
SDKM	**Sandakan**	**25.21**	**140**	P	**P**	**11 24 44.5**	**+1.4**
BKNI	**Bangkinang**	**25.24**	**180**	P	P	11 24 51.6	+8.4
	comp=Z,184nm,1.0s,comp=Z,5μm						
SBUM	**Sibu**	**25.48**	**153**	P	**P**	**11 24 45.6**	**+0.2**
SBUM	**Sibu**	**25.48**	**153**	P	**P**	**11 24 45.3**	**-0.1**
	comp=Z,132nm,1.1s,comp=Z,2μm						
KSAR	**Wonju Array Be**	**25.55**	**56**	P	**P**	**11 24 44.6**	**-1.3**
KSRS	**Korea Array**	**25.59**	**56**	P	**P**	**11 24 44.6**	**-1.6**
	comp=Z,19nm,0.9s,baz=242,slow=9.3,SNR=27						
KSRS				LR	LR	11 36 02.5	
	comp=Z,12μm,21.8s,baz=256,slow=39						
KSM	**Kuching**	**25.68**	**158**	*e*P	**P**	**11 24 46.8**	**-0.5**
	comp=Z,117nm,0.9s						
KSM	comp=Z,15μm,20.0s			LR	LR		
KSM	**Kuching**	**25.68**	**158**	P	**P**	**11 24 47.0**	**-0.2**
KSM	**Kuching**	**25.68**	**158**	P	**P**	**11 24 46.7**	**-0.5**
	comp=Z,153nm,1.1s,comp=Z,1μm						
MK31	**Makanchi Array**	**25.81**	**329**	*e*P	**P**	**11 24 49.4**	**+1.1**
MK31	**Makanchi Array**	**25.81**	**329**	*e*P	**P**	**11 24 49.4**	**+1.1**
MKAR	**Makanchi Array**	**25.81**	**329**	*i*P	**P**	**11 24 49.0**	**+0.8**
MKAR	comp=Z,45nm,0.7s			pmax	pmax		
MKAR	**Makanchi Array**	**25.81**	**329**	P	**P**	**11 24 49.1**	**+0.8**
MKAR				PcP	**PcP**	**11 28 17.4**	**-0.1**
MKAR				ScP	**ScP**	**11 31 59.2**	**+2.4**
MKAR	**Makanchi Array**	**25.81**	**329**	P	**P**	**11 24 49.1**	**+0.8**
	comp=Z,44nm,0.7s,baz=136,slow=9.3,SNR=111						
MKAR				PcP	**PcP**	**11 28 17.4**	**-0.1**
	comp=Z,5.2nm,0.8s,baz=198,slow=3.3,SNR=5.1						
MKAR				ScP	**ScP**	**11 31 59.2**	**+2.4**
	comp=Z,5.2nm,1.0s,baz=128,slow=4.9,SNR=6.3						
MKAR	comp=Z,7μm,18.6s,baz=147,slow=40			LR	LR	11 36 21.3	
MOY	**Mondy**	**25.92**	**360**	*e*P	**P**	**11 24 50.6**	**+1.3**
MOY	comp=Z,464nm,2.6s			pmax	pmax		
TLY	**Talaya**	**26.00**	**4**	*c i*P	**P**	**11 24 53.2**	**+3.3**
TLY				*e*		11 25 37.4	
TLY				*e*PPP	PPP	11 25 49.7	
TLY				*e*S	**S**	**11 29 24.8**	**+4.6**
TLY				*e*SSS	SSS	11 30 31.8	
TLY	comp=Z,89nm,1.2s			pmax	pmax		
TLY	comp=Z,11μm,11.0s			MLR	MLR		
TLY	**Talaya**	**26.00**	**4**	P	**P**	**11 24 54.6**	**+4.7**

comp=Z,291nm,1.1s,SNR=14
HVS Khovu-Aksy 26.01 349⇑ *e*P **P 11 24 50.9 +0.8**
HVS pmax pmax
comp=Z,453nm,1.1s
HVS MLR MLR
comp=Z,55µm,15.0s
PPI Padang Panjang 26.02 182 P P 11 24 55.6 +5.3
comp=Z,24nm,1.3s,comp=Z,1µm
POO Poona 26.20 260 *e*P **P 11 24 50.0 -2.1**
comp=Z,160nm,1.0s
POO *i* x x 11 25 39.0
MYLDM Lahad Datu 26.35 138 P **P 11 24 54.4 +1.1**
MYLDM Lahad Datu 26.35 138 P **P 11 24 56.3 +2.9**
comp=Z,153nm,1.2s,comp=Z,2µm
KAD Karad 26.36 257 *i* x **P 11 24 57.5 +4.0**
AAA Alma-Ata 26.37 318 *e*P **P 11 24 55.3 +1.9**
AAA pmax pmax
comp=Z,3µm,3.4s
AAA MLR MLR
comp=Z,25µm,16.0s
IRK Irkutsk 26.61 4 *e*P **P 11 24 57.2 +1.9**
IRK pmax pmax
comp=Z,670nm,2.4s
TSM Tawau 26.69 140 P **P 11 24 57.5 +1.1**
PALK Pallekele 26.73 230 P **P 11 24 56.2 -0.6**
comp=Z,487nm,1.2s,SNR=6.0
PALK Pallekele 26.73 230 P **P 11 25 00.1 +3.2**
SNR=7.6
PALK Pallekele 26.73 230 *e*P **P 11 24 56.3 -0.6**
comp=Z,272nm,1.5s
PALK Pallekele 26.73 230 P **P 11 24 59.1 +2.2**
comp=Z,121nm,2.0s,comp=Z,3µm
CN2 Changchun 26.79 41 ⇑P **P 11 24 57.0 0.0**
CN2 *es*P **sP 11 25 01.0 -2.0**
CN2 *e*S **S 11 29 33.0 +0.4**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,700nm,4.0s
CN2 LR LR
comp=N,35µm,16.0s
CN2 LR LR
comp=E,17µm,16.0s
CN2 LR LR
comp=Z,20µm,16.0s
KZA Kyzart 26.81 314 *i* P **P 11 24 59.9 +2.1**
KZA Kyzart 26.81 314 P **P 11 24 59.9 +2.1**
SNR=24
JNU Nakatsue 26.91 67 *e*P **P 11 25 00.1 +1.8**
comp=Z,36nm,0.8s
JNU Nakatsue 26.91 67 P **P 11 24 59.4 +1.1**
comp=Z,69nm,0.9s,baz=296,slow=4.3,SNR=18
JNU LR LR 11 36 33.9
comp=Z,26µm,18.2s,baz=267,slow=39
TKM2 Tokmak 2 27.02 316 *i* P **P 11 25 01.2 +1.8**
TKM2 Tokmak 2 27.02 316 P **P 11 25 01.3 +1.8**
SNR=8.8
TKM2 Tokmak 2 27.02 316 PFAKE 11 25 10.0 +11
TKM2 LR LR
comp=Z,12µm,22.0s
STKI Sintang 27.39 157 P **P 11 25 04.5 +1.8**
comp=Z,140nm,1.6s
AAK Ala-Archa 27.57 314 P **P 11 25 06.5 +2.2**
comp=Z,193nm,1.0s,SNR=27
AAK Ala-Archa 27.57 314 *d* *i*P **P 11 25 06.3 +1.9**
AAK pmax pmax
comp=Z,117nm,1.7s
AAK MLR MLR
comp=Z,29µm,17.0s
AAK Ala-Archa 27.57 314 P **P 11 25 07.4 +3.1**
SNR=37
AAK Ala-Archa 27.57 314 *e*P **P 11 25 06.6 +2.2**
comp=Z,32nm,0.9s
AAK Ala-Archa 27.57 314 P **P 11 25 06.0 +1.6**
comp=Z,16nm,0.7s,baz=124,slow=7.0,SNR=18
AAK LR LR 11 36 48.5
comp=Z,10µm,18.4s,baz=102,slow=38
FRU Bishkek 27.59 315 *e*P **P 11 25 06.5 +2.1**
FRU *e* 11 25 52.0
FRU pmax pmax
comp=Z,400nm,2.5s
FRU MLR MLR
comp=Z,9µm,15.5s
HIA Hailar 27.63 27 *e*P **P 11 25 05.1 +0.5**
comp=Z,312nm,1.5s
HIA LR LR
comp=Z,9µm,19.0s
AML Almayashu 27.86 313 *i* P **P 11 25 09.2 +2.0**
AML Almayashu 27.86 313 P **P 11 25 09.2 +2.0**
SNR=35
USP Ospenovka 27.89 316 *i* P **P 11 25 09.1 +2.1**
USP Ospenovka 27.89 316 P **P 11 25 09.1 +2.1**
SNR=7.0
CIT Chita 27.92 17 *e*P **P 11 25 08.1 +0.9**
CIT *e* 11 25 23.0
CIT pmax pmax
comp=Z,470nm,1.9s
EKS2 Erkin-Say 28.05 314 P **P 11 25 10.8 +2.2**
SNR=29
EKS2 Erkin-Say 28.05 314 PFAKE 11 25 20.0 +11
EKS2 LR LR
comp=Z,10µm,22.0s
PPBI Pangkal Pinang 28.13 169 P P 11 25 15.3 +6.0
comp=Z,48nm,2.1s
KBL Kabul 28.99 295 *e*P **P 11 25 18.8 +1.6**
KBL pmax pmax
comp=Z,74nm,1.0s
KBL Kabul 28.99 295 *e*P **P 11 25 18.8 +1.6**
comp=Z,74nm,1.0s
TPI Tanjungpandan 29.00 166 P P 11 25 22.5 +5.5
comp=Z,38nm,1.1s
KSI Kapahiang 29.22 177 P **P 11 25 20.1 +1.0**
comp=Z,143nm,0.7s,comp=Z,8µm
MDJ Mudanjiang 29.74 43 P **P 11 25 23.6 +0.2**
MDJ pP **pP 11 25 26.6 -1.1**
MDJ sP **sP 11 25 28.0 -1.4**
MDJ PcP **PcP 11 28 26.6 -0.5**
MDJ S **S 11 30 20.9 +1.7**
MDJ ScP **ScP 11 32 09.0 +0.2**
MDJ PcS **PcS 11 32 10.3 +0.1**
MDJ ScS **ScS 11 36 03.7 0.0**
MDJ pmax pmax
comp=Z,20nm,1.6s
MDJ pmax pmax
comp=Z,140nm,4.0s
MDJ LR LR
comp=N,30µm,20.8s
MDJ LR LR
comp=E,18µm,17.6s
MDJ LR LR
comp=Z,14µm,14.4s
MDJ Mudanjiang 29.74 43 *e*P **P 11 25 23.4 -0.1**
comp=Z,80nm,1.6s
MDJ LR LR
comp=Z,14µm,20.0s
DAV Davao City (W) 29.82 124 LR LR 11 36 47.6
comp=Z,9µm,20.2s,baz=306,slow=35
PBKI Pangkalan Bun 30.05 159 P **P 11 25 29.2 +2.9**
comp=Z,231nm,1.1s,comp=Z,2µm
KURBB Kurchatov Arra 30.32 331 P **P 11 25 29.2 +0.8**
comp=Z,15nm,0.5s,baz=130,slow=11,SNR=60
KURBB PcP **PcP 11 28 27.9 -0.5**
comp=Z,5.7nm,0.8s,baz=129,slow=2.1,SNR=6.2
KURBB ScP **ScP 11 32 13.4 +2.9**
comp=Z,5.4nm,1.1s,baz=157,slow=2.4,SNR=5.7
KURK Kurchatov 30.35 331 P **P 11 25 28.1 -0.6**
comp=Z,376nm,0.7s,SNR=31
KURK Kurchatov 30.35 331 P **P 11 25 29.2 +0.5**
KURK 11 28 27.9
KURK 11 32 13.4
KURK Kurchatov 30.35 331 P **P 11 25 29.2 +0.5**
KURK PcP **PcP 11 28 27.9 -0.6**
KURK ScP **ScP 11 32 13.4 +2.8**
KK31 Karatay Array 30.40 313 P **P 11 25 29.7 +0.4**
KK31 pmax pmax
comp=Z,7.0nm,0.8s
KKAR Karatay Array 30.40 313 *e*P **P 11 25 30.4 +1.1**
KKAR Karatay Array 30.40 313 *e*P **P 11 25 30.4 +1.1**
KLSI 30.42 173 P **P 11 25 30.2 +0.6**
comp=Z,65nm,1.4s,comp=Z,1µm
VLA Vladivostok 30.53 48 *i* P **P 11 25 30.2 -0.2**
VLA pmax pmax
comp=Z,103nm,1.0s
VLA MLR MLR
comp=Z,22µm,19.0s
ZAA0 Zalesovo Array 30.70 341 *e*P **P 11 25 31.9 +0.2**
ZALV Zalesovo Beam 30.70 341 *i* P **P 11 25 31.8 +0.1**
ZALV pmax pmax
comp=Z,45nm,0.8s
ZALV Zalesovo Beam 30.70 341 P **P 11 25 31.9 +0.1**
ZALV Zalesovo Beam 30.70 341 P **P 11 25 31.9 +0.1**
comp=Z,45nm,0.8s,baz=148,slow=8.7,SNR=73
USRK Ussuriysk Arra 31.07 46 P **P 11 25 34.7 -0.4**
comp=Z,66nm,0.9s,baz=242,slow=7.5,SNR=49
USRK LR LR 11 38 50.5
comp=Z,8µm,19.2s,baz=234,slow=38
BBKI Banjar Baru 31.91 153 P **P 11 25 43.0 +0.2**
comp=Z,187nm,0.9s,comp=Z,3µm
NVS Novosibirsk 31.94 340⇑ *i*P **P 11 25 42.7 +0.1**
NVS *e*S **S 11 30 51.0 -2.3**
NVS pmax pmax
comp=N,82nm,2.0s
NVS pmax pmax
comp=E,43nm,2.0s
NVS pmax pmax
comp=Z,117nm,2.0s
NVS smax smax
comp=N,26nm,1.7s
NVS smax smax
comp=E,119nm,2.5s
MRSI Marisa 32.15 138 P P 11 25 48.7 +3.8
comp=E,63nm,1.2s,comp=E,1µm
GTOI Gorontalo 32.68 136 P **P 11 25 50.4 +0.8**
comp=E,146nm,2.0s,comp=E,2µm
LEM Lembang 32.96 168 P P 11 26 02.3 +10
comp=E,155nm,0.9s
MNI Manado 33.24 133 P P 11 25 57.7 +3.2
comp=E,342nm,1.5s,comp=E,5µm
TGJI Tegal 33.31 165 P P 11 26 04.6 +10
comp=E,72nm,1.0s
KMSI Cibinong 33.34 135 P P 11 25 59.9 +4.6
comp=E,394nm,0.9s
MAJO Matsushiro 33.37 62 *e*P **P 11 25 54.7 -0.7**
MAJO pmax pmax
comp=Z,22nm,0.9s
MAJO MLR MLR
comp=Z,21µm,20.0s
MAJO Matsushiro 33.37 62 *e*P **P 11 25 54.7 -0.7**
comp=Z,22nm,0.9s
MAJO LR LR
comp=Z,21µm,20.0s
MAT Matsushiro 33.37 62 P **P 11 25 53.9 -1.5**
MAT S **S 11 31 16.4 +0.4**
KLR Kul'dur 33.43 37 *e*P P 11 25 51.1 -4.7
KLR *e*S S 11 31 06.5 -10
KLR *e* 11 33 25.5
KLR pmax pmax
comp=E,85nm,1.8s
KLR pmax pmax
comp=Z,100nm,1.8s
KLR MLR MLR
comp=E,17µm,12.0s
KLR MLR MLR
comp=Z,45µm,12.0s
SMRI Semarang 33.81 163 P P 11 26 03.1 +3.7
comp=Z,186nm,1.1s
TTSI Tana Toraja 33.85 145 P **P 11 26 01.3 +1.5**
comp=Z,82nm,1.0s,comp=Z,1µmcomp=Z,47µm
LUWI Luwuk 33.86 138 P **P 11 26 02.8 +3.0**
comp=Z,177nm,1.1s,comp=Z,2µm
BJII Banjamegara 33.90 165 P **P 11 26 02.7 +2.5**
comp=Z,93nm,2.1s,comp=Z,2µm
SKSI Soroako, Sulaw 34.23 142 P P 11 26 08.5 +5.3
comp=Z,75nm,2.8s,comp=Z,2µm
SPSI Sidrap Palu 34.61 146 P **P 11 26 07.0 +0.6**
comp=Z,121nm,1.0s,comp=Z,2µm
HABR Khabarovsk 34.91 40 *e*P **P 11 26 06.3 -2.3**
HABR *e* 11 27 23.1
HABR *e*S **S 11 31 38.6 -0.9**
HABR *e*SS **SnSn 11 33 54.6 +0.4**
HABR pmax pmax
comp=E,111nm,2.8s
HABR pmax pmax
comp=Z,160nm,2.8s
HABR pmax pmax
comp=N,40nm,2.8s
GAMI Galela, Maluku 34.98 128 P P 11 26 17.3 +7.7
comp=N,94nm,1.1s
PWJI Pagerwojo 35.11 161 P **P 11 26 13.1 +2.5**
CLNS Chul'man 35.50 22 *e*P **P 11 26 14.2 +0.5**
CLNS *e**PP pP 11 26 23.3 +5.4
CLNS *e* 11 27 34.1
CLNS *e*PPP PPP 11 27 48.9
CLNS *e* 11 28 40.4
CLNS *e*S **S 11 31 49.8 +1.3**
CLNS *e* 11 36 32.3
CLNS pmax pmax
comp=Z,20nm,0.9s
CLNS pmax pmax
comp=E,17nm,1.2s
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=Z,8.0nm,0.9s
CLNS pmax pmax
comp=N,17nm,1.0s
CLNS pmax pmax
comp=E,14nm,0.9s
CLNS smax smax
comp=N,424nm,12.4s
CLNS smax smax
comp=E,144nm,11.3s
CLNS MLR MLR
comp=N,13µm,17.0s
CLNS MLR MLR
comp=Z,13µm,13.0s
CLNS MLR MLR
comp=E,11µm,11.0s
KAPI Kappang 35.51 147 *e*P **P 11 26 12.9 -1.2**
comp=E,43nm,1.0s
KAPI Kappang 35.51 147 P **P 11 26 12.8 -1.3**
comp=E,15nm,0.8s,baz=338,slow=10,SNR=6.6
KAPI LR LR 11 42 31.8
comp=E,4µm,19.0s,baz=329,slow=40
BVAR Borovoye Array 35.67 328 P **P 11 26 15.7 +0.5**
BVAR 11 28 43.3
BVAR Borovoye Array 35.67 328 P **P 11 26 15.7 +0.5**
BVAR PcP **PcP 11 28 43.3 -0.1**
BVAR ScP **ScP 11 32 31.3 +2.2**
BVAR Borovoye Array 35.67 328 P **P 11 26 15.7 +0.5**
comp=E,8.6nm,0.5s,baz=127,slow=8.7,SNR=14
BVAR PcP **PcP 11 28 43.3 -0.1**
comp=E,10nm,0.7s,baz=142,slow=2.4,SNR=5.5
BVAR ScP **ScP 11 32 31.3 +2.2**
comp=E,3.8nm,0.8s,baz=132,slow=2.2,SNR=5.5
BVAR LR LR 11 42 41.8
comp=E,12µm,19.0s,baz=118,slow=39
BRVK Borovoye 35.74 328 P **P 11 26 17.5 +1.7**
comp=E,233nm,0.6s,SNR=11
BRVK Borovoye 35.74 328 *e*P **P 11 26 17.5 +1.7**
BRVK pmax pmax
comp=Z,38nm,1.0s
BRVK MLR MLR
comp=Z,3µm,21.0s
BRVK Borovoye 35.74 328 P **P 11 26 18.8 +3.0**
SNR=5.8
BRVK Borovoye 35.74 328 *e*P **P 11 26 17.5 +1.7**
comp=Z,38nm,1.0s
BRVK LR LR
comp=Z,3µm,21.0s
IMYA Miami 36.46 297 *e*P **P 11 26 21.8 -0.5**
ISRO Mashad 36.96 297 *e*P **P 11 26 26.5 -0.1**
COCO West Island 37.90 187 PFAKE 11 26 50.0 +16
COCO LR LR
comp=Z,6µm,22.0s
ERM Erimo 38.11 54 P **P 11 26 35.0 -1.0**
comp=Z,1µm,0.8s,SNR=18
ERM Erimo 38.11 54 *e*P **P 11 26 35.9 -0.1**
ERM pmax pmax
comp=Z,183nm,0.8s
ERM Erimo 38.11 54 *e*P **P 11 26 35.8 -0.1**
comp=Z,149nm,0.8s
ERM LR LR
comp=Z,13µm,19.0s
ASAJ Asahikawa 38.19 51 *e*P **P 11 26 36.9 +0.2**
comp=Z,85nm,0.9s
ASAJ Asahikawa 38.19 51 P **P 11 26 37.1 +0.4**
comp=Z,119nm,0.9s,baz=267,slow=12,SNR=38
ASAJ LR LR 11 43 17.0
comp=Z,5µm,18.8s,baz=100,slow=38
YSS Yuzh-Sakhalins 39.10 46 *d* *i*P **P 11 26 45.0 +0.7**
YSS *e* 11 26 59.0
YSS *e* 11 28 35.0
YSS *e*S **S 11 32 44.0 +0.6**
YSS *e*SS **SnSn 11 35 28.0 -7.5**
YSS pmax pmax
comp=Z,50nm,0.9s
YSS smax smax
comp=N,2µm,12.0s
YSS MLR MLR
comp=Z,15µm,15.0s
YSS MLR MLR
comp=N,12µm,12.0s
YSS MLR MLR
comp=E,14µm,12.0s
SMDO Samad 39.17 276 P **P 11 26 48.4 +3.1**
SNR=10
AB31 Akbulak array 39.56 317 *i* P **P 11 26 47.9 -0.2**
AB31 pmax pmax
comp=Z,27nm,0.8s
ABKAR Akbulak array 39.56 317 *e*P **P 11 26 48.4 +0.3**
HOQ Hoqain 39.72 277 P P 11 26 54.8 +4.9
SNR=6.2
BSY Bisya 40.01 275 P P 11 26 55.5 +3.3
SNR=6.3
IBAF Bafgh 40.16 289 *e*P **P 11 26 54.4 +0.8**
YUK Yuzh-Kuril'sk 40.46 52 *c* *i*P P 11 26 49.5 -6.1
YUK *i* 11 28 31.2
YUK *i*S S 11 32 57.5 -6.3
YUK *i*SS **SS 11 36 01.6 -1.5**
YUK pmax pmax
comp=Z,679nm,1.3s
YUK pmax pmax
comp=N,281nm,1.4s
YUK pmax pmax
comp=Z,621nm,1.4s
YUK pmax pmax
comp=E,142nm,0.7s
YUK MLR MLR
comp=E,4µm,22.0s
YUK MLR MLR
comp=Z,6µm,22.0s
YUK MLR MLR
comp=N,466nm,21.0s
ARQ Araqi 40.48 276 P P 11 27 01.0 +4.9
SNR=5.6
ASHO Ashiyiah 40.62 279 P P 11 27 01.7 +4.4
SNR=5.9
IMEH Mehriz 40.99 289 *e*P **P 11 26 59.1 -1.4**
YAK Yakutsk 41.06 20 *e*P **P 11 27 01.2 +0.9**
YAK *e**PP pP 11 27 12.8 +8.1
YAK *e* 11 28 41.4
YAK *e*PPP PPP 11 28 56.8
YAK *e* 11 29 10.1
YAK *e*S S 11 33 06.1 -6.2
YAK *e*SS **SS 11 36 09.0 -5.6**
YAK *e* 11 37 02.5
YAK pmax pmax
comp=Z,68nm,0.9s
YAK pmax pmax
comp=N,21nm,1.2s
YAK pmax pmax
comp=E,32nm,1.2s
YAK pmax pmax
comp=E,11nm,1.0s
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=Z,26nm,1.0s
YAK smax smax
comp=E,509nm,13.3s
YAK smax smax
comp=N,688nm,14.3s
YAK MLR MLR
comp=E,11µm,10.0s
YAK MLR MLR
comp=N,11µm,11.0s
YAK MLR MLR
comp=Z,14µm,12.0s
ICHK Chekchek 41.11 290 *e*P **P 11 27 02.1 +0.6**
AKTO Aktyubinsk 41.14 318 P **P 11 27 02.1 +0.9**
AKTO Aktyubinsk 41.14 318 P **P 11 27 02.1 +0.9**
AKTO ScP **ScP 11 32 52.3 +2.4**
AKTO Aktyubinsk 41.14 318 P **P 11 27 02.1 +0.9**
comp=Z,22nm,0.8s,baz=110,slow=7.7,SNR=29
AKTO ScP **ScP 11 32 52.3 +2.4**
comp=Z,13µm,19.9s,baz=290,slow=38
comp=Z,5.5nm,1.0s,baz=99,slow=1.5,SNR=4.5
AKTO LR LR 11 45 28.7
IANJ Anjilo 41.44 295 *e*P **P 11 27 02.6 -1.5**
IKIA Kiasar 41.63 296 *e*P **P 11 27 08.1 +2.4**
ISAD Sadrabad 41.74 290 *e*P **P 11 27 05.8 -0.9**
ISHM Shahmirzad 41.94 296 *e*P **P 11 27 08.6 +0.3**
KUR Kuril'sk 42.10 50 *d* *i*P **P 11 27 07.1 -2.0**
KUR *i*S **S 11 33 23.8 -4.4**
KUR MLR MLR
comp=N,3µm,17.0s
KUR MLR MLR
comp=E,6µm,17.0s
KUR MLR MLR
comp=Z,5µm,17.0s
IALA Alasht 42.34 296 *e*P **P 11 27 12.6 +1.1**
SVE Sverdlovsk 42.46 328 *de*P **P 11 27 13.7 +1.8**
SVE *e* 11 29 03.9
SVE *e*S **S 11 33 28.0 -5.2**
SVE pmax pmax
comp=Z,142nm,2.0s
SVE MLR MLR
comp=Z,9µm,15.0s
IPRN Peran 42.72 296 *e*P **P 11 27 15.7 +1.3**
GUMO Guam 42.76 98 PFAKE 11 27 30.0 +15
GUMO LR LR
comp=Z,5µm,22.0s
IZEF Zefreh 42.82 291 *e*P **P 11 27 16.5 +1.0**
IDMV Damavand 42.97 295 *e*P **P 11 27 16.0 -0.7**
IGAR Gharneh 43.10 291 *e*P **P 11 27 17.6 -0.1**
DGAR Diego Garcia 43.12 224 PFAKE 11 27 30.0 +12
DGAR LR LR
comp=Z,5µm,22.0s
IVRN Varamin 43.23 295 *e*P **P 11 27 16.6 -2.0**
ARU Arti 43.28 327 *c* *i*P **P 11 27 19.8 +1.3**
ARU 11 29 02.7
ARU PPP PPP 11 29 39.1
ARU S **S 11 33 50.7 +5.5**
ARU pmax pmax
comp=Z,181nm,2.5s
ARU MLR MLR
comp=Z,4µm,17.0s
ARU Arti 43.28 327 P **P 11 27 19.5 +1.0**
comp=Z,218nm,1.1s,SNR=22
IR3 Iran Long-Peri 43.79 295 *e*P **P 11 27 23.8 +0.7**
IPIR Pirpir 44.05 291 *e*P **P 11 27 25.9 +0.5**
IGZV Ghazvin 44.43 297 *e*P **P 11 27 30.3 +1.9**
IRAZ Razeghan 44.69 295 *e*P **P 11 27 29.7 -0.7**
SOKR Solikamsk 45.59 330 *c* *i*P **P 11 27 38.4 +1.5**
SOKR 11 29 26.9
SOKR S **S 11 34 19.6 +1.0**
SOKR pmax pmax
comp=Z,140nm,1.7s
SOKR MLR MLR
comp=Z,9µm,22.0s
MAK Makhachkala 46.68 306 *e*P **P 11 27 44.6 -1.2**
MAK *e* 11 29 36.6
MAK *e*S **S 11 34 35.5 +0.6**
MAK *e* 11 37 41.1
MAK *e*SSS SSS 11 39 05.7
MAK pmax pmax
comp=Z,185nm,1.0s
MAK MLR MLR
comp=Z,8µm,17.0s
IDHR Dehrash 47.63 294 *e*P **P 11 27 54.3 +0.7**
IAZR Azarshahr 47.78 298 *e*P **P 11 27 53.9 -0.9**
IMRD Marand 47.97 300 *e*P **P 11 27 56.7 +0.6**
ISHB Shabestar 48.05 299 *e*P **P 11 27 56.1 -0.7**
IBDR Badra 48.16 292 *i*P P 11 27 47.5 -10
IBDR *i*S S 11 34 44.5 -12
DGRG David-gareji 48.21 304 P **P 11 27 59.4 +1.6**
TIXI Tiksi 48.54 11⇑ *e*P **P 11 27 58.7 -1.1**
TIXI pmax pmax
comp=Z,174nm,2.5s
TIXI MLR MLR
comp=Z,5µm,16.0s
GNI Garni 48.69 302 P **P 11 28 03.8 +2.2**
SNR=8.4
GNI Garni 48.69 302 *e*P **P 11 28 03.3 +1.7**
comp=Z,26nm,0.9s
GNI LR LR

comp=Z,3μm,20.0s
GNI Garni 48.69 302 P **P** **11 28 03.0 +1.4**
comp=Z,4.0nm,0.4s,baz=324,slow=17,SNR=5.2
TBLG Delisi 48.69 304 *e*P **P** **11 28 00.4 -1.0**
TBLG Delisi 48.69 304 P **P** **11 28 00.4 -1.0**
ZEI Tsey 49.32 305 *e*P P 11 28 13.5 +7.0
ZEI pmax pmax
comp=Z,24nm,1.1s
BHD Baghdad 49.44 293 *i* P P 11 28 02.0 -5.2
BHD *i* S S 11 35 05.0 -9.1
AKH Akhalkalaki 49.62 304 P **P** **11 28 10.9 +2.1**
ONI Oni 49.65 305 P **P** **11 28 10.7 +1.9**
PEA0B Petropavlovsk- 49.94 41 P **P** **11 28 08.8 -2.0**
PETK Petropavlovsk- 49.94 41 P **P** **11 28 09.3 -1.5**
PETK Petropavlovsk- 49.94 41 P **P** **11 28 09.3 -1.5**
PETK Petropavlovsk- 49.94 41 P **P** **11 28 09.3 -1.5**
comp=Z,4.7nm,0.6s,baz=250,slow=5.1,SNR=14
PETK LR LR 11 48 52.1
comp=Z,5μm,20.3s,baz=256,slow=36
MBWA Marble Bar 49.98 157 P **P** **11 28 10.9 -0.5**
SNR=13
MBWA Marble Bar 49.98 157 *e*P **P** **11 28 10.2 -1.1**
comp=Z,159nm,1.3s
MBWA LR LR
comp=Z,3μm,21.0s
GOF Gofitskoye 50.01 308 *e*P P 11 28 02.8 -8.7
KBZ Khabaz 50.07 307 P **P** **11 28 11.4 -0.5**
KBZ Khabaz 50.07 307 P **P** **11 28 11.4 -0.5**
KBZ Khabaz 50.07 307 P **P** **11 28 11.4 -0.5**
comp=Z,1.4nm,0.6s,baz=90,slow=5.0,SNR=5.9
KBZ LR LR 11 53 48.0
comp=Z,5μm,19.6s,baz=276,slow=41
KIV Kislovodsk 50.23 307 *e*P **P** **11 28 14.0 +0.7**
KIV *e* 11 29 32.4
KIV *e* 11 30 10.3
KIV *e*S **S** **11 35 28.3 +3.1**
KIV pmax pmax
comp=Z,26nm,1.1s
KIV MLR MLR
comp=Z,3μm,16.0s
RAYN Ar Rayn 50.28 280 P **P** **11 28 13.1 -0.7**
comp=Z,113nm,0.8s,SNR=6.4
RAYN Ar Rayn 50.28 280 *e*P **P** **11 28 13.1 -0.7**
comp=Z,15nm,0.8s
PET Petropavlovsk 50.49 41 *e*P **P** **11 28 13.8 -1.1**
PET *i* S **S** **11 35 26.3 -2.0**
PET *e*SS SS 11 38 54.4 -7.6
PET pmax pmax
comp=Z,200nm,3.5s
PET pmax pmax
comp=Z,35nm,0.9s
PET MLR MLR
comp=Z,9μm,18.0s
PET MLR MLR
comp=Z,7μm,17.0s
SOC Sochi 52.38 306 *e*P **P** **11 28 29.1 -0.2**
SOC *e*PPP PPP 11 31 37.3
SOC *e*S **S** **11 35 49.8 -4.9**
SOC *e*SSS SSS 11 41 08.5
SOC pmax pmax
comp=Z,12nm,0.5s
SOC MLR MLR
comp=Z,5μm,18.0s
VSR Storozhevoye 52.96 316 *e*P **P** **11 28 32.7 -0.7**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,9.0nm,0.7s
VSR pmax pmax
comp=E,30nm,1.0s
VSR MLR MLR
comp=Z,6μm,15.0s
VSR MLR MLR
comp=N,1μm,13.0s
VSR MLR MLR
comp=E,3μm,16.0s
MSEY Mahe Island 53.56 242 PFAKE 11 28 50.0 +12
MSEY LR LR
comp=Z,5μm,21.0s
MALT Malatya 53.69 300 PFAKE 11 28 50.0 +11
MALT LR LR
comp=Z,3μm,21.0s
MOS Moscow 54.29 321 *e*P P 11 28 39.6 -3.5
MOS *e* 11 28 47.6
MOS *e* 11 30 48.1
MOS *e*S **S** **11 36 19.8 -0.4**
MOS pmax pmax
comp=Z,68nm,1.0s
MOS pmax pmax
comp=Z,200nm,1.9s
MOS MLR MLR
comp=Z,4μm,19.0s
OBN Obninsk 54.83 321 *e*P **P** **11 28 46.8 -0.2**
OBN *e* 11 28 57.7
OBN *e*SS **SS** **11 40 14.7 +4.3**
OBN pmax pmax
comp=Z,97nm,1.7s
OBN MLR MLR
comp=Z,7μm,20.0s
TMCR Tamitsa 55.47 332 *e*P **P** **11 28 51.1 -0.4**
TMCR *e* 11 29 51.9
TMCR pmax pmax
comp=Z,57nm,1.1s
WRAB Tennant Creek 55.70 141 P **P** **11 28 52.0 -1.7**
comp=Z,746nm,0.8s,SNR=28
WRAB Tennant Creek 55.70 141 *e*P **P** **11 28 52.3 -1.4**
WRAB pmax pmax
comp=Z,89nm,0.8s
WRAB MLR MLR
comp=Z,2μm,20.0s
WRAB Tennant Creek 55.70 141 *e*P **P** **11 28 52.3 -1.4**
comp=Z,89nm,0.8s
WRAB LR LR
comp=Z,2μm,20.0s
WRA Warramunga Arr 55.70 141 P **P** **11 28 52.1 -1.6**
WRA S **S** **11 36 38.3 -1.7**
WRA Warramunga Arr 55.70 141 P **P** **11 28 52.1 -1.6**
comp=Z,72nm,0.7s,baz=329,slow=7.9,SNR=143
WRA S **S** **11 36 38.3 -1.7**
comp=Z,2.1nm,1.2s,baz=322,slow=14,SNR=4.7
WRA LR LR 11 55 52.0
comp=Z,2μm,18.9s,baz=300,slow=40
SIM Simferopol' **56.34 308** *e*P **P** **11 28 59.0 +0.9**
SIM pmax pmax
comp=Z,11nm,0.8s
ATD Arta Tunnel 56.57 267 LR LR 11 52 44.5
comp=Z,3μm,20.3s,baz=264,slow=36
PMG Port Moresby 56.80 122 *e*P **P** **11 29 02.1 +0.4**
comp=Z,80nm,0.8s
PMG LR LR
comp=Z,2μm,21.0s
PMG Port Moresby 56.80 122 P **P** **11 29 02.0 +0.3**
comp=Z,67nm,0.7s,baz=328,slow=6.5,SNR=9.1
BILL Bilibino 57.16 24*c* *i*P **P** **11 29 02.3 -1.2**
BILL *e* 11 29 56.4
BILL *e* 11 31 09.8
BILL *e*SS **SS** **11 40 45.0 -1.8**
BILL pmax pmax
comp=Z,28nm,1.2s
BILL MLR MLR
comp=Z,8μm,14.0s
BR131 Keskin Array S 57.23 302 *e*P **P** **11 29 05.2 +0.5**
comp=Z,6.6nm,0.8s
BRTR Keskin Array B 57.23 302 P **P** **11 29 03.9 -0.8**
BRTR Keskin Array B 57.23 302 P **P** **11 29 03.9 -0.8**
comp=Z,0.8nm,0.5s,baz=69,slow=6.8,SNR=7.3
BRTR LR LR 11 58 06.0
comp=Z,2μm,18.5s,baz=73,slow=41
LVZ Lovozero 57.60 336*d* *i*P **P** **11 29 06.2 -0.5**
LVZ pmax pmax
comp=Z,96nm,2.5s
LVZ MLR MLR
comp=Z,9μm,17.0s
LVZ Lovozero 57.60 336 P **P** **11 29 06.5 -0.2**
comp=Z,242nm,1.4s,SNR=5.8
ANTO Ankara 57.85 302 ⇓P **P** **11 29 09.8 +0.8**
ANTO Ankara 57.85 302 P **P** **11 29 10.2 +1.2**
SNR=9.1
ANTO Ankara 57.85 302 *e*P **P** **11 29 09.1 +0.1**
comp=Z,43nm,1.4s
ANTO LR LR
comp=Z,3μm,21.0s
ANTO Ankara 57.85 302 ⇓*i*P **P** **11 29 09.8 +0.8**
APA Apatity 58.01 335 ⇓*i*P **P** **11 29 11.0 +1.5**
APA *i* S **S** **11 37 10.0 +0.7**
APA *i* PS PnS 11 37 33.0 +12
APA *i* SS **SS** **11 41 00.0 0.0**
APA MLR MLR
comp=Z,10μm,15.0s
CSS Prodhromos 58.23 297 PFAKE 11 29 20.0 +8.3
CSS LR LR
comp=Z,3μm,22.0s
JOF Joensuu 58.25 330 *e*p **P** **11 29 11.8 +0.6**
comp=Z,9.5nm,0.5s
JOF Joensuu 58.25 330 *e*P **P** **11 29 11.8 +0.6**
JOF pmax pmax
comp=Z,10.0nm,0.5s
AS31 Alice Springs 58.46 144 P **P** **11 29 12.3 -1.0**
ASAR Alice Springs 58.47 144 P **P** **11 29 12.1 -1.2**
ASAR ⇑*e* 11 58 59.0
ASAR Alice Springs 58.47 144 P **P** **11 29 12.1 -1.2**
comp=Z,45nm,0.9s,baz=327,slow=6.6,SNR=86
ASAR LR LR 11 56 28.9
comp=Z,2μm,21.3s,baz=316,slow=38
ASAR PKP2bc 11 58 59.0
comp=Z,1.2nm,0.9s,baz=164,slow=3.8,SNR=6.4
FX1 Attu Island--F 59.23 42 *e*P **P** **11 29 18.9 +0.6**
FX1 Attu Island--F 59.23 42 P **P** **11 29 18.5 +0.2**
comp=Z,26nm,0.7s,baz=100,slow=4.7,SNR=7.5
KIEV Kiev 59.25 315 *e*P **P** **11 29 16.8 -1.6**
KIEV pmax pmax
comp=Z,174nm,2.1s
KIEV MLR MLR
comp=Z,5μm,21.0s
KIEV Kiev 59.25 315 *e*P **P** **11 29 16.8 -1.6**
comp=Z,174nm,2.1s
KIEV LR LR
comp=Z,5μm,21.0s
KIS Kishinev 59.84 311 *e*P **P** **11 29 21.0 -1.5**
comp=Z,100nm,2.0s
KIS Kishinev 59.84 311 *e*PP PP 11 31 42.0 +7.6
KIS Kishinev 59.84 311 *e*PPP PPP 11 32 54.0
KIS *e*S **S** **11 37 30.0 -3.7**
KIS Kishinev 59.84 311 *e*P **P** **11 29 21.0 -1.5**
KIS *e* 11 29 29.0
KIS *e* 11 30 09.0
KIS *e* 11 31 42.0
KIS *e*S **S** **11 37 30.0 -3.7**
KIS *e*PS **PnS** **11 37 50.0 +3.5**
KIS *e*SS **SS** **11 41 23.0 -6.5**
KIS pmax pmax
comp=Z,130nm,2.0s
KIS MLR MLR
comp=Z,4μm,15.0s
KIS MLR MLR
comp=N,2μm,14.0s
KIS MLR MLR
comp=E,4μm,18.0s
KIS MLR MLR
comp=Z,4μm,15.0s
MICGM Minsk 59.84 320 *e*P **P** **11 29 22.0 -0.4**
MNK Minsk 59.87 320 *e*P **P** **11 29 22.0 -0.6**
MNK *e* 11 29 30.0
MNK *e*S **S** **11 37 29.0 -4.9**
MNK MLR MLR
comp=Z,8μm,14.0s
ISP Isparta 59.93 300 PFAKE 11 29 40.0 +16
ISP LR LR
comp=Z,2μm,20.0s
NWAO Narrogin (SRO) 60.30 164 P **P** **11 29 24.1 -1.7**
NWAO Narrogin (SRO) 60.30 164 P **P** **11 29 24.1 -1.7**
comp=Z,21nm,0.7s,baz=344,slow=3.6,SNR=14
NWAO LR LR 11 57 07.8
comp=Z,4μm,20.0s,baz=334,slow=38
VSU Vasula 60.34 324 *i* P **P** **11 29 27.9 +2.1**
VSU pmax pmax
comp=Z,188nm,2.2s
VSU MLR MLR
comp=Z,12μm,18.0s
WAKE Wake Island 60.38 82 PFAKE 11 29 40.0 +13
WAKE LR LR
comp=Z,2μm,20.0s
TIRR Tirgusor 60.44 308 ⇑P **P** **11 29 24.4 -2.3**
TIRR Tirgusor 60.44 308 ⇑*i*P **P** **11 29 24.4 -2.3**
NACGM Naroch 60.46 320 *e*P **P** **11 29 24.0 -2.7**
KAF Kangasniemi 60.52 329 *e*p **P** **11 29 27.2 +0.2**
comp=Z,5.9nm,0.6s
KAF Kangasniemi 60.52 329 *e*P **P** **11 29 27.2 +0.2**
KAF pmax pmax
comp=Z,6.0nm,0.6s
CFR Carcaliu 60.53 309 ⇑P **P** **11 29 28.6 +1.2**
CFR Carcaliu 60.53 309 ⇑*i*P **P** **11 29 28.5 +1.2**
KEV Kevo 60.62 337 *e*p **P** **11 29 27.2 -0.3**
comp=Z,24nm,0.6s
KEV Kevo 60.62 337 *e*P **P** **11 29 27.2 -0.3**
KEV pmax pmax
comp=Z,26nm,0.6s
KEV MLR MLR
comp=Z,5μm,21.0s
KEV Kevo 60.62 337 *e*P **P** **11 29 27.1 -0.3**
comp=Z,26nm,0.6s
KEV LR LR
comp=Z,5μm,21.0s
FIA1 FINESS Array S 60.63 328 *e*P **P** **11 29 28.0 +0.3**
FINES FINESS Array B 60.63 328 P **P** **11 29 27.9 +0.2**
FINES FINESS Array B 60.63 328 P **P** **11 29 27.9 +0.2**
comp=Z,9.1nm,0.7s,baz=96,slow=6.9,SNR=24
FINES LR LR 11 56 04.8
comp=Z,4μm,21.6s,baz=97,slow=36
ARCES ARCESS Array B 61.13 337 P **P** **11 29 30.2 -0.8**
ARCES ARCESS Array B 61.13 337 P **P** **11 29 30.2 -0.8**
comp=Z,5.4nm,0.5s,baz=88,slow=7.9,SNR=25
ARCES LR LR 11 58 16.8
comp=Z,5μm,20.7s,baz=286,slow=38
ARE0 ARCESS Array S 61.13 337 *e*P **P** **11 29 31.4 +0.3**
ARE0 ARCESS Array S 61.13 337 *e*P **P** **11 29 31.1 0.0**
TESR Tescani 61.38 311 ⇓*i*P P 11 29 29.4 -3.7
VRI Vrincioaia 61.41 310 ⇓P **P** **11 29 33.2 -0.2**
VRI Vrincioaia 61.41 310 ⇓*i*P **P** **11 29 33.2 -0.2**
PLOR Plostina 61.47 310 ⇑P **P** **11 29 32.9 -0.9**
PLOR Plostina 61.47 310 ⇑*i*P **P** **11 29 32.9 -0.9**
ISR Istrita 61.66 309 ⇑P **P** **11 29 36.3 +1.2**
ISR Istrita 61.66 309 ⇑*i*P **P** **11 29 36.3 +1.2**
FORT Forrest 61.81 154 *e*P **P** **11 29 35.7 -0.4**
comp=Z,79nm,0.8s
KTK1 Kautokeino 61.91 336 *e*P **P** **11 29 35.8 -0.5**
KTK1 AMB AMB 11 29 40.9
comp=Z,205nm,1.2s
MLR Muntele Rosu 62.01 310 ⇑*i*P **P** **11 29 37.4 -0.2**
BURAR Bucovina Array 62.19 312 ⇑P **P** **11 29 38.7 +0.1**
BURAR Bucovina Array 62.19 312 ⇑*i*P **P** **11 29 38.7 +0.1**
BUR08 Bucovina Ar. S 62.19 312 *e*P **P** **11 29 38.6 -0.1**
SZH Strazhica 62.40 307 *e*P **P** **11 29 40.1 +0.1**
SUW Suwalki 62.63 319 *e*P **P** **11 29 41.2 -0.1**
SUW Suwalki 62.63 319 *e*P **P** **11 29 41.2 -0.1**
SUW Suwalki 62.63 319 *e*P **P** **11 29 41.4 +0.1**
SUW LMZ LR 11 57 01.3
VOIR 62.64 310 ⇓P **P** **11 29 40.0 -1.7**
VOIR 62.64 310 ⇓*i*P **P** **11 29 40.0 -1.7**
LVV L'vov 62.65 315 *e*P **P** **11 29 42.7 +1.2**
LVV *e* 11 33 28.5
LVV MLR MLR
comp=N,600nm,17.0s
LVV MLR MLR
comp=E,2μm,17.0s
LVV MLR MLR
comp=Z,2μm,17.0s
ARR Arges 62.95 310 ⇓*i*P **P** **11 29 45.4 +1.7**
CTA Charters Tower 63.22 132 P **P** **11 29 45.7 0.0**
CTA Charters Tower 63.22 132 P **P** **11 29 45.7 0.0**
comp=Z,37nm,0.9s,baz=314,slow=8.9,SNR=10
CTAO Charters Tower 63.22 132 *e*P **P** **11 29 45.9 +0.2**
CTAO pmax pmax
comp=Z,63nm,1.0s
CTAO MLR MLR
comp=Z,3μm,21.0s
CTAO Charters Tower 63.22 132 *e*P **P** **11 29 45.9 +0.2**
comp=Z,63nm,1.0s
CTAO LR LR
comp=Z,3μm,21.0s
TRO Tromso 63.44 337 *e*P **P** **11 29 45.6 -0.8**
KWP Kalwaria Pacla 63.52 315 *e*P **P** **11 29 47.2 -0.2**
KWP pmax pmax
comp=Z,58nm,0.6s
KWP MLR MLR
comp=Z,5μm,21.0s
KWP Kalwaria Pacla 63.52 315 *e*P **P** **11 29 47.2 -0.2**
comp=Z,58nm,0.6s
KWP LR LR
comp=Z,5μm,21.0s
KWP Kalwaria Pacla 63.52 315 *e*P **P** **11 29 47.2 -0.2**
KWP *e*S **S** **11 38 21.5 +1.1**
KWP LMZ LR 12 01 02.3
LOT Lotru 63.53 310 ⇑*i*P **P** **11 29 47.2 -0.4**
RZN Rozhen 63.58 306 *e*P **P** **11 29 47.2 -0.9**
PGB Panagyurishte 63.81 307 *e*P **P** **11 29 50.3 +0.9**
TRPA Tarpa 63.88 313 ⇓*i*P **P** **11 29 50.0 +0.3**
TRPA Tarpa 63.88 313 ⇑*e*P **P** **11 29 50.2 +0.5**
KOLS Kolonicke sedl 63.92 314 *e*P **P** **11 29 50.4 +0.4**
KOLS pmax pmax
comp=Z,7.0nm,1.2s
KOLS Kolonicke sedl 63.92 314 *e*P **P** **11 29 50.4 +0.4**
KOLS *e*S S 11 38 32.6 +7.3
KOLS *e*SS SS 11 43 19.6 +46
SPA0 Spitsbergen Ar 63.94 347 *e*P **P** **11 29 50.5 +0.8**
MPEP Malo Peshtene 63.95 308 *e*P **P** **11 29 49.9 -0.4**
UZH Uzhgorod 63.96 314 *e*P **P** **11 29 49.5 -0.7**
UZH *e* 11 29 54.5
UZH *e* 11 30 23.3
UZH *i* PPP PPP 11 33 43.3
UZH *e*S **S** **11 38 21.3 -4.5**
UZH *e*SS **SS** **11 42 34.1 +0.2**
UZH MLR MLR
comp=N,6μm,18.0s
UZH MLR MLR
comp=E,2μm,18.0s
APE Apeiranthos 63.97 300 ⇑P **P** **11 29 49.0 -1.6**
APE Apeiranthos 63.97 300 ⇑*i*P **P** **11 29 49.0 -1.6**
DRGR 64.01 312 ⇑P P 11 29 46.5 -4.2
DRGR 64.01 312 ⇑*i*P P 11 29 46.5 -4.2
RER Riviere de l'E 64.09 228 PFAKE 11 30 00.0 +8.5
RER LR LR
comp=Z,3μm,22.0s
SANT Santorini 64.19 300 *e*P **P** **11 29 51.9 -0.2**
SANT LR LR
comp=Z,2μm,22.0s
MMB Musomiste 64.33 306 *e*P **P** **11 29 52.2 -0.7**
VTS Vitosha 64.49 307 ⇓P **P** **11 29 54.0 -0.1**
VTS Vitosha 64.49 307 *e*P **P** **11 29 54.0 -0.1**
VTS Vitosha 64.49 307 ⇓*i*P **P** **11 29 54.0 -0.1**
STHS Stebnicka Huta 64.50 315 *e*P **P** **11 29 54.2 +0.4**
STHS pmax pmax
comp=Z,10.0nm,1.3s
STHS Stebnicka Huta 64.50 315 *e*P **P** **11 29 54.2 +0.4**
KKB Krupnik 64.74 306 *e*P **P** **11 29 55.1 -0.4**
KBS Kingsbay 64.79 348 PFAKE 11 30 10.0 +15
KBS LR LR
comp=Z,5μm,19.0s
IDI Anoyia 64.91 299 *e*P **P** **11 29 56.4 -0.4**
comp=Z,15nm,0.9s
BZS Buzias 64.98 310 ⇓P **P** **11 29 57.8 +0.8**
BZS Buzias 64.98 310 ⇓*i*P **P** **11 29 57.8 +0.8**
NIE Niedzica 65.10 315 ⇑*i*P **P** **11 30 00.7 +3.0**
NIE Niedzica 65.10 315 *i* P **P** **11 30 00.7 +3.0**
KECS Kecovo 65.17 314 *e*P **P** **11 29 58.5 +0.3**
KECS pmax pmax
comp=Z,13nm,1.4s
KECS Kecovo 65.17 314 *e*P **P** **11 29 58.5 +0.3**
OJC Ojcow 65.27 316 ⇑*i*P **P** **11 29 59.4 +0.5**
OJC *e*S **S** **11 38 46.5 +4.5**
OJC MLR MLR
comp=Z,6μm,20.3s
OJC Ojcow 65.27 316 *e*P **P** **11 29 59.3 +0.5**
comp=Z,101nm,1.9s
OJC Ojcow 65.27 316 *i* P **P** **11 29 59.4 +0.5**
OJC *e*pP **pP** **11 30 02.1 -1.2**
OJC *e*S **S** **11 38 46.5 +4.5**
OJC L L 11 59 56.7
comp=Z,6μm,20.3s
MOR8 Moi Rana 65.44 334 *e*P **P** **11 29 58.5 -1.1**
PSZ Piszkesteto 65.67 313 ⇑P **P** **11 30 00.9 -0.6**
PSZ Piszkesteto 65.67 313 *e*P **P** **11 30 02.5 +1.0**
comp=Z,147nm,2.3s
PSZ LR LR
comp=Z,2μm,21.0s
PSZ Piszkesteto 65.67 313 ⇑*i*P **P** **11 30 00.9 -0.6**
PSZ Piszkesteto 65.67 313 ⇑*e*P **P** **11 30 01.7 +0.2**
VYHS Vyhne 66.24 314 *e*P **P** **11 30 04.6 -0.5**
VYHS pmax pmax
comp=Z,31nm,2.0s
VYHS Vyhne 66.24 314 *e*P **P** **11 30 04.6 -0.5**
VYHS *e*S **S** **11 38 54.5 +0.7**
VYHS *e*SS SS 11 43 23.3 +14
BUD Budapest 66.33 313 ⇑*e*P **P** **11 30 06.7 +1.0**
OKC Ostrava-Krasne 66.39 315 *e*P **P** **11 30 06.4 +0.4**
OKC *e* 11 32 31.9
OKC *e* 11 34 12.6
OKC MLR MLR
comp=Z,3μm,17.6s
OKC Ostrava-Krasne 66.39 315 *e*P **P** **11 30 06.4 +0.4**
OKC *e*PP **PP** **11 32 31.9 -0.1**
OKC *ex* x 11 34 12.6
OKC AMS AMS 12 00 40.0
comp=Z,3μm,17.6s
MORC Moravsky Berou 66.79 315 *e*P **P** **11 30 08.2 -0.4**
MORC pmax pmax
comp=Z,148nm,2.4s
MORC Moravsky Berou 66.79 315 *e*P **P** **11 30 08.2 -0.4**
comp=Z,148nm,2.4s
PKSM Moragy 66.88 312 ⇑P **P** **11 30 08.4 -0.8**
PKSM Moragy 66.88 312 ⇑*i*P **P** **11 30 08.4 -0.8**
PKSM Moragy 66.88 312 ⇑*e*P **P** **11 30 09.3 +0.1**
HNR Honiara 67.03 113 PFAKE 11 30 20.0 +9.4
HNR LR LR
comp=Z,1μm,20.0s
BBOO Buckleboo 67.05 148 *e*P **P** **11 30 09.4 -0.9**
comp=Z,1μm,1.1s
KMBO Kilima Mbogo 67.10 257 P **P** **11 30 14.0 +2.6**
SNR=6.9
KMBO Kilima Mbogo 67.10 257 *e*P **P** **11 30 10.3 -1.0**
comp=Z,40nm,1.2s
KMBO Kilima Mbogo 67.10 257 P **P** **11 30 09.7 -1.7**
comp=Z,18nm,1.0s,baz=50,slow=10.0,SNR=17
KMBO LR LR 11 58 31.1
comp=Z,4μm,21.3s,baz=82,slow=35
KRLC Kraliky 67.20 316 *e*P **P** **11 30 12.6 +1.3**
KRLC Kraliky 67.20 316 *e*P **P** **11 30 12.6 +1.3**
TIR Tirane 67.20 306 PFAKE 11 30 20.0 +8.6
TIR LR LR
comp=Z,3μm,20.0s
KSP Ksiaz 67.33 317 *e*P **P** **11 30 12.8 +0.8**
KSP *e*S **S** **11 39 08.0 +1.1**
KSP *e*SS **SS** **11 43 28.0 +1.8**
KSP *e*SSS SSS 11 46 21.0
KSP Ksiaz 67.33 317 *e*P **P** **11 30 12.6 +0.6**
KSP LMZ LR 11 59 06.7
DPC Dobruska-Polom 67.42 316 *e*P **P** **11 30 12.7 0.0**
DPC *e* 11 30 21.6
DPC *e* 11 32 42.9
DPC *e* 11 34 18.1
DPC *e*S **S** **11 39 07.8 -0.4**
DPC Dobruska-Polom 67.42 316 *e*P **P** **11 30 12.7 0.0**
DPC *ex* x 11 30 21.6
DPC *e*PP **PP** **11 32 42.9 +1.9**
DPC *ex* x 11 34 18.1
DPC *e*S **S** **11 39 07.8 -0.4**
ZST Bratislava 67.43 314 *e*P **P** **11 30 15.8 +3.1**
ZST Bratislava 67.43 314 *e*P **P** **11 30 15.8 +3.1**
ZST *e*S S 11 39 17.3 +9.1
ZST *e*SS SS 11 43 49.8 +22
UPC Upice 67.58 317 *e*P **P** **11 30 13.6 0.0**
UPC *e* 11 30 22.2
UPC Upice 67.58 317 *e*P **P** **11 30 13.6 0.0**
UPC *ex* x 11 30 22.2
NC602 NORSAR Array S 67.72 328 *e*P **P** **11 30 15.3 +1.1**
NB2 NORSAR Subarra 67.80 328 P **P** **11 30 13.0 -1.9**
comp=Z,35nm,1.2s,baz=78,slow=6.5
NB2 NORSAR Subarra 67.80 328 P **P** **11 30 13.0 -1.9**
baz=78,slow=6.5
NOA NORSAR Array B 67.80 328 P **P** **11 30 13.3 -1.6**
NOA NORSAR Array B 67.80 328 P **P** **11 30 13.3 -1.6**
comp=Z,8.6nm,0.7s,baz=78,slow=6.4,SNR=18
NOA LR LR 12 01 36.1
comp=Z,5μm,18.8s,baz=65,slow=37
BEHE Becsehely 68.07 312 ⇓*e*P **P** **11 30 18.7 +2.0**
TREC Trest 68.20 315 *e*P **P** **11 30 19.2 +1.6**
TREC *e* 11 32 46.8
TREC MLR MLR
comp=Z,3μm,18.6s
TREC Trest 68.20 315 *e*P **P** **11 30 19.2 +1.6**
TREC *e*PP **PP** **11 32 46.8 -1.0**
TREC AMS AMS 12 02 00.0
comp=Z,3μm,18.6s
CONA Conrad Observa 68.30 314 ⇑*i*P **P** **11 30 17.9 -0.5**

comp=Z,42nm,1.4s,SNR=12
KOGS Kog 68.43 312 *e*P **P** **11 30 19.1 +0.1**
KOGS *e*S **S** **11 39 25.0 +4.8**
OPO Ambohidratompo 68.44 236 LR LR 11 58 02.3
comp=Z,4µm,19.1s,baz=46,slow=34
PVCC Panska Ves 68.47 317 *e*P **P** **11 30 19.9 +0.7**
PVCC MLR MLR
comp=Z,4µm,25.4s
PVCC Panska Ves 68.47 317 *e*P **P** **11 30 19.9 +0.7**
PVCC AMS AMS 12 02 40.0
comp=Z,4µm,25.4s
PRU Pruhonice 68.62 316 *e*P **P** **11 30 20.9 +0.8**
PRU *e* 11 30 28.8
PRU *e* 11 32 52.2
PRU *e*S **S** **11 39 21.2 -1.2**
PRU *e*SS **SS** **11 43 51.7 +5.4**
PRU MLR MLR
comp=Z,4µm,22.2s
PRU Pruhonice 68.62 316 *e*P **P** **11 30 20.9 +0.8**
PRU *ex* x 11 30 28.8
PRU *e*PP **PP** **11 32 52.2 +0.9**
PRU *ex* x 11 34 43.0
PRU *e*S **S** **11 39 21.2 -1.2**
PRU *e*SS **SS** **11 43 51.7 +5.4**
PRU AMS AMS 12 02 50.0
comp=Z,4µm,22.2s
PRA Prague 68.67 316 P **P** **11 30 21.0 +0.6**
PRA PP **PP** **11 32 53.0 +1.3**
PRA S **S** **11 39 22.0 -1.0**
PRA AMS AMS 12 03 00.0
ABPO Ambohimpanom 68.69 235 PFAKE 11 30 30.0 +8.9
ABPO LR LR
comp=Z,4µm,21.0s
BRG Berggiesshubel 68.77 317 *e*P **P** **11 30 21.4 +0.4**
comp=Z,25nm,1.5s
BRG PP **PP** **11 32 50.0 -2.6**
BRG *i* 11 34 54.0
BRG S **S** **11 39 23.0 -1.1**
BRG SS **SS** **11 43 46.0 -2.4**
BRG
comp=N,1µm,18.9s
BRG
comp=E,4µm,19.2s
BRG
comp=Z,5µm,20.4s
BRG Berggiesshubel 68.77 317 *e*P **P** **11 30 21.5 +0.4**
comp=Z,29nm,1.6s
BRG Berggiesshubel 68.77 317 *e*P **P** **11 30 21.4 +0.4**
BRG 11 32 50.0
BRG S **S** **11 39 23.0 -1.1**
BRG SS **SS** **11 43 46.0 -2.4**
BRG pmax pmax
comp=Z,25nm,1.4s
BRG MLR MLR
comp=N,1µm,18.9s
BRG MLR MLR
comp=E,4µm,19.2s
BRG MLR MLR
comp=Z,5µm,20.4s
KONO Kongsberg 68.92 327 PFAKE 11 30 30.0 +8.2
KONO LR LR
comp=Z,6µm,19.0s
STKA Stephens Creek 69.09 144 *e*P **P** **11 30 22.2 -1.0**
comp=Z,8.5nm,1.0s
STKA Stephens Creek 69.09 144 P **P** **11 30 21.6 -1.5**
comp=Z,18nm,0.7s,baz=322,slow=7.0,SNR=20
STKA LR LR 12 03 03.0
comp=Z,4µm,20.4s,baz=306,slow=38
PERS Pernice 69.13 313 *e*P **P** **11 30 23.6 +0.2**
PERS *e*S **S** **11 39 33.6 +4.9**
SOKA Soboth 69.18 313 ⇑*i*P **P** **11 30 23.4 -0.3**
comp=Z,11nm,0.7s
CLL Collm 69.23 318 *e*P **P** **11 30 24.0 +0.1**
comp=Z,42nm,1.7s
CLL Collm 69.23 318 ⇑*i*P **P** **11 30 24.0 +0.1**
CLL *e* 11 30 32.0
CLL *e*S **S** **11 39 34.0 +4.5**
CLL pmax pmax
comp=Z,42nm,1.6s
CLL MLR MLR
comp=Z,4µm,19.3s
CLL Collm 69.23 318 ⇑*i*P **P** **11 30 24.0 +0.1**
comp=Z,42nm,1.6s
CLL *e* 11 31 17.0
CLL *e*PP **PP** **11 32 55.0 -1.5**
CLL *e*PPP PPP 11 34 42.0
CLL *e*S **S** **11 39 34.0 +4.5**
CLL *e* 11 42 12.0
CLL *e*SS **SS** **11 43 58.0 +2.5**
CLL *e* 11 46 00.0
CLL *e*SSS SSS 11 47 18.0
CLL LmH 12 01 00.0
comp=N,5µm,19.8s
CLL LmH 12 01 00.0
comp=E,3µm,22.0s
CLL LmH 12 01 00.0
comp=Z,4µm,19.3s
BOJS Bojanci 69.35 311 *e*P **P** **11 30 25.7 +0.9**
GEC2 GERESS Array S 69.45 315 *e*P **P** **11 30 26.1 +0.6**
comp=Z,21nm,1.1s
GEC2 GERESS Array S 69.45 315 *e*P **P** **11 30 26.1 +0.6**
GEC2 pmax pmax
comp=Z,45nm,1.1s
GEC2 GERESS Array S 69.45 315 *e*P **P** **11 30 26.9 +1.4**
GERES GERESS Array B 69.45 315 P **P** **11 30 25.0 -0.5**
GERES GERESS Array B 69.45 315 P **P** **11 30 25.0 -0.5**
comp=Z,4.2nm,0.6s,baz=57,slow=4.9,SNR=12
GERES LR LR 12 05 10.7
comp=Z,3µm,19.0s,baz=259,slow=40
KHC Kasperske Hory 69.45 316 *e*P **P** **11 30 24.6 -0.8**
KHC *e* 11 30 33.4
KHC *e* 11 33 00.8
KHC *e*S **S** **11 39 31.5 -0.9**
KHC *e*SS **SS** **11 43 57.4 -1.8**
KHC MLR MLR
comp=Z,4µm,18.1s
KHC Kasperske Hory 69.45 316 *e*P **P** **11 30 24.6 -0.8**
KHC *e*pP **pP** **11 30 31.2 +1.3**
KHC *ex* x 11 30 33.4
KHC *e*PP **PP** **11 33 00.8 +2.2**
KHC *e*S **S** **11 39 31.5 -0.9**
KHC *e*SS **SS** **11 43 57.4 -1.8**
KHC AMS AMS 12 03 20.0
comp=Z,4µm,18.1s
KHC Kasperske Hory 69.45 316 *e*P **P** **11 30 26.4 +1.0**
comp=Z,61nm,2.2s
LJU Ljubljana 69.69 312 *e*P **P** **11 30 27.6 +0.7**
LJU *e*S **S** **11 39 40.3 +5.1**
TANN Tannenbergstha 69.80 317 *e*P **P** **11 30 27.9 +0.4**
comp=Z,34nm,1.6s
WET Wettzell 69.89 316 *e*P **P** **11 30 28.8 +0.7**
comp=Z,34nm,1.5s
WET Wettzell 69.89 316 *e*P **P** **11 30 28.8 +0.7**
WET pmax pmax
comp=Z,38nm,1.5s
MUD Monsted U'grnd 70.00 324 *i*P **PcP** **11 30 48.2 -2.5**
comp=Z,16nm,1.2s
MUD
comp=Z,4µm,18.0s
EIDS Eidsvold 70.06 133 *e*P **P** **11 30 30.3 +0.9**
comp=Z,60nm,1.4s
BSEG Bad Segeberg 70.08 321 *e*P **P** **11 30 30.2 +1.1**
comp=Z,70nm,1.5s
BSEG Bad Segeberg 70.08 321 *e*P **P** **11 30 30.2 +1.1**
BSEG pmax pmax
comp=Z,63nm,1.5s
TIP Timpagrande 70.09 305 *e*P **P** **11 30 30.0 +0.5**
comp=Z,32nm,1.2s
TIP LR LR
comp=Z,2µm,21.0s
VOY Vojsko 70.11 312 *e*P **P** **11 30 30.7 +1.1**
VOY *e* 11 30 31.8
VOY *e* 11 31 00.4
ROTZ Rotzenmuhle 70.14 316 *e*P **P** **11 30 30.5 +1.0**
comp=Z,30nm,1.2s
CADS Cadrg 70.16 313 *i*P **P** **11 30 29.9 +0.1**
KBA Koelnbreinsper 70.18 313 ⇑*i*P **P** **11 30 29.7 -0.3**
comp=Z,19nm,1.0s
MOX Moxa 70.25 317 *e*P **P** **11 30 30.7 +0.5**
comp=Z,16nm,0.5s
MOX *e*L L 12 04 02.5
comp=Z,4µm,21.2s
MOX Moxa 70.25 317 *e*P **P** **11 30 30.7 +0.5**
MOX MLR MLR
comp=Z,16µm,21.2s
RJOB Jochberg 70.34 314 *e*P **P** **11 30 31.3 +0.4**
comp=Z,74nm,2.0s
CUC Castrocucco 70.54 306 *e*P **P** **11 30 30.9 -1.3**
comp=Z,19nm,0.8s
CUC LR LR
comp=Z,4µm,21.0s
NRDL Niedersach Rie 70.62 320 *e*P **P** **11 30 33.3 +1.0**
comp=Z,68nm,1.7s
CLZ Clausthal 70.65 319 *e*P **P** **11 30 33.4 +0.7**
comp=Z,27nm,1.2s
CLZ Clausthal 70.65 319 *e*P **P** **11 30 33.4 +0.7**
CLZ pmax pmax
comp=Z,53nm,1.2s
GRF Grafenberg Arr 70.77 317 *e*P **P** **11 30 34.3 +0.9**
comp=Z,86nm,1.8s
GRF *e*L L 12 02 30.0
comp=Z,4µm,21.9s
GRF Grafenberg Arr 70.77 317 *e*P **P** **11 30 34.3 +0.9**
UBBA Unterbreizbach 71.18 318 *e*P **P** **11 30 36.1 +0.4**
comp=Z,80nm,2.1s
FUR Furstenfeldbru 71.19 315 *e*P **P** **11 30 36.7 +0.7**
comp=Z,154nm,1.8s
FUR Furstenfeldbru 71.19 315 *e*P **P** **11 30 36.7 +0.7**
FUR pmax pmax
comp=Z,74nm,1.8s
MIDW Midway 71.33 67 PFAKE 11 30 50.0 +13
MIDW LR LR
comp=Z,2µm,19.0s
DAG Danmarks Havn 71.53 348 ⇑*i*P **P** **11 30 37.0 -0.5**
DAG pmax pmax
comp=Z,7.0nm,0.9s
DAG Danmarks Havn 71.53 348 ⇑*i*P **P** **11 30 37.0 -0.5**
comp=Z,8.2nm,0.9s
DAG
comp=Z,5µm,20.0s
AQU L'Aquila 71.55 309 PFAKE 11 30 50.0 +12
AQU LR LR
comp=Z,5µm,22.0s
FETA Feichten 71.90 314 ⇓*i*P **P** **11 30 39.5 -1.0**
comp=Z,31nm,1.3s,SNR=8.3
IBBN Ibbenburen 72.05 320 *e*P **P** **11 30 41.7 +0.7**
comp=Z,88nm,1.6s
TOD Tromm 72.29 317 *e*P **P** **11 30 43.6 +1.0**
TOD Tromm 72.29 317 *e*P **P** **11 30 43.6 +1.0**
STU Stuttgart 72.32 316 *e*P **P** **11 30 43.3 +0.5**
comp=Z,49nm,1.3s
MBAR Mbarara 72.62 261 LR LR 12 02 45.9
comp=Z,4µm,21.9s,baz=63,slow=36
SPAK Spaichingen-Ko 72.80 315 *e*P **P** **11 30 47.1 +1.4**
WDD Wield Dalam 72.82 302 PFAKE 11 31 00.0 +14
WDD LR LR
comp=Z,1µm,20.0s
ABH Alteburg 72.97 318 *e*P **P** **11 30 48.4 +1.7**
TUE Stuetta 72.98 314 *e*P **P** **11 30 47.2 +0.3**
comp=Z,17nm,0.9s
TUE LR LR
comp=Z,5µm,20.0s
BFO Black Forest 73.01 316 *e*P **P** **11 30 47.0 +0.1**
comp=Z,89nm,2.2s
BFO Black Forest 73.01 316 *e*P **P** **11 30 47.0 +0.1**
BFO pmax pmax
comp=Z,19nm,2.2s
BFO Black Forest 73.01 316 *e*P **P** **11 30 47.5 +0.6**
comp=Z,33nm,1.5s
BFO LR LR
comp=Z,3µm,21.0s
TARA Tarawa 73.05 97 PFAKE 11 31 00.0 +12
TARA LR LR
comp=Z,871nm,20.0s
VLC Villacollemand 73.06 311 PFAKE 11 31 00.0 +13
VLC LR LR
comp=Z,3µm,19.0s
LANF Langenberg 73.12 317 *e*P **P** **11 30 48.8 +1.3**
LANF Langenberg 73.12 317 *e*P **P** **11 30 48.8 +1.3**
LANF Langenberg 73.12 317 *e*P **P** **11 30 48.8 +1.3**
FELD Feldberg im Sc 73.37 315 *e*P **P** **11 30 50.3 +1.1**
COLD Coldfoot 73.45 23 *e*P **P** **11 30 49.0 -0.1**
comp=Z,281nm,2.5s
CDF Champ du Feu 73.64 316 *e*P **P** **11 30 50.1 -0.6**
comp=Z,35nm,1.0s
ECH Echery 73.78 316 PFAKE 11 31 00.0 +8.5
ECH LR LR
comp=Z,3µm,20.0s
BBS Basel-Blauen 73.82 315 *e*P **P** **11 30 52.9 +1.2**
BBS Basel-Blauen 73.82 315 *e*P **P** **11 30 52.9 +1.2**
WLF Walferdange 73.89 318 *e*P **P** **11 30 53.1 +1.1**
comp=Z,214nm,2.4s
WLF Walferdange 73.89 318 *e*P **P** **11 30 54.0 +1.9**
WLF pmax pmax
comp=Z,29nm,0.9s
WLF MLR MLR
comp=Z,2µm,20.0s
WLF Walferdange 73.89 318 *e*P **P** **11 30 54.0 +1.9**
comp=Z,29nm,0.9s
WLF LR LR
comp=Z,2µm,20.0s
MOF Molkenrain 73.93 316 *e*P **P** **11 30 53.8 +1.4**
MOF Molkenrain 73.93 316 *e*P **P** **11 30 53.8 +1.4**
MOF Molkenrain 73.93 316 *e*P **P** **11 30 53.8 +1.4**
SVW2 Sparrevohn 73.97 29 *e*P **P** **11 30 52.8 +0.5**
comp=Z,499nm,3.0s
HINF Hinteralfeld 74.11 316 *e*P **P** **11 30 52.6 -0.8**
LOMF Lomont 74.30 315 *e*P **P** **11 30 53.4 -1.2**
LOMF Lomont 74.30 315 *e*P **P** **11 30 53.4 -1.2**
LOMF Lomont 74.30 315 *e*P **P** **11 30 53.4 -1.2**
HAU Haudompre 74.36 316 *e*P **P** **11 30 54.3 -0.6**
HAU *e*R
comp=Z,5µm,22.2s
THEF They Montfort 74.51 316 *e*P **P** **11 30 54.7 -1.0**
THEF They Montfort 74.51 316 *e*P **P** **11 30 54.7 -1.0**
THEF They Montfort 74.51 316 *e*P **P** **11 30 54.7 -1.0**
CHGN Chignik 74.53 35 *e*P **P** **11 30 55.3 -0.3**
GIVF Givet 74.54 318 *e*P **P** **11 30 55.5 -0.3**
PAGF Fort de Pagny 74.55 317 *e*P **P** **11 30 55.8 -0.1**
comp=Z,21nm,1.1s
PGF Pioggiola 74.56 310 *e*P **P** **11 30 55.8 -0.4**
comp=Z,32nm,0.7s
BAIF Baives 74.92 318 *e*P **P** **11 30 58.0 0.0**
comp=Z,30nm,1.0s
MEZF Maizieres J'vi 74.99 317 *e*P **P** **11 30 58.3 -0.1**
LPG La Plagne 75.01 313 *e*P **P** **11 30 58.3 -0.7**
comp=Z,58nm,0.8s
LPL La Plagne 75.02 313 *e*P **P** **11 30 58.2 -0.8**
comp=Z,65nm,0.7s
SAOF Saorge 75.03 312 *e*P **P** **11 30 59.3 +0.5**
SAOF Saorge 75.03 312 *e*P **P** **11 30 59.3 +0.5**
SAOF Saorge 75.03 312 *e*P **P** **11 30 59.3 +0.5**
CABF La Chapelle 75.04 315 *e*P **P** **11 30 58.3 -0.6**
comp=Z,16nm,0.8s
SFTF Sexfontaines 75.11 317 *e*P **P** **11 30 58.6 -0.6**
comp=Z,23nm,0.7s
SBF Sospel 75.15 312 *e*P **P** **11 30 58.7 -0.9**
comp=Z,65nm,1.0s
TRF Thorofare Moun 75.16 26 *e*P **P** **11 31 00.2 +0.8**
comp=Z,265nm,2.7s
BNI Bardonecchia 75.22 313 *e*P **P** **11 31 00.5 +0.4**
BNI pmax pmax
comp=Z,32nm,1.3s
BNI MLR MLR
comp=Z,3µm,19.0s
BNI Bardonecchia 75.22 313 *e*P **P** **11 31 00.5 +0.4**
comp=Z,32nm,1.3s
BNI LR LR
comp=Z,3µm,19.0s
MBDF Montbardon 75.28 313 *e*P **P** **11 31 00.8 +0.4**
comp=Z,31nm,0.8s
VSL Villasalto 75.38 307 PFAKE 11 31 10.0 +9.1
VSL LR LR
comp=Z,1µm,19.0s
SPU Mount Spurr 75.48 29 *e*P **P** **11 31 02.9 +1.9**
CALN Calern 75.56 312 *e*P **P** **11 31 01.0 -1.0**
CALN Calern 75.56 312 *e*P **P** **11 31 01.0 -1.0**
CALN Calern 75.56 312 *e*P **P** **11 31 01.0 -1.0**
MCK McKinley 75.56 26 *e*P **P** **11 31 01.1 -0.4**
MCK pmax pmax
comp=Z,59nm,1.4s
MCK McKinley 75.56 26 *e*P **P** **11 31 01.1 -0.4**
comp=Z,59nm,1.4s
CAN Canberra 75.74 141 PFAKE 11 31 10.0 +7.1
CAN LR LR
comp=Z,3µm,21.0s
ORIF Oris-en-Rattie 75.80 313 *e*P **P** **11 31 02.8 -0.5**
comp=Z,21nm,0.7s
ORIF *e*R
comp=Z,4µm,20.5s
ILAR Eielson Array 75.82 24 P **P** **11 31 01.2 -1.7**
ILAR PP PP 11 33 42.6 -10
ILAR PKKP PKKPdf 11 50 11.6 +5.3
ILAR Eielson Array 75.82 24 P **P** **11 31 01.2 -1.7**
comp=Z,2.4nm,0.6s,baz=283,slow=4.2,SNR=31
ILAR PP PP 11 33 42.6 -10
comp=Z,1.0nm,1.0s,baz=294,slow=7.1,SNR=2.0
ILAR PKKP PKKPdf 11 50 11.6 +5.3
comp=Z,0.4nm,1.0s,baz=233,slow=3.0,SNR=4.1
ILAR LR LR 12 06 17.0
comp=Z,4µm,18.6s,baz=299,slow=37
LMR La Mourre 75.97 311 *e*P **P** **11 31 03.6 -0.6**
LOR Lormes 76.20 316 *e*P **P** **11 31 04.6 -0.8**
comp=Z,13nm,0.7s
LOR *e*R
comp=Z,3µm,21.0s
SMRF Simiane la Rot 76.36 312 *e*P **P** **11 31 06.1 -0.3**
SMF Signal de Mont 76.46 315 *e*P **P** **11 31 06.3 -0.6**
comp=Z,18nm,0.8s
SSF Saint Saulge 76.50 316 *e*P **P** **11 31 06.5 -0.6**
comp=Z,17nm,0.7s
RC01 Rabbit Creek A 76.52 28 *e*P **P** **11 31 06.7 -0.2**
comp=Z,48nm,1.3s
PMR Palmer 76.53 28 *e*P **P** **11 31 05.7 -1.2**
PMR pmax pmax
comp=Z,62nm,1.3s
PMR Palmer 76.53 28 *e*P **P** **11 31 05.7 -1.2**
comp=Z,62nm,1.3s
SSB Saint Sauveur 76.54 314 *e*P **P** **11 31 09.1 +1.7**
SSB pmax pmax
comp=Z,10.0nm,1.1s
SSB MLR MLR
comp=Z,2µm,19.0s
SSB Saint Sauveur 76.54 314 *e*P **P** **11 31 09.1 +1.7**
comp=Z,10nm,1.1s
SSB LR LR
comp=Z,2µm,19.0s
VIVF Saint-Julien-l 76.62 313 *e*P **P** **11 31 07.4 -0.5**
comp=Z,18nm,0.8s
OHAK Old Harbor 76.70 33 *e*P **P** **11 31 07.2 -0.9**
comp=Z,134nm,1.6s
AVF Avril sur Loir 76.71 316 *e*P **P** **11 31 07.7 -0.6**
comp=Z,30nm,0.8s
SML Sawmill 76.75 27 *e*P **P** **11 31 07.7 -0.6**
SML pmax pmax
comp=Z,25nm,1.2s
SML Sawmill 76.75 27 *e*P **P** **11 31 07.7 -0.6**
comp=Z,25nm,1.2s
KDAK Kodiak Island 76.79 32 *e*P **P** **11 31 08.0 -0.5**
comp=Z,44nm,1.0s
KDAK LR LR
comp=Z,4µm,20.0s
KDAK Kodiak Island 76.79 32 P **P** **11 31 07.6 -0.9**
comp=Z,8.5nm,0.5s,baz=310,slow=2.9,SNR=20
KEST Kesra 76.80 303 *e*P **P** **11 31 09.9 +0.8**
KEST Kesra 76.80 303 P **P** **11 31 08.4 -0.7**
comp=Z,2.3nm,0.9s,baz=340,slow=10.0,SNR=6.3
KEST LR LR 12 10 56.9
comp=Z,999nm,21.2s,baz=177,slow=40
ESK Eskdalemuir 76.90 325 PFAKE 11 31 20.0 +11
ESK LR LR
comp=Z,5µm,20.0s
HYF Humbligny 76.97 316 *e*P **P** **11 31 09.8 0.0**
BGF Bois d'Agland 77.12 316 *e*P **P** **11 31 10.1 -0.5**
AGO Saint Agoulin 77.14 315 *e*P **P** **11 31 13.3 +2.5**
AGO Saint Agoulin 77.14 315 *e*P **P** **11 31 13.3 +2.5**
PAX Paxson 77.30 25 *e*P **P** **11 31 09.6 -1.8**
PAX pmax pmax
comp=Z,24nm,1.3s
PAX Paxson 77.30 25 *e*P **P** **11 31 09.6 -1.8**
comp=Z,24nm,1.3s
LBL Lubilhac 77.40 314 *e*P **P** **11 31 14.2 +1.9**
LBL Lubilhac 77.40 314 *e*P **P** **11 31 14.2 +1.9**
LBL Lubilhac 77.40 314 *e*P **P** **11 31 14.2 +1.9**
LASF Ste Croix 77.46 313 *e*P **P** **11 31 12.5 -0.1**
comp=Z,41nm,1.0s
TCF Toulx Ste Croi 77.63 315 *e*P **P** **11 31 13.3 -0.2**
comp=Z,27nm,0.8s
EGAK Eagle 77.88 23 *e*P **P** **11 31 14.2 -0.4**
comp=Z,206nm,2.8s
EGAK LR LR
comp=Z,4µm,21.0s
MENT Mentasta 77.99 25 *e*P **P** **11 31 16.3 +1.1**
INK Inuvik 78.09 18 P **P** **11 31 15.2 -0.3**
INK Inuvik 78.09 18 P **P** **11 31 15.2 -0.3**
comp=Z,19nm,0.8s,baz=317,slow=6.6,SNR=44
LDF La Druitiere 78.11 318 *e*P **P** **11 31 15.6 -0.5**
DIV Divide 78.16 27 *e*P **P** **11 31 16.7 +0.5**
comp=Z,54nm,1.3s
SUMG Summit 78.19 348 *i*P **P** **11 31 15.8 -0.8**
SUMG *e*S **S** **11 41 07.1 -3.8**
SUMG pmax pmax
comp=Z,51nm,1.0s
SUMG Summit 78.19 348 *e*P **P** **11 31 15.6 -1.1**
comp=Z,63nm,1.0s
SUMG Summit 78.19 348 *i*P **P** **11 31 15.8 -0.8**
comp=Z,51nm,1.0s
SUMG
comp=Z,6µm,21.0s
FLN La Foliniere 78.25 319 *e*P **P** **11 31 16.4 -0.5**
FLN *e*R
comp=Z,5µm,20.8s
CAF Calviac 78.29 314 *e*P **P** **11 31 17.3 +0.1**
comp=Z,31nm,1.1s
RJF Les Rejaudoux 78.48 315 *e*P **P** **11 31 18.5 +0.3**
comp=Z,36nm,0.8s
RJF *e*R
comp=Z,3µm,22.8s
GRR Gorron 78.64 318 *e*P **P** **11 31 18.6 -0.4**
comp=Z,25nm,0.8s
MTLF Montolieu 78.85 313 *e*P **P** **11 31 20.1 -0.2**
comp=Z,18nm,0.9s
MFF Saint Martin d 78.98 316 *e*P **P** **11 31 20.6 -0.3**
comp=Z,15nm,0.8s
LFF La Frestale 79.13 315 *e*P **P** **11 31 22.0 +0.2**
DZM Mont Dzumac 79.17 121 *e*S **S** **11 41 20.4 -1.7**
comp=Z,883nm,27.8s
DZM *e*SS **SS** **11 46 28.4 -0.6**
comp=Z,1µm,26.0s
DZM *e*LQ LQ 11 52 37.6
comp=Z,3µm,34.6s
DZM *e*LR LR 11 56 03.2
comp=Z,2µm,24.9s
RES Resolute Bay 79.31 4 P **P** **11 31 22.4 +0.2**
RES Resolute Bay 79.31 4 P **P** **11 31 22.4 +0.2**
comp=Z,19nm,1.1s,baz=87,slow=2.8,SNR=4.0
BORG Borgarnes 79.50 338 *e*P **P** **11 31 24.4 +1.0**
BORG LR LR
comp=Z,2µm,21.0s
SGMF Saint Gilles 79.71 319 *e*P **P** **11 31 25.1 +0.2**
comp=Z,26nm,0.7s
ROSF Rostrenen 80.10 319 *e*P **P** **11 31 27.1 +0.1**
comp=Z,29nm,0.8s
QUIF Quistinic 80.23 319 *e*P **P** **11 31 27.4 -0.3**
comp=Z,25nm,0.9s
TAU Tasmania Unive 80.45 147 PFAKE 11 31 40.0 +11
TAU LR LR
comp=Z,3µm,20.0s
ETSF Etsaut 80.87 313 *e*P **P** **11 31 31.5 +0.1**
comp=Z,17nm,0.7s
SJPF Ste Jean 81.21 314 *e*P **P** **11 31 33.3 +0.2**
comp=Z,23nm,0.9s
PNL Peninsula 81.59 27 *e*P **P** **11 31 35.1 +0.4**
comp=Z,70nm,1.3s
LSZ Lusaka 81.79 249 *e*P **P** **11 31 35.4 -1.3**
comp=Z,22nm,1.1s
LSZ LR LR
comp=Z,2µm,19.0s
VAL Valentia 82.21 324 *e*P **P** **11 31 36.4 -1.7**
FUNA Funafuti 83.08 103 PFAKE 11 31 50.0 +6.7
FUNA LR LR
comp=Z,5µm,19.0s
SKAG Skagway 83.33 25 *e*P **P** **11 31 44.2 +0.4**
comp=Z,62nm,1.3s
ESDC Sonseca Array 84.64 312 P **P** **11 31 50.4 -0.7**
ESDC Sonseca Array 84.64 312 P **P** **11 31 50.4 -0.7**
comp=Z,4.8nm,0.8s,baz=44,slow=5.1,SNR=11
ESDC LR LR 12 17 03.6
comp=Z,2µm,18.1s,baz=30,slow=41
ESLA Sonseca Array 84.64 312 *e*P **P** **11 31 51.3 +0.3**
PAB San Pablo 84.96 312 PFAKE 11 32 00.0 +7.3
PAB LR LR
comp=Z,2µm,21.0s
TAM Tamanrasset 85.11 293 *e*P **P** **11 31 53.3 -0.5**
TAM MLR MLR
comp=Z,2µm,20.0s
TAM Tamanrasset 85.11 293 *e*P **P** **11 31 53.3 -0.5**

TAM LR LR
comp=Z,2µm,20.0s
MVO Moncorvo 85.93 314 *e*S S 11 42 37.8 +6.9
MVO Moncorvo 85.93 314 *e*LQ LQ 12 01 56.7
MVO *e*LR LR 12 06 32.0
comp=Z,1µm,22.0s
DLBC Dease Lake 86.03 24 LR LR 12 14 03.5
comp=Z,4µm,19.7s,baz=125,slow=38
PGAV Gavieira, Arco 86.31 315 *e*S S 11 42 44.8 +10
PGAV Gavieira, Arco 86.31 315 *e*LQ LQ 12 01 36.1
PGAV *e*LR LR 12 05 10.5
comp=Z,2µm,20.0s
POLO Lamas de Olo 86.32 314 *e*P **P 11 32 01.2 +1.8**
comp=Z,11nm,1.3s
POLO Lamas de Olo 86.32 314 *e*S **S 11 42 35.5 +0.8**
MSVF Nonsavu 86.36 112 PFAKE 11 32 10.0 +10
MSVF LR LR
comp=Z,1µm,20.0s
WRAK Wrangell Islan 86.55 27 *e*P **P 11 32 01.7 +1.7**
comp=Z,14nm,1.1s
WRAK LR LR
comp=Z,4µm,19.0s
MTE Manteigas 86.66 314 *e*S **S 11 42 43.9 +5.9**
MTE Manteigas 86.66 314 *e*LQ LQ 12 02 15.2
MTE *e*LR LR 12 07 15.9
comp=Z,1µm,20.0s
MTE Manteigas 86.66 314 PFAKE 11 32 10.0 +9.0
MTE LR LR
comp=Z,2µm,21.0s
PMRV Marv??o 87.06 313 *e*P **P 11 32 04.7 +1.7**
comp=Z,21nm,1.2s
PMRV Marv??o 87.06 313 *e*S S 11 42 48.3 +6.5
PMRV Marv??o 87.06 313 *e*LQ LQ 12 02 42.2
PMRV *e*LR LR 12 06 14.1
comp=Z,1µm,18.0s
PBAR Barrancos 87.47 311 *e*P **P 11 32 06.7 +1.8**
comp=Z,27nm,1.4s
PBAR Barrancos 87.47 311 *e*S **S 11 42 51.5 +5.8**
PESTR Estremoz 87.48 312 *e*S S 11 42 39.7 -6.2
YKW3 Yellowknife Ar 87.53 16 *e*P **P 11 32 03.9 -0.8**
comp=Z,0.3nm,0.9s
YKA Yellowknife Ar 87.59 16 P **P 11 32 03.5 -1.6**
YKA PP **PP 11 35 30.2 +0.9**
YKA PKKPbc **PKKPbc 11 49 51.5 -3.0**
YKA Yellowknife Ar 87.59 16 P **P 11 32 03.4 -1.6**
comp=Z,4.6nm,0.6s,baz=332,slow=5.1,SNR=41
YKA PP **PP 11 35 30.2 +0.9**
comp=Z,0.8nm,0.8s,baz=332,slow=8.5,SNR=2.8
YKA PKKPbc **PKKPbc 11 49 51.5 -3.0**
comp=Z,0.3nm,0.7s,baz=149,slow=2.7,SNR=4.6
PMTG Montargil 87.80 313 *e*S **S 11 42 48.6 -0.2**
EVO Evora 87.94 312 *e*P **P 11 32 06.4 -0.8**
comp=Z,28nm,1.2s
EVO *e*R
comp=Z,3µm,21.8s
PVAQ Vaqueiros 88.32 311 *e*S S 11 42 45.9 -8.0
PVAQ Vaqueiros 88.32 311 *e*LQ LQ 11 59 46.1
PVAQ Vaqueiros 88.32 311 *e*LR LR 12 09 52.8
comp=Z,2µm,18.0s
PCVE Castro Verde 88.42 311 *e*S S 11 42 46.1 -8.8
MESJ Messejana 88.44 312 *e*P **P 11 32 09.4 -0.2**
MESJ *e*S **SKSac 11 42 37.1 -1.3**
MESJ AMS AMS 12 10 19.2
comp=N,2µm,23.7s
MESJ Messejana 88.44 312 *e*P **P 11 32 09.4 -0.2**
MESJ Messejana 88.44 312 *e*P **P 11 32 09.4 -0.2**
MESJ *e*S **SKSac 11 42 37.1 -1.3**
PNCL Nicolau / Gran 88.50 312 *e*S **S 11 42 58.5 +2.9**
PBDV Barranco-do-Ve 88.55 311 *e*S **S 11 43 00.2 +4.0**
PMAFR Mafra 88.56 313 *e*S **S 11 42 57.8 +1.7**
LBTB Lobatse 88.66 241 *e*P **P 11 32 11.8 +1.0**
comp=N,135nm,2.5s
MORF Marmelete 89.01 311 *e*S **S 11 43 03.4 +2.9**
MORF Marmelete 89.01 311 *e*P **P 11 32 12.4 +0.1**
RTC Rabat Centre 89.48 308 PFAKE 11 32 30.0 +15
RTC LR LR
comp=Z,928nm,19.0s
KIP Kipapa 90.12 66 PFAKE 11 32 30.0 +12
KIP LR LR
comp=Z,1µm,19.0s
BOSA Boshof 90.66 238 *e*P **P 11 32 18.5 -1.6**
comp=Z,40nm,1.5s
BOSA Boshof 90.66 238 P **P 11 32 18.0 -2.1**
comp=Z,4.7nm,0.5s,baz=129,slow=6.3,SNR=14
BOSA LR LR 12 14 13.7
comp=Z,2µm,18.6s,baz=249,slow=36
CASY Casey 91.98 176 PFAKE 11 32 40.0 +15
CASY LR LR
comp=Z,2µm,21.0s
TSUM Tsumeb 92.57 250 PFAKE 11 32 40.0 +11
TSUM LR LR
comp=Z,3µm,20.0s
TORD Torodi Ar. Bea 92.64 286 P **P 11 32 28.5 -1.0**
TORD Torodi Ar. Bea 92.64 286 P **P 11 32 28.5 -1.0**
comp=Z,1.0nm,0.7s,baz=45,slow=4.0,SNR=5.0
TORD LR LR 12 17 39.9
comp=Z,2µm,20.5s,baz=75,slow=38
AFI Afiamalu 93.39 104 LR LR 12 07 05.2
comp=Z,1µm,21.6s,baz=294,slow=31
RPZ Rata Peaks 94.18 137 *e*P **P 11 32 37.5 +1.6**
comp=Z,28nm,1.1s
RPZ Rata Peaks 94.18 137 LR LR 12 16 38.5
comp=Z,2µm,21.7s,baz=297,slow=37
SNZO South Karori 95.27 133 PFAKE 11 32 50.0 +9.1
SNZO LR LR
comp=Z,2µm,20.0s
URZ Urewera 95.42 130 LR LR 12 12 42.6
comp=Z,829nm,21.3s,baz=309,slow=34
SUR Sutherland 95.81 237 PFAKE 11 32 50.0 +6.1
SUR LR LR
comp=Z,2µm,22.0s
PGC Sidney 95.93 28 *e*P **P 11 32 44.2 +0.2**
DRV Dumont d'Urvil 96.67 165 PP PP 11 36 39.0 -2.7
DRV SS SS 11 50 39.0 -3.4
NLWA Neilton Lookou 96.72 29 PFAKE 11 33 00.0 +12
NLWA LR LR
comp=Z,2µm,20.0s
MAW Mawson 97.29 194 LR LR 12 14 19.5
comp=Z,1µm,20.8s,baz=28,slow=34
PMOZ Porto Moniz, M 97.31 312 *e*LQ LQ 12 08 26.6
PMOZ *e*LR LR 12 11 55.4
comp=Z,1µm,20.0s
FFC Flin Flon 97.47 13 *e*P Pdif 11 32 51.0 +0.1
FFC pmax pmax
comp=Z,6.0nm,0.9s
FFC MLR MLR
comp=Z,3µm,21.0s
FFC Flin Flon 97.47 13 *e*P Pdif 11 32 51.0 +0.1
comp=Z,5.8nm,0.9s
FFC LR LR
comp=Z,3µm,21.0s
NEW Newport 98.78 25 PFAKE 11 33 10.0 +13
NEW LR LR
comp=Z,4µm,19.0s
SCHQ Schefferville 99.12 353 P **Pdif 11 32 58.2 -0.1**
SCHQ Schefferville 99.12 353 P **Pdif 11 32 58.2 -0.1**
comp=Z,4.4nm,0.9s,baz=8.1,slow=7.1,SNR=2.0
SCHQ LR LR 12 23 22.8
comp=Z,2µm,19.8s,baz=276,slow=39
HAWA Hanford 99.35 27 PFAKE 11 33 10.0 +11
HAWA LR LR
comp=Z,3µm,19.0s
CMLA Cha da Macela 99.40 320 PFAKE 11 33 10.0 +10
CMLA LR LR
comp=Z,2µm,20.0s
XMAS Kiritimati 99.42 83 PFAKE 11 33 10.0 +10
XMAS LR LR
comp=Z,2µm,19.0s
MSO Missoula 101.16 24 PFAKE 11 33 20.0 +12
MSO LR LR
comp=Z,4µm,20.0s
BMO Blue Mountains 101.51 27 PFAKE 11 33 20.0 +11
BMO LR LR
comp=Z,2µm,20.0s
EGMT Eagleton 101.54 21 PFAKE 11 33 20.0 +11
EGMT LR LR
comp=Z,3µm,20.0s
DGMT Dagmar 102.75 17 PFAKE 11 33 30.0 +15
DGMT LR LR
comp=Z,2µm,19.0s
WVOR Wild Horse Val 102.92 29 PFAKE 11 33 30.0 +14
WVOR LR LR
comp=Z,2µm,20.0s
BOZ Bozeman (W) 102.99 23 PFAKE 11 33 30.0 +14
BOZ LR LR
comp=Z,2µm,20.0s
HLID Hailey 103.74 26 PFAKE 11 33 30.0 +11
HLID LR LR
comp=Z,3µm,20.0s
RLMT Red Lodge 104.26 22 PFAKE 11 33 30.0 +8.4
RLMT LR LR
comp=Z,3µm,19.0s
LKWY Lake 104.36 23 PFAKE 11 33 30.0 +7.8
LKWY LR LR
comp=Z,6µm,22.0s
AGMN Agassiz Nation 104.78 12 PFAKE 11 33 30.0 +6.4
AGMN LR LR
comp=Z,3µm,21.0s
BMN Battle Mountai 105.16 29 PFAKE 11 37 50.0
BMN LR LR
comp=Z,2µm,20.0s
EYMN Ely 105.81 9 PFAKE 11 37 50.0
EYMN LR LR
comp=Z,3µm,19.0s
BW06 Boulder Array 106.23 23 PFAKE 11 37 50.0
BW06 LR LR
comp=Z,2µm,19.0s
PDAR Pinedale Array 106.23 23 PP PP 11 37 54.9 +1.4
PDAR Pinedale Array 106.23 23 PP PP 11 37 54.9 +1.4
comp=Z,1.0nm,0.9s,baz=40,slow=5.8,SNR=4.9
NVAR Mina Array Bea 106.28 31 PP PP 11 37 53.2 -0.8
NVAR PKKPbc **PKKPbc 11 49 03.6 +0.2**
NVAR Mina Array Bea 106.28 31 PP PP 11 37 53.2 -0.8
comp=Z,1.2nm,0.9s,baz=271,slow=4.2,SNR=5.5
NVAR PKKPbc **PKKPbc 11 49 03.6 +0.2**
comp=Z,0.7nm,0.7s,baz=137,slow=3.1,SNR=6.3
HWUT Hardware Ranch 106.51 25 PFAKE 11 37 50.0
HWUT LR LR
comp=Z,3µm,20.0s
TPH Tonopah 107.07 31 PFAKE 11 38 00.0
TPH LR LR
comp=Z,1µm,22.0s
DUG Dugway 107.22 27 PFAKE 11 38 00.0
DUG LR LR
comp=Z,2µm,19.0s
MVU Marysvale 108.91 27 PFAKE 11 38 00.0
MVU LR LR
comp=Z,2µm,20.0s
ECSD EROS Data Cent 109.01 13 PFAKE 11 38 00.0
ECSD LR LR
comp=Z,3µm,20.0s
GLMI Grayling 109.61 4 PFAKE 11 38 00.0
GLMI LR LR
comp=Z,2µm,19.0s
LONY Lake Ozonia 109.90 357 PFAKE 11 38 00.0
LONY LR LR
comp=Z,3µm,22.0s
SBA Scott Base 110.05 168 PFAKE 11 38 00.0
SBA LR LR
comp=Z,1µm,19.0s
LBNH Lisbon 110.10 355 PFAKE 11 38 00.0
LBNH LR LR
comp=Z,3µm,21.0s
ISCO Idaho Springs 110.23 22 PFAKE 11 38 00.0
ISCO LR LR
comp=Z,3µm,19.0s
OGNE Ogallala 110.29 18 PFAKE 11 38 00.0
OGNE LR LR
comp=Z,3µm,21.0s
MDV Middlebury 110.44 356 *e*Pdif **Pdif 11 33 56.2 +7.4**
NCB Newcomb 110.53 356 PFAKE 11 38 00.0
NCB LR LR
comp=Z,3µm,20.0s
JFWS Jewell Farm 110.92 9 PFAKE 11 38 00.0
JFWS LR LR
comp=Z,3µm,19.0s
PFO Pinyon Flat Ob 111.05 33 PFAKE 11 38 00.0
PFO LR LR
comp=Z,2µm,21.0s
SCIA State Center 111.43 11 PFAKE 11 38 00.0
SCIA LR LR
comp=Z,3µm,20.0s
MVCO Mesa Verde 111.50 25 PFAKE 11 38 00.0
MVCO LR LR
comp=Z,2µm,20.0s
WUAZ Wupatki 111.80 28 PFAKE 11 38 00.0
WUAZ LR LR
comp=Z,1µm,20.0s
SDCO Great Sand Dun 112.11 23 PFAKE 11 38 00.0
SDCO LR LR
comp=Z,3µm,20.0s
BINY Binghamton 112.38 358 PFAKE 11 38 00.0
BINY LR LR
comp=Z,4µm,20.0s
ERPA Erie 112.51 1 PFAKE 11 38 10.0
ERPA LR LR
comp=Z,2µm,20.0s
KSU1 Kansas State U 113.43 15 PFAKE 11 38 10.0
KSU1 LR LR
comp=Z,3µm,19.0s
ANMO Albuquerque 114.27 25 *e*PKPdf PKPdf 11 37 58.3 +0.9
ANMO LR LR
comp=Z,2µm,19.0s
PPT2 Papeete2 114.48 99 *e*SP SP 11 48 30.6 -0.8
comp=Z,451nm,25.8s
PPT2 *e*SS **SS 11 54 50.7 +2.9**
comp=Z,464nm,31.5s
PPT2 Papeete2 114.48 99 *e*LQ LQ 12 07 33.7
comp=Z,2µm,28.0s
PPT2 *e*LR LR 12 12 19.4
comp=Z,2µm,25.0s
TUC Tucson 114.78 30 PFAKE 11 38 10.0 +12
TUC LR LR
comp=Z,1µm,20.0s
Y23A Lovelace Mesa, 115.32 25 P **PKPdf 11 37 58.5 -0.9**
baz=115
W27A Bowe Ranch, En 115.37 22 P **PKPdf 11 37 59.0 -0.4**
baz=115
QSPA South Pole Qui 115.51 180 PKP **PKPdf 11 37 55.1 -3.3**
QSPA LR LR
comp=Z,2µm,22.0s
QSPA South Pole Qui 115.51 180 PKP **PKPdf 11 37 55.1 -3.3**
comp=Z,3.6nm,0.7s,baz=271,slow=2.1,SNR=18
ASCN Ascension 116.31 274 PFAKE 11 38 10.0 +8.5
ASCN LR LR
comp=Z,542nm,22.0s
CBN Corbin 116.41 359 PFAKE 11 38 10.0 +8.9
CBN LR LR
comp=Z,3µm,21.0s
TBI Tubuai 116.49 104 *e*SP SP 11 48 48.3 -1.2
comp=Z,160nm,26.5s
TBI Tubuai 116.49 104 *e*LQ LQ 12 08 20.4
comp=Z,836nm,33.8s
TBI *e*LR LR 12 13 18.4
comp=Z,1µm,28.0s
Z27A Tatum 116.91 23 P **PKPdf 11 38 01.6 -0.8**
baz=117
125A Gardner Draw, 116.98 24 P **PKPdf 11 38 02.2 -0.4**
baz=117
WMOK Wichita Mounta 117.00 18 PFAKE 11 38 10.0 +7.6
WMOK LR LR
comp=Z,3µm,21.0s
BLA Blacksburg 117.40 1 PFAKE 11 38 10.0 +6.9
BLA LR LR
comp=Z,2µm,20.0s
Z29A Hungry Hill Ra 117.47 21 P **PKPdf 11 38 03.4 0.0**
baz=117
GDL2 Guadalupe Moun 117.50 24 *e*PKPdf PKPdf 11 37 57.9 -5.7
MNTX Cornudas Mount 117.56 25 *e*PKPdf **PKPdf 11 38 04.5 +1.0**
MNTX LR LR
comp=Z,2µm,20.0s
226B Tecolote Peak, 117.68 24 P **PKPdf 11 38 03.2 -0.7**
baz=118
324A Moseley Ranch, 117.75 26 P **PKPdf 11 38 03.9 -0.2**
baz=118
325A Bean Ranch, Si 118.01 25 P **PKPdf 11 38 04.8 +0.1**
baz=118
Z32A Haskell 118.13 19 P **PKPdf 11 38 04.0 -0.6**
baz=118
MIAR Mount Ida 118.48 14 *e*PKIKP **PKPdf 11 38 05.0 -0.2**
MIAR MLR MLR
comp=Z,2µm,20.0s
MIAR Mount Ida 118.48 14 *e*PKPdf **PKPdf 11 38 05.0 -0.2**
MIAR LR LR
comp=Z,2µm,20.0s
425A Indio Mountain 118.53 26 P **PKPdf 11 38 05.1 -0.4**
baz=118
SNAA Sanae 118.56 200 *e*PKP **PKPdf 11 38 04.2 0.0**
SNAA Sanae 118.56 200 *e*YUNNAN x 11 38 26.9
SNAA Sanae 118.56 200 *e*PKKP **PKKPab 11 48 24.9 +3.1**
426A McDonald Obser 119.00 25 P **PKPdf 11 38 05.3 -1.3**
baz=119
427A Hayter Ranch, 119.07 24 P **PKPdf 11 38 05.7 -0.9**
baz=119
CNNC Cliffs of the 119.37 359 PFAKE 11 38 20.0 +13
CNNC LR LR
comp=Z,3µm,20.0s
428A Kincaid Ranch, 119.44 24 P **PKPdf 11 38 06.6 -0.7**
baz=119
527A Woodward Ranch 119.62 25 P **PKPdf 11 38 06.6 -1.1**
baz=119
429A Davenport Ranc 119.81 23 P **PKPdf 11 38 07.6 -0.4**
baz=120
430A Baggett Ranch, 119.89 22 P **PKPdf 11 38 07.6 -0.5**
baz=120
626A Big Bend Ranch 119.95 25 P **PKPdf 11 38 07.7 -0.6**
baz=120
431A Sonora 120.20 22 P **PKPdf 11 38 08.1 -0.6**
baz=120
627A Terlingua Ranc 120.33 25 P **PKPdf 11 38 08.3 -0.8**
baz=120
TXAR Lajitas Array 120.33 25 PKP **PKPdf 11 38 08.5 -0.5**
TXAR PKKPbc **PKKPab 11 48 19.1 -0.5**
TXAR Lajitas Array 120.33 25 PKP **PKPdf 11 38 08.5 -0.5**
comp=Z,1.8nm,0.9s,baz=58,slow=0.4,SNR=11
TXAR PKKPbc **PKKPab 11 48 19.1 -0.5**
comp=Z,0.9nm,1.1s,baz=145,slow=6.2,SNR=4.5
530A J-C Ranch, Com 120.44 23 P **PKPdf 11 38 08.5 -0.7**
baz=120
628A Black Gap, Mar 120.49 24 P **PKPdf 11 38 08.2 -1.1**
baz=120
JCT Junction City 120.65 21 *e*PKIKP **PKPdf 11 38 09.6 0.0**
JCT MLR MLR
comp=Z,2µm,20.0s
JCT Junction City 120.65 21 *e*PKPdf **PKPdf 11 38 09.6 0.0**
JCT LR LR
comp=Z,2µm,20.0s
BBSR BB Station 120.67 346 PFAKE 11 38 20.0 +11
BBSR LR LR
comp=Z,2µm,21.0s
531A Rocksprings 120.70 22 P **PKPdf 11 38 09.0 -0.7**
baz=120
532A Rocksprings 120.94 21 P **PKPdf 11 38 09.1 -1.0**
baz=121
LRAL Lakeview Retre 121.07 8 PFAKE 11 38 20.0 +10
LRAL LR LR
comp=Z,2µm,21.0s
VBMS Vicksburg 121.34 12 PFAKE 11 38 20.0 +9.3
VBMS LR LR
comp=Z,2µm,20.0s
631A Perdido Creek 121.38 22 P **PKPdf 11 38 10.6 -0.3**
baz=121
NHSC New Hope 121.50 1 PFAKE 11 38 20.0 +9.0
NHSC LR LR
comp=Z,4µm,20.0s
KVTX Kingsville 123.98 20 PFAKE 11 38 30.0 +14
KVTX LR LR
comp=Z,3µm,19.0s
GRTK Grand Turk 132.46 350 PFAKE 11 38 40.0 +7.8
GRTK LR LR
comp=Z,2µm,19.0s
TEIG Tepich 133.44 12 PFAKE 11 38 50.0 +16
TEIG LR LR
comp=Z,2µm,20.0s
ANWB Willy Bob 133.78 337 PFAKE 11 38 50.0 +15
ANWB LR LR
comp=Z,1µm,22.0s
RCBR Riachuelo 134.42 288 PFAKE 11 38 50.0 +14
RCBR LR LR
comp=Z,870nm,20.0s
GTBY Guantanamo Bay 134.49 355 PFAKE 11 38 50.0 +14
GTBY LR LR
comp=Z,2µm,19.0s
SJG San Juan 134.71 343 *e*PP PP 11 41 13.5 +5.2
SJG LR LR
comp=Z,1µm,20.0s
SDDR Presa de Saban 134.96 350 PFAKE 11 38 50.0 +13
SDDR LR LR
comp=Z,2µm,20.0s
MTDJ Mount Denham 136.31 358 PFAKE 11 38 50.0 +10
MTDJ LR LR
comp=Z,2µm,20.0s
BBGH Gun Hill 137.03 332 PFAKE 11 38 50.0 +9.1
BBGH LR LR
comp=Z,2µm,21.0s
GRGR Grenville 138.81 334 PFAKE 11 39 00.0 +16
GRGR LR LR
comp=Z,1µm,21.0s
TGUH Tegucigalpa,Un 139.64 13 PFAKE 11 39 00.0 +14
TGUH LR LR
comp=Z,2µm,20.0s
PMSA Palmer Station 139.78 190 PFAKE 11 39 00.0 +16
PMSA LR LR
comp=Z,1µm,20.0s
BCIP Isla Barro Col 145.32 2 *e*PKPbc **PKPbc 11 38 53.8 -1.8**
BCIP LR LR
comp=Z,1µm,21.0s
CAM4 Nova Friburgo 146.71 268 ⇑ *i* P **PKPdf 11 38 55.2 -3.1**
CAM4 *i* 11 38 58.4
CAM4 *i* 11 39 00.7
CAM4 *i* 11 39 03.4
CAM4 *i* 11 39 07.7
CAM4 *i* 11 39 10.6
CAM4 *i* 11 39 13.2
CAM4 *i* 11 39 14.9
ROSC El Rosal 149.29 351 PKPbc **PKPbc 11 39 05.9 -1.3**
ROSC *e*PKPdf **PKiKP 11 39 06.6 -1.9**
ROSC El Rosal 149.29 351 PKPbc **PKPbc 11 39 05.9 -1.3**
comp=Z,45nm,0.7s,baz=122,slow=5.6,SNR=12
BDFB Brasilia 149.49 283 PKPbc **PKPbc 11 39 06.2 -1.1**
BDFB Brasilia 149.49 283 PKPbc **PKPbc 11 39 06.2 -1.1**
comp=Z,3.2nm,0.5s,baz=80,slow=6.3,SNR=4.1
EFI East Falkland 149.61 206 PFAKE 11 39 10.0 -1.4
EFI LR LR
comp=Z,645nm,20.0s
PAYG Puerto Ayora 152.79 26 PFAKE 11 39 20.0 +5.0
PAYG LR LR
comp=Z,1µm,20.0s
OTAV Otavalo 154.20 359 *e*PKPdf **PKPdf 11 39 11.7 +1.2**
OTAV LR LR
comp=Z,907nm,20.0s
SAML Samuel 157.62 315 *e*PKPdf **PKPdf 11 39 14.9 +0.6**
SAML LR LR
comp=Z,2µm,21.0s
TRQA Tornquist 161.12 225 PFAKE 11 39 30.0 +12
TRQA LR LR
comp=Z,2µm,22.0s
NNA Nana 166.21 352 PFAKE 11 39 30.0 +6.8
NNA LR LR
comp=Z,1µm,21.0s
LPAZ La Paz 166.26 311 *e*PKPdf **PKPdf 11 39 22.8 -1.1**
LPAZ PKP PKPdf 11 39 23.2 -0.7
LPAZ La Paz 166.26 311 PKP **PKPdf 11 39 23.2 -0.7**
comp=Z,3.0nm,1.0s,baz=60,slow=5.9,SNR=8.3
LVC Limon Verde 170.37 287 PFAKE 11 39 40.0 +14
LVC LR LR
comp=Z,1µm,21.0s
LCO Las Campanas 172.00 244 PFAKE 11 39 40.0 +13
LCO LR LR
comp=Z,2µm,22.0s

IDC 09 11:24:34.4±5.9, 4°88S×133°45E, h0km, mb3.5/1, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, ML3.5/2, Error ellipse: s-maj=347.0km s-min=30.8km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.99**	**177**	Pn		11 28 06.0	-1.8
	0.1nm,0.3s,baz=355,slow=13,SNR=6.3						
ASAR	**Alice Springs**	**18.68**	**179**	P		11 28 54.9	+0.3
	0.3nm,0.3s,baz=2.2,slow=11,SNR=32						
MKAR	**Makanchi Array**	**68.42**	**325**	P		11 35 38.1	0.0
	0.3nm,0.5s,baz=113,slow=7.9,SNR=3.3						

IDC ***09*** *11:31:12.6±1.3, 25°87N×101°75E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/26, mbtmp3.4/5, Error ellipse: s-maj=49.3km s-min=21.9km az=73.0*

ISC 09 11:31:14.5±0.9, 25°84N±0°08×101°9E±0°1, h10km, n7, σ2°30/9, mb3.4/4, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**1.05**	**132**	Pg		**11 31 32.5**	**-2.3**

KMI					Sg	**Sn**	**11 31 52.8**	**+2.4**
KMI					smax	smax		
	comp=N,170nm,0.6s							
KMI					smax	smax		
	comp=E,250nm,0.6s							
CMAR	**Chiang Mai Arr**	**7.83**	**201**		Pn	**Pn**	**11 33 09.5**	**+0.9**
	baz=18,slow=11,SNR=3.2							
CMAR					Pg	**Pb**	**11 33 30.8**	**+0.3**
	comp=E,0.7nm,0.3s,baz=8.4,slow=17,SNR=9.5							
CMAR					Lg	Lg	11 35 13.4	
	comp=E,0.5nm,0.3s,baz=6.0,slow=29,SNR=5.2							
LZH	**Lanzhou**	**10.35**	**9**	*eP*	Pn		11 33 46.1	+2.8
LZH				pP			11 33 48.3	
LZH				sP			11 33 50.2	
LZH				PP	**PnPn**		**11 33 54.4**	**+3.2**
LZH				pmax	pmax			
	comp=Z,16nm,1.2s							
LZH				pmax	pmax			
	comp=Z,45nm,4.1s							
LZH				LR	LR			
	comp=N,220nm,8.5s							
LZH				LR	LR			
	comp=E,200nm,8.2s							
LZH				LR	LR			
	comp=Z,260nm,10.5s							
SONM	**Songino Array**	**22.24**	**8**	P		**P**	**11 36 12.8**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=197,slow=8.8,SNR=3.1							
MKAR	**Makanchi Array**	**26.07**	**328**	P		**P**	**11 36 46.3**	**-1.9**
	comp=Z,0.3nm,0.5s,baz=133,slow=10,SNR=4.7							
KURBB	**Kurchatov Arra**	**30.56**	**330**	P		**P**	**11 37 26.1**	**-2.0**
	comp=Z,0.3nm,0.5s,baz=134,slow=10,SNR=4.2							
WRA	**Warramunga Arr**	**55.36**	**142**	P		**P**	**11 40 48.8**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=332,slow=8.1,SNR=7.5							

IDC 09 11:46:41.8±49.0, 16°.38S×177°.75W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.9/3, Error ellipse: s-maj=906.3km s-min=160.3km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.93**	**240**	P	P	11 54 17.9	0.0
	1.2nm,0.5s,baz=72,slow=9.8,SNR=4.2						
WRA	**Warramunga Arr**	**45.55**	**258**	P	P	11 55 03.4	-0.4
	0.3nm,0.5s,baz=93,slow=7.6,SNR=14						
ASAR	**Alice Springs**	**45.83**	**253**	P	P	11 55 06.0	0.0
	3.5nm,0.6s,baz=88,slow=8.3,SNR=58						

*BJI **09** 12:00:46.3, 25°.54N×101°.05E, h11km, ML3.9/7, Ms3.6/2, Ms7 3.6/1*
*ISCJB **09** 12:00:47.1±0.8, 25°.54N±0°.05×101°.06E±0°.06, h13km, mb3.7/6, Error ellipse: s-maj=8.6km s-min=6.6km az=38.6*
*IDC **09** 12:00:47.8±1.0, 25°.77N×101°.26E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.6/26, mbtmp3.6/7, ML3.6/1, Error ellipse: s-maj=42.4km s-min=16.6km az=71.0*
ISC 09 12:00:48.3±0.9, 25°.49N±0°.06×100°.91E±0°.08, h13km, n11, σ1°65°/14, mb3.7/6, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**1.70**	**102**	Pg	**Pn**	**12 01 17.4**	**-0.5**
KMI				Sg	**Sn**	**12 01 39.2**	**-0.4**
KMI				smax	smax		
	comp=N,1μm,0.9s						
KMI				smax	smax		
	comp=E,1μm,1.0s						
GYA	**Guiyang**	**5.27**	**78**	Pn	**Pn**	**12 02 08.5**	**+1.6**
GYA				Sn	**Sn**	**12 03 05.6**	**-2.0**
GYA				smax	smax		
	comp=N,20nm,0.8s						
GYA				smax	smax		
	comp=E,30nm,0.8s						
CD2	**Chengdu**	**5.95**	**24**	Pg	Pg	12 02 46.5	+4.2
CD2				Sg	**Sg**	**12 04 01.9**	**+2.5**
CD2				smax	smax		
	comp=N,160nm,1.4s						
CD2				smax	smax		
	comp=E,180nm,1.0s						
CMAR	**Chiang Mai Arr**	**7.24**	**195**	Pn	Pn	12 02 40.6	+6.8
	comp=E,0.3nm,0.3s,baz=13,slow=12,SNR=3.0						
CMAR				Pg	**Pg**	**12 03 06.4**	**-0.4**
	comp=E,0.7nm,0.3s,baz=8.5,slow=20,SNR=8.7						
CMAR				Lg	Lg	12 04 42.1	
	comp=E,0.8nm,0.3s,baz=7.4,slow=29,SNR=9.2						
LZH	**Lanzhou**	**10.86**	**13**	*eP*	**Pn**	**12 03 21.3**	**-2.2**
LZH				PP	**PnPn**	**12 03 29.8**	**-1.6**
LZH				LR	LR		
	comp=N,230nm,8.1s						
LZH				LR	LR		
	comp=E,220nm,8.3s						
LZH				LR	LR		
	comp=Z,270nm,10.6s						
SONM	**Songino Array**	**22.72**	**10**	P		**P**	**12 05 48.7**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=189,slow=11,SNR=4.7							
MKAR	**Makanchi Array**	**25.91**	**330**	P		**P**	**12 06 21.5**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=132,slow=11,SNR=12							
ZALV	**Zalesovo Beam**	**30.84**	**341**	P		**P**	**12 07 04.1**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=138,slow=13,SNR=2.7							
BVAR	**Borovoye Array**	**35.76**	**328**	P		**P**	**12 07 46.8**	**0.0**
	comp=Z,0.4nm,0.4s,baz=151,slow=3.3,SNR=2.7							
WRA	**Warramunga Arr**	**55.64**	**141**	P		**P**	**12 10 25.6**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=332,slow=8.0,SNR=20							
ASAR	**Alice Springs**	**58.39**	**144**	P		**P**	**12 10 45.5**	**+1.8**
	comp=Z,0.9nm,1.0s,baz=334,slow=7.3,SNR=5.1							

IDC 09 13:01:14.8±7.6, 5°.16S×149°.68E, h104km±57km, mb2.8/2, mb1 3.2/4, mb1mx3.0/18, mbtmp3.1/4, Error ellipse: s-maj=98.8km s-min=54.8km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.90**	**211**	P	Pn	13 02 25.8	-0.4
	1.1nm,0.3s,baz=30,slow=16,SNR=4.8						
PMG				S	Sn	13 03 23.0	+1.2
	8.1nm,0.3s,baz=141,slow=22,SNR=11						
CTA	**Charters Tower**	**15.21**	**192**	P	Pn	13 04 43.6	-0.4
	0.4nm,0.3s,baz=350,slow=11,SNR=2.2						
WRA	**Warramunga Arr**	**20.94**	**224**	P	P	13 05 49.7	+0.2
	0.6nm,0.6s,baz=49,slow=10,SNR=7.9						
ASAR	**Alice Springs**	**23.86**	**218**	P	P	13 06 18.0	-0.8
	0.2nm,0.4s,baz=52,slow=8.5,SNR=6.6						
TORD	**Torodi Ar. Bea**	**147.44**	**286**	PKPbc	PKPbc	13 20 47.4	-0.3
	0.3nm,0.9s,baz=68,slow=2.3,SNR=3.3						

*MDD **09** 13:07:03.9±1.7, 36°.76N×9°.76W, h46km±34km, mb3.5/1, Error ellipse: s-maj=19.8km s-min=14.9km az=122.0, PRXIMO*
*CSEM **09** 13:07:04.6±0.4, 36°.85N×9°.64W, h30km, ML2.2/5, Error ellipse: s-maj=8.1km s-min=7.3km az=132.0*
*INMG **09** 13:07:04.9±1.2, 36°.82N×9°.68W, h21km±4km, ML1.7, Error ellipse: s-maj=6.4km s-min=6.3km az=126.0*
*IGIL **09** 13:07:04.7, 36°.81N×9°.68W, h20km, ML1.5*
ISC 09 13:07:01.9±2.8, 36°.83N±0°.09×9°.7W±0°.1, h10km, n49, σ1°69°/85, 4C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**0.78**	**67**	*i* P	**Pg**	**13 07 18.5**	**+1.7**
PFVI				*e*S	**Sb**	**13 07 29.1**	**+1.1**
PFVI				A	A	13 07 29.9	
	14nm,0.2s						
PFVI	**Vila Bisbo**	**0.78**	**67**	⇑P	**Pg**	**13 07 18.5**	**+1.7**
	1.7nm,0.0s,SNR=18						
PFVI				S	**Sb**	**13 07 29.6**	**+1.6**
	14nm,0.1s,SNR=6.4						
PFVI	**Vila Bisbo**	**0.78**	**67**	P	**Pg**	**13 07 18.5**	**+1.7**
	1.7nm,0.0s,SNR=18						
PFVI				S	**Sb**	**13 07 29.6**	**+1.6**
	14nm,0.1s,SNR=6.4						
MORF	**Marmelete**	**0.98**	**61**	*i* P	**Pg**	**13 07 21.6**	**+0.9**
MORF				*e*S	**Sg**	**13 07 34.5**	**+1.1**
MORF				A	A	13 07 35.4	
	16nm,0.1s						
MORF	**Marmelete**	**0.98**	**61**	⇑P	**Pg**	**13 07 21.6**	**+0.9**
MORF				S	**Sg**	**13 07 34.5**	**+1.1**
	16nm,0.1s						
MORF	**Marmelete**	**0.98**	**61**	P	**Pg**	**13 07 21.6**	**+0.9**
MORF				S	**Sg**	**13 07 34.5**	**+1.1**
	16nm,0.1s						
PTEO	**Sao Teotonio**	**1.07**	**48**	*e*S	**Sg**	**13 07 36.6**	**+0.3**
PTEO				A	A	13 07 38.0	
	8.3nm,0.5s						
PTEO	**Sao Teotonio**	**1.07**	**48**	S	**Sg**	**13 07 36.6**	**+0.3**
	4.2nm,0.5s						
PTEO	**Sao Teotonio**	**1.07**	**48**	S	**Sg**	**13 07 36.6**	**+0.3**
	4.2nm,0.5s						
PBDV	**Barranco-do-Ve**	**1.49**	**73**	*i* P	**Pn**	**13 07 28.7**	**0.0**
PBDV				*e*S	**Sn**	**13 07 46.4**	**-1.8**
PBDV				A	A	13 07 52.1	
	5.4nm,0.9s						
PBDV	**Barranco-do-Ve**	**1.49**	**73**	⇑P	**Pn**	**13 07 28.7**	**0.0**
PBDV				S	**Sn**	**13 07 46.4**	**-1.8**
	5.4nm,0.9s						
PBDV	**Barranco-do-Ve**	**1.49**	**73**	P	**Pn**	**13 07 28.7**	**0.0**
PBDV				S	**Sn**	**13 07 46.4**	**-1.8**
	5.4nm,0.9s						
PCVE	**Castro Verde**	**1.56**	**59**	*e*P	**Pn**	**13 07 29.7**	**0.0**
PCVE				*e*S	**Sn**	**13 07 48.5**	**-1.5**
PCVE				A	A	13 07 51.8	
	2.5nm,0.3s						
PCVE	**Castro Verde**	**1.56**	**59**	P	**Pn**	**13 07 29.7**	**0.0**
PCVE				S	**Sn**	**13 07 48.5**	**-1.5**
	2.5nm,0.3s						
PCVE	**Castro Verde**	**1.56**	**59**	*e*P	**Pn**	**13 07 29.7**	**0.0**
PCVE				S	**Sn**	**13 07 48.5**	**-1.5**
	2.5nm,0.3s						
MESJ	**Messejana**	**1.56**	**49**	*e*P	**Pn**	**13 07 29.6**	**-0.1**
MESJ				*e*S	**Sn**	**13 07 48.1**	**-1.9**
MESJ				AML	AML	13 07 50.6	
	comp=N,3.7nm,0.1s						
MESJ	**Messejana**	**1.56**	**49**	*e*P	**Pn**	**13 07 29.6**	**-0.1**
MESJ				*e*S	**Sn**	**13 07 48.1**	**-1.9**
MESJ	**Messejana**	**1.56**	**49**	P	**Pn**	**13 07 29.6**	**-0.1**
MESJ				S	**Sn**	**13 07 48.1**	**-1.9**
MESJ	**Messejana**	**1.56**	**49**	*e*P	**Pn**	**13 07 29.6**	**-0.1**
MESJ				*e*S	**Sn**	**13 07 48.1**	**-1.9**
PNCL	**Nicolau / Gran**	**1.59**	**36**	*e*P	**Pn**	**13 07 30.0**	**-0.1**
PNCL				*e*S	**Sn**	**13 07 49.5**	**-1.2**
PNCL				A	A	13 07 52.0	
	comp=N,3.1nm,0.1s						
PNCL	**Nicolau / Gran**	**1.59**	**36**	*e*P	**Pn**	**13 07 30.0**	**-0.1**
PNCL				*e*S	**Sn**	**13 07 49.5**	**-1.2**
	comp=N,3.1nm,0.1s						
PVAQ	**Vaqueiros**	**1.70**	**70**	*e*P	**Pn**	**13 07 31.5**	**-0.1**
PVAQ				*e*S	**Sn**	**13 07 51.3**	**-2.1**
PVAQ				A	A	13 07 53.7	
	comp=N,4.1nm,0.3s						
PVAQ	**Vaqueiros**	**1.70**	**70**	P	**Pn**	**13 07 31.5**	**-0.1**
PVAQ				S	**Sn**	**13 07 51.3**	**-2.1**
	comp=N,4.1nm,0.3s						
PVAQ	**Vaqueiros**	**1.70**	**70**	*e*P	**Pn**	**13 07 31.5**	**-0.1**
PVAQ				S	**Sn**	**13 07 51.3**	**-2.1**
	comp=N,4.1nm,0.3s						
PBEJ	**Beja**	**1.90**	**50**	*e*Pn	**Pn**	**13 07 33.9**	**-0.4**
PBEJ				*e*Sn	**Sn**	**13 07 55.6**	**-2.7**
PBEJ				A	A	13 07 59.0	
	comp=N,2.6nm,0.6s						
PBEJ	**Beja**	**1.90**	**50**	Pn	**Pn**	**13 07 33.9**	**-0.4**
PBEJ				Sn	**Sn**	**13 07 55.6**	**-2.7**
	comp=N,1.3nm,0.6s						
PBEJ	**Beja**	**1.90**	**50**	*e*Pn	**Pn**	**13 07 33.9**	**-0.4**
PBEJ				Sn	**Sn**	**13 07 55.6**	**-2.7**
	comp=N,1.3nm,0.6s						
EGRO	**El Granado**	**1.92**	**68**	⇑P	**Pn**	**13 07 34.5**	**-0.1**
	comp=N,0.1nm,0.0s,SNR=18						
EGRO				S	**Sn**	**13 07 56.1**	**-2.7**
	comp=N,0.3nm,0.0s,SNR=7.9						
EGRO	**El Granado**	**1.92**	**68**	P	**Pn**	**13 07 34.5**	**-0.1**
	comp=N,0.1nm,0.0s,SNR=18						
EGRO				S	**Sn**	**13 07 56.1**	**-2.7**
	comp=N,0.3nm,0.0s,SNR=7.9						
MOE	**Montemor**	**2.01**	**32**	*e*Sn	**Sn**	**13 07 59.8**	**-1.2**
MOE	**Montemor**	**2.01**	**32**	Sn	**Sn**	**13 07 59.8**	**-1.2**
MOE	**Montemor**	**2.01**	**32**	*e*Sn	**Sn**	**13 07 59.8**	**-1.2**
PBAR	**Barrancos**	**2.52**	**57**	*e*Pn	**Pn**	**13 07 42.8**	**0.0**
PBAR				*e*Sn	**Sn**	**13 08 11.4**	**-2.2**
PBAR				A	A	13 08 13.7	
	comp=N,3.0nm,0.7s						
PBAR	**Barrancos**	**2.52**	**57**	Pn	**Pn**	**13 07 42.8**	**0.0**
PBAR				Sn	**Sn**	**13 08 11.4**	**-2.2**
	comp=N,3.0nm,0.7s						
PBAR	**Barrancos**	**2.52**	**57**	*e*Pn	**Pn**	**13 07 42.8**	**0.0**
PBAR				Sn	**Sn**	**13 08 11.4**	**-2.2**
	comp=N,3.0nm,0.7s						
PMTG	**Montargil**	**2.53**	**27**	*e*Pn	**Pn**	**13 07 43.2**	**+0.2**
PMTG				*e*Sn	**Sn**	**13 08 11.5**	**-2.3**
PMTG				A	A	13 08 12.7	
	comp=N,3.4nm,0.6s						
PMTG	**Montargil**	**2.53**	**27**	*e*Pn	**Pn**	**13 07 43.2**	**+0.2**
PMTG				*e*Sn	**Sn**	**13 08 11.5**	**-2.3**
	comp=N,3.4nm,0.6s						
EMIN	**Mina Concepcio**	**2.60**	**68**	P	Pn	13 07 41.7	-2.3
	comp=N,0.0nm,0.0s,SNR=7.9						
EMIN				S	**Sn**	**13 08 13.1**	**-2.6**
	comp=N,0.2nm,0.1s,SNR=12						
EMIN	**Mina Concepcio**	**2.60**	**68**	P	Pn	13 07 41.7	-2.3
	SNR=7.9						
EMIN				S	**Sn**	**13 08 13.1**	**-2.6**
	comp=N,0.2nm,0.1s,SNR=12						
PESTR	**Estremoz**	**2.64**	**39**	*e*Sn	**Sn**	**13 08 14.8**	**-1.9**
PESTR				A	A	13 08 26.6	
	comp=N,3.8nm,0.6s						
PESTR	**Estremoz**	**2.64**	**39**	Sn	**Sn**	**13 08 14.8**	**-1.9**
	comp=N,3.8nm,0.6s						
PESTR	**Estremoz**	**2.64**	**39**	Sn	**Sn**	**13 08 14.8**	**-1.9**
	comp=N,3.8nm,0.6s						
EBAD	**Badajoz**	**2.88**	**47**	S	**Sn**	**13 08 19.8**	**-2.7**
	comp=N,0.9nm,0.0s,SNR=6.8						
EBAD	**Badajoz**	**2.88**	**47**	S	**Sn**	**13 08 19.8**	**-2.7**
	comp=N,0.9nm,0.0s,SNR=6.8						
PMRV	**Marv??o**	**3.18**	**35**	*e*Pn	**Pn**	**13 07 51.9**	**0.0**
PMRV				*e*Sn	**Sn**	**13 08 26.8**	**-3.1**
PMRV				A	A	13 08 35.0	
	comp=N,2.0nm,0.6s						
PMRV	**Marv??o**	**3.18**	**35**	Pn	**Pn**	**13 07 51.9**	**0.0**
PMRV				Sn	**Sn**	**13 08 26.8**	**-3.1**
	comp=N,2.0nm,0.6s						
PMRV	**Marv??o**	**3.18**	**35**	*e*Pn	**Pn**	**13 07 51.9**	**0.0**
PMRV				Sn	**Sn**	**13 08 26.8**	**-3.1**
	comp=N,2.0nm,0.6s						
EADA	**Adamuz**	**4.30**	**70**	P	**Pn**	**13 08 07.4**	**0.0**
	comp=N,0.1nm,0.0s,SNR=7.9						
EADA				S	**Sn**	**13 08 53.5**	**-4.1**
	comp=N,0.1nm,0.0s,SNR=7.9						
EADA	**Adamuz**	**4.30**	**70**	P	**Pn**	**13 08 07.4**	**0.0**
	comp=N,0.1nm,0.0s,SNR=7.9						
EADA				S	**Sn**	**13 08 53.5**	**-4.1**
	comp=N,0.1nm,0.0s,SNR=7.9						

*ISCJB **09** 13:14:23.0±0.4, 25°.72N±0°.04×101°.02E±0°.03, h13km, mb4.0/14, Error ellipse: s-maj=5.3km s-min=4.2km az=176.6*
*BJI **09** 13:14:23.7, 25°.54N×101°.04E, h13km, mB4.6/9, mb4.6/16, ML4.4/12, Ms4.2/16, Ms7 3.8/12*
*IDC **09** 13:14:23.1±0.7, 25°.65N×101°.25E, h0km, mb4.0/13, mb1 4.2/14, mb1mx4.0/26, mbtmp4.0/14, ML3.9/1, Error ellipse: s-maj=23.2km s-min=13.0km az=81.0*
ISC 09 13:14:25.3±0.6, 25°.66N±0°.05×101°.07E±0°.05, h13km, n33, σ2°13/44, mb4.1/14, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**1.60**	**109**	Pn	**Pn**	**13 14 54.0**	**+0.5**
KMI				Pg	**Pg**	**13 14 56.5**	**+0.5**
KMI				Sg	**Sg**	**13 15 16.6**	**-0.2**
KMI				smax	smax		
	comp=N,4μm,0.8s						
KMI				smax	smax		
	comp=E,4μm,0.7s						
GYA	**Guiyang**	**5.09**	**80**	⇑*i*Pn	**Pn**	**13 15 42.9**	**+1.5**
GYA				Pg	Pb	13 15 58.3	+4.0
GYA				Sn	**Sn**	**13 16 42.6**	**+2.4**
GYA				smax	smax		
	comp=N,210nm,0.7s						
GYA				smax	smax		
	comp=E,160nm,0.7s						
CD2	**Chengdu**	**5.75**	**24**	Pn	Pn	13 15 53.9	+3.6
CD2				Sn	**Sn**	**13 17 01.1**	**+4.9**
CD2				Sg	**Sg**	**13 17 32.2**	**+2.4**
CD2				smax	smax		
	comp=N,530nm,1.0s						
CD2				smax	smax		
	comp=E,550nm,1.4s						
CMAR	**Chiang Mai Arr**	**7.43**	**196**	Pn	**Pn**	**13 16 15.6**	**+2.1**
	comp=E,0.5nm,0.3s,baz=11,slow=13,SNR=16						
CMAR				Pg	Pg	13 16 43.7	-3.9
	comp=E,2.1nm,0.3s,baz=11,slow=16,SNR=45						
CMAR				Lg	Lg	13 18 17.5	
	comp=E,5.5nm,0.3s,baz=6.9,slow=29,SNR=7.6						
SHL	**Shillong**	**8.30**	**271**	*e*P	Pn	13 16 30.0	+4.5
LSA	**Lhasa**	**9.67**	**297**	P	**Pn**	**13 16 42.9**	**-1.7**
LZH	**Lanzhou**	**10.67**	**12**	*e*P	**Pn**	**13 16 57.0**	**-0.9**
LZH				PP	**PnPn**	**13 17 05.6**	**-0.3**
LZH				*e*S	**Sn**	**13 18 57.2**	**-0.2**
LZH				SS	**SnSn**	**13 19 10.5**	**+0.9**
LZH				pmax	pmax		
	comp=Z,25nm,1.0s						
LZH				pmax	pmax		
	comp=Z,110nm,4.5s						
LZH				LR	LR		
	comp=N,840nm,8.0s						
LZH				LR	LR		
	comp=E,2μm,7.6s						
LZH				LR	LR		
	comp=Z,2μm,9.5s						
XAN	**Xi'an**	**10.78**	**37**	P	**Pn**	**13 16 59.2**	**-0.2**
XAN				S	**Sn**	**13 18 56.4**	**-3.5**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,9.0nm,6.2s						
XAN				LR	LR		
	comp=N,510nm,9.6s						
XAN				LR	LR		
	comp=E,170nm,9.1s						
XAN				LR	LR		
	comp=Z,160nm,12.0s						
TAPN	**Taplejung**	**12.09**	**281**	*e*P	**Pn**	**13 17 19.3**	**+1.8**
	comp=Z,15nm,0.2s						
ODAN	**Odare**	**12.34**	**279**	*e*P	**Pn**	**13 17 20.9**	**0.0**
	comp=Z,15nm,0.6s						
WHN	**Wuhan**	**12.69**	**64**	P	**Pn**	**13 17 25.8**	**+0.3**
WHN				S	**Sn**	**13 19 41.6**	**-5.0**
WHN				pmax	pmax		
	comp=Z,36nm,0.6s						
WHN				LR	LR		
	comp=N,1μm,7.6s						
WHN				LR	LR		
	comp=E,570nm,4.5s						
WHN				LR	LR		
	comp=Z,710nm,11.3s						
JIRN	**Jiri**	**13.46**	**282**	*e*P	**Pn**	**13 17 36.2**	**-0.2**
	comp=Z,28nm,0.7s						
GUN	**Gumba**	**13.76**	**283**	*e*P	**Pn**	**13 17 39.8**	**-0.6**
GTA	**Gaotai**	**13.76**	**356**	*e*P	**P**	**13 17 51.2**	**+2.4**
GTA				pP	pP	13 17 57.2	
GTA				sP		13 18 00.4	
GTA				S	**S**	**13 20 33.2**	**-2.3**
GTA				SS	SbSb	13 20 51.8	-18
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,69nm,3.8s						
GTA				LR	LR		
	comp=N,520nm,9.0s						
GTA				LR	LR		
	comp=E,1μm,12.4s						
GTA				LR	LR		
	comp=Z,550nm,8.5s						
PKI	**Pulchoki**	**14.14**	**281**	*e*P	**Pn**	**13 17 43.6**	**-2.1**
PKIN	**Phulchoki**	**14.15**	**281**	*e*P	**Pn**	**13 17 43.0**	**-2.8**
	comp=Z,35nm,0.7s						
KKN	**Kakani**	**14.27**	**282**	*e*P	**Pn**	**13 17 44.4**	**-3.0**
	comp=Z,44nm,0.9s						
DMN	**Daman**	**14.41**	**281**	*e*P	**Pn**	**13 17 46.7**	**-2.6**
	comp=Z,33nm,0.8s						
HHC	**Hu-ho-hao-te**	**17.49**	**27**	*e*P	**Pn**	**13 18 26.7**	**-2.3**
HHC				PP	**PnPn**	**13 18 40.8**	**+1.5**
HHC				S	**Sn**	**13 21 40.2**	**-3.4**
HHC				SS	**SnSn**	**13 22 01.8**	**+4.6**
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
HHC				pmax	pmax		
	comp=Z,77nm,3.6s						
HHC				LR	LR		
	comp=N,470nm,6.8s						
HHC				LR	LR		
	comp=E,600nm,6.7s						
HHC				LR	LR		
	comp=Z,240nm,7.3s						
SONM	**Songino Array**	**22.53**	**9**	P		**P**	**13 19 25.4**	**+0.4**
	comp=Z,2.7nm,0.5s,baz=192,slow=10.0,SNR=16							
PSI	**Prapat**	**22.82**	**186**	P		**P**	**13 19 30.8**	**+2.6**
	comp=Z,3.5nm,0.4s,baz=339,slow=14,SNR=5.7							
KSRS	**Kopa Array**	**25.64**	**56**	P		**P**	**13 19 53.2**	**-1.4**
	comp=Z,1.4nm,0.6s,baz=245,slow=10,SNR=6.1							
MKAR	**Makanchi Array**	**25.85**	**330**	P		**P**	**13 19 58.1**	**+1.6**
	comp=Z,5.6nm,0.7s,baz=135,slow=11,SNR=23							
ZALV	**Zalesovo Beam**	**30.74**	**341**	P		**P**	**13 20 40.2**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=153,slow=10.0,SNR=7.9							
USRK	**Ussuriysk Arra**	**31.13**	**46**	P		**P**	**13 20 43.1**	**-0.4**
	comp=Z,6.1nm,0.7s,baz=244,slow=9.3,SNR=14							
BVAR	**Borovoye Array**	**35.71**	**328**	P		P	13 21 28.9	+5.6
	comp=Z,0.9nm,0.5s,baz=122,slow=11,SNR=4.0							
WRA	**Warramunga Arr**	**55.67**	**141**	P		**P**	**13 24 00.7**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=331,slow=7.9,SNR=22							
ASAR	**Alice Springs**	**58.43**	**144**	P		**P**	**13 24 20.3**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=323,slow=6.6,SNR=14							
ARCES	**ARCESS Array B**	**61.17**	**337**	P		**P**	**13 24 38.7**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=94,slow=8.3,SNR=3.4							
STKA	**Stephens Creek**	**69.06**	**144**	P		**P**	**13 25 29.1**	**-1.8**
	comp=Z,1.7nm,0.8s,baz=319,slow=11,SNR=2.4							
GERES	**GERESS Array B**	**69.48**	**315**	P		**P**	**13 25 33.9**	**+0.4**
	comp=Z,0.2nm,0.2s,baz=90,slow=4.9,SNR=2.9							
ILAR	**Eielson Array**	**75.88**	**24**	P		**P**	**13 26 09.9**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=283,slow=4.4,SNR=4.7							
YKA	**Yellowknife Ar**	**87.65**	**16**	P		**P**	**13 27 12.8**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=328,slow=4.6,SNR=8.2							

PRE 09 13:21:32.1±3.0, 26°.42S×27°.43E, h2km, ML3.7, 3C-4D, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.18**	**67**	⇑*i*P	Pg	13 21 25.0	-11
KLOF				*e*S	Sg	13 21 26.9	-11
KLOF				AML	AML	13 21 27.4	
	comp=Z,9μm,0.3s						
PRYS	**Parys**	**0.51**	**187**	⇓*i*P	Pb	13 21 43.2	-0.8
PRYS				*e*S	Sg	13 21 49.5	+0.7
PRYS				AML	AML	13 21 53.3	
	comp=Z,1μm,0.6s						
ERPM	**east rand prop**	**0.74**	**84**	⇓*i*P	Pb

SOE	**Somerset East**	**6.47**	**194**	*e*S	Sn	13 24 20.9	-2.3
SOE				AML	AML	13 24 58.3	
comp=Z,31nm,0.7s							
GRM	**Grahamstown**	**6.92**	**186**	*e*S	Sn	13 24 29.1	-4.8
GRM				AML	AML	13 25 12.7	
comp=Z,20nm,0.4s							
BUFB	**Buffelsbos**	**8.04**	**196**	*e*S	Sn	13 24 59.2	-2.4
BUFB				AML	AML	13 25 51.8	
comp=Z,20nm,0.6s							
SUR	**Sutherland**	**8.28**	**223**	*e*P	Pn	13 23 34.7	+1.2
SUR				*e*S	Sn	13 25 02.8	-5.0
SUR				AML	AML	13 26 01.0	
comp=Z,16nm,0.8s							
CVNA	**Calvinia**	**8.39**	**231**	*e*P	Pn	13 23 34.6	-0.3
CVNA				*e*S	Sn	13 25 05.2	-5.2
KOMG	**Komaggas**	**9.40**	**247**	*e*P	Pn	13 23 48.9	+0.3
KOMG				*e*S	Sn	13 25 30.4	-4.6
KOMG				AML	AML	13 26 32.0	
comp=Z,23nm,0.5s							
ELIM	**Elim**	**10.50**	**217**	*e*S	Sn	13 25 54.4	-7.5
ELIM				AML	AML	13 27 13.1	
comp=Z,15nm,0.7s							
LSZ	**Lusaka**	**11.11**	**4**	*e*P	Pn	13 24 12.2	-0.1
LSZ				*e*S	Sn	13 26 11.2	-6.1
TSUM	**Tsumeb**	**11.57**	**306**	*e*S	Sn	13 26 20.4	-8.1

*KRSC **09** 13:39:46.9±0.5, 52.°87N × 154.°00E, h539km ± 18km, ML4.4*
*MOS **09** 13:39:49.7±0.9, 53.°22N × 153.°45E, h492km, mb4.0/5, Error ellipse: s-maj=17.3km s-min=11.3km az=66.7*
*ISCJB **09** 13:39:50.2±0.3, 53.°18N±0.°06×153.°6E±0.°1, h495km±6km, mb3.3/10, Error ellipse: s-maj=13.1km s-min=7.2km az=34.4*
*IDC **09** 13:39:50.7±0.7, 53.°20N × 153.°58E, h488km ± 9km, mb2.8/8, mb1 3.0/11, mb1mx2.9/27, mbtmp2.9/11, Error ellipse: s-maj=21.0km s-min=12.3km az=146.0*

ISC 09 13:39:50.6±0.6, 53.°18N±0.°07×153.°70E±0.°08, h490km ± 8km, n63, σ1°67/73, mb3.4/10, 2D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MIPR	**Malaya Ipel'ka**	**2.07**	**115**	*i* P		**P**	**13 40 56.8**	**+1.7**
APC	**Apacha**	**2.10**	**95**	*e*P		**P**	**13 40 56.9**	**+1.7**
APC				*i* S		**S**	**13 41 49.3**	**+1.5**
PETK	**Petropavlovsk-**	**2.41**	**90**	PN		**P**	**13 40 58.5**	**+1.5**
PETK				S		**S**	**13 41 51.4**	**+0.4**
PETK				pmax	pmax			
comp=Z,2.0nm,0.3s								
PETK	**Petropavlovsk-**	**2.41**	**90**	P		**P**	**13 40 58.5**	**+1.5**
comp=Z,1.5nm,0.3s,baz=89,slow=1.7,SNR=81								
PETK				S		**S**	**13 41 51.4**	**+0.4**
comp=Z,0.2nm,0.3s,baz=279,slow=12,SNR=2.6								
PAU	**Pauzhetka**	**2.56**	**131**	PN		**P**	**13 40 59.1**	**+1.2**
PAU	**Pauzhetka**	**2.56**	**131**	*e*P		**P**	**13 40 59.1**	**+1.2**
GNL	**Ganaly**	**2.59**	**77**	*i* P		**P**	**13 40 59.9**	**+1.8**
GNL				*i* S		**S**	**13 41 54.6**	**+1.4**
ASAK	**Asacha**	**2.67**	**106**	*e*P		**P**	**13 40 59.9**	**+1.3**
MTVR	**Mutnovka**	**2.81**	**102**	P		**P**	**13 41 00.7**	**+1.1**
MTVR				*i* S		**S**	**13 41 55.5**	**-0.3**
SKR	**Severo-Kuril's**	**2.91**	**148**	P		**P**	**13 41 00.8**	**+0.7**
SKR				*i* S		**S**	**13 41 56.7**	**0.0**
KOK	**Koryaka**	**2.97**	**86**	P		**P**	**13 41 02.5**	**+1.9**
PET	**Petropavlovsk**	**2.99**	**91**	*e*PN		**P**	**13 41 01.7**	**+1.1**
PET				*e*S		**S**	**13 41 56.8**	**-0.8**
PET				pmax	pmax			
comp=Z,23nm,0.5s								
PET				smax	smax			
comp=E,21nm,1.2s								
PET	**Petropavlovsk**	**2.99**	**91**	*e*P		**P**	**13 41 00.4**	**-0.2**
PET				*i* S		**S**	**13 41 55.5**	**-2.1**
RUS	**Russkaya**	**3.02**	**102**	PN		**P**	**13 41 00.8**	**0.0**
RUS				S		**S**	**13 41 55.6**	**-2.4**
RUS	**Russkaya**	**3.02**	**102**	*e*P		**P**	**13 41 00.8**	**0.0**
RUS				*i* S		**S**	**13 41 55.6**	**-2.4**
SMAR	**Somma**	**3.07**	**86**	*e*P		**P**	**13 41 02.9**	**+1.5**
UGLR	**Uglovaya**	**3.08**	**87**	P		**P**	**13 41 03.1**	**+1.7**
SDLR	**Sedlovina**	**3.12**	**86**	*e*P		**P**	**13 41 02.6**	**+1.0**
SPN	**Mys Shipunski**	**3.81**	**89**	PN		**P**	**13 41 06.3**	**-0.4**
SPN				S		**S**	**13 42 04.0**	**-4.8**
SPN	**Mys Shipunski**	**3.81**	**89**	*e*P		**P**	**13 41 06.3**	**-0.4**
SPN				*i* S		**S**	**13 42 04.0**	**-4.8**
TUMR	**Tumrok**	**4.33**	**58**	*i* P		**P**	**13 41 13.0**	**+1.9**
KOZ	**Kozyrevsk**	**4.61**	**49**	*e*P		**P**	**13 41 15.5**	**+2.2**
KOZR	**Kozyr**	**4.62**	**49**	PN		**P**	**13 41 15.5**	**+2.1**
SRDR	**Sredinnyy**	**4.70**	**46**	*i* P		**P**	**13 41 16.3**	**+2.1**
KPT	**Kopyto**	**4.71**	**51**	*e*P		**P**	**13 41 16.3**	**+2.0**
KIRR	**Kirishev**	**4.76**	**52**	*e*P		**P**	**13 41 16.5**	**+1.6**
BZMR	**Bezymyannaya**	**4.82**	**52**	*e*P		**P**	**13 41 16.4**	**+1.0**
BZWR	**Bezymyannyi-We**	**4.84**	**52**	*e*P		**P**	**13 41 16.8**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**4.92**	**53**	*e*P		**P**	**13 41 16.3**	**+2.0**
MKZ	**Mys Kozlova**	**4.95**	**71**	PN		**P**	**13 41 15.5**	**-0.9**
MKZ				S		S	13 42 21.6	-5.0
MKZ	**Mys Kozlova**	**4.95**	**71**	*e*P		**P**	**13 41 15.5**	**-0.9**
MKZ				*i* S		S	13 42 21.6	-5.0
LGNR	**Loginova**	**5.00**	**52**	P		**P**	**13 41 19.8**	**+2.7**
KRSR	**Krestovskiy**	**5.01**	**50**	*e*P		**P**	**13 41 18.7**	**+1.6**
ZLN	**Zelenaya**	**5.02**	**53**	P		**P**	**13 41 17.8**	**+0.7**
CIRR	**Tsirk**	**5.04**	**51**	P		**P**	**13 41 18.1**	**+0.7**
KLY	**Klyuchi**	**5.11**	**49**	PN		P	13 41 20.6	+2.8
KLY	**Klyuchi**	**5.11**	**49**	P		P	13 41 20.6	+2.8
BDR	**Baidarnaya**	**5.51**	**49**	*e*P		**P**	**13 41 22.8**	**+1.2**
SRKR	**Sorokina**	**5.54**	**48**	*e*P		**P**	**13 41 23.4**	**+1.5**
SRKR				*e*S		**S**	**13 42 35.7**	**-1.0**
PALN	**Palana**	**6.88**	**28**	P		**P**	**13 41 35.6**	**+0.7**
BKI	**Bering**	**7.48**	**69**	PN		P	13 41 45.0	+3.9
BKI	**Bering**	**7.48**	**69**	P		P	13 41 45.0	+3.9
BKI				*i* S		**S**	**13 43 11.8**	**-0.1**
ASAJ	**Asahikawa**	**11.65**	**223**	P		**P**	**13 42 25.9**	**+0.5**
comp=E,0.6nm,0.3s,baz=105,slow=16,SNR=6.2								
FX1	**Attu Island--F**	**11.72**	**84**	P		**P**	**13 42 27.9**	**+1.8**
comp=E,3.8nm,0.3s,baz=250,slow=16,SNR=12								
ERM	**Erimo**	**13.22**	**217**	*i* PN		**P**	**13 42 39.9**	**-2.2**
YAK	**Yakutsk**	**15.54**	**314**	*e*P		**P**	**13 43 02.9**	**-3.3**
YAK				pmax	pmax			
comp=Z,19nm,0.9s								
YAK				pmax	pmax			
comp=E,7.0nm,1.1s								
BILL	**Bilibino**	**16.08**	**17**	*i* P		**P**	**13 43 11.3**	**-0.5**
BILL				pmax	pmax			
comp=Z,5.0nm,0.7s								
MAT	**Matsushiro**	**19.86**	**219**	P		**P**	**13 43 49.3**	**+0.9**
TIXI	**Tiksi**	**21.50**	**339||**	*e*P		**P**	**13 44 02.3**	**-0.5**
TIXI				pmax	pmax			
comp=Z,7.0nm,2.5s								
KSRS	**Korea Array**	**23.80**	**239**	P		**P**	**13 44 24.9**	**+1.0**
comp=Z,1.7nm,0.8s,baz=48,slow=8.6,SNR=3.9								
ILAR	**Eielson Array**	**31.49**	**45**	P		**P**	**13 45 31.4**	**+0.6**
comp=Z,0.8nm,0.6s,baz=282,slow=10,SNR=15								
ZALV	**Zalesovo Beam**	**39.44**	**300**	P		**P**	**13 46 36.1**	**-1.1**
ZALV				pmax	pmax			
comp=Z,1.0nm,0.3s								
ZALV	**Zalesovo Beam**	**39.44**	**300**	P		**P**	**13 46 36.1**	**-1.1**
comp=Z,0.5nm,0.3s,baz=54,slow=7.3,SNR=2.5								
MKAR	**Makanchi Array**	**44.60**	**292**	*e*P		**P**	**13 47 17.5**	**-0.6**
MKAR	**Makanchi Array**	**44.60**	**292**	P		**P**	**13 47 17.6**	**-0.6**
comp=Z,0.4nm,0.4s,baz=53,slow=6.2,SNR=6.0								
YKA	**Yellowknife Ar**	**45.66**	**40**	P		**P**	**13 47 26.3**	**+0.4**
comp=Z,0.7nm,0.5s,baz=303,slow=7.2,SNR=10								
ARU	**Arti**	**50.65**	**314**	*d* iP		**P**	**13 48 02.5**	**-0.9**
ARU							13 50 04.2	
ARU				S		**S**	**13 54 39.4**	**-1.4**
ARU				pmax	pmax			
comp=Z,9.0nm,2.5s								
PDAR	**Pinedale Array**	**60.78**	**57**	P		**P**	**13 49 15.2**	**+0.8**
comp=Z,0.1nm,0.4s,baz=40,slow=4.8,SNR=3.8								
DPC	**Dobruska-Polom**	**70.77**	**333**	*e*P		**P**	**13 50 19.4**	**+2.9**
DPC	**Dobruska-Polom**	**70.77**	**333**	*e*P		**P**	**13 50 19.4**	**+2.9**
WRA	**Warramunga Arr**	**74.72**	**199**	P		**P**	**13 50 39.0**	**-0.5**
comp=Z,0.4nm,0.7s,baz=12,slow=5.7,SNR=4.1								
ASAR	**Alice Springs**	**78.43**	**199**	P		**P**	**13 51 00.1**	**+0.2**
comp=Z,0.3nm,0.7s,baz=11,slow=5.5,SNR=5.1								
COCO	**West Island**	**81.13**	**236**	*i* P		P	13 51 07.8	-6.4

*IDC **09** 13:48:14.4±1.0, 8.°12S × 128.°62E, h0km, mb4.1/5, mb1 4.1/5, mb1mx3.9/16, mbtmp4.1/5, MS3.0/1, Ms1 3.0/1, ms1mx2.3/31, Error ellipse: s-maj=70.4km s-min=24.2km az=68.0*
*AUST **09** 13:48:15.6, 8.°48S × 128.°55E, h5km*
*ISCJB **09** 13:48:16.8±0.5, 8.°34S±0.°05×128.°58E±0.°08, h33km, mb4.0/5, Error ellipse: s-maj=11.8km s-min=6.7km az=155.0*

ISC 09 13:48:18.8±0.6, 8.°46S±0.°07×128.°74E±0.°07, h35km, n28, σ2°88/25, mb4.1/5, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**4.08**	**17**	P		**Pn**	**13 49 20.7**	**+2.0**
baz=4.2,SNR=3.6								
SOEI	**Soe**	**4.60**	**253**	P		**Pn**	**13 49 28.9**	**+2.9**
baz=4.4,SNR=14								
MTN	**Manton Dam**	**4.95**	**152**	P		**Pn**	**13 49 32.2**	**+1.5**
baz=5.0,SNR=121								
KDU	**Kakadu**	**5.58**	**139**	P		**Pn**	**13 49 40.3**	**+0.9**
baz=5.7,SNR=101								
FAKI	**Fak Fak**	**6.52**	**33**	P		**Pn**	**13 49 52.1**	**-0.2**
baz=6.7,SNR=12								
KNRA	**Kununurra**	**7.17**	**180**	P		**Pn**	**13 50 01.9**	**+0.7**
baz=7.2,SNR=110								
LUWI	**Luwuk**	**9.46**	**321**	S		**Sn**	**13 52 14.9**	**-3.1**
baz=9.4,SNR=3.2								
KAPI	**Kappang**	**9.56**	**290**	LR		LR	13 54 55.9	
comp=Z,104nm,21.5s,baz=305,slow=43								
WRA	**Warramunga Arr**	**12.64**	**155**	Pn		**Pn**	**13 51 13.0**	**-3.2**
1.3nm,0.3s,baz=330,slow=13,SNR=80								
WRA				S		Sn	13 53 28.1	-7.7
3.1nm,0.3s,baz=332,slow=22,SNR=8.1								
COEN	**Coen**	**15.18**	**112**	S		**Sn**	**13 54 33.1**	**-4.6**
baz=15,SNR=4.5								
ASAR	**Alice Springs**	**15.91**	**162**	Pn		**Pn**	**13 51 56.7**	**-3.5**
1.2nm,0.3s,baz=330,slow=9.9,SNR=104								
ASAR				S		**Sn**	**13 54 50.5**	**-5.2**
0.8nm,0.3s,baz=319,slow=23,SNR=4.4								
MTSU	**Mount Surprise**	**17.94**	**124**	P		**P**	**13 52 29.2**	**+3.2**
baz=18,SNR=4.0								
UGM	**Wanagama**	**18.04**	**270**	S		Sn	13 55 16.3	-31
baz=18,SNR=6.5								
MANU	**Manus Island**	**19.61**	**72**	S		Sn	13 56 54.3	+29
baz=20,SNR=3.7								
MEEK	**Meekatharra**	**20.47**	**207**	P		Pn	13 52 55.4	-0.7
baz=20,SNR=5.1								
CISI	**Cisompet, Garu**	**20.74**	**271**	P		**P**	**13 52 55.7**	**-1.0**
baz=20,SNR=5.3								
RABL	**Rabaul**	**23.66**	**81**	S		**S**	**13 57 45.3**	**+5.3**
baz=24,SNR=3.7								
MORW	**Morawa**	**23.73**	**209**	P		**P**	**13 53 29.1**	**+1.3**
baz=25,SNR=6.6								
BBOO	**Buckleboo**	**25.16**	**165**	P		**P**	**13 53 43.8**	**+2.9**
baz=25,SNR=6.6								
STKA	**Stephens Creek**	**26.19**	**155**	P		**P**	**13 53 53.4**	**+3.1**
2.3nm,0.6s,baz=350,slow=11,SNR=5.4								
STKA	**Stephens Creek**	**26.19**	**155**	P		**P**	**13 53 53.8**	**+3.5**
baz=26,SNR=4.3								
SONM	**Songino Array**	**59.44**	**343**	P		**P**	**13 58 17.3**	**-0.8**
0.6nm,0.5s,baz=171,slow=6.8,SNR=3.8								
PETK	**Petropavlovsk-**	**66.09**	**19**	P		**P**	**13 59 01.4**	**-0.8**
1.3nm,0.6s,baz=175,slow=3.7,SNR=4.5								
MKAR	**Makanchi Array**	**68.77**	**328**	P		**P**	**13 59 18.0**	**-1.3**
0.9nm,0.5s,baz=126,slow=7.9,SNR=12								
ZALV	**Zalesovo Beam**	**72.34**	**335**	P		**P**	**13 59 39.2**	**-1.7**
2.9nm,0.7s,baz=122,slow=5.2,SNR=11								
KMBO	**Kilima Mbogo**	**91.31**	**269**	P		**P**	**14 01 21.0**	**-1.0**
baz=91,SNR=14								
TORD	**Torodi Ar. Bea**	**127.85**	**280**	PKP		**PKPdf**	**14 07 23.2**	**+1.4**
0.7nm,0.6s,baz=15,slow=2.4,SNR=5.5								
LPAZ	**La Paz**	**150.28**	**146**	PKPbc		**PKPbc**	**14 08 10.6**	**+2.4**
0.5nm,0.4s,baz=349,slow=3.2,SNR=2.2								

MEX 09 14:23:27.4±0.6, 17.°01N × 99.°91W, h20km ± 17km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.15**	**160**	*i* P		Pb	14 23 30.8	-1.1
ACX				*i* S		Sb	14 23 33.7	-1.3
CAIG	**El Cayaco**	**0.34**	**276**	*i* P		Pb	14 23 33.1	-1.7
CAIG				*i* S		Sb	14 23 38.9	-1.0
MEIG	**Mezcala**	**0.95**	**17**	*i* P		Pb	14 23 42.4	-2.9
MEIG				*i* S		Sb	14 23 53.7	-3.9
ARIG	**Puente Sto Nin**	**1.33**	**342**	*i* P		Pn	14 23 47.7	-3.2
ARIG				*i* S		Sn	14 24 04.4	-3.6
PNIG	**Pinotepa**	**1.82**	**110**	*i* P		Pn	14 23 55.4	-2.2
PNIG				*i* S		Sn	14 24 16.9	-3.2

*MOS **09** 14:24:21.4±1.4, 54.°82N × 167.°68E, h11km, mb4.1/3, Error ellipse: s-maj=16.7km s-min=13.1km az=177.4*
*KRSC **09** 14:24:21.7±0.7, 54.°69N × 167.°61E, h10km ± 10km, ML4.1*
*IDC **09** 14:24:22.0±0.8, 54.°84N × 167.°69E, h0km, mb3.6/8, mb1 3.8/10, mb1mx3.6/28, mbtmp3.5/10, ML3.3/2, Error ellipse: s-maj=21.1km s-min=11.2km az=24.0*

ISC 09 14:24:21.6±1.7, 54.°73N±0.°06×167.°67E±0.°04, h4km ± 10km, n52, σ1°28/67, mb3.6/8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BKI	**Bering**	**1.09**	**297**	PN		**Pb**	**14 24 41.7**	**-1.3**
BKI				S		**Sg**	**14 24 55.6**	**-0.9**
BKI	**Bering**	**1.09**	**297**	P		**Pb**	**14 24 41.7**	**-1.3**
BKI				S		**Sg**	**14 24 55.6**	**-0.9**
KBG	**Krutoberegovo**	**3.21**	**300**	S		**Sn**	**14 25 50.5**	**-0.9**
MKZ	**Mys Kozlova**	**3.45**	**270**	PN		**Pn**	**14 25 15.9**	**-0.2**
MKZ	**Mys Kozlova**	**3.45**	**270**	P		**Pn**	**14 25 15.9**	**-0.2**
MKZ				S		**Sn**	**14 25 55.5**	**-2.0**
FX1	**Attu Island--F**	**3.75**	**117**	Pn		**Pn**	**14 25 19.9**	**-0.3**
7.5nm,0.3s,baz=316,slow=4.9,SNR=35								
FX1				Sn		**Sn**	**14 26 01.8**	**-3.0**
8.5nm,0.3s,baz=93,slow=19,SNR=11								
SMKR	**Semkarok**	**3.97**	**300**	S		**Sn**	**14 26 11.0**	**+0.6**
BDR	**Baidarnaya**	**4.10**	**299**	S		**Sn**	**14 26 13.6**	**+0.1**
ZLN	**Zelenaya**	**4.12**	**291**	P		**Pn**	**14 25 27.2**	**+1.8**
SRKR	**Sorokina**	**4.15**	**300**	S		**Sn**	**14 26 14.7**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**4.16**	**290**	P		**Pn**	**14 25 27.1**	**+1.1**
BZGR				S		**Sn**	**14 26 15.6**	**+0.5**
CIRR	**Tsirk**	**4.18**	**292**	S		**Sn**	**14 26 15.0**	**-0.6**
LGNR	**Loginova**	**4.20**	**292**	S		**Sn**	**14 26 16.6**	**+0.3**
BZMR	**Bezymyannaya**	**4.27**	**289**	P		**Pn**	**14 25 28.7**	**+1.2**
BZMR				S		**Sn**	**14 26 19.1**	**+1.2**
BZWR	**Bezymyannyi-We**	**4.28**	**290**	P		**Pn**	**14 25 28.7**	**+1.1**
BZWR				S		**Sn**	**14 26 18.4**	**+0.4**
KLY	**Klyuchi**	**4.29**	**295**	PN		**Pn**	**14 25 26.6**	**-1.0**
KLY	**Klyuchi**	**4.29**	**295**	P		**Pn**	**14 25 26.6**	**-1.0**
KLY				S		**Sn**	**14 26 14.6**	**-3.5**
KRSR	**Krestovskiy**	**4.31**	**293**	S		**Sn**	**14 26 17.3**	**-1.4**
KIRR	**Kirishev**	**4.36**	**289**	P		**Pn**	**14 25 29.4**	**+0.7**
KIRR				S		**Sn**	**14 26 19.8**	**-0.2**
TUMR	**Tumrok**	**4.37**	**280**	P		**Pn**	**14 25 30.6**	**+1.8**
KMNR	**Kamenistaya**	**4.38**	**287**	P		**Pn**	**14 25 30.1**	**+1.2**
KMNR				S		**Sn**	**14 26 21.5**	**+1.1**
KPT	**Kopyto**	**4.43**	**289**	P		**Pn**	**14 25 31.5**	**+1.9**
KPT				S		**Sn**	**14 26 23.0**	**+1.4**
KOZ	**Kozyrevsk**	**4.64**	**290**	S		**Sn**	**14 26 25.6**	**-1.1**
SRDR	**Sredinnyy**	**4.79**	**293**	S		**Sn**	**14 26 30.4**	**-0.1**
SPN	**Mys Shipunski**	**4.80**	**253**	PN		**Pn**	**14 25 35.6**	**+0.9**
SPN	**Mys Shipunski**	**4.80**	**253**	P		**Pn**	**14 25 35.6**	**+0.9**
SPN				S		**Sn**	**14 26 29.1**	**-1.7**
ESO	**Esso**	**5.26**	**287**	PN		**Pn**	**14 25 42.0**	**+1.0**
ESO	**Esso**	**5.26**	**287**	P		**Pn**	**14 25 42.0**	**+1.0**
SDLR	**Sedlovina**	**5.38**	**258**	P		**Pn**	**14 25 43.9**	**+1.2**
SDLR				S		**Sn**	**14 26 44.8**	**-0.4**
SMAR	**Somma**	**5.43**	**258**	P		**Pn**	**14 25 44.0**	**+0.5**
SMAR				S		**Sn**	**14 26 46.1**	**-0.5**
UGLR	**Uglovaya**	**5.44**	**257**	P		**Pn**	**14 25 44.7**	**+1.2**
UGLR				S		**Sn**	**14 26 46.5**	**0.0**
KRER	**Koryakskii**	**5.45**	**258**	P		Pn	14 25 46.2	+2.5
AVH	**Avacha**	**5.47**	**258**	P		**Pn**	**14 25 44.1**	**+0.2**
AVH				S		**Sn**	**14 26 45.2**	**-2.0**
KOK	**Koryaka**	**5.52**	**259**	P		**Pn**	**14 25 46.4**	**+1.8**
KOK				S		**Sn**	**14 26 48.8**	**+0.3**
PET	**Petropavlovsk**	**5.60**	**256**	ePN		Pn	14 25 48.0	+2.4
PET	**Petropavlovsk**	**5.60**	**256**	P		**Pn**	**14 25 47.1**	**+1.5**
PET				S		**Sn**	**14 26 49.5**	**-0.8**
GNL	**Ganaly**	**5.80**	**264**	P		Pn	14 25 50.9	+2.4
RUS	**Russkaya**	**5.92**	**251**	PN		**Pn**	**14 25 50.4**	**+0.4**
RUS	**Russkaya**	**5.92**	**251**	P		**Pn**	**14 25 50.4**	**+0.4**
RUS				S		**Sn**	**14 26 55.2**	**-3.0**
MTVR	**Mutnovka**	**6.08**	**252**	P		**Pn**	**14 25 53.9**	**+1.6**
MTVR				S		**Sn**	**14 27 00.9**	**-1.4**
PETK	**Petropavlovsk-**	**6.11**	**259**	PN		Pn	14 25 55.4	+2.8
PETK				pmax	pmax			
comp=Z,1.0nm,0.3s								
PETK	**Petropavlovsk-**	**6.11**	**259**	Pn		Pn	14 25 55.4	+2.8
comp=Z,0.6nm,0.3s,baz=75,slow=17,SNR=28								
PETK				Sn		**Sn**	**14 27 04.3**	**+1.3**
comp=Z,0.7nm,0.3s,baz=72,slow=37,SNR=3.8								
ASAK	**Asacha**	**6.28**	**252**	P		Pn	14 25 58.0	+3.0
ASAK				S		**Sn**	**14 27 08.9**	**+1.7**
ILAR	**Eielson Array**	**24.44**	**48**	P		**P**	**14 29 40.9**	**-0.1**
comp=Z,0.6nm,0.8s,baz=262,slow=11,SNR=7.2								
INK	**Inuvik**	**29.79**	**40**	P		**P**	**14 30 29.6**	**+0.7**
comp=Z,0.9nm,0.7s,baz=304,slow=6.3,SNR=2.7								
SONM	**Songino Array**	**37.83**	**286**	P		**P**	**14 31 40.4**	**+1.2**
comp=Z,0.4nm,0.6s,baz=74,slow=8.4,SNR=2.8								
YKA	**Yellowknife Ar**	**38.86**	**46**	P		**P**	**14 31 47.9**	**+0.5**
comp=Z,0.4nm,0.6s,baz=298,slow=8.5,SNR=4.5								
MKAR	**Makanchi Array**	**51.39**	**299**	P		**P**	**14 33 26.2**	**-1.0**
MKAR	**Makanchi Array**	**51.39**	**299**	P		**P**	**14 33 26.2**	**-1.0**
comp=Z,0.3nm,0.6s,baz=55,slow=5.5,SNR=2.6								
NOA	**NORSAR Array B**	**63.08**	**347**	P		**P**	**14 34 49.3**	**-0.3**
comp=Z,1.0nm,0.8s,baz=22,slow=9.1,SNR=2.7								
TXAR	**Lajitas Array**	**65.87**	**73**	P		**P**	**14 35 09.6**	**+1.1**
comp=Z,0.3nm,0.6s,baz=309,slow=5.4,SNR=5.3								
ASAR	**Alice Springs**	**83.28**	**211**	P		P	14 36 51.3	+2.0
comp=Z,0.6nm,0.8s,baz=12,slow=5.5,SNR=4.9								

ROM 09 14:56:31.9±0.2, 42.°58N × 13.°15E, h12km ± 3km, MI1.6/5, Error ellipse: s-maj=1.5km s-min=1.2km az=76.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LNSS	**Leonessa**	**0.09**	**285**		Pg	Pg	14 56 35.1	+0.3
LNSS					Sg	Sg	14 56 37.0	+0.1
CAMP	**Campotosto**	**0.20**	**103**		Pg	Pg	14 56 36.7	+0.3
45nm,0.7s								
NRCA	**Norcia**	**0.25**	**354**		Pg	Pg	14 56 37.8	+0.4
NRCA					Sg	Sg	14 56 42.0	+0.9
FIAM	**Fiamignano**	**0.31**	**185**		Pg	Pg	14 56 38.8	+0.3
FIAM					Sg	Sg	14 56 43.7	+0.8
50nm,0.5s								
TERO	**Teramo**	**0.34**	**83**		Pg	Pg	14 56 38.9	+0.1
57nm,0.2s								

*CSEM **09** 14:56:39.2, 42.°24N × 13.°52E, h9km, After ROM*

ROM 09 14:56:39.2±0.1, 42.°24N × 13.°52E, h9km, MI1.5/2, Error ellipse: s-maj=1.0km s-min=1.0km az=93.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FAGN	**Fagnano**	**0.05**	**63**		Pg	Pg	14 56 41.3	+0.2
FAGN					Sg	Sg	14 56 42.6	+0.1
4µm,0.3s								
FAGN	**Fagnano**	**0.05**	**63**		Pg	Pg	14 56 41.3	+0.2
FAGN					Sg	Sg	14 56 42.6	+0.1
4µm,0.3s								
AQU	**L'Aquila**	**0.14**	**321**		Pg	Pg	14 56 42.9	+0.5
AQU					Sg	Sg	14 56 45.4	+0.7
AQU	**L'Aquila**	**0.14**	**321**		Pg	Pg	14 56 42.9	+0.5
AQU					Sg	Sg	14 56 45.4	+0.7
PTQR	**Pietraquaria**	**0.24**	**202**		Pg	Pg	14 56 44.9	+0.7
PTQR					Sg	Sg	14 56 48.7	+1.2
21nm,0.2s								
PTQR	**Pietraquaria**	**0.24**	**202**		Pg	Pg	14 56 44.9	+0.7
PTQR					Sg	Sg	14 56 48.7	+1.2
21nm,0.2s								
VCEL	**Villa Celiera**	**0.28**	**57**		Pg	Pb	14 56 46.0	-0.6
VCEL					Sg	Sb	14 56 50.6	-1.0
VCEL	**Villa Celiera**	**0.28**	**57**		Pg	Pb	14 56 46.0	-0.6
VCEL					Sg	Sb	14 56 50.6	-1

baz=6.7,SNR=31
MTN S **S** **15 16 26.5 -4.7**
baz=6.7,SNR=3.5
KDU Kakadu 7.07 151 P **Pn** **15 15 18.0 +0.5**
baz=7.1,SNR=12
WSI Waingapu 9.12 249 S S 15 17 39.5 +13
baz=9.2,SNR=3.9
KNRA Kununurra 9.12 181 P **Pn** **15 15 43.4 +0.7**
baz=9.2,SNR=7.9
KNRA S **S** **15 17 27.9 +1.6**
baz=9.2,SNR=3.7
FITZ Fitzroy Crossi 11.97 195 P **P** **15 16 20.3 +1.3**
0.1nm,0.3s,baz=30,slow=14,SNR=9.0
FITZ S **S** **15 18 29.9 -1.0**
0.1nm,0.3s,baz=330,slow=20,SNR=3.7
WRA Warramunga Arr 14.36 159 P **Pn** **15 16 47.6 +1.4**
0.1nm,0.3s,baz=337,slow=13,SNR=14
ASAR Alice Springs 17.72 165 P **Pn** **15 17 26.4 +0.7**
0.2nm,0.3s,baz=345,slow=11,SNR=33
MKAR Makanchi Array 67.24 327 P **P** **15 23 57.5 -0.3**
0.5nm,0.4s,baz=116,slow=7.9,SNR=12

*CSEM **09** 15:20:20.5±0.2,39.59N×33.27E,h2km,MD2.7,Error ellipse: s-maj=6.5km s-min=5.0km az=63.0*

ISK 09 15:20:19.8,39.58N×33.24E,h5km,MD2.7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Afar-Bala (A**	**0.19**	**224**	*e*PG	Pg	15 20 24.4	+0.7
AFSR	**Afar-Bala (A**	**0.19**	**224**	*e*Pg	Pg	15 20 24.4	+0.7
ANTO	**Ankara**	**0.45**	**310**	*e*PG	Pb	15 20 29.7	-0.6
ANTO				*e*SG	Sb	15 20 37.3	-0.1
ANTO	**Ankara**	**0.45**	**310**	*e*Pg	Pb	15 20 29.7	-0.6
ANTO				*e*Sg	Sb	15 20 37.3	-0.1
LOD	**Lodumlu**	**0.48**	**310**	*e*PG	Pg	15 20 30.0	+0.8
LOD	**Lodumlu**	**0.48**	**310**	*e*Pg	Pg	15 20 30.0	+0.8
CORM	**Corum**	**1.22**	**60**	*e*PN	Pn	15 20 44.3	+0.6
CORM	**Corum**	**1.22**	**60**	*e*Pn	Pn	15 20 44.3	+0.6
KIZT	**Kizilcal**	**1.27**	**237**	*e*PN	Pb	15 20 45.1	+0.7
KIZT	**Kizilcal**	**1.27**	**237**	*e*Pn	Pb	15 20 45.1	+0.7
SVRH	**Sivrihisar-ESK**	**1.34**	**265**	*e*PN	Pg	15 20 46.4	+0.8
SVRH	**Sivrihisar-ESK**	**1.34**	**265**	*e*Pn	Pg	15 20 46.4	+0.8
SULT	**Sultanhani-AKS**	**1.40**	**171**	*e*Pn	Pg	15 20 47.5	+0.7
SULT	**Sultanhani-AKS**	**1.40**	**171**	*e*PN	Pg	15 20 47.5	+0.7
LADK	**Ladik-KONYA**	**1.54**	**207**	*e*PN	Pg	15 20 49.6	+0.1
LADK	**Ladik-KONYA**	**1.54**	**207**	*e*Pn	Pg	15 20 49.6	0.0
KONT	**Konya--Tatoy**	**1.78**	**203**	*e*Pn	Pb	15 20 53.1	+0.2
KONT	**Konya--Tatoy**	**1.78**	**203**	*e*Pn	Pb	15 20 53.1	+0.2

KRSC 09 15:29:43.4±1.2,50.40N×157.98E,h58km±57km,ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.22**	**284**	P	Pn	15 30 03.5	-0.7
SKR				S	Sn	15 30 18.4	-1.4
PAU	**Pauzhetka**	**1.30**	**326**	P	Pn	15 30 07.1	+1.8
PAU				S	Sn	15 30 24.5	+2.8
ASAK	**Asacha**	**1.99**	**359**	P	Pn	15 30 16.9	+2.2
MIPR	**Malaya Ipel'ka**	**2.03**	**338**	P	Pn	15 30 17.3	+2.1
RUS	**Russkaya**	**2.06**	**9**	P	Pn	15 30 17.5	+1.9
RUS				S	Sn	15 30 42.5	+2.3
MTVR	**Mutnovka**	**2.09**	**3**	P	Pn	15 30 18.5	+2.3
MTVR				S	Sn	15 30 43.9	+2.7
APC	**Apacha**	**2.58**	**349**	P	Pn	15 30 25.2	+2.5
UGLR	**Uglovaya**	**2.86**	**10**	P	Pn	15 30 28.5	+1.8
NLC	**Nalytchevo**	**2.90**	**16**	S	Sn	15 31 01.9	+1.2
AVH	**Avacha**	**2.91**	**9**	P	Pn	15 30 30.1	+2.8
AVH				S	Sn	15 31 04.6	+3.5
SMAR	**Somma**	**2.91**	**10**	P	Pn	15 30 29.1	+1.6
KOK	**Koryaka**	**2.92**	**8**	P	Pn	15 30 30.0	+2.4
KOK				S	Sn	15 31 04.3	+2.7
SDLR	**Sedlovina**	**2.94**	**11**	P	Pn	15 30 29.7	+2.0
SDLR				S	Sn	15 31 03.6	+1.7
KRER	**Koryakskii**	**2.95**	**9**	P	Pn	15 30 30.9	+2.9
SPN	**Mys Shipunski**	**2.98**	**24**	P	Pn	15 30 30.9	+2.7
SPN				S	Sn	15 31 05.5	+2.7
GNL	**Ganaly**	**3.30**	**360**	P	Pn	15 30 36.1	+3.4
GNL				S	Sn	15 31 14.6	+3.8
MKZ	**Mys Kozlova**	**4.75**	**27**	P	Pn	15 30 54.3	+1.9
MKZ				S	Sn	15 31 47.0	+1.0

*IDC **09** 15:34:03.4±2.8,4.97S×133.10E,h0km,mb3.8/1, mb1 4.0/4,mb1mx3.7/17,mbtmp3.9/4,ML3.6/3,Error ellipse: s-maj=121.8km s-min=28.6km az=81.0*
*ISCJB **09** 15:34:04.3±1.2,4.88S±0.06×133.7E±0.2,h33km,mb3.8/1, Error ellipse: s-maj=22.5km s-min=7.9km az=177.8*
*AUST **09** 15:34:11.8,4.96S×133.03E,h60km*

ISC 09 15:34:06.2±1.6,4.81S±0.08×133.7E±0.2,h35km,n10, σ1ᵍ94/13,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.39**	**321**	P	**Pn**	**15 34 42.1**	**-0.9**
	baz=2.2,SNR=15						
KDU	**Kakadu**	**7.93**	**189**	P	**Pn**	**15 35 59.9**	**+0.8**
	baz=7.7,SNR=14						
KDU				S	**Sn**	**15 37 28.4**	**+0.7**
	baz=7.7,SNR=3.7						
MTN	**Manton Dam**	**8.39**	**198**	P	**Pn**	**15 36 06.2**	**+0.7**
	baz=8.1,SNR=30						
MTN				S	**Sn**	**15 37 38.8**	**-0.2**
	baz=8.1,SNR=3.9						
SOEI	**Soe**	**10.61**	**242**	P	**Pn**	**15 36 37.5**	**+1.6**
	baz=9.9,SNR=3.5						
KNRA	**Kununurra**	**11.86**	**204**	P	**Pn**	**15 36 53.1**	**+0.2**
	baz=12,SNR=21						
KNRA				S	**Sn**	**15 39 04.0**	**-0.2**
	baz=12,SNR=5.3						
WRA	**Warramunga Arr**	**15.06**	**178**	Pn	**Pn**	**15 37 34.0**	**-2.6**
	0.2nm,0.3s,baz=355,slow=14,SNR=10						
WRA				Sn	Sn	15 40 13.1	-9.2
	0.2nm,0.3s,baz=354,slow=24,SNR=4.9						
FITZ	**Fitzroy Crossi**	**15.41**	**210**	Pn	**Pn**	**15 37 37.4**	**-3.7**
	0.3nm,0.3s,baz=54,slow=11,SNR=8.7						
FITZ				Sn	Sn	15 40 21.5	-9.3
	0.2nm,0.3s,baz=165,slow=16,SNR=5.1						
FITZ	**Fitzroy Crossi**	**15.41**	**210**	P	**Pn**	**15 37 37.8**	**-3.3**
	baz=15,SNR=7.0						
FITZ				S	Sn	15 40 21.8	-9.0
	baz=15,SNR=6.2						
ASAR	**Alice Springs**	**18.75**	**180**	P	**P**	**15 38 22.8**	**+0.5**
	0.4nm,0.3s,baz=359,slow=8.7,SNR=45						
MKAR	**Makanchi Array**	**68.52**	**325**	P	**P**	**15 45 06.3**	**+1.1**
	0.7nm,0.6s,baz=114,slow=8.2,SNR=8.9						

*ISCJB **09** 15:45:55.2±0.9,67.18N±0.04×21.1E±0.1,h0km,Error ellipse: s-maj=6.8km s-min=5.3km az=174.8*
*HEL **09** 15:45:55.2±0.5,67.15N×20.60E,h0km,ML1.7,Explosion*
*IDC **09** 15:45:57.8±1.0,67.13N×21.57E,h0km,mb1 2.9/3, mb1mx2.8/27,mbtmp2.8/3,ML2.3/3,Error ellipse: s-maj=17.1km s-min=7.1km az=108.0*

ISC 09 15:45:56.3±1.1,67.16N±0.04×21.09E±0.06,h0km,n10, σ1ᵍ36/16,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.95**	**21**	PG	**Pg**	**15 46 12.9**	**-1.7**
LANU				SG	**Sg**	**15 46 27.0**	**+0.1**
HEF	**Hetta**	**1.59**	**37**	PG	**Pn**	**15 46 25.5**	**-0.1**
	baz=215						
HEF				SG	**Sg**	**15 46 47.7**	**+0.5**
HEF				MSG		15 46 47.7	
	comp=Z,4.3nm,0.4s						
KIF	**Kilpisjarvi**	**1.85**	**357**	SG	**Sg**	**15 46 55.5**	**-0.3**
KIF				MSG		15 46 55.5	
	comp=Z,1.1nm,0.1s						
RNF	**Rovaniemi**	**2.02**	**104**	PN	**Pb**	**15 46 34.1**	**+0.3**
	baz=286						
RNF				SG	**Sg**	**15 47 02.4**	**+1.3**
RNF				MSG		15 47 02.4	
	comp=Z,4.2nm,0.4s						
SGF	**Sodankyl**	**2.13**	**80**	PN	**Pb**	**15 46 35.7**	**+0.1**
	baz=264						
SGF				SG	**Sg**	**15 47 05.6**	**+1.1**
SGF				MSG		15 47 05.6	
	comp=Z,7.9nm,0.4s						
ARA0	**ARCESS Array S**	**2.89**	**32**	PN	**Pn**	**15 46 43.8**	**+0.2**
	baz=216						
ARCES	**ARCESS Array B**	**2.89**	**32**	Pn	**Pn**	**15 46 44.1**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=212,slow=15,SNR=11						
ARCES				Sn	**Sn**	**15 47 20.4**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=216,slow=22,SNR=6.5						
ARCES				Lg	Lg	15 47 25.9	
	comp=Z,1.1nm,0.3s,baz=223,slow=29,SNR=10						
VRF	**Varrio**	**3.33**	**76**	SG	**Sg**	**15 47 42.2**	**-1.1**
VRF				MSG		15 47 42.2	
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**6.13**	**157**	Pn	**Pn**	**15 47 29.1**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=345,slow=15,SNR=5.3						
FINES				Sn	**Sn**	**15 48 35.6**	**-3.2**
	comp=Z,0.3nm,0.3s,baz=351,slow=24,SNR=6.1						
FINES				Lg	Lg	15 49 08.2	
	comp=Z,0.3nm,0.3s,baz=342,slow=26,SNR=3.1						
NOA	**NORSAR Array B**	**7.50**	**220**	Pn	**Pn**	**15 47 48.6**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=58,slow=10,SNR=2.6						
NOA				Sn	Sn	15 49 04.9	-7.7
	comp=Z,0.1nm,0.3s,baz=56,slow=21,SNR=2.5						
NOA				Lg	Lg	15 49 54.2	
	comp=Z,0.2nm,0.3s,baz=42,slow=22,SNR=2.8						

DJA 09 15:48:34.7±0.5,1.1N±3.3×12.7E±,h46km±8km,M3.5/5, MLv3.5/5,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.51**	**177**	P	Pn	15 48 46.1	+0.3
TNTI				S	Sn	15 48 56.8	+3.1
GAMI	**Galela, Maluku**	**0.71**	**39**	P	Pn	15 48 49.8	+1.3
GAMI				S	Sn	15 49 00.0	+1.5
LBMI	**Labuha**	**1.91**	**175**	P	Pn	15 49 05.1	+0.2
LBMI				S	Sn	15 49 28.3	+0.6
MNI	**Manado**	**2.50**	**274**	P	Pn	15 49 12.8	-0.2
KMSI	**Cibinong**	**3.43**	**258**	P	Pn	15 49 25.6	-0.1

*IDC **09** 16:04:20.3±0.6,17.80S×167.07E,h0km,mb4.5/16, mb1 4.7/17,mb1mx4.6/21,mbtmp4.5/17,ML4.8/1,MS3.8/15, Ms1 3.8/15,ms1mx3.7/25,Error ellipse: s-maj=21.2km s-min=16.0km az=122.0*
*NOU **09** 16:04:22.9±0.7,17.75S×167.11E,h30km,MD3.2,ML4.0*
*ISCJB **09** 16:04:23.8±0.2,18.01S±0.03×167.10E±0.05,h33km, mb4.7/54,MS3.9/16,Error ellipse: s-maj=6.6km s-min=3.9km az=14.5*
*MOS **09** 16:04:24.5±1.1,17.78S×167.01E,h33km,mb5.2/13,Error ellipse: s-maj=12.2km s-min=10.0km az=170.5*
*BJI **09** 16:04:25.9,17.72S×167.55E,h61km,mB4.9/15,mb4.8/27, Ms5.0/11,Ms7 4.6/12*
*NEIC **09** 16:04:28.3±1.0,17.78S×167.02E,h57km±8km,mb4.9/21, Error ellipse: s-maj=9.2km s-min=6.0km az=158.0*
*AUST **09** 16:04:52.2,18.95S×166.31E,h200km*

ISC 09 16:04:28.2±0.5,18.06S±0.05×167.12E±0.07,h59km±3km, n255,σ1ᵍ20/258,mb4.8/52,MS3.8/17,24C-28D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.04**	**189**	*e*Pn	**Pn**	**16 05 25.7**	**-2.0**
	207nm,0.2s						
DZM				*e*Sn	**Sn**	**16 06 12.8**	**-1.1**
	610nm,0.2s						
DZM	**Mont Dzumac**	**4.04**	**189**	Pn	**Pn**	**16 05 25.5**	**-2.2**
DZM				Sn	**Sn**	**16 06 12.3**	**-1.6**
DZM	**Mont Dzumac**	**4.04**	**189**	Pn	**Pn**	**16 05 25.5**	**-2.2**
	55nm,0.3s,baz=270,slow=24,SNR=564						
DZM				Sn	**Sn**	**16 06 12.3**	**-1.6**
	111nm,0.3s,baz=102,slow=23,SNR=12						
DZM				LR	LR	16 06 56.8	
	comp=Z,2μm,19.3s,baz=0.0,slow=36						
BAYA	**Yate Dam**	**4.08**	**183**	*e*P	**Pn**	**16 05 25.7**	**-2.4**
BAYA				*e*S	**Sn**	**16 06 13.4**	**-1.3**
BAYA				AMP		16 06 20.6	
	comp=Z,47nm,6.3s						
NOUC	**Port Laguerre**	**4.10**	**191**	*e*P	**Pn**	**16 05 26.5**	**-1.9**
NOUC				*e*S	**Sn**	**16 06 12.6**	**-2.4**
NOUC				AMP		16 06 18.1	
	comp=Z,298nm,3.6s						
LASL	**Noumea**	**4.19**	**187**	*e*P	**Pn**	**16 05 27.6**	**-1.9**
LASL				*e*S	**Sn**	**16 06 15.4**	**-1.9**
LASL				AMP		16 06 20.4	
	comp=Z,1μm,2.1s						
MSVF	**Nonsavu**	**10.41**	**90**	*e*P	**Pn**	**16 06 55.9**	**+1.1**
MSVF				pmax	pmax		
	comp=Z,106nm,1.0s						
MSVF	**Nonsavu**	**10.41**	**90**	*e*P	**Pn**	**16 06 55.9**	**+1.1**
	comp=Z,106nm,1.0s						
HNR	**Honiara**	**11.05**	**320**	*e*P	Pn	16 06 59.7	-3.8
	comp=Z,314nm,0.8s						
EIDS	**Eidsvold**	**16.58**	**241**	P	**P**	**16 08 18.7**	**+0.3**
	baz=16,SNR=5.6						
RAO	**Raoul Island**	**17.64**	**132**	LR	LR	16 14 04.6	
	comp=Z,402nm,20.1s,baz=125,slow=33						
ARMA	**Armidale**	**18.71**	**226**	P	**Pn**	**16 08 44.3**	**+1.3**
RMQ	**Roma**	**18.94**	**240**	P	**Pn**	**16 08 47.6**	**+1.9**
	baz=18,SNR=5.4						
CTA	**Charters Tower**	**19.83**	**261**	P	**P**	**16 08 55.2**	**+1.0**
CTA	**Charters Tower**	**19.83**	**261**	P	**P**	**16 08 55.2**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=78,slow=14,SNR=3.1						
CTAO	**Charters Tower**	**19.83**	**261**	*e*P	**P**	**16 08 55.3**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,39nm,1.3s						
CTAO	**Charters Tower**	**19.83**	**261**	*e*P	**P**	**16 08 55.3**	**+1.0**
	comp=Z,39nm,1.3s						
AFI	**Afiamalu**	**20.70**	**82**	LR	LR	16 15 13.6	
	comp=Z,231nm,19.6s,baz=257,slow=32						
PMG	**Port Moresby**	**21.20**	**291**	LR	LR	16 16 21.0	
	comp=Z,354nm,18.1s,baz=157,slow=34						
MTSU	**Mount Surprise**	**21.68**	**266**	P	P	16 09 22.0	+7.8
	baz=21,SNR=4.8						
URZ	**Urewera**	**21.94**	**159**	P	**P**	**16 09 20.1**	**+3.3**
URZ	**Urewera**	**21.94**	**159**	P	**P**	**16 09 19.8**	**+3.0**
	comp=Z,8.8nm,0.7s,baz=355,slow=7.7,SNR=7.1						
URZ				LR	LR	16 16 41.0	
	comp=Z,196nm,18.8s,baz=5.1,slow=33						
YNG	**Young**	**23.26**	**222**	P	**P**	**16 09 32.1**	**+1.4**
	baz=22,SNR=7.5						
CNB	**Canberra Magne**	**23.33**	**219**	P	**P**	**16 09 32.9**	**+1.5**
	baz=22,SNR=12						
CMSA	**Cobar Meteorol**	**23.58**	**231**	P	**P**	**16 09 34.5**	**+0.8**
	baz=22,SNR=15						
RPZ	**Rata Peaks**	**25.80**	**173**	LR	LR	16 18 32.3	
	comp=Z,205nm,19.6s,baz=27,slow=33						
STKA	**Stephens Creek**	**26.84**	**234**	*e*P	**P**	**16 10 04.0**	**+0.7**
STKA	**Stephens Creek**	**26.84**	**234**	P	**P**	**16 10 03.9**	**+0.6**
	comp=Z,5.0nm,0.5s,baz=65,slow=9.9,SNR=32						
STKA				LR	LR	16 19 55.1	
	comp=Z,248nm,19.4s,baz=37,slow=35						
STKA	**Stephens Creek**	**26.84**	**234**	P	**P**	**16 10 04.3**	**+1.0**
	baz=26,SNR=24						
WRA	**Warramunga Arr**	**31.03**	**261**	P	**P**	**16 10 39.5**	**-1.1**
WRA	**Warramunga Arr**	**31.03**	**261**	P	**P**	**16 10 39.5**	**-1.1**
	comp=Z,2.0nm,0.5s,baz=81,slow=6.1,SNR=39						
RAR	**Rarotonga**	**31.31**	**101**	LR	LR	16 19 31.2	
	comp=Z,216nm,20.4s,baz=4.9,slow=29						
AS31	**Alice Springs**	**31.49**	**254**	*e*P	**P**	**16 10 43.7**	**-1.0**
ASAR	**Alice Springs**	**31.49**	**254**	P	**P**	**16 10 43.9**	**-0.8**
ASAR	**Alice Springs**	**31.49**	**254**	P	**P**	**16 10 43.9**	**-0.8**
	comp=Z,1.9nm,0.4s,baz=83,slow=8.7,SNR=91						
ASAR				LR	LR	16 23 16.2	
	comp=Z,372nm,19.5s,baz=111,slow=36						
BBOO	**Buckleboo**	**31.53**	**236**	P	**P**	**16 10 45.5**	**+0.6**
	baz=30,SNR=7.9						
FITZ	**Fitzroy Crossi**	**39.38**	**263**	P	**P**	**16 11 52.4**	**+0.1**
	baz=38,SNR=9.7						
TBI	**Tubuai**	**40.84**	**105**	*e*LR	LR	16 23 26.4	
	comp=Z,110nm,25.2s						
PPT2	**Papeete2**	**41.16**	**96**	*e*S	S	16 18 27.5	+11
	comp=Z,55nm,28.5s						
PPT2				*e*LR	LR	16 23 35.1	
	comp=Z,192nm,24.8s						
KMBL	**Kambalda**	**42.90**	**243**	P	**P**	**16 12 21.0**	**-0.1**
	baz=42,SNR=8.7						
MEEK	**Meekatharra**	**45.45**	**250**	P	**P**	**16 12 41.6**	**0.0**
	baz=44,SNR=7.6						
KLBR	**Kellerberrin**	**46.43**	**243**	P	**P**	**16 12 48.6**	**-0.6**
	baz=45,SNR=11						
MORW	**Morawa**	**47.77**	**247**	P	**P**	**16 12 59.5**	**-0.2**
	baz=47,SNR=4.8						
VNDA	**Vanda**	**59.55**	**181**	P	**P**	**16 14 28.1**	**+3.0**
VNDA	**Vanda**	**59.55**	**181**	P	**P**	**16 14 28.1**	**+3.0**
	comp=Z,1.8nm,1.1s,baz=52,slow=4.5,SNR=3.5						
VNDA				LR	LR	16 37 02.2	
	comp=Z,59nm,20.0s,baz=337,slow=33						
ASAJ	**Asahikawa**	**65.81**	**341**	LR	LR	16 41 37.9	
	comp=Z,51nm,18.4s,baz=191,slow=34						
COCO	**West Island**	**67.77**	**264**	*i* P	**P**	**16 15 21.0**	**+0.7**
USRK	**Ussuriysk Arra**	**69.78**	**334**	P	**P**	**16 15 31.6**	**-0.5**
	comp=Z,4.6nm,1.0s,baz=156,slow=5.0,SNR=5.5						
WHN	**Wuhan**	**70.08**	**313**	P	**P**	**16 15 33.4**	**-0.8**
PSI	**Prapat**	**70.25**	**280**	P	**P**	**16 15 34.3**	**-1.5**
PSI	**Prapat**	**70.25**	**280**	P	**P**	**16 15 34.3**	**-1.5**
	comp=Z,4.9nm,0.3s,baz=174,slow=2.5,SNR=6.6						
SKNT	**Sakolnakorn**	**71.22**	**296**	P	**P**	**16 15 41.7**	**+0.2**
	comp=Z,24nm,1.3s,comp=Z,984nm						
PETK	**Petropavlovsk-**	**71.33**	**354**	P	**P**	**16 15 40.8**	**-0.6**
PETK	**Petropavlovsk-**	**71.33**	**354**	P	**P**	**16 15 40.8**	**-0.6**
PETK	**Petropavlovsk-**	**71.33**	**354**	P	**P**	**16 15 40.8**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=176,slow=8.6,SNR=6.5						
PETK				LR	LR	16 41 26.9	
	comp=Z,41nm,21.1s,baz=346,slow=31						
CN2	**Changchun**	**72.42**	**330**	*e*P	**P**	**16 15 49.8**	**+1.7**
CN2				*e*sP	**sP**	**16 16 10.5**	**-0.4**
CN2				*e*S	**S**	**16 25 07.7**	**+0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,18.0s						
CN2				LR	LR		
	comp=E,400nm,18.0s						
CN2				LR	LR		
	comp=Z,600nm,19.0s						
ENH	**Enshi**	**73.38**	**310**	*e*P	**P**	**16 15 52.6**	**-1.6**
	comp=Z,3.4nm,0.6s						
GYA	**Guiyang**	**73.50**	**306**	*e*P	**P**	**16 15 56.0**	**+0.9**
GYA				pP	**pP**	**16 16 11.2**	**-0.2**
GYA				sP	**sP**	**16 16 18.0**	**+0.1**
GYA				PP	**PP**	**16 18 41.4**	**+1.6**
GYA				SKS	**SKSac**	**16 25 51.8**	**-5.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.0s						
PBKT	**Sadao Pong**	**73.65**	**294**	P	**P**	**16 15 56.9**	**+1.0**
	comp=Z,12nm,1.2s						
LOEI	**Loei**	**73.79**	**295**	P	**P**	**16 15 55.6**	**-1.2**
	comp=Z,42nm,0.7s						
NANT	**Nan**	**74.82**	**296**	P	**P**	**16 16 03.8**	**+1.0**
	comp=Z,36nm,1.0s						
LAMP	**Lampang**	**75.62**	**295**	P	**P**	**16 16 08.9**	**+1.5**
	comp=Z,5.7nm,0.9s						
CRAI	**Chiangrai**	**75.71**	**297**	P	**P**	**16 16 09.9**	**+2.0**
XAN	**Xi'an**	**75.84**	**313**	P	**P**	**16 16 07.9**	**-0.5**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMI	**Kunming**	**75.95**	**303**	P	**P**	**16 16 10.1**	**+0.7**
KMI				pP	**pP**	**16 16 25.2**	**-0.6**
KMI				pmax	pmax		
	comp=Z,25nm,1.2s						
CMAR	**Chiang Mai Arr**	**76.19**	**295**	P	**P**	**16 16 11.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**76.19**	**295**	P	**P**	**16 16 11.8**	**+1.2**
	comp=Z,6.5nm,0.8s,baz=131,slow=4.5,SNR=49						
CMMT	**Chiang Mai**	**76.33**	**295**	P	**P**	**16 16 12.0**	**+0.6**
	comp=Z,13nm,0.9s						
CD2	**Chengdu**	**77.93**	**308**	P	**P**	**16 16 21.1**	**+0.9**
CD2				PcP	**PcP**	**16 16 31.2**	**+1.4**
CD2				pP	**pP**	**16 16 36.7**	**+0.1**
CD2				sP	**sP**	**16 16 43.0**	**-0.1**
CD2				PP	**PP**	**16 19 19.3**	**+2.2**
CD2				S	**S**	**16 26 08.2**	**-1.1**
CD2				SKS	**SKSac**	**16 26 24.8**	**-4.6**
CD2				sS	**ScS**	**16 26 34.9**	**0.0**
CD2				SS	**SS**	**16 31 12.2**	**+0.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.6s						
MAW	**Mawson**	**78.77**	**202**	P	**P**	**16 16 24.9**	**+0.8**
MAW	**Mawson**	**78.77**	**202**	P	**P**	**16 16 24.9**	**+0.8**
	comp=Z,2.3nm,1.0s,baz=122,slow=5.9,SNR=3.9						
MAW				LR	LR	16 45 36.5	
	comp=Z,75nm,18.2s,baz=105,slow=31						
LZH	**Lanzhou**	**80.45**	**313**	*e*P	**P**	**16 16 35.0**	**+1.0**
LZH				pP	**pP**	**16 16 51.5**	**+1.0**
LZH				sP	**sP**	**16 16 58.3**	**+1.3**
LZH				*e*PP	**PP**	**16 19 41.0**	**+2.9**
LZH				*e*S	**S**	**16 26 35.3**	**-0.8**
LZH				pmax	pmax		
	comp=Z,23nm,1.5s						
LZH				pmax	pmax		
	comp=Z,100nm,7.0s						
LZH				LR	LR		
	comp=N,260nm,16.5s						
LZH				LR	LR		
	comp=E,260nm,17.2s						
LZH				LR	LR		
	comp=Z,310nm,19.6s						
SEY	**Seymchan**	**81.55**	**353**	⇓*e*P	**P**	**16 16 38.9**	**-0.1**
OHAK	**Old Harbor**	**81.94**	**20**	*e*P	**P**	**16 16 40.3**	**-0.9**
	comp=Z,2.0nm,1.0s						
KDAK	**Kodiak Island**	**82.61**	**20**	*e*P	**P**	**16 16 43.6**	**-1.0**
	comp=Z,10nm,0.9s						
KDAK	**Kodiak Island**	**82.61**	**20**	P	**P**	**16 16 44.0**	**-0.7**
	comp=Z,10.0nm,0.9s,baz=61,slow=2.8,SNR=7.5						
GTA	**Gaotai**	**84.86**	**314**	*e*P	**P**	**16 16 57.0**	**+0.2**
GTA				pP	**pP**	**16 17 11.6**	**-1.8**
GTA				sP	**sP**	**16 17 18.7**	**-1.2**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
YAK	**Yakutsk**	**85.16**	**343**	*e*P	P	16 16 54.2	-3.3
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,17nm,1.0s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.3s						
BILL	**Bilibino**	**85.85**	**360**	*c i* P	**P**	**16 17 00.0**	**-0.9**
BILL				*e**PP	**PcP**	**16 17 08.5**	**+4.9**
BILL				pmax	pmax		
	comp=Z,20nm,1.6s						
TRF	**Thorofare Moun**	**87.73**	**18**	*e*P	**P**	**16 17 07.4**	**

BELC	Belle Mtn. Jos	89.55	54	⇓P		P	16 17 19.7	+0.1
	baz=90,SNR=10							
MOD	Modoc	89.56	45	*e*P		P	16 17 19.2	-0.2
	comp=Z,2.7nm,0.5s							
HEC	Hector,Ludlow	89.60	53	⇑P		P	16 17 19.6	-0.2
	baz=90							
NV11	Mina Array Sit	89.64	49	*e*P		P	16 17 19.8	-0.2
GRAC	Grapevine Rang	89.66	51	⇓P		P	16 17 20.1	+0.1
	baz=90,SNR=6.1							
NLWA	Neilton Lookou	89.68	39	*e*P		P	16 17 20.0	+0.3
	comp=Z,60nm,2.0s							
ILAR	Eielson Array	89.72	18	P		P	16 17 17.2	-2.2
ILAR	Eielson Array	89.72	18	P		P	16 17 17.2	-2.2
	comp=Z,2.6nm,0.7s,baz=233,slow=5.8,SNR=16							
BC3	Big Chuckawall	89.84	54	⇓P		P	16 17 21.0	+0.1
	baz=90,SNR=5.6							
LVP	Lakeview Peak	89.98	41	P		P	16 17 21.8	+0.5
SHOC	Shoshone	90.05	52	⇑P		P	16 17 21.9	-0.2
	baz=90							
GMRC	Granite Mounta	90.09	53	⇓P		P	16 17 22.3	+0.1
	baz=90,SNR=6.5							
GLA	Glamis	90.10	55	⇑P		P	16 17 22.3	+0.2
	baz=90							
TUQ	Turquoise Moun	90.14	53	⇓P		P	16 17 22.4	+0.1
	baz=90							
SNAA	Sanae	90.24	183	*e*P		P	16 17 21.7	-0.4
IRM	Iron Mountain	90.26	54	⇑P		P	16 17 23.0	+0.2
	baz=90,SNR=5.5							
HDW	Hoodsport	90.29	39	P		P	16 17 23.6	+0.9
VIPM	Ingram Point	90.45	43	P		P	16 17 23.8	+0.2
VIPM	Ingram Point	90.45	43	P		P	16 17 23.8	+0.2
PGC	Sidney	90.51	38	*e*P		P	16 17 23.6	+0.1
	comp=Z,1.4nm,1.2s							
Y12C	Blythe	90.59	55	⇑P		P	16 17 24.6	+0.3
	baz=91							
LDFC	Landfair	90.63	53	*e*P		P	16 17 25.3	+0.7
LON	Longmire	90.65	41	*e*P		P	16 17 23.8	-0.6
LON					pmax	pmax		
	comp=Z,5.0nm,0.9s							
LON	Longmire	90.65	41	*e*P		P	16 17 23.8	-0.6
	comp=Z,4.9nm,0.9s							
COLD	Coldfoot	90.66	15	*e*P		P	16 17 22.3	-1.5
	comp=Z,2.5nm,0.9s							
WPW	White Pass	90.80	41	P		P	16 17 25.3	+0.2
113A	Mohawk Valley,	90.83	56	⇑P		P	16 17 25.3	-0.1
	baz=91							
WVOR	Wild Horse Val	90.91	45	*e*P		P	16 17 25.5	-0.2
WVOR					pmax	pmax		
	comp=Z,23nm,1.3s							
WVOR	Wild Horse Val	90.91	45	*e*P		P	16 17 25.5	-0.2
	comp=Z,23nm,1.3s							
PDMCI	Parker Dam,Lak	91.09	54	⇑P		P	16 17 26.9	+0.3
	baz=91							
BMN	Battle Mountai	91.09	48	*e*P		P	16 17 26.6	-0.1
BMN					pmax	pmax		
	comp=Z,12nm,1.2s							
BMN	Battle Mountai	91.09	48	*e*P		P	16 17 26.6	-0.1
	comp=Z,12nm,1.2s							
TRW	Toppenish Ridg	91.25	41	P		P	16 17 27.6	+0.5
214A	Organ Pipe Nat	91.30	57	⇓P		P	16 17 27.5	-0.2
	baz=91							
VNA1	Neumayer--Stat	91.47	182	*e*P		P	16 17 25.9	-1.8
EGAK	Eagle	91.48	20	*e*P		P	16 17 26.6	-1.1
	comp=Z,5.4nm,0.9s							
W13A	Hualapai Mount	91.57	54	⇑P		P	16 17 29.1	0.0
	baz=92,SNR=7.0							
Z14A	Wintersburg	91.69	56	⇓P		P	16 17 30.1	+0.7
	baz=92							
Y14A	Wickenburg	91.84	55	⇑P		P	16 17 30.2	+0.1
	baz=92							
HAWA	Hanford	91.93	42	*e*P		P	16 17 30.6	+0.4
	comp=Z,15nm,1.0s							
BMO	Blue Mountains	92.75	44	*e*P		P	16 17 33.5	-0.7
BMO					pmax	pmax		
	comp=Z,1.0nm,0.8s							
BMO	Blue Mountains	92.75	44	*e*P		P	16 17 33.5	-0.7
	comp=Z,1.4nm,0.8s							
TUC	Tucson	93.04	57	*e*P		P	16 17 36.0	+0.2
TUC					pmax	pmax		
	comp=Z,8.0nm,1.3s							
TUC	Tucson	93.04	57	*e*P		P	16 17 36.0	+0.2
	comp=Z,8.4nm,1.3s							
TIXI	Tiksi	93.19	349	*i* P		P	16 17 33.5	-1.9
TIXI					pmax	pmax		
	comp=Z,7.0nm,2.0s							
MFID	Camas Ranch	93.19	45	⇓P		P	16 17 36.5	+0.2
	baz=93							
X16A	Lo Mia Camp, P	93.22	55	⇑P		P	16 17 37.2	+0.5
	baz=93							
U15A	North Rim	93.25	53	⇑P		P	16 17 37.1	+0.2
	baz=93							
WUAZ	Wupatki	93.64	54	⇓P		P	16 17 39.2	+0.7
	baz=94							
HVS	Khovu-Aksy	93.91	323	*i* P		P	16 17 39.0	-0.3
HVS					pmax	pmax		
	comp=Z,12nm,1.1s							
319A	Douglas	93.95	58	⇓P		P	16 17 40.4	+0.3
	baz=94,SNR=5.7							
DUG	Dugway	94.15	49	⇑P		P	16 17 40.6	-0.2
	baz=94							
H12A	Diamond D Ranc	94.25	45	⇓P		P	16 17 40.9	-0.3
	baz=94							
E12A	Beaver Dam Sad	94.46	43	⇑P		P	16 17 42.6	+0.5
	baz=94							
C11A	Tepee Creek (N	94.55	41	⇓P		P	16 17 42.8	+0.5
	baz=95							
I14A	Mackay	94.98	45	⇑P		P	16 17 44.8	+0.2
	baz=95							
Z20A	Nine Sixteen R	95.05	57	⇑P		P	16 17 45.2	+0.1
	baz=95							
INK	Inuvik	96.07	19	LR		LR	16 53 34.4	
	comp=Z,46nm,20.9s,baz=224,slow=31							
X21A	Alamocita Cree	96.09	56	⇓P		P	16 17 50.1	+0.2
	baz=96							
Z22A	Elephant Butte	96.39	57	⇓P		P	16 17 50.8	-0.4
	baz=96							
Y22A	Socorro	96.59	57	⇓P		P	16 17 52.0	-0.1
	baz=97							
D15A	Lincoln	96.65	43	⇓P		P	16 17 51.7	-0.4
	baz=97							
H16A	Russell Place,	96.73	45	⇑P		P	16 17 52.5	0.0
	baz=97							
U21A	Nageezi	96.79	54	⇓P		P	16 17 52.9	-0.2
	baz=97							
F16A	Kennard Place,	96.82	44	⇓P		P	16 17 52.6	-0.2
	baz=97							
C15A	Salmond Ranch,	96.83	42	⇓P		P	16 17 52.8	0.0
	baz=97							
324A	Moseley Ranch,	97.06	59	⇑P		P	16 17 53.9	-0.4
	baz=97							
224A	Cornudas Mount	97.21	59	⇑P		Pdif	16 17 55.0	-0.1
	baz=97							
425A	Indio Mountain	97.28	60	⇑P		P	16 17 54.7	-0.6
	baz=97							
PDAR	Pinedale Array	97.29	48	P		P	16 17 54.0	-1.2
PDAR	Pinedale Array	97.29	48	P		P	16 17 54.0	-1.2
	comp=Z,0.5nm,0.8s,baz=251,slow=2.8,SNR=3.1							
626A	Big Bend Ranch	97.64	62	⇓P		P	16 17 56.8	-0.1
	baz=98							
TXAR	Lajitas Array	97.97	62	P		Pdif	16 17 58.5	+0.1
TXAR	Lajitas Array	97.97	62	P		Pdif	16 17 58.5	+0.1
	comp=Z,0.4nm,0.6s,baz=224,slow=5.2,SNR=5.1							
MKAR	Makanchi Array	99.50	316	P		Pdif	16 18 04.0	-0.7
MKAR	Makanchi Array	99.50	316	P		Pdif	16 18 04.0	-0.7
MKAR	Makanchi Array	99.50	316	P		Pdif	16 18 04.0	-0.7
	comp=Z,0.8nm,0.7s,baz=98,slow=5.8,SNR=9.3							
YKA	Yellowknife Ar	100.55	28	P		Pdif	16 18 08.3	-0.6
YKA	Yellowknife Ar	100.55	28	P		Pdif	16 18 08.3	-0.6
	comp=Z,1.8nm,0.9s,baz=254,slow=4.6,SNR=12							
KSH	Kashi	102.12	308	*e*P		Pdif	16 18 15.2	-1.5
KSH				PP		PP	16 22 33.6	+4.3
KSH				SKS			16 28 51.5	
KSH				S		Sdif	16 29 53.1	-2.0
KSH				sS		sS	16 30 20.9	-3.2
KSH				SS		SS	16 37 01.6	0.0
KSH				LR		LR		
	comp=N,230nm,10.3s							
KSH				LR		LR		
	comp=E,140nm,6.8s							
KSH				LR		LR		
	comp=Z,170nm,7.0s							
ARCES	ARCESS Array B	123.41	345	PKP		PKPdf	16 23 16.5	-1.6
ARCES	ARCESS Array B	123.41	345	PKP		PKPdf	16 23 16.5	-1.6
	comp=Z,1.5nm,0.7s,baz=28,slow=5.5,SNR=5.8							
MOS	Moscow	126.61	327	*e*PKIKP		PKPdf	16 23 22.6	-1.9
KBZ	Khabaz	126.88	311	PKIKP		PKPdf	16 23 26.4	+1.0
KBZ	Khabaz	126.88	311	PKP		PKPdf	16 23 26.4	+1.0
KBZ	Khabaz	126.88	311	PKP		PKPdf	16 23 26.4	+1.0
	comp=Z,2.1nm,0.7s,baz=128,slow=2.9,SNR=4.1							
OBN	Obninsk	127.41	327	*e*PKIKP		PKPdf	16 23 25.8	-0.2
OBN				*e*			16 23 38.6	
OBN				pmax		pmax		
	comp=Z,4.0nm,0.9s							
BRTR	Keskin Array B	134.51	308	PKP		PKPdf	16 23 40.0	-0.3
BRTR	Keskin Array B	134.51	308	PKP		PKPdf	16 23 40.0	-0.3
	comp=Z,0.7nm,0.7s,baz=64,slow=2.9,SNR=4.9							
KOLS	Kolonicke sedl	138.12	325	*e*PKIKP		PKPdf	16 23 47.5	+1.0
KOLS	Kolonicke sedl	138.12	325	*e*PKP		PKPdf	16 23 47.5	+1.0
KECS	Kecovo	139.34	326	*e*PKIKP		PKPdf	16 23 50.6	+1.9
KECS	Kecovo	139.34	326	*e*PKP		PKPdf	16 23 50.6	+1.9
KRLC	Kraliky	140.20	330	*e*PKIKP		PKPdf	16 23 52.4	+2.1
KRLC	Kraliky	140.20	330	*e*PKPdf		PKPdf	16 23 52.4	+2.1
CLL	Collm	141.00	334	*e*PKIKP		PKPdf	16 23 53.0	+1.4
CLL	Collm	141.00	334	*e*PKPdf		PKPdf	16 23 53.0	+1.4
KHC	Kasperske Hory	142.35	331	*e*PKIKP		PKPdf	16 23 54.0	-0.2
KHC	Kasperske Hory	142.35	331	*e*PKPdf		PKPdf	16 23 54.0	-0.2
TOD	Tromm	144.01	336	PKIKP		PKPbc	16 23 54.9	-0.2
TOD	Tromm	144.01	336	PKP		PKPbc	16 23 54.9	-0.2
ABH	Alteburg	144.26	337	PKP		PKPbc	16 23 55.7	-0.1
ABTA	Abfaltersbach	144.56	329	⇓*i* PKPdf		PKPab	16 23 55.7	-1.0
	comp=Z,13nm,0.9s							
RUP	Ruppelstein	144.59	338	PKIKP		PKPbc	16 23 57.0	+0.1
RUP	Ruppelstein	144.59	338	PKP		PKPbc	16 23 57.0	+0.1
WLF	Walferdange	144.94	338	PKP		PKPdf	16 23 58.6	0.0
WLF	Walferdange	144.94	338	*e*PKIKP		PKPdf	16 23 58.3	-0.3
WLF	Walferdange	144.94	338	*e*PKP		PKPdf	16 23 58.3	-0.3
DOU	Dourbes	145.10	340	PKP		PKPab	16 23 58.5	0.0
FETA	Feichten	145.20	331	⇑*i* PKPdf		PKPbc	16 23 58.8	-0.3
	comp=Z,26nm,0.8s							
SPAK	Spaichingen-Ko	145.21	334	PKP		PKPbc	16 23 58.6	-0.4
BFO	Black Forest	145.22	335	*e*PKIKP		PKPbc	16 23 58.6	-0.3
BFO	Black Forest	145.22	335	*e*PKP		PKPbc	16 23 58.6	-0.3
DAVA	Damuels	145.38	332	⇓*i* PKPdf		PKPbc	16 23 59.5	-0.1
	comp=Z,28nm,0.9s							
FELD	Feldberg im Sc	145.71	335	PKP		PKPbc	16 24 00.5	-0.1
ECH	Echery	145.77	336	*e*PKIKP		PKPdf	16 24 00.0	-0.2
ECH	Echery	145.77	336	*e*PKP		PKPdf	16 23 60.0	-0.2
MOF	Molkenrain	146.08	336	PKP2		PKPdf	16 24 01.2	+0.4
MOF	Molkenrain	146.08	336	PKP		PKPdf	16 24 01.2	+0.4
MOF	Molkenrain	146.08	336	PKP		PKPdf	16 24 01.2	+0.4
THEF	They Montfort	146.21	337	PKP2		PKPbc	16 24 01.6	-0.4
THEF	They Montfort	146.21	337	PKP		PKPbc	16 24 01.6	-0.4
THEF	They Montfort	146.21	337	PKP		PKPbc	16 24 01.6	-0.4
TUE	Stuetta	146.23	332	*e*PKPbc		PKPbc	16 24 02.0	-0.4
BBS	Basel-Blauen	146.24	335	PKP2		PKPbc	16 24 01.6	-0.5
BBS	Basel-Blauen	146.24	335	PKP		PKPbc	16 24 01.6	-0.5
LOMF	Lomont	146.61	335	PKP2		PKPbc	16 24 03.1	-0.2
LOMF	Lomont	146.61	335	PKP		PKPbc	16 24 03.1	-0.2
LOMF	Lomont	146.61	335	PKP		PKPbc	16 24 03.1	-0.2
BNI	Bardonecchia	148.51	333	*e*PKP2		PKPbc	16 24 08.6	0.0
BNI	Bardonecchia	148.51	333	*e*PKPbc		PKPbc	16 24 08.6	0.0
SAOF	Saorge	148.95	331	PKP2		PKPbc	16 24 09.5	-0.1
SAOF	Saorge	148.95	331	PKP		PKPbc	16 24 09.5	-0.1
SAOF	Saorge	148.95	331	PKP		PKPbc	16 24 09.5	-0.1
TOUF	Mont Tournerai	149.07	331	PKP2		PKPbc	16 24 10.0	-0.1
TOUF	Mont Tournerai	149.07	331	PKP		PKPbc	16 24 10.0	-0.1
TOUF	Mont Tournerai	149.07	331	PKP		PKPbc	16 24 10.0	-0.1
PYM	Petit Puy Mans	149.39	338	PKP2		PKPbc	16 24 12.2	+1.5
PYM	Petit Puy Mans	149.39	338	PKP		PKPbc	16 24 12.2	+1.5
PYM	Petit Puy Mans	149.39	338	PKP		PKPbc	16 24 12.2	+1.5
LBL	Lubilhac	149.75	337	PKP2		PKPbc	16 24 13.1	+1.5
LBL	Lubilhac	149.75	337	PKP		PKPbc	16 24 13.1	+1.5
LBL	Lubilhac	149.75	337	PKP		PKPbc	16 24 13.1	+1.5
KEST	Kesra	153.59	316	PKPbc		PKPbc	16 24 21.2	+0.4
KEST	Kesra	153.59	316	PKPbc		PKPbc	16 24 21.2	+0.4
	comp=Z,1.7nm,0.8s,baz=208,slow=17,SNR=4.4							
POLO	Lamas de Olo	156.35	350	*e*PP		PP	16 28 47.0	+25
MVO	Moncorvo	156.43	349	*e*PP		PP	16 28 47.1	+25
PVRL	Vila Real	156.44	350	*e*PP		PP	16 28 47.1	+25
MTE	Manteigas	157.26	349	*e*PP		PP	16 28 49.3	+23
PCBR	Castelo Branco	157.79	349	*e*PP		PP	16 28 49.3	+20
PTOM	Tomar	158.17	351	*e*PP		PP	16 28 50.9	+19
PMRV	Marv??o	158.18	349	*e*PP		PP	16 28 50.7	+19
PBEJ	Beja	159.62	349	*e*PP		PP	16 28 50.4	+11
TORD	Torodi Ar. Bea	165.14	253	PKP		PKPdf	16 24 25.2	-1.5
TORD	Torodi Ar. Bea	165.14	253	PKP		PKPdf	16 24 25.2	-1.5
	comp=Z,1.9nm,0.9s,baz=11,slow=0.5,SNR=7.8							

IDC 09 16:09:23.0±2.4, 12°30S×167°08E, *h*245km±22km, mb3.7/18, mb1 3.9/19, mb1mx3.9/21, mbtmp3.7/19, Error ellipse: s-maj=15.9km s-min=12.9km az=114.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	Mont Dzumac	9.74	184	P		Pn	16 11 39.7	+1.2
	0.8nn,0.3s,baz=270,slow=19,SNR=4.1							
DZM				S		S	16 13 25.7	-2.5
	0.2nm,0.3s,baz=90,slow=20,SNR=2.2							
CTA	Charters Tower	21.43	246	P		P	16 13 52.6	+0.3
	6.4nm,0.8s,baz=170,slow=19,SNR=3.9							
STKA	Stephens Creek	30.48	226	P		P	16 15 14.1	+0.8
	1.4nm,0.7s,baz=68,slow=16,SNR=3.4							
RPZ	Rata Peaks	31.49	174	P		P	16 15 22.4	+0.3
	4.7nm,0.6s,baz=31,slow=17,SNR=6.2							
WRA	Warramunga Arr	32.32	252	P		P	16 15 28.1	-1.5
	0.5nm,0.4s,baz=83,slow=8.8,SNR=24							
ASAR	Alice Springs	33.44	246	P		P	16 15 38.4	-0.9
	0.5nm,0.3s,baz=71,slow=9.9,SNR=14							
ASAR				ScP		ScP	16 21 35.4	-0.3
	1.2nm,1.0s,baz=106,slow=4.0,SNR=4.3							
MAT	Matsushiro	55.68	332	P		P	16 18 33.2	-0.9
USRK	Ussuriysk Arra	64.65	333	P		P	16 19 35.6	+1.0
	2.8nm,0.7s,baz=141,slow=6.0,SNR=7.5							
VNDA	Vanda	65.27	181	P		P	16 19 38.8	+0.6
	0.9nm,0.5s,baz=348,slow=6.3,SNR=9.4							
PETK	Petropavlovsk-	65.64	354	P		P	16 19 41.0	+0.3
	3.1nm,0.7s,baz=157,slow=12,SNR=5.4							
CMAR	Chiang Mai Arr	73.81	293	P		P	16 20 32.2	+0.9
	3.3nm,0.8s,baz=120,slow=5.5,SNR=19							
KDAK	Kodiak Island	77.27	21	P		P	16 20 50.1	+0.2
	3.0nm,0.6s,baz=203,slow=7.1,SNR=5.5							
SONM	Songino Array	80.45	323	P		P	16 21 08.0	+0.3
	1.4nm,0.8s,baz=130,slow=3.5,SNR=8.7							
MAW	Mawson	84.06	202	P		P	16 21 25.8	0.0
	3.2nm,0.9s,baz=77,slow=5.8,SNR=5.3							
ILAR	Eielson Array	84.28	18	P		P	16 21 26.0	-0.9
	15nm,0.6s,baz=246,slow=5.2,SNR=128							
NVAR	Mina Array Bea	85.83	49	P		P	16 21 35.8	+0.3
	1.7nm,0.7s,baz=231,slow=7.8,SNR=12							
PDAR	Pinedale Array	93.44	47	P		P	16 22 10.3	-0.7
	0.3nm,0.7s,baz=205,slow=1.7,SNR=3.7							
TXAR	Lajitas Array	95.28	61	P		P	16 22 19.2	-0.4
	0.5nm,0.6s,baz=220,slow=5.7,SNR=6.0							
MKAR	Makanchi Array	95.33	317	P		P	16 22 19.5	+0.1
	4.3nm,0.7s,baz=96,slow=6.3,SNR=50							
ZALV	Zalesovo Beam	95.33	324	P		P	16 22 18.6	-0.6
	0.8nm,0.7s,baz=94,slow=5.9,SNR=3.7							
YKA	Yellowknife Ar	95.48	27	P		P	16 22 18.1	-1.5
	1.1nm,0.4s,baz=259,slow=5.0,SNR=13							
ARCES	ARCESS Array B	117.87	346	PKP		PKPdf	16 27 39.2	-0.5
	2.6nm,0.3s,baz=86,slow=2.2,SNR=44							
SCHQ	Schefferville	120.37	33	PKP		PKPdf	16 27 44.2	-0.8
	1.6nm,0.5s,baz=233,slow=6.0,SNR=4.3							
FINES	FINESS Array B	123.41	339	PKP		PKPdf	16 27 50.2	-0.3
	1.6nm,0.4s,baz=56,slow=1.1,SNR=12							
NOA	NORSAR Array B	128.24	345	PKP		PKPdf	16 28 00.0	+0.1
	1.2nm,0.7s,baz=33,slow=1.9,SNR=3.6							
GERES	GERESS Array B	137.40	334	PKP		PKPdf	16 28 17.8	+0.2
	0.9nm,0.7s,baz=40,slow=2.3,SNR=6.3							
KEST	Kesra	149.20	323	PKPbc		PKPbc	16 28 42.8	-0.3
	2.7nm,0.6s,baz=90,slow=0.7,SNR=7.6							
ESDC	Sonseca Array	151.60	345	PKPbc		PKPbc	16 28 48.3	-0.3
	1.1nm,0.5s,baz=17,slow=2.8,SNR=8.7							
TORD	Torodi Ar. Bea	165.72	275	PKP		PKPdf	16 28 58.8	-0.5
	1.2nm,1.1s,baz=345,slow=3.4,SNR=4.2							
TORD				PKPab		PKPab	16 29 58.9	-1.1
	1.4nm,0.9s,baz=86,slow=4.3,SNR=5.8							

LJU 09 16:13:50.2, 45°62N×14°96E, *h*3km, ML0.3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VISS	Visnje	0.20	336	*i* Pg		Pg	16 13 54.2	0.0
VISS				*i* Sg		Sg	16 13 57.2	+0.3
VISS								
	comp=Z,2.0nm,0.1s							
BOJS	Bojanci	0.24	118	*i* Pg		Pg	16 13 55.0	+0.2
BOJS				*i* Sg		Sg	16 13 58.2	+0.4
BOJS								
	comp=Z,1.0nm,0.1s							

*ISCJB **09** 16:27:38.8±0.6, 34°.01N±0°.02×25°.55E±0°.01, h10km±4km, mb4.6/116, MS4.0/24, Error ellipse: s-maj=2.7km s-min=2.0km az=17.4*

*IDC **09** 16:27:39.3±0.5, 34°.10N×25°.58E, h0km, mb4.5/25, mb1 4.6/35, mb1mx4.5/39, mbtmp4.5/35, ML4.3/8, MS3.9/16, Ms1 3.9/16, ms1mx3.6/38, Error ellipse: s-maj=13.3km s-min=11.4km az=160.0*

*BJI **09** 16:27:39.1, 34°.39N×25°.27E, h13km, mB4.9/17, mb4.7/30, Ms4.7/13, Ms7 4.4/13*

*NSSC **09** 16:27:41.5±2.2, 33°.26N×26°.34E, h0km±999km, ML3.6*

*NEIC **09** 16:27:41.5±1.9, 34°.05N×25°.57E, h13km±12km, mb4.6/30, Error ellipse: s-maj=6.4km s-min=4.1km az=185.0*

*CSEM **09** 16:27:42.0±0.1, 34°.03N×25°.56E, h20km, mb4.7/64, Ms3.5, Mw4.2, Error ellipse: s-maj=3.0km s-min=2.0km az=25.0*

*MOS **09** 16:27:42.3±1.0, 34°.17N×25°.56E, h28km, mb4.9/31, Error ellipse: s-maj=6.3km s-min=3.4km az=89.8*

*HLW **09** 16:27:42.6, 34°.10N×25°.65E, h31km±37km, Md3.8, Ml4.1*

*TEH **09** 16:27:42.3, 33°.94N×25°.63E, h20km, ML4.6*

*NIC **09** 16:27:45.3±0.2, 33°.92N×25°.81E, h65km, mb4.7, ML4.3, MW3.9*

*PDG **09** 16:27:45.2±0.8, 34°.33N×25°.48E, h22km±1km, ML4.3/10, Error ellipse: s-maj=3.8km s-min=2.6km az=90.0*

*ATH **09** 16:27:47.5, 34°.49N×25°.46E, h42km±1km, MD3.9/24*

*THE **09** 16:27:49.0, 34°.55N×25°.53E, h12km±1km, ML4.0/3, Error ellipse: s-maj=2.0km s-min=0.9km az=283.0*

*DDA **09** 16:28:01.8, 35°.37N×26°.75E, h17km, ML4.0*

ISC 09 16:27:42.1±0.4, 34°.10N±0°.03×25°.54E±0°.02, h20km±1km, h20km:pP-P,n769,σ1§47/830, mb4.6/114, MS3.9/25, 27C-29D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TMBK	Timbaki Herakl	1.16	327	P		Pg	16 28 04.6	-0.1
TMBK	Timbaki Herakl	1.16	327	P		Pg	16 28 04.6	-0.1
NPS	Neapolis	1.16	3	P		Pn	16 28 02.5	-0.8
NPS				S		Sb	16 28 13.8	-4.4
NPS	Neapolis	1.16	3	*e*P		Pn	16 28 02.6	-0.8
NPS				*e*S		Sb	16 28 14.0	-4.2
NPS	Neapolis	1.16	3	P		Pn	16 28 02.5	-0.8
NPS				S		Sb	16 28 13.8	-4.4
IDI	Anoyia	1.30	336	P		Pn	16 28 05.1	-0.2
IDI				S		Sn	16 28 18.9	-3.2
IDI	Anoyia	1.30	336	*e*P		Pn	16 28 05.0	-0.2
IDI				*e*S		Sn	16 28 17.9	-4.2
IDI	Anoyia	1.30	336	*e*Pn		Pn	16 28 04.5	-0.7
IDI	Anoyia	1.30	336	*e*Pn		Pn	16 28 04.6	-0.7
IDI	Anoyia	1.30	336	P		Pn	16 28 05.1	-0.2
IDI				S		Sn	16 28 18.9	-3.2
GVD	Gavdhos	1.41	302	*e*P		Pb	16 28 08.1	+0.4
GVD				*e*S		Sn	16 28 25.0	+0.3
GVD	Gavdhos	1.41	302	*e*P		Pn	16 28 06.9	+0.2
GVD	Gavdhos	1.41	302	*e*P		Pn	16 28 06.9	+0.2
GVD				*e*S		Sn	16 28 25.0	+0.3
VAM	Vamos	1.71	320	P		Pb	16 28 12.1	-0.8
VAM				S		Sn	16 28 32.2	+0.1
VAM	Vamos	1.71	320	*e*P		Pn	16 28 11.7	+0.9
VAM				*e*S		Sn	16 28 29.6	-2.5
VAM	Vamos	1.71	320	*e*P		Pn	16 28 11.7	+0.9
VAM				S		Sn	16 28 32.2	+0.1
KARP	Karpathos	1.97	42	P		Pb	16 28 17.0	-0.3
KARP				S		Sn	16 28 38.0	-0.5
KARP	Karpathos	1.97	42	*e*P		Pb	16 28 17.1	-0.3
KARP	Karpathos	1.97	42	P		Pb	16 28 17.0	-0.3
KARP				S		Sn	16 28 38.0	-0.5
SANT	Santorini	2.27	358	*e*P		Pn	16 28 18.6	+0.1
SANT				*e*S		Sn	16 28

KLV Kalavryta, Ach 4.80 326 P **Pn 16 28 54.2 +0.8**
KLV Kalavryta, Ach 4.80 326 P **Pn 16 28 54.2 +0.8**
SWA2 4.84 181 P **Pn 16 28 53.1 -0.8**
baz=183
SWA2 AMP 16 29 00.0
comp=E,710µm,0.3s,logA/T=6.3,baz=183
SWA2 S **Sn 16 29 47.1 -2.4**
baz=183
SWA2 4.84 181 P **Pn 16 28 53.1 -0.8**
SWA2 S **Sn 16 29 47.1 -2.4**
DSF Desfina 4.94 331 P **Pn 16 28 57.3 +2.0**
DSF Desfina 4.94 331 P **Pn 16 28 57.3 +2.0**
ANTB Antalya 5.02 55 *e*PN **Pn 16 28 57.6 +1.3**
LAKA Lakka 5.04 326 P **Pn 16 28 57.9 +1.3**
LAKA Lakka 5.04 326 *e*P **Pn 16 28 58.0 +1.3**
LAKA Lakka 5.04 326 P **Pn 16 28 57.9 +1.3**
KULA Kula-Manisa 5.08 29 *e*PN **Pn 16 28 58.1 +0.9**
KALE Kalithea 5.09 328 *e*P **Pn 16 28 58.3 +1.0**
KALE Kalithea 5.09 328 *e*P **Pn 16 28 58.3 +1.0**
TRIZ Trizonia 5.09 328 *e*P **Pn 16 28 58.2 +0.8**
TRIZ Trizonia 5.09 328 *e*P **Pn 16 28 58.2 +0.8**
AKHS Akhisar 5.11 20 *i* P **Pn 16 28 59.2 +1.6**
AKHS Akhisar 5.11 20 *i* P **Pn 16 28 59.2 +1.6**
EFP Efpalio 5.22 327 P **Pn 16 29 00.0 +0.9**
EFP Efpalio 5.22 327 *e*P **Pn 16 29 00.0 +0.9**
EFP Efpalio 5.22 327 P **Pn 16 29 00.0 +0.9**
AOS Alonnisos 5.23 346 P **Pn 16 29 00.5 +1.2**
AOS Alonnisos 5.23 346 *e*P **Pn 16 29 00.5 +1.2**
AXS Araxos 5.29 322 P **Pn 16 29 02.7 +2.6**
AXS Araxos 5.29 322 P **Pn 16 29 02.7 +2.6**
BCK Bucak 5.30 49 *e*PN **Pn 16 29 01.5 +1.2**
KHL Karahalli 5.30 36 *e*PN **Pn 16 29 01.3 +1.0**
KHAL Karahalli 5.33 36 *i* P **Pn 16 29 01.1 +0.4**
KHAL Karahalli 5.33 36 *i* P **Pn 16 29 01.1 +0.4**
ISP Isparta 5.49 46 *e*PN **Pn 16 29 04.4 +1.5**
LJBD Adjabya 5.52 236 *i* P **Pn 16 29 04.1 +0.9**
SNR=70
LJBD *e*S **Sn 16 30 03.8 -2.3**
comp=E,184nm,0.5s,SNR=70
AGG Agios Georgios 5.55 333 P **Pn 16 29 05.9 +2.2**
AGG Agios Georgios 5.55 333 *e*P **Pn 16 29 06.1 +2.4**
AGG Agios Georgios 5.55 333 P **Pn 16 29 05.9 +2.2**
DEMI Demirci 5.56 26 *i* P **Pn 16 29 05.8 +2.0**
DEMI *i* S Pg 16 29 37.4 +8.9
DEMI Demirci 5.56 26 *i* P **Pn 16 29 05.8 +2.0**
SUTC Sutluce-Ispart 5.57 51 *e*PN **Pn 16 29 05.0 +1.0**
PPCY Paphos 5.67 80 P **Pn 16 29 04.6 -0.7**
PPCY Paphos 5.67 80 P **Pn 16 29 04.6 -0.7**
AKMC Akamas 5.68 79 P **Pn 16 29 04.7 -0.8**
AKMC Akamas 5.68 79 P **Pn 16 29 04.7 -0.8**
BALB Balikesir 5.84 18 *e*PN **Pn 16 29 07.7 +0.2**
BALY Balya 5.87 16 *i* P **Pn 16 29 09.2 +1.1**
BALY *i* S **Pg 16 29 35.3 +0.8**
BALY Balya 5.87 16 *i* P **Pn 16 29 09.2 +1.1**
ALFC Alevga 5.92 78 ⇑P **Pn 16 29 07.6 -1.1**
comp=E,5.8nm,0.2s
ALFC S **Sn 16 30 13.1 -2.8**
ALFC Alevga 5.92 78 ⇑P **Pn 16 29 07.6 -1.1**
comp=E,5.8nm,0.2s
ALFC S **Sn 16 30 13.1 -2.8**
GAZI Gazipasa 5.95 67 *i* P **Pn 16 29 08.2 -0.9**
GAZI Gazipasa 5.95 67 *i* P **Pn 16 29 08.2 -0.9**
DURS Dursunbey 5.97 22 *i* P **Pn 16 29 11.0 +1.4**
DURS *i* S **Pg 16 29 38.8 +2.3**
DURS Dursunbey 5.97 22 *i* P **Pn 16 29 11.0 +1.4**
SHUT Suhut-Afyon 6.01 41 *e*PN **Pn 16 29 10.9 +0.9**
LUJL Ujela 6.14 217 *i* P **Pn 16 29 12.9 +1.1**
SNR=70
LUJL *e*S **Sn 16 30 17.8 -3.6**
SNR=70
LEF Lefka 6.15 78 *e*PN **Pn 16 29 11.1 -0.8**
ALT Altintas 6.16 35 *e*PN **Pn 16 29 13.2 +1.0**
GONE Gonen-Balikesi 6.18 16 *e*PN **Pn 16 29 11.9 -0.3**
TVSB Tavsanli 6.20 29 *e*PN **Pn 16 29 13.4 +0.8**
MAMC Mammari 6.42 78 ⇓P **Pn 16 29 16.7 +1.1**
MAMC Mammari 6.42 78 ⇓P **Pn 16 29 16.7 +1.1**
AWBH 6.44 153 P **Pn 16 29 14.6 -1.3**
baz=153
AWBH 6.44 153 P **Pn 16 29 14.6 -1.3**
AYT Al 'Ayyat 6.48 131 P **Pn 16 29 15.4 -1.0**
baz=131
AYT Al 'Ayyat 6.48 131 P **Pn 16 29 15.4 -1.0**
CSS Prodhromos 6.49 80 ⇓P **Pn 16 29 15.3 -1.3**
comp=E,7.5nm,1.1s
CSS S **Sn 16 30 26.6 -3.4**
CSS Prodhromos 6.49 80 *e*PN **Pn 16 29 16.7 +0.1**
CSS Prodhromos 6.49 80 *e*P **Pn 16 29 15.2 -1.3**
comp=E,37nm,0.4s
CSS Prodhromos 6.49 80 ⇓P **Pn 16 29 15.3 -1.3**
comp=E,7.5nm,1.1s
ERMK Ermenek 6.54 65 *i* P **Pn 16 29 17.7 +0.3**
ERMK Ermenek 6.54 65 *i* P **Pn 16 29 17.7 +0.3**
KCTX Karacabey (Bur 6.55 19 *e*PN **Pn 16 29 17.1 -0.3**
ULDT Uludag 6.68 24 *i* P **Pn 16 29 21.9 +2.6**
ULDT Uludag 6.68 24 *i* P **Pn 16 29 21.9 +2.6**
LFK Lefkose 6.69 78 *e*PN **Pn 16 29 19.8 +0.4**
RKY Sarkoy-Tekirda 6.70 11 *e*PN **Pn 16 29 18.8 -0.7**
KONT Konya--Tatoy 6.73 53 *e*PN **Pn 16 29 21.0 +1.2**
KOT Kottamia 6.77 126 P **Pn 16 29 18.6 -1.9**
baz=126
KOT Kottamia 6.77 126 P **Pn 16 29 18.6 -1.9**
HSAF As Saff 6.79 130 P **Pn 16 29 20.5 -0.3**
baz=130
HSAF As Saff 6.79 130 P **Pn 16 29 20.5 -0.3**
LADK Ladik-KONYA 6.87 52 *e*PN **Pn 16 29 22.8 +0.9**
SEYT Eskypehyr 6.88 37 *i* P **Pn 16 29 22.2 +0.2**
SEYT Eskypehyr 6.88 37 *i* P **Pn 16 29 22.2 +0.2**
GLL Jalalah 6.92 129 P **Pn 16 29 21.7 -0.8**
baz=129
GLL Jalalah 6.92 129 P **Pn 16 29 21.7 -0.8**
HHAG Hagoal 6.94 125 P **Pn 16 29 21.5 -1.2**
baz=125
HHAG Hagoal 6.94 125 P **Pn 16 29 21.5 -1.2**
ARMT Armutlu 6.97 21 *e*PN **Pn 16 29 23.0 -0.2**
KIZT Kizilcal 6.99 45 *e*PN **Pn 16 29 23.2 -0.2**
CAVI Cavuskoy 6.99 28 *e*PN **Pn 16 29 24.0 +0.5**
IKL Isikli 7.00 70 *e*PN **Pn 16 29 23.5 -0.1**
PHNC Paralimni 7.07 80 P **Pn 16 29 26.9 +2.4**
comp=E,4.9nm,0.8s
PHNC S **Sn 16 30 43.9 -0.3**
EREN Erenkoy 7.24 76 *e*PN **Pn 16 29 27.2 +0.3**
KIZK Mersin 7.43 69 *i* P **Pn 16 29 30.2 +0.8**
KIZK Mersin 7.43 69 *i* P **Pn 16 29 30.2 +0.8**
CTKS Kestanelik-??a 7.50 17 *e*PN **Pn 16 29 29.9 -0.5**
SUZ 7.51 122 P **Pn 16 29 29.8 -0.8**
baz=122
SUZ 7.51 122 P **Pn 16 29 29.8 -0.8**
KDZ Kurdzhali 7.54 359 *e*P Pn 16 29 34.4 +3.5
RZN Rozhen 7.60 355 *e*P **Pn 16 29 33.1 +1.1**
MMB Musomiste 7.61 350 *e*P Pn 16 29 35.7 +3.7
SULT Sultanhani-AKS 7.64 55 *e*PN **Pn 16 29 32.9 +0.4**
ZAF 7.66 127 P **Pn 16 29 32.0 -0.7**
baz=127
ZAF 7.66 127 P **Pn 16 29 32.0 -0.7**
KKB Krupnik 7.99 347 *e*P Pn 16 29 46.8 +10
ANTO Ankara 8.17 43 *e*P **Pn 16 29 41.6 +1.9**
ANTO pmax pmax
comp=Z,19nm,0.9s
ANTO Ankara 8.17 43 *e*P **Pn 16 29 41.6 +1.9**
comp=Z,19nm,0.9s
ANTO Ankara 8.17 43 *e*P **Pn 16 29 41.6 +1.9**
comp=Z,19nm,0.9s
HNKL Nakhl 8.29 118 P **Pn 16 29 40.0 -1.3**
baz=118
HNKL Nakhl 8.29 118 P **Pn 16 29 40.0 -1.3**
MMAI Mount Meron Ar 8.30 95 Pn **Pn 16 29 40.0 -1.6**
MMAI Sn **Sn 16 31 11.8 -3.0**
MMAI Mount Meron Ar 8.30 95 Pn **Pn 16 29 40.0 -1.6**
comp=Z,3.8nm,0.3s,baz=286,slow=12,SNR=11
MMAI Sn **Sn 16 31 11.8 -3.0**
comp=Z,14nm,0.3s,baz=263,slow=22,SNR=8.0
MMAI Mount Meron Ar 8.30 95 Pn **Pn 16 29 40.0 -1.6**
MMAI Sn **Sn 16 31 11.9 -3.0**
NIG Nigde 8.36 59 *e*PN **Pn 16 29 42.2 -0.3**
GRB Gharib 8.50 131 P **Pn 16 29 42.9 -1.3**
baz=131
GRB Gharib 8.50 131 P **Pn 16 29 42.9 -1.3**
PGB Panagyurishte 8.51 353 *e*P Pn 16 29 53.7 +9.5
BRTR Keskin Array B 8.58 47 Pn **Pn 16 29 46.5 +1.3**
BRTR Keskin Array B 8.58 47 Pn **Pn 16 29 46.5 +1.3**
comp=Z,0.8nm,0.3s,baz=225,slow=14,SNR=41
BRTR Keskin Array B 8.58 47 *i* P **Pn 16 29 46.5 +1.2**
comp=Z,13nm,1.0s
BR131 Keskin Array S 8.58 47 *e*P **Pn 16 29 46.6 +1.3**
comp=Z,5.4nm,0.6s
BR131 Keskin Array S 8.58 47 *e*P **Pn 16 29 46.6 +1.3**
comp=Z,5.4nm,0.6s
HWQ Hawqa 8.63 86 *e*P **Pn 16 29 44.4 -1.6**
VTS Vitosha 8.67 349 ⇑P Pn 16 29 50.7 +4.1
VTS Vitosha 8.67 349 ⇑*i*P Pn 16 29 50.7 +4.1
TIP Timpagrande 8.69 308 *e*P **Pn 16 29 46.4 -0.4**
comp=Z,36nm,0.6s
TIP Timpagrande 8.69 308 *e*P **Pn 16 29 46.3 -0.4**
comp=Z,36nm,0.6s
ARNB Al Arnab 8.74 75 *e*P **Pn 16 29 45.8 -1.8**
ARNB AML AML 16 29 52.3
comp=N,31nm,0.6s
ARNB *e*S Sn 16 31 13.4 -12
ARNB AML AML 16 31 45.6
comp=E,63nm,0.6s
ARNB Al Arnab 8.74 75 *e*P **Pn 16 29 45.8 -1.8**
SNR=45
LZLA Zalla 8.78 233 *i* P **Pn 16 29 47.0 -1.0**
SNR=70
TOTH TOTAH 9.10 92 *e*P Pn 16 29 45.4 -7.0
TOTH *e*S Sn 16 31 17.6 -17
TOTH AML AML 16 31 36.9
comp=N,40nm,0.7s
TOTH AML AML 16 31 41.7
comp=E,35nm,0.8s
HKAT Jabal Katrina 9.12 125 P **Pn 16 29 51.3 -1.5**
baz=125
HKAT Jabal Katrina 9.12 125 P **Pn 16 29 51.3 -1.5**
EIL Elat 9.14 116 Pn **Pn 16 29 51.6 -1.3**
EIL Sn **Sn 16 31 32.9 -2.4**
EIL Elat 9.14 116 Pn **Pn 16 29 51.6 -1.3**
comp=E,4.8nm,0.3s,baz=271,slow=6.4,SNR=56
EIL Sn **Sn 16 31 32.9 -2.4**
comp=E,5.6nm,0.3s,baz=89,slow=14,SNR=4.3
EIL Elat 9.14 116 Pn **Pn 16 29 51.6 -1.3**
EIL Sn **Sn 16 31 32.9 -2.4**
SZH Strazhica 9.16 2 *e*P Pn 16 29 59.7 +6.6
BTCH Batrach 9.16 75 *e*P **Pn 16 29 51.3 -2.0**
BTCH AML AML 16 30 03.2
comp=E,75nm,0.4s
BTCH *e*S Sn 16 31 25.1 -11
BTCH AML AML 16 31 50.0
comp=N,118nm,0.6s
BTCH Batrach 9.16 75 *e*P **Pn 16 29 51.3 -2.0**
SNR=45
WDD Wield Dalam 9.21 284 P **Pn 16 29 52.8 -1.0**
comp=N,113nm,0.9s
WDD Wield Dalam 9.21 284 P **Pn 16 29 52.8 -1.0**
comp=N,113nm,0.9s
ULC Ulcinj 9.29 330 ⇓*i*Pn **Pn 16 29 56.6 +1.7**
ULC *e*Sn **Sn 16 31 34.4 -4.4**
ULC Ulcinj 9.29 330 ⇓*i*Pn **Pn 16 29 56.6 +1.7**
MPEP Malo Peshtene 9.35 352 *e*P **Pn 16 29 58.8 +3.1**
DRWC Darouich 9.43 71 *e*P **Pn 16 29 56.2 -0.8**
DRWC AML AML 16 31 45.9
comp=N,32nm,0.5s
DRWC AML AML 16 31 52.6
comp=E,28nm,0.5s
DRWC Darouich 9.43 71 *e*P **Pn 16 29 56.2 -0.8**
SNR=45
PVY Plav 9.54 334 ⇓*i*Pn **Pn 16 30 00.3 +1.8**
PVY *e*Sn **Sn 16 31 40.3 -4.9**
PVY Plav 9.54 334 ⇓*i*Pn **Pn 16 30 00.3 +1.8**
PDG Podgorica 9.67 331 ⇓*i*Pn **Pn 16 30 02.0 +1.9**
TTG Podgorica 9.67 331 ⇓*i*Pn **Pn 16 30 02.0 +1.9**
TTG *e*Sn **Sn 16 31 43.6 -4.5**
LJFR Jufra 9.67 242 *i* P **Pn 16 29 59.9 -0.4**
SNR=70
BUM Brajici-Budva 9.71 329 ⇓*i*Pn **Pn 16 30 02.0 +1.2**
BUM *e*Sn **Sn 16 31 45.1 -4.2**
BUM Brajici-Budva 9.71 329 ⇓*i*Pn **Pn 16 30 02.0 +1.2**
HHRG Al Ghardaqah 9.74 133 P **Pn 16 30 01.0 -0.1**
baz=133
HHRG Al Ghardaqah 9.74 133 P **Pn 16 30 01.0 -0.1**
CUC Castrocucco 9.74 310 *e*P **Pn 16 30 01.6 +0.4**
comp=E,43nm,0.6s
CUC Castrocucco 9.74 310 *e*P **Pn 16 30 01.6 +0.4**
comp=E,43nm,0.6s
BEY Berane 9.81 335 ⇑*i*Pn **Pn 16 30 03.4 +1.3**
IVA Berane 9.81 335 ⇑*i*Pn **Pn 16 30 03.4 +1.3**
IVA *e*Sn **Sn 16 31 47.2 -4.5**
HCY Herceg Novi 10.00 328 ⇓*i*Pn **Pn 16 30 06.6 +1.9**
HCY *e*Sn **Sn 16 31 52.2 -4.1**
HCY Herceg Novi 10.00 328 ⇓*i*Pn **Pn 16 30 06.6 +1.9**
NKY Niksic 10.10 331 ⇓*i*Pn **Pn 16 30 06.7 +0.6**
NKY *e*Sn **Sn 16 31 53.0 -5.8**
NKY Niksic 10.10 331 ⇓*i*Pn **Pn 16 30 06.7 +0.6**
LKFR Kufra 10.11 192 *i* P **Pn 16 30 04.4 -1.9**
SNR=70
BRY Bratogost 10.35 330 ⇑*i*Pn **Pn 16 30 10.3 +0.6**
BRY *e*Sn **Sn 16 32 00.3 -4.9**
BRY Bratogost 10.35 330 ⇑*i*Pn **Pn 16 30 10.3 +0.6**
PLE Pljevlja 10.39 334 ⇓*i*Pn **Pn 16 30 12.3 +2.2**
PLE *e*Sn **Sn 16 32 00.9 -5.1**
PLE Pljevlja 10.39 334 ⇓*i*Pn **Pn 16 30 12.3 +2.2**
LSHF Shwairf 10.42 250 *i* P **Pn 16 30 08.3 -2.2**
SNR=70
UPM Unac-Piva 10.46 332 ⇓*i*Pn **Pn 16 30 10.6 -0.5**
UPM *e*Sn Sn 16 32 01.9 -5.9
UPM Unac-Piva 10.46 332 ⇓*i*Pn **Pn 16 30 10.6 -0.5**
TIRR Tirgusor 10.58 11 ⇓P Pn 16 30 20.1 +7.5
TIRR Tirgusor 10.58 11 ⇓*i*P Pn 16 30 20.1 +7.5
VOIR 11.33 358 ⇑P Pn 16 30 28.8 +5.9
VOIR 11.33 358 ⇑*i*P Pn 16 30 28.8 +5.9
MLR Muntele Rosu 11.38 1 Pn **Pn 16 30 25.0 +1.3**
MLR Muntele Rosu 11.38 1 ⇓*i*P **Pn 16 30 25.7 +2.0**
MLR Muntele Rosu 11.38 1 Pn **Pn 16 30 25.0 +1.3**
comp=E,0.1nm,0.3s,baz=163,slow=5.3,SNR=5.7
MLR LR LR 16 35 39.9
comp=E,222nm,18.1s,baz=185,slow=42
MLR Muntele Rosu 11.38 1 P **Pn 16 30 25.0 +1.3**
LOT Lotru 11.41 354 ⇓*i*P **Pn 16 30 23.1 -1.0**
PLOR Plostina 11.77 4 ⇑P Pn 16 30 33.5 +4.6
PLOR Plostina 11.77 4 ⇑*i*P Pn 16 30 33.5 +4.6
VRI Vrincioaia 11.79 4 ⇑P Pn 16 30 35.4 +6.3
VRI Vrincioaia 11.79 4 ⇑*i*P Pn 16 30 35.4 +6.3
TESR Tescani 12.43 4 ⇑*i*P Pn 16 30 43.2 +5.3
SIM Simferopol' 12.69 29 *e*P P 16 31 00.0 +7.4
SIM pmax pmax
comp=Z,15nm,0.7s
SIM MLR MLR
comp=Z,440nm,17.6s
UDBI Udbina 12.86 327 *e*Pn **Pn 16 30 43.0 -0.9**
UDBI Sn Sn 16 33 00.2 -6.2
UDBI Udbina 12.86 327 *e*Pn **Pn 16 30 43.0 -0.9**
KIS Kishinev 13.12 10 *e* P 16 31 03.0 +5.6
KIS LRM MLR 16 36 36.0
comp=Z,1µm,11.0s
NVLJ Novalja 13.30 325 *e*Pn **Pn 16 30 48.6 -1.2**
NVLJ Sn Sn 16 33 08.4 -8.6
NVLJ Novalja 13.30 325 *e*Pn **Pn 16 30 48.6 -1.2**
KEST Kesra 13.39 282 *e*P **Pn 16 30 51.8 +0.7**
KEST Kesra 13.39 282 Pn **Pn 16 30 52.7 +1.5**
comp=Z,0.1nm,0.3s,baz=354,slow=7.1,SNR=2.6
KEST LR LR 16 36 55.3
comp=Z,132nm,20.1s,baz=19,slow=41
KEST Kesra 13.39 282 *e*P **Pn 16 30 51.8 +0.7**
BURAR Bucovina Array 13.50 359 ⇑P **P 16 31 01.2 -0.5**
BURAR Bucovina Array 13.50 359 ⇑*i*P **P 16 31 01.2 -0.5**
ANN Anapa 14.08 37 *e*P **P 16 31 07.2 -0.8**
ANN pmax pmax
comp=Z,47nm,1.0s
ANN Anapa 14.08 37 *e*P **P 16 31 07.2 -0.8**
comp=Z,47nm,1.0s
PSZ Piszkesteto 14.44 345 *e*P **Pn 16 31 05.4 0.0**
PSZ pmax pmax
comp=Z,19nm,1.1s
PSZ Piszkesteto 14.44 345 *e*P **Pn 16 31 05.4 0.0**
comp=Z,19nm,1.1s
PSZ Piszkesteto 14.44 345 ⇑*i*P **P 16 31 10.4 -1.7**
SOC Sochi 14.53 45 *e*P **Pn 16 31 07.5 +0.9**
SOC *e* 16 33 46.2
SOC pmax pmax
comp=Z,27nm,1.3s
SOC MLR MLR
comp=Z,732nm,30.0s
UZH Uzhgorod 14.72 352 *e*P **P 16 31 12.7 -2.4**
UZH *e*S **Sn 16 33 56.5 +5.0**
UZH MLR MLR
comp=E,320nm,11.0s
UZH MLR MLR
comp=Z,220nm,11.0s
KECS Kecovo 14.86 347 *e*P **Pn 16 31 12.2 +1.2**
KECS Kecovo 14.86 347 *e*PN **Pn 16 31 12.2 +1.2**
KECS Kecovo 14.86 347 *e*Pn **Pn 16 31 12.2 +1.2**
KOLS Kolonicke sedl 15.02 352 *e*P **Pn 16 31 14.4 +1.2**
KOLS Kolonicke sedl 15.02 352 *e*PN **Pn 16 31 14.4 +1.2**
KOLS Kolonicke sedl 15.02 352 *e*Pn **Pn 16 31 14.4 +1.2**
ARSA Arzberg 15.16 333 ⇑*i*Pn **Pn 16 31 14.8 -0.2**
comp=Z,7.8nm,0.5s
VYHS Vyhne 15.23 343 *e*P **Pn 16 31 15.0 -1.0**
VYHS Vyhne 15.23 343 *e*PN **Pn 16 31 15.0 -1.0**
VYHS Vyhne 15.23 343 *e*Pn **Pn 16 31 15.0 -1.0**
PGF Ploggiola 15.46 308 *e*P **Pn 16 31 18.5 -0.6**
comp=Z,148nm,1.2s
LVV L'vov 15.75 356 *e*P **P 16 31 27.1 +0.6**
LVV MLR MLR
comp=N,500nm,11.0s
LVV MLR MLR
comp=E,400nm,11.0s
LVV MLR MLR
comp=Z,600nm,11.0s
LVV L'vov 15.75 356 *e*P **P 16 31 27.1 +0.6**
KBA Koelnbreinsper 15.90 328 *i* P **P 16 31 30.3 +1.8**
comp=Z,15nm,0.7s,SNR=10
AKH Akhalkalaki 15.95 58 P **Pn 16 31 26.5 +0.9**
ABTA Abfaltersbach 16.03 326 ⇑*i*P **P 16 31 30.6 +0.8**
comp=Z,20nm,0.7s,SNR=12
ONI Oni 16.39 54 P **Pn 16 31 29.5 -1.5**
ONI S **S 16 34 45.8 +1.3**
GNI Garni 16.45 63 *e*P **P 16 31 33.6 -1.0**
comp=Z,60nm,1.1s
GNI Garni 16.45 63 Pn **P 16 31 34.4 -0.2**
comp=Z,1.9nm,0.3s,baz=332,slow=3.0,SNR=14
GNI LR LR 16 39 40.5
comp=Z,694nm,18.4s,baz=73,slow=44
GNI Garni 16.45 63 *e*P **P 16 31 33.6 -1.0**
comp=Z,60nm,1.1s
KIV Kislovodsk 16.54 48 *e*P **P 16 31 34.8 -0.6**
KIV *e*S **Sn 16 34 37.6 +1.7**
KIV pmax pmax
comp=Z,63nm,1.0s
KIV MLR MLR
comp=Z,132nm,13.0s
KIV Kislovodsk 16.54 48 *e*P **P 16 31 34.8 -0.6**
comp=Z,63nm,1.0s
KBZ Khabaz 16.55 49 P **P 16 31 35.0 -0.5**
KBZ Khabaz 16.55 49 Pn **P 16 31 35.0 -0.5**
KBZ Khabaz 16.55 49 Pn **P 16 31 35.0 -0.5**
comp=Z,0.5nm,0.3s,baz=248,slow=8.2,SNR=25
KBZ LR LR 16 39 33.6
comp=Z,253nm,19.8s,baz=254,slow=43
KBZ Khabaz 16.55 49 P **P 16 31 35.0 -0.5**
VRAC Vranov 16.58 339 Pn **P 16 31 35.7 -0.1**
VRAC Vranov 16.58 339 Pn **P 16 31 35.7 -0.1**
comp=Z,1.1nm,0.3s,baz=166,slow=9.2,SNR=8.0
VRAC Vranov 16.58 339 P **P 16 31 35.7 -0.1**
SET Setif 16.61 283 P **Pn 16 31 30.0 -3.9**
OKC Ostrava-Krasne 16.64 343 *e*P **Pn 16 31 34.3 +0.2**
OKC MLR MLR
comp=Z,600nm,10.9s
OKC Ostrava-Krasne 16.64 343 *e*P **Pn 16 31 34.3 +0.2**
OKC *ex* x 16 31 37.7
OKC *e*S **S 16 34 55.5 +6.1**
OKC AMS AMS 16 39 10.0
comp=Z,600nm,10.9s
OJC Ojcow 16.65 347 *e*P **P 16 31 41.3 +4.7**
OJC Ojcow 16.65 347 *e*P **P 16 31 41.3 +4.7**
MORC Moravsky Berou 16.74 342 *e*P **Pn 16 31 35.3 -0.1**
MORC pmax pmax
comp=Z,11nm,1.0s
MORC Moravsky Berou 16.74 342 *e*P **Pn 16 31 35.3 -0.1**
comp=Z,11nm,1.0s
ZEI Tsey 16.76 54 *e*P **P 16 31 39.8 +1.7**
ZEI pmax pmax
comp=Z,90nm,1.4s
ZEI Tsey 16.76 54 *e*P **P 16 31 39.8 +1.7**
comp=Z,90nm,1.4s
KIEV Kiev 16.80 8 *e*P **Pn 16 31 35.4 -0.7**
KIEV pmax pmax
comp=Z,25nm,0.6s
KIEV Kiev 16.80 8 *e*P **Pn 16 31 35.4 -0.7**
comp=Z,25nm,0.6s
WTTA Wattenberg 16.82 326 ⇑*i*P **P 16 31 40.6 +2.0**
comp=Z,18nm,0.6s,SNR=17
TREC Trest 16.91 337 *e*P **Pn 16 31 37.5 -0.1**
TREC Trest 16.91 337 *e*P **Pn 16 31 37.5 -0.1**
TBLG Delisi 16.94 58 *e*P **Pn 16 31 38.0 +0.1**
TBLG Delisi 16.94 58 P **Pn 16 31 38.0 +0.1**
TBLG Delisi 16.94 58 *e*P **Pn 16 31 38.0 +0.1**
FETA Feichten 17.08 323 ⇑*i*P **P 16 31 43.6 +2.1**
comp=Z,15nm,0.8s,SNR=15
SBF Sospel 17.09 310 *e*P **Pn 16 31 38.9 -1.0**
comp=Z,52nm,0.8s
GERES GERESS Array B 17.16 333 P **Pn 16 31 41.5 +0.8**
GERES GERESS Array B 17.16 333 P **Pn 16 31 41.5 +0.8**
comp=Z,1.7nm,0.3s,baz=147,slow=9.8,SNR=33
GERES GERESS Array B 17.16 333 P **Pn 16 31 41.6 +0.8**
KRLC Kraliky 17.21 341 *e*P **P 16 31 43.1 +0.2**
KRLC Kraliky 17.21 341 *e*P **P 16 31 43.1 +0.2**
KRLC epP **pP 16 31 46.5 -1.9**
KRLC *es*P **sP 16 31 51.1 +0.1**
KRLC Kraliky 17.21 341 *e*P **P 16 31 43.1 +0.2**
DGRG David-gareji 17.29 59 P **Pn 16 31 41.5 -0.9**
DGRG David-gareji 17.29 59 P **Pn 16 31 41.5 -0.9**
DAVOX Davos/Dischmat 17.35 322 P **P 16 31 45.1 +0.6**
DAVOX S **Sn 16 34 54.4 -1.4**
DAVOX Davos/Dischmat 17.35 322 P **P 16 31 45.1 +0.6**
comp=Z,0.8nm,0.3s,baz=152,slow=13,SNR=8.1
DAVOX S **Sn 16 34 54.4 -1.4**
comp=Z,0.3nm,0.3s,baz=334,slow=18,SNR=3.6
DAVOX Davos/Dischmat 17.35 322 P **P 16 31 45.1 +0.6**
TUE Stuetta 17.43 320 *e*P **P 16 31 45.3 -0.1**
comp=Z,22nm,0.9s
TUE Stuetta 17.43 320 *e*P **P 16 31 45.3 -0.1**
comp=Z,22nm,0.9s
KHC Kasperske Hory 17.44 333 *e*P **Pn 16 31 44.4 +0.1**
KHC MLR MLR
comp=Z,600nm,13.9s
KHC Kasperske Hory 17.44 333 *e*P **Pn 16 31 44.4 +0.1**
KHC *ep*P **P 16 31 47.5 +2.1**
KHC *ex* x 16 31 53.1
KHC *e*S **S 16 35 05.6 -0.3**
KHC *ex* x 16 35 22.6
KHC AMS AMS 16 39 30.0
comp=Z,600nm,13.9s
KHC Kasperske Hory 17.44 333 *e*P **Pn 16 31 44.3 +0.1**
comp=Z,11nm,0.6s
KHC Kasperske Hory 17.44 333 *e*P **Pn 16 31 44.4 +0.1**
comp=Z,600nm,13.9s
LMR La Mourre 17.45 307 *e*P **Pn 16 31 43.1 -1.2**
comp=Z,110nm,1.4s
DPC Dobruska-Polom 17.59 340 *e*P **Pn 16 31 46.4 +0.3**
DPC *e*S **S 16 35 05.7 -3.1**
DPC Dobruska-Polom 17.59 340 *e*P **Pn 16 31 46.4 +0.3**
DPC *ep*P **P 16 31 49.3 +2.3**
DPC *es*P **sP 16 31 56.1 +1.0**
DPC *e*S **S 16 35 05.7 -3.1**
DPC *ex* x 16 35 25.2
DPC Dobruska-Polom 17.59 340 *e*P **Pn 16 31 46.4 +0.3**
DAVA Damuels 17.69 323 ⇑*i*Pn **P 16 31 49.5 +1.3**
comp=Z,12nm,0.6s,SNR=9.4
UPC Upice 17.82 340 *e*P **P 16 31 52.0 +2.5**
UPC Upice 17.82 340 *e*P **P 16 31 52.0 +2.5**
UPC *ep*P **pP 16 31 56.4 +1.4**
UPC *es*P **sP 16 31 59.5 +1.9**
UPC *ep*P pP 16 32 04.0 +9.0
UPC Upice 17.82 340 *e*P **P 16 31 52.0 +2.5**
PRU Pruhonice 17.82 336 *e*P **Pn 16 31 47.7 -1.1**
PRU *e*S **Sn 16 35 08.1 +1.2**
PRU MLR MLR
comp=Z,400nm,10.0s
PRU Pruhonice 17.82 336 *e*P **Pn 16 31 47.7 -1.1**
PRU *ep*P **P 16 31 52.2 +2.7**
PRU *es*P **sP 16 31 55.8 -1.8**
PRU *e*S **Sn 16 35 08.1 +1.2**
PRU AMS AMS 16 41 40.0
comp=Z,400nm,10.0s
IHRS Heris 17.85 70 *e*P **P 16 31 51.1 +0.9**
IHRS Heris 17.85 70 *e*P **P 16 31 51.1 +0.9**
MBDF Montbardon 17.93 312 *e*P **Pn 16 31 50.6 +0.2**
comp=Z,59nm,1.2s
MBDF Montbardon 17.93 312 *e*P **Pn 16 31 50.6 +0.2**
comp=Z,30nm,1.2s
PVCC Panska Ves 18.28 337 *e*P **P 16 31 55.0 +0.5**

PVCC Panska Ves 18.28 337 *e*P **P 16 31 55.0 +0.5**
PVCC Panska Ves 18.28 337 *e*P **P 16 31 55.0 +0.5**
LPG La Plagne 18.34 314 *e*P **Pn 16 31 56.2 +0.7**
comp=Z,22nm,0.9s
LPG La Plagne 18.34 314 *e*P **Pn 16 31 56.2 +0.7**
comp=Z,11nm,0.9s
SMRF Simiane la Rot 18.34 308 *e*P **Pn 16 31 55.6 +0.3**
comp=Z,25nm,0.9s
SMRF Simiane la Rot 18.34 308 *e*P **Pn 16 31 55.6 +0.3**
comp=Z,12nm,0.9s
LPL La Plagne 18.36 314 *e*P **P 16 31 55.3 -0.4**
comp=Z,9.5nm,0.5s
LPL La Plagne 18.36 314 *e*P **P 16 31 55.3 -0.4**
comp=Z,4.8nm,0.5s
RSL Roselend 18.51 314 *e*P **Pn 16 31 59.6 +2.1**
RSL Roselend 18.51 314 *e*P **Pn 16 31 59.6 +2.1**
ORIF Oris-en-Rattie 18.57 311 *e*P **P 16 31 57.0 -0.9**
comp=Z,20nm,0.9s
ORIF *e*R
comp=Z,182nm,20.5s
ORIF Oris-en-Rattie 18.57 311 *e*P **P 16 31 57.0 -0.9**
comp=Z,9.8nm,0.9s
BRG Berggiesshubel 18.78 337 *e*P **P 16 32 00.3 +0.3**
comp=Z,5.2nm,1.1s
BRG *e* 16 32 05.7
comp=Z,6.4nm,0.9s
BRG S **Sn 16 35 30.0 0.0**
BRG
comp=N,342nm,9.8s
BRG
comp=E,305nm,13.7s
BRG
comp=Z,306nm,11.8s
BRG Berggiesshubel 18.78 337 *e*P **P 16 32 00.3 +0.3**
BRG S **Sn 16 35 30.0 0.0**
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG MLR MLR
comp=N,342nm,9.9s
BRG MLR MLR
comp=E,305nm,13.7s
BRG MLR MLR
comp=Z,306nm,11.8s
BRG Berggiesshubel 18.78 337 *e*P **P 16 32 00.3 +0.3**
comp=Z,5.0nm,1.0s
SPAK Spaichingen-Ko 18.78 323 *e*P **P 16 31 59.4 -0.8**
SPAK Spaichingen-Ko 18.78 323 *e*P **P 16 31 59.4 -0.8**
GRA1 Grafenberg Arr 18.82 330 *e*P **Pn 16 32 02.2 +1.1**
comp=Z,4µm,19.6s
GRF Grafenberg Arr 18.82 330 *e*P **Pn 16 32 02.2 +1.1**
GRF *e*L L 16 42 52.8
comp=Z,202nm,19.6s
GRF Grafenberg Arr 18.82 330 *e*P **Pn 16 32 02.2 +1.1**
GRF MLR MLR
comp=Z,4µm,19.6s
GRFO Grafenberg 18.82 330 *e*P **Pn 16 32 01.2 +0.1**
GRFO pmax pmax
comp=Z,49nm,1.1s
GRFO Grafenberg 18.82 330 *e*P **Pn 16 32 01.2 +0.1**
comp=Z,49nm,1.1s
GRFO Grafenberg 18.82 330 *e*P **Pn 16 32 01.2 +0.1**
comp=Z,49nm,1.1s
FELD Feldberg im Sc 19.03 322 *e*P **Pn 16 32 06.6 +2.8**
BBS Basel-Blauen 19.03 320 *e*P **Pn 16 32 04.0 +0.3**
BBS Basel-Blauen 19.03 320 *e*P **Pn 16 32 04.0 +0.3**
BBS Basel-Blauen 19.03 320 *e*P **Pn 16 32 04.0 +0.3**
BFO Black Forest 19.16 323 *e*P **Pn 16 32 05.0 -0.2**
BFO pmax pmax
comp=Z,21nm,0.9s
BFO Black Forest 19.16 323 *e*P **Pn 16 32 05.0 -0.2**
comp=Z,21nm,0.9s
BFO Black Forest 19.16 323 *e*P **Pn 16 32 05.0 -0.2**
comp=Z,21nm,0.9s
MAK Makhachkala 19.29 56 P **P 16 32 05.3 -0.3**
MAK *e*S **Sn 16 35 39.4 -3.0**
MAK pmax pmax
comp=Z,388nm,0.9s
MAK MLR MLR
comp=Z,475nm,22.0s
MAK Makhachkala 19.29 56 P **P 16 32 05.3 -0.3**
comp=Z,388nm,0.9s
VIVF Saint-Julien-l 19.30 310 *e*P **P 16 32 05.2 -0.7**
comp=Z,28nm,1.1s
VIVF Saint-Julien-l 19.30 310 *e*P **P 16 32 05.2 -0.7**
comp=Z,14nm,1.1s
CABF La Chapelle 19.32 316 *e*P **P 16 32 05.6 -0.6**
comp=Z,24nm,0.8s
CABF La Chapelle 19.32 316 *e*P **P 16 32 05.6 -0.6**
comp=Z,12nm,0.8s
LOMF Lomont 19.33 319 *e*P **Pn 16 32 08.1 +0.8**
LOMF Lomont 19.33 319 *e*P **Pn 16 32 08.1 +0.8**
LOMF Lomont 19.33 319 *e*P **Pn 16 32 08.1 +0.8**
LOMF Lomont 19.33 319 *e*P **Pn 16 32 08.1 +0.8**
CLL Collm 19.46 336 *e*P **P 16 32 08.0 +0.5**
CLL *e*S **Sn 16 35 45.0 -1.4**
CLL pmax pmax
comp=Z,9.0nm,0.6s
CLL Collm 19.46 336 *e*P **P 16 32 08.0 +0.5**
comp=Z,9.0nm,0.6s
CLL *e*pP **pP 16 32 12.0 -1.0**
CLL *e*sP **sP 16 32 14.0 -1.6**
CLL *e* 16 32 17.0
CLL *e*S **Sn 16 35 45.0 -1.4**
CLL *e* 16 36 44.0
CLL LmV 16 43 00.0
comp=Z,200nm,21.6s
CLL Collm 19.46 336 *e*P **P 16 32 08.0 +0.5**
comp=Z,9.0nm,0.6s
LASF Ste Croix 19.50 307 *e*P **P 16 32 07.3 -0.8**
comp=Z,47nm,1.0s
LASF Ste Croix 19.50 307 *e*P **P 16 32 07.3 -0.8**
comp=Z,23nm,1.0s
HINF Hinteralfeld 19.60 320 *e*P **P 16 32 08.3 -0.8**
comp=Z,17nm,0.8s
HINF Hinteralfeld 19.60 320 *e*P **P 16 32 08.3 -0.8**
comp=Z,8.4nm,0.8s
VORD Divnogorie 19.61 27 *e*P **P 16 32 08.1 -1.0**
VORD pmax pmax
comp=Z,70nm,1.5s
VORD pmax pmax
comp=N,90nm,1.2s
VORD pmax pmax
comp=E,70nm,0.6s
VORD Divnogorie 19.61 27 *e*P **P 16 32 08.1 -1.0**
comp=E,90nm,1.2s
ECH Echery 19.69 321 *e*P **Pn 16 32 10.9 -0.6**
ECH pmax pmax
comp=Z,12nm,0.9s
ECH Echery 19.69 321 *e*P **Pn 16 32 10.9 -0.6**
comp=Z,12nm,0.9s
ECH Echery 19.69 321 *e*P **Pn 16 32 10.9 -0.6**
comp=Z,12nm,0.9s
CDF Champ du Feu 19.75 322 *e*P **P 16 32 11.3 +0.5**
comp=Z,22nm,0.8s
CDF Champ du Feu 19.75 322 *e*P **P 16 32 11.3 +0.5**
comp=Z,11nm,0.8s
VSR Storozhevoye 19.77 26 *e*P **P 16 32 10.8 0.0**
VSR *e*S **S 16 35 49.4 -3.3**
VSR pmax pmax
comp=Z,60nm,1.2s
VSR pmax pmax
comp=N,60nm,1.1s
VSR pmax pmax
comp=E,40nm,1.1s
VSR smax smax
comp=N,220nm,6.9s
VSR smax smax
comp=Z,170nm,6.9s
VSR smax smax
comp=E,140nm,6.8s
VSR Storozhevoye 19.77 26 *e*P **P 16 32 10.8 0.0**
comp=E,60nm,1.2s
TOD Tromm 19.81 326 *e*P **Pn 16 32 13.9 +0.9**
TOD Tromm 19.81 326 *e*P **Pn 16 32 13.9 +0.9**
TOD Tromm 19.81 326 *e*P **Pn 16 32 13.9 +0.9**
LANF Langenberg 19.86 324 *e*P **Pn 16 32 14.1 +0.6**
LANF Langenberg 19.86 324 *e*P **Pn 16 32 14.1 +0.6**
LANF Langenberg 19.86 324 *e*P **Pn 16 32 14.1 +0.6**
LANF Langenberg 19.86 324 *e*P **Pn 16 32 14.1 +0.6**
KTD Kalmit 19.95 325 *e*P **Pn 16 32 16.5 +1.8**
KTD Kalmit 19.95 325 *e*P **Pn 16 32 16.5 +1.8**
SUW Suwalki 19.98 356 *e*P **Pn 16 32 14.6 -0.2**
SUW pmax pmax
comp=Z,76nm,0.8s
SUW Suwalki 19.98 356 *e*P **Pn 16 32 14.6 -0.2**
comp=Z,76nm,0.8s

SUW Suwalki 19.98 356 *e*P **Pn 16 32 14.6 -0.2**
SUW Suwalki 19.98 356 *e*P **Pn 16 32 14.6 -0.2**
comp=Z,76nm,0.8s
HAU Haudompre 19.98 320 *e*P **P 16 32 13.4 +0.1**
comp=Z,35nm,0.9s
HAU *e*R
comp=Z,399nm,21.8s
HAU Haudompre 19.98 320 *e*P **P 16 32 13.4 +0.1**
comp=Z,18nm,0.9s
IRAZ Razeghan 20.07 79 *e*P Pn 16 32 15.7 -0.8
IRAZ Razeghan 20.07 79 *e*P Pn 16 32 15.7 -0.8
VOR Voronezh 20.20 25 *e*P Pn 16 32 17.0 -0.5
VOR pmax pmax
comp=Z,340nm,1.2s
VOR Voronezh 20.20 25 *e*P Pn 16 32 17.0 -0.5
comp=Z,340nm,1.2s
IGZV Ghazvin 20.27 76 *e*P Pn 16 32 18.6 -0.3
MTLF Montolieu 20.35 304 *e*P **P 16 32 16.9 -0.3**
comp=Z,27nm,1.2s
MTLF Montolieu 20.35 304 *e*P **P 16 32 16.9 -0.3**
comp=Z,13nm,1.2s
LBL Lubilhac 20.38 310 *e*P Pn 16 32 23.8 +4.0
LBL Lubilhac 20.38 310 *e*P Pn 16 32 23.8 +4.0
LBL Lubilhac 20.38 310 *e*P Pn 16 32 23.8 +4.0
PAGF Fort de Pagny 20.65 320 *e*P **P 16 32 19.4 -1.0**
comp=Z,32nm,1.2s
PAGF Fort de Pagny 20.65 320 *e*P **P 16 32 19.4 -1.0**
comp=Z,16nm,1.2s
SMF Signal de Mont 20.66 314 *e*P **P 16 32 19.7 -0.9**
comp=Z,12nm,0.6s
SMF Signal de Mont 20.66 314 *e*P **P 16 32 19.7 -0.9**
comp=Z,6.2nm,0.6s
RUP Ruppelstein 20.70 324 *e*P **P 16 32 21.5 +0.4**
RUP Ruppelstein 20.70 324 *e*P **P 16 32 21.5 +0.4**
RUP Ruppelstein 20.70 324 *e*P **P 16 32 21.5 +0.4**
PYM Petit Puy Mans 20.75 311 *e*P Pn 16 32 24.0 -0.2
PYM Petit Puy Mans 20.75 311 *e*P Pn 16 32 24.0 -0.2
PYM Petit Puy Mans 20.75 311 *e*P Pn 16 32 24.0 -0.2
PYM Petit Puy Mans 20.75 311 *e*P Pn 16 32 24.0 -0.2
AGO Saint Agoulin 20.81 312 *e*P Pn 16 32 24.0 -0.8
AGO Saint Agoulin 20.81 312 *e*P Pn 16 32 24.0 -0.8
AGO Saint Agoulin 20.81 312 *e*P Pn 16 32 24.0 -0.8
TAM Tamanrasset 20.86 243 *e*P **P 16 32 24.4 +1.3**
TAM pmax pmax
comp=Z,19nm,0.9s
TAM Tamanrasset 20.86 243 *e*P **P 16 32 24.4 +1.3**
comp=Z,19nm,0.9s
TAM Tamanrasset 20.86 243 *e*P **P 16 32 24.4 +1.3**
comp=Z,19nm,0.9s
IR3 Iran Long-Peri 20.96 79 *e*P **P 16 32 25.3 +1.2**
LOR Lormes 20.97 315 *e*P **P 16 32 23.5 -0.4**
comp=Z,16nm,0.8s
LOR *e*R
comp=Z,443nm,22.8s
LOR Lormes 20.97 315 *e*P **P 16 32 23.5 -0.4**
comp=Z,8.2nm,0.8s
MEZF Maizieres J'vi 20.98 319 *e*P **P 16 32 24.4 +0.4**
comp=Z,115nm,1.2s
MEZF Maizieres J'vi 20.98 319 *e*P **P 16 32 24.4 +0.4**
comp=Z,58nm,1.2s
CAF Calviac 21.02 308 *e*P **P 16 32 24.4 -0.1**
comp=Z,34nm,1.1s
CAF Calviac 21.02 308 *e*P **P 16 32 24.4 -0.1**
comp=Z,17nm,1.1s
AVF Avril sur Loir 21.03 314 *e*P **P 16 32 23.0 -1.5**
comp=Z,14nm,0.9s
AVF Avril sur Loir 21.03 314 *e*P **P 16 32 23.0 -1.5**
comp=Z,6.8nm,0.9s
SSF Saint Saulge 21.07 314 *e*P **P 16 32 26.0 +1.0**
comp=Z,11nm,0.7s
SSF Saint Saulge 21.07 314 *e*P **P 16 32 26.0 +1.0**
comp=Z,5.7nm,0.7s
WLF Walferdange 21.12 323 P P 16 32 30.4 +4.9
comp=Z,18nm,1.3s
WLF Walferdange 21.12 323 *e*P **P 16 32 27.6 +2.0**
WLF pmax pmax
comp=Z,28nm,1.0s
WLF Walferdange 21.12 323 *e*P **P 16 32 27.6 +2.0**
comp=Z,28nm,1.0s
WLF Walferdange 21.12 323 *e*P **P 16 32 27.5 +2.0**
comp=Z,28nm,1.0s
IPIR Pirpir 21.20 87 *e*Pn **P 16 32 28.6 +1.7**
IPIR Pirpir 21.20 87 *e*Pn **P 16 32 28.6 +1.7**
BGF Bois d'Agland 21.22 313 *e*P **P 16 32 26.1 -0.6**
comp=Z,44nm,0.8s
BGF Bois d'Agland 21.22 313 *e*P **P 16 32 26.1 -0.6**
comp=Z,22nm,0.8s
IDID Didziasalis 21.23 2 *e*P **P 16 32 28.6 +2.0**
IDID AMB AMB 16 32 34.3
comp=Z,13nm,1.1s
IDID Didziasalis 21.23 2 *e*P **P 16 32 28.6 +2.0**
comp=Z,13nm,1.1s,SNR=33
ISAL Salakas 21.47 1 *e*P **P 16 32 31.5 +2.3**
ISAL AMB AMB 16 32 36.7
comp=Z,17nm,1.1s
ISAL Salakas 21.47 1 *e*P **P 16 32 31.5 +2.3**
comp=Z,17nm,1.1s,SNR=33
TCF Toulx Ste Croi 21.49 311 *e*P **P 16 32 30.5 +0.9**
comp=Z,49nm,1.2s
TCF Toulx Ste Croi 21.49 311 *e*P **P 16 32 30.5 +0.9**
comp=Z,24nm,1.2s
RJF Les Rejaudoux 21.52 308 *e*P **P 16 32 30.1 +0.2**
comp=Z,66nm,1.1s
RJF *e*R
comp=Z,282nm,21.8s
RJF Les Rejaudoux 21.52 308 *e*P **P 16 32 30.1 +0.2**
comp=Z,33nm,1.1s
EPF Esparros 21.56 302 *e*P **P 16 32 29.0 -1.4**
comp=Z,9.2nm,0.7s
EPF Esparros 21.56 302 *e*P **P 16 32 29.0 -1.4**
comp=Z,4.6nm,0.7s
IVRN Varamin 21.57 80 *e*P **P 16 32 30.5 -0.1**
IZAR Zarasai 21.65 1 *e*P **P 16 32 33.2 +2.0**
IZAR AMB AMB 16 32 37.3
comp=Z,21nm,1.1s
IZAR Zarasai 21.65 1 *e*P **P 16 32 33.2 +2.0**
comp=Z,21nm,1.1s,SNR=29
IKLH Kolahrood 21.66 85 *e*P **P 16 32 33.3 +1.5**
IKLH Kolahrood 21.66 85 *e*P **P 16 32 33.3 +1.5**
IDMV Damavand 21.78 79 *e*P **P 16 32 34.7 +1.7**
IDMV Damavand 21.78 79 *e*P **P 16 32 34.7 +1.7**
MEM Membach 21.81 325 P **P 16 32 35.0 +2.0**
comp=Z,18nm,1.3s
LFF La Frestale 21.90 307 *e*P **P 16 32 33.9 0.0**
comp=Z,20nm,0.6s
LFF La Frestale 21.90 307 *e*P **P 16 32 33.9 0.0**
comp=Z,10nm,0.6s
HGN Heimansgroeve 21.95 325 *e*P **P 16 32 35.2 +0.8**
comp=Z,29nm,1.1s
HGN *e*S **S 16 36 37.5 +1.7**
HGN *e*L L 16 44 07.8
comp=Z,226nm,18.6s
HGN Heimansgroeve 21.95 325 *e*P **P 16 32 35.2 +0.8**
comp=Z,29nm,1.1s
HGN *e*S **S 16 36 37.5 +1.7**
ISFB Sefidab 22.06 82 *e*P **P 16 32 36.4 +0.5**
GIVF Givet 22.06 323 *e*P **P 16 32 36.0 +0.3**
comp=Z,66nm,1.0s
GIVF Givet 22.06 323 *e*P **P 16 32 36.0 +0.3**
comp=Z,33nm,1.0s
ETSF Etsaut 22.16 301 *e*P **P 16 32 36.1 -0.8**
comp=Z,56nm,1.3s
ETSF Etsaut 22.16 301 *e*P **P 16 32 36.1 -0.8**
comp=Z,28nm,1.3s
DOU Dourbes 22.18 322 P **P 16 32 39.7 +2.9**
comp=Z,13nm,1.2s
BAIF Baives 22.35 322 *e*P **P 16 32 38.0 -0.7**
comp=Z,46nm,0.8s
BAIF Baives 22.35 322 *e*P **P 16 32 38.0 -0.7**
comp=Z,23nm,0.8s
IZEF Zefreh 22.36 86 *e*P **P 16 32 39.7 +0.5**
IZEF Zefreh 22.36 86 *e*P **P 16 32 39.7 +0.5**
OBN Obninsk 22.38 17 *e*P **P 16 32 38.0 -0.9**
OBN *e* 16 32 51.7
OBN *e* 16 36 35.0
OBN pmax pmax
comp=Z,111nm,2.5s
OBN MLR MLR
comp=Z,200nm,14.0s
OBN Obninsk 22.38 17 *e*P **P 16 32 38.0 -0.9**
comp=Z,111nm,2.5s
OBN Obninsk 22.38 17 *e*PcP **PcP 16 36 35.0 +1.6**
WTSB Winterswijk 22.39 329 *e*P **P 16 32 38.7 -0.4**
comp=Z,74nm,1.5s
WTSB Winterswijk 22.39 329 *e*P **P 16 32 38.7 -0.4**
comp=Z,74nm,1.5s

ILAS Lasjerd 22.55 79 *e*P **P 16 32 41.5 +0.3**
ILAS Lasjerd 22.55 79 *e*P **P 16 32 41.5 +0.3**
SJPF Ste Jean 22.69 301 *e*P **P 16 32 42.0 -0.5**
comp=Z,37nm,1.1s
SJPF Ste Jean 22.69 301 *e*P **P 16 32 42.0 -0.5**
comp=Z,18nm,1.1s
ISHM Shahmirzad 22.79 78 *e*P **P 16 32 44.3 +0.5**
ISHM Shahmirzad 22.79 78 *e*P **P 16 32 44.3 +0.5**
MFF Saint Martin d 23.10 310 *e*P **P 16 32 46.6 -0.1**
comp=Z,24nm,0.7s
MFF Saint Martin d 23.10 310 *e*P **P 16 32 46.6 -0.1**
comp=Z,12nm,0.7s
IGLO Ghaloghah 23.18 76 *e*P **P 16 32 47.5 -0.3**
MOS Moscow 23.20 17 *e*P P 16 32 41.9 -5.6
MOS *e*S S 16 36 48.6 -10
MOS pmax pmax
comp=Z,23nm,1.1s
ISRV Sarvestan 23.89 94 *e*P **P 16 32 54.5 -0.4**
LDF La Druitiere 23.95 315 *e*P **P 16 32 53.7 -1.2**
comp=Z,18nm,0.6s
ESDC Sonseca Array 24.18 292 P **P 16 32 58.2 +1.0**
ESDC Sonseca Array 24.18 292 P **P 16 32 58.2 +1.0**
comp=Z,3.7nm,0.6s,baz=86,slow=9.7,SNR=17
ESDC LR LR 16 42 46.6
comp=Z,61nm,20.6s,baz=105,slow=38
ESLA Sonseca Array 24.18 292 *e*P **P 16 32 58.1 +0.9**
comp=Z,9.2nm,1.3s
FLN La Foliniere 24.24 315 *e*P **P 16 32 55.9 -1.7**
comp=Z,46nm,1.0s
FLN *e*R
comp=Z,252nm,18.5s
GRR Gorron 24.29 314 *e*P **P 16 32 57.2 -0.9**
comp=Z,21nm,0.7s
PAB San Pablo 24.47 292 *e*P **P 16 33 01.0 +1.1**
PAB pmax pmax
comp=Z,17nm,1.1s
PAB San Pablo 24.47 292 *e*P **P 16 33 01.0 +1.1**
comp=Z,17nm,1.1s
IMEH Mehriz 24.57 88 *e*P **P 16 33 01.7 +0.6**
MUD Monsted U'grnd 25.02 338 *e*P P 16 33 16.6 +12
MUD pmax pmax
comp=Z,16nm,1.1s
MUD Monsted U'grnd 25.02 338 *i* P P 16 33 16.6 +12
comp=Z,16nm,1.0s
MDT Midelt 25.15 276 P **P 16 33 07.5 +1.3**
MDT Midelt 25.15 276 P **P 16 33 07.5 +1.3**
comp=Z,2.6nm,0.6s,baz=81,slow=16,SNR=5.7
SGMF Saint Gilles 25.26 312 *e*P **P 16 33 05.3 -1.6**
comp=Z,47nm,1.1s
QUIF Quistinic 25.51 311 *e*P **P 16 33 08.8 -0.3**
comp=Z,21nm,0.5s
ROSF Rostrenen 25.74 312 *e*P **P 16 33 10.2 -1.0**
comp=Z,29nm,1.0s
PUL Pulkovo 25.87 6 *i* P **P 16 33 12.3 +0.1**
PUL pmax pmax
comp=Z,59nm,0.9s
PUL MLR MLR
comp=Z,235nm,15.0s
PBRG Braganca 26.48 296 *e*P **P 16 33 19.4 +1.4**
comp=Z,23nm,1.3s
PBRG Braganca 26.48 296 *e*P **P 16 33 19.4 +1.4**
comp=Z,23nm,1.3s
PBAR Barrancos 26.54 288 *e*P **P 16 33 19.7 +1.1**
comp=Z,21nm,1.2s
PBAR Barrancos 26.54 288 *e*P **P 16 33 19.7 +1.1**
comp=Z,21nm,1.2s
MVO Moncorvo 26.63 295 *e*P **P 16 33 21.0 +1.5**
comp=Z,31nm,1.4s
MVO Moncorvo 26.63 295 *e*P **P 16 33 21.0 +1.5**
comp=Z,31nm,1.4s
PMRV Marv??o 26.82 291 *e*P **P 16 33 21.9 +0.8**
comp=Z,30nm,1.3s
PMRV Marv??o 26.82 291 *e*P **P 16 33 21.9 +0.8**
comp=Z,30nm,1.3s
HFS Hagfors 27.18 347 P **P 16 33 24.2 +0.1**
HFS Hagfors 27.18 347 P **P 16 33 24.2 +0.1**
comp=Z,4.8nm,0.7s,baz=133,slow=12,SNR=12
PVIS Viseu 27.25 294 *e*P **P 16 33 25.9 +0.8**
PVIS Viseu 27.25 294 *e*P **P 16 33 25.9 +0.8**
PBDV Barranco-do-Ve 27.29 286 *e*P **P 16 33 27.3 +1.9**
comp=Z,38nm,1.3s
PBDV Barranco-do-Ve 27.29 286 *e*P **P 16 33 27.3 +1.9**
comp=Z,38nm,1.3s
EVO Evora 27.30 289 *e*P **P 16 33 26.3 +0.8**
comp=Z,21nm,1.0s
EVO *e*R
comp=Z,153nm,20.5s
FINES FINESS Array B 27.36 1 P **P 16 33 24.7 -1.0**
FINES FINESS Array B 27.36 1 P **P 16 33 24.7 -1.0**
comp=Z,10nm,0.9s,baz=157,slow=11,SNR=22
FIA1 FINESS Array S 27.36 1 *e*P **P 16 33 24.4 -1.3**
PCAB Cabril 27.42 296 *e*P **P 16 33 28.3 +1.7**
comp=Z,26nm,1.4s
PCAB Cabril 27.42 296 *e*P **P 16 33 28.3 +1.7**
comp=Z,26nm,1.4s
KAF Kangasniemi 28.04 1 *e*p **P 16 33 31.0 -0.7**
comp=Z,4.7nm,0.4s
KAF Kangasniemi 28.04 1 *e*P **P 16 33 31.0 -0.7**
KAF pmax pmax
comp=Z,5.0nm,0.4s
NAO01 NORSAR Array S 28.39 345 *e*P **P 16 33 35.1 +0.1**
comp=Z,6.6nm,0.5s
NB2 NORSAR Subarra 28.50 345 P **P 16 33 35.8 -0.2**
comp=Z,1.8nm,0.5s,baz=146,slow=9.3
NB2 NORSAR Subarra 28.50 345 P **P 16 33 35.8 -0.2**
comp=Z,1.8nm,0.5s,SNR=8.9
NOA NORSAR Array B 28.50 345 P **P 16 33 36.0 0.0**
NOA NORSAR Array B 28.50 345 P **P 16 33 36.0 0.0**
comp=Z,2.2nm,0.5s,baz=159,slow=9.9,SNR=11
AKTO Aktyubinsk 28.75 46 P **P 16 33 38.2 -0.1**
AKTO pmax pmax
comp=Z,21nm,1.2s
AKTO Aktyubinsk 28.75 46 P **P 16 33 38.5 +0.2**
AKTO Aktyubinsk 28.75 46 P **P 16 33 38.5 +0.2**
comp=Z,5.8nm,0.6s,baz=250,slow=9.2,SNR=19
AKTO LR LR 16 49 14.6
comp=Z,217nm,20.4s,baz=253,slow=45
JOF Joensuu 29.07 5 *e*p **P 16 33 39.6 -1.3**
comp=Z,4.0nm,0.3s
JOF Joensuu 29.07 5 *e*P **P 16 33 39.6 -1.3**
JOF pmax pmax
comp=Z,4.0nm,0.3s
EKA Eskdalemuir Ar 29.09 326 P **P 16 33 42.0 +0.9**
EKA Eskdalemuir Ar 29.09 326 P **P 16 33 42.0 +0.9**
comp=Z,5.1nm,0.7s,baz=138,slow=11,SNR=8.5
AB31 Akbulak array 29.52 49 *i* P **P 16 33 45.6 +0.5**
AB31 pmax pmax
comp=Z,3.0nm,0.4s
ABKAR Akbulak array 29.52 49 *e*P **P 16 33 45.4 +0.2**
comp=Z,3.5nm,0.5s
TOA0 Torodi Ar. Sit 30.06 232 *e*P **P 16 33 50.0 -0.2**
TOA0 Torodi Ar. Sit 30.06 232 *e*P **P 16 33 50.0 -0.2**
TORD Torodi Ar. Bea 30.06 232 P **P 16 33 50.2 0.0**
TORD PcP **PcP 16 36 52.8 +0.9**
TORD Torodi Ar. Bea 30.06 232 P **P 16 33 50.2 0.0**
comp=Z,2.4nm,0.6s,baz=31,slow=8.6,SNR=22
TORD PcP **PcP 16 36 52.8 +0.9**
comp=Z,0.6nm,0.5s,baz=8.8,slow=2.3,SNR=5.1
TORD LR LR 16 48 32.6
comp=Z,717nm,18.4s,baz=45,slow=42
TORD Torodi Ar. Bea 30.06 232 P **P 16 33 50.2 0.0**
TMCR Tamitsa 31.06 11 *e*P **P 16 33 58.4 -0.1**
TMCR *e* 16 36 52.1
TMCR pmax pmax
comp=Z,16nm,1.0s
TMCR Tamitsa 31.06 11 *e*P **P 16 33 58.4 -0.1**
comp=Z,16nm,1.0s
TMCR Tamitsa 31.06 11 *e*PcP **PcP 16 36 52.1 -1.5**
ARU Arti 31.73 35*d i*P **P 16 34 04.3 -0.2**
ARU 16 35 09.2
ARU 16 36 54.0
ARU S **S 16 39 13.2 +0.1**
ARU SS **SnSn 16 40 56.8 -3.4**
ARU pmax pmax
comp=Z,15nm,1.2s
ARU MLR MLR
comp=Z,202nm,19.0s
ARU Arti 31.73 35 *i* P **P 16 34 04.3 -0.2**
comp=Z,15nm,1.2s
ARU Arti 31.73 35 PcP **PcP 16 36 54.0 -1.6**
ARU S **S 16 39 13.2 +0.1**
comp=Z,202nm,19.0s
SOKR Solikamsk 32.71 29*d i*P **P 16 34 13.4 +0.4**
SOKR pmax pmax
comp=Z,20nm,1.0s
SOKR MLR MLR

	comp=Z,220nm,24.0s							
SOKR	**Solikamsk**	**32.71**	**29**	*i* P		**P**	**16 34 13.4**	**+0.4**
	comp=Z,220nm,24.0s							
SVE	**Sverdlovsk**	**32.92**	**36**⇑	*e*P		**P**	**16 34 15.3**	**+0.3**
SVE				pmax	pmax			
	comp=Z,15nm,1.1s							
SVE				MLR	MLR			
	comp=Z,211nm,20.0s							
SVE	**Sverdlovsk**	**32.92**	**36**	*e*P		**P**	**16 34 15.3**	**+0.3**
	comp=Z,211nm,20.0s							
APA	**Apatity**	**33.82**	**5**⇑	*i*P		**P**	**16 34 22.0**	**-0.6**
APA				*e*S		**S**	**16 39 42.0**	**-3.3**
APA				pmax	pmax			
	comp=Z,22nm,0.4s							
APA				MLR	MLR			
	comp=Z,300nm,10.0s							
APA	**Apatity**	**33.82**	**5**	*i* P		**P**	**16 34 22.0**	**-0.6**
	comp=Z,300nm,10.0s							
LVZ	**Lovozero**	**34.25**	**6**	*i* P		**P**	**16 34 26.4**	**0.0**
LVZ				pmax	pmax			
	comp=Z,30nm,1.6s							
LVZ				MLR	MLR			
	comp=Z,149nm,14.0s							
LVZ	**Lovozero**	**34.25**	**6**	*i* P		**P**	**16 34 26.4**	**0.0**
	comp=Z,149nm,14.0s							
ARCES	**ARCESS Array B**	**35.49**	**360**	P		**P**	**16 34 35.5**	**-1.6**
ARCES	**ARCESS Array B**	**35.49**	**360**	P		**P**	**16 34 35.4**	**-1.6**
	comp=Z,2.2nm,0.5s,baz=178,slow=8.5,SNR=28							
ARCES	**ARCESS Array B**	**35.49**	**360**	P		**P**	**16 34 35.5**	**-1.6**
ARE0	**ARCESS Array S**	**35.49**	**360**	*e*P		**P**	**16 34 35.3**	**-1.8**
KEV	**Kevo**	**35.72**	**1**	*ep*		**P**	**16 34 39.6**	**+0.6**
	comp=Z,4.9nm,0.7s							
KEV	**Kevo**	**35.72**	**1**	*e*P		**P**	**16 34 39.6**	**+0.6**
KEV				pmax	pmax			
	comp=Z,5.0nm,0.7s							
KEV	**Kevo**	**35.72**	**1**	*e*P		**P**	**16 34 39.6**	**+0.6**
	comp=Z,5.0nm,0.7s							
KK31	**Karatay Array**	**35.91**	**62**	*i* P		**P**	**16 34 41.7**	**+0.6**
KK31				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KK31	**Karatay Array**	**35.91**	**62**	*i* P		**P**	**16 34 41.7**	**+0.6**
	comp=Z,4.0nm,0.8s							
KKAR	**Karatay Array**	**35.91**	**62**	*e*P		**P**	**16 34 42.2**	**+1.1**
KKAR				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KKAR	**Karatay Array**	**35.91**	**62**	*e*P		**P**	**16 34 42.2**	**+1.1**
	comp=Z,4.2nm,0.8s							
KKAR	**Karatay Array**	**35.91**	**62**	*e*P		**P**	**16 34 42.2**	**+1.1**
	comp=Z,4.2nm,0.8s							
ZRNK	**Zerenda**	**36.03**	**45**	P		**P**	**16 34 42.5**	**+0.6**
ZRNK				pmax	pmax			
	comp=Z,30nm,1.1s							
ZRNK	**Zerenda**	**36.03**	**45**	P		**P**	**16 34 42.5**	**+0.6**
	comp=Z,30nm,1.1s							
KMBO	**Kilima Mbogo**	**36.73**	**160**	LR		LR	16 52 29.4	
	comp=Z,157nm,18.7s,baz=50,slow=41							
BRVK	**Borovoye**	**36.80**	**45**	*d* P		**P**	**16 34 49.4**	**+0.9**
BRVK				pmax	pmax			
	comp=Z,29nm,1.7s							
BRVK	**Borovoye**	**36.80**	**45**	*e*P		**P**	**16 34 49.5**	**+0.9**
	comp=Z,15nm,1.0s							
BRVK	**Borovoye**	**36.80**	**45**	*i* P		**P**	**16 34 49.4**	**+0.9**
	comp=Z,29nm,1.7s							
BVA0	**Borovoye Array**	**36.86**	**45**	P		**P**	**16 34 49.3**	**+0.3**
BVA0				pmax	pmax			
	comp=Z,20nm,1.2s							
BVA0	**Borovoye Array**	**36.86**	**45**	P		**P**	**16 34 49.3**	**+0.3**
	comp=Z,20nm,1.2s							
VOSK	**Vostochnaya**	**37.15**	**46**	P		**P**	**16 34 51.7**	**+0.3**
VOSK				pmax	pmax			
	comp=Z,23nm,1.1s							
VOSK	**Vostochnaya**	**37.15**	**46**	P		**P**	**16 34 51.7**	**+0.3**
	comp=Z,23nm,1.1s							
AAK	**Ala-Archa**	**38.86**	**63**	*e*P		**P**	**16 35 07.3**	**+1.1**
AAK				pmax	pmax			
	comp=Z,22nm,1.6s							
AAK	**Ala-Archa**	**38.86**	**63**	*e*P		**P**	**16 35 07.3**	**+1.1**
	comp=Z,22nm,1.6s							
AAK	**Ala-Archa**	**38.86**	**63**	*e*P		**P**	**16 35 07.3**	**+1.1**
	comp=Z,22nm,1.6s							
FRU	**Bishkek**	**38.93**	**62**	*e*P		**P**	**16 35 08.0**	**+1.3**
FRU				*e*			16 36 35.0	
FRU	**Bishkek**	**38.93**	**62**	*e*P		**P**	**16 35 08.0**	**+1.3**
DBIC	**Dimbokro**	**39.16**	**233**	P		**P**	**16 35 08.3**	**-0.5**
DBIC	**Dimbokro**	**39.16**	**233**	P		**P**	**16 35 08.3**	**-0.5**
	comp=Z,2.8nm,0.6s,baz=94,slow=8.5,SNR=6.8							
DBIC				LR		LR	16 53 55.9	
	comp=Z,438nm,18.1s,baz=22,slow=40							
DBIC	**Dimbokro**	**39.16**	**233**	P		**P**	**16 35 08.3**	**-0.5**
KSH	**Kashi**	**40.31**	**67**	*e*P		**P**	**16 35 17.7**	**-0.6**
KSH				pP		**pP**	**16 35 22.2**	**-2.2**
KSH				sP		**sP**	**16 35 25.1**	**-1.8**
KSH				PP		**PnPn**	**16 36 54.4**	**-0.4**
KSH				S		**S**	**16 41 24.1**	**-1.0**
KSH				sS		**sS**	**16 41 30.5**	**-4.6**
KSH				SS		SS	16 44 13.6	-10
KSH				ScS		**ScS**	**16 45 21.3**	**-2.5**
KSH				pmax	pmax			
	comp=Z,130nm,4.3s							
KSH				LR	LR			
	comp=N,300nm,11.8s							
KSH				LR	LR			
	comp=E,220nm,9.5s							
KSH				LR	LR			
	comp=Z,110nm,5.7s							
MK31	**Makanchi Array**	**44.10**	**56**	*e*P		**P**	**16 35 49.2**	**+0.2**
MK31	**Makanchi Array**	**44.10**	**56**	*e*P		**P**	**16 35 49.2**	**+0.2**
MK31	**Makanchi Array**	**44.10**	**56**	*e*P		**P**	**16 35 49.2**	**+0.2**
MKAR	**Makanchi Array**	**44.10**	**56**	P		**P**	**16 35 49.4**	**+0.4**
MKAR	**Makanchi Array**	**44.10**	**56**	P		**P**	**16 35 49.4**	**+0.4**
MKAR	**Makanchi Array**	**44.10**	**56**	P		**P**	**16 35 49.4**	**+0.4**
	comp=Z,14nm,0.8s,baz=278,slow=6.1,SNR=141							
MKAR				LR		LR	16 57 01.6	
	comp=Z,100nm,19.2s,baz=270,slow=40							
MKAR	**Makanchi Array**	**44.10**	**56**	P		**P**	**16 35 49.4**	**+0.4**
NVS	**Novosibirsk**	**44.62**	**44**⇑	*i*P		**P**	**16 35 53.6**	**+0.6**
NVS				*i*			16 37 35.6	
NVS				*e*PPP		PPP	16 38 22.0	
NVS				pmax	pmax			
	comp=N,6.0nm,1.3s							
NVS				pmax	pmax			
	comp=Z,30nm,1.3s							
NVS				pmax	pmax			
	comp=E,12nm,1.1s							
NVS	**Novosibirsk**	**44.62**	**44**	*i* P		**P**	**16 35 53.6**	**+0.6**
NVS	**Novosibirsk**	**44.62**	**44**	*i* PcP		**PcP**	**16 37 35.6**	**+0.1**
ZALV	**Zalesovo Beam**	**45.52**	**45**	P		**P**	**16 36 00.1**	**0.0**
ZALV	**Zalesovo Beam**	**45.52**	**45**	P		**P**	**16 36 00.1**	**0.0**
ZALV	**Zalesovo Beam**	**45.52**	**45**	P		**P**	**16 36 00.1**	**0.0**
	comp=E,7.3nm,0.5s,baz=266,slow=9.2,SNR=42							
ZALV	**Zalesovo Beam**	**45.52**	**45**	P		**P**	**16 36 00.1**	**0.0**
DAG	**Danmarks Havn**	**47.15**	**347**	*i* P		**P**	**16 36 13.0**	**+0.4**
DAG				pmax	pmax			
	comp=Z,3.0nm,0.8s							
DAG	**Danmarks Havn**	**47.15**	**347**	*i* P		**P**	**16 36 13.0**	**+0.4**
	comp=Z,3.8nm,0.8s							
WMQ	**Urumqi**	**48.27**	**59**	P		**P**	**16 36 23.5**	**+1.6**
PYUN	**Piuthan**	**49.01**	**81**	*e*P		**P**	**16 36 27.9**	**-0.1**
	comp=Z,32nm,0.6s							
DANN	**Dangsing**	**49.55**	**80**	*e*P		**P**	**16 36 33.2**	**+1.0**
	comp=Z,85nm,0.9s							
SUMG	**Summit**	**50.08**	**339**	*i* P		P	16 36 39.9	+4.2
SUMG				pmax	pmax			
	comp=Z,7.0nm,1.0s							
SUMG	**Summit**	**50.08**	**339**	*i* P		P	16 36 39.9	+4.2
	comp=Z,6.8nm,1.0s							
KRAR	**Krasnoyarsk**	**50.11**	**42**	*i* P		**P**	**16 36 36.7**	**+1.1**
KRAR				pmax	pmax			
	comp=Z,43nm,1.4s							
KRAR	**Krasnoyarsk**	**50.11**	**42**	*i* P		**P**	**16 36 36.7**	**+1.1**
	comp=Z,43nm,1.4s							
DMN	**Daman**	**50.93**	**80**	*e*P		**P**	**16 36 42.8**	**+0.2**
	comp=Z,74nm,1.0s							
KKN	**Kakani**	**51.00**	**80**	*e*P		**P**	**16 36 43.5**	**+0.4**
	comp=Z,33nm,0.9s							
HVS	**Khovu-Aksy**	**51.11**	**49***c*	*i*P		**P**	**16 36 44.3**	**+0.9**
HVS				pmax	pmax			
	comp=Z,91nm,1.0s							
HVS	**Khovu-Aksy**	**51.11**	**49**	*i* P		**P**	**16 36 44.3**	**+0.9**
	comp=Z,91nm,1.0s							
PKIN	**Phulchoki**	**51.18**	**80**	*e*P		**P**	**16 36 44.7**	**+0.2**
	comp=Z,23nm,0.9s							
PKI	**Pulchoki**	**51.19**	**80**	*e*P		**P**	**16 36 44.8**	**+0.1**
	comp=Z,49nm,1.0s							
GUN	**Gumba**	**51.45**	**80**	*e*P		**P**	**16 36 47.1**	**+0.5**
	comp=Z,46nm,0.7s							
JIRN	**Jiri**	**51.80**	**80**	*e*P		**P**	**16 36 49.6**	**+0.4**
	comp=Z,48nm,0.9s							
TAPN	**Taplejung**	**53.16**	**79**	*e*P		**P**	**16 36 59.2**	**-0.1**
	comp=Z,30nm,0.9s							
LSA	**Lhasa**	**55.02**	**75**	P		**P**	**16 37 12.8**	**-0.3**
MOY	**Mondy**	**55.50**	**47**	*e*P		**P**	**16 37 16.8**	**+1.1**
MOY	**Mondy**	**55.50**	**47**	*e*P		**P**	**16 37 16.8**	**+1.1**
TLY	**Talaya**	**57.10**	**47**	*e*P		**P**	**16 37 28.6**	**+1.6**
TLY				pmax	pmax			
	comp=Z,12nm,1.1s							
TLY				MLR	MLR			
	comp=Z,116nm,19.0s							
TLY	**Talaya**	**57.10**	**47**	*e*P		**P**	**16 37 28.6**	**+1.6**
	comp=Z,116nm,19.0s							
ZAK	**Zakamensk**	**57.22**	**48**	*e*P		**P**	**16 37 28.8**	**+0.8**
ZAK				pmax	pmax			
	comp=Z,11nm,1.1s							
ZAK	**Zakamensk**	**57.22**	**48**	*e*P		**P**	**16 37 28.8**	**+0.8**
	comp=Z,11nm,1.1s							
IRK	**Irkutsk**	**57.33**	**46**	*e*P		**P**	**16 37 28.8**	**+0.2**
IRK				pmax	pmax			
	comp=Z,31nm,1.5s							
IRK	**Irkutsk**	**57.33**	**46**	*e*P		**P**	**16 37 28.8**	**+0.2**
	comp=Z,31nm,1.5s							
GTA	**Gaotai**	**58.19**	**61**	*e*P		**P**	**16 37 35.7**	**+0.7**
GTA				pP		**pP**	**16 37 41.0**	**-0.3**
GTA				sP		**sP**	**16 37 44.0**	**+0.3**
GTA				S		**S**	**16 45 38.2**	**+2.4**
GTA				SS		**SS**	**16 49 33.9**	**+6.7**
GTA				pmax	pmax			
	comp=Z,6.0nm,1.1s							
GTA				pmax	pmax			
	comp=Z,71nm,5.7s							
GTA				LR	LR			
	comp=N,84nm,15.2s							
GTA				LR	LR			
	comp=E,89nm,17.1s							
GTA				LR	LR			
	comp=Z,90nm,19.0s							
SONM	**Songino Array**	**59.92**	**50**	P		**P**	**16 37 48.0**	**+1.1**
SONM	**Songino Array**	**59.92**	**50**	P		**P**	**16 37 48.0**	**+1.1**
	comp=Z,6.1nm,0.9s,baz=278,slow=8.8,SNR=40							
SONM				LR		LR	17 06 47.3	
	comp=Z,170nm,21.1s,baz=193,slow=39							
SONM	**Songino Array**	**59.92**	**50**	P		**P**	**16 37 48.0**	**+1.1**
TIXI	**Tiksi**	**62.05**	**20**⇓	*e*P		**P**	**16 38 00.8**	**+0.1**
TIXI				pmax	pmax			
	comp=Z,7.0nm,1.1s							
TIXI				MLR	MLR			
	comp=Z,191nm,19.0s							
TIXI	**Tiksi**	**62.05**	**20**	*e*P		**P**	**16 38 00.8**	**+0.1**
	comp=Z,191nm,19.0s							
BOSA	**Boshof**	**62.38**	**180**	P		**P**	**16 38 04.1**	**+0.6**
BOSA	**Boshof**	**62.38**	**180**	P		**P**	**16 38 04.1**	**+0.6**
	comp=Z,4.5nm,0.8s,baz=5.3,slow=3.9,SNR=8.1							
BOSA				LR		LR	17 06 34.3	
	comp=Z,233nm,18.0s,baz=354,slow=37							
BOSA	**Boshof**	**62.38**	**180**	P		**P**	**16 38 04.1**	**+0.6**
LZH	**Lanzhou**	**62.39**	**64**	*e*P		**P**	**16 38 03.5**	**-0.4**
LZH				pP		**pP**	**16 38 08.2**	**-2.0**
LZH				sP		**sP**	**16 38 10.6**	**-2.0**
LZH				PP		**PP**	**16 40 22.7**	**+1.8**
LZH				pmax	pmax			
	comp=Z,18nm,1.5s							
LZH				pmax	pmax			
	comp=Z,51nm,7.8s							
LZH				LR	LR			
	comp=N,220nm,16.5s							
LZH				LR	LR			
	comp=E,210nm,15.7s							
LZH				LR	LR			
	comp=Z,250nm,18.9s							
SCHQ	**Schefferville**	**64.19**	**320**	*e*P		**P**	**16 38 15.5**	**+0.2**
	comp=Z,17nm,1.1s							
SCHQ	**Schefferville**	**64.19**	**320**	P		**P**	**16 38 15.8**	**+0.4**
	comp=Z,4.9nm,0.4s,baz=77,slow=5.0,SNR=16							
SCHQ	**Schefferville**	**64.19**	**320**	*e*P		**P**	**16 38 15.5**	**+0.2**
	comp=Z,17nm,1.1s							
CD2	**Chengdu**	**64.48**	**69**	P		**P**	**16 38 17.9**	**+0.3**
CD2				pP		**pP**	**16 38 28.1**	**+4.1**
CD2				sP		sP	16 38 32.0	+5.6
CD2				PcP		**PcP**	**16 38 52.0**	**+0.2**
CD2				PP		**PP**	**16 40 41.3**	**+2.0**
CD2				ScP			16 42 50.7	
CD2				S		**S**	**16 46 52.2**	**-3.6**
CD2				sS		**sS**	**16 47 09.2**	**+2.9**
CD2				SS		**SS**	**16 51 03.9**	**-1.9**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,100nm,5.4s							
KMI	**Kunming**	**66.28**	**75**	P		P	16 38 33.3	+3.7
KMI				pmax	pmax			
	comp=Z,8.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**66.39**	**83**	P		**P**	**16 38 30.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**66.39**	**83**	P		**P**	**16 38 30.2**	**+0.1**
	comp=Z,3.3nm,0.9s,baz=300,slow=7.6,SNR=23							
CMAR	**Chiang Mai Arr**	**66.39**	**83**	P		**P**	**16 38 30.2**	**+0.1**
YAK	**Yakutsk**	**66.64**	**30**	*e*P		**P**	**16 38 29.6**	**-1.3**
YAK				pmax	pmax			
	comp=Z,14nm,1.0s							
YAK	**Yakutsk**	**66.64**	**30**	*e*P		**P**	**16 38 29.6**	**-1.3**
	comp=Z,14nm,1.0s							
HIA	**Hailar**	**67.55**	**45**	*e*P		**P**	**16 38 38.7**	**+1.6**
	comp=Z,20nm,1.0s							
HIA	**Hailar**	**67.55**	**45**	*e*P		**P**	**16 38 38.7**	**+1.6**
	comp=Z,20nm,1.0s							
GYA	**Guiyang**	**68.77**	**72**	*e*P		**P**	**16 38 47.0**	**+1.8**
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
CN2	**Changchun**	**73.65**	**48**	*e*P		**P**	**16 39 15.0**	**+0.7**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
BILL	**Bilibino**	**74.01**	**14**	*i* P		**P**	**16 39 16.2**	**+0.2**
BILL				*e*			16 39 30.9	
BILL				*e*			16 41 57.6	
BILL				pmax	pmax			
	comp=Z,9.0nm,1.2s							
BILL	**Bilibino**	**74.01**	**14**	*i* P		**P**	**16 39 16.2**	**+0.2**
	comp=Z,9.0nm,1.2s							
BILL	**Bilibino**	**74.01**	**14**	*e*PcP		**PcP**	**16 39 30.9**	**-0.3**
KLR	**Kul'dur**	**74.36**	**41**	*e*P		**P**	**16 39 15.2**	**-3.1**
SEY	**Seymchan**	**74.42**	**22**	*d* P		**P**	**16 39 19.6**	**+1.2**
SEY	**Seymchan**	**74.42**	**22**	*i* P		**P**	**16 39 19.6**	**+1.2**
NJ2	**Nanjing**	**75.29**	**61**	*e*P		**P**	**16 39 26.2**	**+2.2**
NJ2				pmax	pmax			
	comp=Z,20nm,0.5s							
INK	**Inuvik**	**76.71**	**352**	P		**P**	**16 39 31.9**	**+0.5**
INK	**Inuvik**	**76.71**	**352**	P		**P**	**16 39 31.9**	**+0.5**
	comp=Z,4.9nm,0.8s,baz=22,slow=12,SNR=13							
INK	**Inuvik**	**76.71**	**352**	P		**P**	**16 39 31.9**	**+0.5**
USRK	**Ussuriysk Arra**	**77.37**	**45**	P		**P**	**16 39 35.5**	**-0.1**
	comp=Z,8.8nm,0.8s,baz=305,slow=5.2,SNR=21							
YKW3	**Yellowknife Ar**	**78.50**	**342**	*e*P		**P**	**16 39 41.4**	**-0.1**
	comp=Z,0.1nm,0.6s							
YKW3	**Yellowknife Ar**	**78.50**	**342**	*e*P		**P**	**16 39 41.4**	**-0.1**
	comp=Z,0.1nm,0.6s							
YKA	**Yellowknife Ar**	**78.55**	**342**	P		**P**	**16 39 42.2**	**+0.4**
YKA	**Yellowknife Ar**	**78.55**	**342**	P		**P**	**16 39 42.2**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=30,slow=5.6,SNR=26							
YKA				LR		LR	17 16 12.9	
	comp=Z,5.5nm,18.6s,baz=310,slow=37							
YKA	**Yellowknife Ar**	**78.55**	**342**	P		**P**	**16 39 42.2**	**+0.4**
KSAR	**Wonju Array Be**	**78.66**	**52**	P		**P**	**16 39 43.7**	**+0.8**
KSAR	**Wonju Array Be**	**78.66**	**52**	P		**P**	**16 39 43.7**	**+0.8**
KSRS	**Korea Array**	**78.68**	**52**	P		**P**	**16 39 43.7**	**+0.7**
	comp=Z,4.1nm,0.9s,baz=299,slow=5.6,SNR=7.4							
KSRS				LR		LR	17 21 28.4	
	comp=Z,58nm,19.5s,baz=123,slow=41							
KSRS	**Korea Array**	**78.68**	**52**	P		**P**	**16 39 43.7**	**+0.7**
	comp=Z,59nm,19.5s							
COLD	**Coldfoot**	**78.94**	**358**	*e*P		**P**	**16 39 44.8**	**+0.9**
	comp=Z,6.7nm,0.9s							
COLD	**Coldfoot**	**78.94**	**358**	*e*P		**P**	**16 39 44.8**	**+0.9**
	comp=Z,6.7nm,0.9s							
FFC	**Flin Flon**	**80.71**	**332**	*i* P		**P**	**16 39 55.1**	**+1.4**
FFC	**Flin Flon**	**80.71**	**332**	*e*P		**P**	**16 39 54.5**	**+0.8**
	comp=Z,3.6nm,0.7s							
FFC	**Flin Flon**	**80.71**	**332**	*e*P		**P**	**16 39 54.5**	**+0.8**
	comp=Z,3.5nm,0.7s							
COWI	**Conover**	**80.81**	**320**	*e*P		**P**	**16 39 55.2**	**+0.8**
	comp=Z,6.9nm,0.7s							
COWI	**Conover**	**80.81**	**320**	*e*P		**P**	**16 39 55.2**	**+0.8**
	comp=Z,6.9nm,0.7s							
EGAK	**Eagle**	**80.90**	**354**	*e*P		**P**	**16 39 55.6**	**+1.1**
	comp=Z,5.5nm,0.8s							
EGAK	**Eagle**	**80.90**	**354**	*e*P		**P**	**16 39 55.6**	**+1.1**
	comp=Z,5.5nm,0.8s							
ILAR	**Eielson Array**	**81.28**	**357**	P		**P**	**16 39 56.8**	**+0.2**
ILAR	**Eielson Array**	**81.28**	**357**	P		**P**	**16 39 56.8**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=356,slow=4.1,SNR=23							
ILAR	**Eielson Array**	**81.28**	**357**	P		**P**	**16 39 56.8**	**+0.2**
MCK	**McKinley**	**82.40**	**358**	*e*P		**P**	**16 40 03.1**	**+0.6**
MCK				pmax	pmax			
	comp=Z,13nm,1.0s							
MCK	**McKinley**	**82.40**	**358**	*e*P		**P**	**16 40 03.1**	**+0.6**
	comp=Z,13nm,1.0s							
MCK	**McKinley**	**82.40**	**358**	*e*P		**P**	**16 40 03.1**	**+0.6**
	comp=Z,13nm,1.0s							
TRF	**Thorofare Moun**	**82.72**	**358**	*e*P		**P**	**16 40 04.2**	**-0.2**
	comp=Z,6.7nm,0.8s							
TRF	**Thorofare Moun**	**82.72**	**358**	*e*P		**P**	**16 40 04.2**	**-0.2**
	comp=Z,6.7nm,0.8s							
MENT	**Mentasta**	**82.91**	**355**	*e*P		**P**	**16 40 06.5**	**+1.3**
MENT	**Mentasta**	**82.91**	**355**	*e*P		**P**	**16 40 06.5**	**+1.3**
PETK	**Petropavlovsk-**	**83.72**	**27**	LR		LR	17 19 47.9	
	comp=Z,55nm,21.2s,baz=141,slow=37							
SML	**Sawmill**	**84.30**	**357**	*e*P		**P**	**16 40 12.8**	**+0.4**
SML				pmax	pmax			
	comp=Z,4.0nm,1.0s							
SML	**Sawmill**	**84.30**	**357**	*e*P		**P**	**16 40 12.8**	**+0.4**
	comp=Z,3.5nm,1.0s							
SML	**Sawmill**	**84.30**	**357**	*e*P		**P**	**16 40 12.8**	**+0.4**
	comp=Z,3.5nm,1.0s							
RC01	**Rabbit Creek A**	**85.07**	**358**	*e*P		**P**	**16 40 17.1**	**+0.9**
	comp=Z,9.2nm,0.5s							
RC01	**Rabbit Creek A**	**85.07**	**358**	*e*P		**P**	**16 40 17.1**	**+0.9**
	comp=Z,9.2nm,0.5s							
DLBC	**Dease Lake**	**85.57**	**347**	P		**P**	**16 40 20.6**	**+1.8**
DLBC	**Dease Lake**	**85.57**	**347**	P		**P**	**16 40 20.6**	**+1.8**
	comp=Z,1.7nm,0.6s,baz=38,slow=5.3,SNR=4.0							
DLBC	**Dease Lake**	**85.57**	**347**	P		**P**	**16 40 20.6**	**+1.8**
BDFB	**Brasilia**	**85.59**	**248**	P		**P**	**16 40 20.7**	**+1.1**
BDFB	**Brasilia**	**85.59**	**248**	P		**P**	**16 40 20.7**	**+1.1**
	comp=Z,2.8nm,0.5s,baz=95,slow=7.8,SNR=4.5							
BDFB				LR		LR	17 20 26.0	
	comp=Z,157nm,18.2s,baz=354,slow=37							
BDFB	**Brasilia**	**85.59**	**248**	P		**P**	**16 40 20.7**	**+1.1**
KDAK	**Kodiak Island**	**88.45**	**359**	P		**P**	**16 40 32.4**	**-0.3**
KDAK	**Kodiak Island**	**88.45**	**359**	P		**P**	**16 40 32.4**	**-0.3**
	comp=Z,5.9nm,0.9s,baz=99,slow=6.6,SNR=4.7							
KDAK	**Kodiak Island**	**88.45**	**359**	P		**P**	**16 40 32.4**	**-0.3**
OHAK	**Old Harbor**	**89.03**	**359**	*e*P		**P**	**16 40 36.7**	**+1.3**
	comp=Z,7.5nm,0.8s							
OHAK	**Old Harbor**	**89.03**	**359**	*e*P		**P**	**16 40 36.7**	**+1.3**
	comp=Z,7.4nm,0.8s							
SWMT	**Swartz Lake**	**91.02**	**334**	*e*P		**P**	**16 40 45.9**	**+0.8**
	comp=Z,1.5nm,0.6s							
SWMT				*e*			16 40 54.0	
SWMT	**Swartz Lake**	**91.02**	**334**	*e*P		**P**	**16 40 45.9**	**+0.8**
	comp=Z,1.5nm,0.6s							
PDAR	**Pinedale Array**	**93.17**	**329**	P		**P**	**16 40 55.5**	**+0.2**
PDAR	**Pinedale Array**	**93.17**	**329**	P		**P**	**16 40 55.5**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=108,slow=0.5,SNR=5.1							
PDAR				LR		LR	17 24 33.8	
	comp=Z,59nm,20.6s,baz=155,slow=37							
PDAR	**Pinedale Array**	**93.17**	**329**	*e*P		**P**	**16 40 55.5**	**+0.2**
WRA	**Warramunga Arr**	**116.16**	**97**	PKP		**PKPdf**	**16 46 24.6**	**+0.1**
WRA	**Warramunga Arr**	**116.16**	**97**	PKP		**PKPdf**	**16 46 24.6**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=321,slow=1.5,SNR=6.4							
ASAR	**Alice Springs**	**117.55**	**101**	PKP		**PKPdf**	**16 46 26.8**	**-0.2**
ASAR	**Alice Springs**	**117.55**	**101**	PKP		**PKPdf**	**16 46 26.8**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=281,slow=1.0,SNR=6.4							

*CSEM **09** 16:30:06.2, 38.17N×20.73E, h5km, MD3.5, After ATH*
ATH 09 16:30:06.2, 38.17N×20.73E, h5km, MD3.5/5, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VLS	**Valsamata**	**0.11**	**274**	*e*PG		Pg	16 30 08.6	0.0
VLS				*e*SG		Sg	16 30 10.6	+0.5
VLS	**Valsamata**	**0.11**	**274**	*e*Pg		Pg	16 30 08.6	0.0
VLS				*e*Sg		Sg	16 30 10.6	+0.5
LKD2	**Lefkada island**	**0.62**	**355**	*e*PB		Pg	16 30 18.4	+0.2
LKD2	**Lefkada island**	**0.62**	**355**	*e*Pb		Pg	16 30 18.4	+0.2
JAN	**Janina**	**1.49**	**4**	*e*PG		Pn	16 30 33.2	-0.5
JAN	**Janina**	**1.49**	**4**	*e*Pg		Pn	16 30 33.2	-

NNZ Nelson 3.30 207 ⇑PN Pn 17 09 01.5 -3.4
TUWZ Tuamarina 3.32 198 PN Pn 17 09 02.1 -3.1
QRZ Quartz Range 3.34 220 ⇑PN Pn 17 09 01.8 -3.6
THZ Tophouse 3.95 208 ⇑PN Pn 17 09 08.4 -4.0
KHZ Kahutara 4.35 198 PN Pn 17 09 13.2 -4.0
DSZ Denniston Nort 4.40 217 PN Pn 17 09 13.1 -4.6
LTZ Lake Taylor 5.07 207 PN Pn 17 09 21.0 -4.9
OXZ Oxford 5.62 205 PN Pn 17 09 26.7 -6.0

IDC 09 17:38:16.4±1.6, 14°38.83S×73°16.65W, h0km, mb3.8/2, mb1 4.1/4, mb1mx3.7/20, mbtmp3.9/4, ML4.1/2, Error ellipse: s-maj=63.3km s-min=31.4km az=44.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.52**	**106**	Pn	Pn	17 39 39.4	-1.3
	3.5nm,0.3s,baz=290,slow=9.6,SNR=67						
LVC	**Limon Verde**	**8.95**	**151**	Pn	Pn	17 40 26.7	-0.7
	1.5nm,0.3s,baz=344,slow=8.7,SNR=13						
LVC				Sn		17 41 55.9	-13
	1.7nm,0.3s,baz=166,slow=16,SNR=6.9						
SIV	**San Ignacio**	**12.19**	**97**	Pn	Pn	17 41 06.7	-4.8
	0.6nm,0.3s,baz=291,slow=14,SNR=12						
TORD	**Torodi Ar. Bea**	**79.58**	**73**	P	P	17 50 26.9	+0.8
	0.4nm,0.5s,baz=268,slow=5.6,SNR=5.1						
YKA	**Yellowknife Ar**	**83.46**	**342**	P	P	17 50 44.8	-0.7
	0.7nm,0.8s,baz=119,slow=5.1,SNR=5.4						
WRA	**Warramunga Arr**	**135.82**	**219**	PKP	PKPdf	17 57 40.9	+0.8
	0.5nm,0.7s,baz=138,slow=2.0,SNR=6.2						
ZALV	**Zalesovo Beam**	**137.47**	**19**	PKP	PKPdf	17 57 40.0	-2.1
	0.3nm,0.3s,baz=306,slow=3.4,SNR=2.5						
SONM	**Songino Array**	**147.09**	**360**	PKPbc	PKPbc	17 58 01.2	-0.4
	0.4nm,0.6s,baz=343,slow=6.1,SNR=4.0						

*IDC **09** 18:10:55.0±1.1, 13°.55N×120°.22E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.4/4, Error ellipse: s-maj=21.2km s-min=11.7km az=134.0*
*ISCJB **09** 18:11:01.5±1.0, 13°.7N±0°.1×120°.5E±0°.2, h70km, mb3.4/4, Error ellipse: s-maj=23.1km s-min=14.1km az=10.5*
ISC 09 18:11:03.1±1.2, 13°.7N±0°.1×120°.7E±0°.2, h70km, n7, σ1§46/6, mb3.5/4, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.35**	**132**	⇑*i*P	Pn	18 11 09.9	-4.7
TGY	**Tagaytay City**	**0.44**	**34**	*i*P	**Pn**	**18 11 13.8**	**-1.7**
TGY				*e*S	**Sn**	**18 11 26.2**	**+1.7**
TGY	**Tagaytay City**	**0.44**	**34**	Pg	Pn	18 11 10.9	-4.5
	196nm,0.3s,baz=288,slow=19,SNR=8.5						
TGY				Lg	Lg	18 11 25.7	
	230nm,0.3s,baz=287,slow=19,SNR=19						
SONM	**Songino Array**	**36.02**	**344**	P	**P**	**18 17 58.2**	**+0.6**
	0.3nm,0.6s,baz=169,slow=8.1,SNR=3.0						
WRA	**Warramunga Arr**	**36.06**	**158**	P	**P**	**18 17 58.1**	**0.0**
	0.7nm,0.6s,baz=340,slow=9.3,SNR=8.1						
ASAR	**Alice Springs**	**39.36**	**161**	P	**P**	**18 18 26.5**	**+0.6**
	0.3nm,0.4s,baz=335,slow=7.2,SNR=16						
MKAR	**Makanchi Array**	**46.00**	**324**	P	**P**	**18 19 19.3**	**-0.2**
	0.1nm,0.5s,baz=129,slow=12,SNR=2.4						

IDC 09 18:15:00.5±1.5, 52°.56S×118°.76W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.8/16, mbtmp3.7/4, MS3.8/8, Ms1 3.8/8, ms1mx3.5/25, Error ellipse: s-maj=52.4km s-min=40.9km az=95.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**29.37**	**115**	LR	LR	18 29 39.3	
	comp=Z,189nm,19.1s,baz=132,slow=30						
PLCA	**Paso Flores**	**34.51**	**90**	LR	LR	18 32 36.0	
	comp=Z,91nm,18.9s,baz=175,slow=31						
VNDA	**Vanda**	**37.11**	**201**	P	P	18 22 12.7	+0.6
	0.5nm,0.8s,baz=98,slow=3.1,SNR=4.1						
VNDA				LR	LR	18 34 36.2	
	comp=Z,72nm,18.5s,baz=340,slow=32						
QSPA	**South Pole Qui**	**37.64**	**180**	P	P	18 22 16.3	-0.7
	2.0nm,1.0s,baz=76,slow=4.0,SNR=3.8						
QSPA				LR	LR	18 35 00.6	
	comp=Z,126nm,21.4s,baz=98,slow=32						
ATAH	**Atahualpa**	**55.99**	**51**	LR	LR	18 42 15.7	
	comp=Z,109nm,21.1s,baz=35,slow=29						
MAW	**Mawson**	**60.15**	**181**	LR	LR	18 48 30.3	
	comp=Z,64nm,19.4s,baz=337,slow=33						
BDFB	**Brasilia**	**66.03**	**84**	LR	LR	18 51 11.2	
	comp=Z,112nm,19.0s,baz=201,slow=33						
STKA	**Stephens Creek**	**70.78**	**243**	LR	LR	18 51 09.1	
	comp=Z,95nm,21.1s,baz=78,slow=31						
ASAR	**Alice Springs**	**81.42**	**242**	P	P	18 27 19.6	+0.2
	0.3nm,0.8s,baz=128,slow=6.5,SNR=3.7						
WRA	**Warramunga Arr**	**84.17**	**245**	P	P	18 27 32.5	-1.2
	1.0nm,1.0s,baz=143,slow=4.4,SNR=3.4						
GERES	**GERESS Array B**	**10.09**	**78**	PKPbc	PKPbc	18 34 52.1	-0.2
	0.6nm,0.7s,baz=197,slow=4.1,SNR=5.4						
SONM	**Songino Array**	**151.09**	**279**	PKPbc	PKPbc	18 34 54.1	-0.6
	0.4nm,0.5s,baz=141,slow=5.0,SNR=4.0						
MKAR	**Makanchi Array**	**165.23**	**255**	PKPab	PKPab	18 36 04.4	+0.9
	0.8nm,0.9s,baz=120,slow=4.8,SNR=6.4						

*IDC **09** 18:18:19.1±0.7, 34°.05N×25°.41E, h0km, mb3.9/17, mb1 4.0/23, mb1mx4.0/32, mbtmp3.9/23, ML3.8/6, Error ellipse: s-maj=16.4km s-min=14.6km az=14.0*
*ISCJB **09** 18:18:21.2±0.8, 33°.96N±0°.03×25°.51E±0°.03, h28km±7km, mb3.9/26, Error ellipse: s-maj=4.5km s-min=3.5km az=13.5*
*HLW **09** 18:18:21.2, 34°.09N×25°.58E, h21km±28km, Md3.3, Ml3.6*
*CSEM **09** 18:18:22.7±0.2, 33°.99N×25°.47E, h20km, mb4.0/4, Ms2.6, Mw4.1, Error ellipse: s-maj=4.6km s-min=3.3km az=23.0*
*MOS **09** 18:18:22.1±1.1, 33°.95N×25°.19E, h33km, mb4.1/17, Error ellipse: s-maj=15.4km s-min=7.2km az=91.5*
*ATH **09** 18:18:23.5, 34°.17N×25°.36E, h23km×2km, MD3.7/16*
*ISK **09** 18:18:27.2, 34°.34N×25°.80E, h40km, ML3.6*
*THE **09** 18:18:27.0, 34°.40N×25°.45E, h0km±1km, ML3.2/1, Error ellipse: s-maj=3.4km s-min=1.1km az=190.0*
*DDA **09** 18:18:48.4, 35°.69N×27°.16E, h7km, MD3.4*
ISC 09 18:18:21.6±1.3, 34°.04N±0°.04×25°.49E±0°.03, h15km±8km, n222, σ1§47/244, mb4.0/25, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.12**	**360**	P	**Pb**	**18 18 42.3**	**-0.5**
LAST				S	**Sb**	**18 18 54.1**	**-3.1**
LAST	**Lasithi**	**1.12**	**360**	*e*PN	**Pb**	**18 18 42.3**	**-0.5**
LAST				*e*SN	**Sb**	**18 18 56.2**	**-1.0**
LAST	**Lasithi**	**1.12**	**360**	P	**Pb**	**18 18 42.3**	**-0.5**
LAST				*e*Sn	**Sb**	**18 18 56.2**	**-1.0**
SIVA	**Sivas**	**1.12**	**330**	P	**Pb**	**18 18 42.3**	**-0.5**
SIVA				S	**Sb**	**18 18 56.0**	**-1.2**
SIVA	**Sivas**	**1.12**	**330**	*e*PN	**Pb**	**18 18 42.3**	**-0.5**
SIVA				*e*SN	**Sb**	**18 18 54.8**	**-2.4**
SIVA	**Sivas**	**1.12**	**330**	P	**Pb**	**18 18 42.3**	**-0.5**
SIVA				*e*Sn	**Sb**	**18 18 54.8**	**-2.4**
NPS	**Neapolis**	**1.22**	**5**	P	**Pb**	**18 18 44.2**	**-0.3**
NPS				S	**Sb**	**18 18 57.6**	**-2.6**
NPS	**Neapolis**	**1.22**	**5**	*e*PN	**Pb**	**18 18 44.2**	**-0.3**
NPS				*e*SN	**Sg**	**18 19 00.1**	**-1.1**
NPS	**Neapolis**	**1.22**	**5**	P	**Pb**	**18 18 44.2**	**-0.3**
NPS				*e*Sn	**Sg**	**18 19 00.1**	**-1.1**
ZKR	**Zakros**	**1.23**	**29**	P	**Pg**	**18 18 44.9**	**-0.5**
ZKR				S	**Sn**	**18 19 00.2**	**-0.5**
ZKR	**Zakros**	**1.23**	**29**	*e*PB	**Pb**	**18 18 44.8**	**+0.2**
ZKR				*e*SN	**Sg**	**18 19 02.9**	**+1.5**
ZKR	**Zakros**	**1.23**	**29**	P	**Pg**	**18 18 44.9**	**-0.5**
ZKR				S	**Sn**	**18 19 00.2**	**-0.5**
ZKR				*e*Sn	**Sg**	**18 19 02.9**	**+1.5**
IDI	**Anoyia**	**1.34**	**339**	P	**Pn**	**18 18 45.7**	**-0.1**
IDI				S	**Sb**	**18 19 01.5**	**-2.0**
IDI	**Anoyia**	**1.34**	**339**	*e*PN	**Pn**	**18 18 45.8**	**-0.1**
IDI				*e*SN	**Sb**	**18 19 02.4**	**-1.1**
IDI	**Anoyia**	**1.34**	**339**	*e*Pn	**Pn**	**18 18 45.8**	**-0.1**
IDI				*e*Sn	**Sb**	**18 19 02.4**	**-1.1**
GVD	**Gavdhos**	**1.40**	**305**	*e*PN	**Pg**	**18 18 48.1**	**-0.6**
GVD	**Gavdhos**	**1.40**	**305**	*e*Pn	**Pg**	**18 18 48.1**	**-0.6**
VAM	**Vamos**	**1.73**	**323**	P	**Pb**	**18 18 52.7**	**-0.3**
VAM	**Vamos**	**1.73**	**323**	*e*PN	**Pb**	**18 18 52.8**	**-0.3**
VAM	**Vamos**	**1.73**	**323**	*e*Pn	**Pb**	**18 18 52.8**	**-0.3**
KARP	**Karpathos**	**2.04**	**42**	P	**Pb**	**18 18 58.8**	**+0.3**
KARP				S	**Sb**	**18 19 22.7**	**-1.0**
KARP	**Karpathos**	**2.04**	**42**	*e*PN	**Pb**	**18 18 59.0**	**+0.5**
KARP	**Karpathos**	**2.04**	**42**	P	**Pb**	**18 18 58.8**	**+0.3**
SANT	**Santorini**	**2.33**	**359**	P	**Pb**	**18 19 01.1**	**-2.2**
SANT	**Santorini**	**2.33**	**359**	*e*PB	**Pb**	**18 19 01.3**	**-2.0**
SANT	**Santorini**	**2.33**	**359**	P	**Pb**	**18 19 01.1**	**-2.2**
THR3	**Thira Island,**	**2.37**	**358**	P	**Pb**	**18 19 01.7**	**-2.2**
THR3	**Thira Island,**	**2.37**	**358**	P	**Pb**	**18 19 01.7**	**-2.2**
LTBQ	**Tobruq**	**2.38**	**214**	*i* P	**Pn**	**18 19 02.0**	**+1.9**
	SNR=50						
ANKY	**Antikythira Is**	**2.56**	**316**	*e*PB	**Pn**	**18 19 04.1**	**+1.5**
ANKY	**Antikythira Is**	**2.56**	**316**	*e*Pb	**Pn**	**18 19 04.1**	**+1.5**
KYTH	**Kithira**	**3.00**	**319**	P	**Pn**	**18 19 11.3**	**+2.6**
KYTH	**Kithira**	**3.00**	**319**	*e*PN	**Pn**	**18 19 10.6**	**+1.9**
KYTH	**Kithira**	**3.00**	**319**	*e*Pn	**Pn**	**18 19 10.6**	**+1.9**
KYTH	**Kithira**	**3.00**	**319**	P	**Pn**	**18 19 11.3**	**+2.6**
APE	**Apeiranthos**	**3.02**	**1**	*e*PN	**Pn**	**18 19 10.3**	**+1.2**
APE	**Apeiranthos**	**3.02**	**1**	*e*PN	**Pn**	**18 19 10.5**	**+1.5**
APE	**Apeiranthos**	**3.02**	**1**	*e*Pn	**Pn**	**18 19 10.5**	**+1.5**
ARG	**Arkhangelos**	**3.07**	**44**	*e*PN	**Pb**	**18 19 13.0**	**-2.9**
ARG	**Arkhangelos**	**3.07**	**44**	*e*Pn	**Pb**	**18 19 13.0**	**-2.9**
BODT	**Bodrum**	**3.36**	**26**	*e*PN	**Pn**	**18 19 13.5**	**-0.2**
BODT	**Bodrum**	**3.36**	**26**	*e*Pn	**Pn**	**18 19 13.5**	**-0.2**
VLI	**Veliai**	**3.39**	**323**	*e*PN	**Pn**	**18 19 14.9**	**+0.9**
VLI	**Veliai**	**3.39**	**323**	*e*Pn	**Pn**	**18 19 14.9**	**+0.9**
DYR	**Agios Nikonas**	**3.74**	**317**	*e*PN	**Pn**	**18 19 20.7**	**+1.8**
DYR	**Agios Nikonas**	**3.74**	**317**	*e*Pn	**Pn**	**18 19 20.7**	**+1.8**
MLSB	**Milas**	**3.75**	**29**	*e*PN	**Pn**	**18 19 19.1**	**+0.1**
MLSB	**Milas**	**3.75**	**29**	*e*Pn	**Pn**	**18 19 19.1**	**+0.1**
DALY	**Dalyan (Mu˘la**	**3.79**	**42**	*e*PN	**Pn**	**18 19 20.4**	**+0.9**
DALY	**Dalyan (Mu˘la**	**3.79**	**42**	*e*Pn	**Pn**	**18 19 20.4**	**+0.9**
TURN	**Turunc**	**3.80**	**41**	*i* P	**Pn**	**18 19 16.9**	**-2.8**
TURN				*i* S	Sn	18 19 54.9	-9.2
TURN	**Turunc**	**3.80**	**41**	*i* P	**Pn**	**18 19 16.9**	**-2.8**
SMG	**Samos**	**3.82**	**16**	*e*PN	**Pn**	**18 19 21.7**	**+1.7**
SMG	**Samos**	**3.82**	**16**	*e*Pn	**Pn**	**18 19 21.7**	**+1.7**
YER	**Yerkesik**	**3.84**	**36**	*e*PN	**Pn**	**18 19 19.8**	**-0.5**
YER	**Yerkesik**	**3.84**	**36**	*e*Pn	**Pn**	**18 19 19.8**	**-0.5**
DID	**Didima**	**3.91**	**333**	*e*PN	**Pn**	**18 19 21.8**	**+0.6**
DID	**Didima**	**3.91**	**333**	*e*Pn	**Pn**	**18 19 21.8**	**+0.6**
AKAS	**Kas**	**4.02**	**56**	*i* P	**Pn**	**18 19 24.8**	**+1.9**
AKAS				*i* S	**Sn**	**18 20 05.8**	**-4.0**
AKAS	**Kas**	**4.02**	**56**	*i* P	**Pn**	**18 19 24.8**	**+1.9**
AKAS				*i* S	**Sn**	**18 20 05.8**	**-4.0**
AYDN	**Tasoluk**	**4.10**	**28**	*i* P	**Pn**	**18 19 26.0**	**+2.1**
AYDN	**Tasoluk**	**4.10**	**28**	*i* P	**Pn**	**18 19 26.0**	**+2.1**
PYL	**PYLOS**	**4.18**	**314**	*e*PN	**Pn**	**18 19 25.2**	**+0.4**
PYL	**PYLOS**	**4.18**	**314**	*e*Pn	**Pn**	**18 19 25.2**	**+0.4**
ITM	**Ithomi**	**4.27**	**318**	*e*PN	**Pn**	**18 19 26.7**	**+0.6**
ITM	**Ithomi**	**4.27**	**318**	*e*Pn	**Pn**	**18 19 26.7**	**+0.6**
CHOS	**Chios island**	**4.36**	**6**	*e*PN	**Pn**	**18 19 29.3**	**+1.8**
CHOS	**Chios island**	**4.36**	**6**	*e*Pn	**Pn**	**18 19 29.3**	**+1.8**
URLA	**Izmir**	**4.40**	**11**	*i* P	**Pn**	**18 19 30.5**	**+2.5**
URLA	**Izmir**	**4.40**	**11**	*i* P	**Pn**	**18 19 30.5**	**+2.5**
BLCB	**Balcova**	**4.52**	**16**	*e*PN	**Pn**	**18 19 30.1**	**+0.7**
BLCB	**Balcova**	**4.52**	**16**	*e*Pn	**Pn**	**18 19 30.2**	**+0.7**
IZM	**Izmir**	**4.58**	**18**	*e*PN	**Pn**	**18 19 30.9**	**+0.5**
IZM	**Izmir**	**4.58**	**18**	*e*Pn	**Pn**	**18 19 31.0**	**+0.5**
GOLH	**Golhisar**	**4.60**	**45**	*i* P	**Pn**	**18 19 32.4**	**+1.6**
GOLH				*i* S	**Sn**	**18 20 22.2**	**-1.8**
GOLH	**Golhisar**	**4.60**	**45**	*i* P	**Pn**	**18 19 32.4**	**+1.6**
GOLH				*i* S	**Sn**	**18 20 22.2**	**-1.8**
AMT	**Artemida-Makis**	**4.64**	**320**	*e*PN	**Pn**	**18 19 32.3**	**+1.0**
AMT	**Artemida-Makis**	**4.64**	**320**	*e*Pn	**Pn**	**18 19 32.3**	**+1.0**
DNZL	**Cakiroluk**	**4.65**	**37**	*i* P	**Pn**	**18 19 33.5**	**+2.0**
DNZL				*i* S	Sn	18 20 14.8	-11
DNZL	**Cakiroluk**	**4.65**	**37**	*i* P	**Pn**	**18 19 33.5**	**+2.0**
SWA2		**4.78**	**180**	P	**Pn**	**18 19 32.7**	**-0.4**
	baz=182						
SWA2		**4.78**	**180**	P	**Pn**	**18 19 32.7**	**-0.4**
HBRG	**Burj al 'Arab**	**5.05**	**132**	P	**Pn**	**18 19 35.4**	**-1.5**
	baz=133						
LAKA	**Lakka**	**5.06**	**327**	*e*PN	**Pn**	**18 19 37.6**	**+0.6**
LAKA	**Lakka**	**5.06**	**327**	*e*Pn	**Pn**	**18 19 37.6**	**+0.6**
ANTB	**Antalya**	**5.09**	**54**	*e*PN	**Pn**	**18 19 38.3**	**+0.9**
ANTB	**Antalya**	**5.09**	**54**	*e*Pn	**Pn**	**18 19 38.3**	**+0.9**
KALE	**Kalithea**	**5.12**	**329**	*e*PN	**Pn**	**18 19 39.5**	**+1.7**
KALE	**Kalithea**	**5.12**	**329**	*e*Pn	**Pn**	**18 19 39.5**	**+1.7**
KULA	**Kula-Manisa**	**5.15**	**29**	*e*PN	**Pn**	**18 19 39.0**	**+0.7**
KULA	**Kula-Manisa**	**5.15**	**29**	*e*Pn	**Pn**	**18 19 39.0**	**+0.7**
BCK	**Bucak**	**5.37**	**49**	*e*PN	**Pn**	**18 19 42.3**	**+0.9**
BCK	**Bucak**	**5.37**	**49**	*e*Pn	**Pn**	**18 19 42.3**	**+0.9**
KHL	**Karahalli**	**5.38**	**36**	*e*PN	**Pn**	**18 19 42.1**	**+0.6**
KHL	**Karahalli**	**5.38**	**36**	*e*Pn	**Pn**	**18 19 42.1**	**+0.6**
KHAL	**Karahalli**	**5.40**	**36**	*i* P	**Pn**	**18 19 43.2**	**+1.4**
KHAL				*i* S	Sn	18 20 37.2	-6.5
KHAL	**Karahalli**	**5.40**	**36**	*i* P	**Pn**	**18 19 43.2**	**+1.4**
LJBD	**Adjabya**	**5.45**	**237**	*i* P	**Pn**	**18 19 43.0**	**+0.7**
	SNR=48						
LJBD				*e*S	**Sn**	**18 20 43.5**	**-1.2**
	SNR=48						
AGG	**Agios Georgios**	**5.58**	**334**	*e*PN	**Pn**	**18 19 46.8**	**+2.6**
AGG	**Agios Georgios**	**5.58**	**334**	*e*Pn	**Pn**	**18 19 46.8**	**+2.6**
SUTC	**Sutluce-Ispart**	**5.64**	**51**	*e*PN	**Pn**	**18 19 46.1**	**+0.9**
SUTC	**Sutluce-Ispart**	**5.64**	**51**	*e*Pn	**Pn**	**18 19 46.1**	**+0.9**
GAZI	**Gazipasa**	**6.01**	**67**	*i* P	**Pn**	**18 19 50.2**	**+0.1**
GAZI				*i* S	Sn	18 20 51.5	-7.1
GAZI	**Gazipasa**	**6.01**	**67**	*i* P	**Pn**	**18 19 50.2**	**+0.1**
SHUT	**Suhut-Afyon**	**6.08**	**41**	*e*PN	**Pn**	**18 19 52.4**	**+1.2**
SHUT	**Suhut-Afyon**	**6.08**	**41**	*e*Pn	**Pn**	**18 19 52.4**	**+1.2**
LKD2	**Lefkada island**	**6.13**	**322**	*e*PN	**Pn**	**18 19 54.0**	**+2.3**
LKD2	**Lefkada island**	**6.13**	**322**	*e*Pn	**Pn**	**18 19 54.0**	**+2.3**
LEF	**Lefka**	**6.20**	**78**	*e*PN	**Pn**	**18 19 54.3**	**+1.6**
LEF	**Lefka**	**6.20**	**78**	*e*Pn	**Pn**	**18 19 54.3**	**+1.6**
TVSB	**Tavsanli**	**6.27**	**29**	*e*PN	**Pn**	**18 19 54.9**	**+1.2**
TVSB	**Tavsanli**	**6.27**	**29**	*e*Pn	**Pn**	**18 19 54.9**	**+1.2**
CSS	**Prodhromos**	**6.54**	**80**	*e*PN	**Pn**	**18 19 59.4**	**+2.0**
CSS	**Prodhromos**	**6.54**	**80**	*e*Pn	**Pn**	**18 19 59.4**	**+2.0**
ERMK	**Ermenek**	**6.60**	**65**	*i* P	**Pn**	**18 19 56.6**	**-1.7**
ERMK				*i* S	**Sn**	**18 21 10.6**	**-2.9**
LFK	**Lefkose**	**6.75**	**77**	*e*PN	**Pn**	**18 20 02.1**	**+2.0**
LFK	**Lefkose**	**6.75**	**77**	*e*Pn	**Pn**	**18 20 02.2**	**+2.0**
HSAF	**As Saff**	**6.79**	**129**	P	**Pn**	**18 20 00.1**	**-0.6**
	baz=129						
HSAF	**As Saff**	**6.79**	**129**	P	**Pn**	**18 20 00.1**	**-0.6**
KONT	**Konya--Tatoy**	**6.80**	**53**	*e*PN	**Pn**	**18 20 01.8**	**+0.9**
KONT	**Konya--Tatoy**	**6.80**	**53**	*e*Pn	**Pn**	**18 20 01.8**	**+0.9**
IKL	**Isikli**	**7.07**	**70**	*e*PN	**Pn**	**18 20 06.1**	**+1.6**
IKL	**Isikli**	**7.07**	**70**	*e*Pn	**Pn**	**18 20 06.1**	**+1.6**
AMAG	**Maghara**	**7.36**	**115**	P	**Pn**	**18 20 07.0**	**-1.6**
	baz=116						
AMAG	**Maghara**	**7.36**	**115**	P	**Pn**	**18 20 07.0**	**-1.6**
RSH		**7.60**	**112**	P	**Pn**	**18 20 10.8**	**-1.1**
	baz=112						
RSH		**7.60**	**112**	P	**Pn**	**18 20 10.8**	**-1.1**
MMAI	**Mount Meron Ar**	**8.34**	**94**	Pn	**Pn**	**18 20 21.4**	**-0.7**
	3.0nm,0.3s,baz=268,slow=12,SNR=17						
MMAI					Sn	**Sn**	**18 21 54.8**	**-1.4**
	5.4nm,0.3s,baz=260,slow=22,SNR=7.2						
BRTR	**Keskin Array B**	**8.65**	**47**	Pn	**Pn**	**18 20 27.0**	**+0.6**
	0.1nm,0.3s,baz=221,slow=14,SNR=3.1						
BRTR	**Keskin Array B**	**8.65**	**47**	P	**Pn**	**18 20 27.0**	**+0.6**
EIL	**Elat**	**9.15**	**116**	Pn	**Pn**	**18 20 32.8**	**-0.4**
	1.9nm,0.3s,baz=182,slow=17,SNR=21						
EIL					Sn	**Sn**	18 22 09.6	-6.4
	1.5nm,0.3s,baz=74,slow=7.4,SNR=4.9						
MLR	**Muntele Rosu**	**11.44**	**2**	Pn	**Pn**	**18 21 04.0**	**-0.6**
	0.0nm,0.3s,baz=163,slow=11,SNR=2.1						
MLR	**Muntele Rosu**	**11.44**	**2**	P	**Pn**	**18 21 04.0**	**-0.6**
KEST	**Kesra**	**13.36**	**282**	Pn	**Pn**	**18 21 29.4**	**-1.4**
	0.0nm,0.3s,baz=234,slow=19,SNR=2.5						
KECS	**Kecovo**	**14.91**	**347**	*e*P	**Pn**	**18 21 53.4**	**+1.6**
KECS	**Kecovo**	**14.91**	**347**	*e*PN	**Pn**	**18 21 53.4**	**+1.6**
KECS	**Kecovo**	**14.91**	**347**	*e*Pn	**Pn**	**18 21 53.4**	**+1.6**
KOLS	**Kolonicke sedl**	**15.07**	**352**	*e*P	**Pn**	**18 21 54.6**	**+0.6**
KOLS	**Kolonicke sedl**	**15.07**	**352**	*e*PN	**Pn**	**18 21 54.6**	**+0.6**
KOLS	**Kolonicke sedl**	**15.07**	**352**	*e*P	**P**	**18 22 03.6**	**+4.4**
KOLS	**Kolonicke sedl**	**15.07**	**352**	*e*Pn	**Pn**	**18 21 54.6**	**+0.6**
VYHS	**Vyhne**	**15.27**	**343**	*e*P	**P**	**18 22 05.5**	**+4.0**
VYHS	**Vyhne**	**15.27**	**343**	*e*P	**P**	**18 22 05.5**	**+4.0**
KIV	**Kislovodsk**	**16.61**	**48**	*e*P	**P**	**18 22 18.2**	**+1.8**
KIV				pmax	pmax		
	comp=Z,12nm,1.1s						
KIV	**Kislovodsk**	**16.61**	**48**	*e*P	**P**	**18 22 18.2**	**+1.8**
	comp=Z,12nm,1.1s						
KBZ	**Khabaz**	**16.63**	**49**	P	**P**	**18 22 17.7**	**+1.2**
KBZ	**Khabaz**	**16.63**	**49**	Pn	**P**	**18 22 17.7**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=280,slow=8.6,SNR=4.7						
KBZ	**Khabaz**	**16.63**	**49**	P	**P**	**18 22 17.7**	**+1.2**
SBF	**Sospel**	**17.09**	**310**	*e*P	**P**	**18 22 20.8**	**-1.0**
	comp=Z,37nm,0.9s						
SBF	**Sospel**	**17.09**	**310**	*e*P	**P**	**18 22 20.8**	**-1.0**
	comp=Z,18nm,0.9s						
GERES	**GERESS Array B**	**17.20**	**333**	P	**P**	**18 22 22.0**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=144,slow=12,SNR=18						
GERES	**GERESS Array B**	**17.20**	**333**	P	**P**	**18 22 22.0**	**-0.9**
KRLC	**Kraliky**	**17.26**	**341**	*e*P	**Pn**	**18 22 20.9**	**-1.1**
KRLC	**Kraliky**	**17.26**	**341**	*e*P	**Pn**	**18 22 20.9**	**-1.1**
KHC	**Kasperske Hory**	**17.48**	**333**	*e*P	**Pn**	**18 22 22.9**	**-1.9**
KHC	**Kasperske Hory**	**17.48**	**333**	*e*P	**Pn**	**18 22 22.9**	**-1.9**
KHC				*ex*	x	18 22 26.8	
PRU	**Pruhonice**	**17.86**	**336**	*e*P	**Pn**	**18 22 28.8**	**-0.6**
PRU	**Pruhonice**	**17.86**	**336**	*e*P	**Pn**	**18 22 28.8**	**-0.6**
PRU	**Pruhonice**	**17.86**	**336**	*e*P	**Pn**	**18 22 28.8**	**-0.6**
MBDF	**Montbardon**	**17.93**	**312**	*e*P	**P**	**18 22 32.6**	**+1.5**
	comp=Z,9.5nm,0.8s						
MBDF	**Montbardon**	**17.93**	**312**	*e*P	**P**	**18 22 32.6**	**+1.5**
	comp=Z,4.8nm,0.8s						
SMRF	**Simiane la Rot**	**18.34**	**309**	*e*P	**P**	**18 22 37.9**	**+2.4**
SMRF	**Simiane la Rot**	**18.34**	**309**	*e*P	**P**	**18 22 37.9**	**+2.4**
LPL	**La Plagne**	**18.37**	**314**	*e*P	**P**	**18 22 38.2**	**+2.2**
LPL	**La Plagne**	**18.37**	**314**	*e*P	**P**	**18 22 38.2**	**+2.2**
ORIF	**Oris-en-Rattie**	**18.58**	**312**	*e*P	**Pn**	**18 22 39.3**	**+0.9**
ORIF				*e*R			
	comp=Z,55nm,22.2s						
ORIF	**Oris-en-Rattie**	**18.58**	**312**	*e*P	**Pn**	**18 22 39.3**	**+0.9**
CABF	**La Chapelle**	**19.34**	**316**	*e*P	**P**	**18 22 45.4**	**-1.1**
	comp=Z,5.6nm,0.6s						
CABF	**La Chapelle**	**19.34**	**316**	*e*P	**P**	**18 22 45.4**	**-1.1**
	comp=Z,2.8nm,0.6s						
CLL	**Collm**	**19.50**	**336**	*e*P	**Pn**	**18 22 49.0**	**-0.3**
CLL	**Collm**	**19.50**	**336**	*e*P	**Pn**	**18 22 49.0**	**-0.3**
CLL	**Collm**	**19.50**	**336**	*e*P	**Pn**	**18 22 49.0**	**-0.3**
HINF	**Hinteralfeld**	**19.62**	**320**	*e*P	**Pn**	**18 22 50.5**	**-0.4**
HINF	**Hinteralfeld**	**19.62**	**320**	*e*P	**Pn**	**18 22 50.5**	**-0.4**
CDF	**Champ du Feu**	**19.77**	**322**	*e*P	**Pn**	**18 22 51.7**	**-1.0

10nm,0.2s,baz=98,SNR=18
ESDC Lg Lg 18 21 03.6
28nm,0.3s,baz=98,SNR=28
ETOB Tobarra 1.15 140 Pg **Pb 18 20 48.6 -0.2**
10nm,0.2s,SNR=402
ETOB Lg Lg 18 21 04.6
181nm,0.1s,SNR=35
ETOB Tobarra 1.15 140 Pg **Pb 18 20 48.6 -0.2**
10nm,0.2s,SNR=402
ETOB Lg Lg 18 21 04.6
181nm,0.1s,SNR=35
ECHE Chera 1.19 86 ⇑Pg **Pb 18 20 50.0 +0.6**
5.0nm,0.2s,SNR=18
ECHE Lg Lg 18 21 07.1
88nm,0.4s,SNR=18
ECHE Chera 1.19 86 Pg **Pb 18 20 50.0 +0.6**
5.0nm,0.2s,SNR=18
ECHE Lg Lg 18 21 07.1
88nm,0.4s,SNR=18
ETOR Torete 1.34 15 Pn **Pn 18 20 51.9 +0.3**
26nm,0.1s,SNR=366
ETOR Pg **Pb 18 20 53.4 +1.2**
426nm,0.2s,SNR=7.9
ETOR Lg Lg 18 21 11.1
1um,0.2s,SNR=29
ETOR Torete 1.34 15 Pn **Pn 18 20 51.9 +0.3**
26nm,0.1s,SNR=366
EBAN Banos Encina 1.69 217 ⇑Pn **Pn 18 20 56.2 -0.2**
4.4nm,0.1s,SNR=18
EBAN Pg **Pb 18 20 58.8 +0.8**
33nm,0.1s,SNR=7.9
EBAN Lg Lg 18 21 20.1
162nm,0.2s,SNR=23
EBAN Banos Encina 1.69 217 Pn **Pn 18 20 56.2 -0.2**
4.4nm,0.1s,SNR=18
GUD Guadarrama 1.69 312 Pn **Pn 18 20 56.7 +0.1**
0.3nm,0.1s,SNR=150
GUD Pg **Pb 18 20 59.4 +1.2**
11nm,0.1s,SNR=7.9
GUD Lg Lg 18 21 21.4
94nm,0.2s,SNR=48
GUD Guadarrama 1.69 312 Pn **Pn 18 20 56.7 +0.1**
0.3nm,0.1s,SNR=150
EHUE Huescar 1.71 183 Pg **Pb 18 20 59.2 +0.8**
9.8nm,0.1s,SNR=7.9
EHUE Lg Lg 18 21 22.8
37nm,0.1s,SNR=7.9
EHUE Huescar 1.71 183 Pg **Pb 18 20 59.2 +0.8**
9.8nm,0.1s,SNR=7.9
EHUE Lg Lg 18 21 22.8
37nm,0.1s,SNR=7.9
EMOS Mosqueruela 1.77 61 ⇓Pg **Pn 18 20 58.8 +1.2**
11nm,0.2s,SNR=18
EMOS Lg Lg 18 21 23.4
5.4nm,0.1s,SNR=9.3
EMOS Mosqueruela 1.77 61 Pg **Pn 18 20 58.8 +1.2**
11nm,0.2s,SNR=18
EMOS Lg Lg 18 21 23.4
5.4nm,0.1s,SNR=9.3
EQES Quesada 1.77 195 ⇑Pn **Pn 18 20 57.4 -0.2**
1.6nm,0.1s,SNR=18
EQES Pg **Pb 18 21 00.4 +0.9**
7.0nm,0.1s,SNR=202
EQES Lg Lg 18 21 23.9
53nm,0.1s,SNR=13
EQES Quesada 1.77 195 Pn **Pn 18 20 57.4 -0.2**
1.6nm,0.1s,SNR=18
EMUR La Murta 1.94 149 Pg **Pb 18 21 03.8 +1.4**
8.5nm,0.2s,SNR=57
EMUR Lg Lg 18 21 30.5
28nm,0.2s,SNR=7.9
EMUR La Murta 1.94 149 Pg **Pb 18 21 03.8 +1.4**
8.5nm,0.2s,SNR=57
EMUR Lg Lg 18 21 30.5
28nm,0.2s,SNR=7.9
EBEN Beniarda 1.95 114 ⇓Pn **Pn 18 20 59.9 -0.1**
1.4nm,0.1s,SNR=18
EBEN Lg Lg 18 21 29.0
4.2nm,0.2s,SNR=30
EBEN Beniarda 1.95 114 Pn **Pn 18 20 59.9 -0.1**
1.4nm,0.1s,SNR=18
EBEN Lg Lg 18 21 29.0
4.2nm,0.2s,SNR=30
EADA Adamuz 2.11 231 ⇑Pn **Pn 18 21 02.2 0.0**
0.8nm,0.1s,SNR=18
EADA Pg **Pg 18 21 07.5 0.0**
5.0nm,0.1s,SNR=45
EADA Sn **Sn 18 21 26.3 -2.2**
30nm,0.1s,SNR=7.9
EADA Lg Lg 18 21 34.3
70nm,0.1s,SNR=7.9
EADA Adamuz 2.11 231 Pn **Pn 18 21 02.2 0.0**
0.8nm,0.1s,SNR=18
ECOG Cogollos-Vega 2.39 201 Pg **Pb 18 21 12.1 +2.0**
7.7nm,0.1s,SNR=12
ECOG Lg Lg 18 21 43.1
25nm,0.2s,SNR=11
ECOG Cogollos-Vega 2.39 201 Pg **Pb 18 21 12.1 +2.0**
7.7nm,0.1s,SNR=12
ECOG Lg Lg 18 21 43.1
25nm,0.2s,SNR=11
EQUE Quentar 2.43 198 Pg **Pg 18 21 13.1 -0.5**
1.8nm,0.1s,SNR=17
EQUE Lg Lg 18 21 44.9
16nm,0.2s,SNR=7.9
EQUE Quentar 2.43 198 Pg **Pg 18 21 13.1 -0.5**
1.8nm,0.1s,SNR=17
EQUE Lg Lg 18 21 44.9
16nm,0.2s,SNR=7.9
ENIJ Nijar 2.56 175 Pg **Pg 18 21 15.3 -0.7**
5.4nm,0.2s,SNR=7.9
ENIJ Lg Lg 18 21 49.6
11nm,0.2s,SNR=7.9
ENIJ Nijar 2.56 175 Pg **Pg 18 21 15.3 -0.7**
5.4nm,0.2s,SNR=7.9
ENIJ Lg Lg 18 21 49.6
11nm,0.2s,SNR=7.9
ERTA Horta de San J 2.60 56 Pn **Pn 18 21 09.4 +0.5**
1.6nm,0.1s,SNR=12
ERTA Lg Lg 18 21 50.0
15nm,0.3s,SNR=7.9
ERTA Horta de San J 2.60 56 Pn **Pn 18 21 09.4 +0.5**
1.6nm,0.1s,SNR=12
ERTA Lg Lg 18 21 50.0
15nm,0.3s,SNR=7.9
EBER Berja 2.64 187 Pn **Pn 18 21 10.9 +1.3**
0.6nm,0.2s,SNR=7.9
EBER Pg **Pb 18 21 16.3 +2.0**
0.7nm,0.1s,SNR=27
EBER Lg Lg 18 21 52.2
15nm,0.3s,SNR=6.0
EBER Berja 2.64 187 Pn **Pn 18 21 10.9 +1.3**
0.6nm,0.2s,SNR=7.9
ESAC San Caprasio 2.69 34 Pn **Pn 18 21 10.6 +0.5**
3.8nm,0.1s,SNR=7.9
ESAC Pg **Pg 18 21 18.9 +0.5**
13nm,0.2s,SNR=9.2
ESAC Lg Lg 18 21 53.8
130nm,0.3s,SNR=10
ESAC San Caprasio 2.69 34 Pn **Pn 18 21 10.6 +0.5**
3.8nm,0.1s,SNR=7.9
ERON Agron 2.70 203 Pn **Pn 18 21 10.2 -0.2**
0.6nm,0.1s,SNR=7.9
ERON Pg **Pb 18 21 16.9 +1.5**
4.7nm,0.2s,SNR=7.9
ERON Lg Lg 18 21 54.5
9.8nm,0.3s,SNR=7.9
ERON Agron 2.70 203 Pn **Pn 18 21 10.2 -0.2**
0.6nm,0.1s,SNR=7.9
ELOJ Sierra Loja 2.71 209 Pn **Pn 18 21 11.6 +1.2**
0.7nm,0.1s,SNR=7.9
ELOJ Pg **Pg 18 21 18.4 -0.5**
1.0nm,0.1s,SNR=8.5
ELOJ Lg Lg 18 21 54.5
5.0nm,0.1s,SNR=7.9
ELOJ Sierra Loja 2.71 209 Pn **Pn 18 21 11.6 +1.2**
0.7nm,0.1s,SNR=7.9
EPLA Plasencia 2.81 282 Pn **Pn 18 21 12.0 +0.2**
0.4nm,0.1s,SNR=18
EPLA Lg Lg 18 21 54.5
12nm,0.1s,SNR=7.9
EPLA Plasencia 2.81 282 Pn **Pn 18 21 12.0 +0.2**
0.4nm,0.1s,SNR=18
EPLA Lg Lg 18 21 54.5
12nm,0.1s,SNR=7.9
EGUA Guajares 2.81 198 Pn **Pn 18 21 12.5 +0.6**
0.7nm,0.2s,SNR=7.9
EGUA Pg **Pg 18 21 19.9 -1.0**
21nm,0.3s,SNR=7.9
EGUA Lg Lg 18 21 56.9
16nm,0.2s,SNR=7.9
EGUA Guajares 2.81 198 Pn **Pn 18 21 12.5 +0.6**
0.7nm,0.2s,SNR=7.9
EPOB Poblet 3.29 55 ⇓Pn **Pn 18 21 18.6 +0.2**
3.8nm,0.1s,SNR=18
EPOB Sn **Sn 18 21 56.2 -1.2**
1.2nm,0.1s,SNR=7.9
EPOB Lg Lg 18 22 09.7
1.8nm,0.1s,SNR=7.9
EPOB Poblet 3.29 55 Pn **Pn 18 21 18.6 +0.2**
3.8nm,0.1s,SNR=18
EPOB Sn **Sn 18 21 56.2 -1.2**
1.2nm,0.1s,SNR=7.9
EPOB Lg Lg 18 22 09.7
1.8nm,0.1s,SNR=7.9
IUNC Unciti 3.32 13 Pg **Pg 18 21 30.4 -0.1**
11nm,0.2s,SNR=7.9
IUNC Lg Lg 18 22 13.8
26nm,0.2s,SNR=7.9
IUNC Unciti 3.32 13 Pg **Pg 18 21 30.4 -0.1**
11nm,0.2s,SNR=7.9
IUNC Lg Lg 18 22 13.8
26nm,0.2s,SNR=7.9
EARA Aranguren 3.32 12 Pg **Pg 18 21 30.7 +0.1**
7.4nm,0.2s,SNR=7.9
EARA Lg Lg 18 22 14.6
5.1nm,0.1s,SNR=7.9
EARA Aranguren 3.32 12 Pg **Pg 18 21 30.7 +0.1**
7.4nm,0.2s,SNR=7.9
EARA Lg Lg 18 22 14.6
5.1nm,0.1s,SNR=7.9
IEPA Eparoz 3.38 16 Pn **Pn 18 21 21.0 +1.2**
0.2nm,0.0s,SNR=7.9
IEPA Pg **Pg 18 21 32.0 +0.2**
0.4nm,0.1s,SNR=7.9
IEPA Lg Lg 18 22 16.4
4.6nm,0.1s,SNR=7.9
IEPA Eparoz 3.38 16 Pn **Pn 18 21 21.0 +1.2**
0.2nm,0.0s,SNR=7.9
IELO Elcoad 3.45 16 Pn **Pn 18 21 21.3 +0.7**
0.1nm,0.0s,SNR=7.9
IELO Pg **Pg 18 21 33.2 +0.1**
5.2nm,0.2s,SNR=7.9
IELO Sn **Sn 18 21 59.2 -2.3**
1.5nm,0.1s,SNR=7.9
IELO Lg Lg 18 22 17.9
3.5nm,0.1s,SNR=7.9
IELO Elcoad 3.45 16 Pn **Pn 18 21 21.3 +0.7**
0.1nm,0.0s,SNR=7.9
IUSE Utxeti 3.50 12 Pn Pn 18 21 24.3 +3.0
0.4nm,0.1s,SNR=7.9
IUSE Pg **Pg 18 21 34.4 +0.5**
1.0nm,0.1s,SNR=7.9
IUSE Lg Lg 18 22 19.9
1.7nm,0.1s,SNR=7.9
EBAD Badajoz 3.59 259 Pn **Pn 18 21 22.3 -0.3**
0.3nm,0.1s,SNR=15
EBAD Lg Lg 18 22 19.7
6.5nm,0.1s,SNR=7.9
EBAD Badajoz 3.59 259 Pn **Pn 18 21 22.3 -0.3**
0.3nm,0.1s,SNR=15
EBAD Lg Lg 18 22 19.7
6.5nm,0.1s,SNR=7.9
ETSF Etsaut 3.68 23 *e*Pn **Pn 18 21 24.1 +0.3**
ETSF Etsaut 3.68 23 *e*Pg **Pg 18 21 36.6 -0.8**
ETSF *e*Sn **Sn 18 22 04.8 -2.3**
ETSF *e*Sg **Sg 18 22 23.6 -1.4**
14nm,0.3s
ETSF Etsaut 3.68 23 Pn **Pn 18 21 24.1 +0.3**
ETSF Etsaut 3.68 23 Pg **Pg 18 21 36.6 -0.8**
ETSF *e*Sn **Sn 18 22 04.8 -2.3**
ETSF *e*Sg **Sg 18 22 23.6 -1.4**
6.9nm,0.3s
ETSF Lg Lg 18 22 23.6
7.0nm,0.3s
EMIN Mina Concepcio 3.71 243 Pn **Pn 18 21 24.1 0.0**
0.1nm,0.0s,SNR=8.1
EMIN Lg Lg 18 22 25.9
5.0nm,0.1s,SNR=7.9
EMIN Mina Concepcio 3.71 243 Pn **Pn 18 21 24.1 0.0**
0.1nm,0.0s,SNR=8.1
EMIN Lg Lg 18 22 25.9
5.0nm,0.1s,SNR=7.9
ELIZ Elizondo 3.71 11 Pg **Pg 18 21 37.8 -0.2**
15nm,0.4s,SNR=15
ELIZ Elizondo 3.71 11 Pg **Pg 18 21 37.8 -0.2**
15nm,0.4s,SNR=15
SJPF Ste Jean 3.71 15 *e*Pn **Pn 18 21 24.8 +0.6**
SJPF Ste Jean 3.71 15 *e*Pg **Pg 18 21 37.3 -0.8**
SJPF *e*Sn **Sn 18 22 06.2 -1.7**
SJPF *e*Sg **Sg 18 22 25.0 -1.2**
13nm,0.3s
SJPF Ste Jean 3.71 15 Pn **Pn 18 21 24.8 +0.6**
SJPF Ste Jean 3.71 15 Pg **Pg 18 21 37.3 -0.8**
SJPF Sn **Sn 18 22 06.2 -1.7**
SJPF *e*Sg **Sg 18 22 25.0 -1.2**
6.6nm,0.3s
EBIE Bielsa 3.74 31 Pn **Pn 18 21 24.5 -0.2**
0.1nm,0.1s,SNR=4.0
EBIE Pg Pb 18 21 37.3 +4.3
0.3nm,0.1s,SNR=7.9
EBIE Sn **Sn 18 22 07.1 -1.7**
1.2nm,0.1s,SNR=7.9
EBIE Lg Lg 18 22 25.9
1.3nm,0.1s,SNR=7.9
EBIE Bielsa 3.74 31 Pn **Pn 18 21 24.5 -0.2**
0.1nm,0.1s,SNR=4.0
ESPR Espera 3.74 226 Pn **Pn 18 21 25.4 +0.9**
0.7nm,0.1s,SNR=4.0
ESPR Sn **Sn 18 22 06.3 -2.4**
0.3nm,0.0s,SNR=7.9
ESPR Lg Lg 18 22 27.2
2.3nm,0.1s,SNR=7.9
ESPR Espera 3.74 226 Pn **Pn 18 21 25.5 +0.9**
0.7nm,0.1s,SNR=4.0
ESPR Lg Lg 18 22 27.2
2.3nm,0.1s,SNR=7.9
EALK Alkurruntz 3.77 11 Pn **Pn 18 21 26.9 +2.0**
0.5nm,0.1s,SNR=7.9
EALK Pg **Pg 18 21 38.2 -1.0**
1.2nm,0.1s,SNR=9.1
EALK Sn **Sn 18 22 08.8 -0.4**
2.2nm,0.1s,SNR=7.9
EALK Lg Lg 18 22 28.9
5.9nm,0.2s,SNR=7.9
EALK Alkurruntz 3.77 11 Pn **Pn 18 21 26.9 +2.0**
0.5nm,0.1s,SNR=7.9
PMRV Marv??o 3.79 270 *e*Pn **Pn 18 21 24.9 -0.4**
PMRV *e*Sg **Sb 18 22 23.1 +3.4**
PMRV A A 18 22 28.4
18nm,0.2s
PMRV Marv??o 3.79 270 Pn **Pn 18 21 24.9 -0.4**
PMRV Lg Lg 18 22 23.1
18nm,0.2s
PMRV Marv??o 3.79 270 Pn **Pn 18 21 24.9 -0.4**
PMRV Lg Lg 18 22 23.1
18nm,0.2s
PBAR Barrancos 3.79 251 *e*Pn **Pn 18 21 25.4 +0.1**
PBAR *e*Sg **Sg 18 22 26.1 -2.6**
PBAR A A 18 22 31.4
31nm,0.4s
PBAR Barrancos 3.79 251 Pn **Pn 18 21 25.4 +0.1**
PBAR Lg Lg 18 22 26.1
31nm,0.4s
PBAR Barrancos 3.79 251 Pn **Pn 18 21 25.4 +0.1**
PBAR Lg Lg 18 22 26.1
31nm,0.4s
MVO Moncorvo 3.83 297 *e*Pn **Pn 18 21 27.2 +1.3**
MVO *e*Sg **Sg 18 22 27.8 -2.2**
MVO A A 18 22 32.4
22nm,0.5s
MVO Moncorvo 3.83 297 Pn **Pn 18 21 27.0 +1.1**
0.5nm,0.0s,SNR=4.0
MVO Sn **Sn 18 22 07.7 -3.2**
0.8nm,0.0s,SNR=7.9
MVO Lg Lg 18 22 28.6
2.0nm,0.1s,SNR=7.9
MVO Moncorvo 3.83 297 Pn **Pn 18 21 27.0 +1.1**
0.5nm,0.0s,SNR=4.0
MVO *e*Sg **Sg 18 22 27.8 -2.2**
22nm,0.5s
MVO Lg Lg 18 22 28.6
2.0nm,0.1s,SNR=7.9
OSSF Osses 3.84 14 S **Sn 18 22 09.6 -1.5**
PCBR Castelo Branco 3.85 276 *e*Sg **Sb 18 22 26.1 +4.5**
PCBR A A 18 22 37.7
14nm,0.7s
PCBR Castelo Branco 3.85 276 *e*Sg **Sb 18 22 26.1 +4.5**
14nm,0.7s
EMIR Miracle 3.88 51 ⇓Pn **Pn 18 21 26.8 +0.3**
3.1nm,0.1s,SNR=18
EMIR Lg Lg 18 22 33.0
SNR=7.9
EMIR Miracle 3.88 51 Pn **Pn 18 21 26.8 +0.3**
3.1nm,0.1s,SNR=18
EMIR Lg Lg 18 22 33.0
SNR=7.9
PBRG Braganca 3.95 307 *e*Sg **Sg 18 22 31.8 -2.0**
PBRG A A 18 22 35.6
24nm,0.4s
PBRG Braganca 3.95 307 Lg Lg 18 22 31.8
12nm,0.4s
PBRG Braganca 3.95 307 *e*Sg **Sg 18 22 31.8 -2.0**
24nm,0.4s
CSOR Sort 3.96 43 Pn **Pn 18 21 27.8 +0.1**
0.2nm,0.1s,SNR=15
CSOR Sn **Sn 18 22 11.5 -2.7**
2.0nm,0.1s,SNR=5.7
CSOR Lg Lg 18 22 31.5
2.5nm,0.1s,SNR=7.1
CSOR Sort 3.96 43 Pn **Pn 18 21 27.8 +0.1**
0.2nm,0.1s,SNR=15
CSOR Lg Lg 18 22 31.5
2.5nm,0.1s,SNR=7.1
MTE Manteigas 3.98 284 *e*Sg **Sg 18 22 31.7 -2.9**
MTE A A 18 22 40.3
21nm,0.6s
MTE Manteigas 3.98 284 Lg Lg 18 22 31.7
10nm,0.6s
MTE Manteigas 3.98 284 *e*Sg **Sg 18 22 31.7 -2.9**
21nm,0.6s
PESTR Estremoz 4.01 262 *e*Pn **Pn 18 21 28.5 +0.2**
PESTR *e*Sg **Sb 18 22 29.9 +3.8**
PESTR A A 18 22 36.7
13nm,0.3s
PESTR Estremoz 4.01 262 Pn **Pn 18 21 28.5 +0.2**
PESTR Lg Lg 18 22 29.9
6.6nm,0.3s
PESTR Estremoz 4.01 262 Pn **Pn 18 21 28.5 +0.2**
PESTR *e*Sg **Sb 18 22 29.9 +3.8**
13nm,0.3s
LABF Labassere 4.02 28 S **Sn 18 22 13.7 -1.8**
ECAL Calabor 4.03 308 Pn **Pn 18 21 29.2 +0.6**
0.2nm,0.1s,SNR=6.6
ECAL Sn **Sn 18 22 14.2 -1.5**
1.7nm,0.1s,SNR=7.9
ECAL Lg Lg 18 22 36.1
19nm,0.2s,SNR=7.9
ECAL Calabor 4.03 308 Pn **Pn 18 21 29.2 +0.6**
0.2nm,0.1s,SNR=6.6
ECAL Sn **Sn 18 22 14.2 -1.5**
1.7nm,0.1s,SNR=7.9
ECAL Lg Lg 18 22 36.1
19nm,0.2s,SNR=7.9
EPF Esparros 4.11 30 *e*Pn **Pn 18 21 29.7 +0.1**
EPF Esparros 4.11 30 *e*Pg **Pg 18 21 44.2 -1.4**
EPF *e*Sn **Sn 18 22 15.7 -2.0**
EPF *e*Sg **Sg 18 22 35.9 -2.9**
13nm,0.2s
EPF Esparros 4.11 30 Pn **Pn 18 21 29.7 +0.1**
EPF Esparros 4.11 30 Pg **Pg 18 21 44.2 -1.4**
EPF Sn **Sn 18 22 15.7 -2.0**
EPF Lg Lg 18 22 35.9
6.6nm,0.2s
EPF *e*Sg **Sg 18 22 35.9 -2.9**
6.7nm,0.2s
ETOS Mallorca 4.11 85 Pn **Pn 18 21 29.8 +0.1**
0.3nm,0.1s,SNR=7.9
ETOS Mallorca 4.11 85 Pn **Pn 18 21 29.8 +0.1**
0.3nm,0.1s,SNR=7.9
EARI Arriondas 4.29 333 Pn **Pn 18 21 33.6 +1.4**
SNR=7.9
EARI Pg **Pg 18 21 48.4 -0.8**
3.4nm,0.4s,SNR=7.9
EARI Sn **Sn 18 22 21.3 -0.9**
0.9nm,0.1s,SNR=7.9
EARI Lg Lg 18 22 44.9
1.2nm,0.1s,SNR=7.9
EARI Arriondas 4.29 333 Pn **Pn 18 21 33.6 +1.4**
SNR=7.9
PVIS Viseu 4.31 288 *e*Sg **Sg 18 22 44.0 -1.2**
PVIS A A 18 22 49.9
11nm,0.4s
PVIS Viseu 4.31 288 Lg Lg 18 22 44.0
5.6nm,0.4s
PVIS Viseu 4.31 288 *e*Sg **Sg 18 22 44.0 -1.2**
11nm,0.4s
PVRL Vila Real 4.35 295 *e*Sg **Sg 18 22 43.6 -3.1**
PVRL Vila Real 4.35 295 Lg Lg 18 22 43.6
PVRL Vila Real 4.35 295 *e*Sg **Sg 18 22 43.6 -3.1**
CFON Fontmartina 4.37 58 Pn **Pn 18 21 33.7 +0.4**
1.2nm,0.1s,SNR=12
CFON Lg Lg 18 22 47.5
7.1nm,0.2s,SNR=7.9
CFON Fontmartina 4.37 58 Pn **Pn 18 21 33.7 +0.4**
1.2nm,0.1s,SNR=12
CFON Lg Lg 18 22 47.5
7.1nm,0.2s,SNR=7.9
EGRO El Granado 4.38 245 Pn **Pn 18 21 33.3 -0.1**
0.3nm,0.1s,SNR=7.9
EGRO Sn **Sn 18 22 22.6 -1.9**
0.7nm,0.1s,SNR=7.9
EGRO Lg Lg 18 22 46.6
2.7nm,0.1s,SNR=8.5
EGRO El Granado 4.38 245 Pn **Pn 18 21 33.3 -0.1**
0.3nm,0.1s,SNR=7.9
EGRO Sn **Sn 18 22 22.6 -1.9**
0.7nm,0.1s,SNR=7.9
EGRO Lg Lg 18 22 46.6
2.7nm,0.1s,SNR=8.5
EVO Evora 4.41 259 *e*Pn **Pn 18 21 35.3 +1.6**
EVO Evora 4.41 259 *e*Pg **Pg 18 21 51.0 -0.4**
EVO *e*Sn **Sn 18 22 24.4 -0.6**
EVO *e*Sg **Sg 18 22 48.6 +0.1**
33nm,0.3s
POLO Lamas de Olo 4.44 296 *e*Pn **Pn 18 21 34.8 +0.5**
POLO *e*Sn **Sn 18 22 23.7 -2.4**
POLO *e*Sg **Sg 18 22 47.9 -1.7**
POLO A A 18 22 53.1
5.7nm,0.5s
POLO Lamas de Olo 4.44 296 *e*Pn **Pn 18 21 34.8 +0.5**
POLO *e*Sn **Sn 18 22 23.7 -2.4**
POLO *e*Sg **Sg 18 22 47.9 -1.7**
5.7nm,0.5s
PMTG Montargil 4.47 266 *e*Pn **Pn 18 21 34.6 +0.1**
PMTG *e*Sn **Sn 18 22 25.3 -1.2**
PMTG *e*Sg **Sb 18 22 44.4 +5.2**
PMTG *e*Sg **Sg 18 22 49.1 -1.3**
PMTG A A 18 22 51.0
13nm,0.4s
PMTG Montargil 4.47 266 *e*Pn **Pn 18 21 34.6 +0.1**
PMTG *e*Sn **Sn 18 22 25.3 -1.2**
PMTG *e*Sg **Sg 18 22 49.1 -1.3**
13nm,0.4s
EVOP Sao Brissos 4.49 259 *e*Pn **Pn 18 21 35.3 +0.4**
EVOP Sao Brissos 4.49 259 *e*Pg **Pg 18 21 51.0 -2.0**
EVOP *e*Sn **Sn 18 22 24.4 -2.7**
EVOP *e*Sg **Sg 18 22 48.6 -2.6**
17nm,0.3s
PTOM Tomar 4.57 273 *e*Sg **Sg 18 22 50.8 -2.9**
PTOM A A 18 23 03.5
14nm,0.6s
PTOM Tomar 4.57 273 Lg Lg 18 22 50.8
7.2nm,0.6s
PTOM Tomar 4.57 273 *e*Sg **Sg 18 22 50.8 -2.9**
14nm,0.6s
PVAQ Vaqueiros 4.61 244 *e*Sg **Sg 18 22 50.3 -4.7**
PVAQ A A 18 23 01.5
19nm,0.6s
PVAQ Vaqueiros 4.61 244 Lg Lg 18 22 50.3
19nm,0.6s
PVAQ Vaqueiros 4.61 244 Lg Lg 18 22 50.3
19nm,0.6s
MOE Montemor 4.67 259 *e*Sg **Sg 18 22 53.1 -3.7**
MOE Montemor 4.67 259 Lg Lg 18 22 53.1
MOE Montemor 4.67 259 Lg Lg 18 22 53.1
PCVE Castro Verde 4.74 248 *e*Pn **Pn 18 21 38.3 +0.1**
PCVE *e*Sg **Sg 18 22 54.1 -4.9**
PCVE A A 18 23 01.3
9.9nm,0.7s
PCVE Castro Verde 4.74 248 Pn **Pn 18 21 38.3 +0.1**
PCVE Lg Lg 18 22 54.1

9.9nm,0.7s
PCVE Castro Verde 4.74 248 Pn **Pn 18 21 38.3 +0.1**
PCVE Lg Lg 18 22 54.1
9.9nm,0.7s
PCAB Cabril 4.74 299 *e*Sg **Sg 18 22 56.8 -2.4**
PCAB A A 18 23 01.3
12nm,0.4s
PCAB Cabril 4.74 299 Lg Lg 18 22 56.8
6.1nm,0.4s
PCAB Cabril 4.74 299 *e*Sg **Sg 18 22 56.8 -2.4**
12nm,0.4s
ELOB Lobios 4.83 301 Pn **Pn 18 21 40.0 +0.3**
0.2nm,0.1s,SNR=5.9
ELOB Sn **Sn 18 22 33.6 -2.0**
1.1nm,0.1s,SNR=7.9
ELOB Lg Lg 18 23 02.0
1.0nm,0.1s,SNR=7.9
ELOB Lobios 4.83 301 Pn **Pn 18 21 40.0 +0.3**
0.2nm,0.1s,SNR=5.9
ELOB Sn **Sn 18 22 33.6 -2.0**
1.1nm,0.1s,SNR=7.9
ELOB Lg Lg 18 23 02.0
1.0nm,0.1s,SNR=7.9
PBDV Barranco-do-Ve 4.84 244 *e*Sg **Sg 18 22 57.8 -4.5**
PBDV A A 18 23 08.6
9.9nm,0.5s
PBDV Barranco-do-Ve 4.84 244 Lg Lg 18 22 57.8
9.9nm,0.5s
PBDV Barranco-do-Ve 4.84 244 Lg Lg 18 22 57.8
9.9nm,0.5s
PNCL Nicolau / Gran 4.92 255 *e*Pn **Pn 18 21 43.3 +2.6**
PNCL *e*Sg **Sg 18 23 02.5 -2.3**
PNCL A A 18 23 17.1
8.5nm,0.7s
PNCL Nicolau / Gran 4.92 255 *e*Pn **Pn 18 21 43.3 +2.6**
PNCL *e*Sg **Sg 18 23 02.5 -2.3**
8.5nm,0.7s
EJON La Jonquera 5.02 53 Pn **Pn 18 21 42.0 -0.1**
0.9nm,0.1s,SNR=7.9
EJON La Jonquera 5.02 53 Pn **Pn 18 21 42.0 -0.1**
0.9nm,0.1s,SNR=7.9
PGAV Gavieira, Arco 5.02 301 *e*Pn **Pn 18 21 43.3 +1.1**
PGAV *e*Sg **Sg 18 23 04.3 -3.7**
PGAV A A 18 23 11.8
13nm,0.4s
PGAV Gavieira, Arco 5.02 301 *e*Pn **Pn 18 21 43.3 +1.1**
PGAV *e*Sg **Sg 18 23 04.3 -3.7**
13nm,0.4s
MTLF Montolieu 5.21 41 *e*Pn **Pn 18 21 44.6 -0.1**
MTLF Montolieu 5.21 41 *e*Pg Pg 18 22 04.3 -2.4
MTLF *e*Sn **Sn 18 22 41.6 -3.1**
MTLF *e*Sg **Sg 18 23 11.5 -2.6**
3.1nm,0.3s
MTLF Montolieu 5.21 41 Pn **Pn 18 21 44.6 -0.1**
MTLF Montolieu 5.21 41 Pg Pg 18 22 04.3 -2.4
MTLF *e*Sn **Sn 18 22 41.6 -3.1**
MTLF *e*Sg **Sg 18 23 11.5 -2.6**
1.5nm,0.3s
MTLF Lg Lg 18 23 11.5
1.6nm,0.3s
PTEO Sao Teotonio 5.26 250 *e*Pn **Pn 18 21 45.4 -0.1**
PTEO *e*Sg **Sg 18 23 11.7 -4.3**
PTEO A A 18 23 24.9
13nm,0.6s
PTEO Sao Teotonio 5.26 250 Pn **Pn 18 21 45.4 -0.1**
PTEO Lg Lg 18 23 11.7
6.4nm,0.6s
PTEO Sao Teotonio 5.26 250 Pn **Pn 18 21 45.4 -0.1**
PTEO *e*Sg **Sg 18 23 11.7 -4.3**
13nm,0.6s
MORF Marmelete 5.31 247 *e*Sg **Sg 18 23 16.0 -1.6**
MORF A A 18 23 18.8
5.8nm,0.3s
MORF Marmelete 5.31 247 Lg Lg 18 23 16.0
5.8nm,0.3s
MORF Marmelete 5.31 247 Lg Lg 18 23 16.0
5.8nm,0.3s
LFF La Frestale 5.92 23 *e*Sn **Sn 18 22 59.3 -3.0**
6.1nm,0.4s
CAF Calviac 6.37 31 *e*Pn **Pn 18 22 00.8 0.0**
CAF *e*Sn **Sn 18 23 09.4 -4.1**
1.7nm,0.3s
CAF Calviac 6.37 31 Pn **Pn 18 22 00.8 0.0**
RJF Les Rejaudoux 6.50 26 *e*Sn Sn 18 23 12.1 -4.4
2.2nm,0.3s
LASF Ste Croix 6.58 44 *e*Pn **Pn 18 22 02.8 -0.7**
LASF Ste Croix 6.58 44 Pn **Pn 18 22 02.8 -0.7**
MFF Saint Martin d 7.28 13 *e*Pn **Pn 18 22 13.5 +0.3**
MFF Saint Martin d 7.28 13 Pn **Pn 18 22 13.5 +0.3**
BGF Bois d'Agland 8.04 27 *e*Pn **Pn 18 22 22.7 -1.0**
BGF Bois d'Agland 8.04 27 Pn **Pn 18 22 22.7 -1.0**
QUIF Quistinic 8.40 357 *e*Pn **Pn 18 22 28.3 -0.3**
QUIF Quistinic 8.40 357 Pn **Pn 18 22 28.3 -0.3**
ROSF Rostrenen 8.83 357 *e*Pn **Pn 18 22 34.3 -0.1**
ROSF Rostrenen 8.83 357 Pn **Pn 18 22 34.3 -0.1**

IDC 09 18:41:03.4±1.8, 17°55'S×70°17'W, h127km±14km, mb3.9/8, mb1 4.0/11, mb1mx3.7/21, mbtmp3.9/11, Error ellipse: s-maj=22.5km s-min=14.9km az=109.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.32**	**58**	P	Pn	18 41 42.3	+0.3
	57nm,0.3s,baz=249,slow=9.3,SNR=1085						
LPAZ				S	Sn	18 42 12.0	+0.4
	7.2nm,0.3s,baz=169,slow=25,SNR=10.0						
LVC	**Limon Verde**	**5.18**	**167**	P	Pn	18 42 17.8	-1.3
	1.7nm,0.3s,baz=358,slow=8.4,SNR=16						
LVC				S	Sn	18 43 13.7	-4.5
	24nm,0.3s,baz=169,slow=18,SNR=15						
SIV	**San Ignacio**	**8.85**	**81**	P	Pn	18 43 07.3	-1.2
	2.8nm,0.3s,baz=276,slow=10.0,SNR=40						
CFAA	**Coronel Fontan**	**14.11**	**173**	P	Pn	18 44 15.9	-1.8
	0.0nm,0.3s,baz=306,slow=8.8,SNR=3.9						
BDFB	**Brasilia**	**21.32**	**88**	P	P	18 45 41.1	+0.6
	3.3nm,0.4s,baz=244,slow=9.2,SNR=5.3						
PLCA	**Paso Flores**	**23.11**	**181**	P	P	18 45 59.8	+1.5
	2.9nm,0.8s,baz=332,slow=10.0,SNR=8.3						
DBIC	**Dimbokro**	**68.83**	**75**	P	P	18 51 54.3	-0.3
	7.4nm,0.7s,baz=227,slow=7.0,SNR=16						
PDAR	**Pinedale Array**	**70.11**	**330**	P	P	18 52 02.1	-0.1
	0.2nm,0.5s,baz=132,slow=13,SNR=3.0						
ULM	**Lac du Bonnet**	**71.21**	**343**	P	P	18 52 08.2	-0.1
	2.1nm,0.4s,baz=172,slow=2.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**77.20**	**72**	P	P	18 52 43.4	-0.6
	7.1nm,0.7s,baz=258,slow=5.4,SNR=39						
ESDC	**Sonseca Array**	**83.89**	**45**	P	P	18 53 20.1	+0.9
	1.5nm,0.6s,baz=264,slow=4.2,SNR=6.7						
YKA	**Yellowknife Ar**	**87.08**	**341**	P	P	18 53 33.7	-0.6
	0.9nm,0.7s,baz=132,slow=4.9,SNR=5.9						
WRA	**Warramunga Arr**	**135.65**	**214**	PKP	PKPdf	19 00 10.2	+0.5
	0.4nm,0.6s,baz=146,slow=1.6,SNR=3.3						
ZALV	**Zalesovo Beam**	**138.83**	**22**	PKP	PKPdf	19 00 16.1	+1.7
	0.3nm,0.3s,baz=108,slow=0.5,SNR=2.4						
SONM	**Songino Array**	**149.66**	**5**	PKPbc	PKPbc	19 00 38.1	-0.2
	0.5nm,0.6s,baz=42,slow=4.5,SNR=3.0						

IDC 09 18:43:59.2±0.9, 22°02'N×144°70'E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.9/26, mbtmp3.8/11, MS3.4/3, Ms1 3.4/3, ms1mx2.7/47, Error ellipse: s-maj=31.8km s-min=18.0km az=77.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.14**	**320**	P	P	18 48 44.6	-1.1
	1.4nm,0.9s,baz=144,slow=8.2,SNR=2.9						
ASAJ	**Asahikawa**	**22.11**	**356**	LR	LR	18 55 57.7	
	comp=Z,55nm,20.8s,baz=359,slow=32						
USRK	**Ussuriysk Arra**	**24.49**	**338**	P	P	18 49 19.1	-0.8
	1.9nm,0.8s,baz=145,slow=38,SNR=2.7						
SONM	**Songino Array**	**40.00**	**319**	P	P	18 51 37.0	+1.2
	0.5nm,0.5s,baz=115,slow=6.4,SNR=3.3						
SONM				LR	LR	19 06 32.8	
	comp=Z,47nm,18.4s,baz=302,slow=34						
WRA	**Warramunga Arr**	**42.91**	**194**	P	P	18 52 00.1	+0.3
	4.7nm,0.8s,baz=14,slow=8.7,SNR=21						
CMAR	**Chiang Mai Arr**	**42.96**	**274**	P	P	18 51 59.3	-1.1
	0.2nm,0.3s,baz=98,slow=6.5,SNR=3.1						
ASAR	**Alice Springs**	**46.61**	**194**	P	P	18 52 29.1	-0.2
	1.5nm,0.6s,baz=17,slow=8.9,SNR=37						
ZALV	**Zalesovo Beam**	**54.84**	**321**	P	P	18 53 32.6	+1.5
	0.6nm,0.4s,baz=96,slow=8.7,SNR=3.6						
MKAR	**Makanchi Array**	**55.52**	**312**	P	P	18 53 36.9	+0.7
	0.7nm,0.5s,baz=89,slow=8.7,SNR=8.5						
BVAR	**Borovoye Array**	**63.34**	**319**	P	P	18 54 29.6	-0.5
	0.6nm,0.3s,baz=94,slow=7.6,SNR=4.5						
NVAR	**Mina Array Bea**	**81.84**	**52**	P	P	18 56 21.1	+0.3
	1.2nm,0.8s,baz=274,slow=5.8,SNR=8.4						
FINES	**FINESS Array B**	**83.50**	**335**	P	P	18 56 27.5	-1.1
	2.9nm,1.0s,baz=64,slow=4.4,SNR=3.6						
VRAC	**Vranov**	**95.34**	**329**	LR	LR	19 45 01.9	
	comp=Z,26nm,18.2s,baz=324,slow=38						
PLCA	**Paso Flores**	**144.90**	**130**	PKP	PKPab	19 03 36.7	-0.9
	1.6nm,0.6s,baz=198,slow=18,SNR=5.5						

MEX 09 18:46:51.2±0.6, 18°69'N×102°40'W, h16km±11km, MD3.8, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.98**	**246**	*i* P	Pb	18 47 06.2	-3.7
MMIG				*e*S	Sb	18 47 19.4	-3.2
EZ5V		**1.38**	**305**	*i* P	Pn	18 47 12.9	-3.3
EZ5V				*e*S	Sn	18 47 28.8	-5.6
ZIIG	**Zihuatanejo**	**1.40**	**140**	*i* P	Pn	18 47 12.2	-3.9
ZIIG				*i* S	Sn	18 47 29.2	-5.0
R15V		**1.57**	**288**	*i* P	Pn	18 47 14.9	-3.6
R15V				*e*S	Sn	18 47 33.7	-5.0
SFJM	**Santa Fe**	**1.89**	**342**	*i* P	Pn	18 47 19.0	-4.1
SFJM				*e*S	Sn	18 47 41.3	-5.4
ARIG	**Puente Sto Nin**	**1.99**	**102**	*e*P	Pn	18 47 21.7	-2.7
ARIG				*i* S	Sn	18 47 43.9	-5.2

*ISCJB **09** 18:48:48.1±0.2, 44°.837N×6°.010×6°.58E±0°.01, h5km±1km, mb3.6/4, MS2.9/2, Error ellipse: s-maj=1.6km s-min=1.5km az=26.2*
*IDC **09** 18:48:48.7±1.1, 44°.89N×6°.42E, h0km, mb3.7/4, mb1 3.8/9, mb1mx3.5/31, mbtmp3.6/9, ML4.1/4, MS2.9/2, Ms1 2.9/2, ms1mx2.1/47, Error ellipse: s-maj=30.1km s-min=13.1km az=142.0*
*GEN **09** 18:48:48.4, 44°.81N×6°.54E, h5km, ML3.1*
*ROM **09** 18:48:49.1±0.2, 44°.82N×6°.71E, h2km, Md3.1/8, Ml3.0/12, Error ellipse: s-maj=2.8km s-min=1.0km az=64.0*
*CSEM **09** 18:48:49.3±0.1, 44°.82N×6°.63E, h2km, ML3.7/37, Error ellipse: s-maj=1.5km s-min=1.3km az=21.0*
*ZUR **09** 18:48:50.2, 44°.83N×6°.68E, h4km±2km, ML3.0/5*
*LDG **09** 18:48:50.7±0.1, 44°.80N×6°.66E, h2km, Md3.4/3, Ml3.7/39, Error ellipse: s-maj=1.5km s-min=1.3km az=51.0*
*PRU **09** 18:48:52.8, 45°.07N×6°.60E, h9km*

ISC 09 18:48:49.5±0.8, 44°83N±0°.01×6°63E±0°.01, h11km±5km, n241, σ1°49/369, mb3.7/4, 11C-8D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.14**	**135**	*e*Pg	**Pg**	**18 48 52.3**	**-0.7**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**18 48 54.9**	**-0.5**
	6μm,0.5s						
MBDF	**Montbardon**	**0.14**	**135**	*e*Pg	**Pg**	**18 48 52.3**	**-0.7**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**18 48 54.9**	**-0.5**
	3μm,0.5s						
OG22	**Abries**	**0.22**	**91**	Pg	**Pg**	**18 48 53.8**	**-0.5**
OG22				Sg	**Sg**	**18 48 57.4**	**-0.2**
BNI	**Bardonecchia**	**0.23**	**8**	Pg	**Pg**	**18 48 54.2**	**-0.2**
BNI				Sg	**Sg**	**18 48 57.9**	**+0.1**
	773nm,0.5s						
BNI	**Bardonecchia**	**0.23**	**8**	Pg	**Pg**	**18 48 54.2**	**-0.2**
BNI				Sg	**Sg**	**18 48 57.9**	**+0.1**
	773nm,0.5s						
SURF	**Saint Ours**	**0.37**	**160**	Pg	**Pg**	**18 48 56.5**	**-0.4**
SURF				Sg	**Sg**	**18 49 02.6**	**+0.8**
PZZ	**Stroppo**	**0.47**	**133**	Pg	**Pg**	**18 48 58.3**	**-0.5**
PZZ				Sg	**Sg**	**18 49 05.1**	**+0.1**
	2μm,0.6s						
PZZ	**Stroppo**	**0.47**	**133**	P	**Pg**	**18 48 58.2**	**-0.5**
PZZ				Sg	**Sg**	**18 49 05.1**	**+0.1**
	2μm,0.6s						
GDM	**Grand'Maison**	**0.53**	**316**	Pg	**Pg**	**18 48 59.3**	**-0.5**
GDM				Sg	**Sg**	**18 49 06.2**	**-0.7**
DOI	**San Damiano**	**0.54**	**126**	Pg	**Pg**	**18 48 59.7**	**-0.4**
DOI				Sg	**Sb**	**18 49 08.1**	**-0.8**
	1μm,0.4s						
DOI	**San Damiano**	**0.54**	**126**	Pg	**Pg**	**18 48 59.7**	**-0.4**
DOI				Sg	**Sb**	**18 49 08.1**	**-0.8**
	1μm,0.4s						
ORIF	**Oris-en-Rattie**	**0.54**	**280**	*e*Pg	**Pg**	**18 48 59.2**	**-0.9**
ORIF				*e*Sg	**Sg**	**18 49 06.1**	**-1.2**
	4μm,0.4s						
ORIF	**Oris-en-Rattie**	**0.54**	**280**	*e*Pg	**Pg**	**18 48 59.2**	**-0.9**
ORIF				*e*Sg	**Sg**	**18 49 06.1**	**-1.2**
	2μm,0.4s						
RSP	**Reno Superiore**	**0.55**	**54**	Pg	**Pg**	**18 49 00.3**	**-0.1**
	752nm,0.8s						
RSP	**Reno Superiore**	**0.55**	**54**	P	**Pg**	**18 49 00.2**	**-0.1**
RSP				S	**Sg**	**18 49 08.2**	**+0.5**
LPG	**La Plagne**	**0.68**	**7**	*e*Pg	**Pg**	**18 49 02.4**	**-0.3**
	SNR=1.0						
LPG				*e*Sg	**Sb**	**18 49 12.4**	**-0.6**
	347nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**0.68**	**7**	*e*Pg	**Pg**	**18 49 02.4**	**-0.3**
	SNR=1.0						
LPG				*e*Sg	**Sb**	**18 49 12.4**	**-0.6**
	173nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**0.69**	**6**	*e*Pg	**Pg**	**18 49 02.7**	**-0.3**
	SNR=1.0						
LPL				*e*Sg	**Sb**	**18 49 13.8**	**+0.4**
	446nm,0.4s						
LPL	**La Plagne**	**0.69**	**6**	*e*Pg	**Pg**	**18 49 02.7**	**-0.3**
	SNR=1.0						
LPL				*e*Sg	**Sb**	**18 49 13.8**	**+0.4**
	223nm,0.4s						
GRN	**Grenoble**	**0.76**	**304**	Pg	**Pg**	**18 49 03.8**	**-0.3**
GRN				Sg	**Sb**	**18 49 14.4**	**-0.6**
TOUF	**Mont Tournerai**	**0.92**	**151**	Pg	**Pg**	**18 49 06.9**	**-0.4**
TOUF				Sg	**Sb**	**18 49 19.9**	**0.0**
MONC	**Moncucco Torin**	**0.95**	**74**	Pg	**Pb**	**18 49 08.7**	**+0.7**
	1μm,0.5s						
MONC	**Moncucco Torin**	**0.95**	**74**	Pg	**Pb**	**18 49 08.7**	**+0.7**
	1μm,0.5s						
OG26	**St.-Nazaire-De**	**0.98**	**256**	Pg	**Pn**	**18 49 09.2**	**0.0**
OG26				Sg	**Sn**	**18 49 24.2**	**+1.1**
MRGE	**Morge**	**0.99**	**18**	Pg	**Pg**	**18 49 08.5**	**-0.1**
	385nm,0.8s						
MRGE	**Morge**	**0.99**	**18**	Pg	**Pg**	**18 49 08.5**	**-0.1**
	385nm,0.8s						
MVIF	**Mont Vial**	**1.00**	**158**	Pg	**Pg**	**18 49 08.5**	**-0.3**
AUTN	**L'Aution**	**1.01**	**145**	Pg	**Pg**	**18 49 08.4**	**-0.5**
AUTN				Sg	**Sg**	**18 49 21.7**	**-0.3**
TRAV	**Traversella**	**1.04**	**49**	Pg	**Pg**	**18 49 09.2**	**-0.4**
TRAV				Sg	**Sg**	**18 49 23.0**	**-0.3**
	275nm,0.4s						
TRAV	**Traversella**	**1.04**	**49**	P	**Pg**	**18 49 08.8**	**-0.8**
TRAV	**Traversella**	**1.04**	**49**	Pg	**Pg**	**18 49 09.2**	**-0.4**
TRAV				S	**Sg**	**18 49 22.6**	**-0.7**
TRAV				Sg	**Sg**	**18 49 23.0**	**-0.3**
	275nm,0.4s						
SAOF	**Saorge**	**1.07**	**141**	Pg	**Pg**	**18 49 09.3**	**-0.8**
SAOF				Sg	**Sb**	**18 49 24.0**	**+0.1**
CALN	**Calern**	**1.09**	**170**	Pg	**Pb**	**18 49 10.5**	**+0.1**
CALN				Sg	**Sb**	**18 49 25.7**	**+1.1**
SBF	**Sospel**	**1.12**	**149**	*e*Pg	**Pg**	**18 49 10.4**	**-0.7**
SBF	**Sospel**	**1.12**	**149**	*e*Pn	**Pb**	**18 49 11.2**	**+0.3**
	SNR=1.0						
SBF				*e*Sn	**Sg**	**18 49 25.0**	**-0.7**
	1μm,0.6s,SNR=1.0						
SBF	**Sospel**	**1.12**	**149**	*e*Pg	**Pg**	**18 49 10.4**	**-0.7**
SBF	**Sospel**	**1.12**	**149**	*e*Pn	**Pb**	**18 49 11.2**	**+0.3**
	SNR=1.0						
SMRF	**Simiane la Rot**	**1.14**	**222**	*e*Pg	**Pn**	**18 49 11.6**	**+0.2**
	SNR=1.0						
SMRF	**Simiane la Rot**	**1.14**	**222**	*e*Pn	**Pn**	**18 49 13.0**	**+1.6**
	SNR=1.0						
SMRF				*e*Sg	**Sb**	**18 49 26.8**	**+0.8**
	477nm,0.4s						
SMRF	**Simiane la Rot**	**1.14**	**222**	*e*Pg	**Pn**	**18 49 11.6**	**+0.2**
	SNR=1.0						
SMRF	**Simiane la Rot**	**1.14**	**222**	*e*Pn	**Pn**	**18 49 13.0**	**+1.6**
	SNR=1.0						
SMRF				*e*Sg	**Sb**	**18 49 26.8**	**+0.8**
	239nm,0.4s						
REVF	**Revere**	**1.21**	**154**	Pg	**Pn**	**18 49 12.6**	**+0.3**
ROTM	**Rocchetta Tana**	**1.22**	**88**	P	**Pg**	**18 49 12.5**	**-0.5**
ROTM				S	**Sg**	**18 49 28.9**	**0.0**
ORO	**Oropa**	**1.25**	**49**	Pg	**Pg**	**18 49 12.2**	**-1.2**
	107nm,0.2s						
ORO	**Oropa**	**1.25**	**49**	Pg	**Pg**	**18 49 12.2**	**-1.2**
	107nm,0.2s						
RORO	**Rocca Rossa**	**1.25**	**124**	Pg	**Pg**	**18 49 12.3**	**-1.2**
RORO				Sg	**Sg**	**18 49 29.3**	**-0.4**
	245nm,0.7s						
RORO	**Rocca Rossa**	**1.25**	**124**	P	**Pg**	**18 49 11.3**	**-2.2**
RORO	**Rocca Rossa**	**1.25**	**124**	Pg	**Pg**	**18 49 12.3**	**-1.2**
RORO				S	**Sg**	**18 49 26.1**	**-3.6**
RORO				Sg	**Sg**	**18 49 29.3**	**-0.4**
	245nm,0.7s						
FRF	**La Foret Royal**	**1.27**	**180**	*e*Pn	**Pn**	**18 49 13.5**	**+0.4**
	SNR=1.0						
FRF	**La Foret Royal**	**1.27**	**180**	*e*Pg	**Pn**	**18 49 14.2**	**+1.1**
FRF				*e*Sg	**Sb**	**18 49 30.0**	**+0.4**
	659nm,0.4s,SNR=1.0						
FRF	**La Foret Royal**	**1.27**	**180**	*e*Pn	**Pn**	**18 49 13.5**	**+0.4**
	SNR=1.0						
FRF	**La Foret Royal**	**1.27**	**180**	*e*Pg	**Pn**	**18 49 14.2**	**+1.1**
FRF				*e*Sg	**Sb**	**18 49 30.0**	**+0.4**
	329nm,0.4s,SNR=1.0						
QLNO	**Quiliano**	**1.32**	**112**	Pg	**Pn**	**18 49 13.8**	**-0.1**
QLNO				Sg	**Sg**	**18 49 31.6**	**-0.5**
	216nm,0.4s						
QLNO	**Quiliano**	**1.32**	**112**	Pg	**Pn**	**18 49 13.8**	**-0.1**
QLNO				Sg	**Sg**	**18 49 31.6**	**-0.5**
	216nm,0.4s						
SALAN	**Lac Salanfe**	**1.34**	**10⇓**	*e*P1		18 49 15.2	
	112nm,0.6s						
SALAN	**Lac Salanfe**	**1.34**	**10⇓**	*e*P	**Pg**	**18 49 15.2**	**-0.1**
	112nm,0.6s						
DIX	**Grande Dixence**	**1.37**	**23**	Pg	**Pn**	**18 49 15.3**	**+0.6**
DIX	**Grande Dixence**	**1.37**	**23**	Pg	**Pn**	**18 49 15.3**	**+0.6**
FINB	**Finale Ligure**	**1.37**	**118**	Pg	**Pn**	**18 49 14.7**	**+0.2**
	477nm,0.5s						
FINB	**Finale Ligure**	**1.37**	**118**	Pg	**Pn**	**18 49 14.7**	**+0.2**
	477nm,0.5s						
PCP	**Piancastagn**	**1.39**	**101**	Pg	**Pn**	**18 49 15.1**	**+0.2**
	206nm,0.6s						
PCP	**Piancastagn**	**1.39**	**101**	P	**Pn**	**18 49 14.0**	**-0.9**
PCP	**Piancastagn**	**1.39**	**101**	Pg	**Pn**	**18 49 15.1**	**+0.2**
	206nm,0.6s						
PCP				S	**Sb**	**18 49 31.6**	**-1.7**
VIVF	**Saint-Julien-l**	**1.40**	**272**	*e*Pn	**Pb**	**18 49 15.5**	**-0.1**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**1.40**	**272**	*e*Pg	**Pg**	**18 49 16.7**	**+0.4**
VIVF				*e*Sg	**Sn**	**18 49 35.4**	**+2.1**
	1μm,0.6s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.40**	**272**	*e*Pn	**Pb**	**18 49 15.5**	**-0.1**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**1.40**	**272**	*e*Pg	**Pg**	**18 49 16.7**	**+0.4**
VIVF				*e*Sg	**Sn**	**18 49 35.4**	**+2.1**
	561nm,0.6s,SNR=1.0						
GRYON	**Gryon**	**1.46**	**13⇓**	*e*P1		18 49 17.5	
	120nm,0.6s						
GRYON	**Gryon**	**1.46**	**13⇓**	*e*P	**Pg**	**18 49 17.5**	**-0.1**
	120nm,0.6s						
LMR	**La Mourre**	**1.49**	**183**	*e*Pn	**Pn**	**18 49 16.8**	**+0.6**
	SNR=1.0						
LMR	**La Mourre**	**1.49**	**183**	*e*Pg	**Pg**	**18 49 17.5**	**-0.7**
LMR				*e*Sg	**Sg**	**18 49 37.1**	**-0.4**
	421nm,0.4s,SNR=1.0						
LMR	**La Mourre**	**1.49**	**183**	*e*Pn	**Pn**	**18 49 16.8**	**+0.6**
	SNR=1.0						
LMR	**La Mourre**	**1.49**	**183**	*e*Pg	**Pg**	**18 49 17.5**	**-0.7**
LMR				*e*Sg	**Sg**	**18 49 37.1**	**-0.4**
	211nm,0.4s,SNR=1.0						
OG01	**Vacheresse**	**1.50**	**1**	Pn	**Pg**	**18 49 19.2**	**+0.8**
MMK	**Mattmark**	**1.54**	**37⇑**	*i*P1		18 49 18.4	
	393nm,0.6s						
MMK	**Mattmark**	**1.54**	**37**	Pg	**Pb**	**18 49 18.4**	**+0.2**
MMK	**Mattmark**	**1.54**	**37⇑**	*i*P	**Pb**	**18 49 18.4**	**+0.2**
	393nm,0.6s						
SSB	**Saint Sauveur**	**1.55**	**288**	Pn	**Pn**	**18 49 17.6**	**+0.6**
SENIN	**Lac Senin/Sane**	**1.61**	**17**	*e*Pn	**Pg**	**18 49 20.1**	**-0.3**
	455nm,0.5s						
SENIN	**Lac Senin/Sane**	**1.61**	**17**	*e*Pn	**Pg**	**18 49 20.1**	**-0.3**
	455nm,0.5s						
CABF	**La Chapelle**	**1.83**	**348**	*e*Pn	**Pn**	**18 49 22.3**	**+1.4**
	SNR=1.0						
CABF	**La Chapelle**	**1.83**	**348**	*e*Pg	**Pg**	**18 49 25.3**	**+0.8**
CABF				*e*Sg	**Sg**	**18 49 49.6**	**+1.4**
	198nm,0.6s,SNR=1.0						
CABF	**La Chapelle**	**1.83**	**348**	*e*Pn	**Pn**	**18 49 22.3**	**+1.4**
	SNR=1.0						
CABF	**La Chapelle**	**1.83**	**348**	*e*Pg	**Pg**	**18 49 25.3**	**+0.8**
CABF				*e*Sg	**Sg**	**18 49 49.6**	**+1.4**
	99nm,0.6s,SNR=1.0						
MUGIO	**Muggio**	**2.02**	**56⇓**	*e*Pn	**Pn**	**18 49 24.4**	**+0.9**
	455nm,0.6s						
MUGIO	**Muggio**	**2.02**	**56**	Pg	**Pn**	**18 49 24.8**	**+1.3**
MUGIO	**Muggio**	**2.02**	**56⇓**	*e*Pn	**Pn**	**18 49 24.4**	**+0.9**
	455nm,0.6s						
MUGIO	**Muggio**	**2.02**	**56**	Pg	**Pn**	**18 49 24.8**	**+1.3**
LASF	**Ste Croix**	**2.12**	**250**	*e*Pn	**Pn**	**18 49 25.0**	**+0.1**
	SNR=1.0						
LASF	**Ste Croix**	**2.12**	**250**	*e*Pg	**Pg**	**18 49 30.2**	**0.0**
LASF				*e*Sn	**Sn**	**18 49 51.0**	**-0.3**
	86nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**2.12**	**250**	*e*Pn	**Pn**	**18 49 25.0**	**+0.1**
	SNR=1.0						
LASF	**Ste Croix**	**2.12**	**250**	*e*Pg	**Pg**	**18 49 30.2**	**0.0**
LASF				*e*Sn	**Sn**	**18 49 51.0**	**-0.3**
	43nm,0.4s,SNR=1.0						
COLF	**Collangettes**	**2.19**	**289**	Pn	**Pn**	**18 49 25.8**	**0.0**
PLDF	**La Plantade**	**2.41**	**299**	Pn	**Pn**	**18 49 30.4**	**+1.5**
LBL	**Lubilhac**	**2.44**	**281**	Pn	**Pn**	**18 49 30.8**	**+1.6**
LOMF	**Lomont**	**2.53**	**3**	Pn	**Pn**	**18 49 32.4**	**+1.9**
SMF	**Signal de Mont**	**2.67**	**314**	*e*Pn	**Pn**	**18 49 33.0**	**+0.6**
	SNR=1.0						
SMF	**Signal de Mont**	**2.67**	**314**	*e*Pg	**Pg**	**18 49 39.3**	**-1.4**
SMF				*e*Sg	**Sg**	**18 50 15.4**	**+0.1**
	187nm,0.4s	

50nm,0.4s,SNR=1.0
SSF Saint Saulge 3.12 317 *e*Pn **Pn 18 49 39.7 +1.1**
SNR=1.0
SSF Saint Saulge 3.12 317 *e*Pg **Pg 18 49 48.5 -0.8**
SSF *e*Sn **Sn 18 50 14.6 -1.3**
84nm,0.4s,SNR=1.0
SSF *e*Sg **Sg 18 50 29.3 -0.5**
110nm,0.5s
SSF Saint Saulge 3.12 317 *e*Pn **Pn 18 49 39.7 +1.1**
SNR=1.0
SSF Saint Saulge 3.12 317 *e*Pg **Pg 18 49 48.5 -0.8**
SSF *e*Sg **Sg 18 50 29.3 -0.5**
55nm,0.5s
BGF Bois d'Agland 3.17 304 *e*Pn **Pn 18 49 40.2 +1.0**
SNR=1.0
BGF Bois d'Agland 3.17 304 *e*Pg **Pg 18 49 49.8 -0.4**
BGF *e*Sg **Sg 18 50 30.8 -0.4**
514nm,0.4s
BGF Bois d'Agland 3.17 304 *e*Pn **Pn 18 49 40.2 +1.0**
SNR=1.0
BGF Bois d'Agland 3.17 304 *e*Pg **Pg 18 49 49.8 -0.4**
BGF *e*Sg **Sg 18 50 30.8 -0.4**
257nm,0.4s
HAU Haudompre 3.19 357 *e*Pn **Pn 18 49 40.5 +1.0**
SNR=1.0
HAU *e*Sn **Sn 18 50 16.6 -0.9**
SNR=1.0
HAU *e*Sg **Sg 18 50 31.8 0.0**
45nm,0.4s,SNR=1.0
HAU Haudompre 3.19 357 *e*Pn **Pn 18 49 40.5 +1.0**
SNR=1.0
HAU *e*Sg **Sg 18 50 31.8 0.0**
22nm,0.4s,SNR=1.0
FELD Feldberg im Sc 3.20 17 Pn **Pn 18 49 41.2 +1.5**
CAF Calviac 3.25 273 *e*Pn **Pn 18 49 41.4 +1.0**
SNR=1.0
CAF Calviac 3.25 273 *e*Pg **Pg 18 49 50.6 -1.1**
CAF *e*Sn **Sn 18 50 17.9 -1.1**
CAF *e*Sg **Sg 18 50 33.2 -0.6**
49nm,0.4s
CAF Calviac 3.25 273 *e*Pn **Pn 18 49 41.4 +1.0**
SNR=1.0
CAF Calviac 3.25 273 *e*Pg **Pg 18 49 50.6 -1.1**
CAF *e*Sg **Sg 18 50 33.2 -0.6**
25nm,0.4s
DAVA Damuels 3.34 41 ⇓*i*Pn **Pn 18 49 43.7 +1.9**
SNR=18
DAVA ⇑*i*Sn **Sn 18 50 24.6 +3.1**
DAVA Damuels 3.34 41 Pn **Pn 18 49 43.7 +1.9**
SNR=18
DAVA Sn **Sn 18 50 24.6 +3.1**
THEF They Montfort 3.43 353 Pn **Pn 18 49 44.3 +1.4**
TCF Toulx Ste Croi 3.43 297 *e*Pn **Pn 18 49 44.1 +1.2**
SNR=1.0
TCF Toulx Ste Croi 3.43 297 *e*Pg **Pg 18 49 54.3 -1.0**
TCF *e*Sn **Sn 18 50 21.8 -1.8**
SNR=1.0
TCF *e*Sg **Sg 18 50 38.9 -0.8**
124nm,0.6s
TCF Toulx Ste Croi 3.43 297 *e*Pn **Pn 18 49 44.1 +1.2**
SNR=1.0
TCF Toulx Ste Croi 3.43 297 *e*Pg **Pg 18 49 54.3 -1.0**
TCF *e*Sg **Sg 18 50 38.9 -0.8**
62nm,0.6s
MTLF Montolieu 3.51 247 *e*Pn **Pn 18 49 44.3 +0.4**
SNR=1.0
MTLF Montolieu 3.51 247 *e*Pg **Pg 18 49 55.4 -1.3**
MTLF *e*Sn **Sn 18 50 24.4 -1.0**
MTLF *e*Sg **Sg 18 50 41.3 -0.9**
26nm,0.5s
MTLF Montolieu 3.51 247 *e*Pn **Pn 18 49 44.3 +0.4**
SNR=1.0
MTLF Montolieu 3.51 247 *e*Pg **Pg 18 49 55.4 -1.3**
MTLF *e*Sn **Sn 18 50 24.4 -1.0**
MTLF *e*Sg **Sg 18 50 41.3 -0.9**
13nm,0.5s
SFTF Sexfontaines 3.56 343 *e*Pn **Pn 18 49 45.3 +0.7**
baz=154
SFTF *e*Sg **Sg 18 50 43.2 -0.4**
55nm,0.5s
SFTF Sexfontaines 3.56 343 *e*Pn **Pn 18 49 45.3 +0.7**
baz=15
SFTF *e*Sg **Sg 18 50 43.2 -0.4**
28nm,0.5s
EJON La Jonquera 3.61 230 P **Pn 18 49 45.4 +0.1**
1.9nm,0.2s,SNR=7.9
EJON S **Sn 18 50 25.4 -2.5**
2.7nm,0.2s,SNR=7.9
CDF Champ du Feu 3.62 7 *e*Pn **Pn 18 49 45.9 +0.4**
SNR=1.0
CDF Champ du Feu 3.62 7 *e*Pg **Pg 18 49 57.9 -0.8**
CDF *e*Sn **Sn 18 50 27.2 -0.9**
26nm,0.5s,SNR=1.0
CDF *e*Sg **Sg 18 50 45.3 -0.3**
27nm,0.5s
CDF Champ du Feu 3.62 7 *e*Pn **Pn 18 49 45.9 +0.4**
SNR=1.0
CDF Champ du Feu 3.62 7 *e*Pg **Pg 18 49 57.9 -0.8**
CDF *e*Sg **Sg 18 50 45.3 -0.3**
14nm,0.5s
RJF Les Rejaudoux 3.66 279 *e*Pn **Pn 18 49 47.2 +1.2**
SNR=1.0
RJF *e*Sn **Sn 18 50 27.9 -1.1**
RJF *e*Sg **Sg 18 50 46.3 -0.6**
108nm,0.5s
RJF Les Rejaudoux 3.66 279 *e*Pn **Pn 18 49 47.2 +1.2**
SNR=1.0
RJF *e*Sg **Sg 18 50 46.3 -0.6**
54nm,0.5s
HYF Humbligny 3.70 313 *e*Pn **Pn 18 49 48.4 +1.8**
HYF Humbligny 3.70 313 *e*Pg **Pg 18 49 58.4 -2.0**
HYF *e*Sg **Sg 18 50 46.7 -1.6**
HYF Humbligny 3.70 313 *e*Pn **Pn 18 49 48.4 +1.8**
HYF Humbligny 3.70 313 *e*Pg **Pg 18 49 58.4 -2.0**
HYF *e*Sg **Sg 18 50 46.7 -1.6**
PAGF Fort de Pagny 3.78 351 *e*Pn **Pn 18 49 49.0 +1.3**
PAGF *e*Sg **Sg 18 50 49.8 -1.1**
14nm,0.6s
PAGF Fort de Pagny 3.78 351 *e*Pn **Pn 18 49 49.0 +1.3**
PAGF *e*Sg **Sg 18 50 49.8 -1.1**
7.2nm,0.6s
MEZF Maizieres J'vi 3.83 344 *e*Pn **Pn 18 49 50.1 +1.7**
baz=170,SNR=1.0
MEZF *e*Sn **Sn 18 50 31.8 -1.6**
SNR=1.0
MEZF *e*Sg **Sg 18 50 51.7 -0.9**
46nm,0.4s,SNR=1.0
MEZF Maizieres J'vi 3.83 344 *e*Pn **Pn 18 49 50.1 +1.7**
baz=170,SNR=1.0
MEZF *e*Sg **Sg 18 50 51.7 -0.9**
23nm,0.4s,SNR=1.0
VALF Valcebollere 4.13 236 Pn **Pn 18 49 53.4 +0.7**
LFF La Frestale 4.19 274 *e*Pn **Pn 18 49 54.5 +1.2**
SNR=1.0
LFF *e*Sn **Sn 18 50 41.0 -1.1**
SNR=1.0
LFF *e*Sg **Sg 18 51 02.5 -1.5**
120nm,0.5s
LFF La Frestale 4.19 274 *e*Pn **Pn 18 49 54.5 +1.2**
SNR=1.0
LFF *e*Sg **Sg 18 51 02.5 -1.5**
60nm,0.5s
WTTA Wattenberg 4.25 53 ⇓*i*Pn **Pn 18 49 57.3 +3.0**
WTTA ⇑*i*Sn **Sn 18 50 46.6 +2.6**
WTTA Wattenberg 4.25 53 Pn **Pn 18 49 57.3 +3.0**
WTTA Sn **Sn 18 50 46.6 +2.6**
WATA Walderalm 4.26 52 ⇑*i*Pn **Pn 18 49 56.4 +2.0**
SNR=6.0
WATA Walderalm 4.26 52 Pn **Pn 18 49 56.4 +2.0**
SNR=6.0
CFON Fontmartina 4.33 226 P **Pn 18 49 56.3 +1.0**
30nm,0.2s,SNR=96
CFON S **Sn 18 50 44.6 -1.2**
17nm,0.3s,SNR=11
ABTA Abfaltersbach 4.54 63 ⇑*i*Pn **Pn 18 50 00.5 +2.4**
SNR=15
ABTA ⇑*i*Sn **Sn 18 50 54.3 +3.4**
ABTA Abfaltersbach 4.54 63 Pn **Pn 18 50 00.5 +2.4**
SNR=15
ABTA Sn **Sn 18 50 54.3 +3.4**
CSOR Sort 4.68 240 P **Pn 18 50 02.1 +1.9**
7.0nm,0.5s,SNR=12
CSOR S **Sn 18 50 55.8 +1.3**
9.5nm,0.4s,SNR=6.8
EMIR Miracle 4.72 234 P **Pn 18 50 02.6 +1.9**
1.6nm,0.2s,SNR=7.9
EMIR S **Sn 18 51 00.0 +4.5**
8.1nm,0.3s,SNR=7.9
EPF Esparros 4.89 251 *e*Pn **Pn 18 50 03.0 +0.1**
EPF *e*Sg **Sg 18 51 24.7 -1.6**
12nm,0.4s,SNR=1.0
EPF Esparros 4.89 251 *e*Pn **Pn 18 50 03.0 +0.1**
EPF *e*Sg **Sg 18 51 24.7 -1.6**
6.2nm,0.4s,SNR=1.0
MFF Saint Martin d 5.07 293 *e*Pn **Pn 18 50 06.5 +1.2**
SNR=1.0
MFF *e*Sn **Sn 18 51 01.2 -2.6**
MFF *e*Sg **Sg 18 51 29.0 -3.2**
60nm,0.7s
MFF Saint Martin d 5.07 293 *e*Pn **Pn 18 50 06.5 +1.2**
SNR=1.0
EBIE Bielsa 5.16 248 P **Pn 18 50 09.7 +2.8**
1.8nm,0.3s,SNR=12
EBIE S **Sn 18 51 08.8 +2.3**
0.6nm,0.2s,SNR=4.7
KBA Koelnbreinsper 5.19 62 ⇑*i*Pn **Pn 18 50 10.0 +2.8**
KBA ⇑*i*Sn **Sn 18 51 11.3 +4.1**
KBA Koelnbreinsper 5.19 62 Pn **Pn 18 50 10.0 +2.8**
KBA Sn **Sn 18 51 11.3 +4.1**
EPOB Poblet 5.35 231 P **Pn 18 50 09.5 +0.3**
0.1nm,0.1s,SNR=4.0
EPOB S **Sn 18 51 11.0 +0.2**
0.8nm,0.2s,SNR=7.9
GIVF Givet 5.42 348 *e*Pn **Pn 18 50 10.9 +0.8**
SNR=1.0
GIVF *e*Sg **Sg 18 51 42.2 -1.2**
39nm,0.8s
GIVF Givet 5.42 348 *e*Pn **Pn 18 50 10.9 +0.8**
SNR=1.0
GIVF *e*Sg **Sg 18 51 42.2 -1.2**
20nm,0.8s
BAIF Baives 5.49 343 *e*Pn **Pn 18 50 12.6 +1.5**
SNR=1.0
BAIF *e*Sg **Sg 18 51 43.6 -2.0**
25nm,0.8s
BAIF Baives 5.49 343 *e*Pn **Pn 18 50 12.6 +1.5**
SNR=1.0
BAIF *e*Sg **Sg 18 51 43.6 -2.0**
12nm,0.8s
ETSF Etsaut 5.54 252 *e*P Pn 18 50 15.7 +3.7
ETSF *e*Sg **Sg 18 51 45.8 -1.7**
9.9nm,0.5s
ETOS Mallorca 5.79 211 P **Pn 18 50 16.9 +1.6**
0.8nm,0.2s,SNR=6.5
NVLJ Novalja 5.88 90 *e*Pn **Pn 18 50 16.3 -0.1**
NVLJ Sn **Sn 18 51 19.9 -3.9**
NVLJ Novalja 5.88 90 *e*Pn **Pn 18 50 16.3 -0.1**
SJPF Ste Jean 5.92 256 *e*Pn **Pn 18 50 18.5 +1.4**
SJPF *e*Sg **Sg 18 51 56.1 -3.5**
9.2nm,0.6s
SJPF Ste Jean 5.92 256 *e*Pn **Pn 18 50 18.5 +1.4**
LDF La Druitiere 5.98 311 *e*Pn **Pn 18 50 19.0 +1.1**
SNR=1.0
LDF *e*Sg **Sg 18 51 58.2 -3.2**
37nm,0.7s
LDF La Druitiere 5.98 311 *e*Pn **Pn 18 50 19.0 +1.1**
SNR=1.0
IELO Elcoad 6.03 254 P **Pn 18 50 21.4 +2.8**
1.1nm,0.3s,SNR=7.9
IELO S **Sn 18 51 30.1 +2.6**
1.6nm,0.4s,SNR=7.9
ERTA Horta de San J 6.03 232 P **Pn 18 50 20.3 +1.7**
1.0nm,0.2s,SNR=7.9
IEPA Eparoz 6.07 253 P Pn 18 50 22.5 +3.3
1.0nm,0.2s,SNR=7.9
IEPA S **Sn 18 51 30.7 +2.1**
0.8nm,0.2s,SNR=7.9
EALK Alkurruntz 6.08 258 P **Pn 18 50 19.6 +0.3**
0.9nm,0.3s,SNR=7.9
MOA Molln 6.09 58 ⇑*i*Pn **Pn 18 50 21.5 +2.1**
MOA ⇑*i*Sn **Sn 18 51 31.0 +2.0**
MOA Molln 6.09 58 Pn **Pn 18 50 21.5 +2.1**
MOA Sn **Sn 18 51 31.0 +2.0**
IUSE Utxeti 6.20 255 P **Pn 18 50 22.2 +1.2**
1.0nm,0.3s,SNR=7.9
IUSE S **Sn 18 51 33.2 +1.3**
2.4nm,0.3s,SNR=7.9
IUNC Unciti 6.24 253 S **Sn 18 51 34.4 +1.7**
1.5nm,0.2s,SNR=7.9
GRR Gorron 6.27 307 *e*Pn **Pn 18 50 22.6 +0.8**
SNR=1.0
GRR *e*Sn **Sn 18 51 30.3 -3.1**
GRR *e*Sg **Sg 18 52 07.9 -2.8**
32nm,0.7s
GRR Gorron 6.27 307 *e*Pn **Pn 18 50 22.6 +0.8**
SNR=1.0
FLN La Foliniere 6.27 311 *e*Pn **Pn 18 50 23.6 +1.7**
baz=129,SNR=1.0
FLN *e*Sn **Sn 18 51 29.8 -3.7**
SNR=1.0
FLN *e*Sg **Sg 18 52 06.9 -3.8**
28nm,0.6s
FLN La Foliniere 6.27 311 *e*Pn **Pn 18 50 23.6 +1.7**
baz=13,SNR=1.0
GERES GERESS Array B 6.30 48 Pn **Pn 18 50 24.0 +1.7**
3.0nm,0.3s,baz=235,slow=14,SNR=47
GERES Sn **Sn 18 51 34.9 +0.7**
1.0nm,0.3s,baz=242,slow=22,SNR=6.9
KHC Kasperske Hory 6.41 45 *e*PN **Pn 18 50 25.2 +1.4**
KHC *e*SN **Sn 18 51 33.4 -3.5**
KHC Kasperske Hory 6.41 45 Pn **Pn 18 50 25.2 +1.4**
EMOS Mosqueruela 6.88 232 S **Sn 18 51 48.8 +0.1**
0.1nm,0.1s,SNR=7.9
SGMF Saint Gilles 7.21 302 *e*Pn **Pn 18 50 35.9 +1.3**
SNR=1.0
SGMF *e*Sg **Sg 18 52 37.3 -3.3**
11nm,0.6s
SGMF Saint Gilles 7.21 302 *e*Pn **Pn 18 50 35.9 +1.3**
SNR=1.0
PRU Pruhonice 7.45 43 *e*PN **Pn 18 50 38.8 +0.9**
PRU *e*SN **Sn 18 51 58.1 -4.2**
PRU Pruhonice 7.45 43 Pn **Pn 18 50 38.8 +0.9**
QUIF Quistinic 7.45 298 *e*Pn **Pn 18 50 39.5 +1.5**
SNR=1.0
QUIF *e*Sg **Sg 18 52 44.7 -3.7**
15nm,0.5s
QUIF Quistinic 7.45 298 *e*Pn **Pn 18 50 39.5 +1.5**
SNR=1.0
TREC Trest 7.52 50 *e*PN **Pn 18 50 39.4 +0.4**
TREC *e*SN **Sn 18 52 00.3 -3.8**
TREC Trest 7.52 50 Pn **Pn 18 50 39.4 +0.4**
ETOR Torete 7.54 241 P **Pn 18 50 41.0 +1.7**
4.7nm,0.3s,SNR=5.6
ROSF Rostrenen 7.67 301 *e*Pn **Pn 18 50 42.2 +1.1**
SNR=1.0
ROSF *e*Sg **Sg 18 52 52.0 -3.6**
17nm,0.6s
ROSF Rostrenen 7.67 301 *e*Pn **Pn 18 50 42.2 +1.1**
SNR=1.0
CLL Collm 7.76 31 *e* **Pg 18 51 19.0 +1.0**
CLL *e*Sg **Sg 18 53 03.0 +4.6**
comp=Z,18nm,1.5s
BRG Berggiesshubel 7.79 36 SG **Sg 18 52 59.8 +0.4**
comp=Z,5.7nm,1.1s
VRAC Vranov 8.14 53 Pn **Pn 18 50 49.1 +1.6**
comp=Z,0.5nm,0.3s,baz=260,slow=13,SNR=3.4
VRAC Vranov 8.14 53 *e*Pn **Pn 18 50 49.6 +2.1**
UPC Upice 8.50 45 *e*SN **Sn 18 52 23.5 -4.8**
DPC Dobruska-Polom 8.56 46 *e*SN **Sn 18 52 25.1 -4.8**
KRLC Kraliky 8.65 49 *e*PN **Pn 18 50 54.5 0.0**
KRLC *e*SN Sn 18 52 26.7 -5.3
KRLC Kraliky 8.65 49 Pn **Pn 18 50 54.5 0.0**
EARI Arriondas 8.66 264 P **Pn 18 50 54.9 +0.2**
comp=Z,1.0nm,0.5s,SNR=12
MORC Moravsky Berou 8.91 52 *e*Pn **Pn 18 50 58.9 +0.8**
ESDC Sonseca Array 9.39 240 Pn **Pn 18 51 04.4 -0.3**
comp=Z,0.5nm,0.3s,baz=52,slow=13,SNR=4.4
EKA Eskdalemuir Ar 12.24 333 Pn **Pn 18 51 43.5 0.0**
baz=139,slow=15,SNR=9.2
TORD Torodi Ar. Bea 31.85 189 P **P 18 55 15.6 +1.2**
comp=Z,0.3nm,0.7s,baz=347,slow=5.9,SNR=2.3
SFJD Kangerlussuaq 37.13 327 LR LR 19 10 27.3
comp=Z,14nm,20.8s,baz=292,slow=35
SCHQ Schefferville 46.35 310 P **P 18 57 14.5 -0.7**
comp=Z,2.7nm,0.7s,baz=235,slow=5.3,SNR=4.1
MKAR Makanchi Array 50.83 59 P **P 18 57 51.3 +1.4**
comp=Z,0.1nm,0.4s,baz=268,slow=6.5,SNR=3.4
PETK Petropavlovsk- 79.34 17 P **P 19 00 55.4 +0.5**
comp=Z,2.2nm,0.9s,baz=12,slow=15,SNR=5.4
TGY Tagaytay City 96.55 63 LR LR 19 50 01.5
comp=Z,5.7nm,19.4s,baz=59,slow=38

*ISCJB **09** 18:59:33.2±0.5, 20°.32S±0°.04×69°.1W±0°.1, h119km±5km, mb4.0/10, Error ellipse: s-maj=17.7km s-min=5.6km az=170.1*
*NEIC **09** 18:59:33.3, 20°.34S×69°.16W, h115km, mb4.6/4, After GUC.*
*IDC **09** 18:59:33.9±0.5, 20°.31S×68°.76W, h110km±4km, mb3.8/10, mb1 4.1/13, mb1mx3.9/20, mbtmp3.9/13, Error ellipse: s-maj=19.2km s-min=7.9km az=94.0*
*GUC **09** 18:59:33.3±0.5, 20°.34S×69°.16W, h115km±4km, ML4.5*
ISC 09 18:59:33.9±0.5, 20°.31S±0°.03×69°.10W±0°.07, h109km±4km, n63, σ0°85/83, mb4.1/10, 8C-9D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HMBC	**Humberstone**	**0.74**	**273**	⇓*i*P		**Pn**		**18 59 52.4**	**-0.2**
HMBC				*i*S		**Sn**		**19 00 07.1**	**+0.4**
HMBC	**Humberstone**	**0.74**	**273**	⇓*i*P		**Pn**		**18 59 52.4**	**-0.2**
HMBC				*i*S		**Sn**		**19 00 07.1**	**+0.4**
HMBC				AML		AML		19 00 08.2	
	comp=E,11μm,0.3s								
PB01	**Plate Boundary**	**0.81**	**206**	⇑*i*P		**Pn**		**18 59 53.2**	**-0.1**
PB01				*i*S		**Sn**		**19 00 08.4**	**+0.5**
PB01	**Plate Boundary**	**0.81**	**206**	⇑*i*P		**Pn**		**18 59 53.2**	**-0.1**
PB01				*i*S		**Sn**		**19 00 08.4**	**+0.5**
PB01				AML		AML		19 00 09.3	
	comp=N,21μm,0.2s								
PSGC	**Pisagua**	**1.20**	**306**	⇓*i*P		**Pn**		**18 59 57.2**	**0.0**
PSGC				*i*S		**Sn**		**19 00 15.5**	**+0.6**
PSGC	**Pisagua**	**1.20**	**306**	⇓*i*P		**Pn**		**18 59 57.2**	**0.0**
PSGC				*i*S		**Sn**		**19 00 15.5**	**+0.6**
PSGC				AML		AML		19 00 18.3	
	comp=N,9μm,0.7s								
MNMC	**Minimini**	**1.27**	**338**	⇓*i*P		**Pn**		**18 59 58.6**	**+0.3**
MNMC				*i*S		**Sn**		**19 00 17.8**	**+1.2**
MNMC	**Minimini**	**1.27**	**338**	⇓*i*P		**Pn**		**18 59 58.6**	**+0.3**
MNMC				*i*S		**Sn**		**19 00 17.8**	**+1.2**
MNMC				AML		AML		19 00 19.4	
	comp=N,29μm,0.6s								
PB09	**Plate Boundary**	**1.48**	**185**	⇑*i*P		**Pn**		**19 00 00.9**	**+0.3**
PB09				*i*S		**Sn**		**19 00 21.6**	**+0.7**
PB09	**Plate Boundary**	**1.48**	**185**	⇑*i*P		**Pn**		**19 00 00.9**	**+0.3**
PB09				*i*S		**Sn**		**19 00 21.6**	**+0.7**
PB09				AML		AML		19 00 24.9	
	comp=E,12μm,0.6s								
PB07	**Plate Boundary**	**1.58**	**207**	⇑*i*P		**Pn**		**19 00 01.8**	**-0.1**
PB07				*i*S		**Sn**		**19 00 23.1**	**-0.1**
PB07	**Plate Boundary**	**1.58**	**207**	⇑*i*P		**Pn**		**19 00 01.8**	**-0.1**
PB07				*i*S		**Sn**		**19 00 23.1**	**-0.1**
PB07				AML		AML		19 00 29.8	
	comp=N,3μm,0.5s								
PB04	**Plate Boundary**	**1.97**	**190**	⇓*i*P		Pn		19 00 10.5	+4.0
PB04	**Plate Boundary**	**1.97**	**190**	⇓*i*P		Pn		19 00 10.5	+4.0
PB04				AML		AML		19 00 42.0	
	comp=N,2μm,0.3s								
LVC	**Limon Verde**	**2.29**	**176**	*e*Pn		**Pn**		**19 00 11.2**	**+0.4**
LVC				*i*S		**Sn**		**19 00 40.6**	**+1.4**
LVC	**Limon Verde**	**2.29**	**176**	⇑*i*P		**Pn**		**19 00 11.3**	**+0.4**
LVC				*i*S		**Sn**		**19 00 40.6**	**+1.4**
LVC	**Limon Verde**	**2.29**	**176**	P		**Pn**		**19 00 11.6**	**+0.7**
	comp=N,180nm,0.3s,baz=351,slow=7.8,SNR=75								
LVC				S		**Sn**		**19 00 39.4**	**+0.2**
	comp=N,281nm,0.3s,baz=91,slow=16,SNR=21								
CEN1	**Los Morros**	**3.23**	**198**	P		**Pn**		**19 00 25.5**	**+2.5**
CEN1	**Los Morros**	**3.23**	**198**	⇑*i*P		**Pn**		**19 00 25.5**	**+2.5**
ANCH	**Antofagasta**	**3.56**	**200**	P		**Pn**		**19 00 26.3**	**-1.1**
ANCH	**Antofagasta**	**3.56**	**200**	⇓*i*P		**Pn**		**19 00 26.3**	**-1.1**
LPAZ	**La Paz**	**4.11**	**13**	P		**Pn**		**19 00 36.4**	**+1.0**
LPAZ	**La Paz**	**4.11**	**13**	P		**Pn**		**19 00 36.4**	**+1.0**
	comp=N,20nm,0.3s,baz=194,slow=6.2,SNR=325								
SIV	**San Ignacio**	**8.76**	**62**	P		Pn		19 01 33.4	-4.5
SIV	**San Ignacio**	**8.76**	**62**	P		Pn		19 01 33.4	-4.5
	comp=N,13nm,0.3s,baz=258,slow=13,SNR=111								
LCO	**Las Campanas**	**8.78**	**189**	*e*Pn		Pn		19 01 33.2	-5.0
	comp=N,19nm,0.5s								
CFAA	**Coronel Fontan**	**11.27**	**176**	P		Pn		19 02 07.8	-3.9
CFAA	**Coronel Fontan**	**11.27**	**176**	P		Pn		19 02 07.8	-3.9
	comp=N,0.2nm,0.3s,baz=353,slow=14,SNR=13								
SAML	**Samuel**	**12.66**	**28**	*e*Pn		Pn		19 02 25.9	-4.3
	comp=N,11nm,1.0s								
TRQA	**Tornquist**	**18.73**	**162**	*e*Pn		**P**		**19 03 43.3**	**-0.8**
	comp=N,76nm,1.4s								
PLCA	**Paso Flores**	**20.39**	**183**	P		**P**		**19 04 02.7**	**+0.6**
PLCA	**Paso Flores**	**20.39**	**183**	P		**P**		**19 04 02.7**	**+0.6**
	comp=N,6.9nm,0.9s,baz=4.5,slow=14,SNR=6.8								
TXAR	**Lajitas Array**	**59.56**	**325**	P		**P**		**19 09 25.9**	**-0.3**
TXAR	**Lajitas Array**	**59.56**	**325**	P		**P**		**19 09 25.9**	**-0.3**
	comp=N,0.4nm,0.9s,baz=106,slow=6.7,SNR=2.7								
SNAA	**Sanae**	**63.45**	**161**	*e*P		**P**		**19 09 51.7**	**-0.1**
	comp=N,6.4nm,1.2s								
SNAA				*e*pP		**pP**		**19 10 19.3**	**+0.6**
DBIC	**Dimbokro**	**68.58**	**74**	P		P		19 10 21.9	-3.6
DBIC	**Dimbokro**	**68.58**	**74**	P		P		19 10 21.9	-3.6
	comp=N,3.2nm,0.4s,baz=245,slow=5.1,SNR=9.6								
NVAR	**Mina Array Bea**	**74.45**	**322**	P		**P**		**19 11 01.4**	**+0.9**
NVAR				pP		**pP**		**19 11 29.1**	**+0.9**
NVAR	**Mina Array Bea**	**74.45**	**322**	P		**P**		**19 11 01.4**	**+0.9**
	comp=N,0.2nm,0.4s,baz=141,slow=8.4,SNR=5.3								
NVAR				pP		**pP**		**19 11 29.1**	**+0.9**
	comp=N,0.9nm,0.8s,baz=163,slow=7.3,SNR=2.8								
SCHQ	**Schefferville**	**74.86**	**1**	P		**P**		**19 11 01.5**	**-0.8**
SCHQ	**Schefferville**	**74.86**	**1**	P		**P**		**19 11 01.5**	**-0.8**
	comp=N,1.5nm,0.6s,baz=291,slow=9.5,SNR=3.8								
TORD	**Torodi Ar. Bea**	**77.13**	**71**	P		**P**		**19 11 13.9**	**-2.1**
TORD				pP		**pP**		**19 11 43.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**77.13**	**71**	P		**P**		**19 11 13.9**	**-2.1**
	comp=N,1.5nm,0.4s,baz=254,slow=5.4,SNR=36								
TORD				pP		**pP**		**19 11 43.0**	**-0.8**
	comp=N,6.2nm,0.7s,baz=251,slow=5.4,SNR=15								
VNDA	**Vanda**	**77.98**	**190**	P		**P**		**19 11 21.4**	**+1.7**
VNDA	**Vanda**	**77.98**	**190**	P		**P**		**19 11 21.4**	**+1.7**
	comp=N,0.7nm,0.9s,baz=281,slow=2.7,SNR=4.1								
BOSA	**Boshof**	**84.16**	**118**	P		**P**		**19 11 52.8**	**-0.8**
BOSA	**Boshof**	**84.16**	**118**	P		**P**		**19 11 52.8**	**-0.8**
	comp=N,3.0nm,0.9s,baz=200,slow=3.0,SNR=4.9								
MAW	**Mawson**	**85.51**	**163**	P		**P**		**19 11 59.3**	**0.0**
MAW	**Mawson**	**85.51**	**163**	P		**P**		**19 11 59.3**	**0.0**
	comp=N,1.4nm,0.6s,baz=142,slow=6.4,SNR=6.0								
YKA	**Yellowknife Ar**	**90.01**	**341**	P		**P**		**19 12 20.8**	**+0.1**
YKA				pP		**pP**		**19 12 49.1**	**-0.1**
YKA	**Yellowknife Ar**	**90.01**	**341**	P		**P**		**19 12 20.7**	**+0.1**
	comp=N,2.3nm,0.6s,baz=129,slow=4.6,SNR=14								
YKA				pP		**pP**		**19 12 49.1**	**-0.1**
	comp=N,1.5nm,0.6s,baz=136,slow=4.9,SNR=5.6								
ASAR	**Alice Springs**	**130.87**	**208**	PKP		**PKPdf**		**19 18 33.0**	**-0.3**
ASAR	**Alice Springs**	**130.87**	**208**	PKP		**PKPdf**		**19 18 33.0**	**-0.3**
	comp=N,0.8nm,0.5s,baz=124,slow=1.7,SNR=28								
WRA	**Warramunga Arr**	**133.87**	**211**	PKP		**PKPdf**		**19 18 39.2**	**+0.3**
WRA	**Warramunga Arr**	**133.87**	**211**	PKP		**PKPdf**		**19 18 39.2**	**+0.3**
	comp=N,0.6nm,0.5s,baz=160,slow=1.7,SNR=10								
ZALV	**Zalesovo Beam**	**140.96**	**24**	PKP		**PKPdf**		**19 18 51.0**	**+0.1**
ZALV				pPKP		**pPKPdf**		**19 19 20.5**	**-0.2**
ZALV	**Zalesovo Beam**	**140.96**	**24**	PKP		**PKPdf**		**19 18 51.0**	**+0.1**
	comp=N,1.4nm,0.6s,baz=266,slow=2.0,SNR=6.6								
ZALV				pPKP		**pPKPdf**		**19 19 20.5**	**-0.2**
	comp=N,1.8nm,0.8s,baz=310,slow=2.8,SNR=3.4								
MK31	**Makanchi Array**	**144.78**	**35**	*e*PKPdf		**PKPab**		**19 18 56.5**	**-0.6**
MKAR	**Makanchi Array**	**144.78**	**35**	PKP		**PKPab**		**19 18 56.8**	**-0.3**
MKAR				pPKP		**pPKPdf**		**19 19 26.4**	**-1.4**
MKAR	**Makanchi Array**	**144.78**	**35**	PKP		**PKPab**		**19 18 56.8**	**-0.3**
	comp=N,1.3nm,0.7s,baz=304,slow=3.1,SNR=15								
MKAR				pPKP		**pPKPdf**		**19 19 26.4**	**-1.4**
	comp=N,1.2nm,0.8s,baz=335,slow=1.6,SNR=5.5								
USRK	**Ussuriysk Arra**	**150.41**	**328**	PKPbc		**PKPbc**		**19 19 13.2**	**+0.5**
	comp=N,3.0nm,0.8s,baz=94,slow=1.2,SNR=4.4								
SONM	**Songino Array**	**152.31**	**7**	PKP		**PKPdf**		**19 19 10.4**	**+0.2**
SONM				PKPbc		**PKiKP**		**19 19 17.3**	**-0.1**
SONM				pPKPbc		**pPKPbc**		**19 19 46.9**	**+0.1**
SONM	**Songino Array**	**152.31**	**7**	PKP		**PKPdf**		**19 19 10.4**	**+0.2**
	comp=N,0.4nm,0.3s,baz=256,slow=0.6,SNR=3.5								
SONM				PKPbc		**PKiKP**		**19 19 17.3**	**-0.1**
	comp=N,1.5nm,0.7s,baz=306,slow=2.2,SNR=5.8								
SONM				pPKPbc		**pPKPbc**		**19 19 46.9**	**+0.1**
	comp=N,1.4nm,0.7s,baz=357,slow=2.8,SNR=4.1								

*IDC **09** 19:13:55.6±0.7, 46°.09N×154°.13E, h0km, mb3.9/13, mb1 4.1/17, mb1mx4.0/29, mbtmp4.0/17, ML3.3/4, MS3.1/4,

s-min=6.3km az=148.4
*NEIC **09** 19:14:00.7±0.5,46.09N×154.10E,h35km,mb4.3/3, Error ellipse: s-maj=15.2km s-min=9.6km az=137.0*
*MOS **09** 19:14:01.9±2.5,46.20N×153.98E,h72km,mb4.1/4, Error ellipse: s-maj=16.1km s-min=10.2km az=69.3*
*BJI **09** 19:14:08.2,46.05N×153.14E,h74km,mB4.5/5,mb4.1/7, Ms4.3/1,Ms7 3.8/1*

ISC 09 19:13:58.5±0.6,46°1N±0.1'×154°13.3E±0.0'07,h20km,n55, σ1§09/51,mb4.1/19,MS3.4/3,1C,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**4.47**	**261**	*c*	*i*P	**Pn**	**19 15 04.8**	**-0.3**
KUR					*i* S	**Sn**	**19 15 54.7**	**-1.9**
KUR					pmax	pmax		
	comp=E,14nm,0.2s							
KUR					pmax	pmax		
	comp=Z,89nm,0.5s							
KUR					pmax	pmax		
	comp=N,26nm,0.2s							
KUR					smax	smax		
	comp=E,52nm,0.7s							
KUR					smax	smax		
	comp=N,60nm,0.7s							
SKR	**Severo-Kuril's**	**4.77**	**15**	*e*	PN	**Pn**	**19 15 08.1**	**-1.0**
PETK	**Petropavlovsk-**	**7.38**	**17**		PN	**Pn**	**19 15 45.0**	**-0.1**
PETK	**Petropavlovsk-**	**7.38**	**17**		Pn	**Pn**	**19 15 45.0**	**-0.1**
PETK	**Petropavlovsk-**	**7.38**	**17**		Pn	**Pn**	**19 15 45.0**	**-0.1**
	comp=N,1.2nm,0.3s,baz=184,slow=14,SNR=14							
PET	**Petropavlovsk**	**7.52**	**21**	*e*	PN	Pb	19 16 00.0	-8.2
ASAJ	**Asahikawa**	**8.39**	**260**		Pn	**Pn**	**19 15 59.3**	**+0.3**
ASAJ	**Asahikawa**	**8.39**	**260**		Pn	**Pn**	**19 15 59.3**	**+0.3**
	comp=N,0.4nm,0.3s,baz=102,slow=9.3,SNR=4.3							
ASAJ					LR	LR	19 18 58.0	
	comp=N,49nm,20.0s,baz=89,slow=36							
ERM	**Erimo**	**8.89**	**247**	*i*	PN	**Pn**	**19 16 05.6**	**-0.2**
FX1	**Attu Island--F**	**14.08**	**54**		Pn	**Pn**	**19 17 15.1**	**-1.7**
FX1	**Attu Island--F**	**14.08**	**54**		Pn	**Pn**	**19 17 15.1**	**-1.7**
	comp=N,0.4nm,0.3s,baz=270,slow=1.0,SNR=3.1							
USRK	**Ussuriysk Arra**	**15.72**	**271**		Pn	**Pn**	**19 17 36.8**	**-1.9**
	comp=N,0.3nm,0.3s,baz=80,slow=12,SNR=7.7							
SEY	**Seymchan**	**16.89**	**357**	*i*	P	P	19 18 03.6	+8.2
YAK	**Yakutsk**	**21.24**	**327**	*i*	P	**P**	**19 18 42.0**	**-0.9**
BILL	**Bilibino**	**22.87**	**12**	*e*	P	**P**	**19 19 02.2**	**+1.9**
BILL					pmax	pmax		
	comp=Z,16nm,0.8s							
SSLB	**Suanglung**	**34.76**	**242**	*e*	P	**P**	**19 20 47.2**	**-0.3**
	comp=Z,2.8nm,0.6s							
YULB	**Yu-li**	**34.84**	**241**	*e*	P	**P**	**19 20 47.4**	**-0.8**
GTA	**Gaotai**	**39.77**	**280**	*e*	P	P	19 21 33.6	+3.6
GTA					pmax	pmax		
	comp=Z,2.0nm,1.0s							
ZALV	**Zalesovo Beam**	**43.56**	**307**		P	**P**	**19 21 59.1**	**-1.5**
ZALV	**Zalesovo Beam**	**43.56**	**307**		P	**P**	**19 21 59.1**	**-1.5**
ZALV	**Zalesovo Beam**	**43.56**	**307**		P	**P**	**19 21 59.1**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=46,slow=4.2,SNR=3.3							
MKAR	**Makanchi Array**	**47.86**	**298**	*i*	P	**P**	**19 22 35.2**	**+0.4**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**47.86**	**298**		P	**P**	**19 22 33.7**	**-1.1**
MKAR	**Makanchi Array**	**47.86**	**298**		P	**P**	**19 22 33.7**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=68,slow=7.8,SNR=8.1							
MKAR					LR	LR	19 46 10.1	
	comp=Z,25nm,18.1s,baz=56,slow=40							
YKA	**Yellowknife Ar**	**51.02**	**37**		P	**P**	**19 22 57.4**	**-1.3**
YKA	**Yellowknife Ar**	**51.02**	**37**		P	**P**	**19 22 57.4**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=295,slow=7.3,SNR=3.5							
CMAR	**Chiang Mai Arr**	**52.91**	**258**		P	**P**	**19 23 14.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**52.91**	**258**		P	**P**	**19 23 14.1**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=36,slow=7.5,SNR=4.6							
AAK	**Ala-Archa**	**54.75**	**297**	*i*	P	**P**	**19 23 27.8**	**+1.1**
AAK					pmax	pmax		
	comp=Z,13nm,2.2s							
AAK	**Ala-Archa**	**54.75**	**297**		LR	LR	19 49 58.9	
	comp=Z,31nm,19.2s,baz=273,slow=40							
ARCES	**ARCESS Array B**	**58.69**	**341**		P	**P**	**19 23 55.5**	**+1.5**
ARCES	**ARCESS Array B**	**58.69**	**341**		P	**P**	**19 23 55.5**	**+1.5**
	comp=Z,1.6nm,0.8s,baz=7.8,slow=9.8,SNR=3.8							
ABKAR	**Akbulak array**	**59.38**	**311**	*e*	P	**P**	**19 23 59.4**	**+0.3**
	comp=Z,0.6nm,0.4s							
ABKAR				*e*			19 24 09.2	
AKTO	**Aktyubinsk**	**59.68**	**313**		LR	LR	19 50 09.2	
	comp=Z,25nm,18.9s,baz=83,slow=36							
NVAR	**Mina Array Bea**	**62.11**	**63**		P	**P**	**19 24 17.9**	**-0.2**
NVAR	**Mina Array Bea**	**62.11**	**63**		P	**P**	**19 24 17.9**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=297,slow=8.0,SNR=3.4							
FINES	**FINESS Array B**	**64.92**	**335**		P	**P**	**19 24 37.0**	**+1.0**
FINES	**FINESS Array B**	**64.92**	**335**		P	**P**	**19 24 37.0**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=36,slow=7.0,SNR=11							
ULM	**Lac du Bonnet**	**66.55**	**41**		P	**P**	**19 24 47.1**	**+0.4**
ULM	**Lac du Bonnet**	**66.55**	**41**		P	**P**	**19 24 47.1**	**+0.4**
	comp=Z,3.0nm,0.5s,baz=303,slow=3.1,SNR=3.1							
WRAB	**Tennant Creek**	**68.13**	**200**	*e*	P	**P**	**19 24 56.1**	**-0.9**
WRAB					pmax	pmax		
	comp=Z,5.0nm,1.4s							
WRAB	**Tennant Creek**	**68.13**	**200**	*e*	P	**P**	**19 24 56.0**	**-0.9**
	comp=Z,4.7nm,1.4s							
WRA	**Warramunga Arr**	**68.14**	**200**		P	**P**	**19 24 56.0**	**-1.1**
WRA	**Warramunga Arr**	**68.14**	**200**		P	**P**	**19 24 56.0**	**-1.1**
	comp=Z,1.1nm,1.0s,baz=16,slow=6.6,SNR=4.9							
ASAR	**Alice Springs**	**71.83**	**199**		P	**P**	**19 25 20.3**	**+0.6**
ASAR	**Alice Springs**	**71.83**	**199**		P	**P**	**19 25 20.3**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=13,slow=4.8,SNR=25							
TXAR	**Lajitas Array**	**77.19**	**61**		P	**P**	**19 25 52.4**	**+1.3**
TXAR	**Lajitas Array**	**77.19**	**61**		P	**P**	**19 25 52.4**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=311,slow=4.6,SNR=13							
BRTR	**Keskin Array B**	**79.34**	**317**		P	**P**	**19 26 03.6**	**+0.8**
BRTR	**Keskin Array B**	**79.34**	**317**		P	**P**	**19 26 03.6**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=71,slow=5.4,SNR=5.0							
MMAI	**Mount Meron Ar**	**83.77**	**312**		P	**P**	**19 26 27.9**	**+1.6**
MMAI	**Mount Meron Ar**	**83.77**	**312**		P	**P**	**19 26 27.9**	**+1.6**
	comp=Z,0.7nm,0.7s,baz=40,slow=8.0,SNR=9.5							
CPUP	**Villa Florida**	**148.16**	**63**		PKPbc	**PKPbc**	**19 33 43.3**	**+0.5**
CPUP	**Villa Florida**	**148.16**	**63**		PKPbc	**PKPbc**	**19 33 43.3**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=108,slow=16,SNR=2.9							
SNAA	**Sanae**	**152.13**	**195**	*e*	PKP	**PKPbc**	**19 33 50.3**	**-0.8**

*ISCJB **09** 19:24:32.7±1.4,40.33N±0.04×124.60W±0.09,h28km±8km, MS2.6/1,Error ellipse: s-maj=12.3km s-min=5.8km az=169.8*
*IDC **09** 19:24:33.1±2.5,40.40N×124.31W,h0km,mb3.0/1, mb1 3.5/3,mb1mx3.2/27,mbtmp3.0/3,ML3.4/2,MS2.7/1, Ms1 2.7/1,ms1mx2.0/11,Error ellipse: s-maj=25.9km s-min=12.8km az=97.0*
*NEIC **09** 19:24:33.9,40.30N×124.57W,h19km,MW3.5(BRK), After NCEDC.*
NEIC Felt at Petrolia and Whitethorn.

ISC 09 19:24:32.0±2.2,40.32N±0.05×124.7W±0.1,h25km±16km, n20,σ1§51/24,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHMM	**Horse Mountain**	**0.90**	**51**	*e*	P	**Pb**	**19 24 49.0**	**-0.1**
KHMM					eS	**Sn**	**19 25 00.6**	**-1.0**
KIPM	**Iron Peak**	**1.04**	**119**	*e*	P	**Pn**	**19 24 50.6**	**-0.5**
KCPM	**Cahto Peak**	**1.04**	**127**	*e*	P	**Pn**	**19 24 50.7**	**-0.4**
KCPM					eS	**Sb**	**19 25 04.1**	**-0.5**
KRMB	**Red Mountain**	**1.33**	**25**	*e*	P	**Pn**	**19 24 55.2**	**0.0**
KRMB					eS	**Sn**	**19 25 10.0**	**-2.2**
WDC	**Whiskeytown Da**	**1.64**	**80**	*e*	Pn	**Pn**	**19 24 59.3**	**0.0**
WDC					ePg	Pb	19 25 05.2	+3.6
WDC					eSn	**Sn**	**19 25 19.8**	**+0.2**
HOPS	**Hopland**	**1.80**	**137**	*e*	Pn	**Pn**	**19 25 01.1**	**-0.4**
HOPS					eSn	**Sn**	**19 25 24.8**	**+1.3**
KBO	**Bosley Butte**	**1.92**	**10**	*e*	Pn	**Pn**	**19 25 04.5**	**+1.3**
KBO						Sn	**19 25 22.0**	**-4.7**
YBH	**Yreka Blue Hor**	**2.04**	**46**	*e*	Pn	**Pn**	**19 25 05.2**	**+0.3**
YBH					Lg	Lg	19 25 29.3	
YBH					eSn	**Sn**	**19 25 30.6**	**+0.8**
YBH	**Yreka Blue Hor**	**2.04**	**46**		Pn	**Pn**	**19 25 05.3**	**+0.3**
	17nm,0.3s,baz=262,slow=11,SNR=163							
YBH					Lg	Lg	19 25 29.3	
	16nm,0.3s,baz=125,slow=21,SNR=16							
KEBM	**Edson Butte**	**2.57**	**5**	*e*	Pn	**Pn**	**19 25 14.7**	**+2.6**
KEBM					ePg	Pb	19 25 22.5	+5.2
KEBM					eSn	Sn	19 25 33.3	-9.2
HUMO	**Hull Mountain**	**2.62**	**29**	*e*	Pn	**Pn**	**19 25 14.3**	**+1.4**
HUMO					eSn	**Sn**	**19 25 43.9**	**0.0**
BEKR	**Beckworth**	**3.33**	**96**	*e*	Pn	**Pn**	**19 25 22.9**	**+0.2**
BEKR					eSn	**Sn**	**19 26 01.9**	**+0.4**
MOD	**Modoc**	**3.66**	**63**	*e*	Pn	**Pn**	**19 25 28.6**	**+1.5**
NVAR	**Mina Array Bea**	**5.27**	**109**		Pn	**Pn**	**19 25 50.3**	**+0.9**
	0.5nm,0.3s,baz=289,slow=14,SNR=9.5							
NVAR					Lg	Lg	19 27 10.8	
	0.1nm,0.3s,baz=282,slow=28,SNR=2.8							
PDAR	**Pinedale Array**	**11.58**	**73**		Pn	Pn	19 27 21.6	+5.7
PDAR	**Pinedale Array**	**11.58**	**73**		Pn	Pn	19 27 21.6	+5.7
	0.1nm,0.3s,baz=257,slow=12,SNR=2.4							
TXAR	**Lajitas Array**	**20.37**	**116**		P	Pn	19 29 10.5	+1.4
TXAR	**Lajitas Array**	**20.37**	**116**		P	Pn	19 29 10.5	+1.4
	0.5nm,0.8s,baz=297,slow=8.3,SNR=4.9							
INK	**Inuvik**	**28.46**	**353**		LR	LR	19 42 14.1	
	comp=Z,13nm,18.0s,baz=105,slow=37							

IDC 09 19:42:14.5±7.2,33.68N×25.19E,h0km,mb3.4/3, mb1 3.2/5,mb1mx3.1/26,mbtmp3.2/5,ML2.9/2,Error ellipse: s-maj=121.0km s-min=72.1km az=39.0,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MMAI	**Mount Meron Ar**	**8.57**	**92**		Pn	Pn	19 44 19.6	-0.3
	0.3nm,0.3s,baz=291,slow=12,SNR=2.6							
BRTR	**Keskin Array B**	**9.07**	**46**		Pn	Pn	19 44 27.1	+0.1
	0.1nm,0.3s,baz=214,slow=15,SNR=2.6							
KURBB	**Kurchatov Arra**	**42.04**	**50**		P	P	19 50 06.9	-0.8
	0.3nm,0.6s,baz=273,slow=9.0,SNR=4.8							
MKAR	**Makanchi Array**	**44.59**	**55**		P	P	19 50 28.9	+0.6
	0.5nm,0.7s,baz=280,slow=7.3,SNR=5.0							
ZALV	**Zalesovo Beam**	**46.02**	**45**		P	P	19 50 39.3	-0.2
	0.3nm,0.3s,baz=267,slow=9.5,SNR=2.2							

IDC 09 19:51:06.6±1.2,25.64N×101.26E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.3/25,mbtmp3.4/4,Error ellipse: s-maj=40.7km s-min=19.5km az=71.0,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.46**	**197**		Pg	Pn	19 53 24.2	-5.3
	0.3nm,0.3s,baz=11,slow=18,SNR=13							
CMAR					Lg	Lg	19 55 01.6	
	0.5nm,0.3s,baz=14,slow=30,SNR=7.5							
MKAR	**Makanchi Array**	**25.95**	**329**		P	P	19 56 40.9	+0.2
	0.6nm,0.7s,baz=142,slow=11,SNR=7.5							
KURBB	**Kurchatov Arra**	**30.45**	**331**		P	P	19 57 20.4	-0.4
	0.2nm,0.6s,baz=136,slow=10,SNR=4.2							
WRA	**Warramunga Arr**	**55.55**	**141**		P	P	20 00 43.7	-0.2
	0.4nm,0.5s,baz=332,slow=8.0,SNR=5.5							
ASAR	**Alice Springs**	**58.32**	**144**		P	P	20 01 03.9	+0.2
	0.3nm,0.9s,baz=335,slow=6.4,SNR=4.6							

*NEIC **09** 20:13:14.6±1.0,31.47S×179.02W,h127km±11km,mb4.2/3, Error ellipse: s-maj=21.6km s-min=13.7km az=107.0*
*IDC **09** 20:13:14.4±1.2,31.43S×179.05W,h118km±15km,mb4.0/4, mb1 4.0/6,mb1mx3.7/19,mbtmp3.9/6,Error ellipse: s-maj=24.5km s-min=13.4km az=110.0*

ISC 09 20:13:19.1±1.4,31.74S±0.09×179.4W±0.2,h150km,n32, σ1§98/33,mb4.2/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**2.77**	**27**		P	Pn	20 13 53.6	-10
RAO					S	Sn	20 14 22.3	-16
RAO	**Raoul Island**	**2.77**	**27**		P	Pn	20 13 53.6	-10
	38nm,0.3s,baz=300,slow=20,SNR=2.3							
RAO					S	Sn	20 14 22.3	-16
	185nm,0.3s,baz=66,slow=22,SNR=6.7							
MWZ	**Matawai**	**7.06**	**200**		PN	**Pn**	**20 14 59.3**	**-0.5**
MWZ					SN	**Sn**	**20 16 23.9**	**+5.0**
URZ	**Urewera**	**7.12**	**203**		P	**Pn**	**20 15 00.6**	**0.0**
URZ					S	**Sn**	**20 16 23.2**	**+2.8**
URZ	**Urewera**	**7.12**	**203**		P	**Pn**	**20 15 00.6**	**0.0**
	0.2nm,0.3s,baz=25,slow=20,SNR=6.8							
URZ					S	**Sn**	**20 16 23.2**	**+2.8**
	2.7nm,0.3s,baz=139,slow=21,SNR=14							
URZ	**Urewera**	**7.12**	**203**		PN	**Pn**	**20 15 00.1**	**-0.5**
URZ					SN	**Sn**	**20 16 23.7**	**+3.3**
BKZ	**Black Stump Fm**	**8.15**	**203**	*e*	PN	**Pn**	**20 15 11.3**	**-3.1**
WPHZ	**Waipukurau**	**8.98**	**201**		SN	**Sn**	**20 17 05.9**	**+0.8**
DVHZ	**Dannevirke**	**9.28**	**202**		SN	**Sn**	**20 17 11.6**	**-0.8**
BFZ	**Birch Farm**	**9.61**	**201**		SN	**Sn**	**20 17 18.5**	**-1.6**
MRZ	**Mangatainoka R**	**9.80**	**203**		SN	**Sn**	**20 17 23.1**	**-1.7**
HOWZ	**Holdsworth Sta**	**10.03**	**203**		SN	**Sn**	**20 17 28.3**	**-2.2**
KIW	**Kapiti Island**	**10.21**	**205**		SN	**Sn**	**20 17 32.7**	**-2.1**
MTW	**Mount Morrison**	**10.27**	**202**		SN	**Sn**	**20 17 34.6**	**-1.6**
TCW	**Tory Channel**	**10.75**	**207**		SN	**Sn**	**20 17 45.4**	**-2.4**
TUWZ	**Tuamarina**	**11.07**	**207**		SN	**Sn**	**20 17 52.9**	**-2.4**
NNZ	**Nelson**	**11.12**	**210**		SN	**Sn**	**20 17 55.5**	**-1.1**
THZ	**Tophouse**	**11.77**	**210**	*e*	PN	**Pn**	**20 16 02.3**	**0.0**
MQZ	**McQueen's Vall**	**13.51**	**206**		SN	Sn	20 18 45.8	-8.2
STKA	**Stephens Creek**	**33.07**	**259**	*e*	P	**P**	**20 19 41.1**	**+0.6**
	0.5nm,0.7s							
STKA	**Stephens Creek**	**33.07**	**259**		P	**P**	**20 19 43.0**	**+2.4**
	2.4nm,0.7s,baz=102,slow=9.3,SNR=4.6							
ASAR	**Alice Springs**	**41.91**	**269**		P	**P**	**20 20 55.5**	**+0.6**
ASAR	**Alice Springs**	**41.91**	**269**		P	**P**	**20 20 55.5**	**+0.6**
	3.0nm,0.6s,baz=106,slow=7.2,SNR=42							
WRAB	**Tennant Creek**	**43.01**	**274**	*e*	P	**P**	**20 21 03.7**	**-0.2**
	5.4nm,0.6s							
WRA	**Warramunga Arr**	**43.02**	**274**		P	**P**	**20 21 04.1**	**+0.1**
WRA	**Warramunga Arr**	**43.02**	**274**		P	**P**	**20 21 04.1**	**+0.1**
	7.0nm,0.7s,baz=113,slow=7.8,SNR=47							
QSPA	**South Pole Qui**	**58.37**	**180**	*e*	P	**P**	**20 22 59.6**	**+1.3**
	3.4nm,0.9s							
QSPA	**South Pole Qui**	**58.37**	**180**		P	**P**	**20 23 00.5**	**+2.1**
	3.0nm,0.9s,baz=6.4,slow=1.8,SNR=12							
MMAI	**Mount Meron Ar**	**150.70**	**282**		PKPbc	**PKPbc**	**20 32 51.6**	**-2.1**
MMAI	**Mount Meron Ar**	**150.70**	**282**		PKPbc	**PKPbc**	**20 32 51.6**	**-2.1**
	0.8nm,0.5s,baz=67,slow=3.7,SNR=3.7							
TORD	**Torodi Ar. Bea**	**161.47**	**183**		PKPab	**PKPab**	**20 33 46.1**	**-1.3**
TORD	**Torodi Ar. Bea**	**161.47**	**183**		PKPab	**PKPab**	**20 33 46.2**	**-1.3**
	0.5nm,0.8s,baz=172,slow=3.7,SNR=3.4							

ROM 09 20:34:36.7±0.1,42.59N×13.20E,h10km,Md1.3/3,MI0.7/2, Error ellipse: s-maj=1.6km s-min=0.4km az=166.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LNSS	**Leonessa**	**0.12**	**275**		Pg	Pg	20 34 40.1	+0.4
LNSS					Sg	Sg	20 34 42.5	+0.6
	33nm,0.4s							
NRCA	**Norcia**	**0.25**	**345**		Pg	Pg	20 34 42.6	+0.6
NRCA					Sg	Sg	20 34 46.9	+1.4
	10.0nm,0.7s							

IDC 09 20:45:32.3±4.3,11.47S×166.97E,h0km,mb4.0/6, mb1 4.2/6,mb1mx3.8/20,mbtmp4.0/6,Error ellipse: s-maj=112.4km s-min=44.2km az=119.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**21.68**	**244**		P	P	20 50 26.7	+1.8
	6.2nm,0.9s,baz=81,slow=12,SNR=3.7							
STKA	**Stephens Creek**	**30.37**	**225**		P	P	20 51 52.3	+0.8
	1.6nm,0.7s,baz=58,slow=9.5,SNR=4.9							
WRA	**Warramunga Arr**	**32.47**	**251**		P	P	20 52 04.0	-0.7
	2.4nm,0.6s,baz=84,slow=9.3,SNR=13							
ASAR	**Alice Springs**	**33.68**	**244**		P	P	20 52 14.7	-0.7
	2.8nm,0.7s,baz=73,slow=9.6,SNR=27							
FITZ	**Fitzroy Crossi**	**40.43**	**256**		P	P	20 53 12.4	-0.4
	0.8nm,0.4s,baz=81,slow=13,SNR=6.8							
MKAR	**Makanchi Array**	**94.65**	**317**		P	P	20 58 55.5	0.0
	0.1nm,0.5s,baz=112,slow=4.7,SNR=3.1							

*NIED **09** 20:53:00,22.40N×145.10E,h20km,Mw5.4 Best double couple: M0 1.27000×10^17 NP1:ϕs18.00000°,δ88.00000°, λ-73.00000°. NP2:ϕs114.00000°,δ17.00000°, λ-173.00000°.*
*BKK **09** 20:53:16.1±0.7,22°N±7°×145E±1°,h10km,M5.8/37, mB6.0/21,mb5.6/37,MLv6.4/1,Mw(mB)5.6/21,Mwp6.2/1*
*BJI **09** 20:53:17.8,21.94N×144.98E,h52km,mB5.3/35,mb5.2/57, Ms4.9/61,Ms7 4.7/60*
*MOS **09** 20:53:17.7±0.8,21.97N×144.63E,h33km,mb5.5/84, MS5.0/25,Error ellipse: s-maj=8.0km s-min=4.6km az=106.4*

*ISCJB **09** 20:53:18.7±0.6,22.04N±0.02×144.70E±0.02,h39km±4km, mb5.3/252,MS4.9/73,Error ellipse: s-maj=3.5km s-min=3.1km az=19.2*
*NEIC **09** 20:53:19.5±0.1,21.95N×144.72E,h35km,mb5.3/123, MW5.3,Error ellipse: s-maj=3.4km s-min=3.0km az=143.0, Moment Tensor Solution. s38 Moment tensor: Scale 10^17Nm; Mrr0.35; Mθθ-0.39; Mϕϕ0.05; Mrθ-0.61; Mθϕ-1.12; Mϕr0.06; Best double couple: M0 1.30000×10^17 NP1: ϕs272.00000°,δ81.00000°,λ148.00000°. NP2:ϕs7.00000°, δ59.00000°,λ11.00000°. Principal axes: T 1.2100, Plg28.0000°, Azm225.0000°; N 0.2200, Plg57.0000°, Azm76.0000°; P -1.4300, Plg14.0000°, Azm323.0000°;*
*JMA **09** 20:53:20.8±0.2,22.38N×145.10E,h47km,M5.4*
*IDC **09** 20:53:22.1±1.2,22.00N×144.73E,h58km±9km,mb4.9/40, mb1 4.9/41,mb1mx4.9/43,mbtmp4.9/41,MS4.8/28, Ms1 4.8/28,ms1mx4.7/35,Error ellipse: s-maj=10.0km s-min=6.6km az=81.0*
*GCMT **09** 20:53:23.6±0.1,22.15N×144.75E,h44km,MW5.5, Moment Tensor Solution. s74,c132; s97,c177; Moment tensor: Scale 10^17Nm; Mrr0.65±.03; Mθθ-1.15±.03; Mϕϕ0.50±.03; Mrθ-1.12±.03; Mθϕ-1.18±.02; Mϕr0.20±.03; Best double couple: M0 1.90000×10^17 NP1:ϕs21.00000°, δ47.00000°,λ17.00000°. NP2:ϕs279.00000°,δ77.00000°, λ136.00000°. Principal axes: T 1.7000, Plg40.0000°, Azm230.0000°; N 0.3800, Plg44.0000°, Azm87.0000°; P -2.0800, Plg19.0000°, Azm337.0000°; Data Used: ll lU CN IC G.*
*TEH **09** 20:53:24.0,22.03N×144.87E,h80km,ML5.5*
*DJA **09** 20:53:30.3±2.2,22°N±17'×14°5E±1'4,h130km±12km, M5.6/27,mB6.0/19,mb5.7/27,Mw(mB)5.6/19,Mwp6.1/1*

ISC 09 20:53:20.3±0.3,22.01N±0.03'×144.68E±0.04,h45km±1km, h44km:pP-P,n928,σ1§35/1094,mb5.3/263,MS4.8/75, 179C-175D,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**5.14**	**334**		P	**Pn**	**20 54 35.5**	**+0.8**
JHHJ					S	**Sn**	**20 55 32.4**	**-0.3**
CBIJ	**Chichi jima**	**5.55**	**336**		P	**Pn**	**20 54 40.9**	**+0.5**
CBIJ					S	**Sn**	**20 55 42.2**	**-0.8**
GUMO	**Guam**	**8.37**	**179**	*e*	Pn	Pn	20 55 23.4	+4.3
	2μm,1.4s							
GUMO				*e*	Sn	**Sn**	**20 56 48.4**	**-4.0**
JHCJ	**Hachijojimakas**	**11.84**	**340**		P	**Pn**	**20 56 06.9**	**+0.4**
JHJ2	**Mitsune**	**11.87**	**340**		P	**Pn**	**20 56 06.9**	**0.0**
JMZ	**Minamidaito 2**	**12.88**	**290**		P	P	20 56 26.9	-3.6
BSO1	**Boso 1**	**13.02**	**346**		P	**Pn**	**20 56 21.9**	**-0.1**
JKO	**Kozu shima**	**13.08**	**339**		P	**Pn**	**20 56 23.8**	**+0.4**
JOD2	**Odawara 2**	**14.09**	**341**		P	**Pn**	**20 56 35.9**	**-1.3**
JOD2					eS	**Sn**	**20 59 08.9**	**-3.2**
JRY	**Ryogami san**	**14.84**	**341**		P	**Pn**	**20 56 45.8**	**-1.5**
JRY					eS	Sn	20 59 24.2	-6.3
MAJO	**Matsushiro**	**15.54**	**340**	*e*	P	**Pn**	**20 56 54.5**	**-1.9**
MAJO					*e*		20 59 48.6	
MAJO					pmax	pmax		
	comp=Z,305nm,0.9s							
MAJO	**Matsushiro**	**15.54**	**340**	*e*	Pn	**Pn**	**20 56 54.5**	**-1.9**
	comp=Z,305nm,0.9s							
MAJO					eSn	**Sn**	**20 59 48.5**	**+1.1**
MAT	**Matsushiro**	**15.54**	**340**		P	**Pn**	**20 56 54.5**	**-1.9**
MAT					S	**Sn**	**20 59 40.7**	**-6.8**
MAT	**Matsushiro**	**15.54**	**340**		P	**Pn**	**20 56 55.9**	**-0.5**
MAT					eS	Sn	20 59 38.6	-8.9
JOW	**Kunigami**	**15.70**	**291**	*e*	Pn	**Pn**	**20 56 59.6**	**+1.2**
	comp=Z,27nm,0.6s							
JHS	**Saijyo**	**16.44**	**324**		P	**Pn**	**20 57 08.8**	**+0.9**
JNU	**Nakatsue**	**16.49**	**315**	*e*	Pn	**P**	**20 57 09.8**	**-0.8**
	comp=Z,58nm,0.9s							
JNU	**Nakatsue**	**16.49**	**315**		P	**P**	**20 57 10.3**	**-0.3**
	comp=Z,5.0nm,0.3s,baz=129,slow=8.6,SNR=16							
JNU					LR	LR	21 03 02.0	
	comp=Z,1μm,18.8s,baz=117,slow=35							
JKE	**Kume jima 2**	**16.89**	**288**		P	**P**	**20 57 17.4**	**+2.4**
JMK	**Ichinoseki**	**17.15**	**351**		P	**Pn**	**20 57 15.6**	**-1.0**
JMK					eS	Sn	21 00 16.8	-10
JTU	**Tsushima**	**18.32**	**316

comp=Z,448nm,1.1s
VLA MLR MLR
comp=Z,4μm,20.0s
DAV Davao City (W) 23.67 234 P **P** **20 58 30.1 +2.2**
DAV Davao City (W) 23.67 234 P **P** **20 58 30.1 +2.2**
comp=Z,187nm,0.4s,baz=64,slow=4.4,SNR=6.5
DAV LR LR 21 06 18.6
comp=Z,4μm,20.8s,baz=245,slow=33
TGY Tagaytay City 23.88 255 P **P** **20 58 32.7 +2.7**
TGY Tagaytay City 23.88 255 P **P** **20 58 32.7 +2.7**
comp=Z,281nm,0.4s,baz=152,slow=5.5,SNR=17
QZH Quanzhou 24.10 282 P **P** **20 58 34.3 +2.5**
QZH S **S** **21 02 44.3 -2.3**
QZH pmax pmax
comp=Z,780nm,2.1s
QZH LR LR
comp=N,1μm,17.1s
QZH LR LR
comp=E,3μm,19.2s
QZH LR LR
comp=Z,2μm,17.2s
DCPH Dipolog City 24.48 240⇑ *e*P **P** **20 58 36.6 +1.2**
USRK Ussuriysk Arra 24.50 338 P **P** **20 58 37.0 +1.7**
comp=Z,62nm,0.8s,baz=130,slow=11,SNR=60
USRK LR LR 21 08 04.2
comp=Z,2μm,21.5s,baz=129,slow=36
BAKI Biak 24.53 201 P **P** **20 58 37.3 +1.5**
comp=Z,573nm,1.0s,comp=Z,5μm
CTBH Cotabato--PC H 24.59 236⇓ *i*P **P** **20 58 38.4 +2.0**
JAY Jayapura 24.68 190 P **P** **20 58 38.1 +0.9**
comp=Z,124nm,1.0s,comp=Z,7μm
PAGZ Pagadian 24.89 239 *e*P **P** **20 58 41.5 +2.5**
YSS Yuzh-Sakhalins 24.94 357⇓ *e*P **P** **20 58 41.0 +1.8**
YSS *e*SP 20 58 52.0
YSS *e*S **S** **21 03 00.0 +0.4**
YSS *e*SS **SnSn** **21 04 00.0 +9.1**
YSS pmax pmax
comp=Z,90nm,1.0s
YSS pmax pmax
comp=Z,1μm,4.0s
YSS MLR MLR
comp=Z,3μm,20.0s
YSS MLR MLR
comp=E,2μm,18.0s
NJ2 Nanjing 25.03 299 *e*P **P** **20 58 43.9 +3.6**
NJ2 pP **pP** **20 58 51.4 -0.6**
NJ2 sP **sP** **20 58 55.2 -2.2**
NJ2 PP **PnPn** **20 59 21.0 +5.8**
NJ2 S **S** **21 03 02.0 +0.5**
NJ2 sS **sS** **21 03 19.5 -1.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
NJ2 pmax pmax
comp=Z,60nm,6.2s
NJ2 LR LR
comp=Z,190nm,17.0s
RKPI Ransiki, Papua 25.53 205 P **P** **20 58 45.8 +0.9**
comp=Z,89nm,1.3s,comp=Z,13μm
IPIL Ipil 25.57 240 *e*P **P** **20 58 46.6 +1.3**
MDJ Mudanjiang 25.75 335 P **P** **20 58 48.3 +1.6**
MDJ pP **pP** **20 58 59.2 +0.8**
MDJ sP **sP** **20 59 04.4 +0.6**
MDJ PcP **PcP** **21 02 17.0 +1.3**
MDJ S **S** **21 03 15.2 +2.6**
MDJ sS **sS** **21 03 34.0 +1.5**
MDJ ScP **ScP** **21 05 53.4 +1.7**
MDJ PcS **PcS** **21 05 57.2 +0.9**
MDJ pmax pmax
comp=Z,73nm,1.1s
MDJ pmax pmax
comp=Z,810nm,6.5s
MDJ LR LR
comp=N,2μm,20.8s
MDJ LR LR
comp=E,2μm,23.9s
MDJ LR LR
comp=Z,3μm,28.7s
MDJ Mudanjiang 25.75 335 *e*P **P** **20 58 47.5 +0.9**
comp=Z,76nm,1.0s
MDJ *e*S **PcP** **21 02 16.4 +0.7**
GAMI Galela, Maluku 25.92 222 P **P** **20 58 48.4 -0.1**
comp=Z,665nm,0.8s,comp=Z,4μm
DL2 Dalian 25.94 316⇓ *i*P **P** **20 58 48.0 -0.4**
DL2 S **S** **21 03 15.5 -0.2**
DL2 pmax pmax
comp=Z,190nm,0.8s
DL2 pmax pmax
comp=Z,380nm,4.2s
DL2 LR LR
comp=N,760nm,14.0s
DL2 LR LR
comp=E,630nm,14.2s
DL2 LR LR
comp=Z,730nm,15.6s
SNY Shenyang 26.55 323⇓ P **P** **20 58 53.7 -0.2**
SNY S **S** **21 03 22.8 -2.4**
SNY pmax pmax
comp=Z,100nm,0.9s
SNY pmax pmax
comp=Z,590nm,4.9s
SNY LR LR
comp=N,1μm,28.2s
SNY LR LR
comp=E,2μm,24.2s
SNY LR LR
comp=Z,3μm,24.9s
CN2 Changchun 26.95 328 *e*P **P** **20 58 58.5 +1.0**
CN2 *e*sP **sP** **20 59 13.0 -1.7**
CN2 *e*S **S** **21 03 31.7 +0.1**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,500nm,4.0s
CN2 LR LR
comp=N,2μm,19.0s
CN2 LR LR
comp=E,2μm,19.0s
CN2 LR LR
comp=Z,3μm,21.0s
TNTI Ternate 27.02 221 P **P** **20 58 59.6 +1.2**
comp=Z,345nm,0.9s,comp=Z,3μm
HABR Khabarovsk 27.51 346 *e*P **P** **20 59 02.1 -0.3**
HABR *e**PP **pP** **20 59 11.5 -2.8**
HABR *e**SP **sP** **20 59 15.4 -4.2**
HABR *e* 20 59 47.8
HABR *e*PPP PPP 20 59 56.4
HABR *e* 21 02 18.7
HABR *e*S **S** **21 03 42.3 +2.1**
HABR *e**SS **sS** **21 03 58.4 -1.7**
HABR SS **SnSn** **21 04 55.5 +1.9**
HABR *e*SSS SSS 21 05 10.6
HABR *e* 21 09 48.5
HABR pmax pmax
comp=N,66nm,2.0s
HABR pmax pmax
comp=Z,128nm,1.5s
HABR pmax pmax
comp=E,43nm,1.0s
HABR MLR MLR
comp=Z,2μm,21.0s
FAKI Fak Fak 27.60 208 P **P** **20 59 03.9 +0.4**
comp=Z,125nm,0.8s,comp=Z,1μm
LBMI Labuha 28.06 219 P **P** **20 59 09.3 +1.6**
comp=Z,724nm,0.9s,comp=Z,6μm
MNI Manado 28.12 226 P **P** **20 59 09.3 +1.0**
comp=Z,359nm,0.9s,comp=Z,3μm
WHN Wuhan 28.43 294 P **P** **20 59 12.0 +1.1**
WHN S S 21 03 48.6 -6.5
WHN LR LR
comp=N,3μm,13.6s
WHN LR LR
comp=E,3μm,17.7s
WHN LR LR
comp=Z,3μm,21.2s
KLR Kul'dur 29.04 342 *e*P **P** **20 59 13.6 -2.5**
KLR *e*S **S** **21 04 00.0 -4.4**
KLR *e* 21 05 53.5
KLR pmax pmax
comp=E,40nm,1.0s
KLR pmax pmax
comp=Z,100nm,1.0s
KLR MLR MLR
comp=Z,1μm,13.0s
KMSI Cibinong 29.34 226 P **P** **20 59 20.9 +1.9**
comp=Z,721nm,0.9s
MSAI Masohi 29.54 213 P **P** **20 59 22.6 +1.8**
comp=Z,30nm,0.7s
GTOI Gorontalo 29.95 228 P **P** **20 59 26.2 +1.7**
comp=Z,244nm,1.2s,comp=Z,2μm
BNDI Bandanaira 30.07 210 P **P** **20 59 25.7 +0.2**
comp=Z,295nm,1.2s
BJT Baijiatuao 30.14 313 *e*P **P** **20 59 25.7 -0.2**
comp=Z,13nm,0.4s
BJT *e*S **S** **21 04 23.0 +1.2**
BJI Beijing 30.14 313 P **P** **20 59 25.7 -0.2**
BJI S **S** **21 04 18.3 -3.5**
BJI pmax pmax
comp=Z,12nm,1.0s
BJI pmax pmax
comp=Z,140nm,4.6s
BJI LR LR
comp=N,1μm,20.5s
BJI LR LR
comp=E,840nm,23.2s
BJI LR LR
comp=Z,1μm,25.5s
MYLDM Lahad Datu 30.36 240 P **P** 20 59 31.9 +3.8
MYLDM Lahad Datu 30.36 240 P **P** 20 59 32.1 +4.0
comp=Z,256nm,0.9s,comp=Z,2μmcomp=Z,22μm
KDM Kudat 30.77 245 P **P** **20 59 34.2 +2.4**
MRSI Marisa 30.80 229 P **P** **20 59 33.7 +1.7**
SDKM Sandakan 31.16 243 P **P** **20 59 36.8 +1.5**
PMG Port Moresby 31.31 175 P **P** **20 59 36.5 0.0**
comp=Z,2.3nm,0.9s
PMG Port Moresby 31.31 175 P **P** **20 59 35.4 -1.0**
comp=Z,34nm,1.5s
PMG Port Moresby 31.31 175 P **P** **20 59 36.5 0.0**
comp=Z,16nm,0.5s,baz=324,slow=7.0,SNR=8.3
LUWI Luwuk 31.34 226 P **P** **20 59 36.9 +0.2**
comp=Z,290nm,1.1s,comp=Z,3μm
TSM Tawau 31.39 240 P **P** **20 59 38.9 +1.7**
KKM Kota Kinabalu 31.76 244 *e*P **P** **20 59 40.5 -0.1**
comp=Z,65nm,1.0s
KKM Kota Kinabalu 31.76 244 P **P** **20 59 41.7 +1.2**
ENH Enshi 32.55 292 *e*P **P** **20 59 47.0 -0.4**
comp=Z,31nm,0.7s
ENH *e*PcP **PcP** **21 02 33.6 +0.3**
PETK Petropavlovsk- 32.61 15 P **P** **20 59 47.9 +0.3**
PETK Petropavlovsk- 32.61 15 P **P** **20 59 47.9 +0.3**
PETK Petropavlovsk- 32.61 15 P **P** **20 59 47.9 +0.3**
comp=Z,7.2nm,1.0s,baz=164,slow=7.2,SNR=6.5
PETK LR LR 21 11 42.1
comp=Z,2μm,20.9s,baz=199,slow=34
QIZ Qiongzhong 32.72 271 P **P** **20 59 49.0 +0.1**
QIZ pP **pP** **20 59 59.5 -1.3**
QIZ sP **sP** **21 00 04.4 -1.8**
QIZ S **S** **21 05 01.1 -1.5**
QIZ pmax pmax
comp=Z,9.0nm,1.6s
QIZ LR LR
comp=N,1μm,27.1s
QIZ LR LR
comp=Z,870nm,21.2s
PET Petropavlovsk 32.77 16⇓ *i*P **P** **20 59 50.0 +1.2**
PET *e*S **S** **21 05 03.9 +1.4**
PET 21 07 25.7
PET pmax pmax
comp=Z,400nm,4.5s
PET pmax pmax
comp=Z,200nm,5.7s
PET pmax pmax
comp=Z,55nm,0.7s
PET MLR MLR
comp=Z,900nm,15.0s
PET MLR MLR
comp=Z,700nm,18.0s
XAN Xi'an 33.60 299 P **P** **20 59 57.4 +0.9**
XAN pP **pP** **21 00 09.4 +0.9**
XAN sP **sP** **21 00 14.4 +0.6**
XAN PP **PnPn** **21 01 08.8 -0.4**
XAN S **S** **21 05 12.6 -3.5**
XAN LR LR
comp=N,1μm,17.2s
XAN LR LR
comp=E,380nm,20.1s
XAN LR LR
comp=Z,270nm,21.0s
HIA Hailar 33.62 330 *e*P **P** **20 59 56.7 +0.2**
comp=Z,49nm,1.0s
HIA *e* 21 00 13.4
SGKI Sangatta, Kali 34.63 233 P P 21 00 16.1 +11
HNR Honiara 34.65 153 *e*P **P** **21 00 04.7 -0.9**
comp=Z,142nm,1.0s
TTSI Tana Toraja 34.80 227 P **P** **21 00 09.0 +2.1**
BBSI Bau Bau 34.87 221 P **P** **21 00 09.7 +2.2**
comp=Z,433nm,1.0s,comp=Z,3μm
GYA Guiyang 34.87 285 P **P** **21 00 08.7 +1.1**
GYA pP **pP** **21 00 20.9 +1.3**
GYA sP **sP** **21 00 26.3 +1.4**
GYA PP **PnPn** **21 01 25.4 +0.3**
GYA S **S** **21 05 36.6 +0.6**
GYA sS **sS** **21 05 55.2 -0.8**
GYA ScP **ScP** **21 06 22.2 +0.3**
GYA SS **SnSn** **21 07 51.0 -2.1**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,140nm,4.9s
GYA LR LR
comp=N,690nm,17.8s
GYA LR LR
comp=E,570nm,18.0s
GYA LR LR
comp=Z,750nm,17.4s
COEN Coen 35.77 183 *e*P **P** **21 00 15.2 -0.1**
comp=Z,826nm,1.1s
COEN *e*PcP PcP 21 02 52.3 +10
BTM Bintulu 35.92 243 P **P** **21 00 19.2 +2.5**
BKSI Bulukumba 36.28 224 P **P** **21 00 20.9 +1.2**
comp=Z,65nm,1.0s,comp=Z,688nm
KAPI Kappang 36.29 225 P **P** **21 00 20.4 +0.6**
SNR=15
KAPI Kappang 36.29 225 *e*P **P** **21 00 19.6 -0.1**
comp=Z,186nm,1.1s
KAPI *e*PcP **PcP** **21 02 44.3 +0.1**
KAPI Kappang 36.29 225 P **P** **21 00 19.9 +0.1**
comp=Z,161nm,1.2s,comp=Z,2μm
KAPI Kappang 36.29 225 P **P** **21 00 20.2 +0.5**
comp=Z,130nm,1.1s,baz=44,slow=6.1,SNR=32
BSSI Bau Bau, Buton 36.67 223 P **P** **21 00 24.4 +1.4**
MTKI Muara Teweh, K 36.95 236 P **P** **21 00 27.6 +2.2**
comp=Z,124nm,1.0s
SBUM Sibu 37.05 243 P **P** **21 00 28.2 +2.0**
SOEI Soe 37.38 214 P **P** **21 00 28.9 -0.3**
comp=Z,182nm,0.9s,comp=Z,2μm
CD2 Chengdu 37.53 292 P **P** **21 00 31.0 +0.8**
CD2 pP **pP** **21 00 42.3 0.0**
CD2 sP **sP** **21 00 47.2 -0.4**
CD2 PP **PnPn** **21 02 00.1 +2.5**
CD2 PcP **PcP** **21 02 49.1 +1.3**
CD2 S **S** **21 06 16.7 +0.3**
CD2 sS **sS** **21 06 35.6 -0.9**
CD2 PcS **PcS** **21 06 36.4 -0.1**
CD2 SS **SnSn** **21 08 51.3 -5.9**
CD2 pmax pmax
comp=Z,60nm,0.5s
CD2 pmax pmax
comp=Z,340nm,3.7s
CD2 LR LR
comp=N,2μm,21.5s
CD2 LR LR
comp=E,1μm,17.1s
CD2 LR LR
comp=Z,890nm,19.6s
KBKI Kotabaru 37.55 231 P **P** **21 00 31.8 +1.3**
MMRI Maumere 37.58 218 P **P** **21 00 31.9 +1.2**
comp=Z,315nm,1.9s,comp=Z,4μm
UBPT Khong Chiam 37.67 267 P **P** **21 00 34.0 +2.4**
comp=Z,36nm,1.5s,comp=Z,517nm
UBPT Khong Chiam 37.67 267 P **P** **21 00 33.9 +2.4**
comp=Z,41nm,0.8s,comp=Z,517nm
FX1 Attu Island--F 37.75 28 *e*P **P** **21 00 32.8 +1.1**
FX1 Attu Island--F 37.75 28 P **P** **21 00 32.8 +1.1**
comp=Z,23nm,0.8s,baz=293,slow=13,SNR=6.5
PANO Nakornpanom 37.99 270 P **P** **21 00 36.0 +1.8**
comp=Z,51nm,1.0s,comp=Z,4μm
LZH Lanzhou 38.08 301⇓ P **P** **21 00 35.7 +0.7**
LZH pP **pP** **21 00 46.6 -0.4**
LZH PP **PnPn** **21 02 07.2 +2.9**
LZH PcP **PcP** **21 02 50.3 +0.8**
LZH S **S** **21 06 24.5 -0.4**
LZH ScP **ScP** **21 06 33.5 -0.2**
LZH PcS **PcS** **21 06 37.2 -1.4**
LZH ScS **ScS** **21 10 41.0 -2.4**
LZH pmax pmax
comp=Z,46nm,1.2s
LZH pmax pmax
comp=Z,170nm,4.3s
LZH LR LR
comp=N,1μm,14.0s
LZH LR LR
comp=E,1μm,13.2s
LZH LR LR
comp=Z,2μm,16.0s
CIT Chita 38.39 329 *e*P **P** **21 00 38.4 +1.2**
CIT *e* 21 00 52.6
CIT *e* 21 02 09.8
CIT *e* 21 02 47.4
CIT *e* 21 06 30.9
CIT pmax pmax
comp=Z,148nm,2.5s
KMI Kunming 38.46 283 P **P** **21 00 40.9 +2.5**
KMI pP **pP** **21 00 51.9 +1.4**
KMI sP **sP** **21 00 58.4 +2.6**
KMI PP **PnPn** **21 02 11.7 +2.6**
KMI S **S** **21 06 28.9 -2.1**
KMI SS **SnSn** **21 09 12.1 -8.1**
KMI pmax pmax
comp=Z,11nm,1.2s
KMI pmax pmax
comp=Z,90nm,3.4s
KMI LR LR
comp=N,780nm,20.5s
KMI LR LR
comp=E,300nm,23.4s
KMI LR LR
comp=Z,730nm,28.3s
SKNT Sakolnakorn 38.61 270 P **P** **21 00 40.4 +0.9**
comp=Z,35nm,0.9s
BBKI Banjar Baru 38.63 233 P **P** **21 00 41.3 +1.7**
KSM Kuching 39.18 243 P **P** **21 00 45.1 +0.9**
SONM Songino Array 40.00 319 P **P** **21 00 52.0 +1.2**
SONM ScP **ScP** **21 06 39.6 -1.3**
SONM Songino Array 40.00 319 P **P** **21 00 52.0 +1.2**
comp=Z,8.9nm,0.5s,baz=129,slow=8.4,SNR=40
SONM ScP **ScP** **21 06 39.6 -1.3**
comp=Z,1.8nm,0.9s,baz=159,slow=5.8,SNR=3.8
SONM LR LR 21 18 13.8
comp=Z,2μm,21.4s,baz=111,slow=37
SEY Seymchan 41.24 5*c**e*P **P** **21 01 02.0 +1.4**
YAK Yakutsk 41.31 349 *e*P **P** **21 01 01.4 +0.2**
YAK *e**PP **pP** **21 01 16.4 +3.0**
YAK *e* 21 02 46.8
YAK *e* 21 03 01.9
YAK *e*PPP PPP 21 03 06.4
YAK *e*S **S** **21 07 07.4 -4.8**
YAK *e*SS **SS** **21 10 13.9 -2.9**
YAK *e* 21 10 55.3
YAK pmax pmax
comp=Z,210nm,0.9s
YAK pmax pmax
comp=E,27nm,1.0s
YAK pmax pmax
comp=N,86nm,1.2s
YAK pmax pmax
comp=Z,102nm,1.8s
YAK pmax pmax
comp=N,110nm,1.7s
YAK pmax pmax
comp=E,42nm,1.4s
YAK smax smax
comp=E,221nm,2.5s
YAK smax smax
comp=N,106nm,2.3s
CHBT CHBT 41.34 264 P P 21 01 06.6 +4.5
comp=N,26nm,1.5s
PBKT Sadao Pong 41.51 270 P **P** **21 01 04.4 +0.9**
comp=N,33nm,0.8s
NAYO Nakonayok 41.80 267 P **P** **21 01 07.0 +1.2**
comp=N,145nm,2.3s
GTA Gaotai 41.83 305⇓ P **P** **21 01 07.2 +1.2**
GTA pP **pP** **21 01 17.6 -0.6**
GTA sP **sP** **21 01 23.8 +0.3**
GTA PP **PnPn** **21 02 46.3 -2.3**
GTA S **S** **21 07 20.6 -0.3**
GTA SS SS 21 10 20.9 -7.3
GTA pmax pmax
comp=Z,19nm,1.0s
GTA pmax pmax
comp=Z,110nm,3.5s
GTA LR LR
comp=N,940nm,17.6s
GTA LR LR
comp=E,650nm,15.7s
GTA LR LR
comp=Z,1μm,15.7s
CTA Charters Tower 41.87 178 P **P** **21 01 06.9 +0.6**
CTA Charters Tower 41.87 178 P **P** **21 01 06.9 +0.6**
comp=Z,31nm,0.9s,baz=353,slow=11,SNR=17
CTAO Charters Tower 41.87 178 *e*P **P** **21 01 05.4 -0.8**
CTAO *e* 21 03 01.5
CTAO pmax pmax
comp=Z,50nm,1.0s
CTAO Charters Tower 41.87 178 *e*P **P** **21 01 05.4 -0.8**
comp=Z,50nm,1.0s
CTAO *e*PcP **PcP** **21 03 01.5 0.0**
CMMT Chiang Mai 42.87 274 P **P** **21 01 16.7 +2.1**
comp=Z,23nm,1.1s
WRAB Tennant Creek 42.89 194 *e*P **P** **21 01 14.6 +0.1**
WRAB pmax pmax
comp=Z,379nm,0.9s
WRAB Tennant Creek 42.89 194 *e*P **P** **21 01 14.6 +0.1**
comp=Z,379nm,0.9s
WRA Warramunga Arr 42.90 194 P **P** **21 01 14.9 +0.2**
WRA ScP **ScP** **21 06 51.4 -1.1**
WRA S **S** **21 07 39.1 +2.6**
WRA Warramunga Arr 42.90 194 P **P** **21 01 14.9 +0.2**
comp=Z,268nm,0.9s,baz=15,slow=8.9,SNR=224
WRA ScP **ScP** **21 06 51.4 -1.1**
comp=Z,8.8nm,0.9s,baz=15,slow=4.2,SNR=9.1
WRA S **S** **21 07 39.1 +2.6**
comp=Z,4.1nm,0.9s,baz=17,slow=14,SNR=4.6
WRA LR LR 21 17 44.4
comp=Z,4μm,22.0s,baz=10.0,slow=34
CMAR Chiang Mai Arr 42.95 274 P **P** **21 01 15.9 +0.8**
CMAR ScP **ScP** **21 06 52.5 -0.4**
CMAR P'P' 21 33 14.0
CMAR Chiang Mai Arr 42.95 274 P **P** **21 01 15.9 +0.8**
comp=Z,7.5nm,0.5s,baz=97,slow=5.9,SNR=15
CMAR ScP **ScP** **21 06 52.5 -0.4**
comp=Z,1.6nm,1.0s,baz=116,slow=3.0,SNR=4.5
CMAR LR LR 21 16 39.9
comp=Z,511nm,20.7s,baz=90,slow=32
CMAR PKPPKP **P'P'df** **21 33 14.0 -0.3**
comp=Z,0.3nm,0.3s,baz=217,slow=2.3,SNR=4.4
ZAK Zakamensk 42.96 322 *e*P **P** **21 01 15.6 +0.6**
ZAK *e* 21 07 37.8
ZAK *e* 21 11 10.5
ZAK pmax pmax
comp=Z,27nm,1.1s
IRK Irkutsk 43.26 324 *e*P **P** **21 01 17.9 +0.6**
IRK pmax pmax
comp=Z,46nm,1.4s
KTGM Kuala Trenggan 43.45 254 P **P** **21 01 21.1 +1.8**
PHET Kaeng Krachan 43.78 266 P **P** **21 01 23.5 +1.5**
comp=Z,194nm,0.9s,comp=Z,2μm
FITZ Fitzroy Crossi 44.00 207 *e*P **P** **21 01 23.7 +0.2**
comp=Z,97nm,0.8s
FITZ Fitzroy Crossi 44.00 207 P **P** **21 01 24.1 +0.5**
comp=Z,173nm,0.7s,baz=29,slow=9.6,SNR=431
FITZ LR LR 21 19 53.2
comp=Z,595nm,20.3s,baz=35,slow=36
MYKOM Kota Tinggi 44.49 249 P **P** **21 01 29.5 +1.9**
MOY Mondy 44.81 322 *e*P **P** **21 01 30.9 +1.0**
TRTT Trang 45.52 259 P **P** **21 01 37.7 +1.9**
comp=Z,44nm,1.4s
KULM Kulim 45.69 255 *e*P **P** **21 01 38.5 +1.3**
comp=Z,68nm,0.8s
KULM *e*PcP **PcP** **21 03 14.9 +0.2**
KULM Kulim 45.69 255 P **P** **21 01 38.8 +1.6**
IPM Ipoh 45.71 254 *e*P **P** **21 01 37.8 +0.4**
comp=Z,51nm,0.8s
IPM *e*PcP **PcP** **21 03 15.1 +0.3**
IPM Ipoh 45.71 254 P **P** **21 01 38.7 +1.3**
FRIM Kepong 45.74 252 P **P** **21 01 39.5 +1.9**
AS31 Alice Springs 46.59 194 *e*P **P** **21 01 44.1 0.0**

ASAR Alice Springs 46.59 194 P **P** **21 01 43.9 -0.2**
ASAR ScP **ScP** **21 07 07.7 +0.1**
ASAR S **S** **21 08 27.6 -2.4**
ASAR Alice Springs 46.59 194 P **P** **21 01 43.9 -0.2**
comp=Z,63nm,0.6s,baz=16,slow=9.2,SNR=824
ASAR ScP **ScP** **21 07 07.7 +0.1**
comp=Z,2.3nm,0.8s,baz=50,slow=2.3,SNR=4.0
ASAR S **S** **21 08 27.6 -2.4**
comp=Z,2.7nm,0.7s,baz=17,slow=20,SNR=6.2
ASAR LR LR 21 20 10.5
comp=Z,2µm,20.6s,baz=13,slow=34
PKDT Phuket 46.73 260 P **P** **21 01 47.3 +1.9**
comp=Z,67nm,0.7s
BILL Bilibino 47.95 11*d* iP **P** **21 01 55.0 +0.9**
BILL *e**PP pP 21 02 13.5 +7.0
BILL *e* 21 03 46.3
BILL pmax pmax
comp=Z,59nm,1.7s
BILL MLR MLR
comp=Z,400nm,20.0s
SHL Shillong 48.19 285 *e*P **P** **21 01 58.0 +1.2**
SHL *e*S **S** **21 08 48.0 -5.3**
PSI Prapat 48.34 253 P **P** **21 01 59.4 +1.4**
PSI PcP **PcP** **21 03 24.4 +0.2**
PSI ScP **ScP** **21 07 15.0 -0.5**
PSI Prapat 48.34 253 P **P** **21 01 59.4 +1.4**
comp=Z,46nm,0.5s,baz=71,slow=2.3,SNR=45
PSI PcP **PcP** **21 03 24.4 +0.2**
comp=Z,33nm,0.8s,baz=153,slow=1.7,SNR=6.9
PSI ScP **ScP** **21 07 15.0 -0.5**
comp=Z,5.6nm,0.5s,baz=334,slow=0.6,SNR=6.6
LSA Lhasa 48.43 291 P **P** **21 02 00.4 +1.5**
LSA S **S** **21 08 52.0 -5.1**
LSA sS **sS** **21 09 22.7 +4.9**
LSA LR LR
comp=N,820nm,36.6s
LSA LR LR
comp=Z,600nm,30.0s
LSA Lhasa 48.43 291 *e*P **P** **21 02 00.4 +1.5**
LSA pmax pmax
comp=Z,40nm,0.7s
LSA Lhasa 48.43 291 *e*P **P** **21 02 00.4 +1.5**
comp=Z,40nm,0.7s
NOUC Port Laguerre 48.64 153 *e*P **P** **21 02 02.0 +2.1**
DZM Mont Dzumac 48.68 153 *e*P **P** **21 02 00.9 +0.5**
comp=Z,512nm,1.1s
DZM Mont Dzumac 48.68 153 *e*LR LR 21 15 49.3
comp=Z,5µm,24.9s
DZM Mont Dzumac 48.68 153 *e*P **P** **21 01 59.6 -0.6**
DZM Mont Dzumac 48.68 153 *e*P **P** **21 01 59.7 -0.6**
comp=Z,250nm,0.9s
DZM Mont Dzumac 48.68 153 P **P** **21 02 00.8 +0.5**
comp=Z,122nm,0.6s,baz=270,slow=24,SNR=88
HVS Khovu-Aksy 48.90 319*d*e**P** **P** **21 02 02.8 +1.0**
HVS pmax pmax
comp=Z,141nm,1.3s
AKUT Akutan 49.04 36 *e*P **P** **21 02 02.8 +0.2**
comp=Z,272nm,1.6s
MBWA Marble Bar 49.33 211 P **P** **21 02 05.9 +0.6**
SNR=7.9
MBWA Marble Bar 49.33 211 *e*P **P** **21 02 05.4 +0.1**
comp=Z,115nm,0.8s
MBWA *e*PcP **PcP** **21 03 26.1 -1.4**
TIXI Tiksi 50.49 354*d* iP **P** **21 02 13.9 +0.5**
TIXI pmax pmax
comp=Z,17nm,0.7s
TIXI MLR MLR
comp=Z,691nm,19.0s
KRAR Krasnoyarsk 50.91 325 *i* P **P** **21 02 17.4 +0.6**
KRAR pmax pmax
comp=Z,8.0nm,0.4s
MSVF Nonsavu 51.25 138 P **P** **21 02 21.3 +1.4**
comp=Z,639nm,0.9s,SNR=8.2
MSVF Nonsavu 51.25 138 *e*P **P** **21 02 20.5 +0.6**
MSVF pmax pmax
comp=Z,105nm,0.9s
MSVF Nonsavu 51.25 138 *e*P **P** **21 02 20.5 +0.6**
comp=Z,105nm,0.9s
WMQ Urumqi 51.46 309 P **P** **21 02 22.3 +1.0**
TAPN Taplejung 51.67 288 *e*P **P** **21 02 24.3 +0.9**
comp=Z,162nm,0.9s
ODAN Odare 52.02 288 *e*P **P** **21 02 26.4 +0.5**
comp=Z,97nm,0.6s
SDPT Sand Point 52.34 36 *e*P **P** **21 02 27.4 -0.1**
comp=Z,40nm,0.6s
RAMN Ramite 52.71 288 *e*P **P** **21 02 31.5 +0.5**
comp=Z,49nm,0.4s
JIRN Jiri 52.97 289 *e*P **P** **21 02 34.1 +1.0**
comp=Z,115nm,0.6s
GUN Gumba 53.21 289 *e*P **P** **21 02 35.7 +0.9**
comp=Z,78nm,0.5s
STKA Stephens Creek 53.66 183 *e*P **P** **21 02 36.9 -0.5**
comp=Z,5.2nm,0.6s
STKA Stephens Creek 53.66 183 P **P** **21 02 37.0 -0.4**
comp=Z,35nm,0.7s,baz=2.6,slow=7.1,SNR=96
STKA LR LR 21 27 16.5
comp=Z,1µm,18.7s,baz=4.3,slow=38
PKI Pulchoki 53.67 289 *e*P **P** **21 02 38.5 +0.3**
comp=Z,63nm,0.8s
PKIN Phulchoki 53.68 289 *e*P **P** **21 02 38.7 +0.5**
comp=Z,38nm,0.7s
CHGN Chignik 53.72 35 *e*P **P** **21 02 37.5 -0.1**
KKN Kakani 53.75 289 *e*P **P** **21 02 39.2 +0.5**
comp=Z,81nm,0.9s
DMN Daman 53.93 289 *e*P **P** **21 02 40.5 +0.5**
comp=Z,42nm,0.5s
ZAA0 Zalesovo Array 54.84 321 *e*P **P** **21 02 45.7 -0.1**
ZAA0 *e*PcP **PcP** **21 03 48.0 +0.3**
ZALV Zalesovo Beam 54.84 321 *i* P **P** **21 02 45.7 -0.1**
ZALV pmax pmax
comp=Z,7.0nm,0.4s
ZALV Zalesovo Beam 54.84 321 P **P** **21 02 45.8 -0.1**
ZALV ScP **ScP** **21 07 41.7 -0.9**
ZALV P'P' 21 32 55.7
ZALV Zalesovo Beam 54.84 321 P **P** **21 02 45.8 -0.1**
comp=Z,6.9nm,0.4s,baz=109,slow=7.9,SNR=29
ZALV ScP **ScP** **21 07 41.7 -0.9**
comp=Z,2.6nm,0.7s,baz=124,slow=4.3,SNR=3.9
ZALV LR LR 21 27 08.5
comp=Z,1µm,21.1s,baz=70,slow=37
ZALV PKPPKP **P'P'df** **21 32 55.7 -3.5**
comp=Z,1.2nm,0.8s,baz=299,slow=3.1,SNR=4.7
FORT Forrest 54.86 198 *e*P **P** **21 02 45.8 -0.3**
comp=Z,372nm,0.9s
DANN Dangsing 55.01 290 *e*P **P** **21 02 49.0 +1.1**
comp=Z,334nm,0.6s
BBOO Buckleboo 55.13 189 *e*P **P** **21 02 47.9 -0.2**
comp=Z,2µm,0.9s
BBOO *e*PcP **PcP** **21 03 48.2 -0.7**
KOLN Koldanda 55.23 289 *e*P **P** **21 02 50.0 +0.6**
comp=Z,63nm,0.6s
MK31 Makanchi Array 55.52 312 *e*P **P** **21 02 51.5 +0.6**
MK31 *e* 21 03 50.3
MK31 Makanchi Array 55.52 312 *e*P **P** **21 02 51.5 +0.6**
MK31 *e*PcP **PcP** **21 03 50.3 -0.2**
MKAR Makanchi Array 55.52 312 P **P** **21 02 51.6 +0.6**
MKAR S **S** **21 10 32.6 -0.5**
MKAR Makanchi Array 55.52 312 P **P** **21 02 51.5 +0.6**
MKAR S **S** **21 10 32.6 -0.5**
MKAR P'P' 21 32 57.1
MKAR Makanchi Array 55.52 312 P **P** **21 02 51.5 +0.6**
comp=Z,10nm,0.7s,baz=88,slow=8.7,SNR=101
MKAR S **S** **21 10 32.6 -0.5**
comp=Z,1.8nm,0.9s,baz=92,slow=15,SNR=6.4
MKAR LR LR 21 27 44.3
comp=Z,698nm,18.2s,baz=93,slow=37
MKAR PKPPKP **P'P'df** **21 32 57.1 -1.2**
comp=Z,0.6nm,0.9s,baz=258,slow=4.8,SNR=4.2
PYUN Piuthan 55.72 290 *e*P **P** **21 02 53.6 +0.7**
comp=Z,134nm,0.6s
NVS Novosibirsk 55.91 322⇓ *i* P **P** **21 02 53.5 0.0**
NVS *e* 21 03 47.2
NVS *i* S **S** **21 10 35.9 -2.1**
NVS *e* 21 12 36.8
NVS pmax pmax
comp=Z,63nm,2.0s
NVS pmax pmax
comp=N,8.0nm,1.0s
NVS pmax pmax
comp=E,24nm,1.2s
NVS smax smax
comp=N,39nm,2.3s
NVS smax smax
comp=E,33nm,2.1s
OHAK Old Harbor 56.68 35 *e*P **P** **21 02 59.5 +0.6**
comp=E,33nm,0.9s
OHAK *e*PcP **PcP** **21 03 54.2 -0.4**
KDAK Kodiak Island 57.16 35 P **P** **21 03 03.0 +0.7**
comp=E,118nm,1.1s,SNR=8.3
KDAK Kodiak Island 57.16 35 P **P** **21 03 02.9 +0.6**
KDAK Kodiak Island 57.16 35 P **P** **21 03 02.9 +0.6**
comp=E,7.1nm,0.4s,baz=272,slow=4.8,SNR=22
CAN Canberra 57.16 176 *e*P **P** **21 03 02.6 0.0**
CAN *e* 21 03 57.5
CAN pmax pmax
comp=Z,27nm,1.0s
CAN Canberra 57.16 176 *e*P **P** **21 03 02.6 0.0**
comp=Z,27nm,1.0s
CAN *e*PcP **PcP** **21 03 57.5 +0.7**
KURK Kurchatov 58.20 317 P **P** **21 03 09.3 -0.5**
comp=Z,224nm,1.1s,SNR=19
KURK Kurchatov 58.20 317 P **P** **21 03 10.3 +0.5**
KURK S **S** **21 11 07.1 -1.2**
KURK Kurchatov 58.20 317 P **P** **21 03 10.3 +0.5**
KURK S **S** **21 11 07.1 -1.2**
KURBB Kurchatov Arra 58.25 317 P **P** **21 03 10.3 +0.1**
comp=Z,13nm,0.4s,baz=90,slow=8.0,SNR=209
KURBB S **S** **21 11 07.1 -1.8**
comp=Z,1.3nm,1.0s,baz=84,slow=10.0,SNR=5.8
RC01 Rabbit Creek A 59.20 31 *e*P **P** **21 03 16.9 +0.3**
comp=Z,49nm,1.1s
RC01 *e*PcP **PcP** **21 04 05.5 +0.9**
TRF Thorofare Moun 59.41 28 *e*P **P** **21 03 17.7 -0.5**
comp=Z,43nm,0.9s
PMR Palmer 59.58 30 *e*P **P** **21 03 19.6 +0.4**
PMR *e* 21 04 06.5
PMR pmax pmax
comp=Z,56nm,1.2s
PMR Palmer 59.58 30 *e*P **P** **21 03 19.6 +0.4**
comp=Z,56nm,1.2s
PMR *e*PcP **PcP** **21 04 06.5 +0.4**
ULHL Ulahol 59.82 307 P **P** **21 03 23.1 +1.6**
SNR=16
SML Sawmill 59.99 30 *e*P **P** **21 03 22.4 +0.3**
SML *e* 21 04 08.2
SML pmax pmax
comp=Z,21nm,1.1s
SML Sawmill 59.99 30 *e*P **P** **21 03 22.4 +0.3**
comp=Z,21nm,1.1s
SML *e*PcP **PcP** **21 04 08.2 +0.4**
MCK McKinley 60.06 28 *e*P **P** **21 03 22.5 0.0**
MCK pmax pmax
comp=Z,37nm,1.0s
MCK McKinley 60.06 28 *e*P **P** **21 03 22.5 0.0**
comp=Z,37nm,1.0s
KSH Kashi 60.22 304 P P 21 03 28.3 +4.2
KSH pP pP 21 03 40.3 +3.4
KSH sP sP 21 03 46.0 +4.0
KSH PP PP 21 05 43.6 +6.5
KSH S **S** **21 11 38.6 +3.6**
KSH sS sS 21 12 01.0 +4.8
KSH ScS SKKSac 21 13 11.1 -0.1
KSH SS **SS** **21 15 38.4 +5.9**
KSH pmax pmax
comp=Z,31nm,0.8s
KSH LR LR
comp=N,550nm,17.4s
KSH LR LR
comp=E,450nm,13.9s
KSH LR LR
comp=Z,440nm,21.1s
TKM2 Tokmak 2 60.26 308 *i* P **P** **21 03 25.9 +1.5**
TKM2 Tokmak 2 60.26 308 P **P** **21 03 25.9 +1.5**
SNR=38
COLD Coldfoot 60.32 24 *e*P **P** **21 03 24.9 +0.7**
KZA Kyzart 60.57 307 P **P** **21 03 29.2 +2.4**
SNR=27
NWAO Narrogin (SRO) 60.59 206 *e*P **P** **21 03 26.3 -0.2**
comp=Z,118nm,1.0s
NWAO *e*PcP **PcP** **21 04 10.9 +0.5**
NWAO Narrogin (SRO) 60.59 206 P **P** **21 03 26.6 +0.1**
comp=Z,73nm,0.6s,baz=35,slow=7.4,SNR=56
NDI New Delhi 60.64 291 *e*P **P** **21 03 25.0 -2.0**
KBK Karagaybulak 60.75 308 P **P** **21 03 28.8 +1.1**
SNR=23
CHMS Chumysh 60.87 308 P **P** **21 03 29.7 +1.3**
SNR=10
FRU Bishkek 60.98 308 *e*P **P** **21 03 30.0 +0.8**
FRU *e* 21 04 08.5
FRU *e*S **S** **21 11 44.0 -0.5**
FRU pmax pmax
comp=Z,80nm,2.0s
FRU smax smax
comp=E,240nm,2.5s
USP Ospenovka 61.04 308 P **P** **21 03 30.6 +1.0**
SNR=18
AAK Ala-Archa 61.09 308 P **P** **21 03 31.0 +0.9**
comp=E,120nm,0.7s,SNR=6.9
AAK Ala-Archa 61.09 308 *e*P **P** **21 03 30.8 +0.7**
AAK *e* 21 04 13.1
AAK pmax pmax
comp=Z,28nm,1.0s
AAK Ala-Archa 61.09 308 P **P** **21 03 31.6 +1.6**
SNR=14
AAK Ala-Archa 61.09 308 P **P** **21 03 31.1 +1.1**
SNR=9.1
AAK Ala-Archa 61.09 308 *e*P **P** **21 03 30.8 +0.7**
comp=Z,28nm,1.0s
AAK *e*PcP **PcP** **21 04 13.1 +0.3**
UCH Uchtor 61.10 307 P **P** **21 03 32.4 +1.9**
SNR=6.7
DIV Divide 61.11 31 *e*P **P** **21 03 30.8 +1.0**
comp=Z,38nm,1.2s
ILAR Eielson Array 61.13 27 P **P** **21 03 28.6 -1.2**
ILAR P'P' 21 32 34.9
ILAR Eielson Array 61.13 27 P **P** **21 03 28.6 -1.2**
comp=Z,7.9nm,0.8s,baz=257,slow=5.5,SNR=54
ILAR PKPPKP P'P'df 21 32 34.9 -14
comp=Z,0.7nm,0.8s,baz=127,slow=1.2,SNR=4.8
EKS2 Erkin-Say 61.61 308 P **P** **21 03 34.7 +1.1**
SNR=23
AML Almayashu 61.72 307 P **P** **21 03 36.1 +1.5**
SNR=33
HYB Hyderabad 62.01 279 *i* P **P** **21 03 36.0 -0.5**
MENT Mentasta 62.27 29 *e*P **P** **21 03 38.0 +0.6**
AJM Ajmer 63.31 289 *i* P **P** **21 03 44.0 -1.1**
BRVK Borovoye 63.41 319 *e*P **P** **21 03 45.4 +0.2**
BRVK pmax pmax
comp=Z,51nm,0.9s
BRVK Borovoye 63.41 319 P **P** **21 03 46.0 +0.8**
SNR=26
BRVK Borovoye 63.41 319 *e*P **P** **21 03 45.4 +0.2**
comp=Z,51nm,0.9s
EGAK Eagle 63.57 27 *e*P **P** **21 03 45.5 -0.5**
EGAK *e*PcP **PcP** **21 04 23.2 +1.0**
KKAR Karatay Array 63.96 308 *e*P **P** **21 03 49.9 +0.9**
KKAR *e* 21 04 26.7
KKAR pmax pmax
comp=Z,42nm,0.8s
KKAR Karatay Array 63.96 308 *e*P **P** **21 03 49.9 +0.9**
comp=Z,42nm,0.8s
KKAR *e*PcP **PcP** **21 04 26.7 +2.4**
PNL Peninsula 64.18 33 *e*P **P** **21 03 50.6 +0.4**
comp=Z,52nm,1.3s
TAU Tasmania Unive 64.64 178 *e*P **P** **21 03 52.5 -0.7**
TAU pmax pmax
comp=Z,20nm,0.8s
TAU Tasmania Unive 64.64 178 *e*P **P** **21 03 52.5 -0.7**
comp=Z,20nm,0.8s
KBL Kabul 66.41 299 *e*P **P** **21 04 05.6 +0.3**
KBL pmax pmax
comp=Z,82nm,1.0s
KBL Kabul 66.41 299 *e*P **P** **21 04 05.6 +0.3**
comp=Z,82nm,1.0s
URZ Urewera 67.24 153 *e*P **P** **21 04 09.1 -0.9**
comp=Z,42nm,0.7s
URZ Urewera 67.24 153 P **P** **21 04 08.8 -1.2**
comp=Z,41nm,0.6s,baz=342,slow=3.6,SNR=23
SVE Sverdlovsk 68.65 324⇓ *e*P **P** **21 04 19.5 +0.8**
SVE *e*S **S** **21 13 14.2 -4.0**
SVE *e* 21 14 08.4
SVE *e*SS **SS** **21 17 39.4 -3.3**
SVE *e*SSS SSS 21 20 48.0
SVE pmax pmax
comp=Z,38nm,0.9s
SVE MLR MLR
comp=Z,700nm,20.0s
KHZ Kahutara 69.42 158 *e*P **P** **21 04 21.9 -1.7**
comp=Z,24nm,0.5s
RPZ Rata Peaks 69.74 160 *e*P **P** **21 04 23.3 -2.2**
comp=Z,62nm,1.0s
ARU Arti 69.84 324*d* iP **P** **21 04 26.0 -0.1**
ARU 21 04 50.3
ARU 21 06 59.4
ARU S **S** **21 13 30.4 -1.9**
ARU 21 14 18.6
ARU SSS SSS 21 21 07.4
ARU pmax pmax
comp=Z,22nm,1.0s
ARU MLR MLR
comp=Z,842nm,22.0s
ARU Arti 69.84 324 P **P** **21 04 26.4 +0.3**
comp=Z,216nm,0.6s,SNR=13
SOKR Solikamsk 70.24 327*d* iP **P** **21 04 28.9 +0.4**
SOKR S **S** **21 13 33.7 -3.1**
SOKR pmax pmax
comp=Z,30nm,1.0s
SOKR MLR MLR
comp=Z,870nm,18.0s
ABKAR Akbulak array 70.30 316 *e*P **P** **21 04 29.1 0.0**
comp=Z,16nm,0.4s
AKTO Aktyubinsk 71.28 318 P **P** **21 04 34.9 -0.2**
AKTO Aktyubinsk 71.28 318 P **P** **21 04 34.9 -0.2**
AKTO Aktyubinsk 71.28 318 P **P** **21 04 34.9 -0.2**
comp=Z,5.1nm,0.7s,baz=86,slow=7.9,SNR=11
IMYA Miami 73.11 303 *e*P **P** **21 04 47.5 +1.0**
ISRO Mashad 73.61 303 *e*P **P** **21 04 50.0 +0.7**
IMOG Moghan 73.77 303 *e*P **P** **21 04 51.2 +0.7**
IPAY Payeh 73.94 303 *e*P **P** **21 04 48.4 -3.0**
IAKL Akhelmad 74.08 303 *e*P **P** **21 04 53.4 +1.1**
IKRD Kardeh 74.22 304 *e*P P 21 04 49.8 -3.3
PGC Sidney 75.00 43 *e*P **P** **21 04 57.6 +0.6**
comp=Z,1.7nm,1.1s
NLWA Neilton Lookou 75.08 45 *e*P **P** **21 04 58.6 +1.0**
comp=Z,33nm,1.1s
PPT Papeete 75.41 116 LR LR 21 34 00.1
comp=Z,491nm,18.8s,baz=192,slow=32
PPT2 Papeete2 75.42 116 *e*S **S** **21 14 36.3 -0.8**
comp=Z,317nm,23.9s
PPT2 Papeete2 75.42 116 *e*LR LR 21 28 15.4
comp=Z,890nm,22.0s,baz=285
YKW3 Yellowknife Ar 75.50 28 *e*P **P** **21 04 59.6 0.0**
comp=Z,0.2nm,0.9s
YKA Yellowknife Ar 75.53 28 P **P** **21 04 59.7 -0.1**
YKA Yellowknife Ar 75.53 28 P **P** **21 04 59.7 -0.1**
comp=Z,7.8nm,0.7s,baz=292,slow=5.4,SNR=14
YKA LR LR 21 37 49.5
comp=Z,96nm,20.4s,baz=60,slow=35
HDW Hoodsport 75.54 44 P **P** **21 05 02.4 +2.1**
TIAR Tiarei 75.59 116 *e*P **P** **21 05 01.7 +0.8**
comp=Z,72nm,1.0s
PMOR Pomariorio Ree 75.61 113 *e*P **P** **21 05 02.0 +1.0**
comp=Z,149nm,1.3s
SPA0 Spitsbergen Ar 75.77 350 *e*P **P** **21 05 03.2 +2.3**
SPA0 *e*S **S** **21 14 38.6 -0.5**
KBS Kingsbay 75.89 352 *e*P **P** **21 05 03.8 +2.2**
KBS *e* 21 14 39.5
KBS AMS AMS 21 34 59.9
comp=Z,552nm,23.7s
KBS Kingsbay 75.89 352 *i* P **P** **21 05 02.9 +1.3**
KEBM Edson Butte 76.06 49 *e*P **P** **21 05 04.5 +1.2**
comp=Z,38nm,1.0s
KEBM *e*PP **PP** **21 07 51.8 -2.4**
JCW Jim Creek 76.10 43 P **P** **21 05 05.1 +1.7**
RVW Rose Valley 76.18 46 P **P** **21 05 05.7 +1.8**
LON Longmire 76.62 45 *e*P **P** **21 05 07.4 +1.0**
LON *e* 21 05 18.8
LON pmax pmax
comp=Z,11nm,0.7s
LON Longmire 76.62 45 *e*P **P** **21 05 07.4 +1.0**
comp=Z,11nm,0.7s
LON *e*PcP **pP** **21 05 18.8 -0.7**
WPW White Pass 76.81 45 P **P** **21 05 08.9 +1.3**
MEH Mehetia 76.81 116 *e*P **P** **21 05 08.5 +0.7**
comp=Z,52nm,0.7s
GULW Guler Mountain 77.01 46 P **P** **21 05 10.2 +1.5**
LVZ Lovozero 77.02 339 *i* P **P** **21 05 08.7 +0.4**
LVZ pmax pmax
comp=Z,18nm,1.1s
KHMM Horse Mountain 77.09 51 *e*P **P** **21 05 10.2 +0.8**
comp=Z,54nm,1.2s
VLL Laurance Lake 77.10 46 P **P** **21 05 10.9 +1.6**
HUMO Hull Mountain 77.11 49 *e*P **P** **21 05 09.8 +0.6**
comp=Z,30nm,1.2s
TBM Table Mountain 77.28 44 P **P** **21 05 11.5 +1.4**
TMCR Tamitsa 77.39 335 *e*P **P** **21 05 11.5 +1.3**
TMCR *e* 21 05 20.7
TMCR pmax pmax
comp=Z,82nm,1.1s
YBH Yreka Blue Hor 77.56 50 *e*P **P** **21 05 13.0 +1.2**
comp=Z,31nm,1.3s
KCPM Cahto Peak 77.57 52 *e*P **P** **21 05 13.0 +1.0**
comp=Z,32nm,1.1s
APA Apatity 77.60 339⇓ *i*P **P** **21 05 13.0 +1.6**
APA *i* 21 05 25.0
APA *i* S **S** **21 15 00.0 +0.6**
APA *i* 21 15 16.0
APA pmax pmax
comp=Z,22nm,0.9s
KIPM Iron Peak 77.60 52 *e*P **P** **21 05 12.8 +0.6**
comp=Z,75nm,1.5s
WDC Whiskeytown Da 78.04 51 *e*P **P** **21 05 14.9 +0.5**
WDC pmax pmax
comp=Z,28nm,1.2s
WDC Whiskeytown Da 78.04 51 *e*P **P** **21 05 14.9 +0.5**
comp=Z,28nm,1.2s
IBAF Bafgh 78.09 299 *e*P **P** **21 05 14.0 -1.1**
HAWA Hanford 78.22 45 *e*P **P** **21 05 15.4 +0.1**
comp=Z,9.1nm,0.8s
TBI Tubuai 78.34 121 *e*S **S** **21 15 09.0 +0.3**
comp=Z,554nm,28.8s
TBI Tubuai 78.34 121 *e*LQ LQ 21 25 51.0
comp=Z,1µm,32.5s
TBI *e*LR LR 21 29 32.0
comp=Z,861nm,25.2s,baz=305
KEV Kevo 78.51 342 *e*p **P** **21 05 17.5 +1.2**
comp=Z,12nm,0.6s
KEV Kevo 78.51 342 *e*P **P** **21 05 17.6 +1.2**
KEV pmax pmax
comp=Z,37nm,1.0s
KEV Kevo 78.51 342 *e*P **P** **21 05 17.6 +1.2**
comp=Z,37nm,1.0s
ISHM Shahmirzad 78.54 304 *e*P **P** **21 05 18.3 +0.7**
LBCM Butte Creek Ri 78.82 50 P **P** **21 05 20.0 +1.1**
IMEH Mehriz 78.92 299 *e*P **P** **21 05 18.6 -1.2**
IFIR Firoozkooh 79.01 304 *e*P **P** **21 05 20.7 +0.5**
ARCES ARCESS Array B 79.07 342 P **P** **21 05 20.5 +1.0**
ARCES ARCESS Array B 79.07 342 P **P** **21 05 20.5 +1.0**
comp=Z,12nm,0.7s,baz=68,slow=7.3,SNR=44
ARCES LR LR 21 45 33.6
comp=Z,1µm,20.1s,baz=64,slow=40
ARE0 ARCESS Array S 79.07 342 *e*P **P** **21 05 19.7 +0.2**
ARE0 *e*S **S** **21 15 14.6 -0.5**
ARE0 ARCESS Array S 79.07 342 *e*P **P** **21 05 18.8 -0.7**
NEW Newport 79.12 42 *e*P **P** **21 05 20.9 +0.6**
comp=Z,22nm,1.0s
NEW Newport 79.12 42 ⇑P **P** **21 05 21.1 +0.8**
baz=79
IPRN Peran 79.13 305 *e*P **P** **21 05 21.8 +1.1**
MOD Modoc 79.20 49 *e*P **P** **21 05 21.2 +0.2**
comp=Z,33nm,1.3s
HOQ Hoqain 79.21 291 ⇓P **P** **21 05 21.9 +0.7**
SNR=26
ISAD Sadrabad 79.50 300 *e*P **P** **21 05 22.4 -0.6**
A12A Yaak River Ran 79.78 41 ⇑P **P** **21 05 25.0 +1.1**
baz=80
HATD Hatta, Dubai 79.81 293 ⇓P **P** **21 05 23.3 -1.1**
SNR=8.4
ISFB Sefidab 79.83 303 *e*P **P** **21 05 24.9 +0.4**
BEKR Beckworth 79.86 51 *e*P **P** **21 05 24.7 +0.1**
comp=Z,15nm,0.9s
KTK1 Kautokeino 80.03 342 *e*P **P** **21 05 25.4 +0.7**
WVOR Wild Horse Val 80.18 48 *e*P **P** **21 05 27.0 +0.8**
WVOR pmax pmax
comp=Z,46nm,1.3s
WVOR Wild Horse Val 80.18 48 *e*P **P** **21 05 27.0 +0.8**
comp=Z,46nm,1.3s
BMO Blue Mountains 80.22 46 *e*P **P** **21 05 26.8 +0.4**
comp=Z,46nm,1.2s
IZEF Zefreh 80.25 301 *e*P **P** **21 05 27.8 +0.8**
MAK Makhachkala 80.34 312 *e*P **P** **21 05 27.4 +0.5**
MAK *e*PPP PPP 21 10 21.6
MAK *e*S **S** **21 15 28.1 -1.3**
MAK *e* 21 15 44.8
MAK *e*SS **SS** **21 20 41.9 +1.0**
MAK *e*SSS SSS 21 23 59.5

MAK pmax pmax
comp=Z,192nm,1.2s
MAK MLR MLR
comp=Z,1µm,21.0s
C12B Naegeli Ranch, 80.35 42 ⇓P P 21 05 27.6 +0.6
baz=80
IR3 Iran Long-Peri 80.39 304 *e*P P 21 05 27.5 0.0
CMB Columbia Colle 80.47 53 *e*P P 21 05 28.4 +0.6
CMB *e* 21 05 45.3
CMB pmax pmax
comp=Z,42nm,1.1s
CMB Columbia Colle 80.47 53 *e*P P 21 05 28.4 +0.6
comp=Z,42nm,1.1s
CMB *e* 21 05 45.3
IMHD Mahdasht 80.59 305 *e*P P 21 05 28.6 0.0
JOF Joensuu 80.63 335 *e*p P 21 05 27.8 -0.3
comp=Z,32nm,0.5s
JOF Joensuu 80.63 335 *e*P P 21 05 27.8 -0.3
JOF pmax pmax
comp=Z,33nm,0.5s
IGAR Gharneh 80.65 301 *e*P P 21 05 28.4 -0.7
IKLH Kolahrood 80.70 302 *e*P P 21 05 29.9 +0.5
B13A Whitefish 80.72 42 ⇑P P 21 05 29.9 +1.0
baz=81,SNR=11
BSMT Bassoo Peak 80.73 42 *e*P P 21 05 29.2 +0.1
E12A Beaver Dam Sad 80.78 44 ⇑P P 21 05 30.3 +0.9
baz=81
WALA Waterton Lakes 80.80 41 *e*P P 21 05 30.5 +1.0
comp=Z,0.8nm,1.0s
ISRV Sarvestan 80.81 298 *e*P P 21 05 29.9 -0.2
TRO Tromso 80.84 343 *e*P P 21 05 29.2 +0.2
TRO *e*S S 21 15 32.6 -1.1
TRO *e*SS SS 21 20 56.4 +9.4
TRO AMS AMS 21 46 22.9
comp=Z,940nm,18.8s
DAG Danmarks Havn 80.92 356 *i* P P 21 05 29.3 -0.1
DAG *i* 21 15 25.8
DAG pmax pmax
comp=Z,4.0nm,0.9s
DAG Danmarks Havn 80.92 356 *i* P P 21 05 29.3 -0.1
comp=Z,4.7nm,0.9s
DAG *i* 21 15 25.8
C13A Hot Springs 80.92 42 ⇑P P 21 05 30.8 +0.7
baz=81,SNR=8.8
BLMT Blacktail Moun 80.93 42 *e*P P 21 05 30.5 +0.3
comp=Z,26nm,0.9s
JTMT Jette 81.08 42 *e*P P 21 05 31.5 +0.6
comp=Z,30nm,1.3s
A14A Double T Ranch 81.13 41 ⇑P P 21 05 31.9 +0.7
baz=81,SNR=10
MOS Moscow 81.18 327 *e*P P 21 05 27.2 -3.9
MOS *e* 21 08 33.6
MOS *e*S S 21 15 29.6 -8.2
MOS *e* 21 15 36.8
MOS pmax pmax
comp=Z,39nm,1.3s
MOS MLR MLR
comp=N,600nm,18.0s
MOS MLR MLR
comp=Z,2µm,18.0s
MOS MLR MLR
comp=E,700nm,15.0s
YBMT Yellow Bay 81.20 42 *e*P P 21 05 31.6 0.0
comp=E,15nm,1.0s
D13A Huson 81.22 43 ⇑P P 21 05 31.8 +0.1
baz=81,SNR=6.5
IRAZ Razeghan 81.25 305 *e*P P 21 05 31.2 -1.0
C14A Swan Lake 81.41 42 ⇑P P 21 05 33.2 +0.5
baz=81,SNR=15
IPIR Pirpir 81.46 302 *e*P P 21 05 34.2 +0.7
B14A Marquette Ranc 81.46 41 ⇑P P 21 05 33.8 +0.8
baz=81,SNR=14
A15A Johnson Ranch, 81.54 41 ⇑P P 21 05 34.2 +0.8
baz=81,SNR=18
SMMC Simmler 81.72 55 ⇓P P 21 05 35.5 +1.1
baz=82
MFID Camas Ranch 81.74 47 *e*P P 21 05 34.9 +0.3
comp=E,46nm,1.1s
MFID Camas Ranch 81.74 47 ⇑P P 21 05 35.6 +1.0
baz=82
D14A Greenough 81.83 43 ⇑P P 21 05 35.6 +0.7
baz=82
NVAR Mina Array Bea 81.86 52 P P 21 05 36.3 +0.9
NVAR Mina Array Bea 81.86 52 P P 21 05 36.3 +0.9
comp=E,21nm,0.8s,baz=267,slow=6.0,SNR=125
NVAR LR LR 21 34 52.7
comp=E,626nm,21.8s,baz=68,slow=30
BMN Battle Mountai 81.90 50 *e*P P 21 05 35.9 +0.4
BMN pmax pmax
comp=Z,11nm,0.9s
BMN Battle Mountai 81.90 50 *e*P P 21 05 35.9 +0.4
comp=Z,11nm,0.9s
B15A Bradely Ranch, 81.92 41 ⇓P P 21 05 35.9 +0.5
baz=82,SNR=16
RCTC Rector, Farmer 81.94 54 ⇑P P 21 05 36.0 +0.5
baz=82
H12A Diamond D Ranc 81.95 45 ⇑P P 21 05 36.3 +0.6
baz=82
NV11 Mina Array Sit 81.97 52 *e*P P 21 05 36.5 +0.6
OBN Obninsk 82.00 327 *i* P P 21 05 35.8 +0.4
OBN *e* 21 05 41.2
OBN *e*S S 21 15 40.8 -5.4
OBN *e*SS SS 21 21 06.7 +1.8
OBN pmax pmax
comp=Z,21nm,1.5s
OBN MLR MLR
comp=Z,1µm,17.0s
PKM Peak Mountain 82.00 56 ⇓P P 21 05 37.2 +1.0
baz=82
CHMT Chamberlain Mo 82.05 43 *e*P P 21 05 36.3 0.0
comp=Z,7.3nm,1.2s
ISRB Sarab 82.08 307 *e*P P 21 05 36.5 -0.1
C15A Salmond Ranch, 82.11 42 ⇑P P 21 05 36.8 +0.4
baz=82,SNR=12
VES Vestal, Richgr 82.22 55 ⇓P P 21 05 37.3 +0.3
baz=82
SBC Santa Barbara 82.25 56 ⇓P P 21 05 38.0 +0.8
baz=82
VSR Storozhevoye 82.33 322 *e*P P 21 05 37.1 -0.2
VSR *e**PP PcP 21 05 43.4 +1.0
VSR *e*S S 21 15 46.8 -3.0
VSR pmax pmax
comp=Z,40nm,0.6s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,40nm,1.1s
VSR smax smax
comp=Z,10.0nm,1.4s
VSR smax smax
comp=N,60nm,1.2s
VSR smax smax
comp=E,40nm,1.2s
VSR MLR MLR
comp=Z,760nm,17.0s
VSR MLR MLR
comp=N,310nm,21.0s
VSR MLR MLR
comp=E,550nm,19.0s
DGRG David-gareji 82.37 312 P P 21 05 39.0 +1.3
DGRG S S 21 15 58.9 +8.2
B16A M & M Farms, S 82.39 41 ⇓P P 21 05 38.2 +0.4
baz=82,SNR=10
TIN Tinemaha 82.42 53 ⇓P P 21 05 38.8 +0.6
baz=82
D15A Lincoln 82.46 42 ⇑P P 21 05 38.7 +0.4
baz=82
GOF Gofitskoye 82.53 316 *e*P P 21 05 31.9 -6.5
GOF pmax pmax
comp=Z,43nm,1.1s
DUS Dusheti 82.58 312 P P 21 05 41.0 +2.0
DUS S S 21 15 52.7 -0.2
C16A Fuhringer Ranc 82.63 41 ⇑P P 21 05 39.4 +0.3
baz=82,SNR=10
HLID Hailey 82.63 46 *e*P P 21 05 39.8 +0.5
comp=Z,18nm,1.2s
TBLG Delisi 82.70 312 *e*P P 21 05 40.5 +1.1
TBLG Delisi 82.70 312 P P 21 05 40.6 +1.1
TBLG S S 21 15 52.0 -2.0
ISA Isabella 82.75 55 *e*P P 21 05 39.1 -0.8
ISA pmax pmax
comp=Z,14nm,1.1s
ISA Isabella 82.75 55 *e*P P 21 05 39.1 -0.8
comp=Z,14nm,1.1s
ISA Isabella 82.75 55 ⇑P P 21 05 39.7 -0.2
baz=83

A17A Triple J Farms 82.78 40 ⇑P P 21 05 40.3 +0.5
baz=83
ZEI Tsey 82.86 313 *e*P P 21 05 40.2 -0.3
ZEI pmax pmax
comp=Z,85nm,1.4s
F15A Butte 82.97 43 ⇑P P 21 05 41.5 +0.5
baz=83,SNR=17
STEI Steigen 82.99 343 *e*P P 21 05 41.3 +1.0
B17A L&G Farms, Che 83.00 41 ⇑P P 21 05 41.7 +0.7
baz=83
LRM Limekiln Ridge 83.00 43 *e*P P 21 05 42.2 +0.9
comp=Z,148nm,1.0s
KAF Kangasniemi 83.03 335 *e*p P 21 05 39.5 -1.2
comp=Z,18nm,0.7s
KAF Kangasniemi 83.03 335 *e*P P 21 05 39.5 -1.2
KAF pmax pmax
comp=Z,19nm,0.7s
ITBZ Tabriz 83.04 308 *e*P P 21 05 41.1 -0.4
KZR Kazreti 83.06 312 P P 21 05 42.9 +1.6
D16A Dana Ranch, Ca 83.07 42 ⇑P P 21 05 41.9 +0.5
baz=83,SNR=16
GRAC Grapevine Rang 83.08 53 ⇓P P 21 05 42.3 +0.8
baz=83
I14A Mackay 83.12 45 ⇑P P 21 05 42.5 +0.6
baz=83
KBZ Khabaz 83.15 314 P P 21 05 42.4 +0.7
KBZ Khabaz 83.15 314 P P 21 05 42.4 +0.7
KBZ Khabaz 83.15 314 P P 21 05 42.4 +0.7
comp=Z,23nm,0.8s,baz=120,slow=3.1,SNR=40
KBZ LR LR 21 48 32.8
comp=Z,663nm,19.2s,baz=62,slow=40
ELK Elko 83.17 49 *e*P P 21 05 42.4 +0.1
comp=Z,16nm,0.9s
E16A East Helena 83.20 43 ⇑P P 21 05 42.8 +0.7
baz=83
KIV Kislovodsk 83.20 315 *e*P P 21 05 42.5 +0.4
KIV *e*S S 21 15 58.9 -0.3
KIV *e*SS SS 21 21 27.4 +3.8
KIV *e*SSS SSS 21 24 56.3
KIV pmax pmax
comp=Z,24nm,5.1s
KIV pmax pmax
comp=Z,43nm,0.9s
KIV MLR MLR
comp=Z,877nm,19.0s
KIV Kislovodsk 83.20 315 P P 21 05 42.9 +0.8
comp=Z,288nm,1.0s,SNR=7.6
A18A Metzger Ranch, 83.30 40 ⇑P P 21 05 43.3 +0.9
baz=83
C17A Wharram Farm, 83.30 41 ⇓P P 21 05 42.9 +0.3
baz=83
GNI Garni 83.31 311 P P 21 05 45.0 +2.1
SNR=16
GNI Garni 83.31 311 *e*P P 21 05 43.5 +0.7
comp=Z,70nm,1.1s
GNI Garni 83.31 311 P P 21 05 43.0 +0.2
comp=Z,3.9nm,0.5s,baz=346,slow=4.7,SNR=7.2
MPMC Manual Prospec 83.34 54 ⇑P P 21 05 43.7 +0.6
baz=83
IAZR Azarshahr 83.38 308 *e*P P 21 05 43.5 +0.1
EDW2 Edwards Air Fo 83.41 55 ⇑P P 21 05 44.0 +0.7
baz=83
ISHB Shabestar 83.41 309 *e*P P 21 05 42.6 -0.9
LRMC Laurel Mountai 83.41 55 ⇓P P 21 05 44.1 +0.7
baz=83
FIA1 FINESS Array S 83.50 335 *e*P P 21 05 42.7 -0.4
FINES FINESS Array B 83.50 335 P P 21 05 42.6 -0.5
FINES FINESS Array B 83.50 335 P P 21 05 42.6 -0.5
comp=Z,17nm,0.5s,baz=70,slow=4.8,SNR=166
FINES LR LR 21 46 08.5
comp=Z,908nm,20.9s,baz=53,slow=38
F16A Kennard Place, 83.54 43 ⇑P P 21 05 44.5 +0.7
baz=83
D17A Six Diamond Ra 83.55 42 ⇑P P 21 05 44.4 +0.5
baz=83,SNR=7.7
IKOM Komasi 83.56 304 *e*P P 21 05 43.5 -0.7
B18A Beardsley Farm 83.57 40 ⇓P P 21 05 44.5 +0.6
baz=83
BOZ Bozeman (W) 83.60 43 *e*P P 21 05 44.7 +0.5
BOZ pmax pmax
comp=Z,11nm,1.2s
BOZ Bozeman (W) 83.60 43 *e*P P 21 05 44.7 +0.5
comp=Z,11nm,1.2s
MWC Mount Wilson 83.60 56 *e*P P 21 05 44.8 +0.3
MWC pmax pmax
comp=Z,10.0nm,0.8s
MWC Mount Wilson 83.60 56 *e*P P 21 05 44.8 +0.3
comp=Z,10.0nm,0.8s
CIS Catalina Islan 83.64 57 ⇑P P 21 05 45.0 +0.5
baz=84
FURC Furnace Creek, 83.66 53 ⇑P P 21 05 45.2 +0.8
baz=84
SCI San Clemente I 83.69 57 ⇑P P 21 05 45.2 +0.5
baz=84
ILIN Lien 83.69 305 *e*P P 21 05 44.6 -0.4
E17A Martinsdale 83.74 42 ⇓P P 21 05 45.7 +0.7
baz=84,SNR=8.8
EGMT Eagleton 83.74 41 ⇓P P 21 05 45.5 +0.7
baz=84
BFSC Mount Baldy Ra 83.90 56 ⇑P P 21 05 46.4 +0.4
baz=84
IVIS Veis 83.93 305 *e*P P 21 05 45.2 -0.9
A19A Klindworth Far 83.95 39 ⇓P P 21 05 46.5 +0.7
baz=84,SNR=7.2
RBK Rabkut 84.03 286 P P 21 05 47.2 +0.4
SNR=12
D18A Linhart Farms, 84.08 41 ⇑P P 21 05 47.1 +0.5
baz=84
F17A Fitzpatrick Pl 84.10 43 ⇓P P 21 05 47.4 +0.6
baz=84,SNR=6.2
CHVG Ch'k'valeri 84.11 314 P P 21 05 41.1 -5.6
CHVG S S 21 16 05.4 -2.8
GSC Goldstone 84.15 54 *e*P P 21 05 47.5 +0.4
GSC pmax pmax
comp=Z,21nm,1.0s
GSC Goldstone 84.15 54 *e*P P 21 05 47.5 +0.4
comp=Z,21nm,1.0s
GSC Goldstone 84.15 54 ⇑P P 21 05 47.8 +0.6
baz=84
RRX Edison Barstow 84.16 55 ⇓P P 21 05 47.8 +0.7
baz=84
IDHR Dehrash 84.22 305 *e*P P 21 05 43.7 -3.9
IGHG Ghaleghazi 84.22 305 *e*P P 21 05 46.7 -1.0
H16A Russell Place, 84.24 44 ⇓P P 21 05 48.4 +0.8
baz=84,SNR=7.1
E18A Harlowton 84.28 42 ⇓P P 21 05 48.8 +1.1
baz=84,SNR=14
C19A Slack Wire Ran 84.30 41 ⇓P P 21 05 48.5 +0.9
baz=84
G17A Pierce Place, 84.30 43 ⇓P P 21 05 48.6 +0.8
baz=84
SHOC Shoshone 84.31 54 ⇑P P 21 05 48.7 +0.8
baz=84
I16A Newdale 84.44 45 ⇑P P 21 05 49.5 +0.9
baz=84,SNR=7.0
YMR Madison River 84.44 44 *e*P P 21 05 49.1 +0.5
comp=Z,34nm,0.8s
MOR8 Moi Rana 84.44 342 *e*P P 21 05 46.9 -0.9
MOR8 AMB AMB 21 05 50.8
comp=Z,38nm,1.9s
A20A Cobblestone Ra 84.45 39 ⇓P P 21 05 49.2 +0.8
baz=84
HVU Hansel Valley 84.46 47 *e*P P 21 05 49.4 +0.7
HVU pmax pmax
comp=Z,36nm,1.3s
HVU Hansel Valley 84.46 47 *e*P P 21 05 49.4 +0.7
comp=Z,36nm,1.3s
MURC Murrieta 84.50 56 ⇑P P 21 05 49.0 +0.2
baz=84
B20A Solberg Farm, 84.59 40 ⇓P P 21 05 49.7 +0.6
baz=84
YFT Old Faithful 84.62 44 *e*P P 21 05 50.7 +1.1
comp=Z,40nm,1.1s
D19A Cripps Ranch, 84.65 41 ⇓P P 21 05 50.2 +0.7
baz=84,SNR=11
HEC Hector,Ludlow 84.69 55 ⇓P P 21 05 50.2 +0.4
baz=84
F18A Big Timber 84.70 42 ⇓P P 21 05 50.5 +0.7
baz=84,SNR=7.6
TUQ Turquoise Moun 84.76 54 ⇑P P 21 05 50.9 +0.6
baz=85
RRI2 Red Ridge 84.77 45 *e*P P 21 05 50.5 +0.1
comp=Z,18nm,0.9s
IMW Indian Meadow 84.79 45 *e*P P 21 05 51.4 +0.9
comp=Z,21nm,1.0s
FFC Flin Flon 84.83 32 *i* P P 21 05 51.6 +1.6
FFC Flin Flon 84.83 32 *e*P P 21 05 50.6 +0.6
comp=Z,31nm,1.0s
ABTO Aybut 84.89 287 P P 21 05 51.7 +0.6
SNR=5.7
VSU Vasula 84.93 332 *i* P P 21 05 50.1 -0.3
VSU pmax pmax
comp=Z,31nm,0.9s
C20A Veseth Ranch, 84.94 40 ⇑P P 21 05 51.4 +0.6
baz=85
TPAW Teton Pass 84.96 45 *e*P P 21 05 51.9 +0.6
comp=Z,18nm,1.0s
MOOW Moose Ponds 84.98 45 *e*P P 21 05 51.7 +0.4
comp=Z,20nm,1.1s
I17A Pilgrim Ck. 85.02 45 ⇓P P 21 05 51.6 +0.1
baz=85
E19A Rath Farm, Rou 85.03 42 ⇑P P 21 05 51.9 +0.6
baz=85,SNR=15
PFO Pinyon Flat Ob 85.07 56 *e*P P 21 05 51.6 -0.2
comp=Z,21nm,1.0s
PFO Pinyon Flat Ob 85.07 56 ⇑P P 21 05 52.3 +0.5
baz=85
DUG Dugway 85.09 49 *e*P P 21 05 52.9 +1.1
DUG pmax pmax
comp=Z,14nm,0.8s
DUG Dugway 85.09 49 *e*P P 21 05 52.9 +1.1
comp=Z,14nm,0.8s
DUG Dugway 85.09 49 ⇓P P 21 05 52.5 +0.7
baz=85
LOHW Long Hollow 85.13 45 *e*P P 21 05 52.3 +0.2
comp=Z,12nm,1.1s
IBDR Badra 85.18 304 *e*P P 21 05 52.0 -0.2
IBDR *i* S S 21 16 18.0 -1.1
B21A Ellsworth Farm 85.19 39 ⇓P P 21 05 52.6 +0.6
baz=85
F19A Roth Farm, Mol 85.20 42 ⇓P P 21 05 52.9 +0.7
baz=85,SNR=6.8
GMRC Granite Mounta 85.22 55 ⇓P P 21 05 53.1 +0.6
baz=85
BAR Barrett 85.26 57 *e*P P 21 05 53.0 +0.3
comp=Z,9.3nm,0.9s
BELC Belle Mtn. Jos 85.27 55 ⇑P P 21 05 53.1 +0.2
baz=85
H18A Shoshone NF, C 85.27 44 ⇑P P 21 05 53.4 +0.6
baz=85
SOC Sochi 85.31 315 *c* *i*P P 21 05 55.9 +3.2
SOC *e*PPP PPP 21 11 05.2
SOC *e*S S 21 16 17.9 -2.1
SOC pmax pmax
comp=Z,16nm,0.8s
SOC MLR MLR
comp=Z,703nm,17.0s
RLMT Red Lodge 85.33 43 *e*P P 21 05 53.3 +0.3
comp=Z,16nm,0.7s
HWUT Hardware Ranch 85.35 47 *e*P P 21 05 53.9 +0.7
comp=Z,28nm,1.1s
MONP Monument Peak 85.38 57 ⇑P P 21 05 53.9 +0.3
baz=85
E20A Meyer Farm, Mu 85.41 41 ⇓P P 21 05 54.1 +0.9
baz=85
C21A Desert Coulee 85.43 40 ⇑P P 21 05 54.1 +0.9
baz=85,SNR=6.9
A22A Carney Farms, 85.57 39 ⇑P P 21 05 54.6 +0.6
baz=85
I18A Diamond G Ranc 85.61 45 ⇓P P 21 05 55.2 +0.7
baz=85
CTU Camp Tracy 85.62 48 *e*P P 21 05 54.8 +0.3
comp=Z,23nm,1.0s
SUMG Summit 85.64 1 *e*P P 21 05 55.4 +1.1
SUMG pmax pmax
comp=Z,52nm,1.1s
SUMG Summit 85.64 1 *e*P P 21 05 55.4 +1.1
comp=Z,52nm,1.1s
SUMG Summit 85.64 1 *i* P P 21 05 56.8 +2.6
comp=Z,31nm,1.0s
SUMG
comp=Z,450nm,22.0s
ARUT Antelope Range 85.64 51 *e*P P 21 05 55.5 +0.8
ARUT pmax pmax
comp=Z,53nm,0.8s
ARUT Antelope Range 85.64 51 *e*P P 21 05 55.5 +0.8
comp=Z,53nm,0.8s
DVTC Desert V Tower 85.72 57 ⇓P P 21 05 55.5 +0.4
baz=86
F20A Billings 85.72 42 ⇑P P 21 05 55.4 +0.6
baz=86
CCUT Cedar City 85.80 51 *e*P P 21 05 55.8 +0.3
comp=Z,18nm,1.1s
BC3 Big Chuckawall 85.82 55 ⇓P P 21 05 55.9 +0.3
baz=86
SWSC Sam W. Stewart 85.84 56 ⇓P P 21 05 55.6 +0.1
baz=86
D21A La Casta Ranch 85.84 41 ⇓P P 21 05 55.9 +0.6
baz=86,SNR=15
IRM Iron Mountain 85.85 55 ⇓P P 21 05 56.0 +0.4
baz=86
B22A Reddig Ranch S 85.85 39 ⇑P P 21 05 55.8 +0.4
baz=86
JLU Jordanelle 85.86 48 *e*P P 21 05 59.5 +3.7
comp=Z,19nm,0.8s
G20A Bridger 85.95 43 ⇓P P 21 05 56.5 +0.4
baz=86,SNR=6.2
MPU Maple Canyon 85.99 48 *e*P P 21 05 56.4 0.0
comp=Z,12nm,0.9s
I19A Meeteetse 85.99 44 ⇑P P 21 05 57.0 +0.6
baz=86,SNR=6.0
M17A Scullys Gap (B 86.02 47 ⇑P P 21 05 56.8 +0.3
baz=86,SNR=6.4
E21A Keefer Ranch, 86.04 41 ⇓P P 21 05 56.8 +0.5
baz=86
C22A Vida 86.19 40 ⇓P P 21 05 57.4 +0.4
baz=86,SNR=9.0
BW06 Boulder Array 86.19 45 *e*P P 21 05 57.6 +0.3
comp=Z,7.3nm,0.9s
PDAR Pinedale Array 86.19 45 P P 21 05 57.5 +0.1
PDAR Pinedale Array 86.19 45 P P 21 05 57.5 +0.1
comp=Z,4.4nm,0.6s,baz=220,slow=1.4,SNR=36
PDAR LR LR 21 38 26.1
comp=Z,690nm,21.5s,baz=326,slow=31
ANN Anapa 86.23 317 *e*P P 21 05 48.7 -8.5
ANN pmax pmax
comp=Z,31nm,1.2s
ANN MLR MLR
comp=N,475nm,25.0s
ANN MLR MLR
comp=E,485nm,25.0s
ANN MLR MLR
comp=Z,658nm,25.0s
MSU Marysvale 86.24 50 *e*P P 21 05 58.4 +0.7
MSU pmax pmax
comp=Z,6.0nm,0.4s
MSU Marysvale 86.24 50 *e*P P 21 05 58.4 +0.7
comp=Z,6.1nm,0.4s
L18A Fontenelle, Gr 86.25 46 ⇓P P 21 05 58.1 +0.5
baz=86
D22A Cohagen 86.29 40 ⇓P P 21 05 58.5 +0.9
baz=86
J19A Crowheart 86.30 45 ⇓P P 21 05 58.5 +0.7
baz=86,SNR=21
BHD Baghdad 86.31 304 *e*P P 21 05 59.0 +1.2
BHD *i* S S 21 16 21.0 -9.2
NSS Namsos 86.35 341 *e*P P 21 05 59.8 +2.4
B23A Brockton 86.36 39 ⇓P P 21 05 58.1 +0.3
baz=86
H20A Greybull 86.42 43 ⇑P P 21 05 58.7 +0.4
baz=86
W13A Hualapai Mount 86.42 54 ⇓P P 21 05 58.4 -0.2
baz=86
Y12C Blythe 86.49 55 ⇑P P 21 05 59.3 +0.5
baz=86
GLA Glamis 86.54 56 *e*P P 21 05 59.3 +0.3
GLA pmax pmax
comp=Z,38nm,1.0s
GLA Glamis 86.54 56 *e*P P 21 05 59.3 +0.3
comp=Z,38nm,1.0s
GLA Glamis 86.54 56 ⇑P P 21 05 59.7 +0.6
baz=86
PDMCI Parker Dam,Lak 86.56 54 ⇓P P 21 05 59.7 +0.7
baz=86
C23A Lambert 86.57 39 ⇑P P 21 05 59.6 +0.7
baz=86,SNR=8.2
G21A Lodge Grass 86.58 42 ⇑P P 21 05 59.5 +0.5
baz=86,SNR=6.5
I20A Worland 86.58 44 ⇓P P 21 05 59.9 +0.7
baz=86
L19A Farson 86.62 46 ⇑P P 21 05 59.9 +0.4
baz=86,SNR=5.8
K19A Absolon Red Bu 86.63 45 ⇑P P 21 05 59.4 -0.1
baz=86,SNR=15
MICGM Minsk 86.65 329 *e* P 21 05 57.0 -2.0

MNK	Minsk	86.67	329	eP		P	21 05 57.0	-2.1
MNK				e			21 06 15.0	
A24A	Westby	86.70	38	⇑P		P	21 05 59.9	+0.4
	baz=86							
E22A	Miles City	86.78	41	⇑P		P	21 06 00.2	+0.3
	baz=87,SNR=8.5							
Q16A	Castle Valley	86.78	49	⇓P		P	21 06 01.1	+0.8
	baz=87							
D23A	Lindsay	86.86	40	⇓P		P	21 06 01.3	+0.9
	baz=87,SNR=6.9							
J20A	Shoshoni	86.89	44	⇓P		P	21 06 01.1	+0.4
	baz=87							
F22A	Rosebud	86.90	41	⇓P		P	21 06 01.0	+0.4
	baz=87							
H21A	Big Horn, Sher	86.96	43	⇑P		P	21 06 01.2	+0.2
	baz=87							
K20A	Yellowstone Ra	87.04	45	⇑P		P	21 06 01.8	+0.3
	baz=87,SNR=5.9							
U15A	North Rim	87.04	52	⇑P		P	21 06 02.4	+0.7
	baz=87							
E23A	Ismay	87.13	41	⇑P		P	21 06 02.6	+0.9
	baz=87							
G22A	Birney	87.15	42	⇓P		P	21 06 02.5	+0.7
	baz=87							
SRU	San Rafael	87.15	49	eP		P	21 06 02.0	-0.1
SRU					pmax	pmax		
	comp=Z,26nm,0.9s							
SRU	San Rafael	87.15	49	eP		P	21 06 02.0	-0.1
	comp=Z,26nm,0.9s							
C24A	Savage	87.15	39	⇓P		P	21 06 02.4	+0.7
	baz=87							
I21A	Big Trails, Te	87.18	44	⇑P		P	21 06 02.5	+0.3
	baz=87							
J21A	Lysite	87.30	44	⇑P		P	21 06 02.9	+0.2
	baz=87							
L20A	Wamsutter	87.34	46	⇑P		P	21 06 03.4	+0.4
	baz=87							
D24A	Glendive	87.42	40	⇓P		P	21 06 03.6	+0.6
	baz=87							
F23A	Volborg	87.45	41	⇓P		P	21 06 04.0	+0.8
	baz=87							
113A	Mohawk Valley,	87.47	56	⇑P		P	21 06 04.0	+0.5
	baz=87							
Y14A	Wickenburg	87.56	54	⇑P		P	21 06 04.7	+0.6
	baz=87							
O19A	Miners Draw (B	87.59	47	⇓P		P	21 06 04.2	+0.1
	baz=87,SNR=5.1							
I22A	9 Mile Ranch,	87.66	43	⇑P		P	21 06 04.9	+0.5
	baz=88,SNR=7.2							
M20A	Sweetwater, Wa	87.68	46	⇓P		P	21 06 05.3	+0.7
	baz=88							
E24A	Baker	87.70	40	⇓P		P	21 06 04.8	+0.3
	baz=88							
G23A	Biddle	87.72	42	⇑P		P	21 06 04.9	+0.4
	baz=88							
Z14A	Wintersburg	87.85	55	⇑P		P	21 06 05.9	+0.6
	baz=88							
J22A	Midwest	87.89	44	⇑P		P	21 06 05.6	+0.1
	baz=88							
N20A	Spence Gulch,	87.93	47	⇓P		P	21 06 06.3	+0.5
	baz=88							
F24A	Ekalaka	87.98	41	⇓P		P	21 06 06.6	+0.8
	baz=88							
P19A	Cripple Cowboy	87.99	48	⇓P		P	21 06 06.7	+0.6
	baz=88,SNR=31							
L21A	Rawlins	88.00	45	⇑P		P	21 06 06.5	+0.4
	baz=88,SNR=6.6							
KIEV	Kiev	88.07	325	eP		P	21 06 04.7	-1.3
KIEV					pmax	pmax		
	comp=Z,21nm,0.9s							
KIEV	Kiev	88.07	325	eP		P	21 06 04.7	-1.3
	comp=Z,21nm,0.9s							
WUAZ	Wupatki	88.11	52	eP		P	21 06 08.1	+1.4
	comp=Z,30nm,1.0s							
WUAZ	Wupatki	88.11	52	⇑P		P	21 06 07.7	+1.0
	baz=88							
M21A	Separation Pea	88.17	46	⇓P		P	21 06 07.2	+0.2
	baz=88,SNR=6.6							
K22A	Casper	88.23	44	⇑P		P	21 06 07.2	0.0
	baz=88							
SIM	Simferopol'	88.23	318	c iP		P	21 06 06.0	-0.9
SIM				e			21 16 31.0	
SIM				eS		S	21 16 45.0	-3.3
SIM					pmax	pmax		
	comp=Z,21nm,0.7s							
SIM					MLR	MLR		
	comp=Z,530nm,20.5s							
O20A	White River Ci	88.26	47	⇓P		P	21 06 08.1	+0.7
	baz=88							
H24A	Dirks Ranch, A	88.46	42	⇓P		P	21 06 08.6	+0.5
	baz=88							
N21A	Black Mountain	88.46	46	⇓P		P	21 06 08.9	+0.5
	baz=88,SNR=11							
DRV	Dumont d'Urvil	88.47	182	P		P	21 06 05.0	-2.2
DRV	Dumont d'Urvil	88.47	182	PP		PP	21 09 32.0	-4.0
DRV				S		SKSac	21 16 26.0	-6.1
DRV				SS		SS	21 22 55.0	+14
DRV				L		L	21 30 00.0	
DRV				R			21 34 00.0	
J23A	Dilts Ranch, B	88.49	43	⇑P		P	21 06 08.6	+0.2
	baz=88							
X16A	Lo Mia Camp, P	88.53	53	⇓P		P	21 06 09.7	+1.0
	baz=88							
214A	Organ Pipe Nat	88.54	56	⇓P		P	21 06 09.4	+0.7
	baz=88							
O21A	Pagoda	88.75	47	⇓P		P	21 06 10.3	+0.5
	baz=89							
K23A	Bowen Ranch, D	88.76	44	⇑P		P	21 06 10.1	+0.5
	baz=89							
Q20A	Ridgley Place,	88.77	48	⇑P		P	21 06 10.2	+0.4
	baz=89,SNR=20							
M22A	Cedar Creek Ra	88.77	45	⇓P		P	21 06 10.0	+0.1
	baz=89							
E26A	Carlson Angus	88.85	40	⇓P		P	21 06 10.7	+0.9
	baz=89							
I24A	Kuemmerle Ranc	88.85	43	⇑P		P	21 06 10.2	+0.2
	baz=89							
PV01	Paradox Valley	88.95	49	eP		P	21 06 10.9	+0.1
	comp=Z,1μm,0.9s							
HFS	Hagfors	88.98	338	P		P	21 06 09.1	-1.0
HFS	Hagfors	88.98	338	P		P	21 06 09.1	-1.0
	comp=Z,5.9nm,0.5s,baz=100,slow=3.6,SNR=37							
L23A	Garrett	89.02	45	⇓P		P	21 06 11.2	+0.2
	baz=89							
R20A	Redvale	89.06	49	⇓P		P	21 06 11.7	+0.4
	baz=89							
RSSD	Black Hills	89.09	42	eP		P	21 06 11.7	+0.5
RSSD	Black Hills	89.09	42	eP		P	21 06 11.7	+0.5
	comp=Z,2.4nm,0.6s							
H25A	Fruitdale	89.11	42	⇑P		P	21 06 11.3	+0.2
	baz=89							
N22A	Wattenberg Ran	89.16	46	⇓P		P	21 06 11.6	-0.1
	baz=89							
NB2	NORSAR Subarra	89.16	339	P		P	21 06 09.6	-1.4
	comp=Z,4.2nm,0.7s,baz=53,slow=5.1							
NB2	NORSAR Subarra	89.16	339	P		P	21 06 09.6	-1.4
	baz=53,slow=5.1							
NOA	NORSAR Array B	89.16	339	P		P	21 06 10.1	-0.8
NOA				PP		PP	21 09 40.8	-0.1
NOA	NORSAR Array B	89.16	339	P		P	21 06 10.1	-0.8
	comp=Z,3.2nm,0.6s,baz=46,slow=4.5,SNR=10							
NOA				PP		PP	21 09 40.8	-0.1
	comp=Z,5.9nm,1.0s,baz=42,slow=8.4,SNR=4.6							
NOA				LR		LR	21 52 41.2	
	comp=Z,395nm,18.8s,baz=30,slow=40							
SUW	Suwalki	89.17	330	eP		P	21 06 10.1	-1.0
SUW					pmax	pmax		
	comp=Z,50nm,0.8s							
SUW	Suwalki	89.17	330	eP		P	21 06 10.1	-1.0
	comp=Z,50nm,0.8s							
SUW	Suwalki	89.17	330	eP		P	21 06 10.3	-0.8
S20A	Disappointment	89.24	49	⇑P		P	21 06 12.2	0.0
	baz=89,SNR=5.4							
NC602	NORSAR Array S	89.27	339	eSKS		SKSac	21 16 36.8	-0.9
NC602				e			21 16 38.4	
NC602				eSS		SS	21 22 55.3	+4.0
K24A	Anderson Ranch	89.29	44	⇓P		P	21 06 12.5	+0.3
	baz=89							
RAYN	Ar Rayn	89.32	295	P		P	21 06 12.7	+0.2
	comp=Z,97nm,0.8s,SNR=11							
Q21A	Lamborn Mesa,	89.33	48	⇑P		P	21 06 13.3	+0.8
	baz=89,SNR=5.9							
I25A	Rochford	89.33	42	⇓P		P	21 06 12.7	+0.3
	baz=89							
O22A	Kremmling	89.40	47	⇓P		P	21 06 13.3	+0.4
	baz=89,SNR=11							
MVCO	Mesa Verde	89.43	50	eP		P	21 06 13.6	+0.6
	comp=Z,42nm,1.4s							
MVCO	Mesa Verde	89.43	50	⇑P		P	21 06 13.5	+0.6
	baz=89							
N23A	Red Feather La	89.45	46	⇑P		P	21 06 14.0	+0.9
	baz=89,SNR=11							
P22A	Eagle	89.53	47	⇓P		P	21 06 14.1	+0.7
	baz=89,SNR=8.2							
R21A	Cimarron	89.56	48	⇓P		P	21 06 14.2	+0.6
	baz=89,SNR=12							
X18A	Snowflake	89.59	53	⇑P		P	21 06 14.5	+0.8
	baz=89							
J25A	Sunshine Ranch	89.60	43	⇓P		P	21 06 14.3	+0.8
	baz=89							
S21A	Coal Bank Pass	89.72	49	⇓P		P	21 06 15.0	+0.5
	baz=90,SNR=7.7							
G27A	Dupree	89.73	40	⇑P		P	21 06 14.6	+0.6
	baz=90							
Q22A	Crested Butte,	89.77	48	⇓P		P	21 06 15.2	+0.6
	baz=90,SNR=11							
U20A	Newcomb	89.80	51	⇓P		P	21 06 15.1	+0.5
	baz=90,SNR=5.5							
O23A	Lake Granby, G	89.80	46	⇓P		P	21 06 15.4	+0.7
	baz=90							
M24A	Cheyenne	89.91	45	⇑P		P	21 06 16.0	+0.9
	baz=90							
TUC	Tucson	89.94	55	eP		P	21 06 16.2	+0.9
TUC					pmax	pmax		
	comp=Z,19nm,1.3s							
TUC	Tucson	89.94	55	eP		P	21 06 16.2	+0.9
	comp=Z,19nm,1.3s							
K25A	Mack Ranch, Ha	89.95	43	⇓P		P	21 06 16.1	+0.9
	baz=90							
H27A	Howes	90.03	41	⇓P		P	21 06 16.3	+0.9
	baz=90							
V20A	Brimhall	90.10	51	⇑P		P	21 06 16.7	+0.6
	baz=90,SNR=11							
L25A	Engebretsen Ra	90.12	44	⇓P		P	21 06 17.0	+1.0
	baz=90							
R22A	Saguache, Gunn	90.17	48	⇑P		P	21 06 17.6	+1.1
	baz=90,SNR=10							
N24A	Carr	90.19	45	⇑P		P	21 06 17.5	+1.1
	baz=90							
ISCO	Idaho Springs	90.20	46	eP		P	21 06 17.4	+0.7
ISCO					pmax	pmax		
	comp=Z,8.0nm,0.9s							
ISCO	Idaho Springs	90.20	46	eP		P	21 06 17.4	+0.7
	comp=Z,8.5nm,0.9s							
ISCO	Idaho Springs	90.20	46	⇓P		P	21 06 17.6	+0.9
	baz=90,SNR=10							
T21A	Navajo Lake	90.21	50	⇓P		P	21 06 17.3	+0.7
	baz=90							
P23A	Jefferson	90.25	47	⇑P		P	21 06 18.2	+1.2
	baz=90,SNR=19							
I27A	Quinn	90.34	41	⇓P		P	21 06 17.8	+0.9
	baz=90							
K26A	Motz Farm, Whi	90.35	43	⇓P		P	21 06 17.6	+0.6
	baz=90							
S22A	4UR Ranch, Cre	90.35	49	⇑P		P	21 06 18.1	+0.7
	baz=90,SNR=8.7							
W20A	Ramah	90.38	52	⇓P		P	21 06 17.8	+0.3
	baz=90,SNR=12							
U21A	Nageezi	90.39	50	⇑P		P	21 06 17.9	+0.4
	baz=90,SNR=13							
O24A	Longmont	90.41	46	⇓P		P	21 06 18.5	+1.1
	baz=90							
ULM	Lac du Bonnet	90.41	34	P		P	21 06 16.1	-0.8
ULM	Lac du Bonnet	90.41	34	P		P	21 06 16.1	-0.8
	comp=Z,1.8nm,0.4s,baz=288,slow=7.8,SNR=2.6							
ULM					LR	LR	21 44 31.5	
	comp=Z,1μm,21.9s,baz=277,slow=34							
T22A	Edith	90.65	49	⇑P		P	21 06 19.3	+0.6
	baz=90,SNR=8.8							
H28A	Mission Ridge	90.65	41	⇑P		P	21 06 19.3	+1.0
	baz=90							
X20A	Quemado	90.65	52	⇑P		P	21 06 19.8	+1.1
	baz=90,SNR=5.9							
V21A	Milan	90.69	51	⇑P		P	21 06 19.7	+0.8
	baz=90							
P24A	Kohler Place,	90.82	46	⇑P		P	21 06 19.8	+0.5
	baz=91							
R23A	Moffat	90.84	48	⇑P		P	21 06 20.5	+0.9
	baz=91							
I28A	Midland	90.92	41	⇓P		P	21 06 20.3	+0.7
	baz=91							
Q24A	Divide	90.92	47	⇓P		P	21 06 20.8	+0.8
	baz=91,SNR=8.4							
U22A	Llaves	90.98	50	⇑P		P	21 06 21.4	+1.1
	baz=91,SNR=5.5							
Y20A	Horse Springs,	91.03	53	⇑P		P	21 06 21.8	+1.2
	baz=91,SNR=16							
O25A	Wiggins	91.05	46	⇑P		P	21 06 21.2	+0.8
	baz=91							
BR131	Keskin Array S	91.14	314	eP		P	21 06 19.9	-0.9
	comp=Z,6.1nm,0.7s							
BRTR	Keskin Array B	91.14	314	P		P	21 06 20.0	-0.8
BRTR					PKKPbc	PKKPbc	21 23 45.4	+1.4
BRTR	Keskin Array B	91.14	314	P		P	21 06 20.0	-0.8
	comp=Z,4.9nm,0.9s,baz=96,slow=3.7,SNR=24							
BRTR					PKKPbc	PKKPbc	21 23 45.4	+1.4
	comp=Z,0.5nm,0.8s,baz=313,slow=1.6,SNR=4.7							
BRTR					LR	LR	21 51 46.8	
	comp=Z,322nm,19.4s,baz=214,slow=38							
V22A	San Miguel Ran	91.16	50	⇓P		P	21 06 21.5	+0.4
	baz=91,SNR=5.5							
J28A	Allard Ranch,	91.19	42	⇑P		P	21 06 21.5	+0.7
	baz=91							
X21A	Alamocita Cree	91.22	52	⇓P		P	21 06 22.3	+0.9
	baz=91							
Z20A	Nine Sixteen R	91.24	54	⇑P		P	21 06 22.6	+1.2
	baz=91,SNR=38							
T23A	Casias Ranch,	91.25	49	⇓P		P	21 06 22.2	+0.6
	baz=91							
SDCO	Great Sand Dun	91.28	48	eP		P	21 06 22.4	+0.7
	comp=Z,9.7nm,0.8s							
LVV	L'vov	91.30	326	eP		P	21 06 25.7	+4.6
R24A	Sanders Place,	91.31	48	⇓P		P	21 06 22.6	+0.9
	baz=91,SNR=12							
P25A	Willow Gulch B	91.31	46	⇓P		P	21 06 22.7	+1.0
	baz=91							
M27A	Reverse DX Ran	91.46	44	⇑P		P	21 06 23.0	+0.8
	baz=91							
120A	U Bar Ranch, L	91.46	54	⇓P		P	21 06 23.7	+1.2
	baz=91,SNR=14							
U23A	El Rito	91.48	50	⇑P		P	21 06 23.6	+1.0
	baz=91							
K28A	Ten Mile Ranch	91.48	42	⇑P		P	21 06 23.1	+0.9
	baz=91							
Y21A	Point of Rocks	91.50	52	⇑P		P	21 06 24.1	+1.4
	baz=91,SNR=5.6							
319A	Douglas	91.50	55	⇓P		P	21 06 23.8	+1.2
	baz=91							
O26A	Horse Wrangler	91.51	45	⇓P		P	21 06 23.6	+1.0
	baz=91							
S24A	Houchin Ranch,	91.53	48	⇑P		P	21 06 23.8	+0.9
	baz=91,SNR=12							
Q25A	Bedland, Calha	91.56	47	⇑P		P	21 06 23.9	+1.1
	baz=91							
AGMN	Agassiz Nation	91.57	36	eP		P	21 06 22.7	+0.3
	comp=Z,18nm,0.9s							
CFR	Carcaliu	91.72	321	⇓P		P	21 06 22.3	-0.8
CFR	Carcaliu	91.72	321	⇓iP		P	21 06 22.3	-0.8
N27A	Anderson Farm,	91.73	44	⇓P		P	21 06 24.7	+1.2
	baz=92							
X22A	Bernardo	91.76	52	⇓P		P	21 06 24.9	+1.1
	baz=92							
L28A	Connealy Angus	91.76	43	⇑P		P	21 06 24.8	+1.2
	baz=92							
V23A	Ortiz Mt. (NFS	91.76	50	⇓P		P	21 06 25.1	+1.2
	baz=92							
TESR	Tescani	91.82	322	⇑iP		P	21 06 22.6	-1.0
Z21A	St. Cloud Mine	91.83	53	⇓P		P	21 06 25.4	+1.2
	baz=92,SNR=12							
220A	Playas Peak, P	91.84	55	⇓P		P	21 06 25.2	+1.0
	baz=92,SNR=16							
R25A	Fountain Ranch	91.92	47	⇑P		P	21 06 24.9	+0.5
	baz=92,SNR=14							
ANMO	Albuquerque	91.95	51	eP		P	21 06 25.4	+0.7
	comp=Z,14nm,1.0s							
TIRR	Tirgusor	91.95	320	⇑P		P	21 06 23.3	-0.9
TIRR	Tirgusor	91.95	320	⇑iP		P	21 06 23.3	-0.9
BUR08	Bucovina Ar. S	91.97	324	eP		P	21 06 24.0	-0.5
BURAR	Bucovina Array	91.98	324	⇑P		P	21 06 24.0	-0.5
BURAR	Bucovina Array	91.98	324	⇑iP		P	21 06 24.0	-0.5
BRSD	Miller	92.02	40	⇑P		P	21 06 24.8	+0.2
	baz=92							
S25A	Robets Cordova	92.06	48	⇑P		P	21 06 25.7	+0.5
	baz=92,SNR=10							
Y22A	Socorro	92.06	52	⇓P		P	21 06 26.1	+0.9
	baz=92							
W23A	Werner Place,	92.07	51	⇑P		P	21 06 26.1	+0.8
	baz=92,SNR=10.0							
U24A	Moreno Valley	92.08	49	⇓P		P	21 06 26.2	+0.7
	baz=92							
KWP	Kalwaria Pacla	92.09	326	eP		P	21 06 24.8	0.0
KWP					pmax	pmax		
	comp=Z,39nm,0.9s							
KWP	Kalwaria Pacla	92.09	326	eP		P	21 06 24.8	0.0
	comp=Z,39nm,0.9s							
KWP	Kalwaria Pacla	92.09	326	⇓iP		P	21 06 24.4	-0.4
KWP	Kalwaria Pacla	92.09	326	eP		P	21 06 24.5	-0.4
320A	Kipp Ranch, An	92.09	55	⇓P		P	21 06 26.5	+1.1
	baz=92							
121A	Cookes Peak, D	92.11	54	⇓P		P	21 06 26.8	+1.4
	baz=92,SNR=13							
VRI	Vrincioaia	92.15	322	⇑P		P	21 06 25.6	+0.4
VRI	Vrincioaia	92.15	322	⇑iP		P	21 06 25.6	+0.4
M28A	Bar X Bar Ranc	92.17	43	⇓P		P	21 06 26.3	+0.8
	baz=92							
BNM	Barren Site	92.20	52	eP		P	21 06 26.7	+0.7
	comp=Z,5.4nm,1.0s							
T25A	Trinidad	92.33	48	⇑P		P	21 06 27.4	+0.9
	baz=92,SNR=9.5							
Z22A	Elephant Butte	92.38	53	⇑P		P	21 06 27.6	+0.9
	baz=92,SNR=16							
L29A	Maesberg Ranch	92.39	43	⇑P		P	21 06 26.6	+0.2
	baz=92							
R26A	Arlington	92.41	47	⇑P		P	21 06 27.2	+0.5
	baz=92,SNR=16							
V24A	Rampart Ranch,	92.42	50	⇓P		P	21 06 27.5	+0.6
	baz=92							
W24A	Lazy 6 Ranch,	92.58	50	⇑P		P	21 06 28.5	+0.9
	baz=92,SNR=17							
KSCO	Kaye Shedlock'	92.60	46	⇑P		P	21 06 28.4	+0.8
	baz=92							
U25A	Circle Dot Ran	92.70	49	⇑P		P	21 06 28.7	+0.6
	baz=92,SNR=8.7							
Y23A	Lovelace Mesa,	92.72	52	⇑P		P	21 06 29.0	+0.7
	baz=93,SNR=11							
S26A	Kim	92.74	48	⇑P		P	21 06 28.4	+0.2
	baz=93,SNR=8.6							
KOLS	Kolonicke sedl	92.75	326	eP		P	21 06 27.5	-0.4
KOLS					pmax	pmax		
	comp=Z,4.0nm,1.0s							
KOLS	Kolonicke sedl	92.75	326	eP		P	21 06 27.5	-0.4
KOLS				ePP		PP	21 10 12.9	+3.3
MLR	Muntele Rosu	92.81	322	P		P	21 06 28.7	+0.3
MLR	Muntele Rosu	92.81	322	⇑iP		P	21 06 29.7	+1.3
MLR	Muntele Rosu	92.81	322	P		P	21 06 28.7	+0.3
	comp=Z,0.3nm,0.6s,baz=324,slow=14,SNR=2.9							
222A	Williams Famil	92.82	54	⇑P		P	21 06 29.4	+0.7
	baz=93,SNR=6.5							
V25A	Rancho No Teng	92.83	50	⇓P		P	21 06 29.3	+0.5
	baz=93,SNR=5.3							
R27A	Eads	92.86	47	⇑P		P	21 06 29.1	+0.3
	baz=93,SNR=6.1							
X24A	Lazy VL Ranch,	92.87	51	⇑P		P	21 06 29.7	+0.7
	baz=93							
T26A	Comanche Natio	92.88	48	⇓P		P	21 06 29.2	+0.2
	baz=93,SNR=21							
Z23A	Rita Site, Whi	92.92	52	⇓P		P	21 06 29.8	+0.7
	baz=93							
UZH	Uzhgorod	92.92	326	eP		P	21 06 33.0	+4.4
UZH				e			21 06 45.6	
UZH				e			21 10 19.8	
UZH				i			21 17 01.0	
UZH				eS		S	21 17 33.6	+2.4
UZH				eSS		SS	21 23 57.8	+13
UZH					MLR	MLR		
	comp=N,380nm,21.0s							
UZH					MLR	MLR		
	comp=E,450nm,21.0s							
UZH					MLR	MLR		
	comp=Z,150nm,21.0s							
STHS	Stebnicka Huta	92.97	327	eP		P	21 06 29.7	+0.8
STHS					pmax	pmax		
	comp=Z,6.0nm,0.9s							
STHS	Stebnicka Huta	92.97	327	eP		P	21 06 29.7	+0.8
Q28A	Sharon Springs	93.10	46	⇓P		P	21 06 30.3	+0.4
	baz=93							
U26A	Atchley Ranch,	93.17	49	⇓P		P	21 06 30.8	+0.5
	baz=93							
MMAI	Mount Meron Ar	93.18	307	P		P	21 06 29.9	-0.4
MMAI	Mount Meron Ar	93.18	307	P		P	21 06 29.9	-0.4
	comp=Z,2.0nm,0.7s,baz=51,slow=6.6,SNR=5.9							
Y24A	Capitan	93.18	52	⇑P		P	21 06 30.6	+0.2
	baz=93,SNR=8.1							
W25A	X Bar L Ranch,	93.25	50	⇑P		P	21 06 31.1	+0.5
	baz=93							
X25A	Clemmons Ranch	93.44	51	⇑P		P	21 06 32.1	+0.6
	baz=93							
R28A	Tribune	93.49	46	⇑P		P	21 06 32.3	+0.6
	baz=93							
T27A	Campo	93.53	48	⇑P		P	21 06 32.8	+0.9
	baz=93							
Y25A	Mesa, Roswell	93.72	51	⇓P		P	21 06 33.0	+0.2
	baz=94,SNR=11							
124A	Stringfield Ra	93.76	53	⇑P		P	21 06 33.7	+0.5
	baz=94,SNR=14							
W26A	Owens Ranch, T	93.81	50	⇓P		P	21 06 34.0	+0.8
	baz=94							
ECSD	EROS Data Cent	93.81	40	eP		P	21 06 32.8	-0.1
	comp=Z,20nm,1.2s							
R29A	Marienthal	93.90	46	⇓P		P	21 06 34.4	+0.9
	baz=94							
T28A	Walsh	93.92	47	⇓P		P	21 06 34.5	+0.8
	baz=94							
KECS	Kecovo	93.95	327	eP		P	21 06 33.3	-0.1
KECS					pmax	pmax		
	comp=Z,4.0nm,1.3s							
KECS	Kecovo	93.95	327	eP		P	21 06 33.3	-0.1
KECS				ePP		PP	21 10 24.0	+5.0
224A	Cornudas Mount	94.01	53	⇑P		P	21 06 34.7	+0.5
	baz=94,SNR=20							
Z25A	Roswell	94.02	52	⇓P		P	21 06 34.6	+0.4
	baz=94,SNR=7.4							
X26A	CR and CF Fran	94.04	50	⇓P		P	21 06 34.5	+0.2
	baz=94,SNR=7.5							
V27A	Dan Oppiter Fa	94.12	49	⇓P		P	21 06 35.3	+0.7
	baz=94							
OKC	Ostrava-Krasne	94.23	329	eSKS		SKSac	21 17 03.4	-2.8
OKC					AMS	AMS	21 52 50.0	

VYHS					*es*P	**sP**	**21 06 55.7**	**+0.1**	
VYHS					*e*PP	**PP**	**21 10 27.2**	**+1.7**	
UPC	**Upice**	**94.79**	**330**		*e*P	**P**	**21 06 36.9**	**-0.3**	
UPC	**Upice**	**94.79**	**330**		*e*P	**P**	**21 06 36.9**	**-0.3**	
UPC					*ex*	x	21 06 42.5		
126A	**Clayton Basin,** baz=95	**94.84**	**52**	⇑	P	**P**	**21 06 38.3**	**+0.3**	
Y27A	**Causey** baz=95	**94.84**	**51**	⇓	P	**P**	**21 06 38.2**	**+0.3**	
226B	**Tecolote Peak,** baz=95	**95.01**	**53**	⇑	P	**P**	**21 06 39.3**	**+0.5**	
425A	**Indio Mountain** baz=95,SNR=10	**95.03**	**54**	⇑	P	**P**	**21 06 39.5**	**+0.6**	
Z27A	**Tatum** baz=95,SNR=7.9	**95.09**	**51**	⇓	P	**P**	**21 06 39.0**	**-0.1**	
SPMN	**St. Paul** baz=95	**95.10**	**37**	⇓	P	**P**	**21 06 39.3**	**+0.5**	
VRAC	**Vranov**	**95.34**	**329**		P	**P**	**21 06 39.7**	**0.0**	
VRAC	**Vranov** comp=Z,3.1nm,0.8s,baz=86,slow=6.8,SNR=3.4	**95.34**	**329**		P	**P**	**21 06 39.7**	**0.0**	
AMTX	**Amarillo** comp=Z,9.8nm,0.8s	**95.38**	**49**		*e*P	**P**	**21 06 40.8**	**+0.5**	
PVCC	**Panska Ves**	**95.44**	**331**		*e*P	**P**	**21 06 40.2**	**0.0**	
PVCC	comp=Z,800nm,18.8s				MLR	MLR			
PVCC	**Panska Ves**	**95.44**	**331**		*e*P	**P**	**21 06 40.2**	**0.0**	
PVCC	comp=Z,800nm,18.8s				AMS	AMS	21 53 40.0		
BRG	**Berggiesshubel** comp=Z,4.3nm,1.1s	**95.48**	**331**		*e*P	P	21 06 36.7	-3.6	
BRG	**Berggiesshubel**	**95.48**	**331**		*e*P	P	21 06 36.7	-3.6	
BRG	comp=Z,4.0nm,1.0s				pmax	pmax			
326A	**Caldwell Ranch** baz=95	**95.53**	**53**	⇑	P	**P**	**21 06 41.8**	**+0.7**	
CLL	**Collm**	**95.59**	**332**	⇓	*e*P	**P**	**21 06 40.0**	**-0.8**	
CLL					*e*		21 06 56.0		
CLL					*e*		21 17 09.0		
CLL	comp=Z,7.0nm,1.0s				pmax	pmax			
CLL	comp=Z,800nm,19.3s				MLR	MLR			
CLL	**Collm** comp=Z,7.0nm,1.0s	**95.59**	**332**	⇓	*i*P	**P**	**21 06 40.3**	**-0.5**	
CLL					*i*		21 06 45.7		
CLL					*es*P	**sP**	**21 06 56.0**	**-3.2**	
CLL					*e*		21 07 27.0		
CLL					*e*PP	**PP**	**21 10 31.0**	**-0.5**	
CLL					*e*SKSac	**SKSac**	**21 17 14.0**	**+0.7**	
CLL					*e*S	ScS	21 18 03.0	+7.9	
CLL					*e*SP	**SP**	**21 19 12.0**	**+0.6**	
CLL					*e*PPS	PPS	21 19 54.0		
CLL					*e*SS	**SS**	**21 24 27.0**	**+4.9**	
CLL					*e*SSS	SSS	21 28 12.0		
CLL					*e*		21 29 42.0		
CLL					*e*SSSS		21 31 30.0		
CLL	comp=Z,800nm,19.3s				LmV		21 58 00.0		
X29A	**Tulia** baz=95	**95.59**	**50**	⇓	P	**P**	**21 06 41.2**	**-0.1**	
426A	**McDonald Obser** baz=96,SNR=6.6	**95.81**	**54**	⇑	P	**P**	**21 06 42.8**	**+0.2**	
PRA	**Prague**	**95.83**	**330**		P	**P**	**21 06 43.0**	**+1.1**	
PRA					pP	**pP**	**21 06 53.0**	**-2.3**	
PRA					AMS	AMS	21 54 00.0		
PRU	**Pruhonice**	**95.83**	**330**		*e*P	P	21 06 53.2	+11	
PRU					*e*		21 07 06.3		
PRU					*e*		21 17 12.7		
PRU					*e*SS	SS	21 24 25.0	-0.7	
PRU	comp=Z,800nm,19.4s				MLR	MLR			
PRU	**Pruhonice**	**95.83**	**330**		*e*pP	**pP**	**21 06 53.2**	**-2.2**	
PRU					*es*P	sP	21 06 58.8	-1.5	
PRU					*ex*	x	21 07 06.3		
PRU					*e*SKS	**SKSac**	**21 17 12.7**	**-2.0**	
PRU					*e*SS	**SS**	**21 24 25.0**	**-0.7**	
PRU	comp=Z,800nm,19.4s				AMS	AMS	21 53 50.0		
TREC	**Trest**	**95.88**	**329**		*e*P	**P**	**21 06 41.9**	**-0.3**	
TREC					*e*		21 17 13.6		
TREC	comp=Z,1μm,22.3s				MLR	MLR			
TREC	**Trest**	**95.88**	**329**		*e*P	**P**	**21 06 41.9**	**-0.3**	
TREC					*e*SKS	**SKSac**	**21 17 13.6**	**-1.4**	
TREC	comp=Z,1μm,22.3s				AMS	AMS	21 50 30.0		
128A	**Castleberry Fa** baz=96	**95.97**	**51**	⇑	P	**P**	**21 06 43.8**	**+0.7**	
526A	**Mary Lane Ranc** baz=96,SNR=5.9	**96.06**	**54**	⇓	P	**P**	**21 06 44.0**	**+0.3**	
VTS	**Vitosha**	**96.12**	**321**	⇑	P	**P**	**21 06 43.2**	**-0.4**	
VTS	**Vitosha**	**96.12**	**321**	⇑	*i*P	**P**	**21 06 43.2**	**-0.4**	
228A	**UT Block 9, Go** baz=96	**96.15**	**52**	⇓	P	**P**	**21 06 44.5**	**+0.6**	
X30A	**Coker Ranch, T** baz=96	**96.18**	**49**	⇑	P	**P**	**21 06 44.6**	**+0.7**	
427A	**Hayter Ranch,** baz=96	**96.19**	**53**	⇑	P	**P**	**21 06 44.7**	**+0.5**	
Z29A	**Hungry Hill Ra** baz=96	**96.20**	**51**	⇓	P	**P**	**21 06 44.6**	**+0.5**	
626A	**Big Bend Ranch** baz=96	**96.28**	**55**	⇓	P	**P**	**21 06 44.9**	**+0.4**	
328A	**Wristen Ranch,** baz=96	**96.36**	**53**	⇓	P	**P**	**21 06 45.3**	**+0.5**	
PKSM	**Moragy**	**96.38**	**326**	⇑	P	P	21 06 40.4	-4.1	
PKSM	**Moragy**	**96.38**	**326**	⇑	*i*P	P	21 06 40.4	-4.1	
527A	**Woodward Ranch** baz=96	**96.38**	**54**	⇑	P	**P**	**21 06 45.4**	**+0.3**	
W31A	**Holland Ranch,** baz=96	**96.43**	**48**	⇑	P	**P**	**21 06 45.6**	**+0.5**	
Y30A	**Stafford Cattl** baz=96	**96.46**	**50**	⇓	P	**P**	**21 06 45.6**	**+0.4**	
Z30A	**Sanderson Ranc** baz=96	**96.60**	**50**	⇓	P	**P**	**21 06 46.3**	**+0.4**	
CONA	**Conrad Observa** comp=Z,3.1nm,0.8s	**96.64**	**328**	⇓	*i*PcP	**P**	**21 06 45.4**	**-0.3**	
X31A	**McDonald Ranch** baz=96	**96.70**	**49**	⇑	P	**P**	**21 06 46.8**	**+0.5**	
TXAR	**Lajitas Array**	**96.74**	**55**		P	**P**	**21 06 47.2**	**+0.6**	
TXAR					PKKPbc	**PKKPdf**	**21 23 30.3**	**+0.4**	
TXAR	**Lajitas Array** comp=Z,1.3nm,0.6s,baz=308,slow=3.0,SNR=16	**96.74**	**55**		P	**P**	**21 06 47.2**	**+0.6**	
TXAR	comp=Z,0.7nm,0.7s,baz=121,slow=4.8,SNR=6.2				PKKPbc	**PKKPdf**	**21 23 30.3**	**+0.4**	
TXAR	comp=Z,363nm,19.9s,baz=0.0,slow=31				LR	LR	21 43 38.4		
428A	**Kincaid Ranch,** baz=97	**96.78**	**53**	⇑	P	**P**	**21 06 47.5**	**+0.7**	
Y31A	**Rekieta Farm,** baz=97	**96.86**	**49**	⇓	P	**P**	**21 06 47.9**	**+0.8**	
KHC	**Kasperske Hory**	**96.88**	**330**		*e*P	**P**	**21 06 44.8**	**-2.0**	
KHC					*e*		21 10 42.7		
KHC	comp=Z,1μm,17.1s				MLR	MLR			
KHC	**Kasperske Hory**	**96.88**	**330**		*e*P	**P**	**21 06 44.8**	**-2.0**	
KHC					*e*PP	**PP**	**21 10 42.7**	**+1.0**	
KHC	comp=Z,1μm,17.1s				AMS	AMS	21 55 20.0		
627A	**Terlingua Ranc** baz=97	**96.89**	**55**	⇓	P	**P**	**21 06 48.1**	**+0.7**	
329A	**Wagon Wheel Ra** baz=97	**96.92**	**52**	⇑	P	**P**	**21 06 47.9**	**+0.5**	
528A	**Cox Ranch, San** baz=97	**96.99**	**54**	⇑	P	**P**	**21 06 48.4**	**+0.6**	
GERES	**GERESS Array B**	**97.03**	**330**		P	**P**	**21 06 46.5**	**-1.1**	
GERES					PP	**PP**	**21 10 45.2**	**+2.3**	
GERES					PKKPbc	**PKKPbc**	**21 23 28.6**	**-0.3**	
GERES	**GERESS Array B** comp=Z,1.3nm,0.7s,baz=46,slow=5.8,SNR=13	**97.03**	**330**		P	**P**	**21 06 46.5**	**-1.1**	
GERES	comp=Z,1.2nm,1.0s,baz=31,slow=8.6,SNR=3.8				PP	**PP**	**21 10 45.2**	**+2.3**	
GERES	comp=Z,0.2nm,0.5s,baz=210,slow=7.5,SNR=4.0				PKKPbc	**PKKPbc**	**21 23 28.6**	**-0.3**	
GERES	comp=Z,958nm,18.8s,baz=52,slow=39				LR	LR	21 55 44.0		
130A	**Snyder** baz=97	**97.08**	**51**	⇓	P	Pdif	21 06 48.4	+0.2	
Y32A	**R-V Farms, Ver** baz=97	**97.42**	**49**	⇑	P	Pdif	21 06 50.1	+0.5	
429A	**Davenport Ranc** baz=97	**97.42**	**53**	⇑	P	Pdif	21 06 50.1	+0.4	
529A	**Stev Forest Ra** baz=97	**97.43**	**53**	⇑	P	Pdif	21 06 50.1	+0.3	
330A	**Mertzon** baz=97	**97.55**	**52**	⇑	P	Pdif	21 06 50.6	+0.3	
Z32A	**Haskell** baz=98	**97.76**	**50**	⇓	P	Pdif	21 06 51.5	+0.3	
430A	**Baggett Ranch,** baz=98	**97.82**	**52**	⇑	P	Pdif	21 06 51.7	+0.2	
SOKA	**Soboth** comp=Z,2.7nm,1.0s	**97.91**	**328**	⇑	*i*P	**P**	**21 06 50.5**	**-1.0**	
ABTX	**Abilene, Hawle** baz=98	**98.01**	**50**	⇑	P	Pdif	21 06 52.4	+0.1	
530A	**J-C Ranch, Com** baz=98	**98.08**	**53**	⇓	P	Pdif	21 06 53.0	+0.3	
232A	**Coleman** baz=98	**98.40**	**51**	⇑	P	Pdif	21 06 54.3	+0.2	
332A	**Millersview** baz=98	**98.60**	**51**	⇑	P	Pdif	21 06 55.2	+0.3	
531A	**Rocksprings** baz=98	**98.65**	**53**	⇓	P	Pdif	21 06 55.5	+0.3	
SCHQ	**Schefferville** comp=Z,665nm,21.9s,baz=317,slow=35	**98.85**	**18**		LR	LR	21 51 35.7		
JCT	**Junction City**	**99.04**	**52**		*e*P	**Pdif**	**21 06 57.5**	**+0.6**	
JCT	comp=Z,6.0nm,0.9s				pmax	pmax			
JCT	**Junction City** comp=Z,5.9nm,0.9s	**99.04**	**52**		*e*P	**Pdif**	**21 06 57.5**	**+0.6**	
JCT	**Junction City** baz=99	**99.04**	**52**	⇑	P	**Pdif**	**21 06 57.3**	**+0.4**	
ABTA	**Abfaltersbach** baz=99	**99.09**	**329**	⇑	*i*Pdiff	**Pdif**	**21 06 54.8**	**-2.0**	
532A	**Rocksprings** baz=99	**99.15**	**52**	⇑	P	**Pdif**	**21 06 57.6**	**+0.2**	
VNDA	**Vanda**	**99.83**	**176**		P	**Pdif**	**21 06 59.5**	**+0.4**	
VNDA					PP	**PP**	**21 11 02.8**	**-1.6**	
VNDA	**Vanda** comp=Z,1.3nm,0.8s,baz=296,slow=6.1,SNR=6.0	**99.83**	**176**		P	**Pdif**	**21 06 59.5**	**+0.4**	
VNDA	comp=Z,0.9nm,0.8s,baz=334,slow=8.2,SNR=3.5				PP	**PP**	**21 11 02.8**	**-1.6**	
VNDA	comp=Z,306nm,20.5s,baz=341,slow=34				LR	LR	21 50 32.8		
CDF	**Champ du Feu** comp=Z,4.8nm,0.7s	**100.22**	**333**		*e*P	**Pdif**	**21 07 00.8**	**-1.0**	
DAVOX	**Davos/Dischmat**	**100.30**	**330**		PP	PP	21 11 08.9	+0.9	
DAVOX	**Davos/Dischmat** comp=Z,1.1nm,0.5s,baz=124,slow=22,SNR=3.5	**100.30**	**330**		PP	PP	21 11 08.9	+0.9	
ESDC	**Sonseca Array**	**112.01**	**334**		PP	PP	21 12 35.1	+1.1	
ESDC					PKKPbc	**PKKPbc**	**21 22 45.1**	**+1.5**	
ESDC	**Sonseca Array** comp=Z,0.3nm,0.3s,baz=20,slow=8.7,SNR=4.3	**112.01**	**334**		PP	PP	21 12 35.1	+1.1	
ESDC	comp=Z,0.2nm,0.3s,baz=211,slow=6.5,SNR=4.5				PKKPbc	**PKKPbc**	**21 22 45.1**	**+1.5**	
MDT	**Midelt**	**118.10**	**331**		PKP	**PKPdf**	**21 12 03.7**	**+0.7**	
MDT					PKKPbc	**PKKPab**	**21 22 26.8**	**-0.8**	
MDT	**Midelt** comp=Z,3.1nm,0.9s,baz=97,slow=6.1,SNR=4.9	**118.10**	**331**		PKP	**PKPdf**	**21 12 03.7**	**+0.7**	
MDT	comp=Z,2.2nm,0.8s,baz=178,slow=8.8,SNR=5.5				PKKPbc	**PKKPab**	**21 22 26.8**	**-0.8**	
LSZ	**Lusaka**	**119.81**	**265**		*e*PKPdf	**PKPdf**	**21 12 06.6**	**0.0**	
TAM	**Tamanrasset**	**120.29**	**316**		*e*PKIKP	**PKPdf**	**21 12 08.1**	**+0.6**	
TAM	**Tamanrasset**	**120.29**	**316**		*e*PKPdf	**PKPdf**	**21 12 08.1**	**+0.6**	
LBTB	**Lobatse**	**124.47**	**254**		*e*P	**PKPdf**	**21 12 15.2**	**-0.1**	
BOSA	**Boshof**	**125.34**	**250**		PKP	**PKPdf**	**21 12 17.2**	**+0.3**	
BOSA	**Boshof** comp=Z,2.7nm,0.8s,baz=77,slow=3.5,SNR=6.7	**125.34**	**250**		PKP	**PKPdf**	**21 12 17.2**	**+0.3**	
SNAA	**Sanae**	**126.95**	**192**		*e*PKP	**PKPdf**	**21 12 18.2**	**-0.4**	
SNAA	**Sanae**	**126.95**	**192**		*es*PKP	sPKPdf	**21 12 37.5**	**+0.2**	
SNAA	**Sanae**	**126.95**	**192**		*e*PKPdf	**PKPdf**	**21 12 17.9**	**-0.7**	
SNAA					*e*PP	**PP**	**21 14 12.5**	**-4.4**	
TOA0	**Torodi Ar. Sit**	**129.62**	**310**		*e*PKPdf	**PKPdf**	**21 12 25.2**	**-0.1**	
TORD	**Torodi Ar. Bea**	**129.62**	**310**		PKP	**PKPdf**	**21 12 25.0**	**-0.3**	
TORD					PP	**PP**	**21 14 34.3**	**-0.9**	
TORD	**Torodi Ar. Bea** comp=Z,3.8nm,0.6s,baz=19,slow=1.5,SNR=46	**129.62**	**310**		PKP	**PKPdf**	**21 12 25.0**	**-0.3**	
TORD	comp=Z,2.7nm,1.0s,baz=57,slow=8.3,SNR=4.0				PP	**PP**	**21 14 34.3**	**-0.9**	
TSUM	**Tsumeb**	**130.60**	**263**		*e*PKPdf	**PKPdf**	**21 12 26.6**	**-0.6**	
ATAH	**Atahualpa**	**135.94**	**77**		PKP	**PKPdf**	**21 12 36.6**	**-1.2**	
ATAH	**Atahualpa** comp=Z,18nm,1.1s,baz=311,slow=5.8,SNR=5.8	**135.94**	**77**		PKP	**PKPdf**	**21 12 36.6**	**-1.2**	
DBIC	**Dimbokro**	**138.73**	**310**		PKP	**PKPdf**	**21 12 42.4**	**-0.1**	
DBIC	**Dimbokro** comp=Z,11nm,0.8s,baz=55,slow=3.6,SNR=8.7	**138.73**	**310**		PKP	**PKPdf**	**21 12 42.4**	**-0.1**	
LIC	**Lamto** comp=Z,13nm,0.7s	**139.16**	**310**		*e*PKIKP	**PKPdf**	**21 12 41.5**	**-1.7**	
PLCA	**Paso Flores**	**144.90**	**130**		*e*PKPdf	PKPbc	21 12 52.3	+0.3	
PLCA					PKP	**PKPdf**	**21 12 52.7**	**0.0**	
PLCA	**Paso Flores** comp=Z,116nm,0.9s,baz=230,slow=3.8,SNR=125	**144.90**	**130**		PKP	**PKPdf**	**21 12 52.7**	**0.0**	
EFI	**East Falkland**	**145.53**	**155**		*e*PKP2	**PKPdf**	**21 12 53.1**	**-0.2**	
EFI	**East Falkland**	**145.53**	**155**		*e*PKPdf	**PKPdf**	**21 12 53.1**	**-0.2**	
LCO	**Las Campanas**	**147.40**	**110**		*e*PKPdf	**PKPdf**	**21 12 58.8**	**+1.2**	
LPAZ	**La Paz**	**148.52**	**85**		PKP	**PKPdf**	**21 13 00.8**	**+0.6**	
LPAZ					PKPbc	**PKiKP**	**21 13 05.0**	**-0.4**	
LPAZ	**La Paz** comp=Z,65nm,0.8s,baz=323,slow=2.0,SNR=53	**148.52**	**85**		PKP	**PKPdf**	**21 13 00.8**	**+0.6**	
LPAZ	comp=Z,74nm,0.8s,baz=17,slow=5.2,SNR=104				PKPbc	**PKiKP**	**21 13 05.0**	**-0.4**	
LVC	**Limon Verde**	**148.95**	**98**		*e*PKPdf	**PKPdf**	**21 13 01.0**	**+0.8**	
LVC					*e*PKPbc	**PKiKP**	**21 13 05.0**	**-0.6**	
LVC					PKPbc	**PKiKP**	**21 13 05.5**	**-0.1**	
LVC	**Limon Verde** comp=Z,41nm,0.8s,baz=317,slow=1.6,SNR=6.9	**148.95**	**98**		PKP	**PKPdf**	**21 13 01.1**	**+0.8**	
LVC	comp=Z,41nm,0.8s,baz=280,slow=4.3,SNR=41				PKPbc	**PKiKP**	**21 13 05.5**	**-0.1**	
CFAA	**Coronel Fontan**	**149.20**	**115**		PKP	**PKPdf**	**21 12 59.1**	**-1.0**	
CFAA					PKPbc	**PKPbc**	**21 13 04.3**	**-0.1**	
CFAA	**Coronel Fontan** comp=Z,2.1nm,1.2s,baz=254,slow=1.8,SNR=8.8	**149.20**	**115**		PKP	**PKPdf**	**21 12 59.1**	**-1.0**	
CFAA	comp=Z,6.9nm,0.8s,baz=265,slow=3.3,SNR=69				PKPbc	**PKPbc**	**21 13 04.3**	**-0.1**	
SAML	**Samuel**	**150.24**	**68**		*e*PKPdf	**PKPdf**	**21 13 02.4**	**+0.2**	
SAML					*e*PKPbc	**PKPbc**	**21 13 07.0**	**-0.4**	
SAML					*e*PKPab	**PKPab**	**21 13 13.1**	**-0.5**	
TRQA	**Tornquist**	**152.05**	**131**		*e*PKPbc	**PKPbc**	**21 13 10.7**	**-0.3**	
SIV	**San Ignacio**	**154.94**	**81**		PKP	**PKPdf**	**21 13 09.7**	**+0.6**	
SIV					PKPbc	**PKPbc**	**21 13 17.4**	**-0.5**	
SIV					PKPab	**PKPab**	**21 13 33.7**	**+0.3**	
SIV	**San Ignacio** comp=Z,11nm,0.9s,baz=232,slow=1.7,SNR=32	**154.94**	**81**		PKP	**PKPdf**	**21 13 09.7**	**+0.6**	
SIV	comp=Z,4.3nm,0.6s,baz=197,slow=5.2,SNR=3.5				PKPbc	**PKPbc**	**21 13 17.4**	**-0.5**	
SIV	comp=Z,5.4nm,0.9s,baz=300,slow=6.5,SNR=4.5				PKPab	**PKPab**	**21 13 33.7**	**+0.3**	
BDFB	**Brasilia**	**166.42**	**64**		PKP	**PKPdf**	**21 13 21.9**	**+0.2**	
BDFB					PKPab	**PKPab**	**21 14 23.3**	**-0.2**	
BDFB	**Brasilia** comp=Z,10nm,1.0s,baz=88,slow=2.0,SNR=9.5	**166.42**	**64**		PKP	**PKPdf**	**21 13 21.9**	**+0.2**	
BDFB	comp=Z,5.1nm,0.6s,baz=271,slow=3.2,SNR=4.5				PKPab	**PKPab**	**21 14 23.3**	**-0.2**	

*IDC **09** 20:56:23.3±6.1,34˚.76N×19˚.94E,h0km,mb4.2/5, mb1 3.9/9,mb1mx3.7/29,mbtmp3.9/9,ML3.4/4, Error ellipse: s-maj=116.7km s-min=25.5km az=36.0*
*ISCJB **09** 20:56:45.9±0.6,36˚.56N±0˚.02×21˚.70E±0˚.04,h31km±3km, mb4.0/5, Error ellipse: s-maj=5.6km s-min=2.7km az=143.8*
*ATH **09** 20:56:45.7,36˚.57N×21˚.69E,h38km,MD3.4/19,ML3.3*
*CSEM **09** 20:56:46.9±0.2,36˚.59N×21˚.73E,h25km±1km,Mw3.9, Error ellipse: s-maj=3.9km s-min=1.8km az=54.0*
*THE **09** 20:56:48.8,36˚.66N×21˚.83E,h24km±1km,ML3.5/4, Error ellipse: s-maj=2.0km s-min=1.0km az=45.0*

ISC 09 20:56:46.2±1.0,36˚.59N±0˚.03×21˚.73E±0˚.03,h31km±7km, n135,σ1s51/213,mb4.0/5,1C,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.30**	**2**	P	**Pb**	**20 56 53.9**	**+0.1**
PYL				S	**Sb**	**20 56 59.4**	**+0.4**
PYL	**PYLOS**	**0.30**	**2**	*e*PB	**Pb**	**20 56 54.0**	**+0.1**
PYL				*e*SB	**Sn**	**20 57 00.9**	**+1.0**
PYL	**PYLOS**	**0.30**	**2**	*e*Pb	**Pb**	**20 56 54.0**	**+0.1**
PYL				S	**Sb**	**20 56 59.4**	**+0.4**
PYL				*e*Sb	**Sn**	**20 57 00.9**	**+1.0**
DYR	**Agios Nikonas**	**0.52**	**71**	P	**Pb**	**20 56 57.8**	**+0.8**
DYR				S	**Sb**	**20 57 03.3**	**-1.1**
DYR	**Agios Nikonas**	**0.52**	**71**	*e*PN	**Pb**	**20 56 57.7**	**+0.8**
DYR				*e*SN	**Sn**	**20 57 06.6**	**+1.4**
DYR	**Agios Nikonas**	**0.52**	**71**	*e*Pn	**Pb**	**20 56 57.7**	**+0.8**
DYR				S	**Sb**	**20 57 03.3**	**-1.1**
DYR				*e*Sn	**Sn**	**20 57 06.6**	**+1.4**
ITM	**Ithomi**	**0.61**	**15**	P	**Pb**	**20 56 59.1**	**+0.6**
ITM				S	**Sb**	**20 57 07.7**	**+0.8**
ITM	**Ithomi**	**0.61**	**15**	*e*PN	**Pb**	**20 56 58.9**	**+0.4**
ITM				*e*SN	**Sn**	**20 57 08.7**	**+1.3**
ITM	**Ithomi**	**0.61**	**15**	P	**Pb**	**20 56 59.1**	**+0.6**
ITM					S	**Sb**	**20 57 07.7**	**+0.8**
ITM					*e*Sn	**Sn**	**20 57 08.7**	**+1.3**
VLX	**Vlachokerasia**	**0.94**	**34**		P	**Pb**	**20 57 04.7**	**+0.7**
VLX					S	**Sb**	**20 57 15.6**	**-0.5**
VLX	**Vlachokerasia**	**0.94**	**34**		*e*PN	**Pn**	**20 57 04.5**	**+1.2**
VLX					*e*SN	**Sn**	**20 57 18.0**	**+2.4**
VLX	**Vlachokerasia**	**0.94**	**34**		*e*Pn	**Pn**	**20 57 04.5**	**+1.2**
VLX					S	**Sb**	**20 57 15.6**	**-0.5**
VLX					*e*Sn	**Sn**	**20 57 18.0**	**+2.4**
AMT	**Artemida-Makis**	**0.94**	**359**		P	**Pn**	**20 57 04.3**	**+1.0**
AMT					S	**Sb**	**20 57 16.9**	**+0.8**
AMT	**Artemida-Makis**	**0.94**	**359**		*e*PN	**Pn**	**20 57 04.2**	**+1.0**
AMT					*e*SN	**Sn**	**20 57 17.8**	**+2.2**
AMT	**Artemida-Makis**	**0.94**	**359**		P	**Pn**	**20 57 04.3**	**+1.0**
AMT					S	**Sb**	**20 57 16.9**	**+0.8**
AMT					*e*Sn	**Sn**	**20 57 17.8**	**+2.2**
VLI	**Veliai**	**0.98**	**82**		P	**Pb**	**20 57 05.5**	**+0.8**
VLI	**Veliai**	**0.98**	**82**		*e*PN	**Pn**	**20 57 05.1**	**+1.3**
VLI					*e*SN	**Sn**	**20 57 19.3**	**+2.7**
VLI	**Veliai**	**0.98**	**82**		*e*Pn	**Pn**	**20 57 05.1**	**+1.3**
VLI	**Veliai**	**0.98**	**82**		P	**Pb**	**20 57 05.5**	**+0.8**
VLI					*e*Sn	**Sn**	**20 57 19.3**	**+2.7**
KYTH	**Kithira**	**1.10**	**106**		P	**Pb**	**20 57 07.2**	**+0.5**
KYTH	**Kithira**	**1.10**	**106**		*e*PN	**Pn**	**20 57 07.0**	**+1.5**
KYTH	**Kithira**	**1.10**	**106**		*e*Pn	**Pn**	**20 57 07.0**	**+1.5**
GUR	**Goura**	**1.43**	**20**		P	**Pn**	**20 57 12.0**	**+1.9**
GUR	**Goura**	**1.43**	**20**		*e*PN	**Pn**	**20 57 11.8**	**+1.7**
GUR	**Goura**	**1.43**	**20**		*e*Pn	**Pn**	**20 57 11.8**	**+1.7**
ANKY	**Antikythira Is**	**1.46**	**119**		P	**Pn**	**20 57 12.3**	**+1.8**
ANKY	**Antikythira Is**	**1.46**	**119**		*e*PN	**Pn**	**20 57 12.2**	**+1.8**
ANKY	**Antikythira Is**	**1.46**	**119**		*e*Pn	**Pn**	**20 57 12.2**	**+1.8**
RLS	**Riolos of Patr**	**1.48**	**352**		P	**Pn**	**20 57 12.1**	**+1.5**
RLS					S	**Sn**	**20 57 30.4**	**+1.6**
RLS	**Riolos of Patr**	**1.48**	**352**		*e*PN	**Pn**	**20 57 12.2**	**+1.6**
RLS	**Riolos of Patr**	**1.48**	**352**		P	**Pn**	**20 57 12.1**	**+1.5**
RLS					S	**Sn**	**20 57 30.4**	**+1.6**
KLV	**Kalavryta, Ach**	**1.49**	**13**		*e*PB	**Pn**	**20 57 12.4**	**+1.6**
KLV					*e*SN	**Sn**	**20 57 31.0**	**+1.8**
KLV	**Kalavryta, Ach**	**1.49**	**13**		*e*Pb	**Pn**	**20 57 12.4**	**+1.6**
KLV					*e*Sn	**Sn**	**20 57 31.0**	**+1.8**
DID	**Didima**	**1.51**	**52**		P	**Pn**	**20 57 12.5**	**+1.4**
DID	**Didima**	**1.51**	**52**		*e*PN	**Pn**	**20 57 12.2**	**+1.1**
DID					*e*SN	**Sb**	**20 57 32.5**	**0.0**
DID	**Didima**	**1.51**	**52**		*e*Pn	**Pn**	**20 57 12.2**	**+1.1**
DID	**Didima**	**1.51**	**52**		P	**Pn**	**20 57 12.5**	**+1.4**
DID					*e*Sn	**Sb**	**20 57 32.5**	**0.0**
THAL	**Thalero**	**1.62**	**27**		P	**Pn**	**20 57 14.0**	**+1.4**
THAL	**Thalero**	**1.62**	**27**		P	**Pn**	**20 57 14.0**	**+1.4**
AXS	**Araxos**	**1.62**	**350**		P	**Pn**	**20 57 14.7**	**+2.1**
AXS	**Araxos**	**1.62**	**350**		P	**Pn**	**20 57 14.7**	**+2.1**
LAKA	**Lakka**	**1.66**	**7**		P	**Pn**	**20 57 15.5**	**+2.4**
LAKA	**Lakka**	**1.66**	**7**		*e*PN	**Pn**	**20 57 14.3**	**+1.2**
LAKA					*e*SN	**Sn**	**20 57 35.5**	**+2.2**
LAKA	**Lakka**	**1.66**	**7**		*e*Pn	**Pn**	**20 57 14.3**	**+1.2**
LAKA	**Lakka**	**1.66**	**7**		P	**Pn**	**20 57 15.5**	**+2.4**
LAKA					*e*Sn	**Sn**	**20 57 35.5**	**+2.2**
KFL	**Anninata**	**1.69**	**334**		P	**Pn**	**20 57 15.8**	**+2.3**
KFL	**Anninata**	**1.69**	**334**		P	**Pn**	**20 57 15.8**	**+2.3**
PSA1	**Psathopyrgos**	**1.73**	**4**		*e*PB	**Pn**	**20 57 16.1**	**+2.0**
PSA1					*e*SN	**Sn**	**20 57 37.8**	**+2.6**
LTK	**Loutraki**	**1.74**	**34**		P	**Pn**	**20 57 15.5**	**+1.3**
LTK	**Loutraki**	**1.74**	**34**		*e*PN	**Pn**	**20 57 15.4**	**+1.3**
LTK					*e*SN	**Sn**	**20 57 37.6**	**+2.3**
LTK	**Loutraki**	**1.74**	**34**		P	**Pn**	**20 57 15.5**	**+1.3**
LTK					*e*Sn	**Sn**	**20 57 37.6**	**+2.3**
TRIZ	**Trizonia**	**1.79**	**9**		*e*PN	**Pn**	**20 57 16.2**	**+1.3**
TRIZ					*e*SN	**Sn**	**20 57 38.2**	**+1.6**
TRIZ	**Trizonia**	**1.79**	**9**		*e*

LIT					*e*SN		**Sn**	**20 58 21.4**	**+1.3**	
LIT	**Litokhoron**	**3.55**	**9**	P			**Pn**	**20 57 40.9**	**+1.7**	
LIT					*e*Sn		**Sn**	**20 58 21.4**	**+1.3**	
KZN	**Kozani**	**3.71**	**1**	*e*PN			**Pn**	**20 57 43.4**	**+2.0**	
KZN					*e*SN		**Sn**	**20 58 25.5**	**+1.5**	
KZN	**Kozani**	**3.71**	**1**	*e*Pn			**Pn**	**20 57 43.4**	**+2.0**	
KZN					*e*Sn		**Sn**	**20 58 25.5**	**+1.5**	
ZKR	**Zakros**	**3.93**	**111**	*e*PN			**Pn**	**20 57 46.7**	**+2.3**	
ZKR					*e*SN		**Sn**	**20 58 31.0**	**+1.5**	
ZKR	**Zakros**	**3.93**	**111**	*e*Pn			**Pn**	**20 57 46.7**	**+2.3**	
ZKR					*e*Sn		**Sn**	**20 58 31.0**	**+1.5**	
PLG	**Polygyros**	**4.01**	**19**	*e*PN			**Pn**	**20 57 46.5**	**+1.0**	
PLG					*e*SN		**Sn**	**20 58 32.4**	**+1.0**	
PLG	**Polygyros**	**4.01**	**19**	*e*Pn			**Pn**	**20 57 46.5**	**+1.0**	
PLG					*e*Sn		**Sn**	**20 58 32.4**	**+1.0**	
FNA	**Florina**	**4.19**	**356**	*e*PN			**Pn**	**20 57 48.7**	**+0.7**	
FNA					*e*SN		**Sn**	**20 58 36.4**	**+0.4**	
FNA	**Florina**	**4.19**	**356**	*e*Pn			**Pn**	**20 57 48.7**	**+0.7**	
FNA					*e*Sn		**Sn**	**20 58 36.4**	**+0.4**	
KARP	**Karpathos**	**4.52**	**102**	*e*PN			**Pn**	**20 57 54.3**	**+1.8**	
KARP					*e*SN		**Sn**	**20 58 45.3**	**+1.2**	
KARP	**Karpathos**	**4.52**	**102**	*e*Pn			**Pn**	**20 57 54.3**	**+1.8**	
KARP					*e*Sn		**Sn**	**20 58 45.3**	**+1.2**	
LTBQ	**Tobruq** SNR=48	**4.88**	**158**	*i* P			**Pn**	**20 57 56.9**	**-0.5**	
NVR	**Nevrokopi**	**5.03**	**19**	*e*PN			**Pn**	**20 58 00.8**	**+1.3**	
NVR	**Nevrokopi**	**5.03**	**19**	*e*Pn			**Pn**	**20 58 00.8**	**+1.3**	
ARG	**Arkhangelos**	**5.17**	**92**	*e*PN			**Pn**	**20 58 03.5**	**+2.1**	
ARG					*e*SN		**Sn**	**20 59 01.0**	**+0.9**	
ARG	**Arkhangelos**	**5.17**	**92**	*e*Pn			**Pn**	**20 58 03.5**	**+2.1**	
ARG					*e*Sn		**Sn**	**20 59 01.0**	**+0.9**	
BARS	**Barje**	**6.22**	**1**	⇑*i*Pn			**Sn**	**20 58 15.6**	**-0.2**	
BRTR	**Keskin Array B** 0.1nm,0.3s,baz=259,slow=14,SNR=2.5	**9.89**	**68**	Pn			Pn	20 59 16.8	+11	
MMAI	**Mount Meron Ar** 0.9nm,0.3s,baz=279,slow=11,SNR=5.9	**11.79**	**104**	Pn			**Pn**	**20 59 30.9**	**-1.4**	
MMAI					Sn		Sn	21 01 34.2	-8.7	
EIL	**Elat** 0.1nm,0.3s,baz=162,slow=6.4,SNR=1.9	**13.05**	**118**	Pn			Pn	20 59 40.7	-8.7	
EIL					Sn		Sn	21 01 59.9	-14	
GERES	**GERESS Array B** 0.7nm,0.3s,baz=18,slow=18,SNR=7.9	**13.58**	**337**	Pn			**Pn**	**20 59 56.5**	**-0.1**	
HFS	**Hagfors** 4.1nm,0.9s,baz=153,slow=10.0,SNR=10	**24.12**	**350**	P			P	21 01 55.5	-3.4	
FINES	**FINESS Array B** 1.1nm,0.5s,baz=159,slow=11,SNR=13	**25.02**	**5**	P			**P**	**21 02 06.0**	**-1.0**	
ARCES	**ARCESS Array B** 1.3nm,0.8s,baz=198,slow=7.6,SNR=7.1	**33.06**	**2**	P			P	21 03 16.9	-1.7	
MKAR	**Makanchi Array** 1.8nm,0.6s,baz=263,slow=6.5,SNR=3.1	**45.33**	**57**	P			**P**	**21 04 59.7**	**-1.5**	
ZALV	**Zalesovo Beam** 2.0nm,0.3s,baz=273,slow=8.7,SNR=4.5	**46.05**	**47**	P			P	21 05 05.0	-1.7	

BJI 09 20:56:51.6, 25.52N × 101.09E, h11km, ML3.5/9, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.54**	**104**	Pg	Pb	20 57 20.7	+0.1
KMI				Sg	Sb	20 57 40.8	+0.4
KMI	comp=N,680nm,0.8s			smax	smax		
KMI	comp=E,620nm,0.9s			smax	smax		
CD2	**Chengdu**	**5.86**	**23**	Pn	Pn	20 58 22.6	+4.1
CD2				Sn	Sn	20 59 33.7	+7.9
CD2	comp=N,60nm,1.2s			smax	smax		
CD2	comp=E,60nm,0.9s			smax	smax		

ZUR 09 21:00:02.4, 46.46N × 8.78E, h6km ± 4km, ML0.6/1, 1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUSIO	**Fusio** 27nm,0.3s	**0.08**	**266**	⇓*i* Pg	Pg	21 00 04.6	+0.1

IDC 09 21:25:53.4 ± 6.8, 21.92N × 144.48E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/26, mbtmp3.5/4, Error ellipse: s-maj=231.7km s-min=29.7km az=77.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=16,slow=8.6,SNR=4.8	**42.77**	**194**	P	P	21 33 53.0	+0.1
FITZ	**Fitzroy Crossi** 0.7nm,0.5s,baz=27,slow=18,SNR=2.8	**43.84**	**206**	P	P	21 34 01.2	-0.3
ASAR	**Alice Springs** 0.3nm,0.6s,baz=13,slow=7.8,SNR=4.7	**46.47**	**193**	P	P	21 34 22.1	-0.3
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=85,slow=9.6,SNR=3.6	**55.43**	**312**	P	P	21 35 29.7	-0.1

IDC 09 21:26:19.5 ± 5.3, 4.95S × 148.31E, h156km ± 55km, mb3.1/4, mb1 3.4/5, mb1mx3.1/18, mbtmp3.1/5, Error ellipse: s-maj=98.3km s-min=27.4km az=134.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.3nm,0.3s,baz=45,slow=10.0,SNR=3.6	**4.57**	**194**	P	Pn	21 27 27.9	+0.4
PMG	7.5nm,0.3s,baz=165,slow=23,SNR=15			S	Sn	21 28 12.4	-8.0
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=47,slow=10,SNR=5.2	**20.18**	**221**	P	P	21 30 40.4	-1.7
ASAR	**Alice Springs** 0.8nm,0.5s,baz=56,slow=8.8,SNR=14	**23.22**	**215**	P	P	21 31 14.1	+1.1
FITZ	**Fitzroy Crossi** 1.9nm,0.9s,baz=49,slow=14,SNR=6.4	**25.73**	**238**	P	P	21 31 35.3	-0.3
ILAR	**Eielson Array** 0.4nm,0.6s,baz=238,slow=5.2,SNR=3.7	**84.01**	**23**	P	P	21 38 32.1	0.0

*IDC **09** 21:38:45.5 ± 1.9, 2.24S × 128.35E, h0km, mb3.4/2, mb1 4.0/4, mb1mx3.6/20, mbtmp3.7/4, ML3.7/2, Error ellipse: s-maj=110.1km s-min=24.1km az=70.0*

ISC 09 21:38:50.6 ± 1.5, 2.6S ± 0.1 × 127.7E ± 0.2, h29km, n8, σ0.59/6, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe** baz=5.4,SNR=3.4	**7.85**	**205**	P	**Sn**	**21 42 11.3**	**+0.2**
KDU	**Kakadu** baz=3.3,SNR=5.3	**11.07**	**155**	P	Pn	21 41 43.2	+16
KNRA	**Kununurra** baz=4.8,SNR=3.2	**13.01**	**175**	P	**P**	**21 42 03.3**	**-0.5**
JAY	**Jayapura** baz=14,SNR=3.3	**13.02**	**90**	P	Sn	21 43 52.7	-25
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=0.0,slow=12,SNR=2.7	**15.51**	**187**	Pn	**P**	**21 42 31.1**	**-0.5**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=341,slow=11,SNR=27	**18.40**	**160**	P	**Pn**	**21 43 04.5**	**+0.7**
ASAR	**Alice Springs** 0.9nm,0.5s,baz=342,slow=12,SNR=21	**21.77**	**164**	P	**P**	**21 43 40.0**	**-0.2**
MKAR	**Makanchi Array** 0.3nm,0.8s,baz=123,slow=7.4,SNR=3.2	**63.32**	**327**	P	**P**	**21 49 17.1**	**+0.1**

*TEH **09** 21:49:07.3, 35.87N × 72.77E, h179km, ML4.5*
*ISCJB **09** 21:49:12.6 ± 0.3, 36.63N ± 0.02 × 71.56E ± 0.03, h151km ± 3km, mb4.3/98, Error ellipse: s-maj=3.6km s-min=2.9km az=147.6*
*IDC **09** 21:49:12.8 ± 2.5, 36.57N × 71.60E, h147km ± 23km, mb3.9/21, mb1 4.1/26, mb1mx4.0/32, mbtmp3.9/26, Error ellipse: s-maj=15.3km s-min=10.4km az=9.0*
*NEIC **09** 21:49:13.3 ± 0.8, 36.60N × 71.59E, h150km ± 7km, mb4.5/13, Error ellipse: s-maj=8.5km s-min=6.4km az=144.0*
*BJI **09** 21:49:13.6, 36.86N × 71.35E, h148km, mB4.6/5, mb4.3/7*
*MOS **09** 21:49:13.0 ± 0.9, 36.63N × 71.63E, h155km, mb4.5/23, Error ellipse: s-maj=7.2km s-min=4.2km az=102.6*
*NNC **09** 21:49:21.8 ± 4.0, 37.30N × 71.55E, h181km ± 36km, mb3.9, mpv4.9, Error ellipse: s-maj=34.3km s-min=23.0km az=16.0*
ISC 09 21:49:14.2 ± 0.4, 36.63N ± 0.04 × 71.53E ± 0.03, h155km ± 3km, h155km: pP-P, n322, σ1.9 31/345, mb4.4/98, 72C-22D,

Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.81**	**174**	⇑P	**Pn**	**21 50 00.8**	**+1.2**
CEP				S	**Sn**	**21 50 32.0**	**-2.7**
KBL	**Kabul**	**2.91**	**225**	*e*PN	**Pn**	**21 50 00.7**	**-0.1**
KBL	**Kabul**	**2.91**	**225**	*e*Pn	**Pn**	**21 50 00.7**	**-0.1**
KBL				*e*Sn	**Sn**	**21 50 35.6**	**-1.2**
CHCP	**Chirah Chowk**	**3.28**	**154**	P	**Pn**	**21 50 07.4**	**+2.0**
THW	**Thamme Wali**	**3.83**	**177**	⇑P	**Pn**	**21 50 13.1**	**+0.7**
KSH	**Kashi**	**4.54**	**49**	P	Pn	21 50 18.0	-3.7
KSH				S	Sn	21 51 04.4	-10
KSH	comp=N,2μm,0.4s			smax	smax		
KSH	comp=E,1μm,0.6s			smax	smax		
JMU	**Jammu**	**4.79**	**144**	*e*P	**Pn**	**21 50 26.0**	**+1.1**
JMU				*e*S	**Sn**	**21 51 19.0**	**-1.0**
SARP	**Sargodha**	**4.79**	**168**	P	**Pn**	**21 50 25.0**	**+0.1**
THN	**Thein Dam**	**5.42**	**139**	*e*P	Pn	21 50 31.1	-2.2
THN				*e*S	**Sn**	**21 51 33.1**	**-2.0**
DLH	**Dalhousie**	**5.47**	**137**	*e*P	**Pn**	**21 50 34.0**	**-0.2**
DLH				*e*S	**Sn**	**21 51 35.0**	**-1.7**
AML	**Almayashu**	**5.75**	**16**	*i* PN	**Pn**	**21 50 37.4**	**-0.5**
AML	**Almayashu** SNR=419	**5.75**	**16**	P	**Pn**	**21 50 37.4**	**-0.5**
DHRM	**DHARAMSHALA**	**5.88**	**137**	*e*P	**Pn**	**21 50 40.7**	**+1.1**
DHRM				*e*S	**Sn**	**21 51 44.1**	**-2.3**
DHRM	comp=N,1μm,0.2s			AML	AML	21 51 49.0	
DHRM	comp=E,3μm,0.3s			AML	AML	21 51 49.7	
PONG	**Pong**	**5.92**	**141**	*e*P	**Pn**	**21 50 40.0**	**+0.1**
UCH	**Uchtor**	**6.05**	**21**	*i* PN	**Pn**	**21 50 41.7**	**-0.3**
UCH	**Uchtor** SNR=15	**6.05**	**21**	P	**Pn**	**21 50 41.7**	**-0.3**
KZA	**Kyzart**	**6.16**	**27**	*i* PN	**Pn**	**21 50 42.5**	**-0.9**
KZA	**Kyzart** SNR=36	**6.16**	**27**	P	**Pn**	**21 50 42.5**	**-0.9**
EKS2	**Erkin-Say** SNR=76	**6.27**	**15**	P	**Pn**	**21 50 44.2**	**-0.5**
AAK	**Ala-Archa**	**6.42**	**20**	*d* PN	**Pn**	**21 50 46.3**	**-0.3**
AAK	**Ala-Archa** SNR=63	**6.42**	**20**	P	**Pn**	**21 50 46.6**	**-0.1**
AAK	**Ala-Archa**	**6.42**	**20**	*e*Pn	**Pn**	**21 50 46.4**	**-0.3**
AAK				*e*Sn	**Sn**	**21 51 55.5**	**-3.6**
AAK	**Ala-Archa** comp=E,26nm,0.3s,baz=172,slow=5.7,SNR=58	**6.42**	**20**	P	**Pn**	**21 50 46.5**	**-0.1**
AAK	comp=E,24nm,0.3s,baz=319,slow=22,SNR=18			S	**Sn**	**21 51 56.1**	**-3.0**
KK31	**Karatay Array** comp=E,56nm,0.3s,baz=175,slow=12,SNR=2991	**6.52**	**353**	⇓P	**Pn**	**21 50 46.8**	**-1.0**
KK31	comp=E,61nm,0.4s,baz=178,slow=22,SNR=10			⇓S	Sn	21 51 54.6	-6.5
KK31	**Karatay Array**	**6.52**	**353**	*ce*PN	**Pn**	**21 50 46.8**	**-1.0**
KK31	comp=Z,140nm,0.2s			pmax	pmax		
KKAR	**Karatay Array**	**6.52**	**353**	*e*PN	**Pn**	**21 50 46.8**	**-1.0**
KKAR	**Karatay Array**	**6.52**	**353**	*e*Pn	**Pn**	**21 50 46.8**	**-1.0**
KKAR				*e*Sn	Sn	21 51 54.8	-6.4
KBK	**Karagaybulak**	**6.57**	**23**	*i* PN	**Pn**	**21 50 48.7**	**0.0**
KBK	**Karagaybulak** SNR=38	**6.57**	**23**	P	**Pn**	**21 50 48.7**	**0.0**
BHK	**Bhakra**	**6.59**	**141**	*e*P	**Pn**	**21 50 48.4**	**-0.5**
BHK				*e*S	**Sn**	**21 52 01.4**	**-1.6**
ULHL	**Ulahol**	**6.69**	**32**	*i* PN	**Pn**	**21 50 49.8**	**-0.5**
ULHL	**Ulahol** SNR=31	**6.69**	**32**	P	**Pn**	**21 50 49.8**	**-0.5**
SDNR	**Sundarnagar**	**6.82**	**137**	*e*P	**Pn**	**21 50 51.5**	**-0.4**
SDNR				*e*S	**Sn**	**21 52 04.5**	**-4.0**
CHMS	**Chumysh**	**6.83**	**20**	*i* PN	**Pn**	**21 50 51.4**	**-0.6**
CHMS	**Chumysh** SNR=67	**6.83**	**20**	P	**Pn**	**21 50 51.4**	**-0.6**
USP	**Ospenovka**	**7.01**	**18**	*i* PN	**Pn**	**21 50 53.3**	**-1.1**
USP	**Ospenovka** SNR=54	**7.01**	**18**	P	**Pn**	**21 50 53.3**	**-1.1**
TKM2	**Tokmak 2** comp=Z,33nm,0.5s	**7.02**	**25**	⇓P	**Pn**	**21 50 54.0**	**-0.6**
TKM2	comp=Z,38nm,0.7s			⇓S	Sn	21 52 04.0	-10
TKM2	**Tokmak 2**	**7.02**	**25**	*i* PN	**Pn**	**21 50 54.4**	**-0.3**
TKM2	**Tokmak 2** SNR=83	**7.02**	**25**	P	**Pn**	**21 50 54.4**	**-0.3**
SMLA	**Simla**	**7.21**	**138**	*i* P	**Pn**	**21 50 57.3**	**+0.2**
SMLA				*i* S	**Sn**	**21 52 14.3**	**-3.6**
SMLA				*i* S		21 52 14.3	
SMLA	comp=N,495nm,0.7s			AML	AML	21 52 17.5	
SMLA	comp=E,547nm,0.1s			AML	AML	21 52 17.9	
KNDC	**Almaty**	**7.79**	**31**	⇑P	**Pn**	**21 51 05.2**	**+0.4**
KNDC				⇑S	**Sn**	**21 52 30.2**	**-1.6**
DDI	**Dehra Dun**	**8.32**	**137**	*e*P	**Pn**	**21 51 12.4**	**+0.5**
DDI				*ex*	x	21 52 39.7	
IMYA	**Miami**	**9.21**	**272**	*e*P	**Pn**	**21 51 21.4**	**-2.4**
ISRO	**Mashad**	**9.72**	**272**	*e*P	Pn	21 51 27.1	-3.4
IMOG	**Moghan**	**9.85**	**271**	*e*P	**Pn**	**21 51 31.2**	**-1.2**
IPAY	**Payeh**	**10.09**	**273**	*e*P	Pn	21 51 32.1	-3.4
IAKL	**Akkelmad**	**10.27**	**274**	*e*P	Pn	21 51 34.7	-3.3
AJM	**Ajmer**	**10.46**	**164**	*i* P	**Pn**	**21 51 38.0**	**-2.3**
AJM				*i* x	x	21 53 27.0	
ISFR	**Sfrayin**	**10.86**	**276**	*e*P	**Pn**	**21 51 44.1**	**-1.5**
PYUN	**Piuthan** comp=E,94nm,0.4s	**12.88**	**128**	*e*P	**Pn**	**21 52 09.8**	**-2.1**
MK31	**Makanchi Array** comp=E,4.8nm,0.6s,baz=226,slow=14,SNR=88	**12.94**	**35**	⇑P	**Pn**	**21 52 12.1**	**-0.3**
MK31	**Makanchi Array** comp=Z,2.0nm,0.2s	**12.94**	**35**	*ce*P	**Pn**	**21 52 12.0**	**-0.3**
MK31				pmax	pmax		
MK31	**Makanchi Array**	**12.94**	**35**	*e*Pn	**Pn**	**21 52 11.2**	**-1.1**
MKAR	**Makanchi Array**	**12.94**	**35**	P	**Pn**	**21 52 11.1**	**-1.2**
MKAR	comp=Z,1.0nm,0.3s			pmax	pmax		
MKAR	**Makanchi Array**	**12.94**	**35**	*e*Pn	**Pn**	**21 52 11.6**	**-0.8**
MKAR	**Makanchi Array** comp=Z,0.7nm,0.3s,baz=218,slow=14,SNR=62	**12.94**	**35**	P	**Pn**	**21 52 11.1**	**-1.2**
DANN	**Dangsing** comp=Z,113nm,0.4s	**13.21**	**125**	*e*P	**Pn**	**21 52 14.5**	**-1.7**
KOLN	**Koldanda** comp=Z,110nm,0.7s	**13.49**	**127**	*e*P	**Pn**	**21 52 18.2**	**-1.5**
WMQ	**Urmqi**	**14.27**	**55**	P	**P**	**21 52 31.4**	**-0.6**
BHPL	**Bhopal**	**14.28**	**157**	*e*P	**Pn**	**21 52 27.8**	**-1.7**
BHPL				*ex*	x	21 54 57.9	
KKN	**Kakani** comp=Z,126nm,0.6s	**14.58**	**123**	*e*P	**Pn**	**21 52 32.7**	**-0.8**
DMN	**Daman** comp=Z,122nm,0.7s	**14.59**	**124**	*e*P	**Pn**	**21 52 32.5**	**-1.0**
ISHM	**Shahmirzad**	**14.75**	**272**	*e*P	**Pn**	**21 52 36.3**	**+0.7**
PKIN	**Phulchoki** comp=Z,62nm,0.4s	**14.80**	**124**	*e*P	**Pn**	**21 52 35.7**	**-0.5**
PKI	**Pulchoki** comp=Z,116nm,0.6s	**14.81**	**124**	*e*P	**Pn**	**21 52 35.9**	**-0.5**
KURBB	**Kurchatov Arra** comp=Z,14nm,0.7s	**14.87**	**18**	⇑P	Pn	21 52 33.2	-3.4
KURBB	**Kurchatov Arra** comp=Z,0.2nm,0.3s,baz=208,slow=11,SNR=19	**14.87**	**18**	P	**Pn**	**21 52 33.7**	**-2.9**
GUN	**Gumba** comp=Z,120nm,0.8s	**14.91**	**122**	*e*P	**Pn**	**21 52 36.8**	**-0.9**
KURK	**Kurchatov**	**14.98**	**18**	P	Pn	21 52 33.7	-4.2
KURK	**Kurchatov**	**14.98**	**18**	P	Pn	21 52 33.7	-4.2
AB31	**Akbulak array** comp=Z,29nm,0.7s,baz=140,slow=12,SNR=594	**15.19**	**330**	⇑P	**Pn**	**21 52 38.3**	**-2.3**
AB31	**Akbulak array** comp=Z,14nm,0.2s	**15.19**	**330**	*ce*P	**Pn**	**21 52 38.8**	**-1.7**
AB31				pmax	pmax		
ABKAR	**Akbulak array**	**15.19**	**330**	*e*Pn	**Pn**	**21 52 38.1**	**-2.4**
ABKAR				*e*Sn	Sn	21 55 12.2	-17
IFIR	**Firoozkooh**	**15.21**	**272**	*e*P	**P**	**21 52 42.1**	**-0.5**
JBP	**Jabalpur**	**15.27**	**149**	⇑*e*P	**Pn**	**21 52 42.3**	**+0.5**
JBP				*ex*	x	21 55 22.9	
JIRN	**Jiri** comp=Z,163nm,0.4s	**15.28**	**122**	*e*P	**Pn**	**21 52 41.9**	**-0.4**
RAMN	**Ramite** comp=Z,49nm,0.4s	**16.02**	**123**	*e*P	**Pn**	**21 52 50.5**	**-0.7**
VOSK	**Vostochnaya** comp=Z,10nm,0.7s	**16.10**	**359**	⇓P	**Pn**	**21 52 49.5**	**-2.3**
IZEF	**Zefreh**	**16.21**	**262**	*e*P	**Pn**	**21 52 53.3**	**-0.2**
BVA0	**Borovoye Array** comp=Z,7.7nm,0.7s	**16.42**	**358**	⇑P	**P**	**21 52 54.3**	**-1.2**
BVA0	comp=Z,6.7nm,0.7s,baz=166,slow=23,SNR=6.0			⇑S	S	21 55 46.9	-11
BVAR	**Borovoye Array**	**16.42**	**358**	P	**P**	**21 52 53.9**	**-1.7**
BVAR	**Borovoye Array**	**16.42**	**358**	P	**P**	**21 52 53.9**	**-1.7**
BVAR	**Borovoye Array**	**16.42**	**358**	P	**P**	**21 52 53.9**	**-1.7**
ZRNK	**Zerenda** comp=Z,13nm,0.6s	**16.42**	**355**	⇓P	**P**	**21 52 54.6**	**-0.9**
ZRNK	comp=Z,13nm,0.6s			pmax	pmax		
BRVK	**Borovoye** comp=Z,20nm,1.6s	**16.45**	**357**	⇓*e*P	**P**	**21 52 55.2**	**-0.7**
BRVK				pmax	pmax		
BRVK	**Borovoye** comp=Z,10nm,0.5s	**16.45**	**357**	*e*P	**P**	**21 52 54.5**	**-1.4**
TAPN	**Taplejung** comp=Z,45nm,0.3s	**16.53**	**119**	*e*P	**P**	**21 52 57.3**	**0.0**
AKL	**Akola**	**16.57**	**162**	*e*P	**P**	**21 52 57.3**	**-0.3**
ODAN	**Odare** comp=Z,50nm,0.5s	**16.61**	**121**	*e*P	**Pn**	**21 52 58.5**	**+0.1**
NGP	**Nagpur**	**16.75**	**155**	*e*P	**P**	**21 52 59.6**	**+0.1**
AKTO	**Aktyubinsk** comp=Z,12nm,0.3s	**16.89**	**329**	⇓P	**P**	**21 53 00.2**	**-0.6**
AKTO	comp=Z,16nm,0.7s			⇓S	**S**	**21 56 04.2**	**-4.4**
AKTO	**Aktyubinsk**	**16.89**	**329**	P	**Pn**	**21 53 00.8**	**-0.5**
AKTO	**Aktyubinsk**	**16.89**	**329**	P	**Pn**	**21 53 00.8**	**-0.5**
AKTO	**Aktyubinsk** comp=Z,7.9nm,0.3s,baz=140,slow=12,SNR=68	**16.89**	**329**	P	**Pn**	**21 53 00.8**	**-0.5**
ISRV	**Sarvestan**	**17.04**	**250**	*e*P	**P**	**21 53 02.4**	**-0.6**
IGZV	**Ghazvin**	**17.14**	**276**	*e*P	**Pn**	**21 53 04.6**	**-0.1**
IPIR	**Pirpir**	**17.43**	**263**	*e*P	**P**	**21 53 07.3**	**+0.1**
IRAZ	**Razeghan**	**17.52**	**272**	*e*P	**Pn**	**21 53 09.0**	**-0.2**
BOK	**Bokaro**	**17.79**	**132**	*e*P	**P**	**21 53 11.3**	**+0.5**
BOK				*ex*	x	21 56 16.8	
LSA	**Lhasa**	**17.80**	**107**	P	**Pn**	**21 53 15.5**	**+2.6**
LSA	**Lhasa**	**17.80**	**107**	*e*P	**Pn**	**21 53 16.7**	**+3.8**
LSA	comp=Z,11nm,0.8s			pmax	pmax		
LSA	**Lhasa** comp=Z,11nm,0.8s	**17.80**	**107**	*e*Pn	**Pn**	**21 53 16.7**	**+3.8**
LATR	**Latur**	**18.67**	**165**	*e*P	**P**	**21 53 20.9**	**+0.4**
ISRB	**Sarab**	**19.04**	**281**	*e*P	**P**	**21 53 25.1**	**+0.5**
IHRS	**Heris**	**19.50**	**282**	*e*P	**P**	**21 53 30.0**	**+0.4**
ZAA0	**Zalesovo Array**	**19.62**	**24**	*e*P	**P**	**21 53 30.4**	**-0.1**
ZALV	**Zalesovo Beam**	**19.62**	**24**	P	**P**	**21 53 30.7**	**+0.2**
ZALV	**Zalesovo Beam**	**19.62**	**24**	P	**P**	**21 53 30.7**	**+0.2**
ZALV	**Zalesovo Beam** comp=Z,3.9nm,0.3s,baz=220,slow=11,SNR=85	**19.62**	**24**	P	**P**	**21 53 30.7**	**+0.2**
NVS	**Novosibirsk**	**19.91**	**20**	⇑*i*P	**P**	**21 53 33.9**	**+0.3**
NVS				*e*S	S	21 57 00.5	-8.5
NVS	comp=N,13nm,0.7s			pmax	pmax		
NVS	comp=Z,16nm,0.7s			pmax	pmax		
NVS	comp=E,9.0nm,0.8s			smax	smax		
NVS	comp=N,5.0nm,1.3s			smax	smax		
NVS	comp=E,11nm,1.3s			smax	smax		
IVIS	**Veis**	**20.17**	**271**	*e*P	**P**	**21 53 36.7**	**0.0**
SHL	**Shillong**	**20.58**	**117**	*e*P	**P**	**21 53 42.2**	**+1.0**
ISHB	**Shabestar**	**20.62**	**282**	*e*P	**P**	**21 53 42.4**	**+0.8**
DGRG	**David-gareji**	**20.85**	**291**	P	**P**	**21 53 45.0**	**+1.2**
GNI	**Garni** comp=E,13nm,0.8s	**21.26**	**288**	*e*P	**P**	**21 53 49.0**	**+0.6**
GNI	**Garni** comp=E,5.3nm,0.5s,baz=23,slow=1.4,SNR=8.0	**21.26**	**288**	P	**P**	**21 53 47.6**	**-0.8**
TBLG	**Delisi**	**21.35**	**292**	*e*P	**P**	**21 53 50.3**	**+1.2**
TBLG	**Delisi**	**21.35**	**292**	P	**P**	**21 53 50.3**	**+1.2**
DUS	**Dusheti**	**21.41**	**293**	P	**P**	**21 53 54.3**	**+4.4**
HVS	**Khovu-Aksy**	**21.46**	**41**	*c i* P	**P**	**21 53 52.5**	**+2.2**
HVS	comp=Z,32nm,0.8s			pmax	pmax		
SVE	**Sverdlovsk**	**21.49**	**344**	⇓*i* P	**P**	**21 53 50.9**	**+0.4**
SVE				*e*S	**S**	**21 57 41.0**	**+2.1**
SVE	comp=Z,21nm,0.9s			pmax	pmax		
ARU	**Arti**	**21.66**	**340**	*d i* P	**P**	**21 53 52.3**	**+0.1**
ARU						21 54 21.2	
ARU				S	**S**	**21 57 42.4**	**+0.7**
ARU				SS	**SnSn**	**21 58 24.8**	**+1.5**
ARU	comp=Z,17nm,1.0s			pmax	pmax		
ZEI	**Tsey**	**22.07**	**295**	*e*P	**P**	**21 53 57.7**	**+0.8**
ZEI	comp=Z,21nm,1.0s			pmax	pmax		
AKH	**Akhalkalaki**	**22.26**	**291**	P	P	21 53 46.8	-12
ONI	**Oni**	**22.38**	**294**	P	**P**	**21 54 00.8**	**+1.1**
GTA	**Gaotai**	**22.42**	**74**	*e*P	**P**	**21 54 02.9**	**+2.7**
GTA				PP	**PnPn**	**21 54 34.1**	**+0.9**
GTA	comp=Z,4.0nm,1.0s			pmax	pmax		
KBZ	**Khabaz**	**22.93**	**297**	P	**P**	**21 54 04.7**	**+0.1**
KBZ	**Khabaz**	**22.93**	**297**	P	**P**	**21 54 04.7**	**+0.1**
KBZ	**Khabaz** comp=Z,5.5nm,0.7s,baz=124,slow=7.9,SNR=14	**22.93**	**297**	P	**P**	**21 54 04.7**	**+0.1**
KIV	**Kislovodsk**	**23.11**	**297**	*e*P	**P**	**21 54 07.0**	**+0.5**
KIV				*e**SP	**sP**	**21 54 56.8**	**+1.8**
KIV				*e*S	**S**	**21 58 07.2**	**+1.3**
KIV	comp=Z,11nm,1.0s			pmax	pmax		
RAYN	**Ar Rayn** comp=Z,9.9nm,1.0s	**25.94**	**247**	*e*P	**P**	**21 54 31.4**	**-0.9**
CD2	**Chengdu**	**27.31**	**93**	P	**P**	**21 54 46.1**	**+1.6**
CD2				pP	**pP**	**21 55 19.3**	**+2.5**
CD2				sP	**sP**	**21 55 38.1**	**+3.3**
CD2				PP	**PnPn**	**21 55 40.5**	**+2.7**
CD2				PcP	**PcP**	**21 58 01.8**	**+1.9**
CD2				S	**S**	**21 59 12.0**	**-0.6**
CD2				sS	**sS**	**22 00 10.5**	**+0.5**
CD2				SS	**SnSn**	**22 00 43.0**	**+2.6**
CD2	comp=Z,10.0nm,0.5s			pmax	pmax		
CD2

VSU	**Vasula**	**36.35**	**321**	*d*	*i*	P	**P**	**21 56 03.4 +0.5**
VSU					pmax		pmax	
	comp=Z,36nm,1.0s							
LVV	**L'vov**	**36.43**	**306**		*e*	P	**P**	**21 56 04.3 +0.5**
KWP	**Kalwaria Pacla**	**37.28**	**306**	⇓	*i*	P	**P**	**21 56 12.2 +1.2**
KWP	**Kalwaria Pacla**	**37.28**	**306**		*e*	P	**P**	**21 56 12.0 +1.1**
	comp=Z,8.1nm,0.3s							
KWP	**Kalwaria Pacla**	**37.28**	**306**	⇓	*i*	P	**P**	**21 56 12.2 +1.2**
KWP	**Kalwaria Pacla**	**37.28**	**306**		*e*	P	**P**	**21 56 12.4 +1.4**
VTS	**Vitosha**	**37.29**	**294**	⇑	*i*	P	**P**	**21 56 12.8 +1.5**
VTS	**Vitosha**	**37.29**	**294**	⇑	*i*	P	**P**	**21 56 12.8 +1.5**
DRGR		**37.30**	**301**	⇓	*i*	P	**P**	**21 56 12.8 +1.6**
DRGR		**37.30**	**301**	⇓	*i*	P	**P**	**21 56 12.8 +1.6**
GZR	**Gura Zlata**	**37.33**	**299**	⇑	*i*	P	**P**	**21 56 12.3 +0.8**
LVZ	**Lovozero**	**37.50**	**338**		*i*	P	**P**	**21 56 12.7 +0.1**
LVZ					pmax		pmax	
	comp=Z,20nm,1.5s							
KOLS	**Kolonicke sedl**	**37.55**	**305**		*e*	P	**P**	**21 56 14.2 +0.9**
KOLS					pmax		pmax	
	comp=Z,6.0nm,0.8s							
KOLS	**Kolonicke sedl**	**37.55**	**305**		*e*	P	**P**	**21 56 14.2 +0.9**
FINES	**FINESS Array B**	**37.62**	**326**		P		**P**	**21 56 14.1 +0.5**
FINES	**FINESS Array B**	**37.62**	**326**		P		**P**	**21 56 14.1 +0.5**
	comp=Z,4.5nm,0.4s,baz=121,slow=9.2,SNR=65							
KAF	**Kangasniemi**	**37.75**	**327**		*ep*		**P**	**21 56 15.5 +0.8**
	comp=Z,1.0nm,0.3s							
KAF	**Kangasniemi**	**37.75**	**327**		*e*	P	**P**	**21 56 15.5 +0.8**
KAF					pmax		pmax	
	comp=Z,1.0nm,0.3s							
STHS	**Stebnicka Huta**	**38.23**	**306**		*e*	P	**P**	**21 56 19.5 +0.5**
STHS					pmax		pmax	
	comp=Z,4.0nm,0.7s							
STHS	**Stebnicka Huta**	**38.23**	**306**		*e*	P	**P**	**21 56 19.5 +0.5**
STHS					*e*	PP	**PnPn**	**21 57 51.1 -1.8**
KECS	**Kecovo**	**38.74**	**304**		*e*	P	**P**	**21 56 24.0 +0.8**
KECS					pmax		pmax	
	comp=Z,3.0nm,0.6s							
KECS	**Kecovo**	**38.74**	**304**		*e*	P	**P**	**21 56 24.0 +0.8**
NIE	**Niedzica**	**38.84**	**306**		*e*	P	P	21 56 27.2 +3.2
NIE	**Niedzica**	**38.84**	**306**		*e*	P	P	21 56 27.2 +3.2
OJC	**Ojcow**	**39.17**	**307**		*e*	P	**P**	**21 56 27.4 +0.7**
OJC					pmax		pmax	
	comp=Z,12nm,1.0s							
OJC	**Ojcow**	**39.17**	**307**		*e*	P	**P**	**21 56 27.4 +0.7**
	comp=Z,12nm,1.0s							
OJC	**Ojcow**	**39.17**	**307**		*e*	P	**P**	**21 56 27.2 +0.5**
VYHS	**Vyhne**	**39.84**	**304**		*e*	P	**P**	**21 56 33.2 +0.9**
VYHS	**Vyhne**	**39.84**	**304**		*e*	P	**P**	**21 56 33.2 +0.9**
PKSM	**Moragy**	**40.14**	**301**	⇑	*i*	P	**P**	**21 56 35.5 +0.7**
PKSM	**Moragy**	**40.14**	**301**	⇑	*i*	P	**P**	**21 56 35.5 +0.7**
MORC	**Moravsky Berou**	**40.63**	**306**		*e*	P	**P**	**21 56 39.9 +1.0**
MORC					pmax		pmax	
	comp=Z,8.0nm,0.6s							
MORC	**Moravsky Berou**	**40.63**	**306**		*e*	P	**P**	**21 56 39.9 +1.0**
	comp=Z,8.4nm,0.6s							
SMOL	**Smolenice**	**40.77**	**304**		*e*	P	**P**	**21 56 40.9 +0.9**
SMOL	**Smolenice**	**40.77**	**304**		*e*	P	**P**	**21 56 40.9 +0.9**
GKP	**Gorka Klasztor**	**40.81**	**312**		*e*	P	**P**	**21 56 40.7 +0.6**
KEV	**Kevo**	**40.84**	**338**		*ep*		**P**	**21 56 40.5 +0.3**
	comp=Z,1.3nm,0.4s							
KEV	**Kevo**	**40.84**	**338**		*e*	P	**P**	**21 56 40.5 +0.3**
KEV					pmax		pmax	
	comp=Z,1.0nm,0.4s							
KEV	**Kevo**	**40.84**	**338**		*e*	P	**P**	**21 56 40.0 -0.2**
KRLC	**Kraliky**	**41.11**	**307**	⇑	*i*	P	**P**	**21 56 43.5 +0.7**
KRLC	**Kraliky**	**41.11**	**307**	⇑	*e*	P	**P**	**21 56 43.5 +0.7**
ARCES	**ARCESS Array B**	**41.19**	**337**		P		**P**	**21 56 43.9 +0.8**
ARCES	**ARCESS Array B**	**41.19**	**337**		P		**P**	**21 56 43.9 +0.8**
	comp=Z,6.3nm,0.6s,baz=115,slow=8.9,SNR=52							
ARE0	**ARCESS Array S**	**41.19**	**337**		*e*	P	**P**	**21 56 44.1 +1.0**
DPC	**Dobruska-Polom**	**41.40**	**307**	⇑	*i*	P	**P**	**21 56 46.3 +1.2**
DPC	**Dobruska-Polom**	**41.40**	**307**	⇑	*e*	P	**P**	**21 56 46.3 +1.2**
UPC	**Upice**	**41.59**	**308**		*e*	P	**P**	**21 56 47.6 +1.0**
UPC	**Upice**	**41.59**	**308**	⇑	*e*	P	**P**	**21 56 47.6 +1.0**
KTK1	**Kautokeino**	**41.67**	**336**	⇑	*i*	P	**P**	**21 56 47.5 +0.5**
KTK1						AMB	AMB	21 56 48.8
	comp=Z,86nm,0.9s							
KOGS	**Kog**	**41.76**	**301**		*i*	P	**P**	**21 56 48.6 +0.6**
CONA	**Conrad Observa**	**41.87**	**304**	⇓	*i*	P	**P**	**21 56 49.9 +0.9**
	comp=Z,9.0nm,0.7s							
TREC	**Trest**	**42.00**	**306**	⇑		P	**P**	**21 56 51.0 +1.0**
TREC	**Trest**	**42.00**	**306**	⇑	*e*	P	**P**	**21 56 51.0 +1.0**
BSD	**Bornholm Skovb**	**42.23**	**314**		*i*	P	**P**	**21 56 51.3 -0.4**
BSD					pmax		pmax	
	comp=Z,1.0nm,0.2s							
BSD	**Bornholm Skovb**	**42.23**	**314**		*i*	P	**P**	**21 56 51.3 -0.4**
	comp=Z,0.9nm,0.1s							
GROS	**Grobnik**	**42.27**	**302**		*i*	P	**P**	**21 56 52.9 +0.6**
DOBS	**Dobrina**	**42.34**	**301**		*i*	P	**P**	**21 56 53.5 +0.8**
PERS	**Pernice**	**42.51**	**302**		*i*	P	**P**	**21 56 55.1 +0.9**
PRU	**Pruhonice**	**42.56**	**307**		*e*	P	**P**	**21 56 55.4 +0.9**
PRU	**Pruhonice**	**42.56**	**307**	⇑	*e*	P	**P**	**21 56 55.4 +0.9**
SOKA	**Soboth**	**42.57**	**302**	⇓	*i*	P	**P**	**21 56 55.5 +0.9**
	comp=Z,7.7nm,0.5s							
BRG	**Berggiesshubel**	**42.88**	**308**		*i*	P	**P**	**21 56 58.0 +1.0**
	comp=Z,9.5nm,0.5s							
BRG	**Berggiesshubel**	**42.88**	**308**		*i*	P	**P**	**21 56 58.0 +1.0**
BRG					pmax		pmax	
	comp=Z,10.0nm,0.5s							
MOA	**Molln**	**42.94**	**304**	⇓	*i*	P	**P**	**21 56 58.2 +0.6**
	comp=Z,5.8nm,0.7s							
LJU	**Ljubljana**	**43.00**	**301**		*i*	P	**P**	**21 56 59.0 +1.0**
CRNS	**Crni Vrh**	**43.18**	**301**		*i*	P	**P**	**21 57 00.3 +0.8**
GERES	**GERESS Array B**	**43.21**	**305**		P		**P**	**21 57 00.2 +0.4**
GERES	**GERESS Array B**	**43.21**	**305**		P		**P**	**21 57 00.2 +0.4**
	comp=Z,1.6nm,0.6s,baz=81,slow=7.0,SNR=18							
KHC	**Kasperske Hory**	**43.26**	**306**		*e*	P	**P**	**21 57 01.5 +1.4**
KHC	**Kasperske Hory**	**43.26**	**306**	⇑	*e*	P	**P**	**21 57 01.5 +1.4**
KHC	**Kasperske Hory**	**43.26**	**306**		*e*	P	**P**	**21 57 01.1 +0.9**
	comp=Z,19nm,1.9s							
TRO	**Tromso**	**43.33**	**336**		*e*	P	**P**	**21 57 01.4 +1.1**
CLL	**Collm**	**43.45**	**309**		*e*	P	**P**	**21 57 02.0 +0.5**
CLL					pmax		pmax	
	comp=Z,9.0nm,1.2s							
CLL	**Collm**	**43.45**	**309**		*e*	P	**P**	**21 57 02.0 +0.5**
	comp=Z,9.0nm,1.2s							
CLL					*es*	P	**sP**	**21 57 54.0 +0.7**
KBA	**Koelnbreinsper**	**43.66**	**303**	⇑	*i*	P	**P**	**21 57 04.0 +0.4**
	comp=Z,3.3nm,0.5s							
ROBS	**Robic**	**43.67**	**302**		*i*	P	**P**	**21 57 03.7 +0.3**
MOR8	**Moi Rana**	**43.92**	**331**	⇑	*i*	P	**P**	**21 57 04.9 -0.2**
MOR8						AMB	AMB	21 57 05.5
	comp=Z,20nm,0.3s							
STEI	**Steigen**	**44.05**	**333**		*e*	P	**P**	**21 57 07.1 +1.0**
STEI						AMB	AMB	21 57 09.4
	comp=Z,37nm,1.3s							
FLOS	**Flostrand**	**44.38**	**331**		*e*	P	**P**	**21 57 09.3 +0.5**
KONS	**Konsvik**	**44.51**	**331**		*e*	P	**P**	**21 57 10.5 +0.7**
KONS						AMB	AMB	21 57 17.0
	comp=Z,45nm,1.8s							
NB2	**NORSAR Subarra**	**44.54**	**323**		P		**P**	**21 57 10.0 -0.1**
	comp=Z,11nm,0.5s,baz=96,slow=7.9							
NB2	**NORSAR Subarra**	**44.54**	**323**		P		**P**	**21 57 10.0 -0.1**
	baz=96,slow=7.9							
NOA	**NORSAR Array B**	**44.54**	**323**		P		**P**	**21 57 10.1 -0.1**
NOA	**NORSAR Array B**	**44.54**	**323**		P		**P**	**21 57 10.1 -0.1**
	comp=Z,12nm,0.5s,baz=96,slow=7.7,SNR=60							
GRF	**Grafenberg Arr**	**44.73**	**307**		*e*	P	**P**	**21 57 13.3 +1.5**
KONO	**Kongsberg**	**45.26**	**321**		*e*	P	**P**	**21 57 16.0 +0.2**
KONO	**Kongsberg**	**45.26**	**321**		*e*	P	**P**	**21 57 16.0 +0.2**
FETA	**Feichten**	**45.44**	**303**	⇑	*i*	P	**P**	**21 57 17.3 -0.3**
	comp=Z,2.6nm,0.4s							
TIXI	**Tiksi**	**45.50**	**22**	⇑	*e*	P	**P**	**21 57 18.2 +0.7**
TIXI					pmax		pmax	
	comp=Z,1.0nm,0.3s							
DAVA	**Damuels**	**45.96**	**304**	⇑	*i*	P	**P**	**21 57 21.9 +0.1**
	comp=Z,19nm,0.5s							
DAVOX	**Davos/Dischmat**	**46.05**	**303**		P		**P**	**21 57 22.6 +0.1**
DAVOX	**Davos/Dischmat**	**46.05**	**303**		P		**P**	**21 57 22.6 +0.1**
	comp=Z,7.5nm,0.6s,baz=111,slow=7.1,SNR=13							
CDF	**Champ du Feu**	**47.49**	**305**		*e*	P	**P**	**21 57 33.3 -0.2**
	comp=Z,6.5nm,0.7s							
PGF	**Pioggiola**	**47.59**	**297**		*e*	P	**P**	**21 57 34.1 -0.3**
HINF	**Hinteralfeld**	**47.88**	**305**		*e*	P	**P**	**21 57 36.5 +0.1**
	comp=Z,16nm,0.6s							
HAU	**Haudompre**	**48.17**	**305**	⇑	*i*	P	**P**	**21 57 38.9 +0.2**
	comp=Z,16nm,0.6s							
LPG	**La Plagne**	**48.45**	**302**		*e*	P	**P**	**21 57 41.6 +0.5**
	comp=Z,13nm,0.7s							
LPL	**La Plagne**	**48.45**	**302**		*e*	P	**P**	**21 57 41.6 +0.5**
	comp=Z,6.6nm,0.5s							
PAGF	**Fort de Pagny**	**48.47**	**306**	⇑	*i*	P	**P**	**21 57 41.9 +1.0**
	comp=Z,7.3nm,0.6s							
MBDF	**Montbardon**	**48.62**	**301**		*e*	P	**P**	**21 57 42.1 -0.2**
	comp=Z,8.4nm,0.5s							
CABF	**La Chapelle**	**48.64**	**303**		*e*	P	**P**	**21 57 43.2 +0.8**
	comp=Z,17nm,0.5s							
GIVF	**Givet**	**48.76**	**308**		*e*	P	**P**	**21 57 43.2 +0.2**
	comp=Z,9.6nm,0.5s							
MEZF	**Maizieres J'vi**	**48.92**	**306**	⇑	*i*	P	**P**	**21 57 45.1 +0.8**
	comp=Z,13nm,0.6s							
SFTF	**Sexfontaines**	**48.99**	**306**		*e*	P	**P**	**21 57 44.6 -0.3**
	comp=Z,14nm,0.7s							
FRF	**La Foret Royal**	**49.00**	**299**	⇑	*i*	P	**P**	**21 57 45.0 0.0**
	comp=Z,18nm,0.8s							
BAIF	**Baives**	**49.15**	**308**	⇑	*i*	P	**P**	**21 57 47.1 +1.0**
	comp=Z,23nm,0.8s							
ORIF	**Oris-en-Rattie**	**49.18**	**301**		*e*	P	**P**	**21 57 46.6 +0.1**
	comp=Z,3.5nm,0.5s							
KMBO	**Kilima Mbogo**	**49.23**	**228**		P		P	**21 57 47.0 -0.4**
KMBO	**Kilima Mbogo**	**49.23**	**228**		P		P	**21 57 47.0 -0.4**
	comp=Z,1.3nm,0.4s,baz=65,slow=13,SNR=5.2							
KEST	**Kesra**	**49.40**	**289**		P		P	**21 57 49.0 +0.7**
KEST	**Kesra**	**49.40**	**289**		P		P	**21 57 49.0 +0.7**
	comp=Z,1.5nm,0.6s,baz=345,slow=4.2,SNR=8.1							
SMRF	**Simiane la Rot**	**49.64**	**300**		*e*	P	**P**	**21 57 50.0 +0.1**
LOR	**Lormes**	**49.98**	**305**		*e*	P	**P**	**21 57 52.1 -0.3**
	comp=Z,5.2nm,0.6s							
VIVF	**Saint-Julien-l**	**50.03**	**301**	⇑	*i*	P	**P**	**21 57 53.1 +0.3**
	comp=Z,11nm,0.7s							
SMF	**Signal de Mont**	**50.14**	**304**	⇑	*i*	P	**P**	**21 57 53.8 +0.2**
	comp=Z,24nm,0.6s							
SSF	**Saint Saulge**	**50.26**	**304**	⇑	*i*	P	**P**	**21 57 54.4 -0.1**
	comp=Z,4.7nm,0.6s							
AVF	**Avril sur Loir**	**50.43**	**304**	⇑	*i*	P	**P**	**21 57 55.9 +0.1**
	comp=Z,23nm,0.5s							
HYF	**Humbligny**	**50.78**	**305**	⇑	*i*	P	**P**	**21 57 59.0 +0.6**
LASF	**Ste Croix**	**50.80**	**301**	⇑	*i*	P	**P**	**21 57 59.2 +0.6**
	comp=Z,15nm,0.8s							
BGF	**Bois d'Agland**	**50.83**	**304**	⇑	*i*	P	**P**	**21 57 58.7 -0.1**
	comp=Z,8.4nm,0.6s							
TCF	**Toul-Ste Croi**	**51.32**	**304**	⇑	*i*	P	**P**	**21 58 03.0 +0.5**
	comp=Z,12nm,0.5s							
CAF	**Calviac**	**51.79**	**302**	⇑	*i*	P	**P**	**21 58 06.6 +0.6**
	comp=Z,4.7nm,0.6s							
RJF	**Les Rejaudoux**	**52.06**	**303**		*e*	P	**P**	**21 58 08.9 +1.0**
	comp=Z,3.3nm,0.5s							
MTLF	**Montolieu**	**52.15**	**300**	⇑	*i*	P	**P**	**21 58 09.0 +0.3**
	comp=Z,5.4nm,0.7s							
LDF	**La Druitiere**	**52.24**	**307**	⇑	*i*	P	**P**	**21 58 09.0 -0.2**
	comp=Z,12nm,0.5s							
FLN	**La Foliniere**	**52.43**	**307**	⇑	*i*	P	**P**	**21 58 10.4 -0.2**
	comp=Z,21nm,0.7s							
LFF	**La Frestale**	**52.69**	**303**	⇑	*i*	P	**P**	**21 58 13.1 +0.5**
	comp=Z,11nm,0.4s							
GRR	**Gorron**	**52.77**	**307**	⇑	*i*	P	**P**	**21 58 12.9 -0.2**
	comp=Z,14nm,0.6s							
MFF	**Saint Martin d**	**52.80**	**305**		*e*	P	**P**	**21 58 13.1 -0.3**
	comp=Z,8.1nm,0.6s							
EPF	**Esparros**	**53.55**	**300**	⇑	*i*	P	**P**	**21 58 18.9 -0.1**
	comp=Z,4.6nm,0.6s							
SGMF	**Saint Gilles**	**53.90**	**307**	⇑	*i*	P	**P**	**21 58 21.4 +0.1**
	comp=Z,11nm,0.7s							
SEY	**Seymchan**	**54.08**	**34**		*i*	P	**P**	**21 58 24.1 +1.7**
ETSF	**Etsaut**	**54.22**	**300**	⇑	*i*	P	**P**	**21 58 24.3 +0.4**
	comp=Z,14nm,0.6s							
ROSF	**Rostrenen**	**54.33**	**308**	⇑	*i*	P	**P**	**21 58 24.4 -0.1**
	comp=Z,14nm,0.5s							
QUIF	**Quistinic**	**54.38**	**307**		*e*	P	**P**	**21 58 24.7 -0.1**
	comp=Z,5.9nm,0.5s							
SJPF	**Ste Jean**	**54.61**	**301**		*e*	P	**P**	**21 58 27.1 +0.5**
DAG	**Danmarks Havn**	**54.73**	**344**	⇑	*i*	P	**P**	**21 58 27.6 +0.7**
DAG					pmax		pmax	
	comp=Z,8.0nm,0.9s							
DAG	**Danmarks Havn**	**54.73**	**344**	⇑	*i*	P	**P**	**21 58 27.6 +0.7**
	comp=Z,8.9nm,0.9s							
ESDC	**Sonseca Array**	**57.78**	**298**		P		**P**	**21 58 48.9 -0.2**
ESDC	**Sonseca Array**	**57.78**	**298**		P		**P**	**21 58 48.9 -0.2**
	comp=Z,1.4nm,0.4s,baz=62,slow=7.6,SNR=11							
BILL	**Bilibino**	**58.31**	**26**		*i*	P	**P**	**21 58 55.0 +2.7**
BILL					*e**	PP	**pP**	**21 59 27.3 -1.1**
BILL					*es*	SS	SS	22 10 38.6 +2.9
BILL					pmax		pmax	
	comp=Z,16nm,2.4s							
SUMG	**Summit**	**61.08**	**341**	⇑	*i*	P	**P**	**21 59 13.1 +1.4**
SUMG					pmax		pmax	
	comp=Z,10.0nm,0.8s							
SUMG	**Summit**	**61.08**	**341**		*e*	P	**P**	**21 59 13.1 +1.4**
	comp=Z,12nm,0.6s							
SUMG	**Summit**	**61.08**	**341**	⇑	*i*	P	**P**	**21 59 13.1 +1.4**
	comp=Z,10nm,0.8s							
TOA0	**Torodi Ar. Sit**	**66.15**	**269**		*e*	P	**P**	**21 59 42.9 -2.4**
TORD	**Torodi Ar. Bea**	**66.15**	**269**		P		**P**	**21 59 43.1 -2.2**
TORD	**Torodi Ar. Bea**	**66.15**	**269**		P		**P**	**21 59 43.1 -2.2**
	comp=Z,5.3nm,0.5s,baz=50,slow=5.9,SNR=154							
COLD	**Coldfoot**	**71.73**	**16**		*e*	P	**P**	**22 00 19.5 +0.6**
	comp=Z,2.6nm,0.7s							
ILAR	**Eielson Array**	**74.54**	**16**		P		P	**22 00 33.9 -1.6**
ILAR	**Eielson Array**	**74.54**	**16**		P		P	**22 00 33.9 -1.6**
	comp=Z,1.8nm,0.8s,baz=335,slow=4.1,SNR=12							
DBIC	**Dimbokro**	**75.13**	**267**		P		**P**	**22 00 37.5 -2.1**
DBIC	**Dimbokro**	**75.13**	**267**		P		**P**	**22 00 37.5 -2.1**
	comp=Z,2.1nm,0.6s,baz=358,slow=18,SNR=5.3							
SVW2	**Sparrevohn**	**75.33**	**22**		*e*	P	P	22 00 44.9 +4.8
	comp=Z,18nm,0.6s							
YKA	**Yellowknife Ar**	**81.10**	**3**		P		**P**	**22 01 11.5 -0.2**
YKA	**Yellowknife Ar**	**81.10**	**3**		P		**P**	**22 01 11.5 -0.2**
	comp=Z,1.9nm,0.7s,baz=347,slow=4.8,SNR=8.7							
WRA	**Warramunga Arr**	**81.69**	**122**		P		**P**	**22 01 14.9 -0.5**
WRA	**Warramunga Arr**	**81.69**	**122**		P		**P**	**22 01 14.9 -0.5**
	comp=Z,1.7nm,0.5s,baz=323,slow=4.9,SNR=25							
SCHQ	**Schefferville**	**82.15**	**337**		P		**P**	**22 01 17.3 -0.1**
SCHQ	**Schefferville**	**82.15**	**337**		P		**P**	**22 01 17.3 -0.1**
	comp=Z,1.0nm,0.4s,baz=36,slow=7.2,SNR=4.1							
ASAR	**Alice Springs**	**83.98**	**125**		P		**P**	**22 01 26.7 -0.5**
ASAR	**Alice Springs**	**83.98**	**125**		P		**P**	**22 01 26.7 -0.5**
	comp=Z,1.8nm,0.6s,baz=309,slow=5.2,SNR=28							

*ISK **09** 21:56:02.3, 34.°97N×27.°45E, h29km, MD3.8*
*ISCJB **09** 21:56:04.4±1.0, 35.°08N±0.°08×27.°47E±0.°07, h72km±11km, Error ellipse: s-maj=15.1km s-min=6.9km az=149.1*
*CSEM **09** 21:56:05.3±0.4, 35.°08N×27.°49E, h60km, MD3.8, Error ellipse: s-maj=10.7km s-min=4.2km az=152.0*
*ATH **09** 21:56:06.2, 35.°11N×27.°30E, h69km±1km*
ISC 09 21:56:04.6±1.8, **35.°05N**±0.°08×**27.°49E**±0.°06, **h70**km±12km, **n34**, σ=**0**.**84**/44, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KARP	**Karpathos**	**0.56**	**332**		*eP*		**Pn**	**21 56 18.9 +0.8**
KARP					*eS*		**Sn**	**21 56 28.2 +0.2**
KARP	**Karpathos**	**0.56**	**332**		*eP*		**Pn**	**21 56 18.9 +0.8**
KARP					*eS*		**Sn**	**21 56 28.2 +0.2**
ZKR	**Zakros**	**1.04**	**274**		*eP*		**Pn**	**21 56 23.4 -0.3**
ZKR					*eS*		**Sn**	**21 56 37.2 -0.7**
ZKR	**Zakros**	**1.04**	**274**		*eP*		**Pn**	**21 56 23.4 -0.3**
ZKR					*eS*		**Sn**	**21 56 37.2 -0.7**
NPS	**Neapolis**	**1.55**	**278**		*eP*		**Pn**	**21 56 30.4 +0.1**
NPS					*eS*		**Sn**	**21 56 47.4 -2.2**
NPS	**Neapolis**	**1.55**	**278**		*eP*		**Pn**	**21 56 30.4 +0.1**
NPS					*eS*		**Sn**	**21 56 47.4 -2.2**
LAST	**Lasithi**	**1.65**	**274**		*eP*		**Pn**	**21 56 32.1 +0.4**
LAST	**Lasithi**	**1.65**	**274**		*eP*		**Pn**	**21 56 32.1 +0.4**
DAT	**Datca**	**1.68**	**2**		*ePN*		**Pn**	**21 56 31.6 -0.5**
DAT					*eSN*		**Sn**	**21 56 52.6 -0.1**
DAT	**Datca**	**1.68**	**2**		*ePn*		**Pn**	**21 56 31.6 -0.5**
DAT					*eSn*		**Sn**	**21 56 52.7 -0.1**
DALY	**Dalyan (Mu¨la**	**2.00**	**28**		*ePN*		**Pn**	**21 56 36.2 0.0**
DALY	**Dalyan (Mu¨la**	**2.00**	**28**		*ePn*		**Pn**	**21 56 36.2 0.0**
BODT	**Bodrum**	**2.01**	**356**		*ePN*		**Pn**	**21 56 36.2 -0.3**
BODT	**Bodrum**	**2.01**	**356**		*ePn*		**Pn**	**21 56 36.2 -0.3**
FETY	**Fethiye**	**2.05**	**39**		*ePN*		**Pn**	**21 56 36.6 -0.2**
FETY	**Fethiye**	**2.05**	**39**		*ePn*		**Pn**	**21 56 36.7 -0.2**
SANT	**Santorini**	**2.11**	**309**		*eP*		**Pn**	**21 56 38.7 +0.9**
SANT	**Santorini**	**2.11**	**309**		*eP*		**Pn**	**21 56 38.7 +0.9**
IDI	**Anoyia**	**2.14**	**277**		*eP*		**Pn**	**21 56 39.1 +0.9**
IDI	**Anoyia**	**2.14**	**277**		*eP*		**Pn**	**21 56 39.1 +0.9**
YER	**Yerkesik**	**2.18**	**17**		*ePN*		**Pn**	**21 56 39.1 +0.4**
YER	**Yerkesik**	**2.18**	**17**		*ePn*		**Pn**	**21 56 39.1 +0.4**
SIVA	**Sivas**	**2.20**	**270**		*eP*		**Pn**	**21 56 39.5 +0.6**
SIVA	**Sivas**	**2.20**	**270**		*eP*		**Pn**	**21 56 39.5 +0.6**
APE	**Apeiranthos**	**2.57**	**322**		*ePN*		**Pn**	**21 56 43.6 -0.3**
APE					*eSN*		**Sn**	**21 57 13.8 -0.3**
APE	**Apeiranthos**	**2.57**	**322**		*eP*		**Pn**	**21 56 44.9 +1.0**
APE	**Apeiranthos**	**2.57**	**322**		*ePn*		**Pn**	**21 56 43.6 -0.3**
APE	**Apeiranthos**	**2.57**	**322**		*eP*		**Pn**	**21 56 44.9 +1.0**
APE					*eSn*		**Sn**	**21 57 13.8 -0.3**
VAM	**Vamos**	**2.72**	**279**		*eP*		**Pn**	**21 56 47.4 +1.5**
VAM	**Vamos**	**2.72**	**279**		*eP*		**Pn**	**21 56 47.4 +1.5**
ANKY	**Antikythira Is**	**3.52**	**285**		*eP*		**Pn**	**21 56 58.1 +1.3**
ANKY	**Antikythira Is**	**3.52**	**285**		*eP*		**Pn**	**21 56 58.1 +1.3**
SUTC	**Sutluce-Ispart**	**3.73**	**48**		*ePN*		**Pn**	**21 57 00.6 +0.7**
SUTC	**Sutluce-Ispart**	**3.73**	**48**		*ePn*		**Pn**	**21 57 00.6 +0.7**

*DDA **09** 22:50:28.0, 37.°86N×27.°54E, h10km, ML3.5*
*ISK **09** 22:50:28.4, 37.°80N×27.°49E, h5km, ML3.3*
*ATH **09** 22:50:28.1, 37.°87N×27.°59E, h17km±2km, MD3.2/8*
*CSEM **09** 22:50:29.4±0.1, 37.°76N×27.°45E, h5km, ML3.5, Error ellipse: s-maj=3.1km s-min=2.6km az=52.0*
*ISCJB **09** 22:50:29.0±0.4, 37.°78N±0.°02×27.°48E±0.°02, h9km±3km, Error ellipse: s-maj=3.3km s-min=2.6km az=25.6*
*THE **09** 22:50:29.5, 37.°82N×27.°45E, h4km±1km, ML3.2/4, Error ellipse: s-maj=1.9km s-min=0.8km az=241.0*
ISC 09 22:50:29.0±0.8, **37.°81N**±0.°02×**27.°51E**±0.°01, **h11**km±7km, **n138**, σ=**1**.**54**/168, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GCAM	**G?zelcaml?**	**0.25**	**243**		*iP*		**Pg**	**22 50 34.0 -0.1**
GCAM					*iS*		**Sg**	**22 50 37.5 0.0**
GCAM	**G?zelcaml?**	**0.25**	**243**		*iP*		**Pg**	**22 50 34.0 -0.1**
GCAM					*iS*		**Sg**	**22 50 37.5 0.0**
AYDN	**Tasoluk**	**0.33**	**117**		*iP*		**Pg**	**22 50 35.2 -0.5**
AYDN					*iS*		**Sg**	**22 50 39.4 -0.7**
AYDN	**Tasoluk**	**0.33**	**117**		*iP*		**Pg**	**22 50 35.2 -0.5**
AYDN					*iS*		**Sg**	**22 50 39.4 -0.7**
SMG	**Samos**	**0.54**	**259**		P		**Pg**	**22 50 39.5 -0.1**
SMG					S		**Sg**	**22 50 46.9 +0.1**
SMG	**Samos**	**0.54**	**259**		*ePB*		**Pg**	**22 50 39.7 +0.1**
SMG					*eSN*		**Sb**	**22 50 48.9 +0.4**
SMG	**Samos**	**0.54**	**259**		P		**Pg**	**22 50 39.5 -0.1**
SMG	**Samos**	**0.54**	**259**		*ePb*		**Pg**	**22 50 39.7 +0.1**
SMG					S		**

MDNY	**Mudanya-Bursa**	**2.77**	**22**	*e*Pn		**Pn**		**22 51 15.8**	**+2.4**
SUTC	**Sutluce-Ispart**	**2.79**	**96**	*e*PN		**Pn**		**22 51 16.2**	**+2.4**
SUTC	**Sutluce-Ispart**	**2.79**	**96**	*e*PN		**Pn**		**22 51 16.2**	**+2.4**
RKY	**Sarkoy-Tekirda**	**2.88**	**355**	*e*PN		**Pn**		**22 51 17.3**	**+2.3**
RKY	**Sarkoy-Tekirda**	**2.88**	**355**	*e*Pn		**Pn**		**22 51 17.3**	**+2.3**
ARMT	**Armutlu**	**2.94**	**20**	*e*PN		**Pn**		**22 51 18.6**	**+2.7**
ARMT	**Armutlu**	**2.94**	**20**	*e*Pn		**Pn**		**22 51 18.6**	**+2.7**
CAVI	**Cavuskoy**	**3.00**	**37**	*e*PN		**Pn**		**22 51 18.8**	**+2.2**
CAVI	**Cavuskoy**	**3.00**	**37**	*e*Pn		**Pn**		**22 51 18.8**	**+2.2**
SMTH	**Samothraki Isl**	**3.07**	**331**	*e*PN		**Pn**		**22 51 18.0**	**+0.5**
SMTH	**Samothraki Isl**	**3.07**	**331**	*e*Pn		**Pn**		**22 51 18.0**	**+0.5**
ENEZ	**Enez**	**3.10**	**341**	*e*PN		**Pn**		**22 51 20.7**	**+2.7**
ENEZ	**Enez**	**3.10**	**341**	*e*Pn		**Pn**		**22 51 20.7**	**+2.7**
ESKT	**Eskisehir**	**3.12**	**56**	*e*PN		**Pn**		**22 51 21.3**	**+2.9**
ESKT	**Eskisehir**	**3.12**	**56**	*e*Pn		**Pn**		**22 51 21.3**	**+2.9**
ADVT	**Abdulvahap**	**3.14**	**33**	*e*PN		**Pn**		**22 51 20.7**	**+2.2**
ADVT	**Abdulvahap**	**3.14**	**33**	*e*Pn		**Pn**		**22 51 20.7**	**+2.2**
AOS	**Alonnisos**	**3.15**	**297**	*e*PN		**Pn**		**22 51 19.9**	**+1.2**
AOS	**Alonnisos**	**3.15**	**297**	*e*Pn		**Pn**		**22 51 19.9**	**+1.2**
BUY	**Buyukada**	**3.28**	**22**	*e*PN		**Pn**		**22 51 22.9**	**+2.5**
BUY	**Buyukada**	**3.28**	**22**	*e*Pn		**Pn**		**22 51 22.9**	**+2.5**
GPA	**Golpazari**	**3.30**	**41**	*e*PN		**Pn**		**22 51 23.4**	**+2.8**
GPA	**Golpazari**	**3.30**	**41**	*e*Pn		**Pn**		**22 51 23.5**	**+2.8**
HRT	**Hereke**	**3.44**	**28**	*e*PN		Pn		22 51 25.9	+3.2
HRT	**Hereke**	**3.44**	**28**	*e*Pn		Pn		22 51 25.9	+3.2
SLVT	**Silivri**	**3.46**	**9**	*e*PN		**Pn**		**22 51 25.9**	**+3.1**
SLVT	**Silivri**	**3.46**	**9**	*e*Pn		**Pn**		**22 51 25.9**	**+3.1**
ISK	**Istanbul-Kandi**	**3.46**	**20**	*e*PN		**Pn**		**22 51 25.6**	**+2.7**
ISK	**Istanbul-Kandi**	**3.46**	**20**	*e*Pn		**Pn**		**22 51 25.6**	**+2.7**
BGKT	**Bogazkoy**	**3.50**	**16**	*e*PN		**Pn**		**22 51 26.2**	**+2.7**
BGKT	**Bogazkoy**	**3.50**	**16**	*e*Pn		**Pn**		**22 51 26.2**	**+2.7**
CTKS	**Kestanelik-??a**	**3.51**	**12**	*e*PN		Pn		22 51 26.7	+3.2
CTKS	**Kestanelik-??a**	**3.51**	**12**	*e*Pn		Pn		22 51 26.7	+3.2
NVR	**Nevrokopi**	**4.52**	**323**	*e*PN		**Pn**		**22 51 38.3**	**+0.8**
NVR	**Nevrokopi**	**4.52**	**323**	*e*Pn		**Pn**		**22 51 38.3**	**+0.8**

*ISK **09** 22:54:29.6,36.30N×41.09E,h5km,MD3.5*
*CSEM **09** 22:54:33.3±0.7,36.47N×41.15E, h5km,MD3.5, Error ellipse: s-maj=20.5km s-min=7.0km az=4.0*
ISC 09 22:54:28.9±2.6,**36.07N**±0.09×**41.01E**±0.04,**h10**km±13km, **n34**,σ1§74/41,**Iraq**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARD	**Mardin**	**1.26**	**352**	*i* P	**Pg**	**22 52 52.3**	**-0.9**
MARD				*i* S	**Sn**	**22 55 12.6**	**+2.8**
MAZI	**Mazidag**	**1.46**	**342**	*e*PN	**Pn**	**22 54 54.5**	**-1.0**
MAZI				*e*SN	**Sb**	**22 55 13.8**	**-1.3**
MAZI	**Mazidag**	**1.46**	**342**	*e*Pn	**Pn**	**22 54 54.5**	**-1.0**
MAZI				*e*Sn	**Sb**	**22 55 13.8**	**-1.3**
SIRN	**S¨¨-rnak**	**1.82**	**38**	*i* P	**Pn**	**22 55 00.9**	**+0.5**
SIRN				*i* S	**Sg**	**22 55 27.1**	**-0.3**
SIRN	**S¨¨-rnak**	**1.82**	**38**	*i* P	**Pn**	**22 55 00.9**	**+0.5**
BEST	**Besiri**	**1.83**	**6**	*i* P	**Pn**	**22 54 59.9**	**-0.7**
BEST				*i* S	**Sg**	**22 55 31.3**	**+3.4**
SIRT	**Sirnak**	**1.84**	**38**	*e*PN	**Pn**	**22 55 00.7**	**+0.1**
SIRT	**Sirnak**	**1.84**	**38**	*e*Pn	**Pn**	**22 55 00.7**	**+0.1**
DIY	**Diyarbakir**	**1.93**	**341**	*e*PN	**Pn**	**22 55 01.6**	**-0.3**
DIY	**Diyarbakir**	**1.93**	**341**	*e*Pn	**Pn**	**22 55 01.6**	**-0.3**
DIYA	**Diyarbakir**	**1.99**	**339**	*i* P	**Pn**	**22 55 03.2**	**+0.5**
DIYA				*i* S	**Sg**	**22 55 31.1**	**-1.7**
DIYA	**Diyarbakir**	**1.99**	**339**	*i* P	**Pn**	**22 55 03.2**	**+0.5**
DIYA				*i* S	**Sg**	**22 55 31.1**	**-1.7**
BTMT	**Batman**	**2.16**	**10**	*e*PN	**Pn**	**22 55 03.5**	**-1.6**
BTMT	**Batman**	**2.16**	**10**	*e*Pn	**Pn**	**22 55 03.5**	**-1.6**
CUKT	**Cukurca**	**2.40**	**60**	*e*PN	**Pn**	**22 55 08.9**	**+0.5**
CUKT	**Cukurca**	**2.40**	**60**	*e*Pn	**Pn**	**22 55 08.9**	**+0.5**
HAKT	**HAKKARI**	**2.63**	**55**	*i* P	**Pn**	**22 55 12.8**	**+1.2**
HAKT				*i* S	**Sb**	**22 55 47.2**	**-1.4**
HAKT	**HAKKARI**	**2.63**	**55**	*i* P	**Pn**	**22 55 12.8**	**+1.2**
BINT	**Bingol**	**2.84**	**352**	*e*Pn	**Pn**	**22 55 15.7**	**+1.3**
BNGL	**BINGOL**	**2.88**	**2**	*i* P	**Pn**	**22 55 15.3**	**+0.2**
BNGL				*i* S	**Sg**	**22 56 05.2**	**+3.6**
BNGB	**Bing¨¶l**	**2.93**	**355**	*e*PN	**Pn**	**22 55 15.7**	**0.0**
MYA	**Malataya**	**3.06**	**318**	*e*PN	**Pn**	**22 55 19.9**	**+2.5**
MYA	**Malataya**	**3.06**	**318**	*e*Pn	**Pn**	**22 55 19.9**	**+2.5**
PTK	**Pertek**	**3.10**	**336**	*e*PN	**Pn**	**22 55 19.0**	**+0.9**
PTK	**Pertek**	**3.10**	**336**	*e*Pn	**Pn**	**22 55 19.0**	**+0.9**
KUZU	**Kuzuini**	**3.25**	**284**	*i* P	Pn	22 55 10.5	-10
KUZU				*i* S	**Sn**	**22 55 54.7**	**-4.1**
AKCD	**Akcadag**	**3.32**	**313**	*i* P	**Pn**	**22 55 23.5**	**+2.4**
AKCD				*i* S	**Sn**	**22 56 01.5**	**+0.8**
AKCD	**Akcadag**	**3.32**	**313**	*i* P	**Pn**	**22 55 23.5**	**+2.4**
AKCD				*i* S	**Sn**	**22 56 01.5**	**+0.8**
AYKD	**Aykdinkavak**	**3.63**	**293**	*i* P	Pn	22 55 16.1	-9.2
DARE	**Darende-Malaty**	**3.76**	**313**	*e*PN	**Pn**	**22 55 30.2**	**+3.1**
KEMA	**Kemaliye**	**3.77**	**329**	*i* P	Pn	22 55 23.9	-3.3
KEMA	**Kemaliye**	**3.77**	**329**	*i* P	Pn	22 55 23.9	-3.3
ANDN	**Andirin**	**4.04**	**293**	*i* P	Pb	22 55 36.3	-3.9
ANDN				*i* S	**Sn**	**22 56 17.4**	**-0.9**
ANDN	**Andirin**	**4.04**	**293**	*i* P	Pb	22 55 36.3	-3.9

IDC 09 22:55:07.2±1.3,**6.62S×154.30E, h0km,mb3.9/7, mb1 4.1/8,mb1mx3.9/18,mbtmp3.9/8,ML2.9/1,MS3.0/1, Ms1 3.0/1,ms1mx2.1/25,Error ellipse: s-maj=42.6km s-min=21.2km az=121.0,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.59**	**248**	Pn	Pn	22 57 00.7	+1.4
	1.0nm,0.3s,baz=90,slow=10,SNR=2.3						
PMG				Sn	Sn	22 58 26.9	+0.8
	1.4nm,0.3s,baz=72,slow=16,SNR=2.3						
PMG				LR	LR	22 59 43.1	
	comp=Z,112nm,20.0s,baz=49,slow=36						
WRA	**Warramunga Arr**	**23.47**	**234**	P	P	23 00 17.7	-1.1
	2.1nm,0.9s,baz=52,slow=8.9,SNR=13						
ASAR	**Alice Springs**	**25.91**	**227**	P	P	23 00 41.4	0.0
	0.6nm,0.6s,baz=61,slow=9.5,SNR=6.9						
STKA	**Stephens Creek**	**27.79**	**204**	P	P	23 00 59.0	+0.9
	5.4nm,1.2s,baz=7.0,slow=11,SNR=3.8						
SONM	**Songino Array**	**68.65**	**328**	P	P	23 06 14.0	+1.4
	0.4nm,0.6s,baz=134,slow=6.2,SNR=2.8						
MKAR	**Makanchi Array**	**82.67**	**319**	P	P	23 07 32.9	0.0
	0.5nm,0.5s,baz=94,slow=6.7,SNR=11						
ZALV	**Zalesovo Beam**	**83.49**	**326**	P	P	23 07 35.3	-1.5
	0.6nm,0.4s,baz=83,slow=3.3,SNR=2.2						
NVAR	**Mina Array Bea**	**92.03**	**52**	P	P	23 08 18.7	0.0
	0.8nm,0.8s,baz=247,slow=7.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**152.26**	**286**	PKPbc	PKPbc	23 15 05.7	-0.4
	0.3nm,0.4s,baz=92,slow=2.6,SNR=8.6						

*IDC **09** 23:19:34.1±1.0,54.81N×167.76E,h0km,mb3.3/4, mb1 3.5/6,mb1mx3.4/27,mbtmp3.3/6,ML3.1/2,Error ellipse: s-maj=35.5km s-min=12.3km az=24.0*
*ISCJB **09** 23:19:37.2±0.7,54.73N±0.05×167.49E±0.08,h24km, mb3.3/4,Error ellipse: s-maj=8.0km s-min=5.8km az=31.0*
*KRSC **09** 23:19:37.5±1.3,54.69N×167.20E,h5km±5km,ML4.0*
ISC 09 23:19:36.8±1.0,**54.65N**±0.07×**167.66E**±0.06,**h24**km,**n30**, σ1§84/44,**mb3.3**/4,**Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.12**	**301**	*e*P	Pn	23 19 54.1	-2.9
BKI				*e*S	**Sb**	**23 20 07.3**	**-4.4**
KBG	**Krutoberegovo**	**3.25**	**302**	S	**Sn**	**23 21 02.2**	**-1.8**
MKZ	**Mys Kozlova**	**3.45**	**271**	*e*P	**Pn**	**23 20 28.9**	**0.0**
MKZ				*e*S	**Sn**	**23 21 06.4**	**-2.6**
FX1	**Attu Island--F**	**3.71**	**116**	Pn	**Pn**	**23 20 31.0**	**-1.6**
	4.0nm,0.3s,baz=262,slow=8.8,SNR=9.9						
FX1				Sn	**Sn**	**23 21 13.8**	**-1.7**
	7.1nm,0.3s,baz=87,slow=20,SNR=8.6						
SMKR	**Semkarok**	**4.01**	**301**	P	**Pn**	**23 20 37.1**	**+0.4**
SMKR				*e*S	**Sn**	**23 21 21.1**	**-1.9**
BDR	**Baidarnaya**	**4.13**	**300**	P	**Pn**	**23 20 40.4**	**+2.0**
BDR				S	**Sn**	**23 21 25.2**	**-0.8**
ZLN	**Zelenaya**	**4.15**	**292**	P	**Pn**	**23 20 40.7**	**+2.0**
ZLN				S	**Sn**	**23 21 26.9**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**4.19**	**291**	*e*P	**Pn**	**23 20 41.0**	**+1.8**
BZGR				*e*S	**Sn**	**23 21 28.2**	**+0.9**
SRKR	**Sorokina**	**4.19**	**301**	P	**Pn**	**23 20 40.9**	**+1.7**
SRKR				S	**Sn**	**23 21 26.7**	**-0.7**
KLY	**Klyuchi**	**4.32**	**296**	S	**Sn**	**23 21 28.0**	**-2.5**
KRSR	**Krestovskiy**	**4.34**	**294**	P	**Pn**	**23 20 43.3**	**+2.1**
KRSR				*e*S	**Sn**	**23 21 31.3**	**+0.3**
TUMR	**Tumrok**	**4.38**	**281**	P	**Pn**	**23 20 43.7**	**+1.9**
KMNR	**Kamenistaya**	**4.40**	**288**	P	**Pn**	**23 20 44.0**	**+2.0**
KMNR				*e*S	**Sn**	**23 21 33.1**	**+0.6**
KPT	**Kopyto**	**4.45**	**290**	P	**Pn**	**23 20 43.7**	**+0.9**
KPT				S	**Sn**	**23 21 32.9**	**-0.9**
SPN	**Mys Shipunski**	**4.78**	**254**	P	**Pn**	**23 20 48.0**	**+0.8**
SPN				*e*S	**Sn**	**23 21 39.1**	**-2.6**
SRDR	**Sredinnyy**	**4.82**	**294**	P	**Pn**	**23 20 50.4**	**+2.6**
SDLR	**Sedlovina**	**5.36**	**259**	*e*P	**Pn**	**23 20 57.4**	**+2.1**
SDLR				*e*S	**Sn**	**23 21 55.3**	**-1.0**
SMAR	**Somma**	**5.41**	**259**	P	**Pn**	**23 20 57.6**	**+1.5**
UGLR	**Uglovaya**	**5.42**	**258**	*e*P	**Pn**	**23 20 57.3**	**+1.2**
AVH	**Avacha**	**5.45**	**259**	*e*P	**Pn**	**23 20 58.2**	**+1.7**
KOK	**Koryaka**	**5.50**	**259**	*e*P	**Pn**	**23 20 59.4**	**+2.2**
GNL	**Ganaly**	**5.79**	**264**	*e*P	**Pn**	**23 21 03.3**	**+2.1**
RUS	**Russkaya**	**5.89**	**252**	P	**Pn**	**23 21 04.6**	**+2.2**
MTVR	**Mutnovka**	**6.05**	**253**	P	**Pn**	**23 21 07.2**	**+2.4**
MTVR				S	**Sn**	**23 22 12.3**	**-0.9**
PETK	**Petropavlovsk-**	**6.09**	**259**	Pn	**Pn**	**23 21 07.6**	**+2.4**
	0.6nm,0.3s,baz=79,slow=17,SNR=7.3						
ASAK	**Asacha**	**6.25**	**253**	*e*P	**Pn**	**23 21 10.1**	**+2.7**
ASAK				S	**Sn**	**23 22 17.5**	**-0.6**
ILAR	**Eielson Array**	**24.50**	**47**	P	**P**	**23 24 53.3**	**-0.5**
	0.3nm,0.6s,baz=252,slow=9.2,SNR=4.5						
SONM	**Songino Array**	**37.85**	**286**	P	**P**	**23 26 52.7**	**+1.2**
	0.3nm,0.5s,baz=54,slow=9.7,SNR=2.8						
MKAR	**Makanchi Array**	**51.43**	**299**	P	**P**	**23 28 39.1**	**-0.4**
	0.3nm,0.7s,baz=57,slow=9.1,SNR=3.4						
TXAR	**Lajitas Array**	**65.90**	**73**	P	**P**	**23 30 21.6**	**+1.1**
	0.3nm,0.6s,baz=303,slow=5.4,SNR=6.0						

IDC 09 23:30:01.4±6.4,**1.91S×99.38E, h0km,mb3.4/3,mb1 3.6/3, mb1mx3.4/23,mbtmp3.4/3,Error ellipse: s-maj=234.1km s-min=29.2km az=62.0,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.57**	**120**	P	P	23 37 24.9	-1.5
	0.3nm,0.3s,baz=305,slow=9.0,SNR=6.3						
ASAR	**Alice Springs**	**39.80**	**126**	P	P	23 37 37.9	+1.2
	0.3nm,0.5s,baz=303,slow=7.7,SNR=3.3						
SONM	**Songino Array**	**49.92**	**6**	P	P	23 38 56.8	-0.2
	0.2nm,0.4s,baz=180,slow=7.2,SNR=2.4						
TXAR	**Lajitas Array**	**145.00**	**37**	PKPbc	PKPab	23 49 39.8	-1.0
	0.2nm,0.4s,baz=193,slow=1.0,SNR=4.4						

*IDC **09** 23:47:00.9±0.5,22.87S×175.15W, h0km,mb4.5/20, mb1 4.6/20,mb1mx4.6/26,mbtmp4.5/20,MS3.5/5, Ms1 3.5/5,ms1mx3.2/31,Error ellipse: s-maj=24.9km s-min=15.1km az=145.0*
*ISCJB **09** 23:47:03.6±0.5,23.15S±0.1×175.23W±0.09,h30km, mb4.5/23,MS3.8/3,Error ellipse: s-maj=17.6km s-min=9.4km az=155.3*
*SZGRF **09** 23:47:07.8,21.96S×174.28W,h33km,Tonga Islands*
*NEIC **09** 23:47:11.0±2.1,22.88S×175.33W,h76km±17km,mb4.5/5, Error ellipse: s-maj=16.7km s-min=8.6km az=141.0*
ISC 09 23:47:05.7±0.5,**23.0S**±0.1×**175.1W**±0.1,**h30**km,**n131**, σ1§05/121,**mb4.5**/22,**MS3.7**/3,**22C-6D,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.27**	**308**	*e*Pn	**Pn**	**23 49 06.2**	**+2.4**
	106nm,0.9s						
AFI	**Afiamalu**	**9.55**	**20**	Pn	Pn	23 49 12.8	-8.5
	7.6nm,0.3s,baz=239,slow=22,SNR=4.7						
AFI				LR	LR	23 52 00.3	
	comp=Z,45nm,19.4s,baz=139,slow=32						
RAR	**Rarotonga**	**14.31**	**86**	Pn	Pn	23 50 19.4	-6.9
	3.1nm,0.3s,baz=270,slow=7.6,SNR=9.7						
DZM	**Mont Dzumac**	**17.08**	**269**	*e*LR	LR	23 54 58.8	
	229nm,26.6s						
DZM	**Mont Dzumac**	**17.08**	**269**	*e*P	**P**	**23 51 08.4**	**+4.4**
	54nm,1.3s						
DZM	**Mont Dzumac**	**17.08**	**269**	P	**P**	**23 51 04.4**	**+0.4**
	0.2nm,0.3s,baz=256,slow=18,SNR=2.8						
DZM				LR	LR	23 55 08.6	
	comp=Z,90nm,21.1s,baz=180,slow=29						
TBI	**Tubuai**	**23.57**	**96**	*e*LR	LR	23 57 46.2	
	260nm,27.0s						
PPT2	**Papeete2**	**24.51**	**82**	*e*LR	LR	23 57 52.7	
	364nm,27.8s						
PPT	**Papeete**	**24.52**	**82**	LR	LR	23 58 45.5	
	comp=Z,233nm,19.4s,baz=199,slow=29						
RKT	**Rikitea**	**36.84**	**98**	*e*LR	LR	00 03 53.9	
	240nm,29.5s						
STKA	**Stephens Creek**	**39.24**	**247**	*e*P	**P**	**23 54 30.1**	**-1.5**
STKA	**Stephens Creek**	**39.24**	**247**	P	**P**	**23 54 30.0**	**-1.6**
	4.7nm,1.0s,baz=84,slow=10,SNR=5.0						
STKA				LR	LR	00 10 24.2	
	comp=Z,104nm,18.5s,baz=24,slow=36						
AS31	**Alice Springs**	**46.63**	**259**	*e*P	**P**	**23 55 29.4**	**-2.2**
ASAR	**Alice Springs**	**46.63**	**259**	P	**P**	**23 55 29.7**	**-1.9**
ASAR	**Alice Springs**	**46.63**	**259**	P	**P**	**23 55 29.7**	**-1.9**
	7.8nm,0.7s,baz=101,slow=6.8,SNR=70						
WRAB	**Tennant Creek**	**46.97**	**264**	*e*P	**P**	**23 55 31.5**	**-2.8**
WRA	**Warramunga Arr**	**46.97**	**264**	P	**P**	**23 55 31.9**	**-2.4**
WRA	**Warramunga Arr**	**46.97**	**264**	P	**P**	**23 55 31.9**	**-2.4**
	5.4nm,0.6s,baz=102,slow=8.1,SNR=39						
FITZ	**Fitzroy Crossi**	**55.40**	**263**	P	**P**	**23 56 36.4**	**-1.2**
FITZ	**Fitzroy Crossi**	**55.40**	**263**	P	**P**	**23 56 36.4**	**-1.2**
	4.7nm,0.7s,baz=30,slow=6.5,SNR=6.2						
VNDA	**Vanda**	**55.72**	**186**	P	**P**	**23 56 40.0**	**+1.0**
VNDA	**Vanda**	**55.72**	**186**	P	**P**	**23 56 40.0**	**+1.0**
	2.0nm,0.8s,baz=355,slow=7.4,SNR=11						
NWAO	**Narrogin (SRO)**	**59.71**	**244**	*e*P	**P**	**23 57 06.2**	**-1.5**
QSPA	**South Pole Qui**	**67.11**	**180**	*e*P	**P**	**23 57 58.7**	**+2.4**
	11nm,1.1s						
PETK	**Petropavlovsk-**	**79.36**	**344**	P	**P**	**23 59 07.4**	**-1.0**
PETK	**Petropavlovsk-**	**79.36**	**344**	P	**P**	**23 59 07.4**	**-1.0**
	11nm,0.7s,baz=139,slow=8.5,SNR=17						
CMB	**Columbia Colle**	**79.49**	**41**	*e*P	**P**	**23 59 09.1**	**-0.4**
	4.6nm,1.1s						
KSRS	**Korea Array**	**80.52**	**317**	P	**P**	**23 59 14.0**	**-1.0**
	1.7nm,0.6s,baz=127,slow=6.2,SNR=5.8						
KSAR	**Wonju Array Be**	**80.54**	**317**	P	**P**	**23 59 14.0**	**-1.1**
YBH	**Yreka Blue Hor**	**80.58**	**37**	*e*P	**P**	**23 59 14.9**	**-0.5**
	4.8nm,1.1s						
YBH	**Yreka Blue Hor**	**80.58**	**37**	P	**P**	**23 59 16.2**	**+0.8**
	4.2nm,0.8s,baz=151,slow=1.5,SNR=14						
NVAR	**Mina Array Bea**	**81.01**	**42**	P	**P**	**23 59 18.4**	**+0.4**
NVAR	**Mina Array Bea**	**81.01**	**42**	P	**P**	**23 59 18.4**	**+0.4**
	3.4nm,0.7s,baz=224,slow=8.1,SNR=22						
USRK	**Ussuriysk Arra**	**82.52**	**325**	P	**P**	**23 59 26.1**	**+0.7**
	5.1nm,0.7s,baz=128,slow=4.3,SNR=11						
KDAK	**Kodiak Island**	**82.62**	**12**	P	**P**	**23 59 25.7**	**+0.1**
KDAK	**Kodiak Island**	**82.62**	**12**	P	**P**	**23 59 25.7**	**+0.1**
	4.1nm,0.7s,baz=117,slow=5.1,SNR=4.2						
WVOR	**Worrorse Val**	**83.33**	**38**	*e*P	**P**	**23 59 29.1**	**-0.8**
	6.1nm,1s						
BMW	**Boistfort Moun**	**83.52**	**33**	P	**P**	**23 59 31.3**	**+0.6**
CCUT	**Cedar City**	**83.61**	**45**	*e*P	**P**	**23 59 30.1**	**-1.5**
LVP	**Lakeview Peak**	**83.66**	**34**	P	**P**	**23 59 32.0**	**+0.6**
FL2	**Flat Top 2**	**83.78**	**34**	P	**P**	**23 59 32.8**	**+0.7**
ELK	**Elko**	**84.30**	**41**	P	**P**	**23 59 35.2**	**+0.2**
ELK	**Elko**	**84.30**	**41**	P	**P**	**23 59 35.2**	**+0.2**
	2.2nm,0.7s,baz=253,slow=4.8,SNR=9.2						
HDW	**Hoodsport**	**84.41**	**32**	P	**P**	**23 59 36.0**	**+0.8**
PLCA	**Paso Flores**	**85.62**	**132**	LR	LR	00 31 06.8	
	comp=Z,50nm,20.7s,baz=0.6,slow=31						
TMUT	**Trail Mountain**	**85.99**	**44**	*e*P	**P**	**23 59 44.0**	**+0.4**
MNTX	**Cornudas Mount**	**86.02**	**53**	*e*P	**P**	**23 59 41.9**	**-1.7**
TXAR	**Lajitas Array**	**86.15**	**56**	P	**P**	**23 59 44.7**	**+0.4**
TXAR	**Lajitas Array**	**86.15**	**56**	P	**P**	**23 59 44.7**	**+0.4**
	1.0nm,0.8s,baz=212,slow=9.6,SNR=12						
ANMO	**Albuquerque**	**86.88**	**50**	P	**P**	**23 59 47.9**	**-0.1**
ANMO	**Albuquerque**	**86.88**	**50**	P	**P**	**23 59 47.9**	**-0.1**
	2.5nm,0.9s,baz=220,slow=5.7,SNR=7.3						
NEW	**Newport**	**87.83**	**35**	P	**P**	**23 59 51.9**	**-0.1**
NEW	**Newport**	**87.83**	**35**	P	**P**	**23 59 51.9**	**-0.1**
	0.9nm,0.5s,baz=262,slow=0.8,SNR=3.7						
PDAR	**Pinedale Array**	**88.94**	**42**	P	**P**	**23 59 57.0**	**-0.7**
PDAR	**Pinedale Array**	**88.94**	**42**	P	**P**	**23 59 57.0**	**-0.7**
	1.2nm,0.8s,baz=200,slow=2.3,SNR=8.7						
ILAR	**Eielson Array**	**90.14**	**12**	P	**P**	**00 00 01.6**	**-0.8**
ILAR	**Eielson Array**	**90.14**	**12**	P	**P**	**00 00 01.6**	**-0.8**
	2.5nm,0.9s,baz=223,slow=5.8,SNR=16						
CMAR	**Chiang Mai Arr**	**93.47**	**288**	P	**P**	**00 00 20.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**93.47**	**288**	P	**P**	**00 00 20.0**	**+1.1**
	3.6nm,0.9s,baz=125,slow=3.2,SNR=16						
INK	**Inuvik**	**95.96**	**14**	P	**P**	**00 00 28.6**	**-0.6**
INK	**Inuvik**	**95.96**	**14**	P	**P**	**00 00 28.6**	**-0.6**
	1.2nm,0.8s,baz=144,slow=4.0,SNR=3.8						

SONM	**Songino Array**	**99.38**	**318**	P		**Pdif**		**00 00 45.2**	**-0.1**
SONM	**Songino Array**	**99.38**	**318**	P		**Pdif**		**00 00 45.2**	**-0.1**
	0.5nm,0.6s,baz=131,slow=6.5,SNR=3.2								
ZALV	**Zalesovo Beam**	**114.10**	**320**	PKP		PKPdf		00 05 40.5	-1.1
ZALV	**Zalesovo Beam**	**114.10**	**320**	PKP		PKPdf		00 05 40.5	-1.1
	0.6nm,0.5s,baz=97,slow=3.0,SNR=3.9								
MKAR	**Makanchi Array**	**114.85**	**312**	PKP		PKPdf		00 05 42.3	-1.1
MKAR	**Makanchi Array**	**114.85**	**312**	PKP		PKPdf		00 05 42.3	-1.1
	0.6nm,0.6s,baz=242,slow=0.6,SNR=8.6								
KKAR	**Karatay Array**	**122.89**	**307**	*e*PKPdf		**PKPdf**		**00 05 57.7**	**-1.3**
BOSA	**Boshof**	**125.09**	**202**	PKP		**PKPdf**		**00 06 04.4**	**+0.5**
BOSA	**Boshof**	**125.09**	**202**	PKP		**PKPdf**		**00 06 04.4**	**+0.5**
	1.5nm,1.0s,baz=72,slow=11,SNR=3.0								
ARCES	**ARCESS Array B**	**131.81**	**350**	PKP		**PKPdf**		**00 06 14.6**	**-0.6**
ARCES	**ARCESS Array B**	**131.81**	**350**	PKP		**PKPdf**		**00 06 14.6**	**-0.6**
	2.4nm,0.6s,baz=48,slow=1.4,SNR=18								
FINES	**FINESS Array B**	**138.87**	**345**	PKP		**PKPdf**		**00 06 28.2**	**-0.3**
FINES	**FINESS Array B**	**138.87**	**345**	PKP		**PKPdf**		**00 06 28.2**	**-0.3**
	2.5nm,0.7s,baz=96,slow=1.9,SNR=6.6								
NOA	**NORSAR Array B**	**141.71**	**355**	PKP		**PKPdf**		**00 06 35.1**	**+1.3**
NOA	**NORSAR Array B**	**141.71**	**355**	PKP		**PKPdf**		**00 06 35.1**	**+1.3**
	1.1nm,0.7s,baz=14,slow=4.0,SNR=3.3								
SUW	**Suwalki**	**146.07**	**341**	*e*PKPdf		**PKPdf**		**00 06 41.8**	**+0.3**
MALT	**Malatya**	**147.56**	**306** ⇑	*i*P		PKPab		00 07 05.8	+16
BSEG	**Bad Segeberg**	**148.81**	**354**	*e*PKPbc		**PKPbc**		**00 06 49.9**	**0.0**
LEOM	**Leova**	**149.91**	**327** ⇑	*i*P		**PKPbc**		**00 06 52.9**	**0.0**
KWP	**Kalwaria Pacla**	**149.93**	**337** ⇑	*i*P		**PKPbc**		**00 06 53.0**	**+0.1**
OJC	**Ojcow**	**150.41**	**340**	*e*PKP		**PKPbc**		**00 06 53.7**	**-0.4**
BR131	**Keskin Array S**	**150.49**	**311**	*e*PKPbc		**PKPbc**		**00 06 53.8**	**-1.0**
BRTR	**Kesk

IDC ***10*** *00:31:22.6±0.6, 44°.49N×129°.95W, h0km, mb4.3/23, mb1 4.5/30, mb1mx4.5/35, mbtmp4.4/30, ML3.8/7, MS4.5/45, Ms1 4.5/45, ms1mx4.4/58, Error ellipse: s-maj=19.0km s-min=9.4km az=33.0*

BJI ***10*** *00:31:23.2, 44°.50N×129°.90W, h10km, mB5.4/21, mb5.0/30, Ms5.1/17, Ms7 4.6/24*

ISCJB ***10*** *00:31:23.5±0.2, 44°.53N±0°.03×129°.88W±0°.03, h10km, mb4.9/142, MS4.6/67, Error ellipse: s-maj=4.7km s-min=2.1km az=33.4*

MOS ***10*** *00:31:23.1±1.1, 44°.49N×129°.97W, h10km, mb5.3/50, MS4.6/15, Error ellipse: s-maj=6.4km s-min=4.5km az=117.0*

NEIC ***10*** *00:31:25.0±0.2, 44°.53N×129°.93W, h10km, mb5.1/58, Error ellipse: s-maj=5.0km s-min=2.5km az=216.0*

NEIC Felt at Dayton, Portland, Seal Rock and Toledo.

GCMT ***10*** *00:31:26.5±0.2, 44°.28N×130°.05W, h12km, MW5.3, Moment Tensor Solution. s59,c95; s99,c186; Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{r\phi}$0.00; Best double couple: M_o1.10000×10^{17} NP1:$\phi_1$295.00000°, δ84.00000°, λ175.00000°. NP2:$\phi_2$25.00000°, δ85.00000°, λ6.00000°. Principal axes: T 1.2100, Plg8.0000°; Azm250.0000°; N -0.1900, Plg82.0000°, Azm68.0000°; P -1.0200, Plg0.0000°, Azm160.0000°; Data Used: II IU G CN IC. Surface waves from 103 sta.*

SZGRF ***10*** *00:31:30.2, 44°.89N×130°.79W, h33km, mb5.0, Off coast of Oregon, United States*

ISC 10 00:31:25.7±0.5, 44°.48N±0°.06×129°.97W±0°.04, h18km±1km, n928, σ1§27/912, mb5.0/145, MS4.6/67, 229C-241D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**4.39**	**110**	*e*Pn	Pn	00 32 28.1	-3.5
RNO	**Roman Nose**	**4.51**	**95**	P	**Pn**	**00 32 30.9**	**-2.4**
MPOR	**Mary's Peak**	**4.59**	**87**	P	**Pn**	**00 32 31.8**	**-2.5**
KBO	**Bosley Butte**	**4.76**	**116**	*e*Pn	**Pn**	**00 32 35.4**	**-1.3**
COR	**Corvallis**	**4.77**	**86**	*e*P	**Pn**	**00 32 34.6**	**-2.0**
COR	**Corvallis**	**4.77**	**86**	*e*Pn	**Pn**	**00 32 34.6**	**-2.0**
NLO	**Nicolai Mounta**	**4.87**	**68**	P	**Pn**	**00 32 36.9**	**-1.3**
ON2	**Olympics--Nort**	**4.96**	**59**	P	**Pn**	**00 32 38.0**	**-1.3**
BMW	**Boistfort Moun**	**5.14**	**65**	*e*P	**Pn**	**00 32 40.2**	**-1.7**
BMW	**Boistfort Moun**	**5.14**	**65**	*e*Pn	**Pn**	**00 32 40.2**	**-1.7**
NLWA	**Neilton Lookou**	**5.16**	**53**	*e*Pn	**Pn**	**00 32 40.6**	**-1.4**
KRMB	**Red Mountain**	**5.34**	**122**	*e*Pn	**Pn**	**00 32 44.7**	**+0.1**
BROR	**Big Rock Looko**	**5.39**	**90**	P	**Pn**	**00 32 43.6**	**-1.6**
OBC	**Olympics--Boni**	**5.42**	**47**	P	**Pn**	**00 32 44.5**	**-1.0**
HUMO	**Hull Mountain**	**5.43**	**108**	*e*Pn	**Pn**	**00 32 45.0**	**-0.8**
FL2	**Flat Top 2**	**5.64**	**70**	P	**Pn**	**00 32 47.5**	**-1.3**
FRIS	**Frissel Point**	**5.65**	**90**	P	**Pn**	**00 32 47.5**	**-1.5**
KHMM	**Horse Mountain**	**5.84**	**126**	*e*Pn	**Pn**	**00 32 52.0**	**+0.4**
YBH	**Yreka Blue Hor**	**5.98**	**115**	*e*Pn	**Pn**	**00 32 54.6**	**+1.2**
YBH				Sn	**Sn**	**00 34 06.9**	**+5.5**
YBH	**Yreka Blue Hor** 0.6nm,0.3s,baz=287,slow=8.4,SNR=23	**5.98**	**115**	Pn	**Pn**	**00 32 54.1**	**+0.7**
YBH	0.3nm,0.3s,baz=119,slow=19,SNR=2.1			Sn	**Sn**	**00 34 06.9**	**+5.5**
YBH	comp=Z,1μm,21.5s,baz=302,slow=34			LR	LR	00 34 43.4	
PGC	**Sidney**	**6.13**	**45**	*e*Pn	**Pn**	**00 32 54.2**	**-1.1**
LON	**Longmire**	**6.16**	**65**	*e*P	**Pn**	**00 32 54.5**	**-1.3**
LON	**Longmire**	**6.16**	**65**	*e*Pn	**Pn**	**00 32 54.5**	**-1.3**
JCW	**Jim Creek**	**6.69**	**53**	*e*Pn	**Pn**	**00 33 02.5**	**-0.6**
KIPM	**Iron Peak**	**6.71**	**132**	*e*Pn	**Pn**	**00 33 02.8**	**-0.6**
WDC	**Whiskeytown Da**	**6.73**	**123**	*e*P	**Pn**	**00 33 05.2**	**+1.6**
WDC	**Whiskeytown Da**	**6.73**	**123**	*e*Pn	**Pn**	**00 33 05.2**	**+1.6**
KCPM	**Cahto Peak**	**6.75**	**133**	*e*Pn	**Pn**	**00 33 05.4**	**+1.5**
ETW	**Entiat**	**7.40**	**62**	*e*Pn	**Pn**	**00 33 12.3**	**-0.6**
MOD	**Modoc**	**7.52**	**107**	*e*Pn	**Pn**	**00 33 14.7**	**+0.1**
HOPS	**Hopland**	**7.52**	**134**	*e*Pn	**Pn**	**00 33 13.5**	**-1.0**
HAWA	**Hanford**	**7.59**	**72**	*e*Pn	**Pn**	**00 33 14.4**	**-0.9**
BBB	**Bella Bella**	**7.81**	**8**	Pn	**Pn**	**00 33 20.1**	**+1.7**
BBB				Sn	Sn	00 34 52.1	+5.9
BBB	**Bella Bella** 1.0nm,0.3s,baz=200,slow=12,SNR=21	**7.81**	**8**	Pn	**Pn**	**00 33 20.1**	**+1.7**
BBB	baz=227,slow=19,SNR=0.9			Sn	Sn	00 34 52.1	+5.9
BBB	comp=Z,2μm,19.8s,baz=187,slow=32			LR	LR	00 35 28.7	
NSHM	**Saint Helena R**	**8.12**	**135**	*e*Sn	Sb	00 35 11.2	-11
OD2	**Odessa Site #2**	**8.37**	**66**	*e*Pn	**Pn**	**00 33 24.7**	**-1.4**
BEKR	**Beckworth**	**8.49**	**120**	*e*Pn	**Pn**	**00 33 30.3**	**+2.3**
WVOR	**Wild Horse Val**	**8.49**	**100**	*e*P	**Pn**	**00 33 29.5**	**+1.6**
WVOR	**Wild Horse Val**	**8.49**	**100**	*e*Pn	**Pn**	**00 33 29.5**	**+1.6**
DIB	**Dawson Inlet,** SNR=144	**8.88**	**350**	Pn	**Pn**	**00 33 34.1**	**+1.0**
DIB				T	T	00 42 40.0	
VIB	**Van Inlet** SNR=105	**8.94**	**350**	Pn	**Pn**	**00 33 32.6**	**-1.3**
VIB				T	T	00 42 51.0	
BMO	**Blue Mountains** 7.6nm,0.4s	**9.03**	**83**	*e*Pn	**Pn**	**00 33 33.2**	**-2.1**
PAHR	**Pah Rah Range**	**9.20**	**118**	*e*Pn	**Pn**	**00 33 40.2**	**+2.6**
NEW	**Newport**	**9.65**	**62**	*e*Pn	**Pn**	**00 33 41.9**	**-1.8**
NEW				Sn	Sn	00 35 40.7	+9.1
NEW	**Newport** 1.8nm,0.3s,baz=252,slow=12,SNR=16	**9.65**	**62**	Pn	**Pn**	**00 33 41.5**	**-2.2**
NEW	baz=256,slow=24,SNR=1.3			Sn	Sn	00 35 40.7	+9.1
NEW	comp=Z,7μm,20.4s,baz=248,slow=37			LR	LR	00 37 15.7	
NEW	**Newport** baz=9.6,SNR=21	**9.65**	**62**	⇓P	**Pn**	**00 33 41.4**	**-2.2**
CMB	**Columbia Colle**	**9.67**	**128**	*e*P	**Pn**	**00 33 44.8**	**+0.9**
CMB	**Columbia Colle**	**9.67**	**128**	*e*Pn	**Pn**	**00 33 44.8**	**+0.9**
WAKR	**Walker**	**9.90**	**123**	*e*Pn	**Pn**	**00 33 49.5**	**+2.3**
C11A	**Tepee Creek (N** baz=10.0	**10.09**	**66**	⇑P	**Pn**	**00 33 47.7**	**-2.0**
BMN	**Battle Mountai**	**10.25**	**109**	*e*P	**Pn**	**00 33 54.5**	**+2.5**
BMN	**Battle Mountai**	**10.25**	**109**	*e*Pn	**Pn**	**00 33 54.5**	**+2.5**
MFID	**Camas Ranch**	**10.26**	**91**	*e*Pn	**Pn**	**00 33 52.6**	**+0.6**
MFID	**Camas Ranch** baz=10,SNR=8.8	**10.26**	**91**	⇑P	**Pn**	**00 33 52.1**	**0.0**
E12A	**Beaver Dam Sad** baz=10,SNR=111	**10.30**	**74**	⇓P	**Pn**	**00 33 51.4**	**-1.3**
G12A	**Big Creek, Yel** baz=10,SNR=28	**10.43**	**81**	⇑P	**Pn**	**00 33 53.9**	**-0.6**
C12B	**Naegeli Ranch,** baz=10	**10.57**	**67**	⇓P	**Pn**	**00 33 55.3**	**-1.0**
NVAR	**Mina Array Bea**	**10.63**	**121**	Pn	**Pn**	**00 33 58.5**	**+1.1**
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=295,slow=12,SNR=19	**10.63**	**121**	Pn	**Pn**	**00 33 58.5**	**+1.1**
NVAR	comp=Z,2μm,19.2s,baz=56,slow=35			LR	LR	00 37 39.7	
B12A	**Libby** baz=11	**10.69**	**63**	⇑P	**Pn**	**00 33 56.8**	**-1.1**
I12A	**Atlanta** baz=11	**10.69**	**88**	⇑P	**Pn**	**00 33 57.4**	**-0.7**
NV11	**Mina Array Sit**	**10.72**	**120**	*e*Pn	**Pn**	**00 33 59.6**	**+1.1**
A12A	**Yaak River Ran** baz=11	**10.79**	**61**	⇑P	**Pn**	**00 33 57.9**	**-1.4**
H12A	**Diamond D Ranc** baz=11,SNR=77	**10.80**	**84**	⇓P	**Pn**	**00 33 58.9**	**-0.6**
MLAC	**Mammoth Lakes** baz=11	**10.83**	**125**	⇑P	**Pn**	**00 34 00.9**	**+0.9**
BSMT	**Bassoo Peak**	**11.06**	**67**	*e*Pn	**Pn**	**00 34 01.6**	**-1.4**
D13A	**Huson** baz=11,SNR=18	**11.14**	**71**	⇑P	**Pn**	**00 34 02.3**	**-1.9**
C13A	**Hot Springs** baz=11	**11.16**	**68**	⇓P	**Pn**	**00 34 03.2**	**-1.2**
CRAG	**Craig**	**11.19**	**351**	*e*Pn	**Pn**	**00 34 06.7**	**+2.1**
BLMT	**Blacktail Moun**	**11.37**	**66**	*e*Pn	**Pn**	**00 34 06.2**	**-1.2**
JTMT	**Jette**	**11.37**	**68**	*e*Pn	**Pn**	**00 34 06.4**	**-0.9**
B13A	**Whitefish** baz=11,SNR=13	**11.38**	**65**	⇑P	**Pn**	**00 34 05.1**	**-2.3**
ELK	**Elko**	**11.48**	**104**	*e*Pn	**Pn**	**00 34 10.6**	**+1.7**
ELK	**Elko** 0.1nm,0.3s,baz=291,slow=12,SNR=38	**11.48**	**104**	Pn	**Pn**	**00 34 10.0**	**+1.1**
ELK	comp=Z,3μm,20.2s,baz=287,slow=37			LR	LR	00 38 30.3	
SWMT	**Swartz Lake**	**11.52**	**69**	*e*Pn	**Pn**	**00 34 08.7**	**-0.6**
RCTC	**Rector, Farmer** baz=12	**11.54**	**131**	⇓P	**Pn**	**00 34 11.0**	**+1.4**
A13A	**Flathead Natio** baz=12,SNR=12	**11.57**	**62**	⇑P	**Pn**	**00 34 08.0**	**-1.9**
YBMT	**Yellow Bay**	**11.57**	**67**	*e*Pn	**Pn**	**00 34 08.8**	**-1.2**
TIN	**Tinemaha** baz=12	**11.58**	**126**	⇓P	**Pn**	**00 34 10.0**	**-0.1**
C14A	**Swan Lake**	**11.73**	**68**	⇑P	**Pn**	**00 34 10.4**	**-1.7**
D14A	**Greenough** baz=12,SNR=22	**11.79**	**71**	⇓P	**Pn**	**00 34 11.3**	**-1.7**
SLMT	**Seeley Lake**	**11.82**	**71**	*e*Pn	**Pn**	**00 34 12.2**	**-1.2**
I14A	**Mackay** baz=12,SNR=12	**11.87**	**87**	⇓P	**Pn**	**00 34 13.0**	**-1.2**
WALA	**Waterton Lakes**	**11.92**	**62**	*e*Pn	**Pn**	**00 34 13.6**	**-1.2**
SMMC	**Simmler** baz=12	**11.93**	**137**	⇓P	**Pn**	**00 34 16.1**	**+1.2**
CHMT	**Chamberlain Mo**	**11.94**	**72**	*e*Pn	**Pn**	**00 34 13.7**	**-1.5**
VES	**Vestal, Richgr** baz=12	**11.98**	**132**	⇑P	**Pn**	**00 34 15.9**	**+0.3**
WRAK	**Wrangell Islan**	**12.05**	**354**	*e*Pn	Pn	00 34 19.7	+3.3
CWC	**Cottonwood Cre** baz=12	**12.09**	**128**	⇓P	**Pn**	**00 34 17.2**	**-0.1**
GRAC	**Grapevine Rang** baz=12	**12.12**	**124**	⇓P	**Pn**	**00 34 17.5**	**0.0**
B14A	**Marquette Ranc** baz=12,SNR=18	**12.16**	**65**	⇑P	**Pn**	**00 34 15.9**	**-2.2**
MCMT	**McKenzie Canyo**	**12.20**	**82**	*e*Pn	**Pn**	**00 34 18.8**	**0.0**
A14A	**Double T Ranch** baz=12	**12.21**	**63**	⇑P	**Pn**	**00 34 16.5**	**-2.2**
PKM	**Peak Mountain** baz=12	**12.35**	**137**	⇓P	**Pn**	**00 34 21.3**	**+0.6**
DLMT	**Dillon**	**12.35**	**80**	*e*Pn	**Pn**	**00 34 21.9**	**+1.2**
F15A	**Butte** baz=12,SNR=12	**12.41**	**78**	⇑P	**Pn**	**00 34 20.0**	**-1.6**
ISA	**Isabella**	**12.44**	**131**	*e*P	**Pn**	**00 34 23.4**	**+1.5**
ISA	**Isabella**	**12.44**	**131**	*e*Pn	**Pn**	**00 34 23.4**	**+1.5**
ISA	**Isabella** baz=12,SNR=7.2	**12.44**	**131**	⇑P	**Pn**	**00 34 22.6**	**+0.7**
LRM	**Limekiln Ridge**	**12.44**	**78**	*e*Pn	**Pn**	**00 34 22.1**	**0.0**
D15A	**Lincoln** baz=12,SNR=16	**12.45**	**72**	⇑P	**Pn**	**00 34 20.3**	**-1.8**
C15A	**Salmond Ranch,** baz=12,SNR=28	**12.49**	**69**	⇓P	**Pn**	**00 34 21.0**	**-1.5**
B15A	**Bradely Ranch,** baz=12,SNR=13	**12.61**	**66**	⇑P	**Pn**	**00 34 22.2**	**-2.0**
A15A	**Johnson Ranch,** baz=13,SNR=33	**12.65**	**63**	⇓P	**Pn**	**00 34 22.5**	**-2.2**
ARVC	**Arvin** baz=13	**12.66**	**134**	⇑P	**Pn**	**00 34 25.5**	**+0.6**
MPMC	**Manual Prospec** baz=13	**12.70**	**127**	⇑P	**Pn**	**00 34 26.3**	**+0.8**
SBC	**Santa Barbara** baz=13	**12.77**	**138**	⇑P	**Pn**	**00 34 27.9**	**+1.6**
FURC	**Furnace Creek,** baz=13,SNR=9.5	**12.78**	**124**	⇓P	**Pn**	**00 34 27.3**	**+0.8**
HVU	**Hansel Valley**	**12.85**	**96**	*e*P	**Pn**	**00 34 29.0**	**+1.5**
HVU	**Hansel Valley**	**12.85**	**96**	*e*Pn	**Pn**	**00 34 29.0**	**+1.5**
E16A	**East Helena** baz=13	**13.00**	**74**	⇑P	**Pn**	**00 34 28.3**	**-1.2**
LRMC	**Laurel Mountai** baz=13	**13.01**	**130**	⇑P	**Pn**	**00 34 30.1**	**+0.5**
BOZ	**Bozeman (W)**	**13.02**	**78**	*e*P	**Pn**	**00 34 29.8**	**0.0**
BOZ	comp=Z,108nm,2.0s			pmax	pmax		
BOZ	**Bozeman (W)** comp=Z,108nm,2.0s	**13.02**	**78**	*e*Pn	**Pn**	**00 34 29.8**	**0.0**
F16A	**Kennard Place,** baz=13	**13.02**	**78**	⇑P	**Pn**	**00 34 28.2**	**-1.6**
SIT	**Sitka**	**13.04**	**347**	*e*P	Pn	00 34 33.0	+3.2
SIT	**Sitka**	**13.04**	**347**	*e*Pn	Pn	00 34 33.0	+3.2
C16A	**Fuhringer Ranc** baz=13,SNR=13	**13.06**	**69**	⇓P	**Pn**	**00 34 28.9**	**-1.5**
D16A	**Dana Ranch, Ca** baz=13,SNR=18	**13.11**	**72**	⇑P	**Pn**	**00 34 30.4**	**-0.7**
OSI	**Osito Adit** baz=13	**13.12**	**135**	⇑P	**Pn**	**00 34 31.2**	**+0.1**
B16A	**M & M Farms, S** baz=13,SNR=16	**13.19**	**66**	⇑P	**Pn**	**00 34 30.1**	**-2.0**
QLMT	**Earthquake Lak**	**13.21**	**82**	*e*Pn	**Pn**	**00 34 31.3**	**-1.2**
SPUT	**South Promonto**	**13.23**	**98**	*e*Pn	**Pn**	**00 34 33.3**	**+0.5**
SPUT				*e*Sn	**Sn**	**00 36 58.8**	**-0.6**
I16A	**Newdale** baz=13,SNR=14	**13.28**	**86**	⇑P	**Pn**	**00 34 32.7**	**-0.8**
EDW2	**Edwards Air Fo** baz=13	**13.29**	**132**	⇓P	**Pn**	**00 34 33.2**	**-0.3**
BLG	**Laguna Peak** baz=13	**13.35**	**137**	⇑P	**Pn**	**00 34 34.3**	**0.0**
H16A	**Russell Place,** baz=13	**13.35**	**82**	⇓P	**Pn**	**00 34 32.1**	**-2.3**
A16A	**West Butte Ran** baz=13	**13.37**	**64**	⇑P	**Pn**	**00 34 32.7**	**-1.8**
DUG	**Dugway**	**13.39**	**103**	*e*P	**Pn**	**00 34 35.3**	**+0.4**
DUG	**Dugway**	**13.39**	**103**	*e*Pn	**Pn**	**00 34 35.3**	**+0.4**
DUG	**Dugway** baz=13,SNR=7.4	**13.39**	**103**	⇑P	**Pn**	**00 34 33.6**	**-1.3**
SHOC	**Shoshone** baz=14,SNR=11	**13.51**	**125**	⇑P	**Pn**	**00 34 36.8**	**+0.4**
YMR	**Madison River**	**13.55**	**83**	*e*Pn	**Pn**	**00 34 37.2**	**0.0**
E17A	**Martinsdale** baz=14	**13.56**	**75**	⇑P	**Pn**	**00 34 34.6**	**-2.6**
DECC	**Green Verdugo** baz=14	**13.60**	**135**	⇓P	**Pn**	**00 34 37.9**	**+0.2**
GSC	**Goldstone**	**13.63**	**128**	*e*P	**Pn**	**00 34 40.1**	**+2.0**
GSC	**Goldstone**	**13.63**	**128**	*e*Pn	**Pn**	**00 34 40.1**	**+2.0**
GSC	**Goldstone** baz=14,SNR=8.8	**13.63**	**128**	⇓P	**Pn**	**00 34 38.5**	**+0.4**
G17A	**Pierce Place,** baz=14	**13.66**	**80**	⇓P	**Pn**	**00 34 36.3**	**-2.2**
YFT	**Old Faithful**	**13.67**	**83**	*e*Pn	**Pn**	**00 34 37.2**	**-1.6**
IMW	**Indian Meadow**	**13.67**	**86**	*e*Pn	**Pn**	**00 34 40.8**	**+2.0**
F17A	**Fitzpatrick Pl** baz=14,SNR=12	**13.70**	**77**	⇑P	**Pn**	**00 34 38.3**	**-0.8**
C17A	**Wharram Farm,** baz=14,SNR=8.9	**13.70**	**70**	⇓P	**Pn**	**00 34 37.6**	**-1.5**
D17A	**Six Diamond Ra** baz=14,SNR=17	**13.71**	**72**	⇑P	**Pn**	**00 34 37.9**	**-1.4**
TPAW	**Teton Pass**	**13.73**	**87**	*e*Pn	**Pn**	**00 34 40.6**	**+1.0**
PASC	**Pasadena Art C**	**13.74**	**135**	*e*Pn	**Pn**	**00 34 37.9**	**-1.7**
MWC	**Mount Wilson**	**13.76**	**134**	*e*P	**Pn**	**00 34 41.8**	**+1.7**
MWC	**Mount Wilson**	**13.76**	**134**	*e*Pn	**Pn**	**00 34 41.8**	**+1.7**
HWUT	**Hardware Ranch** comp=Z,78nm,1.5s	**13.76**	**96**	*e*Pn	**Pn**	**00 34 40.8**	**+0.7**
B17A	**L&G Farms, Che** baz=14,SNR=11	**13.77**	**67**	⇓P	**Pn**	**00 34 38.3**	**-1.6**
RRX	**Edison Barstow** baz=14	**13.83**	**129**	⇑P	**Pn**	**00 34 41.0**	**+0.2**
MOOW	**Moose Ponds**	**13.83**	**86**	*e*Pn	**Pn**	**00 34 43.0**	**+1.9**
H17A	**Grant Village** baz=14	**13.86**	**84**	⇑P	**Pn**	**00 34 40.3**	**-1.1**
SNOW	**Snow King Moun**	**13.88**	**87**	*e*Pn	**Pn**	**00 34 43.1**	**+1.4**
I17A	**Pilgrim Ck.** baz=14	**13.93**	**86**	⇓P	**Pn**	**00 34 40.7**	**-1.6**
A17A	**Triple J Farms** baz=14,SNR=20	**13.95**	**65**	⇑P	**Pn**	**00 34 40.5**	**-1.9**
BFSC	**Mount Baldy Ra** baz=14,SNR=6.9	**13.96**	**133**	⇑P	**Pn**	**00 34 43.8**	**+1.1**
LOHW	**Long Hollow**	**13.96**	**87**	*e*Pn	**Pn**	**00 34 44.4**	**+1.7**
DLBC	**Dease Lake**	**13.98**	**360**	Pn	P	00 34 46.6	-4.0
DLBC	**Dease Lake** comp=Z,0.2nm,0.3s,baz=183,slow=12,SNR=24	**13.98**	**360**	Pn	P	00 34 46.6	-4.0
DLBC	comp=Z,5μm,20.5s,baz=175,slow=35			LR	LR	00 39 29.5	
NLU	**North Lily Min**	**14.01**	**103**	*e*Pn	**Pn**	**00 34 43.7**	**+0.3**
TUQ	**Turquoise Moun** baz=14	**14.04**	**125**	⇑P	**Pn**	**00 34 43.4**	**-0.4**
FMP	**Fort Macarthur** baz=14	**14.05**	**136**	⇑P	**Pn**	**00 34 43.0**	**-0.7**
ARUT	**Antelope Range**	**14.12**	**113**	*e*P	**Pn**	**00 34 44.4**	**-0.6**
ARUT	comp=Z,76nm,1.2s			pmax	pmax		
ARUT	**Antelope Range** comp=Z,76nm,1.2s	**14.12**	**113**	*e*Pn	**Pn**	**00 34 44.4**	**-0.6**
JLU	**Jordanelle** comp=Z,25nm,1.1s	**14.19**	**99**	*e*Pn	**Pn**	**00 34 45.6**	**-0.4**
E18A	**Harlowton** baz=14,SNR=11	**14.21**	**74**	⇑P	Pn	00 34 42.9	-3.2
HEC	**Hector,Ludlow** baz=14,SNR=7.7	**14.24**	**128**	⇑P	**Pn**	**00 34 45.6**	**-0.9**
CIS	**Catalina Islan** baz=14	**14.24**	**137**	⇓P	**Pn**	**00 34 46.9**	**+0.5**
MPU	**Maple Canyon** comp=Z,21nm,1.2s	**14.29**	**102**	*e*Pn	Pn	00 34 43.3	-3.9
CCUT	**Cedar City** comp=Z,200nm,1.8s	**14.31**	**113**	*e*Pn	**Pn**	**00 34 48.7**	**+1.1**
D18A	**Linhart Farms,** baz=14	**14.32**	**72**	⇑P	Pn	00 34 44.2	-3.3
BBRC	**Big Bear Solar** baz=14	**14.33**	**131**	⇑P	**Pn**	**00 34 47.8**	**-0.1**
F18A	**Big Timber** baz=14	**14.35**	**77**	⇓P	**Pn**	**00 34 44.8**	**-3.2**
GCMT	**Greycliff**	**14.39**	**78**	*e*Pn	**Pn**	**00 34 49.2**	**+0.6**
DAU	**Daniels Canyon**	**14.40**	**100**	*e*P	**Pn**	**00 34 49.6**	**+0.7**
DAU	**Daniels Canyon**	**14.40**	**100**	*e*Pn	**Pn**	**00 34 49.6**	**+0.7**
EGMT	**Eagleton**	**14.42**	**69**	*e*Pn	**Pn**	**00 34 49.1**	**+0.2**
EGMT	**Eagleton** baz=14	**14.42**	**69**	⇓P	**Pn**	**00 34 46.1**	**-2.8**
M17A	**Scullys Gap (B** baz=14	**14.45**	**95**	⇓P	**Pn**	**00 34 47.3**	**-2.1**
B18A	**Beardsley Farm** baz=14	**14.46**	**67**	⇓P	**Pn**	**00 34 46.4**	**-3.0**
H18A	**Shoshone NF, C** baz=14	**14.47**	**82**	⇑P	**Pn**	**00 34 47.9**	**-1.9**
G18A	**Lazy EL Ranch,** baz=14,SNR=7.4	**14.49**	**80**	⇑P	**Pn**	**00 34 47.4**	**-2.5**
A18A	**Metzger Ranch,** baz=14	**14.49**	**65**	⇑P	**Pn**	**00 34 47.0**	**-2.8**
I18A	**Diamond G Ranc** baz=14	**14.51**	**86**	⇑P	**Pn**	**00 34 47.7**	**-2.6**
SCI	**San Clemente I** baz=14	**14.52**	**138**	⇓P	**Pn**	**00 34 51.1**	**+0.8**
MVU	**Marysvale**	**14.57**	**108**	*e*Pn	**Pn**	**00 34 52.3**	**+1.0**
MSU	**Marysvale**	**14.60**	**108**	*e*P	**Pn**	**00 34 52.2**	**+0.7**
MSU	**Marysvale**	**14.60**	**108**	*e*Pn	**Pn**	**00 34 52.2**	**+0.7**
GMRC	**Granite Mounta** baz=15	**14.66**	**126**	⇓P	**Pn**	**00 34 52.1**	**-0.2**
MURC	**Murrieta** baz=15	**14.69**	**133**	⇑P	**Pn**	**00 34 53.5**	**+0.8**
RLMT	**Red Lodge** comp=Z,35nm,1.0s	**14.71**	**80**	*e*Pn	**Pn**	**00 34 53.2**	**+0.2**
L18A	**Fontenelle, Gr** baz=15	**14.76**	**93**	⇓P	**Pn**	**00 34 51.6**	**-2.1**
LDFC	**Landfair**	**14.77**	**124**	*e*Pn	**Pn**	**00 34 55.7**	**+2.0**
C19A	**Slack Wire Ran** baz=15,SNR=9.2	**14.87**	**70**	⇓P	**Pn**	**00 34 53.0**	**-1.9**
BW06	**Boulder Array** comp=Z,48nm,1.8s	**14.88**	**89**	*e*Pn	**Pn**	**00 34 56.0**	**+0.7**
PDAR	**Pinedale Array**	**14.88**	**89**	Pn	**Pn**	**00 34 57.9**	**+2.5**
PDAR	**Pinedale Array** comp=Z,0.1nm,0.3s,baz=268,slow=15,SNR=12	**14.88**	**89**	Pn	**Pn**	**00 34 57.9**	**+2.5**
PDAR	comp=Z,5μm,19.3s,baz=285,slow=38			LR	LR	00 40 40.1	
F19A	**Roth Farm, Mol** baz=15	**14.89**	**77**	⇓P	**Pn**	**00 34 53.7**	**-1.7**
TMUT	**Trail Mountain** comp=Z,38nm,1.2s	**14.89**	**104**	*e*Pn	**Pn**	**00 34 56.1**	**+0.6**
D19A	**Cripps Ranch,** baz=15,SNR=13	**14.94**	**72**	⇓P	**Pn**	**00 34 54.6**	**-1.4**
H19A	**Powell** baz=15	**14.96**	**82**	⇓P	**Pn**	**00 34 55.3**	**-1.0**
E19A	**Rath Farm, Rou** baz=15	**14.99**	**75**	⇑P	**Pn**	**00 34 55.0**	**-1.7**
B19A	**Brinkman Farms** baz=15	**15.01**	**67**	⇑P	**Pn**	**00 34 54.3**	**-2.5**
BELC	**Belle Mtn. Jos** baz=15	**15.03**	**129**	⇓P	**Pn**	**00 34 57.2**	**-0.1**
I19A	**Meeteetse** baz=15,SNR=13	**15.04**	**84**	⇑P	**Pn**	**00 34 56.3**	**-1.1**
PFO	**Pinyon Flat Ob** comp=Z,80nm,2.4s,SNR=10	**15.08**	**131**	Pn	**Pn**	**00 35 00.5**	**+2.6**
PFO	**Pinyon Flat Ob**	**15.08**	**131**	*e*Pn	**Pn**	**00 34 58.6**	**+0.7**
PFO	**Pinyon Flat Ob** comp=Z,0.1nm,0.3s,baz=336,slow=14,SNR=14	**15.08**	**131**	Pn	**Pn**	**00 34 58.8**	**+0.8**
PFO	comp=Z,3μm,18.0s,baz=311,slow=35			LR	LR	00 40 12.3	
PFO	**Pinyon Flat Ob** baz=15	**15.08**	**131**	⇑P	**Pn**	**00 34 57.8**	**-0.2**
Q16A	**Castle Valley** baz=15	**15.09**	**105**	⇓P	**Pn**	**00 34 57.0**	**-1.2**
J19A	**Crowheart** baz=15	**15.13**	**87**	⇓P	**Pn**	**00 34 57.2**	**-1.4**
L19A	**Farson** baz=15	**15.20**	**92**	⇑P	**Pn**	**00 34 57.7**	**-1.8**
A19A	**Klindworth Far** baz=15	**15.21**	**65**	⇑P	**Pn**	**00 34 57.3**	**-2.3**
NEE2	**Needles Airpor** baz=15	**15.27**	**124**	⇑P	**Pn**	**00 35 00.0**	**-0.3**
109C	**Camp Elliot, M** baz=15	**15.30**	**135**	⇓P	**Pn**	**00 35 00.3**	**-0.4**
SKAG	**Skagway** comp=Z,164nm,1.7s	**15.35**	**350**	*e*Pn	**Pn**	**00 35 02.5**	**+1.2**
K19A	**Absolon Red Bu** baz=15	**15.38**	**89**	⇑P	**Pn**	**00 34 59.7**	**-2.2**
IRM	**Iron Mountain** baz=15,SNR=17	**15.39**	**127**	⇑P	**Pn**	**00 35 01.7**	**-0.3**
E20A	**Meyer Farm, Mu** baz=15	**15.44**	**75**	⇓P	**Pn**	**00 35 00.5**	**-2.2**
G20A	**Bridger** baz=15	**15.45**	**80**	⇓P	**Pn**	**00 35 00.5**	**-2.2**
F20A	**Billings** baz=15	**15.45**	**77**	⇓P	**Pn**	**00 34 60.0**	**-2.7**
SRU	**San Rafael**	**15.45**	**104**	*e*P	**Pn**	**00 35 03.4**	**+0.5**
SRU	comp=Z,78nm,1.0s			pmax	pmax		
SRU	**San Rafael** comp=Z,78nm,1.0s	**15.45**	**104**	*e*Pn	**Pn**	**00 35 03.4**	**+0.5**
W13A	**Hualapai Mount** baz=

baz=17,SNR=6.8
L21A **Rawlins** 16.66 91 ⇓P Pn 00 35 17.0 -1.3
baz=17,SNR=5.7
M21A **Separation Pea** 16.76 92 ⇓P Pn 00 35 17.9 -1.8
baz=17,SNR=6.9
F22A **Rosebud** 16.77 77 ⇓P Pn 00 35 17.7 -1.9
baz=17
P20A **De Beque** 16.78 100 ⇑P Pn 00 35 18.2 -1.7
baz=17
D22A **Cohagen** 16.78 72 ⇑P Pn 00 35 17.9 -1.9
baz=17
WUAZ **Wupatki** 16.80 116 *e*Pn Pn 00 35 21.4 +1.3
comp=Z,178nm,1.7s
WUAZ **Wupatki** 16.80 116 ⇑P Pn 00 35 19.9 -0.2
baz=17
G22A **Birney** 16.80 79 ⇑P Pn 00 35 17.6 -2.4
baz=17
Y14A **Wickenburg** 16.81 123 ⇓P Pn 00 35 20.3 +0.2
baz=17,SNR=15
PV10 **Paradox Valley** 16.82 104 *e*Pn Pn 00 35 20.9 +0.5
H22A **Clearmont** 16.83 81 ⇓P Pn 00 35 18.3 -2.1
baz=17
I22A **9 Mile Ranch,** 16.85 84 ⇓P Pn 00 35 20.4 -0.2
baz=17,SNR=19
PV04 **Paradox Valley** 16.91 104 *e*Pn Pn 00 35 21.2 -0.2
N21A **Black Mountain** 16.93 95 ⇓P Pn 00 35 20.3 -1.5
baz=17,SNR=6.8
J22A **Midwest** 16.94 85 ⇓P Pn 00 35 21.2 -0.7
baz=17,SNR=16
B22A **Reddig Ranch S** 16.95 68 ⇑P Pn 00 35 20.5 -1.3
baz=17,SNR=5.3
E22A **Miles City** 16.95 75 ⇓P Pn 00 35 19.9 -2.0
baz=17
C22A **Vida** 17.00 70 ⇑P Pn 00 35 19.8 -2.7
baz=17
A22A **Carney Farms,** 17.07 66 ⇑P Pn 00 35 21.0 -2.4
baz=17,SNR=8.3
Q20A **Ridgley Place,** 17.08 101 ⇓P Pn 00 35 22.2 -1.4
baz=17,SNR=12
K22A **Casper** 17.08 88 ⇑P Pn 00 35 21.1 -2.5
baz=17
O21A **Pagoda** 17.15 97 ⇑P Pn 00 35 22.7 -1.9
baz=17,SNR=5.5
113A **Mohawk Valley,** 17.20 127 ⇓P Pn 00 35 24.3 -0.7
baz=17
Z14A **Wintersburg** 17.25 124 ⇓P Pn 00 35 25.8 +0.2
baz=17,SNR=5.8
PV01 **Paradox Valley** 17.26 104 *e*Pn Pn 00 35 25.3 -0.7
L22A **Ellis Ranch, M** 17.31 90 ⇓P Pn 00 35 23.9 -2.6
baz=17
R20A **Redvale** 17.37 104 ⇓P Pn 00 35 26.2 -1.1
baz=17,SNR=6.9
F23A **Volborg** 17.37 77 ⇑P Pn 00 35 24.8 -2.3
baz=17
M22A **Cedar Creek Ra** 17.38 92 ⇓P Pn 00 35 24.7 -2.7
baz=17
E23A **Ismay** 17.39 75 ⇑P Pn 00 35 25.3 -2.1
baz=17,SNR=5.7
G23A **Biddle** 17.43 79 ⇑P Pn 00 35 25.8 -2.2
baz=17
D23A **Lindsay** 17.45 72 ⇑P Pn 00 35 26.7 -1.4
baz=17
X16A **Lo Mia Camp, P** 17.45 119 ⇓P Pn 00 35 28.4 +0.1
baz=17,SNR=11
C23A **Lambert** 17.47 70 ⇑P Pn 00 35 26.8 -1.5
baz=17,SNR=8.4
H23A **Clabaugh Cattl** 17.51 81 ⇑P Pn 00 35 27.4 -1.5
baz=17
S20A **Disappointment** 17.55 105 ⇓P Pn 00 35 28.4 -1.2
baz=18,SNR=13
I23A **Meade Ranch, G** 17.56 83 ⇑P Pn 00 35 28.3 -1.3
baz=18
J23A **Dilts Ranch, B** 17.61 85 ⇑P Pn 00 35 28.4 -1.7
baz=18
B23A **Brockton** 17.63 68 ⇓P Pn 00 35 28.7 -1.6
baz=18
Q21A **Lamborn Mesa,** 17.64 101 ⇑P Pn 00 35 29.1 -1.5
baz=18
N22A **Wattenberg Ran** 17.67 94 ⇓P Pn 00 35 29.2 -1.9
baz=18
K23A **Bowen Ranch, D** 17.70 87 ⇑P Pn 00 35 29.3 -2.0
baz=18
A23A **Redstone** 17.75 66 ⇓P Pn 00 35 29.7 -2.0
baz=18
MVCO **Mesa Verde** 17.76 107 *e*Pn Pn 00 35 32.4 +0.2
comp=Z,107nm,1.5s
MVCO **Mesa Verde** 17.76 107 ⇑P Pn 00 35 31.3 -0.9
baz=18
L23A **Garrett** 17.81 89 ⇓P Pn 00 35 30.7 -2.0
baz=18
O22A **Kremmling** 17.83 96 ⇓P Pn 00 35 31.5 -1.6
baz=18,SNR=37
R21A **Cimarron** 17.86 102 ⇑P Pn 00 35 32.2 -1.2
baz=18
P22A **Eagle** 17.90 98 ⇓P Pn 00 35 32.6 -1.2
baz=18,SNR=7.6
SMCO **Snowmass** 17.91 99 *e*Pn Pn 00 35 34.6 +0.4
comp=Z,84nm,1.8s
C24A **Savage** 17.98 71 ⇑P Pn 00 35 33.0 -1.7
baz=18
N23A **Red Feather La** 18.00 93 ⇓P Pn 00 35 33.0 -2.2
baz=18,SNR=9.3
S21A **Coal Bank Pass** 18.03 105 ⇓P Pn 00 35 34.4 -1.2
baz=18,SNR=20
F24A **Ekalaka** 18.03 77 ⇓P Pn 00 35 33.5 -1.9
baz=18
D24A **Glendive** 18.05 73 ⇓P Pn 00 35 33.8 -1.6
baz=18
E24A **Baker** 18.08 74 ⇓P Pn 00 35 33.9 -2.0
baz=18
H24A **Dirks Ranch, A** 18.08 80 ⇑P Pn 00 35 33.9 -2.0
baz=18
Q22A **Crested Butte,** 18.09 100 ⇓P Pn 00 35 35.1 -1.2
baz=18,SNR=8.8
G24A **Alzada** 18.10 78 ⇑P Pn 00 35 34.3 -2.0
baz=18
W18A **Petrified Fore** 18.10 114 ⇑P Pn 00 35 36.5 +0.1
baz=18
DGMT **Dagmar** 18.16 68 *e*P P 00 35 37.4 +0.3
comp=Z,144nm,1.3s
DGMT **Dagmar** 18.16 68 ⇓P Pn 00 35 35.0 -1.8
baz=18,SNR=11
I24A **Kuemmerle Ranc** 18.18 83 ⇑P Pn 00 35 35.9 -1.2
baz=18
U20A **Newcomb** 18.19 109 ⇑P Pn 00 35 36.4 -1.0
baz=18
PHWY **Pilot Hill** 18.22 91 *e*Pn Pn 00 35 36.9 -1.0
comp=Z,169nm,2.3s
J24A **Dixon Ranch, L** 18.26 85 ⇑P Pn 00 35 36.7 -1.4
baz=18,SNR=8.0
O23A **Lake Granby, G** 18.26 95 ⇑P Pn 00 35 36.2 -2.1
baz=18,SNR=8.1
K24A **Anderson Ranch** 18.29 87 ⇑P Pn 00 35 36.2 -2.3
baz=18,SNR=5.6
A24A **Westby** 18.32 67 ⇓P Pn 00 35 36.2 -2.6
baz=18
X18A **Snowflake** 18.32 116 ⇓P Pn 00 35 38.8 -0.3
baz=18
214A **Organ Pipe Nat** 18.34 127 ⇓P Pn 00 35 38.3 -0.8
baz=18,SNR=17
L24A **Wheatland** 18.38 89 ⇑P Pn 00 35 37.8 -1.8
baz=18
R22A **Saguache, Gunn** 18.48 102 ⇑P P 00 35 39.5 -1.5
baz=18,SNR=12
T21A **Navajo Lake** 18.54 106 ⇓P P 00 35 41.0 -0.5
baz=18
RSSD **Black Hills** 18.55 82 *e*P P 00 35 40.8 -0.7
RSSD pmax pmax
comp=Z,12nm,0.9s
RSSD **Black Hills** 18.55 82 *e*P P 00 35 40.8 -0.7
comp=Z,12nm,0.9s
V20A **Brimhall** 18.55 110 ⇓P P 00 35 41.6 0.0
baz=18,SNR=7.2
M24A **Cheyenne** 18.62 91 ⇑P P 00 35 41.4 -1.0
baz=18
ISCO **Idaho Springs** 18.63 96 *e*P P 00 35 42.8 +0.2
ISCO pmax pmax
comp=Z,22nm,0.9s
ISCO **Idaho Springs** 18.63 96 *e*P P 00 35 42.8 +0.2
comp=Z,22nm,0.9s
ISCO **Idaho Springs** 18.63 96 ⇓P P 00 35 41.7 -0.9
baz=19,SNR=16
P23A **Jefferson** 18.64 97 ⇑P P 00 35 41.9 -0.8
baz=19,SNR=17
S22A **4UR Ranch, Cre** 18.66 103 ⇑P P 00 35 42.1 -0.8
baz=19,SNR=18
E25A **Miller Ranch,** 18.71 74 ⇑P P 00 35 42.7 -0.5
baz=19
U21A **Nageezi** 18.75 108 ⇓P P 00 35 43.8 0.0
baz=19,SNR=35
U21A ⇓S Sn 00 39 14.5 +0.9
baz=19
H25A **Fruitdale** 18.77 80 ⇑P P 00 35 43.3 -0.6
baz=19
I25A **Rochford** 18.78 82 ⇓P P 00 35 43.6 -0.4
baz=19
N24A **Carr** 18.79 92 ⇓P P 00 35 43.6 -0.5
baz=19
Q23A **Hartsel** 18.84 99 ⇓P P 00 35 44.2 -0.6
baz=19
J25A **Sunshine Ranch** 18.86 84 ⇓P P 00 35 44.0 -0.8
baz=19
O24A **Longmont** 18.90 95 ⇓P P 00 35 44.9 -0.4
baz=19
W20A **Ramah** 18.91 112 ⇑P P 00 35 45.5 -0.1
baz=19,SNR=9.9
T22A **Edith** 18.96 105 ⇓P P 00 35 46.3 +0.1
baz=19,SNR=15
K25A **Mack Ranch, Ha** 18.99 86 ⇓P P 00 35 45.5 -0.8
baz=19
L25A **Engebretsen Ra** 19.04 88 ⇑P P 00 35 46.6 -0.2
baz=19
V21A **Milan** 19.10 109 ⇑P Pn 00 35 48.6 0.0
baz=19
DIV **Divide** 19.13 336 *e*P Pn 00 35 49.3 +0.8
comp=Z,410nm,2.0s
R23A **Moffat** 19.15 101 ⇑P P 00 35 48.7 +0.4
baz=19
M25A **Palm-Egli Farm** 19.18 90 ⇓P P 00 35 48.6 +0.2
baz=19
P24A **Kohler Place,** 19.24 96 ⇑P P 00 35 49.6 +0.4
baz=19
S23A **Nye Farm, Mont** 19.25 102 ⇓P P 00 35 50.1 +0.7
baz=19
X20A **Quemado** 19.26 114 ⇑P P 00 35 50.1 +0.7
baz=19,SNR=18
TUC **Tucson** 19.28 123 *e*P P 00 35 49.6 +0.1
TUC **Tucson** 19.28 123 *e*P P 00 35 49.6 +0.1
Q24A **Divide** 19.30 98 ⇓P P 00 35 50.2 +0.4
baz=19
U22A **Llaves** 19.32 107 ⇑P P 00 35 50.8 +0.7
baz=19,SNR=11
KDAK **Kodiak Island** 19.33 322 Pn Pn 00 35 51.0 +0.1
comp=Z,510nm,1.0s,SNR=14
KDAK **Kodiak Island** 19.33 322 *e*P Pn 00 35 50.9 +0.1
comp=Z,154nm,1.2s
KDAK **Kodiak Island** 19.33 322 P Pn 00 35 50.9 +0.1
comp=Z,0.5nm,0.3s,baz=131,slow=6.6,SNR=25
KDAK LR LR 00 41 21.6
comp=Z,2µm,20.7s,baz=136,slow=31
OHAK **Old Harbor** 19.35 319 *e*P Pn 00 35 50.9 -0.2
comp=Z,278nm,1.2s
H26A **Fairpoint** 19.36 80 ⇑P P 00 35 50.6 +0.4
baz=19
E26A **Carlson Angus** 19.36 74 ⇓P P 00 35 50.6 +0.4
baz=19
N25A **Grover** 19.36 92 ⇑P P 00 35 50.7 +0.3
baz=19
I26A **New Underwood** 19.40 82 ⇑P P 00 35 51.0 +0.3
baz=19
K26A **Motz Farm, Whi** 19.46 86 ⇑P P 00 35 51.7 +0.2
baz=19
W21A **San Fidel** 19.48 111 ⇑P P 00 35 52.2 +0.4
baz=19,SNR=9.4
V22A **San Miguel Ran** 19.54 108 ⇓P P 00 35 52.8 +0.3
baz=20,SNR=12
T23A **Casias Ranch,** 19.55 104 ⇑P P 00 35 53.3 +0.7
baz=20,SNR=7.5
O25A **Wiggins** 19.58 94 ⇓P P 00 35 53.1 +0.3
baz=20
SDCO **Great Sand Dun** 19.58 102 *e*P P 00 35 53.5 +0.5
comp=Z,320nm,1.1s
R24A **Sanders Place,** 19.64 100 ⇑P P 00 35 53.7 +0.2
baz=20
L26A **Underwood Farm** 19.71 88 ⇑P P 00 35 53.9 -0.2
baz=20
Y20A **Horse Springs,** 19.73 115 ⇓P Pn 00 35 56.0 -0.1
baz=20,SNR=11
P25A **Willow Gulch B** 19.77 96 ⇑P P 00 35 55.4 +0.4
baz=20
X21A **Alamocita Cree** 19.79 113 ⇓P P 00 35 55.9 +0.7
baz=20,SNR=17
U23A **El Rito** 19.80 106 ⇑P P 00 35 55.9 +0.5
baz=20,SNR=16
M26A **McRoberts Ranc** 19.83 89 ⇓P P 00 35 55.3 -0.2
baz=20
S24A **Houchin Ranch,** 19.84 102 ⇓P P 00 35 56.0 +0.3
baz=20
G27A **Dupree** 19.84 77 ⇓P P 00 35 55.5 +0.1
baz=20
H27A **Howes** 19.84 80 ⇑P P 00 35 55.9 +0.4
baz=20
Q25A **Bedland, Calha** 19.96 97 ⇓P P 00 35 57.3 +0.3
baz=20,SNR=14
I27A **Quinn** 19.96 81 ⇓P P 00 35 56.7 -0.1
baz=20
N26A **Koester Ranch,** 19.97 91 ⇓P P 00 35 57.4 +0.4
baz=20
W22A **Albuquerque** 20.03 110 ⇑P P 00 35 58.3 +0.5
baz=20
Z20A **Nine Sixteen R** 20.10 117 ⇓P P 00 35 59.6 +1.1
baz=20,SNR=20
O26A **Horse Wrangler** 20.11 93 ⇑P P 00 35 58.6 0.0
baz=20
MENT **Mentasta** 20.12 342 *e*P Pn 00 36 00.2 0.0
V23A **Ortiz Mt. (NFS** 20.12 107 ⇑P Pn 00 36 00.4 -0.4
baz=20,SNR=20
Y21A **Point of Rocks** 20.13 114 ⇑P Pn 00 36 00.3 -0.5
baz=20,SNR=16
YKA **Yellowknife Ar** 20.13 21 P P 00 35 58.5 0.0
YKA **Yellowknife Ar** 20.13 21 P P 00 35 58.4 0.0
comp=Z,7.2nm,0.9s,baz=210,slow=11,SNR=17
YKA LR LR 00 42 22.8
comp=Z,41nm,20.9s,baz=280,slow=33
K27A **Flueckinger Fa** 20.13 85 ⇑P P 00 35 58.5 -0.3
baz=20
YKW3 **Yellowknife Ar** 20.18 21 *e*P Pn 00 36 00.7 -0.3
comp=Z,3.3nm,1.5s
L27A **T5 Ranch, Ells** 20.24 87 ⇑P P 00 35 59.7 -0.3
baz=20
LAZ **Ladron** 20.24 112 *e*P P 00 36 01.3 +1.2
R25A **Fountain Ranch** 20.26 99 ⇑P P 00 36 00.9 +0.7
baz=20,SNR=16
X22A **Bernardo** 20.27 112 ⇓P Pn 00 36 01.8 -0.6
baz=20,SNR=6.1
P26A **Davis Ranch, A** 20.34 95 ⇑P P 00 36 01.5 +0.4
baz=20
RC01 **Rabbit Creek A** 20.34 332 *e*P Pn 00 36 02.3 -0.5
comp=Z,175nm,1.1s
M27A **Reverse DX Ran** 20.35 89 ⇑P P 00 36 01.0 -0.1
baz=20
S25A **Robets Cordova** 20.37 101 ⇑P P 00 36 02.0 +0.5
baz=20,SNR=26
ANMO **Albuquerque** 20.38 110 *e*P P 00 36 02.2 +0.6
comp=Z,20nm,1.1s
ANMO **Albuquerque** 20.38 110 P P 00 36 01.8 +0.2
comp=Z,5.7nm,1.0s,baz=307,slow=12,SNR=14
ANMO LR LR 00 43 48.8
comp=Z,1µm,21.3s,baz=134,slow=37
U24A **Moreno Valley** 20.39 105 ⇓P P 00 36 02.6 +0.8
baz=20
SML **Sawmill** 20.42 335 *e*P P 00 36 02.8 +1.1
SML pmax pmax
comp=Z,72nm,1.1s
SML **Sawmill** 20.42 335 *e*P Pn 00 36 02.8 -1.1
comp=Z,72nm,1.1s
120A **U Bar Ranch, L** 20.44 118 ⇓P P 00 36 03.4 +1.1
baz=20,SNR=20
W23A **Werner Place,** 20.47 109 ⇓P P 00 36 03.3 +0.8
baz=20,SNR=19
Q26A **Hugo** 20.47 97 ⇓P P 00 36 02.7 +0.2
baz=20
N27A **Anderson Farm,** 20.47 91 ⇓P P 00 36 01.9 -0.5
baz=20
LENM **Lemitar** 20.49 112 *e*P P 00 36 04.2 +1.4
PMR **Palmer** 20.51 333 *e*P Pn 00 36 03.9 -0.9
PMR pmax pmax
comp=Z,226nm,1.7s
PMR **Palmer** 20.51 333 *e*P Pn 00 36 03.9 -0.9
comp=Z,226nm,1.7s
Z21A **St. Cloud Mine** 20.56 115 ⇓P Pn 00 36 05.2 -0.8
baz=20,SNR=31
PAX **Paxson** 20.57 340 *e*P Pn 00 36 04.7 -0.9
PAX pmax pmax
comp=Z,89nm,1.1s
PAX **Paxson** 20.57 340 *e*P Pn 00 36 04.7 -0.9
comp=Z,89nm,1.1s
H28A **Mission Ridge** 20.58 79 ⇓P P 00 36 03.9 +0.4
baz=20
Y22D **IRIS PASSCAL I** 20.58 112 ⇓P P 00 36 05.0 +1.2
baz=20
G28A **Parade** 20.59 78 ⇓P P 00 36 04.1 +0.5
baz=20
I28A **Midland** 20.60 81 ⇑P P 00 36 04.2 +0.4
baz=20
LPM **Los Pinos Moun** 20.63 111 *e*P P 00 36 05.5 +1.2
T25A **Trinidad** 20.64 102 ⇑P P 00 36 05.4 +1.0
baz=21,SNR=36
Y22A **Socorro** 20.64 113 ⇑P P 00 36 05.5 +1.1
baz=21,SNR=17
J28A **Allard Ranch,** 20.67 83 ⇓P P 00 36 04.8 +0.2
baz=21
FFC **Flin Flon** 20.70 50 P P 00 36 04.4 -0.3
comp=Z,478nm,0.9s,SNR=13
FFC **Flin Flon** 20.70 50 *e*P P 00 36 04.6 -0.1
FFC pmax pmax
comp=Z,131nm,1.2s
FFC **Flin Flon** 20.70 50 *e*P P 00 36 04.6 -0.1
comp=Z,131nm,1.2s
O27A **Beecher Island** 20.73 92 ⇓P P 00 36 05.1 -0.1
baz=21
BNM **Barren Site** 20.73 112 *e*P P 00 36 06.6 +1.1
K28A **Ten Mile Ranch** 20.75 85 ⇓P P 00 36 05.4 0.0
baz=21
V24A **Rampart Ranch,** 20.76 106 ⇓P P 00 36 06.6 +0.9
baz=21,SNR=12
X23A **Hourglass Bar** 20.77 110 ⇓P P 00 36 06.4 +0.6
baz=21
R26A **Arlington** 20.78 98 ⇑P P 00 36 05.6 -0.3
baz=21,SNR=22
OGNE **Ogallala** 20.79 90 ⇑P P 00 36 05.7 -0.2
baz=21
L28A **Connaly Angus** 20.83 87 ⇓P P 00 36 05.8 -0.5
baz=21
319A **Douglas** 20.84 122 ⇓P P 00 36 07.6 +1.1
baz=21,SNR=17
P27A **Ficken Ranch,** 20.89 94 ⇑P P 00 36 06.9 -0.1
baz=21
220A **Playas Peak, P** 20.94 120 ⇑P P 00 36 08.6 +0.9
baz=21,SNR=18
W24A **Lazy 6 Ranch,** 20.94 108 ⇑P P 00 36 08.4 +0.7
baz=21,SNR=28
121A **Cookes Peak, D** 20.99 117 ⇓P P 00 36 09.2 +1.0
baz=21,SNR=21
U25A **Circle Dot Ran** 21.00 104 ⇓P P 00 36 08.8 +0.5
baz=21,SNR=27
Z22A **Elephant Butte** 21.06 114 ⇑P P 00 36 10.0 +1.1
baz=21,SNR=24
KSCO **Kaye Shedlock'** 21.07 95 ⇑P P 00 36 09.0 +0.1
baz=21
S26A **Kim** 21.07 100 ⇓P P 00 36 09.1 +0.1
baz=21,SNR=12
M28A **Bar X Bar Ranc** 21.12 88 ⇓P P 00 36 08.8 -0.6
baz=21
V25A **Rancho No Teng** 21.15 105 ⇑P P 00 36 10.4 +0.5
baz=21,SNR=39
T26A **Comanche Natio** 21.19 101 ⇓P P 00 36 10.3 0.0
baz=21,SNR=21
SPU **Mount Spurr** 21.22 330 *e*P P 00 36 11.2 +1.0
N28A **Pribbeno Ranch** 21.22 90 ⇓P P 00 36 10.3 -0.3
baz=21
MDND **Maddock** 21.23 70 ⇓P P 00 36 10.7 +0.2
baz=21
Y23A **Lovelace Mesa,** 21.24 112 ⇑P P 00 36 11.7 +0.8
baz=21,SNR=6.5
R27A **Eads** 21.25 97 ⇓P P 00 36 10.6 -0.3
baz=21,SNR=22
O28A **Krutsinger Ran** 21.25 92 ⇑P P 00 36 10.5 -0.3
baz=21
EGAK **Eagle** 21.28 347 *e*P P 00 36 11.5 +0.7
comp=Z,23nm,1.0s
X24A **Lazy VL Ranch,** 21.29 109 ⇓P P 00 36 11.6 +0.2
baz=21
320A **Kipp Ranch, An** 21.33 121 ⇓P P 00 36 12.6 +0.8
baz=21,SNR=13
221A **Mesquite Ranch** 21.34 118 ⇓P P 00 36 12.3 +0.4
baz=21
122A **Conniff Cattle** 21.39 116 ⇑P P 00 36 13.4 +1.0
baz=21
S27A **Las Animas** 21.45 99 ⇑P P 00 36 13.4 +0.3
baz=21
U26A **Atchley Ranch,** 21.47 103 ⇓P P 00 36 13.9 +0.6
baz=21,SNR=20
P28A **Saint Francis** 21.47 93 ⇑P P 00 36 12.8 -0.4
baz=21
CHGN **Chignik** 21.48 314 *e*P P 00 36 12.8 -0.2
K29A **Lazy Trails An** 21.48 84 ⇓P P 00 36 13.0 -0.3
baz=21
Z23A **Rita Site, Whi** 21.53 113 ⇑P P 00 36 14.7 +0.7
baz=22
L29A **Maesberg Ranch** 21.56 86 ⇓P P 00 36 13.9 -0.2
baz=22
W25A **X Bar L Ranch,** 21.59 107 ⇑P P 00 36 15.0 +0.4
baz=22,SNR=19
M29A **Burnside Ranch** 21.59 88 ⇓P P 00 36 13.8 -0.7
baz=22
Q28A **Sharon Springs** 21.62 95 ⇓P P 00 36 14.3 -0.5
baz=22
Y24A **Capitan** 21.66 111 ⇓P P 00 36 15.8 +0.4
baz=22,SNR=9.0
222A **Williams Famil** 21.71 117 ⇑P P 00 36 16.4 +0.6
baz=22
V26A **Tequesquite Ra** 21.74 104 ⇓P P 00 36 16.4 +0.2
baz=22,SNR=8.9
X25A **Clemmons Ranch** 21.83 108 ⇓P P 00 36 17.8 +0.6
baz=22,SNR=10
N29A **Votaw Ranch, W** 21.84 89 ⇓P P 00 36 16.3 -0.8
baz=22
T27A **Campo** 21.86 100 ⇓P P 00 36 17.6 +0.1
baz=22
123A **Bell Site, Whi** 21.91 115 ⇑P P 00 36 18.5 +0.5
baz=22
R28A **Tribune** 21.93 96 ⇓P P 00 36 17.7 -0.5
baz=22
O29A **4D Ranch, Culb** 21.95 91 ⇓P P 00 36 17.4 -1.0
baz=22
P29A **Atwood** 22.05 93 ⇑P P 00 36 18.6 -0.8
baz=22
Z24A **Sheeppen Canyo** 22.06 112 ⇓P P 00 36 19.9 +0.2
baz=22,SNR=24
BRSD **Miller** 22.07 79 ⇑P P 00 36 18.6 -1.0
baz=22
MCK **McKinley** 22.10 337 *e*P P 00 36 20.5 +0.8
MCK pmax pmax
comp=Z,165nm,1.5s
MCK **McKinley** 22.10 337 *e*P P 00 36 20.5 +0.8
comp=Z,165nm,1.5s
U27A **Thompson Grove** 22.10 102 ⇑P P 00 36 19.9 -0.1
baz=22
W26A **Owens Ranch, T** 22.13 106 ⇑P P 00 36 20.5 +0.1
baz=22,SNR=8.3
M30A **Dale-Ortello V** 22.14 87 ⇓P P 00 36 19.8 -0.6
baz=22
Y25A **Mesa, Roswell** 22.16 110 ⇓P P 00 36 20.9 +0.1
baz=22,SNR=19
S28A **Manter** 22.20 98 ⇓P P 00 36 20.8 -0.3
baz=22,SNR=12
223A **Chaparral, Ant** 22.20 116 ⇑P P 00 36 21.2 0.0
baz=22
N30A **Hueftle Ranch,** 22.22 89 ⇓P P 00 36 20.4 -0.8
baz=22
T28A **Walsh** 22.26 100 ⇑P P 00 36 21.6 -0.1
baz=22
TRF **Thorofare Moun** 22.26 336 *e*P P 00 36 21.8 +0.2
comp=Z,132nm,1.0s
SDPT **Sand Point** 22.27 310 *e*P P 00 36 21.2 -0.3
comp=Z,157nm,1.1s
Q29A **Oakley** 22.29 94 ⇑P P 00 36 21.1 -0.9
baz=22
R29A **Marienthal** 22.37 96 ⇓P P 00 36 22.1 -0.8
baz=22
124A **Stringfield Ra** 22.39 113 ⇓P P 00 36 23.5 +0.2
baz=22,SNR=31
X26A **CR and CF Fran** 22.40 107 ⇓P P 00 36 22.9 -0.4
baz=22,SNR=11
ILAR **Eielson Array** 22.42 341 P P 00 36 23.6 +0.5
ILAR PcP PcP 00 40 17.9 +0.8
ILAR **Eielson Array** 22.42 341 P P 00 36 23.6 +0.5
comp=Z,31nm,1.1s,baz=153,slow=7.4,SNR=103
ILAR PcP PcP 00 40 17.9 +0.8
comp=Z,1.1nm,1.0s,baz=197,slow=0.9,SNR=3.9
V27A **Dan Oppiter Fa** 22.42 103 ⇑P P 00 36 23.3 -0.3
baz=22
O30A **MW Ranch, Wils** 22.46 91 ⇑P P 00 36 22.8 -1.0

baz=22
SVW2 Sparrevohn 22.49 327 *e*P **P 00 36 24.0 0.0**
comp=Z,73nm,1.0s
Z25A Roswell 22.53 111 ⇑P **P 00 36 25.1 +0.4**
baz=22,SNR=9.3
U28A Mallet 22.54 101 ⇓P **P 00 36 23.9 -0.8**
baz=22,SNR=12
P30A Selden 22.56 92 ⇓P **P 00 36 23.9 -1.0**
baz=22
W27A Bowe Ranch, En 22.63 105 ⇓P **P 00 36 25.0 -0.7**
baz=23
S29A Ulysses 22.73 98 ⇑P **P 00 36 26.2 -0.6**
baz=23
COLA College 22.74 340 *e*P **P 00 36 27.3 +0.9**
COLA College 22.74 340 *e*P **P 00 36 27.3 +0.9**
comp=Z,1µm,2.3s
224A Cornudas Mount 22.74 115 ⇓P **P 00 36 27.1 +0.2**
baz=23,SNR=16
Y26A Elida 22.75 109 ⇓P **P 00 36 26.9 -0.1**
baz=23
Q30A Quinter 22.80 94 ⇑P **P 00 36 26.7 -0.7**
baz=23
T29A Hugoton 22.82 99 ⇓P **P 00 36 27.1 -0.5**
baz=23
X27A F and S Farms, 22.84 106 ⇓P **P 00 36 27.7 -0.2**
baz=23
V28A Channing 22.85 103 ⇑P **P 00 36 27.8 -0.3**
baz=23
125A Gardner Draw, 22.94 112 ⇓P **P 00 36 29.3 +0.3**
baz=23,SNR=19
Z26A Caprock 23.02 110 ⇓P **P 00 36 29.8 -0.1**
baz=23,SNR=10
R30A Dighton 23.04 95 ⇑P **P 00 36 29.4 -0.6**
baz=23
MNTX Cornudas Mount 23.08 115 *e*P **P 00 36 30.2 -0.1**
comp=Z,456nm,2.8s
W28A Vega 23.12 104 ⇑P **P 00 36 30.4 -0.4**
baz=23
U29A Oasis Ranch, S 23.17 100 ⇑P **P 00 36 30.9 -0.4**
baz=23
225A Deer Hill, Car 23.18 114 ⇓P **P 00 36 31.3 -0.2**
baz=23,SNR=11
324A Moseley Ranch, 23.18 116 ⇑P **P 00 36 31.1 -0.4**
baz=23
P31A Stockton 23.19 92 ⇓P **P 00 36 30.8 -0.6**
baz=23
S30A Montezuma 23.19 97 ⇓P **P 00 36 31.1 -0.4**
baz=23
Y27A Causey 23.22 108 ⇓P **P 00 36 30.8 -1.1**
baz=23,SNR=7.5
V29A Stinnett 23.28 102 ⇑P **P 00 36 31.6 -0.8**
baz=23
126A Clayton Basin, 23.38 111 ⇓P **P 00 36 32.9 -0.5**
baz=23
Q31A Ellis 23.38 93 ⇑P **P 00 36 32.3 -1.0**
baz=23
T30A Plains 23.41 98 ⇓P **P 00 36 33.0 -0.7**
baz=23
BGNE Belgrade 23.42 86 ⇓P **P 00 36 32.7 -0.9**
baz=23
MSTX Muleshoe 23.44 107 ⇑P **P 00 36 33.4 -0.6**
baz=23
Z27A Tatum 23.52 109 ⇑P **P 00 36 33.9 -0.9**
baz=24,SNR=11
X28A Dimmitt 23.53 105 ⇑P **P 00 36 34.5 -0.4**
baz=24
325A Bean Ranch, Si 23.56 115 ⇓P **P 00 36 35.2 0.0**
baz=24
U30A WK&E Inc. Balk 23.57 100 ⇑P **P 00 36 35.0 -0.3**
baz=24
R31A Burdett 23.58 95 ⇑P **P 00 36 34.9 -0.3**
baz=24
W29A Amraillo 23.58 104 ⇑P **P 00 36 35.0 -0.4**
baz=24
226B Tecolote Peak, 23.63 113 ⇑P **P 00 36 35.8 -0.1**
baz=24
ULM Lac du Bonnet 23.66 64 *e*P **P 00 36 34.8 -1.2**
comp=Z,22nm,0.8s
ULM Lac du Bonnet 23.66 64 P **P 00 36 34.7 -1.2**
comp=Z,13nm,0.9s,baz=290,slow=9.9,SNR=6.0
ULM LR LR 00 45 44.8
comp=Z,3µm,21.3s,baz=268,slow=36
AMTX Amarillo 23.69 104 *e*P **P 00 36 35.8 -0.6**
comp=Z,106nm,1.3s
127A Arkansas Junct 23.80 111 ⇓P **P 00 36 36.5 -1.0**
baz=24
Y28A McKinney Farm, 23.83 107 ⇓P **P 00 36 37.0 -0.8**
baz=24,SNR=6.6
ECSD EROS Data Cent 23.87 80 *e*P **P 00 36 37.1 -0.9**
comp=Z,68nm,1.4s
S31A Mullinville 23.90 96 ⇓P **P 00 36 37.6 -0.8**
baz=24
X29A Tulia 23.91 105 ⇑P **P 00 36 38.0 -0.5**
baz=24
V30A Spur Ranch, Mi 23.92 101 ⇓P **P 00 36 38.0 -0.6**
baz=24
425A Indio Mountain 23.93 116 ⇓P **P 00 36 38.7 -0.1**
baz=24,SNR=12
INK Inuvik 23.96 357 P **P 00 36 37.6 -0.9**
INK Inuvik 23.96 357 P **P 00 36 37.6 -0.9**
comp=Z,13nm,1.0s,baz=168,slow=9.8,SNR=24
INK LR LR 00 45 34.4
comp=Z,2µm,18.5s,baz=169,slow=36
T31A Randall Ranch, 24.00 97 ⇑P **P 00 36 38.5 -0.7**
baz=24
Z28A Tucker Farm, M 24.09 108 ⇑P **P 00 36 39.5 -0.8**
baz=24
U31A Nine Bar Ranch 24.21 99 ⇓P **P 00 36 40.5 -0.9**
baz=24
326A Caldwell Ranch 24.24 114 ⇓P **P 00 36 41.2 -0.5**
baz=24,SNR=14
227A Bennet, Jal 24.25 112 ⇑P **P 00 36 41.3 -0.4**
baz=24
Y29A Porterfield Fa 24.25 106 ⇓P **P 00 36 40.9 -0.9**
baz=24
W30A Crocket Farms 24.30 102 ⇑P **P 00 36 41.2 -0.9**
baz=24
128A Castleberry Fa 24.42 110 ⇑P **P 00 36 42.2 -1.0**
baz=24
X30A Coker Ranch, T 24.48 104 ⇑P **P 00 36 43.2 -0.6**
baz=24
V31A Spring Creek L 24.51 100 ⇓P **P 00 36 43.2 -0.8**
baz=24
327A Balmorhea Ranc 24.52 113 ⇑P **P 00 36 43.6 -0.6**
baz=24
Z29A Hungry Hill Ra 24.57 107 ⇑P **P 00 36 44.1 -0.6**
baz=24
426A McDonald Obser 24.63 115 ⇓P **P 00 36 44.9 -0.4**
baz=25,SNR=19
228A UT Block 9, Go 24.65 111 ⇓P **P 00 36 45.2 -0.2**
baz=25
W31A Holland Ranch, 24.74 102 ⇑P **P 00 36 45.6 -0.5**
baz=25
Y30A Stafford Cattl 24.78 105 ⇑P **P 00 36 45.6 -0.9**
baz=25
129A Stewart Farms, 24.83 109 ⇓P **P 00 36 46.5 -0.5**
baz=25
427A Hayter Ranch, 24.92 114 ⇓P **P 00 36 47.7 -0.1**
baz=25
Z30A Sanderson Ranc 24.95 107 ⇓P **P 00 36 47.7 -0.3**
baz=25
328A Wristen Ranch, 24.96 112 ⇓P **P 00 36 47.6 -0.6**
baz=25
526A Mary Lane Ranc 24.99 116 ⇓P **P 00 36 47.9 -0.6**
baz=25,SNR=6.9
X31A McDonald Ranch 25.00 103 ⇓P **P 00 36 47.7 -0.8**
baz=25,SNR=8.6
AKUT Akutan 25.01 305 *e*P **P 00 36 48.3 0.0**
comp=Z,87nm,1.0s
Y31A Rekieta Farm, 25.17 104 ⇑P **P 00 36 49.3 -0.7**
baz=25,SNR=14
COLD Coldfoot 25.22 342 *e*P **P 00 36 51.9 +1.7**
comp=Z,66nm,1.5s
527A Woodward Ranch 25.24 116 ⇓P **P 00 36 50.1 -0.7**
baz=25,SNR=14
229A Bryant Ranch, 25.27 110 ⇓P **P 00 36 50.6 -0.3**
baz=25
626A Big Bend Ranch 25.30 117 ⇓P **P 00 36 50.8 -0.5**
baz=25,SNR=20
KSU1 Kansas State U 25.33 91 *e*P **P 00 36 49.5 -1.8**
comp=Z,32nm,1.0s
UNV Unalaska Valle 25.41 305 *e*P **P 00 36 52.2 +0.3**
comp=Z,244nm,1.1s
329A Wagon Wheel Ra 25.45 111 ⇓P **P 00 36 52.1 -0.5**
baz=25
130A Snyder 25.46 108 ⇑P **P 00 36 52.1 -0.6**
baz=25
428A Kincaid Ranch, 25.46 113 ⇑P **P 00 36 52.4 -0.3**
baz=25,SNR=12
Z31A Sharp Cattle R 25.61 106 ⇑P **P 00 36 53.2 -0.8**
baz=26
Y32A R-V Farms, Ver 25.72 103 ⇓P **P 00 36 54.4 -0.5**
baz=26
TXAR Lajitas Array 25.75 117 P **P 00 36 55.0 -0.4**
TXAR PcP **PcP 00 40 27.9 +2.9**
TXAR Lajitas Array 25.75 117 P **P 00 36 55.0 -0.4**
comp=Z,3.9nm,0.8s,baz=301,slow=7.9,SNR=38
TXAR PcP **PcP 00 40 27.9 +2.9**
comp=Z,0.6nm,0.8s,baz=1.9,slow=3.8,SNR=4.6
TXAR LR LR 00 46 59.9
comp=Z,560nm,20.6s,baz=350,slow=36
528A Cox Ranch, San 25.77 114 ⇓P **P 00 36 55.1 -0.4**
baz=26,SNR=7.9
230A Sterling City 25.79 109 ⇓P **P 00 36 54.6 -1.1**
baz=26
WMOK Wichita Mounta 25.79 101 *e*P **P 00 36 55.5 -0.1**
WMOK pmax pmax
comp=Z,65nm,1.4s
WMOK Wichita Mounta 25.79 101 *e*P **P 00 36 55.5 -0.1**
comp=Z,64nm,1.4s
131A Roby 25.81 107 ⇓P **P 00 36 54.9 -0.9**
baz=26
627A Terlingua Ranc 25.85 116 ⇓P **P 00 36 55.8 -0.5**
baz=26,SNR=12
330A Mertzon 26.04 110 ⇑P **P 00 36 57.0 -0.9**
baz=26
429A Davenport Ranc 26.05 113 ⇓P **P 00 36 57.3 -0.7**
baz=26,SNR=27
Z32A Haskell 26.08 105 ⇓P **P 00 36 57.1 -1.1**
baz=26,SNR=10.0
628A Black Gap, Mar 26.15 116 ⇑P **P 00 36 58.1 -0.8**
baz=26
529A Stev Forest Ra 26.16 114 ⇓P **P 00 36 58.6 -0.4**
baz=26
SPMN St. Paul 26.21 75 ⇓P **P 00 36 57.6 -1.7**
baz=26
231A Bronte 26.30 108 ⇑P **P 00 36 59.1 -1.1**
baz=26
430A Baggett Ranch, 26.39 111 ⇓P **P 00 37 00.3 -0.7**
baz=26
331A San Angelo 26.60 110 ⇓P **P 00 37 02.1 -0.9**
baz=27,SNR=8.8
EYMN Ely 26.66 69 *e*P **P 00 37 03.4 0.0**
comp=Z,25nm,1.0s
530A J-C Ranch, Com 26.73 113 ⇓P **P 00 37 03.8 -0.3**
baz=27,SNR=9.7
SCIA State Center 26.78 83 *e*P **P 00 37 05.0 +0.6**
comp=Z,46nm,0.4s
232A Coleman 26.78 108 ⇑P **P 00 37 03.5 -1.1**
baz=27,SNR=6.0
431A Sonora 26.87 111 ⇑P **P 00 37 04.8 -0.7**
baz=27
332A Millersview 27.02 109 ⇑P **P 00 37 05.9 -0.8**
baz=27
531A Rocksprings 27.24 112 ⇓P **P 00 37 08.0 -0.7**
baz=27,SNR=12
432A Menard 27.30 110 ⇑P **P 00 37 08.3 -0.9**
baz=27
TUL1 Tulsa 27.31 96 ⇓P **P 00 37 08.2 -1.1**
baz=27
JCT Junction City 27.54 110 *e*P **P 00 37 11.1 -0.3**
JCT pmax pmax
comp=Z,37nm,1.3s
JCT Junction City 27.54 110 *e*P **P 00 37 11.1 -0.3**
comp=Z,37nm,1.3s
JCT Junction City 27.54 110 ⇑P **P 00 37 10.3 -1.2**
baz=28
532A Rocksprings 27.69 111 ⇑P **P 00 37 11.9 -0.9**
baz=28,SNR=6.6
631A Perdido Creek 27.71 113 ⇓P **P 00 37 11.9 -1.0**
baz=28,SNR=7.8
632A Uvalde 28.17 112 ⇓P **P 00 37 16.1 -0.9**
baz=28
WHTX Lake Whitney 28.23 105 ⇑P **P 00 37 16.8 -0.7**
baz=28
732A Laxson Ranch, 28.55 113 ⇓P **P 00 37 20.2 -0.2**
baz=28
JFWS Jewell Farm 28.57 79 *e*P **P 00 37 20.5 0.0**
JFWS pmax pmax
comp=Z,23nm,0.6s
JFWS Jewell Farm 28.57 79 *e*P **P 00 37 20.5 0.0**
comp=Z,22nm,0.6s
MIAR Mount Ida 29.57 97 *e*P **P 00 37 28.4 -1.0**
MIAR pmax pmax
comp=Z,21nm,1.4s
MIAR Mount Ida 29.57 97 *e*P **P 00 37 28.4 -1.0**
comp=Z,21nm,1.4s
HDIL Hopedale 30.02 83 *e*P **P 00 37 32.7 -0.6**
comp=Z,131nm,1.8s
OLIL Olney 31.57 86 *e*P **P 00 37 46.0 -1.0**
comp=Z,253nm,2.5s
SFIN Scholer Farm 31.64 82 ⇓P **P 00 37 46.5 -1.1**
baz=32
USIN University of 32.20 87 *e*P **P 00 37 51.6 -0.9**
VBMS Vicksburg 32.96 98 *e*P **P 00 37 56.5 -2.8**
AMKA Amchitka 34.10 300 *e*P **P 00 38 07.7 -1.3**
ALLY Alegheny Colle 36.06 77 *e*P **P 00 38 24.4 -1.7**
FX1 Attu Island--F 37.58 304 LR LR 00 51 23.0
comp=Z,442nm,19.0s,baz=275,slow=32
BLA Blacksburg 37.70 83 *e*P **P 00 38 40.5 +0.4**
BLA Blacksburg 37.70 83 *e*P **P 00 38 40.5 +0.4**
KMSC Kings Mountain 38.02 87 ⇓P **P 00 38 41.5 -1.2**
baz=38
BILL Bilibino 40.00 328⇑ *e*P **P 00 38 58.8 -0.1**
BILL pmax pmax
comp=Z,70nm,2.5s
BILL MLR MLR
comp=Z,1µm,16.0s
SCHQ Schefferville 40.83 52 *e*P **P 00 39 06.3 +0.3**
comp=Z,198nm,3.0s
SCHQ Schefferville 40.83 52 P **P 00 39 05.7 -0.3**
comp=Z,1.9nm,0.9s,baz=273,slow=9.6,SNR=3.6
SCHQ LR LR 00 55 56.5
comp=Z,2µm,21.3s,baz=282,slow=36
PET Petropavlovsk 46.01 307 *e*P **P 00 39 46.4 -1.3**
PET pmax pmax
comp=Z,63nm,1.0s
SEY Seymchan 46.29 322 *ce*P **P 00 39 49.4 -0.4**
PEA0B Petropavlovsk- 46.52 308 *e*P **P 00 39 50.8 -1.0**
PETK Petropavlovsk- 46.52 308 P **P 00 39 50.8 -1.0**
PETK Petropavlovsk- 46.52 308 P **P 00 39 50.8 -1.0**
PETK Petropavlovsk- 46.52 308 P **P 00 39 50.8 -1.0**
comp=Z,10nm,1.0s,baz=74,slow=16,SNR=10
SUMG Summit 48.69 24 *i* P **P 00 40 10.0 +1.2**
SUMG pmax pmax
comp=Z,18nm,0.9s
SUMG Summit 48.69 24 *e*P **P 00 40 09.6 +0.8**
comp=Z,521nm,2.9s
SUMG Summit 48.69 24 *i* P **P 00 40 10.0 +1.2**
comp=Z,18nm,0.9s
JTS JuntasAbangare 51.54 117 LR LR 01 06 52.8
comp=Z,246nm,20.2s,baz=241,slow=41
DAG Danmarks Havn 51.72 16 ⇓ *i* P **P 00 40 30.8 -0.4**
DAG pmax pmax
comp=Z,9.0nm,0.8s
DAG Danmarks Havn 51.72 16 ⇓ *i* P **P 00 40 30.8 -0.4**
comp=Z,12nm,0.8s
TIXI Tiksi 51.80 337⇓ *e*P **P 00 40 30.9 -0.9**
TIXI pmax pmax
comp=Z,50nm,2.5s
TIXI MLR MLR
comp=Z,454nm,17.0s
SCO Scoresbysund 54.32 23 *e*P P 00 40 58.6 +8.2
SCO pmax pmax
comp=Z,8.0nm,1.0s
SCO Scoresbysund 54.32 23 *i* P P 00 40 58.6 +8.2
comp=Z,8.4nm,1.0s
KBS Kingsbay 54.82 8⇑ *e*P **P 00 40 55.3 +1.3**
KBS pmax pmax
comp=Z,31nm,2.5s
KBS MLR MLR
comp=Z,381nm,18.0s
SPITS Spitsbergen Ar 55.92 8 LR LR 01 03 51.9
comp=Z,517nm,20.1s,baz=270,slow=35
YAK Yakutsk 56.28 326 *e*P **P 00 41 02.8 -1.8**
YAK *e* 00 41 10.2
YAK pmax pmax
comp=Z,32nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.2s
JMIC Jan Mayen 57.51 19 LR LR 01 05 55.4
comp=N,353nm,18.3s,baz=327,slow=36
BORG Borgarnes 57.82 29 LR LR 01 05 19.4
comp=N,446nm,19.6s,baz=317,slow=35
ASAJ Asahikawa 59.51 303 LR LR 01 02 01.4
comp=N,211nm,21.2s,baz=97,slow=31
CLNS Chul'man 61.27 323 *e*P **P 00 41 37.7 -1.8**
CLNS pmax pmax
comp=E,10.0nm,1.1s
CLNS pmax pmax
comp=Z,7.0nm,1.1s
CLNS pmax pmax
comp=N,12nm,1.3s
HABR Khabarovsk 61.33 311 *e*P **P 00 41 38.7 -1.2**
HABR *e* 00 42 20.8
HABR 00 43 53.9
HABR S **S 00 49 57.2 -2.1**
HABR *e**SS sS 00 50 13.6 +4.7
HABR *e*SSS SSS 00 56 47.3
HABR pmax pmax
comp=Z,62nm,2.7s
HABR pmax pmax
comp=E,138nm,3.3s
HABR pmax pmax
comp=N,96nm,3.3s
HABR MLR MLR
comp=Z,232nm,19.0s
ROSC El Rosal 62.53 112 P **P 00 41 48.7 -0.2**
ROSC El Rosal 62.53 112 P **P 00 41 48.7 -0.2**
comp=Z,2.0nm,0.3s,baz=294,slow=19,SNR=2.6
ROSC LR LR 01 10 45.5
comp=Z,161nm,21.5s,baz=6.5,slow=38
KLR Kul'dur 62.63 313 *e*P P 00 41 43.0 -5.7
OTAV Otavalo 63.36 119 *e*P **P 00 41 54.5 -0.1**
comp=Z,17nm,1.1s
PPT2 Papeete2 64.31 201 *e*LQ LQ 00 58 05.5
comp=Z,2µm,28.5s
KEV Kevo 64.83 9 *ep* P 00 42 08.1 +5.2
comp=Z,6.6nm,0.7s
KEV Kevo 64.83 9 *e*P P 00 42 08.1 +5.2
KEV pmax pmax
comp=Z,7.0nm,0.7s
KEV Kevo 64.83 9 *e*P P 00 41 59.3 -3.5
ARCES ARCESS Array B 64.88 9 P **P 00 42 04.2 +1.0**
ARCES ARCESS Array B 64.88 9 P **P 00 42 04.2 +1.0**
comp=Z,1.3nm,0.7s,baz=338,slow=6.8,SNR=3.0
ARCES LR LR 01 13 39.4
comp=Z,239nm,18.4s,baz=347,slow=39
USRK Ussuriysk Arra 65.60 309 P **P 00 42 07.4 -0.9**
comp=Z,5.7nm,1.0s,baz=68,slow=6.1,SNR=6.0
USRK LR LR 01 09 46.0
comp=Z,292nm,19.4s,baz=43,slow=35
MDJ Mudanjiang 66.66 310 P **P 00 42 13.7 -1.4**
MDJ S **S 00 51 04.3 -1.4**
MDJ ScS **SKSac 00 52 09.8 -1.0**
MDJ pmax pmax
comp=Z,2.0nm,0.9s
MDJ pmax pmax
comp=Z,54nm,3.5s
MDJ LR LR
comp=N,380nm,13.4s
MDJ LR LR
comp=E,300nm,10.2s
MDJ LR LR
comp=Z,360nm,20.1s
MJAR Matsushiro Arr 66.70 299 P **P 00 42 14.9 -0.5**
MJAR Matsushiro Arr 66.70 299 P **P 00 42 14.9 -0.5**
comp=Z,1.3nm,0.6s,baz=27,slow=5.6,SNR=3.6
MJAR LR LR 01 06 14.0
comp=Z,261nm,20.4s,baz=15,slow=31
LVZ Lovozero 67.35 6 *c i* P **P 00 42 19.0 -0.1**
LVZ pmax pmax
comp=Z,35nm,1.2s
LVZ MLR MLR
comp=Z,379nm,22.0s
RKT Rikitea 67.42 185 *e*S **S 00 51 15.7 +0.8**
comp=Z,690nm,27.8s
RKT *e*LQ LQ 00 59 32.9
comp=Z,866nm,28.0s
RKT *e*LR LR 01 02 39.2
comp=Z,901nm,26.8s
ATAH Atahualpa 69.19 124 P **P 00 42 32.5 +0.7**
ATAH Atahualpa 69.19 124 P **P 00 42 32.5 +0.7**
comp=Z,2.9nm,0.6s,baz=358,slow=4.9,SNR=3.7
AFI Afiamalu 69.43 224 LR LR 01 05 03.0
comp=Z,261nm,19.8s,baz=14,slow=29
CN2 Changchun 69.44 312 *e*P **P 00 42 34.6 +2.0**
TBI Tubuai 69.82 199 *e*LQ LQ 01 00 17.2
comp=Z,955nm,29.0s
NB2 NORSAR Subarra 70.21 19 P **P 00 42 36.5 -0.6**
comp=Z,10nm,0.8s,baz=330,slow=6.2
NOA NORSAR Array B 70.21 19 P **P 00 42 37.0 -0.1**
NOA NORSAR Array B 70.21 19 P **P 00 42 37.0 -0.1**
comp=Z,6.7nm,1.0s,baz=335,slow=6.0,SNR=5.4
NOA LR LR 01 11 26.9
comp=Z,289nm,21.6s,baz=330,slow=34
RAR Rarotonga 70.83 209 LR LR 01 05 56.7
comp=Z,282nm,18.7s,baz=95,slow=29
TMCR Tamitsa 71.29 6 *e*P **P 00 42 43.2 -0.3**
TMCR pmax pmax
comp=Z,39nm,1.5s
HFS Hagfors 71.58 18 LR LR 01 15 23.4
comp=Z,447nm,18.8s,baz=330,slow=37
JOF Joensuu 71.91 9 *ep* P 00 42 42.6 -4.7
comp=Z,7.1nm,0.8s
JOF Joensuu 71.91 9 *e*P P 00 42 42.6 -4.7
JOF pmax pmax
comp=Z,7.0nm,0.8s
KAF Kangasniemi 72.05 11 *ep* **P 00 42 49.5 +1.4**
comp=Z,5.0nm,0.7s
KAF Kangasniemi 72.05 11 *e*P **P 00 42 49.5 +1.4**
KAF pmax pmax
comp=Z,5.0nm,0.7s
KSRS Korea Array 72.34 305 P **P 00 42 49.4 -0.9**
comp=Z,1.8nm,0.8s,baz=79,slow=6.3,SNR=4.1
KSAR Wonju Array Be 72.37 305 P **P 00 42 49.4 -1.1**
FINES FINESS Array B 72.66 12 P **P 00 42 52.0 +0.2**
FINES FINESS Array B 72.66 12 P **P 00 42 52.0 +0.2**
comp=Z,17nm,1.1s,baz=298,slow=3.0,SNR=4.9
FINES LR LR 01 12 08.4
comp=Z,412nm,21.7s,baz=349,slow=34
IRK Irkutsk 72.94 329 *e*P **P 00 42 52.1 -1.5**
IRK pmax pmax
comp=Z,62nm,1.5s
JNU Nakatsue 73.49 300 LR LR 01 17 30.9
comp=Z,177nm,18.2s,baz=28,slow=38
KRAR Krasnoyarsk 73.56 337 *i* P **P 00 42 56.4 -0.8**
KRAR pmax pmax
comp=Z,38nm,0.4s
KRAR MLR MLR
comp=Z,337nm,20.0s
TLY Talaya 73.62 329 *e*P **P 00 42 58.0 +0.3**
TLY *e*S SKiKP 00 52 19.8 -6.7
TLY pmax pmax
comp=Z,40nm,1.1s
TLY MLR MLR
comp=Z,422nm,17.0s
TLY Talaya 73.62 329 P **P 00 42 57.0 -0.7**
comp=Z,173nm,1.0s,SNR=5.3
SONM Songino Array 75.59 325 P **P 00 43 09.3 -0.1**
SONM Songino Array 75.59 325 P **P 00 43 09.3 -0.1**
comp=Z,9.2nm,1.0s,baz=49,slow=5.0,SNR=37
SOKR Solikamsk 76.14 356⇑ *i* P **P 00 43 11.9 -0.1**
SOKR pmax pmax
comp=Z,20nm,1.5s
BSEG Bad Segeberg 76.26 23 *e*P **P 00 43 13.2 +0.4**
comp=Z,26nm,0.9s
BSEG Bad Segeberg 76.26 23 *e*P **P 00 43 13.2 +0.4**
BSEG pmax pmax
comp=Z,70nm,0.9s
ROSF Rostrenen 76.43 33 *e*P **P 00 43 14.0 +0.1**
comp=Z,48nm,1.2s
SGMF Saint Gilles 76.78 33 *e*P **P 00 43 16.2 +0.3**
comp=Z,66nm,1.4s
QUIF Quistinic 76.81 34 *e*P **P 00 43 16.3 +0.3**
comp=Z,55nm,1.4s
IBBN Ibbenburen 76.94 25 *e*P **P 00 43 17.2 +0.5**
comp=Z,32nm,0.9s
BJI Beijing 76.99 314 P **P 00 43 16.5 -0.7**
BJI PP **PP 00 46 10.2 +0.3**
BJI S **S 00 53 09.5 +5.0**
BJI SS **SS 00 58 01.3 +0.9**
BJI pmax pmax
comp=Z,8.0nm,0.6s
BJI pmax pmax
comp=Z,89nm,7.1s
BJI LR LR
comp=Z,180nm,23.9s
NVS Novosibirsk 77.11 341 *i* P **P 00 43 16.8 -0.8**

NVS pmax pmax
comp=E,28nm,1.2s
NVS pmax pmax
comp=Z,73nm,1.2s
NVS pmax pmax
comp=N,19nm,1.4s
FLN La Foliniere 77.15 32 *e*P P 00 43 18.4 +0.4
comp=N,26nm,1.0s
FLN *e*R
comp=N,686nm,20.2s
GRR Gorron 77.32 32 *e*P P 00 43 19.6 +0.7
comp=N,53nm,0.9s
LDF La Druitiere 77.43 31 *e*P P 00 43 19.9 +0.4
comp=N,53nm,1.0s
NRDL Niedersach Rie 77.47 24 *e*P P 00 43 20.2 +0.6
comp=Z,15nm,1.1s
HVS Khovu-Aksy 77.52 334*c i*P P 00 43 20.1 0.0
HVS pmax pmax
comp=Z,56nm,1.3s
HVS MLR MLR
comp=Z,9µm,28.0s
ZAA0 Zalesovo Array 77.54 340 *e*P P 00 43 19.6 -0.4
ZALV Zalesovo Beam 77.54 340 *i* P P 00 43 19.7 -0.4
ZALV pmax pmax
comp=Z,4.0nm,0.9s
ZALV Zalesovo Beam 77.54 340 P P 00 43 19.6 -0.5
ZALV Zalesovo Beam 77.54 340 P P 00 43 19.6 -0.5
comp=Z,4.3nm,0.9s,baz=32,slow=5.9,SNR=15
ZALV LR LR 01 19 51.2
comp=Z,360nm,18.9s,baz=250,slow=38
BAIF Baives 77.74 28 *e*P P 00 43 21.7 +0.5
comp=Z,90nm,1.3s
DOU Dourbes 77.84 28 P P 00 43 21.8 +0.1
comp=Z,17nm,1.9s
MEM Membach 77.86 27 P P 00 43 22.1 +0.1
comp=Z,11nm,1.3s
GIVF Givet 77.91 28 *e*P P 00 43 22.5 +0.3
comp=Z,64nm,1.2s
CLZ Clausthal 78.13 24 *e*P P 00 43 24.2 +0.8
comp=Z,15nm,1.0s
CLZ Clausthal 78.13 24 *e*P P 00 43 24.2 +0.8
CLZ pmax pmax
comp=Z,27nm,1.0s
SVE Sverdlovsk 78.67 354⇓*e*P P 00 43 26.1 -0.1
SVE pmax pmax
comp=Z,39nm,1.4s
HHC Hu-ho-hao-te 78.69 317 *e*P P 00 43 27.2 +0.4
HHC pP **PcP** 00 43 34.5 -1.2
HHC sP sP 00 43 38.7 +3.7
HHC PP **PP** 00 46 27.8 +3.5
HHC S **S** 00 53 19.1 -4.1
HHC sS **sS** 00 53 33.0 0.0
HHC ScS **SKKSac** 00 53 44.1 +1.7
HHC SS **SS** 00 58 25.9 -0.4
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,100nm,4.4s
HHC LR LR
comp=N,230nm,13.1s
HHC LR LR
comp=E,220nm,15.5s
HHC LR LR
comp=Z,90nm,15.5s
WLF Walferdange 78.73 27 P P 00 43 29.2 +2.5
comp=Z,25nm,2.3s
WLF Walferdange 78.73 27 *e*P P 00 43 27.4 +0.7
comp=Z,22nm,1.2s
UBBA Unterbreizbach 78.92 25 *e*P P 00 43 28.0 +0.4
comp=Z,33nm,1.9s
TNS Taunus Mts 78.98 26 *e*P P 00 43 28.2 0.0
comp=Z,26nm,1.5s
TNS Taunus Mts 78.98 26 *e*P P 00 43 28.2 0.0
TNS pmax pmax
comp=Z,36nm,1.5s
MFF Saint Martin d 79.07 33 *e*P P 00 43 29.2 +0.6
comp=Z,23nm,1.1s
ARU Arti 79.20 355*d i*P P 00 43 27.5 -1.7
ARU S **S** 00 53 25.0 -2.9
ARU SS **SS** 00 58 30.6 -2.2
ARU pmax pmax
comp=Z,35nm,2.5s
ARU MLR MLR
comp=Z,278nm,21.0s
ARU Arti 79.20 355 P P 00 43 28.5 -0.7
comp=Z,154nm,0.8s,SNR=6.2
CLL Collm 79.35 23 *e*P P 00 43 30.1 0.0
comp=Z,16nm,0.9s
CLL Collm 79.35 23 *e*P P 00 43 30.0 0.0
comp=Z,10.0nm,1.0s
CLL *i* PcP **PcP** 00 43 37.2 -1.0
CLL *i* 00 43 42.4
CLL *e*S **S** 00 53 34.0 +4.4
CLL *e* 00 54 54.0
CLL *e*SS **SS** 00 58 42.0 +6.8
CLL LmV 01 20 00.0
comp=Z,400nm,20.0s
MEZF Maizieres J'vi 79.36 29 *e*P P 00 43 30.6 +0.4
comp=Z,26nm,0.9s
PAGF Fort de Pagny 79.54 28 *e*P P 00 43 31.8 +0.6
comp=Z,24nm,1.3s
MOX Moxa 79.55 24 *e*P P 00 43 31.4 +0.2
comp=Z,10.0nm,0.9s
MOX Moxa 79.55 24 *e*P P 00 43 31.4 +0.2
MOX pmax pmax
comp=Z,4.0nm,0.9s
HYF Humbligny 79.56 31 *e*P P 00 43 31.8 +0.5
MNK Minsk 79.60 13 *e*P P 00 43 26.0 -5.4
MOS Moscow 79.60 7 *e*P P 00 43 34.2 +2.8
MOS pmax pmax
comp=Z,40nm,1.2s
MICGM Minsk 79.61 13 *e* P 00 43 26.0 -5.4
SFTF Sexfontaines 79.61 29 *e*P P 00 43 31.8 +0.2
LANF Langenberg 79.86 27 *e*P P 00 43 33.9 +1.0
THEF They Montfort 79.91 28 *e*P P 00 43 34.8 +1.6
LOR Lormes 80.00 30 *e*P P 00 43 34.2 +0.5
comp=Z,97nm,1.5s
LOR *e*R
comp=Z,799nm,21.0s
BRG Berggiesshubel 80.00 22 *e*P P 00 43 33.9 +0.4
comp=Z,7.8nm,1.3s
BRG *e* 00 43 41.1
comp=Z,19nm,1.0s
BRG S **S** 00 53 41.0 +4.5
BRG Berggiesshubel 80.00 22 *e*P P 00 43 34.0 +0.4
comp=Z,19nm,1.0s
TANN Tannenbergstha 80.00 23 *e*P P 00 43 33.5 -0.2
comp=Z,14nm,1.6s
SSF Saint Saulge 80.05 30 *e*P P 00 43 34.4 +0.4
comp=Z,58nm,1.3s
OBN Obninsk 80.12 8⇑*e*P P 00 43 33.3 -0.9
OBN *i* S S 00 53 47.4 +10
OBN pmax pmax
comp=Z,22nm,1.2s
OBN MLR MLR
comp=Z,300nm,17.0s
SAML Samuel 80.16 113 *e*P P 00 43 32.4 -2.6
comp=Z,10nm,1.4s
CDF Champ du Feu 80.18 27 *e*P P 00 43 35.2 +0.4
comp=Z,42nm,0.9s
AVF Avril sur Loir 80.22 30 *e*P P 00 43 35.0 +0.1
comp=Z,75nm,1.3s
TCF Toulx Ste Croi 80.22 31 *e*P P 00 43 35.2 +0.2
comp=Z,82nm,1.4s
HAU Haudompre 80.23 28 *e*P P 00 43 35.2 +0.2
comp=Z,84nm,1.5s
HAU *e*R
comp=Z,579nm,20.8s
BGF Bois d'Agland 80.23 31 *e*P P 00 43 35.1 +0.1
comp=Z,27nm,0.8s
GRF Grafenberg Arr 80.29 24 *e*P P 00 43 35.6 +0.4
comp=Z,18nm,1.0s
GRF Grafenberg Arr 80.29 24 *e*P P 00 43 35.6 +0.4
GRF pmax pmax
comp=Z,13nm,1.0s
GRFO Grafenberg 80.29 24 *e*P P 00 43 33.8 -1.4
GRFO Grafenberg 80.29 24 *e*P P 00 43 33.8 -1.4
ECH Echery 80.31 27 *e*P P 00 43 36.1 +0.7
ECH pmax pmax
comp=Z,25nm,1.4s
ECH Echery 80.31 27 *e*P P 00 43 36.1 +0.7
comp=Z,25nm,1.4s
PVCC Panska Ves 80.48 22 AMS AMS 01 19 50.0
comp=Z,400nm,23.2s
STU Stuttgart 80.48 26 *e*P P 00 43 36.5 +0.2
comp=Z,16nm,1.4s

ROTZ Rotzenmuhle 80.51 24 *e*P P 00 43 36.6 +0.2
comp=Z,10.0nm,1.0s
SMF Signal de Mont 80.52 30 *e*P P 00 43 36.6 +0.1
comp=Z,27nm,1.2s
HINF Hinteralfeld 80.56 28 *e*P P 00 43 37.0 +0.2
comp=Z,64nm,1.2s
BFO Black Forest 80.60 27 *e*P P 00 43 37.0 +0.1
comp=Z,16nm,1.2s
BFO Black Forest 80.60 27 *e*P P 00 43 37.7 +0.8
BFO pmax pmax
comp=Z,40nm,1.5s
BFO Black Forest 80.60 27 *e*P P 00 43 37.7 +0.8
comp=Z,40nm,1.5s
MOF Molkenrain 80.62 28 *e*P P 00 43 39.3 +2.1
KSP Ksiaz 80.64 21 *e*P P 00 43 37.4 +0.3
KSP *e**PP **PcP** 00 43 44.4 +0.5
RJF Les Rejaudoux 80.79 32 *e*P P 00 43 38.0 0.0
comp=Z,128nm,1.6s
RJF *e*R
comp=Z,763nm,19.0s
LFF La Frestale 80.80 33 *e*P P 00 43 38.4 +0.4
comp=Z,16nm,0.8s
PRA Prague 80.86 22 P P 00 43 41.0 +2.8
PRA AMS AMS 01 17 30.0
UPC Upice 80.88 21 *e*P P 00 43 39.6 +1.2
UPC *e* 00 43 45.6
UPC Upice 80.88 21 *e*P P 00 43 39.6 +1.2
UPC *e*pP **PcP** 00 43 45.6 +0.7
UPC *ex* x 00 43 50.9
LOMF Lomont 80.96 28 *e*P P 00 43 46.0 +7.1
PRU Pruhonice 80.96 22 *e*P P 00 43 41.1 +2.3
PRU *e* 00 43 46.0
PRU MLR MLR
comp=Z,300nm,20.9s
PRU Pruhonice 80.96 22 *e*P P 00 43 41.1 +2.3
PRU *e*pP **PcP** 00 43 46.0 +0.7
PRU *ex* x 00 43 50.3
PRU AMS AMS 01 17 10.0
comp=Z,300nm,20.9s
PYM Petit Puy Mans 80.98 31 *e*P P 00 43 47.1 +8.0
DPC Dobruska-Polom 81.10 21 *e*P P 00 43 39.9 +0.3
DPC *e* 00 43 47.2
DPC Dobruska-Polom 81.10 21 *e*P P 00 43 39.9 +0.3
DPC *e*pP **PcP** 00 43 47.2 +1.2
DPC *ex* x 00 43 52.2
DPC AMS AMS 01 21 30.0
WET Wettzell 81.26 24 *e*P P 00 43 40.5 0.0
comp=Z,6.0nm,1.0s
WET Wettzell 81.26 24 *e*P P 00 43 40.5 0.0
WET pmax pmax
comp=Z,34nm,1.0s
BRVK Borovoye 81.29 348 P P 00 43 40.9 +0.4
comp=Z,118nm,1.1s,SNR=6.5
BRVK Borovoye 81.29 348*d i*P P 00 43 39.9 -0.6
BRVK pmax pmax
comp=Z,39nm,2.2s
BRVK MLR MLR
comp=Z,373nm,20.0s
BRVK Borovoye 81.29 348 *e*P P 00 43 40.6 +0.1
comp=Z,22nm,1.0s
BVAR Borovoye Array 81.31 348 LR LR 01 24 36.4
comp=Z,335nm,18.4s,baz=31,slow=39
CAF Calviac 81.32 32 *e*P P 00 43 40.8 -0.1
comp=Z,20nm,0.9s
CABF La Chapelle 81.34 29 *e*P P 00 43 41.7 +0.7
comp=Z,56nm,1.2s
NJ2 Nanjing 81.42 307 *e*P P 00 43 42.7 +1.2
NJ2 pP **PcP** 00 43 49.0 +1.4
NJ2 sP **sP** 00 43 51.0 +1.3
NJ2 PP **PP** 00 46 47.0 -0.1
NJ2 S **S** 00 53 53.0 +1.1
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,60nm,5.2s
NJ2 LR LR
comp=N,580nm,21.3s
NJ2 LR LR
comp=E,440nm,19.8s
NJ2 LR LR
comp=Z,1µm,17.8s
KHC Kasperske Hory 81.47 23 *e*P P 00 43 42.5 +0.9
KHC pmax pmax
comp=Z,27nm,1.5s
KHC Kasperske Hory 81.47 23 *e*P P 00 43 42.5 +0.9
KHC *e*pP **PcP** 00 43 48.8 +1.2
KHC *ex* x 00 43 53.7
KHC AMS AMS 01 20 00.0
comp=Z,400nm,16.8s
KHC Kasperske Hory 81.47 23 *e*P P 00 43 42.5 +0.9
comp=Z,26nm,1.5s
KRLC Kraliky 81.47 21 *e*P P 00 43 42.0 +0.4
KRLC *e* 00 43 48.9
KRLC Kraliky 81.47 21 *e*P P 00 43 42.0 +0.4
KRLC *e*pP **PcP** 00 43 48.9 +1.3
FUR Furstenfeldbru 81.66 25 *e*P P 00 43 43.1 +0.5
comp=Z,22nm,1.2s
FUR Furstenfeldbru 81.66 25 *e*P P 00 43 43.1 +0.5
GEC2 GERESS Array S 81.77 23 *e*P P 00 43 43.3 +0.1
comp=Z,6.0nm,0.9s
GEC2 GERESS Array S 81.77 23 *e*P P 00 43 43.3 +0.1
GEC2 pmax pmax
comp=Z,21nm,0.9s
GEC2 GERESS Array S 81.77 23 *e*P P 00 43 44.5 +1.3
GEC2 GERESS Array S 81.77 23 *e*P P 00 43 44.5 +1.3
GERES GERESS Array B 81.77 23 P P 00 43 42.8 -0.4
GERES GERESS Array B 81.77 23 P P 00 43 42.8 -0.4
comp=Z,1.9nm,1.0s,baz=346,slow=4.8,SNR=10
TREC Trest 81.85 22 *e*P P 00 43 45.8 +2.2
TREC MLR MLR
comp=Z,300nm,16.6s
TREC Trest 81.85 22 *e*P P 00 43 45.8 +2.2
TREC *ex* x 00 43 56.2
TREC AMS AMS 01 18 50.0
comp=Z,300nm,16.6s
MORC Moravsky Berou 81.94 21 *e*P P 00 43 45.4 +1.3
MORC pmax pmax
comp=Z,57nm,2.3s
MORC Moravsky Berou 81.94 21 *e*P P 00 43 45.4 +1.3
comp=Z,57nm,2.3s
ETSF Etsaut 81.97 35 *e*P P 00 43 43.8 -0.6
comp=Z,17nm,0.9s
KURK Kurchatov 81.99 342 P P 00 43 43.8 -0.4
comp=Z,104nm,1.4s,SNR=6.1
OKC Ostrava-Krasne 82.04 20 *e*P P 00 43 43.7 -0.8
OKC *e* 00 43 51.4
OKC MLR MLR
comp=Z,300nm,15.5s
OKC Ostrava-Krasne 82.04 20 *e*P P 00 43 43.7 -0.8
OKC *e*pP **PcP** 00 43 51.4 +1.4
OKC AMS AMS 01 21 40.0
comp=Z,300nm,15.5s
OJC Ojcow 82.08 19 *e*P P 00 43 46.3 +1.6
OJC Ojcow 82.08 19 *e*P P 00 43 44.9 +0.1
comp=Z,16nm,1.0s
OJC Ojcow 82.08 19 *e*P P 00 43 46.3 +1.6
EVO Evora 82.18 42 *e*P P 00 43 44.9 -0.6
comp=Z,20nm,1.1s
EVO *e*R
comp=Z,470nm,17.8s
EPF Esparros 82.23 34 *e*P P 00 43 45.5 -0.2
comp=Z,35nm,1.4s
VIVF Saint-Julien-l 82.35 31 *e*P P 00 43 46.7 +0.4
comp=Z,78nm,1.7s
DAVOX Davos/Dischmat 82.46 27 LR LR 01 18 46.0
comp=Z,335nm,21.9s,baz=329,slow=34
RJOB Jochberg 82.50 24 *e*P P 00 43 47.2 +0.1
comp=Z,11nm,0.8s
FETA Feichten 82.52 26⇑*i*pP P 00 43 48.2 +0.9
comp=Z,11nm,0.9s
LPL La Plagne 82.52 29 *e*P P 00 43 48.3 +0.9
LPAZ La Paz 82.54 121 *e*P P 00 43 46.8 -1.5
comp=Z,14nm,1.1s
LPAZ La Paz 82.54 121 P P 00 43 47.0 -1.2
comp=Z,4.3nm,0.8s,baz=358,slow=7.0,SNR=16
LPG La Plagne 82.54 29 *e*P P 00 43 48.7 +1.1
comp=Z,47nm,1.4s
LASF Ste Croix 82.72 32 *e*P P 00 43 48.8 +0.6
comp=Z,56nm,1.5s
NIE Niedzica 82.95 19 *e*P P 00 43 50.9 +1.6
NIE Niedzica 82.95 19 *e*P P 00 43 50.9 +1.6
ESDC Sonseca Array 83.15 39 P P 00 43 51.0 +0.4
ESDC Sonseca Array 83.15 39 P P 00 43 51.0 +0.4
comp=Z,0.8nm,0.7s,baz=320,slow=4.9,SNR=6.8
ESDC LR LR 01 18 56.8

comp=Z,260nm,18.3s,baz=315,slow=34
STHS Stebnicka Huta 83.16 18 *e*P P 00 43 51.7 +1.3
STHS pmax pmax
comp=Z,13nm,1.6s
STHS Stebnicka Huta 83.16 18 *e*P P 00 43 51.7 +1.3
CONA Conrad Observa 83.20 22⇓*i*pP P 00 43 51.2 +0.4
comp=Z,21nm,1.5s
KWP Kalwaria Pacla 83.28 17 *e*P P 00 43 52.9 +1.9
KWP pmax pmax
comp=Z,14nm,1.3s
KWP Kalwaria Pacla 83.28 17 *e*P P 00 43 52.9 +1.9
comp=Z,14nm,1.3s
KWP Kalwaria Pacla 83.28 17⇑*i*P P 00 43 53.2 +2.2
ZST Bratislava 83.28 21 *e*P P 00 43 52.9 +1.9
ZST Bratislava 83.28 21 *e*P P 00 43 52.9 +1.9
ABTA Abfaltersbach 83.31 25⇑*i*pP P 00 43 52.6 +1.3
comp=Z,13nm,1.2s
LVV L'vov 83.38 17 *e*P P 00 43 53.7 +2.2
VYHS Vyhne 83.45 20 *e*P P 00 43 51.9 0.0
VYHS pmax pmax
comp=Z,34nm,2.2s
VYHS Vyhne 83.45 20 *e*P P 00 43 51.9 0.0
KIEV Kiev 83.50 13 *e*P P 00 43 50.7 -1.4
KIEV pmax pmax
comp=Z,14nm,0.9s
KIEV Kiev 83.50 13 *e*P P 00 43 50.7 -1.4
comp=Z,14nm,0.9s
KOLS Kolonicke sedl 83.85 18 *e*P P 00 43 55.3 +1.4
KOLS pmax pmax
comp=Z,25nm,1.9s
KOLS Kolonicke sedl 83.85 18 *e*P P 00 43 55.3 +1.4
KECS Kecovo 83.86 19 *e*P P 00 43 55.0 +1.0
KECS pmax pmax
comp=Z,6.0nm,0.9s
KECS Kecovo 83.86 19 *e*P P 00 43 55.0 +1.0
PERS Pernice 84.17 23 *e*P P 00 43 55.4 -0.3
PSZ Piszkesteto 84.25 20 *e*P P 00 43 56.9 +0.8
PSZ pmax pmax
comp=Z,134nm,2.1s
PSZ Piszkesteto 84.25 20 *e*P P 00 43 56.9 +0.8
comp=Z,134nm,2.1s
MK31 Makanchi Array 84.75 338 *e*P P 00 43 57.6 -1.0
MK31 Makanchi Array 84.75 338 *e*P P 00 43 57.6 -1.0
MKAR Makanchi Array 84.75 338*ce*P P 00 43 57.5 -1.1
MKAR pmax pmax
comp=Z,3.0nm,1.1s
MKAR Makanchi Array 84.75 338 *e*P P 00 43 58.1 -0.4
MKAR Makanchi Array 84.75 338 P P 00 43 57.6 -1.1
comp=Z,3.4nm,1.1s,baz=46,slow=6.9,SNR=11
MKAR LR LR 01 24 02.1
comp=Z,356nm,20.3s,baz=22,slow=37
CEY Cerknica 84.79 24 *e*P P 00 43 58.5 -0.3
WHN Wuhan 85.10 309 P P 00 44 05.2 +4.7
WHN S **S** 00 54 32.5 +3.3
WHN pmax pmax
comp=Z,360nm,12.6s
WHN LR LR
comp=N,470nm,22.6s
WHN LR LR
comp=E,540nm,29.9s
WHN LR LR
comp=Z,370nm,19.6s
AKTO Aktyubinsk 85.21 355 LR LR 01 23 04.9
comp=Z,286nm,19.5s,baz=4.5,slow=36
GTA Gaotai 85.21 324 *e*P P 00 43 59.9 -1.3
GTA pP **pP** 00 44 07.2 0.0
GTA sP **sP** 00 44 10.7 +1.3
GTA PP **PP** 00 47 17.9 -0.1
GTA S **SKSac** 00 54 26.3 +1.1
GTA pmax pmax
comp=Z,70nm,7.6s
GTA LR LR
comp=N,340nm,25.7s
GTA LR LR
comp=E,510nm,25.7s
GTA LR LR
comp=Z,250nm,26.6s
BUR08 Bucovina Ar. S 85.69 17 *e*P P 00 44 03.7 +0.3
BURAR Bucovina Array 85.72 17⇑P P 00 44 10.7 +7.2
BURAR Bucovina Array 85.72 17⇑*i*P P 00 44 10.7 +7.2
WMQ Urumqi 85.89 334 P P 00 44 04.4 0.0
LZH Lanzhou 86.15 319 *e*P P 00 44 04.7 -1.2
LZH pP **pP** 00 44 12.8 +0.8
LZH sP sP 00 44 16.0 +1.9
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,85nm,4.3s
LZH LR LR
comp=Z,390nm,18.1s
ABKAR Akbulak array 86.25 354 *e*P P 00 44 05.3 -0.6
SIV San Ignacio 86.75 116 LR LR 01 24 52.7
comp=Z,104nm,21.0s,slow=37
BZS Buzias 86.82 20 ⇓P P 00 44 15.4 +6.6
BZS Buzias 86.82 20⇓*i*P P 00 44 15.4 +6.6
KIS Kishinev 87.00 14 *e*P P 00 44 09.0 -0.7
KIS LRM MLR 01 22 42.0
comp=Z,300nm,20.0s
KIS Kishinev 87.00 14 *e*P P 00 44 09.0 -0.7
KIS MLR MLR
comp=Z,300nm,20.0s
TESR Tescani 87.07 16⇓*i*P P 00 44 16.6 +6.6
VRI Vrincioaia 87.70 16 ⇓P P 00 44 19.9 +6.8
VRI Vrincioaia 87.70 16⇓*i*P P 00 44 19.9 +6.8
ARR Arges 87.74 18⇓*i*P P 00 44 20.1 +6.7
VOIR 87.77 17 ⇑P P 00 44 19.8 +6.3
VOIR 87.77 17⇑*i*P P 00 44 19.8 +6.3
MLR Muntele Rosu 87.90 17⇑*i*P P 00 44 24.5 +10
MLR Muntele Rosu 87.90 17 LR LR 01 21 27.5
comp=Z,107nm,20.7s,baz=143,slow=34
DZM Mont Dzumac 88.02 236 *e*LR LR 01 12 04.4
comp=Z,700nm,21.6s
MDT Midelt 88.41 43 LR LR 01 24 21.4
comp=Z,152nm,18.3s,baz=146,slow=36
CFR Carcaliu 88.64 15 ⇑P P 00 44 24.5 +7.0
CFR Carcaliu 88.64 15⇑*i*P P 00 44 24.5 +7.0
CD2 Chengdu 90.41 316 P P 00 44 25.5 -0.6
CD2 pP **pP** 00 44 34.0 +1.8
CD2 sP sP 00 44 37.4 +3.1
CD2 PP **PP** 00 48 01.5 +1.7
CD2 SKS **SKSac** 00 54 52.7 -4.1
CD2 S **SKKSac** 00 55 15.1 +4.4
CD2 sS **sS** 00 55 29.2 -1.0
CD2 SS **SS** 01 01 18.0 -1.1
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,240nm,6.2s
AAK Ala-Archa 90.55 342 *i* P P 00 44 28.1 +1.3
AAK pmax pmax
comp=Z,12nm,1.2s
AAK MLR MLR
comp=Z,1µm,18.0s
AAK Ala-Archa 90.55 342 *e*P P 00 44 26.9 +0.1
comp=Z,13nm,1.3s
AAK Ala-Archa 90.55 342 P P 00 44 26.5 -0.3
comp=Z,3.3nm,0.7s,baz=330,slow=6.1,SNR=3.8
KKAR Karatay Array 90.90 345 *e*P P 00 44 28.2 0.0
KKAR Karatay Array 90.90 345 *e*P P 00 44 28.2 0.0
PMG Port Moresby 91.47 258 LR LR 01 17 42.0
comp=Z,445nm,20.3s,baz=290,slow=30
KIV Kislovodsk 91.71 5⇑*e*P P 00 44 37.7 +5.7
KIV *e* 00 48 19.6
KIV *i* PS **PS** 00 56 38.8 -3.4
KIV *e*SS SS 01 01 40.2 +3.3
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,200nm,18.0s
KBZ Khabaz 91.95 5 LR LR 01 28 05.5
comp=Z,232nm,19.7s,baz=260,slow=37
KEST Kesra 92.05 32 LR LR 01 28 21.8
comp=Z,119nm,18.7s,baz=270,slow=37
GYA Guiyang 92.49 311 P P 00 44 36.0 0.0
GYA PP **PP** 00 48 18.6 +2.1
GYA SKS **SKSac** 00 55 07.2 -1.7
GYA S **S** 00 55 36.0 -3.3
GYA SS **SS** 01 01 49.9 +0.3
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=N,510nm,22.0s

GYA LR LR
comp=E,480nm,23.0s
GYA LR LR
comp=Z,520nm,21.1s
KSH Kashi 93.18 340 P P 00 44 42.2 +3.3
KSH pP pP 00 44 50.4 +5.4
KSH sP sP 00 44 53.9 +6.8
KSH PP PP 00 48 28.2 +6.9
KSH SKS **SKSac** **00 55 12.7 +0.4**
KSH sS sS 00 55 58.0 +2.9
KSH SS **SS** **01 02 04.6 +6.3**
KSH pmax pmax
comp=Z,73nm,4.6s
KSH LR LR
comp=Z,200nm,11.9s
BRTR Keskin Array B 94.89 13 LR LR 01 32 49.2
comp=Z,178nm,19.4s,baz=157,slow=39
BDFB Brasilia 95.20 107 LR LR 01 29 15.0
comp=Z,268nm,20.1s,baz=296,slow=36
KMI Kunming 95.64 314 P **P** **00 44 51.5 +0.9**
KMI pP **pP** **00 44 58.7 +2.1**
KMI sP sP 00 45 02.5 +3.7
KMI S S 00 56 02.5 -4.7
KMI SS **SS** **01 02 33.2 -1.5**
KMI pmax pmax
comp=Z,6.0nm,0.5s
KMI LR LR
comp=N,200nm,17.5s
KMI LR LR
comp=E,180nm,21.6s
KMI LR LR
comp=Z,180nm,29.7s
QIZ Qiongzhong 96.56 305 P **P** **00 44 55.5 +0.9**
QIZ S **S** **00 56 14.5 -0.3**
QIZ pmax pmax
comp=Z,8.0nm,2.2s
QIZ LR LR
comp=Z,360nm,20.7s
RCBR Riachuelo 96.95 91 LR LR 01 25 19.1
comp=Z,366nm,21.0s,baz=302,slow=33
ASAR Alice Springs 110.41 257 PKiKP **PKiKP** **00 49 56.6 -0.2**
ASAR Alice Springs 110.41 257 PKiKP **PKiKP** **00 49 56.6 -0.2**
comp=Z,0.3nm,0.4s,baz=54,slow=4.7,SNR=3.0
VNDA Vanda 128.58 195 PKP **PKPdf** **00 50 30.4 +0.4**
VNDA Vanda 128.58 195 PKP **PKPdf** **00 50 30.4 +0.4**
comp=Z,3.0nm,1.0s,baz=305,slow=1.3,SNR=3.6
QSPA South Pole Qui 134.28 180 *e*PKPdf **PKPdf** **00 50 41.5 +0.3**
LSZ Lusaka 145.50 39 PKPbc **PKPbc** **00 51 02.0 -1.2**
LSZ *e*PKPdf **PKPdf** **00 51 03.3 +0.2**
LSZ Lusaka 145.50 39 PKPbc **PKPbc** **00 51 02.0 -1.2**
comp=Z,6.2nm,1.2s,baz=0.0,slow=5.1,SNR=6.9
MIR Mirnyy 148.15 211 *e*PKP2 **PKPbc** **00 51 09.0 -0.1**
MIR pmax pmax
comp=Z,20nm,1.0s
BOSA Boshof 154.71 60 PKPab **PKPab** **00 51 41.3 +0.6**
BOSA Boshof 154.71 60 PKPab **PKPab** **00 51 41.3 +0.6**
comp=Z,5.4nm,0.9s,baz=298,slow=2.7,SNR=5.5

*IDC **10** 00:36:31.4±0.9,25°.63N×101°.13E,h0km,mb3.7/7, mb1 3.8/8,mb1mx3.6/26,mbtmp3.6/8,ML3.6/1,MS4.3/2, Ms1 4.3/2,ms1mx2.9/53,Error ellipse: s-maj=36.8km s-min=16.0km az=76.0*
*BJI **10** 00:36:32.3,25°.57N×101°.01E,h14km,mB3.9/1,mb4.1/2, ML4.0/8,Ms3.9/7,Ms7 3.4/4*
ISC 10 00:36:34.2±0.7,25°.68N±0°.07×101°.18E±0°.06,h13km,n15, σ1§59/16,mb3.7/7,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.51**	**111**	Pn		**Pn**	**00 37 01.0**	**-0.2**
KMI				Pg		**Pb**	**00 37 02.4**	**+0.2**
KMI				Sg		**Sg**	**00 37 22.5**	**-0.4**
KMI				smax	smax			
	comp=N,1μm,0.7s							
KMI				smax	smax			
	comp=E,2μm,1.1s							
GYA	**Guiyang**	**4.99**	**80**	Pn		**Pn**	**00 37 50.0**	**+1.1**
GYA				Sn		**Sn**	**00 38 45.1**	**-1.5**
GYA				smax	smax			
	comp=N,40nm,0.9s							
GYA				smax	smax			
	comp=E,30nm,0.8s							
GYA				LR	LR			
	comp=N,110nm,4.0s							
GYA				LR	LR			
	comp=E,180nm,8.0s							
GYA				LR	LR			
	comp=Z,220nm,8.1s							
CD2	**Chengdu**	**5.69**	**23**	Pn		Pn	00 38 02.4	+4.0
CD2				Pg		Pg	00 38 31.1	+8.0
CD2				Sn		Sb	00 39 13.4	-8.0
CD2				Sg		Sg	00 39 50.7	+14
CD2				smax	smax			
	comp=N,180nm,1.0s							
CD2				smax	smax			
	comp=E,330nm,1.0s							
CMAR	**Chiang Mai Arr**	**7.48**	**197**	Pn		**Pn**	**00 38 20.8**	**-2.3**
	comp=E,0.2nm,0.3s,baz=13,slow=12,SNR=3.3							
CMAR				Pg		Pb	00 38 49.6	+5.8
	comp=E,1.3nm,0.3s,baz=10,slow=18,SNR=25							
CMAR				Sn		**Sn**	**00 39 51.3**	**+3.5**
	baz=358,slow=17,SNR=2.9							
CMAR				Lg		Lg	00 40 25.6	
	comp=E,2.0nm,0.3s,baz=15,slow=29,SNR=10							
XAN	**Xi'an**	**10.70**	**37**	P		**Pn**	**00 39 07.6**	**+0.4**
XAN				pmax	pmax			
	comp=Z,2.0nm,0.5s							
XAN				LR	LR			
	comp=N,280nm,9.8s							
XAN				LR	LR			
	comp=E,120nm,8.6s							
XAN				LR	LR			
	comp=Z,57nm,7.4s							
GTA	**Gaotai**	**13.74**	**356**	*e*P		**P**	**00 39 59.7**	**+2.2**
GTA				pP		pP	00 40 06.2	
GTA				sP			00 40 09.2	
GTA				pmax	pmax			
	comp=Z,4.0nm,0.5s							
SONM	**Songino Array**	**22.50**	**9**	P		**P**	**00 41 32.1**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=191,slow=9.5,SNR=8.0							
MKAR	**Makanchi Array**	**25.88**	**329**	P		**P**	**00 42 04.3**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=142,slow=11,SNR=15							
ZALV	**Zalesovo Beam**	**30.75**	**341**	P		**P**	**00 42 48.0**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=139,slow=9.0,SNR=3.6							
USRK	**Ussuriysk Arra**	**31.04**	**46**	LR		LR	00 54 54.3	
	comp=Z,404nm,19.6s,baz=48,slow=36							
MJAR	**Matsushiro Arr**	**33.32**	**62**	LR		LR	00 55 27.0	
	comp=Z,536nm,19.6s,baz=35,slow=34							
WRA	**Warramunga Arr**	**55.62**	**141**	P		**P**	**00 46 08.9**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=331,slow=7.8,SNR=6.7							
ASAR	**Alice Springs**	**58.39**	**144**	P		**P**	**00 46 29.3**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=324,slow=6.6,SNR=6.6							
ARCES	**ARCESS Array B**	**61.19**	**337**	P		**P**	**00 46 49.1**	**+0.9**
	comp=Z,1.8nm,1.0s,baz=78,slow=8.4,SNR=4.2							
GERES	**GERESS Array B**	**69.53**	**315**	P		**P**	**00 47 42.4**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=64,slow=6.7,SNR=2.5							

IDC 10 00:46:32.5±4.3,21°.18S×179°.39W,h644km±50km, mb3.0/6,mb1 3.3/6,mb1mx3.1/18,mbtmp3.0/6,Error ellipse: s-maj=25.4km s-min=23.5km az=25.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.29**	**189**	P		P	00 49 54.8	-4.8
	2.6nm,0.3s,baz=354,slow=1.8,SNR=18							
URZ				S		S	00 52 32.1	-15
	0.3nm,0.3s,baz=247,slow=11,SNR=2.6							
STKA	**Stephens Creek**	**36.32**	**245**	P		P	00 52 45.3	+0.6
	1.7nm,0.4s,baz=92,slow=14,SNR=5.8							
ASAR	**Alice Springs**	**43.10**	**258**	P		P	00 53 38.8	+0.1
	4.3nm,0.8s,baz=95,slow=7.6,SNR=34							
ASAR				PcP		PcP	00 55 13.6	+0.3
	1.2nm,0.6s,baz=110,slow=3.8,SNR=8.0							
WRA	**Warramunga Arr**	**43.22**	**263**	P		P	00 53 39.1	-0.6
	0.7nm,0.3s,baz=98,slow=8.0,SNR=28							
VNDA	**Vanda**	**57.12**	**185**	P		P	00 55 19.7	+0.4
	0.8nm,0.4s,baz=5.1,slow=6.6,SNR=11							
NVAR	**Mina Array Bea**	**82.41**	**44**	P		P	00 57 49.5	+0.1
	0.5nm,0.7s,baz=189,slow=5.4,SNR=3.0							
TXAR	**Lajitas Array**	**88.52**	**58**	P		P	00 58 19.0	+0.3
	0.8nm,0.8s,baz=229,slow=5.5,SNR=11							
BVAR	**Borovoye Array**	**118.76**	**320**	PKP		PKPdf	01 04 07.9	-0.9
	0.9nm,0.3s,baz=144,slow=1.5,SNR=4.3							
SPITS	**Spitsbergen Ar**	**122.46**	**356**	PKP		PKPdf	01 04 14.4	-0.9
	11nm,1.0s,baz=137,slow=10,SNR=4.0							
ARCES	**ARCESS Array B**	**129.34**	**349**	PKP		PKPdf	01 04 28.1	-0.6
	0.8nm,0.6s,baz=89,slow=2.4,SNR=5.7							
BRTR	**Keskin Array B**	**146.31**	**311**	PKPbc		PKPbc	01 05 02.9	-0.2
	0.6nm,0.7s,baz=66,slow=3.6,SNR=3.7							
MMAI	**Mount Meron Ar**	**147.00**	**298**	PKPbc		PKPbc	01 05 05.8	+0.7
	2.1nm,0.6s,baz=95,slow=6.1,SNR=3.9							
GERES	**GERESS Array B**	**150.47**	**342**	PKPbc		PKPbc	01 05 12.8	-0.2
	0.9nm,0.8s,baz=56,slow=2.8,SNR=3.9							
TORD	**Torodi Ar. Bea**	**171.95**	**188**	PKPab		PKPab	01 06 55.6	-1.4
	0.3nm,0.6s,baz=176,slow=0.8,SNR=3.4							

*BKK **10** 00:48:26.4±1.0,48°.N±9°.×15°.0E±1°.7,h10km,M5.6/28, mB6.0/18,mb5.6/28,Mw(mB)5.6/18*
*NIED **10** 00:49:00,47°.10N×149°.10E,h400km,Mw5.3 Best double couple: M0 1.05000×10^17 NP1:φs189.00000°, δ87.00000°,λ90.00000°. NP2:φs2.00000°,δ3.00000°, λ83.00000°.*
*JMA **10** 00:49:08.6±0.4,47°.11N×149°.13E,h418km,M5.2*
*SKHL **10** 00:49:08.5±1.0,47°.75N×148°.44E,h395km±12km,mb5.9/6, mbh5.5/4,msh5.7/5*
*ISCJB **10** 00:49:08.7±0.2,47°.85N±0°.02×148°.33E±0°.02, h377km±2km,mb5.1/346,Error ellipse: s-maj=3.6km s-min=2.0km az=155.5*
*MOS **10** 00:49:09.5±0.9,47°.87N×148°.31E,h386km,mb5.2/86, Error ellipse: s-maj=5.8km s-min=4.2km az=96.3*
*IDC **10** 00:49:11.0±0.3,47°.88N×148°.31E,h388km±3km,mb4.6/48, mb1 4.7/55,mb1mx4.7/56,mbtmp4.6/55,Error ellipse: s-maj=7.2km s-min=5.0km az=153.0*
*TEH **10** 00:49:11.0,47°.91N×148°.25E,h382km,ML5.3*
*NEIC **10** 00:49:11.1±0.1,47°.91N×148°.26E,mb5.3/194,Error ellipse: s-maj=4.2km s-min=2.0km az=155.0*
*DJA **10** 00:49:12.8±6.4,48°.N±18°.×14°.8E±2°.7,h414km±69km, M5.0/6,mB5.4/4,mb5.0/6,Mw(mB)4.9/4*
*GCMT **10** 00:49:13.6±0.4,47°.78N×148°.39E,h388km±2km,MW5.3, Moment Tensor Solution. s51,c71; Moment tensor: Scale 10^17Nm; Mrr0.08±.04; Mθθ0.08±.07; Mϕϕ-0.16±.07; Mrθ0.45±.07; Mθϕ-0.21±.06; Mϕr-1.24±.05; Best double couple: M0 1.30000×10^17 NP1:φs66.00000°,δ10.00000°, λ174.00000°. NP2:φs161.00000°,δ89.00000°,λ80.00000°. Principal axes: T 1.3800, Plg45.0000°, Azm61.0000°; N -0.0800, Plg10.0000°, Azm161.0000°; P -1.3000, Plg43.0000°, Azm261.0000°; Data Used: II IU IC CN G.*
*BJI **10** 00:49:13.7,47°.87N×147°.64E,h395km,mB5.4/18, mb5.5/56*
*SZGRF **10** 00:49:15.3,48°.66N×148°.48E,h395km,mb5.0,Northwest of Kuril Islands, Russia*
ISC 10 00:49:10.6±0.2,47°.83N±0°.03×148°.39E±0°.03,h389km±1km, h387km:pP-P,n1350,σ1§29/1664,mb5.2/358,277C-271D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.62**	**188**	*c* *i* Op	PN	**Pn**	**00 50 08.5**	**-1.5**
KUR				*i*	S	**S**	**00 50 54.5**	**-3.3**
KUR				pmax	pmax			
	comp=E,31nm,0.5s							
KUR				pmax	pmax			
	comp=Z,286nm,0.5s							
KUR				pmax	pmax			
	comp=N,68nm,0.5s							
KUR				smax	smax			
	comp=N,139nm,0.4s							
KUR				smax	smax			
	comp=E,123nm,0.4s							
KUR	**Kuril'sk**	**2.62**	**188**	⇑*i*	P	**Pn**	**00 50 08.4**	**-1.5**
KUR				AMB	AMB		00 50 09.0	
	comp=E,11μm,2.0s							
KUR				AMB	AMB		00 50 09.9	
	comp=E,5μm,1.3s							
KUR				*i*	S	**S**	**00 50 54.6**	**-3.3**
KUR				A	A		00 50 57.3	
	comp=E,11μm,1.6s							
KUR				A	A		00 50 57.3	
	comp=E,16μm,1.6s							
KUR				A	A		00 50 58.0	
	comp=E,12μm,2.8s							
KUR				A	A		00 50 58.0	
	comp=E,60μm,2.8s							
YSS	**Yuzh-Sakhalins**	**3.93**	**259**	⇑*i*	PN	**Pn**	**00 50 23.0**	**+1.8**
YSS				*i*	S	**S**	**00 51 17.0**	**-1.5**
YSS				pmax	pmax			
	comp=N,1μm,1.0s							
YSS				pmax	pmax			
	comp=E,3μm,1.0s							
YSS				pmax	pmax			
	comp=Z,3μm,1.0s							
YSS				pmax	pmax			
	comp=N,3μm,2.0s							
YSS				pmax	pmax			
	comp=E,5μm,2.0s							
YSS				pmax	pmax			
	comp=Z,5μm,2.0s							
YSS				smax	smax			
	comp=N,8μm,4.0s							
YSS				smax	smax			
	comp=E,11μm,4.0s							
YSS				smax	smax			
	comp=N,530nm,1.0s							
YSS				smax	smax			
	comp=E,1μm,1.0s							
YSS				MLR	MLR			
	comp=Z,1μm,8.0s							
YSS	**Yuzh-Sakhalins**	**3.93**	**259**	⇑*i*	P	**Pn**	**00 50 23.0**	**+1.8**
YSS				⇑*i*	P	**Pn**	**00 50 23.0**	**+1.8**
YSS				AMB	AMB		00 50 24.0	
	comp=Z,5μm,2.0s							
YSS				AMB	AMB		00 50 24.0	
	comp=Z,3μm,2.0s							
YSS				AMB	AMB		00 50 24.0	
	comp=Z,5μm,2.0s							
YSS				AMB	AMB		00 50 24.0	
	comp=Z,3μm,1.0s							
YSS				AMB	AMB		00 50 24.0	
	comp=Z,1μm,1.0s							
YSS				AMB	AMB		00 50 24.0	
	comp=Z,3μm,1.0s							
YSS				*i*	S	**S**	**00 51 17.0**	**-1.5**
YSS				A	A		00 51 22.5	
	comp=Z,530nm,1.0s							
YSS				A	A		00 51 22.5	
	comp=Z,1μm,1.0s							
YUK	**Yuzh-Kuril'sk**	**4.19**	**206**	*c* *i*	PN	**Pn**	**00 50 21.2**	**-2.6**
YUK				*i*	S	**S**	**00 51 17.9**	**-5.2**
YUK				pmax	pmax			
	comp=Z,1μm,2.1s							
YUK				pmax	pmax			
	comp=N,200nm,0.6s							
YUK				pmax	pmax			
	comp=Z,742nm,0.6s							
YUK				pmax	pmax			
	comp=E,333nm,0.6s							
YUK				smax	smax			
	comp=N,599nm,0.7s							
YUK				smax	smax			
	comp=E,866nm,0.7s							
YUK	**Yuzh-Kuril'sk**	**4.19**	**206**	⇑*i*	P	**Pn**	**00 50 21.3**	**-2.6**
YUK				AMB	AMB		00 50 23.8	
	comp=E,200nm,0.6s							
YUK				AMB	AMB		00 50 23.8	
	comp=E,333nm,0.6s							
YUK				AMB	AMB		00 50 23.8	
	comp=E,742nm,0.6s							
YUK				*i*	S	**S**	**00 51 17.9**	**-5.2**
YUK				A	A		00 51 26.6	
	comp=E,600nm,0.7s							
YUK				A	A		00 51 26.6	
	comp=E,866nm,0.7s							
UGL	**Uglegorsk**	**4.39**	**289**	⇑*i*	PN	**Pn**	**00 50 26.0**	**+0.3**
UGL				*e*	S	**S**	**00 51 26.0**	**-0.6**
UGL				pmax	pmax			
	comp=Z,3μm,1.0s							
UGL				smax	smax			
	comp=N,892nm,0.9s							
UGL				smax	smax			
	comp=E,1μm,0.9s							
UGL				smax	smax			
	comp=N,6μm,4.0s							
UGL				smax	smax			
	comp=E,11μm,6.0s							
UGL	**Uglegorsk**	**4.39**	**289**	⇑*i*	P	**Pn**	**00 50 26.0**	**+0.3**
UGL				⇑*i*	P	**Pn**	**00 50 26.0**	**+0.3**
UGL				AMB	AMB		00 50 27.5	
	comp=E,3μm,1.0s							
UGL				AMB	AMB		00 50 28.0	
	comp=E,1μm,3.0s							
UGL				AMB	AMB		00 50 28.0	
	comp=E,3μm,4.0s							
UGL				*e*	S	**S**	**00 51 26.0**	**-0.6**
UGL				*i*	S	**S**	**00 51 26.0**	**-0.6**
UGL				A	A		00 51 28.0	
	comp=E,6μm,5.0s							
UGL				A	A		00 51 28.0	
	comp=E,11μm,5.0s							
UGL				A	A		00 51 28.0	
	comp=E,892nm,0.9s							
UGL				A	A		00 51 28.0	
	comp=E,1μm,0.9s							
JRA	**Rausu**	**4.51**	**212**	P		**Pn**	**00 50 25.0**	**-2.1**
JRA				*e*	S	**S**	**00 51 25.7**	**-3.4**
TYV	**Tymovskoe**	**4.82**	**311**	*e*	P	**Pn**	**00 50 30.0**	**0.0**
TYV				AMB	AMB		00 50 31.0	
	comp=E,299nm,0.6s							
TYV				AMB	AMB		00 50 31.0	
	comp=E,533nm,0.6s							
TYV				AMB	AMB		00 50 32.0	
	comp=E,2μm,2.0s							
TYV				AMB	AMB		00 50 32.0	
	comp=E,2μm,2.0s							
TYV				AMB	AMB		00 50 32.0	
	comp=E,4μm,2.0s							
TYV				*e*	S	**S**	**00 51 30.0**	**-4.6**
TYV				A	A		00 51 36.0	
	comp=E,6μm,2.0s							
TYV				A	A		00 51 36.0	
	comp=E,563nm,1.0s							
TYV				A	A		00 51 36.0	
	comp=E,2μm,1.0s							
NEM2	**Nemuro 2**	**4.84**	**204**	⇑P		Pn	00 50 25.8	-4.6
NEM2				*e*	S	S	00 51 26.6	-8.6
JSE	**Soyaes**	**4.94**	**237**	⇑P		**Pn**	**00 50 31.7**	**+0.3**
JSE				*e*	S	**S**	**00 51 37.7**	**+0.7**
JNK	**Nakash**	**4.96**	**213**	⇑P		**Pn**	**00 50 29.1**	**-2.6**
JTKR	**Abashiri--Toko**	**4.97**	**221**	⇑P		**Pn**	**00 50 30.3**	**-1.5**
JTKR				*e*	S	**S**	**00 51 35.2**	**-2.4**
JWK2	**Keihoku**	**5.13**	**243**	⇑P		**Pn**	**00 50 34.6**	**+1.1**
JWK2				*e*	S	**S**	**00 51 42.1**	**+1.3**
JMP	**Maruseppu**	**5.19**	**224**	⇑P		**Pn**	**00 50 33.0**	**-1.1**
ASAJ	**Asahikawa**	**5.49**	**230**	*e*	Pn	**Pn**	**00 50 37.1**	**-0.2**
ASAJ				S		**S**	**00 51 46.3**	**-1.4**
ASAJ	**Asahikawa**	**5.49**	**230**	⇑P		**Pn**	**00 50 37.0**	**-0.2**
ASAJ				*e*	S	**S**	**00 51 46.5**	**-1.2**
ASAJ	**Asahikawa**	**5.49**	**230**	P		**Pn**	**00 50 37.1**	**-0.2**
	comp=E,76nm,0.3s,baz=52,slow=8.1,SNR=160							
ASAJ				S		**S**	**00 51 46.3**	**-1.4**
	comp=E,12nm,0.3s,baz=170,slow=33,SNR=10							
JAK	**Akkeshi**	**5.49**	**210**	⇑P		Pn	00 50 33.1	-4.2
JAK				*e*	S	S	00 51 39.5	-8.2
JAR	**Ashorobuto**	**5.58**	**217**	⇑P		**Pn**	**00 50 36.1**	**-2.1**
JKK2	**Kamakawa 2**	**5.59**	**227**	*e*	S	**S**	**00 51 47.3**	**-2.4**
JSS	**Shosan**	**5.70**	**235**	⇑P		**Pn**	**00 50 40.4**	**+0.9**
JSS				*e*	S	**S**	**00 51 52.8**	**+1.0**
SKR	**Severo-Kuril's**	**5.81**	**58**	*i*	PN	Pn	00 50 36.5	-4.0
SKR				*i*	S	**S**	**00 51 48.0**	**-5.8**
SKR				pmax	pmax			
	comp=N,2μm,2.0s							
SKR				pmax	pmax			
	comp=Z,4μm,2.0s							
SKR				pmax	pmax			
	comp=N,460nm,0.9s							
SKR				pmax	pmax			
	comp=E,410nm,0.9s							
SKR				pmax	pmax			
	comp=Z,980nm,0.9s							
SKR				smax	smax			
	comp=N,3μm,1.0s							
SKR				smax	smax			
	comp=E,1μm,1.0s							
SKR				smax	smax			
	comp=N,10μm,4.0s							
SKR				smax	smax			
	comp=E,7μm,4.0s							
SKR				MLR	MLR			
	comp=Z,2μm,12.0s							
JOB	**Onbets**	**5.88**	**215**	⇑P		**Pn**	**00 50 38.4**	**-3.1**
JOB				*e*	S	S	00 51 48.9	-6.6
JAB	**Ashibetsu**	**6.11**	**227**	⇑P		**Pn**	**00 50 43.7**	**-0.4**
JAB				*e*	S	**S**	**00 51 58.6**	**-1.6**
JFR	**Furan**	**6.20**	**223**	⇑P		**Pn**	**00 50 43.6**	**-1.4**
JFR				*e*	S	**S**	**00 51 58.1**	**-3.8**
JHR	**Hokuryu**	**6.20**	**231**	P		**Pn**	**00 50 44.8**	**-0.2**
JCH	**Churui**	**6.31**	**216**	P		Pn	00 50 42.4	-3.9
JCH				*e*	S	S	00 51 55.4	-8.8
JBT2	**Biratori 2**	**6.60**	**222**	⇑P		**Pn**	**00 50 47.2**	**-2.3**
JBT2				*e*	S	**S**	**00 52 04.4**	**-5.7**
OKH	**Okha**	**6.69**	**331**	*i*	PN	**P**	**00 50 51.8**	**+0.7**
OKH				*i*	S	**S**	**00 52 13.6**	**+2.0**
OKH				pmax	pmax			
	comp=Z,1μm,2.2s							
OKH				smax	smax			
	comp=N,6μm,8.0s							
OKH				smax	smax			
	comp=E,3μm,6.0s							
OKH	**Okha**	**6.69**	**331**	⇑*i*	P	**P**	**00 50 51.8**	**+0.7**
OKH				AMB	AMB		00 50 52.0	
	comp=E,1μm,2.2s							
OKH				⇑*i*	P	**P**	**00 50 52.0**	**+0.9**
OKH				AMB	AMB		00 50 52.5	
	comp=E,500nm,1.0s							
OKH				⇓*i*	S	**S**	**00 52 13.6**	**+2.0**
OKH				A	A		00 52 14.8	
	comp=E,500nm,1.0s							
OKH				A	A		00 52 14.8	
	comp=E,400nm,1.1s							
OKH				A	A		00 52 15.4	
	comp=E,3μm,6.0s							
OKH				A	A		00 52 15.4	
	comp=E,6μm,8.0s							
OKH				*e*	LQ	LQ	00 54 30.4	
OKH				AMS	AMS		00 56 58.0	
	comp=E,1μm,6.0s							
OKH				AMS	AMS		00 56 58.0	
	comp=E,2μm,7.0s							
OKH				AMS	AMS		00 56 58.0	
	comp=E,2μm,8.0s							
JNBK	**Urakawa-nobuka**	**6.84**	**218**	P		Pn	00 50 48.0	-4.2
JNBK				*e*	S	S	00 52 06.0	-9.0
ERM	**Erimo**	**6.90**	**214**	Pn		**Pn**	**00 50 50.1**	**-2.8**
	comp=E,12μm,0.4s							
ERM	**Erimo**	**6.90**	**214**	*d*	PN	Pn	00 50 49.5	-3.4
ERM				pmax	pmax			
	comp=Z,1μm,1.0s							
ERM	**Erimo**	**6.90**	**214**	*e*	Pn	**Pn**	**00 50 50.0**	**-2.9**
ERM				*e*	S	S	00 52 06.8	-9.5
JEM	**Erimo**	**6.90**	**214**	P		Pn	00 50 49.5	-3.4
JEW	**Eniwo**	**6.99**	**227**	P		**Pn**	**00 50 52.4**	**-1.4**
JEW				*e*	S	**S**	**00 52 13.3**	**-4.8**
JSK	**Shakotan**	**7.13**	**234**	P		**Pn**	**00 50 55.0**	**-0.5**
JSK				*e*	S	**S**	**00 52 16.0**	**-5.1**
NKL	**Nikolayevsk**	**7.25**	**320**	*i*	P	**Pn**	**00 50 54.0**	**-2.5**
NKL				AMB	AMB		00 50 55.0	
	comp=Z,30nm,0.6s							
NKL				AMB	AMB		00 50 55.0	
	comp=Z,100nm,0.6s							
NKL				AMB	AMB		00 50 55.0	
	comp=Z,400nm,2.0s							
NKL				AMB	AMB		00 50 55.0	
	comp=Z,500nm,2.0s							
NKL				*i*	S	**S**	**00 52 21.0**	**-2.1**
NKL				A	A		00 52 23.0	
	comp=Z,4μm,6.0s							
NKL				A	A		00 52 23.0	
	comp=Z,2μm,6.0s							
NKL				A	A		00 52 23.5	
	comp=Z,3μm,1.8s							
NKL				AMS	AMS		00 55 29.0	
	comp=Z,600nm,8.0s							
JNB	**Noboribetsu**	**7.46**	**227**	P		**Pn**	**00 50 57.2**	**-2.1**
JNB				*e*	S	**S**	**00 52 22.1**	**-6.0**
JSH	**Shimam**	**7.85**	**232**	P		**Pn**	**00 51 02.5**	**-1.1**
JSH				*e*	S	S	00 52 29.1	-7.0
JKB	**Kayabe**	**7.91**	**224**	P		Pn	00 51 00.6	-3.8
JKB				*e*	S	S	00 52 27.6	-10

PEA0B **Petropavlovsk-** 7.94 45 *e*Pn **Pn** 00 51 03.4 -1.2
PETK **Petropavlovsk-** 7.94 45 PN **Pn** 00 51 03.4 -1.2
PETK S **S** 00 52 32.5 -5.4
PETK **Petropavlovsk-** 7.94 45 P **Pn** 00 51 03.4 -1.2
PETK S **S** 00 52 32.5 -5.4
PETK **Petropavlovsk-** 7.94 45 P **Pn** 00 51 03.4 -1.2
comp=Z,7.6nm,0.3s,baz=220,slow=8.1,SNR=192
PETK S **S** 00 52 32.5 -5.4
comp=Z,20nm,0.3s,baz=232,slow=23,SNR=4.7
JYM2 Yakumo 2 8.06 228 P **Pn** 00 51 04.1 -2.0
JYM2 S S 00 52 34.2 -6.4
PET Petropavlovsk 8.36 48⇑ *i*PN **Pn** 00 51 07.6 -1.7
PET *i* S S 00 52 38.4 -8.3
PET pmax pmax
comp=Z,600nm,1.2s
PET pmax pmax
comp=Z,462nm,1.1s
PET MLR MLR
comp=Z,2μm,16.0s
PET MLR MLR
comp=Z,1μm,15.0s
JSR Shiriuchi 8.48 225 P **Pn** 00 51 07.8 -3.1
JSR eS S 00 52 39.8 -10
JOSM Okushiri--Mats 8.54 231 P **Pn** 00 51 09.8 -1.8
JOSM eS S 00 52 43.3 -7.6
TEY Ternei 8.61 255 *i* P **Pn** 00 51 12.0 -0.4
TEY AMB AMB 00 51 13.0
comp=Z,215nm,1.0s
TEY AMB AMB 00 51 13.0
comp=Z,800nm,2.0s
TEY AMB AMB 00 51 13.0
comp=Z,1μm,2.0s
JTM Tenmabayashi 8.78 219 P Pn 00 51 09.9 -4.5
JTM eS S 00 52 44.6 -11
JANG Nango 8.94 216 P Pn 00 51 12.0 -4.4
JANG eS S 00 52 47.9 -12
HABR Khabarovsk 8.95 279 *c* *i*PN **P** 00 51 17.8 +1.2
HABR eS **S** 00 52 59.3 0.0
HABR pmax pmax
comp=N,45nm,1.0s
HABR pmax pmax
comp=Z,389nm,1.2s
HABR pmax pmax
comp=E,4μm,3.5s
HABR MLR MLR
comp=Z,475nm,18.0s
JTH Tanohata 9.19 213 P Pn 00 51 15.4 -3.8
OFUJ Ofunato 10.02 212 P **P** 00 51 26.1 -2.6
JRG Rokugo 10.13 216 P **P** 00 51 27.4 -2.6
JRG eS S 00 53 17.3 -7.1
JIO Ouri 10.69 211 P **P** 00 51 34.4 -1.7
KLR Kul'dur 11.13 283⇑ *i*PN **P** 00 51 38.8 -2.1
KLR eS **S** 00 53 44.0 -0.8
KLR pmax pmax
comp=E,2μm,6.5s
KLR pmax pmax
comp=Z,2μm,6.5s
KLR pmax pmax
comp=E,980nm,1.4s
KLR pmax pmax
comp=Z,1μm,1.4s
KLR smax smax
comp=N,450nm,1.6s
KLR smax smax
comp=E,780nm,1.6s
JYA Atsumi 11.19 218 P **P** 00 51 41.0 -0.7
JFK Kawauchi 11.83 211 P **P** 00 51 49.2 +0.4
USRK Ussuriysk Arra 11.97 258 P **P** 00 51 50.0 -0.2
comp=E,24nm,0.3s,baz=68,slow=11,SNR=299
USRK S **S** 00 54 00.8 -1.4
baz=72,slow=18,SNR=4.1
VLA Vladivostok 12.50 254 *d* *i*PN **P** 00 51 54.9 -1.2
VLA pmax pmax
comp=Z,470nm,1.9s
MDJ Mudanjiang 13.40 263 P **P** 00 52 05.7 -0.3
MDJ S **S** 00 54 28.9 -2.3
MDJ ScP **ScP** 00 59 59.1 +0.7
MDJ PcS **PcS** 01 00 38.4 +1.1
MDJ ScS **ScS** 01 03 36.2 +1.0
MDJ pmax pmax
comp=Z,380nm,1.4s
MDJ pmax pmax
comp=Z,470nm,3.0s
MDJ Mudanjiang 13.40 263 *e*Pn **P** 00 52 06.0 0.0
comp=Z,596nm,1.0s
MAJO Matsushiro 13.56 217 *e*P **P** 00 52 08.1 +0.3
MAJO Matsushiro 13.56 217 *e*P **P** 00 52 08.1 +0.3
MAT Matsushiro 13.56 217 P **P** 00 52 08.2 +0.4
MAT S **S** 00 54 34.8 +0.3
MJAR Matsushiro Arr 13.56 217 P **P** 00 52 08.4 +0.5
MJAR ScP **ScP** 00 59 59.0 +0.2
MJAR Matsushiro Arr 13.56 217 P **P** 00 52 08.4 +0.5
comp=Z,18nm,0.3s,baz=15,slow=11,SNR=123
MJAR ScP **ScP** 00 59 59.0 +0.2
comp=Z,0.3nm,0.3s,baz=128,slow=0.6,SNR=6.1
ZEA Zeya 14.59 302⇓ *e*P **P** 00 52 16.2 -2.7
ZEA ⇓ *e*P **P** 00 52 16.2 -2.7
ZEA AMB AMB 00 52 21.8
comp=Z,140nm,0.7s
ZEA AMB AMB 00 52 21.8
comp=Z,60nm,0.7s
ZEA AMB AMB 00 52 21.8
comp=Z,170nm,0.7s
ZEA AMB AMB 00 52 22.0
comp=Z,200nm,2.0s
ZEA AMB AMB 00 52 22.0
comp=Z,400nm,2.0s
ZEA AMB AMB 00 52 22.0
comp=Z,800nm,2.0s
ZEA eS S 00 54 48.0 -6.7
ZEA A A 00 54 55.0
comp=Z,700nm,6.0s
ZEA A A 00 54 55.0
comp=Z,1μm,6.0s
ZEA eLQ LQ 00 56 20.0
ZEA eLR LR 00 57 07.0
SEY Seymchan 15.30 7 *c* *i*P **P** 00 52 27.1 +0.7
CN2 Changchun 16.48 264 *e*P **P** 00 52 37.9 -1.4
CN2 eS **S** 00 55 26.4 -5.7
CN2 PcP PcP 00 57 13.0 +5.9
CN2 pmax pmax
comp=Z,900nm,1.0s
CN2 pmax pmax
comp=Z,1μm,3.0s
CN2 LR LR
comp=N,600nm,13.0s
CN2 LR LR
comp=E,700nm,13.0s
CN2 LR LR
comp=Z,700nm,12.0s
FX1 Attu Island--F 16.56 63 *e*P **P** 00 52 40.8 +0.7
FX1 S S 00 55 48.0 +15
FX1 Attu Island--F 16.56 63 P **P** 00 52 40.8 +0.7
comp=Z,74nm,0.3s,baz=330,slow=3.3,SNR=80
FX1 S S 00 55 48.0 +15
comp=Z,21nm,0.3s,baz=68,slow=22,SNR=11
CLNS Chul'man 16.88 311 *d* *i*P **P** 00 52 44.1 +0.6
CLNS eS **S** 00 55 40.7 +1.0
CLNS pmax pmax
comp=Z,425nm,1.1s
CLNS pmax pmax
comp=E,198nm,0.9s
CLNS pmax pmax
comp=N,274nm,1.3s
CLNS smax smax
comp=E,270nm,1.5s
CLNS smax smax
comp=N,364nm,1.4s
SMY Shemya 17.10 64 *e*P **P** 00 52 46.4 +0.6
SMY pmax pmax
comp=Z,755nm,1.1s
SMY Shemya 17.10 64 *e*P **P** 00 52 46.4 +0.6
comp=Z,755nm,1.1s
YAK Yakutsk 17.73 330 *d* *i*P **P** 00 52 51.2 -1.1
YAK eS **S** 00 55 54.2 -1.8
YAK pmax pmax
comp=E,177nm,1.1s
YAK pmax pmax
comp=Z,562nm,0.9s
YAK pmax pmax
comp=N,157nm,1.0s
YAK smax smax
comp=N,1μm,1.1s
YAK smax smax
comp=E,3μm,1.8s

KSRS Korea Array 18.23 243 P **P** 00 52 58.8 +0.7
comp=E,11nm,0.3s,baz=40,slow=11,SNR=153
KSRS S **S** 00 56 10.6 +4.5
baz=43,slow=19,SNR=6.5
KSRS ScP **ScP** 01 00 09.1 +1.3
comp=E,0.2nm,0.3s,baz=28,slow=1.5,SNR=19
KSAR Wonju Array Be 18.26 243 P **P** 00 52 58.8 +0.4
KSAR S **S** 00 56 10.6 +3.9
KSAR ScP **ScP** 01 00 09.1 +1.2
SNY Shenyang 18.55 260 ⇓ P **P** 00 53 00.6 -0.8
SNY S **S** 00 56 09.7 -2.2
SNY pmax pmax
comp=Z,950nm,2.5s
SNY pmax pmax
comp=Z,1μm,4.5s
SNY LR LR
comp=N,1μm,12.2s
SNY LR LR
comp=E,780nm,11.3s
SNY LR LR
comp=Z,1μm,11.4s
HIA Hailar 18.98 285 *e*P **P** 00 53 02.9 -2.9
comp=Z,75nm,0.8s
INCN Inchon 18.99 245 *e*P **P** 00 53 06.0 -0.1
comp=Z,239nm,1.3s
JFA Akaike 19.34 230 P **P** 00 53 09.3 -0.2
JNU Nakatsue 19.77 228 *e*P **P** 00 53 13.8 +0.2
JNU Nakatsue 19.77 228 P **P** 00 53 14.2 +0.5
JNU Nakatsue 19.77 228 P **P** 00 53 13.9 +0.2
comp=Z,7.6nm,0.3s,baz=7.0,slow=0.9,SNR=37
AMKA Amchitka 20.27 68 *e*P **P** 00 53 16.9 -1.1
comp=Z,566nm,1.0s
DL2 Dalian 21.32 255 P **P** 00 53 27.8 +0.1
DL2 sP **sP** 00 55 13.7 -2.4
DL2 pmax pmax
comp=Z,1μm,1.1s
BILL Bilibino 22.20 18⇑ *e*P **P** 00 53 33.7 -1.7
BILL *e*S **S** 00 57 11.8 +0.9
BILL pmax pmax
comp=Z,328nm,1.5s
CIT Chita 22.68 294 *e*P **P** 00 53 39.6 -0.4
CIT *e* 01 03 58.7
CIT pmax pmax
comp=Z,326nm,1.3s
BJI Beijing 24.34 263 P **P** 00 53 56.0 +1.0
BJI sP **sP** 00 55 46.2 -2.6
BJI S **S** 00 57 45.0 -0.2
BJI pmax pmax
comp=Z,290nm,0.8s
BJT Baijiatuau 24.35 263 *e*P **P** 00 53 56.0 +0.9
comp=Z,407nm,0.8s
TIXI Tiksi 25.57 346 *c* *i*P **P** 00 54 04.8 -0.8
TIXI pmax pmax
comp=Z,17nm,0.7s
SPIA Saint Paul Isl 26.47 54 *e*P **P** 00 54 14.5 +0.7
comp=Z,408nm,1.4s
HHC Hu-ho-hao-te 27.05 269 *e*P **P** 00 54 20.0 +0.7
HHC sP **sP** 00 56 13.4 -1.6
HHC PcP **PcP** 00 57 30.3 +1.7
HHC S **S** 00 58 31.0 +2.9
HHC PcS **PcS** 01 01 11.8 +1.2
HHC ScS **ScS** 01 04 23.4 +0.4
HHC pmax pmax
comp=Z,510nm,1.1s
HHC pmax pmax
comp=Z,650nm,4.5s
NJ2 Nanjing 27.37 246 *e*P **P** 00 54 22.6 +0.6
NJ2 PP **PP** 00 55 34.0 +0.3
NJ2 sP **sP** 00 56 17.0 -0.7
NJ2 S **S** 00 58 34.6 +1.6
NJ2 sS **sS** 01 00 42.6 -0.6
NJ2 LR LR
comp=N,280nm,14.3s
NJ2 LR LR
comp=E,540nm,12.8s
NJ2 LR LR
comp=Z,1μm,11.8s
SONM Songino Array 27.94 286 P **P** 00 54 26.9 -0.1
SONM pP **PP** 00 55 40.4 +0.5
SONM ScP **ScP** 01 00 34.1 +0.4
SONM Songino Array 27.94 286 P **P** 00 54 26.9 -0.1
comp=Z,49nm,0.9s,baz=69,slow=8.8,SNR=206
SONM pP **PP** 00 55 40.4 +0.5
comp=Z,33nm,1.2s,baz=85,slow=7.9,SNR=2.4
SONM ScP **ScP** 01 00 34.1 +0.4
comp=Z,19nm,1.0s,baz=98,slow=2.5,SNR=18
BTO Baotou 28.20 269 *e*P **P** 00 54 29.2 -0.2
BTO pmax pmax
comp=Z,42nm,0.9s
IRK Irkutsk 28.34 296 *e*P **P** 00 54 29.0 -1.3
IRK pmax pmax
comp=Z,146nm,1.4s
UNV Unalaska Valle 28.71 61 *e*P **P** 00 54 30.7 -2.9
comp=Z,41nm,1.1s
TLY Talaya 28.82 295 *e*P **P** 00 54 34.6 0.0
TLY *e* 00 55 47.0
TLY Talaya 28.82 295 P **P** 00 54 34.5 0.0
comp=Z,799nm,1.0s,SNR=41
TNA Tin City 29.00 36 *e*P **P** 00 54 36.2 +0.3
comp=Z,257nm,0.8s
AKUT Akutan 29.11 60 *e*P **P** 00 54 34.9 -2.1
comp=Z,114nm,1.2s
ZAK Zakamensk 29.30 292 *e*P **P** 00 54 38.8 -0.1
ZAK *e* 00 55 51.7
ZAK *e* 00 59 03.2
ZAK pmax pmax
comp=Z,135nm,1.3s
MOY Mondy 30.44 295 *e*P **P** 00 54 49.2 +0.4
MOY pmax pmax
comp=Z,114nm,2.0s
WHN Wuhan 31.20 249 ⇓ *i*P **P** 00 54 55.9 +0.3
WHN pP **pP** 00 56 06.5 -0.6
WHN pmax pmax
comp=Z,420nm,7.4s
WHN LR LR
comp=N,420nm,12.4s
WHN LR LR
comp=E,410nm,14.4s
WHN LR LR
comp=Z,610nm,14.3s
YHNB Yeheng 31.48 232 *e*P **P** 00 54 57.6 -0.5
comp=Z,27nm,0.8s
SDPT Sand Point 32.00 57 *e*P **P** 00 54 59.2 -2.9
comp=Z,79nm,0.9s
SSLB Suanglung 32.42 232 *e*P **P** 00 55 06.1 -0.1
comp=Z,21nm,1.0s
XAN Xi'an 32.47 259 P **P** 00 55 06.7 +0.1
XAN pP **pP** 00 56 22.6 +4.2
YULB Yu-li 32.56 231 *e*P **P** 00 55 07.1 -0.2
comp=Z,31nm,0.9s
QZH Quanzhou 32.79 236 ⇓ *i*P **P** 00 55 10.5 +1.2
QZH pP **pP** 00 56 22.6 +1.4
QZH S **S** 00 59 59.5 +2.3
QZH SS **SS** 01 02 34.2 -4.5
QZH pmax pmax
comp=Z,480nm,1.5s
QZH pmax pmax
comp=Z,970nm,2.8s
TPUB Ta-pu 32.98 232 *e*P **P** 00 55 10.3 -0.7
comp=Z,76nm,0.8s
CHGN Chignik 33.02 55 *e*P **P** 00 55 10.0 -0.9
TWG Pinlang 33.15 231 *e*P **P** 00 55 11.6 -0.8
comp=Z,269nm,0.6s
SVW2 Sparrevohn 34.03 46 *e*P **P** 00 55 20.9 +1.4
comp=Z,182nm,0.8s
SVW2 *e*ScP **ScP** 01 00 56.1 +2.4
KRAR Krasnoyarsk 34.35 305 *i* P **P** 00 55 21.8 -0.4
KRAR pmax pmax
comp=Z,136nm,1.0s
ENH Enshi 34.49 254 *e*P **P** 00 55 23.3 -0.5
comp=Z,42nm,0.5s
LZH Lanzhou 34.69 267 ⇓ P **P** 00 55 26.7 +1.1
LZH pP **pP** 00 56 39.5 +1.4
LZH sP **sP** 00 57 22.0 -0.9
LZH *e*S **S** 01 00 29.1 +2.8
LZH sS **sS** 01 02 36.1 -2.8
LZH SS **SS** 01 03 11.2 -5.5
LZH pmax pmax
comp=Z,640nm,1.0s
LZH pmax pmax
comp=Z,2μm,4.0s
LZH LR LR
comp=N,490nm,13.0s
LZH LR LR
comp=E,250nm,12.7s

LZH LR LR
comp=Z,380nm,14.0s
HVS Khovu-Aksy 34.99 296 *d* *i*P **P** 00 55 28.3 +0.4
HVS pmax pmax
comp=Z,2μm,1.4s
RSO Redoubt South 35.46 47 *e*P **P** 00 55 32.4 +0.6
GTA Gaotai 35.65 275 ⇓ *i*P **P** 00 55 34.8 +1.2
GTA pP **pP** 00 56 47.1 +0.6
GTA PP **PnPn** 00 57 07.4 -2.3
GTA sP **sP** 00 57 31.1 -0.1
GTA S **S** 01 00 41.1 +0.3
GTA ScP **ScP** 01 01 01.4 +1.2
GTA sS **sS** 01 02 51.7 -2.1
GTA ScS **ScS** 01 05 07.4 +1.0
GTA pmax pmax
comp=Z,250nm,1.1s
GTA pmax pmax
comp=Z,900nm,3.5s
GTA LR LR
comp=N,190nm,14.3s
GTA LR LR
comp=E,560nm,14.7s
GTA LR LR
comp=Z,740nm,13.3s
OHAK Old Harbor 35.66 53 *e*P **P** 00 55 33.1 -0.1
comp=Z,368nm,1.0s
SPU Mount Spurr 35.73 46 *e*P **P** 00 55 35.1 +1.3
KDAK Kodiak Island 35.93 52 P **P** 00 55 35.0 -0.4
comp=Z,2μm,1.1s,SNR=37
KDAK Kodiak Island 35.93 52 *e*P **P** 00 55 35.1 -0.4
comp=Z,209nm,0.9s
KDAK PcP **PcP** 00 57 53.0 +0.6
KDAK S **S** 01 00 50.0 +5.8
KDAK Kodiak Island 35.93 52 P **P** 00 55 35.1 -0.3
comp=Z,180nm,0.9s,baz=321,slow=2.7,SNR=88
KDAK PcP **PcP** 00 57 53.0 +0.6
comp=Z,14nm,0.8s,baz=257,slow=1.5,SNR=3.9
KDAK S **S** 01 00 50.0 +5.8
comp=Z,5.0nm,0.9s,baz=133,slow=23,SNR=8.6
COLD Coldfoot 36.28 35 *e*P **P** 00 55 38.4 +0.1
comp=Z,151nm,1.0s
COLD eS **S** 01 00 51.6 +2.3
TRF Thorofare Moun 36.35 42 *e*P **P** 00 55 39.1 -0.1
comp=Z,113nm,1.0s
TRF eS **S** 01 00 53.5 +2.8
RC01 Rabbit Creek A 36.85 46 *e*P **P** 00 55 42.6 -0.6
comp=Z,291nm,1.1s
MCK McKinley 36.93 41 *e*P **P** 00 55 44.0 +0.2
MCK *e*S **S** 01 01 01.2 +2.0
MCK pmax pmax
comp=Z,225nm,0.9s
MCK McKinley 36.93 41 *e*P **P** 00 55 44.0 +0.2
comp=Z,225nm,0.9s
MCK eS **S** 01 01 01.2 +2.0
PMR Palmer 37.08 45 *e*P **P** 00 55 44.6 -0.4
PMR pmax pmax
comp=Z,148nm,1.1s
PMR Palmer 37.08 45 *e*P **P** 00 55 44.6 -0.4
comp=Z,148nm,1.1s
COLA College 37.31 39 *e*P **P** 00 55 47.6 +0.8
COLA College 37.31 39 *e*P **P** 00 55 47.6 +0.8
comp=Z,2μm,0.8s
SML Sawmill 37.42 44 *e*P **P** 00 55 48.1 +0.2
SML pmax pmax
comp=Z,178nm,1.0s
SML Sawmill 37.42 44 *e*P **P** 00 55 48.1 +0.2
comp=Z,178nm,1.0s
ILAR Eielson Array 37.73 39 P **P** 00 55 50.2 -0.1
ILAR S **S** 01 01 10.7 -0.3
ILAR Eielson Array 37.73 39 P **P** 00 55 50.2 -0.1
comp=Z,246nm,0.9s,baz=268,slow=7.3,SNR=732
ILAR S **S** 01 01 10.7 -0.3
comp=Z,3.6nm,0.9s,baz=257,slow=12,SNR=7.0
CD2 Chengdu 37.83 260 P **P** 00 55 52.0 +0.2
CD2 pP **pP** 00 57 05.7 +0.2
CD2 PP **PP** 00 57 30.6 +2.4
CD2 sP **sP** 00 57 48.3 -1.7
CD2 PcP **PcP** 00 58 00.9 +2.1
CD2 ScP **ScP** 01 01 10.8 +2.4
CD2 S **S** 01 01 14.2 +0.7
CD2 PcS **PcS** 01 01 49.0 +0.7
CD2 sS **sS** 01 03 24.5 -3.2
CD2 pmax pmax
comp=Z,80nm,0.6s
CD2 pmax pmax
comp=Z,450nm,4.5s
CD2 LR LR
comp=N,480nm,24.0s
CD2 LR LR
comp=E,440nm,14.3s
CD2 LR LR
comp=Z,280nm,17.1s
PAX Paxson 38.57 42 *e*P **P** 00 55 57.0 -0.5
PAX pmax pmax
comp=Z,41nm,0.7s
PAX Paxson 38.57 42 *e*P **P** 00 55 57.0 -0.5
comp=Z,41nm,0.7s
DIV Divide 38.75 45 *e*P **P** 00 55 59.7 +0.8
comp=Z,327nm,1.0s
MID Middleton Isla 38.81 48 *e*P **P** 00 56 00.8 +1.4
MID pmax pmax
comp=Z,341nm,1.1s
MID Middleton Isla 38.81 48 *e*P **P** 00 56 00.8 +1.4
comp=Z,341nm,1.1s
GYA Guiyang 38.90 252 ⇓ *i*P **P** 00 56 00.9 +0.2
GYA pP **pP** 00 57 17.1 +2.3
GYA PP **PP** 00 57 42.7 +3.0
GYA sP **sP** 00 57 57.5 -1.6
GYA PcP **PcP** 00 58 04.1 +1.8
GYA ScP **ScP** 01 01 13.2 +0.6
GYA S **S** 01 01 29.8 +0.2
GYA PcS **PcS** 01 01 53.9 +1.2
GYA sS **sS** 01 03 41.5 -2.8
GYA ScS **ScS** 01 05 25.6 +0.3
GYA pmax pmax
comp=Z,120nm,1.0s
GYA pmax pmax
comp=Z,350nm,3.1s
ZAA0 Zalesovo Array 39.35 303 *e*P **P** 00 56 02.6 -1.2
ZAA0 *e*PcP **PcP** 00 58 03.1 0.0
ZALV Zalesovo Beam 39.35 303 P **P** 00 56 02.8 -1.0
ZALV 00 58 03.1
ZALV 01 05 26.0
ZALV Zalesovo Beam 39.35 303 P **P** 00 56 02.8 -1.0
ZALV PcP **PcP** 00 58 03.1 0.0
ZALV ScP **ScP** 01 01 13.5 -0.3
ZALV ScS **ScS** 01 05 26.0 -0.8
ZALV Zalesovo Beam 39.35 303 P **P** 00 56 02.8 -1.0
comp=Z,14nm,0.3s,baz=61,slow=7.0,SNR=99
ZALV PcP **PcP** 00 58 03.1 0.0
comp=Z,6.6nm,0.3s,baz=97,slow=3.2,SNR=10
ZALV ScP **ScP** 01 01 13.5 -0.3
comp=Z,63nm,1.1s,baz=68,slow=4.0,SNR=14
ZALV ScS **ScS** 01 05 26.0 -0.8
comp=Z,2.1nm,0.8s,baz=46,slow=4.2,SNR=4.9
MENT Mentasta 39.37 42 *e*P **P** 00 56 04.5 +0.6
NVS Novosibirsk 39.96 305 ⇓ *i*P **P** 00 56 08.1 -0.6
NVS *i* 00 57 24.3
NVS *i* PPP PPP 00 57 52.3
NVS *i* S **S** 01 01 40.9 -3.4
NVS pmax pmax
comp=E,44nm,0.9s
NVS pmax pmax
comp=Z,68nm,0.9s
NVS pmax pmax
comp=N,30nm,1.5s
NVS smax smax
comp=N,60nm,1.9s
NVS smax smax
comp=E,34nm,1.4s
EGAK Eagle 40.16 39 *e*P **P** 00 56 10.2 0.0
comp=E,344nm,0.9s
EGAK eS **S** 01 01 47.4 +0.4
TGY Tagaytay City 40.62 223 P **P** 00 56 14.3 -0.4
TGY Tagaytay City 40.62 223 P **P** 00 56 14.3 -0.4
comp=E,157nm,0.4s,baz=84,slow=6.4,SNR=3.3
WMQ Urumqi 41.53 288 P **P** 00 56 22.6 +0.9
PNL Peninsula 42.17 46 *e*P **P** 00 56 26.4 -0.2
comp=E,136nm,1.4s
KMI Kunming 42.36 254 P **P** 00 56 29.1 +0.4
KMI pP **pP** 00 57 44.5 +0.2
KMI PP **PP** 00 58 16.2 -0.3
KMI ScP **ScP** 01 01 27.8 +1.4
KMI S **S** 01 02 20.5 0.0
KMI sS **sS** 01 04 37.7 +0.7

KMI pmax pmax
comp=Z,86nm,1.2s
KMI pmax pmax
comp=Z,500nm,3.3s
KMI LR LR
comp=N,170nm,18.0s
KMI LR LR
comp=E,180nm,15.2s
KMI LR LR
comp=Z,210nm,16.1s
QIZ Qiongzhong 42.44 241 P **P** **00 56 30.1 +1.0**
QIZ pP **pP** **00 57 43.8 -0.9**
QIZ S **S** **01 02 22.7 +1.4**
QIZ sS **sS** **01 04 38.0 +0.1**
QIZ pmax pmax
comp=Z,47nm,1.4s
QIZ pmax pmax
comp=Z,190nm,7.7s
QIZ Qiongzhong 42.44 241 *e*P **P** **00 56 30.3 +1.2**
comp=Z,105nm,1.3s
INK Inuvik 42.47 33 P **P** **00 56 28.7 0.0**
INK S **S** **01 02 19.6 -0.8**
INK Inuvik 42.47 33 P **P** **00 56 28.7 0.0**
comp=Z,84nm,0.7s,baz=296,slow=7.9,SNR=457
INK S **S** **01 02 19.6 -0.8**
comp=Z,4.0nm,0.9s,baz=73,slow=30,SNR=14
MK31 Makanchi Array 43.58 294 *e*P **P** **00 56 37.8 -0.1**
MK31 Makanchi Array 43.58 294 *e*P **P** **00 56 37.8 -0.1**
MKAR Makanchi Array 43.58 294 *e*P **P** **00 56 37.9 0.0**
MKAR S **S** **01 02 36.9 -0.3**
MKAR Makanchi Array 43.58 294 *e*P **P** **00 56 37.9 0.0**
MKAR ScP **ScP** **01 01 30.5 -0.3**
MKAR S **S** **01 02 36.9 -0.3**
MKAR Makanchi Array 43.58 294 P **P** **00 56 37.8 0.0**
comp=Z,103nm,0.6s,baz=65,slow=7.2,SNR=1086
MKAR ScP **ScP** **01 01 30.5 -0.3**
comp=Z,7.2nm,0.7s,baz=64,slow=5.5,SNR=8.4
MKAR S **S** **01 02 36.9 -0.3**
comp=Z,4.7nm,0.9s,baz=63,slow=17,SNR=4.7
KURK Kurchatov 44.07 301 P **P** **00 56 40.0 -1.6**
comp=Z,2µm,0.7s,SNR=97
KURK Kurchatov 44.07 301 P **P** **00 56 41.8 +0.2**
KURK *PP **pP** **00 57 58.7 +0.9**
KURK 00 58 35.7
KURK S S 01 02 37.1 -6.9
KURK Kurchatov 44.07 301 P **P** **00 56 41.8 +0.2**
KURK pP **pP** **00 57 58.7 +0.9**
KURK PP **PP** **00 58 35.7 +3.5**
KURK ScP **ScP** **01 01 32.6 -0.1**
KURK S S 01 02 37.1 -6.9
KURBB Kurchatov Arra 44.16 301 P **P** **00 56 41.8 -0.5**
comp=Z,101nm,0.5s,baz=69,slow=8.6,SNR=446
KURBB pP **pP** **00 57 58.7 +0.2**
comp=Z,26nm,1.0s,baz=68,slow=8.7,SNR=3.9
KURBB PP **PP** **00 58 35.7 +2.7**
comp=Z,2.7nm,0.4s,baz=61,slow=8.7,SNR=5.1
KURBB ScP **ScP** **01 01 32.6 -0.5**
comp=Z,30nm,1.0s,baz=68,slow=3.2,SNR=22
KURBB S S 01 02 37.1 -8.2
comp=Z,7.4nm,1.0s,baz=64,slow=15,SNR=4.0
SKAG Skagway 44.20 45 *e*P **P** **00 56 44.1 +1.6**
comp=Z,141nm,1.2s
SIT Sitka 45.08 49 *e*P **P** **00 56 51.4 +2.1**
SIT pmax pmax
comp=Z,199nm,1.1s
SIT Sitka 45.08 49 *e*P **P** **00 56 51.4 +2.1**
comp=Z,199nm,1.1s
WRAK Wrangell Islan 46.84 48 *e*P **P** **00 57 04.6 +1.8**
comp=Z,145nm,1.4s
CRAG Craig 46.84 50 *e*P **P** **00 57 04.0 +1.1**
comp=Z,98nm,1.2s
PANO Nakornpanom 47.03 245 P **P** **00 57 06.0 +1.1**
comp=Z,145nm,1.2s
LSA Lhasa 47.04 269 P **P** **00 57 06.9 +1.5**
LSA Lhasa 47.04 269 *e*P **P** **00 57 06.9 +1.5**
LSA pmax pmax
comp=Z,65nm,0.6s
LSA Lhasa 47.04 269 *e*P **P** **00 57 06.9 +1.5**
comp=Z,66nm,0.6s
DLBC Dease Lake 47.13 45 P **P** **00 57 07.3 +2.1**
DLBC Dease Lake 47.13 45 P **P** **00 57 07.3 +2.1**
comp=Z,97nm,1.0s,baz=289,slow=8.5,SNR=111
SKNT Sakolnakorn 47.54 245 P **P** **00 57 09.3 +0.5**
comp=Z,160nm,1.2s,comp=Z,10µm
BVA0 Borovoye Array 47.66 307 *i*P **P** **00 57 08.7 -0.6**
BVA0 pmax pmax
comp=Z,125nm,1.1s
BVAR Borovoye Array 47.66 307 P **P** **00 57 08.8 -0.5**
BVAR 00 58 31.7
BVAR 00 59 08.6
BVAR S **S** **01 03 31.9 -2.8**
BVAR Borovoye Array 47.66 307 P **P** **00 57 08.8 -0.5**
BVAR PcP **PcP** **00 58 31.7 +0.1**
BVAR PP **PP** **00 59 08.6 +3.8**
BVAR ScP **ScP** **01 01 47.5 -0.2**
BVAR S **S** **01 03 31.9 -2.8**
BVAR Borovoye Array 47.66 307 P **P** **00 57 08.8 -0.5**
comp=Z,57nm,0.8s,baz=56,slow=9.1,SNR=290
BVAR PcP **PcP** **00 58 31.7 +0.1**
comp=Z,3.3nm,0.4s,baz=74,slow=3.5,SNR=3.4
BVAR PP **PP** **00 59 08.6 +3.8**
comp=Z,13nm,0.9s,baz=60,slow=10,SNR=3.9
BVAR ScP **ScP** **01 01 47.5 -0.2**
comp=Z,5.9nm,0.5s,baz=67,slow=4.0,SNR=6.5
BVAR S **S** **01 03 31.9 -2.8**
comp=Z,6.6nm,0.9s,baz=63,slow=13,SNR=6.5
BRVK Borovoye 47.70 307 P **P** **00 57 09.2 -0.4**
comp=Z,673nm,0.6s,SNR=57
BRVK Borovoye 47.70 307 *d*P **P** **00 57 09.1 -0.5**
BRVK pmax pmax
comp=Z,215nm,1.5s
BRVK Borovoye 47.70 307 P **P** **00 57 09.6 0.0**
SNR=56
BRVK Borovoye 47.70 307 *e*P **P** **00 57 08.8 -0.7**
comp=Z,133nm,1.0s
BRVK *e*ScP **ScP** **01 01 47.8 -0.1**
BRVK *e*S **S** **01 03 31.0 -4.2**
IMP Imphal 48.39 262 *e*P **P** **00 57 13.0 -2.2**
CMAI Chiengmai2 48.44 253 P **P** **00 57 17.1 +1.3**
comp=Z,83nm,0.9s,comp=Z,5µm
ZRNK Zerenda 48.44 307 P **P** **00 57 14.5 -0.6**
ZRNK pmax pmax
comp=Z,72nm,0.7s
LAMP Lampang 49.10 251 P **P** **00 57 21.4 +0.9**
comp=Z,30nm,1.0s,comp=Z,279nm
SHL Shillong 49.23 264 *e*P **P** **00 57 22.0 +0.3**
SHL *ex* x 01 04 00.0
SHL *ex* x 01 06 32.0
CMMT Chiang Mai 49.32 252 P **P** **00 57 23.0 +0.8**
CMMT Chiang Mai 49.32 252 P **P** **00 57 22.5 +0.3**
comp=Z,69nm,1.1s,comp=Z,1µm
CHTO Chiang Mai 49.32 252 *e*P **P** **00 57 23.0 +0.8**
CHTO pmax pmax
comp=Z,164nm,1.5s
CHTO Chiang Mai 49.32 252 P **P** **00 57 23.3 +1.1**
SNR=25
CHTO Chiang Mai 49.32 252 *e*P **P** **00 57 23.0 +0.8**
comp=Z,164nm,1.5s
CHTO *e*ScP **ScP** **01 01 56.9 +1.6**
CHTO Chiang Mai 49.32 252 P **P** **00 57 23.2 +1.0**
comp=Z,75nm,1.4s,comp=Z,1µm
CHTO Chiang Mai 49.32 252 P **P** **00 57 22.6 +0.4**
comp=Z,75nm,1.4s,comp=Z,1µm
CMAR Chiang Mai Arr 49.58 251 P **P** **00 57 24.6 +0.4**
CMAR PcP **PcP** **00 58 39.9 +0.7**
CMAR ScP **ScP** **01 01 58.0 +1.6**
CMAR Chiang Mai Arr 49.58 251 P **P** **00 57 24.6 +0.4**
comp=Z,18nm,0.5s,baz=32,slow=7.5,SNR=103
CMAR PcP **PcP** **00 58 39.9 +0.7**
comp=Z,3.6nm,0.7s,baz=31,slow=3.0,SNR=4.7
CMAR ScP **ScP** **01 01 58.0 +1.6**
comp=Z,7.7nm,0.9s,baz=16,slow=3.7,SNR=21
ULHL Ulahol 49.59 292 *i*P **P** **00 57 24.8 +0.7**
ULHL Ulahol 49.59 292 P **P** **00 57 24.9 +0.7**
SNR=120
MYLDM Lahad Datu 49.60 221 P **P** **00 57 24.7 +0.4**
TKM2 Tokmak 2 49.62 293 *e*P **P** **00 57 24.7 +0.3**
TKM2 *e*S **S** **01 04 01.4 -1.1**
TKM2 pmax pmax
comp=Z,107nm,0.9s
TKM2 Tokmak 2 49.62 293 P **P** **00 57 25.0 +0.6**
SNR=98
TKM2 Tokmak 2 49.62 293 *e*P **P** **00 57 24.7 +0.3**
comp=Z,107nm,0.9s
TKM2 *e*ScP **ScP** **01 01 56.2 -0.3**
TKM2 *e*S **S** **01 04 01.4 -1.1**
PBKT Sadao Pong 49.71 248 P **P** **00 57 26.2 +1.1**
comp=Z,58nm,1.2s,comp=Z,1µm
PBKT Sadao Pong 49.71 248 P **P** **00 57 25.5 +0.4**
comp=Z,58nm,1.2s,comp=Z,1µm
SDKM Sandakan 49.78 222 P **P** **00 57 23.7 -1.9**
CHMS Chumysh 50.11 293 *i*P **P** **00 57 28.1 +0.3**
CHMS Chumysh 50.11 293 P **P** **00 57 28.1 +0.3**
SNR=42
USP Ospenovka 50.12 294 *i*P **P** **00 57 28.5 +0.6**
USP Ospenovka 50.12 294 P **P** **00 57 28.5 +0.6**
SNR=225
KBK Karagaybulak 50.17 293 *i*P **P** **00 57 29.0 +0.6**
KBK Karagaybulak 50.17 293 P **P** **00 57 29.0 +0.6**
SNR=5.9
FRU Bishkek 50.28 293 ⇓*i*P **P** **00 57 28.0 -1.1**
FRU *e* 01 04 11.0
FRU pmax pmax
comp=Z,300nm,1.6s
KZA Kyzart 50.30 292 *i*P **P** **00 57 30.9 +1.3**
KZA Kyzart 50.30 292 P **P** **00 57 30.9 +1.3**
SNR=183
AAK Ala-Archa 50.46 293 P **P** **00 57 31.0 +0.4**
comp=Z,1µm,0.8s,SNR=53
AAK Ala-Archa 50.46 293 P **P** **00 57 30.9 +0.4**
AAK S **S** **01 04 14.7 +0.8**
AAK pmax pmax
comp=Z,164nm,0.8s
AAK smax smax
comp=N,1.0nm,0.3s
AAK Ala-Archa 50.46 293 P **P** **00 57 31.2 +0.6**
SNR=67
AAK Ala-Archa 50.46 293 P **P** **00 57 31.1 +0.4**
SNR=88
AAK Ala-Archa 50.46 293 *e*P **P** **00 57 30.7 +0.1**
comp=N,176nm,0.8s
AAK S **S** **01 04 14.7 +0.8**
AAK Ala-Archa 50.46 293 P **P** **00 57 30.9 +0.3**
comp=N,164nm,0.8s,baz=105,slow=4.8,SNR=231
AAK S **S** **01 04 14.7 +0.8**
comp=N,1.4nm,0.3s,baz=296,slow=2.1,SNR=6.1
TSM Tawau 50.67 221 P **P** **00 57 31.5 -0.7**
UCH Uchtor 50.67 293 *i*P **P** **00 57 32.6 +0.1**
UCH Uchtor 50.67 293 P **P** **00 57 32.6 +0.1**
SNR=5.2
RES Resolute Bay 50.81 18 P **P** **00 57 31.5 -0.9**
RES Resolute Bay 50.81 18 P **P** **00 57 31.5 -0.9**
comp=N,97nm,0.7s,baz=316,slow=7.5,SNR=42
SVE Sverdlovsk 50.82 315 *c*P **P** **00 57 32.8 0.0**
SVE *e*S **S** **01 04 16.4 -1.6**
SVE pmax pmax
comp=Z,228nm,0.9s
TAPN Taplejung 50.87 269 *e*P **P** **00 57 34.7 +0.8**
comp=Z,115nm,0.6s
EKS2 Erkin-Say 50.89 294 *e*P **P** **00 57 34.1 +0.4**
EKS2 *e* 00 58 44.5
EKS2 pmax pmax
comp=Z,223nm,0.8s
EKS2 Erkin-Say 50.89 294 P **P** **00 57 34.0 +0.4**
SNR=229
EKS2 Erkin-Say 50.89 294 *e*P **P** **00 57 34.1 +0.4**
comp=Z,223nm,0.8s
EKS2 *e*PcP **PcP** **00 58 44.5 +0.6**
EKS2 *e*ScP **ScP** **01 02 02.1 +0.2**
KBS Kingsbay 50.91 350 *e*P **P** **00 57 32.3 -0.8**
KBS pmax pmax
comp=Z,57nm,1.6s
KBS Kingsbay 50.91 350 *e*P **P** **00 57 32.3 -0.8**
comp=Z,58nm,1.6s
SPITS Spitsbergen Ar 50.95 349 P **P** **00 57 32.7 -0.7**
SPITS Spitsbergen Ar 50.95 349 P **P** **00 57 32.7 -0.7**
BBB Bella Bella 51.01 52 P **P** **00 57 35.2 +1.0**
BBB Bella Bella 51.01 52 P **P** **00 57 35.2 +1.0**
comp=Z,60nm,1.0s,baz=284,slow=8.2,SNR=16
SOKR Solikamsk 51.20 319 *d*P **P** **00 57 34.9 -0.5**
SOKR pmax pmax
comp=Z,80nm,0.9s
NAYO Nakonayok 51.22 246 P **P** **00 57 37.5 +1.3**
comp=Z,61nm,1.6s,comp=Z,10µm
AML Almayashu 51.23 293 *i*P **P** **00 57 37.4 +0.8**
AML Almayashu 51.23 293 P **P** **00 57 37.4 +0.8**
SNR=116
KSH Kashi 51.26 289 ⇓*i*P P 00 57 40.8 +4.3
KSH pP pP 00 59 02.0 +6.6
KSH sP sP 00 59 42.9 +4.4
KSH PP PP 00 59 45.2 +7.4
KSH S **S** **01 04 30.6 +5.8**
KSH sS sS 01 06 48.1 +1.8
KSH SS **SKiKP** **01 08 14.3 -6.2**
KSH pmax pmax
comp=Z,140nm,0.8s
KSH LR LR
comp=N,110nm,9.2s
KSH LR LR
comp=E,150nm,6.4s
KSH LR LR
comp=Z,460nm,19.1s
ODAN Odare 51.40 269 *e*P **P** **00 57 38.4 +0.6**
comp=Z,63nm,0.6s
JIRN Jiri 51.69 270 *e*P **P** **00 57 40.9 +0.9**
comp=Z,196nm,0.4s
GUN Gumba 51.73 271 *e*P **P** **00 57 40.9 +0.6**
comp=Z,119nm,0.4s
RAMN Ramite 51.87 269 *e*P **P** **00 57 41.8 +0.6**
comp=Z,161nm,0.6s
YKW3 Yellowknife Ar 51.91 36 *e*P **P** **00 57 40.7 0.0**
comp=Z,1.9nm,0.8s
YKA Yellowknife Ar 51.95 36 P **P** **00 57 41.0 +0.1**
YKA PcP **PcP** **00 58 47.6 +0.4**
YKA S **S** **01 04 34.4 +1.3**
YKA Yellowknife Ar 51.95 36 P **P** **00 57 41.0 +0.1**
comp=Z,91nm,0.8s,baz=303,slow=7.1,SNR=225
YKA PcP **PcP** **00 58 47.6 +0.4**
comp=Z,1.4nm,0.5s,baz=311,slow=3.9,SNR=3.6
YKA S **S** **01 04 34.4 +1.3**
comp=Z,3.0nm,1.1s,baz=297,slow=13,SNR=3.3
ARU Arti 52.01 315 *d*P **P** **00 57 41.0 -0.5**
ARU 00 58 45.3
ARU *PP **pP** **00 59 01.1 +0.4**
ARU 00 59 42.2
ARU *e* 01 06 46.3
ARU SS **SS** **01 08 12.2 -4.3**
ARU pmax pmax
comp=Z,293nm,1.2s
ARU Arti 52.01 315 P **P** **00 57 40.8 -0.7**
comp=Z,1µm,0.6s,SNR=65
KKN Kakani 52.22 271 *e*P **P** **00 57 44.3 +0.6**
comp=Z,142nm,0.5s
PKI Pulchoki 52.27 271 *e*P **P** **00 57 44.8 +0.6**
comp=Z,52nm,0.4s
PKIN Phulchoki 52.28 271 *e*P **P** **00 57 44.6 +0.4**
comp=Z,58nm,0.4s
DMN Daman 52.45 271 *e*P **P** **00 57 46.3 +0.9**
comp=Z,118nm,0.4s
KK31 Karatay Array 52.65 296 *i*P **P** **00 57 46.2 -0.2**
KK31 pmax pmax
comp=Z,50nm,0.5s
KKAR Karatay Array 52.65 296 *e*P **P** **00 57 46.4 0.0**
KKAR Karatay Array 52.65 296 *e*P **P** **00 57 46.4 0.0**
KKAR *e*S **S** **01 04 42.8 -0.3**
DANN Dangsing 52.88 273 *e*P **P** **00 57 49.7 +1.1**
comp=Z,326nm,0.6s
PHET Kaeng Krachan 53.34 246 P **P** **00 57 52.9 +1.3**
comp=Z,311nm,1.0s,comp=Z,3µm
KOLN Koldanda 53.36 272 *e*P **P** **00 57 52.8 +0.9**
comp=Z,178nm,0.7s
PYUN Piuthan 53.56 273 *e*P **P** **00 57 54.1 +0.7**
comp=Z,600nm,1.0s
LVZ Lovozero 54.46 335 *e*P **P** **00 57 58.0 -0.9**
LVZ pmax pmax
comp=Z,24nm,1.2s
SBUM Sibu 54.91 226 P **P** **00 58 02.6 -0.2**
APA Apatity 55.03 335 ⇑*i*P **P** **00 58 03.0 +0.1**
APA *i* 00 59 06.4
APA *i* *PP **pP** **00 59 22.6 -0.6**
APA *i* S **S** **01 05 10.0 -3.9**
APA MLR MLR
comp=Z,100nm,14.0s
KEV Kevo 55.21 339 *ep* **P** **00 58 01.9 -2.2**
comp=Z,10nm,0.6s
KEV Kevo 55.21 339 *e*P **P** **00 58 03.3 -0.8**
KEV pmax pmax
comp=Z,13nm,0.9s
KEV Kevo 55.21 339 *e*P **P** **00 58 03.3 -0.8**
comp=Z,13nm,0.9s
AB31 Akbulak array 55.24 307 *i*P **P** **00 58 04.3 -0.4**
AB31 pmax pmax
comp=Z,87nm,0.5s
ABKAR Akbulak array 55.24 307 *e*P **P** **00 58 04.6 -0.1**
ABKAR *e*S **S** **01 05 16.4 -0.8**
DAG Danmarks Havn 55.40 356 *i*P **P** **00 58 03.5 -1.9**
DAG Danmarks Havn 55.40 356 *i*P **P** **00 58 03.5 -1.9**
comp=Z,8.4nm,1.1s
PGC Sidney 55.43 54 *e*P **P** **00 58 06.7 +0.7**
comp=Z,2.4nm,0.8s
PGC *e*PcP **PcP** **00 59 01.1 +0.2**
DLH Dalhousie 55.43 282 *e*P **P** **00 58 06.0 -0.6**
OBC Olympics--Boni 55.44 55 P **P** **00 58 07.4 +1.2**
DDI Dehra Dun 55.44 279 *ex* P 00 58 02.5 -4.0
AKTO Aktyubinsk 55.58 309 P **P** **00 58 06.6 -0.5**
AKTO S **S** **01 05 20.0 -1.7**
AKTO Aktyubinsk 55.58 309 P **P** **00 58 06.6 -0.5**
AKTO S **S** **01 05 19.9 -1.7**
comp=Z,55nm,0.9s,baz=65,slow=6.9,SNR=73
AKTO S **S** **01 05 19.9 -1.7**
comp=Z,3.4nm,1.0s,baz=160,slow=23,SNR=15
THN Thein Dam 55.66 282 *e*P **P** **00 58 06.0 -1.9**
ARCES ARCESS Array B 55.73 339 P **P** **00 58 07.3 -0.6**
ARCES ScP **ScP** **01 02 22.0 -0.4**
ARCES ARCESS Array B 55.73 339 P **P** **00 58 07.3 -0.6**
comp=Z,4.5nm,0.4s,baz=38,slow=7.1,SNR=85
ARCES ScP **ScP** **01 02 22.0 -0.4**
comp=Z,2.4nm,0.8s,baz=72,slow=4.0,SNR=4.2
TMCR Tamitsa 55.84 330 *e*P **P** **00 58 08.5 -0.1**
TMCR *e**PP **pP** **00 59 29.5 +0.3**
TMCR *eS* **S** **01 05 23.5 -1.1**
TMCR pmax pmax
comp=Z,42nm,0.7s
NLWA Neilton Lookou 55.93 55 *e*P **P** **00 58 11.0 +1.4**
comp=Z,105nm,0.8s
NLWA *ep*P **pP** **00 59 32.5 +2.2**
MBW Mount Baker 56.19 53 P **P** **00 58 12.3 +0.7**
KKR Kurukshetra 56.49 279 *e*P **P** **00 58 13.6 -0.2**
KKR AMB AMB 00 58 15.0
comp=Z,136nm,0.0s
JCW Jim Creek 56.52 53 P **P** **00 58 14.7 +0.9**
KSM Kuching 56.70 228 *e*P **P** **00 58 16.5 +1.2**
comp=Z,51nm,1.1s
KSM *ep*P **pP** **00 59 40.5 +4.2**
KSM Kuching 56.70 228 P **P** **00 58 17.0 +1.6**
BMW Boistfort Moun 56.82 56 P **P** **00 58 17.1 +1.2**
BMW Boistfort Moun 56.82 56 P **P** **00 58 17.1 +1.2**
BHGR Bahadurgarh 57.23 278 *e*P **P** **00 58 18.8 -0.1**
BHGR AMB AMB 00 58 21.1
comp=Z,132nm,0.7s
TRTT Trang 57.27 242 P **P** **00 58 20.6 +1.3**
comp=Z,88nm,1.0s
KTGM Kuala Trenggan 57.29 237 P **P** **00 58 21.3 +1.9**
RTK Rohtak 57.36 279 *e*P **P** **00 58 19.1 -0.6**
SONA Sohna 57.42 277 *e*P **P** **00 58 20.1 -0.2**
LON Longmire 57.44 55 *e*P **P** **00 58 21.0 +0.8**
LON pmax pmax
comp=Z,34nm,1.2s
LON Longmire 57.44 55 *e*P **P** **00 58 21.0 +0.8**
comp=Z,34nm,1.2s
FL2 Flat Top 2 57.48 55 P **P** **00 58 21.7 +1.2**
AGRA Agra 57.51 276 *e*P **P** **00 58 20.7 -0.1**
AGRA AMB AMB 00 58 22.1
comp=Z,72nm,0.9s
WPW White Pass 57.62 55 P **P** **00 58 22.6 +1.1**
GLK Glacier Lake 57.67 55 P **P** **00 58 22.8 +1.0**
TWW Teanaway 57.72 54 P **P** **00 58 23.6 +1.4**
ETW Entiat 57.73 53 P **P** **00 58 23.1 +0.8**
MPOR Mary's Peak 57.82 58 P **P** **00 58 24.6 +1.6**
KUDL Kundal 57.89 278 *e*P **P** **00 58 23.2 -0.3**
KUDL AMB AMB 00 58 24.7
comp=Z,112nm,0.7s
COR Corvallis 57.91 57 *e*P **P** **00 58 25.3 +1.9**
COR pmax pmax
comp=Z,215nm,1.0s
COR Corvallis 57.91 57 *e*P **P** **00 58 25.2 +1.9**
comp=Z,215nm,1.0s
EBG Ellensburg 58.03 54 P **P** **00 58 25.5 +1.3**
PKDT Phuket 58.04 244 P **P** **00 58 26.4 +1.8**
comp=Z,97nm,0.9s,comp=Z,2µm
VLL Laurance Lake 58.30 56 P **P** **00 58 27.7 +1.6**
KAPI Kappang 58.33 214 *e*P **P** **00 58 26.3 -0.3**
comp=Z,154nm,1.7s
KAPI Kappang 58.33 214 P **P** **00 58 26.9 +0.3**
comp=Z,45nm,1.3s,comp=Z,803nm
KAPI Kappang 58.33 214 P **P** **00 58 25.9 -0.6**
comp=Z,21nm,0.7s,baz=352,slow=2.7,SNR=13
KEBM Edson Butte 58.37 60 *e*P **P** **00 58 28.4 +1.8**
comp=Z,138nm,1.1s
VFP Flag Point 58.50 56 P **P** **00 58 29.0 +1.4**
KBL Kabul 58.68 288 *e*P **P** **00 58 28.2 -0.8**
KBL *e**PP **pP** **00 59 50.3 -0.3**
KBL pmax pmax
comp=Z,134nm,0.8s
KBL Kabul 58.68 288 *e*P **P** **00 58 28.2 -0.8**
comp=Z,134nm,0.8s
KBL *ep*P **pP** **00 59 50.3 -0.3**
KULM Kulim 58.74 240 *e*P **P** **00 58 30.3 +0.9**
comp=Z,85nm,1.1s
KULM *ep*P **pP** **00 59 55.3 +4.2**
KULM Kulim 58.74 240 P **P** **00 58 30.7 +1.3**
FRIS Frissel Point 58.83 57 P **P** **00 58 31.4 +1.5**
KBO Bosley Butte 58.84 60 *e*P **P** **00 58 31.4 +1.5**
comp=Z,230nm,1.4s
JOF Joensuu 58.90 332 *ep* **P** **00 58 27.5 -2.2**
comp=Z,19nm,0.5s
JOF Joensuu 58.90 332 *e*P **P** **00 58 27.5 -2.2**
JOF pmax pmax
comp=Z,19nm,0.5s
HAWA Hanford 58.91 54 *e*P **P** **00 58 31.1 +1.0**
comp=Z,55nm,0.8s
NEW Newport 59.03 51 *e*P **P** **00 58 31.6 +0.6**
comp=Z,124nm,1.1s
NEW Newport 59.03 51 P **P** **00 58 31.7 +0.6**
comp=Z,68nm,1.0s,baz=314,slow=6.2,SNR=112
NEW Newport 59.03 51 ⇓P **P** **00 58 31.7 +0.6**
baz=59,SNR=94
IPM Ipoh 59.18 239 *e*P **P** **00 58 32.5 +0.1**
comp=Z,53nm,1.1s
IPM *ep*P **pP** **00 59 57.7 +3.5**
IPM Ipoh 59.18 239 P **P** **00 58 32.5 +0.1**
HUMO Hull Mountain 59.33 59 *e*P **P** **00 58 34.6 +1.5**
comp=Z,91nm,1.4s
A12A Yaak River Ran 59.38 50 ⇑P **P** **00 58 34.4 +1.0**
baz=59,SNR=9.7
KRMB Red Mountain 59.45 61 *e*P **P** **00 58 36.0 +1.9**
comp=Z,58nm,1.5s
B12A Libby 59.70 50 ⇑P **P** **00 58 36.5 +1.0**
baz=60,SNR=5.1
C11A Tepee Creek (N 59.75 51 ⇓P **P** **00 58 37.0 +1.0**
baz=60
SUMG Summit 59.80 2 *e*P **P** **00 58 36.0 -0.2**
SUMG pmax pmax
comp=Z,55nm,1.0s
SUMG Summit 59.80 2 *e*P **P** **00 58 36.0 -0.2**
comp=Z,55nm,1.0s
SUMG Summit 59.80 2 *i*P **P** **00 58 35.2 -1.0**
comp=Z,32nm,1.0s
MYKOM Kota Tinggi 59.80 234 P **P** **00 58 38.0 +1.4**
FRIM Kepong 59.85 237 P **P** **00 58 38.3 +1.4**
KGM Kluang 59.91 235 P **P** **00 58 38.7 +1.4**
KHMM Horse Mountain 59.96 61 *e*P **P** **00 58 39.3 +1.7**
comp=Z,131nm,1.2s
KHMM *ep*P **pP** **01 00 03.9 +4.4**
A13A Flathead Natio 60.01 49 ⇓P **P** **00 58 38.5 +0.8**
baz=60
YBH Yreka Blue Hor 60.02 60 *e*P **P** **00 58 39.3 +1.5**
comp=Z,116nm,1.4s
YBH pP **pP** **01 00 00.1 +0.3**
YBH Yreka Blue Hor 60.02 60 P **P** **00 58 39.4 +1.5**
comp=Z,31nm,1.0s,baz=342,slow=3.0,SNR=51
YBH pP **pP** **01 00 00.1 +0.3**
comp=Z,14nm,0.9s,baz=299,slow=0.4,SNR=4.5
WALA Waterton Lakes 60.19 49 *e*P **P** **00 58 39.5 +0.6**
comp=Z,4.3nm,1.0s
WALA *e*PcP **PcP** **00 59 20.4 +0.4**
C12B Naegeli Ranch, 60.24 51 ⇑P **P** **00 58 40.3 +1.1**
baz=60,SNR=30
B13A Whitefish 60.34 50 ⇓P **P** **00 58 40.9 +1.1**
baz=60,SNR=96
A14A Double T Ranch 60.49 49 ⇓P **P** **00 58 41.5 +0.6**
baz=60,SNR=129
BSMT Bassoo Peak 60.51 50 *e*P **P** **00 58 42.3 +1.1**
BSMT *ep*P **pP** **01 00 04.1 +0.8**

BLMT **Blacktail Moun** 60.63 50 eP P 00 58 43.2 +1.3
BLMT epP pP 01 00 04.5 +0.3
C13A Hot Springs 60.73 50 ⇑P P 00 58 43.7 +1.2
baz=60,SNR=76
KIPM Iron Peak 60.78 62 eP P 00 58 44.3 +1.3
comp=Z,112nm,1.3s
KCPM Cahto Peak 60.80 62 eP P 00 58 44.0 +0.9
comp=Z,62nm,1.2s
A15A Johnson Ranch, 60.83 48 ⇓P P 00 58 43.3 +0.1
baz=61,SNR=121
JTMT Jette 60.84 50 eP P 00 58 44.4 +1.1
JTMT epP pP 01 00 03.4 -2.1
WDC Whiskeytown Da 60.85 61 eP P 00 58 44.1 +0.9
WDC e*PP pP 01 00 09.0 +3.5
WDC pmax pmax
comp=Z,60nm,1.1s
WDC Whiskeytown Da 60.85 61 eP P 00 58 44.1 +0.9
comp=Z,60nm,1.1s
WDC epP pP 01 00 09.0 +3.5
YBMT Yellow Bay 60.90 50 eP P 00 58 44.5 +0.8
comp=Z,123nm,1.3s
B14A Marquette Ranc 60.96 49 ⇓P P 00 58 44.9 +0.8
baz=61,SNR=76
E12A Beaver Dam Sad 61.02 52 ⇑P P 00 58 45.7 +1.1
baz=61,SNR=229
KAF Kangasniemi 61.06 333 ep P 00 58 42.7 -1.6
comp=Z,14nm,0.7s
KAF Kangasniemi 61.06 333 eP P 00 58 42.7 -1.6
KAF pmax pmax
comp=Z,14nm,0.7s
BMO Blue Mountains 61.09 54 eP P 00 58 45.9 +0.9
comp=Z,158nm,1.4s
BMO epP pP 01 00 10.4 +3.1
BMO ePP PP 01 01 08.0 +3.4
C14A Swan Lake 61.10 50 ⇑P P 00 58 46.1 +1.2
baz=61
SWMT Swartz Lake 61.14 50 eP P 00 58 46.4 +1.1
D13A Huson 61.17 51 ⇓P P 00 58 46.1 +0.7
baz=61,SNR=116
MOD Modoc 61.30 58 eP P 00 58 47.6 +1.1
comp=Z,53nm,1.0s
MOD epP pP 01 00 12.3 +3.5
B15A Bradely Ranch, 61.35 49 ⇓P P 00 58 47.0 +0.4
baz=61,SNR=112
A16A West Butte Ran 61.42 48 ⇑P P 00 58 47.2 +0.1
baz=61
HOPS Hopland 61.54 62 eP P 00 58 48.5 +0.6
comp=Z,72nm,1.2s
SLMT Seeley Lake 61.57 50 eP P 00 58 49.1 +0.9
FIA1 FINESS Array S 61.64 333 eP P 00 58 47.3 -0.8
FIA1 epP pP 01 00 11.1 +0.5
FINES FINESS Array B 61.64 333 P P 00 58 47.6 -0.5
FINES pP pP 01 00 09.8 -0.9
FINES S S 01 06 37.5 -1.1
FINES FINESS Array B 61.64 333 P P 00 58 47.6 -0.5
comp=Z,30nm,0.7s,baz=41,slow=7.7,SNR=123
FINES pP pP 01 00 09.8 -0.9
comp=Z,8.2nm,0.9s,baz=51,slow=7.6,SNR=2.1
FINES S S 01 06 37.5 -1.1
comp=Z,9.1nm,1.0s,baz=40,slow=12,SNR=8.7
D14A Greenough 61.67 50 ⇓P P 00 58 49.6 +0.8
baz=61,SNR=157
C15A Salmond Ranch, 61.68 49 ⇑P P 00 58 50.2 +1.3
baz=61,SNR=186
COEN Coen 61.68 186 eP P 00 58 49.6 +0.6
comp=Z,243nm,1.2s
MOS Moscow 61.69 323 eP P 00 58 42.9 -5.6
MOS e*PP pP 01 00 07.2 -3.8
MOS e 01 02 40.2
MOS eS S 01 06 31.3 -8.0
MOS e 01 07 52.9
MOS pmax pmax
comp=Z,77nm,1.3s
MOS pmax pmax
comp=Z,200nm,2.2s
MOS smax smax
comp=E,600nm,2.2s
B16A M & M Farms, S 61.72 48 ⇓P P 00 58 49.4 +0.4
baz=62,SNR=49
PSI Prapat 61.76 240 P P 00 58 50.2 +0.5
PSI Prapat 61.76 240 P P 00 58 50.2 +0.5
comp=E,11nm,0.5s,baz=343,slow=6.9,SNR=12
A17A Triple J Farms 61.87 47 ⇓P P 00 58 50.5 +0.5
baz=62,SNR=47
WVOR Wild Horse Val 61.91 57 eP P 00 58 51.6 +1.2
WVOR pmax pmax
comp=Z,150nm,1.3s
WVOR Wild Horse Val 61.91 57 eP P 00 58 51.6 +1.2
comp=Z,150nm,1.3s
CHMT Chamberlain Mo 61.91 50 eP P 00 58 51.1 +0.6
FFC Flin Flon 61.93 38 P P 00 58 50.7 +0.5
comp=Z,964nm,0.8s,SNR=41
FFC Flin Flon 61.93 38 eP P 00 58 50.7 +0.5
FFC pmax pmax
comp=Z,160nm,0.9s
FFC Flin Flon 61.93 38 eP P 00 58 50.7 +0.5
comp=Z,160nm,0.9s
G12A Big Creek, Yel 61.98 53 ⇓P P 00 58 51.5 +0.5
baz=62,SNR=92
C16A Fuhringer Ranc 62.10 49 ⇑P P 00 58 52.5 +0.9
baz=62,SNR=117
D15A Lincoln 62.20 50 ⇑P P 00 58 53.2 +0.9
baz=62,SNR=64
B17A L&G Farms, Che 62.25 48 ⇑P P 00 58 53.2 +0.7
baz=62,SNR=58
OHCM Honcut 62.27 61 eP P 00 58 53.0 +0.4
OHCM epP pP 01 00 17.9 +2.5
A18A Metzger Ranch, 62.30 47 ⇓P P 00 58 53.3 +0.4
baz=62,SNR=60
JASL Jaisalmer 62.41 280 eP P 00 58 53.1 -0.7
OBN Obninsk 62.55 323 ⇑eP P 00 58 53.2 -1.0
OBN pmax pmax
comp=Z,95nm,1.2s
BEKR Beckworth 62.58 60 eP P 00 58 55.3 +0.3
comp=Z,43nm,1.1s
BEKR ePcP PcP 00 59 30.0 +0.1
BEKR epP pP 01 00 20.1 +2.3
H12A Diamond D Ranc 62.62 53 ⇓P P 00 58 55.6 +0.5
baz=62,SNR=156
B18A Beardsley Farm 62.69 47 ⇑P P 00 58 56.3 +1.0
baz=62,SNR=76
C17A Wharram Farm, 62.71 48 ⇓P P 00 58 56.1 +0.6
baz=62,SNR=121
D16A Dana Ranch, Ca 62.71 49 ⇓P P 00 58 56.6 +1.0
baz=62,SNR=62
HRY Holter Researc 62.78 50 eP P 00 58 57.2 +1.2
MFID Camas Ranch 62.83 55 eP P 00 58 57.4 +0.9
comp=Z,145nm,1.4s
MFID Camas Ranch 62.83 55 ⇓P P 00 58 57.4 +0.9
baz=63,SNR=35
A19A Klindworth Far 62.84 46 ⇓P P 00 58 57.1 +0.8
baz=63,SNR=100
EGMT Eagleton 62.95 48 eP P 00 58 58.0 +0.9
comp=Z,223nm,1.0s
EGMT Eagleton 62.95 48 ⇑P P 00 58 57.9 +0.9
baz=63,SNR=38
I12A Atlanta 62.96 54 ⇓P P 00 58 58.5 +1.1
baz=63
E16A East Helena 62.98 50 ⇓P P 00 58 58.5 +1.1
baz=63,SNR=17
F15A Butte 63.02 51 ⇓P P 00 58 58.6 +0.9
baz=63,SNR=232
LRM Limekiln Ridge 63.05 51 eP P 00 58 59.0 +1.0
B19A Brinkman Farms 63.06 47 ⇓P P 00 58 58.7 +0.9
baz=63,SNR=128
D17A Six Diamond Ra 63.07 49 ⇓P P 00 58 58.6 +0.7
baz=63,SNR=93
IMYA Miami 63.11 295 eP P 00 58 58.8 +0.3
PAHR Pah Rah Range 63.26 60 eP P 00 59 00.2 +0.9
comp=Z,93nm,1.0s
A20A Cobblestone Ra 63.27 46 ⇓P P 00 59 00.1 +1.0
baz=63,SNR=23
DLMT Dillon 63.28 51 eP P 00 59 00.2 +0.9
comp=Z,166nm,0.9s
IEMG Emamgholi 63.29 297 eP P 00 59 00.4 +0.7
E17A Martinsdale 63.45 49 ⇑P P 00 59 01.9 +1.5
baz=63,SNR=102
D18A Linhart Farms, 63.48 48 ⇓P P 00 59 01.7 +1.1
baz=63,SNR=35
C19A Slack Wire Ran 63.50 47 ⇓P P 00 59 01.8 +1.2
baz=63,SNR=119
F16A Kennard Place, 63.50 50 ⇑P P 00 59 01.7 +1.0
baz=63,SNR=25
MCMT McKenzie Canyo 63.50 52 eP P 00 59 01.2 +0.3
comp=Z,23nm,0.9s
ISRO Mashad 63.52 296 eP P 00 59 00.1 -0.9
B20A Solberg Farm, 63.52 46 ⇓P P 00 59 01.3 +0.5
baz=63,SNR=17
BOZ Bozeman (W) 63.59 50 eP P 00 59 02.5 +1.1
BOZ pmax pmax
comp=Z,117nm,0.8s
BOZ Bozeman (W) 63.59 50 eP P 00 59 02.5 +1.1
comp=Z,117nm,0.8s
A21A Bergtoll Ranch 63.67 45 ⇑P P 00 59 02.7 +1.0
baz=63,SNR=25
IPAY Payeh 63.72 296 eP P 00 59 02.9 +0.5
VSU Vasula 63.72 330 i P P 00 59 01.0 -0.7
VSU pmax pmax
comp=Z,58nm,0.9s
IMOG Moghan 63.73 295 eP P 00 59 02.5 -0.1
IAKL Akhelmad 63.76 296 eP P 00 59 03.7 +0.9
CMB Columbia Colle 63.77 62 eP P 00 59 03.2 +0.7
CMB e*PP pP 01 00 29.1 +3.4
CMB pmax pmax
comp=Z,80nm,1.1s
CMB Columbia Colle 63.77 62 eP P 00 59 03.2 +0.7
comp=Z,80nm,1.1s
CMB epP pP 01 00 29.1 +3.4
I14A Mackay 63.78 53 ⇓P P 00 59 03.6 +0.9
baz=64,SNR=29
IKRD Kardeh 63.79 297 eP P 00 58 59.6 -3.3
HYB Hyderabad 63.80 267 ⇓i P P 00 59 02.0 -0.9
HYB ePcP PcP 00 59 34.0 -1.0
E18A Harlowton 63.85 49 ⇓P P 00 59 04.4 +1.3
baz=64,SNR=68
ISFR Sfrayin 63.92 297 eP P 00 59 04.1 +0.3
F17A Fitzpatrick Pl 63.92 50 ⇑P P 00 59 04.6 +1.1
baz=64,SNR=77
D19A Cripps Ranch, 63.97 48 ⇓P P 00 59 04.6 +0.9
baz=64,SNR=57
SAO San Andreas Ge 63.97 63 eP P 00 59 04.6 +0.8
SAO pmax pmax
comp=Z,59nm,1.4s
SAO San Andreas Ge 63.97 63 eP P 00 59 04.6 +0.8
comp=Z,59nm,1.4s
B21A Ellsworth Farm 64.02 46 ⇑P P 00 59 04.6 +0.6
baz=64,SNR=41
WAKR Walker 64.02 61 eP P 00 59 05.4 +1.1
BMN Battle Mountai 64.02 58 eP P 00 59 05.6 +1.3
BMN pmax pmax
comp=Z,103nm,1.1s
BMN Battle Mountai 64.02 58 eP P 00 59 05.5 +1.3
comp=Z,103nm,1.1s
C20A Veseth Ranch, 64.03 47 ⇑P P 00 59 05.2 +1.2
baz=64,SNR=54
A22A Carney Farms, 64.15 45 ⇓P P 00 59 05.5 +0.7
baz=64,SNR=57
VSR Storozhevoye 64.22 319 eP P 00 59 03.8 -1.3
VSR eS S 01 07 07.8 -2.8
VSR pmax pmax
comp=Z,90nm,0.8s
VSR pmax pmax
comp=N,100nm,1.0s
VSR pmax pmax
comp=E,80nm,1.0s
VSR smax smax
comp=Z,20nm,2.3s
VSR smax smax
comp=N,230nm,2.5s
VSR smax smax
comp=E,100nm,1.1s
QLMT Earthquake Lak 64.25 51 eP P 00 59 06.8 +1.1
G17A Pierce Place, 64.28 50 ⇓P P 00 59 07.2 +1.4
baz=64,SNR=43
C21A Desert Coulee 64.39 46 ⇑P P 00 59 07.3 +0.9
baz=64,SNR=13
F18A Big Timber 64.41 49 ⇓P P 00 59 07.8 +1.2
baz=64,SNR=75
H16A Russell Place, 64.43 51 ⇑P P 00 59 08.0 +1.2
baz=64,SNR=53
E19A Rath Farm, Rou 64.50 48 ⇑P P 00 59 08.3 +1.2
baz=64,SNR=74
GCMT Greycliff 64.51 49 eP P 00 59 08.5 +1.2
comp=E,87nm,1.0s
GCMT ePP PP 01 01 37.1 +2.7
B22A Reddig Ranch S 64.60 45 ⇑P P 00 59 08.3 +0.6
baz=64,SNR=12
YMR Madison River 64.60 51 eP P 00 59 09.1 +1.1
comp=E,162nm,0.9s
A23A Redstone 64.67 44 ⇑P P 00 59 08.7 +0.7
baz=64
YNR Norris Junctio 64.72 51 eP P 00 59 10.5 +1.7
comp=E,172nm,1.3s
NVAR Mina Array Bea 64.73 60 P P 00 59 09.8 +0.9
NVAR PcP PcP 00 59 38.6 -0.3
NVAR pP pP 01 00 33.3 +1.0
NVAR Mina Array Bea 64.73 60 P P 00 59 09.8 +0.9
comp=E,40nm,0.8s,baz=291,slow=6.5,SNR=153
NVAR PcP PcP 00 59 38.6 -0.3
comp=E,7.5nm,0.9s,baz=315,slow=4.9,SNR=3.7
NVAR pP pP 01 00 33.3 +1.0
comp=E,25nm,1.2s,baz=290,slow=6.1,SNR=5.6
E20A Meyer Farm, Mu 64.80 48 ⇑P P 00 59 10.2 +1.2
baz=65,SNR=52
YFT Old Faithful 64.82 51 eP P 00 59 11.9 +2.5
comp=E,175nm,0.9s
F19A Roth Farm, Mol 64.83 49 ⇑P P 00 59 10.4 +1.1
baz=65,SNR=179
I16A Newdale 64.87 52 ⇑P P 00 59 11.3 +1.7
baz=65,SNR=102
G18A Lazy EL Ranch, 64.89 50 ⇑P P 00 59 10.1 +0.4
baz=65,SNR=32
ELK Elko 64.94 56 eP P 00 59 11.5 +1.2
comp=E,80nm,1.5s
ELK PP PP 01 01 41.4 +3.0
ELK Elko 64.94 56 P P 00 59 11.4 +1.2
comp=E,8.1nm,0.5s,baz=303,slow=4.5,SNR=61
ELK PP PP 01 01 41.4 +3.0
comp=E,6.4nm,1.0s,baz=280,slow=7.1,SNR=4.0
MLAC Mammoth Lakes 64.95 61 ⇑P P 00 59 11.6 +1.3
baz=65
B23A Brockton 64.96 45 ⇑P P 00 59 10.6 +0.7
baz=65,SNR=77
LKWY Lake 64.97 51 eP P 00 59 12.7 +2.3
LKWY pmax pmax
comp=Z,77nm,1.0s
LKWY Lake 64.97 51 eP P 00 59 12.7 +2.3
comp=Z,77nm,1.0s
D21A La Casta Ranch 64.97 47 ⇓P P 00 59 11.1 +1.0
baz=65,SNR=24
H17A Grant Village 64.99 51 ⇑P P 00 59 13.2 +2.7
baz=65,SNR=40
FRB Frobisher Bay 65.02 17 S S 01 07 14.6 -5.3
FRB Frobisher Bay 65.02 17 S S 01 07 14.6 -5.3
comp=Z,4.7nm,0.8s,baz=126,slow=19,SNR=7.9
C22A Vida 65.04 46 ⇓P P 00 59 10.7 +0.3
baz=65,SNR=8.6
A24A Westby 65.10 44 ⇑P P 00 59 11.6 +0.7
baz=65,SNR=9.7
IMW Indian Meadow 65.14 52 eP P 00 59 13.2 +1.7
comp=Z,149nm,1.1s
RLMT Red Lodge 65.17 50 eP P 00 59 12.7 +1.1
comp=Z,195nm,1.2s
RLMT epP pP 01 00 36.4 +1.2
DCID1 Drake Creek 65.22 52 eP P 00 59 13.8 +1.9
comp=Z,292nm,1.1s
F20A Billings 65.27 49 ⇓P P 00 59 12.9 +0.8
baz=65,SNR=13
H18A Shoshone NF, C 65.27 50 ⇑P P 00 59 13.3 +1.0
baz=65,SNR=40
E21A Keefer Ranch, 65.30 47 ⇑P P 00 59 13.3 +1.2
baz=65,SNR=26
MTUM Tungsten Hills 65.30 61 eP P 00 59 13.1 +0.6
MTUM epP pP 01 00 40.2 +4.1
D22A Cohagen 65.31 46 ⇓P P 00 59 13.0 +0.7
baz=65,SNR=20
RRI2 Red Ridge 65.32 52 eP P 00 59 13.8 +1.2
comp=Z,320nm,1.0s
I17A Pilgrim Ck. 65.32 51 ⇑P P 00 59 14.7 +2.2
baz=65,SNR=29
DGMT Dagmar 65.33 44 eP P 00 59 13.1 +0.8
comp=Z,268nm,1.0s
DGMT Dagmar 65.33 44 ⇓P P 00 59 13.0 +0.7
baz=65,SNR=26
C23A Lambert 65.33 45 ⇓P P 00 59 13.2 +0.9
baz=65,SNR=33
MOOW Moose Ponds 65.35 52 eP P 00 59 14.2 +1.5
comp=Z,120nm,1.0s
TPAW Teton Pass 65.41 52 eP P 00 59 15.0 +1.8
comp=Z,238nm,1.0s
PTRM Twissleman Ran 65.45 64 eP P 00 59 14.4 +1.1
LOHW Long Hollow 65.51 52 eP P 00 59 15.4 +1.6
comp=Z,160nm,1.1s
SNOW Snow King Moun 65.54 52 eP P 00 59 15.8 +1.8
comp=Z,123nm,1.0s
REDW Red Top Meadow 65.55 52 eP P 00 59 15.8 +1.7
comp=Z,2.3nm,1.0s
RCTC Rector, Farmer 65.60 62 ⇓P P 00 59 14.5 +0.4
baz=65
HVU Hansel Valley 65.60 54 eP P 00 59 15.7 +1.4
HVU pmax pmax
comp=Z,91nm,1.0s
HVU Hansel Valley 65.60 54 eP P 00 59 15.7 +1.4
comp=Z,91nm,1.0s
H19A Powell 65.63 50 ⇑P P 00 59 15.4 +1.0
baz=65,SNR=32
G20A Bridger 65.64 49 ⇓P P 00 59 14.9 +0.4
baz=65,SNR=40
IDAH Dahanechah 65.65 292 eP P 00 59 15.3 +0.4
TIN Tinemaha 65.70 61 ⇓P P 00 59 15.9 +1.0
baz=66,SNR=7.0
D23A Lindsay 65.77 46 ⇑P P 00 59 16.1 +1.0
baz=66,SNR=21
F21A Absaloka Mine, 65.77 48 ⇑P P 00 59 16.0 +0.8
baz=66,SNR=9.3
SMMC Simmler 65.81 64 ⇓P P 00 59 16.7 +1.1
baz=66
I18A Diamond G Ranc 65.87 51 ⇓P P 00 59 17.6 +1.6
baz=66,SNR=20
C24A Savage 65.89 45 ⇑P P 00 59 16.7 +0.9
baz=66,SNR=12
E22A Miles City 65.92 47 ⇓P P 00 59 16.8 +0.7
baz=66,SNR=14
VES Vestal, Richgr 66.01 63 ⇓P P 00 59 16.7 0.0
baz=66,SNR=12
BGU Big Grassy Mou 66.04 55 eP P 00 59 18.2 +1.1
comp=Z,349nm,2.3s
I19A Meeteetse 66.06 50 ⇓P P 00 59 18.4 +1.2
baz=66,SNR=51
NB2 NORSAR Subarra 66.11 339 P P 00 59 16.1 -0.9
comp=Z,17nm,0.7s,baz=29,slow=6.2
NB2 NORSAR Subarra 66.11 339 P P 00 59 16.1 -0.9
baz=29,slow=6.2
NOA NORSAR Array B 66.11 339 P P 00 59 16.4 -0.7
NOA NORSAR Array B 66.11 339 P P 00 59 16.4 -0.7
comp=Z,22nm,0.7s,baz=30,slow=6.3,SNR=58
G21A Lodge Grass 66.15 48 ⇑P P 00 59 18.1 +0.5
baz=66,SNR=41
POO Poona 66.18 272 eP P 00 59 17.0 -1.1
E23A Ismay 66.20 46 ⇓P P 00 59 18.8 +1.0
baz=66,SNR=54
CWC Cottonwood Cre 66.20 62 ⇑P P 00 59 18.8 +0.7
baz=66,SNR=23
PKM Peak Mountain 66.20 64 ⇑P P 00 59 19.2 +1.0
baz=66,SNR=12
D24A Glendive 66.23 45 ⇑P P 00 59 19.1 +1.0
baz=66,SNR=52
F22A Rosebud 66.23 48 ⇑P P 00 59 18.7 +0.6
baz=66,SNR=19
ITEG Tejag 66.24 293 eP P 00 59 18.3 -0.2
GRAC Grapevine Rang 66.24 61 ⇑P P 00 59 19.4 +1.2
baz=66,SNR=30
H20A Greybull 66.26 49 ⇓P P 00 59 18.7 +0.4
baz=66,SNR=42
HFS Hagfors 66.26 337 P P 00 59 17.1 -0.8
HFS Hagfors 66.26 337 P P 00 59 17.1 -0.8
comp=Z,26nm,0.9s,baz=42,slow=4.8,SNR=6.6
NAO01 NORSAR Array S 66.36 339 eP P 00 59 17.6 -0.9
comp=Z,24nm,0.8s
HWUT Hardware Ranch 66.38 54 eP P 00 59 20.4 +1.1
comp=Z,148nm,1.0s
MICGM Minsk 66.38 327 e pP 01 00 42.0 -0.6
NACGM Naroch 66.47 328 e P 00 59 16.0 -3.3
ISA Isabella 66.49 62 eP P 00 59 19.6 -0.3
ISA e*PP pP 01 00 45.5 +1.6
ISA pmax pmax
comp=Z,61nm,1.2s
ISA Isabella 66.49 62 eP P 00 59 19.6 -0.3
comp=Z,61nm,1.2s
ISA epP pP 01 00 45.5 +1.6
ISA Isabella 66.49 62 ⇑P P 00 59 19.6 -0.3
baz=66,SNR=18
J19A Crowheart 66.57 51 ⇓P P 00 59 21.4 +1.0
baz=66,SNR=43
I20A Worland 66.57 50 ⇑P P 00 59 21.5 +1.2
baz=66,SNR=80
SBC Santa Barbara 66.57 64 ⇓P P 00 59 21.4 +1.1
baz=66
G22A Birney 66.61 48 ⇑P P 00 59 21.1 +0.6
baz=66,SNR=61
E24A Baker 66.64 46 ⇓P P 00 59 21.3 +0.7
baz=66,SNR=17
ARVC Arvin 66.64 63 ⇑P P 00 59 20.9 +0.2
baz=66,SNR=7.7
BW06 Boulder Array 66.65 52 eP P 00 59 21.7 +0.7
comp=Z,168nm,1.0s
PDAR Pinedale Array 66.65 52 P P 00 59 21.6 +0.7
PDAR pP pP 01 00 44.5 -0.4
PDAR P'P' 01 27 46.4
PDAR Pinedale Array 66.65 52 P P 00 59 21.6 +0.7
comp=Z,81nm,0.7s,baz=312,slow=1.2,SNR=510
PDAR pP pP 01 00 44.5 -0.4
comp=Z,6.0nm,1.0s,baz=336,slow=3.3,SNR=2.8
PDAR PKPPKP P'P'df 01 27 46.4 -2.0
comp=Z,0.8nm,1.0s,baz=106,slow=2.0,SNR=5.1
H21A Big Horn, Sher 66.65 49 ⇑P P 00 59 21.8 +1.0
baz=66,SNR=91
DUG Dugway 66.67 56 eP P 00 59 22.2 +1.2
DUG pmax pmax
comp=Z,131nm,0.9s
DUG Dugway 66.67 56 eP P 00 59 22.2 +1.2
comp=Z,131nm,0.9s
DUG Dugway 66.67 56 ⇑P P 00 59 22.2 +1.2
baz=66,SNR=160
F23A Volborg 66.70 47 ⇓P P 00 59 21.7 +0.7
baz=66,SNR=23
GOF Gofitskoye 66.74 312 eP P 00 59 11.2 -10
GOF eS S 01 07 32.3 -8.8
GOF pmax pmax
comp=Z,430nm,1.3s
GOF smax smax
comp=E,230nm,1.3s
MPMC Manual Prospec 66.81 62 ⇑P P 00 59 22.6 +0.6
baz=67,SNR=62
FURC Furnace Creek, 66.90 61 ⇓P P 00 59 23.3 +1.0
baz=67,SNR=26
CTU Camp Tracy 66.91 55 eP P 00 59 23.6 +1.0
comp=E,100nm,1.1s
M17A Scullys Gap (B 66.96 53 ⇓P P 00 59 23.6 +0.7
baz=67,SNR=39
L18A Fontenelle, Gr 66.98 53 ⇑P P 00 59 23.9 +0.8
baz=67,SNR=21
K19A Absolon Red Bu 66.98 51 ⇑P P 00 59 23.1 +0.1
baz=67,SNR=54
J20A Shoshoni 67.01 50 ⇑P P 00 59 24.1 +1.0
baz=67,SNR=95
H22A Clearmont 67.02 48 ⇑P P 00 59 23.6 +0.5
baz=67,SNR=18
IKIA 67.05 299 eP P 00 59 23.9 +0.3
OSI Osito Adit 67.05 63 ⇑P P 00 59 23.9 +0.5
baz=67
G23A Biddle 67.08 47 ⇑P P 00 59 23.7 +0.4
baz=67,SNR=51
F24A Ekalaka 67.08 46 ⇑P P 00 59 24.0 +0.6
baz=67,SNR=73
LRMC Laurel Mountai 67.09 62 ⇑P P 00 59 24.0 +0.4
baz=67
I21A Big Trails, Te 67.10 50 ⇓P P 00 59 24.3 +0.7
baz=67,SNR=474
E25A Miller Ranch, 67.12 45 ⇓P P 00 59 24.2 +0.6
baz=67,SNR=10.0
JLU Jordanelle 67.14 54 eP P 00 59 25.1 +1.0
comp=E,103nm,1.1s
BLG Laguna Peak 67.19 64 ⇑P P 00 59 24.3 +0.1
baz=67
L19A Farson 67.22 52 ⇑P P 00 59 25.0 +0.5
baz=67,SNR=25
NLU North Lily Min 67.24 55 eP P 00 59 25.8 +1.1
comp=E,101nm,1.0s
EDW2 Edwards Air Fo 67.31 63 ⇑P P 00 59 25.6 +0.6
baz=67,SNR=40
J21A Lysite 67.35 50 ⇓P P 00 59 25.8 +0.6
baz=67,SNR=148
K20A Yellowstone Ra 67.37 51 ⇑P P 00 59 25.3 0.0
baz=67,SNR=37
DAU Daniels Canyon 67.37 54 eP P 00 59 26.8 +1.2
DAU Daniels Canyon 67.37 54 eP P 00 59 26.8 +1.2
IANJ Anjilo 67.42 298 eP P 00 59 26.3 +0.4
MPU Maple Canyon 67.44 55 eP P 00 59 27.0 +1.1
comp=E,119nm,0.9s

I22A **9 Mile Ranch,** 67.45 49 ⇑P P 00 59 26.6 +0.8
baz=67,SNR=60
G24A **Alzada** 67.47 47 ⇑P P 00 59 26.0 +0.2
baz=67,SNR=16
BORG **Borgarnes** 67.47 355 P P 00 59 26.1 +0.7
BORG **Borgarnes** 67.47 355 P P 00 59 26.1 +0.7
baz=11,slow=3.6
H23A **Clabaugh Cattl** 67.53 48 ⇑P P 00 59 26.4 +0.2
baz=67,SNR=5.5
DECC **Green Verdugo** 67.54 63 ⇑P P 00 59 26.8 +0.4
baz=67,SNR=6.1
ISHM **Shahmirzad** 67.56 299 *e*P P 00 59 26.5 -0.3
E26A **Carlson Angus** 67.59 45 ⇑P P 00 59 26.9 +0.4
baz=67,SNR=30
SHOC **Shoshone** 67.63 61 ⇓P P 00 59 27.5 +0.6
baz=68,SNR=7.0
IALA **Alasht** 67.65 299 *e*P P 00 59 28.0 +0.6
PASC **Pasadena Art C** 67.68 63 *e*P P 00 59 26.8 -0.5
comp=E,59nm,1.3s
KIV **Kislovodsk** 67.70 311⇑*e*P P 00 59 27.5 +0.1
KIV *e* 01 01 59.6
KIV *i* S S 01 07 53.6 +0.9
KIV pmax pmax
comp=Z,183nm,1.1s
KIV **Kislovodsk** 67.70 311 P P 00 59 27.4 +0.1
comp=Z,927nm,0.9s,SNR=42
MWC **Mount Wilson** 67.72 63 *e*P P 00 59 28.0 +0.3
MWC *e**PP pP 01 00 53.8 +1.8
MWC pmax pmax
comp=Z,59nm,0.9s
MWC **Mount Wilson** 67.72 63 *e*P P 00 59 28.0 +0.3
comp=Z,59nm,0.9s
MWC *e*pP pP 01 00 53.8 +1.8
GSC **Goldstone** 67.73 62 *e*P P 00 59 28.2 +0.6
GSC *e**PP pP 01 00 55.1 +3.2
GSC pmax pmax
comp=Z,44nm,0.8s
GSC **Goldstone** 67.73 62 *e*P P 00 59 28.2 +0.6
comp=Z,44nm,0.8s
GSC *e*pP pP 01 00 55.1 +3.2
GSC **Goldstone** 67.73 62 ⇓P P 00 59 28.1 +0.6
baz=68,SNR=42
ULM **Lac du Bonnet** 67.75 39 *e*P P 00 59 27.0 -0.4
comp=Z,59nm,1.1s
ULM **Lac du Bonnet** 67.75 39 P P 00 59 26.9 -0.4
comp=Z,38nm,0.9s,baz=315,slow=7.6,SNR=25
M19A **Rock Springs** 67.75 52 ⇓P P 00 59 28.1 +0.3
baz=68,SNR=10.0
KBZ **Khabaz** 67.76 311 P P 00 59 28.1 +0.6
KBZ S S 01 07 54.3 +1.2
KBZ **Khabaz** 67.76 311 P P 00 59 28.1 +0.6
KBZ S S 01 07 54.2 +1.2
KBZ **Khabaz** 67.76 311 P P 00 59 28.1 +0.6
comp=Z,84nm,0.9s,baz=40,slow=3.4,SNR=108
KBZ S S 01 07 54.2 +1.2
comp=Z,11nm,1.1s,baz=84,slow=14,SNR=9.1
J22A **Midwest** 67.80 49 ⇑P P 00 59 28.4 +0.4
baz=68,SNR=133
H24A **Dirks Ranch, A** 67.81 47 ⇓P P 00 59 28.1 +0.1
baz=68,SNR=70
IPRN **Peran** 67.82 300 *e*P P 00 59 28.4 +0.2
L20A **Wamsutter** 67.83 52 ⇓P P 00 59 28.8 +0.5
baz=68,SNR=70
RRX **Edison Barstow** 67.91 62 ⇑P P 00 59 29.4 +0.8
baz=68
MDND **Maddock** 67.91 42 ⇓P P 00 59 28.7 +0.4
baz=68,SNR=18
ZEI **Tsey** 67.91 310 *e*P P 00 59 27.5 -1.2
ZEI pmax pmax
comp=Z,111nm,1.5s
I23A **Meade Ranch, G** 67.92 48 ⇓P P 00 59 28.9 +0.1
baz=68
FMP **Fort Macarthur** 67.93 64 ⇑P P 00 59 29.0 +0.2
baz=68
BFSC **Mount Baldy Ra** 67.95 63 ⇓P P 00 59 29.3 +0.3
baz=68,SNR=29
K21A **Alcova** 67.95 50 ⇓P P 00 59 29.5 +0.5
baz=68
ARUT **Antelope Range** 67.97 58 *e*P P 00 59 29.9 +0.7
ARUT pmax pmax
comp=Z,95nm,1.4s
ARUT **Antelope Range** 67.97 58 *e*P P 00 59 29.9 +0.7
comp=Z,95nm,1.4s
DUS **Dusheti** 67.99 309 P P 00 59 30.7 +1.7
DUS **Dusheti** 67.99 309 P S 01 07 59.7 +3.6
IFIR **Firoozkooh** 67.99 299 *e*P P 00 59 30.5 +1.1
ILAS **Lasjerd** 68.05 299 *e*P P 00 59 30.6 +0.8
CIS **Catalina Islan** 68.07 64 ⇑P P 00 59 29.8 +0.2
baz=68,SNR=5.4
DGRG **David-gareji** 68.09 308 P P 00 59 30.0 +0.3
DGRG **David-gareji** 68.09 308 P S 01 08 01.8 +4.6
TUQ **Turquoise Moun** 68.16 61 ⇑P P 00 59 31.1 +0.8
baz=68,SNR=66
MVU **Marysvale** 68.17 56 *e*P P 00 59 31.9 +1.5
comp=Z,57nm,1.0s
TMUT **Trail Mountain** 68.18 55 *e*P P 00 59 31.7 +1.1
comp=Z,102nm,0.9s
CCUT **Cedar City** 68.18 58 *e*P P 00 59 31.6 +1.0
comp=Z,111nm,1.5s
MSU **Marysvale** 68.19 56 *e*P P 00 59 31.9 +1.4
MSU **Marysvale** 68.19 56 *e*P P 00 59 31.9 +1.4
TBLG **Delisi** 68.22 308 *e*P P 00 59 31.1 +0.7
TBLG **Delisi** 68.22 308 P P 00 59 31.1 +0.7
TBLG **Delisi** 68.22 308 P S 01 07 57.9 -0.9
M20A **Sweetwater, Wa** 68.27 52 ⇓P P 00 59 32.0 +0.9
baz=68,SNR=41
J23A **Dilts Ranch, B** 68.28 49 ⇑P P 00 59 31.0 +0.1
baz=68,SNR=16
ONI **Oni** 68.29 310 P P 00 59 31.6 +0.8
ONI **Oni** 68.29 310 P S 01 08 03.1 +3.6
K22A **Casper** 68.32 50 ⇑P P 00 59 31.5 +0.3
baz=68,SNR=64
HEC **Hector,Ludlow** 68.34 62 ⇓P P 00 59 32.1 +0.7
baz=68,SNR=48
L21A **Rawlins** 68.37 51 ⇑P P 00 59 32.0 +0.4
baz=68,SNR=66
H25A **Fruitdale** 68.38 47 ⇑P P 00 59 31.7 +0.3
baz=68
BBRC **Big Bear Solar** 68.38 63 ⇓P P 00 59 32.0 +0.3
baz=68
I24A **Kuemmerle Ranc** 68.42 48 ⇑P P 00 59 31.6 -0.1
baz=68,SNR=28
SUW **Suwalki** 68.46 329 *e*P P 00 59 30.4 -1.2
Q16A **Castle Valley** 68.46 56 ⇑P P 00 59 33.2 +0.9
baz=68,SNR=33
RSSD **Black Hills** 68.52 48 *e*P P 00 59 33.0 +0.5
RSSD pmax pmax
comp=Z,202nm,1.2s
RSSD **Black Hills** 68.52 48 *e*P P 00 59 33.0 +0.5
comp=Z,202nm,1.2s
O19A **Miners Draw (B** 68.61 53 ⇓P P 00 59 33.5 +0.4
baz=68,SNR=62
WRAB **Tennant Creek** 68.62 194 P P 00 59 33.0 0.0
comp=Z,171nm,0.8s,SNR=7.9
WRAB **Tennant Creek** 68.62 194 *e*P P 00 59 32.8 -0.2
WRAB pmax pmax
comp=Z,21nm,0.8s
WRAB **Tennant Creek** 68.62 194 *e*P P 00 59 32.8 -0.2
comp=Z,21nm,0.8s
M21A **Separation Pea** 68.62 51 ⇓P P 00 59 33.6 +0.4
baz=68,SNR=55
WRA **Warramunga Arr** 68.63 194 P P 00 59 32.9 -0.2
WRA ⇑*e* 01 27 43.9
WRA **Warramunga Arr** 68.63 194 P P 00 59 32.9 -0.2
comp=Z,16nm,0.6s,baz=8.5,slow=6.4,SNR=138
WRA PKP2bc 01 27 43.9
comp=Z,4.5nm,1.0s,baz=194,slow=3.0,SNR=13
G27A **Dupree** 68.64 45 ⇓P P 00 59 33.2 +0.3
baz=68
KZR **Kazreti** 68.64 308 P P 00 59 34.0 +0.9
RWWY **Rawlins** 68.65 51 *e*P P 00 59 33.7 +0.4
comp=Z,150nm,1.0s
MURC **Murrieta** 68.67 63 ⇑P P 00 59 33.6 +0.3
baz=68,SNR=18
SRU **San Rafael** 68.69 55 *e*P P 00 59 34.4 +0.9
SRU pmax pmax
comp=Z,178nm,1.0s
SRU **San Rafael** 68.69 55 *e*P P 00 59 34.4 +0.9
comp=Z,178nm,1.0s
N20A **Spence Gulch,** 68.70 52 ⇑P P 00 59 34.7 +1.1
baz=68,SNR=162
K23A **Bowen Ranch, D** 68.71 49 ⇓P P 00 59 33.2 -0.3
baz=68,SNR=13
FITZ **Fitzroy Crossi** 68.73 203 P P 00 59 34.0 +0.4
FITZ pP pP 01 00 59.9 +1.6
FITZ **Fitzroy Crossi** 68.73 203 P P 00 59 34.0 +0.4
comp=Z,15nm,0.7s,baz=355,slow=5.2,SNR=20
FITZ pP pP 01 00 59.9 +1.6
comp=Z,25nm,1.4s,baz=44,slow=10,SNR=3.7
I25A **Rochford** 68.75 47 ⇑P P 00 59 34.0 +0.2
baz=68
GMRC **Granite Mounta** 68.77 61 ⇓P P 00 59 34.6 +0.6
baz=69,SNR=41
J24A **Dixon Ranch, L** 68.78 48 ⇓P P 00 59 33.8 -0.1
baz=68,SNR=15
H26A **Fairpoint** 68.78 46 ⇓P P 00 59 34.1 +0.2
baz=68
L22A **Ellis Ranch, M** 68.81 50 ⇑P P 00 59 35.1 +0.8
baz=69,SNR=25
KIEV **Kiev** 68.82 323 *e*P P 00 59 33.2 -0.7
KIEV pmax pmax
comp=Z,33nm,0.7s
KIEV **Kiev** 68.82 323 *e*P P 00 59 33.2 -0.7
comp=Z,33nm,0.7s
LDFC **Landfair** 68.89 61 *e*P P 00 59 35.5 +0.7
comp=Z,123nm,1.0s
CHVG **Ch'k'valeri** 68.90 311 P P 00 59 34.7 +0.2
CHVG **Ch'k'valeri** 68.90 311 P S 01 07 56.1 -10
IBAF **Bafgh** 69.09 294 *e*P P 00 59 35.7 -0.4
AKH **Akhalkalaki** 69.11 309 P P 00 59 37.2 +1.1
PFO **Pinyon Flat Ob** 69.11 63 P P 00 59 36.0 -0.1
comp=Z,217nm,1.2s,SNR=15
PFO **Pinyon Flat Ob** 69.11 63 *e*P P 00 59 36.4 +0.2
comp=Z,63nm,1.2s
PFO pP pP 01 01 01.9 +1.1
PFO **Pinyon Flat Ob** 69.11 63 P P 00 59 36.3 +0.2
comp=Z,27nm,1.0s,baz=322,slow=5.6,SNR=28
PFO pP pP 01 01 01.9 +1.1
comp=Z,4.9nm,1.1s,baz=306,slow=8.6,SNR=2.0
PFO **Pinyon Flat Ob** 69.11 63 ⇓P P 00 59 36.1 0.0
baz=69,SNR=15
BELC **Belle Mtn. Jos** 69.11 62 ⇓P P 00 59 36.1 0.0
baz=69,SNR=26
H27A **Howes** 69.11 46 ⇑P P 00 59 36.1 +0.3
baz=69
IR3 **Iran Long-Peri** 69.12 300 *e*P P 00 59 36.6 +0.5
L23A **Garrett** 69.13 50 ⇑P P 00 59 36.0 -0.2
baz=69,SNR=27
K24A **Anderson Ranch** 69.14 49 ⇑P P 00 59 35.5 -0.7
baz=69
N21A **Black Mountain** 69.15 52 ⇑P P 00 59 37.0 +0.6
baz=69,SNR=50
P19A **Cripple Cowboy** 69.16 54 ⇑P P 00 59 37.1 +0.6
baz=69,SNR=119
J25A **Sunshine Ranch** 69.17 48 ⇑P P 00 59 36.1 -0.3
baz=69,SNR=48
I26A **New Underwood** 69.17 47 ⇓P P 00 59 36.5 +0.2
baz=69
M22A **Cedar Creek Ra** 69.17 51 ⇑P P 00 59 37.0 +0.4
baz=69,SNR=35
IMHD **Mahdasht** 69.18 300 *e*P P 00 59 37.0 +0.5
O20A **White River Ci** 69.21 53 ⇑P P 00 59 37.2 +0.5
baz=69,SNR=82
109C **Camp Elliot, M** 69.22 64 ⇑P P 00 59 36.9 +0.3
baz=69,SNR=8.1
G28A **Parade** 69.35 45 ⇑P P 00 59 37.5 +0.2
baz=69
GNI **Garni** 69.35 307 P P 00 59 39.4 +1.9
SNR=22
GNI **Garni** 69.35 307 *e*P P 00 59 38.9 +1.4
comp=Z,64nm,0.9s
GNI S S 01 08 16.7 +4.5
GNI **Garni** 69.35 307 P P 00 59 39.4 +1.9
comp=Z,32nm,0.8s,baz=1.5,slow=2.4,SNR=33
GNI S S 01 08 16.7 +4.5
comp=Z,1.8nm,0.5s,baz=78,slow=23,SNR=5.7
ICHK **Chekchek** 69.35 295 *e*P P 00 59 37.7 0.0
IHRS **Heris** 69.39 305 *e*P P 00 59 38.3 +0.4
ISRB **Sarab** 69.39 304 *e*P P 00 59 37.9 0.0
NEE2 **Needles Airpor** 69.39 61 ⇑P P 00 59 38.2 +0.6
baz=69
SOC **Sochi** 69.46 313*d i*P P 00 59 37.9 0.0
SOC *e* 01 00 02.8
SOC *e**PP pP 01 01 00.1 -2.6
SOC *e* 01 02 16.2
SOC *i* S S 01 08 12.4 -0.6
SOC *e*SSS SSS 01 15 56.4
SOC pmax pmax
comp=Z,51nm,0.8s
IRM **Iron Mountain** 69.50 62 ⇑P P 00 59 39.1 +0.8
baz=69,SNR=70
I27A **Quinn** 69.54 46 ⇑P P 00 59 39.0 +0.5
baz=69
O21A **Pagoda** 69.56 52 ⇑P P 00 59 39.4 +0.5
baz=69,SNR=36
L24A **Wheatland** 69.57 50 ⇑P P 00 59 39.0 +0.2
baz=69,SNR=9.1
P20A **De Beque** 69.58 53 ⇑P P 00 59 39.1 +0.2
baz=69,SNR=42
U15A **North Rim** 69.58 58 ⇑P P 00 59 40.2 +1.1
baz=69,SNR=84
H28A **Mission Ridge** 69.59 45 ⇑P P 00 59 39.2 +0.5
baz=69
W13A **Hualapai Mount** 69.59 60 ⇓P P 00 59 39.8 +0.7
baz=69,SNR=15
BAR **Barrett** 69.62 64 *e*P P 00 59 39.4 +0.3
comp=Z,44nm,1.0s
MONP **Monument Peak** 69.63 63 ⇓P P 00 59 39.6 +0.2
baz=70,SNR=19
BC3 **Big Chuckawall** 69.67 62 ⇓P P 00 59 39.9 +0.3
baz=70,SNR=22
ANN **Anapa** 69.68 315 *e*P P 00 59 36.4 -2.7
ANN *e**PP pP 01 01 05.1 +1.1
ANN *e* 01 02 16.9
ANN *e*S S 01 08 10.9 -4.5
ANN pmax pmax
comp=Z,70nm,1.3s
N22A **Wattenberg Ran** 69.68 51 ⇓P P 00 59 40.7 +1.0
baz=69,SNR=51
K25A **Mack Ranch, Ha** 69.70 49 ⇑P P 00 59 39.6 0.0
baz=70,SNR=6.4
PALK **Pallekele** 69.72 258 *e*P P 00 59 40.2 +0.3
comp=Z,47nm,1.0s
PALK **Pallekele** 69.72 258 P P 00 59 40.4 +0.5
IRAZ **Razeghan** 69.81 301 *e*P P 00 59 40.7 +0.3
IMEH **Mehriz** 69.82 295 *e*P P 00 59 39.8 -0.8
PHWY **Pilot Hill** 69.84 50 *e*P P 00 59 40.8 +0.1
comp=Z,38nm,1.1s
N23A **Red Feather La** 69.88 51 ⇑P P 00 59 41.7 +0.9
baz=70,SNR=33
ITBZ **Tabriz** 69.95 305 *e*P P 00 59 40.4 -0.8
SWSC **Sam W. Stewart** 69.97 63 ⇓P P 00 59 41.0 -0.1
baz=70,SNR=15
DVTC **Desert V Tower** 69.98 63 ⇑P P 00 59 41.7 +0.3
baz=70,SNR=7.1
K26A **Motz Farm, Whi** 69.98 48 ⇓P P 00 59 41.2 0.0
baz=70,SNR=14
L25A **Engebretsen Ra** 69.99 49 ⇓P P 00 59 41.5 +0.2
baz=70,SNR=14
PDMCI **Parker Dam,Lak** 70.00 61 ⇓P P 00 59 41.9 +0.6
baz=70,SNR=23
ISAD **Sadrabad** 70.02 296 *e*P P 00 59 41.4 -0.4
I28A **Midland** 70.02 46 ⇑P P 00 59 41.6 +0.3
baz=70
Q20A **Ridgley Place,** 70.02 54 ⇓P P 00 59 41.9 +0.3
baz=70,SNR=40
M24A **Cheyenne** 70.05 50 ⇓P P 00 59 42.7 +1.0
baz=70,SNR=34
PV04 **Paradox Valley** 70.09 55 *e*P P 00 59 42.9 +0.9
O22A **Kremmling** 70.09 52 ⇑P P 00 59 42.8 +0.6
baz=70,SNR=73
IZEF **Zefreh** 70.15 297 *e*P P 00 59 42.9 +0.3
Y12C **Blythe** 70.16 62 ⇓P P 00 59 43.1 +0.8
baz=70,SNR=43
ISHB **Shabestar** 70.20 305 *e*P P 00 59 42.9 +0.1
IKLH **Kolahrood** 70.30 298 *e*P P 00 59 43.5 0.0
P22A **Eagle** 70.39 52 ⇓P P 00 59 44.7 +0.8
baz=70,SNR=70
O23A **Lake Granby, G** 70.39 52 ⇓P P 00 59 45.2 +1.3
baz=70,SNR=47
J28A **Allard Ranch,** 70.41 46 ⇑P P 00 59 44.4 +0.6
baz=70,SNR=73
IAZR **Azarshahr** 70.44 305 *e*P P 00 59 44.3 +0.1
K27A **Flueckinger Fa** 70.45 48 ⇑P P 00 59 44.1 +0.1
baz=70,SNR=9.7
PV01 **Paradox Valley** 70.46 55 *e*P P 00 59 44.9 +0.6
comp=Z,5um,1.0s
M25A **Palm-Egli Farm** 70.47 50 ⇓P P 00 59 45.2 +1.0
baz=70,SNR=11
GLA **Glamis** 70.47 62 *e*P P 00 59 45.0 +0.7
GLA *e**PP pP 01 01 13.1 +3.8
GLA pmax pmax
comp=Z,108nm,1.1s
GLA **Glamis** 70.47 62 *e*P P 00 59 45.0 +0.7
comp=Z,108nm,1.1s
GLA *e*pP pP 01 01 13.1 +3.8
GLA **Glamis** 70.47 62 ⇑P P 00 59 44.9 +0.6
baz=70,SNR=30
N24A **Carr** 70.48 50 ⇑P P 00 59 45.3 +0.9
baz=70
Q21A **Lamborn Mesa,** 70.50 53 ⇓P P 00 59 45.2 +0.7
baz=70,SNR=30
L26A **Underwood Farm** 70.52 49 ⇓P P 00 59 44.6 +0.1
baz=70
R20A **Redvale** 70.52 54 ⇓P P 00 59 45.5 +0.8
baz=70,SNR=56
SMCO **Snowmass** 70.57 53 *e*P P 00 59 46.0 +0.8
comp=Z,67nm,0.8s
IGAR **Gharneh** 70.67 297 *e*P P 00 59 45.8 +0.2
BRSD **Miller** 70.75 44 ⇓P P 00 59 45.8 +0.1
baz=70,SNR=25
WUAZ **Wupatki** 70.75 58 *e*P P 00 59 47.0 +0.9
comp=Z,26nm,0.6s
WUAZ **Wupatki** 70.75 58 ⇓P P 00 59 47.2 +1.1
baz=71,SNR=30
S20A **Disappointment** 70.79 55 ⇓P P 00 59 46.9 +0.6
baz=71,SNR=98
Q22A **Crested Butte,** 70.84 53 ⇑P P 00 59 47.5 +0.9
baz=71,SNR=87
R21A **Cimarron** 70.85 54 ⇑P P 00 59 47.7 +1.0
baz=71,SNR=107
ISCO **Idaho Springs** 70.85 52 *e*P P 00 59 47.8 +1.1
ISCO pmax pmax
comp=Z,120nm,1.2s
ISCO **Idaho Springs** 70.85 52 *e*P P 00 59 47.8 +1.1
comp=Z,120nm,1.2s
ISCO **Idaho Springs** 70.85 52 ⇓P P 00 59 47.6 +0.9
baz=71,SNR=110
L27A **T5 Ranch, Ells** 70.87 48 ⇑P P 00 59 47.1 +0.5
baz=71
K28A **Ten Mile Ranch** 70.88 47 ⇓P P 00 59 47.2 +0.6
baz=71,SNR=24
O24A **Longmont** 70.90 51 ⇑P P 00 59 48.1 +1.3
baz=71,SNR=26
N25A **Grover** 70.91 50 ⇑P P 00 59 47.8 +0.9
baz=71,SNR=12
M26A **McRoberts Ranc** 70.91 49 ⇓P P 00 59 47.8 +1.0
baz=71,SNR=9.6
Y14A **Wickenburg** 70.92 60 ⇓P P 00 59 47.7 +0.8
baz=71,SNR=54
P23A **Jefferson** 71.04 52 ⇑P P 00 59 49.1 +1.2
baz=71,SNR=49
GKP **Gorka Klasztor** 71.07 331 *e*P P 00 59 46.8 -0.5
SIM **Simferopol'** 71.12 317 *e*P P 00 59 47.4 -0.4
SIM *e**PP pP 01 01 14.0 +0.9
SIM *e* 01 02 32.0
SIM *e*S S 01 08 30.0 -2.0
SIM pmax pmax
comp=Z,31nm,0.9s
IPIR **Pirpir** 71.16 298 *e*P P 00 59 48.9 +0.3
MVCO **Mesa Verde** 71.16 55 *e*P P 00 59 49.3 +0.8
comp=Z,106nm,0.9s
MVCO **Mesa Verde** 71.16 55 ⇑P P 00 59 49.2 +0.8
baz=71,SNR=70
S21A **Coal Bank Pass** 71.22 54 ⇓P P 00 59 50.1 +1.2
baz=71,SNR=246
M27A **Reverse DX Ran** 71.25 48 ⇑P P 00 59 49.3 +0.5
baz=71,SNR=5.1
113A **Mohawk Valley,** 71.30 62 ⇓P P 00 59 49.6 +0.5
baz=71,SNR=20
L28A **Connealy Angus** 71.33 48 ⇓P P 00 59 49.7 +0.4
baz=71,SNR=8.5
N26A **Koester Ranch,** 71.34 49 ⇑P P 00 59 50.0 +0.6
baz=71,SNR=9.4
EYMN **Ely** 71.35 38 *e*P P 00 59 48.8 -0.4
comp=Z,136nm,1.0s
K29A **Lazy Trails An** 71.36 46 ⇓P P 00 59 50.0 +0.6
baz=71,SNR=14
Z14A **Wintersburg** 71.37 61 ⇓P P 00 59 50.2 +0.7
baz=71,SNR=11
IBND **Bandar-abas** 71.37 290 *e*P P 00 59 50.0 +0.4
R22A **Saguache, Gunn** 71.38 53 ⇑P P 00 59 51.3 +1.4
baz=71,SNR=102
Q23A **Hartsel** 71.38 52 ⇓P P 00 59 50.7 +0.8
baz=71,SNR=5.5
O25A **Wiggins** 71.40 51 ⇓P P 00 59 50.3 +0.6
baz=71,SNR=13
P24A **Kohler Place,** 71.43 51 ⇓P P 00 59 51.1 +1.1
baz=71,SNR=17
X16A **Lo Mia Camp, P** 71.49 59 ⇑P P 00 59 51.6 +1.1
baz=71,SNR=53
LVV **L'vov** 71.54 326 *e*P P 00 59 49.5 -0.7
S22A **4UR Ranch, Cre** 71.69 54 ⇓P P 00 59 52.9 +1.2
baz=72,SNR=126
Q24A **Divide** 71.70 52 ⇓P P 00 59 52.3 +0.5
baz=72,SNR=57
N27A **Anderson Farm,** 71.70 49 ⇑P P 00 59 52.1 +0.6
baz=72,SNR=44
O26A **Horse Wrangler** 71.72 50 ⇓P P 00 59 51.8 +0.1
baz=72,SNR=17
U20A **Newcomb** 71.75 56 ⇓P P 00 59 52.6 +0.7
baz=72,SNR=16
L29A **Maesberg Ranch** 71.80 47 ⇓P P 00 59 52.0 0.0
baz=72,SNR=7.6
P25A **Willow Gulch B** 71.82 51 ⇓P P 00 59 53.0 +0.7
baz=72,SNR=39
T21A **Navajo Lake** 71.85 55 ⇓P P 00 59 53.5 +0.9
baz=72,SNR=35
M28A **Bar X Bar Ranc** 71.86 48 ⇑P P 00 59 52.4 +0.1
baz=72,SNR=5.3
OGNE **Ogallala** 71.86 49 *e*P P 00 59 52.6 +0.3
comp=Z,368nm,1.1s
OGNE **Ogallala** 71.86 49 ⇑P P 00 59 52.7 +0.3
baz=72,SNR=12
ILIN **Lien** 71.86 302 *e*P P 00 59 52.1 -0.6
KIS **Kishinev** 71.88 321 ⇓*i*P P 00 59 51.0 -1.2
comp=Z,100nm,1.4s
KIS *e*pP pP 01 01 16.0 -1.7
KIS *i* S S 01 08 38.0 -2.4
comp=Z,300nm,2.6s
KIS *e*sS sS 01 11 14.0 +1.6
KIS **Kishinev** 71.88 321 ⇓*i*P P 00 59 51.0 -1.2
KIS *e**PP pP 01 01 16.0 -1.7
KIS *i* S S 01 08 38.0 -2.4
KIS *e* 01 09 14.0
KIS pmax pmax
comp=Z,110nm,1.4s
KIS smax smax
comp=N,290nm,2.6s
KIS smax smax
comp=E,280nm,2.4s
R23A **Moffat** 71.91 53 ⇓P P 00 59 54.1 +1.1
baz=72
W18A **Petrified Fore** 71.97 58 ⇑P P 00 59 54.4 +1.1
baz=72
IKOM **Komasi** 72.08 301 *e*P P 00 59 53.6 -0.3
ISRV **Sarvestan** 72.15 294 *e*P P 00 59 52.8 -1.7
M29A **Burnside Ranch** 72.16 48 ⇑P P 00 59 53.9 -0.2
baz=72
S23A **Nye Farm, Mont** 72.17 53 ⇑P P 00 59 55.9 +1.4
baz=72,SNR=18
T22A **Edith** 72.18 54 ⇑P P 00 59 55.7 +1.2
baz=72,SNR=90
U21A **Nageezi** 72.19 55 ⇑P P 00 59 55.3 +0.7
baz=72,SNR=66
KWP **Kalwaria Pacla** 72.19 326 ⇑P P 00 59 54.4 +0.3
KWP **Kalwaria Pacla** 72.19 326 *e*P P 00 59 53.8 -0.2
comp=E,58nm,1.1s
KWP **Kalwaria Pacla** 72.19 326 ⇑*i*P P 00 59 54.4 +0.3
KWP **Kalwaria Pacla** 72.19 326 *e*P P 00 59 54.1 0.0
O27A **Beecher Island** 72.19 49 ⇓P P 00 59 54.6 +0.2
baz=72,SNR=22
V20A **Brimhall** 72.19 56 ⇓P P 00 59 55.2 +0.6
baz=72,SNR=27
IVIS **Veis** 72.21 302 *e*P P 00 59 53.5 -1.1
P26A **Davis Ranch, A** 72.21 50 ⇓P P 00 59 54.8 +0.2
baz=72,SNR=18
Q25A **Bedland, Calha** 72.22 51 ⇑P P 00 59 55.1 +0.4
baz=72,SNR=37
R24A **Sanders Place,** 72.26 52 ⇓P P 00 59 55.8 +0.9
baz=72,SNR=69
X18A **Snowflake** 72.27 58 ⇑P P 00 59 56.0 +1.0
baz=72,SNR=37
N28A **Pribbeno Ranch** 72.30 49 ⇓P P 00 59 54.8 -0.1
baz=72,SNR=6.7
IDHR **Dehrash** 72.34 302 *e*P P 00 59 55.0 -0.5
AS31 **Alice Springs** 72.35 194 *e*P P 00 59 56.1 +0.9
ASAR **Alice Springs** 72.35 194 P P 00 59 56.3 +1.1
ASAR pP pP 01 01 23.9 +2.9
ASAR **Alice Springs** 72.35 194 P P 00 59 56.3 +1.1

comp=E,7.5nm,0.6s,baz=10,slow=6.3,SNR=52
ASAR pP **pP** **01 01 23.9 +2.9**
comp=E,1.2nm,0.8s,baz=12,slow=5.7,SNR=1.6
ECSD EROS Data Cent 72.38 44 *e*P **P** **00 59 55.3 0.0**
comp=E,181nm,1.3s
SDCO Great Sand Dun 72.41 53 *e*P **P** **00 59 56.4 +0.5**
comp=E,76nm,1.2s
214A Organ Pipe Nat 72.45 62 ⇑P **P** **00 59 56.5 +0.6**
baz=72,SNR=40
M30A Dale-Ortello V 72.49 47 ⇓P **P** **00 59 55.8 -0.3**
baz=72
IGHG Ghaleghazi 72.51 302 *e*P **P** **00 59 55.7 -0.8**
LEOM Leova 72.53 321 ⇓P **P** **00 59 56.5 +0.5**
LEOM Leova 72.53 321 ⇓*i*P **P** **00 59 56.5 +0.5**
Q26A Hugo 72.59 51 ⇓P **P** **00 59 57.1 +0.3**
baz=72,SNR=20
O28A Krutsinger Ran 72.60 49 ⇓P **P** **00 59 56.6 -0.1**
baz=72
P27A Ficken Ranch, 72.61 50 ⇓P **P** **00 59 56.7 -0.1**
baz=72,SNR=6.3
T23A Casias Ranch, 72.64 54 ⇓P **P** **00 59 58.1 +0.9**
baz=72,SNR=14
S24A Houchin Ranch, 72.64 53 ⇑P **P** **00 59 58.2 +1.0**
baz=72,SNR=57
V21A Milan 72.65 56 ⇑P **P** **00 59 58.1 +0.8**
baz=72,SNR=52
N29A Votaw Ranch, W 72.66 48 ⇓P **P** **00 59 56.9 -0.2**
baz=72,SNR=6.1
W20A Ramah 72.66 57 ⇓P **P** **00 59 58.0 +0.7**
baz=72,SNR=52
U22A Llaves 72.67 55 ⇓P **P** **00 59 58.6 +1.2**
baz=72
R25A Fountain Ranch 72.76 52 ⇓P **P** **00 59 58.0 +0.2**
baz=72,SNR=40
OJC Ojcow 72.76 328 *e*P **P** **00 59 57.6 +0.2**
OJC pmax pmax
comp=Z,18nm,1.0s
OJC Ojcow 72.76 328 *e*P **P** **00 59 57.6 +0.2**
comp=Z,18nm,1.0s
OJC Ojcow 72.76 328 *e*P **P** **00 59 57.4 0.0**
BUR08 Bucovina Ar. S 72.84 324 *e*P **P** **00 59 57.6 -0.4**
BURAR Bucovina Array 72.86 324 ⇑P **P** **00 59 58.0 -0.1**
BURAR Bucovina Array 72.86 324 ⇑*i*P **P** **00 59 58.0 -0.1**
STHS Stebnicka Huta 72.91 327 *e*P **P** **00 59 58.9 +0.6**
STHS pmax pmax
comp=Z,10.0nm,0.9s
STHS Stebnicka Huta 72.91 327 *e*P **P** **00 59 58.9 +0.6**
STHS *e*pP **pP** **01 01 24.7 +0.7**
STHS *e*PP **PP** **01 02 45.7 -0.3**
KOLS Kolonicke sedl 72.93 326 *e*P **P** **00 59 58.5 +0.1**
KOLS pmax pmax
comp=Z,11nm,1.0s
KOLS Kolonicke sedl 72.93 326 *e*P **P** **00 59 58.5 +0.1**
KOLS *e*pP **pP** **01 01 26.1 +2.0**
KOLS *e* 01 07 58.9
N30A Hueftle Ranch, 72.94 48 ⇑P **P** **00 59 58.4 -0.3**
baz=73
SPMN St. Paul 72.94 40 ⇓P **P** **00 59 58.0 -0.5**
baz=73,SNR=13
V22A San Miguel Ran 72.98 55 ⇑P **P** **00 59 59.9 +0.7**
baz=73,SNR=42
KSCO Kaye Shedlock' 72.99 50 ⇑P **P** **00 59 59.1 0.0**
baz=73
P28A Saint Francis 73.02 49 ⇑P **P** **00 59 59.0 -0.2**
baz=73
S25A Robets Cordova 73.04 52 ⇓P **P** **00 59 59.3 -0.2**
baz=73,SNR=34
U23A El Rito 73.07 54 ⇓P **P** **01 00 00.8 +1.0**
baz=73,SNR=109
X20A Quemado 73.09 57 ⇓P **P** **01 00 01.1 +1.3**
baz=73,SNR=30
R26A Arlington 73.09 51 ⇓P **P** **01 00 00.0 +0.4**
baz=73,SNR=102
O29A 4D Ranch, Culb 73.09 49 ⇑P **P** **00 59 59.4 -0.2**
baz=73,SNR=6.7
W21A San Fidel 73.15 56 ⇓P **P** **01 00 00.9 +0.7**
baz=73,SNR=13
TESR Tescani 73.17 322 ⇑*i*P **P** **00 59 59.5 -0.3**
UZH Uzhgorod 73.17 326 *d i*P **P** **00 59 59.6 -0.1**
UZH *e* 01 00 13.4
UZH *i* 01 01 24.6
NIE Niedzica 73.25 328 *e*P **P** **01 00 02.2 +2.0**
NIE Niedzica 73.25 328 *e*P **P** **01 00 02.2 +2.0**
MBWA Marble Bar 73.34 208 *e*P **P** **01 00 00.8 -0.1**
comp=Z,15nm,0.6s
Q28A Sharon Springs 73.37 50 ⇑P **P** **01 00 01.0 -0.2**
baz=73
TUC Tucson 73.39 60 *e*P **P** **01 00 01.0 -0.4**
TUC pmax pmax
comp=Z,255nm,1.2s
TUC Tucson 73.39 60 *e*P **P** **01 00 01.0 -0.4**
comp=Z,255nm,1.2s
P29A Atwood 73.42 49 ⇑P **P** **01 00 01.1 -0.4**
baz=73
O30A MW Ranch, Wils 73.43 48 ⇓P **P** **01 00 01.1 -0.4**
baz=73,SNR=10
BGNE Belgrade 73.43 46 ⇑P **P** **01 00 01.2 -0.3**
baz=73,SNR=11
KSP Ksiaz 73.44 331 *e*P **P** **01 00 01.9 +0.6**
T25A Trinidad 73.44 53 ⇓P **P** **01 00 02.3 +0.5**
baz=73,SNR=68
R27A Eads 73.44 51 ⇓P **P** **01 00 01.8 +0.1**
baz=73,SNR=28
HATD Hatta, Dubai 73.48 289 P **P** **01 00 02.8 +0.9**
SNR=6.2
SCHQ Schefferville 73.49 20 *e*P **P** **01 00 01.0 -0.5**
comp=Z,33nm,1.0s
SCHQ Schefferville 73.49 20 P **P** **01 00 00.6 -0.9**
comp=Z,19nm,0.9s,baz=354,slow=6.1,SNR=26
V23A Ortiz Mt. (NFS 73.50 55 ⇓P **P** **01 00 03.8 +1.6**
baz=73,SNR=22
U24A Moreno Valley 73.51 54 ⇓P **P** **01 00 03.6 +1.3**
baz=73,SNR=26
X21A Alamocita Cree 73.56 57 ⇓P **P** **01 00 04.0 +1.4**
baz=73,SNR=100
S26A Kim 73.58 52 ⇓P **P** **01 00 02.4 -0.1**
baz=73,SNR=58
HOQ Hoqain 73.60 287 P **P** **01 00 03.3 +0.6**
SNR=6.4
CFR Carcaliu 73.61 320 ⇑P **P** **01 00 02.5 +0.2**
CFR Carcaliu 73.61 320 ⇑*i*P **P** **01 00 02.5 +0.2**
Y20A Horse Springs, 73.62 58 ⇑P **P** **01 00 04.3 +1.4**
baz=73,SNR=94
W22A Albuquerque 73.62 56 ⇑P **P** **01 00 04.1 +1.3**
baz=73
VRI Vrincioaia 73.65 322 ⇓P **P** **01 00 03.4 +0.8**
VRI Vrincioaia 73.65 322 ⇓*i*P **P** **01 00 03.4 +0.8**
OKC Ostrava-Krasne 73.66 329 *e*P **P** **01 00 01.8 -0.8**
OKC *e**PP **pP** **01 01 27.9 -0.6**
OKC Ostrava-Krasne 73.66 329 *e*P **P** **01 00 01.8 -0.8**
OKC *e*pP **pP** **01 01 27.9 -0.6**
PLOR Plostina 73.70 322 ⇓P **P** **01 00 03.7 +0.8**
PLOR Plostina 73.70 322 ⇓*i*P **P** **01 00 03.7 +0.8**
IBDR Badra 73.76 301 *i* S **S** **01 09 06.5 +4.6**
COWI Conover 73.80 38 *e*P **P** **01 00 02.7 -0.8**
comp=Z,89nm,1.2s
P30A Selden 73.81 49 ⇑P **P** **01 00 03.3 -0.4**
baz=74,SNR=19
UPC Upice 73.82 331 *e*P **P** **01 00 03.8 +0.3**
UPC Upice 73.82 331 *e*P **P** **01 00 03.8 +0.3**
S27A Las Animas 73.84 51 ⇓P **P** **01 00 03.7 -0.3**
baz=74
DPC Dobruska-Polom 73.85 330 *e*P **P** **01 00 04.3 +0.6**
DPC Dobruska-Polom 73.85 330 *e*P **P** **01 00 04.3 +0.6**
DPC *e*pP pP 01 01 23.0 -6.7
T26A Comanche Natio 73.85 52 ⇓P **P** **01 00 04.1 0.0**
baz=74,SNR=85
R28A Tribune 73.92 50 ⇑P **P** **01 00 04.0 -0.4**
baz=74,SNR=12
MORC Moravsky Berou 73.92 329 *e*P **P** **01 00 04.6 +0.5**
MORC *e**PP **pP** **01 01 32.2 +2.1**
MORC pmax pmax
comp=Z,15nm,0.9s
MORC Moravsky Berou 73.92 329 *e*P **P** **01 00 04.6 +0.5**
comp=Z,15nm,0.9s
MORC *e*pP **pP** **01 01 32.2 +2.1**
KRLC Kraliky 73.93 330 *e*P **P** **01 00 04.5 +0.3**
KRLC *e**PP **pP** **01 01 29.7 -0.5**
KRLC Kraliky 73.93 330 *e*P **P** **01 00 04.5 +0.3**
KRLC *e*pP **pP** **01 01 29.7 -0.5**
Q29A Oakley 73.93 49 ⇑P **P** **01 00 04.2 -0.2**
baz=74,SNR=21
ANMO Albuquerque 73.94 56 *e*P **P** **01 00 05.3 +0.6**
comp=Z,60nm,1.1s
ANMO *e*pP **pP** **01 01 33.3 +2.5**
ANMO Albuquerque 73.94 56 P **P** **01 00 05.7 +1.0**
comp=Z,50nm,1.2s,baz=316,slow=7.6,SNR=80
ANMO pP **pP** **01 01 32.2 +1.5**
comp=Z,4.5nm,1.0s,baz=316,slow=9.2,SNR=3.0
Y21A Point of Rocks 73.94 57 ⇑P **P** **01 00 06.2 +1.4**
baz=74,SNR=23
JMDO Jabal Madar 73.95 286 P **P** **01 00 04.5 -0.2**
SNR=5.6
W23A Werner Place, 73.95 55 ⇑P **P** **01 00 05.9 +1.1**
baz=74,SNR=23
X22A Bernardo 73.95 56 ⇑P **P** **01 00 06.5 +1.8**
baz=74,SNR=26
LAZ Ladron 73.96 56 *e*P **P** **01 00 06.0 +1.2**
comp=Z,48nm,1.2s
KECS Kecovo 73.97 327 *e*P **P** **01 00 04.6 +0.3**
KECS Kecovo 73.97 327 *e*P **P** **01 00 04.6 +0.3**
U25A Circle Dot Ran 73.99 53 ⇓P **P** **01 00 05.4 +0.5**
baz=74,SNR=38
V24A Rampart Ranch, 74.02 54 ⇓P **P** **01 00 06.3 +1.2**
baz=74,SNR=41
MALT Malatya 74.02 310 *e*P P 01 00 23.5 +19
MALT Malatya 74.02 310 ⇓*i*P P 01 00 23.8 +19
TIRR Tirgusor 74.06 320 ⇓P **P** **01 00 05.4 +0.5**
TIRR Tirgusor 74.06 320 *e*P **P** **01 00 03.9 -1.0**
comp=Z,16nm,1.0s
TIRR Tirgusor 74.06 320 ⇓*i*P **P** **01 00 05.4 +0.5**
Z20A Nine Sixteen R 74.07 58 ⇓P **P** **01 00 06.7 +1.2**
baz=74,SNR=94
CLL Collm 74.09 333 *e*P **P** **01 00 04.9 -0.1**
comp=Z,25nm,0.7s
CLL Collm 74.09 333 *i* P **P** **01 00 04.7 -0.3**
comp=Z,25nm,0.7s
CLL *i* pP **pP** **01 01 32.4 +1.4**
comp=Z,13nm,1.0s
CLL *e*S **S** **01 09 06.0 +1.0**
BRG Berggiesshubel 74.17 332 *e*P **P** **01 00 05.4 -0.1**
comp=Z,8.5nm,1.2s
BRG *e* 01 01 33.3
comp=Z,2.1nm,0.7s
BRG *e* 01 09 31.6
comp=Z,13nm,1.6s
BRG Berggiesshubel 74.17 332 *e*P **P** **01 00 05.6 +0.1**
comp=Z,8.0nm,1.2s
BRG *e*pP **pP** **01 01 33.2 +1.7**
R29A Marienthal 74.20 50 ⇑P **P** **01 00 05.7 -0.3**
baz=74,SNR=31
LENM Lemitar 74.22 56 *e*P **P** **01 00 07.5 +1.2**
Q30A Quinter 74.25 49 ⇑P **P** **01 00 05.8 -0.4**
baz=74
P31A Stockton 74.27 48 ⇓P **P** **01 00 05.9 -0.4**
baz=74,SNR=22
BSY Bisya 74.27 286 P **P** **01 00 07.2 +0.7**
SNR=5.3
PVCC Panska Ves 74.27 331 *e*P **P** **01 00 06.6 +0.6**
PVCC *e**PP **pP** **01 01 33.5 +1.4**
PVCC Panska Ves 74.27 331 *e*P **P** **01 00 06.6 +0.6**
PVCC *e*pP **pP** **01 01 33.5 +1.4**
MLR Muntele Rosu 74.28 322 P **P** **01 00 06.3 -0.1**
MLR pP **pP** **01 01 31.8 -0.7**
MLR S **S** **01 09 06.4 -1.2**
MLR Muntele Rosu 74.28 322 ⇓*i*P **P** **01 00 06.0 -0.4**
MLR Muntele Rosu 74.28 322 P **P** **01 00 06.3 -0.1**
comp=Z,2.5nm,0.8s,baz=343,slow=7,SNR=26
MLR pP **pP** **01 01 31.8 -0.7**
comp=Z,0.8nm,0.9s,baz=32,slow=7.9,SNR=1.5
MLR S **S** **01 09 06.4 -1.2**
comp=Z,0.9nm,1.1s,baz=106,slow=23,SNR=7.6
V25A Rancho No Teng 74.29 54 ⇑P **P** **01 00 07.5 +0.8**
baz=74,SNR=29
LPM Los Pinos Moun 74.31 56 *e*P **P** **01 00 07.8 +1.0**
FBE Freiberg 74.32 332 *e*P **P** **01 00 06.7 +0.4**
comp=Z,15nm,0.9s
FBE *e*pP **pP** **01 01 33.8 +1.4**
Y22D IRIS PASSCAL I 74.32 57 ⇑P **P** **01 00 08.0 +1.2**
baz=74
W24A Lazy 6 Ranch, 74.32 55 ⇓P **P** **01 00 08.2 +1.3**
baz=74,SNR=64
U26A Atchley Ranch, 74.35 53 ⇓P **P** **01 00 07.3 +0.3**
baz=74,SNR=21
X23A Hourglass Bar 74.36 56 ⇓P **P** **01 00 08.2 +1.1**
baz=74
Y22A Socorro 74.39 57 ⇓P **P** **01 00 08.5 +1.2**
baz=74
T27A Campo 74.40 52 ⇑P **P** **01 00 07.2 0.0**
baz=74,SNR=24
CLZ Clausthal 74.41 334 *e*P **P** **01 00 07.5 +0.6**
comp=Z,16nm,0.9s
CLZ Clausthal 74.41 334 *e*P **P** **01 00 07.5 +0.6**
CLZ pmax pmax
comp=Z,15nm,0.9s
BNM Barren Site 74.43 56 *e*P **P** **01 00 08.4 +0.9**
comp=Z,42nm,1.1s
S28A Manter 74.44 51 ⇑P **P** **01 00 07.3 0.0**
baz=74,SNR=37
Z21A St. Cloud Mine 74.46 58 ⇓P **P** **01 00 09.0 +1.3**
baz=74,SNR=115
120A U Bar Ranch, L 74.46 59 ⇓P **P** **01 00 08.9 +1.3**
baz=74,SNR=67
BHD Baghdad 74.53 302 *i* S **S** **01 09 06.0 -4.4**
NEUB Neuenburg 74.55 333 *e*P **P** **01 00 07.8 +0.2**
comp=Z,19nm,0.9s
VYHS Vyhne 74.56 328 *e*P **P** **01 00 08.0 +0.3**
VYHS pmax pmax
comp=Z,6.0nm,0.9s
VYHS Vyhne 74.56 328 *e*P **P** **01 00 08.0 +0.3**
VYHS *e*pP **pP** **01 01 35.8 +1.9**
VYHS *e*PP **PP** **01 03 00.2 +0.4**
VRAC Vranov 74.65 330 P **P** **01 00 09.0 +0.8**
VRAC pP **pP** **01 01 34.3 -0.2**
VRAC Vranov 74.65 330 P **P** **01 00 09.0 +0.8**
comp=Z,8.5nm,0.8s,baz=48,slow=8.4,SNR=13
VRAC pP **pP** **01 01 34.3 -0.2**
comp=Z,2.5nm,0.4s,baz=35,slow=11,SNR=3.4
Q31A Ellis 74.65 48 ⇑P **P** **01 00 07.8 -0.7**
baz=74,SNR=5.2
PSZ Piszkesteto 74.65 327 *e*P **P** **01 00 09.0 +0.6**
PSZ pmax pmax
comp=Z,12nm,1.0s
PSZ Piszkesteto 74.65 327 *e*P **P** **01 00 09.0 +0.6**
comp=Z,12nm,1.0s
PSZ Piszkesteto 74.65 327 ⇓*i*P **P** **01 00 09.4 +1.0**
PSZ Piszkesteto 74.65 327 ⇑*e* **P** **01 00 09.6 +1.2**
T28A Walsh 74.67 51 ⇑P **P** **01 00 08.5 -0.2**
baz=74
VOIR 74.69 322 ⇑P **P** **01 00 09.2 +0.6**
VOIR 74.69 322 ⇑*i*P **P** **01 00 09.2 +0.6**
PRA Prague 74.71 331 P **P** **01 00 10.0 +1.5**
PRA pP **pP** **01 01 32.0 -2.8**
PRU Pruhonice 74.75 331 *e*P **P** **01 00 09.2 +0.4**
PRU Pruhonice 74.75 331 *e*P **P** **01 00 09.2 +0.4**
PRU *ex* x 01 01 30.1
R30A Dighton 74.75 49 ⇑P **P** **01 00 08.7 -0.4**
baz=74
V26A Tequesquite Ra 74.77 53 ⇑P **P** **01 00 09.5 +0.1**
baz=75,SNR=32
PSN Preselentsi 74.78 319 *e*P **P** **01 00 10.2 +1.2**
X24A Lazy WL Ranch, 74.79 55 ⇓P **P** **01 00 10.8 +1.3**
baz=75,SNR=5.3
S29A Ulysses 74.82 50 ⇓P **P** **01 00 09.3 -0.2**
baz=75,SNR=7.3
U27A Thompson Grove 74.82 52 ⇓P **P** **01 00 09.6 0.0**
baz=75,SNR=14
W25A X Bar L Ranch, 74.84 54 ⇑P **P** **01 00 10.6 +0.9**
baz=75,SNR=70
Z22A Elephant Butte 74.90 57 ⇓P **P** **01 00 11.2 +1.1**
baz=75,SNR=68
Y23A Lovelace Mesa, 74.91 56 ⇓P **P** **01 00 11.3 +1.1**
baz=75
ARR Arges 74.92 323 ⇓*i*P **P** **01 00 11.6 +1.7**
319A Douglas 74.94 60 ⇑P **P** **01 00 11.4 +1.0**
baz=75,SNR=65
121A Cookes Peak, D 74.96 58 ⇓P **P** **01 00 11.7 +1.2**
baz=75,SNR=60
220A Playas Peak, P 74.99 59 ⇓P **P** **01 00 11.4 +0.7**
baz=75,SNR=77
TREC Trest 75.03 330 *e*P **P** **01 00 10.7 +0.3**
TREC *e**PP **pP** **01 01 39.0 +2.3**
TREC Trest 75.03 330 *e*P **P** **01 00 10.7 +0.3**
TREC *e*pP **pP** **01 01 39.0 +2.3**
SMOL Smolenice 75.04 329 *e*P **P** **01 00 11.9 +1.5**
SMOL *e* 01 01 43.0
SMOL Smolenice 75.04 329 *e*P **P** **01 00 11.8 +1.4**
SMOL *e*pP pP 01 01 42.9 +6.2
WERD Werda 75.06 333 *e*P **P** **01 00 10.9 +0.4**
comp=Z,12nm,1.3s
PLN Plauen 75.07 333 *e*P **P** **01 00 10.5 -0.1**
comp=Z,41nm,1.1s
T29A Hugoton 75.08 51 ⇓P **P** **01 00 10.6 -0.3**
baz=75,SNR=6.9
MOX Moxa 75.09 333 *e*P **P** **01 00 11.1 +0.4**
comp=Z,12nm,1.2s
MOX *e*pP **pP** **01 01 38.9 +1.8**
MOX Moxa 75.09 333 *e*P **P** **01 00 11.1 +0.4**
MOX *e**PP **pP** **01 01 38.9 +1.8**
MOX pmax pmax
comp=Z,10.0nm,1.2s
GUNZ Gunzen 75.12 333 *e*P **P** **01 00 11.3 +0.4**
comp=Z,9.0nm,0.8s
R31A Burdett 75.13 49 ⇑P **P** **01 00 10.4 -0.8**
baz=75
S30A Montezuma 75.14 50 ⇓P **P** **01 00 10.9 -0.4**
baz=75,SNR=11
U28A Mallet 75.17 52 ⇑P **P** **01 00 11.2 -0.4**
baz=75,SNR=17
WERN Wernitzgruen 75.17 333 *e*P **P** **01 00 11.7 +0.5**
comp=Z,11nm,0.8s
X25A Clemmons Ranch 75.24 55 ⇓P **P** **01 00 13.1 +1.1**
baz=75,SNR=17
Y24A Capitan 75.26 56 ⇑P **P** **01 00 13.0 +0.8**
baz=75,SNR=50
122A Conniff Cattle 75.28 58 ⇑P **P** **01 00 13.7 +1.4**
baz=75
Z23A Rita Site, Whi 75.31 57 ⇓P **P** **01 00 13.3 +0.9**
baz=75
W26A Owens Ranch, T 75.31 54 ⇓P **P** **01 00 13.2 +0.8**
baz=75,SNR=8.6
V27A Dan Oppiter Fa 75.31 53 ⇑P **P** **01 00 12.5 +0.1**
baz=75,SNR=13
BUD Budapest 75.34 327 ⇑*e* **P** **01 00 13.3 +1.2**
221A Mesquite Ranch 75.35 59 ⇓P **P** **01 00 13.9 +1.2**
baz=75,SNR=7.6
BR131 Keskin Array S 75.36 314 *e*P **P** **01 00 12.6 0.0**
comp=Z,14nm,0.9s
BRTR Keskin Array B 75.36 314 P **P** **01 00 12.7 0.0**
BRTR pP **pP** **01 01 38.7 -0.3**
BRTR PP **PP** **01 03 05.7 -1.3**
BRTR Keskin Array B 75.36 314 P **P** **01 00 12.7 0.0**
comp=Z,13nm,0.8s,baz=74,slow=4.9,SNR=82
BRTR pP **pP** **01 01 38.7 -0.3**
comp=Z,4.7nm,1.0s,baz=90,slow=3.7,SNR=3.6
BRTR PP **PP** **01 03 05.7 -1.3**
comp=Z,7.0nm,1.0s,baz=54,slow=7.3,SNR=6.6
SCIA State Center 75.37 43 *e*P **P** **01 00 12.6 +0.1**
comp=Z,299nm,1.4s
320A Kipp Ranch, An 75.41 59 ⇓P **P** **01 00 14.0 +1.0**
baz=75,SNR=22
ZST Bratislava 75.42 329 *e*P **P** **01 00 12.9 +0.3**
ZST *e* 01 01 41.1
ZST Bratislava 75.42 329 *e*P **P** **01 00 12.9 +0.3**
ZST *e*pP **pP** **01 01 41.1 +2.1**
UBBA Unterbreizbach 75.42 334 *e*P **P** **01 00 13.2 +0.8**
comp=Z,5.0nm,0.8s
PKSN Nyarlorinc 75.52 326 ⇑*e* **P** **01 00 14.4 +1.3**
MANZ Manzenberg 75.52 333 *e*P **P** **01 00 13.5 +0.3**
comp=Z,6.0nm,1.1s
T30A Plains 75.56 50 ⇑P **P** **01 00 13.0 -0.6**
baz=75
U29A Oasis Ranch, S 75.62 51 ⇑P **P** **01 00 13.7 -0.3**
baz=75,SNR=5.1
PKSG 75.65 328 ⇑*e* **P** **01 00 14.9 +1.0**
V28A Channing 75.65 52 ⇑P **P** **01 00 14.2 0.0**
baz=75
GZR Gura Zlata 75.65 324 ⇑P **P** **01 00 13.8 -0.2**
GZR Gura Zlata 75.65 324 ⇑*i*P **P** **01 00 13.8 -0.2**
ANTO Ankara 75.66 314 ⇓P **P** **01 00 14.7 +0.5**
ANTO Ankara 75.66 314 P **P** **01 00 15.1 +0.9**
SNR=11
ANTO Ankara 75.66 314 *e*P **P** **01 00 14.1 0.0**
comp=Z,26nm,0.8s
ANTO Ankara 75.66 314 ⇓*i*P **P** **01 00 14.7 +0.5**
PKS7 Kunszentmiklos 75.66 327 ⇑*e* **P** **01 00 15.1 +1.2**
S31A Mullinville 75.66 49 ⇓P **P** **01 00 13.3 -0.9**
baz=75,SNR=9.6
222A Williams Famil 75.67 58 ⇓P **P** **01 00 15.2 +0.7**
baz=76,SNR=22
Y25A Mesa, Roswell 75.67 55 ⇑P **P** **01 00 15.0 +0.5**
baz=76,SNR=52
ROTZ Rotzenmuhle 75.68 332 *e*P **P** **01 00 14.9 +0.8**
comp=Z,9.0nm,1.1s
X26A CR and CF Fran 75.69 54 ⇑P **P** **01 00 15.2 +0.6**
baz=76,SNR=29
W27A Bowe Ranch, En 75.71 53 ⇓P **P** **01 00 15.0 +0.4**
baz=76,SNR=31
CSKK Cs˝ˇkako 75.72 328 ⇑*e* **P** **01 00 15.2 +0.9**
Z24A Sheeppen Canyo 75.74 56 ⇑P **P** **01 00 15.6 +0.7**
baz=76,SNR=50
123A Bell Site, Whi 75.75 57 ⇑P **P** **01 00 15.6 +0.7**
baz=76,SNR=8.5
KHC Kasperske Hory 75.80 331 *e*P **P** **01 00 15.4 +0.6**
KHC pmax pmax
comp=Z,13nm,0.9s
KHC Kasperske Hory 75.80 331 *e*P **P** **01 00 15.4 +0.6**
KHC *ex* x 01 01 32.8
KHC *ex* x 01 08 53.0
KHC Kasperske Hory 75.80 331 *e*P **P** **01 00 15.4 +0.6**
comp=Z,13nm,0.9s
PKS6 Bocsa 75.88 326 ⇓*e* **P** **01 00 16.8 +1.6**
PKST T˝s 75.89 328 ⇑*e* **P** **01 00 16.1 +0.8**
U30A WK&E Inc. Balk 75.89 51 ⇑P **P** **01 00 15.1 -0.4**
baz=76
JFWS Jewell Farm 75.89 40 *e*P **P** **01 00 14.4 -1.0**
JFWS pmax pmax
comp=Z,17nm,0.8s
JFWS Jewell Farm 75.89 40 *e*P **P** **01 00 14.4 -1.0**
comp=Z,17nm,0.8s
BZS Buzias 75.92 325 ⇑P **P** **01 00 15.0 -0.4**
BZS Buzias 75.92 325 ⇑*i*P **P** **01 00 15.0 -0.4**
V29A Stinnett 75.93 52 ⇑P **P** **01 00 15.2 -0.6**
baz=76,SNR=5.9
KSU1 Kansas State U 75.96 47 *e*P **P** **01 00 15.0 -0.8**
comp=Z,78nm,1.0s
KSU1 *e*PP **PP** **01 03 13.0 +1.1**
T31A Randall Ranch, 75.96 50 ⇓P **P** **01 00 15.3 -0.5**
baz=76,SNR=23
X27A F and S Farms, 76.01 54 ⇓P **P** **01 00 16.6 +0.3**
baz=76,SNR=10.0
GEC2 GERESS Array S 76.01 331 *e*P **P** **01 00 16.3 +0.2**
comp=Z,6.0nm,1.0s
GEC2 *e*pP **pP** **01 01 44.2 +1.6**
GEC2 GERESS Array S 76.01 331 *e*P **P** **01 00 16.3 +0.2**
GEC2 *e**PP **pP** **01 01 44.2 +1.6**
GEC2 pmax pmax
comp=Z,6.0nm,1.0s
GEC2 GERESS Array S 76.01 331 *e*P **P** **01 00 16.2 +0.2**
GERES GERESS Array B 76.01 331 P **P** **01 00 15.8 -0.2**
GERES pP **pP** **01 01 43.4 +0.8**
GERES PP **PP** 01 03 00.5 -12
GERES GERESS Array B 76.01 331 P **P** **01 00 15.8 -0.2**
comp=Z,3.3nm,0.5s,baz=32,slow=5.2,SNR=43
GERES pP **pP** **01 01 43.4 +0.8**
comp=Z,1.7nm,0.8s,baz=29,slow=3.0,SNR=3.2
GERES PP PP 01 03 00.5 -12
comp=Z,1.4nm,0.9s,baz=54,slow=8.6,SNR=3.4
WET Wettzell 76.02 332 *e*P **P** **01 00 16.8 +0.8**
comp=Z,15nm,1.0s
WET Wettzell 76.02 332 *e*P **P** **01 00 16.8 +0.8**
WET pmax pmax
comp=Z,6.0nm,1.0s
W28A Vega 76.03 53 ⇓P **P** **01 00 16.6 +0.2**
baz=76,SNR=12
GRF Grafenberg Arr 76.06 333 *e*P **P** **01 00 16.9 +0.8**
comp=Z,23nm,0.8s
GRF *e*pP **pP** **01 01 44.6 +1.9**
GRF Grafenberg Arr 76.06 333 *e*P **P** **01 00 16.9 +0.8**
GRF *e**PP **pP** **01 01 44.6 +1.9**
GRF pmax pmax
comp=Z,18nm,0.8s
GRFO Grafenberg 76.06 333 *e*P **P** **01 00 17.0 +0.8**
GRFO pmax pmax
comp=Z,18nm,0.8s
GRFO Grafenberg 76.06 333 *e*P **P** **01 00 16.9 +0.8**
comp=Z,18nm,0.8s
CONA Conrad Observa 76.08 329 ⇑*i*P **P** **01 00 16.5 +0.1**
comp=Z,13nm,0.9s
SZH Strazhica 76.08 321 *e*P **P** **01 00 16.2 -0.2**
PKS2 Kecel 76.11 327 ⇑*e* **P** **01 00 17.1 +0.7**
223A Chaparral, Ant 76.12 58 ⇓P **P** **01 00 17.8 +0.8**
baz=76
Z25A Roswell 76.14 56 ⇓P **P** **01 00 17.8 +0.8**
baz=76,SNR=37
Y26A Elida 76.15 55 ⇓P **P** **01 00 17.6 +0.5**
baz=76,SNR=23
124A Stringfield Ra 76.16 57 ⇓P **P** **01 00 17.8 +0.5**

baz=76,SNR=26
PKS9 Tamasi 76.37 327⇑*e* P P 01 00 17.9 0.0
TNS Taunus Mts 76.41 335 *e*P P 01 00 18.6 +0.5
comp=Z,9.0nm,0.8s
TNS Taunus Mts 76.41 335 *e*P P 01 00 18.6 +0.5
TNS pmax pmax
comp=Z,26nm,0.8s
U31A Nine Bar Ranch 76.43 50 ⇑P P 01 00 18.8 +0.3
baz=76,SNR=18
W29A Amarillo 76.43 52 ⇑P P 01 00 18.8 +0.2
baz=76
V30A Spur Ranch, Mi 76.45 51 ⇑P P 01 00 18.7 0.0
baz=76
Y27A Causey 76.54 54 ⇓P P 01 00 19.8 +0.5
baz=76,SNR=55
PKSM Moragy 76.55 327 ⇓P P 01 00 19.0 +0.1
PKSM Moragy 76.55 327⇓*i*P P 01 00 19.0 +0.1
PKSM Moragy 76.55 327⇓*e* P 01 00 18.6 -0.3
Z26A Caprock 76.55 55 ⇑P P 01 00 20.1 +0.8
baz=76,SNR=138
224A Cornudas Mount 76.58 57 ⇑P P 01 00 20.2 +0.6
baz=76,SNR=42
X28A Dimmitt 76.59 53 ⇓P P 01 00 19.7 +0.2
baz=76
AMTX Amarillo 76.59 53 *e*P P 01 00 19.9 +0.4
comp=Z,133nm,0.9s
125A Gardner Draw, 76.64 56 ⇓P P 01 00 20.5 +0.7
baz=76,SNR=65
GLMI Grayling 76.67 36 *e*P P 01 00 19.3 -0.3
comp=Z,231nm,1.1s
MSTX Muleshoe 76.69 54 ⇓P P 01 00 20.2 +0.1
baz=76,SNR=25
MEM Membach 76.73 336 P P 01 00 19.7 -0.1
V31A Spring Creek L 76.89 51 ⇓P P 01 00 21.7 +0.7
baz=77,SNR=28
X29A Tulia 76.91 53 ⇑P P 01 00 21.9 +0.7
baz=77
MPEP Malo Peshtene 76.94 322 *e*P P 01 00 21.1 0.0
Z27A Tatum 76.94 55 ⇑P P 01 00 21.8 +0.3
baz=77,SNR=107
MNTX Cornudas Mount 76.94 57 *e*P P 01 00 22.0 +0.6
comp=Z,48nm,1.1s
225A Deer Hill, Car 76.95 57 ⇑P P 01 00 22.4 +0.7
baz=77,SNR=28
W30A Crocket Farms 76.95 52 ⇓P P 01 00 21.9 +0.4
baz=77
126A Clayton Basin, 77.00 56 ⇑P P 01 00 22.0 +0.2
baz=77,SNR=14
Y28A McKinney Farm, 77.02 54 ⇑P P 01 00 22.0 +0.1
baz=77,SNR=7.9
324A Moseley Ranch, 77.08 57 ⇑P P 01 00 22.7 +0.4
baz=77
GDL2 Guadalupe Moun 77.14 56 *e*P P 01 00 23.4 +0.7
RJOB Jochberg 77.28 331 *e*P P 01 00 23.9 +0.9
comp=Z,7.0nm,0.8s
W31A Holland Ranch, 77.28 51 ⇓P P 01 00 23.8 +0.5
baz=77,SNR=26
127A Arkansas Junct 77.34 55 ⇑P P 01 00 23.8 +0.1
baz=77
226B Tecolote Peak, 77.35 56 ⇓P P 01 00 24.3 +0.6
baz=77,SNR=113
X30A Coker Ranch, T 77.36 52 ⇑P P 01 00 23.6 0.0
baz=77,SNR=10
CLNB Carlsbad 77.37 56 *e*P P 01 00 24.3 +0.5
comp=Z,4.1nm,0.5s
Y29A Porterfield Fa 77.37 53 ⇓P P 01 00 24.0 +0.2
baz=77
FUR Furstenfeldbru 77.39 332 *e*P P 01 00 24.2 +0.7
comp=Z,23nm,1.0s
FUR Furstenfeldbru 77.39 332 *e*P P 01 00 24.2 +0.7
FUR pmax pmax
comp=Z,22nm,1.0s
Z28A Tucker Farm, M 77.42 54 ⇑P P 01 00 24.2 +0.1
baz=77,SNR=6.5
325A Bean Ranch, Si 77.42 57 ⇑P P 01 00 24.7 +0.5
baz=77
SOKA Soboth 77.45 329⇑*i*P P 01 00 21.6 -2.4
comp=Z,13nm,1.1s
PERS Pernice 77.45 329 *e*P P 01 00 24.4 +0.4
STU Stuttgart 77.48 334 *e*P P 01 00 24.5 +0.5
comp=Z,13nm,0.8s
KBA Koelnbreinsper 77.67 330⇑*i*P P 01 00 26.1 +0.8
comp=Z,20nm,0.9s
X31A McDonald Ranch 77.69 52 ⇓P P 01 00 25.6 +0.2
baz=78,SNR=34
BAIF Baives 77.71 337 *e*P P 01 00 24.4 -0.8
comp=Z,25nm,1.2s
Y30A Stafford Cattl 77.78 53 ⇓P P 01 00 26.2 +0.2
baz=78,SNR=12
VTS Vitosha 77.79 322 ⇓P P 01 00 25.9 -0.1
VTS Vitosha 77.79 322 *e*P P 01 00 25.0 -1.0
VTS Vitosha 77.79 322⇓*i*P P 01 00 25.9 -0.1
Z29A Hungry Hill Ra 77.81 54 ⇓P P 01 00 26.8 +0.6
baz=78
425A Indio Mountain 77.85 58 ⇓P P 01 00 27.2 +0.6
baz=78,SNR=56
128A Castleberry Fa 77.87 55 ⇓P P 01 00 27.1 +0.5
baz=78
227A Bennet, Jal 77.88 56 ⇑P P 01 00 27.0 +0.4
baz=78
GCIS Gornji Cirnik 77.94 328 *i*P P 01 00 26.7 +0.1
326A Caldwell Ranch 78.02 56 ⇑P P 01 00 27.9 +0.5
baz=78,SNR=63
CRES Cresnjev 78.03 328 *e*P P 01 00 27.1 -0.1
CRES *e*ppP **pP 01 01 54.2 0.0**
Y31A Rekieta Farm, 78.05 52 ⇓P P 01 00 27.5 0.0
baz=78,SNR=30
WTTA Wattenberg 78.07 332⇑*i*P P 01 00 27.8 +0.3
comp=Z,13nm,0.6s
Z30A Sanderson Ranc 78.10 53 ⇑P P 01 00 28.0 +0.2
baz=78,SNR=43
BFO Black Forest 78.14 334 *e*P P 01 00 27.9 +0.3
comp=Z,9.0nm,1.0s
BFO Black Forest 78.14 334 *e*P P 01 00 27.9 +0.3
BFO pmax pmax
comp=Z,7.0nm,0.9s
BFO Black Forest 78.14 334 *e*P P 01 00 27.9 +0.3
comp=Z,6.7nm,0.9s
LJU Ljubljana 78.17 329 *i*P P 01 00 27.7 -0.2
228A UT Block 9, Go 78.19 55 ⇓P P 01 00 28.7 +0.4
baz=78
129A Stewart Farms, 78.20 54 ⇓P P 01 00 28.4 +0.1
baz=78
HDIL Hopedale 78.22 41 *e*P P 01 00 27.8 -0.4
comp=Z,179nm,1.3s
WMOK Wichita Mounta 78.24 51 *e*P P 01 00 28.4 0.0
WMOK pmax pmax
comp=Z,97nm,1.2s
WMOK Wichita Mounta 78.24 51 *e*P P 01 00 28.4 0.0
comp=Z,97nm,1.2s
327A Balmorhea Ranc 78.25 56 ⇓P P 01 00 29.5 +0.8
baz=78
CDF Champ du Feu 78.37 335 *e*P P 01 00 28.2 -0.8
comp=Z,18nm,0.9s
BOJS Bojanci 78.39 328 *i*P P 01 00 28.9 -0.1
BOJS *e*ppP **pP 01 01 55.1 -1.0**
MMB Musomiste 78.39 321 *e*P P 01 00 28.5 -0.7
Y32A R-V Farms, Ver 78.45 52 ⇑P P 01 00 29.7 +0.1
baz=78,SNR=25
426A McDonald Obser 78.48 57 ⇓P P 01 00 30.3 +0.3
baz=78,SNR=28
FETA Feichten 78.57 332⇑*i*P P 01 00 29.9 -0.3
comp=Z,6.8nm,1.1s
Z31A Sharp Cattle R 78.61 53 ⇑P P 01 00 30.5 0.0
baz=78,SNR=58
328A Wristen Ranch, 78.63 56 ⇑P P 01 00 31.2 +0.5
baz=78,SNR=67
PAGF Fort de Pagny 78.68 336 *e*P P 01 00 30.1 -0.4
comp=Z,7.0nm,0.8s
427A Hayter Ranch, 78.70 56 ⇓P P 01 00 31.8 +0.7
baz=78
130A Snyder 78.72 54 ⇓P P 01 00 31.1 0.0
baz=78,SNR=8.3
229A Bryant Ranch, 78.73 55 ⇑P P 01 00 31.5 +0.3
baz=78,SNR=13
TUL1 Tulsa 78.86 48 ⇑P P 01 00 32.0 +0.3
baz=79,SNR=35
526A Mary Lane Ranc 78.91 57 ⇑P P 01 00 33.1 +0.8
baz=79,SNR=92
MEZF Maizieres J'vi 78.91 336 *e*P P 01 00 31.3 -0.5
comp=Z,12nm,0.7s
VAL Valentia 78.94 347 *e*P P 01 00 29.7 -2.1
131A Roby 78.97 53 ⇑P P 01 00 32.7 +0.3
baz=79,SNR=21
Z32A Haskell 78.97 52 ⇑P P 01 00 32.4 0.0
baz=79,SNR=46
HAU Haudompre 79.00 335 *e*P P 01 00 31.3 -1.0
comp=Z,5.6nm,0.7s
329A Wagon Wheel Ra 79.01 55 ⇓P P 01 00 33.2 +0.5
baz=79
HINF Hinteralfeld 79.03 335 *e*P P 01 00 31.9 -0.6
comp=Z,3.0nm,0.5s
DAVOX Davos/Dischmat 79.05 332 P P 01 00 33.2 +0.4
DAVOX pP **pP 01 02 00.3 +0.2**
DAVOX Davos/Dischmat 79.05 332 P P 01 00 33.2 +0.4
comp=Z,3.2nm,0.6s,baz=54,slow=4.3,SNR=7.4
DAVOX pP **pP 01 02 00.3 +0.2**
comp=Z,3.4nm,0.7s,baz=356,slow=10,SNR=2.5
527A Woodward Ranch 79.11 57 ⇑P P 01 00 33.8 +0.5
baz=79,SNR=39
230A Sterling City 79.18 54 ⇓P P 01 00 33.9 +0.3
baz=79,SNR=17
SFTF Sexfontaines 79.19 336 *e*P P 01 00 32.5 -0.8
comp=Z,33nm,0.9s
428A Kincaid Ranch, 79.19 56 ⇓P P 01 00 34.9 +1.1
baz=79,SNR=110
CSS Prodhromos 79.22 311 *e*P P 01 00 33.9 +0.2
comp=Z,22nm,0.9s
626A Big Bend Ranch 79.26 58 ⇓P P 01 00 34.8 +0.7
baz=79,SNR=118
SFIN Scholer Farm 79.33 40 ⇓P P 01 00 33.8 -0.4
baz=79,SNR=8.3
SLM Saint Louis 79.35 43 *e*P P 01 00 34.1 -0.2
SLM pmax pmax
comp=Z,68nm,0.8s
SLM Saint Louis 79.35 43 *e*P P 01 00 34.1 -0.2
comp=Z,68nm,0.8s
ABTX Abilene, Hawle 79.41 53 ⇓P P 01 00 35.0 +0.3
baz=79
ASF Jabal al Asfar 79.50 307 P P 01 00 35.9 +0.6
ASF Jabal al Asfar 79.50 307 P P 01 00 35.9 +0.6
comp=Z,12nm,1.0s
330A Mertzon 79.51 55 ⇓P P 01 00 35.5 +0.2
baz=79
528A Cox Ranch, San 79.56 56 ⇓P P 01 00 36.7 +0.9
baz=79,SNR=71
231A Bronte 79.58 54 ⇑P P 01 00 35.5 -0.1
baz=79,SNR=18
STKA Stephens Creek 79.58 186 P P 01 00 36.0 +0.7
STKA Stephens Creek 79.58 186 P P 01 00 36.0 +0.7
comp=Z,3.5nm,0.8s,baz=298,slow=4.2,SNR=4.5
MMAI Mount Meron Ar 79.65 308 P P 01 00 36.6 +0.5
MMAI pP **pP 01 02 04.0 +0.5**
MMAI Mount Meron Ar 79.65 308 P P 01 00 36.6 +0.5
comp=Z,9.9nm,0.5s,baz=46,slow=7.1,SNR=53
MMAI pP **pP 01 02 04.0 +0.5**
comp=Z,1.8nm,0.6s,baz=32,slow=4.9,SNR=2.8
TXAR Lajitas Array 79.69 58 P P 01 00 37.1 +0.7
TXAR pP **pP 01 02 04.2 +0.3**
TXAR PP **PP 01 03 43.1 -0.1**
TXAR Lajitas Array 79.69 58 P P 01 00 37.1 +0.7
comp=Z,32nm,0.6s,baz=292,slow=4.5,SNR=295
TXAR pP **pP 01 02 04.2 +0.3**
comp=Z,19nm,1.1s,baz=298,slow=2.7,SNR=6.5
TXAR PP **PP 01 03 43.1 -0.1**
comp=Z,4.2nm,1.0s,baz=318,slow=7.3,SNR=4.0
429A Davenport Ranc 79.71 56 ⇓P P 01 00 36.6 +0.1
baz=80,SNR=28
627A Terlingua Ranc 79.76 57 ⇑P P 01 00 37.4 +0.6
baz=80,SNR=62
529A Stev Forest Ra 79.91 56 ⇓P P 01 00 38.1 +0.6
baz=80,SNR=65
430A Baggett Ranch, 79.95 55 ⇑P P 01 00 37.9 +0.2
baz=80
232A Coleman 79.97 53 ⇓P P 01 00 38.0 +0.2
baz=80,SNR=8.4
331A San Angelo 80.00 54 ⇑P P 01 00 38.0 0.0
baz=80,SNR=29
628A Black Gap, Mar 80.02 57 ⇓P P 01 00 38.7 +0.6
baz=80
MSNY Massena 80.06 30 *e*P P 01 00 37.4 -0.5
comp=Z,525nm,0.9s
FLN La Foliniere 80.07 340 *e*P P 01 00 37.2 -0.7
comp=Z,27nm,0.9s
LDF La Druitiere 80.15 339 *e*P P 01 00 37.4 -0.9
comp=Z,4.3nm,0.4s
OLIL Olney 80.24 41 *e*P P 01 00 39.0 0.0
comp=Z,258nm,1.8s
332A Millersview 80.31 54 ⇓P P 01 00 39.8 +0.2
baz=80,SNR=43
CABF La Chapelle 80.34 335 *e*P P 01 00 38.9 -0.6
LOR Lormes 80.36 336 *e*P P 01 00 38.7 -0.9
comp=Z,19nm,0.8s
431A Sonra 80.38 55 ⇓P P 01 00 40.1 +0.1
baz=80
530A J-C Ranch, Com 80.38 55 ⇑P P 01 00 40.5 +0.5
baz=80,SNR=70
LONY Lake Ozonia 80.49 30 *e*P P 01 00 39.5 -0.8
comp=Z,24nm,0.9s
GRR Gorron 80.51 340 *e*P P 01 00 39.8 -0.5
comp=Z,18nm,0.7s
SIUC Southern Illin 80.57 43 *e*P P 01 00 40.8 0.0
comp=Z,84nm,0.8s
BLO Bloomington 80.57 40 *e*P P 01 00 40.0 -0.8
BLO pmax pmax
comp=Z,240nm,2.1s
BLO Bloomington 80.57 40 *e*P P 01 00 40.0 -0.8
comp=Z,240nm,2.1s
SSF Saint Saulge 80.65 337 *e*P P 01 00 40.2 -0.8
comp=Z,8.0nm,0.7s
PQI Presque Isle 80.65 24 *e*P P 01 00 40.0 -1.0
comp=Z,49nm,1.0s
432A Menard 80.67 54 ⇓P P 01 00 41.6 0.0
baz=80,SNR=24
HYF Humbligny 80.69 337 *e*P P 01 00 40.8 -0.4
ERPA Erie 80.75 34 *e*P P 01 00 41.7 +0.1
comp=Z,135nm,1.0s
531A Rocksprings 80.81 55 ⇓P P 01 00 42.5 +0.2
baz=81,SNR=48
AVF Avril sur Loir 80.94 337 *e*P P 01 00 41.9 -0.6
comp=Z,7.8nm,0.6s
SMF Signal de Mont 80.94 336 *e*P P 01 00 41.9 -0.7
comp=Z,20nm,0.8s
JCT Junction City 80.98 54 *e*P P 01 00 43.4 +0.3
JCT pmax pmax
comp=Z,78nm,1.0s
JCT Junction City 80.98 54 *e*P P 01 00 43.4 +0.3
comp=Z,78nm,1.0s
JCT Junction City 80.98 54 ⇑P P 01 00 43.3 +0.2
baz=81,SNR=25
SGMF Saint Gilles 81.02 341 *e*P P 01 00 42.6 -0.3
comp=Z,8.1nm,0.4s
MIAR Mount Ida 81.04 48 *e*P P 01 00 43.7 +0.4
MIAR pmax pmax
comp=Z,95nm,1.0s
MIAR Mount Ida 81.04 48 *e*P P 01 00 43.7 +0.4
comp=Z,95nm,1.0s
RAYN Ar Rayn 81.06 295 P P 01 00 43.5 -0.2
comp=Z,174nm,0.7s,SNR=19
RAYN Ar Rayn 81.06 295 *e*P P 01 00 44.0 +0.3
comp=Z,142nm,1.8s
RAYN *e*PP PP 01 03 48.9 -5.6
USIN University of 81.06 42 *e*P P 01 00 43.5 +0.2
comp=Z,106nm,1.1s
WHTX Lake Whitney 81.06 52 ⇑P P 01 00 43.8 +0.3
baz=81,SNR=61
ALLY Alegheny Colle 81.09 35 *e*P P 01 00 43.5 0.0
comp=Z,280nm,1.3s
ROSF Rostrenen 81.10 341 *e*P P 01 00 43.0 -0.4
comp=Z,62nm,1.1s
LPL La Plagne 81.15 334 *e*P P 01 00 43.7 -0.2
LPG La Plagne 81.16 334 *e*P P 01 00 43.9 -0.2
PARMO Parma 81.18 44 *e*P P 01 00 43.8 -0.1
NCB Newcomb 81.19 30 *e*P P 01 00 43.4 -0.5
comp=Z,39nm,0.9s
532A Rocksprings 81.19 55 ⇓P P 01 00 44.3 0.0
baz=81,SNR=60
BGF Bois d'Agland 81.29 337 *e*P P 01 00 45.1 +0.7
comp=Z,15nm,0.8s
631A Perdido Creek 81.37 55 ⇓P P 01 00 45.4 +0.3
baz=81,SNR=120
WCI Wyandotte Cave 81.45 41 *e*P P 01 00 45.0 -0.4
WCI pmax pmax
comp=Z,54nm,0.9s
WCI Wyandotte Cave 81.45 41 *e*P P 01 00 45.0 -0.4
comp=Z,54nm,0.9s
UALR University of 81.47 47 *e*P P 01 00 45.3 -0.1
comp=Z,33nm,1.3s
QUIF Quistinic 81.48 341 *e*P P 01 00 43.9 -1.4
MDV Middlebury 81.50 29 *e*P P 01 00 45.0 -0.5
GNAR Gosnell 81.62 44 *e*P P 01 00 47.3 +1.0
comp=Z,2µm,1.3s
HBAR Harrisburg 81.65 45 *e*P P 01 00 47.1 +0.6
LBNH Lisbon 81.69 28 *e*P P 01 00 46.4 -0.1
LBNH pmax pmax
comp=Z,27nm,0.9s
LBNH Lisbon 81.69 28 *e*P P 01 00 46.4 -0.1
comp=Z,27nm,0.9s
TCF Toulx Ste Croi 81.71 337 *e*P P 01 00 46.2 -0.4
comp=Z,9.4nm,0.8s
GLAT Glass 81.72 44 *e*P P 01 00 47.1 +0.3
632A Uvalde 81.73 55 ⇑P P 01 00 47.4 +0.3
baz=82
UTMT University of 81.85 43 *e*P P 01 00 48.2 +0.7
comp=Z,127nm,1.0s
ACCN Adirondack Com 81.89 30 *e*P P 01 00 47.2 -0.4
comp=Z,57nm,1.0s
ORIF Oris-en-Rattie 81.94 334 *e*P P 01 00 47.6 -0.3
comp=Z,12nm,0.7s
HALT Halls 81.98 44 *e*P P 01 00 47.6 -0.5
MFF Saint Martin d 82.01 339 *e*P P 01 00 48.0 -0.1
comp=Z,25nm,0.9s
HNH Hanover 82.06 29 *e*P P 01 00 48.7 +0.3
BINY Binghamton 82.14 32 *e*P P 01 00 47.8 -1.2
comp=Z,47nm,1.1s
732A Laxson Ranch, 82.23 55 ⇓P P 01 00 50.4 +0.9
baz=82,SNR=58
MET Memphis--Engin 82.35 45 *e*P P 01 00 50.5 +0.5
FFD Franklin Falls 82.47 28 *e*P P 01 00 50.8 +0.3
comp=Z,121nm,1.0s
EIL Elat 82.49 306 P P 01 00 51.3 +0.4
EIL pP **pP 01 02 19.1 0.0**
EIL Elat 82.49 306 P P 01 00 51.3 +0.4
comp=Z,30nm,0.8s,baz=9.8,slow=4.5,SNR=30
EIL pP **pP 01 02 19.1 0.0**
comp=Z,11nm,1.0s,baz=52,slow=5.8,SNR=4.2
WVT Waverly 82.50 43 *e*P P 01 00 50.8 0.0
WVT pmax pmax
comp=Z,51nm,1.0s
WVT Waverly 82.50 43 *e*P P 01 00 50.8 0.0
comp=Z,51nm,1.0s
EMMW East Machias 82.61 25 *e*P P 01 00 50.9 -0.3
comp=Z,88nm,1.1s
RJF Les Rejaudoux 82.80 337 *e*P P 01 00 50.8 -1.4
CAF Calviac 83.01 337 *e*P P 01 00 53.5 +0.2
comp=Z,9.7nm,0.7s
LFF La Frestale 83.34 338 *e*P P 01 00 55.1 +0.2
comp=Z,19nm,0.8s
PAL Palisades 83.93 31 *e*P P 01 00 57.9 0.0
PAL pmax pmax
comp=Z,200nm,0.8s
PAL Palisades 83.93 31 *e*P P 01 00 57.9 0.0
comp=Z,200nm,0.8s
MVL Millersville 83.95 33 *e*P P 01 00 57.9 -0.1
comp=Z,52nm,1.1s
TZTN Tazewell 84.06 40 *e*P P 01 00 58.9 +0.2
comp=Z,43nm,1.0s
CPNY Central Park 84.10 31 *e*P P 01 00 59.0 +0.3
comp=Z,73nm,1.0s
SDMD Soldier's Deli 84.28 34 *e*P P 01 00 58.4 -1.3
comp=Z,67nm,1.1s
KVTX Kingsville 84.30 55 *e*P P 01 01 02.3 +2.3
comp=Z,238nm,1.0s
CPCT Cooper Cave 84.55 41 *e*P P 01 01 01.1 0.0
TKL Tuckaleechee C 84.71 40 *e*P P 01 01 01.8 -0.1
BLA Blacksburg 84.80 37 *e*P P 01 01 01.9 -0.4
BLA pmax pmax
comp=Z,56nm,1.0s
BLA Blacksburg 84.80 37 *e*P P 01 01 01.9 -0.4
comp=Z,56nm,1.0s
NWAO Narrogin (SRO) 85.11 206 P P 01 01 03.7 +0.1
NWAO Narrogin (SRO) 85.11 206 P P 01 01 03.7 +0.1
comp=Z,7.0nm,0.5s,baz=10.0,slow=7.2,SNR=5.9
CBN Corbin 85.14 35 *e*P P 01 01 04.0 +0.1
comp=Z,21nm,0.6s
EPF Esparros 85.23 337 *e*P P 01 01 04.0 -0.4
comp=Z,13nm,1.0s
JSRW J. Sargeant Re 85.39 35 *e*P P 01 01 05.0 -0.1
LRAL Lakeview Retre 85.44 44 *e*P P 01 01 04.9 -0.6
comp=Z,11nm,0.8s
SJPF Ste Jean 85.55 338 *e*P P 01 01 06.4 +0.5
comp=Z,9.8nm,0.9s
ETSF Etsaut 85.58 338 *e*P P 01 01 06.6 +0.4
comp=Z,9.2nm,0.6s
KMSC Kings Mountain 86.19 39 ⇓P P 01 01 08.9 -0.3
baz=86,SNR=12
GOGA Godfrey 86.74 41 *e*P P 01 01 12.0 +0.2
GOGA pmax pmax
comp=Z,57nm,1.3s
GOGA Godfrey 86.74 41 *e*P P 01 01 12.0 +0.2
comp=Z,57nm,1.3s
TIGA Tifton 88.35 42 ⇓P P 01 01 20.1 +0.8
baz=88,SNR=12
KEST Kesra 89.11 328 P P 01 01 22.9 0.0
KEST Kesra 89.11 328 P P 01 01 22.9 0.0
comp=Z,1.3nm,0.8s,baz=167,slow=5.1,SNR=5.1
ESDC Sonseca Array 89.47 339 P P 01 01 24.1 -0.5
ESDC pP **pP 01 02 53.8 -0.5**
ESDC Sonseca Array 89.47 339 P P 01 01 24.1 -0.5
comp=Z,0.1nm,0.3s,baz=249,slow=28,SNR=4.2
ESDC pP **pP 01 02 53.8 -0.5**
comp=Z,0.2nm,0.3s,baz=131,slow=38,SNR=1.7
ATD Arta Tunnel 91.73 289 P P 01 01 37.0 +1.6
ATD Arta Tunnel 91.73 289 P P 01 01 37.0 +1.6
comp=Z,13nm,0.9s,baz=232,slow=21,SNR=9.2
KMBO Kilima Mbogo 104.91 285 *e*PP PP 01 07 00.8 +0.7
MPR Mayaguez 106.96 35 *e*Pdif Pdif 01 02 43.5 -0.1
TORD Torodi Ar. Bea 112.43 325 PP PP 01 07 50.5 -2.6
TORD Torodi Ar. Bea 112.43 325 PP PP 01 07 50.5 -2.6
comp=Z,2.7nm,0.9s,baz=14,slow=6.4,SNR=9.6
ATAH Atahualpa 123.30 60 PKP PKPdf 01 07 22.8 +0.1
ATAH Atahualpa 123.30 60 PKP PKPdf 01 07 22.8 +0.1
comp=Z,2.6nm,0.6s,baz=22,slow=5.4
MATP Matopo 124.84 278 PKP PKPdf 01 07 24.7 -0.4
MATP PP PP **01 09 17.1 -2.0**
MATP Matopo 124.84 278 PKP PKPdf 01 07 24.7 -0.4
comp=Z,1.3nm,0.7s,baz=108,slow=3.2,SNR=2.7
MATP PP PP **01 09 17.1 -2.0**
comp=Z,17nm,1.2s,baz=28,slow=8.7,SNR=8.8
LBTB Lobatse 129.93 276 PP PP 01 09 45.7 -6.7
LBTB SKPbc SKPab 01 10 20.2 +0.2
LBTB Lobatse 129.93 276 PP PP 01 09 45.7 -6.7
comp=Z,6.6nm,1.1s,baz=100,slow=7.1,SNR=4.0
LBTB SKPbc SKPab 01 10 20.2 +0.2
comp=Z,22nm,1.1s,baz=67,slow=3.9,SNR=12
TSUM Tsumeb 131.13 288 PKPpre PKPpre 01 07 29.2
TSUM PP PP **01 09 56.4 -3.5**
TSUM SKPbc **SKPbc 01 10 24.6 0.0**
TSUM Tsumeb 131.13 288 PKhKP PKPpre 01 07 29.2
comp=Z,0.7nm,0.6s,baz=0.0,slow=7.1,SNR=4.7
TSUM PP PP **01 09 56.4 -3.5**
comp=Z,4.5nm,1.0s,baz=48,slow=6.8,SNR=5.5
TSUM SKPbc **SKPbc 01 10 24.6 0.0**
comp=Z,10nm,1.0s,baz=69,slow=3.6,SNR=16
MAW Mawson 131.48 211 SKPab SKPab 01 10 26.1 +1.0
MAW Mawson 131.48 211 SKPab SKPab 01 10 26.1 +1.0
comp=Z,2.9nm,0.8s,baz=75,slow=5.5,SNR=4.1
BOSA Boshof 132.52 273 SKPbc SKPbc 01 10 29.0 -0.3
BOSA Boshof 132.52 273 SKPbc SKPbc 01 10 29.0 -0.3
comp=Z,10nm,0.9s,baz=47,slow=4.8,SNR=8.3
LPAZ La Paz 136.55 56 PKP PKPdf 01 07 48.1 +0.1
LPAZ *e*PKPdf **PKiKP 01 07 48.4 -1.5**
LPAZ SKPbc **SKPbc 01 10 42.9 -0.1**
LPAZ La Paz 136.55 56 PKP PKPdf 01 07 48.1 +0.1
comp=Z,3.1nm,0.8s,baz=18,slow=2.3,SNR=9.1
LPAZ SKPbc **SKPbc 01 10 42.9 -0.1**
comp=Z,5.7nm,1.0s,baz=348,slow=5.4,SNR=8.3
QSPA South Pole Qui 137.57 180 PKPpre PKPpre 01 07 36.4
QSPA SKPbc **SKPbc 01 10 43.1 -0.5**
QSPA SKPab **SKPab 01 10 52.2 +0.2**
QSPA South Pole Qui 137.57 180 PKhKP PKPpre 01 07 36.4
baz=255,slow=2.1
QSPA SKPbc **SKPbc 01 10 43.1 -0.5**
comp=Z,3.3nm,0.6s,baz=290,slow=2.9,SNR=7.2
QSPA SKPab **SKPab 01 10 52.2 +0.2**
comp=Z,5.6nm,1.1s,baz=207,slow=2.1,SNR=5.0
SUR Sutherland 137.86 272 PKPpre PKPpre 01 07 46.7
SUR Sutherland 137.86 272 PKhKP PKPpre 01 07 46.7
comp=Z,1.2nm,0.4s,baz=270,slow=2.0,SNR=3.3
SIV San Ignacio 140.04 47 PKPpre PKPpre 01 07 43.7
SIV PKP **PKPdf 01 07 53.2 -0.5**
SIV SKPbc **SKPbc 01 10 52.4 +0.3**
SIV San Ignacio 140.04 47 PKhKP PKPpre 01 07 43.7
comp=Z,1.1nm,0.4s,baz=302,slow=5.6,SNR=6.7
SIV PKP **PKPdf 01 07 53.2 -0.5**
comp=Z,2.9nm,0.6s,baz=293,slow=3.4,SNR=8.5
SIV SKPbc **SKPbc 01 10 52.4 +0.3**
comp=Z,7.8nm,1.1s,baz=16,slow=2.3,SNR=13
SYO Syowa Base 140.13 212⇑*e*P SKPdf 01 10 50.5 +1.6
LVC Limon Verde 141.06 63 *e*PKPdf PKPdf 01 07 56.5 +0.8

LCO	**Las Campanas**	**144.55**	**72**	*e*PKPdf	**PKPab**	**01 08 01.4**	**-0.1**
BDFB	**Brasilia**	**145.16**	**28**	PKPbc	**PKPbc**	**01 08 03.3**	**0.0**
BDFB	**Brasilia**	**145.16**	**28**	PKPbc	**PKPbc**	**01 08 03.3**	**0.0**
	comp=Z,22nm,0.8s,baz=300,slow=3.1,SNR=30						
CFAA	**Coronel Fontan**	**147.86**	**73**	PKPbc	**PKPbc**	**01 08 10.1**	**-0.2**
CFAA				PKPbc	**pPKPbc**	**01 09 45.1**	**+0.8**
CFAA	**Coronel Fontan**	**147.86**	**73**	PKPbc	**PKPbc**	**01 08 10.1**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=282,slow=1.8,SNR=34						
CFAA				PKPbc	**pPKPbc**	**01 09 45.1**	**+0.8**
	comp=Z,1.3nm,1.0s,baz=283,slow=1.3,SNR=4.0						
MAIT	**Maitri**	**149.26**	**206**	*e*P	**PKPdf**	**01 08 03.0**	**-4.8**
PLCA	**Paso Flores**	**151.47**	**90**	*e*PKPdf	**PKPdf**	**01 08 11.4**	**-0.8**
PLCA				PKP	**PKPdf**	**01 08 11.9**	**-0.3**
PLCA				*e*PKPbc	**PKPbc**	**01 08 18.9**	**+0.1**
PLCA				PKPbc	**PKiKP**	**01 08 19.0**	**-0.1**
PLCA				PKPab	**PKPab**	**01 08 29.5**	**+0.5**
PLCA				*e*PKPab	PKPab	01 08 29.6	+0.7
PLCA				pPKPbc	**pPKPbc**	**01 09 55.6**	**+2.3**
PLCA	**Paso Flores**	**151.47**	**90**	PKP	**PKPdf**	**01 08 11.9**	**-0.3**
	comp=Z,5.8nm,1.1s,baz=2.0,slow=2.5,SNR=3.4						
PLCA				PKPbc	**PKiKP**	**01 08 19.0**	**-0.1**
	comp=Z,18nm,0.9s,baz=255,slow=3.3,SNR=17						
PLCA				PKPab	**PKPab**	**01 08 29.5**	**+0.5**
	comp=Z,11nm,0.9s,baz=268,slow=3.0,SNR=6.2						
PLCA				pPKPbc	**pPKPbc**	**01 09 55.6**	**+2.3**
	comp=Z,8.3nm,1.1s,baz=235,slow=2.4,SNR=4.5						
SNAA	**Sanae**	**152.60**	**199**	*e*PKPbc	**PKPbc**	**01 08 20.0**	**-0.3**
SNAA	**Sanae**	**152.60**	**199**	*e*PKPab	**PKPab**	**01 08 31.1**	**-1.7**
SNAA	**Sanae**	**152.60**	**199**	*ep*PKiKP	pPKiKP	01 09 57.5	+2.1
SNAA	**Sanae**	**152.60**	**199**	*ep*PKPab	pPKPab	01 10 06.4	+2.5
SNAA	**Sanae**	**152.60**	**199**	*e*PP	PP	01 12 09.2	+1.1
SNAA	**Sanae**	**152.60**	**199**	PKPbc	**PKPbc**	**01 08 19.7**	**-0.7**
SNAA				PKPab	**PKPab**	**01 08 31.9**	**-0.9**
SNAA				pPKPbc	**pPKPbc**	**01 09 52.7**	**-2.3**
SNAA	**Sanae**	**152.60**	**199**	PKPbc	**PKPbc**	**01 08 19.7**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=95,slow=2.2,SNR=7.2						
SNAA				PKPab	**PKPab**	**01 08 31.9**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=166,slow=3.6,SNR=6.8						
SNAA				pPKPbc	**pPKPbc**	**01 09 52.7**	**-2.3**
	comp=Z,0.8nm,0.9s,baz=92,slow=4.2,SNR=2.8						

ROM 10 00:57:32.4±0.1, 42°60N×13°19E, h11km, Md1.2/3, Ml0.7/1, Error ellipse: s-maj=0.8km s-min=0.2km az=168.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.11**	**273**	Pg	Pg	00 57 35.6	+0.3
LNSS				Sg	Sg	00 57 37.9	+0.5
	20nm,0.2s						
NRCA	**Norcia**	**0.24**	**348**	Pg	Pg	00 57 38.1	+0.6
NRCA				Sg	Sg	00 57 42.1	+1.1

*IDC **10** 01:00:06.2±1.1, 35°35N×23°28E, h0km, mb3.9/9, mb1 3.9/11, mb1mx3.7/29, mbtmp3.9/11, ML3.5/2, Error ellipse: s-maj=24.3km s-min=24.0km az=119.0*
*CSEM **10** 01:00:10.3±0.2, 35°16N×23°11E, h10km, Mw3.7, Error ellipse: s-maj=4.9km s-min=3.4km az=44.0*
*THE **10** 01:00:11.2, 35°20N×23°16E, h3km±2km, ML3.2/4, Error ellipse: s-maj=3.9km s-min=1.0km az=213.0*
*ATH **10** 01:00:12.1, 35°19N×23°11E, h46km, MD3.4/17, ML3.1*
ISC 10 01:00:10.8±1.3, 35°12N±0°03×23°09E±0°03, h15km±10km, n168, σ1°12/187, mb3.9/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.86**	**109**	P	**Pg**	**01 00 27.6**	**+0.1**
GVD				S	**Sb**	**01 00 40.0**	**+1.1**
GVD	**Gavdhos**	**0.86**	**109**	*e*P	**Pb**	**01 00 28.6**	**+1.1**
GVD				*e*S	**Sn**	**01 00 41.5**	**+0.7**
GVD	**Gavdhos**	**0.86**	**109**	P	**Pg**	**01 00 27.6**	**+0.1**
GVD				S	**Sb**	**01 00 40.0**	**+1.1**
VAM	**Vamos**	**0.95**	**72**	P	**Pb**	**01 00 28.4**	**-0.6**
VAM				S	**Sb**	**01 00 40.6**	**-0.8**
VAM	**Vamos**	**0.95**	**72**	*e*P	**Pn**	**01 00 29.6**	**0.0**
VAM				*e*S	**Sb**	**01 00 42.2**	**+0.8**
VAM	**Vamos**	**0.95**	**72**	P	**Pb**	**01 00 28.4**	**-0.6**
VAM				S	**Sb**	**01 00 40.6**	**-0.8**
KYTH	**Kithira**	**1.16**	**358**	P	**Pn**	**01 00 32.9**	**+0.4**
KYTH	**Kithira**	**1.16**	**358**	*e*P	**Pn**	**01 00 33.2**	**+0.7**
KYTH	**Kithira**	**1.16**	**358**	P	**Pn**	**01 00 32.9**	**+0.4**
SIVA	**Sivas**	**1.41**	**94**	P	**Pn**	**01 00 36.2**	**+0.2**
SIVA				S	**Sn**	**01 00 56.9**	**+2.6**
SIVA	**Sivas**	**1.41**	**94**	*e*P	**Pn**	**01 00 36.8**	**+0.8**
SIVA	**Sivas**	**1.41**	**94**	P	**Pn**	**01 00 36.2**	**+0.2**
SIVA				S	**Sn**	**01 00 56.9**	**+2.6**
IDI	**Anoyia**	**1.48**	**83**	P	**Pn**	**01 00 36.4**	**-0.6**
IDI	**Anoyia**	**1.48**	**83**	*e*P	**Pn**	**01 00 37.0**	**0.0**
IDI	**Anoyia**	**1.48**	**83**	*e*P	**Pn**	**01 00 37.0**	**0.0**
VLI	**Veliai**	**1.60**	**355**	P	**Pn**	**01 00 38.6**	**0.0**
VLI				S	**Sg**	**01 01 01.3**	**-1.0**
VLI	**Veliai**	**1.60**	**355**	*e*P	**Pn**	**01 00 38.4**	**-0.2**
VLI	**Veliai**	**1.60**	**355**	*e*P	**Pn**	**01 00 38.4**	**-0.2**
DYR	**Agios Nikonas**	**1.75**	**340**	P	**Pn**	**01 00 40.5**	**-0.2**
DYR	**Agios Nikonas**	**1.75**	**340**	*e*P	**Pn**	**01 00 39.7**	**-1.0**
DYR	**Agios Nikonas**	**1.75**	**340**	P	**Pn**	**01 00 40.5**	**-0.2**
LAST	**Lasithi**	**1.95**	**88**	P	**Pn**	**01 00 42.7**	**-0.8**
LAST				S	**Sn**	**01 01 08.6**	**+0.7**
LAST	**Lasithi**	**1.95**	**88**	*e*P	**Pn**	**01 00 44.0**	**+0.5**
LAST	**Lasithi**	**1.95**	**88**	*e*P	**Pn**	**01 00 44.0**	**+0.5**
LAST				S	**Sn**	**01 01 08.6**	**+0.7**
NPS	**Neapolis**	**2.07**	**85**	P	**Pn**	**01 00 44.9**	**-0.1**
NPS				S	**Sn**	**01 01 12.3**	**+1.7**
NPS	**Neapolis**	**2.07**	**85**	*e*P	**Pn**	**01 00 45.2**	**+0.2**
NPS	**Neapolis**	**2.07**	**85**	*e*P	**Pn**	**01 00 45.2**	**+0.2**
NPS				S	**Sn**	**01 01 12.3**	**+1.7**
PYL	**PYLOS**	**2.08**	**329**	P	**Pg**	**01 00 52.3**	**+1.6**
PYL	**PYLOS**	**2.08**	**329**	*e*P	**Pn**	**01 00 45.2**	**0.0**
PYL	**PYLOS**	**2.08**	**329**	*e*P	**Pn**	**01 00 45.2**	**0.0**
THR6	**Thira Island,**	**2.24**	**56**	P	**Pn**	**01 00 46.1**	**-1.3**
THR6	**Thira Island,**	**2.24**	**56**	P	**Pn**	**01 00 46.1**	**-1.3**
ITM	**Ithomi**	**2.26**	**336**	P	**Pn**	**01 00 47.5**	**-0.2**
ITM	**Ithomi**	**2.26**	**336**	*e*P	**Pn**	**01 00 47.3**	**-0.4**
ITM	**Ithomi**	**2.26**	**336**	*e*P	**Pn**	**01 00 47.3**	**-0.4**
THR3	**Thira Island,**	**2.27**	**55**	P	**Pn**	**01 00 46.9**	**-0.9**
THR3	**Thira Island,**	**2.27**	**55**	P	**Pn**	**01 00 46.9**	**-0.9**
THR1	**Thera Island**	**2.29**	**56**	P	**Pn**	**01 00 46.6**	**-1.5**
THR1	**Thera Island**	**2.29**	**56**	P	**Pn**	**01 00 46.6**	**-1.5**
VLX	**Vlachokerasia**	**2.32**	**346**	P	**Pn**	**01 00 49.2**	**+0.7**
VLX	**Vlachokerasia**	**2.32**	**346**	*e*P	**Pn**	**01 00 47.6**	**-0.9**
VLX	**Vlachokerasia**	**2.32**	**346**	*e*P	**Pn**	**01 00 47.6**	**-0.9**
THR2	**Thira island,**	**2.32**	**55**	P	**Pn**	**01 00 47.0**	**-1.5**
THR2	**Thira island,**	**2.32**	**55**	P	**Pn**	**01 00 47.0**	**-1.5**
DIDY	**Didyma**	**2.35**	**2**	P	**Pn**	**01 00 49.8**	**+0.8**
DIDY				S	**Sn**	**01 01 18.5**	**+0.8**
DIDY	**Didyma**	**2.35**	**2**	P	**Pn**	**01 00 49.8**	**+0.8**
DIDY				S	**Sn**	**01 01 18.5**	**+0.8**
DID	**Didima**	**2.38**	**3**	P	**Pn**	**01 00 50.0**	**+0.6**
DID	**Didima**	**2.38**	**3**	*e*P	**Pn**	**01 00 50.0**	**+0.6**
DID	**Didima**	**2.38**	**3**	P	**Pn**	**01 00 50.0**	**+0.6**
ZKR	**Zakros**	**2.56**	**89**	P	**Pn**	**01 00 47.3**	**-1.2**
ZKR	**Zakros**	**2.56**	**89**	P	**Pn**	**01 00 50.6**	**-1.2**
NAIG	**Nisos Aigina**	**2.65**	**7**	*e*P	**Pn**	**01 00 53.3**	**+0.3**
NAIG	**Nisos Aigina**	**2.65**	**7**	*e*P	**Pn**	**01 00 53.3**	**+0.3**
APE	**Apeiranthos**	**2.77**	**45**	P	**Pn**	**01 00 52.4**	**-2.3**
APE	**Apeiranthos**	**2.77**	**45**	*e*P	**Pn**	**01 00 53.9**	**-0.8**
APE	**Apeiranthos**	**2.77**	**45**	*e*P	**Pn**	**01 00 53.9**	**-0.8**
GUR	**Goura**	**2.87**	**348**	P	**Pn**	**01 00 57.7**	**+1.5**
GUR	**Goura**	**2.87**	**348**	*e*P	**Pn**	**01 00 56.6**	**+0.4**
GUR	**Goura**	**2.87**	**348**	*e*P	**Pn**	**01 00 56.6**	**+0.4**
ATH	**Athens Observa**	**2.89**	**10**	P	**Pn**	**01 00 55.7**	**-0.6**
ATH	**Athens Observa**	**2.89**	**10**	*e*P	**Pn**	**01 00 56.6**	**+0.3**
ATH	**Athens Observa**	**2.89**	**10**	P	**Pn**	**01 00 55.7**	**-0.6**
ATHU	**Athens Univers**	**2.89**	**11**	P	**Pn**	**01 00 55.9**	**-0.5**
ATHU	**Athens Univers**	**2.89**	**11**	P	**Pn**	**01 00 55.9**	**-0.5**
LTK	**Loutraki**	**2.90**	**358**	P	**Pn**	**01 00 56.9**	**+0.5**
LTK	**Loutraki**	**2.90**	**358**	*e*P	**Pn**	**01 00 56.7**	**+0.3**
LTK	**Loutraki**	**2.90**	**358**	*e*P	**Pn**	**01 00 56.7**	**+0.3**
THAL	**Thalero**	**2.93**	**353**	P	**Pn**	**01 00 58.2**	**+1.3**
THAL	**Thalero**	**2.93**	**353**	P	**Pn**	**01 00 58.2**	**+1.3**
PTL	**Penteli**	**2.98**	**12**	P	**Pn**	**01 00 57.1**	**-0.6**
PTL	**Penteli**	**2.98**	**12**	P	**Pn**	**01 00 57.1**	**-0.6**
KLV	**Kalavryta, Ach**	**3.01**	**346**	*e*P	**Pg**	**01 01 10.4**	**+1.9**
KLV	**Kalavryta, Ach**	**3.01**	**346**	*e*P	**Pg**	**01 01 10.4**	**+1.9**
VIL2	**Platees**	**3.09**	**3**	P	**Pn**	**01 00 59.1**	**0.0**
MRMA	**Marmari**	**3.10**	**19**	P	**Pn**	**01 00 59.0**	**-0.3**
MRMA	**Marmari**	**3.10**	**19**	P	**Pn**	**01 00 59.0**	**-0.3**
LTBQ	**Tobruq**	**3.14**	**167**	*i* P	**Pn**	**01 01 01.3**	**+1.6**
	SNR=76						
LTBQ				*e*S	**Sn**	**01 01 36.1**	**-0.8**
	11nm,0.5s,SNR=76						
RLS	**Riolos of Patr**	**3.21**	**336**	P	**Pn**	**01 01 00.6**	**-0.1**
RLS	**Riolos of Patr**	**3.21**	**336**	*e*P	**Pn**	**01 01 01.7**	**+1.0**
RLS	**Riolos of Patr**	**3.21**	**336**	P	**Pn**	**01 01 00.6**	**-0.1**
LAKA	**Lakka**	**3.24**	**344**	*e*P	**Pb**	**01 01 09.4**	**+1.4**
LAKA	**Lakka**	**3.24**	**344**	*e*P	**Pb**	**01 01 09.4**	**+1.4**
DSF	**Desfina**	**3.31**	**352**	P	**Pn**	**01 01 01.9**	**-0.3**
DSF	**Desfina**	**3.31**	**352**	P	**Pn**	**01 01 01.9**	**-0.3**
TRIZ	**Trizonia**	**3.34**	**346**	*e*P	**Pb**	**01 01 08.3**	**-1.4**
TRIZ				*e*S	**Pg**	**01 01 16.6**	**+1.8**
TRIZ	**Trizonia**	**3.34**	**346**	*e*P	**Pb**	**01 01 08.3**	**-1.4**
TRIZ				*e*S	**Pg**	**01 01 16.6**	**+1.8**
KALE	**Kalithea**	**3.35**	**347**	*e*P	**Pb**	**01 01 08.4**	**-1.6**
KALE				*e*S	**Pg**	**01 01 16.2**	**+1.2**
KALE	**Kalithea**	**3.35**	**347**	*e*P	**Pb**	**01 01 08.4**	**-1.6**
KALE				*e*S	**Pg**	**01 01 16.2**	**+1.2**
KARP	**Karpathos**	**3.35**	**82**	P	**Pn**	**01 01 02.4**	**-0.3**
KARP	**Karpathos**	**3.35**	**82**	*e*P	**Pn**	**01 01 03.4**	**+0.7**
KARP	**Karpathos**	**3.35**	**82**	P	**Pn**	**01 01 02.4**	**-0.3**
AXS	**Araxos**	**3.36**	**336**	P	**Pn**	**01 01 03.7**	**+0.9**
AXS	**Araxos**	**3.36**	**336**	P	**Pn**	**01 01 03.7**	**+0.9**
EFP	**Efpalio**	**3.43**	**344**	*e*P	**Pb**	**01 01 09.9**	**-1.4**
EFP	**Efpalio**	**3.43**	**344**	*e*P	**Pb**	**01 01 09.9**	**-1.4**
LKR	**Lokris**	**3.52**	**359**	*e*P	**Pn**	**01 01 05.5**	**+0.5**
LKR	**Lokris**	**3.52**	**359**	*e*P	**Pn**	**01 01 05.5**	**+0.5**
MRKA	**Markates**	**3.60**	**6**	P	**Pn**	**01 01 05.5**	**-0.6**
MRKA	**Markates**	**3.60**	**6**	P	**Pn**	**01 01 05.5**	**-0.6**
AXAR	**Agios Charalam**	**3.65**	**355**	P	**Pn**	**01 01 07.0**	**+0.2**
AXAR	**Agios Charalam**	**3.65**	**355**	P	**Pn**	**01 01 07.0**	**+0.2**
VLS	**Valsamata**	**3.65**	**327**	P	**Pn**	**01 01 06.1**	**-0.7**
VLS	**Valsamata**	**3.65**	**327**	*e*P	**Pn**	**01 01 06.2**	**-0.6**
VLS	**Valsamata**	**3.65**	**327**	*e*P	**Pn**	**01 01 06.2**	**-0.6**
EVR	**Evrytania**	**3.92**	**345**	P	**Pn**	**01 01 11.9**	**+1.3**
EVR				S	**Sn**	**01 01 57.8**	**+1.3**
EVR	**Evrytania**	**3.92**	**345**	*e*P	**Pn**	**01 01 13.2**	**+2.6**
EVR	**Evrytania**	**3.92**	**345**	*e*P	**Pn**	**01 01 13.2**	**+2.6**
EVR	**Evrytania**	**3.92**	**345**	P	**Pn**	**01 01 11.9**	**+1.3**
EVR				S	**Sn**	**01 01 57.8**	**+1.3**
AGG	**Agios Georgios**	**3.94**	**351**	P	**Pn**	**01 01 11.2**	**+0.4**
AGG				S	**Sn**	**01 01 56.5**	**-0.3**
AGG	**Agios Georgios**	**3.94**	**351**	P	**Pn**	**01 01 11.2**	**+0.4**
AGG				S	**Sn**	**01 01 56.5**	**-0.3**
MAKR	**Makrakomi, Fth**	**3.96**	**349**	P	**Pn**	**01 01 12.1**	**+1.0**
MAKR				S	**Sn**	**01 01 59.1**	**+1.8**
MAKR	**Makrakomi, Fth**	**3.96**	**349**	P	**Pn**	**01 01 12.1**	**+1.0**
MAKR				S	**Sn**	**01 01 59.1**	**+1.8**
CHOS	**Chios island**	**4.03**	**35**	P	**Pn**	**01 01 09.8**	**-2.3**
CHOS	**Chios island**	**4.03**	**35**	P	**Pn**	**01 01 09.8**	**-2.3**
AOS	**Alonnisos**	**4.09**	**9**	P	**Pn**	**01 01 11.8**	**-1.0**
AOS	**Alonnisos**	**4.09**	**9**	P	**Pn**	**01 01 11.8**	**-1.0**
LKD2	**Lefkada island**	**4.15**	**333**	P	**Pn**	**01 01 14.3**	**+0.7**
LKD2	**Lefkada island**	**4.15**	**333**	P	**Pn**	**01 01 14.3**	**+0.7**
XOR	**Xorichti**	**4.24**	**1**	P	**Pn**	**01 01 14.5**	**-0.4**
XOR	**Xorichti**	**4.24**	**1**	P	**Pn**	**01 01 14.5**	**-0.4**
ARG	**Arkhangelos**	**4.24**	**74**	P	**Pn**	**01 01 12.9**	**-2.0**
ARG	**Arkhangelos**	**4.24**	**74**	P	**Pn**	**01 01 12.9**	**-2.0**
THL	**Klokotos Trika**	**4.52**	**349**	P	**Pn**	**01 01 18.5**	**-0.2**
THL				S	**Sn**	**01 02 09.8**	**-1.1**
THL	**Klokotos Trika**	**4.52**	**349**	*e*P	**Pn**	**01 01 18.2**	**-0.5**
THL	**Klokotos Trika**	**4.52**	**349**	*e*P	**Pn**	**01 01 18.2**	**-0.5**
THL	**Klokotos Trika**	**4.52**	**349**	P	**Pn**	**01 01 18.5**	**-0.2**
THL				S	**Sn**	**01 02 09.8**	**-1.1**
SIGR	**SIGRI**	**4.64**	**28**	P	**Pn**	**01 01 18.6**	**-1.7**
SIGR	**SIGRI**	**4.64**	**28**	P	**Pn**	**01 01 18.6**	**-1.7**
LJBD	**Adjabya**	**4.85**	**211**	*i* P	**Pn**	**01 01 25.2**	**+1.9**
	SNR=76						
LJBD				*e*S	**Sn**	**01 02 20.1**	**+0.9**
	7.7nm,0.5s,SNR=76						
JAN	**Janina**	**4.87**	**339**	P	**Pn**	**01 01 24.0**	**+0.5**
JAN	**Janina**	**4.87**	**339**	P	**Pn**	**01 01 24.0**	**+0.5**
IGT	**Igoumenitsa**	**4.92**	**334**	P	**Pn**	**01 01 23.6**	**-0.7**
IGT	**Igoumenitsa**	**4.92**	**334**	P	**Pn**	**01 01 23.6**	**-0.7**
LIT	**Litokhoron**	**4.99**	**355**	P	**Pn**	**01 01 24.2**	**-1.1**
LIT	**Litokhoron**	**4.99**	**355**	P	**Pn**	**01 01 24.2**	**-1.1**
KNS	**Konitsa**	**5.26**	**340**	P	**Pn**	**01 01 28.3**	**-0.8**
KNS	**Konitsa**	**5.26**	**340**	P	**Pn**	**01 01 28.3**	**-0.8**
KEK	**Kerkira**	**5.28**	**331**	P	**Pn**	**01 01 28.2**	**-1.0**
KEK	**Kerkira**	**5.28**	**331**	P	**Pn**	**01 01 28.2**	**-1.0**
SRN	**Sarande**	**5.35**	**334**	P	**Pn**	**01 01 28.8**	**-1.3**
SRN	**Sarande**	**5.35**	**334**	P	**Pn**	**01 01 28.8**	**-1.3**
NEST	**Nestorio**	**5.53**	**344**	P	**Pn**	**01 01 32.6**	**0.0**
NEST	**Nestorio**	**5.53**	**344**	P	**Pn**	**01 01 32.6**	**0.0**
KBN	**Korca**	**5.79**	**342**	P	**Pn**	**01 01 35.4**	**-0.8**
KBN	**Korca**	**5.79**	**342**	P	**Pn**	**01 01 35.4**	**-0.8**
FNA	**Florina**	**5.81**	**347**	P	**Pn**	**01 01 35.3**	**-1.2**
FNA	**Florina**	**5.81**	**347**	P	**Pn**	**01 01 35.3**	**-1.2**
GRG	**Griva**	**5.85**	**355**	P	**Pn**	**01 01 35.2**	**-1.8**
GRG	**Griva**	**5.85**	**355**	P	**Pn**	**01 01 35.2**	**-1.8**
BIA	**Bitola**	**6.05**	**347**	P	**Pn**	**01 01 38.0**	**-1.8**
BIA	**Bitola**	**6.05**	**347**	P	**Pn**	**01 01 38.0**	**-1.8**
LUJL	**Ujela**	**6.18**	**195**	*i* P	**Pn**	**01 01 42.1**	**+0.6**
	SNR=70						
TIP	**Timpagrande**	**6.48**	**311**	P	**Pn**	**01 01 44.0**	**-1.7**
TIP	**Timpagrande**	**6.48**	**311**	P	**Pn**	**01 01 44.0**	**-1.7**
PHP	**Peshkopia**	**6.87**	**343**	P	**Pn**	**01 01 48.8**	**-2.3**
PHP	**Peshkopia**	**6.87**	**343**	P	**Pn**	**01 01 48.8**	**-2.3**
BRTR	**Keskin Array B**	**9.56**	**58**	Pn	**Pn**	**01 02 25.8**	**-2.2**
	0.0nm,0.3s,baz=240,slow=12,SNR=2.2						
MMAI	**Mount Meron Ar**	**10.42**	**98**	Pn	Pn	01 02 36.2	-3.7
	0.9nm,0.3s,baz=278,slow=10.0,SNR=4.9						
MMAI				Sn	Sn	01 04 23.1	-13
	0.5nm,0.3s,baz=294,slow=27,SNR=3.4						
EIL	**Elat**	**11.40**	**115**	Pn	Pn	01 02 49.6	-3.6
	0.2nm,0.3s,baz=225,slow=13,SNR=3.4						
EIL				Sn	Sn	01 04 47.4	-13
	0.2nm,0.3s,baz=351,slow=12,SNR=2.2						
HFS	**Hagfors**	**25.76**	**349**	P	P	01 05 37.0	-3.7
	5.7nm,1.0s,baz=134,slow=10,SNR=4.5						
FINES	**FINESS Array B**	**26.41**	**3**	P	P	01 05 41.5	-5.0
	1.9nm,0.8s,baz=165,slow=11,SNR=4.2						
TORD	**Torodi Ar. Bea**	**29.20**	**227**	P	**P**	**01 06 11.8**	**-0.2**
	0.2nm,0.6s,baz=33,slow=8.6,SNR=2.6						
ARCES	**ARCESS Array B**	**34.49**	**1**	P	P	01 06 52.8	-5.1
	0.9nm,0.5s,baz=184,slow=8.0,SNR=5.6						
SPITS	**Spitsbergen Ar**	**43.26**	**358**	P	P	01 08 07.7	-3.4
	1.3nm,0.6s,baz=148,slow=13,SNR=3.6						
MKAR	**Makanchi Array**	**45.20**	**56**	P	P	01 08 23.0	-4.3
	0.4nm,0.3s,baz=262,slow=6.9,SNR=15						
ZALV	**Zalesovo Beam**	**46.25**	**46**	P	P	01 08 29.5	-5.8
	0.9nm,0.4s,baz=280,slow=5.2,SNR=3.2						
SONM	**Songino Array**	**60.81**	**50**	P	P	01 10 19.0	-3.5
	0.3nm,0.6s,baz=280,slow=8.5,SNR=2.7						
USRK	**Ussuriysk Arra**	**78.06**	**44**	P	P	01 12 05.0	-3.9
	1.4nm,0.6s,baz=295,slow=7.9,SNR=4.2						

*IDC **10** 01:04:27.9±1.2, 30°29S×178°06W, h0km, mb4.3/5, mb1 4.4/5, mb1mx4.0/18, mbtmp4.3/5, MS4.3/1, Ms1 4.3/1, ms1mx3.0/28, Error ellipse: s-maj=42.9km s-min=21.2km az=135.0*
*NEIC **10** 01:04:28.9±0.7, 30°40S×178°04W, h10km, mb4.6/2, Error ellipse: s-maj=21.5km s-min=13.0km az=121.0*
ISC 10 01:04:35.4±1.1, 30°05±0°1×178°2W±0°2, h50km, n43, σ1°05/40, mb4.3/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.81**	**17**	Pn	**Pn**	**01 04 50.1**	**-0.4**
RAO				Sn	**Sn**	**01 05 01.9**	**+0.3**
RAO	**Raoul Island**	**0.81**	**17**	Pn	**Pn**	**01 04 50.1**	**-0.4**
	362nm,0.3s,baz=92,slow=13,SNR=29						
RAO				Sn	**Sn**	**01 05 01.9**	**+0.3**
	832nm,0.3s,baz=72,slow=20,SNR=13						
URZ	**Urewera**	**9.09**	**204**	Pn	Pn	01 06 34.6	-9.3
URZ				Sn	Sn	01 08 15.7	-9.1
URZ	**Urewera**	**9.09**	**204**	Pn	Pn	01 06 34.6	-9.3
	0.3nm,0.3s,baz=352,slow=15,SNR=4.8						
URZ				Sn	Sn	01 08 15.7	-9.1
	1.4nm,0.3s,baz=223,slow=21,SNR=7.9						
CTA	**Charters Tower**	**33.58**	**279**	P	**P**	**01 11 12.2**	**+1.2**
CTA	**Charters Tower**	**33.58**	**279**	P	**P**	**01 11 12.2**	**+1.2**
	1.7nm,0.4s,baz=121,slow=10,SNR=3.9						
CTAO	**Charters Tower**	**33.58**	**279**	*e*P	**P**	**01 11 10.5**	**-0.5**
	17nm,1.2s						
STKA	**Stephens Creek**	**34.41**	**256**	P	**P**	**01 11 18.0**	**0.0**
STKA	**Stephens Creek**	**34.41**	**256**	P	**P**	**01 11 18.0**	**0.0**
	2.8nm,0.6s,baz=120,slow=9.9,SNR=6.7						
ASAR	**Alice Springs**	**42.97**	**267**	P	**P**	**01 12 29.1**	**-0.8**
ASAR	**Alice Springs**	**42.97**	**267**	P	**P**	**01 12 29.1**	**-0.8**
	1.1nm,0.5s,baz=104,slow=7.6,SNR=18						
WRAB	**Tennant Creek**	**43.92**	**272**	*e*P	**P**	**01 12 37.2**	**-0.3**
	4.2nm,0.7s						
WRA	**Warramunga Arr**	**43.93**	**272**	P	**P**	**01 12 36.5**	**-1.0**
WRA	**Warramunga Arr**	**43.93**	**272**	P	**P**	**01 12 36.5**	**-1.0**
	2.0nm,0.3s,baz=110,slow=8.2,SNR=80						
QSPA	**South Pole Qui**	**60.08**	**180**	LR	LR	01 36 58.4	
	comp=Z,245nm,21.2s,baz=88,slow=33						
KAPI	**Kappang**	**63.39**	**280**	*e*P	**P**	**01 14 59.8**	**-0.2**
	15nm,1.1s						
PETK	**Petropavlovsk-**	**85.41**	**346**	P	**P**	**01 17 07.4**	**+0.4**
PETK	**Petropavlovsk-**	**85.41**	**346**	P	**P**	**01 17 07.4**	**+0.4**
	1.1nm,0.4s,baz=117,slow=8.8,SNR=3.6						
MKAR	**Makanchi Array**	**117.41**	**310**	PKP	**PKPdf**	**01 23 16.2**	**+1.0**
MKAR	**Makanchi Array**	**117.41**	**310**	PKP	**PKPdf**	**01 23 16.2**	**+1.0**
	0.1nm,0.4s,baz=66,slow=1.7,SNR=2.8						
KURK	**Kurchatov**	**120.68**	**314**	PKP	**PKPdf**	**01 23 22.1**	**+0.8**
KURBB	**Kurchatov Arra**	**120.72**	**314**	PKP	**PKPdf**	**01 23 22.1**	**+0.7**
	0.5nm,0.5s,baz=105,slow=1.6,SNR=6.9						
BVAR	**Borovoye Array**	**126.03**	**316**	PKP	**PKPdf**	**01 23 32.9**	**+1.4**
BVAR	**Borovoye Array**	**126.03**	**316**	PKP	**PKPdf**	**01 23 32.9**	**+1.4**
	0.7nm,0.7s,baz=356,slow=2.0,SNR=4.3						
ARCES	**ARCESS Array B**	**138.19**	**348**	PKPpre	PKPpre	01 23 47.4	
ARCES	**ARCESS Array B**	**138.19**	**348**	PKhKP	PKPpre	01 23 47.4	
	1.2nm,0.8s,baz=28,slow=4.1,SNR=3.5						
ASCN	**Ascension**	**139.18**	**155**	*e*PKPdf	**PKPdf**	**01 23 56.5**	**-0.9**
JOF	**Joensuu**	**142.01**	**339**	*ep*	**PKPdf**	**01 23 59.4**	**-1.6**
KAF	**Kangasniemi**	**144.15**	**341**	*ep*	**PKPdf**	**01 24 04.3**	**-0.5**
FINES	**F

CMAR	Chiang Mai Arr	43.03 274	P		P	02 17 26.7	-0.1	
	1.4nm,0.3s,baz=60,slow=8.8,SNR=5.4							
FITZ	Fitzroy Crossi	44.05 207	P		P	02 17 35.0	+0.2	
FITZ	Fitzroy Crossi	44.05 207	P		P	02 17 35.0	+0.2	
	5.0nm,0.4s,baz=32,slow=15,SNR=37							
AS31	Alice Springs	46.62 194	*e*P		P	02 17 54.5	-0.7	
ASAR	Alice Springs	46.62 194	P		P	02 17 55.0	-0.2	
ASAR	Alice Springs	46.62 194	P		P	02 17 55.0	-0.2	
	3.6nm,0.6s,baz=17,slow=8.2,SNR=52							
PSI	Prapat	48.42 253	P		P	02 18 10.0	+0.5	
PSI	Prapat	48.42 253	P		P	02 18 10.0	+0.5	
	3.9nm,0.4s,baz=320,slow=7.9,SNR=3.4							
DZM	Mont Dzumac	48.65 153	P		P	02 18 11.3	+0.2	
DZM	Mont Dzumac	48.65 153	P		P	02 18 11.3	+0.2	
	5.1nm,0.6s,baz=90,slow=24,SNR=6.0							
MBWA	Marble Bar	49.38 211	*e*P		P	02 18 16.8	+0.2	
	5.1nm,0.7s							
STKA	Stephens Creek	53.67 183	P		P	02 18 48.1	-0.4	
STKA	Stephens Creek	53.67 183	P		P	02 18 48.1	-0.4	
	3.3nm,1.0s,baz=13,slow=11,SNR=6.1							
ZALV	Zalesovo Beam	54.88 321	P		P	02 18 57.0	-0.1	
ZALV	Zalesovo Beam	54.88 321	P		P	02 18 57.0	-0.1	
	1.4nm,0.4s,baz=108,slow=7.9,SNR=6.0							
ZALV			LR		LR	02 40 45.9		
	comp=Z,51nm,18.5s,baz=340,slow=34							
MK31	Makanchi Array	55.58 312	*e*P		P	02 19 02.2	-0.1	
MKAR	Makanchi Array	55.58 312	P		P	02 19 02.4	+0.1	
MKAR	Makanchi Array	55.58 312	P		P	02 19 02.4	+0.1	
	2.2nm,0.8s,baz=92,slow=9.0,SNR=23							
TKM2	Tokmak 2	60.32 308	*e*P		P	02 19 36.2	+0.4	
	2.1nm,0.6s							
ILAR	Eielson Array	61.09 27	P		P	02 19 40.1	-0.3	
ILAR	Eielson Array	61.09 27	P		P	02 19 40.1	-0.3	
	0.6nm,0.7s,baz=258,slow=5.0,SNR=7.8							
EKS2	Erkin-Say	61.67 308	*e*P		P	02 19 45.6	+0.7	
	2.4nm,0.9s							
BVAR	Borovoye Array	63.39 319	LR		LR	02 47 16.1		
	comp=Z,44nm,18.9s,baz=82,slow=36							
BRVK	Borovoye	63.46 319	*e*P		P	02 19 56.4	-0.1	
	3.7nm,0.8s							
KKAR	Karatay Array	64.02 308	*e*P		P	02 20 00.5	+0.2	
	3.7nm,0.8s							
KBL	Kabul	66.47 299	*e*P		P	02 20 16.6	-0.1	
	4.6nm,0.7s							
ABKAR	Akbulak array	70.35 316	*e*P		P	02 20 39.6	-0.7	
	1.5nm,0.4s							
AKTO	Aktyubinsk	71.33 318	P		P	02 20 45.9	-0.4	
AKTO	Aktyubinsk	71.33 318	P		P	02 20 45.9	-0.4	
	0.9nm,0.7s,baz=56,slow=7.3,SNR=3.9							
YKW3	Yellowknife Ar	75.46 28	*e*P		P	02 21 10.5	+0.2	
YKA	Yellowknife Ar	75.48 28	P		P	02 21 10.8	+0.3	
YKA	Yellowknife Ar	75.48 28	P		P	02 21 10.8	+0.3	
	0.5nm,0.6s,baz=290,slow=5.8,SNR=3.3							
YKA			LR		LR	02 55 01.8		
	comp=Z,4.1nm,18.6s,baz=40,slow=36							
ARCES	ARCESS Array B	79.09 342	P		P	02 21 31.2	+0.6	
ARCES	ARCESS Array B	79.09 342	P		P	02 21 31.2	+0.6	
	3.4nm,1.1s,baz=66,slow=9.0,SNR=7.7							
ARCES			LR		LR	03 01 53.4		
	comp=Z,43nm,18.4s,baz=237,slow=40							
JOF	Joensuu	80.66 335	*e*p		P	02 21 39.4	+0.2	
	1.9nm,0.6s							
NVAR	Mina Array Bea	81.79 52	P		P	02 21 46.9	+1.0	
NVAR	Mina Array Bea	81.79 52	P		P	02 21 46.9	+1.0	
	0.8nm,0.7s,baz=246,slow=5.8,SNR=4.1							
KAF	Kangasniemi	83.06 335	*e*p		P	02 21 51.5	-0.3	
	0.3nm,0.3s							
KBZ	Khabaz	83.21 314	P		P	02 21 52.3	-0.6	
KBZ	Khabaz	83.21 314	P		P	02 21 52.3	-0.6	
	1.3nm,0.5s,baz=247,slow=4.7,SNR=4.2							
FINES	FINESS Array B	83.53 335	P		P	02 21 53.7	-0.5	
FINES	FINESS Array B	83.53 335	P		P	02 21 53.7	-0.5	
	1.8nm,0.6s,baz=87,slow=5.3,SNR=17							
FINES			LR		LR	02 57 55.5		
	comp=Z,41nm,19.0s,baz=16,slow=35							
DUG	Dugway	85.02 49	*e*P		P	02 22 03.2	+0.7	
	1.4nm,0.8s							
BW06	Boulder Array	86.13 45	*e*P		P	02 22 08.6	+0.6	
	1.7nm,1.1s							
HFS	Hagfors	89.00 338	P		P	02 22 19.5	-1.6	
HFS	Hagfors	89.00 338	P		P	02 22 19.5	-1.6	
	11nm,1.2s,baz=48,slow=2.1,SNR=3.7							
NOA	NORSAR Array B	89.18 339	LR		LR	03 04 10.4		
	comp=Z,19nm,19.0s,baz=280,slow=37							
BRTR	Keskin Array B	91.19 314	P		P	02 22 31.7	-0.3	
BRTR	Keskin Array B	91.19 314	P		P	02 22 31.7	-0.3	
	0.4nm,0.7s,baz=123,slow=5.3,SNR=2.8							
BRTR			LR		LR	03 10 07.5		
	comp=Z,22nm,18.6s,baz=280,slow=40							
TXAR	Lajitas Array	96.67 55	LR		LR	02 58 44.5		
	comp=Z,34nm,20.8s,baz=85,slow=31							
GERES	GERESS Array B	97.06 330	LR		LR	03 06 52.1		
	comp=Z,52nm,18.1s,baz=45,slow=36							
TORD	Torodi Ar. Bea	129.68 311	PKP		PKPdf	02 28 36.1	-0.3	
TORD	Torodi Ar. Bea	129.68 311	PKP		PKPdf	02 28 36.1	-0.3	
	0.2nm,0.5s,baz=22,slow=2.0,SNR=6.2							
PLCA	Paso Flores	144.84 130	*e*PKPdf		PKPdf	02 29 03.8	+0.2	
PLCA	Paso Flores	144.84 130	PKP		PKPdf	02 29 03.3	-0.3	
	6.2nm,0.9s,baz=223,slow=4.4,SNR=5.7							
LPAZ	La Paz	148.44 85	PKPbc		PKPbc	02 29 15.3	+0.7	
LPAZ	La Paz	148.44 85	PKPbc		PKPbc	02 29 15.3	+0.7	
	2.2nm,0.6s,baz=283,slow=2.9,SNR=10.0							
SAML	Samuel	150.16 69	*e*PKPbc		PKPbc	02 29 18.2	+0.1	
TRQA	Tornquist	151.99 131	*e*PKPbc		PKPbc	02 29 21.8	0.0	

ISCJB ***10*** *02:25:06.0±0.6, 43.°44N×0.°03×46.°30E±0.°03, h4km±3km, mb3.6/3, Error ellipse: s-maj=5.8km s-min=2.9km az=26.0*
TIF ***10*** *02:25:07.4, 43.°26N×46.°23E, h14km±5km*
MOS ***10*** *02:25:07.0±1.3, 43.°40N×46.°26E, h9km, mb3.9/3, Error ellipse: s-maj=8.0km s-min=6.2km az=134.3*
IDC ***10*** *02:25:07.4±1.5, 43.°34N×45.°79E, h0km, mb3.7/3, mb1 3.5/5, mb1mx3.2/27, mbtmp3.5/5, ML2.9/1, Error ellipse: s-maj=20.7km s-min=13.1km az=77.0*
CSEM ***10*** *02:25:08.8±0.3, 43.°36N×46.°28E, h20km, mb3.9, Error ellipse: s-maj=7.5km s-min=3.9km az=28.0*

ISC 10 02:25:07.5±1.0, 43.°37N±0.°03×46.°27E±0.°02, h12km±8km, n62, σ1§16/104, mb3.8/3, 2C-4D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GRO	Groznyy	0.38	262	⇓*i*PG	Pg	Pg	02 25 14.6	-0.5
GRO				*i* S	Sg	Sg	02 25 19.9	-0.3
DLMR	Dylym	0.40	139	*e*Pg	Pn	Pn	02 25 18.0	-1.0
DLMR				*e*S	Sb	Sb	02 25 24.0	+1.4
DLMR				pmax	pmax			
	comp=Z,576nm,0.2s							
DLMR	Dylym	0.40	139	*e*Pg	Pn	Pn	02 25 18.0	-1.0
	comp=Z,576nm,0.2s							
DLMR				*e*Sg	Sb	Sb	02 25 24.0	+1.4
DBC	Dubki	0.54	130	*i* PG	Pb	Pb	02 25 18.7	-0.2
DBC				*i* S	Sb	Sb	02 25 26.4	-0.2
DBC	Dubki	0.54	130	*i* Pg	Pb	Pb	02 25 18.7	-0.2
DBC				*i* Sg	Sb	Sb	02 25 26.4	-0.2
KRNR	Karanay	0.72	139	*e*PG	Pg	Pg	02 25 20.5	-0.9
KRNR				*i* S	Sg	Sg	02 25 30.5	-0.4
KRNR				pmax	pmax			
	comp=Z,57nm,0.2s							
KRNR	Karanay	0.72	139	*e*Pg	Pg	Pg	02 25 20.5	-0.9
	comp=Z,57nm,0.2s							
KRNR				*i* Sg	Sg	Sg	02 25 30.5	-0.4
UNCR	Uncukul	0.76	149	*e*PG	Pg	Pg	02 25 21.5	-0.7
UNCR				*i* S	Sg	Sg	02 25 32.0	-0.2
UNCR				pmax	pmax			
	comp=Z,51nm,0.3s							
UNCR	Uncukul	0.76	149	*e*Pg	Pg	Pg	02 25 21.5	-0.7
	comp=Z,51nm,0.3s							
UNCR				*i* Sg	Sg	Sg	02 25 32.0	-0.2
BUJR	Buynaksk	0.82	131	*e*PG	Pn	Pn	02 25 26.0	+1.2
BUJR				*e*S	Sn	Sn	02 25 38.0	+1.1
BUJR	Buynaksk	0.82	131	*e*Pg	Pn	Pn	02 25 26.0	+1.2
ARKR	Arakani	0.94	145	*e*PG	Pg	Pg	02 25 25.0	-0.5
ARKR				*e*S	Sg	Sg	02 25 37.0	-0.7
ARKR				pmax	pmax			
	comp=Z,38nm,0.2s							
ARKR	Arakani	0.94	145	*e*Pg	Pg	Pg	02 25 25.0	-0.5
	comp=Z,38nm,0.2s							
ARKR				*e*Sg	Sg	Sg	02 25 37.0	-0.7
SNJR	Sundja	1.11	255	*e*PG	Pg	Pg	02 25 29.3	+0.5
SNJR				*e*S	Sn	Sn	02 25 44.5	+0.5
SNJR	Sundja	1.11	255	*e*Pg	Pg	Pg	02 25 29.3	+0.5
SNJR				*e*Sg	Sn	Sn	02 25 44.5	+0.5
TRKR	Terskaya	1.17	288	⇓*i*PG	Pg	Pg	02 25 31.2	+1.2
TRKR				*i* S	Sn	Sn	02 25 48.3	+2.9
TRKR	Terskaya	1.17	288	*i* Pg	Pg	Pg	02 25 31.2	+1.2
TRKR				*i* Sg	Sn	Sn	02 25 48.3	+2.9
VLKR	Vladikavkaz	1.21	255	*e*PG	Pn	Pn	02 25 30.0	-0.2
VLKR				*e*S	Sg	Sg	02 25 46.6	+0.2
VLKR	Vladikavkaz	1.21	255	*e*Pg	Pn	Pn	02 25 30.0	-0.2
VLKR				*e*Sg	Sg	Sg	02 25 46.6	+0.2
BTKR	Batakoyurt	1.26	271	*e*PG	Pg	Pg	02 25 31.2	-0.5
BTKR				*e*S	Sg	Sg	02 25 49.0	+1.0
BTKR	Batakoyurt	1.26	271	*e*Pg	Pg	Pg	02 25 31.2	-0.5
BTKR				*e*Sg	Sg	Sg	02 25 49.0	+1.0
KMKR	Kumukh	1.38	153	*e*PG	Pb	Pb	02 25 33.2	-0.1
KMKR				*e*S	Sg	Sg	02 25 52.5	+0.5
KMKR				pmax	pmax			
	comp=Z,63nm,0.2s							
KMKR	Kumukh	1.38	153	*e*Pg	Pb	Pb	02 25 33.2	-0.1
	comp=Z,63nm,0.2s							
KMKR				*e*Sg	Sg	Sg	02 25 52.5	+0.5
ARNR	Ardon	1.46	263	*e*PG	Pb	Pb	02 25 34.1	-0.5
ARNR				*e*S	Sg	Sg	02 25 54.1	-0.5
ARNR	Ardon	1.46	263	*e*Pg	Pb	Pb	02 25 34.1	-0.5
ARNR				*e*Sg	Sg	Sg	02 25 54.1	-0.5
PRTR	Priterechnaya	1.49	285	⇓*i*PG	Pg	Pg	02 25 36.0	-0.1
PRTR				*i* S	Sg	Sg	02 25 57.1	+1.6
PRTR	Priterechnaya	1.49	285	*i* Pg	Pg	Pg	02 25 36.0	-0.1
LACR	Lac	1.54	250	*e*PG	Pn	Pn	02 25 34.1	-0.8
LACR				*i* S	Sn	Sn	02 25 54.0	-0.9
LACR	Lac	1.54	250	*e*Pg	Pn	Pn	02 25 34.1	-0.8
LACR				*i* Sg	Sn	Sn	02 25 54.0	-0.9
URKR	Urkarakh	1.57	140	*e*PG	Pb	Pb	02 25 37.0	+0.5
URKR				*i* S	Sg	Sg	02 25 58.8	+0.8
URKR	Urkarakh	1.57	140	Pg	Pb	Pb	02 25 37.0	+0.5
DUS	Dusheti	1.73	223	P	Pb	Pb	02 25 38.6	-0.5
DUS				S	Sn	Sn	02 25 59.7	+0.4
DUS	Dusheti	1.73	223	P	Pb	Pb	02 25 38.6	-0.5
DUS				S	Sn	Sn	02 25 59.7	+0.4
LSNR	Lesken	1.79	268	*e*PN	Pb	Pb	02 25 39.4	-0.8
LSNR				*e*S	Sb	Sb	02 26 03.0	+0.4
LSNR	Lesken	1.79	268	*e*Pn	Pb	Pb	02 25 39.4	-0.8
LSNR				*e*Sg	Sb	Sb	02 26 03.0	+0.4
ZEI	Tsey	1.84	252	*e*PN	Pn	Pn	02 25 38.6	-0.4
ZEI	Tsey	1.84	252	*e*Pn	Pn	Pn	02 25 38.6	-0.4
TBLG	Delisi	1.99	215	*e*PN	Pn	Pn	02 25 41.9	+1.0
TBLG	Delisi	1.99	215	P	Pn	Pn	02 25 41.9	+1.0
TBLG				S	Sn	Sn	02 26 06.4	+0.6
TBLG	Delisi	1.99	215	P	Pn	Pn	02 25 41.9	+1.0
TBLG				S	Sn	Sn	02 26 06.4	+0.6
DIGR	Digorskoe uzhe	2.02	257	*e*PN	Pn	Pn	02 25 42.0	+0.5
DIGR	Digorskoe uzhe	2.02	257	*e*Pn	Pn	Pn	02 25 42.0	+0.5
DGRG	David-gareji	2.03	199	P	Pb	Pb	02 25 43.3	-1.0
DGRG				S	Sb	Sb	02 26 10.4	+0.9
DGRG	David-gareji	2.03	199	P	Pb	Pb	02 25 43.3	-1.0
DGRG				S	Sb	Sb	02 26 10.4	+0.9
ONI	Oni	2.21	250	P	Pn	Pn	02 25 44.2	+0.3
ONI				S	Sb	Sb	02 26 14.0	-0.7
ONI	Oni	2.21	250	P	Pn	Pn	02 25 44.2	+0.3
ONI				S	Sb	Sb	02 26 14.0	-0.7
KBZ	Khabaz	2.48	279	PN	Pn	Pn	02 25 46.5	-1.0
KBZ							02 26 16.7	
KBZ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KBZ	Khabaz	2.48	279	Pn	Pn	Pn	02 25 46.5	-1.0
	comp=Z,1.2nm,0.3s,baz=142,slow=8.4,SNR=12							
KBZ				Lg	Lg		02 26 16.6	
	comp=Z,2.1nm,0.3s,baz=313,slow=10,SNR=5.0							
KBZ	Khabaz	2.48	279	Pn	Pn	Pn	02 25 46.5	-1.0
	comp=Z,1.0nm,0.3s							
KBZ				Sn	Sn	Sn	02 26 16.7	-0.9
AKH	Akhalkalaki	2.84	227	P	Pb	Pb	02 25 56.7	-1.5
AKH				S	Sb	Sb	02 26 30.9	-2.1
AKH	Akhalkalaki	2.84	227	P	Pb	Pb	02 25 56.7	-1.5
AKH				S	Sb	Sb	02 26 30.9	-2.1
GNI	Garni	3.42	200	Pn	Pn	Pn	02 26 03.4	+2.8
	comp=Z,0.4nm,0.3s,baz=360,slow=19,SNR=2.3							
GNI				Lg	Lg		02 26 51.3	
	comp=Z,1.7nm,0.3s,baz=158,slow=19,SNR=3.2							
GNI	Garni	3.42	200	Pn	Pn	Pn	02 26 03.4	+2.8
AKTO	Aktyubinsk	10.69	45	⇑Sn	Sn	Sn	02 29 35.4	-4.3
	comp=Z,0.9nm,0.6s							
AB31	Akbulak array	11.13	53	⇓Pn	Pn	Pn	02 27 47.5	+1.2
	comp=Z,0.3nm,0.6s,baz=245,slow=11,SNR=13							
AB31				⇑Sn	Sn	Sn	02 29 46.1	-4.4
	comp=Z,0.3nm,0.3s,baz=255,slow=20,SNR=5.8							
AB31	Akbulak array	11.13	53	Pn	Pn	Pn	02 27 47.5	+1.2
	comp=Z,0.3nm,0.6s,baz=245,SNR=13							
FINES	FINESS Array B	21.72	333	P	P	P	02 29 59.1	+1.0
	comp=Z,3.8nm,1.0s,baz=146,slow=12,SNR=7.7							
FINES	FINESS Array B	21.72	333	P	P	P	02 29 59.2	+1.0
	comp=Z,4.0nm,1.0s							
HFS	Hagfors	25.84	322	P	P	P	02 30 38.7	+0.3
	comp=Z,0.5nm,0.4s,baz=110,slow=12,SNR=3.5							
HFS	Hagfors	25.84	322	P	P	P	02 30 38.7	+0.3
	comp=Z,1.0nm,0.4s							
ARCES	ARCESS Array B	28.31	345	P	P	P	02 31 01.6	+1.1
	comp=Z,1.8nm,1.1s,baz=147,slow=8.4,SNR=3.3							
ARCES	ARCESS Array B	28.31	345	P	P	P	02 31 01.6	+1.1
	comp=Z,2.0nm,1.1s							

IDC 10 02:52:11.0±5.3, 62.°01S×153.°49E, h0km, mb3.7/2, mb1 4.1/3, mb1mx4.0/11, mbtmp3.9/3, ML4.1/1, MS3.6/5, Ms1 3.6/5, ms1mx3.3/17, Error ellipse: s-maj=382.1km s-min=40.2km az=75.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VNDA	Vanda	15.81	173	Pn	Pn	Pn	02 55 54.6	0.0
	0.8nm,0.3s,baz=350,slow=13,SNR=25							
RPZ	Rata Peaks	21.04	38	LR	LR		03 04 30.6	
	comp=Z,153nm,19.0s,baz=40,slow=35							
QSPA	South Pole Qui	28.07	180	LR	LR		03 08 29.5	
	comp=Z,111nm,20.8s,baz=14,slow=35							
STKA	Stephens Creek	31.12	340	LR	LR		03 10 56.7	
	comp=Z,86nm,18.6s,baz=205,slow=36							
ASAR	Alice Springs	40.59	332	P	P		02 59 52.2	+0.1
	1.3nm,0.8s,baz=170,slow=9.0,SNR=8.8							
WRA	Warramunga Arr	44.09	334	P	P		03 00 20.3	-0.4
	0.9nm,0.8s,baz=164,slow=7.3,SNR=6.0							
FITZ	Fitzroy Crossi	48.01	323	LR	LR		03 20 14.0	
	comp=Z,76nm,19.5s,baz=270,slow=35							
PMG	Port Moresby	52.72	352	LR	LR		03 20 49.3	
	comp=Z,93nm,20.6s,baz=194,slow=33							

IDC 10 03:00:35.9±2.5, 30.°08N×138.°60E, h435km±32km, mb2.9/6, mb1 3.0/7, mb1mx2.8/26, mbtmp2.9/7, Error ellipse: s-maj=61.6km s-min=18.4km az=76.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	6.45	357	P	P	P	03 02 14.1	-0.1
	0.5nm,0.3s,baz=171,slow=10,SNR=5.1							
MJAR				S	S		03 03 29.3	-5.5
	0.3nm,0.3s,baz=158,slow=22,SNR=3.2							
MKAR	Makanchi Array	46.16	308	P	P		03 08 19.2	-0.5
	0.2nm,0.4s,baz=90,slow=10,SNR=4.1							
KURBB	Kurchatov Arra	48.71	313	P	P		03 08 38.7	-0.1
	0.2nm,0.3s,baz=91,slow=7.7,SNR=5.2							
WRA	Warramunga Arr	49.90	185	P	P		03 08 47.9	-0.1
	0.2nm,0.6s,baz=2.3,slow=8.2,SNR=4.3							
BVAR	Borovoye Array	53.72	316	P	P		03 09 15.8	+0.3
	0.9nm,0.4s,baz=97,slow=8.1,SNR=4.5							
ARCES	ARCESS Array B	69.68	340	P	P		03 11 00.3	+0.3
	1.2nm,0.9s,baz=72,slow=8.9,SNR=6.2							
FINES	FINESS Array B	73.87	332	P	P		03 11 24.2	-0.4
	4.3nm,1.1s,baz=45,slow=6.1,SNR=5.2							

KRSC 10 03:04:51.6±0.0, 54.°40N×162.°39E, h34km±23km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.42	292	*e*P	Pb	Pb	03 05 00.7	-0.3
MKZ				*i* S	Sb	Sb	03 05 07.1	-0.3
TUMR	Tumrok	1.57	305	*e*P	Pn	Pn	03 05 17.7	+0.5
KII	Karymskiy	1.77	259	*e*P	Pn	Pn	03 05 20.8	+1.0
KII				*i* S	Sn	Sn	03 05 42.4	+1.2
KMNR	Kamenistaya	1.84	319	*e*P	Pn	Pn	03 05 22.3	+1.4
KMNR				*i* S	Sn	Sn	03 05 44.9	+1.9
ZLN	Zelenaya	1.86	331	*e*P	Pn	Pn	03 05 22.3	+1.1
ZLN				*i* S	Sn	Sn	03 05 44.8	+1.3
KBG	Krutoberegovo	1.87	5	*e*P	Pn	Pn	03 05 21.5	+0.4
KBG				*i* S	Sn	Sn	03 05 43.5	0.0
BZMR	Bezymyannaya	1.89	325	*e*P	Pn	Pn	03 05 23.2	+1.6
BZMR				*i* S	Sn	Sn	03 05 45.7	+1.4
BZWR	Bezymyannyi-We	1.91	326	*e*P	Pn	Pn	03 05 22.8	+0.9
BZWR				*i* S	Sn	Sn	03 05 44.8	-0.1
SPN	Mys Shipunski	1.92	228	*e*P	Pn	Pn	03 05 22.1	+0.3
SPN				*i* S	Sn	Sn	03 05 44.4	-0.3
LGNR	Loginova	1.95	331	*e*P	Pn	Pn	03 05 24.7	+2.1
LGNR				*i* S	Sb	Sb	03 05 48.6	-2.4
KIRR	Kirishev	1.95	324	*e*P	Pn	Pn	03 05 24.3	+1.8
KIRR				*i* S	Sn	Sn	03 05 48.1	+2.2
CIRR	Tsirk	1.96	332	*e*P	Pn	Pn	03 05 24.4	+1.8
CIRR				*i* S	Sn	Sn	03 05 47.3	+1.2
KPT	Kopyto	2.00	322	*e*P	Pn	Pn	03 05 24.8	+1.7
KPT				*i* S	Sn	Sn	03 05 48.9	+1.8
KRSR	Krestovskiy	2.10	331	*e*P	Pn	Pn	03 05 26.0	+1.5
KRSR				*i* S	Sn	Sn	03 05 50.7	+1.2
KLY	Klyuchi	2.16	333	*e*P	Pn	Pn	03 05 26.1	+1.0
KLY				*i* S	Sn	Sn	03 05 50.8	+0.1
KOZ	Kozyrevsk	2.20	320	*e*P	Pn	Pn	03 05 28.0	+2.3
KOZ				*i* S	Sn	Sn	03 05 53.8	+2.0
BKI	Bering	2.23	67	*e*P	Pn	Pn	03 05 25.8	-0.2
BKI				*i* S	Sn	Sn	03 05 50.4	-1.9
SMKR	Semkarok	2.25	347	*e*P	Pn	Pn	03 05 28.6	+2.1
SMKR				*i* S	Sn	Sn	03 05 55.0	+1.9
BDR	Baidarnaya	2.27	343	*e*P	Pn	Pn	03 05 28.1	+1.3
BDR				*i* S	Sn	Sn	03 05 55.8	+2.0
SDLR	Sedlovina	2.36	243	*e*P	Pn	Pn	03 05 29.8	+1.7
SDLR				*i* S	Sn	Sn	03 05 58.0	+2.0
SRKR	Sorokina	2.36	343	*e*P	Pn	Pn	03 05 29.1	+1.0
SRKR				*i* S	Sn	Sn	03 05 56.4	+0.5
SMAR	Somma	2.41	243	*e*P	Pn	Pn	03 05 30.5	+1.6
SMAR				*i* S	Sn	Sn	03 05 58.4	+0.9
KRER	Koryakskii	2.42	244	*e*P	Pn	Pn	03 05 30.9	+1.9
KRER				*i* S	Sn	Sn	03 05 59.0	+1.4
UGLR	Uglovaya	2.43	242	*e*P	Pn	Pn	03 05 30.6	+1.6
UGLR				*i* S	Sn	Sn	03 05 58.6	+1.0
AVH	Avacha	2.44	244	*e*P	Pn	Pn	03 05 31.4	+2.2
AVH				*i* S	Sn	Sn	03 06 00.6	+2.7
SRDR	Sredinnyy	2.45	323	*e*P	Pn	Pn	03 05 30.7	+1.4
SRDR				*i* S	Sn	Sn	03 05 58.7	+0.6
KOK	Koryaka	2.49	245	*e*P	Pn	Pn	03 05 31.7	+1.9
KOK				*i* S	Sn	Sn	03 06 00.4	+1.4
ESO	Esso	2.61	307	*e*P	Pn	Pn	03 05 34.0	+2.6
ESO				*i* S	Sn	Sn	03 06 03.9	+2.0
PET	Petropavlovsk	2.61	240	*e*P	Pn	Pn	03 05 32.5	+1.1
PET				*i* S	Sn	Sn	03 06 02.1	+0.2
GNL	Ganaly	2.72	257	*e*P	Pn	Pn	03 05 35.0	+2.0
GNL				*i* S	Sn	Sn	03 06 05.8	+1.1
RUS	Russkaya	3.04	231	*e*P	Pn	Pn	03 05 38.7	+1.4
RUS				*i* S	Sn	Sn	03 06 12.6	+0.1
MTVR	Mutnovka	3.17	234	*e*P	Pn	Pn	03 05 41.2	+2.0
MTVR				*i* S	Sn	Sn	03 06 17.3	+1.5
ASAK	Asacha	3.36	235	*e*P	Pn	Pn	03 05 44.1	+2.3
ASAK				*i* S	Sn	Sn	03 06 22.8	+2.2
APC	Apacha	3.44	247	*e*P	Pn	Pn	03 05 45.7	+2.9
APC				*i* S	Sn	Sn	03 06 24.7	+2.3

DJA 10 03:11:00.8±1.2, 10.°3S±7.°×119.°9E±.°, h20km±5km, M3.8/5, MLv3.8/5, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.07	46	P	Pb	Pb	03 11 04.7	+0.1
WBSI				S	Sb	Sb	03 11 08.4	+1.2
WB

GVD	**Gavdhos**	**1.47**	**310**	P		**Pg**	03 36 49.2	-1.0
GVD				S		**Sb**	03 37 07.5	-1.3
VAM	**Vamos**	**1.82**	**326**	P		**Pb**	03 36 54.8	-1.1
VAM	**Vamos**	**1.82**	**326**	*e*PG		**Pb**	03 36 55.0	-0.9
VAM	**Vamos**	**1.82**	**326**	*e*Pg		**Pb**	03 36 55.0	-0.9
KARP	**Karpathos**	**2.15**	**40**	P		**Pb**	03 37 00.2	-1.4
KARP				S		**Sn**	03 37 25.6	-0.2
KARP	**Karpathos**	**2.15**	**40**	*e*PN		**Pb**	03 37 01.0	-0.6
KARP	**Karpathos**	**2.15**	**40**	P		**Pb**	03 37 00.2	-1.4
KARP	**Karpathos**	**2.15**	**40**	*e*Pn		**Pb**	03 37 01.0	-0.6
LTBQ	**Tobrug** SNR=76	**2.26**	**215**	*i* Pn		**Pg**	03 37 05.9	+0.6
SLUM	baz=189	**2.42**	**185**	S		**Sb**	03 37 32.4	-3.9
SLUM		**2.42**	**185**	P		**Pb**	03 37 04.7	-1.4
SLUM				S		**Sb**	03 37 32.4	-3.9
ANKY	**Antikythira Is**	**2.64**	**318**	P		**Pb**	03 37 07.3	-2.6
ANKY	**Antikythira Is**	**2.64**	**318**	P		**Pb**	03 37 07.3	-2.6
KYTH	**Kithira**	**3.09**	**321**	P		**Pn**	03 37 12.8	+1.2
KYTH	**Kithira**	**3.09**	**321**	P		**Pn**	03 37 12.8	+1.2
HMAT	**Matruh** baz=155	**3.13**	**153**	P		Pb	03 37 14.0	-4.2
HMAT	comp=E,80µm,0.6s,logA/T=5.1,baz=155			AMP			03 37 00.0	
HMAT	baz=155			S		**Sn**	03 37 48.1	-1.7
HMAT	**Matruh**	**3.13**	**153**	P		Pb	03 37 14.0	-4.2
HMAT				S		**Sn**	03 37 48.1	-1.7
APE	**Apeiranthos**	**3.15**	**1**	*e*PN		**Pn**	03 37 12.5	0.0
APE				*e*SN		**Sn**	03 37 49.2	-1.3
APE	**Apeiranthos**	**3.15**	**1**	P		**Pn**	03 37 13.2	+0.7
APE	**Apeiranthos**	**3.15**	**1**	*e*PN		**Pn**	03 37 13.4	+0.9
APE	**Apeiranthos**	**3.15**	**1**	*e*Pn		**Pn**	03 37 12.5	0.0
APE	**Apeiranthos**	**3.15**	**1**	P		**Pn**	03 37 13.2	+0.7
APE				*e*Sn		**Sn**	03 37 49.2	-1.3
ARG	**Arkhangelos**	**3.17**	**43**	*e*PN		**Pn**	03 37 15.0	+2.3
ARG	**Arkhangelos**	**3.17**	**43**	*e*Pn		**Pn**	03 37 15.0	+2.3
DAT	**Datca**	**3.30**	**31**	*e*PN		**Pn**	03 37 13.3	-1.2
DAT	**Datca**	**3.30**	**31**	*e*Pn		**Pn**	03 37 13.4	-1.2
VLI	**Veliai**	**3.48**	**324**	P		**Pn**	03 37 17.7	+0.8
VLI	**Veliai**	**3.48**	**324**	*e*PN		**Pn**	03 37 17.9	+1.0
VLI	**Veliai**	**3.48**	**324**	*e*Pn		**Pn**	03 37 17.9	+1.0
DYR	**Agios Nikonas**	**3.83**	**319**	P		Pn	03 37 23.9	+2.2
DYR	**Agios Nikonas**	**3.83**	**319**	*e*PN		**Pn**	03 37 24.0	+2.2
DYR	**Agios Nikonas**	**3.83**	**319**	P		Pn	03 37 23.9	+2.2
MLSB	**Milas**	**3.87**	**29**	*e*PN		**Pn**	03 37 21.1	-1.2
MLSB	**Milas**	**3.87**	**29**	*e*Pn		**Pn**	03 37 21.1	-1.2
DALY	**Dalyan (Mu¨la**	**3.90**	**41**	*e*PN		**Pn**	03 37 21.0	-1.7
DALY	**Dalyan (Mu¨la**	**3.90**	**41**	*e*Pn		**Pn**	03 37 21.0	-1.7
YER	**Yerkesik**	**3.96**	**35**	*e*PN		**Pn**	03 37 22.5	-1.0
YER	**Yerkesik**	**3.96**	**35**	*e*Pn		**Pn**	03 37 22.5	-1.0
DIDY	**Didyma**	**4.00**	**333**	P		**Pn**	03 37 24.6	+0.4
DIDY	**Didyma**	**4.00**	**333**	P		**Pn**	03 37 24.6	+0.4
DID	**Didima**	**4.02**	**334**	P		**Pn**	03 37 25.9	+1.5
DID				S		**Sn**	03 38 10.1	-1.8
DID	**Didima**	**4.02**	**334**	P		**Pn**	03 37 25.9	+1.5
DID				S		**Sn**	03 38 10.1	-1.8
FETY	**Fethiye**	**4.02**	**46**	*e*PN		**Pn**	03 37 23.0	-1.4
FETY	**Fethiye**	**4.02**	**46**	*e*SN		Sn	03 38 04.9	-7.0
FETY	**Fethiye**	**4.02**	**46**	*e*Pn		**Pn**	03 37 23.0	-1.4
FETY				*e*Sn		Sn	03 38 04.9	-7.0
AKAS	**Kas**	**4.12**	**55**	*i* P		**Pn**	03 37 26.2	+0.5
AKAS				*i* S		**Sn**	03 38 11.5	-2.9
AKAS	**Kas**	**4.12**	**55**	*i* P		**Pn**	03 37 26.2	+0.5
AKAS				*i* S		**Sn**	03 38 11.5	-2.9
AYDN	**Tasoluk**	**4.23**	**27**	*i* P		**Pn**	03 37 29.1	+1.8
AYDN				*i* S		**Sn**	03 38 16.5	-0.5
AYDN	**Tasoluk**	**4.23**	**27**	*i* P		**Pn**	03 37 29.1	+1.8
AYDN				*i* S		**Sn**	03 38 16.5	-0.5
PYL	**PYLOS**	**4.25**	**316**	*e*PN		Pn	03 37 30.2	+2.6
PYL	**PYLOS**	**4.25**	**316**	*e*Pn		Pn	03 37 30.2	+2.6
ITM	**Ithomi**	**4.35**	**320**	*e*PN		**Pn**	03 37 30.2	+1.3
ITM	**Ithomi**	**4.35**	**320**	*e*Pn		**Pn**	03 37 30.2	+1.3
CHOS	**Chios island**	**4.49**	**6**	P		**Pn**	03 37 31.8	+0.9
CHOS	**Chios island**	**4.49**	**6**	*e*PN		**Pn**	03 37 31.9	+1.0
CHOS	**Chios island**	**4.49**	**6**	P		**Pn**	03 37 31.8	+0.9
ELL	**Elmali**	**4.61**	**51**	*e*PN		**Pn**	03 37 31.5	-1.1
ELL	**Elmali**	**4.61**	**51**	*e*Pn		**Pn**	03 37 31.5	-1.1
SWA2	baz=182	**4.65**	**180**	P		Pn	03 37 35.6	+2.6
SWA2		**4.65**	**180**	P		Pn	03 37 35.6	+2.6
GOLH	**Golhisar**	**4.71**	**44**	*i* P		**Pn**	03 37 35.1	+1.2
GOLH				*i* S		**Sn**	03 38 25.7	-3.3
GOLH	**Golhisar**	**4.71**	**44**	*i* P		**Pn**	03 37 35.1	+1.2
GOLH				*i* S		**Sn**	03 38 25.7	-3.3
AMT	**Artemida-Makis**	**4.73**	**321**	P		**Pn**	03 37 36.0	+1.9
AMT	**Artemida-Makis**	**4.73**	**321**	*e*PN		Pn	03 37 37.0	+2.9
AMT	**Artemida-Makis**	**4.73**	**321**	P		**Pn**	03 37 36.0	+1.9
AMT	**Artemida-Makis**	**4.73**	**321**	*e*Pn		Pn	03 37 37.0	+2.9
GUR	**Goura**	**4.75**	**329**	P		**Pn**	03 37 35.0	+0.6
GUR				S		**Sn**	03 38 28.1	-1.8
GUR	**Goura**	**4.75**	**329**	*e*PN		**Pn**	03 37 35.4	+1.0
GUR	**Goura**	**4.75**	**329**	P		**Pn**	03 37 35.0	+0.6
GUR	**Goura**	**4.75**	**329**	*e*Pn		**Pn**	03 37 35.4	+1.0
GUR				S		**Sn**	03 38 28.1	-1.8
KLV	**Kalavryta, Ach**	**4.92**	**328**	P		**Pn**	03 37 37.3	+0.5
KLV				S		**Sn**	03 38 32.7	-1.4
KLV	**Kalavryta, Ach**	**4.92**	**328**	*e*PN		**Pn**	03 37 37.5	+0.7
KLV	**Kalavryta, Ach**	**4.92**	**328**	*e*Pn		**Pn**	03 37 37.5	+0.7
KLV				S		**Sn**	03 38 32.7	-1.4
MANT	**Manisa**	**5.21**	**28**	*i* P		**Pn**	03 37 40.5	-0.5
MANT				*i* S		Sn	03 38 32.3	-9.2
MANT	**Manisa**	**5.21**	**28**	*i* P		**Pn**	03 37 40.5	-0.5
EFP	**Efpalio**	**5.35**	**328**	*e*PN		Pn	03 37 45.3	+2.7
EFP	**Efpalio**	**5.35**	**328**	*e*Pn		Pn	03 37 45.3	+2.7
LJBD	**Adjabya** SNR=76	**5.36**	**238**	*i* P		Pn	03 37 47.3	+4.6
LJBD	comp=E,60nm,0.4s,SNR=76			*e*S		**Sn**	03 38 46.8	+2.0
KHAL	**Karahalli**	**5.52**	**35**	*i* P		**Pn**	03 37 46.1	+1.1
KHAL				*i* S		Sn	03 38 38.6	-10
KHAL	**Karahalli**	**5.52**	**35**	*i* P		**Pn**	03 37 46.1	+1.1
AGG	**Agios Georgios**	**5.69**	**335**	P		**Pn**	03 37 49.1	+1.8
AGG	**Agios Georgios**	**5.69**	**335**	*e*PN		Pn	03 37 51.0	+3.7
AGG	**Agios Georgios**	**5.69**	**335**	P		**Pn**	03 37 49.1	+1.8
SUTC	**Sutluce-Ispart**	**5.74**	**50**	*e*PN		**Pn**	03 37 47.2	-0.9
SUTC	**Sutluce-Ispart**	**5.74**	**50**	*e*Pn		**Pn**	03 37 47.2	-0.9
VLS	**Valsamata**	**5.80**	**319**	P		**Pn**	03 37 50.5	+1.6
VLS				S		**Sn**	03 38 53.7	-2.2
VLS	**Valsamata**	**5.80**	**319**	*e*PN		Pn	03 37 51.5	+2.6
VLS	**Valsamata**	**5.80**	**319**	P		**Pn**	03 37 50.5	+1.6
VLS	**Valsamata**	**5.80**	**319**	*e*Pn		Pn	03 37 51.5	+2.6
VLS				S		**Sn**	03 38 53.7	-2.2
DURS	**Dursunbey**	**6.17**	**22**	*i* P		**Pn**	03 37 54.4	+0.4
DURS	**Dursunbey**	**6.17**	**22**	*i* P		**Pn**	03 37 54.4	+0.4
SHUT	**Suhut-Afyon**	**6.20**	**40**	*e*PN		**Pn**	03 37 53.9	-0.5
SHUT	**Suhut-Afyon**	**6.20**	**40**	*e*Pn		**Pn**	03 37 53.9	-0.5
LKD2	**Lefkada island**	**6.22**	**323**	P		Pn	03 37 56.6	+2.0
LKD2				S		**Sn**	03 39 04.9	-1.3
LKD2	**Lefkada island**	**6.22**	**323**	*e*PN		Pn	03 37 56.8	+2.2
LKD2	**Lefkada island**	**6.22**	**323**	P		Pn	03 37 56.6	+2.0
LKD2				S		**Sn**	03 39 04.9	-1.3
ERMK	**Ermenek**	**6.68**	**64**	*i* P		**Pn**	03 37 58.8	-2.2
ERMK				*i* S		Sn	03 39 08.4	-9.2
ERMK	**Ermenek**	**6.68**	**64**	*i* P		**Pn**	03 37 58.8	-2.2
GLL	**Jalalah** baz=127	**6.85**	**127**	P		**Pn**	03 38 04.9	+1.6
GLL	**Jalalah**	**6.85**	**127**	P		**Pn**	03 38 04.9	+1.6
IGT	**Igoumenitsa**	**6.96**	**325**	P		**Pn**	03 38 05.4	+0.7
IGT	**Igoumenitsa**	**6.96**	**325**	P		**Pn**	03 38 05.4	+0.7
SRN	**Sarande**	**7.39**	**325**	P		**Pn**	03 38 11.5	+0.9
SRN	**Sarande**	**7.39**	**325**	P		**Pn**	03 38 11.5	+0.9
FNA	**Florina**	**7.59**	**336**	*e*PN		**Pn**	03 38 14.8	+1.3
MMAI	**Mount Meron Ar** baz=271,slow=13,SNR=2.6	**8.36**	**93**	Pn		**Pn**	03 38 24.1	+0.1
MMAI	comp=E,2.7nm,0.3s,baz=266,slow=19,SNR=3.5			Sn		**Sn**	03 39 59.1	+0.3
GRB	**Gharib** baz=130	**8.43**	**130**	P		**Pn**	03 38 26.4	+1.5
GRB	**Gharib**	**8.43**	**130**	P		**Pn**	03 38 26.4	+1.5
BRTR	**Keskin Array B** comp=E,0.1nm,0.3s,baz=226,slow=14,SNR=10	**8.76**	**46**	Pn		**Pn**	03 38 30.8	+1.3
BRTR	comp=E,0.1nm,0.3s,baz=218,slow=26,SNR=2.3			Sn		**Sn**	03 40 05.5	-3.1
TIP	**Timpagrande**	**8.76**	**309**	P		**Pn**	03 38 30.6	+1.2
TIP	**Timpagrande**	**8.76**	**309**	P		**Pn**	03 38 30.6	+1.2
EIL	**Elat** comp=E,0.5nm,0.3s,baz=356,slow=14,SNR=4.7	**9.12**	**115**	Pn		**Pn**	03 38 34.8	+0.5
EIL	comp=E,0.5nm,0.3s,baz=55,slow=16,SNR=2.9			Sn		**Sn**	03 40 14.5	-2.8
ASF	**Jabal al Asfar**	**9.76**	**97**	Pn		**Pn**	03 38 44.3	+1.1
MLR	**Muntele Rosu** comp=E,0.1nm,0.3s,baz=180,slow=20,SNR=3.0	**11.57**	**2**	Pn		Pn	03 39 11.0	+2.9
KBZ	**Khabaz** comp=E,0.1nm,0.3s,baz=284,slow=9.1,SNR=3.8	**16.73**	**49**	Pn		**P**	03 40 21.5	+2.1
GERES	**GERESS Array B** comp=E,0.2nm,0.3s,baz=146,slow=12,SNR=21	**17.30**	**333**	P		**P**	03 40 26.4	+0.5
CABF	**La Chapelle**	**19.42**	**317**	*e*P		**Pn**	03 40 50.4	+0.1
HINF	**Hinteralfeld** comp=E,2.9nm,0.6s	**19.70**	**320**	*e*P		**Pn**	03 40 54.3	+0.6
HINF	**Hinteralfeld** comp=E,2.0nm,0.6s	**19.70**	**320**	*e*P		**Pn**	03 40 54.3	+0.6
PAGF	**Fort de Pagny** comp=E,2.0nm,0.6s	**20.75**	**321**	*e*P		Pn	03 41 05.1	-0.9
PAGF	**Fort de Pagny** comp=E,2.0nm,0.6s	**20.75**	**321**	*e*P		Pn	03 41 05.1	-0.9
TCF	**Toulx Ste Croi**	**21.57**	**312**	*e*P		**P**	03 41 14.5	+2.0
TCF	**Toulx Ste Croi**	**21.57**	**312**	*e*P		**P**	03 41 14.5	+2.0
RJF	**Les Rejaudoux**	**21.59**	**309**	*e*P		**P**	03 41 15.1	+2.4
RJF	**Les Rejaudoux**	**21.59**	**309**	*e*P		**P**	03 41 15.1	+2.4
ESDC	**Sonseca Array** comp=E,0.2nm,0.3s,baz=75,slow=8.5,SNR=4.0	**24.19**	**292**	P		**P**	03 41 41.1	+1.5
QUIF	**Quistinic**	**25.59**	**312**	*e*P		**P**	03 41 53.9	+1.9
QUIF	**Quistinic**	**25.59**	**312**	*e*P		**P**	03 41 53.9	+1.9
HFS	**Hagfors** comp=E,2.6nm,0.8s,baz=183,slow=8.7,SNR=3.1	**27.35**	**347**	P		**P**	03 42 08.6	+0.8
AKTO	**Aktyubinsk** comp=E,0.4nm,0.4s,baz=260,slow=14,SNR=4.1	**28.93**	**45**	P		**P**	03 42 22.4	+0.4
TORD	**Torodi Ar. Bea** comp=E,0.4nm,0.9s,baz=33,slow=8.3,SNR=5.5	**29.89**	**232**	P		P	03 42 33.4	+2.5
ARCES	**ARCES Array B** comp=E,1.3nm,0.8s,baz=179,slow=9.0,SNR=3.2	**35.68**	**0**	P		**P**	03 43 19.9	-1.0
MKAR	**Makanchi Array** comp=E,1.4nm,0.7s,baz=279,slow=6.1,SNR=18	**44.27**	**55**	P		**P**	03 44 33.3	+0.7
SCHQ	**Schefferville** comp=E,1.8nm,0.7s,baz=63,slow=11,SNR=5.5	**64.30**	**320**	P		**P**	03 46 59.0	+0.6
ILAR	**Eielson Array** comp=E,0.4nm,0.7s,baz=352,slow=3.1,SNR=5.8	**81.46**	**357**	P		**P**	03 48 41.0	+1.0

IDC 10 03:41:33.7±0.7, 59.58S×25.88W, h0km, mb4.0/8, mb1 4.1/9, mb1mx4.0/20, mbtmp4.0/9, ML4.0/1, Error ellipse: s-maj=26.3km s-min=17.7km az=56.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SNAA	**Sanae** 0.7nm,0.3s,baz=324,slow=14,SNR=25	**15.26**	**152**	Op Pn		Pn	03 45 10.0	-0.1
SNAA	0.1nm,0.3s,baz=327,slow=21,SNR=5.5			Sn		Sn	03 47 47.0	-13
USHA	**Ushuaia** 7.2nm,0.8s,baz=90,slow=10,SNR=3.6	**23.22**	**263**	P		P	03 46 42.7	+0.8
QSPA	**South Pole Qui** 1.6nm,0.6s,baz=188,slow=3.3,SNR=18	**30.66**	**180**	P		P	03 47 50.6	+1.0
QSPA	1.0nm,0.6s,baz=153,slow=0.8,SNR=5.1			PcP		PcP	03 50 46.9	-0.4
MAW	**Mawson** 3.6nm,0.6s,baz=236,slow=18,SNR=6.9	**36.93**	**140**	P		P	03 48 41.8	-1.9
CFAA	**Coronel Fontan** 0.1nm,0.3s,baz=152,slow=9.7,SNR=3.5	**39.66**	**296**	P		P	03 49 06.8	-0.4
VNDA	**Vanda** 1.0nm,0.8s,baz=181,slow=5.1,SNR=4.5	**43.07**	**182**	P		P	03 49 35.6	+1.0
LVC	**Limon Verde** 1.6nm,0.5s,baz=122,slow=6.7,SNR=4.0	**47.71**	**302**	P		P	03 50 10.9	-1.4
LPAZ	**La Paz** 0.8nm,0.4s,baz=77,slow=6.4,SNR=10	**53.01**	**306**	P		P	03 50 53.0	+0.2
TORD	**Torodi Ar. Bea** 0.7nm,0.4s,baz=198,slow=6.3,SNR=30	**75.83**	**28**	P		P	03 53 23.0	+1.7
HFS	**Hagfors** 2.9nm,0.9s,baz=266,slow=2.3,SNR=2.7	**123.29**	**22**	PKP	PKPdf		04 00 29.2	-1.6
FINES	**FINESS Array B** 1.5nm,0.8s,baz=272,slow=4.0,SNR=3.0	**127.17**	**28**	PKP	PKPdf		04 00 38.0	-0.3
ILAR	**Eielson Array** 0.3nm,0.4s,baz=144,slow=2.0,SNR=5.0	**152.89**	**306**	PKPbc	PKPbc		04 01 29.9	-1.1

*SSS **10** 03:46:01.6, 13.87N×91.31W, h17km, MD3.5*
CASC 10 03:46:00.9±1.6, 13.76N×91.38W, h20km±14km, MD3.3, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.61**	**336**	*e*P		Pb	03 46 13.5	+0.6
FUG	**Fuego 3**	**0.86**	**37**	*e*P		Pb	03 46 16.8	-0.7
PCG	**Pacaya**	**0.98**	**50**	*e*P		Pb	03 46 19.3	-0.3
NBG	**Las Nubes**	**1.30**	**51**	*e*P		Pn	03 46 24.4	+0.1
NBG				*e*S		Sb	03 46 42.8	+1.2
RBDL	**Robledal**	**1.69**	**78**	*e*P		Pn	03 46 29.6	+0.1
RTR	**El Retiro**	**1.69**	**85**	*e*P		Pn	03 46 30.0	+0.4
SBLS	**San Blas**	**1.71**	**87**	*e*P		Pn	03 46 29.8	-0.1
SBLS				*e*S		Sn	03 46 52.2	+0.8
SNJE	**San Jose**	**1.73**	**86**	*e*P		Pn	03 46 30.2	0.0
LFRS	**El Faro**	**2.26**	**93**	*e*P		Pn	03 46 37.8	+0.5
LFRS				*e*S		Sn	03 47 05.7	+0.9
SNVI	**San Vicente**	**2.48**	**93**	*e*S		Sn	03 47 11.2	+1.0

*BJI **10** 03:48:04.5, 0.20N×123.30E, h250km, mB4.6/17, mb4.9/48*
*MOS **10** 03:48:05.5±1.3, 0.34N×123.21E, h253km, mb5.0/48, Error ellipse: s-maj=10.1km s-min=5.2km az=115.5*
*IDC **10** 03:48:06.0±0.5, 0.32N×123.30E, h247km±4km, mb4.6/33, mb1 4.7/35, mb1mx4.7/36, mbtmp4.6/35, Error ellipse: s-maj=9.6km s-min=5.9km az=82.0*
*DJA **10** 03:48:06.6±0.2, 0°N±2°×12°3E±°, h249km±2km, M5.2/43, mB5.5/15, mb5.2/43, MLv6.0/4, Mw(mB)5.0/15, Mwp6.0/1*
*ISCJB **10** 03:48:06.2±0.2, 0.26N±0.02×123.41E±0.02, h265km±2km, mb4.9/136, Error ellipse: s-maj=3.8km s-min=2.7km az=2.5*
*NEIC **10** 03:48:06.8±0.6, 0.25N×123.30E, h254km±5km, mb5.0/61, Error ellipse: s-maj=5.3km s-min=3.4km az=73.0*
NEIC Felt [IV] at Luwuk.
*GCMT **10** 03:48:07.6±0.2, 0.26N×123.54E, h246km±1km, MW5.3, Moment Tensor Solution. s66,c94; s81,c138; Moment tensor: Scale 10^17Nm; Mrr0.88±.02; Mθθ-1.20±.02; Mϕϕ0.32±.02; Mrθ-0.07±.02; Mθϕ-0.04±.02; Mϕr-0.01±.03; Best double couple: M0 1.00000×10^17 NP1:ϕs89.00000°, δ43.00000°, λ91.00000°. NP2:ϕs268.00000°, δ47.00000°, λ89.00000°. Principal axes: T 0.8800, Plg88.0000°, Azm160.0000°; N 0.3200, Plg1.0000°, Azm269.0000°; P -1.2000, Plg2.0000°, Azm359.0000°; Data Used: II IU IC G CN.*
*BKK **10** 03:48:07.5±0.2, 0°N±3°×12°3E±°, h251km±3km, M5.1/41, mB5.5/21, mb5.2/41, MLv5.9/8, Mw(mB)4.9/21, Mwp5.3/2*
ISC 10 03:48:06.7±0.2, 0.26N±0.02×123.35E±0.04, h254km±1km, h255km:pP-P, n859, s1931/1065, mb4.9/147, 192C-162D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.50**	**318**	P		**Pn**	03 48 39.3	-0.8
KMSI	**Cibinong**	**0.70**	**64**	P		**Pn**	03 48 39.3	-1.5
LUWI	**Luwuk**	**1.42**	**204**	P		**Pn**	03 48 43.8	-1.0
LUWI				S		**S**	03 49 10.5	-4.5
MRSI	**Marisa**	**1.43**	**279**	P		**Pn**	03 48 43.0	-1.9
MNI	**Manado**	**1.90**	**52**	P		**Pn**	03 48 47.2	-1.5
SKSI	**Soroako, Sulaw**	**3.43**	**216**	P		**Pn**	03 49 04.1	-0.1
TNTI	**Ternate**	**4.05**	**83**	P		**Pn**	03 49 08.5	-2.8
LBMI	**Labuha**	**4.25**	**102**	P		**Pn**	03 49 10.7	-2.9
GAMI	**Galela, Maluku**	**4.71**	**71**	P		**Pn**	03 49 16.1	-3.0
TTSI	**Tana Toraja**	**4.82**	**227**	P		**Pn**	03 49 21.4	+0.9
NLAI	**Namlea**	**5.11**	**133**	P		**Pn**	03 49 23.2	-0.8
SPSI	**Sidrap Palu**	**5.52**	**220**	P		**Pn**	03 49 29.5	+0.5
BBSI	**Bau Bau**	**5.76**	**188**	P		**Pn**	03 49 32.6	+0.6
SGKI	**Sangatta, Kali**	**5.80**	**262**	P		**Pn**	03 49 32.8	+0.3
KAPI	**Kappang** 5µm,0.7s	**6.35**	**214**	Pn		**Pn**	03 49 39.7	+0.3
KAPI	**Kappang**	**6.35**	**214**	*e*Pn		**Pn**	03 49 38.5	-0.9
KAPI				*e*S		**S**	03 50 50.1	-3.5
KAPI	**Kappang** 989nm,0.9s,10µm4.3nm	**6.35**	**214**	P		**Pn**	03 49 38.9	-0.5
KAPI	**Kappang** 30nm,0.3s,baz=36,slow=6.6,SNR=116	**6.35**	**214**	P		**Pn**	03 49 38.9	-0.5
KAPI	11nm,0.3s,baz=224,slow=22,SNR=9.9			S		**S**	03 50 53.6	-0.1
BKSI	**Bulukumba**	**6.41**	**210**	P		**Pn**	03 49 40.4	+0.3
MSAI	**Masohi**	**6.63**	**123**	P		**Pn**	03 49 42.8	0.0
BKB	**Balikpapan**	**6.63**	**257**	P		**Pn**	03 49 44.0	+1.2
TSM	**Tawau**	**6.78**	**306**	P		**Pn**	03 49 46.2	+1.4
MYLDM	**Lahad Datu**	**6.88**	**315**	P		**Pn**	03 49 48.8	+2.9
BSSI	**Bau Bau, Buton**	**6.97**	**204**	P		**Pn**	03 49 47.7	+0.6
CTBH	**Cotabato--PC H**	**6.97**	**7**	*e*P		**Pn**	03 49 48.5	+1.4
DAV	**Davao City (W)**	**7.12**	**18**	*e*Pn		**Pn**	03 49 48.7	-0.3
DAV				*e*S		**S**	03 51 07.7	-3.5
DAV	**Davao City (W)** 970nm,1.1s,14µm3.1nm	**7.12**	**18**	P		**Pn**	03 49 48.2	-0.8
DAV	**Davao City (W)** 87nm,0.3s,baz=244,slow=4.3,SNR=13	**7.12**	**18**	P		**Pn**	03 49 50.3	+1.3
MATI	**Mati**	**7.25**	**24**	*e*P		**Pn**	03 49 49.3	-1.2
PAGZ	**Pagadian**	**7.54**	**0**	*e*P		**Pn**	03 49 55.7	+1.5
BUKP	**Musuan**	**7.76**	**13**	*e*P		**Pn**	03 49 57.0	0.0
BNDI	**Bandanaira**	**8.09**	**126**	P		**Pn**	03 50 01.2	0.0
SDKM	**Sandakan**	**8.14**	**311**	P		**Pn**	03 50 03.0	+1.1
MTKI	**Muara Teweh, K**	**8.54**	**262**	P		**Pn**	03 50 08.4	+1.5
MMRI	**Maumere**	**8.91**	**187**	P		**Pn**	03 50 12.3	+0.8
BUTP	**Butuan**	**8.94**	**15**	*e*P		**Pn**	03 50 14.4	+2.4
KKM	**Kota Kinabalu** 336nm,1.3s	**9.15**	**309**	*e*Pn		**Pn**	03 50 16.4	+1.7
KDM	**Kudat**	**9.27**	**316**	P		**Pn**	03 50 15.8	-0.3
BBKI	**Banjar Baru**	**9.27**	**246**	P		**Pn**	03 50 17.8	+1.6
FAKI	**Fak Fak**	**9.44**	**110**	P		**Pn**	03 50 17.8	-0.5
MSLP	**Maasin**	**9.92**	**9**	*e*P		**Pn**	03 50 25.9	+1.6
SOEI	**Soe**	**9.99**	**175**	P		**Pn**	03 50 27.7	+2.4
BATP	**Bataraza**	**10.12**	**327**	*e*P		**Pn**	03 50 25.1	-1.7
WSI	**Waingapu**	**10.32**	**197**	P		**Pn**	03 50 31.0	+1.7
GUIM	**Jordan**	**10.32**	**356**	*e*P		**Pn**	03 50 30.3	+1.0
WBSI	**Waikabubak, Su**	**10.60**	**202**	P		**Pn**	03 50 34.4	+1.6
BASI	**Baing, Sumba**	**10.77**	**195**	P		**P**	03 50 37.4	-2.0
RCP	**Roxas**	**11.24**	**357**	*e*P		**Pn**	03 50 42.2	+1.4
BESP	**Borongan**	**11.46**	**10**	*e*P		**Pn**	03 50 44.7	+1.2
KHKI	**Kahang-Kahang** 132nm,0.9s,2µm45µm	**11.53**	**222**	P		**P**	03 50 46.7	-1.2
ENPP	**El Nido**	**11.55**	**340**	*e*P		**Pn**	03 50 45.7	+1.0
SRBI	**Singaraja**	**11.60**	**224**	P		**Pn**	03 50 46.8	+1.5
STKI	**Sintang**	**11.88**	**269**	P		**P**	03 50 50.4	-1.4
PBKI	**Pangkalan Bun**	**12.04**	**256**	P		**Pn**	03 50 52.1	+1.3
BUSP	**Coron**	**12.08**	**345**	*e*P		**Pn**	03 50 52.5	+1.3
OTRP	**Odiongan**	**12.10**	**354**	*e*P		**P**	03 50 56.9	+2.7
IGBI	**Denpasar**	**12.17**	**222**	P		**P**	03 50 55.5	+0.5
CNP	**Catarman**	**12.24**	**6**	*e*P		**P**	03 50 54.6	-1.1
BYJI	**Banyuwangi**	**12.30**	**227**	P		**P**	03 50 58.0	+1.6
SJMP	**San Jose**	**12.32**	**350**	*e*P		**Pn**	03 50 55.3	+1.0
BLJI	**Banyuglugur**	**12.56**	**231**	P		**P**	03 51 01.1	+1.7
JAGI	**Jajag, Banyuwa**	**12.62**	**226**	P		**P**	03 51 00.1	+0.1
BAKI	**Biak** 653nm,0.8s,5µm	**12.84**

comp=Z,74nm,1.0s
PMG Port Moresby 25.58 113 P **P** **03 53 13.0 +0.1**
comp=Z,27nm,0.6s,baz=332,slow=7.3,SNR=8.7
KCSI Kotacane, Aceh 25.77 278 P **P** **03 53 14.1 -0.6**
AS31 Alice Springs 25.90 157 *eP* **P** **03 53 15.6 -0.1**
ASAR Alice Springs 25.90 157 P **P** **03 53 15.8 0.0**
ASAR pP **pP** **03 54 05.7 +0.6**
ASAR PcP **PcP** **03 56 37.9 +0.2**
ASAR S **S** **03 57 26.4 -0.3**
ASAR ScP **ScP** **03 59 54.2 +1.3**
ASAR Alice Springs 25.90 157 P **P** **03 53 15.8 0.0**
comp=Z,33nm,0.7s,baz=333,slow=7.1,SNR=198
ASAR pP **pP** **03 54 05.7 +0.6**
comp=Z,61nm,1.0s,baz=325,slow=11,SNR=4.8
ASAR PcP **PcP** **03 56 37.9 +0.2**
comp=Z,18nm,0.6s,baz=346,slow=2.1,SNR=14
ASAR S **S** **03 57 26.4 -0.3**
comp=Z,13nm,0.8s,baz=350,slow=24,SNR=5.1
ASAR ScP **ScP** **03 59 54.2 +1.3**
comp=Z,8.2nm,0.9s,baz=343,slow=2.6,SNR=6.5
PHET Kaeng Krachan 26.66 299 P **P** **03 53 24.2 +1.6**
comp=Z,148nm,0.7s
LOEI Loei 27.68 309 P **P** **03 53 30.0 -1.7**
comp=Z,93nm,0.7s,comp=Z,972nm
BSI Banda Aceh 28.49 281 P **P** **03 53 38.1 -0.8**
comp=Z,39nm,1.0s
LAMP Lampang 29.53 309 P **P** **03 53 50.5 +2.5**
comp=Z,8.1nm,0.9s,comp=Z,142nm
CMAR Chiang Mai Arr 30.03 308 P **P** **03 53 53.7 +1.3**
CMAR PcP **PcP** **03 56 49.0 +1.1**
CMAR ScP **ScP** **04 00 07.3 +1.5**
CMAR PKiKP **PKiKP** **04 04 19.6 -0.2**
CMAR Chiang Mai Arr 30.03 308 P **P** **03 53 53.7 +1.3**
comp=Z,5.6nm,0.5s,baz=138,slow=7.6,SNR=41
CMAR PcP **PcP** **03 56 49.0 +1.1**
comp=Z,3.2nm,0.6s,baz=168,slow=2.0,SNR=4.9
CMAR ScP **ScP** **04 00 07.3 +1.5**
comp=Z,5.4nm,0.8s,baz=167,slow=2.7,SNR=12
CMAR PKiKP **PKiKP** **04 04 19.6 -0.2**
comp=Z,1.0nm,0.3s,baz=278,slow=1.3,SNR=5.0
CTAO Charters Tower 30.20 133 *eP* **P** **03 53 54.3 +0.3**
CTAO pmax pmax
comp=Z,23nm,0.8s
CTAO Charters Tower 30.20 133 *eP* **P** **03 53 54.3 +0.3**
comp=Z,24nm,0.8s
CMMT Chiang Mai 30.23 309 P **P** **03 53 55.5 +1.4**
CMMT Chiang Mai 30.23 309 P **P** **03 53 55.7 +1.6**
comp=Z,34nm,1.1s
CHTO Chiang Mai 30.23 309 *eP* **P** **03 53 55.4 +1.3**
CHTO *e* 03 56 49.0
CHTO pmax pmax
comp=Z,32nm,1.0s
CHTO Chiang Mai 30.23 309 *eP* **P** **03 53 55.4 +1.3**
comp=Z,32nm,1.0s
CHTO *e*PcP **PcP** **03 56 49.0 +0.5**
CHTO Chiang Mai 30.23 309 P **P** **03 53 55.5 +1.3**
comp=Z,37nm,1.1s,comp=Z,526nm
CHTO Chiang Mai 30.23 309 P **P** **03 53 55.8 +1.6**
comp=Z,37nm,1.1s,comp=Z,527nm
GYA Guiyang 30.61 330⇓ *iP* **P** **03 53 59.4 +1.9**
GYA pP **pP** **03 54 50.0 +2.1**
GYA PP **PP** **03 55 12.0 -0.4**
GYA sP **sP** **03 55 19.3 +2.0**
GYA PcP **PcP** **03 56 50.4 +1.0**
GYA S **S** **03 58 41.6 +0.9**
GYA sS **sS** **04 00 11.4 +0.1**
GYA PcS **PcS** **04 00 35.0 +1.2**
GYA SS **SS** **04 00 47.2 -6.8**
GYA ScS **ScS** **04 04 03.6 -1.2**
GYA pmax pmax
comp=Z,20nm,0.6s
GYA pmax pmax
comp=Z,100nm,2.7s
CMAI Chiengmai2 30.80 311 P **P** **03 54 01.3 +1.9**
comp=Z,34nm,0.8s,comp=Z,1μm
FORT Forrest 31.19 172 *eP* **P** **03 54 02.0 -0.4**
comp=Z,376nm,0.7s
FORT *e*PcP **PcP** **03 56 50.9 +0.2**
WHN Wuhan 31.31 345⇓ P P 03 54 06.9 +3.5
WHN S **S** **03 58 51.9 +0.7**
WHN LR LR
comp=N,960nm,12.8s
WHN LR LR
comp=E,370nm,6.2s
WHN LR LR
comp=Z,690nm,13.5s
KMI Kunming 31.75 323 P **P** **03 54 10.2 +2.6**
KMI pP **pP** **03 54 58.3 +0.1**
KMI sP **sP** **03 55 24.8 -2.8**
KMI S **S** **03 58 59.7 +1.0**
KMI sS **sS** **04 00 25.5 -4.0**
KMI SS SS 04 01 09.3 -11
KMI pmax pmax
comp=Z,18nm,1.3s
KMI pmax pmax
comp=Z,69nm,4.6s
KMI LR LR
comp=N,380nm,12.2s
KMI LR LR
comp=E,220nm,14.7s
KMI LR LR
comp=Z,290nm,23.6s
NJ2 Nanjing 31.90 353 *eP* **P** **03 54 11.0 +2.4**
NJ2 pmax pmax
comp=Z,20nm,0.6s
ENH Enshi 32.63 337 *eP* **P** **03 54 16.4 +1.4**
comp=Z,72nm,0.8s
JNU Nakatsue 33.45 12 *eP* **P** **03 54 21.3 -0.7**
comp=Z,14nm,0.9s
JNU Nakatsue 33.45 12 P **P** **03 54 20.9 -1.1**
comp=Z,30nm,0.9s,baz=166,slow=7.0,SNR=8.7
NWAO Narrogin (SRO) 33.51 189 *eP* **P** **03 54 22.8 +0.2**
comp=Z,28nm,0.7s
NWAO Narrogin (SRO) 33.51 189 P **P** **03 54 22.6 +0.1**
comp=Z,34nm,0.6s,baz=0.5,slow=9.3,SNR=28
BBOO Buckleboo 35.01 161 *eP* **P** **03 54 35.4 0.0**
comp=Z,870nm,0.6s
BBOO *e*PP **PP** **03 55 58.2 -2.6**
BBOO *e*S **S** **03 59 49.1 +0.9**
CD2 Chengdu 35.70 330 P **P** **03 54 42.5 +1.1**
CD2 pP **pP** **03 55 34.3 +1.6**
CD2 sP **sP** **03 56 03.2 +1.3**
CD2 PP **PnPn** **03 56 13.6 +2.4**
CD2 PcP **PcP** **03 57 04.3 +0.6**
CD2 S **S** **04 00 00.8 +1.8**
CD2 ScP **ScP** **04 00 25.0 -0.3**
CD2 PcS **PcS** **04 00 51.0 -0.4**
CD2 sS **sS** **04 01 31.9 +1.0**
CD2 pmax pmax
comp=Z,60nm,0.5s
CD2 pmax pmax
comp=Z,320nm,5.0s
XAN Xi'an 36.22 340 P **P** **03 54 46.0 +0.3**
XAN pP **pP** **03 55 38.0 +0.9**
XAN PP **PnPn** **03 56 18.0 +0.7**
XAN S **S** **04 00 06.1 -0.7**
XAN sS **sS** **04 01 37.5 -1.3**
XAN SS **SS** **04 02 48.7 -8.3**
XAN pmax pmax
comp=Z,14nm,0.7s
XAN pmax pmax
comp=Z,95nm,4.6s
STKA Stephens Creek 36.33 153 *eP* **P** **03 54 46.5 -0.1**
comp=Z,5.6nm,0.6s
STKA *e*PP **PP** **03 56 13.2 -2.0**
STKA *e*PcP **PcP** **03 57 05.5 +0.1**
STKA PcP PcP 03 57 05.8 +0.4
STKA S **S** **04 00 06.0 -2.4**
STKA ScP **ScP** **04 00 28.1 +0.6**
STKA Stephens Creek 36.33 153 P **P** **03 54 46.5 -0.1**
comp=Z,29nm,0.7s,baz=325,slow=8.1,SNR=55
STKA PcP **PcP** **03 57 05.8 +0.4**
comp=Z,20nm,0.6s,baz=352,slow=6.6,SNR=3.5
STKA S **S** **04 00 06.0 -2.4**
comp=Z,4.5nm,0.8s,baz=270,slow=20,SNR=3.4
STKA ScP **ScP** **04 00 28.1 +0.6**
comp=Z,6.7nm,0.7s,baz=18,slow=3.2,SNR=3.7
KSAR Wonju Array Be 37.23 6 P **P** **03 54 54.0 -0.1**
KSAR PcP **PcP** **03 57 08.7 +0.6**
KSAR ScP **ScP** **04 00 31.2 +0.5**
KSRS Korea Array 37.25 6 P **P** **03 54 54.0 -0.2**
comp=Z,30nm,0.8s,baz=189,slow=9.1,SNR=30
KSRS PcP **PcP** **03 57 08.7 +0.6**
comp=Z,2.0nm,0.6s,baz=149,slow=2.5,SNR=4.3
KSRS ScP **ScP** **04 00 31.2 +0.4**

comp=Z,4.1nm,0.8s,baz=191,slow=3.5,SNR=10
DL2 Dalian 38.49 358 P **P** **03 55 06.0 +1.5**
DL2 S **S** **04 00 39.8 -0.8**
DL2 pmax pmax
comp=Z,78nm,0.6s
MAJO Matsushiro 38.64 19 *eP* **P** **03 55 04.8 -1.1**
MAJO pmax pmax
comp=Z,53nm,0.8s
MAJO Matsushiro 38.64 19 *eP* **P** **03 55 04.8 -1.1**
comp=Z,52nm,0.8s
MAT Matsushiro 38.64 19 P **P** **03 55 04.5 -1.4**
MAT S **S** **04 00 38.8 -4.2**
MJAR Matsushiro Arr 38.64 19 P **P** **03 55 04.6 -1.3**
MJAR pP **pP** **03 55 56.6 -1.3**
MJAR ScP **ScP** **04 00 37.0 +0.8**
MJAR Matsushiro Arr 38.64 19 P **P** **03 55 04.6 -1.3**
comp=Z,42nm,0.8s,baz=195,slow=9.5,SNR=80
MJAR pP **pP** **03 55 56.6 -1.3**
comp=Z,9.8nm,0.8s,baz=192,slow=8.9,SNR=2.7
MJAR ScP **ScP** **04 00 37.0 +0.8**
comp=Z,11nm,0.9s,baz=188,slow=4.6,SNR=11
SHL Shillong 39.44 312 *eP* **P** **03 55 13.0 +0.2**
LZH Lanzhou 39.99 335 *eP* **P** **03 55 18.7 +1.5**
LZH pP **pP** **03 56 13.5 +4.0**
LZH sP **sP** **03 56 37.9 -0.6**
LZH PcP **PcP** **03 57 18.8 +1.8**
LZH S **S** **04 01 05.0 +1.6**
LZH sS **sS** **04 02 41.0 +4.3**
LZH SS **SS** **04 04 09.1 -2.8**
LZH pmax pmax
comp=Z,35nm,1.0s
LZH pmax pmax
comp=Z,97nm,4.4s
LZH LR LR
comp=N,320nm,12.7s
LZH LR LR
comp=E,320nm,12.3s
LZH LR LR
comp=Z,570nm,15.7s
BJT Baijiatuan 40.11 351 *eP* **P** **03 55 18.7 +0.8**
comp=Z,26nm,0.4s
BJI Beijing 40.13 351 P **P** **03 55 19.3 +1.3**
BJI pP **pP** **03 56 13.4 +3.0**
BJI sP **sP** **03 56 40.1 +0.8**
BJI PP **PP** **03 56 57.5 +1.2**
BJI S **S** **04 01 01.0 -4.0**
BJI sS **sS** **04 02 36.5 -1.7**
BJI SS **SS** **04 04 08.0 -6.2**
BJI pmax pmax
comp=Z,50nm,0.8s
ARMA Armidale 40.67 141 *eP* **P** **03 55 23.9 +1.1**
comp=Z,40nm,0.6s
HHC Hu-ho-hao-te 41.79 347 *eP* **P** **03 55 33.5 +1.8**
HHC pP **pP** **03 56 26.5 +2.0**
HHC sP **sP** **03 56 55.4 +2.1**
HHC PP **PP** **03 57 17.7 +3.4**
HHC S **S** **04 01 33.7 +4.0**
HHC sS **sS** **04 03 05.4 +1.8**
HHC SS **SS** **04 04 44.2 -2.7**
HHC ScS **ScS** **04 05 06.1 -0.4**
HHC pmax pmax
comp=Z,34nm,0.8s
LSA Lhasa 42.40 317 P **P** **03 55 37.7 +0.5**
LSA Lhasa 42.40 317 *eP* **P** **03 55 38.8 +1.6**
LSA pmax pmax
comp=Z,21nm,0.6s
LSA Lhasa 42.40 317 *eP* **P** **03 55 38.8 +1.6**
comp=Z,21nm,0.6s
CAN Canberra 42.73 149 *eP* **P** **03 55 40.2 +0.9**
CAN *e* 03 57 26.6
CAN pmax pmax
comp=Z,78nm,0.6s
CAN Canberra 42.73 149 *eP* **P** **03 55 40.2 +0.9**
comp=Z,78nm,0.6s
CAN *e*PcP **PcP** **03 57 26.6 +0.7**
PALK Pallekele 43.09 280 *eP* **P** **03 55 42.3 -0.2**
comp=Z,10nm,0.7s
CN2 Changchun 43.39 2 *eP* **P** **03 55 46.0 +1.7**
CN2 *e*pP **pP** **03 56 39.5 +2.1**
CN2 *e*S **S** **04 01 54.5 +1.8**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
ODAN Odare 43.52 310 *eP* **P** **03 55 46.1 +0.2**
comp=Z,100nm,0.9s
TAPN Taplejung 43.54 311 *eP* **P** **03 55 46.3 +0.2**
comp=Z,41nm,0.5s
RAMN Ramite 44.17 310 *eP* **P** **03 55 51.6 +0.5**
comp=Z,101nm,0.5s
USRK Ussuriysk Arra 44.42 9 P **P** **03 55 52.0 -0.5**
comp=Z,13nm,0.6s,baz=192,slow=7.1,SNR=29
GTA Gaotai 44.51 334 *eP* **P** **03 55 54.7 +1.3**
GTA pP **pP** **03 56 51.5 +4.6**
GTA sP **sP** **03 57 17.7 +2.2**
GTA PcP **PcP** **03 57 33.4 +1.4**
GTA ScP **ScP** **04 01 01.3 +1.6**
GTA S **S** **04 02 09.4 +0.1**
GTA sS **sS** **04 03 44.4 +0.4**
GTA ScS **ScS** **04 05 22.0 -1.7**
GTA pmax pmax
comp=Z,90nm,0.5s
GTA pmax pmax
comp=Z,120nm,4.3s
GTA LR LR
comp=N,170nm,11.9s
GTA LR LR
comp=E,170nm,15.2s
GTA LR LR
comp=Z,250nm,12.8s
MDJ Mudanjiang 44.51 6 P **P** **03 55 53.5 +0.3**
MDJ pP **pP** **03 56 45.1 -1.5**
MDJ sP **sP** **03 57 14.3 -1.0**
MDJ ScP **ScP** **04 01 00.0 +0.6**
MDJ S **S** **04 02 10.3 +1.5**
MDJ sS **sS** **04 03 46.9 +3.3**
MDJ ScS **ScS** **04 05 25.0 +1.9**
MDJ pmax pmax
comp=Z,22nm,1.1s
MDJ pmax pmax
comp=Z,100nm,3.6s
MDJ Mudanjiang 44.51 6 *eP* **P** **03 55 53.1 -0.1**
comp=Z,59nm,0.8s
JIRN Jiri 44.85 311 *eP* **P** **03 55 56.7 +0.1**
comp=Z,70nm,0.5s
GUN Gumba 45.21 311 *eP* **P** **03 55 59.6 +0.2**
comp=Z,98nm,0.5s
ERM Erimo 45.24 21 *iP* **P** **03 56 01.1 +2.2**
PKI Pulchoki 45.40 310 *eP* **P** **03 56 00.6 -0.3**
comp=Z,36nm,0.5s
PKIN Phulchoki 45.41 310 *eP* **P** **03 56 00.6 -0.3**
comp=Z,32nm,0.5s
PKIN Phulchoki 45.41 310 *eP* **P** **03 56 00.9 0.0**
KKN Kakani 45.61 310 *eP* **P** **03 56 02.5 +0.1**
comp=Z,30nm,0.5s
DMN Daman 45.65 310 *eP* **P** **03 56 02.7 0.0**
comp=Z,30nm,0.5s
KOLN Koldanda 46.89 309 *eP* **P** **03 56 12.5 +0.2**
comp=Z,48nm,0.2s
ASAJ Asahikawa 46.91 19 *eP* **P** **03 56 12.1 +0.3**
comp=Z,36nm,1.3s
DANN Dangsing 47.05 310 *eP* **P** **03 56 13.5 -0.1**
comp=Z,196nm,0.8s
HYB Hyderabad 47.25 294 *iP* **P** **03 56 14.0 -1.0**
DZM Mont Dzumac 47.49 121 *eP* **P** **03 56 17.9 +1.0**
comp=Z,47nm,1.0s
PYUN Piuthan 47.52 309 *eP* **P** **03 56 17.3 +0.1**
comp=Z,254nm,1.0s
TAU Tasmania Unive 48.07 156 *eP* **P** **03 56 22.2 +1.4**
TAU pmax pmax
comp=Z,97nm,1.6s
TAU Tasmania Unive 48.07 156 *eP* **P** **03 56 22.2 +1.4**
comp=Z,97nm,1.6s
HIA Hailar 48.92 357 *eP* **P** **03 56 27.1 -0.1**
comp=Z,40nm,0.8s
HABR Khabarovsk 49.08 10 *eP* **P** **03 56 26.9 -1.4**
HABR *PP **pP** **03 57 20.9 -1.9**
HABR *e* 03 57 46.1
HABR *e* 03 58 23.1
HABR *e*S **S** **04 03 12.6 -0.6**
HABR *e*SS **sS** **04 04 48.0 -1.6**
HABR *e* 04 05 51.4
HABR *e*SS **SS** **04 06 47.8 -0.3**
HABR pmax pmax
comp=E,50nm,0.9s
HABR pmax pmax
comp=N,73nm,3.1s
HABR pmax pmax
comp=Z,87nm,2.1s
HABR MLR MLR
comp=Z,104nm,15.0s
KLR Kul'dur 49.31 7 *eP* P 03 56 25.8 -4.3
KLR pmax pmax
comp=Z,58nm,2.0s
YSS Yuzh-Sakhalins 49.50 17⇑ *eP* P 03 56 36.1 +4.5
YSS pmax pmax
comp=Z,20nm,0.8s
SONM Songino Array 49.62 345 P **P** **03 56 32.5 -0.2**
SONM ScP **ScP** **04 01 20.8 -0.3**
SONM Songino Array 49.62 345 P **P** **03 56 32.5 -0.2**
comp=Z,40nm,0.8s,baz=162,slow=7.9,SNR=96
SONM ScP **ScP** **04 01 20.8 -0.3**
comp=Z,11nm,0.8s,baz=162,slow=4.5,SNR=18
ZAK Zakamensk 52.79 344 *eP* **P** **03 56 55.9 -0.1**
ZAK *e* 03 57 57.2
ZAK *e* 04 06 17.0
ZAK pmax pmax
comp=Z,9.0nm,1.0s
WMQ Urumqi 53.75 328 P **P** **03 57 03.7 +0.6**
TLY Talaya 53.87 345 *eP* **P** **03 57 04.5 +0.8**
TLY pmax pmax
comp=Z,22nm,0.8s
TLY MLR MLR
comp=Z,159nm,21.0s
MOY Mondy 54.58 343 *eP* **P** **03 57 09.0 0.0**
MOY pmax pmax
comp=Z,22nm,1.3s
CLNS Chul'man 56.41 1 *eP* **P** **03 57 22.3 +0.5**
CLNS pmax pmax
comp=Z,24nm,0.7s
CLNS pmax pmax
comp=N,19nm,1.2s
CLNS pmax pmax
comp=E,6.0nm,0.6s
HVS Khovu-Aksy 56.56 338 *d iP* **P** **03 57 23.2 +0.2**
HVS pmax pmax
comp=Z,269nm,1.2s
KSH Kashi 58.22 318 P **P** **03 57 34.8 0.0**
KSH PP **PP** **03 59 50.5 +3.6**
KSH S **S** **04 05 18.8 +2.4**
KSH sS **ScS** **04 07 00.0 +1.3**
KSH SS **SS** **04 09 18.5 +5.7**
KSH pmax pmax
comp=Z,12nm,0.6s
KSH pmax pmax
comp=Z,61nm,3.1s
KSH LR LR
comp=N,110nm,11.2s
KSH LR LR
comp=E,130nm,5.1s
KSH LR LR
comp=Z,160nm,6.3s
MK31 Makanchi Array 58.58 328 P **P** **03 57 36.3 -0.7**
MK31 pmax pmax
comp=Z,10.0nm,0.3s
MK31 Makanchi Array 58.58 328 *eP* **P** **03 57 36.1 -0.9**
MK31 *e*PcP **PcP** **03 58 24.0 -0.4**
MKAR Makanchi Array 58.58 328 *ceP* **P** **03 57 36.2 -0.8**
MKAR pmax pmax
comp=Z,16nm,0.3s
MKAR Makanchi Array 58.58 328 P **P** **03 57 36.3 -0.7**
MKAR PcP **PcP** **03 58 24.2 -0.2**
MKAR ScP **ScP** **04 01 59.8 -0.3**
MKAR S **S** **04 05 22.7 +2.2**
MKAR P'P' 04 27 15.4
MKAR Makanchi Array 58.58 328 P **P** **03 57 36.3 -0.7**
comp=Z,16nm,0.3s,baz=123,slow=8.8,SNR=450
MKAR PcP **PcP** **03 58 24.2 -0.2**
comp=Z,14nm,0.7s,baz=127,slow=4.6,SNR=11
MKAR ScP **ScP** **04 01 59.8 -0.3**
comp=Z,3.1nm,0.6s,baz=132,slow=4.8,SNR=5.2
MKAR S **S** **04 05 22.7 +2.2**
comp=Z,1.4nm,0.9s,baz=126,slow=15,SNR=4.0
MKAR PKPPKP **P'P'df** **04 27 15.4 +1.0**
comp=Z,0.7nm,0.8s,baz=292,slow=4.5,SNR=5.5
ULHL Ulahol 59.44 321 P **P** **03 57 43.0 -0.3**
SNR=6.9
PETK Petropavlovsk- 59.91 23 P **P** **03 57 46.8 +0.8**
PETK *PP **pP** **03 58 41.5 -1.3**
PETK Petropavlovsk- 59.91 23 P **P** **03 57 46.8 +0.8**
PETK pP **pP** **03 58 41.5 -1.3**
PETK Petropavlovsk- 59.91 23 P **P** **03 57 46.8 +0.8**
comp=Z,6.9nm,0.6s,baz=202,slow=4.9,SNR=20
PETK pP **pP** **03 58 41.5 -1.3**
comp=Z,7.0nm,0.8s,baz=183,slow=4.1,SNR=3.1
KZA Kyzart 59.99 320 P **P** **03 57 47.1 -0.1**
SNR=14
TKM2 Tokmak 2 60.20 321 *iP* **P** **03 57 47.8 -0.6**
TKM2 Tokmak 2 60.20 321 P **P** **03 57 47.8 -0.6**
SNR=18
TKM2 Tokmak 2 60.20 321 *eP* **P** **03 57 47.9 -0.6**
comp=Z,15nm,0.6s
KBK Karagaybulak 60.48 321 P **P** **03 57 51.9 +1.7**
SNR=8.0
AAK Ala-Archa 60.75 320⇑ *eP* **P** **03 57 52.5 +0.4**
AAK pmax pmax
comp=Z,32nm,1.0s
AAK Ala-Archa 60.75 320 P **P** **03 57 52.0 -0.1**
SNR=6.6
AAK Ala-Archa 60.75 320 *eP* **P** **03 57 52.0 -0.1**
comp=Z,12nm,0.9s
AAK *e*PcP **PcP** **03 58 33.3 -0.1**
AAK PcP **PcP** **03 58 33.9 +0.5**
AAK Ala-Archa 60.75 320 P **P** **03 57 52.2 +0.2**
comp=Z,7.2nm,0.5s,baz=127,slow=9.0,SNR=15
AAK PcP **PcP** **03 58 33.9 +0.5**
comp=Z,7.9nm,0.8s,baz=98,slow=5.1,SNR=4.9
RPZ Rata Peaks 61.00 142 *eP* **P** **03 57 54.2 +0.7**
comp=Z,94nm,0.9s
AML Almayashu 61.02 320 P **P** **03 57 54.3 +0.2**
SNR=13
KBL Kabul 61.04 310 *eP* **P** **03 57 53.3 -0.9**
KBL *e* 03 58 50.8
KBL pmax pmax
comp=Z,79nm,0.7s
KBL Kabul 61.04 310 *eP* **P** **03 57 53.3 -0.9**
comp=Z,79nm,0.7s
KBL *e*PP **pP** **03 58 50.8 -0.5**
USP Ospenovka 61.07 321 P **P** **03 57 53.9 -0.2**
SNR=16
EKS2 Erkin-Say 61.22 320 *eP* **P** **03 57 55.2 0.0**
EKS2 *e* 03 58 35.5
EKS2 pmax pmax
comp=Z,11nm,0.8s
EKS2 Erkin-Say 61.22 320 P **P** **03 57 55.9 +0.7**
SNR=5.6
EKS2 Erkin-Say 61.22 320 *eP* **P** **03 57 55.2 0.0**
comp=Z,12nm,0.8s
EKS2 *e*PcP **PcP** **03 58 35.5 +0.3**
YAK Yakutsk 61.80 3 *eP* **P** **03 57 58.6 +0.2**
YAK *e* 03 58 36.1
YAK *e*PPP PPP 04 01 48.2
YAK *e*S **S** **04 05 58.5 -2.3**
YAK *e* 04 07 20.4
YAK *e*SS **SS** **04 10 02.6 -5.1**
YAK *e*SSS SSS 04 12 59.8
YAK pmax pmax
comp=Z,63nm,0.9s
YAK pmax pmax
comp=N,12nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK smax smax
comp=N,210nm,2.9s
YAK smax smax
comp=E,88nm,3.6s
KHZ Kahutara 61.90 140 *eP* **P** **03 57 59.5 +0.1**
comp=E,49nm,0.7s
ZAA0 Zalesovo Array 62.22 335 *eP* **P** **03 58 00.3 -1.1**
ZALV Zalesovo Beam 62.22 335 P **P** **03 57 59.9 -1.5**
ZALV S **S** **04 06 02.0 -4.4**
ZALV Zalesovo Beam 62.22 335 P **P** **03 57 59.9 -1.5**
ZALV S **S** **04 06 02.0 -4.4**
ZALV ⇑*e* 04 27 12.4
ZALV Zalesovo Beam 62.22 335 P **P** **03 57 59.9 -1.5**
comp=E,16nm,0.6s,baz=120,slow=5.8,SNR=21
ZALV S **S** **04 06 02.0 -4.4**
comp=E,0.8nm,0.3s,baz=150,slow=15,SNR=5.0
ZALV PKP2bc 04 27 12.4
comp=E,2.9nm,0.7s,baz=318,slow=3.3,SNR=8.3

URZ Urewera 62.45 134 eP P 03 58 02.7 -0.5
KURBB Kurchatov Arra 62.92 330 P P 03 58 04.9 -1.1
comp=E,17nm,0.6s,baz=132,slow=6.1,SNR=97
KURBB pP pP 03 59 01.6 -1.8
comp=E,5.4nm,0.8s,baz=126,slow=6.6,SNR=2.9
KURBB S S 04 06 11.2 -3.9
comp=E,0.3nm,0.2s,baz=127,slow=14,SNR=6.6
KURBB PKP2bc 04 27 08.6
comp=E,0.9nm,0.5s,baz=303,slow=3.2,SNR=7.5
KURK Kurchatov 62.93 330 P P 03 58 04.4 -1.7
comp=E,546nm,0.4s,SNR=13
KURK Kurchatov 62.93 330 P P 03 58 04.9 -1.2
KURK *PP pP 03 59 01.6 -1.9
KURK S S 04 06 11.2 -4.1
KURK Kurchatov 62.93 330 P P 03 58 04.9 -1.2
KURK pP pP 03 59 01.6 -1.9
KURK S S 04 06 11.2 -4.1
KURK ⇑e 04 27 08.6
NVS Novosibirsk 63.51 335 ⇓i P P 03 58 08.3 -1.5
NVS i S S 04 06 18.3 -4.0
NVS pmax pmax
comp=N,15nm,0.9s
NVS pmax pmax
comp=E,21nm,0.9s
NVS pmax pmax
comp=Z,29nm,0.9s
NVS smax smax
comp=N,15nm,1.8s
NVS smax smax
comp=E,66nm,1.8s
KK31 Karatay Array 63.55 319 i P P 03 58 09.5 -0.9
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 63.55 319 eP P 03 58 09.3 -1.1
KKAR pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 63.55 319 eP P 03 58 09.3 -1.1
comp=Z,4.1nm,0.6s
SEY Seymchan 66.17 14⇑eP P 03 58 28.5 +1.7
FX1 Attu Island--F 66.76 30 P P 03 58 31.1 +0.4
FX1 Attu Island--F 66.76 30 P P 03 58 31.1 +0.4
comp=Z,20nm,0.7s,baz=214,slow=3.6,SNR=4.0
CASY Casey 67.03 186 eP P 03 58 32.0 -0.1
comp=Z,26nm,0.7s
CASY ePcP PcP 03 58 58.2 -0.2
BRVK Borovoye 68.51 329 P P 03 58 40.0 -1.7
comp=Z,102nm,0.4s,SNR=6.8
BRVK Borovoye 68.51 329 d iP P 03 58 40.6 -1.1
BRVK pmax pmax
comp=Z,18nm,1.0s
BRVK Borovoye 68.51 329 eP P 03 58 40.5 -1.2
comp=Z,14nm,0.8s
TIXI Tiksi 71.36 2 d iP P 03 58 57.6 -1.0
TIXI pmax pmax
comp=Z,34nm,1.0s
AB31 Akbulak array 72.74 322 P P 03 59 05.8 -1.4
AB31 pmax pmax
comp=Z,4.0nm,0.4s
ABKAR Akbulak array 72.74 322 eP P 03 59 05.5 -1.7
comp=Z,9.2nm,0.6s
BILL Bilibino 73.76 15⇑eP P 03 59 12.8 0.0
BILL e 04 02 06.5
BILL eS S 04 08 21.0 -1.3
BILL pmax pmax
comp=Z,11nm,1.5s
AKTO Aktyubinsk 74.31 323 P P 03 59 15.2 -1.1
AKTO S S 04 08 26.0 -3.1
AKTO Aktyubinsk 74.31 323 P P 03 59 15.2 -1.1
AKTO S S 04 08 26.0 -3.1
AKTO Aktyubinsk 74.31 323 P P 03 59 15.2 -1.1
comp=Z,13nm,0.4s,baz=105,slow=7.0,SNR=63
AKTO S S 04 08 26.0 -3.1
comp=Z,0.5nm,0.3s,baz=195,slow=23,SNR=6.6
SVE Sverdlovsk 75.18 330⇓eP P 03 59 19.9 -1.2
SVE pmax pmax
comp=Z,43nm,0.6s
ARU Arti 76.09 329 d iP P 03 59 24.9 -1.4
ARU S S 04 08 46.7 -1.6
ABPO Ambohimpanom 76.97 251 eP P 03 59 32.2 0.0
ABPO pmax pmax
comp=Z,44nm,0.7s
ABPO Ambohimpanom 76.97 251 eP P 03 59 32.1 0.0
comp=Z,44nm,0.7s
OPO Ambohidratompo 76.97 251 P P 03 59 32.6 +0.4
OPO Ambohidratompo 76.97 251 P P 03 59 32.6 +0.4
comp=Z,42nm,0.7s,baz=78,slow=4.0,SNR=76
AKUT Akutan 78.67 35 eP P 03 59 41.2 +0.6
comp=Z,36nm,0.8s
RAYN Ar Rayn 78.75 294 P P 03 59 40.5 -1.3
comp=Z,125nm,0.7s,SNR=11
MAW Mawson 79.36 200 eP P 03 59 44.6 +0.6
comp=Z,5.0nm,0.7s
MAW Mawson 79.36 200 P P 03 59 44.6 +0.6
comp=Z,20nm,0.6s,baz=65,slow=5.5,SNR=41
VNDA Vanda 80.45 172 eP P 03 59 49.8 0.0
comp=Z,14nm,0.5s
VNDA Vanda 80.45 172 P P 03 59 50.0 +0.2
comp=Z,19nm,0.7s,baz=314,slow=5.9,SNR=101
DGRG David-gareji 80.82 312 P P 03 59 53.5 +1.0
GNI Garni 81.12 310 eP P 03 59 55.1 +0.8
comp=Z,7.8nm,0.6s
TBLG Delisi 81.33 312 eP P 03 59 55.3 +0.2
TBLG Delisi 81.33 312 P P 03 59 55.3 +0.2
DUS Dusheti 81.40 312 P P 03 59 57.5 +2.0
SBA Scott Base 81.40 172 eP P 03 59 55.5 +0.8
SBA pmax pmax
comp=Z,19nm,1.1s
SBA Scott Base 81.40 172 eP P 03 59 55.5 +0.8
comp=Z,19nm,1.1s
KZR Kazreti 81.52 312 P P 03 59 56.0 -0.1
ZEI Tsey 82.08 313 eP P 03 59 58.7 -0.5
ZEI pmax pmax
comp=Z,11nm,0.6s
ONI Oni 82.38 313 P P 04 00 01.0 +0.3
KBZ Khabaz 82.91 314 P P 04 00 02.2 -1.0
KBZ Khabaz 82.91 314 P P 04 00 02.2 -1.0
KBZ Khabaz 82.91 314 P P 04 00 02.2 -1.0
comp=Z,6.7nm,0.8s,baz=110,slow=4.7,SNR=12
KIV Kislovodsk 83.09 314⇑eP P 04 00 03.9 -0.4
KIV e*PP pP 04 01 03.2 -1.8
KIV eS S 04 09 58.4 -3.9
KIV eSS SS 04 15 26.0 -6.6
KIV pmax pmax
comp=Z,12nm,1.3s
CHVG Ch'k'valeri 83.40 313 P P 03 59 54.7 -11
SOC Sochi 85.20 314 eP P 04 00 12.7 -2.0
SOC e 04 03 32.3
SOC eS SKSac 04 10 11.7 -3.4
SOC eSS SS 04 16 08.8 +5.5
SOC eSSS SSS 04 19 29.3
SOC pmax pmax
comp=Z,22nm,0.8s
VORD Divnogorie 86.05 321 eP P 04 00 17.2 -1.5
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.6s
VORD pmax pmax
comp=Z,60nm,0.6s
KMBO Kilima Mbogo 86.10 269 eP P 04 00 20.6 +0.5
comp=Z,13nm,1.0s
KMBO Kilima Mbogo 86.10 269 P P 04 00 20.6 +0.5
comp=Z,8.9nm,0.9s,baz=64,slow=9.9,SNR=14
VSR Storozhevoye 86.14 321 eP P 04 00 17.7 -1.5
VSR pmax pmax
comp=Z,40nm,0.5s
VSR pmax pmax
comp=N,20nm,1.7s
VSR pmax pmax
comp=E,10.0nm,0.6s
OHAK Old Harbor 86.18 33 eP P 04 00 20.1 +0.9
comp=E,30nm,1.0s
OHAK epP pP 04 01 19.0 -1.3
KDAK Kodiak Island 86.61 32 P P 04 00 21.5 +0.2
KDAK pP pP 04 01 21.4 -1.1
KDAK Kodiak Island 86.61 32 P P 04 00 21.5 +0.2
comp=E,3.2nm,0.3s,baz=200,slow=1.7,SNR=23
KDAK pP pP 04 01 21.4 -1.1
comp=E,12nm,0.9s,baz=61,slow=4.1,SNR=5.0
ANN Anapa 86.91 315 eP P 04 00 20.9 -2.1
ANN eS SKSac 04 10 22.5 -3.1
ANN pmax pmax
comp=Z,43nm,0.7s
ANN MLR MLR
comp=Z,875nm,16.0s

TMCR Tamitsa 87.72 334 eP P 04 00 24.9 -1.5
TMCR pmax pmax
comp=Z,19nm,0.8s
OBN Obninsk 87.94 325⇑eP P 04 00 26.3 -1.3
OBN e 04 03 53.2
OBN eS S 04 10 51.7 +3.0
OBN pmax pmax
comp=Z,62nm,1.7s
SYO Syowa Base 88.00 201⇑iP P 04 00 26.8 -0.8
SYO Syowa Base 88.00 201⇓iPcP PcP 04 00 29.8 +0.6
COLD Coldfoot 88.38 23 eP P 04 00 29.7 +0.2
comp=Z,3.8nm,0.6s
COLD epP pP 04 01 28.8 -2.2
MCK McKinley 88.75 26 eP P 04 00 31.4 0.0
MCK pmax pmax
comp=Z,7.0nm,0.9s
MCK McKinley 88.75 26 eP P 04 00 31.4 0.0
comp=Z,6.9nm,0.9s
BR131 Keskin Array S 89.61 310 eP P 04 00 34.5 -1.6
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 89.61 310 P P 04 00 34.7 -1.4
BRTR Keskin Array B 89.61 310 P P 04 00 34.7 -1.4
comp=Z,3.1nm,0.6s,baz=126,slow=5.7,SNR=22
ILAR Eielson Array 89.66 25 P P 04 00 34.2 -1.4
ILAR PKKPbc PKKPdf 04 18 08.1 +2.5
ILAR Eielson Array 89.66 25 P P 04 00 34.2 -1.4
comp=Z,1.3nm,0.6s,baz=242,slow=5.2,SNR=23
ILAR PKKPbc PKKPdf 04 18 08.1 +2.5
comp=Z,1.7nm,0.8s,baz=71,slow=1.8,SNR=9.4
CSS Prodhromos 89.87 305 eP P 04 00 36.4 -0.8
comp=Z,13nm,0.8s
QSPA South Pole Qui 90.19 180 eP P 04 00 38.2 +0.1
comp=Z,22nm,1.0s
JOF Joensuu 90.70 333 ep P 04 00 38.7 -1.7
comp=Z,19nm,0.6s
JOF Joensuu 90.70 333 eP P 04 00 38.7 -1.7
JOF pmax pmax
comp=Z,19nm,0.6s
KEV Kevo 91.96 340 ep P 04 00 43.6 -2.5
comp=Z,2.9nm,0.5s
KEV Kevo 91.96 340 eP P 04 00 43.6 -2.5
KEV pmax pmax
comp=Z,3.0nm,0.5s
KIEV Kiev 92.43 321 eP P 04 00 47.0 -1.7
KIEV pmax pmax
comp=Z,5.0nm,0.6s
KIEV Kiev 92.43 321 eP P 04 00 47.0 -1.7
comp=Z,4.7nm,0.6s
ARCES ARCESS Array B 92.51 340 P P 04 00 46.7 -2.0
ARCES PKiKP PKiKP 04 05 36.6 +0.8
ARCES PKKP PKKPdf 04 18 01.1 +0.5
ARCES ARCESS Array B 92.51 340 P P 04 00 46.7 -2.0
comp=Z,10nm,0.7s,baz=88,slow=5.1,SNR=28
ARCES PKiKP PKiKP 04 05 36.6 +0.8
comp=Z,0.4nm,0.5s,baz=101,slow=1.0,SNR=6.1
ARCES PKKP PKKPdf 04 18 01.1 +0.5
comp=Z,1.2nm,0.5s,baz=242,slow=3.2,SNR=14
ARE0 ARCESS Array S 92.51 340 eP P 04 00 47.5 -1.1
KAF Kangasniemi 93.08 332 ep P 04 00 47.9 -3.5
comp=Z,4.2nm,0.6s
KAF Kangasniemi 93.08 332 eP P 04 00 47.9 -3.5
KAF pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 93.26 331 P P 04 00 50.4 -1.8
FINES PKiKP PKiKP 04 05 38.4 +1.1
FINES FINESS Array B 93.26 331 P P 04 00 50.4 -1.8
comp=Z,2.9nm,0.5s,baz=78,slow=3.8,SNR=15
FINES PKiKP PKiKP 04 05 38.4 +1.1
comp=Z,1.7nm,0.4s,baz=112,slow=4.3,SNR=6.6
CFR Carcaliu 93.50 315⇑P P 04 00 53.9 +0.2
CFR Carcaliu 93.50 315⇑iP P 04 00 53.9 +0.2
TESR Tescani 94.44 317⇑iP P 04 00 57.3 -0.7
VRI Vrincioaia 94.44 316⇓P P 04 00 57.8 -0.2
VRI Vrincioaia 94.44 316⇓iP P 04 00 57.8 -0.2
PLOR Plostina 94.49 316⇓P P 04 00 57.4 -0.9
PLOR Plostina 94.49 316⇓iP P 04 00 57.3 -1.0
INK Inuvik 94.60 21 P P 04 00 57.5 -0.7
INK PKKP PKKPdf 04 17 55.4 -1.4
INK Inuvik 94.60 21 P P 04 00 57.5 -0.7
comp=Z,1.9nm,0.5s,baz=276,slow=3.9,SNR=5.5
INK PKKP PKKPdf 04 17 55.4 -1.4
comp=Z,2.7nm,0.6s,baz=77,slow=2.7,SNR=4.0
MLR Muntele Rosu 95.02 316⇑iP P 04 00 59.3 -1.6
LSZ Lusaka 95.05 255 eP P 04 01 00.8 -0.8
comp=Z,37nm,0.7s
BURAR Bucovina Array 95.30 318⇑P P 04 01 01.7 -0.4
BURAR Bucovina Array 95.30 318⇑iP P 04 01 01.7 -0.4
BUR08 Bucovina Ar. S 95.31 319 eP P 04 01 00.9 -1.2
LOT Lot 96.54 316⇑iP P 04 01 07.2 -1.6
KWP Kalwaria Pacla 96.70 320⇓P P 04 01 07.9 -0.3
KWP Kalwaria Pacla 96.70 320 eP P 04 01 07.2 -1.0
comp=Z,4.6nm,0.6s
KWP Kalwaria Pacla 96.70 320⇓iP P 04 01 07.9 -0.3
KWP Kalwaria Pacla 96.70 320 eP P 04 01 07.9 -0.3
KOLS Kolonicke sedl 97.08 319 eP P 04 01 09.6 -0.4
KOLS pmax pmax
comp=Z,3.0nm,0.9s
KOLS Kolonicke sedl 97.08 319 eP P 04 01 09.6 -0.4
UZH Uzhgorod 97.11 319 eP P 04 01 09.2 -0.9
LBTB Lobatse 97.14 245 eP P 04 01 10.4 -0.5
comp=Z,4.7nm,0.8s
LBTB Lobatse 97.14 245 P P 04 01 10.6 -0.3
comp=Z,3.9nm,0.8s,baz=137,slow=4.5,SNR=8.1
BOSA Boshof 97.23 241 eP P 04 01 10.7 -0.6
comp=Z,4.1nm,0.8s
BOSA PKKPbc PKKPbc 04 17 49.5 -0.5
BOSA Boshof 97.23 241 P P 04 01 11.1 -0.2
comp=Z,4.3nm,0.8s,baz=124,slow=3.6,SNR=9.0
BOSA PKKPbc PKKPbc 04 17 49.5 -0.5
comp=Z,2.1nm,1.1s,baz=299,slow=4.7,SNR=3.2
STHS Stebnicka Huta 97.67 320 eP P 04 01 12.2 -0.4
STHS pmax pmax
comp=Z,3.0nm,0.6s
STHS Stebnicka Huta 97.67 320 eP P 04 01 12.2 -0.4
KECS Kecovo 98.32 319 eP P 04 01 14.7 -0.8
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 98.32 319 PDIF P 04 01 14.7 -0.8
VYHS Vyhne 99.40 319 eP Pdif 04 01 19.5 -0.8
VYHS Vyhne 99.40 319 PDIF Pdif 04 01 19.5 -0.8
HFS Hagfors 99.46 331 P Pdif 04 01 18.5 -1.8
HFS Hagfors 99.46 331 P Pdif 04 01 18.5 -1.8
comp=Z,4.0nm,0.5s,baz=104,slow=4.7,SNR=23
NB2 NORSAR Subarra100.34 333 P Pdif 04 01 21.9 -2.4
comp=Z,1.9nm,0.7s,baz=74,slow=4.4
NB2 NORSAR Subarra100.34 333 P Pdif 04 01 21.9 -2.4
baz=74,slow=4.4
NOA NORSAR Array B 100.34 333 P Pdif 04 01 22.5 -1.7
NOA NORSAR Array B 100.34 333 P Pdif 04 01 22.5 -1.7
comp=Z,1.9nm,0.8s,baz=71,slow=4.6,SNR=4.9
SUR Sutherland 100.72 237 ePdif Pdif 04 01 28.0 +1.1
SNAA Sanae 101.02 195 eP Pdif 04 01 27.7 +0.5
SNAA Sanae 101.02 195 ePdif Pdif 04 01 27.6 +0.5
comp=Z,2.8nm,0.8s
GERES GERESS Array B 102.63 320 P Pdif 04 01 34.0 -0.8
GERES GERESS Array B 102.63 320 P Pdif 04 01 34.0 -0.8
comp=Z,0.3nm,0.5s,baz=5.7,slow=1.3,SNR=4.1
YKA Yellowknife Ar 104.03 24 PKiKP PKiKP 04 05 56.1 -0.3
YKA PKKPbc PKKPbc 04 17 28.3 -3.5
YKA Yellowknife Ar 104.03 24 PKiKP PKiKP 04 05 56.1 -0.3
comp=Z,0.9nm,0.7s,baz=302,slow=2.0,SNR=8.2
YKA PKKPbc PKKPbc 04 17 28.3 -3.5
comp=Z,2.8nm,0.7s,baz=113,slow=2.5,SNR=12
TSUM Tsumeb 104.97 250 ePdif Pdif 04 01 46.9 +1.0
NLWA Neilton Lookou 105.06 40 ePdif Pdif 04 01 47.4 +1.8
HINF Hinteralfeld 107.30 321 ePKIKP PKiKP 04 06 02.8 -0.2
LPL La Plagne 108.17 319 ePKIKP PKiKP 04 06 05.2 +0.3
comp=Z,1.6nm,0.4s
CABF La Chapelle 108.21 320 ePKIKP PKiKP 04 06 05.3 +0.5
comp=Z,6.6nm,0.7s
BNI Bardonecchia 108.36 318 ePKP PKiKP 04 06 05.5 +0.2
MBDF Montbardon 108.41 318 ePKIKP PKiKP 04 06 05.9 +0.6
ORIF Oris-en-Rattie 108.94 318 ePKIKP PKiKP 04 06 06.2 0.0
NEW Newport 109.02 38 ePKP PKiKP 04 06 07.7 +1.5
NEW Newport 109.02 38 ⇑PKiKP PKiKP 04 06 06.7 +0.4
baz=109
MOD Modoc 109.17 45 ePKP PKiKP 04 06 07.5 +0.6
SSF Saint Saulge 109.69 321 ePKIKP PKiKP 04 06 07.8 +0.3
comp=Z,7.7nm,0.8s
C11A Tepee Creek (N 109.72 38 ⇑PKiKP PKiKP 04 06 07.7 +0.1
baz=110
BEKR Beckworth 109.76 47 ePKP PKiKP 04 06 07.9 -0.2
AVF Avril sur Loir 109.89 321 ePKIKP PKiKP 04 06 07.5 -0.3
WVOR Wild Horse Val 110.16 44 ePKIKP PKiKP 04 06 09.9 +1.2
WVOR Wild Horse Val 110.16 44 ePKP PKiKP 04 06 09.8 +1.2

BMO Blue Mountains 110.20 41 ePKIKP PKiKP 04 06 08.7 +0.1
BMO Blue Mountains 110.20 41 ePKP PKiKP 04 06 08.7 +0.1
BGF Bois d'Agland 110.30 321 ePKIKP PKiKP 04 06 09.2 +0.6
A13A Flathead Natio 110.39 37 ⇑PKiKP PKiKP 04 06 09.5 +0.6
baz=110
B13A Whitefish 110.59 37 ⇓PKiKP PKiKP 04 06 09.6 +0.4
baz=111
BSMT Bassoo Peak 110.62 38 ePKP PKiKP 04 06 09.3 -0.1
C13A Hot Springs 110.83 38 ⇓PKiKP PKiKP 04 06 09.5 -0.2
baz=111
A14A Double T Ranch 110.96 36 ⇓PKiKP PKiKP 04 06 08.4 -1.5
baz=111
D13A Huson 111.14 38 ⇓PKiKP PKiKP 04 06 09.6 -0.7
baz=111
C14A Swan Lake 111.29 37 ⇑PKiKP PKiKP 04 06 10.4 -0.2
baz=111
B14A Marquette Ranc 111.32 37 ⇑PKiKP PKiKP 04 06 10.7 0.0
baz=111
A15A Johnson Ranch, 111.36 36 ⇓PKiKP PKiKP 04 06 10.0 -0.7
baz=111
G12A Big Creek, Yel 111.40 41 ⇑PKiKP PKiKP 04 06 10.9 -0.1
baz=111
CAF Calviac 111.45 319 ePKIKP PKiKP 04 06 11.5 +0.6
NVAR Mina Array Bea 111.72 48 PKiKP PKiKP 04 06 13.0 +1.2
NVAR PKKPbc PKKPbc 04 17 06.3 -0.8
NVAR PKKPab PKKPab 04 17 16.0 -0.5
NVAR Mina Array Bea 111.72 48 PKiKP PKiKP 04 06 13.0 +1.2
comp=Z,2.8nm,0.7s,baz=235,slow=2.3,SNR=21
NVAR PKKPbc PKKPbc 04 17 06.3 -0.8
comp=Z,0.9nm,0.6s,baz=138,slow=4.3,SNR=8.3
NVAR PKKPab PKKPab 04 17 16.0 -0.5
comp=Z,0.7nm,0.6s,baz=112,slow=5.5,SNR=5.3
MFID Camas Ranch 111.73 42 ePKP PKiKP 04 06 12.4 +0.8
MFID Camas Ranch 111.73 42 ⇓PKiKP PKiKP 04 06 12.1 +0.4
baz=112
D14A Greenough 111.74 38 ⇑PKiKP PKiKP 04 06 11.5 0.0
baz=112
B15A Bradely Ranch, 111.76 37 ⇑PKiKP PKiKP 04 06 11.5 0.0
baz=112
GRR Gorron 111.80 324 ePKIKP PKiKP 04 06 11.3 -0.1
VES Vestal, Richgr 111.92 51 ⇑PKiKP PKiKP 04 06 10.6 -1.4
baz=112
H12A Diamond D Ranc 111.94 41 ⇓PKiKP PKiKP 04 06 12.2 +0.1
baz=112
CHMT Chamberlain Mo 111.97 38 ePKP PKiKP 04 06 11.8 -0.2
MTLF Montolieu 111.97 318 ePKIKP PKiKP 04 06 12.0 +0.1
comp=Z,6.9nm,0.7s
C15A Salmond Ranch, 111.98 37 ⇓PKiKP PKiKP 04 06 12.0 0.0
baz=112
I12A Atlanta 112.05 42 ⇑PKiKP PKiKP 04 06 13.0 +0.7
baz=112
MFF Saint Martin d 112.16 322 ePKIKP PKiKP 04 06 11.8 -0.3
comp=Z,5.7nm,0.5s
B16A M & M Farms, S 112.22 36 ⇑PKiKP PKiKP 04 06 12.7 +0.4
baz=112
LFF La Frestale 112.31 320 ePKIKP PKiKP 04 06 13.1 +0.6
D15A Lincoln 112.36 38 ⇑PKiKP PKiKP 04 06 13.8 +1.0
baz=112
C16A Fuhringer Ranc 112.48 37 ⇑PKiKP PKiKP 04 06 13.1 +0.2
baz=112
A17A Triple J Farms 112.56 35 ⇑PKiKP PKiKP 04 06 13.2 +0.3
baz=112
B17A L&G Farms, Che 112.81 36 ⇓PKiKP PKiKP 04 06 13.0 -0.4
baz=113
SGMF Saint Gilles 112.87 324 ePKIKP PKiKP 04 06 12.8 -0.6
comp=Z,3.5nm,0.3s
F15A Butte 112.91 39 ⇓PKiKP PKiKP 04 06 13.7 -0.1
baz=113
D16A Dana Ranch, Ca 112.96 37 ⇓PKiKP PKiKP 04 06 14.6 +0.8
baz=113
DLMT Dillon 113.05 39 ePKP PKiKP 04 06 15.2 +1.1
EDW2 Edwards Air Fo 113.06 52 ⇓PKiKP PKiKP 04 06 15.2 +0.8
baz=113
A18A Metzger Ranch, 113.06 35 ⇑PKiKP PKiKP 04 06 14.2 +0.3
baz=113
MPMC Manual Prospec 113.09 50 ⇓PKiKP PKiKP 04 06 15.2 +0.6
baz=113
I14A Mackay 113.11 41 ⇑PKiKP PKiKP 04 06 14.9 +0.6
baz=113
ELK Elko 113.14 45 ePKP PKiKP 04 06 15.2 +0.7
C17A Wharram Farm, 113.15 37 ⇓PKiKP PKiKP 04 06 14.2 +0.1
baz=113
EPF Esparros 113.35 318 ePKIKP PKiKP 04 06 14.8 +0.2
comp=Z,5.8nm,0.7s
QUIF Quistinic 113.39 324 ePKIKP PKiKP 04 06 13.8 -0.6
D17A Six Diamond Ra 113.42 37 ⇑PKiKP PKiKP 04 06 15.2 +0.5
baz=113
BOZ Bozeman (W) 113.54 39 ePKIKP PKiKP 04 06 15.5 +0.5
BOZ Bozeman (W) 113.54 39 ePKP PKiKP 04 06 15.5 +0.5
EGMT Eagleton 113.56 36 ePKP PKiKP 04 06 15.0 +0.1
EGMT Eagleton 113.56 36 ⇑PKiKP PKiKP 04 06 15.1 +0.2
baz=114
E17A Martinsdale 113.64 38 ⇑PKiKP PKiKP 04 06 15.4 +0.2
baz=114
A19A Klindworth Far 113.69 35 ⇓PKiKP PKiKP 04 06 15.5 +0.4
baz=114
B19A Brinkman Farms 113.81 35 ⇓PKiKP PKiKP 04 06 15.7 +0.4
baz=114
FFC Flin Flon 113.84 27 ePKIKP PKiKP 04 06 15.4 +0.3
FFC Flin Flon 113.84 27 ePKP PKiKP 04 06 15.4 +0.3
GSC Goldstone 113.86 51 ⇑PKiKP PKiKP 04 06 16.4 +0.6
baz=114
D18A Linhart Farms, 113.93 37 ⇓PKiKP PKiKP 04 06 16.2 +0.5
baz=114
ETSF Etsaut 114.01 318 ePKIKP PKiKP 04 06 16.9 +1.0
comp=Z,9.0nm,0.8s
F17A Fitzpatrick Pl 114.02 38 ⇑PKiKP PKiKP 04 06 16.1 +0.2
baz=114
C19A Slack Wire Ran 114.11 36 ⇓PKiKP PKiKP 04 06 16.6 +0.6
baz=114
E18A Harlowton 114.17 37 ⇓PKiKP PKiKP 04 06 16.7 +0.5
baz=114
H16A Russell Place, 114.20 40 ⇓PKiKP PKiKP 04 06 17.2 +0.8
baz=114
B20A Solberg Farm, 114.35 35 ⇓PKiKP PKiKP 04 06 16.7 +0.3
baz=114
SJPF Ste Jean 114.36 319 ePKIKP PKPdf 04 06 17.4 +0.9
comp=Z,4.3nm,0.6s
HVU Hansel Valley 114.45 43 ePKIKP PKPdf 04 06 17.5 +0.6
HVU Hansel Valley 114.45 43 ePKP PKPdf 04 06 17.5 +0.6
D19A Cripps Ranch, 114.50 36 ⇓PKiKP PKPdf 04 06 16.5 -0.2
baz=114
F18A Big Timber 114.60 38 ⇑PKiKP PKiKP 04 06 17.6 +0.6
baz=115
C20A Veseth Ranch, 114.73 36 ⇓PKiKP PKPdf 04 06 17.4 +0.3
baz=115
IMW Indian Meadow 114.76 40 ePKPdf PKPdf 04 06 18.3 +0.7
BELC Belle Mtn. Jos 114.90 52 ⇑PKiKP PKPdf 04 06 18.7 +0.7
baz=115
E19A Rath Farm, Rou 114.90 37 ⇑PKiKP PKPdf 04 06 17.9 +0.4
baz=115
MONP Monument Peak 114.91 53 ⇑PKiKP PKPdf 04 06 19.2 +1.1
baz=115
GMRC Granite Mounta 114.91 51 ⇑PKiKP PKPdf 04 06 18.9 +1.0
baz=115
TPAW Teton Pass 114.94 41 ePKPdf PKPdf 04 06 18.9 +1.0
MOOW Moose Ponds 114.95 40 ePKPdf PKPdf 04 06 18.7 +0.8
DUG Dugway 115.06 45 ePKIKP PKPdf 04 06 19.0 +0.9
DUG Dugway 115.06 45 ePKPdf PKPdf 04 06 19.0 +0.9
DUG Dugway 115.06 45 ⇑PKiKP PKPdf 04 06 19.0 +0.9
baz=115
SNOW Snow King Moun 115.08 41 ePKPdf PKPdf 04 06 19.4 +1.2
F19A Roth Farm, Mol 115.10 38 ⇓PKiKP PKPdf 04 06 18.2 +0.2
baz=115
LOHW Long Hollow 115.11 40 ePKPdf PKPdf 04 06 18.9 +0.7
H18A Shoshone NF, C 115.22 39 ⇓PKiKP PKPdf 04 06 18.7 +0.3
baz=115
A22A Carney Farms, 115.24 33 ⇑PKiKP PKPdf 04 06 18.4 +0.4
baz=115
LDFC Landfair 115.24 51 ePKPdf PKPdf 04 06 20.0 +1.5
E20A Meyer Farm, Mu 115.27 37 ⇑PKiKP PKiKP 04 06 18.2 0.0
baz=115
HWUT Hardware Ranch 115.34 43 ePKPdf PKPdf 04 06 19.3 +0.6
TAM Tamanrasset 115.41 295 ePKIKP PKPdf 04 06 19.7 +0.5
TAM Tamanrasset 115.41 295 ePKPdf PKPdf 04 06 19.7 +0.5
BC3 Big Chuckawall 115.44 52 ⇓PKiKP PKiKP 04 06 19.2 +0.2
baz=115
B22A Reddig Ranch S 115.57 34 ⇑PKiKP PKiKP 04 06 19.5 +0.8
baz=116
H19A Powell 115.65 39 ⇓PKiKP PKiKP 04 06 19.8 +0.7
baz=116
D21A La Casta Ranch 115.66 36 ⇑PKiKP PKiKP 04 06 19.5 +0.6
baz=116
CCUT Cedar City 115.69 47 ePKPdf PKPdf 04 06 21.0 +1.5
JLU Jordanelle 115.85 44 ePKPdf PKPdf 04 06 20.4 +0.6
G20A Bridger 115.86 38 ⇑PKiKP PKiKP 04 06 19.9 +0.4

baz=116
E21A Keefer Ranch, 115.88 36 ⇑PKiKP PKiKP 04 06 19.7 +0.3
baz=116
C22A Vida 115.94 35 ⇑PKiKP PKiKP 04 06 20.1 +0.6
baz=116
I19A Meeteetse 115.94 39 ⇓PKiKP PKPdf 04 06 19.8 0.0
baz=116
MPU Maple Canyon 115.96 44 ePKPdf PKPdf 04 06 20.9 +1.0
M17A Scullys Gap (B 116.01 43 ⇓PKiKP PKiKP 04 06 20.3 +0.3
baz=116
B23A Brockton 116.04 34 ⇓PKiKP PKiKP 04 06 20.3 +0.7
baz=116
D22A Cohagen 116.08 35 ⇓PKiKP PKiKP 04 06 20.6 +0.9
baz=116
Y12C Blythe 116.14 52 ⇓PKiKP PKiKP 04 06 20.8 +0.6
baz=116
MVU Marysvale 116.16 46 ePKPdf PKPdf 04 06 21.6 +1.2
BW06 Boulder Array 116.17 41 ePKPdf PKPdf 04 06 20.5 +0.2
PDAR Pinedale Array 116.17 41 PKP PKPdf 04 06 20.2 -0.1
PDAR PKKPbc PKKPbc 04 16 49.6 -2.7
PDAR PKKPab PKKPab 04 16 56.0 -0.8
PDAR Pinedale Array 116.17 41 PKP PKPdf 04 06 20.2 -0.1
comp=Z,1.7nm,0.6s,baz=214,slow=1.4,SNR=14
PDAR PKKPbc PKKPbc 04 16 49.6 -2.7
comp=Z,1.2nm,0.7s,baz=114,slow=5.0,SNR=11
PDAR PKKPab PKKPab 04 16 56.0 -0.8
comp=Z,4.6nm,0.8s,baz=121,slow=6.7,SNR=29
W13A Hualapai Mount 116.18 50 ⇓PKiKP PKiKP 04 06 21.6 +1.1
baz=116
MSU Marysvale 116.18 46 ePKIKP PKPdf 04 06 21.8 +1.4
MSU Marysvale 116.18 46 ePKPdf PKPdf 04 06 21.8 +1.4
L18A Fontenelle, Gr 116.23 42 ⇓PKiKP PKiKP 04 06 20.9 +0.5
baz=116
PDMCI Parker Dam,Lak 116.26 51 ⇑PKiKP PKiKP 04 06 21.0 +0.6
baz=116
J19A Crowheart 116.27 40 ⇑PKiKP PKiKP 04 06 21.0 +0.6
baz=116
C23A Lambert 116.30 34 ⇑PKiKP PKiKP 04 06 21.1 +0.9
baz=116
A24A Westby 116.32 33 ⇑PKiKP PKiKP 04 06 21.0 +0.9
baz=116
H20A Greybull 116.35 39 ⇑PKiKP PKiKP 04 06 20.8 +0.4
baz=116
G21A Lodge Grass 116.47 38 ⇑PKiKP PKiKP 04 06 20.8 +0.2
baz=116
I20A Worland 116.53 39 ⇑PKiKP PKiKP 04 06 21.5 +0.7
baz=116
TMUT Trail Mountain 116.56 45 ePKPdf PKPdf 04 06 22.1 +0.9
E22A Miles City 116.60 36 ⇑PKiKP PKiKP 04 06 21.0 +0.3
baz=116
L19A Farson 116.61 41 ⇑PKiKP PKPdf 04 06 21.1 0.0
baz=117
K19A Absolon Red Bu 116.61 41 ⇑PKiKP PKiKP 04 06 21.3 +0.3
baz=117
D23A Lindsay 116.63 35 ⇑PKiKP PKiKP 04 06 21.6 +0.8
baz=117
Q16A Castle Valley 116.74 45 ⇑PKiKP PKiKP 04 06 22.5 +1.0
baz=117
F22A Rosebud 116.76 37 ⇓PKiKP PKiKP 04 06 21.9 +0.8
baz=117
J20A Shoshoni 116.85 40 ⇑PKiKP PKPdf 04 06 21.3 -0.2
baz=117
H21A Big Horn, Sher 116.88 38 ⇓PKiKP PKiKP 04 06 21.9 +0.4
baz=117
C24A Savage 116.88 34 ⇓PKiKP PKiKP 04 06 22.1 +0.8
baz=117
U15A North Rim 116.90 48 ⇑PKiKP PKiKP 04 06 23.1 +1.2
baz=117
E23A Ismay 116.94 36 ⇑PKiKP PKiKP 04 06 22.1 +0.7
baz=117
M19A Rock Springs 117.01 42 ⇓PKiKP PKiKP 04 06 22.1 +0.2
baz=117
K20A Yellowstone Ra 117.02 41 ⇑PKiKP PKPdf 04 06 21.6 -0.2
baz=117
G22A Birney 117.03 37 ⇓PKiKP PKiKP 04 06 21.9 +0.2
baz=117
SRU San Rafael 117.12 45 ePKIKP PKPdf 04 06 22.7 +0.6
SRU San Rafael 117.12 45 ePKPdf PKPdf 04 06 22.7 +0.6
I21A Big Trails, Te 117.13 39 ⇑PKiKP PKPdf 04 06 21.8 -0.2
baz=117
D24A Glendive 117.16 35 ⇑PKiKP PKPdf 04 06 21.3 -0.5
baz=117
J21A Lysite 117.26 39 ⇓PKiKP PKPdf 04 06 22.3 0.0
baz=117
Y14A Wickenburg 117.27 51 ⇓PKiKP PKiKP 04 06 22.9 +0.5
baz=117
F23A Volborg 117.30 36 ⇓PKiKP PKiKP 04 06 22.6 +0.5
baz=117
H22A Clearmont 117.32 38 ⇓PKiKP PKiKP 04 06 22.9 +0.7
baz=117
L20A Wamsutter 117.32 41 ⇓PKiKP PKiKP 04 06 23.0 +0.5
baz=117
E24A Baker 117.48 35 ⇑PKiKP PKiKP 04 06 23.3 +0.8
baz=117
O19A Miners Draw (B 117.58 43 ⇑PKiKP PKiKP 04 06 23.5 +0.5
baz=118
G23A Biddle 117.58 37 ⇓PKiKP PKPdf 04 06 22.7 -0.1
baz=118
I22A 9 Mile Ranch, 117.59 39 ⇑PKiKP PKiKP 04 06 23.1 +0.2
baz=118
M20A Sweetwater, Wa 117.67 42 ⇓PKiKP PKiKP 04 06 23.9 +0.7
baz=118
ESDC Sonseca Array 117.71 316 PKP PKPdf 04 06 23.2 +0.2
ESDC Sonseca Array 117.71 316 PKP PKPdf 04 06 23.2 +0.2
comp=Z,0.8nm,0.5s,baz=35,slow=2.8,SNR=6.2
K21A Alcova 117.73 40 ⇓PKiKP PKiKP 04 06 23.5 +0.2
baz=118
F24A Ekalaka 117.80 36 ⇓PKiKP PKiKP 04 06 23.3 +0.2
baz=118
J22A Midwest 117.84 39 ⇑PKiKP PKiKP 04 06 23.6 +0.2
baz=118
N20A Spence Gulch, 117.92 42 ⇓PKiKP PKiKP 04 06 24.4 +0.7
baz=118
WUAZ Wupatki 117.94 49 ePKPdf PKPdf 04 06 25.0 +1.2
WUAZ Wupatki 117.94 49 ⇑PKiKP PKPdf 04 06 25.0 +1.2
baz=118
P19A Cripple Cowboy 117.97 44 ⇑PKiKP PKiKP 04 06 24.5 +0.6
baz=118
L21A Rawlins 117.98 41 ⇑PKiKP PKiKP 04 06 23.9 +0.1
baz=118
G24A Alzada 118.10 36 ⇓PKiKP PKPdf 04 06 23.6 -0.1
baz=118
214A Organ Pipe Nat 118.10 53 ⇑PKiKP PKiKP 04 06 24.5 +0.5
baz=118
M21A Separation Pea 118.16 41 ⇓PKiKP PKiKP 04 06 24.5 +0.3
baz=118
K22A Casper 118.19 40 ⇑PKiKP PKPdf 04 06 24.1 0.0
baz=118
O20A White River Ci 118.25 43 ⇑PKiKP PKiKP 04 06 25.1 +0.7
baz=118
X16A Lo Mia Camp, P 118.30 50 ⇓PKiKP PKiKP 04 06 25.7 +1.0
baz=118
H24A Dirks Ranch, A 118.33 37 ⇓PKiKP PKiKP 04 06 24.3 +0.1
baz=118
N21A Black Mountain 118.45 42 ⇓PKiKP PKiKP 04 06 25.5 +0.7
baz=118
PV04 Paradox Valley 118.57 45 ePKPdf PKPdf 04 06 25.4 +0.5
E26A Carlson Angus 118.58 34 ⇑PKiKP PKiKP 04 06 25.4 +0.7
baz=118
K23A Bowen Ranch, D 118.71 39 ⇑PKiKP PKPdf 04 06 24.8 -0.3
baz=119
O21A Pagoda 118.74 43 ⇑PKiKP PKiKP 04 06 26.0 +0.6
baz=119
Q20A Ridgley Place, 118.75 44 ⇓PKiKP PKiKP 04 06 25.9 +0.6
baz=119
I24A Kuemmerle Ranc 118.76 38 ⇑PKiKP PKPdf 04 06 24.8 -0.3
baz=119
PV01 Paradox Valley 118.92 45 ePKPdf PKPdf 04 06 26.4 +0.6
RSSD Black Hills 118.98 37 ePKIKP PKPdf 04 06 25.4 -0.2
RSSD Black Hills 118.98 37 ePKPdf PKPdf 04 06 25.4 -0.2
L23A Garrett 118.99 40 ⇑PKiKP PKPdf 04 06 25.6 -0.1
baz=119
J24A Dixon Ranch, L 119.02 38 ⇓PKiKP PKPdf 04 06 25.4 -0.2
baz=119
R20A Redvale 119.03 45 ⇓PKiKP PKiKP 04 06 26.8 +0.8
baz=119
N22A Wattenberg Ran 119.14 42 ⇑PKiKP PKiKP 04 06 26.8 +0.6
baz=119
S20A Disappointment 119.20 45 ⇑PKiKP PKiKP 04 06 27.2 +0.8
baz=119
I25A Rochford 119.22 37 ⇓PKiKP PKPdf 04 06 26.1 +0.1
baz=119
K24A Anderson Ranch 119.24 39 ⇑PKiKP PKPdf 04 06 25.6 -0.5
baz=119
Q21A Lamborn Mesa, 119.31 44 ⇓PKiKP PKiKP 04 06 27.6 +1.1
baz=119
MDND Maddock 119.32 32 ⇑PKiKP PKiKP 04 06 26.2 +0.2
baz=119
W18A Petrified Fore 119.33 49 ⇓PKiKP PKiKP 04 06 27.1 +0.5
baz=119
MVCO Mesa Verde 119.37 46 ePKPdf PKPdf 04 06 27.4 +0.8
MVCO Mesa Verde 119.37 46 ⇓PKiKP PKPdf 04 06 27.5 +0.8
baz=119
O22A Kremmling 119.39 42 ⇑PKiKP PKiKP 04 06 27.2 +0.5
baz=119
X18A Snowflake 119.40 49 ⇑PKiKP PKiKP 04 06 28.1 +1.3
baz=119
N23A Red Feather La 119.44 41 ⇓PKiKP PKiKP 04 06 27.0 +0.3
baz=119
H26A Fairpoint 119.46 36 ⇑PKiKP PKiKP 04 06 26.8 +0.4
baz=119
POLO Lamas de Olo 119.49 319 ePKPdf PKPdf 04 06 27.1 +0.6
PGAV Gavieira, Arco 119.49 320 ePKPdf PKPdf 04 06 26.8 +0.3
J25A Sunshine Ranch 119.52 38 ⇓PKiKP PKiKP 04 06 26.6 0.0
baz=120
P22A Eagle 119.52 43 ⇑PKiKP PKiKP 04 06 27.9 +1.0
baz=120
G27A Dupree 119.52 35 ⇑PKiKP PKiKP 04 06 26.6 +0.1
baz=119
R21A Cimarron 119.53 45 ⇑PKiKP PKiKP 04 06 28.0 +1.0
baz=120
SMCO Snowmass 119.56 43 ePKPdf PKPdf 04 06 28.8 +1.6
TUC Tucson 119.58 52 ePKIKP PKPdf 04 06 27.5 +0.5
TUC Tucson 119.58 52 ePKPdf PKPdf 04 06 27.4 +0.5
ULM Lac du Bonnet 119.59 28 PKP PKPdf 04 06 25.6 -0.7
ULM Lac du Bonnet 119.59 28 PKP PKPdf 04 06 25.6 -0.7
comp=Z,7.5nm,0.5s,baz=329,slow=2.6,SNR=9.2
S21A Coal Bank Pass 119.68 45 ⇑PKiKP PKiKP 04 06 28.6 +1.3
baz=120
U20A Newcomb 119.71 47 ⇑PKiKP PKiKP 04 06 27.6 +0.3
baz=120
Q22A Crested Butte, 119.75 44 ⇓PKiKP PKiKP 04 06 28.4 +0.9
baz=120
O23A Lake Granby, G 119.79 42 ⇑PKiKP PKiKP 04 06 28.5 +1.0
baz=120
MTE Manteigas 119.80 318 ePKPdf PKPdf 04 06 27.7 +0.6
H27A Howes 119.86 36 ⇓PKiKP PKPdf 04 06 27.1 +0.1
baz=120
M24A Cheyenne 119.88 40 ⇑PKiKP PKiKP 04 06 27.6 +0.1
baz=120
V20A Brimhall 119.99 48 ⇓PKiKP PKiKP 04 06 28.4 +0.5
baz=120
T21A Navajo Lake 120.16 46 ⇓PKiKP PKiKP 04 06 29.4 +1.2
baz=120
ISCO Idaho Springs 120.19 42 ePKIKP PKPdf 04 06 28.6 +0.4
ISCO Idaho Springs 120.19 42 ePKPdf PKPdf 04 06 28.6 +0.4
ISCO Idaho Springs 120.19 42 ⇓PKiKP PKiKP 04 06 29.0 +0.7
baz=120
I27A Quinn 120.20 36 ⇓PKiKP PKPdf 04 06 27.6 -0.1
baz=120
P23A Jefferson 120.25 43 ⇓PKiKP PKiKP 04 06 29.3 +0.8
baz=120
W20A Ramah 120.25 48 ⇓PKiKP PKiKP 04 06 29.3 +0.8
baz=120
K26A Motz Farm, Whi 120.27 38 ⇑PKiKP PKPdf 04 06 27.8 -0.2
baz=120
G28A Parade 120.28 35 ⇓PKiKP PKPdf 04 06 27.8 0.0
baz=120
U21A Nageezi 120.32 47 ⇓PKiKP PKiKP 04 06 29.7 +1.1
baz=120
S22A 4UR Ranch, Cre 120.32 45 ⇑PKiKP PKiKP 04 06 29.7 +1.1
baz=120
H28A Mission Ridge 120.45 35 ⇑PKiKP PKPdf 04 06 28.1 -0.1
baz=120
X20A Quemado 120.49 49 ⇓PKiKP PKiKP 04 06 30.3 +1.3
baz=120
PBAR Barrancos 120.52 316 ePKPdf PKPdf 04 06 29.3 +0.8
PESTR Estremoz 120.58 317 ePKPdf PKPdf 04 06 29.3 +0.7
V21A Milan 120.60 47 ⇓PKiKP PKiKP 04 06 29.5 +0.4
baz=121
T22A Edith 120.60 46 ⇑PKiKP PKiKP 04 06 30.3 +1.1
baz=121
TOA0 Torodi Ar. Sit 120.68 285 ePKPdf PKPdf 04 06 28.6 -0.7
TORD Torodi Ar. Bea 120.68 285 PKP PKPdf 04 06 28.6 -0.8
TORD PP PP 04 07 58.5 -2.3
TORD SKP 04 09 40.6
TORD PKKPab PKKPab 04 16 38.1 +1.3
TORD Torodi Ar. Bea 120.68 285 PKP PKPdf 04 06 28.6 -0.8
comp=Z,6.9nm,0.5s,baz=91,slow=1.9,SNR=156
TORD PP PP 04 07 58.5 -2.3
comp=Z,1.4nm,0.7s,baz=63,slow=6.1,SNR=4.4
TORD SKP 04 09 40.6
comp=Z,1.8nm,0.7s,baz=65,slow=1.2,SNR=6.5
TORD PKKPab PKKPab 04 16 38.1 +1.3
comp=Z,2.4nm,0.8s,baz=274,slow=3.9,SNR=11
L26A Underwood Farm 120.69 39 ⇓PKiKP PKPdf 04 06 28.3 -0.5
baz=121
I28A Midland 120.76 36 ⇓PKiKP PKiKP 04 06 29.1 +0.2
baz=121
P24A Kohler Place, 120.81 42 ⇑PKiKP PKiKP 04 06 30.1 +0.7
baz=121
R23A Moffat 120.82 44 ⇓PKiKP PKiKP 04 06 30.4 +0.9
baz=121
Y20A Horse Springs, 120.84 50 ⇑PKiKP PKiKP 04 06 30.6 +1.0
baz=121
W21A San Fidel 120.89 48 ⇓PKiKP PKiKP 04 06 30.6 +0.9
baz=121
U22A Laves 120.92 46 ⇑PKiKP PKiKP 04 06 31.1 +1.3
baz=121
Z20A Nine Sixteen R 120.99 50 ⇓PKiKP PKiKP 04 06 31.2 +1.3
baz=121
EVO Evora 121.03 317 ePKIKP PKPdf 04 06 28.7 -0.7
comp=Z,11nm,0.6s
O25A Wiggins 121.03 41 ⇑PKiKP PKPdf 04 06 29.5 -0.1
baz=121
J28A Allard Ranch, 121.05 37 ⇓PKiKP PKiKP 04 06 29.8 +0.2
baz=121
X21A Alamocita Cree 121.06 49 ⇑PKiKP PKiKP 04 06 31.2 +1.1
baz=121
V22A San Miguel Ran 121.09 47 ⇑PKiKP PKiKP 04 06 31.3 +1.2
baz=121
319A Douglas 121.12 53 ⇓PKiKP PKiKP 04 06 31.2 +1.1
baz=121
120A U Bar Ranch, L 121.18 51 ⇑PKiKP PKiKP 04 06 31.5 +1.3
baz=121
T23A Casias Ranch, 121.21 45 ⇓PKiKP PKiKP 04 06 31.6 +1.2
baz=121
SDCO Great Sand Dun 121.26 44 ePKPdf PKPdf 04 06 31.0 +0.7
R24A Sanders Place, 121.30 44 ⇓PKiKP PKiKP 04 06 30.6 +0.2
baz=121
P25A Willow Gulch B 121.30 42 ⇓PKiKP PKiKP 04 06 31.2 +0.8
baz=121
Y21A Point of Rocks 121.33 49 ⇑PKiKP PKiKP 04 06 31.9 +1.2
baz=121
K28A Ten Mile Ranch 121.38 37 ⇑PKiKP PKPdf 04 06 30.2 +0.1
baz=121
U23A El Rito 121.42 46 ⇑PKiKP PKiKP 04 06 31.9 +1.2
baz=121
PCVE Castro Verde 121.48 316 ePKPdf PKPdf 04 06 31.4 +1.1
S24A Houchin Ranch, 121.51 44 ⇓PKiKP PKiKP 04 06 31.9 +0.9
baz=122
220A Playas Peak, P 121.51 52 ⇑PKiKP PKiKP 04 06 31.8 +0.9
baz=122
Q25A Bedland, Calha 121.55 43 ⇑PKiKP PKiKP 04 06 31.1 +0.2
baz=122
LAZ Ladron 121.57 48 ePKPdf PKPdf 04 06 32.0 +1.2
PNCL Nicolau / Gran 121.59 316 ePKPdf PKPdf 04 06 31.5 +1.0
Z21A St. Cloud Mine 121.62 50 ⇓PKiKP PKiKP 04 06 32.2 +1.0
baz=122
X22A Bernardo 121.62 48 ⇓PKiKP PKiKP 04 06 31.8 +0.7
baz=122
V23A Ortiz Mt. (NFS 121.69 47 ⇑PKiKP PKiKP 04 06 32.6 +1.3
baz=122
320A Kipp Ranch, An 121.73 52 ⇑PKiKP PKiKP 04 06 32.5 +1.2
baz=122
BRSD Miller 121.78 35 ⇓PKiKP PKiKP 04 06 31.2 +0.3
baz=122
LENM Lemitar 121.79 49 ePKPdf PKPdf 04 06 32.4 +1.1
P26A Davis Ranch, A 121.83 41 ⇓PKiKP PKiKP 04 06 32.0 +0.7
baz=122
ANMO Albuquerque 121.84 48 ePKPdf PKPdf 04 06 32.3 +0.9
121A Cookes Peak, D 121.84 51 ⇓PKiKP PKiKP 04 06 32.5 +0.9
baz=122
Y22A Socorro 121.89 49 ⇑PKiKP PKiKP 04 06 32.6 +0.9
baz=122
R25A Fountain Ranch 121.91 43 ⇓PKiKP PKiKP 04 06 31.9 +0.3
baz=122
W23A Werner Place, 121.97 47 ⇓PKiKP PKiKP 04 06 32.9 +1.0
baz=122
S25A Robets Cordova 122.04 44 ⇓PKiKP PKiKP 04 06 32.4 +0.5
baz=122
U24A Moreno Valley 122.04 46 ⇓PKiKP PKiKP 04 06 33.2 +1.2
baz=122
BNM Barren Site 122.06 49 ePKPdf PKPdf 04 06 32.8 +0.9
Z22A Elephant Butte 122.18 50 ⇓PKiKP PKiKP 04 06 33.3 +1.1
baz=122
X23A Hourglass Bar 122.20 48 ⇓PKiKP PKiKP 04 06 33.1 +0.8
baz=122
PFVI Vila Bisbo 122.27 316 ePKPdf PKPdf 04 06 33.2 +1.3
T25A Trinidad 122.31 44 ⇑PKiKP PKiKP 04 06 33.2 +0.8
baz=122
P27A Ficken Ranch, 122.33 41 ⇓PKiKP PKiKP 04 06 32.6 +0.3
baz=122
V24A Rampart Ranch, 122.36 46 ⇑PKiKP PKiKP 04 06 33.7 +1.1
baz=122
N28A Pribbeno Ranch 122.40 39 ⇑PKiKP PKPdf 04 06 32.1 0.0
baz=122
R26A Arlington 122.40 43 ⇑PKiKP PKiKP 04 06 32.8 +0.3
baz=122
W24A Lazy 6 Ranch, 122.50 47 ⇑PKiKP PKiKP 04 06 33.7 +0.9
baz=122
M29A Burnside Ranch 122.51 38 ⇓PKiKP PKiKP 04 06 32.9 +0.3
baz=122
222A Williams Famil 122.55 51 ⇑PKiKP PKiKP 04 06 33.3 +0.3
baz=122
Y23A Lovelace Mesa, 122.58 49 ⇑PKiKP PKiKP 04 06 33.6 +0.6
baz=123
U25A Circle Dot Ran 122.66 45 ⇑PKiKP PKiKP 04 06 33.8 +0.7
baz=123
S26A Kim 122.72 43 ⇓PKiKP PKiKP 04 06 33.7 +0.6
baz=123
Z23A Rita Site, Whi 122.73 49 ⇑PKiKP PKiKP 04 06 34.0 +0.7
baz=123
X24A Lazy VL Ranch, 122.77 48 ⇑PKiKP PKiKP 04 06 33.7 +0.3
baz=123
V25A Rancho No Teng 122.78 46 ⇑PKiKP PKiKP 04 06 34.3 +0.9
baz=123
R27A Eads 122.85 42 ⇑PKiKP PKiKP 04 06 34.1 +0.8
baz=123
T26A Comanche Natio 122.86 44 ⇑PKiKP PKiKP 04 06 34.2 +0.7
baz=123
Y24A Capitan 123.05 48 ⇑PKiKP PKiKP 04 06 34.6 +0.6
baz=123
Q28A Sharon Springs 123.09 41 ⇓PKiKP PKiKP 04 06 34.0 +0.2
baz=123
223A Chaparral, Ant 123.11 51 ⇑PKiKP PKiKP 04 06 34.9 +0.8
baz=123
U26A Atchley Ranch, 123.14 45 ⇑PKiKP PKiKP 04 06 35.0 +0.9
baz=123
W25A X Bar L Ranch, 123.18 46 ⇑PKiKP PKiKP 04 06 34.6 +0.5
baz=123
EYMN Ely 123.26 27 ePKPdf PKPdf 04 06 33.2 -0.3
Z24A Sheeppen Canyo 123.36 49 ⇓PKiKP PKiKP 04 06 35.2 +0.6
baz=123
P29A Atwood 123.38 40 ⇓PKiKP PKPdf 04 06 34.0 0.0
baz=123
V26A Tequesquite Ra 123.39 46 ⇑PKiKP PKiKP 04 06 34.9 +0.4
baz=123
R28A Tribune 123.48 42 ⇓PKiKP PKiKP 04 06 35.1 +0.6
baz=123
T27A Campo 123.52 44 ⇓PKiKP PKiKP 04 06 35.5 +0.7
baz=124
ECSD EROS Data Cent 123.54 34 ePKPdf PKPdf 04 06 33.5 -0.6
124A Stringfield Ra 123.56 50 ⇑PKiKP PKiKP 04 06 35.7 +0.6
baz=124
Y25A Mesa, Roswell 123.60 48 ⇑PKiKP PKiKP 04 06 35.4 +0.4
baz=124
Q29A Oakley 123.74 41 ⇓PKiKP PKiKP 04 06 35.6 +0.6
baz=124
W26A Owens Ranch, T 123.74 46 ⇑PKiKP PKiKP 04 06 35.6 +0.4
baz=124
U27A Thompson Grove 123.77 44 ⇑PKiKP PKiKP 04 06 35.6 +0.4
baz=124
224A Cornudas Mount 123.78 50 ⇓PKiKP PKiKP 04 06 35.7 +0.3
baz=124
S28A Manter 123.81 43 ⇓PKiKP PKiKP 04 06 35.7 +0.5
baz=124
P30A Selden 123.86 40 ⇑PKiKP PKiKP 04 06 35.2 -0.1
baz=124
Z25A Roswell 123.87 49 ⇓PKiKP PKiKP 04 06 36.1 +0.6
baz=124
R29A Marienthal 123.89 42 ⇓PKiKP PKPdf 04 06 34.7 -0.3
baz=124
T28A Walsh 123.91 43 ⇑PKiKP PKiKP 04 06 35.8 +0.3
baz=124
MNTX Cornudas Mount 124.05 51 ePKPdf PKPdf 04 06 35.8 +0.3
324A Moseley Ranch, 124.07 51 ⇑PKiKP PKiKP 04 06 36.3 +0.3
baz=124
BGNE Belgrade 124.08 37 ⇓PKiKP PKPdf 04 06 35.4 +0.2
baz=124
125A Gardner Draw, 124.19 49 ⇑PKiKP PKiKP 04 06 36.5 +0.3
baz=124
U28A Mallet 124.21 44 ⇑PKiKP PKiKP 04 06 36.4 +0.3
baz=124
Y26A Elida 124.24 48 ⇑PKiKP PKiKP 04 06 36.5 +0.2
baz=124
W27A Bowe Ranch, En 124.26 46 ⇑PKiKP PKiKP 04 06 36.5 +0.2
baz=124
S29A Ulysses 124.33 42 ⇑PKiKP PKPdf 04 06 36.1 +0.2
baz=124
P31A Stockton 124.42 40 ⇑PKiKP PKiKP 04 06 36.3 0.0
baz=124
Z26A Caprock 124.43 48 ⇓PKiKP PKiKP 04 06 36.6 0.0
baz=124
T29A Hugoton 124.45 43 ⇑PKiKP PKiKP 04 06 36.8 +0.3
baz=124
SCHQ Schefferville 124.45 7 PKP PKPdf 04 06 35.2 -0.3
SCHQ ePKPdf PKiKP 04 06 35.5 -0.4
SCHQ PKKPab PKKPab 04 16 19.0 -1.3
SCHQ Schefferville 124.45 7 PKP PKPdf 04 06 35.2 -0.3
comp=Z,9.6nm,0.5s,baz=0.2,slow=2.1,SNR=37
SCHQ PKKPab PKKPab 04 16 19.0 -1.3
comp=Z,2.6nm,0.7s,baz=88,slow=3.4,SNR=6.8
325A Bean Ranch, Si 124.50 51 ⇑PKiKP PKPdf 04 06 36.7 +0.1
baz=124
V28A Channing 124.52 45 ⇑PKiKP PKPdf 04 06 36.5 +0.1
baz=124
R30A Dighton 124.53 41 ⇑PKiKP PKiKP 04 06 36.5 -0.1
baz=124
SPMN St. Paul 124.57 30 ⇓PKiKP PKiKP 04 06 36.4 0.0
baz=124
126A Clayton Basin, 124.68 49 ⇓PKiKP PKiKP 04 06 37.1 0.0
baz=125
425A Indio Mountain 124.73 51 ⇑PKiKP PKiKP 04 06 37.5 +0.2
baz=125
Y27A Causey 124.75 47 ⇓PKiKP PKiKP 04 06 37.4 +0.2
baz=125
USHA Ushuaia 124.75 172 PKP PKPdf 04 06 36.9 +0.9
USHA Ushuaia 124.75 172 PKP PKPdf 04 06 36.9 +0.9
comp=Z,18nm,0.8s,baz=143,slow=4.8,SNR=8.0
S30A Montezuma 124.75 42 ⇓PKiKP PKPdf 04 06 36.6 -0.1
baz=125
226B Tecolote Peak, 124.82 50 ⇓PKiKP PKiKP 04 06 37.7 +0.3
baz=125
V29A Stinnett 124.96 44 ⇓PKiKP PKiKP 04 06 37.8 +0.3
baz=125
Z27A Tatum 124.98 48 ⇑PKiKP PKiKP 04 06 38.3 +0.6
baz=125
MSTX Muleshoe 125.00 47 ⇑PKiKP PKiKP 04 06 38.2 +0.5
baz=125
R31A Burdett 125.02 41 ⇓PKiKP PKiKP 04 06 37.6 +0.1
baz=125
T30A Plains 125.03 43 ⇑PKiKP PKiKP 04 06 37.7 +0.1
baz=125
X28A Dimmitt 125.15 46 ⇓PKiKP PKiKP 04 06 38.8 +0.8
baz=125
127A Arkansas Junct 125.16 49 ⇓PKiKP PKiKP 04 06 38.0 -0.1
baz=125
U30A WK&E Inc. Balk 125.22 43 ⇑PKiKP PKiKP 04 06 38.8 +0.8
baz=125
326A Caldwell Ranch 125.29 50 ⇑PKiKP PKiKP 04 06 39.1 +0.7
baz=125
AMTX Amarillo 125.34 45 ePKPdf PKPdf 04 06 38.4 +0.5
Y28A McKinney Farm, 125.41 47 ⇓PKiKP PKiKP 04 06 38.7 +0.2
baz=125
426A McDonald Obser 125.53 51 ⇓PKiKP PKiKP 04 06 39.0 -0.1
baz=126
X29A Tulia 125.54 46 ⇑PKiKP PKiKP 04 06 39.5 +0.8
baz=126
T31A Randall Ranch, 125.58 42 ⇑PKiKP PKiKP 04 06 39.0 +0.3
baz=126
Z28A Tucker Farm, M 125.60 48 ⇑PKiKP PKiKP 04 06 38.8 -0.1
baz=126
COWI Conover 125.71 27 ePKPdf PKPdf 04 06 38.0 -0.2
526A Mary Lane Ranc 125.74 52 ⇓PKiKP PKiKP 04 06 40.0 +0.6
baz=126
128A Castleberry Fa 125.84 48 ⇓PKiKP PKiKP 04 06 39.5 +0.1
baz=126
Y29A Porterfield Fa 125.85 47 ⇓PKiKP PKiKP 04 06 39.8 +0.4
baz=126
626A Big Bend Ranch 125.92 52 ⇓PKiKP PKiKP 04 06 40.0 +0.3
baz=126
427A Hayter Ranch, 125.94 51 ⇑PKiKP PKiKP 04 06 40.4 +0.7

baz=126
228A UT Block 9, Go 125.99 49 ⇑PKiKP PKiKP 04 06 40.1 +0.4
baz=126
527A Woodward Ranch 126.08 52 ⇑PKiKP PKiKP 04 06 40.7 +0.7
baz=126
Z29A Hungry Hill Ra 126.11 47 ⇓PKiKP PKiKP 04 06 40.4 +0.5
baz=126
X30A Coker Ranch, T 126.13 46 ⇑PKiKP PKiKP 04 06 40.4 +0.5
baz=126
328A Wristen Ranch, 126.16 50 ⇓PKiKP PKiKP 04 06 40.6 +0.5
baz=126
V31A Spring Creek L 126.17 44 ⇓PKiKP PKiKP 04 06 41.0 +1.1
baz=126
129A Stewart Farms, 126.30 48 ⇑PKiKP PKiKP 04 06 40.7 +0.4
baz=126
TXAR Lajitas Array 126.38 53 PKP PKPdf 04 06 41.0 +0.8
TXAR SKPbc SKiKP 04 09 33.5 -19
TXAR Lajitas Array 126.38 53 PKP PKPdf 04 06 41.0 +0.8
comp=Z,3.3nm,0.8s,baz=241,slow=1.3,SNR=35
TXAR SKPbc SKiKP 04 09 33.5 -19
comp=Z,1.1nm,0.8s,baz=280,slow=3.0,SNR=6.4
Y30A Stafford Cattl 126.40 46 ⇑PKiKP PKiKP 04 06 41.2 +0.8
baz=126
KSU1 Kansas State U 126.41 38 *e*PKPdf PKPdf 04 06 40.0 +0.2
W31A Holland Ranch, 126.41 44 ⇓PKiKP PKiKP 04 06 41.2 +0.7
baz=126
Z30A Sanderson Ranc 126.53 47 ⇓PKiKP PKiKP 04 06 41.0 +0.3
baz=126
428A Kincaid Ranch, 126.55 50 ⇓PKiKP PKiKP 04 06 41.4 +0.5
baz=126
627A Terlingua Ranc 126.55 52 ⇓PKiKP PKiKP 04 06 41.4 +0.4
baz=126
229A Bryant Ranch, 126.65 49 ⇑PKiKP PKiKP 04 06 41.3 +0.3
baz=127
X31A McDonald Ranch 126.67 45 ⇑PKiKP PKiKP 04 06 41.6 +0.6
baz=127
528A Cox Ranch, San 126.72 51 ⇓PKiKP PKiKP 04 06 42.1 +0.9
baz=127
329A Wagon Wheel Ra 126.74 49 ⇓PKiKP PKiKP 04 06 41.8 +0.6
baz=127
Y31A Rekieta Farm, 126.82 46 ⇑PKiKP PKiKP 04 06 41.8 +0.6
baz=127
628A Black Gap, Mar 126.93 52 ⇓PKiKP PKiKP 04 06 42.3 +0.7
baz=127
130A Snyder 126.98 48 ⇑PKiKP PKiKP 04 06 41.9 +0.3
baz=127
529A Stev Forest Ra 127.17 51 ⇑PKiKP PKiKP 04 06 42.1 0.0
baz=127
429A Davenport Ranc 127.20 50 ⇑PKiKP PKiKP 04 06 42.6 +0.5
baz=127
230A Sterling City 127.21 48 ⇑PKiKP PKiKP 04 06 42.4 +0.3
baz=127
Z31A Sharp Cattle R 127.23 46 ⇑PKiKP PKiKP 04 06 42.4 +0.3
baz=127
131A Roby 127.37 47 ⇑PKiKP PKiKP 04 06 42.7 +0.3
baz=127
Y32A R-V Farms, Ver 127.38 45 ⇓PKiKP PKiKP 04 06 42.2 -0.2
baz=127
330A Mertzon 127.39 49 ⇑PKiKP PKiKP 04 06 42.7 +0.2
baz=127
WMOK Wichita Mounta 127.46 44 *e*PKiKP PKPdf 04 06 41.8 -0.1
WMOK Wichita Mounta 127.46 44 *e*PKPdf PKPdf 04 06 41.8 -0.1
JFWS Jewell Farm 127.51 31 *e*PKiKP PKPdf 04 06 41.7 0.0
JFWS Jewell Farm 127.51 31 *e*PKPdf PKPdf 04 06 41.7 0.0
430A Baggett Ranch, 127.63 50 ⇓PKiKP PKiKP 04 06 43.7 +0.7
baz=128
Z32A Haskell 127.71 46 ⇑PKiKP PKiKP 04 06 43.7 +0.7
baz=128
231A Bronte 127.78 48 ⇑PKiKP PKiKP 04 06 43.6 +0.4
baz=128
530A J-C Ranch, Com 127.85 50 ⇓PKiKP PKiKP 04 06 44.1 +0.7
baz=128
DBIC Dimbokro 127.87 279 PKP PKPdf 04 06 43.3 +0.1
DBIC *e*PKPdf PKiKP 04 06 43.5 -0.3
DBIC Dimbokro 127.87 279 PKP PKPdf 04 06 43.3 +0.1
comp=Z,5.4nm,0.7s,baz=102,slow=4.1,SNR=7.8
331A San Angelo 128.00 49 ⇑PKiKP PKiKP 04 06 44.1 +0.4
baz=128
LIC Lamto 128.08 278 *e*PKiKP PKPdf 04 06 41.8 -1.8
comp=Z,16nm,0.7s
431A Sonora 128.16 50 ⇑PKiKP PKiKP 04 06 44.5 +0.4
baz=128
232A Coleman 128.30 48 ⇑PKiKP PKiKP 04 06 44.7 +0.4
baz=128
531A Rocksprings 128.45 50 ⇓PKiKP PKiKP 04 06 45.1 +0.5
baz=128
332A Millersview 128.48 48 ⇑PKiKP PKiKP 04 06 45.0 +0.4
baz=128
432A Menard 128.68 49 ⇓PKiKP PKiKP 04 06 45.7 +0.6
baz=129
631A Perdido Creek 128.77 51 ⇑PKiKP PKiKP 04 06 45.6 +0.4
baz=129
TUL1 Tulsa 128.83 41 ⇑PKiKP PKiKP 04 06 44.9 -0.3
baz=129
JCT Junction City 128.87 49 *e*PKiKP PKPdf 04 06 45.4 +0.7
JCT Junction City 128.87 49 *e*PKPdf PKPdf 04 06 45.4 +0.7
JCT Junction City 128.87 49 ⇓PKiKP PKiKP 04 06 45.6 +0.1
baz=129
532A Rocksprings 128.96 50 ⇓PKiKP PKiKP 04 06 45.8 +0.2
baz=129
632A Uvalde 129.34 50 ⇑PKiKP PKiKP 04 06 46.7 +0.3
baz=129
732A Laxson Ranch, 129.55 51 ⇑PKiKP PKiKP 04 06 47.0 +0.2
baz=130
WHTX Lake Whitney 129.85 46 ⇓PKiKP PKiKP 04 06 47.9 +0.6
baz=130
MIAR Mount Ida 131.10 41 *e*PKiKP PKPdf 04 06 50.1 +1.3
MIAR Mount Ida 131.10 41 *e*PKPdf PKPdf 04 06 50.0 +1.3
OLIL Olney 131.64 33 *e*PKPdf PKPdf 04 06 49.9 +0.3
OLIL *e*SKPbc SKPbc 04 09 51.5 +0.4
SIUC Southern Illin 131.73 35 *e*PKPdf PKPdf 04 06 50.1 +0.2
PQI Presque Isle 132.21 11 *e*PKPdf PKPdf 04 06 50.5 0.0
PQI *e*SKPbc SKPbc 04 09 53.0 0.0
WCI Wyandotte Cave 132.98 32 *e*PKiKP PKPdf 04 06 52.5 +0.2
WCI Wyandotte Cave 132.98 32 *e*PKPdf PKPdf 04 06 52.5 +0.2
NCB Newcomb 133.25 17 *e*PKPdf PKPdf 04 06 53.3 +0.7
MDV Middlebury 133.53 16 *e*PKPdf PKPdf 04 06 54.4 +1.3
WVT Waverly 133.63 35 *e*PKiKP PKPdf 04 06 54.3 +0.8
WVT Waverly 133.63 35 *e*PKPdf PKPdf 04 06 54.2 +0.8
BINY Binghamton 134.28 20 *e*PKPdf PKPdf 04 06 54.5 -0.1
CPCT Cooper Cave 135.98 33 *e*PKPdf PKPdf 04 06 59.7 +1.8
TKL Tuckaleechee C 136.23 32 *e*PKPdf PKPdf 04 07 00.6 +2.1
PLCA Paso Flores 137.78 164 PKPpre PKPpre 04 06 51.2
PLCA *e*PKPdf PKiKP 04 07 02.8 -0.5
PLCA SKP 04 10 12.7
PLCA Paso Flores 137.78 164 PKhKP PKPpre 04 06 51.2
comp=Z,2.6nm,0.8s,baz=322,slow=6.3,SNR=4.7
PLCA PKP PKiKP 04 07 02.7 -0.5
comp=Z,5.8nm,0.7s,baz=158,slow=2.1,SNR=9.2
PLCA SKP 04 10 12.7
comp=Z,3.4nm,1.0s,baz=193,slow=9.4,SNR=3.3
KMSC Kings Mountain 137.91 31 ⇑PKiKP PKPdf 04 07 02.2 +0.7
baz=138
TIGA Tifton 139.43 37 ⇑PKiKP PKPdf 04 07 05.3 +0.9
baz=139
TRQA Tornquist 142.07 173 *e*PKPdf PKPdf 04 07 04.8 -4.2
TEIG Tepich 142.94 55 *e*PKPdf PKPdf 04 07 08.2 -2.8
LMEL Las Melosas 144.25 160 *e*P PKPdf 04 07 13.7 +0.5
LMEL Las Melosas 144.25 160 *e*P PKPdf 04 07 13.7 +0.5
TGUH Tegucigalpa,Un 146.51 64 *e*PKPbc PKPab 04 07 19.9 -0.7
CFAA Coronel Fontan 146.95 162 PKPbc PKPdf 04 07 18.5 +0.9
CFAA Coronel Fontan 146.95 162 PKPbc PKPdf 04 07 18.5 +0.9
comp=Z,8.2nm,0.5s,baz=219,slow=3.0,SNR=143
LCO Las Campanas 148.41 156 *e*PKPbc PKPbc 04 07 25.1 +0.8
CPUP Villa Florida 154.07 179 PKP PKPdf 04 07 28.9 +0.2
CPUP PKPab PKPab 04 07 52.1 +0.7
CPUP Villa Florida 154.07 179 PKP PKPdf 04 07 28.9 +0.2
comp=Z,5.7nm,0.8s,baz=261,slow=6.0
CPUP PKPab PKPab 04 07 52.1 +0.7
baz=153,slow=4.8
LVC Limon Verde 154.78 153 *e*PKPdf PKPdf 04 07 30.2 0.0
LVC PKP PKPdf 04 07 30.5 +0.3
LVC PKPbc PKiKP 04 07 39.8 +0.8
LVC *e*PKPbc PKPbc 04 07 40.0 +1.1
LVC *e*PKPab PKPab 04 07 56.3 +1.4
LVC PKPab PKPab 04 07 56.5 +1.6
LVC Limon Verde 154.78 153 PKP PKPdf 04 07 30.5 +0.3
comp=Z,5.6nm,0.8s,baz=244,slow=5.0,SNR=6.5
LVC PKPbc PKiKP 04 07 39.8 +0.8
comp=Z,8.0nm,0.8s,baz=258,slow=4.3,SNR=7.7
LVC PKPab PKPab 04 07 56.5 +1.6
comp=Z,6.1nm,0.7s,baz=183,slow=4.4,SNR=4.7
BCIP Isla Barro Col 155.08 67 *e*PKPbc PKPdf 04 07 39.5 +9.1
NNA Nana 156.82 121 *e*PKPdf PKPdf 04 07 33.8 +1.1
ATAH Atahualpa 157.26 108 PKP PKPdf 04 07 35.9 +2.1
ATAH Atahualpa 157.26 108 PKP PKPdf 04 07 35.9 +2.1
comp=Z,4.8nm,0.9s,baz=227,slow=11,SNR=4.7
OTAV Otavalo 158.19 89 *e*PKPdf PKPdf 04 07 36.4 +1.4
OTAV *e*PKPab PKPab 04 08 11.9 +1.6
RCBR Riachuelo 158.56 255 *e*PKPdf PKPdf 04 07 35.2 +0.3
RCBR PKPab PKPab 04 08 11.2 -0.2
RCBR *e*PKPab PKPab 04 08 11.9 +0.5
RCBR Riachuelo 158.56 255 PKPab PKPab 04 08 11.2 -0.2
comp=Z,8.4nm,0.7s,baz=100,slow=9.1,SNR=10
LPAZ La Paz 160.46 145 *e*PKPdf PKPdf 04 07 38.3 +0.6
LPAZ PKP PKPdf 04 07 38.4 +0.7
LPAZ PKPab PKPab 04 08 21.7 +1.7
LPAZ *e*PKPab PKPab 04 08 21.9 +1.9
LPAZ La Paz 160.46 145 PKP PKPdf 04 07 38.4 +0.7
comp=Z,6.3nm,0.8s,baz=112,slow=1.0,SNR=24
LPAZ PKPab PKPab 04 08 21.7 +1.7
comp=Z,8.1nm,0.8s,baz=186,slow=5.5,SNR=8.7
ROSC El Rosal 161.62 74 PKP PKPdf 04 07 38.8 0.0
ROSC *e*PKPdf PKPdf 04 07 39.6 +0.8
ROSC *e*PKPab PKPab 04 08 26.9 +1.7
ROSC PKPab PKPab 04 08 27.4 +2.2
ROSC El Rosal 161.62 74 PKP PKPdf 04 07 38.8 0.0
comp=Z,7.1nm,0.7s,baz=279,slow=23,SNR=7.1
ROSC PKPab PKPab 04 08 27.4 +2.2
comp=Z,10nm,0.8s,baz=93,slow=18,SNR=6.2
BDFB Brasilia 162.50 209 PKP PKPdf 04 07 39.6 +0.4
BDFB PKPab PKPab 04 08 29.0 +0.7
BDFB Brasilia 162.50 209 PKP PKPdf 04 07 39.6 +0.4
comp=Z,4.1nm,0.8s,baz=77,slow=5.0,SNR=6.8
BDFB PKPab PKPab 04 08 29.0 +0.7
comp=Z,8.6nm,0.7s,baz=167,slow=3.8,SNR=11
SIV San Ignacio 163.77 165 PKP PKPdf 04 07 40.5 +0.2
SIV PKPab PKPab 04 08 32.9 -0.8
SIV San Ignacio 163.77 165 PKP PKPdf 04 07 40.5 +0.2
comp=Z,9.7nm,0.8s,baz=192,slow=1.0,SNR=36
SIV PKPab PKPab 04 08 32.9 -0.8
comp=Z,4.5nm,0.6s,baz=199,slow=4.2,SNR=14
SAML Samuel 169.19 143 *e*PKPdf PKPdf 04 07 44.9 +0.3
SAML *e*PKPab PKPab 04 08 57.9 +0.1

MEX 10 04:03:01.5±0.6, 16.73N×99.81W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.15**	**340**	*i* P	Pg	04 03 04.1	-0.4
ACX				*i* S	Sg	04 03 07.0	+0.4
CAIG	**El Cayaco**	**0.54**	**306**	*i* P	Pg	04 03 11.7	-0.3
CAIG				*i* S	Sg	04 03 20.2	+1.1
ARIG	**Puente Sto Nin**	**1.63**	**342**	*i* P	Pn	04 03 28.1	-2.8
ARIG				*i* S	Sn	04 03 48.0	-4.3
PNIG	**Pinotepa**	**1.65**	**102**	*i* P	Pn	04 03 27.8	-3.4
PNIG				*i* S	Sn	04 03 47.8	-4.9
PLIG	**Platanillo**	**1.68**	**10**	*i* P	Pn	04 03 28.5	-3.2
PLIG				*i* S	Sn	04 03 48.6	-5.1
YAIG	**Yautepec**	**2.23**	**18**	*i* P	Pn	04 03 35.7	-3.7
YAIG				*i* S	Sn	04 04 02.6	-5.0

*ISCJB **10** 04:03:21.5±0.7, 4.36S±0.10×153.0E±0.1, h55km, mb4.4/11, MS3.4/4, Error ellipse: s-maj=17.7km s-min=9.9km az=42.2*

*IDC **10** 04:03:24.5±4.8, 4.41S×152.98E, h65km±40km, mb3.9/8, mb1 4.1/10, mb1mx3.8/23, mbtmp4.0/10, ML3.9/2, MS3.4/5, Ms1 3.4/5, ms1mx3.0/27, Error ellipse: s-maj=28.0km s-min=25.4km az=44.0*

*NEIC **10** 04:03:26.1±2.4, 4.42S×152.92E, h78km±19km, mb4.7/5, Error ellipse: s-maj=17.9km s-min=16.3km az=215.0*

ISC 10 04:03:23.2±0.7, 4.4S±0.1×153.1E±0.1, h55km, n39, σ0.99/37, mb4.5/11, MS3.4/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.72**	**229**	P	**Pn**	**04 05 14.2**	**+1.2**
PMG				S	**Sn**	**04 06 39.6**	**+0.4**
PMG	**Port Moresby**	**7.72**	**229**	P	**Pn**	**04 05 14.2**	**+1.2**
	6.4nm,0.3s,baz=51,slow=11,SNR=9.3						
PMG				S	**Sn**	**04 06 39.6**	**+0.4**
	9.8nm,0.3s,baz=128,slow=22,SNR=6.4						
PMG				LR	LR	04 07 49.4	
	comp=Z,189nm,21.2s,baz=301,slow=35						
COEN	**Coen**	**13.65**	**225**	*e*Pn	**Pn**	**04 06 34.6**	**+0.4**
COEN				*e*P	**P**	**04 06 42.2**	**+0.9**
CTA	**Charters Tower**	**16.99**	**202**	P	**P**	**04 07 18.6**	**+0.2**
CTA	**Charters Tower**	**16.99**	**202**	P	**P**	**04 07 18.6**	**+0.2**
	0.4nm,0.3s,baz=29,slow=14,SNR=3.0						
DZM	**Mont Dzumac**	**21.86**	**145**	P	**P**	**04 08 11.4**	**-0.2**
DZM	**Mont Dzumac**	**21.86**	**145**	P	**P**	**04 08 11.4**	**-0.2**
	13nm,0.6s,baz=270,slow=24,SNR=13						
WRAB	**Tennant Creek**	**23.93**	**228**	*e*P	**P**	**04 08 31.1**	**-1.3**
	16nm,0.6s						
WRA	**Warramunga Arr**	**23.94**	**228**	P	**P**	**04 08 31.2**	**-1.3**
WRA	**Warramunga Arr**	**23.94**	**228**	P	**P**	**04 08 31.2**	**-1.3**
	15nm,0.5s,baz=54,slow=9.8,SNR=164						
AS31	**Alice Springs**	**26.66**	**222**	*e*P	**P**	**04 08 55.5**	**-1.7**
ASAR	**Alice Springs**	**26.66**	**222**	P	**P**	**04 08 56.4**	**-0.7**
ASAR	**Alice Springs**	**26.66**	**222**	P	**P**	**04 08 56.4**	**-0.7**
	4.0nm,0.5s,baz=55,slow=8.9,SNR=24						
STKA	**Stephens Creek**	**29.42**	**200**	P	**P**	**04 09 19.9**	**-1.7**
STKA	**Stephens Creek**	**29.42**	**200**	P	**P**	**04 09 19.9**	**-1.7**
	2.2nm,0.6s,baz=22,slow=13,SNR=7.7						
STKA				LR	LR	04 21 11.8	
	comp=Z,103nm,21.6s,baz=26,slow=36						
FITZ	**Fitzroy Crossi**	**30.11**	**241**	LR	LR	04 21 52.6	
	comp=Z,64nm,19.5s,baz=267,slow=37						
FORT	**Forrest**	**35.30**	**219**	*e*P	**P**	**04 10 12.2**	**-0.9**
	18nm,0.5s						
JNU	**Nakatsue**	**42.80**	**332**	LR	LR	04 26 44.5	
	comp=Z,55nm,20.4s,baz=322,slow=33						
ASAJ	**Asahikawa**	**49.16**	**350**	LR	LR	04 33 16.8	
	comp=Z,31nm,18.8s,baz=295,slow=36						
PALK	**Palikekele**	**73.13**	**279**	*e*P	**P**	**04 14 48.4**	**-0.3**
	30nm,1.3s						
VNDA	**Vanda**	**73.26**	**178**	*e*P	**P**	**04 14 49.3**	**+1.1**
	1.4nm,0.7s						
VNDA	**Vanda**	**73.26**	**178**	P	**P**	**04 14 48.0**	**-0.1**
	1.5nm,0.7s,baz=344,slow=5.3,SNR=9.4						
ILAR	**Eielson Array**	**81.65**	**22**	P	**P**	**04 15 34.8**	**-0.4**
ILAR	**Eielson Array**	**81.65**	**22**	P	**P**	**04 15 34.8**	**-0.4**
	0.2nm,0.7s,baz=255,slow=3.5,SNR=2.6						
KURK	**Kurchatov**	**83.59**	**322**	P	**P**	**04 15 45.6**	**+0.1**
KURBB	**Kurchatov Arra**	**83.62**	**322**	P	**P**	**04 15 45.6**	**-0.1**
	0.2nm,0.3s,baz=101,slow=4.8,SNR=4.2						
VIB	**Van Inlet**	**84.21**	**36**	T	T	05 48 48.0	
	baz=241,SNR=20						
DIB	**Dawson Inlet,**	**84.23**	**36**	T	T	05 48 43.8	
QSPA	**South Pole Qui**	**85.60**	**180**	*e*P	**P**	**04 15 56.1**	**+0.5**
	2.9nm,0.8s						
QSPA	**South Pole Qui**	**85.60**	**180**	P	**P**	**04 15 55.7**	**+0.1**
	3.1nm,0.7s,baz=352,slow=1.1,SNR=13						
LPAZ	**La Paz**	**134.38**	**118**	PKP	**PKPdf**	**04 22 38.3**	**+1.3**
LPAZ	**La Paz**	**134.38**	**118**	PKP	**PKPdf**	**04 22 38.3**	**+1.3**
	0.8nm,0.8s,baz=164,slow=4.3,SNR=4.3						
SIV	**San Ignacio**	**140.63**	**122**	PKP	**PKPdf**	**04 22 49.2**	**+1.5**
SIV	**San Ignacio**	**140.63**	**122**	PKP	**PKPdf**	**04 22 49.2**	**+1.5**
	0.5nm,0.6s,baz=253,slow=7.2,SNR=2.5						
TOA0	**Torodi Ar. Sit**	**150.42**	**289**	*e*PKPbc	**PKPbc**	**04 23 09.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**150.42**	**289**	PKPbc	**PKPbc**	**04 23 09.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**150.42**	**289**	PKPbc	**PKPbc**	**04 23 09.0**	**-0.7**
	2.0nm,0.8s,baz=62,slow=1.8,SNR=25						
BDFB	**Brasilia**	**151.18**	**134**	PKPbc	**PKPbc**	**04 23 12.7**	**+1.1**
BDFB	**Brasilia**	**151.18**	**134**	PKPbc	**PKPbc**	**04 23 12.7**	**+1.1**
	3.7nm,0.7s,baz=319,slow=3.1,SNR=6.5						

*CSEM **10** 04:05:10.5±0.2, 32.39N×49.60E, h20km, mb4.5/24, Error ellipse: s-maj=7.4km s-min=3.9km az=171.0*

*MOS **10** 04:05:10.4±1.2, 32.43N×49.68E, h33km, mb4.3/22, Error ellipse: s-maj=10.7km s-min=5.9km az=122.4*

*TEH **10** 04:05:12.6, 32.46N×49.70E, h23km, ML4.1*

*THR **10** 04:05:12.4±1.2, 32.69N×49.92E, h14km±9km, ML4.0*

*IDC **10** 04:05:13.7±3.0, 32.55N×49.65E, h45km±29km, mb3.8/19, mb1 4.0/22, mb1mx3.9/31, mbtmp3.9/22, ML3.7/2, MS3.2/3, Ms1 3.2/3, ms1mx2.6/42, Error ellipse: s-maj=19.3km s-min=13.7km az=154.0*

ISC 10 04:05:09.9±0.8, 32.39N±0.05×49.60E±0.03, h18km±3km, n318, σ1.917/312, mb4.3/48, 30C-21D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.73**	**248**	*e*Pg	Pn	04 05 33.1	+7.7
SHGR				AML	AML	04 05 58.0	
	comp=E,5μm,0.5s						
IPIR	**Pirpir**	**1.13**	**75**	*e*Pg	Pn	04 05 25.7	-5.5
IPIR				*e*		04 05 44.9	
	comp=Z,29μm,0.2s						
IKLH	**Kolahrood**	**1.91**	**60**	*e*Pn	**Pn**	**04 05 38.9**	**-2.9**
IKLH				*e*Sg	**Sb**	**04 06 08.6**	**+0.6**
IKLH				*e*		04 06 14.8	
	comp=Z,18μm,0.4s						
IGAR	**Gharneh**	**2.07**	**89**	*e*Pn	**Pn**	**04 05 42.5**	**-1.5**
IGAR				*e*		04 05 49.9	
	comp=Z,11μm,0.1s						
ASAO	**Ashtian**	**2.18**	**9**	*e*Pg	**Pn**	**04 05 45.9**	**+0.3**
ASAO				AML	AML	04 06 22.0	
	comp=N,1μm,0.6s						
ASAO				AML	AML	04 06 24.2	
	comp=E,1μm,0.6s						
ASAO	**Ashtian**	**2.18**	**9**	*e*Pg	**Pn**	**04 05 45.9**	**+0.3**
IZEF	**Zefreh**	**2.36**	**77**	*e*Pn	**Pn**	**04 05 47.8**	**-0.2**
IZEF				*e*		04 05 51.4	
	comp=Z,5μm,0.3s						
IZEF	**Zefreh**	**2.36**	**77**	*e*Pn	**Pn**	**04 05 47.8**	**-0.2**
IKOM	**Komasi**	**2.49**	**316**	*e*Pn	**Pn**	**04 05 51.8**	**+2.0**
IKOM				*e*Sg	**Sg**	**04 06 31.7**	**+1.6**
IKOM				*e*		04 06 43.6	
	comp=Z,21μm,0.5s						
IKOM	**Komasi**	**2.49**	**316**	*e*Pn	**Pn**	**04 05 51.8**	**+2.0**
GHVR	**GHOM**	**2.52**	**34**	*e*Pg	**Pn**	**04 05 50.7**	**+0.6**
GHVR				AML	AML	04 06 29.6	
	comp=N,812nm,0.5s						
GHVR				AML	AML	04 06 34.0	
	comp=E,863nm,0.5s						
GHVR	**GHOM**	**2.52**	**34**	*e*Pg	**Pn**	**04 05 50.7**	**+0.6**
NASN	**Na'in**	**2.74**	**81**	*e*Pn	**Pn**	**04 05 54.2**	**+0.9**
NASN				*e*Sg	**Sn**	**04 06 28.8**	**+2.6**
NASN	**Na'in**	**2.74**	**81**	*e*Pn	**Pn**	**04 05 54.2**	**+0.9**
NASN				*e*Sg	**Sn**	**04 06 28.8**	**+2.6**
IR5	**Iran Long-Peri**	**2.93**	**16**	*e*Pn	**Pn**	**04 05 56.6**	**+0.8**
IR5	**Iran Long-Peri**	**2.93**	**16**	*e*Pn	**Pn**	**04 05 56.6**	**+0.8**
ISFB	**Sefidab**	**2.95**	**48**	*e*Pn	**Pn**	**04 05 56.3**	**+0.3**
ISFB				*e*		04 06 38.0	
	comp=Z,7μm,0.3s						
ISFB	**Sefidab**	**2.95**	**48**	*e*Pn	**Pn**	**04 05 56.3**	**+0.3**
IRAZ	**Razeghan**	**3.02**	**5**	*e*Pn	**Pn**	**04 05 58.1**	**+1.1**
IRAZ				*e*		04 06 52.0	
	comp=Z,9μm,0.5s						
IRAZ	**Razeghan**	**3.02**	**5**	*e*Pn	**Pn**	**04 05 58.1**	**+1.1**
IVIS	**Veis**	**3.13**	**314**	*e*Pn	**Pn**	**04 06 00.6**	**+2.1**
IVIS				*e*		04 07 01.8	
	comp=Z,6μm,0.4s						
IVIS	**Veis**	**3.13**	**314**	*e*Pn	**Pn**	**04 06 00.6**	**+2.1**
IVRN	**Varamin**	**3.15**	**34**	*e*Pn	**Pn**	**04 05 59.2**	**+0.5**
IVRN				*e*		04 06 05.9	
	comp=Z,5μm,0.2s						
IVRN	**Varamin**	**3.15**	**34**	*e*Pn	**Pn**	**04 05 59.2**	**+0.5**
IBDR	**Badra**	**3.17**	**284**	*e*Pn	**Pn**	**04 05 59.0**	**+0.1**
IBDR				*i* Sn	**Sn**	**04 06 37.0**	**+0.7**
IGHG	**Ghaleghazi**	**3.19**	**308**	*e*Pn	**Pn**	**04 06 01.3**	**+1.9**
IGHG				*e*		04 07 11.4	
	comp=Z,12μm,0.4s						
IGHG	**Ghaleghazi**	**3.19**	**308**	*e*Pn	**Pn**	**04 06 01.3**	**+1.9**
IR3	**Iran Long-Peri**	**3.30**	**21**	*e*Pn	**Pn**	**04 06 01.6**	**+0.8**
IR3	**Iran Long-Peri**	**3.30**	**21**	*e*Pn	**Pn**	**04 06 01.6**	**+0.8**
ILIN	**Lien**	**3.34**	**320**	*e*Pn	**Pn**	**04 06 03.3**	**+1.8**
ILIN				*e*		04 07 04.2	
	comp=Z,5μm,0.4s						
ILIN	**Lien**	**3.34**	**320**	*e*Pn	**Pn**	**04 06 03.3**	**+1.8**
IMHD	**Mahdasht**	**3.41**	**15**	*e*		04 06 12.4	
	comp=Z,3μm,0.2s						
IMHD				*e*Pn	**Pn**	**04 06 02.7**	**+0.5**
ISAD	**Sadrabad**	**3.50**	**97**	*e*Pn	**Pn**	**04 06 05.0**	**+1.3**
ISAD				*e*		04 07 22.4	
	comp=Z,4μm,0.4s						
ISAD	**Sadrabad**	**3.50**	**97**	*e*Pn	**Pn**	**04 06 05.0**	**+1.3**
IDHR	**Dehrash**	**3.53**	**312**	*e*Pn	**Pn**	**04 06 05.8**	**+1.7**
IDHR				*e*		04 07 07.7	
	comp=Z,5μm,0.3s						
IDHR	**Dehrash**	**3.53**	**312**	*e*Pn	**Pn**	**04 06 05.8**	**+1.7**
THKV	**Tehran--Karaj**	**3.67**	**16**	*e*Pn	**Pn**	**04 06 06.5**	**+0.5**
THKV				AML	AML	04 07 11.9	
	comp=E,299nm,0.6s						
THKV				AML	AML	04 07 13.2	
	comp=N,263nm,0.6s						
THKV	**Tehran--Karaj**	**3.67**	**16**	*e*Pn	**Pn**	**04 06 06.5**	**+0.5**
DAMV	**Damavand**	**3.79**	**31**	*e*Pn	**Pn**	**04 06 07.3**	**-0.3**
DAMV				AML	AML	04 07 05.8	
	comp=N,168nm,0.6s						
DAMV				AML	AML	04 07 16.5	
	comp=E,278nm,0.6s						
DAMV	**Damavand**	**3.79**	**31**	*e*Pn	**Pn**	**04 06 07.3**	**-0.3**
IGZV	**Ghazvin**	**4.02**	**7**	*e*Pn	**Pn**	**04 06 11.3**	**+0.5**
IGZV				*e*		04 07 26.1	
	comp=Z,3μm,0.3s						
IGZV	**Ghazvin**	**4.02**	**7**	*e*Pn	**Pn**	**04 06 11.3**	**+0.5**
ICHK	**Chekchek**	**4.08**	**91**	*e*Pn	**Pn**	**04 06 12.4**	**+0.8**
ICHK				*e*		04 07 27.9	
	comp=Z,2μm,0.4s						
ICHK	**Chekchek**	**4.08**	**91**	*e*Pn	**Pn**	**04 06 12.4**	**+0.8**
ILAS	**Lasjerd**	**4.09**	**42**	*e*Pn	**Pn**	**04 06 12.5**	**+0.7**
ILAS				*e*		04 07 41.3	
	comp=Z,3μm,0.3s						
ILAS	**Lasjerd**	**4.09**	**42**	*e*Pn	**Pn**	**04 06 12.5**	**+0.7**
IFIR	**Firoozkooh**	**4.17**	**38**	*e*Pn	**Pn**	**04 06 13.7**	**+0.8**
IFIR				*e*		04 06 29.8	
	comp=Z,2μm,0.2s						
IFIR	**Firoozkooh**	**4.17**	**38**	*e*Pn	**Pn**	**04 06 13.7**	**+0.8**
ISRV	**Sarvestan**	**4.26**	**134**	*e*Pn	**Pn**	**04 06 15.7**	**+1.5**
ISRV				*e*		04 08 01.7	
	comp=Z,5μm,0.8s						
ISRV	**Sarvestan**	**4.26**	**134**	*e*Pn	**Pn**	**04 06 15.7**	**+1.5**
IMEH	**Mehriz**	**4.38**	**102**	*e*Pn	**Pn**	**04 06 16.6**	**+0.8**
IMEH				*e*		04 07 40.0	
	comp=Z,1μm,0.4s						
IMEH	**Mehriz**	**4.38**	**102**	*e*Pn	**Pn**	**04 06 16.6**	**+0.8**
BHD	**Baghdad**	**4.48**	**283**	*e*Pn	**Pn**	**04 06 15.0**	**-1.9**
BHD				*i* Sn	**Sn**	**04 07 09.0**	**+0.5**
BHD	**Baghdad**	**4.48**	**283**

comp=Z,76nm,18.4s,baz=106,slow=41
BRTR Keskin Array B 14.82 304 P **Pn** 04 08 39.9 +1.1
comp=Z,0.2nm,0.3s,baz=130,slow=13,SNR=11
KARP Karpathos 18.87 286 *e*P **Pn** 04 09 32.6 +2.8
AKTK Aktyubinsk 19.08 17 P **Pn** 04 09 33.0 +0.8
AKTO Aktyubinsk 19.08 17 P **Pn** 04 09 33.0 +0.8
AKTO Aktyubinsk 19.08 17 P **Pn** 04 09 33.0 +0.8
comp=Z,0.2nm,0.3s,baz=206,slow=14,SNR=7.0
SMG Samos 19.36 292 *e*P **Pn** 04 09 36.3 +0.6
CHOS Chios island 20.08 294 P Pn 04 09 43.8 -0.5
CHOS Chios island 20.08 294 *e*P Pn 04 09 43.8 -0.5
CHOS Chios island 20.08 294 P Pn 04 09 43.8 -0.5
NPS Neapolis 20.12 285 P Pn 04 09 46.0 +1.2
NPS Neapolis 20.12 285 *e*P Pn 04 09 45.3 +0.5
LAST Lasithi 20.23 284 P Pn 04 09 46.6 +0.5
LAST Lasithi 20.23 284 P Pn 04 09 46.6 +0.5
APE Apeiranthos 20.30 290 P Pn 04 09 46.2 -0.8
APE Apeiranthos 20.30 290 ⇓P Pn 04 09 46.0 -0.9
APE Apeiranthos 20.30 290 *e*P Pn 04 09 46.3 -0.7
APE Apeiranthos 20.30 290 ⇓*i*P Pn 04 09 46.0 -0.9
APE Apeiranthos 20.30 290 P Pn 04 09 46.0 -0.9
TIRR Tirgusor 20.44 312 ⇑P **P** 04 09 46.7 +0.5
TIRR Tirgusor 20.44 312 ⇑*i*P **P** 04 09 46.7 +0.5
TIRR Tirgusor 20.44 312 P **P** 04 09 46.7 +0.5
IDI Anoyia 20.71 285 P Pn 04 09 50.9 -0.9
IDI Anoyia 20.71 285 P Pn 04 09 50.9 -0.9
SIVA Sivas 20.77 284 P Pn 04 09 51.5 -0.9
SIVA Sivas 20.77 284 P Pn 04 09 51.5 -0.9
CFR Carcaliu 20.97 314 ⇑P **P** 04 09 51.9 0.0
CFR Carcaliu 20.97 314 ⇑*i*P **P** 04 09 51.9 0.0
CFR Carcaliu 20.97 314 P **P** 04 09 51.9 0.0
VAM Vamos 21.28 285 *e*P **P** 04 09 56.9 +1.5
AOS Alonnisos 21.89 295 *e*P **P** 04 10 04.9 +3.0
MRKA Markates 22.04 294 P **P** 04 10 04.0 +0.4
MRKA Markates 22.04 294 P **P** 04 10 04.0 +0.4
AAK Ala-Archa 22.17 55 P **P** 04 10 08.1 +3.0
AAK pmax pmax
comp=Z,1.0nm,0.3s
AAK Ala-Archa 22.17 55 P **P** 04 10 08.1 +3.0
comp=Z,1.3nm,0.3s,baz=252,slow=9.6,SNR=2.9
VRI Vrincioaia 22.17 314 ⇓P **P** 04 10 05.7 +0.8
VRI Vrincioaia 22.17 314 ⇓*i*P **P** 04 10 05.7 +0.8
VRI Vrincioaia 22.17 314 P **P** 04 10 05.7 +0.8
PLOR Plostina 22.21 314 ⇑P **P** 04 10 05.4 +0.1
PLOR Plostina 22.21 314 ⇑*i*P **P** 04 10 05.4 +0.1
PLOR Plostina 22.21 314 P **P** 04 10 05.4 +0.1
KYTH Kithira 22.25 287 P **P** 04 10 06.0 +0.2
KYTH Kithira 22.25 287 P **P** 04 10 06.0 +0.2
VLI Veliai 22.35 289 P **P** 04 10 04.3 -2.6
VLI Veliai 22.35 289 *e*P **P** 04 10 06.2 -0.7
NVR Nevrokopi 22.38 301 *e*P **P** 04 10 07.4 +0.2
PLG Polygyros 22.45 298 *e*P **P** 04 10 09.8 +1.8
MLR Muntele Rosu 22.47 312 ⇓*i*P **P** 04 10 09.9 +1.6
MLR Muntele Rosu 22.47 312 P **P** 04 10 10.7 +2.4
comp=Z,8.3nm,0.7s,baz=8.4,slow=5.9,SNR=56
MLR Muntele Rosu 22.47 312 P **P** 04 10 09.9 +1.6
TESR Tescani 22.54 315 ⇓*i*P **P** 04 10 09.3 +0.5
TESR Tescani 22.54 315 ⇓*i*P **P** 04 10 09.3 +0.5
DYR Agios Nikonas 22.83 289 P **P** 04 10 11.9 -0.1
DYR Agios Nikonas 22.83 289 *e*P **P** 04 10 12.2 +0.2
DYR Agios Nikonas 22.83 289 P **P** 04 10 11.9 -0.1
VLX Vlachokerasia 22.84 290 *e*P **P** 04 10 10.9 -1.3
GUR Goura 22.92 292 P **P** 04 10 12.1 -0.9
GUR Goura 22.92 292 *e*P **P** 04 10 13.2 +0.2
GUR Goura 22.92 292 P **P** 04 10 12.1 -0.9
VOIR 23.01 312 ⇓P **P** 04 10 14.9 +1.0
VOIR 23.01 312 ⇓*i*P **P** 04 10 14.9 +1.0
VOIR 23.01 312 P **P** 04 10 14.9 +1.0
DOPR Dopca 23.04 313 ⇑*i*P **P** 04 10 14.8 +0.7
DOPR Dopca 23.04 313 ⇑*i*P **P** 04 10 14.8 +0.7
AGG Agios Georgios 23.06 294 *e*P **P** 04 10 14.7 +0.3
KLV Kalavryta, Ach 23.08 292 P **P** 04 10 14.8 +0.2
KLV Kalavryta, Ach 23.08 292 *e*P **P** 04 10 15.8 +1.2
KLV Kalavryta, Ach 23.08 292 P **P** 04 10 14.8 +0.2
LIT Litokhoron 23.11 297 P **P** 04 10 15.7 +0.8
LIT Litokhoron 23.11 297 *e*P **P** 04 10 14.8 -0.1
LIT Litokhoron 23.11 297 P **P** 04 10 15.7 +0.8
KALE Kalithea 23.12 293 *e*P **P** 04 10 14.7 -0.4
ITM Ithomi 23.18 290 P **P** 04 10 14.9 -0.7
ITM Ithomi 23.18 290 *e*P **P** 04 10 15.1 -0.5
ITM Ithomi 23.18 290 P **P** 04 10 14.9 -0.7
VTS Vitosha 23.20 304 ⇑P **P** 04 10 17.6 +1.7
VTS Vitosha 23.20 304 ⇑*i*P **P** 04 10 17.6 +1.7
VTS Vitosha 23.20 304 P **P** 04 10 17.6 +1.7
MAKR Makrakomi, Fth 23.21 294 P **P** 04 10 15.6 -0.3
MAKR Makrakomi, Fth 23.21 294 P **P** 04 10 15.6 -0.3
LAKA Lakka 23.23 292 P **P** 04 10 15.5 -0.6
LAKA Lakka 23.23 292 *e*P **P** 04 10 16.3 +0.2
LAKA Lakka 23.23 292 P **P** 04 10 15.5 -0.6
ARR Arges 23.25 311 ⇑*i*P **P** 04 10 17.2 +1.0
ARR Arges 23.25 311 ⇑*i*P **P** 04 10 17.2 +1.0
PYL PYLOS 23.31 289 P **P** 04 10 15.7 -1.2
PYL PYLOS 23.31 289 *e*P **P** 04 10 15.7 -1.2
PYL PYLOS 23.31 289 P **P** 04 10 15.7 -1.2
GRG Griva 23.36 299 *e*P **P** 04 10 16.3 -1.1
THL Klokotos Trika 23.38 296 *e*P **P** 04 10 18.4 +0.8
EVR Evrytania 23.45 294 *e*P **P** 04 10 16.3 -2.0
LOT Lotru 23.83 311 ⇑*i*P **P** 04 10 22.7 +0.7
LOT Lotru 23.83 311 ⇑*i*P **P** 04 10 22.7 +0.7
BURAR Bucovina Array 23.94 317 ⇓P **P** 04 10 24.1 +1.0
BURAR Bucovina Array 23.94 317 ⇓*i*P **P** 04 10 24.0 +1.0
BURAR Bucovina Array 23.94 317 ⇓*i*P **P** 04 10 24.0 +1.0
FNA Florina 24.08 298 *e*P **P** 04 10 24.6 +0.2
KFL Anninata 24.15 292 P **P** 04 10 25.0 0.0
KFL Anninata 24.15 292 P **P** 04 10 25.0 0.0
BARS Barje 24.25 303 ⇓*i*P **P** 04 10 24.8 -1.0
NEST Nestorio 24.26 297 P **P** 04 10 26.6 +0.6
NEST Nestorio 24.26 297 P **P** 04 10 26.6 +0.6
JAN Janina 24.28 295 *e*P **P** 04 10 27.0 +0.8
VLS Valsamata 24.32 292 *e*P **P** 04 10 26.4 -0.1
LKD2 Lefkada island 24.32 293 P **P** 04 10 26.3 -0.3
LKD2 Lefkada island 24.32 293 *e*P **P** 04 10 26.4 -0.2
LKD2 Lefkada island 24.32 293 P **P** 04 10 26.3 -0.3
BOLS Boljevac 24.45 306 ⇓*i*P **P** 04 10 27.4 -0.3
GZR Gura Zlata 24.45 310 ⇑*i*P **P** 04 10 27.9 +0.2
GZR Gura Zlata 24.45 310 ⇑*i*P **P** 04 10 27.9 +0.2
OBN Obninsk 24.51 342 *e*P **P** 04 10 27.0 -1.0
OBN *e*S **S** 04 14 45.9 -1.5
OBN pmax pmax
comp=Z,27nm,1.7s
OBN MLR MLR
comp=Z,100nm,19.0s
OBN Obninsk 24.51 342 *e*P **P** 04 10 27.0 -1.0
comp=Z,27nm,1.7s
IGT Igoumenitsa 24.66 295 P **P** 04 10 29.4 -0.2
IGT Igoumenitsa 24.66 295 P **P** 04 10 29.4 -0.2
ARU Arti 24.83 12*c i*P **P** 04 10 31.5 +0.6
ARU 04 11 01.7
ARU S **S** 04 14 52.3 -0.4
ARU pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 24.83 12 *i*P **P** 04 10 31.5 +0.6
comp=Z,9.0nm,1.0s
PHP Peshkopia 24.96 300 P **P** 04 10 33.3 +1.0
PHP Peshkopia 24.96 300 P **P** 04 10 33.3 +1.0
DRGR 25.07 313 ⇓P **P** 04 10 34.9 +1.6
DRGR 25.07 313 ⇓*i*P **P** 04 10 34.9 +1.6
DRGR 25.07 313 P **P** 04 10 34.9 +1.6
SVIS Svilajnac 25.09 306 *e*P **P** 04 10 34.0 +0.6
KEK Kerkira 25.10 295 P **P** 04 10 32.9 -0.6
KEK Kerkira 25.10 295 *e*P **P** 04 10 33.6 +0.1
KEK Kerkira 25.10 295 P **P** 04 10 32.9 -0.6
BZS Buzias 25.29 310 ⇓P **P** 04 10 36.2 +1.0
BZS Buzias 25.29 310 ⇓*i*P **P** 04 10 36.2 +1.0
BZS Buzias 25.29 310 P **P** 04 10 36.2 +1.0
BRVK Borovoye 25.47 30 ⇑*e*P **P** 04 10 37.4 +0.6
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 25.47 30 *e*P **P** 04 10 37.4 +0.6
comp=Z,4.0nm,1.0s
BVAR Borovoye Array 25.49 30 P **P** 04 10 36.6 -0.4
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 25.49 30 P **P** 04 10 36.6 -0.4
comp=Z,1.6nm,0.6s,baz=224,slow=8.3,SNR=9.3
BVAR Borovoye Array 25.49 30 P **P** 04 10 36.6 -0.4
comp=Z,2.0nm,0.6s
DIVS Divibare 25.88 305 *e*P **P** 04 10 42.6 +1.9
UZH Uzhgorod 26.15 316 *e*P **P** 04 10 45.0 +2.0
UZH 04 10 58.4
UZH Uzhgorod 26.15 316 *e*P **P** 04 10 45.0 +2.0

BBLS Lazići 26.22 305 *e*P **P** 04 10 46.1 +2.3
KOLS Kolonicke sedl 26.30 317 *e*P **P** 04 10 45.8 +1.4
KOLS pmax pmax
comp=Z,19nm,0.8s
KOLS Kolonicke sedl 26.30 317 *e*P **P** 04 10 45.8 +1.4
KOLS Kolonicke sedl 26.30 317 *e*P **P** 04 10 45.8 +1.4
comp=Z,19nm,0.8s
KWP Kalwaria Pacla 26.40 319 ⇑P **P** 04 10 45.7 +0.4
KWP Kalwaria Pacla 26.40 319 ⇑*i*P **P** 04 10 45.7 +0.4
KWP Kalwaria Pacla 26.40 319 *e*P **P** 04 10 45.7 +0.4
KWP Kalwaria Pacla 26.40 319 P **P** 04 10 45.7 +0.4
STHS Stebnicka Huta 27.13 317 *e*P **P** 04 10 52.9 +1.0
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 27.13 317 *e*P **P** 04 10 52.9 +1.0
STHS Stebnicka Huta 27.13 317 *e*P **P** 04 10 52.9 +1.0
comp=Z,2.0nm,0.9s
KECS Kecovo 27.15 315 *e*P **P** 04 10 53.3 +1.3
KECS pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 27.15 315 *e*P **P** 04 10 53.3 +1.3
KECS Kecovo 27.15 315 *e*P **P** 04 10 53.3 +1.3
comp=Z,3.0nm,0.8s
PSZ Piszkesteto 27.27 313 ⇑*i*P **P** 04 10 56.9 +3.6
TIP Timpagrande 27.38 294 P **P** 04 10 55.0 +0.7
TIP Timpagrande 27.38 294 P **P** 04 10 55.0 +0.7
PKSM Moragy 27.45 309 ⇑*i*P **P** 04 10 53.3 -1.4
PKSM Moragy 27.45 309 ⇑*i*P **P** 04 10 53.3 -1.4
KURBB Kurchatov Arra 28.04 41 P **P** 04 11 00.0 +0.1
comp=Z,0.4nm,0.5s,baz=243,slow=9.5,SNR=4.3
KURBB PcP **PcP** 04 14 12.7 -1.6
comp=Z,0.3nm,0.6s,baz=239,slow=2.6,SNR=4.7
KURK Kurchatov 28.14 41 P **P** 04 11 00.0 -0.8
KURK 04 14 12.7
VYHS Vyhne 28.16 314 *e*P **P** 04 11 01.5 +0.5
VYHS pmax pmax
comp=Z,1.0nm,0.8s
VYHS Vyhne 28.16 314 *e*P **P** 04 11 01.5 +0.5
VYHS Vyhne 28.16 314 *e*P **P** 04 11 01.5 +0.5
comp=Z,1.4nm,0.8s
MKAR Makanchi Array 28.77 50 P **P** 04 11 06.4 -0.2
MKAR Makanchi Array 28.77 50 P **P** 04 11 06.4 -0.2
comp=Z,0.2nm,0.5s,baz=248,slow=11,SNR=4.5
ZST Bratislava 29.11 312 *e*P **P** 04 11 12.1 +2.6
ZST Bratislava 29.11 312 *e*P **P** 04 11 12.1 +2.6
ZST Bratislava 29.11 312 *e*P **P** 04 11 12.1 +2.6
VRAC Vranov 29.84 314 P **P** 04 11 16.5 +0.6
comp=Z,4.5nm,0.6s,baz=92,slow=7.8,SNR=5.4
DPC Dobruska-Polom 30.40 316 *e*P **P** 04 11 21.1 +0.1
DPC Dobruska-Polom 30.40 316 *e*P **P** 04 11 21.1 +0.1
DPC Dobruska-Polom 30.40 316 P **P** 04 11 21.1 +0.1
TREC Trest 30.50 314 *e*P **P** 04 11 22.5 +0.6
TREC Trest 30.50 314 *e*P **P** 04 11 22.5 +0.6
TREC Trest 30.50 314 P **P** 04 11 22.5 +0.6
KBA Koelnbreinsper 31.19 309 ⇑*i*P **P** 04 11 28.6 +0.5
comp=Z,12nm,0.7s
KBA Koelnbreinsper 31.19 309 P **P** 04 11 28.6 +0.5
comp=Z,12nm,0.7s
GERES GERESS Array B 31.46 312 P **P** 04 11 30.4 -0.1
comp=Z,2.5nm,0.5s,baz=110,slow=8.3,SNR=23
GERES PcP **PcP** 04 14 22.9 -0.3
comp=Z,0.3nm,0.5s,baz=147,slow=2.0,SNR=4.1
KHC Kasperske Hory 31.63 313 *e*P **P** 04 11 31.5 -0.3
KHC *e* 04 11 38.2
KHC Kasperske Hory 31.63 313 *e*P **P** 04 11 31.5 -0.3
KHC *e*pP **pP** 04 11 38.2 +0.9
KHC Kasperske Hory 31.63 313 P **P** 04 11 31.5 -0.3
BRG Berggiesshubel 32.00 316 *e*P **P** 04 11 34.7 -0.3
comp=Z,4.1nm,0.8s
WTTA Wattenberg 32.36 308 ⇑*i*P **P** 04 11 38.2 -0.3
comp=Z,9.6nm,0.6s
WTTA Wattenberg 32.36 308 P **P** 04 11 38.2 -0.3
comp=Z,9.6nm,0.6s
JOF Joensuu 32.68 345 *e*p **P** 04 11 39.8 -1.0
comp=Z,10nm,0.6s
JOF Joensuu 32.68 345 *e*P **P** 04 11 39.8 -1.0
JOF pmax pmax
comp=Z,10.0nm,0.6s
JOF Joensuu 32.68 345 *e*P **P** 04 11 39.8 -1.0
comp=Z,10nm,0.6s
CLL Collm 32.71 316 *i* (P) **P** 04 11 41.3 +0.1
comp=Z,5.0nm,0.9s
FINES FINESS Array B 32.83 339 P **P** 04 11 41.0 -1.0
comp=Z,2.4nm,0.5s,baz=146,slow=10,SNR=12
FETA Feichten 32.91 308 ⇑*i*P **P** 04 11 43.1 -0.2
comp=Z,12nm,0.9s
FETA Feichten 32.91 308 P **P** 04 11 43.1 -0.2
comp=Z,12nm,0.9s
ZALV Zalesovo Beam 33.01 39 P **P** 04 11 42.1 -1.7
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 33.01 39 P **P** 04 11 42.1 -1.7
comp=Z,1.0nm,0.3s,baz=275,slow=7.1,SNR=1.4
KAF Kangasniemi 33.29 340 *e*p **P** 04 11 44.2 -1.9
comp=Z,2.5nm,0.6s
KAF Kangasniemi 33.29 340 *e*P **P** 04 11 44.2 -1.9
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 33.29 340 *e*P **P** 04 11 44.2 -1.9
comp=Z,2.5nm,0.6s
DAVA Damuels 33.53 308 ⇑*i*P **P** 04 11 48.2 -0.5
comp=Z,13nm,0.5s
DAVA Damuels 33.53 308 P **P** 04 11 48.2 -0.5
comp=Z,13nm,0.5s
MBDF Montbardon 35.29 303 *e*P **P** 04 12 02.4 -1.5
comp=Z,9.9nm,0.5s
MBDF Montbardon 35.29 303 *e*P **P** 04 12 02.4 -1.5
comp=Z,9.0nm,0.5s
LPG La Plagne 35.39 304 *e*P **P** 04 12 05.0 +0.1
comp=Z,12nm,0.8s
LPG La Plagne 35.39 304 *e*P **P** 04 12 05.0 +0.1
comp=Z,12nm,0.8s
LPL La Plagne 35.40 304 *e*P **P** 04 12 05.2 +0.3
comp=Z,5.3nm,0.6s
LPL La Plagne 35.40 304 *e*P **P** 04 12 05.2 +0.3
comp=Z,5.0nm,0.6s
CDF Champ du Feu 35.48 309 *e*P **P** 04 12 04.4 -1.0
CDF Champ du Feu 35.48 309 *e*P **P** 04 12 04.4 -1.0
HINF Hinteralfeld 35.65 308 *e*P **P** 04 12 05.8 -1.0
HINF Hinteralfeld 35.65 308 *e*P **P** 04 12 05.8 -1.0
CABF La Chapelle 35.98 306 *e*P **P** 04 12 09.5 -0.2
comp=Z,19nm,0.8s
CABF La Chapelle 35.98 306 *e*P **P** 04 12 09.5 -0.2
comp=Z,19nm,0.8s
HAU Haudompre 36.02 309 *e*P **P** 04 12 08.5 -1.4
comp=Z,4.2nm,0.5s
HAU Haudompre 36.02 309 *e*P **P** 04 12 08.5 -1.4
comp=Z,4.0nm,0.5s
PAGF Fort de Pagny 36.52 309 *e*P **P** 04 12 13.1 -1.1
comp=Z,4.4nm,0.8s
PAGF Fort de Pagny 36.52 309 *e*P **P** 04 12 13.1 -1.1
comp=Z,4.0nm,0.8s
SMF Signal de Mont 36.52 306 *e*P **P** 04 12 21.7 -1.1
comp=Z,7.3nm,0.7s
SMF Signal de Mont 36.52 306 *e*P **P** 04 12 21.7 -1.1
comp=Z,7.0nm,0.7s
LOR Lormes 37.58 307 *e*P **P** 04 12 21.8 -1.4
LOR Lormes 37.58 307 *e*P **P** 04 12 21.8 -1.4
SSF Saint Saulge 37.79 307 *e*P **P** 04 12 24.1 -0.9
comp=Z,5.6nm,0.8s
SSF Saint Saulge 37.79 307 *e*P **P** 04 12 24.1 -0.9
comp=Z,5.0nm,0.8s
AVF Avril sur Loir 37.87 306 *e*P **P** 04 12 25.1 -0.6
AVF Avril sur Loir 37.87 306 *e*P **P** 04 12 25.1 -0.6
NB2 NORSAR Subarra 37.95 331 P **P** 04 12 24.8 -1.4
comp=Z,2.1nm,0.6s,baz=122,slow=8.6
NB2 NORSAR Subarra 37.95 331 P **P** 04 12 24.8 -1.4
comp=Z,2.1nm,0.6s,SNR=8.0
NOA NORSAR Array B 37.95 331 P **P** 04 12 24.8 -1.4
comp=Z,2.2nm,0.6s,baz=122,slow=8.3,SNR=8.3
NOA LR LR 04 29 08.3
comp=Z,50nm,21.6s,baz=60,slow=38
ARCES ARCESS Array B 39.58 347 P **P** 04 12 39.1 -0.7
comp=Z,1.6nm,0.6s,baz=140,slow=6.2,SNR=12
LDF La Druitiere 40.37 309 *e*P **P** 04 12 45.8 -0.8
LDF La Druitiere 40.37 309 *e*P **P** 04 12 45.8 -0.8
FLN La Foliniere 40.62 309 *e*P **P** 04 12 46.6 -2.1
FLN La Foliniere 40.62 309 *e*P **P** 04 12 46.6 -2.1
GTA Gaotai 40.84 66 *e*P **P** 04 12 50.6 -0.2
GTA pP **pP** 04 12 55.2 -1.2
GTA sP **sP** 04 12 58.0 -0.6
GTA pmax pmax
comp=Z,3.0nm,0.9s
SGMF Saint Gilles 41.97 308 *e*P **P** 04 12 58.2 -1.5
SGMF Saint Gilles 41.97 308 *e*P **P** 04 12 58.2 -1.5

QUIF Quistinic 42.37 307 *e*P **P** 04 13 01.6 -1.3
comp=Z,7.6nm,0.7s
QUIF Quistinic 42.37 307 *e*P **P** 04 13 01.6 -1.3
comp=Z,7.0nm,0.7s
ESDC Sonseca Array 43.38 295 P **P** 04 13 12.7 +1.4
comp=Z,0.4nm,0.4s,baz=76,slow=7.5,SNR=5.5
CMAR Chiang Mai Arr 46.30 95 P **P** 04 13 35.2 +0.4
comp=Z,0.8nm,0.3s,baz=299,slow=9.4,SNR=5.0
TORD Torodi Ar. Bea 47.70 258 P **P** 04 13 46.9 +1.1
comp=Z,1.9nm,0.6s,baz=49,slow=7.1,SNR=27
SPITS Spitsbergen Ar 48.12 351 P **P** 04 13 47.7 -0.5
comp=Z,2.3nm,0.4s,baz=134,slow=9.6,SNR=20
DBIC Dimbokro 56.63 255 P **P** 04 14 52.5 +0.3
comp=Z,6.8nm,1.0s,baz=51,slow=6.5,SNR=4.8
LIC Lamto 57.02 255 *e*P **P** 04 14 56.2 +1.2
comp=Z,10nm,0.6s
KSRS Korea Array 62.67 61 P **P** 04 15 32.1 -1.5
comp=Z,0.9nm,0.6s,baz=282,slow=7.1,SNR=3.7
BOSA Boshof 64.93 204 P **P** 04 15 50.1 +1.6
comp=Z,2.6nm,0.9s,baz=60,slow=3.0,SNR=5.6
BILL Bilibino 69.44 21 ⇓*e*P **P** 04 16 18.5 +1.9
BILL *e* 04 18 45.6
BILL pmax pmax
comp=Z,28nm,1.6s
SCHQ Schefferville 77.47 328 P **P** 04 17 03.0 -1.1
comp=Z,1.0nm,0.6s,baz=63,slow=4.7,SNR=3.9
ILAR Eielson Array 82.30 7 P **P** 04 17 28.1 -2.0
comp=Z,0.6nm,0.7s,baz=318,slow=4.7,SNR=6.0
YKA Yellowknife Ar 84.59 353 P **P** 04 17 40.7 -1.1
comp=Z,1.8nm,0.8s,baz=4.3,slow=5.5,SNR=6.5

NEIC ***10*** *04:05:44.1±2.4,5.2°S×130.1°E,h67km±24km,mb4.5/5, Error ellipse: s-maj=13.7km s-min=13.0km az=159.0*
ISCJB ***10*** *04:05:45.8±0.4,5.37°S±0.04×130.25°E±0.06,h100km, mb4.0/7, Error ellipse: s-maj=8.4km s-min=5.2km az=1.3*
IDC ***10*** *04:05:45.1±5.2,5.22°S×130.21°E,h76km±51km,mb3.8/6, mb1 4.1/10,mb1mx3.8/23,mbtmp4.0/10,ML4.4/4,MS3.2/1, Ms1 3.2/1,ms1mx2.4/34,Error ellipse: s-maj=37.4km s-min=21.9km az=61.0*
AUST ***10*** *04:05:48.0,5.48S×130.03E,h100km*
DJA ***10*** *04:05:49.8±0.6,5°S±6°×13°E±°,h108km±15km,M4.6/4, mb5.2/3,mB5.3/3,MLv4.4/4,Mw(mB)4.8/3*
ISC 10 04:05:48.2±0.6,5.34S±0.06×130.40E±0.07,h100km,n49,
σ1°64/44,mb3.9/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.95**	**328**	P	**Pn**	**04 06 10.9**	**+2.8**
BNDI	**Bandanaira**	**0.95**	**328**	P	**Pn**	**04 06 10.2**	**+2.1**
	baz=1.0,SNR=29						
BNDI				S	**Sn**	**04 06 26.0**	**+2.9**
	baz=1.0,SNR=7.6						
MSAI	**Masohi**	**2.47**	**323**	P	**Pn**	**04 06 27.3**	**+0.4**
AAI	**Ambon**	**2.75**	**307**	P	**Pn**	**04 06 31.2**	**+0.6**
	baz=2.6,SNR=9.8						
FAKI	**Fak Fak**	**3.03**	**38**	P	**Pn**	**04 06 34.7**	**+0.4**
FAKI	**Fak Fak**	**3.03**	**38**	P	**Pn**	**04 06 34.9**	**+0.6**
	baz=3.4,SNR=675						
FAKI				S	**Sn**	**04 07 09.0**	**-0.9**
	baz=3.4,SNR=14						
BAKI	**Biak**	**7.03**	**54**	P	**Pn**	**04 07 29.8**	**+1.3**
	192nm,0.7s,2μm						
MTN	**Manton Dam**	**7.49**	**175**	P	**Pn**	**04 07 35.6**	**+0.8**
	baz=7.4,SNR=14						
MTN				S	**Sn**	**04 08 57.2**	**-1.1**
	baz=7.4,SNR=8.5						
SOEI	**Soe**	**7.50**	**234**	P	**Pn**	**04 07 37.4**	**+2.4**
	191nm,1.0s,2μm						
SOEI	**Soe**	**7.50**	**234**	P	**Pn**	**04 07 37.5**	**+2.4**
	baz=7.1,SNR=18						
KDU	**Kakadu**	**7.58**	**165**	P	**Pn**	**04 07 35.8**	**-0.2**
	baz=7.6,SNR=190						
KDU				S	Sn	04 08 56.5	-3.9
	baz=7.6,SNR=13						
KNRA	**Kununurra**	**10.40**	**189**	P	Pn	04 08 12.2	-2.2
	baz=10,SNR=41						
KNRA				S	Sn	04 10 00.4	-8.6
	baz=10,SNR=8.9						
PALU	**Palau**	**13.24**	**18**	S	Sn	04 11 05.2	-13
	baz=14,SNR=6.8						
FITZ	**Fitzroy Crossi**	**13.51**	**200**	P	Pn	04 08 53.1	-2.7
FITZ				S	Sn	04 11 12.6	-12
FITZ	**Fitzroy Crossi**	**13.51**	**200**	P	Pn	04 08 53.1	-2.7
	2.7nm,0.3s,baz=30,slow=11,SNR=35						
FITZ				S	Sn	04 11 12.6	-12
	3.3nm,0.3s,baz=353,slow=3.1,SNR=5.4						
FITZ	**Fitzroy Crossi**	**13.51**	**200**	P	Pn	04 08 52.8	-3.0
	baz=13,SNR=38						
WRAB	**Tennant Creek**	**15.01**	**166**	*e*Pn	**Pn**	**04 09 13.6**	**-1.5**
WRAB				*e*Sn	Sn	04 11 50.9	-10
WRA	**Warramunga Arr**	**15.01**	**166**	P	**Pn**	**04 09 13.5**	**-1.7**
WRA				S	Sn	04 11 48.0	-13
WRA	**Warramunga Arr**	**15.01**	**166**	P	**Pn**	**04 09 13.5**	**-1.7**
	2.0nm,0.3s,baz=342,slow=13,SNR=14						
WRA				S	Sn	04 11 48.0	-13
	6.2nm,0.3s,baz=344,slow=23,SNR=13						
COEN	**Coen**	**15.22**	**125**	*e*Pn	**Pn**	**04 09 18.0**	**+0.2**
	135nm,0.5s						
COEN	**Coen**	**15.22**	**125**	P	**Pn**	**04 09 17.8**	**0.0**
	baz=16,SNR=62						
COEN				S	Sn	04 11 58.6	-7.4
	baz=16,SNR=4.5						
PMG	**Port Moresby**	**17.10**	**105**	*e*P	**P**	**04 09 43.7**	**+2.4**
	32nm,1.0s						
PMG	**Port Moresby**	**17.10**	**105**	P	**P**	**04 09 43.8**	**+2.6**
	0.7nm,0.3s,baz=277,slow=11,SNR=4.5						
AS31	**Alice Springs**	**18.53**	**170**	*e*P	**P**	**04 09 57.4**	**+0.4**
ASAR	**Alice Springs**	**18.53**	**170**	P	**P**	**04 09 57.9**	**+0.8**
ASAR				S	S	04 13 11.1	-12
ASAR	**Alice Springs**	**18.53**	**170**	P	**P**	**04 09 57.9**	**+0.8**
	3.0nm,0.3s,baz=347,slow=10,SNR=54						
ASAR				S	S	04 13 11.1	-12
	1.0nm,0.3s,baz=350,slow=25,SNR=6.8						
MTSU	**Mount Surprise**	**18.61**	**134**	P	**P**	**04 10 00.2**	**+2.2**
	baz=19,SNR=40						
MBWA	**Marble Bar**	**18.83**	**212**	*e*P	**P**	**04 09 58.4**	**-1.8**
	6.1nm,0.5s						
CTA	**Charters Tower**	**21.27**	**135**	P	**P**	**04 10 28.9**	**+2.2**
CTA	**Charters Tower**	**21.27**	**135**	P	**P**	**04 10 28.9**	**+2.2**
	9.7nm,0.8s,baz=321,slow=13,SNR=8.0						
CTAO	**Charters Tower**	**21.27**	**135**	*e*P	**P**	**04 10 28.6**	**+1.9**
	14nm,0.8s						
CISI	**Cisompet, Garu**	**22.55**	**263**	P	P	04 10 35.8	-4.5
	baz=22,SNR=4.4						
CISI				S	S	04 14 26.6	-14
	baz=22,SNR=3.3						
MEEK	**Meekatharra**	**23.99**	**207**	P	P	04 10 49.2	-4.4
	baz=24,SNR=13						
FORT	**Forrest**	**25.40**	**185**	*e*P	**P**	**04 11 05.4**	**-1.0**
	42nm,1.1s						
STKA	**Stephens Creek**	**28.41**	**160**	P	**P**	**04 11 33.7**	**+0.3**
STKA	**Stephens Creek**	**28.41**	**160**	P	**P**	**04 11 33.7**	**+0.3**
	1.5nm,0.3s,baz=356,slow=11,SNR=7.2						
STKA	**Stephens Creek**	**28.41**	**160**	P	**P**	**04 11 33.7**	**+0.3**
	baz=28,SNR=6.9						
KSRS	**Korea Array**	**42.63**	**357**	LR	LR	04 31 38.3	
	comp=Z,32nm,21.0s,baz=134,slow=36						
PETK	**Petropavlovsk-**	**62.63**	**18**	P	**P**	**04 15 59.1**	**-2.7**
PETK	**Petropavlovsk-**	**62.63**	**18**	P	**P**	**04 15 59.1**	**-2.7**
	0.6nm,0.4s,baz=212,slow=6.9,SNR=3.8						
MK31	**Makanchi Array**	**67.07**	**326**	*e*P	**P**	**04 16 28.8**	**-2.1**
MKAR	**Makanchi Array**	**67.07**	**326**	P	**P**	**04 16 29.7**	**-1.1**
MKAR	**Makanchi Array**	**67.07**	**326**	P	**P**	**04 16 29.7**	**-1.1**
	0.5nm,0.3s,baz=112,slow=8.4,SNR=8.1						
ZALV	**Zalesovo Beam**	**70.28**	**333**	P	**P**	**04 16 49.2**	**-1.4**
ZALV	**Zalesovo Beam**	**70.28**	**333**	P	**P**	**04 16 49.2**	**-1.4**
	0.5nm,0.4s,baz=128,slow=6.

PLIG	**Platanillo**	**1.29**	**10**	*i* P	Pn	04 29 01.4	-2.4
PLIG				*i* S	Sn	04 29 16.0	-4.4
ARIG	**Puente Sto Nin**	**1.29**	**334**	*i* P	Pn	04 29 01.5	-2.2
ARIG				*i* S	Sn	04 29 16.6	-3.6
PNIG	**Pinotepa**	**1.71**	**115**	*i* P	Pn	04 29 07.5	-1.9
PNIG				*i* S	Sn	04 29 26.4	-4.2

IDC ***10*** *04:39:07.4±1.1,33.92N×25.46E,h0km,mb3.7/8, mb1 3.8/12,mb1mx3.7/28,mbtmp3.6/12,ML3.6/4, Error ellipse: s-maj=29.8km s-min=17.9km az=0.0*
CSEM ***10*** *04:39:11.2,34.16N×25.47E,h23km,MD3.7, After ATH*
ATH ***10*** *04:39:11.2,34.16N×25.47E,h23km±1km,MD3.7/9*
ISC 10 04:39:09.5±1.8, 34.05N±0.06×25.53E±0.04, h11km±11km, n32,σ1ᵖ08/45, mb3.7/8, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.11**	**358**	*e*PN	**Pb**	**04 39 30.2**	**-0.6**
LAST				*e*SN	**Sb**	**04 39 44.4**	**-0.9**
LAST	**Lasithi**	**1.11**	**358**	*e*Pn	**Pb**	**04 39 30.2**	**-0.6**
LAST				*e*Sn	**Sb**	**04 39 44.4**	**-0.9**
SIVA	**Sivas**	**1.14**	**329**	*e*PN	**Pb**	**04 39 30.8**	**-0.4**
SIVA				*e*SN	**Sb**	**04 39 44.5**	**-1.4**
SIVA	**Sivas**	**1.14**	**329**	*e*Pn	**Pb**	**04 39 30.8**	**-0.4**
SIVA				*e*Sn	**Sb**	**04 39 44.5**	**-1.4**
ZKR	**Zakros**	**1.20**	**28**	*e*PN	**Pg**	**04 39 33.2**	**+0.6**
ZKR				*e*SN	**Sg**	**04 39 48.4**	**+0.1**
ZKR	**Zakros**	**1.20**	**28**	*e*Pn	**Pg**	**04 39 33.2**	**+0.6**
ZKR				*e*Sn	**Sg**	**04 39 48.4**	**+0.1**
NPS	**Neapolis**	**1.21**	**3**	*e*PN	**Pn**	**04 39 32.0**	**-0.5**
NPS				*e*SN	**Sb**	**04 39 47.2**	**-1.0**
NPS	**Neapolis**	**1.21**	**3**	*e*Pn	**Pn**	**04 39 32.0**	**-0.5**
NPS				*e*Sn	**Sb**	**04 39 47.2**	**-1.0**
GVD	**Gavdhos**	**1.43**	**304**	*e*PN	**Pb**	**04 39 36.2**	**0.0**
GVD				*e*SN	**Sb**	**04 39 54.8**	**+0.4**
GVD	**Gavdhos**	**1.43**	**304**	*e*Pn	**Pb**	**04 39 36.2**	**0.0**
GVD				*e*Sn	**Sb**	**04 39 54.8**	**+0.4**
VAM	**Vamos**	**1.74**	**321**	*e*PN	**Pn**	**04 39 40.1**	**+0.4**
VAM	**Vamos**	**1.74**	**321**	*e*Pn	**Pn**	**04 39 40.1**	**+0.4**
KARP	**Karpathos**	**2.01**	**41**	*e*PN	**Pb**	**04 39 45.3**	**-0.8**
KARP	**Karpathos**	**2.01**	**41**	*e*Pn	**Pb**	**04 39 45.3**	**-0.8**
APE	**Apeiranthos**	**3.01**	**360**	*e*PN	**Pn**	**04 39 58.8**	**+1.6**
APE	**Apeiranthos**	**3.01**	**360**	*e*Pn	**Pn**	**04 39 58.8**	**+1.6**
KYTH	**Kithira**	**3.02**	**318**	*e*PN	**Pn**	**04 39 58.6**	**+1.2**
KYTH	**Kithira**	**3.02**	**318**	*e*Pn	**Pn**	**04 39 58.6**	**+1.2**
VLI	**Veliai**	**3.40**	**322**	*e*PN	**Pn**	**04 40 03.5**	**+0.9**
VLI	**Veliai**	**3.40**	**322**	*e*Pn	**Pn**	**04 40 03.5**	**+0.9**
MMAI	**Mount Meron Ar** 1.8nm,0.3s,baz=281,slow=14,SNR=2.9	**8.31**	**94**	Pn	**Pn**	**04 41 08.2**	**-1.8**
MMAI				Sn	**Sn**	**04 42 43.0**	**-0.9**
	1.0nm,0.3s,baz=264,slow=23,SNR=3.9						
BRTR	**Keskin Array B** 0.1nm,0.3s,baz=226,slow=14,SNR=5.4	**8.62**	**47**	Pn	**Pn**	**04 41 16.8**	**+2.5**
BRTR				Sn	**Sn**	**04 42 53.5**	**+1.9**
	0.1nm,0.3s,baz=213,slow=22,SNR=2.8						
EIL	**Elat** 0.6nm,0.3s,baz=312,slow=16,SNR=3.2	**9.12**	**116**	Pn	**Pn**	**04 41 19.9**	**-1.2**
EIL				Sn	**Sn**	**04 43 06.2**	**+2.4**
	0.4nm,0.3s,baz=327,slow=12,SNR=4.0						
GERES	**GERESS Array B** 0.1nm,0.3s,baz=148,slow=13,SNR=8.4	**17.21**	**333**	P	**P**	**04 43 11.6**	**+0.1**
ESDC	**Sonseca Array** 0.2nm,0.3s,baz=95,slow=8.3,SNR=4.3	**24.20**	**292**	P	**P**	**04 44 25.6**	**-0.6**
TORD	**Torodi Ar. Bea** 0.3nm,0.8s,baz=34,slow=7.9,SNR=3.2	**30.03**	**232**	P	**P**	**04 45 17.7**	**-0.9**
KURBB	**Kurchatov Arra** 0.7nm,0.5s,baz=277,slow=8.5,SNR=12	**41.59**	**50**	P	**P**	**04 46 58.3**	**+1.0**
MKAR	**Makanchi Array** 1.0nm,0.6s,baz=275,slow=6.7,SNR=14	**44.14**	**56**	P	**P**	**04 47 19.1**	**+1.1**
ZALV	**Zalesovo Beam** 0.9nm,0.7s,baz=268,slow=7.2,SNR=2.4	**45.56**	**45**	P	**P**	**04 47 28.0**	**-1.2**
SCHQ	**Schefferville** 1.7nm,0.6s,baz=72,slow=1.9,SNR=7.5	**64.23**	**320**	P	**P**	**04 49 43.6**	**-0.7**
YKA	**Yellowknife Ar** 0.4nm,0.6s,baz=31,slow=5.6,SNR=3.1	**78.60**	**342**	P	**P**	**04 51 10.8**	**-0.1**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=354,slow=4.2,SNR=6.2	**81.33**	**357**	P	**P**	**04 51 26.4**	**+0.7**

IDC ***10*** *04:50:44.9±5.6,38.15N×142.45E,h47km±63km,mb3.1/3, mb1 3.6/5,mb1mx3.3/25,mbtmp3.3/5,ML3.8/2, Error ellipse: s-maj=80.1km s-min=13.2km az=121.0*
ISCJB ***10*** *04:50:47.5±0.8,38.28N±0.04×141.8E±0.1,h97km±7km, mb3.2/3, Error ellipse: s-maj=15.1km s-min=6.0km az=17.9*
JMA ***10*** *04:50:49.5±0.1,38.29N×141.68E,h89km±1km,M3.5 Broadband fault plane solution: P waves. NP1: ϕs136.00000°,δ59.00000°,λ-92.00000°. NP2: ϕs321.00000°,δ31.00000°,λ-86.00000°. Principal axes: T Plg14.0000°, Azm228.0000°; N Plg2.0000°, Azm138.0000°; P Plg76.0000°, Azm40.0000°;*
JMA Felt I J1.
NIED ***10*** *04:51:00,38.30N×141.70E,h98km,Mw4.0 Best double couple: M0 1.02000×10¹⁵ NP1:ϕs48.00000°,δ65.00000°, λ-89.00000°. NP2:ϕs226.00000°,δ25.00000°, λ-92.00000°.*
ISC 10 04:50:48.3±1.1, 38.28N±0.05×141.87E±0.09, h88km±8km, n17,σ1ᵖ28/31, mb3.3/3, 3C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.44**	**293**	⇓P	**Pn**	**04 51 03.1**	**+0.7**
JIO				*e*S	**Sn**	**04 51 12.9**	**+0.1**
JMK	**Ichinoseki**	**0.84**	**323**	⇓P	**Pn**	**04 51 06.5**	**+0.5**
JMK				*e*S	**Sn**	**04 51 19.4**	**+0.1**
JMM	**Marumori**	**0.95**	**244**	⇓P	**Pn**	**04 51 07.1**	**-0.1**
JMM				*e*S	**Sn**	**04 51 20.3**	**-1.1**
JOU	**Okura**	**0.95**	**275**	⇓P	**Pn**	**04 51 07.2**	**-0.1**
JOU				*e*S	**Sn**	**04 51 20.9**	**-0.7**
JFK	**Kawauchi**	**1.21**	**221**	⇑P	**Pn**	**04 51 10.6**	**+0.3**
JFK				S	**Sn**	**04 51 26.4**	**-0.5**
JOM	**Ohasama**	**1.27**	**339**	P	**Pn**	**04 51 11.8**	**+0.7**
JOM				S	**Sn**	**04 51 28.2**	**0.0**
JYK	**Kaneyama**	**1.34**	**299**	⇓P	**Pn**	**04 51 12.0**	**+0.1**
JYK				S	**Sn**	**04 51 29.3**	**-0.5**
JYS	**Shirataka**	**1.42**	**268**	P	**Pn**	**04 51 12.9**	**0.0**
JYS				S	**Sn**	**04 51 30.9**	**-0.7**
JFT	**Otama**	**1.43**	**238**	⇑P	**Pn**	**04 51 13.3**	**+0.2**
JFT				*e*S	**Sn**	**04 51 31.0**	**-0.8**
JRG	**Rokugo**	**1.47**	**319**	P	**Pn**	**04 51 14.1**	**+0.5**
JRG				*e*S	**Sn**	**04 51 33.2**	**+0.5**
JYA	**Atsumi**	**1.72**	**281**	⇑P	**Pn**	**04 51 16.9**	**+0.2**
JYA				*e*S	**Sn**	**04 51 37.8**	**-0.6**
MJAR	**Matsushiro Arr** 4.1nm,0.3s,baz=58,slow=10,SNR=23	**3.39**	**240**	P	**Pn**	**04 51 39.4**	**+0.3**
MJAR				S	**Sn**	**04 52 23.3**	**+5.0**
	3.0nm,0.3s,baz=301,slow=20,SNR=3.8						
MAT	**Matsushiro**	**3.39**	**240**	P	**Pn**	**04 51 39.5**	**+0.4**
MAT				*e*S	**Sn**	**04 52 15.3**	**-3.0**
ASAJ	**Asahikawa** 2.6nm,0.3s,baz=198,slow=15,SNR=5.0	**5.86**	**5**	P	**Pn**	**04 52 12.0**	**-0.4**
ASAJ				S	**Sn**	**04 53 17.0**	**-1.1**
	1.7nm,0.3s,baz=168,slow=20,SNR=6.6						
ILAR	**Eielson Array** 0.2nm,0.6s,baz=282,slow=8.8,SNR=5.2	**48.25**	**33**	P	**P**	**04 59 19.2**	**-0.7**
WRA	**Warramunga Arr** 0.3nm,0.9s,baz=6.8,slow=6.8,SNR=2.6	**58.35**	**188**	P	**P**	**05 00 33.5**	**-0.7**
WRA				pP	pP	05 00 45.5	-11
	0.3nm,0.5s,baz=6.6,slow=7.2,SNR=4.9						
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=282,slow=2.6,SNR=4.8	**89.08**	**53**	P	**P**	**05 03 35.4**	**+1.4**

MEX 10 05:07:55.1±0.5, 16.77N×100.08W, h20km±11km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.24**	**65**	*i* P	Pb	05 07 59.5	-1.4
ACX				*i* S	Sb	05 08 01.7	-3.1
CAIG	**El Cayaco**	**0.33**	**327**	*i* P	Pb	05 08 01.1	-1.2
CAIG				*i* S	Sb	05 08 05.9	-1.2
ARIG	**Puente Sto Nin**	**1.52**	**351**	*i* P	Pn	05 08 17.9	-3.4
ARIG				*i* S	Sn	05 08 36.8	-3.7

ISCJB ***10*** *05:08:24.9±0.4,37.95N±0.01×29.17E±0.02,h6km±3km, mb3.6/6, Error ellipse: s-maj=2.5km s-min=2.3km az=28.4*

ISK ***10*** *05:08:24.6,37.94N×29.18E,h7km,ML3.7*
IDC ***10*** *05:08:24.1±1.1,37.88N×29.15E,h0km,mb3.7/6, mb1 3.8/10,mb1mx3.6/31,mbtmp3.7/10,ML3.5/4, Error ellipse: s-maj=21.0km s-min=16.5km az=62.0*
ATH ***10*** *05:08:24.6,37.95N×28.98E,h5km±2km,MD3.8/8*
DDA ***10*** *05:08:24.8,37.93N×29.18E,h15km,ML3.5*
CSEM ***10*** *05:08:25.3±0.1,37.95N×29.18E,h2km,ML3.7, Error ellipse: s-maj=1.8km s-min=1.6km az=122.0*
THE ***10*** *05:08:26.4,38.03N×29.21E,h0km,ML3.5/4, Error ellipse: s-maj=1.4km s-min=1.1km az=308.0*
ISC 10 05:08:25.5±1.0, 37.95N±0.01×29.16E±0.01, h7km±7km, n241,σ0ᵖ97/299, mb3.7/6, 10C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.22**	**207**	PG	**Pg**	**05 08 29.7**	**-0.1**
DENT	**Denizli**	**0.22**	**207**	*i* Pg	**Pg**	**05 08 29.7**	**-0.1**
DNZL	**Cakiroluk**	**0.27**	**199**	*i* P	**Pg**	**05 08 30.6**	**-0.3**
DNZL				*i* S	**Sg**	**05 08 34.5**	**0.0**
DNZL	**Cakiroluk**	**0.27**	**199**	*i* P	**Pg**	**05 08 30.6**	**-0.3**
DNZL				*i* S	**Sg**	**05 08 34.5**	**0.0**
KHL	**Karahalli**	**0.47**	**37**	PG	**Pg**	**05 08 34.3**	**-0.3**
KHL				*e*SG	**Sg**	**05 08 41.2**	**+0.3**
KHL	**Karahalli**	**0.47**	**37**	*i* Pg	**Pg**	**05 08 34.3**	**-0.3**
KHL				*e*Sg	**Sg**	**05 08 41.2**	**+0.3**
KHAL	**Karahalli**	**0.50**	**32**	*i* P	**Pg**	**05 08 34.8**	**-0.3**
KHAL				*i* S	**Sg**	**05 08 41.9**	**+0.3**
KHAL	**Karahalli**	**0.50**	**32**	*i* P	**Pg**	**05 08 34.8**	**-0.3**
KHAL				*i* S	**Sg**	**05 08 41.9**	**+0.3**
KULA	**Kula-Manisa**	**0.69**	**325**	PG	**Pb**	**05 08 39.1**	**-0.8**
KULA				*e*SG	**Sb**	**05 08 49.1**	**-0.5**
KULA	**Kula-Manisa**	**0.69**	**325**	P	**Pb**	**05 08 39.0**	**-0.8**
KULA				S	**Sb**	**05 08 48.4**	**-1.2**
KULA	**Kula-Manisa**	**0.69**	**325**	P	**Pb**	**05 08 39.0**	**-0.8**
KULA				S	**Sb**	**05 08 48.4**	**-1.2**
KULA				*e*Sg	**Sb**	**05 08 49.1**	**-0.5**
MANT	**Manisa**	**0.72**	**319**	*i* P	**Pg**	**05 08 39.3**	**0.0**
MANT				*i* S	**Sg**	**05 08 48.1**	**-0.6**
MANT	**Manisa**	**0.72**	**319**	*i* P	**Pg**	**05 08 39.3**	**0.0**
MANT				*i* S	**Sg**	**05 08 48.1**	**-0.6**
GOLH	**Golhisar**	**0.78**	**156**	*i* P	**Pg**	**05 08 39.7**	**-0.7**
GOLH				*i* S	**Sb**	**05 08 51.2**	**-1.0**
GOLH	**Golhisar**	**0.78**	**156**	*i* P	**Pg**	**05 08 39.7**	**-0.7**
GOLH				*i* S	**Sb**	**05 08 51.2**	**-1.0**
AYDN	**Tasoluk**	**1.05**	**255**	*i* P	**Pb**	**05 08 45.6**	**-0.5**
AYDN				*i* S	**Sg**	**05 08 59.0**	**-0.3**
AYDN	**Tasoluk**	**1.05**	**255**	*i* P	**Pb**	**05 08 45.6**	**-0.5**
AYDN				*i* S	**Sg**	**05 08 59.0**	**-0.3**
YER	**Yerkesik**	**1.07**	**221**	PG	**Pg**	**05 08 45.1**	**-0.9**
YER				*e*SG	**Sb**	**05 09 01.0**	**+0.5**
YER	**Yerkesik**	**1.07**	**221**	*i* Pg	**Pg**	**05 08 45.1**	**-0.9**
YER				*e*Sg	**Sb**	**05 09 01.0**	**+0.5**
ISP	**Isparta**	**1.09**	**96**	PG	**Pg**	**05 08 45.1**	**-1.2**
ISP	**Isparta**	**1.09**	**96**	P	**Pg**	**05 08 45.2**	**-1.1**
ISP				S	**Sn**	**05 09 01.7**	**-0.9**
ISP	**Isparta**	**1.09**	**96**	P	**Pg**	**05 08 45.2**	**-1.1**
ISP				S	**Sn**	**05 09 01.7**	**-0.9**
DEMI	**Demirci**	**1.15**	**343**	*i* P	**Pn**	**05 08 48.0**	**-0.1**
DEMI				*i* S	**Sb**	**05 09 02.7**	**-0.2**
DEMI	**Demirci**	**1.15**	**343**	*i* P	**Pn**	**05 08 48.0**	**-0.1**
DEMI				*i* S	**Sb**	**05 09 02.7**	**-0.2**
TURN	**Turunc**	**1.16**	**203**	*i* P	**Pn**	**05 08 50.4**	**+2.3**
TURN				*i* S	Sn	05 09 11.4	+7.2
TURN	**Turunc**	**1.16**	**203**	*i* P	**Pn**	**05 08 50.4**	**+2.3**
DALY	**Dalyan (Mu˘la**	**1.20**	**200**	PN	**Pg**	**05 08 47.9**	**-0.6**
DALY	**Dalyan (Mu˘la**	**1.20**	**200**	*i* Pn	**Pg**	**05 08 47.9**	**-0.6**
BCK	**Bucak**	**1.23**	**113**	*e*PN	**Pg**	**05 08 48.1**	**-1.0**
BCK	**Bucak**	**1.23**	**113**	*e*Pn	**Pg**	**05 08 48.1**	**-1.0**
SHUT	**Suhut-Afyon**	**1.25**	**61**	*e*PN	**Pb**	**05 08 48.8**	**-0.7**
SHUT	**Suhut-Afyon**	**1.25**	**61**	*e*Pn	**Pb**	**05 08 48.8**	**-0.7**
MLSB	**Milas**	**1.28**	**240**	*e*PN	**Pn**	**05 08 49.3**	**-0.5**
MLSB	**Milas**	**1.28**	**240**	*e*Pn	**Pn**	**05 08 49.3**	**-0.5**
FETY	**Fethiye**	**1.31**	**183**	*e*PN	**Pn**	**05 08 49.7**	**-0.5**
FETY	**Fethiye**	**1.31**	**183**	*e*Pn	**Pn**	**05 08 49.7**	**-0.5**
ALT	**Altintas**	**1.33**	**34**	*e*PN	**Pn**	**05 08 50.2**	**-0.4**
ALT	**Altintas**	**1.33**	**34**	P	**Pn**	**05 08 50.0**	**-0.7**
ALT				S	**Sn**	**05 09 09.1**	**+0.3**
ALT	**Altintas**	**1.33**	**34**	P	**Pn**	**05 08 50.0**	**-0.7**
ALT				S	**Sn**	**05 09 09.1**	**+0.3**
ELL	**Elmali**	**1.34**	**153**	*e*PN	**Pn**	**05 08 50.2**	**-0.5**
ELL	**Elmali**	**1.34**	**153**	*e*Pn	**Pn**	**05 08 50.2**	**-0.5**
AKHS	**Akhisar**	**1.41**	**312**	*i* P	**Pn**	**05 08 51.4**	**-0.2**
AKHS				*i* S	**Sg**	**05 09 10.8**	**+0.1**
AKHS	**Akhisar**	**1.41**	**312**	*i* P	**Pn**	**05 08 51.4**	**-0.2**
AKHS				*i* S	**Sg**	**05 09 10.8**	**+0.1**
TVSB	**Tavsanli**	**1.52**	**9**	*e*PN	**Pn**	**05 08 53.0**	**-0.2**
TVSB	**Tavsanli**	**1.52**	**9**	*e*Pn	**Pn**	**05 08 53.0**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.54**	**107**	*e*PN	**Pb**	**05 08 53.4**	**-0.9**
SUTC	**Sutluce-Ispart**	**1.54**	**107**	*e*Pn	**Pb**	**05 08 53.4**	**-0.9**
GCAM	**G?zelcaml?**	**1.54**	**261**	*i* P	**Pb**	**05 08 54.0**	**-0.4**
GCAM				*i* S	**Sg**	**05 09 16.2**	**+1.1**
GCAM	**G?zelcaml?**	**1.54**	**261**	*i* P	**Pb**	**05 08 54.0**	**-0.4**
GCAM				*i* S	**Sg**	**05 09 16.2**	**+1.1**
IZM	**Izmir**	**1.56**	**287**	*e*PN	**Pn**	**05 08 53.9**	**+0.2**
IZM	**Izmir**	**1.56**	**287**	*e*Pn	**Pn**	**05 08 53.9**	**+0.2**
ANTB	**Antalya**	**1.58**	**131**	*e*PN	**Pn**	**05 08 53.9**	**-0.1**
ANTB	**Antalya**	**1.58**	**131**	*e*Pn	**Pn**	**05 08 53.9**	**-0.1**
BOLV	**Bolvadin**	**1.61**	**61**	*i* P	**Pb**	**05 08 54.5**	**-1.1**
BOLV				*i* S	**Sg**	**05 09 22.0**	**+4.9**
BOLV	**Bolvadin**	**1.61**	**61**	*i* P	**Pb**	**05 08 54.5**	**-1.1**
DST	**Dursunbey**	**1.71**	**346**	*e*PN	**Pn**	**05 08 55.6**	**-0.1**
DST	**Dursunbey**	**1.71**	**346**	*e*Pn	**Pn**	**05 08 55.6**	**-0.1**
BODT	**Bodrum**	**1.71**	**240**	*e*PN	**Pn**	**05 08 55.1**	**-0.7**
BODT	**Bodrum**	**1.71**	**240**	*e*Pn	**Pn**	**05 08 55.1**	**-0.7**
BLCB	**Balcova**	**1.72**	**285**	*e*PN	**Pn**	**05 08 56.3**	**+0.4**
BLCB	**Balcova**	**1.72**	**285**	*e*Pn	**Pn**	**05 08 56.3**	**+0.4**
DURS	**Dursunbey**	**1.73**	**342**	*i* P	**Pn**	**05 08 56.3**	**+0.1**
DURS				*i* S	**Sg**	**05 09 21.5**	**+0.3**
DURS	**Dursunbey**	**1.73**	**342**	*i* P	**Pn**	**05 08 56.3**	**+0.1**
DURS				*i* S	**Sg**	**05 09 21.5**	**+0.3**
AKAS	**Kas**	**1.75**	**168**	*i* P	**Pb**	**05 08 57.8**	**-0.2**
AKAS				*i* S	**Sg**	**05 09 24.1**	**+2.4**
AKAS	**Kas**	**1.75**	**168**	*i* P	**Pb**	**05 08 57.8**	**-0.2**
AKAS				*i* S	**Sg**	**05 09 24.1**	**+2.4**
DAT	**Datca**	**1.75**	**226**	*e*PN	**Pb**	**05 08 56.9**	**-1.1**
DAT	**Datca**	**1.75**	**226**	*e*Pn	**Pb**	**05 08 56.9**	**-1.1**
SMG	**Samos**	**1.85**	**263**	P	**Pn**	**05 08 57.2**	**-0.5**
SMG				S	**Sg**	**05 09 24.4**	**-0.6**
SMG	**Samos**	**1.85**	**263**	*e*PN	**Pn**	**05 08 57.2**	**-0.5**
SMG				*e*SN	**Sn**	**05 09 20.1**	**-1.3**
SMG	**Samos**	**1.85**	**263**	P	**Pn**	**05 08 57.2**	**-0.5**
SMG				*e*Sn	**Sn**	**05 09 20.1**	**-1.3**
SMG				S	**Sg**	**05 09 24.4**	**-0.6**
ARG	**Arkhangelos**	**1.92**	**206**	P	**Pb**	**05 09 00.0**	**-0.7**
ARG				S	**Sg**	**05 09 27.8**	**+0.8**
ARG	**Arkhangelos**	**1.92**	**206**	*e*PN	**Pb**	**05 09 00.0**	**-0.7**
ARG				*e*SN	**Sb**	**05 09 25.4**	**+0.5**
ARG	**Arkhangelos**	**1.92**	**206**	P	**Pb**	**05 09 00.0**	**-0.7**
ARG				*e*Sn	**Sb**	**05 09 25.4**	**+0.5**
ARG				S	**Sg**	**05 09 27.8**	**+0.8**
BALB	**Balikesir**	**1.96**	**330**	*e*PN	**Pb**	**05 09 00.1**	**-1.4**
BALB	**Balikesir**	**1.96**	**330**	*e*Pn	**Pb**	**05 09 00.1**	**-1.4**
ESKT	**Eskisehir**	**2.05**	**40**	*e*PN	**Pn**	**05 09 01.1**	**+0.5**
ESKT	**Eskisehir**	**2.05**	**40**	*e*Pn	**Pn**	**05 09 01.1**	**+0.5**
SEYT	**Eskypehyr**	**2.05**	**40**	*i* P	**Pn**	**05 09 00.6**	**0.0**
SEYT	**Eskypehyr**	**2.05**	**40**	*i* P	**Pn**	**05 09 00.6**	**0.0**
URLA	**Izmir**	**2.06**	**282**	*i* P	**Pn**	**05 09 00.4**	**-0.2**
URLA				*i* S	**Sg**	**05 09 34.4**	**+2.7**
URLA	**Izmir**	**2.06**	**282**	*i* P	**Pn**	**05 09 00.4**	**-0.2**
NIS1	**Nisyros Isl.**	**2.07**	**230**	P	**Pb**	**05 09 02.3**	**-1.1**
NIS1				S	**Sg**	**05 09 31.5**	**-0.6**
NIS1	**Nisyros Isl.**	**2.07**	**230**	*e*PN	**Pn**	**05 09 01.1**	**+0.4**
NIS1	**Nisyros Isl.**	**2.07**	**230**	*e*Pn	**Pn**	**05 09 01.1**	**+0.4**
NIS1	**Nisyros Isl.**	**2.07**	**230**	P	**Pb**	**05 09 02.3**	**-1.1**
NIS1				S	**Sg**	**05 09 31.5**	**-0.6**
BALY	**Balya**	**2.15**	**327**	*i* P	**Pn**	**05 09 02.3**	**+0.4**
BALY				*i* S	**Sg**	**05 09 35.4**	**+0.7**
BALY	**Balya**	**2.15**	**327**	*i* P	**Pn**	**05 09 02.3**	**+0.4**
BORA	**Eskisehir**	**2.18**	**27**	*i* P	**Pn**	**05 09 01.8**	**-0.5**
BORA	**Eskisehir**	**2.18**	**27**	*i* P	**Pn**	**05 09 01.8**	**-0.5**
ULDT	**Uludag**	**2.19**	**360**	*i* P	**Pn**	**05 09 02.8**	**+0.3**
ULDT				*i* S	**Sb**	**05 09 33.4**	**+0.4**
ULDT	**Uludag**	**2.19**	**360**	*i* P	**Pn**	**05 09 02.8**	**+0.3**
CAVI	**Cavuskoy**	**2.31**	**13**	*e*PN	**Pn**	**05 09 03.9**	**-0.1**
CAVI	**Cavuskoy**	**2.31**	**13**	*e*Pn	**Pn**	**05 09 03.9**	**-0.1**
KIZT	**Kizilcal**	**2.33**	**66**	*e*PN	**Pn**	**05 09 04.7**	**+0.3**
KIZT	**Kizilcal**	**2.33**	**66**	*e*Pn	**Pn**	**05 09 04.7**	**+0.3**
SVRH	**Sivrihisar-ESK**	**2.38**	**50**	*e*PN	**Pn**	**05 09 05.4**	**+0.4**
SVRH	**Sivrihisar-ESK**	**2.38**	**50**	*e*Pn	**Pn**	**05 09 05.4**	**+0.4**
GONE	**Gonen-Balikesi**	**2.39**	**332**	*e*PN	**Pn**	**05 09 05.5**	**+0.4**
GONE	**Gonen-Balikesi**	**2.39**	**332**	*e*Pn	**Pn**	**05 09 05.5**	**+0.4**
KCTX	**Karacabey (Bur**	**2.40**	**345**	*e*PN	**Pn**	**05 09 05.2**	**0.0**
KCTX	**Karacabey (Bur**	**2.40**	**345**	*e*Pn	**Pn**	**05 09 05.2**	**0.0**
CHOS	**Chios island**	**2.48**	**281**	P	**Pn**	**05 09 07.2**	**+0.8**
CHOS	**Chios island**	**2.48**	**281**	P	**Pn**	**05 09 07.2**	**+0.8**
ADVT	**Abdulvahap**	**2.52**	**10**	*e*PN	**Pn**	**05 09 06.7**	**-0.2**
ADVT	**Abdulvahap**	**2.52**	**10**	*e*Pn	**Pn**	**05 09 06.7**	**-0.2**
KONT	**Konya--Tatoy**	**2.53**	**89**	*e*PN	**Pn**	**05 09 07.7**	**+0.6**
KONT	**Konya--Tatoy**	**2.53**	**89**	*e*Pn	**Pn**	**05 09 07.7**	**+0.6**
LADK	**Ladik-KONYA**	**2.54**	**83**	*e*PN	**Pn**	**05 09 07.4**	**+0.1**
LADK	**Ladik-KONYA**	**2.54**	**83**	*e*Pn	**Pn**	**05 09 07.4**	**+0.1**
BNT	**Bandirma**	**2.59**	**339**	*e*PN	**Pn**	**05 09 08.2**	**+0.3**
BNT	**Bandirma**	**2.59**	**339**	*e*Pn	**Pn**	**05 09 08.2**	**+0.3**
PRK	**Paraskevi**	**2.61**	**301**	P	**Pn**	**05 09 08.6**	**+0.6**
PRK	**Paraskevi**	**2.61**	**301**	*e*PN	**Pn**	**05 09 08.6**	**+0.6**
PRK				*e*SN	**Sn**	**05 09 40.6**	**+0.6**
PRK	**Paraskevi**	**2.61**	**301**	P	**Pn**	**05 09 08.6**	**+0.6**
PRK				*e*Sn	**Sn**	**05 09 40.6**	**+0.6**
YLV	**Yalova**	**2.62**	**4**	*e*PN	**Pn**	**05 09 09.1**	**+0.8**
YLV	**Yalova**	**2.62**	**4**	*e*Pn	**Pn**	**05 09 09.1**	**+0.8**
ARMT	**Armutlu**	**2.62**	**355**	*e*PN	**Pn**	**05 09 08.7**	**+0.4**
ARMT	**Armutlu**	**2.62**	**355**	*e*Pn	**Pn**	**05 09 08.7**	**+0.4**
GULT	**Gulveren**	**2.70**	**23**	*e*PN	**Pn**	**05 09 09.8**	**+0.4**
GULT	**Gulveren**	**2.70**	**23**	*e*Pn	**Pn**	**05 09 09.8**	**+0.4**
KRBG	**Karabiga-Canak**	**2.84**	**330**	*e*PN	**Pn**	**05 09 11.7**	**+0.5**
KRBG	**Karabiga-Canak**	**2.84**	**330**	*e*Pn	**Pn**	**05 09 11.7**	**+0.5**
SIGR	**SIGRI**	**2.88**	**297**	P	**Pn**	**05 09 12.2**	**+0.4**
SIGR	**SIGRI**	**2.88**	**297**	P	**Pn**	**05 09 12.2**	**+0.4**
KARP	**Karpathos**	**2.88**	**214**	P	**Pn**	**05 09 12.7**	**+0.8**
KARP				S	**Sb**	**05 09 50.7**	**-2.1**
KARP	**Karpathos**	**2.88**	**214**	*e*PN	**Pn**	**05 09 12.6**	**+0.7**
KARP				*e*SN	**Sn**	**05 09 48.2**	**+1.3**
KARP	**Karpathos**	**2.88**	**214**	*e*Pn	**Pn**	**05 09 12.6**	**+0.7**
KARP				*e*Sn	**Sn**	**05 09 48.2**	**+1.3**
HRT	**Hereke**	**2.90**	**8**	*e*PN	**Pn**	**05 09 12.6**	**+0.5**
HRT	**Hereke**	**2.90**	**8**	*e*Pn	**Pn**	**05 09 12.6**	**+0.5**
BUY	**Buyukada**	**2.90**	**359**	*i* P	**Pn**	**05 09 11.7**	**-0.4**
BUY				*i* S	**Sg**	**05 09 58.9**	**+0.3**
BUY

4.4nm,1.0s,baz=185,slow=10,SNR=3.4
AKTO Aktyubinsk 24.00 49 P P 05 13 40.0 -0.6
0.6nm,0.6s,baz=236,slow=9.6,SNR=4.0
HFS Hagfors 24.29 341 P P 05 13 43.4 +0.2
2.7nm,0.9s,baz=155,slow=14,SNR=2.8
NOA NORSAR Array B 25.71 340 P P 05 13 56.1 0.0
1.5nm,0.8s,baz=146,slow=9.4,SNR=3.2
TORD Torodi Ar. Bea 34.74 232 P P 05 15 15.7 -0.7
0.7nm,0.6s,baz=38,slow=8.3,SNR=8.9
MKAR Makanchi Array 39.57 60 P P 05 15 57.4 +0.1
0.7nm,0.6s,baz=286,slow=6.2,SNR=7.5

DJA 10 05:28:14.5±0.6, 2°S±4°×12°1E±°, h10km, M3.5/5, MLv3.5/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKSI	**Soroako, Sulaw**	**0.22**	**154**	P	Pg	05 28 17.2	-2.0
SKSI				S	Sg	05 28 22.3	0.0
TTSI	**Tana Toraja**	**1.59**	**243**	P	Pb	05 28 43.4	-0.6
TTSI				S	Sb	05 29 04.0	-0.1
LUWI	**Luwuk**	**2.00**	**50**	P	Pn	05 28 49.4	+1.1
SPSI	**Sidrap Palu**	**2.19**	**222**	P	Pn	05 28 52.4	+1.4
BKSI	**Bulukumba**	**3.17**	**201**	P	Pn	05 29 05.8	+1.3

*JMA **10** 05:43:47.5±0.6, 43°.82N×147°.70E, h0km, M3.4*
*ISCJB **10** 05:43:48.4±1.0, 44°.07N±0°.08×148°.0E±0°.1, h70km, mb3.2/3, Error ellipse: s-maj=15.1km s-min=6.5km az=138.2*
*MOS **10** 05:43:50.5±1.9, 44°.35N×148°.02E, h70km, mb3.9/1, Error ellipse: s-maj=32.7km s-min=22.8km az=48.4*
*IDC **10** 05:43:55.7±4.3, 44°.61N×147°.94E, h91km±30km, mb3.0/3, mb1 3.3/5, mb1mx3.1/25, mbtmp3.1/5, Error ellipse: s-maj=84.9km s-min=24.0km az=161.0*
ISC 10 05:43:49.7±1.2, 44°.1N±0°.1×148°.0E±0°.1, h70km, n16, σ1§60/18, mb3.2/3, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.18**	**356**	*e*PN	**Pn**	**05 44 08.8**	**-1.6**
KUR				*e*S	**Sn**	**05 44 24.1**	**-1.8**
KUR				pmax	pmax		
	comp=E,36nm,0.5s						
KUR				pmax	pmax		
	comp=Z,84nm,0.5s						
KUR				pmax	pmax		
	comp=N,68nm,0.4s						
KUR				smax	smax		
	comp=N,222nm,0.4s						
KUR				smax	smax		
	comp=E,382nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.52**	**270**	*d i*PN	**Pn**	**05 44 14.6**	**-0.4**
YUK				*i* S	**Sn**	**05 44 34.5**	**+0.5**
YUK				pmax	pmax		
	comp=N,45nm,0.4s						
YUK				pmax	pmax		
	comp=E,54nm,0.4s						
YUK				smax	smax		
	comp=Z,62nm,0.4s						
YUK				smax	smax		
	comp=N,183nm,0.5s						
YUK				smax	smax		
	comp=E,196nm,0.6s						
NEM2	**Nemuro 2**	**1.76**	**248**	P	**Pn**	**05 44 15.6**	**-2.5**
NEM2				*e*S	**Sn**	**05 44 35.9**	**-3.8**
JRA	**Rausu**	**2.06**	**268**	P	**Pn**	**05 44 21.4**	**-0.8**
JTKR	**Abashiri--Toko**	**2.94**	**270**	P	**Pn**	**05 44 34.2**	**+0.2**
JAR	**Ashorobuto**	**3.15**	**257**	P	**Pn**	**05 44 36.9**	**0.0**
JMP	**Maruseppu**	**3.33**	**271**	P	**Pn**	**05 44 39.9**	**+0.5**
JCH	**Churui**	**3.66**	**248**	P	**Pn**	**05 44 43.9**	**0.0**
ASAJ	**Asahikawa**	**3.88**	**273**	P	Pn	05 44 53.2	+6.4
	comp=E,2.6nm,0.3s,baz=85,slow=11,SNR=9.6						
JNBK	**Urakawa-nobuka**	**4.21**	**247**	P	**Pn**	**05 44 50.4**	**-1.0**
PETK	**Petropavlovsk-**	**11.10**	**32**	PN	**Pn**	**05 46 24.3**	**-1.1**
PETK	**Petropavlovsk-**	**11.10**	**32**	P	**Pn**	**05 46 24.3**	**-1.1**
	comp=E,0.3nm,0.3s,baz=196,slow=14,SNR=2.8						
ILAR	**Eielson Array**	**40.88**	**36**	P	**P**	**05 51 25.4**	**+1.0**
	comp=E,0.5nm,0.7s,baz=280,slow=7.7,SNR=6.0						
MKAR	**Makanchi Array**	**44.97**	**298**	P	**P**	**05 51 59.1**	**+1.3**
MKAR	**Makanchi Array**	**44.97**	**298**	P	**P**	**05 51 59.1**	**+1.3**
	comp=E,0.2nm,0.7s,baz=60,slow=8.5,SNR=2.8						
TXAR	**Lajitas Array**	**81.98**	**57**	P	**P**	**05 56 03.9**	**+1.7**
	comp=E,0.2nm,0.6s,baz=308,slow=2.2,SNR=3.6						

*IDC **10** 06:11:27.3±1.7, 36°.02N×141°.51E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/25, mbtmp3.2/3, ML3.0/1, Error ellipse: s-maj=37.4km s-min=30.1km az=175.0*
*ISCJB **10** 06:11:29.0±1.1, 36°.15N±0°.07×141°.55E±0°.09, h26km, mb3.6/2, Error ellipse: s-maj=11.1km s-min=8.5km az=43.2*
*JMA **10** 06:11:31.4±0.1, 36°.17N×141°.30E, h47km±2km, M3.1*
ISC 10 06:11:31.0±1.2, 36°.21N±0°.06×141°.31E±0°.08, h26km, n10, σ1§35/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.63**	**216**	P	**Pb**	**06 11 43.6**	**+0.2**
CHOJ				S	**Sn**	**06 11 52.6**	**-0.8**
JHO	**Hitachi**	**0.72**	**304**	P	**Pb**	**06 11 45.4**	**+0.5**
JYT	**Yasato**	**0.90**	**271**	P	**Pb**	**06 11 47.8**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.98**	**335**	P	**Pn**	**06 11 49.5**	**+0.4**
JFK	**Kawauchi**	**1.20**	**343**	P	**Pn**	**06 11 52.3**	**+0.1**
JAG	**Ashikaga**	**1.51**	**279**	P	**Pn**	**06 11 56.9**	**+0.5**
MJAR	**Matsushiro Arr**	**2.52**	**278**	Pn	**Pn**	**06 12 12.6**	**+2.2**
	2.6nm,0.3s,baz=89,slow=16,SNR=13						
MJAR				Sn	**Sb**	**06 12 44.3**	**-2.0**
	2.2nm,0.3s,baz=124,slow=27,SNR=5.3						
MAT	**Matsushiro**	**2.53**	**278**	P	**Pn**	**06 12 12.8**	**+2.4**
MAT				S	**Sb**	**06 12 45.5**	**-0.8**
ILAR	**Eielson Array**	**50.23**	**32**	P	**P**	**06 20 25.1**	**+0.7**
	0.4nm,0.6s,baz=273,slow=5.3,SNR=4.4						
WRA	**Warramunga Arr**	**56.24**	**188**	P	**P**	**06 21 08.0**	**-1.0**
	0.4nm,0.8s,baz=6.6,slow=7.5,SNR=3.7						

DJA 10 06:12:41.8±1.1, 8°S±14°×10°9E±°, h58km±31km, M3.6/7, MLv3.6/7, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJI	**Banjamegara**	**1.26**	**31**	P	Pn	06 13 05.0	+1.6
YOGI	**Yogyakarta**	**1.37**	**64**	P	Pn	06 13 04.6	-0.1
CISI	**Cisompet, Garu**	**1.49**	**305**	P	Pn	06 13 05.4	-1.1
UGM	**Wanagama**	**1.54**	**71**	P	Pn	06 13 07.1	0.0
UGM				S	Sn	06 13 26.8	+0.7
TGJI	**Tegal**	**1.54**	**3**	P	Pn	06 13 06.7	-0.4
PCJI	**Pacitan**	**2.12**	**84**	P	Pn	06 13 15.9	+1.1
PCJI				S	Sn	06 13 40.3	+0.3
PWJI	**Pagerwojo**	**2.75**	**82**	P	Pn	06 13 24.3	+0.8
PWJI				S	Sn	06 13 56.1	+0.4
SJI	**Sawahan**	**2.77**	**76**	P	Pn	06 13 29.0	+5.0

*ISCJB **10** 06:26:05.0±0.7, 0°.54S±0°.06×126°.58E±0°.05, h33km, mb4.2/3, Error ellipse: s-maj=10.0km s-min=6.2km az=141.8*
*DJA **10** 06:26:08.4±1.0, 1°S±4°×12°7E±1°2, h61km±19km, M4.1/3, MLv4.1/3*
*IDC **10** 06:26:11.3±8.7, 0°.66S×126°.51E, h88km±83km, mb3.8/4, mb1 3.9/6, mb1mx3.5/23, mbtmp3.8/6, ML3.7/2, Error ellipse: s-maj=63.1km s-min=18.8km az=52.0*
ISC 10 06:26:06.8±0.9, 0°.55S±0°.06×126°.71E±0°.05, h35km, n11, σ1§22/13, mb4.2/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**0.79**	**96**	P	**Pn**	**06 26 22.1**	**+0.6**
LBMI				S	**Sn**	**06 26 33.2**	**+1.1**
TNTI	**Ternate**	**1.47**	**26**	P	**Pn**	**06 26 31.6**	**+0.8**
TNTI				S	**Sn**	**06 26 49.2**	**+0.4**
NLAI	**Namlea**	**2.70**	**172**	P	**Pn**	**06 26 49.3**	**+1.6**
KMSI	**Cibinong**	**2.95**	**292**	P	**Sn**	**06 27 26.8**	**+1.4**
GTOI	**Gorontalo**	**3.89**	**288**	P	Pn	06 27 08.8	+4.8
KAPI	**Kappang**	**8.24**	**237**	P	**Pn**	**06 28 05.1**	**+1.2**
	1.6nm,0.3s,baz=70,slow=7.7,SNR=4.2						
KAPI				S	**Sn**	**06 29 34.6**	**-1.3**
	3.6nm,0.3s,baz=335,slow=23,SNR=10						
FITZ	**Fitzroy Crossi**	**17.47**	**183**	P	**P**	**06 30 09.3**	**+0.6**
	0.1nm,0.3s,baz=14,slow=8.9,SNR=6.0						
WRA	**Warramunga Arr**	**20.67**	**159**	P	**P**	**06 30 42.4**	**-1.4**
	3.1nm,0.7s,baz=336,slow=11,SNR=16						
ASAR	**Alice Springs**	**24.01**	**164**	P	**P**	**06 31 18.1**	**-0.4**
	1.3nm,0.3s,baz=345,slow=9.8,SNR=22						
STKA	**Stephens Creek**	**34.19**	**157**	P	**P**	**06 32 48.3**	**-0.6**
	2.1nm,0.3s,baz=341,slow=10,SNR=11						
MKAR	**Makanchi Array**	**61.07**	**327**	P	**P**	**06 36 15.9**	**-1.4**
	0.7nm,0.3s,baz=118,slow=8.1,SNR=23						

*IDC **10** 06:40:30.3±1.4, 42°.34N×86°.37E, h0km, mb3.7/2, mb1 3.7/5, mb1mx3.5/29, mbtmp3.6/5, ML3.4/3, MS2.7/1, Ms1 2.7/1, ms1mx2.0/31, Error ellipse: s-maj=50.2km s-min=17.7km az=59.0*
*ISCJB **10** 06:40:33.7±1.1, 42°.56N±0°.07×86°.5E±0°.1, h33km, mb3.5/3, MS2.6/1, Error ellipse: s-maj=11.5km s-min=9.4km az=167.8*
*NNC **10** 06:40:34.1±3.4, 42°.70N×86°.27E, h0km, mb3.8, mpv3.3, Error ellipse: s-maj=28.5km s-min=20.5km az=114.0*
ISC 10 06:40:35.2±1.3, 42°.46N±0°.09×86°.6E±0°.1, h35km, n11, σ1§68/15, mb3.6/3, 5C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**5.30**	**326**	Pn	**Pn**	**06 41 53.4**	**+1.6**
	0.8nm,0.3s,baz=142,slow=14,SNR=64						
MK31				⇑Sn	**Sn**	**06 42 53.4**	**+1.8**
	7.2nm,0.6s,baz=146,slow=19,SNR=3.7						
MK31				Lg	Lg	06 43 14.9	
	17nm,0.7s,baz=137,slow=27,SNR=11						
MKAR	**Makanchi Array**	**5.30**	**326**	Pn	**Pn**	**06 41 52.8**	**+1.0**
	1.0nm,0.3s,baz=150,slow=14,SNR=54						
MKAR				Sn	**Sn**	**06 42 48.4**	**-3.2**
	2.0nm,0.3s,baz=146,slow=15,SNR=4.6						
MKAR				Lg	Lg	06 43 17.1	
	6.7nm,0.3s,baz=140,slow=29,SNR=10						
TKM2	**Tokmak 2**	**8.10**	**277**	⇑Pn	**Pn**	**06 42 30.0**	**-0.4**
	2.3nm,0.7s						
TKM2				⇑Sn	**Sn**	**06 44 00.4**	**-0.4**
	4.5nm,0.8s						
TKM2				⇓Lg	Lg	06 44 44.5	
	7.1nm,0.8s						
KURBB	**Kurchatov Arra**	**9.86**	**329**	⇑Pn	Pn	06 42 50.8	-3.5
	2.8nm,0.9s						
KURBB				⇓Sn	**Sn**	**06 44 42.9**	**-0.7**
	4.7nm,0.6s						
KURBB				⇑Lg	Lg	06 45 41.1	
	17nm,0.7s						
KURBB	**Kurchatov Arra**	**9.86**	**329**	Pn	**Pn**	**06 42 53.7**	**-0.6**
	0.1nm,0.3s,baz=142,slow=11,SNR=3.7						
KURBB				Sn	**Sn**	**06 44 45.8**	**+2.2**
	0.1nm,0.3s,baz=165,slow=22,SNR=6.5						
KURBB				Lg	Lg	06 45 41.8	
	0.1nm,0.3s,baz=150,slow=31,SNR=6.0						
ZALV	**Zalesovo Beam**	**11.55**	**355**	Pn	**Pn**	**06 43 17.6**	**+0.2**
	0.7nm,0.3s,baz=171,slow=10,SNR=6.1						
ZALV				Sn	**Sn**	**06 45 23.4**	**-1.7**
	1.3nm,0.3s,baz=160,slow=26,SNR=10						
BVAR	**Borovoye Array**	**15.13**	**320**	Pn	**P**	**06 44 09.9**	**-1.0**
	0.3nm,0.3s,baz=112,slow=11,SNR=3.3						
AKTO	**Aktyubinsk**	**21.13**	**302**	P	**P**	**06 45 19.3**	**+2.5**
	1.2nm,0.7s,baz=95,slow=13,SNR=4.6						
KSRS	**Korea Array**	**31.86**	**85**	LR	LR	07 02 16.4	
	comp=Z,13nm,20.3s,baz=225,slow=41						
WRA	**Warramunga Arr**	**76.13**	**134**	P	**P**	**06 52 19.9**	**+0.4**
	0.6nm,0.7s,baz=334,slow=5.4,SNR=6.3						
TORD	**Torodi Ar. Bea**	**77.50**	**276**	P	**P**	**06 52 27.0**	**-0.5**
	0.3nm,0.4s,baz=40,slow=5.0,SNR=5.9						

*IDC **10** 06:46:08.2±4.4, 6°.16S×102°.36E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/22, mbtmp3.6/5, Error ellipse: s-maj=177.0km s-min=26.8km az=52.0*
*DJA **10** 06:46:11.9±2.3, 6°S±13°×10°3E±1°0, h21km±26km, M3.9/3, MLv3.9/3*
*ISCJB **10** 06:46:13.5±1.3, 5°.8S±0°.2×102°.89E±0°.09, h33km, mb3.7/5, Error ellipse: s-maj=23.3km s-min=12.7km az=168.4*
ISC 10 06:46:15.3±1.4, 5°.8S±0°.1×103°.0E±0°.1, h33km, n9, σ1§44/10, mb3.7/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LWLI	**Liwa**	**1.32**	**53**	P	**Pn**	**06 46 36.1**	**-1.5**
LWLI				S	**Sn**	**06 46 54.9**	**+0.8**
MNAI	**Manna**	**1.44**	**358**	P	**Pb**	**06 46 42.8**	**+1.1**
KLSI		**2.06**	**57**	P	**Pn**	**06 46 46.2**	**-1.4**
CMAR	**Chiang Mai Arr**	**24.44**	**351**	P	**P**	**06 51 31.6**	**+0.4**
	0.6nm,0.3s,baz=179,slow=8.2,SNR=4.0						
WRA	**Warramunga Arr**	**33.54**	**118**	P	**P**	**06 52 54.3**	**+1.9**
	0.1nm,0.3s,baz=289,slow=9.8,SNR=7.5						
SONM	**Songino Array**	**53.50**	**3**	P	**P**	**06 55 32.8**	**+0.1**
	1.0nm,0.6s,baz=175,slow=6.6,SNR=4.0						
MKAR	**Makanchi Array**	**55.50**	**343**	P	**P**	**06 55 46.9**	**-0.3**
	0.2nm,0.4s,baz=138,slow=11,SNR=6.2						
ZALV	**Zalesovo Beam**	**61.47**	**348**	P	**P**	**06 56 27.8**	**-0.7**
	0.6nm,0.3s,baz=160,slow=4.6,SNR=3.0						
TXAR	**Lajitas Array**	**145.63**	**44**	PKPbc	**PKPdf**	**07 05 49.2**	**-2.0**
	0.4nm,0.5s,baz=281,slow=1.5,SNR=10						

*ISCJB **10** 06:56:37.6±0.3, 15°.97N±0°.03×61°.79W±0°.07, h180km±2km, mb3.8/22, Error ellipse: s-maj=11.5km s-min=4.3km az=164.5*
*TRN **10** 06:56:37.6, 16°.06N×61°.64W, h177km, MD3.9, M3.5(FDF)*
*IDC **10** 06:56:37.5±0.5, 15°.97N×61°.89W, h164km±4km, mb3.6/21, mb1 3.8/21, mb1mx3.7/28, mbtmp3.6/21, Error ellipse: s-maj=13.3km s-min=7.3km az=87.0*
ISC 10 06:56:38.7±0.6, 15°.97N±0°.04×61°.80W±0°.08, h175km±5km, n50, σ0§88/66, mb3.8/22, 4C-15D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HMG	**Houelmont**	**0.09**	**82**	⇓*i*P	**Pn**	**06 57 02.0**	**+0.1**
HMG				⇓*e*S	**Sn**	**06 57 19.4**	**-0.3**
SCG	**Saint Claude**	**0.12**	**62**	⇓*i*P	**Pn**	**06 57 02.2**	**+0.2**
SCG				⇓*e*S	**Sn**	**06 57 19.5**	**-0.4**
PHG	**Guadaloupe-2**	**0.15**	**73**	*e*P	**Pn**	**06 57 02.2**	**+0.1**
LZG	**Guadaloupe-1**	**0.17**	**7**	⇓*e*P	**Pn**	**06 57 01.9**	**-0.1**
DOG	**Dongo Capester**	**0.18**	**70**	*e*P	**Pn**	**06 57 02.0**	**-0.1**
TBG	**Guadaloupe-3**	**0.19**	**129**	⇓*e*P	**Pn**	**06 57 01.9**	**-0.1**
BCG	**Bois Riant Cap**	**0.20**	**56**	⇓*i*P	**Pn**	**06 57 02.4**	**+0.3**
MGG	**Marie-Galante**	**0.46**	**96**	*e*P	**Pn**	**06 57 02.6**	**-0.2**
SEG	**Port Louis**	**0.51**	**33**	⇑*i*P	**Pn**	**06 57 02.5**	**-0.5**
SEG				⇑*e*S	**Sn**	**06 57 20.9**	**-0.9**
DVCT	**Vielle Casse P**	**0.52**	**133**	*e*P	**Pn**	**06 57 03.9**	**+0.8**
DVCT				*e*S	**Sn**	**06 57 21.5**	**-0.2**
DWS	**Wesley**	**0.61**	**130**	*e*P	**Pn**	**06 57 03.9**	**+0.4**
DWS				*e*S	**Sn**	**06 57 22.0**	**-0.5**
SFG	**Saint Francois**	**0.64**	**64**	⇓*e*P	**Pn**	**06 57 02.9**	**-0.7**
MDN	**Morne-Daniel**	**0.76**	**149**	⇓*i*P	**Pn**	**06 57 05.5**	**+1.1**
MDN				*e*S	**Sn**	**06 57 24.4**	**+0.4**
DPMT	**Pointe Michel**	**0.81**	**150**	⇓*i*P	**Pn**	**06 57 05.8**	**+1.1**
DPMT				*e*S	**Sn**	**06 57 24.7**	**+0.1**
BPA	**Boggy Peak**	**1.07**	**357**	⇓*i*P	**Pn**	**06 57 06.5**	**0.0**
BPA				*e*S	**Sn**	**06 57 26.0**	**-2.2**
NEV	**Hard Times**	**1.38**	**327**	⇑*e*P	**Pn**	**06 57 10.0**	**+0.9**
NEV				*e*S	**Sn**	**06 57 32.9**	**+0.2**
FDF	**Fort de France**	**1.38**	**153**	⇓*i*P	**Pn**	**06 57 08.9**	**-0.3**
FDF				⇓*e*S	**Sn**	**06 57 32.1**	**-0.7**
SKI	**Saint Kitts**	**1.63**	**326**	*e*P	**Pn**	**06 57 11.5**	**-0.1**
SKI				*e*S	**Sn**	**06 57 36.6**	**-0.5**
MVM	**Montagne Vaucl**	**1.65**	**148**	⇑*e*P	**Pn**	**06 57 11.5**	**-0.4**
SLW	**Petit Monier**	**2.11**	**157**	⇓*e*P	**Pn**	**06 57 16.3**	**-0.4**
SLW				⇓*e*S	**Sn**	**06 57 45.0**	**-1.2**
SLB	**Belfond**	**2.25**	**161**	*e*P	**Pn**	**06 57 18.6**	**+0.2**
SLB				*e*S	**Sn**	**06 57 49.4**	**+0.2**
SLDE	**Delcer**	**2.27**	**162**	*e*S	**Sn**	**06 57 49.9**	**+0.4**
MCLT	**Moule a Chique**	**2.39**	**160**	*e*P	**Pn**	**06 57 20.7**	**+0.7**
MCLT				*e*S	**Sn**	**06 57 52.5**	**+0.4**
SVB	**Belmont**	**2.73**	**169**	*e*P	**Pn**	**06 57 24.2**	**+0.2**
SVB				*e*S	**Sn**	**06 57 59.3**	**+0.1**
BHS	**Barnard House**	**2.74**	**166**	*e*S	**Sn**	**06 57 59.0**	**-0.3**
TOSP	**Speyside**	**4.80**	**165**	*e*P	**Pn**	**06 57 49.7**	**-0.4**
TOSP				*e*S	**Sn**	**06 58 43.5**	**-2.5**
ROSC	**El Rosal**	**16.54**	**229**	P	**Pn**	**07 00 22.6**	**+1.4**
	0.8nm,0.3s,baz=284,slow=18,SNR=4.8						
ATAH	**Atahualpa**	**28.23**	**217**	P	**P**	**07 02 17.2**	**+1.2**
	3.9nm,0.6s,baz=45,slow=8.6,SNR=3.5						
SIV	**San Ignacio**	**31.77**	**179**	P	**P**	**07 02 47.0**	**+0.3**
	6.7nm,0.6s,baz=18,slow=8.9,SNR=42						
LPAZ	**La Paz**	**32.66**	**191**	P	**P**	**07 02 53.8**	**-1.3**
	1.0nm,0.4s,baz=43,slow=4.4,SNR=8.9						
LVC	**Limon Verde**	**38.97**	**190**	P	**P**	**07 03 46.2**	**-2.1**
	7.3nm,0.4s,baz=20,slow=6.0,SNR=24						
SCHQ	**Schefferville**	**38.98**	**355**	P	**P**	**07 03 48.7**	**+0.9**
	3.1nm,0.5s,baz=181,slow=8.1,SNR=23						
TXAR	**Lajitas Array**	**40.65**	**297**	P	**P**	**07 04 02.3**	**+0.3**
	0.1nm,0.4s,baz=122,slow=7.4,SNR=5.7						
CPUP	**Villa Florida**	**42.27**	**174**	P	**P**	**07 04 14.5**	**-0.5**
	1.8nm,0.5s,baz=344,slow=11,SNR=11						
ULM	**Lac du Bonnet**	**43.85**	**329**	P	**P**	**07 04 26.4**	**-1.0**
	3.2nm,0.5s,baz=122,slow=4.6,SNR=3.1						
CFAA	**Coronel Fontan**	**47.70**	**187**	P	**P**	**07 04 56.5**	**-1.4**
	0.1nm,0.3s,baz=350,slow=6.0,SNR=4.4						
PDAR	**Pinedale Array**	**48.61**	**313**	P	**P**	**07 05 05.1**	**+0.1**
	0.7nm,0.6s,baz=114,slow=9.9,SNR=7.5						
MDT	**Midelt**	**54.09**	**61**	P	**P**	**07 05 45.1**	**-0.7**
	1.8nm,0.8s,baz=310,slow=6.8,SNR=4.5						
NVAR	**Mina Array Bea**	**54.12**	**306**	P	**P**	**07 05 43.8**	**-2.2**
	0.4nm,0.7s,baz=95,slow=6.7,SNR=4.0						
ESDC	**Sonseca Array**	**55.31**	**53**	P	**P**	**07 05 56.2**	**+1.8**
	0.3nm,0.3s,baz=254,slow=7.1,SNR=3.7						
YKA	**Yellowknife Ar**	**59.19**	**334**	P	**P**	**07 06 20.5**	**-0.5**
	2.5nm,0.6s,baz=106,slow=7.4,SNR=13						
TORD	**Torodi Ar. Bea**	**61.31**	**84**	P	**P**	**07 06 36.3**	**+0.1**
	1.1nm,0.6s,baz=277,slow=5.9,SNR=8.4						
KEST	**Kesra**	**65.67**	**58**	P	**P**	**07 07 06.0**	**+1.4**
	1.2nm,0.5s,baz=326,slow=6.3,SNR=5.5						
NB2	**NORSAR Subarra**	**67.94**	**30**	P	**P**	**07 07 19.2**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=263,slow=6.5						
NOA	**NORSAR Array B**	**67.94**	**30**	P	**P**	**07 07 19.3**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=264,slow=6.4,SNR=4.2						
GERES	**GERESS Array B**	**68.63**	**43**	P	**P**	**07 07 22.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=298,slow=5.6,SNR=3.9						
ILAR	**Eielson Array**	**73.60**	**334**	P	**P**	**07 07 52.1**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=90,slow=4.7,SNR=16						
ARCES	**ARCESS Array B**	**74.22**	**21**	P	**P**	**07 07 56.6**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=253,slow=7.1,SNR=8.1						
FINES	**FINESS Array B**	**75.11**	**30**	P	**P**	**07 08 01.8**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=318,slow=2.6,SNR=6.1						
BRTR	**Keskin Array B**	**84.04**	**51**	P	**P**	**07 08 49.9**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=264,slow=4.7,SNR=4.0						

IDC 10 06:57:04.8±4.0, 22°.69S×174°.97W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/20, mbtmp3.9/4, Error ellipse: s-maj=236.5km s-min=31.6km az=157.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.13**	**267**	P	P	07 04 09.4	+0.5
	3.5nm,0.6s,baz=97,slow=13,SNR=4.8						
ASAR	**Alice Springs**	**46.80**	**258**	P	P	07 05 36.4	-0.2
	0.6nm,0.8s,baz=91,slow=7.2,SNR=4.8						
WRA	**Warramunga Arr**	**47.12**	**263**	P	P	07 05 38.5	-0.6
	1.7nm,0.5s,baz=102,slow=8.1,SNR=29						
NVAR	**Mina Array Bea**	**80.72**	**42**	P	P	07 09 20.3	+0.1
	0.4nm,0.7s,baz=230,slow=8.2,SNR=4.1						

*ISCJB **10** 06:58:44.5±0.7, 30°.04S±0°.08×178°.7W±0°.2, h150km, mb3.6/3, Error ellipse: s-maj=22.5km s-min=7.6km az=24.7*
*IDC **10** 06:58:46.2±1.0, 30°.02S×178°.51W, h161km±10km, mb3.4/3, mb1 3.8/4, mb1mx3.4/18, mbtmp3.5/4, Error ellipse: s-maj=33.2km s-min=22.9km az=146.0*
ISC 10 06:58:45.4±0.8, 30°.0S±0°.1×178°.7W±0°.2, h150km, n12, σ1§62/16, mb3.7/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.96**	**42**	P	**Pn**	**06 59 11.7**	**+1.9**
	346nm,0.3s,baz=12,slow=19,SNR=33						
RAO				S	**Sn**	**06 59 28.9**	**+0.5**
	2um,0.3s,baz=36,slow=19,SNR=51						
PUZ	**Puketiti**	**8.48**	**197**	PN	**Pn**	**07 00 44.2**	**-0.9**
PUZ				SN	**Sn**	**07 02 19.6**	**+0.2**
CNGZ	**Carnagh Statio**	**8.89**	**196**	PN	**Pn**	**07 00 49.5**	**-1.0**
MWZ	**Matawai**	**8.93**	**200**	PN	**Pn**	**07 00 49.4**	**-1.7**
URZ	**Urewera**	**8.99**	**202**	P	**Pn**	**07 00 50.7**	**-1.1**
	2.3nm,0.3s,baz=212,slow=1.2,SNR=24						
URZ				S	**Sn**	**07 02 34.8**	**+3.3**
	6.2nm,0.3s,baz=160,slow=12,SNR=9.7						
URZ	**Urewera**	**8.99**	**202**	PN	**Pn**	**07 00 50.2**	**-1.6**
MHGZ	**Mahia Peninsul**	**9.59**	**196**	PN	**Pn**	**07 00 58.3**	**-1.7**
ASAR	**Alice Springs**	**42.56**	**267**	P	**P**	**07 06 27.3**	**+0.7**
	0.9nm,0.6s,baz=98,slow=7.7,SNR=11						
WRA	**Warramunga Arr**	**43.51**	**272**	P	**P**	**07 06 35.2**	**+1.0**
	0.6nm,0.3s,baz=110,slow=8.1,SNR=14						
WRA				Sc

	164nm,0.4s							
TERO	**Teramo**	**0.38**	**7**	Pg	Pg	07 21 48.6	+0.1
TERO				Sg	Sg	07 21 54.6	+1.0
	164nm,0.4s							
GUAR	**Guarcino**	**0.48**	**201**	Pg	Pg	07 21 50.4	-0.1
	82nm,0.3s							
GUAR	**Guarcino**	**0.48**	**201**	Pg	Pg	07 21 50.4	-0.1
	82nm,0.3s							
CERT	**Cerreto**	**0.51**	**234**	Pg	Pg	07 21 50.4	-0.6
	183nm,0.6s							
CERT	**Cerreto**	**0.51**	**234**	Pg	Pg	07 21 50.4	-0.6
	183nm,0.6s							
LNSS	**Leonessa**	**0.51**	**314**	Pg	Pb	07 21 51.8	-0.3
	68nm,0.3s							
LNSS	**Leonessa**	**0.51**	**314**	Pg	Pb	07 21 51.8	-0.3
	68nm,0.3s							
LPEL	**Lama dei Pelig**	**0.52**	**113**	Pg	Pg	07 21 51.2	+0.1
LPEL				Sg	Sb	07 21 59.2	-0.6
	137nm,0.3s							
LPEL	**Lama dei Pelig**	**0.52**	**113**	Pg	Pg	07 21 51.2	+0.1
LPEL				Sg	Sb	07 21 59.2	-0.6
	137nm,0.3s							
POFI	**Posta Fibreno**	**0.55**	**166**	Pg	Pg	07 21 51.4	-0.3
	35nm,0.6s							
POFI	**Posta Fibreno**	**0.55**	**166**	Pg	Pg	07 21 51.4	-0.3
	35nm,0.6s							
SDI	**San Donato**	**0.57**	**159**	Pg	Pg	07 21 52.0	-0.2
SDI				Sg	Sb	07 22 01.4	+0.1
	42nm,0.3s							
SDI	**San Donato**	**0.57**	**159**	Pg	Pg	07 21 52.0	-0.2
SDI				Sg	Sb	07 22 01.4	+0.1
	42nm,0.3s							
NRCA	**Norcia**	**0.66**	**332**	Pg	Pg	07 21 53.7	-0.2
	88nm,0.1s							
NRCA	**Norcia**	**0.66**	**332**	Pg	Pg	07 21 53.7	-0.2
	88nm,0.1s							
FDMO	**Fiordimonte**	**0.86**	**337**	Pg	Pg	07 21 57.4	-0.1
	20nm,0.3s							
FDMO	**Fiordimonte**	**0.86**	**337**	Pg	Pg	07 21 57.4	-0.1
	20nm,0.3s							

ROM 10 07:22:20.1±0.1, 42°56N×13°19E, h8km, Md1.0/1, Ml1.6/1, Error ellipse: s-maj=0.5km s-min=0.1km az=3.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.12**	**292**	Pg	Pg		07 22 23.3	+0.3
LNSS				Sg	Sg		07 22 25.6	+0.6
	148nm,0.1s							
CAMP	**Campotosto**	**0.16**	**98**	Pg	Pg		07 22 24.1	+0.4
CAMP				Sg	Sg		07 22 26.9	+0.8

MEX 10 07:25:04.6±0.4, 17°21N×100°52W, h5km±10km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.28**	**123**	*i* P		Pg	07 25 09.9	-0.3
CAIG				*i* S		Sg	07 25 13.8	0.0
ZIIG	**Zihuatanejo**	**0.99**	**294**	*i* P		Pg	07 25 21.1	-2.6
ZIIG				*i* S		Sg	07 25 34.4	-2.2
ARIG	**Puente Sto Nin**	**1.08**	**8**	*i* P		Pg	07 25 22.4	-3.1
ARIG				*i* S		Sg	07 25 36.5	-3.0
PLIG	**Platanillo**	**1.52**	**39**	*i* P		Pn	07 25 29.6	-3.1
PLIG				*i* S		Sn	07 25 47.6	-5.5

JMA 10 07:28:46.2±0.1, 26°83N×129°91E, h48km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**1.28**	**318**	P		Pn	07 29 08.3	+0.6
JTK				eS		Sn	07 29 23.6	-0.1
JOW	**Kunigami**	**1.46**	**270**	P		Pn	07 29 10.9	+0.7
JOW				eS		Sn	07 29 27.7	-0.5
JZK	**Kikaishima**	**1.48**	**2**	P		Pn	07 29 11.3	+0.9
JZK				eS		Sn	07 29 29.2	+0.6
JMZ	**Minamidaito 2**	**1.55**	**130**	P		Pn	07 29 11.9	+0.6
JMZ				eS		Sn	07 29 30.1	-0.2
JAMN	**Amaminishikomi**	**1.55**	**335**	P		Pn	07 29 11.9	+0.5
JAMN				eS		Sn	07 29 30.0	-0.3
JAM	**Amami Oshima**	**1.60**	**350**	P		Pn	07 29 12.7	+0.7
JAM				eS		Sn	07 29 31.3	-0.2
JIH	**Iheya**	**1.75**	**277**	P		Pn	07 29 14.9	+0.9
JIH				eS		Sn	07 29 35.5	+0.4
JJT2	**Tamagusuku 2**	**2.06**	**251**	P		Pn	07 29 18.9	+0.6
JJT2				eS		Sn	07 29 43.3	+0.6
JAGN	**Aguni-jima**	**2.40**	**265**	P		Pn	07 29 23.8	+0.8
JAGN				eS		Sn	07 29 50.5	-0.6
JKE	**Kume jima 2**	**2.84**	**261**	P		Pn	07 29 29.2	+0.1
JKE				eS		Sn	07 30 02.2	+0.1
JNN	**Nakanoshima**	**3.00**	**359**	eS		Sn	07 30 05.6	-0.4

IDC 10 07:57:38.8±1.2, 6°07S×149°44E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/18, mbtmpg3.9/5, ML3.5/1, MS3.2/3, Ms1 3.2/3, ms1mx2.9/19, Error ellipse: s-maj=72.0km s-min=24.5km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.01**	**214**	Pn		Pn	07 58 42.0	+0.4
	22nm,0.3s,baz=11,slow=9.2,SNR=31							
PMG						Sn	07 59 26.1	-3.3
	38nm,0.3s,baz=60,slow=17,SNR=19							
WRA	**Warramunga Arr**	**20.14**	**225**	P		P	08 02 14.6	-0.1
	2.5nm,0.5s,baz=52,slow=11,SNR=38							
ASAR	**Alice Springs**	**23.01**	**219**	P		P	08 02 45.3	-0.3
	0.9nm,0.5s,baz=54,slow=9.5,SNR=31							
STKA	**Stephens Creek**	**26.70**	**195**	P		P	08 03 20.2	+0.3
	2.8nm,0.9s,baz=29,slow=10,SNR=3.1							
MJAR	**Matsushiro Arr**	**43.67**	**347**	LR		LR	08 22 11.9	
	comp=Z,34nm,18.1s,baz=200,slow=34							
KSRS	**Korea Array**	**47.73**	**337**	LR		LR	08 25 12.8	
	comp=Z,26nm,20.0s,baz=150,slow=35							
PETK	**Petropavlovsk-**	**59.37**	**6**	LR		LR	08 30 54.7	
	comp=Z,17nm,18.0s,baz=327,slow=34							
ILAR	**Eielson Array**	**84.60**	**23**	P		P	08 10 13.9	0.0
	0.3nm,0.7s,baz=243,slow=6.0,SNR=4.7							
TORD	**Torodi Ar. Bea**	**147.46**	**285**	PKPbc		PKPbc	08 17 25.3	-0.6
	0.7nm,0.4s,baz=76,slow=3.6,SNR=15							
BDFB	**Brasilia**	**152.35**	**141**	PKPbc		PKPbc	08 17 37.7	-0.3
	1.3nm,0.4s,baz=235,slow=2.9,SNR=6.2							

TIR **10** *08:17:33.0±0.6, 41°71N×20°24E, h6km±11km, ML3.8*
ATH **10** *08:17:33.1, 41°76N×20°32E, h4km±1km, MD4.0/18*
ISCJB **10** *08:17:34.4±0.3, 41°72N±0°01×20°29E±0°02, h3km±2km, mb3.6/5, Error ellipse: s-maj=2.8km s-min=1.6km az=142.1*
SKO **10** *08:17:34.2, 41°59N×20°31E, h10km, M3.2, ML3.6*
PDG **10** *08:17:34.2±0.3, 41°64N×20°27E, h5km, MD3.5/4, ML3.4/9, Error ellipse: s-maj=0.5km s-min=0.5km az=0.0*
IDC **10** *08:17:34.3±1.2, 41°60N×20°28E, h0km, mb3.6/8, mb1 3.8/12, mb1mx3.7/30, mbtmpg3.7/12, ML3.6/4, MS2.6/3, Ms1 2.6/3, ms1mx2.2/47, Error ellipse: s-maj=20.3km s-min=13.4km az=164.0*
BEO **10** *08:17:35.3±0.4, 41°68N×20°30E, h7km±3km, ML3.3/1*
CSEM **10** *08:17:35.5±0.1, 41°70N×20°32E, h2km, Ms3.4, Error ellipse: s-maj=3.0km s-min=1.8km az=58.0*
THE **10** *08:17:35.5, 41°71N×20°34E, h1km±2km, ML3.5/8, Error ellipse: s-maj=2.2km s-min=1.1km az=323.0*
VIE **10** *08:17:36.2±0.4, 41°61N×20°24E, h10km, mb3.2/6, Ms3.4/6, Error ellipse: s-maj=4.2km s-min=2.3km az=91.0 46 km NE of Tirana*

ISC 10 08:17:35.5±1.0, 41°69N±0°01×20°31E±0°01, h4km±7km, n193, σ1824/300, mb3.8/5, 31C-27D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.10**	**94**	*e*Pg		**Pg**	**08 17 37.3**	**-0.3**
PHP	**Peshkopia**	**0.10**	**94**	P		**Pg**	**08 17 37.2**	**-0.3**
PHP				S		**Sg**	**08 17 39.5**	**+0.6**
PHP	**Peshkopia**	**0.10**	**94**	*e*Pg		**Pg**	**08 17 37.3**	**-0.3**
	SNR=121							
PHP				S		**Sg**	**08 17 39.5**	**+0.6**
PUK	**Puka**	**0.47**	**318**	*e*PG		**Pg**	**08 17 42.9**	**-1.7**
PUK				*i* SG		**Sg**	**08 17 50.0**	**-0.7**
PUK	**Puka**	**0.47**	**318**	*e*Pg		**Pg**	**08 17 42.9**	**-1.7**
	SNR=101							
PUK				*i* Sg		**Sg**	**08 17 50.0**	**-0.7**
	SNR=101							
TIR	**Tirane**	**0.48**	**224**	*e*PG		**Pg**	**08 17 43.0**	**-1.7**
TIR				*i* SG		**Sg**	**08 17 50.7**	**-0.3**
TIR	**Tirane**	**0.48**	**224**	P		**Pg**	**08 17 43.4**	**-1.3**
TIR				S		**Sb**	**08 17 52.7**	**-1.3**
TIR	**Tirane**	**0.48**	**224**	*e*Sg		**Sg**	**08 17 51.3**	**+0.3**
TIR	**Tirane**	**0.48**	**224**	P		**Pg**	**08 17 43.4**	**-1.3**
TIR				*e*Sg		**Sg**	**08 17 51.5**	**+0.5**
TIR				S		**Sb**	**08 17 52.7**	**-1.3**
PRZK	**Prizren**	**0.62**	**33**	P		**Pg**	**08 17 46.7**	**-0.7**
PRZK				S		**Sb**	**08 17 58.2**	**+0.2**
BCI	**Bajram Curri**	**0.70**	**345**	*e*PG		**Pg**	**08 17 47.5**	**-1.4**
BCI				*i* SG		**Sg**	**08 17 58.6**	**+0.6**
BCI	**Bajram Curri**	**0.70**	**345**	*e*Pg		**Pg**	**08 17 47.5**	**-1.4**
	SNR=97							
BCI				*i* Sg		**Sg**	**08 17 58.6**	**+0.6**
	SNR=97							
ZATK	**Zatriq**	**0.79**	**17**	P		**Pg**	**08 17 49.4**	**-1.3**
ULC	**Ulcinj**	**0.84**	**289**	⇓*i*Pg		**Pg**	**08 17 49.6**	**-2.1**
ULC				*e*Sg		**Sg**	**08 18 02.5**	**-0.1**
ULC	**Ulcinj**	**0.84**	**289**	P		**Pg**	**08 17 49.7**	**-2.0**
ULC				*e*Sg		**Sg**	**08 18 02.5**	**-0.1**
SKO	**Skopje**	**0.89**	**71**	P		**Pg**	**08 17 51.9**	**-0.7**
SKO				S		**Sb**	**08 18 05.2**	**-0.6**
SKO	**Skopje**	**0.89**	**71**	*i* Pg		**Pg**	**08 17 52.3**	**-0.3**
SKO				*i* Lg		Lg	08 18 01.1	
	comp=N,1μm,0.3s							
SKO				*i* Sg		**Sg**	**08 18 01.2**	**-3.0**
SKO				*i* Lg		Lg	08 18 01.4	
	comp=E,1μm,0.6s							
SKO	**Skopje**	**0.89**	**71**	P		**Pg**	**08 17 51.9**	**-0.7**
SKO	**Skopje**	**0.89**	**71**	*i* Pg		**Pg**	**08 17 52.3**	**-0.3**
SKO				*i* Sg		**Sg**	**08 18 01.1**	**-3.0**
SKO				*i* Lg		Lg	08 18 01.4	
	comp=E,1μm,0.6s							
SKO				S		**Sb**	**08 18 05.2**	**-0.6**
PVY	**Plav**	**0.94**	**344**	⇓*i*Pg		**Pg**	**08 17 51.8**	**-1.8**
PVY				*e*Sg		**Sb**	**08 18 08.2**	**+0.8**
PVY	**Plav**	**0.94**	**344**	⇓*i*Pg		**Pg**	**08 17 51.8**	**-1.8**
PVY				*e*Sg		**Sb**	**08 18 08.2**	**+0.8**
BIA	**Bitola**	**1.02**	**131**	P		**Pg**	**08 17 52.9**	**-2.1**
BIA				S		**Sg**	**08 18 08.2**	**0.0**
BIA	**Bitola**	**1.02**	**131**	*i* Pg		**Pg**	**08 17 52.9**	**-2.1**
BIA				*i* Sg		**Sg**	**08 18 08.0**	**-0.2**
BIA	**Bitola**	**1.02**	**131**	P		**Pg**	**08 17 52.9**	**-2.1**
BIA				*i* Sg		**Sg**	**08 18 07.9**	**-0.2**
BIA				S		**Sg**	**08 18 08.2**	**0.0**
PDG	**Podgorica**	**1.08**	**314**	P		**Pg**	**08 17 54.2**	**-2.0**
PDG				S		**Sg**	**08 18 10.7**	**+0.5**
PDG	**Podgorica**	**1.08**	**314**	⇑*i*Pg		**Pg**	**08 17 53.5**	**-2.7**
PDG				*e*Sg		**Sg**	**08 18 10.7**	**+0.5**
PDG	**Podgorica**	**1.08**	**314**	⇑*i*Pg		**Pg**	**08 17 53.5**	**-2.7**
PDG	**Podgorica**	**1.08**	**314**	P		**Pg**	**08 17 54.2**	**-2.0**
PDG				S		**Sg**	**08 18 10.7**	**+0.5**
TTG	**Podgorica**	**1.08**	**314**	⇓*i*Pg		**Pg**	**08 17 54.0**	**-2.2**
TTG				*e*Sg		**Sn**	**08 18 12.2**	**-0.7**
KBN	**Korca**	**1.13**	**161**	*e*PN		**Pg**	**08 17 57.5**	**+0.4**
KBN				*i* SN		**Sb**	**08 18 12.9**	**+0.2**
KBN	**Korca**	**1.13**	**161**	P		**Pg**	**08 17 56.7**	**-0.4**
KBN	**Korca**	**1.13**	**161**	P		**Pg**	**08 17 56.7**	**-0.4**
KBN	**Korca**	**1.13**	**161**	*e*Pn		**Pg**	**08 17 57.5**	**+0.4**
KBN				*i* Sn		**Sb**	**08 18 12.9**	**+0.2**
FNA	**Florina**	**1.21**	**138**	P		**Pg**	**08 17 56.4**	**-2.3**
FNA				S		**Sg**	**08 18 14.3**	**-0.2**
FNA	**Florina**	**1.21**	**138**	*e*PG		**Pg**	**08 17 56.5**	**-2.3**
FNA				*e*SB		**Sg**	**08 18 14.2**	**-0.2**
FNA	**Florina**	**1.21**	**138**	*e*Pg		**Pg**	**08 17 56.5**	**-2.3**
FNA				S		**Sg**	**08 18 14.3**	**-0.2**
BEY	**Berane**	**1.22**	**345**	P		**Pg**	**08 17 57.4**	**-1.5**
BEY				*e*Sg		**Sn**	**08 18 17.0**	**+0.4**
BUM	**Brajici-Budva**	**1.22**	**300**	⇓*i*Pg		**Pg**	**08 17 57.0**	**-1.9**
BUM				*e*Sg		**Sn**	**08 18 16.2**	**-0.3**
BUM	**Brajici-Budva**	**1.22**	**300**	⇓*i*Pg		**Pg**	**08 17 57.0**	**-1.9**
BUM				*e*Sg		**Sn**	**08 18 16.2**	**-0.3**
IVA	**Berane**	**1.22**	**345**	⇓*i*Pg		**Pg**	**08 17 57.2**	**-1.7**
IVA				*e*Sg		**Sn**	**08 18 17.0**	**+0.4**
NEST	**Nestorio**	**1.39**	**156**	P		**Pn**	**08 18 00.7**	**-1.2**
NEST				S		**Sb**	**08 18 20.5**	**+0.1**
NEST	**Nestorio**	**1.39**	**156**	P		**Pn**	**08 18 00.7**	**-1.2**
NEST				S		**Sb**	**08 18 20.5**	**+0.1**
NKY	**Niksic**	**1.49**	**319**	⇑*i*Pg		**Pn**	**08 18 01.5**	**-1.7**
NKY				*e*Sg		**Sg**	**08 18 25.8**	**+2.4**
NKY	**Niksic**	**1.49**	**319**	⇑*i*Pg		**Pn**	**08 18 01.5**	**-1.7**
NKY				*e*Sg		**Sg**	**08 18 25.8**	**+2.4**
HCY	**Herceg Novi**	**1.55**	**300**	⇑*i*Pg		**Pn**	**08 18 02.1**	**-1.9**
HCY				*e*Sg		**Sg**	**08 18 27.1**	**+1.8**
HCY	**Herceg Novi**	**1.55**	**300**	⇑*i*Pg		**Pn**	**08 18 02.1**	**-1.9**
HCY				*e*Sg		**Sg**	**08 18 27.1**	**+1.8**
BARS	**Barje**	**1.58**	**44**	⇑*i*Pn		**Pn**	**08 18 03.6**	**-0.9**
BARS				*e*Sg		**Sg**	**08 18 27.3**	**+0.9**
BARS	**Barje**	**1.58**	**44**	⇑*i*Pn		**Pn**	**08 18 03.6**	**-0.9**
BARS				*e*Sg		**Sg**	**08 18 27.3**	**+0.9**
SJES	**Sjenica**	**1.59**	**351**	⇓*i*Pn		**Pn**	**08 18 03.0**	**-1.6**
SJES				*e*Sg		**Sg**	**08 18 26.9**	**+0.3**
SJES	**Sjenica**	**1.59**	**351**	⇓*i*Pn		**Pn**	**08 18 03.0**	**-1.6**
SJES				*e*Sg		**Sg**	**08 18 26.9**	**+0.3**
SELS	**Selova**	**1.64**	**21**	⇓*i*Pn		**Pn**	**08 18 04.1**	**-1.2**
VAY	**Valandovo**	**1.74**	**102**	P		**Pn**	**08 18 05.5**	**-1.0**
VAY				S		**Sn**	**08 18 28.4**	**-0.7**
VAY	**Valandovo**	**1.74**	**102**	*i* Pn		Pn	08 18 01.1	-5.5
VAY				*i* Sg		**Sb**	**08 18 30.1**	**-0.1**
VAY				*i* Lg		Lg	08 18 30.6	
	comp=E,522nm,0.6s							
VAY				*i* Lg		Lg	08 18 30.9	
	comp=N,557nm,0.7s							
VAY	**Valandovo**	**1.74**	**102**	P		**Pn**	**08 18 05.5**	**-1.0**
VAY				S		**Sn**	**08 18 28.4**	**-0.7**
VAY				*i* Sg		**Sb**	**08 18 30.1**	**-0.1**
VAY				*i* Lg		Lg	08 18 30.9	
	comp=N,557nm,0.7s							
GRG	**Griva**	**1.74**	**114**	P		**Pn**	**08 18 05.8**	**-0.8**
GRG				S		**Sn**	**08 18 29.1**	**-0.1**
GRG	**Griva**	**1.74**	**114**	P		**Pn**	**08 18 05.8**	**-0.8**
GRG				S		**Sn**	**08 18 29.1**	**-0.1**
KZN	**Kozani**	**1.77**	**141**	P		**Pn**	**08 18 07.4**	**+0.3**
KZN				S		**Sb**	**08 18 31.4**	**+0.2**
KZN	**Kozani**	**1.77**	**141**	*e*PB		**Pn**	**08 18 07.4**	**+0.2**
KZN				*e*SB		**Sg**	**08 18 32.6**	**+0.2**
KZN	**Kozani**	**1.77**	**141**	P		**Pn**	**08 18 07.4**	**+0.3**
KZN				S		**Sb**	**08 18 31.4**	**+0.2**
KZN				*e*Sb		**Sg**	**08 18 32.6**	**+0.2**
PLE	**Pljevlja**	**1.77**	**338**	⇓*i*Pn		**Pn**	**08 18 07.6**	**+0.4**
PLE				*e*Sn		**Sg**	**08 18 33.1**	**+0.6**
PLE	**Pljevlja**	**1.77**	**338**	⇓*i*Pn		**Pn**	**08 18 07.6**	**+0.4**
PLE				*e*Sn		**Sg**	**08 18 33.1**	**+0.6**
BRY	**Bratogost**	**1.79**	**313**	⇓*i*Pn		**Pn**	**08 18 06.0**	**-1.4**
BRY				*e*Sn		**Sg**	**08 18 33.1**	**+0.2**
BRY	**Bratogost**	**1.79**	**313**	⇓*i*Pn		**Pn**	**08 18 06.0**	**-1.4**
BRY				*e*Sn		**Sg**	**08 18 33.1**	**+0.2**
SRN	**Sarande**	**1.82**	**188**	P		**Pn**	**08 18 08.3**	**+0.6**
SRN				S		**Sb**	**08 18 32.4**	**-0.3**
SRN	**Sarande**	**1.82**	**188**	P		**Pn**	**08 18 08.3**	**+0.6**
SRN				S		**Sb**	**08 18 32.4**	**-0.3**
UPM	**Unac-Piva**	**1.83**	**326**	⇓*i*Pn		**Pn**	**08 18 07.8**	**-0.3**
UPM				*e*Sn		**Sg**	**08 18 34.6**	**+0.1**
UPM	**Unac-Piva**	**1.83**	**326**	⇓*i*Pn		**Pn**	**08 18 07.8**	**-0.3**
UPM	**Unac-Piva**	**1.83**	**326**	P		**Pn**	**08 18 08.6**	**+0.5**
UPM				*e*Sn		**Sg**	**08 18 34.6**	**+0.1**
KEK	**Kerkira**	**2.01**	**191**	P		**Pn**	**08 18 11.0**	**+0.6**
KEK				S		**Sn**	**08 18 36.0**	**0.0**
KEK	**Kerkira**	**2.01**	**191**	*e*PN		**Pn**	**08 18 10.9**	**+0.6**
KEK				*e*SN		**Sb**	**08 18 38.6**	**+0.4**
KEK	**Kerkira**	**2.01**	**191**	*e*Pn		**Pn**	**08 18 10.9**	**+0.6**
KEK				S		**Sn**	**08 18 36.0**	**0.0**
KEK				*e*Sn		**Sb**	**08 18 38.6**	**+0.4**
KNT	**Kendrikon**	**2.02**	**104**	P		**Pn**	**08 18 09.9**	**-0.5**
KNT				S		**Sb**	**08 18 37.2**	**-1.0**
KNT	**Kendrikon**	**2.02**	**104**	P		**Pn**	**08 18 09.9**	**-0.5**
KNT				S		**Sb**	**08 18 37.2**	**-1.0**
JAN	**Janina**	**2.07**	**168**	P		**Pn**	**08 18 11.9**	**+0.7**
JAN	**Janina**	**2.07**	**168**	*e*PG		**Pb**	**08 18 12.8**	**-1.0**
JAN				*e*SN		**Sb**	**08 18 39.7**	**-0.2**
JAN	**Janina**	**2.07**	**168**	P		**Pn**	**08 18 11.9**	**+0.7**
JAN	**Janina**	**2.07**	**168**	*e*Pg		**Pb**	**08 18 12.8**	**-1.0**
JAN				*e*Sn		**Sb**	**08 18 39.7**	**-0.2**
IGT	**Igoumenitsa**	**2.16**	**180**	P		**Pn**	**08 18 13.0**	**+0.7**
IGT	**Igoumenitsa**	**2.16**	**180**	P		**Pn**	**08 18 13.0**	**+0.7**
STON	**Ston**	**2.27**	**302**	*e*Pn		**Pn**	**08 18 13.3**	**-0.5**
STON				Sn		**Sb**	**08 18 45.0**	**-0.5**
BBLS	**Lazi?i**	**2.27**	**343**	*e*Pn		**Pn**	**08 18 14.2**	**+0.2**
BBLS				*e*Sn		**Sn**	**08 18 40.8**	**-1.7**
BBLS	**Lazi?i**	**2.27**	**343**	*e*Pn		**Pn**	**08 18 14.2**	**+0.2**
BBLS				*e*Sn		**Sn**	**08 18 40.8**	**-1.7**
LIT	**Litokhoron**	**2.29**	**133**	*e*PN		**Pn**	**08 18 14.6**	**+0.4**
LIT				*e*SN		**Sn**	**08 18 44.5**	**+1.6**
LIT	**Litokhoron**	**2.29**	**133**	*e*Pn		**Pn**	**08 18 14.6**	**+0.4**
LIT				*e*Sn		**Sn**	**08 18 44.5**	**+1.6**
VTS	**Vitosha**	**2.33**	**66**	⇑*i*P		**Pn**	**08 18 15.6**	**+0.7**
VTS	**Vitosha**	**2.33**	**66**	S		**Sb**	**08 18 46.3**	**-1.3**
VTS	**Vitosha**	**2.33**	**66**	*e*Pn		**Pn**	**08 18 15.2**	**+0.3**
VTS				*e*Sn		**Sn**	**08 18 41.8**	**-2.4**
VTS	**Vitosha**	**2.33**	**66**	*e*Pn		**Pn**	**08 18 15.2**	**+0.3**
VTS	**Vitosha**	**2.33**	**66**	⇑*i*P		**Pn**	**08 18 15.6**	**+0.7**
VTS				*e*Sn		**Sn**	**08 18 44.2**	**0.0**
VTS				S		**Sb**	**08 18 46.3**	**-1.3**
ZAPS	**Zavoj**	**2.33**	**47**	⇑*i*Pn		**Pn**	**08 18 15.1**	**+0.3**
ZAPS	**Zavoj**	**2.33**	**47**	⇑*i*Pn		**Pn**	**08 18 15.1**	**+0.3**
DIVS	**Divibare**	**2.42**	**355**	*e*Pn		**Pn**	**08 18 15.6**	**-0.4**
DIVS				*e*Sg		**Sb**	**08 18 50.0**	**+0.1**
DIVS	**Divibare**	**2.42**	**355**	*e*Pn		**Pn**	**08 18 15.6**	**-0.4**
DIVS				*e*Sg		**Sb**	**08 18 50.0**	**+0.1**
THL	**Klokotos Trika**	**2.49**	**148**	*e*PN		**Pn**	**08 18 18.1**	**+1.2**
THL				*e*SN		**Sb**	**08 18 49.9**	**-1.9**
THL	**Klokotos Trika**	**2.49**	**148**	*e*Pn		**Pn**	**08 18 18.1**	**+1.2**
THL				*e*Sn		**Sb**	**08 18 49.9**	**-1.9**
NVR	**Nevrokopi**	**2.69**	**96**	*e*PB		**Pn**	**08 18 19.8**	**+0.1**
NVR				*e*SN		**Sn**	**08 18 53.0**	**+0.3**
NVR	**Nevrokopi**	**2.69**	**96**	*e*Pb		**Pn**	**08 18 19.8**	**+0.1**
NVR				*e*Sn		**Sn**	**08 18 53.0**	**+0.3**
PLG	**Polygyros**	**2.71**	**118**	*e*PB		**Pn**	**08 18 20.2**	**+0.2**
PLG	**Polygyros**	**2.71**	**118**	*e*Pb		**Pn**	**08 18 20.2**	**+0.2**
LKD2	**Lefkada island**	**2.91**	**175**	*e*PN		**Pn**	**08 18 22.3**	**-0.4**
LKD2	**Lefkada island**	**2.91**	**175**	*e*Pn		**Pn**	**08 18 22.3**	**-0.4**
TEKS	**Tekeris**	**2.91**	**349**	*e*Pn		**Pn**	**08 18 23.5**	**+0.8**
TEKS	**Tekeris**	**2.91**	**349**	*e*Pn		**Pn**	**08 18 23.5**	**+0.8**
EVR	**Evrytania**	**3.00**	**157**	*e*PB		**Pn**	**08 18 25.8**	**+1.8**
EVR	**Evrytania**	**3.00**	**157**	*e*Pb		**Pn**	**08 18 25.8**	**+1.8**
AGG	**Agios Georgios**	**3.08**	**149**	*e*PN		**Pn**	**08 18 25.6**	**+0.6**
AGG	**Agios Georgios**	**3.08**	**149**	*e*Pn		**Pn**	**08 18 25.6**	**+0.6**
NEO	**Neokhori**	**3.26**	**136**	*e*PN		**Pn**	**08 18 27.5**	**0.0**
NEO	**Neokhori**	**3.26**	**136**	*e*Pn		**Pn**	**08 18 27.5**	**0.0**
EFP	**Efpalio**	**3.48**	**159**	*e*PN		**Pn**	**08 18 31.7**	**+1.2**
EFP	**Efpalio**	**3.48**	**159**	*e*Pn		**Pn**	**08 18 31.7**	**+1.2**
FGSL	**Fruska Gora**	**3.48**	**354**	*e*Pn		**Pn**	**08 18 30.4**	**-0.2**
FRGS	**Fruska Gora**	**3.48**	**354**	*e*Pn		**Pn**	**08 18 30.4**	**-0.2**
VLS	**Valsamata**	**3.52**	**176**	*e*PN		**Pn**	**08 18 30.9**	**-0.1**
VLS	**Valsamata**	**3.52**	**176**	*e*Pn		**Pn**	**08 18 30.9**	**-0.1**
KALE	**Kalithea**	**3.58**	**156**	*e*PN		**Pn**	**08 18 32.4**	**+0.4**
KALE	**Kalithea**	**3.58**	**156**	*e*Pn		**Pn**	**08 18 32.4**	**+0.4**
LAKA	**Lakka**	**3.68**	**159**	*e*PN		**Pn**	**08 18 34.4**	**+1.1**
LAKA	**Lakka**	**3.68**	**159**	*e*Pn		**Pn**	**08 18 34.4**	**+1.1**
KLV	**Kalavryta, Ach**	**3.91**	**158**	*e*PN		**Pn**	**08 18 38.0**	**+1.5**
KLV	**Kalavryta, Ach**	**3.91**	**158**	*e*Pn		**Pn**	**08 18 38.0**	**+1.5**
BZS	**Buzias**	**4.04**	**13**	⇓*i*P		**Pn**	**08 18 38.1**	**-0.1**
BZS	**Buzias**	**4.04**	**13**	*e*Pn	

comp=N,2.2nm,0.7s,baz=186,slow=9.6,SNR=4.8
NOA NORSAR Array B 20.15 347 P **P** **08 22 11.0 +0.3**
comp=N,0.9nm,0.6s,baz=163,slow=10,SNR=5.0
EKA Eskdalemuir Ar 20.55 320 P **P** **08 22 14.7 -0.3**
comp=N,4.0nm,0.8s,baz=110,slow=9.8,SNR=4.5
TORD Torodi Ar. Bea 32.74 215 P **P** **08 24 08.1 -1.4**
comp=N,1.6nm,1.2s,baz=19,slow=8.7,SNR=3.9
ZALV Zalesovo Beam 43.53 51 P **P** **08 25 38.8 -1.3**
comp=N,0.8nm,0.5s,baz=286,slow=7.3,SNR=2.8
MKAR Makanchi Array 43.68 61 P **P** **08 25 40.8 -0.7**
comp=N,0.3nm,0.3s,baz=284,slow=8.0,SNR=6.5
ILAR Eielson Array 73.40 354 P **P** **08 29 07.6 -0.8**
comp=N,0.2nm,0.6s,baz=354,slow=5.0,SNR=4.5
TXAR Lajitas Array 92.44 314 P **P** **08 30 49.2 +1.3**
comp=N,0.6nm,1.0s,baz=46,slow=5.2,SNR=5.0

*ISK **10** 08:36:23.9, 34.˚22N×32.˚68E, h5km, ML3.7*
*DDA **10** 08:36:25.8, 34.˚34N×32.˚72E, h12km, MD3.4*
*NIC **10** 08:36:26.1±0.2, 34.˚27N×32.˚82E, h16km, ML3.4, MW3.4*
*ISCJB **10** 08:36:29.1±0.6, 34.˚41N±0.˚02×32.˚75E±0.˚03, h23km±5km, mb3.2/1, Error ellipse: s-maj=4.6km s-min=3.0km az=152.2*
*CSEM **10** 08:36:29.1±0.1, 34.˚43N×32.˚77E, h10km, Mw3.4, Error ellipse: s-maj=3.4km s-min=1.8km az=65.0*
*IDC **10** 08:36:29.0±2.0, 34.˚39N×32.˚92E, h0km, mb3.3/2, mb1 3.6/6, mb1mx3.4/27, mbtmp3.5/6, ML3.5/3, Error ellipse: s-maj=40.9km s-min=19.0km az=60.0*
*NSSC **10** 08:36:31.8±1.7, 34.˚52N×33.˚08E, h14km±38km, MD1.6, ML2.8*

ISC 10 08:36:29.1±1.2, 34.˚43N±0.˚03×32.˚82E±0.˚03, h13km±9km, n121, σ1$54/163, 2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SZAC	**Souni-Zanaja**	**0.33**	**9**	P		**Pg**	**08 36 36.2**	**+0.4**
SZAC	**Souni-Zanaja**	**0.33**	**9**	P		**Pg**	**08 36 36.2**	**+0.4**
PPCY	**Paphos**	**0.60**	**319**	P		**Pg**	**08 36 40.0**	**-0.8**
PPCY	**Paphos**	**0.60**	**319**	P		**Pg**	**08 36 40.0**	**-0.8**
CSS	**Prodhromos** 18nm,0.2s	**0.67**	**38**	⇓P		**Pg**	**08 36 41.9**	**-0.3**
CSS				S		**Sb**	**08 36 53.0**	**+0.9**
CSS	**Prodhromos**	**0.67**	**38**	*e*PG		**Pg**	**08 36 41.9**	**-0.3**
CSS				*e*SG		**Sn**	**08 36 56.3**	**+1.4**
CSS	**Prodhromos** 18nm,0.2s	**0.67**	**38**	⇓P		**Pg**	**08 36 41.9**	**-0.3**
CSS				S		**Sb**	**08 36 53.0**	**+0.9**
LEF	**Lefka**	**0.69**	**5**	*e*PG		**Pg**	**08 36 42.5**	**0.0**
LEF				*e*SG		**Sn**	**08 36 55.7**	**+0.5**
LEF	**Lefka**	**0.69**	**5**	*e*Pg		**Pg**	**08 36 42.5**	**0.0**
LEF				*e*Sg		**Sn**	**08 36 55.7**	**+0.5**
AKMC	**Akamas**	**0.72**	**326**	P		**Pg**	**08 36 42.7**	**-0.4**
AKMC	**Akamas**	**0.72**	**326**	P		**Pg**	**08 36 42.7**	**-0.4**
ALFC	**Alevga** 28nm,0.2s	**0.75**	**346**	P		**Pg**	**08 36 42.8**	**-0.8**
ALFC				S		**Sn**	**08 36 56.1**	**-0.6**
ALFC	**Alevga** 28nm,0.2s	**0.75**	**346**	P		**Pg**	**08 36 42.8**	**-0.8**
MAMC	**Mammari**	**0.81**	**24**	P		**Pb**	**08 36 45.4**	**+0.4**
MAMC	**Mammari**	**0.81**	**24**	P		**Pb**	**08 36 45.4**	**+0.4**
LFK	**Lefkose**	**1.03**	**34**	*e*PN		**Pn**	**08 36 49.4**	**+0.1**
LFK	**Lefkose**	**1.03**	**34**	*e*Pn		**Pn**	**08 36 49.4**	**+0.1**
EREN	**Erenkoy**	**1.56**	**45**	*e*PN		**Pb**	**08 36 57.6**	**-0.1**
EREN	**Erenkoy**	**1.56**	**45**	*e*Pn		**Pb**	**08 36 57.7**	**-0.1**
GAZI	**Gazipasa**	**1.84**	**347**	*i* P		**Pn**	**08 37 00.2**	**-0.4**
GAZI	**Gazipasa**	**1.84**	**347**	*i* P		**Pn**	**08 37 00.2**	**-0.4**
IKL	**Isikli**	**1.94**	**21**	*e*PN		**Pn**	**08 37 01.7**	**0.0**
IKL				*e*SN		**Sg**	**08 37 30.8**	**-0.5**
IKL	**Isikli**	**1.94**	**21**	*e*Pn		**Pn**	**08 37 01.7**	**0.0**
IKL				*e*Sn		**Sg**	**08 37 30.8**	**-0.5**
ERMK	**Ermenek**	**2.21**	**2**	*i* P		**Pn**	**08 37 07.1**	**+1.4**
ERMK	**Ermenek**	**2.21**	**2**	*i* P		**Pn**	**08 37 07.1**	**+1.4**
KIZK	**Mersin**	**2.31**	**27**	*i* P		**Pn**	**08 37 08.8**	**+1.9**
KIZK				*i* S		**Sb**	**08 37 39.5**	**+0.4**
KIZK	**Mersin**	**2.31**	**27**	*i* P		**Pn**	**08 37 08.8**	**+1.9**
KIZK				*i* S		**Sb**	**08 37 39.5**	**+0.4**
MMC6	**Mount Meron ar**	**2.57**	**123**	Pn		**Pn**	**08 37 10.8**	**+0.3**
MMA0	**Mount Meron ar**	**2.57**	**123**	Pn		**Pn**	**08 37 10.6**	**0.0**
MMAI	**Mount Meron Ar** 13nm,0.3s,baz=307,slow=12,SNR=19	**2.57**	**123**	Pn		**Pn**	**08 37 10.6**	**-0.1**
MMAI				Sn		**Sn**	**08 37 42.7**	**+0.9**
	84nm,0.3s,baz=291,slow=12,SNR=33							
HWQ	**Hawqa**	**2.59**	**93**	*e*P		**Pn**	**08 37 11.2**	**+0.3**
HWQ	**Hawqa**	**2.59**	**93**	*e*P		**Pn**	**08 37 11.2**	**+0.3**
BLGI	**Bet Lehem HaGe**	**2.60**	**130**	Pn		**Pn**	**08 37 11.3**	**+0.3**
BLGI				Sn		**Sn**	**08 37 43.0**	**+0.5**
KSDI	**Kefar Szold**	**2.67**	**117**	Pn		**Pn**	**08 37 12.1**	**+0.3**
KSDI				Sn		**Sn**	**08 37 44.7**	**+0.7**
RCY	**Rachaya**	**2.67**	**110**	*e*P		**Pn**	**08 37 11.4**	**-0.6**
RCY	**Rachaya**	**2.67**	**110**	*e*P		**Pn**	**08 37 11.4**	**-0.6**
BRBR	**Barbar**	**2.79**	**111**	*e*P		**Pn**	**08 37 13.4**	**-0.3**
BRBR				*e*S		**Sn**	**08 37 43.7**	**-3.8**
BRBR				AML		AML	08 37 51.6	
	comp=E,212nm,0.2s							
BRBR				AML		AML	08 37 51.7	
	comp=N,102nm,0.2s							
BRBR	**Barbar** SNR=51	**2.79**	**111**	*e*P		**Pn**	**08 37 13.4**	**-0.3**
BRBR				*e*S		**Sn**	**08 37 43.7**	**-3.8**
	comp=N,102nm,0.2s,SNR=49							
SLTI	**Sal'it**	**2.87**	**139**	Pn		**Pn**	**08 37 15.5**	**+0.9**
SLTI				Sn		**Sn**	**08 37 49.9**	**+0.9**
KSHT	**Keshet**	**2.88**	**119**	Pn		**Pn**	**08 37 15.6**	**+0.8**
MMLI	**Mount Malkishu**	**2.95**	**132**	Pn		**Pn**	**08 37 16.5**	**+0.8**
ARNB	**Al Arnab**	**2.95**	**60**	*e*P		**Pn**	**08 37 15.7**	**-0.2**
ARNB				*e*S		**Sn**	**08 37 46.1**	**-5.0**
ARNB				AML		AML	08 37 55.1	
	comp=N,26nm,0.3s							
ARNB				AML		AML	08 37 59.3	
	comp=E,82nm,0.4s							
ARNB	**Al Arnab** SNR=51	**2.95**	**60**	*e*P		**Pn**	**08 37 15.6**	**-0.2**
HAWK	**Haweek**	**2.96**	**87**	*e*P		**Pn**	**08 37 15.7**	**-0.3**
HAWK				*e*S		**Sn**	**08 37 46.4**	**-5.1**
HAWK				AML		AML	08 37 57.4	
	comp=E,82nm,0.3s							
HAWK				AML		AML	08 37 59.5	
	comp=N,40nm,0.5s							
HAWK	**Haweek** SNR=51	**2.96**	**87**	*e*P		**Pn**	**08 37 15.7**	**-0.3**
QASN	**Qassioun**	**3.01**	**106**	*e*P		**Pn**	**08 37 17.6**	**+1.0**
QASN				*e*S		**Sn**	**08 37 50.4**	**-2.2**
QASN				AML		AML	08 38 00.7	
	comp=N,198nm,0.3s							
QASN				AML		AML	08 38 03.2	
	comp=E,78nm,0.4s							
QASN	**Qassioun** SNR=51	**3.01**	**106**	*e*P		**Pn**	**08 37 17.6**	**+1.0**
QASN				*e*S		**Sn**	**08 37 50.4**	**-2.2**
	comp=E,78nm,0.4s,SNR=49							
YAYL	**Yayladag**	**3.13**	**58**	*i* P		**Pn**	**08 37 18.6**	**+0.3**
YAYL				*i* S		**Sn**	**08 37 56.5**	**+0.9**
YAYL	**Yayladag**	**3.13**	**58**	*i* P		**Pn**	**08 37 18.6**	**+0.3**
YAYL				*i* S		**Sn**	**08 37 56.5**	**+0.9**
WRDH	**Warideh**	**3.14**	**69**	*e*P		**Pn**	**08 37 18.2**	**-0.1**
WRDH				*e*S		**Sn**	**08 37 50.9**	**-4.9**
WRDH	**Warideh** SNR=51	**3.14**	**69**	*e*P		**Pn**	**08 37 18.2**	**-0.1**
HMDT	**Nahal Hemdat**	**3.14**	**133**	Pn		**Pn**	**08 37 19.3**	**+1.0**
HMDT				Sn		**Sn**	**08 37 56.9**	**+1.2**
TCHB	**Talchebab**	**3.16**	**123**	*e*P		**Pn**	**08 37 18.7**	**0.0**
TCHB				*e*S		**Sn**	**08 37 54.0**	**-2.3**
TCHB				AML		AML	08 37 58.6	
	comp=N,269nm,0.4s							
TCHB				AML		AML	08 37 59.3	
	comp=E,238nm,0.3s							
TCHB	**Talchebab** SNR=51	**3.16**	**123**	*e*P		**Pn**	**08 37 18.7**	**0.0**
TCHB				*e*S		**Sn**	**08 37 54.0**	**-2.3**
	comp=E,238nm,0.3s,SNR=49							
TOTH	**TOTAH**	**3.18**	**109**	*e*P		**Pn**	**08 37 20.2**	**+1.2**
TOTH				*e*S		**Sn**	**08 37 54.2**	**-2.7**
TOTH				AML		AML	08 38 02.1	
	comp=N,121nm,0.5s							
TOTH				AML		AML	08 38 02.8	
	comp=E,74nm,0.2s							
TOTH	**TOTAH** SNR=51	**3.18**	**109**	*e*P		**Pn**	**08 37 20.2**	**+1.2**
TOTH				*e*S		**Sn**	**08 37 54.2**	**-2.7**
	comp=E,74nm,0.2s,SNR=49							
GULE	**Gulek**	**3.26**	**29**	*i* P		**Pn**	**08 37 22.6**	**+2.5**
GULE				*i* S		**Sb**	**08 38 07.3**	**+0.7**
GULE	**Gulek**	**3.26**	**29**	*i* P		**Pn**	**08 37 22.6**	**+2.5**
YURE	**YUREGIR**	**3.31**	**43**	*i* P		**Pn**	**08 37 22.0**	**+1.3**
YURE	**YUREGIR**	**3.31**	**43**	*i* P		**Pn**	**08 37 22.0**	**+1.3**
KARA	**Karaisali**	**3.35**	**32**	*e*PN		**Pn**	**08 37 23.0**	**+1.7**
KARA	**Karaisali**	**3.35**	**32**	*e*Pn		**Pn**	**08 37 23.0**	**+1.7**
KFRA	**Kufra**	**3.36**	**76**	*e*P		**Pn**	**08 37 20.9**	**-0.6**
KFRA				*e*S		**Sn**	**08 37 56.7**	**-4.6**
KFRA				AML		AML	08 38 08.8	
	comp=E,160nm,0.3s							
KFRA				AML		AML	08 38 10.8	
	comp=N,48nm,0.3s							
KFRA	**Kufra** SNR=51	**3.36**	**76**	*e*P		**Pn**	**08 37 20.9**	**-0.6**
SUTC	**Sutluce-Ispart**	**3.38**	**335**	*e*PN		**Pn**	**08 37 22.0**	**+0.3**
SUTC	**Sutluce-Ispart**	**3.38**	**335**	*e*Pn		**Pn**	**08 37 22.0**	**+0.3**
BTCH	**Batrach**	**3.38**	**61**	*e*P		**Pn**	**08 37 22.0**	**+0.3**
BTCH				*e*S		**Sn**	**08 37 57.5**	**-4.2**
BTCH				AML		AML	08 38 03.0	
	comp=E,54nm,0.4s							
BTCH				AML		AML	08 38 17.8	
	comp=N,75nm,0.3s							
BTCH	**Batrach** SNR=51	**3.38**	**61**	*e*P		**Pn**	**08 37 22.0**	**+0.3**
BTCH				*e*S		**Sn**	**08 37 57.5**	**-4.2**
	comp=N,75nm,0.3s,SNR=49							
COBT	**Iskenderun**	**3.49**	**52**	*i* P		**Pn**	**08 37 24.5**	**+1.2**
COBT				*i* S		**Sn**	**08 38 06.5**	**+1.9**
COBT	**Iskenderun**	**3.49**	**52**	*i* P		**Pn**	**08 37 24.5**	**+1.2**
COBT				*i* S		**Sn**	**08 38 06.5**	**+1.9**
KONT	**Konya--Tatoy**	**3.52**	**354**	*e*PN		**Pn**	**08 37 25.0**	**+1.3**
KONT	**Konya--Tatoy**	**3.52**	**354**	*e*Pn		**Pn**	**08 37 25.0**	**+1.3**
DSI	**Dead Sea**	**3.57**	**142**	Pn		**Pn**	**08 37 25.0**	**+0.7**
SALA	**Sala**	**3.69**	**117**	*e*P		**Pn**	**08 37 27.1**	**+1.1**
SALA				*e*S		**Sn**	**08 38 07.4**	**-2.1**
SALA				AML		AML	08 38 17.9	
	comp=E,5.4nm,0.4s							
SALA				AML		AML	08 38 20.4	
	comp=N,61nm,0.4s							
SALA	**Sala** SNR=51	**3.69**	**117**	*e*P		**Pn**	**08 37 27.1**	**+1.1**
SALA				*e*S		**Sn**	**08 38 07.4**	**-2.1**
	comp=N,61nm,0.4s,SNR=49							
RTMI	**Retamim**	**3.72**	**154**	Pn		**Pn**	**08 37 27.1**	**+0.8**
RTMI				Sn		**Sn**	**08 38 11.9**	**+1.9**
FETY	**Fethiye**	**3.76**	**307**	*e*PN		**Pn**	**08 37 25.7**	**-1.2**
FETY	**Fethiye**	**3.76**	**307**	*e*Pn		**Pn**	**08 37 25.7**	**-1.2**
KZIT	**Kziot**	**3.76**	**159**	Pn		**Pn**	**08 37 27.7**	**+0.8**
MZDA	**Masada**	**3.78**	**145**	Pn		**Pn**	**08 37 28.6**	**+1.6**
MZDA				Sn		**Sn**	**08 38 12.8**	**+1.4**
LADK	**Ladik-KONYA**	**3.78**	**355**	*e*PN		**Pn**	**08 37 28.3**	**+1.1**
LADK	**Ladik-KONYA**	**3.78**	**355**	*e*Pn		**Pn**	**08 37 28.3**	**+1.1**
SULT	**Sultanhani-AKS**	**3.80**	**8**	*e*PN		**Pn**	**08 37 28.9**	**+1.4**
SULT	**Sultanhani-AKS**	**3.80**	**8**	*e*Pn		**Pn**	**08 37 28.9**	**+1.4**
GOLH	**Golhisar**	**3.85**	**317**	*i* P		**Pn**	**08 37 28.9**	**+0.6**
GOLH	**Golhisar**	**3.85**	**317**	*i* P		**Pn**	**08 37 28.9**	**+0.6**
KOZT	**Kozan**	**3.90**	**38**	*e*PN		**Pn**	**08 37 30.6**	**+1.8**
KOZT	**Kozan**	**3.90**	**38**	*e*Pn		**Pn**	**08 37 30.6**	**+1.8**
ZALF	**Zalf**	**4.05**	**111**	*e*P		**Pn**	**08 37 32.1**	**+1.2**
ZALF				*e*S		**Sn**	**08 38 15.9**	**-2.4**
ZALF				AML		AML	08 38 26.4	
	comp=E,21nm,0.8s							
ZALF				AML		AML	08 38 37.8	
	comp=N,19nm,0.7s							
ZALF	**Zalf** SNR=51	**4.05**	**111**	*e*P		**Pn**	**08 37 32.1**	**+1.2**
ZALF				*e*S		**Sn**	**08 38 15.9**	**-2.4**
	comp=N,19nm,0.7s,SNR=49							
ASF	**Jabal al Asfar**	**4.09**	**122**	Pn		**Pn**	**08 37 33.0**	**+1.5**
ASF				Sn		**Sn**	**08 38 24.2**	**+5.0**
DALY	**Dalyan (Mu¨la**	**4.15**	**306**	*e*PN		**Pn**	**08 37 31.1**	**-1.0**
DALY	**Dalyan (Mu¨la**	**4.15**	**306**	*e*Pn		**Pn**	**08 37 31.1**	**-1.0**
RMNI	**Mount Ramon**	**4.16**	**156**	Pn		**Pn**	**08 37 33.5**	**+1.0**
ZFRI	**Zfri**	**4.35**	**152**	Pn		**Pn**	**08 37 35.9**	**+1.0**
ZFRI				Sn		**Sn**	**08 38 26.1**	**+0.6**
AYKD	**Aykdinkavak**	**4.39**	**46**	*i* P		**Pn**	**08 37 36.4**	**+0.8**
AYKD				*i* S		**Sn**	**08 38 27.2**	**+0.5**
PRNI	**Paran**	**4.47**	**155**	Pn		**Pn**	**08 37 37.0**	**+0.4**
KIZT	**Kizilcal**	**4.50**	**351**	*e*PN		**Pn**	**08 37 38.6**	**+1.4**
KIZT	**Kizilcal**	**4.50**	**351**	*e*Pn		**Pn**	**08 37 38.6**	**+1.4**
KMRS	**Kahramanmaras**	**4.51**	**46**	*e*PN		**Pn**	**08 37 39.4**	**+2.2**
KMRS	**Kahramanmaras**	**4.51**	**46**	*e*Pn		**Pn**	**08 37 39.4**	**+2.2**
YER	**Yerkesik**	**4.57**	**307**	*e*PN		**Pn**	**08 37 37.9**	**-0.2**
YER	**Yerkesik**	**4.57**	**307**	*e*Pn		**Pn**	**08 37 37.9**	**-0.2**
KRMI	**Paran Flat**	**4.59**	**159**	Pn		**Pn**	**08 37 39.5**	**+1.1**
KHL	**Karahalli**	**4.71**	**327**	*e*PN		**Pn**	**08 37 39.9**	**-0.1**
KHL	**Karahalli**	**4.71**	**327**	*e*Pn		**Pn**	**08 37 39.9**	**-0.1**
KHAL	**Karahalli**	**4.76**	**327**	*i* P		**Pn**	**08 37 40.3**	**-0.4**
KHAL	**Karahalli**	**4.76**	**327**	*i* P		**Pn**	**08 37 40.3**	**-0.4**
HRFI	**Mount Harif**	**4.77**	**156**	Pn		**Pn**	**08 37 41.3**	**+0.5**
DAT	**Datca**	**4.85**	**300**	*e*PN		**Pn**	**08 37 41.0**	**-0.9**
DAT	**Datca**	**4.85**	**300**	*e*Pn		**Pn**	**08 37 41.0**	**-0.9**
MBRI	**Mt Berech**	**4.95**	**158**	Pn		**Pn**	**08 37 44.4**	**+1.0**
EIL	**Elat**	**5.08**	**159**	Pn		**Pn**	**08 37 46.0**	**+1.0**
	comp=N,7.5nm,0.3s,baz=324,slow=5.8,SNR=69							
EIL				Sn		**Sn**	**08 38 43.9**	**+0.3**
	comp=N,6.3nm,0.3s,baz=44,slow=17,SNR=13							
EIL	**Elat**	**5.08**	**159**	Pn		**Pn**	**08 37 45.3**	**+0.3**
AYDN	**Tasoluk**	**5.14**	**310**	*i* P		**Pn**	**08 37 45.0**	**-0.8**
AYDN	**Tasoluk**	**5.14**	**310**	*i* P		**Pn**	**08 37 45.0**	**-0.8**
BODT	**Bodrum**	**5.19**	**302**	*e*PN		**Pn**	**08 37 45.1**	**-1.5**
BODT	**Bodrum**	**5.19**	**302**	*e*Pn		**Pn**	**08 37 45.1**	**-1.5**
BRTR	**Keskin Array B**	**5.32**	**7**	Pn		**Pn**	08 37 52.5	+4.0
	comp=N,0.3nm,0.3s,baz=192,slow=15,SNR=4.5							
GERES	**GERESS Array B**	**20.21**	**321**	P		Pn	08 41 06.0	+0.3
	comp=N,0.5nm,0.3s,baz=130,slow=9.1,SNR=5.5							
MKAR	**Makanchi Array**	**38.92**	**56**	P		**P**	**08 43 55.2**	**+0.6**
	comp=N,0.5nm,0.9s,baz=261,slow=9.6,SNR=2.8							

NNC 10 08:53:50.8±2.5, 53.˚27N×87.˚32E, h0km, mb3.8, mpv3.6, 5C-2D, Error ellipse: s-maj=20.9km s-min=14.2km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KURBB	**Kurchatov Arra** 5.9nm,0.3s	**6.05**	**248**	⇑P		Pn	08 55 22.8	+1.4
KURBB				⇓Sn		Sn	08 56 32.7	+1.4
	4.8nm,0.7s							
KURBB				⇑Lg		Lg	08 57 04.7	
	20nm,0.8s							
MK31	**Makanchi Array** 0.4nm,0.3s,baz=29,slow=13,SNR=35	**7.25**	**209**	Pn		Pn	08 55 40.6	+2.7
MK31				⇑Sn		Sn	08 57 07.0	+6.2
	0.6nm,0.4s,baz=57,slow=22,SNR=4.2							
MK31				⇑Lg		Lg	08 57 41.1	
	6.4nm,0.8s,baz=35,slow=29,SNR=8.1							
VOSK	**Vostochnaya** 0.6nm,0.5s	**9.87**	**273**	⇑P		Pn	08 56 12.3	-1.5
VOSK				⇓Sn		Sn	08 58 05.4	+0.1
	3.4nm,0.7s							

*ISCJB **10** 08:59:34.6±0.7, 64.˚73N±0.˚03×30.˚2E±0.˚1, h0km, Error ellipse: s-maj=6.5km s-min=3.5km az=17.5*
*IDC **10** 08:59:36.9±2.8, 64.˚63N×31.˚06E, h0km, mb1 3.1/4, mb1mx3.0/29, mbtmp3.0/4, ML2.3/4, Error ellipse: s-maj=41.4km s-min=11.0km az=107.0*
*NAO **10** 08:59:36.2±1.3, 64.˚74N×30.˚65E, ML2.0*
*HEL **10** 08:59:37.2±0.3, 64.˚80N×30.˚76E, h0km, ML1.6, Explosion*
*CSEM **10** 08:59:37.7±0.3, 64.˚83N×30.˚28E, h1km, ML1.6, Error ellipse: s-maj=8.5km s-min=4.5km az=110.0, Mining explosion.*
*BER **10** 08:59:37.6±3.6, 64.˚77N×30.˚39E, h0km, ML2.0(NAO), Suspected explosion*

ISC 10 08:59:36.2±1.0, 64.˚81N±0.˚03×30.˚70E±0.˚06, h0km, n36, σ1$75/50, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KU6	**Riekki** baz=162	**1.27**	**345**	PG		**Pg**	**09 00 00.4**	**-0.1**
KU6				SG		**Sb**	**09 00 17.6**	**-0.1**
KU6				MSG			09 00 17.6	
	comp=Z,3.2nm,0.4s							
KU6	**Riekki**	**1.27**	**345**	Pg		**Pg**	**09 00 00.3**	**-0.1**
KU6				Sg		**Sb**	**09 00 17.6**	**-0.1**
MSF	**Maaselka**	**1.30**	**329**	PG		**Pb**	**09 00 01.7**	**+0.1**
MSF				SG		**Sb**	**09 00 18.8**	**-0.1**
MSF				MSG			09 00 18.8	
	comp=Z,2.1nm,0.4s							
MSF	**Maaselka**	**1.30**	**329**	Pg		**Pb**	**09 00 01.7**	**+0.1**

JOF	**Joensuu**	**1.92**	**172**	PN		**Pn**	**09 00 09.1**	**-1.0**
JOF				SG		**Sn**	**09 00 33.8**	**-1.1**
JOF				MSG			09 00 33.8	
	comp=Z,5.1nm,0.4s							
OUL	**Oulu** baz=96	**2.06**	**280**	PN		**Pn**	**09 00 13.1**	**+1.1**
OUL				SG		**Sn**	**09 00 39.5**	**+1.1**
OUL				MSG			09 00 39.5	
	comp=Z,2.5nm,0.4s							
RNF	**Rovaniemi** baz=126	**2.65**	**315**	PN		**Pb**	**09 00 23.3**	**-1.1**
RNF				SG		**Sb**	**09 00 57.7**	**+0.3**
RNF				MSG			09 00 57.7	
	comp=Z,1.8nm,0.4s							
SUF	**Sumiainen**	**2.91**	**226**	PN		**Pn**	**09 00 25.5**	**+1.8**
APA0	**Apatity Array** baz=194,slow=11	**2.96**	**17**	Pn		**Pn**	**09 00 25.5**	**+1.2**
APA0				Sn		**Sn**	**09 01 01.9**	**+1.4**
	baz=190,slow=22							
APA0				Lg		Lg	09 01 10.8	
	baz=197,slow=22							
APA0	**Apatity Array** baz=194,slow=11	**2.96**	**17**	Pn		**Pn**	**09 00 25.5**	**+1.2**
APA0				Sn		**Sn**	**09 01 01.9**	**+1.4**
	baz=190,slow=22							
APA0				Lg		Lg	09 01 10.8	
	baz=197,slow=22							
APA0	**Apatity Array** baz=194,slow=11,SNR=50	**2.96**	**17**	Pn		**Pn**	**09 00 25.5**	**+1.2**
APA0				Sn		**Sn**	**09 01 01.9**	**+1.4**
	baz=190,slow=22,SNR=50							
APA0				Lg		Lg	09 01 10.8	
	baz=197,slow=20,SNR=37							
VRF	**Varrio**	**2.98**	**352**	PN		**Pn**	**09 00 27.2**	**+2.5**
VRF				SG		**Sb**	**09 01 08.2**	**+1.1**
VRF				MSG			09 01 08.2	
	comp=Z,1.7nm,0.4s							
VRF	**Varrio**	**2.98**	**352**	Pn		**Pn**	**09 00 27.2**	**+2.5**
SGF	**Sodankyl**	**3.14**	**329**	SG		**Sb**	**09 01 11.0**	**-0.6**
SGF				MSG			09 01 11.0	
	comp=Z,1.1nm,0.4s							
KAF	**Kangasniemi**	**3.35**	**218**	PN		**Pn**	**09 00 31.8**	**+2.1**
KEF	**Keuruu**	**3.72**	**227**	PN		**Pn**	**09 00 36.5**	**+1.6**
KEF				SG		**Sb**	**09 01 30.1**	**+1.7**
KEF				MSG			09 01 30.1	
	comp=Z,1.7nm,0.4s							
KEF	**Keuruu**	**3.72**	**227**	Pn		**Pn**	**09 00 36.4**	**+1.6**
VAF	**Ylistaro**	**3.96**	**247**	SG		**Sb**	**09 01 38.6**	**+3.4**
VAF				MSG			09 01 38.6	
	comp=Z,2.4nm,0.4s							
VAF	**Ylistaro**	**3.96**	**247**	Sg		**Sb**	**09 01 38.6**	**+3.4**
FIA0	**FINESS Array S** baz=36,slow=12	**3.98**	**214**	Pn		**Pn**	**09 00 38.2**	**-0.1**
FIA0				Pg		**Pb**	**09 00 44.3**	**-2.8**
	baz=30,slow=16							
FIA0				Lg		Lg	09 01 36.0	
	baz=26,slow=37							
FIA0	**FINESS Array S** baz=36,slow=12	**3.98**	**214**	Pn		**Pn**	**09 00 38.2**	**-0.1**
FIA0				Pg		**Pb**	**09 00 44.3**	**-2.8**
	baz=30,slow=16							
FIA0				Lg		Lg	09 01 36.0	
	baz=26,slow=37							
FIA0	**FINESS Array S**	**3.98**	**214**	SG		**Sb**	**09 01 39.8**	**+4.1**
FIA0				MSG			09 01 39.8	
	comp=Z,2.3nm,0.4s							
FIA0	**FINESS Array S** baz=36,slow=12,SNR=50	**3.98**	**214**	Pn		**Pn**	**09 00 38.2**	**-0.1**
FIA0				Lg		Lg	09 01 36.0	
	baz=26,slow=31,SNR=30							
FINES	**FINESS Array B**	**3.98**	**214**	Pn		**Pn**	**09 00 38.3**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=35,slow=12,SNR=7.6							
FINES				Lg		Lg	09 01 37.1	
	comp=Z,1.0nm,0.3s,baz=34,slow=29,SNR=12							
ARA0	**ARCESS Array S** baz=157,slow=16	**5.16**	**339**	Pn		**Pn**	**09 00 55.0**	**+0.5**
ARA0				Sn		**Sn**	**09 01 51.7**	**-2.9**
	baz=156,slow=28							
ARA0				Lg		Lg	09 02 13.1	
	baz=160,slow=37							
ARA0	**ARCESS Array S** baz=157,slow=16	**5.16**	**339**	Pn		**Pn**	**09 00 55.0**	**+0.5**
ARA0				Sn		**Sn**	**09 01 51.7**	**-2.9**
	baz=156,slow=28							
ARA0				Lg		Lg	09 02 13.1	

GYA Guiyang 5.12 80 Pn **Pn** **09 03 20.7 -0.2**
GYA Sn **Sn** **09 04 20.7 +0.9**
GYA Sg **Sb** **09 04 38.3 +2.9**
GYA smax smax
comp=N,850nm,1.8s
GYA smax smax
comp=E,560nm,1.2s
GYA LR LR
comp=N,14μm,5.5s
GYA LR LR
comp=E,11μm,6.3s
GYA LR LR
comp=Z,13μm,8.4s
CD2 Chengdu 5.77 24 Pn **Pn** **09 03 31.2 +1.4**
CD2 Sn **Sn** **09 04 39.6 +3.8**
CD2 smax smax
comp=N,6μm,1.7s
CD2 smax smax
comp=E,6μm,1.7s
CMAI Chiengmai2 5.97 198 P **Pn** **09 03 33.4 +0.8**
comp=E,127nm,0.7s,comp=E,6μmcomp=E,14nm
PAYA Payao 6.34 190 P **Pn** **09 03 36.9 -0.7**
comp=E,27nm,0.7s,comp=E,2μmcomp=E,2.5nm
IMP Imphal 6.50 264 *e*P **Pn** **09 03 40.0 +0.2**
IMP *ex* x 09 05 05.0
CMMT Chiang Mai 7.06 196 P **Pn** **09 03 47.3 -0.2**
comp=E,93nm,2.0s,comp=E,2μm
CMMT Chiang Mai 7.06 196 P **Pn** **09 03 47.3 -0.2**
comp=E,30nm,0.8s,comp=E,2μmcomp=E,9.0nm
CHTO Chiang Mai 7.06 196 *e*P **Pn** **09 03 46.7 -0.8**
CHTO Chiang Mai 7.06 196 *e*Pn **Pn** **09 03 46.7 -0.8**
CHTO *e*Sg **Sg** **09 05 48.7 -2.8**
CHTO Chiang Mai 7.06 196 P **Pn** **09 03 48.0 +0.5**
comp=E,102nm,2.0s,comp=E,3μm
CHTO Chiang Mai 7.06 196 P **Pn** **09 03 48.1 +0.6**
comp=E,34nm,0.8s,comp=E,3μmcomp=E,6.1nm
LAMP Lampang 7.20 191 P **Pn** **09 03 51.1 +1.7**
comp=E,12nm,0.6s,comp=E,747nmcomp=E,1.0nm
CMAR Chiang Mai Arr 7.40 196 Pn **Pn** **09 03 52.4 +0.2**
CMAR Pg Pb 09 04 18.3 +5.4
CMAR Sn **Sn** **09 05 19.2 +3.3**
CMAR Lg Lg 09 05 58.5
CMAR Chiang Mai Arr 7.40 196 Pn **Pn** **09 03 52.4 +0.2**
comp=E,1.2nm,0.3s,baz=9.2,slow=13,SNR=26
CMAR Pg Pb 09 04 18.3 +5.4
comp=E,3.1nm,0.3s,baz=7.8,slow=16,SNR=20
CMAR Sn **Sn** **09 05 19.2 +3.3**
comp=E,2.0nm,0.3s,baz=12,slow=18,SNR=4.1
CMAR Lg Lg 09 05 58.5
comp=E,10nm,0.3s,baz=18,slow=30,SNR=10
LOEI Loei 9.09 179 P **Pn** **09 04 02.9 +1.3**
comp=E,51nm,0.8s,comp=E,2μmcomp=E,0.8nm
SHL Shillong 8.27 272 *e*P **Pn** **09 04 04.0 -0.3**
SHL *ex* x 09 06 47.5
ENH Enshi 8.78 56 *e*Pn **Pn** **09 04 10.6 -0.4**
comp=E,318nm,1.0s
ENH *e*Sn **Sn** **09 05 49.3 -0.4**
PBKT Sadao Pong 9.02 180 P Pn 09 04 18.2 +3.8
comp=E,20nm,0.9s
SKNT Sakolnakorn 9.04 162 P **Pn** **09 04 15.8 +1.1**
comp=E,160nm,1.3s,comp=E,4μm
PANO Nakornpanom 9.07 158 P **Pn** **09 04 15.2 +0.1**
comp=E,263nm,1.3s,comp=E,3μm
LSA Lhasa 9.66 297 P **Pn** **09 04 24.1 +0.5**
LSA LR LR
comp=N,6μm,17.0s
LSA LR LR
comp=Z,5μm,14.6s
LSA Lhasa 9.66 297 *e*P **Pn** **09 04 22.6 -1.0**
LSA *e* 09 06 07.0
LSA pmax pmax
comp=Z,32nm,0.7s
LSA Lhasa 9.66 297 *e*Pn **Pn** **09 04 22.6 -1.0**
comp=Z,32nm,0.7s
LSA *e*Sn **Sn** **09 06 07.0 -5.0**
CHAI Chaiyaphum 9.72 175 P **Pn** **09 04 26.5 +2.4**
comp=Z,9.3nm,1.1s,comp=Z,259nm
QIZ Qiongzhong 10.46 127 P **Pn** **09 04 34.2 0.0**
QIZ S **Sn** **09 06 34.4 +3.3**
QIZ pmax pmax
comp=Z,20nm,0.7s
QIZ LR LR
comp=N,17μm,11.4s
QIZ LR LR
comp=Z,7μm,8.7s
QIZ Qiongzhong 10.46 127 *e*Pn **Pn** **09 04 33.9 -0.3**
comp=Z,38nm,0.8s
QIZ *e*Sn Sn 09 06 22.7 -8.4
LZH Lanzhou 10.69 12 *e*P **Pn** **09 04 39.9 +2.5**
LZH pP 09 04 43.0
LZH sP 09 04 45.8
LZH S **Sn** **09 06 39.0 +2.1**
LZH sS 09 06 45.2
LZH SS **SnSn** **09 06 54.2 +5.1**
LZH pmax pmax
comp=Z,170nm,1.4s
LZH pmax pmax
comp=Z,500nm,4.0s
LZH LR LR
comp=N,19μm,8.8s
LZH LR LR
comp=E,36μm,8.2s
LZH LR LR
comp=Z,12μm,9.6s
XAN Xi'an 10.81 37 P **Pn** **09 04 37.4 -1.5**
XAN pP 09 04 40.4
XAN S **Sn** **09 06 36.1 -3.5**
XAN pmax pmax
comp=Z,8.0nm,0.7s
XAN LR LR
comp=N,16μm,8.5s
XAN LR LR
comp=E,6μm,8.3s
XAN LR LR
comp=Z,4μm,7.1s
UBPT Khong Chiam 11.10 157 P **Pn** **09 04 43.2 +0.2**
comp=Z,124nm,1.7s
NAYO Nakonayok 11.27 179 P **Pn** **09 04 47.5 +2.3**
comp=Z,74nm,1.5s,comp=Z,1μm
GZH Guangzhou 11.49 100 P **Pn** **09 04 50.1 +1.8**
GZH S Sn 09 07 02.3 +5.9
GZH LR LR
comp=N,11μm,5.0s
GZH LR LR
comp=E,6μm,7.7s
WHN Wuhan 12.72 64 P **Pn** **09 05 02.6 -2.4**
WHN S **Sn** **09 07 22.4 -3.9**
WHN LR LR
comp=N,20μm,8.6s
WHN LR LR
comp=E,11μm,8.0s
WHN LR LR
comp=Z,15μm,14.4s
PHET Kaeng Krachan 12.73 186 P P 09 05 20.1 +3.8
GTA Gaotai 13.78 356 ⇑P **Pn** **09 05 19.2 -0.3**
GTA pP **P** **09 05 26.9 -1.1**
GTA sP 09 05 30.2
GTA S **Sn** **09 07 55.3 +3.0**
GTA SS **S** **09 08 12.0 -2.6**
GTA pmax pmax
comp=Z,10.0nm,1.5s
GTA pmax pmax
comp=Z,290nm,6.2s
GTA LR LR
comp=N,5μm,12.8s
GTA LR LR
comp=E,17μm,12.8s
GTA LR LR
comp=Z,8μm,9.0s
QZH Quanzhou 15.89 89 P **Pn** **09 05 47.0 -0.8**
QZH *e*S **Sn** **09 08 44.1 +0.5**
QZH LR LR
comp=N,41μm,8.6s
QZH LR LR
comp=E,6μm,10.2s
QZH LR LR
comp=Z,15μm,7.7s
BTO Baotou 16.70 24 *e*P **Pn** **09 05 55.4 -2.8**
NJ2 Nanjing 16.85 64 *e*P **Pn** **09 06 00.1 +0.1**
NJ2 pP **pP** **09 06 05.7 -0.9**
NJ2 sP **sP** **09 06 07.2 -1.5**
NJ2 S **Sn** **09 09 10.0 +3.0**
NJ2 pmax pmax
comp=Z,140nm,0.7s
NJ2 pmax pmax
comp=Z,260nm,4.8s
NJ2 LR LR
comp=N,6μm,14.3s
NJ2 LR LR
comp=E,4μm,12.8s
NJ2 LR LR
comp=Z,10μm,15.0s
TIA Tai'an 17.34 49 P **Pn** **09 06 03.9 -2.2**
TIA S **S** **09 09 26.3 -1.0**
TIA LR LR
comp=N,3μm,9.5s
TIA LR LR
comp=E,6μm,12.9s
TIA LR LR
comp=Z,6μm,13.1s
HHC Hu-ho-hao-te 17.52 27 *e*P **Pn** **09 06 07.0 -1.4**
HHC pP **P** **09 06 10.4 +0.9**
HHC sP **sP** **09 06 14.0 -2.2**
HHC PP **PnPn** **09 06 21.8 +3.0**
HHC S **Sn** **09 09 23.1 -0.1**
HHC sS **S** **09 09 28.7 -2.4**
HHC SS **SnSn** **09 09 45.7 +8.9**
HHC pmax pmax
comp=Z,50nm,1.1s
HHC pmax pmax
comp=Z,250nm,3.9s
HHC LR LR
comp=N,5μm,6.1s
HHC LR LR
comp=E,11μm,7.7s
HHC LR LR
comp=Z,5μm,7.6s
TRTT Trang 17.75 184 P P 09 06 17.8 +5.8
TPUB Ta-pu 17.98 93 *e*P **P** **09 06 16.7 +2.1**
SSLB Suanglung 18.18 92 *e*P **P** **09 06 19.4 +2.5**
comp=Z,91nm,1.8s
YHNB Yeheng 18.43 89 *e*P **Pn** **09 06 21.4 +1.6**
comp=Z,82nm,1.1s
SSE Sheshan 18.53 68 P **P** **09 06 17.7 -2.9**
SSE S **Sn** **09 09 48.8 +1.1**
SSE pmax pmax
comp=Z,40nm,0.7s
SSE pmax pmax
comp=Z,150nm,4.9s
SSE LR LR
comp=N,2μm,8.7s
SSE LR LR
comp=E,3μm,8.7s
SSE LR LR
comp=Z,3μm,8.0s
YULB Yu-li 18.56 93 *e*P **Pn** **09 06 23.8 +2.5**
comp=Z,18nm,0.9s
BJT Baijiatuan 19.12 38 *e*P **Pn** **09 06 28.2 +0.3**
comp=Z,47nm,0.7s
BJI Beijing 19.14 38 P **Pn** **09 06 28.1 0.0**
BJI S **Sn** **09 10 00.8 -1.5**
BJI pmax pmax
comp=Z,19nm,0.7s
BJI pmax pmax
comp=Z,410nm,3.4s
BJI LR LR
comp=N,9μm,13.4s
BJI LR LR
comp=E,11μm,15.0s
BJI LR LR
comp=Z,2μm,15.8s
KULM Kulim 20.23 181 *e*P Pn 09 06 40.4 -0.9
comp=Z,88nm,1.4s
AGRA Agra 20.75 279 *e*P **P** **09 06 43.6 -1.2**
DDI Dehra Dun 20.82 288 *e*P **P** **09 06 43.0 -2.7**
IPM Ipoh 21.04 180 *e*P **P** **09 06 47.9 -0.1**
comp=Z,39nm,0.9s
WMQ Urumqi 21.15 332 P **P** **09 06 50.4 +1.2**
NDI New Delhi 21.41 283 *e*4 **P** **09 06 48.5 -3.5**
SONA Sohna 21.51 282 *e*P **P** **09 06 52.5 -0.6**
SONA AMB AMB 09 06 53.7
comp=Z,53nm,1.4s
BHGR Bahadurgarh 21.66 283 *e*P **P** **09 06 54.6 0.0**
BHGR AMB AMB 09 07 07.1
comp=Z,96nm,0.7s
DL2 Dalian 21.80 48 P **P** **09 06 54.6 -1.5**
DL2 S **S** **09 10 58.7 +2.1**
DL2 pmax pmax
comp=Z,42nm,1.2s
DL2 pmax pmax
comp=Z,120nm,2.6s
DL2 LR LR
comp=N,3μm,13.2s
DL2 LR LR
comp=E,890nm,7.2s
DL2 LR LR
comp=Z,2μm,13.4s
KKR Kurukshetra 21.85 287 *e*P **P** **09 06 56.3 -0.4**
KKR AMB AMB 09 06 57.9
comp=Z,122nm,1.0s
KUDL Kundal 22.04 282 *e*P **P** **09 06 58.1 -0.6**
KUDL AMB AMB 09 06 58.9
comp=Z,46nm,1.0s
RTK Rohtak 22.13 284 *e*P **P** **09 06 59.1 -0.6**
RTK AMB AMB 09 07 01.4
comp=Z,40nm,0.7s
HYB Hyderabad 22.44 253 *i* P **P** **09 07 04.0 +0.8**
SONM Songino Array 22.56 9 P **P** **09 07 02.6 -1.6**
SONM Songino Array 22.56 9 P **P** **09 07 02.6 -1.6**
comp=Z,25nm,0.9s,baz=191,slow=10,SNR=30
SONM LR LR 09 16 11.7
comp=Z,2μm,18.1s,baz=188,slow=38
PSI Prapat 22.79 185 P **P** **09 07 07.2 +0.2**
PSI Prapat 22.79 185 P **P** **09 07 07.2 +0.2**
comp=Z,83nm,1.2s,baz=11,slow=14,SNR=10
PSI Prapat 22.79 185 P **P** **09 07 07.2 +0.2**
baz=20,SNR=7.0
AJM Ajmer 23.72 278 *i* P **P** **09 07 14.0 -2.3**
SNY Shenyang 24.63 43 ⇑P **P** **09 07 23.5 -0.9**
SNY S **S** **09 11 42.6 -2.5**
SNY pmax pmax
comp=Z,46nm,1.3s
SNY LR LR
comp=N,5μm,17.6s
SNY LR LR
comp=E,4μm,20.0s
SNY LR LR
comp=Z,2μm,15.9s
ZAK Zakamensk 24.77 3 ⇓*i* P **P** **09 07 25.4 -0.3**
ZAK pmax pmax
comp=Z,55nm,1.4s
KSH Kashi 25.16 310 P **P** **09 07 31.9 +2.5**
KSH pP **pP** **09 07 35.8 +1.5**
KSH sP **sP** **09 07 38.3 +2.0**
KSH PP **PnPn** **09 08 09.0 +5.6**
KSH S **S** **09 11 54.2 +0.3**
KSH sS **sS** **09 12 03.0 +1.0**
KSH SS SnSn 09 12 56.7 +13
KSH pmax pmax
comp=Z,150nm,1.3s
KSH LR LR
comp=N,1μm,8.3s
KSH LR LR
comp=E,1μm,10.6s
KSH LR LR
comp=Z,3μm,17.6s
KSM Kuching 25.63 158 *e*P **P** **09 07 32.8 -0.9**
comp=Z,29nm,1.0s
KSAR Wonju Array Be 25.63 56 P **P** **09 07 31.2 -2.4**
KSRS Korea Array 25.67 56 P **P** **09 07 31.2 -2.7**
comp=Z,4.9nm,0.6s,baz=243,slow=9.2,SNR=12
KSRS LR LR 09 18 48.1
comp=Z,2μm,21.3s,baz=254,slow=40
MK31 Makanchi Array 25.85 330 *i* P **P** **09 07 34.7 -0.8**
MK31 pmax pmax
comp=Z,40nm,0.7s
MK31 Makanchi Array 25.85 330 *e*P **P** **09 07 35.3 -0.3**
MKAR Makanchi Array 25.85 330 P **P** **09 07 35.2 -0.4**
MKAR 09 11 04.0
MKAR Makanchi Array 25.85 330 P **P** **09 07 35.1 -0.4**
MKAR PcP **PcP** **09 11 04.0 -0.6**
MKAR ScP **ScP** **09 14 45.4 +1.9**
MKAR Makanchi Array 25.85 330 P **P** **09 07 35.2 -0.4**
comp=Z,42nm,0.8s,baz=134,slow=10,SNR=64
MKAR PcP **PcP** **09 11 04.0 -0.6**
comp=Z,4.4nm,0.9s,baz=163,slow=1.5,SNR=5.8
MKAR ScP **ScP** **09 14 45.4 +1.9**
comp=Z,2.7nm,1.2s,baz=176,slow=4.3,SNR=3.9
MKAR LR LR 09 19 06.3
comp=Z,956nm,18.8s,baz=25,slow=40
MOY Mondy 25.99 360 *e*P **P** **09 07 38.8 +1.9**
MOY pmax pmax
comp=Z,113nm,2.3s
HVS Khovu-Aksy 26.08 349 *e*P **P** **09 07 36.4 -1.2**
HVS pmax pmax
comp=Z,157nm,1.2s
TLY Talaya 26.08 4 *d i*P **P** **09 07 40.0 +2.4**
TLY *e* 09 08 21.7
TLY *e*S **S** **09 12 12.4 +4.3**
TLY MLR MLR
comp=Z,1μm,10.0s
TLY Talaya 26.08 4 P **P** **09 07 40.3 +2.7**
comp=Z,166nm,1.8s,SNR=5.9
AAA Alma-Ata 26.39 318 *i* P P 09 07 45.4 +4.9
AAA pmax pmax
comp=Z,700nm,2.2s
AAA MLR MLR
comp=Z,4μm,17.0s
PALK Pallekele 26.65 230 *e*P **P** **09 07 44.2 +1.2**
comp=Z,171nm,1.8s
IRK Irkutsk 26.68 4 *e*P **P** **09 07 44.0 +1.0**
IRK pmax pmax
comp=Z,254nm,2.0s
CN2 Changchun 26.88 41 *e*P **P** **09 07 45.2 +0.4**
CN2 *e*sP **sP** **09 07 54.7 +3.0**
CN2 *e*S **S** **09 12 18.9 -1.8**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 LR LR
comp=N,2μm,16.0s
CN2 LR LR
comp=E,4μm,16.0s
CN2 LR LR
comp=Z,2μm,14.0s
JNU Nakatsue 26.98 67 *e*P **P** **09 07 46.8 +0.9**
JNU Nakatsue 26.98 67 P **P** **09 07 45.1 -0.8**
comp=Z,19nm,0.6s,baz=209,slow=2.4,SNR=18
JNU LR LR 09 19 20.1
comp=Z,3μm,18.6s,baz=264,slow=39
AAK Ala-Archa 27.59 315 P **P** **09 07 53.3 +1.9**
comp=Z,77nm,1.1s,SNR=5.7
AAK Ala-Archa 27.59 315 *ce*P **P** **09 07 51.3 -0.1**
AAK pmax pmax
comp=Z,66nm,1.7s
AAK Ala-Archa 27.59 315 *e*P **P** **09 07 52.9 +1.5**
AAK Ala-Archa 27.59 315 P **P** **09 07 52.7 +1.3**
comp=Z,10nm,0.9s,baz=104,slow=9.7,SNR=13
AAK LR LR 09 19 32.6
comp=Z,1μm,18.2s,baz=292,slow=38
FRU Bishkek 27.61 315 *e*P **P** **09 07 52.5 +1.0**
FRU *e*S **S** **09 12 33.0 +0.5**
FRU pmax pmax
comp=Z,70nm,2.4s
FRU MLR MLR
comp=Z,2μm,15.0s
HIA Hailar 27.72 27 *e*P **P** **09 07 53.9 +1.5**
comp=Z,110nm,1.4s
CIT Chita 28.01 17 *e*P **P** **09 07 54.3 -0.6**
CIT *e* 09 08 06.1
CIT pmax pmax
comp=Z,178nm,1.5s
KBL Kabul 28.98 295 *e*P **P** **09 08 04.5 +0.5**
KBL pmax pmax
comp=Z,28nm,0.8s
KBL Kabul 28.98 295 *e*P **P** **09 08 04.5 +0.5**
comp=Z,28nm,0.8s
DAV Davao City (W) 29.81 124 LR LR 09 19 34.4
comp=Z,1μm,20.1s,baz=316,slow=35
MDJ Mudanjiang 29.83 43 P **P** **09 08 11.8 +0.7**
MDJ pP **pP** **09 08 14.8 -1.3**
MDJ sP **sP** **09 08 16.2 -1.9**
MDJ S **S** **09 13 09.9 +2.6**
MDJ sS **sS** **09 13 15.1 -0.3**
MDJ ScP **ScP** **09 14 56.3 +0.6**
MDJ PcS **PcS** **09 14 57.6 +0.3**
MDJ pmax pmax
comp=Z,14nm,1.7s
MDJ pmax pmax
comp=Z,90nm,3.7s
MDJ LR LR
comp=N,3μm,18.3s
MDJ LR LR
comp=E,2μm,18.3s
MDJ LR LR
comp=Z,1μm,16.0s
KURBB Kurchatov Arra 30.36 331 P **P** **09 08 14.8 -0.9**
comp=Z,13nm,0.8s,baz=147,slow=8.8,SNR=50
KURBB PcP **PcP** **09 11 15.0 -0.5**
comp=Z,3.9nm,0.8s,baz=156,slow=2.0,SNR=7.8
KURBB ScP **ScP** **09 14 58.8 +1.6**
comp=Z,0.8nm,0.5s,baz=153,slow=2.6,SNR=5.2
KURK Kurchatov 30.39 331 P **P** **09 08 14.8 -1.2**
KURK 09 11 15.0
KURK 09 14 58.8
KURK Kurchatov 30.39 331 P **P** **09 08 14.8 -1.2**
KURK PcP **PcP** **09 11 15.0 -0.5**
KURK ScP **ScP** **09 14 58.8 +1.5**
KKAR Karatay Array 30.41 313 *e*P **P** **09 08 17.1 +0.8**
KKAR Karatay Array 30.41 313 *e*P **P** **09 08 17.1 +0.8**
ZAA0 Zalesovo Array 30.75 341 *e*P **P** **09 08 17.9 -1.2**
ZALV Zalesovo Beam 30.75 341 P **P** **09 08 18.1 -1.1**
ZALV Zalesovo Beam 30.75 341 P **P** **09 08 18.1 -1.1**
ZALV Zalesovo Beam 30.75 341 P **P** **09 08 18.1 -1.1**
comp=Z,21nm,1.0s,baz=148,slow=8.7,SNR=22
USRK Ussuriysk Arra 31.16 46 P **P** **09 08 21.3 -1.6**
comp=Z,9.5nm,0.8s,baz=245,slow=9.6,SNR=19
USRK LR LR 09 20 58.9
comp=Z,1μm,18.7s,baz=234,slow=37
NVS Novosibirsk 31.99 340 *e*P P 09 08 25.4 -4.6
NVS *i* 09 08 30.9
MJAR Matsushiro Arr 33.45 62 P **P** **09 08 40.6 -2.5**
MJAR Matsushiro Arr 33.45 62 P **P** **09 08 40.6 -2.5**
comp=Z,2.6nm,0.8s,baz=269,slow=9.8,SNR=4.4
MJAR LR LR 09 23 45.5
comp=Z,2μm,18.7s,baz=270,slow=39
KLR Kul'dur 33.52 37 *e*P P 09 08 38.2 -5.3
KLR *e*S S 09 13 55.0 -10
KLR *e*SSS SSS 09 16 08.0
KLR pmax pmax
comp=E,30nm,1.6s
KLR pmax pmax
comp=Z,57nm,1.6s
KLR MLR MLR
comp=Z,5μm,11.5s
HABR Khabarovsk 35.00 40 *e*P **P** **09 08 53.4 -2.9**
HABR *e* 09 10 10.5
HABR *e* 09 11 25.1
HABR *e*S **S** **09 14 25.7 -1.9**
HABR *e*SS **SnSn** **09 16 42.8 -0.4**
HABR 09 19 15.5
HABR MLR MLR
comp=Z,1μm,15.0s
KAPI Kappang 35.47 147 LR LR 09 25 18.0
comp=Z,618nm,19.0s,baz=327,slow=39
CLNS Chul'man 35.59 22 *e*P **P** **09 09 01.4 +0.1**
CLNS *e**PP **pP** **09 09 10.5 +4.2**
CLNS *e* 09 10 20.9
CLNS *e*PPP PPP 09 10 35.8
CLNS *e* 09 11 28.0
CLNS *e*S **S** **09 14 37.6 +1.1**
CLNS *e*SSS SSS 09 17 18.1
CLNS *e* 09 19 14.8
CLNS pmax pmax
comp=Z,19nm,1.2s
CLNS pmax pmax
comp=E,11nm,1.1s
CLNS pmax pmax
comp=N,15nm,1.2s
CLNS pmax pmax
comp=N,5.0nm,1.3s
CLNS pmax pmax
comp=Z,3.0nm,1.1s
CLNS pmax pmax
comp=E,3.0nm,0.9s
CLNS smax smax
comp=E,69nm,9.9s
CLNS smax smax
comp=N,69nm,12.5s
CLNS MLR MLR
comp=Z,2μm,16.0s
CLNS MLR MLR
comp=N,2μm,15.0s
CLNS MLR MLR
comp=E,1μm,13.0s
BVA0 Borovoye Array 35.71 328 P **P** **09 08 59.9 -2.5**
BVA0 pmax pmax
comp=Z,21nm,1.4s

BVAR Borovoye Array 35.71 328 P **P** **09 09 01.2 -1.2**
BVAR 09 11 30.2
BVAR Borovoye Array 35.71 328 P **P** **09 09 01.2 -1.2**
BVAR PcP **PcP** **09 11 30.2 -0.2**
BVAR ScP **ScP** **09 15 17.3 +1.5**
BVAR Borovoye Array 35.71 328 P **P** **09 09 01.2 -1.2**
comp=Z,2.9nm,0.5s,baz=134,slow=10,SNR=16
BVAR PcP **PcP** **09 11 30.2 -0.2**
comp=Z,4.4nm,0.7s,baz=142,slow=3.4,SNR=7.1
BVAR ScP **ScP** **09 15 17.3 +1.5**
comp=Z,1.1nm,0.7s,baz=114,slow=1.7,SNR=2.7
BRVK Borovoye 35.78 328 P **P** **09 09 03.3 +0.3**
comp=Z,93nm,1.0s,SNR=6.2
BRVK Borovoye 35.78 328*ce*P **P** **09 09 03.5 +0.5**
BRVK pmax pmax
comp=Z,23nm,1.2s
BRVK Borovoye 35.78 328 *e*P **P** **09 09 03.7 +0.7**
IMYA Miami 36.45 297 *e*P **P** **09 09 10.2 +1.0**
ISRO Mashad 36.95 297 *e*P **P** **09 09 14.5 +1.1**
ISFR Sfrayin 38.19 298 *e*P **P** **09 09 25.7 +1.6**
ASAJ Asahikawa 38.27 50 *e*P **P** **09 09 23.5 -0.8**
ASAJ Asahikawa 38.27 50 P **P** **09 09 22.8 -1.5**
comp=Z,20nm,0.7s,baz=342,slow=2.1,SNR=15
ASAJ LR LR 09 26 02.6
comp=Z,632nm,18.9s,baz=3.8,slow=38
YSS Yuzh-Sakhalins 39.19 46⇑*e*P **P** **09 09 31.4 -0.5**
YSS *e*S **S** **09 15 30.0 -1.3**
YSS pmax pmax
comp=Z,10.0nm,0.7s
YSS MLR MLR
comp=N,1μm,15.0s
YSS MLR MLR
comp=Z,2μm,15.0s
YSS MLR MLR
comp=E,2μm,13.0s
AB31 Akbulak array 39.58 317 *i*P **P** **09 09 34.0 -1.2**
AB31 pmax pmax
comp=Z,15nm,0.7s
ABKAR Akbulak array 39.58 317 *e*P **P** **09 09 34.2 -1.0**
YUK Yuzh-Kuril'sk 40.55 51 P **P** **09 09 41.2 -2.0**
YUK *e*S **S** **09 15 53.2 +1.4**
YUK MLR MLR
comp=E,1μm,20.0s
YUK MLR MLR
comp=Z,671nm,19.0s
YUK MLR MLR
comp=N,545nm,17.0s
YAK Yakutsk 41.15 20 *e*P **P** **09 09 47.9 -0.1**
YAK *e* 09 11 22.9
YAK *e* 09 11 46.6
YAK *e*PPP PPP 09 11 49.0
YAK *e*S **S** **09 16 01.9 +1.6**
YAK *e*SS **SS** **09 19 01.6 -1.4**
YAK *e* 09 19 50.4
YAK pmax pmax
comp=Z,16nm,1.2s
YAK pmax pmax
comp=E,11nm,1.4s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=Z,9.0nm,0.6s
YAK smax smax
comp=E,45nm,3.2s
YAK smax smax
comp=N,34nm,2.8s
YAK MLR MLR
comp=E,754nm,14.0s
YAK MLR MLR
comp=N,1μm,15.0s
YAK MLR MLR
comp=Z,2μm,14.0s
AKTO Aktyubinsk 41.17 318 P **P** **09 09 47.4 -0.9**
AKTO 09 11 47.0
AKTO Aktyubinsk 41.17 318 P **P** **09 09 47.4 -0.9**
AKTO PcP **PcP** **09 11 47.0 -0.3**
AKTO Aktyubinsk 41.17 318 P **P** **09 09 47.4 -0.9**
comp=Z,11nm,0.8s,baz=105,slow=9.2,SNR=18
AKTO PcP **PcP** **09 11 47.0 -0.3**
comp=Z,3.6nm,0.8s,baz=79,slow=3.8,SNR=4.5
AKTO LR LR 09 28 42.3
comp=Z,1μm,18.9s,baz=291,slow=39
IANJ Anjilo 41.42 295 *e*P **P** **09 09 49.6 -1.3**
SVE Sverdlovsk 42.50 328⇑*e*P **P** **09 10 00.4 +1.3**
SVE pmax pmax
comp=Z,67nm,1.6s
SVE MLR MLR
comp=Z,1μm,15.0s
IDMV Damavand 42.96 295 *e*P **P** **09 10 04.1 +0.6**
IGAR Gharneh 43.08 291 *e*P **P** **09 10 05.9 +1.4**
IVRN Varamin 43.22 295 *e*P **P** **09 10 06.2 +0.8**
ARU Arti 43.31 327*d i*P **P** **09 10 06.4 +0.7**
ARU 09 11 49.6
ARU PPP PPP 09 12 23.6
ARU S **S** **09 16 38.0 +5.6**
ARU SS **SS** **09 19 44.9 -1.0**
ARU pmax pmax
comp=Z,47nm,1.7s
ARU MLR MLR
comp=Z,624nm,17.0s
IPIR Pirpir 44.03 291 *e*P **P** **09 10 14.4 +2.2**
IRAZ Razeghan 44.68 295 *e*P **P** **09 10 15.8 -1.4**
SOKR Solikamsk 45.62 330*d i*P **P** **09 10 25.1 +1.1**
SOKR SS SS 09 20 11.9 -18
SOKR pmax pmax
comp=Z,70nm,1.6s
SOKR MLR MLR
comp=Z,890nm,20.0s
MAK Makhachkala 46.69 306 *e*P P 09 10 26.0 -6.7
MAK *e*S **S** **09 17 17.3 -4.3**
MAK MLR MLR
comp=Z,974nm,16.0s
ISHB Shabestar 48.04 299 *e*P **P** **09 10 44.9 +1.2**
TIXI Tiksi 48.62 11 *e*P **P** **09 10 45.1 -2.2**
TIXI pmax pmax
comp=Z,44nm,1.7s
GNI Garni 48.68 302 P **P** **09 10 49.6 +1.1**
GNI Garni 48.68 302 P **P** **09 10 49.6 +1.1**
comp=Z,3.3nm,0.4s,baz=124,slow=3.6,SNR=4.5
DUS Dusheti 48.72 304 P P 09 10 45.4 -3.2
AKH Akhalkalaki 49.62 304 P **P** **09 10 57.2 +1.5**
FITZ Fitzroy Crossi 49.62 149 *e*P **P** **09 10 56.2 +0.6**
comp=Z,40nm,1.6s
FITZ Fitzroy Crossi 49.62 149 P **P** **09 10 56.4 +0.8**
comp=Z,4.4nm,0.6s,baz=333,slow=7.8,SNR=5.3
ONI Oni 49.66 305 P **P** **09 10 57.3 +1.5**
MBWA Marble Bar 49.93 157 *e*P **P** **09 10 57.9 0.0**
PETK Petropavlovsk- 50.03 41 P **P** **09 10 57.6 -0.8**
PETK Petropavlovsk- 50.03 41 P **P** **09 10 57.6 -0.8**
PETK Petropavlovsk- 50.03 41 P **P** **09 10 57.6 -0.8**
comp=Z,1.9nm,0.8s,baz=234,slow=9.0,SNR=4.0
PETK LR LR 09 31 37.5
comp=Z,494nm,20.1s,baz=255,slow=36
KBZ Khabaz 50.08 307 P **P** **09 10 58.9 0.0**
KBZ Khabaz 50.08 307 P **P** **09 10 58.9 0.0**
KBZ Khabaz 50.08 307 P **P** **09 10 58.9 0.0**
comp=Z,1.3nm,0.6s,baz=85,slow=7.4,SNR=5.0
KBZ LR LR 09 34 45.8
comp=Z,557nm,20.8s,baz=282,slow=39
SEY Seymchan 50.16 28 *e*P **P** **09 10 59.3 +0.1**
RAYN Ar Rayn 50.24 280 *e*P **P** **09 11 00.2 -0.3**
CHVG Ch'k'valeri 50.66 305 P **P** **09 11 04.0 +0.7**
VORD Divnogorie 52.88 316 *e*P **P** **09 11 17.7 -2.0**
VORD pmax pmax
comp=Z,10.0nm,1.5s
VORD pmax pmax
comp=N,30nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.4s
VORD MLR MLR
comp=Z,570nm,14.0s
VORD MLR MLR
comp=N,770nm,23.0s
VORD MLR MLR
comp=E,420nm,14.0s
VSR Storozhevoye 52.98 316 *e*P **P** **09 11 19.3 -1.2**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,8.0nm,0.6s
VSR pmax pmax
comp=E,20nm,1.2s
VSR MLR MLR
comp=Z,510nm,13.0s
VSR MLR MLR
comp=N,310nm,17.0s
VSR MLR MLR
comp=E,280nm,12.0s
MALT Malatya 53.68 300⇑*i*P P 09 11 44.5 +18
MOS Moscow 54.32 321 *e*P P 09 11 25.6 -4.6
MOS *e* 09 11 41.3
MOS *e* 09 12 31.0
MOS *e* 09 13 27.9
MOS *e*S **S** **09 19 02.8 -4.5**
MOS pmax pmax
comp=Z,100nm,1.3s
MOS pmax pmax
comp=Z,99nm,1.3s
MOS MLR MLR
comp=Z,700nm,20.0s
OBN Obninsk 54.86 321⇑*e*P **P** **09 11 32.8 -1.3**
OBN *e* 09 13 32.3
OBN *e*S **S** **09 19 16.2 +1.7**
OBN *e*SS **SS** **09 23 01.9 +4.3**
OBN pmax pmax
comp=Z,28nm,1.2s
OBN MLR MLR
comp=Z,500nm,16.0s
TMCR Tamitsa 55.51 332 *e*P **P** **09 11 39.1 +0.4**
TMCR pmax pmax
comp=Z,59nm,1.4s
WRAB Tennant Creek 55.67 141 P **P** **09 11 39.3 -1.1**
comp=Z,162nm,0.9s,SNR=9.5
WRAB Tennant Creek 55.67 141 *e*P **P** **09 11 39.4 -1.0**
WRAB pmax pmax
comp=Z,26nm,0.9s
WRAB Tennant Creek 55.67 141 *e*P **P** **09 11 39.4 -1.0**
comp=Z,26nm,0.9s
WRA Warramunga Arr 55.67 141 P **P** **09 11 38.7 -1.7**
WRA Warramunga Arr 55.67 141 P **P** **09 11 38.7 -1.7**
comp=Z,15nm,0.8s,baz=330,slow=7.9,SNR=34
ASF Jabal al Asfar 55.82 293 P **P** **09 11 42.4 +0.9**
ASF Jabal al Asfar 55.82 293 P **P** **09 11 42.4 +0.9**
comp=Z,3.1nm,0.9s
ATD Arta Tunnel 56.52 267 P **P** **09 11 47.8 +1.1**
ATD Arta Tunnel 56.52 267 P **P** **09 11 47.8 +1.1**
comp=Z,11nm,0.5s,baz=90,slow=3.5,SNR=4.1
BR131 Keskin Array S 57.22 302 *e*P **P** **09 11 51.9 +0.4**
comp=Z,0.5nm,0.4s
BRTR Keskin Array B 57.22 302 P **P** **09 11 51.8 +0.2**
BRTR Keskin Array B 57.22 302 P **P** **09 11 51.8 +0.2**
comp=Z,1.2nm,0.7s,baz=113,slow=8.2,SNR=10.0
BILL Bilibino 57.25 24⇑*e*P **P** **09 11 50.0 -1.1**
BILL *e* 09 13 53.2
BILL *e*S S 09 20 00.1 +14
BILL pmax pmax
comp=Z,18nm,1.2s
BILL MLR MLR
comp=Z,400nm,17.0s
APA Apatity 58.05 335⇓*e*P P 09 11 53.0 -3.7
APA MLR MLR
comp=Z,1μm,14.0s
JOF Joensuu 58.29 330 *ep* **P** **09 11 57.9 -0.5**
comp=Z,4.9nm,0.5s
JOF Joensuu 58.29 330 *e*P **P** **09 11 57.9 -0.5**
JOF pmax pmax
comp=Z,5.0nm,0.5s
AS31 Alice Springs 58.43 144 *e*P **P** **09 11 58.9 -1.0**
AS31 *e*PcP **PcP** **09 12 50.0 -0.6**
ASAR Alice Springs 58.43 144 P **P** **09 11 59.2 -0.8**
ASAR ⇑*e* 09 41 48.8
ASAR Alice Springs 58.43 144 P **P** **09 11 59.2 -0.8**
comp=Z,8.7nm,0.8s,baz=326,slow=5.9,SNR=35
ASAR LR LR 09 38 51.6
comp=Z,424nm,21.0s,baz=316,slow=38
ASAR PKP2bc 09 41 48.8
comp=Z,0.8nm,0.9s,baz=132,slow=2.8,SNR=4.2
KIEV Kiev 59.27 315 *e*P **P** **09 12 04.5 -0.9**
KIEV pmax pmax
comp=Z,17nm,0.8s
KIEV Kiev 59.27 315 *e*P **P** **09 12 04.5 -0.9**
comp=Z,17nm,0.8s
KIS Kishinev 59.85 311 *e*P **P** **09 12 08.0 -1.5**
KIS LRM MLR 09 41 06.0
comp=Z,300nm,20.0s
KIS Kishinev 59.85 311 *e*P **P** **09 12 08.0 -1.5**
KIS *e* 09 15 44.0
KIS *e* 09 20 10.0
KIS *e* 09 20 32.0
KIS *e* 09 24 22.0
KIS MLR MLR
comp=Z,500nm,15.0s
KIS MLR MLR
comp=N,300nm,20.0s
KIS MLR MLR
comp=E,400nm,17.0s
KIS MLR MLR
comp=Z,300nm,16.0s
NACGM Naroch 60.49 320 *e* **P** **09 12 11.0 -2.7**
FINES FINESS Array B 60.67 328 P **P** **09 12 13.1 -1.8**
FINES FINESS Array B 60.67 328 P **P** **09 12 13.1 -1.8**
comp=Z,4.2nm,0.7s,baz=106,slow=10,SNR=9.4
FINES LR LR 09 39 10.5
comp=Z,474nm,19.8s,baz=349,slow=37
KEV Kevo 60.67 337 *ep* **P** **09 12 13.1 -1.7**
comp=Z,6.9nm,0.6s
KEV Kevo 60.67 337 *e*P **P** **09 12 13.1 -1.7**
KEV pmax pmax
comp=Z,7.0nm,0.6s
ARCES ARCESS Array B 61.18 337 P **P** **09 12 16.5 -1.7**
ARCES ARCESS Array B 61.18 337 P **P** **09 12 16.5 -1.7**
comp=Z,8.5nm,1.0s,baz=82,slow=8.5,SNR=14
ARCES LR LR 09 41 27.8
comp=Z,655nm,19.0s,baz=279,slow=39
VRI Vrincioaia 61.43 310⇓⇓*i*P **P** **09 12 21.1 +0.8**
VRI Vrincioaia 61.43 310⇓⇓*i*P **P** **09 12 21.1 +0.8**
PLOR Plostina 61.48 310⇓⇓P **P** **09 12 22.6 +1.9**
PLOR Plostina 61.48 310⇓⇓*i*P **P** **09 12 22.6 +1.9**
ISR Istrita 61.66 309⇑⇑P **P** **09 12 21.6 -0.4**
ISR Istrita 61.66 309⇑⇑*i*P **P** **09 12 21.6 -0.4**
MLR Muntele Rosu 62.02 310⇓⇓*i*P **P** **09 12 24.9 +0.4**
BURAR Bucovina Array 62.20 312⇓⇓P **P** **09 12 25.4 -0.2**
BURAR Bucovina Array 62.20 312⇓⇓*i*P **P** **09 12 25.4 -0.2**
BUR08 Bucovina Ar. S 62.21 312 *e*P **P** **09 12 25.5 -0.2**
SUW Suwalki 62.66 319 *e*P **P** **09 12 28.5 +0.1**
VOIR 62.66 310⇓⇓P **P** **09 12 29.1 +0.4**
VOIR 62.66 310⇓⇓*i*P **P** **09 12 29.1 +0.4**
LVV L'vov 62.66 315 *e*P **P** **09 12 28.2 -0.4**
ARR Arges 62.96 310⇑⇑*i*P **P** **09 12 29.7 -1.0**
CTA Charters Tower 63.20 132 P **P** **09 12 32.2 -0.2**
CTA Charters Tower 63.20 132 P **P** **09 12 32.2 -0.2**
comp=Z,4.2nm,0.7s,baz=308,slow=8.3,SNR=2.6
KWP Kalwaria Pacla 63.54 315 *e*P **P** **09 12 32.7 -1.7**
KWP pmax pmax
comp=Z,84nm,1.0s
KWP Kalwaria Pacla 63.54 315 *e*P **P** **09 12 32.7 -1.7**
comp=Z,84nm,1.0s
KWP Kalwaria Pacla 63.54 315⇓⇓*i*P **P** **09 12 33.0 -1.4**
KWP Kalwaria Pacla 63.54 315 *e*P **P** **09 12 34.5 +0.1**
KOLS Kolonicke sedl 63.94 314 *e*P **P** **09 12 37.1 +0.1**
SPITS Spitsbergen Ar 64.00 347 LR LR 09 44 47.2
comp=Z,1μm,18.0s,baz=65,slow=40
DRGR 64.02 312⇓⇓P **P** **09 12 38.9 +1.2**
DRGR 64.02 312⇓⇓*i*P **P** **09 12 38.9 +1.2**
VTS Vitosha 64.50 307⇑⇑P **P** **09 12 40.0 -1.0**
VTS Vitosha 64.50 307⇑⇑*i*P **P** **09 12 40.0 -1.0**
STHS Stebnicka Huta 64.52 315 *e*P **P** **09 12 41.5 +0.7**
NIE Niedzica 65.11 315 *e*P **P** **09 12 47.5 +2.7**
KECS Kecovo 65.18 314 *e*P **P** **09 12 45.8 +0.6**
OJC Ojcow 65.29 316 *e*P **P** **09 12 46.0 +0.2**
PSZ Piszkesteto 65.68 313⇓⇓*e*P **P** **09 12 48.9 +0.4**
VYHS Vyhne 66.25 314 *e*P **P** **09 12 52.1 0.0**
BUD Budapest 66.35 313⇓⇓*e*P **P** **09 12 53.3 +0.6**
OKC Ostrava-Krasne 66.41 315 *e*P **P** **09 12 54.1 +1.1**
OKC MLR MLR
comp=Z,400nm,19.9s
OKC Ostrava-Krasne 66.41 315 *e*P **P** **09 12 54.1 +1.1**
OKC AMS AMS 09 43 30.0
comp=Z,400nm,19.9s
PKSG 66.79 313⇓⇓*e*P **P** **09 12 55.5 0.0**
MORC Moravsky Berou 66.81 316 *e*P **P** **09 12 56.0 +0.3**
MORC pmax pmax
comp=Z,11nm,1.0s
MORC Moravsky Berou 66.81 316 *e*P **P** **09 12 56.0 +0.3**
comp=Z,11nm,1.0s
HFS Hagfors 66.83 327 LR LR 09 44 14.5
comp=Z,748nm,19.2s,baz=79,slow=38
PKSM Moragy 66.89 312⇓⇓P **P** **09 12 55.4 -0.8**
PKSM Moragy 66.89 312⇓⇓*i*P **P** **09 12 55.4 -0.8**
PKSM Moragy 66.89 312⇓⇓*e*P **P** **09 12 56.5 +0.3**
KMBO Kilima Mbogo 67.03 257 *e*P **P** **09 12 59.1 +1.2**
KMBO Kilima Mbogo 67.03 257 P **P** **09 12 58.9 +1.0**
comp=Z,12nm,1.0s,baz=34,slow=6.0,SNR=12
KMBO LR LR 09 40 54.1
comp=Z,596nm,21.7s,baz=93,slow=35
PKS9 Tamasi 67.05 312⇓⇓*e*P **P** **09 12 58.0 +0.8**
PKST T"s 67.06 313⇓⇓*e*P **P** **09 12 57.1 -0.1**
KSP Ksiaz 67.35 317 *e*P **P** **09 12 59.2 +0.2**
DPC Dobruska-Polom 67.44 316 *e*P **P** **09 13 00.2 +0.5**
DPC *e* 09 13 15.6
DPC Dobruska-Polom 67.44 316 *e*P **P** **09 13 00.2 +0.5**
DPC *ex* x 09 13 15.6
DPC AMS AMS 09 44 40.0
VRAC Vranov 67.52 315 LR LR 09 44 57.5
comp=Z,414nm,19.9s,baz=91,slow=38
UPC Upice 67.60 317 *e*P **P** **09 13 01.3 +0.7**
UPC Upice 67.60 317 *e*P **P** **09 13 01.3 +0.7**
NB2 NORSAR Subarra 67.84 328 P P 09 12 58.5 -3.5
comp=Z,2.6nm,0.6s,baz=77,slow=6.5
NOA NORSAR Array B 67.84 328 P **P** **09 12 59.8 -2.2**
NOA NORSAR Array B 67.84 328 P **P** **09 12 59.8 -2.2**
comp=Z,4.7nm,0.8s,baz=78,slow=6.3,SNR=9.1
NOA LR LR 09 44 20.7
comp=Z,729nm,18.7s,baz=65,slow=37
BEHE Becsehely 68.08 312⇓⇓*e*P **P** **09 13 04.6 +0.9**
TREC Trest 68.22 315 AMS AMS 09 45 00.0
comp=Z,500nm,16.4s
CONA Conrad Observa 68.32 314⇑*i*P **P** **09 13 03.8 -1.6**
comp=Z,27nm,1.3s
OPO Ambohidratompo 68.36 236 P **P** **09 13 07.4 +1.4**
OPO Ambohidratompo 68.36 236 P **P** **09 13 07.4 +1.4**
comp=Z,1.2nm,0.3s,baz=16,slow=11,SNR=6.0
PVCC Panska Ves 68.49 317 *e*P **P** **09 13 06.8 +0.6**
PVCC MLR MLR
comp=Z,500nm,20.2s
PVCC Panska Ves 68.49 317 *e*P **P** **09 13 06.8 +0.6**
PVCC AMS AMS 09 45 20.0
comp=Z,500nm,20.2s
PRU Pruhonice 68.64 316 *e*P **P** **09 13 07.5 +0.3**
PRU *e* 09 13 15.6
PRU MLR MLR
comp=Z,500nm,21.4s
PRU Pruhonice 68.64 316 *e*P **P** **09 13 07.5 +0.3**
PRU *ex* x 09 13 15.6
PRU AMS AMS 09 45 20.0
comp=Z,500nm,21.4s
PRA Prague 68.69 316 P **P** **09 13 08.0 +0.6**
PRA AMS AMS 09 45 30.0
ARSA Arzberg 68.72 313⇓*i*P **P** **09 13 06.4 -1.3**
comp=Z,8.7nm,1.1s
BRG Berggiesshubel 68.79 317 *e*P **P** **09 13 08.7 +0.7**
comp=Z,9.2nm,0.8s
BRG PP **PP** **09 15 39.4 -0.2**
comp=Z,11nm,1.6s
BRG
comp=N,906nm,15.8s
BRG
comp=E,483nm,20.4s
BRG
comp=Z,686nm,22.7s
BRG Berggiesshubel 68.79 317 *e*P **P** **09 13 07.5 -0.5**
comp=Z,17nm,1.3s
STKA Stephens Creek 69.06 144 P **P** **09 13 10.3 +0.5**
STKA Stephens Creek 69.06 144 P **P** **09 13 10.3 +0.5**
comp=Z,7.0nm,0.6s,baz=329,slow=7.0,SNR=16
STKA LR LR 09 45 39.1
comp=Z,612nm,21.7s,baz=321,slow=38
PERS Pernice 69.15 313 *e*P **P** **09 13 09.9 -0.6**
SOKA Soboth 69.19 313⇓*i*P **P** **09 13 09.6 -1.1**
comp=Z,9.4nm,1.0s
LEGS Legarje 69.20 312 *e*P **P** **09 13 10.6 -0.1**
CLL Collm 69.25 318 *e*P **P** **09 13 10.2 -0.7**
comp=Z,11nm,1.2s
CLL Collm 69.25 318⇑*i*P **P** **09 13 11.5 +0.6**
comp=Z,11nm,1.2s
CLL *e*SS SS 09 26 47.0 +4.5
CLL L L 09 44 00.0
comp=Z,500nm,19.2s
MOA Molln 69.38 314⇓*i*pP **P** **09 13 12.3 +0.5**
comp=Z,9.1nm,0.8s
GEC2 GERESS Array S 69.47 315 *e*P **P** **09 13 12.2 -0.3**
comp=Z,27nm,1.7s
GEC2 GERESS Array S 69.47 315 *e*P **P** **09 13 12.2 -0.3**
GEC2 pmax pmax
comp=Z,6.0nm,1.7s
GERES GERESS Array B 69.47 315 P **P** **09 13 11.0 -1.4**
GERES GERESS Array B 69.47 315 P **P** **09 13 11.0 -1.4**
comp=Z,3.6nm,0.7s,baz=71,slow=5.8,SNR=22
GERES LR LR 09 45 38.4
comp=Z,393nm,19.3s,baz=260,slow=38
KHC Kasperske Hory 69.47 316 *e*P **P** **09 13 12.4 0.0**
KHC *e* 09 13 21.1
KHC MLR MLR
comp=Z,600nm,19.7s
KHC Kasperske Hory 69.47 316 *e*P **P** **09 13 12.4 0.0**
KHC *ex* x 09 13 21.1
KHC AMS AMS 09 45 50.0
comp=Z,600nm,19.7s
KHC Kasperske Hory 69.47 316 *e*P **P** **09 13 13.0 +0.6**
comp=Z,8.2nm,1.4s
TANN Tannenbergstha 69.82 317 *e*P **P** **09 13 14.2 -0.3**
comp=Z,8.0nm,0.9s
WET Wettzell 69.91 316 *e*P **P** **09 13 14.8 -0.3**
comp=Z,23nm,1.6s
WET Wettzell 69.91 316 *e*P **P** **09 13 14.8 -0.3**
WET pmax pmax
comp=Z,15nm,1.6s
BSEG Bad Segeberg 70.11 321 *e*P **P** **09 13 16.3 +0.2**
comp=Z,36nm,1.2s
BSEG Bad Segeberg 70.11 321 *e*P **P** **09 13 16.3 +0.2**
BSEG pmax pmax
comp=Z,26nm,1.2s
ROTZ Rotzenmuhle 70.16 316 *e*P **P** **09 13 16.6 0.0**
comp=Z,43nm,1.6s
KBA Koelnbreinsper 70.19 313⇓*i*P **P** **09 13 16.1 -0.9**
comp=Z,11nm,1.1s
MOX Moxa 70.27 317 *e*P **P** **09 13 16.8 -0.5**
comp=Z,10.0nm,1.4s
MOX *e*L L 09 46 57.3
comp=Z,588nm,21.4s
MOX Moxa 70.27 317 *e*P **P** **09 13 16.8 -0.5**
MOX pmax pmax
comp=Z,12nm,1.4s
MOX MLR MLR
comp=Z,10μm,21.4s
RJOB Jochberg 70.36 314 *e*P **P** **09 13 17.6 -0.3**
comp=Z,20nm,0.9s
NRDL Niedersach Rie 70.64 320 *e*P **P** **09 13 19.7 +0.4**
comp=Z,31nm,1.5s
CLZ Clausthal 70.68 319 *e*P **P** **09 13 19.3 -0.4**
comp=Z,19nm,1.1s
CLZ Clausthal 70.68 319 *e*P **P** **09 13 19.3 -0.4**
CLZ pmax pmax
comp=Z,16nm,1.1s
GRF Grafenberg Arr 70.79 317 *e*P **P** **09 13 20.5 +0.1**
comp=Z,57nm,1.7s
GRF *e*L L 09 47 25.6
comp=Z,467nm,21.3s
GRF Grafenberg Arr 70.79 317 *e*P **P** **09 13 20.5 +0.1**
GRF pmax pmax
comp=Z,23nm,1.7s
GRF MLR MLR
comp=Z,57μm,21.3s
UBBA Unterbreizbach 71.20 318 *e*P **P** **09 13 22.1 -0.7**
comp=Z,28nm,1.5s
FUR Furstenfeldbru 71.21 315 *e*P **P** **09 13 22.7 -0.3**
comp=Z,69nm,1.5s
FUR Furstenfeldbru 71.21 315 *e*P **P** **09 13 22.7 -0.3**
FUR pmax pmax
comp=Z,23nm,1.5s
WTTA Wattenberg 71.25 314⇑*i*P **P** **09 13 22.6 -0.9**
comp=Z,11nm,0.7s
DAG Danmarks Havn 71.60 348 *e*P P 09 13 31.4 +6.6
DAG pmax pmax
comp=Z,2.0nm,0.9s
DAG MLR MLR
comp=Z,660nm,19.0s
DAG Danmarks Havn 71.60 348 *i* P P 09 13 31.4 +6.6
comp=Z,2.7nm,0.9s
DAG
comp=Z,630nm,19.0s
RETA Reutte 71.75 314⇑*i*pP **P** **09 13 26.9 +0.6**
comp=Z,14nm,0.9s
FETA Feichten 71.92 314⇑*i*P **P** **09 13 26.8 -0.7**
comp=Z,17nm,1.2s

IBBN	**Ibbenburen**	**72.07**	**320**	*eP*		**P**	**09 13 27.7**	**-0.4**
	comp=Z,30nm,0.8s								
JMIC	**Jan Mayen**	**72.09**	**341**	LR		LR	09 47 49.2		
	comp=Z,462nm,21.6s,baz=74,slow=38								
STU	**Stuttgart**	**72.34**	**316**	*eP*		**P**	**09 13 29.5**	**-0.3**
	comp=Z,20nm,0.9s								
DAVOX	**Davos/Dischmat**	**72.55**	**314**	LR		LR	09 50 19.8		
	comp=Z,556nm,20.3s,baz=255,slow=40								
BFO	**Black Forest**	**73.03**	**316**	*eP*		**P**	**09 13 33.1**	**-0.8**
	comp=Z,16nm,1.5s								
BFO	**Black Forest**	**73.03**	**316**	*eP*		**P**	**09 13 33.1**	**-0.8**
BFO				pmax		pmax			
	comp=Z,9.0nm,1.5s								
COLD	**Coldfoot**	**73.54**	**23**	*eP*		**P**	**09 13 37.5**	**+1.0**
	comp=Z,64nm,2.1s								
CDF	**Champ du Feu**	**73.66**	**316**	*eP*		**P**	**09 13 36.5**	**-1.2**
WLF	**Walferdange**	**73.92**	**318**	*eP*		**P**	**09 13 39.3**	**+0.2**
	comp=Z,35nm,1.3s								
PAGF	**Fort de Pagny**	**74.58**	**317**	*eP*		**P**	**09 13 41.6**	**-1.3**
LPG	**La Plagne**	**75.03**	**313**	*eP*		**P**	**09 13 44.6**	**-1.4**
	comp=Z,32nm,0.8s								
LPL	**La Plagne**	**75.03**	**313**	*eP*		**P**	**09 13 44.5**	**-1.4**
	comp=Z,25nm,0.7s								
CABF	**La Chapelle**	**75.05**	**315**	*eP*		**P**	**09 13 44.1**	**-1.8**
	comp=Z,13nm,0.9s								
TRF	**Thorofare Moun**	**75.25**	**26**	*eP*		**P**	**09 13 48.3**	**+1.5**
	comp=Z,13nm,1.3s								
MBDF	**Montbardon**	**75.30**	**313**	*eP*		**P**	**09 13 46.5**	**-0.9**
COLA	**College**	**75.50**	**24**	*eP*		**P**	**09 13 48.2**	**+0.3**
COLA	**College**	**75.50**	**24**	*eP*		**P**	**09 13 48.2**	**+0.3**
	comp=Z,151nm,1.5s								
MCK	**McKinley**	**75.65**	**26**	*eP*		**P**	**09 13 48.2**	**-0.7**
MCK				pmax		pmax			
	comp=Z,19nm,1.2s								
MCK	**McKinley**	**75.65**	**26**	*eP*		**P**	**09 13 48.2**	**-0.7**
	comp=Z,19nm,1.2s								
ORIF	**Oris-en-Rattie**	**75.81**	**313**	*eP*		**P**	**09 13 48.7**	**-1.6**
	comp=Z,14nm,0.8s								
ORIF				*eR*					
	comp=Z,656nm,21.0s								
ILAR	**Eielson Array**	**75.91**	**24**	P		**P**	**09 13 49.1**	**-1.2**
ILAR	**Eielson Array**	**75.91**	**24**	P		**P**	**09 13 49.1**	**-1.2**
	comp=Z,2.8nm,1.0s,baz=279,slow=5.5,SNR=21								
SMF	**Signal de Mont**	**76.47**	**315**	*eP*		**P**	**09 13 52.7**	**-1.2**
SSF	**Saint Saulge**	**76.52**	**316**	*eP*		**P**	**09 13 52.2**	**-1.9**
	comp=Z,7.6nm,0.7s								
RC01	**Rabbit Creek A**	**76.61**	**28**	*eP*		**P**	**09 13 53.1**	**-1.2**
	comp=Z,11nm,1.0s								
PMR	**Palmer**	**76.61**	**28**	*eP*		**P**	**09 13 54.3**	**0.0**
PMR				pmax		pmax			
	comp=Z,22nm,1.1s								
PMR	**Palmer**	**76.61**	**28**	*eP*		**P**	**09 13 54.3**	**0.0**
	comp=Z,22nm,1.1s								
AVF	**Avril sur Loir**	**76.73**	**316**	*eP*		**P**	**09 13 53.4**	**-1.9**
OHAK	**Old Harbor**	**76.79**	**33**	*eP*		**P**	**09 13 55.5**	**+0.1**
	comp=Z,35nm,1.3s								
KEST	**Kesra**	**76.80**	**303**	LR		LR	09 53 41.8		
	comp=Z,141nm,20.9s,baz=336,slow=40								
SML	**Sawmill**	**76.84**	**27**	*eP*		**P**	**09 13 54.7**	**-1.0**
SML				pmax		pmax			
	comp=Z,17nm,1.4s								
SML	**Sawmill**	**76.84**	**27**	*eP*		**P**	**09 13 54.7**	**-1.0**
	comp=Z,16nm,1.4s								
LASF	**Ste Croix**	**77.48**	**313**	*eP*		**P**	**09 13 58.2**	**-1.4**
	comp=Z,10nm,0.9s								
TCF	**Toulx Ste Croi**	**77.65**	**315**	*eP*		**P**	**09 13 58.9**	**-1.6**
EGAK	**Eagle**	**77.97**	**23**	*eP*		**P**	**09 14 01.9**	**0.0**
	comp=Z,7.9nm,1.3s								
SUMG	**Summit**	**78.26**	**348**	*eP*		**P**	**09 14 01.4**	**-2.5**
SUMG				pmax		pmax			
	comp=Z,13nm,0.8s								
SUMG	**Summit**	**78.26**	**348**	*eP*		**P**	**09 14 01.4**	**-2.5**
	comp=Z,13nm,0.8s								
SUMG	**Summit**	**78.26**	**348**	*i P*		**P**	**09 14 01.8**	**-2.1**
SUMG									
	comp=Z,12nm,0.8s								
RJF	**Les Rejaudoux**	**78.50**	**315**	*eP*		**P**	**09 14 04.8**	**-0.4**
RJF				*eR*					
	comp=Z,466nm,22.8s								
MTLF	**Montolieu**	**78.86**	**313**	*eP*		**P**	**09 14 05.7**	**-1.6**
	comp=Z,5.4nm,0.7s								
BORG	**Borgarnes**	**79.55**	**338**	LR		LR	09 53 17.8		
	comp=Z,193nm,18.4s,baz=218,slow=39								
SGMF	**Saint Gilles**	**79.74**	**319**	*eP*		**P**	**09 14 10.6**	**-1.3**
	comp=Z,23nm,1.0s								
ROSF	**Rostrenen**	**80.12**	**319**	*eP*		**P**	**09 14 12.7**	**-1.3**
	comp=Z,15nm,0.7s								
ETSF	**Etsaut**	**80.89**	**313**	*eP*		**P**	**09 14 17.0**	**-1.3**
	comp=Z,12nm,0.9s								
SKAG	**Skagway**	**83.42**	**25**	*eP*		**P**	**09 14 32.1**	**+1.0**
	comp=Z,20nm,1.0s								
ESDC	**Sonseca Array**	**84.65**	**312**	P		**P**	**09 14 37.7**	**-0.2**
ESDC	**Sonseca Array**	**84.65**	**312**	P		**P**	**09 14 37.7**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=53,slow=5.4,SNR=8.0								
ESDC				LR		LR	09 59 08.6		
	comp=Z,204nm,18.2s,baz=135,slow=40								
YKA	**Yellowknife Ar**	**87.68**	**16**	P		**P**	**09 14 50.9**	**-1.4**
YKA	**Yellowknife Ar**	**87.68**	**16**	P		**P**	**09 14 50.9**	**-1.4**
	comp=Z,1.8nm,0.6s,baz=329,slow=5.0,SNR=14								
YKA				LR		LR	09 54 23.9		
	comp=Z,47nm,20.3s,baz=185,slow=36								
BOSA	**Boshof**	**90.58**	**238**	P		**P**	**09 15 06.4**	**-0.2**
BOSA	**Boshof**	**90.58**	**238**	P		**P**	**09 15 06.4**	**-0.2**
	comp=Z,8.4nm,1.2s,baz=52,slow=3.4,SNR=4.3								
BOSA				LR		LR	09 52 32.9		
	comp=Z,301nm,19.2s,baz=71,slow=33								
TORD	**Torodi Ar. Bea**	**92.61**	**286**	P		**P**	**09 15 16.3**	**0.0**
TORD				PP		**PP**	**09 18 56.4**	**-1.4**
TORD	**Torodi Ar. Bea**	**92.61**	**286**	P		**P**	**09 15 16.3**	**0.0**
	comp=Z,0.4nm,0.7s,baz=60,slow=4.5,SNR=5.1								
TORD				PP		**PP**	**09 18 56.4**	**-1.4**
	comp=Z,1.0nm,0.9s,baz=67,slow=5.2,SNR=4.3								
TORD				LR		LR	09 59 19.7		
	comp=Z,201nm,21.2s,baz=105,slow=37								
RPZ	**Rata Peaks**	**94.16**	**137**	LR		LR	09 59 45.4		
	comp=Z,458nm,19.0s,baz=210,slow=37								
SCHQ	**Schefferville**	**99.19**	**353**	LR		LR	10 03 55.7		
	comp=Z,365nm,21.5s,baz=6.8,slow=38								
PPT2	**Papeete2**	**114.51**	**99**	*e*LR		LR	09 55 06.4		
	comp=Z,282nm,25.5s								
TBI	**Tubuai**	**116.51**	**104**	*e*LR		LR	09 56 01.7		
	comp=Z,140nm,27.5s								
TXAR	**Lajitas Array**	**120.42**	**25**	PKP		**PKPdf**	**09 20 54.4**	**-1.6**
TXAR				PP		PP	09 22 28.1	+6.9	
TXAR	**Lajitas Array**	**120.42**	**25**	PKP		**PKPdf**	**09 20 54.4**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=212,slow=0.8,SNR=8.3								
TXAR				PP		PP	09 22 28.1	+6.9	
	comp=Z,1.3nm,1.2s,baz=345,slow=3.9,SNR=3.8								
RKT	**Rikitea**	**129.23**	**100**	*e*LR		LR	10 01 55.8		
	comp=Z,208nm,36.5s								
ROSC	**El Rosal**	**149.36**	**351**	PKPbc		**PKPbc**	**09 21 53.5**	**-0.8**
ROSC	**El Rosal**	**149.36**	**351**	PKPbc		**PKPbc**	**09 21 53.5**	**-0.8**
	comp=Z,51nm,0.7s,baz=121,slow=7.3,SNR=7.7								
BDFB	**Brasilia**	**149.45**	**283**	PKPbc		**PKPbc**	**09 21 53.6**	**-0.4**
BDFB	**Brasilia**	**149.45**	**283**	PKPbc		**PKPbc**	**09 21 53.6**	**-0.4**
	comp=Z,5.3nm,0.8s,baz=108,slow=3.6,SNR=7.1								
LPAZ	**La Paz**	**166.27**	**311**	PKP		**PKPdf**	**09 22 10.8**	**+0.1**
LPAZ	**La Paz**	**166.27**	**311**	PKP		**PKPdf**	**09 22 10.8**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=1.5,slow=6.6,SNR=3.9								

*DJA **10** 09:02:29.6±2.5,8˚S±19˚×11˚6E±˚, h277km±25km, M4.1/12, mb4.2/4, mB4.3/2, MLv4.1/12, Mw(mB)3.5/2*
*ISCJB **10** 09:02:32.1±0.3, 7˚.80S±0˚.05×115˚.85E±0˚.04, h250km, mb4.1/15, Error ellipse: s-maj=6.8km s-min=4.9km az=24.9*
*AUST **10** 09:02:32.1±0.0, 7˚.70S×115˚.88E, h239km, Error ellipse: s-maj=1.7km s-min=1.0km az=338.0*
*IDC **10** 09:02:33.6±2.2, 7˚.81S×115˚.95E, h250km±20km, mb3.8/12, mb1 3.8/15, mb1mx3.7/26, mbtmp3.7/15, Error ellipse: s-maj=22.7km s-min=9.4km az=59.0*
*NEIC **10** 09:02:33.3±0.9, 7˚.83S×115˚.92E, h249km±9km, mb4.3/3, Error ellipse: s-maj=12.9km s-min=6.1km az=59.0*

ISC 10 09:02:33.2±0.5, 7˚.89S±0˚.06×115˚.87E±0˚.05, h250km, n70, σ1°07/78, mb4.1/15, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHKI	**Kahang-Kahang**	**0.54**	**209**	P	**Pn**	**09 03 05.0**	**-1.2**
SRBI	**Singaraja**	**0.68**	**254**	P	**Pn**	**09 03 06.2**	**-0.4**
DNP	**Denpasar**	**1.02**	**220**	P	**Pn**	**09 03 08.0**	**-0.3**
IGBI	**Denpasar**	**1.17**	**218**	P	**Pn**	**09 03 07.9**	**-1.3**
JAGI	**Jajag, Banyuwa**	**1.79**	**251**	P	**Pn**	**09 03 13.1**	**-0.8**
JAGI	**Jajag, Banyuwa**	**1.79**	**251**	P	**Pn**	**09 03 13.0**	**-0.8**
	baz=1.9,SNR=52						
JAGI				S	**S**	**09 03 43.3**	**-2.6**
	baz=1.9,SNR=5.2						
KMMI	**Kalianget**	**2.06**	**294**	P	**Pn**	**09 03 18.2**	**+2.0**
BLJI	**Banyuglugur**	**2.26**	**274**	P	**Pn**	**09 03 19.0**	**+1.0**
GMJI	**Gumukmas**	**2.43**	**261**	P	**Pn**	**09 03 19.7**	**0.0**
BBKI	**Banjar Baru**	**4.52**	**347**	P	Pn	09 03 49.4	+6.2
	54nm,1.1s,0.3nm						
WSI	**Waingapu**	**4.72**	**112**	S	**S**	**09 04 42.8**	**-0.5**
	baz=4.8,SNR=4.2						
KAPI	**Kappang**	**4.80**	**54**	*e*Pn	**Pn**	**09 03 45.4**	**-1.2**
KAPI	**Kappang**	**4.80**	**54**	P	**Pn**	**09 03 45.3**	**-1.3**
	54nm,0.9s,591nm0.2nm						
KAPI	**Kappang**	**4.80**	**54**	P	**Pn**	**09 03 45.0**	**-1.6**
	3.7nm,0.3s,baz=243,slow=11,SNR=21						
BKSI	**Bulukumba**	**4.94**	**59**	P	**Pn**	**09 03 49.1**	**+0.9**
	48nm,0.7s,586nm0.2nm						
UGM	**Wanagama**	**5.29**	**269**	P	**Pn**	**09 03 53.8**	**+1.1**
	baz=5.3,SNR=8.4						
UGM				S	**S**	**09 04 51.8**	**-4.2**
	baz=5.3,SNR=3.5						
SPSI	**Sidrap Palu**	**5.50**	**45**	P	**Pn**	**09 03 55.2**	**0.0**
XMIS	**Christmas Isla**	**10.41**	**255**	S	S	09 06 44.9	-9.0
	baz=10,SNR=3.5						
MBWA	**Marble Bar**	**13.71**	**165**	*e*Pn	**Pn**	**09 05 37.5**	**-0.3**
	35nm,0.9s						
FITZ	**Fitzroy Crossi**	**13.91**	**138**	P	**P**	**09 05 40.9**	**-0.1**
FITZ				S	**S**	**09 08 13.1**	**-1.2**
FITZ	**Fitzroy Crossi**	**13.91**	**138**	P	**P**	**09 05 40.9**	**-0.1**
	baz=338,slow=11						
FITZ				S	**S**	**09 08 13.1**	**-1.2**
	1.0nm,0.3s,baz=185,slow=20,SNR=7.5						
FITZ	**Fitzroy Crossi**	**13.91**	**138**	P	**P**	**09 05 42.8**	**+1.9**
	baz=14,SNR=4.8						
FITZ				S	**S**	**09 08 14.0**	**-0.4**
	baz=14,SNR=3.7						
MTN	**Manton Dam**	**15.80**	**109**	S	S	09 08 45.6	-10
	baz=16,SNR=3.3						
KDU	**Kakadu**	**17.02**	**108**	P	**P**	**09 06 15.6**	**+0.4**
	baz=17,SNR=6.0						
FAKI	**Fak Fak**	**17.04**	**74**	P	**P**	**09 06 13.7**	**-1.8**
	baz=17,SNR=5.4						
MEEK	**Meekatharra**	**18.82**	**172**	P	**Pn**	**09 06 36.8**	**-1.7**
	baz=19,SNR=16						
MEEK				S	S	09 10 08.2	+13
	baz=19,SNR=7.6						
PSI	**Prapat**	**19.96**	**302**	P	**P**	**09 06 48.1**	**+1.0**
PSI	**Prapat**	**19.96**	**302**	P	**P**	**09 06 48.1**	**+1.0**
	1.4nm,0.3s,baz=132,slow=12,SNR=3.9						
MORW	**Morawa**	**21.07**	**180**	P	**P**	**09 07 00.9**	**+2.5**
	baz=21,SNR=3.8						
MORW				S	S	09 11 04.1	+28
	baz=21,SNR=4.5						
WRA	**Warramunga Arr**	**21.53**	**126**	P	**P**	**09 07 03.0**	**-0.1**
WRA				PcP	**PcP**	**09 10 55.5**	**+0.2**
WRA	**Warramunga Arr**	**21.53**	**126**	P	**P**	**09 07 03.0**	**-0.1**
	2.7nm,0.3s,baz=300,slow=12,SNR=45						
WRA				PcP	**PcP**	**09 10 55.5**	**+0.2**
	0.6nm,0.8s,baz=324,slow=2.2,SNR=4.8						
WRAB	**Tennant Creek**	**21.54**	**126**	*eP*	**P**	**09 07 03.1**	**+0.1**
	3.0nm,0.3s						
AS31	**Alice Springs**	**23.35**	**134**	*eP*	**P**	**09 07 20.8**	**+1.2**
ASAR	**Alice Springs**	**23.35**	**134**	P	**P**	**09 07 20.4**	**+0.8**
ASAR				PcP	**PcP**	**09 10 59.2**	**+0.3**
ASAR	**Alice Springs**	**23.35**	**134**	P	**P**	**09 07 20.4**	**+0.8**
	2.4nm,0.5s,baz=310,slow=8.5,SNR=47						
ASAR				PcP	**PcP**	**09 10 59.2**	**+0.3**
	0.6nm,0.5s,baz=325,slow=1.4,SNR=9.1						
COEN	**Coen**	**27.46**	**105**	*eP*	**P**	**09 07 56.6**	**-0.1**
	78nm,0.5s						
COEN	**Coen**	**27.46**	**105**	P	**P**	**09 07 56.7**	**0.0**
	baz=28,SNR=23						
MTSU	**Mount Surprise**	**29.48**	**113**	P	**P**	**09 08 15.8**	**+1.3**
	baz=30,SNR=31						
CTA	**Charters Tower**	**31.81**	**116**	P	**P**	**09 08 35.0**	**+0.1**
CTA	**Charters Tower**	**31.81**	**116**	P	**P**	**09 08 35.0**	**+0.1**
	5.7nm,0.7s,baz=277,slow=10,SNR=4.8						
STKA	**Stephens Creek**	**33.80**	**138**	*eP*	**P**	**09 08 53.4**	**+1.4**
STKA				PcP	**PcP**	**09 11 25.3**	**+0.3**
STKA	**Stephens Creek**	**33.80**	**138**	P	**P**	**09 08 52.7**	**+0.8**
	0.8nm,0.3s,baz=316,slow=8.6,SNR=6.0						
STKA				PcP	**PcP**	**09 11 25.3**	**+0.3**
	1.7nm,0.6s,baz=90,slow=1.0,SNR=4.0						
STKA	**Stephens Creek**	**33.80**	**138**	P	**P**	**09 08 53.7**	**+1.8**
	baz=34,SNR=4.6						
YNG	**Young**	**39.83**	**136**	P	**P**	**09 09 44.8**	**+2.2**
	baz=40,SNR=8.9						
KSAR	**Wonju Array Be**	**46.48**	**13**	P	**P**	**09 10 36.6**	**+1.1**
KSRS	**Korea Array**	**46.50**	**13**	P	**P**	**09 10 36.6**	**+1.0**
	6.2nm,0.8s,baz=189,slow=8.0,SNR=12						
MJAR	**Matsushiro Arr**	**48.92**	**24**	P	**P**	**09 10 53.4**	**-0.9**
MJAR	**Matsushiro Arr**	**48.92**	**24**	P	**P**	**09 10 53.4**	**-0.9**
	3.9nm,0.6s,baz=201,slow=8.4,SNR=8.6						
USRK	**Ussuriysk Arra**	**53.87**	**14**	P	**P**	**09 11 30.6**	**0.0**
	7.2nm,1.1s,baz=194,slow=6.3,SNR=5.3						
SONM	**Songino Array**	**56.11**	**352**	P	**P**	**09 11 46.9**	**+0.1**
SONM	**Songino Array**	**56.11**	**352**	P	**P**	**09 11 46.9**	**+0.1**
	6.8nm,0.7s,baz=170,slow=8.2,SNR=16						
MK31	**Makanchi Array**	**62.10**	**335**	*eP*	**P**	**09 12 27.9**	**+0.3**
MKAR	**Makanchi Array**	**62.10**	**335**	P	**P**	**09 12 27.9**	**+0.3**
MKAR	**Makanchi Array**	**62.10**	**335**	P	**P**	**09 12 27.9**	**+0.3**
	2.2nm,0.5s,baz=154,slow=6.9,SNR=16						
KURBB	**Kurchatov Arra**	**66.64**	**335**	P	**P**	**09 12 56.7**	**-0.1**
	0.8nm,0.5s,baz=147,slow=6.2,SNR=4.1						
KURK	**Kurchatov**	**66.67**	**335**	P	**P**	**09 12 56.7**	**-0.4**
ZALV	**Zalesovo Beam**	**66.94**	**341**	P	**P**	**09 12 57.9**	**-0.8**
ZALV	**Zalesovo Beam**	**66.94**	**341**	P	**P**	**09 12 57.9**	**-0.8**
	2.9nm,0.4s,baz=141,slow=4.8,SNR=8.5						
BVAR	**Borovoye Array**	**71.89**	**333**	P	**P**	**09 13 28.4**	**-0.5**
BVAR	**Borovoye Array**	**71.89**	**333**	P	**P**	**09 13 28.4**	**-0.5**
	0.8nm,0.3s,baz=129,slow=8.7,SNR=5.3						
BRVK	**Borovoye**	**71.96**	**333**	*eP*	**P**	**09 13 29.4**	**0.0**
	1.5nm,0.5s						
ABKAR	**Akbulak array**	**74.89**	**326**	P	**P**	**09 13 45.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**115.21**	**281**	PKP	**PKPdf**	**09 20 45.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**115.21**	**281**	PKP	**PKPdf**	**09 20 45.4**	**-0.4**
	1.2nm,0.7s,baz=42,slow=1.6,SNR=9.7						
NVAR	**Mina Array Bea**	**122.67**	**49**	PKP	**PKPdf**	**09 20 59.6**	**-0.2**
NVAR	**Mina Array Bea**	**122.67**	**49**	PKP	**PKPdf**	**09 20 59.6**	**-0.2**
	0.4nm,0.6s,baz=243,slow=1.7,SNR=4.6						
PDAR	**Pinedale Array**	**127.18**	**41**	PKP	**PKPdf**	**09 21 08.2**	**-0.2**
PDAR	**Pinedale Array**	**127.18**	**41**	PKP	**PKPdf**	**09 21 08.2**	**-0.2**
	0.2nm,0.4s,baz=90,slow=0.9,SNR=3.9						
CPUP	**Villa Florida**	**145.35**	**191**	PKPbc	**PKPab**	**09 21 42.9**	**+0.2**
CPUP	**Villa Florida**	**145.35**	**191**	PKPbc	**PKPab**	**09 21 42.9**	**+0.2**
	0.9nm,0.4s,baz=199,slow=2.9,SNR=7.0						

*ISCJB **10** 09:07:21.1±0.5, 1˚.04N±0˚.05×125˚.92E±0˚.04, h80km±5km, mb4.2/23, Error ellipse: s-maj=7.7km s-min=5.8km az=10.8*
*DJA **10** 09:07:21.7±0.8, 1˚N±5˚×12˚6E±˚, h17km±11km, M4.7/10, mb4.9/3, mB5.2/3, MLv4.7/10, Mw(mB)4.5/3*
*NEIC **10** 09:07:22.5±1.8, 0˚.94N×125˚.91E, h82km±17km, mb4.2/8, Error ellipse: s-maj=14.7km s-min=7.0km az=49.0*
*IDC **10** 09:07:22.6±2.8, 0˚.90N×125˚.84E, h81km±24km, mb4.1/16, mb1 4.2/17, mb1mx4.1/24, mbtmp4.1/17, MS3.3/2, Ms1 3.5/2, ms1mx3.1/39, Error ellipse: s-maj=24.2km s-min=9.8km az=74.0*

ISC 10 09:07:21.9±0.9, 0.99N±0˚.05×125˚.92E±0˚.04, h74km±8km, n58, σ1°39/67, mb4.3/23, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**1.17**	**293**	P	**Pn**	**09 07 41.2**	**-1.6**
MNI				S	**Sn**	**09 07 56.3**	**-2.1**
TNTI	**Ternate**	**1.46**	**99**	P	**Pn**	**09 07 46.7**	**+0.2**
TNTI				S	**Sn**	**09 08 05.7**	**+0.6**
KMSI	**Cibinong**	**1.98**	**258**	P	**Pn**	**09 07 52.6**	**-0.8**
KMSI				S	**Sn**	**09 08 17.2**	**-0.2**
GAMI	**Galela, Maluku**	**2.05**	**66**	S	**Sn**	**09 08 22.3**	**+3.3**
LBMI	**Labuha**	**2.26**	**136**	P	**Pn**	**09 07 56.6**	**-0.6**
GTOI	**Gorontalo**	**2.93**	**263**	P	**Pn**	**09 08 06.8**	**+0.6**
LUWI	**Luwuk**	**3.74**	**237**	P	Pn	09 08 20.9	+3.6
LUWI				S	**Sn**	**09 09 02.8**	**+2.6**
MRSI	**Marisa**	**4.01**	**263**	P	**Pn**	**09 08 21.3**	**+0.3**
MRSI				S	**Sn**	**09 09 12.2**	**+5.4**
SKSI	**Soroako, Sulaw**	**5.76**	**233**	P	**Pn**	**09 08 47.2**	**+2.2**
	96nm,0.8s,1µm0.3nm						
CTBH	**Cotabato--PC H**	**6.41**	**345**	*i P*	**Pn**	**09 08 55.9**	**+2.2**
TTSI	**Tana Toraja**	**7.30**	**237**	P	**Pn**	**09 09 08.3**	**+2.4**
	70nm,0.8s,2µm0.2nm						
SPSI	**Sidrap Palu**	**7.88**	**231**	P	Pn	09 09 17.3	+3.5
KAPI	**Kappang**	**8.58**	**226**	P	**Pn**	**09 09 22.4**	**-1.0**
KAPI	**Kappang**	**8.58**	**226**	P	**Pn**	**09 09 22.4**	**-1.0**
	0.9nm,0.3s,baz=61,slow=13,SNR=3.5						
KAPI				LR	LR	09 12 49.6	
	comp=Z,108nm,21.5s,baz=62,slow=39						
KSM	**Kuching**	**15.62**	**272**	Pn	**P**	**09 10 59.5**	**-1.0**
	22nm,0.8s						
WRAB	**Tennant Creek**	**22.38**	**159**	P	**P**	**09 12 13.6**	**-0.6**
	3.1nm,0.6s						
WRA	**Warramunga Arr**	**22.38**	**159**	P	**P**	**09 12 13.1**	**-1.3**
WRA				S	**S**	**09 16 13.0**	**-2.5**
WRA	**Warramunga Arr**	**22.38**	**159**	P	**P**	**09 12 13.1**	**-1.3**
	5.6nm,0.9s,baz=334,slow=11,SNR=8.8						
WRA				S	**S**	**09 16 13.0**	**-2.5**
	1.1nm,0.9s,baz=330,slow=17,SNR=4.4						
COEN	**Coen**	**22.65**	**132**	*eP*	**P**	**09 12 15.3**	**-1.8**
	63nm,0.9s						
IPM	**Ipoh**	**25.10**	**278**	*eP*	**P**	**09 12 39.9**	**-0.1**
	28nm,1.3s						
ASAR	**Alice Springs**	**25.71**	**163**	P	**P**	**09 12 45.7**	**+0.3**
ASAR				S	**S**	**09 17 10.3**	**+1.3**
ASAR	**Alice Springs**	**25.71**	**163**	P	**P**	**09 12 45.7**	**+0.3**
	6.5nm,0.7s,baz=346,slow=13,SNR=12						
ASAR				S	**S**	**09 17 10.3**	**+1.3**
	0.7nm,0.9s,baz=346,slow=15,SNR=3.3						
PSI	**Prapat**	**27.04**	**274**	P	**P**	**09 12 57.4**	**-0.3**
PSI	**Prapat**	**27.04**	**274**	P	**P**	**09 12 57.4**	**-0.3**
	11nm,0.5s,baz=130,slow=5.6,SNR=5.3						
CTAO	**Charters Tower**	**28.92**	**138**	*eP*	**P**	**09 13 14.9**	**+0.7**
	1.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**31.66**	**305**	P	**P**	**09 13 38.4**	**0.0**
CMAR	**Chiang Mai Arr**	**31.66**	**305**	P	**P**	**09 13 38.4**	**0.0**
	0.9nm,0.3s,baz=101,slow=4.7,SNR=3.6						
CMAR				LR	LR	09 25 03.3	
	comp=Z,131nm,20.1s,baz=125,slow=34						
STKA	**Stephens Creek**	**35.91**	**157**	*eP*	**P**	**09 14 16.0**	**+0.9**
STKA	**Stephens Creek**	**35.91**	**157**	P	**P**	**09 14 15.5**	**+0.4**
	5.8nm,0.8s,baz=330,slow=7.8,SNR=4.5						
KSAR	**Wonju Array Be**	**36.32**	**3**	P	**P**	**09 14 20.1**	**+1.6**
KSRS	**Korea Array**	**36.33**	**3**	P	**P**	**09 14 20.1**	**+1.5**
	2.0nm,0.6s,baz=179,slow=9.5,SNR=7.3						
MJAR	**Matsushiro Arr**	**37.16**	**16**	P	**P**	**09 14 25.8**	**+0.1**
MJAR	**Matsushiro Arr**	**37.16**	**16**	P	**P**	**09 14 25.8**	**+0.1**
	3.1nm,0.8s,baz=189,slow=9.5,SNR=5.7						
USRK	**Ussuriysk Arra**	**43.36**	**6**	P	**P**	**09 15 18.2**	**+1.4**
	4.3nm,0.6s,baz=187,slow=7.0,SNR=13						
SONM	**Songino Array**	**49.64**	**343**	P	**P**	**09 16 06.5**	**+0.5**
SONM	**Songino Array**	**49.64**	**343**	P	**P**	**09 16 06.5**	**+0.5**
	2.7nm,0.8s,baz=160,slow=9.0,SNR=4.8						
MK31	**Makanchi Array**	**59.35**	**327**	*eP*	**P**	**09 17 16.2**	**-0.2**
MKAR	**Makanchi Array**	**59.35**	**327**	P	**P**	**09 17 16.1**	**-0.3**
MKAR				PcP	**PcP**	**09 18 04.4**	**+0.8**
MKAR	**Makanchi Array**	**59.35**	**327**	P	**P**	**09 17 16.1**	**-0.3**
	5.3nm,0.5s,baz=123,slow=8.2,SNR=32						
MKAR				PcP	**PcP**	**09 18 04.4**	**+0.8**
	2.1nm,0.9s,baz=123,slow=4.5,SNR=4.0						
ZALV	**Zalesovo Beam**	**62.66**	**334**	P	**P**	**09 17 37.9**	**-0.7**
ZALV	**Zalesovo Beam**	**62.66**	**334**	P	**P**	**09 17 37.9**	**-0.7**
	0.7nm,0.4s,baz=112,slow=6.6,SNR=4.1						
KURBB	**Kurchatov Arra**	**63.61**	**328**	P	**P**	**09 17 44.5**	**-0.4**
	3.3nm,0.5s,baz=134,slow=6.6,SNR=17						
KURK	**Kurchatov**	**63.62**	**329**	P	**P**	**09 17 44.5**	**-0.5**
KKAR	**Karatay Array**	**64.69**	**318**	*eP*	**P**	**09 17 51.0**	**-1.2**
	1.4nm,0.7s						
BRVK	**Borovoye**	**69.25**	**328**	*eP*	**P**	**09 18 20.8**	**-0.1**
	3.5nm,0.

KNT	**Kendrikon**	**0.19**	**137**	P		**Pg**	**09 10 12.6**	**+0.5**
KNT				S		**Sg**	**09 10 14.9**	**0.0**
GRG	**Griva**	**0.42**	**215**	P		**Pg**	**09 10 16.6**	**+0.3**
GRG				S		**Sg**	**09 10 21.7**	**-0.2**
GRG	**Griva**	**0.42**	**215**	P		**Pg**	**09 10 16.6**	**+0.3**
GRG				S		**Sg**	**09 10 21.7**	**-0.2**
SRS	**Serrai**	**0.68**	**106**	P		**Pg**	**09 10 21.0**	**-0.2**
SRS				S		**Sg**	**09 10 29.9**	**-0.2**
SRS	**Serrai**	**0.68**	**106**	P		**Pg**	**09 10 21.0**	**-0.2**
SRS				S		**Sg**	**09 10 29.9**	**-0.2**
HORT	**Hortiatis**	**0.76**	**158**	P		**Pg**	**09 10 22.7**	**0.0**
HORT				S		**Sg**	**09 10 33.1**	**+0.5**
HORT	**Hortiatis**	**0.76**	**158**	P		**Pg**	**09 10 22.7**	**0.0**
HORT				S		**Sg**	**09 10 33.1**	**+0.5**
NVR	**Nevrokopi**	**0.86**	**86**	P		**Pb**	**09 10 24.9**	**0.0**
NVR				S		**Sg**	**09 10 36.0**	**+0.3**
NVR	**Nevrokopi**	**0.86**	**86**	P		**Pb**	**09 10 24.9**	**0.0**
NVR				S		**Sg**	**09 10 36.0**	**+0.3**
VTS	**Vitosha**	**1.34**	**16**	P		**Pn**	**09 10 33.1**	**+0.3**
VTS				S		**Sb**	**09 10 50.6**	**+0.2**
VTS	**Vitosha**	**1.34**	**16**	P		**Pn**	**09 10 33.1**	**+0.3**
VTS				S		**Sb**	**09 10 50.6**	**+0.2**
KAVA	**Kavala**	**1.39**	**102**	P		**Pn**	**09 10 33.0**	**-0.3**
KAVA				S		**Sb**	**09 10 51.1**	**-0.5**
KAVA	**Kavala**	**1.39**	**102**	P		**Pn**	**09 10 33.0**	**-0.3**
KAVA				S		**Sb**	**09 10 51.1**	**-0.5**

CASC 10 09:32:17.3±1.5, 12°28N×90°48W, h20km±33km, MD3.7, ML3.3,3C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.76**	**28**	⇑*e*P	Pn	09 32 46.6	-0.4
SBLS				*e*S	Sn	09 33 09.6	+0.5
SNJE	**San Jose**	**1.79**	**28**	*e*P	Pn	09 32 47.1	-0.3
SNJE				*e*S	Sn	09 33 10.4	+0.6
RTR	**El Retiro**	**1.80**	**27**	⇑*e*P	Pn	09 32 47.3	-0.1
RTR				*e*S	Sn	09 33 10.3	+0.4
SNET	**Serv Nac Est T**	**1.85**	**41**	⇑*e*P	Pn	09 32 47.9	-0.2
SNET				AML	AML	09 33 16.1	
	comp=Z,321nm,0.2s						
BOQS	**Boqueron**	**1.86**	**39**	*e*P	Pn	09 32 48.2	-0.1
LFRS	**El Faro**	**1.92**	**46**	*e*P	Pn	09 32 49.2	+0.1
LFRS				*e*S	Sn	09 33 13.2	+0.5
LFU	**La Fuente**	**1.97**	**42**	*e*P	Pn	09 32 49.9	+0.2
LFU				*e*S	Sn	09 33 14.8	+0.8
RBDL	**Robledal**	**1.98**	**23**	*e*P	Pn	09 32 49.8	-0.2
RBDL				*e*S	Sn	09 33 14.9	+0.7
LBRS	**Las Brisas**	**2.01**	**44**	*e*P	Pn	09 32 50.7	+0.4
LBRS				*e*S	Sn	09 33 16.4	+1.4
FUG	**Fuego 3**	**2.18**	**351**	*e*P	Pn	09 32 51.4	-1.3
NBG	**Las Nubes**	**2.29**	**3**	*e*P	Pn	09 32 54.5	+0.1
NBG				*e*S	Sn	09 33 24.1	+1.7
CNCH	**Conchagua**	**2.76**	**69**	*e*P	Pn	09 33 01.2	+0.5
MRL	**Marmol**	**2.87**	**15**	*e*P	Pn	09 33 03.4	+1.2
MRL				*e*S	Sn	09 33 39.4	+3.0

IDC 10 09:41:01.9±1.9, 7°04S×120°41E, h432km±15km, mb2.8/2, mb1 3.1/4, mb1mx2.8/22, mbtmp2.9/4, Error ellipse: s-maj=158.0km s-min=16.4km az=56.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.12**	**342**	P	P	09 42 01.7	+0.1
	17nm,0.3s,baz=173,slow=5.6,SNR=27						
KAPI				S	S	09 42 50.0	+0.2
	1.6nm,0.3s,baz=80,slow=20,SNR=3.7						
WRA	**Warramunga Arr**	**18.63**	**135**	P	P	09 44 51.5	-0.3
	0.2nm,0.3s,baz=315,slow=11,SNR=12						
ASAR	**Alice Springs**	**21.01**	**143**	P	P	09 45 13.7	0.0
	1.2nm,0.6s,baz=319,slow=8.2,SNR=30						
MKAR	**Makanchi Array**	**63.38**	**332**	P	P	09 50 47.6	+0.1
	0.3nm,0.6s,baz=156,slow=8.0,SNR=3.7						

NNC 10 09:41:11.1±5.7, 54°15N×86°38E, h0km, mb3.8, mpv3.4, 4C-4D, Error ellipse: s-maj=43.1km s-min=26.7km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**5.96**	**237**	⇑Pn	Pn	09 42 41.2	+0.7
	1.9nm,0.5s,baz=53,slow=13						
KURBB				⇑Sn	Sn	09 43 52.0	+2.6
	18nm,0.8s						
KURBB				⇓Lg	Lg	09 44 23.2	
	54nm,0.9s						
MK08	**Makanchi Array**	**7.84**	**201**	⇓Sn	Sn	09 44 34.9	-1.0
	7.3nm,0.9s						
MK08				⇓Lg	Lg	09 45 21.9	
	24nm,0.9s						
VOSK	**Vostochnaya**	**9.30**	**267**	⇑Pn	Pn	09 43 24.9	-1.5
	3.2nm,1.3s						
VOSK				⇓Sn	Sn	09 45 11.4	-0.2
	13nm,0.9s						
BVA0	**Borovoye Array**	**9.58**	**270**	Pn	Pn	09 43 32.6	+2.5
	2.9nm,1.2s,baz=97,slow=14,SNR=5.4						
BVA0				⇑Sn	Sn	09 45 16.2	-2.1
	8.5nm,0.9s,baz=78,slow=23,SNR=8.1						

MEX 10 09:44:35.0±1.1, 16°52N×94°35W, h104km±25km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**1.20**	**78**	*i* P	Pn	09 44 57.1	-0.9
TGIG				*i* S	Sn	09 45 13.5	-2.0
HUIG	**Huatulco**	**1.85**	**246**	*i* P	Pn	09 45 04.1	-1.8
HUIG				*i* S	Sn	09 45 28.5	-1.0
CCIG	**Comitan**	**2.13**	**96**	*i* P	Pn	09 45 08.9	-0.8
CCIG				*i* S	Sn	09 45 34.2	-2.0
THIG		**2.57**	**128**	*i* P	Pn	09 45 13.3	-1.9
THIG				*i* S	Sn	09 45 44.0	-2.0

MEX 10 09:46:15.7±0.7, 13°97N×92°42W, h26km±23km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.95**	**9**	*i* P	Pn	09 46 30.2	-3.1
THIG				*i* S	Sb	09 46 42.6	-3.0
CCIG	**Comitan**	**2.32**	**7**	*i* P	Pn	09 46 50.5	-1.9
CCIG				*i* S	Sn	09 47 17.6	-2.6
TGIG		**2.87**	**347**	*i* P	Pn	09 46 58.3	-1.6
TGIG				*e*S	Sn	09 47 30.3	-3.5
HUIG	**Huatulco**	**3.99**	**297**	*i* P	Pn	09 47 13.8	-1.4
HUIG				*i* S	Sn	09 47 59.1	-2.0

*ISK **10** 10:05:13.8, 34°.14N×32°.69E, h5km, ML3.5*
*NIC **10** 10:05:16.4±0.1, 34°.18N×32°.75E, h20km, ML3.6, MW3.3*
*DDA **10** 10:05:17.5, 34°.13N×32°.74E, h11km, MD3.5*
*HLW **10** 10:05:19.8, 34°.61N×32°.86E, h24km±18km, Md3.6, Ml3.1*
*ISCJB **10** 10:05:20.4±0.5, 34°.40N±0°.02×32°.75E±0°.02, h24km±5km, Error ellipse: s-maj=3.6km s-min=2.4km az=152.5*
*CSEM **10** 10:05:20.2±0.1, 34°.44N×32°.76E, h10km, Mw3.3, Error ellipse: s-maj=3.1km s-min=1.8km az=66.0*
*NSSC **10** 10:05:23.5±1.3, 34°.52N×33°.07E, h18km±29km, MD1.8, ML2.9*

ISC 10 10:05:20.7±1.4, 34°44N±0°02×32°84E±0°02, h17km±11km, n147, σ1s50/201, 2C-2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	**Souni-Zanaja**	**0.32**	**7**	⇓P	Pb	10 05 27.9	-0.1
SZAC	**Souni-Zanaja**	**0.32**	**7**	⇓P	Pb	10 05 27.9	-0.1
PPCY	**Paphos**	**0.60**	**318**	⇑P	Pb	10 05 31.2	-1.6
PPCY	**Paphos**	**0.60**	**318**	⇑*i*P	Pb	10 05 31.2	-1.6
CSS	**Prodhromos**	**0.66**	**38**	P	Pb	10 05 33.1	-0.8
	18nm,0.2s						
CSS				S	Sn	10 05 45.9	+0.5
CSS	**Prodhromos**	**0.66**	**38**	*e*PG	Pb	10 05 33.0	-0.8
CSS	**Prodhromos**	**0.66**	**38**	P	Pb	10 05 33.1	-0.8
	18nm,0.2s						
LEF	**Lefka**	**0.68**	**4**	*e*PG	Pb	10 05 33.6	-0.5
LEF				*e*SG	Sn	10 05 48.2	+2.4
LEF	**Lefka**	**0.68**	**4**	*e*Pg	Pb	10 05 33.6	-0.5
AKMC	**Akamas**	**0.72**	**325**	P	Pb	10 05 32.8	-2.0
AKMC				S	Sn	10 05 46.3	-0.5
AKMC	**Akamas**	**0.72**	**325**	P	Pb	10 05 32.8	-2.0
ALFC	**Alevga**	**0.74**	**345**	P	Pb	10 05 33.9	-1.3
	32nm,0.3s						
ALFC				S	Sn	10 05 47.4	0.0
ALFC	**Alevga**	**0.74**	**345**	P	Pb	10 05 33.9	-1.3
	32nm,0.3s						
LFK	**Lefkose**	**1.01**	**34**	*e*PN	Pg	10 05 40.6	+0.2
LFK	**Lefkose**	**1.01**	**34**	*e*Pn	Pg	10 05 40.6	+0.2
EREN	**Erenkoy**	**1.54**	**45**	*e*PN	Pn	10 05 48.0	+0.5
EREN	**Erenkoy**	**1.54**	**45**	*e*Pn	Pn	10 05 48.0	+0.5
GAZI	**Gazipasa**	**1.84**	**347**	*i* P	Pn	10 05 51.5	-0.1
GAZI				*i* S	Sb	10 06 16.8	+0.1
GAZI	**Gazipasa**	**1.84**	**347**	*i* P	Pn	10 05 51.5	-0.1
GAZI				*i* S	Sb	10 06 16.8	+0.1
IKL	**Isikli**	**1.92**	**21**	*e*PN	Pn	10 05 53.1	+0.4
IKL	**Isikli**	**1.92**	**21**	*e*Pn	Pn	10 05 53.1	+0.4
ERMK	**Ermenek**	**2.20**	**2**	*i* P	Pb	10 05 58.4	-1.8
ERMK				*i* S	Sg	10 06 32.0	+0.6
ERMK	**Ermenek**	**2.20**	**2**	*i* P	Pb	10 05 58.4	-1.8
KIZK	**Mersin**	**2.30**	**27**	*i* P	Pb	10 05 59.7	-2.0
KIZK				*i* S	Sb	10 06 31.9	+2.0
KIZK	**Mersin**	**2.30**	**27**	*i* P	Pb	10 05 59.7	-2.0
KIZK				*i* S	Sb	10 06 31.9	+2.0
HNTI	**Hanita**	**2.37**	**124**	Pn	Pn	10 05 59.0	+0.1
HNTI				Sn	Sn	10 06 29.3	+1.7
OFRI	**'Ofer**	**2.55**	**135**	Pn	Pn	10 06 02.0	+0.6
MMC7	**Mount Meron ar**	**2.56**	**123**	Pn	Pn	10 06 01.6	+0.1
MMA0	**Mount Meron ar**	**2.57**	**123**	Pn	Pn	10 06 01.6	0.0
MMA0				Sn	Sn	10 06 33.4	+0.9
MMA1	**Mount Meron ar**	**2.57**	**123**	Pn	Pn	10 06 01.6	0.0
HWQ	**Hawqa**	**2.58**	**93**	*e*P	Pn	10 06 02.0	+0.2
HWQ	**Hawqa**	**2.58**	**93**	*e*P	Pn	10 06 02.0	+0.2
KSDI	**Kefar Szold**	**2.66**	**117**	Pn	Pn	10 06 03.1	+0.3
KSDI				Sn	Sn	10 06 35.4	+0.8
RCY	**Rachaya**	**2.66**	**110**	*e*P	Pn	10 06 02.8	-0.2
RCY	**Rachaya**	**2.66**	**110**	*e*P	Pn	10 06 02.8	-0.2
SLTI	**Sal'it**	**2.87**	**139**	Pn	Pn	10 06 06.2	+0.5
KSHT	**Keshet**	**2.88**	**120**	Pn	Pn	10 06 07.5	+1.7
ARNB	**Al Arnab**	**2.94**	**60**	*e*P	Pn	10 06 07.0	+0.3
ARNB				*e*S	Sn	10 06 37.2	-4.3
ARNB				AML	AML	10 06 44.1	
	comp=E,74nm,0.3s						
ARNB				AML	AML	10 06 46.4	
	comp=N,32nm,0.2s						
ARNB	**Al Arnab**	**2.94**	**60**	*e*P	Pn	10 06 06.9	+0.3
	SNR=51						
MMLI	**Mount Malkishu**	**2.94**	**132**	Pn	Pn	10 06 07.7	+1.0
HAWK	**Haweek**	**2.95**	**87**	*e*P	Pn	10 06 06.8	-0.1
HAWK				*e*S	Sn	10 06 38.1	-3.8
HAWK				AML	AML	10 06 48.7	
	comp=E,86nm,0.3s						
HAWK				AML	AML	10 06 49.5	
	comp=N,852nm,0.2s						
HAWK	**Haweek**	**2.95**	**87**	*e*P	Pn	10 06 06.8	-0.1
	SNR=51						
KRTS	**Karatas**	**2.97**	**43**	*e*PN	Pn	10 06 08.4	+1.4
KRTS	**Karatas**	**2.97**	**43**	*e*Pn	Pn	10 06 08.4	+1.4
QASN	**Qassioun**	**3.00**	**107**	*e*P	Pn	10 06 09.4	+1.8
QASN				*e*S	Sn	10 06 39.9	-3.3
QASN				AML	AML	10 06 51.6	
	comp=E,72nm,0.3s						
QASN	**Qassioun**	**3.00**	**107**	*e*P	Pn	10 06 09.4	+1.8
	SNR=51						
SLNF	**Slenfeh**	**3.01**	**67**	*e*P	Pn	10 06 07.1	-0.7
SLNF				*e*S	Sn	10 06 40.1	-3.4
SLNF				AML	AML	10 06 50.6	
	comp=E,35nm,0.5s						
SLNF				AML	AML	10 06 52.4	
	comp=N,2μm,0.2s						
SLNF	**Slenfeh**	**3.01**	**67**	*e*P	Pn	10 06 07.1	-0.7
	SNR=51						
YAYL	**Yayladag**	**3.11**	**58**	*i* P	Pn	10 06 09.7	+0.5
YAYL				*i* S	Sn	10 06 48.0	+1.9
YAYL	**Yayladag**	**3.11**	**58**	*i* P	Pn	10 06 09.7	+0.5
YAYL				*i* S	Sn	10 06 48.0	+1.9
WRDH	**Warideh**	**3.12**	**69**	*e*P	Pn	10 06 09.1	-0.1
WRDH				*e*S	Sn	10 06 42.3	-3.9
WRDH	**Warideh**	**3.12**	**69**	*e*P	Pn	10 06 09.1	-0.1
	SNR=51						
HMDT	**Nahal Hemdat**	**3.13**	**133**	Pn	Pn	10 06 11.0	+1.7
HMDT				Sn	Sn	10 06 49.3	+2.9
TCHB	**Talchebab**	**3.16**	**123**	*e*P	Pn	10 06 10.9	+1.3
TCHB				*e*S	Sn	10 06 45.2	-1.8
TCHB				AML	AML	10 06 50.8	
	comp=E,260nm,0.7s						
TCHB				AML	AML	10 06 51.0	
	comp=N,312nm,0.4s						
TCHB	**Talchebab**	**3.16**	**123**	*e*P	Pn	10 06 10.9	+1.3
	SNR=51						
TCHB				*e*S	Sn	10 06 45.2	-1.8
	comp=N,312nm,0.4s,SNR=49						
TOTH	**TOTAH**	**3.17**	**109**	*e*P	Pn	10 06 10.8	+0.8
TOTH				*e*S	Sn	10 06 45.3	-2.2
TOTH				AML	AML	10 06 53.4	
	comp=N,128nm,0.5s						
TOTH				AML	AML	10 06 54.1	
	comp=E,74nm,0.2s						
TOTH	**TOTAH**	**3.17**	**109**	*e*P	Pn	10 06 10.8	+0.8
	SNR=51						
TOTH				*e*S	Sn	10 06 45.3	-2.2
	comp=E,74nm,0.2s,SNR=49						
AKAS	**Kas**	**3.19**	**305**	*i* P	Pn	10 06 09.9	-0.3
AKAS				*i* S	Sn	10 06 46.1	-1.9
AKAS	**Kas**	**3.19**	**305**	*i* P	Pn	10 06 09.9	-0.3
AKAS				*i* S	Sn	10 06 46.1	-1.9
GULE	**Gulek**	**3.25**	**28**	*i* P	Pn	10 06 14.0	+3.0
GULE				*i* S	Sb	10 06 58.9	+1.6
GULE	**Gulek**	**3.25**	**28**	*i* P	Pn	10 06 14.0	+3.0
YURE	**YUREGIR**	**3.29**	**43**	*i* P	Pn	10 06 13.0	+1.4
YURE				*i* S	Sb	10 06 56.6	-2.0
YURE	**YUREGIR**	**3.29**	**43**	*i* P	Pn	10 06 13.0	+1.4
YURE				*i* S	Sb	10 06 56.6	-2.0
ELL	**Elmali**	**3.32**	**315**	*e*PN	Pn	10 06 10.5	-1.4
ELL	**Elmali**	**3.32**	**315**	*e*Pn	Pn	10 06 10.5	-1.4
KARA	**Karaisali**	**3.34**	**32**	*e*PN	Pn	10 06 13.8	+1.6
KARA	**Karaisali**	**3.34**	**32**	*e*Pn	Pn	10 06 13.8	+1.6
KFRA	**Kufra**	**3.35**	**76**	*e*P	Pn	10 06 13.4	+1.1
KFRA				*e*S	Sn	10 06 48.2	-3.6
KFRA				AML	AML	10 07 01.4	
	comp=E,145nm,0.2s						
KFRA				AML	AML	10 07 04.4	
	comp=N,56nm,0.3s						
KFRA	**Kufra**	**3.35**	**76**	*e*P	Pn	10 06 13.4	+1.1
	SNR=51						
BTCH	**Batrach**	**3.37**	**61**	*e*P	Pn	10 06 13.3	+0.7
BTCH				*e*S	Sn	10 06 48.2	-4.0
BTCH				AML	AML	10 06 58.4	
	comp=E,56nm,0.3s						
BTCH				AML	AML	10 07 03.6	
	comp=N,112nm,0.3s						
BTCH	**Batrach**	**3.37**	**61**	*e*P	Pn	10 06 13.3	+0.7
	SNR=51						
SUTC	**Sutluce-Ispart**	**3.38**	**334**	*e*PN	Pn	10 06 13.5	+0.7
SUTC	**Sutluce-Ispart**	**3.38**	**334**	*e*Pn	Pn	10 06 13.5	+0.7
COBT	**Iskenderun**	**3.48**	**52**	*i* P	Pn	10 06 15.7	+1.5
COBT				*i* S	Sn	10 06 57.1	+2.0
COBT	**Iskenderun**	**3.48**	**52**	*i* P	Pn	10 06 15.7	+1.5
COBT				*i* S	Sn	10 06 57.1	+2.0
KONT	**Konya--Tatoy**	**3.52**	**354**	*e*PN	Pn	10 06 15.7	+1.0
KONT	**Konya--Tatoy**	**3.52**	**354**	*e*Pn	Pn	10 06 15.7	+1.0
RSH		**3.55**	**168**	P	Pn	10 06 15.5	+0.4
DSI	**Dead Sea**	**3.57**	**143**	Pn	Pn	10 06 16.3	+0.9
YTIR	**Yattir**	**3.62**	**147**	Pn	Pn	10 06 17.8	+1.7
SALA	**Sala**	**3.68**	**117**	*e*P	Pn	10 06 18.6	+1.6
SALA				*e*S	Sn	10 06 58.7	-1.5
SALA				AML	AML	10 07 09.2	
	comp=E,5.8nm,0.4s						
SALA				AML	AML	10 07 11.6	
	comp=N,70nm,0.5s						
SALA	**Sala**	**3.68**	**117**	*e*P	Pn	10 06 18.6	+1.6
	SNR=51						
SALA				*e*S	Sn	10 06 58.7	-1.5
	comp=N,70nm,0.5s,SNR=49						
RTMI	**Retamim**	**3.72**	**155**	Pn	Pn	10 06 18.1	+0.7
RTMI				Sn	Sn	10 07 01.8	+0.9
KZIT	**Kziot**	**3.76**	**159**	Pn	Pn	10 06 18.5	+0.5
KZIT				Sn	Sn	10 07 03.1	+1.2
FETY	**Fethiye**	**3.76**	**307**	*e*PN	Pn	10 06 16.3	-1.7
FETY	**Fethiye**	**3.76**	**307**	*e*Pn	Pn	10 06 16.3	-1.7
LADK	**Ladik-KONYA**	**3.77**	**354**	*e*PN	Pn	10 06 19.3	+1.1
LADK	**Ladik-KONYA**	**3.77**	**354**	*e*Pn	Pn	10 06 19.3	+1.1
MZDA	**Masada**	**3.78**	**145**	Pn	Pn	10 06 19.6	+1.5
SULT	**Sultanhani-AKS**	**3.79**	**8**	*e*PN	Pn	10 06 19.9	+1.4
SULT	**Sultanhani-AKS**	**3.79**	**8**	*e*Pn	Pn	10 06 19.9	+1.4
AMAG	**Maghara**	**3.80**	**175**	P	Pn	10 06 18.6	0.0
	baz=175						
AMAG	**Maghara**	**3.80**	**175**	P	Pn	10 06 18.6	0.0
GOLH	**Golhisar**	**3.86**	**317**	*i* P	Pn	10 06 20.9	+1.6
GOLH				*i* S	Sn	10 07 06.8	+2.5
GOLH	**Golhisar**	**3.86**	**317**	*i* P	Pn	10 06 20.9	+1.6
GOLH				*i* S	Sn	10 07 06.8	+2.5
KOZT	**Kozan**	**3.88**	**38**	*e*PN	Pn	10 06 21.5	+1.8
KOZT	**Kozan**	**3.88**	**38**	*e*Pn	Pn	10 06 21.5	+1.8
NIG	**Nigde**	**3.93**	**21**	*e*PN	Pn	10 06 23.0	+2.5
NIG	**Nigde**	**3.93**	**21**	*e*Pn	Pn	10 06 23.0	+2.5
ZALF	**Zalf**	**4.04**	**111**	*e*P	Pn	10 06 23.0	+1.1
ZALF				*e*S	Sn	10 07 06.4	-2.5
ZALF				AML	AML	10 07 17.7	
	comp=E,21nm,0.8s						
ZALF				AML	AML	10 07 28.8	
	comp=N,22nm,0.5s						
ZALF	**Zalf**	**4.04**	**111**	*e*P	Pn	10 06 23.0	+1.1
	SNR=51						
ZALF				*e*S	Sn	10 07 06.4	-2.5
	comp=N,22nm,0.5s,SNR=49						
DALY	**Dalyan (Mu¨la**	**4.15**	**306**	*e*PN	Pn	10 06 22.0	-1.3
DALY	**Dalyan (Mu¨la**	**4.15**	**306**	*e*Pn	Pn	10 06 22.0	-1.3
RMNI	**Mount Ramon**	**4.16**	**156**	Pn	Pn	10 06 24.9	+1.3
TURN	**Turunc**	**4.22**	**306**	*i* P	Pn	10 06 26.3	+2.1
TURN				*i* S	Sn	10 07 14.8	+1.8
TURN	**Turunc**	**4.22**	**306**	*i* P	Pn	10 06 26.3	+2.1
TURN				*i* S	Sn	10 07 14.8	+1.8
ZFRI	**Zfri**	**4.35**	**152**	Pn	Pn	10 06 26.6	+0.6
ZFRI				Sn	Sn	10 07 17.4	+1.0
AYKD	**Aykdinkavak**	**4.38**	**46**	*i* P	Pn	10 06 27.7	+1.2
AYKD				*i* S	Sn	10 07 19.0	+1.8
PRNI	**Paran**	**4.47**	**155**	Pn	Pn	10 06 28.3	+0.6
KMRS	**Kahramanmaras**	**4.50**	**46**	*e*PN	Pn	10 06 29.6	+1.5
KMRS	**Kahramanmaras**	**4.50**	**46**	*e*Pn	Pn	10 06 29.6	+1.5
HHAG	**Hagoal**	**4.52**	**188**	P	Pn	10 06 29.6	+1.2
	baz=189						
HHAG	**Hagoal**	**4.52**	**188**	P	Pn	10 06 29.6	+1.2
YER	**Yerkesik**	**4.57**	**307**	*e*PN	Pn	10 06 27.8	-1.4
YER	**Yerkesik**	**4.57**	**307**	*e*Pn	Pn	10 06 27.8	-1.4
KOT	**Kottamia**	**4.58**	**191**	P	Pn	10 06 30.0	+0.7
	baz=191						
KOT				AMP		10 07 00.0	
	comp=E,50μm,0.3s,logA/T=5.2,baz=191						
KOT	**Kottamia**	**4.58**	**191**	P	Pn	10 06 30.0	+0.7
SUZ		**4.59**	**180**	P	Pn	10 06 29.7	+0.4
	baz=181						
SUZ		**4.59**	**180**	P	Pn	10 06 29.7	+0.4
KRMI	**Paran Flat**	**4.60**	**159**	Pn	Pn	10 06 29.7	+0.2
HNKL	**Nakhl**	**4.60**	**168**	P	Pn	10 06 29.9	+0.3
	baz=168						
HNKL				AMP		10 07 00.0	
	comp=E,30μm,0.4s,logA/T=4.9,baz=168						
HNKL				S	Sn	10 07 23.3	+0.7
	baz=168						
HNKL	**Nakhl**	**4.60**	**168**	P	Pn	10 06 29.9	+0.3
HNKL				S	Sn	10 07 23.3	+0.7
KHL	**Karahalli**	**4.71**	**326**	*e*PN	Pn	10 06 31.0	0.0
KHL	**Karahalli**	**4.71**	**326**	*e*Pn	Pn	10 06 31.0	0.0
KHAL	**Karahalli**	**4.76**	**326**	*i* P	Pn	10 06 31.7	-0.1
KHAL				*i* S	Sn	10 07 26.2	-0.4
KHAL	**Karahalli**	**4.76**	**326**	*i* P	Pn	10 06 31.7	-0.1
KHAL				*i* S	Sn	10 07 26.2	-0.4
HRFI	**Mount Harif**	**4.77**	**156**	Pn	Pn	10 06 32.2	+0.3
HRFI				Sn	Sn	10 07 27.7	+0.9
DAT	**Datca**	**4.86**	**300**	*e*PN	Pn	10 06 31.3	-1.8
DAT	**Datca**	**4.86**	**300**	*e*Pn	Pn	10 06 31.3	-1.8
SARI	**SarD1z-Kayseri**	**4.90**	**35**	*e*PN	Pn	10 06 36.0	+2.3
MBRI	**Mt Berech**	**4.96**	**159**	Pn	Pn	10 06 35.1	+0.6
MBRI				Sn	Sn	10 07 33.0	+1.5
EIL	**Elat**	**5.08**	**159**	Pn	Pn	10 06 36.7	+0.6
EIL				Sn	Sn	10 07 35.0	+0.5
AYDN	**Tasoluk**	**5.14**	**310**	*i* P	Pn	10 06 36.5	-0.5
AYDN				*i* S	Sn	10 07 33.4	-2.6
AYDN	**Tasoluk**	**5.14**	**310**	*i* P	Pn	10 06 36.5	-0.5
AYDN				*i* S	Sn	10 07 33.4	-2.6
BODT	**Bodrum**	**5.20**	**302**	*e*PN	Pn	10 06 36.4	-1.3
BODT	**Bodrum**	**5.20**	**302**	*e*Pn	Pn	10 06 36.4	-1.3
HBST	**Basata**	**5.45**	**162**	P	Pn	10 06 41.6	+0.4
	baz=163						
HBST	**Basata**	**5.45**	**162**	P	Pn	10 06 41.6	+0.4
DARE	**Darende-Malaty**	**5.57**	**41**	*e*PN	Pn	10 06 45.5	+2.6
HDHB	**Dhahab**	**5.90**	**165**	P	Pn	10 06 48.5	+1.2
	baz=165						
HDHB	**Dhahab**	**5.90**	**165**	P	Pn	10 06 48.5	+1.2
HKAT	**Jabal Katrina**	**5.98**	**170**	P	Pn	10 06 48.9	+0.2
	baz=170						
HKAT	**Jabal Katrina**	**5.98**	**170**

LTZ			S*	Sb	10 31 09.1	-0.4	
LTZ			AML	AML	10 31 12.2		
LBZ	**Lake Benmore**	**1.26 204**	⇑P*	Pg	10 30 56.4	-1.1	
LBZ			AML	AML	10 30 58.9		
LBZ			AML	AML	10 30 59.4		
CRLZ	**Canterbury Las**	**1.29 106**	P*	Pn	10 30 57.4	-0.6	
MQZ	**McQueen's Vall**	**1.35 111**	PN	Pn	10 30 57.9	-0.9	
MQZ			AML	AML	10 31 18.7		
DSZ	**Denniston Nort**	**1.63 24**	PN	Pn	10 31 01.7	-1.0	
DSZ			AML	AML	10 31 26.6		
DSZ			AML	AML	10 31 28.1		
JCZ	**Jackson Bay**	**1.77 241**	PN	Pn	10 31 04.1	-0.6	
JCZ			AML	AML	10 31 34.3		
JCZ			AML	AML	10 31 35.0		
ODZ	**Otahua Downs**	**1.82 186**	PN	Pn	10 31 05.2	0.0	
ODZ			AML	AML	10 31 32.7		
ODZ			AML	AML	10 31 40.7		
THZ	**Tophouse**	**2.09 46**	PN	Pn	10 31 09.1	+0.1	
THZ			AML	AML	10 31 43.5		
THZ			AML	AML	10 31 45.0		
WKZ	**Wanaka**	**2.10 220**	PN	Pn	10 31 08.6	-0.5	
WKZ			AML	AML	10 31 47.1		
WKZ			AML	AML	10 31 51.9		
KHZ	**Kahutara**	**2.10 68**	PN	Pn	10 31 08.9	-0.1	
EAZ	**Earnscleugh**	**2.30 209**	PN	Pn	10 31 10.6	-1.2	
EAZ			AML	AML	10 31 51.2		
EAZ			AML	AML	10 31 58.4		
MSZ	**Milford Sound**	**2.59 235**	PN	Pn	10 31 16.1	+0.3	
MSZ			AML	AML	10 32 02.8		
MSZ			AML	AML	10 32 02.9		
QRZ	**Quartz Range**	**2.69 27**	PN	Pn	10 31 16.7	-0.6	
QRZ			AML	AML	10 32 01.0		
QRZ			AML	AML	10 32 04.8		
NNZ	**Nelson**	**2.73 43**	PN	Pn	10 31 18.4	+0.8	
TUZ	**Tuapeka**	**2.87 198**	PN	Pn	10 31 19.4	-0.2	
TUZ			AML	AML	10 32 19.1		
MLZ	**Mavora Lakes**	**2.88 222**	PN	Pn	10 31 19.8	-0.1	
TUWZ	**Tuamarina**	**2.88 52**	PN	Pn	10 31 21.2	+1.4	
TCW	**Tory Channel**	**3.22 52**	PN	Pn	10 31 26.2	+1.8	
WHZ	**Wether Hill Ro**	**3.40 218**	PN	Pn	10 31 25.7	-1.2	
SYZ	**Scrubby Hill**	**3.53 200**	PN	Pn	10 31 26.9	-1.8	
KIW	**Kapiti Island**	**3.81 53**	PN	Pn	10 31 31.8	-0.8	
MRZ	**Mangatainoka R**	**4.33 55**	PN	Pn	10 31 37.8	-1.9	
NMEZ	**Namu Road**	**4.43 31**	PN	Pn	10 31 42.6	+1.5	
KHEZ	**Kahui Hut**	**4.58 32**	PN	Pn	10 31 44.4	+1.0	
DFE	**Dawson Falls**	**4.59 33**	PN	Pn	10 31 44.8	+1.4	
NEZ	**North Egmont**	**4.63 32**	PN	Pn	10 31 45.5	+1.4	
PKE	**Pukeiti**	**4.66 31**	PN	Pn	10 31 45.3	+1.0	
VRZ	**Vera Road**	**5.03 37**	PN	Pn	10 31 50.0	+0.7	

*IDC **10** 10:54:23.7±1.3,35°.32N×80°.68E, h0km, mb3.6/4, mb1 3.7/9, mb1mx3.5/30, mbtmp3.6/9, ML3.4/4, MS3.2/2, Ms1 3.3/2, ms1mx2.6/28, Error ellipse: s-maj=28.4km s-min=22.1km az=72.0*

*ISCJB **10** 10:54:24.4±1.0, 35°.46N±0°.08×80°.8E±0°.2, h10km, mb3.5/4, MS3.8/1, Error ellipse: s-maj=20.4km s-min=11.3km az=170.1*

ISC 10 10:54:24.9±1.2, 35°.4N±0°.1×80°.5E±0°.1, h10km, n11, σ1°36/11, mb3.5/4, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**5.51**	**320**	Pn	**Pb**	**10 55 58.7**	**-2.6**
KSH				Sn	**Sb**	**10 57 09.3**	**+1.8**
KSH				smax	smax		
	comp=N,150nm,1.3s						
KSH				smax	smax		
	comp=E,71nm,1.2s						
AAK	**Ala-Archa**	**8.65**	**329**	Pn	Pn	10 56 35.1	+4.9
	comp=E,1.7nm,0.3s,baz=48,slow=15,SNR=4.1						
AAK				Lg	Lg	10 59 11.6	
	comp=E,0.5nm,0.3s,baz=286,slow=21,SNR=7.6						
AAK				LR	LR	11 00 11.7	
	comp=E,38nm,20.8s,baz=146,slow=40						
MKAR	**Makanchi Array**	**11.50**	**6**	Pn	**Pn**	**10 57 08.7**	**-0.3**
	comp=E,0.1nm,0.3s,baz=183,slow=12,SNR=5.0						
MKAR				Sn	**Sn**	**10 59 18.1**	**+0.6**
	comp=E,0.1nm,0.3s,baz=181,slow=25,SNR=2.8						
KURBB	**Kurchatov Arra**	**15.32**	**355**	Pn	**Pn**	**10 58 00.5**	**-0.6**
	baz=171,slow=12,SNR=4.0						
ZALV	**Zalesovo Beam**	**18.82**	**8**	P	**Pn**	**10 58 45.4**	**+0.3**
	comp=E,0.2nm,0.3s,baz=190,slow=7.3,SNR=3.4						
BVAR	**Borovoye Array**	**19.06**	**341**	P	**Pn**	**10 58 49.2**	**+1.2**
	comp=E,0.0nm,0.3s,baz=143,slow=12,SNR=3.0						
SONM	**Songino Array**	**22.88**	**49**	P	**P**	**10 59 29.1**	**+0.5**
	comp=E,1.1nm,0.8s,baz=240,slow=9.9,SNR=8.0						
CMAR	**Chiang Mai Arr**	**23.45**	**131**	P	**P**	**10 59 34.1**	**-0.3**
	comp=E,0.6nm,0.4s,baz=308,slow=11,SNR=5.0						
ESDC	**Sonseca Array**	**64.73**	**302**	LR	LR	11 34 10.0	
	comp=E,63nm,18.7s,baz=155,slow=37						
TORD	**Torodi Ar. Bea**	**73.48**	**275**	P	**P**	**11 05 59.4**	**+1.3**
	comp=E,1.3nm,0.7s,baz=49,slow=4.2,SNR=7.2						
ILAR	**Eielson Array**	**73.53**	**19**	P	**P**	**11 05 56.9**	**-0.6**
	comp=E,0.3nm,0.8s,baz=315,slow=4.5,SNR=3.6						

*ISCJB **10** 11:19:07.6±0.4, 24°.34N±0°.03×122°.99E±0°.02, h53km±7km, Error ellipse: s-maj=5.2km s-min=2.9km az=2.2*

*TAP **10** 11:19:07.9, 24°.40N×122°.93E, h69km, ML3.6, C*

*JMA **10** 11:19:08.1±0.1, 24°.46N×123°.03E, h55km±1km, M2.9*

ISC 10 11:19:08.2±1.2, 24°.34N±0°.04×122°.99E±0°.02, h50km±10km, n47, σ0°88/88, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.13**	**10**	P	**Pn**	**11 19 16.3**	**+0.1**
YOJ				S	**Sn**	**11 19 22.1**	**+0.3**
IRIF	**Iriomote-Funau**	**0.68**	**90**	P	**Pn**	**11 19 21.4**	**-0.3**
IRIF				S	**Sn**	**11 19 31.5**	**+0.1**
HATJ	**Hateruma jima**	**0.80**	**110**	P	**Pn**	**11 19 23.4**	**+0.2**
HATJ				S	**Sn**	**11 19 35.0**	**+0.8**
JKRS	**Kuro-shima**	**0.94**	**96**	P	**Pn**	**11 19 25.1**	**0.0**
JKRS				S	**Sn**	**11 19 38.0**	**+0.5**
JIJ	**Ishigaki jima**	**1.05**	**88**	P	**Pn**	**11 19 26.0**	**-0.7**
JIJ				S	**Sn**	**11 19 39.4**	**-0.9**
TWC	**Suao**	**1.07**	**285**	*i* P	**Pn**	**11 19 26.4**	**-0.5**
	baz=283						
TWC				S	**Sn**	**11 19 39.6**	**-1.2**
	baz=283						
TWB1	**Santiao Chiao**	**1.13**	**307**	*e*P	**Pn**	**11 19 27.9**	**+0.3**
	baz=306						
TWB1				*e*S	**Sn**	**11 19 40.5**	**-1.7**
	baz=306						
ENA	**Nanau**	**1.14**	**275**	*e*P	**Pn**	**11 19 27.7**	**-0.1**
	baz=279						
ENA				*e*S	**Sn**	**11 19 42.4**	**0.0**
	baz=279						
TWE	**Neicheng**	**1.26**	**288**	P	**Pn**	**11 19 29.2**	**-0.3**
	baz=292						
TWE				*e*S	**Sn**	**11 19 45.3**	**-0.1**
	baz=292						
TWD	**Chiawan**	**1.30**	**259**	P	**Pn**	**11 19 29.6**	**-0.4**
	baz=257						
TWD				*e*S	**Sn**	**11 19 46.0**	**-0.2**
	baz=257						
HWA	**Hwalien**	**1.31**	**254**	*e*P	**Pn**	**11 19 30.1**	**0.0**
	baz=252						
HWA				*e*S	**Sn**	**11 19 46.7**	**+0.2**
	baz=252						
NWF	**Wu-fen Shan**	**1.32**	**304**	*e*P	**Pn**	**11 19 30.2**	**-0.1**
	baz=295						
NWF				*e*S	**Sn**	**11 19 46.4**	**-0.5**
	baz=295						
ENTT	**Nioudou**	**1.33**	**283**	*e*P	**Pn**	**11 19 30.4**	**0.0**
	baz=290						
ENTT				*e*S	**Sn**	**11 19 47.3**	**+0.3**
	baz=290						
TWA	**Mucha**	**1.43**	**297**	*e*P	**Pn**	**11 19 31.5**	**-0.3**
	baz=296						
TWA				*e*S	**Sn**	**11 19 48.1**	**-1.4**
	baz=296						
NNS	**Nan Shan**	**1.48**	**274**	*e*P	**Pn**	**11 19 32.4**	**-0.1**
	baz=273						
NNS				*e*S	**Sn**	**11 19 50.8**	**0.0**
	baz=273						
ESL	**Shilin**	**1.51**	**250**	P	**Pn**	**11 19 32.3**	**-0.6**
	baz=241						
ESL				*e*S	**Sn**	**11 19 51.0**	**-0.6**
	baz=241						
NSK	**Sanguang**	**1.52**	**283**	*e*P	**Pn**	**11 19 33.3**	**+0.2**
	baz=282						
NSK				*e*S	**Sn**	**11 19 51.4**	**-0.4**
	baz=282						
TWY	**Chenhua**	**1.57**	**307**	*e*P	**Pn**	**11 19 33.1**	**-0.6**
	baz=298						
TWY				*e*S	**Sn**	**11 19 51.3**	**-1.6**
	baz=298						
WHF	**Hehuan Shan**	**1.58**	**263**	*e*P	**Pn**	**11 19 34.0**	**-0.2**
	baz=262						
WHF				*e*S	**Sn**	**11 19 52.9**	**-0.9**
	baz=262						
JTJ	**Tarama**	**1.59**	**79**	P	**Pn**	**11 19 33.7**	**-0.3**
JTJ				S	**Sn**	**11 19 53.8**	**+0.4**
TWS1	**Kuangyinshan**	**1.62**	**298**	*e*P	**Pn**	**11 19 34.2**	**-0.1**
	baz=298						
TWS1				*e*S	**Sn**	**11 19 54.1**	**+0.1**
	baz=298						
TWT	**Tachien**	**1.66**	**267**	*e*P	**Pn**	**11 19 35.9**	**+0.8**
	baz=266						
TWT				*e*S	**Sn**	**11 19 56.0**	**+0.8**
	baz=266						
EHY	**Hungye**	**1.73**	**242**	P	**Pn**	**11 19 35.7**	**-0.3**
	baz=251						
EHY				*e*S	**Sn**	**11 19 56.1**	**-0.8**
	baz=251						
TWF1	**Yuli**	**1.83**	**238**	P	**Pn**	**11 19 37.2**	**-0.1**
	baz=230						
TWF1				*e*S	**Sn**	**11 19 59.4**	**0.0**
	baz=230						
NSTT	**Nanjuang**	**1.83**	**280**	*e*P	**Pn**	**11 19 37.9**	**+0.6**
	baz=279						
NSTT				*e*S	**Sn**	**11 20 00.4**	**+1.1**
	baz=279						
CHKT	**Chengkung**	**1.93**	**231**	*e*P	**Pn**	**11 19 37.8**	**-0.9**
	baz=222						
CHKT				*e*S	**Sn**	**11 19 59.7**	**-2.0**
	baz=222						
SMLT	**Sun Moon Lake**	**1.96**	**257**	P	**Pn**	**11 19 39.7**	**+0.6**
	baz=256						
SMLT				*e*S	**Sn**	**11 20 02.7**	**+0.1**
	baz=256						
TYC	**Yuchr**	**1.99**	**258**	*e*P	**Pn**	**11 19 39.8**	**+0.3**
	baz=250						
TYC				*e*S	**Sn**	**11 20 03.8**	**+0.5**
	baz=250						
TWQ1	**Liyutan**	**2.02**	**271**	*e*P	**Pn**	**11 19 40.1**	**+0.3**
	baz=281						
TWQ1				*e*S	**Sn**	**11 20 04.3**	**+0.4**
	baz=281						
YUS	**Yu-Shan**	**2.04**	**246**	*e*P	**Pn**	**11 19 40.6**	**0.0**
	baz=245						
YUS				*e*S	**Sn**	**11 20 04.6**	**-0.6**
	baz=245						
ELDTW	**Lidau**	**2.14**	**238**	*e*P	**Pn**	**11 19 41.0**	**-0.5**
	baz=237						
ALS	**Alishan**	**2.16**	**248**	*e*P	**Pn**	**11 19 42.7**	**+0.6**
	baz=247						
ALS				*e*S	**Sn**	**11 20 07.6**	**-0.2**
	baz=247						
CHN5	**Tsauling**	**2.24**	**251**	*e*P	**Pn**	**11 19 44.3**	**+1.3**
	baz=251						
CHN5				*e*S	**Sn**	**11 20 11.3**	**+1.9**
	baz=251						
WGK	**Gukeng**	**2.31**	**254**	*e*P	**Pn**	**11 19 45.2**	**+1.4**
	baz=245						
WGK				*e*S	**Sn**	**11 20 13.2**	**+2.2**
	baz=245						
TWG	**Pinlang**	**2.32**	**230**	*e*P	**Pn**	**11 19 43.2**	**-0.8**
	baz=237						
CHN4	**Tsaushan**	**2.40**	**246**	*e*P	**Pn**	**11 19 45.5**	**+0.4**
	baz=246						
CHN4				*e*S	**Sn**	**11 20 13.6**	**+0.3**
	baz=246						
WTP	**Ta-pu**	**2.43**	**244**	*e*P	**Pn**	**11 19 46.8**	**+1.3**
	baz=244						
WTP				*e*S	**Sn**	**11 20 15.6**	**+1.5**
	baz=244						
CHY	**Chiayi**	**2.49**	**251**	*e*P	**Pn**	**11 19 46.2**	**0.0**
	baz=251						
CHY				*e*S	**Sn**	**11 20 15.2**	**-0.3**
	baz=251						
TWK	**Hsinying**	**2.52**	**246**	*e*P	**Pn**	**11 19 48.1**	**+1.3**
	baz=245						
TWK				*e*S	**Sn**	**11 20 17.9**	**+1.5**
	baz=245						
SGST	**Jiashian**	**2.53**	**241**	*e*P	**Pn**	**11 19 47.7**	**+0.8**
	baz=248						
SGST				*e*S	**Sn**	**11 20 18.3**	**+1.7**
	baz=248						
ECL	**Taimali**	**2.55**	**228**	*e*P	**Pn**	**11 19 45.8**	**-1.3**
	baz=235						
ECL				*e*S	**Sn**	**11 20 15.1**	**-1.7**
	baz=235						
LAY	**Lan-yu**	**2.64**	**210**	*e*P	**Pn**	**11 19 46.4**	**-2.0**
	baz=210						
EAST	**Anshuo**	**2.77**	**226**	*e*P	**Pn**	**11 19 49.8**	**-0.4**
	baz=232						
EAST				*e*S	**Sn**	**11 20 21.4**	**-1.0**
	baz=232						
TWM1	**Shoushan**	**2.79**	**238**	*e*P	**Pn**	**11 19 52.4**	**+1.9**
	baz=237						
SCZT	**Fangliau**	**2.93**	**229**	*e*P	**Pn**	**11 19 53.7**	**+1.4**
	baz=229						
SCZT				*e*S	**Sn**	**11 20 26.7**	**+0.5**
	baz=229						
PNG	**Penghu**	**3.23**	**257**	*e*P	**Pn**	**11 19 56.3**	**-0.2**
	baz=257						
JKE	**Kume jima 2**	**3.97**	**59**	P	**Pn**	**11 20 07.2**	**+0.7**

JMA 10 11:35:36.5±0.3, 43°.65N×147°.37E, h15km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.22**	**257**	P	Pn	11 35 58.8	-0.1
NEM2				*e*S	Sn	11 36 15.2	+0.1
JRA	**Rausu**	**1.65**	**281**	P	Pn	11 36 05.3	+0.4
JRA				*e*S	Sb	11 36 26.8	-0.5
JNK	**Nakash**	**1.93**	**269**	P	Pn	11 36 09.0	+0.3
JNK				*e*S	Sn	11 36 33.3	+0.6
JAK	**Akkeshi**	**2.06**	**252**	P	Pn	11 36 10.9	+0.4
JAK				*e*S	Sn	11 36 36.6	+0.7
JTKR	**Abashiri--Toko**	**2.53**	**278**	P	Pn	11 36 18.1	+1.1
JAR	**Ashorobuto**	**2.65**	**264**	P	Pn	11 36 19.7	+1.1
JAR				*e*S	Sn	11 36 51.4	+1.0
JOB	**Onbets**	**2.69**	**255**	P	Pn	11 36 20.2	+1.0
JCH	**Churui**	**3.11**	**252**	P	Pn	11 36 26.5	+1.5
JCH				*e*S	Sn	11 37 04.1	+2.2
JEM	**Erimo**	**3.50**	**244**	P	Pn	11 36 34.1	+3.7
JFR	**Furan**	**3.51**	**264**	P	Pn	11 36 33.4	+2.8
JNBK	**Urakawa-nobuka**	**3.66**	**250**	P	Pn	11 36 34.1	+1.6

*ISCJB **10** 11:50:29.8±0.4, 11°.81S±0°.07×166°.15E±0°.08, h83km, mb4.1/19, Error ellipse: s-maj=11.0km s-min=10.4km az=164.9*

*NEIC **10** 11:50:31.2±1.5, 11°.79S×166°.23E, h84km±14km, mb4.4/6, Error ellipse: s-maj=12.2km s-min=10.7km az=213.0*

*IDC **10** 11:50:32.2±4.5, 11°.79S×166°.25E, h89km±41km, mb3.9/16, mb1 4.1/17, mb1mx4.0/24, mbtmp3.9/17, MS3.7/6, Ms1 3.7/6, ms1mx3.3/31, Error ellipse: s-maj=19.1km s-min=16.9km az=53.0*

ISC 10 11:50:31.4±0.5, 11°.79S±0°.08×166°.22E±0°.09, h83km, n48, σ1°23/45, mb4.2/19, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.60**	**290**	*e*Pn	**Pn**	**11 52 04.3**	**-1.5**
	365nm,0.9s						
DZM	**Mont Dzumac**	**10.23**	**179**	*e*Pn	**Pn**	**11 52 56.0**	**+0.6**
DZM	**Mont Dzumac**	**10.23**	**179**	P	**Pn**	**11 52 54.8**	**-0.7**
	1.1nm,0.3s,baz=90,slow=20,SNR=7.6						
PMG	**Port Moresby**	**18.89**	**275**	LR	LR	12 01 20.1	
	comp=Z,203nm,19.6s,baz=229,slow=34						
CTA	**Charters Tower**	**20.88**	**244**	P	**P**	**11 55 08.7**	**+1.6**
CTA	**Charters Tower**	**20.88**	**244**	P	**P**	**11 55 08.7**	**+1.6**
	5.8nm,0.7s,baz=66,slow=12,SNR=6.7						
CTAO	**Charters Tower**	**20.88**	**244**	*e*P	**P**	**11 55 08.4**	**+1.4**
AFI	**Afiamalu**	**21.55**	**98**	*e*P	**P**	**11 55 14.2**	**-0.1**
	80nm,1.3s						
AFI	**Afiamalu**	**21.55**	**98**	LR	LR	12 02 03.2	
	comp=Z,116nm,19.5s,baz=85,slow=32						
URZ	**Urewera**	**28.10**	**162**	*e*P	**P**	**11 56 12.6**	**-2.7**
	11nm,1.1s						
URZ	**Urewera**	**28.10**	**162**	P	**P**	**11 56 16.1**	**+0.7**
	3.7nm,0.7s,baz=343,slow=20,SNR=3.2						
STKA	**Stephens Creek**	**30.24**	**225**	*e*P	**P**	**11 56 33.4**	**-1.0**
	0.7nm,0.6s						
STKA	**Stephens Creek**	**30.24**	**225**	P	**P**	**11 56 35.8**	**+1.3**
	4.4nm,0.7s,baz=44,slow=8.9,SNR=9.6						
STKA				LR	LR	12 08 21.9	
	comp=Z,147nm,18.3s,baz=27,slow=35						
WRAB	**Tennant Creek**	**31.66**	**251**	*e*P	**P**	**11 56 46.5**	**-0.6**
	2.8nm,0.5s						
WRA	**Warramunga Arr**	**31.68**	**251**	P	**P**	**11 56 46.8**	**-0.5**
WRA	**Warramunga Arr**	**31.68**	**251**	P	**P**	**11 56 46.8**	**-0.5**
	2.4nm,0.6s,baz=84,slow=9.3,SNR=38						
RPZ	**Rata Peaks**	**32.09**	**173**	P	**P**	**11 56 50.6**	**0.0**
RPZ	**Rata Peaks**	**32.09**	**173**	P	**P**	**11 56 50.6**	**0.0**
	6.6nm,0.6s,baz=255,slow=12,SNR=4.4						
ASAR	**Alice Springs**	**32.89**	**245**	P	**P**	**11 56 57.2**	**-0.6**
ASAR				PcP	**PcP**	**11 59 40.2**	**-0.6**
ASAR	**Alice Springs**	**32.89**	**245**	P	**P**	**11 56 57.2**	**-0.6**
	2.3nm,0.6s,baz=69,slow=9.6,SNR=41						
ASAR				PcP	**PcP**	**11 59 40.2**	**-0.6**
	1.3nm,1.0s,baz=71,slow=3.3,SNR=4.8						
ASAR				LR	LR	12 07 56.2	
	comp=Z,146nm,21.8s,baz=117,slow=32						
PPT	**Papeete**	**43.07**	**103**	LR	LR	12 12 08.3	
	comp=Z,120nm,18.3s,baz=266,slow=30						
ASAJ	**Asahikawa**	**59.64**	**340**	P	**P**	**12 00 28.1**	**+1.3**
ASAJ	**Asahikawa**	**59.64**	**340**	P	**P**	**12 00 28.1**	**+1.3**
	8.5nm,1.0s,baz=170,slow=5.6,SNR=2.6						
KSRS	**Korea Array**	**60.75**	**326**	P	**P**	**12 00 34.7**	**+0.2**
	0.8nm,0.7s,baz=123,slow=8.8,SNR=3.5						
KSAR	**Wonju Array Be**	**60.76**	**326**	P	**P**	**12 00 34.7**	**+0.1**
VNDA	**Vanda**	**65.77**	**181**	P	**P**	**12 01 07.1**	**0.0**
VNDA	**Vanda**	**65.77**	**181**	P	**P**	**12 01 07.1**	**0.0**
	1.1nm,0.8s,baz=353,slow=8.1,SNR=2.8						
CMAR	**Chiang Mai Arr**	**72.83**	**294**	P	**P**	**12 01 53.2**	**+1.4**
CMAR	**Chiang Mai Arr**	**72.83**	**294**	P	**P**	**12 01 53.2**	**+1.4**
	2.3nm,0.8s,baz=123,slow=4.5,SNR=12						
SONM	**Songino Array**	**79.54**	**324**	P	**P**	**12 02 29.1**	**-0.3**
SONM	**Songino Array**	**79.54**	**324**	P	**P**	**12 02 29.0**	**-0.3**
	0.6nm,0.7s,baz=134,slow=6.2,SNR=3.8						
ILAR	**Eielson Array**	**84.06**	**18**	P	**P**	**12 02 52.0**	**-0.5**
ILAR	**Eielson Array**	**84.06**	**18**	P	**P**	**12 02 52.0**	**-0.5**
	0.9nm,0.5s,baz=236,slow=4.7,SNR=17						
YBH	**Yreka Blue Hor**	**84.08**	**45**	LR	LR	12 38 29.1	
	comp=Z,34nm,18.4s,baz=316,slow=34						
EGAK	**Eagle**	**85.91**	**20**	*e*P	**P**	**12 03 01.8**	**0.0**
	2.6nm,0.6s						
NVAR	**Mina Array Bea**	**86.14**	**50**	P	**P**	**12 03 03.9**	**0.0**
NVAR	**Mina Array Bea**	**86.14**	**50**	P	**P**	**12 03 03.9**	**0.0**
	1.2nm,0.7s,baz=230,slow=7.8,SNR=11						
ARUT	**Antelope Range**	**89.64**	**51**	*e*P	P	12 03 14.9	-5.6
	2.1nm,0.9s						
PDAR	**Pinedale Array**	**93.71**	**47**	P	**P**	**12 03 39.6**	**+0.3**
PDAR	**Pinedale Array**	**93.71**	**47**	P	**P**	**12 03 39.6**	**+0.3**
	0.3nm,0.7s,baz=264,slow=4.5,SNR=4.1						
MK31	**Makanchi Array**	**94.38**	**317**	*e*P	**P**	**12 03 40.6**	**-1.4**
MKAR	**Makanchi Array**	**94.38**	**317**	P	**P**	**12 03 41.0**	**-1.0**
MKAR	**Makanchi Array**	**94.38**	**317**	P	**P**	**12 03 41.0**	**-1.0**
	1.3nm,0.7s,baz=96,slow=6.3,SNR=11						
TXAR	**Lajitas Array**	**95.77**	**61**	P	**P**	**12 03 49.2**	**+0.3**
TXAR	**Lajitas Array**	**95.77**	**61**	P	**P**	**12 03 49.2**	**+0.3**
	0.2nm,0.7s,baz=224,slow=6.3,SNR=3.2						
BRG	**Berggiesshubel**	**134.93**	**335**	*e*(P)	**Pdif**	**12 06 37.7**	**-4.9**
	8.0nm,1.1s						
KEST	**Kesra**	**148.28**	**323**	PKPbc	**PKPdf**	**12 10 06.6**	**+1.4**
KEST	**Kesra**	**148.28**	**323**	PKPbc	**PKPdf**	**12 10 06.6**	**+1.4**
	0.6nm,0.6s,baz=81,slow=3.1,SNR=2.4						

*IDC **10** 12:08:28.5±0.7, 14°.61N×146°.66E, h0km, mb4.1/15, mb1 4.2/15, mb1mx4.2/26, mbtmp4.1/15, MS3.4/6, Ms1 3.4/6, ms1mx3.0/44, Error ellipse: s-maj=22.6km s-min=15.2km az=97.0*

*MOS **10** 12:08:31.4±1.1, 14°.66N×146°.85E, h33km, mb5.0/12, Error ellipse: s-maj=13.4km s-min=8.2km az=105.4*

*ISCJB **10** 12:08:33.9±1.8, 14°.65N±0°.07×146°.69E±0°.09, h51km±16km, mb4.4/40, MS3.5/10, Error ellipse: s-maj=14.4km s-min=11.3km az=15.6*

*NEIC **10** 12:08:34.1±0.5, 14°.64N×146°.68E, h35km, mb4.6/12, Error ellipse: s-maj=13.2km s-min=10.0km az=121.0*

ISC 10 12:08:34.3±0.6, 14.71N±0°.07×146.7E±0°.1, h38km±3km, h38km:pP-P, n84, σ1°40/94, mb4.4/40, MS3.6/11, 4C-4D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.12**	**239**	*e*Pn	**Pn**	**12 09 07.5**	**+0.3**
GUMO				*e*Sn	**Sn**	**12 09 31.5**	**-0.8**
GUMO	**Guam**	**2.12**	**239**	LR	LR	12 09 30.6	
	comp=Z,41μm,19.7s,baz=225,slow=31						
DAV	**Davao City (W)**	**22.10**	**252**	P	**P**	**12 13 23.4**	**-3.0**
DAV	**Davao City (W)**	**22.10**	**252**	P	**P**	**12 13 23.4**	**-3.0**
	160nm,0.4s,baz=68,slow=19,SNR=2.8						
MJAR	**Matsushiro Arr**	**23.04**	**342**	P	**P**	**12 13 34.1**	**-2.1**
MJAR	**Matsushiro Arr**	**23.04**	**342**	P	**P**	**12 13 34.1**	**-2.1**
	2.8nm,0.7s,baz=159,slow=8.7,SNR=9.0						
MAJO	**Matsushiro**	**23.04**	**342**	*e*P	**P**	**12 13 36.2**	**0.0**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MAJO	**Matsushiro**	**23.04**	**342**	*e*P	**P**	**12 13 36.1**	**0.0**
	comp=Z,4.5nm,0.5s						
JNU	**Nakatsue**	**23.31**	**325**	P	**P**	**12 13 39.6**	**+0.6**
JNU	**Nakatsue**	**23.31**	**325**	P	**P**	**12 13 39.6**	**+0.6**
	comp=Z,9.9nm,0.8s,baz=104,slow=7.4,SNR=7.2						
KSRS	**Korea Array**	**28.14**	**327**	P	**P**	**12 14 22.7**	**-0.2**
	comp=Z,3.6nm,0.8s,baz=146,slow=9.3,SNR=9.5						
KSAR	**Wonju Array Be**	**28.16**	**327**	P	**P**	**12 14 22.7**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**29.24**	**359**	*e*P	**P**	**12 14 29.7**	**-2.8**
YUK				*i*		12 15 23.1	
YUK				*e*PPP	PPP	12 15 35.2	
YUK				S	**S**	**12 19 21.2**	**-1.4**
YUK				*i* SS

SONM					LR	LR	12 35 58.2		
	comp=Z,82nm,20.4s,baz=115,slow=35								
GTA	**Gaotai**	**47.81**	**310**	*e*P	**P**	**12 17 09.8**	**+1.5**		
GTA				pP	**pP**	**12 17 21.7**	**+2.3**		
GTA				sP	**sP**	**12 17 26.7**	**+2.7**		
GTA				S	S	12 23 51.3	-11		
GTA				pmax	pmax				
	comp=Z,6.0nm,1.3s								
GTA				LR	LR				
	comp=N,100nm,12.4s								
GTA				LR	LR				
	comp=E,120nm,19.5s								
GTA				LR	LR				
	comp=Z,100nm,17.6s								
SEY	**Seymchan**	**48.33**	**3**	*d i*P	**P**	**12 17 12.7**	**+1.0**		
ZAK	**Zakamensk**	**49.94**	**325**⇑	*i*P	**P**	**12 17 24.4**	**0.0**		
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.1s								
TLY	**Talaya**	**50.40**	**326**	*e*P	**P**	**12 17 28.9**	**+1.1**		
TLY				pmax	pmax				
	comp=Z,4.0nm,1.3s								
TLY				MLR	MLR				
	comp=Z,65nm,19.0s								
LSA	**Lhasa**	**53.11**	**296**	P	**P**	**12 17 48.6**	**-0.3**		
LSA	**Lhasa**	**53.11**	**296**	*e*P	**P**	**12 17 51.2**	**+2.3**		
LSA				pmax	pmax				
	comp=Z,18nm,0.7s								
LSA	**Lhasa**	**53.11**	**296**	*e*P	**P**	**12 17 51.2**	**+2.3**		
	comp=Z,18nm,0.7s								
BILL	**Bilibino**	**54.77**	**9**⇑	*e*P	**P**	**12 18 01.6**	**+1.7**		
BILL				*e*		12 19 59.8			
BILL				*e*S	**S**	**12 25 36.8**	**-0.9**		
BILL				pmax	pmax				
	comp=Z,16nm,1.7s								
BILL				MLR	MLR				
	comp=Z,200nm,26.0s								
HVS	**Khovu-Aksy**	**55.76**	**322**	*e*P	**P**	**12 18 08.3**	**+0.9**		
HVS				pmax	pmax				
	comp=Z,4.0nm,0.5s								
TIXI	**Tiksi**	**57.92**	**353**	*e*P	**P**	**12 18 21.5**	**-0.7**		
TIXI				MLR	MLR				
	comp=Z,36nm,15.0s								
ZALV	**Zalesovo Beam**	**61.78**	**324**	*i*P	**P**	**12 18 48.7**	**-0.3**		
ZALV				pmax	pmax				
	comp=Z,1.0nm,0.4s								
ZALV	**Zalesovo Beam**	**61.78**	**324**	P	**P**	**12 18 49.2**	**+0.1**		
ZALV	**Zalesovo Beam**	**61.78**	**324**	P	**P**	**12 18 49.2**	**+0.1**		
	comp=Z,0.9nm,0.4s,baz=106,slow=5.3,SNR=6.4								
ZALV				LR	LR	12 45 07.2			
	comp=Z,50nm,19.4s,baz=70,slow=36								
MK31	**Makanchi Array**	**61.95**	**315**	*e*P	**P**	**12 18 51.2**	**+0.8**		
MK31	**Makanchi Array**	**61.95**	**315**	*e*P	**P**	**12 18 51.2**	**+0.8**		
MKAR	**Makanchi Array**	**61.95**	**315**	*e*P	**P**	**12 18 51.2**	**+0.8**		
MKAR	**Makanchi Array**	**61.95**	**315**	*e*P	**P**	**12 18 51.2**	**+0.8**		
MKAR	**Makanchi Array**	**61.95**	**315**	P	**P**	**12 18 51.5**	**+1.1**		
	comp=Z,3.8nm,0.6s,baz=87,slow=8.6,SNR=42								
MKAR				LR	LR	12 49 33.5			
	comp=Z,33nm,18.6s,baz=357,slow=40								
NVS	**Novosibirsk**	**62.89**	**324**	*e*P	**P**	**12 18 55.4**	**-1.1**		
RSO	**Redoubt South**	**62.93**	**29**	*e*P	P	12 19 02.4	+5.6		
COLD	**Coldfoot**	**66.23**	**22**	*e*P	**P**	**12 19 18.3**	**+0.2**		
	comp=Z,3.3nm,1.0s								
ILAR	**Eielson Array**	**66.79**	**25**	P	**P**	**12 19 21.2**	**-0.5**		
ILAR	**Eielson Array**	**66.79**	**25**	P	**P**	**12 19 21.2**	**-0.5**		
	comp=Z,0.5nm,0.5s,baz=246,slow=5.9,SNR=8.8								
PAX	**Paxson**	**66.95**	**27**	*e*P	**P**	**12 19 22.3**	**-0.6**		
PAX				pmax	pmax				
	comp=Z,11nm,0.8s								
PAX	**Paxson**	**66.95**	**27**	*e*P	**P**	**12 19 22.3**	**-0.6**		
	comp=Z,11nm,0.8s								
AAK	**Ala-Archa**	**67.16**	**310**	*d i*P	**P**	**12 19 25.6**	**+0.9**		
AAK				pmax	pmax				
	comp=Z,15nm,1.7s								
EGAK	**Eagle**	**69.19**	**26**	*e*P	**P**	**12 19 37.2**	**+0.5**		
	comp=Z,3.7nm,1.0s								
KKAR	**Karatay Array**	**70.08**	**311**	*e*P	**P**	**12 19 43.4**	**+0.7**		
KKAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
KKAR	**Karatay Array**	**70.08**	**311**	*e*P	**P**	**12 19 43.4**	**+0.7**		
	comp=Z,3.4nm,0.7s								
BRVK	**Borovoye**	**70.24**	**321**	*c i*P	**P**	**12 19 43.5**	**+0.1**		
BRVK				pmax	pmax				
	comp=Z,14nm,1.2s								
BRVK	**Borovoye**	**70.24**	**321**	*e*P	**P**	**12 19 43.8**	**+0.4**		
	comp=Z,9.3nm,1.0s								
DLBC	**Dease Lake**	**74.07**	**33**	P	**P**	**12 20 08.3**	**+2.0**		
DLBC	**Dease Lake**	**74.07**	**33**	P	**P**	**12 20 08.3**	**+2.0**		
	comp=Z,2.0nm,0.8s,baz=288,slow=8.5,SNR=4.6								
ARU	**Arti**	**76.88**	**325**	*d i*P	**P**	**12 20 22.6**	**+0.2**		
ARU						12 23 13.7			
ARU				S	**S**	**12 30 08.7**	**+1.4**		
ARU				pmax	pmax				
	comp=Z,14nm,1.7s								
ABKAR	**Akbulak array**	**76.93**	**318**	*e*P	**P**	**12 20 22.4**	**-0.3**		
	comp=Z,0.8nm,0.3s								
YKA	**Yellowknife Ar**	**81.04**	**28**	P	**P**	**12 20 43.9**	**-1.2**		
YKA	**Yellowknife Ar**	**81.04**	**28**	P	**P**	**12 20 43.8**	**-1.2**		
	comp=Z,1.2nm,0.8s,baz=282,slow=5.2,SNR=6.4								
YKA				LR	LR	13 00 06.3			
	comp=Z,6.0nm,19.1s,baz=135,slow=38								
WVOR	**Wild Horse Val**	**83.58**	**48**	*e*P	**P**	**12 20 59.7**	**+0.7**		
WVOR	**Wild Horse Val**	**83.58**	**48**	*e*P	**P**	**12 20 59.7**	**+0.7**		
	comp=Z,0.4nm,0.3s								
NVAR	**Mina Array Bea**	**84.82**	**52**	P	**P**	**12 21 07.1**	**+1.7**		
NVAR	**Mina Array Bea**	**84.82**	**52**	P	**P**	**12 21 07.1**	**+1.7**		
	comp=Z,0.5nm,0.7s,baz=269,slow=7.2,SNR=4.3								
BSMT	**Bassoo Peak**	**84.82**	**42**	*e*P	**P**	**12 21 05.7**	**+0.5**		
BSMT				*ep*P	**pP**	**12 21 15.8**	**-1.3**		
CASY	**Casey**	**85.11**	**194**	*ep*P	**P**	**12 21 07.5**	**+1.7**		
MFID	**Camas Ranch**	**85.33**	**46**	*e*P	**P**	**12 21 08.7**	**+0.9**		
MFID				*ep*P	**pP**	**12 21 19.8**	**+0.2**		
ARUT	**Antelope Range**	**88.68**	**51**	*e*P	P	12 21 27.7	+3.5		
ARUT				pmax	pmax				
	comp=Z,22nm,1.3s								
ARUT	**Antelope Range**	**88.68**	**51**	*e*P	P	12 21 27.7	+3.5		
	comp=Z,22nm,1.3s								
OBN	**Obninsk**	**89.14**	**327**⇓	*e*P	**P**	**12 21 24.2**	**-1.5**		
OBN				*e*S	SKSac	12 31 43.7	-8.9		
OBN				pmax	pmax				
	comp=Z,7.0nm,1.2s								
KIV	**Kislovodsk**	**89.71**	**316**⇑	*e*P	**P**	**12 21 28.6**	**-0.2**		
KIV				*e*		12 25 00.4			
KIV				pmax	pmax				
	comp=Z,4.0nm,0.8s								
DBIC	**Dimbokro**	**144.71**	**305**	PKP	**PKPab**	**12 28 06.7**	**-0.1**		
DBIC	**Dimbokro**	**144.71**	**305**	PKP	**PKPab**	**12 28 06.7**	**-0.1**		
	comp=Z,7.7nm,0.7s,baz=66,slow=2.9,SNR=7.4								
LPAZ	**La Paz**	**146.40**	**97**	*e*PKPbc	**PKPab**	**12 28 14.0**	**+0.2**		
LPAZ	**La Paz**	**146.40**	**97**	PKPbc	**PKPab**	**12 28 13.6**	**-0.2**		
	comp=Z,1.6nm,0.6s,baz=270,slow=2.0,SNR=5.6								

IDC 10 12:20:34.9±4.5, 31°.21S×139°.02E, h0km, mb1 3.0/3, mb1mx3.0/16, mbtmp2.8/3, ML2.4/3, Error ellipse: s-maj=91.0km s-min=15.9km az=34.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**2.30**	**108**	Pn	Pn	12 21 13.1	-0.9
	0.2nm,0.3s,baz=286,slow=15,SNR=3.6						
STKA				Pg	Pb	12 21 17.9	+0.6
	1.1nm,0.3s,baz=279,slow=16,SNR=8.0						
STKA				Sn	Sn	12 21 42.1	-1.0
	1.8nm,0.3s,baz=308,slow=13,SNR=3.9						
STKA				Lg	Lg	12 21 48.2	
	6.2nm,0.3s,baz=192,slow=19,SNR=9.9						
ASAR	**Alice Springs**	**8.78**	**328**	Pn	Pn	12 22 45.0	+1.8
	0.1nm,0.3s,baz=151,slow=13,SNR=5.2						
ASAR				Sn	Sn	12 24 18.6	-4.3
	0.1nm,0.3s,baz=154,slow=22,SNR=3.0						
WRA	**Warramunga Arr**	**11.98**	**338**	Pn	Pn	12 23 25.9	-1.2
	0.1nm,0.3s,baz=162,slow=12,SNR=4.9						
WRA				Sn	Sn	12 25 40.7	-1.0
	0.0nm,0.3s,baz=161,slow=24,SNR=3.1						

*CSEM **10** 12:47:42.9±0.3, 76°.63N×17°.63E, h2km, ML3.9, Error ellipse: s-maj=11.2km s-min=5.2km az=61.0*
*ISCJB **10** 12:47:46.5±0.6, 76°.92N±0°.05×19°.5E±0°.3, h17km, mb3.0/2, Error ellipse: s-maj=10.6km s-min=4.9km az=145.0*
*NAO **10** 12:47:47.8±1.8, 76°.97N×18°.53E, h18km±17km, ML3.9*
*IDC **10** 12:47:49.3±3.8, 77°.06N×19°.59E, h15km±27km, mb3.0/2, mb1 3.6/5, mb1mx3.2/27, mbtmp3.5/5, ML3.5/3, Error ellipse: s-maj=18.7km s-min=7.4km az=68.0*

*BER **10** 12:47:51.1±3.0, 77°.11N×19°.02E, h15km±17km, MD2.4, ML3.9, ML3.9(NAO)*

ISC 10 12:47:48.2±0.7, 76°.92N±0°.05×18°.99E±0°.05, h17km, n34, σ2s59/46, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**0.79**	**278**	*e*P	**Pn**	**12 48 04.2**	**-0.2**
HSP				*e*S	**Sn**	**12 48 14.3**	**-1.4**
SPA0	**Spitsbergen Ar**	**1.38**	**337**	Pg	**Pn**	**12 48 12.1**	**-0.6**
	baz=149,slow=22						
SPA0				Lg	Lg	12 48 28.6	
	baz=146,slow=28						
SPA0	**Spitsbergen Ar**	**1.38**	**337**	Pg	**Pn**	**12 48 12.1**	**-0.6**
	baz=149,slow=22						
SPA0				Lg	Lg	12 48 28.6	
	baz=146,slow=28						
SPA0	**Spitsbergen Ar**	**1.38**	**337**	Pg	**Pn**	**12 48 12.1**	**-0.6**
	baz=149,slow=21,SNR=96						
SPA0				Lg	Lg	12 48 28.6	
	baz=146,slow=23						
SPITS	**Spitsbergen Ar**	**1.38**	**337**	Pn	**Pn**	**12 48 12.1**	**-0.6**
	baz=146,slow=18,SNR=4369						
SPITS				Sn	**Sn**	**12 48 29.9**	**-0.6**
	baz=146,slow=36,SNR=27						
HOPEN	**Hopen**	**1.45**	**104**	*e*P	**Pb**	**12 48 15.3**	**+0.6**
HOPEN				*e*Sg	**Sg**	**12 48 37.2**	**+2.3**
HOPEN	**Hopen**	**1.45**	**104**	*e*P	**Pb**	**12 48 15.3**	**+0.6**
	SNR=62						
HOPEN				*e*Sg	**Sg**	**12 48 37.2**	**+2.3**
	SNR=94						
BJO	**Bjornoya**	**2.43**	**179**	*e*Pg	**Pg**	**12 48 36.2**	**+1.5**
BJO				*e*Sg	**Sg**	**12 49 09.8**	**+3.6**
BJO				AML	AML	12 49 16.2	
	comp=Z,776nm,0.8s						
KBS	**Kingsbay**	**2.50**	**327**	Pn	**Pn**	**12 48 26.9**	**-1.0**
KBS				Pg	**Pb**	**12 48 32.9**	**+0.4**
KBS				Lg	Lg	12 49 02.9	
KBS	**Kingsbay**	**2.50**	**327**	Pn	**Pn**	**12 48 26.9**	**-1.0**
KBS				*e*Pg	**Pb**	**12 48 32.6**	**+0.1**
KBS				Lg	Lg	12 49 02.9	
KBS				AML	AML	12 49 05.9	
	comp=Z,2μm,0.3s						
KBS	**Kingsbay**	**2.50**	**327**	Pn	**Pn**	**12 48 26.9**	**-1.0**
	SNR=62						
KEV	**Kevo**	**7.55**	**158**	*ep*	**Pn**	**12 49 38.6**	**+1.3**
	comp=Z,4.5nm,0.3s						
ARA0	**ARCESS Array S**	**7.66**	**163**	Pn	**Pn**	**12 49 39.6**	**+0.9**
	baz=351,slow=12						
ARA0				Sn	**Sn**	**12 50 59.8**	**-5.1**
	baz=2.2,slow=22						
ARA0	**ARCESS Array S**	**7.66**	**163**	P	**Pn**	**12 49 39.6**	**+0.9**
	baz=351,slow=12						
ARA0				S	**Sn**	**12 50 59.8**	**-5.1**
	baz=2.2,slow=22						
ARA0	**ARCESS Array S**	**7.66**	**163**	S	**Sn**	**12 50 59.8**	**-5.1**
	baz=2.2,slow=21,SNR=57						
ARCES	**ARCESS Array B**	**7.66**	**163**	Pn	**Pn**	**12 49 40.0**	**+1.3**
	comp=Z,2.9nm,0.3s,baz=351,slow=12,SNR=71						
ARCES				Sn	**Sn**	**12 51 02.8**	**-2.1**
	comp=Z,8.3nm,0.3s,baz=345,slow=21,SNR=6.5						
PAJU	**Pajala**	**10.03**	**171**	P	**Pn**	**12 50 12.6**	**+1.4**
APA0	**Apatity Array**	**10.24**	**149**	Pn	**Pn**	**12 50 13.9**	**-0.1**
	baz=342,slow=12						
APA0				Sn	**Sn**	**12 52 02.7**	**-5.6**
	baz=344,slow=28						
APA0	**Apatity Array**	**10.24**	**149**	P	**Pn**	**12 50 13.9**	**-0.1**
	baz=342,slow=12						
APA0				S	**Sn**	**12 52 02.7**	**-5.6**
	baz=344,slow=28						
APA0	**Apatity Array**	**10.24**	**149**	S	**Sn**	**12 52 02.7**	**-5.6**
	baz=344,slow=24,SNR=57						
ERTU	**Ertsjaerv**	**10.47**	**173**	P	**Pn**	**12 50 18.9**	**+1.7**
KALU	**Kalix**	**11.20**	**171**	P	**Pn**	**12 50 28.9**	**+1.7**
SJUU	**Sjulsmark**	**11.50**	**175**	P	**Pn**	**12 50 32.7**	**+1.4**
JOF	**Joensuu**	**14.63**	**157**	*ep*	Pn	12 51 10.3	-3.7
	comp=Z,0.6nm,0.3s						
KAF	**Kangasniemi**	**15.08**	**167**	*ep*	**Pn**	**12 51 18.9**	**-1.1**
	comp=Z,1.6nm,0.3s						
KAF	**Kangasniemi**	**15.08**	**167**	*e*P	**Pn**	**12 51 18.9**	**-1.1**
	comp=Z,1.6nm,0.3s						
FIA0	**FINESS Array S**	**15.73**	**167**	P	**Pn**	**12 51 28.0**	**-0.6**
	baz=354,slow=14						
FIA0	**FINESS Array S**	**15.73**	**167**	P	**Pn**	**12 51 28.0**	**-0.6**
	baz=354,slow=14						
FIA0	**FINESS Array S**	**15.73**	**167**	P	**Pn**	**12 51 28.0**	**-0.6**
	baz=354,slow=14,SNR=57						
FINES	**FINESS Array B**	**15.73**	**167**	Pn	**Pn**	**12 51 27.0**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=360,slow=12,SNR=9.0						
FINES				Sn	**Sn**	**12 54 15.1**	**-7.1**
	comp=Z,0.4nm,0.3s,baz=1.1,slow=22,SNR=4.0						
NOA	**NORSAR Array B**	**16.17**	**194**	Pn	**P**	**12 51 39.2**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=12,slow=12,SNR=2.4						
HFS	**Hagfors**	**16.97**	**189**	P	**P**	**12 51 48.3**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=17,slow=11,SNR=5.6						
ILAR	**Eielson Array**	**38.27**	**350**	P	**P**	**12 55 07.1**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=8.8,slow=6.5,SNR=3.9						
MKAR	**Makanchi Array**	**38.94**	**102**	P	**P**	**12 55 13.6**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=338,slow=6.7,SNR=2.5						

*BKK **10** 12:57:11.3±7.1, 27°.59N×101°.1E±1°.2, h10km, M5.4/11, mB5.3/3, mb4.6/11, MLv5.8/2, Mw(mB)4.8/3*
*ISCJB **10** 12:57:30.1±0.2, 25°.66N±0°.03×100°.99E±0°.02, h13km, mb4.2/34, MS4.0/19, Error ellipse: s-maj=3.6km s-min=3.2km az=179.5*
*IDC **10** 12:57:30.3±0.5, 25°.64N×101°.18E, h0km, mb4.2/24, mb1 4.3/25, mb1mx4.2/35, mbtmp4.2/25, ML4.1/1, MS4.0/18, Ms1 3.9/18, ms1mx3.7/31, Error ellipse: s-maj=15.7km s-min=11.7km az=70.0*
*BJI **10** 12:57:30.7, 25°.57N×101°.00E, h13km, mB4.6/14, mb4.3/21, ML4.7/15, Ms4.7/32, Ms7 4.3/26*
*NEIC **10** 12:57:31.8±0.3, 25°.60N×101°.15E, h10km, mb4.2/5, Error ellipse: s-maj=7.6km s-min=5.8km az=67.0*

ISC 10 12:57:32.4±0.4, 25°.61N±0°.04×101°.01E±0°.04, h13km, n111, σ1s69/120, mb4.2/34, MS4.0/19, 2D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**1.64**	**107**	Pn	**Pn**	**12 58 01.0**	**-0.2**
KMI				Pg	**Pb**	**12 58 02.6**	**-0.1**
KMI				Sg	**Sn**	**12 58 23.0**	**+0.7**
KMI				smax	smax		
	comp=N,8μm,1.0s						
KMI				smax	smax		
	comp=E,6μm,1.0s						
GYA	**Guiyang**	**5.16**	**79**	Pn	**Pn**	**12 58 49.0**	**-0.5**
GYA				Sn	**Sn**	**12 59 49.2**	**+0.3**
GYA				Sg	**Sb**	**13 00 07.3**	**+2.8**
GYA				smax	smax		
	comp=N,320nm,1.0s						
GYA				smax	smax		
	comp=E,230nm,0.9s						
GYA				LR	LR		
	comp=N,2μm,5.8s						
GYA				LR	LR		
	comp=E,2μm,5.8s						
GYA				LR	LR		
	comp=Z,2μm,5.6s						
CD2	**Chengdu**	**5.81**	**24**	Pn	**Pn**	**12 59 00.6**	**+2.3**
CD2				Sn	**Sn**	**13 00 09.0**	**+4.1**
CD2				smax	smax		
	comp=N,1μm,1.3s						
CD2				smax	smax		
	comp=E,2μm,1.3s						
IMP	**Imphal**	**6.46**	**264**	*ex*	Pn	12 59 11.0	+3.7
IMP				*ex*	x	13 01 08.0	
CHTO	**Chiang Mai**	**7.03**	**196**	*e*Pn	**Pn**	**12 59 15.6**	**+0.5**
	comp=E,50nm,0.7s						
CHTO				*e*Sn	**Sn**	**13 00 36.0**	**+1.1**
CHTO	**Chiang Mai**	**7.03**	**196**	P	**Pn**	**12 59 16.4**	**+1.3**
	comp=E,12nm,0.9s,comp=E,759nmcomp=E,1.0nm						
CMMT	**Chiang Mai**	**7.03**	**196**	P	**Pn**	**12 59 16.3**	**+1.2**
	comp=E,25nm,1.8s,comp=E,866nmcomp=E,2.3nm						
LAMP	**Lampang**	**7.17**	**191**	P	**Pn**	**12 59 18.3**	**+1.3**
	comp=E,6.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**7.37**	**195**	Pn	**Pn**	**12 59 20.3**	**+0.6**
CMAR				Pg	Pg	12 59 50.2	-3.4
CMAR				Lg	Lg	13 01 26.2	
CMAR	**Chiang Mai Arr**	**7.37**	**195**	Pn	**Pn**	**12 59 20.3**	**+0.6**
	comp=E,0.7nm,0.3s,baz=12,slow=13,SNR=29						
CMAR				Pg	Pg	12 59 50.2	-3.4
	comp=E,4.5nm,0.3s,baz=11,slow=18,SNR=64						
CMAR				Lg	Lg	13 01 26.2	
	comp=E,8.0nm,0.3s,baz=18,slow=29,SNR=10						

LOEI	**Loei**	**8.06**	**178**	P	**Pn**	**12 59 32.0**	**+2.7**		
	comp=E,45nm,1.4s								
SHL	**Shillong**	**8.24**	**272**	*e*P	**Pn**	**12 59 32.2**	**+0.4**		
SHL				*ex*	Sb	13 01 35.0	+1.6		
ENH	**Enshi**	**8.82**	**56**	*e*Pn	**Pn**	**12 59 40.7**	**+1.1**		
	comp=E,42nm,0.4s								
ENH				*e*Sn	**Sn**	**13 01 18.9**	**-0.1**		
SKNT	**Sakolnakorn**	**9.03**	**162**	P	**Pn**	**12 59 45.1**	**+2.6**		
	comp=E,62nm,1.1s								
PANO	**Nakornpanom**	**9.06**	**158**	P	**Pn**	**12 59 44.6**	**+1.6**		
	comp=E,100nm,1.1s								
LSA	**Lhasa**	**9.64**	**297**	P	**Pn**	**12 59 49.5**	**-1.8**		
LSA				LR	LR				
	comp=N,1μm,17.2s								
LSA				LR	LR				
	comp=E,870nm,16.9s								
LSA				LR	LR				
	comp=Z,840nm,13.0s								
LSA	**Lhasa**	**9.64**	**297**	*e*Pn	**Pn**	**12 59 54.2**	**+2.9**		
	comp=Z,8.7nm,0.6s								
LSA				*e*Sn	**Sn**	**13 01 41.9**	**+2.1**		
CHAI	**Chaiyaphum**	**9.70**	**174**	P	**Pn**	**12 59 54.4**	**+2.6**		
	comp=Z,3.8nm,0.9s								
QIZ	**Qiongzhong**	**10.47**	**127**	P	**Pn**	**13 00 02.5**	**+0.2**		
QIZ				LR	LR				
	comp=N,3μm,11.2s								
QIZ				LR	LR				
	comp=E,1μm,11.4s								
QIZ				LR	LR				
	comp=Z,1μm,8.2s								
QIZ	**Qiongzhong**	**10.47**	**127**	*e*Pn	Pn	12 59 58.8	-3.5		
	comp=Z,4.5nm,0.4s								
LZH	**Lanzhou**	**10.72**	**12**	*e*P	**Pn**	**13 00 05.4**	**-0.4**		
LZH				pP		13 00 12.0			
LZH				sP		13 00 17.0			
LZH				S	**Sn**	**13 02 04.2**	**-1.6**		
LZH				SS	**SnSn**	**13 02 20.0**	**+1.9**		
LZH				pmax	pmax				
	comp=Z,15nm,1.0s								
LZH				pmax	pmax				
	comp=Z,99nm,7.2s								
LZH				LR	LR				
	comp=N,3μm,6.8s								
LZH				LR	LR				
	comp=E,5μm,7.1s								
LZH				LR	LR				
	comp=Z,2μm,8.6s								
XAN	**Xi'an**	**10.85**	**37**	P	**Pn**	**13 00 06.1**	**-1.4**		
XAN				S	Sn	13 02 02.5	-6.3		
XAN				pmax	pmax				
	comp=Z,3.0nm,0.5s								
XAN				LR	LR				
	comp=N,3μm,12.1s								
XAN				LR	LR				
	comp=E,1μm,12.1s								
XAN				LR	LR				
	comp=Z,600nm,8.7s								
UBPT	**Khong Chiam**	**11.09**	**157**	P	**Pn**	**13 00 12.9**	**+2.1**		
	comp=Z,31nm,1.3s								
NAYO	**Nakonayok**	**11.24**	**178**	P	Pn	13 00 17.2	+4.4		
TAPN	**Taplejung**	**12.04**	**281**	*e*P	**Pn**	**13 00 23.1**	**-0.9**		
	comp=Z,44nm,0.8s								
ODAN	**Odare**	**12.29**	**279**	*e*P	**Pn**	**13 00 26.3**	**-1.1**		
	comp=Z,42nm,0.7s								
WHN	**Wuhan**	**12.76**	**64**	P	**Pn**	**13 00 32.5**	**-1.1**		
WHN				S	Sn	13 02 48.7	-6.8		
WHN				LR	LR				
	comp=N,3μm,7.9s								
WHN				LR	LR				
	comp=E,3μm,8.6s								
WHN				LR	LR				
	comp=Z,3μm,10.7s								
RAMN	**Ramite**	**13.00**	**279**	*e*P	**Pn**	**13 00 34.7**	**-2.4**		
	comp=Z,44nm,0.8s								
JIRN	**Jiri**	**13.41**	**282**	*e*P	**Pn**	**13 00 41.9**	**-0.9**		
	comp=Z,67nm,0.9s								
GUN	**Gumba**	**13.71**	**283**	*e*P	**Pn**	**13 00 46.0**	**-0.9**		
	comp=Z,93nm,1.1s								
GTA	**Gaotai**	**13.80**	**356**	⇓P	**Pn**	**13 00 50.0**	**+2.2**		
GTA				pP	**P**	**13 00 57.1**	**+0.8**		
GTA				sP		13 00 59.6			
GTA				pmax	pmax				
	comp=Z,3.0nm,0.8s								
GTA				pmax	pmax				
	comp=Z,78nm,6.2s								
GTA				LR	LR				
	comp=N,1μm,10.0s								
GTA				LR	LR				
	comp=E,2μm,12.6s								
GTA				LR	LR				
	comp=Z,1μm,9.5s								
PKI	**Pulchoki**	**14.09**	**281**	*e*P	**Pn**	**13 00 49.5**	**-2.6**		
	comp=Z,88nm,0.8s								
PKIN	**Phulchoki**	**14.10**	**281**	*e*P	**Pn**	**13 00 49.3**	**-2.9**		
	comp=Z,57nm,0.9s								
KKN	**Kakani**	**14.22**	**282**	*e*P	**Pn**	**13 00 51.9**	**-1.9**		
	comp=Z,59nm,0.9s								
DMN	**Daman**	**14.36**	**281**	*e*P	**Pn**	**13 00 52.6**	**-3.2**		
	comp=Z,39nm,0.7s								
DANN	**Dangsing**	**15.62**	**284**	*e*P	**Pn**	**13 01 09.0**	**-3.6**		
	comp=Z,71nm,0.9s								
KOLN	**Koldanda**	**15.71**	**282**	*e*P	**Pn**	**13 01 10.1**	**-3.6**		
	comp=Z,24nm,0.8s								
PYUN	**Piuthan**	**16.27**	**283**	*e*P	**Pn**	**13 01 17.3**	**-3.6**		
	comp=Z,73nm,1.0s								
BTO	**Baotou**	**16.74**	**24**	*e*P	Pn	13 01 21.6	-5.1		
HHC	**Hu-ho-hao-te**	**17.55**	**27**	*e*P	**Pn**	**13 01 32.9**	**-4.0**		
HHC				PP	**PnPn**	**

JNU	**Nakatsue**	**27.02**	**67**	P	**P**	**13 03 14.6**	**+0.2**
	comp=Z,5.1nm,0.6s,baz=110,slow=4.2,SNR=8.8						
JNU				LR	LR	13 14 48.9	
	comp=Z,524nm,18.9s,baz=245,slow=39						
AAK	**Ala-Archa**	**27.58**	**315**	*eP*	**P**	**13 03 20.3**	**+0.9**
	comp=Z,1.3nm,0.4s						
AAK	**Ala-Archa**	**27.58**	**315**	P	**P**	**13 03 23.2**	**+3.7**
	comp=Z,2.3nm,0.5s,baz=226,slow=7.3,SNR=4.6						
AAK				LR	LR	13 15 21.8	
	comp=Z,267nm,18.1s,baz=101,slow=39						
KURBB	**Kurchatov Arra**	**30.37**	**331**	P	**P**	**13 03 44.2**	**+0.3**
	comp=Z,4.5nm,0.7s,baz=138,slow=9.7,SNR=18						
KURK	**Kurchatov**	**30.39**	**331**	P	**P**	**13 03 44.2**	**+0.1**
ZAA0	**Zalesovo Array**	**30.76**	**341**	*eP*	**P**	**13 03 47.2**	**-0.2**
ZALV	**Zalesovo Beam**	**30.76**	**341**	P	**P**	**13 03 47.2**	**-0.1**
ZALV	**Zalesovo Beam**	**30.76**	**341**	P	**P**	**13 03 47.2**	**-0.1**
	comp=Z,4.0nm,0.8s,baz=147,slow=8.3,SNR=12						
USRK	**Ussuriysk Arra**	**31.20**	**46**	P	**P**	**13 03 49.1**	**-2.2**
	comp=Z,2.3nm,0.7s,baz=245,slow=8.4,SNR=4.5						
USRK				LR	LR	13 17 05.8	
	comp=Z,179nm,20.6s,baz=233,slow=38						
MJAR	**Matsushiro Arr**	**33.49**	**62**	LR	LR	13 18 22.2	
	comp=Z,350nm,20.4s,baz=265,slow=38						
BVAR	**Borovoye Array**	**35.71**	**328**	P	**P**	**13 04 30.7**	**+0.2**
BVAR				PcP	**PcP**	**13 06 60.0**	**+1.5**
BVAR	**Borovoye Array**	**35.71**	**328**	P	**P**	**13 04 30.7**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=127,slow=9.8,SNR=6.3						
BVAR				PcP	**PcP**	**13 06 59.9**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=108,slow=4.7,SNR=3.8						
BVAR				LR	LR	13 20 54.6	
	comp=Z,205nm,18.9s,baz=300,slow=39						
ASAJ	**Asahikawa**	**38.32**	**50**	P	**P**	**13 04 51.5**	**-1.2**
ASAJ	**Asahikawa**	**38.32**	**50**	P	**P**	**13 04 51.6**	**-1.2**
	comp=Z,7.6nm,0.6s,baz=247,slow=7.7,SNR=6.9						
ABKAR	**Akbulak array**	**39.58**	**318**	*eP*	**P**	**13 05 03.5**	**+0.2**
	comp=Z,3.8nm,0.8s						
AKTO	**Aktyubinsk**	**41.16**	**319**	P	**P**	**13 05 16.9**	**+0.5**
AKTO	**Aktyubinsk**	**41.16**	**319**	P	**P**	**13 05 16.9**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=112,slow=11,SNR=7.5						
RDF	**Al-Radifah**	**47.30**	**287**	*eP*	**P**	**13 06 04.3**	**-1.6**
RDF				AMb	AMB	13 06 10.2	
	comp=Z,18nm,0.9s						
NAY	**Al-Naaiem**	**47.52**	**287**	*eP*	**P**	**13 06 05.5**	**-2.0**
NAY				AMb	AMB	13 06 18.1	
	comp=Z,18nm,0.9s						
KBZ	**Khabaz**	**50.07**	**307**	LR	LR	13 30 12.6	
	comp=Z,112nm,20.3s,baz=257,slow=39						
PETK	**Petropavlovsk-**	**50.07**	**41**	LR	LR	13 26 56.7	
	comp=Z,114nm,20.4s,baz=253,slow=35						
WRAB	**Tennant Creek**	**55.67**	**141**	*eP*	**P**	**13 07 08.1**	**-0.5**
	comp=Z,2.3nm,0.6s						
WRA	**Warramunga Arr**	**55.67**	**141**	P	**P**	**13 07 08.0**	**-0.5**
WRA	**Warramunga Arr**	**55.67**	**141**	P	**P**	**13 07 08.0**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=331,slow=7.9,SNR=26						
ASAR	**Alice Springs**	**58.43**	**144**	P	**P**	**13 07 27.8**	**-0.3**
ASAR	**Alice Springs**	**58.43**	**144**	P	**P**	**13 07 27.8**	**-0.3**
	comp=Z,2.4nm,0.9s,baz=323,slow=6.7,SNR=12						
FINES	**FINESS Array B**	**60.67**	**328**	P	**P**	**13 07 43.1**	**0.0**
FINES	**FINESS Array B**	**60.67**	**328**	P	**P**	**13 07 43.1**	**0.0**
	comp=Z,1.3nm,0.7s,baz=106,slow=10,SNR=3.7						
FINES				LR	LR	13 35 29.0	
	comp=Z,109nm,18.5s,baz=230,slow=38						
ARCES	**ARCESS Array B**	**61.19**	**337**	P	**P**	**13 07 47.2**	**+0.7**
ARCES	**ARCESS Array B**	**61.19**	**337**	P	**P**	**13 07 47.2**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=85,slow=6.4,SNR=7.1						
ARCES				LR	LR	13 36 28.2	
	comp=Z,160nm,19.3s,baz=75,slow=38						
MLR	**Muntele Rosu**	**62.01**	**310**	P	**P**	**13 07 54.8**	**+2.2**
MLR	**Muntele Rosu**	**62.01**	**310**	P	**P**	**13 07 54.8**	**+2.2**
	comp=Z,1.1nm,1.0s,baz=162,slow=7.0,SNR=4.1						
HFS	**Hagfors**	**66.84**	**327**	P	**P**	**13 08 23.1**	**-0.6**
HFS	**Hagfors**	**66.84**	**327**	P	**P**	**13 08 23.1**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=100,slow=6.0,SNR=5.7						
KMBO	**Kilima Mbogo**	**67.00**	**257**	LR	LR	13 39 28.5	
	comp=Z,105nm,18.4s,baz=95,slow=38						
NOA	**NORSAR Array B**	**67.84**	**328**	LR	LR	13 39 48.9	
	comp=Z,109nm,18.5s,baz=90,slow=37						
STKA	**Stephens Creek**	**69.06**	**144**	P	**P**	**13 08 38.1**	**+0.1**
STKA	**Stephens Creek**	**69.06**	**144**	P	**P**	**13 08 38.1**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=323,slow=5.1,SNR=4.0						
STKA				LR	LR	13 41 38.9	
	comp=Z,99nm,18.9s,baz=23,slow=38						
GERES	**GERESS Array B**	**69.47**	**315**	P	**P**	**13 08 41.8**	**+1.3**
GERES	**GERESS Array B**	**69.47**	**315**	P	**P**	**13 08 41.8**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=69,slow=7.3,SNR=5.4						
GERES				LR	LR	13 43 23.1	
	comp=Z,82nm,18.4s,baz=70,slow=40						
DAVOX	**Davos/Dischmat**	**72.54**	**314**	P	**P**	**13 08 60.0**	**+0.6**
DAVOX	**Davos/Dischmat**	**72.54**	**314**	P	**P**	**13 08 60.0**	**+0.6**
	comp=Z,4.1nm,0.8s,baz=78,slow=6.8,SNR=5.4						
COLD	**Coldfoot**	**73.58**	**23**	*eP*	**P**	**13 09 04.4**	**-0.5**
	comp=Z,2.5nm,1.0s						
ILAR	**Eielson Array**	**75.95**	**24**	P	**P**	**13 09 17.4**	**-1.2**
ILAR	**Eielson Array**	**75.95**	**24**	P	**P**	**13 09 17.4**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=284,slow=4.9,SNR=6.2						
PMR	**Palmer**	**76.65**	**28**	*eP*	**P**	**13 09 22.2**	**-0.5**
	comp=Z,1.1nm,0.4s						
YKA	**Yellowknife Ar**	**87.71**	**16**	P	**P**	**13 10 18.5**	**-2.1**
YKA	**Yellowknife Ar**	**87.71**	**16**	P	**P**	**13 10 18.5**	**-2.1**
	comp=Z,0.8nm,0.7s,baz=334,slow=4.1,SNR=3.5						
YKA				LR	LR	13 49 53.3	
	comp=Z,10nm,18.8s,baz=230,slow=36						
BOSA	**Boshof**	**90.54**	**238**	P	**P**	**13 10 34.9**	**+0.3**
BOSA	**Boshof**	**90.54**	**238**	P	**P**	**13 10 34.9**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=45,slow=5.7,SNR=2.2						
BOSA				LR	LR	13 48 00.2	
	comp=Z,70nm,18.3s,baz=346,slow=33						
TORD	**Torodi Ar. Bea**	**92.59**	**286**	P	**P**	**13 10 44.6**	**+0.3**
TORD	**Torodi Ar. Bea**	**92.59**	**286**	P	**P**	**13 10 44.6**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=218,slow=9.4,SNR=2.1						
SCHQ	**Schefferville**	**99.21**	**353**	LR	LR	14 01 36.8	
	comp=Z,87nm,18.1s,baz=338,slow=39						

*TAP **10** 13:14:04.4,23.82N×121.76E,h45km,ML3.9,B*
*JMA **10** 13:14:05.7±0.3,23.86N×121.90E,h78km,M2.8*

ISC 10 13:14:00.4±0.6,23.76N±0.02×121.85E±0.02,h16km±4km, n67,σ1s25/119,11C-4D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.29**	**259**	P	Pn	13 14 12.5	+2.6
	baz=240						
TEGC				S	**Sn**	**13 14 18.8**	**+2.9**
	baz=240						
HWA	**Hwalien**	**0.31**	**313**	P	**Pn**	**13 14 11.9**	**+1.7**
	baz=326						
HWA				*e*S	**Sn**	**13 14 17.4**	**+1.0**
	baz=326						
ESF	**Shoufeng Towns**	**0.33**	**289**	*e*P	**Pn**	**13 14 12.2**	**+1.7**
	baz=282						
ESF				*e*S	**Sn**	**13 14 18.8**	**+1.8**
	baz=282						
ESL	**Shilin**	**0.39**	**278**	*i*P	**Pn**	**13 14 13.0**	**+1.7**
	baz=268						
ESL				*i* S	**Sn**	**13 14 19.0**	**+0.7**
	baz=268						
TWD	**Chiawan**	**0.39**	**324**	*i*P	**Pn**	**13 14 13.0**	**+1.6**
	baz=336						
TWD				*i* S	**Sn**	**13 14 19.3**	**+0.8**
	baz=336						
EHY	**Hungye**	**0.55**	**242**	P	**Pn**	**13 14 15.0**	**+1.5**
	baz=241						
EHY				*e*S	**Sn**	**13 14 22.7**	**+0.4**
	baz=241						
EHP	**Heping Village**	**0.55**	**350**	*e*P	**Pn**	**13 14 15.1**	**+1.5**
	baz=359						
EHP				*e*S	**Sn**	**13 14 23.4**	**+0.9**
	baz=359						
TWF1	**Yuli**	**0.65**	**231**	*i*P	**Pn**	**13 14 16.8**	**+1.8**
	baz=231						
TWF1				*e*S	**Sn**	**13 14 25.4**	**+0.5**
	baz=231						
WHF	**Hehuan Shan**	**0.66**	**305**	*i*P	**Pn**	**13 14 16.4**	**+1.0**
	baz=306						
WHF				*e*S	**Sn**	**13 14 24.8**	**-0.8**
	baz=306						
ENA	**Nanau**	**0.67**	**351**	*e*P	**Pn**	**13 14 16.8**	**+1.6**
	baz=359						
ENA				*e*S	**Sn**	**13 14 25.6**	**+0.3**
	baz=359						
TWT	**Tachien**	**0.79**	**308**	*i*P	**Pn**	**13 14 18.6**	**+1.6**
	baz=312						
TWT				*e*S	**Sn**	**13 14 27.8**	**-0.7**
	baz=312						
CHKT	**Chengkung**	**0.80**	**214**	*e*P	**Pn**	**13 14 18.7**	**+1.8**
	baz=198						
CHKT				*e*S	**Sn**	**13 14 28.8**	**+0.4**
	baz=198						
NNS	**Nan Shan**	**0.80**	**327**	*i*P	**Pn**	**13 14 18.4**	**+1.3**
	baz=325						
NNS				*e*S	**Sn**	**13 14 28.1**	**-0.7**
	baz=325						
TWC	**Suao**	**0.84**	**360**	*i* P	**Pn**	**13 14 19.7**	**+2.2**
	baz=1.0						
TWC				S	**Sn**	**13 14 30.6**	**+1.0**
	baz=1.0						
YUS	**Yu-Shan**	**0.87**	**252**	*i*P	**Pn**	**13 14 20.5**	**+2.2**
	baz=239						
YUS				*i* S	**Sn**	**13 14 31.1**	**+0.2**
	baz=239						
SMLT	**Sun Moon Lake**	**0.88**	**278**	*i* P	**Pn**	**13 14 19.8**	**+1.6**
	baz=276						
SMLT				S	**Sn**	**13 14 30.3**	**-0.3**
	baz=276						
ENTT	**Nioudou**	**0.91**	**343**	*i*P	**Pn**	**13 14 20.2**	**+1.7**
	baz=348						
ENTT				*e*S	**Sn**	**13 14 31.2**	**-0.1**
	baz=348						
TYC	**Yuchr**	**0.92**	**279**	P	**Pn**	**13 14 20.2**	**+1.6**
	baz=280						
TYC				*e*S	**Sn**	**13 14 30.6**	**-0.9**
	baz=280						
ELDTW	**Lidau**	**0.95**	**233**	P	**Pg**	**13 14 20.8**	**+1.9**
	baz=225						
ELDTW				*e*S	**Sn**	**13 14 32.9**	**+0.4**
	baz=225						
TWE	**Neicheng**	**0.97**	**350**	*i*P	**Pg**	**13 14 21.2**	**+2.0**
	baz=345						
TWE				S	**Sn**	**13 14 33.3**	**+0.6**
	baz=345						
ALS	**Alishan**	**0.99**	**256**	*e*P	**Pg**	**13 14 22.2**	**+2.5**
	baz=250						
ALS				*e*S	**Sn**	**13 14 33.9**	**+0.2**
	baz=250						
NSK	**Sanguang**	**1.01**	**334**	*i*P	**Pg**	**13 14 21.6**	**+1.5**
	baz=337						
NSK				*e*S	**Sn**	**13 14 33.4**	**-0.6**
	baz=337						
WNT	**Mingjian**	**1.07**	**276**	*e*P	**Pg**	**13 14 23.1**	**+2.0**
	baz=273						
WNT				*e*S	**Sg**	**13 14 36.5**	**+1.3**
	baz=273						
CHN5	**Tsauling**	**1.09**	**261**	P	**Pg**	**13 14 23.4**	**+2.0**
	baz=257						
CHN5				*e*S	**Sg**	**13 14 37.5**	**+1.8**
	baz=257						
TCU	**Taichung**	**1.14**	**290**	*i*P	**Pg**	**13 14 24.3**	**+1.9**
	baz=288						
TCU				*e*S	**Sg**	**13 14 38.2**	**+0.9**
	baz=288						
TWQ1	**Liyutan**	**1.15**	**301**	*i*P	**Pg**	**13 14 24.0**	**+1.5**
	baz=300						
TWQ1				S	**Sg**	**13 14 38.0**	**+0.6**
	baz=300						
NSTT	**Nanjuang**	**1.16**	**318**	*i*P	**Pg**	**13 14 24.4**	**+1.6**
	baz=307						
NSTT				S	**Sg**	**13 14 38.1**	**+0.1**
	baz=307						
TWG	**Pinlang**	**1.18**	**218**	*e*P	**Pg**	**13 14 23.6**	**+0.4**
	baz=213						
WGK	**Gukeng**	**1.18**	**267**	*e*P	**Pg**	**13 14 24.6**	**+1.3**
	baz=263						
WGK				*e*S	**Sg**	**13 14 39.4**	**+0.6**
	baz=263						
NSY	**Sanyi**	**1.19**	**303**	*e*P	**Pg**	**13 14 24.6**	**+1.3**
	baz=303						
NSY				*e*S	**Sg**	**13 14 39.0**	**+0.1**
	baz=303						
CHN4	**Tsaushan**	**1.23**	**251**	*e*P	**Pg**	**13 14 25.6**	**+1.6**
	baz=246						
CHN4				*e*S	**Sg**	**13 14 41.6**	**+1.6**
	baz=246						
TWA	**Mucha**	**1.24**	**349**	*i* P	**Pg**	**13 14 25.2**	**+1.0**
	baz=343						
TWA				S	**Sg**	**13 14 40.3**	**-0.1**
	baz=343						
TWB1	**Santiao Chiao**	**1.25**	**6**	*e*P	**Pg**	**13 14 25.8**	**+1.4**
	baz=9.0						
WTP	**Ta-pu**	**1.25**	**246**	*e*P	**Pg**	**13 14 26.2**	**+1.8**
	baz=241						
WTP				*e*S	**Sg**	**13 14 41.4**	**+0.6**
	baz=241						
YOJ	**Yonaguni jima**	**1.27**	**56**	*e*P	Pg	13 14 27.1	+2.3
	baz=59						
YOJ	**Yonaguni jima**	**1.27**	**56**	P	Pg	13 14 27.2	+2.4
YOJ				*e*S	**Sg**	**13 14 42.7**	**+1.3**
CHN2	**Minshiung**	**1.28**	**260**	*e*P	**Pg**	**13 14 26.2**	**+1.1**
	baz=256						
CHN2				*e*S	**Sg**	**13 14 43.0**	**+1.1**
	baz=256						
NWF	**Wu-fen Shan**	**1.30**	**357**	P	**Pg**	**13 14 26.6**	**+1.1**
	baz=349						
NWF				*e*S	**Sg**	**13 14 42.4**	**-0.2**
	baz=349						
TAP1	**Taipei**	**1.30**	**347**	*e*P	**Pg**	**13 14 25.8**	**+0.2**
	baz=349						
TAP1				*e*S	**Sg**	**13 14 42.0**	**-0.6**
	baz=349						
TAP	**Taipei**	**1.31**	**346**	*e*P	**Pg**	**13 14 25.2**	**-0.4**
	baz=349						
TAP				*e*S	**Sg**	**13 14 42.1**	**-0.6**
	baz=349						
HSN	**Hsinchu**	**1.31**	**322**	*e*P	**Pg**	**13 14 26.7**	**+1.0**
	baz=326						
HSN				*e*S	**Sg**	**13 14 42.7**	**-0.1**
	baz=326						
CHY	**Chiayi**	**1.33**	**259**	*e*P	**Pg**	**13 14 26.8**	**+0.7**
	baz=255						
CHY				*e*S	**Sg**	**13 14 43.0**	**-0.6**
	baz=255						
CHN1	**Nanshi**	**1.34**	**245**	*e*P	**Pg**	**13 14 27.1**	**+0.8**
	baz=240						
CHN1				*e*S	**Sg**	**13 14 44.0**	**+0.2**
	baz=240						
NCU	**National Centr**	**1.34**	**333**	*e*P	**Pg**	**13 14 26.9**	**+0.5**
	baz=336						
NCU				*e*S	**Sg**	**13 14 43.4**	**-0.5**
	baz=336						
TWK	**Hsinying**	**1.34**	**249**	*e*P	**Pg**	**13 14 27.0**	**+0.7**
	baz=244						
TWK				*e*S	**Sg**	**13 14 44.0**	**+0.2**
	baz=244						
SGST	**Jiashian**	**1.35**	**240**	*e*P	**Pg**	**13 14 28.0**	**+1.6**
	baz=235						
SGST				*e*S	**Sg**	**13 14 45.2**	**+1.3**
	baz=235						
TWS1	**Kuangyinshan**	**1.39**	**344**	P	**Pg**	**13 14 27.1**	**-0.1**
	baz=347						
TWS1				*e*S	**Sg**	**13 14 44.3**	**-0.9**
	baz=347						
ECL	**Taimali**	**1.42**	**216**	*e*P	**Pb**	**13 14 26.8**	**+0.3**
	baz=212						
WTCT	**Ta-ch'eng**	**1.44**	**274**	*e*P	**Pg**	**13 14 28.2**	**+0.1**
	baz=271						
WTCT				*e*S	**Sg**	**13 14 46.0**	**-0.9**
	baz=271						
WSF	**Szhu**	**1.50**	**266**	*e*P	**Pg**	**13 14 29.1**	**-0.1**
	baz=262						
WSF				*e*S	**Sg**	**13 14 47.9**	**-0.8**
	baz=262						
TWY	**Chenhua**	**1.52**	**351**	*e*P	**Pg**	**13 14 28.5**	**-1.2**
	baz=343						
TWY				*e*S	**Sg**	**13 14 47.0**	**-2.5**
	baz=343						
CHN3	**Shinhua**	**1.53**	**244**	*e*P	Pg	13 14 32.4	+2.6
	baz=239						
CHN3				*e*S	**Sg**	**13 14 50.4**	**+0.7**
	baz=239						
CHN8	**Yiju**	**1.56**	**255**	*e*P	**Pg**	**13 14 29.6**	**-0.8**
	baz=251						
CHN8				*e*S	**Sg**	**13 14 49.1**	**-1.7**
	baz=251						
TWM1	**Shoushan**	**1.61**	**235**	*e*P	Pg	13 14 31.7	+0.3
	baz=232						
SGLT	**Jiouru**	**1.62**	**231**	*e*P	**Pg**	**13 14 31.5**	**0.0**
	baz=215						
SGLT				*e*S	**Sg**	**13 14 54.6**	**+1.9**
	baz=215						
SCLT	**Jiali**	**1.63**	**249**	*e*P	**Pg**	**13 14 30.7**	**-1.0**
	baz=245						
SCLT				*e*S	**Sg**	**13 14 51.4**	**-1.5**
	baz=245						
EAST	**Anshuo**	**1.66**	**214**	*e*P	**Pg**	**13 14 31.8**	**-0.4**
	baz=211						
LAY	**Lan-yu**	**1.74**	**189**	*e*P	**Pb**	**13 14 31.1**	**-0.8**
	baz=179						
LAY				*e*S	**Sn**	**13 14 52.2**	**+0.5**
	baz=179						
SCZT	**Fangliau**	**1.79**	**220**	*e*P	**Pg**	**13 14 33.9**	**-0.9**
	baz=218						
IRIF	**Iriomote-Funau**	**1.81**	**71**	P	Pg	13 14 34.5	-0.6
IRIF				*e*S	**Sb**	**13 14 56.7**	**+1.2**
HATJ	**Hateruma jima**	**1.81**	**80**	P	Pg	13 14 34.6	-0.6
HATJ				*e*S	**Sb**	**13 14 56.9**	**+1.3**
HEN	**Hengchun**	**2.03**	**211**	*e*P	**Pb**	**13 14 35.7**	**-1.2**
	baz=196						
HEN				*e*S	**Sb**	**13 15 01.2**	**-0.6**
	baz=196						
JKRS	**Kuro-shima**	**2.03**	**76**	P	**Pb**	**13 14 37.8**	**+1.0**
JKRS				*e*S	**Sb**	**13 15 02.3**	**+0.5**
TWK1	**Hengchun**	**2.05**	**208**	*e*P	**Pb**	**13 14 37.4**	**+0.2**
	baz=195						
TWK1				*e*S	**Sb**	**13 15 01.3**	**-1.2**
	baz=195						
PNG	**Penghu**	**2.11**	**265**	*e*P	Pb	13 14 36.4	-1.9
	baz=262						
PNG				*e*S	**Sn**	**13 15 00.9**	**0.0**
	baz=262						
JIJ	**Ishigaki jima**	**2.18**	**74**	P	**Pb**	**13 14 39.2**	**-0.2**
JIJ				*e*S	**Sb**	**13 15 04.5**	**-1.6**
JTJ	**Tarama**	**2.75**	**71**	P	**Pb**	**13 14 47.7**	**-1.4**
JTJ				*e*S	**Sb**	**13 15 19.6**	**-2.9**

IDC 10 13:26:50.5±2.2,25.70S×177.45W,h131km±26km, mb3.7/3,mb1 4.1/5,mb1mx3.6/20,mbtmp4.1/5,MS3.4/1, Ms1 3.4/1,ms1mx2.6/26,Error ellipse: s-maj=38.7km s-min=18.1km az=120.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.56**	**187**	P	Pn	13 27 45.1	+0.6
	130nm,0.3s,baz=124,slow=21,SNR=6.9						
RAO				S	Sn	13 28 26.6	+0.2
	180nm,0.3s,baz=275,slow=22,SNR=4.7						
RAO				LR	LR	13 28 52.3	
	comp=Z,575nm,21.1s,baz=147,slow=34						
AFI	**Afiamalu**	**12.88**	**25**	P	Pn	13 29 50.3	+1.2
	7.4nm,0.3s,baz=207,slow=6.8,SNR=14						
AFI				S	Sn	13 32 08.9	-2.4
	1.8nm,0.3s,baz=214,slow=19,SNR=2.9						
STKA	**Stephens Creek**	**36.26**	**251**	P	P	13 33 42.4	+1.2
	2.2nm,0.9s,baz=80,slow=11,SNR=3.4						
ASAR	**Alice Springs**	**44.05**	**262**	P	P	13 34 44.9	-0.8
	1.0nm,0.4s,baz=95,slow=7.2,SNR=23						
WRA	**Warramunga Arr**	**44.62**	**267**	P	P	13 34 49.3	-0.8
	1.9nm,0.4s,baz=102,slow=7.7,SNR=42						
MKAR	**Makanchi Array**	**115.08**	**312**	PKP	PKPdf	13 45 15.2	-0.8
	0.2nm,0.4s,baz=90,slow=1.4,SNR=2.8						
NB2	**NORSAR Subarra**	**144.18**	**353**	PKP	PKPbc	13 46 09.4	+0.6
	comp=Z,2.3nm,0.9s,baz=9.8,slow=4.0						
NOA	**NORSAR Array B**	**144.18**	**353**	PKP	PKPbc	13 46 09.1	+0.3
	comp=Z,1.1nm,0.7s,baz=20,slow=2.5,SNR=4.8						
BRTR	**Keskin Array B**	**150.51**	**306**	PKP	PKPbc	13 46 26.6	-0.4
	comp=Z,0.8nm,0.7s,baz=133,slow=5.4,SNR=3.4						
BRTR				PKPab	PKPab	13 46 35.5	+1.3
	comp=Z,0.5nm,0.5s,baz=116,slow=5.6,SNR=3.7						

*CSEM **10** 13:45:22.3,33.76N×25.64E,h12km±1km,MD3.5,After ATH*

ATH 10 13:45:22.3,33.76N×25.64E,h12km±1km,MD3.5/8, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**1.11**	**2**	*e*PG	Pb	13 45 42.9	-0.6
XRY	**Khrisi**	**1.11**	**2**	*e*Pg	Pb	13 45 42.9	-0.6
LAST	**Lasithi**	**1.40**	**355**	*e*PG	Pn	13 45 48.2	+0.3
LAST				*e*SB	Sg	13 46 07.6	-0.2
LAST	**Lasithi**	**1.40**	**355**	*e*Pg	Pn	13 45 48.2	+0.3
LAST				*e*Sb	Sg	13 46 07.6	-0.2
SIVA	**Sivas**	**1.43**	**332**	*e*PB	Pg	13 45 49.5	-0.3
SIVA				*e*SB	Sg	13 46 08.8	+0.4
SIVA	**Sivas**	**1.43**	**332**	*e*Pb	Pg	13 45 49.5	-0.3
SIVA				*e*Sb	Sg	13 46 08.8	+0.4
ZKR	**Zakros**	**1.43**	**19**	*e*PB	Pg	13 45 49.7	-0.2
ZKR				*e*SB	Sg	13 46 08.9	+0.4
ZKR	**Zakros**	**1.43**	**19**	*e*Pb	Pg	13 45 49.7	-0.2
ZKR				*e*Sb	Sg	13 46 08.9	+0.4
NPS	**Neapolis**	**1.50**	**359**	*e*PG	Pb	13 45 50.2	+0.1
NPS				*e*SB	Sg	13 46 10.5	-0.2
NPS	**Neapolis**	**1.50**	**359**	*e*Pg	Pb	13 45 50.2	+0.1
NPS				*e*Sb	Sg	13 46 10.5	-0.2
IDI	**Anoyia**	**1.65**	**338**	*e*PB	Pb	13 45 53.2	+0.5
IDI				*e*SB	Sg	13 46 15.3	-0.2
IDI	**Anoyia**	**1.65**	**338**	*e*Pb	Pb	13 45 53.2	+0.5
IDI				*e*Sb	Sg	13 46 15.3	-0.2
VAM	**Vamos**	**2.03**	**325**	*e*PN	Pb	13 45 58.0	-1.1
VAM				*e*SN	Sb	13 46 25.6	+1.3
VAM	**Vamos**	**2.03**	**325**	*e*Pn	Pb	13 45 58.0	-1.1
VAM				*e*Sn	Sb	13 46 25.6	+1.3
KARN	**Karanos**	**2.17**	**320**	*e*PN	Pb	13 46 00.4	-1.1
KARN	**Karanos**	**2.17**	**320**	*e*Pn	Pb	13 46 00.4	-1.1

*AUST **10** 14:25:44.6,8.98S×167.51E,h0km*
*BJI **10** 14:26:11.2,11.64S×165.52E,h35km,mB5.0/18,mb4.8/28, Ms4.9/12,MS7 4.6/12*
*IDC **10** 14:26:13.2±0.6,10.89S×164.81E,h0km,mb4.4/16, mb1 4.6/17,mb1mx4.6/20,mbtmp4.4/17,ML4.3/1,MS3.7/9, Ms1 3.7/9,ms1mx3.3/37,Error ellipse: s-maj=23.9km s-min=15.3km az=112.0*
*NEIC **10** 14:26:14.8±3.9,11.08S×164.80E,h17km±24km,mb4.8/17, Error ellipse: s-maj=10.2km s-min=8.3km az=157.0*
*ISCJB **10** 14:26:15.9±0.3,11.01S±0.05×164.81E±0.06,h31km, mb4.6/39,MS4.0/11,Error ellipse: s-maj=8.4km s-min=7.1km az=39.4*

**ISC 10 14:26:17.4±0.4,11.15S±0.07×164.91E±0.07,h31km,

WRA				PcP	PcP	14 35 27.8	+0.5	
WRA	**Warramunga Arr**	**30.67**	**250**	P	P	14 32 28.9	-0.6	
	3.5nm,0.7s,baz=79,slow=9.1,SNR=37							
WRA				PcP	PcP	14 35 27.8	+0.5	
	1.3nm,0.8s,baz=81,slow=2.3,SNR=5.5							
TOO	**Toolangi**	**31.56**	**210**	P	P	14 32 40.5	+3.4	
	baz=35,SNR=9.7							
KDU	**Kakadu**	**31.76**	**264**	P	P	14 32 37.4	-1.7	
	baz=35,SNR=4.0							
AS31	**Alice Springs**	**32.01**	**243**	*e*P	P	14 32 39.0	-2.3	
ASAR	**Alice Springs**	**32.01**	**243**	P	P	14 32 41.0	-0.3	
ASAR				PcP	PcP	14 35 31.6	+0.8	
ASAR	**Alice Springs**	**32.01**	**243**	P	P	14 32 41.0	-0.3	
	3.6nm,0.6s,baz=63,slow=10,SNR=66							
ASAR				PcP	PcP	14 35 31.6	+0.8	
	1.5nm,0.8s,baz=70,slow=2.8,SNR=9.8							
MTN	**Manton Dam**	**33.07**	**264**	S	S	14 38 42.2	+34	
	baz=36,SNR=5.5							
BBOO	**Buckleboo**	**34.16**	**226**	*e*P	P	14 32 59.2	-0.6	
	403nm,0.8s							
BBOO	**Buckleboo**	**34.16**	**226**	P	P	14 33 01.9	+2.0	
	baz=38,SNR=8.3							
KNRA	**Kununurra**	**35.41**	**259**	P	P	14 33 09.5	-1.4	
	baz=38,SNR=13							
KNRA				S	S	14 39 28.2	+44	
	baz=38,SNR=4.3							
FITZ	**Fitzroy Crossi**	**38.56**	**255**	LR	LR	14 47 48.1		
	comp=Z,74nm,19.6s,baz=176,slow=34							
PPT	**Papeete**	**44.47**	**104**	LR	LR	14 48 43.8		
	comp=Z,122nm,19.7s,baz=160,slow=30							
PPT2	**Papeete2**	**44.47**	**104**	*e*LR	LR	14 46 58.6		
	110nm,22.8s							
TBI	**Tubuai**	**45.05**	**112**	*e*LR	LR	14 47 15.5		
	261nm,32.5s							
MEEK	**Meekatharra**	**46.16**	**244**	P	P	14 34 40.6	+1.1	
	baz=49,SNR=5.3							
RKT	**Rikitea**	**58.32**	**110**	*e*LR	LR	14 53 27.6		
	187nm,26.8s							
KSRS	**Korea Array**	**59.51**	**326**	P	P	14 36 17.3	-0.4	
	0.5nm,0.7s,baz=166,slow=6.4,SNR=4.1							
KSAR	**Wonju Array Be**	**59.52**	**326**	P	P	14 36 17.3	-0.5	
USRK	**Ussuriysk Arra**	**62.67**	**334**	P	P	14 36 39.1	+0.1	
	1.5nm,0.6s,baz=166,slow=3.9,SNR=5.3							
MDJ	**Mudanjiang**	**64.06**	**333**	P	P	14 36 49.3	+1.0	
MDJ				pmax	pmax			
	comp=Z,8.0nm,1.8s							
MDJ				pmax	pmax			
	comp=Z,34nm,3.1s							
PETK	**Petropavlovsk-**	**64.30**	**355**	P	P	14 36 49.1	-0.6	
PETK	**Petropavlovsk-**	**64.30**	**355**	P	P	14 36 49.1	-0.6	
	comp=Z,4.3nm,0.8s,baz=151,slow=9.5,SNR=9.8							
CN2	**Changchun**	**65.41**	**330**	*e*P	P	14 36 58.0	+0.9	
VNDA	**Vanda**	**66.37**	**181**	*e*P	P	14 37 01.7	-1.1	
	comp=Z,13nm,1.4s							
VNDA	**Vanda**	**66.37**	**181**	P	P	14 37 05.9	+3.1	
	comp=Z,4.7nm,1.1s,baz=353,slow=6.6,SNR=6.7							
SBA	**Scott Base**	**66.70**	**180**	*e*P	P	14 37 04.0	-0.9	
	comp=Z,10nm,1.0s							
ENH	**Enshi**	**67.33**	**309**	*e*P	P	14 37 08.5	-1.3	
	comp=Z,6.5nm,0.7s							
GYA	**Guiyang**	**67.80**	**305**	*e*P	P	14 37 13.0	+0.1	
GYA				pP	pP	14 37 24.8	+2.2	
GYA				PP	PP	14 39 45.4	+2.6	
GYA				ScP		14 41 39.5		
GYA				S	S	14 46 07.8	-1.5	
GYA				sS	sS	14 46 25.0	-0.3	
GYA				SKS	SKiKP	14 47 04.3	-3.7	
GYA				SS	SS	14 50 31.9	+0.5	
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
GYA				pmax	pmax			
	comp=Z,90nm,4.9s							
GYA				LR	LR			
	comp=N,470nm,19.5s							
GYA				LR	LR			
	comp=E,320nm,20.3s							
GYA				LR	LR			
	comp=Z,410nm,18.4s							
BJI	**Beijing**	**68.05**	**322**	P	P	14 37 14.0	0.0	
BJI				S	S	14 46 15.2	+3.7	
BJI				SS	SS	14 50 36.4	+1.8	
BJI				pmax	pmax			
	comp=Z,6.0nm,0.9s							
BJI				pmax	pmax			
	comp=Z,68nm,5.5s							
BJI				LR	LR			
	comp=N,310nm,18.5s							
BJI				LR	LR			
	comp=E,94nm,19.4s							
BJI				LR	LR			
	comp=Z,67nm,27.2s							
XAN	**Xi'an**	**69.59**	**313**	P	P	14 37 23.5	-0.3	
XAN				pmax	pmax			
	comp=Z,2.0nm,1.0s							
XAN				pmax	pmax			
	comp=Z,19nm,3.9s							
KMI	**Kunming**	**70.48**	**302**	P	P	14 37 30.6	+0.9	
KMI				pmax	pmax			
	comp=Z,14nm,0.9s							
HHC	**Hu-ho-hao-te**	**71.38**	**320**	*e*P	P	14 37 36.2	+1.5	
HHC				pP	pP	14 37 46.4	+2.0	
HHC				sP	sP	14 37 50.8	+2.8	
HHC				PP	PP	14 40 16.9	+3.4	
HHC				S	S	14 46 50.4	-0.6	
HHC				sS	sS	14 47 07.6	+0.6	
HHC				SS	SS	14 51 30.0	+3.8	
HHC				pmax	pmax			
	comp=Z,17nm,0.8s							
HHC				pmax	pmax			
	comp=Z,98nm,3.8s							
HHC				LR	LR			
	comp=N,180nm,21.4s							
HHC				LR	LR			
	comp=E,280nm,19.0s							
HHC				LR	LR			
	comp=Z,91nm,20.2s							
CMAR	**Chiang Mai Arr**	**71.40**	**294**	P	P	14 37 35.4	+0.3	
CMAR	**Chiang Mai Arr**	**71.40**	**294**	P	P	14 37 35.4	+0.3	
	comp=Z,2.0nm,0.8s,baz=124,slow=4.9,SNR=14							
CHTO	**Chiang Mai**	**71.52**	**294**	*e*P	P	14 37 33.1	-2.7	
	comp=Z,13nm,1.7s							
CD2	**Chengdu**	**72.02**	**308**	P	P	14 37 38.3	-0.3	
CD2				pP	pP	14 37 49.1	+0.7	
CD2				sP	sP	14 37 53.3	+1.3	
CD2				PcP	PcP	14 37 57.0	-0.1	
CD2				PP	PP	14 40 20.3	+1.3	
CD2				S	S	14 46 56.4	-2.1	
CD2				sS	sS	14 47 14.4	-0.2	
CD2				SKS	SKSac	14 47 35.2	-5.7	
CD2				ScS	SKKSac	14 47 38.0	-3.0	
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,120nm,5.2s							
LZH	**Lanzhou**	**74.22**	**313**	*e*P	P	14 37 52.0	+0.3	
LZH				pP	pP	14 38 02.5	+1.0	
LZH				sP	sP	14 38 06.8	+1.7	
LZH				pmax	pmax			
	comp=Z,14nm,1.0s							
LZH				pmax	pmax			
	comp=Z,80nm,5.4s							
LZH				LR	LR			
	comp=N,150nm,14.0s							
LZH				LR	LR			
	comp=E,150nm,14.8s							
LZH				LR	LR			
	comp=Z,110nm,8.6s							
SONM	**Songino Array**	**78.27**	**324**	P	P	14 38 13.8	-0.6	
SONM	**Songino Array**	**78.27**	**324**	P	P	14 38 13.8	-0.6	
	comp=Z,2.8nm,0.8s,baz=147,slow=6.8,SNR=21							
GTA	**Gaotai**	**78.54**	**314**	*e*P	P	14 38 17.3	+1.2	
GTA				pP	pP	14 38 27.0	+1.1	
GTA				sP	sP	14 38 30.7	+1.2	
GTA				pmax	pmax			
	comp=Z,12nm,1.1s							
PAX	**Paxson**	**83.14**	**21**	*e*P	P	14 38 39.6	-0.5	
	comp=Z,17nm,1.3s							
ILAR	**Eielson Array**	**83.88**	**19**	P	P	14 38 43.1	-0.6	
ILAR	**Eielson Array**	**83.88**	**19**	P	P	14 38 43.1	-0.6	
	comp=Z,2.8nm,0.8s,baz=228,slow=5.9,SNR=29							
MAW	**Mawson**	**84.31**	**202**	P	P	14 38 48.0	+2.0	
MAW	**Mawson**	**84.31**	**202**	P	P	14 38 48.0	+2.0	
	comp=Z,7.6nm,1.1s,baz=94,slow=7.3,SNR=7.2							
COLD	**Coldfoot**	**84.63**	**16**	*e*P	P	14 38 46.7	-0.8	
	comp=Z,2.6nm,0.9s							
EGAK	**Eagle**	**85.76**	**20**	*e*P	P	14 38 54.0	+0.8	
	comp=Z,5.2nm,0.8s							
NVAR	**Mina Array Bea**	**86.72**	**50**	P	P	14 38 59.6	+0.8	
NVAR	**Mina Array Bea**	**86.72**	**50**	P	P	14 38 59.6	+0.8	
	comp=Z,2.6nm,0.9s,baz=232,slow=7.9,SNR=13							
NVAR				LR	LR	15 16 40.3		
	comp=Z,48nm,18.1s,baz=304,slow=35							
WVOR	**Wild Horse Val**	**87.65**	**46**	*e*P	P	14 39 02.5	-0.7	
	comp=Z,4.9nm,1.2s							
CCUT	**Cedar City**	**90.25**	**52**	*e*P	P	14 39 14.6	-1.1	
	comp=Z,2.9nm,0.8s							
MVU	**Marysvale**	**91.36**	**51**	*e*P	P	14 39 20.2	-0.6	
	comp=Z,3.0nm,0.9s							
MCMT	**McKenzie Canyo**	**92.34**	**45**	*e*P	P	14 39 25.6	+0.4	
DLMT	**Dillon**	**92.63**	**44**	*e*P	P	14 39 25.7	-0.7	
LRM	**Limekiln Ridge**	**92.84**	**44**	*e*P	P	14 39 25.9	-1.5	
MKAR	**Makanchi Array**	**93.04**	**317**	P	P	14 39 27.5	-0.6	
MKAR	**Makanchi Array**	**93.04**	**317**	P	P	14 39 27.5	-0.6	
	comp=Z,4.3nm,0.8s,baz=99,slow=5.7,SNR=34							
ZALV	**Zalesovo Beam**	**93.16**	**324**	P	P	14 39 26.9	-1.5	
ZALV	**Zalesovo Beam**	**93.16**	**324**	P	P	14 39 26.9	-1.5	
	comp=Z,1.5nm,0.6s,baz=129,slow=4.0,SNR=6.5							
BOZ	**Bozeman (W)**	**93.36**	**44**	*e*P	P	14 39 29.3	-0.5	
	comp=Z,3.7nm,1.5s							
PDAR	**Pinedale Array**	**94.23**	**47**	P	P	14 39 34.0	+0.1	
PDAR	**Pinedale Array**	**94.23**	**47**	P	P	14 39 34.0	+0.1	
	comp=Z,1.0nm,0.8s,baz=261,slow=2.9,SNR=7.9							
KSH	**Kashi**	**96.18**	**309**	P	P	14 39 39.0	-3.8	
KSH				sP	sP	14 39 53.6	-2.7	
KSH				pmax	pmax			
	comp=Z,6.0nm,1.2s							
TXAR	**Lajitas Array**	**96.60**	**61**	LR	LR	15 17 03.9		
	comp=Z,29nm,19.2s,baz=180,slow=32							
SNAA	**Sanae**	**96.95**	**184**	*e*P	P	14 39 47.7	+2.1	
SNAA	**Sanae**	**96.95**	**184**	*e*pP	pP	14 39 53.0	-2.6	
BVAR	**Borovoye Array**	**101.53**	**322**	P	Pdif	14 40 05.5	-0.8	
BVAR	**Borovoye Array**	**101.53**	**322**	P	Pdif	14 40 05.5	-0.8	
	comp=Z,0.7nm,0.6s,baz=52,slow=2.4,SNR=4.7							
ARCES	**ARCESS Array B**	**116.23**	**345**	PKP	PKPdf	14 44 56.1	-1.0	
ARCES	**ARCESS Array B**	**116.23**	**345**	PKP	PKPdf	14 44 56.1	-1.0	
	comp=Z,0.9nm,0.6s,baz=336,slow=2.7,SNR=7.1							
KEST	**Kesra**	**147.00**	**322**	PKPbc	PKPbc	14 45 56.9	-0.7	
KEST	**Kesra**	**147.00**	**322**	PKPbc	PKPbc	14 45 56.9	-0.7	
	comp=Z,1.5nm,0.9s,baz=265,slow=4.9,SNR=4.3							
ESDC	**Sonseca Array**	**149.92**	**343**	PKPbc	PKPbc	14 46 03.5	-1.6	
ESDC	**Sonseca Array**	**149.92**	**343**	PKPbc	PKPbc	14 46 03.5	-1.6	
	comp=Z,0.2nm,0.4s,baz=5.0,slow=1.3,SNR=4.2							

IDC 10 14:31:42.1±48.0, 15°.61S×178°.83W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/18, mbtmpg3.8/3, Error ellipse: s-maj=880.7km s-min=152.2km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.43**	**239**	P	P	14 39 13.1	-1.0
	2.1nm,0.9s,baz=68,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**44.70**	**257**	P	P	14 39 58.1	+0.8
	0.1nm,0.4s,baz=89,slow=8.3,SNR=6.5						
ASAR	**Alice Springs**	**45.07**	**252**	P	P	14 40 00.1	-0.1
	1.8nm,0.6s,baz=88,slow=7.9,SNR=44						

*CSEM **10** 14:38:16.9±0.3, 40°.58N×19°.83E, h2km, ML2.7/5, Error ellipse: s-maj=7.6km s-min=3.7km az=92.0*
*TIR **10** 14:38:16.3, 40°.58N×19°.85E, h20km, ML2.7*
*ATH **10** 14:38:16.8, 40°.54N×19°.85E, h7km±1km, MD3.5/10*
*THE **10** 14:38:17.8, 40°.57N×19°.87E, h7km, ML2.7/5, Error ellipse: s-maj=1.1km s-min=0.5km az=276.0*

ISC 10 14:38:16.2±1.3, 40°.58N±0°.02×19°.82E±0°.04, h1km±10km, n47, σ0°67/72, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRN	**Sarande**	**0.71**	**169**	*e*PG	**Pg**	14 38 30.6	+0.9
SRN				*i* SG	**Sb**	14 38 40.8	-0.7
SRN	**Sarande**	**0.71**	**169**	P	**Pg**	14 38 30.5	+0.7
SRN	**Sarande**	**0.71**	**169**	*e*Pg	**Pg**	14 38 30.6	+0.9
SRN				*i* Sg	**Sb**	14 38 40.8	-0.7
KBN	**Korca**	**0.73**	**86**	*e*PG	**Pg**	14 38 30.4	+0.2
KBN	**Korca**	**0.73**	**86**	P	**Pg**	14 38 30.7	+0.5
KBN	**Korca**	**0.73**	**86**	P	**Pg**	14 38 30.7	+0.5
TIR	**Tirane**	**0.77**	**2**	*e*PG	**Pb**	14 38 32.0	-0.3
TIR	**Tirane**	**0.77**	**2**	P	**Pb**	14 38 32.4	+0.1
TIR	**Tirane**	**0.77**	**2**	*e*Pg	**Pb**	14 38 32.3	0.0
TIR				*e*Sb	**Sb**	14 38 44.0	+0.7
KEK	**Kerkira**	**0.86**	**181**	P	**Pb**	14 38 33.7	-0.2
KEK				S	**Sb**	14 38 46.5	+0.5
KEK	**Kerkira**	**0.86**	**181**	*e*PG	**Pg**	14 38 32.4	-0.3
KEK				*e*SB	**Sg**	14 38 44.2	+0.3
KEK	**Kerkira**	**0.86**	**181**	*e*Pg	**Pg**	14 38 32.4	-0.3
KEK	**Kerkira**	**0.86**	**181**	P	**Pb**	14 38 33.7	-0.2
KEK				*e*Sb	**Sg**	14 38 44.2	+0.3
KEK				S	**Sb**	14 38 46.5	+0.5
NEST	**Nestorio**	**0.95**	**100**	P	**Pb**	14 38 35.3	-0.1
NEST	**Nestorio**	**0.95**	**100**	P	**Pb**	14 38 35.3	-0.1
IGT	**Igoumenitsa**	**1.12**	**159**	P	**Pb**	14 38 38.1	-0.1
IGT				S	**Sn**	14 38 54.2	-0.7
IGT	**Igoumenitsa**	**1.12**	**159**	P	**Pb**	14 38 38.1	-0.1
IGT				S	**Sn**	14 38 54.2	-0.7
FNA	**Florina**	**1.20**	**80**	P	**Pb**	14 38 39.4	-0.3
FNA				S	**Sn**	14 38 56.6	-0.4
FNA	**Florina**	**1.20**	**80**	*e*PG	**Pg**	14 38 39.0	-0.1
FNA				*e*SB	**Sb**	14 38 55.7	0.0
FNA	**Florina**	**1.20**	**80**	*e*Pn	**Pg**	14 38 39.0	-0.1
FNA	**Florina**	**1.20**	**80**	P	**Pb**	14 38 39.4	-0.3
FNA				*e*Sb	**Sb**	14 38 55.7	0.0
FNA				S	**Sn**	14 38 56.6	-0.4
PHP	**Peshkopia**	**1.20**	**23**	*e*PG	**Pn**	14 38 40.3	+0.2
PHP				*i* SG	**Sb**	14 38 55.8	+0.1
PHP	**Peshkopia**	**1.20**	**23**	P	**Pn**	14 38 40.2	+0.2
PHP	**Peshkopia**	**1.20**	**23**	*e*Pg	**Pn**	14 38 40.3	+0.2
PHP				*i* Sg	**Sb**	14 38 55.8	+0.1
JAN	**Janina**	**1.21**	**139**	P	**Pb**	14 38 39.9	0.0
JAN				S	**Sn**	14 38 56.8	-0.5
JAN	**Janina**	**1.21**	**139**	*e*PB	**Pg**	14 38 39.3	-0.1
JAN				*e*SB	**Sg**	14 38 54.4	-0.7
JAN	**Janina**	**1.21**	**139**	*e*Pn	**Pg**	14 38 39.3	-0.1
JAN	**Janina**	**1.21**	**139**	P	**Pb**	14 38 39.9	0.0
JAN				*e*Sb	**Sg**	14 38 54.4	-0.7
JAN				S	**Sn**	14 38 56.8	-0.5
PUK	**Puka**	**1.46**	**2**	*e*PG	**Pn**	14 38 43.2	-0.6
PUK	**Puka**	**1.46**	**2**	*e*Pg	**Pn**	14 38 43.2	-0.6
LKD2	**Lefkada island**	**1.90**	**160**	P	**Pn**	14 38 49.6	-0.1
LKD2				S	**Sn**	14 39 14.3	0.0
LKD2	**Lefkada island**	**1.90**	**160**	*e*PN	**Pb**	14 38 51.1	-0.5
LKD2				*e*SN	**Sb**	14 39 15.9	+0.1
LKD2	**Lefkada island**	**1.90**	**160**	P	**Pn**	14 38 49.6	-0.1
LKD2	**Lefkada island**	**1.90**	**160**	*e*Pn	**Pb**	14 38 51.1	-0.5
LKD2				S	**Sn**	14 39 14.3	0.0
LKD2				*e*Sn	**Sb**	14 39 15.9	+0.1
THL	**Klokotos Trika**	**1.96**	**120**	*e*PG	**Pb**	14 38 52.4	-0.3
THL	**Klokotos Trika**	**1.96**	**120**	*e*Pn	**Pb**	14 38 52.4	-0.3
GRG	**Griva**	**1.99**	**78**	*e*PN	**Pb**	14 38 52.5	-0.7
GRG				*e*SN	**Sg**	14 39 19.9	-0.3
GRG	**Griva**	**1.99**	**78**	*e*Pn	**Pb**	14 38 52.5	-0.7
GRG				*e*Sn	**Sg**	14 39 19.9	-0.3
LIT	**Litokhoron**	**2.09**	**102**	*e*PN	**Pb**	14 38 54.1	-0.8
EVR	**Evrytania**	**2.26**	**137**	*e*PN	**Pn**	14 38 55.9	+1.2
VLS	**Valsamata**	**2.47**	**166**	*e*PN	**Pb**	14 38 59.8	-1.5
VLS	**Valsamata**	**2.47**	**166**	*e*Pn	**Pb**	14 38 59.8	-1.5
AGG	**Agios Georgios**	**2.48**	**128**	*e*PN	**Pn**	14 38 59.2	+1.5
AGG	**Agios Georgios**	**2.48**	**128**	*e*Pn	**Pn**	14 38 59.2	+1.5
SJES	**Sjenica**	**2.68**	**2**	*e*Pn	**Pn**	14 39 02.2	+1.6
KLV	**Kalavryta, Ach**	**3.11**	**144**	*e*PN	**Pn**	14 39 08.1	+1.7
KLV	**Kalavryta, Ach**	**3.11**	**144**	*e*Pn	**Pn**	14 39 08.1	+1.7

WEL 10 14:55:38.4±0.2, 40°.99S×172°.92E, h174km±1km, ML4.2/20, 23C-5D, Error ellipse: s-maj=1.9km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QRZ	**Quartz Range**	**0.33**	**298**	↑PN	Pn	14 56 02.0	+0.1
QRZ				SN	Sn	14 56 18.7	-1.2
NNZ	**Nelson**	**0.42**	**124**	↑PN	Pn	14 56 02.3	+0.2
NNZ				SN	Sn	14 56 19.5	-1.0
THZ	**Tophouse**	**0.78**	**181**	PN	Pn	14 56 04.1	+0.1
DUWZ	**D'Urville Isla**	**0.78**	**77**	↑PN	Pn	14 56 04.3	+0.2
DUWZ				SN	Sn	14 56 23.6	-0.1
TUWZ	**Tuamarina**	**0.89**	**120**	↑PN	Pn	14 56 05.1	+0.4
TUWZ				AML	AML	14 56 25.3	
TUWZ				AML	AML	14 56 25.6	
BSWZ	**Blackbirch Sta**	**1.03**	**136**	PN	Pn	14 56 05.9	+0.2
BSWZ				AML	AML	14 56 27.3	
BSWZ				AML	AML	14 56 27.6	
TCW	**Tory Channel**	**1.05**	**103**	↑PN	Pn	14 56 06.3	+0.4
TCW				AML	AML	14 56 27.0	
TCW				AML	AML	14 56 27.4	
DSZ	**Denniston Nort**	**1.13**	**227**	PN	Pn	14 56 06.1	-0.5
CMWZ	**Cape Campbell**	**1.24**	**128**	↑PN	Pn	14 56 07.9	+0.5
CMWZ				AML	AML	14 56 32.0	
CMWZ				AML	AML	14 56 39.1	
SNZO	**South Karori**	**1.39**	**104**	↑PN	Pn	14 56 08.6	-0.1
SNZO				AML	AML	14 56 31.6	
SNZO				AML	AML	14 56 31.7	
WEL	**Wellington**	**1.43**	**103**	↑PN	Pn	14 56 09.1	-0.1
KHZ	**Kahutara**	**1.51**	**162**	PN	Pn	14 56 09.7	-0.2
KHZ				AML	AML	14 56 32.8	
KHZ				AML	AML	14 56 32.9	
KIW	**Kapiti Island**	**1.52**	**86**	↑PN	Pn	14 56 10.0	0.0
KIW				AML	AML	14 56 34.2	
KIW				AML	AML	14 56 34.2	
BHW	**Baring Head**	**1.54**	**107**	↑PN	Pn	14 56 10.0	-0.2
BHW				AML	AML	14 56 34.2	
BHW				AML	AML	14 56 34.5	
CAW	**Cannon Point**	**1.63**	**95**	↑PN	Pn	14 56 10.9	-0.2
CAW				AML	AML	14 56 35.6	
CAW				AML	AML	14 56 36.0	
OGWZ	**Otaki Gorge**	**1.72**	**85**	↑PN	Pn	14 56 12.0	0.0
NMEZ	**Namu Road**	**1.73**	**25**	PN	Pn	14 56 12.2	0.0
MSWZ	**Moikau Station**	**1.81**	**105**	PN	Pn	14 56 12.7	-0.3
MSWZ				AML	AML	14 56 39.2	
MSWZ				AML	AML	14 56 39.7	
NWEZ	**Newall Road**	**1.86**	**23**	PN	Pn	14 56 13.6	+0.1
PLWZ	**Palliser**	**1.86**	**109**	↑PN	Pn	14 56 13.2	-0.3
LTZ	**Lake Taylor**	**1.86**	**195**	PN	Pn	14 56 13.1	-0.4
KHEZ	**Kahui Hut**	**1.89**	**27**	PN	Pn	14 56 13.8	-0.2
DFE	**Dawson Falls**	**1.89**	**29**	PN	Pn	14 56 13.8	-0.2
NEZ	**North Egmont**	**1.94**	**28**	↑PN	Pn	14 56 14.1	-0.4
PAWZ	**Paruwai Farm**	**1.94**	**103**	PN	Pn	14 56 14.0	-0.4
PAWZ				AML	AML	14 56 41.7	
PAWZ				AML	AML	14 56 42.7	
MTW	**Mount Morrison**	**1.96**	**96**	↑PN	Pn	14 56 14.3	-0.3
MTW				AML	AML	14 56 41.3	
MTW				AML	AML	14 56 42.2	
PKE	**Pukeiti**	**1.97**	**25**	PN	Pn	14 56 14.6	-0.2
HOWZ	**Holdsworth Sta**	**1.97**	**88**	↑PN	Pn	14 56 14.4	-0.3
WAZ	**Wanganui**	**2.00**	**53**	↑PN	Pn	14 56 15.3	+0.2
RAEZ	**Rainy Point**	**2.04**	**34**	PN	Pn	14 56 15.3	-0.2
DREZ	**Durham Road**	**2.04**	**29**	PN	Pn	14 56 15.3	-0.3
MRZ	**Mangatainoka R**	**2.05**	**82**	↑PN	Pn	14 56 15.1	-0.5
MRZ				AML	AML	14 56 43.2	
MRZ				AML	AML	14 56 43.9	
TRWZ	**Traveller**	**2.13**	**102**	↓PN	Pn	14 56 16.4	-0.1
TRWZ				AML	AML	14 56 46.6	
TRWZ				AML	AML	14 56 46.6	
MHEZ	**Mangahewa**	**2.19**	**30**	PN	Pn	14 56 17.1	-0.1
POWZ	**Post Office Ro**	**2.25**	**76**	PN	Pn	14 56 17.3	-0.5
TMWZ	**Te Maipa**	**2.25**	**94**	PN	Pn	14 56 17.7	-0.2
TIWZ	**Tintock**	**2.26**	**86**	↑PN	Pn	14 56 17.7	-0.3
VRZ	**Vera Road**	**2.33**	**38**	↑PN	Pn	14 56 17.9	-0.9
PRWZ	**Pori Road**	**2.36**	**81**	PN	Pn	14 56 19.0	-0.1
OXZ	**Oxford**	**2.43**	**195**	↓PN	Pn	14 56 18.7	-1.2
TSZ	**Takapari Road**	**2.50**	**69**	PN	Pn	14 56 20.2	-0.6
TSZ				AML	AML	14 56 53.4	
TSZ				AML	AML	14 56 53.6	
PKZ	**Pokaka**	**2.52**	**49**	PN	Pn	14 56 20.0	-0.7
MTVZ	**Mangateitei**	**2.52**	**52**	PN	Pn	14 56 20.6	-0.6
BFZ	**Birch Farm**	**2.54**	**84**	↑PN	Pn	14 56 20.8	-0.5
BFZ				AML	AML	14 56 53.6	
BFZ				AML	AML	14 56 53.6	
BFZ				AML	AML	14 56 53.7	
BFZ				AML	AML	14 56 54.0	
DVHZ	**Dannevirke**	**2.57**	**76**	PN	Pn	14 56 20.7	-0.8
CRLZ	**Canterbury Las**	**2.60**	**185**	PN	Pn	14 56 20.7	-1.2
WNVZ	**Wahianoa**	**2.64**	**52**	PN	Pn	14 56 21.6	-1.0
WVZ	**Waitaha Valley**	**2.65**	**217**	PN	Pn	14 56 21.1	-1.3
DRZ	**Dome Shelter**	**2.65**	**51**	PN	Pn	14 56 23.0	0.0
FWVZ	**Far West T-bar**	**2.66**	**50**	PN	Pn	14 56 22.3	-0.6
WHVZ	**Whangaehu Hut**	**2.66**	**51**	PN	Pn	14 56 22.1	-0.9
MOVZ	**Moawhango**	**2.68**	**55**	PN	Pn	14 56 21.8	-1.2
WPVZ	**Whakapapa**	**2.69**	**49**	PN	Pn	14 56 22.0	-1.1
TUVZ	**Tukino**	**2.71**	**52**	P

	70nm,0.3s						
NIE	**Niedzica**	**1.01 131**	*e*Pg	**Pb**	**14 59 40.0**	**+0.6**	
NIE			*e*Sg	**Sb**	**14 59 53.5**	**+0.2**	
NIE	**Niedzica**	**1.01 131**	*e*Pg	**Pb**	**14 59 40.0**	**+0.6**	
NIE			*e*Sg	**Sb**	**14 59 53.5**	**+0.2**	
MORC	**Moravsky Berou**	**1.07 254**	*e*Pg	**Pb**	**14 59 40.5**	**+0.1**	
	baz=69						
MORC			*e*Sg	**Sg**	**14 59 53.8**	**+0.4**	
	84nm,0.3s,baz=69						
STHS	**Stebnicka Huta**	**1.52 115**	*e*PN	**Pb**	**14 59 48.2**	**+0.1**	
STHS	**Stebnicka Huta**	**1.52 115**	*e*Pn	**Pb**	**14 59 48.2**	**+0.1**	
VYHS	**Vyhne**	**1.60 187**	*e*PN	**Pn**	**14 59 48.5**	**-0.1**	
VYHS			*e*SN	**Sn**	**15 00 09.2**	**-0.7**	
VRAC	**Vranov**	**1.82 246**	*e*Pn	**Pn**	**14 59 52.2**	**+0.6**	
VRAC			*e*Sg	**Sg**	**15 00 17.3**	**-0.2**	
	32nm,0.3s,baz=62						
DPC	**Dobruska-Polom**	**1.83 280**	*e*PG	**Pn**	**14 59 51.6**	**-0.1**	
DPC			*e*SG	**Sn**	**15 00 16.1**	**+0.6**	
	comp=Z,173nm,0.4s						
DPC	**Dobruska-Polom**	**1.83 280**	Pg	**Pn**	**14 59 51.6**	**-0.1**	
DPC			Sg	**Sn**	**15 00 16.1**	**+0.6**	
	173nm,0.4s						
KECS	**Kecovo**	**1.83 151**	*e*PN	**Pn**	**14 59 51.0**	**-0.7**	
KECS	**Kecovo**	**1.83 151**	*e*Pn	**Pn**	**14 59 51.0**	**-0.7**	
KSP	**Ksiaz**	**1.97 294**	*e*Pg	**Pg**	**14 59 57.0**	**+0.3**	
KSP			*e*Sg	**Sg**	**15 00 22.5**	**+0.3**	
KSP	**Ksiaz**	**1.97 294**	*e*Pg	**Pg**	**14 59 57.0**	**+0.3**	
KSP			*e*Sg	**Sg**	**15 00 22.5**	**+0.3**	
UPC	**Upice**	**2.05 283**	*e*PG	**Pn**	**14 59 55.8**	**+1.1**	
UPC			*e*SG	**Sb**	**15 00 22.0**	**-1.0**	
UPC	**Upice**	**2.05 283**	Pg	**Pn**	**14 59 55.8**	**+1.1**	
UPC			Sg	**Sb**	**15 00 22.0**	**-1.0**	
KRUC	**Moravsky**	**2.06 241**	*e*Pn	**Pn**	**14 59 55.6**	**+0.8**	
	baz=58						
KRUC			*e*Sn	**Sb**	**15 00 23.2**	**0.0**	
	33nm,0.5s,baz=58						
PSZ	**Piszkesteto**	**2.22 167**	⇑*e*Pn	**Pg**	**15 00 01.9**	**+0.3**	
PSZ			*e*Sn	**Sg**	**15 00 29.8**	**-0.6**	
PSZ	**Piszkesteto**	**2.22 167**	⇑*e*Pn	**Pg**	**15 00 01.9**	**+0.3**	
PSZ			*e*Sn	**Sg**	**15 00 29.8**	**-0.6**	
PVCC	**Panska Ves**	**2.96 280**	*e*SG	**Sg**	**15 00 52.8**	**-1.2**	
	comp=Z,39nm,0.4s						
PVCC	**Panska Ves**	**2.96 280**	Sg	**Sg**	**15 00 52.8**	**-1.2**	
	39nm,0.4s						
PRU	**Pruhonice**	**2.96 270**	*e*SG	**Sg**	**15 00 51.9**	**-2.2**	
	comp=Z,10.0nm,0.4s						
PRU	**Pruhonice**	**2.96 270**	Sg	**Sg**	**15 00 51.9**	**-2.2**	
	10.0nm,0.4s						
CONA	**Conrad Observa**	**3.05 226**	⇑*i*Pn	**Pn**	**15 00 09.1**	**+0.6**	
CONA			⇓*i*Sg	**Sb**	**15 00 53.0**	**+1.1**	
	7.6nm,0.4s						
CONA	**Conrad Observa**	**3.05 226**	Pn	**Pn**	**15 00 09.1**	**+0.6**	
CONA			Sg	**Sb**	**15 00 53.0**	**+1.1**	
	7.6nm,0.4s						
KHC	**Kasperske Hory**	**3.74 257**	*e*PN	**Pn**	**15 00 18.8**	**+0.9**	
KHC			*e*PG	**Pb**	**15 00 25.5**	**-0.3**	
KHC			*e*SG	**Sg**	**15 01 18.3**	**-0.7**	
	comp=Z,12nm,0.4s						
KHC	**Kasperske Hory**	**3.74 257**	Pn	**Pn**	**15 00 18.8**	**+0.9**	
KHC			Sg	**Sg**	**15 01 18.3**	**-0.7**	
	12nm,0.4s						
MOA	**Molln**	**3.91 237**	⇑*i*Pn	**Pn**	**15 00 21.3**	**+1.0**	
MOA			⇑*i*Sg	**Sg**	**15 01 22.6**	**-1.9**	
	8.2nm,0.4s						
MOA	**Molln**	**3.91 237**	Pn	**Pn**	**15 00 21.3**	**+1.0**	
MOA			Sg	**Sg**	**15 01 22.6**	**-1.9**	
	8.2nm,0.4s						
CLL	**Collm**	**4.09 290**	*e*Sg	**Sg**	**15 01 30.0**	**-0.2**	

IDC ***10*** *15:00:07.8±3.8, 34˚.14N×73˚.97E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.4/28, mbtmp3.5/6, ML3.1/2, Error ellipse: s-maj=83.8km s-min=30.2km az=128.0*

NDI ***10*** *15:00:08.1±1.2, 34˚.47N×72˚.86E, h10km, ML3.1*

NNC ***10*** *15:00:20.3±7.4, 35˚.03N×72˚.73E, h0km, mb3.7, mpv3.7, Error ellipse: s-maj=88.2km s-min=57.2km az=80.0*

ISC 10 15:00:12.9±1.0, 34˚25N±0˚.08×73˚.0E±0˚.1, h21km, n14, σ2s29/16, mb3.7/3, 2C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**2.91**	**128**	*e*P		**Pn**	**15 00 57.5**	**-0.5**
THN				*e*S		**Sn**	**15 01 33.5**	**+1.2**
SMLA	**Simla**	**4.70**	**130**	*i* P		**Pn**	**15 01 22.8**	**+0.3**
SMLA				*i* S		**Sn**	**15 02 20.0**	**+3.7**
KUDL	**Kundal**	**6.78**	**153**	*e*P		**Pn**	**15 01 50.5**	**-0.7**
KUDL				*e*S		**Sn**	**15 03 05.2**	**-2.6**
SONA	**Sohna**	**6.93**	**149**	*e*S		**Sn**	**15 03 09.4**	**-2.0**
SONA				AML		AML	15 03 13.9	
	comp=N,11nm,0.0s							
SONA				AML		AML	15 03 14.1	
	comp=E,17nm,0.2s							
AGRA	**Agra**	**8.19**	**147**	*ex*		Sn	15 03 36.1	-6.3
TKM2	**Tokmak 2**	**8.89**	**12**	⇓Pn		**Pn**	**15 02 21.7**	**+1.4**
	comp=E,0.9nm,0.5s							
TKM2				⇑Sn		**Sn**	**15 03 57.5**	**-2.4**
	comp=E,1.8nm,0.6s							
KK31	**Karatay Array**	**9.05**	**348**	Pn		**Pn**	**15 02 23.4**	**+1.2**
	comp=E,2.9nm,0.3s,baz=158,slow=12,SNR=47							
KK31				⇑Sn		**Sn**	**15 04 01.2**	**-2.3**
	comp=E,1.2nm,0.4s,baz=164,slow=22							
MKAR	**Makanchi Array**	**14.37**	**27**	Pn		Pn	15 03 30.4	-4.6
	comp=E,0.0nm,0.3s,baz=211,slow=9.6,SNR=3.6							
AB31	**Akbulak array**	**17.84**	**331**	⇓Pn		**P**	**15 04 20.5**	**+0.3**
	comp=E,0.3nm,0.5s,baz=170,slow=5.3,SNR=5.6							
BVAR	**Borovoye Array**	**18.86**	**355**	P		**P**	**15 04 31.4**	**-0.1**
	comp=E,0.2nm,0.3s,baz=138,slow=9.4,SNR=3.1							
AKTO	**Aktyubinsk**	**19.54**	**330**	P		**Pn**	**15 04 41.4**	**+1.1**
	comp=E,1.4nm,0.5s,baz=136,slow=11,SNR=7.4							
ZALV	**Zalesovo Beam**	**21.39**	**19**	P		**P**	**15 04 54.4**	**-4.5**
	comp=E,1.2nm,0.4s,baz=215,slow=12,SNR=5.4							
ARCES	**ARCESS Array B**	**43.84**	**338**	P		**P**	**15 08 19.5**	**+2.5**
	comp=E,0.6nm,0.5s,baz=101,slow=9.3,SNR=2.7							
TORD	**Torodi Ar. Bea**	**67.34**	**271**	P		P	15 11 09.9	+3.2
	comp=E,0.1nm,0.3s,baz=39,slow=6.3,SNR=2.6							

NIED ***10*** *15:01:00, 42˚.50N×141˚.40E, h130km, Mw4.8 Best double couple: M0 2.11000×10^16 NP1:ϕs 221.00000°, δ69.00000°, λ-128.00000°. NP2:ϕs 106.00000°, δ43.00000°, λ-32.00000°.*

BJI ***10*** *15:01:32.6, 42˚.87N×141˚.66E, h124km, mB4.8/21, mb4.7/32*

ISCJB ***10*** *15:01:35.9±0.2, 42˚.53N±0˚.02×141˚.35E±0˚.02, h137km±1km, mb4.4/133, Error ellipse: s-maj=4.0km s-min=2.7km az=156.6*

NEIC ***10*** *15:01:36.4±0.6, 42˚.61N×141˚.30E, h128km±5km, mb4.6/66, MW4.8(NIED), Error ellipse: s-maj=7.4km s-min=4.5km az=159.0*

NEIC Felt at Misawa, Honshu. Recorded [3 JMA] in Aomori and [1 JMA] in Iwate, Honshu. Recorded [2 JMA] in southwestern Hokkaido and [1 JMA] in southeastern Hokkaido.

MOS ***10*** *15:01:36.3±1.1, 42˚.63N×141˚.28E, h138km, mb4.6/38, Error ellipse: s-maj=7.1km s-min=5.1km az=93.2*

IDC ***10*** *15:01:36.4±1.0, 42˚.53N×141˚.32E, h127km±7km, mb4.2/37, mb1 4.3/40, mb1mx4.2/45, mbtmp4.1/40, MS3.2/9, Ms1 3.2/9, ms1mx3.0/39, Error ellipse: s-maj=10.5km s-min=7.9km az=148.0*

JMA ***10*** *15:01:37.0±0.1, 42˚.49N×141˚.38E, h134km±1km, M4.7 Broadband fault plane solution: P waves. NP1: ϕs 228.00000°, δ71.00000°, λ-124.00000°. NP2: ϕs 113.00000°, δ38.00000°, λ-31.00000°. Principal axes: T Plg19.0000°, Azm343.0000°; N Plg32.0000°, Azm240.0000°; P Plg51.0000°, Azm99.0000°;*

JMA Felt III J1.

GCMT ***10*** *15:01:39.4±0.4, 42˚.62N×141˚.28E, h135km±4km, MW4.9, Moment Tensor Solution. s11,c12; s59,c90; Moment tensor: Scale 10^16 Nm; Mrr-1.63±.11; Mθθ 2.68±.12; Mφφ-1.05±.12; Mrθ 0.19±.10; Mrφ 0.97±.12; Mθφ 1.27±.08; Best double couple: M0 2.80000×10^16 NP1:ϕs 110.00000°, δ52.00000°, λ-36.00000°. NP2:ϕs 224.00000°, δ63.00000°, λ-136.00000°. Principal axes: T 2.9700, Plg7.0000°, Azm344.0000°; N -0.2900, Plg40.0000°, Azm249.0000°; P -2.6800, Plg49.0000°, Azm82.0000°; Data Used: IU II IC G CN.*

ISC 10 15:01:36.6±0.5, 42˚.51N±0˚.03×141˚.39E±0˚.03, h132km±4km, n623, σ1s00/676, mb4.6/144, 168C-156D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JNB	**Noboribetsu**	**0.27**	**262**	⇓P		**Pn**	**15 01 55.4**	**+0.6**
JNB				*e*S		**Sn**	**15 02 09.3**	**+0.8**
JEW	**Eniwo**	**0.33**	**7**	⇓P		**Pn**	**15 01 56.0**	**+0.9**
JEW				*e*S		**Sn**	**15 02 10.4**	**+1.3**
JKB	**Kayabe**	**0.68**	**203**	⇑P		**Pn**	**15 01 57.5**	**+0.5**
JKB				*e*S		**Sn**	**15 02 12.5**	**+0.2**
JBT2	**Biratori 2**	**0.77**	**69**	⇓P		**Pn**	**15 01 58.5**	**+0.9**
JBT2				*e*S		**Sn**	**15 02 14.8**	**+1.2**
JYM2	**Yakumo 2**	**0.85**	**243**	⇓P		**Pn**	**15 01 59.1**	**+0.7**
JYM2				*e*S		**Sn**	**15 02 15.8**	**+1.0**
JNBK	**Urakawa-nobuka**	**1.03**	**102**	⇑P		**Pn**	**15 02 00.9**	**+1.0**
JNBK				*e*S		**Sn**	**15 02 19.2**	**+1.6**
JSK	**Shakotan**	**1.08**	**322**	⇓P		**Pn**	**15 02 01.2**	**+0.8**
JSK				*e*S		**Sn**	**15 02 19.6**	**+1.1**
JFR	**Furan**	**1.10**	**53**	⇓P		**Pn**	**15 02 01.0**	**+0.4**
JFR				*e*S		**Sn**	**15 02 19.8**	**+0.9**
JOT	**Ohata**	**1.15**	**193**	⇑P		**Pn**	**15 02 01.6**	**+0.4**
JOT				*e*S		**Sn**	**15 02 19.9**	**+0.2**
JHR	**Hokuryu**	**1.26**	**11**	P		**Pn**	**15 02 03.9**	**+1.7**
JHR				*e*S		**Sn**	**15 02 24.1**	**+2.4**
ERM	**Erimo**	**1.40**	**110**	*d* iPN		**Pn**	**15 02 04.9**	**+1.2**
ERM	**Erimo**	**1.40**	**110**	*e*Pn		**Pn**	**15 02 04.7**	**+1.0**
JCH	**Churui**	**1.46**	**85**	⇑P		**Pn**	**15 02 05.1**	**+0.8**
JCH				*e*S		**Sn**	**15 02 26.0**	**+0.6**
JOSM	**Okushiri--Mats**	**1.48**	**254**	⇓P		**Pn**	**15 02 05.1**	**+0.5**
JOSM				*e*S		**Sn**	**15 02 26.1**	**+0.2**
JKK2	**Kamakawa 2**	**1.69**	**36**	⇑P		**Pn**	**15 02 07.8**	**+0.9**
JKK2				*e*S		**Sn**	**15 02 30.5**	**+0.4**
ASAJ	**Asahikawa**	**1.83**	**28**	*e*Pn		**Pn**	**15 02 09.1**	**+0.5**
ASAJ				S		**Sn**	**15 02 32.5**	**-0.6**
ASAJ	**Asahikawa**	**1.83**	**28**	P		**Pn**	**15 02 09.6**	**+1.0**
	123nm,0.3s,baz=223,slow=13,SNR=1718							
ASAJ				S		**Sn**	**15 02 32.5**	**-0.6**
	102nm,0.3s,baz=81,slow=28,SNR=7.5							
JAR	**Ashorobuto**	**1.92**	**65**	P		**Pn**	**15 02 10.0**	**+0.4**
JAR				*e*S		**Sn**	**15 02 35.0**	**+0.1**
JYG	**Yagishiri**	**1.92**	**1**	⇑P		**Pn**	**15 02 10.5**	**+0.9**
JANG	**Nango**	**2.13**	**177**	⇑P		**Pn**	**15 02 11.6**	**-0.8**
JANG				*e*S		**Sn**	**15 02 37.3**	**-2.4**
YUK	**Yuzh-Kuril'sk**	**3.60**	**63**	*d i*PN		**Pn**	**15 02 32.3**	**+1.2**
YUK				*i* S		**Sn**	**15 03 13.5**	**+0.2**
YUK				pmax	pmax			
	comp=Z,492nm,0.5s							
YUK				pmax	pmax			
	comp=N,61nm,0.5s							
YUK				pmax	pmax			
	comp=E,147nm,0.5s							
YUK				pmax	pmax			
	comp=Z,2μm,2.3s							
YUK				smax	smax			
	comp=E,659nm,0.4s							
YUK				smax	smax			
	comp=N,2μm,0.4s							
YUK				smax	smax			
	comp=E,5μm,2.6s							
YUK				smax	smax			
	comp=N,4μm,2.6s							
YSS	**Yuzh-Sakhalins**	**4.55**	**12**	⇑*i*PN		**Pn**	**15 02 45.8**	**+2.2**
YSS				*e*S		**Sn**	**15 03 37.0**	**+1.3**
YSS				pmax	pmax			
	comp=N,280nm,1.1s							
YSS				pmax	pmax			
	comp=Z,220nm,1.1s							
YSS				MLR	MLR			
	comp=Z,800nm,11.0s							
KUR	**Kuril'sk**	**5.41**	**58**	*e*PN		**Pn**	**15 02 55.9**	**+0.7**
KUR				*e*S		**Sn**	**15 03 57.9**	**+1.5**
KUR				pmax	pmax			
	comp=N,44nm,0.6s							
KUR				pmax	pmax			
	comp=E,53nm,0.6s							
KUR				pmax	pmax			
	comp=Z,202nm,0.6s							
KUR				smax	smax			
	comp=E,117nm,0.4s							
KUR				smax	smax			
	comp=N,42nm,0.4s							
MAJO	**Matsushiro**	**6.45**	**203**	*e*PN		**Pn**	**15 03 09.0**	**-0.2**
MAJO	**Matsushiro**	**6.45**	**203**	*e*Pn		**Pn**	**15 03 09.0**	**-0.2**
MAT	**Matsushiro**	**6.45**	**203**	P		**Pn**	**15 03 09.0**	**-0.2**
MAT				S		**Sn**	**15 04 21.0**	**-0.5**
VLA	**Vladivostok**	**7.02**	**278**	*e*PN		**Pn**	**15 03 18.2**	**+1.4**
VLA				pmax	pmax			
	comp=Z,108nm,1.0s							
USRK	**Ussuriysk Arra**	**7.06**	**287**	P		**Pn**	**15 03 18.9**	**+1.5**
	comp=Z,3.9nm,0.3s,baz=86,slow=15,SNR=39							
USRK				S		**Sn**	**15 04 38.4**	**+2.3**
	baz=99,slow=25,SNR=5.6							
USRK				LR	LR		15 05 48.7	
	comp=Z,218nm,19.2s,baz=101,slow=36							
HABR	**Khabarovsk**	**7.44**	**325**	*e i*PN		**Pn**	**15 03 21.5**	**-0.9**
HABR				S		**Sn**	**15 04 43.4**	**-1.9**
HABR				pmax	pmax			
	comp=Z,309nm,1.8s							
HABR				pmax	pmax			
	comp=E,186nm,1.8s							
HABR				pmax	pmax			
	comp=N,195nm,1.8s							
HABR				MLR	MLR			
	comp=Z,228nm,15.0s							
MDJ	**Mudanjiang**	**8.82**	**288**	P		Pn	15 03 33.7	-7.4
MDJ				S		**Sn**	**15 05 17.0**	**-1.8**
MDJ				ScP		ScP	15 13 21.1	+7.4
MDJ				PcS		**PcS**	**15 13 29.7**	**+2.6**
MDJ	**Mudanjiang**	**8.82**	**288**	ScS		ScS	15 16 55.1	+7.4
MDJ				pmax	pmax			
	comp=Z,6.0nm,1.3s							
MDJ				pmax	pmax			
	comp=Z,43nm,2.8s							
MDJ				LR	LR			
	comp=N,710nm,24.6s							
MDJ				LR	LR			
	comp=E,180nm,22.6s							
MDJ				LR	LR			
	comp=Z,210nm,29.1s							
MDJ	**Mudanjiang**	**8.82**	**288**	*e*Pn		**Pn**	**15 03 40.0**	**-1.1**
	comp=Z,21nm,0.9s							
KLR	**Kul'dur**	**9.50**	**318**	⇓*i*PN		Pn	15 03 47.0	-3.1
KLR				pmax	pmax			
	comp=N,80nm,1.6s							
KLR				pmax	pmax			
	comp=Z,300nm,1.6s							
OKH	**Okha**	**11.10**	**5**	*e*PN		**Pn**	**15 04 12.0**	**+0.7**
OKH				*e*S		**Sn**	**15 06 18.2**	**+4.7**
OKH				smax	smax			
	comp=E,800nm,8.0s							
KSRS	**Korea Array**	**11.50**	**248**	P		**Pn**	**15 04 18.1**	**+1.3**
	comp=E,0.2nm,0.3s,baz=60,slow=12,SNR=25							
KSRS				LR	LR		15 08 45.3	
	comp=E,63nm,20.0s,baz=119,slow=37							
KSAR	**Wonju Array Be**	**11.53**	**248**	P		**Pn**	**15 04 18.1**	**+0.9**
CN2	**Changchun**	**11.72**	**282**	*e*P		**Pn**	**15 04 19.7**	**0.0**
CN2				*e*S		**Sn**	**15 06 26.0**	**-2.8**
CN2				pmax	pmax			
	comp=Z,20nm,1.0s							
CN2				LR	LR			
	comp=N,300nm,15.0s							
CN2				LR	LR			
	comp=E,200nm,15.0s							
CN2				LR	LR			
	comp=Z,300nm,15.0s							
JNU	**Nakatsue**	**12.52**	**225**	P		**Pn**	**15 04 29.7**	**-0.5**
JNU	**Nakatsue**	**12.52**	**225**	P		**Pn**	**15 04 29.7**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=45,slow=13,SNR=4.0							
JNU				LR	LR		15 09 46.9	
	comp=Z,97nm,19.1s,baz=224,slow=39							
PEA0B	**Petropavlovsk-**	**15.21**	**40**	*e*Pn		**Pn**	**15 05 02.6**	**-1.7**
PETK	**Petropavlovsk-**	**15.21**	**40**	P		**Pn**	**15 05 02.6**	**-1.7**
PETK	**Petropavlovsk-**	**15.21**	**40**	P		**Pn**	**15 05 02.6**	**-1.7**
PETK	**Petropavlovsk-**	**15.21**	**40**	P		**Pn**	**15 05 02.6**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=203,slow=9.7,SNR=12							
HIA	**Hailar**	**16.49**	**302**	*e*Pn		**Pn**	**15 05 18.3**	**-1.8**
	comp=Z,22nm,0.6s							
CLNS	**Chul'man**	**17.81**	**329**	*e*P		**P**	**15 05 33.2**	**-1.7**
CLNS				pmax	pmax			
	comp=Z,12nm,0.9s							
CLNS				pmax	pmax			
	comp=E,8.0nm,1.1s							
CLNS				pmax	pmax			
	comp=N,22nm,0.8s							
BJI	**Beijing**	**19.10**	**271**	P		**P**	**15 05 47.4**	**-1.6**
BJI				S		S	15 09 09.0	-10
BJI				pmax	pmax			
	comp=Z,12nm,0.8s							
BJI				pmax	pmax			
	comp=Z,100nm,3.9s							
BJI				LR	LR			
	comp=N,170nm,11.3s							
BJI				LR	LR			
	comp=E,150nm,9.3s							
BJI				LR	LR			
	comp=Z,54nm,15.3s							
YAK	**Yakutsk**	**20.76**	**344**	*e i*P		**P**	**15 06 03.5**	**-3.2**
YAK				*e*S		S	15 09 43.6	-7.3
YAK				*e*			15 10 08.8	
YAK				pmax	pmax			
	comp=Z,47nm,0.9s							
YAK				pmax	pmax			
	comp=E,10.0nm,0.9s							
YAK				pmax	pmax			
	comp=N,34nm,1.0s							
YAK				smax	smax			
	comp=E,171nm,1.7s							
YAK				smax	smax			
	comp=N,104nm,1.9s							
SEY	**Seymchan**	**21.45**	**14**	*d i*P		**P**	**15 06 12.5**	**-1.6**
HHC	**Hu-ho-hao-te**	**22.29**	**276**	*e*P		**P**	**15 06 22.1**	**-1.1**
HHC				S		**S**	**15 10 18.8**	**-0.3**
HHC				pmax	pmax			
	comp=Z,22nm,1.0s							
HHC				pmax	pmax			
	comp=Z,110nm,4.2s							
HHC				LR	LR			
	comp=N,330nm,11.4s							
HHC				LR	LR			
	comp=E,300nm,9.5s							
HHC				LR	LR			
	comp=Z,130nm,10.9s							
FX1	**Attu Island--F**	**23.58**	**53**	P		**P**	**15 06 36.8**	**+1.7**
FX1	**Attu Island--F**	**23.58**	**53**	P		**P**	**15 06 36.8**	**+1.7**
	comp=Z,26nm,0.7s,baz=12,slow=10,SNR=11							
SONM	**Songino Array**	**25.10**	**294**	P		**P**	**15 06 49.1**	**0.0**
SONM	**Songino Array**	**25.10**	**294**	P		**P**	**15 06 49.1**	**0.0**
	comp=Z,4.5nm,0.4s,baz=83,slow=8.4,SNR=60							
SONM				LR	LR		15 16 24.9	
	comp=Z,64nm,21.4s,baz=91,slow=36							
TPUB	**Ta-pu**	**25.78**	**229**	*e*P		**P**	**15 06 57.3**	**+2.0**
IRK	**Irkutsk**	**26.69**	**304**	*e*P		**P**	**15 07 02.1**	**-1.1**
IRK				pmax	pmax			
	comp=Z,50nm,1.9s							
XAN	**Xi'an**	**26.73**	**262**	P		**P**	**15 07 07.2**	**+3.4**
TLY	**Talaya**	**27.02**	**303**	*e*P		**P**	**15 07 06.0**	**-0.2**
ZAK	**Zakamensk**	**27.17**	**300**	⇑*i*P		**P**	**15 07 07.1**	**-0.6**
ZAK				*e*			15 07 32.1	
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.3s							
MOY	**Mondy**	**28.67**	**303**	*e*P		**P**	**15 07 21.0**	**+0.1**
MOY				pmax	pmax			
	comp=Z,43nm,2.0s							
BILL	**Bilibino**	**28.82**	**19**	⇓*e*P		**P**	**15 07 21.2**	**-0.8**
BILL				*e*S		**S**	**15 11 59.2**	**-2.7**
BILL				pmax	pmax			
	comp=Z,4.0nm,1.7s							
BILL				MLR	MLR			
	comp=Z,100nm,21.0s							
LZH	**Lanzhou**	**29.58**	**270**	*e*P		**P**	**15 07 30.0**	**+0.7**
LZH				pmax	pmax			
	comp=Z,14nm,1.0s							
LZH				pmax	pmax			
	comp=Z,70nm,4.8s							
LZH				LR	LR			
	comp=N,140nm,9.9s							
LZH				LR	LR			
	comp=E,110nm,9.3s							
LZH				LR	LR			
	comp=Z,87nm,11.0s							
TIXI	**Tiksi**	**29.86**	**352**	*e*P		**P**	**15 07 29.3**	**-1.8**
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.7s							
TIXI				MLR	MLR			
	comp=Z,58nm,18.0s							
GTA	**Gaotai**	**31.33**	**279**	*e*P		**P**	**15 07 45.3**	**+0.7**
GTA				PcP		**PcP**	**15 10 36.9**	**+1.6**
GTA				S		**S**	**15 12 46.7**	**+4.8**
GTA				ScP		**ScP**	**15 14 06.9**	**+0.9**
GTA				ScS		**ScS**	**15 18 03.3**	**-0.6**
GTA				pmax	pmax			
	comp=Z,4.0nm,1.1s							
GTA				LR	LR			
	comp=N,70nm,11.9s							
GTA				LR	LR			
	comp=E,120nm,13.8s							
GTA				LR	LR			
	comp=Z,82nm,13.3s							
CD2	**Chengdu**	**32.07**	**261**	P		**P**	**15 07 52.0**	**+1.0**
CD2				PP		**PnPn**	**15 09 01.0**	**-0.8**
CD2				PcP		**PcP**	**15 10 40.5**	**+3.1**
CD2				S		**S**	**15 12 55.9**	**+2.4**
CD2				PcS		**PcS**	**15 14 24.1**	**+1.7**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,120nm,5.2s							
CD2				LR	LR			
	comp=N,170nm,12.1s							
CD2				LR	LR			
	comp=Z,160nm,8.2s							
GYA	**Guiyang**	**32.53**	**252**	P		**P**	**15 07 57.0**	**+1.8**
GYA				PP		**PnPn**	**15 09 08.4**	**+0.7**
GYA				PcP		**PcP**	**15 10 42.0**	**+3.2**
GYA				S		**S**	**15 13 03.8**	**+3.0**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
GYA				LR	LR			
	comp=N,490nm,17.8s							
GYA				LR	LR			
	comp=E,410nm,18.0s							
GYA				LR	LR			
	comp=Z,460nm,17.6s							
HVS	**Khovu-Aksy**	**33.24**	**302**	*e*P		**P**	**15 08 01.9**	**+0.8**
HVS				pmax	pmax			
	comp=Z,93nm,1.7s							
KMI	**Kunming**	**36.13**	**254**	P		P	15 08 29.8	+3.5
KMI				pmax	pmax			
	comp=Z,7.0nm,1.1s							
ZAA0	**Zalesovo Array**	**38.39**	**307**	*e*P		**P**	**15 08 42.7**	**-2.1**
ZALV	**Zalesovo Beam**	**38.39**	**307**	P		**P**	**15 08 44.4**	**-0.4**
ZALV							15 10 56.0	
ZALV							15 14 30.2	
ZALV	**Zalesovo Beam**	**38.39**	**307**	P		**P**	**15 08 44.4**	**-0.4**
ZALV				PcP		**PcP**	**15 10 56.0**	**+0.5**
ZALV				ScP		**S**	**15 14 30.2**	**+0.6**
ZALV	**Zalesovo Beam**	**38.39**	**307**	P		**P**	**15 08 44.4**	**-0.

comp=Z,40nm,1.5s
CHTO Chiang Mai 42.89 250 *e*P **P** **15 09 21.6 -0.6**
CHTO pmax pmax
comp=Z,4.0nm,0.9s
CHTO Chiang Mai 42.89 250 *e*P **P** **15 09 21.6 -0.6**
comp=Z,4.4nm,0.9s
SPU Mount Spurr 42.99 41 *e*P **P** **15 09 21.4 -1.1**
CMAR Chiang Mai Arr 43.13 250 P **P** **15 09 24.2 +0.1**
CMAR ScP **ScP** **15 09 24.2 +0.1**
CMAR Chiang Mai Arr 43.13 250 P **P**
comp=Z,1.3nm,0.8s,baz=40,slow=6.5,SNR=8.3
CMAR ScP **ScP** **15 14 50.3 +0.1**
comp=Z,0.7nm,0.8s,baz=3.8,slow=4.5,SNR=5.7
CMAR LR LR 15 29 23.8
comp=Z,32nm,20.1s,baz=195,slow=39
KDAK Kodiak Island 43.16 46 P **P** **15 09 23.6 -0.2**
KDAK Kodiak Island 43.16 46 P **P** **15 09 23.6 -0.2**
comp=Z,5.9nm,0.7s,baz=277,slow=4.7,SNR=10
COLD Coldfoot 43.44 32 *e*P **P** **15 09 23.9 -2.1**
comp=Z,3.7nm,0.8s
TRF Thorofare Moun 43.60 37 *e*P **P** **15 09 26.1 -1.5**
comp=Z,6.4nm,0.9s
MCK McKinley 44.18 37 *e*P **P** **15 09 29.5 -2.4**
MCK pmax pmax
comp=Z,12nm,1.1s
MCK McKinley 44.18 37 *e*P **P** **15 09 29.5 -2.4**
comp=Z,12nm,1.1s
COLA College 44.53 35 *e*P **P** **15 09 33.0 -1.7**
COLA pmax pmax
comp=Z,40nm,0.8s
COLA College 44.53 35 *e*P **P** **15 09 33.0 -1.7**
comp=Z,40nm,0.8s
SML Sawmill 44.68 39 *e*P **P** **15 09 34.5 -1.5**
SML pmax pmax
comp=Z,3.0nm,0.8s
SML Sawmill 44.68 39 *e*P **P** **15 09 34.5 -1.5**
comp=Z,3.4nm,0.8s
ILAR Eielson Array 44.95 35 P **P** **15 09 38.4 +0.3**
ILAR Eielson Array 44.95 35 P **P** **15 09 38.4 +0.3**
comp=Z,6.7nm,0.9s,baz=278,slow=7.2,SNR=44
TAPN Taplejung 45.80 269 *e*P **P** **15 09 45.7 +0.1**
comp=Z,37nm,1.1s
FAKI Fak Fak 45.97 193 P **P** **15 09 47.1 +0.6**
baz=11,SNR=7.4
ODAN Odare 46.31 268 *e*P **P** **15 09 49.5 0.0**
comp=Z,16nm,0.7s
LUWI Luwuk 46.49 206 P PcP 15 11 31.9 +8.9
baz=20,SNR=4.0
JIRN Jiri 46.75 270 *e*P **P** **15 09 53.6 +0.5**
comp=Z,9.6nm,0.3s
RAMN Ramite 46.84 269 *e*P **P** **15 09 53.3 -0.4**
comp=Z,35nm,0.8s
GUN Gumba 46.84 271 *e*P **P** **15 09 54.3 +0.5**
comp=Z,22nm,0.4s
BVAR Borovoye Array 47.01 309 P **P** **15 09 54.3 0.0**
BVAR Borovoye Array 47.01 309 P **P** **15 09 54.3 0.0**
BVAR Borovoye Array 47.01 309 P **P** **15 09 54.3 0.0**
comp=Z,17nm,0.4s,baz=74,slow=8.7,SNR=70
BRVK Borovoye 47.06 309 *e*P **P** **15 09 54.6 -0.1**
BRVK pmax pmax
comp=Z,33nm,1.3s
BRVK Borovoye 47.06 309 *e*P **P** **15 09 52.4 -2.2**
comp=Z,44nm,1.2s
KKN Kakani 47.35 271 *e*P **P** **15 09 58.1 +0.5**
comp=Z,13nm,0.6s
PKI Pulchoki 47.38 270 *e*P **P** **15 09 58.2 +0.3**
comp=Z,14nm,0.5s
EGAK Eagle 47.38 35 *e*P **P** **15 09 55.2 -1.7**
comp=Z,10nm,0.9s
PKIN Phulchoki 47.38 270 *e*P **P** **15 09 57.9 0.0**
comp=Z,17nm,0.9s
RABL Rabaul 47.50 165 P P 15 09 52.0 -6.4
baz=11,SNR=4.0
AAK Ala-Archa 48.05 294 *e*P **P** **15 10 02.4 -0.3**
AAK pmax pmax
comp=Z,7.0nm,1.4s
AAK Ala-Archa 48.05 294 *e*P **P** **15 10 01.5 -1.3**
comp=Z,20nm,1.6s
AAK Ala-Archa 48.05 294 P **P** **15 10 02.5 -0.3**
comp=Z,4.6nm,0.4s,baz=103,slow=5.7,SNR=8.2
DANN Dangsing 48.17 272 *e*P **P** **15 10 04.3 +0.3**
comp=Z,66nm,0.6s
KSH Kashi 48.35 290 P **P** **15 10 08.1 +3.1**
KSH PP PP 15 12 05.3 +6.8
KSH S S 15 17 02.1 +6.9
KSH SS **SS** **15 20 29.2 +3.1**
KSH pmax pmax
comp=Z,13nm,1.5s
KSH pmax pmax
comp=Z,90nm,5.0s
KSH LR LR
comp=N,100nm,4.4s
KSH LR LR
comp=E,120nm,5.9s
KSH LR LR
comp=Z,160nm,8.5s
KOLN Koldanda 48.60 272 *e*P **P** **15 10 07.2 0.0**
comp=Z,14nm,0.6s
PYUN Piuthan 48.88 273 *e*P **P** **15 10 08.8 -0.5**
comp=Z,105nm,1.2s
INK Inuvik 49.57 29 P **P** **15 10 14.2 +0.5**
INK Inuvik 49.57 29 P **P** **15 10 14.2 +0.5**
comp=Z,3.7nm,0.3s,baz=298,slow=9.5,SNR=13
KKAR Karatay Array 50.52 296 *e*P **P** **15 10 18.8 -2.5**
KKAR Karatay Array 50.52 296 *e*P **P** **15 10 18.8 -2.5**
SVE Sverdlovsk 51.12 316⇑ *i*P **P** **15 10 26.2 +0.7**
SVE pmax pmax
comp=Z,42nm,1.0s
SOKR Solikamsk 52.05 320*c i*P P 15 10 35.6 +3.3
SOKR pmax pmax
comp=Z,20nm,0.8s
ARU Arti 52.34 316*c i*P **P** **15 10 34.1 -0.4**
ARU 15 11 41.6
ARU 15 12 32.6
ARU S **S** **15 17 50.1 +0.5**
ARU pmax pmax
comp=Z,30nm,1.2s
ABKAR Akbulak array 54.51 307 *e*P **P** **15 10 48.9 -1.6**
AKTO Aktyubinsk 55.10 309 P **P** **15 10 54.7 -0.1**
AKTO Aktyubinsk 55.10 309 P **P** **15 10 54.6 -0.1**
AKTO Aktyubinsk 55.10 309 P **P** **15 10 54.6 -0.1**
comp=Z,4.0nm,0.6s,baz=61,slow=13,SNR=14
SPITS Spitsbergen Ar 55.16 348 P **P** **15 10 54.4 -0.4**
SPITS Spitsbergen Ar 55.16 348 P **P** **15 10 54.4 -0.4**
comp=Z,2.5nm,0.5s,baz=79,slow=8.8,SNR=13
SPITS LR LR 15 35 26.9
comp=Z,40nm,19.7s,baz=140,slow=37
KBS Kingsbay 55.27 350*d i*P **P** **15 10 56.2 +0.6**
KBS pmax pmax
comp=Z,15nm,1.2s
KBS Kingsbay 55.27 350 *e*P **P** **15 10 55.7 +0.1**
comp=Z,68nm,1.9s
KDU Kakadu 55.53 191 P **P** **15 10 58.1 0.0**
baz=16,SNR=5.9
MTN Manton Dam 55.88 192 P **P** **15 11 00.6 0.0**
baz=18,SNR=4.5
RES Resolute Bay 57.32 15 P **P** **15 11 09.9 -0.2**
RES Resolute Bay 57.32 15 P **P** **15 11 09.9 -0.2**
comp=Z,7.2nm,0.6s,baz=291,slow=7.2,SNR=15
APA Apatity 57.72 334⇓ *e*P **P** **15 11 13.6 +0.6**
APA MLR MLR
comp=Z,200nm,14.0s
TMCR Tamitsa 57.97 330 *e*P **P** **15 11 15.3 +0.5**
TMCR *e* 15 12 06.6
TMCR pmax pmax
comp=Z,26nm,1.3s
BBB Bella Bella 58.23 46 P **P** **15 11 14.7 -2.1**
BBB Bella Bella 58.23 46 P **P** **15 11 14.7 -2.1**
comp=Z,15nm,1.1s,baz=284,slow=8.2,SNR=5.6
KEV Kevo 58.34 338 *e*p **P** **15 11 15.8 -1.5**
comp=Z,4.6nm,0.6s
KEV Kevo 58.34 338 *e*P **P** **15 11 15.8 -1.5**
KEV pmax pmax
comp=Z,5.0nm,0.6s
ARCES ARCESS Array B 58.89 338 P **P** **15 11 20.4 -0.8**
ARCES ARCESS Array B 58.89 338 P **P** **15 11 20.4 -0.8**
comp=Z,1.8nm,0.5s,baz=49,slow=8.1,SNR=16
YKA Yellowknife Ar 59.12 32 P **P** **15 11 23.6 +0.7**
YKA Yellowknife Ar 59.12 32 P **P** **15 11 23.5 +0.7**
comp=Z,2.5nm,0.8s,baz=303,slow=6.6,SNR=9.1
YKA LR LR 15 39 26.2
comp=Z,5.1nm,18.6s,baz=230,slow=38
JOF Joensuu 61.16 331 *e*p **P** **15 11 35.4 -1.3**
comp=Z,5.1nm,0.5s
JOF Joensuu 61.16 331 *e*P **P** **15 11 35.4 -1.3**
JOF pmax pmax
comp=Z,5.0nm,0.5s
FITZ Fitzroy Crossi 62.03 197 P **P** **15 11 43.1 +0.1**
FITZ Fitzroy Crossi 62.03 197 P **P** **15 11 43.1 +0.1**
comp=Z,3.4nm,0.9s,baz=18,slow=9.6,SNR=4.6
WRA Warramunga Arr 62.48 187 P **P** **15 11 45.0 -1.0**
WRA Warramunga Arr 62.48 187 P **P** **15 11 45.0 -1.0**
comp=Z,1.5nm,0.4s,baz=7.1,slow=7.0,SNR=73
PGC Sidney 62.62 48 *e*P **P** **15 11 47.5 +0.8**
NLWA Neilton Lookou 63.10 49 *e*P **P** **15 11 50.7 +0.8**
comp=Z,18nm,1.0s
KAF Kangasniemi 63.46 332 *e*p **P** **15 11 50.1 -1.9**
comp=Z,4.6nm,0.6s
KAF Kangasniemi 63.46 332 *e*P **P** **15 11 50.1 -1.9**
KAF pmax pmax
comp=Z,5.0nm,0.6s
JCW Jim Creek 63.72 48 P **P** **15 11 55.1 +1.1**
OBN Obninsk 63.75 322⇓ *e*P **P** **15 11 53.7 -0.3**
OBN *e* 15 14 12.5
OBN *e*S S 15 20 11.4 -6.5
OBN pmax pmax
comp=Z,8.0nm,1.2s
FINES FINESS Array B 63.99 331 P **P** **15 11 54.8 -0.7**
FINES FINESS Array B 63.99 331 P **P** **15 11 54.8 -0.7**
comp=Z,9.3nm,0.6s,baz=47,slow=7.8,SNR=75
FINES LR LR 15 42 26.8
comp=Z,52nm,18.5s,baz=9.7,slow=38
LON Longmire 64.62 49 *e*P **P** **15 12 01.0 +1.1**
LON pmax pmax
comp=Z,15nm,1.6s
LON Longmire 64.62 49 *e*P **P** **15 12 01.0 +1.1**
comp=Z,15nm,1.6s
TDL Tradollar La 64.62 50 P **P** **15 12 01.6 +1.5**
SUMG Summit 65.22 360 *e*P **P** **15 12 03.1 -0.7**
SUMG pmax pmax
comp=Z,14nm,1.2s
SUMG Summit 65.22 360 *e*P **P** **15 12 03.1 -0.7**
comp=Z,14nm,1.2s
TRW Toppenish Ridg 65.60 49 P **P** **15 12 07.4 +1.1**
OD2 Odessa Site #2 65.94 47 P **P** **15 12 09.0 +0.6**
HAWA Hanford 66.10 48 *e*P **P** **15 12 09.9 +0.5**
comp=Z,8.3nm,0.8s
AS31 Alice Springs 66.20 188 *e*P **P** **15 12 09.9 -0.3**
ASAR Alice Springs 66.20 188 P **P** **15 12 09.8 -0.5**
ASAR Alice Springs 66.20 188 P **P** **15 12 09.8 -0.5**
comp=Z,1.7nm,0.8s,baz=4.9,slow=7.4,SNR=20
NEW Newport 66.27 46 P **P** **15 12 10.3 -0.1**
NEW Newport 66.27 46 P **P** **15 12 10.3 -0.1**
comp=Z,5.3nm,0.8s,baz=308,slow=4.3,SNR=8.1
NEW Newport 66.27 46⇓ P **P** **15 12 11.1 +0.7**
baz=66
A12A Yaak River Ran 66.62 44⇓ P **P** **15 12 12.8 +0.1**
baz=66
B12A Libby 66.94 45⇓ P **P** **15 12 14.9 +0.1**
baz=67
C11A Tepee Creek (N 66.98 46⇓ P **P** **15 12 15.6 +0.5**
baz=67
YBH Yreka Blue Hor 67.07 54 P **P** **15 12 16.9 +1.1**
comp=Z,0.1nm,0.8s
YBH Yreka Blue Hor 67.07 54 P **P** **15 12 16.9 +1.1**
comp=Z,4.1nm,0.8s,baz=31,slow=2.4,SNR=6.7
A13A Flathead Natio 67.26 44⇓ P **P** **15 12 17.2 +0.4**
baz=67
KIV Kislovodsk 67.37 309⇑ *e*P **P** **15 12 17.2 -0.4**
KIV *e**PP **PcP** **15 12 41.6 -2.6**
KIV *e* 15 14 47.9
KIV *e*SS SS 15 25 26.5 +2.3
KIV pmax pmax
comp=Z,10.0nm,1.2s
KIV MLR MLR
comp=Z,100nm,17.0s
KBZ Khabaz 67.39 309 P **P** **15 12 18.1 +0.6**
KBZ Khabaz 67.39 309 P **P** **15 12 18.1 +0.6**
KBZ Khabaz 67.39 309 P **P** **15 12 18.1 +0.6**
comp=Z,2.3nm,0.5s,baz=25,slow=8.0,SNR=4.1
B13A Whitefish 67.59 44⇑ P **P** **15 12 19.2 +0.3**
baz=67,SNR=10
A14A Double T Ranch 67.74 43⇓ P **P** **15 12 20.4 +0.5**
baz=68,SNR=8.1
BSMT Bassoo Peak 67.75 45 *e*P **P** **15 12 18.6 -1.4**
BLMT Blacktail Moun 67.87 45 *e*P **P** **15 12 19.2 -1.7**
C13A Hot Springs 67.97 45⇓ P **P** **15 12 21.5 +0.3**
baz=68
JTMT Jette 68.08 45 *e*P **P** **15 12 20.8 -1.3**
A15A Johnson Ranch, 68.09 43⇓ P **P** **15 12 22.2 +0.1**
baz=68,SNR=9.5
B14A Marquette Ranc 68.21 44⇑ P **P** **15 12 23.5 +0.6**
baz=68,SNR=8.1
E12A Beaver Dam Sad 68.24 47⇓ P **P** **15 12 23.4 +0.3**
baz=68
BMO Blue Mountains 68.28 49 *e*P **P** **15 12 22.4 -0.8**
comp=Z,7.9nm,1.1s
SWMT Swartz Lake 68.38 45 *e*P **P** **15 12 23.6 -0.3**
MOD Modoc 68.39 53 *e*P **P** **15 12 23.1 -1.0**
comp=Z,5.3nm,0.7s
D13A Huson 68.40 45⇓ P **P** **15 12 24.2 +0.2**
baz=68
B15A Bradely Ranch, 68.60 44⇑ P **P** **15 12 25.3 0.0**
baz=68,SNR=22
A16A West Butte Ran 68.68 43⇓ P **P** **15 12 25.2 -0.5**
baz=68
SLMT Seeley Lake 68.81 45 *e*P **P** **15 12 26.6 -0.1**
D14A Greenough 68.91 45⇑ P **P** **15 12 27.4 +0.2**
baz=69,SNR=11
C15A Salmond Ranch, 68.93 44⇑ P **P** **15 12 28.1 +0.8**
baz=69,SNR=18
B16A M & M Farms, S 68.97 43⇑ P **P** **15 12 27.6 0.0**
baz=69,SNR=14
WVOR Wild Horse Val 69.03 51 *e*P **P** **15 12 26.3 -1.8**
WVOR pmax pmax
comp=Z,12nm,1.3s
WVOR Wild Horse Val 69.03 51 *e*P **P** **15 12 26.3 -1.8**
comp=Z,12nm,1.3s
HFS Hagfors 69.11 335 P **P** **15 12 27.8 -0.2**
HFS Hagfors 69.11 335 P **P** **15 12 27.8 -0.2**
comp=Z,3.2nm,0.3s,baz=45,slow=5.7,SNR=16
A17A Triple J Farms 69.13 42⇑ P **P** **15 12 28.3 -0.1**
baz=69,SNR=22
FFC Flin Flon 69.14 34*c e*P **P** **15 12 30.0 +1.7**
NB2 NORSAR Subarra 69.15 337 P **P** **15 12 27.4 -0.9**
comp=Z,4.1nm,0.6s,baz=38,slow=6.2
NOA NORSAR Array B 69.15 337 P **P** **15 12 27.7 -0.7**
NOA NORSAR Array B 69.15 337 P **P** **15 12 27.7 -0.7**
comp=Z,4.4nm,0.6s,baz=37,slow=6.3,SNR=19
NOA LR LR 15 45 38.6
comp=Z,18nm,19.7s,baz=90,slow=38
CHMT Chamberlain Mo 69.15 45 *e*P **P** **15 12 27.0 -1.8**
C16A Fuhringer Ranc 69.35 44⇓ P **P** **15 12 30.0 +0.1**
baz=69,SNR=10.0
D15A Lincoln 69.45 45⇑ P **P** **15 12 30.8 +0.2**
baz=69
B17A L&G Farms, Che 69.51 43⇑ P **P** **15 12 31.2 +0.4**
baz=69
A18A Metzger Ranch, 69.57 42⇓ P **P** **15 12 31.0 -0.1**
baz=69
BEKR Beckworth 69.62 54 *e*P **P** **15 12 31.5 -0.3**
comp=Z,1.8nm,0.7s
H12A Diamond D Ranc 69.82 48⇓ P **P** **15 12 33.1 +0.2**
baz=70
B18A Beardsley Farm 69.95 42⇑ P **P** **15 12 33.9 +0.4**
baz=70,SNR=7.4
D16A Dana Ranch, Ca 69.96 44⇓ P **P** **15 12 33.7 +0.1**
baz=70,SNR=6.9
C17A Wharram Farm, 69.96 43⇑ P **P** **15 12 33.7 +0.1**
baz=70,SNR=9.7
KIEV Kiev 70.00 321 *e*P **P** **15 12 32.9 -0.8**
KIEV pmax pmax
comp=Z,7.0nm,0.9s
KIEV Kiev 70.00 321 *e*P **P** **15 12 32.9 -0.8**
comp=Z,6.8nm,0.9s
MFID Camas Ranch 70.01 49 *e*P **P** **15 12 32.8 -1.2**
comp=Z,14nm,1.3s
MFID Camas Ranch 70.01 49⇓ P **P** **15 12 34.7 +0.6**
baz=70
HRY Holter Researc 70.02 45 *e*P **P** **15 12 34.4 +0.3**
A19A Klindworth Far 70.10 41⇓ P **P** **15 12 34.5 +0.1**
baz=70
I12A Atlanta 70.15 48⇑ P **P** **15 12 35.4 +0.4**
baz=70
EGMT Eagleton 70.21 42 *e*P **P** **15 12 34.6 -0.5**
comp=Z,15nm,0.8s
EGMT Eagleton 70.21 42⇓ P **P** **15 12 35.0 -0.1**
baz=70,SNR=12
E16A East Helena 70.22 45⇓ P **P** **15 12 35.6 +0.4**
baz=70,SNR=7.8
F15A Butte 70.25 46⇑ P **P** **15 12 35.9 +0.3**
baz=70,SNR=20
LRM Limekiln Ridge 70.28 46 *e*P **P** **15 12 35.5 -0.3**
PAHR Pah Rah Range 70.31 54 *e*P **P** **15 12 34.8 -1.2**
comp=Z,11nm,0.9s
D17A Six Diamond Ra 70.32 44⇑ P **P** **15 12 36.2 +0.3**
baz=70,SNR=6.1
B19A Brinkman Farms 70.32 42⇑ P **P** **15 12 36.1 +0.3**
baz=70,SNR=9.2
DLMT Dillon 70.51 46 *e*P **P** **15 12 37.7 +0.7**
comp=Z,12nm,0.8s
A20A Cobblestone Ra 70.53 41⇑ P **P** **15 12 37.4 +0.4**
baz=70
E17A Martinsdale 70.69 44⇓ P **P** **15 12 38.9 +0.7**
baz=70,SNR=11
HLID Hailey 70.70 48 *e*P **P** **15 12 36.6 -1.7**
comp=Z,3.9nm,1.2s
MCMT McKenzie Canyo 70.72 47 *e*P **P** **15 12 36.9 -1.6**
comp=Z,1.0nm,0.7s
D18A Linhart Farms, 70.74 43⇓ P **P** **15 12 38.7 +0.3**
baz=70,SNR=7.3
F16A Kennard Place, 70.74 45⇑ P **P** **15 12 38.5 0.0**
baz=70,SNR=7.6
C19A Slack Wire Ran 70.76 42⇑ P **P** **15 12 39.0 +0.6**
baz=70,SNR=18
CMB Columbia Colle 70.76 56 *e*P **P** **15 12 39.2 +0.7**
CMB pmax pmax
comp=Z,11nm,0.9s
CMB Columbia Colle 70.76 56 *e*P **P** **15 12 39.2 +0.7**
comp=Z,11nm,0.9s
BOZ Bozeman (W) 70.83 45 *e*P **P** **15 12 38.2 -0.8**
BOZ pmax pmax
comp=Z,8.0nm,0.7s
BOZ Bozeman (W) 70.83 45 *e*P **P** **15 12 38.2 -0.8**
comp=Z,7.6nm,0.7s
A21A Bergtoll Ranch 70.94 40⇑ P **P** **15 12 39.7 +0.3**
baz=71
I14A Mackay 70.99 48⇓ P **P** **15 12 40.4 +0.4**
baz=71
WAKR Walker 71.04 55 *e*P **P** **15 12 41.8 +1.3**
E18A Harlowton 71.11 44⇑ P **P** **15 12 41.1 +0.5**
baz=71,SNR=5.1
BMN Battle Mountai 71.13 52 *e*P **P** **15 12 41.8 +0.9**
BMN pmax pmax
comp=Z,9.0nm,0.8s
BMN Battle Mountai 71.13 52 *e*P **P** **15 12 41.8 +0.9**
comp=Z,9.2nm,0.8s
F17A Fitzpatrick Pl 71.17 45⇑ P **P** **15 12 41.8 +0.7**
baz=71
D19A Cripps Ranch, 71.23 43⇓ P **P** **15 12 41.8 +0.5**
baz=71,SNR=9.7
B21A Ellsworth Farm 71.28 41⇓ P **P** **15 12 41.7 +0.2**
baz=71
C20A Veseth Ranch, 71.29 42⇑ P **P** **15 12 42.1 +0.5**
baz=71,SNR=9.5
A22A Carney Farms, 71.42 40⇓ P **P** **15 12 42.1 -0.3**
baz=71
FRB Frobisher Bay 71.46 14 P **P** **15 12 41.3 -0.9**
FRB Frobisher Bay 71.46 14 P **P** **15 12 41.3 -0.9**
comp=Z,9.6nm,0.9s,baz=344,slow=5.4,SNR=10
G17A Pierce Place, 71.52 45⇓ P **P** **15 12 43.4 +0.3**
baz=71
F18A Big Timber 71.65 44⇑ P **P** **15 12 44.4 +0.5**
baz=71,SNR=15
C21A Desert Coulee 71.66 41⇓ P **P** **15 12 44.1 +0.3**
baz=71
H16A Russell Place, 71.66 46⇑ P **P** **15 12 44.9 +0.7**
baz=71,SNR=5.3
E19A Rath Farm, Rou 71.75 43⇓ P **P** **15 12 45.1 +0.6**
baz=72,SNR=13
NVAR Mina Array Bea 71.77 54 P **P** **15 12 45.8 +0.9**
NVAR Mina Array Bea 71.77 54 P **P** **15 12 45.8 +0.9**
comp=Z,6.7nm,0.7s,baz=296,slow=5.7,SNR=55
NV11 Mina Array Sit 71.86 54 *e*P **P** **15 12 45.9 +0.6**
B22A Reddig Ranch S 71.86 40⇓ P **P** **15 12 45.2 +0.2**
baz=72
A23A Redstone 71.93 39⇓ P **P** **15 12 45.7 +0.3**
baz=72
MLAC Mammoth Lakes 71.96 55⇓ P **P** **15 12 46.9 +0.8**
baz=72
E20A Meyer Farm, Mu 72.05 43⇑ P **P** **15 12 46.4 +0.2**
baz=72
ELK Elko 72.07 51 *e*P **P** **15 12 47.5 +0.8**
comp=Z,48nm,2.5s
ELK Elko 72.07 51 P **P** **15 12 47.7 +1.1**
comp=Z,3.7nm,0.7s,baz=296,slow=6.8,SNR=10
F19A Roth Farm, Mol 72.08 44⇑ P **P** **15 12 46.9 +0.4**
baz=72,SNR=11
I16A Newdale 72.09 47⇑ P **P** **15 12 47.6 +1.0**
baz=72
B23A Brockton 72.22 40⇓ P **P** **15 12 47.5 +0.3**
baz=72
H17A Grant Village 72.22 46⇓ P **P** **15 12 48.8 +1.3**
baz=72
D21A La Casta Ranch 72.23 42⇓ P **P** **15 12 47.6 +0.4**
baz=72
C22A Vida 72.30 41⇑ P **P** **15 12 47.6 0.0**
baz=72
IMW Indian Meadow 72.37 46 *e*P **P** **15 12 50.1 +1.7**
comp=Z,6.7nm,0.8s
RLMT Red Lodge 72.42 44 *e*P **P** **15 12 46.5 -2.1**
comp=Z,10nm,1.3s
H18A Shoshone NF, C 72.51 45⇑ P **P** **15 12 49.4 +0.2**
baz=72
F20A Billings 72.53 43⇑ P **P** **15 12 49.3 +0.2**
baz=72
RRI2 Red Ridge 72.53 47 *e*P **P** **15 12 51.5 +2.1**
comp=Z,16nm,1.0s
I17A Pilgrim Ck. 72.55 46⇑ P **P** **15 12 50.8 +1.4**
baz=72
E21A Keefer Ranch, 72.56 42⇓ P **P** **15 12 49.8 +0.7**
baz=72
MOOW Moose Ponds 72.57 46 *e*P **P** **15 12 50.8 +1.3**
comp=Z,8.4nm,1.0s
D22A Cohagen 72.57 41⇑ P **P** **15 12 49.4 +0.1**
baz=72
DGMT Dagmar 72.59 39⇓ P **P** **15 12 49.9 +0.5**
baz=72
C23A Lambert 72.60 40⇑ P **P** **15 12 49.6 +0.2**
baz=72
TPAW Teton Pass 72.63 47 *e*P **P** **15 12 52.2 +2.2**
comp=Z,20nm,1.4s
LOHW Long Hollow 72.74 46 *e*P **P** **15 12 52.0 +1.5**
comp=Z,26nm,1.8s
G20A Bridger 72.89 44⇑ P **P** **15 12 51.1 -0.2**
baz=73
VES Vestal, Richgr 72.96 57⇓ P **P** **15 12 52.6 +0.9**
baz=73
D23A Lindsay 73.03 41⇑ P **P** **15 12 52.5 +0.5**
baz=73
I18A Diamond G Ranc 73.10 46⇓ P **P** **15 12 53.1 +0.4**
baz=73
E22A Miles City 73.18 42⇓ P **P** **15 12 53.2 +0.3**
baz=73
CWC Cottonwood Cre 73.19 56⇓ P **P** **15 12 53.6 +0.4**
baz=73
GRAC Grapevine Rang 73.26 55⇑ P **P** **15 12 54.2 +0.7**
baz=73
I19A Meeteetse 73.30 45⇓ P **P** **15 12 53.9 0.0**
baz=73
G21A Lodge Grass 73.40 43⇑ P **P** **15 12 53.8 -0.4**
baz=73
ISA Isabella 73.45 57⇓ P **P** **15 12 54.6 -0.1**
baz=73
F22A Rosebud 73.49 42⇑ P **P** **15 12 54.7 -0.1**
baz=73
D24A Glendive 73.50 40⇓ P **P** **15 12 54.7 0.0**
baz=73
HWUT Hardware Ranch 73.57 48 *e*P **P** **15 12 55.1 -0.4**
comp=Z,19nm,1.6s
MPMC Manual Prospec 73.80 56⇑ P **P** **15 12 57.2 +0.4**
baz=74
J19A Crowheart 73.80 46⇓ P **P** **15 12 57.1 +0.4**
baz=74,SNR=8.7
I20A Worland 73.81 45⇑ P **P** **15 12 57.2 +0.5**
baz=74,SNR=8.1
DUG Dugway 73.82 50 *e*P **P** **15 12 57.9 +1.0**
DUG pmax pmax
comp=Z,15nm,1.0s
DUG Dugway 73.82 50 *e*P **P** **15 12 57.9 +1.0**
comp=Z,15nm,1.0s
DUG Dugway 73.82 50⇑ P **P** **15 12 57.5 +0.7**
baz=74
G22A Birney 73.87 43⇓ P **P** **15 12 56.9 -0.1**
baz=74
BW06 Boulder Array 73.87 46 *e*P **P** **15 12 56.6 -0.7**
comp=Z,15nm,1.1s
PDAR Pinedale Array 73.87 46 P **P** **15 12 57.5 +0.3**
PDAR Pinedale Array 73.87 46 P **P** **15 12 57.5 +0.3**
comp=Z,7.3nm,0.7s,baz=270,slow=2.4,SNR=53

E24A **Baker** 73.90 41 ⇓P P 15 12 57.1 0.0
baz=74
F23A **Volborg** 73.96 42 ⇑P P 15 12 57.3 -0.2
baz=74
OSI **Osito Adit** 73.98 58 ⇑P P 15 12 58.5 +0.8
baz=74
BUR08 **Bucovina Ar. S** 74.02 321 *e*P P 15 12 55.8 -2.0
M17A **Scullys Gap (B** 74.16 48 ⇓P P 15 12 58.6 -0.3
baz=74
L18A **Fontenelle, Gr** 74.19 47 ⇑P P 15 12 59.2 +0.2
baz=74
K19A **Absolon Red Bu** 74.21 46 ⇑P P 15 12 58.8 -0.4
baz=74
J20A **Shoshoni** 74.25 45 ⇓P P 15 12 59.2 -0.1
baz=74,SNR=9.2
EDW2 **Edwards Air Fo** 74.26 57 ⇓P P 15 12 60.0 +0.6
baz=74
JLU **Jordanelle** 74.31 49 *e*P P 15 13 01.8 +1.9
comp=Z,7.9nm,0.9s
G23A **Biddle** 74.33 42 ⇑P P 15 12 59.4 -0.3
baz=74
F24A **Ekalaka** 74.34 41 ⇑P P 15 12 59.7 0.0
baz=74
I21A **Big Trails, Te** 74.34 44 ⇑P P 15 13 00.1 +0.2
baz=74,SNR=18
E25A **Miller Ranch,** 74.38 40 ⇓P P 15 12 59.3 -0.6
baz=74
L19A **Farson** 74.44 47 ⇓P P 15 13 00.2 -0.3
baz=74
DAU **Daniels Canyon** 74.55 49 *e*P P 15 13 02.9 +1.6
DAU **Daniels Canyon** 74.55 49 *e*P P 15 13 02.9 +1.6
J21A **Lysite** 74.59 45 ⇓P P 15 13 01.5 +0.2
baz=74,SNR=5.7
K20A **Yellowstone Ra** 74.60 46 ⇑P P 15 13 00.8 -0.6
baz=74
MPU **Maple Canyon** 74.61 50 *e*P P 15 13 02.8 +1.3
comp=Z,12nm,0.6s
I22A **9 Mile Ranch,** 74.70 44 ⇓P P 15 13 01.8 -0.1
baz=74
GSC **Goldstone** 74.72 56 ⇓P P 15 13 02.2 +0.2
baz=74
G24A **Alzada** 74.73 42 ⇑P P 15 13 01.4 -0.6
baz=74
BFSC **Mount Baldy Ra** 74.89 57 ⇑P P 15 13 03.6 +0.5
baz=75
SHPR **Sheep Range** 74.92 54 *e*P P 15 13 04.7 +1.4
CIS **Catalina Islan** 74.97 58 ⇑P P 15 13 05.0 +1.5
baz=75
J22A **Midwest** 75.05 44 ⇑P P 15 13 03.5 -0.4
baz=75
L20A **Wamsutter** 75.05 46 ⇑P P 15 13 03.4 -0.6
baz=75
H24A **Dirks Ranch, A** 75.08 42 ⇓P P 15 13 03.8 -0.2
baz=75
TUQ **Turquoise Moun** 75.17 56 ⇓P P 15 13 05.0 +0.3
baz=75
K21A **Alcova** 75.19 45 ⇑P P 15 13 04.7 -0.1
baz=75,SNR=8.2
BRTR **Keskin Array B** 75.25 311 P P 15 13 05.0 0.0
BRTR PP PP 15 15 56.2 +1.5
BRTR **Keskin Array B** 75.25 311 P P 15 13 05.0 0.0
comp=Z,0.6nm,0.6s,baz=86,slow=5.0,SNR=4.2
BRTR PP PP 15 15 56.2 +1.5
comp=Z,1.1nm,0.8s,baz=98,slow=8.9,SNR=6.1
CCUT **Cedar City** 75.28 52 *e*P P 15 13 06.9 +1.5
comp=Z,6.1nm,1.0s
MVU **Marysvale** 75.31 51 *e*P P 15 13 07.1 +1.5
comp=Z,7.3nm,1.0s
HEC **Hector,Ludlow** 75.32 56 ⇑P P 15 13 05.7 +0.2
baz=75
MSU **Marysvale** 75.32 51 *e*P P 15 13 06.0 +0.3
MSU **Marysvale** 75.32 51 *e*P P 15 13 06.0 +0.3
TMUT **Trail Mountain** 75.34 50 *e*P P 15 13 07.5 +1.7
comp=Z,7.3nm,0.7s
M20A **Sweetwater, Wa** 75.49 47 ⇑P P 15 13 05.9 -0.7
baz=75
K22A **Casper** 75.56 45 ⇓P P 15 13 06.6 -0.2
baz=75
Q16A **Castle Valley** 75.62 50 ⇓P P 15 13 07.2 -0.1
baz=75
I24A **Kuemmerle Ranc** 75.67 43 ⇑P P 15 13 07.3 -0.1
baz=75
GMRC **Granite Mounta** 75.76 56 ⇑P P 15 13 08.7 +0.6
baz=76
RSSD **Black Hills** 75.78 43 *e*P P 15 13 08.2 +0.1
RSSD pmax pmax
comp=Z,8.0nm,1.1s
RSSD **Black Hills** 75.78 43 *e*P P 15 13 08.2 +0.1
comp=Z,8.5nm,1.1s
O19A **Miners Draw (B** 75.81 48 ⇓P P 15 13 08.2 -0.2
baz=76
DPC **Dobruska-Polom** 75.83 327 *e*P P 15 13 08.8 +0.7
DPC *e* 15 13 14.3
DPC *e* 15 13 41.9
DPC **Dobruska-Polom** 75.83 327 *e*P P 15 13 08.8 +0.7
DPC *ex* x 15 13 14.3
DPC *ep*P pP 15 13 41.9 +1.1
UPC **Upice** 75.83 328 *e*P P 15 13 08.0 -0.1
UPC *e* 15 13 13.7
UPC *e* 15 13 41.6
UPC **Upice** 75.83 328 *e*P P 15 13 08.0 -0.1
UPC *ex* x 15 13 13.7
UPC *ep*P pP 15 13 41.6 +0.9
M21A **Separation Pea** 75.85 46 ⇑P P 15 13 08.8 +0.1
baz=76,SNR=6.4
SRU **San Rafael** 75.85 50 *e*P P 15 13 09.9 +1.3
SRU pmax pmax
comp=Z,14nm,0.7s
SRU **San Rafael** 75.85 50 *e*P P 15 13 09.9 +1.3
comp=Z,14nm,0.7s
RWWY **Rawlins** 75.88 46 *e*P P 15 13 09.5 +0.7
comp=Z,16nm,1.0s
G27A **Dupree** 75.90 40 ⇑P P 15 13 08.0 -0.5
baz=76
LDFC **Landfair** 75.90 55 *e*P P 15 13 09.8 +1.0
comp=Z,23nm,1.1s
N20A **Spence Gulch,** 75.91 47 ⇑P P 15 13 08.9 0.0
baz=76,SNR=12
I25A **Rochford** 76.01 42 ⇑P P 15 13 09.3 -0.1
baz=76
L22A **Ellis Ranch, M** 76.05 45 ⇓P P 15 13 09.3 -0.4
baz=76
PFO **Pinyon Flat Ob** 76.05 57 *e*P P 15 13 10.4 +0.6
comp=Z,6.0nm,1.1s
PFO **Pinyon Flat Ob** 76.05 57 ⇑P P 15 13 10.0 +0.2
baz=76
BELC **Belle Mtn. Jos** 76.08 57 ⇓P P 15 13 09.5 -0.4
baz=76
BRG **Berggiesshubel** 76.35 329 *e*P P 15 13 14.3 +3.3
comp=Z,11nm,1.6s
P19A **Cripple Cowboy** 76.35 48 ⇓P P 15 13 11.9 +0.4
baz=76,SNR=14
CLL **Collm** 76.36 330 *e*P P 15 13 11.0 0.0
comp=Z,7.0nm,0.8s
CLL *i* pP pP 15 13 44.5 +0.8
comp=Z,7.0nm,0.9s
N21A **Black Mountain** 76.36 47 ⇑P P 15 13 11.9 +0.3
baz=76,SNR=7.5
L23A **Garrett** 76.37 45 ⇑P P 15 13 11.0 -0.5
baz=76
H27A **Howes** 76.38 41 ⇓P P 15 13 11.0 -0.2
baz=76
M22A **Cedar Creek Ra** 76.40 46 ⇑P P 15 13 12.0 +0.2
baz=76
O20A **White River Ci** 76.41 48 ⇓P P 15 13 11.8 0.0
baz=76
I26A **New Underwood** 76.43 42 ⇓P P 15 13 11.2 -0.5
baz=76
IRM **Iron Mountain** 76.49 56 ⇓P P 15 13 13.0 +0.9
baz=76
MONP **Monument Peak** 76.56 58 ⇓P P 15 13 12.9 +0.2
baz=76
W13A **Hualapai Mount** 76.63 55 ⇑P P 15 13 13.4 +0.3
baz=76
BC3 **Big Chuckawall** 76.64 57 ⇑P P 15 13 13.1 0.0
baz=76
U15A **North Rim** 76.67 53 ⇑P P 15 13 14.0 +0.6
baz=76
I27A **Quinn** 76.80 41 ⇓P P 15 13 13.4 -0.4
baz=76
PRA **Prague** 76.80 328 P P 15 13 15.0 +1.5
PRA pP pP 15 13 48.0 +1.8
PRU **Pruhonice** 76.82 328 *e*P P 15 13 14.0 +0.4
PRU *e* 15 13 20.1
PRU *e* 15 13 47.8
PRU **Pruhonice** 76.82 328 *e*P P 15 13 14.0 +0.4
PRU *ex* x 15 13 20.1
PRU *ep*P pP 15 13 47.8 +1.4
H28A **Mission Ridge** 76.86 40 ⇓P P 15 13 13.5 -0.5
baz=76
N22A **Wattenberg Ran** 76.91 46 ⇓P P 15 13 15.3 +0.6
baz=77,SNR=7.4
SWSC **Sam W. Stewart** 76.91 57 ⇑P P 15 13 14.7 +0.3
baz=77
PDMCI **Parker Dam,Lak** 77.01 55 ⇑P P 15 13 15.3 +0.3
baz=77
PHWY **Pilot Hill** 77.08 45 *e*P P 15 13 16.9 +1.3
comp=Z,8.0nm,1.1s
N23A **Red Feather La** 77.11 46 ⇓P P 15 13 16.3 +0.5
baz=77,SNR=6.3
Y12C **Blythe** 77.15 56 ⇓P P 15 13 16.6 +0.9
baz=77
Q20A **Ridgley Place,** 77.21 49 ⇑P P 15 13 16.6 +0.4
baz=77
K26A **Motz Farm, Whi** 77.24 43 ⇑P P 15 13 16.2 -0.1
baz=77
PV04 **Paradox Valley** 77.26 49 *e*P P 15 13 18.3 +1.8
I28A **Midland** 77.28 41 ⇓P P 15 13 16.3 -0.1
baz=77
M24A **Cheyenne** 77.29 45 ⇓P P 15 13 17.3 +0.7
baz=77,SNR=5.5
O22A **Kremmling** 77.31 47 ⇑P P 15 13 17.1 +0.1
baz=77,SNR=7.4
GLA **Glamis** 77.44 57 ⇑P P 15 13 17.7 +0.2
baz=77
P22A **Eagle** 77.60 47 ⇓P P 15 13 18.9 +0.4
baz=77,SNR=6.9
O23A **Lake Granby, G** 77.61 46 ⇓P P 15 13 19.3 +0.6
baz=77
J28A **Allard Ranch,** 77.68 41 ⇓P P 15 13 19.0 +0.4
baz=77
R20A **Redvale** 77.70 49 ⇑P P 15 13 19.3 +0.3
baz=77
M25A **Palm-Egli Farm** 77.71 44 ⇑P P 15 13 19.4 +0.5
baz=77
N24A **Carr** 77.72 45 ⇓P P 15 13 19.7 +0.6
baz=77
SMCO **Snowmass** 77.78 48 *e*P P 15 13 20.6 +1.0
comp=Z,8.4nm,0.9s
WUAZ **Wupatki** 77.84 53 *e*P P 15 13 19.8 0.0
comp=Z,9.7nm,1.1s
WUAZ **Wupatki** 77.84 53 ⇓P P 15 13 20.4 +0.6
baz=78
KHC **Kasperske Hory** 77.89 328 *e*P P 15 13 18.8 -0.8
KHC *e* 15 13 26.0
KHC *e* 15 13 53.0
KHC **Kasperske Hory** 77.89 328 *e*P P 15 13 18.8 -0.8
KHC *e*PCP PcP 15 13 26.0 -3.0
KHC *ep*P pP 15 13 53.0 +0.5
Y14A **Wickenburg** 77.95 55 ⇑P P 15 13 21.0 +0.7
baz=78
S20A **Disappointment** 77.96 49 ⇑P P 15 13 20.7 +0.1
baz=78,SNR=6.8
EKA **Eskdalemuir Ar** 77.98 340 P P 15 13 19.7 -0.3
EKA **Eskdalemuir Ar** 77.98 340 P P 15 13 19.7 -0.3
comp=Z,1.4nm,0.6s,baz=26,slow=5.9,SNR=3.7
BRSD **Miller** 78.01 40 ⇓P P 15 13 20.0 -0.4
baz=78
R21A **Cimarron** 78.03 49 ⇑P P 15 13 21.6 +0.7
baz=78,SNR=7.9
Q22A **Crested Butte,** 78.04 48 ⇑P P 15 13 21.5 +0.5
baz=78
GERES **GERESS Array B** 78.07 328 P P 15 13 20.7 0.0
GERES **GERESS Array B** 78.07 328 P P 15 13 20.7 0.0
comp=Z,0.3nm,0.3s,baz=28,slow=6.0,SNR=4.2
ISCO **Idaho Springs** 78.07 46 *e*P P 15 13 22.3 +1.1
ISCO pmax pmax
comp=Z,8.0nm,1.1s
ISCO **Idaho Springs** 78.07 46 *e*P P 15 13 22.3 +1.1
comp=Z,8.1nm,1.1s
ISCO **Idaho Springs** 78.07 46 ⇑P P 15 13 21.7 +0.5
baz=78,SNR=5.6
K28A **Ten Mile Ranch** 78.14 42 ⇓P P 15 13 21.1 -0.1
baz=78
N25A **Grover** 78.15 45 ⇓P P 15 13 21.6 +0.2
baz=78
P23A **Jefferson** 78.25 47 ⇑P P 15 13 22.4 +0.1
baz=78
NWAO **Narrogin (SRO)** 78.28 201 P P 15 13 22.4 +0.7
NWAO **Narrogin (SRO)** 78.28 201 P P 15 13 22.4 +0.7
comp=Z,27nm,1.1s,baz=338,slow=5.4,SNR=4.4
113A **Mohawk Valley,** 78.28 56 ⇓P P 15 13 22.6 +0.6
baz=78
MVCO **Mesa Verde** 78.32 50 ⇑P P 15 13 22.9 +0.4
baz=78
GRF **Grafenberg Arr** 78.34 330 *e*P P 15 13 23.7 +1.6
comp=Z,4.0nm,0.8s
GRF *es*P sP 15 13 56.6 -12
GRF **Grafenberg Arr** 78.34 330 *e*P P 15 13 23.7 +1.6
GRF *e**SP sP 15 13 56.6 -12
S21A **Coal Bank Pass** 78.40 49 ⇓P P 15 13 23.8 +0.8
baz=78,SNR=13
EYMN **Ely** 78.56 33 *e*P P 15 13 21.6 -1.7
comp=Z,20nm,1.0s
X16A **Lo Mia Camp, P** 78.56 54 ⇑P P 15 13 24.8 +1.0
baz=78
R22A **Saguache, Gunn** 78.57 48 ⇑P P 15 13 25.1 +1.1
baz=78,SNR=9.5
N26A **Koester Ranch,** 78.58 44 ⇓P P 15 13 24.0 +0.3
baz=78
O25A **Wiggins** 78.64 45 ⇑P P 15 13 24.1 +0.1
baz=78
MMAI **Mount Meron Ar** 78.82 305 P P 15 13 25.9 +0.8
MMAI **Mount Meron Ar** 78.82 305 P P 15 13 25.9 +0.8
comp=Z,2.1nm,0.6s,baz=27,slow=7.5,SNR=6.1
S22A **4UR Ranch, Cre** 78.88 49 ⇓P P 15 13 26.0 +0.4
baz=79,SNR=9.1
Q24A **Divide** 78.92 47 ⇓P P 15 13 25.7 -0.2
baz=79
N27A **Anderson Farm,** 78.95 44 ⇑P P 15 13 25.8 0.0
baz=79
O26A **Horse Wrangler** 78.97 45 ⇓P P 15 13 26.2 +0.3
baz=79
T21A **Navajo Lake** 79.02 50 ⇓P P 15 13 26.8 +0.5
baz=79
P25A **Willow Gulch B** 79.05 46 ⇑P P 15 13 26.4 +0.1
baz=79
L29A **Maesberg Ranch** 79.06 42 ⇑P P 15 13 26.0 -0.3
baz=79
OGNE **Ogallala** 79.11 44 ⇑P P 15 13 26.2 -0.3
baz=79
R23A **Moffat** 79.11 48 ⇑P P 15 13 27.1 +0.3
baz=79
M28A **Bar X Bar Ranc** 79.11 43 ⇓P P 15 13 26.5 -0.1
baz=79
T22A **Edith** 79.36 49 ⇓P P 15 13 29.1 +0.9
baz=79,SNR=7.3
X18A **Snowflake** 79.36 53 ⇓P P 15 13 28.5 +0.3
baz=79
O27A **Beecher Island** 79.44 44 ⇓P P 15 13 28.3 0.0
baz=79
Q25A **Bedland, Calha** 79.44 46 ⇑P P 15 13 29.0 +0.4
baz=79
R24A **Sanders Place,** 79.47 47 ⇑P P 15 13 29.2 +0.5
baz=79
SDCO **Great Sand Dun** 79.61 48 *e*P P 15 13 28.7 -0.9
comp=Z,5.3nm,1.1s
ECSD **EROS Data Cent** 79.64 39 *e*P P 15 13 28.9 -0.4
comp=Z,8.7nm,0.8s
W20A **Ramah** 79.79 51 ⇑P P 15 13 30.8 +0.2
baz=80,SNR=5.8
V21A **Milan** 79.80 50 ⇑P P 15 13 31.0 +0.4
baz=80
S24A **Houchin Ranch,** 79.84 48 ⇓P P 15 13 31.3 +0.4
baz=80
N29A **Votaw Ranch, W** 79.92 43 ⇓P P 15 13 31.1 +0.2
baz=80
SCHQ **Schefferville** 80.09 16 P P 15 13 31.6 +0.1
SCHQ **Schefferville** 80.09 16 P P 15 13 31.6 +0.1
comp=Z,1.9nm,0.4s,baz=357,slow=6.2,SNR=5.1
V22A **San Miguel Ran** 80.14 50 ⇓P P 15 13 32.8 +0.4
baz=80
X20A **Quemado** 80.20 52 ⇑P P 15 13 33.8 +1.0
baz=80,SNR=6.3
KSCO **Kaye Shedlock'** 80.23 45 ⇓P P 15 13 33.1 +0.4
baz=80
U23A **El Rito** 80.25 49 ⇑P P 15 13 33.1 +0.1
baz=80
S25A **Robets Cordova** 80.25 47 ⇑P P 15 13 33.2 +0.3
baz=80
R26A **Arlington** 80.32 46 ⇓P P 15 13 33.0 -0.2
baz=80
TUC **Tucson** 80.42 55 *e*P P 15 13 34.9 +1.1
TUC pmax pmax
comp=Z,28nm,1.1s
TUC **Tucson** 80.42 55 *e*P P 15 13 34.9 +1.1
comp=Z,28nm,1.1s
Q28A **Sharon Springs** 80.61 45 ⇑P P 15 13 34.7 0.0
baz=80
T25A **Trinidad** 80.65 48 ⇑P P 15 13 35.4 +0.3
baz=80,SNR=6.5
R27A **Eads** 80.67 46 ⇑P P 15 13 35.0 -0.1
baz=80
O30A **MW Ranch, Wils** 80.68 43 ⇑P P 15 13 34.9 -0.1
baz=80
X21A **Alamocita Cree** 80.69 52 ⇑P P 15 13 36.0 +0.6
baz=80,SNR=11
BGNE **Belgrade** 80.70 41 ⇓P P 15 13 35.2 +0.2
baz=80
Y20A **Horse Springs,** 80.72 52 ⇑P P 15 13 36.7 +1.1
baz=80,SNR=12
S26A **Kim** 80.80 47 ⇑P P 15 13 35.5 -0.3
baz=80
Y21A **Point of Rocks** 81.06 52 ⇓P P 15 13 38.5 +1.1
baz=81,SNR=5.8
T26A **Comanche Natio** 81.06 47 ⇓P P 15 13 37.1 -0.2
baz=81
ANMO **Albuquerque** 81.09 50 *e*P P 15 13 39.0 +1.6
ANMO **Albuquerque** 81.09 50 P P 15 13 38.5 +1.1
comp=Z,5.0nm,1.1s,baz=309,slow=7.4,SNR=9.6
LAZ **Ladron** 81.09 51 *e*P P 15 13 37.8 +0.3
comp=Z,5.9nm,1.4s
X22A **Bernardo** 81.09 51 ⇓P P 15 13 38.3 +0.9
baz=81
W23A **Werner Place,** 81.11 50 ⇑P P 15 13 38.9 +1.3
baz=81
R28A **Tribune** 81.15 45 ⇓P P 15 13 37.7 +0.1
baz=81
Z20A **Nine Sixteen R** 81.16 53 ⇑P P 15 13 38.7 +0.9
baz=81,SNR=12
Q29A **Oakley** 81.18 44 ⇓P P 15 13 38.2 +0.6
baz=81
U25A **Circle Dot Ran** 81.19 48 ⇓P P 15 13 37.8 -0.1
baz=81
V24A **Rampart Ranch,** 81.20 49 ⇑P P 15 13 39.5 +1.5
baz=81
V25A **Rancho No Teng** 81.48 49 ⇑P P 15 13 40.0 +0.5
baz=81
W24A **Lazy 6 Ranch,** 81.49 50 ⇑P P 15 13 40.6 +1.1
baz=81,SNR=7.4
Y22A **Socorro** 81.52 51 ⇑P P 15 13 40.3 +0.6
baz=81
120A **U Bar Ranch, L** 81.54 53 ⇓P P 15 13 40.8 +1.0
baz=81
U26A **Atchley Ranch,** 81.55 48 ⇓P P 15 13 40.5 +0.6
baz=81
Z21A **St. Cloud Mine** 81.56 52 ⇓P P 15 13 41.1 +1.1
baz=81,SNR=7.4
V26A **Tequesquite Ra** 81.97 48 ⇓P P 15 13 42.4 +0.5
baz=82
319A **Douglas** 81.98 55 ⇓P P 15 13 42.8 +0.7
baz=82
R30A **Dighton** 82.00 44 ⇑P P 15 13 42.2 +0.2
baz=82
Z22A **Elephant Butte** 82.01 52 ⇓P P 15 13 43.4 +1.1
baz=82,SNR=7.3
W25A **X Bar L Ranch,** 82.02 49 ⇓P P 15 13 43.2 +1.0
baz=82,SNR=7.2
U27A **Thompson Grove** 82.04 47 ⇓P P 15 13 42.3 0.0
baz=82
121A **Cookes Peak, D** 82.05 53 ⇑P P 15 13 43.4 +0.9
baz=82,SNR=5.7
Y23A **Lovelace Mesa,** 82.05 51 ⇓P P 15 13 43.3 +0.8
baz=82,SNR=6.7
Y24A **Capitan** 82.41 50 ⇓P P 15 13 44.8 +0.4
baz=82
Z23A **Rita Site, Whi** 82.43 51 ⇑P P 15 13 44.7 +0.3
baz=82
Y25A **Mesa, Roswell** 82.83 50 ⇓P P 15 13 47.3 +0.8
baz=83,SNR=5.8
X26A **CR and CF Fran** 82.87 49 ⇓P P 15 13 47.3 +0.7
baz=83
Z24A **Sheeppen Canyo** 82.88 51 ⇑P P 15 13 47.6 +0.8
baz=83
W27A **Bowe Ranch, En** 82.91 48 ⇓P P 15 13 47.3 +0.5
baz=83
124A **Stringfield Ra** 83.29 51 ⇑P P 15 13 49.3 +0.3
baz=83
Z25A **Roswell** 83.29 50 ⇑P P 15 13 49.4 +0.5
baz=83,SNR=5.7
SSF **Saint Saulge** 83.32 333 *e*P P 15 13 48.2 -0.4
comp=Z,9.9nm,1.0s
Y26A **Elida** 83.32 49 ⇓P P 15 13 49.1 +0.1
baz=83
LPL **La Plagne** 83.50 330 *e*P P 15 13 49.7 -0.1
LPG **La Plagne** 83.50 330 *e*P P 15 13 49.9 0.0
comp=Z,3.6nm,0.5s
SMF **Signal de Mont** 83.57 332 *e*P P 15 13 49.6 -0.3
comp=Z,11nm,0.8s
AVF **Avril sur Loir** 83.61 332 *e*P P 15 13 49.8 -0.2
comp=Z,10nm,0.7s
224A **Cornudas Mount** 83.70 52 ⇓P P 15 13 51.7 +0.7
baz=84,SNR=7.3
Z26A **Caprock** 83.72 50 ⇑P P 15 13 51.4 +0.4
baz=84
Y27A **Causey** 83.72 49 ⇓P P 15 13 51.4 +0.3
baz=84
125A **Gardner Draw,** 83.78 51 ⇑P P 15 13 52.0 +0.7
baz=84
MSTX **Muleshoe** 83.88 49 ⇓P P 15 13 51.8 0.0
baz=84
MNTX **Cornudas Mount** 84.06 52 *e*P P 15 13 51.6 -1.0
comp=Z,4.8nm,1.0s
225A **Deer Hill, Car** 84.08 51 ⇑P P 15 13 53.5 +0.5
baz=84
X29A **Tulia** 84.12 48 ⇓P P 15 13 53.5 +0.6
baz=84
Z27A **Tatum** 84.12 50 ⇑P P 15 13 53.4 +0.4
baz=84
V31A **Spring Creek L** 84.12 46 ⇑P P 15 13 53.0 +0.1
baz=84
MBDF **Montbardon** 84.15 329 *e*P P 15 13 53.9 +0.9
comp=Z,7.0nm,0.6s
126A **Clayton Basin,** 84.15 50 ⇓P P 15 13 53.2 0.0
baz=84
324A **Moseley Ranch,** 84.19 52 ⇓P P 15 13 53.2 -0.3
baz=84
GDL2 **Guadalupe Moun** 84.28 51 *e*P P 15 13 55.7 +1.8
ORIF **Oris-en-Rattie** 84.32 330 *e*P P 15 13 53.8 0.0
226B **Tecolote Peak,** 84.49 51 ⇑P P 15 13 55.6 +0.8
baz=84
W31A **Holland Ranch,** 84.51 46 ⇓P P 15 13 54.8 -0.1
baz=84
325A **Bean Ranch, Si** 84.54 52 ⇓P P 15 13 55.5 +0.2
baz=84
Z28A **Tucker Farm, M** 84.60 49 ⇑P P 15 13 55.5 0.0
baz=84
SBF **Sospel** 84.63 328 *e*P P 15 13 55.1 -0.2
QUIF **Quistinic** 84.67 337 *e*P P 15 13 55.8 +0.4
VIVF **Saint-Julien-l** 84.82 331 *e*P P 15 13 57.1 +0.9
comp=Z,8.2nm,0.8s
X31A **McDonald Ranch** 84.91 47 ⇓P P 15 13 56.9 0.0
baz=85
425A **Indio Mountain** 84.96 52 ⇑P P 15 13 58.0 +0.7
baz=85
Y30A **Stafford Cattl** 84.98 48 ⇑P P 15 13 57.4 +0.1
baz=85
Z29A **Hungry Hill Ra** 85.00 49 ⇑P P 15 13 57.6 +0.1
baz=85
128A **Castleberry Fa** 85.04 50 ⇑P P 15 13 58.0 +0.3
baz=85
326A **Caldwell Ranch** 85.15 51 ⇓P P 15 13 58.7 +0.4
baz=85
FRF **La Foret Royal** 85.19 329 *e*P P 15 13 59.2 +1.1
Z30A **Sanderson Ranc** 85.30 48 ⇑P P 15 13 58.8 -0.1
baz=85
228A **UT Block 9, Go** 85.35 50 ⇓P P 15 13 59.3 +0.1
baz=85
426A **McDonald Obser** 85.60 52 ⇑P P 15 14 00.7 +0.1
baz=85
CAF **Calviac** 85.67 332 *e*P P 15 14 01.1 +0.6
comp=Z,7.8nm,0.7s
328A **Wristen Ranch,** 85.78 51 ⇑P P 15 14 01.3 +0.1
baz=86
LASF **Ste Croix** 85.78 331 *e*P P 15 14 01.3 +0.3
Z31A **Sharp Cattle R** 85.81 48 ⇑P P 15 14 01.2 -0.2
baz=86
427A **Hayter Ranch,** 85.83 51 ⇑P P 15 14 02.3 +0.7
baz=86
130A **Snyder** 85.91 49 ⇓P P 15 14 02.1 +0.2
baz=86
229A **Bryant Ranch,** 85.91 50 ⇑P P 15 14 01.6 -0.4

	baz=86								
526A	**Mary Lane Ranc**	**86.01**	**52**	⇓P		**P**		**15 14 03.1**	**+0.6**
	baz=86								
LFF	**La Frestale**	**86.11**	**333**	*e*P		**P**		**15 14 03.2**	**+0.6**
329A	**Wagon Wheel Ra**	**86.17**	**50**	⇑P		**P**		**15 14 02.9**	**-0.3**
	baz=86								
Z32A	**Haskell**	**86.19**	**47**	⇓P		**P**		**15 14 02.9**	**-0.3**
	baz=86								
527A	**Woodward Ranch**	**86.23**	**52**	⇑P		**P**		**15 14 03.9**	**+0.3**
	baz=86								
230A	**Sterling City**	**86.36**	**49**	⇑P		**P**		**15 14 04.3**	**+0.1**
	baz=86								
626A	**Big Bend Ranch**	**86.36**	**53**	⇑P		**P**		**15 14 04.6**	**+0.4**
	baz=86								
SFIN	**Scholer Farm**	**86.56**	**35**	⇓P		**P**		**15 14 04.0**	**-0.8**
	baz=86								
330A	**Mertzon**	**86.68**	**49**	⇑P		**P**		**15 14 05.3**	**-0.5**
	baz=86								
528A	**Cox Ranch, San**	**86.69**	**51**	⇓P		**P**		**15 14 06.4**	**+0.6**
	baz=86								
TXAR	**Lajitas Array**	**86.80**	**52**	P		**P**		**15 14 07.2**	**+0.9**
TXAR	**Lajitas Array**	**86.80**	**52**	P		**P**		**15 14 07.2**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=292,slow=3.5,SNR=15								
429A	**Davenport Ranc**	**86.86**	**50**	⇑P		**P**		**15 14 06.2**	**-0.4**
	baz=87								
627A	**Terlingua Ranc**	**86.87**	**52**	⇑P		**P**		**15 14 07.1**	**+0.4**
	baz=87								
MTLF	**Montolieu**	**87.01**	**331**	*e*P		**P**		**15 14 07.5**	**+0.5**
529A	**Stev Forest Ra**	**87.05**	**51**	⇓P		**P**		**15 14 07.5**	**0.0**
	baz=87								
430A	**Baggett Ranch,**	**87.12**	**50**	⇑P		**P**		**15 14 07.4**	**-0.4**
	baz=87								
628A	**Black Gap, Mar**	**87.14**	**52**	⇑P		**P**		**15 14 08.1**	**+0.2**
	baz=87								
232A	**Coleman**	**87.17**	**48**	⇓P		**P**		**15 14 07.8**	**-0.2**
	baz=87								
332A	**Millersview**	**87.50**	**49**	⇑P		**P**		**15 14 09.8**	**+0.2**
	baz=87								
530A	**J-C Ranch, Com**	**87.54**	**50**	⇓P		**P**		**15 14 10.1**	**+0.3**
	baz=87								
431A	**Sonora**	**87.55**	**50**	⇑P		**P**		**15 14 09.1**	**-0.8**
	baz=87								
SIUC	**Southern Illin**	**87.82**	**38**	*e*P		**P**		**15 14 12.3**	**+1.3**
	comp=Z,30nm,1.0s								
531A	**Rocksprings**	**87.97**	**50**	⇓P		**P**		**15 14 11.5**	**-0.4**
	baz=88								
JCT	**Junction City**	**88.15**	**49**	⇓P		**P**		**15 14 12.6**	**-0.1**
	baz=88								
MIAR	**Mount Ida**	**88.30**	**43**	*e*P		**P**		**15 14 13.6**	**+0.3**
MIAR				pmax		pmax			
	comp=Z,9.0nm,1.0s								
MIAR	**Mount Ida**	**88.30**	**43**	*e*P		**P**		**15 14 13.6**	**+0.3**
	comp=Z,9.0nm,1.0s								
532A	**Rocksprings**	**88.36**	**49**	⇓P		**P**		**15 14 13.5**	**-0.3**
	baz=88								
631A	**Perdido Creek**	**88.53**	**50**	⇑P		**P**		**15 14 14.3**	**-0.2**
	baz=88								
632A	**Uvalde**	**88.90**	**50**	⇑P		**P**		**15 14 15.8**	**-0.5**
	baz=89								
732A	**Laxson Ranch,**	**89.39**	**50**	⇑P		**P**		**15 14 18.5**	**0.0**
	baz=89								
KMSC	**Kings Mountain**	**93.41**	**34**	⇓P		**P**		**15 14 37.4**	**+0.4**
	baz=93								
TORD	**Torodi Ar. Bea**	**113.40**	**317**	PKiKP		**PKiKP**		**15 19 58.8**	**-0.5**
TORD				PP		**PP**		**15 20 46.7**	**-4.6**
TORD	**Torodi Ar. Bea**	**113.40**	**317**	PKiKP		**PKiKP**		**15 19 58.8**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=8.3,slow=1.7,SNR=4.7								
TORD				PP		**PP**		**15 20 46.7**	**-4.6**
	comp=Z,1.4nm,1.0s,baz=14,slow=3.1,SNR=4.4								
SNAA	**Sanae**	**145.94**	**199**	*e*PKP		**PKPbc**		**15 20 59.4**	**-0.2**
SNAA	**Sanae**	**145.94**	**199**	*es*PKiKP		sPKiKP		15 21 37.9	-13
SNAA	**Sanae**	**145.94**	**199**	PKPbc		**PKPdf**		**15 20 58.8**	**+0.2**
SNAA				*e*PKPdf		**PKPbc**		**15 21 00.1**	**+0.5**
SNAA	**Sanae**	**145.94**	**199**	PKPbc		**PKPdf**		**15 20 58.8**	**+0.2**
	comp=Z,3.2nm,1.1s,baz=76,slow=3.0,SNR=9.2								
BDFB	**Brasilia**	**152.03**	**20**	PKPbc		**PKPbc**		**15 21 16.9**	**+0.2**
BDFB	**Brasilia**	**152.03**	**20**	PKPbc		**PKPbc**		**15 21 16.9**	**+0.2**
	comp=Z,3.9nm,0.6s,baz=255,slow=4.0,SNR=4.9								
PLCA	**Paso Flores**	**156.12**	**97**	PKPab		**PKPab**		**15 21 44.9**	**+1.4**
PLCA	**Paso Flores**	**156.12**	**97**	PKPab		**PKPab**		**15 21 44.9**	**+1.4**
	comp=Z,2.3nm,0.7s,baz=27,slow=14,SNR=3.3								

IDC ***10*** *15:11:07.8±1.9,2.°67S×127.°00E, h0km, mb3.3/2, mb1 3.7/4, mb1mx3.4/21, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=123.0km s-min=24.3km az=68.0*

ISCJB ***10*** *15:11:09.4±1.3,3.°08S±0.°09×126.°1E±0.°1, h21km, mb3.4/2, Error ellipse: s-maj=19.4km s-min=12.4km az=166.0*

AUST ***10*** *15:11:26.6±0.0,2.°43S×130.°11E, h558km, Error ellipse: s-maj=3.3km s-min=1.3km az=347.0*

ISC 10 15:11:12.1±1.3,3.°0S±0.°1×126.°2E±0.°1, h21km, n9, σ1§15/8, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**3.92**	**300**	P	Sn	15 13 21.4	+25
	baz=7.5,SNR=3.6						
SWI	**Sorong**	**5.53**	**67**	P	**Pn**	**15 12 33.4**	**+0.2**
	baz=1.9,SNR=14						
FAKI	**Fak Fak**	**6.08**	**89**	P	**Pn**	**15 12 40.7**	**-0.1**
	baz=2.2,SNR=4.1						
KDU	**Kakadu**	**11.46**	**147**	S	**Sn**	**15 16 03.3**	**+1.2**
	baz=10,SNR=4.0						
FITZ	**Fitzroy Crossi**	**15.00**	**182**	Pn	**P**	**15 14 47.9**	**-0.3**
	0.3nm,0.3s,baz=34,slow=8.2,SNR=8.8						
FITZ	**Fitzroy Crossi**	**15.00**	**182**	P	**P**	**15 14 48.5**	**+0.3**
	baz=16,SNR=5.1						
WRA	**Warramunga Arr**	**18.62**	**155**	P	**P**	**15 15 26.6**	**-1.7**
	0.1nm,0.3s,baz=335,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**21.85**	**161**	P	**P**	**15 16 02.2**	**-1.3**
	0.7nm,0.5s,baz=347,slow=12,SNR=12						
MKAR	**Makanchi Array**	**62.83**	**328**	P	**P**	**15 21 36.7**	**+0.4**
	0.3nm,0.8s,baz=134,slow=8.4,SNR=2.7						

AUST ***10*** *15:48:28.7,9.°85S×107.°33E, h200km*

DJA ***10*** *15:48:32.2±0.5,10.°S±6.°×10.°8E±.°, h10km, M4.2/12, mb4.4/2, MLv4.1/12*

ISCJB ***10*** *15:48:33.1±0.6,9.°78S±0.°08×107.°59E±0.°05, h23km, mb3.5/4, Error ellipse: s-maj=12.2km s-min=5.1km az=156.7*

IDC ***10*** *15:48:35.2±3.2,9.°17S×107.°92E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, Error ellipse: s-maj=134.1km s-min=23.7km az=51.0*

ISC 10 15:48:34.2±0.9,9.°86S±0.°09×107.°51E±0.°06, h23km, n20, σ1§63/21, mb3.5/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMI	**Christmas Isla**	**1.88**	**252**	P	**Pb**	**15 49 07.1**	**-0.8**
	baz=1.7,SNR=6.1						
XMI				S	**Sb**	**15 49 29.9**	**-1.0**
	baz=1.7,SNR=4.5						
XMIS	**Christmas Isla**	**1.93**	**251**	P	**Pb**	**15 49 07.5**	**-1.1**
	baz=1.8,SNR=11						
XMIS				S	**Sn**	**15 49 29.9**	**+0.8**
	baz=1.8,SNR=6.6						
CISI	**Cisompet, Garu**	**2.31**	**8**	P	**Pn**	**15 49 08.8**	**-2.2**
CISI				S	Sn	15 49 18.9	-20
CISI	**Cisompet, Garu**	**2.31**	**8**	P	**Pn**	**15 49 08.7**	**-2.2**
	baz=2.3,SNR=18						
LEM	**Lembang**	**3.02**	**2**	P	**Pn**	**15 49 20.6**	**-0.1**
LEM	**Lembang**	**3.02**	**2**	P	**Pn**	**15 49 20.6**	**-0.1**
	baz=3.0,SNR=18						
BJII	**Banjamegara**	**3.33**	**41**	P	**Pn**	**15 49 24.4**	**-0.5**
DBJI	**Dramaga**	**3.37**	**347**	P	**Pn**	**15 49 25.0**	**-0.5**
UGM	**Wanagama**	**3.56**	**57**	P	**Pn**	**15 49 25.3**	**-2.7**
UGM	**Wanagama**	**3.56**	**57**	P	**Pn**	**15 49 25.4**	**-2.6**
	baz=3.7,SNR=9.5						
PCJI	**Pacitan**	**3.99**	**66**	P	**Pn**	**15 49 32.8**	**-1.1**
PWJI	**Pagerwojo**	**4.62**	**67**	P	**Pn**	**15 49 40.7**	**-2.0**
SJI	**Sawahan**	**4.71**	**64**	P	**Pn**	**15 49 44.3**	**+0.3**
GMJI	**Gumukmas**	**6.07**	**75**	P	**Pn**	**15 50 02.2**	**-0.4**
	39nm,1.3s,0.2nm						
JAGI	**Jajag, Banyuwa**	**6.71**	**79**	P	**Pn**	**15 50 09.7**	**-1.6**
JAGI	**Jajag, Banyuwa**	**6.71**	**79**	P	**Pn**	**15 50 09.9**	**-1.5**
	baz=6.9,SNR=9.5						
WRA	**Warramunga Arr**	**27.76**	**114**	P	**P**	**15 54 24.5**	**+3.0**
	0.4nm,0.6s,baz=286,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**28.69**	**122**	P	P	15 54 35.1	+5.4
	0.3nm,0.6s,baz=300,slow=9.6,SNR=8.7						
SONM	**Songino Array**	**57.45**	**359**	P	**P**	**15 58 22.0**	**+0.7**
	0.4nm,0.6s,baz=170,slow=6.7,SNR=4.6						
MKAR	**Makanchi Array**	**60.73**	**340**	P	**P**	**15 58 44.5**	**+0.6**
	0.4nm,0.4s,baz=150,slow=7.4,SNR=9.0						

ISCJB ***10*** *15:56:20.2±1.0,3.°81S±0.°05×128.°5E±0.°1, h91km, mb3.4/1, Error ellipse: s-maj=15.4km s-min=7.2km az=11.1*

AUST ***10*** *15:56:21.8±3.5,3.°66S×128.°69E, h166km, Error ellipse: s-maj=3.2km s-min=1.3km az=285.0*

DJA ***10*** *15:56:21.9±0.9,4.°S±6.°×12.°9E±.°, h112km±7km, M3.4/6, MLv3.4/6*

IDC ***10*** *15:56:29.7±8.0,4.°01S×128.°40E, h230km±84km, mb2.9/2, mb1 2.9/4, mb1mx2.7/21, mbtmp2.8/4, Error ellipse: s-maj=92.7km s-min=26.2km az=63.0*

ISC 10 15:56:21.6±1.1,3.°90S±0.°07×128.°62E±0.°08, h91km, n15, σ2§77/16, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.63**	**29**	P	**Pn**	**15 56 40.2**	**+2.6**
MSAI				S	**Sn**	**15 56 55.3**	**+5.8**
BNDI	**Bandanaira**	**1.42**	**116**	P	Pn	15 56 50.1	+3.7
BNDI	**Bandanaira**	**1.42**	**116**	P	Pn	15 56 51.1	+4.7
	baz=1.5,SNR=5.0						
LBMI	**Labuha**	**3.43**	**341**	P	**Pn**	**15 57 10.8**	**-2.2**
FAKI	**Fak Fak**	**3.75**	**75**	P	**Pn**	**15 57 18.9**	**+1.6**
FAKI	**Fak Fak**	**3.75**	**75**	P	**Pn**	**15 57 19.0**	**+1.7**
	baz=3.6,SNR=24						
FAKI				S	**Sn**	**15 57 56.2**	**-4.3**
	baz=3.6,SNR=5.1						
SWI	**Sorong**	**4.01**	**41**	P	**Pn**	**15 57 20.5**	**-0.3**
SWI				S	**Sn**	**15 58 06.3**	**-0.4**
SWI	**Sorong**	**4.01**	**41**	P	**Pn**	**15 57 20.6**	**-0.2**
	baz=3.8,SNR=7.7						
SWI				S	**Sn**	**15 58 05.6**	**-1.1**
	baz=3.8,SNR=6.3						
MTN	**Manton Dam**	**9.22**	**165**	P	Pn	15 58 37.2	+5.4
	baz=9.5,SNR=4.5						
KDU	**Kakadu**	**9.52**	**157**	P	**Pn**	**15 58 38.4**	**+2.5**
	baz=9.8,SNR=7.7						
FITZ	**Fitzroy Crossi**	**14.41**	**191**	P	**Pn**	**15 59 42.1**	**+0.9**
FITZ	**Fitzroy Crossi**	**14.41**	**191**	P	**Pn**	**15 59 43.3**	**+2.1**
	baz=15,SNR=4.4						
WRA	**Warramunga Arr**	**16.89**	**161**	P	**Pn**	**16 00 10.4**	**-2.0**
	0.1nm,0.3s,baz=339,slow=11,SNR=13						
WRA				S	**Sn**	**16 03 17.1**	**-2.9**
	0.1nm,0.3s,baz=337,slow=21,SNR=4.9						
ASAR	**Alice Springs**	**20.30**	**166**	P	**P**	**16 00 48.0**	**-2.3**
	0.5nm,0.4s,baz=346,slow=12,SNR=29						
MKAR	**Makanchi Array**	**64.90**	**327**	P	P	16 06 44.5	-6.9
	0.2nm,0.3s,baz=114,slow=7.8,SNR=8.9						

IDC ***10*** *16:03:53.4±1.2,15.°60S×173.°47W, h0km, mb4.0/9, mb1 4.3/9, mb1mx4.1/19, mbtmp4.0/9, MS4.2/28, Ms1 4.2/28, ms1mx4.2/36, Error ellipse: s-maj=64.7km s-min=18.0km az=147.0*

NEIC ***10*** *16:03:54.6±0.9,15.°53S×173.°33W, h10km, mb4.7/5, Error ellipse: s-maj=48.6km s-min=9.6km az=148.0*

ISCJB ***10*** *16:03:56.0±0.8,15.°5S±0.°3×173.°5W±0.°2, h30km, mb4.2/15, MS4.4/28, Error ellipse: s-maj=48.1km s-min=9.6km az=149.5*

GCMT ***10*** *16:04:05.5±0.3,14.°96S×173.°35W, h12km, MW5.3, Moment Tensor Solution. s26,c33; s83,c108; Moment tensor: Scale 10¹⁷Nm; Mrr-0.15±.01; Mθθ0.20±.02; Mφφ-0.05±.01; Mrθ-1.24±.03; Mrφ-0.03±.01; Mθφ0.06±.03; Best double couple: M₀1.30000×10¹⁷ NP1:φ₁286.00000°, δ4.00000°, λ-77.00000°. NP2:φ₂93.00000°, δ86.00000°, λ-91.00000°. Principal axes: T 1.2800, Plg41.0000°, Azm184.0000°; N -0.0500, Plg1.0000°, Azm93.0000°; P -1.2300, Plg49.0000°, Azm2.0000°; Data Used: lI lU lC G CN.*

ISC 10 16:03:58.1±1.0,15.°6S±0.°3×173.°4W±0.°2, h30km, n66, σ1§03/35, mb4.2/15, MS4.4/28, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.29**	**43**	*e*Pn	Pn	16 04 28.8	-5.2
AFI				*e*Sn	Sn	16 04 51.1	-10
AFI	**Afiamalu**	**2.29**	**43**	Pn	Pn	16 04 29.1	-4.9
	331nm,0.3s,baz=86,slow=1.5,SNR=172						
AFI				Sn	Sn	16 04 50.7	-11
	683nm,0.3s,baz=34,slow=18,SNR=9.0						
AFI				LR	LR	16 05 04.7	
	comp=Z,3μm,18.5s,baz=249,slow=30						
MSVF	**Nonsavu**	**8.48**	**254**	*e*Pn	**Pn**	**16 05 58.7**	**-0.4**
RAR	**Rarotonga**	**14.07**	**115**	LR	LR	16 11 21.5	
	comp=Z,847nm,19.0s,baz=270,slow=32						
RAO	**Raoul Island**	**14.21**	**196**	LR	LR	16 11 38.5	
	comp=Z,539nm,19.6s,baz=87,slow=33						
DZM	**Mont Dzumac**	**20.14**	**248**	*e*LR	LR	16 13 38.9	
	2μm,26.6s						
DZM	**Mont Dzumac**	**20.14**	**248**	LR	LR	16 13 13.7	
	comp=Z,158nm,19.6s,baz=0.1,slow=28						
PPT	**Papeete**	**22.90**	**98**	LR	LR	16 16 07.1	
	comp=Z,112nm,21.1s,baz=267,slow=32						
PPT2	**Papeete2**	**22.90**	**98**	*e*LQ	LQ	16 13 40.5	
	865nm,30.5s						
PPT2				*e*LR	LR	16 14 24.7	
	693nm,28.2s						
TBI	**Tubuai**	**23.81**	**113**	*e*LQ	LQ	16 14 04.9	
	580nm,26.2s						
TBI				*e*LR	LR	16 14 59.7	
	1μm,27.8s						
URZ	**Urewera**	**24.07**	**199**	LR	LR	16 17 34.7	
	comp=Z,1μm,18.3s,baz=40,slow=34						
RPZ	**Rata Peaks**	**31.00**	**202**	LR	LR	16 21 05.2	
	comp=Z,851nm,19.5s,baz=173,slow=33						
RKT	**Rikitea**	**36.92**	**108**	*e*LR	LR	16 20 41.3	
	445nm,33.2s						
STKA	**Stephens Creek**	**43.95**	**240**	P	**P**	**16 12 02.9**	**+0.3**
STKA	**Stephens Creek**	**43.95**	**240**	P	**P**	**16 12 02.9**	**+0.3**
	2.1nm,0.9s,baz=77,slow=14,SNR=2.3						
STKA				LR	LR	16 28 05.6	
	comp=Z,206nm,20.4s,baz=36,slow=33						
WRAB	**Tennant Creek**	**49.80**	**257**	*e*P	**P**	**16 12 48.9**	**+0.3**
	7.3nm,1.1s						
WRA	**Warramunga Arr**	**49.81**	**257**	P	**P**	**16 12 47.3**	**-1.4**
WRA	**Warramunga Arr**	**49.81**	**257**	P	**P**	**16 12 47.3**	**-1.4**
	1.0nm,0.5s,baz=91,slow=7.5,SNR=29						
AS31	**Alice Springs**	**50.06**	**252**	*e*P	**P**	**16 12 50.4**	**-0.2**
ASAR	**Alice Springs**	**50.06**	**252**	P	P	16 12 48.4	-2.2
ASAR	**Alice Springs**	**50.06**	**252**	P	P	16 12 48.4	-2.2
	5.1nm,0.6s,baz=92,slow=6.7,SNR=32						
ASAR				LR	LR	16 32 50.4	
	comp=Z,219nm,18.1s,baz=92,slow=35						
VNDA	**Vanda**	**63.17**	**186**	LR	LR	16 35 20.8	
	comp=Z,192nm,19.5s,baz=21,slow=30						
NWAO	**Narrogin (SRO)**	**64.53**	**241**	LR	LR	16 40 30.6	
	comp=Z,242nm,21.7s,baz=279,slow=34						
ASAJ	**Asahikawa**	**71.72**	**328**	LR	LR	16 40 06.3	
	comp=Z,194nm,21.8s,baz=158,slow=30						
JNU	**Nakatsue**	**71.95**	**313**	LR	LR	16 39 28.7	
	comp=Z,267nm,21.9s,baz=62,slow=30						
PETK	**Petropavlovsk-**	**72.83**	**342**	P	**P**	**16 15 23.5**	**-0.3**
PETK	**Petropavlovsk-**	**72.83**	**342**	P	**P**	**16 15 23.5**	**-0.3**
	1.9nm,0.8s,baz=126,slow=9.6,SNR=4.8						
PETK				LR	LR	16 40 01.9	
	comp=Z,86nm,21.8s,baz=144,slow=30						
PFO	**Pinyon Flat Ob**	**73.05**	**47**	LR	LR	16 40 28.3	
	comp=Z,415nm,19.1s,baz=175,slow=30						
YBH	**Yreka Blue Hor**	**73.75**	**37**	P	**P**	**16 15 29.8**	**+0.2**
YBH	**Yreka Blue Hor**	**73.75**	**37**	P	**P**	**16 15 29.8**	**+0.2**
	2.2nm,0.8s,baz=259,slow=5.0,SNR=5.6						
QSPA	**South Pole Qui**	**74.44**	**180**	LR	LR	16 42 17.4	
	comp=Z,150nm,21.9s,baz=224,slow=31						
NVAR	**Mina Array Bea**	**74.47**	**42**	P	**P**	**16 15 34.4**	**+0.3**
NVAR	**Mina Array Bea**	**74.47**	**42**	P	**P**	**16 15 34.4**	**+0.3**
	1.6nm,0.9s,baz=231,slow=11,SNR=7.7						
NVAR				LR	LR	16 41 31.1	
	comp=Z,324nm,20.6s,baz=164,slow=30						
NV11	**Mina Array Sit**	**74.57**	**42**	*e*P	**P**	**16 15 32.3**	**-2.2**
MOD	**Modoc**	**75.27**	**38**	*e*P	**P**	**16 15 38.0**	**-0.5**
	9.4nm,1.1s						
KSRS	**Korea Array**	**76.32**	**316**	LR	LR	16 43 46.9	
	comp=Z,106nm,20.0s,baz=134,slow=31						
TUC	**Tucson**	**76.51**	**51**	*e*P	**P**	**16 15 44.5**	**-1.2**
	5.7nm,1.2s						
USRK	**Ussuriysk Arra**	**77.55**	**323**	LR	LR	16 43 30.5	
	comp=Z,301nm,21.0s,baz=297,slow=31						
PNL	**Peninsula**	**79.91**	**17**	*e*P	**P**	**16 16 02.7**	**-1.1**
	26nm,0.7s						
TXAR	**Lajitas Array**	**80.71**	**56**	P	**P**	**16 16 08.7**	**-0.2**
TXAR	**Lajitas Array**	**80.71**	**56**	P	**P**	**16 16 08.7**	**-0.2**
	0.1nm,0.4s,baz=292,slow=14,SNR=3.1						
TXAR				LR	LR	16 45 54.4	
	comp=Z,155nm,18.2s,baz=250,slow=31						

DLBC	**Dease Lake**	**81.89**	**21**	LR		LR		16 44 04.5	
	comp=Z,217nm,20.4s,baz=141,slow=29								
PDAR	**Pinedale Array**	**82.41**	**42**	P		**P**		**16 16 18.4**	**+0.6**
PDAR	**Pinedale Array**	**82.41**	**42**	P		**P**		**16 16 18.4**	**+0.6**
	0.6nm,0.6s,baz=226,slow=3.6,SNR=3.0								
PDAR				LR		LR		16 47 11.5	
	comp=Z,244nm,19.4s,baz=267,slow=32								
SMCO	**Snowmass**	**82.44**	**46**	*e*P		**P**		**16 16 16.2**	**-2.0**
	6.5nm,0.9s								
ILAR	**Eielson Array**	**82.64**	**11**	P		**P**		**16 16 17.5**	**-0.7**
ILAR	**Eielson Array**	**82.64**	**11**	P		**P**		**16 16 17.5**	**-0.7**
	0.5nm,0.6s,baz=230,slow=6.7,SNR=6.4								
PMSA	**Palmer Station**	**83.98**	**156**	LR		LR		16 44 08.1	
	comp=Z,205nm,21.9s,baz=293,slow=29								
MAW	**Mawson**	**87.60**	**199**	LR		LR		16 53 39.1	
	comp=Z,345nm,20.5s,baz=87,slow=34								
PLCA	**Paso Flores**	**89.36**	**132**	LR		LR		16 49 10.0	
	comp=Z,137nm,18.5s,baz=180,slow=30								
YKA	**Yellowknife Ar**	**90.28**	**23**	P		P		16 17 03.9	+8.3
	0.7nm,0.7s,baz=236,slow=4.3,SNR=2.9								
YKA				LR		LR		16 51 59.4	
	comp=Z,25nm,19.0s,baz=250,slow=32								
SNAA	**Sanae**	**92.70**	**177**	LR		LR		16 56 19.5	
	comp=Z,60nm,18.4s,baz=22,slow=34								
ULM	**Lac du Bonnet**	**94.08**	**39**	LR		LR		16 54 30.4	
	comp=Z,337nm,19.3s,baz=266,slow=32								
BRG	**Berggiesshubel**	**144.33**	**352**	*e*PKP		PKPdf		16 23 41.4	+10
	7.7nm,1.8s								
DPC	**Dobruska-Polom**	**144.47**	**349**	*e*PKP		**PKPdf**		**16 23 32.1**	**+0.5**
DPC				*ex*		x		16 23 48.9	
OKC	**Ostrava-Krasne**	**144.59**	**347**	AMS		AMS		17 22 30.0	
	comp=Z,200nm,27.8s								
PRU	**Pruhonice**	**145.11**	**351**	*e*PKP		**PKPdf**		**16 23 35.1**	**+2.5**
PRU				AMS		AMS		17 26 30.0	
	comp=Z,300nm,20.1s								
KECS	**Kecovo**	**145.29**	**344**	*e*PKP		**PKPdf**		**16 23 35.3**	**+2.3**
VYHS	**Vyhne**	**145.70**	**346**	*e*PKP		**PKPab**		**16 23 35.3**	**+0.9**
KHC	**Kasperske Hory**	**146.08**	**352**	*e*PKP		**PKPab**		**16 23 37.5**	**+1.6**
KHC				*ex*		x		16 23 47.5	
KHC				AMS		AMS		17 26 10.0	
	comp=Z,200nm,14.5s								
BRTR	**Keskin Array B**	**146.33**	**321**	PKPbc		**PKPab**		**16 23 37.6**	**+0.4**
BRTR	**Keskin Array B**	**146.33**	**321**	PKPbc		**PKPab**		**16 23 37.6**	**+0.4**
	1.4nm,0.7s,baz=138,slow=2.8,SNR=8.4								
GERES	**GERESS Array B**	**146.35**	**352**	PKPbc		**PKPab**		**16 23 37.0**	**0.0**
GERES	**GERESS Array B**	**146.35**	**352**	PKPbc		**PKPab**		**16 23 37.0**	**0.0**
	0.3nm,0.3s,baz=29,slow=3.0,SNR=6.7								
ESDC	**Sonseca Array**	**154.30**	**19**	PKPab		**PKPab**		**16 24 09.3**	**-0.4**
ESDC	**Sonseca Array**	**154.30**	**19**	PKPab		**PKPab**		**16 24 09.3**	**-0.4**
	0.1nm,0.3s,baz=343,slow=4.0,SNR=3.3								

IDC ***10*** *16:14:37.2±0.7,36.°34S×73.°08W, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.2/17, mbtmp4.2/10, ML3.1/1, MS3.7/6, Ms1 3.6/6, ms1mx3.3/32, Error ellipse: s-maj=25.7km s-min=17.5km az=94.0*

ISCJB ***10*** *16:14:40.0±0.5,36.°26S±0.°04×73.°14W±0.°06, h25km, mb4.2/11, MS3.9/4, Error ellipse: s-maj=7.1km s-min=6.0km az=30.8*

NEIC ***10*** *16:14:40.1±2.1,36.°26S×73.°23W, h20km±11km, mb4.3/2, ML4.1(GUC), Error ellipse: s-maj=15.3km s-min=7.8km az=94.0*

NEIC Felt [III] at Cobquecura, Coelemu, Concepcion and Talcahuano; [II] at Angol, Chano and Peyuhue.

GUC ***10*** *16:14:41.9±0.6,36.°24S×73.°02W, h32km±2km, ML4.1*

ISC 10 16:14:40.9±0.6,36.°36S±0.°04×73.°10W±0.°07, h25km, n61, σ0§97/67, mb4.3/11, MS3.9/4, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.34**	**48**	⇑*i*P	**Pb**	**16 14 48.2**	**-0.3**
COCH				*i* S	**Sb**	**16 14 53.1**	**-0.6**
COCH	**Cobquecura**	**0.34**	**48**	⇑*i*P	**Pb**	**16 14 48.2**	**-0.3**
COCH				*i* S	**Sb**	**16 14 53.1**	**-0.6**
COCH				AML	AML	16 14 54.9	
	comp=E,20μm,0.6s						
CCHI	**Chillan**	**0.86**	**107**	⇓*i*P	**Pn**	**16 14 57.6**	**+0.1**
CCHI				*e*S	**Sn**	**16 15 08.5**	**-0.7**
CCHI	**Chillan**	**0.86**	**107**	⇓*i*P	**Pn**	**16 14 57.6**	**+0.1**
CCHI				*e*S	**Sn**	**16 15 08.5**	**-0.

TORD	**Torodi Ar. Bea**	**85.83**	**70**	P	**P**		**16 27 18.1**	**-0.5**	
TORD	**Torodi Ar. Bea**	**85.83**	**70**	P	**P**		**16 27 18.1**	**-0.5**	
	comp=E,2.1nm,0.9s,baz=245,slow=3.8,SNR=6.6								
SCHQ	**Schefferville**	**90.99**	**4**	LR	LR		17 06 37.1		
	comp=E,120nm,18.3s,baz=260,slow=34								
ASAR	**Alice Springs**	**115.07**	**207**	PKP	**PKPdf**		**16 33 19.4**	**-0.9**	
ASAR	**Alice Springs**	**115.07**	**207**	PKP	**PKPdf**		**16 33 19.4**	**-0.9**	
	comp=E,0.4nm,0.9s,baz=139,slow=1.6,SNR=4.6								
WRA	**Warramunga Arr**	**118.28**	**209**	PKP	**PKPdf**		**16 33 24.9**	**-1.6**	
WRA	**Warramunga Arr**	**118.28**	**209**	PKP	**PKPdf**		**16 33 24.9**	**-1.6**	
	comp=E,0.3nm,0.6s,baz=149,slow=1.4,SNR=10								
BVAR	**Borovoye Array**	**149.58**	**45**	PKPbc	**PKPbc**		**16 34 27.8**	**+0.2**	
BVAR	**Borovoye Array**	**149.58**	**45**	PKPbc	**PKPbc**		**16 34 27.8**	**+0.2**	
	comp=E,1.3nm,0.6s,baz=274,slow=2.4,SNR=9.1								
KKAR	**Karatay Array**	**151.38**	**65**	*e*PKPbc	**PKPbc**		**16 34 31.9**	**-0.3**	
KURBB	**Kurchatov Arra**	**155.16**	**46**	PKPbc	PKPdf		16 34 41.0	+10	
	comp=E,0.2nm,0.4s,baz=302,slow=2.3,SNR=4.3								
KURBB				PKPab	**PKPab**		**16 34 56.4**	**+0.2**	
	comp=E,0.2nm,0.2s,baz=294,slow=4.1,SNR=4.6								
KURK	**Kurchatov**	**155.17**	**46**	PKPbc	PKPdf		16 34 41.0	+10	
KURK				PKPab	**PKPab**		**16 34 56.4**	**+0.2**	
ZALV	**Zalesovo Beam**	**156.68**	**34**	PKP	**PKPdf**		**16 34 31.5**	**-1.6**	
ZALV	**Zalesovo Beam**	**156.68**	**34**	PKP	**PKPdf**		**16 34 31.5**	**-1.6**	
	comp=E,0.4nm,0.5s,baz=193,slow=2.6,SNR=3.8								
MKAR	**Makanchi Array**	**158.93**	**53**	PKP	**PKPdf**		**16 34 35.5**	**-0.8**	
MKAR				PKPab	**PKPab**		**16 35 12.4**	**-0.2**	
MKAR	**Makanchi Array**	**158.93**	**53**	PKP	**PKPdf**		**16 34 35.5**	**-0.8**	
	comp=E,0.9nm,1.0s,baz=215,slow=1.5,SNR=6.2								
MKAR				PKPab	**PKPab**		**16 35 12.4**	**-0.2**	
	comp=E,0.6nm,0.9s,baz=264,slow=4.1,SNR=3.8								

IDC ***10*** *16:28:57.7±2.9, 49.°04N×129.°76W, h0km, mb4.0/1, mb1 3.7/7, mb1mx3.5/27, mbtmp3.5/7, ML3.5/6, MS3.7/5, Ms1 3.7/5, ms1mx3.0/43, Error ellipse: s-maj=50.5km s-min=16.5km az=72.0*

ISCJB ***10*** *16:28:58.4±1.4, 49.°09N±0.°06×129.°2W±0.°1, h10km±15km, mb3.9/1, MS4.4/2, Error ellipse: s-maj=14.8km s-min=6.7km az=151.2*

PGC ***10*** *16:28:59.0±2.1, 48.°98N×129.°31W, h10km, ML2.9/12, Mw3.5, 234km southwest of Pt. Hardy, Bc Vancouver Island Region*

ISC 10 16:29:01.8±2.7, 49.°18N±0.°06×129.°06W±0.°07, h16km±16km, n27, σ1§36/35, 12D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BPBC	**Brooks Peninsu**	**1.29**	**40**	⇑Pn	**Pn**	**16 29 24.3**	**-0.8**
BPBC				⇓Sn	**Sg**	**16 29 43.7**	**+0.1**
EDB	**Eliza Dome**	**1.45**	**60**	⇑Pn	**Pn**	**16 29 26.0**	**-1.2**
EDB				⇑Sn	**Sb**	**16 29 46.7**	**+0.3**
HOLB	**Holberg**	**1.58**	**22**	⇓Pn	**Pn**	**16 29 28.1**	**-1.1**
ETB	**Estevan Point**	**1.67**	**82**	⇓Pn	**Pn**	**16 29 29.2**	**-1.0**
MAYB	**Maynard**	**1.73**	**44**	⇑Pn	**Pn**	**16 29 30.6**	**-0.7**
MAYB				⇑Sn	**Sb**	**16 29 55.3**	**+0.4**
PHC	**Port Hardy**	**1.86**	**34**	⇑Pn	**Pn**	**16 29 32.4**	**-0.6**
PHC				⇑Sn	**Sn**	**16 29 57.3**	**+1.2**
GDR	**Gold River**	**2.07**	**72**	⇑Pn	**Pn**	**16 29 35.0**	**-0.8**
BTB	**Buttle Lake**	**2.33**	**81**	⇑Pn	**Pn**	**16 29 38.8**	**-0.8**
BTB				⇑Sn	**Sn**	**16 30 09.8**	**+1.8**
OZB	**Mount Ozzard**	**2.36**	**94**	Pn	**Pn**	**16 29 37.7**	**-2.1**
OZB				⇓Sn	**Sn**	**16 30 07.0**	**-1.4**
CBB	**Campbell River**	**2.55**	**69**	⇑Pn	**Pn**	**16 29 42.0**	**-0.4**
CBB				⇓Sn	**Sb**	**16 30 16.3**	**-2.0**
BMSB	**Bamfield Mari**	**2.61**	**96**	⇓Pn	**Pn**	**16 29 41.1**	**-2.1**
BMSB				⇓Sn	**Sn**	**16 30 13.1**	**-1.3**
ALB	**Alberni**	**2.77**	**86**	⇑Pn	**Pn**	**16 29 45.1**	**-0.4**
ALB				⇑Sn	**Sn**	**16 30 20.2**	**+1.6**
MGB	**Mount Grey**	**2.88**	**92**	⇓Pn	**Pn**	**16 29 45.4**	**-1.6**
MGB				⇓Sn	**Sn**	**16 30 21.3**	**0.0**
BBB	**Bella Bella**	**3.07**	**11**	⇑Pn	**Pn**	**16 29 49.3**	**-0.3**
BBB				⇓Sn	**Sn**	**16 30 25.1**	**-0.8**
BBB	**Bella Bella**	**3.07**	**11**	Pn	**Pn**	**16 29 49.5**	**-0.1**
	4.3nm,0.3s,baz=224,slow=12,SNR=38						
BBB				Sn	**Sn**	**16 30 24.6**	**-1.3**
	2.5nm,0.3s,baz=206,slow=22,SNR=4.8						
PFB	**Port Renfrew**	**3.11**	**99**	⇑Pn	**Pn**	**16 29 48.1**	**-2.1**
PFB				⇓Sn	**Sn**	**16 30 25.5**	**-1.5**
NLLB	**Nanaimo Lost L**	**3.33**	**87**	⇓Pn	**Pn**	**16 29 53.1**	**0.0**
NEW	**Newport**	**7.95**	**92**	LR	LR	16 34 07.1	
	comp=Z,199nm,18.1s,baz=58,slow=37						
YBH	**Yreka Blue Hor**	**8.68**	**147**	Pn	**Pn**	**16 31 07.9**	**+1.3**
	0.1nm,0.3s,baz=8.7,slow=12,SNR=14						
YBH				LR	LR	16 34 05.5	
	comp=Z,163nm,18.2s,baz=123,slow=35						
DLBC	**Dease Lake**	**9.30**	**357**	LR	LR	16 34 47.9	
	comp=Z,131nm,18.9s,baz=288,slow=37						
NVAR	**Mina Array Bea**	**13.24**	**140**	Pn	**Pn**	**16 32 10.4**	**+1.3**
	0.1nm,0.3s,baz=316,slow=13,SNR=6.4						
PDAR	**Pinedale Array**	**14.98**	**108**	Pn	P	16 32 41.1	+2.7
	0.0nm,0.3s,baz=306,slow=10,SNR=5.0						
YKA	**Yellowknife Ar**	**15.56**	**26**	Pn	**Pn**	**16 32 39.2**	**-1.1**
	0.1nm,0.3s,baz=219,slow=12,SNR=3.1						
ILAR	**Eielson Array**	**18.29**	**335**	P	**Pn**	**16 33 13.3**	**-1.2**
	0.1nm,0.3s,baz=145,slow=9.7,SNR=3.0						
ULM	**Lac du Bonnet**	**21.39**	**74**	P	**P**	**16 33 51.5**	**+3.1**
	3.3nm,0.5s,baz=282,slow=11,SNR=3.8						
KBZ	**Khabaz**	**87.21**	**6**	LR	LR	17 22 17.1	
	comp=Z,105nm,21.6s,baz=59,slow=37						
MMAI	**Mount Meron Ar**	**97.01**	**13**	LR	LR	17 32 20.6	
	comp=Z,206nm,18.9s,baz=85,slow=39						

ISCJB ***10*** *16:50:07.9±0.8, 0.°42S±0.°03×98.°17E±0.°03, h32km±5km, mb5.1/111, MS4.6/47, Error ellipse: s-maj=5.0km s-min=3.6km az=44.0*

MOS ***10*** *16:50:08.0±1.0, 0.°40S×98.°23E, h33km, mb5.5/40, MS4.7/8, Error ellipse: s-maj=9.7km s-min=5.4km az=106.7*

BKK ***10*** *16:50:08.5±0.3, 0.°S±3.°×9.°8E±.°, h10km, M4.9/32, mB5.3/20, mb5.0/32, MLv5.4/7, Mw(mB)4.7/20*

BJI ***10*** *16:50:09.7, 0.°30S×98.°20E, h35km, mB5.2/33, mb5.3/58, Ms5.0/55, Ms7 4.9/53*

IDC ***10*** *16:50:09.2±3.1, 0.°38S×98.°26E, h24km±20km, mb4.7/22, mb1 4.7/24, mb1mx4.7/27, mbtmp4.7/24, ML4.8/2, MS4.5/22, Ms1 4.5/22, ms1mx4.2/42, Error ellipse: s-maj=14.7km s-min=11.7km az=54.0*

DJA ***10*** *16:50:10.7±0.5, 0.°S±4.°×9.°8E±.°, h47km±5km, M5.1/30, mB5.5/21, mb5.1/30, MLv5.7/8, Mw(mB)4.9/21*

AUST ***10*** *16:50:11.6±1.7, 0.°39S×98.°34E, h35km, Error ellipse: s-maj=1.5km s-min=0.7km az=43.0*

NEIC ***10*** *16:50:11.2±1.2, 0.°32S×98.°25E, h46km±10km, mb5.0/28, Error ellipse: s-maj=8.1km s-min=6.5km az=221.0*

SZGRF ***10*** *16:50:22.4, 0.°75N×98.°23E, h33km, mb4.7, Northern Sumatera, Indonesia*

ISC 10 16:50:09.8±0.4, 0.°39S±0.°04×98.°18E±0.°04, h33km±1km, h33km:pP-P, n392, σ1§49/447, mb5.2/123, MS4.6/48, 29C-10D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**2.22**	**92**	P	**Pn**	**16 50 45.0**	**+0.7**
PPI				S	**Sn**	**16 51 12.8**	**+2.2**
PPI	**Padang Panjang**	**2.22**	**92**	P	**Pn**	**16 50 45.0**	**+0.7**
	baz=2.1,SNR=121						
BKNI	**Bangkinang**	**2.94**	**76**	P	Pn	16 50 57.8	+3.5
BKNI	**Bangkinang**	**2.94**	**76**	P	**Pn**	**16 50 55.5**	**+1.2**
	baz=2.8,SNR=11						
PSI	**Prapat**	**3.25**	**13**	Pn	**Pn**	**16 50 57.8**	**-0.9**
PSI	**Prapat**	**3.25**	**13**	Pn	**Pn**	**16 50 57.8**	**-0.9**
	44nm,0.3s,baz=192,slow=6.0,SNR=143						
PSI				LR	LR	16 52 11.3	
	comp=Z,3μm,21.7s,baz=157,slow=39						
PSI	**Prapat**	**3.25**	**13**	P	**Pn**	**16 50 57.9**	**-0.9**
	baz=3.1,SNR=105						
TSI	**Tuntungan**	**3.88**	**6**	P	**Pn**	**16 51 08.3**	**+1.1**
MASI	**Maura Aman, Be**	**4.89**	**124**	P	**Pn**	**16 51 22.2**	**+1.0**
FRIM	**Kepong**	**4.98**	**44**	P	**Pn**	**16 51 24.0**	**+1.7**
KSI	**Kapahiang**	**5.47**	**126**	P	**Pn**	**16 51 29.8**	**+0.6**
	1μm,0.8s,19μm6.1nm						
IPM	**Ipoh**	**5.61**	**30**	*e*Pn	**Pn**	**16 51 32.8**	**+1.8**
IPM	**Ipoh**	**5.61**	**30**	P	Pn	16 51 34.3	+3.3
KGM	**Kluang**	**5.66**	**65**	P	**Pn**	**16 51 33.3**	**+1.6**
LHMI	**Lhok Sumawe**	**5.71**	**348**	P	**Pn**	**16 51 32.2**	**-0.2**
	baz=5.8,SNR=7.1						
BTDF	**Bukit Timah Da**	**5.85**	**73**	P	**Pn**	**16 51 35.3**	**+1.0**
	baz=5.7,SNR=12						
BTDF				P	**Pn**	**16 51 35.3**	**+1.0**
	baz=5.7,SNR=12						

MYKOM	**Kota Tinggi**	**6.07**	**69**	P	**Pn**		**16 51 39.4**	**+2.1**	
KULM	**Kulim**	**6.15**	**24**	P	**Pn**		**16 51 40.3**	**+1.9**	
MNAI	**Manna**	**6.19**	**130**	P	**Pn**		**16 51 39.0**	**0.0**	
	baz=6.1,SNR=38								
MNAI				S	**Sn**		**16 52 46.9**	**-1.9**	
	baz=6.1,SNR=6.3								
BSI	**Banda Aceh**	**6.51**	**334**	P	**Pn**		**16 51 42.2**	**-1.3**	
	181nm,1.2s,3μm1.4nm								
PMBI	**Palembang**	**7.05**	**111**	P	Pn		16 51 56.2	+5.3	
LWLI	**Liwa**	**7.46**	**128**	P	**Pn**		**16 51 57.0**	**+0.5**	
	1μm,0.7s,8μm4.0nm								
KTGM	**Kuala Trenggan**	**7.53**	**41**	P	**Pn**		**16 51 59.6**	**+2.3**	
KLSI		**7.81**	**123**	P	**Pn**		**16 52 02.1**	**+0.8**	
	224nm,1.0s,2μm0.7nm								
PPBI	**Pangkal Pinang**	**8.14**	**103**	P	**Pn**		**16 52 07.3**	**+1.4**	
	58nm,1.0s,2μm								
PKDT	**Phuket**	**8.22**	**1**	P	Pn		16 52 15.5	+8.6	
TRTT	**Trang**	**8.30**	**10**	P	**Pn**		**16 52 07.3**	**-0.7**	
	148nm,1.2s,2μm0.6nm								
TPI	**Tanjungpandan**	**9.76**	**104**	P	**Pn**		**16 52 29.7**	**+1.7**	
	46nm,1.1s,451nm								
DBJI	**Dramaga**	**10.52**	**126**	P	**Pn**		**16 52 37.6**	**-0.8**	
	131nm,0.7s								
LEM	**Lembang**	**11.38**	**124**	P	**Pn**		**16 52 50.9**	**+0.5**	
	87nm,1.2s								
CISI	**Cisompet, Garu**	**11.96**	**127**	P	Pn		16 52 53.1	-5.1	
CISI	**Cisompet, Garu**	**11.96**	**127**	P	Pn		16 52 54.2	-4.0	
	baz=12,SNR=11								
KSM	**Kuching**	**12.27**	**81**	*e*Pn	**Pn**		**16 53 03.3**	**+1.0**	
	61nm,1.3s								
KSM	**Kuching**	**12.27**	**81**	P	Pn		16 53 06.2	+3.9	
TGJI	**Tegal**	**12.67**	**121**	P	**Pn**		**16 53 09.0**	**+1.1**	
	61nm,0.8s								
PHET	**Kaeng Krachan**	**13.29**	**6**	P	**P**		**16 53 27.6**	**+2.0**	
STKI	**Sintang**	**13.30**	**88**	P	**Pn**		**16 53 18.2**	**+1.7**	
	92nm,1.1s,5μm								
BJII	**Banjamegara**	**13.41**	**121**	P	**Pn**		**16 53 16.5**	**-1.5**	
	57nm,1.2s								
PBKI	**Pangkalan Bun**	**13.68**	**100**	P	**Pn**		**16 53 22.3**	**+0.7**	
	218nm,1.1s,2μm								
CHBT	**CHBT**	**13.69**	**17**	P	**P**		**16 53 27.5**	**-2.5**	
CHBT	**CHBT**	**13.69**	**17**	P	**P**		**16 53 27.6**	**-2.5**	
SBUM	**Sibu**	**14.31**	**79**	P	**Pn**		**16 53 32.5**	**+2.1**	
UGM	**Wanagama**	**14.39**	**122**	P	**Pn**		**16 53 28.4**	**-3.1**	
	146nm,1.5s								
UGM	**Wanagama**	**14.39**	**122**	P	Pn		**16 53 29.0**	**-2.5**	
	baz=14,SNR=9.0								
NAYO	**Nakonayok**	**14.93**	**12**	P	**Pn**		**16 53 39.1**	**+0.4**	
	103nm,1.1s,1μm								
PCJI	**Pacitan**	**15.10**	**121**	P	**Pn**		**16 53 36.4**	**-4.4**	
BTM	**Bintulu**	**15.31**	**76**	P	**Pn**		**16 53 45.7**	**+2.0**	
SJI	**Sawahan**	**15.38**	**119**	P	**Pn**		**16 53 46.0**	**+1.3**	
	37nm,1.5s								
CHAI	**Chaiyaphum**	**16.61**	**13**	P	**Pn**		**16 54 00.5**	**+0.1**	
	17nm,1.2s,167nm								
MTKI	**Muara Teweh, K**	**16.72**	**92**	P	**P**		**16 54 02.9**	**-0.9**	
	110nm,1.4s,9μm								
BBKI	**Banjar Baru**	**16.93**	**101**	P	**P**		**16 54 06.1**	**0.0**	
PBKT	**Sadao Pong**	**17.07**	**9**	P	**Pn**		**16 54 06.7**	**+0.6**	
	70nm,1.5s,1μm								
PBKT	**Sadao Pong**	**17.07**	**9**	P	**Pn**		**16 54 06.7**	**+0.6**	
	70nm,1.5s,1μm								
UBPT	**Khong Chiam**	**17.15**	**25**	P	**Pn**		**16 54 05.7**	**-1.4**	
UBPT	**Khong Chiam**	**17.15**	**25**	P	**Pn**		**16 54 06.0**	**-1.1**	
	66nm,1.4s,930nm								
LOEI	**Loei**	**18.04**	**10**	P	**Pn**		**16 54 18.2**	**+0.1**	
	83nm,1.1s,1μm								
SKNT	**Sakolnakorn**	**18.17**	**18**	P	**Pn**		**16 54 17.9**	**-1.8**	
	56nm,1.0s,4μm								
PANO	**Nakornpanom**	**18.54**	**20**	P	**P**		**16 54 22.7**	**-1.1**	
	152nm,0.8s,1μm								
CMAR	**Chiang Mai Arr**	**18.74**	**2**	P	**P**		**16 54 26.1**	**+0.1**	
CMAR	**Chiang Mai Arr**	**18.74**	**2**	P	**P**		**16 54 26.1**	**+0.1**	
	2.2nm,0.3s,baz=193,slow=10.0,SNR=140								
CMAR				LR	LR		17 02 20.6		
	comp=Z,2μm,18.6s,baz=190,slow=39								
LAMP	**Lampang**	**18.84**	**4**	P	**Pn**		**16 54 27.6**	**-0.3**	
	16nm,1.0s,147nm								
PALK	**Pallekele**	**19.02**	**294**	*e*Pn	**Pn**		**16 54 30.8**	**+0.7**	
	43nm,1.1s								
PALK	**Pallekele**	**19.02**	**294**	P	**P**		**16 54 28.1**	**-1.1**	
	38nm,1.3s								
CHTO	**Chiang Mai**	**19.09**	**2**	*e*P	**P**		**16 54 27.7**	**-2.3**	
CHTO				pmax	pmax				
	comp=Z,111nm,1.6s								
CHTO	**Chiang Mai**	**19.09**	**2**	*e*Pn	**P**		**16 54 27.6**	**-2.3**	
	comp=Z,111nm,1.6s								
CHTO	**Chiang Mai**	**19.09**	**2**	P	**P**		**16 54 29.7**	**-0.2**	
	comp=Z,48nm,1.3s,comp=Z,730nm								
CHTO	**Chiang Mai**	**19.09**	**2**	P	**P**		**16 54 29.7**	**-0.2**	
	comp=Z,19nm,1.2s,comp=Z,730nm								
KKM	**Kota Kinabalu**	**19.10**	**70**	*e*P	**Pn**		**16 54 30.7**	**-0.4**	
	comp=Z,286nm,1.0s								
KKM	**Kota Kinabalu**	**19.10**	**70**	P	**Pn**		**16 54 31.6**	**+0.5**	
SDKM	**Sandakan**	**19.91**	**72**	P	**P**		**16 54 39.4**	**+0.4**	
KDM	**Kudat**	**19.97**	**68**	P	**Pn**		**16 54 40.9**	**-0.5**	
CMAI	**Chiengmai2**	**20.21**	**2**	P	Pn		16 54 44.4	0.0	
	comp=Z,135nm,0.9s								
TSM	**Tawau**	**20.21**	**77**	P	**P**		**16 54 41.3**	**-0.9**	
MYLDM	**Lahad Datu**	**21.03**	**74**	P	**P**		**16 54 53.0**	**+1.9**	
TTSI	**Tana Toraja**	**21.79**	**97**	P	**P**		**16 55 00.2**	**+1.0**	
	comp=Z,121nm,1.0s,comp=Z,1μm								
KAPI	**Kappang**	**22.02**	**102**	P	**P**		**16 55 01.8**	**0.0**	
	comp=Z,410nm,1.1s,SNR=8.1								
KAPI	**Kappang**	**22.02**	**102**	*e*P	**P**		**16 55 01.3**	**-0.5**	
KAPI	**Kappang**	**22.02**	**102**	P	**P**		**16 55 02.4**	**+0.6**	
	comp=Z,86nm,1.2s,comp=Z,737nm								
KAPI	**Kappang**	**22.02**	**102**	P	**P**		**16 55 01.2**	**-0.6**	
	comp=Z,49nm,1.1s,baz=300,slow=9.0,SNR=7.9								
QIZ	**Qiongzhong**	**22.43**	**30**	P	**P**		**16 55 06.7**	**+0.6**	
QIZ				pP	**pP**		**16 55 14.8**	**-0.1**	
QIZ				S	**S**		**16 59 11.8**	**+1.2**	
QIZ				sS	Sn		16 59 22.8	-1.6	
QIZ				pmax	pmax				
	comp=Z,48nm,1.5s								
QIZ				LR	LR				
	comp=N,1μm,15.7s								
QIZ				LR	LR				
	comp=Z,2μm,14.2s								
QIZ	**Qiongzhong**	**22.43**	**30**	*e*P	**P**		**16 55 05.2**	**-0.9**	
	comp=Z,69nm,1.2s								
BKSI	**Bulukumba**	**22.45**	**103**	P	**P**		**16 55 05.3**	**-1.0**	
	comp=Z,97nm,1.3s,comp=Z,1μm								
BSSI	**Bau Bau, Buton**	**22.99**	**105**	P	**P**		**16 55 10.6**	**-1.4**	
	comp=Z,158nm,1.2s,comp=Z,1μm								
MRSI	**Marisa**	**23.77**	**88**	P	**P**		**16 55 18.7**	**-1.0**	
	comp=Z,93nm,1.3s,comp=Z,989nm								
LUWI	**Luwuk**	**24.60**	**92**	P	**P**		**16 55 27.2**	**-0.1**	
	comp=Z,227nm,1.1s,comp=Z,2μm								
LUWI	**Luwuk**	**24.60**	**92**	P	**P**		**16 55 28.5**	**+1.2**	
	baz=24,SNR=8.7								
GTOI	**Gorontalo**	**24.85**	**88**	P	**P**		**16 55 28.6**	**-1.0**	
	comp=Z,138nm,0.8s,comp=Z,1μm								
BBSI	**Bau Bau**	**24.87**	**102**	P	**P**		**16 55 29.4**	**-0.4**	
	comp=Z,130nm,0.9s,comp=Z,1μm								
IMP	**Imphal**	**25.36**	**351**	*e*P	**P**		**16 55 35.0**	**+0.9**	
KMI	**Kunming**	**25.74**	**10**	P	**P**		**16 55 39.5**	**+1.7**	
KMI				pP	**pP**		**16 55 47.2**	**0.0**	
KMI				sP	**sP**		**16 55 50.9**	**-0.3**	
KMI				PP	PnPn		16 56 22.5	+7.3	
KMI				S	**S**		**17 00 06.9**	**+2.0**	
KMI				sS	**sS**		**17 00 20.6**	**0.0**	
KMI				pmax	pmax				
	comp=Z,61nm,1.2s								
KMI				pmax	pmax				
	comp=Z,320nm,3.1s								
KMI				LR	LR				
	comp=N,2μm,16.2s								
KMI				LR	LR				
	comp=E,1μm,15.9s								
KMI				LR	LR				
	comp=Z,3μm,17.1s								
HYB	**Hyderabad**	**26.20**	**313**	*i* P	P		16 55 50.0	+8.2	
SHL	**Shillong**	**26.51**	**347**	*i* P	**P**		**16 55 45.0**	**+0.3**	
SHL				*e*S	**S**		**17 00 11.0**	**-6.0**	
GYA	**Guiyang**	**27.91**	**16**	⇑*i*P	**P**		**16 55 57.8**	**+0.6**	
GYA				pP	**pP**		**16 56 07.2**	**+0.5**	
GYA				PP	**PnPn**		**16 56 47.1**	**+2.3**	
GYA				S	**S**		**17 00 36.8**	**-2.2**	
GYA				SS	**SnSn**		**17 01 57.9**	**+3.4**	
GYA				ScP	**ScP**		**17 02 50.7**	**-0.3**	
GYA				ScS	**ScS**		**17 06 42.0**	**-1.6**	
GYA				pmax	pmax				
	comp=Z,30nm,1.0s								
GYA				pmax	pmax				
	comp=Z,150nm,4.5s								
GYA				LR	LR				
	comp=N,2μm,16.1s								
GYA				LR	LR				
	comp=E,1μm,13.3s								
GYA				LR	LR				
	comp=Z,2μm,15.5s								
DAV	**Davao City (W)**	**28.32**	**74**	LR	LR		17 09 06.9		
	comp=Z,768nm,18.9s,baz=232,slow=40								
ODAN	**Odare**	**29.01**	**340**	*e*P	**P**		**16 56 08.3**	**+1.2**	
	comp=Z,38nm,0.7s								
TAPN	**Taplejung**	**29.36**	**341**	*e*P	**P**		**16 56 11.6**	**+1.3**	
	comp=Z,97nm,1.0s								
RAMN	**Ramite**	**29.38**	**339**	*e*P	**P**		**16 56 11.8**	**+1.4**	
	comp=Z,57nm,0.8s								
MBWA	**Marble Bar**	**29.48**	**136**	*e*P	**P**		**16 56 11.5**	**+0.5**	
	comp=Z,18nm,1.0s								
JIRN	**Jiri**	**30.17**	**338**	*e*P	**P**		**16 56 18.7**	**+1.2**	
	comp=Z,90nm,0.7s								
PKI	**Pulchoki**	**30.39**	**337**	*e*P	**P**		**16 56 20.0**	**+0.6**	
	comp=Z,102nm,1.3s								
PKIN	**Phulchoki**	**30.39**	**337**	*e*P	**P**		**16 56 20.3**	**+0.9**	
	comp=Z,71nm,1.2s								
GUN	**Gumba**	**30.51**	**338**	*e*P	**P**		**16 56 21.6**	**+1.1**	
	comp=Z,76nm,0.7s								
DMN	**Daman**	**30.54**	**337**	*e*P	**P**		**16 56 21.7**	**+1.0**	
	comp=Z,59nm,0.9s								
KKN	**Kakani**	**30.63**	**337**	*e*P	**P**		**16 56 22.3**	**+0.9**	
	comp=Z,77nm,1.0s								
LSA	**Lhasa**	**30.66**	**348**	P	**P**		**16 56 23.1**	**+1.1**	
LSA				sP	**sP**		**16 56 36.1**	**+0.6**	
LSA				S	**S**		**17 01 27.0**	**+4.2**	
LSA				pmax	pmax				
	comp=Z,50nm,0.7s								
LSA				LR	LR				
	comp=N,340nm,24.0s								
LSA				LR	LR				
	comp=E,640nm,32.0s								
LSA				LR	LR				
	comp=Z,710nm,24.5s								
LSA	**Lhasa**	**30.66**	**348**	*e*P	**P**		**16 56 22.3**	**+0.3**	
LSA				pmax	pmax				
	comp=Z,32nm,0.8s								
LSA	**Lhasa**	**30.66**	**348**	*e*P	**P**		**16 56 22.3**	**+0.3**	
	comp=Z,32nm,0.8s								
KOLN	**Koldanda**	**31.30**	**335**	*e*P	**P**		**16 56 28.6**	**+1.3**	
	comp=Z,86nm,0.7s								
CD2	**Chengdu**	**31.57**	**9**	P	**P**		**16 56 30.3**	**+0.8**	
CD2				pP	**pP**		**16 56 40.2**	**+1.2**	
CD2				sP	**sP**		**16 56 44.4**	**+1.4**	
CD2				PP	**PnPn**		**16 57 35.6**	**+2.0**	
CD2				PcP	**PcP**		**16 59 21.7**	**0.0**	
CD2				S	**S**		**17 01 36.0**	**-0.2**	
CD2				sS	**sS**		**17 01 52.7**	**+0.7**	
CD2				ScP	**ScP**		**17 03 01.0**	**-1.6**	
CD2				PcS	**PcS**		**17 03 05.1**	**-1.1**	
CD2				SS	**SnSn**		**17 03 26.9**	**+3.5**	
CD2				pmax	pmax				
	comp=Z,50nm,0.6s								
CD2				pmax	pmax				
	comp=Z,220nm,4.5s								
CD2				LR	LR				
	comp=N,3μm,14.7s								
CD2				LR	LR				
	comp=E,2μm,14.7s								
CD2				LR	LR				
	comp=Z,3μm,15.1s								
DANN	**Dangsing**	**31.74**	**335**	*e*P	**P**		**16 56 32.3**	**+1.0**	
	comp=Z,107nm,1.0s								
PYUN	**Piuthan**	**31.85**	**334**	*e*P	**P**		**16 56 33.4**	**+1.2**	
	comp=Z,121nm,1.1s								
TPUB	**Ta-pu**	**32.10**	**41**	*e*P	**P**		**16 56 33.9**	**-0.4**	
	comp=Z,63nm,1.0s								
FITZ	**Fitz

comp=Z,21nm,0.8s,baz=301,slow=8.9,SNR=80
WRA ScP **ScP** **17 03 34.9 -0.1**
comp=Z,1.3nm,0.9s,baz=304,slow=2.5,SNR=4.6
WRAB Tennant Creek 40.38 121 P **P** **16 57 44.0 -1.0**
comp=Z,183nm,0.8s,SNR=13
WRAB Tennant Creek 40.38 121 *e*P **P** **16 57 42.1 -3.0**
WRAB pmax pmax
comp=Z,24nm,0.8s
WRAB Tennant Creek 40.38 121 *e*P **P** **16 57 42.1 -3.0**
comp=Z,24nm,0.8s
ASAR Alice Springs 41.67 126 P **P** **16 57 55.4 -0.3**
ASAR PcP **PcP** **16 59 53.0 +0.8**
ASAR ScP **ScP** **17 03 42.0 +1.9**
ASAR Alice Springs 41.67 126 P **P** **16 57 55.4 -0.3**
comp=Z,17nm,0.7s,baz=298,slow=7.4,SNR=250
ASAR PcP **PcP** **16 59 53.0 +0.8**
comp=Z,2.9nm,0.8s,baz=304,slow=3.3,SNR=4.1
ASAR ScP **ScP** **17 03 42.0 +1.9**
comp=Z,1.4nm,0.9s,baz=318,slow=3.1,SNR=4.4
ASAR LR LR 17 17 22.5
comp=Z,546nm,21.3s,baz=295,slow=39
AS31 Alice Springs 41.67 126 *e*P **P** **16 57 53.6 -2.0**
BTO Baotou 42.20 13 *e*P **P** **16 57 59.9 +0.1**
HHC Hu-ho-hao-te 42.81 15 *e*P **P** **16 58 06.4 +1.7**
HHC pP **pP** **16 58 16.8 +2.3**
HHC sP **sP** **16 58 20.5 +2.1**
HHC PP **PP** **16 59 48.9 +4.4**
HHC S **S** **17 04 28.2 +1.3**
HHC sS **sS** **17 04 46.0 +3.0**
HHC SS **SS** **17 07 34.8 -4.0**
HHC ScS **ScS** **17 08 01.8 -1.7**
HHC pmax pmax
comp=Z,110nm,1.0s
HHC pmax pmax
comp=Z,480nm,4.5s
HHC LR LR
comp=N,4μm,15.1s
HHC LR LR
comp=E,1μm,14.1s
HHC LR LR
comp=Z,2μm,15.5s
BJT Baijiatuau 43.44 20 *e*P **P** **16 58 09.6 -0.1**
comp=Z,317nm,1.3s
BJI Beijing 43.46 20 P **P** **16 58 10.9 +1.1**
BJI pP **pP** **16 58 19.7 +0.1**
BJI sP **sP** **16 58 23.8 +0.3**
BJI S **S** **17 04 38.8 +2.6**
BJI sS **sS** **17 04 53.9 +1.6**
BJI pmax pmax
comp=Z,90nm,1.2s
BJI pmax pmax
comp=Z,460nm,3.6s
BJI LR LR
comp=N,580nm,13.6s
BJI LR LR
comp=E,790nm,12.8s
BJI LR LR
comp=Z,240nm,16.1s
MRIV Mauritius Mete 44.43 241 *e*P **P** **16 58 19.6 +1.6**
KSH Kashi 44.61 335 P **P** **16 58 18.2 -1.1**
KSH pP **pP** **16 58 31.1 +2.0**
KSH sP **sP** **16 58 35.6 +2.6**
KSH PP **PP** **17 00 06.5 +2.7**
KSH S **S** **17 04 51.4 -1.9**
KSH sS **sS** **17 05 08.1 -1.3**
KSH ScS **SS** **17 08 11.5 -2.7**
KSH pmax pmax
comp=Z,14nm,1.1s
KSH pmax pmax
comp=Z,86nm,3.7s
KSH LR LR
comp=N,110nm,7.5s
KSH LR LR
comp=E,180nm,11.1s
KSH LR LR
comp=Z,140nm,6.9s
DL2 Dalian 44.63 26 P **P** **16 58 19.8 +0.5**
DL2 S **S** **17 04 53.2 -0.1**
DL2 pmax pmax
comp=Z,93nm,1.1s
DL2 pmax pmax
comp=Z,140nm,4.5s
DL2 LR LR
comp=N,330nm,14.4s
DL2 LR LR
comp=E,300nm,13.5s
DL2 LR LR
comp=Z,410nm,13.7s
WMQ Urumqi 45.00 349 P **P** **16 58 23.4 +1.2**
JNU Nakatsue 45.37 40 *e*P **P** **16 58 24.2 -1.1**
comp=Z,32nm,0.9s
KSAR Wonju Array Be 46.58 33 P **P** **16 58 35.0 +0.2**
KSRS Korea Array 46.61 33 P **P** **16 58 35.0 0.0**
comp=Z,30nm,1.1s,baz=225,slow=8.3,SNR=48
KSRS LR LR 17 19 00.1
comp=Z,626nm,19.5s,baz=218,slow=37
ULHL Ulahol 46.82 338 P **P** **16 58 38.3 +1.5**
SNR=12
KZA Kyzart 47.07 337 P **P** **16 58 40.2 +1.3**
SNR=7.8
TKM2 Tokmak 2 47.65 338 *i* P **P** **16 58 44.5 +1.3**
TKM2 Tokmak 2 47.65 338 P **P** **16 58 44.5 +1.3**
SNR=31
KBK Karagaybulak 47.67 337 P **P** **16 58 45.7 +2.2**
SNR=21
AML Almayashu 47.74 335 P **P** **16 58 45.4 +1.2**
SNR=17
AAK Ala-Archa 47.84 336*c* *i*P **P** **16 58 46.0 +1.4**
AAK pmax pmax
comp=Z,51nm,1.7s
AAK Ala-Archa 47.84 336 *e*P **P** **16 58 43.6 -1.1**
comp=Z,15nm,1.1s
SNY Shenyang 47.88 26 ⇑P **P** **16 58 44.2 -0.5**
SNY S **S** **17 05 39.9 +0.1**
SNY LR LR
comp=N,310nm,13.5s
SNY LR LR
comp=E,720nm,15.1s
SNY LR LR
comp=Z,710nm,15.2s
FRU Bishkek 47.95 337 *e*P **P** **16 58 46.0 +0.6**
CHMS Chumysh 48.04 337 P **P** **16 58 47.5 +1.4**
SNR=9.7
EKS2 Erkin-Say 48.15 336 P **P** **16 58 48.5 +1.5**
SNR=12
USP Ospenovka 48.37 337 P **P** **16 58 49.7 +1.1**
SNR=37
SONM Songino Array 48.56 7 P **P** **16 58 51.2 +1.1**
SONM PcP **PcP** **17 00 16.5 +0.9**
SONM Songino Array 48.56 7 P **P** **16 58 51.2 +1.1**
comp=Z,76nm,0.9s,baz=189,slow=8.9,SNR=135
SONM PcP **PcP** **17 00 16.5 +0.9**
comp=Z,6.5nm,0.8s,baz=183,slow=4.1,SNR=2.0
SONM LR LR 17 22 08.3
comp=Z,1μm,18.3s,baz=100,slow=40
MK31 Makanchi Array 49.01 346 *e*P **P** **16 58 54.1 +0.6**
MK31 Makanchi Array 49.01 346 *e*P **P** **16 58 54.0 +0.6**
MKAR Makanchi Array 49.01 346*ce*P **P** **16 58 54.2 +0.8**
MKAR pmax pmax
comp=Z,47nm,0.7s
MKAR Makanchi Array 49.01 346 *e*P **P** **16 58 52.2 -1.2**
MKAR Makanchi Array 49.01 346 P **P** **16 58 54.2 +0.8**
comp=Z,47nm,0.7s,baz=154,slow=7.9,SNR=477
MKAR LR LR 17 25 25.8
comp=Z,195nm,18.1s,baz=163,slow=43
KKAR Karatay Array 49.90 334 *e*P **P** **16 58 58.7 -1.6**
KKAR Karatay Array 49.90 334 *e*P **P** **16 58 58.7 -1.6**
CN2 Changchun 50.28 26 *e*P **P** **16 59 03.2 0.0**
CN2 es**P** **sP** **16 59 18.2 +1.2**
CN2 *e*S **S** **17 06 13.0 -0.6**
CN2 SS **SS** **17 09 43.0 -4.6**
CN2 pmax pmax
comp=Z,80nm,0.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,400nm,15.0s
CN2 LR LR
comp=E,900nm,15.0s
CN2 LR LR
comp=Z,800nm,16.0s
ZAK Zakamensk 50.76 4⇑ *i*P **P** **16 59 07.5 +0.7**
ZAK pmax pmax
comp=Z,16nm,1.2s
HVS Khovu-Aksy 51.47 356 *e*P **P** **16 59 12.3 +0.2**
HVS pmax pmax
comp=Z,81nm,1.3s
STKA Stephens Creek 51.57 132 *e*P **P** **16 59 14.3 +1.2**
STKA Stephens Creek 51.57 132 P **P** **16 59 13.8 +0.8**
comp=Z,14nm,0.6s,baz=308,slow=7.2,SNR=32
STKA LR LR 17 23 01.6
comp=Z,707nm,19.6s,baz=278,slow=38
STKA Stephens Creek 51.57 132 P **P** **16 59 13.9 +0.8**
baz=52,SNR=25
MOY Mondy 51.92 2 *e*P **P** **16 59 16.3 +0.9**
MOY pmax pmax
comp=Z,34nm,2.3s
TLY Talaya 52.08 4*c* *i*P **P** **16 59 17.9 +1.4**
TLY *e* 17 01 09.2
TLY *e*S S 17 06 49.3 +11
TLY pmax pmax
comp=Z,44nm,1.0s
TLY MLR MLR
comp=Z,1μm,17.0s
TLY Talaya 52.08 4 P **P** **16 59 18.2 +1.7**
comp=Z,249nm,0.9s,SNR=5.8
MAT Matsushiro 52.21 41 P **P** **16 59 15.0 -2.8**
IRK Irkutsk 52.69 5 *e*P **P** **16 59 21.6 +0.6**
IRK pmax pmax
comp=Z,92nm,1.4s
MDJ Mudanjiang 52.78 28 P **P** **16 59 22.3 +0.5**
MDJ pP **pP** **16 59 31.4 -0.4**
MDJ sP **sP** **16 59 35.2 -0.5**
MDJ ScP **ScP** **17 04 26.3 +0.1**
MDJ PcS **PcS** **17 04 29.9 +0.4**
MDJ S **S** **17 06 49.4 +1.4**
MDJ sS **sS** **17 07 05.3 +0.9**
MDJ pmax pmax
comp=Z,17nm,1.3s
MDJ pmax pmax
comp=Z,130nm,4.1s
MDJ LR LR
comp=N,1μm,16.1s
MDJ LR LR
comp=E,810nm,14.1s
MDJ LR LR
comp=Z,2μm,13.4s
MDJ Mudanjiang 52.78 28 *e*P **P** **16 59 21.1 -0.7**
comp=Z,15nm,0.9s
VLA Vladivostok 52.80 31*d* *i*P **P** **16 59 22.2 +0.2**
VLA pmax pmax
comp=Z,107nm,1.7s
HIA Hailar 52.83 18 *e*P **P** **16 59 21.0 -1.1**
comp=Z,95nm,1.2s
OPO Ambohidratompo 53.19 247 P **P** **16 59 27.3 +1.8**
OPO Ambohidratompo 53.19 247 P **P** **16 59 27.3 +1.8**
comp=Z,8.3nm,1.0s,baz=69,slow=7.3,SNR=5.1
KURK Kurchatov 53.57 345 P **P** **16 59 27.7 +0.2**
comp=Z,227nm,1.0s,SNR=8.8
USRK Ussuriysk Arra 53.63 30 P **P** **16 59 28.7 +0.6**
comp=Z,58nm,0.8s,baz=228,slow=5.7,SNR=81
USRK LR LR 17 25 06.2
comp=Z,522nm,18.4s,baz=214,slow=39
CIT Chita 53.80 12 *e*P **P** **16 59 30.9 +1.6**
CIT *e* 17 00 33.1
CIT *e* 17 02 43.5
CIT *e* 17 07 01.6
CIT pmax pmax
comp=Z,131nm,1.6s
CMSA Cobar Meteorol 54.53 129 P **P** **16 59 36.0 +1.1**
baz=54,SNR=12
RMQ Roma 55.10 122 P **P** **16 59 40.7 +1.5**
baz=55,SNR=4.6
ZAA0 Zalesovo Array 55.27 350 *e*P **P** **16 59 38.8 -1.0**
ZALV Zalesovo Beam 55.27 350 *i* P **P** **16 59 40.2 +0.4**
ZALV pmax pmax
comp=Z,55nm,0.8s
ZALV Zalesovo Beam 55.27 350 P **P** **16 59 40.3 +0.5**
ZALV Zalesovo Beam 55.27 350 P **P** **16 59 40.3 +0.5**
comp=Z,55nm,0.8s,baz=176,slow=5.8,SNR=202
ZALV LR LR 17 26 02.3
comp=Z,285nm,18.2s,baz=250,slow=39
RAYN Ar Rayn 56.37 299 *e*P **P** **16 59 47.0 -1.4**
comp=Z,5.6nm,0.9s
KRAR Krasnoyarsk 56.38 356 *e*P **P** **16 59 48.6 +0.9**
KRAR pmax pmax
comp=Z,93nm,1.2s
NVS Novosibirsk 56.40 350⇑ *i*P **P** **16 59 47.6 -0.3**
NVS *e*S **S** **17 07 35.8 -0.5**
NVS pmax pmax
comp=N,19nm,1.2s
NVS pmax pmax
comp=Z,36nm,1.2s
NVS pmax pmax
comp=E,11nm,0.8s
NVS smax smax
comp=N,5.0nm,1.4s
NVS smax smax
comp=E,16nm,1.7s
RDF Al-Radifah 56.44 306 *e*P **P** **16 59 48.0 -0.7**
RDF AMb AMB 16 59 56.9
comp=Z,62nm,1.0s
EIDS Eidsvold 56.73 120 *e*P **P** **16 59 50.7 -0.1**
EIDS Eidsvold 56.73 120 P **P** **16 59 51.4 +0.5**
baz=57,SNR=5.7
NAY Al-Naaiem 56.81 306 *e*P **P** **16 59 51.2 -0.1**
NAY AMb AMB 16 59 59.6
comp=Z,23nm,0.8s
MIB Mutribah 56.94 306 *e*P **P** **16 59 52.3 0.0**
MIB AMb AMB 17 00 05.3
comp=Z,72nm,0.8s
BVA0 Borovoye Array 58.06 341 *i* P **P** **16 59 58.8 -0.9**
BVA0 pmax pmax
comp=Z,12nm,0.9s
BVAR Borovoye Array 58.06 341 LR LR 17 28 37.3
comp=Z,384nm,19.6s,baz=30,slow=40
BRVK Borovoye 58.12 341 P **P** **16 59 59.9 -0.2**
comp=Z,82nm,0.7s,SNR=7.2
BRVK Borovoye 58.12 341*c* *i*P **P** **16 59 59.6 -0.5**
BRVK pmax pmax
comp=Z,25nm,1.7s
BRVK Borovoye 58.12 341 *e*P **P** **16 59 57.7 -2.4**
HABR Khabarovsk 58.17 28 *e*P **P** **16 59 59.0 -1.5**
HABR *e**PP **pP** **17 00 08.6 -2.0**
HABR *e**SP **sP** **17 00 12.6 -1.8**
HABR *e* 17 02 07.5
HABR *e*S **S** **17 07 58.7 -1.1**
HABR *e* 17 08 10.5
HABR *e**SS **sS** **17 08 15.5 -0.9**
HABR *e* 17 09 45.4
HABR MLR MLR
comp=Z,586nm,21.0s
ARMA Armidale 58.81 126 P **P** **17 00 07.4 +1.9**
baz=59,SNR=4.8
AB31 Akbulak array 59.37 332 *i* P **P** **17 00 07.8 -1.0**
AB31 pmax pmax
comp=Z,22nm,0.9s
ABKAR Akbulak array 59.37 332 *e*P **P** **17 00 08.0 -0.8**
KMBO Kilima Mbogo 60.93 269 P **P** **17 00 22.4 +1.8**
KMBO Kilima Mbogo 60.93 269 P **P** **17 00 22.4 +1.8**
comp=Z,2.2nm,0.5s,baz=40,slow=8.6,SNR=5.9
CLNS Chul'man 60.96 16 *e*P **P** **17 00 20.2 +0.5**
CLNS pmax pmax
comp=E,18nm,1.1s
CLNS pmax pmax
comp=N,18nm,0.8s
CLNS pmax pmax
comp=Z,57nm,1.1s
YSS Yuzh-Sakhalins 61.11 33⇑ *i*P **P** **17 00 22.0 +1.2**
YSS *e* 17 00 29.3
YSS pmax pmax
comp=Z,100nm,1.1s
YSS MLR MLR
comp=Z,200nm,15.0s
HNR Honiara 62.10 100 *e*P **P** **17 00 26.9 -1.2**
comp=Z,178nm,0.8s
SVE Sverdlovsk 64.51 338⇓ *e*P **P** **17 00 43.4 +0.1**
SVE pmax pmax
comp=Z,50nm,1.3s
ARU Arti 65.02 337*c* *i*P **P** **17 00 45.9 -0.7**
ARU 17 01 16.7
ARU 17 03 05.6
ARU S **S** **17 09 27.4 +1.1**
ARU pmax pmax
comp=Z,39nm,1.7s
ARU Arti 65.02 337 P **P** **17 00 46.5 -0.1**
comp=Z,102nm,1.1s,SNR=6.1
KBZ Khabaz 65.91 319 P **P** **17 00 53.4 +0.8**
KBZ Khabaz 65.91 319 P **P** **17 00 53.4 +0.8**
KBZ Khabaz 65.91 319 P **P** **17 00 53.4 +0.8**
comp=Z,5.4nm,0.8s,baz=135,slow=4.9,SNR=14
KIV Kislovodsk 66.14 319⇑ *e*P **P** **17 00 54.5 +0.3**
KIV *e* 17 03 21.2
KIV *i* S **S** **17 09 39.3 -1.5**
KIV pmax pmax
comp=Z,39nm,1.7s
KIV MLR MLR
comp=Z,100nm,20.0s
YAK Yakutsk 66.67 16*c* *i*P **P** **17 00 56.9 -0.1**
YAK *e**PP **pP** **17 01 04.2 -3.1**
YAK *e* 17 01 26.0
YAK *e* 17 03 21.5
YAK *e*PPP PPP 17 05 03.2
YAK *e*S **S** **17 09 44.9 -1.3**
YAK *e**SS **sS** **17 10 02.5 -0.5**
YAK *e* 17 10 48.8
YAK *e*SS **SS** **17 14 01.8 -2.4**
YAK pmax pmax
comp=Z,242nm,1.0s
YAK pmax pmax
comp=N,93nm,1.3s
YAK pmax pmax
comp=E,65nm,1.1s
YAK pmax pmax
comp=N,53nm,3.5s
YAK pmax pmax
comp=Z,58nm,3.4s
YAK pmax pmax
comp=E,143nm,4.9s
YAK smax smax
comp=N,76nm,3.8s
YAK smax smax
comp=E,34nm,1.8s
YAK MLR MLR
comp=E,450nm,17.0s
YAK MLR MLR
comp=N,692nm,14.0s
YAK MLR MLR
comp=Z,1μm,16.0s
EIL Elat 67.13 303 LR LR 17 30 24.7
comp=Z,577nm,19.2s,baz=98,slow=36
EIL Elat 67.13 303 P pP 17 01 10.8 -0.1
baz=67,SNR=3.8
SOKR Solikamsk 67.92 339*c* *i*P **P** **17 01 05.3 +0.3**
SOKR pmax pmax
comp=Z,30nm,1.1s
SOKR MLR MLR
comp=Z,330nm,23.0s
SOC Sochi 67.95 318*c* *i*P **P** **17 01 05.2 -0.4**
SOC *e* 17 03 40.9
SOC *e*S **S** **17 10 02.6 +0.3**
SOC pmax pmax
comp=Z,36nm,0.8s
DZM Mont Dzumac 69.75 113 *e*LR LR 17 22 36.8
comp=Z,496nm,22.6s
DZM Mont Dzumac 69.75 113 LR LR 17 32 06.5
comp=Z,374nm,18.0s,baz=234,slow=36
LSZ Lusaka 70.61 254 *e*P **P** **17 01 22.4 -0.4**
comp=Z,21nm,1.6s
BR131 Keskin Array S 70.90 313 *e*P **P** **17 01 22.9 -1.2**
comp=Z,3.3nm,0.8s
BRTR Keskin Array B 70.90 313 P **P** **17 01 23.1 -1.0**
BRTR Keskin Array B 70.90 313 P **P** **17 01 23.1 -1.0**
comp=Z,1.6nm,0.6s,baz=128,slow=8.0,SNR=9.9
VORD Divnogorie 71.24 325 *e*P **P** **17 01 24.4 -1.3**
VORD pmax pmax
comp=Z,20nm,1.4s
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,20nm,0.8s
MAW Mawson 71.41 194 P **P** **17 01 27.1 +0.8**
MAW Mawson 71.41 194 P **P** **17 01 27.1 +0.8**
comp=E,4.0nm,0.8s,baz=12,slow=5.8,SNR=7.5
MAW LR LR 17 26 34.1
comp=E,321nm,18.3s,baz=339,slow=31
VSR Storozhevoye 71.42 325 *e*P **P** **17 01 25.7 -1.1**
VSR pmax pmax
comp=Z,20nm,1.3s
VSR pmax pmax
comp=N,6.0nm,0.6s
VSR pmax pmax
comp=E,20nm,1.1s
SIM Simferopol' 72.19 318 *e*P **P** **17 01 32.4 +0.8**
SIM *e*S **S** **17 10 52.0 0.0**
SIM pmax pmax
comp=Z,19nm,1.6s
SIM MLR MLR
comp=Z,100nm,21.0s
PEA0B Petropavlovsk- 72.51 33 *e*P **P** **17 01 30.8 -2.6**
PETK Petropavlovsk- 72.51 33 P **P** **17 01 33.4 0.0**
PETK Petropavlovsk- 72.51 33 P **P** **17 01 33.4 0.0**
PETK Petropavlovsk- 72.51 33 P **P** **17 01 33.4 0.0**
comp=Z,6.4nm,0.9s,baz=191,slow=7.1,SNR=11
PETK LR LR 17 33 39.6
comp=Z,106nm,19.4s,baz=254,slow=36
PET Petropavlovsk 73.00 33 *e*P **P** **17 01 36.5 +0.3**
PET pmax pmax
comp=Z,41nm,0.8s
PET MLR MLR
comp=Z,200nm,18.0s
LBTB Lobatse 74.08 244 *e*P **P** **17 01 42.2 -1.1**
comp=Z,19nm,1.1s
MOS Moscow 74.19 329 *e*P P 17 01 36.2 -6.9
MOS *e* 17 01 48.2
MOS *e*S **SKiKP** **17 11 03.9 -4.6**
MOS *e* 17 11 41.6
MOS pmax pmax
comp=Z,100nm,1.2s
MOS pmax pmax
comp=Z,57nm,1.1s
OBN Obninsk 74.47 328⇑ *e*P **P** **17 01 44.6 -0.2**
OBN *e* 17 04 29.0
OBN *i* S **S** **17 11 18.1 +0.7**
OBN pmax pmax
comp=Z,48nm,1.7s
TIXI Tiksi 74.57 10*c* *i*P **P** **17 01 44.9 -0.1**
TIXI pmax pmax
comp=Z,95nm,1.2s
TIXI MLR MLR
comp=Z,747nm,18.0s
SEY Seymchan 74.83 23*c* *i*P **P** **17 01 47.3 +0.6**
BOSA Boshof 74.85 241 *e*P **P** **17 01 47.4 -0.4**
comp=Z,8.4nm,0.8s
BOSA Boshof 74.85 241 P **P** **17 01 48.9 +1.1**
comp=Z,6.8nm,0.7s,baz=75,slow=7.7,SNR=13
BOSA LR LR 17 29 26.1
comp=Z,188nm,18.5s,baz=61,slow=32
KIEV Kiev 77.11 322 *e*P **P** **17 01 58.8 -1.2**
KIEV pmax pmax
comp=Z,7.0nm,0.9s
KIEV Kiev 77.11 322 *e*P **P** **17 01 58.8 -1.2**
comp=Z,7.2nm,0.9s
RPZ Rata Peaks 77.40 135 LR LR 17 36 03.1
comp=Z,471nm,21.5s,baz=192,slow=36
VRI Vrincioaia 77.44 317⇓ *i*P **P** **17 02 03.0 +1.0**
VRI Vrincioaia 77.44 317⇓ *i*P **P** **17 02 03.0 +1.0**
PLOR Plostina 77.49 317⇓ *i*P **P** **17 02 03.4 +1.1**
PLOR Plostina 77.49 317⇓ *i*P **P** **17 02 03.4 +1.1**
TESR Tescani 77.65 318⇑ *i*P **P** **17 02 03.3 +0.2**
TMCR Tamitsa 77.75 337 *e*P **P** **17 02 03.4 +0.1**
TMCR *e* 17 02 13.4
TMCR pmax pmax
comp=Z,37nm,1.2s
MLR Muntele Rosu 77.89 317⇓ *i*P **P** **17 02 05.4 +0.8**
VOIR 78.49 317 ⇑P **P** **17 02 08.0 +0.1**
VOIR 78.49 317 ⇑ *i*P **P** **17 02 08.0 +0.1**
ARR Arges 78.76 316⇑ *i*P **P** **17 02 09.9 +0.5**
BURAR Bucovina Array 78.86 319 ⇑P **P** **17 02 11.0 +1.1**
BURAR Bucovina Array 78.86 319⇑ *i*P **P** **17 02 11.0 +1.1**
BUR08 Bucovina Ar. S 78.87 319 *e*P **P** **17 02 09.0 -1.1**
VTS Vitosha 79.22 313 ⇑P **P** **17 02 11.8 -0.3**
VTS Vitosha 79.22 313⇑ *i*P **P** **17 02 11.8 -0.3**
JOF Joensuu 79.99 335 *ep* **P** **17 02 14.6 -1.0**
comp=Z,5.4nm,0.7s
JOF Joensuu 79.99 335 *e*P **P** **17 02 14.6 -1.0**
JOF pmax pmax
comp=Z,5.0nm,0.7s
LVV L'vov 80.11 321 *e*P **P** **17 02 16.2 -0.3**
BZS Buzias 80.89 316 ⇑P **P** **17 02 20.2 -0.6**
BZS Buzias 80.89 316⇑ *i*P **P** **17 02 20.2 -0.6**
APA Apatity 80.95 339⇓ *e*P **P** **17 02 19.0 -1.6**
APA MLR MLR
comp=Z,400nm,17.0s
UZH Uzhgorod 80.98 319 *e*P **P** **17 02 21.4 +0.2**
UZH *e* 17 02 29.0

TSUM	Tsumeb	80.99	251	eP		P	17 02 20.0	-2.1
	comp=Z,6.2nm,1.0s							
KOLS	Kolonicke sedl	81.05	320	eP		P	17 02 22.1	+0.5
URZ	Urewera	81.07	129	LR		LR	17 37 49.7	
	comp=Z,298nm,18.7s,baz=359,slow=35							
SUW	Suwalki	81.53	325	eP		P	17 02 23.3	-0.7
SUW				pmax		pmax		
	comp=Z,33nm,0.8s							
SUW	Suwalki	81.53	325	eP		P	17 02 23.3	-0.7
	comp=Z,32nm,0.8s							
STHS	Stebnicka Huta	81.81	320	eP		P	17 02 27.0	+1.4
FINES	FINESS Array B	81.85	332	P		P	17 02 25.7	+0.2
FINES	FINESS Array B	81.85	332	P		P	17 02 25.7	+0.2
	comp=Z,4.8nm,0.7s,baz=93,slow=5.8,SNR=23							
FINES				LR		LR	17 44 06.6	
	comp=Z,150nm,20.4s,baz=346,slow=40							
KAF	Kangasniemi	81.93	333	ep		P	17 02 25.7	-0.3
	comp=Z,8.9nm,0.7s							
KAF	Kangasniemi	81.93	333	eP		P	17 02 25.7	-0.3
KAF				pmax		pmax		
	comp=Z,9.0nm,0.7s							
KECS	Kecovo	82.14	319	eP		P	17 02 27.7	+0.3
BILL	Bilibino	82.29	21	∥ iP		P	17 02 27.9	+0.2
BILL				e			17 05 34.2	
BILL				eS		S	17 12 31.8	-9.1
BILL				pmax		pmax		
	comp=Z,5.0nm,1.2s							
NIE	Niedzica	82.41	320	eP		P	17 02 38.1	+9.3
PSZ	Piszkesteto	82.44	318	eP		P	17 02 28.4	-0.6
PSZ				pmax		pmax		
	comp=Z,10.0nm,0.9s							
PSZ	Piszkesteto	82.44	318	eP		P	17 02 28.4	-0.6
	comp=Z,10nm,0.9s							
OJC	Ojcow	82.86	321	eP		P	17 02 39.4	+8.3
VYHS	Vyhne	83.22	319	eP		P	17 02 33.7	+0.7
OKC	Ostrava-Krasne	83.86	320	eP		P	17 02 36.1	-0.1
OKC				e			17 02 45.4	
OKC	Ostrava-Krasne	83.86	320	eP		P	17 02 36.1	-0.1
OKC				epP		pP	17 02 45.4	-1.3
VNDA	Vanda	84.09	169	LR		LR	17 37 00.1	
	comp=Z,218nm,18.9s,baz=314,slow=33							
MORC	Moravsky Berou	84.24	320	eP		P	17 02 38.0	-0.3
MORC	Moravsky Berou	84.24	320	eP		P	17 02 38.0	-0.3
ARCES	ARCESS Array B	84.35	340	P		P	17 02 38.6	+0.3
ARCES	ARCESS Array B	84.35	340	P		P	17 02 38.6	+0.3
	comp=Z,5.1nm,0.8s,baz=93,slow=4.8,SNR=17							
ARCES				LR		LR	17 43 38.3	
	comp=Z,174nm,19.1s,baz=282,slow=38							
DPC	Dobruska-Polom	85.09	320	eP		P	17 02 43.7	+1.2
DPC				e			17 02 51.2	
DPC	Dobruska-Polom	85.09	320	eP		P	17 02 43.7	+1.2
DPC				epP		pP	17 02 51.2	-1.8
UPC	Upice	85.31	321	eP		P	17 02 44.6	+1.0
UPC	Upice	85.31	321	eP		P	17 02 44.6	+1.0
UPC				epP		pP	17 02 52.1	-1.9
PRU	Pruhonice	86.19	320	eP		pP	17 02 56.1	-2.3
PRU				e			17 03 03.8	
PRU				MLR		MLR		
	comp=Z,200nm,21.7s							
PRU	Pruhonice	86.19	320	ex		pP	17 02 56.1	-2.3
PRU				epP		sP	17 03 03.8	+1.6
PRU				AMS		AMS	17 48 30.0	
	comp=Z,200nm,21.7s							
GERES	GERESS Array B	86.64	319	P		P	17 02 50.8	+0.5
GERES	GERESS Array B	86.64	319	P		P	17 02 50.8	+0.5
	comp=Z,1.2nm,0.8s,baz=90,slow=4.0,SNR=8.9							
BRG	Berggiesshubel	86.65	321	eP		P	17 02 50.7	+0.5
	comp=Z,27nm,2.0s							
BRG								
	comp=N,205nm,24.0s							
BRG								
	comp=E,120nm,21.2s							
BRG								
	comp=Z,184nm,14.7s							
KHC	Kasperske Hory	86.75	319	eP		pP	17 02 59.6	-1.7
KHC	Kasperske Hory	86.75	319	epP		pP	17 02 59.6	-1.7
CLL	Collm	87.28	321	eP		P	17 02 53.0	-0.2
	comp=Z,4.0nm,1.0s							
CLL				eS		S	17 13 39.0	+8.0
GRF	Grafenberg Arr	88.32	320	eP		pP	17 03 07.2	-1.6
	comp=Z,8.0nm,1.2s							
GRF	Grafenberg Arr	88.32	320	eP		pP	17 03 07.2	-1.6
GRF				pmax		pmax		
	comp=Z,4.0nm,1.2s							
NOA	NORSAR Array B	88.86	331	LR		LR	17 49 28.4	
	comp=Z,120nm,18.7s,baz=90,slow=40							
KEST	Kesra	89.28	306	P		P	17 03 04.5	+1.3
KEST	Kesra	89.28	306	P		P	17 03 04.5	+1.3
	comp=Z,0.8nm,0.6s,baz=171,slow=3.8,SNR=3.9							
KBS	Kingsbay	89.65	349	c iP		P	17 03 04.6	+0.7
KBS				pmax		pmax		
	comp=Z,12nm,1.7s							
SBF	Sospel	90.80	314	eP		P	17 03 09.7	-0.4
CDF	Champ du Feu	90.89	318	eP		P	17 03 10.4	0.0
	comp=Z,7.9nm,1.0s							
LPG	La Plagne	91.28	315	eP		P	17 03 10.9	-1.7
	comp=Z,15nm,0.9s							
LPL	La Plagne	91.29	315	eP		P	17 03 10.9	-1.6
	comp=Z,18nm,0.9s							
HAU	Haudompre	91.52	318	eP		P	17 03 13.3	0.0
WLF	Walferdange	91.61	319	P		P	17 03 14.3	+0.7
	comp=Z,19nm,2.8s							
BEBN	Eben Emael	91.89	321	P		P	17 03 14.2	-0.6
ORIF	Oris-en-Rattie	91.91	315	eP		P	17 03 14.7	-0.5
	comp=Z,20nm,1.2s							
PAGF	Fort de Pagny	91.92	318	eP		P	17 03 14.6	-0.5
SFTF	Sexfontaines	92.39	318	eP		P	17 03 17.0	-0.3
LOR	Lormes	93.22	317	eP		P	17 03 21.2	0.0
	comp=Z,10nm,0.9s							
LASF	Ste Croix	93.38	314	eP		P	17 03 22.1	+0.1
SSF	Saint Saulge	93.47	317	eP		P	17 03 22.6	+0.3
	comp=Z,19nm,1.3s							
TORD	Torodi Ar. Bea	96.41	283	P		P	17 03 37.1	+0.7
TORD	Torodi Ar. Bea	96.41	283	P		P	17 03 37.1	+0.7
	comp=Z,0.5nm,0.7s,baz=83,slow=5.2,SNR=2.3							
ILAR	Eielson Array	100.76	23	PP		PP	17 07 49.2	-13
	comp=Z,0.9nm,0.9s,baz=290,slow=7.3,SNR=4.4							
TBI	Tubuai	110.30	115	eLR		LR	17 41 14.4	
	comp=Z,275nm,39.2s							
PPT2	Papeete2	111.04	109	eLR		LR	17 41 40.6	
	comp=Z,203nm,24.2s							
YKA	Yellowknife Ar	113.34	16	PP		PP	17 09 33.3	-0.9
	comp=Z,2.1nm,0.9s,baz=332,slow=6.4,SNR=6.3							
DLMT	Dillon	127.62	27	ePKPdf		PKPdf	17 09 10.7	-1.5
NVAR	Mina Array Bea	129.46	37	PKP		PKPdf	17 09 17.4	+1.4
NVAR	Mina Array Bea	129.46	37	PKP		PKPdf	17 09 17.4	+1.4
	comp=Z,0.9nm,0.7s,baz=288,slow=1.5,SNR=7.5							
ELK	Elko	129.68	33	PKP		PKPdf	17 09 17.6	+1.3
ELK	Elko	129.68	33	PKP		PKPdf	17 09 17.6	+1.3
	comp=Z,0.9nm,0.6s,baz=9.0,slow=6.6,SNR=3.2							
PDAR	Pinedale Array	131.01	27	PKP		PKPdf	17 09 19.9	+1.0
PDAR				PP		PP	17 11 36.3	+1.5
PDAR	Pinedale Array	131.01	27	PKP		PKPdf	17 09 19.9	+1.0
	comp=Z,0.5nm,0.8s,baz=225,slow=1.9,SNR=4.6							
PDAR				PP		PP	17 11 36.3	+1.5
	comp=Z,1.6nm,1.0s,baz=338,slow=3.5,SNR=3.6							
U25A	Circle Dot Ran	138.49	28	P		PKPdf	17 09 29.5	-3.4
	baz=138							
W31A	Holland Ranch,	141.47	24	P		PKPdf	17 09 34.7	-3.4
	baz=141							
226B	Tecolote Peak,	142.06	32	P		PKPdf	17 09 35.8	-3.6
	baz=142							
325A	Bean Ranch, Si	142.18	33	P		PKPdf	17 09 36.2	-3.6
	baz=142							
Z30A	Sanderson Ranc	142.57	27	P		PKPdf	17 09 37.2	-3.1
	baz=142							
425A	Indio Mountain	142.62	34	P		PKPdf	17 09 37.4	-3.1
	baz=142							
Z31A	Sharp Cattle R	142.99	26	P		PKPdf	17 09 37.6	-3.3
	baz=143							
Z32A	Haskell	143.28	25	P		PKPbc	17 09 39.0	+0.6
	baz=143							
328A	Wristen Ranch,	143.32	31	P		PKPbc	17 09 39.2	+0.6
	baz=143							
427A	Hayter Ranch,	143.43	32	P		PKPbc	17 09 40.1	+1.1
	baz=143							
329A	Wagon Wheel Ra	143.65	30	P		PKPbc	17 09 40.4	+0.8
	baz=143							
526A	Mary Lane Ranc	143.67	34	P		PKPbc	17 09 40.6	+0.8
	baz=144							
527A	Woodward Ranch	143.86	33	P		PKPbc	17 09 41.2	+0.8
	baz=144							
428A	Kincaid Ranch,	143.90	31	P		PKPdf	17 09 41.8	-0.9
	baz=144							
626A	Big Bend Ranch	144.03	34	P		PKPbc	17 09 41.7	+0.8
	baz=144							
231A	Bronte	144.08	27	P		PKPbc	17 09 41.0	+0.1
	baz=144							
330A	Mertzon	144.11	29	P		PKPbc	17 09 41.3	+0.3
	baz=144							
MIAR	Mount Ida	144.28	17	ePKIKP		PKPbc	17 09 42.0	+0.7
MIAR	Mount Ida	144.28	17	ePKPdf		PKPbc	17 09 42.0	+0.7
528A	Cox Ranch, San	144.29	32	P		PKPdf	17 09 42.7	-0.7
	baz=144							
429A	Davenport Ranc	144.39	31	P		PKPbc	17 09 42.3	+0.4
	baz=144							
232A	Coleman	144.42	27	P		PKPbc	17 09 42.4	+0.5
	baz=144							
TXAR	Lajitas Array	144.46	34	PKP		PKPdf	17 09 43.1	-0.6
TXAR	Lajitas Array	144.46	34	PKP		PKPdf	17 09 43.1	-0.6
	comp=Z,4.5nm,0.5s,baz=228,slow=0.2,SNR=66							
627A	Terlingua Ranc	144.52	34	P		PKPdf	17 09 43.3	-0.5
	baz=144							
331A	San Angelo	144.55	28	P		PKPdf	17 09 43.1	-0.6
	baz=144							
430A	Baggett Ranch,	144.59	30	P		PKPbc	17 09 43.1	+0.6
	baz=144							
529A	Stev Forest Ra	144.62	31	P		PKPdf	17 09 43.5	-0.4
	baz=144							
628A	Black Gap, Mar	144.77	33	P		PKPdf	17 09 44.4	+0.2
	baz=145							
332A	Millersview	144.80	27	P		PKPdf	17 09 43.8	-0.3
	baz=145							
TKL	Tuckaleechee C	144.86	3	PKP		PKPbc	17 09 43.4	+0.2
TKL	Tuckaleechee C	144.86	3	PKP		PKPbc	17 09 43.4	+0.2
	comp=Z,20nm,0.7s,baz=151,slow=0.6,SNR=11							
431A	Sonora	144.98	29	P		PKPdf	17 09 45.0	+0.5
	baz=145							
530A	J-C Ranch, Com	145.06	30	P		PKPdf	17 09 45.3	+0.6
	baz=145							
432A	Menard	145.21	28	P		PKPdf	17 09 44.8	-0.1
	baz=145							
WHTX	Lake Whitney	145.26	24	P		PKPdf	17 09 45.1	+0.2
	baz=145							
KMSC	Kings Mountain	145.42	359	P		PKPab	17 09 45.3	+0.1
	baz=145							
531A	Rocksprings	145.44	29	P		PKPab	17 09 46.3	+0.8
	baz=145							
JCT	Junction City	145.53	28	ePKP2		PKPab	17 09 46.1	+0.3
JCT	Junction City	145.53	28	ePKPdf		PKPab	17 09 46.1	+0.3
JCT	Junction City	145.53	28	P		PKPab	17 09 46.6	+0.8
	baz=145							
532A	Rocksprings	145.78	29	P		PKPab	17 09 47.3	+0.6
	baz=146							
631A	Perdido Creek	146.04	30	P		PKPab	17 09 48.1	+0.5
	baz=146							
632A	Uvalde	146.35	29	P		PKPab	17 09 49.3	+0.5
	baz=146							
732A	Laxson Ranch,	146.90	30	P		PKPab	17 09 51.3	+0.3
	baz=147							
LRAL	Lakeview Retre	147.16	8	ePKPbc		PKPbc	17 09 50.2	0.0
LPAZ	La Paz	158.62	219	PKPab		PKPab	17 10 42.6	+1.7
LPAZ	La Paz	158.62	219	PKPab		PKPab	17 10 42.6	+1.7
	comp=Z,1.9nm,0.8s,baz=201,slow=5.1,SNR=4.4							

*ISCJB **10** 17:07:06.8±0.5, 40°.73N±0°.03×33°.94E±0°.03, h6km±5km, Error ellipse: s-maj=4.6km s-min=3.9km az=9.2*
*CSEM **10** 17:07:06.7±0.1, 40°.72N×33°.94E, h2km, MD3.5, Error ellipse: s-maj=2.7km s-min=2.5km az=169.0*
*DDA **10** 17:07:06.2, 40°.69N×33°.91E, h7km, MD3.2*
*ISK **10** 17:07:06.4, 40°.74N×33°.94E, h7km, MD3.5*

ISC 10 17:07:07.0±1.0, 40°.72N±0°.02×33°.95E±0°.02, h8km±11km, n60, σ0°64/75, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CANT	Cankiri	0.28	246	PG	Pg	17 07 12.5	+0.1
CANT				eSG	Sg	17 07 17.0	+0.9
TOS	Tosya	0.32	10	PG	Pg	17 07 13.2	-0.2
TOS				eSG	Sg	17 07 17.2	-0.5
TOS	Tosya	0.32	10	i Pg	Pg	17 07 13.2	-0.2
TOS				eSg	Sg	17 07 17.2	-0.5
ILGA	Ilgaz	0.38	332	i P	Pg	17 07 14.2	-0.3
ILGA				i S	Sg	17 07 20.1	+0.6
ILGA	Ilgaz	0.38	332	i P	Pg	17 07 14.2	-0.3
ILGA				i S	Sg	17 07 20.1	+0.6
CTKT	Corum	0.65	98	i P	Pg	17 07 19.2	-0.2
CTKT				i S	Sb	17 07 29.5	-0.3
CTKT	Corum	0.65	98	i P	Pg	17 07 19.2	-0.2
CTKT				i S	Sb	17 07 29.5	-0.3
CORM	Corum	0.75	136	PG	Pg	17 07 21.5	+0.1
CORM				eSG	Sb	17 07 32.6	-0.1
CORM	Corum	0.75	136	i Pg	Pg	17 07 21.5	+0.1
CORM				eSg	Sb	17 07 32.6	-0.1
BYBT	Boyabat	0.97	39	PG	Pg	17 07 25.3	-0.3
BYBT	Boyabat	0.97	39	i Pg	Pg	17 07 25.3	-0.3
SAFT	Safranbolu	1.09	299	PG	Pg	17 07 27.3	-0.6
SAFT	Safranbolu	1.09	299	i Pg	Pg	17 07 27.3	-0.6
CDAG	Cicekdag	1.14	163	i P	Pg	17 07 27.8	-1.0
CDAG				i S	Sg	17 07 43.5	-0.1
CDAG	Cicekdag	1.14	163	i P	Pg	17 07 27.8	-1.0
CDAG				i S	Sg	17 07 43.5	-0.1
ANTO	Ankara	1.23	227	PN	Pb	17 07 30.3	-0.1
ANTO	Ankara	1.23	227	i Pn	Pb	17 07 30.3	-0.1
LOD	Lodumlu	1.23	228	PN	Pb	17 07 29.8	-0.7
LOD	Lodumlu	1.23	228	i Pn	Pb	17 07 29.8	-0.7
BBAL	Bala	1.33	209	i P	Pn	17 07 31.5	-0.5
BBAL				i S	Sb	17 07 49.2	-0.4
BBAL	Bala	1.33	209	i P	Pn	17 07 31.5	-0.5
BBAL				i S	Sb	17 07 49.2	-0.4
DIKM	Dikmen	1.36	46	ePN	Pn	17 07 32.2	-0.1
DIKM	Dikmen	1.36	46	ePn	Pn	17 07 32.2	0.0
KAMT	Kaman	1.36	188	PN	Pn	17 07 31.7	-0.7
KAMT	Kaman	1.36	188	i Pn	Pn	17 07 31.7	-0.7
AFSR	Af˙ar-Bala (A	1.44	208	ePN	Pn	17 07 33.7	+0.2
AFSR	Af˙ar-Bala (A	1.44	208	ePn	Pb	17 07 33.7	-0.4
YOZ	Yozgat	1.50	135	ePN	Pn	17 07 34.6	+0.2
YOZ	Yozgat	1.50	135	ePn	Pn	17 07 34.6	+0.2
KVT	Kavak	1.63	76	ePN	Pn	17 07 36.3	+0.3
KVT	Kavak	1.63	76	ePn	Pn	17 07 36.3	+0.3
TOKT	Tokat	2.02	101	ePN	Pn	17 07 42.0	+0.7
TOKT	Tokat	2.02	101	ePn	Pn	17 07 42.0	+0.7
AVNT	Avonos	2.06	160	i P	Pn	17 07 42.9	+0.9
AVNT				i S	Sb	17 08 10.7	+0.2
AVNT	Avonos	2.06	160	i P	Pn	17 07 42.9	+0.9
AVNT				i S	Sb	17 08 10.7	+0.2
MDUB	Mudurnu	2.11	264	ePN	Pn	17 07 43.3	+0.6
MDUB	Mudurnu	2.11	264	ePn	Pn	17 07 43.3	+0.6
SVRH	Sivrihisar-ESK	2.25	237	ePN	Pn	17 07 45.5	+0.9
SVRH	Sivrihisar-ESK	2.25	237	ePn	Pn	17 07 45.5	+0.9
BNN	Bunyan	2.37	141	ePN	Pn	17 07 47.4	+1.2
BNN	Bunyan	2.37	141	ePn	Pn	17 07 47.4	+1.2
KIZT	Kizilcal	2.43	222	ePN	Pn	17 07 47.2	+0.1
KIZT	Kizilcal	2.43	222	ePn	Pn	17 07 47.2	+0.1
SVSK	Karacayir	2.46	108	ePN	Pn	17 07 48.5	+1.1
SVSK	Karacayir	2.46	108	ePn	Pn	17 07 48.5	+1.1
SULT	Sultanhani-AKS	2.54	188	ePN	Pn	17 07 49.6	+1.1
SULT	Sultanhani-AKS	2.54	188	ePn	Pn	17 07 49.6	+1.1
RSDY	Resadiye-TOKAT	2.59	96	ePN	Pn	17 07 49.8	+0.6
RSDY	Resadiye-TOKAT	2.59	96	ePn	Pn	17 07 49.8	+0.6
GULT	Gulveren	2.63	265	ePN	Pn	17 07 50.4	+0.6
GULT	Gulveren	2.63	265	ePn	Pn	17 07 50.4	+0.6
NIG	Nigde	2.65	169	ePN	Pn	17 07 51.0	+0.7
NIG	Nigde	2.65	169	ePn	Pn	17 07 51.0	+0.7
ESKT	Eskisehir	2.66	244	ePN	Pn	17 07 51.0	+0.7
ESKT	Eskisehir	2.66	244	ePn	Pn	17 07 51.0	+0.7
LADK	Ladik-KONYA	2.80	207	ePN	Pn	17 07 52.9	+0.8
LADK	Ladik-KONYA	2.80	207	ePn	Pn	17 07 52.9	+0.8
SARI	SarD1z-Kayseri	2.99	140	ePN	Pn	17 07 56.2	+1.4
CAVI	Cavuskoy	3.18	262	ePN	Pn	17 07 58.2	+0.9
CAVI	Cavuskoy	3.18	262	ePn	Pn	17 07 58.2	+0.9

IDC 10 17:07:25.9±1.9, 18°.75S×177°.74W, h599km±29km, mb3.1/7, mb1 3.3/9, mb1mx3.1/22, mbtmp3.2/9, Error ellipse: s-maj=30.4km s-min=16.6km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	7.48	51	P	P	17 09 20.6	+0.1
	2.7nm,0.3s,baz=113,slow=4.5,SNR=4.1						
URZ	Urewera	19.95	192	P	P	17 11 18.6	-0.5
	0.7nm,0.3s,baz=322,slow=17,SNR=6.4						
CTA	Charters Tower	33.95	262	P	P	17 13 21.1	-0.1
	7.5nm,1.0s,baz=75,slow=12,SNR=6.3						
STKA	Stephens Creek	38.79	242	P	P	17 14 00.8	+0.1
	1.1nm,0.4s,baz=85,slow=13,SNR=4.1						
WRA	Warramunga Arr	45.11	260	P	P	17 14 50.3	-0.2
	1.4nm,0.3s,baz=98,slow=7.1,SNR=81						
ASAR	Alice Springs	45.18	255	P	P	17 14 51.0	0.0
	2.4nm,0.6s,baz=89,slow=7.9,SNR=81						
FITZ	Fitzroy Crossi	53.52	261	P	P	17 15 52.1	0.0
	1.4nm,1.0s,baz=21,slow=21,SNR=7.2						
TXAR	Lajitas Array	85.91	57	P	P	17 19 05.0	+1.1
	0.5nm,0.8s,baz=196,slow=6.3,SNR=4.2						
ILAR	Eielson Array	86.56	13	P	P	17 19 04.2	-1.8
	0.2nm,0.4s,baz=220,slow=4.7,SNR=5.0						

IDC 10 17:30:27.7±25.0, 16°.82S×174°.50W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.7/19, mbtmp4.1/4, Error ellipse: s-maj=466.2km s-min=149.3km az=71.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	37.31	259	P	P	17 37 42.6	+0.6
	3.2nm,0.7s,baz=93,slow=10,SNR=3.5						
STKA	Stephens Creek	42.42	241	P	P	17 38 24.9	+0.5
	2.6nm,0.9s,baz=90,slow=11,SNR=2.6						
WRA	Warramunga Arr	48.50	258	P	P	17 39 11.9	-0.9
	0.9nm,0.7s,baz=96,slow=8.1,SNR=16						
ASAR	Alice Springs	48.67	253	P	P	17 39 13.6	-0.6
	3.1nm,0.5s,baz=87,slow=8.8,SNR=30						

IDC 10 17:34:18.3±1.2, 11°.34N×143°.16E, h0km, mb3.4/5, mb1 3.7/5, mb1mx3.5/22, mbtmp3.4/5, Error ellipse: s-maj=40.5km s-min=23.8km az=94.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	32.28	196	P	P	17 40 48.4	-0.6
	0.5nm,1.0s,baz=18,slow=11,SNR=2.9						
ASAR	Alice Springs	35.95	195	P	P	17 41 21.3	+0.4
	0.2nm,0.8s,baz=29,slow=12,SNR=3.4						
CMAR	Chiang Mai Arr	43.23	285	P	P	17 42 21.8	+0.1
	1.4nm,0.9s,baz=90,slow=6.7,SNR=11						
MKAR	Makanchi Array	61.97	317	P	P	17 44 39.8	-0.4
	0.5nm,0.6s,baz=95,slow=7.2,SNR=5.4						
ILAR	Eielson Array	71.30	25	P	P	17 45 39.7	+0.2
	0.3nm,0.5s,baz=255,slow=6.4,SNR=3.4						

IDC 10 17:35:54.0±1.1, 17°.73S×167°.26E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.0/20, mbtmp4.0/10, MS3.4/2, Ms1 3.4/2, ms1mx2.9/29, Error ellipse: s-maj=31.6km s-min=20.4km az=108.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	4.38	190	Pn	Pn	17 37 02.8	+0.8
	baz=90,slow=20						
DZM				Sn	Sn	17 37 52.6	-1.4
	baz=90,slow=20						
PMG	Port Moresby	21.20	290	LR	LR	17 46 59.2	
	comp=Z,87nm,21.7s,baz=187,slow=31						
STKA	Stephens Creek	27.13	234	P	P	17 41 40.2	+1.3
	6.8nm,0.6s,baz=54,slow=7.9,SNR=17						
WRA	Warramunga Arr	31.20	261	P	P	17 42 13.9	-1.4
	0.7nm,0.7s,baz=83,slow=5.7,SNR=9.8						
ASAR	Alice Springs	31.70	254	P	P	17 42 18.9	-0.8
	2.2nm,0.7s,baz=78,slow=9.0,SNR=30						
ASAR				LR	LR	17 54 32.1	
	comp=Z,108nm,21.7s,baz=359,slow=35						
FITZ	Fitzroy Crossi	39.54	263	P	P	17 43 26.4	-0.7
	2.0nm,0.8s,baz=131,slow=12,SNR=3.7						
PETK	Petropavlovsk-	71.03	354	P	P	17 47 14.0	+0.5
	0.6nm,0.6s,baz=160,slow=4.7,SNR=4.6						
QSPA	South Pole Qui	72.31	180	P	P	17 47 21.4	0.0
	2.0nm,0.8s,baz=41,slow=2.5,SNR=7.1						
CMAR	Chiang Mai Arr	76.17	295	P	P	17 47 46.0	+1.5
	0.7nm,0.8s,baz=132,slow=4.6,SNR=7.2						
SONM	Songino Array	84.89	324	P	P	17 48 30.9	-0.1
	0.2nm,0.3s,baz=142,slow=4.8,SNR=3.9						
ILAR	Eielson Array	89.37	18	P	P	17 48 50.9	-1.2
	0.7nm,0.7s,baz=236,slow=5.8,SNR=6.8						

IDC 10 17:44:51.7±2.3, 0°.52S×98°.10E, h0km, mb3.7/5, mb1 3.7/7, mb1mx3.6/24, mbtmp3.6/7, ML3.8/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/30, Error ellipse: s-maj=78.1km s-min=19.5km az=63.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	3.40	14	Pn	Pn	17 45 45.0	-1.1
	5.2nm,0.3s,baz=308,slow=1.7,SNR=16						
PSI				LR	LR	17 47 18.8	
	comp=Z,169nm,19.7s,baz=27,slow=45						
CMAR	Chiang Mai Arr	18.87	2	P	P	17 49 13.5	-0.2
	0.2nm,0.3s,baz=194,slow=11,SNR=8.5						
WRA	Warramunga Arr	40.38	121	P	P	17 52 31.2	-0.6
	0.3nm,0.6s,baz=304,slow=9.0,SNR=3.1						
ASAR	Alice Springs	41.66	126	P

XAN				S	**Sn**	**17 54 15.3**	**-4.8**
XAN				LR	LR		
	comp=N,140nm,9.1s						
XAN				LR	LR		
	comp=E,61nm,7.7s						
XAN				LR	LR		
	comp=Z,33nm,7.3s						
SONM	**Songino Array**	**22.63**	**10**	P	**P**	**17 54 42.4**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=192,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**25.85**	**330**	P	**P**	**17 55 14.6**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=129,slow=9.7,SNR=3.6						

AUST ***10*** *17:54:22.5±22.0, 4°.16S×134°.44E, h0km, Error ellipse: s-maj=1.8km s-min=0.9km az=239.0*
IDC ***10*** *17:54:25.9±1.7, 4°.31S×133°.78E, h0km, mb3.5/2, mb1 4.0/6, mb1mx3.7/18, mbtmp3.8/6, ML4.0/4, MS3.6/6, Ms1 3.6/6, ms1mx3.2/19, Error ellipse: s-maj=61.6km s-min=22.1km az=66.0*
ISCJB ***10*** *17:54:29.4±0.9, 4°.46S±0°.06×133°.7E±0°.1, h33km, mb3.4/2, MS3.5/3, Error ellipse: s-maj=17.9km s-min=7.9km az=171.6*

ISC 10 17:54:30.6±1.2, 4°.53S±0°.08×133°.8E±0°.2, h35km, n18, σ2s66/13, MS3.5/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.23**	**316**	P	**Pn**	**17 55 04.9**	**-0.2**
	baz=2.5,SNR=34						
SWI	**Sorong**	**4.45**	**325**	P	Pn	17 55 33.6	-1.9
	baz=4.6,SNR=10						
KDU	**Kakadu**	**8.21**	**189**	P	**Pn**	**17 56 30.0**	**+2.7**
	baz=8.7,SNR=13						
MTN	**Manton Dam**	**8.67**	**198**	P	**Pn**	**17 56 36.8**	**+3.1**
	baz=9.3,SNR=54						
SOEI	**Soe**	**10.80**	**241**	P	Pn	17 57 09.4	+6.5
	baz=12,SNR=4.0						
KNRA	**Kununurra**	**12.14**	**204**	P	**Pn**	**17 57 22.8**	**+1.7**
	baz=13,SNR=7.0						
COEN	**Coen**	**13.15**	**136**	P	Pn	17 57 27.8	-7.2
	baz=13,SNR=4.2						
PMG	**Port Moresby**	**14.11**	**111**	LR	LR	18 03 14.4	
	comp=Z,279nm,20.2s,baz=14,slow=37						
WRA	**Warramunga Arr**	**15.33**	**178**	Pn	**P**	**17 58 08.3**	**-0.5**
	0.5nm,0.3s,baz=2.0,slow=12,SNR=29						
WRA				Sn	**Sn**	**18 00 46.4**	**-6.8**
	0.2nm,0.3s,baz=13,slow=23,SNR=5.8						
FITZ	**Fitzroy Crossi**	**15.68**	**210**	Pn	**Pn**	**17 58 09.2**	**+0.3**
	0.3nm,0.3s,baz=38,slow=11,SNR=8.7						
FITZ				Sn	**Sn**	**18 01 01.7**	**0.0**
	0.3nm,0.3s,baz=197,slow=17,SNR=3.8						
FITZ				LR	LR	18 04 48.1	
	comp=Z,137nm,19.2s,baz=146,slow=39						
FITZ	**Fitzroy Crossi**	**15.68**	**210**	P	**P**	**17 58 11.5**	**-1.2**
	baz=16,SNR=6.6						
ASAR	**Alice Springs**	**19.02**	**180**	P	**Pn**	**17 58 51.5**	**+0.8**
	0.5nm,0.3s,baz=6.4,slow=11,SNR=56						
ASAR				LR	LR	18 07 15.5	
	comp=Z,286nm,18.4s,baz=357,slow=40						
CTA	**Charters Tower**	**19.65**	**143**	P	**Pn**	**17 58 59.2**	**+1.1**
	0.4nm,0.3s,baz=312,slow=12,SNR=5.5						
STKA	**Stephens Creek**	**28.17**	**166**	LR	LR	18 12 50.2	
	comp=Z,181nm,19.0s,baz=356,slow=39						
CMAR	**Chiang Mai Arr**	**41.26**	**305**	P	**P**	**18 02 12.7**	**-0.1**
	0.2nm,0.7s,baz=129,slow=5.6,SNR=3.1						
KSRS	**Korea Array**	**42.13**	**353**	LR	LR	18 20 45.7	
	comp=Z,35nm,18.1s,baz=185,slow=38						
FX1	**Attu Island--F**	**66.12**	**25**	LR	LR	18 27 29.7	
	comp=Z,32nm,21.9s,baz=243,slow=30						
MKAR	**Makanchi Array**	**68.33**	**325**	P	**P**	**18 05 27.4**	**-1.0**
	0.9nm,0.8s,baz=121,slow=7.5,SNR=10						

GUC 10 17:58:07.6±0.6, 34°.01S×72°.35W, h29km±3km, MD3.7, ML3.3, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.79**	**86**	*i* P	Pn	17 58 22.2	-0.5
LNV				*i* S	Sb	17 58 33.0	-0.1
CHCH	**Chadas Angostu**	**1.42**	**87**	*e* P	Pn	17 58 32.1	+0.6
CHCH				*i* S	Sb	17 58 50.7	-0.5
CACH	**El Canelo**	**1.46**	**95**	*i* P	Pb	17 58 33.3	-1.0
CACH				*e*S	Sb	17 58 53.2	+0.6
ANTU	**Antumapu**	**1.50**	**73**	*i* S	Sb	17 58 52.9	-0.6
ANTU				AML	AML	17 58 53.6	
	comp=N,730nm,0.4s						
ROCH	**El Roble**	**1.52**	**48**	*i* P	Pn	17 58 33.8	+0.6
ROCH				*i* S	Sb	17 58 54.5	-0.2
ROCH				AML	AML	17 59 01.6	
	comp=N,524nm,0.4s						
PCH	**Pirque**	**1.58**	**76**	*i* P	Pn	17 58 34.5	+0.8
CLCH	**Cerro Calan**	**1.63**	**69**	*e* P	Pb	17 58 36.9	-0.3
CLCH				*i* S	Sb	17 58 56.7	-0.8
CLCH				AML	AML	17 59 04.2	
	comp=E,364nm,0.4s						
PEL	**Peldehue**	**1.64**	**59**	*i* P	Pn	17 58 35.8	+1.3
PEL				*i* S	Sb	17 58 57.0	-0.6
PEL				AML	AML	17 59 06.0	
	comp=E,1μm,0.4s						
LMEL	**Las Melosas**	**1.79**	**85**	*i* P	Pn	17 58 38.2	+1.4
LMEL				*i* S	Sb	17 59 01.7	-0.6
LMEL				AML	AML	17 59 03.6	
	comp=N,572nm,0.2s						
FCH	**Farellones**	**1.85**	**69**	*e* P	Pn	17 58 36.3	-1.5
FCH				*i* S	Sn	17 59 00.2	-0.3
FCH				AML	AML	17 59 02.3	
	comp=N,384nm,0.4s						

DDA 10 18:02:08.8, 39°.30N×27°.95E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akisar**	**0.43**	**194**	*i* P	Pg	18 02 17.0	-0.2
AKHS				*i* S	Sb	18 02 24.4	-1.1
DURS	**Dursunbey**	**0.51**	**53**	*i* P	Pg	18 02 18.9	+0.1
DURS				*i* S	Sg	18 02 26.5	+1.0
GDZ	**Gediz**	**1.21**	**99**	*i* P	Pn	18 02 32.8	+0.5
GDZ				*i* S	Sn	18 02 49.0	-0.1

NIED ***10*** *18:16:00, 44°.50N×141°.50E, h250km, Mw4.2 Best double couple: M0 2.59000×10^15 NP1:ϕ=357.00000°, δ87.00000°, λ80.00000°. NP2:ϕ=247.00000°, δ10.00000°, λ160.00000°.*
BJI ***10*** *18:16:27.3, 44°.40N×142°.04E, h220km, mB4.5/11, mb4.5/25*
ISCJB ***10*** *18:16:33.3±0.2, 44°.49N±0°.03×141°.47E±0°.04, h238km±2km, mb4.0/41, Error ellipse: s-maj=5.8km s-min=4.7km az=141.0*
MOS ***10*** *18:16:33.1±1.1, 44°.59N×141°.40E, h234km, mb3.9/26, Error ellipse: s-maj=9.3km s-min=7.4km az=108.5*
JMA ***10*** *18:16:33.6±0.1, 44°.51N×141°.51E, h239km±2km, M4.2*
IDC ***10*** *18:16:33.9±0.4, 44°.56N×141°.45E, h229km±4km, mb3.7/25, mb1 3.9/29, mb1mx3.8/34, mbtmp3.7/29, Error ellipse: s-maj=11.2km s-min=8.2km az=163.0*

ISC 10 18:16:33.8±0.5, 44°.51N±0°.04×141°.40E±0°.04, h230km±4km, n110, σ1s27/146, mb4.1/41, 18C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYG	**Yagishiri**	**0.08**	**168**	*i* P	**Pn**	**18 17 04.5**	**+0.8**
JYG				*e*S	**S**	**18 17 27.8**	**+0.8**
JSS	**Shosan**	**0.34**	**108**	*i* P	**Pn**	**18 17 05.1**	**+1.1**
JSS				*e*S	**S**	**18 17 29.1**	**+1.6**
JRR	**Rishiri**	**0.63**	**354**	P	**Pn**	**18 17 06.1**	**+1.3**
JRR				*e*S	**S**	**18 17 31.8**	**+2.6**
JHR	**Hokuryu**	**0.80**	**163**	*i* P	**Pn**	**18 17 06.7**	**+1.0**
JHR				*e*S	**S**	**18 17 32.1**	**+1.5**
JWK2	**Keihoku**	**0.88**	**23**	*i* P	**Pn**	**18 17 06.7**	**+0.7**
JWK2				*e*S	**S**	**18 17 31.6**	**+0.3**
ASAJ	**Asahikawa**	**0.94**	**114**	*i* P	**Pn**	**18 17 06.5**	**+0.1**
ASAJ				*e*S	**S**	**18 17 32.1**	**+0.3**
ASAJ	**Asahikawa**	**0.94**	**114**	P	**Pn**	**18 17 06.6**	**+0.1**
	201nm,0.3s,baz=275,slow=4.6,SNR=2284						
ASAJ				S	**S**	**18 17 31.8**	**0.0**
	8.8nm,0.3s,baz=176,slow=33,SNR=10						
JSE	**Soyaes**	**0.95**	**61**	*i* P	**Pn**	**18 17 06.6**	**+0.2**
JSE				*e*S	**S**	**18 17 31.8**	**-0.1**
JKK2	**Kamakawa 2**	**1.16**	**123**	*i* P	**Pn**	**18 17 08.1**	**+0.3**
JKK2				*e*S	**S**	**18 17 34.5**	**+0.3**
JAB	**Ashibetsu**	**1.17**	**149**	*i* P	**Pn**	**18 17 08.4**	**+0.6**
JAB				*e*S	**S**	**18 17 35.6**	**+1.3**
JSK	**Shakotan**	**1.34**	**210**	*i* P	**Pn**	**18 17 09.7**	**+0.7**
JSK				*e*S	**S**	**18 17 37.3**	**+0.9**
JFR	**Furan**	**1.60**	**147**	*i* P	**Pn**	**18 17 11.1**	**0.0**
JFR				*e*S	**S**	**18 17 41.0**	**+0.8**
JEW	**Eniwo**	**1.67**	**179**	*i* P	**Pn**	**18 17 12.6**	**+0.9**
JEW				*e*S	**S**	**18 17 42.9**	**+1.7**
JTKR	**Abashiri--Toko**	**1.88**	**106**	*i* P	**Pn**	**18 17 14.1**	**+0.6**
JTKR				*e*S	**S**	**18 17 44.8**	**+0.3**
JAR	**Ashorobuto**	**2.10**	**124**	*i* P	**Pn**	**18 17 16.0**	**+0.4**
JAR				*e*S	**S**	**18 17 49.0**	**+0.8**
JCH	**Churui**	**2.37**	**142**	P	**Pn**	**18 17 16.7**	**-1.6**
JCH				*e*S	**S**	**18 17 49.9**	**-3.2**
JNBK	**Urakawa-nobuka**	**2.44**	**156**	P	**Pn**	**18 17 18.9**	**-0.1**
JNBK				*e*S	**S**	**18 17 54.2**	**-0.2**
YSS	**Yuzh-Sakhalins**	**2.62**	**21**	*i* PN	**Pn**	**18 17 22.0**	**+1.1**
YSS				*i* S	**S**	**18 17 58.6**	**+0.8**
YSS				pmax	pmax		
	comp=N,270nm,0.3s						
YSS				pmax	pmax		
	comp=Z,380nm,0.3s						
YSS				smax	smax		
	comp=N,560nm,0.9s						
YSS				smax	smax		
	comp=E,430nm,0.9s						
JKB	**Kayabe**	**2.63**	**186**	P	**Pn**	**18 17 20.7**	**-0.4**
JKB				*e*S	**S**	**18 17 56.1**	**-2.0**
JRA	**Rausu**	**2.73**	**101**	P	**Pn**	**18 17 22.8**	**+0.7**
ERM	**Erimo**	**2.80**	**152**	*e*PN	**Pn**	**18 17 22.9**	**0.0**
JOSM	**Okushiri--Mats**	**2.80**	**211**	P	**Pn**	**18 17 23.1**	**+0.2**
JOSM				*e*S	**S**	**18 18 01.2**	**-0.2**
JAK	**Akkeshi**	**2.83**	**121**	P	**Pn**	**18 17 21.7**	**-1.4**
JAK				*e*S	**S**	**18 17 59.6**	**-2.2**
YUK	**Yuzh-Kuril'sk**	**3.24**	**97**	PN	**Pn**	**18 17 28.5**	**+0.8**
YUK				S	**S**	**18 18 12.3**	**+2.2**
YUK				pmax	pmax		
	comp=Z,43nm,0.6s						
YUK				pmax	pmax		
	comp=E,100nm,0.5s						
YUK				pmax	pmax		
	comp=N,43nm,0.6s						
YUK				smax	smax		
	comp=N,167nm,0.6s						
YUK				smax	smax		
	comp=E,122nm,0.6s						
KUR	**Kuril'sk**	**4.65**	**79**	*e*PN	**Pn**	**18 17 46.1**	**+1.5**
KUR				pmax	pmax		
	comp=Z,16μm,0.6s						
KUR				pmax	pmax		
	comp=E,15nm,0.6s						
KUR				pmax	pmax		
	comp=Z,51nm,0.6s						
HABR	**Khabarovsk**	**5.91**	**314**	PN	Pn	18 17 56.7	-3.6
HABR				S	**S**	**18 19 04.5**	**-4.6**
HABR				pmax	pmax		
	comp=N,21nm,2.0s						
HABR				pmax	pmax		
	comp=E,41nm,2.5s						
HABR				pmax	pmax		
	comp=E,34nm,1.7s						
USRK	**Ussuriysk Arra**	**6.75**	**271**	P	**Pn**	**18 18 12.2**	**+1.3**
	comp=E,1.7nm,0.3s,baz=84,slow=14,SNR=41						
SKR	**Severo-Kuril's**	**11.69**	**53**	*e*PN	**Pn**	**18 19 11.8**	**-2.0**
SKR				*e*		18 21 19.9	
SKR				pmax	pmax		
	comp=N,40nm,0.6s						
SKR				pmax	pmax		
	comp=E,50nm,0.6s						
SKR				pmax	pmax		
	comp=Z,90nm,0.6s						
KSRS	**Korea Array**	**12.38**	**240**	P	Pn	**18 19 22.6**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=53,slow=12,SNR=15						
PETK	**Petropavlovsk-**	**13.73**	**45**	P	Pn	**18 19 39.0**	**-0.2**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**13.73**	**45**	P	**Pn**	**18 19 39.0**	**-0.2**
	comp=Z,1.5nm,0.3s,baz=215,slow=8.9,SNR=50						
JNU	**Nakatsue**	**14.01**	**219**	P	**P**	**18 19 44.4**	**+0.5**
	comp=Z,1.7nm,0.3s,baz=42,slow=5.8,SNR=18						
PET	**Petropavlovsk**	**14.18**	**47**	*i* P	**Pn**	**18 19 44.6**	**0.0**
YAK	**Yakutsk**	**18.84**	**343**	*e*P	**P**	**18 20 34.9**	**-1.5**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BJI	**Beijing**	**19.16**	**265**	P	**P**	**18 20 38.8**	**-1.3**
BJI				pmax	pmax		
	comp=Z,22nm,0.6s						
SEY	**Seymchan**	**19.52**	**15**	*c* P	**P**	**18 20 43.1**	**-0.5**
FX1	**Attu Island--F**	**22.42**	**57**	P	**P**	**18 21 13.8**	**+0.8**
	comp=Z,8.0nm,0.5s,baz=180,slow=2.0,SNR=7.5						
SONM	**Songino Array**	**24.34**	**290**	P	**P**	**18 21 30.8**	**+0.1**
	comp=Z,24nm,0.5s,baz=87,slow=8.4,SNR=256						
SONM				PcP	**PcP**	**18 25 03.4**	**0.0**
	comp=Z,0.2nm,0.4s,baz=161,slow=1.6,SNR=3.7						
SONM				ScP	**ScP**	**18 28 19.8**	**0.0**
	comp=Z,1.0nm,0.9s,baz=136,slow=3.1,SNR=6.5						
ZAK	**Zakamensk**	**26.23**	**297**	*i* P	**P**	**18 21 47.6**	**0.0**
ZAK				*e*		18 22 36.8	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LZH	**Lanzhou**	**29.64**	**267**	*e*P	**P**	**18 22 19.2**	**+1.1**
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
LZH				pmax	pmax		
	comp=Z,110nm,5.0s						
GTA	**Gaotai**	**31.09**	**275**	*e*P	**P**	**18 22 32.1**	**+1.4**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HVS	**Khovu-Aksy**	**32.23**	**299**	*e*P	**P**	**18 22 41.1**	**+0.6**
HVS				pmax	pmax		
	comp=Z,16nm,1.0s						
GYA	**Guiyang**	**33.21**	**249**	P	**P**	**18 22 50.0**	**+0.7**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMI	**Kunming**	**36.73**	**251**	P	**P**	**18 23 20.4**	**+0.9**
KMI				pmax	pmax		
	comp=Z,19nm,0.8s						
ZALV	**Zalesovo Beam**	**37.21**	**305**	*i* P	**P**	**18 23 22.8**	**0.0**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**37.21**	**305**	P	**P**	**18 23 22.7**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=88,slow=7.9,SNR=11						
ZALV				ScP	**ScP**	**18 29 02.2**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=90,slow=3.0,SNR=5.9						
WMQ	**Urumqi**	**37.95**	**288**	P	**P**	**18 23 29.6**	**+0.4**
MKAR	**Makanchi Array**	**40.54**	**295**	P	**P**	**18 23 51.0**	**+0.5**
MKAR						18 25 47.9	
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MKAR	**Makanchi Array**	**40.54**	**295**	P	**P**	**18 23 51.0**	**+0.5**
	comp=Z,5.7nm,0.7s,baz=82,slow=8.6,SNR=59						
MKAR				PcP	**PcP**	**18 25 47.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=72,slow=5.8,SNR=5.0						
MKAR				ScP	**ScP**	**18 29 15.2**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=60,slow=4.7,SNR=5.8						
KURK	**Kurchatov**	**41.64**	**302**	P	**P**	**18 24 00.3**	**+0.9**
KURK				pmax	pmax		
	comp=Z,12nm,0.7s						
KURBB	**Kurchatov Arra**	**41.72**	**302**	P	**P**	**18 24 00.2**	**+0.2**
	comp=Z,12nm,0.7s,baz=73,slow=9.1,SNR=84						
KURBB				ScP	**ScP**	**18 29 19.9**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=78,slow=3.7,SNR=11						
KDAK	**Kodiak Island**	**41.78**	**47**	P	**P**	**18 24 00.2**	**-0.2**
	comp=Z,7.1nm,0.4s,baz=292,slow=4.8,SNR=18						
ILAR	**Eielson Array**	**43.33**	**36**	P	**P**	**18 24 11.5**	**-1.3**
	comp=Z,2.2nm,0.7s,baz=280,slow=7.8,SNR=21						
CMAR	**Chiang Mai Arr**	**43.87**	**248**	P	**P**	**18 24 18.3**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=34,slow=6.9,SNR=9.7						
BVAR	**Borovoye Array**	**45.78**	**307**	P	**P**	**18 24 32.5**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
BVAR	**Borovoye Array**	**45.78**	**307**	P	**P**	**18 24 32.5**	**+0.2**
	comp=Z,6.4nm,0.4s,baz=73,slow=8.7,SNR=64						
BVAR				ScP	**ScP**	**18 29 36.4**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=56,slow=3.7,SNR=8.9						
BRVK	**Borovoye**	**45.83**	**307**	*e*P	**P**	**18 24 33.4**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.4s						
TAPN	**Taplejung**	**45.88**	**267**	*e*P	**P**	**18 24 34.2**	**+0.4**
	comp=Z,9.0nm,0.4s						
ULHL	**Ulahol**	**46.28**	**291**	*i* P	**P**	**18 24 37.6**	**+1.0**
ULHL	**Ulahol**	**46.28**	**291**	P	**P**	**18 24 37.6**	**+1.0**
	SNR=5.4						
ODAN	**Odare**	**46.41**	**266**	*e*P	**P**	**18 24 37.2**	**-0.5**
	comp=Z,6.1nm,0.5s						
TKM2	**Tokmak 2**	**46.41**	**292**	*i* P	**P**	**18 24 39.0**	**+1.4**
TKM2	**Tokmak 2**	**46.41**	**292**	P	**P**	**18 24 39.1**	**+1.4**
	SNR=9.4						
JIRN	**Jiri**	**46.79**	**268**	*e*P	**P**	**18 24 41.5**	**+0.6**
	comp=Z,9.5nm,0.3s						
GUN	**Gumba**	**46.86**	**269**	*e*P	**P**	**18 24 42.0**	**+0.6**
	comp=Z,24nm,0.5s						
RAMN	**Ramite**	**46.92**	**267**	*e*P	**P**	**18 24 42.2**	**+0.5**
	comp=Z,45nm,0.7s						
KBK	**Karagaybulak**	**46.96**	**292**	*i* P	**P**	**18 24 43.1**	**+1.3**
KBK	**Karagaybulak**	**46.96**	**292**	P	**P**	**18 24 43.1**	**+1.3**
	SNR=11						
KZA	**Kyzart**	**47.02**	**291**	*i* P	**P**	**18 24 44.5**	**+2.0**
KZA	**Kyzart**	**47.02**	**291**	P	**P**	**18 24 44.5**	**+2.0**
	SNR=9.2						
AAK	**Ala-Archa**	**47.27**	**292**	*ce*P	**P**	**18 24 45.0**	**+0.8**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KKN	**Kakani**	**47.36**	**269**	*e*P	**P**	**18 24 45.6**	**+0.5**
	comp=Z,8.2nm,0.5s						
PKI	**Pulchoki**	**47.40**	**269**	*e*P	**P**	**18 24 45.7**	**+0.2**
	comp=Z,7.6nm,0.5s						
PKIN	**Phulchoki**	**47.41**	**269**	*e*P	**P**	**18 24 45.6**	**+0.1**
	comp=Z,3.8nm,0.3s						
DMN	**Daman**	**47.59**	**269**	*e*P	**P**	**18 24 47.4**	**+0.5**
	comp=Z,15nm,0.9s						
EKS2	**Erkin-Say**	**47.73**	**293**	P	**P**	**18 24 48.4**	**+0.8**
	SNR=9.2						
INK	**Inuvik**	**47.83**	**30**	P	**P**	**18 24 47.0**	**-0.7**
	comp=Z,3.2nm,0.6s,baz=244,slow=8.2,SNR=6.7						
AML	**Almayashu**	**48.02**	**292**	*i* P	**P**	**18 24 51.5**	**+1.3**
AML	**Almayashu**	**48.02**	**292**	P	**P**	**18 24 51.5**	**+1.3**
	SNR=5.8						
DANN	**Dangsing**	**48.12**	**271**	*e*P	**P**	**18 24 52.1**	**+1.1**
	comp=Z,66nm,0.8s						
KOLN	**Koldanda**	**48.58**	**270**	*e*P	**P**	**18 24 55.0**	**+0.6**
	comp=Z,18nm,0.4s						
PYUN	**Piuthan**	**48.82**	**271**	*e*P	**P**	**18 24 56.9**	**+0.7**
	comp=Z,19nm,0.3s						
SVE	**Sverdlovsk**	**49.71**	**315**	*e*P	**P**	**18 25 02.9**	**+0.7**
SVE				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ARU	**Arti**	**50.92**	**315**	*c* P	**P**	**18 25 11.7**	**+0.4**
ARU				*PP	**pP**	**18 25 58.3**	**-3.1**
ARU						18 27 07.8	
ARU				S	**S**	**18 32 10.7**	**+1.2**
ARU				SS	**SS**	**18 35 42.4**	**-4.3**
ARU				pmax	pmax		
	comp=Z,12nm,1.7s						
AKTO	**Aktyubinsk**	**53.86**	**308**	P	**P**	**18 25 33.3**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKTO	**Aktyubinsk**	**53.86**	**308**	P	**P**	**18 25 33.2**	**+0.3**
	comp=Z,3.4nm,0.6s,baz=70,slow=12,SNR=7.8						
AKTO				ScP	**ScP**	**18 30 10.6**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=99,slow=5.5,SNR=5.2						
RES	**Resolute Bay**	**55.39**	**16**	P	**P**	**18 25 42.6**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=304,slow=5.7,SNR=3.6						
ARCES	**ARCESS Array B**	**57.04**	**338**	P	**P**	**18 25 55.3**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=64,slow=8.2,SNR=4.5						
YKA	**Yellowknife Ar**	**57.42**	**32**	P	**P**	**18 25 57.5**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=307,slow=7.0,SNR=5.9						
JOF	**Joensuu**	**59.42**	**330**	*ep*	**P**	**18 26 10.1**	**-1.7**
	comp=Z,1.5nm,0.4s						
JOF	**Joensuu**	**59.42**	**330**	*eP*	**P**	**18 26 10.1**	**-1.7**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KAF	**Kangasniemi**	**61.71**	**331**	*ep*	**P**	**18 26 24.5**	**-2.7**
	comp=Z,0.8nm,0.4s						
KAF	**Kangasniemi**	**61.71**	**331**	*eP*	**P**	**18 26 24.5**	**-2.7**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
OBN	**Obninsk**	**62.19**	**321**	*i* P	**P**	**18 26 29.7**	**-0.8**
OBN				*e*PP	**pP**	**18 27 18.8**	**-3.8**
OBN				*e*		18 28 47.0	
OBN				*e*S	S	18 34 46.9	+10
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FINES	**FINESS Array B**	**62.25**	**331**	P	**P**	**18 26 29.8**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=49,slow=8.5,SNR=26						
WRA	**Warramunga Arr**	**64.46**	**187**	P	**P**	**18 26 45.3**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=16,slow=7.0,SNR=12						
WRA				pP	**pP**	**18 27 37.8**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=0.6,slow=7.7,SNR=2.3						
KIV	**Kislovodsk**	**66.11**	**309**	*e*P	**P**	**18 26 58.4**	**+2.1**
KIV				*e*PP	**PcP**	**18 27 29.5**	**+4.7**
KIV				*e*		18 29 20.9	
KIV				*i* S	S	18 35 32.3	+6.5
KIV				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KBZ	**Khabaz**	**66.14**	**308**	P	**P**	**18 26 57.7**	**+1.4**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KBZ	**Khabaz**	**66.14**	**308**	P	**P**	**18 26 57.6**	**+1.4**
	comp=Z,3.0nm,0.6s,baz=70,slow=5.2,SNR=8.4						
NB2	**NORSAR Subarra**	**67.32**	**336**	P	**P**	**18 27 03.0**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=37,slow=6.5						
NOA	**NORSAR Array B**	**67.32**	**336**	P	**P**	**18 27 03.1**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=35,slow=6.4,SNR=6.5						
ASAR	**Alice Springs**	**68.19**	**187**	P	**P**	**18 27 09.9**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=1.9,slow=5.9,SNR=21						
NVAR	**Mina Array Bea**	**70.61**	**55**	P	**P**	**18 27 24.8**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=286,slow=5.8,SNR=11						
PDAR	**Pinedale Array**	**72.50**	**47**	P	**P**	**18 27 35.7**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=290,slow=1.6,SNR=36						
OJC	**Ojcow**	**72.87**	**325**	*eP*	**P**	**18 27 38.3**	**+1.0**
ULM	**Lac du Bonnet**	**73.30**	**34**	P	**P**	**18 27 39.5**	**-0.4**
	comp=Z,1.7nm,0.3s

TCHB					AML	AML	18 19 53.1	
	comp=E,4μm,0.7s							
TCHB					AML	AML	18 19 56.3	
	comp=N,3μm,0.5s							
TCHB	**Talchebab**	**0.83**	**142**	*i* P	**Pb**		**18 19 33.3**	**-0.1**
	SNR=67							
TCHB				*e*S	**Sb**		**18 19 44.2**	**-0.2**
	comp=N,3μm,0.5s,SNR=59							
MMLI	**Mount Malkishu**	**0.89**	**177**	Pg	**Pb**		**18 19 34.1**	**-0.3**
MMLI				Sg	**Sb**		**18 19 45.9**	**-0.1**
TOTH	**TOTAH**	**0.89**	**87**	*i* P	**Pb**		**18 19 34.6**	**+0.1**
TOTH				*e*S	**Sb**		**18 19 46.0**	**-0.3**
TOTH				AML	AML		18 19 52.0	
	comp=E,1μm,0.5s							
TOTH				AML	AML		18 19 53.2	
	comp=N,2μm,0.6s							
TOTH	**TOTAH**	**0.89**	**87**	*i* P	**Pb**		**18 19 34.6**	**+0.1**
	SNR=67							
TOTH				*e*S	**Sb**		**18 19 46.0**	**-0.3**
	comp=N,2μm,0.6s,SNR=59							
HWQ	**Hawqa**	**1.07**	**27**	*e*P	**Pn**		**18 19 38.0**	**+0.1**
HWQ				*e*S	**Sn**		**18 19 52.4**	**-0.2**
HWQ	**Hawqa**	**1.07**	**27**	*e*P	**Pn**		**18 19 37.8**	**-0.1**
HWQ				*e*S	**Sn**		**18 19 52.1**	**-0.4**
HWQ	**Hawqa**	**1.07**	**27**	*e*P	**Pn**		**18 19 38.0**	**+0.1**
HWQ				*e*S	**Sn**		**18 19 52.2**	**-0.4**
HMDT	**Nahal Hemdat**	**1.08**	**173**	Pg	**Pb**		**18 19 37.4**	**-0.2**
HMDT				Sg	**Sg**		**18 19 52.0**	**-0.1**
HMDT	**Nahal Hemdat**	**1.08**	**173**	Pg	**Pb**		**18 19 37.4**	**-0.2**
HMDT				Sg	**Sg**		**18 19 52.0**	**-0.1**
SLTI	**Sal'it**	**1.11**	**194**	Pg	**Pb**		**18 19 38.1**	**-0.1**
SLTI				Sg	**Sn**		**18 19 53.5**	**0.0**
FKH	**Fakeheh**	**1.27**	**43**	*e*P	**Pg**		**18 19 41.3**	**-0.3**
SALA	**Sala**	**1.30**	**118**	*e*P	**Pb**		**18 19 41.4**	**-0.2**
SALA				*e*S	**Sg**		**18 19 58.9**	**-0.4**
SALA	**Sala**	**1.30**	**118**	*e*P	**Pb**		**18 19 41.4**	**-0.2**
	SNR=57							
SALA				*e*S	**Sg**		**18 19 58.9**	**-0.4**
	SNR=49							
HAWK	**Haweek**	**1.48**	**36**	*i* P	**Pb**		**18 19 44.5**	**0.0**
HAWK				*e*S	**Sn**		**18 20 02.5**	**0.0**
HAWK				AML	AML		18 20 11.8	
	comp=E,1μm,0.4s							
HAWK				AML	AML		18 20 12.0	
	comp=N,1μm,0.5s							
HAWK	**Haweek**	**1.48**	**36**	*i* P	**Pb**		**18 19 44.5**	**0.0**
	SNR=57							
HAWK				*e*S	**Sn**		**18 20 02.5**	**0.0**
	comp=N,1μm,0.5s,SNR=49							
ZALF	**Zalf**	**1.70**	**103**	*e*P	**Pb**		**18 19 47.6**	**-0.7**
ZALF				*e*S	**Sb**		**18 20 10.2**	**+0.7**
ZALF				AML	AML		18 20 14.7	
	comp=E,445nm,0.4s							
ZALF				AML	AML		18 20 14.8	
	comp=N,554nm,0.5s							
ZALF	**Zalf**	**1.70**	**103**	*e*P	**Pb**		**18 19 47.6**	**-0.7**
	SNR=45							
ZALF				*e*S	**Sb**		**18 20 10.2**	**+0.7**
	comp=N,554nm,0.5s,SNR=40							
DSI	**Dead Sea**	**1.75**	**180**	Pn	**Pn**		**18 19 47.7**	**+0.6**
DSI	**Dead Sea**	**1.75**	**180**	Pn	**Pn**		**18 19 47.7**	**+0.6**
ROOS	**tl_alroos**	**1.81**	**62**	*e*S	**Sb**		**18 20 12.0**	**-0.8**
ROOS				AML	AML		18 20 26.9	
	comp=N,6.6nm,0.6s							
ROOS				AML	AML		18 20 27.1	
	comp=E,8.3nm,0.5s							
ROOS	**tl_alroos**	**1.81**	**62**	*e*S	**Sb**		**18 20 12.0**	**-0.8**
	comp=E,8.3nm,0.5s,SNR=40							
YTIR	**Yattir**	**1.97**	**186**	Pn	**Pb**		**18 19 52.1**	**-0.7**
YTIR	**Yattir**	**1.97**	**186**	Pn	**Pb**		**18 19 52.1**	**-0.7**
PHNC	**Paralimni**	**2.01**	**327**	P	**Pn**		**18 19 51.0**	**+0.4**
	comp=E,2.0nm,0.3s							
PHNC				S	**Sn**		**18 20 14.9**	**-0.6**
PHNC	**Paralimni**	**2.01**	**327**	P	**Pn**		**18 19 51.0**	**+0.4**
PHNC				S	**Sn**		**18 20 14.9**	**-0.6**
PHNC	**Paralimni**	**2.01**	**327**	P	**Pn**		**18 19 51.0**	**+0.4**
	comp=E,2.0nm,0.3s							
PHNC				S	**Sn**		**18 20 14.9**	**-0.6**
MZDA	**Masada**	**2.01**	**180**	Pn	**Pb**		**18 19 52.1**	**-1.4**
MZDA	**Masada**	**2.01**	**180**	Pn	**Pb**		**18 19 52.1**	**-1.4**
KFRA	**Kufra**	**2.23**	**32**	*i* P	**Pb**		**18 19 56.9**	**-0.3**
KFRA				*e*S	**Sn**		**18 20 21.1**	**+0.1**
KFRA				AML	AML		18 20 36.0	
	comp=N,788nm,0.6s							
KFRA				AML	AML		18 20 38.4	
	comp=E,2μm,0.3s							
KFRA	**Kufra**	**2.23**	**32**	*i* P	**Pb**		**18 19 56.9**	**-0.3**
	SNR=45							
KFRA				*e*S	**Sn**		**18 20 21.1**	**+0.1**
	comp=E,2μm,0.3s,SNR=40							
CSS	**Prodhromos**	**2.35**	**315**	⇓P	**Pn**		**18 19 55.8**	**+0.4**
CSS				S	**Sn**		**18 20 23.8**	**-0.2**
CSS	**Prodhromos**	**2.35**	**315**	*e*PN	**Pn**		**18 19 55.7**	**+0.4**
CSS				*e*SN	**Sn**		**18 20 21.6**	**-2.4**
CSS	**Prodhromos**	**2.35**	**315**	⇓P	**Pn**		**18 19 55.8**	**+0.4**
CSS				S	**Sn**		**18 20 23.8**	**-0.2**
EREN	**Erenkoy**	**2.41**	**336**	*e*PN	**Pn**		**18 19 56.7**	**+0.5**
LFK	**Lefkose**	**2.47**	**323**	*e*PN	**Pn**		**18 19 57.6**	**+0.5**
LFK				*e*SN	**Sn**		**18 20 23.6**	**-3.4**
LFK	**Lefkose**	**2.47**	**323**	Pn	**Pn**		**18 19 57.6**	**+0.5**
LFK	**Lefkose**	**2.47**	**323**	Pn	**Pn**		**18 19 57.6**	**+0.5**
MAMC	**Mammari**	**2.56**	**317**	P	**Pn**		**18 19 58.7**	**+0.5**
MAMC	**Mammari**	**2.56**	**317**	P	**Pn**		**18 19 58.7**	**+0.5**
ARNB	**Al Arnab**	**2.58**	**11**	*i* P	**Pn**		**18 19 59.4**	**+0.8**
ARNB				*e*S	**Sn**		**18 20 25.8**	**-4.0**
ARNB				AML	AML		18 20 40.7	
	comp=E,449nm,0.2s							
ARNB				AML	AML		18 20 51.4	
	comp=N,207nm,0.4s							
ARNB	**Al Arnab**	**2.58**	**11**	*i* P	**Pn**		**18 19 59.4**	**+0.8**
	SNR=45							
RSH		**2.74**	**211**	P	**Pn**		**18 20 01.7**	**+1.0**
ZFRI	**Zfri**	**2.77**	**183**	Pn	**Pn**		**18 20 02.1**	**+1.0**
YAYL	**Yayladag**	**2.77**	**13**	*i* P	**Pn**		**18 20 02.4**	**+1.1**
YAYL				*i* S	**Sn**		**18 20 35.5**	**+0.9**
YAYL	**Yayladag**	**2.77**	**13**	*i* P	**Pn**		**18 20 02.4**	**+1.1**
YAYL				*i* S	**Sn**		**18 20 35.5**	**+0.9**
BTCH	**Batrach**	**2.85**	**18**	*i* P	**Pn**		**18 20 04.0**	**+1.6**
BTCH				*e*S	**Sb**		**18 20 43.3**	**+0.6**
BTCH				AML	AML		18 21 00.9	
	comp=N,660nm,0.4s							
BTCH				AML	AML		18 21 03.2	
	comp=E,243nm,0.5s							
BTCH	**Batrach**	**2.85**	**18**	*i* P	**Pn**		**18 20 04.0**	**+1.6**
	SNR=45							
HTY	**Hatay**	**2.86**	**13**	*e*PN	**Pb**		**18 20 05.5**	**-2.5**
HTY				*e*SN	**Sn**		**18 20 37.5**	**+0.9**
ALFC	**Alevga**	**2.93**	**309**	P	**Pn**		**18 20 04.3**	**+0.9**
	comp=E,4.9nm,0.2s							
ALFC				S	**Sn**		**18 20 38.8**	**+0.4**
ALFC	**Alevga**	**2.93**	**309**	P	**Pn**		**18 20 04.3**	**+0.9**
	comp=E,4.9nm,0.2s							
ALFC				S	**Sn**		**18 20 38.8**	**+0.4**
PPCY	**Paphos**	**2.95**	**303**	P	**Pn**		**18 20 04.3**	**+0.7**
PPCY	**Paphos**	**2.95**	**303**	P	**Pn**		**18 20 04.3**	**+0.7**
PRNI	**Paran**	**2.98**	**186**	Pn	**Pn**		**18 20 05.3**	**+1.2**
AKMC	**Akamas**	**3.03**	**305**	P	**Pn**		**18 20 05.7**	**+0.9**
AKMC	**Akamas**	**3.03**	**305**	P	**Pn**		**18 20 05.7**	**+0.9**
IKL	**Isikli**	**3.22**	**335**	*e*PN	**Pn**		**18 20 07.8**	**+0.5**
IKL	**Isikli**	**3.22**	**335**	Pn	**Pn**		**18 20 08.0**	**+0.7**
IKL	**Isikli**	**3.22**	**335**	Pn	**Pn**		**18 20 08.0**	**+0.7**
AMAG	**Maghara**	**3.24**	**215**	P	**Pn**		**18 20 08.6**	**+0.9**
AMAG				S	**Sn**		**18 20 46.9**	**+0.8**
KRTS	**Karatas**	**3.24**	**0**	*e*PN	**Pn**		**18 20 09.4**	**+1.8**
KIZK	**Mersin**	**3.30**	**343**	*i* P	**Pn**		**18 20 09.3**	**+0.8**
KIZK				*i* S	**Sn**		**18 20 46.1**	**-1.4**
KIZK	**Mersin**	**3.30**	**343**	*i* P	**Pn**		**18 20 09.3**	**+0.8**
KIZK				*i* S	**Sn**		**18 20 46.1**	**-1.4**
HNKL	**Nakhl**	**3.58**	**200**	P	**Pn**		**18 20 14.0**	**+1.6**
EIL	**Elat**	**3.66**	**186**	Pn	**Pn**		**18 20 14.5**	**+1.1**
EIL	**Elat**	**3.66**	**186**	Pn	**Pn**		**18 20 14.5**	**+1.1**
GAZI	**Gazipasa**	**3.84**	**320**	*i* P	**Pn**		**18 20 17.0**	**+1.2**
GAZI				*i* S	**Sn**		**18 21 00.0**	**-0.7**
GAZI	**Gazipasa**	**3.84**	**320**	*i* P	**Pn**		**18 20 17.0**	**+1.2**
GAZI				*i* S	**Sn**		**18 21 00.0**	**-0.7**
ERMK	**Ermenek**	**3.87**	**329**	*i* P	**Pn**		**18 20 16.0**	**-0.5**
ERMK				*i* S	**Sn**		**18 21 03.0**	**+1.1**
ERMK	**Ermenek**	**3.87**	**329**	*i* P	**Pn**		**18 20 16.0**	**-0.5**
ERMK				*i* S	**Sn**		**18 21 03.0**	**+1.1**
KARA	**Karaisali**	**3.94**	**356**	*e*PN	**Pn**		**18 20 19.0**	**+1.8**
GULE	**Gulek**	**3.98**	**353**	*i* P	**Pn**		**18 20 19.8**	**+1.9**
GULE				*i* S	**Sn**		**18 21 04.7**	**+0.2**
GULE	**Gulek**	**3.98**	**353**	*i* P	**Pn**		**18 20 19.8**	**+1.9**
GULE				*i* S	**Sn**		**18 21 04.7**	**+0.2**
SUZ		**4.09**	**213**	P	**Pn**		**18 20 21.0**	**+1.7**
KOZT	**Kozan**	**4.16**	**5**	*e*PN	Pn		18 20 23.8	+3.4
HHAG	**Hagoal**	**4.36**	**220**	P	**Pn**		**18 20 23.7**	**+0.6**
NIG	**Nigde**	**4.81**	**353**	*e*PN	**Pn**		**18 20 31.9**	**+2.4**
NIG	**Nigde**	**4.81**	**353**	Pn	**Pn**		**18 20 31.9**	**+2.4**
NIG	**Nigde**	**4.81**	**353**	Pn	**Pn**		**18 20 31.9**	**+2.4**
GLL	**Jalalah**	**4.87**	**221**	P	**Pn**		**18 20 31.0**	**+0.9**
URFA	**Urfa**	**4.98**	**34**	*e*PN	Pn		18 20 37.4	+5.7
SUTC	**Sutluce-Ispart**	**5.46**	**321**	*e*PN	**Pn**		**18 20 40.2**	**+1.9**
MALT	**Malatya**	**5.56**	**26**	*e*PN	Pn		18 20 45.1	+5.4
KIZT	**Kizilcal**	**6.22**	**334**	*e*PN	**Pn**		**18 20 50.5**	**+1.9**
KIZT	**Kizilcal**	**6.22**	**334**	Pn	**Pn**		**18 20 50.5**	**+1.9**
KIZT	**Kizilcal**	**6.22**	**334**	Pn	**Pn**		**18 20 50.5**	**+1.9**
BR131	**Keskin Array S**	**6.54**	**348**	*e*Pn	**Pn**		**18 20 54.6**	**+1.6**
BR131	**Keskin Array S**	**6.54**	**348**	*e*Pn	**Pn**		**18 20 54.6**	**+1.6**
BHD	**Baghdad**	**7.55**	**88**	*e*Pn	**Pn**		**18 21 06.0**	**-0.8**
BHD				*e*Sn	**Sn**		**18 22 31.0**	**-1.2**
BHD	**Baghdad**	**7.55**	**88**	*e*Pn	**Pn**		**18 21 06.0**	**-0.8**
BHD				*e*Sn	**Sn**		**18 22 31.0**	**-1.2**
BODT	**Bodrum**	**7.57**	**302**	Pn	**Pn**		**18 21 08.2**	**+1.1**
BODT	**Bodrum**	**7.57**	**302**	Pn	**Pn**		**18 21 08.2**	**+1.1**
IBDR	**Badra**	**8.86**	**88**	*e*Pn	Pn		18 21 19.0	-5.7
IBDR				*e*Sn	Sn		18 22 57.0	-7.3

IDC 10 18:50:00.4±12.0, 17.94S×178.51W, h650km±117km, mb3.2/5, mb1 3.3/5, mb1mx2.9/20, mbtmp3.2/5, Error ellipse: s-maj=111.5km s-min=68.3km az=111.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.35**	**261**	P	P	18 55 48.3	+0.3
	3.8nm,0.6s,baz=79,slow=12,SNR=5.3						
STKA	**Stephens Creek**	**38.53**	**241**	P	P	18 56 30.4	+0.2
	3.4nm,0.5s,baz=92,slow=9.7,SNR=8.2						
WRA	**Warramunga Arr**	**44.53**	**260**	P	P	18 57 17.0	-0.3
	1.5nm,0.4s,baz=95,slow=6.8,SNR=66						
WRA				PcP	PcP	18 58 45.6	-0.1
	0.2nm,0.3s,baz=90,slow=3.5,SNR=3.3						
ASAR	**Alice Springs**	**44.69**	**254**	P	P	18 57 18.4	-0.1
	3.7nm,0.4s,baz=91,slow=8.1,SNR=117						
ASAR				PcP	PcP	18 58 45.9	-0.4
	0.5nm,0.4s,baz=102,slow=3.9,SNR=8.0						
FITZ	**Fitzroy Crossi**	**52.93**	**261**	P	P	18 58 19.3	+0.4
	0.5nm,0.3s,baz=90,slow=13,SNR=4.1						
BRTR	**Keskin Array B**	**144.74**	**315**	PKP	PKPdf	19 08 25.7	+0.3
	0.8nm,0.8s,baz=152,slow=6.4,SNR=3.8						
GERES	**GERESS Array B**	**147.62**	**345**	PKPbc	PKPbc	19 08 32.8	-0.8
	0.4nm,0.5s,baz=46,slow=4.2,SNR=5.0						

IDC 10 18:50:59.7±1.9, 1.29S×129.19E, h0km, mb3.0/2, mb1 3.4/4, mb1mx3.2/20, mbtmp3.2/4, ML3.2/2, Error ellipse: s-maj=98.1km s-min=24.1km az=72.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.07**	**192**	P	Pn	18 54 59.5	-0.5
	0.0nm,0.3s,baz=3.5,slow=19,SNR=3.4						
WRA	**Warramunga Arr**	**19.21**	**165**	P	P	18 55 23.8	-1.7
	0.1nm,0.3s,baz=345,slow=11,SNR=14						
ASAR	**Alice Springs**	**22.71**	**169**	P	P	18 56 04.2	+0.9
	0.4nm,0.8s,baz=347,slow=10,SNR=10						
MKAR	**Makanchi Array**	**63.05**	**326**	P	P	19 01 29.1	+0.2
	0.1nm,0.7s,baz=142,slow=5.1,SNR=3.3						

IDC ***10*** *18:56:56.4±12.0, 31.81S×179.34W, h550km±177km, mb2.5/2, mb1 2.8/3, mb1mx2.7/17, mbtmp2.6/3, Error ellipse: s-maj=272.5km s-min=43.0km az=2.0*

ISC 10 18:56:56.7±2.7, 31.7S±0.2×179.5W±0.4, h550km, n8, σ1°28/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**6.66**	**196**	PN	**P**	**18 58 40.8**	**-0.5**
PUZ				SN	S	19 00 12.7	+5.6
CNGZ	**Carnagh Statio**	**7.07**	**195**	PN	**P**	**18 58 46.5**	**+1.4**
MWZ	**Matawai**	**7.10**	**199**	PN	**P**	**18 58 45.9**	**+0.4**
MWZ				SN	S	19 00 22.0	+7.3
URZ	**Urewera**	**7.15**	**202**	P	**P**	**18 58 44.2**	**-1.7**
	0.9nm,0.3s,baz=354,slow=19,SNR=10						
URZ	**Urewera**	**7.15**	**202**	PN	**P**	**18 58 45.0**	**-1.0**
URZ				SN	S	19 00 23.1	+7.4
ASAR	**Alice Springs**	**41.80**	**269**	P	**P**	**19 04 00.1**	**+1.2**
	0.3nm,0.5s,baz=105,slow=6.7,SNR=8.2						
WRA	**Warramunga Arr**	**42.91**	**274**	P	**P**	**19 04 07.3**	**-0.2**
	0.7nm,0.6s,baz=109,slow=8.0,SNR=10						
FINES	**FINESS Array B**	**145.88**	**338**	PKPbc	**PKPbc**	**19 15 33.6**	**-0.5**
	1.2nm,0.6s,baz=56,slow=4.6,SNR=6.3						

NNC ***10*** *19:08:30.1±4.1, 36.37N×69.14E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=38.5km s-min=33.8km az=25.0*
IDC ***10*** *19:08:51.5±1.6, 37.72N×69.94E, h0km, mb3.7/7, mb1 3.9/13, mb1mx3.7/31, mbtmp3.8/13, ML3.5/6, MS2.4/1, Ms1 2.4/1, ms1mx2.0/51, Error ellipse: s-maj=30.1km s-min=13.1km az=151.0*
ISCJB ***10*** *19:08:52.8±1.2, 38.0N±0.1×69.67E±0.09, h10km, mb3.6/6, Error ellipse: s-maj=19.1km s-min=8.7km az=160.0*

ISC 10 19:08:54.9±1.2, 38.1N±0.1×69.83E±0.09, h10km, n28, σ1°45/26, mb3.6/7, 5C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.01**	**35**	P	**Pn**	**19 10 13.2**	**+2.7**
	SNR=13						
KK31	**Karatay Array**	**5.04**	**6**	Pn	**Pn**	**19 10 12.9**	**+2.3**
	1.0nm,0.3s,baz=189,slow=17,SNR=64						
KK31				⇑Sn	**Sg**	**19 11 36.5**	**-0.1**
	50nm,0.7s,baz=192,slow=27,SNR=8.8						
KZA	**Kyzart**	**5.76**	**45**	P	Pn	19 10 23.7	+2.9
	SNR=22						
AAK	**Ala-Archa**	**5.77**	**37**	P	Pn	19 10 25.8	+5.0
	SNR=13						
AAK	**Ala-Archa**	**5.77**	**37**	Pn	Pn	19 10 24.1	+3.3
	5.0nm,0.3s,baz=182,slow=6.5,SNR=17						
AAK				Pg	**Pg**	**19 10 43.9**	**-1.5**
	1.4nm,0.3s,baz=196,slow=13,SNR=9.0						
AAK				Lg	Lg	19 11 59.8	
	2.9nm,0.3s,baz=317,slow=21,SNR=6.5						
KBK	**Karagaybulak**	**6.01**	**39**	P	Pn	19 10 27.8	+3.7
	SNR=14						
CHMS	**Chumysh**	**6.17**	**36**	P	Pn	19 10 30.0	+3.8
	SNR=10						
USP	**Ospenovka**	**6.27**	**33**	P	**Pn**	**19 10 29.8**	**+2.3**
	SNR=6.1						
TKM2	**Tokmak 2**	**6.53**	**41**	⇑Pn	**Pn**	**19 10 33.6**	**+2.4**
	2.7nm,0.4s						
TKM2				⇓Sn	**Sb**	**19 12 05.4**	**-1.4**
	8.5nm,0.7s						
MK31	**Makanchi Array**	**12.65**	**43**	Pn	**Pn**	**19 11 55.9**	**+0.9**
	3.1nm,0.8s,baz=230,slow=12,SNR=23						
MKAR	**Makanchi Array**	**12.65**	**43**	Pn	**Pn**	**19 11 55.6**	**+0.7**
	0.1nm,0.3s,baz=233,slow=13,SNR=25						
MKAR				Lg	Lg	19 15 37.1	
	0.0nm,0.3s,baz=266,slow=20,SNR=2.7						
AB31	**Akbulak array**	**13.24**	**331**	Pn	**Pn**	**19 12 01.4**	**-1.5**
	0.4nm,0.4s,baz=165,slow=11,SNR=27						
KURBB	**Kurchatov Arra**	**13.98**	**24**	⇑Pn	**Pn**	**19 12 13.4**	**+0.4**
	0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**13.98**	**24**	Pn	**Pn**	**19 12 11.1**	**-1.8**
	0.0nm,0.3s,baz=212,slow=12,SNR=4.1						
KURBB				Lg	Lg	19 16 26.1	
	0.0nm,0.3s,baz=216,slow=30,SNR=6.9						
VOSK	**Vostochnaya**	**14.66**	**3**	⇑Pn	**Pn**	**19 12 21.4**	**-0.8**
	2.5nm,0.9s						
AKTO	**Aktyubinsk**	**14.94**	**329**	⇓Pn	**P**	**19 12 31.5**	**-0.2**
	10nm,1.0s						
AKTO	**Aktyubinsk**	**14.94**	**329**	Pn	**Pn**	**19 12 27.6**	**+1.6**
	0.1nm,0.3s,baz=135,slow=17,SNR=4.3						
AKTO				Sn	Sn	19 15 02.5	-9.0
	0.1nm,0.3s,baz=15,slow=22,SNR=1.8						
BVA0	**Borovoye Array**	**14.94**	**1**	Pn	**Pn**	**19 12 27.7**	**+1.6**
	0.7nm,0.4s,baz=161,slow=10,SNR=6.9						
BVAR	**Borovoye Array**	**14.94**	**1**	Pn	**Pn**	**19 12 25.2**	**-0.9**
	0.2nm,0.3s,baz=164,slow=11,SNR=2.9						
BRVK	**Borovoye**	**14.97**	**1**	⇑Pn	**Pn**	**19 12 28.1**	**+1.5**
	7.0nm,1.1s						
ZALV	**Zalesovo Beam**	**18.91**	**28**	P	**P**	**19 13 15.1**	**-0.5**
	0.6nm,0.3s,baz=221,slow=12,SNR=11						
ZALV				LR	LR	19 20 14.9	
	comp=Z,10nm,19.4s,baz=252,slow=36						
KBZ	**Khabaz**	**21.07**	**294**	P	**P**	**19 13 39.9**	**+0.7**
	3.7nm,0.9s,baz=146,slow=9.1,SNR=6.6						
SONM	**Songino Array**	**28.25**	**58**	P	**P**	**19 14 48.8**	**+0.6**
	0.3nm,0.6s,baz=262,slow=11,SNR=3.0						
FINES	**FINESS Array B**	**35.65**	**325**	P	**P**	**19 15 52.9**	**+0.2**
	1.3nm,0.9s,baz=122,slow=12,SNR=2.6						
ARCES	**ARCESS Array B**	**39.32**	**337**	P	**P**	**19 16 24.4**	**+0.6**
	0.7nm,0.5s,baz=109,slow=7.4,SNR=15						
NOA	**NORSAR Array B**	**42.55**	**322**	P	**P**	**19 16 50.7**	**+0.1**
	0.5nm,0.5s,baz=95,slow=7.8,SNR=3.0						
ESDC	**Sonseca Array**	**55.90**	**296**	P	**P**	**19 18 32.6**	**-0.4**
	0.5nm,0.4s,baz=54,slow=7.7,SNR=5.2						
TORD	**Torodi Ar. Bea**	**64.84**	**267**	P	**P**	**19 19 32.9**	**-1.5**
	0.2nm,0.5s,baz=46,slow=6.8,SNR=4.1						

MEX 10 19:09:12.2±0.4, 16.98N×100.03W, h9km±30km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.20**	**124**	*i* P	Pg	19 09 14.9	-1.4
ACX				*i* S	Sg	19 09 17.2	-1.9
CAIG	**El Cayaco**	**0.24**	**287**	*i* P	Pg	19 09 16.7	-0.4
CAIG				*i* S	Sg	19 09 20.2	-0.2
ARIG	**Puente Sto Nin**	**1.33**	**347**	*i* P	Pn	19 09 33.4	-3.6
ARIG				*i* S	Sb	19 09 49.1	-5.5
PLIG	**Platanillo**	**1.49**	**20**	*i* P	Pn	19 09 36.4	-2.9
PLIG				*i* S	Sn	19 09 53.5	-5.5

ISCJB ***10*** *19:21:32.1±0.6, 52.10N±0.04×159.40E±0.07, h81km±7km, mb3.5/2, Error ellipse: s-maj=9.3km s-min=4.6km az=44.9*
KRSC ***10*** *19:21:32.6±0.4, 52.15N×159.47E, h62km±51km, ML3.8*
MOS ***10*** *19:21:32.6±2.7, 52.15N×159.47E, h62km, mb4.1/1, Error ellipse: s-maj=42.9km s-min=28.1km az=107.2*
IDC ***10*** *19:21:34.8±2.7, 52.42N×159.42E, h95km±14km, mb3.3/2, mb1 3.4/3, mb1mx3.0/25, mbtmp3.3/3, Error ellipse: s-maj=52.7km s-min=21.4km az=12.0*

ISC 10 19:21:30.8±1.2, 52.00N±0.05×159.53E±0.05, h75km±10km, n45, σ1°49/72, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.76**	**305**	P	**Pn**	**19 21 47.3**	**+0.7**
RUS				*i* S	**Sn**	**19 21 57.2**	**-1.2**
MTVR	**Mutnovka**	**0.96**	**301**	*e*P	**Pn**	**19 21 49.8**	**+0.7**
MTVR				*i* S	**Sn**	**19 22 01.9**	**-0.9**
GRL	**Gorelyy**	**1.05**	**302**	*e*P	**Pn**	**19 21 51.6**	**+1.4**
GRL				*i* S	**Sn**	**19 22 05.3**	**+0.5**
ASAK	**Asacha**	**1.07**	**291**	P	**Pn**	**19 21 51.7**	**+1.2**
ASAK				*i* S	**Sn**	**19 22 05.0**	**-0.2**
SPN	**Mys Shipunski**	**1.14**	**15**	P	**Pn**	**19 21 52.4**	**+1.2**
SPN				*i* S	**Sn**	**19 22 06.5**	**0.0**
PET	**Petropavlovsk**	**1.15**	**333**	*e*PN	**Pn**	**19 21 51.8**	**+0.4**
PET				*e*S	**Sn**	**19 22 04.9**	**-1.9**
PET				smax	smax		
	comp=N,675nm,0.4s						
PET	**Petropavlovsk**	**1.15**	**333**	P	**Pn**	**19 21 51.8**	**+0.4**
PET				*i* S	**Sn**	**19 22 05.4**	**-1.4**
NLC	**Nalytchevo**	**1.18**	**355**	*e*P	**Pn**	**19 21 52.7**	**+1.0**
NLC				*i* S	**Sn**	**19 22 06.9**	**-0.4**
UGLR	**Uglovaya**	**1.28**	**341**	P	**Pn**	**19 21 53.5**	**+0.6**
UGLR				*i* S	**Sn**	**19 22 09.3**	**-0.7**
SDLR	**Sedlovina**	**1.34**	**343**	P	**Pn**	**19 21 54.2**	**+0.3**
SDLR				*i* S	**Sn**	**19 22 10.2**	**-1.0**
SMAR	**Somma**	**1.34**	**341**	P	**Pn**	**19 21 54.8**	**+0.8**
SMAR				*i* S	**Sn**	**19 22 11.3**	**-0.1**
AVH	**Avacha**	**1.35**	**339**	P	**Pn**	**19 21 54.9**	**+0.9**
AVH				*i* S	**Sn**	**19 22 10.7**

JWT	**Wachi**	**1.78**	**307**	P		**Pn**	**19 41 32.6**	**-0.2**
JWT				*e*S		**S**	**19 42 10.4**	**-1.5**
JOD2	**Odawara 2**	**1.92**	**56**	P		**Pn**	**19 41 34.3**	**+0.5**
JOD2				*e*S		**S**	**19 42 14.3**	**+0.6**
JKG	**Kaga**	**2.16**	**343**	P		**Pn**	**19 41 35.1**	**-0.4**
JAI	**Aioi**	**2.27**	**260**	P		**Pn**	**19 41 36.1**	**-0.3**
JRY	**Ryogami san**	**2.31**	**38**	P		**Pn**	**19 41 37.2**	**+0.5**
MAT	**Matsushiro**	**2.49**	**20**	P		**Pn**	**19 41 37.7**	**-0.4**
MAT				S		**S**	**19 42 23.4**	**+1.9**
MAT	**Matsushiro**	**2.49**	**20**	P		**Pn**	**19 41 38.0**	**-0.1**
BSO1	**Boso 1**	**3.21**	**81**	P		**Pn**	**19 41 42.7**	**-1.2**
BSO1				*e*S		**S**	**19 42 30.5**	**-1.6**
JHS	**Saijyo**	**3.40**	**284**	P		**Pn**	**19 41 46.4**	**0.0**
JNU	**Nakatsue**	**5.33**	**260**	P		**Pn**	**19 42 07.0**	**+0.1**
	0.4nm,0.3s,baz=26,slow=9.4,SNR=4.7							
KSRS	**Korea Array**	**8.15**	**296**	P		**Pn**	**19 42 40.4**	**+0.6**
	0.1nm,0.3s,baz=117,slow=13,SNR=4.9							
ASAJ	**Asahikawa**	**10.76**	**22**	P		**Pn**	**19 43 09.9**	**-1.0**
	0.3nm,0.3s,baz=225,slow=11,SNR=6.1							
WRA	**Warramunga Arr**	**53.92**	**183**	P		**P**	**19 49 33.9**	**+0.2**
	0.6nm,0.3s,baz=0.0,slow=7.5,SNR=13							
ASAR	**Alice Springs**	**57.64**	**184**	P		**P**	**19 50 00.1**	**+0.3**
	0.2nm,0.3s,baz=1.6,slow=6.8,SNR=9.4							
FINES	**FINESS Array B**	**69.65**	**331**	P		**P**	**19 51 17.2**	**+0.2**
	0.7nm,0.7s,baz=14,slow=0.6,SNR=4.4							

MEX 10 19:47:30.1±0.8, 17°30N×100°82W, h13km±10km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.58**	**116**	*i* P		Pg	19 47 39.9	-1.6
CAIG				*i* S		Sg	19 47 47.7	-1.6
ZIIG	**Zihuatanejo**	**0.69**	**296**	*i* P		Pg	19 47 41.3	-2.2
ZIIG				*i* S		Sg	19 47 50.8	-1.9
ACX	**Acapulco**	**1.01**	**115**	*i* P		Pb	19 47 44.5	-5.0
ACX				*i* S		Sb	19 47 56.6	-6.2
ARIG	**Puente Sto Nin**	**1.07**	**25**	*i* P		Pb	19 47 46.3	-4.2
ARIG				*i* S		Sb	19 47 59.7	-4.8
PLIG	**Platanillo**	**1.66**	**49**	*i* P		Pn	19 47 56.4	-2.6
PLIG				*i* S		Sn	19 48 15.2	-5.0
YAIG	**Yautepec**	**2.27**	**47**	*i* P		Pn	19 48 04.6	-3.0
YAIG				*i* S		Sn	19 48 31.8	-3.8

IDC ***10*** *19:49:04.2±0.9, 5°44S×153°61E, h0km, mb4.2/13, mb1 4.3/14, mb1mx4.2/22, mbtmp4.2/14, ML3.6/1, MS3.4/4, Ms1 3.4/4, ms1mx2.9/24, Error ellipse: s-maj=28.6km s-min=16.3km az=90.0*

ISCJB ***10*** *19:49:08.5±0.6, 5°48S±0°07×153°60E±0°09, h43km, mb4.1/13, MS3.3/4, Error ellipse: s-maj=14.5km s-min=8.4km az=29.3*

NEIC ***10*** *19:49:11.6±2.1, 5°50S×153°61E, h57km±18km, mb4.6/1, Error ellipse: s-maj=16.3km s-min=11.1km az=77.0*

ISC 10 19:49:10.3±0.7, 5°46S±0°09×153°6E±0°1, h43km, n38, σ0s81/41, mb4.2/13, MS3.3/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.53**	**238**	*e*Pn		**Pn**	**19 50 58.2**	**+0.6**
PMG						Sn	**19 52 21.6**	**-0.2**
PMG	**Port Moresby**	**7.53**	**238**	Pn		**Pn**	**19 50 58.2**	**+0.6**
	6.4nm,0.3s,baz=76,slow=8.1,SNR=18							
PMG						Sn	**19 52 21.6**	**-0.2**
	2.8nm,0.3s,baz=20,slow=5.1,SNR=2.0							
CTA	**Charters Tower**	**16.22**	**206**	Pn		**Pn**	**19 52 55.5**	**+0.3**
CTA	**Charters Tower**	**16.22**	**206**	Pn		**Pn**	**19 52 55.5**	**+0.3**
	0.1nm,0.3s,baz=53,slow=13,SNR=3.6							
DZM	**Mont Dzumac**	**20.64**	**144**	P		**P**	**19 53 45.9**	**-0.6**
DZM	**Mont Dzumac**	**20.64**	**144**	P		**P**	**19 53 45.9**	**-0.6**
	7.0nm,0.5s,baz=271,slow=24,SNR=7.6							
WRA	**Warramunga Arr**	**23.66**	**231**	P		**P**	**19 54 16.7**	**-1.4**
WRA				PcP		**PcP**	**19 58 02.1**	**+0.2**
WRA	**Warramunga Arr**	**23.66**	**231**	P		**P**	**19 54 16.7**	**-1.4**
	1.1nm,0.7s,baz=54,slow=9.9,SNR=12							
WRA				PcP		**PcP**	**19 58 02.1**	**+0.2**
	1.4nm,0.8s,baz=56,slow=2.0,SNR=5.6							
AS31	**Alice Springs**	**26.25**	**224**	*e*P		**P**	**19 54 41.0**	**-0.6**
ASAR	**Alice Springs**	**26.25**	**224**	P		**P**	**19 54 41.5**	**-0.1**
ASAR				PcP		**PcP**	**19 58 07.3**	**-0.3**
ASAR	**Alice Springs**	**26.25**	**224**	P		**P**	**19 54 41.5**	**-0.1**
	2.0nm,0.7s,baz=60,slow=9.0,SNR=19							
ASAR				PcP		**PcP**	**19 58 07.3**	**-0.3**
	0.9nm,0.8s,baz=53,slow=2.5,SNR=6.1							
ASAR				LR		LR	20 04 54.4	
	comp=Z,84nm,20.4s,baz=103,slow=36							
STKA	**Stephens Creek**	**28.60**	**202**	LR		LR	20 05 36.3	
	comp=Z,100nm,20.4s,baz=26,slow=35							
FITZ	**Fitzroy Crossi**	**30.10**	**240**	P		**P**	**19 55 14.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**30.10**	**243**	P		**P**	**19 55 14.8**	**-1.2**
	2.3nm,0.5s,baz=87,slow=7.9,SNR=20							
FITZ				LR		LR	20 07 00.9	
	comp=Z,79nm,19.7s,baz=193,slow=36							
DAV	**Davao City (W)**	**30.65**	**294**	LR		LR	20 05 10.4	
	comp=Z,35nm,20.1s,baz=229,slow=32							
JNU	**Nakatsue**	**44.03**	**332**	P		**P**	**19 57 13.8**	**-0.1**
JNU	**Nakatsue**	**44.03**	**332**	P		**P**	**19 57 13.8**	**-0.1**
	5.8nm,0.8s,baz=149,slow=4.4,SNR=4.3							
KSRS	**Korea Array**	**48.96**	**333**	P		**P**	**19 57 52.7**	**+0.2**
	1.2nm,0.8s,baz=146,slow=9.1,SNR=4.2							
KSAR	**Wonju Array Be**	**48.97**	**333**	P		**P**	**19 57 52.7**	**+0.2**
PETK	**Petropavlovsk-**	**58.45**	**3**	P		**P**	**19 59 01.9**	**+0.3**
PETK	**Petropavlovsk-**	**58.45**	**3**	P		**P**	**19 59 01.9**	**+0.3**
	1.3nm,0.8s,baz=140,slow=9.7,SNR=3.7							
CMAR	**Chiang Mai Arr**	**58.91**	**295**	P		**P**	**19 59 06.9**	**+1.3**
CMAR	**Chiang Mai Arr**	**58.91**	**295**	P		**P**	**19 59 06.9**	**+1.3**
	2.4nm,0.8s,baz=113,slow=5.5,SNR=13							
SONM	**Songino Array**	**67.33**	**328**	P		**P**	**20 00 01.5**	**+0.5**
SONM	**Songino Array**	**67.33**	**328**	P		**P**	**20 00 01.5**	**+0.5**
	0.8nm,0.5s,baz=143,slow=5.6,SNR=8.8							
VNDA	**Vanda**	**72.15**	**178**	P		**P**	**20 00 31.4**	**+1.5**
VNDA	**Vanda**	**72.15**	**178**	P		**P**	**20 00 31.4**	**+1.5**
	0.5nm,0.6s,baz=79,slow=5.2,SNR=3.4							
MK31	**Makanchi Array**	**81.37**	**319**	*e*P		**P**	**20 01 22.1**	**-0.4**
MKAR	**Makanchi Array**	**81.37**	**319**	P		**P**	**20 01 23.0**	**+0.4**
MKAR	**Makanchi Array**	**81.37**	**319**	P		**P**	**20 01 23.0**	**+0.4**
	3.1nm,0.7s,baz=94,slow=8.0,SNR=45							
ZALV	**Zalesovo Beam**	**82.16**	**326**	P		**P**	**20 01 25.9**	**-0.6**
ZALV	**Zalesovo Beam**	**82.16**	**326**	P		**P**	**20 01 25.9**	**-0.6**
	2.2nm,0.5s,baz=110,slow=5.4,SNR=10							
AAK	**Ala-Archa**	**85.72**	**313**	*e*P		**P**	**20 01 44.3**	**-1.0**
	2.3nm,0.4s							
BVAR	**Borovoye Array**	**90.27**	**323**	P		**P**	**20 02 05.0**	**-1.4**
BVAR	**Borovoye Array**	**90.27**	**323**	P		**P**	**20 02 05.0**	**-1.4**
	2.3nm,0.7s,baz=97,slow=6.1,SNR=16							
TAM	**Tamanrasset**	**144.74**	**302**	*e*PKPdf		PKPbc	20 08 42.6	+0.1
TORD	**Torodi Ar. Bea**	**151.31**	**287**	PKPbc		**PKPbc**	**20 08 59.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**151.31**	**287**	PKPbc		**PKPbc**	**20 08 59.6**	**-0.7**
	4.0nm,0.7s,baz=72,slow=2.2,SNR=23							

ATH ***10*** *19:49:59.8, 41°76N×20°33E, h5km±4km, MD4.0/25*

TIR ***10*** *19:50:00.5±1.6, 41°68N×20°35E, h20km±7km, ML3.2*

PDG ***10*** *19:50:01.8±0.3, 41°66N×20°25E, h11km, MD3.4/1, ML3.3/9, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*

SKO ***10*** *19:50:01.8, 41°59N×20°35E, h9km, M2.9, ML3.3*

IDC ***10*** *19:50:01.1±1.2, 41°59N×20°35E, h0km, mb3.5/6, mb1 3.7/10, mb1mx3.6/29, mbtmp3.6/10, ML3.2/4, Error ellipse: s-maj=19.5km s-min=14.4km az=156.0*

BEO ***10*** *19:50:02.6±0.4, 41°63N×20°29E, h6km±3km, ML3.1/1*

THE ***10*** *19:50:02.2, 41°71N×20°27E, h0km±1km, ML3.2/7, Error ellipse: s-maj=1.8km s-min=0.8km az=316.0*

CSEM ***10*** *19:50:02.6±0.1, 41°68N×20°31E, h2km, ML3.2, Error ellipse: s-maj=3.9km s-min=2.7km az=64.0*

ISC 10 19:50:02.8±0.9, 41°67N±0°02×20°31E±0°02, h6km±6km, n179, σ1s47/235, mb3.5/3, 24C-12D, Albania

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.10**	**82**	*e*PG		**Pg**	**19 50 04.6**	**-0.4**
PHP				*i* SG		**Sg**	**19 50 07.3**	**+0.8**
PHP	**Peshkopia**	**0.10**	**82**	P		**Pg**	**19 50 04.6**	**-0.4**
PHP	**Peshkopia**	**0.10**	**82**	P		**Pg**	**19 50 04.6**	**-0.4**
TIR	**Tirane**	**0.46**	**226**	*e*PG		**Pg**	**19 50 10.6**	**-1.1**
TIR				*i* SG		**Sg**	**19 50 18.7**	**+1.0**
TIR	**Tirane**	**0.46**	**226**	P		**Pg**	**19 50 10.6**	**-1.1**
TIR	**Tirane**	**0.46**	**226**	P		**Pg**	**19 50 10.5**	**-1.1**
TIR				*e*Sg		**Sg**	**19 50 18.1**	**+0.4**
TIR				S		**Sb**	**19 50 20.7**	**+0.2**
PUK	**Puka**	**0.48**	**320**	*e*PG		**Pg**	**19 50 10.6**	**-1.5**
PUK				*i* SG		**Sg**	**19 50 19.2**	**+0.7**
PRZK	**Prizren**	**0.64**	**32**	P		**Pg**	**19 50 14.1**	**-1.0**
PRZK				S		**Sb**	**19 50 25.5**	**-0.1**
BCI	**Bajram Curri**	**0.72**	**346**	*e*PG		**Pg**	**19 50 14.8**	**-1.8**
ZATK	**Zatriq**	**0.81**	**17**	P		**Pg**	**19 50 16.8**	**-1.6**
ULC	**Ulcinj**	**0.85**	**291**	||*i*Pg		**Pg**	**19 50 17.2**	**-1.8**
ULC				*e*Sg		**Sg**	**19 50 30.1**	**+0.1**
ULC	**Ulcinj**	**0.85**	**291**	P		**Pg**	**19 50 17.3**	**-1.8**
ULC				*e*Sg		**Sg**	**19 50 30.1**	**+0.1**
SKO	**Skopje**	**0.90**	**70**	*e*Pg		**Pg**	**19 50 19.3**	**-0.8**
SKO				*e*Sg		**Sg**	**19 50 32.1**	**+0.4**
SKO				*e*Lg		Lg	19 50 33.0	
	comp=N,564nm,0.4s							
SKO				*e*Lg		Lg	19 50 33.1	
	comp=E,584nm,0.3s							
PVY	**Plav**	**0.96**	**344**	||*i*Pg		**Pg**	**19 50 19.0**	**-2.2**
PVY				*e*Sg		**Sg**	**19 50 34.8**	**+1.1**
PVY	**Plav**	**0.96**	**344**	||*i*Pg		**Pg**	**19 50 19.0**	**-2.2**
PVY				*e*Sg		**Sg**	**19 50 34.8**	**+1.1**
PEJK	**Peje**	**0.97**	**359**	P		**Pg**	**19 50 19.9**	**-1.6**
BIA	**Bitola**	**1.00**	**130**	*e*Pg		**Pg**	**19 50 19.6**	**-2.4**
BIA				*e*Sg		**Sg**	**19 50 33.6**	**-1.5**
BIA				*e*Lg		Lg	19 50 35.5	
	comp=N,625nm,0.4s							
BIA				*e*Lg		Lg	19 50 35.6	
	comp=E,760nm,0.6s							
BIA	**Bitola**	**1.00**	**130**	*e*Pg		**Pg**	**19 50 19.6**	**-2.4**
BIA				*e*Sg		**Sg**	**19 50 33.5**	**-1.5**
BIA				*e*Lg		Lg	19 50 35.6	
	comp=E,760nm,0.6s							
PDG	**Podgorica**	**1.09**	**314**	P		**Pg**	**19 50 21.6**	**-2.1**
PDG	**Podgorica**	**1.09**	**314**	*e*Pg		**Pg**	**19 50 21.2**	**-2.5**
PDG				*e*Sg		**Sg**	**19 50 37.4**	**-0.5**
PDG	**Podgorica**	**1.09**	**314**	||*i*Pg		**Pg**	**19 50 21.0**	**-2.7**
PDG				*e*Sg		**Sb**	**19 50 38.5**	**-0.1**
TTG	**Podgorica**	**1.09**	**314**	||*i*Pg		**Pg**	**19 50 21.0**	**-2.7**
TTG				*e*Sg		**Sb**	**19 50 38.5**	**-0.1**
KBN	**Korca**	**1.11**	**161**	*e*PG		**Pg**	**19 50 23.6**	**-0.4**
KBN	**Korca**	**1.11**	**161**	P		**Pb**	**19 50 24.1**	**-0.3**
KBN	**Korca**	**1.11**	**161**	*e*Pg		**Pg**	**19 50 23.6**	**-0.4**
	SNR=94							
KBN	**Korca**	**1.11**	**161**	P		**Pb**	**19 50 24.1**	**-0.3**
FNA	**Florina**	**1.20**	**137**	*e*PB		**Pb**	**19 50 23.8**	**-2.2**
FNA				*e*SB		**Sb**	**19 50 41.4**	**-0.3**
FNA	**Florina**	**1.20**	**137**	*e*Pb		**Pb**	**19 50 23.8**	**-2.2**
FNA				*e*Sb		**Sb**	**19 50 41.4**	**-0.3**
BUM	**Brajici-Budva**	**1.23**	**301**	||*i*Pg		**Pn**	**19 50 24.0**	**-2.6**
BUM				*e*Sg		**Sg**	**19 50 43.1**	**+0.8**
BEY	**Berane**	**1.24**	**346**	P		**Pn**	**19 50 24.7**	**-2.1**
BEY				*e*Sg		**Sn**	**19 50 44.7**	**+0.8**
IVA	**Berane**	**1.24**	**346**	||*i*Pg		**Pn**	**19 50 24.6**	**-2.2**
IVA				*e*Sg		**Sn**	**19 50 44.7**	**+0.8**
NEST	**Nestorio**	**1.37**	**156**	*e*PG		**Pn**	**19 50 28.0**	**-0.6**
NEST	**Nestorio**	**1.37**	**156**	P		**Pn**	**19 50 28.1**	**-0.6**
NEST				S		**Sg**	**19 50 49.1**	**+2.2**
NEST	**Nestorio**	**1.37**	**156**	P		**Pn**	**19 50 28.1**	**-0.6**
NEST				S		**Sg**	**19 50 49.1**	**+2.2**
NKV	**Niksic**	**1.50**	**320**	||*i*Pg		**Pn**	**19 50 29.4**	**-1.0**
NKV				*e*Sg		**Sg**	**19 50 51.6**	**+0.5**
HCY	**Herceg Novi**	**1.56**	**301**	||*i*Pg		**Pn**	**19 50 29.7**	**-1.4**
HCY				*e*Sg		**Sb**	**19 50 52.5**	**+0.4**
BARS	**Barje**	**1.60**	**44**	||*i*Pg		**Pn**	**19 50 30.9**	**-0.8**
BARS				*e*Sg		**Sg**	**19 50 54.5**	**+0.2**
BARS	**Barje**	**1.60**	**44**	||*i*Pg		**Pn**	**19 50 30.9**	**-0.8**
BARS				*e*Sg		**Sg**	**19 50 54.5**	**+0.2**
SJES	**Sjenica**	**1.61**	**351**	*e*Pn		**Pn**	**19 50 30.6**	**-1.3**
SJES				*e*Sg		**Sg**	**19 50 56.2**	**+1.7**
SELS	**Selova**	**1.66**	**21**	*e*Pn		**Pn**	**19 50 31.6**	**-1.0**
GRG	**Griva**	**1.73**	**114**	P		**Pn**	**19 50 33.5**	**0.0**
GRG				S		**Sg**	**19 50 57.9**	**-0.5**
GRG	**Griva**	**1.73**	**114**	P		**Pn**	**19 50 33.5**	**0.0**
GRG				S		**Sg**	**19 50 57.9**	**-0.5**
VAY	**Valandovo**	**1.73**	**101**	P		**Pn**	**19 50 32.9**	**-0.6**
VAY	**Valandovo**	**1.73**	**101**	*i* Pg		**Pn**	**19 50 33.3**	**-0.2**
VAY				*e*Sg		**Sg**	**19 50 57.6**	**-0.9**
VAY				*e*Lg		Lg	19 50 57.8	
	comp=E,233nm,0.6s							
VAY				*e*Lg		Lg	19 50 58.0	
	comp=N,287nm,0.7s							
VAY	**Valandovo**	**1.73**	**101**	P		**Pn**	**19 50 32.9**	**-0.6**
VAY	**Valandovo**	**1.73**	**101**	*i* Pg		**Pn**	**19 50 33.3**	**-0.2**
VAY				*e*Lg		Lg	19 50 58.0	
	comp=N,287nm,0.7s							
KZN	**Kozani**	**1.76**	**140**	P		**Pb**	**19 50 34.5**	**-1.1**
KZN				S		**Sg**	**19 50 58.6**	**-0.6**
KZN	**Kozani**	**1.76**	**140**	*e*PN		**Pb**	**19 50 34.4**	**-1.1**
KZN	**Kozani**	**1.76**	**140**	*e*Pn		**Pb**	**19 50 34.4**	**-1.1**
KZN				S		**Sg**	**19 50 58.6**	**-0.6**
BRY	**Bratogost**	**1.80**	**314**	||*i*Pn		**Pn**	**19 50 33.5**	**-1.1**
BRY				*e*Sn		**Sb**	**19 50 58.6**	**-0.6**
UPM	**Unac-Piva**	**1.85**	**326**	||*i*Pn		**Pn**	**19 50 35.2**	**-0.1**
UPM				*e*Sn		**Sb**	**19 51 00.1**	**-0.6**
UPM	**Unac-Piva**	**1.85**	**326**	P		**Pn**	**19 50 36.0**	**+0.7**
UPM				*e*Sn		**Sb**	**19 51 00.1**	**-0.6**
UPM				S		**Sg**	**19 51 06.2**	**+3.9**
KEK	**Kerkira**	**1.99**	**191**	P		**Pn**	**19 50 36.8**	**-0.3**
KEK				S		**Sb**	**19 51 04.2**	**-0.4**
KEK	**Kerkira**	**1.99**	**191**	*e*PN		**Pb**	**19 50 38.3**	**-1.2**
KEK	**Kerkira**	**1.99**	**191**	P		**Pn**	**19 50 36.8**	**-0.3**
KEK	**Kerkira**	**1.99**	**191**	*e*Pn		**Pb**	**19 50 38.3**	**-1.2**
KEK				S		**Sb**	**19 51 04.2**	**-0.4**
KNT	**Kendrikon**	**2.01**	**104**	P		**Pn**	**19 50 37.4**	**0.0**
KNT				S		**Sb**	**19 51 04.7**	**-0.5**
KNT	**Kendrikon**	**2.01**	**104**	P		**Sn**	**19 50 37.4**	**0.0**
KNT				S		**Sb**	**19 51 04.7**	**-0.5**
JAN	**Janina**	**2.05**	**168**	*e*PG		**Pb**	**19 50 39.5**	**-1.0**
JAN	**Janina**	**2.05**	**168**	*e*Pg		**Pb**	**19 50 39.5**	**-1.0**
IGT	**Igoumenitsa**	**2.13**	**179**	P		**Pn**	**19 50 40.0**	**+1.0**
IGT	**Igoumenitsa**	**2.13**	**179**	P		**Pn**	**19 50 40.0**	**+1.0**
STON	**Ston**	**2.28**	**303**	*e*Pn		**Pn**	**19 50 41.0**	**0.0**
STON				Sn		**Sg**	**19 51 16.2**	**+0.3**
STON	**Ston**	**2.28**	**303**	*e*Pn		**Pn**	**19 50 41.0**	**0.0**
LIT	**Litokhoron**	**2.28**	**133**	P		**Pn**	**19 50 41.3**	**+0.3**
LIT				S		**Sb**	**19 51 11.8**	**-1.0**
LIT	**Litokhoron**	**2.28**	**133**	*e*PN		**Pn**	**19 50 41.5**	**+0.5**
LIT	**Litokhoron**	**2.28**	**133**	*e*Pn		**Pn**	**19 50 41.5**	**+0.5**
LIT				S		**Sb**	**19 51 11.8**	**-1.0**
BBLS	**Lazići**	**2.29**	**343**	||*i*Pn		**Pn**	**19 50 41.6**	**+0.3**
PE1	**Pezze di Greco**	**2.34**	**249**	*e*Pn		**Pn**	**19 50 39.8**	**-2.0**
VTS	**Vitosha**	**2.35**	**66**	*e*Pn		**Pn**	**19 50 42.3**	**+0.2**
VTS				*e*Sn		**Sn**	**19 51 12.2**	**+0.9**
VTS	**Vitosha**	**2.35**	**66**	*e*Pn		**Pn**	**19 50 42.3**	**+0.2**
VTS				*e*Sn		**Sn**	**19 51 12.2**	**+0.9**
ZAPS	**Zavoj**	**2.35**	**46**	||*i*Pn		**Pn**	**19 50 42.6**	**+0.5**
ZAPS				*e*Sn		**Sn**	**19 51 12.2**	**+0.9**
ZAPS	**Zavoj**	**2.35**	**46**	||*i*Pn		**Pn**	**19 50 42.6**	**+0.5**
ZAPS				*e*Sn		**Sn**	**19 51 12.2**	**+0.9**
DIVS	**Divibare**	**2.44**	**355**	P		**Pn**	**19 50 42.8**	**-0.5**
DIVS	**Divibare**	**2.44**	**355**	*e*Pn		**Pn**	**19 50 43.2**	**-0.1**
THL	**Klokotos Trika**	**2.47**	**148**	*e*PN		**Pb**	**19 50 45.7**	**-1.9**
THL	**Klokotos Trika**	**2.47**	**148**	*e*Pn		**Pb**	**19 50 45.7**	**-1.9**
BOLS	**Boljevac**	**2.48**	**29**	*e*Pn		**Pn**	**19 50 44.5**	**+0.8**
BOLS	**Boljevac**	**2.48**	**29**	*e*Pn		**Pn**	**19 50 44.5**	**+0.8**
SRS	**Serrai**	**2.53**	**102**	P		**Pn**	**19 50 44.7**	**+0.2**
SRS				S		**Sb**	**19 51 17.7**	**-2.4**
SRS	**Serrai**	**2.53**	**102**	P		**Pn**	**19 50 44.7**	**+0.2**
SRS				S		**Sb**	**19 51 17.7**	**-2.4**
SVIS	**Svilajnac**	**2.68**	**14**	*e*Pn		**Pn**	**19 50 47.0**	**+0.5**
NVR	**Nevrokopi**	**2.69**	**96**	P		**Pn**	**19 50 46.6**	**-0.1**
NVR	**Nevrokopi**	**2.69**	**96**	*e*PN		**Pn**	**19 50 47.1**	**+0.4**
NVR	**Nevrokopi**	**2.69**	**96**	P		**Pn**	**19 50 46.6**	**-0.1**
NVR	**Nevrokopi**	**2.69**	**96**	*e*Pn		**Pn**	**19 50 47.1**	**+0.4**
PLG	**Polygyros**	**2.71**	**118**	P		**Pn**	**19 50 47.2**	**+0.3**
PLG	**Polygyros**	**2.71**	**118**	*e*PN		**Pn**	**19 50 47.2**	**+0.3**
PLG	**Polygyros**	**2.71**	**118**	P		**Pn**	**19 50 47.2**	**+0.3**
LKD2	**Lefkada island**	**2.89**	**175**	*e*PB		**Pn**	**19 50 50.3**	**+0.9**
LKD2	**Lefkada island**	**2.89**	**175**	*e*Pb		**Pn**	**19 50 50.3**	**+0.9**
EVR	**Evrytania**	**2.98**	**157**	*e*PB		**Pn**	**19 50 51.2**	**+0.5**
EVR	**Evrytania**	**2.98**	**157**	*e*Pb		**Pn**	**19 50 51.2**	**+0.5**
AGG	**Agios Georgios**	**3.06**	**149**	P		**Pn**	**19 50 52.3**	**+0.5**
AGG	**Agios Georgios**	**3.06**	**149**	*e*PN		**Pn**	**19 50 53.3**	**+1.5**
AGG	**Agios Georgios**	**3.06**	**149**	P		**Pn**	**19 50 52.3**	**+0.5**
AGG	**Agios Georgios**	**3.06**	**149**	*e*Pn		**Pn**	**19 50 53.3**	**+1.5**
XOR	**Xorichti**	**3.18**	**135**	P		**Pn**	**19 50 53.7**	**+0.2**
XOR	**Xorichti**	**3.18**	**135**	P		**Pn**	**19 50 53.7**	**+0.2**
KAVA	**Kavala**	**3.24**	**101**	P		**Pn**	**19 50 54.4**	**+0.2**
KAVA	**Kavala**	**3.24**	**101**	P		**Pn**	**19 50 54.4**	**+0.2**
NEO	**Neokhori**	**3.24**	**136**	*e*PB		**Pn**	**19 50 54.9**	**+0.6**
NEO	**Neokhori**	**3.24**	**136**	*e*Pb		**Pn**	**19 50 54.9**	**+0.6**
EFP	**Efpalio**	**3.46**	**159**	*e*PB		**Pn**	**19 50 59.6**	**+2.3**
EFP	**Efpalio**	**3.46**	**159**	*e*Pb		**Pn**	**19 50 59.6**	**+2.3**
VLS	**Valsamata**	**3.50**	**176**	*e*PN		**Pn**	**19 50 59.2**	**+1.5**
VLS	**Valsamata**	**3.50**	**176**	*e*Pn		**Pn**	**19 50 59.2**	**+1.5**
FRGS	**Fruska Gora**	**3.50**	**354**	*e*Pn		**Pn**	**19 50 58.0**	**+0.1**
KALE	**Kalithea**	**3.56**	**156**	*e*PN		**Pn**	**19 51 00.1**	**+1.4**
KALE	**Kalithea**	**3.56**	**156**	*e*Pn		**Pn**	**19 51 00.1**	**+1.4**
TRIZ	**Trizonia**	**3.57**	**157**	*e*PN		**Pn**	**19 50 59.3**	**+0.6**
TRIZ	**Trizonia**	**3.57**	**157**	*e*Pn		**Pn**	**19 50 59.3**	**+0.6**
LAKA	**Lakka**	**3.66**	**159**	*e*PN		**Pn**	**19 51 01.7**	**+1.7**
LAKA	**Lakka**	**3.66**	**159**	*e*Pn		**Pn**	**19 51 01.7**	**+1.7**
AOS	**Alonnisos**	**3.70**	**131**	*e*PN		**Pn**	**19 51 00.9**	**+0.4**
AOS	**Alonnisos**	**3.70**	**131**	*e*Pn		**Pn**	**19 51 00.9**	**+0.4**
KLV	**Kalavryta, Ach**	**3.89**	**158**	*e*PB		**Pn**	**19 51 05.7**	**+2.5**
KLV	**Kalavryta, Ach**	**3.89**	**158**	*e*Pb		**Pn**	**19 51 05.7**	**+2.5**
RDO	**Rodhopi**	**3.97**	**96**	*e*PN		**Pn**	**19 51 04.2**	**0.0**
RDO	**Rodhopi**	**3.97**	**96**	*e*Pn		**Pn**	**19 51 04.2**	**0.0**
BZS	**Buzias**	**4.06**	**13**	||*i*P		**Pn**	**19 51 05.5**	**0.0**
BZS	**Buzias**	**4.06**	**13**	*e*Pn		**Pn**	**19 51 04.8**	**-0.7**
BZS	**Buzias**	**4.06**	**13**	*e*Pn		**Pn**	**19 51 04.8**	**-0.7**
BZS	**Buzias**	**4.06**	**13**	||*i*P		**Pn**	**19 51 05.5**	**0.0**
LIA	**Limnos Island**	**4.10**	**114**	*e*PN		**Pn**	**19 51 07.2**	**+1.1**
LIA	**Limnos Island**	**4.10**	**114**	*e*Pn		**Pn**	**19 51 07.2**	**+1.1**
AMT	**Artemida-Makis**	**4.27**	**165**	*e*PN		**Pn**	**19 51 10.3**	**+1.9**
AMT	**Artemida-Makis**	**4.27**	**165**	*e*Pn		**Pn**	**19 51 10.3**	**+1.9**
UDBI	**Udbina**	**4.38**	**312**	*e*Pn		**Pn**	**19 51 11.2**	**+1.2**
UDBI						Sn	**19 52 05.5**	**+4.0**
UDBI	**Udbina**	**4.38**	**312**	*e*Pn		**Pn**	**19 51 11.2**	**+

PLCA				LR	LR	20 22 53.1		
	comp=Z,127nm,21.1s,baz=143,slow=31							
LSZ	**Lusaka**	**44.88**	**54**	*eP*	**P**	**20 08 31.0**	**-0.2**	
	8.2nm,1.2s							
LSZ	**Lusaka**	**44.88**	**54**	P	**P**	**20 08 30.9**	**-0.3**	
	2.7nm,0.8s,baz=169,slow=4.4,SNR=6.9							
LSZ				LR	LR	20 25 12.0		
	comp=Z,230nm,18.7s,baz=29,slow=33							
BDFB	**Brasilia**	**46.33**	**302**	P	**P**	**20 08 42.9**	**+0.2**	
BDFB	**Brasilia**	**46.33**	**302**	P	**P**	**20 08 42.9**	**+0.2**	
	6.4nm,0.8s,baz=140,slow=11,SNR=4.9							
BDFB				LR	LR	20 24 01.6		
	comp=Z,294nm,21.7s,baz=12,slow=31							
CFAA	**Coronel Fontan**	**47.62**	**268**	P	**P**	**20 08 51.1**	**-1.4**	
CFAA	**Coronel Fontan**	**47.62**	**268**	P	**P**	**20 08 51.1**	**-1.4**	
	0.7nm,0.8s,baz=135,slow=9.5,SNR=6.4							
SBA	**Scott Base**	**53.48**	**179**	*eP*	**P**	**20 09 36.9**	**+0.8**	
	12nm,1.1s							
VNDA	**Vanda**	**53.70**	**177**	*eP*	**P**	**20 09 38.1**	**+0.3**	
	9.2nm,1.1s							
VNDA	**Vanda**	**53.70**	**177**	P	**P**	**20 09 38.0**	**+0.3**	
	4.5nm,1.0s,baz=232,slow=8.5,SNR=13							
VNDA				LR	LR	20 30 43.5		
	comp=Z,357nm,20.8s,baz=186,slow=34							
LVC	**Limon Verde**	**54.08**	**276**	*eP*	**P**	**20 09 42.1**	**+0.6**	
	29nm,1.2s							
DBIC	**Dimbokro**	**55.42**	**4**	P	**P**	**20 09 50.8**	**-0.1**	
DBIC	**Dimbokro**	**55.42**	**4**	P	**P**	**20 09 50.8**	**-0.1**	
	8.3nm,0.8s,baz=144,slow=8.9,SNR=5.5							
DBIC				LR	LR	20 27 33.0		
	comp=Z,233nm,21.3s,baz=100,slow=30							
LPAZ	**La Paz**	**58.12**	**282**	*eP*	**P**	**20 10 10.0**	**-0.9**	
	20nm,1.9s							
LPAZ	**La Paz**	**58.12**	**282**	P	**P**	**20 10 11.3**	**+0.3**	
	1.7nm,0.8s,baz=200,slow=8.9,SNR=5.4							
LPAZ				LR	LR	20 32 02.3		
	comp=Z,112nm,20.1s,baz=121,slow=33							
MBAR	**Mbarara**	**58.66**	**48**	P	**P**	**20 10 15.6**	**+1.5**	
MBAR	**Mbarara**	**58.66**	**48**	P	**P**	**20 10 15.6**	**+1.5**	
	1.4nm,0.3s,baz=182,slow=21,SNR=4.7							
SAML	**Samuel**	**60.58**	**292**	*eP*	**P**	**20 10 26.2**	**-0.9**	
	8.0nm,0.9s							
KMBO	**Kilima Mbogo**	**61.55**	**54**	LR	LR	20 36 07.5		
	comp=Z,344nm,18.3s,baz=92,slow=35							
TORD	**Torodi Ar. Bea**	**62.41**	**11**	P	**P**	**20 10 39.5**	**0.0**	
TORD	**Torodi Ar. Bea**	**62.41**	**11**	P	**P**	**20 10 39.4**	**0.0**	
	5.9nm,1.0s,baz=198,slow=6.6,SNR=18							
TORD				LR	LR	20 31 42.3		
	comp=Z,160nm,20.8s,baz=55,slow=30							
OTAV	**Otavalo**	**77.22**	**285**	*eP*	P	20 12 06.0	-5.4	
	6.5nm,0.9s							
ROSC	**El Rosal**	**78.22**	**292**	LR	LR	20 44 39.2		
	comp=Z,142nm,18.9s,baz=198,slow=34							
MDT	**Midelt**	**81.42**	**3**	LR	LR	20 44 22.3		
	comp=Z,318nm,19.5s,baz=1,2,slow=32							
KEST	**Kesra**	**85.72**	**14**	LR	LR	20 47 44.2		
	comp=Z,35nm,19.1s,baz=257,slow=33							
EIL	**Elat**	**87.25**	**37**	LR	LR	20 48 50.6		
	comp=Z,159nm,19.0s,baz=274,slow=33							
ESDC	**Sonseca Array**	**88.28**	**3**	LR	LR	20 48 26.9		
	comp=Z,83nm,21.2s,baz=160,slow=33							
ASF	**Jabal al Asfar**	**90.23**	**37**	LR	LR	20 51 32.3		
	comp=Z,101nm,18.7s,baz=147,slow=34							
MMAI	**Mount Meron Ar**	**90.39**	**36**	LR	LR	20 50 00.8		
	comp=Z,84nm,20.9s,baz=115,slow=33							
BRTR	**Keskin Array B**	**95.73**	**36**	LR	LR	20 59 58.6		
	comp=Z,40nm,19.5s,baz=46,slow=37							
MKAR	**Makanchi Array**	**123.42**	**55**	PKP		**PKPdf**	**20 19 10.8**	**-2.2**
MKAR	**Makanchi Array**	**123.42**	**55**	PKP		**PKPdf**	**20 19 10.8**	**-2.2**
	0.3nm,0.6s,baz=233,slow=3.2,SNR=3.0							
KURBB	**Kurchatov Arra**	**123.79**	**50**	PKhKP	PKPpre	20 19 07.8		
	0.2nm,0.2s,baz=239,slow=2.3,SNR=2.5							
KURBB				PKP		**PKiKP**	**20 19 13.7**	**-0.1**
	0.2nm,0.3s,baz=242,slow=2.0,SNR=3.3							
KURK	**Kurchatov**	**123.89**	**50**	PKPpre	PKPpre	20 19 07.8		
KURK				PKP		**PKPdf**	**20 19 13.7**	**0.0**
MVU	**Marysvale**	**126.17**	**289**	*e*PKPdf		**PKPdf**	**20 19 21.8**	**+2.9**
PDAR	**Pinedale Array**	**127.09**	**295**	PKP		**PKPdf**	**20 19 19.0**	**-1.4**
PDAR	**Pinedale Array**	**127.09**	**295**	PKP		**PKPdf**	**20 19 19.0**	**-1.4**
	0.9nm,0.7s,baz=120,slow=5.2,SNR=7.6							
SPITS	**Spitsbergen Ar**	**127.71**	**6**	PKP		**PKPdf**	**20 19 20.3**	**0.0**
SPITS	**Spitsbergen Ar**	**127.71**	**6**	PKP		**PKPdf**	**20 19 20.3**	**0.0**
	2.3nm,0.9s,baz=46,slow=8.4,SNR=2.4							
NVAR	**Mina Array Bea**	**129.96**	**286**	PKP		**PKPdf**	**20 19 23.8**	**-2.3**
NVAR	**Mina Array Bea**	**129.96**	**286**	PKP		**PKPdf**	**20 19 23.8**	**-2.3**
	0.3nm,0.3s,baz=30,slow=4.2,SNR=4.5							
SONM	**Songino Array**	**137.83**	**66**	PKP		**PKPdf**	**20 19 40.1**	**-0.3**
SONM	**Songino Array**	**137.83**	**66**	PKP		**PKPdf**	**20 19 40.1**	**-0.3**
	0.2nm,0.4s,baz=284,slow=1.2,SNR=2.8							
KSAR	**Wonju Array Be**	**146.51**	**93**	PKPbc		**PKPbc**	**20 19 57.5**	**+0.1**
KSRS	**Korea Array**	**146.54**	**93**	PKPbc		**PKPbc**	**20 19 57.5**	**0.0**
	1.3nm,0.6s,baz=261,slow=2.9,SNR=5.1							
EGAK	**Eagle**	**150.60**	**320**	*e*PKPdf		**PKPdf**	**20 20 01.1**	**-0.6**
EGAK				*e*PKPab		**PKPab**	**20 20 15.5**	**+1.4**
ILAR	**Eielson Array**	**152.99**	**321**	PKPbc		**PKPbc**	**20 20 11.2**	**-1.4**
ILAR	**Eielson Array**	**152.99**	**321**	PKPbc		**PKPbc**	**20 20 11.2**	**-1.4**
	1.3nm,0.7s,baz=19,slow=0.8,SNR=8.5							
COLD	**Coldfoot**	**153.41**	**328**	*e*PKPbc		**PKPbc**	**20 20 12.6**	**-0.9**

WEL 10 20:02:58.8±0.3, 36°86S×179°97E, h33km, ML3.5/3, Error ellipse: s-maj=3.8km s-min=2.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**1.82**	**228**	PN	Pn	20 03 27.8	-0.1
PUZ				SN	Sn	20 03 48.8	-1.1
CNGZ	**Carnagh Statio**	**2.14**	**220**	PN	Pn	20 03 31.4	-0.8
CNGZ				SN	Sn	20 03 56.1	-1.5
MWZ	**Matawai**	**2.44**	**232**	PN	Pn	20 03 35.5	-0.8
URZ	**Urewera**	**2.67**	**237**	PN	Pn	20 03 38.8	-0.6
MHGZ	**Mahia Peninsul**	**2.81**	**215**	PN	Pn	20 03 40.8	-0.6
KNZ	**Kokohu**	**2.82**	**219**	PN	Pn	20 03 40.4	-1.1
RAHZ	**Arahi**	**3.07**	**227**	PN	Pn	20 03 44.4	-0.6
MCHZ	**McNeill Hill**	**3.65**	**224**	PN	Pn	20 03 51.7	-1.2
BHHZ	**Black Hill Sta**	**4.05**	**228**	PN	Pn	20 03 57.1	-1.4

IDC ***10*** *20:04:21.5±16.0, 7°60S×116°15E, h272km±130km, mb3.2/3, mb1 3.3/4, mb1mx2.8/21, mbtmp3.1/4, Error ellipse: s-maj=142.0km s-min=97.4km az=52.0*
AUST ***10*** *20:04:22.9, 7°48S×115°96E, h300km*
ISC 10 20:04:24.2±1.3, 7°6S±0°2×116°05E±0°09, h300km, n14, σ1s67/16, mb3.6/3, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**4.67**	**116**	P	**Pn**	**20 05 40.7**	**+2.7**
	baz=4.8,SNR=5.1						
UGM	**Wanagama**	**5.48**	**267**	P	**Pn**	**20 05 45.9**	**-1.6**
	baz=5.4,SNR=14						
UGM				S	**S**	**20 06 57.7**	**+3.2**
	baz=5.4,SNR=4.1						
CISI	**Cisompet, Garu**	**8.16**	**270**	P	**Pn**	**20 06 17.9**	**-2.0**
	baz=8.1,SNR=5.0						
SOEI	**Soe**	**8.40**	**105**	P	Pn	20 06 18.5	-4.4
	baz=8.5,SNR=3.8						
FITZ	**Fitzroy Crossi**	**14.00**	**139**	P	**P**	**20 07 29.1**	**-1.3**
	0.1nm,0.3s,baz=325,slow=17,SNR=6.4						
FITZ				S	**S**	**20 10 04.5**	**-0.2**
	0.1nm,0.3s,baz=203,slow=20,SNR=1.6						
FITZ	**Fitzroy Crossi**	**14.00**	**139**	P	**P**	**20 07 29.0**	**-1.3**
	baz=14,SNR=4.7						
MTN	**Manton Dam**	**15.72**	**111**	P	**Pn**	**20 07 52.5**	**+1.3**
	baz=16,SNR=3.9						
KDU	**Kakadu**	**16.93**	**109**	P	**Pn**	**20 08 04.5**	**-0.9**
	baz=17,SNR=3.5						
MEEK	**Meekatharra**	**19.08**	**173**	P	**P**	**20 08 26.5**	**+1.0**
	baz=19,SNR=3.5						
MEEK				S	S	20 12 11.3	+26
	baz=19,SNR=5.5						
WRA	**Warramunga Arr**	**21.55**	**127**	P	**P**	**20 08 48.6**	**-1.8**
	1.1nm,0.4s,baz=302,slow=12,SNR=17						
ASAR	**Alice Springs**	**23.41**	**135**	P	**P**	**20 09 06.3**	**-0.9**
	0.9nm,0.4s,baz=306,slow=7.9,SNR=26						
ASAR				PcP	**PcP**	**20 12 44.9**	**+0.4**
	0.3nm,0.9s,baz=324,slow=1.0,SNR=4.4						
MTSU	**Mount Surprise**	**29.43**	**114**	P	**P**	**20 10 01.1**	**+0.2**
	baz=30,SNR=4.1						
STKA	**Stephens Creek**	**33.89**	**139**	P	**P**	**20 10 38.6**	**-1.0**
	2.5nm,0.9s,baz=326,slow=12,SNR=4.2						
YNG	**Young**	**39.90**	**136**	P	**P**	**20 11 30.4**	**+0.5**
	baz=40,SNR=11						

IDC ***10*** *20:07:20.5±1.0, 33°98N×25°41E, h0km, mb3.8/11, mb1 4.0/20, mb1mx3.9/34, mbtmp3.8/20, ML3.4/6, MS3.1/3, Ms1 3.1/3, ms1mx2.5/50, Error ellipse: s-maj=23.3km s-min=15.4km az=179.0*
CSEM ***10*** *20:07:21.5±0.2, 34°01N×25°48E, h2km, ML3.5/3, Error ellipse: s-maj=7.4km s-min=4.3km az=41.0*
HLW ***10*** *20:07:23.0, 34°16N×25°46E, h33km±20km, Md3.3, Ml3.8*
ATH ***10*** *20:07:27.0, 34°34N×25°39E, h30km±2km, MD3.8/18*
THE ***10*** *20:07:27.9, 34°41N×25°39E, h2km±1km, ML3.5/3, Error ellipse: s-maj=2.7km s-min=1.0km az=181.0*
ISK ***10*** *20:07:36.8, 34°83N×26°14E, h35km, MD3.7*
ISC 10 20:07:26.8±1.8, 34°37N±0°08×25°43E±0°03, h11km±11km, n95, σ0s90/90, mb3.7/11, MS3.1/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**0.79**	**3**	P	**Pb**	**20 07 43.0**	**+0.3**
LAST	**Lasithi**	**0.79**	**3**	*e*PN	**Pb**	**20 07 42.7**	**0.0**
LAST				*e*SN	**Sn**	**20 07 55.6**	**-0.4**
LAST	**Lasithi**	**0.79**	**3**	*e*Pn	**Pb**	**20 07 42.7**	**0.0**
LAST	**Lasithi**	**0.79**	**3**	P	**Pb**	**20 07 43.0**	**+0.3**
LAST				*e*Sn	**Sn**	**20 07 55.6**	**-0.4**
SIVA	**Sivas**	**0.83**	**322**	P	**Pb**	**20 07 42.9**	**-0.3**
SIVA	**Sivas**	**0.83**	**322**	*e*PN	**Pb**	**20 07 43.2**	**0.0**
SIVA				*e*SN	**Sb**	**20 07 55.1**	**+0.7**
SIVA	**Sivas**	**0.83**	**322**	P	**Pb**	**20 07 42.9**	**-0.3**
SIVA	**Sivas**	**0.83**	**322**	*e*Pn	**Pb**	**20 07 43.2**	**0.0**
NPS	**Neapolis**	**0.91**	**9**	P	**Pb**	**20 07 44.8**	**+0.2**
NPS	**Neapolis**	**0.91**	**9**	*e*PN	**Pb**	**20 07 44.6**	**0.0**
NPS	**Neapolis**	**0.91**	**9**	P	**Pb**	**20 07 44.8**	**+0.2**
ZKR	**Zakros**	**0.99**	**41**	P	**Pg**	**20 07 45.9**	**+0.1**
ZKR	**Zakros**	**0.99**	**41**	*e*PB	**Pg**	**20 07 46.0**	**+0.1**
ZKR	**Zakros**	**0.99**	**41**	P	**Pg**	**20 07 45.9**	**+0.1**
IDI	**Anoyia**	**1.02**	**334**	P	**Pb**	**20 07 46.3**	**-0.3**
IDI	**Anoyia**	**1.02**	**334**	*e*PB	**Pg**	**20 07 46.0**	**-0.5**
IDI				*e*SN	**Sb**	**20 08 00.7**	**+0.6**
IDI	**Anoyia**	**1.02**	**334**	*e*Pb	**Pg**	**20 07 46.0**	**-0.5**
IDI	**Anoyia**	**1.02**	**334**	P	**Pb**	**20 07 46.3**	**-0.3**
GVD	**Gavdhos**	**1.21**	**293**	*e*PN	**Pb**	**20 07 49.6**	**-0.1**
GVD	**Gavdhos**	**1.21**	**293**	*e*Pn	**Pb**	**20 07 49.6**	**-0.1**
VAM	**Vamos**	**1.45**	**316**	P	**Pn**	**20 07 52.9**	**-0.1**
VAM	**Vamos**	**1.45**	**316**	*e*PN	**Pn**	**20 07 52.7**	**-0.3**
VAM	**Vamos**	**1.45**	**316**	P	**Pn**	**20 07 52.9**	**-0.1**
KARN	**Karanos**	**1.62**	**310**	P	**Pn**	**20 07 55.5**	**+0.1**
KARN	**Karanos**	**1.62**	**310**	*e*PN	**Pn**	**20 07 55.8**	**+0.4**
KARN	**Karanos**	**1.62**	**310**	P	**Pn**	**20 07 55.5**	**+0.1**
KARN	**Karanos**	**1.62**	**310**	*e*Pn	**Pn**	**20 07 55.8**	**+0.4**
KARP	**Karpathos**	**1.84**	**50**	P	**Pn**	**20 07 59.4**	**+0.9**
KARP				S	**Sn**	**20 08 23.6**	**+1.8**
KARP	**Karpathos**	**1.84**	**50**	*e*PB	**Pn**	**20 08 00.0**	**+1.6**
KARP	**Karpathos**	**1.84**	**50**	P	**Pn**	**20 07 59.4**	**+0.9**
KARP	**Karpathos**	**1.84**	**50**	*e*Pb	**Pn**	**20 08 00.0**	**+1.6**
KARP				S	**Sn**	**20 08 23.6**	**+1.8**
THR3	**Thira Island,**	**2.04**	**359**	P	**Pn**	**20 08 01.9**	**+0.8**
THR3	**Thira Island,**	**2.04**	**359**	P	**Pn**	**20 08 01.9**	**+0.8**
ANKY	**Antikythira Is**	**2.30**	**311**	P	**Pn**	**20 08 04.8**	**+0.1**
ANKY	**Antikythira Is**	**2.30**	**311**	*e*PB	**Pn**	**20 08 05.8**	**+1.1**
ANKY	**Antikythira Is**	**2.30**	**311**	P	**Pn**	**20 08 04.8**	**+0.1**
ANKY	**Antikythira Is**	**2.30**	**311**	*e*Pb	**Pn**	**20 08 05.8**	**+1.1**
NIS1	**Nisyros Isl.**	**2.65**	**32**	*e*PN	**Pn**	**20 08 10.5**	**+1.0**
NIS1	**Nisyros Isl.**	**2.65**	**32**	*e*Pn	**Pn**	**20 08 10.5**	**+1.0**
APE	**Apeiranthos**	**2.70**	**2**	*e*PN	**Pb**	**20 08 13.3**	**-1.9**
APE	**Apeiranthos**	**2.70**	**2**	*e*Pn	**Pb**	**20 08 13.3**	**-1.9**
KYTH	**Kithira**	**2.74**	**315**	*e*PN	**Pn**	**20 08 11.4**	**+0.7**
KYTH	**Kithira**	**2.74**	**315**	*e*Pn	**Pn**	**20 08 11.4**	**+0.7**
ARG	**Arkhangelos**	**2.87**	**49**	*e*PN	**Pn**	**20 08 14.0**	**+1.4**
ARG	**Arkhangelos**	**2.87**	**49**	*e*Pn	**Pn**	**20 08 14.0**	**+1.4**
SLUM		**2.87**	**184**	S	Sn	20 08 34.2	-13
	baz=185						
SLUM		**2.87**	**184**	P	Pn	20 08 03.3	-9.3
SLUM				S	Sn	20 08 34.2	-13
DAT	**Datca**	**2.94**	**36**	*e*PN	**Pn**	**20 08 12.3**	**-1.2**
DAT	**Datca**	**2.94**	**36**	*e*Pn	**Pn**	**20 08 12.3**	**-1.2**
BODT	**Bodrum**	**3.09**	**29**	*e*PN	**Pn**	**20 08 15.2**	**-0.4**
BODT	**Bodrum**	**3.09**	**29**	*e*Pn	**Pn**	**20 08 15.2**	**-0.4**
VLI	**Veliai**	**3.11**	**320**	P	**Pn**	**20 08 16.3**	**+0.5**
VLI				S	**Sn**	**20 08 53.2**	**+0.3**
VLI	**Veliai**	**3.11**	**320**	*e*PN	**Pn**	**20 08 15.4**	**-0.4**
VLI	**Veliai**	**3.11**	**320**	*e*Pn	**Pn**	**20 08 15.4**	**-0.4**
VLI	**Veliai**	**3.11**	**320**	P	**Pn**	**20 08 16.3**	**+0.5**
VLI				S	**Sn**	**20 08 53.2**	**+0.3**
DID	**Didima**	**3.60**	**331**	P	**Pn**	**20 08 22.4**	**-0.3**
DID				S	**Sn**	**20 09 06.1**	**+0.9**
DID	**Didima**	**3.60**	**331**	*e*PN	**Pn**	**20 08 23.8**	**+1.1**
DID	**Didima**	**3.60**	**331**	P	**Pn**	**20 08 22.4**	**-0.3**
DID	**Didima**	**3.60**	**331**	*e*Pn	**Pn**	**20 08 23.8**	**+1.1**
DID				S	**Sn**	**20 09 06.1**	**+0.9**
YER	**Yerkesik**	**3.60**	**39**	*e*PN	**Pn**	**20 08 21.9**	**-0.8**
YER	**Yerkesik**	**3.60**	**39**	*e*Pn	**Pn**	**20 08 21.9**	**-0.8**
ITM	**Ithomi**	**4.00**	**316**	*e*PN	**Pn**	**20 08 28.1**	**0.0**
ITM	**Ithomi**	**4.00**	**316**	*e*Pn	**Pn**	**20 08 28.1**	**0.0**
CHOS	**Chios island**	**4.04**	**7**	P	**Pn**	**20 08 29.6**	**+0.9**
CHOS	**Chios island**	**4.04**	**7**	P	**Pn**	**20 08 29.6**	**+0.9**
ELL	**Elmali**	**4.35**	**56**	*e*PN	**Pn**	**20 08 31.9**	**-1.1**
ELL	**Elmali**	**4.35**	**56**	*e*Pn	**Pn**	**20 08 31.9**	**-1.1**
GUR	**Goura**	**4.35**	**326**	*e*PN	**Pn**	**20 08 34.3**	**+1.3**
GUR	**Goura**	**4.35**	**326**	*e*Pn	**Pn**	**20 08 34.3**	**+1.3**
AMT	**Artemida-Makis**	**4.37**	**317**	*e*PN	**Pn**	**20 08 34.0**	**+0.8**
AMT	**Artemida-Makis**	**4.37**	**317**	*e*Pn	**Pn**	**20 08 34.0**	**+0.8**
SUTC	**Sutluce-Ispart**	**5.48**	**54**	*e*PN	**Pn**	**20 08 48.5**	**+0.1**
SUTC	**Sutluce-Ispart**	**5.48**	**54**	*e*Pn	**Pn**	**20 08 48.6**	**+0.1**
AMAG	**Maghara**	**7.54**	**117**	P	Pn	20 09 09.8	-7.0
	baz=116						
AMAG	**Maghara**	**7.54**	**117**	P	Pn	20 09 09.8	-7.0
MMAI	**Mount Meron Ar**	**8.42**	**96**	Pn	Pn	20 09 22.4	-6.4
	1.6nm,0.3s,baz=274,slow=12,SNR=11						
MMAI					Sn	20 10 54.9	-9.0
	6.0nm,0.3s,baz=262,slow=25,SNR=20						
BRTR	**Keskin Array B**	**8.46**	**48**	Pn	**Pn**	**20 09 30.0**	**+0.6**
	0.2nm,0.3s,baz=224,slow=13,SNR=11						
BRTR					**Sn**	**20 11 03.1**	**-1.9**
	0.0nm,0.3s,baz=324,slow=21,SNR=0.7						
EIL	**Elat**	**9.34**	**118**	Pn	Pn	20 09 33.8	-7.5
	0.5nm,0.3s,baz=313,slow=8.5,SNR=12						
EIL					Sn	20 11 12.1	-14
	0.8nm,0.3s,baz=357,slow=14,SNR=4.0						
ASF	**Jabal al Asfar**	**9.84**	**100**	Pn	Pn	20 09 44.1	-4.3
MLR	**Muntele Rosu**	**11.12**	**2**	Pn	**Pn**	**20 10 07.5**	**+1.7**
	0.0nm,0.3s,baz=253,slow=8.9,SNR=4.3						
VRAC	**Vranov**	**16.30**	**339**	Pn	**P**	**20 11 18.3**	**-0.3**
	0.9nm,0.3s,baz=153,slow=11,SNR=3.5						
GNI	**Garni**	**16.41**	**64**	Pn	**Pn**	**20 11 18.6**	**+1.3**
	0.5nm,0.3s,baz=147,slow=3.2,SNR=4.8						
KBZ	**Khabaz**	**16.45**	**50**	Pn	**Pn**	**20 11 19.4**	**+1.9**
	0.2nm,0.3s,baz=255,slow=7.7,SNR=6.9						
GERES	**GERESS Array B**	**16.89**	**332**	P	**Pn**	**20 11 23.4**	**+0.2**
	0.1nm,0.3s,baz=151,slow=12,SNR=16						
ESDC	**Sonseca Array**	**24.00**	**291**	P	P	20 12 37.6	-4.0
	0.6nm,0.6s,baz=80,slow=8.9,SNR=7.5						
NOA	**NORSAR Array B**	**28.22**	**345**	P	**P**	**20 13 17.8**	**-1.7**
	1.0nm,0.7s,baz=156,slow=12,SNR=3.4						
NOA					LR	LR	20 26 12.1
	comp=Z,15nm,20.2s,baz=170,slow=40						
AKTO	**Aktyubinsk**	**28.63**	**46**	P	P	20 13 19.2	-4.0
	0.6nm,0.6s,baz=240,slow=13,SNR=3.8						
TORD	**Torodi Ar. Bea**	**30.16**	**231**	P	P	20 13 30.6	-6.5
	0.5nm,0.6s,baz=38,slow=8.2,SNR=5.5						
BVAR	**Borovoye Array**	**36.73**	**46**	P	**P**	**20 14 32.5**	**-1.5**
	0.6nm,0.8s,baz=248,slow=7.8,SNR=5.2						
KURBB	**Kurchatov Arra**	**41.45**	**50**	P	P	20 15 10.9	-2.4
	2.1nm,0.6s,baz=274,slow=8.3,SNR=9.9						
MKAR	**Makanchi Array**	**44.03**	**56**	P	P	20 15 31.7	-2.7
	2.5nm,0.7s,baz=278,slow=6.6,SNR=29						
MKAR					LR	LR	20 38 19.3
	comp=Z,41nm,19.6s,baz=84,slow=42						
ZALV	**Zalesovo Beam**	**45.39**	**46**	P	P	20 15 42.1	-3.1
	1.6nm,0.7s,baz=264,slow=9.1,SNR=6.4						
ZALV					LR	LR	20 36 03.4
	comp=Z,23nm,19.3s,baz=70,slow=38						
SONM	**Songino Array**	**59.81**	**50**	P	P	20 17 29.6	-2.6
	0.9nm,0.9s,baz=284,slow=6.0,SNR=6.9						
SCHQ	**Schefferville**	**63.94**	**320**	P	P	20 17 56.6	-3.1
	1.6nm,0.6s,baz=58,slow=7.0,SNR=4.8						
ILAR	**Eielson Array**	**81.01**	**357**	P	P	20 19 38.8	-2.4
	0.6nm,0.8s,baz=350,slow=3.2,SNR=5.5						

MAN ***10*** *20:52:40, 4°45N×126°56E, h17km, mb5.7, ML4.7, MS5.1*
IDC ***10*** *20:52:44.5±0.4, 5°00N×126°68E, h0km, mb4.5/28, mb1 4.6/30, mb1mx4.6/32, mbtmp4.5/30, ML4.1/2, MS4.6/27, Ms1 4.6/27, ms1mx4.5/39, Error ellipse: s-maj=18.8km s-min=8.2km az=79.0*
MOS ***10*** *20:52:48.0±1.3, 5°00N×126°69E, h33km, mb5.2/33, MS4.8/6, Error ellipse: s-maj=13.6km s-min=6.0km az=112.0*
GCMT ***10*** *20:52:48.2±0.2, 5°20N×126°63E, h17km, MW5.2, Moment Tensor Solution. s55,c89; s83,c139; Moment tensor: Scale 10^16 Nm; Mrr 1.51±.16; Mθθ -0.47±.13; Mφφ -1.04±.15; Mrθ -3.28±.39; Mrφ -5.96±.12; Mθφ -1.12±.35; Best double couple: Mo 6.80000×10^16 NP1: φ358.00000°, δ59.00000°, λ4.00000°. NP2: φ266.00000°, δ87.00000°, λ149.00000°. Principal axes: T 5.9200, Plg24.0000°, Azm218.0000°; N 1.8500, Plg59.0000°, Azm81.0000°; P -7.7600, Plg19.0000°, Azm316.0000°; Data Used: II IU IC G CN.*
ISCJB ***10*** *20:52:48.7±0.4, 4°98N±0°02×126°76E±0°03, h40km±4km, mb4.8/100, MS4.7/48 Error ellipse: s-maj=6.0km s-min=3.4km az=160.3*
NEIC ***10*** *20:52:49.6±1.2, 5°02N×126°75E, h36km±11km, mb5.1/34, Error ellipse: s-maj=9.8km s-min=5.3km az=75.0*
BKK ***10*** *20:52:49.4±0.5, 5°N±4°×12°7E±°, h10km, M5.0/16, mB5.4/9, mb4.8/16, MLv5.3/4, Mw(mB)4.9/9*
AUST ***10*** *20:52:49.7, 5°00N×126°51E, h35km*
BJI ***10*** *20:52:50.5, 5°07N×126°58E, h50km, mB5.1/32, mb4.8/46, Ms4.9/55, Ms7 4.8/52*
DJA ***10*** *20:52:52.3±1.8, 5°N±18°×12°7E±°, h30km, M5.1/9, mB5.5/7, mb5.2/9, MLv5.1/2, Mw(mB)5.0/7, Mwp5.5/1*
ISC 10 20:52:51.6±0.3, 5°02N±0°03×126°77E±0°05, h46km±2km, h46km:pP-P, n298, σ1s86/342, mb4.9/100, MS4.7/50, 12C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.98**	**345**	*e*P	Pn	20 53 19.8	-3.0
GSPH	**General Santos**	**2.10**	**300**	*e*P	Pn	20 53 15.5	-9.0
GSPH				*e*S	Sn	20 53 40.1	-10
DAV	**Davao City (W)**	**2.36**	**330**	*e*Pn	Pn	20 53 24.1	-3.9
DAV				Sn	**Sn**	**20 53 54.8**	**-1.0**
DAV	**Davao City (W)**	**2.36**	**330**	P	**Pn**	**20 53 28.8**	**+0.8**
DAV	**Davao City (W)**	**2.36**	**330**	Pn	Pn	20 53 23.8	-4.2
	52nm,0.3s,baz=304,slow=14,SNR=9.7						
DAV				Sn	**Sn**	**20 53 54.8**	**-1.0**
	104nm,0.3s,baz=103,slow=22,SNR=8.1						
DAV				LR	LR	20 54 38.8	
	comp=Z,21μm,18.2s,baz=109,slow=49						
DMPH	**Davao City--Mi**	**2.41**	**329**	*e*P	**Pn**	**20 53 27.8**	**-0.8**
KCP	**Kidapawan**	**2.59**	**320**	*e*P	**Pn**	**20 53 31.3**	**+0.1**
BUKP	**Musuan**	**3.31**	**329**	*e*P	Pn	20 53 37.0	-4.1
GAMI	**Galela, Maluku**	**3.32**	**162**	P	**Pn**	**20 53 40.0**	**-1.1**
CTBH	**Cotabato--PC H**	**3.33**	**311**	*i*P	Pn

baz=25,SNR=4.2
SKNT Sakolnakorn 25.29 300 P **P** **20 58 16.1 +2.0**
comp=Z,28nm,1.3s,comp=Z,1μm
SKNT Sakolnakorn 25.29 300 P **P** **20 58 16.1 +2.0**
WRAB Tennant Creek 25.89 163 *e*P **P** **20 58 17.9 -1.5**
WRAB pmax pmax
comp=Z,156nm,1.1s
WRAB Tennant Creek 25.89 163 *e*P **P** **20 58 17.9 -1.5**
comp=Z,156nm,1.1s
WRA Warramunga Arr 25.89 164 P **P** **20 58 17.7 -1.8**
WRA S **S** **21 02 52.4 +5.9**
WRA Warramunga Arr 25.89 164 P **P** **20 58 17.7 -1.8**
comp=Z,56nm,0.9s,baz=342,slow=10,SNR=75
WRA S **S** **21 02 52.4 +5.9**
comp=Z,2.2nm,1.2s,baz=219,slow=31,SNR=1.0
SSE Sheshan 26.47 349 P **P** **20 58 24.5 0.0**
SSE S **S** **21 02 54.4 -0.9**
SSE pmax pmax
comp=Z,31nm,0.8s
SSE pmax pmax
comp=Z,170nm,4.3s
SSE LR LR
comp=N,1μm,17.4s
SSE LR LR
comp=E,950nm,17.4s
SSE LR LR
comp=Z,1μm,17.0s
CHAI Chaiyaphum 26.63 296 P P 20 58 32.1 +5.9
comp=Z,6.0nm,1.0s,comp=Z,76nm
CHAI Chaiyaphum 26.63 296 P P 20 58 32.1 +5.9
NAYO Nakonayok 26.71 292 P **P** **20 58 30.1 +3.2**
comp=Z,60nm,0.8s,comp=Z,9μmcomp=Z,0.3nm
MBWA Marble Bar 26.91 195 *e*P **P** **20 58 26.2 -2.4**
comp=Z,56nm,1.1s
PBKT Sadao Pong 27.78 296 P **P** **20 58 38.9 +2.4**
comp=Z,12nm,1.3s
PBKT Sadao Pong 27.78 296 P **P** **20 58 38.9 +2.4**
comp=Z,12nm,1.3s,comp=Z,0.1nm
PSI Prapat 27.87 267 P **P** **20 58 37.2 -0.3**
PSI Prapat 27.87 267 P **P** **20 58 37.2 -0.3**
comp=Z,2.6nm,0.5s,baz=192,slow=9.3,SNR=2.1
LOEI Loei 27.88 298 P **P** **20 58 35.4 -2.0**
LOEI Loei 27.88 298 P **P** **20 58 35.4 -2.0**
comp=Z,55nm,0.9s,comp=Z,5μmcomp=Z,0.2nm
PHET Kaeng Krachan 27.91 288 P pP 20 58 55.0 +5.2
comp=Z,0.2nmcomp=Z,62nm,1.0s
WHN Wuhan 27.96 337 ⇑P **P** **20 58 39.8 +1.9**
WHN S **S** **21 03 19.9 +1.0**
WHN LR LR
comp=N,3μm,18.5s
WHN LR LR
comp=E,4μm,15.5s
WHN LR LR
comp=Z,6μm,20.1s
JNU Nakatsue 28.22 7 P **P** **20 58 40.4 +0.1**
JNU Nakatsue 28.22 7 P **P** **20 58 40.4 +0.1**
comp=Z,6.3nm,0.9s,baz=236,slow=7.3,SNR=3.7
JNU LR LR 21 09 58.0
comp=Z,913nm,20.4s,baz=310,slow=37
GYA Guiyang 28.70 320 *e*P **P** **20 58 45.6 +0.8**
GYA pP **pP** **20 58 57.4 +0.5**
GYA sP **sP** **20 59 02.0 -0.5**
GYA PP **PnPn** **20 59 40.3 +3.3**
GYA S **S** **21 03 30.5 -0.5**
GYA sS **sS** **21 03 49.8 -1.6**
GYA SS **SnSn** **21 04 59.0 +4.1**
GYA ScP **ScP** **21 05 31.2 -1.1**
GYA ScS **ScS** **21 09 24.4 -1.7**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.8s
GYA LR LR
comp=N,650nm,16.5s
GYA LR LR
comp=E,470nm,17.8s
GYA LR LR
comp=Z,590nm,16.5s
NANT Nan 28.89 300 P pP 20 59 01.8 +3.2
AS31 Alice Springs 29.34 167 *e*P **P** **20 58 47.9 -2.4**
ASAR Alice Springs 29.34 167 P **P** **20 58 48.9 -1.5**
ASAR ScP **ScP** **21 05 39.2 +5.0**
ASAR Alice Springs 29.34 167 P **P** **20 58 48.9 -1.5**
comp=Z,6.4nm,0.8s,baz=338,slow=6.4,SNR=23
ASAR ScP **ScP** **21 05 39.2 +5.0**
comp=Z,0.7nm,0.9s,baz=323,slow=1.4,SNR=3.7
ENH Enshi 29.95 329 *e*P **P** **20 58 54.2 -1.4**
comp=Z,32nm,1.1s
CMAR Chiang Mai Arr 30.28 298 P **P** **20 58 58.7 0.0**
CMAR PcP **PcP** **21 02 00.9 +2.3**
CMAR ScP **ScP** **21 05 40.6 +3.2**
CMAR Chiang Mai Arr 30.28 298 P **P** **20 58 58.7 0.0**
comp=Z,1.2nm,0.7s,baz=112,slow=7.6,SNR=8.6
CMAR PcP **PcP** **21 02 00.9 +2.3**
comp=Z,1.2nm,0.9s,baz=90,slow=1.8,SNR=4.6
CMAR ScP **ScP** **21 05 40.6 +3.2**
comp=Z,0.9nm,0.9s,baz=173,slow=2.3,SNR=6.0
CMAR LR LR 21 12 34.6
comp=Z,879nm,19.3s,baz=125,slow=39
CMMT Chiang Mai 30.41 299 P P 20 59 07.4 +7.5
CMMT Chiang Mai 30.41 299 P P 20 59 07.4 +7.5
comp=Z,7.3nm,1.7s,comp=Z,0.0nm
CHTO Chiang Mai 30.42 299 *e*P **P** **20 58 59.0 -1.0**
CHTO pmax pmax
comp=Z,26nm,1.7s
CHTO Chiang Mai 30.42 299 *e*P **P** **20 58 59.0 -1.0**
comp=Z,26nm,1.7s
CHTO Chiang Mai 30.42 299 P P 20 59 07.8 +7.9
CHTO Chiang Mai 30.42 299 P P 20 59 07.8 +7.9
comp=Z,5.5nm,1.3s,comp=Z,0.0nm
KMI Kunming 30.52 313 P **P** **20 59 02.4 +1.4**
KMI pP **pP** **20 59 17.2 +4.0**
KMI sP **sP** **20 59 23.3 +4.6**
KMI PP **PnPn** **21 00 03.4 +2.1**
KMI S **S** **21 03 59.2 -0.5**
KMI pmax pmax
comp=Z,15nm,1.4s
KMI pmax pmax
comp=Z,91nm,3.7s
KMI LR LR
comp=N,1μm,20.7s
KMI LR LR
comp=E,820nm,20.7s
KMI LR LR
comp=Z,2μm,16.8s
CTA Charters Tower 31.45 143 P **P** **20 59 10.0 +1.0**
CTA Charters Tower 31.45 143 P **P** **20 59 10.0 +1.0**
comp=Z,5.8nm,0.7s,baz=339,slow=14,SNR=4.7
KSAR Wonju Array Be 32.29 2 P **P** **20 59 17.1 +1.0**
KSRS Korea Array 32.30 2 P **P** **20 59 17.1 +0.9**
comp=Z,3.1nm,0.9s,baz=184,slow=10,SNR=11
KSRS LR LR 21 12 50.4
comp=Z,1μm,20.1s,baz=190,slow=37
MEEK Meekatharra 32.44 194 P **P** **20 59 15.4 -2.3**
baz=32,SNR=17
XAN Xi'an 33.30 332 P **P** **20 59 23.0 -2.1**
XAN pP **pP** **20 59 38.1 +0.8**
XAN sP **sP** **20 59 45.3 +2.5**
XAN PP **PP** **21 00 41.8 +0.7**
XAN pmax pmax
comp=Z,4.0nm,1.1s
XAN pmax pmax
comp=Z,14nm,3.4s
XAN LR LR
comp=N,1μm,29.5s
XAN LR LR
comp=E,730nm,23.9s
XAN LR LR
comp=Z,470nm,23.9s
CD2 Chengdu 33.65 323 P **P** **20 59 29.0 +0.8**
CD2 pP **pP** **20 59 40.5 +0.1**
CD2 sP **sP** **20 59 45.6 -0.3**
CD2 PP **PnPn** **21 00 42.5 +1.3**
CD2 PcP **PcP** **21 02 08.4 +0.8**
CD2 S **S** **21 04 48.0 0.0**
CD2 sS **sS** **21 05 07.4 -1.2**
CD2 ScP **ScP** **21 05 48.3 -0.3**
CD2 SS **SnSn** **21 06 54.6 -0.2**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.2s
CD2 LR LR
comp=N,2μm,17.2s
CD2 LR LR
comp=E,2μm,18.6s
CD2 LR LR
comp=Z,2μm,18.6s
DL2 Dalian 34.06 353 P **P** **20 59 29.3 -2.2**
DL2 S **S** **21 04 51.3 -2.7**
DL2 pmax pmax
comp=Z,33nm,1.1s
DL2 pmax pmax
comp=Z,180nm,3.5s
DL2 LR LR
comp=N,730nm,16.5s
DL2 LR LR
comp=E,310nm,17.1s
DL2 LR LR
comp=Z,860nm,17.7s
MORW Morawa 35.42 196 P **P** **20 59 41.6 -1.8**
baz=36,SNR=4.3
MORW S S 21 05 35.8 +20
baz=36,SNR=6.4
FORT Forrest 35.61 178 *e*P P 20 59 40.0 -5.1
comp=E,66nm,1.0s
BJT Baijiatuan 36.14 346 *e*P **P** **20 59 49.2 -0.2**
comp=Z,76nm,0.9s
BJI Beijing 36.16 346 P **P** **20 59 49.0 -0.6**
BJI pP **pP** **21 00 03.8 +1.9**
BJI sP **sP** **21 00 11.1 +3.7**
BJI PP **PnPn** **21 01 12.2 +0.1**
BJI S **S** **21 05 25.6 -0.6**
BJI pmax pmax
comp=Z,86nm,0.8s
BJI LR LR
comp=N,1μm,18.0s
BJI LR LR
comp=E,220nm,18.0s
BJI LR LR
comp=Z,820nm,20.6s
LZH Lanzhou 37.43 329 *e*P **P** **21 00 00.6 -0.1**
LZH pP **pP** **21 00 10.0 -3.1**
LZH sP **sP** **21 00 15.4 -3.1**
LZH *e*S **S** **21 05 42.2 -3.9**
LZH sS **ScP** **21 06 02.1 -0.3**
LZH SS **SnSn** **21 08 19.1 -7.3**
LZH pmax pmax
comp=Z,47nm,1.2s
LZH pmax pmax
comp=Z,260nm,5.4s
LZH LR LR
comp=N,3μm,14.4s
LZH LR LR
comp=E,2μm,15.7s
LZH LR LR
comp=Z,4μm,16.4s
HHC Hu-ho-hao-te 38.20 341 *e*P **P** **21 00 07.2 +0.1**
HHC pP **pP** **21 00 19.4 -0.1**
HHC sP **sP** **21 00 24.5 -0.4**
HHC PP **PnPn** **21 01 40.5 +3.5**
HHC S **S** **21 05 59.6 +2.0**
HHC sS **sS** **21 06 20.0 +1.7**
HHC ScS **ScS** **21 10 11.5 -3.4**
HHC pmax pmax
comp=Z,27nm,0.8s
HHC pmax pmax
comp=Z,310nm,4.3s
HHC LR LR
comp=N,2μm,16.1s
HHC LR LR
comp=E,580nm,17.0s
HHC LR LR
comp=Z,1μm,15.6s
EIDS Eidsvold 38.34 143 *e*P **P** **21 00 09.0 +0.7**
comp=Z,167nm,1.6s
EIDS Eidsvold 38.34 143 P **P** **21 00 10.5 +2.2**
baz=39,SNR=4.6
CN2 Changchun 38.64 358 *e*P **P** **21 00 13.6 +3.0**
CN2 *e*pP **pP** **21 00 18.9 -4.1**
CN2 *e*S **S** **21 06 06.8 +2.9**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=N,900nm,18.0s
CN2 LR LR
comp=E,500nm,18.0s
CN2 LR LR
comp=Z,1μm,18.0s
NWAO Narrogin (SRO) 38.81 193 P **P** **21 00 10.4 -1.7**
NWAO Narrogin (SRO) 38.81 193 P **P** **21 00 10.4 -1.7**
comp=Z,14nm,0.8s,baz=34,slow=6.6,SNR=5.8
SHL Shillong 39.16 305 *e*P **P** **21 00 14.0 -1.5**
SHL *e*S **S** **21 06 15.0 +2.3**
USRK Ussuriysk Arra 39.30 6 P **P** **21 00 16.7 +0.7**
comp=Z,4.8nm,0.8s,baz=196,slow=6.9,SNR=12
USRK LR LR 21 15 25.0
comp=Z,693nm,20.1s,baz=180,slow=35
STKA Stephens Creek 39.31 160 *e*P **P** **21 00 15.5 -0.8**
comp=Z,16nm,0.9s
STKA Stephens Creek 39.31 160 P **P** **21 00 15.8 -0.5**
comp=Z,66nm,0.9s,baz=337,slow=8.2,SNR=32
STKA LR LR 21 19 05.1
comp=Z,1μm,18.9s,baz=232,slow=40
STKA Stephens Creek 39.31 160 P **P** **21 00 16.3 -0.1**
baz=40,SNR=38
MDJ Mudanjiang 39.52 3 P **P** **21 00 18.5 +0.6**
MDJ pP **pP** **21 00 29.9 -0.5**
MDJ sP **sP** **21 00 34.7 -1.1**
MDJ ScP **ScP** **21 06 10.1 +0.1**
MDJ PcS **PcS** **21 06 14.9 +0.2**
MDJ S **S** **21 06 19.4 +2.3**
MDJ sS **sS** **21 06 38.5 +0.6**
MDJ pmax pmax
comp=Z,17nm,2.0s
MDJ pmax pmax
comp=Z,84nm,3.6s
MDJ LR LR
comp=N,240nm,26.0s
MDJ LR LR
comp=E,640nm,30.1s
MDJ LR LR
comp=Z,790nm,25.2s
MDJ Mudanjiang 39.52 3 *e*P **P** **21 00 16.8 -1.1**
CMSA Cobar Meteorol 40.58 155 P **P** **21 00 26.7 -0.2**
baz=41,SNR=13
ASAJ Asahikawa 41.36 17 P **P** **21 00 31.9 -1.2**
ASAJ Asahikawa 41.36 17 P **P** **21 00 31.9 -1.2**
comp=Z,6.0nm,0.8s,baz=241,slow=10,SNR=3.3
ASAJ LR LR 21 16 42.5
comp=Z,1μm,19.9s,baz=217,slow=35
LSA Lhasa 41.64 310 P **P** **21 00 36.3 +0.1**
LSA LR LR
comp=E,790nm,25.6s
LSA LR LR
comp=Z,670nm,23.2s
LSA Lhasa 41.64 310 *e*P **P** **21 00 37.4 +1.2**
LSA pmax pmax
comp=Z,66nm,1.8s
LSA Lhasa 41.64 310 *e*P **P** **21 00 37.4 +1.2**
comp=Z,66nm,1.8s
GTA Gaotai 42.03 328 *e*P **P** **21 00 36.4 -2.5**
GTA pP **pP** **21 00 51.0 -0.4**
GTA sP **sP** **21 00 56.8 0.0**
GTA ScS **ScS** **21 10 38.5 +0.8**
GTA pmax pmax
comp=Z,11nm,1.3s
GTA pmax pmax
comp=Z,93nm,7.1s
GTA LR LR
comp=N,2μm,25.7s
GTA LR LR
comp=E,1μm,21.9s
GTA LR LR
comp=Z,1μm,17.1s
ARMA Armidale 42.52 148 *e*P **P** **21 00 41.3 -1.6**
comp=Z,44nm,0.9s
ARMA Armidale 42.52 148 P **P** **21 00 43.1 +0.2**
baz=43,SNR=9.7
TAPN Taplejung 43.30 305 *e*P **P** **21 00 49.2 -0.4**
comp=Z,51nm,1.1s
ODAN Odare 43.37 304 *e*P **P** **21 00 49.0 -1.1**
comp=Z,32nm,0.7s
YSS Yuzh-Sakhalins 44.00 16 *e*P **P** **21 00 57.0 +2.5**
YSS *e* 21 01 06.0
YSS *e*S **S** **21 07 26.0 +2.8**
YSS *e*SS SS 21 10 26.0 -16
YSS MLR MLR
comp=N,500nm,19.0s
YSS MLR MLR
comp=E,500nm,19.0s
YSS MLR MLR
comp=Z,500nm,19.0s
RAMN Ramite 44.06 304 *e*P **P** **21 00 54.1 -1.5**
comp=Z,48nm,0.9s
YNG Young 44.11 154 P P 21 01 02.9 +7.2
baz=44,SNR=6.3
JIRN Jiri 44.67 305 *e*P **P** **21 00 59.6 -1.0**
comp=Z,42nm,0.8s
GUN Gumba 45.02 305 *e*P **P** **21 01 03.0 -0.4**
comp=Z,41nm,0.7s
CAN Canberra 45.24 154 *e*P **P** **21 01 04.9 +0.3**
CAN pmax pmax
comp=Z,118nm,1.5s
CAN Canberra 45.24 154 *e*P **P** **21 01 04.9 +0.3**
comp=Z,118nm,1.5s
PKI Pulchoki 45.27 304 *e*P **P** **21 01 04.3 -1.1**
PKIN Phulchoki 45.29 304 *e*P **P** **21 01 04.5 -0.9**
comp=Z,12nm,0.7s
KKN Kakani 45.46 305 *e*P **P** **21 01 05.7 -1.1**
comp=Z,38nm,1.1s
DMN Daman 45.54 304 *e*P **P** **21 01 05.8 -1.6**
SONM Songino Array 46.10 341 P **P** **21 01 09.7 -1.7**
SONM PcP **PcP** **21 02 48.1 +1.1**
SONM Songino Array 46.10 341 P **P** **21 01 09.7 -1.7**
comp=Z,5.1nm,0.9s,baz=151,slow=9.0,SNR=32
SONM PcP **PcP** **21 02 48.1 +1.1**
comp=Z,4.6nm,0.9s,baz=160,slow=4.7,SNR=4.2
SONM LR LR 21 23 42.2
comp=Z,1μm,20.4s,baz=153,slow=40
KOLN Koldanda 46.84 304 *e*P **P** **21 01 17.0 -0.6**
comp=Z,33nm,0.7s
DANN Dangsing 46.92 305 *e*P **P** **21 01 17.5 -0.8**
comp=Z,50nm,0.7s
DZM Mont Dzumac 47.25 126 LR LR 21 17 22.3
comp=Z,994nm,21.6s,baz=180,slow=31
PYUN Piuthan 47.46 304 *e*P **P** **21 01 21.8 -0.6**
comp=Z,51nm,0.9s
CIT Chita 48.12 349 *e*P **P** **21 01 26.7 -0.2**
CIT *e* 21 08 17.6
CIT pmax pmax
comp=Z,132nm,2.3s
ZAK Zakamensk 49.33 340 *e*P **P** **21 01 35.5 -0.9**
ZAK *e* 21 02 58.7
TLY Talaya 50.33 341 *e*P **P** **21 01 45.3 +1.5**
TLY pmax pmax
comp=Z,26nm,1.1s
TLY MLR MLR
comp=Z,1μm,20.0s
TLY Talaya 50.33 341 P **P** **21 01 45.6 +1.8**
comp=Z,114nm,1.1s,SNR=5.2
IRK Irkutsk 50.62 342 *e*P **P** **21 01 46.8 +0.8**
IRK pmax pmax
comp=Z,50nm,2.0s
MOY Mondy 51.20 340 *e*P **P** **21 01 52.3 +1.9**
MOY pmax pmax
comp=Z,57nm,3.1s
CLNS Chul'man 51.70 359 *e*P **P** **21 01 53.4 -0.6**
CLNS pmax pmax
comp=Z,12nm,1.1s
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=E,2.0nm,0.7s
WMQ Urumqi 51.71 324 P **P** **21 01 57.2 +2.9**
HVS Khovu-Aksy 53.60 335*c i*P **P** **21 02 06.6 -1.6**
PETK Petropavlovsk- 54.23 22 P **P** **21 02 13.2 +0.5**
PETK Petropavlovsk- 54.23 22 P **P** **21 02 13.2 +0.5**
PETK Petropavlovsk- 54.23 22 P **P** **21 02 13.2 +0.5**
comp=E,7.5nm,0.9s,baz=197,slow=4.6,SNR=11
PETK LR LR 21 25 12.0
comp=E,279nm,20.7s,baz=218,slow=36
MK31 Makanchi Array 56.53 325 *e*P **P** **21 02 27.2 -2.2**
MK31 Makanchi Array 56.53 325 *e*P **P** **21 02 27.2 -2.2**
MKAR Makanchi Array 56.53 325*ce*P **P** **21 02 27.2 -2.2**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 56.53 325 *e*P **P** **21 02 27.6 -1.8**
MKAR ScP **ScP** **21 07 25.0 +3.5**
MKAR Makanchi Array 56.53 325 P **P** **21 02 27.1 -2.3**
comp=Z,2.8nm,0.8s,baz=129,slow=7.9,SNR=32
MKAR ScP **ScP** **21 07 25.0 +3.5**
comp=Z,1.0nm,1.1s,baz=72,slow=4.7,SNR=2.9
MKAR LR LR 21 27 24.4
comp=Z,959nm,21.8s,baz=106,slow=37
YAK Yakutsk 56.93 2 *e*P **P** **21 02 31.0 -0.9**
YAK *e**PP **pP** **21 02 41.6 -3.3**
YAK *e* 21 03 24.3
YAK *e* 21 04 38.5
YAK *e*PPP PPP 21 05 56.4
YAK *e*S **S** **21 10 25.9 +3.6**
YAK *e**SS **sS** **21 10 43.0 -1.0**
YAK *e*SS **SS** **21 14 08.3 -3.0**
YAK pmax pmax
comp=Z,38nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=E,31nm,2.1s
YAK pmax pmax
comp=Z,44nm,2.4s
YAK pmax pmax
comp=N,27nm,1.8s
YAK smax smax
comp=E,162nm,4.7s
YAK smax smax
comp=N,162nm,5.1s
YAK MLR MLR
comp=N,394nm,19.0s
YAK MLR MLR
comp=Z,465nm,17.0s
YAK MLR MLR
comp=E,266nm,18.0s
KSH Kashi 57.17 314 P **P** **21 02 36.6 +2.4**
KSH pP **pP** **21 02 50.6 +3.4**
KSH sP **sP** **21 02 55.0 +2.5**
KSH PP **PP** **21 04 46.0 +4.4**
KSH S **S** **21 10 27.9 +1.2**
KSH sS **sS** **21 10 49.8 +1.4**
KSH ScS **ScS** **21 12 19.5 -0.6**
KSH SS **SS** **21 14 19.1 +2.8**
KSH pmax pmax
comp=Z,22nm,1.6s
KSH pmax pmax
comp=Z,90nm,3.0s
KSH LR LR
comp=N,660nm,15.3s
KSH LR LR
comp=E,180nm,10.1s
KSH LR LR
comp=Z,550nm,22.4s
AAK Ala-Archa 59.44 317*ce*P **P** **21 02 48.0 -2.1**
AAK pmax pmax
comp=Z,27nm,1.7s
AAK Ala-Archa 59.44 317 *e*P **P** **21 02 48.7 -1.4**
comp=Z,16nm,1.4s
AAK Ala-Archa 59.44 317 P **P** **21 02 49.7 -0.4**
comp=Z,1.3nm,0.3s,baz=97,slow=1.8,SNR=6.9
ZAA0 Zalesovo Array 59.47 333 *e*P **P** **21 02 49.0 -0.8**
ZALV Zalesovo Beam 59.47 333 P **P** **21 02 49.0 -0.8**
ZALV Zalesovo Beam 59.47 333 P **P** **21 02 49.0 -0.8**
ZALV Zalesovo Beam 59.47 333 P **P** **21 02 49.0 -0.8**
comp=Z,9.0nm,0.9s,baz=117,slow=5.5,SNR=23
ZALV LR LR 21 30 14.1
comp=Z,906nm,21.6s,baz=249,slow=38
KURBB Kurchatov Arra 60.69 327 P **P** **21 02 56.1 -2.1**
comp=Z,4.6nm,0.7s,baz=125,slow=6.4,SNR=18
KURK Kurchatov 60.69 327 P **P** **21 02 58.1 -0.1**
comp=Z,129nm,0.8s,SNR=6.7
KURK Kurchatov 60.69 327 P **P** **21 02 56.1 -2.1**
KURK Kurchatov 60.69 327 P **P** **21 02 56.1 -2.1**
NVS Novosibirsk 60.75 333 *e*P **P** **21 02 57.0 -1.5**
NVS *i* S **S** **21 11 16.0 +3.8**
NVS pmax pmax
comp=N,8.0nm,1.0s
NVS pmax pmax
comp=E,12nm,1.0s
NVS pmax pmax
comp=Z,19nm,1.0s
NVS smax smax
comp=N,15nm,2.2s
NVS smax smax
comp=E,26nm,2.2s
SEY Seymchan 60.78 13 *e*P **P** **21 02 59.3 +0.7**
KBL Kabul 60.78 307 *e*P **P** **21 02 57.8 -1.7**
KBL pmax pmax

comp=Z,17nm,1.4s
KBL Kabul 60.78 307 *e*P P **21 02 57.8 -1.7**
comp=Z,17nm,1.4s
KKAR Karatay Array 62.33 317 *e*P P **21 03 07.4 -2.1**
KKAR Karatay Array 62.33 317 *e*P P **21 03 07.4 -2.1**
PUZ Puketiti 64.13 137 *e*PN P **21 03 19.1 -2.3**
BRVK Borovoye 66.35 327 *e*P P **21 03 33.5 -2.0**
BRVK pmax pmax
comp=Z,12nm,1.2s
BRVK Borovoye 66.35 327 *e*P P **21 03 33.3 -2.3**
comp=Z,24nm,1.0s
TIXI Tiksi 66.56 1 *e*P P **21 03 35.6 -1.0**
TIXI pmax pmax
comp=Z,7.0nm,0.7s
BILL Bilibino 68.31 15⇑*e*P P **21 03 47.2 -0.5**
BILL *e**PP PcP 21 04 20.6 +7.6
BILL *e* 21 06 18.3
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL MLR MLR
comp=Z,100nm,18.0s
ABKAR Akbulak array 71.19 320 *e*P P **21 04 03.5 -2.3**
AKTO Aktyubinsk 72.69 321 LR LR 21 40 23.8
comp=Z,629nm,19.0s,baz=269,slow=39
SVE Sverdlovsk 72.89 328 *e*P P **21 04 14.0 -1.8**
ARU Arti 73.88 328*d i*P P **21 04 18.8 -2.8**
ARU pmax pmax
comp=Z,14nm,1.2s
MIR Mirnyy 75.41 193 *e*P P 21 04 41.0 +11
MIR *e* 21 04 56.0
MIR pmax pmax
comp=Z,56nm,1.5s
SOKR Solikamsk 75.62 330⇑*i*P P **21 04 31.9 +0.3**
SOKR S S **21 14 06.8 -2.3**
SOKR pmax pmax
comp=Z,10.0nm,1.1s
SOKR MLR MLR
comp=Z,890nm,22.0s
SDPT Sand Point 76.11 34 *e*P P **21 04 32.6 -1.9**
comp=Z,49nm,1.4s
CHGN Chignik 77.43 33 *e*P P **21 04 44.0 +2.1**
RDF Al-Radifah 78.17 298 *e*P P **21 04 45.2 -1.4**
RDF AMb AMB 21 04 54.2
comp=Z,20nm,1.1s
MIB Mutribah 78.36 299 *e*P P **21 04 46.8 -0.8**
MIB AMb AMB 21 04 56.5
comp=Z,28nm,0.8s
NAY Al-Naaiem 78.44 299 *e*P P **21 04 46.9 -1.3**
NAY AMb AMB 21 04 56.3
comp=Z,9.1nm,0.8s
SVW2 Sparrevohn 79.66 29 *e*P P **21 04 52.1 -2.0**
comp=Z,132nm,3.0s
RAYN Ar Rayn 80.02 293 *e*P P **21 04 54.7 -2.3**
comp=Z,8.2nm,1.1s
GNI Garni 80.70 310 LR LR 21 47 03.3
comp=Z,290nm,21.2s,baz=257,slow=40
KDAK Kodiak Island 80.79 32 P P **21 04 59.2 -1.0**
KDAK Kodiak Island 80.79 32 P P **21 04 59.2 -1.0**
comp=Z,5.1nm,0.7s,baz=226,slow=6.3,SNR=6.1
ZEI Tsey 81.39 312 *e*P P **21 05 04.9 +0.8**
ZEI pmax pmax
comp=Z,10.0nm,0.5s
KBZ Khabaz 82.13 313 P P **21 05 07.1 -0.6**
KBZ Khabaz 82.13 313 P P **21 05 07.1 -0.6**
KBZ Khabaz 82.13 313 P P **21 05 07.1 -0.6**
comp=Z,0.5nm,0.3s,baz=336,slow=3.7,SNR=2.3
KBZ LR LR 21 47 40.7
comp=Z,520nm,20.4s,baz=167,slow=40
KIV Kislovodsk 82.29 314⇑*e*P P **21 05 08.6 0.0**
KIV *e* 21 08 24.5
KIV pmax pmax
comp=Z,5.0nm,1.2s
TRF Thorofare Moun 82.38 27 *e*P P **21 05 05.7 -3.1**
comp=Z,25nm,1.2s
COLD Coldfoot 82.70 23 *e*P P 21 05 06.5 -3.7
comp=Z,82nm,2.2s
PMR Palmer 82.80 29 *e*P P **21 05 10.2 -0.5**
PMR pmax pmax
comp=Z,15nm,1.0s
PMR Palmer 82.80 29 *e*P P **21 05 10.2 -0.5**
comp=Z,15nm,1.0s
MCK McKinley 83.00 26 *e*P P **21 05 11.9 +0.1**
MCK McKinley 83.00 26 *e*P P **21 05 11.9 +0.1**
comp=Z,126nm,1.9s
SML Sawmill 83.19 28 *e*P P **21 05 12.7 -0.2**
SML pmax pmax
comp=Z,6.0nm,1.2s
SML Sawmill 83.19 28 *e*P P **21 05 12.7 -0.2**
comp=Z,6.5nm,1.2s
ILAR Eielson Array 83.93 25 P P **21 05 15.6 -1.0**
ILAR Eielson Array 83.93 25 P P **21 05 15.6 -1.0**
comp=Z,2.6nm,1.0s,baz=259,slow=4.8,SNR=16
ILAR LR LR 21 41 40.8
comp=Z,208nm,20.5s,baz=122,slow=35
DIV Divide 84.41 29 *e*P P **21 05 18.1 -1.0**
comp=Z,48nm,1.3s
VORD Divnogorie 84.55 321 *e*P P **21 05 20.6 +0.7**
VORD pmax pmax
comp=Z,10.0nm,1.4s
VORD pmax pmax
comp=N,10.0nm,1.3s
VORD pmax pmax
comp=E,20nm,0.9s
VSR Storozhevoye 84.62 321 *e*P P **21 05 19.6 -0.7**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,3.0nm,0.5s
VSR pmax pmax
comp=E,10.0nm,0.9s
VNDA Vanda 84.69 173 *e*P P **21 05 20.1 0.0**
comp=E,7.7nm,1.1s
VNDA Vanda 84.69 173 P P **21 05 19.4 -0.7**
comp=E,2.2nm,0.9s,baz=298,slow=6.2,SNR=9.3
MAW Mawson 84.97 200 P P **21 05 21.1 -0.5**
MAW Mawson 84.97 200 P P **21 05 21.1 -0.5**
comp=E,2.5nm,0.9s,baz=38,slow=8.5,SNR=4.4
MAW LR LR 21 40 01.7
comp=E,227nm,20.1s,baz=218,slow=33
TMCR Tamitsa 84.97 334 *e*P P **21 05 22.1 +0.3**
TMCR pmax pmax
comp=Z,34nm,0.7s
BMRM Bremner River 84.98 29 *e*P P **21 05 22.8 +0.8**
comp=Z,18nm,0.9s
MOS Moscow 85.41 325 *e*P P **21 05 23.2 -1.0**
MOS *e* 21 05 30.6
MOS pmax pmax
comp=Z,100nm,1.8s
MOS pmax pmax
comp=Z,49nm,1.4s
PPT Papeete 85.47 108 LR LR 21 37 04.5
comp=Z,240nm,21.7s,baz=180,slow=31
PPT2 Papeete2 85.47 108 *e*S S **21 15 54.3 +0.4**
comp=Z,61nm,23.8s
PPT2 Papeete2 85.47 108 *e*LR LR 21 32 25.6
comp=Z,529nm,28.8s
SBA Scott Base 85.59 172 *e*P P 21 05 27.9 +3.3
SBA pmax pmax
comp=Z,31nm,1.8s
SBA Scott Base 85.59 172 *e*P P 21 05 27.9 +3.3
comp=Z,31nm,1.8s
ANN Anapa 86.03 314 *e*P P **21 05 25.2 -2.3**
ANN pmax pmax
comp=Z,23nm,0.9s
OBN Obninsk 86.04 325⇑*e*P P **21 05 26.6 -0.7**
OBN pmax pmax
comp=Z,34nm,1.4s
OBN MLR MLR
comp=Z,700nm,20.0s
TBI Tubuai 86.26 114 *e*LR LR 21 32 51.4
comp=Z,526nm,28.2s
APA Apatity 86.69 337⇑*e*P P **21 05 31.4 +1.2**
APA *e*S S **21 16 06.0 +2.2**
APA MLR MLR
comp=Z,800nm,19.0s
JOF Joensuu 88.06 333 *e*p P **21 05 35.1 -1.8**
comp=Z,5.9nm,0.6s
JOF Joensuu 88.06 333 *e*P P **21 05 35.1 -1.8**
JOF pmax pmax
comp=Z,6.0nm,0.6s
SIM Simferopol' 88.38 315 P P **21 05 41.5 +2.7**
SIM *e*S **SKSac 21 16 00.0 -4.2**
SIM MLR MLR
comp=Z,80nm,21.0s
KEV Kevo 88.70 340 *e*p P **21 05 38.9 -0.9**
KEV Kevo 88.70 340 *e*P P **21 05 38.9 -0.9**
BR131 Keskin Array S 89.24 310 *e*P P **21 05 41.8 -1.4**
comp=Z,2.7nm,0.9s
BRTR Keskin Array B 89.24 310 P P **21 05 41.6 -1.6**
BRTR Keskin Array B 89.24 310 P P **21 05 41.7 -1.6**
comp=Z,2.5nm,0.9s,baz=84,slow=5.1,SNR=10.0
BRTR LR LR 21 52 25.6
comp=Z,115nm,21.8s,baz=69,slow=40
ARCES ARCESS Array B 89.26 340 P P **21 05 41.8 -0.8**
ARCES ARCESS Array B 89.26 340 P P **21 05 41.7 -0.8**
comp=Z,3.2nm,0.7s,baz=64,slow=5.5,SNR=13
ARCES LR LR 21 50 39.0
comp=Z,355nm,21.2s,baz=85,slow=39
KMBO Kilima Mbogo 89.62 269 P P **21 05 46.1 +0.5**
KMBO Kilima Mbogo 89.62 269 P P **21 05 46.1 +0.5**
comp=Z,1.2nm,0.7s,baz=64,slow=24,SNR=4.2
KAF Kangasniemi 90.48 332 *ep* P **21 05 46.4 -1.9**
comp=Z,2.7nm,0.6s
KAF Kangasniemi 90.48 332 *e*P P **21 05 46.4 -1.9**
KAF pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 90.73 332 P P **21 05 48.4 -1.1**
FINES FINESS Array B 90.73 332 P P **21 05 48.3 -1.1**
comp=Z,3.2nm,0.9s,baz=50,slow=3.2,SNR=11
FINES LR LR 21 51 22.6
comp=Z,473nm,19.9s,baz=343,slow=39
KIEV Kiev 90.94 321 *e*P P **21 05 50.8 +0.1**
KIEV pmax pmax
comp=Z,10.0nm,1.2s
KIEV Kiev 90.94 321 *e*P P **21 05 50.8 +0.1**
comp=Z,10nm,1.2s
MLR Muntele Rosu 94.01 316 LR LR 21 56 12.2
comp=Z,114nm,20.3s,baz=60,slow=40
BUR08 Bucovina Ar. S 94.08 318 *e*P P **21 06 06.9 +1.5**
QSPA South Pole Qui 94.91 180 P P **21 06 07.4 -1.4**
QSPA South Pole Qui 94.91 180 P P **21 06 07.4 -1.4**
comp=Z,2.2nm,1.0s,baz=305,slow=5.1,SNR=3.0
UZH Uzhgorod 95.75 320 *e*P P **21 06 13.6 +0.7**
UZH *e* 21 06 21.2
DAG Danmarks Havn 95.99 352 *e*P P 21 06 22.3 +8.9
DAG Danmarks Havn 95.99 352 *i*P P 21 06 22.3 +8.9
DAG
comp=Z,270nm,21.0s
HFS Hagfors 96.91 332 LR LR 21 55 01.6
comp=Z,352nm,19.2s,baz=67,slow=39
NB2 NORSAR Subarra 97.66 334 P P **21 06 19.2 -2.1**
comp=Z,2.7nm,0.8s,baz=65,slow=4.6
NOA NORSAR Array B 97.66 334 P P **21 06 19.6 -1.8**
NOA NORSAR Array B 97.66 334 P P **21 06 19.6 -1.8**
comp=Z,2.0nm,1.0s,baz=56,slow=4.4,SNR=3.1
NOA LR LR 21 54 13.8
comp=Z,980nm,22.0s,baz=65,slow=38
JMIC Jan Mayen 98.62 347 LR LR 21 55 52.5
comp=Z,307nm,20.6s,baz=73,slow=38
VRAC Vranov 99.16 322 LR LR 21 54 10.5
comp=Z,322nm,21.4s,baz=68,slow=37
BRG Berggiesshubel 100.24 324 *e*(P) **Pdif 21 06 35.8 +2.8**
comp=Z,6.5nm,1.4s
GERES GERESS Array B 101.11 322 P **Pdif 21 06 37.8 +0.7**
GERES GERESS Array B 101.11 322 P **Pdif 21 06 37.8 +0.7**
comp=Z,1.1nm,1.0s,baz=94,slow=4.4,SNR=3.8
SCHQ Schefferville 119.30 9 PKP **PKPdf 21 11 36.2 +0.4**
SCHQ Schefferville 119.30 9 PKP **PKPdf 21 11 36.2 +0.4**
comp=Z,2.3nm,0.8s,baz=334,slow=2.8,SNR=4.2
TXAR Lajitas Array 120.78 52 PKP **PKPdf 21 11 38.4 -1.2**
TXAR Lajitas Array 120.78 52 PKP **PKPdf 21 11 38.4 -1.2**
comp=Z,0.1nm,0.6s,baz=336,slow=2.0,SNR=2.0
TORD Torodi Ar. Bea 122.55 289 PKP **PKPdf 21 11 42.9 -0.3**
TORD Torodi Ar. Bea 122.55 289 PKP **PKPdf 21 11 42.9 -0.3**
comp=Z,1.6nm,0.8s,baz=54,slow=0.8,SNR=6.6
PLCA Paso Flores 141.18 159 PKP **PKPdf 21 12 17.1 -0.6**
PLCA Paso Flores 141.18 159 PKP **PKPdf 21 12 17.1 -0.6**
comp=Z,1.3nm,0.7s,baz=188,slow=7.1,SNR=1.9
LCO Las Campanas 150.95 147 *e*PKPdf **PKPdf 21 12 33.3 -1.5**
LPAZ La Paz 161.58 129 PKP **PKPdf 21 12 51.9 +2.6**
LPAZ *e*PKPab **PKPab 21 13 34.4 +0.2**
LPAZ PKPab PKPab 21 13 37.6 +3.4
LPAZ La Paz 161.58 129 PKP **PKPdf 21 12 51.9 +2.6**
comp=Z,1.8nm,1.1s,baz=292,slow=3.8,SNR=4.0
LPAZ PKPab **PKPab 21 13 37.6 +3.4**
comp=Z,3.4nm,0.9s,baz=216,slow=1.5,SNR=7.3

ISCJB ***10*** *21:01:31.2±1.0, 30.97S±0.06×178.7W±0.2, h250km, mb3.9/9, Error ellipse: s-maj=24.5km s-min=6.8km az=10.7*
IDC ***10*** *21:01:33.1±0.8, 30.33S×179.11W, h223km±8km, mb3.8/9, mb1 3.9/9, mb1mx3.6/20, mbtmp3.8/9, Error ellipse: s-maj=18.5km s-min=16.2km az=163.0*
ISC 10 21:01:32.1±0.9, 30.96S±0.09×178.7W±0.2, h250km, n31, σ2s03/30, mb4.0/9, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.83**	**22**	P	**Pn**	**21 02 10.5**	**-2.6**
	142nm,0.3s,baz=233,slow=20,SNR=3.0						
RAO				S	S	21 02 36.3	-9.1
	280nm,0.3s,baz=293,slow=23,SNR=6.1						
PUZ	**Puketiti**	**7.53**	**199**	SN	**S**	**21 04 44.9**	**-0.8**
CNGZ	**Carnagh Statio**	**7.93**	**198**	PN	**Pn**	**21 03 27.4**	**+3.0**
MWZ	**Matawai**	**7.99**	**202**	PN	**Pn**	**21 03 28.3**	**+3.1**
URZ	**Urewera**	**8.06**	**204**	P	**Pn**	**21 03 27.0**	**+1.0**
	1.2nm,0.3s,baz=307,slow=7.8,SNR=6.8						
URZ				S	**S**	**21 04 57.6**	**-0.3**
	6.9nm,0.3s,baz=332,slow=22,SNR=14						
URZ	**Urewera**	**8.06**	**204**	PN	**Pn**	**21 03 27.9**	**+1.8**
URZ				SN	**S**	**21 04 54.6**	**-3.3**
MRZ	**Mangatainoka R**	**10.74**	**204**	PN	**Pn**	**21 03 58.2**	**-1.6**
OGWZ	**Otaki Gorge**	**11.02**	**205**	PN	**Pn**	**21 04 01.0**	**-2.4**
KIW	**Kapiti Island**	**11.16**	**206**	PN	**Pn**	**21 04 03.9**	**-1.2**
KIW				SN	S	21 06 04.4	-5.4
TUWZ	**Tuamarina**	**12.02**	**208**	PN	**Pn**	**21 04 16.6**	**+0.9**
THZ	**Tophouse**	**12.73**	**210**	PN	**Pn**	**21 04 22.5**	**-2.1**
KHZ	**Kahutara**	**13.02**	**206**	PN	**Pn**	**21 04 28.4**	**+0.3**
CTA	**Charters Tower**	**33.31**	**281**	P	**P**	**21 07 46.4**	**-0.3**
	6.7nm,1.0s,baz=116,slow=9.6,SNR=8.5						
STKA	**Stephens Creek**	**33.78**	**258**	P	P	21 07 52.6	+2.0
	3.5nm,0.7s,baz=103,slow=9.2,SNR=10						
ASAR	**Alice Springs**	**42.49**	**268**	P	**P**	**21 09 03.6**	**+0.4**
	1.4nm,0.3s,baz=105,slow=7.3,SNR=23						
WRA	**Warramunga Arr**	**43.53**	**273**	P	**P**	**21 09 11.2**	**-0.4**
	2.6nm,0.3s,baz=110,slow=8.1,SNR=27						
FITZ	**Fitzroy Crossi**	**51.77**	**271**	P	**P**	**21 10 15.4**	**+0.8**
	0.8nm,0.5s,baz=153,slow=11,SNR=5.5						
QSPA	**South Pole Qui**	**59.15**	**180**	P	P	21 11 14.9	+8.4
	2.3nm,0.6s,baz=32,slow=1.1,SNR=14						
ASAJ	**Asahikawa**	**82.67**	**333**	P	**P**	**21 13 28.5**	**+1.1**
	16nm,1.1s,baz=117,slow=16,SNR=2.7						
PETK	**Petropavlovsk-**	**86.21**	**346**	P	**P**	**21 13 46.1**	**+1.2**
	2.1nm,0.7s,baz=152,slow=6.5,SNR=4.2						
USRK	**Ussuriysk Arra**	**87.30**	**327**	P	**P**	**21 13 51.4**	**+1.1**
	0.8nm,0.8s,baz=152,slow=8.4,SNR=3.0						
MKAR	**Makanchi Array**	**117.68**	**310**	PKP	**PKPdf**	**21 19 50.0**	**+1.9**
	0.1nm,0.4s,baz=80,slow=3.5,SNR=4.4						
ARCES	**ARCESS Array B**	**139.01**	**347**	PKP	**PKPdf**	**21 20 30.2**	**+2.4**
	0.7nm,0.5s,baz=18,slow=3.1,SNR=4.9						
JOF	**Joensuu**	**142.72**	**338**	*e*pkp	**PKPdf**	**21 20 31.3**	**-3.4**
KAF	**Kangasniemi**	**144.87**	**340**	*e*pkp	**PKPdf**	**21 20 38.3**	**-0.2**
FINES	**FINESS Array B**	**145.46**	**339**	PKP	**PKPab**	**21 20 41.0**	**+0.3**
	12nm,0.5s,baz=56,slow=3.9,SNR=135						
NB2	**NORSAR Subarra**	**149.21**	**351**	PKP	**PKPab**	**21 20 51.9**	**-3.8**
	comp=Z,1.6nm,0.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**149.21**	**351**	PKPbc	**PKPab**	**21 20 52.5**	**-3.2**
	comp=Z,2.4nm,0.6s,baz=15,slow=4.2,SNR=9.1						
BRTR	**Keskin Array B**	**152.34**	**297**	PKPbc	**PKPbc**	**21 21 00.5**	**+2.0**
	comp=Z,1.3nm,0.6s,baz=129,slow=3.9,SNR=8.5						
GERES	**GERESS Array B**	**159.81**	**336**	PKPab	**PKPab**	**21 21 41.9**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=37,slow=5.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**162.27**	**181**	PKPab	PKPab	21 21 58.4	+5.8
	comp=Z,0.7nm,0.5s,baz=164,slow=4.6,SNR=9.8						

ISCJB ***10*** *21:12:20.8±0.4, 0.91N±0.05×126.61E±0.04, h47km, mb4.1/11, Error ellipse: s-maj=7.0km s-min=5.7km az=22.5*
DJA ***10*** *21:12:23.1±0.4, 1.1N±4.4×12.7E±?, h30km, M4.5/8, mb4.7/2, MLv4.4/8*
AUST ***10*** *21:12:25.4±1.0, 0.71N×126.50E, h87km, Error ellipse: s-maj=1.8km s-min=1.1km az=27.0*
IDC ***10*** *21:12:26.0±3.3, 0.71N×126.35E, h93km±31km, mb3.8/11, mb1 3.9/13, mb1mx3.8/21, mbtmp3.8/13, Error ellipse: s-maj=29.6km s-min=10.0km az=77.0*
ISC 10 21:12:21.7±0.6, 0.85N±0.05×126.55E±0.05, h47km, n32, σ1s53/30, mb4.3/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.82**	**96**	P	**Pn**	**21 12 38.5**	**+1.7**
GAMI	**Galela, Maluku**	**1.57**	**52**	P	**Pn**	**21 12 48.0**	**+0.8**
LBMI	**Labuha**	**1.76**	**147**	P	**Pn**	**21 12 51.3**	**+1.6**
LBMI				S	**Sn**	**21 13 13.5**	**+2.6**
MNI	**Manado**	**1.81**	**289**	P	**Pn**	**21 12 51.8**	**+1.4**
KMSI	**Cibinong**	**2.59**	**264**	P	**Pn**	**21 13 03.2**	**+2.1**
KMSI				S	**Sn**	**21 13 33.8**	**+2.5**
GTOI	**Gorontalo**	**3.55**	**267**	P	Pn	21 13 18.0	+3.7
LUWI	**Luwuk**	**4.22**	**244**	P	Pn	21 13 26.9	+3.4
LUWI	**Luwuk**	**4.22**	**244**	P	Pn	21 13 26.9	+3.4
	baz=4.1,SNR=15						
MRSI	**Marisa**	**4.63**	**265**	P	Pn	21 13 33.3	+4.2
FAKI	**Fak Fak**	**6.81**	**123**	P	Pn	21 14 02.9	+3.7
	baz=6.8,SNR=8.2						
TTSI	**Tana Toraja**	**7.77**	**240**	P	**Pn**	**21 14 14.4**	**+2.2**
	25nm,0.6s,0.1nm						
BKSI	**Bulukumba**	**8.88**	**226**	P	Pn	21 14 31.5	+4.0
KAPI	**Kappang**	**8.95**	**229**	P	**Pn**	**21 14 29.0**	**+0.5**
	3.6nm,0.3s,baz=67,slow=3.5,SNR=6.2						
KAPI				S	**Sn**	**21 16 05.1**	**-2.8**
	2.2nm,0.3s,baz=112,slow=11,SNR=4.1						
BAKI	**Biak**	**9.77**	**102**	P	Pn	21 14 48.3	+8.7
MTN	**Manton Dam**	**14.35**	**162**	P	**Pn**	**21 15 41.6**	**-0.5**
	baz=14,SNR=15						
KDU	**Kakadu**	**14.68**	**157**	P	**P**	**21 15 52.8**	**+1.1**
	baz=15,SNR=5.0						
KNRA	**Kununurra**	**16.57**	**173**	P	**Pn**	**21 16 10.9**	**+0.1**
	baz=16,SNR=19						
FITZ	**Fitzroy Crossi**	**18.86**	**183**	P	**P**	**21 16 37.5**	**-0.5**
	0.4nm,0.3s,baz=6.4,slow=11,SNR=18						
FITZ	**Fitzroy Crossi**	**18.86**	**183**	P	**P**	**21 16 37.6**	**-0.5**
	baz=19,SNR=10						
WRA	**Warramunga Arr**	**22.03**	**160**	P	**P**	**21 17 12.0**	**-0.4**
	12nm,0.5s,baz=340,slow=11,SNR=84						
WRA				S	**S**	**21 21 08.6**	**-4.3**
	1.9nm,0.8s,baz=332,slow=22,SNR=5.0						
ASAR	**Alice Springs**	**25.40**	**164**	P	**P**	**21 17 44.6**	**-0.3**
	3.5nm,0.4s,baz=340,slow=10.0,SNR=35						
STKA	**Stephens Creek**	**35.53**	**158**	P	**P**	**21 19 14.3**	**0.0**
	3.1nm,0.6s,baz=5.3,slow=9.7,SNR=8.3						
STKA	**Stephens Creek**	**35.53**	**158**	P	**P**	**21 19 14.5**	**+0.2**
	baz=36,SNR=3.5						
KSRS	**Korea Array**	**36.44**	**2**	P	**P**	**21 19 22.6**	**+0.7**
	0.9nm,0.8s,baz=174,slow=8.8,SNR=3.8						
USRK	**Ussuriysk Arra**	**43.43**	**6**	P	**P**	**21 20 20.1**	**+0.3**
	1.8nm,0.6s,baz=195,slow=7.5,SNR=6.8						
SONM	**Songino Array**	**49.96**	**342**	P	**P**	**21 21 11.3**	**+0.2**
	1.8nm,1.0s,baz=161,slow=7.6,SNR=8.4						
PETK	**Petropavlovsk-**	**58.15**	**22**	P	**P**	**21 22 10.5**	**0.0**
	1.2nm,0.5s,baz=193,slow=5.9,SNR=4.2						
MKAR	**Makanchi Array**	**59.82**	**326**	P	**P**	**21 22 21.6**	**-0.7**
	1.5nm,0.4s,baz=120,slow=8.4,SNR=48						
MKAR				PcP	**PcP**	**21 23 07.8**	**-0.8**
	0.7nm,0.6s,baz=123,slow=5.1,SNR=4.3						
ZALV	**Zalesovo Beam**	**63.06**	**334**	P	**P**	**21 22 43.0**	**-1.0**
	2.1nm,0.8s,baz=118,slow=5.7,SNR=9.3						
VNDA	**Vanda**	**80.61**	**173**	P	**P**	**21 24 28.4**	**-0.4**
	0.7nm,0.6s,baz=306,slow=7.9,SNR=3.5						
ILAR	**Eielson Array**	**87.76**	**25**	P	**P**	**21 25 05.8**	**+0.4**
	0.4nm,0.8s,baz=269,slow=5.3,SNR=3.5						
TXAR	**Lajitas Array**	**123.46**	**54**	PKP	**PKPdf**	**21 31 15.3**	**+0.6**
	0.2nm,0.7s,baz=302,slow=2.0,SNR=2.7						

IDC 10 21:16:58.8±2.0, 1.01N×126.65E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, ML2.8/1, Error ellipse: s-maj=118.0km s-min=26.1km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.01**	**183**	P	P	21 21 21.3	-1.0
	0.0nm,0.3s,baz=3.6,slow=16,SNR=2.9						
WRA	**Warramunga Arr**	**22.14**	**161**	P	P	21 21 55.7	-0.6
	0.7nm,0.3s,baz=340,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.52**	**164**	P	P	21 22 30.2	+1.0
	0.4nm,0.3s,baz=345,slow=11,SNR=6.2						
MKAR	**Makanchi Array**	**59.75**	**326**	P	P	21 27 05.4	-0.1
	0.1nm,0.4s,baz=114,slow=7.8,SNR=3.9						

MEX 10 21:19:29.9±0.4, 15.35N×95.72W, h5km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.56**	**318**	*i* P	Pg	21 19 40.0	-0.7
HUIG				*i* S	Sg	21 19 48.8	+0.7
PNIG	**Pinotepa**	**2.54**	**294**	*i* P	Pn	21 20 09.1	-2.7
PNIG				*i* S	Sn	21 20 39.2	-4.0
TGIG		**2.87**	**60**	*i* S	Sn	21 20 48.3	-3.3
ACX	**Acapulco**	**4.26**	**291**	*i* P	Pn	21 20 33.2	-2.3
ACX				*i* S	Sn	21 21 23.5	-2.1

IDC ***10*** *21:28:57.0±3.5, 39.14N×73.68E, h0km, mb3.7/2, mb1 3.6/4, mb1mx3.3/27, mbtmp3.5/4, ML2.9/2, MS3.8/2, Ms1 3.8/2, ms1mx3.0/57, Error ellipse: s-maj=89.2km s-min=26.0km az=143.0*
NNC ***10*** *21:29:01.7±11.0, 39.45N×73.12E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=96.4km s-min=52.3km az=174.0*
ISC 10 21:29:04.6±1.6, 39.61N±0.1×73.31E±0.08, h29km, n18, σ1s83/18, 3C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**2.54**	**7**	P	**Pn**	**21 29 45.7**	**+1.5**
	SNR=60						
UCH	**Uchtor**	**2.77**	**19**	P	**Pb**	**21 29 51.4**	**-2.4**
	SNR=8.1						
KZA	**Kyzart**	**2.88**	**30**	P	**Pn**	**21 29 49.0**	**+0.1**
	SNR=11						
EKS2	**Erkin-Say**	**3.07**	**7**	P	**Pn**	**21 29 53.6**	**+2.2**
	SNR=17						
AAK	**Ala-Archa**	**3.15**	**16**	P	Pn	21 29 55.1	+2.6
	SNR=18						
KBK	**Karagaybulak**	**3.29**	**22**	P	**Pn**	**21 29 56.6**	**+2.2**
	SNR=14						
ULHL	**Ulahol**	**3.45**	**39**	P	**Pn**	**21 29 58.9**	**+2.3**
	SNR=6.8						
CHMS	**Chumysh**	**3.56**	**17**	P	**Pn**	**21 29 59.3**	**+1.4**
	SNR=12						
TKM2	**Tokmak 2**	**3.73**	**27**	⇑Pn	**Pn**	**21 30 01.0**	**+0.4**
	5.9nm,0.5s						
TKM2				⇓Sn	**Sb**	**21 30 55.8**	**+0.9**
	15nm,0.5s						
KK31	**Karatay Array**	**4.08**	**330**	Pn	Pn	21 30 08.8	+3.7
	1.6nm,0.3s,baz=134,slow=13,SNR=64						
KK31				⇑Sn	**Sb**	**21 31 01.6**	**-3.0**
	3.9nm,0.4s,baz=139,slow=26,SNR=4.1						
MKAR	**Makanchi Array**	**9.72**	**39**	Pn	**Pn**	**21 31 22.0**	**-0.5**
	0.0nm,0.3s,baz=216,slow=12,SNR=2.9						
MKAR				Lg	Lg	21 34 04.5	
	0.0nm,0.3s,baz=235,slow=27,SNR=4.1						
AB31	**Akbulak array**	**13.55**	**320**	⇓Pn	**Pn**	**21 32 15.0**	**+0.2**
	0.6nm,0.7s,baz=130,slow=14,SNR=7.7						
AB31				⇓Sn	**Sn**	**21 34 45.1**	**+0.8**
	0.8nm,0.8s						
BVAR	**Borovoye Array**	**13.57**	**352**	LR	LR	21 37 43.5	
	comp=Z,262nm,18.4s,baz=122,slow=37						
AKTO	**Aktyubinsk**	**15.27**	**320**	⇑Pn	**Pn**	**21 32 39.6**	**+1.6**
	2.4nm,0.9s						
AKTO				⇓Sn	**Sn**	**21 35 28.8**	**+2.8**
	0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**16.34**	**25**	Pn	**Pn**	**21 32 50.9**	**-0.9**
	0.1nm,0.3s,baz=212,slow=10,SNR=5.7						
FINES	**FINESS Array B**	**36.01**	**323**	P	**P**	**21 36 04.0**	**+1.2**
	1.8nm,1.0s,baz=107,slow=12,SNR=5.4						
SFJD	**Kangerlussuaq**	**65.52**	**339**	LR	LR	22 11 18.6	
	comp=Z,102nm,19.6s,baz=350,slow=38						
TORD	**Torodi Ar. Bea**	**67.61**	**269**	P	**P**	**21 39 57.6**	**-1.3**
	0.5nm,0.9s,baz=51,slow=5.2,SNR=7.8						

IDC ***10*** *21:39:24.5±1.1, 33.40S×68.44W, h0km, mb3.7/3, mb1 4.0/6, mb1mx3.8/17, mbtmp3.8/6, ML3.9/3, Error ellipse: s-maj=42.9km s-min=15.9km az=90.0*
NEIC ***10*** *21:39:27.0, 33.28S×68.62W,

n32,σ0.85/41, mb3.7/4, 3C-2D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**1.49**	**267**	*i* P	**Pg**	**21 39 55.4**	**-0.3**
LMEL	**Las Melosas**	**1.53**	**247**	⇓*i* P	**Pb**	**21 39 55.1**	**-0.2**
LMEL				*i* S	**Sb**	**21 40 14.4**	**-0.2**
LMEL				AML	AML	21 40 18.1	
	comp=E,745nm,0.4s						
SJCH	**San Jose de Ma**	**1.58**	**255**	*e*P	**Pn**	**21 39 55.0**	**+0.1**
SJCH				*i* S	**Sn**	**21 40 15.2**	**-0.1**
CFAA	**Coronel Fontan**	**1.66**	**8**	Pn	**Pb**	**21 39 58.0**	**+0.6**
CFAA				Lg	Lg	21 40 21.2	
CFAA	**Coronel Fontan**	**1.66**	**8**	Pn	**Pb**	**21 39 58.0**	**+0.6**
	comp=E,3.5nm,0.3s,baz=187,slow=17,SNR=240						
CFAA				Lg	Lg	21 40 21.2	
	comp=E,72nm,0.3s,baz=269,slow=9.1,SNR=69						
CLCH	**Cerro Calan**	**1.70**	**265**	⇓*i* P	**Pb**	**21 39 58.1**	**-0.1**
CLCH				*i* S	**Sb**	**21 40 20.1**	**+0.6**
CLCH				AML	AML	21 40 24.1	
	comp=E,2μm,0.7s						
PCH	**Pirque**	**1.71**	**257**	⇑*i* P	**Pb**	**21 39 58.3**	**-0.1**
ANTU	**Antumapu**	**1.80**	**259**	*e*P	**Pb**	**21 39 59.1**	**-0.8**
ANTU				AML	AML	21 40 25.1	
	comp=E,2μm,0.6s						
SAN	**Santiago**	**1.81**	**263**	*e*P	**Pb**	**21 39 60.0**	**0.0**
PEL	**Peldehue**	**1.82**	**273**	⇑*i* P	**Pb**	**21 40 00.1**	**-0.2**
PEL				*i* S	**Sb**	**21 40 23.4**	**+0.4**
PEL				AML	AML	21 40 30.2	
	comp=E,1μm,0.5s						
ROCH	**El Roble**	**2.11**	**277**	⇑*i* P	**Pb**	**21 40 04.6**	**-0.7**
ROCH				*i* S	**Sb**	**21 40 33.0**	**+1.4**
LCO	**Las Campanas**	**4.63**	**336**	*e*Pn	**Pn**	**21 40 38.7**	**+1.8**
LCO				*e*Sn	**Sb**	**21 41 41.8**	**-2.2**
PLCA	**Paso Flores**	**7.64**	**192**	Lg	Lg	21 43 29.6	
	comp=E,0.3nm,0.3s,baz=282,slow=19,SNR=3.7						
LVC	**Limon Verde**	**10.61**	**358**	*e*Pn	**Pn**	**21 41 58.2**	**-0.7**
LVC				Lg	Lg	21 45 06.6	
LVC	**Limon Verde**	**10.61**	**358**	Pn	**Pn**	**21 41 58.4**	**-0.6**
	comp=E,0.5nm,0.3s,baz=173,slow=8.1,SNR=4.9						
LVC				Lg	Lg	21 45 06.6	
	comp=E,0.4nm,0.3s,baz=125,slow=16,SNR=4.2						
LPAZ	**La Paz**	**16.90**	**1**	*e*Pn	**Pn**	**21 43 24.8**	**+0.9**
	comp=E,3.3nm,0.7s						
LPAZ	**La Paz**	**16.90**	**1**	P	**P**	**21 43 26.2**	**+0.3**
	comp=E,0.2nm,0.3s,baz=186,slow=7.8,SNR=9.6						
SIV	**San Ignacio**	**18.46**	**23**	P	**Pn**	**21 43 42.8**	**+0.2**
SIV	**San Ignacio**	**18.46**	**23**	P	**Pn**	**21 43 42.8**	**+0.2**
	comp=E,0.2nm,0.3s,baz=204,slow=18,SNR=4.3						
SAML	**Samuel**	**24.68**	**13**	*e*P	**P**	**21 44 47.5**	**-0.3**
	comp=E,1.5nm,0.5s						
TXAR	**Lajitas Array**	**70.60**	**328**	P	**P**	**21 50 42.5**	**+0.4**
TXAR	**Lajitas Array**	**70.60**	**328**	P	**P**	**21 50 42.5**	**+0.4**
	comp=E,0.4nm,0.6s,baz=146,slow=8.7,SNR=6.1						
TORD	**Torodi Ar. Bea**	**81.20**	**68**	P	**P**	**21 51 42.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**81.20**	**68**	P	**P**	**21 51 42.7**	**-0.2**
	comp=E,0.5nm,0.8s,baz=262,slow=5.7,SNR=5.5						
NVAR	**Mina Array Bea**	**85.01**	**323**	P	**P**	**21 52 03.1**	**+0.8**
NVAR	**Mina Array Bea**	**85.01**	**323**	P	**P**	**21 52 03.1**	**+0.8**
	comp=E,0.2nm,0.5s,baz=180,slow=6.0,SNR=2.5						
KURBB	**Kurchatov Arra**	**150.29**	**44**	PKPbc	**PKPbc**	**21 59 17.7**	**+0.2**
	comp=E,1.0nm,0.9s,baz=300,slow=2.8,SNR=8.0						
KURBB				PKPab	**PKPab**	**21 59 23.3**	**-0.5**
	comp=E,0.7nm,0.8s,baz=301,slow=3.1,SNR=6.5						
KURK	**Kurchatov**	**150.31**	**44**	PKPbc	**PKPbc**	**21 59 17.7**	**+0.2**
KURK				PKPab	**PKPab**	**21 59 23.3**	**-0.5**
ZALV	**Zalesovo Beam**	**151.99**	**34**	PKPbc	**PKPbc**	**21 59 21.5**	**+0.2**
ZALV				PKPab	**PKPab**	**21 59 28.5**	**-2.2**
ZALV	**Zalesovo Beam**	**151.99**	**34**	PKPbc	**PKPbc**	**21 59 21.5**	**+0.2**
	comp=E,1.2nm,0.5s,baz=330,slow=2.4,SNR=5.9						
ZALV				PKPab	**PKPab**	**21 59 28.5**	**-2.2**
	comp=E,0.8nm,0.5s,baz=310,slow=4.1,SNR=4.3						
MKAR	**Makanchi Array**	**154.04**	**50**	PKPbc	**PKPbc**	**21 59 25.4**	**-0.7**
MKAR	**Makanchi Array**	**154.04**	**50**	PKPbc	**PKPbc**	**21 59 25.4**	**-0.7**
	comp=E,0.3nm,0.8s,baz=290,slow=4.3,SNR=2.8						

KRSC 10 21:40:43.8±0.9, 52.62N×159.73E, h27km±26km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.51**	**20**	*e*P	Pb	21 40 53.7	-0.6
SPN				*i* S	Sb	21 41 00.6	-0.8
NLC	**Nalytchevo**	**0.60**	**337**	*e*P	Pb	21 40 55.9	+0.2
NLC				*i* S	Sn	21 41 05.6	+0.3
RUS	**Russkaya**	**0.77**	**256**	P	Pb	21 40 57.6	-0.9
RUS				*i* S	Sb	21 41 08.6	0.0
PET	**Petropavlovsk**	**0.77**	**302**	P	Pb	21 40 58.2	-0.4
PET				*i* S	Sn	21 41 09.7	+0.2
UGLR	**Uglovaya**	**0.81**	**317**	P	Pb	21 40 59.3	-0.1
UGLR				*i* S	Sn	21 41 11.3	+0.6
SDLR	**Sedlovina**	**0.83**	**323**	P	Pb	21 40 59.3	-0.6
SDLR				*i* S	Sn	21 41 11.4	-0.1
SMAR	**Somma**	**0.85**	**319**	P	Pb	21 40 59.7	-0.6
SMAR				*i* S	Sb	21 41 11.9	+0.3
AVH	**Avacha**	**0.88**	**317**	P	Pn	21 41 00.5	0.0
AVH				*i* S	Sn	21 41 13.3	+0.7
KRER	**Koryakskii**	**0.91**	**319**	P	Pn	21 41 00.8	-0.2
KOK	**Koryaka**	**0.94**	**316**	*e*P	Pn	21 41 00.9	-0.5
KOK				*i* S	Sb	21 41 13.5	-0.4
MTVR	**Mutnovka**	**0.95**	**262**	*e*P	Pn	21 41 00.6	-1.0
MTVR				*i* S	Sb	21 41 13.4	-0.9
GRL	**Gorelyy**	**1.01**	**267**	P	Pn	21 41 02.3	-0.1
ASAK	**Asacha**	**1.14**	**259**	P	Pn	21 41 03.9	-0.2
ASAK				*i* S	Sn	21 41 18.5	-0.5
KII	**Karymskiy**	**1.43**	**353**	*e*P	Pn	21 41 08.2	+0.1
KII				*i* S	Sn	21 41 26.1	+0.1
GNL	**Ganaly**	**1.52**	**316**	P	Pn	21 41 10.0	+0.6
GNL				*i* S	Sn	21 41 29.4	+1.0
APC	**Apacha**	**1.59**	**282**	*e*P	Pn	21 41 10.9	+0.7
APC				*i* S	Sn	21 41 30.9	+1.1
MIPR	**Malaya Ipel'ka**	**1.85**	**260**	P	Pn	21 41 15.0	+1.2
MKZ	**Mys Kozlova**	**2.28**	**31**	*e*P	Pn	21 41 18.8	-0.8
MKZ				*i* S	Sn	21 41 44.6	-2.1
TUMR	**Tumrok**	**2.68**	**5**	*e*P	Pn	21 41 26.6	+1.3
SKR	**Severo-Kuril's**	**2.97**	**231**	*e*P	Pn	21 41 28.8	-0.3
KMNR	**Kamenistaya**	**3.16**	**5**	*e*P	Pn	21 41 33.3	+1.5
BZMR	**Bezymyannaya**	**3.35**	**7**	*e*P	Pn	21 41 36.8	+2.2
KPT	**Kopyto**	**3.37**	**5**	P	Pn	21 41 36.2	+1.5
ESO	**Esso**	**3.37**	**350**	*e*P	Pn	21 41 36.0	+1.4
BZGR	**Bezymyannyi-Gr**	**3.38**	**9**	*e*P	Pn	21 41 37.4	+2.6
BZGR				*i* S	Sn	21 42 16.5	+2.4
BZWR	**Bezymyannyi-We**	**3.38**	**7**	*e*P	Pn	21 41 37.4	+2.4
SRDR	**Sredinnyy**	**3.71**	**360**	P	Pn	21 41 40.2	+0.9
BDR	**Baidarnaya**	**4.05**	**12**	P	Pn	21 41 47.0	+3.0
BDR				*i* S	Sn	21 42 33.1	+2.5
SMKR	**Semkarok**	**4.10**	**14**	P	Pn	21 41 46.0	+1.3
SRKR	**Sorokina**	**4.13**	**11**	P	Pn	21 41 48.0	+2.9

*IDC **10** 21:41:04.2±4.5, 36.25N×70.78E, h171km±40km, mb3.3/10, mb1 3.4/15, mb1mx3.2/31, mbtmp3.2/15, Error ellipse: s-maj=30.7km s-min=16.3km az=27.0*

*ISCJB **10** 21:41:06.2±0.4, 36.46N±0.04×70.72E±0.07, h188km, mb3.5/9, Error ellipse: s-maj=8.9km s-min=3.3km az=151.5*

*NNC **10** 21:41:16.3±10.0, 37.25N×70.95E, h201km±84km, mb2.9, mpv3.9, Error ellipse: s-maj=86.1km s-min=50.6km az=14.0*

ISC 10 21:41:06.7±0.6, 36.52N±0.05×70.79E±0.07, h188km, n49, σ1§82/58, mb3.5/9, 6C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.85**	**161**	⇓P	Pn	21 41 58.2	+4.1
CEP				S	**Sn**	**21 42 28.0**	**-3.0**
THW	**Thamme Wali**	**3.80**	**168**	P	**Pn**	**21 42 07.5**	**+1.8**
THN	**Thein Dam**	**5.76**	**134**	*e*P	**Pn**	**21 42 31.5**	**+0.8**
THN				*e*S	**Sn**	**21 43 35.4**	**-1.5**
DLH	**Dalhousie**	**5.83**	**131**	*e*P	**Pn**	**21 42 34.0**	**+2.1**
DLH				*e*S	**Sn**	**21 43 40.0**	**+1.0**
AML	**Almayashu**	**6.03**	**21**	P	**Pn**	**21 42 36.1**	**+1.5**
	SNR=101						
DHRM	**DHARAMSHALA**	**6.24**	**132**	*e*P	**Pn**	**21 42 39.0**	**+1.8**
DHRM				*e*S	**Sn**	**21 43 46.8**	**-1.7**
DHRM				AML	AML	21 43 49.8	
	comp=E,324nm,0.5s						
DHRM				AML	AML	21 43 50.0	
	comp=N,299nm,0.4s						
UCH	**Uchtor**	**6.38**	**26**	P	**Sn**	**21 43 50.7**	**-1.5**
	SNR=13						
KZA	**Kyzart**	**6.54**	**31**	P	**Pn**	**21 42 42.2**	**+1.1**
	SNR=6.8						
EKS2	**Erkin-Say**	**6.55**	**20**	P	**Pn**	**21 42 42.9**	**+1.9**
	SNR=14						
KK31	**Karatay Array**	**6.57**	**358**	P	**Pn**	**21 42 42.7**	**+1.4**
	comp=N,2.2nm,0.5s,baz=178,slow=13,SNR=95						
KK31				⇑S	**Sn**	**21 43 51.8**	**-4.2**
	comp=N,3.6nm,0.4s,baz=186,slow=24,SNR=7.8						
AAK	**Ala-Archa**	**6.74**	**24**	P	**Pn**	**21 42 45.3**	**+1.7**
	SNR=13						
AAK	**Ala-Archa**	**6.74**	**24**	P	**Pn**	**21 42 44.9**	**+1.4**
	comp=N,3.9nm,0.3s,baz=190,slow=5.7,SNR=29						
AAK				S	**Sn**	**21 43 57.7**	**-2.4**
	comp=N,1.4nm,0.3s,baz=307,slow=23,SNR=19						
KBK	**Karagaybulak**	**6.91**	**26**	P	**Pn**	**21 42 47.8**	**+1.9**
	SNR=14						
ULHL	**Ulahol**	**7.10**	**35**	P	**Pn**	**21 42 49.9**	**+1.5**
	SNR=9.2						
CHMS	**Chmymsh**	**7.15**	**24**	P	**Pn**	**21 42 50.6**	**+1.8**
	SNR=8.5						
SDNR	**Sundarnagar**	**7.17**	**133**	*e*P	**Pn**	**21 42 49.5**	**+0.3**
SDNR				*e*S	**Sn**	**21 44 05.1**	**-5.2**
USP	**Ospenovka**	**7.31**	**22**	P	**Pn**	**21 42 53.4**	**+2.5**
	SNR=5.7						
TKM2	**Tokmak 2**	**7.38**	**29**	⇑P	**Pn**	**21 42 53.3**	**+1.2**
	comp=N,23nm,0.8s						
TKM2				⇓S	Sn	21 44 05.0	-11
	comp=N,9.0nm,0.8s						
TKM2	**Tokmak 2**	**7.38**	**29**	P	**Pn**	**21 42 53.8**	**+1.8**
	SNR=21						
SMLA	**Simla**	**7.56**	**134**	*e*P	**Pn**	**21 42 55.6**	**+1.4**
SMLA				*e*S	**Sn**	**21 44 14.1**	**-5.2**
SMLA				AML	AML	21 44 19.0	
	comp=N,107nm,0.3s						
SMLA				AML	AML	21 44 20.1	
	comp=E,137nm,0.5s						
MKAR	**Makanchi Array**	**13.37**	**36**	P	**Pn**	**21 44 10.1**	**+1.0**
	comp=E,0.1nm,0.3s,baz=221,slow=14,SNR=7.2						
KOLN	**Koldanda**	**13.92**	**125**	*e*P	**Pn**	**21 44 16.2**	**-0.1**
	comp=E,7.4nm,0.3s						
AB31	**Akbulak array**	**14.98**	**332**	⇓P	**P**	**21 44 31.8**	**+1.8**
	comp=E,1.4nm,0.9s						
AB31				⇑S	**Sn**	**21 47 13.1**	**-3.2**
	comp=E,2.2nm,1.0s						
DMN	**Daman**	**15.03**	**122**	*e*P	**P**	**21 44 30.6**	**-0.4**
	comp=E,20nm,0.7s						
KKN	**Kakani**	**15.04**	**121**	*e*P	**Pn**	**21 44 30.4**	**+0.3**
	comp=E,12nm,0.4s						
KURBB	**Kurchatov Arra**	**15.15**	**19**	⇓P	**P**	**21 44 31.8**	**-0.1**
	comp=E,2.6nm,0.9s						
KURBB	**Kurchatov Arra**	**15.15**	**19**	P	**P**	**21 44 31.6**	**-0.2**
	comp=E,0.0nm,0.3s,baz=209,slow=12,SNR=7.8						
PKIN	**Phulchoki**	**15.25**	**122**	*e*P	**P**	**21 44 33.2**	**-0.2**
	comp=E,17nm,0.4s						
PKI	**Pulchoki**	**15.26**	**122**	*e*P	**Pn**	**21 44 33.2**	**+0.2**
	comp=E,17nm,0.4s						
JIRN	**Jiri**	**15.75**	**120**	*e*P	**P**	**21 44 39.8**	**+0.7**
	comp=E,30nm,0.4s						
VOSK	**Vostochnaya**	**16.20**	**0**	⇑P	**P**	**21 44 29.9**	**-0.5**
	comp=E,2.9nm,1.4s						
RAMN	**Ramite**	**16.47**	**121**	*e*P	**Pn**	**21 44 48.0**	**+0.4**
	comp=E,15nm,0.5s						
BVA0	**Borovoye Array**	**16.50**	**359**	P	**Pn**	**21 44 48.1**	**+0.7**
	comp=E,2.4nm,1.1s,baz=166,slow=14,SNR=7.7						
BVAR	**Borovoye Array**	**16.50**	**359**	P	**Pn**	**21 44 48.1**	**+0.6**
	comp=E,0.5nm,0.3s,baz=164,slow=10,SNR=8.2						
BRVK	**Bovoye**	**16.54**	**359**	⇑P	**Pn**	**21 44 47.7**	**-0.1**
	comp=E,7.6nm,1.5s						
AKTO	**Aktyubinsk**	**16.68**	**330**	⇓P	**Pn**	**21 44 49.3**	**-0.2**
	comp=E,4.6nm,1.4s						
AKTO				⇑S	**S**	**21 47 50.3**	**-2.6**
	comp=E,2.6nm,1.4s						
AKTO	**Aktyubinsk**	**16.68**	**330**	P	**Pn**	**21 44 50.0**	**+0.5**
	comp=E,0.2nm,0.3s,baz=136,slow=12,SNR=5.0						
TAPN	**Taplejung**	**17.01**	**118**	*e*P	**Pn**	**21 44 54.9**	**+0.9**
	comp=E,16nm,0.4s						
ODAN	**Odare**	**17.08**	**120**	*e*P	**Pn**	**21 44 56.2**	**+1.4**
	comp=E,14nm,0.6s						
ZALV	**Zalesovo Beam**	**19.96**	**25**	P	**P**	**21 45 24.6**	**+0.3**
	comp=E,2.9nm,0.6s,baz=219,slow=11,SNR=16						
SONM	**Songino Array**	**28.46**	**55**	P	**P**	**21 46 45.3**	**+1.2**
	comp=E,0.1nm,0.5s,baz=213,slow=11,SNR=3.6						
FINES	**FINESS Array B**	**37.37**	**326**	P	**P**	**21 48 02.2**	**+1.3**
	comp=E,1.8nm,0.9s,baz=145,slow=3.4,SNR=3.2						
ARCES	**ARCESS Array B**	**41.06**	**338**	P	**P**	**21 48 32.5**	**+1.1**
	comp=E,1.3nm,0.6s,baz=107,slow=8.0,SNR=8.1						
HFS	**Hagfors**	**42.94**	**322**	P	**P**	**21 48 47.9**	**+1.2**
	comp=E,2.7nm,0.9s,baz=99,slow=8.9,SNR=3.8						
NOA	**NORSAR Array B**	**44.26**	**323**	P	**P**	**21 48 57.3**	**+0.1**
	comp=E,0.8nm,0.7s,baz=90,slow=6.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**65.55**	**268**	P	**P**	**21 51 29.2**	**-1.3**
	comp=E,0.3nm,0.5s,baz=53,slow=5.1,SNR=6.4						
YKA	**Yellowknife Ar**	**81.23**	**3**	P	**P**	**21 53 01.8**	**+0.6**
	comp=E,0.4nm,0.3s,baz=350,slow=5.4,SNR=4.4						
WRA	**Warramunga Arr**	**82.15**	**122**	P	**P**	**21 53 05.2**	**-1.4**
	comp=E,0.6nm,0.6s,baz=322,slow=5.0,SNR=7.0						
ASAR	**Alice Springs**	**84.41**	**125**	P	**P**	**21 53 16.9**	**-1.3**
	comp=E,0.6nm,0.6s,baz=308,slow=4.9,SNR=12						

*ISCJB **10** 21:46:55.2±0.7, 52.9S±0.2×118.5W±0.2, h10km, mb4.3/10, MS4.2/10, Error ellipse: s-maj=26.9km s-min=14.5km az=141.6*

*IDC **10** 21:46:55.1±0.7, 52.87S×118.58W, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.2/16, mbtmp4.1/8, MS4.2/10, Ms1 4.1/10, ms1mx4.0/21, Error ellipse: s-maj=30.4km s-min=19.2km az=146.0*

*NEIC **10** 21:46:56.6±0.4, 52.84S×118.55W, h10km, mb4.6/4, Error ellipse: s-maj=16.1km s-min=10.5km az=148.0*

ISC 10 21:46:56.9±0.7, 52.8S±0.2×118.5W±0.2, h10km, n40, σ1§10/33, mb4.3/10, MS4.1/10, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
USHA	**Ushuaia**	**29.13**	**114**	LR	LR	22 01 10.3	
	comp=Z,400nm,19.9s,baz=107,slow=29						
RKT	**Rikitea**	**32.21**	**331**	*e*LR	LR	22 01 46.7	
	479nm,26.0s						
PLCA	**Paso Flores**	**34.38**	**89**	LR	LR	22 04 40.0	
	comp=Z,250nm,18.2s,baz=177,slow=31						
VNDA	**Vanda**	**36.91**	**201**	*e*P	**P**	**21 54 04.8**	**-0.3**
	5.2nm,1.4s						
VNDA	**Vanda**	**36.91**	**201**	P	**P**	**21 54 07.8**	**+2.7**
	1.7nm,0.9s,baz=84,slow=8.0,SNR=6.0						
VNDA				LR	LR	22 06 16.6	
	comp=Z,283nm,19.1s,baz=89,slow=32						
QSPA	**South Pole Qui**	**37.37**	**180**	*e*P	**P**	**21 54 09.5**	**+0.1**
	12nm,1.4s						
QSPA	**South Pole Qui**	**37.37**	**180**	P	**P**	**21 54 08.8**	**-0.6**
	5.2nm,1.1s,baz=120,slow=3.6,SNR=6.6						
TRQA	**Tornquist**	**41.24**	**92**	P	**P**	**21 54 41.8**	**-0.1**
PPT	**Papeete**	**42.74**	**314**	LR	LR	22 07 02.7	
	comp=Z,188nm,18.8s,baz=268,slow=28						
LVC	**Limon Verde**	**48.16**	**71**	P	**P**	**21 55 37.3**	**-0.1**
	2.5nm,0.8s,baz=250,slow=12,SNR=2.5						
LPAZ	**La Paz**	**53.63**	**67**	*e*P	**P**	**21 56 19.0**	**-0.2**
	11nm,1.4s						
LPAZ	**La Paz**	**53.63**	**67**	P	**P**	**21 56 19.3**	**+0.1**
	5.2nm,1.2s,baz=217,slow=8.6,SNR=9.0						
LPAZ				LR	LR	22 13 26.0	
	comp=Z,190nm,20.9s,baz=71,slow=30						
SIV	**San Ignacio**	**57.89**	**73**	P	**P**	**21 56 48.3**	**-0.8**
SIV	**San Ignacio**	**57.89**	**73**	P	**P**	**21 56 48.3**	**-0.8**
	2.0nm,0.8s,baz=232,slow=9.9,SNR=6.9						
MAW	**Mawson**	**59.88**	**181**	P	**P**	**21 57 02.3**	**+0.1**
MAW	**Mawson**	**59.88**	**181**	P	**P**	**21 57 02.3**	**+0.1**
	2.2nm,1.0s,baz=207,slow=11,SNR=3.7						
MAW				LR	LR	22 20 43.0	
	comp=Z,208nm,19.3s,baz=178,slow=34						
STKA	**Stephens Creek**	**70.78**	**243**	LR	LR	22 22 29.8	
	comp=Z,151nm,21.3s,baz=205,slow=30						
ASAR	**Alice Springs**	**81.41**	**242**	P	**P**	**21 59 12.3**	**-1.7**
ASAR	**Alice Springs**	**81.41**	**242**	P	**P**	**21 59 12.3**	**-1.7**
	2.5nm,1.0s,baz=133,slow=4.1,SNR=7.0						
ASAR				LR	LR	22 29 56.9	
	comp=Z,158nm,19.0s,baz=60,slow=32						
TXAR	**Lajitas Array**	**82.84**	**13**	P	**P**	**21 59 21.6**	**+0.4**
TXAR	**Lajitas Array**	**82.84**	**13**	P	**P**	**21 59 21.6**	**+0.4**
	0.2nm,0.2s,baz=157,slow=4.8,SNR=5.9						
WRA	**Warramunga Arr**	**84.18**	**245**	P	**P**	**21 59 27.8**	**-0.7**
WRA	**Warramunga Arr**	**84.18**	**245**	P	**P**	**21 59 27.8**	**-0.7**
	4.5nm,1.0s,baz=142,slow=4.4,SNR=11						
WRAB	**Tennant Creek**	**84.18**	**245**	*e*P	**P**	**21 59 28.5**	**0.0**
	12nm,1.2s						
NVAR	**Mina Array Bea**	**90.89**	**0**	LR	LR	22 32 23.6	
	comp=Z,162nm,18.5s,baz=134,slow=30						
BOSA	**Boshof**	**92.97**	**149**	LR	LR	22 40 54.2	
	comp=Z,70nm,18.0s,baz=340,slow=35						
DAVOX	**Davos/Dischmat**	**146.78**	**79**	PKPbc	**PKPbc**	**22 06 39.0**	**+0.4**
DAVOX	**Davos/Dischmat**	**146.78**	**79**	PKPbc	**PKPbc**	**22 06 39.0**	**+0.4**
	4.3nm,0.9s,baz=319,slow=17,SNR=2.7						
GERES	**GERESS Array B**	**150.02**	**78**	PKPbc	**PKPbc**	**22 06 45.7**	**-1.1**
GERES	**GERESS Array B**	**150.02**	**78**	PKPbc	**PKPbc**	**22 06 45.7**	**-1.1**
	2.9nm,0.8s,baz=222,slow=1.8,SNR=10						
CLL	**Colln**	**150.61**	**73**	*e*PKPbc	**PKPbc**	**22 06 51.0**	**+3.0**
	comp=Z,13nm,1.2s						
BRG	**Berggiesshubel**	**151.00**	**75**	*e*P	**PKPbc**	**22 06 51.4**	**+2.5**
	comp=Z,7.0nm,1.5s						
SONM	**Songino Array**	**151.26**	**278**	PKPbc	**PKPbc**	**22 06 49.8**	**-0.1**
SONM	**Songino Array**	**151.26**	**278**	PKPbc	**PKPbc**	**22 06 49.8**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=144,slow=2.4,SNR=8.3						
BRTR	**Keskin Array B**	**156.90**	**113**	PKPab	**PKPab**	**22 07 21.5**	**-0.6**
BRTR	**Keskin Array B**	**156.90**	**113**	PKPab	**PKPab**	**22 07 21.5**	**-0.6**
	comp=Z,1.4nm,1.0s,baz=199,slow=3.1,SNR=6.7						
MKAR	**Makanchi Array**	**165.29**	**254**	PKPab	**PKPab**	**22 07 57.9**	**-0.5**
MKAR	**Makanchi Array**	**165.29**	**254**	PKPab	**PKPab**	**22 07 57.9**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=132,slow=5.1,SNR=9.2						
ZALV	**Zalesovo Beam**	**166.03**	**284**	PKPab	**PKPab**	**22 08 01.8**	**+0.4**
ZALV	**Zalesovo Beam**	**166.03**	**284**	PKPab	**PKPab**	**22 08 01.8**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=99,slow=3.8,SNR=4.2						

DJA 10 21:55:57.5±0.7, 1°S±6°×12°1E±°, h10km, M3.7/4, MLv3.7/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.83**	**38**	P	Pn	21 56 29.9	+0.9
LUWI	**Luwuk**	**1.96**	**92**	P	Pn	21 56 30.5	-0.4
LUWI				S	Sb	21 56 58.9	+1.0
TTSI	**Tana Toraja**	**2.29**	**206**	P	Pn	21 56 36.7	+1.4
GTOI	**Gorontalo**	**2.72**	**54**	P	Pn	21 56 42.7	+1.4

*AUST **10** 21:57:41.0±0.5, 7.11S×120.97E, h555km, Error ellipse: s-maj=1.5km s-min=1.2km az=356.0*

*ISCJB **10** 21:57:42.0±0.3, 7.28S±0.05×120.98E±0.05, h547km±3km, mb3.8/14, Error ellipse: s-maj=9.0km s-min=7.0km az=145.0*

*IDC **10** 21:57:42.6±0.6, 7.18S×121.16E, h541km±6km, mb3.4/15, mb1 3.4/18, mb1mx3.3/28, mbtmp3.4/18, Error ellipse: s-maj=22.9km s-min=7.8km az=60.0*

*DJA **10** 21:57:44.0±0.5, 7°S±5°×12°1E±°, h532km±6km, M4.3/7, mb4.8/4, mB4.9/4, MLv4.0/7, Mw(mB)4.2/4*

ISC 10 21:57:42.5±0.6, 7.31S±0.06×121.01E±0.07, h538km±6km, n46, σ1§16/56, mb3.8/14, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSSI	**Bau Bau, Buton**	**1.27**	**336**	P	**P**	**21 58 49.0**	**+0.5**
MMRI	**Maumere**	**1.79**	**137**	P	**P**	**21 58 50.2**	**-0.1**
MMRI				S	**S**	**21 59 42.4**	**-2.9**
BKSI	**Bulukumba**	**2.16**	**336**	P	**P**	**21 58 52.9**	**+0.9**
BBSI	**Bau Bau**	**2.38**	**41**	P	**P**	**21 58 54.7**	**+1.6**
BBSI				S	**S**	**21 59 52.4**	**+2.0**
WSI	**Waingapu**	**2.45**	**197**	P	P	21 58 56.8	+3.4
WSI				S	**S**	**21 59 49.6**	**-1.4**
WSI	**Waingapu**	**2.45**	**197**	P	**P**	**21 58 54.1**	**+0.7**
	baz=2.6,SNR=4.1						
WSI				S	**S**	**21 59 49.0**	**-2.1**
	baz=2.6,SNR=9.2						
KAPI	**Kappang**	**2.60**	**331**	P	**P**	**21 58 55.2**	**+0.9**
KAPI	**Kappang**	**2.60**	**331**	P	**P**	**21 58 54.9**	**+0.6**
	42nm,0.3s,baz=152,slow=7.1,SNR

*IDC **10** 22:01:23.7±3.8,51.90N×175.52W,h83km±31km,mb3.4/6, mb1 3.5/9,mb1mx3.2/32,mbtmp3.4/9,Error ellipse: s-maj=37.2km s-min=19.3km az=172.0*

ISC 10 22:01:18.2±1.1,51.5N±0.2×175.09W±0.05,h40km,n22, σ2.205/26,mb3.8/6,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERAA	**Semis' Rag'd T**	**3.28**	**279**	P	**Pn**	**22 02 07.5**	**+0.4**
CEPE	**Semis' Perret**	**3.30**	**280**	P	**Pn**	**22 02 07.4**	**0.0**
AMKA	**Amchitka**	**3.51**	**270**	P	**Pn**	**22 02 10.4**	**+0.1**
AMKA				S	**Sn**	**22 02 54.8**	**+4.3**
LSPA	**Little Sitkin**	**3.97**	**279**	P	**Pn**	**22 02 16.4**	**-0.1**
LSPA				S	**Sn**	**22 03 06.2**	**+4.5**
LSSE	**Little Sitkin**	**3.97**	**279**	P	**Pn**	**22 02 16.7**	**+0.2**
NIKH	**Nikolski High**	**4.11**	**67**	P	**Pn**	**22 02 19.3**	**+0.9**
NIKH				S	**Sn**	**22 03 09.1**	**+3.9**
MREP	**Makushin Rep't**	**5.58**	**62**	P	**Pn**	**22 02 40.1**	**+1.4**
UNV	**Unalaska Valle**	**5.73**	**62**	P	**Pn**	**22 02 42.0**	**+1.4**
AKUT	**Akutan**	**6.23**	**61**	P	**Pn**	**22 02 48.7**	**+1.1**
SPIA	**Saint Paul Isl**	**6.35**	**25**	P	**Pn**	**22 02 50.7**	**+1.5**
FX1	**Attu Island--F**	**7.35**	**285**	P	**Pn**	**22 03 04.3**	**+1.3**
FX1	**Attu Island--F**	**7.35**	**285**	P	**Pn**	**22 03 02.7**	**-0.2**
	2.1nm,0.3s,baz=45,slow=22,SNR=10						
FX1				S	**Sn**	**22 04 26.2**	**+1.2**
	0.7nm,0.3s,baz=59,slow=19,SNR=2.0						
KDAK	**Kodiak Island**	**14.43**	**55**	P	**P**	**22 04 44.9**	**-0.7**
	1.5nm,0.3s,baz=251,slow=3.1,SNR=17						
ILAR	**Eielson Array**	**19.72**	**37**	P	**P**	**22 05 44.9**	**+0.8**
	0.2nm,0.3s,baz=229,slow=9.9,SNR=10						
RES	**Resolute Bay**	**38.66**	**25**	P	**P**	**22 08 36.6**	**-0.7**
	1.4nm,0.6s,baz=244,slow=17,SNR=6.3						
PDAR	**Pinedale Array**	**44.05**	**75**	P	**P**	**22 09 23.8**	**+1.6**
	1.0nm,0.6s,baz=307,slow=4.3,SNR=5.7						
KURBB	**Kurchatov Arra**	**60.69**	**316**	P	**P**	**22 11 23.4**	**-1.7**
	0.3nm,0.4s,baz=42,slow=6.6,SNR=9.2						
MKAR	**Makanchi Array**	**61.75**	**310**	P	**P**	**22 11 29.4**	**-2.9**
	0.2nm,0.6s,baz=40,slow=6.3,SNR=4.0						
BVAR	**Borovoye Array**	**62.26**	**322**	P	**P**	**22 11 33.2**	**-2.4**
	0.2nm,0.4s,baz=48,slow=5.7,SNR=3.0						
HFS	**Hagfors**	**68.49**	**355**	P	**P**	**22 12 13.1**	**-2.7**
	1.5nm,0.8s,baz=350,slow=7.3,SNR=4.1						
MAW	**Mawson**	**148.00**	**218**	PKPbc	**PKPbc**	**22 20 58.2**	**+0.5**
	0.8nm,0.6s,baz=142,slow=19,SNR=3.3						
BOSA	**Boshof**	**152.52**	**319**	PKPbc	**PKPbc**	**22 21 08.6**	**-1.5**
	2.4nm,1.0s,baz=8.9,slow=4.2,SNR=5.1						

IDC 10 22:05:45.3±2.0,6.76S×128.78E,h0km,mb3.3/2, mb1 3.6/5,mb1mx3.4/20,mbtmp3.4/5,ML3.2/3,Error ellipse: s-maj=111.0km s-min=26.4km az=75.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.68**	**195**	Pn	Pn	22 08 33.7	+0.3
	0.1nm,0.3s,baz=16,slow=11,SNR=3.1						
FITZ				Sn	Sn	22 10 29.5	-15
	0.2nm,0.3s,baz=349,slow=16,SNR=4.8						
WRA	**Warramunga Arr**	**14.17**	**158**	Pn	Pn	22 09 06.9	-0.6
	0.1nm,0.3s,baz=333,slow=13,SNR=4.9						
WRA				Sn	Sn	22 11 31.4	-14
	0.3nm,0.3s,baz=325,slow=25,SNR=5.9						
ASAR	**Alice Springs**	**17.52**	**164**	P	Pn	22 09 51.2	0.0
	0.1nm,0.3s,baz=344,slow=11,SNR=6.0						
ASAR				S	Sn	22 12 50.5	-16
	0.1nm,0.3s,baz=349,slow=29,SNR=3.3						
MKAR	**Makanchi Array**	**67.36**	**327**	P	P	22 16 42.0	-0.4
	0.1nm,0.4s,baz=117,slow=7.4,SNR=3.8						
KURBB	**Kurchatov Arra**	**71.67**	**329**	P	P	22 17 09.4	+0.4
	0.2nm,0.6s,baz=127,slow=5.3,SNR=5.3						

IDC 10 23:00:56.1±5.7,19.48S×176.91W,h0km,mb3.6/2, mb1 3.8/2,mb1mx3.5/18,mbtmp3.6/2,Error ellipse: s-maj=305.7km s-min=44.9km az=149.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.76**	**256**	P	P	23 09 19.5	-0.2
	0.5nm,0.5s,baz=97,slow=7.7,SNR=8.2						
WRA	**Warramunga Arr**	**45.76**	**261**	P	P	23 09 19.9	+0.2
	0.3nm,0.3s,baz=97,slow=7.8,SNR=16						
BRTR	**Keskin Array B**	**146.89**	**314**	PKPbc	PKPdf	23 20 40.0	+0.9
	0.2nm,0.3s,baz=252,slow=2.9,SNR=3.0						
MMAI	**Mount Meron Ar**	**148.18**	**302**	PKPbc	PKPbc	23 20 43.0	-1.6
	0.5nm,0.5s,baz=97,slow=4.6,SNR=4.8						
GERES	**GERESS Array B**	**149.47**	**346**	PKPbc	PKPbc	23 20 47.7	+0.3
	0.2nm,0.4s,baz=357,slow=2.0,SNR=3.2						

MEX 10 23:07:06.6±0.3,18.87N×104.01W,h5km,MD3.7,Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.30**	**6**	*e*P	Pg	23 07 12.2	-0.5
R15V				*i*S	Sg	23 07 16.4	-0.2
EZ5V		**0.72**	**33**	*i*P	Pg	23 07 19.7	-1.2
EZ5V				*i*S	Sg	23 07 29.8	-0.8
MMIG	**Aquila**	**0.86**	**132**	*i*P	Pg	23 07 21.3	-1.8
MMIG				*i*S	Sg	23 07 32.6	-1.6

*IDC **10** 23:47:56.3±1.8,31.71N×50.74E,h0km,mb3.7/7, mb1 3.7/11,mb1mx3.6/29,mbtmp3.7/11,ML3.2/3,Error ellipse: s-maj=46.7km s-min=18.6km az=162.0*
*ISCJB **10** 23:47:57.5±0.4,31.67N±0.04×50.72E±0.03,h10km, mb3.5/8,Error ellipse: s-maj=5.4km s-min=3.7km az=159.2*
*TEH **10** 23:47:59.3,31.60N×50.74E,h8km,ML3.8*
*CSEM **10** 23:48:00.9±0.2,31.69N×50.79E,h20km,ML3.4,Error ellipse: s-maj=5.0km s-min=4.1km az=172.0*

ISC 10 23:47:58.8±0.7,31.67N±0.04×50.75E±0.04,h10km,n78, σ1.940/81,mb3.6/8,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIR	**Pirpir**	**1.02**	**7**	*e*	**Sg**	23 48 40.9	+9.2
	comp=Z,12μm,0.2s						
IGAR	**Gharneh**	**1.32**	**56**	*e*	**Sg**	**23 48 45.8**	**+4.5**
	comp=Z,11μm,0.2s						
IKLH	**Kolahrood**	**1.79**	**23**	*e*Pn	**Pn**	**23 48 28.7**	**-1.2**
IKLH				*e*Sg	**Sg**	**23 48 58.4**	**+2.2**
IKLH				*e*		23 49 01.1	
	comp=Z,7μm,0.2s						
IKLH	**Kolahrood**	**1.79**	**23**	*e*Pn	**Pn**	**23 48 28.7**	**-1.2**
IZEF	**Zefreh**	**1.81**	**47**	*e*Pn	**Pn**	**23 48 28.9**	**-1.4**
IZEF				*e*		23 48 33.9	
	comp=Z,3μm,0.2s						
IZEF				*e*Sg	**Sb**	**23 48 56.6**	**+1.6**
IZEF	**Zefreh**	**1.81**	**47**	*e*Pn	**Pn**	**23 48 28.9**	**-1.4**
IZEF				*e*Sg	**Sb**	**23 48 56.6**	**+1.6**
NASN	**Na'in**	**2.07**	**57**	*e*Pg	**Pn**	**23 48 34.4**	**+0.5**
KHMZ	**Khomeyn**	**2.17**	**342**	*e*Pg	**Pn**	**23 48 37.2**	**+2.1**
ISAD	**Sadrabad**	**2.51**	**84**	*e*Pn	**Pn**	**23 48 40.7**	**+0.8**
ISAD				*e*		23 49 20.7	
	comp=Z,5μm,0.3s						
ISAD	**Sadrabad**	**2.51**	**84**	*e*Pn	**Pn**	**23 48 40.7**	**+0.8**
GHVR	**GHOM**	**2.84**	**9**	*e*Pn	**Pn**	**23 48 45.2**	**+1.0**
ASAO	**Ashtian**	**2.93**	**348**	*e*Pn	**Pn**	**23 48 47.6**	**+1.9**
ISRV	**Sarvestan**	**3.06**	**138**	*e*Pn	**Pn**	**23 48 47.2**	**-0.3**
ISRV				*e*		23 49 58.0	
	comp=Z,4μm,0.7s						
ISRV	**Sarvestan**	**3.06**	**138**	*e*Pn	**Pn**	**23 48 47.2**	**-0.3**
ICHK	**Chekchek**	**3.16**	**79**	*e*Pn	**Pn**	**23 48 49.2**	**+0.4**
ICHK				*e*		23 49 03.2	
	comp=Z,2μm,0.2s						
ICHK	**Chekchek**	**3.16**	**79**	*e*Pn	**Pn**	**23 48 49.2**	**+0.4**
IMEH	**Mehriz**	**3.31**	**94**	*e*Pn	**Pn**	**23 48 51.5**	**+0.6**
IMEH				*e*		23 49 53.9	
	comp=Z,842nm,0.4s						
IMEH	**Mehriz**	**3.31**	**94**	*e*Pn	**Pn**	**23 48 51.5**	**+0.6**
UMR	**Umm Al-Rimmam**	**3.36**	**232**	*e*P	**Pn**	**23 48 53.6**	**+2.2**
UMR				AML	AML	23 49 44.0	
	comp=Z,98nm,0.4s						
UMR	**Umm Al-Rimmam**	**3.36**	**232**	*e*P	**Pn**	**23 48 53.6**	**+2.2**
IR5	**Iran Long-Peri**	**3.53**	**358**	*e*Pn	**Pn**	**23 48 55.3**	**+1.5**
IR5	**Iran Long-Peri**	**3.53**	**358**	*e*Pn	**Pn**	**23 48 55.3**	**+1.5**
KBD	**Kabd**	**3.63**	**227**	*e*P	**Pn**	**23 48 56.9**	**+1.9**
KBD				AML	AML	23 49 39.5	
	comp=Z,40nm,0.5s						
KBD	**Kabd**	**3.63**	**227**	*e*P	**Pn**	**23 48 56.9**	**+1.9**
IKOM	**Komasi**	**3.69**	**313**	*e*Pn	**Pn**	**23 48 57.2**	**+1.1**
IKOM				*e*		23 50 16.8	
	comp=Z,2μm,0.4s						
IKOM	**Komasi**	**3.69**	**313**	*e*Pn	**Pn**	**23 48 57.2**	**+1.1**
IRAZ	**Razeghan**	**3.79**	**350**	*e*Pn	**Pn**	**23 48 58.8**	**+1.4**
IRAZ				*e*		23 50 12.2	
	comp=Z,2μm,0.3s						
IRAZ	**Razeghan**	**3.79**	**350**	*e*Pn	**Pn**	**23 48 58.8**	**+1.4**
NAY	**Al-Naaiem**	**3.87**	**232**	*e*P	**Pn**	**23 49 00.6**	**+2.2**
NAY				AML	AML	23 49 50.4	
	comp=Z,59nm,0.7s						
NAY	**Al-Naaiem**	**3.87**	**232**	*e*P	**Pn**	**23 49 00.6**	**+2.2**
RDF	**Al-Radifah**	**3.89**	**226**	*e*P	**Pn**	**23 49 00.5**	**+1.9**
RDF				AML	AML	23 49 51.2	
	comp=Z,99nm,0.5s						
RDF	**Al-Radifah**	**3.89**	**226**	*e*P	**Pn**	**23 49 00.5**	**+1.9**
IMHD	**Mahdasht**	**4.00**	**359**	*e*Pn	**Pn**	**23 49 01.7**	**+1.4**
IMHD				*e*		23 49 36.2	
	comp=Z,928nm,0.0s						
IMHD	**Mahdasht**	**4.00**	**359**	*e*Pn	**Pn**	**23 49 01.7**	**+1.4**
DAMV	**Damavand**	**4.08**	**14**	*e*Pn	**Pn**	**23 49 02.3**	**+0.9**
IBAF	**Bafgh**	**4.11**	**90**	*e*		23 49 07.8	
	comp=Z,713nm,0.3s						
IBAF				*e*Pn	**Pn**	**23 49 02.8**	**+1.0**
ILAS	**Lasjerd**	**4.13**	**26**	*e*Pn	**Pn**	**23 49 03.5**	**+1.3**
ILAS				*e*		23 50 13.3	
	comp=Z,450nm,0.2s						
ILAS	**Lasjerd**	**4.13**	**26**	*e*Pn	**Pn**	**23 49 03.5**	**+1.3**
IFIR	**Firoozkooh**	**4.30**	**22**	*e*		23 49 11.4	
	comp=Z,365nm,0.1s						
IFIR				*e*Pn	**Pn**	**23 49 05.5**	**+1.1**
IBDR	**Badra**	**4.32**	**291**	*e*Pn	Pn	23 49 02.0	-2.5
IBDR				*e*Sn	**Sn**	**23 49 52.0**	**-3.0**
IVIS	**Veis**	**4.34**	**312**	*e*Pn	**Pn**	**23 49 05.6**	**+0.7**
IVIS				*e*		23 50 32.6	
	comp=Z,540nm,0.3s						
IVIS	**Veis**	**4.34**	**312**	*e*Pn	**Pn**	**23 49 05.6**	**+0.7**
IGHG	**Ghaleghazi**	**4.40**	**308**	*e*Pn	**Pn**	**23 49 06.6**	**+0.7**
IGHG				*e*		23 50 45.4	
	comp=Z,1μm,0.4s						
IGHG	**Ghaleghazi**	**4.40**	**308**	*e*Pn	**Pn**	**23 49 06.6**	**+0.7**
ILIN	**Lien**	**4.53**	**317**	*e*Pn	**Pn**	**23 49 08.5**	**+0.8**
ILIN				*e*		23 50 53.9	
	comp=Z,451nm,0.3s						
ILIN	**Lien**	**4.53**	**317**	*e*Pn	**Pn**	**23 49 08.5**	**+0.8**
ISHM	**Shahmirzad**	**4.63**	**26**	*e*Pn	**Pn**	**23 49 10.3**	**+1.2**
ISHM				*e*		23 49 32.2	
	comp=Z,592nm,0.3s						
ISHM	**Shahmirzad**	**4.63**	**26**	*e*Pn	**Pn**	**23 49 10.3**	**+1.2**
IALA	**Alasht**	**4.72**	**21**	*e*Pn	**Pn**	**23 49 10.7**	**+0.4**
IALA				*e*		23 49 30.5	
	comp=Z,497nm,0.1s						
IALA	**Alasht**	**4.72**	**21**	*e*Pn	**Pn**	**23 49 10.7**	**+0.4**
IDHR	**Dehrash**	**4.74**	**311**	*e*Pn	**Pn**	**23 49 10.8**	**+0.3**
IDHR				*e*		23 50 14.0	
	comp=Z,827nm,0.2s						
IDHR	**Dehrash**	**4.74**	**311**	*e*Pn	**Pn**	**23 49 10.8**	**+0.3**
IPRN	**Peran**	**4.75**	**16**	*e*Pn	**Pn**	**23 49 11.9**	**+1.4**
IPRN				*e*		23 49 34.1	
	comp=Z,818nm,0.3s						
IKIA	**Kiasar**	**5.14**	**28**	*e*Pn	**Pn**	**23 49 17.1**	**+1.1**
IKIA				*e*		23 49 58.4	
	comp=Z,236nm,0.0s						
IKIA	**Kiasar**	**5.14**	**28**	*e*Pn	**Pn**	**23 49 17.1**	**+1.1**
IGLO	**Ghaloghah**	**5.45**	**27**	*e*Pn	**Pn**	**23 49 21.4**	**+1.1**
IGLO				*e*		23 49 52.3	
	comp=Z,425nm,0.3s						
BHD	**Baghdad**	**5.62**	**288**	*e*Pn	**Pn**	**23 49 22.0**	**-0.3**
BHD				*e*Sn	**Sn**	**23 50 26.0**	**-0.9**
BHD	**Baghdad**	**5.62**	**288**	*e*Pn	**Pn**	**23 49 22.0**	**-0.3**
BHD				*e*Sn	**Sn**	**23 50 26.0**	**-0.9**
TABS	**Tabas**	**5.72**	**68**	*e*Pn	**Pn**	**23 49 24.8**	**+0.9**
ISRB	**Sarab**	**6.64**	**338**	*e*Pn	**Pn**	**23 49 37.5**	**+0.9**
ISRB				*e*		23 53 22.9	
	comp=Z,66nm,0.0s						
ISRB	**Sarab**	**6.64**	**338**	*e*Pn	**Pn**	**23 49 37.5**	**+0.9**
ITEG	**Tejag**	**6.88**	**78**	*e*Pn	**Pn**	**23 49 40.1**	**+0.2**
ITEG				*e*		23 50 16.5	
	comp=Z,193nm,0.3s						
ITEG	**Tejag**	**6.88**	**78**	*e*Pn	**Pn**	**23 49 40.1**	**+0.2**
IKOO	**Kooshah**	**7.05**	**82**	*e*Pn	**Pn**	**23 49 42.3**	**+0.1**
IKOO				*e*		23 51 48.5	
	comp=E,188nm,0.0s						
IKOO	**Kooshah**	**7.05**	**82**	*e*Pn	**Pn**	**23 49 42.3**	**+0.1**
ASF	**Jabal al Asfar**	**11.78**	**276**	Pn	**Pn**	**23 50 45.6**	**-1.4**
MMAI	**Mount Meron Ar**	**13.05**	**280**	Pn	**Pn**	**23 51 03.4**	**-0.9**
	comp=E,0.3nm,0.3s,baz=84,slow=13,SNR=3.3						
EIL	**Elat**	**13.75**	**266**	Pn	**Pn**	**23 51 12.7**	**-1.0**
	comp=E,0.1nm,0.3s,baz=69,slow=14,SNR=2.0						
BRTR	**Keskin Array B**	**16.04**	**305**	Pn	**Pn**	**23 51 44.6**	**+0.1**
	comp=E,0.1nm,0.3s,baz=129,slow=13,SNR=8.3						
MLR	**Muntele Rosu**	**23.68**	**313**	P	**P**	**23 53 13.2**	**+2.6**
	comp=E,0.3nm,0.7s,baz=167,slow=13,SNR=6.0						
KURBB	**Kurchatov Arra**	**27.36**	**39**	P	**P**	**23 53 49.0**	**-0.3**
	comp=E,0.2nm,0.3s,baz=240,slow=9.1,SNR=2.6						
MKAR	**Makanchi Array**	**28.49**	**49**	P	**P**	**23 53 53.0**	**-1.1**
	comp=E,0.4nm,0.7s,baz=242,slow=9.9,SNR=3.6						
ZALV	**Zalesovo Beam**	**32.97**	**37**	P	**P**	**23 54 32.1**	**-1.4**
	comp=E,1.0nm,0.8s,baz=251,slow=7.0,SNR=2.9						
FINES	**FINESS Array B**	**33.85**	**339**	P	**P**	**23 54 40.0**	**-1.1**
	comp=E,1.3nm,0.6s,baz=143,slow=10,SNR=11						
NB2	**NORSAR Subarra**	**39.06**	**331**	P	**P**	**23 55 23.5**	**-2.1**
	comp=Z,1.5nm,0.7s,baz=121,slow=7.9						
NOA	**NORSAR Array B**	**39.06**	**331**	P	P	23 55 23.1	-2.6
	comp=Z,1.5nm,0.7s,baz=120,slow=8.1,SNR=4.4						
SONM	**Songino Array**	**44.74**	**52**	P	**P**	**23 56 11.0**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=268,slow=10,SNR=2.0						
TORD	**Torodi Ar. Bea**	**48.52**	**259**	P	**P**	**23 56 41.0**	**-1.2**
	comp=Z,2.1nm,0.8s,baz=56,slow=8.4,SNR=20						

IDC 10 23:48:51.7±2.1,0.53S×98.16E,h0km,mb3.6/5,mb1 3.7/7, mb1mx3.6/24,mbtmp3.6/7,ML3.9/2,Error ellipse: s-maj=77.6km s-min=22.0km az=63.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.40**	**13**	Pn	Pn	23 49 44.9	-1.4
	4.5nm,0.3s,baz=339,slow=2.8,SNR=10						
CMAR	**Chiang Mai Arr**	**18.89**	**2**	P	P	23 53 13.7	-0.2
	0.3nm,0.3s,baz=193,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**40.31**	**121**	P	P	23 56 30.7	-0.6
	0.2nm,0.7s,baz=304,slow=9.1,SNR=2.7						
ASAR	**Alice Springs**	**41.59**	**126**	P	P	23 56 42.1	+0.3
	0.3nm,0.5s,baz=297,slow=7.5,SNR=4.1						
SONM	**Songino Array**	**48.70**	**7**	P	P	23 57 38.1	+0.1
	0.8nm,0.6s,baz=179,slow=5.8,SNR=2.6						
MKAR	**Makanchi Array**	**49.15**	**346**	P	P	23 57 41.5	+0.2
	1.0nm,0.7s,baz=153,slow=7.4,SNR=11						
ZALV	**Zalesovo Beam**	**55.41**	**350**	P	P	23 58 27.2	-0.5
	0.7nm,0.5s,baz=164,slow=6.1,SNR=4.7						
TXAR	**Lajitas Array**	**144.59**	**34**	PKP	PKPbc	00 08 30.4	+0.6
	0.2nm,0.4s,baz=183,slow=2.7,SNR=5.9						

*MOS **11** 00:31:52.3±1.3,53.36N×160.54E,h54km,mb4.2/15,Error ellipse: s-maj=12.2km s-min=6.8km az=73.7*
*ISCJB **11** 00:31:53.1±0.4,53.30N±0.02×160.58E±0.05,h56km±3km, mb4.1/31,MS3.1/2,Error ellipse: s-maj=6.3km s-min=2.4km az=34.6*
*KRSC **11** 00:31:53.5±0.1,53.33N×160.53E,h43km±32km,ML4.4*
*IDC **11** 00:31:54.2±1.5,53.51N×160.54E,h50km±14km,mb3.6/16, mb1 3.9/18,mb1mx3.8/28,mbtmp3.7/18,ML4.0/2,MS3.0/3, Ms1 3.0/3,ms1mx2.5/35,Error ellipse: s-maj=18.3km s-min=9.3km az=167.0*

ISC 11 00:31:53.3±0.8,53.31N±0.03×160.60E±0.04,h45km±8km, n99,σ1.938/146,mb4.1/31,1C-1D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.40**	**239**	PN	**Pn**	**00 32 03.2**	**+0.1**
SPN				S	**Sn**	**00 32 10.0**	**+0.1**
SPN	**Mys Shipunski**	**0.40**	**239**	P	**Pn**	**00 32 03.2**	**+0.1**
SPN				*i*S	**Sn**	**00 32 10.0**	**+0.1**
NLC	**Nalytchevo**	**0.76**	**260**	PN	**Pn**	**00 32 07.4**	**-0.3**
NLC				S	**Sn**	**00 32 17.7**	**-0.4**
NLC	**Nalytchevo**	**0.76**	**260**	*e*P	**Pn**	**00 32 07.4**	**-0.3**
NLC				*i*S	**Sn**	**00 32 17.7**	**-0.4**
KII	**Karymskiy**	**1.00**	**317**	*e*P	**Pn**	**00 32 10.3**	**-0.7**
KII				*i*S	**Sn**	**00 32 22.4**	**-1.6**
SDLR	**Sedlovina**	**1.03**	**269**	P	**Pn**	**00 32 11.5**	**+0.1**
SDLR				*i*S	**Sn**	**00 32 24.8**	**+0.1**
UGLR	**Uglovaya**	**1.07**	**266**	P	**Pn**	**00 32 12.4**	**+0.5**
SMAR	**Somma**	**1.08**	**268**	P	**Pn**	**00 32 12.2**	**0.0**
SMAR				*i*S	**Sn**	**00 32 26.7**	**+0.6**
KRER	**Koryakskii**	**1.11**	**271**	P	**Pn**	**00 32 12.9**	**+0.3**
KRER				*i*S	**Sn**	**00 32 26.7**	**-0.1**
AVH	**Avacha**	**1.12**	**269**	P	**Pn**	**00 32 13.0**	**+0.4**
AVH				*i*S	**Sn**	**00 32 27.0**	**+0.2**
KOK	**Koryaka**	**1.18**	**270**	P	**Pn**	**00 32 13.6**	**+0.2**
KOK				*i*S	**Sn**	**00 32 27.5**	**-0.8**
PET	**Petropavlovsk**	**1.20**	**257**	PN	**Pn**	**00 32 13.8**	**+0.1**
PET				S	**Sn**	**00 32 28.5**	**-0.3**
PET	**Petropavlovsk**	**1.20**	**257**	P	**Pn**	**00 32 13.8**	**+0.1**
PET				*i*S	**Sn**	**00 32 28.5**	**-0.3**
INSR	**Institute**	**1.22**	**259**	*e*P	**Pn**	**00 32 13.9**	**0.0**
INSR				*i*S	**Sn**	**00 32 29.5**	**+0.2**
MKZ	**Mys Kozlova**	**1.42**	**28**	PN	**Pn**	**00 32 16.2**	**-0.4**
MKZ				S	**Sn**	**00 32 32.1**	**-2.0**
MKZ	**Mys Kozlova**	**1.42**	**28**	P	**Pn**	**00 32 16.2**	**-0.4**
MKZ				*i*S	**Sn**	**00 32 32.1**	**-2.0**
RUS	**Russkaya**	**1.54**	**236**	PN	**Pn**	**00 32 18.3**	**+0.1**
RUS				S	**Sn**	**00 32 36.3**	**-0.6**
RUS	**Russkaya**	**1.54**	**236**	P	**Pn**	**00 32 18.3**	**+0.1**
RUS				*i*S	**Sn**	**00 32 36.3**	**-0.6**
GNL	**Ganaly**	**1.63**	**285**	P	**Pn**	**00 32 20.2**	**+0.5**
GNL				*i*S	**Sn**	**00 32 39.6**	**+0.1**
MTVR	**Mutnovka**	**1.68**	**242**	*e*P	**Pn**	**00 32 20.9**	**+0.6**
MTVR				*i*S	**Sn**	**00 32 39.9**	**-0.8**
GRL	**Gorelyy**	**1.70**	**245**	P	**Pn**	**00 32 21.7**	**+1.1**
GRL				*i*S	**Sn**	**00 32 43.1**	**+1.8**
PETK	**Petropavlovsk-**	**1.75**	**265**	*e*PN	**Pn**	**00 32 22.0**	**+0.8**
PETK				pmax	pmax		
	comp=Z,153nm,0.3s						
PETK	**Petropavlovsk-**	**1.75**	**265**	P	**Pn**	**00 32 22.6**	**+1.4**
	comp=Z,153nm,0.3s,baz=71,slow=16,SNR=2012						
PETK				S	**Sn**	**00 32 43.8**	**+1.4**
	comp=Z,104nm,0.3s,baz=196,slow=20,SNR=12						
ASAK	**Asacha**	**1.88**	**242**	P	**Pn**	**00 32 24.2**	**+1.2**
ASAK				*i*S	**Sn**	**00 32 47.4**	**+1.9**
TUMR	**Tumrok**	**2.00**	**353**	*e*P	**Pn**	**00 32 25.3**	**+0.6**
APC	**Apacha**	**2.11**	**261**	*e*P	**Pn**	**00 32 27.6**	**+1.6**
APC				*i*S	**Sn**	**00 32 53.3**	**+2.3**
KMNR	**Kamenistaya**	**2.46**	**355**	P	**Pn**	**00 32 32.7**	**+1.7**
KMNR				*i*S	**Sn**	**00 33 01.5**	**+1.6**
MIPR	**Malaya Ipel'ka**	**2.55**	**248**	*e*P	**Pn**	**00 32 33.9**	**+1.8**
MIPR				*i*S	**Sn**	**00 33 03.8**	**+1.9**
BZMR	**Bezymyannaya**	**2.64**	**359**	*e*P	**Pn**	**00 32 34.8**	**+1.4**
BZMR				*i*S	**Sn**	**00 33 04.1**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**2.64**	**1**	*e*P	**Pn**	**00 32 35.5**	**+2.0**
BZGR				*i*S	**Sn**	**00 33 06.3**	**+2.0**
KIRR	**Kirishev**	**2.66**	**357**	*e*P	**Pn**	**00 32 35.5**	**+1.8**
KIRR				*i*S	**Sn**	**00 33 06.0**	**+1.2**
BZWR	**Bezymyannyi-We**	**2.67**	**359**	*e*P	**Pn**	**00 32 35.6**	**+1.7**
BZWR				*i*S	**Sn**	**00 33 06.9**	**+1.9**
KPT	**Kopyto**	**2.67**	**355**	*e*P	**Pn**	**00 32 35.1**	**+1.2**
ZLN	**Zelenaya**	**2.72**	**2**	*e*P	**Pn**	**00 32 36.2**	**+1.7**
ZLN				*i*S	**Sn**	**00 33 08.5**	**+2.3**
LGNR	**Loginova**	**2.78**	**1**	*e*P	**Pn**	**00 32 37.5**	**+1.9**
LGNR				*i*S	**Sn**	**00 33 09.8**	**+1.7**
KOZ	**Kozyrevsk**	**2.79**	**352**	*e*P	**Pn**	**00 32 36.6**	**+1.2**
KOZ				*i*S	**Sn**	**00 33 09.2**	**+1.4**
KOZR	**Kozyr**	**2.80**	**352**	PN	**Pn**	**00 32 36.6**	**+1.1**
KOZR				S	**Sn**	**00 33 09.2**	**+1.2**
CIRR	**Tsirk**	**2.82**	**2**	*e*P	**Pn**	**00 32 37.6**	**+1.7**
CIRR				*i*S	**Sn**	**00 33 10.2**	**+1.5**
ESO	**Esso**	**2.85**	**338**	PN	**Pn**	**00 32 36.8**	**+0.6**
ESO	**Esso**	**2.85**	**338**	*e*P	**Pn**	**00 32 36.8**	**+0.6**
KRSR	**Krestovskiy**	**2.92**	**360**	*e*P	**Pn**	**00 32 38.7**	**+1.4**
KRSR				*i*S	**Sn**	**00 33 11.4**	**+0.3**
PAU	**Pauzhetka**	**2.96**	**233**	PN	**Pn**	**00 32 39.9**	**+2.1**
PAU				S	**Sn**	**00 33 13.2**	**+1.2**
PAU	**Pauzhetka**	**2.96**	**233**	*e*P	**Pn**	**00 32 39.9**	**+2.1**
PAU				*i*S	**Sn**	**00 33 13.2**	**+1.2**
KLY	**Klyuchi**	**3.01**	**1**	PN	**Pn**	**00 32 38.7**	**+0.2**
KLY				S	**Sn**	**00 33 11.8**	**-1.5**

comp=Z,3.0nm,0.9s
NB2 NORSAR Subarra 63.42 344 P **P 00 42 16.4 -1.4**
comp=Z,1.5nm,0.5s,baz=27,slow=6.5
NOA NORSAR Array B 63.42 344 P **P 00 42 16.7 -1.1**
comp=Z,1.5nm,0.6s,baz=23,slow=6.6,SNR=7.8
TXAR Lajitas Array 70.28 67 P **P 00 43 03.6 +1.7**
comp=Z,0.6nm,0.6s,baz=307,slow=4.8,SNR=7.6
CLL Collm 72.26 339 *i* P **P 00 43 12.1 -1.3**
CLL pmax pmax
comp=Z,5.0nm,1.3s
CLL Collm 72.26 339 *i* P **P 00 43 12.1 -1.3**
comp=Z,8.0nm,1.3s
GERES GERESS Array B 74.43 338 P **P 00 43 26.1 -0.3**
comp=Z,0.8nm,0.7s,baz=34,slow=5.0,SNR=6.7
BAIF Baives 75.10 345 *eP* **P 00 43 29.8 -0.3**
comp=Z,6.6nm,0.7s
CDF Champ du Feu 76.16 342 *eP* **P 00 43 35.3 -1.0**
comp=Z,4.0nm,0.8s
PAGF Fort de Pagny 76.30 343 *eP* **P 00 43 37.1 +0.1**
comp=Z,2.4nm,0.6s
WRA Warramunga Arr 76.40 205 P **P 00 43 37.9 +0.1**
comp=Z,0.9nm,0.6s,baz=24,slow=6.2,SNR=10
HAU Haudompre 76.72 343 *eP* **P 00 43 38.9 -0.5**
comp=Z,4.2nm,0.5s
LOR Lormes 77.86 344 *eP* **P 00 43 45.4 -0.4**
comp=Z,3.3nm,0.6s
AVF Avril sur Loir 78.41 344 *eP* **P 00 43 48.6 -0.2**
comp=Z,2.7nm,0.7s
LPL La Plagne 79.05 342 *eP* **P 00 43 53.3 +0.7**
comp=Z,15nm,0.9s
LPG La Plagne 79.06 342 *eP* **P 00 43 53.5 +0.7**
comp=Z,20nm,0.9s
TCF Toulx Ste Croi 79.08 345 *eP* **P 00 43 52.4 -0.2**
MFF Saint Martin d 79.12 347 *eP* **P 00 43 52.9 +0.2**
ORIF Oris-en-Rattie 79.78 342 *eP* **P 00 43 57.2 +0.7**
comp=Z,11nm,0.8s
MBDF Montbardon 79.80 341 *eP* **P 00 43 57.7 +1.0**
comp=Z,8.2nm,0.8s
ASAR Alice Springs 80.08 205 P **P 00 43 59.2 +1.1**
comp=Z,0.7nm,0.5s,baz=14,slow=5.4,SNR=11
CAF Calviac 80.43 345 *eP* **P 00 44 00.6 +0.7**
ESDC Sonseca Array 86.43 348 P **P 00 44 31.1 +0.2**
comp=Z,0.1nm,0.3s,baz=3.2,slow=4.3,SNR=3.9

AUST ***11*** *00:49:07.1±0.0, 11°.15S×125°.01E, h202km, Error ellipse: s-maj=1.9km s-min=1.2km az=255.0*
IDC ***11*** *00:49:32.2±2.4, 13°.25S×126°.01E, h0km, mb4.0/1, mb1 3.7/4, mb1mx3.4/17, mbtmp3.6/4, ML3.2/3, Error ellipse: s-maj=70.5km s-min=29.4km az=82.0*
ISC 11 00:49:34.4±7.4**, 13°.3S**±0°.5×**126°.2E**±0°.3**, h10km, n7,** σ1§**81/7, Western Australia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNRA	**Kununurra**	**3.40**	**134**	P	**Pb**	**00 50 33.8**	**-1.1**
	baz=5.8,SNR=20						
KNRA				S	Sg	00 52 04.0	+40
	baz=5.8,SNR=3.9						
FITZ	**Fitzroy Crossi**	**4.77**	**186**	Pn	**Pn**	**00 50 45.6**	**-0.8**
	0.5nm,0.3s,baz=6.5,slow=12,SNR=24						
FITZ	**Fitzroy Crossi**	**4.77**	**186**	P	**Pn**	**00 50 45.2**	**-1.3**
	baz=7.0,SNR=12						
FITZ				S	Sg	00 52 20.1	+12
	baz=7.0,SNR=5.0						
MTN	**Manton Dam**	**4.83**	**85**	P	Pn	00 50 37.4	-10
	baz=6.2,SNR=19						
MTN				S	**Sg**	**00 52 08.7**	**-0.9**
	baz=6.2,SNR=5.3						
KDU	**Kakadu**	**6.15**	**85**	P	Pn	00 50 53.4	-12
	baz=7.5,SNR=4.5						
KDU				S	**Sb**	**00 52 35.9**	**+0.6**
	baz=7.5,SNR=6.2						
WRA	**Warramunga Arr**	**10.20**	**131**	Pn	**Pn**	**00 52 02.1**	**+1.1**
	0.2nm,0.3s,baz=314,slow=13,SNR=14						
ASAR	**Alice Springs**	**12.61**	**146**	Pn	**Pn**	**00 52 36.6**	**+2.7**
	0.2nm,0.3s,baz=323,slow=12,SNR=16						

IGQ ***11*** *00:59:20.7, 0°.55N×80°.67W, h14km±17km, Mb4.5, Ms4.3, Error ellipse: s-maj=4.3km s-min=2.4km az=3.0*
IDC ***11*** *00:59:41.6±4.5, 0°.26N×80°.06W, h132km±39km, mb3.3/3, mb1 3.5/4, mb1mx3.3/21, mbtmp3.4/4, MS3.3/1, Ms1 3.2/1, ms1mx2.5/15, Error ellipse: s-maj=46.1km s-min=25.6km az=54.0*
ISC 11 00:59:23.9±1.6**, 0°.45N**±0°.07×**80°.48W**±0°.08**, h11km, n51,** σ1§**44/46, 8C-6D, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**0.76**	**159**	⇑S	**Sg**	**00 59 48.3**	**-0.1**
JAMA	**Jama**	**0.76**	**159**	⇑P	**Pg**	**00 59 38.4**	**-0.2**
MAG1	**Magdalena**	**0.87**	**126**	⇓P	**Pn**	**00 59 41.9**	**-0.4**
GOLV	**Golondrinas**	**1.36**	**100**	P	**Pn**	**00 59 49.2**	**+0.2**
CHIS	**Cerro-Chispas-**	**1.51**	**189**	P	**Pn**	**00 59 50.5**	**-0.5**
CHIS	**Cerro-Chispas-**	**1.51**	**189**	S	**Sn**	**01 00 09.3**	**-1.2**
PINO	**Pino**	**1.97**	**108**	P	**Pn**	**00 59 58.0**	**+0.2**
TERV	**Terraza Guagua**	**1.97**	**108**	P	**Pn**	**00 59 58.2**	**+0.4**
GGP	**Refugio Guagua**	**1.98**	**108**	P	**Pn**	**00 59 58.3**	**+0.3**
YANA	**Yana**	**1.99**	**106**	P	**Pn**	**00 59 57.4**	**-0.6**
OTAV	**Otavalo**	**2.04**	**96**	⇑S	**Sb**	**01 00 27.4**	**+0.6**
OTAV	**Otavalo**	**2.04**	**96**	⇑P	**Pn**	**00 59 59.4**	**+0.8**
COTA	**Cotacachi**	**2.15**	**93**	P	**Pb**	**01 00 02.0**	**-1.1**
LITE	**Lita**	**2.15**	**80**	⇓S	**Sb**	**01 00 28.1**	**-1.5**
LITE	**Lita**	**2.15**	**80**	⇓P	**Pn**	**01 00 00.8**	**+1.0**
CAMI	**Rancho Maria**	**2.27**	**119**	P	**Pn**	**01 00 03.4**	**+1.6**
PITA	**Cotopaxi Volc**	**2.28**	**116**	P	**Pn**	**01 00 03.2**	**+1.3**
NAS2	**Nasa**	**2.29**	**118**	P	**Pn**	**01 00 03.9**	**+1.8**
BNAS	**Cotopaxi Volca**	**2.29**	**119**	⇑P	**Pn**	**01 00 03.5**	**+1.4**
BREF	**Cotopaxi Volca**	**2.32**	**119**	⇑P	**Pn**	**01 00 04.3**	**+1.6**
VC1	**Cotopaxi 1**	**2.34**	**118**	⇓P	**Pn**	**01 00 04.6**	**+1.8**
MOV1	**Cotopaxi Vol s**	**2.34**	**119**	P	**Pn**	**01 00 04.5**	**+1.5**
BTAM	**Cotopaxi Volca**	**2.36**	**118**	P	**Pn**	**01 00 04.8**	**+1.6**
TAMB	**Tambo**	**2.40**	**118**	P	**Pn**	**01 00 05.4**	**+1.8**
COV1	**Cotopaxi Volc**	**2.40**	**117**	P	**Pn**	**01 00 04.6**	**+0.7**
ANTI	**Antisana**	**2.48**	**111**	P	**Pn**	**01 00 06.9**	**+2.0**
CAYA	**Cayambe**	**2.52**	**99**	P	**Pb**	**01 00 07.8**	**-1.7**
PISA	**Pisayambo**	**2.57**	**126**	⇑S	**Sb**	**01 00 41.7**	**-0.6**
PISA	**Pisayambo**	**2.57**	**126**	⇑P	**Pn**	**01 00 07.8**	**+1.8**
IGUA	**Igualata**	**2.66**	**136**	P	**Pn**	**01 00 08.4**	**+1.1**
JUI6	**Juive**	**2.74**	**133**	P	**Pn**	**01 00 09.4**	**+1.3**
RETU	**Refugio**	**2.77**	**133**	P	**Pn**	**01 00 09.9**	**+1.1**
BRUN	**Tungurahua Vol**	**2.78**	**132**	S	**Sn**	**01 00 44.1**	**+1.7**
BRUN	**Tungurahua Vol**	**2.78**	**132**	P	**Pn**	**01 00 09.5**	**+0.8**
BMAS	**Trigal station**	**2.78**	**134**	⇓P	**Pn**	**01 00 10.5**	**+1.7**
BULB	**Ulba Tungurahu**	**2.79**	**132**	⇓P	**Pn**	**01 00 11.2**	**+2.2**
ARRY	**Arrayan**	**2.80**	**134**	S	**Sb**	**01 00 48.1**	**-0.7**
ARRY	**Arrayan**	**2.80**	**134**	P	**Pn**	**01 00 10.9**	**+1.8**
PAT1	**Patacocha**	**2.82**	**134**	P	**Pn**	**01 00 11.6**	**+2.2**
BPAT	**Tungurahua Vol**	**2.82**	**133**	S	**Sb**	**01 00 47.0**	**-2.3**
BPAT	**Tungurahua Vol**	**2.82**	**133**	P	**Pn**	**01 00 11.7**	**+2.3**
CHAR	**Charly**	**2.86**	**101**	P	**Pb**	**01 00 14.8**	**-0.4**
RIOE	**Riobamba**	**2.86**	**140**	P	**Pn**	**01 00 11.8**	**+2.0**
CONE	**Cono NE Rev Vo**	**2.88**	**100**	P	**Pb**	**01 00 14.3**	**-1.3**
ARNL	**Arenillas**	**3.99**	**174**	P	**Pn**	**01 00 27.4**	**+2.3**
CATE	**Catamayo**	**4.52**	**166**	P	Pb	01 00 38.9	-4.5
ROSC	**El Rosal**	**7.54**	**54**	P	Pb	01 01 26.3	-8.8
	2.4nm,0.3s,baz=283,slow=9.6,SNR=3.6						
LPAZ	**La Paz**	**20.62**	**144**	P	Pn	01 04 07.1	+0.6
	2.0nm,0.7s,baz=325,slow=9.2,SNR=9.5						
BDFB	**Brasilia**	**35.83**	**118**	LR	LR	01 22 04.2	
	comp=Z,44nm,18.6s,baz=184,slow=38						
NVAR	**Mina Array Bea**	**51.31**	**322**	P	P	01 08 35.6	+7.0
	0.9nm,0.7s,baz=134,slow=7.9,SNR=6.1						
TORD	**Torodi Ar. Bea**	**82.28**	**77**	P	**P**	**01 11 47.2**	**+1.0**
	0.4nm,0.5s,baz=278,slow=6.3,SNR=14						

IDC ***11*** *01:29:59.4±1.4, 18°.65N×107°.59W, h0km, mb3.5/5, mb1 3.9/8, mb1mx3.7/24, mbtmp3.6/8, ML3.5/3, MS3.4/12, Ms1 3.4/12, ms1mx3.3/37, Error ellipse: s-maj=38.6km s-min=22.0km az=111.0*
ISCJB ***11*** *01:30:00.6±1.1, 18°.64N±0°.09×107°.62W±0°.05, h16km, mb3.8/6, MS3.4/9, Error ellipse: s-maj=13.7km s-min=7.2km az=171.6*
ISC 11 01:30:06.1±1.2**, 18°.9N**±0°.1×**107°.6W**±0°.1**, h35km, n187,** σ1§**36/182, mb3.5/6, MS3.3/9, 98C-74D, Off coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**11.03**	**18**	Pn	**Pn**	**01 32 42.6**	**+1.1**
	0.1nm,0.3s,baz=197,slow=12,SNR=10						
TXAR				LR	LR	01 36 45.9	
	comp=Z,138nm,21.3s,baz=180,slow=36						
626A	**Big Bend Ranch**	**11.11**	**16**	⇓P	**Pn**	**01 32 42.6**	**0.0**
	baz=11						
626A	**Big Bend Ranch**	**11.11**	**16**	⇓P	**Pn**	**01 32 42.6**	**0.0**
	baz=11						
627A	**Terlingua Ranc**	**11.23**	**19**	⇓P	**Pn**	**01 32 44.6**	**+0.4**
	baz=11						
627A				⇑S	**Sn**	**01 34 44.2**	**-4.4**
	baz=11						
627A	**Terlingua Ranc**	**11.23**	**19**	⇓P	**Pn**	**01 32 44.6**	**+0.4**
	baz=11						
627A				⇑S	**Sn**	**01 34 44.2**	**-4.4**
	baz=11						
628A	**Black Gap, Mar**	**11.42**	**21**	⇑P	**Pn**	**01 32 46.8**	**-0.1**
	baz=11						
628A	**Black Gap, Mar**	**11.42**	**21**	⇑P	**Pn**	**01 32 46.8**	**-0.1**
	baz=11						
526A	**Mary Lane Ranc**	**11.61**	**15**	⇓P	**Pn**	**01 32 50.1**	**+0.7**
	baz=11,SNR=7.3						
526A	**Mary Lane Ranc**	**11.61**	**15**	⇓P	**Pn**	**01 32 50.1**	**+0.7**
	baz=11,SNR=7.3						
527A	**Woodward Ranch**	**11.81**	**17**	⇑P	**Pn**	**01 32 52.6**	**+0.4**
	baz=11						
527A	**Woodward Ranch**	**11.81**	**17**	⇑P	**Pn**	**01 32 52.6**	**+0.4**
	baz=11						
732A	**Laxson Ranch,**	**12.05**	**34**	⇓P	**Pn**	**01 32 56.8**	**+1.4**
	baz=12						
732A	**Laxson Ranch,**	**12.05**	**34**	⇓P	**Pn**	**01 32 56.8**	**+1.4**
	baz=12						
425A	**Indio Mountain**	**12.12**	**11**	⇑P	**Pn**	**01 32 56.3**	**0.0**
	baz=12						
425A	**Indio Mountain**	**12.12**	**11**	⇑P	**Pn**	**01 32 56.3**	**0.0**
	baz=12						
426A	**McDonald Obser**	**12.20**	**15**	⇓P	**Pn**	**01 32 58.1**	**+0.4**
	baz=12						
426A	**McDonald Obser**	**12.20**	**15**	⇓P	**Pn**	**01 32 58.1**	**+0.4**
	baz=12						
631A	**Perdido Creek**	**12.31**	**30**	⇑P	**Pn**	**01 33 00.6**	**+1.7**
	baz=12,SNR=8.3						
631A	**Perdido Creek**	**12.31**	**30**	⇑P	**Pn**	**01 33 00.6**	**+1.7**
	baz=12,SNR=8.3						
325A	**Bean Ranch, Si**	**12.69**	**10**	⇑P	**Pn**	**01 33 05.5**	**+1.3**
	baz=12						
325A	**Bean Ranch, Si**	**12.69**	**10**	⇑P	**Pn**	**01 33 05.5**	**+1.3**
	baz=12						
632A	**Uvalde**	**12.77**	**32**	⇑P	**Pn**	**01 33 06.9**	**+1.6**
	baz=12,SNR=8.7						
632A	**Uvalde**	**12.77**	**32**	⇑P	**Pn**	**01 33 06.9**	**+1.6**
	baz=12,SNR=8.7						
531A	**Rocksprings**	**12.96**	**28**	⇑P	**Pn**	**01 33 10.1**	**+2.3**
	baz=13						
531A	**Rocksprings**	**12.96**	**28**	⇑P	**Pn**	**01 33 10.1**	**+2.3**
	baz=13						
220A	**Playas Peak, P**	**13.02**	**356**	⇓P	**Pn**	**01 33 10.0**	**+1.2**
	baz=13,SNR=7.2						
220A	**Playas Peak, P**	**13.02**	**356**	⇓P	**Pn**	**01 33 10.0**	**+1.2**
	baz=13,SNR=7.2						
221A	**Mesquite Ranch**	**13.10**	**359**	⇓P	**Pn**	**01 33 11.1**	**+1.3**
	baz=13						
221A	**Mesquite Ranch**	**13.10**	**359**	⇓P	**Pn**	**01 33 11.1**	**+1.3**
	baz=13						
222A	**Williams Famil**	**13.20**	**2**	⇓P	**Pn**	**01 33 12.7**	**+1.5**
	baz=13						
222A	**Williams Famil**	**13.20**	**2**	⇓P	**Pn**	**01 33 12.7**	**+1.5**
	baz=13						
430A	**Baggett Ranch,**	**13.21**	**25**	⇑P	**Pn**	**01 33 13.1**	**+1.9**
	baz=13						
430A	**Baggett Ranch,**	**13.21**	**25**	⇑P	**Pn**	**01 33 13.1**	**+1.9**
	baz=13						
532A	**Rocksprings**	**13.22**	**30**	⇑P	**Pn**	**01 33 14.0**	**+2.6**
	baz=13,SNR=11						
532A	**Rocksprings**	**13.22**	**30**	⇑P	**Pn**	**01 33 14.0**	**+2.6**
	baz=13,SNR=11						
224A	**Cornudas Mount**	**13.30**	**8**	⇑P	**Pn**	**01 33 13.7**	**+1.1**
	baz=13						
224A	**Cornudas Mount**	**13.30**	**8**	⇑P	**Pn**	**01 33 13.7**	**+1.1**
	baz=13						
431A	**Sonora**	**13.37**	**27**	⇑P	**Pn**	**01 33 15.1**	**+1.6**
	baz=13						
431A	**Sonora**	**13.37**	**27**	⇑P	**Pn**	**01 33 15.1**	**+1.6**
	baz=13						
226B	**Tecolote Peak,**	**13.53**	**13**	⇓P	**Pn**	**01 33 17.1**	**+1.5**
	baz=13						
226B	**Tecolote Peak,**	**13.53**	**13**	⇓P	**Pn**	**01 33 17.1**	**+1.5**
	baz=13						
JCT	**Junction City**	**13.56**	**30**	⇓P	**Pn**	**01 33 18.8**	**+2.7**
	baz=13						
JCT	**Junction City**	**13.56**	**30**	⇓P	**Pn**	**01 33 18.8**	**+2.7**
	baz=13						
121A	**Cookes Peak, D**	**13.62**	**359**	⇓P	**Pn**	**01 33 18.4**	**+1.4**
	baz=13						
121A	**Cookes Peak, D**	**13.62**	**359**	⇓P	**Pn**	**01 33 18.4**	**+1.4**
	baz=13						
120A	**U Bar Ranch, L**	**13.67**	**356**	⇓P	**Pn**	**01 33 18.6**	**+1.0**
	baz=13						
120A	**U Bar Ranch, L**	**13.67**	**356**	⇓P	**Pn**	**01 33 18.6**	**+1.0**
	baz=13						
122A	**Conniff Cattle**	**13.80**	**2**	⇑P	**Pn**	**01 33 20.5**	**+1.1**
	baz=13						
122A	**Conniff Cattle**	**13.80**	**2**	⇑P	**Pn**	**01 33 20.5**	**+1.1**
	baz=13						
214A	**Organ Pipe Nat**	**13.87**	**341**	⇓P	**Pn**	**01 33 21.0**	**+0.8**
	baz=14,SNR=7.2						
214A	**Organ Pipe Nat**	**13.87**	**341**	⇓P	**Pn**	**01 33 21.0**	**+0.8**
	baz=14,SNR=7.2						
432A	**Menard**	**13.90**	**29**	⇓P	**Pn**	**01 33 23.0**	**+2.4**
	baz=14						
432A	**Menard**	**13.90**	**29**	⇓P	**Pn**	**01 33 23.0**	**+2.4**
	baz=14						
124A	**Stringfield Ra**	**13.92**	**8**	⇓P	**Pn**	**01 33 22.3**	**+1.1**
	baz=14,SNR=5.7						
124A	**Stringfield Ra**	**13.92**	**8**	⇓P	**Pn**	**01 33 22.3**	**+1.1**
	baz=14,SNR=5.7						
228A	**UT Block 9, Go**	**13.96**	**18**	⇑P	**Pn**	**01 33 23.2**	**+1.8**
	baz=14						
228A	**UT Block 9, Go**	**13.96**	**18**	⇑P	**Pn**	**01 33 23.2**	**+1.8**
	baz=14						
331A	**San Angelo**	**13.99**	**26**	⇑P	**Pn**	**01 33 24.1**	**+2.2**
	baz=14						
331A	**San Angelo**	**13.99**	**26**	⇑P	**Pn**	**01 33 24.1**	**+2.2**
	baz=14						
125A	**Gardner Draw,**	**14.00**	**10**	⇑P	**Pn**	**01 33 23.6**	**+1.5**
	baz=14						
125A	**Gardner Draw,**	**14.00**	**10**	⇑P	**Pn**	**01 33 23.6**	**+1.5**
	baz=14						
Z20A	**Nine Sixteen R**	**14.23**	**357**	⇑P	**Pn**	**01 33 26.4**	**+1.1**
	baz=14						
Z20A	**Nine Sixteen R**	**14.23**	**357**	⇑P	**Pn**	**01 33 26.4**	**+1.1**
	baz=14						
332A	**Millersview**	**14.35**	**28**	⇓P	**Pn**	**01 33 29.3**	**+2.4**
	baz=14						
332A	**Millersview**	**14.35**	**28**	⇓P	**Pn**	**01 33 29.3**	**+2.4**
	baz=14						
Z22A	**Elephant Butte**	**14.36**	**2**	⇑P	**Pn**	**01 33 28.1**	**+1.1**
	baz=14						
Z22A	**Elephant Butte**	**14.36**	**2**	⇑P	**Pn**	**01 33 28.1**	**+1.1**
	baz=14						
Z21A	**St. Cloud Mine**	**14.40**	**360**	⇓P	**Pn**	**01 33 28.8**	**+1.2**
	baz=14						
Z21A	**St. Cloud Mine**	**14.40**	**360**	⇓P	**Pn**	**01 33 28.8**	**+1.2**
	baz=14						
Z24A	**Sheeppen Canyo**	**14.56**	**7**	⇓P	**Pn**	**01 33 30.3**	**+0.6**
	baz=14						
Z24A	**Sheeppen Canyo**	**14.56**	**7**	⇓P	**Pn**	**01 33 30.3**	**+0.6**
	baz=14						
Z25A	**Roswell**	**14.60**	**10**	⇑P	**Pn**	**01 33 31.4**	**+1.1**
	baz=14						
Z25A	**Roswell**	**14.60**	**10**	⇑P	**Pn**	**01 33 31.4**	**+1.1**
	baz=14						
232A	**Coleman**	**14.83**	**27**	⇓P	**Pn**	**01 33 35.4**	**+2.2**
	baz=14						
232A	**Coleman**	**14.83**	**27**	⇓P	**Pn**	**01 33 35.4**	**+2.2**
	baz=14						
113A	**Mohawk Valley,**	**14.92**	**339**	⇑P	**Pn**	**01 33 35.8**	**+1.3**
	baz=14						
113A	**Mohawk Valley,**	**14.92**	**339**	⇑P	**Pn**	**01 33 35.8**	**+1.3**
	baz=14						
Z27A	**Tatum**	**14.93**	**14**	⇓P	**Pn**	**01 33 36.6**	**+1.9**
	baz=14						
Z27A	**Tatum**	**14.93**	**14**	⇓P	**Pn**	**01 33 36.6**	**+1.9**
	baz=14						
Y20A	**Horse Springs,**	**15.01**	**357**	⇓P	**Pn**	**01 33 37.3**	**+1.4**
	baz=15						
Y20A	**Horse Springs,**	**15.01**	**357**	⇓P	**Pn**	**01 33 37.3**	**+1.4**
	baz=15						
Y22A	**Socorro**	**15.03**	**2**	⇑P	**Pn**	**01 33 37.2**	**+1.0**
	baz=15						
Y22A	**Socorro**	**15.03**	**2**	⇑P	**Pn**	**01 33 37.2**	**+1.0**
	baz=15						
Y23A	**Lovelace Mesa,**	**15.08**	**5**	⇓P	**Pn**	**01 33 37.4**	**+0.6**
	baz=15						
Y23A	**Lovelace Mesa,**	**15.08**	**5**	⇓P	**Pn**	**01 33 37.4**	**+0.6**
	baz=15						
Y21A	**Point of Rocks**	**15.10**	**360**	⇓P	**Pn**	**01 33 37.6**	**+0.6**
	baz=15						
Y21A	**Point of Rocks**	**15.10**	**360**	⇓P	**Pn**	**01 33 37.6**	**+0.6**
	baz=15						
131A	**Roby**	**15.21**	**24**	⇑P	**Pn**	**01 33 39.5**	**+1.2**
	baz=15						
131A	**Roby**	**15.21**	**24**	⇑P	**Pn**	**01 33 39.5**	**+1.2**
	baz=15						
Z14A	**Wintersburg**	**15.22**	**343**	⇓P	**Pn**	**01 33 38.3**	**-0.2**
	baz=15						
Z14A	**Wintersburg**	**15.22**	**343**	⇓P	**Pn**	**01 33 38.3**	**-0.2**
	baz=15						
Y25A	**Mesa, Roswell**	**15.23**	**9**	⇑P	**Pn**	**01 33 40.1**	**+1.4**
	baz=15						
Y25A	**Mesa, Roswell**	**15.23**	**9**	⇑P	**Pn**	**01 33 40.1**	**+1.4**
	baz=15						
ABTX	**Abilene, Hawle**	**15.46**	**26**	⇑P	**Pn**	**01 33 42.6**	**+1.0**
	baz=15						
ABTX	**Abilene, Hawle**	**15.46**	**26**	⇑P	**Pn**	**01 33 42.6**	**+1.0**
	baz=15						
Y27A	**Causey**	**15.48**	**14**	⇑P	**Pn**	**01 33 43.8**	**+1.9**
	baz=15						
Y27A	**Causey**	**15.48**	**14**	⇑P	**Pn**	**01 33 43.8**	**+1.9**
	baz=15						
Z30A	**Sanderson Ranc**	**15.50**	**21**	⇓P	**Pn**	**01 33 43.2**	**+1.1**
	baz=15						
Z30A	**Sanderson Ranc**	**15.50**	**21**	⇓P	**Pn**	**01 33 43.2**	**+1.1**
	baz=15						
X21A	**Alamocita Cree**	**15.53**	**359**	⇑P	**Pn**	**01 33 43.5**	**+0.8**
	baz=15						
X21A	**Alamocita Cree**	**15.53**	**359**	⇑P	**Pn**	**01 33 43.5**	**+0.8**
	baz=15						
GLA	**Glamis**	**15.55**	**337**	⇑P	**Pn**	**01 33 43.7**	**+0.8**
	baz=15,SNR=9.6						
GLA	**Glamis**	**15.55**	**337**	⇑P	**Pn**	**01 33 43.7**	**+0.8**
	baz=15,SNR=9.6						
X20A	**Quemado**	**15.65**	**357**	⇑P	**Pn**	**01 33 45.1**	**+0.9**
	baz=15						
X20A	**Quemado**	**15.65**	**357**	⇑P	**Pn**	**01 33 45.1**	**+0.9**
	baz=15						
MSTX	**Muleshoe**	**15.66**	**15**	⇓P	**Pn**	**01 33 45.9**	**+1.7**
	baz=15						
MSTX	**Muleshoe**	**15.66**	**15**	⇓P	**Pn**	**01 33 45.9**	**+1.7**
	baz=15						
Y28A	**McKinney Farm,**	**15.74**	**17**	⇑P	**Pn**	**01 33 46.9**	**+1.6**
	baz=15						
Y28A	**McKinney Farm,**	**15.74**	**17**	⇑P	**Pn**	**01 33 46.9**	**+1.6**
	baz=15						
X18A	**Snowflake**	**15.75**	**353**	⇑P	**Pn**	**01 33 47.2**	**+1.7**
	baz=15						
X18A	**Snowflake**	**15.75**	**353**	⇑P	**Pn**	**01 33 47.2**	**+1.7**
	baz=15						
Y14A	**Wickenburg**	**15.78**	**343**	⇑P	**Pn**	**01 33 46.8**	**+1.1**
	baz=15						
Y14A	**Wickenburg**	**15.78**	**343**	⇑P	**Pn**	**01 33 46.8**	**+1.1**
	baz=15						
SWSC	**Sam W. Stewart**	**15.84**	**334**	⇑P	**Pn**	**01 33 47.7**	**+1.3**
	baz=16						
SWSC	**Sam W. Stewart**	**15.84**	**334**	⇑P	**Pn**	**01 33 47.7**	**+1.3**
	baz=16						
Z31A	**Sharp Cattle R**	**15.88**	**23**	⇑P	**Pn**	**01 33 48.5**	**+1.6**
	baz=16						
Z31A	**Sharp Cattle R**	**15.88**	**23**	⇑P	**Pn**	**01 33 48.5**	**+1.6**
	baz=16						
X16A	**Lo Mia Camp, P**	**15.88**	**348**	⇑P	**Pn**	**01 33 47.1**	**0.0**
	baz=16,SNR=5.5						
X16A	**Lo Mia Camp, P**	**15.88**	**348**	⇑P	**Pn**	**01 33 47.1**	**0.0**
	baz=16,SNR=5.5						
ANMO	**Albuquerque**	**16.06**	**3**	Pn	**Pn**	**01 33 51.1**	**+1.6**
	0.1nm,0.3s,baz=177,slow=12,SNR=7.0						
MONP	**Monument Peak**	**16.06**	**332**	⇑P	**Pn**	**01 33 50.1**	**+0.6**
	baz=16						
MONP	**Monument Peak**	**16.06**	**332**	⇑P	**Pn**	**01 33 50.1**	**+0.6**
	baz=16						
Y12C	**Blythe**	**16.08**	**339**	⇓P	**Pn**	**01 33 50.1**	**+0.7**
	baz=16,SNR=7.4						
Y12C	**Blythe**	**16.08**	**339**	⇓P	**Pn**	**01 33 50.1**	**+0.7**
	baz=16,SNR=7.4						
Z32A	**Haskell**	**16.12**	**25**	⇓P	**Pn**	**01 33 51.0**	**+0.8**
	baz=16						
Z32A	**Haskell**	**16.12**	**25**	⇓P	**Pn**	**01 33 51.0**	**+0.8**
	baz=16						
BC3	**Big Chuckawall**	**16.33**	**336**	⇑P	**Pn**	**01 33 53.7**	**+0.9**
	baz=16,SNR=14						
BC3	**Big Chuckawall**	**16.33**	**336**	⇑P	**Pn**	**01 33 53.7**	**+0.9**
	baz=16,SNR=14						
W24A	**Lazy 6 Ranch,**	**16.41**	**6**	⇓P	**Pn**	**01 33 55.4**	**+1.5**
	baz=16						
W24A	**Lazy 6 Ranch,**	**16.41**	**6**	⇓P	**Pn**	**01 33 55.4**	**+1.5**
	baz=16						
Y31A	**Rekieta

MPMC	**Manual Prospec**	**19.24**	**335**	⇓P		**Pn**	**01 34 29.5**	**+0.8**
	baz=19,SNR=9.0							
R20A	**Redvale**	**19.28**	**358**	⇓P		**P**	**01 34 29.3**	**+1.3**
	baz=19							
R20A	**Redvale**	**19.28**	**358**	⇓P		**P**	**01 34 29.3**	**+1.3**
	baz=19							
ISA	**Isabella**	**19.31**	**332**	⇑P		**Pn**	**01 34 29.8**	**+0.3**
	baz=19							
ISA	**Isabella**	**19.31**	**332**	⇑P		**Pn**	**01 34 29.8**	**+0.3**
	baz=19							
FURC	**Furnace Creek,**	**19.35**	**337**	⇑P		**P**	**01 34 29.4**	**+0.8**
	baz=19							
FURC	**Furnace Creek,**	**19.35**	**337**	⇑P		**P**	**01 34 29.4**	**+0.8**
	baz=19							
R26A	**Arlington**	**19.71**	**10**	⇓P		**P**	**01 34 33.7**	**+1.0**
	baz=19							
R26A	**Arlington**	**19.71**	**10**	⇓P		**P**	**01 34 33.7**	**+1.0**
	baz=19							
NVAR	**Mina Array Bea**	**21.62**	**337**	P		**P**	**01 34 54.0**	**+0.6**
	1.5nm,0.9s,baz=152,slow=12,SNR=8.3							
NVAR				LR		LR	01 42 53.1	
	comp=Z,102nm,18.3s,baz=152,slow=36							
ELK	**Elko**	**22.78**	**345**	P		**P**	**01 35 06.8**	**+0.9**
	0.7nm,0.7s,baz=197,slow=12,SNR=3.2							
ELK				LR		LR	01 43 32.4	
	comp=Z,108nm,18.7s,baz=133,slow=35							
PDAR	**Pinedale Array**	**23.90**	**356**	P		**P**	**01 35 15.2**	**-1.6**
	0.5nm,0.7s,baz=156,slow=12,SNR=4.7							
YBH	**Yreka Blue Hor**	**26.19**	**334**	LR		LR	01 45 24.3	
	comp=Z,104nm,21.4s,baz=167,slow=35							
TKL	**Tuckaleechee C**	**26.89**	**47**	P		**P**	**01 35 43.6**	**-0.1**
	0.9nm,0.5s,baz=219,slow=13,SNR=3.3							
TKL				LR		LR	01 48 11.3	
	comp=Z,71nm,19.2s,baz=248,slow=40							
ULM	**Lac du Bonnet**	**32.70**	**14**	LR		LR	01 50 25.1	
	comp=Z,56nm,20.7s,baz=26,slow=37							
YKA	**Yellowknife Ar**	**43.87**	**355**	LR		LR	01 56 29.7	
	comp=Z,9.5nm,19.9s,baz=155,slow=36							
ILAR	**Eielson Array**	**52.82**	**340**	P		**P**	**01 39 17.4**	**-0.4**
	1.3nm,1.1s,baz=149,slow=6.9,SNR=7.2							
ILAR				LR		LR	02 06 04.3	
	comp=Z,23nm,18.1s,baz=120,slow=41							
PPT	**Papeete**	**54.89**	**231**	P		**P**	**01 39 31.7**	**-1.8**
	34nm,0.7s,baz=22,slow=11,SNR=3.0							
PPT				LR		LR	01 56 31.3	
	comp=Z,137nm,21.4s,baz=42,slow=29							
PPT2	**Papeete2**	**54.90**	**231**	*e*LR		LR	01 55 06.9	
	135nm,26.2s							
TBI	**Tubuai**	**58.56**	**226**	*e*LR		LR	01 56 50.9	
	111nm,27.8s							
URZ	**Urewera**	**90.50**	**230**	LR		LR	02 13 18.0	
	comp=Z,88nm,20.7s,baz=99,slow=29							
WRA	**Warramunga Arr**	**121.87**	**258**	PKP		**PKPdf**	**01 48 55.5**	**-1.9**
	0.7nm,1.0s,baz=73,slow=2.0,SNR=6.0							

ISCJB ***11*** *01:38:45.2±0.9,36°.30N±0°.07×70°.7E±0°.1,h150km, mb3.3/5, Error ellipse: s-maj=12.2km s-min=10.4km az=3.1*

IDC ***11*** *01:38:48.2±5.5,36°.30N×70°.95E,h168km±50km,mb3.1/6, mb1 3.1/11,mb1mx2.9/30,mbtmp3.0/11,MS3.2/1, Ms1 3.2/1,ms1mx2.1/19,Error ellipse: s-maj=39.0km s-min=19.9km az=29.0*

NNC ***11*** *01:38:53.0±5.3,36°.87N×70°.63E,h145km±77km,mb2.8, mpv3.5,Error ellipse: s-maj=44.9km s-min=27.4km az=17.0*

ISC 11 01:38:46.6±1.2,36°.3N±0°.1×71°.0E±0°.1,h150km,n16, σ1⇟30/17,mb3.4/5,5C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.78**	**357**	⇓P	**Pn**	**01 40 23.2**	**-0.4**
	0.6nm,0.3s,baz=179,slow=12,SNR=25						
KK31				⇑S	Sn	01 41 33.9	-5.8
	4.0nm,0.6s,baz=182,slow=21,SNR=4.1						
AAK	**Ala-Archa**	**6.87**	**22**	P	Pn	01 40 28.6	+3.7
	1.4nm,0.3s,baz=160,slow=3.4,SNR=5.7						
AAK				S	**Sn**	**01 41 42.4**	**+0.4**
	1.0nm,0.3s,baz=288,slow=21,SNR=10						
TKM2	**Tokmak 2**	**7.50**	**27**	⇑P	**Pn**	**01 40 34.7**	**+1.4**
	5.4nm,0.6s						
TKM2				⇓S	**Sn**	**01 41 55.0**	**-2.2**
	1.4nm,0.6s						
MKAR	**Makanchi Array**	**13.45**	**35**	P	**Pn**	**01 41 53.4**	**+2.0**
	0.1nm,0.3s,baz=213,slow=12,SNR=3.3						
MKAR				S	**S**	**01 44 30.1**	**-1.8**
	0.1nm,0.3s,baz=171,slow=26,SNR=3.4						
AB31	**Akbulak array**	**15.22**	**332**	⇑P	**Pn**	**01 42 12.9**	**-0.6**
	0.2nm,0.5s,baz=143,slow=12,SNR=4.7						
AB31				⇑S	Sn	01 44 54.6	-7.9
	0.6nm,0.9s						
KURBB	**Kurchatov Arra**	**15.30**	**19**	P	**Pn**	**01 42 16.2**	**+1.7**
	0.0nm,0.3s,baz=207,slow=11,SNR=2.6						
BVAR	**Borovoye Array**	**16.70**	**359**	P	**P**	**01 42 33.0**	**+1.7**
	0.3nm,0.3s,baz=162,slow=8.4,SNR=3.7						
AKTO	**Aktyubinsk**	**16.91**	**331**	⇑P	**P**	**01 42 33.8**	**+0.1**
	2.3nm,0.8s						
AKTO	**Aktyubinsk**	**16.91**	**331**	P	**P**	**01 42 35.1**	**+1.4**
	0.3nm,0.3s,baz=139,slow=8.7,SNR=5.4						
ZALV	**Zalesovo Beam**	**20.09**	**24**	P	**P**	**01 43 08.5**	**+0.3**
	1.0nm,0.5s,baz=218,slow=10,SNR=5.0						
FINES	**FINESS Array B**	**37.61**	**326**	P	**P**	**01 45 46.5**	**+0.2**
	0.4nm,0.4s,baz=127,slow=7.9,SNR=5.7						
ARCES	**ARCESS Array B**	**41.29**	**338**	P	**P**	**01 46 17.0**	**+0.2**
	2.1nm,0.9s,baz=98,slow=6.5,SNR=6.2						
KSRS	**Korea Array**	**44.97**	**71**	LR	LR	02 09 00.4	
	comp=Z,26nm,18.6s,baz=135,slow=40						
TORD	**Torodi Ar. Bea**	**65.68**	**269**	P	**P**	**01 49 14.3**	**-0.9**
	0.2nm,0.4s,baz=44,slow=5.9,SNR=6.9						
WRA	**Warramunga Arr**	**81.93**	**122**	P	**P**	**01 50 49.1**	**-0.5**
	0.2nm,0.4s,baz=323,slow=4.8,SNR=7.4						
ASAR	**Alice Springs**	**84.19**	**125**	P	**P**	**01 51 01.0**	**-0.2**
	0.2nm,0.6s,baz=316,slow=5.2,SNR=4.1						

MEX 11 01:47:47.1±1.0,17°.04N×94°.99W,h111km±13km,MD4.3, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**1.13**	**29**	*i* P	Pn	01 48 08.0	-1.7
TUIG				*i* S	Sn	01 48 25.3	-1.6
HUIG	**Huatulco**	**1.65**	**221**	*i* P	Pn	01 48 13.9	-1.9
HUIG				*i* S	Sn	01 48 36.8	-0.9
TGIG		**1.81**	**98**	*i* P	Pn	01 48 17.2	-0.6
TGIG				*i* S	Sn	01 48 39.6	-1.6
TPIG	**Tehuac#an**	**2.65**	**302**	*i* P	Pn	01 48 27.4	-1.3
TPIG				*i* S	Sn	01 48 59.8	-0.9
CCIG	**Comitan**	**2.84**	**105**	*i* P	Pn	01 48 31.0	-0.2
CCIG				*i* S	Sn	01 49 02.7	-2.4
PNIG	**Pinotepa**	**3.07**	**258**	*i* P	Pn	01 48 32.7	-1.4
PNIG				*i* S	Sn	01 49 08.6	-1.8
PPM	**Popocatepetl**	**4.00**	**301**	*i* P	Pn	01 48 46.4	-0.8
PPM				*i* S	Sn	01 49 32.3	-1.5
YAIG	**Yautepec**	**4.28**	**296**	*i* P	Pn	01 48 50.1	-0.4
YAIG				*i* S	Sn	01 49 38.1	-1.5
ARIG	**Puente Sto Nin**	**5.25**	**284**	*i* P	Pn	01 49 02.6	-0.8
ARIG				*i* S	Sn	01 50 00.7	-2.1

ISCJB ***11*** *01:54:30.4±0.3,14°.03S±0°.06×13°.90W±0°.05,h10km, mb4.6/54,MS4.4/26,Error ellipse: s-maj=9.0km s-min=6.6km az=149.9*

MOS ***11*** *01:54:30.4±0.9,14°.03S×13°.94W,h10km,mb5.1/18,Error ellipse: s-maj=13.5km s-min=10.3km az=53.0*

IDC ***11*** *01:54:30.6±0.5,14°.09S×13°.96W,h0km,mb4.3/26, mb1 4.4/26,mb1mx4.3/30,mbtmp4.3/26,MS4.3/20, Ms1 4.3/20,ms1mx4.2/29,Error ellipse: s-maj=15.8km s-min=12.1km az=152.0*

BJI ***11*** *01:54:31.9,14°.00S×13°.90W,h10km,mB5.5/8,Ms5.0/6, Ms7 4.7/8*

NEIC ***11*** *01:54:32.0±0.2,14°.05S×13°.92W,h10km,mb4.9/36,Error ellipse: s-maj=6.8km s-min=5.0km az=152.0*

GCMT ***11*** *01:54:37.0±0.2,14°.12S×13°.80W,h12km,MW5.1, Moment Tensor Solution. s40,c61; s66,c108; Moment tensor: Scale 10¹⁶Nm; Mrr=1.53±.15; Mθθ0.00±.13; Mϕϕ1.52±.16; Mrθ-0.18±.36; Mθϕ-4.81±.11; Mϕr-1.16±.39; Best double couple: Mo5.10000×10¹⁶ NP1:ϕ95.00000°, δ73.00000°,λ-172.00000°. NP2:ϕ3.00000°,δ82.00000°, λ-17.00000°. Principal axes: T 5.7100, Plg6.0000°, Azm50.0000°; N -1.3300, Plg71.0000°, Azm158.0000°; P -4.3900, Plg18.0000°, Azm318.0000°; Data Used: IU II IC G CN.*

ISC 11 01:54:31.8±0.3,14°.08S±0°.07×13°.90W±0°.06,h10km,n131, σ1⇟31/135,mb4.7/54,MS4.4/26,2C-1D,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**6.12**	**356**	*e*Pn	**Pn**	**01 56 02.3**	**-0.1**
DBIC	**Dimbokro**	**22.48**	**24**	*e*P	**P**	**01 59 31.7**	**+0.2**
	27nm,0.8s						
DBIC	**Dimbokro**	**22.48**	**24**	P	**P**	**01 59 31.9**	**+0.4**
	23nm,0.8s,baz=190,slow=9.3,SNR=14						
DBIC				LR	LR	02 06 08.9	
	comp=Z,901nm,19.8s,baz=184,slow=31						
RCBR	**Riachuelo**	**23.15**	**289**	*e*P	**P**	**01 59 39.3**	**+0.6**
	43nm,1.0s						
RCBR	**Riachuelo**	**23.15**	**289**	P	**P**	**01 59 38.2**	**-0.4**
	18nm,0.9s,baz=100,slow=11,SNR=4.7						
RCBR				LR	LR	02 05 58.5	
	comp=Z,310nm,19.1s,baz=100,slow=30						
BBTS	**Babate**	**28.67**	**355**	LR	LR	02 10 13.0	
	comp=Z,553nm,18.0s,baz=262,slow=33						
TSUM	**Tsumeb**	**30.56**	**104**	*e*P	**P**	**02 00 46.7**	**+0.6**
	8.2nm,1.3s						
TOA0	**Torodi Ar. Sit**	**31.15**	**30**	*e*P	**P**	**02 00 49.8**	**-1.2**
TORD	**Torodi Ar. Bea**	**31.15**	**30**	P	**P**	**02 00 50.3**	**-0.7**
TORD	**Torodi Ar. Bea**	**31.15**	**30**	P	**P**	**02 00 50.3**	**-0.7**
	8.8nm,1.1s,baz=213,slow=8.4,SNR=46						
TORD				LR	LR	02 11 11.5	
	comp=Z,1μm,19.9s,baz=205,slow=32						
BDFB	**Brasilia**	**32.99**	**263**	P	**P**	**02 01 07.0**	**-0.4**
BDFB	**Brasilia**	**32.99**	**263**	P	**P**	**02 01 07.0**	**-0.4**
	2.9nm,0.8s,baz=39,slow=7.6,SNR=3.7						
BDFB				LR	LR	02 11 51.4	
	comp=Z,849nm,20.2s,baz=315,slow=32						
LBTB	**Lobatse**	**38.65**	**112**	*e*P	**P**	**02 01 57.1**	**+1.2**
	5.5nm,1.0s						
LBTB	**Lobatse**	**38.65**	**112**	P	**P**	**02 01 57.4**	**+1.5**
	3.4nm,0.8s,baz=292,slow=11,SNR=3.2						
BOSA	**Boshof**	**39.04**	**118**	*e*P	**P**	**02 01 59.5**	**+0.4**
	8.7nm,1.0s						
BOSA	**Boshof**	**39.04**	**118**	P	**P**	**02 01 60.0**	**+0.8**
	6.0nm,1.0s,baz=303,slow=2.7,SNR=6.0						
LSZ	**Lusaka**	**40.69**	**97**	*e*P	**P**	**02 02 12.8**	**-0.2**
	29nm,1.4s						
LSZ	**Lusaka**	**40.69**	**97**	P	**P**	**02 02 13.2**	**+0.3**
	7.4nm,0.9s,baz=299,slow=4.9,SNR=15						
TAM	**Tamanrasset**	**41.29**	**28**	*e*P	**P**	**02 02 17.8**	**0.0**
TAM				pmax	pmax		
	comp=Z,8.0nm,1.6s						
TAM	**Tamanrasset**	**41.29**	**28**	*e*P	**P**	**02 02 17.8**	**0.0**
	comp=Z,8.1nm,1.6s						
CPUP	**Villa Florida**	**42.35**	**246**	P	**P**	**02 02 26.4**	**0.0**
CPUP	**Villa Florida**	**42.35**	**246**	P	**P**	**02 02 26.4**	**0.0**
	comp=Z,3.8nm,0.8s,baz=65,slow=12,SNR=13						
CPUP				LR	LR	02 17 59.9	
	comp=Z,914nm,18.2s,baz=104,slow=33						
SIV	**San Ignacio**	**45.53**	**261**	P	**P**	**02 02 53.2**	**+1.2**
SIV	**San Ignacio**	**45.53**	**261**	P	**P**	**02 02 53.2**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=120,slow=10,SNR=6.8						
SAML	**Samuel**	**48.49**	**270**	*e*P	**P**	**02 03 15.8**	**+0.6**
	comp=Z,10nm,1.1s						
TRQA	**Tornquist**	**48.69**	**231**	*e*P	**P**	**02 03 16.0**	**-0.5**
	comp=Z,39nm,1.5s						
KMBO	**Kilima Mbogo**	**52.17**	**80**	*e*P	**P**	**02 03 44.4**	**+0.9**
	comp=Z,11nm,1.2s						
KMBO	**Kilima Mbogo**	**52.17**	**80**	P	**P**	**02 03 44.8**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=248,slow=12,SNR=6.2						
KMBO				LR	LR	02 23 12.2	
	comp=Z,551nm,18.1s,baz=255,slow=33						
LPAZ	**La Paz**	**52.26**	**260**	*e*P	**P**	**02 03 44.7**	**+0.2**
	comp=Z,24nm,2.1s						
LPAZ	**La Paz**	**52.26**	**260**	P	**P**	**02 03 44.8**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=96,slow=11,SNR=5.6						
LPAZ				LR	LR	02 24 16.5	
	comp=Z,358nm,21.6s,baz=241,slow=34						
CFAA	**Coronel Fontan**	**52.50**	**241**	P	**P**	**02 03 44.3**	**-1.1**
CFAA	**Coronel Fontan**	**52.50**	**241**	P	**P**	**02 03 44.3**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=70,slow=5.8,SNR=11						
LVC	**Limon Verde**	**52.66**	**252**	*e*P	**P**	**02 03 47.3**	**+0.3**
	comp=Z,16nm,1.3s						
KEST	**Kesra**	**54.20**	**23**	*e*P	**P**	**02 03 59.3**	**+1.5**
KEST	**Kesra**	**54.20**	**23**	P	**P**	**02 03 59.3**	**+1.5**
	comp=Z,3.6nm,0.9s,baz=209,slow=4.1,SNR=6.5						
ESDC	**Sonseca Array**	**54.27**	**9**	P	**P**	**02 03 58.8**	**+0.6**
ESDC				PcP	**PcP**	**02 05 03.5**	**+1.2**
ESDC	**Sonseca Array**	**54.27**	**9**	P	**P**	**02 03 58.8**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=183,slow=8.2,SNR=4.9						
ESDC				PcP	**PcP**	**02 05 03.5**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=191,slow=3.6,SNR=7.1						
ESDC				LR	LR	02 25 38.1	
	comp=Z,241nm,20.0s,baz=185,slow=34						
LCO	**Las Campanas**	**54.41**	**244**	*e*P	**P**	**02 04 01.6**	**+1.8**
	comp=Z,32nm,0.9s						
PLCA	**A Flores**	**55.77**	**230**	LR	LR	02 23 49.7	
	comp=Z,510nm,20.6s,baz=12,slow=32						
SNAA	**Sanae**	**57.95**	**176**	*e*P	**P**	**02 04 24.0**	**-0.2**
	comp=Z,11nm,1.1s						
SNAA	**Sanae**	**57.95**	**176**	P	**P**	**02 04 24.1**	**0.0**
	comp=Z,2.6nm,1.0s,baz=354,slow=9.0,SNR=4.5						
TIP	**Timpagrande**	**60.22**	**27**	*e*P	**P**	**02 04 39.9**	**-0.3**
	comp=Z,25nm,1.3s						
SDV	**Santo Domingo**	**60.74**	**289**	*e*P	**P**	**02 04 45.3**	**+0.8**
	comp=Z,17nm,0.9s						
AQU	**L'Aquila**	**61.52**	**23**	*e*P	**P**	**02 04 49.9**	**+0.9**
	comp=Z,34nm,1.1s						
ROSC	**El Rosal**	**62.82**	**283**	*e*P	**P**	**02 04 59.3**	**+0.6**
SYO	**Syowa Base**	**64.31**	**161⇑**	*e*P	**P**	**02 05 05.0**	**-2.2**
SYO	**Syowa Base**	**64.31**	**161⇑**	*es*P	sP	02 05 11.3	-0.3
OTAV	**Otavalo**	**65.42**	**277**	*e*P	**P**	**02 05 16.0**	**0.0**
	comp=Z,9.6nm,1.1s						
MMAI	**Mount Meron Ar**	**66.39**	**44**	P	**P**	**02 05 22.8**	**+1.5**
MMAI	**Mount Meron Ar**	**66.39**	**44**	P	**P**	**02 05 22.8**	**+1.5**
	comp=Z,3.0nm,0.8s,baz=224,slow=4.7,SNR=5.6						
ASF	**Jabal al Asfar**	**66.92**	**46**	P	**P**	**02 05 26.4**	**+1.6**
ASF	**Jabal al Asfar**	**66.92**	**46**	P	**P**	**02 05 26.4**	**+1.6**
	comp=Z,3.6nm,0.8s						
GERES	**GERESS Array B**	**67.26**	**19**	P	**P**	**02 05 26.5**	**0.0**
GERES	**GERESS Array B**	**67.26**	**19**	P	**P**	**02 05 26.5**	**0.0**
	comp=Z,0.6nm,0.8s,baz=264,slow=1.3,SNR=4.8						
GERES				LR	LR	02 34 35.5	
	comp=Z,431nm,19.1s,baz=232,slow=36						
VYHS	**Vyhne**	**68.75**	**23**	*e*P	P	02 05 42.1	+6.3
VYHS				pmax	pmax		
	comp=N,10.0nm,0.6s						
VYHS	**Vyhne**	**68.75**	**23**	*e*P	**P**	**02 05 36.1**	**+0.3**
VYHS				*ep*P	P	02 05 42.1	+6.3
MORC	**Moravsky Berou**	**69.35**	**21**	*e*P	**P**	**02 05 39.1**	**-0.5**
MORC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MORC	**Moravsky Berou**	**69.35**	**21**	*e*P	**P**	**02 05 39.1**	**-0.5**
	comp=Z,4.9nm,1.1s						
KECS	**Kecovo**	**69.37**	**24**	*e*P	P	02 05 47.4	+7.8
KECS	**Kecovo**	**69.37**	**24**	*e*P	**P**	**02 05 40.2**	**+0.6**
KECS				*ep*P	P	02 05 47.4	+7.8
BR131	**Keskin Array S**	**69.43**	**37**	*e*P	**P**	**02 05 41.0**	**+0.6**
	comp=Z,12nm,1.3s						
BRTR	**Keskin Array B**	**69.43**	**37**	P	**P**	**02 05 40.9**	**+0.5**
BRTR	**Keskin Array B**	**69.43**	**37**	P	**P**	**02 05 40.9**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=204,slow=6.3,SNR=14						
BRTR				LR	LR	02 37 03.5	
	comp=Z,78nm,21.6s,baz=62,slow=37						
UZH	**Uzhgorod**	**70.20**	**25**	*e*P	**P**	**02 05 45.0**	**+0.2**
UZH				*i*		02 05 50.8	
KOLS	**Kolonicke sedl**	**70.44**	**24**	*e*P	P	02 05 52.9	+6.7
KOLS	**Kolonicke sedl**	**70.44**	**24**	*ep*P	P	02 05 52.9	+6.7
BUR08	**Bucovina Ar. S**	**70.66**	**27**	*e*P	**P**	**02 05 47.4**	**-0.4**
LVV	**L'vov**	**71.84**	**25**	*e*P	**P**	**02 05 54.5**	**-0.2**
LVV				*e*		02 06 00.9	
LVV				MLR	MLR		
	comp=Z,230nm,20.0s						
LVV				MLR	MLR		
	comp=N,200nm,19.0s						
LVV				MLR	MLR		
	comp=E,250nm,19.0s						
MAW	**Mawson**	**72.04**	**157**	P	**P**	**02 05 55.7**	**0.0**
MAW	**Mawson**	**72.04**	**157**	P	**P**	**02 05 55.7**	**0.0**
	comp=E,3.5nm,0.9s,baz=298,slow=9.6,SNR=6.6						
MAW				LR	LR	02 30 16.9	
	comp=E,144nm,19.1s,baz=155,slow=30						
KIEV	**Kiev**	**74.69**	**27**	*e*P	**P**	**02 06 11.1**	**-0.4**
KIEV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KIEV	**Kiev**	**74.69**	**27**	*e*P	**P**	**02 06 11.1**	**-0.4**
	comp=Z,9.6nm,1.0s						
QSPA	**South Pole Qui**	**76.08**	**180**	*e*P	**P**	**02 06 20.3**	**+0.8**
	comp=Z,26nm,1.4s						
GNI	**Garni**	**76.59**	**42**	*e*P	**P**	**02 06 21.5**	**-1.4**
	comp=Z,42nm,1.8s						
KBZ	**Khabaz**	**77.36**	**38**	P	**P**	**02 06 27.7**	**+0.8**
KBZ	**Khabaz**	**77.36**	**38**	P	**P**	**02 06 27.7**	**+0.8**
KBZ	**Khabaz**	**77.36**	**38**	P	**P**	**02 06 27.7**	**+0.8**
	comp=Z,0.9nm,0.4s,baz=232,slow=4.8,SNR=3.7						
KBZ				LR	LR	02 44 17.9	
	comp=Z,55nm,18.7s,baz=216,slow=39						
NB2	**NORSAR Subarra**	**77.50**	**12**	P	**P**	**02 06 27.6**	**+0.3**
	comp=Z,5.3nm,1.0s,baz=204,slow=6.5						
NOA	**NORSAR Array B**	**77.50**	**12**	P	**P**	**02 06 28.2**	**+0.8**
NOA	**NORSAR Array B**	**77.50**	**12**	P	**P**	**02 06 28.2**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=207,slow=5.8,SNR=6.3						
NOA				LR	LR	02 42 00.2	
	comp=Z,147nm,18.7s,baz=205,slow=37						
VORD	**Divnogorie**	**79.61**	**31**	*e*P	**P**	**02 06 38.5**	**-0.6**
VORD				pmax	pmax		
	comp=Z,20nm,1.8s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.5s						
VSR	**Storozhevoye**	**79.70**	**31**	*e*P	**P**	**02 06 38.8**	**-0.8**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR				pmax	pmax		
	comp=N,10.0nm,1.5s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.6s						
BINY	**Binghamton**	**79.88**	**318**	*e*P	**P**	**02 06 41.7**	**+0.8**
FINES	**FINESS Array B**	**81.64**	**18**	P	**P**	**02 06 50.0**	**+0.2**
FINES	**FINESS Array B**	**81.64**	**18**	P	**P**	**02 06 50.0**	**+0.2**
	comp=E,4.8nm,0.6s,baz=199,slow=4.3,SNR=31						
FINES				LR	LR	02 43 57.4	
	comp=E,184nm,20.2s,baz=223,slow=36						
SCHQ	**Schefferville**	**81.88**	**332**	*e*P	**P**	**02 06 51.8**	**+0.5**
	comp=E,9.0nm,1.1s						
SCHQ	**Schefferville**	**81.88**	**332**	P	**P**	**02 06 51.6**	**+0.4**
	comp=E,5.5nm,0.9s,baz=146,slow=5.5,SNR=7.2						
SCHQ				LR	LR	02 35 51.5	
	comp=E,79nm,21.2s,baz=95,slow=30						
ALLY	**Alegheny Colle**	**82.36**	**316**	*e*P	**P**	**02 06 54.5**	**+0.3**
	comp=E,14nm,0.9s						
LRAL	**Lakeview Retre**	**83.93**	**306**	*e*P	**P**	**02 07 02.1**	**-0.3**
	comp=E,9.3nm,1.1s						
WCI	**Wyandotte Cave**	**85.29**	**311**	*e*P	**P**	**02 07 08.4**	**-0.8**
WCI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WCI	**Wyandotte Cave**	**85.29**	**311**	*e*P	**P**	**02 07 08.4**	**-0.8**
	comp=Z,9.0nm,1.0s						
WVT	**Waverly**	**85.67**	**309**	*e*P	**P**	**02 07 10.2**	**-0.9**
WVT				pmax	pmax		
	comp=Z,7.0nm,0.9s						
WVT	**Waverly**	**85.67**	**309**	*e*P	**P**	**02 07 10.2**	**-0.9**
	comp=Z,6.9nm,0.9s						
OLIL	**Olney**	**86.79**	**311**	*e*P	**P**	**02 07 15.8**	**-0.7**
	comp=Z,16nm,1.0s						
SIUC	**Southern Illin**	**87.26**	**310**	*e*P	**P**	**02 07 17.8**	**-1.1**
	comp=Z,12nm,1.0s						
ARCES	**ARCESS Array B**	**87.85**	**13**	P	**P**	**02 07 21.1**	**0.0**
ARCES	**ARCESS Array B**	**87.85**	**13**	P	**P**	**02 07 21.1**	**0.0**
	comp=Z,1.1nm,0.6s,baz=216,slow=3.7,SNR=9.0						
SBA	**Scott Base**	**88.24**	**180**	*e*P	**P**	**02 07 24.6**	**+1.7**
SBA				pmax	pmax		
	comp=Z,15nm,1.4s						
SBA	**Scott Base**	**88.24**	**180**	*e*P	**P**	**02 07 24.6**	**+1.7**
	comp=Z,15nm,1.4s						
VNDA	**Vanda**	**88.54**	**179**	LR	LR	02 41 33.6	
	comp=Z,205nm,20.2s,baz=183,slow=32						
JFWS	**Jewell Farm**	**89.76**	**314**	*e*P	**P**	**02 07 29.9**	**-0.7**
JFWS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
JFWS	**Jewell Farm**	**89.76**	**314**	*e*P	**P**	**02 07 29.9**	**-0.7**
	comp=Z,8.5nm,0.8s						
ABKAR	**Akbulak array**	**90.32**	**39**	*e*P	**P**	**02 07 33.2**	**+0.2**
	comp=Z,4.8nm,1.0s						
KSU1	**Kansas State U**	**93.21**	**309**	*e*P	**P**	**02 07 46.1**	**-0.6**
	comp=Z,7.7nm,0.9s						
JCT	**Junction City**	**93.56**	**300**	*e*P	**P**	**02 07 48.5**	**-0.1**
JCT				pmax	pmax		
	comp=Z,8.0nm,0.8s						
JCT	**Junction City**	**93.56**	**300**	*e*P	**P**	**02 07 48.5**	**-0.1**
	comp=Z,7.7nm,0.8s						
WMOK	**Wichita Mounta**	**93.78**	**305**	*e*P	**P**	**02 07 48.8**	**-0.7**
WMOK	**Wichita Mounta**	**93.78**	**305**	*e*P	**P**	**02 07 48.8**	**-0.7**
ECSD	**EROS Data Cent**	**94.44**	**314**

MDJ	**Mudanjiang**	**136.57**	**38**	PKP	**PKPdf**	**02 13 53.7**	**-0.7**	
MDJ				PP	**PP**	**02 16 35.4**	**-0.4**	
MDJ				PKS	PKSdf	02 17 24.3	-6.2	
MDJ				AMB	AMB			
	comp=Z,130nm,5.0s							
MDJ				LR	LR			
	comp=N,74nm,27.8s							
MDJ				LR	LR			
	comp=E,70nm,28.9s							
MDJ				LR	LR			
	comp=Z,59nm,30.0s							
MAJO	**Matsushiro**	**146.50**	**43**	*e*PKIKP	**PKPdf**	**02 14 11.8**	**-0.6**	
MAJO	**Matsushiro**	**146.50**	**43**	*e*PKPbc	**PKPdf**	**02 14 11.8**	**-0.6**	

IDC 11 01:54:47.9±11.0, 18°44.8S×175°34.8W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/19, mbtmp4.1/4, Error ellipse: s-maj=348.1km s-min=42.2km az=129.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.94**	**260**	P	P	02 03 20.9	+0.1
	1.0nm,0.3s,baz=96,slow=7.6,SNR=57						
ASAR	**Alice Springs**	**47.00**	**255**	P	P	02 03 20.9	-0.4
	1.9nm,0.6s,baz=92,slow=7.7,SNR=23						
FITZ	**Fitzroy Crossi**	**55.35**	**260**	P	P	02 04 24.1	0.0
	1.7nm,0.9s,baz=84,slow=9.2,SNR=5.3						
PETK	**Petropavlovsk-**	**74.84**	**344**	P	P	02 06 30.0	0.0
	1.5nm,0.7s,baz=165,slow=6.0,SNR=3.7						

NIED ***11*** *02:00:00, 30.50N×142.30E, h5km, Mw4.4 Best double couple: M0 4.22000×10^15 NP1: φs 330.00000°, δ 81.00000°, λ -90.00000°. NP2: φs 152.00000°, δ 9.00000°, λ -88.00000°.*

IDC ***11*** *02:00:41.7±0.5, 30.33N×142.06E, h0km, mb4.3/20, mb1 4.5/21, mb1mx4.4/25, mbtmp4.3/21, ML3.4/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/43, Error ellipse: s-maj=17.6km s-min=14.5km az=100.0*

JMA ***11*** *02:00:43.8±0.2, 30.51N×142.31E, h34km, M4.4*

MOS ***11*** *02:00:44.7±0.8, 30.29N×142.04E, h33km, mb4.7/40, Error ellipse: s-maj=12.3km s-min=7.2km az=115.5*

BJI ***11*** *02:00:44.5, 30.30N×142.00E, h31km, mB4.7/13, mb4.5/24, Ms4.2/7, Ms7 3.9/8*

NEIC ***11*** *02:00:46.5±0.2, 30.33N×142.05E, mb4.6/30, MW4.3(NIED), Error ellipse: s-maj=4.5km s-min=4.0km az=151.0*

ISC 11 02:00:46.5±0.6, 30°41N±0.05×142°10E±0.06, h30km±3km, h30km:pP-P, n274, c0998/297, mb4.5/61, MS3.9/8, 77C-57D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.30**	**179**	*e*S	**Sn**	**02 02 14.8**	**+0.5**
JHJ2	**Mitsune**	**3.33**	**325**	*e*S	**Sn**	**02 02 15.8**	**+0.8**
JHHJ	**Haha-jima-NKT**	**3.76**	**179**	P	**Pn**	**02 01 43.2**	**+0.7**
BSO1	**Boso 1**	**4.34**	**348**	P	**Pn**	**02 01 48.8**	**-1.1**
BSO1				*e*S	**Sn**	**02 02 38.6**	**-0.7**
BSO3	**Boso 3**	**4.58**	**343**	P	**Pn**	**02 01 53.0**	**-0.5**
BSO3				*e*S	**Sn**	**02 02 45.3**	**-0.3**
JOD2	**Odawara 2**	**5.47**	**333**	P	**Pn**	**02 02 06.0**	**+0.1**
JOD2				*e*S	**Sn**	**02 03 07.2**	**-0.6**
JRY	**Ryogami san**	**6.20**	**335**	P	**Pn**	**02 02 15.8**	**-0.3**
JRY				*e*S	**Sn**	**02 03 25.9**	**-0.1**
MAJO	**Matsushiro**	**6.93**	**333**	*e*P	**Pn**	**02 02 26.5**	**+0.5**
MAJO	**Matsushiro**	**6.93**	**333**	*e*Pn	**Pn**	**02 02 26.5**	**+0.5**
MAT	**Matsushiro**	**6.93**	**333**	P	**Pn**	**02 02 26.1**	**+0.1**
MAT				S	**Sn**	**02 03 44.6**	**+0.7**
JMK	**Ichinoseki**	**8.56**	**355**	P	Pn	02 02 44.4	-3.9
JMK				*e*S	Sn	02 04 16.9	-6.9
JNU	**Nakatsue**	**9.93**	**289**	LR	LR	02 06 24.8	
	comp=Z,99nm,21.2s,baz=62,slow=35						
ASAJ	**Asahikawa**	**13.69**	**2**	LR	LR	02 09 03.6	
	comp=Z,85nm,19.5s,baz=178,slow=36						
KSRS	**Korea Array**	**13.70**	**305**	Pn	**Pn**	**02 03 59.5**	**+0.8**
	0.2nm,0.3s,baz=117,slow=14,SNR=9.1						
KSAR	**Wonju Array Be**	**13.72**	**305**	Pn	**Pn**	**02 03 59.5**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**13.93**	**11**	*c iP*	P	02 04 17.8	+8.3
YUK				MLR	MLR		
	comp=N,108nm,14.0s						
YUK				MLR	MLR		
	comp=Z,151nm,14.0s						
YUK				MLR	MLR		
	comp=E,198nm,14.0s						
USRK	**Ussuriysk Arra**	**15.93**	**333**	Pn	**Pn**	**02 04 25.5**	**-2.8**
	comp=E,0.1nm,0.3s,baz=158,slow=13,SNR=4.1						
YSS	**Yuzh-Sakhalins**	**16.53**	**2**	*e*P	**Pn**	**02 04 31.6**	**-4.5**
MDJ	**Mudanjiang**	**17.28**	**329**	*e*Pn	**Pn**	**02 04 45.9**	**+0.4**
	comp=E,10nm,0.8s						
CN2	**Changchun**	**18.80**	**320**	*e*P	**P**	**02 05 01.4**	**-2.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,100nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,12.0s						
CN2				LR	LR		
	comp=E,100nm,12.0s						
CN2				LR	LR		
	comp=Z,300nm,13.0s						
HABR	**Khabarovsk**	**18.83**	**345**	*e*P	**Pn**	**02 05 08.3**	**+3.9**
HABR				pmax	pmax		
	comp=E,11nm,0.6s						
HABR				pmax	pmax		
	comp=Z,18nm,0.9s						
HABR				pmax	pmax		
	comp=N,27nm,1.5s						
HABR				MLR	MLR		
	comp=Z,50nm,14.0s						
YHNB	**Yeheng**	**19.23**	**258**	*e*P	**P**	**02 05 07.6**	**-0.9**
	comp=Z,18nm,0.8s						
SSLB	**Suanglung**	**19.93**	**256**	*e*P	**P**	**02 05 15.8**	**-0.2**
	comp=Z,30nm,1.0s						
BJI	**Beijing**	**23.19**	**302**	P	**P**	**02 05 47.8**	**-2.9**
BJI				pmax	pmax		
	comp=Z,18nm,1.1s						
BJI				LR	LR		
	comp=N,97nm,18.1s						
BJI				LR	LR		
	comp=E,210nm,17.1s						
BJI				LR	LR		
	comp=Z,94nm,16.0s						
HIA	**Hailar**	**25.32**	**324**	*e*P	**P**	**02 06 10.4**	**-0.2**
	comp=Z,13nm,0.7s						
PETK	**Petropavlovsk-**	**25.39**	**22**	LR	LR	02 17 25.7	
	comp=Z,31nm,18.7s,baz=223,slow=39						
HHC	**Hu-ho-hao-te**	**26.80**	**301**	*e*P	**P**	**02 06 26.2**	**+2.2**
HHC				pP	**pP**	**02 06 33.8**	**+1.1**
HHC				sP	**sP**	**02 06 36.7**	**+0.3**
HHC				PP	**PnPn**	**02 07 11.6**	**+5.6**
HHC				S	**S**	**02 10 58.1**	**-0.2**
HHC				sS	**sS**	**02 11 09.9**	**-2.8**
HHC				SS	**SnSn**	**02 12 11.2**	**+7.6**
HHC				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC				pmax	pmax		
	comp=Z,78nm,5.2s						
HHC				LR	LR		
	comp=N,200nm,13.1s						
HHC				LR	LR		
	comp=E,470nm,14.2s						
HHC				LR	LR		
	comp=Z,190nm,13.6s						
CLNS	**Chul'man**	**29.04**	**340**	*e*P	**P**	**02 06 44.3**	**+0.5**
CLNS				pmax	pmax		
	comp=Z,12nm,1.3s						
CLNS				pmax	pmax		
	comp=N,9.0nm,1.3s						
CLNS				pmax	pmax		
	comp=E,2.0nm,0.6s						
SONM	**Songino Array**	**32.35**	**313**	P	**P**	**02 07 13.5**	**+0.3**
SONM				PcP	**PcP**	**02 10 01.1**	**+0.6**
SONM	**Songino Array**	**32.35**	**313**	P	**P**	**02 07 13.5**	**+0.3**
	comp=E,2.9nm,0.7s,baz=123,slow=7.9,SNR=12						
SONM				PcP	**PcP**	**02 10 01.1**	**+0.6**
	comp=E,0.8nm,1.0s,baz=184,slow=3.9,SNR=3.8						
CD2	**Chengdu**	**32.88**	**281**	P	P	02 07 11.6	-6.4
CD2				pP	pP	02 07 21.1	-5.6
CD2				sP	sP	02 07 25.1	-5.3
CD2				PP	PnPn	02 08 17.0	-10
CD2				PcP	**PcP**	**02 10 02.7**	**+0.5**
CD2				S	S	02 12 17.9	-16
CD2				sS	sS	02 12 33.9	-14
CD2				SS	SnSn	02 14 09.1	-23
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,100nm,5.2s						
CD2				LR	LR		
	comp=Z,170nm,11.4s						
SEY	**Seymchan**	**33.21**	**9**	*e*P	P	02 07 30.3	+10
ZAK	**Zakamensk**	**35.13**	**316**	*e*P	**P**	**02 07 38.1**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
TLY	**Talaya**	**35.38**	**318**	*e*P	**P**	**02 07 40.6**	**+1.2**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.4s						
TLY				MLR	MLR		
	comp=Z,108nm,16.0s						
GTA	**Gaotai**	**35.55**	**296**	*e*P	**P**	**02 07 39.8**	**-1.4**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BILL	**Bilibino**	**40.27**	**14**	*e*P	P	02 08 28.5	+8.1
BILL				pmax	pmax		
	comp=Z,5.0nm,1.7s						
CHTO	**Chiang Mai**	**40.67**	**264**	*e*P	**P**	**02 08 23.3**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CHTO	**Chiang Mai**	**40.67**	**264**	*e*P	**P**	**02 08 23.3**	**-1.1**
	comp=Z,3.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**40.82**	**263**	P	**P**	**02 08 24.8**	**-0.8**
CMAR				PcP	**PcP**	**02 10 28.0**	**+1.7**
CMAR	**Chiang Mai Arr**	**40.82**	**263**	P	**P**	**02 08 24.8**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=63,slow=5.7,SNR=6.8						
CMAR				PcP	**PcP**	**02 10 28.0**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=84,slow=1.4,SNR=4.4						
CMAR				LR	LR	02 27 28.8	
	comp=Z,53nm,18.9s,baz=170,slow=39						
HVS	**Khovu-Aksy**	**41.19**	**314**	*e*P	**P**	**02 08 28.3**	**-0.1**
HVS				pmax	pmax		
	comp=Z,29nm,0.8s						
TIXI	**Tiksi**	**41.92**	**354**	*e*P	P	02 08 40.1	+6.2
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.7s						
ZALV	**Zalesovo Beam**	**46.98**	**317**	P	**P**	**02 09 14.3**	**-0.3**
ZALV						02 10 46.6	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**46.98**	**317**	P	**P**	**02 09 14.3**	**-0.3**
ZALV				PcP	**PcP**	**02 10 46.5**	**-0.1**
ZALV	**Zalesovo Beam**	**46.98**	**317**	P	**P**	**02 09 14.3**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=93,slow=8.9,SNR=4.8						
ZALV				PcP	**PcP**	**02 10 46.5**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=109,slow=3.7,SNR=5.4						
MK31	**Makanchi Array**	**48.36**	**307**	*e*P	**P**	**02 09 24.8**	**-0.7**
MK31	**Makanchi Array**	**48.36**	**307**	*e*P	**P**	**02 09 24.8**	**-0.7**
MKAR	**Makanchi Array**	**48.36**	**307**	*ce*P	**P**	**02 09 25.2**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	**48.36**	**307**	*e*P	**P**	**02 09 25.4**	**-0.1**
MKAR	**Makanchi Array**	**48.36**	**307**	P	**P**	**02 09 25.3**	**-0.2**
	comp=Z,2.9nm,0.6s,baz=91,slow=9.5,SNR=39						
WRAB	**Tennant Creek**	**50.60**	**189**	*e*P	**P**	**02 09 40.9**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WRAB	**Tennant Creek**	**50.60**	**189**	*e*P	**P**	**02 09 40.9**	**-1.8**
	comp=Z,6.4nm,0.7s						
WRA	**Warramunga Arr**	**50.61**	**189**	P	**P**	**02 09 41.0**	**-1.8**
WRA	**Warramunga Arr**	**50.61**	**189**	P	**P**	**02 09 41.0**	**-1.8**
	comp=Z,7.9nm,0.7s,baz=8.5,slow=7.8,SNR=71						
FITZ	**Fitzroy Crossi**	**50.76**	**200**	P	**P**	**02 09 43.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**50.76**	**200**	P	**P**	**02 09 43.0**	**-0.9**
	comp=Z,3.3nm,0.9s,baz=3.8,slow=4.7,SNR=7.0						
OHAK	**Old Harbor**	**51.39**	**39**	*e*P	**P**	**02 09 47.8**	**-0.4**
	comp=Z,7.8nm,0.9s						
KDAK	**Kodiak Island**	**51.80**	**38**	P	**P**	**02 09 51.1**	**-0.1**
KDAK	**Kodiak Island**	**51.80**	**38**	P	**P**	**02 09 51.1**	**-0.1**
	comp=Z,4.1nm,0.7s,baz=266,slow=5.2,SNR=6.3						
KSH	**Kashi**	**53.87**	**299**	P	P	02 10 10.3	+3.2
KSH				sP	sP	02 10 19.6	-0.2
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MCK	**McKinley**	**53.92**	**31**	*e*P	**P**	**02 10 06.9**	**0.0**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MCK	**McKinley**	**53.92**	**31**	*e*P	**P**	**02 10 06.9**	**0.0**
	comp=Z,2.9nm,0.5s						
AS31	**Alice Springs**	**54.33**	**189**	*e*P	**P**	**02 10 10.5**	**+0.1**
ASAR	**Alice Springs**	**54.33**	**189**	P	**P**	**02 10 08.7**	**-1.7**
ASAR	**Alice Springs**	**54.33**	**189**	P	**P**	**02 10 08.7**	**-1.7**
	comp=Z,2.1nm,0.7s,baz=3.5,slow=5.8,SNR=20						
AAK	**Ala-Archa**	**54.35**	**303**	*e*P	**P**	**02 10 09.7**	**-0.9**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
AAK	**Ala-Archa**	**54.35**	**303**	*e*P	**P**	**02 10 10.7**	**+0.1**
	comp=Z,3.5nm,0.7s						
COLA	**College**	**54.46**	**30**	*e*P	**P**	**02 10 11.3**	**+0.5**
COLA				pmax	pmax		
	comp=Z,12nm,0.7s						
COLA	**College**	**54.46**	**30**	*e*P	**P**	**02 10 11.2**	**+0.5**
	comp=Z,12nm,0.7s						
ILAR	**Eielson Array**	**54.87**	**30**	P	**P**	**02 10 13.4**	**-0.4**
ILAR	**Eielson Array**	**54.87**	**30**	P	**P**	**02 10 13.4**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=262,slow=6.2,SNR=22						
PAX	**Paxson**	**55.45**	**32**	*e*P	**P**	**02 10 17.7**	**-0.5**
PAX				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PAX	**Paxson**	**55.45**	**32**	*e*P	**P**	**02 10 17.7**	**-0.5**
	comp=Z,5.7nm,0.8s						
BRVK	**Borovoye**	**55.65**	**316**	*e*P	**P**	**02 10 19.4**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**55.65**	**316**	*e*P	**P**	**02 10 19.4**	**-0.2**
	comp=Z,3.5nm,0.8s						
KKAR	**Karatay Array**	**57.13**	**304**	*e*P	**P**	**02 10 30.1**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KKAR	**Karatay Array**	**57.13**	**304**	*e*P	**P**	**02 10 30.1**	**-0.2**
	comp=Z,4.2nm,0.6s						
EGAK	**Eagle**	**57.33**	**30**	*e*P	**P**	**02 10 31.6**	**+0.3**
	comp=Z,3.5nm,0.8s						
STKA	**Stephens Creek**	**61.94**	**180**	P	**P**	**02 11 03.4**	**0.0**
STKA	**Stephens Creek**	**61.94**	**180**	P	**P**	**02 11 03.4**	**0.0**
	comp=Z,3.0nm,0.8s,baz=22,slow=9.7,SNR=2.8						
FORT	**Forrest**	**62.29**	**194**	*e*P	**P**	**02 11 04.4**	**-1.3**
	comp=Z,44nm,0.8s						
ABKAR	**Akbulak array**	**62.76**	**313**	*e*P	**P**	**02 11 08.4**	**-0.5**
	comp=Z,1.7nm,0.4s						
KBS	**Kingsbay**	**67.27**	**351**	*e*P	**P**	**02 11 37.2**	**-0.5**
KBS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KBS	**Kingsbay**	**67.27**	**351**	*e*P	**P**	**02 11 37.1**	**-0.5**
	comp=Z,9.5nm,1.0s						
YKA	**Yellowknife Ar**	**69.28**	**29**	P	**P**	**02 11 50.5**	**0.0**
YKA	**Yellowknife Ar**	**69.28**	**29**	P	**P**	**02 11 50.5**	**0.0**
	comp=Z,2.5nm,0.6s,baz=293,slow=6.5,SNR=8.1						
ARCES	**ARCESS Array B**	**70.40**	**340**	P	**P**	**02 11 57.9**	**+0.5**
ARCES	**ARCESS Array B**	**70.40**	**340**	P	**P**	**02 11 57.9**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=64,slow=8.2,SNR=9.6						
DAG	**Danmarks Havn**	**72.41**	**355**	*i P*	**P**	**02 12 09.4**	**+0.1**
DAG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DAG	**Danmarks Havn**	**72.41**	**355**	*i P*	**P**	**02 12 09.4**	**+0.1**
	comp=Z,4.8nm,0.9s						
OBN	**Obninsk**	**73.78**	**325**	*e*P	**P**	**02 12 17.5**	**-0.2**
OBN				*e*		02 12 34.4	
OBN				pmax	pmax		
	comp=Z,8.0nm,1.7s						
OBN				MLR	MLR		
	comp=Z,300nm,17.0s						
NEW	**Newport**	**74.53**	**43**	*e*P	**P**	**02 12 23.3**	**+1.0**
	comp=Z,4.6nm,1.1s						
NEW	**Newport**	**74.53**	**43**	P	**P**	**02 12 22.6**	**+0.2**
	baz=74						
FINES	**FINESS Array B**	**74.96**	**333**	P	**P**	**02 12 24.4**	**-0.1**
FINES	**FINESS Array B**	**74.96**	**333**	P	**P**	**02 12 24.4**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=64,slow=5.0,SNR=16						
C11A	**Tepee Creek (N**	**75.25**	**43**	P	**P**	**02 12 26.9**	**+0.4**
	baz=75						
KBZ	**Khabaz**	**75.72**	**312**	P	**P**	**02 12 30.0**	**+0.9**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KBZ	**Khabaz**	**75.72**	**312**	P	**P**	**02 12 30.0**	**+0.9**
KBZ	**Khabaz**	**75.72**	**312**	P	**P**	**02 12 30.0**	**+0.9**
	comp=Z,3.5nm,0.8s,baz=56,slow=4.0,SNR=5.8						
KIV	**Kislovodsk**	**75.74**	**313**	*e*P	**P**	**02 12 30.2**	**+0.7**
KIV				*e*		02 12 39.3	
KIV				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KIV				MLR	MLR		
	comp=Z,100nm,22.0s						
A13A	**Flathead Natio**	**75.78**	**41**	P	**P**	**02 12 29.8**	**+0.2**
	baz=76						
WALA	**Waterton Lakes**	**76.00**	**41**	*e*P	**P**	**02 12 31.7**	**+0.8**
B13A	**Whitefish**	**76.03**	**42**	P	**P**	**02 12 31.6**	**+0.6**
	baz=76						
BMO	**Blue Mountains**	**76.06**	**46**	*e*P	**P**	**02 12 31.7**	**+0.5**
	comp=Z,6.9nm,1.5s						
BMO				*e*pP	**pP**	**02 12 41.2**	**+0.4**
GNI	**Garni**	**76.19**	**308**	*e*P	**P**	**02 12 32.0**	**-0.2**
	comp=Z,8.5nm,0.9s						
C13A	**Hot Springs**	**76.31**	**43**	P	**P**	**02 12 33.1**	**+0.5**
	baz=76,SNR=5.6						
A14A	**Double T Ranch**	**76.32**	**41**	P	**P**	**02 12 33.6**	**+0.8**
	baz=76,SNR=6.4						
E12A	**Beaver Dam Sad**	**76.35**	**44**	P	**P**	**02 12 33.0**	**0.0**
	baz=76						
JTMT	**Jette**	**76.45**	**42**	*e*P	**P**	**02 12 34.7**	**+1.2**
JTMT				*e*pP	**pP**	**02 12 43.8**	**+0.9**
D13A	**Huson**	**76.68**	**43**	P	**P**	**02 12 34.6**	**-0.1**
	baz=76						
A15A	**Johnson Ranch,**	**76.71**	**41**	P	**P**	**02 12 35.0**	**+0.1**
	baz=77,SNR=9.3						
B14A	**Marquette Ranc**	**76.72**	**42**	P	**P**	**02 12 35.9**	**+0.9**
	baz=77,SNR=6.7						
SWMT	**Swartz Lake**	**76.74**	**43**	*e*P	**P**	**02 12 35.8**	**+0.7**
SWMT				*e*pP	**pP**	**02 12 45.2**	**+0.6**
C14A	**Swan Lake**	**76.75**	**42**	P	**P**	**02 12 35.6**	**+0.5**
	baz=77						
B15A	**Bradely Ranch,**	**77.15**	**41**	P	**P**	**02 12 37.7**	**+0.3**
	baz=77,SNR=6.5						
SLMT	**Seeley Lake**	**77.17**	**43**	*e*P	**P**	**02 12 37.7**	**+0.1**
SLMT				*e*pP	**pP**	**02 12 47.7**	**+0.6**
D14A	**Greenough**	**77.24**	**43**	P	**P**	**02 12 38.4**	**+0.4**
	baz=77						
SUMG	**Summit**	**77.30**	**0**	*e*P	**P**	**02 12 37.9**	**-0.2**
SUMG				*e**PP	**PcP**	**02 12 49.1**	**+0.4**
SUMG				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SUMG	**Summit**	**77.30**	**0**	*e*P	**P**	**02 12 37.9**	**-0.2**
	comp=Z,7.9nm,0.9s						
SUMG				*e*pP	**PcP**	**02 12 49.0**	**+0.4**
SUMG	**Summit**	**77.30**	**0**	*i* P	**P**	**02 12 37.6**	**-0.5**
	comp=Z,4.0nm,0.8s						
A16A	**West Butte Ran**	**77.37**	**40**	P	**P**	**02 12 38.7**	**+0.1**
	baz=77						
C15A	**Salmond Ranch,**	**77.41**	**42**	P	**P**	**02 12 39.4**	**+0.5**
	baz=77,SNR=10.0						
MFID	**Camas Ranch**	**77.69**	**47**	P	**P**	**02 12 40.6**	**0.0**
	baz=78						
H12A	**Diamond D Ranc**	**77.72**	**45**	P	**P**	**02 12 40.9**	**+0.1**
	baz=78						
D15A	**Lincoln**	**77.84**	**42**	P	**P**	**02 12 41.3**	**0.0**
	baz=78						
A17A	**Triple J Farms**	**77.87**	**40**	P	**P**	**02 12 41.5**	**+0.1**
	baz=78						
C16A	**Fuhringer Ranc**	**77.89**	**41**	P	**P**	**02 12 41.7**	**+0.2**
	baz=78,SNR=7.0						
I12A	**Atlanta**	**77.94**	**46**	P	**P**	**02 12 42.4**	**+0.4**
	baz=78						
B17A	**L&G Farms, Che**	**78.16**	**41**	P	**P**	**02 12 43.5**	**+0.5**
	baz=78,SNR=6.8						
A18A	**Metzger Ranch,**	**78.36**	**40**	P	**P**	**02 12 44.3**	**+0.3**
	baz=78,SNR=9.2						
D16A	**Dana Ranch, Ca**	**78.41**	**42**	P	**P**	**02 12 45.2**	**+0.8**
	baz=78,SNR=5.1						
LRM	**Limekiln Ridge**	**78.52**	**43**	*e*P	**P**	**02 12 46.3**	**+1.0**
LRM				*e*pP	**pP**	**02 12 55.6**	**+0.8**
C17A	**Wharram Farm,**	**78.54**	**41**	P	**P**	**02 12 45.1**	**0.0**
	baz=78						
NVAR	**Mina Array Bea**	**78.55**	**52**	P	**P**	**02 12 46.4**	**+0.9**
NVAR	**Mina Array Bea**	**78.55**	**52**	P	**P**	**02 12 46.4**	**+0.9**
	comp=Z,2.3nm,0.6s,baz=298,slow=5.8,SNR=16						
E16A	**East Helena**	**78.60**	**43**	P	**P**	**02 12 45.7**	**+0.1**
	baz=78						
B18A	**Beardsley Farm**	**78.68**	**40**	P	**P**	**02 12 45.9**	**+0.1**
	baz=78,SNR=7.9						
D17A	**Six Diamond Ra**	**78.84**	**42**	P	**P**	**02 12 47.1**	**+0.2**
	baz=79,SNR=5.9						
EGMT	**Eagleton**	**78.90**	**41**	P	**P**	**02 12 47.5**	**+0.5**
	baz=79						
I14A	**Mackay**	**78.91**	**45**	P	**P**	**02 12 48.0**	**+0.7**
	baz=79						
A19A	**Klindworth Far**	**78.96**	**39**	P	**P**	**02 12 47.8**	**+0.5**
	baz=79						
FFC	**Flin Flon**	**78.98**	**32**	*e*P	**P**	**02 12 47.5**	**+0.2**
FFC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
FFC	**Flin Flon**	**78.98**	**32**	*e*P	**P**	**02 12 47.5**	**+0.2**
	comp=Z,4.4nm,0.7s						
F16A	**Kennard Place,**	**79.03**	**43**	P	**P**	**02 12 48.5**	**+0.6**
	baz=79						
BOZ	**Bozeman (W)**	**79.10**	**43**	*e*P	**P**	**02 12 48.5**	**+0.2**
BOZ				*e**PP	**pP**	**02 12 57.9**	**+0.1**
BOZ				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BOZ	**Bozeman (W)**	**79.10**	**43**	*e*P	**P**	**02 12 48.5**	**+0.2**
	comp=Z,4.2nm,1.2s						
BOZ				*e*pP	**pP**	**02 12 57.9**	**+0.1**
B19A	**Brinkman Farms**	**79.11**	**40**	P	**P**	**02 12 48.5**	**+0.4**
	baz=79,SNR=8.6						
E17A	**Martinsdale**	**79.12**	**42**	P	**P**	**02 12 49.1**	**+0.7**
	baz=79						
D18A	**Linhart Farms,**	**79.32**	**41**	P	**P**	**02 12 50.1**	**+0.7**
	baz=79						
A20A	**Cobblestone Ra**	**79.43**	**39**	P	**P**	**02 12 50.5**	**+0.6**
	baz=79						
C19A	**Slack Wire Ran**	**79.45**	**41**	P	**P**	**02 12 50.9**	**+0.8**
	baz=79,SNR=5.4						
F17A	**Fitzpatrick Pl**	**79.53**	**43**	P	**P**	**02 12 51.3**	**+0.6**
	baz=79						
E18A	**Harlowton**	**79.61**	**42**	P	**P**	**02 12 52.0**	**+1.0**
	baz=80,SNR=5.2						
D19A	**Cripps Ranch,**	**79.86**	**41**	P	**P**	**

baz=82
PDAR **Pinedale Array** 81.93 45 P P 02 13 04.0 +0.3
PDAR **Pinedale Array** 81.93 45 P P 02 13 04.0 +0.3
comp=Z,1.2nm,0.8s,baz=283,slow=1.2,SNR=10
J19A **Crowheart** 81.95 44 ⇑P P 02 13 04.3 +0.6
baz=82
GMRC **Granite Mounta** 82.23 54 ⇑P P 02 13 05.3 +0.1
baz=82
K19A **Absolon Red Bu** 82.33 45 ⇓P P 02 13 05.5 -0.1
baz=82
H21A **Big Horn, Sher** 82.36 42 ⇓P P 02 13 06.2 +0.4
baz=82
BELC **Belle Mtn. Jos** 82.40 55 ⇑P P 02 13 06.0 -0.2
baz=82
L19A **Farson** 82.42 45 ⇑P P 02 13 06.7 +0.5
baz=82
G22A **Birney** 82.45 42 ⇑P P 02 13 06.9 +0.7
baz=82
J20A **Shoshoni** 82.48 44 ⇑P P 02 13 07.1 +0.7
baz=82
MONP **Monument Peak** 82.68 56 ⇑P P 02 13 08.2 +0.5
baz=83
IRM **Iron Mountain** 82.92 55 ⇓P P 02 13 09.5 +0.8
baz=83
BC3 **Big Chuckawall** 82.97 55 ⇓P P 02 13 09.2 +0.1
baz=83
I22A **9 Mile Ranch,** 83.12 43 ⇑P P 02 13 10.4 +0.7
baz=83
F24A **Ekalaka** 83.12 40 ⇓P P 02 13 10.0 +0.4
baz=83
SRU **San Rafael** 83.36 48 *e*P P 02 13 11.0 -0.1
SRU pmax pmax
comp=Z,3.0nm,0.8s
SRU **San Rafael** 83.36 48 *e*P P 02 13 11.0 -0.1
comp=Z,3.4nm,0.8s
J22A **Midwest** 83.40 43 ⇓P P 02 13 11.7 +0.5
baz=83,SNR=8.8
Y12C **Blythe** 83.58 55 ⇑P P 02 13 12.8 +0.7
baz=84
BR131 **Keskin Array S** 83.71 313 *e*P P 02 13 12.9 0.0
comp=Z,4.3nm,0.8s
BRTR **Keskin Array B** 83.71 313 P P 02 13 12.8 0.0
BRTR **Keskin Array B** 83.71 313 P P 02 13 12.8 0.0
comp=Z,4.4nm,0.8s,baz=104,slow=4.2,SNR=27
L21A **Rawlins** 83.72 45 ⇓P P 02 13 13.1 +0.2
baz=84
H24A **Dirks Ranch, A** 83.73 41 ⇑P P 02 13 13.1 +0.3
baz=84
RAYN **Ar Rayn** 83.75 293 *e*P P 02 13 13.2 0.0
comp=Z,25nm,1.3s
N20A **Spence Gulch,** 83.82 46 ⇑P P 02 13 14.4 +0.9
baz=84,SNR=6.1
K22A **Casper** 83.82 44 ⇑P P 02 13 13.9 +0.5
baz=84
KWP **Kalwaria Pacla** 83.86 325 *e*P P 02 13 13.5 +0.2
KWP *e**PP pP 02 13 23.2 +0.4
KWP pmax pmax
comp=Z,13nm,1.0s
KWP **Kalwaria Pacla** 83.86 325 *e*P P 02 13 13.5 +0.2
comp=Z,13nm,1.0s
KWP *e*pP pP 02 13 23.2 +0.4
KWP **Kalwaria Pacla** 83.86 325 *e*P P 02 13 13.4 +0.2
BUR08 **Bucovina Ar. S** 83.87 323 *e*P P 02 13 13.3 -0.1
M21A **Separation Pea** 83.93 45 ⇓P P 02 13 14.2 +0.1
baz=84
J23A **Dilts Ranch, B** 83.95 43 ⇑P P 02 13 14.1 +0.1
baz=84
P19A **Cripple Cowboy** 84.06 47 ⇓P P 02 13 15.0 +0.3
baz=84,SNR=5.5
O20A **White River Ci** 84.23 47 ⇑P P 02 13 16.3 +0.7
baz=84
K23A **Bowen Ranch, D** 84.30 43 ⇓P P 02 13 16.1 +0.4
baz=84
N21A **Black Mountain** 84.32 46 ⇑P P 02 13 16.4 +0.4
baz=84
G26A **Maurine** 84.49 40 ⇓P P 02 13 16.7 +0.1
baz=84
L23A **Garrett** 84.63 44 ⇑P P 02 13 17.9 +0.3
baz=84
I25A **Rochford** 84.64 41 ⇓P P 02 13 17.5 -0.1
baz=84
G27A **Dupree** 84.80 40 ⇑P P 02 13 18.5 +0.4
baz=85
Q20A **Ridgley Place,** 84.88 48 ⇑P P 02 13 19.4 +0.6
baz=85,SNR=5.5
M23A **Laramie** 85.00 44 ⇑P P 02 13 20.6 +1.1
baz=85
N23A **Red Feather La** 85.21 45 ⇓P P 02 13 20.9 +0.3
baz=85
R20A **Redvale** 85.27 48 ⇓P P 02 13 21.1 +0.3
baz=85
O22A **Kremmling** 85.27 46 ⇑P P 02 13 21.1 +0.1
baz=85
X16A **Lo Mia Camp, P** 85.36 53 ⇓P P 02 13 22.4 +1.1
baz=85
P22A **Eagle** 85.48 46 ⇓P P 02 13 22.9 +1.0
baz=85,SNR=6.3
M24A **Cheyenne** 85.54 44 ⇓P P 02 13 22.9 +0.8
baz=85
SMCO **Snowmass** 85.59 47 *e*P P 02 13 21.6 -1.0
SMCO *e*pP pP 02 13 33.1 +0.8
O23A **Lake Granby, G** 85.63 45 ⇑P P 02 13 23.9 +1.2
baz=86
R21A **Cimarron** 85.69 48 ⇓P P 02 13 24.2 +1.2
baz=86
H28A **Mission Ridge** 85.75 40 ⇑P P 02 13 24.7 +1.9
baz=86
MVCO **Mesa Verde** 85.75 49 ⇑P P 02 13 24.5 +1.2
baz=86
214A **Organ Pipe Nat** 85.75 55 ⇓P P 02 13 24.7 +1.5
baz=86
Q22A **Crested Butte,** 85.81 47 ⇑P P 02 13 24.9 +1.3
baz=86
S21A **Coal Bank Pass** 85.95 48 ⇑P P 02 13 25.6 +1.3
baz=86
P23A **Jefferson** 86.18 46 ⇓P P 02 13 26.1 +0.6
baz=86
R22A **Saguache, Gunn** 86.28 47 ⇑P P 02 13 26.4 +0.4
baz=86
S22A **4UR Ranch, Cre** 86.52 48 ⇑P P 02 13 27.7 +0.5
baz=86
S24A **Houchin Ranch,** 87.61 47 ⇑P P 02 13 33.1 +0.6
baz=88
M28A **Bar X Bar Ranc** 87.63 42 ⇑P P 02 13 33.1 +0.9
baz=88
Y20A **Horse Springs,** 87.74 52 ⇑P P 02 13 34.0 +0.9
baz=88
X21A **Alamocita Cree** 87.83 51 ⇑P P 02 13 34.5 +1.1
baz=88
GERES **GERESS Array B** 88.65 329 P P 02 13 35.9 -1.0
GERES **GERESS Array B** 88.65 329 P P 02 13 35.9 -1.0
comp=Z,0.2nm,0.4s,baz=12,slow=5.0,SNR=3.3
Z27A **Tatum** 91.54 50 ⇓P P 02 13 51.0 +0.3
baz=91
325A **Bean Ranch, Si** 91.55 52 ⇑P P 02 13 51.4 +0.5
baz=91
425A **Indio Mountain** 91.89 52 ⇑P P 02 13 52.6 +0.1
baz=92
X31A **McDonald Ranch** 92.80 47 ⇑P P 02 13 56.6 +0.2
baz=93
526A **Mary Lane Ranc** 92.95 53 ⇑P P 02 13 57.9 +0.6
baz=93
527A **Woodward Ranch** 93.22 52 ⇓P P 02 13 58.8 +0.2
baz=93
626A **Big Bend Ranch** 93.23 53 ⇓P P 02 13 58.4 -0.2
baz=93
329A **Wagon Wheel Ra** 93.49 50 ⇓P P 02 14 00.3 +0.6
baz=93
428A **Kincaid Ranch,** 93.50 51 ⇓P P 02 14 00.3 +0.5
baz=93
TXAR **Lajitas Array** 93.68 53 P P 02 14 01.9 +1.2
TXAR **Lajitas Array** 93.68 53 P P 02 14 01.9 +1.2
comp=Z,1.1nm,0.7s,baz=320,slow=2.4,SNR=12
528A **Cox Ranch, San** 93.78 52 ⇑P P 02 14 00.7 -0.4
baz=94
627A **Terlingua Ranc** 93.80 53 ⇑P P 02 14 01.6 +0.4
baz=94
Z32A **Haskell** 93.97 48 ⇑P P 02 14 02.5 +0.7
baz=94
330A **Mertzon** 94.08 50 ⇓P P 02 14 01.8 -0.6
baz=94
429A **Davenport Ranc** 94.09 51 ⇓P P 02 14 03.1 +0.7
baz=94
628A **Black Gap, Mar** 94.12 52 ⇓P P 02 14 03.3 +0.7
baz=94
529A **Stev Forest Ra** 94.18 52 ⇑P P 02 14 03.6 +0.7
baz=94
232A **Coleman** 94.77 49 ⇓P P 02 14 05.8 +0.3
baz=95
332A **Millersview** 95.04 49 ⇓P P 02 14 07.2 +0.4
baz=95
432A **Menard** 95.33 50 ⇓P P 02 14 08.4 +0.3
baz=95
532A **Rocksprings** 95.73 50 ⇑P P 02 14 09.7 -0.2
baz=96
631A **Perdido Creek** 95.74 51 ⇓P P 02 14 09.9 -0.1
baz=96
SFIN **Scholer Farm** 96.11 36 ⇓P P 02 14 11.5 +0.1
baz=96
TORD **Torodi Ar. Bea** 122.32 313 PKP PKPdf 02 19 38.7 -0.6
TORD **Torodi Ar. Bea** 122.32 313 PKP PKPdf 02 19 38.7 -0.6
comp=Z,0.6nm,1.0s,baz=24,slow=1.3,SNR=5.1
SAML **Samuel** 148.17 53 *e*PKPbc PKPbc 02 20 30.3 +0.2
LPAZ **La Paz** 149.01 70 *e*PKPdf PKPdf 02 20 29.0 +0.1
LPAZ *e*PKPbc PKPbc 02 20 33.9 +0.9
LPAZ PKPbc PKPbc 02 20 34.3 +1.3
LPAZ **La Paz** 149.01 70 PKPbc PKPbc 02 20 34.3 +1.3
comp=Z,3.8nm,0.8s,baz=339,slow=3.1,SNR=15

*AUST **11** 02:29:54.1,9.˝50N×126.˚03E,h10km*
*IDC **11** 02:30:00.7±0.6,8.˚68N×126.˚61E,h0km,mb4.1/15, mb1 4.2/15,mb1mx4.1/23,mbtmp4.1/15,ML5.4/1,MS3.5/5, Ms1 3.5/5,ms1mx3.0/35,Error ellipse: s-maj=25.0km s-min=11.9km az=80.0*
*MAN **11** 02:30:04,8.˚75N×125.˚85E,h10km,mb4.7,ML3.6,MS3.6*
MAN INTENSITY III - PROSPERIDAD AGUSAN DEL SUR; INTENSITY II - BUTUAN CITY; SAN AGUSTIN DINAGAT PROVINCE; HINATUAN SURIGAO DEL SUR.
*NEIC **11** 02:30:05.7±2.0,8.˚64N×126.˚44E,h38km±19km,mb4.3/6, Error ellipse: s-maj=22.6km s-min=8.9km az=72.0*
NEIC Felt [III PIVS] at Prosperidad; [II PIVS] at Butuan and San Agustin; [I PIVS] at Hinatuan.
ISC 11 02:30:04.3±1.3,8.˚79N±0.˚03×126.˚01E±0.˚06,h24km±9km, n78,σ1$86/69,mb4.2/23,MS3.8/4,4C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.42**	**295**	*e*P	**Pb**	**02 30 11.8**	**-1.5**
BUTP				*e*S	**Sb**	**02 30 17.2**	**-2.0**
BUKP	**Musuan**	**1.30**	**226**	*e*P	**Pn**	**02 30 26.0**	**-1.1**
BUKP				*e*S	**Sn**	**02 30 41.6**	**-2.2**
CGP	**Cagayan de Oro**	**1.34**	**256**	⇑*i*P	**Pn**	**02 30 25.7**	**-1.9**
CGP				*i* S	**Sn**	**02 30 44.1**	**-0.6**
MSLP	**Maasin**	**1.75**	**320**	*e*P	**Pn**	**02 30 32.5**	**-0.7**
DAV	**Davao City (W)**	**1.76**	**194**	Pn	**Pn**	**02 30 34.1**	**+0.7**
DAV				Sn	**Sb**	**02 31 02.3**	**+4.6**
DAV	**Davao City (W)**	**1.76**	**194**	Pn	**Pn**	**02 30 34.1**	**+0.7**
	195nm,0.3s,baz=44,slow=4.1,SNR=52						
DAV				Sn	**Sb**	**02 31 02.3**	**+4.6**
	178nm,0.3s,baz=151,slow=22,SNR=8.3						
DMPH	**Davao City--Mi**	**1.77**	**196**	⇑*e*P	**Pn**	**02 30 34.7**	**+1.2**
DMPH				*e*S	**Sn**	**02 30 54.8**	**-0.5**
MATI	**Mati**	**1.85**	**172**	*e*P	**Pn**	**02 30 33.0**	**-1.6**
KCP	**Kidapawan**	**1.99**	**207**	⇓*e*P	**Pb**	**02 30 41.0**	**+1.0**
KCP				*i* S	**Sb**	**02 31 07.2**	**+2.8**
TBP	**Tagbilaran**	**2.30**	**293**	*e*P	**Pn**	**02 30 41.0**	**+0.3**
TBP				*e*S	**Sn**	**02 31 08.9**	**+0.5**
CTBH	**Cotabato--PC H**	**2.34**	**228**	⇓*i*P	**Pn**	**02 30 40.9**	**-0.5**
PLP	**Palo**	**2.57**	**337**	⇓*e*P	**Pn**	**02 30 45.2**	**+0.8**
PLP				*i* S	**Sb**	**02 31 20.7**	**-0.1**
OCLP	**Ormoc**	**2.63**	**329**	*e*P	**Pn**	**02 30 47.8**	**+2.4**
PAGZ	**Pagadian**	**2.77**	**250**	*e*P	**Pn**	**02 30 48.4**	**+1.2**
GSPH	**General Santos**	**2.89**	**201**	*e*P	**Pn**	**02 30 48.7**	**-0.2**
RCP	**Roxas**	**4.23**	**311**	⇑*e*P	**Pn**	**02 31 08.3**	**+1.0**
TGY	**Tagaytay City**	**7.25**	**317**	Pn	Pn	02 31 55.4	+6.6
TGY	**Tagaytay City**	**7.25**	**317**	Pn	Pn	02 31 55.4	+6.6
	50nm,0.3s,baz=359,slow=19,SNR=3.8						
PALU	**Palau**	**8.50**	**99**	P	Pn	02 31 59.1	-7.0
	baz=8.6,SNR=9.0						
PALU				S	Sn	02 33 29.4	-12
	baz=8.6,SNR=7.5						
SWI	**Sorong**	**10.93**	**151**	P	**Pn**	**02 32 39.3**	**+0.1**
	baz=12,SNR=3.3						
KAPI	**Kappang**	**15.07**	**205**	LR	LR	02 39 29.4	
	comp=Z,77nm,19.7s,baz=46,slow=37						
JAY	**Jayapura**	**18.46**	**127**	S	S	02 38 14.6	+26
	baz=19,SNR=3.1						
MTN	**Manton Dam**	**22.09**	**167**	P	**P**	**02 34 57.7**	**-0.2**
	baz=23,SNR=8.0						
KDU	**Kakadu**	**22.29**	**163**	P	**P**	**02 35 00.3**	**+0.3**
	baz=23,SNR=5.4						
KNRA	**Kununurra**	**24.46**	**174**	P	**P**	**02 35 19.7**	**-1.9**
	baz=25,SNR=11						
KNRA				S	S	02 39 20.2	-20
	baz=25,SNR=7.5						
JNU	**Nakatsue**	**24.63**	**10**	P	**P**	**02 35 25.1**	**+2.1**
JNU	**Nakatsue**	**24.63**	**10**	P	**P**	**02 35 25.1**	**+2.1**
	4.9nm,0.9s,baz=208,slow=8.8,SNR=2.4						
FITZ	**Fitzroy Crossi**	**26.73**	**181**	*e*P	**P**	**02 35 39.1**	**-2.9**
	6.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**26.73**	**181**	P	**P**	**02 35 39.5**	**-2.6**
	3.9nm,0.9s,baz=24,slow=4.8,SNR=8.6						
CMAR	**Chiang Mai Arr**	**27.97**	**293**	P	**P**	**02 35 57.4**	**+4.1**
CMAR	**Chiang Mai Arr**	**27.97**	**293**	P	**P**	**02 35 57.4**	**+4.1**
	0.6nm,0.3s,baz=97,slow=7.7,SNR=4.0						
KSAR	**Wonju Array Be**	**28.57**	**3**	P	**P**	**02 35 58.0**	**-0.5**
KSRS	**Korea Array**	**28.59**	**3**	P	**P**	**02 35 58.0**	**-0.6**
	0.5nm,0.3s,baz=187,slow=9.6,SNR=3.4						
KSRS				LR	LR	02 47 52.1	
	comp=Z,21nm,20.6s,baz=200,slow=37						
WRAB	**Tennant Creek**	**29.70**	**164**	*e*P	P	02 36 04.9	-3.8
	4.2nm,0.7s						
WRA	**Warramunga Arr**	**29.71**	**164**	P	P	02 36 05.6	-3.1
WRA	**Warramunga Arr**	**29.71**	**164**	P	P	02 36 05.6	-3.1
	1.0nm,0.8s,baz=349,slow=9.4,SNR=8.1						
MTSU	**Mount Surprise**	**32.29**	**146**	P	**P**	**02 36 29.9**	**-1.6**
	baz=33,SNR=4.6						
ASAR	**Alice Springs**	**33.17**	**167**	P	**P**	**02 36 37.0**	**-2.2**
ASAR				PcP	**PcP**	**02 39 21.9**	**-0.1**
ASAR	**Alice Springs**	**33.17**	**167**	P	**P**	**02 36 37.0**	**-2.2**
	0.9nm,0.6s,baz=345,slow=7.1,SNR=12						
ASAR				PcP	**PcP**	**02 39 21.9**	**-0.1**
	0.7nm,0.7s,baz=351,slow=2.4,SNR=4.3						
CTA	**Charters Tower**	**34.94**	**145**	P	P	02 36 50.9	-3.7
CTA	**Charters Tower**	**34.94**	**145**	P	P	02 36 50.9	-3.7
	2.6nm,0.4s,baz=296,slow=9.3,SNR=3.7						
USRK	**Ussuriysk Arra**	**35.66**	**7**	P	**P**	**02 36 60.0**	**-0.4**
	4.2nm,0.6s,baz=196,slow=7.8,SNR=15						
BLDU	**Ballidu**	**40.19**	**192**	P	**P**	**02 37 36.6**	**-2.3**
	baz=41,SNR=5.1						
KLBR	**Kellerberrin**	**40.92**	**191**	P	**P**	**02 37 42.8**	**-2.2**
	baz=42,SNR=5.2						
SONM	**Songino Array**	**42.31**	**340**	P	P	02 37 59.9	+3.6
SONM	**Songino Array**	**42.31**	**340**	P	P	02 37 59.9	+3.6
	0.2nm,0.4s,baz=158,slow=8.5,SNR=2.9						
BBOO	**Buckleboo**	**42.47**	**167**	P	**P**	**02 37 56.7**	**-0.9**
	baz=43,SNR=8.3						
STKA	**Stephens Creek**	**43.10**	**160**	P	**P**	**02 38 01.7**	**-1.0**
STKA	**Stephens Creek**	**43.10**	**160**	P	**P**	**02 38 01.7**	**-1.0**
	2.3nm,0.4s,baz=337,slow=7.2,SNR=8.0						
STKA	**Stephens Creek**	**43.10**	**160**	P	**P**	**02 38 04.0**	**+1.3**
	baz=44,SNR=5.2						
PETK	**Petropavlovsk-**	**51.08**	**24**	P	P	02 39 02.1	-2.7
PETK	**Petropavlovsk-**	**51.08**	**24**	P	P	02 39 02.1	-2.7
	1.1nm,0.8s,baz=200,slow=4.2,SNR=2.2						
MK31	**Makanchi Array**	**53.05**	**324**	*e*P	**P**	**02 39 19.9**	**+0.4**
MKAR	**Makanchi Array**	**53.05**	**324**	P	**P**	**02 39 20.1**	**+0.5**
MKAR	**Makanchi Array**	**53.05**	**324**	P	**P**	**02 39 20.0**	**+0.5**
	1.0nm,0.6s,baz=120,slow=7.4,SNR=15						
ZALV	**Zalesovo Beam**	**55.80**	**332**	P	**P**	**02 39 38.0**	**-1.4**
ZALV	**Zalesovo Beam**	**55.80**	**332**	P	**P**	**02 39 38.0**	**-1.4**
	0.7nm,0.5s,baz=117,slow=8.6,SNR=2.8						
EKS2	**Erkin-Say**	**56.70**	**316**	*e*P	**P**	**02 39 47.9**	**+1.7**
	2.5nm,0.8s						
RPZ	**Rata Peaks**	**66.31**	**146**	P	**P**	**02 40 48.7**	**-2.2**
RPZ	**Rata Peaks**	**66.31**	**146**	P	**P**	**02 40 48.7**	**-2.2**
	8.3nm,0.5s,baz=300,slow=2.5,SNR=8.3						
ABKAR	**Akbulak array**	**67.83**	**320**	*e*P	**P**	**02 41 00.9**	**+0.4**
	1.6nm,0.7s						
RAR	**Rarotonga**	**78.69**	**114**	P	P	02 42 01.5	-3.5
RAR	**Rarotonga**	**78.69**	**114**	P	P	02 42 01.5	-3.5
	15nm,0.4s,baz=270,slow=4.0,SNR=3.2						
COLD	**Coldfoot**	**79.54**	**23**	*e*P	**P**	**02 42 08.8**	**-0.1**
	4.8nm,1.3s						
ILAR	**Eielson Array**	**80.87**	**26**	P	**P**	**02 42 15.7**	**-0.5**
ILAR	**Eielson Array**	**80.87**	**26**	P	**P**	**02 42 15.7**	**-0.5**
	0.3nm,0.6s,baz=226,slow=4.4,SNR=5.1						
JOF	**Joensuu**	**84.38**	**333**	*e*p	P	02 42 31.6	-2.8
ASF	**Jabal al Asfar**	**84.64**	**302**	LR	LR	03 26 02.2	
	comp=Z,61nm,19.2s,baz=352,slow=40						
ARCES	**ARCESS Array B**	**85.48**	**340**	P	**P**	**02 42 41.0**	**+1.2**
	2.9nm,0.9s,baz=84,slow=6.3,SNR=6.1						
FINES	**FINESS Array B**	**87.06**	**332**	P	P	**02 42 50.6**	**+2.9**
FINES	**FINESS Array B**	**87.06**	**332**	P	P	**02 42 50.6**	**+2.9**
	1.2nm,0.6s,baz=76,slow=5.9,SNR=8.6						
VNDA	**Vanda**	**88.51**	**173**	*e*P	**P**	**02 42 53.3**	**-1.0**
	2.1nm,1.0s						
VNDA	**Vanda**	**88.51**	**173**	P	**P**	**02 42 53.1**	**-1.1**
	0.6nm,0.6s,baz=359,slow=3.4,SNR=4.0						
NOA	**NORSAR Array B**	**93.96**	**334**	LR	LR	03 29 20.4	
	comp=Z,22nm,19.0s,baz=95,slow=38						
VRAC	**Vranov**	**95.75**	**322**	LR	LR	03 28 30.0	
	comp=Z,50nm,19.7s,baz=319,slow=36						
TORD	**Torodi Ar. Bea**	**120.56**	**291**	PKP	**PKPdf**	**02 48 57.8**	**+2.7**
TORD	**Torodi Ar. Bea**	**120.56**	**291**	PKP	**PKPdf**	**02 48 57.8**	**+2.7**
	0.4nm,0.7s,baz=42,slow=2.3,SNR=6.6						

*ATH **11** 03:13:22.8,34.˚06N×25.˚24E,h16km±2km,MD3.3/9*
*ISCJB **11** 03:13:23.8±1.2,34.˚08N±0.˚02×25.˚26E±0.˚03,h14km±8km, mb3.9/21,MS3.2/1,Error ellipse: s-maj=4.6km s-min=4.0km az=169.4*
*IDC **11** 03:13:23.9±1.0,34.˚20N×25.˚24E,h0km,mb4.0/13, mb1 4.1/19,mb1mx4.0/32,mbtmp4.0/19,ML3.8/4,MS3.3/1, Ms1 3.3/1,ms1mx2.3/47,Error ellipse: s-maj=22.3km s-min=15.2km az=179.0*
*CSEM **11** 03:13:24.3±0.1,34.˚16N×25.˚30E,h5km,mb4.1/8,Ms2.9, Error ellipse: s-maj=4.8km s-min=3.4km az=52.0*
*THE **11** 03:13:25.3,34.˚21N×25.˚28E,h0km±1km,Error ellipse: s-maj=2.2km s-min=0.6km az=170.0*
ISC 11 03:13:24.1±1.4,34.˚14N±0.˚04×25.˚26E±0.˚03,h3km±9km, n105,σ0$71/127,mb4.1/21,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.95**	**337**	P	**Pg**	**03 13 42.5**	**+0.1**
SIVA				S	**Sb**	**03 13 56.4**	**+0.2**
SIVA	**Sivas**	**0.95**	**337**	*e*PN	**Pg**	**03 13 42.2**	**-0.2**
SIVA				*e*SN	**Sb**	**03 13 56.5**	**+0.2**
SIVA	**Sivas**	**0.95**	**337**	*e*Pn	**Pg**	**03 13 42.2**	**-0.2**
SIVA	**Sivas**	**0.95**	**337**	P	**Pg**	**03 13 42.5**	**+0.1**
SIVA				S	**Sb**	**03 13 56.4**	**+0.2**
LAST	**Lasithi**	**1.03**	**10**	P	**Pg**	**03 13 43.8**	**-0.2**
LAST				S	**Sb**	**03 13 58.5**	**-0.2**
LAST	**Lasithi**	**1.03**	**10**	*e*PN	**Pg**	**03 13 43.7**	**-0.2**
LAST				*e*SN	**Sb**	**03 13 58.6**	**-0.2**
LAST	**Lasithi**	**1.03**	**10**	P	**Pg**	**03 13 43.8**	**-0.2**
LAST				*e*Sn	**Sb**	**03 13 58.6**	**-0.2**
NPS	**Neapolis**	**1.16**	**14**	P	**Pg**	**03 13 45.6**	**-0.7**
NPS				S	**Sb**	**03 14 01.7**	**-0.5**
NPS	**Neapolis**	**1.16**	**14**	*e*PN	**Pg**	**03 13 45.3**	**-1.0**
NPS				*e*SN	**Sn**	**03 14 03.3**	**-0.2**
NPS	**Neapolis**	**1.16**	**14**	*e*Pn	**Pg**	**03 13 45.3**	**-1.0**
NPS	**Neapolis**	**1.16**	**14**	P	**Pg**	**03 13 45.6**	**-0.7**
NPS				S	**Sb**	**03 14 01.7**	**-0.5**
NPS				*e*Sn	**Sn**	**03 14 03.3**	**-0.2**
IDI	**Anoyia**	**1.19**	**345**	P	**Pg**	**03 13 46.0**	**-0.9**
IDI				S	**Sb**	**03 14 03.0**	**-0.1**
IDI	**Anoyia**	**1.19**	**345**	*e*PN	**Pg**	**03 13 46.0**	**-0.9**
IDI				*e*SN	**Sn**	**03 14 04.1**	**-0.2**
IDI	**Anoyia**	**1.19**	**345**	P	**Pg**	**03 13 46.0**	**-0.9**
IDI				S	**Sb**	**03 14 03.0**	**-0.1**
IDI				*e*Sn	**Sn**	**03 14 04.1**	**-0.2**
GVD	**Gavdhos**	**1.20**	**306**	P	**Pb**	**03 13 47.2**	**-0.2**
GVD				S	**Sn**	**03 14 04.0**	**-0.4**
GVD	**Gavdhos**	**1.20**	**306**	*e*PN	**Pg**	**03 13 46.9**	**-0.1**
GVD	**Gavdhos**	**1.20**	**306**	*e*Pn	**Pg**	**03 13 46.9**	**-0.1**
GVD	**Gavdhos**	**1.20**	**306**	P	**Pb**	**03 13 47.2**	**-0.2**
GVD				S	**Sn**	**03 14 04.0**	**-0.4**
ZKR	**Zakros**	**1.25**	**39**	P	**Pg**	**03 13 47.5**	**-0.6**
ZKR				S	**Sg**	**03 14 04.4**	**0.0**
ZKR	**Zakros**	**1.25**	**39**	*e*PN	**Pg**	**03 13 47.6**	**-0.6**
ZKR				*e*SN	**Sn**	**03 14 06.8**	**+0.9**
ZKR	**Zakros**	**1.25**	**39**	P	**Pg**	**03 13 47.5**	**-0.6**
ZKR				S	**Sg**	**03 14 04.4**	**0.0**
ZKR				*e*Sn	**Sn**	**03 14 06.8**	**+0.9**
VAM	**Vamos**	**1.54**	**326**	P	**Pn**	**03 13 52.1**	**-0.3**
VAM				S	**Sn**	**03 14 12.6**	**-0.3**
VAM	**Vamos**	**1.54**	**326**	*e*PN	**Pn**	**03 13 52.2**	**-0.2**
VAM				*e*SN	**Sg**	**03 14 14.2**	**+0.7**
VAM	**Vamos**	**1.54**	**326**	*e*Pn	**Pn**	**03 13 52.2**	**-0.2**
VAM				S	**Sn**	**03 14 12.6**	**-0.3**
VAM				*e*Sn	**Sg**	**03 14 14.2**	**+0.7**
THR3	**Thira Island,**	**2.27**	**3**	P	**Pn**	**03 14 02.1**	**-0.3**
THR3	**Thira Island,**	**2.27**	**3**	P	**Pn**	**03 14 02.1**	**-0.3**
THR2	**Thira island,**	**2.31**	**3**	P	**Pn**	**03 14 02.3**	**-0.7**
THR2	**Thira island,**	**2.31**	**3**	P	**Pn**	**03 14 02.3**	**-0.7**
SLUM		**2.64**	**181**	P	**Pn**	**03 14 08.3**	**+0.7**
APE	**Apeiranthos**	**2.93**	**4**	*e*PN	**Pn**	**03 14 12.9**	**+1.3**
APE	**Apeiranthos**	**2.93**	**4**	*e*Pn	**Pn**	**03 14 12.9**	**+1.3**
VLI	**Veliai**	**3.20**	**324**	*e*PN	**Pn**	**03 14 16.2**	**+1.0**
VLI	**Veliai**	**3.20**	**324**	*e*Pn	**Pn**	**03 14 16.2**	**+1.0**
HMAT	**Matruh**	**3.41**	**152**	P	**Pn**	**03 14 19.6**	**+1.4**
SWA2		**4.88**	**178**	P	**Pn**	**03 14 39.4**	**+1.0**
SWA2				S	**Sn**	**03 15 34.7**	**-0.8**
MMAI	**Mount Meron Ar**	**8.54**	**95**	Pn	**Pn**	**03 15 29.6**	**+0.9**
	1.0nm,0.3s,baz=284,slow=12,SNR=7.8						
MMAI				Sn	**Sn**	**03 17 05.1**	**-0.4**
	0.9nm,0.3s,baz=263,slow=24,SNR=3.9						
BRTR	**Keskin Array B**	**8.72**	**48**	Pn	**Pn**	**03 15 32.9**	**+1.6**
	0.0nm,0.3s,baz=290,slow=23,SNR=2.6						
EIL	**Elat**	**9.36**	**116**	Pn	**Pn**	**03 15 39.2**	**-0.7**
	0.9nm,0.3s,baz=232,slow=8.0,SNR=7.6						
MLR	**Muntele Rosu**	**11.35**	**2**	Pn	Pn	03 16 12.6	+5.4
	0.0nm,0.3s,baz=194,slow=12,SNR=2.4						
PGF	**Pioggiola**	**15.26**	**308**	*e*P	**Pn**	**03 16 58.9**	**-1.6**
	146nm,1.5s						
VRAC	**Vranov**	**16.46**	**340**	Pn	**Pn**	**03 17 16.7**	**+0.8**
	baz=157,slow=8.3,SNR=10						
GNI	**Garni**	**16.64**	**63**	Pn	P	**03 17 20.6**	**-0.4**
	0.8nm,0.3s,baz=5.0,slow=23,SNR=2.3						
KBZ	**Khabaz**	**16.70**	**50**	Pn	P	**03 17 21.2**	**-0.2**
	0.1nm,0.3s,baz=235,slow=12,SNR=2.6						
SBF	**Sospel**	**16.89**	**310**	*e*P	**Pn**	**03 17 19.3**	**-2.2**
	37nm,1.0s						
GERES	**GERESS Array B**	**17.02**	**333**	Pn	**Pn**	**03 17 24.0**	**+0.8**
	0.2nm,0.3s,baz=144,slow=11,SNR=16						
CABF	**La Chapelle**	**19.14**	**316**	*e*P	**Pn**	**03 17 49.6**	**+0.4**
CABF	**La Chapelle**	**19.14**	**316**	*e*P	**Pn**	**03 17 49.6**	**+0.4**
HINF	**Hinteralfeld**	**19.42**	**320**	*e*P	**Pn**	**03 17 52.5**	**-0.1**
	4.7nm,0.7s						
HINF	**Hinteralfeld**	**19.42**	**320**	*e*P	**Pn**	**03 17 52.5**	**-0.1**
	2.3nm,0.7s						
CDF	**Champ du Feu**	**19.58**	**322**	*e*P	**Pn**	**03 17 55.2**	**+0.7**
CDF	**Champ du Feu**	**19.58**	**322**	*e*P	**Pn**	**03 17 55

9.6nm,1.0s
GIVF Givet 21.89 323 *e*P **P** 03 18 18.3 +0.1
GIVF Givet 21.89 323 *e*P **P** 03 18 18.3 +0.1
BAIF Baives 22.18 322 *e*P **P** 03 18 21.4 +0.2
BAIF Baives 22.18 322 *e*P **P** 03 18 21.4 +0.2
SJPF Ste Jean 22.48 301 *e*P **P** 03 18 24.5 0.0
11nm,1.1s
SJPF Ste Jean 22.48 301 *e*P **P** 03 18 24.5 0.0
5.6nm,1.1s
MFF Saint Martin d 22.90 311 *e*P **P** 03 18 27.8 -1.1
12nm,1.1s
MFF Saint Martin d 22.90 311 *e*P **P** 03 18 27.8 -1.1
5.8nm,1.1s
LDF La Druitiere 23.76 315 *e*P **P** 03 18 36.3 -1.3
12nm,0.9s
LDF La Druitiere 23.76 315 *e*P **P** 03 18 36.3 -1.3
6.1nm,0.9s
ESDC Sonseca Array 23.95 292 P P 03 18 39.5 -0.1
2.8nm,0.9s,baz=85,slow=9.6,SNR=14
FLN La Foliniere 24.05 315 *e*P **P** 03 18 39.1 -1.2
7.3nm,0.7s
FLN *e*R
34nm,17.8s
FLN La Foliniere 24.05 315 *e*P **P** 03 18 39.1 -1.2
3.7nm,0.7s
GRR Gorron 24.10 314 *e*P **P** 03 18 40.0 -0.8
GRR Gorron 24.10 314 *e*P **P** 03 18 40.0 -0.8
MDT Midelt 24.92 275 LR LR 03 31 29.9
comp=Z,64nm,18.2s,baz=315,slow=44
QUIF Quistinic 25.31 311 *e*P **P** 03 18 50.9 -0.9
29nm,1.0s
QUIF Quistinic 25.31 311 *e*P **P** 03 18 50.9 -0.9
14nm,1.0s
HFS Hagfors 27.09 347 P P 03 19 07.8 +0.1
1.0nm,0.7s,baz=108,slow=19,SNR=3.5
FINES FINESS Array B 27.33 1 P **P** 03 19 08.4 -1.4
1.4nm,0.8s,baz=185,slow=9.6,SNR=4.0
NOA NORSAR Array B 28.41 346 P **P** 03 19 20.8 +1.2
0.5nm,0.7s,baz=147,slow=9.1,SNR=2.7
AKTO Aktyubinsk 28.89 46 P P 03 19 24.2 +0.2
0.4nm,0.4s,baz=263,slow=13,SNR=2.7
EKA Eskdalemuir Ar 28.93 326 P P 03 19 23.7 -0.5
3.8nm,0.9s,baz=116,slow=9.5,SNR=7.1
TORD Torodi Ar. Bea 29.91 231 P P 03 19 34.2 +0.9
2.8nm,0.7s,baz=32,slow=8.6,SNR=23
MKAR Makanchi Array 44.27 56 P P 03 21 35.8 +0.9
2.0nm,0.6s,baz=271,slow=7.0,SNR=12
ZALV Zalesovo Beam 45.65 45 P P 03 21 44.8 -0.9
1.2nm,0.5s,baz=267,slow=9.1,SNR=4.7
SONM Songino Array 60.07 50 P P 03 23 33.1 +0.6
0.8nm,0.6s,baz=283,slow=8.0,SNR=11
SCHQ Schefferville 64.02 320 P P 03 23 58.4 -0.4
2.9nm,0.7s,baz=74,slow=7.5,SNR=5.8
YKA Yellowknife Ar 78.44 342 P P 03 25 25.8 -0.1
1.1nm,0.9s,baz=32,slow=5.2,SNR=3.0
ILAR Eielson Array 81.22 357 P P 03 25 40.3 -0.7
0.6nm,0.8s,baz=0.5,slow=5.1,SNR=8.3

ISCJB ***11*** *03:37:34.0±1.7,21°.60S×70°.46W×0°.09,h20km±12km, mb3.7/3, Error ellipse: s-maj=14.4km s-min=6.4km az=163.8*
NEIC ***11*** *03:37:35.6,21°.60S×70°.39W,h21km, ML4.1(GUC), After GUC.*
NEIC Felt [II] at Ollague and Tocopilla and [I] at Loa.
GUC ***11*** *03:37:35.6±1.0,21°.60S×70°.39W,h21km±17km, ML4.1*
IDC ***11*** *03:37:45.2±1.8,21°.54S×69°.25W,h76km±17km, mb3.4/3, mb1 3.4/6, mb1mx3.3/19, mbtmp3.3/6, Error ellipse: s-maj=33.0km s-min=22.8km az=103.0*

ISC 11 03:37:34.5±1.5, 21°.62S±0°.04×70°.41W±0°.07, h31km±9km, n25, σ1s07/32, mb3.7/3, 3C-8D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB07	**Plate Boundary**	**0.49**	**102**	↓	*i*P	**Pb**	**03 37 45.3**	**+0.3**
PB07					*i* S	**Sb**	**03 37 51.9**	**-0.4**
PB07	**Plate Boundary**	**0.49**	**102**	↓	*i*P	**Pb**	**03 37 45.3**	**+0.3**
PB07					*i* S	**Sb**	**03 37 51.9**	**-0.4**
PB07					AML	AML	03 37 52.6	
	comp=E,26μm,0.1s							
PB01	**Plate Boundary**	**1.03**	**56**	↓	*i*P	**Pn**	**03 37 53.6**	**+0.7**
PB01					*i* S	**Sn**	**03 38 06.5**	**0.0**
PB01	**Plate Boundary**	**1.03**	**56**	↓	*i*P	**Pn**	**03 37 53.6**	**+0.7**
PB01					*i* S	**Sn**	**03 38 06.5**	**0.0**
PB01					AML	AML	03 38 07.6	
	comp=E,10μm,0.2s							
PB04	**Plate Boundary**	**1.07**	**127**	↑	*i*P	Pn	03 37 49.5	-3.9
PB04					*e*S	Sn	03 37 59.5	-7.6
PB04	**Plate Boundary**	**1.07**	**127**	↑	*i*P	Pn	03 37 49.5	-3.9
PB04					*e*S	Sn	03 37 59.5	-7.6
PB04					AML	AML	03 38 00.4	
	comp=E,13μm,0.2s							
PB09	**Plate Boundary**	**1.10**	**99**	↓	*i*P	**Pn**	**03 37 55.1**	**+1.2**
PB09					*i* S	**Sn**	**03 38 09.1**	**+0.9**
PB09	**Plate Boundary**	**1.10**	**99**	↓	*i*P	**Pn**	**03 37 55.1**	**+1.2**
PB09					*i* S	**Sn**	**03 38 09.1**	**+0.9**
PB09					AML	AML	03 38 12.5	
	comp=E,23μm,1.0s							
HMBC	**Humberstone**	**1.42**	**20**	↓	*e*P	**Pn**	**03 37 59.6**	**+1.2**
HMBC					*e*S	**Sb**	**03 38 17.7**	**-0.7**
HMBC	**Humberstone**	**1.42**	**20**	↓	*e*P	**Pn**	**03 37 59.6**	**+1.2**
HMBC					*e*S	**Sb**	**03 38 17.7**	**-0.7**
HMBC					AML	AML	03 38 19.6	
	comp=N,4μm,0.6s							
LVC	**Limon Verde**	**1.70**	**126**		*e*P	**Pb**	**03 38 04.8**	**-0.5**
LVC					*i* S	**Sb**	**03 38 27.2**	**+0.8**
LVC	**Limon Verde**	**1.70**	**126**		*e*P	**Pb**	**03 38 04.8**	**-0.5**
LVC					*i* S	**Sb**	**03 38 27.2**	**+0.8**
LVC	**Limon Verde**	**1.70**	**126**	P		**Pb**	**03 38 05.6**	**+0.3**
	comp=N,111nm,0.3s,baz=317,slow=11,SNR=819							
LVC				S		**Sb**	**03 38 26.0**	**-0.4**
	comp=N,463nm,0.3s,baz=36,slow=23,SNR=75							
PSGC	**Pisagua**	**2.03**	**8**	P		**Pn**	**03 38 07.9**	**+1.2**
PSGC				S		**Sn**	**03 38 32.0**	**+0.8**
PSGC	**Pisagua**	**2.03**	**8**	↑	*e*P	**Pn**	**03 38 07.9**	**+1.2**
PSGC				*e*S		**Sn**	**03 38 32.0**	**+0.8**
PSGC				AML		AML	03 38 40.3	
	comp=E,2μm,0.5s							
ANCH	**Antofagasta**	**2.05**	**180**	P		**Pn**	**03 38 07.5**	**+0.7**
ANCH	**Antofagasta**	**2.05**	**180**	*e*P		**Pn**	**03 38 07.5**	**+0.7**
LPAZ	**La Paz**	**5.73**	**22**	*e*Pn		**Pn**	**03 38 59.1**	**+1.1**
	comp=E,12nm,0.6s							
LPAZ	**La Paz**	**5.73**	**22**	P		Pn	03 39 03.5	+5.4
	comp=E,0.7nm,0.3s,baz=212,slow=7.3,SNR=17							
CFAA	**Coronel Fontan**	**10.13**	**169**	P		Pn	03 40 06.7	+8.8
	comp=E,0.1nm,0.3s,baz=343,slow=13,SNR=9.1							
CFAA				S		Sn	03 42 04.1	+14
	comp=E,0.0nm,0.3s,baz=307,slow=20,SNR=3.3							
SIV	**San Ignacio**	**10.46**	**59**	P		Pn	03 39 57.5	-5.1
	comp=E,0.1nm,0.3s,baz=283,slow=6.2,SNR=2.4							
BDFB	**Brasilia**	**22.03**	**78**	P		**P**	**03 42 23.0**	**-3.7**
	comp=E,1.3nm,0.8s,baz=99,slow=23,SNR=1.6							
NVAR	**Mina Array Bea**	**74.74**	**323**	P		P	03 49 21.3	+10
	comp=E,0.5nm,0.7s,baz=116,slow=8.2,SNR=3.1							
TORD	**Torodi Ar. Bea**	**78.71**	**71**	P		**P**	**03 49 34.5**	**+0.1**
	comp=E,1.0nm,0.4s,baz=254,slow=5.0,SNR=38							
MKAR	**Makanchi Array**	**146.54**	**35**	PKPbc		**PKPbc**	**03 57 13.2**	**+0.4**
	comp=E,0.6nm,0.6s,baz=324,slow=3.3,SNR=5.7							

NIED ***11*** *03:58:00,28°.40N×143°.20E,h35km,Mw3.9 Best double couple: M0 9.33000×10^14 NP1:φs 81.00000°,δ 87.00000°, λ -120.00000°. NP2:φs 345.00000°,δ 30.00000°, λ -6.00000°.*
IDC ***11*** *03:58:27.8±0.7,28°.35N×143°.40E,h0km,mb3.8/10, mb1 4.1/10,mb1mx3.9/23,mbtmp3.8/10, Error ellipse: s-maj=29.7km s-min=17.2km az=101.0*
ISCJB ***11*** *03:58:31.4±0.6,28°.40N±0°.06×143°.5E±0°.1,h40km, mb4.0/13, Error ellipse: s-maj=14.6km s-min=6.7km az=22.8*
JMA ***11*** *03:58:32.5±0.2,28°.41N×143°.23E,h103km, M3.6*
NEIC ***11*** *03:58:33.1±1.8,28°.33N×143°.35E,h35km±17km, mb4.4/2, Error ellipse: s-maj=15.8km s-min=8.6km az=90.0*

ISC 11 03:58:33.7±0.6, 28°.43N±0°.06×143°.3E±0°.1, h40km, n32, σ1s08/33, mb3.8/13, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.66**	**217**	P		**Pn**	**03 59 00.5**	**+0.1**
CBIJ				*e*S		**Sn**	**03 59 21.9**	**+1.4**
JHHJ	**Haha-jima-NKT**	**2.06**	**210**	P		**Pn**	**03 59 05.8**	**0.0**
JHHJ				*e*S		**Sn**	**03 59 30.3**	**+0.1**
JRY	**Ryogami san**	**8.44**	**335**	*e*S		**Sn**	**04 02 03.7**	**-3.6**
JHO	**Hitachi**	**8.48**	**345**	*e*S		Sn	04 01 58.0	-10
JAG	**Ashikaga**	**8.61**	**339**	*e*S		Sn	04 02 03.9	-7.7
MAJO	**Matsushiro**	**9.16**	**333**	*e*Pn		**Pn**	**04 00 44.4**	**+1.0**
SONM	**Songino Array**	**34.47**	**314**	P		**P**	**04 05 17.9**	**+0.1**
SONM	**Songino Array**	**34.47**	**314**	P		**P**	**04 05 17.9**	**+0.1**
	0.9nm,0.7s,baz=125,slow=7.9,SNR=8.0							
CTAO	**Charters Tower**	**48.32**	**176**	*e*P		**P**	**04 07 10.2**	**-1.1**
	29nm,1.5s							
WRAB	**Tennant Creek**	**48.85**	**191**	*e*P		**P**	**04 07 14.5**	**-1.0**
	5.4nm,0.8s							
WRAB				*e*pP		**pP**	**04 07 25.8**	**-1.1**
WRA	**Warramunga Arr**	**48.86**	**191**	P		**P**	**04 07 14.8**	**-0.7**
WRA	**Warramunga Arr**	**48.86**	**191**	P		**P**	**04 07 14.8**	**-0.7**
	7.0nm,0.7s,baz=13,slow=8.3,SNR=54							
FITZ	**Fitzroy Crossi**	**49.32**	**202**	P		**P**	**04 07 18.3**	**-0.7**
FITZ	**Fitzroy Crossi**	**49.32**	**202**	P		**P**	**04 07 18.3**	**-0.7**
	2.3nm,0.9s,baz=32,slow=9.5							
MKAR	**Makanchi Array**	**50.41**	**309**	P		**P**	**04 07 28.7**	**+1.6**
MKAR	**Makanchi Array**	**50.41**	**309**	P		**P**	**04 07 28.7**	**+1.6**
	0.3nm,0.8s,baz=90,slow=5.8,SNR=3.1							
ASAR	**Alice Springs**	**52.58**	**191**	P		**P**	**04 07 42.5**	**-1.0**
ASAR	**Alice Springs**	**52.58**	**191**	P		**P**	**04 07 42.5**	**-1.0**
	0.5nm,0.6s,baz=8.7,slow=6.6,SNR=7.1							
TKM2	**Tokmak 2**	**55.48**	**304**	*e*P		**P**	**04 08 05.5**	**+0.7**
	2.5nm,1.0s							
ILAR	**Eielson Array**	**56.07**	**29**	P		**P**	**04 08 07.9**	**-0.5**
ILAR	**Eielson Array**	**56.07**	**29**	P		**P**	**04 08 07.9**	**-0.5**
	0.3nm,0.7s,baz=263,slow=7.2,SNR=7.5							
STKA	**Stephens Creek**	**60.00**	**182**	P		**P**	**04 08 35.8**	**-0.4**
STKA	**Stephens Creek**	**60.00**	**182**	P		**P**	**04 08 35.8**	**-0.4**
	3.0nm,0.9s,baz=342,slow=10,SNR=4.9							
ABKAR	**Akbulak array**	**64.88**	**314**	*e*P		**P**	**04 09 09.2**	**+0.5**
YKA	**Yellowknife Ar**	**70.50**	**29**	P		**P**	**04 09 44.0**	**+0.1**
YKA	**Yellowknife Ar**	**70.50**	**29**	P		**P**	**04 09 44.0**	**+0.1**
	0.4nm,0.6s,baz=298,slow=6.0,SNR=2.7							
NVAR	**Mina Array Bea**	**78.91**	**52**	P		**P**	**04 10 33.9**	**+0.5**
NVAR	**Mina Array Bea**	**78.91**	**52**	P		**P**	**04 10 33.9**	**+0.5**
	0.4nm,0.7s,baz=292,slow=6.1,SNR=4.6							
TXAR	**Lajitas Array**	**94.01**	**54**	P		**P**	**04 11 49.5**	**+1.5**
TXAR	**Lajitas Array**	**94.01**	**54**	P		**P**	**04 11 49.5**	**+1.5**
	0.2nm,0.8s,baz=231,slow=0.8,SNR=3.5							
TORD	**Torodi Ar. Bea**	**124.44**	**313**	PKP		**PKPdf**	**04 17 28.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**124.44**	**313**	PKP		**PKPdf**	**04 17 28.9**	**-0.4**
	0.9nm,1.1s,baz=20,slow=4.7,SNR=3.2							

IDC ***11*** *04:08:14.7±1.1,17°.63S×167°.21E,h0km,mb4.0/7, mb1 4.3/8,mb1mx4.0/19,mbtmp4.0/8,ML4.0/1,MS3.4/5, Ms1 3.4/5,ms1mx3.2/26,Error ellipse: s-maj=36.9km s-min=21.1km az=132.0*
ISCJB ***11*** *04:08:15.5±0.9,17°.63S±0°.06×167°.1E±0°.2,h12km, mb4.0/7,MS3.4/5,Error ellipse: s-maj=22.1km s-min=8.2km az=2.2*

ISC 11 04:08:16.7±1.0, 17°.60S±0°.09×167°.2E±0°.2, h12km, n15, σ0s87/12, mb4.0/7, MS3.4/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.50**	**189**	Pn		**Pn**	**04 09 24.1**	**-0.7**
	8.3nm,0.3s,baz=270,slow=24,SNR=4.0							
DZM				Sn		**Sn**	**04 10 16.3**	**-0.9**
	9.0nm,0.3s,baz=270,slow=23,SNR=3.9							
NOUC	**Port Laguerre**	**4.55**	**190**	*e*P		**Pn**	**04 09 26.8**	**+1.3**
NOUC				*e*S		**Sn**	**04 10 18.7**	**+0.4**
AFI	**Afiamalu**	**20.58**	**83**	LR		LR	04 19 10.4	
	comp=Z,108nm,19.7s,baz=89,slow=32							
STKA	**Stephens Creek**	**27.15**	**234**	P		**P**	**04 14 00.5**	**+0.5**
	3.7nm,0.6s,baz=65,slow=7.7,SNR=5.1							
STKA				LR		LR	04 24 18.2	
	comp=Z,60nm,18.1s,baz=196,slow=36							
WRA	**Warramunga Arr**	**31.15**	**260**	P		**P**	**04 14 34.8**	**-0.9**
	1.2nm,0.9s,baz=90,slow=8.9,SNR=5.8							
RAR	**Rarotonga**	**31.35**	**102**	LR		LR	04 25 00.6	
	comp=Z,87nm,19.6s,baz=275,slow=32							
ASAR	**Alice Springs**	**31.67**	**253**	P		**P**	**04 14 40.0**	**-0.3**
	1.2nm,0.6s,baz=80,slow=8.4,SNR=16							
FITZ	**Fitzroy Crossi**	**39.48**	**263**	P		**P**	**04 15 47.8**	**+0.4**
	4.1nm,0.9s,baz=78,slow=7.4,SNR=4.5							
FITZ				LR		LR	04 31 42.6	
	comp=Z,68nm,18.6s,baz=70,slow=36							
TBI	**Tubuai**	**40.91**	**106**	*e*LR		LR	04 27 17.3	
	65nm,29.0s							
PPT2	**Papeete2**	**41.16**	**97**	*e*LR		LR	04 27 24.6	
	73nm,24.8s							
KSRS	**Korea Array**	**66.06**	**327**	LR		LR	04 46 06.5	
	comp=Z,21nm,18.1s,baz=268,slow=34							
SONM	**Songino Array**	**84.75**	**324**	P		**P**	**04 20 51.8**	**+0.9**
	0.4nm,0.6s,baz=142,slow=4.9,SNR=3.4							
NVAR	**Mina Array Bea**	**89.20**	**49**	P		**P**	**04 21 13.4**	**+0.5**
	0.4nm,0.7s,baz=226,slow=7.3,SNR=3.5							
ILAR	**Eielson Array**	**89.27**	**18**	P		**P**	**04 21 11.3**	**-1.0**
	0.8nm,0.6s,baz=236,slow=5.3,SNR=8.3							
ARCES	**ARCESS Array B**	**122.99**	**345**	PKP		**PKPdf**	**04 27 11.9**	**-0.5**
	1.3nm,0.8s,baz=0.0,slow=1.8,SNR=4.9							

IDC 11 04:08:40.7±1.5, 19°.17S×177°.57W, h534km±19km, mb3.1/4, mb1 3.5/6, mb1mx3.1/20, mbtmp3.4/6, Error ellipse: s-maj=23.7km s-min=14.9km az=123.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.63**	**48**	P		P	04 10 35.9	+1.5
	14nm,0.3s,baz=17,slow=1.8,SNR=15							
AFI				S		S	04 12 06.6	-1.0
	9.8nm,0.3s,baz=225,slow=22,SNR=5.6							
URZ	**Urewera**	**19.58**	**193**	P		P	04 12 31.9	-1.6
	4.6nm,0.3s,baz=354,slow=3.0,SNR=27							
STKA	**Stephens Creek**	**38.74**	**243**	P		P	04 15 19.3	+0.1
	1.8nm,0.5s,baz=73,slow=17,SNR=3.4							
WRA	**Warramunga Arr**	**45.20**	**261**	P		P	04 16 09.8	-0.5
	0.8nm,0.3s,baz=98,slow=7.6,SNR=28							
WRA				PcP		PcP	04 17 38.5	-0.7
	0.9nm,0.8s,baz=88,slow=2.9,SNR=5.2							
ASAR	**Alice Springs**	**45.23**	**255**	P		P	04 16 10.9	+0.4
	1.2nm,0.4s,baz=86,slow=8.4,SNR=13							
ASAR				PcP		PcP	04 17 38.7	-0.6
	0.9nm,0.5s,baz=101,slow=4.6,SNR=5.7							
VNDA	**Vanda**	**59.26**	**185**	P		P	04 17 51.7	+1.5
	1.0nm,0.6s,baz=357,slow=6.3,SNR=8.5							
ARCES	**ARCESS Array B**	**127.69**	**350**	PKP		PKPdf	04 26 43.2	-1.4
	1.6nm,0.9s,baz=42,slow=2.0,SNR=8.8							
BRTR	**Keskin Array B**	**146.23**	**314**	PKPbc		PKPdf	04 27 20.6	+1.0
	0.5nm,0.5s,baz=112,slow=3.1,SNR=3.6							
MLR	**Muntele Rosu**	**147.32**	**329**	PKPbc		PKPbc	04 27 23.8	-0.6
	0.1nm,0.3s,baz=289,slow=20,SNR=3.7							
MMAI	**Mount Meron Ar**	**147.49**	**302**	PKPbc		PKPbc	04 27 25.5	+0.3
	2.1nm,0.5s,baz=59,slow=6.9,SNR=7.2							
GERES	**GERESS Array B**	**149.03**	**345**	PKPbc		PKPbc	04 27 27.9	-0.7
	0.9nm,0.9s,baz=40,slow=4.4,SNR=6.3							

ISCJB ***11*** *04:09:21.7±0.5,24°.84N±0°.03×122°.71E±0°.02,h15km±4km, mb3.4/4, Error ellipse: s-maj=5.7km s-min=2.9km az=9.7*
JMA ***11*** *04:09:22.2±0.1,24°.26N×122°.58E,h34km,M2.5*
TAP ***11*** *04:09:22.8,24°.80N×122°.53E,h4km, ML3.3,D*
IDC ***11*** *04:09:24.4±1.2,24°.65N×121°.47E,h0km,mb3.3/4, mb1 3.5/5,mb1mx3.4/25,mbtmp3.4/5,ML3.5/1,MS2.9/1, Ms1 2.9/1,ms1mx2.4/14,Error ellipse: s-maj=67.5km s-min=21.1km az=69.0*

ISC 11 04:09:20.6±1.2, 24°.70N±0°.03×122°.67E±0°.02, h4km±9km, n42, σ1s00/72, mb3.3/4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.39**	**127**	P		**Pb**	**04 09 31.7**	**+1.6**
YOJ				*e*S		**Sb**	**04 09 38.6**	**+2.1**
TWB1	**Santiao Chiao**	**0.69**	**296**	*e*P		**Pg**	**04 09 33.8**	**-0.1**
	baz=292							
TWB1				S		**Sg**	**04 09 43.2**	**+0.4**
	baz=292							
TWC	**Suao**	**0.75**	**263**	P		**Pb**	**04 09 36.6**	**+0.3**
	baz=252							
TWC				S		**Sb**	**04 09 46.5**	**-0.5**
	baz=252							
NWF	**Wu-fen Shan**	**0.89**	**295**	P		**Pb**	**04 09 38.7**	**+0.1**
	baz=291							
NWF				S		**Sg**	**04 09 49.8**	**+0.6**
	baz=291							
ENA	**Nanau**	**0.89**	**252**	*e*P		**Pb**	**04 09 39.3**	**+0.7**
	baz=242							
ENA				*e*S		**Sn**	**04 09 52.0**	**-1.2**
	baz=242							
TWE	**Neicheng**	**0.91**	**271**	P		**Pb**	**04 09 38.8**	**-0.2**
	baz=263							
TWE				*e*S		**Sb**	**04 09 50.9**	**-0.7**
	baz=263							
ENTT	**Nioudou**	**1.01**	**267**	P		**Pb**	**04 09 40.8**	**+0.2**
	baz=259							
ENTT				*e*S		**Sb**	**04 09 54.3**	**0.0**
	baz=259							
TWA	**Mucha**	**1.03**	**286**	*e*P		**Pg**	**04 09 40.5**	**+0.2**
	baz=281							
TWA				S		**Sg**	**04 09 53.9**	**+0.3**
	baz=281							
IRIF	**Iriomote-Funau**	**1.03**	**110**	P		**Pg**	**04 09 41.0**	**+0.6**
IRIF				*e*S		**Sg**	**04 09 54.7**	**+0.9**
TWY	**Chenhua**	**1.13**	**301**	*e*P		**Pg**	**04 09 41.9**	**-0.4**
	baz=299							
TWY				*e*S		**Sg**	**04 09 56.7**	**-0.1**
	baz=299							
TWD	**Chiawan**	**1.16**	**238**	*e*P		**Pn**	**04 09 44.3**	**+0.7**
	baz=229							
TWD				*e*S		**Sn**	**04 10 00.7**	**+0.8**
	baz=229							
NSK	**Sanguang**	**1.19**	**269**	P		**Pn**	**04 09 44.1**	**0.0**
	baz=263							
NSK				*e*S		**Sb**	**04 09 59.6**	**-0.1**
	baz=263							
NNS	**Nan Shan**	**1.21**	**258**	*e*P		**Pn**	**04 09 45.0**	**+0.5**
	baz=250							
NNS				*e*S		**Sn**	**04 10 01.2**	**-0.2**
	baz=250							
HATJ	**Hateruma jima**	**1.22**	**122**	*e*S		**Sg**	**04 09 56.3**	**-3.4**
JKRS	**Kuro-shima**	**1.30**	**110**	P		**Pn**	**04 09 44.9**	**-0.7**
JKRS				*e*S		**Sg**	**04 10 00.5**	**-2.0**
JIJ	**Ishigaki jima**	**1.38**	**104**	P		**Pn**	**04 09 46.2**	**-0.5**
JIJ				*e*S		**Sb**	**04 10 04.8**	**-0.3**
WHF	**Hehuan Shan**	**1.40**	**247**	P		**Pg**	**04 09 48.6**	**+1.3**
	baz=240							
WHF				*e*S		**Sn**	**04 10 07.0**	**+0.6**
	baz=240							
TWT	**Tachien**	**1.43**	**252**	*e*P		**Pn**	**04 09 47.6**	**0.0**
	baz=246							
ESL	**Shilin**	**1.43**	**232**	*e*P		**Pg**	**04 09 49.2**	**+1.1**
	baz=225							
ESL				*e*S		**Sn**	**04 10 09.1**	**+2.3**
	baz=225							
NSTT	**Nanjuang**	**1.52**	**268**	*e*P		**Pg**	**04 09 50.1**	**+0.3**
	baz=262							
NSTT				*e*S		**Sg**	**04 10 09.1**	**-0.4**
	baz=262							
EHY	**Hungye**	**1.71**	**226**	*e*P		**Pb**	**04 09 52.7**	**0.0**
	baz=220							
EHY				*e*S		**Sg**	**04 10 17.4**	**+1.7**
	baz=220							
NSY	**Sanyi**	**1.76**	**261**	*e*P		**Pg**	**04 09 54.9**	**+0.5**
	baz=256							
TWQ1	**Liyutan**	**1.76**	**259**	*e*P		**Pg**	**04 09 54.3**	**-0.1**
	baz=254							
TWQ1				*e*S		**Sn**	**04 10 14.9**	**0.0**
	baz=254							
SMLT	**Sun Moon Lake**	**1.81**	**244**	*e*P		**Pg**	**04 09 54.9**	**-0.4**
	baz=238							
SMLT				*e*S		**Sg**	**04 10 17.8**	**-1.0**
	baz=238							
TYC	**Yuchr**	**1.83**	**245**	*e*P		**Pb**	**04 09 55.2**	**+0.4**
	baz=239							
TYC				*e*S		**Sb**	**04 10 17.2**	**-0.9**
	baz=239							
TWF1	**Yuli**	**1.84**	**223**	*e*P		**Pb**	**04 09 54.1**	**-0.7**
	baz=217							
TWF1				*e*S		**Sg**	**04 10 20.6**	**+0.9**
	baz=217							
YUS	**Yu-Shan**	**1.98**	**233**	*e*P		**Pg**	**04 09 58.3**	**-0.3**
	baz=227							
YUS				*e*S		**Sb**	**04 10 22.9**	**+0.1**
	baz=227							
WNT	**Mingjian**	**1.99**	**246**	*e*P		**Pb**	**04 09 57.8**	**+0.5**
	baz=241							
WNT				*e*S		**Sb**	**04 10 22.8**	**+0.3**
	baz=241							
CHKT	**Chengkung**	**1.99**	**217**	*e*P		**Pb**	**04 09 56.8**	**-0.7**
	baz=212							
CHKT				*e*S		**Sb**	**04 10 21.6**	**-1.0**
	baz=212							
ALS	**Alishan**	**2.08**	**236**	*e*P		**Pb**	**04 09 59.5**	**+0.5**
	baz=230							
ALS				*e*S		**Sb**	**04 10 24.6**	**-0.8**
	baz=230							
CHN5	**Tsauling**	**2.13**	**239**	*e*P		**Pb**	**04 10 00.4**	**+0.6**
	baz=234							
CHN5				*e*S		**Sb**	**04 10 26.5**	**-0.1**
	baz=234							
CHN4	**Tsaushan**	**2.33**	**235**	*e*P		**Pb**	**04 10 02.6**	**-0.5**
	baz=230							
CHN4				*e*S		**Sb**	**04 10 31.4**	**-0.8**
	baz=230							
WTP	**Ta-pu**	**2.37**	**233**	*e*P		**Pb**	**04 10 02.6**	**-1.4**
	baz=228							
WTP				*e*S		**Sb**	**04 10 32.9**	**-0.8**
	baz=228							
TWG	**Pinlang**	**2.38**	**218**	*e*P		**Pn**	**04 10 01.2**	**+0.8**
	baz=213							
TWK	**Hsinying**	**2.45**	**235**	*e*P		**Pb**	**04 10 05.3**	**-0.1**
	baz=230							
TWK				*e*S		**Sb**	**04 10 35.0**	**-1.0**
	baz=230							
CHN1	**Nanshi**	**2.47**	**233**	*e*P		**Pb**	**04 10 04.2**	**-1.5**
	baz=228							
CHN1				*e*S		**Sb**	**04 10 35.0**	**-1.5

comp=Z,55nm,18.5s,baz=97,slow=35
VNDA Vanda 54.88 194 P P 04 27 56.7 -0.4
0.4nm,0.6s,baz=106,slow=1.3,SNR=3.9
TXAR Lajitas Array 72.55 342 P P 04 29 52.6 -1.7
0.9nm,1.0s,baz=168,slow=6.4,SNR=3.4
TXAR LR LR 04 56 04.9
comp=Z,28nm,18.0s,baz=5.0,slow=31
ANMO Albuquerque 78.58 341 P P 04 30 29.6 +0.7
0.7nm,0.6s,baz=151,slow=15,SNR=2.7
BOSA Boshof 84.69 124 LR LR 05 04 22.8
comp=Z,44nm,18.3s,baz=163,slow=33
NVAR Mina Array Bea 85.24 334 P P 04 31 04.9 +1.0
0.2nm,0.5s,baz=164,slow=7.1,SNR=2.6
DBIC Dimbokro 86.42 78 LR LR 05 07 37.8
comp=Z,43nm,18.1s,baz=21,slow=34
TORD Torodi Ar. Bea 95.52 77 LR LR 05 13 19.8
comp=Z,33nm,19.7s,baz=155,slow=34
STKA Stephens Creek 95.81 218 LR LR 05 09 35.1
comp=Z,67nm,19.6s,baz=206,slow=32

*ATH **11** 04:28:41.2,34.°08N×25.°20E,h27km±1km, MD3.2/6*
*CSEM **11** 04:28:42.7±0.2,34.°21N×25.°20E,h10km, MD3.2, Error ellipse: s-maj=11.8km s-min=4.8km az=82.0*
*IDC **11** 04:28:42.3±1.2,34.°26N×25.°14E,h0km, mb3.7/5, mb1 3.8/7, mb1mx3.6/25, mbtmp3.7/7, ML3.8/2, MS2.8/1, Ms1 2.8/1, ms1mx2.0/45, Error ellipse: s-maj=35.9km s-min=20.5km az=161.0*
*ISCJB **11** 04:28:43.2±2.1,34.°13N±0.°03×25.°22E±0.°08,h20km±19km, mb3.6/5, Error ellipse: s-maj=10.8km s-min=4.6km az=170.8*
ISC 11 04:28:42.8±1.6, 34.°18N±0.°03×25.°21E±0.°06, h7km±11km, n22, σ0°89/31, mb3.8/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.90**	**339**	*e*PN	**Pg**	**04 29 00.3**	**+0.2**
SIVA				*e*SN	**Sn**	**04 29 14.5**	**-0.6**
SIVA	**Sivas**	**0.90**	**339**	*e*Pn	**Pg**	**04 29 00.3**	**+0.2**
SIVA				*e*Sn	**Sn**	**04 29 14.5**	**-0.6**
LAST	**Lasithi**	**1.01**	**13**	*e*PN	**Pg**	**04 29 02.1**	**-0.1**
LAST				*e*SN	**Sn**	**04 29 17.9**	**0.0**
LAST	**Lasithi**	**1.01**	**13**	*e*Pn	**Pg**	**04 29 02.1**	**-0.1**
LAST				*e*Sn	**Sn**	**04 29 17.9**	**0.0**
NPS	**Neapolis**	**1.14**	**17**	*e*PN	**Pb**	**04 29 04.3**	**-0.4**
NPS	**Neapolis**	**1.14**	**17**	*e*Pn	**Pb**	**04 29 04.3**	**-0.4**
GVD	**Gavdhos**	**1.14**	**306**	*e*PN	**Pb**	**04 29 04.0**	**-0.8**
GVD	**Gavdhos**	**1.14**	**306**	*e*Pn	**Pb**	**04 29 04.0**	**-0.8**
IDI	**Anoyia**	**1.14**	**347**	*e*PN	**Pb**	**04 29 04.3**	**-0.6**
IDI				*e*SN	**Sn**	**04 29 21.4**	**+0.3**
IDI	**Anoyia**	**1.14**	**347**	*e*Pn	**Pb**	**04 29 04.3**	**-0.6**
IDI				*e*Sn	**Sn**	**04 29 21.4**	**+0.3**
ZKR	**Zakros**	**1.25**	**41**	*e*PN	**Pn**	**04 29 06.0**	**-0.7**
ZKR	**Zakros**	**1.25**	**41**	*e*Pn	**Pn**	**04 29 06.0**	**-0.7**
SLUM		**2.68**	**180**	P	**Pn**	**04 29 27.2**	**+1.0**
SLUM				S	**Sn**	**04 29 58.2**	**-0.7**
HMAT	**Matruh**	**3.46**	**152**	P	**Pn**	**04 29 37.4**	**+0.3**
HMAT				S	**Sn**	**04 30 16.4**	**-1.9**
SWA2		**4.92**	**177**	P	**Pn**	**04 29 58.1**	**+1.0**
SWA2				S	**Sn**	**04 30 52.3**	**-2.0**
MMAI	**Mount Meron Ar**	**8.58**	**95**	Pn	**Pn**	**04 30 49.9**	**+2.4**
	1.0nm,0.3s,baz=268,slow=13,SNR=4.4						
GERES	**GERESS Array B**	**16.97**	**333**	Pn	**P**	**04 32 41.9**	**-0.7**
	0.1nm,0.3s,baz=148,slow=13,SNR=8.5						
GERES				LR	LR	04 40 02.4	
	comp=Z,27nm,18.1s,baz=110,slow=40						
ESDC	**Sonseca Array**	**23.90**	**292**	P	**P**	**04 33 57.0**	**-0.1**
	0.7nm,0.7s,baz=86,slow=8.8,SNR=6.4						
TORD	**Torodi Ar. Bea**	**29.90**	**231**	P	**P**	**04 34 52.0**	**+0.7**
	0.9nm,0.5s,baz=32,slow=8.8,SNR=24						
MKAR	**Makanchi Array**	**44.29**	**56**	P	**P**	**04 36 53.8**	**+0.7**
	0.8nm,0.6s,baz=277,slow=6.4,SNR=6.8						
ZALV	**Zalesovo Beam**	**45.66**	**45**	P	**P**	**04 37 03.6**	**-0.2**
	0.9nm,0.4s,baz=283,slow=8.0,SNR=3.7						
SONM	**Songino Array**	**60.08**	**50**	P	**P**	**04 38 51.0**	**+0.4**
	0.4nm,0.5s,baz=280,slow=6.8,SNR=4.3						

*ISCJB **11** 04:34:27.9±0.4,50.°05N±0.°03×18.°38E±0.°03,h0km, Error ellipse: s-maj=4.0km s-min=2.5km az=12.9*
*IPEC **11** 04:34:28.5±0.2,50.°03N×18.°53E,h0km,ML2.5/3, Error ellipse: s-maj=2.2km s-min=1.1km az=161.0*
*CSEM **11** 04:34:28.8±0.3,50.°06N×18.°38E,h1km,ML2.9/8, Error ellipse: s-maj=5.9km s-min=4.3km az=29.0*
*WAR **11** 04:34:28.5,50.°07N×18.°48E*
*PRU **11** 04:34:29.7,50.°02N×18.°41E,h0km*
ISC 11 04:34:29.1±0.8, 50.°05N±0.°03×18.°44E±0.°02, h0km, n34, σ1°12/59, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.17**	**283**	*e*Pg	**Pg**	**04 34 32.8**	**+0.5**
RAC				*e*Sg	**Sg**	**04 34 36.3**	**+1.9**
OKC	**Ostrava-Krasne**	**0.28**	**222**	*e*PG	**Pg**	**04 34 34.9**	**+0.3**
OKC				*e*SG	**Sg**	**04 34 38.6**	**+0.4**
	comp=Z,181nm,0.6s						
OKC	**Ostrava-Krasne**	**0.28**	**222**	Pg	**Pg**	**04 34 34.9**	**+0.3**
OKC				Sg	**Sg**	**04 34 38.6**	**+0.4**
	181nm,0.6s						
MORC	**Moravsky Berou**	**0.64**	**245**	*e*Pg	**Pg**	**04 34 41.1**	**-0.3**
	baz=68						
MORC				*e*Sg	**Sg**	**04 34 50.6**	**+0.9**
	60nm,0.4s,baz=68						
OJC	**Ojcow**	**0.89**	**78**	*e*Pg	**Pg**	**04 34 45.1**	**-1.0**
OJC				*e*Sg	**Sb**	**04 34 57.9**	**-1.9**
NIE	**Niedzica**	**1.37**	**117**	*e*Pg	**Pb**	**04 34 55.9**	**+0.3**
NIE				*e*Sg	**Sn**	**04 35 15.5**	**+1.2**
NIE	**Niedzica**	**1.37**	**117**	*e*Pg	**Pb**	**04 34 55.9**	**+0.3**
DPC	**Dobruska-Polom**	**1.40**	**283**	*e*PG	**Pn**	**04 34 54.7**	**-1.2**
DPC				*e*SG	**Sg**	**04 35 14.6**	**+0.6**
DPC	**Dobruska-Polom**	**1.40**	**283**	Pg	**Pn**	**04 34 54.7**	**-1.2**
DPC				Sg	**Sg**	**04 35 14.6**	**+0.6**
VRAC	**Vranov**	**1.41**	**239**	*e*Pg	**Pn**	**04 34 55.0**	**-1.1**
	baz=60						
VRAC				*e*Sg	**Sg**	**04 35 14.0**	**-0.4**
	67nm,0.8s,baz=60						
VYHS	**Vyhne**	**1.58**	**170**	*e*SG	**Sn**	**04 35 19.2**	**-0.2**
VYHS	**Vyhne**	**1.58**	**170**	*e*Sg	**Sn**	**04 35 19.3**	**-0.1**
KSP	**Ksiaz**	**1.59**	**301**	*e*Pn	**Pn**	**04 34 56.9**	**-1.6**
KSP				*e*Pg	**Pg**	**04 35 00.7**	**+1.1**
KSP				*e*Sn	**Sn**	**04 35 18.4**	**-1.4**
KSP				*e*Sg	**Sg**	**04 35 22.0**	**+1.8**
KSP	**Ksiaz**	**1.59**	**301**	*e*Pg	**Pn**	**04 34 58.8**	**+0.3**
KSP	**Ksiaz**	**1.59**	**301**	*e*Pn	**Pn**	**04 34 57.0**	**-1.6**
KSP	**Ksiaz**	**1.59**	**301**	*e*Pg	**Pn**	**04 34 58.8**	**+0.3**
KSP				*e*Sg	**Sn**	**04 35 15.8**	**-1.2**
UPC	**Upice**	**1.63**	**287**	*e*PG	**Pn**	**04 34 58.5**	**-0.5**
UPC				*e*SG	**Sn**	**04 35 20.7**	**0.0**
UPC	**Upice**	**1.63**	**287**	Pg	**Pn**	**04 34 58.5**	**-0.5**
UPC				Sg	**Sn**	**04 35 20.7**	**0.0**
KRUC	**Moravsky**	**1.66**	**234**	*e*Pn	**Pn**	**04 34 58.9**	**-0.6**
	baz=54						
KRUC				*e*Sg	**Sn**	**04 35 21.4**	**-0.1**
	44nm,0.6s,baz=54						
SMOL	**Smolenice**	**1.67**	**204**	*e*SG	**Sn**	**04 35 22.1**	**+0.3**
SMOL	**Smolenice**	**1.67**	**204**	*e*Sg	**Sn**	**04 35 22.1**	**+0.3**
STHS	**Stebnicka Huta**	**1.92**	**108**	*e*PN	**Pg**	**04 35 05.1**	**-0.9**
STHS				*e*SG	**Sg**	**04 35 33.7**	**+2.8**
STHS	**Stebnicka Huta**	**1.92**	**108**	*e*Pn	**Pg**	**04 35 05.1**	**-0.9**
STHS				*e*Sg	**Sg**	**04 35 33.7**	**+2.8**
KECS	**Kecovo**	**2.06**	**139**	*e*SG	**Sb**	**04 35 33.1**	**-0.4**
KECS	**Kecovo**	**2.06**	**139**	*e*Sg	**Sb**	**04 35 33.1**	**-0.4**
TREC	**Trest**	**2.06**	**250**	*e*PG	**Pn**	**04 35 05.9**	**+0.8**
TREC				*e*SG	**Sb**	**04 35 33.7**	**0.0**
	comp=Z,13nm,0.4s						
TREC	**Trest**	**2.06**	**250**	Pg	**Pn**	**04 35 05.9**	**+0.8**
TREC				Sg	**Sb**	**04 35 33.7**	**0.0**
	13nm,0.4s						
PRU	**Pruhonice**	**2.52**	**270**	*e*PG	**Pb**	**04 35 16.0**	**+0.8**
PRU				*e*SG	**Sg**	**04 35 49.2**	**-0.8**
	comp=Z,10nm,0.6s						
PRU	**Pruhonice**	**2.52**	**270**	Pg	**Pb**	**04 35 16.0**	**+0.8**
PRU				Sg	**Sg**	**04 35 49.2**	**-0.8**
	10nm,0.6s						
PVCC	**Panska Ves**	**2.53**	**282**	*e*SG	**Sg**	**04 35 50.4**	**0.0**
	comp=Z,17nm,0.3s						
PVCC	**Panska Ves**	**2.53**	**282**	Sg	**Sg**	**04 35 50.4**	**0.0**
	17nm,0.3s						
KHC	**Kasperske Hory**	**3.30**	**256**	*e*PG	**Pb**	**04 35 29.3**	**+0.8**
KHC				*e*SG	**Sg**	**04 36 12.9**	**-2.1**
	comp=Z,14nm,0.6s						
KHC	**Kasperske Hory**	**3.30**	**256**	Pg	**Pb**	**04 35 29.3**	**+0.8**
KHC				Sg	**Sg**	**04 36 12.9**	**-2.1**
	14nm,0.6s						
CLL	**Collm**	**3.68**	**292**	*i* Pg	**Pg**	**04 35 38.9**	**-0.8**
CLL				*e*Sg	**Sg**	**04 36 30.0**	**+2.6**
	comp=Z,6.0nm,0.8s						

*ECX **11** 04:39:02.9±0.9,32.°13N×115.°72W,h6km, MD3.4, ML3.6*
*NEIC **11** 04:39:02.9,32.°13N×115.°72W,h6km, ML3.4(PAS), ML3.6(ECX), After ECX.*
NEIC Felt at El Cajon, California.
ISC 11 04:39:01.3±1.1, 32.°14N±0.°02×115.°67W±0.°02, h4km±10km, n37, σ1°09/66, 10C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDX	**Rancho Dawling**	**0.31**	**227**	*i* P	**Pg**	**04 39 07.7**	**+0.3**
RDX				*i* S	**Sg**	**04 39 11.5**	**-0.1**
RDX	**Rancho Dawling**	**0.31**	**227**	⇑*i*P	**Pg**	**04 39 07.7**	**+0.3**
RDX				*i* S	**Sg**	**04 39 11.5**	**-0.1**
RDX				⇑*e*		04 39 12.2	
	comp=E,7μm,0.3s						
RDX				⇑*e*		04 39 12.2	
	comp=N,5μm,0.3s						
EMX	**El Mayor**	**0.40**	**113**	*e*P	**Pg**	**04 39 09.2**	**+0.3**
EMX				*e*S	**Sg**	**04 39 14.6**	**+0.6**
EMX	**El Mayor**	**0.40**	**113**	*e*P	**Pg**	**04 39 09.2**	**+0.3**
EMX				*i* S	**Sg**	**04 39 14.6**	**+0.6**
EMX				⇑*e*		04 39 15.4	
	comp=E,4μm,0.2s						
EMX				⇓*e*		04 39 16.9	
	comp=N,3μm,0.2s						
CPBX	**Cerro Prieto**	**0.41**	**48**	⇑*e*P	**Pb**	**04 39 11.3**	**+0.1**
CPBX				*e*S	**Sb**	**04 39 17.5**	**-0.4**
CPBX				⇓*e*		04 39 22.6	
	comp=E,16μm,0.4s						
CPBX				⇓*e*		04 39 26.9	
	comp=N,14μm,0.2s						
SGL	**Mount Signal**	**0.51**	**355**	*e*P	**Pb**	**04 39 12.4**	**-0.4**
SGL	**Mount Signal**	**0.51**	**355**	⇑P	**Pb**	**04 39 12.4**	**-0.4**
YUH	**Yuha Desert**	**0.55**	**337**	*i* P	**Pg**	**04 39 12.6**	**+0.8**
YUH	**Yuha Desert**	**0.55**	**337**	⇓*i*P	**Pg**	**04 39 12.6**	**+0.8**
RMX	**La Rumorosa**	**0.57**	**323**	*i* P	**Pg**	**04 39 13.0**	**+0.7**
RMX				*i* S	**Sg**	**04 39 20.7**	**+0.8**
RMX	**La Rumorosa**	**0.57**	**323**	⇓*i*P	**Pg**	**04 39 13.0**	**+0.7**
RMX				*i* S	**Sg**	**04 39 20.7**	**+0.8**
RMX				⇓*e*		04 39 21.5	
	comp=N,3μm,0.1s						
DVTC	**Desert V Tower**	**0.63**	**325**	P	**Pg**	**04 39 14.1**	**+0.7**
	baz=0.6						
DVTC				S	**Sg**	**04 39 21.9**	**+0.3**
	baz=0.6						
SWSC	**Sam W. Stewart**	**0.80**	**352**	P	**Pb**	**04 39 17.6**	**-0.3**
	baz=0.8						
SWSC				S	**Sb**	**04 39 28.4**	**-0.7**
	baz=0.8						
ZAX	**El Zacaton**	**0.81**	**220**	⇑*i*P	**Pg**	**04 39 16.6**	**-0.2**
ECBX	**El Chinero**	**0.85**	**142**	⇓*e*P	**Pg**	**04 39 16.6**	**-1.0**
ECBX				*e*S	**Sg**	**04 39 28.3**	**-0.3**
ECBX				⇓*e*		04 39 29.5	
	comp=N,916nm,0.5s						
COA	**Coachella**	**0.85**	**33**	⇑*i*P	**Pb**	**04 39 18.6**	**-0.1**
ECNX	**Esteban Cantu**	**0.93**	**239**	⇑*i*P	**Pg**	**04 39 18.8**	**-0.2**
MONP	**Monument Peak**	**0.98**	**320**	P	**Pg**	**04 39 20.3**	**+0.3**
	baz=1.0						
MONP				S	**Sg**	**04 39 32.6**	**-0.2**
	baz=1.0						
PBX	**Punta Banda**	**0.98**	**246**	⇑*i*P	**Pg**	**04 39 19.8**	**-0.3**
BAR	**Barrett**	**1.00**	**303**	*e*Pg	**Pg**	**04 39 20.2**	**-0.3**
BAR				*e*Sg	**Sg**	**04 39 32.7**	**-0.8**
GLA	**Glamis**	**1.15**	**38**	*e*Pg	**Pg**	**04 39 22.5**	**-0.9**
GLA				*e*Sg	**Sg**	**04 39 37.1**	**-1.2**
GLA	**Glamis**	**1.15**	**38**	P	**Pg**	**04 39 22.6**	**-0.8**
	baz=1.2						
GLA				S	**Sg**	**04 39 37.4**	**-0.9**
	baz=1.2						
109C	**Camp Elliot, M**	**1.42**	**302**	P	**Pn**	**04 39 27.2**	**-0.7**
	baz=1.4						
109C				S	**Sb**	**04 39 44.9**	**-2.0**
	baz=1.4						
BC3	**Big Chuckawall**	**1.52**	**7**	P	**Pn**	**04 39 28.2**	**-1.2**
	baz=1.5						
PFO	**Pinyon Flat Ob**	**1.61**	**336**	*e*Pn	**Pn**	**04 39 28.9**	**-1.6**
PFO				*e*Pg	**Pb**	**04 39 31.8**	**+0.2**
PFO				*e*Sn	**Sb**	**04 39 52.4**	**+0.1**
PFO	**Pinyon Flat Ob**	**1.61**	**336**	P	**Pn**	**04 39 29.4**	**-1.2**
	baz=1.6						
113A	**Mohawk Valley,**	**1.73**	**68**	P	**Pn**	**04 39 31.0**	**-1.1**
	baz=1.8						
113A				Sb	**Sb**	**04 39 56.0**	**+0.4**
	baz=1.8						
Y12C	**Blythe**	**1.87**	**31**	P	**Pn**	**04 39 33.2**	**-0.9**
	baz=1.9						
MURC	**Murrieta**	**1.94**	**319**	Pb	**Pb**	**04 39 36.3**	**-0.9**
	baz=1.9						
MURC				Sb	**Sb**	**04 40 01.7**	**-0.2**
	baz=1.9						
214A	**Organ Pipe Nat**	**2.43**	**94**	P	**Pn**	**04 39 40.3**	**-1.6**
	baz=2.5						
CIS	**Catalina Islan**	**2.62**	**299**	P	**Pn**	**04 39 43.5**	**-1.0**
	baz=2.6						
CIS				Sb	**Sb**	**04 40 22.3**	**+0.7**
	baz=2.6						
BFSC	**Mount Baldy Ra**	**2.67**	**322**	Sb	**Sb**	**04 40 22.5**	**-0.5**
	baz=2.7						
MWC	**Mount Wilson**	**2.88**	**317**	*e*Pn	**Pn**	**04 39 48.8**	**+0.5**
MWC				*e*Pg	**Pb**	**04 39 54.9**	**+1.4**
MWC				*e*Sn	**Sn**	**04 40 24.5**	**+1.0**
MWC				*e*Sg	**Sg**	**04 40 31.7**	**-2.2**
DECC	**Green Verdugo**	**3.06**	**314**	Sb	**Sb**	**04 40 34.9**	**+0.7**
	baz=3.1						
TUC	**Tucson**	**4.14**	**86**	*e*Pn	**Pn**	**04 40 08.3**	**+2.9**
TUC				*e*Pg	**Pg**	**04 40 22.1**	**+1.4**
TUC				*e*Sg	**Sg**	**04 41 11.6**	**-2.8**
WUAZ	**Wupatki**	**4.91**	**46**	*e*Pn	**Pn**	**04 40 17.6**	**+1.6**
WUAZ				*e*Sg	**Sg**	**04 41 37.1**	**-1.9**
CCUT	**Cedar City**	**5.72**	**19**	*e*Pn	**Pn**	**04 40 28.9**	**+1.6**
	comp=N,3.2nm,0.8s						
CCUT				*e*Pg	**Pg**	**04 40 52.1**	**+1.2**
CCUT				*e*Sn	**Sn**	**04 41 34.5**	**+1.0**
CCUT				*e*Sg	**Sg**	**04 42 02.8**	**-2.2**

NNC 11 04:51:37.1±4.0, 37.°17N×71.°24E, h201km±51km, mb2.5, mpv3.6, 4C-1D, Error ellipse: s-maj=55.2km s-min=18.6km az=43.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.95**	**355**	P	Pn	04 53 03.9	+0.2
	1.8nm,0.2s,baz=182,slow=12,SNR=117						
KK31				⇑S	S	04 54 12.7	+0.7
	1.7nm,0.3s,baz=181,slow=21,SNR=17						
TKM2	**Tokmak 2**	**6.64**	**29**	⇑P	Pn	04 53 12.6	-0.3
	2.6nm,0.5s						
AB31	**Akbulak array**	**14.60**	**329**	⇓P	Pn	04 54 53.8	-0.3
	0.2nm,0.3s,baz=152,slow=9.7,SNR=5.9						
AB31				⇑S	S	04 57 36.7	+0.6
	0.2nm,0.3s						
AKTO	**Aktyubinsk**	**16.30**	**329**	⇑P	P	04 55 14.4	+0.3
	0.9nm,0.5s						

IDC 11 04:54:16.5±2.4, 9.°32S×111.°67E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, Error ellipse: s-maj=90.4km s-min=21.7km az=53.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.31**	**118**	P	P	04 59 34.9	-1.1
	0.7nm,0.5s,baz=294,slow=11,SNR=14						
ASAR	**Alice Springs**	**25.59**	**127**	P	P	04 59 48.5	+0.8
	0.7nm,0.6s,baz=303,slow=9.2,SNR=14						
USRK	**Ussurisk Arra**	**56.37**	**17**	P	P	05 04 00.0	+0.6
	1.6nm,0.7s,baz=217,slow=9.1,SNR=4.4						
SONM	**Songino Array**	**57.10**	**356**	P	P	05 04 05.8	+1.0
	0.7nm,0.9s,baz=172,slow=6.8,SNR=4.2						
MKAR	**Makanchi Array**	**61.71**	**337**	P	P	05 04 35.5	-1.0
	0.5nm,0.5s,baz=151,slow=7.6,SNR=8.9						

IDC 11 04:55:23.6±4.3, 62.°08S×159.°37W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.7/12, mbtmp3.6/3, MS3.3/4, Ms1 3.3/4, ms1mx3.1/23, Error ellipse: s-maj=109.2km s-min=48.7km az=80.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**19.79**	**204**	P	P	04 59 55.0	0.0
	0.1nm,0.3s,baz=72,slow=11,SNR=5.4						
VNDA				LR	LR	05 05 58.6	
	comp=Z,80nm,18.3s,baz=66,slow=32						
QSPA	**South Pole Qui**	**28.04**	**180**	LR	LR	05 11 21.2	
	comp=Z,47nm,19.1s,baz=145,slow=34						
TBI	**Tubuai**	**39.29**	**14**	*e*T	T	05 45 01.1	
	22nm,0.3s						
RKT	**Rikitea**	**42.34**	**34**	*e*T	T	05 48 42.2	
	9.0nm,0.2s						
PPT2	**Papeete2**	**44.97**	**13**	*e*LR	LR	05 16 10.0	
	83nm,27.8s						
SNAA	**Sanae**	**45.55**	**170**	LR	LR	05 20 07.8	
	comp=Z,17nm,20.0s,baz=207,slow=33						
PMOR	**Pomariorio Ree**	**47.72**	**15**	*e*T	T	05 55 32.1	
	3.5nm,0.3s						
ASAR	**Alice Sprigs**	**58.49**	**279**	P	P	05 05 22.1	+0.8
	0.5nm,0.7s,baz=151,slow=6.1,SNR=5.8						
WRA	**Warramunga Arr**	**61.50**	**281**	P	P	05 05 41.2	-0.8
	0.3nm,0.3s,baz=156,slow=6.3,SNR=3.2						
BOSA	**Boshof**	**89.56**	**184**	LR	LR	05 45 57.3	
	comp=Z,40nm,19.1s,baz=166,slow=34						
ZALV	**Zalesovo Beam**	**146.39**	**286**	PKPbc	PKPdf	05 15 04.3	+0.6
	0.4nm,0.4s,baz=124,slow=4.2,SNR=2.4						

IDC 11 06:30:35.4±2.4, 3.°78N×125.°94E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=208.1km s-min=28.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.98**	**161**	P	P	06 36 00.5	-0.5
	0.8nm,0.8s,baz=339,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**28.36**	**164**	P	P	06 36 31.7	+0.3
	0.4nm,1.0s,baz=348,slow=8.5,SNR=2.4						
MKAR	**Makanchi Array**	**57.07**	**326**	P	P	06 40 23.6	+0.1
	0.2nm,0.3s,baz=124,slow=8.1,SNR=3.8						

*ISCJB **11** 06:34:45.4±0.7,75.°92N±0.°05×7.°4E±0.°2,h10km, mb3.1/1, MS3.2/5, Error ellipse: s-maj=7.2km s-min=6.5km az=162.8*
*CSEM **11** 06:34:48.8±0.2,75.°87N×6.°95E,h10km, ML3.2, Error ellipse: s-maj=7.1km s-min=6.0km az=173.0*
*IDC **11** 06:34:51.2±1.9,75.°83N×8.°18E,h0km, mb3.2/1, mb1 3.6/4, mb1mx3.2/27, mbtmp3.4/4, ML3.1/3, MS3.1/8, Ms1 3.1/8, ms1mx2.8/29, Error ellipse: s-maj=28.9km s-min=12.0km az=78.0*
*BER **11** 06:34:52.1±3.4,75.°86N×7.°77E,h15km±21km, ML2.3, ML3.2(NAO)*
*NAO **11** 06:34:53.9±2.8,75.°89N×9.°24E, ML3.2*
ISC 11 06:34:47.9±0.9, 75.°91N±0.°05×7.°50E±0.°07, h10km, n31, σ1°92/32, MS3.2/5, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**2.19**	**56**	*e*P	**Pb**	**06 35 27.0**	**-0.5**
HSP				*e*S	**Sn**	**06 35 48.8**	**-2.6**
SPA0	**Spitsbergen Ar**	**3.03**	**37**	Pn	**Pb**	**06 35 39.4**	**-2.5**
	baz=221,slow=14						
SPA0				Sn	**Sn**	**06 36 12.7**	**+0.6**
	baz=211,slow=16						
SPA0	**Spitsbergen Ar**	**3.03**	**37**	Pn	**Pb**	**06 35 39.4**	**-2.5**
	baz=221,slow=14						
SPA0				Sn	**Sn**	**06 36 12.7**	**+0.6**
	baz=211,slow=16						
SPA0	**Spitsbergen Ar**	**3.03**	**37**	Pn	**Pb**	**06 35 39.3**	**-2.5**
	baz=221,slow=14,SNR=6.3						
SPA0				Sn	**Sn**	**06 36 12.7**	**+0.6**
	baz=211,slow=16,SNR=50						
SPITS	**Spitsbergen Ar**	**3.03**	**37**	Pn	**Pb**	**06 35 39.4**	**-2.5**
	baz=209,slow=15,SNR=306						
SPITS				Sn	**Sn**	**06 36 12.9**	**+0.8**
	baz=229,slow=23,SNR=9.5						
KBS	**Kingsbay**	**3.19**	**16**	Pn	**Pn**	**06 35 40.4**	**+2.5**
KBS				Sn	**Sn**	**06 36 14.1**	**-1.8**
KBS	**Kingsbay**	**3.19**	**16**	Pn	**Pn**	**06 35 40.4**	**+2.5**
KBS				Sn	**Sn**	**06 36 14.1**	**-1.8**
KBS				AML	AML	06 36 18.2	
	comp=Z,14nm,0.4s						
KBS	**Kingsbay**	**3.19**	**16**	Pn	**Pn**	**06 35 40.4**	**+2.5**
BJO	**Bjornoya**	**3.31**	**109**	*e*Pg	**Pb**	**06 35 44.5**	**-2.0**
BJO				*e*S	**Sn**	**06 36 17.0**	**-1.9**
BJO				AML	AML	06 36 21.3	
	comp=Z,30nm,0.6s						
BJO	**Bjornoya**	**3.31**	**109**	*e*Pg	**Pb**	**06 35 44.5**	**-2.0**
	SNR=90						
DAG	**Danmarks Havn**	**6.22**	**291**	*i* P	**Pn**	**06 36 19.0**	**-0.5**
DAG				*i* S	Sn	06 37 22.9	-7.7
ARA0	**ARCESS Array S**	**8.30**	**131**	Pn	**Pn**	**06 36 49.8**	**+1.7**
	baz=334,slow=14						
ARA0				Sn	Sn	06 38 15.5	-6.1
	baz=333,slow=18						
ARA0	**ARCESS Array S**	**8.30**	**131**	Pn	**Pn**	**06 36 49.8**	**+1.7**
	baz=334,slow=14						
ARA0				Sn	Sn	06 38 15.5	-6.1
	baz=333,slow=18						
ARA0	**ARCESS Array S**	**8.30**	**131**	Pn	**Pn**	**06 36 49.8**	**+1.7**
	baz=334,slow=13,SNR=3.2						
ARCES	**ARCESS Array B**	**8.30**	**131**	Pn	**Pn**	**06 36 48.7**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=336,slow=13,SNR=13						
ARCES				Sn	Sn	06 38 16.4	-5.2
	comp=Z,0.8nm,0

BOSA	**Boshof**	**45.25**	**268**	LR	LR	07 10 13.3		
	comp=Z,156nm,18.3s,baz=147,slow=32							
FITZ	**Fitzroy Crossi**	**45.86**	**74**	P	**P**	**06 54 53.5**	**0.0**	
FITZ	**Fitzroy Crossi**	**45.86**	**74**	P	**P**	**06 54 53.5**	**0.0**	
	1.7nm,1.0s,baz=204,slow=10.0,SNR=2.3							
PSI	**Prapat**	**47.38**	**27**	LR	LR	07 09 32.8		
	comp=Z,257nm,20.9s,baz=341,slow=29							
VNDA	**Vanda**	**48.61**	**163**	P	**P**	**06 55 14.3**	**+0.1**	
VNDA	**Vanda**	**48.61**	**163**	P	**P**	**06 55 14.3**	**+0.1**	
	0.7nm,0.9s,baz=260,slow=10.0,SNR=2.6							
VNDA				LR	LR	07 14 10.2		
	comp=Z,298nm,18.1s,baz=273,slow=34							
ASAR	**Alice Springs**	**48.64**	**87**	P	**P**	**06 55 14.8**	**-0.5**	
ASAR	**Alice Springs**	**48.64**	**87**	P	**P**	**06 55 14.8**	**-0.5**	
	2.3nm,1.0s,baz=236,slow=7.1,SNR=8.8							
QSPA	**South Pole Qui**	**48.96**	**180**	P	**P**	**06 55 17.2**	**-0.1**	
QSPA	**South Pole Qui**	**48.96**	**180**	P	**P**	**06 55 17.2**	**-0.1**	
	6.2nm,1.1s,baz=312,slow=4.1,SNR=8.4							
STKA	**Stephens Creek**	**50.10**	**100**	*e*P	**P**	**06 55 26.3**	**0.0**	
	3.0nm,1.2s							
STKA	**Stephens Creek**	**50.10**	**100**	P	**P**	**06 55 26.9**	**+0.6**	
	5.9nm,0.9s,baz=261,slow=6.3,SNR=7.2							
STKA				LR	LR	07 12 23.7		
	comp=Z,167nm,19.1s,baz=327,slow=31							
WRA	**Warramunga Arr**	**51.15**	**83**	P	**P**	**06 55 33.7**	**-0.6**	
WRA	**Warramunga Arr**	**51.15**	**83**	P	**P**	**06 55 33.7**	**-0.6**	
	6.3nm,1.1s,baz=231,slow=7.5,SNR=17							
WRAB	**Tennant Creek**	**51.16**	**83**	*e*P	**P**	**06 55 33.5**	**-1.0**	
	8.2nm,1.2s							
KMBO	**Kilima Mbogo**	**54.92**	**305**	LR	LR	07 15 27.3		
	comp=Z,49nm,19.2s,baz=128,slow=32							
CMAR	**Chiang Mai Arr**	**62.15**	**21**	P	**P**	**06 56 52.0**	**-0.3**	
CMAR	**Chiang Mai Arr**	**62.15**	**21**	P	**P**	**06 56 52.0**	**-0.3**	
	0.5nm,0.4s,baz=334,slow=16,SNR=2.5							
PMSA	**Palmer Station**	**70.48**	**196**	LR	LR	07 27 15.0		
	comp=Z,181nm,21.0s,baz=150,slow=35							
MKAR	**Makanchi Array**	**87.66**	**2**	P	**P**	**06 59 18.4**	**-0.7**	
MKAR	**Makanchi Array**	**87.66**	**2**	P	**P**	**06 59 18.4**	**-0.7**	
	0.3nm,0.8s,baz=180,slow=5.2,SNR=2.9							
TORD	**Torodi Ar. Bea**	**89.32**	**288**	P	**P**	**06 59 27.7**	**-0.1**	
TORD	**Torodi Ar. Bea**	**89.32**	**288**	P	**P**	**06 59 27.7**	**-0.1**	
	0.5nm,1.0s,baz=118,slow=4.3,SNR=2.0							
TORD				LR	LR	07 38 39.3		
	comp=Z,100nm,18.0s,baz=160,slow=35							
DBIC	**Dimbokro**	**89.82**	**279**	LR	LR	07 35 35.3		
	comp=Z,62nm,19.8s,baz=126,slow=33							
KURBB	**Kurchatov Arra**	**91.45**	**360**	P	**P**	**06 59 37.1**	**+0.3**	
	0.1nm,0.2s,baz=187,slow=4.4,SNR=3.6							
KURK	**Kurchatov**	**91.54**	**360**	P	**P**	**06 59 37.1**	**-0.1**	
SONM	**Songino Array**	**91.90**	**18**	P	**P**	**06 59 40.2**	**+1.0**	
SONM	**Songino Array**	**91.90**	**18**	P	**P**	**06 59 40.2**	**+1.0**	
	0.5nm,0.6s,baz=131,slow=5.9,SNR=3.1							
ILAR	**Eielson Array**	**144.84**	**32**	PKPbc	**PKPdf**	**07 06 06.8**	**-0.4**	
ILAR	**Eielson Array**	**144.84**	**32**	PKPbc	**PKPdf**	**07 06 06.8**	**-0.4**	
	0.5nm,0.7s,baz=299,slow=4.4,SNR=5.0							

IDC 11 06:48:41.1±2.3, 15°.64S×177°.60W, h403km±24km, mb3.4/9, mb1 3.7/10, mb1mx3.5/20, mbtmp3.5/10, Error ellipse: s-maj=29.8km s-min=12.8km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.89**	**74**	P	P	06 50 12.2	-0.3
	4.9nm,0.3s,baz=86,slow=20,SNR=4.2						
STKA	**Stephens Creek**	**40.43**	**239**	P	P	06 55 42.5	0.0
	2.2nm,0.5s,baz=99,slow=10,SNR=6.5						
WRA	**Warramunga Arr**	**45.85**	**257**	P	P	06 56 25.3	-0.2
	1.5nm,0.6s,baz=89,slow=6.5,SNR=36						
ASAR	**Alice Springs**	**46.19**	**252**	P	P	06 56 28.3	+0.2
	8.7nm,0.5s,baz=86,slow=7.9,SNR=105						
QSPA	**South Pole Qui**	**74.40**	**180**	P	P	06 59 35.8	-0.3
	1.6nm,0.6s,baz=60,slow=0.9,SNR=9.7						
NVAR	**Mina Array Bea**	**77.26**	**44**	P	P	06 59 53.3	+0.6
	1.3nm,0.7s,baz=225,slow=8.5,SNR=14						
ILAR	**Eielson Array**	**83.52**	**13**	P	P	07 00 24.2	-0.5
	0.9nm,0.4s,baz=224,slow=5.1,SNR=17						
TXAR	**Lajitas Array**	**84.13**	**58**	P	P	07 00 29.9	+1.2
	1.3nm,0.8s,baz=221,slow=6.8,SNR=18						
PDAR	**Pinedale Array**	**85.18**	**43**	P	P	07 00 33.6	-0.1
	0.4nm,0.5s,baz=185,slow=2.3,SNR=4.5						
YKA	**Yellowknife Ar**	**91.96**	**24**	P	P	07 01 02.8	-2.0
	0.4nm,0.6s,baz=238,slow=4.7,SNR=3.9						
ARCES	**ARCESS Array B**	**124.23**	**350**	PKP	PKPdf	07 06 51.4	-0.7
	1.9nm,0.8s,baz=42,slow=2.0,SNR=9.7						
BRTR	**Keskin Array B**	**143.69**	**318**	PKP	PKPbc	07 07 28.4	+0.5
	3.4nm,0.9s,baz=110,slow=1.8,SNR=15						
GERES	**GERESS Array B**	**145.62**	**347**	PKPbc	PKPdf	07 07 32.9	+0.5
	0.8nm,0.5s,baz=23,slow=4.4,SNR=6.6						

CASC 11 06:52:25.0±1.5, 13°.73N×91°.23W, h17km±7km, MD3.5, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.71**	**326**↑	*e*P	Pb	06 52 38.6	-0.3
FUG	**Fuego 3**	**0.81**	**27**	*e*P	Pb	06 52 40.6	-0.3
NBG	**Las Nubes**	**1.21**	**45**	*e*P	Pb	06 52 47.7	-0.1
RBDL	**Robledal**	**1.54**	**75**	*e*P	Pn	06 52 51.8	-0.2
RBDL				*e*S	Sb	06 53 12.4	-0.4
RTR	**El Retiro**	**1.55**	**83**	*e*P	Pn	06 52 52.1	+0.1
RTR				*e*S	Sb	06 53 13.3	+0.4
SBLS	**San Blas**	**1.56**	**86**	*e*P	Pn	06 52 51.9	-0.5
SBLS				*e*S	Sn	06 53 12.9	+0.5
SNJE	**San Jose**	**1.58**	**85**	*e*P	Pn	06 52 52.2	-0.3
SNJE				*e*S	Sb	06 53 14.1	+0.1
MRL	**Marmol**	**2.00**	**48**	*e*P	Pn	06 52 58.5	+0.3
LFRS	**El Faro**	**2.11**	**93**	*e*P	Pn	06 53 00.1	+0.4
LFRS				*e*S	Sn	06 53 26.3	+0.7
LBRS	**Las Brisas**	**2.12**	**89**	*e*P	Pn	06 52 59.3	-0.5
LBRS				*e*S	Sn	06 53 26.8	+0.9

ISC 11 06:54:52.4±1.1, 48°.03N±0°.05×23°.82E±0°.05, h9km, n18, σ1°32/20, 5C-3D, Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BURAR	**Bucovina Array**	**1.03**	**113**↑	*i*P	**Pg**	**06 55 11.8**	**-0.3**
BURAR	**Bucovina Array**	**1.03**	**113**	S	**Sn**	**06 55 28.6**	**+1.0**
CJR	**Cluj-Napoca**	**1.33**	**187**↓	*i*P	**Pn**	**06 55 16.7**	**-0.4**
CJR	**Cluj-Napoca**	**1.33**	**187**	S	**Sg**	**06 55 36.1**	**+1.1**
KOLS	**Kolonicke sedl**	**1.37**	**312**	*e*PN	**Pg**	**06 55 19.8**	**+1.1**
KOLS				*e*SN	**Sn**	**06 55 36.6**	**+0.6**
DRGR		**1.45**	**212**↑	*i*P	**Pn**	**06 55 17.6**	**-1.2**
KECS	**Kecovo**	**2.28**	**283**	*e*PN	**Pn**	**06 55 29.1**	**-1.0**
KECS				*e*SN	**Sn**	**06 55 58.3**	**0.0**
LOT	**Lotru**	**2.58**	**181**↓	*i*P	**Pn**	**06 55 35.2**	**+0.8**
LOT	**Lotru**	**2.58**	**181**	S	**Sb**	**06 56 08.8**	**-2.0**
ARR	**Arges**	**2.72**	**168**↑	*i*P	**Pn**	**06 55 36.4**	**+0.1**
ARR	**Arges**	**2.72**	**168**	S	**Sn**	**06 56 12.3**	**+2.9**
VOIR		**2.73**	**162**↓	*i*P	**Pn**	**06 55 36.5**	**+0.1**
VOIR		**2.73**	**162**	S	**Sb**	**06 56 13.4**	**-1.5**
GZR	**Gura Zlata**	**2.73**	**196**↑	*i*P	**Pn**	**06 55 36.7**	**+0.2**
GZR	**Gura Zlata**	**2.73**	**196**	S	**Sn**	**06 56 11.0**	**+1.3**
BZS	**Buzias**	**2.85**	**213**↑	*i*P	**Pn**	**06 55 37.5**	**-0.5**
BZS	**Buzias**	**2.85**	**213**	S	**Sn**	**06 56 12.5**	**+0.1**
MLR	**Muntele Rosu**	**2.93**	**149**	S	**Sb**	**06 56 18.4**	**-2.4**

IDC 11 06:55:21.9±1.1, 24°.84N×128°.05E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.7/26, mbtmp3.8/7, ML3.4/1, MS4.1/3, Ms1 4.1/3, ms1mx2.9/44, Error ellipse: s-maj=48.2km s-min=18.6km az=74.0

ISCJB 11 06:55:23.8±0.7, 24°.89N±0°.04×128°.04E±0°.05, h29km, mb3.7/5, MS4.2/3, Error ellipse: s-maj=7.4km s-min=4.2km az=43.8

JMA 11 06:55:25.2±0.3, 24°.94N×128°.08E, h73km, M3.3

ISC 11 06:55:25.5±1.1, 24°.95N±0°.06×128°.04E±0°.06, h29km, n24, σ1°19/31, mb3.7/5, MS4.1/3, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.21**	**347**	P	**Pn**	**06 55 47.1**	**+0.6**
JJT2				*e*S	**Sb**	**06 56 02.9**	**-0.2**
JKE	**Kume jima 2**	**1.78**	**321**	P	**Pn**	**06 55 54.7**	**+0.4**
JKE				*e*S	**Sb**	**06 56 17.8**	**-1.6**
JAGN	**Aguni-jima**	**1.78**	**336**	P	**Pn**	**06 55 55.1**	**+0.7**
JAGN				*e*S	**Sn**	**06 56 16.8**	**+0.7**
JOW	**Kunigami**	**1.88**	**6**	P	**Pn**	**06 55 55.5**	**-0.3**
JOW				*e*S	**Sn**	**06 56 17.7**	**-0.9**
JIH	**Iheya**	**2.08**	**358**	P	**Pn**	**06 55 58.9**	**+0.5**
JIH				*e*S	**Sn**	**06 56 22.8**	**-0.5**
JOGS	**Gusukube**	**2.40**	**266**	P	**Pn**	**06 56 03.3**	**+0.4**
JMJ	**Miyako jima 2**	**2.50**	**267**	*e*S	**Sn**	**06 56 33.3**	**-0.5**
JTK	**Tokunoshima**	**2.94**	**16**	P	**Pn**	**06 56 10.5**	**+0.2**
JTK				*e*S	**Sn**	**06 56 42.3**	**-2.3**
JTJ	**Tarama**	**3.05**	**265**	P	**Pn**	**06 56 11.7**	**-0.1**
JTJ				*e*S	**Sn**	**06 56 45.7**	**-1.7**
JAMN	**Amaminishikomi**	**3.43**	**17**	P	**Pn**	**06 56 17.7**	**+0.7**
JAMN				*e*S	**Sn**	**06 56 55.2**	**-1.5**
JIJ	**Ishigaki jima**	**3.60**	**261**	P	**Pn**	**06 56 18.9**	**-0.4**
JIJ				*e*S	**Sn**	**06 56 58.2**	**-2.7**
JAM	**Amami Oshima**	**3.72**	**22**	P	**Pn**	**06 56 21.4**	**+0.4**
JAM				*e*S	**Sn**	**06 57 01.2**	**-2.6**
JKRS	**Kuro-shima**	**3.74**	**260**	*e*S	**Sn**	**06 57 02.8**	**-1.6**
IRIF	**Iriomote-Funau**	**3.97**	**262**	*e*S	**Sn**	**06 57 10.1**	**0.0**
JNU	**Nakatsue**	**8.51**	**16**	Pn	**Pn**	**06 57 26.7**	**-0.1**
	0.4nm,0.3s,baz=214,slow=5.3,SNR=6.2						
USRK	**Ussuriysk Arra**	**19.47**	**9**	P	**Pn**	**06 59 52.2**	**+0.9**
	0.0nm,0.3s,baz=170,slow=14,SNR=4.0						
MKAR	**Makanchi Array**	**42.27**	**313**	P	**P**	**07 03 17.5**	**+1.2**
	0.8nm,0.5s,baz=91,slow=8.7,SNR=13						
ZALV	**Zalesovo Beam**	**43.17**	**324**	P	**P**	**07 03 24.8**	**+1.3**
	0.5nm,0.4s,baz=106,slow=6.9,SNR=3.6						
WRA	**Warramunga Arr**	**45.04**	**172**	P	**P**	**07 03 38.1**	**-0.7**
	2.5nm,0.8s,baz=352,slow=8.5,SNR=20						
KURBB	**Kurchatov Arra**	**45.67**	**317**	P	**P**	**07 03 44.8**	**+1.2**
	0.3nm,0.4s,baz=101,slow=9.0,SNR=3.8						
ASAR	**Alice Springs**	**48.66**	**173**	P	**P**	**07 04 07.4**	**+0.2**
	0.4nm,0.4s,baz=359,slow=14,SNR=6.8						
URZ	**Urewera**	**77.91**	**143**	LR	LR	07 36 22.9	
	comp=Z,86nm,19.7s,baz=330,slow=32						
RPZ	**Rata Peaks**	**78.91**	**150**	LR	LR	07 39 05.4	
	comp=Z,165nm,18.3s,baz=219,slow=33						
ULM	**Lac du Bonnet**	**95.63**	**27**	LR	LR	07 54 58.2	
	comp=Z,63nm,18.2s,baz=277,slow=37						

IDC 11 06:55:32.8±39.0, 16°.06S×166°.95E, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.7/19, mbtmp4.1/4, Error ellipse: s-maj=678.3km s-min=101.4km az=71.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.91**	**231**	P	P	07 01 24.4	-0.3
	2.1nm,0.9s,baz=60,slow=11,SNR=4.9						
WRA	**Warramunga Arr**	**31.22**	**258**	P	P	07 01 54.1	-0.2
	0.3nm,0.2s,baz=83,slow=8.0,SNR=21						
ASAR	**Alice Springs**	**31.93**	**251**	P	P	07 02 00.8	+0.3
	3.9nm,0.5s,baz=76,slow=9.3,SNR=70						
FITZ	**Fitzroy Crossi**	**39.48**	**261**	P	P	07 03 05.3	0.0
	1.9nm,0.7s,baz=111,slow=10.0,SNR=12						

IDC 11 07:02:32.6±0.6, 14°.00N×146°.52E, h0km, mb4.4/19, mb1 4.5/19, mb1mx4.4/29, mbtmp4.4/19, MS3.9/20, Ms1 3.9/20, ms1mx3.7/41, Error ellipse: s-maj=21.4km s-min=14.0km az=84.0

MOS 11 07:02:36.0±1.0, 14°.00N×146°.51E, h33km, mb4.9/21, MS4.2/4, Error ellipse: s-maj=12.4km s-min=7.5km az=107.2

ISCJB 11 07:02:37.8±1.1, 13°.97N±0°.05×146°.39E±0°.06, h44km±10km, mb4.6/59, MS4.0/32, Error ellipse: s-maj=9.5km s-min=8.6km az=39.4

BJI 11 07:02:37.5, 13°.75N×146°.61E, h59km, mB4.9/18, mb4.8/28, Ms4.5/17, Ms7 4.2/18

NEIC 11 07:02:40.7±1.4, 13°.93N×146°.35E, h57km±12km, mb4.6/18, Error ellipse: s-maj=9.3km s-min=6.6km az=80.0

ISC 11 07:02:40.5±0.5, 13°.93N±0°.06×146°.49E±0°.07, h56km±2km, n127, σ1°36/156, mb4.6/59, MS4.1/33, 8C-7D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.61**	**258**	*e*Pn	**Pn**	**07 03 05.1**	**-1.5**
GUMO	**Guam**	**1.61**	**258**	LR	LR	07 03 27.4	
	comp=Z,40μm,20.2s,baz=45,slow=33						
JOW	**Kunigami**	**21.33**	**310**	*e*P	**P**	**07 07 22.9**	**+0.1**
	26nm,0.8s						
DAV	**Davao City (W)**	**21.65**	**254**	LR	LR	07 14 20.4	
	comp=Z,227nm,19.6s,baz=193,slow=33						
PMG	**Port Moresby**	**23.19**	**178**	*e*P	**P**	**07 07 43.1**	**+0.5**
	57nm,1.0s						
PMG	**Port Moresby**	**23.19**	**178**	P	**P**	**07 07 42.2**	**-0.4**
	16nm,0.8s,baz=282,slow=12,SNR=3.0						
JNU	**Nakatsue**	**23.82**	**326**	*e*P	**P**	**07 07 47.4**	**-1.0**
	33nm,1.3s						
JNU	**Nakatsue**	**23.82**	**326**	P	**P**	**07 07 47.2**	**-1.1**
	27nm,1.0s,baz=124,slow=3.8,SNR=14						
JNU				LR	LR	07 16 37.3	
	comp=Z,190nm,19.8s,baz=124,slow=36						
ERM	**Erimo**	**28.13**	**355**↓	*i*P	**P**	**07 08 26.3**	**-0.9**
ERM				pmax	pmax		
	comp=Z,79nm,1.6s						
KSRS	**Korea Array**	**28.68**	**328**	P	**P**	**07 08 30.9**	**-1.2**
	comp=Z,19nm,1.1s,baz=145,slow=10,SNR=22						
KSRS				LR	LR	07 19 52.7	
	comp=Z,311nm,18.1s,baz=138,slow=36						
KSAR	**Wonju Array Be**	**28.69**	**328**	P	**P**	**07 08 30.9**	**-1.3**
YUK	**Yuzh-Kuril'sk**	**30.01**	**359***c*	*i*P	**P**	**07 08 41.2**	**-2.6**
YUK				*i*S	**S**	**07 13 37.9**	**+0.1**
YUK				MLR	MLR		
	comp=N,65nm,15.0s						
YUK				MLR	MLR		
	comp=Z,77nm,15.0s						
YUK				MLR	MLR		
	comp=E,175nm,15.0s						
NJ2	**Nanjing**	**31.04**	**310**	*e*P	**P**	**07 08 53.6**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,30nm,1.0s						
MDJ	**Mudanjiang**	**33.80**	**338**	P	**P**	**07 09 18.6**	**+1.4**
MDJ				pP	**pP**	**07 09 31.7**	**+0.3**
MDJ				S	**S**	**07 14 37.5**	**+0.4**
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,45nm,4.0s						
MDJ				LR	LR		
	comp=N,120nm,26.3s						
MDJ				LR	LR		
	comp=E,95nm,23.9s						
MDJ				LR	LR		
	comp=Z,150nm,19.1s						
CN2	**Changchun**	**34.80**	**333**	*e*P	**P**	**07 09 24.2**	**-1.6**
CN2				*e*pP	**pP**	**07 09 40.0**	**0.0**
CN2				*e*S	**S**	**07 14 49.6**	**-2.9**
CN2				sS	sS	07 15 22.3	+5.7
CN2				LR	LR		
	comp=N,300nm,16.0s						
CN2				LR	LR		
	comp=E,200nm,16.0s						
CN2				LR	LR		
	comp=Z,300nm,16.0s						
QIZ	**Qiongzhong**	**35.46**	**283**	P	**P**	**07 09 31.5**	**-0.3**
QIZ				pP	**pP**	**07 09 44.2**	**-1.9**
QIZ				sP	**sP**	**07 09 50.2**	**-2.5**
QIZ				S	**S**	**07 15 01.3**	**-1.9**
QIZ				pmax	pmax		
	comp=Z,97nm,3.6s						
QIZ				LR	LR		
	comp=Z,470nm,21.1s						
WRAB	**Tennant Creek**	**35.71**	**200**	*e*P	**P**	**07 09 33.3**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,30nm,1.3s						
WRAB	**Tennant Creek**	**35.71**	**200**	*e*P	**P**	**07 09 33.2**	**-0.5**
	comp=Z,30nm,1.3s						
WRA	**Warramunga Arr**	**35.72**	**200**	P	**P**	**07 09 33.5**	**-0.4**
WRA	**Warramunga Arr**	**35.72**	**200**	P	**P**	**07 09 33.5**	**-0.4**
	comp=Z,8.5nm,0.9s,baz=22,slow=9.4,SNR=46						
HABR	**Khabarovsk**	**35.72**	**347**	*e*P	**P**	**07 09 31.1**	**-2.5**
HABR				*e**PP	pP	07 09 40.6	-7.3
HABR				*e**SP	sP	07 09 45.0	-10
HABR				*e*		07 10 51.4	
HABR				PPP	PPP	07 11 05.9	
HABR						07 11 58.5	
HABR				*e*S	**S**	**07 15 06.2**	**-0.2**
HABR				*e**SS	sS	07 15 22.7	-7.9
HABR				*e*SS	**SnSn**	**07 17 30.4**	**-2.5**
HABR				*e*SSS	SSS	07 17 47.7	
HABR				*e*		07 19 46.9	
HABR				pmax	pmax		
HABR				pmax	pmax		
	comp=N,47nm,2.7s						
HABR				pmax	pmax		
	comp=Z,55nm,2.7s						
HABR				pmax	pmax		
	comp=E,45nm,2.7s						
HABR				MLR	MLR		
	comp=Z,261nm,15.0s						
BJI	**Beijing**	**37.18**	**320**	P	**P**	**07 09 45.6**	**-0.5**
BJI				PP	**PP**	**07 11 12.2**	**+0.4**
BJI				S	S	07 15 38.5	+10
BJI				pmax	pmax		
	comp=Z,18nm,1.4s						
BJI				pmax	pmax		
	comp=Z,120nm,6.7s						
BJI				LR	LR		
	comp=N,310nm,18.6s						
BJI				LR	LR		
	comp=E,120nm,18.2s						
BJI				LR	LR		
	comp=Z,170nm,18.8s						
FITZ	**Fitzroy Crossi**	**37.89**	**213**	*e*P	**P**	**07 09 52.0**	**-0.4**
	comp=Z,7.4nm,0.7s						
GYA	**Guiyang**	**39.24**	**295**	*e*P	**P**	**07 10 03.6**	**-0.3**
GYA				pP	**pP**	**07 10 18.7**	**+0.4**
GYA				sP	**sP**	**07 10 25.3**	**+0.4**
GYA				ScP	**ScP**	**07 15 55.0**	**-1.0**
GYA				S	**S**	**07 15 59.5**	**-1.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ASAR	**Alice Springs**	**39.34**	**198**	P	**P**	**07 10 04.2**	**-0.3**
ASAR	**Alice Springs**	**39.34**	**198**	P	**P**	**07 10 04.2**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=24,slow=5.8,SNR=14						
HHC	**Hu-ho-hao-te**	**40.56**	**318**	*e*P	**P**	**07 10 14.6**	**0.0**
HHC				pP	**pP**	**07 10 26.8**	**-2.3**
HHC				sP	**sP**	**07 10 32.3**	**-3.4**
HHC				PP	**PnPn**	**07 11 52.4**	**-0.8**
HHC				S	**S**	**07 16 21.2**	**+1.2**
HHC				sS	**sS**	**07 16 43.4**	**-1.1**
HHC				ScS	**ScS**	**07 20 13.9**	**-1.5**
HHC				pmax	pmax		
	comp=Z,23nm,0.7s						
HHC				pmax	pmax		
	comp=Z,67nm,4.5s						
HHC				LR	LR		
	comp=N,320nm,19.0s						
HHC				LR	LR		
	comp=E,530nm,17.8s						
HHC				LR	LR		
	comp=Z,190nm,16.7s						
DZM	**Mont Dzumac**	**40.78**	**151**	*e*LR	LR	07 21 42.6	
	comp=Z,276nm,32.8s						
CD2	**Chengdu**	**42.67**	**301**	P	**P**	**07 10 32.4**	**+0.4**
CD2				pP	**pP**	**07 10 47.7**	**+1.2**
CD2				sP	**sP**	**07 10 54.9**	**+1.8**
CD2				PP	**PP**	**07 12 14.6**	**+2.8**
CD2				PcP	**PcP**	**07 12 24.6**	**+1.5**
CD2				ScP	**ScP**	**07 16 08.9**	**-0.5**
CD2				PcS	**PcS**	**07 16 15.4**	**0.0**
CD2				S	**S**	**07 16 50.2**	**-1.3**
CD2				sS	**sS**	**07 17 16.3**	**+0.2**
CD2				SS	SS	07 19 55.2	-8.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.2s						
LZH	**Lanzhou**	**44.05**	**308**	*e*P	**P**	**07 10 44.0**	**+0.9**
LZH				pP	**pP**	**07 10 59.2**	**+1.4**
LZH				sP	**sP**	**07 11 07.5**	**+3.2**
LZH				*e*S	**S**	**07 17 15.3**	**+3.6**
LZH				sS	**sS**	**07 17 36.5**	**+0.1**
LZH				SS	SS	07 20 19.1	-12
LZH				pmax	pmax		
	comp=Z,27nm,1.0s						
LZH				pmax	pmax		
	comp=Z,150nm,4.5s						
LZH				LR	LR		
	comp=N,180nm,14.8s						
LZH				LR	LR		
	comp=E,180nm,12.5s						
LZH				LR	LR		
	comp=Z,260nm,15.8s						
FX1	**Attu Island--F**	**44.27**	**23**	LR	LR	07 27 22.2	
	comp=Z,124nm,20.1s,baz=49,slow=34						
CMAR	**Chiang Mai Arr**	**45.78**	**282**	P	**P**	**07 10 57.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**45.78**	**282**	P	**P**	**07 10 57.4**	**+0.4**
	comp=Z,5.2nm,0.8s,baz=83,slow=6.2,SNR=18						
CMAR				LR	LR	07 29 41.2	
	comp=Z,135nm,20.4s,baz=85,slow=36						
STKA	**Stephens Creek**	**45.78**	**186**	P	**P**	**07 10 56.0**	**-0.6**
STKA	**Stephens Creek**	**45.78**	**186**	P	**P**	**07 10 56.0**	**-0.6**
	comp=Z,3.3nm,0.8s,baz=48,slow=4.2,SNR=3.6						
SONM	**Songino Array**	**47.38**	**324**	P	**P**	**07 11 08.3**	**-0.9**
SONM	**Songino Array**	**47.38**	**324**	P	**P**	**07 11 08.3**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=141,slow=7.4,SNR=11						
GTA	**Gaotai**	**48.14**	**311**	*e*P	**P**	**07 11 15.9**	**+0.7**
GTA				pP	**pP**	**07 11 31.5**	**+1.5**
GTA				sP	**sP**	**07 11 38.5**	**+2.0**
GTA				S	**S**	**07 18 11.1**	**+0.9**
GTA				sS	**sS**	**07 18 37.4**	**+2.2**
GTA				SS	**SS**	**07 21 36.5**	**-3.5**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,66nm,5.5s						
GTA				LR	LR		
	comp=N,160nm,16.6s						
GTA				LR	LR		
	comp=E,290nm,16.4s						
GTA				LR	LR		
	comp=Z,230nm,16.4s						
SEY	**Seymchan**	**49.12**	**4**↓	*e*P	**P**	**07 11 22.0**	**-0.1**
ZAK	**Zakamensk**	**50.45**	**325**↑	*i*P	**P**	**07 11 32.0**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TLY	**Talaya**	**50.92**	**327**	*e*P	**P**	**07 11 36.1**	**+0.1**
TLY				pmax	pmax		
	comp=Z,9.0nm,1.2s						
TLY				MLR	MLR		
	comp=Z,146nm,19.0s						
BILL	**Bilibino**	**55.58**	**9**↓	*e*P	**P**	**07 12 10.0**	**+0.1**
BILL				pmax	pmax		
	comp=Z,16nm,1.7s						
HVS	**Khovu-Aksy**	**56.24**	**323**↓	*e

KSH					pmax	pmax		
	comp=Z,64nm,4.7s							
KSH					LR	LR		
	comp=N,370nm,9.5s							
KSH					LR	LR		
	comp=E,330nm,12.4s							
KSH					LR	LR		
	comp=Z,110nm,7.0s							
COLD	**Coldfoot**	**67.04**	**22**	*e*P		**P**	**07 13 29.2**	**+1.8**
	comp=Z,3.4nm,1.0s							
AAK	**Ala-Archa**	**67.49**	**311**	⇓*e*P		**P**	**07 13 31.1**	**+0.1**
AAK					pmax	pmax		
	comp=Z,6.0nm,1.0s							
ILAR	**Eielson Array**	**67.59**	**25**	P		**P**	**07 13 30.3**	**-0.7**
ILAR	**Eielson Array**	**67.59**	**25**	P		**P**	**07 13 30.3**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=257,slow=4.7,SNR=8.0							
ILAR					LR	LR	07 40 16.6	
	comp=Z,79nm,19.6s,baz=284,slow=34							
EGAK	**Eagle**	**69.98**	**26**	*e*P		**P**	**07 13 47.7**	**+1.9**
	comp=Z,7.6nm,1.3s							
PPT	**Papeete**	**70.41**	**115**	LR		LR	07 36 46.2	
	comp=Z,184nm,20.4s,baz=180,slow=29							
KK31	**Karatay Array**	**70.42**	**311**	*ce*P		**P**	**07 13 48.6**	**-0.3**
KK31					pmax	pmax		
	comp=Z,2.0nm,0.4s							
KKAR	**Karatay Array**	**70.42**	**311**	*e*P		**P**	**07 13 49.2**	**+0.3**
KKAR					pmax	pmax		
	comp=Z,3.0nm,0.5s							
KKAR	**Karatay Array**	**70.42**	**311**	*e*P		**P**	**07 13 49.2**	**+0.3**
	comp=Z,2.9nm,0.5s							
PPT2	**Papeete2**	**70.42**	**115**	*e*LR		LR	07 35 13.0	
	comp=Z,228nm,26.0s,baz=290							
BVA0	**Borovoye Array**	**70.64**	**322**	*i* P		**P**	**07 13 49.1**	**-1.0**
BVA0					pmax	pmax		
	comp=Z,18nm,0.9s							
BVAR	**Borovoye Array**	**70.64**	**322**	P		**P**	**07 13 49.8**	**-0.3**
BVAR	**Borovoye Array**	**70.64**	**322**	P		**P**	**07 13 49.8**	**-0.3**
BVAR	**Borovoye Array**	**70.64**	**322**	P		**P**	**07 13 49.8**	**-0.3**
	comp=Z,6.4nm,0.6s,baz=100,slow=7.5,SNR=34							
BVAR					LR	LR	07 46 57.0	
	comp=Z,263nm,18.9s,baz=90,slow=38							
BRVK	**Borovoye**	**70.70**	**322**	*ci*P		**P**	**07 13 50.0**	**-0.5**
BRVK					pmax	pmax		
	comp=Z,17nm,1.7s							
BRVK	**Borovoye**	**70.70**	**322**	*e*P		**P**	**07 13 50.2**	**-0.2**
	comp=Z,7.7nm,0.8s							
TBI	**Tubuai**	**72.77**	**120**	*e*S		**S**	**07 23 25.7**	**+0.6**
	comp=Z,52nm,32.8s							
TBI	**Tubuai**	**72.77**	**120**	*e*LR		LR	07 35 49.4	
	comp=Z,126nm,32.0s							
INK	**Inuvik**	**73.45**	**22**	LR		LR	07 44 06.1	
	comp=Z,47nm,21.8s,baz=283,slow=34							
DLBC	**Dease Lake**	**74.85**	**33**	LR		LR	07 43 22.6	
	comp=Z,65nm,18.6s,baz=289,slow=33							
BBB	**Bella Bella**	**76.32**	**39**	LR		LR	07 44 06.1	
	comp=Z,72nm,18.3s,baz=256,slow=33							
AB31	**Akbulak array**	**77.35**	**318**	*ce*P		**P**	**07 14 28.3**	**-1.0**
AB31					pmax	pmax		
	comp=Z,3.0nm,0.4s							
ABKAR	**Akbulak array**	**77.35**	**318**	*e*P		**P**	**07 14 28.8**	**-0.6**
AKTO	**Aktyubinsk**	**78.44**	**319**	P		**P**	**07 14 34.4**	**-1.0**
AKTO	**Aktyubinsk**	**78.44**	**319**	P		**P**	**07 14 34.4**	**-1.0**
AKTO	**Aktyubinsk**	**78.44**	**319**	P		**P**	**07 14 34.4**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=86,slow=6.0,SNR=4.9							
YKA	**Yellowknife Ar**	**81.83**	**28**	P		**P**	**07 14 53.4**	**0.0**
YKA	**Yellowknife Ar**	**81.83**	**28**	P		**P**	**07 14 53.4**	**0.0**
	comp=Z,0.9nm,0.7s,baz=284,slow=5.1,SNR=4.6							
YKA					LR	LR	07 50 55.6	
	comp=Z,9.1nm,18.2s,baz=245,slow=36							
MOD	**Modoc**	**83.19**	**49**	*e*P		**P**	**07 15 02.3**	**+1.2**
	comp=Z,28nm,2.1s							
NEW	**Newport**	**83.93**	**42**	*e*P		**P**	**07 15 05.2**	**+0.6**
	comp=Z,2.7nm,0.9s							
CMB	**Columbia Colle**	**83.97**	**52**	*e*P		**P**	**07 15 05.6**	**+0.5**
CMB					pmax	pmax		
	comp=Z,3.0nm,0.9s							
CMB	**Columbia Colle**	**83.97**	**52**	*e*P		**P**	**07 15 05.6**	**+0.5**
	comp=Z,2.6nm,0.9s							
KBS	**Kingsbay**	**84.09**	**352**	⇑*e*P		**P**	**07 15 04.4**	**-0.4**
KBS					pmax	pmax		
	comp=Z,4.0nm,1.0s							
NVAR	**Mina Array Bea**	**85.48**	**52**	P		**P**	**07 15 12.9**	**+0.1**
NVAR	**Mina Array Bea**	**85.48**	**52**	P		**P**	**07 15 12.9**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=266,slow=7.0,SNR=12							
BSMT	**Bassoo Peak**	**85.55**	**42**	*e*P		**P**	**07 15 14.1**	**+1.2**
MFID	**Camas Ranch**	**86.03**	**46**	*e*P		**P**	**07 15 17.2**	**+1.8**
	comp=Z,3.4nm,0.9s							
KEV	**Kevo**	**86.68**	**342**	*e*p		**P**	**07 15 15.0**	**-2.8**
KEV	**Kevo**	**86.68**	**342**	*e*P		**P**	**07 15 15.0**	**-2.8**
CHMT	**Chamberlain Mo**	**86.81**	**43**	*e*P		**P**	**07 15 19.1**	**-0.1**
ARCES	**ARCESS Array B**	**87.24**	**342**	P		**P**	**07 15 19.9**	**-0.6**
ARCES	**ARCESS Array B**	**87.24**	**342**	P		**P**	**07 15 19.9**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=67,slow=9.3,SNR=7.1							
ARCES					LR	LR	07 58 59.6	
	comp=Z,112nm,18.3s,baz=106,slow=39							
LRM	**Limekiln Ridge**	**87.67**	**43**	*e*P		**P**	**07 15 23.9**	**+0.4**
	comp=Z,46nm,1.2s							
MCMT	**McKenzie Canyo**	**87.69**	**44**	*e*P		**P**	**07 15 24.4**	**+0.9**
	comp=Z,1.3nm,1.2s							
JOF	**Joensuu**	**88.65**	**336**	*e*p		**P**	**07 15 25.8**	**-1.5**
JOF	**Joensuu**	**88.65**	**336**	*e*P		**P**	**07 15 25.8**	**-1.5**
LDFC	**Landfair**	**88.83**	**54**	*e*P		**P**	**07 15 30.1**	**+1.1**
	comp=Z,9.0nm,1.0s							
DUG	**Dugway**	**89.10**	**49**	*e*P		**P**	**07 15 31.2**	**+1.0**
DUG					pmax	pmax		
	comp=Z,4.0nm,1.1s							
DUG	**Dugway**	**89.10**	**49**	*e*P		**P**	**07 15 31.2**	**+1.0**
	comp=Z,4.2nm,1.1s							
ARUT	**Antelope Range**	**89.34**	**51**	*e*P		**P**	**07 15 33.1**	**+1.7**
ARUT					pmax	pmax		
	comp=Z,2.0nm,0.9s							
ARUT	**Antelope Range**	**89.34**	**51**	*e*P		**P**	**07 15 33.1**	**+1.7**
	comp=Z,2.3nm,0.9s							
OBN	**Obninsk**	**89.67**	**327**	⇓*e*P		**P**	**07 15 31.8**	**-0.5**
OBN				*e*			07 19 02.4	
OBN				*e*PS		**PnS**	**07 27 31.1**	**-0.2**
OBN				*e*SS		SS	07 32 24.0	+8.1
OBN					pmax	pmax		
	comp=Z,3.0nm,0.5s							
OBN					MLR	MLR		
	comp=Z,200nm,19.0s							
KBZ	**Khabaz**	**90.04**	**315**	LR		LR	07 59 14.1	
	comp=Z,94nm,20.5s,baz=288,slow=38							
KIV	**Kislovodsk**	**90.11**	**315**	⇑*e*P		**P**	**07 15 35.3**	**+0.5**
KIV				*e*			07 15 47.5	
KIV				*e*PS		**PS**	**07 27 33.9**	**-3.3**
KIV				*e*SS		SS	07 32 30.2	+7.0
KIV					pmax	pmax		
	comp=Z,8.0nm,1.2s							
KIV					MLR	MLR		
	comp=Z,100nm,17.0s							
FINES	**FINESS Array B**	**91.51**	**336**	P		**P**	**07 15 39.6**	**-1.1**
FINES	**FINESS Array B**	**91.51**	**336**	P		**P**	**07 15 39.6**	**-1.1**
	comp=Z,2.4nm,0.6s,baz=62,slow=4.8,SNR=24							
FINES					LR	LR	08 02 02.0	
	comp=Z,79nm,18.3s,baz=32,slow=39							
VNDA	**Vanda**	**91.71**	**177**	LR		LR	07 56 02.3	
	comp=Z,64nm,19.2s,baz=274,slow=35							
ANMO	**Albuquerque**	**95.60**	**52**	LR		LR	07 57 07.1	
	comp=Z,55nm,18.1s,baz=119,slow=34							
NOA	**NORSAR Array B**	**97.28**	**340**	LR		LR	08 03 11.3	
	comp=Z,54nm,18.5s,baz=75,slow=37							
BRTR	**Keskin Array B**	**97.96**	**314**	LR		LR	08 03 56.1	
	comp=Z,29nm,18.7s,baz=264,slow=38							
ASF	**Jabal al Asfar**	**98.59**	**306**	LR		LR	08 09 10.3	
	comp=Z,32nm,18.1s,baz=296,slow=41							
DBIC	**Dimbokro**	**144.96**	**304**	PKP		**PKPdf**	**07 22 12.7**	**+0.3**
DBIC	**Dimbokro**	**144.96**	**304**	PKP		**PKPdf**	**07 22 12.7**	**+0.3**
	comp=Z,20nm,0.7s,baz=13,slow=3.9,SNR=18							
LPAZ	**La Paz**	**146.52**	**99**	*e*PKPbc		**PKPab**	**07 22 18.2**	**-0.1**
LPAZ	**La Paz**	**146.52**	**99**	PKPbc		**PKPbc**	**07 22 17.8**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=60,slow=3.5,SNR=5.2							

*JMA **11** 07:25:32.0±0.5, 34.05N×141.61E, h36km±4km, M3.1*
*IDC **11** 07:25:38.2±7.5, 32.95N×138.52E, h0km, mb3.5/4,*
mb1 3.7/4, mb1mx3.4/25, mbtmp3.5/4, Error ellipse:
s-maj=298.1km s-min=24.5km az=65.0

ISC 11 07:25:31.9±1.6, 33.95N±0.08×141.6E±0.1, h24km, n12, σ1§25/14, mb3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BSO1	**Boso 1**	**0.85**	**326**	P		**Pb**	**07 25 46.8**	**-0.9**
BSO3	**Boso 3**	**1.22**	**315**	P		**Pn**	**07 25 53.0**	**-0.2**
JHJ2	**Mitsune**	**1.68**	**241**	P		**Pb**	**07 26 01.4**	**-0.7**
TATJ	**Tateyama 2**	**1.75**	**309**	P		**Pn**	**07 26 01.5**	**+0.7**
TATJ				*e*S		**Sn**	**07 26 22.4**	**+0.1**
JIM2	**Oshima 3**	**1.92**	**294**	P		**Pn**	**07 26 02.8**	**-0.3**
JIZS	**Izushimoda**	**2.35**	**290**	P		**Pn**	**07 26 09.9**	**+0.9**
JOD2	**Odawara 2**	**2.42**	**304**	P		**Pn**	**07 26 09.4**	**-0.7**
MAT	**Matsushiro**	**3.77**	**314**	P		**Pn**	**07 26 30.0**	**+1.4**
MAT				S		**Sn**	**07 27 14.5**	**+2.2**
MKAR	**Makanchi Array**	**45.91**	**305**	P		**P**	**07 33 50.3**	**-2.3**
	0.1nm,0.5s,baz=96,slow=9.0,SNR=2.0							
KURBB	**Kurchatov Arra**	**48.04**	**310**	P		**P**	**07 34 09.0**	**0.0**
	0.5nm,0.4s,baz=83,slow=7.5,SNR=3.6							
WRA	**Warrumunga Arr**	**54.03**	**188**	P		**P**	**07 34 54.7**	**+0.4**
	0.6nm,0.3s,baz=3.3,slow=7.5,SNR=25							
ASAR	**Alice Springs**	**57.75**	**188**	P		**P**	**07 35 22.2**	**+1.2**
	0.3nm,0.5s,baz=13,slow=7.1,SNR=5.1							

*IDC **11** 07:29:55.4±0.9, 15.72N×85.88W, h0km, mb3.7/9,*
mb1 4.1/9, mb1mx3.8/25, mbtmp3.8/9, MS3.0/7, Ms1 3.1/7,
ms1mx2.8/40, Error ellipse: s-maj=74.9km s-min=17.2km
az=56.0

ISC 11 07:29:56.9±0.8, 15.7N±0.2×86.2W±0.3, h10km, n110, σ1§07/84, mb3.7/9, MS3.1/5, 64C-46D, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TEIG	**Tepich**	**4.97**	**336**	Pn			07 31 06.2	-5.4
	7.4nm,0.3s,baz=330,slow=2.3,SNR=123							
TEIG				Sn		**Sn**	**07 32 05.5**	**-3.6**
	17nm,0.3s,baz=257,slow=22,SNR=14							
TEIG				LR		LR	07 33 12.6	
	comp=Z,170nm,20.0s,baz=177,slow=39							
ROSC	**El Rosal**	**15.82**	**132**	LR			07 39 19.2	
	comp=Z,24nm,20.5s,baz=355,slow=36							
732A	**Laxson Ranch,**	**18.22**	**318**	⇓P		**Pn**	**07 34 09.5**	**-0.5**
	baz=17							
732A				⇓S		Sn	07 37 19.1	-14
	baz=17							
732A	**Laxson Ranch,**	**18.22**	**318**	⇓P		**Pn**	**07 34 09.5**	**-0.5**
	baz=17							
732A				⇓S		Sn	07 37 19.1	-14
	baz=17							
632A	**Uvalde**	**18.64**	**320**	⇑P		**Pn**	**07 34 14.8**	**-0.3**
	baz=17							
632A				⇑S		Sn	07 37 27.2	-17
	baz=17							
632A	**Uvalde**	**18.64**	**320**	⇑P		**Pn**	**07 34 14.8**	**-0.3**
	baz=17							
632A				⇑S		Sn	07 37 27.2	-17
	baz=17							
631A	**Perdido Creek**	**19.07**	**318**	⇑P		**Pn**	**07 34 20.8**	**+0.4**
	baz=18							
631A				⇓S		Sn	07 37 35.9	-18
	baz=18							
631A	**Perdido Creek**	**19.07**	**318**	⇑P		**Pn**	**07 34 20.8**	**+0.4**
	baz=18							
631A				⇓S		Sn	07 37 35.9	-18
	baz=18							
532A	**Rocksprings**	**19.15**	**321**	⇑P		**Pn**	**07 34 21.6**	**+0.2**
	baz=18							
532A				⇓S		Sn	07 37 39.1	-17
	baz=18							
532A	**Rocksprings**	**19.15**	**321**	⇑P		**Pn**	**07 34 21.6**	**+0.2**
	baz=18							
532A				⇓S		Sn	07 37 39.1	-17
	baz=18							
WHTX	**Lake Whitney**	**19.24**	**330**	⇑P		**Pn**	**07 34 24.5**	**+2.1**
	baz=18,SNR=10.0							
WHTX				⇑S		Sn	07 37 42.6	-16
	baz=18							
WHTX	**Lake Whitney**	**19.24**	**330**	⇑P		**Pn**	**07 34 24.5**	**+2.1**
	baz=18,SNR=10.0							
WHTX				⇑S		Sn	07 37 42.6	-16
	baz=18							
531A	**Rocksprings**	**19.57**	**320**	⇑S		S	07 37 45.8	-20
	baz=18							
531A	**Rocksprings**	**19.57**	**320**	⇑S		S	07 37 45.8	-20
	baz=18							
432A	**Menard**	**19.62**	**323**	⇑P		**Pn**	**07 34 25.9**	**-1.1**
	baz=18,SNR=13							
432A	**Menard**	**19.62**	**323**	⇑P		**Pn**	**07 34 25.9**	**-1.1**
	baz=18,SNR=13							
431A	**Sonora**	**19.97**	**321**	⇓P		Pn	07 34 30.2	-1.0
	baz=19							
431A	**Sonora**	**19.97**	**321**	⇓P		Pn	07 34 30.2	-1.0
	baz=19							
332A	**Millersview**	**19.97**	**324**	⇓P		Pn	07 34 30.8	-0.4
	baz=19,SNR=8.7							
332A	**Millersview**	**19.97**	**324**	⇓P		Pn	07 34 30.8	-0.4
	baz=19,SNR=8.7							
TKL	**Tuckaleechee C**	**20.02**	**6**	LR		LR	07 41 38.4	
	comp=Z,37nm,21.9s,baz=259,slow=35							
530A	**J-C Ranch, Com**	**20.05**	**319**	⇑P		**P**	**07 34 30.6**	**+0.2**
	baz=19							
530A				⇑S		S	07 37 57.9	-18
	baz=19							
530A	**J-C Ranch, Com**	**20.05**	**319**	⇑P		**P**	**07 34 30.6**	**+0.2**
	baz=19							
530A				⇑S		S	07 37 57.9	-18
	baz=19							
232A	**Coleman**	**20.30**	**325**	⇓P		Pn	07 34 34.4	-0.6
	baz=19,SNR=10.0							
232A	**Coleman**	**20.30**	**325**	⇓P		Pn	07 34 34.4	-0.6
	baz=19,SNR=10.0							
331A	**San Angelo**	**20.31**	**323**	⇓P		Pn	07 34 34.2	-1.0
	baz=19							
331A	**San Angelo**	**20.31**	**323**	⇓P		Pn	07 34 34.2	-1.0
	baz=19							
430A	**Baggett Ranch,**	**20.43**	**320**	⇓P		Pn	07 34 36.0	-0.6
	baz=19							
430A				⇓S		S	07 38 05.7	-18
	baz=19							
430A	**Baggett Ranch,**	**20.43**	**320**	⇓P		Pn	07 34 36.0	-0.6
	baz=19							
430A				⇓S		S	07 38 05.7	-18
	baz=19							
529A	**Stev Forest Ra**	**20.61**	**317**	⇑P		Pn	07 34 37.4	-1.4
	baz=19							
529A	**Stev Forest Ra**	**20.61**	**317**	⇑P		Pn	07 34 37.4	-1.4
	baz=19							
628A	**Black Gap, Mar**	**20.65**	**315**	⇑P		**P**	**07 34 37.8**	**+0.8**
	baz=19							
628A	**Black Gap, Mar**	**20.65**	**315**	⇑P		**P**	**07 34 37.8**	**+0.8**
	baz=19							
231A	**Bronte**	**20.71**	**324**	⇑P		Pn	07 34 38.7	-1.1
	baz=19							
231A	**Bronte**	**20.71**	**324**	⇑P		Pn	07 34 38.7	-1.1
	baz=19							
429A	**Davenport Ranc**	**20.73**	**319**	⇑P		Pn	07 34 38.8	-1.4
	baz=19,SNR=5.8							
429A				⇑S		S	07 38 09.0	-20
	baz=19							
429A	**Davenport Ranc**	**20.73**	**319**	⇑P		Pn	07 34 38.8	-1.4
	baz=19,SNR=5.8							
429A				⇑S		S	07 38 09.0	-20
	baz=19							
330A	**Mertzon**	**20.82**	**321**	⇑P		Pn	07 34 40.4	-0.8
	baz=20							
330A	**Mertzon**	**20.82**	**321**	⇑P		Pn	07 34 40.4	-0.8
	baz=20							
ABTX	**Abilene, Hawle**	**20.86**	**326**	⇓P		Pn	07 34 40.2	-1.4
	baz=20							
ABTX	**Abilene, Hawle**	**20.86**	**326**	⇓P		Pn	07 34 40.2	-1.4
	baz=20							
627A	**Terlingua Ranc**	**20.98**	**314**	⇓P		**P**	**07 34 41.2**	**+0.7**
	baz=20							
627A	**Terlingua Ranc**	**20.98**	**314**	⇓P		**P**	**07 34 41.2**	**+0.7**
	baz=20							
TXAR	**Lajitas Array**	**21.10**	**313**	P		**P**	**07 34 43.4**	**+1.5**
	3.0nm,0.8s,baz=136,slow=9.8,SNR=38							
TXAR					LR	LR	07 46 21.0	
	comp=Z,25nm,18.6s,baz=5.0,slow=46							
527A	**Woodward Ranch**	**21.55**	**315**	⇑P		**P**	**07 34 47.6**	**+0.8**
	baz=20							
527A	**Woodward Ranch**	**21.55**	**315**	⇑P		**P**	**07 34 47.6**	**+0.8**
	baz=20							
626A	**Big Bend Ranch**	**21.56**	**313**	⇓P		**P**	**07 34 47.6**	**+0.8**
	baz=20,SNR=20							
626A	**Big Bend Ranch**	**21.56**	**313**	⇓P		**P**	**07 34 47.6**	**+0.8**
	baz=20,SNR=20							
Z31A	**Sharp Cattle R**	**21.66**	**327**	⇑P		**P**	**07 34 49.2**	**+1.4**
	baz=20							
Z31A	**Sharp Cattle R**	**21.66**	**327**	⇑P		**P**	**07 34 49.2**	**+1.4**
	baz=20							
328A	**Wristen Ranch,**	**21.82**	**319**	⇑P		**P**	**07 34 49.7**	**+0.2**
	baz=20,SNR=9.8							
328A	**Wristen Ranch,**	**21.82**	**319**	⇑P		**P**	**07 34 49.7**	**+0.2**
	baz=20,SNR=9.8							
526A	**Mary Lane Ranc**	**21.83**	**314**	⇓P		**P**	**07 34 49.7**	**0.0**
	baz=20							
526A	**Mary Lane Ranc**	**21.83**	**314**	⇓P		**P**	**07 34 49.7**	**0.0**
	baz=20							
Y32A	**R-V Farms, Ver**	**21.84**	**329**	⇑P		**P**	**07 34 50.9**	**+1.2**
	baz=21							
Y32A	**R-V Farms, Ver**	**21.84**	**329**	⇑P		**P**	**07 34 50.9**	**+1.2**
	baz=21							
427A	**Hayter Ranch,**	**21.85**	**317**	⇓P		**P**	**07 34 49.6**	**-0.3**
	baz=20							
427A	**Hayter Ranch,**	**21.85**	**317**	⇓P		**P**	**07 34 49.6**	**-0.3**
	baz=20							
TUL1	**Tulsa**	**21.93**	**339**	⇑P		**P**	**07 34 53.0**	**+2.5**
	baz=21							
TUL1	**Tulsa**	**21.93**	**339**	⇑P		**P**	**07 34 53.0**	**+2.5**
	baz=21							
Y31A	**Rekieta Farm,**	**22.22**	**328**	⇑P		**P**	**07 34 54.9**	**+1.1**
	baz=21							
Y31A	**Rekieta Farm,**	**22.22**	**328**	⇑P		**P**	**07 34 54.9**	**+1.1**
	baz=21							
128A	**Castleberry Fa**	**22.47**	**322**	⇑P		**P**	**07 34 56.7**	**+0.2**
	baz=21							
128A	**Castleberry Fa**	**22.47**	**322**	⇑P		**P**	**07 34 56.7**	**+0.2**
	baz=21							
326A	**Caldwell Ranch**	**22.53**	**317**	⇑P		**P**	**07 34 57.8**	**+0.6**
	baz=21,SNR=7.2							
326A	**Caldwell Ranch**	**22.53**	**317**	⇑P		**P**	**07 34 57.8**	**+0.6**
	baz=21,SNR=7.2							
X31A	**McDonald Ranch**	**22.61**	**329**	⇑P		**P**	**07 34 59.1**	**+1.2**
	baz=21,SNR=5.0							
X31A	**McDonald Ranch**	**22.61**	**329**	⇑P		**P**	**07 34 59.1**	**+1.2**
	baz=21,SNR=5.0							
Z28A	**Tucker Farm, M**	**22.88**	**323**	⇑P		**P**	**07 35 01.0**	**+0.1**
	baz=22							
Z28A	**Tucker Farm, M**	**22.88**	**323**	⇑P		**P**	**07 35 01.0**	**+0.1**
	baz=22							
Y29A	**Porterfield Fa**	**22.90**	**325**	⇑P		**P**	**07 35 01.6**	**+0.5**
	baz=22							
Y29A	**Porterfield Fa**	**22.90**	**325**	⇑P		**P**	**07 35 01.6**	**+0.5**
	baz=22							
X30A	**Coker Ranch, T**	**22.92**	**327**	⇓P		**P**	**07 35 02.1**	**+0.9**
	baz=22							
X30A	**Coker Ranch, T**	**22.92**	**327**	⇓P		**P**	**07 35 02.1**	**+0.9**
	baz=22							
125A	**Gardner Draw,**	**23.84**	**319**	⇑P		**P**	**07 35 11.4**	**+0.9**
	baz=22							
125A	**Gardner Draw,**	**23.84**	**319**	⇑P		**P**	**07 35 11.4**	**+0.9**
	baz=22							
ATAH	**Atahualpa**	**23.92**	**161**	LR		LR	07 43 32.6	
	comp=Z,79nm,21.4s,baz=230,slow=34							
224A	**Cornudas Mount**	**24.03**	**316**	⇑P		**P**	**07 35 13.1**	**+0.7**
	baz=23							
224A	**Cornudas Mount**	**24.03**	**316**	⇑P		**P**	**07 35 13.1**	**+0.7**
	baz=23							
Z25A	**Roswell**	**24.28**	**320**	⇓P		**P**	**07 35 14.8**	**+0.1**
	baz=23							
Z25A	**Roswell**	**24.28**	**320**	⇓P		**P**	**07 35 14.8**	**+0.1**
	baz=23							
124A	**Stringfield Ra**	**24.38**	**318**	⇓P		**P**	**07 35 16.8**	**+1.2**
	baz=23,SNR=6.4							
124A	**Stringfield Ra**	**24.38**	**318**	⇓P		**P**	**07 35 16.8**	**+1.2**
	baz=23,SNR=6.4							
T31A	**Randall Ranch,**	**24.49**	**333**	⇑P		**P**	**07 35 16.9**	**+0.5**
	baz=23							
T31A	**Randall Ranch,**	**24.49**	**333**	⇑P		**P**	**07 35 16.9**	**+0.5**
	baz=23							
W27A	**Bowe Ranch, En**	**24.56**	**325**	⇑P		**P**	**07 35 17.8**	**+0.6**
	baz=23							
W27A	**Bowe Ranch, En**	**24.56**	**325**	⇑P		**P**	**07 35 17.8**	**+0.6**
	baz=23							
Y24A	**Capitan**	**25.16**	**320**	⇓P		**P**	**07 35 23.5**	**+0.8**
	baz=24,SNR=8.2							
Y24A	**Capitan**	**25.16**	**320**	⇓P		**P**	**07 35 23.5**	**+0.8**
	baz=24,SNR=8.2							
U27A	**Thompson Grove**	**25.45**	**327**	⇑P		**P**	**07 35 25.3**	**+0.1**
	baz=24,SNR=5.9							
U27A	**Thompson Grove**	**25.45**	**327**	⇑P		**P**	**07 35 25.3**	**+0.1**
	baz=24,SNR=5.9							
W25A	**X Bar L Ranch,**	**25.46**	**323**	⇓P		**P**	**07 35 26.2**	**+0.9**
	baz=24							
W25A	**X Bar L Ranch,**	**25.46**	**323**	⇓P		**P**	**07 35 26.2**	**+0.9**
	baz=24							
V26A	**Tequesquite Ra**	**25.50**	**325**	⇓P		**P**	**07 35 27.4**	**+1.8**
	baz=24,SNR=6.3							
V26A	**Tequesquite Ra**	**25.50**	**325**	⇓P		**P**	**07 35 27.4**	**+1.8**
	baz=24,SNR=6.3							
121A	**Cookes Peak, D**	**25.84**	**314**	⇓P		**P**	**07 35 29.8**	**+1.0**
	baz=24,SNR=5.6							
121A	**Cookes Peak, D**	**25.84**	**314**	⇓P		**P**	**07 35 29.8**	**+1.0**
	baz=24,SNR=5.6							
U26A	**Atchley Ranch,**	**25.92**	**326**	⇓P		**P**	**07 35 30.0**	**+0.5**
	baz=25,SNR=6.2							
U26A	**Atchley Ranch,**	**25.92**	**326**	⇓P		**P**	**07 35 30.0**	**+0.5**
	baz=25,SNR=6.2

TSZ	**Takapari Road**	**2.21**	**187**	PN	Pn	07 36 04.5	-1.2
PRHZ	**Porangahau**	**2.41**	**174**	PN	Pn	07 36 06.7	-1.3
DVHZ	**Dannevirke**	**2.44**	**183**	PN	Pn	07 36 06.6	-1.7
POWZ	**Post Office Ro**	**2.56**	**190**	PN	Pn	07 36 08.0	-1.7
ANWZ	**Angora Road**	**2.59**	**177**	PN	Pn	07 36 08.9	-1.2
PRWZ	**Pori Road**	**2.70**	**186**	PN	Pn	07 36 09.9	-1.5
BFZ	**Birch Farm**	**2.81**	**181**	PN	Pn	07 36 10.8	-2.0
MRZ	**Mangatainoka R**	**2.85**	**191**	⇑PN	Pn	07 36 11.1	-2.2
MRZ				AML	AML	07 36 46.6	
MRZ				AML	AML	07 36 46.9	
OGWZ	**Otaki Gorge**	**3.08**	**196**	PN	Pn	07 36 13.8	-2.2
HOWZ	**Holdsworth Sta**	**3.09**	**191**	PN	Pn	07 36 13.6	-2.7
KIW	**Kapiti Island**	**3.19**	**200**	PN	Pn	07 36 14.8	-2.6
MTW	**Mount Morrison**	**3.35**	**191**	PN	Pn	07 36 16.5	-2.9
CAW	**Cannon Point**	**3.38**	**196**	PN	Pn	07 36 17.0	-2.8
TRWZ	**Traveller**	**3.56**	**188**	PN	Pn	07 36 19.2	-3.0
PAWZ	**Paruwai Farm**	**3.58**	**191**	PN	Pn	07 36 19.1	-3.3
MSWZ	**Moikau Station**	**3.64**	**193**	PN	Pn	07 36 19.8	-3.3
SNZO	**South Karori**	**3.66**	**199**	PN	Pn	07 36 20.0	-3.3
TCW	**Tory Channel**	**3.70**	**205**	PN	Pn	07 36 21.0	-2.8
PLWZ	**Palliser**	**3.79**	**192**	PN	Pn	07 36 21.6	-3.5
TUWZ	**Tuamarina**	**4.01**	**207**	PN	Pn	07 36 24.6	-3.2
NNZ	**Nelson**	**4.05**	**213**	PN	Pn	07 36 24.4	-3.9
QRZ	**Quartz Range**	**4.17**	**224**	PN	Pn	07 36 26.1	-3.8
BSWZ	**Blackbirch Sta**	**4.28**	**205**	AML	AML	07 36 32.7	
THZ	**Tophouse**	**4.70**	**213**	PN	Pn	07 36 34.6	-2.3
KHZ	**Kahutara**	**5.02**	**204**	PN	Pn	07 36 37.4	-3.5
LTZ	**Lake Taylor**	**5.81**	**211**	PN	Pn	07 36 47.5	-3.8
OXZ	**Oxford**	**6.35**	**210**	PN	Pn	07 36 53.1	-5.4

IDC ***11*** *07:40:52.8±6.3, 24°.56N×127°.48E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/23, mbtmp3.6/3, Error ellipse: s-maj=340.5km s-min=27.5km az=62.0*

ISCJB ***11*** *07:40:53.2±0.8, 24°.97N±0°.05×128°.27E±0°.05, h29km, mb3.6/3, Error ellipse: s-maj=7.3km s-min=6.4km az=149.0*

JMA ***11*** *07:40:56.0±0.5, 25°.07N×128°.06E, h74km, M3.0*

ISC 11 07:40:53.8±1.1, 24°.99N±0°.07×128°.21E±0°.06, h29km, n12, σ1§74/20, mb3.5/3, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**1.22**	**340**	P	**Pb**	**07 41 16.2**	**0.0**
JAGN	**Aguni-jima**	**1.82**	**332**	P	**Pb**	**07 41 24.2**	**-2.2**
JAGN				*e*S	**Sn**	**07 41 44.9**	**-0.3**
JOW	**Kunigami**	**1.84**	**2**	P	**Pb**	**07 41 25.0**	**-1.8**
JOW				*e*S	**Sn**	**07 41 46.0**	**+0.2**
JKE	**Kume jima 2**	**1.85**	**316**	P	**Pn**	**07 41 23.9**	**+0.3**
JKE				*e*S	**Sb**	**07 41 46.0**	**-3.7**
JIH	**Iheya**	**2.05**	**354**	P	**Pb**	**07 41 28.1**	**-2.3**
JIH				S	**Sn**	**07 41 51.2**	**+0.2**
JMZ	**Minamidaito 2**	**2.85**	**72**	P	**Pn**	**07 41 36.1**	**-1.2**
JMZ				*e*S	**Sn**	**07 42 08.9**	**-1.7**
JTK	**Tokunoshima**	**2.87**	**13**	P	**Pn**	**07 41 38.4**	**+0.9**
JTK				S	**Sn**	**07 42 11.3**	**+0.2**
JAMN	**Amaminishikomi**	**3.36**	**15**	P	**Pn**	**07 41 46.9**	**+2.6**
JAMN				*e*S	**Sn**	**07 42 24.2**	**+1.0**
JAM	**Amami Oshima**	**3.63**	**20**	P	**Pn**	**07 41 50.4**	**+2.3**
JAM				S	**Sn**	**07 42 31.1**	**+1.1**
MKAR	**Makanchi Array**	**42.35**	**313**	P	**P**	**07 48 47.0**	**+1.7**
	0.3nm,0.5s,baz=100,slow=8.7,SNR=6.9						
WRA	**Warramunga Arr**	**45.05**	**172**	P	**P**	**07 49 07.7**	**+0.5**
	2.0nm,0.7s,baz=352,slow=8.7,SNR=15						
ASAR	**Alice Springs**	**48.68**	**173**	P	**P**	**07 49 36.6**	**+1.1**
	0.4nm,0.8s,baz=359,slow=14,SNR=5.3						

ISCJB ***11*** *08:07:31.5±1.1, 14°.73N±0°.09×93°.94W±0°.04, h30km, mb3.6/2, Error ellipse: s-maj=12.8km s-min=5.0km az=2.0*

NEIC ***11*** *08:07:34.3, 14°.71N×93°.92W, h23km, MD4.3(MEX), After MEX.*

MEX ***11*** *08:07:34.3±0.5, 14°.71N×93°.92W, h23km±17km, MD4.3*

IDC ***11*** *08:07:52.7±11.0, 16°.71N×93°.65W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.5/22, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=222.7km s-min=109.6km az=6.0*

ISC 11 08:07:33.2±1.4, 14°.69N±0°.09×93°.90W±0°.03, h30km, n14, σ1§69/22, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.59**	**82**	*i* P	**Pn**	**08 07 58.6**	**-0.7**
THIG				*i* S	**Sn**	**08 08 17.5**	**-1.5**
THIG		**1.59**	**82**	*i* P	**Pn**	**08 07 58.6**	**-0.7**
THIG				*i* S	**Sn**	**08 08 17.5**	**-1.5**
TGIG		**2.21**	**20**	*i* P	**Pn**	**08 08 07.3**	**-0.6**
TGIG				*i* S	**Sn**	**08 08 32.5**	**-1.7**
TGIG		**2.21**	**20**	*i* P	**Pn**	**08 08 07.3**	**-0.6**
TGIG				*i* S	**Sn**	**08 08 32.5**	**-1.7**
CCIG	**Comitan**	**2.32**	**47**	*i* P	**Pn**	**08 08 09.3**	**-0.3**
CCIG				*i* S	**Sn**	**08 08 36.2**	**-1.0**
CCIG	**Comitan**	**2.32**	**47**	*i* P	**Pn**	**08 08 09.3**	**-0.3**
CCIG				*i* S	**Sn**	**08 08 36.2**	**-1.0**
HUIG	**Huatulco**	**2.39**	**297**	*i* P	**Pn**	**08 08 10.1**	**-0.2**
HUIG				*i* S	**Sn**	**08 08 35.9**	**-2.7**
HUIG	**Huatulco**	**2.39**	**297**	*i* P	**Pn**	**08 08 10.1**	**-0.2**
HUIG				*i* S	**Sn**	**08 08 35.9**	**-2.7**
PNIG	**Pinotepa**	**4.41**	**293**	*i* P	**Pn**	**08 08 37.5**	**-0.7**
PNIG				*i* S	**Sn**	**08 09 27.5**	**-1.1**
PNIG	**Pinotepa**	**4.41**	**293**	*i* P	**Pn**	**08 08 37.5**	**-0.7**
PNIG				*i* S	**Sn**	**08 09 27.5**	**-1.1**
TPIG	**Tehuac#an**	**4.98**	**319**	*i* S	**Sn**	**08 09 42.0**	**-0.8**
TXAR	**Lajitas Array**	**17.14**	**330**	Pn	**P**	**08 11 36.8**	**+4.7**
	0.0nm,0.3s,baz=147,slow=12,SNR=5.2						
NVAR	**Mina Array Bea**	**31.99**	**320**	P	P	08 14 08.6	+11
	0.4nm,0.6s,baz=123,slow=8.8,SNR=4.2						
YKA	**Yellowknife Ar**	**49.95**	**348**	P	P	08 16 33.3	+9.2
	0.7nm,0.7s,baz=154,slow=7.3,SNR=3.6						

IDC 11 08:08:19.3±1.1, 55°.78S×26°.88W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/17, mbtmp3.9/4, MS2.6/1, Ms1 2.6/1, ms1mx2.4/23, Error ellipse: s-maj=50.4km s-min=24.4km az=83.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**34.47**	**180**	P	P	08 15 08.1	-0.5
	0.9nm,0.6s,baz=180,slow=1.9,SNR=12						
SUR	**Sutherland**	**40.40**	**75**	LR	LR	08 28 10.2	
	comp=Z,9.8nm,22.0s,baz=88,slow=30						
VNDA	**Vanda**	**46.85**	**183**	P	P	08 16 50.5	+0.2
	1.0nm,0.5s,baz=178,slow=3.9,SNR=11						
LPAZ	**La Paz**	**50.37**	**305**	P	P	08 17 18.5	-0.3
	1.0nm,0.5s,baz=135,slow=6.2,SNR=7.7						
TORD	**Torodi Ar. Bea**	**72.73**	**29**	P	P	08 19 49.0	-0.1
	0.3nm,0.4s,baz=193,slow=7.1,SNR=5.1						
ILAR	**Eielson Array**	**150.07**	**312**	PKPbc	PKPbc	08 28 10.2	-0.1
	0.6nm,0.7s,baz=126,slow=2.9,SNR=9.0						

IDC ***11*** *08:10:00.3±0.6, 56°.06S×26°.85W, h0km, mb4.4/6, mb1 4.5/6, mb1mx4.2/16, mbtmp4.3/6, ML3.4/1, MS2.6/1, Ms1 2.6/1, ms1mx2.6/22, Error ellipse: s-maj=29.0km s-min=17.8km az=65.0*

NEIC ***11*** *08:10:05.6±0.4, 56°.09S×26°.90W, h35km, mb4.5/4, Error ellipse: s-maj=20.4km s-min=9.8km az=59.0*

ISCJB ***11*** *08:10:06.9±0.8, 56°.25S±0°.1×27°.07W±0°.3, h63km, mb4.2/9, Error ellipse: s-maj=31.3km s-min=12.3km az=149.5*

ISC 11 08:10:08.6±0.6, 56°.15S±0°.1×27°.09W±0°.2, h63km, n36, σ0§77/38, mb4.3/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**18.63**	**156**	*e*P	**P**	**08 14 19.9**	**-0.8**
	1.9nm,0.6s						
SNAA	**Sanae**	**18.63**	**156**	P	**P**	**08 14 19.3**	**-1.4**
	0.1nm,0.3s,baz=330,slow=16,SNR=3.6						
SNAA				LR	LR	08 20 27.5	
	comp=Z,19nm,19.2s,baz=207,slow=34						
PLCA	**Paso Flores**	**32.11**	**280**	PcP	**PcP**	**08 19 17.8**	**+0.4**
PLCA	**Paso Flores**	**32.11**	**280**	PcP	**PcP**	**08 19 17.8**	**+0.4**
	3.1nm,1.1s,baz=174,slow=1.5,SNR=2.8						
QSPA	**South Pole Qui**	**34.12**	**180**	*e*P	**P**	**08 16 46.9**	**-0.2**
	2.9nm,0.6s						
QSPA	**South Pole Qui**	**34.12**	**180**	P	**P**	**08 16 47.3**	**+0.3**
	2.8nm,0.6s,baz=201,slow=2.6,SNR=26						
CPUP	**Villa Florida**	**36.94**	**311**	P	**P**	**08 17 10.6**	**-0.8**
CPUP	**Villa Florida**	**36.94**	**311**	P	**P**	**08 17 10.6**	**-0.8**
	1.8nm,0.5s,baz=144,slow=7.5,SNR=8.7						
CFAA	**Coronel Fontan**	**37.68**	**293**	P	P	**08 17 16.6**	**-1.0**
CFAA				PcP	**PcP**	**08 19 34.2**	**+0.5**
CFAA	**Coronel Fontan**	**37.68**	**293**	P	**P**	**08 17 16.6**	**-1.0**
	0.2nm,0.5s,baz=148,slow=8.3,SNR=10						
CFAA				PcP	**PcP**	**08 19 34.2**	**+0.5**
	0.3nm,0.4s,baz=149,slow=2.6,SNR=7.9						
LVC	**Limon Verde**	**45.42**	**300**	*e*P	**P**	**08 18 22.2**	**+0.9**
	4.0nm,0.4s						
VNDA	**Vanda**	**46.49**	**183**	P	**P**	**08 18 29.5**	**+0.7**
VNDA	**Vanda**	**46.49**	**183**	P	**P**	**08 18 29.5**	**+0.7**
	2.8nm,0.7s,baz=178,slow=5.2,SNR=15						
LPAZ	**La Paz**	**50.50**	**305**	*e*P	**P**	**08 19 02.1**	**+1.1**
	4.2nm,0.5s						
LPAZ	**La Paz**	**50.50**	**305**	P	**P**	**08 19 02.4**	**+1.4**
	6.7nm,0.5s,baz=133,slow=5.3,SNR=46						
SAML	**Samuel**	**54.93**	**315**	*e*P	**P**	**08 19 32.8**	**-0.2**
	4.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**73.08**	**29**	P	**P**	**08 21 32.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**73.08**	**29**	P	**P**	**08 21 32.3**	**+0.4**
	0.9nm,0.4s,baz=201,slow=6.5,SNR=27						
ASAR	**Alice Springs**	**98.88**	**162**	P	Pdif	08 23 41.9	0.0
ASAR	**Alice Springs**	**98.88**	**162**	P	Pdif	08 23 41.9	0.0
	0.4nm,0.8s,baz=179,slow=4.4,SNR=5.6						
NVAR	**Mina Array Bea**	**121.51**	**293**	PKP	**PKPdf**	**08 28 54.8**	**+0.3**
NVAR	**Mina Array Bea**	**121.51**	**293**	PKP	**PKPdf**	**08 28 54.8**	**+0.3**
	0.2nm,0.6s,baz=112,slow=2.9,SNR=3.7						
FINES	**FINESS Array B**	**124.42**	**28**	PKP	**PKPdf**	**08 28 57.8**	**-1.1**
FINES	**FINESS Array B**	**124.42**	**28**	PKP	**PKPdf**	**08 28 57.8**	**-1.1**
	0.9nm,0.5s,baz=212,slow=1.6,SNR=11						
ARCES	**ARCESS Array B**	**130.99**	**22**	PKP	**PKPdf**	**08 29 11.0**	**-0.2**
ARCES	**ARCESS Array B**	**130.99**	**22**	PKP	**PKPdf**	**08 29 11.0**	**-0.2**
	1.4nm,0.9s,baz=132,slow=1.8,SNR=6.6						
YKA	**Yellowknife Ar**	**136.29**	**318**	PKP	**PKPdf**	**08 29 21.7**	**+0.3**
YKA	**Yellowknife Ar**	**136.29**	**318**	PKP	**PKPdf**	**08 29 21.7**	**+0.3**
	0.4nm,0.4s,baz=131,slow=2.2,SNR=7.2						
INK	**Inuvik**	**145.93**	**320**	PKPbc	**PKPab**	**08 29 39.6**	**-0.3**
INK	**Inuvik**	**145.93**	**320**	PKPbc	**PKPab**	**08 29 39.6**	**-0.3**
	2.0nm,0.5s,baz=81,slow=5.3,SNR=9.8						
EGAK	**Eagle**	**147.86**	**313**	*e*PKPdf	**PKPbc**	**08 29 43.8**	**-1.1**
ILAR	**Eielson Array**	**150.24**	**312**	PKPbc	**PKPbc**	**08 29 51.0**	**+0.1**
ILAR	**Eielson Array**	**150.24**	**312**	PKPbc	**PKPbc**	**08 29 51.0**	**+0.1**
	2.1nm,0.7s,baz=139,slow=3.8,SNR=29						
SONM	**Songino Array**	**150.64**	**86**	PKPbc	**PKPbc**	**08 29 52.3**	**-0.3**
SONM	**Songino Array**	**150.64**	**86**	PKPbc	**PKPbc**	**08 29 52.3**	**-0.3**
	1.2nm,0.6s,baz=231,slow=2.6,SNR=7.6						
TRF	**Thorofare Moun**	**151.43**	**308**	*e*PKPdf	**PKPdf**	**08 29 49.7**	**+1.9**
TRF				*e*PKPbc	**PKPbc**	**08 29 53.3**	**-0.7**
TRF				*e*PKPab	**PKPab**	**08 30 02.5**	**-0.1**

IDC 11 08:11:23.6±2.6, 8°.86S×112°.12E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.6/3, MS2.6/1, Ms1 2.6/1, ms1mx2.2/31, Error ellipse: s-maj=148.5km s-min=24.3km az=48.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**8.49**	**64**	LR	LR	08 18 12.8	
	comp=Z,40nm,19.0s,baz=297,slow=48						
WRA	**Warramunga Arr**	**24.14**	**120**	P	P	08 16 41.1	-0.4
	0.8nm,0.5s,baz=294,slow=11,SNR=15						
ASAR	**Alice Springs**	**25.52**	**128**	P	P	08 16 54.5	+0.4
	0.7nm,0.6s,baz=301,slow=8.9,SNR=15						
MKAR	**Makanchi Array**	**61.46**	**337**	P	P	08 21 41.9	-0.1
	0.7nm,0.3s,baz=148,slow=7.4,SNR=12						

IDC ***11*** *08:19:03.6±1.2, 37°.84N×21°.25E, h0km, mb3.9/9, mb1 3.8/11, mb1mx3.7/30, mbtmp3.8/11, ML2.9/2, Error ellipse: s-maj=25.9km s-min=19.9km az=129.0*

ISCJB ***11*** *08:19:04.3±0.4, 37°.77N±0°.02×21°.26E±0°.02, h6km±3km, mb3.8/9, Error ellipse: s-maj=3.4km s-min=2.5km az=147.8*

CSEM ***11*** *08:19:05.2±0.2, 37°.79N×21°.31E, h5km, ML3.6/10, Error ellipse: s-maj=3.2km s-min=2.2km az=253.0*

THE ***11*** *08:19:05.7, 37°.80N×21°.35E, h0km, ML3.6/10, Error ellipse: s-maj=0.7km s-min=0.2km az=250.0*

ATH ***11*** *08:19:05.6, 37°.78N×21°.31E, h14km±2km, MD3.2/19, ML3.4*

ISC 11 08:19:05.6±0.9, 37°.79N±0°.02×21°.32E±0°.02, h12km±6km, n125, σ0§88/189, mb3.9/9, 2C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.29**	**24**	P	**Pg**	**08 19 11.3**	**-0.3**
RLS				S	**Sg**	**08 19 15.2**	**-0.4**
RLS	**Riolos of Patr**	**0.29**	**24**	*e*PG	**Pg**	**08 19 11.3**	**-0.3**
RLS				*e*SB	**Sb**	**08 19 16.6**	**-1.0**
RLS	**Riolos of Patr**	**0.29**	**24**	P	**Pg**	**08 19 11.2**	**-0.3**
RLS				S	**Sg**	**08 19 15.2**	**-0.4**
RLS				*e*Sb	**Sb**	**08 19 16.8**	**-1.0**
AMT	**Artemida-Makis**	**0.40**	**129**	P	**Pg**	**08 19 13.5**	**-0.1**
AMT				S	**Sg**	**08 19 19.1**	**+0.1**
AMT	**Artemida-Makis**	**0.40**	**129**	*e*PB	**Pg**	**08 19 13.6**	**-0.1**
AMT				*e*SB	**Sb**	**08 19 20.4**	**-0.4**
AMT	**Artemida-Makis**	**0.40**	**129**	P	**Pg**	**08 19 13.5**	**-0.1**
AMT				S	**Sg**	**08 19 19.1**	**+0.1**
AMT				*e*Sb	**Sb**	**08 19 20.4**	**-0.4**
AXS	**Araxos**	**0.41**	**7**	P	**Pg**	**08 19 13.4**	**-0.3**
AXS				S	**Sg**	**08 19 19.4**	**+0.2**
AXS	**Araxos**	**0.41**	**7**	P	**Pg**	**08 19 13.3**	**-0.4**
AXS				S	**Sg**	**08 19 19.4**	**+0.2**
KFL	**Anninata**	**0.53**	**308**	P	**Pg**	**08 19 16.1**	**+0.2**
KFL				S	**Sb**	**08 19 24.0**	**-0.3**
KFL	**Anninata**	**0.53**	**308**	P	**Pg**	**08 19 15.9**	**0.0**
KFL				S	**Sb**	**08 19 24.0**	**-0.3**
UPR	**University Cam**	**0.62**	**37**	P	**Pb**	**08 19 18.8**	**+0.5**
LAKA	**Lakka**	**0.69**	**49**	P	**Pg**	**08 19 18.5**	**-0.5**
LAKA				S	**Sg**	**08 19 28.2**	**+0.1**
LAKA	**Lakka**	**0.69**	**49**	*e*PB	**Pg**	**08 19 18.2**	**-0.8**
LAKA				*e*SB	**Sb**	**08 19 29.2**	**+0.1**
LAKA	**Lakka**	**0.69**	**49**	*e*Pb	**Pg**	**08 19 18.2**	**-0.8**
LAKA	**Lakka**	**0.69**	**49**	P	**Pg**	**08 19 18.5**	**-0.5**
LAKA				S	**Sg**	**08 19 28.2**	**+0.1**
LAKA				*e*Sb	**Sb**	**08 19 29.2**	**+0.1**
VLS	**Valsamata**	**0.69**	**304**	P	**Pg**	**08 19 19.1**	**+0.1**
VLS				S	**Sb**	**08 19 29.6**	**+0.4**
VLS	**Valsamata**	**0.69**	**304**	*e*PG	**Pg**	**08 19 18.5**	**-0.5**
VLS				*e*SB	**Sb**	**08 19 29.5**	**+0.4**
VLS	**Valsamata**	**0.69**	**304**	*e*Pg	**Pg**	**08 19 18.5**	**-0.5**
VLS	**Valsamata**	**0.69**	**304**	P	**Pg**	**08 19 19.1**	**+0.1**
VLS				*e*Sb	**Sb**	**08 19 29.5**	**+0.4**
KLV	**Kalavryta, Ach**	**0.71**	**69**	P	**Pg**	**08 19 18.4**	**-0.9**
KLV				S	**Sg**	**08 19 28.7**	**+0.1**
KLV	**Kalavryta, Ach**	**0.71**	**69**	*e*PB	**Pg**	**08 19 18.4**	**-0.9**
KLV				*e*SB	**Sg**	**08 19 28.8**	**+0.1**
KLV	**Kalavryta, Ach**	**0.71**	**69**	P	**Pg**	**08 19 18.4**	**-0.9**
KLV				S	**Sg**	**08 19 28.7**	**+0.1**
ITM	**Ithomi**	**0.78**	**141**	P	**Pg**	**08 19 20.1**	**-0.5**
ITM				S	**Sb**	**08 19 31.7**	**+0.1**
ITM	**Ithomi**	**0.78**	**141**	*e*PG	**Pg**	**08 19 20.3**	**-0.3**
ITM				*e*SB	**Sb**	**08 19 32.0**	**+0.4**
ITM	**Ithomi**	**0.78**	**141**	P	**Pg**	**08 19 20.1**	**-0.5**
ITM				S	**Sb**	**08 19 31.5**	**-0.1**
ITM				*e*Sb	**Sb**	**08 19 32.0**	**+0.4**
EFP	**Efpalio**	**0.79**	**36**	P	**Pg**	**08 19 20.4**	**-0.4**
EFP	**Efpalio**	**0.79**	**36**	P	**Pg**	**08 19 20.3**	**-0.5**
EFP				S	**Sb**	**08 19 32.4**	**+0.5**
GUR	**Goura**	**0.83**	**79**	P	**Pg**	**08 19 20.5**	**-1.0**
GUR				S	**Sg**	**08 19 32.8**	**+0.4**
GUR	**Goura**	**0.83**	**79**	*e*PB	**Pg**	**08 19 20.3**	**-1.2**
GUR				*e*SB	**Sb**	**08 19 33.6**	**+0.5**
GUR	**Goura**	**0.83**	**79**	P	**Pg**	**08 19 20.5**	**-1.0**
GUR				S	**Sg**	**08 19 32.8**	**+0.4**
TRIZ	**Trizonia**	**0.83**	**46**	P	**Pg**	**08 19 21.0**	**-0.6**
TRIZ	**Trizonia**	**0.83**	**46**	*e*PB	**Pg**	**08 19 20.7**	**-0.9**
TRIZ				*e*SB	**Sb**	**08 19 34.0**	**+1.0**
TRIZ	**Trizonia**	**0.83**	**46**	*e*Pb	**Pg**	**08 19 20.7**	**-0.9**
TRIZ	**Trizonia**	**0.83**	**46**	P	**Pg**	**08 19 21.0**	**-0.6**
TRIZ				S	**Sb**	**08 19 33.0**	**0.0**
TRIZ				*e*Sb	**Sb**	**08 19 34.0**	**+1.0**
KALE	**Kalithea**	**0.89**	**47**	P	**Pg**	**08 19 21.9**	**-0.7**
KALE	**Kalithea**	**0.89**	**47**	*e*PG	**Pg**	**08 19 22.0**	**-0.7**
KALE				*e*SB	**Sb**	**08 19 36.4**	**+1.7**
KALE	**Kalithea**	**0.89**	**47**	*e*Pg	**Pg**	**08 19 22.0**	**-0.7**
KALE				S	**Sb**	**08 19 34.8**	**+0.1**
KALE				*e*Sb	**Sb**	**08 19 36.4**	**+1.7**
VLX	**Vlachokerasia**	**0.94**	**116**	P	**Pg**	**08 19 23.5**	**-0.3**
VLX				S	**Sb**	**08 19 36.8**	**+0.4**
VLX	**Vlachokerasia**	**0.94**	**116**	*e*PB	**Pg**	**08 19 23.5**	**-0.3**
VLX				*e*SB	**Sb**	**08 19 37.7**	**+1.3**
VLX	**Vlachokerasia**	**0.94**	**116**	P	**Pg**	**08 19 23.5**	**-0.3**
VLX				S	**Sb**	**08 19 36.8**	**+0.4**
VLX				*e*Sb	**Sb**	**08 19 37.7**	**+1.3**
PYL	**PYLOS**	**0.95**	**159**	P	**Pg**	**08 19 23.1**	**-0.9**
PYL				S	**Sb**	**08 19 37.5**	**+0.9**
PYL	**PYLOS**	**0.95**	**159**	*e*PG	**Pg**	**08 19 23.0**	**-0.9**
PYL				*e*SB	**Sb**	**08 19 37.3**	**+0.7**
PYL	**PYLOS**	**0.95**	**159**	P	**Pg**	**08 19 23.1**	**-0.9**
PYL				*e*Sb	**Sb**	**08 19 37.3**	**+0.7**
THAL	**Thalero**	**1.09**	**77**	P	**Pg**	**08 19 25.5**	**-1.1**
THAL	**Thalero**	**1.09**	**77**	P	**Pg**	**08 19 25.5**	**-1.1**
LKD2	**Lefkada island**	**1.12**	**333**	P	**Pg**	**08 19 26.8**	**-0.4**
LKD2				S	**Sn**	**08 19 43.5**	**+0.9**
LKD2	**Lefkada island**	**1.12**	**333**	P	**Pg**	**08 19 26.8**	**-0.4**
LKD2				S	**Sn**	**08 19 43.5**	**+0.9**
DSF	**Desfina**	**1.14**	**57**	P	**Pg**	**08 19 26.6**	**-0.9**
DSF	**Desfina**	**1.14**	**57**	P	**Pg**	**08 19 26.6**	**-0.9**
DSF				S	**Sg**	**08 19 42.2**	**-0.1**
EVR	**Evrytania**	**1.19**	**19**	P	**Pg**	**08 19 27.7**	**-0.8**
EVR	**Evrytania**	**1.19**	**19**	*e*PN	**Pg**	**08 19 27.8**	**-0.8**
EVR				*e*SB	**Sn**	**08 19 45.1**	**+0.8**
EVR	**Evrytania**	**1.19**	**19**	P	**Pg**	**08 19 27.7**	**-0.8**
EVR				*e*Sb	**Sn**	**08 19 45.1**	**+0.8**
EVR				S	**Sb**	**08 19 47.2**	**+3.6**
DYR	**Agios Nikonas**	**1.31**	**141**	P	**Pn**	**08 19 30.0**	**+0.2**
DYR				S	**Sn**	**08 19 49.4**	**+2.3**
DYR	**Agios Nikonas**	**1.31**	**141**	*e*PG	**Pn**	**08 19 29.9**	**+0.2**
DYR				*e*SB	**Sn**	**08 19 49.4**	**+2.3**
DYR	**Agios Nikonas**	**1.31**	**141**	P	**Pn**	**08 19 29.9**	**+0.2**
DYR				*e*Sb	**Sn**	**08 19 49.4**	**+2.3**
LTK	**Loutraki**	**1.33**	**79**	P	**Pn**	**08 19 29.9**	**-0.1**
LTK				S	**Sn**	**08 19 49.4**	**+1.8**
LTK	**Loutraki**	**1.33**	**79**	*e*PN	**Pn**	**08 19 29.3**	**-0.7**
LTK	**Loutraki**	**1.33**	**79**	*e*Pn	**Pn**	**08 19 29.3**	**-0.7**
LTK	**Loutraki**	**1.33**	**79**	P	**Pn**	**08 19 29.9**	**-0.1**
LTK				S	**Sn**	**08 19 49.4**	**+1.8**
MAKR	**Makrakomi, Fth**	**1.38**	**27**	P	**Pb**	**08 19 31.4**	**+0.1**
MAKR				S	**Sg**	**08 19 50.7**	**+0.7**
MAKR	**Makrakomi, Fth**	**1.38**	**27**	P	**Pb**	**08 19 31.4**	**+0.1**
MAKR				S	**Sg**	**08 19 50.7**	**+0.7**
AXAR	**Agios Charalam**	**1.44**	**47**	P	**Pn**	**08 19 31.6**	**+0.1**
AXAR	**Agios Charalam**	**1.44**	**47**	P	**Pn**	**08 19 31.6**	**+0.1**
AGG	**Agios Georgios**	**1.47**	**33**	P	**Pn**	**08 19 32.2**	**+0.3**
AGG				S	**Sg**	**08 19 53.0**	**+0.2**
AGG	**Agios Georgios**	**1.47**	**33**	*e*PB	**Pb**	**08 19 33.2**	**+0.4**
AGG	**Agios Georgios**	**1.47**	**33**	P	**Pn**	**08 19 32.2**	**+0.3**
AGG	**Agios Georgios**	**1.47**	**33**	*e*Pb	**Pb**	**08 19 33.2**	**+0.4**
AGG				S	**Sg**	**08 19 53.0**	**+0.2**
DIDY	**Didyma**	**1.54**	**101**	P	**Pn**	**08 19 33.4**	**+0.5**
DIDY	**Didyma**	**1.54**	**101**	P	**Pn**	**08 19 33.4**	**+0.5**
DID	**Didima**	**1.55**	**100**	P	**Pn**	**08 19 33.3**	**+0.3**
DID				S	**Sg**	**08 19 55.1**	**-0.4**
DID	**Didima**	**1.55**	**100**	*e*PG	**Pb**	**08 19 34.2**	**0.0**
DID	**Didima**	**1.55**	**100**	P	**Pn**	**08 19 33.3**	**+0.3**
DID	**Didima**	**1.55**	**100**	*e*Pg	**Pb**	**08 19 34.

HAWK	**Haweek**	**0.71**	**177**	*e*P		Pg	08 28 27.9	-0.1
HAWK				*e*S		Sg	08 28 38.1	+0.8
HAWK	**Haweek**	**0.71**	**177**	*e*P		Pg	08 28 27.0	-1.0
HAWK				*e*S		Sb	08 28 38.8	-1.2
HAWK	**Haweek**	**0.71**	**177**	*e*P		Pg	08 28 27.0	-1.0
	SNR=75							
HAWK				*e*S		Sb	08 28 38.8	-1.2
	SNR=59							
BTCH	**Batrach**	**0.81**	**5**	*e*P		Pg	08 28 28.5	-1.4
BTCH					AML	AML	08 28 49.4	
	comp=N,48nm,0.6s							
BTCH	**Batrach**	**0.81**	**5**	*e*P		Pg	08 28 28.9	-1.0
BTCH				*e*S		Sg	08 28 40.8	+0.4
BTCH					AML	AML	08 28 49.5	
	comp=Z,36nm,0.7s							
BTCH	**Batrach**	**0.81**	**5**	*e*P		Pg	08 28 28.9	-0.9
	SNR=75							
BTCH				*e*S		Sg	08 28 40.8	+0.4
	comp=Z,36nm,0.7s,SNR=59							
DRWC	**Darouich**	**1.41**	**10**	*e*P		Pb	08 28 42.3	+0.8
DRWC					AML	AML	08 29 05.2	
	comp=Z,7.8nm,0.3s							
DRWC	**Darouich**	**1.41**	**10**	*e*P		Pn	08 28 39.6	-1.6
DRWC				*e*S		Sn	08 29 02.3	+1.7
DRWC					AML	AML	08 29 05.2	
	comp=Z,7.8nm,0.3s							
DRWC					AML	AML	08 29 10.9	
	comp=N,16nm,0.5s							
DRWC	**Darouich**	**1.41**	**10**	*e*P		Pn	08 28 39.7	-1.5
	SNR=57							
DRWC				*e*S		Sn	08 29 02.3	+1.7
	comp=N,16nm,0.5s,SNR=49							

ISCJB ***11*** *08:39:10.2±0.8,30°.7S±0°.2×60°.1E±0°.2, h11km, mb3.9/9, MS3.4/2, Error ellipse: s-maj=27.9km s-min=20.8km az=138.5*
IDC ***11*** *08:39:10.2±0.8,30°.62S×60°.12E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/26, mbtmp3.8/8, MS3.4/2, Ms1 3.5/2, ms1mx2.8/45, Error ellipse: s-maj=30.4km s-min=23.3km az=55.0*
NEIC ***11*** *08:39:11.8±0.6,30°.64S×60°.10E, h10km, mb4.4/2, Error ellipse: s-maj=23.4km s-min=17.1km az=47.0*
ISC 11 08:39:12.3±0.8,30°.6S±0°.2×60°.1E±0°.2, h11km, n20, σ0°72/19, mb4.1/9, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**33.44**	**257**	LR	LR	08 55 46.4	
	comp=Z,43nm,20.1s,baz=18,slow=30						
QSPA	**South Pole Qui**	**59.52**	**180**	*e*P	**P**	**08 49 15.3**	**-0.1**
	1.6nm,0.7s						
QSPA	**South Pole Qui**	**59.52**	**180**	P	**P**	**08 49 15.5**	**0.0**
	1.3nm,0.6s,baz=268,slow=6.1,SNR=13						
CMAR	**Chiang Mai Arr**	**61.45**	**43**	P	**P**	**08 49 29.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**61.45**	**43**	P	**P**	**08 49 29.6**	**+0.6**
	1.2nm,0.3s,baz=234,slow=6.3,SNR=4.8						
CMAR				LR	LR	09 11 22.4	
	comp=Z,36nm,18.9s,baz=185,slow=31						
ASAR	**Alice Springs**	**64.97**	**104**	P	**P**	**08 49 52.0**	**-0.5**
ASAR	**Alice Springs**	**64.97**	**104**	P	**P**	**08 49 52.0**	**-0.5**
	0.8nm,0.9s,baz=246,slow=6.0,SNR=5.5						
WRA	**Warramunga Arr**	**66.89**	**100**	P	**P**	**08 50 04.6**	**-0.3**
WRA	**Warramunga Arr**	**66.89**	**100**	P	**P**	**08 50 04.6**	**-0.3**
	1.2nm,0.7s,baz=243,slow=5.7,SNR=9.3						
WRAB	**Tennant Creek**	**66.90**	**100**	*e*P	**P**	**08 50 05.0**	**0.0**
	4.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**71.04**	**299**	P	**P**	**08 50 30.9**	**+0.3**
TORD	**Torodi Ar. Bea**	**71.04**	**299**	P	**P**	**08 50 30.9**	**+0.3**
	0.4nm,0.8s,baz=137,slow=6.1,SNR=2.2						
BRTR	**Keskin Array B**	**74.21**	**339**	P	**P**	**08 50 48.2**	**-1.0**
BRTR	**Keskin Array B**	**74.21**	**339**	P	**P**	**08 50 48.2**	**-1.0**
	0.4nm,0.5s,baz=150,slow=6.0,SNR=3.4						
MKAR	**Makanchi Array**	**79.63**	**15**	P	**P**	**08 51 19.7**	**+0.3**
MKAR	**Makanchi Array**	**79.63**	**15**	P	**P**	**08 51 19.7**	**+0.3**
	0.6nm,0.9s,baz=216,slow=7.5,SNR=5.1						
ZALV	**Zalesovo Beam**	**86.91**	**14**	P	**P**	**08 51 55.9**	**-0.8**
ZALV	**Zalesovo Beam**	**86.91**	**14**	P	**P**	**08 51 55.9**	**-0.8**
	0.7nm,0.6s,baz=217,slow=6.9,SNR=3.6						
YKA	**Yellowknife Ar**	**147.95**	**355**	PKPbc	**PKPdf**	**08 58 55.1**	**+1.3**
YKA	**Yellowknife Ar**	**147.95**	**355**	PKPbc	**PKPdf**	**08 58 55.1**	**+1.3**
	0.7nm,0.7s,baz=360,slow=2.8,SNR=5.6						

ISCJB ***11*** *08:41:08.3±0.5, 71°.10N±0°.06×7°.3W±0°.1, h20km, Error ellipse: s-maj=9.3km s-min=5.5km az=1.6*
NAO ***11*** *08:41:08.9±1.3, 71°.08N×7°.36W, ML3.8*
CSEM ***11*** *08:41:09.5±0.2, 71°.04N×7°.44W, h12km, ML3.1, Error ellipse: s-maj=9.5km s-min=5.3km az=2.0*
BER ***11*** *08:41:12.8±2.2, 71°.10N×7°.88W, h10km, MD2.2, ML3.1, ML3.8(NAO)*
ISC 11 08:41:09.9±0.8,71°.12N±0°.07×7°.52W±0°.06, h20km, n37, σ1°52/37, 6D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.28**	**244**	⇓*i*P	**Pb**	**08 41 16.0**	**-0.2**
JNE	**Jan Mayen East**	**0.28**	**244**	⇓*i*P	**Pb**	**08 41 16.0**	**-0.2**
	SNR=117						
JNW	**Jan Mayen West**	**0.31**	**254**	⇓*i*P	**Pb**	**08 41 16.4**	**-0.2**
JNW					AML	AML	08 41 21.0	
	comp=Z,11μm,0.3s						
JNW	**Jan Mayen West**	**0.31**	**254**	⇓*i*P	**Pb**	**08 41 16.4**	**-0.2**
	SNR=115						
JMIC	**Jan Mayen**	**0.35**	**248**	Pg	**Pb**	**08 41 16.7**	**-0.6**
JMIC				Lg	Lg	08 41 21.3	
JMIC	**Jan Mayen**	**0.35**	**248**	Pg	**Pb**	**08 41 16.7**	**-0.6**
JMIC				Lg	Lg	08 41 21.3	
JMIC	**Jan Mayen**	**0.35**	**248**	Pg	**Pb**	**08 41 16.7**	**-0.6**
	SNR=111						
JMIC				Lg	Lg	08 41 21.3	
	SNR=91						
JMI	**Jan Mayen**	**0.44**	**245**	⇓*i*P	**Pb**	**08 41 18.4**	**-0.4**
JMI	**Jan Mayen**	**0.44**	**245**	⇓*i*P	**Pb**	**08 41 18.4**	**-0.4**
	SNR=106						
SCO	**Scoresbysund**	**4.80**	**269**	*i* P	**Pb**	**08 42 32.4**	**-0.8**
DAG	**Danmarks Havn**	**6.45**	**337**	*i* P	**Pn**	**08 42 43.6**	**+0.1**
	comp=Z,27nm,0.6s						
DAG				*i* S	**Sn**	**08 43 52.3**	**-4.0**
KONS	**Konsvik**	**8.76**	**112**	*e*P	**Pn**	**08 43 15.7**	**+0.6**
KONS					AML	AML	08 44 57.5	
	comp=Z,4.9nm,0.7s						
FLOS	**Flostrand**	**8.94**	**112**	*e*P	**Pn**	**08 43 18.5**	**+0.9**
FLOS					AML	AML	08 44 57.5	
	comp=Z,16nm,0.6s						
TRO	**Tromso**	**8.99**	**87**	*e*P	**Pn**	**08 43 18.2**	**0.0**
TRO	**Tromso**	**8.99**	**87**	*e*P	**Pn**	**08 43 18.2**	**0.0**
	SNR=47						
KBS	**Kingsbay**	**9.24**	**24**	Pn	**Pn**	**08 43 23.6**	**+2.0**
KBS					Sn	**Sn**	**08 45 02.0**	**-2.8**
KBS	**Kingsbay**	**9.24**	**24**	*e*P	**Pn**	**08 43 23.7**	**+2.0**
KBS	**Kingsbay**	**9.24**	**24**	*e*P	**Pn**	**08 43 23.7**	**+2.0**
	SNR=47						
MOR8	**Moi Rana**	**9.38**	**111**	*e*P	**Pn**	**08 43 24.7**	**+1.1**
MOR8				*e*S	**Sn**	**08 45 04.5**	**-3.9**
MOR8					AML	AML	08 45 06.7	
	comp=Z,10nm,0.7s						
MOR8	**Moi Rana**	**9.38**	**111**	*e*P	**Pn**	**08 43 24.7**	**+1.1**
	SNR=47						
SPA0	**Spitsbergen Ar**	**9.40**	**31**	Pn	Pn	08 43 27.3	+3.4
	baz=226,slow=14						
SPA0	**Spitsbergen Ar**	**9.40**	**31**	Pn	Pn	08 43 27.3	+3.4
	baz=226,slow=14						
SPA0	**Spitsbergen Ar**	**9.40**	**31**	Pn	Pn	08 43 27.3	+3.4
	baz=226,slow=13,SNR=50						
SUMG	**Summit**	**9.69**	**293**	*i* P	**Pn**	**08 43 30.6**	**+2.3**
SUMG	**Summit**	**9.69**	**293**	*i* P	**Pn**	**08 43 30.6**	**+2.3**
NSS	**Namsos**	**9.85**	**122**	*e*P	**Pn**	**08 43 30.8**	**+0.8**
NSS	**Namsos**	**9.85**	**122**	*e*P	**Pn**	**08 43 30.8**	**+0.8**
	SNR=47						
ARA0	**ARCESS Array S**	**11.15**	**82**	Pn	**Pn**	**08 43 48.9**	**+1.0**
	baz=289,slow=12						
ARA0	**ARCESS Array S**	**11.15**	**82**	P	**Pn**	**08 43 48.9**	**+1.0**
	baz=289,slow=12						
ARA0	**ARCESS Array S**	**11.15**	**82**	P	**Pn**	**08 43 48.9**	**+1.0**
	baz=289,slow=12,SNR=47						
HYA	**Hoyanger**	**11.38**	**144**	*e*P	**Pn**	**08 43 49.4**	**-1.7**
HFS	**Hagfors**	**13.96**	**131**	Pn	**Pn**	**08 44 25.9**	**-0.3**
	baz=329,slow=11						
HFS	**Hagfors**	**13.96**	**131**	P	**Pn**	**08 44 25.9**	**-0.3**
	baz=329,slow=11						
HFS	**Hagfors**	**13.96**	**131**	P	**Pn**	**08 44 25.9**	**-0.3**
	baz=329,slow=11,SNR=47						
FIA0	**FINESS Array S**	**16.36**	**109**	Pn	**Pn**	**08 44 59.1**	**+1.2**
	baz=315,slow=12						
FIA0	**FINESS Array S**	**16.36**	**109**	P	**Pn**	**08 44 59.1**	**+1.2**
	baz=315,slow=12,SNR=47						
FIA0	**FINESS Array S**	**16.36**	**109**	P	**Pn**	**08 44 59.1**	**+1.2**
	baz=315,slow=12,SNR=47						

IDC 11 08:45:09.9±4.8,16°.33N×147°.13E, h0km, mb4.1/7, mb1 4.2/7, mb1mx3.8/25, mbtmp4.1/7, Error ellipse: s-maj=175.4km s-min=83.2km az=29.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**27.03**	**325**	P	P	08 50 53.8	0.0
	2.4nm,0.8s,baz=144,slow=9.5,SNR=4.6						
SONM	**Songino Array**	**45.84**	**322**	P	P	08 53 34.1	+0.1
	1.1nm,0.6s,baz=138,slow=7.2,SNR=5.4						
MKAR	**Makanchi Array**	**61.09**	**315**	P	P	08 55 26.4	+0.5
	0.9nm,0.5s,baz=88,slow=8.2,SNR=16						
KURBB	**Kurchatov Arra**	**63.99**	**319**	P	P	08 55 45.0	-0.2
	3.5nm,0.8s,baz=96,slow=6.9,SNR=17						
BVAR	**Borovoye Array**	**69.16**	**321**	P	P	08 56 17.5	-0.8
	1.2nm,0.5s,baz=93,slow=9.4,SNR=6.2						
ARCES	**ARCESS Array B**	**85.15**	**343**	P	P	08 57 48.0	+0.3
	1.4nm,0.8s,baz=65,slow=8.6,SNR=6.5						
FINES	**FINESS Array B**	**89.59**	**336**	P	P	08 58 09.2	-0.1
	1.5nm,0.8s,baz=82,slow=4.2,SNR=6.0						

ISCJB ***11*** *08:52:00.7±0.9,22°.39N±0°.07×94°.02E±0°.07, h35km±10km, mb3.9/17, MS3.3/11, Error ellipse: s-maj=14.5km s-min=6.5km az=41.9*
NEIC ***11*** *08:52:02.0±0.8,22°.37N×93°.97E, h30km±5km, mb4.2/3, Error ellipse: s-maj=17.1km s-min=6.6km az=57.0*
IDC ***11*** *08:52:02.1±0.8,22°.36N×93°.99E, h32km±5km, mb3.8/17, mb1 3.9/18, mb1mx3.8/30, mbtmp3.8/18, ML4.1/1, MS3.3/11, Ms1 3.3/11, ms1mx3.0/46, Error ellipse: s-maj=24.5km s-min=11.2km az=58.0*
DJA ***11*** *08:52:58.8±4.9, 20°.N±0°.30×9°.8E±2°.5, h10km, M3.2/3, mb3.7/1, MLv3.0/3*
ISC 11 08:52:02.3±0.8,22°.36N±0°.08×93°.99E±0°.09, h32km±5km, h32km: pP-P, n59, σ1°09/61, mb4.0/17, MS3.3/11, 1D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**2.41**	**359**	*e*4	**Pb**	**08 52 45.0**	**0.0**
IMP				*i* x	x	08 52 48.0	
IMP				*e*4	x	08 53 26.0	
IMP				*i* x	x	08 53 31.0	
SHL	**Shillong**	**3.72**	**329**	*e*P	**Pn**	**08 52 57.0**	**-0.7**
SHL				*e*4	x	08 54 09.0	
CHTO	**Chiang Mai**	**5.84**	**126**	*e*Pn	**Pn**	**08 53 28.1**	**+1.4**
	11nm,0.6s						
CHTO	**Chiang Mai**	**5.84**	**126**	P	**Pn**	**08 53 28.2**	**+1.6**
CMMT	**Chiang Mai**	**5.84**	**126**	P	**Pn**	**08 53 26.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**6.06**	**129**	Pn	**Pn**	**08 53 29.8**	**+0.1**
CMAR				Lg	Lg	08 55 15.4	
CMAR	**Chiang Mai Arr**	**6.06**	**129**	Pn	**Pn**	**08 53 29.8**	**+0.1**
	1.2nm,0.3s,baz=309,slow=16,SNR=33						
CMAR				Lg	Lg	08 55 15.4	
	0.3nm,0.3s,baz=318,slow=31,SNR=2.9						
LSA	**Lhasa**	**7.74**	**341**	*e*Pn	**Pn**	**08 53 53.8**	**+0.7**
	20nm,0.7s						
PBKT	**Sadao Pong**	**8.75**	**130**	P	**Pn**	**08 54 09.3**	**+2.6**
JBP	**Jabalpur**	**12.94**	**276**	⇓*i*P	**P**	**08 55 13.7**	**-0.5**
JBP					AMB	AMB	08 55 17.5	
	comp=Z,13nm,0.7s						
JBP				*e*S		Sn	08 57 42.9	+16
UBPT	**Khong Chiam**	**12.95**	**121**	P	**Pn**	**08 55 03.4**	**-0.8**
NGP	**Nagpur**	**13.93**	**268**	*e*P	**Pn**	**08 55 18.2**	**+0.7**
AGRA	**Agra**	**15.35**	**292**	*e*P	**Pn**	**08 55 34.2**	**-2.3**
BISR	**Bishrakh**	**16.16**	**296**	*e*P	**Pn**	**08 55 47.8**	**+0.7**
SONA	**Sohna**	**16.36**	**294**	*e*P	**Pn**	**08 55 50.4**	**+0.8**
SONA					AMB	AMB	08 55 53.2	
	comp=Z,9.4nm,1.1s						
BHGR	**Bahadurgarh**	**16.62**	**296**	*e*P	**Pn**	**08 55 51.3**	**-1.5**
RTK	**Rohtak**	**17.16**	**296**	*e*P	**Pn**	**08 55 59.8**	**+0.1**
PSI	**Prapat**	**20.03**	**165**	P	Pn	08 56 34.1	-0.6
PSI	**Prapat**	**20.03**	**165**	P	Pn	08 56 34.1	-0.6
	comp=Z,9.4nm,0.8s,baz=11,slow=16,SNR=3.6						
PSI					LR	LR	09 05 10.2	
	comp=Z,120nm,18.6s,baz=175,slow=39						
AAK	**Ala-Archa**	**25.94**	**326**	*e*P	**P**	**08 57 35.9**	**+4.0**
	comp=Z,4.7nm,0.9s						
AAK	**Ala-Archa**	**25.94**	**326**	P	**P**	**08 57 32.0**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=162,slow=6.4,SNR=2.7						
AAK					LR	LR	09 09 48.5	
	comp=Z,40nm,19.2s,baz=153,slow=41						
MK31	**Makanchi Array**	**26.14**	**342**	*e*P	**P**	**08 57 33.8**	**+0.2**
MKAR	**Makanchi Array**	**26.14**	**342**	P	**P**	**08 57 33.8**	**+0.3**
MKAR	**Makanchi Array**	**26.14**	**342**	P	**P**	**08 57 33.8**	**+0.3**
	comp=Z,4.6nm,0.8s,baz=151,slow=10,SNR=21						
MKAR					LR	LR	09 09 40.6	
	comp=Z,50nm,21.9s,baz=173,slow=40						
SONM	**Songino Array**	**27.30**	**18**	P	**P**	**08 57 45.4**	**+1.4**
SONM					pP	**pP**	**08 57 53.9**	**+0.6**
SONM	**Songino Array**	**27.30**	**18**	P	**P**	**08 57 45.4**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=210,slow=11,SNR=2.3						
SONM					pP	**pP**	**08 57 53.9**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=189,slow=6.8,SNR=3.2						
KURBB	**Kurchatov Arra**	**30.69**	**341**	P	**P**	**08 58 12.8**	**-1.1**
	comp=Z,0.6nm,0.2s,baz=150,slow=8.4,SNR=3.2						
KURBB					pP	**pP**	**08 58 22.9**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=155,slow=8.2,SNR=3.7						
KURK	**Kurchatov**	**30.74**	**341**	P	**P**	**08 58 12.8**	**-1.6**
KURK					pP	**pP**	**08 58 22.9**	**-0.8**
ZALV	**Zalesovo Beam**	**32.29**	**350**	P	**P**	**08 58 26.9**	**-1.1**
ZALV	**Zalesovo Beam**	**32.29**	**350**	P	**P**	**08 58 26.9**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=165,slow=7.1,SNR=5.5						
ZALV					LR	LR	09 13 37.0	
	comp=Z,23nm,19.0s,baz=250,slow=40						
KSRS	**Korea Array**	**32.83**	**55**	LR	LR	09 11 05.7	
	comp=Z,17nm,21.9s,baz=275,slow=35						
BVAR	**Borovoye Array**	**35.52**	**335**	P	**P**	**08 58 56.8**	**+0.7**
BVAR					pP	**pP**	**08 59 05.3**	**-0.2**
BVAR	**Borovoye Array**	**35.52**	**335**	P	**P**	**08 58 56.8**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=141,slow=7.4,SNR=3.0						
BVAR					pP	**pP**	**08 59 05.3**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=148,slow=8.5,SNR=3.4						
BVAR					LR	LR	09 16 20.3	
	comp=Z,43nm,19.0s,baz=287,slow=41						
ABKAR	**Akbulak array**	**37.97**	**323**	*e*P	**P**	**08 59 17.9**	**+1.0**
	comp=Z,1.7nm,0.6s						
AKTO	**Aktyubinsk**	**39.65**	**324**	P	**P**	**08 59 31.5**	**+0.4**
AKTO	**Aktyubinsk**	**39.65**	**324**	P	**P**	**08 59 31.5**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=109,slow=5.8,SNR=5.4						
WRA	**Warramunga Arr**	**57.63**	**134**	P	**P**	**09 01 49.1**	**-0.6**
WRA	**Warramunga Arr**	**57.63**	**134**	P	**P**	**09 01 49.1**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=321,slow=7.5,SNR=15						
KMBO	**Kilima Mbogo**	**59.98**	**255**	LR	LR	09 28 56.4	
	comp=Z,54nm,18.3s,baz=297,slow=37						
ASAR	**Alice Springs**	**60.00**	**137**	P	**P**	**09 02 06.0**	**0.0**
ASAR					PcP	**PcP**	**09 02 50.5**	**-1.5**
ASAR	**Alice Springs**	**60.00**	**137**	P	**P**	**09 02 06.0**	**0.0**
	comp=Z,1.2nm,0.7s,baz=320,slow=6.6,SNR=14						
ASAR					PcP	**PcP**	**09 02 50.5**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=323,slow=4.3,SNR=5.1						
FINES	**FINESS Array B**	**60.06**	**329**	P	**P**	**09 02 06.1**	**+0.2**
FINES	**FINESS Array B**	**60.06**	**329**	P	**P**	**09 02 06.1**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=143,slow=12,SNR=2.7						
ARCES	**ARCESS Array B**	**61.73**	**338**	P	**P**	**09 02 17.2**	**+0.1**
ARCES	**ARCESS Array B**	**61.73**	**338**	P	**P**	**09 02 17.2**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=91,slow=8.5,SNR=6.0						
ARCES					LR	LR	09 34 40.8	
	comp=Z,30nm,20.0s,baz=94,slow=41						
GERES	**GERESS Array B**	**67.22**	**315**	P	**P**	**09 02 52.7**	**-0.9**
GERES					pP	**pP**	**09 03 03.0**	**-0.4**
GERES	**GERESS Array B**	**67.22**	**315**	P	**P**	**09 02 52.7**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=76,slow=5.6,SNR=6.3						
GERES					pP	**pP**	**09 03 03.0**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=84,slow=6.0,SNR=5.6						
DAVOX	**Davos/Dischmat**	**70.11**	**313**	LR	LR	09 41 24.0	
	comp=Z,21nm,18.1s,baz=251,slow=42						
BORG	**Borgarnes**	**80.10**	**337**	LR	LR	09 40 02.7	
	comp=Z,29nm,18.4s,slow=36						
ILAR	**Eielson Array**	**81.45**	**22**	P	**P**	**09 04 14.8**	**-1.1**
ILAR	**Eielson Array**	**81.45**	**22**	P	**P**	**09 04 14.8**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=287,slow=4.9,SNR=3.9						
ESDC	**Sonseca Array**	**81.85**	**309**	pP	pP	09 04 27.8	-1.0
ESDC	**Sonseca Array**	**81.85**	**309**	pP	pP	09 04 27.8	-1.0
	comp=Z,0.2nm,0.4s,baz=40,slow=7.8,SNR=2.4						
INK	**Inuvik**	**83.18**	**16**	P	**P**	**09 04 23.5**	**-1.3**
	comp=Z,2.1nm,0.8s,baz=22,slow=3.1,SNR=6.1						
BOSA	**Boshof**	**83.39**	**236**	*e*P	**P**	**09 04 27.1**	**+0.3**
	comp=Z,7.1nm,1.1s						
BOSA	**Boshof**	**83.39**	**236**	P	**P**	**09 04 26.7**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=116,slow=12,SNR=7.5						
BOSA					LR	LR	09 41 46.2	
	comp=Z,53nm,19.0s,baz=165,slow=36						
TORD	**Torodi Ar. Bea**	**87.16**	**283**	P	**P**	**09 04 46.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**87.16**	**283**	P	**P**	**09 04 46.3**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=49,slow=4.6,SNR=4.0						

ISCJB ***11*** *08:56:10.9±0.6,28°.71S±0°.03×67°.73W±0°.07, h130km, mb3.4/6, Error ellipse: s-maj=8.1km s-min=4.8km az=3.2*
IDC ***11*** *08:56:13.0±0.6,28°.79S×67°.48W, h130km±5km, mb3.3/6, mb1 3.3/7, mb1mx3.3/19, mbtmp3.2/7, Error ellipse: s-maj=20.1km s-min=10.5km az=104.0*
GUC ***11*** *08:56:14.1±1.1,28°.64S×67°.92W, h130km, ML4.6*
ISC 11 08:56:12.2±0.6,28°.69S±0°.05×67°.70W±0°.08, h130km, n20, σ1°39/30, mb3.6/6, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**2.69**	**299**	*e*P	**Pn**	**08 56 55.8**	**+0.9**
CPCH				*i* S	**Sn**	**08 57 26.9**	**-0.8**
CPCH					AML	AML	08 57 30.6	
	comp=N,4μm,0.2s						
CFAA	**Coronel Fontan**	**2.95**	**189**	P	**Pn**	**08 56 58.5**	**+0.4**
	comp=N,0.8nm,0.3s,baz=0.2,slow=12,SNR=93						
CFAA					S	**Sn**	**08 57 33.0**	**-0.6**
	comp=N,8.5nm,0.3s,baz=170,slow=11,SNR=42						
CDCH	**Caldera**	**3.20**	**300**	*e*P	**Pn**	**08 57 01.4**	**+0.1**
CDCH				*e*S	**Sn**	**08 57 37.1**	**-2.3**
CDCH					AML	AML	08 57 45.0	
	comp=N,287nm,0.2s						
CMCH	**Combarbala**	**3.79**	**228**	*i* S	**Sn**	**08 57 53.3**	**-0.1**
CMCH					AML	AML	08 57 54.8	
	comp=E,2μm,0.7s						
PEL	**Peldehue**	**5.13**	**209**	*e*P	**Pn**	**08 57 27.0**	**0.0**
PEL				*e*S	**Sn**	**08 58 23.4**	**-1.9**
ROCH	**El Roble**	**5.13**	**213**	*e*P	**Pn**	**08 57 26.2**	**-1.0**
ROCH				*e*S	**Sn**	**08 58 23.8**	**-1.9**
CLCH	**Cerro Calan**	**5.29**	**207**	*e*P	**Pn**	**08 57 27.9**	**-1.3**
CLCH				*e*S	**Sn**	**08 58 27.3**	**-1.9**
ANCH	**Antofagasta**	**5.55**	**333**	*e*P	**Pn**	**08 57 32.6**	**+0.1**
LVC	**Limon Verde**	**6.15**	**349**	P	**Pn**	**08 57 40.1**	**-0.9**
	comp=E,3.4nm,0.3s,baz=175,slow=7.1,SNR=40						
LVC					S	**Sn**	**08 58 46.5**	**-3.6**
	comp=E,3.7nm,0.3s,baz=150,slow=22,SNR=9.3						
CPUP	**Villa Florida**	**9.50**	**78**	P	Pn	08 58 20.8	-5.0
	comp=E,1.8nm,0.3s,baz=236,slow=11,SNR=14						
BDFB	**Brasilia**	**22.34**	**59**	P	**P**	**09 00 57.9**	**-1.7**
	comp=E,2.2nm,0.5s,baz=258,slow=5.4,SNR=3.6						
RPN	**Rapa Nui**	**36.69**	**262**	P	P	09 03 10.5	+3.9
	comp=E,1.2nm,0.8s,baz=348,slow=17,SNR=4.2						
SNAA	**Sanae**	**55.17**	**160**	P	**P**	**09 05 30.2**	**-0.7**
	comp=E,0.3nm,0.6s,baz=266,slow=13,SNR=3.5						
TXAR	**Lajitas Array**	**67.16**	**326**	P	**P**	**09 06 53.9**	**+1.7**
	comp=E,0.1nm,0.6s,baz=123,slow=7.6,SNR=2.5						
TXAR					pP	**pP**	**09 07 26.0**	**+2.1**
	comp=E,0.2nm,0.8s,baz=134,slow=5.2,SNR=2.0						
TORD	**Torodi Ar. Bea**	**78.86**	**68**	P	**P**	**09 08 02.1**	**+0.8**
	comp=E,0.9nm,0.4s,baz=281,slow=6.7,SNR=24						
TORD					pP	**pP**	**09 08 35.4**	**+1.5**
	comp=E,0.5nm,0.7s,baz=271,slow=4.8,SNR=2.2						
PDAR	**Pinedale Array**	**80.86**	**330**	P	**P**	**09 08 12.6**	**+0.8**
	comp=E,0.3nm,0.5s,baz=121,slow=8.5,SNR=3.3						
ASAR	**Alice Springs**	**123.94**	**204**	PKP	**PKPdf**	**09 14 55.5**	**0.0**
	comp=E,0.4nm,0.4s,baz=125,slow=1.7,SNR=9.6						
WRA	**Warramunga Arr**	**127.17**	**206**	PKP	**PKPdf**	**09 15 02.3**	**+0.5**
	comp=E,1.1nm,0.6s,baz=163,slow=1.9,SNR=21						
WR

SMAR				*e*S		**Sn**	**09 07 11.2**	**-1.2**
UGLR	**Uglovaya**	**5.44**	**257**	*e*P		**Pn**	**09 06 11.1**	**+1.9**
UGLR				*e*S		**Sn**	**09 07 12.7**	**+0.3**
KRER	**Koryakskii**	**5.45**	**258**	*e*P		**Pn**	**09 06 11.6**	**+2.2**
AVH	**Avacha**	**5.47**	**258**	*e*P		Pn	09 06 12.5	+2.9
AVH				*e*S		**Sn**	**09 07 12.7**	**-0.4**
KOK	**Koryaka**	**5.52**	**258**	*e*P		**Pn**	**09 06 11.9**	**+1.6**
GNL	**Ganaly**	**5.80**	**264**	*e*P		**Pn**	**09 06 16.4**	**+2.2**
RUS	**Russkaya**	**5.92**	**251**	*e*P		Pn	09 06 19.1	+3.4
RUS				*e*S		**Sn**	**09 07 23.6**	**-0.4**
MTVR	**Mutnovka**	**6.08**	**252**	*e*P		**Pn**	**09 06 20.2**	**+2.2**
MTVR				*e*S		**Sn**	**09 07 26.0**	**-2.2**
PETK	**Petropavlovsk-**	**6.11**	**259**	Pn		Pn	09 06 21.2	+2.9
	0.5nm,0.3s,baz=86,slow=16,SNR=14							
PETK				Sn		**Sn**	**09 07 29.6**	**+0.8**
	0.5nm,0.3s,baz=90,slow=21,SNR=3.7							
ASAK	**Asacha**	**6.28**	**252**	*e*P		Pn	09 06 24.0	+3.3
ASAK				*e*S		**Sn**	**09 07 32.5**	**-0.5**
ILAR	**Eielson Array**	**24.43**	**48**	P		**P**	**09 10 04.3**	**-2.4**
	0.3nm,0.6s,baz=254,slow=7.2,SNR=4.7							
SONM	**Songino Array**	**37.83**	**286**	P		**P**	**09 12 05.3**	**+0.5**
	0.2nm,0.4s,baz=44,slow=8.9,SNR=2.7							
MKAR	**Makanchi Array**	**51.38**	**299**	P		**P**	**09 13 52.4**	**-0.5**
	0.3nm,0.4s,baz=58,slow=6.6,SNR=7.9							
BVAR	**Borovoye Array**	**52.77**	**311**	P		**P**	**09 14 02.9**	**-0.2**
	0.8nm,0.6s,baz=64,slow=10,SNR=6.1							
TXAR	**Lajitas Array**	**65.86**	**73**	P		P	09 15 29.8	-4.4
	0.3nm,1.0s,baz=303,slow=4.0,SNR=2.5							
ASAR	**Alice Springs**	**83.30**	**211**	P		**P**	**09 17 16.5**	**+1.4**
	0.4nm,0.9s,baz=16,slow=14,SNR=4.4							

IDC 11 09:08:37.8±2.0, 0°52′S×98°11′E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.7/24, mbtmp3.8/8, ML3.4/1, Error ellipse: s-maj=67.4km s-min=20.0km az=64.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.40**	**14**	Pn	Pn	09 09 31.2	-1.1
	4.4nm,0.3s,baz=347,slow=7.8,SNR=13						
CMAR	**Chiang Mai Arr**	**18.88**	**2**	P	P	09 12 58.7	-1.2
	baz=184,slow=12,SNR=2.4						
WRA	**Warramunga Arr**	**40.37**	**121**	P	P	09 16 17.3	-0.6
	0.6nm,0.7s,baz=301,slow=8.8,SNR=4.7						
ASAR	**Alice Springs**	**41.65**	**126**	P	P	09 16 28.8	+0.4
	0.5nm,0.6s,baz=297,slow=8.1,SNR=13						
SONM	**Songino Array**	**48.70**	**7**	P	P	09 17 25.7	+1.6
	0.7nm,0.4s,baz=190,slow=10,SNR=4.6						
MKAR	**Makanchi Array**	**49.12**	**346**	P	P	09 17 27.3	0.0
	0.8nm,0.7s,baz=156,slow=7.6,SNR=7.8						
USRK	**Ussuriysk Arra**	**53.79**	**30**	P	P	09 18 01.4	-0.8
	0.9nm,0.6s,baz=235,slow=7.2,SNR=5.8						
ZALV	**Zalesovo Beam**	**55.39**	**350**	P	P	09 18 13.3	-0.4
	0.9nm,0.6s,baz=179,slow=5.9,SNR=4.1						
TXAR	**Lajitas Array**	**144.61**	**34**	PKP	PKPab	09 28 15.6	-0.3
	0.2nm,0.4s,baz=189,slow=1.0,SNR=7.1						

MAN 11 09:08:46, 17°.79N×121°.30E, h7km, mb3.9, ML2.6, MS2.2, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APYP	**Conner**	**0.09**	**324**	*e*P	Pg	09 08 49.9	+1.8
APYP				*e*S	Sg	09 08 53.3	+3.7
CVP	**Callao Caves**	**0.51**	**100**	⇑*i*P	Pg	09 08 55.3	-0.5
CVP				*i* S	Sg	09 09 03.5	+1.0
ABRA	**Dolores**	**0.57**	**256**	*e*P	Pb	09 08 57.8	-0.6
ABRA				*e*S	Sb	09 09 06.2	-0.7
SIPP	**Brgy, Tapao**	**0.81**	**279**	⇑*e*P	Pb	09 09 02.8	+0.3
CAUP	**Cauayan**	**0.98**	**149**	*e*P	Pn	09 09 06.5	+0.3
PALP	**Palanan**	**1.30**	**124**	*e*P	Pn	09 09 10.3	-0.3

GUC 11 09:21:21.5±0.6, 30°.62S×71°.44W, h33km±3km, MD3.6, ML3.2, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.67**	**146**	⇓*i*P	Pn	09 21 34.5	-0.4
CMCH				*i* S	Sn	09 21 44.4	+0.1
CMCH				AML	AML	09 21 47.3	
	comp=E,2μm,0.6s						
TLL	**Tololo Astrono**	**0.71**	**51**	⇑*i*P	Pb	09 21 35.7	-0.1
TLL				*i* S	Sb	09 21 45.9	+0.2
CHNG	**Los Chungos**	**1.26**	**182**	*e*P	Pn	09 21 43.5	+0.6
CHNG				*e*S	Sb	09 22 00.1	-0.7
ROCH	**El Roble**	**2.38**	**171**	⇑*i*P	Pn	09 21 58.3	-0.2
ROCH				*i* S	Sn	09 22 27.6	+0.9
ROCH				AML	AML	09 22 36.8	
	comp=N,91nm,0.4s						
PEL	**Peldehue**	**2.60**	**166**	AML	AML	09 22 42.9	
	comp=E,139nm,0.3s						
CLCH	**Cerro Calan**	**2.88**	**165**	AML	AML	09 22 50.5	
	comp=N,80nm,0.5s						
ANTU	**Antumapu**	**3.02**	**167**	AML	AML	09 22 54.0	
	comp=E,59nm,0.3s						
LMEL	**Las Melosas**	**3.39**	**162**	⇓*i*P	Pn	09 22 13.5	+1.2
LMEL				*i* S	Sn	09 22 53.7	+2.1
LMEL				AML	AML	09 23 05.6	
	comp=N,64nm,0.1s						

IDC 11 09:32:45.2±4.3, 18°.57S×172°.84W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/20, mbtmp3.9/3, Error ellipse: s-maj=312.0km s-min=34.5km az=153.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.75**	**13**	Sn	Sn	09 34 46.0	-8.0
	13nm,0.3s,baz=206,slow=22,SNR=9.4						
ASAR	**Alice Springs**	**49.71**	**254**	P	P	09 41 40.0	+0.4
	2.2nm,0.8s,baz=95,slow=7.9,SNR=16						
WRA	**Warramunga Arr**	**49.72**	**259**	P	P	09 41 39.0	-0.6
	0.5nm,0.4s,baz=98,slow=7.4,SNR=18						
PDAR	**Pinedale Array**	**84.27**	**41**	P	P	09 45 19.1	0.0
	0.4nm,0.7s,baz=210,slow=5.2,SNR=4.4						

IDC 11 09:45:04.9±4.3, 18°.29S×177°.68W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.7/3, Error ellipse: s-maj=306.0km s-min=31.5km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.25**	**260**	P	P	09 53 25.9	+1.5
	0.3nm,0.3s,baz=92,slow=8.6,SNR=21						
ASAR	**Alice Springs**	**45.36**	**255**	P	P	09 53 23.6	-1.8
	1.0nm,0.7s,baz=96,slow=7.6,SNR=16						
NVAR	**Mina Array Bea**	**79.22**	**43**	P	P	09 57 12.3	0.0
	0.3nm,0.6s,baz=218,slow=8.6,SNR=4.2						

DJA 11 09:59:26.4±2.0, 1°N±17°×12°1E±°, h29km±20km, M3.5/3, MLv3.5/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.43**	**109**	P	Pn	09 59 50.1	-0.3
MRSI				S	Sn	10 00 09.0	+0.8
GTOI	**Gorontalo**	**2.44**	**97**	P	Pn	10 00 04.8	+0.5
GTOI				S	Sn	10 00 34.6	+1.4
LUWI	**Luwuk**	**2.94**	**132**	P	Pn	10 00 11.3	0.0

IDC 11 10:09:44.9±1.3, 54°.95N×167°.78E, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.2/28, mbtmp3.2/5, ML2.9/2, Error ellipse: s-maj=36.2km s-min=14.2km az=31.0
ISCJB 11 10:09:47.1±0.6, 54°.70N±0°.07×167°.65E±0°.06, h33km, mb3.2/3, Error ellipse: s-maj=9.8km s-min=4.7km az=10.0
KRSC 11 10:09:47.5±0.9, 54°.70N×167°.28E, h5km±5km, ML3.8
ISC 11 10:09:48.7±0.9, 54°.76N±0°.08×167°.72E±0°.05, h35km, n20, σ1°60/30, mb3.4/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.10**	**294**	*e*P	**Pn**	**10 10 04.9**	**-2.6**
BKI				*i* S	**Sn**	**10 10 18.8**	**-2.6**
MKZ	**Mys Kozlova**	**3.48**	**269**	*e*P	**Pn**	**10 10 39.9**	**-0.4**
MKZ				*i* S	**Sn**	**10 11 18.2**	**-2.0**
FX1	**Attu Island--F**	**3.74**	**118**	Pn	**Pn**	**10 10 43.0**	**-0.8**
	3.0nm,0.3s,baz=303,slow=1.9,SNR=9.4						
FX1				Sn	**Sn**	**10 11 25.4**	**-1.2**
	3.2nm,0.3s,baz=102,slow=20,SNR=9.0						
BZGR	**Bezymyannyi-Gr**	**4.18**	**289**	P	**Pn**	**10 10 50.6**	**+0.7**
BZGR				*i* S	**Sn**	**10 11 37.3**	**-0.2**
BZWR	**Bezymyannyi-We**	**4.29**	**289**	P	**Pn**	**10 10 53.3**	**+1.7**
BZWR				*i* S	**Sn**	**10 11 41.1**	**+0.7**
KMNR	**Kamenistaya**	**4.39**	**286**	P	**Pn**	**10 10 54.0**	**+1.1**
KMNR				*i* S	**Sn**	**10 11 42.9**	**+0.1**
SPN	**Mys Shipunski**	**4.84**	**253**	*e*P	**Pn**	**10 10 58.8**	**-0.2**
SPN				*i* S	**Sn**	**10 11 51.5**	**-2.2**
SDLR	**Sedlovina**	**5.42**	**258**	P	**Pn**	**10 11 08.9**	**+1.9**
SMAR	**Somma**	**5.47**	**258**	*e*P	**Pn**	**10 11 08.9**	**+1.1**
UGLR	**Uglovaya**	**5.47**	**257**	*e*P	**Pn**	**10 11 09.1**	**+1.4**
AVH	**Avacha**	**5.50**	**258**	P	**Pn**	**10 11 08.4**	**+0.3**
KOK	**Koryaka**	**5.55**	**258**	*e*P	**Pn**	**10 11 09.6**	**+0.8**
KOK				*i* S	**Sn**	**10 12 10.1**	**-1.3**
GNL	**Ganaly**	**5.83**	**263**	*e*P	**Pn**	**10 11 14.4**	**+1.7**
RUS	**Russkaya**	**5.96**	**251**	P	**Pn**	**10 11 17.2**	**+3.0**
MTVR	**Mutnovka**	**6.12**	**252**	*e*P	**Pn**	**10 11 17.7**	**+1.1**
MTVR				*i* S	**Sn**	**10 12 23.8**	**-1.5**
PETK	**Petropavlovsk-**	**6.14**	**258**	Pn	**Pn**	**10 11 18.2**	**+1.3**
	0.2nm,0.3s,baz=85,slow=18,SNR=5.2						
ASAK	**Asacha**	**6.32**	**252**	*e*P	**Pn**	**10 11 21.3**	**+2.0**
ASAK				*i* S	**Sn**	**10 12 27.6**	**-2.5**
ILAR	**Eielson Array**	**24.39**	**48**	P	**P**	**10 15 02.9**	**-0.4**
	0.4nm,0.8s,baz=257,slow=7.8,SNR=4.7						
KURBB	**Kurchatov Arra**	**50.69**	**305**	P	**P**	**10 18 44.5**	**+0.3**
	0.3nm,0.5s,baz=57,slow=7.2,SNR=3.5						
TXAR	**Lajitas Array**	**65.83**	**73**	P	**P**	**10 20 31.8**	**+1.3**
	0.2nm,0.6s,baz=310,slow=6.3,SNR=4.5						

ISCJB 11 10:26:18.9±0.6, 6°.30S±0°.05×128°.41E±0°.07, h334km, mb3.1/2, Error ellipse: s-maj=9.8km s-min=6.8km az=15.7
AUST 11 10:26:20.3, 6°.49S×128°.53E, h300km
IDC 11 10:26:21.9±3.9, 6°.34S×128°.52E, h349km±45km, mb2.9/2, mb1 3.3/5, mb1mx3.0/19, mbtmp3.1/5, Error ellipse: s-maj=59.8km s-min=12.0km az=75.0
ISC 11 10:26:19.7±0.7, 6°.325±0°.06×128°.47E±0°.07, h334km, n15, σ2°.29/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**2.63**	**354**	P	**Pn**	**10 27 17.4**	**+2.8**
	baz=2.8,SNR=4.0						
FAKI	**Fak Fak**	**5.06**	**48**	P	**Pn**	**10 27 39.9**	**+0.6**
	baz=5.1,SNR=15						
FAKI				S	**S**	**10 28 38.7**	**-4.9**
	baz=5.1,SNR=7.4						
SOEI	**Soe**	**5.39**	**230**	P	**Pn**	**10 27 42.0**	**-1.1**
	baz=5.3,SNR=44						
SOEI				S	**S**	**10 28 45.8**	**-4.7**
	baz=5.3,SNR=6.6						
SWI	**Sorong**	**6.09**	**27**	S	**S**	**10 29 01.4**	**-3.7**
	baz=6.2,SNR=4.5						
MTN	**Manton Dam**	**7.00**	**158**	P	**Pn**	**10 28 02.2**	**+0.5**
	baz=6.9,SNR=21						
KDU	**Kakadu**	**7.46**	**148**	P	**Pn**	**10 28 08.6**	**+1.4**
	baz=7.3,SNR=14						
KNRA	**Kununurra**	**9.31**	**178**	P	**Pn**	**10 28 29.7**	**+0.3**
	baz=9.2,SNR=52						
FITZ	**Fitzroy Crossi**	**12.04**	**193**	P	**Pn**	**10 29 01.4**	**-0.8**
	0.7nm,0.3s,baz=20,slow=11,SNR=19						
FITZ	**Fitzroy Crossi**	**12.04**	**193**	P	**Pn**	**10 29 01.3**	**-0.8**
	baz=12,SNR=10						
JAGI	**Jajag, Banyuwa**	**14.36**	**261**	P	**Pn**	**10 29 31.2**	**+1.5**
	baz=14,SNR=6.2						
WRA	**Warramunga Arr**	**14.70**	**158**	P	**P**	**10 29 32.5**	**+0.6**
	1.0nm,0.3s,baz=332,slow=12,SNR=53						
WRA				S	**S**	**10 32 09.7**	**-1.6**
	0.6nm,0.3s,baz=341,slow=21,SNR=12						
COEN	**Coen**	**16.34**	**119**	P	**Pn**	**10 29 52.8**	**+0.1**
	baz=16,SNR=53						
ASAR	**Alice Springs**	**18.02**	**164**	P	**P**	**10 30 09.9**	**+2.0**
	1.1nm,0.3s,baz=343,slow=11,SNR=65						
ASAR				S	**S**	**10 33 17.9**	**+0.8**
	0.4nm,0.3s,baz=346,slow=22,SNR=23						
KSRS	**Korea Array**	**43.55**	**359**	P	**P**	**10 33 52.3**	**+0.8**
	1.2nm,0.5s,baz=180,slow=9.4,SNR=7.8						
MKAR	**Makanchi Array**	**66.83**	**327**	P	**P**	**10 36 37.4**	**+1.1**
	0.2nm,0.6s,baz=124,slow=8.3,SNR=3.6						

DJA 11 10:32:42.6±1.6, 11°S±12°×111°4E±°, h33km±19km, M3.8/7, MLv3.8/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGBI	**Denpasar**	**2.60**	**30**	P	Pn	10 33 22.3	0.0
IGBI				S	Sb	10 33 57.9	-2.2
JAGI	**Jajag, Banyuwa**	**2.61**	**7**	P	Pn	10 33 23.3	+0.7
NBBI	**Negara**	**2.81**	**16**	P	Pn	10 33 25.5	+0.3
KHKI	**Kahang-Kahang**	**3.22**	**33**	P	Pn	10 33 31.5	+0.6
SRBI	**Singaraja**	**3.28**	**25**	P	Pn	10 33 31.7	0.0
PWJI	**Pagerwojo**	**3.63**	**327**	P	Pn	10 33 36.2	-0.3
PCJI	**Pacitan**	**3.87**	**318**	P	Pn	10 33 40.6	+0.7
UGM	**Wanagama**	**4.53**	**314**	P	Pn	10 33 49.0	+0.1
UGM				S	Sn	10 34 41.8	+1.3

ISCJB 11 10:39:12.7±0.5, 38°.79N±0°.04×48°.65E±0°.06, h68km±6km, Error ellipse: s-maj=8.3km s-min=6.0km az=158.8
CSEM 11 10:39:13.5±0.3, 38°.79N×48°.63E, h20km, ML3.5, Error ellipse: s-maj=9.7km s-min=6.1km az=70.0
THR 11 10:39:13.9±0.7, 38°.51N×48°.65E, h14km±12km, ML3.5
AZER 11 10:39:13.1, 38°.77N×48°.45E, h27km
NNC 11 10:39:19.9±1.0, 39°.61N×50°.05E, h0km, mb3.9, Error ellipse: s-maj=16.4km s-min=6.8km az=119.0
ISC 11 10:39:13.8±1.0, 38°.78N±0°.03×48°.61E±0°.03, h41km±7km, n43, σ1°79/56, 26C-7D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKRN	**Lenkeran, Azer**	**0.15**	**116**	⇑P	**Pn**	**10 39 20.9**	**+0.1**
	SNR=178						
LKRN				⇑S	**Sn**	**10 39 26.6**	**+1.0**
LKRN	**Lenkeran, Azer**	**0.15**	**116**	P	**Pn**	**10 39 20.9**	**+0.1**
	SNR=178						
LKRN				S	**Sn**	**10 39 26.6**	**+1.0**
GLBA	**Clilabad**	**0.50**	**340**	⇑P	**Pn**	**10 39 24.2**	**-0.3**
	SNR=246						
GLBA				⇑S	**Sn**	**10 39 33.3**	**+1.2**
GLBA	**Clilabad**	**0.50**	**340**	P	**Pn**	**10 39 24.2**	**-0.3**
	SNR=246						
GLBA				S	**Sn**	**10 39 33.3**	**+1.2**
GRMI	**Germi**	**0.56**	**274**	*e*Pg	**Pn**	**10 39 26.5**	**+0.9**
GRMI				*e*Sg	**Sn**	**10 39 36.3**	**+2.4**
GRMI				AML	AML	10 39 36.9	
	comp=E,2μm,0.2s						
GRMI	**Germi**	**0.56**	**274**	*e*Pg	**Pn**	**10 39 26.5**	**+0.9**
GRMI				*e*Sg	**Sn**	**10 39 36.3**	**+2.4**
ALIB	**Äli-Bayra**	**1.22**	**14**	⇑P	**Pn**	**10 39 34.8**	**+0.4**
	SNR=12						
ALIB				⇑S	**Sn**	**10 39 52.2**	**+2.5**
ALIB	**Äli-Bayra**	**1.22**	**14**	P	**Pn**	**10 39 34.8**	**+0.4**
	SNR=12						
ALIB				S	**Sn**	**10 39 52.2**	**+2.5**
GOBA	**Gobu**	**1.84**	**28**	⇑P	Pn	10 39 47.1	+4.2
	SNR=3.5						
GOBA				⇓S	**Sn**	**10 40 09.4**	**+4.5**
GOBA	**Gobu**	**1.84**	**28**	P	Pn	10 39 47.1	+4.2
	SNR=3.5						
GOBA				S	**Sn**	**10 40 09.4**	**+4.5**
BRDA	**Brd**	**1.85**	**324**	⇑P	**Pn**	**10 39 44.3**	**+1.2**
	SNR=11						
BRDA				⇑S	**Sn**	**10 40 09.3**	**+4.0**
BRDA	**Brd**	**1.85**	**324**	P	**Pn**	**10 39 44.3**	**+1.2**
	SNR=11						
BRDA				S	**Sn**	**10 40 09.3**	**+4.0**
PQL	**Pirkuli**	**2.01**	**360**	⇑P	**Pn**	**10 39 45.0**	**-0.4**
	SNR=3.1						
PQL	**Pirkuli**	**2.01**	**360**	P	**Pn**	**10 39 45.0**	**-0.4**
	SNR=3.1						
IML	**Ismayilli**	**2.04**	**351**	⇑P	**Pn**	**10 39 45.7**	**0.0**
	SNR=5.7						
IML				⇑S	**Sn**	**10 40 10.4**	**+0.4**
IML	**Ismayilli**	**2.04**	**351**	P	**Pn**	**10 39 45.7**	**0.0**
	SNR=5.7						
IML				S	**Sn**	**10 40 10.4**	**+0.4**
NDR	**Nardaran**	**2.09**	**30**	⇑S	**Sn**	**10 40 13.6**	**+2.5**
NDR	**Nardaran**	**2.09**	**30**	S	**Sn**	**10 40 13.6**	**+2.5**
ZNJK	**Zanjan**	**2.10**	**178**	*e*Pg	**Pn**	**10 39 47.3**	**+0.6**
ZNJK				AML	AML	10 40 14.9	
	comp=E,248nm,0.3s						
ZNJK				AML	AML	10 40 15.4	
	comp=N,275nm,0.4s						
ZNJK	**Zanjan**	**2.10**	**178**	*e*Pg	**Pn**	**10 39 47.3**	**+0.6**
SIZA	**Siyzn**	**2.31**	**5**	⇑P	**Pn**	**10 39 51.4**	**+2.0**
	SNR=11						
SIZA	**Siyzn**	**2.31**	**5**	P	**Pn**	**10 39 51.4**	**+2.0**
	SNR=11						
NAX	**Nakhchivan**	**2.46**	**280**	⇑P	**Pn**	**10 39 53.4**	**+1.9**
	SNR=6.8						
NAX				⇑S	**Sn**	**10 40 20.2**	**-0.2**
NAX	**Nakhchivan**	**2.46**	**280**	P	**Pn**	**10 39 53.4**	**+1.9**
	SNR=6.8						
NAX				S	**Sn**	**10 40 20.2**	**-0.2**
GANJ	**Ganja**	**2.57**	**317**	⇑P	**Pn**	**10 39 53.0**	**0.0**
	SNR=7.2						
GANJ				⇑S	**Sn**	**10 40 23.4**	**+0.4**
GANJ	**Ganja**	**2.57**	**317**	P	**Pn**	**10 39 53.0**	**0.0**
	SNR=7.2						
GANJ				S	**Sn**	**10 40 23.4**	**+0.4**
QUBA	**Quba, Azerbaij**	**2.58**	**358**	⇑P	**Pn**	**10 39 53.4**	**+0.3**
QUBA	**Quba, Azerbaij**	**2.58**	**358**	P	**Pn**	**10 39 53.4**	**+0.3**
SEKA	**Sheki**	**2.66**	**336**	⇑P	**Pn**	**10 39 54.0**	**-0.3**
	SNR=10						
SEKA	**Sheki**	**2.66**	**336**	P	**Pn**	**10 39 54.0**	**-0.3**
	SNR=10						
THKV	**Tehran--Karaj**	**3.38**	**147**	*e*Pn	**Pn**	**10 40 05.1**	**+0.9**
THKV				AML	AML	10 40 47.1	
	comp=N,171nm,0.4s						
THKV	**Tehran--Karaj**	**3.38**	**147**	*e*Pn	**Pn**	**10 40 05.1**	**+0.9**
DAMV	**Damavand**	**4.13**	**138**	*e*Pn	**Pn**	**10 40 15.9**	**+1.3**
DAMV				AML	AML	10 41 03.9	
	comp=E,81nm,0.4s						
DAMV				AML	AML	10 41 04.5	
	comp=N,67nm,0.6s						
DAMV	**Damavand**	**4.13**	**138**	*e*Pn	**Pn**	**10 40 15.9**	**+1.3**
ASAO	**Ashtian**	**4.37**	**164**	*e*Pn	**Pn**	**10 40 18.7**	**+0.8**
ASAO	**Ashtian**	**4.37**	**164**	*e*Pn	**Pn**	**10 40 18.7**	**+0.8**
AB31	**Akbulak array**	**13.26**	**34**	⇓Pn	Pn	10 42 11.8	-7.5
	comp=N,0.9nm,0.5s,baz=215,slow=12,SNR=28						
AB31				⇑Sn	Sn	10 44 27.7	-18
	comp=N,2.0nm,0.3s,baz=213,slow=23,SNR=8.9						
AKTO	**Aktyubinsk**	**13.43**	**27**	⇑Pn	Pn	10 42 14.5	-7.2
	comp=N,2.2nm,0.7s						
AKTO				⇓Sn	Sn	10 44 33.9	-16
	comp=N,13nm,0.5s						
KK31	**Karatay Array**	**17.09**	**68**	Pn	Pn	10 43 03.6	-6.0
	comp=N,2.6nm,0.6s,baz=267,slow=15,SNR=29						
KK31				⇓Sn	Sn	10 45 59.8	-19
	comp=N,0.1nm,0.3s,baz=272,slow=24,SNR=3.6						
BRVK	**Borovoye**	**20.65**	**39**	⇓Pn	**P**	**10 43 47.6**	**-2.2**
	comp=N,7.9nm,1.0s						
BRVK				⇑Sn	S	10 47 24.7	-14
	comp=N,1.9nm,0.5s						
BVA0	**Borovoye Array**	**20.69**	**39**	⇑Pn	**P**	**10 43 47.4**	**-2.8**
	comp=N,2.4nm,0.6s,baz=215,slow=10.0,SNR=17						
BVA0				⇑Sn	S	10 47 26.2	-13
	comp=N,1.5nm,0.7s,baz=246,slow=31,SNR=3.6						
TKM2	**Tokmak 2**	**20.79**	**70**	⇑Pn	**P**	**10 43 49.7**	**-2.0**
	comp=N,11nm,1.1s						
VOSK	**Vostochnaya**	**20.82**	**41**	⇓Pn	**P**	**10 43 48.7**	**-2.8**
	comp=N,1.1nm,0.5s						
VOSK				⇓Sn	S	10 47 29.3	-12
	comp=N,1.8nm,0.7s						

CSEM 11 10:40:40.0, 47°.13N×9°.30E, h8km, ML1.6/5, After ZUR
ZUR 11 10:40:40.0, 47°.13N×9°.30E, h8km±3km, ML1.6/5, 4C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLONS	**Plons/SG**	**0.10**	**144**	⇓*i*Pg	Pg	10 40 42.5	+0.1
	607nm,0.1s						
PLONS				*i* Sg	Sg	10 40 44.3	+0.2
	607nm,0.1s						
PLONS	**Plons/SG**	**0.10**	**144**	⇓*i*Pg	Pg	10 40 42.5	+0.1
	607nm,0.1s						
PLONS				*i* Sg	Sg	10 40 44.3	+0.2
	607nm,0.1s						
LIENZ	**Kamor/St.Gall**	**0.21**	**38**	⇓*i*Pg	Pg	10 40 44.6	0.0
	61nm,0.5s						
LIENZ	**Kamor/St.Gall**	**0.21**	**38**	⇓*i*Pg	Pg	10 40 44.6	0.0
	61nm,0.5s						
DAVOX	**Davos/Dischmat**	**0.53**	**131**	⇑*i*Pg	Pg	10 40 50.4	-0.1
	70nm,0.2s						
DAVOX	**Davos/Dischmat**	**0.53**	**131**	⇑*i*Pg	Pg	10 40 50.4	-0.1
	70nm,0.2s						
FUSIO	**Fusio**	**0.80**	**213**	*e*Pg	Pg	10 40 55.6	-0.1
	22nm,0.2s						
FUSIO	**Fusio**	**0.80**	**213**	*e*Pg	Pg	10 40 55.6	-0.1
	22nm,0.2s						
SLE	**Schleitheim**	**0.84**	**320**	⇑*i*Pg	Pg	10 40 56.6	+0.3
	85nm,0.4s						
SLE	**Schleitheim**	**0.84**	**320**	⇑*i*Pg	Pg	10 40 56.6	+0.3
	85nm,0.4s						

BEO 11 10:41:30.0±0.6, 43°.91N×17°.80E, h0km, ML2.1/5, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**1.04**	**184**	*e*Pg	Pn	10 41 53.9	+2.1
STON				Sg	Sn	10 42 12.5

0.3nm,0.5s,baz=111,slow=7.6,SNR=5.4
ILAR Eielson Array 83.03 26 P P 11 27 09.8 -0.3
0.2nm,0.6s,baz=249,slow=5.4,SNR=6.7

IDC ***11*** *11:37:21.4±0.7,55°.38S×28°.32W,h0km,mb4.3/6, mb1 4.4/7,mb1mx4.2/19,mbtmp4.3/7,ML4.2/1,MS3.8/9, Ms1 3.8/9,ms1mx3.6/22,Error ellipse: s-maj=27.7km s-min=18.7km az=72.0*
ISCJB ***11*** *11:37:25.6±0.7,55°.42S±0°.10×28°.3W±0°.2,h45km,mb4.4/8, MS3.9/8,Error ellipse: s-maj=17.8km s-min=13.1km az=154.2*
NEIC ***11*** *11:37:26.6±0.3,55°.39S×28°.31W,h35km,mb4.4/5,Error ellipse: s-maj=12.3km s-min=9.4km az=65.0*
ISC 11 11:37:27.7±0.6,55°.4S±0°.1×28°.4W±0°.1,h45km,n41, σ0s68/37,mb4.3/8,MS4.0/8,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.59**	**156**	P		**P**	**11 41 50.6**	**-1.0**
	0.5nm,0.6s							
SNAA	**Sanae**	**19.59**	**156**	P		**P**	**11 41 50.6**	**-1.0**
	0.7nm,0.3s,baz=302,slow=11,SNR=36							
SNAA				LR		LR	11 47 47.4	
	comp=Z,55nm,18.3s,baz=208,slow=32							
PMSA	**Palmer Station**	**19.79**	**228**	P		**Pn**	**11 41 55.6**	**-0.1**
	52nm,1.0s							
USHA	**Ushuaia**	**22.67**	**255**	LR		LR	11 49 21.0	
	comp=Z,529nm,19.5s,baz=72,slow=32							
QSPA	**South Pole Qui**	**34.82**	**180**	P		**P**	**11 44 14.2**	**+0.3**
QSPA	**South Pole Qui**	**34.82**	**180**	P		**P**	**11 44 14.2**	**+0.3**
	1.9nm,0.5s,baz=200,slow=4.2,SNR=24							
CPUP	**Villa Florida**	**35.89**	**312**	P		**P**	**11 44 22.6**	**-0.7**
CPUP	**Villa Florida**	**35.89**	**312**	P		**P**	**11 44 22.6**	**-0.7**
	2.3nm,0.6s,baz=138,slow=7.7,SNR=7.9							
CPUP				LR		LR	11 57 44.4	
	comp=Z,98nm,20.4s,baz=298,slow=34							
LCO	**Las Campanas**	**40.03**	**294**	P		**P**	**11 44 58.0**	**-0.4**
	6.1nm,0.6s							
BOSA	**Boshof**	**46.50**	**78**	LR		LR	12 00 49.2	
	comp=Z,179nm,19.8s,baz=53,slow=30							
VNDA	**Vanda**	**47.15**	**183**	*e*P		**P**	**11 45 54.9**	**0.0**
	2.6nm,0.7s							
VNDA	**Vanda**	**47.15**	**183**	P		**P**	**11 45 55.4**	**+0.6**
	2.7nm,0.7s,baz=190,slow=5.2,SNR=19							
LPAZ	**La Paz**	**49.46**	**306**	P		**P**	**11 46 14.3**	**+0.3**
LPAZ				*e*PcP		**PcP**	**11 47 36.4**	**+0.8**
LPAZ	**La Paz**	**49.46**	**306**	P		**P**	**11 46 14.3**	**+0.3**
	6.3nm,0.7s,baz=157,slow=5.6,SNR=32							
LPAZ				LR		LR	12 08 15.6	
	comp=Z,48nm,18.2s,baz=244,slow=38							
LBTB	**Lobatse**	**49.50**	**75**	P		**P**	**11 46 13.6**	**-0.1**
LBTB	**Lobatse**	**49.50**	**75**	P		**P**	**11 46 13.6**	**-0.1**
	2.1nm,0.7s,baz=264,slow=9.7,SNR=3.8							
SAML	**Samuel**	**53.88**	**316**	*e*P		**P**	**11 46 45.6**	**-0.7**
	2.4nm,0.6s							
DBIC	**Dimbokro**	**64.91**	**26**	LR		LR	12 08 50.6	
	comp=Z,46nm,18.2s,baz=342,slow=29							
TORD	**Torodi Ar. Bea**	**72.87**	**31**	P		**P**	**11 48 51.8**	**0.0**
TORD	**Torodi Ar. Bea**	**72.87**	**31**	P		**P**	**11 48 51.8**	**0.0**
	2.1nm,0.5s,baz=200,slow=6.4,SNR=19							
TORD				LR		LR	12 13 42.6	
	comp=Z,128nm,21.5s,baz=195,slow=30							
KMBO	**Kilima Mbogo**	**75.47**	**70**	LR		LR	12 21 08.6	
	comp=Z,127nm,18.5s,baz=93,slow=35							
TBI	**Tubuai**	**86.92**	**232**	*e*LR		LR	12 17 44.8	
	66nm,23.5s							
PPT2	**Papeete2**	**91.98**	**235**	*e*LR		LR	12 20 05.5	
	78nm,23.5s							
KEST	**Kesra**	**96.38**	**30**	LR		LR	12 29 00.7	
	comp=Z,40nm,18.8s,baz=240,slow=32							
FINES	**FINESS Array B**	**124.16**	**28**	PKP		**PKPdf**	**11 56 19.1**	**-0.6**
FINES	**FINESS Array B**	**124.16**	**28**	PKP		**PKPdf**	**11 56 19.1**	**-0.6**
	0.8nm,0.5s,baz=186,slow=1.9,SNR=5.7							
BVAR	**Borovoye Array**	**135.03**	**58**	PKP		**PKPdf**	**11 56 42.6**	**+1.9**
BVAR	**Borovoye Array**	**135.03**	**58**	PKP		**PKPdf**	**11 56 42.6**	**+1.9**
	0.6nm,0.4s,baz=207,slow=3.0,SNR=5.5							
YKA	**Yellowknife Ar**	**135.25**	**319**	PKP		**PKPdf**	**11 56 40.9**	**+0.1**
YKA	**Yellowknife Ar**	**135.25**	**319**	PKP		**PKPdf**	**11 56 40.8**	**+0.1**
	1.2nm,0.8s,baz=124,slow=2.3,SNR=6.9							
EGAK	**Eagle**	**146.81**	**314**	*e*PKPdf		**PKPdf**	**11 57 01.5**	**+0.1**
MENT	**Mentasta**	**147.37**	**310**	*e*PKPbc		**PKPbc**	**11 57 05.1**	**+0.1**
PAX	**Paxson**	**148.14**	**310**	*e*PKPdf		**PKPdf**	**11 57 03.9**	**+0.1**
PAX				*e*PKPbc		**PKPbc**	**11 57 07.2**	**0.0**
SML	**Sawmill**	**149.11**	**307**	*e*PKPbc		**PKPbc**	**11 57 10.0**	**+0.4**
SML				*e*PKPab		**PKPab**	**11 57 14.7**	**+0.5**
ILAR	**Eielson Array**	**149.19**	**313**	PKPbc		**PKPbc**	**11 57 09.5**	**-0.1**
ILAR	**Eielson Array**	**149.19**	**313**	PKPbc		**PKPbc**	**11 57 09.5**	**-0.1**
	5.2nm,0.8s,baz=125,slow=1.8,SNR=73							
MCK	**McKinley**	**149.85**	**310**	*e*PKPbc		**PKPbc**	**11 57 11.7**	**+0.4**
TRF	**Thorofare Moun**	**150.38**	**309**	*e*PKPbc		**PKPbc**	**11 57 12.8**	**0.0**
COLD	**Coldfoot**	**150.99**	**317**	*e*PKPbc		**PKPbc**	**11 57 14.6**	**+0.9**
SONM	**Songino Array**	**151.38**	**86**	PKPbc		**PKPbc**	**11 57 14.7**	**-0.9**
SONM	**Songino Array**	**151.38**	**86**	PKPbc		**PKPbc**	**11 57 14.7**	**-0.9**
	0.9nm,0.9s,baz=203,slow=4.4,SNR=5.4							

IDC 11 11:53:28.7±1.4,14°.38S×175°.42W,h0km,mb3.7/4, mb1 4.0/5,mb1mx3.7/20,mbtmp3.8/5,ML2.5/1,Error ellipse: s-maj=76.0km s-min=24.5km az=157.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.56**	**83**	Pn		Pn	11 54 25.9	+0.5
	22nm,0.3s,baz=193,slow=1.9,SNR=29							
AFI				Sn		Sn	11 54 59.3	-9.0
	33nm,0.3s,baz=41,slow=19,SNR=12							
WRA	**Warramunga Arr**	**48.19**	**256**	P		P	12 02 11.5	+0.1
	0.5nm,0.4s,baz=91,slow=6.9,SNR=20							
ASAR	**Alice Springs**	**48.58**	**251**	P		P	12 02 13.7	-0.8
	0.9nm,0.4s,baz=87,slow=8.0,SNR=28							
FITZ	**Fitzroy Crossi**	**56.52**	**258**	P		P	12 03 13.7	+0.4
	0.9nm,0.6s,baz=68,slow=5.4,SNR=4.3							
ILAR	**Eielson Array**	**81.84**	**12**	P		P	12 05 49.2	-0.2
	0.1nm,0.4s,baz=213,slow=5.2,SNR=6.3							

IDC ***11*** *12:15:33.0±0.5,3°.73S×152°.03E,h0km,mb4.4/20, mb1 4.5/21,mb1mx4.5/23,mbtmp4.4/21,ML3.8/1,MS4.3/14, Ms1 4.3/14,ms1mx4.1/35,Error ellipse: s-maj=19.8km s-min=12.0km az=89.0*
GCMT ***11*** *12:15:37.7±0.2,3°.63S×151°.90E,h15km±1km,MW5.1, Moment Tensor Solution. s40,c55; s77,c125; Moment tensor: Scale 10^16Nm; Mrr=0.53±.17; Mθθ=5.01±.17; Mφφ=-4.47±.16; Mrθ=1.07±.35; Mθφ=1.96±.13; Mφr=0.14±.28; Best double couple: M0=5.20000×10^16 NP1:φ=33.00000°, δ=80.00000°, λ=177.00000°. NP2:φ=124.00000°, δ=87.00000°, λ=10.00000°. Principal axes: T 5.5700, Plg=10.0000°, Azm=349.0000°; N -0.6700, Plg=79.0000°, Azm=143.0000°; P -4.8900, Plg=5.0000°, Azm=258.0000°; Data Used: IU II IC G CN.*
ISCJB ***11*** *12:15:39.9±1.0,3°.75S±0°.04×152°.03E±0°.05,h62km±9km, mb4.8/84 Error ellipse: s-maj=7.9km s-min=6.0km az=160.7*
MOS ***11*** *12:15:41.3±1.0,3°.75S×151°.86E,h72km,mb5.1/20,Error ellipse: s-maj=12.0km s-min=7.4km az=87.5*
NEIC ***11*** *12:15:43.9±1.1,3°.79S×151°.88E,h85km±11km,mb4.9/30, Error ellipse: s-maj=7.8km s-min=6.3km az=82.0*
DJA ***11*** *12:15:44.4±2.1,4°.S±5°×15°.2E±°,h37km±15km,M5.3/24, mB5.8/8,mb5.0/24,MLv5.4/1,Mw(mB)5.3/8*
BJI ***11*** *12:15:44.1,3°.34S×152°.07E,h84km,mB5.0/30,mb4.9/44, Ms4.8/30,Ms7 4.5/32*
AUST ***11*** *12:15:47.1±0.0,4°.00S×151°.62E,h76km,Error ellipse: s-maj=1.5km s-min=0.9km az=28.0*
ISC 11 12:15:43.4±0.4,3°.76S±0°.04×152°.05E±0°.05,h79km±2km, h79km:pP-P,n194,σ1s75/223,mb4.9/84,3C-7D,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.44**	**165**	P		Pn	12 15 44.8	-12
	baz=0.6,SNR=1000							
MANU	**Manus Island**	**4.98**	**290**	P		**Pn**	**12 16 55.1**	**-0.7**
	baz=4.7,SNR=24							
PMG	**Port Moresby**	**7.42**	**221**	*e*Pn		**Pn**	**12 17 26.0**	**-3.0**
PMG				Sn		Sn	12 18 59.8	+8.1
PMG	**Port Moresby**	**7.42**	**221**	P		**Pn**	**12 17 26.3**	**-2.8**
	300nm,1.0s,3μm1.0nm							
PMG	**Port Moresby**	**7.42**	**221**	Pn		Pn	12 17 25.0	-4.0
	9.2nm,0.3s,baz=29,slow=8.0,SNR=14							
PMG				Sn		Sn	12 18 59.8	+8.1
	baz=313,slow=19,SNR=1.8							
HNR	**Honiara**	**9.65**	**126**	*e*Pn		Pn	12 18 03.1	+3.5
JAY	**Jayapura**	**11.40**	**276**	P		**Pn**	**12 18 20.5**	**-2.9**
	24nm,1.8s							
JAY	**Jayapura**	**11.40**	**276**	P		**Pn**	**12 18 21.2**	**-2.2**
	baz=11,SNR=5.5							
COEN	**Coen**	**13.39**	**220**	*e*Pn		**Pn**	**12 18 48.9**	**-1.4**
COEN	**Coen**	**13.39**	**220**	P		**Pn**	**12 18 49.9**	**-0.3**
	baz=13,SNR=3.9							
MTSU	**Mount Surprise**	**16.17**	**207**	P		**P**	**12 19 27.9**	**+0.2**
	baz=16,SNR=14							
CTA	**Charters Tower**	**17.18**	**199**	P		**Pn**	**12 19 38.3**	**-0.2**
CTA	**Charters Tower**	**17.18**	**199**	P		**Pn**	**12 19 38.3**	**-0.2**
	0.7nm,0.3s,baz=30,slow=13,SNR=17							
CTAO	**Charters Tower**	**17.18**	**199**	*e*P		**P**	**12 19 38.7**	**-0.3**
CTAO				pmax		pmax		
	comp=Z,142nm,1.7s							
CTAO	**Charters Tower**	**17.18**	**199**	*e*P		**P**	**12 19 38.7**	**-0.3**
	comp=Z,142nm,1.7s							
RKPI	**Ransiki, Papua**	**17.99**	**277**	P		**Pn**	**12 19 48.7**	**+0.3**
	comp=Z,129nm,1.2s,comp=Z,20μm							
FAKI	**Fak Fak**	**19.79**	**272**	P		**P**	**12 20 05.5**	**-2.1**
	comp=Z,88nm,1.4s,comp=Z,1μm							
FAKI	**Fak Fak**	**19.79**	**272**	P		**P**	**12 20 05.6**	**-1.9**
	baz=19,SNR=5.0							
SWI	**Sorong**	**20.97**	**277**	P		**P**	**12 20 21.1**	**+0.7**
	comp=Z,104nm,1.1s							
KDU	**Kakadu**	**21.29**	**244**	P		**P**	**12 20 22.4**	**-1.3**
	baz=21,SNR=9.3							
EIDS	**Eidsvold**	**21.50**	**182**	*e*P		**P**	**12 20 26.8**	**+0.9**
	comp=Z,43nm,1.1s							
EIDS	**Eidsvold**	**21.50**	**182**	P		**P**	**12 20 27.0**	**+1.1**
	baz=21,SNR=10							
MTN	**Manton Dam**	**22.56**	**245**	P		**P**	**12 20 37.8**	**+0.5**
	baz=22,SNR=6.2							
RMQ	**Roma**	**22.81**	**188**	P		**P**	**12 20 38.8**	**-1.1**
	baz=23,SNR=32							
NOUC	**Port Laguerre**	**22.88**	**144**	*e*P		**P**	**12 20 39.6**	**-1.0**
DZM	**Mont Dzumac**	**22.94**	**144**	*e*P		**P**	**12 20 40.7**	**-0.6**
	comp=Z,110nm,0.8s							
DZM	**Mont Dzumac**	**22.94**	**144**	LR		LR	12 28 24.7	
	comp=Z,1μm,20.2s,baz=180,slow=34							
NORM	**Noumea**	**23.08**	**144**	*e*P		**P**	**12 20 42.0**	**-0.5**
WRAB	**Tennant Creek**	**23.59**	**226**	*e*P		**P**	**12 20 45.6**	**-1.7**
WRAB				S		**S**	**12 24 56.0**	**+0.2**
WRAB				pmax		pmax		
	comp=Z,51nm,1.0s							
WRAB	**Tennant Creek**	**23.59**	**226**	*e*P		**P**	**12 20 45.6**	**-1.7**
	comp=Z,51nm,1.0s							
WRAB				S		**S**	**12 24 56.0**	**+0.2**
WRA	**Warramunga Arr**	**23.60**	**226**	P		**P**	**12 20 44.0**	**-3.4**
WRA				S		**S**	**12 25 02.9**	**+6.9**
WRA	**Warramunga Arr**	**23.60**	**226**	P		**P**	**12 20 44.0**	**-3.4**
	comp=Z,41nm,0.9s,baz=50,slow=9.6,SNR=51							
WRA				S		**S**	**12 25 02.9**	**+6.9**
	comp=Z,2.0nm,1.2s,baz=50,slow=18,SNR=4.9							
WRA				LR		LR	12 30 12.0	
	comp=Z,382nm,19.3s,baz=40,slow=37							
LBMI	**Labuha**	**24.72**	**277**	P		**P**	**12 20 57.1**	**-0.5**
	comp=Z,179nm,1.2s,comp=Z,3μm							
TNTI	**Ternate**	**25.08**	**280**	P		**P**	**12 21 04.6**	**+3.8**
	comp=Z,124nm,1.1s							
KNRA	**Kununurra**	**25.79**	**241**	P		**P**	**12 21 07.4**	**+0.2**
	baz=25,SNR=11							
AS31	**Alice Springs**	**26.43**	**220**	*e*P		**P**	**12 21 12.8**	**-0.3**
ASAR	**Alice Springs**	**26.43**	**220**	P		**P**	**12 21 11.8**	**-1.2**
ASAR	**Alice Springs**	**26.43**	**220**	P		**P**	**12 21 11.8**	**-1.2**
	comp=Z,5.9nm,0.8s,baz=51,slow=8.9,SNR=12							
ASAR				LR		LR	12 30 30.1	
	comp=Z,388nm,20.7s,baz=41,slow=34							
ARMA	**Armidale**	**26.52**	**181**	*e*P		**P**	**12 21 13.9**	**+0.2**
	comp=Z,29nm,1.0s							
ARMA	**Armidale**	**26.52**	**181**	P		**P**	**12 21 14.2**	**+0.4**
	baz=26,SNR=6.1							
SOEI	**Soe**	**28.21**	**256**	P		P	12 21 33.4	+4.2
	comp=Z,60nm,1.2s							
SOEI	**Soe**	**28.21**	**256**	P		P	12 21 35.3	+6.1
	baz=28,SNR=3.8							
CMSA	**Cobar Meteorol**	**28.27**	**192**	P		**P**	**12 21 28.7**	**-0.6**
	baz=28,SNR=7.1							
KMSI	**Cibinong**	**28.38**	**278**	P		P	12 21 34.0	+3.5
	comp=Z,235nm,1.1s,comp=Z,4μm							
MSVF	**Nonsavu**	**29.01**	**121**	*e*P		P	12 21 43.7	+7.5
MSVF				pmax		pmax		
	comp=Z,73nm,1.5s							
MSVF	**Nonsavu**	**29.01**	**121**	*e*P		P	12 21 43.7	+7.5
	comp=Z,73nm,1.5s							
GTOI	**Gorontalo**	**29.35**	**278**	P		P	12 21 43.2	+4.1
	comp=Z,106nm,1.0s							
LUWI	**Luwuk**	**29.38**	**275**	P		P	12 21 43.0	+3.6
	comp=Z,67nm,1.6s,comp=Z,725nm							
FITZ	**Fitzroy Crossi**	**29.52**	**239**	P		**P**	**12 21 39.4**	**-1.2**
FITZ	**Fitzroy Crossi**	**29.52**	**239**	P		**P**	**12 21 39.4**	**-1.2**
	comp=Z,6.6nm,1.0s,baz=68,slow=5.9,SNR=7.2							
FITZ				LR		LR	12 33 42.8	
	comp=Z,725nm,21.5s,baz=67,slow=37							
FITZ	**Fitzroy Crossi**	**29.52**	**239**	P		**P**	**12 21 39.4**	**-1.2**
	baz=29,SNR=4.7							
STKA	**Stephens Creek**	**29.64**	**198**	P		**P**	**12 21 42.2**	**+0.7**
STKA	**Stephens Creek**	**29.64**	**198**	P		**P**	**12 21 42.2**	**+0.7**
	comp=Z,6.3nm,0.7s,baz=3.7,slow=11,SNR=4.3							
STKA				LR		LR	12 33 05.7	
	comp=Z,837nm,19.9s,baz=15,slow=36							
STKA	**Stephens Creek**	**29.64**	**198**	P		P	12 21 46.6	+5.1
	baz=29,SNR=3.8							
TAU	**Tasmania Unive**	**39.21**	**186**	P		**P**	**12 23 02.9**	**-0.9**
TAU				pmax		pmax		
	comp=Z,62nm,1.2s							
TAU	**Tasmania Unive**	**39.21**	**186**	P		**P**	**12 23 02.9**	**-0.9**
	comp=Z,62nm,1.2s							
MEEK	**Meekatharra**	**39.25**	**231**	P		**P**	**12 23 02.2**	**-2.3**
	baz=39,SNR=5.2							
SBUM	**Sibu**	**40.28**	**278**	P		P	12 23 17.0	+3.8
	comp=Z,22nm,1.8s,comp=Z,444nm							
YHNB	**Yeheng**	**41.08**	**315**	*e*P		**P**	**12 23 18.6**	**-1.2**
	comp=Z,31nm,0.8s							
TATO	**Taipei**	**41.20**	**316**	*e*P		**P**	**12 23 19.7**	**-0.9**
	comp=Z,120nm,1.3s							
URZ	**Urewera**	**41.25**	**150**	P		**P**	**12 23 19.4**	**-1.4**
URZ	**Urewera**	**41.25**	**150**	P		**P**	**12 23 19.4**	**-1.4**
	comp=Z,14nm,0.9s,baz=8.9,slow=13,SNR=2.7							
JNU	**Nakatsue**	**41.80**	**333**	*e*P		**P**	**12 23 24.0**	**-1.5**
JNU	**Nakatsue**	**41.80**	**333**	P		**P**	**12 23 23.8**	**-1.7**
	comp=Z,40nm,0.9s,baz=117,slow=7.9,SNR=13							
KSM	**Kuching**	**42.04**	**276**	*e*P		**P**	**12 23 27.1**	**-0.6**
	comp=Z,22nm,1.0s							
KSM	**Kuching**	**42.04**	**276**	P		P	12 23 31.1	+3.4
	comp=Z,30nm,1.2s							
KLBR	**Kellerberrin**	**42.48**	**225**	P		**P**	**12 23 29.1**	**-1.9**
	baz=42,SNR=5.4							
KHZ	**Kahutara**	**43.00**	**157**	*e*P		**P**	**12 23 34.7**	**-0.3**
	comp=Z,602nm,2.6s							
RPZ	**Rata Peaks**	**43.20**	**160**	*e*P		**P**	**12 23 37.0**	**+0.4**
RPZ	**Rata Peaks**	**43.20**	**160**	P		**P**	**12 23 36.5**	**-0.1**
	comp=Z,32nm,0.9s,baz=107,slow=1.4,SNR=9.1							
SSE	**Sheshan**	**45.47**	**322**	P		**P**	**12 23 55.4**	**+0.6**
SSE				pmax		pmax		
	comp=Z,17nm,0.7s							
SSE				pmax		pmax		
	comp=Z,100nm,3.4s							
SSE				LR		LR		
	comp=N,210nm,25.5s							
SSE				LR		LR		
	comp=E,230nm,25.5s							
SSE				LR		LR		
	comp=Z,330nm,24.0s							
KSRS	**Korea Array**	**46.74**	**333**	P		**P**	**12 24 03.6**	**-1.1**
	comp=Z,6.5nm,0.9s,baz=150,slow=9.6,SNR=12							
KSRS				LR		LR	12 41 59.0	
	comp=Z,252nm,21.0s,baz=157,slow=34							
KSAR	**Wonju Array Be**	**46.75**	**333**	P		**P**	**12 24 03.6**	**-1.2**
QIZ	**Qiongzhong**	**47.30**	**300**	P		**P**	**12 24 08.1**	**-1.3**
QIZ				pP		**pP**	**12 24 27.7**	**-1.3**
QIZ				sP		**sP**	**12 24 37.7**	**-0.3**
QIZ				S		**S**	**12 30 52.7**	**-4.7**
QIZ				pmax		pmax		
	comp=Z,310nm,4.0s							
QIZ				LR		LR		
	comp=Z,460nm,27.2s							
INCN	**Inchon**	**47.35**	**332**	*e*P		**P**	**12 24 09.0**	**-0.5**
	comp=Z,53nm,0.9s							
NJ2	**Nanjing**	**47.57**	**321**	*e*P		**P**	**12 24 11.7**	**+0.4**
NJ2				pP		**pP**	**12 24 31.0**	**+0.2**
NJ2				sP		**sP**	**12 24 41.0**	**+1.1**
NJ2				PP		**PP**	**12 26 04.0**	**+0.4**
NJ2				S		**S**	**12 31 02.0**	**+1.2**
NJ2				sS		**sS**	**12 31 35.0**	**+0.8**
NJ2				pmax		pmax		
	comp=Z,20nm,0.7s							
NJ2				pmax		pmax		
	comp=Z,120nm,3.8s							
NJ2				LR		LR		
	comp=N,770nm,19.0s							
NJ2				LR		LR		
	comp=E,450nm,23.8s							
NJ2				LR		LR		
	comp=Z,270nm,22.3s							
YUK	**Yuzh-Kuril'sk**	**47.91**	**354**	*d*P		**P**	**12 24 13.6**	**0.0**
YUK				*i*			12 26 07.0	
YUK				*i* PPP		PPP	12 27 00.7	
YUK				S		S	12 31 11.7	+6.6
YUK				MLR		MLR		
	comp=Z,154nm,15.0s							
YUK				MLR		MLR		
	comp=E,69nm,15.0s							
ASAJ	**Asahikawa**	**48.41**	**351**	P		**P**	**12 24 16.0**	**-1.6**
	comp=E,1.1nm,1.1s							
ASAJ				*e*PcP		**PcP**	**12 25 40.3**	**-2.5**
ASAJ	**Asahikawa**	**48.41**	**351**	P		**P**	**12 24 16.0**	**-1.6**
	comp=E,7.0nm,1.1s,baz=218,slow=12,SNR=3.5							
VLA	**Vladivostok**	**50.10**	**341**	*e*P		**P**	**12 24 31.4**	**+1.0**
VLA				pmax		pmax		
	comp=Z,31nm,1.7s							
USRK	**Ussuriysk Arra**	**51.03**	**342**	P		**P**	**12 24 36.9**	**-0.6**
	comp=Z,6.5nm,0.8s,baz=160,slow=8.0,SNR=11							
USRK				LR		LR	12 44 38.4	
	comp=Z,177nm,19.9s,baz=76,slow=34							
YSS	**Yuzh-Sakhalins**	**51.16**	**352**	P		**P**	**12 24 40.0**	**+1.6**
PANO	**Nakornpanom**	**51.23**	**295**	P		P	12 24 44.8	+5.4
	comp=Z,50nm,1.5s							
SKNT	**Sakolnakorn**	**51.74**	**295**	P		P	12 24 48.3	+5.0
	comp=Z,23nm,1.1s							
MDJ	**Mudanjiang**	**52.20**	**340**	P		**P**	**12 24 45.0**	**-1.1**
MDJ				pP		**pP**	**12 25 05.0**	**-0.9**
MDJ				PcP		**PcP**	**12 25 57.2**	**+0.4**
MDJ				PP		**PP**	**12 26 43.6**	**-1.8**
MDJ				PcS		**PcS**	**12 29 54.5**	**-0.5**
MDJ				pmax		pmax		
	comp=Z,17nm,1.0s							
MDJ				pmax		pmax		
	comp=Z,97nm,6.5s							
MDJ				LR		LR		
	comp=N,220nm,38.0s							
MDJ				LR		LR		
	comp=Z,350nm,36.3s							
MDJ	**Mudanjiang**	**52.20**	**340**	*e*P		**P**	**12 24 45.4**	**-0.8**
	comp=Z,14nm,0.8s							
SNY	**Shenyang**	**52.25**	**333**	P		P	12 24 50.0	+3.5
SNY				pmax		pmax		
	comp=Z,11nm,0.7s							
SNY				LR		LR		
	comp=N,200nm,16.8s							
SNY				LR		LR		
	comp=E,290nm,17.7s							
SNY				LR		LR		
	comp=Z,350nm,17.7s							
ENH	**Enshi**	**52.91**	**313**	*e*P		**P**	**12 24 51.0**	**-0.7**
	comp=Z,12nm,0.8s							
CN2	**Changchun**	**53.05**	**336**	*e*P		**P**	**12 24 52.1**	**-0.4**
CN2				*e*sP		sP	12 25 27.0	+5.7
CN2				PP		**PP**	**12 26 54.9**	**+1.8**
CN2				*e*S		**S**	**12 32 12.6**	**-4.0**
CN2				SS		**SS**	**12 35 52.2**	**-4.8**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
CN2				LR		LR		
	comp=N,400nm,17.0s							
CN2				LR		LR		
	comp=E,300nm,17.0s							
CN2				LR		LR		
	comp=Z,400nm,20.0s							
GYA	**Guiyang**	**53.18**	**307**	*e*P		**P**	**12 24 55.0**	**+1.1**
GYA				pP		**pP**	**12 25 15.8**	**+2.1**
GYA				sP		**sP**	**12 25 25.0**	**+2.3**
GYA				PP		**PP**	**12 26 57.4**	**+2.7**
GYA				ScP		**ScP**	**12 29 51.2**	**-0.6**
GYA				PcS		**PcS**	**12 29 59.8**	**-0.5**
GYA				S		**S**	**12 32 17.0**	**-2.1**
GYA				sS		**sS**	**12 32 52.3**	**-0.7**
GYA				ScS		**ScS**	**12 34 33.5**	**-3.0**
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA				pmax		pmax		
	comp=Z,120nm,4.9s							
HABR	**Khabarovsk**	**54.10**	**346**	*e*P		**P**	**12 24 58.4**	**-1.6**
HABR				*e*PP		**pP**	**12 25 16.9**	**-3.0**
HABR				*e*SP		**sP**	**12 25 25.0**	**-3.9**
HABR				*e*S		**S**	**12 32 29.0**	**-1.5**
HABR				*i*			12 32 38.7	
HABR				*e*SS		**sS**	**12 33 00.0**	**-4.5**
HABR				*e*			12 34 40.8	
HABR				*e*SS		**SS**	**12 36 12.4**	**-0.9**
HABR				*e*SSS		SSS	12 38 14.3	
HABR				pmax		pmax		
	comp=E,27nm,2.4s							
HABR				pmax		pmax		
	comp=N,25nm,2.4s							
HABR				pmax		pmax		
	comp=Z,39nm,2.4s	

CHTO	Chiang Mai	56.87	295	P	P	12	25	23.5 +3.0
CHTO	Chiang Mai	56.87	295	P	P	12	25	24.4 +3.9
	comp=Z,11nm,1.7s							
CD2	Chengdu	57.50	310	P	P	12	25	25.6 +0.8
CD2				pP	pP	12	25	46.4 +1.5
CD2				sP	sP	12	25	55.9 +2.1
CD2				PcP	PcP	12	26	18.2 +0.6
CD2				PP	PP	12	27	35.6 +2.4
CD2				ScP	ScP	12	30	09.0 -1.6
CD2				PcS	PcS	12	30	17.9 -1.1
CD2				S	S	12	33	14.5 -2.0
CD2				sS	sS	12	33	50.5 -0.3
CD2				SS	SS	12	37	06.7 -1.0
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,120nm,5.2s							
CD2				LR	LR			
	comp=N,310nm,20.6s							
CD2				LR	LR			
	comp=E,460nm,19.1s							
CD2				LR	LR			
	comp=Z,470nm,19.1s							
HHC	Hu-ho-hao-te	57.77	324	*e*P	P	12	25	30.4 +3.8
HHC				pP	pP	12	25	49.6 +2.9
HHC				sP	sP	12	25	58.4 +2.8
HHC				PP	**PP**	**12**	**27**	**40.0 +4.4**
HHC				S	**S**	**12**	**33**	**21.7 +1.8**
HHC				sS	sS	12	33	54.9 +0.7
HHC				pmax	pmax			
	comp=Z,24nm,1.0s							
HHC				pmax	pmax			
	comp=Z,88nm,5.1s							
HHC				LR	LR			
	comp=N,360nm,15.5s							
HHC				LR	LR			
	comp=E,590nm,17.8s							
HHC				LR	LR			
	comp=Z,250nm,15.3s							
HIA	Hailar	59.79	336	*e*P	P	12	25	39.8 -0.5
	comp=Z,23nm,0.9s							
LZH	Lanzhou	59.97	316	*e*P	P	12	25	45.8 +3.8
LZH				pP	pP	12	26	03.6 +1.4
LZH				sP	sP	12	26	16.1 +5.0
LZH				pmax	pmax			
	comp=Z,17nm,1.0s							
LZH				pmax	pmax			
	comp=Z,78nm,4.5s							
LZH				LR	LR			
	comp=N,130nm,12.2s							
LZH				LR	LR			
	comp=E,190nm,14.5s							
LZH				LR	LR			
	comp=Z,310nm,15.5s							
CLNS	Chul'man	64.31	344	*e*P	P	12	26	09.8 -0.6
CLNS				pmax	pmax			
	comp=Z,14nm,1.0s							
CLNS				pmax	pmax			
	comp=N,5.0nm,1.0s							
CLNS				pmax	pmax			
	comp=E,4.0nm,0.8s							
GTA	Gaotai	64.39	317	*e*P	P	12	26	12.3 +0.8
GTA				pP	pP	12	26	32.9 +1.0
GTA				sP	sP	12	26	41.9 +1.2
GTA				S	S	12	34	43.6 -0.5
GTA				sS	sS	12	35	17.1 -1.9
GTA				SS	SS	12	38	55.7 +0.1
GTA				pmax	pmax			
	comp=Z,5.0nm,1.6s							
GTA				pmax	pmax			
	comp=Z,59nm,5.7s							
GTA				LR	LR			
	comp=N,170nm,18.0s							
GTA				LR	LR			
	comp=E,220nm,20.4s							
GTA				LR	LR			
	comp=Z,250nm,20.4s							
SONM	Songino Array	65.06	328	P	P	12	26	15.6 0.0
SONM	Songino Array	65.06	328	P	P	12	26	15.6 0.0
	comp=Z,5.6nm,0.8s,baz=141,slow=6.0,SNR=17							
SONM				LR	LR	12	52	25.5
	comp=Z,375nm,20.2s,baz=49,slow=34							
SHL	Shillong	65.14	300	*e*P	P	12	26	16.0 -0.7
SEY	Seymchan	66.52	0‖	*e*P	P	12	26	24.2 -0.3
LSA	Lhasa	67.04	304	*e*P	P	12	26	28.9 -0.2
YAK	Yakutsk	67.82	349	*e*P	P	12	26	32.1 -0.6
YAK				*e*		12	26	48.6
YAK				*e*		12	29	02.6
YAK				*e*S	S	12	35	24.4 -0.1
YAK				*e**SS	sS	12	36	05.2 +5.6
YAK				*e*		12	36	20.4
YAK				*e*SS	SS	12	39	41.4 -6.2
YAK				pmax	pmax			
	comp=Z,28nm,0.9s							
YAK				pmax	pmax			
	comp=N,10.0nm,1.3s							
YAK				pmax	pmax			
	comp=E,3.0nm,1.4s							
YAK				pmax	pmax			
	comp=Z,6.0nm,0.8s							
YAK				pmax	pmax			
	comp=N,3.0nm,0.9s							
YAK				pmax	pmax			
	comp=E,4.0nm,1.1s							
YAK				smax	smax			
	comp=N,67nm,4.7s							
YAK				smax	smax			
	comp=E,36nm,4.1s							
YAK				MLR	MLR			
	comp=Z,143nm,26.0s							
YAK				MLR	MLR			
	comp=N,121nm,21.0s							
ZAK	Zakamensk	68.22	329	*e*P	P	12	26	35.6 -0.1
ZAK				pmax	pmax			
	comp=Z,11nm,1.0s							
TLY	Talaya	68.81	330	*e*P	P	12	26	39.4 +0.2
TLY				*e*S	S	12	35	36.0 -0.8
TLY				pmax	pmax			
	comp=Z,7.0nm,0.9s							
TLY				MLR	MLR			
	comp=Z,153nm,17.0s							
TAPN	Taplejung	69.23	301	*e*P	P	12	26	43.3 +0.6
	comp=Z,65nm,1.0s							
ODAN	Odare	69.38	300	*e*P	P	12	26	44.7 +1.2
	comp=Z,98nm,1.0s							
RAMN	Ramite	70.08	300	*e*P	P	12	26	49.3 +1.5
MOY	Mondy	70.15	329	*e*P	P	12	26	48.0 +0.4
JIRN	Jiri	70.62	301	*e*P	P	12	26	52.4 +1.1
	comp=Z,49nm,1.1s							
GUN	Gumba	70.95	301	*e*P	P	12	26	53.9 +0.7
	comp=Z,47nm,0.8s							
PKI	Pulchoki	71.27	301	*e*P	P	12	26	55.4 +0.3
	comp=Z,109nm,1.3s							
PKIN	Phulchoki	71.28	301	*e*P	P	12	26	55.1 0.0
	comp=Z,60nm,1.3s							
KKN	Kakani	71.43	301	*e*P	P	12	26	56.2 +0.2
	comp=Z,72nm,1.2s							
DMN	Daman	71.53	301	*e*P	P	12	26	57.2 +0.5
	comp=Z,120nm,1.1s							
BILL	Bilibino	72.34	6	P	P	12	27	05.0 +4.7
BILL				*e*		12	27	17.8
BILL				*e*		12	27	22.7
BILL				*i*		12	27	33.1
BILL						12	29	42.0
BILL				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KOLN	Koldanda	72.87	300	*e*P	P	12	27	04.6 0.0
	comp=Z,27nm,0.7s							
DANN	Dangsing	72.87	301	*e*P	P	12	27	03.0 -1.7
	comp=Z,33nm,0.8s							
PYUN	Piuthan	73.47	301	*e*P	P	12	27	07.0 -1.1
	comp=Z,101nm,0.9s							
HVS	Khovu-Aksy	73.78	326*d*	*i*P	P	12	27	09.7 +0.4
HVS				pmax	pmax			
	comp=Z,77nm,1.2s							
VNDA	Vanda	73.89	178	*e*P	P	12	27	09.1 -0.2
	comp=Z,7.5nm,1.1s							
VNDA	Vanda	73.89	178	P	P	12	27	10.6 +1.2
	comp=Z,2.3nm,1.0s,baz=332,slow=7.8,SNR=3.9							
TIXI	Tiksi	76.78	353‖	*e*P	P	12	27	26.7 +0.8
TIXI				*i* *PP	pP	12	27	47.3 +0.3
TIXI				pmax	pmax			
	comp=Z,6.0nm,1.2s							
MK31	Makanchi Array	79.06	319	*e*P	P	12	27	37.5 -1.7
MK31	Makanchi Array	79.06	319	*e*P	P	12	27	37.5 -1.7
MKAR	Makanchi Array	79.06	319	*ce*P	P	12	27	42.0 +2.8
MKAR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
MKAR	Makanchi Array	79.06	319	P	P	12	27	37.6 -1.5
MKAR	Makanchi Array	79.06	319	P	P	12	27	37.6 -1.5
	comp=Z,0.7nm,0.8s,baz=92,slow=6.8,SNR=5.4							
MKAR				LR	LR	13	02	20.0
	comp=Z,164nm,18.2s,baz=250,slow=36							
PMR	Palmer	79.06	25	*e*P	P	12	27	39.0 +0.2
PMR				pmax	pmax			
	comp=Z,9.0nm,1.0s							
PMR	Palmer	79.06	25	*e*P	P	12	27	39.0 +0.2
	comp=Z,9.3nm,1.0s							
SML	Sawmill	79.50	25	*e*P	P	12	27	42.2 +1.0
SML				pmax	pmax			
	comp=Z,5.0nm,0.8s							
SML	Sawmill	79.50	25	*e*P	P	12	27	42.2 +1.0
	comp=Z,4.7nm,0.8s							
TRF	Thorofare Moun	79.54	23	*e*P	P	12	27	41.7 +0.1
	comp=Z,7.1nm,0.8s							
ZAA0	Zalesovo Array	79.88	326	*e*P	P	12	27	42.7 -0.7
ZALV	Zalesovo Beam	79.88	326	P	P	12	27	42.9 -0.5
ZALV	Zalesovo Beam	79.88	326	P	P	12	27	42.9 -0.5
ZALV	Zalesovo Beam	79.88	326	P	P	12	27	42.9 -0.5
	comp=Z,6.8nm,0.8s,baz=110,slow=5.6,SNR=8.7							
ZALV				LR	LR	13	03	40.8
	comp=Z,165nm,19.1s,baz=70,slow=36							
MCK	McKinley	80.20	23	*e*P	P	12	27	45.2 +0.2
MCK				pmax	pmax			
	comp=Z,32nm,0.9s							
MCK	McKinley	80.20	23	*e*P	P	12	27	45.2 +0.2
	comp=Z,32nm,0.9s							
BMRM	Bremner River	80.71	26	*e*P	P	12	27	48.3 +0.5
	comp=Z,26nm,1.4s							
NVS	Novosibirsk	81.06	327	*e*P	P	12	27	52.8 +3.1
COLA	College	81.17	22	*e*P	P	12	27	50.0 -0.1
COLA				pmax	pmax			
	comp=Z,71nm,0.8s							
COLA	College	81.17	22	*e*P	P	12	27	50.0 -0.1
	comp=Z,71nm,0.8s							
PAX	Paxson	81.22	24	*e*P	P	12	27	50.6 +0.1
PAX				pmax	pmax			
	comp=Z,4.0nm,0.9s							
PAX	Paxson	81.22	24	*e*P	P	12	27	50.6 +0.1
	comp=Z,3.9nm,0.9s							
ILAR	Eielson Array	81.49	22	P	P	12	27	51.2 -0.5
ILAR	Eielson Array	81.49	22	P	P	12	27	51.2 -0.5
	comp=Z,3.7nm,0.7s,baz=253,slow=5.1,SNR=32							
COLD	Coldfoot	81.53	19	*e*P	P	12	27	53.4 +1.4
	comp=Z,12nm,1.0s							
KSH	Kashi	81.70	311	*e*P	P	12	27	57.9 +4.3
KSH				pP	pP	12	28	16.7 +1.8
KSH				sP	sP	12	28	25.7 +2.2
KSH				PP	**PP**	**12**	**31**	**06.2 +4.7**
KSH				S	**S**	**12**	**38**	**02.7 +2.4**
KSH				sS	sS	12	38	37.6 +1.1
KSH				SS	**SS**	**12**	**43**	**24.5 +4.9**
KSH				pmax	pmax			
	comp=Z,6.0nm,1.0s							
KSH				pmax	pmax			
	comp=Z,130nm,4.8s							
KSH				LR	LR			
	comp=N,120nm,4.9s							
KSH				LR	LR			
	comp=E,120nm,6.1s							
KSH				LR	LR			
	comp=Z,140nm,5.7s							
MENT	Mentasta	81.93	25	*e*P	P	12	27	54.7 +0.6
PNL	Peninsula	82.59	28	*e*P	P	12	27	59.2 +1.6
	comp=Z,13nm,0.8s							
FRU	Bishkek	83.36	314	*e*P	P	12	28	05.0 +2.9
AAK	Ala-Archa	83.42	313‖	*e*P	P	12	28	03.1 +0.6
AAK				pmax	pmax			
	comp=Z,14nm,1.7s							
AAK	Ala-Archa	83.42	313	P	P	12	28	00.9 -1.6
	comp=Z,5.8nm,0.8s							
EGAK	Eagle	83.71	23	*e*P	P	12	27	59.2 -4.0
	comp=Z,9.3nm,0.9s							
MAW	Mawson	86.23	203	P	P	12	28	15.6 -0.3
MAW	Mawson	86.23	203	P	P	12	28	15.6 -0.3
	comp=Z,2.4nm,0.9s,baz=23,slow=11,SNR=3.8							
KKAR	Karatay Array	86.38	313	*e*P	P	12	28	16.0 -1.2
KKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KKAR	Karatay Array	86.38	313	*e*P	P	12	28	16.0 -1.2
	comp=Z,1.2nm,0.6s							
DLBC	Dease Lake	86.88	31	LR	LR	12	59	16.0
	comp=Z,214nm,20.0s,baz=58,slow=30							
INK	Inuvik	87.76	21	LR	LR	13	01	08.3
	comp=Z,137nm,21.1s,baz=246,slow=31							
BRVK	Borovoye	88.04	323	*de*P	P	12	28	24.7 -0.2
BRVK				pmax	pmax			
	comp=Z,10.0nm,1.2s							
BRVK	Borovoye	88.04	323	*e*P	P	12	28	24.2 -0.7
	comp=Z,6.0nm,0.8s							
NVAR	Mina Array Bea	92.03	52	P	P	12	28	44.8 +0.5
NVAR	Mina Array Bea	92.03	52	P	P	12	28	44.8 +0.5
	comp=Z,0.1nm,0.4s,baz=233,slow=5.5,SNR=2.0							
YKA	Yellowknife Ar	94.86	28	P	P	12	28	56.8 +0.4
YKA	Yellowknife Ar	94.86	28	P	P	12	28	56.7 +0.4
	comp=Z,0.5nm,0.7s,baz=267,slow=4.4,SNR=6.0							
KIV	Kislovodsk	106.50	315	*e*P	Pdif	12	29	53.7 +4.7
KIV				pmax	pmax			
	comp=Z,4.0nm,1.0s							
GERES	GERESS Array B	122.79	329	PKP	PKPdf	12	34	32.3 +1.8
GERES	GERESS Array B	122.79	329	PKP	PKPdf	12	34	32.3 +1.8
	comp=Z,0.2nm,0.5s,baz=181,slow=4.6,SNR=2.4							
LPAZ	La Paz	135.56	118	PKP	PKPdf	12	34	55.4 -0.9
LPAZ	La Paz	135.56	118	PKP	PKPdf	12	34	55.4 -0.9
	comp=Z,1.0nm,0.9s,baz=297,slow=4.5,SNR=3.1							
TORD	Torodi Ar. Bea	149.27	289	PKPbc	PKPbc	12	35	23.7 -0.4
TORD	Torodi Ar. Bea	149.27	289	PKPbc	PKPbc	12	35	23.7 -0.4
	comp=Z,1.4nm,0.9s,baz=86,slow=3.5,SNR=2.8							
BDFB	Brasilia	152.32	135	PKPbc	PKPbc	12	35	31.2 -0.3
BDFB				PKPab	PKPab	12	35	42.6 +1.1
BDFB	Brasilia	152.32	135	PKPbc	PKPbc	12	35	31.2 -0.3
	comp=Z,2.7nm,0.6s,baz=11,slow=5.2,SNR=3.0							
BDFB				PKPab	PKPab	12	35	42.6 +1.1
	comp=Z,7.0nm,0.7s,baz=167,slow=5.9,SNR=5.4							

CSEM ***11*** *12:23:20.9,38°.13N×23°.48E,h25km,MD2.5,After ATH*

ATH 11 12:23:20.9,38°.13N×23°.48E,h25km±1km,MD2.5/7,ML1.9, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATH	Athens Observa	0.24	130	*e*PB		Pb	12 23 26.8	-0.3
ATH				*e*SB		Sb	12 23 31.2	-0.2
ATH	Athens Observa	0.24	130	*e*Pb		Pb	12 23 26.8	-0.3
ATH				*e*Sb		Sb	12 23 31.2	-0.2
PTL	Penteli	0.31	105	*e*PB		Pb	12 23 28.3	+0.1
PTL				*e*SB		Sb	12 23 32.8	-0.4
PTL	Penteli	0.31	105	*e*Pb		Pb	12 23 28.3	+0.1
PTL				*e*Sb		Sb	12 23 32.8	-0.4
NAIG	Nisos Aigina	0.37	179	*e*PB		Pb	12 23 29.0	0.0
NAIG	Nisos Aigina	0.37	179	*e*Pb		Pb	12 23 29.0	0.0
LTK	Loutraki	0.42	255	*e*PB		Pb	12 23 30.2	+0.4
LTK				*e*SB		Sb	12 23 36.0	+0.1
LTK	Loutraki	0.42	255	*e*Pb		Pb	12 23 30.2	+0.4
LTK				*e*Sb		Sb	12 23 36.0	+0.1
LKR	Lokris	0.64	324	*e*PN		Pb	12 23 33.3	-0.2
LKR				*e*SN		Sn	12 23 43.5	-0.3
LKR	Lokris	0.64	324	*e*Pn		Pb	12 23 33.3	-0.2
LKR				*e*Sn		Sn	12 23 43.5	-0.3
DID	Didima	0.65	197	*e*PN		Pb	12 23 33.8	+0.1
DID				*e*SN		Sn	12 23 43.3	-0.8
DID	Didima	0.65	197	*e*Pn		Pb	12 23 33.8	+0.1
DID				*e*Sn		Sn	12 23 43.3	-0.8
KLV	Kalavryta, Ach	1.05	266	*e*PN		Pb	12 23 41.8	+1.2
KLV				*e*SN		Sn	12 23 55.9	+1.8
KLV	Kalavryta, Ach	1.05	266	*e*Pn		Pb	12 23 41.8	+1.2
KLV				*e*Sn		Sn	12 23 55.9	+1.8
NEO	Neokhori	1.19	350	*e*PN		Pb	12 23 43.9	+1.0
NEO				*e*SN		Sb	12 23 59.7	+1.8
NEO	Neokhori	1.19	350	*e*Pn		Pb	12 23 43.9	+1.0
NEO				*e*Sn		Sb	12 23 59.7	+1.8

AUST ***11*** *12:35:15.8±4.2,20°.45S×173°.94W,h4km,Error ellipse: s-maj=1.4km s-min=0.9km az=298.0*

IDC ***11*** *12:35:16.8±0.4,20°.57S×174°.25W,h0km,mb5.1/24, mb1 5.2/25,mb1mx5.1/29,mbtmp5.0/25,ML5.0/1,MS4.7/25, Ms1 4.7/25,ms1mx4.7/30,Error ellipse: s-maj=18.1km s-min=12.6km az=124.0*

SZGRF ***11*** *12:35:16.9,20°.69S×174°.45W,h33km,mb5.1,Tonga Islands*

DJA ***11*** *12:35:17.8±0.7,20°S±9°×17°4W±1°1,h10km,M5.4/20, mb5.4/20*

ISCJB ***11*** *12:35:20.4±0.2,20°.64S±0°.04×174°.25W±0°.04,h33km, mb5.2/181,MS4.9/51,Error ellipse: s-maj=7.1km s-min=3.5km az=144.9*

BJI ***11*** *12:35:20.8,20°.17S×173°.91W,h30km,mB5.6/31, mb5.4/42,Ms5.2/33,Ms7 4.8/32*

MOS ***11*** *12:35:21.0±0.9,20°.50S×174°.27W,h33km,mb5.3/76, MS4.9/16,Error ellipse: s-maj=10.7km s-min=7.6km az=69.4*

NEIC ***11*** *12:35:21.8±0.1,20°.67S×174°.22W,h35km,mb5.2/120, Error ellipse: s-maj=6.5km s-min=3.6km az=137.0*

BKK ***11*** *12:35:22.6±0.6,21°S±9°×17°5W±1°2,h10km,MS.7/27, mB6.2/6,mb5.6/27,Mw(mB)5.8/6*

GCMT ***11*** *12:35:23.8±0.1,20°.70S×173°.69W,h21km,MW5.3, Moment Tensor Solution. s68,c122; s97,c178; Moment tensor: Scale 10^{17}Nm; M_{rr}1.10±.03; $M_{\theta\theta}$-0.13±.02; $M_{\phi\phi}$-0.97±.02; $M_{r\theta}$0.31±.03; $M_{r\phi}$-0.41±.01; $M_{\theta\phi}$0.63±.03; Best double couple: $M_0$1.30000×10^{17} NP1:φ200.00000°, δ29.00000°, λ86.00000°. NP2:φ24.00000°, δ61.00000°, λ92.00000°. Principal axes: T 1.3000, Plg74.0000°, Azm300.0000°; N 0.0400, Plg2.0000°, Azm203.0000°; P -1.3400, Plg16.0000°, Azm113.0000°; Data Used: ll IU IC G CN.*

ISC 11 12:35:21.8±0.4,20°.67S±0°.05×174°.15W±0°.05,h35km±2km, h35km:pP-P,n980,σ1‖04/1055,mb5.2/181,MS4.9/51, 222C-185D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIUE	Niue	4.28	69	P		Pn	12 36 15.5	-8.9
	baz=4.0,SNR=102							
AFI	Afiamalu	7.10	19	*e*Pn		Pn	12 36 56.5	-6.7
AFI				Sn		Sn	12 38 10.0	-13
AFI	Afiamalu	7.10	19	Pn		Pn	12 36 55.8	-7.5
	54nm,0.3s,baz=142,slow=1.1,SNR=68							
AFI				Sn		Sn	12 38 10.0	-13
	44nm,0.3s,baz=143,slow=20,SNR=3.8							
AFI				LR		LR	12 38 29.8	
	comp=Z,632nm,19.2s,baz=189,slow=28							
MSVF	Nonsavu	7.93	290	Pn		Pn	12 37 22.0	+7.3
	3μm,1.0s,SNR=55							
MSVF	Nonsavu	7.93	290	*e*P		Pn	12 37 21.3	+6.6
MSVF	Nonsavu	7.93	290	*e*Pn		Pn	12 37 21.3	+6.6
RAO	Raoul Island	9.20	201	Sn		Sn	**12 39 11.6**	**-2.7**
RAO	Raoul Island	9.20	201	Sn		Sn	**12 39 11.5**	**-2.7**
	146nm,0.3s,baz=90,slow=20,SNR=3.3							
RAR	Rarotonga	13.44	95	Pn		Pn	12 38 22.1	-8.0
RAR	Rarotonga	13.44	95	Pn		Pn	12 38 22.1	-8.0
	14nm,0.3s,baz=270,slow=8.5,SNR=14							
NORM	Noumea	18.10	262	*e*P		P	**12 39 32.0**	**+1.4**
DZM	Mont Dzumac	18.13	262	*e*P		P	**12 39 33.8**	**+2.7**
	422nm,1.0s							
DZM				*e*LR		LR	12 43 51.6	
	5μm,22.1s							
DZM	Mont Dzumac	18.13	262	Pn		Pn	**12 39 28.3**	**-2.7**
	186nm,0.9s							
DZM	Mont Dzumac	18.13	262	LR		LR	12 45 05.4	
	comp=Z,4μm,20.4s,baz=0.0,slow=33							
NOUC	Port Laguerre	18.26	262	*e*P		Pn	**12 39 36.5**	**+4.0**
URZ	Urewera	19.09	201	*e*P		Pn	**12 39 42.0**	**-0.4**
URZ				S		Sn	12 43 05.9	-9.3
URZ				*e*S		S	12 43 08.1	-7.9
URZ	Urewera	19.09	201	P		P	**12 39 41.6**	**+0.2**
	4.4nm,0.3s,baz=352,slow=7.5,SNR=25							
URZ				S		Sn	12 43 05.9	-9.3
	1.5nm,0.3s,baz=75,slow=13,SNR=5.2							
URZ				LR		LR	12 45 25.4	
	comp=Z,2μm,18.8s,baz=15,slow=32							
SNZO	South Karori	22.64	202	*e*P		P	**12 40 19.7**	**-0.1**
	109nm,1.0s							
TBI	Tubuai	23.03	101	*e*P		P	**12 40 20.6**	**-3.4**
	367nm,1.3s							
TBI				*e*LQ		LQ	12 44 45.3	
	2μm,28.2s							
TBI				*e*LR		LR	12 45 53.7	
	5μm,27.8s,baz=274							
PPT2	Papeete2	23.41	87	*e*LQ		LQ	12 44 49.1	
	4μm,27.2s							
PPT2				*e*LR		LR	12 45 59.5	
	5μm,26.2s,baz=257							
PPT	Papeete	23.41	87	LR		LR	12 47 03.2	
	comp=Z,2μm,19.9s,baz=256,slow=30							
KHZ	Kahutara	24.03	203	*e*P		P	**12 40 33.5**	**0.0**
	67nm,0.9s							
TARA	Tarawa	25.29	328	*e*P		P	**12 40 43.7**	**-1.4**
	217nm,1.0s							
PMOR	Pomariorio Ree	25.60	82	*e*P		P	**12 40 45.2**	**-2.7**
	125nm,1.2s							
RPZ	Rata Peaks	26.09	205	P		P	**12 40 52.0**	**-0.1**
RPZ	Rata Peaks	26.09	205	P		P	**12 40 52.0**	**-0.1**
	33nm,0.6s,baz=348,slow=0.5,SNR=7.3							
ODZ	Otahua Downs	27.36	204	*e*P		P	**12 41 04.7**	**+1.1**
	26nm,0.8s							
WHZ	Wether Hill Ro	29.14	206	*e*P		P	**12 41 19.1**	**-0.2**
	38nm,0.8s							
ARMA	Armidale	32.26	246	P		P	**12 41 48.1**	**+0.8**
	baz=32,SNR=14							
EIDS	Eidsvold	32.28	255	*e*P		P	**12 41 46.8**	**-0.7**
	21nm,1.0s							
EIDS	Eidsvold	32.28	255	P		P	**12 41 46.7**	**-0.7**
	baz=32,SNR=4.6							
MGCD	Mangrove Creek	33.24	241	P		P	**12 41 56.2**	**+0.5**
	baz=34,SNR=17							
RMQ	Roma	34.40	253	P		P	**12 42 06.2**	**+0.3**
	baz=35,SNR=25							
CNB	Canberra Magne	35.15	238	P		P	**12 42 13.0**	**+0.6**
	baz=35,SNR=6.0							
CAN	Canberra	35.44	238	*e*P		P	**12 42 14.7**	**-0.1**
CAN				pmax		pmax		
	comp=Z,21nm,0.8s							
CAN	Canberra	35.44	238	*e*P		P	**12 42 14.7**	**-0.1**
	comp=Z,21nm,0.8s							
YNG	Young	35.69	240	P		P	**12 42 17.0**	**+0.1**
	baz=36,SNR=11							
MILA	Mila	35.79	235	P		P	**12 42 18.5**	**+0.7**
	baz=36,SNR=6.6							
RKT	Rikitea	36.36	101	*e*S		S	**12 47 57.6**	**-4.2**
RKT	comp=Z,470nm,27.3s							
	comp=Z,3μm,28.2s,baz=269			*e*LR		LR	12 52 02.2	
CTAO	Charters Tower	37.06	264	*e*P		P	**12 42 28.2**	**-0.6**
CTAO				pmax		pmax		
	comp=Z,36nm,0.7s							
CTAO	Charters Tower	37.06	264	*e*P		P	**12 42 28.2**	**-0.6**
	comp=Z,36nm,0.7s							
CMSA	Cobar Meteorol	37.47	245	P		P	**12 42 31.3**	**-0.8**
	baz=38,SNR=52							
TOO	Tool

BBOO **Buckleboo** 45.71 244 P P 12 43 38.7 -0.9
baz=46,SNR=15
JAY **Jayapura** 47.54 286 P P 12 43 53.4 -0.8
comp=Z,148nnm,0.7s
JAY **Jayapura** 47.54 286 P P 12 43 53.6 -0.6
baz=48,SNR=59
AS31 **Alice Springs** 47.99 256 eP P 12 43 56.2 -1.4
AS31 eP cP P 12 45 25.7 +0.3
ASAR **Alice Springs** 47.99 256 P P 12 43 56.0 -1.7
ASAR P cP P 12 45 26.0 +0.5
ASAR S S 12 50 50.4 -3.1
ASAR **Alice Springs** 47.99 256 P P 12 43 56.0 -1.7
comp=Z,24nm,0.8s,baz=100,slow=7.7,SNR=195
ASAR P cP P 12 45 26.0 +0.5
comp=Z,8.0nm,0.7s,baz=100,slow=4.0,SNR=6.0
ASAR S S 12 50 50.4 -3.1
comp=Z,1.2nm,0.8s,baz=91,slow=17,SNR=4.4
ASAR LR LR 13 04 08.6
comp=Z,1µm,18.6s,baz=96,slow=36
WRAB **Tennant Creek** 48.14 261 P P 12 43 57.0 -1.8
comp=Z,109nm,1.5s,SNR=7.8
WRAB **Tennant Creek** 48.14 261 eP P 12 43 56.4 -2.4
WRAB pmax pmax
comp=Z,34nm,0.9s
WRAB **Tennant Creek** 48.14 261 eP P 12 43 56.4 -2.4
comp=Z,34nm,0.9s
WRA **Warramunga Arr** 48.15 261 P P 12 43 56.5 -2.3
WRA P cP P 12 45 26.9 +0.9
WRA **Warramunga Arr** 48.15 261 P P 12 43 56.5 -2.3
comp=Z,8.9nm,0.7s,baz=97,slow=7.9,SNR=107
WRA P cP P 12 45 26.9 +0.9
comp=Z,7.8nm,0.7s,baz=95,slow=3.3,SNR=5.7
WRA LR LR 13 03 23.6
comp=Z,970nm,20.1s,baz=100,slow=35
KDU **Kakadu** 51.56 270 P P 12 44 24.0 -0.8
baz=52,SNR=5.7
FORT **Forrest** 52.54 247 eP P 12 44 30.6 -1.3
comp=Z,89nm,0.7s
FORT **Forrest** 52.54 247 P P 12 44 31.3 -0.6
baz=53,SNR=19
MTN **Manton Dam** 52.77 269 P P 12 44 33.1 -0.7
baz=53,SNR=8.6
KNRA **Kununurra** 54.25 265 P P 12 44 43.2 -1.4
baz=54,SNR=27
DRV **Dumont d'Urvil** 54.43 201 S S 12 52 12.0 -9.0
DRV L L 12 58 00.0
DRV R 13 02 00.0
FAKI **Fak Fak** 55.06 281 P P 12 44 50.8 +0.2
baz=55,SNR=3.4
FITZ **Fitzroy Crossi** 56.58 262 P P 12 45 00.2 -1.2
FITZ **Fitzroy Crossi** 56.58 262 P P 12 45 00.2 -1.2
comp=Z,5.5nm,0.5s,baz=106,slow=6.8,SNR=22
FITZ **Fitzroy Crossi** 56.58 262 P P 12 45 00.5 -0.8
baz=57,SNR=34
BNDI **Bandanaira** 56.62 278 P P 12 44 56.8 -4.9
baz=57,SNR=6.4
SWI **Sorong** 56.79 283 P P 12 45 03.0 +0.1
baz=57,SNR=12
SBA **Scott Base** 57.97 185 eP P 12 45 12.0 +1.8
SBA pmax pmax
comp=Z,31nm,0.9s
SBA **Scott Base** 57.97 185 eP P 12 45 12.0 +1.8
comp=Z,31nm,0.9s
VNDA **Vanda** 58.09 186 eP P 12 45 13.7 +2.6
comp=Z,15nm,1.0s
VNDA **Vanda** 58.09 186 P P 12 45 13.8 +2.6
comp=Z,9.6nm,0.8s,baz=5.8,slow=6.9,SNR=52
VNDA LR LR 13 06 29.2
comp=Z,335nm,18.7s,baz=8.3,slow=32
SOEI **Soe** 60.11 270 P P 12 45 27.0 +0.7
baz=60,SNR=19
KLBR **Kellerberrin** 61.25 245 P P 12 45 34.1 +0.4
baz=61,SNR=11
MEEK **Meekatharra** 61.27 250 P P 12 45 33.0 -0.9
baz=62,SNR=13
MBWA **Marble Bar** 61.33 257 eP P 12 45 33.1 -1.3
comp=Z,19nm,0.6s
RKGY **Rocky Gully** 61.52 241 P P 12 45 37.0 +1.6
baz=62,SNR=5.4
BLDU **Ballidu** 62.27 246 P P 12 45 40.2 -0.3
baz=62,SNR=22
MORW **Morawa** 63.09 247 P P 12 45 45.8 -0.3
baz=63,SNR=18
DAV **Davao City (W)** 65.30 288 LR LR 13 13 53.6
comp=Z,514nm,18.6s,baz=60,slow=36
CTBH **Cotabato--PC H** 66.55 288 ⇑iP P 12 46 08.4 -0.3
TSM **Tawau** 71.10 282 P P 12 46 49.5 +12
SDKM **Sandakan** 72.25 283 P P 12 46 44.6 +0.5
MAJO **Matsushiro** 72.54 321 eP P 12 46 45.1 -0.2
MAJO pmax pmax
comp=Z,90nm,0.9s
MAJO **Matsushiro** 72.54 321 eP P 12 46 45.1 -0.2
comp=Z,90nm,0.9s
MAT **Matsushiro** 72.54 321 P P 12 46 44.9 -0.4
MAT S S 12 55 57.0 -10
KKM **Kota Kinabalu** 73.30 283 P P 12 46 50.5 +0.1
ERM **Erimo** 73.81 328⇑eP P 12 46 53.1 +0.5
ERM pmax pmax
comp=Z,29nm,1.2s
FX1 **Attu Island--F** 74.07 352 eP P 12 46 53.3 -0.6
YUK **Yuzh-Kuril'sk** 74.08 331 diP P 12 46 52.7 -1.4
YUK i 12 47 08.9
YUK i 12 49 35.0
YUK iPPP PPP 12 51 22.3
YUK iS SKiKP 12 56 17.2 -2.4
YUK i 12 56 54.2
YUK iSS SS 13 01 06.7 -3.7
YUK pmax pmax
comp=Z,243nm,1.7s
YUK MLR MLR
comp=Z,310nm,16.0s
YUK MLR MLR
comp=E,187nm,16.0s
YUK MLR MLR
comp=N,47nm,16.0s
UNV **Unalaska Valle** 74.50 5 eP P 12 46 55.1 -1.3
comp=N,50nm,1.0s
JNU **Nakatsue** 74.92 315 eP P 12 46 59.2 -0.2
comp=N,73nm,1.4s
JNU **Nakatsue** 74.92 315 P P 12 46 59.2 -0.2
comp=N,46nm,0.9s,baz=90,slow=3.5,SNR=34
BTM **Bintulu** 75.08 279 P P 12 47 01.6 +1.0
SCI **San Clemente I** 75.25 46 ⇑P P 12 47 02.1 +0.9
baz=76
SBUM **Sibu** 75.60 278 P P 12 47 03.8 +0.2
SBUM **Sibu** 75.60 278 P P 12 47 03.8 +0.2
comp=N,15nm,1.3s
CIS **Catalina Islan** 75.61 46 ⇑P P 12 47 03.9 +0.7
baz=76
ASAJ **Asahikawa** 75.66 329 P P 12 47 04.3 +1.0
ASAJ **Asahikawa** 75.66 329 P P 12 47 04.3 +1.0
comp=N,21nm,0.8s,baz=205,slow=7.0,SNR=36
SMMC **Simmler** 75.72 43 ⇑P P 12 47 04.7 +0.8
baz=76
DECC **Green Verdugo** 76.16 45 ⇓P P 12 47 05.7 -0.7
baz=76,SNR=6.7
MWC **Mount Wilson** 76.33 45 eP P 12 47 07.5 0.0
MWC pmax pmax
comp=Z,19nm,1.1s
MWC **Mount Wilson** 76.33 45 eP P 12 47 07.5 0.0
comp=Z,19nm,1.1s
ARVC **Arvin** 76.36 44 ⇑P P 12 47 07.8 +0.3
baz=77
MURC **Murrieta** 76.53 46 ⇑P P 12 47 08.9 +0.3
baz=77
TWG **Pinlang** 76.54 301 eP P 12 47 06.8 -1.9
comp=Z,110nm,0.6s
BFSC **Mount Baldy Ra** 76.60 45 ⇓P P 12 47 09.0 0.0
baz=77
SDPT **Sand Point** 76.61 8 eP P 12 47 07.6 -0.8
comp=Z,25nm,0.8s
VES **Vestal, Richgr** 76.64 43 ⇓P P 12 47 08.8 -0.3
baz=77
YULB **Yu-li** 76.64 301 eP P 12 47 08.3 -1.0
comp=Z,23nm,0.8s
LEM **Lembang** 76.64 268 P P 12 47 05.0 -4.7
baz=77,SNR=3.7
MONP **Monument Peak** 76.64 47 ⇑P P 12 47 09.2 -0.2
baz=77,SNR=8.1
DVTC **Desert V Tower** 76.73 47 ⇓P P 12 47 09.3 -0.4
baz=77,SNR=5.1
EDW2 **Edwards Air Fo** 76.76 45 ⇑P P 12 47 10.1 +0.2
baz=77,SNR=16
NACB **Ninganchiao** 76.79 302 eP P 12 47 09.7 -0.4
comp=Z,115nm,1.2s
ISA **Isabella** 76.92 44 eP P 12 47 11.2 +0.5
ISA pmax pmax
comp=Z,30nm,1.3s
ISA **Isabella** 76.92 44 eP P 12 47 11.2 +0.5
comp=Z,30nm,1.3s
ISA **Isabella** 76.92 44 ⇓P P 12 47 11.2 +0.5
baz=77,SNR=9.6
KSM **Kuching** 77.02 277 eP P 12 47 11.8 +0.1
comp=Z,21nm,0.7s
KSM **Kuching** 77.02 277 P P 12 47 11.6 -0.1
KSM **Kuching** 77.02 277 P P 12 47 11.2 -0.5
comp=Z,47nm,0.9s
KSM **Kuching** 77.02 277 P P 12 47 12.4 +0.7
baz=77,SNR=12
PFO **Pinyon Flat Ob** 77.04 46 eP P 12 47 12.0 +0.4
comp=Z,12nm,1.2s
PFO **Pinyon Flat Ob** 77.04 46 ⇑P P 12 47 11.8 +0.3
baz=77
KHMM **Horse Mountain** 77.08 37 eP P 12 47 12.3 +0.7
comp=Z,15nm,1.0s
PET **Petropavlovsk** 77.09 344 eP P 12 47 10.9 -0.2
PET eS S 12 56 50.4 -6.9
PET e*SS ScS 12 57 35.0 +10
PET eSS SS 13 01 51.3 -4.5
PET pmax pmax
comp=Z,10.0nm,0.7s
SWSC **Sam W. Stewart** 77.10 47 ⇑P P 12 47 11.8 +0.1
baz=77
BBRC **Big Bear Solar** 77.11 46 ⇓P P 12 47 12.3 +0.3
baz=77
SSLB **Suanglung** 77.11 302 eP P 12 47 10.7 -1.3
comp=Z,29nm,0.9s
TPUB **Ta-pu** 77.13 301 eP P 12 47 11.0 -1.1
comp=Z,87nm,0.8s
CMB **Columbia Colle** 77.19 41 eP P 12 47 12.4 +0.3
CMB pmax pmax
comp=Z,14nm,1.1s
CMB **Columbia Colle** 77.19 41 eP P 12 47 12.4 +0.3
comp=Z,14nm,1.1s
YHNB **Yeong** 77.21 303 eP P 12 47 12.3 -0.3
comp=Z,41nm,1.0s
TATO **Taipei** 77.27 303 eP P 12 47 10.2 -2.7
comp=Z,176nm,1.4s
LRMC **Laurel Mountai** 77.32 44 ⇑P P 12 47 13.6 +0.5
baz=78
PEA0B **Petropavlovsk-** 77.42 343 eP P 12 47 12.9 -0.1
PETK **Petropavlovsk-** 77.42 343 P P 12 47 12.8 -0.2
PETK pmax pmax
comp=Z,31nm,0.8s
PETK **Petropavlovsk-** 77.42 343 P P 12 47 12.8 -0.2
PETK **Petropavlovsk-** 77.42 343 P P 12 47 12.8 -0.2
comp=Z,31nm,0.8s,baz=144,slow=8.6,SNR=61
PETK LR LR 13 15 11.0
comp=Z,386nm,20.8s,baz=152,slow=31
WDC **Whiskeytown Da** 77.55 38 eP P 12 47 14.6 +0.5
WDC pmax pmax
comp=Z,25nm,1.4s
WDC **Whiskeytown Da** 77.55 38 eP P 12 47 14.6 +0.5
comp=Z,25nm,1.4s
BELC **Belle Mtn. Jos** 77.57 46 ⇓P P 12 47 14.6 0.0
baz=78,SNR=11
CWC **Cottonwood Cre** 77.65 43 ⇑P P 12 47 14.9 0.0
baz=78,SNR=9.2
YSS **Yuzh-Sakhalins** 77.72 331 ⇑iP P 12 47 16.2 +1.4
YSS e 12 47 25.9
YSS eS S 12 57 00.0 -4.4
YSS ePS PnS 12 57 54.0 +5.8
YSS pmax pmax
comp=Z,80nm,0.9s
YSS MLR MLR
comp=N,400nm,18.0s
YSS MLR MLR
comp=E,300nm,18.0s
YSS MLR MLR
comp=Z,500nm,18.0s
BC3 **Big Chuckawall** 77.75 47 ⇑P P 12 47 15.9 +0.4
baz=78,SNR=9.3
GSC **Goldstone** 77.80 45 eP P 12 47 16.0 +0.3
GSC pmax pmax
comp=Z,13nm,1.0s
GSC **Goldstone** 77.80 45 eP P 12 47 16.0 +0.3
comp=Z,13nm,1.0s
GSC **Goldstone** 77.80 45 ⇓P P 12 47 15.7 0.0
baz=78,SNR=12
MPMC **Manual Prospec** 77.80 44 ⇑P P 12 47 16.0 +0.2
baz=78,SNR=21
CHGN **Chignik** 77.82 9 eP P 12 47 14.2 -0.9
GLA **Glamis** 77.83 48 eP P 12 47 16.7 +0.8
GLA pmax pmax
comp=Z,25nm,1.2s
GLA **Glamis** 77.83 48 eP P 12 47 16.7 +0.8
comp=Z,25nm,1.2s
GLA **Glamis** 77.83 48 ⇓P P 12 47 16.5 +0.6
baz=78
HEC **Hector,Ludlow** 77.83 45 ⇓P P 12 47 15.8 -0.1
baz=78,SNR=17
MLAC **Mammoth Lakes** 77.89 42 ⇑P P 12 47 16.9 +0.6
baz=78
TIN **Tinemaha** 77.92 43 ⇓P P 12 47 16.8 +0.4
baz=78
YBH **Yreka Blue Hor** 78.22 37 eP P 12 47 18.7 +0.8
comp=Z,9.4nm,1.0s
YBH **Yreka Blue Hor** 78.22 37 LR LR 13 17 40.0
comp=Z,654nm,18.1s,baz=228,slow=32
IRM **Iron Mountain** 78.24 47 ⇓P P 12 47 18.4 +0.3
baz=78,SNR=12
GMRC **Granite Mounta** 78.25 46 ⇑P P 12 47 18.4 +0.1
baz=78,SNR=8.5
BEKR **Beckworth** 78.36 39 eP P 12 47 19.0 +0.2
comp=Z,8.2nm,1.2s
113A **Mohawk Valley,** 78.41 48 ⇓P P 12 47 19.4 +0.4
baz=79,SNR=8.7
Y12C **Blythe** 78.44 47 ⇓P P 12 47 19.7 +0.6
baz=79
GRAC **Grapevine Rang** 78.44 43 ⇓P P 12 47 19.7 +0.5
baz=79,SNR=18
FURC **Furnace Creek,** 78.45 44 ⇓P P 12 47 19.6 +0.5
baz=79
TUQ **Turquoise Moun** 78.46 45 ⇓P P 12 47 20.0 +0.6
baz=79,SNR=6.0
SHOC **Shoshone** 78.49 45 ⇓P P 12 47 19.7 +0.3
baz=79
214A **Organ Pipe Nat** 78.64 50 ⇑P P 12 47 20.8 +0.4
baz=79,SNR=9.4
HUMO **Hull Mountain** 78.67 36 eP P 12 47 21.0 +0.8
comp=Z,18nm,1.3s
NVAR **Mina Array Bea** 78.72 42 P P 12 47 21.3 +0.4
NVAR **Mina Array Bea** 78.72 42 P P 12 47 21.3 +0.4
comp=Z,25nm,1.0s,baz=225,slow=8.5,SNR=79
NVAR LR LR 13 18 08.4
comp=Z,959nm,18.1s,baz=128,slow=33
LDFC **Landfair** 78.79 46 eP P 12 47 22.4 +1.2
comp=Z,30nm,0.9s
NV11 **Mina Array Sit** 78.81 42 eP P 12 47 21.6 +0.3
PDMCI **Parker Dam,Lak** 79.01 47 ⇓P P 12 47 23.0 +0.7
baz=79
Z14A **Wintersburg** 79.31 48 ⇓P P 12 47 24.6 +0.6
baz=80
KSRS **Korea Array** 79.45 317 P P 12 47 25.8 +1.2
comp=Z,25nm,1.0s,baz=136,slow=6.0,SNR=64
KSRS LR LR 13 16 51.4
comp=Z,390nm,21.7s,baz=126,slow=31
KSAR **Wonju Array Be** 79.47 317 P P 12 47 25.8 +1.1
OHAK **Old Harbor** 79.55 11 eP P 12 47 24.4 -0.2
comp=Z,46nm,1.1s
Y14A **Wickenburg** 79.59 48 ⇑P P 12 47 25.8 +0.3
baz=80,SNR=16
W13A **Hualapai Mount** 79.63 46 ⇑P P 12 47 26.8 +0.9
baz=80,SNR=8.9
MOD **Modoc** 79.69 38 eP P 12 47 26.1 0.0
comp=Z,11nm,1.0s
KDAK **Kodiak Island** 80.20 12 P P 12 47 28.1 -0.1
comp=Z,9.0nm,1.3s
KDAK **Kodiak Island** 80.20 12 P P 12 47 28.1 -0.1
comp=Z,12nm,0.8s,baz=13,slow=0.8,SNR=10
TUC **Tucson** 80.28 50 eP P 12 47 30.2 +0.8
TUC pmax pmax
comp=Z,19nm,1.3s
TUC **Tucson** 80.28 50 eP P 12 47 30.2 +0.8
comp=Z,19nm,1.3s
INCN **Inchon** 80.30 316 eP P 12 47 29.6 +0.4
comp=Z,119nm,1.2s
VLA **Vladivostok** 80.55 323 ⇓iP P 12 47 30.8 +0.4
VLA pmax pmax
comp=Z,87nm,2.5s
BMN **Battle Mountai** 80.60 40 eP P 12 47 31.6 +0.6
BMN pmax pmax
comp=Z,20nm,1.2s
BMN **Battle Mountai** 80.60 40 eP P 12 47 31.6 +0.6
comp=Z,20nm,1.2s
319A **Douglas** 80.89 52 ⇑P P 12 47 33.2 +0.6
baz=81
X16A **Lo Mia Camp, P** 80.94 48 ⇓P P 12 47 33.7 +0.7
baz=81,SNR=16
WVOR **Wild Horse Val** 80.99 38 eP P 12 47 33.2 +0.2
WVOR pmax pmax
comp=Z,18nm,1.0s
WVOR **Wild Horse Val** 80.99 38 eP P 12 47 33.1 +0.2
comp=Z,18nm,1.0s
USRK **Ussuriysk Arra** 81.18 324 P P 12 47 34.3 +0.6
comp=Z,11nm,0.9s,baz=126,slow=3.3,SNR=26
USRK LR LR 13 18 12.2
comp=Z,713nm,21.0s,baz=121,slow=32
CCUT **Cedar City** 81.36 45 eP P 12 47 36.3 +1.2
comp=Z,15nm,1.1s
320A **Kipp Ranch, An** 81.42 52 ⇑P P 12 47 36.2 +0.6
baz=82,SNR=5.4
ARUT **Antelope Range** 81.44 44 eP P 12 47 36.5 +1.0
ARUT pmax pmax
comp=Z,22nm,1.2s
ARUT **Antelope Range** 81.44 44 eP P 12 47 36.5 +1.0
comp=Z,22nm,1.2s
U15A **North Rim** 81.45 46 ⇑P P 12 47 37.1 +1.4
baz=82,SNR=24
TDL **Tradedollar La** 81.56 33 P P 12 47 36.8 +0.9
WUAZ **Wupatki** 81.58 47 eP P 12 47 37.5 +1.2
comp=Z,16nm,1.2s
WUAZ **Wupatki** 81.58 47 ⇓P P 12 47 37.1 +0.8
baz=82,SNR=10
220A **Playas Peak, P** 81.71 52 ⇑P P 12 47 38.1 +1.0
baz=82
120A **U Bar Ranch, L** 81.96 51 ⇑P P 12 47 39.0 +0.6
baz=82
ELK **Elko** 82.00 41 eP P 12 47 38.5 0.0
comp=Z,16nm,1.5s
ELK **Elko** 82.00 41 LR LR 13 20 30.3
comp=Z,1µm,18.2s,baz=230,slow=33
X18A **Snowflake** 82.04 49 ⇓P P 12 47 39.5 +0.7
baz=82
WPW **White Pass** 82.13 34 P P 12 47 38.9 0.0
Z20A **Nine Sixteen R** 82.28 50 ⇑P P 12 47 41.2 +1.1
baz=82,SNR=9.9
221A **Mesquite Ranch** 82.31 52 ⇓P P 12 47 41.0 +0.8
baz=82
HABR **Khabarovsk** 82.42 329 ⇓eP P 12 47 38.3 -1.9
HABR ePPP PPP 12 52 38.1
HABR S S 12 57 43.5 -10
HABR e 12 57 58.5
HABR eSSS SSS 13 06 33.7
HABR pmax pmax
comp=E,30nm,1.5s
HABR pmax pmax
comp=N,20nm,1.2s
HABR pmax pmax
HABR comp=Z,142nm,1.5s MLR MLR
comp=Z,555nm,18.0s
PGC **Sidney** 82.49 31 eP P 12 47 40.8 +0.3
comp=Z,0.7nm,0.8s
W18A **Petrified Fore** 82.50 48 ⇓P P 12 47 42.0 +0.8
baz=83
121A **Cookes Peak, D** 82.57 51 ⇑P P 12 47 42.3 +0.7
baz=83
MAW **Mawson** 82.60 199 P P 12 47 42.5 +1.6
MAW **Mawson** 82.60 199 P P 12 47 42.5 +1.6
comp=Z,15nm,0.7s,baz=135,slow=6.5,SNR=42
MAW LR LR 13 22 21.5
comp=Z,592nm,18.9s,baz=114,slow=34
MAW **Mawson** 82.60 199 P P 12 47 42.9 +1.9
baz=83,SNR=25
MVU **Marysvale** 82.64 44 eP P 12 47 43.0 +1.1
comp=Z,19nm,1.0s
MSU **Marysvale** 82.67 44 eP P 12 47 43.4 +1.3
MSU pmax pmax
comp=Z,22nm,1.1s
MSU **Marysvale** 82.67 44 eP P 12 47 43.4 +1.3
comp=Z,22nm,1.1s
RSO **Redoubt South** 82.69 10 eP P 12 47 40.9 -0.7
comp=Z,45nm,0.8s
MDJ **Mudanjiang** 82.78 323 P P 12 47 43.4 +1.3
MDJ pP pP 12 47 53.6 +0.4
MDJ S S 12 58 00.7 +3.0
MDJ pmax pmax
comp=Z,36nm,1.2s
MDJ pmax pmax
comp=Z,240nm,5.2s
MDJ LR LR
comp=N,310nm,30.5s
MDJ LR LR
comp=E,190nm,32.8s
MDJ LR LR
comp=Z,370nm,28.1s
MDJ **Mudanjiang** 82.78 323 eP P 12 47 43.4 +1.3
comp=Z,70nm,1.1s
NJ2 **Nanjing** 82.80 308 eP P 12 47 43.3 +0.8
NJ2 pmax pmax
comp=Z,60nm,1.0s
Y20A **Horse Springs,** 82.83 50 ⇓P P 12 47 44.3 +1.3
baz=83,SNR=12
222A **Williams Famil** 82.86 52 ⇓P P 12 47 43.4 +0.4
baz=83
BBB **Bella Bella** 82.89 27 P P 12 47 42.5 0.0
BBB **Bella Bella** 82.89 27 P P 12 47 42.5 0.0
comp=Z,18nm,1.1s,baz=291,slow=5.6,SNR=4.1
HAWA **Hanford** 82.99 35 eP P 12 47 43.4 +0.2
comp=Z,16nm,0.9s
Z21A **St. Cloud Mine** 83.04 51 ⇓P P 12 47 45.2 +1.2
baz=83
X20A **Quemado** 83.07 49 ⇓P P 12 47 45.3 +1.1
baz=83,SNR=11
MYKOM **Kota Tinggi** 83.15 274 P P 12 47 45.4 +0.6
DUG **Dugway** 83.20 43 eP P 12 47 44.9 +0.3
DUG pmax pmax
comp=Z,15nm,1.2s
DUG **Dugway** 83.20 43 eP P 12 47 44.9 +0.3
comp=Z,16nm,1.2s
DUG **Dugway** 83.20 43 ⇓P P 12 47 45.0 +0.4
baz=83
MFID **Camas Ranch** 83.22 39 eP P 12 47 44.7 +0.1
comp=Z,16nm,1.1s
MFID **Camas Ranch** 83.22 39 ⇓P P 12 47 44.7 +0.1
baz=84
122A **Conniff Cattle** 83.23 51 ⇑P P 12 47 45.6 +0.6
baz=83
BMO **Blue Mountains** 83.25 37 eP P 12 47 44.4 -0.3
comp=Z,9.7nm,0.9s
W20A **Ramah** 83.37 49 ⇓P P 12 47 46.7 +1.0
baz=84,SNR=18
Y21A **Point of Rocks** 83.39 50 ⇓P P 12 47 47.0 +1.1
baz=84
Z22A **Elephant Butte** 83.53 51 ⇑P P 12 47 47.1 +0.6
baz=84
X21A **Alamocita Cree** 83.53 50 ⇓P P 12 47 47.8 +1.2
baz=84,SNR=7.2
Q16A **Castle Valley** 83.55 44 ⇑P P 12 47 47.8 +1.3
baz=84
WTV **Waterville** 83.61 33 P P 12 47 46.8 +0.3
KGM **Kluang** 83.72 275 P P 12 47 50.2 +2.4
TMUT **Trail Mountain** 83.73 44 eP P 12 47 48.8 +1.2
comp=Z,55nm,1.2s
V20A **Brimhall** 83.74 48 ⇑P P 12 47 48.1 +0.5
baz=84
123A **Bell Site, Whi** 83.74 52 ⇑P P 12 47 48.2 +0.6
baz=84
324A **Moseley Ranch,** 83.74 53 ⇑P P 12 47 48.0 +0.4
baz=84
425A **Indio Mountain** 83.80 54 ⇓P P 12 47 48.6 +0.6
baz=84,SNR=7.4
RC01 **Rabbit Creek A** 83.82 12 eP P 12 47 46.7 -0.4
comp=Z,71nm,1.1s
MPU **Maple Canyon** 83.85 43 eP P 12 47 48.8 +0.7
comp=Z,15nm,1.0s
I12A **Atlanta** 83.85 39 ⇑P P 12 47 48.6 +0.6
baz=84
Y22A **Socorro** 83.86 50 ⇑P P 12 47 49.0 +0.7
baz=84,SNR=8.5
626A **Big Bend Ranch** 83.88 55 ⇑P P 12 47 48.4 +0.1
baz=84
MNTX **Cornudas Mount** 83.94 53 eP P 12 47 48.7 +0.3
comp=Z,6.4nm,1.0s
Y22D **IRIS PASSCAL I** 83.96 50 ⇑P P 12 47 50.0 +1.2
baz=84
W21A **San Fidel** 83.97 49 ⇓P P 12 47 49.7 +0.9
baz=84
LAZ **Ladron** 83.97 50 eP P 12 47 49.7 +0.9

comp=Z,10nm,1.4s
LENM Lemitar 83.97 50 *e*P **P 12 47 50.0 +1.2**
comp=Z,17nm,1.3s
U20A Newcomb 83.99 48 ⇓P **P 12 47 49.7 +0.8**
baz=84
224A Cornudas Mount 84.02 53 ⇓P **P 12 47 49.7 +0.6**
baz=84,SNR=11
OD2 Odessa Site #2 84.06 34 P **P 12 47 48.9 +0.1**
Z23A Rita Site, Whi 84.06 51 ⇓P **P 12 47 50.1 +0.9**
baz=84
SRU San Rafael 84.08 44 *e*P **P 12 47 49.7 +0.5**
SRU pmax pmax
comp=Z,25nm,0.9s
SRU San Rafael 84.08 44 *e*P **P 12 47 49.7 +0.5**
comp=Z,24nm,0.9s
325A Bean Ranch, Si 84.09 53 ⇓P **P 12 47 49.6 +0.1**
baz=84,SNR=9.8
HVU Hansel Valley 84.11 41 *e*P **P 12 47 49.6 +0.3**
HVU pmax pmax
comp=Z,16nm,0.9s
HVU Hansel Valley 84.11 41 *e*P **P 12 47 49.6 +0.3**
comp=Z,16nm,0.9s
X22A Bernardo 84.11 50 ⇑P **P 12 47 50.7 +1.2**
baz=84
TXAR Lajitas Array 84.14 56 P **P 12 47 49.6 0.0**
TXAR Lajitas Array 84.14 56 P **P 12 47 49.6 0.0**
comp=Z,21nm,0.8s,baz=219,slow=7.7,SNR=13
TXAR LR LR 13 19 47.4
comp=Z,488nm,18.0s,baz=220,slow=32
526A Mary Lane Ranc 84.15 55 ⇓P **P 12 47 50.2 +0.4**
baz=84
CTU Camp Tracy 84.15 43 *e*P **P 12 47 50.0 +0.5**
comp=Z,23nm,1.0s
BNM Barren Site 84.21 50 *e*P **P 12 47 50.8 +0.7**
comp=Z,11nm,1.1s
QIZ Qiongzhong 84.24 293 P **P 12 47 51.9 +1.7**
QIZ S **S 12 58 14.4 +0.9**
QIZ pmax pmax
comp=Z,32nm,2.8s
QIZ LR LR
comp=Z,510nm,22.9s
JLU Jordanelle 84.29 43 *e*P **P 12 47 51.0 +0.7**
comp=Z,10nm,1.0s
LPM Los Pinos Moun 84.29 50 *e*P **P 12 47 51.1 +0.7**
comp=Z,26nm,1.4s
DAU Daniels Canyon 84.31 43 *e*P **P 12 47 50.6 +0.1**
DAU pmax pmax
comp=Z,33nm,1.5s
DAU Daniels Canyon 84.31 43 *e*P **P 12 47 50.6 +0.1**
comp=Z,33nm,1.5s
V21A Milan 84.32 49 ⇑P **P 12 47 51.4 +0.8**
baz=84
124A Stringfield Ra 84.36 52 ⇑P **P 12 47 51.3 +0.4**
baz=85,SNR=15
DL2 Dalian 84.37 315 ⇑P **P 12 47 51.3 +0.9**
DL2 S **S 12 58 15.8 +1.8**
DL2 pmax pmax
comp=Z,91nm,1.2s
DL2 pmax pmax
comp=Z,190nm,4.6s
DL2 LR LR
comp=N,220nm,12.9s
DL2 LR LR
comp=E,170nm,13.2s
DL2 LR LR
comp=Z,180nm,15.7s
PMR Palmer 84.40 12 *e*P **P 12 47 49.7 -0.3**
PMR pmax pmax
comp=Z,80nm,1.4s
PMR Palmer 84.40 12 *e*P **P 12 47 49.7 -0.3**
comp=Z,80nm,1.4s
627A Terlingua Ranc 84.41 56 ⇓P **P 12 47 51.4 +0.3**
baz=85,SNR=11
MVCO Mesa Verde 84.44 47 *e*P **P 12 47 51.3 +0.1**
comp=Z,16nm,1.3s
MVCO Mesa Verde 84.44 47 ⇓P **P 12 47 51.4 +0.2**
baz=85
H12A Diamond D Ranc 84.46 38 ⇑P **P 12 47 51.0 0.0**
baz=85
426A McDonald Obser 84.48 54 ⇓P **P 12 47 51.7 +0.2**
baz=85,SNR=9.7
WRAK Wrangell Islan 84.48 22 *e*P **P 12 47 51.4 +0.8**
comp=Z,16nm,1.2s
W22A Albuquerque 84.50 49 ⇑P **P 12 47 53.0 +1.6**
baz=85
Y23A Lovelace Mesa, 84.52 51 ⇓P **P 12 47 52.3 +0.7**
baz=85
G12A Big Creek, Yel 84.53 37 ⇑P **P 12 47 51.4 0.0**
baz=85,SNR=45
225A Deer Hill, Car 84.55 53 ⇑P **P 12 47 52.3 +0.5**
baz=85,SNR=10
527A Woodward Ranch 84.55 55 ⇓P **P 12 47 52.3 +0.6**
baz=85
KLR Kul'dur 84.56 328 *e*P P 12 47 45.2 -5.9
U21A Nageezi 84.62 48 ⇓P **P 12 47 52.9 +0.8**
baz=85,SNR=42
DIV Divide 84.66 13 *e*P **P 12 47 51.4 -0.1**
comp=Z,34nm,1.1s
CN2 Changchun 84.68 321 *e*P **P 12 47 52.4 +0.5**
CN2 *ep*P **pP 12 48 02.9 -0.1**
CN2 *es*P **sP 12 48 07.0 0.0**
CN2 PP **PP 12 51 10.5 +2.1**
CN2 *e*S **S 12 58 16.6 -0.3**
CN2 SS **SS 13 03 52.1 +2.6**
CN2 pmax pmax
comp=Z,30nm,1.3s
CN2 pmax pmax
comp=Z,400nm,3.0s
CN2 LR LR
comp=N,400nm,25.0s
CN2 LR LR
comp=E,300nm,25.0s
CN2 LR LR
comp=Z,200nm,30.0s
SNY Shenyang 84.70 318 ⇑P **P 12 47 52.8 +0.8**
SNY pmax pmax
comp=Z,380nm,3.5s
SNY LR LR
comp=N,240nm,18.0s
SNY LR LR
comp=E,300nm,16.8s
SNY LR LR
comp=Z,470nm,17.1s
ANMO Albuquerque 84.73 50 *e*P **P 12 47 53.1 +0.5**
comp=Z,23nm,1.2s
Z24A Sheeppen Canyo 84.73 52 ⇓P **P 12 47 53.3 +0.6**
baz=85,SNR=10
X23A Hourglass Bar 84.74 50 ⇑P **P 12 47 53.5 +0.8**
baz=85
SML Sawmill 84.75 12 *e*P **P 12 47 52.1 +0.2**
SML pmax pmax
comp=Z,13nm,1.3s
SML Sawmill 84.75 12 *e*P **P 12 47 52.1 +0.2**
comp=Z,13nm,1.3s
HWUT Hardware Ranch 84.77 42 *e*P **P 12 47 52.4 -0.2**
comp=Z,12nm,0.8s
PV04 Paradox Valley 84.77 46 *e*P **P 12 47 53.5 +0.7**
BMRM Bremner River 84.78 14 *e*P **P 12 47 52.1 0.0**
comp=Z,99nm,1.2s
628A Black Gap, Mar 84.81 56 ⇑P **P 12 47 53.4 +0.4**
baz=85
326A Caldwell Ranch 84.81 54 ⇑P **P 12 47 52.8 -0.2**
baz=85
S20A Disappointment 84.85 46 ⇓P **P 12 47 53.7 +0.5**
baz=85
PV01 Paradox Valley 84.86 46 *e*P **P 12 47 53.6 +0.3**
comp=Z,1μm,1.0s
V22A San Miguel Ran 84.89 49 ⇑P **P 12 47 53.9 +0.4**
baz=85,SNR=5.1
I14A Mackay 84.92 39 ⇑P **P 12 47 53.6 +0.2**
baz=85,SNR=12
125A Gardner Draw, 84.94 52 ⇑P **P 12 47 53.8 +0.2**
baz=85
PNL Peninsula 84.95 17 *e*P **P 12 47 53.1 +0.2**
comp=Z,40nm,0.9s
Y24A Capitan 84.97 51 ⇑P **P 12 47 54.5 +0.6**
baz=85,SNR=31
T21A Navajo Lake 84.99 48 ⇓P **P 12 47 54.9 +1.0**
baz=85
R20A Redvale 85.02 46 ⇑P **P 12 47 54.7 +0.7**
baz=85
226B Tecolote Peak, 85.03 53 ⇓P **P 12 47 54.3 +0.2**
baz=85,SNR=16
427A Hayter Ranch, 85.04 55 ⇓P **P 12 47 54.7 +0.5**
baz=85,SNR=17
W23A Werner Place, 85.05 50 ⇑P **P 12 47 54.7 +0.4**
baz=85

KTGM Kuala Trenggan 85.08 278 P **P 12 47 56.5 +1.9**
S21A Coal Bank Pass 85.15 47 ⇓P **P 12 47 55.3 +0.5**
baz=85,SNR=16
U22A Llaves 85.15 48 ⇓P **P 12 47 55.5 +0.7**
baz=85
E12A Beaver Dam Sad 85.16 36 ⇑P **P 12 47 54.2 -0.3**
baz=85,SNR=11
Z25A Roswell 85.19 52 ⇓P **P 12 47 55.4 +0.6**
baz=85,SNR=9.0
528A Cox Ranch, San 85.19 55 ⇑P **P 12 47 55.2 +0.2**
baz=85
M17A Scullys Gap (B 85.26 42 ⇑P **P 12 47 54.7 -0.5**
baz=86,SNR=20
X24A Lazy VL Ranch, 85.28 50 ⇓P **P 12 47 55.7 +0.3**
baz=86
V23A Ortiz Mt. (NFS 85.31 49 ⇑P **P 12 47 56.2 +0.7**
baz=86,SNR=12
P19A Cripple Cowboy 85.37 45 ⇓P **P 12 47 56.0 +0.2**
baz=86
126A Clayton Basin, 85.40 53 ⇑P **P 12 47 56.4 +0.4**
baz=86
T22A Edith 85.44 48 ⇓P **P 12 47 56.8 +0.5**
baz=86
NEW Newport 85.44 34 *e*P **P 12 47 55.4 -0.3**
comp=Z,5.8nm,0.9s
NEW Newport 85.44 34 ⇓P **P 12 47 55.3 -0.4**
baz=86,SNR=8.1
Q20A Ridgley Place, 85.47 46 ⇑P **P 12 47 56.2 0.0**
baz=86,SNR=7.6
WHN Wuhan 85.48 305 ⇓P **P 12 47 57.9 +1.7**
WHN pP **pP 12 48 07.2 -0.1**
Y25A Mesa, Roswell 85.51 51 ⇓P **P 12 47 56.8 +0.3**
baz=86,SNR=22
428A Kincaid Ranch, 85.53 55 ⇑P **P 12 47 57.2 +0.6**
baz=86
U23A El Rito 85.59 49 ⇓P **P 12 47 57.5 +0.5**
baz=86,SNR=9.4
W24A Lazy 6 Ranch, 85.61 50 ⇓P **P 12 47 57.1 0.0**
baz=86,SNR=14
529A Stev Forest Ra 85.62 56 ⇑P **P 12 47 56.9 -0.1**
baz=86,SNR=9.1
O19A Miners Draw (B 85.62 44 ⇑P **P 12 47 57.2 +0.3**
baz=86
C11A Tepee Creek (N 85.64 35 ⇓P **P 12 47 57.1 +0.3**
baz=86
227A Bennet, Jal 85.66 54 ⇑P **P 12 47 57.1 -0.1**
baz=86
R21A Cimarron 85.67 46 ⇓P **P 12 47 57.6 +0.2**
baz=86,SNR=10
P20A De Beque 85.69 45 ⇓P **P 12 47 57.7 +0.4**
baz=86
Z26A Caprock 85.73 52 ⇓P **P 12 47 57.5 -0.1**
baz=86,SNR=19
328A Wristen Ranch, 85.73 54 ⇓P **P 12 47 57.5 -0.1**
baz=86
FRIM Kepong 85.74 275 P **P 12 47 59.7 +1.7**
MCMT McKenzie Canyo 85.79 39 *e*P **P 12 47 58.1 +0.4**
comp=Z,8.2nm,1.1s
X25A Clemmons Ranch 85.82 51 ⇓P **P 12 47 58.2 +0.2**
baz=86,SNR=10
S22A 4UR Ranch, Cre 85.85 47 ⇓P **P 12 47 59.1 +0.7**
baz=86
RRI2 Red Ridge 85.88 41 *e*P **P 12 47 59.0 +0.7**
comp=Z,22nm,1.2s
Q21A Lamborn Mesa, 85.89 46 ⇓P **P 12 47 58.7 +0.3**
baz=86
L18A Fontenelle, Gr 85.90 42 ⇑P **P 12 47 58.6 +0.3**
baz=86
TRF Thorofare Moun 85.91 10 *e*P **P 12 47 56.6 -1.2**
comp=Z,88nm,0.8s
127A Arkansas Junct 85.91 53 ⇑P **P 12 47 58.5 0.0**
baz=86
SKAG Skagway 85.94 19 *e*P **P 12 47 58.7 +0.9**
comp=Z,90nm,1.4s
V24A Rampart Ranch, 85.95 50 ⇑P **P 12 47 59.0 +0.2**
baz=86,SNR=11
C12B Naegeli Ranch, 85.99 35 ⇓P **P 12 47 58.4 0.0**
baz=86,SNR=6.4
T23A Casias Ranch, 86.05 48 ⇓P **P 12 47 59.3 0.0**
baz=86
I16A Newdale 86.07 40 ⇑P **P 12 47 59.1 0.0**
baz=86,SNR=7.1
429A Davenport Ranc 86.09 55 ⇓P **P 12 47 59.2 -0.1**
baz=86,SNR=21
TNA Tin City 86.09 3 *e*P **P 12 47 58.7 +0.3**
comp=Z,14nm,0.7s
O20A White River Ci 86.12 45 ⇓P **P 12 47 59.4 0.0**
baz=86
R22A Saguache, Gunn 86.14 47 ⇓P **P 12 47 59.8 0.0**
baz=86
Y26A Elida 86.14 52 ⇑P **P 12 47 59.6 -0.1**
baz=86
D13A Hunn 86.18 36 ⇑P **P 12 47 58.8 -0.6**
baz=86,SNR=9.4
TPAW Teton Pass 86.18 41 *e*P **P 12 48 00.3 +0.5**
comp=Z,13nm,1.3s
228A UT Block 9, Go 86.23 54 ⇓P **P 12 48 00.1 0.0**
baz=86
M19A Rock Springs 86.23 43 ⇑P **P 12 47 59.9 -0.1**
baz=86
DLMT Dillon 86.24 38 *e*P **P 12 48 00.0 +0.2**
comp=Z,16nm,1.1s
U24A Moreno Valley 86.28 49 ⇑P **P 12 48 00.4 -0.1**
baz=86
SNOW Snow King Moun 86.28 41 *e*P **P 12 48 00.0 -0.2**
comp=Z,13nm,1.0s
W25A X Bar L Ranch, 86.29 50 ⇑P **P 12 48 00.3 -0.1**
baz=86,SNR=12
530A J-C Ranch, Com 86.31 56 ⇓P **P 12 48 00.4 0.0**
baz=86
Z27A Tatum 86.31 52 ⇓P **P 12 48 00.1 -0.3**
baz=86,SNR=6.9
Q22A Crested Butte, 86.36 46 ⇑P **P 12 48 00.8 0.0**
baz=87,SNR=5.3
PAX Paxson 86.38 13 *e*P **P 12 47 59.5 -0.5**
PAX pmax pmax
comp=Z,41nm,1.2s
PAX Paxson 86.38 13 *e*P **P 12 47 59.5 -0.5**
comp=Z,41nm,1.2s
B12A Libby 86.38 35 ⇓P **P 12 48 01.2 +0.8**
baz=87
MCK McKinley 86.41 11 *e*P **P 12 47 59.9 -0.2**
MCK pmax pmax
comp=Z,97nm,0.9s
MCK McKinley 86.41 11 *e*P **P 12 47 59.9 -0.2**
comp=Z,97nm,0.9s
IMW Indian Meadow 86.41 40 *e*P **P 12 48 01.1 +0.2**
comp=Z,24nm,1.5s
329A Wagon Wheel Ra 86.41 55 ⇑P **P 12 48 01.3 +0.4**
baz=87
L19A Farson 86.42 42 ⇓P **P 12 48 00.8 -0.1**
baz=87,SNR=9.9
BSMT Bassoo Peak 86.44 35 *e*P **P 12 47 59.6 -1.3**
comp=Z,14nm,1.4s
MOOW Moose Ponds 86.45 40 *e*P **P 12 48 01.2 +0.2**
comp=Z,17nm,1.6s
X26A CR and CF Fran 86.45 51 ⇓P **P 12 48 01.3 +0.2**
baz=87,SNR=5.9
LOHW Long Hollow 86.46 41 *e*P **P 12 48 01.1 0.0**
comp=Z,18nm,1.5s
C13A Hot Springs 86.46 36 ⇑P **P 12 48 00.4 -0.4**
baz=87
N20A Spence Gulch, 86.46 44 ⇑P **P 12 48 01.0 -0.2**
baz=87,SNR=25
SMCO Snowmass 86.47 46 *e*P **P 12 48 01.7 +0.3**
comp=Z,12nm,0.9s
V25A Rancho No Teng 86.47 50 ⇓P **P 12 48 01.7 +0.4**
baz=87
PLCA Paso Flores 86.51 132 LR LR 13 21 34.6
comp=Z,303nm,18.8s,baz=220,slow=32
128A Castleberry Fa 86.54 53 ⇓P **P 12 48 01.6 0.0**
baz=87,SNR=7.3
631A Perdido Creek 86.58 57 ⇓P **P 12 48 01.4 -0.4**
baz=87,SNR=13
LRM Limekiln Ridge 86.58 38 *e*P **P 12 48 01.5 -0.1**
comp=Z,76nm,1.2s
Y27A Causey 86.61 52 ⇓P **P 12 48 01.7 -0.2**
baz=87,SNR=14
UBPT Khong Chiam 86.61 288 P **P 12 48 02.7 +0.6**
comp=Z,30nm,1.3s
UBPT Khong Chiam 86.61 288 P **P 12 48 03.6 +1.5**
comp=Z,30nm,1.6s
A12A Yaak River Ran 86.63 34 ⇓P **P 12 48 02.0 +0.4**
baz=87
QLMT Earthquake Lak 86.63 39 *e*P **P 12 48 02.5 +0.6**
comp=Z,2.6nm,1.2s
I17A Pilgrim Ck. 86.64 40 ⇓P **P 12 48 02.9 +0.9**
baz=87

BW06 Boulder Array 86.65 42 *e*P **P 12 48 01.2 -0.8**
comp=Z,7.1nm,0.9s
PDAR Pinedale Array 86.65 42 P **P 12 48 01.4 -0.7**
PDAR Pinedale Array 86.65 42 P **P 12 48 01.4 -0.7**
comp=Z,6.8nm,0.9s,baz=211,slow=3.1,SNR=40
PDAR LR LR 13 22 53.6
comp=Z,552nm,18.1s,baz=245,slow=33
O21A Pagoda 86.66 45 ⇓P **P 12 48 02.1 -0.1**
baz=87
H16A Russell Place, 86.67 39 ⇑P **P 12 48 02.5 +0.5**
baz=87,SNR=10
430A Baggett Ranch, 86.67 55 ⇑P **P 12 48 02.6 +0.4**
baz=87
D14A Greenough 86.70 37 ⇓P **P 12 48 01.1 -1.0**
baz=87,SNR=12
MENT Mentasta 86.72 13 *e*P **P 12 48 02.1 +0.4**
IPM Ipoh 86.74 276 *e*P **P 12 48 03.8 +0.9**
comp=Z,27nm,0.6s
IPM Ipoh 86.74 276 P **P 12 48 04.2 +1.4**
CHMT Chamberlain Mo 86.75 37 *e*P **P 12 48 01.6 -0.8**
comp=Z,12nm,1.5s
229A Bryant Ranch, 86.76 54 ⇓P **P 12 48 02.1 -0.5**
baz=87
R23A Moffat 86.76 47 ⇑P **P 12 48 01.8 -1.0**
baz=87
732A Laxson Ranch, 86.77 58 ⇑P **P 12 48 02.9 +0.2**
baz=87
SDCO Great Sand Dun 86.77 48 *e*P **P 12 48 03.1 +0.2**
comp=Z,2.8nm,0.9s
SLMT Seeley Lake 86.80 37 *e*P **P 12 48 01.7 -0.9**
comp=Z,6.5nm,1.2s
P22A Eagle 86.83 46 ⇑P **P 12 48 02.7 -0.3**
baz=87
DLBC Dease Lake 86.84 22 P **P 12 48 03.1 +0.7**
DLBC Dease Lake 86.84 22 P **P 12 48 03.1 +0.7**
comp=Z,6.9nm,1.0s,baz=211,slow=5.8,SNR=9.5
M20A Sweetwater, Wa 86.85 43 ⇑P **P 12 48 02.7 -0.3**
baz=87
U25A Circle Dot Ran 86.89 49 ⇓P **P 12 48 03.3 0.0**
baz=87
H17A Grant Village 86.90 40 ⇓P **P 12 48 03.6 +0.4**
baz=87
N21A Black Mountain 86.91 44 ⇑P **P 12 48 03.3 -0.1**
baz=87
S24A Houchin Ranch, 86.92 48 ⇓P **P 12 48 03.9 +0.3**
baz=87
Z28A Tucker Farm, M 86.92 53 ⇑P **P 12 48 03.1 -0.3**
baz=87
B13A Whitefish 86.92 35 ⇑P **P 12 48 02.7 -0.3**
baz=87
531A Rocksprings 86.93 56 ⇓P **P 12 48 03.0 -0.5**
baz=87,SNR=14
MSTX Muleshoe 86.94 52 ⇑P **P 12 48 03.4 -0.1**
baz=87,SNR=7.7
BOZ Bozeman (W) 86.96 39 *e*P **P 12 48 03.3 -0.1**
BOZ pmax pmax
comp=Z,13nm,1.4s
BOZ Bozeman (W) 86.96 39 *e*P **P 12 48 03.3 -0.1**
comp=Z,13nm,1.4s
C14A Swan Lake 86.97 36 ⇑P **P 12 48 04.6 +1.3**
baz=87
330A Mertzon 86.99 55 ⇓P **P 12 48 03.4 -0.4**
baz=87
X27A F and S Farms, 87.01 51 ⇓P **P 12 48 04.2 +0.3**
baz=87
L20A Wamsutter 87.02 43 ⇑P **P 12 48 04.1 +0.2**
baz=87,SNR=13
F16A Kennard Place, 87.04 38 ⇑P **P 12 48 04.0 +0.2**
baz=87
V26A Tequesquite Ra 87.05 50 ⇑P **P 12 48 04.0 -0.1**
baz=87
431A Sonora 87.11 56 ⇑P **P 12 48 04.3 0.0**
baz=87
K19A Absolon Red Bu 87.12 42 ⇓P **P 12 48 03.6 -0.7**
baz=87
J19A Crowheart 87.23 42 ⇑P **P 12 48 04.7 -0.1**
baz=88
W27A Bowe Ranch, En 87.23 51 ⇑P **P 12 48 05.0 +0.1**
baz=87
D15A Lincoln 87.23 37 ⇓P **P 12 48 04.8 +0.1**
baz=88
T25A Trinidad 87.24 49 ⇓P **P 12 48 05.2 +0.1**
baz=88
632A Uvalde 87.24 57 ⇓P **P 12 48 04.9 0.0**
baz=87,SNR=9.2
O22A Kremmling 87.25 45 ⇓P **P 12 48 04.9 -0.2**
baz=88,SNR=11
230A Sterling City 87.25 55 ⇑P **P 12 48 04.5 -0.5**
baz=88
R24A Sanders Place, 87.28 47 ⇑P **P 12 48 05.2 +0.1**
baz=88
A13A Flathead Natio 87.28 35 ⇑P **P 12 48 04.7 -0.1**
baz=88
Y28A McKinney Farm, 87.30 52 ⇓P **P 12 48 05.2 -0.1**
baz=88
G17A Pierce Place, 87.31 39 ⇓P **P 12 48 05.5 +0.4**
baz=88
SYO Syowa Base 87.32 192 ⇓ *i*P **P 12 48 04.0 -0.6**
SYO Syowa Base 87.32 192 ⇓ *ep*P pP 12 48 14.0 -1.7
P23A Jefferson 87.33 46 ⇓P **P 12 48 05.0 -0.6**
baz=88
K20A Yellowstone Ra 87.36 42 ⇓P **P 12 48 04.9 -0.5**
baz=88
U26A Atchley Ranch, 87.36 50 ⇓P **P 12 48 05.3 -0.3**
baz=88
KULM Kulim 87.37 277 *e*P **P 12 48 06.2 +0.2**
comp=Z,16nm,0.7s
KULM Kulim 87.37 277 P **P 12 48 07.5 +1.6**
SEY Seymchan 87.41 345 *c i*P **P 12 48 04.7 -0.2**
Z29A Hungry Hill Ra 87.41 53 ⇓P **P 12 48 05.4 -0.4**
baz=88
532A Rocksprings 87.42 57 ⇑P **P 12 48 05.8 -0.1**
baz=88,SNR=12
E16A East Helena 87.43 38 ⇓P **P 12 48 05.6 0.0**
baz=88
M21A Separation Pea 87.44 44 ⇑P **P 12 48 05.4 -0.5**
baz=88,SNR=17
S25A Robets Cordova 87.47 48 ⇓P **P 12 48 06.1 0.0**
baz=88
331A San Angelo 87.52 55 ⇑P **P 12 48 05.9 -0.4**
baz=88
B14A Marquette Ranc 87.57 36 ⇑P **P 12 48 06.0 -0.2**
baz=88
C15A Salmond Ranch, 87.60 36 ⇑P **P 12 48 06.3 -0.1**
baz=88
H18A Shoshone NF, C 87.60 40 ⇓P **P 12 48 06.0 -0.6**
baz=88
Q24A Divide 87.60 47 ⇑P **P 12 48 06.5 -0.3**
baz=88
X28A Dimmitt 87.61 52 ⇑P **P 12 48 06.5 -0.2**
baz=88
L21A Rawlins 87.62 43 ⇓P **P 12 48 06.0 -0.7**
baz=88,SNR=5.7
WALA Waterton Lakes 87.62 35 *e*P **P 12 48 06.2 -0.3**
comp=Z,0.5nm,1.2s
COLA College 87.65 11 *e*P **P 12 48 05.7 -0.3**
COLA College 87.65 11 *e*P **P 12 48 05.7 -0.3**
comp=Z,217nm,1.0s
I19A Meeteetse 87.67 41 ⇑P **P 12 48 06.7 -0.2**
baz=88,SNR=5.4
F17A Fitzpatrick Pl 87.67 39 ⇑P **P 12 48 07.1 +0.3**
baz=88
130A Snyder 87.68 54 ⇑P **P 12 48 06.7 -0.4**
baz=88
O23A Lake Granby, G 87.69 45 ⇓P **P 12 48 07.2 0.0**
baz=88
ISCO Idaho Springs 87.69 46 *e*P **P 12 48 07.7 +0.5**
ISCO pmax pmax
comp=Z,2.0nm,0.8s
ISCO Idaho Springs 87.69 46 *e*P **P 12 48 07.7 +0.5**
comp=Z,2.4nm,0.8s
ISCO Idaho Springs 87.69 46 ⇓P **P 12 48 07.1 -0.2**
baz=88
SNAA Sanae 87.70 177 *e*P **P 12 48 07.1 +0.6**
comp=Z,17nm,1.0s
Y29A Porterfield Fa 87.71 53 ⇓P **P 12 48 07.2 0.0**
baz=88
ILAR Eielson Array 87.73 11 P **P 12 48 06.0 -0.4**
ILAR PP **PP 12 51 35.6 +3.0**
ILAR PKiKP **PKiKP 12 53 08.4 -0.9**
ILAR PKKP **PKKPbc 13 05 54.9 -2.1**
ILAR Eielson Array 87.73 11 P **P 12 48 06.0 -0.4**
comp=Z,7.7nm,0.7s,baz=220,slow=5.5,SNR=102
ILAR PP **PP 12 51 35.6 +3.0**
comp=Z,2.0nm,1.0s,baz=217,slow=7.4,SNR=4.5
ILAR PKiKP **PKiKP 12 53 08.4 -0.9**
comp=Z,0.2nm,0.8s,baz=225,slow=1.1,SNR=2.8
ILAR PKKP **PKKPbc 13 05 54.9 -2.1**

comp=Z,0.2nm,0.6s,baz=343,slow=2.3,SNR=4.4
ILAR LR LR 13 25 48.5
comp=Z,270nm,18.4s,baz=102,slow=35
D16A Dana Ranch, Ca 87.78 37 ⇓P **P 12 48 07.2 0.0**
baz=88
432A Menard 87.83 56 ⇑P **P 12 48 07.3 -0.4**
baz=88
T26A Comanche Natio 87.83 49 ⇑P **P 12 48 07.2 -0.6**
baz=88
A14A Double T Ranch 87.84 35 ⇑P **P 12 48 07.2 -0.3**
baz=88,SNR=24
Z30A Sanderson Ranc 87.86 53 ⇑P **P 12 48 07.4 -0.5**
baz=88
J20A Shoshoni 87.88 42 ⇑P **P 12 48 07.8 -0.1**
baz=88,SNR=12
231A Bronte 87.88 55 ⇑P **P 12 48 07.4 -0.6**
baz=88
B15A Bradely Ranch, 87.93 36 ⇓P **P 12 48 07.9 0.0**
baz=88
G18A Lazy EL Ranch, 88.00 40 ⇓P **P 12 48 08.1 -0.3**
baz=88
H19A Powell 88.01 40 ⇑P **P 12 48 08.4 0.0**
baz=88
N23A Red Feather La 88.01 45 ⇑P **P 12 48 08.4 -0.3**
baz=88,SNR=7.0
RLMT Red Lodge 88.08 40 *e*P **P 12 48 08.8 0.0**
comp=Z,2.3nm,0.8s
PANO Nakornpanom 88.08 289 P **P 12 48 10.3 +1.1**
comp=Z,61nm,1.8s
332A Millersview 88.08 56 ⇓P **P 12 48 08.2 -0.8**
baz=88,SNR=7.4
C16A Fuhringer Ranc 88.09 37 ⇑P **P 12 48 08.1 -0.6**
baz=88,SNR=15
PSI Prapat 88.11 274 P **P 12 48 08.9 -0.7**
PSI Prapat 88.11 274 P **P 12 48 08.9 -0.7**
comp=Z,15nm,0.8s,baz=303,slow=1.1,SNR=8.4
PSI Prapat 88.11 274 P **P 12 48 09.5 -0.1**
baz=88,SNR=7.4
S26A Kim 88.13 49 ⇑P **P 12 48 08.6 -0.5**
baz=88
I20A Worland 88.16 41 ⇓P **P 12 48 08.8 -0.3**
baz=88,SNR=6.3
A15A Johnson Ranch, 88.21 35 ⇑P **P 12 48 08.7 -0.6**
baz=88,SNR=12
F18A Big Timber 88.22 39 ⇓P **P 12 48 09.3 -0.1**
baz=88
L22A Ellis Ranch, M 88.25 44 ⇓P **P 12 48 09.9 +0.1**
baz=88,SNR=6.9
J21A Lysite 88.27 42 ⇓P **P 12 48 09.3 -0.5**
baz=88,SNR=12
D17A Six Diamond Ra 88.33 38 ⇑P **P 12 48 09.8 -0.1**
baz=89,SNR=14
232A Coleman 88.37 55 ⇓P **P 12 48 09.6 -0.8**
baz=89,SNR=11
B16A M & M Farms, S 88.46 36 ⇓P **P 12 48 09.6 -0.8**
baz=89,SNR=6.3
R26A Arlington 88.46 48 ⇓P **P 12 48 09.9 -0.8**
baz=89
E18A Harlowton 88.46 38 ⇑P **P 12 48 10.9 +0.4**
baz=89,SNR=6.1
K22A Casper 88.50 43 ⇓P **P 12 48 10.7 -0.2**
baz=89
CHBT CHBT 88.51 284 P **P 12 48 12.3 +1.1**
CHBT CHBT 88.51 284 P **P 12 48 14.0 +2.8**
comp=Z,49nm,1.1s
P25A Willow Gulch B 88.53 47 ⇓P **P 12 48 10.7 -0.4**
baz=89
C17A Wharram Farm, 88.56 37 ⇑P **P 12 48 10.8 -0.1**
baz=89,SNR=17
S27A Las Animas 88.56 49 ⇑P **P 12 48 10.8 -0.4**
baz=89
SKNT Sakolnakorn 88.58 289 P **P 12 48 12.6 +1.1**
comp=Z,58nm,1.8s
BJI Beijing 88.58 314 P **P 12 48 11.9 +0.9**
BJI PP **PP 12 51 40.8 +0.8**
BJI SS SS 13 04 50.5 +3.7
BJI pmax pmax
comp=Z,42nm,1.6s
BJI pmax pmax
comp=Z,430nm,9.5s
BJI LR LR
comp=N,150nm,16.8s
BJI LR LR
comp=E,350nm,21.0s
BJI LR LR
comp=Z,280nm,21.0s
I21A Big Trails, Te 88.61 42 ⇓P **P 12 48 10.7 -0.6**
baz=89,SNR=10
Z31A Sharp Cattle R 88.61 54 ⇑P **P 12 48 11.0 -0.5**
baz=89
F19A Roth Farm, Mol 88.66 39 ⇑P **P 12 48 11.5 0.0**
baz=89
Q26A Hugo 88.70 47 ⇑P **P 12 48 11.3 -0.5**
baz=89
L23A Garrett 88.77 44 ⇑P **P 12 48 11.4 -0.8**
baz=89,SNR=9.7
A16A West Butte Ran 88.82 36 ⇓P **P 12 48 12.1 0.0**
baz=89
D18A Linhart Farms, 88.87 38 ⇓P **P 12 48 12.2 -0.2**
baz=89
EGAK Eagle 88.89 13 *e*P **P 12 48 12.1 +0.2**
comp=Z,84nm,1.4s
B17A L&G Farms, Che 88.89 37 ⇓P **P 12 48 12.2 -0.2**
baz=89,SNR=6.8
R27A Eads 88.91 48 ⇑P **P 12 48 12.3 -0.5**
baz=89
J22A Midwest 88.92 42 ⇓P **P 12 48 11.8 -1.0**
baz=89,SNR=14
M24A Cheyenne 89.03 45 ⇑P **P 12 48 13.5 +0.1**
baz=89
E19A Rath Farm, Rou 89.07 39 ⇑P **P 12 48 13.8 +0.4**
baz=89
Z32A Haskell 89.11 54 ⇓P **P 12 48 13.8 0.0**
baz=89
K23A Bowen Ranch, D 89.13 43 ⇑P **P 12 48 14.0 +0.2**
baz=89
ENH Enshi 89.15 303 *e*P **P 12 48 15.2 +1.2**
comp=Z,207nm,1.4s
I22A 9 Mile Ranch, 89.15 42 ⇑P **P 12 48 13.7 -0.1**
baz=89
TRTT Trang 89.17 279 P **P 12 48 16.7 +2.3**
comp=Z,125nm,1.2s,comp=Z,2µm
H21A Big Horn, Sher 89.17 41 ⇑P **P 12 48 14.4 +0.4**
baz=89
L24A Wheatland 89.23 44 ⇑P **P 12 48 14.7 +0.4**
baz=90
V30A Spur Ranch, Mi 89.28 51 ⇑P **P 12 48 14.8 +0.3**
baz=90
A17A Triple J Farms 89.31 36 ⇑P **P 12 48 14.2 -0.2**
baz=90,SNR=12
EGMT Eagleton 89.34 37 *e*P **P 12 48 14.9 +0.3**
comp=Z,8.2nm,1.0s
D19A Cripps Ranch, 89.38 38 ⇓P **P 12 48 15.0 +0.2**
baz=90
COLD Coldfoot 89.43 9 *e*P **P 12 48 15.0 +0.5**
comp=Z,62nm,1.8s
E20A Meyer Farm, Mu 89.48 39 ⇑P **P 12 48 15.7 +0.4**
baz=90
B18A Beardsley Farm 89.52 37 ⇓P **P 12 48 15.2 -0.2**
baz=90,SNR=8.3
C19A Slack Wire Ran 89.59 38 ⇓P **P 12 48 15.8 +0.1**
baz=90,SNR=19
BILL Bilibino 89.62 353 *c i*P **P 12 48 15.3 0.0**
BILL *i* *PP **pP 12 48 25.4 -1.0**
BILL *i* 12 58 46.4
BILL MLR MLR
comp=Z,100nm,18.0s
R28A Tribune 89.62 49 ⇓P **P 12 48 15.9 -0.3**
baz=90
A18A Metzger Ranch, 89.77 36 ⇑P **P 12 48 16.3 -0.2**
baz=90,SNR=10
GYA Guiyang 89.89 298 ⇑ *i*P **P 12 48 19.0 +1.3**
GYA pP **pP 12 48 29.6 +0.8**
GYA sP **sP 12 48 34.9 +2.1**
GYA PP **PP 12 51 54.0 +3.1**
GYA SKS **SKSac 12 58 44.0 -2.2**
GYA S **S 12 59 05.4 -2.7**
GYA SS **SS 13 05 07.2 +0.5**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=N,580nm,20.0s
GYA LR LR
comp=E,460nm,21.3s
GYA LR LR
comp=Z,520nm,20.5s

B19A Brinkman Farms 90.03 37 ⇓P **P 12 48 18.2 +0.5**
baz=90
C20A Veseth Ranch, 90.18 38 ⇑P **P 12 48 18.5 +0.1**
baz=90,SNR=8.1
K25A Mack Ranch, Ha 90.20 44 ⇓P **P 12 48 18.2 -0.6**
baz=90
WMOK Wichita Mounta 90.24 53 *e*P **P 12 48 18.7 -0.4**
WMOK pmax pmax
comp=Z,9.0nm,1.4s
WMOK Wichita Mounta 90.24 53 *e*P **P 12 48 18.6 -0.4**
comp=Z,8.7nm,1.4s
I24A Kuemmerle Ranc 90.31 43 ⇑P **P 12 48 19.0 -0.2**
baz=90
A19A Klindworth Far 90.39 37 ⇑P **P 12 48 19.3 -0.1**
baz=91,SNR=6.5
D21A La Casta Ranch 90.44 39 ⇓P **P 12 48 20.1 +0.4**
baz=91
Q29A Oakley 90.45 48 ⇓P **P 12 48 19.7 -0.2**
baz=91
G23A Biddle 90.48 41 ⇓P **P 12 48 20.3 +0.3**
baz=91
B20A Solberg Farm, 90.54 38 ⇓P **P 12 48 20.0 -0.1**
baz=91,SNR=5.6
K26A Motz Farm, Whi 90.69 44 ⇓P **P 12 48 20.9 -0.1**
baz=91
F23A Volborg 90.72 41 ⇑P **P 12 48 21.3 +0.2**
baz=91
E22A Miles City 90.75 40 ⇑P **P 12 48 21.3 +0.2**
baz=91
H24A Dirks Ranch, A 90.78 42 ⇑P **P 12 48 20.7 -0.7**
baz=91,SNR=16
LHMI Lhok Sumawe 90.80 275 P **P 12 48 19.6 -2.5**
baz=91,SNR=3.3
RSSD Black Hills 90.81 43 *e*P **P 12 48 21.1 -0.6**
RSSD pmax pmax
comp=Z,9.0nm,1.0s
RSSD Black Hills 90.81 43 *e*P **P 12 48 21.1 -0.6**
comp=Z,9.1nm,1.0s
A20A Cobblestone Ra 90.82 37 ⇓P **P 12 48 21.3 -0.1**
baz=91,SNR=9.6
I25A Rochford 90.95 43 ⇓P **P 12 48 22.6 +0.3**
baz=91
S31A Mullinville 90.95 50 ⇑P **P 12 48 22.2 -0.1**
baz=91
D22A Cohagen 90.96 39 ⇑P **P 12 48 22.0 -0.1**
baz=91,SNR=5.1
Q30A Quinter 91.02 49 ⇑P **P 12 48 22.6 0.0**
baz=91
B21A Ellsworth Farm 91.11 38 ⇑P **P 12 48 23.2 +0.5**
baz=91
XAN Xi'an 91.13 306 P **P 12 48 24.3 +1.1**
XAN pP **pP 12 48 34.1 -0.2**
XAN SKS **SKSac 12 58 56.7 +3.8**
XAN S **ScS 12 59 23.2 +1.2**
XAN SS **SS 13 05 21.9 -2.3**
XAN pmax pmax
comp=Z,13nm,1.4s
XAN pmax pmax
comp=Z,41nm,4.6s
XAN LR LR
comp=N,170nm,18.3s
XAN LR LR
comp=E,80nm,17.3s
XAN LR LR
comp=Z,78nm,18.3s
G24A Alzada 91.14 41 ⇑P **P 12 48 23.2 +0.2**
baz=91
E23A Ismay 91.16 40 ⇑P **P 12 48 23.8 +0.8**
baz=91
LOEI Loei 91.19 288 P **P 12 48 23.5 -0.3**
comp=Z,36nm,1.3s
H25A Fruitdale 91.32 42 ⇓P **P 12 48 24.3 +0.4**
baz=92
C22A Vida 91.43 39 ⇑P **P 12 48 25.1 +0.8**
baz=92
A21A Bergtoll Ranch 91.45 37 ⇑P **P 12 48 25.2 +0.9**
baz=92
D23A Lindsay 91.55 40 ⇓P **P 12 48 25.4 +0.5**
baz=92
B22A Reddig Ranch S 91.64 38 ⇑P **P 12 48 26.2 +0.9**
baz=92
C23A Lambert 91.87 39 ⇓P **P 12 48 26.7 +0.4**
baz=92
A22A Carney Farms, 92.03 38 ⇑P **P 12 48 27.6 +0.6**
baz=92
D24A Glendive 92.05 40 ⇓P **P 12 48 27.8 +0.7**
baz=92
CFAA Coronel Fontan 92.06 125 P **P 12 48 28.7 +1.0**
CFAA Coronel Fontan 92.06 125 P **P 12 48 28.7 +1.0**
comp=Z,0.6nm,0.8s,baz=233,slow=5.1,SNR=6.5
HHC Hu-ho-hao-te 92.08 313 *e*P **P 12 48 28.9 +1.4**
HHC pP **pP 12 48 40.1 +1.4**
HHC sP **sP 12 48 44.2 +1.5**
HHC PP **PP 12 52 11.6 +3.6**
HHC SKS **SKSac 12 58 57.8 -0.3**
HHC S **S 12 59 25.7 -1.7**
HHC sS **sS 12 59 44.2 -1.7**
HHC SS **SS 13 05 39.8 +2.1**
HHC pmax pmax
comp=Z,23nm,1.0s
HHC pmax pmax
comp=Z,400nm,6.1s
HHC LR LR
comp=N,420nm,17.8s
HHC LR LR
comp=E,480nm,17.8s
HHC LR LR
comp=Z,400nm,20.2s
NANT Nan 92.15 289 P **P 12 48 29.5 +1.3**
comp=Z,118nm,1.0s
C24A Savage 92.19 40 ⇑P **P 12 48 28.2 +0.4**
baz=92
G26A Maurine 92.26 42 ⇓P **P 12 48 28.6 +0.4**
baz=92
B23A Brockton 92.30 38 ⇑P **P 12 48 29.2 +1.0**
baz=92
CLNS Chul'man 92.49 331 *e*P **P 12 48 28.4 -0.5**
CLNS pmax pmax
comp=Z,16nm,1.3s
CLNS pmax pmax
comp=N,10.0nm,1.4s
CLNS pmax pmax
comp=E,5.0nm,1.3s
KMI Kunming 92.66 296 P **P 12 48 32.6 +1.9**
KMI pP **pP 12 48 42.6 +0.7**
KMI pmax pmax
comp=Z,42nm,1.5s
G27A Dupree 92.72 42 ⇑P **P 12 48 30.3 +0.1**
baz=93
DGMT Dagmar 92.77 39 *e*P **P 12 48 30.9 +0.5**
comp=Z,43nm,1.0s
DGMT Dagmar 92.77 39 ⇑P **P 12 48 31.1 +0.7**
baz=93
E26A Carlson Angus 92.88 41 ⇓P **P 12 48 31.6 +0.6**
baz=93
LAMP Lampang 93.00 289 P **P 12 48 33.9 +1.8**
comp=Z,28nm,0.8s
A24A Westby 93.10 38 ⇓P **P 12 48 32.5 +0.6**
baz=93
INK Inuvik 93.53 14 P **P 12 48 33.2 -0.2**
INK Inuvik 93.53 14 P **P 12 48 33.2 -0.2**
comp=Z,7.7nm,0.8s,baz=232,slow=5.1,SNR=21
CMAR Chiang Mai Arr 93.59 288 P **P 12 48 36.4 +1.6**
CMAR Chiang Mai Arr 93.59 288 P **P 12 48 36.4 +1.6**
comp=Z,16nm,0.8s,baz=120,slow=2.8,SNR=80
CMAR LR LR 13 25 44.2
comp=Z,224nm,21.4s,baz=120,slow=32
YAK Yakutsk 93.66 337 *e*P **P 12 48 32.8 -1.3**
YAK pmax pmax
comp=Z,10.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.0s
CMMT Chiang Mai 93.70 289 P **P 12 48 36.8 +1.4**
comp=N,42nm,1.1s,comp=N,532nm
CHTO Chiang Mai 93.71 289 *e*P **P 12 48 36.6 +1.2**
CHTO pmax pmax
comp=Z,14nm,0.8s
CHTO Chiang Mai 93.71 289 *e*P **P 12 48 36.6 +1.2**
comp=Z,14nm,0.8s
CHTO Chiang Mai 93.71 289 P **P 12 48 36.9 +1.5**
comp=Z,46nm,1.1s,comp=Z,535nm
CD2 Chengdu 93.94 301 P **P 12 48 36.5 +0.2**
CD2 pP **pP 12 48 47.6 +0.2**
CD2 sP **sP 12 48 51.7 +0.3**
CD2 PP **PP 12 52 25.7 +3.0**

CD2 SKS **SKSac 12 59 07.0 -1.7**
CD2 S **S 12 59 41.3 -2.9**
CD2 sS **sS 12 59 59.9 -2.9**
CD2 SS **SS 13 06 05.5 +0.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.4s
CD2 LR LR
comp=N,560nm,19.6s
CD2 LR LR
comp=E,490nm,21.5s
CD2 LR LR
comp=Z,330nm,21.6s
YKA Yellowknife Ar 95.19 24 P **P 12 48 41.0 -0.2**
YKA Yellowknife Ar 95.19 24 P **P 12 48 40.9 -0.2**
comp=Z,5.2nm,0.8s,baz=236,slow=4.2,SNR=34
YKA LR LR 13 24 50.2
comp=Z,30nm,21.0s,baz=45,slow=31
ECSD EROS Data Cent 95.47 45 *e*P **P 12 48 42.5 -0.4**
comp=Z,14nm,1.1s
LZH Lanzhou 95.76 306 *e*P **P 12 48 46.0 +1.4**
LZH pP **pP 12 48 56.9 +1.1**
LZH sP **sP 12 49 00.5 +0.7**
LZH pmax pmax
comp=Z,46nm,1.5s
LZH pmax pmax
comp=Z,140nm,7.8s
LZH LR LR
comp=N,260nm,14.2s
LZH LR LR
comp=E,440nm,16.4s
LZH LR LR
comp=Z,390nm,19.9s
AGMN Agassiz Nation 97.72 41 *e*P **P 12 48 52.4 -0.6**
comp=Z,8.1nm,1.0s
ULN Ulaanbaatar 97.88 318 *e*P **P 12 48 53.9 0.0**
comp=Z,8.8nm,1.0s
SONM Songino Array 98.28 318 P Pdif 12 48 56.1 +0.4
SONM PP **PP 12 52 54.7 -1.2**
SONM Songino Array 98.28 318 P Pdif 12 48 56.1 +0.4
comp=Z,1.1nm,1.0s,baz=147,slow=3.5,SNR=8.9
SONM PP **PP 12 52 54.7 -1.2**
comp=Z,3.3nm,1.2s,baz=129,slow=5.9,SNR=4.6
SONM LR LR 13 34 41.3
comp=Z,227nm,18.5s,baz=330,slow=36
ULM Lac du Bonnet 98.45 39 LR LR 13 30 46.8
comp=Z,537nm,18.0s,baz=284,slow=34
LPAZ La Paz 98.64 111 LR LR 13 23 51.2
comp=Z,321nm,20.4s,baz=299,slow=30
TIXI Tiksi 99.86 344 ⇑ *e*P **Pdif 12 49 01.4 -0.6**
TIXI pmax pmax
comp=Z,8.0nm,1.9s
GTA Gaotai 99.89 308 *e*P **Pdif 12 49 07.0 +3.9**
GTA pP **pP 12 49 13.4 -0.9**
GTA sP **sP 12 49 16.2 -2.1**
GTA PP PP 12 53 14.7 +6.1
GTA S **S 13 00 36.2 +1.1**
GTA sS sS 13 00 47.3 -6.4
GTA pmax pmax
comp=Z,5.0nm,1.5s
GTA pmax pmax
comp=Z,160nm,6.9s
GTA LR LR
comp=N,140nm,17.6s
GTA LR LR
comp=E,150nm,18.0s
GTA LR LR
comp=Z,190nm,17.6s
ZAK Zakamensk 101.08 320 *e*P **Pdif 12 49 07.6 -0.5**
ZAK pmax pmax
comp=Z,2.0nm,1.2s
ZAA0 Zalesovo Array 112.89 321 *e*PKPdf **PKiKP 12 53 54.1 -0.6**
ZALV Zalesovo Beam 112.89 321 *i* PKIKP **PKiKP 12 53 54.2 -0.5**
ZALV 12 54 41.2
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV pmax pmax
comp=Z,2.0nm,0.8s
ZALV Zalesovo Beam 112.89 321 PKiKP **PKiKP 12 53 54.2 -0.5**
ZALV PP **PP 12 54 41.2 -2.4**
ZALV Zalesovo Beam 112.89 321 PKiKP **PKiKP 12 53 54.2 -0.5**
comp=Z,3.1nm,0.5s,baz=114,slow=0.8,SNR=11
ZALV PP **PP 12 54 41.2 -2.4**
comp=Z,2.1nm,0.8s,baz=101,slow=3.2,SNR=3.9
NVS Novosibirsk 113.87 322 *e*PKIKP **PKiKP 12 53 56.6 +0.1**
MK31 Makanchi Array 113.95 313 *i* PKIKP **PKiKP 12 53 55.9 -1.1**
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MK31 Makanchi Array 113.95 313 *e*PKPdf **PKiKP 12 53 56.8 -0.3**
MKAR Makanchi Array 113.95 313 *c i*PKIKP **PKiKP 12 53 56.5 -0.4**
MKAR pmax pmax
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 113.95 313 Pdif **Pdif 12 50 05.0 -0.3**
MKAR PKiKP **PKiKP 12 53 56.6 -0.4**
MKAR PP **PP 12 54 54.6 +3.2**
MKAR PKKPab **PKKPab 13 04 45.9 +1.4**
MKAR Makanchi Array 113.95 313 Pdiff **Pdif 12 50 05.0 -0.3**
comp=Z,0.2nm,0.7s,baz=90,slow=4.3,SNR=2.1
MKAR PKiKP **PKiKP 12 53 56.6 -0.4**
comp=Z,3.6nm,0.8s,baz=67,slow=1.8,SNR=22
MKAR PP **PP 12 54 54.6 +3.2**
comp=Z,3.7nm,1.1s,baz=99,slow=6.8,SNR=4.5
MKAR PKKPab **PKKPab 13 04 45.9 +1.4**
comp=Z,0.3nm,0.9s,baz=247,slow=2.5,SNR=3.9
KURK Kurchatov 116.57 317 PKIKP **PKPdf 12 54 01.4 -0.4**
KURK 12 55 05.6
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK pmax pmax
comp=Z,3.0nm,1.1s
KURK Kurchatov 116.57 317 PKP **PKPdf 12 54 01.4 -0.4**
KURK PP **PP 12 55 05.6 -4.0**
KURBB Kurchatov Arra 116.62 317 PKP **PKPdf 12 54 01.4 -0.5**
comp=Z,4.4nm,0.9s,baz=99,slow=1.9,SNR=22
KURBB PP **PP 12 55 05.6 -4.5**
comp=Z,3.0nm,1.1s,baz=86,slow=7.1,SNR=8.0
AAK Ala-Archa 119.24 308 *c i*PKIKP **PKPdf 12 54 07.4 -0.1**
AAK pmax pmax
comp=Z,14nm,1.2s
VOSK Vostochnaya 121.21 320 PKIKP **PKPdf 12 54 10.0 -0.8**
VOSK pmax pmax
comp=Z,8.0nm,0.8s
BVA0 Borovoye Array 121.53 320 *i* PKIKP **PKPdf 12 54 10.8 -0.6**
BVA0 pmax pmax
comp=Z,14nm,1.2s
BVAR Borovoye Array 121.53 320 PKIKP **PKPdf 12 54 11.0 -0.4**
BVAR pmax pmax
comp=Z,5.0nm,0.6s
BVAR Borovoye Array 121.53 320 PKP **PKPdf 12 54 11.0 -0.4**
BVAR Borovoye Array 121.53 320 PKP **PKPdf 12 54 11.0 -0.4**
comp=Z,4.9nm,0.6s,baz=92,slow=8.9,SNR=3.9
BRVK Borovoye 121.59 320 *c i*PKIKP **PKPdf 12 54 11.6 +0.1**
BRVK pmax pmax
comp=Z,13nm,1.2s
BRVK Borovoye 121.59 320 *e*PKPdf **PKPdf 12 54 10.0 -1.4**
BRVK *e*PP **PP 12 55 40.3 -3.8**
KBS Kingsbay 121.62 359 *c i*PKIKP **PKPdf 12 54 11.0 +0.1**
KBS pmax pmax
comp=Z,13nm,2.5s
KK31 Karatay Array 122.17 309 *i* PKIKP **PKPdf 12 54 12.4 -0.6**
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 122.17 309 *e*PKIKP **PKPdf 12 54 12.9 -0.1**
KKAR Karatay Array 122.17 309 *e*PKPdf **PKPdf 12 54 12.9 -0.1**
KBL Kabul 123.14 298 *e*PKIKP **PKPdf 12 54 15.9 +0.6**
KBL Kabul 123.14 298 *e*PKPdf **PKPdf 12 54 15.9 +0.6**
SOKR Solikamsk 127.04 330 *i* PKIKP **PKPdf 12 54 22.2 +0.6**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
SOKR MLR MLR
comp=Z,490nm,27.0s
ARU Arti 127.37 326 *i* PKIKP **PKPdf 12 54 22.3 -0.1**
ARU 12 56 19.4
ARU 13 01 16.6
BOSA Boshof 127.54 202 PKP **PKPdf 12 54 25.6 +1.7**
BOSA Boshof 127.54 202 PKP **PKPdf 12 54 25.6 +1.7**
comp=Z,5.9nm,0.9s,baz=150,slow=6.5,SNR=5.3
AB31 Akbulak array 128.68 317 *i* PKIKP **PKPdf 12 54 24.2 -1.0**
ABKAR Akbulak array 128.68 317 *e*PKPdf **PKPdf 12 54 24.9 -0.2**
KEV Kevo 129.27 351 *ep* **PKPdf 12 54 25.1 -0.6**
comp=Z,9.5nm,0.7s
KEV Kevo 129.27 351 *e*PKIKP **PKPdf 12 54 25.1 -0.6**
KEV pmax pmax
comp=Z,10.0nm,0.7s

LVZ **Lovozero** 129.45 346 *i* PKIKP **PKPdf** 12 54 25.3 -0.8
AKTO **Aktyubinsk** 129.58 319 PKIKP **PKPdf** 12 54 26.1 -0.8
AKTO pmax pmax
comp=Z,5.0nm,1.0s
AKTO **Aktyubinsk** 129.58 319 PKP **PKPdf** 12 54 27.6 +0.7
AKTO **Aktyubinsk** 129.58 319 PKP **PKPdf** 12 54 27.6 +0.7
comp=Z,1.7nm,0.6s,baz=12,slow=2.8,SNR=6.7
ARCES **ARCESS Array B** 129.69 351 PKP **PKPdf** 12 54 26.8 +0.2
ARCES **ARCESS Array B** 129.69 351 PKP **PKPdf** 12 54 26.8 +0.2
comp=Z,7.8nm,0.5s,baz=12,slow=1.0,SNR=64
JOF **Joensuu** 134.35 344 *ep* **PKPdf** 12 54 35.6 +0.2
comp=Z,9.9nm,0.6s
JOF **Joensuu** 134.35 344 *e*PKIKP **PKPdf** 12 54 35.6 +0.2
JOF pmax pmax
comp=Z,10.0nm,0.6s
KAF **Kangasniemi** 136.24 346 *ep* **PKPdf** 12 54 34.8 -4.2
KAF **Kangasniemi** 136.24 346 *e*PKIKP **PKPdf** 12 54 34.8 -4.2
FINES **FINESS Array B** 136.89 346 PKPpre PKPpre 12 54 29.1
FINES PKP **PKPdf** 12 54 40.6 +0.4
FINES **FINESS Array B** 136.89 346 PKhKP PKPpre 12 54 29.1
comp=Z,0.6nm,0.6s,baz=126,slow=2.4,SNR=5.2
FINES PKP **PKPdf** 12 54 40.6 +0.4
comp=Z,4.7nm,0.6s,baz=37,slow=2.8,SNR=15
LSZ **Lusaka** 138.08 213 *e*PKPdf **PKPdf** 12 54 44.5 +0.5
OBN **Obninsk** 138.57 334 ⇓*e*PKIKP **PKPdf** 12 54 41.8 -1.7
OBN *e* 12 57 34.8
OBN pmax pmax
comp=Z,10.0nm,1.4s
OBN pmax pmax
comp=Z,28nm,1.7s
OBN MLR MLR
comp=Z,200nm,17.0s
MAK **Makhachkala** 138.76 312 *i* PKIKP **PKPdf** 12 54 43.3 -0.9
MAK *e* 12 57 34.5
MAK *e*PPP PPP 13 00 38.7
MAK *e* 13 01 47.8
MAK pmax pmax
comp=Z,178nm,1.4s
VSU **Vasula** 139.33 343 *d i* PKIKP **PKPdf** 12 54 46.6 +1.8
NB2 **NORSAR Subarra** 139.49 356 PKP PKPpre 12 54 35.7
comp=Z,2.3nm,0.8s,baz=17,slow=2.6
NOA **NORSAR Array B** 139.49 356 PKPpre PKPpre 12 54 38.0
NOA PKP **PKPdf** 12 54 44.0 -1.1
NOA **NORSAR Array B** 139.49 356 PKhKP PKPpre 12 54 38.0
comp=Z,0.5nm,0.6s,baz=6.0,slow=3.6,SNR=3.9
NOA PKP **PKPdf** 12 54 44.0 -1.1
comp=Z,4.1nm,1.0s,baz=15,slow=3.8,SNR=3.9
KBZ **Khabaz** 141.59 315 PKIKP PKPpre 12 54 45.2
KBZ 12 57 48.2
KBZ pmax pmax
comp=Z,1.0nm,0.6s
KBZ pmax pmax
comp=Z,2.0nm,0.8s
KBZ **Khabaz** 141.59 315 PKPpre PKPpre 12 54 45.2
KBZ PP PP 12 57 48.2 -4.9
KBZ **Khabaz** 141.59 315 PKhKP PKPpre 12 54 45.2
comp=Z,1.3nm,0.6s,baz=180,slow=3.0,SNR=2.9
KBZ PP PP 12 57 48.2 -4.9
comp=Z,1.8nm,0.8s,baz=82,slow=10.0,SNR=5.3
KIV **Kislovodsk** 141.63 316 ⇑*i*PKIKP **PKPdf** 12 54 48.2 -1.4
KIV *e* 12 57 56.1
KIV pmax pmax
comp=Z,7.0nm,1.4s
GNI **Garni** 141.63 309 PKP **PKPdf** 12 54 50.6 +0.7
GNI **Garni** 141.63 309 PKP **PKPdf** 12 54 50.6 +0.7
comp=Z,2.3nm,0.3s,baz=10,slow=11,SNR=2.5
KMBO **Kilima Mbogo** 142.40 239 *e*PKPdf PKPpre 12 54 49.2
KMBO PKPpre PKPpre 12 54 49.5
KMBO **Kilima Mbogo** 142.40 239 PKhKP PKPpre 12 54 49.5
comp=Z,3.3nm,0.6s,baz=197,slow=2.8,SNR=7.2
DAGI **Agillar** 143.32 312 *e*P **PKPdf** 12 54 55.0 +2.3
DBAD **Bademkaya** 143.50 312 *i* P PKPbc 12 54 51.4 +1.1
BHD **Baghdad** 143.64 298 *i* PKP **PKPdf** 12 54 54.6 +1.3
SOC **Sochi** 143.72 317 *e*PKHKP PKPpre 12 54 47.8
SOC *e*PPP PPP 13 01 19.0
MUD **Monsted U'grnd** 144.18 357 *i* PKIKP PKPbc 12 54 51.8 +0.1
MUD pmax pmax
comp=Z,23nm,0.9s
MUD **Monsted U'grnd** 144.18 357 *i* P PKPbc 12 54 51.8 +0.1
comp=Z,23nm,0.9s
SUW **Suwalki** 144.18 343 *e*PKIKP PKPbc 12 54 51.7 -0.1
SUW **Suwalki** 144.18 343 *e*PKPdf PKPbc 12 54 51.7 -0.1
SUW **Suwalki** 144.18 343 *e*PKP PKPbc 12 54 51.7 -0.1
ANN **Anapa** 144.53 320 *i* PKIKP **PKPab** 12 54 52.4 -0.5
ANN pmax pmax
comp=Z,79nm,1.4s
BNGL **BINGOL** 144.65 309 *i* P **PKPdf** 12 54 56.1 +0.8
ESK **Eskdalemuir** 144.74 9 *e*PKIKP **PKPab** 12 54 53.2 -0.2
ESK **Eskdalemuir** 144.74 9 *e*PKPdf **PKPab** 12 54 53.1 -0.2
KIEV **Kiev** 144.84 334 *e*PKIKP **PKPab** 12 54 53.4 -0.5
KIEV **Kiev** 144.84 334 *e*PKPdf **PKPab** 12 54 53.4 -0.5
BSD **Bornholm Skovb** 144.94 351 ⇑*i*PKIKP **PKPab** 12 54 53.8 -0.3
BSD pmax pmax
comp=Z,23nm,1.0s
BSD **Bornholm Skovb** 144.94 351 ⇑*i*P **PKPab** 12 54 53.8 -0.3
comp=Z,23nm,1.0s
MARD **Mardin** 145.48 306 *i* P **PKPab** 12 54 57.7 +0.7
KELT **Kelkit** 145.55 312 *i* P **PKPab** 12 54 58.5 +1.4
GKP **Gorka Klasztor** 146.30 348 *e*PKP **PKPab** 12 54 59.1 -0.1
SIM **Simferopol'** 146.38 323 *c i* PKP2 **PKPbc** 12 54 59.0 0.0
SIM pmax pmax
comp=Z,33nm,0.8s
SIM MLR MLR
comp=Z,230nm,18.8s
ELZG **Elazig** 146.40 309 *i* P **PKPab** 12 55 01.7 +1.3
BSEG **Bad Segeberg** 146.62 355 *e*PKPbc **PKPab** 12 54 59.9 -0.5
BSEG **Bad Segeberg** 146.62 355 *e*PKP2 **PKPab** 12 54 59.9 -0.5
BEL **Belsk** 146.78 343 *e*PKP **PKPab** 12 55 00.6 -0.6
LVV **L'vov** 147.53 338 *e*PKP2 **PKPbc** 12 55 01.5 -0.6
RUE **Ruedersdorf** 147.66 351 *e*PKPdf **PKPdf** 12 54 58.4 -1.2
RUE *e*PKPbc **PKPbc** 12 55 03.0 +0.7
KIS **Kishinev** 147.78 330 *e*PKP **PKPdf** 12 55 01.0 +1.0
KIS *ep*PKP pPKPdf 12 55 46.0 +35
KIS LRM MLR 13 59 16.0
comp=Z,600nm,22.0s
KIS **Kishinev** 147.78 330 *e*PKIKP **PKPdf** 12 55 01.0 +1.0
KIS *e* 13 02 06.0
KIS MLR MLR
comp=Z,600nm,20.0s
KIS MLR MLR
comp=N,400nm,22.0s
KIS MLR MLR
comp=E,300nm,20.0s
KIS MLR MLR
comp=Z,600nm,22.0s
GZT **Gaziantep** 147.87 308 *i* P **PKPab** 12 55 05.2 -0.9
NRDL **Niedersach Rie** 148.07 355 *e*PKPbc **PKPbc** 12 55 03.6 +0.3
KWP **Kalwaria Pacla** 148.14 339 ⇑PKP2 **PKPbc** 12 55 04.3 +0.5
KWP **Kalwaria Pacla** 148.14 339 *e*PKPbc **PKPbc** 12 55 04.2 +0.5
KWP **Kalwaria Pacla** 148.14 339 ⇑*i*P **PKPbc** 12 55 04.3 +0.5
KWP **Kalwaria Pacla** 148.14 339 *e*PKP **PKPbc** 12 55 04.4 +0.6
CTKT **Corum** 148.36 315 *i* P **PKPab** 12 55 06.9 -1.2
IBBN **Ibbenburen** 148.39 358 *e*PKPbc **PKPbc** 12 55 04.9 +0.6
IBBN *e*PKPab **PKPab** 12 55 08.1 +0.6
OJC **Ojcow** 148.51 343 *e*PKP **PKPbc** 12 55 04.4 -0.3
CLZ **Clausthal** 148.69 355 *e*PKPbc **PKPbc** 12 55 05.7 +0.5
CLZ **Clausthal** 148.69 355 *e*PKP2 **PKPbc** 12 55 05.7 +0.5
KSP **Ksiaz** 148.79 347 *e*PKIKP **PKPdf** 12 55 02.3 +0.8
KSP **Ksiaz** 148.79 347 *e*PKP **PKPbc** 12 55 06.6 +1.2
STHS **Stebnicka Huta** 148.80 340 *e*PKP2 **PKPbc** 12 55 06.9 +1.4
STHS **Stebnicka Huta** 148.80 340 *e*PKP **PKPbc** 12 55 06.9 +1.4
BUR08 **Bucovina Ar. S** 148.87 334 *e*PKPbc **PKPbc** 12 55 06.4 +0.6
BURAR **Bucovina Array** 148.89 334 ⇓PKIKP **PKPdf** 12 55 01.7 -0.2
BURAR **Bucovina Array** 148.89 334 ⇓*i*P **PKPdf** 12 55 01.6 -0.3
CLL **Collm** 148.92 351 *e*PKPbc **PKPbc** 12 55 06.0 +0.3
CLL *e*PKPab **PKPab** 12 55 09.7 0.0
CLL **Collm** 148.92 351 ⇑*i*PKP2 **PKPbc** 12 55 06.2 +0.5
CLL pmax pmax
comp=Z,3.0nm,0.7s
CLL pmax pmax
comp=Z,55nm,1.0s
CLL **Collm** 148.92 351 *e*PKPdf **PKPdf** 12 55 02.0 +0.3
comp=Z,7.0nm,1.1s
CLL ⇑*i*PKPbc **PKPbc** 12 55 06.2 +0.5
comp=Z,55nm,0.7s
CLL *e*PKPab **PKPab** 12 55 09.0 -0.7
CLL *i* pPKPbc **pPKPbc** 12 55 15.5 -1.6
comp=Z,48nm,1.0s
CLL *i* pPKPab **pPKPab** 12 55 20.5 -0.4
CLL *e*PP **PP** 12 58 36.0 +0.3
CLL LmH 14 00 00.0
comp=N,200nm,21.2s
CLL LmH 14 00 00.0
comp=E,100nm,18.8s
CLL LmV 14 01 00.0
comp=Z,300nm,21.4s
TLCR 149.08 328 ⇑PKP2 **PKPbc** 12 55 07.2 +0.9
TLCR 149.08 328 ⇑*i*P **PKPbc** 12 55 07.2 +0.9
NIE **Niedzica** 149.08 341 *e*PKIKP **PKPdf** 12 55 04.0 +1.9
NIE **Niedzica** 149.08 341 *e*PKP **PKPdf** 12 55 04.0 +1.9
TESR **Tescani** 149.14 331 ⇓*i*P **PKPdf** 12 55 04.2 +2.0
CDAG **Cicekdag** 149.14 314 *i* P **PKPbc** 12 55 07.5 +0.8
UZH **Uzhgorod** 149.14 339 *i* PKP2 **PKPbc** 12 55 06.6 +0.3
UPC **Upice** 149.16 347 *e*PKIKP **PKPdf** 12 55 03.1 +1.0
UPC *e* 12 55 07.1
UPC *e* 12 55 11.1
UPC **Upice** 149.16 347 *e*PKPDF **PKPdf** 12 55 03.1 +1.0
UPC ⇑*e*PKP **PKiKP** 12 55 07.1 -0.5
UPC *e*PKPAB **PKPab** 12 55 11.1 +0.4
BRG **Berggiesshubel** 149.19 350 *e*PKP **PKPdf** 12 55 02.7 +0.5
comp=Z,16nm,1.5s
BRG *e* 12 55 07.2
comp=Z,42nm,0.8s
BRG
comp=N,309nm,19.2s
BRG
comp=E,265nm,20.5s
BRG
comp=Z,376nm,18.4s
BRG **Berggiesshubel** 149.19 350 *e*PKPbc **PKPbc** 12 55 07.0 +0.6
BRG *e*PKPab **PKPab** 12 55 11.1 +0.3
BRG **Berggiesshubel** 149.19 350 *e*PKIKP **PKPdf** 12 55 02.7 +0.5
BRG *e* 12 55 07.2
BRG pmax pmax
comp=Z,17nm,1.5s
BRG pmax pmax
comp=Z,42nm,0.8s
BRG MLR MLR
comp=N,309nm,19.2s
BRG MLR MLR
comp=E,265nm,20.5s
BRG MLR MLR
comp=Z,376nm,18.4s
DPC **Dobruska-Polom** 149.25 347 *e*PKIKP **PKPdf** 12 55 03.6 +1.3
DPC *e* 12 55 07.8
DPC *e* 12 55 11.7
DPC **Dobruska-Polom** 149.25 347 *e*PKPDF **PKPdf** 12 55 03.6 +1.3
DPC ⇑*e*PKP **PKiKP** 12 55 07.8 0.0
DPC *e*PKPAB **PKPab** 12 55 11.7 +0.6
DPC AMS AMS 14 01 00.0
BUG **Bochum--Univer** 149.27 358 *e*PKPbc **PKPbc** 12 55 06.8 +0.3
BUG *e*PKPab **PKPab** 12 55 10.7 -0.4
OKC **Ostrava-Krasne** 149.30 344 *e*PKP2 **PKPbc** 12 55 07.4 +0.7
OKC *e* 12 58 35.1
OKC MLR MLR
comp=Z,400nm,18.0s
OKC **Ostrava-Krasne** 149.30 344 ⇑*e*PKP **PKPbc** 12 55 07.4 +0.7
OKC *e*SKP 12 58 35.1
OKC AMS AMS 14 01 40.0
comp=Z,400nm,18.0s
PVCC **Panska Ves** 149.42 349 *e*PKP2 **PKPbc** 12 55 07.9 +0.9
PVCC MLR MLR
comp=Z,400nm,16.6s
PVCC **Panska Ves** 149.42 349 ⇑*e*PKP **PKPbc** 12 55 07.9 +0.9
PVCC AMS AMS 14 02 40.0
comp=Z,400nm,16.6s
CFR **Carcaliu** 149.42 328 ⇑PKP2 **PKPbc** 12 55 07.6 +0.5
CFR **Carcaliu** 149.42 328 ⇑*i*P **PKPbc** 12 55 07.6 +0.5
YURE **YUREGIR** 149.50 308 *i* P **PKPbc** 12 55 09.1 +1.4
MORC **Moravsky Berou** 149.51 345 *e*PKPdf **PKPdf** 12 55 02.7 -0.1
MORC *e*PKPbc **PKiKP** 12 55 08.1 -0.3
BR131 **Keskin Array S** 149.58 315 *e*PKPdf **PKPdf** 12 55 03.7 +0.3
BR131 *e*PKPbc **PKPbc** 12 55 08.4 +0.5
BRTR **Keskin Array B** 149.58 315 PKP **PKPdf** 12 55 03.6 +0.3
BRTR PKPbc **PKPbc** 12 55 07.9 0.0
BRTR PP **PP** 12 58 40.3 -0.5
BRTR **Keskin Array B** 149.58 315 PKP **PKPdf** 12 55 03.6 +0.3
comp=Z,7.0nm,0.7s,baz=135,slow=3.9,SNR=13
BRTR PKPbc **PKPbc** 12 55 07.9 0.0
comp=Z,12nm,0.7s,baz=147,slow=3.9,SNR=30
BRTR PP **PP** 12 58 40.3 -0.5
comp=Z,5.8nm,1.1s,baz=97,slow=5.1,SNR=6.5
VRI **Vrincioaia** 149.59 331 ⇓PKP2 **PKPbc** 12 55 06.9 -0.7
VRI **Vrincioaia** 149.59 331 ⇓*i*P **PKPbc** 12 55 06.9 -0.7
PLOR **Plostina** 149.64 331 ⇑PKP2 **PKPbc** 12 55 08.2 +0.5
PLOR **Plostina** 149.64 331 ⇑*i*P **PKPbc** 12 55 08.2 +0.5
UBBA **Unterbreizbach** 149.74 355 *e*PKPbc **PKPbc** 12 55 08.0 +0.4
MOX **Moxa** 149.75 353 *e*PKPbc **PKPbc** 12 55 08.2 +0.4
MOX *e*L L 14 02 24.4
comp=Z,301nm,20.3s
MOX **Moxa** 149.75 353 *e*PKP2 **PKPbc** 12 55 08.2 +0.4
MOX MLR MLR
comp=Z,600nm,20.3s
TIRR **Tirgusor** 149.79 327 ⇑PKP2 **PKPbc** 12 55 08.4 +0.3
TIRR **Tirgusor** 149.79 327 ⇑*i*P **PKPbc** 12 55 08.4 +0.3
KECS **Kecovo** 149.86 340 *e*PKP2 **PKPbc** 12 55 09.1 +1.0
KECS **Kecovo** 149.86 340 *e*PKP **PKPbc** 12 55 09.1 +1.0
TANN **Tannenbergstha** 149.86 352 *e*PKPbc **PKPbc** 12 55 08.3 +0.1
TANN *e*PKPab **PKPab** 12 55 14.2 +0.5
HARR **Harsova** 149.87 328 ⇑PKP2 **PKPbc** 12 55 09.2 +0.9
HARR **Harsova** 149.87 328 ⇑*i*P **PKPbc** 12 55 09.2 +0.9
PRA **Prague** 149.88 349 ⇑PKP **PKPbc** 12 55 10.0 +1.9
PRA AMS AMS 14 03 00.0
GULE **Gulek** 149.93 310 *i* P **PKPbc** 12 55 10.3 +1.4
BEBN **Eben Emael** 149.94 0 PKPbc **PKPbc** 12 55 08.7 +0.5
PRU **Pruhonice** 149.94 349 *e*PKP2 **PKPbc** 12 55 09.0 +0.7
PRU *e* 12 58 37.2
PRU MLR MLR
comp=Z,300nm,19.1s
PRU **Pruhonice** 149.94 349 ⇑*e*PKP **PKPbc** 12 55 09.0 +0.7
PRU *ep*PKP **PKPab** 12 55 18.0 +4.1
PRU *e*SKP 12 58 37.2
PRU AMS AMS 14 02 30.0
comp=Z,300nm,19.1s
ANTO **Ankara** 150.06 316 ⇑PKP2 **PKPbc** 12 55 09.7 +0.7
ANTO **Ankara** 150.06 316 *e*PKPbc **PKPbc** 12 55 10.0 +1.0
ANTO **Ankara** 150.06 316 ⇑*i*P **PKPbc** 12 55 09.7 +0.7
DOPR **Dopca** 150.11 332 ⇓*i*P **PKPbc** 12 55 10.4 +1.5
MEM **Membach** 150.13 360 PKP **PKPdf** 12 55 05.2 +1.5
MEM PKPbc **PKiKP** 12 55 09.7 +0.1
MLR **Muntele Rosu** 150.23 331 ⇑*i*P **PKPbc** 12 55 09.6 +0.3
ISR **Istrita** 150.24 330 ⇓PKIKP **PKPbc** 12 55 10.0 +0.8
ISR **Istrita** 150.24 330 ⇓*i*P **PKPbc** 12 55 10.0 +0.8
CJR **Cluj-Napoca** 150.26 335 ⇑*i*P **PKPbc** 12 55 09.6 +0.4
TREC **Trest** 150.42 347 *e*PKIKP **PKPbc** 12 55 10.1 +0.6
TREC MLR MLR
comp=Z,300nm,20.4s
TREC **Trest** 150.42 347 ⇑*e*PKP **PKPbc** 12 55 10.1 +0.6
TREC AMS AMS 14 01 30.0
comp=Z,300nm,20.4s
TNS **Taunus Mts** 150.44 357 *e*PKPbc **PKPbc** 12 55 10.1 +0.5
TNS *e*PKPab **PKPab** 12 55 16.3 +0.3
TNS **Taunus Mts** 150.44 357 *e*PKIKP **PKPbc** 12 55 10.1 +0.5
SECR 150.52 330 ⇓*i*P **PKPbc** 12 55 10.3 +0.4
ROTZ **Rotzenmuhle** 150.53 352 *e*PKPbc **PKPbc** 12 55 10.6 +0.9
ROTZ *e*PKPab **PKPab** 12 55 16.8 +0.4
DRGR 150.54 336 ⇑PKIKP **PKPbc** 12 55 10.7 +0.8
DRGR 150.54 336 ⇑*i*P **PKPbc** 12 55 10.7 +0.8
PSZ **Piszkesteto** 150.55 341 *e*PKIKP **PKPdf** 12 55 04.6 +0.1
PSZ *e* 12 55 10.8
PSZ **Piszkesteto** 150.55 341 ⇓PKIKP **PKPbc** 12 55 10.6 +0.7
PSZ **Piszkesteto** 150.55 341 *e*PKPdf **PKPdf** 12 55 04.6 +0.1
PSZ *e*PKPbc **PKiKP** 12 55 10.8 +0.2
PSZ **Piszkesteto** 150.55 341 ⇓*i*P **PKPbc** 12 55 10.6 +0.7
PSZ **Piszkesteto** 150.55 341 ⇓*e* **PKPbc** 12 55 11.0 +1.1
GIVF **Givet** 150.62 1 *e*PKIKP **PKPdf** 12 55 04.8 +0.4
DOU **Dourbes** 150.62 2 PKPbc **PKPbc** 12 55 10.4 +0.5
VOIR 150.68 332 ⇑PKIKP **PKPbc** 12 55 11.6 +1.3
VOIR 150.68 332 ⇑*i*P **PKPbc** 12 55 11.6 +1.3
KIZK **Mersin** 150.73 309 *i* P **PKPbc** 12 55 11.1 +0.5
GRF **Grafenberg Arr** 150.73 353 *e*PKPbc **PKPbc** 12 55 10.9 +0.7
GRF *e*PKPab **PKPab** 12 55 17.5 +0.3
GRF *e*L L 14 03 44.0
comp=Z,247nm,21.5s
GRF **Grafenberg Arr** 150.73 353 *e*PKIKP **PKPbc** 12 55 10.9 +0.7
GRFO **Grafenberg** 150.73 353 *e*PKIKP **PKPbc** 12 55 11.3 +1.1
GRFO **Grafenberg** 150.73 353 *e*PKPbc **PKPbc** 12 55 11.3 +1.1
ARR **Arges** 150.91 332 ⇑*i*P **PKPbc** 12 55 12.6 +1.8
KHC **Kasperske Hory** 150.94 350 *e*PKIKP **PKPdf** 12 55 05.7 +0.7
KHC *e* 12 55 11.8
KHC **Kasperske Hory** 150.94 350 *e*PKPDF **PKPdf** 12 55 05.8 +0.7
KHC ⇑*e*PKP **PKiKP** 12 55 12.3 +0.9
KHC *e*PKPAB **PKPab** 12 55 16.4 -1.7
KHC *e*PKS **PKSdf** 12 58 40.6 +1.0
KHC AMS AMS 14 02 50.0
comp=Z,400nm,23.0s
KHC **Kasperske Hory** 150.94 350 *e*PKPdf **PKPdf** 12 55 05.7 +0.7
KHC *e*PKPbc **PKiKP** 12 55 11.8 +0.5
WET **Wettzell** 151.04 350 *e*PKPbc **PKPbc** 12 55 11.6 +0.6
WET *e*PKPab **PKPab** 12 55 19.0 +0.5
WET **Wettzell** 151.04 350 *e*PKIKP **PKPbc** 12 55 11.6 +0.6
WLF **Walferdange** 151.07 360 PKPbc **PKPbc** 12 55 12.1 +1.1
WLF **Walferdange** 151.07 360 *e*PKPbc **PKPbc** 12 55 11.9 +0.9
WLF *e*PKPab **PKPab** 12 55 19.3 +0.7
WLF **Walferdange** 151.07 360 *e*PKIKP **PKPbc** 12 55 12.1 +1.1
WLF *e* 12 55 19.3
WLF **Walferdange** 151.07 360 *e*PKPbc **PKPbc** 12 55 12.1 +1.1
WLF *e*PKPab **PKPab** 12 55 19.3 +0.7
GEC2 **GERESS Array S** 151.19 349 *e*PKPbc **PKPbc** 12 55 11.7 +0.2
GEC2 **GERESS Array S** 151.19 349 *e*PKIKP **PKPbc** 12 55 11.7 +0.2
GERES **GERESS Array B** 151.19 349 PKP **PKPdf** 12 55 06.0 +0.5
GERES PKPbc **PKPbc** 12 55 11.6 +0.2
GERES **GERESS Array B** 151.19 349 PKP **PKPdf** 12 55 06.0 +0.5
comp=Z,2.2nm,1.1s,baz=343,slow=1.4,SNR=7.9
GERES PKPbc **PKPbc** 12 55 11.6 +0.2
comp=Z,11nm,0.6s,baz=29,slow=3.0,SNR=68
BUD **Budapest** 151.20 341 ⇑*e*PKPdf **PKPbc** 12 55 12.2 +0.9
LOT **Lotru** 151.22 333 ⇓*i*P **PKPbc** 12 55 11.7 +0.1
DEV **Deva** 151.22 335 ⇑PKIKP **PKPbc** 12 55 12.4 +1.0
DEV **Deva** 151.22 335 ⇑*i*P **PKPbc** 12 55 12.4 +1.0
ROSF **Rostrenen** 151.44 13 *e*PKIKP **PKPdf** 12 55 05.7 -0.1
PKSN **Nyarlorinc** 151.46 340 ⇓*e*PKPdf **PKPbc** 12 55 13.5 +1.6
PKSG 151.47 342 ⇓*e*PKPdf **PKPbc** 12 55 13.0 +1.0
FLN **La Foliniere** 151.52 9 *e*PKIKP **PKPdf** 12 55 05.3 -0.6
FLN *e*R
comp=Z,447nm,19.5s
CSKK **Cs̆kako** 151.53 342 ⇓*e*PKPdf **PKPbc** 12 55 13.1 +1.0
PKS7 **Kunszentmiklos** 151.55 341 ⇑*e* **PKPbc** 12 55 12.9 +0.8
ERMK **Ermenek** 151.55 310 *i* P **PKPbc** 12 55 14.4 +1.6
BORA **Eskisehir** 151.56 318 *i* P **PKPbc** 12 55 13.2 +0.7
CONA **Conrad Observa** 151.63 346 ⇑*i*PKIKP **PKiKP** 12 55 13.2 +0.4
comp=Z,31nm,0.7s,SNR=23
SGMF **Saint Gilles** 151.66 12 *e*PKIKP **PKPdf** 12 55 06.1 0.0
PKST **T''s** 151.69 342 ⇑*e*PKPdf **PKPbc** 12 55 13.0 +0.5
SOP **Sopron** 151.69 345 ⇑*e* **PKPab** 12 55 20.2 -1.0
LANF **Langenberg** 151.71 357 PKP **PKPbc** 12 55 12.9 +0.4
LDF **La Druitiere** 151.73 8 *e*PKIKP **PKPdf** 12 55 06.0 -0.2
PKSB **Bocsa** 151.82 340 ⇓*e* **PKPab** 12 55 20.9 -0.9
GRR **Gorron** 151.82 9 *e*PKIKP **PKPdf** 12 55 06.8 +0.5
STU **Stuttgart** 151.84 355 *e*PKPbc **PKPbc** 12 55 13.2 +0.4
BOLV **Bolvadin** 151.88 315 *i* P **PKPbc** 12 55 14.3 +0.9
BZS **Buzias** 151.94 336 ⇓PKIKP **PKPbc** 12 55 13.9 +0.8
BZS **Buzias** 151.94 336 ⇓*i*P **PKPbc** 12 55 13.9 +0.8
CSS **Prodhromos** 151.95 306 *e*PKPbc **PKPbc** 12 55 14.3 +0.7
PKS2 **Kecel** 152.03 340 ⇑*e*PKPdf **PKPbc** 12 55 14.2 +1.0
MOA **Molln** 152.05 348 ⇑*i*PKIKP **PKPbc** 12 55 13.6 +0.3
comp=Z,15nm,0.6s,SNR=16
GAZI **Gazipasa** 152.16 310 *i* P **PKPbc** 12 55 13.7 -0.3
PAGF **Fort de Pagny** 152.18 0 *e*PKIKP **PKPdf** 12 55 07.5 +0.6
comp=Z,15nm,1.5s
ULDT **Uludag** 152.22 319 *i* P **PKPbc** 12 55 14.8 +0.6
FUR **Furstenfeldbru** 152.22 352 *e*PKPbc **PKPbc** 12 55 13.9 +0.2
FUR *e*PKPab **PKPab** 12 55 23.8 +0.3
MEZF **Maizieres J'vi** 152.23 1 *e*PKIKP **PKPdf** 12 55 07.8 +0.9
PKS9 **Tamasi** 152.23 341 ⇓*e*PKPdf **PKPbc** 12 55 14.5 +0.8
CDF **Champ du Feu** 152.30 358 *e*PKIKP **PKPdf** 12 55 07.2 0.0
BFO **Black Forest** 152.34 356 *e*PKPbc **PKPbc** 12 55 14.1 +0.1
BFO *e*PKPab **PKPab** 12 55 23.8 -0.1
BFO **Black Forest** 152.34 356 *e*PKPbc **PKPbc** 12 55 14.3 +0.4
BFO *e*PKPab **PKPab** 12 55 23.9 -0.1
RJOB **Jochberg** 152.42 350 *e*PKPbc **PKPbc** 12 55 14.1 -0.1
PKSM **Moragy** 152.46 341 ⇓PKIKP **PKPbc** 12 55 14.8 +0.6
PKSM **Moragy** 152.46 341 ⇓*i*P **PKPbc** 12 55 14.8 +0.6
PKSM **Moragy** 152.46 341 ⇓*e*PKPdf **PKPbc** 12 55 14.8 +0.6
ECH **Echery** 152.50 358 *e*PKIKP **PKPbc** 12 55 14.5 +0.2
ECH *e* 12 55 24.9
ECH **Echery** 152.50 358 *e*PKPbc **PKPbc** 12 55 14.5 +0.2
ECH *e*PKPab **PKPab** 12 55 24.9 +0.2
SFTF **Sexfontaines** 152.53 1 *e*PKIKP **PKPdf** 12 55 08.0 +0.6
GDZ **Gediz** 152.63 317 *i* P **PKPbc** 12 55 15.5 +0.4
HAU **Haudompre** 152.73 359 *e*PKIKP **PKPdf** 12 55 07.9 +0.2
HAU *e*R
comp=Z,351nm,22.0s
BEHE **Becsehely** 152.76 343 ⇓*e* **PKPab** 12 55 27.0 +1.3
MOF **Molkenrain** 152.87 358 PKP **PKPbc** 12 55 15.4 +0.2
RETA **Reutte** 152.96 353 ⇑*i*PKIKP **PKPbc** 12 55 15.5 +0.1
comp=Z,14nm,1.0s
KBA **Koelnbreinsper** 152.96 349 ⇑*i*PKIKP **PKPbc** 12 55 15.3 -0.2
comp=Z,12nm,0.6s,SNR=9.8
SOKA **Soboth** 153.00 346 ⇑*i*PKIKP **PKPbc** 12 55 15.4 -0.2
comp=Z,18nm,0.9s
WATA **Walderalm** 153.00 351 ⇑*i*PKIKP **PKPbc** 12 55 15.8 +0.2
comp=Z,13nm,0.5s
PERS **Pernice** 153.02 346 *i* PKPbc **PKPbc** 12 55 15.5 -0.1
WTTA **Wattenberg** 153.06 351 ⇑*i*PKIKP **PKPbc** 12 55 16.2 +0.4
comp=Z,37nm,0.6s,SNR=25
DAVA **Damuels** 153.25 354 ⇑*i*PKIKP **PKiKP** 12 55 16.6 +0.3
comp=Z,25nm,1.0s
FETA **Feichten** 153.42 353 ⇑*i*PKIKP **PKPbc** 12 55 17.0 +0.4
comp=Z,16nm,0.8s,SNR=6.3
LOR **Lormes** 153.42 3 *e*PKIKP **PKPdf** 12 55 09.3 +0.5
comp=Z,40nm,1.3s
LOR *e*R
comp=Z,527nm,21.2s
ABTA **Abfaltersbach** 153.43 350 ⇑*i*PKPbc **PKPbc** 12 55 16.1 -0.4
comp=Z,27nm,0.6s,SNR=13
SSF **Saint Saulge** 153.61 4 *e*PKIKP **PKPdf** 12 55 09.5 +0.5
GCIS **Gornji Cirnik** 153.62 345 *e*PKPdf **PKPdf** 12 55 09.3 +0.2
GCIS *i* PKPbc **PKiKP** 12 55 17.1 +0.2
MFF **Saint Martin d** 153.68 9 *e*PKIKP **PKPdf** 12 55 09.5 +0.4
comp=Z,20nm,1.2s
LJU **Ljubljana** 153.71 346 *i* PKPdf **PKPdf** 12 55 09.7 +0.5
LJU *i* PKPbc **PKiKP** 12 55 17.4 +0.3
VTS **Vitosha** 153.72 330 ⇓PKIKP **PKPdf** 12 55 12.1 +2.6
VTS **Vitosha** 153.72 330 ⇓*i*P **PKPdf** 12 55 12.1 +2.6
SMF **Signal de Mont** 154.04 3 *e*PKIKP **PKPdf** 12 55 09.9 +0.2
BOJS **Bojanci** 154.05 345 *e*PKPdf **PKPdf** 12 55 10.0 +0.3
BOJS *i* PKPbc **PKiKP** 12 55 18.3 +0.5
BGF **Bois d'Agland** 154.06 5 *e*PKIKP **PKPdf** 12 55 10.1 +0.4
TUE **Stuetta** 154.11 354 *e*PKPbc **PKPbc** 12 55 18.8 +0.6
TUE *e*PKPab **PKPab** 12 55 31.7 0.0
CABF **La Chapelle** 154.13 360 *e*PKIKP **PKPdf** 12 55 10.8 +0.9
TCF **Toulx Ste Croi** 154.28 6 *e*PKIKP **PKPdf** 12 55 10.1 +0.1
AGO **Saint Agoulin** 154.59 4 PKP **PKPbc** 12 55 17.3 -1.6
PYM **Petit Puy Mans** 154.88 5 PKP **PKPdf** 12 55 12.2 +1.3
RJF **Les Rejaudoux** 155.18 7 *e*PKIKP **PKPdf** 12 55 12.1 +0.8
RJF *e*R
comp=Z,497nm,22.2s
LPL **La Plagne** 155.21 359 *e*PKIKP **PKPdf** 12 55 13.1 +1.5
LPG **La Plagne** 155.23 358 *e*PKIKP **PKPdf** 12 55 12.6 +0.9
LBL **Lubilhac** 155.41 4 PKP **PKPdf** 12 55 15.8 +4.1
SSB **Saint Sauveur** 155.44 2 *e*PKPbc PKPdf 12 55 21.3 +10
SSB *e*PKPab **PKPab** 12 55 37.7 +0.5
CAF **Calviac** 155.61 7 *e*PKIKP **PKPdf** 12 55 12.9 +1.0
PGAV **Gavieira, Arco** 155.65 26 *e*PKPdf **PKPdf** 12 55 08.7 -3.4
PGAV **Gavieira, Arco** 155.65 26 *e*PKPab **PKPab** 12 55 36.6 -1.7
PGAV **Gavieira, Arco** 155.65 26 *e*LR LR 13 56 46.8
comp=Z,310nm,20.0s
BNI **Bardonecchia** 155.68 359 *e*PKP2 **PKPab** 12 55 39.6 +1.

PMRV	**Marv??o**	**158.12**	**28**	*e*PKPab	**PKPab**	**12 55 48.8**	**-0.1**
PMRV	**Marv??o**	**158.12**	**28**	*e*SS	SS	13 19 35.3	+11
PESTR	**Estremoz**	**158.48**	**30**	*e*PKPdf	**PKPdf**	**12 55 17.4**	**+1.7**
PESTR	**Estremoz**	**158.48**	**30**	*e*PKPab	**PKPab**	**12 55 50.9**	**+0.4**
PESTR	**Estremoz**	**158.48**	**30**	*e*SS	SS	13 19 39.9	+11
EVO	**Evora**	**158.55**	**31**	*e*PKIKP	**PKPdf**	**12 55 14.6**	**-1.2**
	comp=Z,13nm,0.8s						
EVO				*e*R			
	comp=Z,388nm,19.2s						
PNCL	**Nicolau / Gran**	**158.62**	**33**	*e*PKPdf	**PKPdf**	**12 55 14.0**	**-1.9**
MESJ	**Messejana**	**158.99**	**32**	*e*P	**PKPdf**	**12 55 16.1**	**-0.2**
MESJ				*e*PP	**PP**	**12 59 33.8**	**+0.8**
MESJ				AMS	AMS	14 05 35.9	
	comp=Z,252nm,17.9s						
MESJ	**Messejana**	**158.99**	**32**	*e*P	**PKPdf**	**12 55 16.1**	**-0.2**
MESJ	**Messejana**	**158.99**	**32**	A	A	14 05 35.9	
	comp=Z,252nm,17.9s						
MESJ	**Messejana**	**158.99**	**32**	*e*PKIKP	**PKPdf**	**12 55 16.1**	**-0.2**
MESJ				*e*		12 59 33.8	
MORF	**Marmelete**	**159.17**	**34**	*e*PKPdf	**PKPdf**	**12 55 17.4**	**+0.8**
MORF	**Marmelete**	**159.17**	**34**	*e*PKIKP	**PKPdf**	**12 55 16.6**	**0.0**
PCVE	**Castro Verde**	**159.24**	**33**	*e*PKPdf	**PKPdf**	**12 55 17.7**	**+1.1**
PCVE	**Castro Verde**	**159.24**	**33**	*e*PKPab	**PKPab**	**12 55 52.3**	**-1.5**
PCVE	**Castro Verde**	**159.24**	**33**	*e*SS	SS	13 19 50.0	+13
PAB	**San Pablo**	**159.25**	**23**	*e*PKIKP	**PKPdf**	**12 55 17.0**	**+0.3**
PAB	**San Pablo**	**159.25**	**23**	*e*PKPdf	**PKPdf**	**12 55 17.0**	**+0.3**
ESDC	**Sonseca Array**	**159.27**	**22**	PKP	**PKPdf**	**12 55 17.3**	**+0.6**
ESDC				PKPab	**PKPab**	**12 55 54.0**	**+0.1**
ESDC				PP	PP	12 59 43.0	+8.7
ESDC	**Sonseca Array**	**159.27**	**22**	PKP	**PKPdf**	**12 55 17.3**	**+0.6**
	comp=Z,2.2nm,1.0s,baz=359,slow=3.0,SNR=11						
ESDC				PKPab	**PKPab**	**12 55 54.0**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=325,slow=4.0,SNR=8.0						
ESDC				PP	PP	12 59 43.0	+8.7
	comp=Z,0.1nm,0.3s,baz=12,slow=6.6,SNR=4.6						
PBAR	**Barrancos**	**159.29**	**30**	*e*PKPdf	**PKPdf**	**12 55 17.9**	**+1.2**
PBAR	**Barrancos**	**159.29**	**30**	*e*PKPab	**PKPab**	**12 55 53.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**171.53**	**151**	PKP	**PKPdf**	**12 55 26.8**	**-0.7**
TORD				PKPab	**PKPab**	**12 56 48.9**	**+0.6**
TORD				PP	PP	13 00 43.7	+5.6
TORD	**Torodi Ar. Bea**	**171.53**	**151**	PKP	**PKPdf**	**12 55 26.8**	**-0.7**
	comp=Z,4.1nm,0.9s,baz=301,slow=1.0,SNR=14						
TORD				PKPab	**PKPab**	**12 56 48.9**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=200,slow=4.5,SNR=2.8						
TORD				PP	PP	13 00 43.7	+5.6
	comp=Z,1.7nm,1.0s,baz=161,slow=6.5,SNR=3.1						
TAM	**Tamanrasset**	**177.87**	**8**	*e*PKIKP	**PKPdf**	**12 55 30.3**	**+0.9**
TAM	**Tamanrasset**	**177.87**	**8**	*e*PKPdf	**PKPdf**	**12 55 30.3**	**+0.9**

CSEM ***11*** *12:52:44.6, 42°.29N×13°.46E, h9km, After ROM*
ROM 11 12:52:44.6±0.1, 42°.29N×13°.46E, h9km, MI2.0/15, Error ellipse: s-maj=1.0km s-min=0.8km az=99.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.08**	**327**	Pg	Pg	12 52 47.4	+0.5
AQU				Sg	Sg	12 52 48.9	+0.4
	1µm,0.3s						
AQU	**L'Aquila**	**0.08**	**327**	Pg	Pg	12 52 47.4	+0.5
AQU				Sg	Sg	12 52 48.9	+0.4
	1µm,0.3s						
CAMP	**Campotosto**	**0.25**	**351**	Pg	Pg	12 52 50.2	+0.3
CAMP				Sg	Sg	12 52 54.2	+0.8
	112nm,0.4s						
CAMP	**Campotosto**	**0.25**	**351**	Pg	Pg	12 52 50.2	+0.3
CAMP				Sg	Sg	12 52 54.2	+0.8
	112nm,0.4s						
FIAM	**Fiamignano**	**0.26**	**266**	Pg	Pg	12 52 50.5	+0.6
FIAM				Sg	Sg	12 52 54.4	+0.9
	280nm,0.5s						
FIAM	**Fiamignano**	**0.26**	**266**	Pg	Pg	12 52 50.5	+0.6
FIAM				Sg	Sg	12 52 54.4	+0.9
	280nm,0.5s						
PTQR	**Pietraquaria**	**0.27**	**189**	Pg	Pb	12 52 51.0	-0.8
PTQR				Sg	Sg	12 52 55.2	+1.3
	50nm,0.2s						
PTQR	**Pietraquaria**	**0.27**	**189**	Pg	Pb	12 52 51.0	-0.8
PTQR				Sg	Sg	12 52 55.2	+1.3
	50nm,0.2s						
VCEL	**Villa Celiera**	**0.30**	**69**	Pg	Pg	12 52 51.3	+0.5
VCEL				Sg	Sb	12 52 56.5	-1.1
	391nm,0.4s						
VCEL	**Villa Celiera**	**0.30**	**69**	Pg	Pg	12 52 51.3	+0.5
VCEL				Sg	Sb	12 52 56.5	-1.1
	391nm,0.4s						
TERO	**Teramo**	**0.35**	**18**	Pg	Pg	12 52 51.7	+0.1
TERO				Sg	Sg	12 52 57.5	+1.1
	134nm,0.2s						
TERO	**Teramo**	**0.35**	**18**	Pg	Pg	12 52 51.7	+0.1
TERO				Sg	Sg	12 52 57.5	+1.1
	134nm,0.2s						
INTR	**Introdacqua**	**0.43**	**130**	Pg	Pg	12 52 53.6	+0.5
INTR				Sg	Sb	12 53 00.7	-0.5
	207nm,0.3s						
INTR	**Introdacqua**	**0.43**	**130**	Pg	Pg	12 52 53.6	+0.5
INTR				Sg	Sb	12 53 00.7	-0.5
	207nm,0.3s						
VVLD	**Villa Vallelon**	**0.43**	**164**	Pg	Pg	12 52 53.5	+0.3
VVLD				Sg	Sg	12 53 00.0	+1.0
	44nm,0.5s						
VVLD	**Villa Vallelon**	**0.43**	**164**	Pg	Pg	12 52 53.5	+0.3
VVLD				Sg	Sg	12 53 00.0	+1.0
	44nm,0.5s						
LNSS	**Leonessa**	**0.44**	**316**	Pg	Pg	12 52 53.6	+0.2
LNSS				Sg	Sb	12 53 00.9	-0.7
	98nm,0.4s						
LNSS	**Leonessa**	**0.44**	**316**	Pg	Pg	12 52 53.6	+0.2
LNSS				Sg	Sb	12 53 00.9	-0.7
	98nm,0.4s						
CERT	**Cerreto**	**0.49**	**227**	Pg	Pg	12 52 54.4	+0.1
CERT				Sg	Sg	12 53 01.8	+1.0
	157nm,0.5s						
CERT	**Cerreto**	**0.49**	**227**	Pg	Pg	12 52 54.4	+0.1
CERT				Sg	Sg	12 53 01.8	+1.0
	157nm,0.5s						
GUAR	**Guarcino**	**0.51**	**193**	Pg	Pb	12 52 55.3	-0.5
GUAR				Sg	Sb	12 53 03.0	-0.3
	50nm,0.4s						
GUAR	**Guarcino**	**0.51**	**193**	Pg	Pb	12 52 55.3	-0.5
GUAR				Sg	Sb	12 53 03.0	-0.3
	50nm,0.4s						
MNS	**Montasola**	**0.59**	**280**	Pg	Pg	12 52 55.8	-0.2
	33nm,0.4s						
MNS	**Montasola**	**0.59**	**280**	Pg	Pg	12 52 55.8	-0.2
	33nm,0.4s						
LPEL	**Lama dei Pelig**	**0.59**	**114**	Pg	Pg	12 52 56.1	0.0
LPEL				Sg	Sb	12 53 05.3	-0.4
	82nm,0.4s						
LPEL	**Lama dei Pelig**	**0.59**	**114**	Pg	Pg	12 52 56.1	0.0
LPEL				Sg	Sb	12 53 05.3	-0.4
	82nm,0.4s						
MTCE	**Montecelio**	**0.60**	**244**	Pg	Pg	12 52 56.3	+0.1
MTCE				Sg	Sb	12 53 05.6	-0.2
	34nm,0.6s						
MTCE	**Montecelio**	**0.60**	**244**	Pg	Pg	12 52 56.3	+0.1
MTCE				Sg	Sb	12 53 05.6	-0.2
	34nm,0.6s						
SDI	**San Donato**	**0.64**	**156**	Pg	Pg	12 52 57.2	+0.2
SDI				Sg	Sb	12 53 06.4	-0.6
	22nm,0.2s						
SDI	**San Donato**	**0.64**	**156**	Pg	Pg	12 52 57.2	+0.2
SDI				Sg	Sb	12 53 06.4	-0.6
	22nm,0.2s						
OFFI	**Offida**	**0.67**	**14**	Pg	Pb	12 52 58.4	-0.1
OFFI	**Offida**	**0.67**	**14**	Pg	Pb	12 52 58.4	-0.1
CESX	**Cesi**	**0.73**	**297**	Pg	Pb	12 52 59.1	-0.4
CESX	**Cesi**	**0.73**	**297**	Pg	Pb	12 52 59.1	-0.4
FDMO	**Fiordimonte**	**0.80**	**340**	Pg	Pg	12 53 00.2	+0.2
	14nm,1.2s						
FDMO	**Fiordimonte**	**0.80**	**340**	Pg	Pg	12 53 00.2	+0.2
	14nm,1.2s						

IDC 11 12:56:25.2±2.2, 3°.15S×151°.82E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/17, mbtmp3.5/3, Error ellipse: s-maj=220.4km s-min=27.6km az=125.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.87**	**224**	P	P	13 01 40.0	-0.5
	1.5nm,1.0s,baz=50,slow=9.5,SNR=6.3						
ASAR	**Alice Springs**	**26.76**	**219**	P	P	13 02 07.5	+0.6
	0.6nm,0.9s,baz=53,slow=8.5,SNR=4.2						
ILAR	**Eielson Array**	**81.01**	**22**	P	P	13 08 41.5	-0.2
	0.4nm,0.8s,baz=246,slow=4.5,SNR=2.6						

MEX 11 13:01:15.0±1.2, 17°.48N×94°.78W, h162km±27km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**1.73**	**114**	*e*P	Pn	13 01 47.3	-0.7
TGIG				*i* S	Sn	13 02 10.6	-2.9
OXX	**Oaxaca**	**1.90**	**258**	*i* P	Pn	13 01 46.3	-3.7
OXX				*i* S	Sn	13 02 12.7	-4.2
HUIG	**Huatulco**	**2.13**	**217**	*e*P	Pn	13 01 50.3	-2.0
HUIG				*i* S	Sn	13 02 19.9	-1.2
TPIG	**Tehuac#an**	**2.63**	**291**	*e*P	Pn	13 01 57.6	-0.9
TPIG				*e*S	Sn	13 02 29.8	-2.3
CCIG	**Comitan**	**2.80**	**115**	*e*P	Pn	13 02 00.2	-0.4
CCIG				*i* S	Sn	13 02 33.7	-2.2
PNIG	**Pinotepa**	**3.38**	**252**	*e*P	Pn	13 02 05.7	-2.0
PNIG				*e*S	Sn	13 02 46.3	-2.3

IDC 11 13:31:12.5±2.7, 4°.86N×126°.70E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/22, mbtmp3.4/4, 1C, Error ellipse: s-maj=141.0km s-min=30.3km az=94.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**3.39**	**314**	*i* P	Pg	13 32 31.8	+14
FITZ	**Fitzroy Crossi**	**22.84**	**183**	P	P	13 36 16.7	-0.6
	0.9nm,0.7s,baz=356,slow=13,SNR=3.5						
WRA	**Warramunga Arr**	**25.76**	**163**	P	P	13 36 43.7	-1.4
	0.7nm,0.5s,baz=343,slow=9.8,SNR=10						
ASAR	**Alice Springs**	**29.21**	**166**	P	P	13 37 18.0	+2.0
	0.2nm,0.5s,baz=344,slow=11,SNR=3.4						
ILAR	**Eielson Array**	**84.11**	**25**	P	P	13 43 45.0	-0.1
	0.2nm,0.7s,baz=265,slow=5.8,SNR=4.0						

IDC ***11*** *13:36:00.1±0.8, 41°.03N×87°.88E, h0km, mb3.7/11, mb1 3.9/15, mb1mx3.8/30, mbtmp3.8/15, ML4.0/4, Error ellipse: s-maj=26.9km s-min=17.0km az=41.0*
ISCJB ***11*** *13:36:03.3±0.5, 41°.13N±0°.06×87°.80E±0°.08, h33km, mb3.9/18, Error ellipse: s-maj=11.0km s-min=5.8km az=39.1*
NNC ***11*** *13:36:03.2±1.1, 41°.13N×87°.55E, h0km, mb4.1, mpv4.2, Error ellipse: s-maj=12.7km s-min=8.1km az=72.0*
BJI ***11*** *13:36:03.0, 41°.02N×87°.77E, h6km, mb4.2/2, ML3.8/8, Ms3.6/2, Ms7 3.4/1*
ISC 11 13:36:05.2±0.8, 41°.06N±0°.08×87°.85E±0°.08, h35km, n34, σ1s68/43, mb3.9/18, 10C-10D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.76**	**358**	Pn	Pn	13 36 50.2	+3.3
WMQ				Sg	**Sn**	**13 37 24.6**	**+5.5**
WMQ				smax	smax		
	comp=N,640nm,0.7s						
WMQ				smax	smax		
	comp=E,670nm,0.5s						
MK31	**Makanchi Array**	**6.99**	**327**	Pn	**Pn**	**13 37 44.5**	**-0.5**
	comp=E,6.6nm,0.3s,baz=143,slow=14,SNR=355						
MK31				⇑Sn	**Sn**	**13 39 04.0**	**+0.7**
	comp=E,6.3nm,0.5s,baz=148,slow=24,SNR=5.3						
MK31				⇑Lg	Lg	13 39 40.2	
	comp=E,7.9nm,0.5s,baz=137,slow=31,SNR=3.9						
MKAR	**Makanchi Array**	**6.99**	**327**	Pn	**Pn**	**13 37 45.4**	**+0.3**
	comp=E,7.1nm,0.3s,baz=144,slow=14,SNR=279						
MKAR				Sn	**Sn**	**13 39 01.0**	**-2.3**
	comp=E,3.4nm,0.3s,baz=145,slow=24,SNR=7.5						
MKAR				Lg	Lg	13 39 38.6	
	comp=E,2.9nm,0.3s,baz=131,slow=31,SNR=5.1						
GTA	**Gaotai**	**9.30**	**96**	⇓P	Pn	13 38 26.7	+10
GTA				pP		13 38 30.2	
GTA				sP		13 38 32.8	
GTA				pmax	pmax		
	comp=Z,17nm,1.5s						
GTA				LR	LR		
	comp=N,140nm,5.0s						
GTA				LR	LR		
	comp=E,180nm,5.7s						
GTA				LR	LR		
	comp=Z,100nm,5.2s						
TKM2	**Tokmak 2**	**9.31**	**286**	⇑Pn	**Pn**	**13 38 15.6**	**-1.5**
	comp=Z,6.8nm,1.1s						
TKM2				⇑Sn	**Sn**	**13 39 59.5**	**-1.1**
	comp=Z,9.0nm,0.6s						
TKM2				⇑Lg	Lg	13 40 51.7	
	comp=Z,11nm,0.8s						
KURBB	**Kurchatov Arra**	**11.55**	**329**	⇓Pn	**Pn**	**13 38 45.9**	**-1.5**
	comp=Z,3.7nm,0.7s						
KURBB				⇓Sn	**Sn**	**13 40 56.5**	**+1.5**
	comp=Z,9.7nm,0.6s						
KURBB				⇑Lg	Lg	13 42 05.1	
	comp=Z,24nm,0.8s						
KURBB	**Kurchatov Arra**	**11.55**	**329**	Pn	**Pn**	**13 38 45.3**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=132,slow=13,SNR=26						
KURBB				Sn	**Sn**	**13 40 54.2**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=155,slow=4.5,SNR=4.4						
KURBB				Lg	Lg	13 42 05.0	
	comp=Z,0.1nm,0.3s,baz=138,slow=33,SNR=6.2						
ZALV	**Zalesovo Beam**	**13.05**	**352**	Pn	**Pn**	**13 39 06.0**	**-1.9**
	comp=Z,1.0nm,0.3s,baz=173,slow=13,SNR=39						
ZALV				Sn	**Sn**	**13 41 25.7**	**-5.9**
	comp=Z,0.3nm,0.3s,baz=161,slow=25,SNR=4.8						
SONM	**Songino Array**	**14.86**	**57**	Pn	**Pn**	**13 39 32.0**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=246,slow=14,SNR=4.6						
SONM				Lg	Lg	13 43 52.8	
	comp=Z,0.2nm,0.3s,baz=242,slow=31,SNR=4.3						
VOSK	**Vostochnaya**	**16.35**	**321**	⇓Pn	**Pn**	**13 39 49.7**	**-2.1**
	comp=Z,6.2nm,1.2s						
VOSK				⇑Sn	**Sn**	**13 42 53.1**	**+1.1**
	comp=Z,4.3nm,1.1s						
VOSK				⇓Lg	Lg	13 44 37.0	
	comp=Z,4.1nm,1.3s						
BVA0	**Borovoye Array**	**16.82**	**321**	⇓Pn	**Pn**	**13 39 56.5**	**-1.2**
	comp=Z,3.3nm,0.8s						
BVA0				⇓Sn	**Sn**	**13 43 03.8**	**+0.4**
	comp=Z,1.2nm,0.7s						
BVA0				⇓Lg	Lg	13 44 51.8	
	comp=Z,5.5nm,1.0s						
BVAR	**Borovoye Array**	**16.82**	**321**	Pn	**Pn**	**13 39 56.0**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=125,slow=13,SNR=16						
BRVK	**Borovoye**	**16.89**	**321**	⇑Pn	**Pn**	**13 39 56.9**	**-1.7**
	comp=Z,7.8nm,0.8s						
BRVK				⇑Sn	**Sn**	**13 43 05.2**	**+0.1**
	comp=Z,5.6nm,1.2s						
BRVK				⇓Lg	Lg	13 44 53.2	
	comp=Z,5.3nm,0.9s						
AB31	**Akbulak array**	**21.22**	**302**	⇓P	**P**	**13 40 47.5**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=99,slow=11,SNR=30						
AKTO	**Aktyubinsk**	**22.70**	**304**	⇑P	**P**	**13 41 04.8**	**+1.2**
	comp=Z,1.6nm,0.8s						
AKTO	**Aktyubinsk**	**22.70**	**304**	P	**P**	**13 41 04.8**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=82,slow=9.6,SNR=3.3						
NJ2	**Nanjing**	**26.37**	**100**	*e*P	**P**	**13 41 37.3**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
FINES	**FINESS Array B**	**41.78**	**321**	P	**P**	**13 43 51.0**	**+0.3**
	comp=Z,2.6nm,1.1s,baz=91,slow=9.9,SNR=6.2						
ARCES	**ARCESS Array B**	**42.61**	**333**	P	**P**	**13 43 57.8**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=81,slow=8.7,SNR=3.6						
ARCES				PcP	**PcP**	**13 45 49.6**	**+0.5**
	comp=Z,1.7nm,1.0s,baz=98,slow=5.6,SNR=3.2						
PETK	**Petropavlovsk-**	**47.22**	**50**	P	**P**	**13 44 34.8**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=283,slow=6.8,SNR=4.1						
NOA	**NORSAR Array B**	**48.95**	**321**	P	**P**	**13 44 47.6**	**0.0**
	comp=Z,0.8nm,0.8s,baz=233,slow=19,SNR=3.1						
LPG	**La Plagne**	**56.81**	**304**	*e*P	**P**	**13 45 47.3**	**+1.2**
	comp=Z,6.3nm,0.5s						
LPL	**La Plagne**	**56.81**	**304**	*e*P	**P**	**13 45 47.3**	**+1.2**
	comp=Z,14nm,0.7s						
ORIF	**Oris-en-Rattie**	**57.62**	**304**	*e*P	**P**	**13 45 52.0**	**+0.3**
	comp=Z,3.9nm,0.5s						
AVF	**Avril sur Loir**	**58.31**	**307**	*e*P	**P**	**13 45 57.2**	**+0.9**
VIVF	**Saint-Julien-l**	**58.41**	**304**	*e*P	**P**	**13 45 57.0**	**-0.1**
TCF	**Toulx Ste Croi**	**59.25**	**306**	*e*P	**P**	**13 46 03.5**	**+0.6**
	comp=Z,3.3nm,0.4s						
LASF	**Ste Croix**	**59.29**	**304**	*e*P	**P**	**13 46 04.2**	**+1.0**
	comp=Z,2.6nm,0.6s						
ILAR	**Eielson Array**	**66.16**	**22**	P	**P**	**13 46 48.4**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=304,slow=5.9,SNR=6.0						
ESDC	**Sonseca Array**	**66.57**	**303**	P	**P**	**13 46 52.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=37,slow=8.6,SNR=3.9						
WRA	**Warramunga Arr**	**74.46**	**135**	P	**P**	**13 47 40.5**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=334,slow=6.2,SNR=5.1						
YKA	**Yellowknife Ar**	**75.22**	**11**	P	**P**	**13 47 44.0**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=337,slow=5.9,SNR=9.4						
ASAR	**Alice Springs**	**77.29**	**137**	P	**P**	**13 47 56.9**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=336,slow=6.4,SNR=4.8						
TORD	**Torodi Ar. Bea**	**78.62**	**278**	P	**P**	**13 48 03.2**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=45,slow=5.2,SNR=8.4						

BJI ***11*** *13:46:17.7, 2°.63S×129°.25E, h10km, mB4.9/17, mb4.7/23, Ms4.6/13, Ms7 4.4/13*
NEIC ***11*** *13:46:24.9±0.5, 1°.92S×128°.89E, h10km, mb4.8/7, Error ellipse: s-maj=14.9km s-min=8.6km az=73.0*
IDC ***11*** *13:46:24.0±0.5, 1°.87S×128°.60E, h0km, mb4.2/15, mb1 4.3/17, mb1mx4.2/25, mbtmp4.3/17, ML4.1/2, MS3.4/2, Ms1 3.4/2, ms1mx2.8/32, Error ellipse: s-maj=25.5km s-min=11.5km az=73.0*
AUST ***11*** *13:46:24.4±1.2, 2°.00S×128°.84E, h0km, Error ellipse: s-maj=1.1km s-min=0.7km az=345.0*
ISCJB ***11*** *13:46:25.9±0.2, 1°.96S±0°.03×128°.86E±0°.03, h24km, mb4.5/28, MS4.1/5, Error ellipse: s-maj=4.5km s-min=3.2km az=141.9*
DJA ***11*** *13:46:28.6±1.2, 2°.S±2°×12°.9E±°, h13km±10km, M4.9/15, mB5.3/11, mb5.3/15, MLv5.0/14, Mw(mB)4.8/11*
ISC 11 13:46:27.5±0.3, 1°.95S±0°.03×128°.84E±0°.04, h24km, n119, σ1s79/139, mb4.5/28, MS4.2/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.39**	**176**	P	**Pb**	**13 46 55.8**	**+3.0**
MSAI				S	Sb	13 47 18.9	+8.7
LBMI	**Labuha**	**1.87**	**314**	P	**Pn**	**13 46 57.6**	**-0.3**
LBMI				S	**Sn**	**13 47 20.8**	**0.0**
SWI	**Sorong**	**2.65**	**66**	P	**Pn**	**13 47 08.1**	**-0.6**
SWI	**Sorong**	**2.65**	**66**	P	**Pn**	**13 47 07.7**	**-1.0**
	baz=2.7,SNR=267						
SWI				S	**Sn**	**13 47 41.4**	**+1.3**
	baz=2.7,SNR=6.8						
BNDI	**Bandanaira**	**2.77**	**157**	P	**Pb**	**13 47 14.4**	**-1.9**
BNDI	**Bandanaira**	**2.77**	**157**	P	**Pb**	**13 47 14.4**	**-1.9**
	baz=2.7,SNR=13						
TNTI	**Ternate**	**3.08**	**331**	P	**Pn**	**13 47 15.5**	**+0.9**
FAKI	**Fak Fak**	**3.54**	**106**	P	**Pn**	**13 47 21.7**	**+0.7**
FAKI	**Fak Fak**	**3.54**	**106**	P	**Pn**	**13 47 21.5**	**+0.5**
	baz=3.5,SNR=121						
FAKI				S	**Sn**	**13 48 01.1**	**-1.0**
	baz=3.5,SNR=4.8						
GAMI	**Galela, Maluku**	**3.90**	**344**	P	**Pn**	**13 47 27.9**	**+1.9**
MNI	**Manado**	**5.23**	**310**	P	**Pn**	**13 47 46.7**	**+2.5**
	211nm,0.5s,3µm1.1nm						
TLE	**Tual**	**5.34**	**133**	P	**Pn**	**13 47 48.3**	**+2.5**
RKPI	**Ransiki, Papua**	**5.35**	**85**	P	**Pn**	**13 47 45.4**	**-0.5**
	372nm,0.8s,12µm4.3nm						
KMSI	**Cibinong**	**5.46**	**297**	P	**Pn**	**13 47 49.0**	**+1.6**
	348nm,0.5s,8µm3.1nm						
LUWI	**Luwuk**	**6.13**	**278**	P	**Pn**	**13 47 57.4**	**+0.8**
	207nm,1.0s,3µm1.3nm						
LUWI	**Luwuk**	**6.13**	**278**	P	**Pn**	**13 47 57.0**	**+0.4**
	baz=6.1,SNR=15						
GTOI	**Gorontalo**	**6.37**	**294**	P	Pn	13 48 03.4	+3.5
	199nm,0.8s,2µm0.7nm						
BAKI	**Biak**	**7.30**	**84**	P	**Pn**	**13 48 13.0**	**+0.3**
	218nm,0.8s,2µm						
MRSI	**Marisa**	**7.31**	**289**	P	**Pn**	**13 48 12.4**	**-0.3**
	100nm,0.5s,1µm0.5nm						
SRPI	**Serui, Papua**	**7.40**	**90**	P	**Pn**	**13 48 14.9**	**+0.9**
	180nm,0.6s						
SOEI	**Soe**	**8.99**	**210**	P	Pn	13 48 42.5	+6.5
	114nm,0.7s						
SOEI	**Soe**	**8.99**	**210**	P	Pn	13 48 46.6	+11
	baz=9.0,SNR=4.2						
TTSI	**Tana Toraja**	**9.08**	**263**	P	Pn	13 48 40.6	+3.5
	55nm,0.5s,621nm						
SPSI	**Sidrap Palu**	**9.28**	**257**	P	Pn	13 48 45.3	+5.5
	147nm,0.6s,1µm						
BSSI	**Bau Bau, Buton**	**9.31**	**243**	P	Pn	13 48 46.1	+5.8
	72nm,0.6s						
BKSI	**Bulukumba**	**9.32**	**249**	P	Pn	13 48 46.4	+6.0
	110nm,0.6s,1µm						
KAPI	**Kappang**	**9.57**	**251**	*e*Pn	**Pn**	**13 48 45.6**	**+1.8**
KAPI	**Kappang**	**9.57**	**251**	P	Pn	13 48 49.4	+5.6
	119nm,0.9s,2µm						
KAPI	**Kappang**	**9.57**	**251**	Pn	Pn	13 48 49.1	+5.2
	12nm,0.3s,baz=106,slow=4.4,SNR=28						
KAPI				Sn	**Sn**	**13 50 30.3**	**-0.4**
	0.1nm,0.3s,baz=152,slow=15,SNR=1.7						
KAPI				LR	LR	13 52 15.5	
	comp=Z,222nm,19.0s,baz=90,slow=38						
MTN	**Manton Dam**	**11.06**	**168**	P	**Pn**	**13 49 04.5**	**+0.3**
	baz=11,SNR=268						
KDU	**Kakadu**	**11.26**	**162**	P	**Pn**	**13 49 05.9**	**-1.1**
	baz=11,SNR=141						
KDU				S	**Sn**	**13 51 10.0**	**-2.2**
	baz=11,SNR=6.1

STKA Stephens Creek 32.11 159 *eP* **P 13 52 53.6 +0.6**
43nm,2.8s
STKA Stephens Creek 32.11 159 P **P 13 52 53.9 +0.9**
6.1nm,0.4s,baz=332,slow=7.7,SNR=36
STKA Stephens Creek 32.11 159 P **P 13 52 54.3 +1.3**
baz=32,SNR=10
NWAO Narrogin (SRO) 32.69 198 *eP* P 13 52 55.3 -2.7
NWAO Narrogin (SRO) 32.69 198 P **P 13 52 58.4 +0.3**
4.9nm,0.5s,baz=69,slow=6.7,SNR=11
CMSA Cobar Meteorol 33.46 153 P **P 13 53 06.7 +1.9**
baz=34,SNR=24
NJ2 Nanjing 35.11 345 *eP* **P 13 53 19.1 0.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
GYA Guiyang 35.44 324 P **P 13 53 22.8 +0.6**
GYA PP **PP 13 54 43.2 +0.3**
GYA S **S 13 58 58.0 +1.9**
GYA ScP **ScP 13 59 37.4 +1.1**
GYA ScS **ScS 14 03 40.6 -0.4**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,110nm,4.9s
GYA LR LR
comp=N,560nm,17.0s
GYA LR LR
comp=E,490nm,18.3s
GYA LR LR
comp=Z,540nm,17.5s
ARMA Armidale 35.62 145 P **P 13 53 26.6 +3.0**
baz=36,SNR=5.9
CMAR Chiang Mai Arr 35.73 306 P **P 13 53 23.7 -0.9**
CMAR Chiang Mai Arr 35.73 306 P **P 13 53 23.7 -0.9**
comp=Z,0.4nm,0.3s,baz=139,slow=8.4,SNR=4.3
ARPS Mount Arapiles 36.67 162 P **P 13 53 34.5 +2.1**
baz=37,SNR=52
YNG Young 37.00 153 P **P 13 53 38.0 +2.6**
baz=37,SNR=10.0
MGCD Mangrove Creek 37.46 149 P P 13 53 44.1 +4.9
baz=38,SNR=8.2
TOO Toolangi 38.62 159 P **P 13 53 51.8 +2.8**
baz=39,SNR=6.4
KSAR Wonju Array Be 39.20 359 P **P 13 53 53.2 -0.5**
KSRS Korea Array 39.21 359 P **P 13 53 53.2 -0.6**
comp=Z,0.6nm,0.5s,baz=171,slow=10.0,SNR=4.1
MAJO Matsushiro 39.27 12 *eP* **P 13 53 52.3 -2.1**
MAT Matsushiro 39.27 12 P **P 13 53 52.2 -2.2**
CD2 Chengdu 40.47 326 P **P 13 54 05.9 +1.4**
CD2 sP **sP 13 54 12.9 -1.8**
CD2 PP **PnPn 13 55 43.2 +1.3**
CD2 PcP **PcP 13 56 08.3 +1.2**
CD2 ScP **ScP 13 59 56.6 +1.4**
CD2 PcS **PcS 13 59 57.9 +0.1**
CD2 S **S 14 00 15.6 +3.6**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.4s
BJI Beijing 43.37 346 P **P 13 54 27.7 -0.2**
BJI S **S 14 00 58.0 +3.6**
BJI SS **SS 14 04 13.3 +4.5**
BJI pmax pmax
comp=Z,13nm,0.5s
BJI pmax pmax
comp=Z,140nm,5.1s
TAU Tasmania Unive 44.00 160 *eP* P 13 54 27.5 -5.5
LZH Lanzhou 44.44 331 *eP* **P 13 54 37.5 +0.6**
LZH pP **pP 13 54 41.2 -3.0**
LZH sP **sP 13 54 43.5 -3.7**
LZH pmax pmax
comp=Z,14nm,1.0s
HHC Hu-ho-hao-te 45.41 342 *eP* **P 13 54 44.4 0.0**
HHC sP **sP 13 54 51.8 -2.9**
HHC PP **PP 13 56 31.7 +0.7**
HHC S **S 14 01 25.4 +0.9**
HHC ScS **ScS 14 04 36.9 -2.9**
HHC SS **SS 14 04 42.9 -5.4**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,110nm,4.2s
HHC LR LR
comp=N,280nm,15.5s
HHC LR LR
comp=E,300nm,13.1s
HHC LR LR
comp=Z,100nm,15.5s
CN2 Changchun 45.65 357 *eP* **P 13 54 45.5 -0.6**
CN2 PP **PP 13 56 33.1 -0.2**
CN2 *eS* **S 14 01 28.1 +0.6**
CN2 LR LR
comp=N,400nm,20.0s
CN2 LR LR
comp=E,100nm,20.0s
CN2 LR LR
comp=Z,300nm,21.0s
USRK Ussuriysk Arra 46.03 3 P **P 13 54 47.8 -1.3**
comp=Z,1.4nm,0.6s,baz=199,slow=7.2,SNR=3.6
MDJ Mudanjiang 46.36 1 P **P 13 54 51.3 -0.4**
MDJ sP sP 13 54 55.2 -6.8
MDJ S **S 14 01 42.0 +4.2**
MDJ pmax pmax
comp=Z,5.0nm,1.0s
MDJ pmax pmax
comp=Z,81nm,6.5s
ASAJ Asahikawa 47.48 13 P **P 13 55 01.1 +0.6**
ASAJ Asahikawa 47.48 13 P **P 13 55 01.1 +0.6**
comp=Z,3.9nm,1.1s,baz=284,slow=17,SNR=2.5
GTA Gaotai 49.03 330 *eP* **P 13 55 13.1 +0.4**
GTA pP **pP 13 55 17.6 -2.5**
GTA sP **sP 13 55 20.1 -2.9**
GTA S **S 14 02 17.7 +1.6**
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA pmax pmax
comp=Z,100nm,5.2s
GTA LR LR
comp=N,91nm,14.7s
GTA LR LR
comp=E,86nm,16.6s
GTA LR LR
comp=Z,150nm,17.6s
ULN Ulaanbaatar 53.13 342 *eP* **P 13 55 41.4 -2.0**
comp=Z,5.3nm,1.0s
SONM Songino Array 53.31 341 P **P 13 55 44.7 0.0**
SONM Songino Array 53.31 341 P **P 13 55 44.7 0.0**
comp=Z,0.6nm,0.6s,baz=164,slow=7.2,SNR=7.1
RPZ Rata Peaks 55.95 144 P **P 13 56 06.3 +2.5**
RPZ Rata Peaks 55.95 144 P **P 13 56 06.3 +2.5**
comp=Z,3.7nm,0.5s,baz=329,slow=5.9,SNR=4.1
PETK Petropavlovsk- 59.95 20 P **P 13 56 32.2 +0.6**
PETK Petropavlovsk- 59.95 20 P **P 13 56 32.2 +0.6**
comp=Z,4.0nm,1.0s,baz=132,slow=2.2,SNR=3.8
PETK LR LR 14 22 18.0
comp=Z,36nm,18.6s,baz=303,slow=36
MK31 Makanchi Array 63.40 326 *eP* **P 13 56 54.1 -1.0**
MKAR Makanchi Array 63.40 326 *eP* **P 13 56 54.4 -0.7**
MKAR Makanchi Array 63.40 326 P **P 13 56 54.1 -1.0**
comp=Z,2.8nm,0.7s,baz=124,slow=7.3,SNR=54
KSH Kashi 63.56 316 *eP* **P 13 56 58.5 +2.1**
KSH sP **sP 13 57 04.1 -2.8**
KURBB Kurchatov Arra 67.63 328 P **P 13 57 21.4 -1.0**
comp=Z,1.6nm,0.6s,baz=129,slow=5.8,SNR=6.8
KURK Kurchatov 67.64 328 P **P 13 57 21.4 -1.0**
BVAR Borovoye Array 73.20 327 P **P 13 57 54.4 -1.9**
BVAR Borovoye Array 73.20 327 P **P 13 57 54.4 -1.9**
comp=Z,1.0nm,0.5s,baz=127,slow=9.3,SNR=4.7
BRVK Borovoye 73.28 327 *eP* **P 13 57 55.9 -0.9**
VNDA Vanda 77.57 173 *eP* **P 13 58 22.3 +1.3**
VNDA Vanda 77.57 173 P **P 13 58 22.2 +1.3**
comp=Z,2.5nm,0.6s,baz=334,slow=4.8,SNR=14
MAW Mawson 79.21 201 P **P 13 58 31.4 +1.2**
MAW Mawson 79.21 201 P **P 13 58 31.4 +1.2**
comp=Z,2.1nm,0.7s,baz=30,slow=6.6,SNR=5.0
AKTO Aktyubinsk 79.40 322 P **P 13 58 33.7 +2.1**
AKTO Aktyubinsk 79.40 322 P **P 13 58 33.7 +2.1**
comp=Z,1.5nm,0.6s,baz=71,slow=6.0,SNR=3.5
KMBO Kilima Mbogo 91.55 269 *eP* **P 13 59 32.9 -0.5**
CPUP Villa Florida 151.26 168 PKPbc **PKPbc 14 06 19.6 -0.1**
comp=Z,1.6nm,0.7s,baz=64,slow=2.8,SNR=3.6

*BJI **11** 13:48:39.4, 33.84N×24.45E, h10km, mB5.0/2, mb4.6/5*
*ISCJB **11** 13:48:45.6±0.8, 33.89N±0.02×25.45E±0.02, h13km±5km,*
mb4.2/46, Error ellipse: s-maj=3.9km s-min=2.5km az=17.3
*IDC **11** 13:48:45.8±0.7, 34.05N×25.37E, h0km, mb4.2/21, mb1 4.3/29, mb1mx4.3/37, mbtmp4.2/29, ML4.0/6, Error ellipse: s-maj=17.8km s-min=12.4km az=4.0*
*CSEM **11** 13:48:46.1±0.1, 33.92N×25.40E, h2km, mb4.4/22, Mw3.8, Error ellipse: s-maj=4.2km s-min=2.5km az=21.0*
*ATH **11** 13:48:46.7, 33.99N×25.37E, h1km±2km, MD3.8/22*
*THE **11** 13:48:49.2, 34.13N×25.39E, h6km±3km, ML3.7/2, Error ellipse: s-maj=4.1km s-min=1.3km az=130.0*
*VIE **11** 13:48:52.0, 34.10N×25.37E, h40km, mb4.0*
*ISK **11** 13:48:52.8, 34.17N×25.69E, h32km, MD4.4*
ISC 11 13:48:47.9±0.8, 33.97N±0.04×25.41E±0.03, h15km±4km, n323, σ1°38/369, mb4.3/45, 1C-2D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.93**	**14**	*e*PB	**Pb**		**13 49 04.3**	**-1.5**
XRY	**Khrisi**	**0.93**	**14**	*e*Pb	**Pb**		**13 49 04.3**	**-1.5**
SIVA	**Sivas**	**1.16**	**335**	P	**Pn**		**13 49 07.6**	**-1.9**
SIVA				S	**Sb**		**13 49 22.7**	**-1.7**
SIVA	**Sivas**	**1.16**	**335**	*e*PB	**Pn**		**13 49 08.1**	**-1.4**
SIVA				*e*SB	**Sb**		**13 49 24.1**	**-0.3**
SIVA	**Sivas**	**1.16**	**335**	P	**Pn**		**13 49 07.6**	**-1.9**
SIVA	**Sivas**	**1.16**	**335**	*e*Pb	**Pn**		**13 49 08.1**	**-1.4**
SIVA				S	**Sb**		**13 49 22.7**	**-1.7**
SIVA				*e*Sb	**Sb**		**13 49 24.1**	**-0.3**
LAST	**Lasithi**	**1.19**	**3**	P	**Pn**		**13 49 08.2**	**-1.9**
LAST				S	**Sb**		**13 49 22.7**	**-2.8**
LAST	**Lasithi**	**1.19**	**3**	*e*PN	**Pn**		**13 49 08.4**	**-1.7**
LAST	**Lasithi**	**1.19**	**3**	*e*Pn	**Pn**		**13 49 08.4**	**-1.7**
LAST				S	**Sb**		**13 49 22.7**	**-2.8**
NPS	**Neapolis**	**1.30**	**7**	P	**Pn**		**13 49 10.2**	**-1.3**
NPS				S	**Sn**		**13 49 26.4**	**-2.3**
NPS	**Neapolis**	**1.30**	**7**	*e*PB	**Pn**		**13 49 10.4**	**-1.1**
NPS	**Neapolis**	**1.30**	**7**	P	**Pn**		**13 49 10.2**	**-1.3**
NPS				S	**Sn**		**13 49 26.4**	**-2.3**
ZKR	**Zakros**	**1.32**	**30**	*e*PG	**Pn**		**13 49 11.2**	**-0.6**
ZKR	**Zakros**	**1.32**	**30**	*e*Pg	**Pn**		**13 49 11.2**	**-0.6**
IDI	**Anoyia**	**1.39**	**342**	P	**Pn**		**13 49 11.7**	**-1.0**
IDI				S	**Sn**		**13 49 28.4**	**-2.4**
IDI	**Anoyia**	**1.39**	**342**	*e*PG	**Pn**		**13 49 11.6**	**-1.1**
IDI				*e*SB	**Sn**		**13 49 30.9**	**+0.1**
IDI	**Anoyia**	**1.39**	**342**	P	**Pn**		**13 49 11.7**	**-1.0**
IDI				*e*Sb	**Sn**		**13 49 30.9**	**+0.1**
GVD	**Gavdhos**	**1.40**	**309**	P	**Pn**		**13 49 11.7**	**-1.1**
GVD				S	**Sn**		**13 49 30.1**	**-0.9**
GVD	**Gavdhos**	**1.40**	**309**	*e*PB	**Pn**		**13 49 12.3**	**-0.5**
GVD	**Gavdhos**	**1.40**	**309**	P	**Pn**		**13 49 11.7**	**-1.1**
GVD	**Gavdhos**	**1.40**	**309**	*e*Pb	**Pn**		**13 49 12.3**	**-0.5**
VAM	**Vamos**	**1.75**	**325**	P	**Pn**		**13 49 18.0**	**+0.3**
VAM	**Vamos**	**1.75**	**325**	*e*PN	**Pn**		**13 49 18.8**	**+1.1**
VAM	**Vamos**	**1.75**	**325**	P	**Pn**		**13 49 18.0**	**+0.3**
VAM	**Vamos**	**1.75**	**325**	*e*Pn	**Pn**		**13 49 18.8**	**+1.1**
KARP	**Karpathos**	**2.13**	**42**	P	**Pb**		**13 49 25.1**	**-1.2**
KARP				S	**Sb**		**13 49 52.0**	**-0.6**
KARP	**Karpathos**	**2.13**	**42**	*e*PG	**Pb**		**13 49 25.6**	**-0.7**
KARP				*e*SN	**Sb**		**13 49 52.3**	**-0.3**
KARP	**Karpathos**	**2.13**	**42**	P	**Pb**		**13 49 25.1**	**-1.2**
KARP	**Karpathos**	**2.13**	**42**	*e*Pg	**Pb**		**13 49 25.6**	**-0.7**
KARP				S	**Sb**		**13 49 52.0**	**-0.6**
LTBQ	**Tobruq**	**2.28**	**214**	*i* P	**Pn**		**13 49 25.0**	**0.0**
	SNR=44							
THR1	**Thera Island**	**2.40**	**1**	P	**Pn**		**13 49 27.1**	**+0.5**
THR1	**Thera Island**	**2.40**	**1**	P	**Pn**		**13 49 27.1**	**+0.5**
THR3	**Thira Island,**	**2.44**	**360**	P	**Pn**		**13 49 28.3**	**+1.2**
THR3	**Thira Island,**	**2.44**	**360**	P	**Pn**		**13 49 28.3**	**+1.2**
THR2	**Thira island,**	**2.47**	**0**	P	**Pn**		**13 49 28.8**	**+1.2**
THR2	**Thira island,**	**2.47**	**0**	P	**Pn**		**13 49 28.8**	**+1.2**
ANKY	**Antikythira Is**	**2.57**	**318**	P	**Pn**		**13 49 30.7**	**+1.8**
ANKY	**Antikythira Is**	**2.57**	**318**	*e*PG	**Pb**		**13 49 32.9**	**-0.8**
ANKY	**Antikythira Is**	**2.57**	**318**	P	**Pn**		**13 49 30.7**	**+1.8**
ANKY	**Antikythira Is**	**2.57**	**318**	*e*Pg	**Pb**		**13 49 32.9**	**-0.8**
NIS1	**Nisyros Isl.**	**3.00**	**28**	P	**Pn**		**13 49 36.5**	**+1.6**
NIS1	**Nisyros Isl.**	**3.00**	**28**	*e*PB	**Pn**		**13 49 36.9**	**+2.0**
NIS1	**Nisyros Isl.**	**3.00**	**28**	P	**Pn**		**13 49 36.5**	**+1.6**
NIS1	**Nisyros Isl.**	**3.00**	**28**	*e*Pb	**Pn**		**13 49 36.9**	**+2.0**
KYTH	**Kithira**	**3.02**	**321**	*e*PB	**Pn**		**13 49 37.4**	**+2.2**
KYTH	**Kithira**	**3.02**	**321**	*e*Pb	**Pn**		**13 49 37.4**	**+2.2**
APE	**Apeiranthos**	**3.10**	**2**	*e*PN	**Pn**		**13 49 38.0**	**+1.8**
APE				*e*SN	**Sn**		**13 50 09.9**	**-3.1**
APE	**Apeiranthos**	**3.10**	**2**	P	**Pn**		**13 49 36.4**	**+0.2**
APE	**Apeiranthos**	**3.10**	**2**	*e*PN	**Pn**		**13 49 37.1**	**+0.9**
APE	**Apeiranthos**	**3.10**	**2**	P	**Pn**		**13 49 36.4**	**+0.2**
APE	**Apeiranthos**	**3.10**	**2**	*e*Pn	**Pn**		**13 49 37.1**	**+0.9**
APE				*e*Sn	**Sn**		**13 50 09.9**	**-3.1**
ARG	**Arkhangelos**	**3.16**	**44**	P	**Pn**		**13 49 39.8**	**+2.7**
ARG	**Arkhangelos**	**3.16**	**44**	*e*PB	**Pn**		**13 49 39.7**	**+2.7**
ARG	**Arkhangelos**	**3.16**	**44**	*e*Pb	**Pn**		**13 49 39.7**	**+2.7**
DAT	**Datca**	**3.27**	**32**	*e*PN	**Pn**		**13 49 39.4**	**+0.6**
DAT	**Datca**	**3.27**	**32**	*e*Pn	**Pn**		**13 49 39.4**	**+0.6**
VLI	**Veliai**	**3.41**	**324**	P	**Pn**		**13 49 40.7**	**+0.2**
VLI				S	**Sn**		**13 50 27.1**	**-0.2**
VLI	**Veliai**	**3.41**	**324**	*e*PN	**Pn**		**13 49 42.0**	**+1.5**
VLI	**Veliai**	**3.41**	**324**	P	**Pn**		**13 49 40.7**	**+0.2**
VLI	**Veliai**	**3.41**	**324**	*e*Pn	**Pn**		**13 49 42.0**	**+1.5**
VLI				S	**Sn**		**13 50 20.4**	**-0.2**
BODT	**Bodrum**	**3.45**	**26**	*e*PN	**Pn**		**13 49 41.9**	**+0.8**
BODT	**Bodrum**	**3.45**	**26**	*e*Pn	**Pn**		**13 49 41.9**	**+0.8**
DYR	**Agios Nikonas**	**3.75**	**319**	*e*PB	Pn		13 49 48.7	+3.4
DYR	**Agios Nikonas**	**3.75**	**319**	*e*Pb	Pn		13 49 48.7	+3.4
MLSB	**Milas**	**3.84**	**29**	*e*PN	**Pn**		**13 49 47.1**	**+0.7**
MLSB	**Milas**	**3.84**	**29**	*e*Pn	**Pn**		**13 49 47.1**	**+0.7**
DALY	**Dalyan (Mu¨la**	**3.88**	**42**	*e*PN	**Pn**		**13 49 47.9**	**+0.9**
DALY	**Dalyan (Mu¨la**	**3.88**	**42**	*e*Pn	**Pn**		**13 49 47.9**	**+0.9**
TURN	**Turunc**	**3.90**	**41**	*i* P	**Pn**		**13 49 47.3**	**+0.1**
TURN				*i* S	Sn		13 50 27.1	-5.5
TURN	**Turunc**	**3.90**	**41**	*i* P	**Pn**		**13 49 47.3**	**+0.1**
SMG	**Samos**	**3.91**	**17**	*e*PN	**Pn**		**13 49 48.4**	**+1.0**
SMG	**Samos**	**3.91**	**17**	*e*Pn	**Pn**		**13 49 48.4**	**+1.0**
YER	**Yerkesik**	**3.93**	**36**	*e*PN	**Pn**		**13 49 48.9**	**+1.2**
YER	**Yerkesik**	**3.93**	**36**	*e*Pn	**Pn**		**13 49 48.9**	**+1.2**
DID	**Didima**	**3.95**	**334**	*e*PN	**Pn**		**13 49 47.4**	**-0.5**
DID	**Didima**	**3.95**	**334**	*e*Pn	**Pn**		**13 49 47.4**	**-0.5**
FETY	**Fethiye**	**4.01**	**47**	*e*PN	**Pn**		**13 49 49.5**	**+0.7**
FETY	**Fethiye**	**4.01**	**47**	*e*Pn	**Pn**		**13 49 49.5**	**+0.7**
AKAS	**Kas**	**4.11**	**55**	*i* P	**Pn**		**13 49 51.3**	**+1.0**
AKAS				*i* S	**Sn**		**13 50 37.6**	**-0.6**
AKAS	**Kas**	**4.11**	**55**	*i* P	**Pn**		**13 49 51.3**	**+1.0**
AKAS				*i* S	**Sn**		**13 50 37.6**	**-0.6**
PYL	**PYLOS**	**4.18**	**315**	*e*PN	**Pn**		**13 49 53.1**	**+2.0**
PYL	**PYLOS**	**4.18**	**315**	*e*Pn	**Pn**		**13 49 53.1**	**+2.0**
AYDN	**Tasoluk**	**4.19**	**28**	*i* P	**Pn**		**13 49 53.5**	**+2.1**
AYDN				*i* S	**Sn**		**13 50 37.3**	**-2.8**
AYDN	**Tasoluk**	**4.19**	**28**	*i* P	**Pn**		**13 49 53.5**	**+2.1**
AYDN				*i* S	**Sn**		**13 50 37.3**	**-2.8**
PTL	**Penteli**	**4.26**	**343**	*e*PN	**Pn**		**13 49 52.8**	**+0.6**
PTL	**Penteli**	**4.26**	**343**	*e*Pn	**Pn**		**13 49 52.8**	**+0.6**
ITM	**Ithomi**	**4.28**	**319**	*e*PN	**Pn**		**13 49 53.4**	**+0.9**
ITM	**Ithomi**	**4.28**	**319**	*e*Pn	**Pn**		**13 49 53.4**	**+0.9**
CHOS	**Chios island**	**4.44**	**7**	*e*PN	**Pn**		**13 49 55.4**	**+0.7**
CHOS	**Chios island**	**4.44**	**7**	*e*Pn	**Pn**		**13 49 55.4**	**+0.7**
LTK	**Loutraki**	**4.51**	**335**	*e*PN	**Pn**		**13 49 56.8**	**+1.2**
LTK	**Loutraki**	**4.51**	**335**	*e*Pn	**Pn**		**13 49 56.8**	**+1.2**
AMT	**Artemida-Makis**	**4.66**	**321**	*e*PN	**Pn**		**13 50 00.2**	**+2.5**
AMT	**Artemida-Makis**	**4.66**	**321**	*e*Pn	**Pn**		**13 50 00.2**	**+2.5**
GUR	**Goura**	**4.68**	**329**	*e*PN	**Pn**		**13 49 58.5**	**+0.5**
GUR	**Goura**	**4.68**	**329**	*e*Pn	**Pn**		**13 49 58.5**	**+0.5**
GOLH	**Golhisar**	**4.70**	**45**	*i* P	**Pn**		**13 50 00.4**	**+2.1**
GOLH				*i* S	**Sn**		**13 50 53.0**	**+0.4**
GOLH	**Golhisar**	**4.70**	**45**	*i* P	**Pn**		**13 50 00.4**	**+2.1**
GOLH				*i* S	**Sn**		**13 50 53.0**	**+0.4**
DNZL	**Cakiroluk**	**4.74**	**37**	*i* P	**Pn**		**13 50 01.6**	**+2.6**
DNZL				*i* S	**Sn**		**13 50 54.5**	**+0.7**
DNZL	**Cakiroluk**	**4.74**	**37**	*i* P	**Pn**		**13 50 01.6**	**+2.6**
DNZL				*i* S	**Sn**		**13 50 54.5**	**+0.7**
KLV	**Kalavryta, Ach**	**4.85**	**328**	*e*PN	**Pn**		**13 50 00.8**	**+0.4**
KLV	**Kalavryta, Ach**	**4.85**	**328**	*e*Pn	**Pn**		**13 50 00.8**	**+0.4**
KORT	**Korkueli**	**5.04**	**52**	*i* P	**Pn**		**13 50 04.7**	**+1.7**
KORT				*i* S	**Sn**		**13 51 06.1**	**+5.1**
KORT	**Korkueli**	**5.04**	**52**	*i* P	**Pn**		**13 50 04.7**	**+1.7**
KORT				*i* S	**Sn**		**13 51 06.1**	**+5.1**
LKR	**Lokris**	**5.06**	**338**	*e*PN	**Pn**		**13 50 03.4**	**+0.2**
LKR	**Lokris**	**5.06**	**338**	*e*Pn	**Pn**		**13 50 03.4**	**+0.2**
LAKA	**Lakka**	**5.09**	**328**	*e*PN	**Pn**		**13 50 05.3**	**+1.7**
LAKA	**Lakka**	**5.09**	**328**	*e*Pn	**Pn**		**13 50 05.3**	**+1.7**
ANTB	**Antalya**	**5.18**	**54**	*e*PN	**Pn**		**13 50 06.1**	**+1.2**
ANTB	**Antalya**	**5.18**	**54**	*e*Pn	**Pn**		**13 50 06.1**	**+1.2**
KULA	**Kula-Manisa**	**5.24**	**29**	*e*PN	**Pn**		**13 50 07.4**	**+1.6**
KULA	**Kula-Manisa**	**5.24**	**29**	*e*Pn	**Pn**		**13 50 07.4**	**+1.6**
LJBD	**Adjabya**	**5.36**	**237**	*i* P	**Pn**		**13 50 07.3**	**0.0**
	SNR=43							
BCK	**Bucak**	**5.47**	**49**	*e*PN	**Pn**		**13 50 10.2**	**+1.4**
BCK	**Bucak**	**5.47**	**49**	*e*Pn	**Pn**		**13 50 10.2**	**+1.4**
KHL	**Karahalli**	**5.47**	**36**	*e*PN	**Pn**		**13 50 10.6**	**+1.7**
KHL	**Karahalli**	**5.47**	**36**	*e*Pn	**Pn**		**13 50 10.6**	**+1.7**
KHAL	**Karahalli**	**5.49**	**36**	*i* P	**Pn**		**13 50 10.0**	**+0.8**
KHAL				*i* S	**Sn**		**13 51 08.6**	**-3.6**
KHAL	**Karahalli**	**5.49**	**36**	*i* P	**Pn**		**13 50 10.0**	**+0.8**
AGG	**Agios Georgios**	**5.62**	**335**	*e*PN	**Pn**		**13 50 12.1**	**+1.2**
AGG	**Agios Georgios**	**5.62**	**335**	*e*Pn	**Pn**		**13 50 12.1**	**+1.2**
SUTC	**Sutluce-Ispart**	**5.74**	**51**	*e*PN	**Pn**		**13 50 14.1**	**+1.5**
SUTC	**Sutluce-Ispart**	**5.74**	**51**	*e*Pn	**Pn**		**13 50 14.1**	**+1.5**
GAZI	**Gazipasa**	**6.09**	**66**	*i* P	**Pn**		**13 50 17.1**	**-0.3**
GAZI				*i* S	**Sn**		**13 51 24.3**	**-2.5**
GAZI	**Gazipasa**	**6.09**	**66**	*i* P	**Pn**		**13 50 17.1**	**-0.3**
SHUT	**Suhut-Afyon**	**6.18**	**41**	*e*PN	**Pn**		**13 50 20.3**	**+1.7**
SHUT	**Suhut-Afyon**	**6.18**	**41**	*e*Pn	**Pn**		**13 50 20.3**	**+1.7**
ALT	**Altintas**	**6.33**	**35**	*e*PN	**Pn**		**13 50 22.7**	**+2.0**
ALT	**Altintas**	**6.33**	**35**	*e*Pn	**Pn**		**13 50 22.7**	**+2.0**
TVSB	**Tavsanli**	**6.36**	**30**	*e*PN	**Pn**		**13 50 23.4**	**+2.2**
TVSB	**Tavsanli**	**6.36**	**30**	*e*Pn	**Pn**		**13 50 23.4**	**+2.2**
CSS	**Prodhromos**	**6.62**	**79**	Pn	**Pn**		**13 50 24.6**	**0.0**
ERMK	**Ermenek**	**6.69**	**64**	*i* P	**Pn**		**13 50 27.1**	**+1.4**
ERMK				*i* S	**Sn**		**13 51 43.5**	**+1.8**
ERMK	**Ermenek**	**6.69**	**64**	*i* P	**Pn**		**13 50 27.1**	**+1.4**
ERMK				*i* S	**Sn**		**13 51 43.5**	**+1.8**
KONT	**Konya--Tatoy**	**6.89**	**53**	*e*PN	**Pn**		**13 50 30.4**	**+2.0**
KONT	**Konya--Tatoy**	**6.89**	**53**	*e*Pn	**Pn**		**13 50 30.4**	**+2.0**
KIZK	**Mersin**	**7.57**	**68**	*i* P	**Pn**		**13 50 38.9**	**+1.2**
KIZK				*i* S	**Sn**		**13 51 59.9**	**-3.2**
KIZK	**Mersin**	**7.57**	**68**	*i* P	**Pn**		**13 50 38.9**	**+1.2**
OFRI	**'Ofer**	**8.13**	**97**	Pn	**Pn**		**13 50 44.7**	**-0.6**
OFRI				Sn	Sn		13 52 10.7	-6.2
KZIT	**Kziot**	**8.18**	**109**	Pn	**Pn**		**13 50 44.8**	**-1.3**
SLTI	**Sal'it**	**8.26**	**99**	Pn	**Pn**		**13 50 45.7**	**-1.4**
GULE	**Gulek**	**8.31**	**64**	*i* P	**Pn**		**13 50 49.9**	**+1.9**
GULE				*i* S	**Sn**		**13 52 21.1**	**-0.5**
GULE	**Gulek**	**8.31**	**64**	*i* P	**Pn**		**13 50 49.9**	**+1.9**
GULE				*i* S	**Sn**		**13 52 21.1**	**-0.5**
RTMI	**Retamim**	**8.36**	**108**	Pn	**Pn**		**13 50 46.8**	**-1.7**
RTMI				Sn	**Sn**		**13 52 18.0**	**-4.6**
MMC7	**Mount Meron ar**	**8.39**	**94**	Pn	**Pn**		**13 50 48.3**	**-0.7**
MMAI	**Mount Meron Ar**	**8.40**	**94**	Pn	**Pn**		**13 50 48.1**	**-1.0**
	4.2nm,0.3s,baz=270,slow=12,SNR=17							
MMAI				Sn	**Sn**		**13 52 20.3**	**-3.4**
	11nm,0.3s,baz=261,slow=23,SNR=14							
MMLI	**Mount Malkishu**	**8.53**	**98**	Pn	**Pn**		**13 50 49.4**	**-1.4**
KSDI	**Kefar Szold**	**8.59**	**92**	Pn	**Pn**		**13 50 50.0**	**-1.6**
RMNI	**Mount Ramon**	**8.60**	**110**	Pn	**Pn**		**13 50 51.5**	**-0.4**
HMDT	**Nahal Hemdat**	**8.65**	**99**	Pn	**Pn**		**13 50 51.7**	**-0.8**
HMDT				Sn	**Sn**		**13 52 25.4**	**-4.5**
DSI	**Dead Sea**	**8.73**	**103**	Pn	**Pn**		**13 50 53.0**	**-0.5**
BRTR	**Keskin Array B**	**8.74**	**47**	Pn	**Pn**		**13 50 55.5**	**+1.7**
	0.5nm,0.3s,baz=224,slow=14,SNR=19							
BRTR				Sn	**Sn**		**13 52 31.7**	**-0.5**
	0.2nm,0.3s,baz=211,slow=26,SNR=4.5							
KRMI	**Paran Flat**	**8.79**	**113**	Pn	**Pn**		**13 50 53.8**	**-0.6**
MZDA	**Masada**	**8.80**	**105**	Pn	**Pn**		**13 50 53.9**	**-0.6**
PRNI	**Paran**	**8.89**	**111**	Pn	**Pn**		**13 50 55.6**	**-0.3**
PRNI				Sn	Sn		13 52 29.4	-6.4
ZFRI	**Zfri**	**8.94**	**110**	Pn	**Pn**		**13 50 55.5**	**-1.0**
HRFI	**Mount Harif**	**9.06**	**113**	Pn	**Pn**		**13 50 57.8**	**-0.4**
MBRI	**Mt Berech**	**9.09**	**115**	Pn	**Pn**		**13 50 57.8**	**-0.7**
EIL	**Elat**	**9.18**	**115**	Pn	**Pn**		**13 50 59.4**	**-0.3**
	1.7nm,0.3s,baz=217,slow=9.2,SNR=11							
EIL				Sn	**Sn**		**13 52 37.3**	**-5.4**
	2.1nm,0.3s,baz=78,slow=21,SNR=4.8							
EIL	**Elat**	**9.18**	**115**	Pn	**Pn**		**13 50 58.6**	**-1.1**
ASF	**Jabal al Asfar**	**9.80**	**97**	Pn	**Pn**		**13 51 08.6**	**+0.2**
ASF				Sn	**Sn**		**13 52 54.6**	**-3.6**
MLR	**Muntele Rosu**	**11.52**	**2**	Pn	**Pn**		**13 51 33.8**	**+2.0**
	0.1nm,0.3s,baz=205,slow=12,SNR=4.7							
PGF	**Pioggiola**	**15.46**	**308**	*e*P	**Pn**		**13 52 26.3**	**+0.9**
	106nm,1.3s							
KBA	**Koelnbreinsper**	**15.96**	**329**	*e*P	**P**		**13 52 36.8**	**+1.3**
	comp=Z,14nm,0.9s							
ABTA	**Abfaltersbach**	**16.08**	**326**	⇑ *i*P	**P**		**13

LASF	**Ste Croix**	**19.50**	**308**	*e*P	**P**	**13 53 13.9**	**-0.5**
	comp=Z,59nm,1.5s							
LASF	**Ste Croix**	**19.50**	**308**	*e*P	**P**	**13 53 13.9**	**-0.5**
	comp=Z,29nm,1.5s							
CLL	**Collm**	**19.54**	**336**	*i* (P)	**P**	**13 53 14.5**	**-0.2**
	comp=Z,7.0nm,0.9s							
HINF	**Hinteralfeld**	**19.63**	**320**	*e*P	**Pn**	**13 53 17.0**	**-0.2**
	comp=Z,5.7nm,0.6s							
HINF	**Hinteralfeld**	**19.63**	**320**	*e*P	**Pn**	**13 53 17.0**	**-0.2**
	comp=Z,2.8nm,0.6s							
CDF	**Champ du Feu**	**19.79**	**322**	*e*P	**Pn**	**13 53 18.9**	**-0.2**
	comp=Z,12nm,0.8s							
CDF	**Champ du Feu**	**19.79**	**322**	*e*P	**Pn**	**13 53 18.9**	**-0.2**
	comp=Z,5.8nm,0.8s							
HAU	**Haudompre**	**20.02**	**320**	*e*P	**P**	**13 53 19.8**	**-0.2**
HAU	**Haudompre**	**20.02**	**320**	*e*P	**P**	**13 53 19.8**	**-0.2**
MTLF	**Montolieu**	**20.34**	**304**	*e*P	**P**	**13 53 24.4**	**+0.9**
MTLF	**Montolieu**	**20.34**	**304**	*e*P	**P**	**13 53 24.4**	**+0.9**
TNS	**Taunus Mts**	**20.47**	**328**	*e*P	Pn	13 53 26.9	-0.2
	comp=Z,17nm,1.3s							
SMF	**Signal de Mont**	**20.68**	**314**	*e*P	**P**	**13 53 26.3**	**-0.9**
	comp=Z,4.8nm,0.6s							
SMF	**Signal de Mont**	**20.68**	**314**	*e*P	**P**	**13 53 26.3**	**-0.9**
	comp=Z,2.4nm,0.6s							
PAGF	**Fort de Pagny**	**20.68**	**321**	*e*P	**P**	**13 53 27.6**	**+0.4**
	comp=Z,11nm,0.9s							
PAGF	**Fort de Pagny**	**20.68**	**321**	*e*P	**P**	**13 53 27.6**	**+0.4**
	comp=Z,5.3nm,0.9s							
NACGM	**Naroch**	**20.95**	**2**	*e*LR	LR	13 52 28.0		
LOR	**Lormes**	**20.99**	**316**	*e*P	**P**	**13 53 29.9**	**-0.6**
	comp=Z,14nm,0.9s							
LOR	**Lormes**	**20.99**	**316**	*e*P	**P**	**13 53 29.9**	**-0.6**
	comp=Z,7.2nm,0.9s							
MEZF	**Maizieres J'vi**	**21.01**	**320**	*e*P	**P**	**13 53 31.8**	**+1.1**
MEZF	**Maizieres J'vi**	**21.01**	**320**	*e*P	**P**	**13 53 31.8**	**+1.1**
CAF	**Calviac**	**21.02**	**308**	*e*P	**P**	**13 53 32.2**	**+1.3**
	comp=Z,20nm,1.0s							
CAF	**Calviac**	**21.02**	**308**	*e*P	**P**	**13 53 32.2**	**+1.3**
	comp=Z,10nm,1.0s							
AVF	**Avril sur Loir**	**21.04**	**314**	*e*P	**P**	**13 53 31.3**	**+0.2**
	comp=Z,14nm,0.9s							
AVF	**Avril sur Loir**	**21.04**	**314**	*e*P	**P**	**13 53 31.3**	**+0.2**
	comp=Z,6.9nm,0.9s							
SSF	**Saint Saulge**	**21.09**	**315**	*e*P	**P**	**13 53 31.2**	**-0.4**
	comp=Z,8.3nm,0.7s							
SSF	**Saint Saulge**	**21.09**	**315**	*e*P	**P**	**13 53 31.2**	**-0.4**
	comp=Z,4.2nm,0.7s							
WLF	**Walferdange**	**21.17**	**324**	*e*P	**P**	**13 53 34.8**	**+2.4**
	comp=Z,16nm,0.9s							
BGF	**Bois d'Agland**	**21.23**	**313**	*e*P	**P**	**13 53 34.1**	**+0.9**
	comp=Z,25nm,0.8s							
BGF	**Bois d'Agland**	**21.23**	**313**	*e*P	**P**	**13 53 34.1**	**+0.9**
	comp=Z,12nm,0.8s							
TCF	**Toulx Ste Croi**	**21.50**	**312**	*e*P	**P**	**13 53 35.8**	**-0.3**
	comp=Z,38nm,1.1s							
TCF	**Toulx Ste Croi**	**21.50**	**312**	*e*P	**P**	**13 53 35.8**	**-0.3**
	comp=Z,19nm,1.1s							
RJF	**Les Rejaudoux**	**21.52**	**309**	*e*P	**P**	**13 53 36.4**	**+0.1**
	comp=Z,31nm,1.1s							
RJF	**Les Rejaudoux**	**21.52**	**309**	*e*P	**P**	**13 53 36.4**	**+0.1**
	comp=Z,15nm,1.1s							
EPF	**Esparros**	**21.55**	**302**	*e*P	**P**	**13 53 37.2**	**+0.6**
EPF	**Esparros**	**21.55**	**302**	*e*P	**P**	**13 53 37.2**	**+0.6**
MEM	**Membach**	**21.86**	**325**	P	**P**	**13 53 40.8**	**+1.0**
	comp=Z,5.6nm,1.1s							
GIVF	**Givet**	**22.11**	**323**	*e*P	**P**	**13 53 44.8**	**+2.3**
	comp=Z,22nm,1.0s							
GIVF	**Givet**	**22.11**	**323**	*e*P	**P**	**13 53 44.8**	**+2.3**
	comp=Z,11nm,1.0s							
ETSF	**Etsaut**	**22.14**	**301**	*e*P	**P**	**13 53 43.4**	**+0.4**
ETSF	**Etsaut**	**22.14**	**301**	*e*P	**P**	**13 53 43.4**	**+0.4**
BAIF	**Baives**	**22.39**	**322**	*e*P	**P**	**13 53 45.7**	**+0.2**
	comp=Z,16nm,0.7s							
BAIF	**Baives**	**22.39**	**322**	*e*P	**P**	**13 53 45.7**	**+0.2**
	comp=Z,7.8nm,0.7s							
SJPF	**Ste Jean**	**22.67**	**302**	*e*P	**P**	**13 53 49.4**	**+0.8**
	comp=Z,17nm,1.0s							
SJPF	**Ste Jean**	**22.67**	**302**	*e*P	**P**	**13 53 49.4**	**+0.8**
	comp=Z,8.4nm,1.0s							
MFF	**Saint Martin d**	**23.11**	**311**	*e*P	**P**	**13 53 52.9**	**-0.2**
	comp=Z,23nm,0.9s							
MFF	**Saint Martin d**	**23.11**	**311**	*e*P	**P**	**13 53 52.9**	**-0.2**
	comp=Z,12nm,0.9s							
LDF	**La Druitiere**	**23.97**	**315**	*e*P	**P**	**13 54 00.4**	**-1.1**
	comp=Z,23nm,0.8s							
LDF	**La Druitiere**	**23.97**	**315**	*e*P	**P**	**13 54 00.4**	**-1.1**
	comp=Z,12nm,0.8s							
ESDC	**Sonseca Array**	**24.13**	**292**	P	**P**	**13 54 03.6**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=85,slow=8.9,SNR=21							
FLN	**La Foliniere**	**24.26**	**315**	*e*P	**P**	**13 54 03.7**	**-0.5**
FLN	**La Foliniere**	**24.26**	**315**	*e*P	**P**	**13 54 03.7**	**-0.5**
GRR	**Gorron**	**24.31**	**314**	*e*P	**P**	**13 54 04.8**	**+0.1**
	comp=Z,26nm,1.0s							
GRR	**Gorron**	**24.31**	**314**	*e*P	**P**	**13 54 04.8**	**+0.1**
	comp=Z,13nm,1.0s							
MDT	**Midelt**	**25.06**	**276**	P	**P**	**13 54 11.0**	**-0.8**
	comp=Z,2.4nm,0.6s,baz=81,slow=9.9,SNR=6.1							
SGMF	**Saint Gilles**	**25.28**	**313**	*e*P	**P**	**13 54 13.9**	**+0.5**
SGMF	**Saint Gilles**	**25.28**	**313**	*e*P	**P**	**13 54 13.9**	**+0.5**
QUIF	**Quistinic**	**25.52**	**312**	*e*P	**P**	**13 54 16.1**	**+0.5**
	comp=Z,71nm,1.1s							
QUIF	**Quistinic**	**25.52**	**312**	*e*P	**P**	**13 54 16.1**	**+0.5**
	comp=Z,35nm,1.1s							
ROSF	**Rostrenen**	**25.75**	**312**	*e*P	**P**	**13 54 17.5**	**-0.2**
	comp=Z,48nm,1.1s							
ROSF	**Rostrenen**	**25.75**	**312**	*e*P	**P**	**13 54 17.5**	**-0.2**
	comp=Z,24nm,1.1s							
PBRG	**Braganca**	**26.44**	**297**	*e*P	**P**	**13 54 24.3**	**+0.2**
	comp=Z,14nm,1.6s							
PBRG	**Braganca**	**26.44**	**297**	*e*P	**P**	**13 54 24.3**	**+0.2**
	comp=Z,14nm,1.6s							
PBAR	**Barrancos**	**26.49**	**289**	*e*P	**P**	**13 54 25.3**	**+0.8**
	comp=Z,17nm,1.8s							
PBAR	**Barrancos**	**26.49**	**289**	*e*P	**P**	**13 54 25.3**	**+0.8**
	comp=Z,17nm,1.8s							
MVO	**Moncorvo**	**26.59**	**295**	*e*P	**P**	**13 54 27.4**	**+1.9**
	comp=Z,16nm,2.1s							
MVO	**Moncorvo**	**26.59**	**295**	*e*P	**P**	**13 54 27.4**	**+1.9**
	comp=Z,16nm,2.1s							
PMRV	**Marv??o**	**26.77**	**291**	*e*P	**P**	**13 54 28.0**	**+0.9**
	comp=Z,18nm,1.7s							
PMRV	**Marv??o**	**26.77**	**291**	*e*P	**P**	**13 54 28.0**	**+0.9**
	comp=Z,18nm,1.7s							
PESTR	**Estremoz**	**26.92**	**290**	*e*P	**P**	**13 54 29.0**	**+0.6**
	comp=Z,11nm,1.6s							
PESTR	**Estremoz**	**26.92**	**290**	*e*P	**P**	**13 54 29.0**	**+0.6**
	comp=Z,11nm,1.6s							
PVAQ	**Vaqueiros**	**27.05**	**287**	*e*P	**P**	**13 54 30.3**	**+0.7**
	comp=Z,31nm,1.6s							
PVAQ	**Vaqueiros**	**27.05**	**287**	*e*P	**P**	**13 54 30.3**	**+0.7**
	comp=Z,31nm,1.6s							
PBDV	**Barranco-do-Ve**	**27.23**	**287**	*e*P	**P**	**13 54 32.1**	**+0.9**
	comp=Z,29nm,1.6s							
PBDV	**Barranco-do-Ve**	**27.23**	**287**	*e*P	**P**	**13 54 32.1**	**+0.9**
	comp=Z,29nm,1.6s							
HFS	**Hagfors**	**27.28**	**347**	P	**P**	**13 54 29.8**	**-1.7**
	comp=Z,2.9nm,0.6s,baz=153,slow=10.0,SNR=8.7							
FINES	**FINESS Array B**	**27.50**	**1**	P	**P**	**13 54 31.4**	**-1.9**
	comp=Z,2.1nm,0.6s,baz=164,slow=11,SNR=12							
FINES				PcP	**PcP**	**13 57 51.3**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=116,slow=4.4,SNR=4.4							
NB2	**NORSAR Subarra**	**28.60**	**346**	P	**P**	**13 54 42.6**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=159,slow=10							
NOA	**NORSAR Array B**	**28.60**	**346**	P	**P**	**13 54 42.6**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=159,slow=9.4,SNR=7.0							
AKTO	**Aktyubinsk**	**28.92**	**45**	P	**P**	**13 54 45.8**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=253,slow=11,SNR=4.8							
EKA	**Eskdalemuir Ar**	**29.14**	**326**	P	**P**	**13 54 47.2**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=123,slow=9.1,SNR=6.5							
TORD	**Torodi Ar. Bea**	**29.90**	**232**	P	**P**	**13 54 56.0**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=39,slow=11,SNR=12							
ARCES	**ARCESS Array B**	**35.62**	**0**	P	**P**	**13 55 42.9**	**-1.7**
	comp=Z,2.2nm,0.8s,baz=170,slow=7.4,SNR=8.9							
BVAR	**Borovoye Array**	**37.03**	**45**	P	**P**	**13 55 56.8**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=248,slow=7.8,SNR=8.6							
KURBB	**Kurchatov Arra**	**41.72**	**50**	P	**P**	**13 56 36.5**	**+0.5**
	comp=Z,6.9nm,0.9s,baz=278,slow=8.6,SNR=57							
MKAR	**Makanchi Array**	**44.27**	**56**	P	**P**	**13 56 57.3**	**+0.5**
	comp=Z,6.1nm,0.6s,baz=273,slow=7.1,SNR=60							
ZALV	**Zalesovo Beam**	**45.68**	**45**	P	**P**	**13 57 07.8**	**-0.1**
	comp=Z,3.4nm,0.6s,baz=269,slow=9.1,SNR=17							
DANN	**Dangsing**	**49.67**	**80**	*e*P	**P**	**13 57 40.3**	**+0.7**
	comp=Z,46nm,0.8s							
KOLN	**Koldanda**	**49.76**	**81**	*e*P	**P**	**13 57 40.1**	**0.0**
	comp=Z,8.9nm,0.5s							
KKN	**Kakani**	**51.13**	**80**	*e*P	**P**	**13 57 50.8**	**+0.3**
	comp=Z,12nm,0.6s							
PKIN	**Phulchoki**	**51.31**	**80**	*e*P	**P**	**13 57 52.3**	**+0.4**
	comp=Z,9.7nm,0.7s							
PKI	**Pulchoki**	**51.32**	**80**	*e*P	**P**	**13 57 52.4**	**+0.3**
	comp=Z,18nm,0.8s							
GUN	**Gumba**	**51.57**	**79**	*e*P	**P**	**13 57 54.6**	**+0.6**
	comp=Z,20nm,0.5s							
JIRN	**Jiri**	**51.92**	**80**	*e*P	**P**	**13 57 56.2**	**-0.4**
TAPN	**Taplejung**	**53.29**	**79**	*e*P	**P**	**13 58 06.1**	**-0.5**
SONM	**Songino Array**	**60.08**	**50**	P	**P**	**13 58 55.2**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=282,slow=7.0,SNR=9.7							
SCHQ	**Schefferville**	**64.23**	**320**	P	**P**	**13 59 22.2**	**+0.2**
	comp=Z,8.0nm,0.7s,baz=64,slow=5.2,SNR=14							
CD2	**Chengdu**	**64.62**	**69**	P	**P**	**13 59 25.3**	**+0.3**
CD2				pP	**pP**	**13 59 30.0**	**0.0**
CD2				sP	**sP**	**13 59 32.3**	**+0.4**
CD2				PcP	**PcP**	**13 59 58.8**	**-0.1**
CD2				PP	**PP**	**14 01 49.7**	**+2.7**
CD2				S	**S**	**14 08 04.3**	**-0.2**
CD2				SKS	**SKSac**	**14 09 17.3**	**-1.9**
CD2				SS	**SS**	**14 12 17.3**	**+2.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**66.50**	**83**	P	**P**	**13 59 37.5**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=298,slow=7.4,SNR=5.1							
USRK	**Ussuriysk Arra**	**77.54**	**45**	P	**P**	**14 00 43.2**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=284,slow=5.0,SNR=8.9							
YKA	**Yellowknife Ar**	**78.64**	**342**	P	**P**	**14 00 48.6**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=30,slow=5.4,SNR=18							
KSRS	**Korea Array**	**78.84**	**52**	P	**P**	**14 00 50.9**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=306,slow=4.7,SNR=5.8							
ILAR	**Eielson Array**	**81.40**	**357**	P	**P**	**14 01 04.0**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=351,slow=3.9,SNR=20							
PDAR	**Pinedale Array**	**93.22**	**329**	P	**P**	**14 02 01.8**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=18,slow=6.2,SNR=3.6							
WRA	**Warramunga Arr**	**116.24**	**97**	PKP	**PKPdf**	**14 07 30.6**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=308,slow=2.0,SNR=3.1							
ASAR	**Alice Springs**	**117.62**	**101**	PKP	**PKPdf**	**14 07 33.9**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=318,slow=1.2,SNR=3.2							

IDC 11 13:49:52.1±3.7, 17°.33S×68°.97W, h178km±21km, mb3.3/2, mb1 3.5/2, mb1mx3.0/18, mbtmp3.3/2, Error ellipse: s-maj=72.3km s-min=49.6km az=11.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.32**	**38**	P	Pn	13 50 22.6	-0.4
	66nm,0.3s,baz=214,slow=6.1,SNR=1870						
LPAZ				S	Sn	13 50 46.8	0.0
	5.0nm,0.3s,baz=135,slow=25,SNR=4.4						
TORD	**Torodi Ar. Bea**	**76.05**	**71**	P	P	14 01 20.6	+0.1
	0.4nm,0.5s,baz=244,slow=6.3,SNR=5.2						
YKA	**Yellowknife Ar**	**87.26**	**341**	P	P	14 02 18.0	0.0
	0.3nm,0.5s,baz=132,slow=4.8,SNR=5.0						
WRA	**Warramunga Arr**	**136.45**	**213**	PKP	PKPdf	14 08 53.4	-0.3
	0.4nm,1.0s,baz=141,slow=2.1,SNR=3.7						

IDC 11 14:15:35.5±8.6, 11°.56N×85°.27W, h284km±94km, mb3.0/6, mb1 3.3/6, mb1mx3.0/22, mbtmp3.0/6, Error ellipse: s-maj=47.3km s-min=17.0km az=53.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**24.63**	**319**	P	P	14 20 30.6	-0.2
	0.5nm,0.5s,baz=145,slow=9.7,SNR=5.6						
SIV	**San Ignacio**	**36.37**	**138**	P	P	14 22 13.0	-0.3
	1.6nm,0.6s,baz=302,slow=9.5,SNR=4.5						
NVAR	**Mina Array Bea**	**39.78**	**318**	P	P	14 22 42.2	+0.5
	0.3nm,0.6s,baz=132,slow=6.7,SNR=3.4						
SCHQ	**Schefferville**	**45.55**	**15**	P	P	14 23 28.0	+0.7
	2.6nm,1.2s,baz=196,slow=7.4,SNR=4.3						
YKA	**Yellowknife Ar**	**55.04**	**344**	P	P	14 24 37.0	-0.8
	0.1nm,0.3s,baz=148,slow=6.5,SNR=3.1						
ILAR	**Eielson Array**	**67.70**	**336**	P	P	14 26 01.8	-0.4
	0.2nm,0.5s,baz=120,slow=6.4,SNR=3.0						
ASAR	**Alice Springs**	**140.90**	**247**	PKP	PKPdf	14 34 34.1	+1.5
	0.4nm,0.5s,baz=94,slow=2.1,SNR=6.9						
WRA	**Warramunga Arr**	**141.06**	**253**	PKP	PKPdf	14 34 34.5	+1.6
	0.5nm,0.5s,baz=91,slow=2.6,SNR=12						

*AUST **11** 14:18:59.2, 25°.21S×175°.05W, h200km*
*IDC **11** 14:19:48.9±11.0, 20°.32S×178°.28W, h532km±104km, mb3.3/6, mb1 3.5/6, mb1mx3.1/19, mbtmp3.3/6, Error ellipse: s-maj=122.2km s-min=41.2km az=132.0*

ISC 11 14:19:55.6±1.9, 20°.2S±0°.5×178°.6W±0°.3, h602km, n17, σ0°.56/17, mb3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**32.96**	**264**	P	**P**	**14 25 42.5**	**0.0**
	4.2nm,0.4s,baz=90,slow=12,SNR=14						
MTSU	**Mount Surprise**	**35.05**	**267**	P	**P**	**14 26 00.3**	**+0.4**
	baz=38,SNR=5.8						
STKA	**Stephens Creek**	**37.40**	**244**	P	**P**	**14 26 18.4**	**-0.7**
	2.1nm,0.9s,baz=96,slow=10,SNR=3.0						
JAY	**Jayapura**	**43.43**	**289**	P	P	14 27 15.1	+7.9
	baz=48,SNR=3.7						
ASAR	**Alice Springs**	**44.03**	**257**	P	**P**	**14 27 11.6**	**-0.2**
	5.6nm,0.8s,baz=96,slow=7.8,SNR=71						
ASAR				PcP	**PcP**	**14 28 44.1**	**+0.5**
	0.5nm,0.5s,baz=99,slow=3.7,SNR=5.7						
WRA	**Warramunga Arr**	**44.08**	**262**	P	**P**	**14 27 11.5**	**-0.6**
	1.3nm,0.5s,baz=97,slow=7.2,SNR=40						
WRA				PcP	**PcP**	**14 28 44.4**	**+0.6**
	0.3nm,0.5s,baz=95,slow=3.5,SNR=2.7						
KDU	**Kakadu**	**47.38**	**271**	P	**P**	**14 27 37.4**	**+0.3**
	baz=51,SNR=4.6						
MTN	**Manton Dam**	**48.60**	**271**	P	**P**	**14 27 46.5**	**+0.3**
	baz=52,SNR=3.9						
KNRA	**Kununurra**	**50.12**	**266**	P	**P**	**14 27 57.6**	**+0.4**
	baz=53,SNR=6.1						
FITZ	**Fitzroy Crossi**	**52.51**	**262**	P	**P**	**14 28 15.0**	**+0.6**
	0.9nm,0.3s,baz=335,slow=14,SNR=7.0						
FITZ	**Fitzroy Crossi**	**52.51**	**262**	P	**P**	**14 28 15.3**	**+0.8**
	baz=55,SNR=4.3						
ILAR	**Eielson Array**	**88.19**	**13**	P	**P**	**14 31 42.3**	**-0.8**
	0.6nm,0.5s,baz=219,slow=5.6,SNR=5.8						
MKAR	**Makanchi Array**	**110.61**	**314**	PKiKP	**PKiKP**	**14 37 20.7**	**0.0**
	0.2nm,0.5s,baz=22,slow=0.8,SNR=2.6						
ARCES	**ARCESS Array B**	**128.56**	**349**	PKP	**PKPdf**	**14 37 55.0**	**+0.5**
	0.9nm,0.9s,baz=52,slow=2.2,SNR=5.1						
FINES	**FINESS Array B**	**135.37**	**343**	PKhKP	PKPpre	14 38 02.8	
	0.7nm,0.8s,baz=87,slow=2.9,SNR=2.9						
BRTR	**Keskin Array B**	**146.25**	**312**	PKPbc	**PKPbc**	**14 38 30.0**	**-0.1**
	0.8nm,0.5s,baz=141,slow=5.8,SNR=4.5						
GERES	**GERESS Array B**	**149.80**	**344**	PKPbc	**PKPbc**	**14 38 39.4**	**+0.7**
	0.4nm,0.5s,baz=14,slow=0.6,SNR=4.5						

*ISCJB **11** 14:34:41.5±0.9, 32°.76N±0°.03×117°.63W±0°.04, h6km±5km, mb4.1/2, Error ellipse: s-maj=7.6km s-min=3.3km az=140.7*
*NEIC **11** 14:34:44.0, 32°.73N×117°.55W, h18km, MW3.8(PAS), After PAS.*
NEIC Felt [III] at Carlsbad and San Diego; [II] at Alpine, Chula Vista, Coronado, Del Mar, El Cajon, Escondido, Fallbrook, Imperial Beach, Jamul, Laguna Beach, La Jolla, La Mesa, Lakeside, Oceanside, Poway, Ramona, San Marcos, Santee, Spring Valley, Temecula, Valley Center and Vista. Felt in Los Angeles, Orange, Riverside and San Diego Counties. Also felt at Rosarito and Tijuana, Baja California.
*ECX **11** 14:34:44.2±0.8, 32°.73N×117°.58W, h15km, MD3.9, ML4.1*
*IDC **11** 14:34:46.2±1.7, 32°.91N×117°.43W, h0km, mb3.6/1, mb1 3.6/5, mb1mx3.4/26, mbtmp3.2/5, ML3.1/4, Error ellipse: s-maj=17.1km s-min=13.5km az=10.0*

ISC 11 14:34:42.9±0.9, 32°.72N±0°.03×117°.59W±0°.03, h8km±5km, n67, σ1°25/86, 4C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
109C	**Camp Elliot, M**	**0.45**	**67**	P	**Pb**	**14 34 52.2**	**-0.9**
	baz=0.4						
109C				S	**Sg**	**14 34 57.8**	**+0.3**
	baz=0.4						
CPE	**Camp Elliot**	**0.45**	**67**	↓*i* P	**Pb**	**14 34 52.2**	**-0.9**
CPE				*e*S	**Sg**	**14 34 57.8**	**+0.3**
DPP	**Dos Picos Cty**	**0.62**	**63**	↓*i* P	**Pg**	**14 34 55.0**	**+0.2**
EML	**El Monte Cty P**	**0.65**	**74**	↓*i* P	**Pg**	**14 34 55.7**	**+0.1**
BAR	**Barrett**	**0.78**	**92**	*e*Pg	**Pg**	**14 34 57.7**	**-0.1**
BAR				*e*Sg	**Sg**	**14 35 07.1**	**-0.9**
BAR	**Barrett**	**0.78**	**92**	↑*i* P	**Pg**	**14 34 57.8**	**-0.1**
SCI	**San Clemente I**	**0.84**	**288**	P	**Pb**	**14 34 59.7**	**-0.2**
	baz=0.9						
CBX	**Cerro Bola**	**0.88**	**117**	↑*e* P	**Pg**	**14 34 59.9**	**0.0**
CBX				*i* S	**Sb**	**14 35 12.2**	**-0.5**
MURC	**Murrieta**	**0.94**	**20**	P	**Pg**	**14 35 00.5**	**-0.5**
	baz=0.9						
CIS	**Catalina Islan**	**0.97**	**316**	P	**Pg**	**14 35 00.7**	**-0.8**
	baz=1.0						
MONP	**Monument Peak**	**1.00**	**80**	P	**Pg**	**14 35 01.6**	**-0.6**
	baz=1.0						
MONP				S	**Sg**	**14 35 14.2**	**-1.1**
	baz=1.0						
FMP	**Fort Macarthur**	**1.16**	**330**	P	**Pg**	**14 35 04.3**	**-0.8**
	baz=1.2						
PBX	**Punta Banda**	**1.22**	**143**	*e*P	**Pn**	**14 35 04.5**	**-1.9**
PBX				*e*S	**Sb**	**14 35 21.6**	**-0.6**
PBX				↑*e*		14 35 29.5	
	comp=E,3μm,0.9s						
DVTC	**Desert V Tower**	**1.26**	**92**	P	**Pn**	**14 35 06.1**	**-0.9**
	baz=1.2						
DVTC				S	**Sb**	**14 35 22.2**	**-1.2**
	baz=1.2						
RMX	**La Rumorosa**	**1.28**	**95**	*e*P	**Pn**	**14 35 06.3**	**-1.1**
RMX				↓*e*		14 35 25.0	
	comp=E,2μm,0.2s						
PFO	**Pinyon Flat Ob**	**1.31**	**47**	*e*Pn	**Pn**	**14 35 07.0**	**-0.7**
PFO				*e*Sg	**Sb**	**14 35 23.3**	**-1.6**
PFO	**Pinyon Flat Ob**	**1.31**	**47**	Pg	**Pn**	**14 35 06.9**	**-0.7**
	comp=E,113nm,0.3s,baz=236,slow=15,SNR=1367						
PFO				Lg	Lg	14 35 23.3	
	comp=E,250nm,0.3s,baz=319,slow=4.3,SNR=38						
PFO	**Pinyon Flat Ob**	**1.31**	**47**	P	**Pn**	**14 35 07.0**	**-0.7**
	baz=1.3						
PFO				S	**Sb**	**14 35 23.4**	**-1.4**
	baz=1.3						
ECNX	**Esteban Cantu**	**1.35**	**141**	↑*e* P	**Pn**	**14 35 06.8**	**-1.4**
BFSC	**Mount Baldy Ra**	**1.52**	**358**	P	**Pn**	**14 35 09.3**	**-1.3**
	baz=1.5						
SWSC	**Sam W. Stewart**	**1.53**	**81**	P	**Pn**	**14 35 09.5**	**-1.1**
	baz=1.5						
SWSC				S	**Sn**	**14 35 30.5**	**-0.2**
	baz=1.5						
PASC	**Pasadena Art C**	**1.53**	**341**	*e*Pn	**Pn**	**14 35 08.7**	**-2.0**
PASC				*e*Sn	**Sn**	**14 35 27.9**	**-3.0**
MWC	**Mount Wilson**	**1.55**	**346**	*e*Pn	**Pn**	**14 35 09.6**	**-1.5**
MWC				*e*Sn	**Sn**	**14 35 30.2**	**-1.4**
RDX	**Rancho Dawling**	**1.60**	**119**	*e*P	**Pn**	**14 35 11.2**	**-0.6**
RDX				*i* S	**Sn**	**14 35 32.8**	**0.0**
RDX				*e*		14 35 43.0	
	comp=N,2μm,0.5s						
ZAX	**El Zacaton**	**1.64**	**137**	*e*P	**Pn**	**14 35 11.3**	**-0.9**
ZAX				*e*S	**Sn**	**14 35 33.3**	**-0.3**
BBRC	**Big Bear Solar**	**1.64**	**20**	Sb	**Sb**	**14 35 34.1**	**-0.6**
	baz=1.6						
BELC	**Belle Mtn. Jos**	**1.85**	**46**	P	**Pn**	**14 35 14.8**	**-0.4**
	baz=1.8						
BELC				Sb	**Sb**	**14 35 39.6**	**-1.0**
	baz=1.8						
BLG	**Laguna Peak**	**1.86**	**319**	P	**Pn**	**14 35 13.3**	**-1.8**
	baz=1.9						
BC3	**Big Chuckawall**	**2.02**	**62**	P	**Pn**	**14 35 16.8**	**-0.8**
	baz=2.0						
BC3				Sb	**Sb**	**14 35 46.0**	**+0.5**
	baz=2.0						
OSI	**Osito Adit**	**2.12**	**334**	*e*Pn	**Pn**	**14 35 18.1**	**-0.6**
OSI				*e*Sn	**Sn**	**14 35 43.0**	**-2.3**
OSI	**Osito Adit**	**2.12**	**334**	P	**Pn**	**14 35 18.4**	**-0.4**
	baz=2.1						
EMX	**El Mayor**	**2.12**	**109**	*e*P	**Pn**	**14 35 19.7**	**+1.0**
EMX				*e*S	**Sb**	**14 35 47.0**	**-1.0**
EMX				↓*e*		14 36 00.7	
	comp=N,2μm,0.8s						
EDW2	**Edwards Air Fo**	**2.18**	**351**	P	**Pn**	**14 35 19.4**	**-0.2**
	baz=2

IDC 11 15:14:30.7±2.0, 1°90N×127°42E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/19, mbtmp3.3/3, Error ellipse: s-maj=142.2km s-min=25.8km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.74**	**163**	P	P	15 19 35.0	+0.3
	0.8nm,0.4s,baz=343,slow=11,SNR=20						
ASAR	**Alice Springs**	**26.18**	**166**	P	P	15 20 06.5	-0.7
	0.3nm,0.9s,baz=343,slow=7.8,SNR=4.4						
MKAR	**Makanchi Array**	**59.44**	**326**	P	P	15 24 35.6	+0.2
	0.2nm,0.3s,baz=119,slow=7.7,SNR=5.9						

IDC ***11*** *15:19:28.8±0.3, 9°84N×121°12E, h0km, mb4.6/30, mb1 4.7/30, mb1mx4.7/31, mbtmp4.6/30, MS4.3/20, Ms1 4.3/20, ms1mx4.1/43, Error ellipse: s-maj=17.2km s-min=9.3km az=76.0*

BKK ***11*** *15:19:28.8±0.5, 10°N±5°×12°3E±°, h10km, M4.8/28, mB5.4/17, mb4.9/28, Mw(mB)4.8/17*

MAN ***11*** *15:19:29, 9°99N×121°78E, h40km, mb5.5, ML4.6, MS4.9*

MAN INTENSITY II - ILOILO CITY.

NEIC ***11*** *15:19:30.1±0.2, 9°93N×122°14E, mb5.0/26, Error ellipse: s-maj=7.9km s-min=6.0km az=77.0*

NEIC Felt [II PIVS] at Iloilo, Panay. Also felt at Bacolod, Bayawan and Dumaguete, Negros.

BJI ***11*** *15:19:31.9, 9°76N×122°19E, h42km, mB5.0/34, mb4.8/48, Ms4.7/52, Ms7 4.6/49*

MOS ***11*** *15:19:31.6±1.1, 9°89N×122°27E, h33km, mb5.2/41, MS4.4/12, Error ellipse: s-maj=10.0km s-min=5.1km az=116.3*

GCMT ***11*** *15:19:34.9±0.2, 10°00N×122°06E, h19km±1km, MW5.1, Moment Tensor Solution. s50,c61; s71,c118; Moment tensor: Scale 10^16 Nm; Mrr3.74±.21; Mθθ-0.79±.13; Mφφ-2.95±.15; Mrθ-2.84±.32; Mrφ-1.56±.09; Mθφ-4.46±.41; Best double couple: M₀6.50000×10^16 NP1:φ₀24.00000°, δ18.00000°, λ82.00000°. NP2:φ₀212.00000°, δ72.00000°, λ92.00000°. Principal axes: T 6.4800, Plg63.0000°, Azm125.0000°; N 0.0100, Plg2.0000°, Azm31.0000°; P -6.4900, Plg27.0000°, Azm300.0000°; Data Used: IU IC II G CN.*

ISCJB ***11*** *15:19:34.0±0.3, 9°88N±0°02×122°17E±0°03, h53km±3km, mb4.8/115, MS4.4/48 Error ellipse: s-maj=4.2km s-min=3.1km az=171.5*

DJA ***11*** *15:19:36.0±0.6, 10°N±4°×12°2E±°, h41km, 6km, M5.0/51, mB5.5/29, mb5.0/51, MLv5.6/4, Mw(mB)4.9/29*

AUST ***11*** *15:19:42.3, 9°50N×121°99E, h100km*

ISC 11 15:19:35.4±0.3, 9°87N±0°03×122°10E±0°03, h49km±2km, h49km:pP-P, n372, σ1s66/449, mb4.8/114, MS4.4/48, 18C-22D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.89**	**33**	*e*P	Pn	15 19 47.6	-4.1
GUIM				*e*S	**Sn**	**15 20 02.3**	**-1.1**
TBP	**Tagbilaran**	**1.75**	**96**	*e*P	**Pn**	**15 20 02.8**	**-0.5**
RCP	**Roxas**	**1.79**	**21↑**	*e*P	**Pn**	**15 20 02.1**	**-1.8**
RCP				*e*S	**Sn**	**15 20 26.0**	**+0.5**
LLP	**Lapu-Lapu**	**1.89**	**76↑**	*e*P	**Pn**	**15 20 03.9**	**-1.4**
LLP				*e*S	**Sn**	**15 20 29.6**	**+1.7**
IPIL	**Ipil**	**2.12**	**167**	*e*P	**Pn**	**15 20 06.4**	**-2.1**
PAGZ	**Pagadian**	**2.38**	**148**	*e*P	**Pn**	**15 20 11.7**	**-0.3**
MSLP	**Maasin**	**2.73**	**84**	*e*P	**Pn**	**15 20 16.9**	**+0.2**
OCLP	**Ormoc**	**2.73**	**64**	*e*P	**Pn**	**15 20 16.2**	**-0.6**
ZMPH	**Zamboanga City**	**2.90**	**181↑**	*i*P	**Pn**	**15 20 16.9**	**-2.3**
ZMPH				*i* S	Sn	15 20 39.3	-13
CGP	**Cagayan de Oro**	**2.92**	**119↓**	*e*P	**Pn**	**15 20 19.1**	**-0.3**
CGP				*e*S	**Sn**	**15 20 57.8**	**+4.5**
PLP	**Palo**	**3.11**	**65↑**	*i*P	**Pn**	**15 20 20.7**	**-1.3**
PPR	**Puerto Princes**	**3.32**	**269↓**	*i*P	**Pn**	**15 20 23.5**	**-1.4**
PPR				*i* S	**Sn**	**15 21 00.0**	**-3.1**
CTBH	**Cotabato--PC H**	**3.38**	**141↑**	*e*P	**Pn**	**15 20 25.5**	**-0.3**
BUKP	**Musuan**	**3.54**	**124**	*e*P	**Pn**	**15 20 29.4**	**+1.5**
BUKP				*e*S	Sn	15 21 19.6	+11
BUTP	**Butuan**	**3.59**	**104**	*e*P	**Pn**	**15 20 29.3**	**+0.8**
GQP	**Guinayangan**	**4.02**	**5↓**	*e*P	Pn	15 20 31.2	-3.3
TGY	**Tagaytay City**	**4.35**	**345**	Pn	**Pn**	**15 20 41.8**	**+2.7**
	49nm,0.3s,baz=188,slow=7.1,SNR=5.5						
TGY				Sn	**Sn**	**15 21 31.5**	**+2.9**
	33nm,0.3s,baz=231,slow=18,SNR=4.8						
DAV	**Davao City (W)**	**4.43**	**129**	*e*Pn	**Pn**	**15 20 40.1**	**0.0**
DAV	**Davao City (W)**	**4.43**	**129**	P	Pn	15 20 51.9	+12
DAV	**Davao City (W)**	**4.43**	**129**	Pn	**Pn**	**15 20 41.8**	**+1.7**
	43nm,0.3s,baz=229,slow=4.9,SNR=6.3						
DAV				Lg	Lg	15 21 54.2	
	47nm,0.3s,baz=93,slow=20,SNR=3.7						
DAV				LR	LR	15 22 37.2	
	comp=Z,11μm,18.5s,baz=291,slow=43						
GSPH	**General Santos**	**4.70**	**143**	*e*P	Pn	15 20 48.9	+4.9
MATI	**Mati**	**5.04**	**125**	*e*P	**Pn**	**15 20 50.2**	**+1.8**
MYLDM	**Lahad Datu**	**5.87**	**218**	P	**Pn**	**15 21 00.3**	**+0.4**
MYLDM	**Lahad Datu**	**5.87**	**218**	P	**Pn**	**15 21 00.1**	**+0.2**
	963nm,0.9s,7μm2.9nm						
KDM	**Kudat**	**5.98**	**241**	P	Pn	15 21 05.6	+4.2
SDKM	**Sandakan**	**6.43**	**229**	P	**Pn**	**15 21 05.8**	**-1.8**
TSM	**Tawau**	**6.95**	**217**	P	**Pn**	**15 21 13.6**	**-1.2**
TSM	**Tawau**	**6.95**	**217**	P	**Pn**	**15 21 17.3**	**+2.5**
KKM	**Kota Kinabalu**	**6.96**	**237**	*e*Pn	**Pn**	**15 21 15.1**	**+0.1**
KKM	**Kota Kinabalu**	**6.96**	**237**	P	**Pn**	**15 21 15.4**	**+0.5**
KKM	**Kota Kinabalu**	**6.96**	**237**	P	Pn	15 21 25.4	+10
	98nm,1.0s,1μm0.5nm						
KKM	**Kota Kinabalu**	**6.96**	**237**	P	**Pn**	**15 21 16.7**	**+1.7**
	baz=6.7,SNR=4.2						
MNI	**Manado**	**8.81**	**162**	P	**Pn**	**15 21 39.3**	**-0.9**
	318nm,0.8s,3μm1.0nm						
GTOI	**Gorontalo**	**9.22**	**174**	P	**Pn**	**15 21 42.9**	**-3.0**
	160nm,0.8s,1μm						
MRSI	**Marisa**	**9.34**	**181**	P	**Pn**	**15 21 46.6**	**-0.8**
	75nm,0.5s,714nm						
KMSI	**Cibinong**	**9.43**	**168**	P	**Pn**	**15 21 47.4**	**-1.3**
	273nm,0.7s,2μm						
GAMI	**Galela, Maluku**	**9.78**	**144**	P	**Pn**	**15 21 52.5**	**-1.1**
	163nm,1.2s,4μm						
TNTI	**Ternate**	**10.45**	**150**	P	**Pn**	**15 22 04.4**	**+1.7**
	325nm,1.1s,3μm						
LUWI	**Luwuk**	**10.87**	**176**	P	**Pn**	**15 22 11.3**	**+2.9**
	303nm,1.1s,3μm						
LUWI	**Luwuk**	**10.87**	**176**	P	**Pn**	**15 22 11.4**	**+3.1**
	baz=11,SNR=15						
BTM	**Bintulu**	**11.14**	**234**	P	**Pn**	**15 22 13.2**	**+1.1**
LBMI	**Labuha**	**11.74**	**152**	P	Pn	15 22 24.8	+4.4
	90nm,1.2s						
SBUM	**Sibu**	**12.28**	**234**	P	**Pn**	**15 22 30.3**	**+2.6**
SBUM	**Sibu**	**12.28**	**234**	P	**Pn**	**15 22 29.4**	**+1.7**
	29nm,0.8s						
TTSI	**Tana Toraja**	**13.03**	**190**	P	**Pn**	**15 22 39.8**	**+1.8**
	49nm,1.0s,647nm						
SSLB	**Suanglung**	**13.88**	**356**	*e*Pn	**Pn**	**15 22 47.1**	**-2.4**
SWI	**Sorong**	**14.03**	**139**	P	**Pn**	**15 22 50.3**	**-1.3**
	35nm,1.2s,3μm						
STKI	**Sintang**	**14.38**	**228**	P	**P**	**15 23 04.1**	**+2.0**
	30nm,1.5s,10μm						
KSM	**Kuching**	**14.39**	**235**	*e*Pn	**Pn**	**15 22 53.3**	**-3.1**
	39nm,1.0s						
KSM	**Kuching**	**14.39**	**235**	P	**P**	**15 23 01.6**	**-0.6**
KSM	**Kuching**	**14.39**	**235**	P	P	15 23 10.0	+7.8
	41nm,1.1s						
KSM	**Kuching**	**14.39**	**235**	P	P	15 23 10.4	+8.2
	baz=14,SNR=4.5						
QIZ	**Qiongzhong**	**14.95**	**309**	P	**Pn**	**15 23 01.9**	**-1.8**
QIZ				S	**Sn**	**15 25 47.5**	**-0.8**
QIZ				pmax	pmax		
	comp=Z,550nm,6.0s						
QIZ				LR	LR		
	comp=N,3μm,16.1s						
QIZ				LR	LR		
	comp=Z,4μm,14.5s						
KAPI	**Kappang**	**14.97**	**189**	*e*Pn	**Pn**	**15 23 02.7**	**-1.4**
	comp=Z,100nm,1.2s						
KAPI	**Kappang**	**14.97**	**189**	P	**P**	**15 23 10.7**	**+2.0**
	comp=Z,71nm,1.4s,comp=Z,1μm						
KAPI	**Kappang**	**14.97**	**189**	Pn	**Pn**	**15 23 04.8**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=72,slow=19,SNR=2.6						
KAPI				LR	LR	15 28 36.8	
	comp=Z,1μm,20.5s,baz=13,slow=37						
BBKI	**Banjar Baru**	**15.09**	**209**	P	P	15 23 21.5	+11
BKSI	**Bulukumba**	**15.22**	**188**	P	**P**	**15 23 13.5**	**+2.0**
	comp=Z,44nm,0.8s,comp=Z,510nm						
FAKI	**Fak Fak**	**16.24**	**141**	P	**P**	**15 23 24.5**	**+1.7**
	baz=16,SNR=3.7						
PBKI	**Pangkalan Bun**	**16.25**	**220**	P	**P**	**15 23 25.2**	**+2.3**
	comp=Z,157nm,1.1s,comp=Z,2μm						
RKPI	**Ransiki, Papua**	**16.51**	**133**	P	**Pn**	**15 23 24.7**	**+0.9**
	comp=Z,110nm,1.5s,comp=Z,2μm						
UBPT	**Khong Chiam**	**17.09**	**290**	P	**P**	**15 23 33.6**	**+1.4**
	comp=Z,86nm,2.0s,comp=Z,2μm						
UBPT	**Khong Chiam**	**17.09**	**290**	P	**P**	**15 23 33.9**	**+1.7**
	comp=Z,116nm,1.5s,comp=Z,2μm						
MMRI	**Maumere**	**18.39**	**180**	P	**Pn**	**15 23 48.3**	**+1.4**
	comp=Z,205nm,1.6s,comp=Z,3μm						
PANO	**Nakornpanom**	**18.47**	**295**	P	**Pn**	**15 23 48.7**	**+0.8**
	comp=Z,113nm,1.3s,comp=Z,3μm						
SKNT	**Sakolnakorn**	**18.98**	**294**	P	**Pn**	**15 23 53.6**	**-0.4**
	comp=Z,97nm,1.4s,comp=Z,3μm						
CHBT	**CHBT**	**19.59**	**280**	P	**Pn**	**15 24 01.0**	**-0.4**
	comp=Z,141nm,1.0s,comp=Z,6μm						
CHBT	**CHBT**	**19.59**	**280**	P	**Pn**	**15 24 01.0**	**-0.4**
	comp=Z,141nm,1.0s,comp=Z,6μm						
SOEI	**Soe**	**19.62**	**174**	P	**Pn**	**15 24 02.9**	**+1.1**
	comp=Z,115nm,1.0s,comp=Z,2μm						
SOEI	**Soe**	**19.62**	**174**	P	**Pn**	**15 24 02.7**	**+0.9**
	baz=19,SNR=7.9						
MYKOM	**Kota Tinggi**	**19.84**	**247**	P	Pn	15 24 18.9	+15
JAGI	**Jajag, Banyuwa**	**19.87**	**204**	P	Pn	15 24 16.0	+11
	comp=Z,92nm,1.7s						
PPBI	**Pangkal Pinang**	**19.89**	**234**	P	Pn	15 24 17.8	+13
	comp=Z,35nm,1.0s,comp=Z,952nm						
SJI	**Sawahan**	**20.30**	**211**	P	Pn	15 24 10.4	+0.6
	comp=Z,118nm,1.9s						
SMRI	**Semarang**	**20.43**	**215**	P	Pn	15 24 26.1	+15
CHAI	**Chaiyaphum**	**20.49**	**289**	P	**P**	**15 24 09.8**	**+0.3**
	comp=Z,17nm,1.1s,comp=Z,183nm						
PWJI	**Pagerwojo**	**20.52**	**210**	P	Pn	15 24 12.4	0.0
	comp=Z,91nm,1.1s						
WOJI	**Wonogiri, Jawa**	**20.82**	**213**	P	Pn	15 24 16.6	+0.7
	comp=Z,186nm,1.1s						
PCJI	**Pacitan**	**20.99**	**212**	P	Pn	15 24 21.7	+3.8
	comp=Z,134nm,1.0s						
TGJI	**Tegal**	**21.07**	**218**	P	P	15 24 20.7	+5.0
	comp=Z,86nm,1.3s						
BJII	**Banjamegara**	**21.08**	**216**	P	**P**	**15 24 19.6**	**+3.7**
	comp=Z,82nm,1.4s						
SSE	**Sheshan**	**21.13**	**358**	P	**P**	**15 24 17.0**	**+0.8**
SSE				pP	**pP**	**15 24 29.0**	**+1.4**
SSE				S	**S**	**15 28 10.0**	**+1.3**
SSE				pmax	pmax		
	comp=Z,46nm,1.2s						
SSE				pmax	pmax		
	comp=Z,180nm,3.8s						
SSE				LR	LR		
	comp=N,570nm,17.0s						
SSE				LR	LR		
	comp=E,470nm,17.0s						
SSE				LR	LR		
	comp=Z,530nm,17.7s						
IPM	**Ipoh**	**21.58**	**257**	P	P	15 24 29.6	+8.4
	comp=Z,39nm,1.5s,comp=Z,945nm						
LOEI	**Loei**	**21.61**	**293**	P	**P**	**15 24 17.5**	**-4.0**
PBKT	**Sadao Pong**	**21.61**	**290**	P	**P**	**15 24 22.8**	**+1.3**
	comp=Z,35nm,1.6s						
PBKT	**Sadao Pong**	**21.61**	**290**	P	**P**	**15 24 22.8**	**+1.3**
	comp=Z,35nm,1.6s						
KULM	**Kulim**	**21.74**	**259**	*e*P	**P**	**15 24 21.7**	**-1.2**
	comp=Z,138nm,1.4s						
KULM	**Kulim**	**21.74**	**259**	P	P	15 24 29.3	+6.4
	comp=Z,87nm,1.3s						
WHN	**Wuhan**	**21.80**	**342**	*e*P	**P**	**15 24 27.6**	**+4.2**
WHN				S	**S**	**15 28 26.1**	**+4.3**
WHN				LR	LR		
	comp=N,2μm,12.0s						
WHN				LR	LR		
	comp=E,2μm,11.8s						
WHN				LR	LR		
	comp=Z,2μm,12.1s						
LEM	**Lembang**	**21.99**	**222**	P	P	15 24 33.6	+7.9
	comp=Z,103nm,1.2s						
GYA	**Guiyang**	**22.03**	**320**	P	**P**	**15 24 27.5**	**+1.4**
GYA				pP	**pP**	**15 24 38.9**	**+1.4**
GYA				sP	**sP**	**15 24 45.0**	**+1.3**
GYA				PP	**PnPn**	**15 24 55.2**	**+5.6**
GYA				S	**S**	**15 28 20.9**	**-5.7**
GYA				sS	**sS**	**15 28 42.7**	**-2.6**
GYA				SS	SnSn	15 29 05.9	+10
GYA				ScP	**ScP**	**15 31 53.2**	**-3.3**
GYA				PcS	**PcS**	**15 32 00.0**	**-1.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,100nm,4.8s						
GYA				LR	LR		
	comp=N,910nm,14.6s						
GYA				LR	LR		
	comp=E,1μm,14.3s						
GYA				LR	LR		
	comp=Z,2μm,15.2s						
JAY	**Jayapura**	**22.25**	**123**	P	**P**	**15 24 32.3**	**+3.9**
	baz=22,SNR=4.8						
NJ2	**Nanjing**	**22.27**	**353**	*e*P	**P**	**15 24 27.1**	**-1.4**
NJ2				pP	**pP**	**15 24 37.6**	**-2.3**
NJ2				sP	**sP**	**15 24 44.1**	**-1.9**
NJ2				S	**S**	**15 28 31.0**	**+0.4**
NJ2				sS	**sS**	**15 28 50.0**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,50nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,210nm,3.5s						
NJ2				LR	LR		
	comp=N,1μm,13.3s						
NJ2				LR	LR		
	comp=E,1μm,10.3s						
NJ2				LR	LR		
	comp=Z,1μm,12.3s						
NANT	**Nan**	**22.53**	**296**	P	**P**	**15 24 31.1**	**-0.3**
	comp=Z,50nm,0.8s						
KLSI		**22.56**	**231**	P	**P**	**15 24 34.8**	**+3.1**
	comp=Z,32nm,1.2s						
GUMO	**Guam**	**22.59**	**78**	*e*P	**P**	**15 24 29.3**	**-2.7**
	comp=Z,200nm,1.3s						
LWLI	**Liwa**	**23.28**	**231**	P	P	15 24 52.2	+13
	comp=Z,146nm,1.2s,comp=Z,3μm						
LAMP	**Lampang**	**23.39**	**294**	P	**P**	**15 24 40.6**	**+0.4**
	comp=Z,7.1nm,1.0s,comp=Z,81nm						
ENH	**Enshi**	**23.46**	**332**	*e*P	**P**	**15 24 38.2**	**-2.5**
	comp=Z,27nm,1.0s						
PAYA	**Payao**	**23.46**	**296**	P	P	15 24 49.5	+8.7
KMI	**Kunming**	**23.84**	**312**	P	**P**	**15 24 44.6**	**+0.1**
KMI				pP	**pP**	**15 24 54.6**	**-2.3**
KMI				S	**S**	**15 28 58.6**	**+1.2**
KMI				pmax	pmax		
	comp=Z,23nm,1.7s						
KMI				pmax	pmax		
	comp=Z,320nm,3.1s						
KMI				LR	LR		
	comp=N,1μm,13.4s						
KMI				LR	LR		
	comp=E,1μm,17.9s						
KMI				LR	LR		
	comp=Z,2μm,17.6s						
CMAR	**Chiang Mai Arr**	**24.00**	**293**	P	**P**	**15 24 45.2**	**-0.6**
CMAR				PcP	**PcP**	**15 28 28.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**24.00**	**293**	P	**P**	**15 24 45.2**	**-0.6**
	comp=Z,32nm,1.2s,baz=111,slow=7.4,SNR=57						
CMAR				PcP	**PcP**	**15 28 28.1**	**+1.0**
	comp=Z,1.2nm,0.9s,baz=192,slow=1.2,SNR=4.7						
CMAR				LR	LR	15 34 07.9	
	comp=Z,972nm,18.3s,baz=110,slow=37						
PSI	**Prapat**	**24.07**	**255**	P	**P**	**15 24 46.4**	**-0.3**
PSI	**Prapat**	**24.07**	**255**	P	**P**	**15 24 46.4**	**-0.3**
	comp=Z,15nm,0.9s,baz=96,slow=9.2,SNR=7.0						
PSI				LR	LR	15 34 42.8	
	comp=Z,657nm,20.5s,baz=77,slow=38						
PSI	**Prapat**	**24.07**	**255**	P	**P**	**15 24 47.4**	**+0.8**
	baz=24,SNR=4.9						
CMMT	**Chiang Mai**	**24.10**	**294**	P	**P**	**15 24 46.0**	**-0.8**
	comp=Z,30nm,1.5s,comp=Z,590nm						
CMMT	**Chiang Mai**	**24.10**	**294**	P	**P**	**15 24 46.0**	**-0.8**
	comp=Z,30nm,1.5s,comp=Z,590nm						
CHTO	**Chiang Mai**	**24.11**	**294**	*e*P	**P**	**15 24 44.8**	**-2.0**
CHTO	**Chiang Mai**	**24.11**	**294**	*e*P	**P**	**15 24 44.8**	**-2.0**
CHTO	**Chiang Mai**	**24.11**	**294**	P	**P**	**15 24 46.1**	**-0.7**
	comp=Z,33nm,1.5s,comp=Z,579nm						
CHTO	**Chiang Mai**	**24.11**	**294**	P	**P**	**15 24 46.1**	**-0.7**
	comp=Z,33nm,1.5s,comp=Z,579nm						
MTN	**Manton Dam**	**24.29**	**158**	P	**P**	**15 24 47.2**	**-1.2**
	baz=24,SNR=16						
CMAI	**Chiengmai2**	**24.39**	**297**	P	**P**	**15 24 49.4**	**-0.1**
	comp=Z,61nm,1.3s						
JNU	**Nakatsue**	**24.51**	**18**	P	**P**	**15 24 49.6**	**-0.7**
JNU	**Nakatsue**	**24.51**	**18**	P	**P**	**15 24 49.6**	**-0.7**
	comp=Z,4.1nm,0.9s,baz=164,slow=7.4,SNR=2.6						
JNU				LR	LR	15 35 36.6	
	comp=Z,563nm,18.3s,baz=198,slow=40						
KDU	**Kakadu**	**24.67**	**155**	P	**P**	**15 24 50.4**	**-1.5**
	baz=24,SNR=35						
KCSI	**Kotacane, Aceh**	**24.96**	**257**	P	**P**	**15 24 56.7**	**+2.1**
	comp=Z,38nm,1.3s						
KNRA	**Kununurra**	**26.23**	**165**	P	**P**	**15 25 05.6**	**-0.4**
	baz=26,SNR=34						
XAN	**Xi'an**	**26.92**	**335**	P	**P**	**15 25 08.7**	**-3.5**
XAN				pP	**pP**	**15 25 22.4**	**-2.4**
XAN				S	**S**	**15 29 43.5**	**-2.4**
XAN				sS	**sS**	**15 30 02.8**	**-4.4**
XAN				pmax	pmax		
	comp=Z,20nm,4.3s						
XAN				LR	LR		
	comp=N,810nm,14.3s						
XAN				LR	LR		
	comp=E,410nm,14.3s						
XAN				LR	LR		
	comp=Z,490nm,15.3s						
CD2	**Chengdu**	**27.00**	**323**	P	**P**	**15 25 13.5**	**+0.5**
CD2				pP	**pP**	**15 25 26.6**	**+1.0**
CD2				sP	**sP**	**15 25 32.9**	**+1.5**
CD2				PP	**PnPn**	**15 26 01.0**	**+3.6**
CD2				PcP	**PcP**	**15 28 33.9**	**+0.2**
CD2				S	**S**	**15 29 45.9**	**-1.4**
CD2				sS	**sS**	**15 30 08.1**	**-0.5**
CD2				SS	**SnSn**	**15 31 03.1**	**+6.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,290nm,5.0s						
CD2				LR	LR		
	comp=N,1μm,13.2s						
CD2				LR	LR		
	comp=E,2μm,13.7s						
CD2				LR	LR		
	comp=Z,1μm,17.6s						
KSAR	**Wonju Array Be**	**27.94**	**10**	P	**P**	**15 25 20.8**	**-0.4**
KSRS	**Korea Array**	**27.96**	**10**	P	**P**	**15 25 20.8**	**-0.6**
	comp=Z,2.5nm,1.0s,baz=182,slow=9.8,SNR=7.4						
KSRS				LR	LR	15 38 04.7	
	comp=Z,444nm,18.8s,baz=188,slow=40						
FITZ	**Fitzroy Crossi**	**28.02**	**173**	*e*P	**P**	**15 25 21.0**	**-1.0**
	comp=Z,10nm,0.8s						
FITZ	**Fitzroy Crossi**	**28.02**	**173**	P	**P**	**15 25 21.0**	**-1.0**
	comp=Z,10nm,1.0s,baz=352,slow=9.0,SNR=15						
FITZ	**Fitzroy Crossi**	**28.02**	**173**	P	**P**	**15 25 21.6**	**-0.4**
	baz=28,SNR=10.0						
BJI	**Beijing**	**30.50**	**351**	P	**P**	**15 25 42.9**	**-1.0**
BJI				pP	**pP**	**15 25 55.8**	**-0.7**
BJI				sP	**sP**	**15 26 02.1**	**-0.2**
BJI				S	**S**	**15 30 42.0**	**+0.1**
BJI				sS	**sS**	**15 31 04.1**	**+0.9**
BJI				pmax	pmax		
	comp=Z,20nm,1.2s						
BJI				LR	LR		
	comp=N,270nm,21.8s						
BJI				LR	LR		
	comp=E,690nm,20.3s						
BJI				LR	LR		
	comp=Z,450nm,19.9s						
LZH	**Lanzhou**	**30.92**	**330**	*e*P	**P**	**15 25 48.8**	**+1.0**
LZH				pP	**pP**	**15 26 01.5**	**+1.0**
LZH				sP	**sP**	**15 26 06.8**	**+0.5**
LZH				S	**S**	**15 30 50.0**	**+1.1**
LZH				sS	**sS**	**15 31 09.1**	**-1.2**
LZH				SS	**SnSn**	**15 32 34.3**	**+2.0**
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
LZH				pmax	pmax		
	comp=Z,150nm,7.8s						
LZH				LR	LR		
	comp=N,3μm,17.9s						
LZH				LR	LR		
	comp=E,2μm,14.6s						
LZH				LR	LR		
	comp=Z,2μm,15.9s						
MBWA	**Marble Bar**	**30.93**	**184**	*e*P	**P**	**15 25 46.2**	**-1.6**
	comp=Z,15nm,0.8s						
SNY	**Shenyang**	**31.85**	**2↑**	P	**P**	**15 25 55.7**	**0.0**
SNY				S	**S**	**15 30 59.4**	**-3.6**
SNY				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SNY				LR	LR		
	comp=N,500nm,16.8s						
SNY				LR	LR		
	comp=E,430nm,16.2s						
SNY				LR	LR		
	comp=Z,550nm,15.9s						
WRAB	**Tennant Creek**	**31.98**	**158**	*e*P	**P**	**15 25 55.0**	**-2.1**
WRAB				pmax	pmax		
	comp=Z,33nm,0.8s						
WRAB	**Tennant Creek**	**31.98**	**158**	*e*P	**P**	**15 25 55.0**	**-2.1**
	comp=Z,33nm,0.8s						
WRA	**Warramunga Arr**	**31.99**	**158**	P	**P**	**15 25 55.3**	**-1.9**
WRA				PcP	**PcP**	**15 28 46.1**	**-0.3**
WRA				ScP	**ScP**	**15 32 28.6**	**+2.5**
WRA	**Warramunga Arr**	**31.99**	**158**	P	**P**	**15 25 55.3**	**-1.9**
	comp=Z,25nm,0.7s,baz=337,slow=9.6,SNR=150						
WRA				PcP	**PcP**	**15 28 46.1**	**-0.3**
	comp=Z,7.0nm,0.9s,baz=340,slow=3.2,SNR=8.9						
WRA				ScP	**ScP**	**15 32 28.6**	**+2.5**
	comp=Z,2.7nm,1.0s,baz=342,slow=3.6,SNR=5.4						
HHC	**Hu-ho-hao-te**	**32.23**	**345**	*e*P	**P**	**15 26 00.5**	**+1.3**
HHC				pP	**pP**	**15 26 13.1**	**+1.1**
HHC				sP	**sP**	**15 26 18.6**	**+0.9**
HHC				PP	**PnPn**	**15 27 09.6**	**+2.8**
HHC				S	**S**	**15 31 09.9**	**+0.7**
HHC				sS	**sS**	**15 31 31.3**	**+0.7**
HHC				SS	**SnSn**	**15 33 07.6**	**+3.6**
HHC				ScS	**ScS**	**15 36 23.8**	**-2.0**
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
HHC				pmax	pmax		
	comp=Z,110nm,3.7s						
HHC				LR	LR		
	comp=N,2μm,16.7s						
HHC				LR	LR		
	comp=E,1μm,14.3s						
HHC				LR	LR		
	comp=Z,860nm,15.5s						
SHL	**Shillong**	**32.63**	**303**	*e*P	**P**

ASAR Alice Springs 35.28 161 P **P** **15 26 25.1 -0.7**
comp=Z,15nm,0.7s,baz=345,slow=7.5,SNR=194
ASAR PcP **PcP** **15 28 55.5 -0.2**
comp=Z,6.2nm,0.9s,baz=360,slow=2.4,SNR=7.9
ASAR S **S** **15 32 00.1 +3.6**
comp=Z,2.9nm,1.0s,baz=345,slow=25,SNR=5.9
ASAR ScP **ScP** **15 32 40.0 +2.4**
comp=Z,2.9nm,1.0s,baz=359,slow=4.0,SNR=7.6
GTA Gaotai 35.50 330 P **P** **15 26 28.1 +0.4**
GTA pP **pP** **15 26 41.7 +1.2**
GTA sP **sP** **15 26 48.2 +1.9**
GTA S **S** **15 32 00.8 +0.9**
GTA sS **sS** **15 32 25.0 +3.6**
GTA SS **SnSn** **15 34 23.0 -0.4**
GTA pmax pmax
comp=Z,6.0nm,1.5s
GTA pmax pmax
comp=Z,150nm,5.5s
GTA LR LR
comp=N,1μm,15.9s
GTA LR LR
comp=E,900nm,16.9s
GTA LR LR
comp=Z,2μm,15.9s
MEEK Meekatharra 36.45 185 P **P** **15 26 35.4 -0.3**
baz=36,SNR=9.2
TAPN Taplejung 36.76 303 *e*P **P** **15 26 38.6 -0.3**
ODAN Odare 36.85 302 *e*P **P** **15 26 39.2 -0.4**
comp=Z,71nm,1.3s
RAMN Ramite 37.55 302 *e*P **P** **15 26 45.1 -0.3**
comp=Z,61nm,1.3s
CTA Charters Tower 38.10 141 P **P** **15 26 49.8 -0.1**
CTA Charters Tower 38.10 141 P **P** **15 26 49.8 -0.1**
comp=Z,3.6nm,0.7s,baz=309,slow=14,SNR=3.3
JIRN Jiri 38.13 303 *e*P **P** **15 26 50.0 -0.5**
comp=Z,40nm,0.8s
ASAJ Asahikawa 38.47 24 *e*P **P** **15 26 49.5 -3.1**
ASAJ PcP **PcP** **15 29 04.9 -0.1**
ASAJ Asahikawa 38.47 24 P **P** **15 26 52.7 0.0**
comp=Z,15nm,1.2s,baz=234,slow=5.8,SNR=5.4
ASAJ PcP **PcP** **15 29 04.9 -0.1**
comp=Z,5.2nm,0.9s,baz=278,slow=15,SNR=3.7
GUN Gumba 38.48 303 *e*P **P** **15 26 53.3 -0.1**
comp=Z,67nm,0.8s
PKI Pulchoki 38.75 302 *e*P **P** **15 26 54.9 -0.8**
comp=Z,20nm,0.8s
PKIN Phulchoki 38.77 302 *e*P **P** **15 26 54.8 -0.9**
comp=Z,54nm,1.3s
KKN Kakani 38.94 302 *e*P **P** **15 26 56.6 -0.5**
comp=Z,26nm,0.9s
DMN Daman 39.02 302 *e*P **P** **15 26 57.3 -0.6**
comp=Z,43nm,1.1s
MORW Morawa 39.15 188 P **P** **15 26 58.9 +0.3**
baz=39,SNR=7.7
YUK Yuzh-Kuril'sk 39.78 27*c i*P P 15 26 57.8 -5.8
YUK *i* 15 29 07.6
YUK *i* 15 32 59.0
YUK MLR MLR
comp=Z,171nm,18.0s
YUK MLR MLR
comp=N,2μm,18.0s
ULN Ulaanbaatar 39.94 344 P **P** **15 27 05.5 +0.4**
comp=N,14nm,1.2s
HABR Khabarovsk 39.98 13 *e*P **P** **15 27 04.6 -0.6**
HABR *e**PP **pP** **15 27 15.3 -2.9**
HABR *e**SP **sP** **15 27 21.6 -2.3**
HABR 15 28 36.9
HABR *e* 15 29 08.1
HABR *e*S **S** **15 33 06.3 -0.9**
HABR *e*SS **SS** **15 36 04.0 -1.7**
HABR *e*SSS SSS 15 36 26.9
HABR *e* 15 37 04.3
HABR pmax pmax
comp=Z,35nm,2.5s
HABR pmax pmax
comp=N,46nm,2.5s
HABR pmax pmax
comp=E,46nm,2.7s
HABR MLR MLR
comp=Z,278nm,20.0s
KLR Kul'dur 40.05 10 *e*P **P** **15 27 03.5 -2.3**
KLR *e*S **S** **15 33 06.0 -2.3**
KLR *e* 15 36 06.5
SONM Songino Array 40.09 344 P **P** **15 27 06.1 -0.2**
SONM PcP **PcP** **15 29 10.2 0.0**
SONM Songino Array 40.09 344 P **P** **15 27 06.1 -0.2**
comp=Z,6.2nm,1.1s,baz=166,slow=7.4,SNR=20
SONM PcP **PcP** **15 29 10.2 0.0**
comp=Z,2.2nm,0.8s,baz=179,slow=3.3,SNR=3.7
SONM LR LR 15 45 51.2
comp=Z,467nm,18.0s,baz=152,slow=39
KOLN Koldanda 40.33 302 *e*P **P** **15 27 08.2 -0.5**
comp=Z,22nm,0.7s
DANN Dangsing 40.39 302 *e*P **P** **15 27 08.2 -1.1**
comp=Z,82nm,1.3s
FORT Forrest 40.82 172 P **P** **15 27 12.4 +0.1**
baz=41,SNR=7.1
YSS Yuzh-Sakhalins 40.91 22 *e*P **P** **15 27 12.0 -0.9**
YSS *e*S **S** **15 33 20.0 -1.1**
YSS *e*SS SS 15 36 12.0 -12
YSS *e*SSS SSS 15 37 11.0
YSS MLR MLR
comp=Z,300nm,16.0s
YSS MLR MLR
comp=E,400nm,17.0s
PYUN Piuthan 40.95 302 *e*P **P** **15 27 13.6 -0.2**
comp=E,129nm,1.0s
KMBL Kambalda 41.01 180 P **P** **15 27 14.3 +0.5**
baz=41,SNR=7.6
KLBR Kellerberrin 41.44 186 P **P** **15 27 17.4 0.0**
baz=41,SNR=15
CIT Chita 42.60 352 *e*P **P** **15 27 26.6 -0.1**
CIT *e* 15 27 36.2
NWAO Narrogin (SRO) 42.81 186 P **P** **15 27 28.2 -0.3**
NWAO Narrogin (SRO) 42.81 186 P **P** **15 27 28.2 -0.3**
comp=E,24nm,0.7s,baz=7.3,slow=9.1,SNR=15
ZAK Zakamensk 43.28 342 *e*P **P** **15 27 31.2 -1.1**
ZAK pmax pmax
comp=Z,4.0nm,1.9s
TLY Talaya 44.34 344 *e*P **P** **15 27 40.3 -0.4**
TLY *e* 15 29 28.0
TLY *e*SS SS 15 37 28.0 -3.5
TLY pmax pmax
comp=Z,11nm,0.9s
TLY MLR MLR
comp=Z,389nm,20.0s
BBOO Buckleboo 44.49 163 P **P** **15 27 41.9 -0.2**
baz=44,SNR=7.0
RKGY Rocky Gully 44.51 186 P **P** **15 27 43.7 +1.5**
baz=44,SNR=7.6
IRK Irkutsk 44.67 344 *e*P **P** **15 27 43.3 0.0**
IRK pmax pmax
comp=Z,38nm,1.5s
EIDS Eidsvold 44.99 142 P **P** **15 27 44.3 -1.9**
baz=45,SNR=3.4
WMQ Urumqi 45.09 325 P **P** **15 27 46.7 -0.2**
MOY Mondy 45.10 342 *e*P **P** **15 27 47.4 +0.5**
MOY pmax pmax
comp=Z,25nm,2.7s
STKA Stephens Creek 45.51 157 *e*P **P** **15 27 48.1 -2.1**
comp=Z,2.2nm,0.9s
STKA PcP **PcP** **15 29 28.0 -0.5**
STKA Stephens Creek 45.51 157 P **P** **15 27 49.2 -1.1**
comp=Z,13nm,0.8s,baz=337,slow=6.8,SNR=24
STKA PcP **PcP** **15 29 28.0 -0.5**
comp=Z,15nm,0.9s,baz=318,slow=3.5,SNR=6.0
STKA LR LR 15 48 18.8
comp=Z,226nm,19.6s,baz=7.5,slow=38
STKA Stephens Creek 45.51 157 P **P** **15 27 49.5 -0.7**
baz=45,SNR=12
CLNS Chul'man 46.90 2 *e*P **P** **15 28 00.9 0.0**
CLNS *e**PP **pP** **15 28 10.1 -4.0**
CLNS *e* 15 29 34.0
CLNS *e* 15 29 46.6
CLNS *e*PPP PPP 15 30 32.3
CLNS *e*S **S** **15 34 48.2 -0.1**
CLNS *e*SS SS 15 38 05.7 -10
CLNS pmax pmax
comp=Z,4.0nm,0.9s
CLNS pmax pmax
comp=N,7.0nm,0.8s
CLNS pmax pmax
comp=E,5.0nm,0.8s
CLNS pmax pmax
comp=Z,3.0nm,1.1s
CLNS pmax pmax
comp=N,3.0nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,1.1s
CLNS smax smax
comp=N,71nm,12.3s
CLNS smax smax
comp=E,177nm,15.5s
CLNS MLR MLR
comp=Z,554nm,16.0s
CLNS MLR MLR
comp=N,247nm,16.0s
CLNS MLR MLR
comp=E,123nm,14.0s
CMSA Cobar Meteorol 46.97 152 P **P** **15 28 01.6 -0.1**
baz=47,SNR=7.4
HVS Khovu-Aksy 47.28 336*c i*P **P** **15 28 04.7 +0.7**
HVS pmax pmax
comp=Z,32nm,1.0s
MK31 Makanchi Array 49.92 325 *i*P **P** **15 28 24.3 0.0**
MK31 pmax pmax
comp=Z,49nm,1.1s
MK31 Makanchi Array 49.92 325 *e*P **P** **15 28 23.7 -0.6**
MKAR Makanchi Array 49.92 325 *i*P **P** **15 28 24.6 +0.3**
MKAR pmax pmax
comp=Z,11nm,0.9s
MKAR Makanchi Array 49.92 325 P **P** **15 28 24.6 +0.3**
MKAR PcP **PcP** **15 29 44.4 +0.4**
MKAR Makanchi Array 49.92 325 P **P** **15 28 24.6 +0.3**
comp=Z,11nm,0.9s,baz=121,slow=8.7,SNR=65
MKAR PcP **PcP** **15 29 44.4 +0.4**
comp=Z,5.5nm,0.9s,baz=133,slow=5.1,SNR=3.7
MKAR LR LR 15 50 54.5
comp=Z,297nm,18.4s,baz=125,slow=38
KSH Kashi 50.49 314 P **P** **15 28 31.2 +2.3**
KSH pP **pP** **15 28 43.4 +1.2**
KSH sP **sP** **15 28 48.6 +0.8**
KSH PP **PP** **15 30 27.6 +2.7**
KSH S **S** **15 35 40.5 +1.0**
KSH sS **sS** **15 36 01.3 -0.5**
KSH ScS **ScS** **15 38 14.2 -1.8**
KSH SS **SS** **15 39 12.2 -1.8**
KSH pmax pmax
comp=Z,21nm,1.3s
KSH LR LR
comp=N,470nm,15.9s
KSH LR LR
comp=E,320nm,12.3s
KSH LR LR
comp=Z,680nm,16.1s
KRAR Krasnoyarsk 51.40 339⇑ *e*P **P** **15 28 35.6 +0.4**
KRAR pmax pmax
comp=Z,27nm,1.2s
ULHL Ulahol 51.42 317 *i*P **P** **15 28 37.4 +1.5**
ULHL Ulahol 51.42 317 P **P** **15 28 37.4 +1.5**
SNR=7.1
PETK Petropavlovsk- 51.76 27 P **P** **15 28 37.7 -0.3**
PETK Petropavlovsk- 51.76 27 P **P** **15 28 37.7 -0.3**
PETK Petropavlovsk- 51.76 27 P **P** **15 28 37.7 -0.3**
comp=Z,8.3nm,0.9s,baz=205,slow=5.8,SNR=12
PETK LR LR 15 51 08.7
comp=Z,109nm,19.5s,baz=325,slow=37
KZA Kyzart 52.02 316 *i*P **P** **15 28 42.2 +1.6**
KZA Kyzart 52.02 316 P **P** **15 28 42.1 +1.6**
SNR=16
PET Petropavlovsk 52.13 27 *e*P **P** **15 28 41.7 +1.0**
PET *e*S **S** **15 36 02.9 +1.6**
PET pmax pmax
comp=Z,20nm,1.5s
PET pmax pmax
comp=Z,100nm,10.2s
PET MLR MLR
comp=Z,200nm,18.0s
TKM2 Tokmak 2 52.13 318 *i*P **P** **15 28 42.0 +0.8**
TKM2 Tokmak 2 52.13 318 P **P** **15 28 42.1 +0.8**
SNR=12
YAK Yakutsk 52.36 5 *e*P **P** **15 28 41.1 -1.1**
YAK *e* 15 29 50.0
YAK *e* 15 30 44.1
YAK *e*S **S** **15 36 01.8 -2.4**
YAK *e* 15 38 26.2
YAK *e*SS **SS** **15 39 47.3 +4.9**
YAK pmax pmax
comp=Z,20nm,1.3s
YAK pmax pmax
comp=N,12nm,1.5s
YAK pmax pmax
comp=E,5.0nm,1.6s
YAK pmax pmax
comp=E,23nm,2.5s
YAK pmax pmax
comp=Z,67nm,3.1s
YAK pmax pmax
comp=N,34nm,3.5s
YAK smax smax
comp=N,36nm,2.7s
YAK smax smax
comp=E,87nm,4.1s
YAK MLR MLR
comp=Z,248nm,21.0s
YAK MLR MLR
comp=E,280nm,21.0s
YAK MLR MLR
comp=N,214nm,20.0s
KBK Karagaybulak 52.46 317 *i*P **P** **15 28 44.9 +1.3**
KBK Karagaybulak 52.46 317 P **P** **15 28 44.9 +1.3**
SNR=11
UCH Uchtor 52.58 316 *i*P **P** **15 28 46.8 +2.0**
UCH Uchtor 52.58 316 P **P** **15 28 46.9 +2.0**
SNR=5.9
CHMS Chumysh 52.73 317 *i*P **P** **15 28 46.1 +0.7**
CHMS Chumysh 52.73 317 P **P** **15 28 46.1 +0.7**
SNR=8.7
FRU Bishkek 52.75 317 *e*P **P** **15 28 46.0 +0.4**
FRU pmax pmax
comp=Z,130nm,2.4s
FRU MLR MLR
comp=Z,700nm,21.0s
AAK Ala-Archa 52.75 317*d i*P **P** **15 28 46.7 +0.9**
AAK Ala-Archa 52.75 317 P **P** **15 28 47.5 +1.7**
SNR=6.0
AAK Ala-Archa 52.75 317 *e*P **P** **15 28 44.0 -1.8**
comp=Z,28nm,1.3s
USP Ospenovka 53.01 318 *i*P **P** **15 28 48.1 +0.6**
USP Ospenovka 53.01 318 P **P** **15 28 48.1 +0.6**
SNR=17
ZAA0 Zalesovo Array 53.07 333 *e*P P 15 28 44.0 -3.7
ZALV Zalesovo Beam 53.07 333 *i*P **P** **15 28 47.2 -0.4**
ZALV pmax pmax
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 53.07 333 P **P** **15 28 46.9 -0.8**
ZALV Zalesovo Beam 53.07 333 P **P** **15 28 46.9 -0.8**
comp=Z,3.7nm,0.7s,baz=107,slow=5.0,SNR=11
ZALV LR LR 15 51 55.7
comp=Z,238nm,18.0s,baz=250,slow=37
AML Almayashu 53.10 316 *i*P **P** **15 28 49.9 +1.3**
AML Almayashu 53.10 316 P **P** **15 28 49.9 +1.3**
SNR=16
EKS2 Erkin-Say 53.25 317 P **P** **15 28 50.5 +1.1**
SNR=10
KURBB Kurchatov Arra 54.12 327 PKPPKP 15 59 13.8
comp=Z,0.3nm,0.3s,baz=274,slow=3.2,SNR=4.2
KURBB PKP2bc 15 59 24.2
comp=Z,0.4nm,0.2s,baz=292,slow=3.0,SNR=4.7
KURK Kurchatov 54.12 327 P **P** **15 28 55.4 0.0**
comp=Z,289nm,1.1s,SNR=41
KBL Kabul 54.19 306 *e*P P 15 28 53.0 -3.5
KBL pmax pmax
comp=Z,32nm,1.4s
KBL Kabul 54.19 306 *e*P P 15 28 53.0 -3.5
comp=Z,32nm,1.4s
NVS Novosibirsk 54.35 333 *e*P **P** **15 28 55.0 -2.0**
NVS pmax pmax
comp=Z,70nm,2.3s
NVS pmax pmax
comp=N,26nm,2.2s
NVS pmax pmax
comp=E,28nm,2.2s
KKAR Karatay Array 55.64 316 *e*P **P** **15 29 07.4 +0.8**
KKAR pmax pmax
comp=Z,7.0nm,0.8s
KKAR Karatay Array 55.64 316 *e*P **P** **15 29 07.3 +0.8**
comp=Z,7.3nm,0.8s
SEY Seymchan 57.26 16⇓ *e*P **P** **15 29 18.2 +0.5**
VOSK Vostochnaya 59.24 327 P **P** **15 29 30.4 -1.4**
VOSK pmax pmax
comp=Z,12nm,0.9s
BVA0 Borovoye Array 59.70 327 *i*P **P** **15 29 34.1 -0.8**
BVA0 pmax pmax
comp=Z,152nm,2.8s
BVAR Borovoye Array 59.70 327 P **P** **15 29 34.7 -0.2**
BVAR 15 30 22.8
BVAR Borovoye Array 59.70 327 P **P** **15 29 34.7 -0.2**
BVAR PcP **PcP** **15 30 22.8 +1.3**
BVAR Borovoye Array 59.70 327 P **P** **15 29 34.7 -0.2**
comp=Z,5.0nm,0.9s,baz=119,slow=9.2,SNR=15
BVAR PcP **PcP** **15 30 22.8 +1.3**
comp=Z,5.4nm,0.9s,baz=116,slow=6.8,SNR=3.9
BVAR LR LR 15 57 36.8
comp=Z,338nm,19.2s,baz=125,slow=38
BRVK Borovoye 59.77 327*d i*P **P** **15 29 35.2 -0.2**
BRVK pmax pmax
comp=Z,14nm,1.0s
BRVK Borovoye 59.77 327 *e*P **P** **15 29 33.7 -1.7**
comp=Z,27nm,1.0s
TIXI Tiksi 61.87 2*d i*P **P** **15 29 48.2 -1.1**
TIXI pmax pmax
comp=Z,23nm,1.0s
AB31 Akbulak array 64.52 320 *i*P **P** **15 30 07.1 -0.2**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 64.52 320 *e*P **P** **15 30 05.8 -1.5**
comp=Z,10nm,0.8s
BILL Bilibino 64.93 17*c e*P **P** **15 30 08.9 -0.7**
BILL *e* 15 30 24.4
BILL *e* 15 30 39.5
BILL *i*S S 15 38 53.4 +6.0
BILL *i*SS **SS** **15 43 05.2 +5.6**
BILL pmax pmax
comp=Z,13nm,1.0s
BILL MLR MLR
comp=Z,200nm,17.0s
AKTO Aktyubinsk 66.02 321 *i*P **P** **15 30 16.5 -0.5**
AKTO pmax pmax
comp=Z,32nm,1.6s
SVE Sverdlovsk 66.35 328⇓ *e*P **P** **15 30 19.4 +0.4**
SVE pmax pmax
comp=Z,44nm,1.0s
ARU Arti 67.32 327*d i*P **P** **15 30 24.4 -0.7**
ARU 15 32 50.4
ARU PPP PPP 15 34 27.3
ARU S **S** **15 39 17.9 +1.1**
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU MLR MLR
comp=Z,243nm,18.0s
SOKR Solikamsk 69.14 330 *e*P **P** **15 30 35.2 -1.2**
SOKR pmax pmax
comp=Z,8.0nm,0.8s
SOKR MLR MLR
comp=Z,470nm,18.0s
RPZ Rata Peaks 69.40 144 P **P** **15 30 37.5 -0.8**
RPZ Rata Peaks 69.40 144 P **P** **15 30 37.5 -0.8**
comp=Z,10nm,0.6s,baz=228,slow=6.4,SNR=7.7
AFI Afiamalu 69.72 109 *e*P **P** **15 30 39.6 -1.4**
DGRG David-gareji 73.59 310 P **P** **15 31 05.9 +2.1**
GNI Garni 74.06 309 *e*P **P** **15 31 04.2 -2.5**
comp=Z,43nm,1.1s
TBLG Delisi 74.08 311 *e*P **P** **15 31 07.8 +1.2**
TBLG Delisi 74.08 311 P **P** **15 31 07.9 +1.2**
ZEI Tsey 74.72 312 *e*P **P** **15 31 10.2 -0.4**
ZEI pmax pmax
comp=Z,47nm,1.3s
AKH Akhalkalaki 75.01 310 P **P** **15 31 14.3 +2.1**
KBZ Khabaz 75.45 313 P **P** **15 31 15.2 +0.7**
KBZ Khabaz 75.45 313 P **P** **15 31 15.2 +0.7**
KBZ Khabaz 75.45 313 P **P** **15 31 15.2 +0.7**
comp=Z,8.0nm,1.1s,baz=125,slow=1.8,SNR=11
KBZ LR LR 16 09 01.6
comp=Z,241nm,18.4s,baz=143,slow=39
KIV Kislovodsk 75.61 313*d i*P **P** **15 31 16.3 +0.8**
KIV *e* 15 31 26.4
KIV *e* 15 31 32.2
KIV *e*SS SS 15 45 52.6 +7.7
KIV pmax pmax
comp=Z,21nm,1.0s
SOC Sochi 77.76 313 *e*P **P** **15 31 30.0 +2.5**
SOC *e* 15 31 36.3
SOC *e* 15 34 18.4
SOC *e*S **S** **15 41 15.4 -1.1**
SOC pmax pmax
comp=Z,27nm,0.9s
SOC MLR MLR
comp=Z,217nm,17.0s
VORD Divnogorie 77.88 320 *e*P **P** **15 31 27.2 -0.8**
VORD pmax pmax
comp=Z,9.0nm,0.8s
VORD pmax pmax
comp=N,5.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VSR Storozhevoye 77.95 320 *e*P **P** **15 31 27.8 -0.6**
VSR pmax pmax
comp=Z,9.0nm,0.6s
VSR pmax pmax
comp=N,5.0nm,0.9s
VSR pmax pmax
comp=E,5.0nm,0.5s
TMCR Tamitsa 78.59 334 *e*P **P** **15 31 30.8 -0.9**
TMCR *e* 15 31 39.4
TMCR pmax pmax
comp=Z,34nm,0.4s
KDAK Kodiak Island 79.22 33 P **P** **15 31 34.8 -0.4**
KDAK Kodiak Island 79.22 33 P **P** **15 31 34.8 -0.4**
comp=Z,3.8nm,0.8s,baz=206,slow=5.1,SNR=4.1
ANN Anapa 79.35 314 *e*P **P** **15 31 39.0 +2.8**
ANN *e**PP **pP** **15 31 53.7 +3.4**
ANN *e*S S 15 41 41.0 +7.7
ANN pmax pmax
comp=Z,33nm,1.0s
OBN Obninsk 79.42 324⇑ *e*P **P** **15 31 36.2 -0.2**
OBN *e* 15 31 42.4
OBN pmax pmax
comp=Z,19nm,1.0s
OBN MLR MLR
comp=Z,200nm,19.0s
LVZ Lovozero 79.96 337⇑ *e*P **P** **15 31 40.8 +1.6**
LVZ pmax pmax
comp=Z,34nm,2.5s
COLD Coldfoot 80.08 23 *e*P **P** **15 31 38.7 -1.0**
comp=Z,11nm,1.0s
TRF Thorofare Moun 80.17 27 *e*P **P** **15 31 38.5 -2.0**
comp=Z,22nm,1.4s
APA Apatity 80.45 337⇓ *e*P P 15 31 49.6 +7.9
APA MLR MLR
comp=Z,700nm,17.0s
MCK McKinley 80.76 27 *e*P **P** **15 31 40.4 -3.2**
MCK pmax pmax
comp=Z,21nm,1.1s
MCK McKinley 80.76 27 *e*P **P** **15 31 40.4 -3.2**
comp=Z,21nm,1.1s
ASF Jabal al Asfar 80.78 301 LR LR 16 12 00.4
comp=Z,90nm,19.3s,baz=141,slow=39
PMR Palmer 80.81 29 *e*P **P** **15 31 41.0 -2.7**
PMR pmax pmax
comp=Z,9.0nm,1.0s
PMR Palmer 80.81 29 *e*P **P** **15 31 41.0 -2.7**
comp=Z,8.9nm,1.0s
SML Sawmill 81.17 29 *e*P **P** **15 31 43.4 -2.4**
SML *e**PP **PcP** **15 31 48.5 -3.5**
SML pmax pmax
comp=Z,3.0nm,0.9s
SML Sawmill 81.17 29 *e*P **P** **15 31 43.4 -2.4**
comp=Z,2.7nm,0.9s
SML *e*pP **PcP** **15 31 48.5 -3.5**
ILAR Eielson Array 81.58 26 P **P** **15 31 45.4 -2.5**
ILAR Eielson Array 81.58 26 P **P** **15 31 45.4 -2.5**
comp=Z,2.0nm,0.8s,baz=248,slow=4.8,SNR=17
JOF Joensuu 81.65 332 *e*p **P** **15 31 49.7 +1.5**
JOF Joensuu 81.65 332 *e*P **P** **15 31 49.7 +1.5**
SIM Simferopol' 81.69 314 *e*P **P** **15 31 49.0 +0.2**
SIM *e*S **S** **15 42 01.0 +3.1**
SIM pmax pmax
comp=Z,14nm,0.7s
PAX Paxson 82.39 27 *e*P **P** **15 31 50.9 -1.3**
PAX pmax pmax
comp=Z,5.0nm,1.0s
PAX Paxson 82.39 27 *e*P **P** **15 31 50.9 -1.3**
comp=Z,5.1nm,1.0s
BR131 Keskin Array S 82.60 309 *e*P **P** **15 31 53.6 -0.3**
comp=Z,7.2nm,0.9s
BRTR Keskin Array B 82.60 309 P **P** **15 31 54.1 +0.2**

BRTR	**Keskin Array B**	**82.60**	**309**	P		**P**	**15 31 54.1**	**+0.2**
	comp=Z,4.9nm,0.9s,baz=111,slow=5.4,SNR=15							
BRTR				LR		LR	16 16 00.5	
	comp=Z,110nm,18.1s,baz=220,slow=41							
EIL	**Elat**	**82.73**	**299**	LR		LR	16 14 21.6	
	comp=Z,180nm,19.3s,baz=99,slow=40							
EIL	**Elat**	**82.73**	**299**	P		**P**	**15 31 56.3**	**+1.7**
	baz=83,SNR=6.9							
ARCES	**ARCESS Array B**	**83.13**	**339**	P		**P**	**15 31 55.7**	**-0.1**
ARCES	**ARCESS Array B**	**83.13**	**339**	P		**P**	**15 31 55.7**	**-0.1**
	comp=Z,7.5nm,0.8s,baz=69,slow=6.6,SNR=17							
ARCES				LR		LR	16 11 58.7	
	comp=Z,141nm,18.8s,baz=208,slow=38							
ARE0	**ARCESS Array S**	**83.13**	**339**	*e*P		**P**	**15 31 55.5**	**-0.3**
CSS	**Prodhromos**	**83.42**	**304**	*e*P		**P**	**15 31 57.0**	**-1.1**
	comp=Z,31nm,1.0s							
CSS				*e*pP		**PcP**	**15 32 01.1**	**-1.3**
EGAK	**Eagle**	**84.01**	**25**	*e*P		**P**	**15 31 58.6**	**-1.8**
	comp=Z,7.4nm,1.1s							
KBS	**Kingsbay**	**84.17**	**349**	*de*P		**P**	**15 32 00.2**	**-0.8**
KBS				pmax		pmax		
	comp=Z,11nm,1.2s							
KIEV	**Kiev**	**84.27**	**320**	*e*P		**P**	**15 31 59.6**	**-2.4**
KIEV				pmax		pmax		
	comp=Z,13nm,1.1s							
KIEV	**Kiev**	**84.27**	**320**	*e*P		**P**	**15 31 59.6**	**-2.4**
	comp=Z,13nm,1.1s							
FINES	**FINESS Array B**	**84.28**	**331**	P		**P**	**15 32 01.1**	**-0.7**
FINES	**FINESS Array B**	**84.28**	**331**	P		**P**	**15 32 01.1**	**-0.7**
	comp=Z,2.7nm,0.7s,baz=60,slow=6.0,SNR=13							
VSU	**Vasula**	**84.46**	**328**	*i*P		**P**	**15 32 03.0**	**+0.2**
VSU				pmax		pmax		
	comp=Z,59nm,1.0s							
NACGM	**Naroch**	**85.05**	**325**	*e*		**P**	**15 32 08.0**	**+2.2**
KIS	**Kishinev**	**85.09**	**317**	*e*P		P	15 32 14.0	+7.8
KIS	**Kishinev**	**85.09**	**317**	*e*P		P	15 32 14.0	+7.8
KIS				*e*			15 43 38.0	
KMBO	**Kilima Mbogo**	**85.12**	**268**	P		**P**	**15 32 07.4**	**+0.1**
KMBO	**Kilima Mbogo**	**85.12**	**268**	P		**P**	**15 32 07.4**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=45,slow=20,SNR=2.7							
KMBO				LR		LR	16 10 44.1	
	comp=Z,183nm,18.4s,baz=97,slow=36							
TLCR		**85.38**	**315**	⇑*i*P		**P**	**15 32 08.4**	**+0.7**
TLCR		**85.38**	**315**	⇑*i*P		**P**	**15 32 08.4**	**+0.7**
CFR	**Carcaliu**	**85.86**	**315**	⇓P		**P**	**15 32 10.9**	**+0.8**
CFR	**Carcaliu**	**85.86**	**315**	⇓*i*P		**P**	**15 32 10.9**	**+0.8**
INK	**Inuvik**	**86.15**	**21**	P		**P**	**15 32 10.8**	**-0.3**
INK	**Inuvik**	**86.15**	**21**	P		**P**	**15 32 10.8**	**-0.3**
	comp=Z,16nm,1.0s,baz=277,slow=5.6,SNR=18							
TESR	**Tescani**	**86.64**	**316**	⇑*i*P		**P**	**15 32 14.1**	**+0.1**
VRI	**Vrincioaia**	**86.71**	**316**	⇓P		**P**	**15 32 15.4**	**+1.1**
VRI	**Vrincioaia**	**86.71**	**316**	⇓*i*P		**P**	**15 32 15.4**	**+1.1**
PLOR	**Plostina**	**86.77**	**316**	⇓P		**P**	**15 32 15.4**	**+0.8**
PLOR	**Plostina**	**86.77**	**316**	⇓*i*P		**P**	**15 32 15.4**	**+0.8**
MLR	**Muntele Rosu**	**87.32**	**316**	⇓P		**P**	**15 32 17.6**	**+0.2**
BURAR	**Bucovina Array**	**87.39**	**318**	⇓P		**P**	**15 32 17.5**	**-0.2**
BURAR	**Bucovina Array**	**87.39**	**318**	⇓*i*P		**P**	**15 32 17.5**	**-0.2**
BUR08	**Bucovina Ar. S**	**87.39**	**318**	*e*P		**P**	**15 32 17.0**	**-0.7**
VOIR		**87.95**	**316**	⇑P		**P**	**15 32 21.6**	**+1.2**
VOIR		**87.95**	**316**	⇑*i*P		**P**	**15 32 21.6**	**+1.2**
MAW	**Mawson**	**87.95**	**199**	P		**P**	**15 32 19.1**	**-0.5**
MAW	**Mawson**	**87.95**	**199**	P		**P**	**15 32 19.1**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=43,slow=8.4,SNR=6.4							
ARR	**Arges**	**88.25**	**316**	⇑*i*P		**P**	**15 32 21.8**	**0.0**
UZH	**Uzhgorod**	**89.08**	**319**	*e*P		**P**	**15 32 26.0**	**+0.5**
UZH				*e*			15 32 34.0	
VNDA	**Vanda**	**90.09**	**172**	*e*P		**P**	**15 32 28.4**	**-1.2**
	comp=Z,7.5nm,1.1s							
VNDA	**Vanda**	**90.09**	**172**	P		**P**	**15 32 29.2**	**-0.4**
	comp=Z,4.4nm,1.0s,baz=304,slow=6.8,SNR=12							
VNDA				LR		LR	16 14 38.6	
	comp=Z,115nm,19.2s,baz=328,slow=37							
NOA	**NORSAR Array B**	**91.27**	**333**	P		**P**	**15 32 36.1**	**+0.5**
NOA	**NORSAR Array B**	**91.27**	**333**	P		**P**	**15 32 36.1**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=187,slow=14,SNR=2.6							
BRG	**Berggiesshubel**	**93.60**	**323**	*e*P		**P**	**15 32 46.8**	**+0.3**
	comp=Z,4.9nm,1.3s							
BRG				*e*			15 32 54.2	
	comp=Z,6.9nm,1.0s							
BRG				*e*			15 36 44.5	
	comp=Z,2.9nm,1.0s							
BRG								
	comp=N,302nm,15.1s							
BRG								
	comp=E,186nm,15.4s							
BRG								
	comp=Z,485nm,15.0s							
BRG	**Berggiesshubel**	**93.60**	**323**	*e*P		**P**	**15 32 46.8**	**+0.3**
BRG				*e*			15 32 54.2	
BRG				pmax		pmax		
	comp=Z,5.0nm,1.3s							
BRG				pmax		pmax		
	comp=Z,7.0nm,1.0s							
BRG				pmax		pmax		
	comp=Z,3.0nm,1.0s							
BRG				MLR		MLR		
	comp=N,302nm,15.1s							
BRG				MLR		MLR		
	comp=E,186nm,15.4s							
BRG				MLR		MLR		
	comp=Z,485nm,15.0s							
CLL	**Collm**	**94.00**	**324**	*e*S		**S**	**15 44 00.0**	**+5.1**
CLL				*e*SP		**SP**	**15 45 10.0**	**+1.3**
CLL				*e*SS		SS	15 50 30.0	+15
GERES	**GERESS Array B**	**94.45**	**321**	P		**P**	**15 32 49.8**	**-0.8**
GERES	**GERESS Array B**	**94.45**	**321**	P		**P**	**15 32 49.8**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=76,slow=5.6,SNR=5.8							
GRF	**Grafenberg Arr**	**95.65**	**322**	*e*P		**P**	**15 32 55.5**	**-0.4**
	comp=Z,4.0nm,1.1s							
GRF	**Grafenberg Arr**	**95.65**	**322**	*e*P		**P**	**15 32 55.5**	**-0.4**
GRF				pmax		pmax		
	comp=Z,93nm,1.1s							
YKA	**Yellowknife Ar**	**95.75**	**23**	P		**P**	**15 32 55.4**	**-0.6**
YKA	**Yellowknife Ar**	**95.75**	**23**	P		**P**	**15 32 55.4**	**-0.6**
	comp=Z,3.1nm,0.9s,baz=304,slow=4.6,SNR=22							
ELK	**Elko**	**107.05**	**42**	PKiKP		**PKiKP**	**15 37 57.9**	**+1.1**
ELK	**Elko**	**107.05**	**42**	PKiKP		**PKiKP**	**15 37 57.9**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=337,slow=3.9,SNR=5.2							
OSI	**Osito Adit**	**107.45**	**49**	*e*PKPdf		**PKiKP**	**15 37 55.6**	**-1.7**
ESDC	**Sonseca Array**	**109.84**	**318**	PP		PP	15 38 40.7	+6.9
	comp=Z,0.3nm,0.4s,baz=63,slow=8.8,SNR=4.8							
MVU	**Marysvale**	**110.20**	**43**	*e*Pn		**PKiKP**	**15 38 04.7**	**+2.0**
MSU	**Marysvale**	**110.22**	**43**	*e*Pn		**PKiKP**	**15 38 04.8**	**+2.1**
PV04	**Paradox Valley**	**112.45**	**41**	PKPdf		**PKiKP**	**15 38 02.4**	**-4.5**
ECSD	**EROS Data Cent**	**116.10**	**30**	*e*PKPdf		**PKPdf**	**15 38 13.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**116.57**	**290**	PKP		**PKPdf**	**15 38 14.3**	**-0.8**
TORD				PP		PP	15 39 32.9	+10
TORD	**Torodi Ar. Bea**	**116.57**	**290**	PKP		**PKPdf**	**15 38 14.3**	**-0.8**
	comp=Z,1.3nm,0.9s,baz=81,slow=0.7,SNR=4.2							
TORD				PP		PP	15 39 32.9	+10
	comp=Z,1.2nm,1.0s,baz=90,slow=5.8,SNR=3.6							
OLIL	**Olney**	**124.05**	**28**	*e*PKPdf		**PKPdf**	**15 38 29.3**	**+0.4**
UALR	**University of**	**124.91**	**38**	*e*PKPdf		**PKPdf**	**15 38 30.7**	**+0.1**
WCI	**Wyandotte Cave**	**125.29**	**27**	*e*PKIKP		**PKPdf**	**15 38 30.0**	**-1.3**
WCI	**Wyandotte Cave**	**125.29**	**27**	*e*PKPdf		**PKPdf**	**15 38 30.0**	**-1.3**
WVT	**Waverly**	**126.25**	**30**	*e*PKIKP		**PKPdf**	**15 38 33.2**	**0.0**
WVT	**Waverly**	**126.25**	**30**	*e*PKPdf		**PKPdf**	**15 38 33.2**	**0.0**
TKL	**Tuckaleechee C**	**128.54**	**27**	PKP		**PKPdf**	**15 38 38.2**	**+0.6**
TKL	**Tuckaleechee C**	**128.54**	**27**	PKP		**PKPdf**	**15 38 38.2**	**+0.6**
	comp=Z,4.5nm,1.0s,baz=226,slow=3.6,SNR=6.9							
PLCA	**Paso Flores**	**147.29**	**162**	PKPbc		**PKPbc**	**15 39 14.1**	**+0.1**
PLCA	**Paso Flores**	**147.29**	**162**	PKPbc		**PKPbc**	**15 39 14.1**	**+0.1**
	comp=Z,17nm,1.0s,baz=210,slow=3.8,SNR=17							
OTAV	**Otavalo**	**157.21**	**65**	*e*PKPdf		**PKPdf**	**15 39 27.6**	**-0.1**
ATAH	**Atahualpa**	**159.55**	**84**	PKP		**PKPdf**	**15 39 31.1**	**+0.8**
ATAH	**Atahualpa**	**159.55**	**84**	PKP		**PKPdf**	**15 39 31.1**	**+0.8**
	comp=Z,10nm,0.9s,baz=12,slow=4.7,SNR=5.2							
CPUP	**Villa Florida**	**163.62**	**182**	PKP		**PKPdf**	**15 39 32.9**	**-0.8**
CPUP				PKPab		**PKPab**	**15 40 25.5**	**+0.3**
CPUP	**Villa Florida**	**163.62**	**182**	PKP		**PKPdf**	**15 39 32.9**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=169,slow=19,SNR=2.9							
CPUP				PKPab		**PKPab**	**15 40 25.5**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=150,slow=4.2,SNR=6.3							
LPAZ	**La Paz**	**168.17**	**124**	PKP		**PKPdf**	**15 39 38.1**	**-0.3**
LPAZ				*e*PKPdf		PKPdf	15 39 38.4	0.0
LPAZ	**La Paz**	**168.17**	**124**	PKP		**PKPdf**	**15 39 38.1**	**-0.3**
	comp=Z,2.8nm,0.9s,baz=34,slow=7.6,SNR=9.2							
SAML	**Samuel**	**174.71**	**80**	*e*PKPdf		**PKPdf**	**15 39 40.8**	**-0.1**

*MDD **11** 15:21:41.4±1.7, 36.˚94N×11.˚38W, h0km, mb3.8/5, Error ellipse: s-maj=14.5km s-min=13.4km az=62.0, PRX/MO*
*IGIL **11** 15:21:41.0, 36.˚74N×11.˚62W, h31km, ML1.9*
*CSEM **11** 15:21:42.5±0.3, 37.˚02N×11.˚30W, h10km, ML3.0/13, Error*

ellipse: s-maj=6.2km s-min=5.4km az=71.0
*INMG **11** 15:21:42.5±1.1, 36.˚80N×11.˚60W, h31km, ML1.9, Error ellipse: s-maj=6.8km s-min=4.8km az=101.0*

ISC 11 15:21:39.2±3.4, 36.˚94N±0.˚10×11.˚5W±0.˚2, h10km, n62, σ1§17/115, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.13**	**84**	*e*Pn	**Pn**	**15 22 15.7**	**+0.8**
PFVI				*e*Sn	**Sn**	**15 22 40.7**	**-0.7**
PFVI				A	A	15 22 45.3	
	5.4nm,0.8s						
PFVI	**Vila Bisbo**	**2.13**	**84**	P	**Pn**	**15 22 15.6**	**+0.8**
	4.7nm,0.1s,SNR=15						
PFVI				S	**Sn**	**15 22 40.2**	**-1.2**
	6.1nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.13**	**84**	*e*Pn	**Pn**	**15 22 15.7**	**+0.8**
PFVI				S	**Sn**	**15 22 40.2**	**-1.2**
	6.1nm,0.1s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**15 22 40.7**	**-0.7**
	5.4nm,0.8s						
PTEO	**Sao Teotonio**	**2.28**	**74**	*e*Pn	**Pn**	**15 22 18.3**	**+1.4**
PTEO				*e*Sn	**Sn**	**15 22 44.9**	**-0.2**
PTEO				A	A	15 22 49.2	
	5.7nm,0.5s						
PTEO	**Sao Teotonio**	**2.28**	**74**	Pn	**Pn**	**15 22 18.3**	**+1.4**
PTEO				Sn	**Sn**	**15 22 44.9**	**-0.2**
	2.8nm,0.5s						
PTEO	**Sao Teotonio**	**2.28**	**74**	Pn	**Pn**	**15 22 18.3**	**+1.4**
PTEO				*e*Sn	**Sn**	**15 22 44.9**	**-0.2**
	5.7nm,0.5s						
MORF	**Marmelete**	**2.29**	**80**	*e*Pn	**Pn**	**15 22 18.3**	**+1.2**
MORF				*e*Sn	**Sn**	**15 22 45.5**	**+0.1**
MORF				A	A	15 22 50.7	
	4.7nm,0.1s						
MORF	**Marmelete**	**2.29**	**80**	Pn	**Pn**	**15 22 18.3**	**+1.2**
MORF				Sn	**Sn**	**15 22 45.5**	**+0.1**
	4.7nm,0.1s						
MORF	**Marmelete**	**2.29**	**80**	Pn	**Pn**	**15 22 18.3**	**+1.2**
MORF				*e*Sn	**Sn**	**15 22 45.5**	**+0.1**
	4.7nm,0.1s						
PNCL	**Nicolau / Gran**	**2.62**	**63**	*e*Pn	**Pn**	**15 22 23.1**	**+1.5**
PNCL				*e*Sn	**Sn**	**15 22 54.1**	**+0.6**
PNCL				A	A	15 22 56.0	
	2.8nm,0.2s						
PNCL	**Nicolau / Gran**	**2.62**	**63**	*e*Pn	**Pn**	**15 22 23.1**	**+1.5**
PNCL				*e*Sn	**Sn**	**15 22 54.1**	**+0.6**
	2.8nm,0.2s						
PMAFR	**Mafra**	**2.66**	**40**	*e*Sn	**Sn**	**15 22 55.1**	**+0.8**
PMAFR				A	A	15 22 56.2	
	16nm,0.1s						
PMAFR	**Mafra**	**2.66**	**40**	P	**Pn**	**15 22 23.9**	**+1.8**
	1.9nm,0.2s,SNR=7.9						
PMAFR				S	**Sn**	**15 22 54.5**	**+0.1**
	22nm,0.1s,SNR=14						
PMAFR	**Mafra**	**2.66**	**40**	P	**Pn**	**15 22 23.9**	**+1.8**
	1.9nm,0.2s,SNR=7.9						
PMAFR				S	**Sn**	**15 22 54.5**	**+0.1**
	22nm,0.1s,SNR=14						
PMAFR				*e*Sn	**Sn**	**15 22 55.1**	**+0.8**
	16nm,0.1s						
MESJ	**Messejana**	**2.75**	**70**	*e*P	**Pn**	**15 22 24.2**	**+0.9**
MESJ				*e*S	**Sn**	**15 22 55.6**	**-1.0**
MESJ				AML	AML	15 22 59.2	
	comp=N,3.9nm,0.3s						
MESJ	**Messejana**	**2.75**	**70**	*e*P	**Pn**	**15 22 24.2**	**+0.9**
MESJ				*e*S	**Sn**	**15 22 55.6**	**-1.0**
MESJ	**Messejana**	**2.75**	**70**	P	**Pn**	**15 22 24.2**	**+0.9**
MESJ				S	**Sn**	**15 22 55.6**	**-1.0**
MESJ	**Messejana**	**2.75**	**70**	P	**Pn**	**15 22 24.2**	**+0.9**
MESJ				S	**Sn**	**15 22 55.6**	**-1.0**
PCVE	**Castro Verde**	**2.83**	**75**	*e*Pn	**Pn**	**15 22 25.7**	**+1.2**
PCVE				*e*Sn	**Sn**	**15 22 58.5**	**-0.1**
PCVE				A	A	15 23 03.1	
	comp=N,1.7nm,0.1s						
PCVE	**Castro Verde**	**2.83**	**75**	Pn	**Pn**	**15 22 25.7**	**+1.2**
PCVE				Sn	**Sn**	**15 22 58.5**	**-0.1**
	comp=N,1.7nm,0.1s						
PCVE	**Castro Verde**	**2.83**	**75**	Pn	**Pn**	**15 22 25.7**	**+1.2**
PCVE				*e*Sn	**Sn**	**15 22 58.5**	**-0.1**
	comp=N,1.7nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.86**	**83**	*e*Pn	**Pn**	**15 22 26.1**	**+1.3**
PBDV				*e*Sn	**Sn**	**15 22 59.4**	**+0.1**
PBDV				A	A	15 23 06.3	
	comp=N,2.0nm,0.3s						
PBDV	**Barranco-do-Ve**	**2.86**	**83**	Pn	**Pn**	**15 22 26.1**	**+1.3**
PBDV				Sn	**Sn**	**15 22 59.4**	**+0.1**
	comp=N,2.0nm,0.3s						
PBDV	**Barranco-do-Ve**	**2.86**	**83**	Pn	**Pn**	**15 22 26.1**	**+1.3**
PBDV				*e*Sn	**Sn**	**15 22 59.4**	**+0.1**
	comp=N,2.0nm,0.3s						
MOE	**Montemor**	**2.94**	**57**	*e*Sn	**Sn**	**15 23 01.6**	**+0.2**
MOE	**Montemor**	**2.94**	**57**	Sn	**Sn**	**15 23 01.6**	**+0.2**
MOE	**Montemor**	**2.94**	**57**	Sn	**Sn**	**15 23 01.6**	**+0.2**
PVAQ	**Vaqueiros**	**3.04**	**80**	*e*Pn	**Pn**	**15 22 28.5**	**+1.1**
PVAQ				*e*Sn	**Sn**	**15 23 03.4**	**-0.4**
PVAQ				A	A	15 23 08.2	
	comp=N,3.3nm,0.1s						
PVAQ	**Vaqueiros**	**3.04**	**80**	Pn	**Pn**	**15 22 28.5**	**+1.1**
PVAQ				Sn	**Sn**	**15 23 03.4**	**-0.4**
	comp=N,3.3nm,0.1s						
PVAQ	**Vaqueiros**	**3.04**	**80**	Pn	**Pn**	**15 22 28.5**	**+1.1**
PVAQ				*e*Sn	**Sn**	**15 23 03.4**	**-0.4**
	comp=N,3.3nm,0.1s						
EGRO	**El Granado**	**3.25**	**78**	P	**Pn**	**15 22 31.5**	**+1.3**
	comp=N,1.6nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**15 23 07.4**	**-1.4**
	comp=N,0.9nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.25**	**78**	P	**Pn**	**15 22 31.5**	**+1.3**
	comp=N,1.6nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**15 23 07.4**	**-1.4**
	comp=N,0.9nm,0.1s,SNR=7.9						
PMTG	**Montargil**	**3.33**	**50**	*e*Pn	**Pn**	**15 22 33.2**	**+1.8**
PMTG				*e*Sn	**Sn**	**15 23 10.6**	**-0.5**
PMTG				A	A	15 23 14.1	
	comp=N,2.4nm,0.1s						
PMTG	**Montargil**	**3.33**	**50**	*e*Pn	**Pn**	**15 22 33.2**	**+1.8**
PMTG				*e*Sn	**Sn**	**15 23 10.6**	**-0.5**
	comp=N,2.4nm,0.1s						
PTOM	**Tomar**	**3.60**	**41**	*e*Sn	**Sn**	**15 23 19.0**	**+1.4**
PTOM				A	A	15 23 21.5	
	comp=N,4.6nm,0.1s						
PTOM	**Tomar**	**3.60**	**41**	Sn	**Sn**	**15 23 19.0**	**+1.4**
	comp=N,2.3nm,0.1s						
PTOM	**Tomar**	**3.60**	**41**	*e*Sn	**Sn**	**15 23 19.0**	**+1.4**
	comp=N,4.6nm,0.1s						
PESTR	**Estremoz**	**3.63**	**57**	*e*Pn	**Pn**	**15 22 36.9**	**+1.5**
PESTR				*e*Sn	**Sn**	**15 23 18.2**	**-0.1**
PESTR				A	A	15 23 22.7	
	comp=N,0.8nm,0.1s						
PESTR	**Estremoz**	**3.63**	**57**	Pn	**Pn**	**15 22 36.9**	**+1.5**
PESTR				Sn	**Sn**	**15 23 18.2**	**-0.1**
	comp=N,0.4nm,0.1s						
PESTR	**Estremoz**	**3.63**	**57**	Pn	**Pn**	**15 22 36.9**	**+1.5**
PESTR				*e*Sn	**Sn**	**15 23 18.2**	**-0.1**
	comp=N,0.8nm,0.1s						
PBAR	**Barrancos**	**3.74**	**69**	*e*Pn	**Pn**	**15 22 38.4**	**+1.5**
PBAR				*e*Sn	**Sn**	**15 23 19.7**	**-1.3**
PBAR				A	A	15 23 24.5	
	comp=N,1.2nm,0.1s						
PBAR	**Barrancos**	**3.74**	**69**	Pn	**Pn**	**15 22 38.4**	**+1.5**
PBAR				Sn	**Sn**	**15 23 19.7**	**-1.3**
	comp=N,1.2nm,0.1s						
PBAR	**Barrancos**	**3.74**	**69**	Pn	**Pn**	**15 22 38.4**	**+1.5**
PBAR				*e*Sn	**Sn**	**15 23 19.7**	**-1.3**
	comp=N,1.2nm,0.1s						
EMIN	**Mina Concepcio**	**3.92**	**76**	P	**Pn**	**15 22 40.3**	**+0.9**
	comp=N,0.5nm,0.1s,SNR=10						
EMIN				S	**Sn**	**15 23 24.0**	**-1.5**
	comp=N,0.7nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.92**	**76**	P	**Pn**	**15 22 40.3**	**+0.9**
	comp=N,0.5nm,0.1s,SNR=10						
EMIN				S	**Sn**	**15 23 24.0**	**-1.5**
	comp=N,0.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.97**	**62**	P	**Pn**	**15 22 41.2**	**+1.0**
	comp=N,0.5nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**15 23 25.9**	**-0.9**
	comp=N,3.9nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.97**	**62**	P	**Pn**	**15 22 41.2**	**+1.0**
	comp=N,0.5nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**15 23 25.9**	**-0.9**
	comp=N,3.9nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**4.07**	**51**	*e*Pn	**Pn**	**15 22 42.0**	**+0.5**
PMRV				*e*Sn	**Sn**	**15 23 27.9**	**-1.3**
PMRV				A	A	15 23 31.3	
	comp=N,2.7nm,0.1s						
PMRV	**Marv??o**	**4.07**	**51**	Pn	**Pn**	**15 22 42.0**	**+0.5**
PMRV				Sn	**Sn**	**15 23 27.9**	**-1.3**
	comp=N,2.7nm,0.1s						
PMRV	**Marv??o**	**4.07**	**51**	Pn	**Pn**	**15 22 42.0**	**+0.5**
PMRV				*e*Sn	**Sn**	**15 23 27.9**	**-1.3**
	comp=N,2.7nm,0.1s						
ESPR	**Espera**	**4.51**	**89**	P	**Pn**	**15 22 48.5**	**+1.0**
	comp=N,1.2nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**15 23 38.3**	**-1.7**
	comp=N,3.9nm,0.3s,SNR=7.9						
ESPR	**Espera**	**4.51**	**89**	P	**Pn**	**15 22 48.5**	**+1.0**
	comp=N,1.2nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**15 23 38.3**	**-1.7**
	comp=N,3.9nm,0.3s,SNR=7.9						
EPLA	**Plasencia**	**5.26**	**52**	S	**Sn**	**15 23 57.7**	**-0.9**
	comp=N,0.9nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**5.26**	**52**	S	**Sn**	**15 23 57.7**	**-0.9**
	comp=N,0.9nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.46**	**38**	S	**Sn**	**15 24 01.5**	**-2.0**
	comp=N,1.2nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.46**	**38**	S	**Sn**	**15 24 01.5**	**-2.0**
	comp=N,1.2nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.58**	**27**	P	**Pn**	**15 23 02.8**	**+0.4**
	comp=N,0.2nm,0.0s,SNR=7.9						
ELOB				S	**Sn**	**15 24 04.4**	**-2.3**
	comp=N,0.7nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.58**	**27**	P	**Pn**	**15 23 02.8**	**+0.4**
	comp=N,0.2nm,0.0s,SNR=7.9						
ELOB				S	**Sn**	**15 24 04.4**	**-2.3**
	comp=N,0.7nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.62**	**75**	P	**Pn**	**15 23 03.9**	**+1.1**
	comp=N,0.5nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**15 24 05.4**	**-2.1**
	comp=N,0.7nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.62**	**75**	P	**Pn**	**15 23 03.9**	**+1.1**
	comp=N,0.5nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**15 24 05.4**	**-2.1**
	comp=N,0.7nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.20**	**35**	P	**Pn**	**15 23 09.6**	**-1.1**
	comp=N,1.7nm,0.4s,SNR=7.9						
ECAL				S	**Sn**	**15 24 20.0**	**-1.7**
	comp=N,2.4nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**6.20**	**35**	P	**Pn**	**15 23 09.6**	**-1.1**
	comp=N,1.7nm,0.4s,SNR=7.9						
ECAL				S	**Sn**	**15 24 20.0**	**-1.7**
	comp=N,2.4nm,0.3s,SNR=7.9						

MEX 11 15:27:42.7±0.4, 20.˚89N×105.˚38W, h17km±999km, MD3.5, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANIG	**Ahuacatlan**	**0.82**	**78**	*e*P	Pb	15 27 56.2	-2.4
ANIG				*i* S	Sb	15 28 06.8	-2.7
CJM	**Chamela**	**1.42**	**167**	*e*P	Pn	15 28 04.2	-3.5
CJM				*i* S	Sn	15 28 20.8	-5.3
R15V		**2.15**	**142**	*e*P	Pn	15 28 15.9	-2.1
R15V				*e*S	Sn	15 28 40.2	-4.2
EZ5V		**2.18**	**130**	*e*P	Pn	15 28 16.4	-2.2
EZ5V				*e*S	Sn	15 28 41.6	-3.8

*NEIC **11** 15:34:15.1, 22.˚19N×108.˚30W, h4km, mb5.0/56, MD5.1(MEX), After MEX.*
NEIC Felt at Culiacan and Mazatlan, Sinaloa.
*MEX **11** 15:34:15.1±0.3, 22.˚19N×108.˚30W, h4km±17km, MD5.1*
*IDC **11** 15:34:21.7±0.7, 22.˚89N×108.˚27W, h0km, mb4.3/20, mb1 4.5/26, mb1mx4.5/31, mbtmp4.4/26, ML3.

baz=9.8,SNR=9.2
326A **Caldwell Ranch** 9.15 22 P Pn 15 36 34.1 -0.6
baz=9.9,SNR=38
428A **Kincaid Ranch,** 9.16 30 ⇑P Pn 15 36 34.8 -0.1
baz=9.9,SNR=11
223A **Chaparral, Ant** 9.21 8 ⇓P Pn 15 36 34.9 -0.7
baz=10.0
222A **Williams Famil** 9.24 5 ⇓P Pn 15 36 35.7 -0.3
baz=10.0,SNR=8.2
732A **Laxson Ranch,** 9.30 49 ⇓P Pn 15 36 36.5 -0.2
baz=10.0
631A **Perdido Creek** 9.33 44 ⇑P Pn 15 36 37.0 -0.1
baz=10.0,SNR=11
327A **Balmorhea Ranc** 9.37 24 ⇑P Pn 15 36 37.5 -0.3
baz=10
530A **J-C Ranch, Com** 9.39 38 ⇓P Pn 15 36 37.9 -0.2
baz=10,SNR=7.1
224A **Cornudas Mount** 9.44 13 ⇑P Pn 15 36 37.9 -0.8
baz=10,SNR=26
429A **Davenport Ranc** 9.46 34 ⇑P Pn 15 36 38.9 -0.1
baz=10,SNR=5.3
121A **Cookes Peak, D** 9.63 1 P Pn 15 36 41.0 -0.5
baz=10,SNR=19
225A **Deer Hill, Car** 9.63 16 ⇑P Pn 15 36 40.9 -0.6
baz=10
120A **U Bar Ranch, L** 9.66 357 ⇑P Pn 15 36 41.2 -0.6
baz=10,SNR=12
328A **Wristen Ranch,** 9.66 28 ⇓P Pn 15 36 41.1 -0.6
baz=10,SNR=5.2
TUC **Tucson** 9.72 346 *e*P Pn 15 36 41.8 -0.8
TUC **Tucson** 9.72 346 *e*Pn Pn 15 36 41.8 -0.8
226B **Tecolote Peak,** 9.79 20 ⇓P Pn 15 36 43.0 -0.5
baz=10,SNR=19
122A **Conniff Cattle** 9.84 5 ⇓P Pn 15 36 43.6 -0.6
baz=11
GDL2 **Guadalupe Moun** 9.84 18 *e*Pn Pn 15 36 46.1 +1.8
531A **Rocksprings** 9.87 41 ⇓P Pn 15 36 45.1 +0.5
baz=11,SNR=7.3
632A **Uvalde** 9.91 46 ⇑P Pn 15 36 45.5 +0.4
baz=11,SNR=7.5
430A **Baggett Ranch,** 9.94 36 ⇓P Pn 15 36 45.9 +0.4
baz=11
214A **Organ Pipe Nat** 10.01 336 ⇓P Pn 15 36 46.6 +0.1
baz=11,SNR=24
227A **Bennet, Jal** 10.02 24 ⇑P Pn 15 36 46.3 -0.4
baz=11
124A **Stringfield Ra** 10.05 12 ⇑P Pn 15 36 46.6 -0.6
baz=11,SNR=54
329A **Wagon Wheel Ra** 10.12 31 ⇑P Pn 15 36 48.5 +0.4
baz=11
125A **Gardner Draw,** 10.20 16 ⇑P Pn 15 36 49.0 -0.1
baz=11,SNR=42
431A **Sonora** 10.21 39 ⇑P Pn 15 36 49.7 +0.5
baz=11,SNR=13
Z20A **Nine Sixteen R** 10.22 357 P Pn 15 36 49.2 -0.3
baz=11,SNR=70
532A **Rocksprings** 10.24 43 ⇓P Pn 15 36 49.7 -0.1
baz=11,SNR=13
126A **Clayton Basin,** 10.36 19 ⇓P Pn 15 36 51.4 0.0
baz=11
Z22A **Elephant Butte** 10.39 5 ⇓P Pn 15 36 51.9 +0.1
baz=11,SNR=44
228A **UT Block 9, Go** 10.39 26 ⇓P Pn 15 36 52.4 +0.6
baz=11
Z21A **St. Cloud Mine** 10.41 2 ⇑P Pn 15 36 51.7 -0.4
baz=11,SNR=24
330A **Mertzon** 10.46 34 ⇓P Pn 15 36 52.9 +0.3
baz=11,SNR=17
Z23A **Rita Site, Whi** 10.47 8 ⇓P Pn 15 36 52.4 -0.5
baz=11
JCT **Junction City** 10.55 42 *e*P Pn 15 36 56.5 +2.6
JCT **Junction City** 10.55 42 *e*Pn Pn 15 36 56.5 +2.6
JCT **Junction City** 10.55 42 ⇑P Pn 15 36 54.8 +0.9
baz=11,SNR=19
127A **Arkansas Junct** 10.60 22 ⇓P Pn 15 36 54.3 -0.3
baz=11,SNR=13
229A **Bryant Ranch,** 10.60 30 ⇑P Pn 15 36 55.3 +0.7
baz=11
Z24A **Sheeppen Canyo** 10.68 12 ⇓P Pn 15 36 55.7 -0.1
baz=11,SNR=5.1
Z25A **Roswell** 10.77 15 ⇓P Pn 15 36 57.7 +0.7
baz=12,SNR=24
331A **San Angelo** 10.78 37 ⇑P Pn 15 36 57.6 +0.6
baz=12
432A **Menard** 10.83 41 ⇑P Pn 15 36 58.4 +0.6
baz=12,SNR=7.7
230A **Sterling City** 10.87 33 ⇓P Pn 15 36 60.0 +1.6
baz=12,SNR=8.9
128A **Castleberry Fa** 10.88 26 ⇑P Pn 15 36 58.9 +0.5
baz=12,SNR=8.4
Z26A **Caprock** 10.96 18 ⇓P Pn 15 37 00.7 +1.2
baz=12,SNR=33
Y20A **Horse Springs,** 11.01 358 ⇑P Pn 15 37 01.2 +0.9
baz=12,SNR=53
Y22A **Socorro** 11.07 5 ⇑P Pn 15 37 02.3 +1.2
baz=12,SNR=36
113A **Mohawk Valley,** 11.10 334 ⇓P Pn 15 37 02.8 +1.5
baz=12,SNR=37
Y21A **Point of Rocks** 11.11 1 ⇓P Pn 15 37 02.9 +1.3
baz=12,SNR=29
129A **Stewart Farms,** 11.14 28 ⇑P Pn 15 37 03.6 +1.5
baz=12
Y23A **Lovelace Mesa,** 11.16 8 P Pn 15 37 02.9 +0.5
baz=12,SNR=28
Y22D **IRIS PASSCAL I** 11.21 5 ⇑P Pn 15 37 04.0 +1.0
baz=12
332A **Millersview** 11.23 39 ⇑P Pn 15 37 05.0 +1.9
baz=12,SNR=14
Z27A **Tatum** 11.23 21 ⇑P Pn 15 37 04.5 +1.2
baz=12,SNR=72
Y24A **Capitan** 11.25 11 ⇑P Pn 15 37 04.8 +1.2
baz=12,SNR=12
LENM **Lemitar** 11.29 4 *e*Pn Pn 15 37 05.4 +1.2
BNM **Barren Site** 11.31 6 *e*Pn Pn 15 37 05.2 +0.7
52nm,1.1s
231A **Bronte** 11.32 35 ⇓P Pn 15 37 05.3 +0.8
baz=12
Z14A **Wintersburg** 11.32 338 ⇑P Pn 15 37 06.4 +1.9
baz=12,SNR=22
Y25A **Mesa, Roswell** 11.39 14 ⇓P Pn 15 37 06.9 +1.4
baz=12,SNR=25
LPM **Los Pinos Moun** 11.47 6 *e*Pn Pn 15 37 07.7 +1.1
Z28A **Tucker Farm, M** 11.50 24 ⇓P Pn 15 37 08.5 +1.5
baz=12,SNR=5.6
LAZ **Ladron** 11.52 4 *e*Pn Pn 15 37 06.7 -0.6
63nm,1.4s
130A **Snyder** 11.52 31 ⇑P Pn 15 37 08.6 +1.4
baz=12,SNR=11
X21A **Alamocita Cree** 11.54 1 ⇓P Pn 15 37 09.6 +2.0
baz=12,SNR=38
Y26A **Elida** 11.61 18 ⇓P Pn 15 37 10.1 +1.5
baz=12,SNR=9.9
X22A **Bernardo** 11.63 4 ⇑P Pn 15 37 10.9 +2.1
baz=12,SNR=18
X20A **Quemado** 11.64 358 ⇑P Pn 15 37 10.7 +1.7
baz=12,SNR=34
232A **Coleman** 11.65 38 ⇓P Pn 15 37 10.7 +1.7
baz=12
X18A **Snowflake** 11.74 352 ⇑P Pn 15 37 11.6 +1.2
baz=12,SNR=31
Z29A **Hungry Hill Ra** 11.75 27 ⇓P Pn 15 37 11.8 +1.4
baz=12,SNR=17
Y27A **Causey** 11.77 20 ⇓P Pn 15 37 11.5 +0.8
baz=12,SNR=7.8
X23A **Hourglass Bar** 11.78 7 ⇓P Pn 15 37 12.1 +1.2
baz=12
GLA **Glamis** 11.80 331 *e*P Pn 15 37 11.8 +0.9
GLA **Glamis** 11.80 331 *e*Pn Pn 15 37 11.8 +0.9
GLA **Glamis** 11.80 331 ⇑P Pn 15 37 12.4 +1.5
baz=12,SNR=34
131A **Roby** 11.87 33 ⇑P Pn 15 37 13.3 +1.4
baz=13
X24A **Lazy VL Ranch,** 11.87 10 ⇓P Pn 15 37 13.7 +1.6
baz=13,SNR=8.0
Y14A **Wickenburg** 11.87 339 ⇓P Pn 15 37 13.2 +1.2
baz=12,SNR=83
X16A **Lo Mia Camp, P** 11.89 346 ⇓P Pn 15 37 13.6 +1.1
baz=12,SNR=45
MSTX **Muleshoe** 11.98 21 ⇑P Pn 15 37 14.7 +1.2
baz=13
X25A **Clemmons Ranch** 11.98 13 ⇓P Pn 15 37 14.6 +1.0
baz=13
Z30A **Sanderson Ranc** 12.02 29 ⇑P Pn 15 37 15.0 +1.0
baz=13,SNR=13
DVTC **Desert V Tower** 12.10 325 ⇑P Pn 15 37 15.9 +0.8
baz=12,SNR=8.1
Y28A **McKinney Farm,** 12.11 23 ⇓P Pn 15 37 16.0 +0.7
baz=13,SNR=5.9

ANMO **Albuquerque** 12.11 6 *e*Pn Pn 15 37 16.8 +1.4
ANMO Lg Lg 15 40 34.8
ANMO **Albuquerque** 12.11 6 Pn Pn 15 37 17.1 +1.7
0.2nm,0.3s,baz=187,slow=12,SNR=57
ANMO Lg Lg 15 40 34.8
baz=238,slow=15,SNR=3.8
ANMO LR LR 15 41 39.1
comp=Z,2μm,21.8s,baz=192,slow=36
SWSC **Sam W. Stewart** 12.16 327 ⇑P Pn 15 37 16.9 +1.0
baz=13
W22A **Albuquerque** 12.20 4 ⇓P Pn 15 37 17.9 +1.2
baz=13
X26A **CR and CF Fran** 12.21 17 ⇑P Pn 15 37 17.7 +1.0
baz=13,SNR=16
W21A **San Fidel** 12.21 1 ⇑P Pn 15 37 17.7 +0.9
baz=13
ABTX **Abilene, Hawle** 12.21 35 ⇓P Pn 15 37 17.5 +0.8
baz=13
W20A **Ramah** 12.22 358 ⇓P Pn 15 37 18.4 +1.4
baz=13,SNR=33
Y12C **Blythe** 12.26 334 ⇓P Pn 15 37 19.1 +1.8
baz=13,SNR=39
Y29A **Porterfield Fa** 12.29 26 ⇑P Pn 15 37 18.4 +0.7
baz=13,SNR=6.3
W18A **Petrified Fore** 12.30 353 ⇑P Pn 15 37 19.4 +1.4
baz=13,SNR=10
W23A **Werner Place,** 12.36 7 ⇓P Pn 15 37 20.1 +1.3
baz=13,SNR=14
BAR **Barrett** 12.42 324 *e*Pn Pn 15 37 20.6 +1.1
MONP **Monument Peak** 12.44 325 ⇓P Pn 15 37 21.2 +1.2
baz=13,SNR=15
X27A **F and S Farms,** 12.50 19 ⇑P Pn 15 37 21.7 +1.1
baz=13
W24A **Lazy 6 Ranch,** 12.51 10 ⇓P Pn 15 37 22.9 +2.1
baz=13,SNR=21
BC3 **Big Chuckawall** 12.59 330 ⇓P Pn 15 37 23.2 +1.4
baz=13,SNR=67
PDMCI **Parker Dam,Lak** 12.60 336 ⇓P Pn 15 37 23.3 +1.5
baz=13,SNR=20
Y30A **Stafford Cattl** 12.62 28 ⇓P Pn 15 37 23.3 +1.0
baz=13
X28A **Dimmitt** 12.68 22 ⇑P Pn 15 37 23.7 +0.6
baz=13
W25A **X Bar L Ranch,** 12.69 13 ⇑P Pn 15 37 24.3 +1.0
baz=13,SNR=17
W26A **Owens Ranch, T** 12.73 16 ⇑P Pn 15 37 24.5 +0.7
baz=14
X29A **Tulia** 12.79 24 ⇑P Pn 15 37 25.4 +0.8
baz=14,SNR=7.2
109C **Camp Elliot, M** 12.81 323 ⇑P Pn 15 37 25.0 +0.2
baz=13
Z32A **Haskell** 12.83 34 ⇓P Pn 15 37 25.3 +0.2
baz=14,SNR=13
IRM **Iron Mountain** 12.88 332 P Pn 15 37 27.1 +1.3
baz=13,SNR=130
V20A **Brimhall** 12.89 358 ⇓P Pn 15 37 27.8 +1.7
baz=14,SNR=20
V21A **Milan** 12.90 1 ⇑P Pn 15 37 28.1 +1.9
baz=14,SNR=16
W27A **Bowe Ranch, En** 12.90 18 ⇓P Pn 15 37 27.2 +1.1
baz=14,SNR=5.2
V23A **Ortiz Mt. (NFS** 12.93 7 ⇑P Pn 15 37 29.2 +2.6
baz=14,SNR=6.8
WUAZ **Wupatki** 12.94 348 *e*Pn Pn 15 37 28.6 +1.8
1.30m,1.2s
WUAZ **Wupatki** 12.94 348 ⇓P Pn 15 37 28.9 +2.2
baz=14,SNR=66
Y31A **Rekieta Farm,** 12.98 30 ⇓P Pn 15 37 29.0 +1.9
baz=14
PFO **Pinyon Flat Ob** 13.03 327 *e*Pn Pn 15 37 28.8 +0.9
PFO **Pinyon Flat Ob** 13.03 327 Pn Pn 15 37 29.3 +1.4
0.3nm,0.3s,baz=154,slow=12,SNR=37
PFO **Pinyon Flat Ob** 13.03 327 P Pn 15 37 29.4 +1.4
baz=14,SNR=36
V24A **Rampart Ranch,** 13.03 10 ⇓P Pn 15 37 30.1 +2.1
baz=14,SNR=13
V22A **San Miguel Ran** 13.04 4 ⇑P Pn 15 37 29.5 +1.4
baz=14
WHTX **Lake Whitney** 13.05 44 ⇑P Pn 15 37 29.2 +1.1
baz=14,SNR=7.2
X30A **Coker Ranch, T** 13.12 27 ⇓P Pn 15 37 29.7 +0.6
baz=14,SNR=15
BELC **Belle Mtn. Jos** 13.12 329 ⇑P Pn 15 37 30.5 +1.3
baz=14,SNR=27
NEE2 **Needles Airpor** 13.19 335 ⇓P Pn 15 37 31.3 +1.3
baz=14
W13A **Hualapai Mount** 13.22 338 ⇑P Pn 15 37 32.0 +1.4
baz=14,SNR=46
V25A **Rancho No Teng** 13.26 12 ⇑P Pn 15 37 33.6 +2.5
baz=14,SNR=68
W28A **Vega** 13.34 21 ⇑P Pn 15 37 32.4 +0.3
baz=14
V26A **Tequesquite Ra** 13.40 15 ⇓P Pn 15 37 34.4 +1.5
baz=14,SNR=8.5
Y32A **R-V Farms, Ver** 13.40 32 ⇑P Pn 15 37 33.1 +0.2
baz=14
MURC **Murrieta** 13.41 325 ⇑P Pn 15 37 33.9 +0.9
baz=14
W29A **Amraillo** 13.41 23 ⇑P Pn 15 37 33.4 +0.3
baz=14
U20A **Newcomb** 13.47 358 ⇑P Pn 15 37 35.4 +1.5
baz=14,SNR=9.1
U22A **Llaves** 13.50 4 ⇑P Pn 15 37 36.4 +1.9
baz=14,SNR=15
U23A **El Rito** 13.51 6 ⇓P Pn 15 37 36.3 +1.8
baz=14,SNR=28
U21A **Nageezi** 13.52 1 ⇓P Pn 15 37 36.8 +2.2
baz=14,SNR=36
V27A **Dan Oppiter Fa** 13.61 18 ⇓P Pn 15 37 36.4 +0.6
baz=14
GMRC **Grite Mounta** 13.62 332 P Pn 15 37 37.4 +1.4
baz=14,SNR=34
X31A **McDonald Ranch** 13.67 29 P Pn 15 37 37.8 +1.3
baz=14,SNR=14
U24A **Moreno Valley** 13.70 9 ⇓P Pn 15 37 38.0 +0.8
baz=14
SCI **San Clemente I** 13.71 320 ⇑P Pn 15 37 38.3 +1.2
baz=14
BBRC **Big Bear Solar** 13.78 327 ⇓P Pn 15 37 39.1 +0.9
baz=14
V28A **Channing** 13.79 20 ⇓P Pn 15 37 38.4 +0.1
baz=15
U25A **Circle Dot Ran** 13.84 12 ⇓P Pn 15 37 40.6 +1.5
baz=15,SNR=24
W30A **Crocket Farms** 13.88 26 ⇓P Pn 15 37 40.4 +1.0
baz=15
CIS **Catalina Islan** 13.93 321 ⇓P Pn 15 37 41.3 +1.2
baz=14
HEC **Hector,Ludlow** 13.96 330 ⇑P Pn 15 37 41.7 +1.1
baz=14,SNR=5.3
U26A **Atchley Ranch,** 13.98 14 ⇑P Pn 15 37 41.9 +1.0
baz=15,SNR=12
U15A **North Rim** 14.02 346 ⇓P Pn 15 37 43.1 +1.6
baz=15,SNR=23
T21A **Navajo Lake** 14.08 2 ⇓P Pn 15 37 44.6 +2.2
baz=15,SNR=8.1
FMP **Fort Macarthur** 14.09 322 ⇑P Pn 15 37 44.9 +2.7
baz=14
T22A **Edith** 14.13 4 ⇓P Pn 15 37 45.6 +2.6
baz=15,SNR=18
V29A **Stinnett** 14.13 22 ⇑P Pn 15 37 42.7 -0.2
baz=15
BFSC **Mount Baldy Ra** 14.14 325 ⇓P Pn 15 37 44.4 +1.4
baz=15
W31A **Holland Ranch,** 14.15 28 ⇓P Pn 15 37 43.3 +0.2
baz=15
T23A **Casias Ranch,** 14.22 6 ⇑P Pn 15 37 45.9 +1.5
baz=15,SNR=11
U27A **Thompson Grove** 14.23 17 ⇓P Pn 15 37 45.6 +1.2
baz=15,SNR=5.2
TUQ **Turquoise Moun** 14.30 333 ⇑P Pn 15 37 47.0 +1.7
baz=15,SNR=25
MVCO **Mesa Verde** 14.30 358 P Pn 15 37 47.0 +1.7
baz=15,SNR=38
RRX **Edison Barstow** 14.32 329 ⇑P Pn 15 37 46.7 +1.3
baz=15
V30A **Spur Ranch, Mi** 14.34 25 ⇓P Pn 15 37 47.2 +1.4
baz=15
U28A **Mallet** 14.37 19 ⇓P Pn 15 37 47.0 +0.9
baz=15
DECC **Green Verdugo** 14.51 324 ⇓P Pn 15 37 48.7 +0.7
baz=15
T25A **Trinidad** 14.56 12 ⇓P Pn 15 37 51.0 +2.1
baz=15,SNR=15
GSC **Goldstone** 14.57 330 *e*P Pn 15 37 48.0 -1.0
GSC **Goldstone** 14.57 330 *e*Pn Pn 15 37 48.0 -1.0
GSC **Goldstone** 14.57 330 P Pn 15 37 50.2 +1.2
baz=15,SNR=25

V31A **Spring Creek L** 14.69 27 ⇑P Pn 15 37 50.8 +0.2
baz=15,SNR=6.8
U29A **Oasis Ranch, S** 14.74 22 ⇑P Pn 15 37 51.3 0.0
baz=16
S21A **Coal Bank Pass** 14.75 1 P Pn 15 37 53.3 +1.7
baz=16,SNR=48
T26A **Comanche Natio** 14.76 14 ⇓P Pn 15 37 53.2 +1.6
baz=16,SNR=15
EDW2 **Edwards Air Fo** 14.81 326 ⇓P Pn 15 37 52.6 +0.4
baz=15,SNR=13
BLG **Laguna Peak** 14.82 322 ⇑P Pn 15 37 51.5 -0.7
baz=15
SHOC **Shoshone** 14.84 333 ⇑P Pn 15 37 53.5 +1.0
baz=15,SNR=14
S22A **4UR Ranch, Cre** 14.87 4 ⇑P Pn 15 37 55.3 +2.2
baz=16,SNR=74
T27A **Campo** 14.87 17 ⇓P Pn 15 37 53.7 +0.7
baz=16,SNR=7.9
S23A **Nye Farm, Mont** 14.89 6 ⇑P Pn 15 37 55.9 +2.5
baz=16,SNR=7.0
S20A **Disappointment** 14.92 359 ⇓P Pn 15 37 55.1 +1.3
baz=16,SNR=20
S24A **Houchin Ranch,** 14.92 9 ⇑P Pn 15 37 55.8 +1.9
baz=16,SNR=28
OSI **Osito Adit** 15.00 324 ⇓P Pn 15 37 55.0 +0.4
baz=15
U30A **WK&E Inc. Balk** 15.03 23 ⇓P Pn 15 37 54.8 -0.4
baz=16
S25A **Robets Cordova** 15.06 11 ⇓P Pn 15 37 57.5 +1.8
baz=16,SNR=35
LRMC **Laurel Mountai** 15.13 328 P Pn 15 37 57.3 +0.8
baz=16,SNR=23
U31A **Nine Bar Ranch** 15.20 26 ⇓P Pn 15 37 57.2 -0.2
baz=16
S26A **Kim** 15.22 14 ⇑P Pn 15 37 59.1 +1.4
baz=16,SNR=44
R20A **Redvale** 15.28 359 P Pn 15 37 60.0 +1.4
baz=16,SNR=60
R22A **Saguache, Gunn** 15.35 4 ⇑P Pn 15 38 01.4 +1.8
baz=16,SNR=28
T29A **Hugoton** 15.38 21 ⇓P Pn 15 37 59.9 +0.2
baz=16
R23A **Moffat** 15.39 6 P Pn 15 38 02.6 +2.6
baz=16,SNR=82
S27A **Las Animas** 15.41 15 ⇓P Pn 15 38 00.8 +0.6
baz=16,SNR=7.0
SBC **Santa Barbara** 15.43 321 ⇑P Pn 15 38 01.3 +0.9
baz=16
ARVC **Arvin** 15.44 325 ⇓P Pn 15 38 01.0 +0.5
baz=16
R21A **Cimarron** 15.46 1 ⇓P Pn 15 38 02.6 +1.7
baz=16,SNR=57
MPMC **Manual Prospec** 15.51 330 P Pn 15 38 02.6 +1.0
baz=16,SNR=34
R24A **Sanders Place,** 15.52 9 ⇓P Pn 15 38 03.8 +2.1
baz=16,SNR=30
T30A **Plains** 15.54 23 ⇑P Pn 15 38 01.3 -0.6
baz=16
R25A **Fountain Ranch** 15.56 11 ⇑P Pn 15 38 03.8 +1.6
baz=16,SNR=5.5
FURC **Furnace Creek,** 15.57 332 ⇓P Pn 15 38 03.0 +0.8
baz=16,SNR=31
ARUT **Antelope Range** 15.59 344 *e*P Pn 15 38 04.6 +2.0
ARUT pmax pmax
comp=Z,136nm,1.3s
ARUT **Antelope Range** 15.59 344 *e*PKPdf Pn 15 38 04.6 +2.0
comp=Z,136nm,1.3s
S28A **Manter** 15.59 18 ⇓P Pn 15 38 02.2 -0.4
baz=16,SNR=7.5
ISA **Isabella** 15.67 327 ⇑P Pn 15 38 03.7 +0.1
baz=16,SNR=13
PKM **Peak Mountain** 15.81 322 ⇓P Pn 15 38 05.2 -0.4
baz=16,SNR=6.1
S29A **Ulysses** 15.86 20 ⇓P Pn 15 38 05.1 -0.8
baz=17
R26A **Arlington** 15.87 13 ⇓P Pn 15 38 07.8 +1.6
baz=17,SNR=27
T31A **Randall Ranch,** 15.90 25 ⇑P Pn 15 38 07.8 +1.3
baz=17
Q21A **Lamborn Mesa,** 15.92 1 ⇑P Pn 15 38 08.8 +1.9
baz=17,SNR=12
Q22A **Crested Butte,** 15.97 3 ⇑P Pn 15 38 09.4 +1.7
baz=17,SNR=26
R27A **Eads** 16.00 15 ⇓P Pn 15 38 09.3 +1.4
baz=17,SNR=33
Q20A **Ridgley Place,** 16.04 359 P Pn 15 38 10.2 +1.8
baz=17,SNR=56
S30A **Montezuma** 16.09 22 ⇓P Pn 15 38 09.0 0.0
baz=17
Q23A **Hartsel** 16.09 6 ⇓P Pn 15 38 09.5 +0.2
baz=17
CWC **Cottonwood Cre** 16.10 329 ⇑P Pn 15 38 10.1 +0.9
baz=17,SNR=27
VES **Vestal, Richgr** 16.12 326 ⇑P Pn 15 38 09.3 0.0
baz=17,SNR=16
SMMC **Simmler** 16.22 323 ⇓P Pn 15 38 11.0 +0.4
baz=17
Q16A **Castle Valley** 16.23 351 P Pn 15 38 12.5 +1.7
baz=17,SNR=52
Q24A **Divide** 16.23 8 ⇓P Pn 15 38 13.1 +2.1
baz=17,SNR=18
GRAC **Grapevine Rang** 16.24 332 P Pn 15 38 12.1 +1.3
baz=17,SNR=41
SMCO **Snowmass** 16.28 3 *e*PKPdf Pn 15 38 12.0 +0.2
comp=Z,149nm,1.4s
R28A **Tribune** 16.31 18 ⇑P Pn 15 38 12.4 +0.6
baz=17
Q25A **Bedland, Calha** 16.32 10 ⇓P Pn 15 38 13.6 +1.6
baz=17,SNR=11
S31A **Mullinville** 16.43 25 ⇑P Pn 15 38 14.5 +1.2
baz=17
Q26A **Hugo** 16.46 12 ⇓P Pn 15 38 14.9 +1.1
baz=17,SNR=13
P23A **Jefferson** 16.56 6 ⇓P P 15 38 17.3 -0.5
baz=17,SNR=34
RCTC **Rector, Farmer** 16.56 326 ⇓P Pn 15 38 15.5 +0.7
baz=17,SNR=11
R29A **Marienthal** 16.59 19 ⇓P Pn 15 38 15.3 0.0
baz=17
TIN **Tinemaha** 16.67 330 ⇓P Pn 15 38 16.6 +0.3
baz=17
P22A **Eagle** 16.71 3 ⇑P Pn 15 38 18.6 +1.6
baz=18,SNR=21
P19A **Cripple Cowboy** 16.73 357 ⇓P Pn 15 38 18.2 +0.8
baz=18,SNR=17
R30A **Dighton** 16.73 22 ⇓P Pn 15 38 17.8 +0.7
baz=18
KSCO **Kaye Shedlock'** 16.74 15 ⇑P P 15 38 19.2 -0.4
baz=18,SNR=13
TUL1 **Tulsa** 16.78 37 ⇑P Pn 15 38 18.5 +0.8
baz=18
P24A **Kohler Place,** 16.80 8 ⇑P P 15 38 20.0 -0.3
baz=18
P25A **Willow Gulch B** 16.91 10 P P 15 38 21.4 -0.2
baz=18,SNR=22
Q28A **Sharon Springs** 16.98 17 ⇓P Pn 15 38 21.2 +0.9
baz=18
ISCO **Idaho Springs** 17.00 6 *e*P Pn 15 38 22.4 +1.6
ISCO **Idaho Springs** 17.00 6 *e*Pn Pn 15 38 22.4 +1.6
ISCO **Idaho Springs** 17.00 6 ⇑P P 15 38 23.2 +0.5
baz=18,SNR=47
R31A **Burdett** 17.00 23 ⇑P Pn 15 38 20.4 -0.2
baz=18
MTUM **Tungsten Hills** 17.06 330 *e*Pn Pn 15 38 22.0 +0.6
Q29A **Oakley** 17.06 19 ⇓P Pn 15 38 21.7 +0.4
baz=18
P26A **Davis Ranch, A** 17.11 12 ⇑P Pn 15 38 23.4 +1.4
baz=18,SNR=7.9
O20A **White River Ci** 17.22 359 ⇑P P 15 38 25.3 +0.3
baz=18,SNR=13
P27A **Ficken Ranch,** 17.27 14 ⇑P Pn 15 38 24.8 +0.9
baz=18
O22A **Kremmling** 17.29 4 ⇑P P 15 38 26.1 +0.3
baz=18,SNR=26
O21A **Pagoda** 17.30 1 ⇑P P 15 38 26.3 +0.4
baz=18,SNR=7.5
MPU **Maple Canyon** 17.37 351 *e*Pn Pn 15 38 24.9 -0.4
comp=Z,56nm,1.3s
NLU **North Lily Min** 17.38 349 *e*Pn P 15 38 27.7 +0.9
comp=Z,68nm,1.3s
O23A **Lake Granby, G** 17.38 5 ⇓P P 15 38 27.8 +1.0
baz=18,SNR=19
O24A **Longmont** 17.38 8 ⇑P P 15 38 27.7 +1.0
baz=18
O19A **Miners Draw (B** 17.41 357 ⇓P Pn 15 38 26.7 +1.1
baz=18,SNR=8.4
MLAC **Mammoth Lakes** 17.41 330 ⇑P Pn 15 38 27.0 +1.2
baz=18

P28A **Saint Francis** 17.48 16 ⇑P P 15 38 27.9 +0.1
baz=18
O25A **Wiggins** 17.51 10 ⇓P P 15 38 28.1 +0.1
baz=18,SNR=11
Q31A **Ellis** 17.69 23 ⇑P Pn 15 38 29.0 0.0
baz=18
DUG **Dugway** 17.75 348 *e*P P 15 38 31.6 +0.9
DUG pmax pmax
comp=Z,588nm,2.8s
DUG **Dugway** 17.75 348 *e*Pn P 15 38 31.6 +0.9
comp=Z,588nm,2.8s
DUG **Dugway** 17.75 348 P P 15 38 31.8 +1.0
baz=18,SNR=38
O26A **Horse Wrangler** 17.77 12 ⇓P Pn 15 38 30.6 +0.4
baz=18
NVAR **Mina Array Bea** 17.84 333 P Pn 15 38 31.9 +0.8
NVAR **Mina Array Bea** 17.84 333 P Pn 15 38 31.9 +0.8
comp=Z,0.5nm,0.3s,baz=162,slow=8.7,SNR=82
NVAR LR LR 15 45 12.4
comp=Z,763nm,19.1s,baz=29,slow=37
N21A **Black Mountain** 17.84 1 ⇓P P 15 38 34.0 +2.0
baz=19,SNR=30
P30A **Selden** 17.89 20 ⇓P P 15 38 32.4 +0.2
baz=19
O27A **Beecher Island** 17.89 14 ⇑P Pn 15 38 32.6 +0.9
baz=19
N20A **Spence Gulch,** 17.91 359 ⇑P P 15 38 33.8 +1.2
baz=19,SNR=36
JLU **Jordanelle** 17.92 351 *e*Pn P 15 38 33.7 +1.0
comp=Z,437nm,2.4s
N22A **Wattenberg Ran** 17.93 4 ⇓P P 15 38 34.6 +1.8
baz=19,SNR=22
O28A **Krutsinger Ran** 18.00 16 ⇑P P 15 38 34.4 +0.9
baz=19,SNR=12
CTU **Camp Tracy** 18.05 351 *e*Pn P 15 38 35.3 +1.2
comp=Z,44nm,1.1s
N23A **Red Feather La** 18.06 5 ⇑P P 15 38 35.1 +0.8
baz=19,SNR=24
SAO **San Andreas Ge** 18.08 323 *e*P P 15 38 34.8 +0.6
SAO pmax pmax
comp=Z,30nm,1.1s
SAO **San Andreas Ge** 18.08 323 *e*P P 15 38 34.8 +0.6
comp=Z,30nm,1.1s
N24A **Carr** 18.10 8 ⇑P P 15 38 35.8 +1.2
baz=19
P31A **Stockton** 18.15 22 ⇑P P 15 38 35.6 +0.5
baz=19
N25A **Grover** 18.20 10 ⇑P Pn 15 38 35.8 +0.4
baz=19
O29A **4D Ranch, Culb** 18.26 18 ⇑P Pn 15 38 36.0 -0.1
baz=19,SNR=7.5
N26A **Koester Ranch,** 18.36 12 ⇑P P 15 38 37.7 +0.2
baz=19
WAKR **Walker** 18.40 330 *e*Pn P 15 38 38.7 +0.7
N27A **Anderson Farm,** 18.47 13 ⇑P P 15 38 39.0 +0.3
baz=19
CMB **Columbia Colle** 18.48 328 *e*P P 15 38 38.7 0.0
CMB pmax pmax
comp=Z,24nm,1.2s
CMB **Columbia Colle** 18.48 328 *e*Pn P 15 38 38.7 0.0
comp=Z,24nm,1.2s
BGU **Big Grassy Mou** 18.50 348 *e*Pn Pn 15 38 40.5 +1.4
comp=Z,318nm,2.4s
PHWY **Pilot Hill** 18.51 6 *e*Pn Pn 15 38 42.5 +3.1
comp=Z,30nm,1.1s
M22A **Cedar Creek Ra** 18.52 3 ⇑P P 15 38 40.0 +0.6
baz=19
O30A **MW Ranch, Wils** 18.53 19 ⇓P P 15 38 39.6 +0.4
baz=19
TEIG **Tepich** 18.54 94 P Pn 15 38 42.7 +3.1
TEIG **Tepich** 18.54 94 P Pn 15 38 42.7 +3.1
comp=Z,0.3nm,0.3s,baz=321,slow=18,SNR=3.6
TEIG LR LR 15 48 27.9
comp=Z,647nm,18.1s,baz=242,slow=45
N28A **Pribbeno Ranch** 18.59 16 ⇓P P 15 38 40.5 +0.5
baz=19
M19A **Rock Springs** 18.61 357 ⇓P P 15 38 40.2 -0.1
baz=19,SNR=5.9
M17A **Scullys Gap (B** 18.69 354 ⇓P P 15 38 41.7 +0.5
baz=19,SNR=17
M21A **Separation Pea** 18.69 2 P P 15 38 41.9 +0.7
baz=19,SNR=7.9
OGNE **Ogallala** 18.71 14 ⇑P Pn 15 38 42.1 +0.4
baz=20
M24A **Cheyenne** 18.74 7 ⇓P P 15 38 42.5 +0.8
baz=20,SNR=7.5
RWWY **Rawlins** 18.78 2 *e*Pn Pn 15 38 43.7 +1.0
comp=Z,210nm,1.6s
M25A **Palm-Egli Farm** 18.81 9 ⇑P P 15 38 43.3 +0.8
baz=20
ELK **Elko** 18.84 343 *e*P P 15 38 41.9 -1.0
comp=Z,23nm,1.0s
ELK *e*Pn Pn 15 38 43.8 +0.5
ELK **Elko** 18.84 343 P P 15 38 43.5 +0.6
comp=Z,0.2nm,0.3s,baz=173,slow=8.5,SNR=37
ELK LR LR 15 45 49.2
comp=Z,1µm,20.0s,baz=165,slow=37
N29A **Votaw Ranch, W** 18.95 17 ⇓P P 15 38 44.7 +0.8
baz=20
M26A **McRoberts Ranc** 18.99 11 ⇓P P 15 38 44.8 +0.4
baz=20
L21A **Rawlins** 19.05 1 ⇓P P 15 38 45.2 0.0
baz=20,SNR=9.8
L18A **Fontenelle, Gr** 19.08 355 ⇑P P 15 38 45.6 +0.1
baz=20,SNR=12
L20A **Wamsutter** 19.09 359 ⇓P P 15 38 45.7 +0.2
baz=20
L22A **Ellis Ranch, M** 19.16 4 ⇑P Pn 15 38 47.7 +0.6
baz=20,SNR=19
BMN **Battle Mountai** 19.17 338 *e*P P 15 38 47.3 +0.9
BMN pmax pmax
comp=Z,136nm,1.9s
BMN **Battle Mountai** 19.17 338 *e*Pn P 15 38 47.3 +0.9
comp=Z,136nm,1.9s
M27A **Reverse DX Ran** 19.20 13 ⇓P P 15 38 47.2 +0.5
baz=20
L19A **Farson** 19.21 357 ⇑P P 15 38 47.5 +0.5
baz=20,SNR=7.0
HVU **Hansel Valley** 19.28 349 *e*P Pn 15 38 49.2 +0.6
HVU pmax pmax
comp=Z,73nm,1.1s
HVU **Hansel Valley** 19.28 349 *e*Pn Pn 15 38 49.2 +0.6
comp=Z,73nm,1.1s
L23A **Garrett** 19.29 5 ⇓P P 15 38 48.8 +1.0
baz=20,SNR=20
L24A **Wheatland** 19.30 7 ⇑P P 15 38 48.0 +0.2
baz=20
PAHR **Pah Rah Range** 19.37 333 *e*Pn Pn 15 38 49.9 +0.2
comp=Z,183nm,1.9s
M29A **Burnside Ranch** 19.52 17 ⇑P P 15 38 50.6 +0.4
baz=20
L25A **Engebretsen Ra** 19.53 9 ⇑P P 15 38 51.3 +1.0
baz=20
L26A **Underwood Farm** 19.56 11 ⇑P P 15 38 51.0 +0.4
baz=20
K20A **Yellowstone Ra** 19.74 359 ⇑P P 15 38 53.0 +0.4
baz=20,SNR=27
K22A **Casper** 19.77 3 P P 15 38 54.3 +1.4
baz=20,SNR=12
M30A **Dale-Ortello V** 19.83 18 ⇓P P 15 38 54.0 +0.5
baz=21
L28A **Connealy Angus** 19.84 14 ⇑P P 15 38 54.2 +0.5
baz=21
PDAR **Pinedale Array** 19.89 357 P P 15 38 54.3 0.0
PDAR **Pinedale Array** 19.89 357 P P 15 38 54.3 0.0
comp=Z,0.2nm,0.3s,baz=170,slow=9.9,SNR=60
PDAR LR LR 15 47 01.9
comp=Z,820nm,19.0s,baz=184,slow=38
K19A **Absolon Red Bu** 19.92 358 P P 15 38 54.8 +0.2
baz=21,SNR=26
K23A **Bowen Ranch, D** 19.93 5 ⇑P P 15 38 55.5 +0.7
baz=21,SNR=6.7
K24A **Anderson Ranch** 19.98 7 ⇑P P 15 38 55.5 +0.2
baz=21
K25A **Mack Ranch, Ha** 19.99 9 ⇑P P 15 38 56.2 +0.9
baz=21
OHCM **Honcut** 20.03 328 *e*Pn P 15 38 56.9 +1.3
L29A **Maesberg Ranch** 20.15 16 ⇑P P 15 38 57.7 +0.7
baz=21
K26A **Motz Farm, Whi** 20.18 10 ⇓P P 15 38 58.1 +0.7
baz=21
BGNE **Belgrade** 20.26 22 ⇓P P 15 38 58.8 +0.6
baz=21
K27A **Flueckinger Fa** 20.36 12 ⇑P P 15 38 59.5 +0.2
baz=21
J19A **Crowheart** 20.36 358 ⇑P P 15 38 59.9 +0.5
baz=21,SNR=26
J21A **Lysite** 20.43 1 P P 15 39 01.0 +0.9
baz=21,SNR=17
J20A **Shoshoni** 20.43 360 ⇑P P 15 39 01.2 +1.0
baz=21,SNR=16
J22A **Midwest** 20.53 3 ⇑P P 15 39 01.5 +0.3
baz=21,SNR=58
K28A **Ten Mile Ranch** 20.55 14 ⇑P P 15 39 02.4 +1.1
baz=21,SNR=8.7
J23A **Dilts Ranch, B** 20.58 5 ⇓P P 15 39 02.5 +0.8
baz=21
J24A **Dixon Ranch, L** 20.60 7 ⇑P P 15 39 02.5 +0.6
baz=21
RRI2 **Red Ridge** 20.61 353 *e*P P 15 39 03.1 +0.9
comp=Z,338nm,2.1s
SNOW **Snow King Moun** 20.67 354 *e*P P 15 39 03.7 +0.9
comp=Z,151nm,1.3s
TPAW **Teton Pass** 20.71 354 *e*P P 15 39 04.4 +1.1
comp=Z,67nm,1.1s
LOHW **Long Hollow** 20.80 355 *e*P P 15 39 04.8 +0.5
comp=Z,104nm,1.1s
I18A **Diamond G Ranc** 20.83 356 ⇑P P 15 39 05.0 +0.4
baz=22,SNR=16
DCID1 **Drake Creek** 20.84 354 *e*Pn P 15 39 06.3 +1.7
comp=Z,181nm,1.3s
I21A **Big Trails, Te** 20.90 1 ⇓P P 15 39 05.2 0.0
baz=22,SNR=18
PARMO **Parma** 20.93 45 *e*Pn Pn 15 39 09.8 +1.8
MOOW **Moose Ponds** 20.95 354 *e*P P 15 39 06.1 +0.3
comp=Z,95nm,1.2s
I22A **9 Mile Ranch,** 21.01 3 ⇓P P 15 39 07.2 +0.8
baz=22,SNR=13
I20A **Worland** 21.03 360 ⇑P P 15 39 07.3 +0.7
baz=22,SNR=71
I17A **Pilgrim Ck.** 21.11 355 ⇓P P 15 39 08.8 +1.3
baz=22,SNR=21
IMW **Indian Meadow** 21.11 354 *e*P P 15 39 08.5 +0.8
comp=Z,88nm,1.2s
I24A **Kuenmerle Ranc** 21.12 7 ⇓P P 15 39 08.2 +0.6
baz=22
I19A **Meeteetse** 21.13 358 P P 15 39 08.5 +0.7
baz=22,SNR=45
I16A **Newdale** 21.15 353 P P 15 39 09.1 +1.1
baz=22,SNR=50
LBCM **Butte Creek Ri** 21.15 331 P P 15 39 08.9 +0.9
J28A **Allard Ranch,** 21.26 14 ⇓P P 15 39 10.5 +1.5
baz=22,SNR=12
I25A **Rochford** 21.39 8 ⇑P P 15 39 11.3 +0.8
baz=22
WVOR **Wild Horse Val** 21.43 338 P P 15 39 10.8 -0.1
WVOR **Wild Horse Val** 21.43 338 P P 15 39 10.8 -0.1
RSSD **Black Hills** 21.45 8 *e*P P 15 39 11.5 +0.3
RSSD pmax pmax
comp=Z,17nm,1.1s
RSSD **Black Hills** 21.45 8 *e*P P 15 39 11.5 +0.3
comp=Z,17nm,1.1s
I14A **Mackay** 21.48 349 ⇓P P 15 39 12.6 +1.0
baz=22,SNR=16
MFID **Camas Ranch** 21.49 344 *e*P P 15 39 11.9 +0.3
comp=Z,23nm,1.0s
MFID **Camas Ranch** 21.49 344 P P 15 39 11.9 +0.3
baz=22,SNR=19
I26A **New Underwood** 21.53 10 ⇑P P 15 39 12.2 +0.3
baz=22
H17A **Grant Village** 21.58 355 ⇓P P 15 39 13.1 +0.5
baz=22,SNR=16
MOD **Modoc** 21.59 334 *e*P P 15 39 13.3 +0.6
comp=Z,298nm,2.3s
YFT **Old Faithful** 21.66 355 *e*P P 15 39 11.4 -2.0
comp=Z,456nm,2.1s
I12A **Atlanta** 21.69 346 ⇑P P 15 39 13.7 -0.1
baz=22
I27A **Quinn** 21.71 12 ⇑P P 15 39 14.7 +0.9
baz=22
H22A **Clearmont** 21.71 3 ⇑P P 15 39 14.7 +0.7
baz=22,SNR=8.9
H21A **Big Horn, Sher** 21.72 2 ⇓P P 15 39 14.3 +0.3
baz=22
H23A **Clabaugh Cattl** 21.75 5 ⇑P P 15 39 14.4 +0.1
baz=22
H19A **Powell** 21.76 358 ⇑P P 15 39 15.2 +0.7
baz=22,SNR=25
H18A **Shoshone NF, C** 21.80 357 P P 15 39 15.4 +0.4
baz=22,SNR=31
I28A **Midland** 21.82 13 ⇓P P 15 39 16.3 +1.3
baz=23
YMR **Madison River** 21.88 354 *e*P P 15 39 15.7 -0.1
comp=Z,44nm,0.4s
SIUC **Southern Illin** 21.90 43 *e*P P 15 39 19.7 +3.9
comp=Z,51nm,1.2s
H16A **Russell Place,** 21.94 354 P P 15 39 17.6 +1.2
baz=23,SNR=45
H25A **Fruitdale** 22.00 8 ⇑P P 15 39 18.1 +1.1
baz=23
H24A **Dirs Ranch, A** 22.01 7 ⇓P P 15 39 17.2 +0.1
baz=23,SNR=9.4
QLMT **Earthquake Lak** 22.09 354 *e*P P 15 39 19.4 +1.4
H26A **Fairpoint** 22.12 10 ⇓P P 15 39 19.3 +1.1
baz=23
J08A **Circle Bar Ran** 22.20 339 P P 15 39 19.2 +0.1
H27A **Howes** 22.25 11 ⇑P P 15 39 20.6 +1.0
baz=23
MCMT **McKenzie Canyo** 22.26 351 *e*P P 15 39 19.7 -0.3
G20A **Bridger** 22.30 360 ⇑P P 15 39 19.6 -0.7
baz=23,SNR=16
KHMM **Horse Mountain** 22.31 327 *e*P P 15 39 20.7 +0.3
comp=Z,64nm,1.2s
G21A **Lodge Grass** 22.31 1 ⇑P P 15 39 20.2 -0.1
baz=23,SNR=13
G22A **Birney** 22.34 3 ⇑P P 15 39 20.9 +0.2
baz=23,SNR=18
H12A **Diamond D Ranc** 22.35 347 ⇑P P 15 39 21.3 +0.5
baz=23,SNR=57
G23A **Biddle** 22.38 5 ⇓P P 15 39 20.8 -0.3
baz=23,SNR=5.5
G18A **Lazy EL Ranch,** 22.43 357 P P 15 39 22.1 +0.4
baz=23,SNR=38
YBH **Yreka Blue Hor** 22.48 330 P P 15 39 20.2 -2.0
YBH **Yreka Blue Hor** 22.48 330 P P 15 39 20.2 -2.0
comp=Z,2.1nm,0.8s,baz=185,slow=7.6,SNR=4.9
YBH LR LR 15 47 44.9
comp=Z,446nm,19.5s,baz=336,slow=36
H28A **Mission Ridge** 22.50 13 ⇑P P 15 39 22.5 +0.3
baz=23
G17A **Pierce Place,** 22.51 355 ⇑P P 15 39 23.6 +1.1
baz=23,SNR=12
G24A **Alzada** 22.60 7 ⇓P P 15 39 23.8 +0.5
baz=23
DLMT **Dillon** 22.75 352 *e*P P 15 39 26.6 +1.5
comp=Z,54nm,1.3s
BRSD **Miller** 22.77 17 ⇓P P 15 39 25.8 +0.7
baz=24
ECSD **EROS Data Cent** 22.84 22 *e*P P 15 39 27.9 +2.0
comp=Z,32nm,1.3s
F20A **Billings** 22.88 360 ⇓P P 15 39 26.1 -0.2
baz=24,SNR=8.1
KRMB **Red Mountain** 22.89 328 *e*P P 15 39 27.1 +0.6
comp=Z,51nm,1.5s
F23A **Volborg** 22.90 5 ⇑P P 15 39 26.3 -0.2
baz=24,SNR=7.1
G28A **Parade** 22.90 13 ⇓P P 15 39 26.6 +0.1
baz=24
F22A **Rosebud** 22.90 3 ⇑P P 15 39 26.1 -0.5
baz=24
F21A **Absaloka Mine,** 22.91 2 ⇑P P 15 39 27.1 +0.4
baz=24
F19A **Roth Farm, Mol** 22.95 358 ⇑P P 15 39 27.2 +0.1
baz=24
G27A **Dupree** 23.00 11 ⇑P P 15 39 27.7 +0.2
baz=24
F18A **Big Timber** 23.02 357 P P 15 39 28.2 +0.3
baz=24,SNR=22
USIN **University of** 23.04 45 *e*P P 15 39 30.3 +2.3
comp=Z,92nm,1.0s
F16A **Kennard Place,** 23.05 354 ⇑P P 15 39 28.9 +0.8
baz=24,SNR=15
F17A **Fitzpatrick Pl** 23.08 355 ⇓P P 15 39 29.6 +1.1
baz=24,SNR=27
F24A **Ekalaka** 23.11 6 ⇓P P 15 39 28.6 -0.1
baz=24
LRM **Limekiln Ridge** 23.18 352 *e*P P 15 39 30.2 +0.5
OLIL **Olney** 23.22 43 *e*P P 15 39 32.1 +2.3
comp=Z,60nm,1.0s
HUMO **Hull Mountain** 23.29 331 *e*P P 15 39 35.2 +4.7
comp=Z,71nm,2.0s
TIGA **Tifton** 23.31 63 ⇓P P 15 39 32.8 +2.1
baz=24,SNR=5.2
E19A **Rath Farm, Rou** 23.55 359 ⇑P P 15 39 33.0 -0.1
baz=24,SNR=25
E22A **Miles City** 23.58 4 ⇑P P 15 39 32.7 -0.6
baz=24
E20A **Meyer Farm, Mu** 23.58 360 ⇑P P 15 39 33.5 +0.1
baz=24,SNR=25
E21A **Keefer Ranch,** 23.63 2 ⇑P P 15 39 33.9 0.0
baz=24,SNR=9.3
E17A **Martinsdale** 23.65 355 ⇑P P 15 39 34.6 +0.4
baz=24,SNR=27
HDIL **Hopedale** 23.68 38 *e*P P 15 39 36.6 +2.3
comp=Z,33nm,0.9s
E23A **Ismay** 23.68 5 ⇑P P 15 39 33.4 -0.9
baz=24
E18A **Harlowton** 23.70 357 ⇓P P 15 39 34.8 +0.2
baz=24,SNR=18
E16A **East Helena** 23.80 354 ⇓P P 15 39 35.5 -0.1
baz=24,SNR=14
E24A **Baker** 23.83 6 ⇓P P 15 39 35.1 -0.8
baz=25
E25A **Miller Ranch,** 23.87 8 ⇑P P 15 39 35.8 -0.4
baz=25
VIPM **Ingram Point** 23.94 337 P P 15 39 36.6 -0.5
VIPM **Ingram Point** 23.94 337 P P 15 39 36.6 -0.5
CPCT **Cooper Cave** 23.97 53 *e*P P 15 39 38.7 +1.5
E26A **Carlson Angus** 23.97 9 ⇓P P 15 39 37.0 -0.2
baz=25
HRY **Holter Researc** 23.99 354 *e*P P 15 39 37.9 +0.5
GOGA **Godfrey** 24.00 59 *e*P P 15 39 38.1 +0.6
GOGA pmax pmax
comp=Z,38nm,1.2s
GOGA **Godfrey** 24.00 59 *e*P P 15 39 38.1 +0.6
comp=Z,38nm,1.2s
KEBM **Edson Butte** 24.13 330 *e*P P 15 39 40.9 +2.3
comp=Z,112nm,1.1s
D21A **La Casta Ranch** 24.16 2 ⇑P P 15 39 38.9 0.0
baz=25,SNR=11
D19A **Cripps Ranch,** 24.25 359 P P 15 39 40.0 +0.1
baz=25,SNR=26
D22A **Cohagen** 24.27 3 ⇓P P 15 39 40.0 0.0
baz=25,SNR=27
D16A **Dana Ranch, Ca** 24.28 354 ⇓P P 15 39 39.6 -0.5
baz=25,SNR=22
E12A **Beaver Dam Sad** 24.28 347 ⇑P P 15 39 39.3 -0.8
baz=25
D18A **Linhart Farms,** 24.32 357 ⇑P P 15 39 40.3 -0.1
baz=25,SNR=24
D17A **Six Diamond Ra** 24.33 356 ⇑P P 15 39 40.4 -0.2
baz=25
D23A **Lindsay** 24.36 5 ⇓P P 15 39 40.3 -0.5
baz=25,SNR=9.0
CHMT **Chamberlain Mo** 24.36 351 *e*P P 15 39 40.9 -0.1
D24A **Glendive** 24.38 6 ⇓P P 15 39 40.3 -0.6
baz=25
D15A **Lincoln** 24.39 353 P P 15 39 41.1 0.0
baz=25,SNR=31
BLO **Bloomington** 24.47 43 *e*P P 15 39 45.0 +3.2
BLO pmax pmax
comp=Z,20nm,0.9s
BLO **Bloomington** 24.47 43 *e*P P 15 39 45.0 +3.2
comp=Z,20nm,0.9s
D14A **Greenough** 24.56 351 P P 15 39 42.6 -0.1
baz=25,SNR=48
TKL **Tuckaleechee C** 24.61 53 *e*P P 15 39 44.1 +1.1
TKL **Tuckaleechee C** 24.61 53 P P 15 39 44.2 +1.1
comp=Z,12nm,0.9s,baz=219,slow=9.2,SNR=9.3
TKL LR LR 15 50 14.2
comp=Z,1µm,18.1s,baz=250,slow=38
SLMT **Seeley Lake** 24.72 351 *e*P P 15 39 42.1 -2.0
D13A **Huson** 24.73 349 ⇓P P 15 39 43.2 -0.9
baz=25
C24A **Savage** 24.78 6 ⇓P P 15 39 44.3 -0.2
baz=26,SNR=14
C20A **Veseth Ranch,** 24.79 0 ⇑P P 15 39 44.9 +0.2
baz=26,SNR=24
C17A **Wharram Farm,** 24.81 356 P P 15 39 44.9 +0.1
baz=26,SNR=27
C19A **Slack Wire Ran** 24.83 358 ⇑P P 15 39 44.7 -0.3
baz=26,SNR=32
SFIN **Scholer Farm** 24.84 40 ⇑P P 15 39 44.7 -0.4
baz=26
JFWS **Jewell Farm** 24.85 32 *e*P P 15 39 49.3 +4.1
JFWS pmax pmax
comp=Z,23nm,1.1s
JFWS **Jewell Farm** 24.85 32 *e*P P 15 39 49.2 +4.1
comp=Z,23nm,1.1s
C22A **Vida** 24.88 3 ⇑P P 15 39 45.7 +0.2
baz=26,SNR=11
C21A **Desert Coulee** 24.92 1 ⇑P P 15 39 45.7 0.0
baz=26,SNR=13
C23A **Lambert** 24.98 5 P P 15 39 46.6 +0.2
baz=26,SNR=19
SWMT **Swartz Lake** 25.05 350 *e*P P 15 39 47.0 -0.1
C16A **Fuhringer Ranc** 25.06 354 ⇓P P 15 39 46.9 -0.2
baz=26,SNR=15
C15A **Salmond Ranch,** 25.12 353 ⇑P P 15 39 47.0 -0.7
baz=26,SNR=16
EGMT **Eagleton** 25.14 357 *e*P P 15 39 47.8 0.0
comp=Z,83nm,1.4s
EGMT **Eagleton** 25.14 357 ⇓P P 15 39 47.5 -0.3
baz=26,SNR=20
TZTN **Tazewell** 25.15 52 *e*P P 15 39 48.9 +0.9
comp=Z,60nm,1.2s
HAWA **Hanford** 25.26 341 *e*P P 15 39 48.8 0.0
comp=Z,21nm,0.9s
C13A **Hot Springs** 25.31 350 ⇓P P 15 39 49.8 +0.5
baz=26,SNR=10
JTMT **Jette** 25.33 350 *e*P P 15 39 51.2 +1.6
B22A **Reddig Ranch S** 25.43 3 ⇓P P 15 39 49.7 -0.8
baz=26,SNR=6.7
B17A **L&G Farms, Che** 25.47 356 ⇑P P 15 39 50.5 -0.3
baz=26
C12B **Naegeli Ranch,** 25.50 348 ⇑P P 15 39 49.7 -1.4
baz=26
B18A **Beardsley Farm** 25.51 357 ⇓P P 15 39 51.0 -0.2
baz=26,SNR=12
BSMT **Bassoo Peak** 25.51 349 *e*P P 15 39 50.8 -0.6
B20A **Solberg Farm,** 25.52 360 ⇓P P 15 39 51.1 -0.1
baz=26,SNR=13
B21A **Ellsworth Farm** 25.52 2 ⇓P P 15 39 50.7 -0.5
baz=26
SPMN **St. Paul** 25.53 25 ⇑P P 15 39 50.2 -1.1
baz=26
B19A **Brinkman Farms** 25.55 359 ⇑P P 15 39 51.0 -0.5
baz=26
BLMT **Blacktail Moun** 25.60 350 *e*P P 15 39 53.8 +1.6
B15A **Bradely Ranch,** 25.65 353 ⇓P P 15 39 51.9 -0.6
baz=26,SNR=23
B23A **Brockton** 25.66 5 ⇑P P 15 39 52.6 +0.1
baz=26,SNR=9.3
B16A **M & M Farms, S** 25.66 354 ⇓P P 15 39 51.8 -0.8
baz=26
DGMT **Dagmar** 25.73 6 *e*P P 15 39 53.6 +0.5
comp=Z,24nm,0.9s
DGMT **Dagmar** 25.73 6 ⇓P P 15 39 52.6 -0.5
baz=26
C11A **Tepee Creek (N** 25.78 347 ⇑P P 15 39 53.1 -0.6
baz=26
B14A **Marquette Ranc** 25.78 352 ⇓P P 15 39 52.6 -1.1
baz=26
MDND **Maddock** 25.82 13 ⇓P P 15 39 53.4 -0.5
baz=27
A20A **Cobblestone Ra** 25.96 0 ⇑P P 15 39 55.2 -0.1
baz=27
B13A **Whitefish** 25.97 350 ⇑P P 15 39 54.3 -1.0
baz=27,SNR=19
A19A **Klindworth Far** 26.02 359 ⇓P P 15 39 55.2 -0.5
baz=27
FL2 **Flat Top 2** 26.02 337 P P 15 39 57.1 +1.2
A18A **Metzger Ranch,** 26.04 357 ⇓P P 15 39 55.3 -0.6
baz=27
A21A **Bergtoll Ranch** 26.09 2 ⇓P P 15 39 55.8 -0.5
baz=27
A17A **Triple J Farms** 26.11 356 ⇑P P 15 39 56.1 -0.5
baz=27,SNR=15
A22A **Carney Farms,** 26.12 3 ⇑P P 15 39 56.3 -0.4
baz=27,SNR=9.6
A23A **Redstone** 26.16 5 ⇓P P 15 39 56.6 -0.4
baz=27
A16A **West Butte Ran** 26.18 355 ⇑P P 15 39 56.6 -0.8
baz=27
A24A **Westby** 26.20 6 ⇑P P 15 39 56.5 -0.9
baz=27
B12A **Libby** 26.25 349 ⇑P P 15 39 56.8 -1.1
baz=27
KMSC **Kings Mountain** 26.25 56 ⇓P P 15 39 56.9 -1.1
baz=27
LON **Longmire** 26.30 338 *e*P P 15 39 58.3 -0.1
LON **Longmire** 26.30 338 *e*P P 15 39 58.3 -0.1
A15A **Johnson Ranch,** 26.32 353 ⇑P P 15 39 57.7 -0.9
baz=27,SNR=20

NEW	Newport	26.37	346	*e*P		P		15 39 58.6	-0.3
	comp=Z,21nm,0.9s								
NEW	Newport	26.37	346	⇓P		P		15 39 58.2	-0.7
	baz=27								
A14A	Double T Ranch	26.40	352	⇓P		P		15 39 59.0	-0.4
	baz=27,SNR=13								
A13A	Flathead Natio	26.50	351	⇑P		P		15 40 00.4	+0.2
	baz=27,SNR=8.5								
A12A	Yaak River Ran	26.71	349	⇑P		P		15 40 00.9	-1.1
	baz=27								
AGMN	Agassiz Nation	27.16	18	*e*P		P		15 40 04.2	-1.8
	comp=Z,25nm,1.2s								
EYMN	Ely	28.29	24	*e*P		P		15 40 16.4	+0.3
	comp=Z,18nm,0.9s								
ULM	Lac du Bonnet	28.94	16	*e*P		P		15 40 21.3	-0.6
	comp=Z,22nm,1.0s								
ULM	Lac du Bonnet	28.94	16	P		P		15 40 21.6	-0.3
	comp=Z,20nm,1.0s,baz=215,slow=10,SNR=4.7								
ULM				LR		LR		15 53 39.1	
	comp=Z,302nm,21.0s,baz=220,slow=40								
FFC	Flin Flon	32.13	7	*i* P		P		15 40 50.3	+0.3
FFC	Flin Flon	32.13	7	*e*P		P		15 40 49.6	-0.5
SADO	Sadowa	32.16	40	LR		LR		15 54 42.7	
	comp=Z,1µm,18.5s,baz=350,slow=38								
BBB	Bella Bella	33.10	337	LR		LR		15 54 28.9	
	comp=Z,514nm,19.8s,baz=45,slow=37								
ROSC	El Rosal	37.13	114	P		P		15 41 38.7	+4.6
	comp=Z,5.2nm,0.6s,baz=259,slow=9.3,SNR=5.3								
ROSC				LR		LR		15 58 30.3	
	comp=Z,367nm,18.5s,baz=200,slow=39								
DLBC	Dease Lake	38.89	342	P		P		15 41 49.4	+1.3
DLBC	Dease Lake	38.89	342	P		P		15 41 49.4	+1.3
	comp=Z,111nm,0.9s,baz=170,slow=5.5,SNR=18								
DLBC				LR		LR		15 58 29.6	
	comp=Z,604nm,19.1s,baz=151,slow=37								
YKA	Yellowknife Ar	39.86	355	P		P		15 41 54.9	-1.2
YKA	Yellowknife Ar	39.86	355	P		P		15 41 54.8	-1.2
	comp=Z,2.7nm,1.1s,baz=170,slow=7.5,SNR=21								
YKA				LR		LR		16 00 48.8	
	comp=Z,59nm,21.0s,baz=320,slow=40								
ATAH	Atahualpa	41.58	132	P		P		15 42 14.5	+3.2
	comp=Z,2.1nm,0.5s,baz=290,slow=15,SNR=3.1								
ATAH				LR		LR		15 57 25.3	
	comp=Z,102nm,22.0s,baz=313,slow=33								
SCHQ	Schefferville	44.21	33	P		P		15 42 33.7	+2.0
SCHQ	Schefferville	44.21	33	P		P		15 42 33.7	+2.0
	comp=Z,6.6nm,0.9s,baz=242,slow=6.8,SNR=6.9								
SCHQ				LR		LR		16 02 13.9	
	comp=Z,504nm,18.9s,baz=265,slow=38								
GRGR	Grenville	45.31	96	*e*P		P		15 42 42.0	+0.9
	comp=Z,248nm,1.1s								
BMRM	Bremner River	45.69	336	*e*P		P		15 42 45.0	+1.6
NNA	Nana	46.17	135	LR		LR		15 59 11.4	
	comp=Z,98nm,19.2s,baz=315,slow=32								
EGAK	Eagle	47.16	341	*e*P		P		15 42 55.5	+0.7
KDAK	Kodiak Island	47.30	329	P		P		15 42 56.4	+0.4
KDAK	Kodiak Island	47.30	329	P		P		15 42 56.4	+0.4
	comp=Z,12nm,1.0s,baz=142,slow=8.3,SNR=7.3								
PAX	Paxson	47.30	338	*e*P		P		15 42 53.5	-2.6
PAX				pmax		pmax			
	comp=Z,2.0nm,0.7s								
PAX	Paxson	47.30	338	*e*P		P		15 42 53.5	-2.6
	comp=Z,2.4nm,0.7s								
OHAK	Old Harbor	47.37	328	*e*P		P		15 42 57.1	+0.5
	comp=Z,18nm,1.0s								
PMR	Palmer	47.81	335	*e*P		P		15 43 00.3	+0.4
PMR				pmax		pmax			
	comp=Z,13nm,1.1s								
PMR	Palmer	47.81	335	*e*P		P		15 43 00.3	+0.4
	comp=Z,13nm,1.1s								
INK	Inuvik	48.08	348	P		P		15 43 01.8	-0.1
INK	Inuvik	48.08	348	P		P		15 43 01.8	-0.1
	comp=Z,10nm,1.0s,baz=143,slow=8.9,SNR=12								
INK				LR		LR		16 04 53.3	
	comp=Z,425nm,19.7s,baz=328,slow=38								
SPU	Mount Spurr	48.76	333	*e*P		P		15 43 08.0	+0.6
ILAR	Eielson Array	48.94	339	P		P		15 43 08.7	0.0
ILAR	Eielson Array	48.94	339	P		P		15 43 08.7	0.0
	comp=Z,6.5nm,0.9s,baz=149,slow=6.4,SNR=48								
ILAR				LR		LR		16 04 08.6	
	comp=Z,240nm,18.2s,baz=333,slow=37								
MCK	McKinley	49.00	337	*e*P		P		15 43 06.4	-2.8
MCK				pmax		pmax			
	comp=Z,18nm,1.1s								
MCK	McKinley	49.00	337	*e*P		P		15 43 06.3	-2.8
	comp=Z,18nm,1.1s								
TRF	Thorofare Moun	49.32	337	*e*P		P		15 43 09.1	-2.7
	comp=Z,27nm,0.7s								
SVW2	Sparrevohn	50.21	332	*e*P		P		15 43 17.8	-0.6
	comp=Z,11nm,0.9s								
COLD	Coldfoot	51.54	340	*e*P		P		15 43 25.8	-2.5
	comp=Z,5.9nm,0.8s								
RKT	Rikitea	52.70	212	*e*LR		LR		15 58 38.6	
	comp=Z,243nm,23.8s								
LPAZ	La Paz	55.11	131	P		P		15 43 56.9	+1.0
	comp=Z,0.9nm,0.7s,baz=341,slow=4.4,SNR=3.8								
LPAZ				LR		LR		16 06 22.2	
	comp=Z,214nm,19.9s,baz=216,slow=35								
PPT	Papeete	57.16	229	LR		LR		16 01 39.5	
	comp=Z,401nm,21.9s,baz=219,slow=29								
PPT2	Papeete2	57.17	229	*e*S		S		15 52 00.5	-5.3
	comp=Z,344nm,25.5s								
PPT2				*e*LR		LR		16 00 45.3	
	comp=Z,881nm,26.5s,baz=31								
LVC	Limon Verde	59.09	137	LR		LR		16 05 12.9	
	comp=Z,115nm,19.4s,baz=120,slow=31								
TBI	Tubual	61.11	224	*e*LQ		LQ		16 00 07.4	
	comp=Z,394nm,39.0s								
TBI				*e*LR		LR		16 02 30.1	
	comp=Z,520nm,29.8s,baz=42								
SUMG	Summit	62.26	19	*i* P		P		15 44 43.7	-1.0
SUMG				pmax		pmax			
	comp=Z,3.0nm,0.9s								
SUMG				MLR		MLR			
	comp=Z,440nm,17.0s								
SUMG	Summit	62.26	19	*i* P		P		15 44 43.7	-1.0
	comp=Z,3.1nm,0.9s								
SUMG									
	comp=Z,440nm,16.0s								
CFAA	Coronel Fontan	66.21	143	LR		LR		16 08 01.1	
	comp=Z,15nm,21.0s,baz=241,slow=30								
BILL	Bilibino	67.42	336	P		P		15 45 17.0	-1.0
BILL				*i*				15 45 23.9	
BILL				*e*				15 45 32.0	
BILL				*e*				15 45 39.4	
BILL				S		S		15 54 14.0	+0.4
BILL				pmax		pmax			
	comp=Z,13nm,1.2s								
BILL				MLR		MLR			
	comp=Z,100nm,18.0s								
DAG	Danmarks Havn	67.77	14	*i* P		P		15 45 17.6	-2.4
DAG				MLR		MLR			
	comp=Z,360nm,14.0s								
DAG	Danmarks Havn	67.77	14	*i* P		P		15 45 17.6	-2.4
	comp=Z,3.8nm,0.9s								
DAG									
	comp=Z,350nm,14.0s								
CPUP	Villa Florida	69.27	132	P		P		15 45 31.6	+1.5
	comp=Z,5.3nm,0.8s,baz=309,slow=8.3,SNR=6.0								
CPUP				LR		LR		16 14 10.4	
	comp=Z,124nm,19.8s,baz=318,slow=34								
BDFB	Brasilia	70.07	117	P		P		15 45 37.1	+1.7
	comp=Z,3.2nm,0.6s,baz=289,slow=7.4,SNR=4.9								
BDFB				LR		LR		16 15 46.4	
	comp=Z,321nm,20.6s,baz=347,slow=35								
PLCA	Paso Flores	72.23	151	P		P		15 45 50.6	+2.7
	comp=Z,8.9nm,1.1s,baz=314,slow=6.8,SNR=4.8								
PLCA				LR		LR		16 13 02.6	
	comp=Z,148nm,18.4s,baz=355,slow=32								
SEY	Seymchan	74.15	332	⇑*i* P		P		15 45 58.8	-0.2
SEY				*i* *PP		pP		15 46 05.9	+3.6
PETK	Petropavlovsk-	74.53	321	P		P		15 46 01.3	-0.2
PETK	Petropavlovsk-	74.53	321	P		P		15 46 01.3	-0.2
PETK	Petropavlovsk-	74.53	321	P		P		15 46 01.3	-0.2
	comp=Z,4.3nm,0.9s,baz=87,slow=10,SNR=4.9								
PETK				LR		LR		16 11 39.0	
	comp=Z,116nm,21.6s,baz=268,slow=30								
RCBR	Riachuelo	75.94	103	LR		LR		16 22 42.7	
	comp=Z,202nm,18.9s,baz=76,slow=38								
TIXI	Tiksi	78.06	344	⇓*e*P		P		15 46 19.6	-1.5
TIXI				pmax		pmax			
	comp=Z,15nm,2.5s								
ARCES	ARCESS Array B	82.05	15	P		P		15 46 42.6	-0.1
ARCES	ARCESS Array B	82.05	15	P		P		15 46 42.6	-0.1
	comp=Z,3.7nm,1.0s,baz=350,slow=4.6,SNR=5.4								
NB2	NORSAR Subarra	83.20	25	P		P		15 46 51.3	+2.4
	comp=Z,5.3nm,1.1s,baz=308,slow=5.6								

NOA	NORSAR Array B	83.20	25	P		P		15 46 50.2	+1.3
NOA	NORSAR Array B	83.20	25	P		P		15 46 50.2	+1.3
	comp=Z,0.4nm,0.7s,baz=104,slow=20,SNR=2.3								
YAK	Yakutsk	83.78	336	*e*P		P		15 46 50.5	-1.3
YAK				pmax		pmax			
	comp=Z,26nm,1.4s								
YAK				pmax		pmax			
	comp=N,2.0nm,1.7s								
YAK				pmax		pmax			
	comp=E,4.0nm,1.3s								
FLN	La Foliniere	83.92	39	*e*P		P		15 46 55.2	+2.4
	comp=E,68nm,1.3s								
HFS	Hagfors	84.73	25	LR		LR		16 23 41.3	
	comp=E,380nm,19.2s,baz=310,slow=35								
ESDC	Sonseca Array	85.82	49	P		P		15 47 04.9	+2.2
ESDC	Sonseca Array	85.82	49	P		P		15 47 04.9	+2.2
	comp=E,0.2nm,0.4s,baz=294,slow=3.9,SNR=4.1								
ESDC				LR		LR		16 24 11.7	
	comp=E,192nm,19.2s,baz=275,slow=35								
SSF	Saint Saulge	87.09	40	*e*P		P		15 47 11.2	+2.5
	comp=E,16nm,1.1s								
LOR	Lormes	87.19	39	*e*P		P		15 47 11.8	+2.6
	comp=E,26nm,1.3s								
FINES	FINESS Array B	88.25	20	P		P		15 47 16.5	+2.6
FINES	FINESS Array B	88.25	20	P		P		15 47 16.5	+2.6
	comp=E,0.5nm,0.8s,baz=312,slow=5.0,SNR=2.3								
ORIF	Oris-en-Rattie	89.63	41	*e*P		P		15 47 23.2	+2.3
	comp=E,44nm,1.6s								
CLL	Collm	89.86	33	*e*SKSac		SKSac		15 57 50.0	-2.5
CLL				*e*SKKSac		SKKSac		15 58 03.0	-2.5
CLL				L		L		16 30 00.0	
	comp=Z,300nm,18.4s								
DAVOX	Davos/Dischmat	90.91	37	LR		LR		16 25 17.1	
	comp=Z,486nm,19.2s,baz=288,slow=34								
MAT	Matsushiro	94.04	312	P		P		15 47 46.5	+5.1
DZM	Mont Dzumac	94.47	248	*e*LR		LR		16 18 10.0	
	comp=Z,442nm,31.0s								
MDJ	Mudanjiang	94.73	323	P		P		15 47 43.5	-0.8
MDJ				pmax		pmax			
	comp=Z,4.0nm,1.7s								
MDJ				pmax		pmax			
	comp=Z,170nm,11.9s								
MDJ				LR		LR			
	comp=Z,65nm,30.4s								
OBN	Obninsk	96.64	20	P		P		15 47 52.3	-0.4
OBN				*e*SS		SS		16 05 50.2	+3.7
OBN				pmax		pmax			
	comp=Z,2.0nm,0.9s								
KEST	Kesra	96.90	47	LR		LR		16 31 11.4	
	comp=Z,76nm,18.6s,baz=335,slow=35								
DBIC	Dimbokro	99.43	79	LR		LR		16 32 37.2	
	comp=Z,118nm,18.7s,baz=324,slow=35								
KURBB	Kurchatov Arra	106.61	356	PP		PP		15 52 59.3	-2.0
	comp=Z,0.4nm,0.3s,baz=2.2,slow=6.1,SNR=4.5								
HHC	Hu-ho-hao-te	106.71	330	Pdif		Pdif		15 48 36.5	-1.7
HHC				PP		PP		15 53 03.9	+1.2
HHC				SS		SS		16 08 01.7	-5.4
HHC				AMB		AMB			
	comp=Z,270nm,5.2s								
HHC				LR		LR			
	comp=N,330nm,17.8s								
HHC				LR		LR			
	comp=E,330nm,19.0s								
HHC				LR		LR			
	comp=Z,100nm,17.8s								
MKAR	Makanchi Array	110.05	352	PP		PP		15 53 24.6	-1.8
	comp=Z,1.1nm,1.1s,baz=51,slow=5.7,SNR=4.6								
MKAR				PKKP		PKKPdf		16 04 14.3	+1.4
	comp=Z,0.6nm,0.9s,baz=218,slow=3.5,SNR=4.6								
LZH	Lanzhou	114.08	332	*e*PKP		PKPdf		15 53 00.1	-2.6
LZH				sPKP				15 53 12.1	
KSH	Kashi	117.83	357	*e*PKP		PKPdf		15 53 08.1	-1.7
CD2	Chengdu	118.46	329	PKP		PKPdf		15 53 10.0	-1.1
CD2				sPKP				15 53 24.3	
CD2				PP		PP		15 54 30.2	+3.6
CD2				PKS		PKSdf		15 56 45.4	-2.6
CD2				SKS		SKSdf		16 00 18.3	-5.3
CD2				SKKS		SKKSac		16 01 19.3	-9.3
CD2				SS		SS		16 10 40.0	-3.0
CD2				AMB		AMB			
	comp=Z,120nm,6.2s								
GYA	Guiyang	120.58	324	*e*Pdif		Pdif		15 49 39.0	-1.2
GYA				PP		PP		15 54 44.6	+3.1
GYA				PKS		PKSdf		15 56 49.3	-3.0
GYA				SKKS				16 01 34.8	
GYA				SS		SKKSdf		16 11 07.8	+2.8
GYA				AMB		AMB			
	comp=Z,110nm,7.6s								
GYA				LR		LR			
	comp=N,130nm,20.6s								
GYA				LR		LR			
	comp=E,110nm,21.3s								
GYA				LR		LR			
	comp=Z,120nm,20.2s								
WRA	Warramunga Arr	122.26	260	PKP		PKPdf		15 53 17.6	-0.9
WRA	Warramunga Arr	122.26	260	PKP		PKPdf		15 53 17.6	-0.9
	comp=Z,0.8nm,0.9s,baz=70,slow=2.1,SNR=4.2								
ASAR	Alice Springs	123.53	256	PKP		PKPdf		15 53 19.9	-1.1
ASAR	Alice Springs	123.53	256	PKP		PKPdf		15 53 19.9	-1.1
	comp=Z,0.3nm,0.8s,baz=88,slow=2.3,SNR=3.8								

WEL 11 15:52:03.8±0.3, 38°23S×176°13E, h154km±3km, ML3.7/15, 6C-1D, Error ellipse: s-maj=3.0km s-min=2.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	0.77	93	⇑PN	Pn	15 52 27.1	0.0
URZ				SN	Sn	15 52 44.8	-0.1
URZ				AML	AML	15 52 45.8	
BKZ	Black Stump Fm	0.98	163	PN	Pn	15 52 28.8	0.0
BKZ				SN	Sn	15 52 47.4	-0.6
MWZ	Matawai	1.10	96	PN	Pn	15 52 30.0	+0.2
MWZ				SN	Sn	15 52 49.5	-0.3
MWZ				AML	AML	15 52 50.8	
TUVZ	Tukino	1.10	200	⇑PN	Pn	15 52 30.2	+0.2
WHVZ	Whangaehu Hut	1.13	202	⇓PN	Pn	15 52 30.2	-0.2
WNVZ	Wahianoa	1.18	201	⇑PN	Pn	15 52 30.6	0.0
WNVZ				SN	Sn	15 52 51.3	+0.1
MOVZ	Moawhango	1.21	194	PN	Pn	15 52 30.4	-0.4
MCHZ	McNeill Hill	1.29	160	PN	Pn	15 52 32.1	+0.6
MCHZ				SN	Sn	15 52 53.3	+0.4
KNZ	Kokohu	1.44	124	PN	Pn	15 52 32.9	0.0
KNZ				*e*SN	Sn	15 52 54.8	-0.6
CKHZ	Cape Kidnapper	1.61	153	PN	Pn	15 52 34.8	+0.1
CKHZ				SN	Sn	15 52 57.6	-1.0
PNHZ	Pukenui	1.68	178	PN	Pn	15 52 34.8	-0.8
PNHZ				SN	Sn	15 52 58.6	-1.6
TSZ	Takapari Road	1.83	184	⇑PN	Pn	15 52 36.4	-0.9
WPHZ	Waipukurau	1.85	173	PN	Pn	15 52 36.6	-0.8
PXZ	Pawanui	1.89	163	⇑PN	Pn	15 52 37.2	-0.6
DVHZ	Dannevirke	2.07	179	PN	Pn	15 52 38.5	-1.4
POWZ	Post Office Ro	2.18	187	PN	Pn	15 52 39.7	-1.5
ANWZ	Angora Road	2.25	173	PN	Pn	15 52 40.9	-1.0
BFZ	Birch Farm	2.45	178	PN	Pn	15 52 42.7	-1.7
MRZ	Mangatainoka R	2.47	190	PN	Pn	15 52 42.6	-2.0
OGWZ	Otaki Gorge	2.69	196	PN	Pn	15 52 45.3	-2.1
HOWZ	Holdsworth Sta	2.71	190	⇑PN	Pn	15 52 45.1	-2.5
KIW	Kapiti Island	2.79	199	PN	Pn	15 52 46.2	-2.5
MTW	Mount Morrison	2.97	189	PN	Pn	15 52 47.9	-2.9
CAW	Cannon Point	2.99	196	PN	Pn	15 52 48.4	-2.8
TRWZ	Traveller	3.19	186	PN	Pn	15 52 50.6	-3.0
PAWZ	Paruwai Farm	3.20	190	PN	Pn	15 52 50.5	-3.3
MSWZ	Moikau Station	3.25	192	PN	Pn	15 52 51.2	-3.3
TCW	Tory Channel	3.31	205	PN	Pn	15 52 52.4	-2.7
TUWZ	Tuamarina	3.62	207	PN	Pn	15 52 55.8	-3.2
KHZ	Kahutara	4.63	205	AML	AML	15 54 29.6	

*ISCJB **11** 16:05:46.6±0.8, 33°93N±0°07×25°51E±0°07, h17km, mb3.2/3, MS3.8/1, Error ellipse: s-maj=11.0km s-min=5.9km az=36.6*
*IDC **11** 16:05:46.2±1.3, 33°95N×25°38E, h0km, mb3.4/3, mb1 3.5/7, mb1mx3.4/27, mbtmp3.4/7, ML3.2/4, MS4.0/1, Ms1 4.0/1, ms1mx2.6/27, Error ellipse: s-maj=33.2km s-min=20.9km az=170.0*
*CSEM **11** 16:05:47.0, 34°04N×25°45E, h5km, MD3.3, After ATH*
*ATH **11** 16:05:47.0, 34°04N×25°45E, h5km, MD3.3/5*
ISC 11 16:05:48.2±1.0, 34°08N±0°08×25°44E±0°05, h17km, n22, σ0°81/23, mb3.4/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	Sivas	1.06	331	*e*PB	Pg	16 06 08.7	-0.1
SIVA				*e*SB	Sn	16 06 23.9	+1.2
SIVA	Sivas	1.06	331	*e*Pb	Pg	16 06 08.7	-0.1
SIVA				*e*Sb	Sn	16 06 23.9	+1.2
LAST	Lasithi	1.07	2	*e*PG	Pn	16 06 07.9	-0.7
LAST	Lasithi	1.07	2	*e*Pg	Pn	16 06 07.9	-0.7
NPS	Neapolis	1.19	7	*e*PG	Pb	16 06 09.8	-0.4
NPS	Neapolis	1.19	7	*e*Pg	Pb	16 06 09.8	-0.4
ZKR	Zakros	1.21	32	*e*PB	Pg	16 06 10.7	-0.9
ZKR	Zakros	1.21	32	*e*Pb	Pg	16 06 10.7	-0.9
IDI	Anoyia	1.28	340	*e*PB	Pg	16 06 12.3	-0.7
IDI	Anoyia	1.28	340	*e*Pb	Pg	16 06 12.3	-0.7
VAM	Vamos	1.67	323	*e*PG	Pg	16 06 19.0	-1.2
VAM	Vamos	1.67	323	*e*Pg	Pg	16 06 19.0	-1.2
KARP	Karpathos	2.04	44	*e*PG	Pb	16 06 25.4	+0.7
KARP	Karpathos	2.04	44	*e*Pg	Pb	16 06 25.4	+0.7
MMAI	Mount Meron Ar	8.39	95	Pn	Pn	16 07 49.8	+0.8
	1.0nm,0.3s,baz=276,slow=13,SNR=7.0						
MMAI				Sn	Sn	16 09 22.4	-0.9
	2.0nm,0.3s,baz=291,slow=22,SNR=4.7						
BRTR	Keskin Array B	8.65	47	Pn	Pn	16 07 56.5	+3.8
	0.1nm,0.3s,baz=224,slow=13,SNR=4.1						
EIL	Elat	9.21	116	Pn	Pn	16 07 59.7	-0.5
	0.4nm,0.3s,baz=297,slow=6.8,SNR=4.2						
GERES	GERESS Array B	17.14	333	P	P	16 09 49.0	+0.5
	0.0nm,0.3s,baz=144,slow=12,SNR=7.5						
ESDC	Sonseca Array	24.11	292	P	P	16 11 03.1	0.0
	0.1nm,0.3s,baz=81,slow=9.7,SNR=4.7						
FINES	FINESS Array B	27.38	1	LR	LR	16 24 14.6	
	comp=Z,274nm,19.7s,baz=321,slow=40						
TORD	Torodi Ar. Bea	29.99	232	P	P	16 11 56.0	0.0
	0.4nm,0.6s,baz=35,slow=7.8,SNR=2.8						
MKAR	Makanchi Array	44.18	56	P	P	16 13 56.9	+0.8
	0.7nm,0.6s,baz=281,slow=6.5,SNR=8.5						

*ISCJB **11** 16:21:14.4±0.8, 0°99N±0°07×98°57E±0°08, h65km, mb3.9/9, Error ellipse: s-maj=11.7km s-min=9.9km az=179.0*
*IDC **11** 16:21:19.6±2.0, 1°17N×98°69E, h94km±15km, mb3.6/9, mb1 3.7/10, mb1mx3.5/25, mbtmp3.6/10, Error ellipse: s-maj=25.4km s-min=16.4km az=61.0*
ISC 11 16:21:16.1±1.0, 1°00N±0°09×98°7E±0°1, h65km, n17, σ1°28/18, mb3.9/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	1.81	8	P	Pn	16 21 46.3	+1.1
	12nm,0.3s,baz=170,slow=10.0,SNR=69						
PSI				S	Sn	16 22 06.0	-1.2
	32nm,0.3s,baz=169,slow=12,SNR=16						
FRIM	Kepong	3.70	53	P	Pn	16 22 11.9	+1.1
IPM	Ipoh	4.19	34	P	Pn	16 22 19.7	+2.2
KULM	Kulim	4.70	25	P	Pn	16 22 26.2	+1.7
KGM	Kluang	4.77	78	P	Pn	16 22 25.8	+0.4
MYKOM	Kota Tinggi	5.25	81	P	Pn	16 22 31.8	-0.2
KTGM	Kuala Trenggan	6.20	46	P	Pn	16 22 46.4	+1.4
CMAR	Chiang Mai Arr	17.35	1	P	Pn	16 25 14.0	0.0
	0.4nm,0.3s,baz=189,slow=12,SNR=13						
WRA	Warramunga Arr	40.70	123	P	P	16 28 51.7	+1.0
	1.1nm,0.5s,baz=304,slow=9.2,SNR=4.6						
ASAR	Alice Springs	42.12	128	P	P	16 29 03.9	+1.7
	0.9nm,1.0s,baz=300,slow=7.5,SNR=11						
KSRS	Korea Array	45.20	33	P	P	16 29 24.6	-2.1
	1.4nm,0.7s,baz=222,slow=8.3,SNR=7.8						
MKAR	Makanchi Array	47.80	345	P	P	16 29 47.1	+0.1
	1.2nm,0.7s,baz=159,slow=7.8,SNR=13						
USRK	Ussuriysk Arra	52.21	30	P	P	16 30 19.1	-1.2
	1.1nm,0.6s,baz=205,slow=7.9,SNR=3.1						
KURBB	Kurchatov Arra	52.31	344	P	P	16 30 20.9	-0.2
	0.5nm,0.5s,baz=163,slow=7.2,SNR=7.8						
ZALV	Zalesovo Beam	54.00	350	P	P	16 30 33.1	-0.3
	2.0nm,0.5s,baz=169,slow=8.2,SNR=11						
BRTR	Keskin Array B	70.33	312	P	P	16 32 22.2	-1.0
	0.8nm,0.6s,baz=132,slow=8.0,SNR=5.3						
BOSA	Boshof	75.95	240	P	P	16 32 57.0	+0.4
	0.6nm,0.4s,baz=135,slow=7.1,SNR=2.8						

WEL 11 17:16:37.7±0.2, 38°70S×178°47E, h25km±1km, ML3.5/8, 1C-2D, Error ellipse: s-maj=2.5km s-min=1.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGZ	Carnagh Statio	0.30	315	⇑P*	Pb	17 16 44.8	+0.1
PRGZ	Paritu Road	0.51	244	⇓P*	Pb	17 16 48.5	+0.3
MHGZ	Mahia Peninsul	0.64	224	P*	Pb	17 16 50.5	+0.3
PUZ	Puketiti	0.65	345	P*	Pb	17 16 50.1	-0.3
PUZ				S*	Sb	17 16 59.1	+0.1
PUZ				AML	AML	17 17 04.5	
KNZ	Kokohu	0.70	242	⇓P*	Pb	17 16 51.0	-0.3
KNZ				AML	AML	17

URZ				S	**S**	**17 37 31.0**	**-0.9**	
	0.5nm,0.3s,baz=109,slow=22,SNR=7.2							
RPZ	**Rata Peaks**	**20.88**	**199**	P	**P**	**17 36 04.9**	**+0.2**	
	5.8nm,0.7s,baz=106,slow=19,SNR=3.9							
CTA	**Charters Tower**	**31.53**	**271**	P	**P**	**17 37 39.1**	**+0.2**	
	8.0nm,0.3s,baz=93,slow=10,SNR=16							
RABL	**Rabaul**	**33.41**	**302**	S	S	17 42 31.9	-7.5	
	baz=32,SNR=6.4							
MTSU	**Mount Surprise**	**33.81**	**273**	P	**P**	**17 37 58.9**	**+0.7**	
	baz=33,SNR=7.2							
STKA	**Stephens Creek**	**34.68**	**248**	P	**P**	**17 38 05.5**	**+0.1**	
	6.9nm,1.1s,baz=98,slow=9.3,SNR=6.7							
MANU	**Manus Island**	**38.49**	**300**	P	P	17 38 41.2	+4.2	
	baz=37,SNR=3.2							
ASAR	**Alice Springs**	**42.05**	**261**	P	**P**	**17 39 05.2**	**-0.2**	
	3.6nm,0.9s,baz=96,slow=6.9,SNR=49							
ASAR				pP	**pP**	**17 40 38.1**	**-1.0**	
	1.6nm,1.1s,baz=86,slow=8.9,SNR=4.2							
ASAR				ScP	**ScP**	**17 43 50.4**	**+0.8**	
	1.3nm,0.8s,baz=103,slow=3.6,SNR=7.2							
WRA	**Warramunga Arr**	**42.45**	**266**	P	**P**	**17 39 07.7**	**-0.9**	
	4.9nm,0.5s,baz=102,slow=8.2,SNR=107							
WRA				ScP	**ScP**	**17 43 53.2**	**+2.0**	
	1.3nm,1.1s,baz=98,slow=3.4,SNR=6.0							
JAY	**Jayapura**	**43.66**	**293**	S	S	17 45 20.0	+10	
	baz=43,SNR=3.2							
KDU	**Kakadu**	**46.37**	**275**	P	**P**	**17 39 37.8**	**-1.1**	
	baz=46,SNR=4.3							
KNRA	**Kununurra**	**48.74**	**270**	P	**P**	**17 39 56.1**	**-0.6**	
	baz=48,SNR=9.8							
FITZ	**Fitzroy Crossi**	**50.87**	**266**	P	**P**	**17 40 12.3**	**0.0**	
	baz=50,SNR=5.6							
SWI	**Sorong**	**52.57**	**289**	P	**P**	**17 40 24.2**	**-0.5**	
	baz=52,SNR=5.3							
QSPA	**South Pole Qui**	**65.94**	**180**	P	**P**	**17 41 53.9**	**+0.4**	
	4.8nm,1.0s,baz=44,slow=1.6,SNR=18							
SMRI	**Semarang**	**68.57**	**272**	P	P	17 42 19.4	+8.9	
	baz=68,SNR=10							
MAT	**Matsushiro**	**72.13**	**326**	P	**P**	**17 42 30.1**	**-1.0**	
KSRS	**Korea Array**	**78.47**	**320**	P	**P**	**17 43 06.7**	**+0.3**	
	1.6nm,0.7s,baz=132,slow=6.0,SNR=7.3							
PETK	**Petropavlovsk-**	**79.35**	**347**	P	**P**	**17 43 10.4**	**-0.3**	
	6.6nm,0.9s,baz=130,slow=7.5,SNR=11							
USRK	**Ussuriysk Arra**	**81.00**	**327**	P	**P**	**17 43 19.6**	**+0.1**	
	2.3nm,0.6s,baz=151,slow=4.4,SNR=6.5							
NVAR	**Mina Array Bea**	**84.89**	**44**	P	**P**	**17 43 39.6**	**+0.1**	
	0.4nm,0.6s,baz=221,slow=8.0,SNR=3.2							
CMAR	**Chiang Mai Arr**	**89.66**	**290**	P	**P**	**17 44 02.8**	**+0.6**	
	1.2nm,0.9s,baz=146,slow=3.6,SNR=6.9							
TXAR	**Lajitas Array**	**90.51**	**58**	P	**P**	**17 44 06.4**	**+0.4**	
	1.0nm,0.7s,baz=209,slow=7.6,SNR=8.2							
ARCES	**ARCESS Array B**	**132.14**	**348**	PKP	**PKPdf**	**17 50 12.3**	**-0.9**	
	1.7nm,0.9s,baz=35,slow=2.2,SNR=5.1							
BRTR	**Keskin Array B**	**147.77**	**307**	PKPbc	**PKPbc**	**17 50 45.1**	**-0.8**	
	0.8nm,0.6s,baz=131,slow=3.8,SNR=5.0							
GERES	**GERESS Array B**	**153.10**	**340**	PKPab	**PKPab**	**17 51 11.6**	**-0.5**	
	0.3nm,0.5s,baz=24,slow=3.3,SNR=3.8							
TORD	**Torodi Ar. Bea**	**168.95**	**188**	PKPab	**PKPab**	**17 52 21.9**	**0.0**	
	0.4nm,0.7s,baz=182,slow=5.2,SNR=3.1							

IDC ***11*** *17:48:11.7±0.8,54.°61N×156.°99W,h0km,mb4.0/22, mb1 4.2/26,mb1mx4.1/35,mbtmp4.1/26,ML4.1/4,MS3.4/10, Ms1 3.4/10,ms1mx3.0/39,Error ellipse: s-maj=23.4km s-min=12.4km az=2.0*

BJI ***11*** *17:48:12.4,54.°50N×157.°00W,h29km,mB4.6/3,mb4.6/8*

NEIC ***11*** *17:48:13.5,54.°49N×157.°00W,h30km,mb4.3/14, ML3.9(AEIC),After AEIC.*

MOS ***11*** *17:48:15.2±1.3,54.°78N×156.°75W,h33km,mb4.4/15, Error ellipse: s-maj=13.6km s-min=7.4km az=88.5*

ISC 11 17:48:15.9±0.5,54.°53N±0.°06×156.°91W±0.°03,h35km±1km, n154,σ1§36/175,mb4.2/47,MS3.5/10,9C-4D,South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHGN	**Chignik**	**1.97**	**335**	P	**Pn**	**17 48 45.4**	**-1.3**
CHGN				S	**Sn**	**17 49 09.0**	**-1.2**
VNHG	**Veniaminof 1**	**2.13**	**324**	P	**Pn**	**17 48 48.6**	**-0.4**
VNHG				S	**Sn**	**17 49 15.4**	**+1.2**
SDPT	**Sand Point**	**2.21**	**293**	P	**Pn**	**17 48 48.2**	**-1.9**
SDPT				S	**Sn**	**17 49 15.4**	**-0.8**
VNWF	**Veniaminof 8**	**2.22**	**318**	P	**Pn**	**17 48 49.8**	**-0.5**
VNWF				S	**Sn**	**17 49 17.2**	**+0.7**
VNFG	**Veniaminof 2**	**2.32**	**321**	P	**Pn**	**17 48 50.1**	**-1.5**
ANPB	**Aniakchak Plen**	**2.41**	**342**	P	**Pn**	**17 48 51.9**	**-0.9**
ANPK	**Aniakchak Peak**	**2.42**	**344**	P	**Pn**	**17 48 52.2**	**-0.8**
ANPK				S	**Sn**	**17 49 21.4**	**0.0**
ANNW	**Aniakchak Nort**	**2.55**	**344**	P	**Pn**	**17 48 54.4**	**-0.4**
DOL	**Dolgoi Island**	**2.93**	**284**	P	**Pn**	**17 48 58.4**	**-1.6**
DOL				S	**Sn**	**17 49 32.1**	**-1.8**
PVV	**Pavlof Volcano**	**2.94**	**289**	P	**Pn**	**17 48 58.6**	**-1.4**
PS4A	**Pavlof South-4**	**2.97**	**288**	P	**Pn**	**17 48 59.0**	**-1.4**
PS4A				S	**Sn**	**17 49 33.1**	**-1.7**
DRIA	**Deer Island**	**3.13**	**280**	P	**Pn**	**17 49 00.8**	**-1.9**
DTNA	**Dutton South F**	**3.15**	**284**	P	**Pn**	**17 49 01.6**	**-1.4**
DT1	**Dutton Round H**	**3.16**	**283**	P	**Pn**	**17 49 01.4**	**-1.7**
PLK1	**Peulik 1**	**3.28**	**3**	P	**Pn**	**17 49 04.8**	**0.0**
OHAK	**Old Harbor**	**3.38**	**36**	P	**Pn**	**17 49 04.3**	**-1.8**
BALA	**Baldy Mountain**	**3.46**	**283**	P	**Pn**	**17 49 07.0**	**-0.3**
BALA				S	**Sn**	**17 49 45.7**	**-1.2**
FALS	**False Pass**	**3.79**	**278**	P	**Pn**	**17 49 10.2**	**-1.5**
FALS				S	**Sn**	**17 49 53.3**	**-1.7**
KAKN	**Katmai Knife C**	**3.91**	**14**	P	**Pn**	**17 49 13.1**	**-0.5**
BRPK	**Brown Peak**	**3.98**	**274**	P	**Pn**	**17 49 13.0**	**-1.3**
KDAK	**Kodiak Island**	**4.06**	**35**	Pn	**Pn**	**17 49 12.6**	**-2.8**
KDAK				Sn	**Sn**	**17 49 57.9**	**-3.8**
KDAK	**Kodiak Island**	**4.06**	**35**	Pn	**Pn**	**17 49 12.6**	**-2.8**
	8.0nm,0.3s,baz=237,slow=7.4,SNR=106						
KDAK				Sn	**Sn**	**17 49 57.9**	**-3.8**
	4.9nm,0.3s,baz=180,slow=23,SNR=5.7						
SSLS	**Shishaldin Sou**	**4.12**	**275**	P	**Pn**	**17 49 15.5**	**-0.9**
SSLW	**Shishaldin Wes**	**4.20**	**276**	P	**Pn**	**17 49 16.5**	**-0.9**
SSBA	**Shishaldin**	**4.20**	**276**	P	**Pn**	**17 49 16.4**	**-1.0**
WESN	**West Dahl Nort**	**4.47**	**274**	P	**Pn**	**17 49 20.6**	**-0.5**
AKUT	**Akutan**	**5.20**	**269**	P	**Pn**	**17 49 29.8**	**-1.3**
ZRO	**Akutan Zero**	**5.33**	**269**	P	**Pn**	**17 49 32.0**	**-0.9**
UNV	**Unalaska Valle**	**5.67**	**267**	P	**Pn**	**17 49 35.6**	**-2.0**
MTBL	**Makushin Table**	**5.75**	**268**	P	**Pn**	**17 49 37.7**	**-1.1**
MCIR	**Makushin Cirqu**	**5.88**	**268**	P	**Pn**	**17 49 39.3**	**-1.3**
CNPM	**China Poot**	**5.89**	**29**	P	**Pn**	**17 49 39.6**	**-0.9**
BRLK	**Bradley Lake**	**6.18**	**30**	P	**Pn**	**17 49 42.8**	**-1.8**
RSO	**Redoubt South**	**6.36**	**19**	*e*Pn	**Pn**	**17 49 46.5**	**-0.6**
RDWB	**Redoubt West**	**6.36**	**18**	P	**Pn**	**17 49 46.7**	**-0.5**
NCT	**North Crescent**	**6.42**	**18**	P	**Pn**	**17 49 47.4**	**-0.4**
OKTU	**Okmok Mt. Tuli**	**6.67**	**265**	P	**Pn**	**17 49 50.7**	**-0.6**
OKSP	**Okmok Steeple**	**6.85**	**264**	P	**Pn**	**17 49 52.4**	**-1.4**
MID	**Middleton Isla**	**7.58**	**45**	*e*P	**Pn**	**17 50 02.9**	**-0.8**
MID	**Middleton Isla**	**7.58**	**45**	*e*P	**Pn**	**17 50 02.9**	**-0.8**
RC01	**Rabbit Creek A**	**7.61**	**27**	*e*Pn	**Pn**	**17 50 02.1**	**-2.0**
RC01				*e*Sn	Sn	17 51 22.4	-6.6
SML	**Sawmill**	**8.58**	**28**	*e*P	**Pn**	**17 50 15.0**	**-2.5**
SML	**Sawmill**	**8.58**	**28**	*e*Pn	**Pn**	**17 50 14.9**	**-2.5**
BMRM	**Bremner River**	**9.20**	**41**	*e*Pn	Pn	17 50 22.8	-3.3
TRF	**Thorofare Moun**	**9.57**	**18**	*e*Pn	**Pn**	**17 50 28.2**	**-3.0**
PAX	**Paxson**	**10.32**	**30**	*e*P	Pn	17 50 38.0	-3.4
PAX	**Paxson**	**10.32**	**30**	*e*Pn	Pn	17 50 38.0	-3.4
PNL	**Peninsula**	**10.81**	**55**	*e*Pn	**Pn**	**17 50 46.5**	**-1.5**
ILAR	**Eielson Array**	**11.43**	**22**	Pn	Pn	17 50 53.0	-3.5
ILAR				Sn	Sn	17 52 54.6	-8.2
ILAR	**Eielson Array**	**11.43**	**22**	Pn	Pn	17 50 53.0	-3.5
	0.9nm,0.3s,baz=221,slow=13,SNR=18						
ILAR				Sn	Sn	17 52 54.6	-8.2
	0.2nm,0.3s,baz=212,slow=19,SNR=3.6						
ILAR				LR	LR	17 55 50.8	
	comp=Z,164nm,21.5s,baz=206,slow=40						
SKAG	**Skagway**	**12.73**	**58**	Pn	**Pn**	**17 51 11.4**	**-2.8**
SKAG				*e*		17 51 23.5	
EGAK	**Eagle**	**12.95**	**31**	*e*Pn	**Pn**	**17 51 16.5**	**-0.7**
DLBC	**Dease Lake**	**15.30**	**64**	Pn	**Pn**	**17 51 49.8**	**+0.7**
DLBC	**Dease Lake**	**15.30**	**64**	Pn	**Pn**	**17 51 49.8**	**+0.7**
	0.3nm,0.3s,baz=251,slow=13,SNR=6.0						
INK	**Inuvik**	**17.59**	**29**	P	**Pn**	**17 52 17.5**	**-0.4**
INK	**Inuvik**	**17.59**	**29**	P	**Pn**	**17 52 17.5**	**-0.4**
	0.5nm,0.3s,baz=232,slow=14,SNR=9.7						
INK				LR	LR	17 59 56.0	
	comp=Z,105nm,19.2s,baz=270,slow=40						
FX1	**Attu Island--F**	**17.73**	**277**	P	**Pn**	**17 52 17.7**	**-2.0**
FX1	**Attu Island--F**	**17.73**	**277**	P	**Pn**	**17 52 17.7**	**-2.0**
	2.6nm,0.3s,baz=80,slow=12,SNR=11						
BILL	**Bilibino**	**21.81**	**323**	*e*P	**P**	**17 53 04.6**	**0.0**
BILL				*e*		17 53 15.8	
BILL						17 53 23.0	
BILL						pmax	pmax	
YKW3	**Yellowknife Ar**	**23.09**	**53**	*e*P	**P**	**17 53 18.1**	**-0.1**
YKA	**Yellowknife Ar**	**23.10**	**53**	P	**P**	**17 53 18.1**	**-0.1**
YKA	**Yellowknife Ar**	**23.10**	**53**	P	**P**	**17 53 18.1**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=267,slow=9.5,SNR=28						
YKA				LR	LR	18 03 02.3	
	comp=Z,6.8nm,18.2s,baz=325,slow=39						
B08A	**Colville Reser**	**24.00**	**89**	P	**P**	**17 53 28.8**	**+1.7**
NEW	**Newport**	**25.34**	**88**	*e*P	**P**	**17 53 40.6**	**+1.4**
	comp=Z,2.7nm,0.9s						
YBH	**Yreka Blue Hor**	**25.88**	**105**	LR	LR	18 01 16.3	
	comp=Z,86nm,19.1s,baz=326,slow=30						
PET	**Petropavlovsk**	**25.98**	**285**	*e*P	**P**	**17 53 45.4**	**+0.5**
PEA0B	**Petropavlovsk-**	**26.48**	**286**	*e*P	**P**	**17 53 49.1**	**-0.4**
PETK	**Petropavlovsk-**	**26.48**	**286**	P	**P**	**17 53 49.6**	**0.0**
PETK	**Petropavlovsk-**	**26.48**	**286**	P	**P**	**17 53 49.5**	**0.0**
PETK	**Petropavlovsk-**	**26.48**	**286**	P	**P**	**17 53 49.5**	**0.0**
	comp=Z,14nm,0.6s,baz=82,slow=11,SNR=47						
PETK				LR	LR	18 03 06.4	
	comp=Z,23nm,19.1s,baz=78,slow=34						
SEY	**Seymchan**	**26.95**	**309**	*e*P	**P**	**17 53 53.6**	**0.0**
NVAR	**Mina Array Bea**	**30.60**	**106**	P	**P**	**17 54 28.1**	**+1.5**
NVAR	**Mina Array Bea**	**30.60**	**106**	P	**P**	**17 54 28.1**	**+1.5**
	comp=Z,1.8nm,0.8s,baz=301,slow=8.8,SNR=14						
RLMT	**Red Lodge**	**31.58**	**87**	*e*P	**P**	**17 54 36.4**	**+1.2**
	comp=Z,4.6nm,1.1s						
PDAR	**Pinedale Array**	**32.80**	**91**	P	**P**	**17 54 47.4**	**+1.4**
PDAR	**Pinedale Array**	**32.80**	**91**	P	**P**	**17 54 47.4**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=308,slow=5.1,SNR=8.6						
TIXI	**Tiksi**	**34.82**	**328**	*e*P	**P**	**17 55 03.5**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
RSSD	**Black Hills**	**35.20**	**85**	*e*P	**P**	**17 55 07.6**	**+0.9**
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.6s						
RSSD	**Black Hills**	**35.20**	**85**	*e*P	**P**	**17 55 07.6**	**+0.9**
	comp=Z,3.3nm,0.6s						
YAK	**Yakutsk**	**37.34**	**312**	*i*P	**P**	**17 55 23.8**	**-0.6**
YAK	**Yakutsk**	**37.34**	**312**	*i*P	**P**	**17 55 23.8**	**-0.6**
AGMN	**Agassiz Nation**	**37.51**	**74**	*e*P	**P**	**17 55 25.5**	**-0.5**
	comp=Z,5.0nm,0.8s						
ASAJ	**Asahikawa**	**39.60**	**280**	P	**P**	**17 55 43.9**	**+0.3**
ASAJ	**Asahikawa**	**39.60**	**280**	P	**P**	**17 55 43.9**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=18,slow=7.8,SNR=6.4						
ECSD	**EROS Data Cent**	**39.73**	**80**	*e*P	**P**	**17 55 44.1**	**-0.6**
	comp=Z,3.5nm,1.0s						
WMOK	**Wichita Mounta**	**44.41**	**92**	*e*P	**P**	**17 56 23.4**	**+0.4**
WMOK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WMOK	**Wichita Mounta**	**44.41**	**92**	*e*P	**P**	**17 56 23.4**	**+0.4**
	comp=Z,3.3nm,0.7s						
TXAR	**Lajitas Array**	**45.52**	**101**	P	**P**	**17 56 33.5**	**+1.5**
TXAR	**Lajitas Array**	**45.52**	**101**	P	**P**	**17 56 33.5**	**+1.5**
	comp=Z,1.9nm,0.7s,baz=311,slow=6.2,SNR=18						
TXAR				LR	LR	18 15 46.1	
	comp=Z,40nm,18.6s,baz=0.0,slow=36						
MDJ	**Mudanjiang**	**46.61**	**290**	P	**P**	**17 56 39.2**	**-1.0**
MDJ				pP	**pP**	**17 56 49.4**	**-1.1**
MDJ				PP	**PP**	**17 58 28.8**	**-1.1**
MDJ				S	**S**	**18 03 25.3**	**-1.3**
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,37nm,4.3s						
JCT	**Junction City**	**46.89**	**97**	*e*P	**P**	**17 56 43.1**	**+0.4**
JCT				pmax	pmax		
	comp=Z,10.0nm,0.7s						
JCT	**Junction City**	**46.89**	**97**	*e*P	**P**	**17 56 43.1**	**+0.4**
	comp=Z,10nm,0.7s						
MIAR	**Mount Ida**	**47.58**	**88**	*e*P	**P**	**17 56 45.8**	**-2.1**
MIAR				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MIAR	**Mount Ida**	**47.58**	**88**	*e*P	**P**	**17 56 45.8**	**-2.1**
	comp=Z,6.4nm,1.1s						
OLIL	**Olney**	**47.85**	**80**	*e*P	**P**	**17 56 49.6**	**-0.3**
	comp=Z,11nm,0.7s						
SCHQ	**Schefferville**	**48.52**	**51**	P	**P**	**17 56 55.2**	**+0.2**
SCHQ	**Schefferville**	**48.52**	**51**	P	**P**	**17 56 55.2**	**+0.2**
	comp=Z,4.1nm,0.7s,baz=310,slow=7.8,SNR=8.1						
SCHQ				LR	LR	18 17 14.1	
	comp=Z,34nm,19.5s,baz=298,slow=36						
WVT	**Waverly**	**49.80**	**82**	*e*P	**P**	**17 57 03.3**	**-1.7**
WVT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WVT	**Waverly**	**49.80**	**82**	*e*P	**P**	**17 57 03.2**	**-1.7**
	comp=Z,6.6nm,0.8s						
KSRS	**Korea Array**	**52.35**	**284**	P	**P**	**17 57 24.5**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=46,slow=6.6,SNR=3.7						
KSAR	**Wonju Array Be**	**52.38**	**284**	P	**P**	**17 57 24.5**	**+0.2**
TLY	**Talaya**	**54.81**	**311**	*i*P	**P**	**17 57 42.1**	**+0.1**
TLY	**Talaya**	**54.81**	**311**	*i*P	**P**	**17 57 42.1**	**+0.1**
ULN	**Ulaanbaatar**	**55.98**	**306**	P	**P**	**17 57 51.0**	**+0.4**
	comp=Z,0.8nm,0.7s						
ULN				*e*		17 58 01.0	
ARCES	**ARCESS Array B**	**56.23**	**359**	P	**P**	**17 57 52.0**	**+0.1**
ARCES	**ARCESS Array B**	**56.23**	**359**	P	**P**	**17 57 52.0**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=16,slow=9.0,SNR=4.7						
SONM	**Songino Array**	**56.31**	**306**	P	**P**	**17 57 53.6**	**+0.7**
SONM	**Songino Array**	**56.31**	**306**	P	**P**	**17 57 53.6**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=44,slow=5.9,SNR=5.7						
HHC	**Hu-ho-hao-te**	**58.82**	**298**	*e*P	P	17 58 14.1	+3.4
HHC				pP	pP	17 58 18.1	-3.1
HHC				sP	sP	17 58 21.2	-4.1
HHC				PP	**PP**	**18 00 24.6**	**+4.1**
HHC				S	**S**	**18 06 16.6**	**+3.0**
HHC				sS	sS	18 06 28.9	-2.0
HHC	**Hu-ho-hao-te**	**58.82**	**298**	SS	SS	18 10 19.6	+13
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,100nm,4.4s						
HHC				LR	LR		
	comp=N,160nm,16.7s						
HHC				LR	LR		
	comp=E,230nm,14.3s						
HHC				LR	LR		
	comp=Z,110nm,14.3s						
HHC	**Hu-ho-hao-te**	**58.82**	**298**	*e*P	**P**	**17 58 10.4**	**-0.3**
HHC				pP	**pP**	**17 58 20.9**	**-0.3**
HHC				sP	**sP**	**17 58 24.4**	**-0.9**
HHC				PP	**PP**	**18 00 22.2**	**+1.7**
HHC				S	**S**	**18 06 10.6**	**-3.0**
HHC				sS	**sS**	**18 06 29.7**	**-1.2**
HHC				ScS	**ScS**	**18 07 55.3**	**-2.4**
HHC				SS	**SS**	**18 10 06.2**	**-0.4**
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
HHC				pmax	pmax		
	comp=Z,94nm,6.7s						
HVS	**Khovu-Aksy**	**59.40**	**316**	*e*P	**P**	**17 58 16.5**	**+2.0**
HVS				pmax	pmax		
	comp=Z,17nm,0.7s						
ZALV	**Zalesovo Beam**	**60.51**	**323**	P	**P**	**17 58 22.6**	**+0.7**
ZALV	**Zalesovo Beam**	**60.51**	**323**	P	**P**	**17 58 22.6**	**+0.7**
ZALV	**Zalesovo Beam**	**60.51**	**323**	P	**P**	**17 58 22.6**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=64,slow=6.6,SNR=2.0						
ZALV				LR	LR	18 27 19.2	
	comp=Z,64nm,18.1s,baz=340,slow=39						
FINES	**FINESS Array B**	**64.35**	**358**	P	**P**	**17 58 47.8**	**+0.3**
FINES	**FINESS Array B**	**64.35**	**358**	P	**P**	**17 58 47.7**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=15,slow=9.8,SNR=6.3						
KURK	**Kurchatov**	**65.32**	**325**	P	**P**	**17 58 54.7**	**+0.8**
KURK	**Kurchatov**	**65.32**	**325**	P	**P**	**17 58 54.7**	**+0.8**
KURBB	**Kurchatov Arra**	**65.43**	**325**	P	**P**	**17 58 54.7**	**0.0**
	comp=Z,0.6nm,0.7s,baz=25,slow=5.6,SNR=6.5						
HFS	**Hagfors**	**65.44**	**5**	P	**P**	**17 58 55.2**	**+0.7**
HFS	**Hagfors**	**65.44**	**5**	P	**P**	**17 58 55.2**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=55,slow=5.5,SNR=2.5						
ARU	**Arti**	**65.67**	**339**	*d*P	**P**	**17 58 56.2**	**+0.1**
ARU						18 01 19.6	
ARU				S	**S**	**18 07 39.8**	**+0.7**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARU	**Arti**	**65.67**	**339**	*e*P	**P**	**17 58 56.3**	**+0.1**
GTA	**Gaotai**	**65.79**	**304**	*e*P	P	17 59 09.1	+12
GTA				pP	pP	17 59 13.5	+5.5
GTA				sP	sP	17 59 16.1	+4.1
GTA				pmax	pmax		
	comp=Z,3.0nm,1.6s						
BRVK	**Borovoye**	**65.87**	**331**	*i*P	**P**	**17 58 57.8**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**65.87**	**331**	*e*P	**P**	**17 58 57.7**	**+0.2**
	comp=Z,1.8nm,0.6s						
BVAR	**Borovoye Array**	**65.87**	**331**	P	**P**	**17 58 58.7**	**+1.2**
BVAR	**Borovoye Array**	**65.87**	**331**	P	**P**	**17 58 58.7**	**+1.2**
BVAR	**Borovoye Array**	**65.87**	**331**	P	**P**	**17 58 58.7**	**+1.2**
	comp=Z,1.6nm,0.6s,baz=44,slow=7.0,SNR=7.1						
BVAR				LR	LR	18 31 11.7	
	comp=Z,41nm,19.5s,baz=285,slow=39						
MKAR	**Makanchi Array**	**67.33**	**320**	*ce*P	P	17 59 10.8	+3.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**67.33**	**320**	P	**P**	**17 59 07.2**	**+0.2**
MKAR	**Makanchi Array**	**67.33**	**320**	P	**P**	**17 59 07.2**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=60,slow=7.2,SNR=4.0						
MKAR				LR	LR	18 28 33.5	
	comp=Z,47nm,18.7s,baz=113,slow=36						
EKA	**Eskdalemuir Ar**	**68.40**	**16**	P	**P**	**17 59 14.4**	**+1.0**
EKA	**Eskdalemuir Ar**	**68.40**	**16**	P	**P**	**17 59 14.4**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=347,slow=3.4,SNR=4.8						
CD2	**Chengdu**	**70.48**	**296**	P	**P**	**17 59 26.1**	**-0.7**
CD2				pP	**pP**	**17 59 36.9**	**-0.6**
CD2				sP	**sP**	**17 59 41.1**	**-0.4**
CD2				PcP	**PcP**	**17 59 48.0**	**0.0**
CD2				PP	**PP**	**18 02 03.5**	**+0.9**
CD2				S	**S**	**18 08 33.8**	**-3.6**
CD2				sS	**sS**	**18 08 51.7**	**-3.3**
CD2				SS	**SS**	**18 13 05.6**	**-2.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
AKTO	**Aktyubinsk**	**71.39**	**337**	P	**P**	**17 59 33.6**	**+1.6**
AKTO	**Aktyubinsk**	**71.39**	**337**	P	**P**	**17 59 33.5**	**+1.6**
AKTO	**Aktyubinsk**	**71.39**	**337**	P	**P**	**17 59 33.5**	**+1.6**
	comp=Z,1.6nm,0.7s,baz=23,slow=7.1,SNR=3.5						
AKTO				LR	LR	18 33 29.9	
	comp=Z,24nm,18.2s,baz=56,slow=38						
ABKAR	**Akbulak array**	**72.04**	**336**	*e*P	**P**	**17 59 36.1**	**+0.2**
	comp=Z,1.9nm,0.6s						
GYA	**Guiyang**	**72.44**	**291**	*e*P	**P**	**17 59 38.8**	**0.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
AAK	**Ala-Archa**	**73.74**	**323**	*e*P	**P**	**17 59 46.5**	**+0.3**
AAK				pmax	pmax		
	comp=Z,14nm,2.5s						
VSR	**Storozhevoye**	**73.77**	**350**	*e*P	**P**	**17 59 46.9**	**+0.9**
KKAR	**Karatay Array**	**74.67**	**326**	*e*P	**P**	**17 59 51.6**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KKAR	**Karatay Array**	**74.67**	**326**	*e*P	**P**	**17 59 51.6**	**+0.1**
	comp=Z,1.5nm,0.7s						
GERES	**GERESS Array B**	**76.69**	**6**	P	**P**	**18 00 04.1**	**+1.0**
GERES	**GERESS Array B**	**76.69**	**6**	P	**P**	**18 00 04.1**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=345,slow=3.5,SNR=5.4						
KIV	**Kislovodsk**	**80.47**	**346**	*e*P	**P**	**18 00 25.2**	**+1.3**
KIV				*e*		18 03 26.0	
KIV				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**83.08**	**292**	P	**P**	**18 00 39.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**83.08**	**292**	P	**P**	**18 00 39.0**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=18,slow=4.9,SNR=4.5						
ESDC	**Sonseca Array**	**83.33**	**21**	P	**P**	**18 00 39.7**	**+0.7**
ESDC	**

DID				S	Sn	18 03 35.4	+0.2
DID	**Didima**	**4.15**	**28**	*e*PN	**Pn**	**18 02 48.1**	**+0.1**
DID				*e*SN	**Sn**	**18 03 33.7**	**-1.5**
DID	**Didima**	**4.15**	**28**	P	**Pn**	**18 02 48.3**	**+0.3**
DID				*e*Sn	**Sn**	**18 03 33.7**	**-1.5**
DID				S		18 03 35.4	
NPS	**Neapolis**	**4.21**	**69**	P	**Pn**	**18 02 51.0**	**+2.2**
NPS	**Neapolis**	**4.21**	**69**	P	**Pn**	**18 02 51.0**	**+2.2**
RLS	**Riolos of Patr**	**4.23**	**7**	P	**Pn**	**18 02 50.5**	**+1.4**
RLS	**Riolos of Patr**	**4.23**	**7**	*e*PN	**Pn**	**18 02 50.3**	**+1.2**
RLS	**Riolos of Patr**	**4.23**	**7**	P	**Pn**	**18 02 50.5**	**+1.4**
GUR	**Goura**	**4.26**	**17**	P	**Pn**	**18 02 51.1**	**+1.5**
GUR				S	**Sn**	**18 03 38.2**	**+0.1**
GUR	**Goura**	**4.26**	**17**	*e*PN	**Pn**	**18 02 51.4**	**+1.8**
GUR	**Goura**	**4.26**	**17**	P	**Pn**	**18 02 51.1**	**+1.5**
GUR	**Goura**	**4.26**	**17**	*e*Pn	**Pn**	**18 02 51.4**	**+1.8**
GUR				S	**Sn**	**18 03 38.2**	**+0.1**
VLS	**Valsamata**	**4.32**	**358**	P	**Pn**	**18 02 50.7**	**+0.4**
VLS	**Valsamata**	**4.32**	**358**	P	**Pn**	**18 02 50.7**	**+0.4**
KLV	**Kalavryta, Ach**	**4.32**	**14**	P	**Pn**	**18 02 51.8**	**+1.4**
KLV				S	**Sn**	**18 03 40.1**	**+0.5**
KLV	**Kalavryta, Ach**	**4.32**	**14**	*e*PN	**Pn**	**18 02 51.9**	**+1.5**
KLV				*e*SN	**Sn**	**18 03 37.9**	**-1.7**
KLV	**Kalavryta, Ach**	**4.32**	**14**	*e*Pn	**Pn**	**18 02 51.9**	**+1.5**
KLV				*e*Sn	**Sn**	**18 03 37.9**	**-1.7**
KLV				S		18 03 40.1	
AXS	**Araxos**	**4.36**	**6**	P	**Pn**	**18 02 52.0**	**+1.2**
AXS				S	**Sn**	**18 03 40.6**	**+0.3**
AXS	**Araxos**	**4.36**	**6**	P	**Pn**	**18 02 52.0**	**+1.2**
AXS				S	**Sn**	**18 03 40.6**	**+0.3**
SLUM		**4.40**	**121**	S	**Sn**	**18 03 39.5**	**-1.9**
	baz=114						
SLUM		**4.40**	**121**	P	**Pn**	**18 02 52.6**	**+1.2**
SLUM				S	**Sn**	**18 03 39.5**	**-1.9**
NAIG	**Nisos Aigina**	**4.46**	**28**	*e*PN	**Pn**	**18 02 52.5**	**+0.2**
NAIG	**Nisos Aigina**	**4.46**	**28**	*e*Pn	**Pn**	**18 02 52.5**	**+0.2**
LAKA	**Lakka**	**4.48**	**12**	P	**Pn**	**18 02 54.0**	**+1.4**
LAKA	**Lakka**	**4.48**	**12**	*e*PN	**Pn**	**18 02 54.3**	**+1.7**
LAKA	**Lakka**	**4.48**	**12**	P	**Pn**	**18 02 54.0**	**+1.4**
LAKA	**Lakka**	**4.48**	**12**	*e*Pn	**Pn**	**18 02 54.3**	**+1.7**
LTK	**Loutraki**	**4.51**	**22**	P	**Pn**	**18 02 54.0**	**+1.0**
LTK	**Loutraki**	**4.51**	**22**	*e*PN	**Pn**	**18 02 53.5**	**+0.5**
LTK				*e*SN	**Sn**	**18 03 41.9**	**-2.4**
LTK	**Loutraki**	**4.51**	**22**	*e*Pn	**Pn**	**18 02 53.5**	**+0.5**
LTK	**Loutraki**	**4.51**	**22**	P	**Pn**	**18 02 54.0**	**+1.0**
TRIZ	**Trizonia**	**4.62**	**12**	P	**Pn**	**18 02 56.5**	**+2.1**
TRIZ	**Trizonia**	**4.62**	**12**	*e*PN	**Pn**	**18 02 56.5**	**+2.1**
TRIZ	**Trizonia**	**4.62**	**12**	*e*Pn	**Pn**	**18 02 56.5**	**+2.1**
ZKR	**Zakros**	**4.64**	**73**	*e*PN	**Pn**	**18 02 56.5**	**+1.7**
ZKR				*e*SN	**Sn**	**18 03 46.2**	**-1.2**
ZKR	**Zakros**	**4.64**	**73**	*e*Pn	**Pn**	**18 02 56.5**	**+1.7**
EFP	**Efpalio**	**4.65**	**11**	P	**Pn**	**18 02 56.7**	**+1.9**
EFP	**Efpalio**	**4.65**	**11**	*e*PN	**Pn**	**18 02 57.1**	**+2.2**
EFP	**Efpalio**	**4.65**	**11**	P	**Pn**	**18 02 56.7**	**+1.9**
EFP	**Efpalio**	**4.65**	**11**	*e*Pn	**Pn**	**18 02 57.1**	**+2.2**
KALE	**Kalithea**	**4.66**	**13**	P	**Pn**	**18 02 56.9**	**+1.9**
KALE	**Kalithea**	**4.66**	**13**	*e*PN	**Pn**	**18 02 56.8**	**+1.8**
KALE	**Kalithea**	**4.66**	**13**	*e*Pn	**Pn**	**18 02 56.8**	**+1.8**
ATH	**Athens Observa**	**4.74**	**29**	*e*PN	**Pn**	**18 02 56.3**	**+0.2**
ATH	**Athens Observa**	**4.74**	**29**	*e*Pn	**Pn**	**18 02 56.3**	**+0.2**
DSF	**Desfina**	**4.76**	**17**	P	**Pn**	**18 02 56.8**	**+0.4**
DSF	**Desfina**	**4.76**	**17**	P	**Pn**	**18 02 56.8**	**+0.4**
PTL	**Penteli**	**4.87**	**30**	*e*PN	**Pn**	**18 02 57.7**	**-0.2**
PTL	**Penteli**	**4.87**	**30**	*e*Pn	**Pn**	**18 02 57.7**	**-0.2**
LKD2	**Lefkada island**	**4.93**	**359**	P	**Pn**	**18 02 59.7**	**+1.0**
LKD2	**Lefkada island**	**4.93**	**359**	P	**Pn**	**18 02 59.7**	**+1.0**
EVR	**Evrytania**	**5.12**	**9**	P	**Pn**	**18 03 03.2**	**+1.8**
EVR	**Evrytania**	**5.12**	**9**	P	**Pn**	**18 03 03.2**	**+1.8**
AXAR	**Agios Charalam**	**5.13**	**16**	P	**Pn**	**18 03 03.1**	**+1.7**
AXAR	**Agios Charalam**	**5.13**	**16**	P	**Pn**	**18 03 03.1**	**+1.7**
MAKR	**Makrakomi, Fth**	**5.26**	**11**	P	**Pn**	**18 03 05.2**	**+1.9**
MAKR	**Makrakomi, Fth**	**5.26**	**11**	P	**Pn**	**18 03 05.2**	**+1.9**
AGG	**Agios Georgios**	**5.30**	**13**	P	**Pn**	**18 03 05.2**	**+1.3**
AGG	**Agios Georgios**	**5.30**	**13**	*e*PN	**Pn**	**18 03 05.0**	**+1.1**
AGG	**Agios Georgios**	**5.30**	**13**	P	**Pn**	**18 03 05.2**	**+1.3**
THL	**Klokotos Trika**	**5.78**	**9**	P	**Pn**	**18 03 11.0**	**+0.6**
THL	**Klokotos Trika**	**5.78**	**9**	P	**Pn**	**18 03 11.0**	**+0.6**
SWA2		**6.07**	**138**	P	**Pn**	**18 03 14.3**	**-0.1**
	baz=134						
SWA2				AMP		18 04 00.0	
	comp=N,190μm,0.3s,logA/T=5.8,baz=134						
SWA2				S	Sn	18 04 17.3	-5.3
	baz=134						
PDG	**Podgorica**	**8.65**	**352**	*e*Pn	Pn	18 03 47.7	-2.0
BARS	**Barje**	**8.98**	**5**	*e*Pn	**Pn**	**18 03 53.1**	**-1.2**
HFRF	**Wahat Farafira**	**9.30**	**134**	P	**Pn**	**18 03 59.0**	**+0.3**
	baz=131						
HFRF	**Wahat Farafira**	**9.30**	**134**	P	**Pn**	**18 03 59.0**	**+0.3**
STON	**Ston**	**9.33**	**346**	*e*Pn	Pn	18 03 57.1	-1.9
STON				Sn	Sn	18 05 34.5	-8.1
STON	**Ston**	**9.33**	**346**	*e*Pn	Pn	18 03 57.1	-1.9
GRUS	**Gruza**	**10.02**	**360**	*e*Pn	Pn	18 04 06.2	-2.3
BBLS	**Lazići**	**10.09**	**354**	*e*Pn	**Pn**	**18 04 08.6**	**-0.5**
UDBI	**Udbina**	**11.35**	**341**	Sn	Sn	18 06 19.2	-13
NVLJ	**Novalja**	**11.64**	**339**	*e*Pn	**Pn**	**18 04 29.6**	**-1.0**
NVLJ				Sn	Sn	18 06 30.6	-8.5
NVLJ	**Novalja**	**11.64**	**339**	*e*Pn	**Pn**	**18 04 29.6**	**-1.0**
BRTR	**Keskin Array B**	**11.84**	**57**	Pn	Pn	18 04 31.1	-2.4
	comp=N,0.1nm,0.3s,baz=257,slow=13,SNR=2.7						
HDK2	**Wahat Dakhilah**	**11.87**	**141**	P	**Pn**	**18 04 34.4**	**+0.5**
	baz=139						
HDK2	**Wahat Dakhilah**	**11.87**	**141**	P	**Pn**	**18 04 34.4**	**+0.5**
MMAI	**Mount Meron Ar**	**12.23**	**90**	Pn	Pn	18 04 35.6	-3.2
	comp=N,1.7nm,0.3s,baz=276,slow=11,SNR=11						
MMAI				Sn	Sn	18 06 42.1	-12
	comp=N,4.0nm,0.3s,baz=271,slow=23,SNR=12						
EIL	**Elat**	**12.74**	**105**	Pn	Pn	18 04 43.5	-2.3
	comp=N,0.4nm,0.3s,baz=347,slow=14,SNR=10						
EIL				Sn	Sn	18 07 00.0	-6.3
	comp=N,0.6nm,0.3s,baz=356,slow=16,SNR=4.1						
GERES	**GERESS Array B**	**15.89**	**343**	Pn	**Pn**	**18 05 27.4**	**-0.5**
	comp=N,0.1nm,0.3s,baz=151,slow=12,SNR=3.9						
HFS	**Hagfors**	**26.70**	**352**	P	**P**	**18 07 22.2**	**-0.3**
	comp=N,0.6nm,0.4s,baz=151,slow=9.5,SNR=4.6						
FINES	**FINESS Array B**	**27.82**	**5**	P	**P**	**18 07 33.1**	**+0.6**
	comp=N,0.5nm,0.3s,baz=163,slow=10,SNR=5.3						
ARCES	**ARCESS Array B**	**35.83**	**3**	P	**P**	**18 08 42.9**	**+0.2**
	comp=N,0.9nm,0.9s,baz=187,slow=8.6,SNR=3.5						
MKAR	**Makanchi Array**	**47.48**	**55**	P	**P**	**18 10 18.2**	**-0.1**
	comp=N,0.3nm,0.5s,baz=270,slow=7.2,SNR=6.6						
ZALV	**Zalesovo Beam**	**48.49**	**45**	P	**P**	**18 10 25.9**	**0.0**
	comp=N,0.7nm,0.4s,baz=263,slow=8.6,SNR=4.3						

*NOU **11** 18:06:31.3±0.5,22.°11S×170.°48E,h10km,MD3.0,ML3.4*
*ISCJB **11** 18:06:33.3±1.0,20.°8S±0.°2×169.°7E±0.°1,h150km,mb3.9/5, Error ellipse: s-maj=35.0km s-min=9.5km az=152.7*
*IDC **11** 18:06:33.8±3.3,20.°78S×169.°71E,h144km±25km,mb3.7/5, mb1 4.0/6,mb1mx3.6/18,mbtmp3.7/6,MS3.4/1,Ms1 3.4/1, ms1mx2.7/23,Error ellipse: s-maj=30.1km s-min=26.4km az=34.0*

ISC 11 18:06:34.0±1.1,20.°8S±0.°2×169.°7E±0.°2,h150km,n12, σ1§35/15,mb3.8/5,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BAYA	**Yate Dam**	**2.97**	**242**	*e*P		**Pn**	**18 07 20.4**	**-0.6**
BAYA				*e*S		**Sn**	**18 07 56.4**	**-0.9**
BAYA				AMP			18 07 57.3	
	comp=Z,26nm,6.2s							
DZM	**Mont Dzumac**	**3.31**	**247**	P		**Pn**	**18 07 25.1**	**-0.2**
	comp=Z,13nm,0.3s,baz=73,slow=19,SNR=234							
DZM				S		**Sn**	**18 08 04.6**	**-0.6**
	comp=Z,20nm,0.3s,baz=263,slow=20,SNR=9.2							
NORM	**Noumea**	**3.33**	**244**	*e*P		**Pn**	**18 07 24.9**	**-0.7**
NORM				*e*S		**Sn**	**18 08 05.4**	**-0.2**
NORM				AMP			18 08 08.5	
	comp=Z,287nm,1.9s							
NOUC	**Port Laguerre**	**3.44**	**247**	*e*P		Pn	18 07 29.4	+2.4
NOUC				*e*S		**Sn**	**18 08 11.8**	**+3.8**
NOUC				AMP			18 08 12.4	
	comp=Z,121nm,0.8s							
AFI	**Afiamalu**	**18.93**	**72**	LR		LR	18 16 14.9	
	comp=Z,116nm,20.8s,baz=76,slow=31							
WRA	**Warramunga Arr**	**33.14**	**265**	P		**P**	**18 12 56.3**	**0.0**
	comp=Z,1.6nm,0.8s,baz=95,slow=8.7,SNR=22							
ASAR	**Alice Springs**	**33.22**	**258**	P		**P**	**18 12 57.2**	**+0.3**
	comp=Z,5.1nm,0.9s,baz=94,slow=9.0,SNR=54							
ASAR				pP		**pP**	**18 13 27.5**	**-1.5**
	comp=Z,1.4nm,0.9s,baz=85,slow=8.2,SNR=4.7							
QSPA	**South Pole Qui**	**69.28**	**180**	P		**P**	**18 17 25.3**	**+0.5**
	comp=Z,4.8nm,1.0s,baz=10,slow=2.2,SNR=19							
CMAR	**Chiang Mai Arr**		**79.54**	**294**	P	**P**	**18 18 25.6**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=133,slow=5.0,SNR=3.5							
NVAR	**Mina Array Bea**		**89.48**	**48**	P	**P**	**18 19 15.1**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=222,slow=8.9,SNR=6.6							
EKA	**Eskdalemuir Ar**		**145.09**	**353**	PKPbc	**PKPbc**	**18 25 52.0**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=348,slow=2.0,SNR=7.6							
GERES	**GERESS Array B**		**146.05**	**331**	PKPbc	**PKPbc**	**18 25 55.8**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=44,slow=4.1,SNR=9.2							

*IDC **11** 18:16:11.9±1.5,37.°88N×72.°66E,h0km,mb3.6/7, mb1 3.7/12,mb1mx3.6/30,mbtmp3.6/12,ML3.4/5,Error ellipse: s-maj=26.5km s-min=18.1km az=158.0*
*ISCJB **11** 18:16:12.6±0.9,38.°03N±0.°07×72.°38E±0.°09,h10km, mb3.5/7,Error ellipse: s-maj=10.5km s-min=9.6km az=167.0*
*NNC **11** 18:16:13.4±1.6,38.°01N×72.°21E,h0km,mb4.1,mpv3.6, Error ellipse: s-maj=14.3km s-min=9.7km az=26.0*

ISC 11 18:16:14.7±1.2,38.°02N±0.°10×72.°37E±0.°10,h10km,n20, σ1§82/26,mb3.5/7,8C-7D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AAK	**Ala-Archa**	**4.89**	**19**	Pn		**Pn**	**18 17 29.2**	**+0.8**
	1.4nm,0.3s,baz=180,slow=8.9,SNR=7.6							
AAK				Sn		**Sn**	**18 18 27.0**	**+1.9**
	1.1nm,0.3s,baz=192,slow=20,SNR=2.6							
KK31	**Karatay Array**	**5.28**	**345**	Pn		**Pn**	**18 17 34.6**	**+1.0**
	5.5nm,0.4s,baz=154,slow=12,SNR=106							
KK31				⇑Pg		**Pb**	**18 17 48.9**	**+1.9**
	2.7nm,0.3s,baz=173,slow=14,SNR=3.9							
KK31				⇓Sn		**Sn**	**18 18 36.0**	**+1.5**
	35nm,0.9s,baz=171,slow=22,SNR=3.9							
KK31				⇓Lg		Lg	18 19 00.4	
	22nm,0.6s,baz=156,slow=28,SNR=5.4							
TKM2	**Tokmak 2**	**5.48**	**26**	⇑Pn		**Pn**	**18 17 37.8**	**+1.2**
	3.3nm,0.8s							
TKM2				⇓Pg		Pb	18 17 54.1	+3.5
	9.2nm,0.9s							
TKM2				⇑Lg		Lg	18 19 08.8	
	17nm,0.8s							
MK31	**Makanchi Array**	**11.42**	**37**	⇑Pn		**Pn**	**18 18 58.2**	**+0.4**
	1.3nm,0.8s,baz=224,slow=14,SNR=8.0							
MK31				⇓Lg		Lg	18 22 18.9	
	0.5nm,0.7s							
MKAR	**Makanchi Array**	**11.42**	**37**	Pn		**Pn**	**18 18 57.6**	**-0.3**
	0.1nm,0.3s,baz=226,slow=13,SNR=9.8							
KURBB	**Kurchatov Arra**	**13.35**	**17**	⇑Pn		**Pn**	**18 19 23.5**	**-0.6**
	5.3nm,1.4s							
KURBB				⇓Lg		Lg	18 23 16.4	
	5.3nm,0.8s							
KURBB	**Kurchatov Arra**	**13.35**	**17**	Pn		**Pn**	**18 19 21.8**	**-2.3**
	0.0nm,0.3s,baz=206,slow=12,SNR=14							
AB31	**Akbulak array**	**14.37**	**325**	Pn		**Pn**	**18 19 35.5**	**-2.6**
	2.0nm,0.5s,baz=136,slow=12,SNR=4.4							
AB31				⇑Sn		**Sn**	**18 22 15.3**	**-2.2**
	1.4nm,0.6s,baz=138,slow=23,SNR=4.8							
VOSK	**Vostochnaya**	**14.74**	**357**	⇑Pn		**Pn**	**18 19 43.2**	**0.0**
	3.1nm,1.5s							
VOSK				⇑Lg		Lg	18 24 01.5	
	6.7nm,1.4s							
BVAR	**Borovoye Array**	**15.07**	**355**	Pn		**Pn**	**18 19 46.7**	**-0.9**
	0.2nm,0.3s,baz=171,slow=10,SNR=2.8							
AKTO	**Aktyubinsk**	**16.09**	**325**	⇓Pn		**Pn**	**18 19 59.6**	**-1.2**
	9.8nm,0.9s							
AKTO				⇓Sn		**Sn**	**18 22 58.1**	**-1.0**
	2.3nm,0.7s							
AKTO	**Aktyubinsk**	**16.09**	**325**	Pn		**Pn**	**18 19 58.3**	**-2.6**
	0.6nm,0.3s,baz=118,slow=13,SNR=8.6							
AKTO				Sn		**Sn**	**18 22 54.7**	**-4.5**
	0.1nm,0.3s,baz=150,slow=20,SNR=3.1							
ZALV	**Zalesovo Beam**	**18.08**	**24**	P		**Pn**	**18 20 23.2**	**-2.6**
	0.2nm,0.3s,baz=219,slow=11,SNR=13							
SONM	**Songino Array**	**26.59**	**57**	P		**P**	**18 21 51.0**	**-2.1**
	0.2nm,0.3s,baz=251,slow=9.0,SNR=2.3							
BRTR	**Keskin Array B**	**30.05**	**285**	P		**P**	**18 22 25.6**	**+1.6**
	0.4nm,0.6s,baz=98,slow=10,SNR=2.6							
FINES	**FINESS Array B**	**36.86**	**325**	P		**P**	**18 23 23.2**	**+0.3**
	0.4nm,0.4s,baz=122,slow=6.8,SNR=8.6							
ARCES	**ARCESS Array B**	**40.18**	**337**	P		**P**	**18 23 50.7**	**+0.1**
	1.7nm,0.9s,baz=102,slow=8.7,SNR=5.2							
NOA	**NORSAR Array B**	**43.84**	**322**	P		**P**	**18 24 22.4**	**+1.7**
	0.4nm,0.6s,baz=110,slow=7.7,SNR=3.2							
TORD	**Torodi Ar. Bea**	**66.85**	**269**	P		**P**	**18 27 07.2**	**+0.1**
	0.3nm,0.5s,baz=40,slow=5.6,SNR=5.2							
YKA	**Yellowknife Ar**	**79.68**	**3**	P		**P**	**18 28 21.4**	**-0.6**
	0.3nm,0.5s,baz=352,slow=5.8,SNR=5.0							

JMA 11 18:46:52.9,35.°42N×135.°73E,h6km±1km,M2.8,Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JFM	**Mihama**	**0.23**	**62**	P		Pg	18 46 57.8	+0.3
JFM				S		Sg	18 47 00.9	+0.3
JWT	**Wachi**	**0.30**	**243**	P		Pg	18 46 58.9	+0.1
JWT				S		Sg	18 47 02.5	-0.3
MAT	**Matsushiro**	**2.30**	**60**	P		Pn	18 47 32.8	+1.4
MAT				S		Sg	18 48 06.0	-0.9

*NIED **11** 18:52:00,36.°70N×141.°20E,h35km,Mw3.7 Best double couple: M◎3.88000×10^14 NP1:φ◎28.00000°,δ73.00000°, λ84.00000°. NP2:φ◎227.00000°,δ18.00000°,λ108.00000°.*

JMA 11 18:52:52.1±0.1,36.°69N×141.°23E,h47km±2km,M3.6,8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHO	**Hitachi**	**0.54**	**262**	⇓P		Pn	18 53 03.5	-0.1
JHO				S		Sn	18 53 11.7	-0.2
ONAJ	**Iwakimizuishiy**	**0.54**	**320**	⇓P		Pn	18 53 03.2	-0.5
ONAJ				*e*S		Sn	18 53 11.4	-0.6
JFK	**Kawauchi**	**0.73**	**337**	⇓P		Pn	18 53 05.8	-0.4
JFK				S		Sn	18 53 14.8	-1.7
JYT	**Yasato**	**0.95**	**241**	⇓P		Pn	18 53 09.2	+0.1
JYT				S		Sn	18 53 21.2	-0.4
JFT	**Otama**	**1.09**	**319**	⇓P		Pn	18 53 12.1	+1.1
JFT				*e*S		Sn	18 53 24.5	-0.6
JMM	**Marumori**	**1.23**	**344**	⇓P		Pn	18 53 12.5	-0.3
JMM				*e*S		Sn	18 53 28.2	0.0
JAG	**Ashikaga**	**1.46**	**260**	⇓P		Pn	18 53 16.6	+0.6
JKT	**Katashina**	**1.59**	**273**	⇓P		Pn	18 53 19.4	+1.4
MAT	**Matsushiro**	**2.44**	**267**	P		Pn	18 53 31.8	+2.4
MAT				S		Sn	18 54 00.0	+1.9

IDC 11 19:01:56.9±0.8,2.°71S×141.°56E,h0km,mb4.0/9, mb1 4.2/10,mb1mx4.0/19,mbtmp4.1/10,ML4.2/1, MS3.2/4,Ms1 3.2/4,ms1mx2.8/33,Error ellipse: s-maj=32.9km s-min=17.2km az=87.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**8.67**	**140**	Pn		Pn	19 04 08.7	+5.0
	0.6nm,0.3s,baz=281,slow=5.2,SNR=3.3							
WRA	**Warramunga Arr**	**18.52**	**202**	P		P	19 06 14.6	-0.5
	0.7nm,0.3s,baz=20,slow=11,SNR=31							
FITZ	**Fitzroy Crossi**	**21.85**	**224**	P		P	19 06 50.4	-0.9
	6.3nm,0.8s,baz=50,slow=9.2,SNR=9.2							
FITZ				LR		LR	19 15 21.2	
	comp=Z,52nm,21.2s,baz=56,slow=37							
ASAR	**Alice Springs**	**22.11**	**199**	P		P	19 06 54.2	+0.1
	3.2nm,0.6s,baz=29,slow=10,SNR=43							
STKA	**Stephens Creek**	**29.01**	**180**	P		P	19 07 58.7	+0.1
	3.3nm,1.0s,baz=131,slow=19,SNR=3.3							
STKA				LR		LR	19 19 11.5	
	comp=Z,84nm,18.5s,baz=21,slow=36							
JNU	**Nakatsue**	**37.04**	**345**	LR		LR	19 23 43.3	
	comp=Z,25nm,18.8s,baz=204,slow=35							
KSRS	**Korea Array**	**41.92**	**344**	LR		LR	19 24 57.0	
	comp=Z,32nm,18.6s,baz=189,slow=33							
CMAR	**Chiang Mai Arr**	**46.92**	**298**	P		P	19 10 29.5	-0.2
	0.3nm,0.7s,baz=120,slow=6.7,SNR=3.4							
MKAR	**Makanchi Array**	**71.54**	**321**	P		P	19 13 20.8	+0.9
	2.8nm,0.8s,baz=106,slow=7.6,SNR=31							
ZALV	**Zalesovo Beam**	**73.38**	**329**	P		P	19 13 30.2	-0.4
	1.0nm,0.5s,baz=111,slow=5.3,SNR=7.5							
KURBB	**Kurchatov Arra**	**75.39**	**324**	P		P	19 13 42.3	0.0
	1.7nm,0.8s,baz=113,slow=5.4,SNR=14							
VNDA	**Vanda**	**75.54**	**176**	P		P	19 13 42.6	-0.3
	0.8nm,0.6s,baz=317,slow=6.1,SNR=6.1							
ILAR	**Eielson Array**	**84.66**	**24**	P		P	19 14 31.1	-1.1
	1.7nm,0.9s,baz=254,slow=5.2,SNR=13							
LPAZ	**La Paz**	**145.11**	**124**	PKPbc		PKPdf	19 21 38.1	-0.2
	4.0nm,1.0s,baz=289,slow=2.4,SNR=10							
DBIC	**Dimbokro**	**146.31**	**278**	PKPbc		PKPbc	19 21 40.6	-0.1
	4.8nm,0.8s,baz=144,slow=9.2,SNR=4.3							

*IDC **11** 19:20:11.5±9.1,18.°73N×107.°14W,h0km,mb3.1/3, mb1 3.5/5,mb1mx3.4/23,mbtmp3.2/5,ML3.4/2,MS3.2/5, Ms1 3.2/5,ms1mx3.0/13,Error ellipse: s-maj=155.7km s-min=72.6km az=140.0*
*ISCJB **11** 19:20:13.4±1.2,18.°75N±0.°10×107.°35W±0.°06,h16km, mb3.1/3,MS3.1/4,Error ellipse: s-maj=14.3km s-min=6.8km az=17.8*
*MEX **11** 19:20:15.6±0.3,18.°83N×107.°40W,h4km±35km,MD4.0*

ISC 11 19:20:15.2±1.7,18.°9N±0.°1×107.°36W±0.°10,h16km,n15, σ0§73/17,mb3.2/3,MS3.1/4,Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CJM	**Chamela**	**2.27**	**74**	*e*P		**Pn**	**19 20 51.3**	**-0.9**
CJM				*e*S		**Sn**	**19 21 19.5**	**-0.3**
R15V		**3.21**	**85**	*e*P		**Pn**	**19 21 04.7**	**-0.3**
R15V				*e*S		**Sn**	**19 21 42.7**	**-0.2**
ANIG	**Ahuacatlan**	**3.43**	**51**	*e*P		**Pn**	**19 21 08.7**	**+0.6**
ANIG				*e*S		**Sn**	**19 21 49.8**	**+1.3**
EZ5V		**3.60**	**80**	*e*P		**Pn**	**19 21 11.0**	**+0.4**
EZ5V				*e*S		**Sn**	**19 21 53.4**	**+0.4**
ZIIG	**Zihuatanejo**	**5.75**	**102**	*i* P		**Pn**	**19 21 40.2**	**+0.3**
ZIIG				*i* S		**Sn**	**19 22 45.6**	**+0.1**
ARIG	**Puente Sto Nin**	**6.68**	**94**	*i* P		**Pn**	**19 21 52.9**	**+0.1**
ARIG				*i* S		**Sn**	**19 23 08.3**	**-0.3**
TXAR	**Lajitas Array**	**10.93**	**17**	Pn		**Pn**	**19 22 50.0**	**-1.1**
	0.1nm,0.3s,baz=193,slow=12,SNR=3.2							
ANMO	**Albuquerque**	**16.01**	**3**	Pn		**P**	**19 24 02.4**	**-1.1**
	0.1nm,0.3s,baz=58,slow=19,SNR=2.2							
PFO	**Pinyon Flat Ob**	**16.76**	**333**	LR		LR	19 29 45.4	
	comp=Z,182nm,21.4s,baz=304,slow=34							
NVAR	**Mina Array Bea**	**21.67**	**336**	P		**P**	**19 25 05.8**	**+0.4**
	0.8nm,0.8s,baz=169,slow=8.6,SNR=4.6							
NVAR				LR		LR	19 33 05.6	
	comp=Z,71nm,20.3s,baz=205,slow=35							
PDAR	**Pinedale Array**	**23.87**	**356**	P		**P**	**19 25 29.5**	**+1.2**
	0.1nm,0.3s,baz=198,slow=7.6,SNR=2.0							
YBH	**Yreka Blue Hor**	**26.26**	**333**	LR		LR	19 35 35.2	
	comp=Z,80nm,20.5s,baz=156,slow=35							
TKL	**Tuckaleechee C**	**26.69**	**46**	LR		LR	19 38 23.1	
	comp=Z,69nm,20.1s,baz=254,slow=41							
YKA	**Yellowknife Ar**	**43.85**	**355**	LR		LR	19 46 50.4	
	comp=Z,8.7nm,18.2s,baz=30,slow=36							
ILAR	**Eielson Array**	**52.86**	**340**	P		**P**	**19 29 29.9**	**0.0**
	0.3nm,0.7s,baz=148,slow=5.6,SNR=4.9							

*IDC **11** 19:35:45.0±0.7,3.°65S×98.°61E,h0km,mb4.2/21, mb1 4.3/22,mb1mx4.2/29,mbtmp4.2/22,ML3.6/1,MS3.4/10, Ms1 3.4/10,ms1mx

CD2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
CD2					pmax	pmax		
	comp=Z,100nm,5.2s							
CD2					LR	LR		
	comp=E,360nm,12.5s							
WRA	**Warramunga Arr**	**38.24**	**118**	P	**P**		**19 43 07.6**	**+0.2**
WRA	**Warramunga Arr**	**38.24**	**118**	P	**P**		**19 43 07.6**	**+0.2**
	comp=E,2.2nm,0.8s,baz=301,slow=8.5,SNR=7.7							
WRAB	**Tennant Creek**	**38.24**	**118**	*eP*	**P**		**19 43 07.0**	**-0.4**
	comp=E,6.3nm,0.8s							
XAN	**Xi'an**	**38.63**	**13**	P	P		19 43 13.6	+3.2
XAN				pP	pP		19 43 20.2	-0.5
ASAR	**Alice Springs**	**39.30**	**124**	P	**P**		**19 43 17.2**	**+0.9**
ASAR	**Alice Springs**	**39.30**	**124**	P	**P**		**19 43 17.2**	**+0.9**
	comp=E,0.9nm,0.8s,baz=302,slow=8.9,SNR=7.3							
GTA	**Gaotai**	**42.81**	**1**	*eP*	P		19 43 50.0	+5.1
GTA				pP	pP		19 43 54.4	-0.9
GTA				sP	sP		19 43 56.9	-2.5
GTA				pmax	pmax			
	comp=Z,5.0nm,1.2s							
JNU	**Nakatsue**	**47.47**	**37**	P	**P**		**19 44 22.8**	**+0.8**
JNU	**Nakatsue**	**47.47**	**37**	P	**P**		**19 44 22.8**	**+0.8**
	comp=Z,6.5nm,0.8s,baz=266,slow=14,SNR=3.9							
JNU				LR	LR		20 05 50.1	
	comp=Z,49nm,19.3s,baz=233,slow=38							
KSAR	**Wonju Array Be**	**48.95**	**31**	P	**P**		**19 44 34.1**	**+0.8**
KSRS	**Korea Array**	**48.98**	**31**	P	**P**		**19 44 34.1**	**+0.6**
	comp=Z,2.5nm,1.0s,baz=212,slow=6.9,SNR=6.5							
KSRS				LR	LR		20 05 50.3	
	comp=Z,31nm,19.0s,baz=186,slow=37							
STKA	**Stephens Creek**	**48.99**	**130**	P	**P**		**19 44 36.5**	**+2.7**
STKA	**Stephens Creek**	**48.99**	**130**	P	**P**		**19 44 36.5**	**+2.7**
	comp=Z,3.0nm,0.9s,baz=320,slow=8.8,SNR=4.5							
STKA	**Stephens Creek**	**48.99**	**130**	P	P		19 44 44.5	+11
	baz=49,SNR=3.9							
SONM	**Songino Array**	**51.65**	**6**	P	**P**		**19 44 55.6**	**+1.9**
SONM	**Songino Array**	**51.65**	**6**	P	**P**		**19 44 55.6**	**+1.9**
	comp=Z,1.7nm,0.8s,baz=189,slow=8.1,SNR=11							
ULN	**Ulaanbaatar**	**51.75**	**7**	*eP*	**P**		**19 44 55.4**	**+0.8**
	comp=Z,2.3nm,0.8s							
CMSA	**Cobar Meteorol**	**52.04**	**128**	P	P		19 44 59.9	+3.1
	baz=52,SNR=5.8							
MK31	**Makanchi Array**	**52.26**	**346**	*e*P	**P**		**19 44 58.1**	**-0.1**
MKAR	**Makanchi Array**	**52.26**	**346**	P	**P**		**19 44 58.7**	**+0.5**
MKAR	**Makanchi Array**	**52.26**	**346**	P	**P**		**19 44 58.7**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=153,slow=8.4,SNR=39							
MKAR				LR	LR		20 11 50.5	
	comp=Z,23nm,18.9s,baz=4.7,slow=41							
USRK	**Ussuriysk Arra**	**56.11**	**28**	P	**P**		**19 45 27.5**	**+1.3**
	comp=Z,1.7nm,0.5s,baz=230,slow=7.9,SNR=5.9							
KURBB	**Kurchatov Arra**	**56.76**	**345**	P	**P**		**19 45 30.5**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=165,slow=7.0,SNR=14							
KURK	**Kurchatov**	**56.82**	**345**	P	**P**		**19 45 30.5**	**-0.6**
ZAA0	**Zalesovo Array**	**58.53**	**350**	*e*P	**P**		**19 45 43.2**	**+0.2**
ZALV	**Zalesovo Beam**	**58.53**	**350**	P	**P**		**19 45 43.3**	**+0.3**
ZALV	**Zalesovo Beam**	**58.53**	**350**	P	**P**		**19 45 43.3**	**+0.3**
	comp=Z,7.6nm,0.7s,baz=177,slow=5.4,SNR=26							
ZALV				LR	LR		20 16 24.7	
	comp=Z,25nm,18.8s,baz=252,slow=42							
BVAR	**Borovoye Array**	**61.29**	**341**	P	**P**		**19 46 01.1**	**-1.0**
BVAR	**Borovoye Array**	**61.29**	**341**	P	**P**		**19 46 01.1**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=141,slow=9.6,SNR=12							
ABKAR	**Akbulak array**	**62.49**	**332**	*e*P	**P**		**19 46 09.1**	**-1.1**
	comp=Z,2.6nm,0.8s							
AKTO	**Aktyubinsk**	**64.21**	**332**	P	**P**		**19 46 19.8**	**-1.8**
AKTO	**Aktyubinsk**	**64.21**	**332**	P	**P**		**19 46 19.8**	**-1.8**
	comp=Z,1.5nm,0.8s,baz=138,slow=5.8,SNR=4.1							
KBZ	**Khabaz**	**68.75**	**320**	P	**P**		**19 46 50.8**	**0.0**
KBZ	**Khabaz**	**68.75**	**320**	P	**P**		**19 46 50.8**	**0.0**
	comp=Z,4.0nm,0.8s,baz=125,slow=5.3,SNR=8.6							
LSZ	**Lusaka**	**70.39**	**255**	*e*P	**P**		**19 47 00.9**	**-0.7**
	comp=Z,4.6nm,1.1s							
BR131	**Keskin Array S**	**73.54**	**313**	*e*P	**P**		**19 47 18.2**	**-1.9**
	comp=Z,2.0nm,0.9s							
BRTR	**Keskin Array B**	**73.54**	**313**	P	**P**		**19 47 19.1**	**-1.0**
BRTR	**Keskin Array B**	**73.54**	**313**	P	**P**		**19 47 19.1**	**-1.0**
	comp=Z,2.0nm,0.9s,baz=142,slow=8.4,SNR=12							
BRTR				LR	LR		20 19 31.8	
	comp=Z,33nm,18.6s,baz=101,slow=36							
BOSA	**Boshof**	**73.87**	**241**	P	**P**		**19 47 21.4**	**-0.8**
BOSA	**Boshof**	**73.87**	**241**	P	**P**		**19 47 21.4**	**-0.8**
	comp=Z,2.5nm,1.0s,baz=101,slow=8.9,SNR=3.6							
BOSA				LR	LR		20 14 01.0	
	comp=Z,49nm,19.4s,baz=168,slow=31							
PETK	**Petropavlovsk-**	**74.85**	**32**	LR	LR		20 24 46.3	
BUR08	**Bucovina Ar. S**	**81.70**	**319**	*e*P	**P**		**19 48 05.6**	**+0.2**
SBA	**Scott Base**	**81.93**	**169**	P	**P**		**19 48 05.3**	**-0.6**
FINES	**FINESS Array B**	**84.98**	**333**	P	**P**		**19 48 21.8**	**0.0**
FINES	**FINESS Array B**	**84.98**	**333**	P	**P**		**19 48 21.8**	**0.0**
	comp=Z,0.7nm,0.5s,baz=113,slow=4.7,SNR=11							
KAF	**Kangasniemi**	**85.07**	**333**	*ep*	**P**		**19 48 22.7**	**+0.4**
	comp=Z,2.2nm,0.4s							
ARCES	**ARCESS Array B**	**87.57**	**340**	P	**P**		**19 48 34.5**	**0.0**
ARCES	**ARCESS Array B**	**87.57**	**340**	P	**P**		**19 48 34.5**	**0.0**
	comp=Z,4.2nm,1.0s,baz=104,slow=3.4,SNR=13							
GERES	**GERESS Array B**	**89.47**	**319**	P	**P**		**19 48 43.8**	**-0.2**
GERES	**GERESS Array B**	**89.47**	**319**	P	**P**		**19 48 43.8**	**-0.2**
	comp=Z,1.9nm,1.1s,baz=129,slow=3.8,SNR=6.9							
TORD	**Torodi Ar. Bea**	**97.75**	**283**	LR	LR		20 29 55.9	
	comp=Z,37nm,18.0s,baz=175,slow=33							
JCT	**Junction City**	**147.99**	**31**	*e*PKPdf	**PKPdf**		**19 55 29.7**	**0.0**

*IDC **11** 19:47:48.6±1.2, 13°.47N×89°.44W, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.9/23, mbtmp3.9/8, MS3.0/3, Ms1 3.0/3, ms1mx2.6/34, Error ellipse: s-maj=48.8km s-min=21.1km az=46.0*

*ISCJB **11** 19:47:50.4±0.7, 12°.95N±0°.06×90°.08W±0°.04, h29km, mb3.8/9, MS3.0/3, Error ellipse: s-maj=8.4km s-min=5.2km az=5.9*

*NEIC **11** 19:47:51.9±0.8, 13°.04N×90°.06W, h35km, mb3.5/2, MD4.0(SNET), Error ellipse: s-maj=20.1km s-min=11.7km az=57.0*

NEIC Felt [II] at San Salvador.

*CASC **11** 19:47:51.3±1.1, 13°.03N×90°.03W, h18km±5km, MD4.0, ML4.0*

ISC 11 19:47:52.0±0.7, 13°.11N±0°.07×90°.02W±0°.05, h29km, n51, σ1°42/53, mb3.7/9, MS3.2/3, 4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SBLS	**San Blas**	**0.82**	**28**	*i*	*P*	**Pn**	**19 48 08.0**	**0.0**
SNJE	**San Jose**	**0.86**	**28**	*i*	*P*	**Pn**	**19 48 08.4**	**0.0**
RTR	**El Retiro**	**0.87**	**25**	*i*	*P*	**Pn**	**19 48 08.6**	**+0.2**
BOQS	**Boqueron**	**0.95**	**49**	*e*	*P*	**Pn**	**19 48 09.7**	**0.0**
SNET	**Serv Nac Est T**	**0.96**	**53**	*e*	*P*	**Pn**	**19 48 09.4**	**-0.3**
SNET				AML		AML	19 48 10.6	
	comp=Z,4μm,0.3s							
SNET				*e*	S	**Sb**	**19 48 23.6**	**+1.0**
RBDL	**Robledal**	**1.05**	**18**	*e*	*P*	**Pn**	**19 48 11.6**	**+0.5**
LFRS	**El Faro**	**1.07**	**61**	*i*	*P*	**Pn**	**19 48 11.2**	**0.0**
LFU	**La Fuente**	**1.09**	**54**	*e*	*P*	**Pn**	**19 48 11.8**	**+0.3**
LFU				*e*	S	**Sb**	**19 48 27.9**	**+1.6**
IXG	**Ixpaco**	**1.14**	**338**	*e*	*P*	**Pn**	**19 48 12.7**	**+0.5**
LBRS	**Las Brisas**	**1.14**	**57**	*e*	*P*	**Pn**	**19 48 12.6**	**+0.4**
SNVI	**San Vicente**	**1.26**	**66**	*i*	*P*	**Pn**	**19 48 14.2**	**+0.4**
SNVI				*e*	S	**Sb**	**19 48 31.8**	**+0.7**
PCG	**Pacaya**	**1.40**	**336**	*e*	*P*	**Pb**	**19 48 17.2**	**-0.5**
NBG	**Las Nubes**	**1.50**	**348**	*e*	*P*	**Pb**	**19 48 19.3**	**-0.2**
FUG	**Fuego 3**	**1.55**	**329**	*e*	*P*	**Pn**	**19 48 18.2**	**+0.3**
VSM	**San Miguel**	**1.73**	**79**	*e*	*P*	**Pn**	**19 48 21.2**	**+0.7**
BLLM	**Bellamira**	**1.77**	**79**	*e*	*P*	**Pn**	**19 48 21.8**	**+1.0**
BLLM				*e*	S	**Sn**	**19 48 44.0**	**+1.6**
CAHU	**Cacacuatique**	**1.88**	**69**	*e*	*P*	**Pn**	**19 48 23.1**	**+0.6**
MRL	**Marmol**	**1.97**	**9**	*e*	*P*	**Pb**	**19 48 26.2**	**-1.2**
JAT	**Jato**	**1.98**	**308**	*e*	*P*	**Pn**	**19 48 24.1**	**+0.5**
CNCH	**Conchagua**	**2.14**	**85**	*e*	*P*	**Pn**	**19 48 26.8**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.83**	**70**	*e*	*Pn*	**Pn**	**19 48 35.9**	**+0.5**
TEIG	**Tepich**	**7.27**	**13**	*e*	*Pn*	**Pn**	**19 49 38.4**	**+2.0**
TEIG				Lg		Lg	19 51 21.2	
TEIG	**Tepich**	**7.27**	**13**	Pn		**Pn**	**19 49 38.7**	**+2.3**
	comp=Z,6.4nm,0.3s,baz=174,slow=1.7,SNR=34							
TEIG				Lg		Lg	19 51 21.2	
	comp=Z,1.4nm,0.3s,baz=62,slow=22,SNR=3.9							
OTAV	**Otavalo**	**17.18**	**137**	P		**Pn**	**19 51 48.8**	**-1.7**
	comp=Z,2.1nm,0.7s							
TXAR	**Lajitas Array**	**20.52**	**324**	P		Pn	19 52 31.0	+0.5
TXAR	**Lajitas Array**	**20.52**	**324**	P		Pn	19 52 31.0	+0.5
	comp=Z,2.7nm,0.7s,baz=148,slow=10,SNR=30							
WMOK	**Wichita Mounta**	**22.95**	**341**	*e*	*P*	**P**	**19 52 53.7**	**-0.4**
	comp=Z,1.5nm,0.7s							
TKL	**Tuckaleechee C**	**23.15**	**13**	P		**P**	**19 52 55.7**	**-0.4**
TKL	**Tuckaleechee C**	**23.15**	**13**	P		**P**	**19 52 55.7**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=185,slow=11,SNR=4.4							
PDAR	**Pinedale Array**	**34.04**	**334**	P		**P**	**19 54 34.3**	**+0.4**
PDAR	**Pinedale Array**	**34.04**	**334**	P		**P**	**19 54 34.3**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=104,slow=7.5,SNR=3.1							
NVAR	**Mina Array Bea**	**35.58**	**320**	P		**P**	**19 54 50.0**	**+2.8**
NVAR	**Mina Array Bea**	**35.58**	**320**	P		**P**	**19 54 50.0**	**+2.8**
	comp=Z,5.1nm,0.7s,baz=135,slow=7.6,SNR=36							
YBH	**Yreka Blue Hor**	**40.26**	**321**	P		**P**	**19 55 26.2**	**-0.3**
YBH	**Yreka Blue Hor**	**40.26**	**321**	P		**P**	**19 55 26.2**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=111,slow=2.1,SNR=4.0							
YBH				LR		LR	20 16 28.3	
	comp=Z,31nm,19.4s,baz=347,slow=43							
SIV	**San Ignacio**	**40.69**	**134**	P		**P**	**19 55 30.6**	**+0.3**
SIV	**San Ignacio**	**40.69**	**134**	P		**P**	**19 55 30.6**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=292,slow=9.7,SNR=3.7							
SCHQ	**Schefferville**	**45.42**	**19**	P		**P**	**19 56 05.5**	**-2.6**
SCHQ	**Schefferville**	**45.42**	**19**	P		**P**	**19 56 05.5**	**-2.6**
	comp=Z,4.3nm,0.5s,baz=227,slow=4.8,SNR=18							
YKA	**Yellowknife Ar**	**52.34**	**346**	P		**P**	**19 56 59.6**	**-1.4**
YKA				PcP		**PcP**	**19 58 11.1**	**-0.8**
YKA	**Yellowknife Ar**	**52.34**	**346**	P		**P**	**19 56 59.6**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=134,slow=7.3,SNR=9.8							
YKA				PcP		**PcP**	**19 58 11.0**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=169,slow=3.6,SNR=4.2							
RAR	**Rarotonga**	**76.49**	**244**	LR		LR	20 24 35.2	
	comp=Z,3.4nm,20.3s,baz=173,slow=29							
NOA	**NORSAR Array B**	**84.00**	**29**	LR		LR	20 39 07.4	
	comp=Z,1.1nm,20.1s,baz=85,slow=37							
TORD	**Torodi Ar. Bea**	**88.71**	**77**	P		**P**	**20 00 41.6**	**-2.0**
TORD	**Torodi Ar. Bea**	**88.71**	**77**	P		**P**	**20 00 41.6**	**-2.0**
	comp=Z,0.3nm,0.8s,baz=296,slow=6.2,SNR=3.2							
MKAR	**Makanchi Array**	**119.98**	**6**	PKP		**PKPdf**	**20 06 40.3**	**+0.2**
MKAR	**Makanchi Array**	**119.98**	**6**	PKP		**PKPdf**	**20 06 40.3**	**+0.2**
	comp=Z,0.1nm,0.2s,baz=338,slow=3.1,SNR=3.4							
WRA	**Warramunga Arr**	**137.03**	**255**	PKP		**PKPdf**	**20 07 17.1**	**+4.0**
WRA	**Warramunga Arr**	**137.03**	**255**	PKP		**PKPdf**	**20 07 17.1**	**+4.0**
	comp=Z,0.6nm,0.9s,baz=86,slow=2.8,SNR=3.9							
CMAR	**Chiang Mai Arr**	**147.41**	**344**	PKPbc		**PKPdf**	**20 07 32.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**147.41**	**344**	PKPbc		**PKPdf**	**20 07 32.6**	**+1.0**
	comp=Z,1.6nm,0.7s,baz=348,slow=2.5,SNR=8.5							

*IDC **11** 21:15:57.1±0.7, 17°.18S×66°.04W, h0km, mb4.4/5, mb1 4.3/8, mb1mx4.0/20, mbtmp4.2/8, ML3.6/3, MS3.4/9, Ms1 3.4/9, ms1mx3.1/36, Error ellipse: s-maj=23.2km s-min=13.8km az=18.0*

*ISCJB **11** 21:16:00.4±0.5, 17°.23S±0°.07×66°.14W±0°.07, h33km, mb4.2/7, MS3.4/6, Error ellipse: s-maj=9.9km s-min=9.6km az=18.8*

*NEIC **11** 21:16:01.4±1.6, 17°.19S×66°.25W, h32km±12km, mb4.5/1, Error ellipse: s-maj=10.9km s-min=9.6km az=92.0*

ISC 11 21:16:02.2±0.5, 17°.21S±0°.09×66°.30W±0°.06, h35km, n50, σ1°19/44, mb4.5/7, MS3.5/6, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LPAZ	**La Paz**	**1.98**	**297**	*e*	*Pb*	Pn	21 16 37.8	+3.9
LPAZ				*e*	*Sg*	Sn	21 17 06.6	+8.8
LPAZ				Lg		Lg	21 17 08.2	
LPAZ	**La Paz**	**1.98**	**297**	Pg		Pn	21 16 37.7	+3.9
	967nm,0.3s,baz=112,slow=13							
LPAZ				Lg		Lg	21 17 08.2	
	416nm,0.3s,baz=258,slow=6.6,SNR=13							
LPAZ				LR		LR	21 17 31.6	
	comp=Z,608nm,20.6s,baz=192,slow=43							
SIV	**San Ignacio**	**5.16**	**77**	Pn		**Pn**	**21 17 17.8**	**+0.8**
SIV				Sn		**Sn**	**21 18 17.3**	**+1.9**
SIV	**San Ignacio**	**5.16**	**77**	Pn		**Pn**	**21 17 17.8**	**+0.8**
	14nm,0.3s,baz=263,slow=12,SNR=99							
SIV				Sn		**Sn**	**21 18 17.3**	**+1.9**
	26nm,0.3s,baz=347,slow=22,SNR=12							
LVC	**Limon Verde**	**5.91**	**204**	*e*	Pn	**Pn**	**21 17 26.0**	**-1.5**
	45nm,0.9s							
LVC	**Limon Verde**	**5.91**	**204**	Pn		**Pn**	**21 17 26.4**	**-1.1**
	1.0nm,0.3s,baz=30,slow=11,SNR=17							
SAML	**Samuel**	**8.76**	**21**	*e*	Pn	**Pn**	**21 18 06.3**	**-0.1**
	1.3nm,0.1s							
NNA	**Nana**	**11.45**	**296**	LR		LR	21 23 33.0	
	comp=Z,197nm,19.4s,baz=234,slow=39							
CPUP	**Villa Florida**	**12.31**	**139**	Pn		Pn	21 18 48.1	-6.9
CPUP	**Villa Florida**	**12.31**	**139**	Pn		Pn	21 18 48.1	-6.9
	2.3nm,0.3s,baz=305,slow=11,SNR=20							
CPUP				LR		LR	21 24 17.6	
	comp=Z,165nm,20.5s,baz=308,slow=41							
CFAA	**Coronel Fontan**	**14.44**	**187**	Pn		**Pn**	**21 19 25.2**	**+1.1**
CFAA	**Coronel Fontan**	**14.44**	**187**	Pn		**Pn**	**21 19 25.2**	**+1.1**
	0.1nm,0.3s,baz=1.6,slow=8.9,SNR=8.6							
BDFB	**Brasilia**	**17.61**	**88**	P		**Pn**	**21 20 01.5**	**-3.6**
BDFB	**Brasilia**	**17.61**	**88**	P		**Pn**	**21 20 01.5**	**-3.6**
	0.2nm,0.3s,baz=270,slow=6.1,SNR=2.4							
OTAV	**Otavalo**	**21.07**	**324**	*e*	Pn	**P**	**21 20 45.8**	**+1.7**
ROSC	**El Rosal**	**23.32**	**339**	*e*	P	**P**	**21 21 08.7**	**+0.9**
PLCA	**Paso Flores**	**23.72**	**188**	P		**P**	**21 21 12.5**	**+1.4**
PLCA	**Paso Flores**	**23.72**	**188**	P		**P**	**21 21 12.5**	**+1.4**
	1.1nm,0.5s,baz=8.8,slow=12,SNR=3.0							
PLCA				LR		LR	21 31 07.2	
	comp=Z,116nm,19.5s,baz=354,slow=38							
LRS	**Lares**	**35.29**	**359**	*e*	P	P	21 22 50.7	-3.3
TKL	**Tuckaleechee C**	**55.13**	**343**	LR		LR	21 52 37.2	
	comp=Z,44nm,19.9s,baz=325,slow=40							
TXAR	**Lajitas Array**	**58.67**	**322**	P		**P**	**21 25 57.2**	**+0.8**
TXAR	**Lajitas Array**	**58.67**	**322**	P		**P**	**21 25 57.2**	**+0.8**
	0.1nm,0.5s,baz=128,slow=5.8,SNR=2.7							
DBIC	**Dimbokro**	**65.17**	**74**	P		**P**	**21 26 39.5**	**-0.8**
DBIC	**Dimbokro**	**65.17**	**74**	P		**P**	**21 26 39.5**	**-0.8**
	8.8nm,0.9s,baz=214,slow=2.1,SNR=3.3							
TOA0	**Torodi Ar. Sit**	**73.60**	**70**	*e*	P	**P**	**21 27 31.2**	**-1.2**
TORD	**Torodi Ar. Bea**	**73.60**	**70**	P		**P**	**21 27 31.3**	**-1.1**
TORD	**Torodi Ar. Bea**	**73.60**	**70**	P		**P**	**21 27 31.3**	**-1.1**
	12nm,0.8s,baz=253,slow=5.6,SNR=40							
YBH	**Yreka Blue Hor**	**78.42**	**320**	LR		LR	22 03 29.6	
	comp=Z,34nm,20.8s,baz=172,slow=36							
TAM	**Tamanrasset**	**80.68**	**63**	*e*	P	**P**	**21 28 12.0**	**-0.3**
	7.1nm,1.2s							
ESDC	**Sonseca Array**	**81.06**	**44**	P		**P**	**21 28 14.2**	**+0.3**
ESDC	**Sonseca Array**	**81.06**	**44**	P		**P**	**21 28 14.2**	**+0.3**
	1.1nm,0.9s,baz=253,slow=5.8,SNR=5.8							
BOSA	**Boshof**	**83.26**	**118**	LR		LR	22 03 10.7	
	comp=Z,45nm,19.9s,baz=345,slow=34							
YKA	**Yellowknife Ar**	**88.01**	**340**	P		**P**	**21 28 47.7**	**-0.6**
YKA	**Yellowknife Ar**	**88.01**	**340**	P		**P**	**21 28 47.7**	**-0.6**
	2.5nm,0.7s,baz=130,slow=4.8,SNR=26							
YKA				LR		LR	22 09 30.2	
	comp=Z,2.6nm,19.2s,baz=320,slow=36							
NOA	**NORSAR Array B**	**99.00**	**29**	LR		LR	22 14 32.7	
	comp=Z,12nm,19.4s,baz=290,slow=36							
BVAR	**Borovoye Array**	**130.88**	**33**	PKP		**PKPdf**	**21 35 09.8**	**0.0**
BVAR	**Borovoye Array**	**130.88**	**33**	PKP		**PKPdf**	**21 35 09.8**	**0.0**
	2.0nm,1.1s,baz=266,slow=4.0,SNR=5.1							
KURK	**Kurchatov**	**136.41**	**32**	PKP		**PKPdf**	**21 35 20.1**	**-0.1**
KURBB	**Kurchatov Arra**	**136.42**	**32**	PKP		**PKPdf**	**21 35 20.1**	**-0.1**
	0.9nm,0.7s,baz=301,slow=2.7,SNR=8.7							
ZAA0	**Zalesovo Array**	**137.05**	**25**	*e*	PKPdf	**PKPdf**	**21 35 21.3**	**0.0**
ZALV	**Zalesovo Beam**	**137.05**	**25**	PKP		**PKPdf**	**21 35 21.4**	**+0.1**
ZALV	**Zalesovo Beam**	**137.05**	**25**	PKP		**PKPdf**	**21 35 21.4**	**+0.1**
	3.5nm,0.7s,baz=295,slow=2.8,SNR=18							
WRA	**Warramunga Arr**	**137.88**	**210**	PKP		**PKPdf**	**21 35 22.9**	**-1.0**
WRA	**Warramunga Arr**	**137.88**	**210**	PKP		**PKPdf**	**21 35 22.9**	**-1.0**
	0.7nm,0.8s,baz=139,slow=2.3,SNR=3.8							
MKAR	**Makanchi Array**	**140.73**	**34**	PKP		**PKPdf**	**21 35 27.9**	**-0.5**
MKAR	**Makanchi Array**	**140.73**	**34**	PKP		**PKPdf**	**21 35 27.9**	**-0.5**
	1.1nm,0.9s,baz=327,slow=2.0,SNR=7.7							
SONM	**Songino Array**	**148.88**	**10**	PKP		**PKPdf**	**21 35 42.7**	**+0.2**
SONM				PKPbc		**PKPbc**	**21 35 46.3**	**-0.1**
SONM	**Songino Array**	**148.88**	**10**	PKP		**PKPdf**	**21 35 42.7**	**+0.2**
	6.0nm,0.7s,baz=270,slow=0.9,SNR=6.0							
SONM				PKPbc		**PKPbc**	**21 35 46.3**	**-0.1**
	6.0nm,0.7s,baz=314,slow=1.2,SNR=45							
ULN	**Ulaanbaatar**	**148.95**	**9**	*e*	PKPbc	**PKPbc**	**21 35 46.8**	**+0.1**
USRK	**Ussuriysk Arra**	**148.98**	**334**	PKPbc		**PKPbc**	**21 35 46.7**	**+0.1**
	2.9nm,0.8s,baz=279,slow=1.2,SNR=12							

IDC 11 21:30:43.7±9.2, 21°.54S×66°.99W, h211km±77km, mb3.4/1, mb1 3.4/2, mb1mx3.0/16, mbtmp3.3/2, Error ellipse: s-maj=100.9km s-min=85.2km az=43.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LPAZ	**La Paz**	**5.33**	**348**	P		Pn	21 32 03.2	0.0
	1.5nm,0.3s,baz=152,slow=6.7,SNR=50							
LPAZ				S		S	21 33 06.7	+0.9
	baz=260,slow=19,SNR=2.1							
TORD	**Torodi Ar. Bea**	**75.69**	**69**	P		P	21 42 06.5	+0.1
	0.4nm,0.4s,baz=251,slow=5.8,SNR=16							
MKAR	**Makanchi Array**	**144.60**	**37**	PKP		PKPbc	21 49 54.3	0.0
	0.4nm,0.7s,baz=298,slow=3.1,SNR=3.7							

*NEIC **11** 21:33:35.6, 19°.18N×66°.47W, h20km, MD3.5(RSPR), After RSPR.*

RSPR 11 21:33:35.6, 19°.18N×66°.47W, h20km±9km, MD3.5/9, 23C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
AOPR	**Arecibo Observ**	**0.87**	**198**	*e*	*P*	21 33 49.5	-2.6
AOPR	**Arecibo Observ**	**0.87**	**198**	*e*	*S*	21 34 00.6	-2.8
AOPR	**Arecibo Observ**	**0.87**	**198**	*e*	*P*	21 33 49.5	-2.6
AOPR				*e*	*S*	21 34 00.6	-2.8
AGPR	**Aguadilla, PR**	**0.93**	**221**	*e*	*Pb*	21 33 49.8	-3.3
LRS	**Lares**	**0.95**	**202**	*e*	*Pb*	21 33 50.2	-3.3
CBYP	**Canovanas**	**1.07**	**147**	*e*	*P*	21 33 52.9	-2.7
CBYP	**Canovanas**	**1.07**	**147**	*e*	*S*	21 34 06.1	-3.2
CBYP	**Canovanas**	**1.07**	**147**	*e*	*P*	21 33 52.9	-2.7
CBYP				*e*	*S*	21 34 06.1	-3.2
CELP	**Cerrillos**	**1.10**	**185**	*e*	*P*	21 33 53.2	-2.7
CELP	**Cerrillos**	**1.10**	**185**	*e*	*P*	21 33 53.2	-2.7
SJG	**San Juan**	**1.10**	**164**	*e*	*P*	21 33 53.3	-2.7
SJG	**San Juan**	**1.10**	**164**	*e*	*P*	21 33 53.3	-2.6
SJG	**San Juan**	**1.10**	**164**	*e*	*P*	21 33 53.3	-2.6
OBIP	**Obispado Ponce**	**1.14**	**186**	*e*	*P*	21 33 53.9	-2.6
OBIP	**Obispado Ponce**	**1.14**	**186**	*e*	*S*	21 34 07.8	-3.2
OBIP	**Obispado Ponce**	**1.14**	**186**	*e*	*P*	21 33 53.9	-2.6
OBIP				*e*	*S*	21 34 07.8	-3.2
LSP	**Las Mesas**	**1.16**	**210**	*e*	*P*	21 33 53.8	-2.9
LSP	**Las Mesas**	**1.16**	**210**	*e*	*S*	21 34 08.3	-3.3
LSP	**Las Mesas**	**1.16**	**210**	*e*	*P*	21 33 53.8	-2.9
LSP				*e*	*S*	21 34 08.3	-3.3
HUMP	**Col San Antoni**	**1.19**	**150**	*e*	*

IDI	**Anoyia**	**1.33**	**337**	*e*PB	**Pb**	**22 06 30.8**	**-0.2**
IDI				*e*SB	**Sg**	**22 06 49.8**	**+0.3**
IDI	**Anoyia**	**1.33**	**337**	*e*Pb	**Pb**	**22 06 30.8**	**-0.2**
IDI				*e*Sb	**Sg**	**22 06 49.8**	**+0.3**
VAM	**Vamos**	**1.72**	**322**	*e*PG	**Pb**	**22 06 37.4**	**-0.3**
VAM	**Vamos**	**1.72**	**322**	*e*Pg	**Pb**	**22 06 37.4**	**-0.3**
KARP	**Karpathos**	**2.01**	**42**	*e*PN	**Pb**	**22 06 43.1**	**+0.4**
KARP	**Karpathos**	**2.01**	**42**	*e*Pn	**Pb**	**22 06 43.1**	**+0.4**
MMAI	**Mount Meron Ar**	**8.32**	**94**	Pn	**Pn**	**22 08 06.0**	**-0.6**
	0.3nm,0.3s,baz=258,slow=13,SNR=2.9						
MMAI				Sn	**Sn**	**22 09 38.0**	**-2.1**
	0.5nm,0.3s,baz=255,slow=22,SNR=2.9						
EIL	**Elat**	**9.14**	**116**	Pn	**Pn**	**22 08 17.3**	**-0.4**
	0.2nm,0.3s,baz=3.5,slow=17,SNR=5.4						
EIL				Sn	Sn	22 09 52.2	-8.0
	0.2nm,0.3s,baz=37,slow=9.5,SNR=3.0						
GERES	**GERESS Array B**	**17.19**	**333**	P	**P**	**22 10 07.3**	**0.0**
	0.1nm,0.3s,baz=147,slow=12,SNR=6.5						
FINES	**FINESS Array B**	**27.40**	**1**	P	**P**	**22 11 50.6**	**-0.2**
	1.9nm,1.0s,baz=156,slow=15,SNR=2.5						
TORD	**Torodi Ar. Bea**	**30.02**	**232**	P	**P**	**22 12 16.3**	**+1.7**
	0.6nm,1.2s,baz=41,slow=7.2,SNR=3.5						
ARCES	**ARCESS Array B**	**35.52**	**360**	P	**P**	**22 13 01.6**	**-0.6**
	0.3nm,0.6s,baz=185,slow=8.9,SNR=3.6						
MKAR	**Makanchi Array**	**44.15**	**56**	P	**P**	**22 14 15.2**	**+1.1**
	0.2nm,0.4s,baz=292,slow=7.6,SNR=3.9						
ZALV	**Zalesovo Beam**	**45.56**	**45**	P	**P**	**22 14 25.4**	**+0.2**
	0.4nm,0.5s,baz=282,slow=8.7,SNR=2.6						

*ISCJB **11** 22:40:08.4±0.5,27.°34S±0.°03×69.°43W±0.°08,h102km±8km, mb3.5/5, Error ellipse: s-maj=12.2km s-min=5.2km az=0.9*
*IDC **11** 22:40:09.9±2.1,27.°32S×69.°46W,h100km±17km,mb3.4/5, mb1 3.6/9,mb1mx3.5/20,mbtmp3.4/9,MS2.8/1,Ms1 2.8/1, ms1mx2.0/11, Error ellipse: s-maj=26.7km s-min=15.2km az=78.0*
*NEIC **11** 22:40:11.2,27.°42S×69.°68W,h106km, mb4.0/2, MD4.1(GUC),After GUC.*
NEIC Felt [III] at Copiapo and [II] at Tierra Amarilla.
*GUC **11** 22:40:11.2±0.5,27.°42S×69.°68W,h106km±6km,MD4.1, ML4.4*

ISC 11 22:40:09.6±0.8,27.°37S±0.°03×69.°48W±0.°07,h102km±8km, n29,σ1°01/42,mb3.5/5,6C-4D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**0.78**	**271**	⇑*i*P	**Pn**	**22 40 28.6**	**+0.7**
CPCH				*i* S	**Sn**	**22 40 41.7**	**0.0**
CPCH	**Copiapo**	**0.78**	**271**	⇓*i*P	**Pn**	**22 40 28.6**	**+0.7**
CPCH				*i* S	**Sn**	**22 40 41.7**	**0.0**
CPCH				AML	AML	22 40 43.1	
	comp=N,55μm,0.1s						
CDCH	**Caldera**	**1.23**	**284**	*e*P	**Pn**	**22 40 33.1**	**+0.4**
CDCH				*i* S	**Sn**	**22 40 49.7**	**-0.5**
CDCH	**Caldera**	**1.23**	**284**	*e*P	**Pn**	**22 40 33.1**	**+0.4**
CDCH				*i* S	**Sn**	**22 40 49.7**	**-0.5**
CDCH				AML	AML	22 40 51.3	
	comp=N,7μm,0.4s						
LCO	**Las Campanas**	**1.96**	**213**	⇓*i*P	**Pn**	**22 40 42.3**	**+0.4**
LCO				*i* S	**Sn**	**22 41 06.3**	**-0.3**
LCO	**Las Campanas**	**1.96**	**213**	⇓*i*P	**Pn**	**22 40 42.3**	**+0.4**
LCO				*i* S	**Sn**	**22 41 06.3**	**-0.3**
LCO				AML	AML	22 41 08.3	
	comp=E,2μm,0.4s						
TLL	**Tololo Astrono**	**3.02**	**202**	⇓*i*P	**Pn**	**22 40 57.0**	**+1.2**
TLL				*i* S	**Sn**	**22 41 31.8**	**+0.2**
TLL	**Tololo Astrono**	**3.02**	**202**	⇓*i*P	**Pn**	**22 40 57.0**	**+1.2**
TLL				*i* S	**Sn**	**22 41 31.8**	**+0.2**
TLL				AML	AML	22 41 36.4	
	comp=E,720nm,0.6s						
ANCH	**Antofagasta**	**3.77**	**347**	⇑*i*P	**Pn**	**22 41 04.8**	**-0.9**
ANCH				*i* S	**Sn**	**22 41 47.6**	**-1.4**
ANCH	**Antofagasta**	**3.77**	**347**	⇑*i*P	**Pn**	**22 41 04.8**	**-0.9**
ANCH				*i* S	**Sn**	**22 41 47.6**	**-1.4**
CMCH	**Combarbala**	**4.02**	**199**	⇑*i*P	**Pn**	**22 41 07.8**	**-1.2**
CMCH				*i* S	**Sn**	**22 41 52.5**	**-2.7**
CMCH	**Combarbala**	**4.02**	**199**	⇑*i*P	**Pn**	**22 41 07.8**	**-1.2**
CMCH				*i* S	**Sn**	**22 41 52.5**	**-2.7**
CFAA	**Coronel Fontan**	**4.36**	**166**	P	**Pn**	**22 41 15.1**	**+1.5**
	comp=E,1.3nm,0.3s,baz=346,slow=11,SNR=160						
CFAA				S	**Sn**	**22 42 02.0**	**-1.3**
	comp=E,4.2nm,0.3s,baz=105,slow=20,SNR=21						
LVC	**Limon Verde**	**4.76**	**6**	*e*Pn	**Pn**	**22 41 19.4**	**0.0**
LVC	**Limon Verde**	**4.76**	**6**	P	**Pn**	**22 41 19.6**	**+0.2**
	comp=E,13nm,0.3s,baz=174,slow=8.9,SNR=139						
LVC				S	**Sn**	**22 42 13.1**	**-0.5**
	comp=E,16nm,0.3s,baz=202,slow=21,SNR=3.7						
CPUP	**Villa Florida**	**10.90**	**87**	P	**Pn**	**22 42 42.2**	**-0.3**
	comp=E,0.7nm,0.3s,baz=244,slow=13,SNR=5.5						
LPAZ	**La Paz**	**11.10**	**7**	*e*Pn	**Pn**	**22 42 44.6**	**-1.1**
	comp=E,2.3nm,0.6s						
LPAZ	**La Paz**	**11.10**	**7**	P	**Pn**	**22 42 45.2**	**-0.6**
	comp=E,0.5nm,0.3s,baz=165,slow=8.9,SNR=12						
SIV	**San Ignacio**	**13.75**	**36**	P	Pn	22 43 16.4	-3.9
	comp=E,0.8nm,0.3s,baz=237,slow=15,SNR=11						
SIV				LR	LR	22 49 42.0	
	comp=E,37nm,20.0s,slow=42						
SAML	**Samuel**	**19.27**	**19**	*e*P	**P**	**22 44 26.9**	**+0.7**
	comp=E,7.9nm,1.3s						
BDFB	**Brasilia**	**23.09**	**64**	P	**P**	**22 45 06.2**	**-0.6**
	comp=E,3.6nm,0.9s,baz=220,slow=7.9,SNR=3.0						
TXAR	**Lajitas Array**	**55.20**	**327**	P	**P**	**22 50 39.8**	**-0.4**
	comp=E,0.1nm,0.5s,baz=150,slow=9.3,SNR=4.0						
MAW	**Mawson**	**78.88**	**163**	P	**P**	**22 52 02.0**	**+0.8**
	comp=E,2.3nm,0.8s,baz=79,slow=10,SNR=3.9						
PDAR	**Pinedale Array**	**78.95**	**331**	P	**P**	**22 52 03.1**	**+1.0**
	comp=E,0.5nm,1.0s,baz=95,slow=10.0,SNR=2.8						
TORD	**Torodi Ar. Bea**	**79.85**	**69**	P	**P**	**22 52 07.7**	**+0.4**
	comp=E,0.5nm,0.6s,baz=269,slow=5.7,SNR=5.8						
ASAR	**Alice Springs**	**124.46**	**206**	PKP	**PKPdf**	**22 58 56.9**	**-0.6**
	comp=E,0.4nm,0.6s,baz=119,slow=2.1,SNR=5.7						
WRA	**Warramunga Arr**	**127.61**	**209**	PKP	**PKPdf**	**22 59 03.3**	**-0.3**
	comp=E,0.5nm,0.6s,baz=169,slow=1.9,SNR=5.3						
ZALV	**Zalesovo Beam**	**147.41**	**28**	PKPbc	**PKPbc**	**22 59 41.9**	**+0.8**
	comp=E,1.7nm,0.4s,baz=306,slow=4.0,SNR=11						
MKAR	**Makanchi Array**	**150.53**	**41**	PKPbc	**PKPbc**	**22 59 50.0**	**+0.7**
	comp=E,1.8nm,0.7s,baz=319,slow=2.8,SNR=13						

IDC 11 22:43:59.3±5.5,18.°75S×174.°55W,h0km,mb4.2/4, mb1 4.4/4,mb1mx3.8/21,mbtmp4.2/4,Error ellipse: s-maj=256.1km s-min=55.4km az=148.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.93**	**261**	P	P	22 51 11.4	+1.0
	2.2nm,0.4s,baz=80,slow=7.2,SNR=7.5						
WRA	**Warramunga Arr**	**48.09**	**260**	P	P	22 52 40.5	-0.7
	1.3nm,0.3s,baz=96,slow=7.5,SNR=112						
ASAR	**Alice Springs**	**48.10**	**258**	P	P	22 52 40.9	-0.4
	1.5nm,0.5s,baz=91,slow=7.5,SNR=30						
FITZ	**Fitzroy Crossi**	**56.50**	**260**	P	P	22 53 43.5	-0.2
	1.1nm,0.5s,baz=115,slow=14,SNR=3.5						
BRTR	**Keskin Array B**	**147.94**	**317**	PKPbc	PKPbc	23 03 46.5	-0.6
	0.6nm,0.6s,baz=109,slow=4.4,SNR=2.8						

WEL 11 22:46:13.9±0.4,38.°03S×176.°19E,h172km±3km,ML3.6/8, 9C,Error ellipse: s-maj=3.8km s-min=3.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.76**	**108**	⇑PN	Pn	22 46 39.0	-0.1
URZ				SN	Sn	22 46 57.7	-0.8
URZ				AML	AML	22 46 58.5	
MWZ	**Matawai**	**1.10**	**106**	⇑PN	Pn	22 46 41.5	-0.1
MWZ				SN	Sn	22 47 02.3	-0.7
MWZ				AML	AML	22 47 07.5	
RAHZ	**Arahi**	**1.13**	**142**	⇑PN	Pn	22 46 42.2	+0.4
RAHZ				SN	Sn	22 47 03.5	0.0
BKZ	**Black Stump Fm**	**1.16**	**168**	PN	Pn	22 46 42.0	-0.1
BKZ				AML	AML	22 47 02.9	
BKZ				AML	AML	22 47 03.1	
NMHZ	**Naumai**	**1.17**	**156**	PN	Pn	22 46 43.1	+0.8
NMHZ				SN	Sn	22 47 04.2	0.0
WHVZ	**Whangaehu Hut**	**1.33**	**200**	⇑PN	Pn	22 46 44.0	+0.2
WHVZ				SN	Sn	22 47 05.8	-1.4
WNVZ	**Wahianoa**	**1.37**	**199**	PN	Pn	22 46 44.2	+0.1
MOVZ	**Moawhango**	**1.42**	**194**	PN	Pn	22 46 44.0	-0.4
BHHZ	**Black Hill Sta**	**1.46**	**184**	PN	Pn	22 46 44.2	-0.6
MCHZ	**McNeill Hill**	**1.47**	**164**	PN	Pn	22 46 45.3	+0.5
MCHZ				SN	Sn	22 47 07.4	-1.4
KNZ	**Kokohu**	**1.53**	**131**	⇑PN	Pn	22 46 45.3	-0.1
KNZ				SN	Sn	22 47 08.1	-1.7
PRGZ	**Paritu Road**	**1.60**	**124**	PN	Pn	22 46 46.0	-0.2
PUZ	**Puketiti**	**1.64**	**92**	AML	AML	22 46 34.5	
PUZ				PN	Pn	22 46 46.3	-0.2
PUZ				AML	AML	22 47 28.3	
CNGZ	**Carnagh Statio**	**1.66**	**107**	PN	Pn	22 46 47.1	+0.4
MHGZ	**Mahia Peninsul**	**1.75**	**130**	PN	Pn	22 46 47.8	+0.1
CKHZ	**Cape Kidnapper**	**1.77**	**157**	⇑PN	Pn	22 46 47.9	+0.1
KAHZ	**Kahuranaki**	**1.84**	**163**	⇑PN	Pn	22 46 48.6	-0.1
PNHZ	**Pukenui**	**1.88**	**180**	PN	Pn	22 46 48.4	-0.7
TSZ	**Takapari Road**	**2.03**	**185**	⇑PN	Pn	22 46 50.0	-0.8
TSZ				AML	AML	22 47 18.6	
WPHZ	**Waipukurau**	**2.04**	**174**	PN	Pn	22 46 50.2	-0.6
PXZ	**Pawanui**	**2.07**	**165**	⇑PN	Pn	22 46 50.4	-0.6
PXZ				AML	AML	22 47 19.7	
PXZ				AML	AML	22 47 20.3	
DVHZ	**Dannevirke**	**2.27**	**180**	PN	Pn	22 46 52.2	-1.2
POWZ	**Post Office Ro**	**2.38**	**188**	PN	Pn	22 46 53.5	-1.2
POWZ				SN	Sn	22 47 23.9	-2.6
PRWZ	**Pori Road**	**2.53**	**184**	PN	Pn	22 46 55.2	-1.2
BFZ	**Birch Farm**	**2.65**	**179**	PN	Pn	22 46 56.3	-1.5
MRZ	**Mangatainoka R**	**2.67**	**190**	PN	Pn	22 46 56.4	-1.7
MRZ				AML	AML	22 47 31.1	
MRZ				AML	AML	22 47 31.2	
OGWZ	**Otaki Gorge**	**2.89**	**195**	PN	Pn	22 46 59.0	-1.8
HOWZ	**Holdsworth Sta**	**2.91**	**190**	PN	Pn	22 46 58.8	-2.2
KIW	**Kapiti Island**	**3.00**	**199**	PN	Pn	22 46 59.9	-2.1
CAW	**Cannon Point**	**3.19**	**195**	PN	Pn	22 47 02.1	-2.4

IDC 11 22:52:29.9±7.3,31.°04S×178.°40W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.6/17,mbtmp3.6/2,Error ellipse: s-maj=310.6km s-min=57.9km az=157.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.73**	**268**	P	P	23 00 29.1	-0.1
	0.3nm,0.5s,baz=113,slow=7.5,SNR=4.4						
WRA	**Warramunga Arr**	**43.78**	**273**	P	P	23 00 37.4	-0.2
	0.3nm,0.3s,baz=112,slow=8.1,SNR=6.1						
FINES	**FINESS Array B**	**145.62**	**339**	PKPbc	PKPdf	23 12 08.8	-0.6
	2.5nm,1.1s,baz=74,slow=4.1,SNR=7.6						

IDC 11 23:18:51.6±59.0,14.°65S×168.°40E,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.7/18,mbtmp4.1/3,Error ellipse: s-maj=997.9km s-min=114.5km az=66.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.88**	**230**	P	P	23 25 00.7	-0.4
	1.7nm,0.7s,baz=73,slow=13,SNR=5.6						
WRA	**Warramunga Arr**	**32.91**	**256**	P	P	23 25 28.1	+0.2
	0.6nm,0.4s,baz=87,slow=9.0,SNR=19						
ASAR	**Alice Springs**	**33.72**	**249**	P	P	23 25 35.0	0.0
	1.3nm,0.4s,baz=75,slow=9.3,SNR=28						

*ATH **11** 23:19:13.2,34.°06N×25.°20E,h16km±3km,MD3.3/6*
*CSEM **11** 23:19:13.8±0.5,34.°08N×25.°19E,h2km,MD3.3,Error ellipse: s-maj=10.5km s-min=5.4km az=54.0*
*IDC **11** 23:19:14.5±1.1,34.°08N×25.°24E,h0km,mb4.0/5, mb1 4.0/11,mb1mx3.8/29,mbtmp3.9/11,ML3.8/5, Error ellipse: s-maj=25.1km s-min=17.9km az=167.0*
*ISCJB **11** 23:19:14.8±1.4,34.°08N±0.°04×25.°25E±0.°05,h15km±10km, mb3.8/5,Error ellipse: s-maj=7.5km s-min=6.3km az=141.5*
*THE **11** 23:19:16.3,34.°25N×25.°25E,h0km±1km,Error ellipse: s-maj=2.3km s-min=0.5km az=173.0*
*ISK **11** 23:19:18.9,34.°42N×25.°62E,h5km,ML3.3*

ISC 11 23:19:15.0±1.9,34.°16N±0.°06×25.°23E±0.°04,h2km±11km, n52,σ0°85/72,mb4.0/5,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.92**	**338**	P	**Pg**	**23 19 32.8**	**+0.2**
SIVA				S	**Sb**	**23 19 46.1**	**-0.3**
SIVA	**Sivas**	**0.92**	**338**	*e*PN	**Pg**	**23 19 32.8**	**+0.2**
SIVA				*e*SN	**Sb**	**23 19 46.5**	**+0.1**
SIVA	**Sivas**	**0.92**	**338**	P	**Pg**	**23 19 32.8**	**+0.2**
SIVA				S	**Sb**	**23 19 46.1**	**-0.3**
LAST	**Lasithi**	**1.02**	**12**	P	**Pg**	**23 19 34.4**	**-0.1**
LAST				S	**Sb**	**23 19 48.5**	**-0.8**
LAST	**Lasithi**	**1.02**	**12**	*e*PN	**Pg**	**23 19 34.4**	**-0.1**
LAST				*e*SN	**Sn**	**23 19 50.4**	**-0.9**
LAST	**Lasithi**	**1.02**	**12**	P	**Pg**	**23 19 34.4**	**-0.1**
LAST				S	**Sb**	**23 19 48.5**	**-0.8**
LAST				*e*Sn	**Sn**	**23 19 50.4**	**-0.9**
NPS	**Neapolis**	**1.14**	**16**	P	**Pg**	**23 19 36.5**	**-0.4**
NPS				S	**Sb**	**23 19 52.0**	**-0.8**
NPS	**Neapolis**	**1.14**	**16**	*e*PN	**Pg**	**23 19 36.5**	**-0.4**
NPS				*e*SN	**Sn**	**23 19 52.7**	**-1.6**
NPS	**Neapolis**	**1.14**	**16**	P	**Pg**	**23 19 36.5**	**-0.4**
NPS				S	**Sb**	**23 19 52.0**	**-0.8**
IDI	**Anoyia**	**1.16**	**346**	P	**Pg**	**23 19 36.6**	**-0.6**
IDI				S	**Sb**	**23 19 52.8**	**-0.5**
IDI	**Anoyia**	**1.16**	**346**	*e*PN	**Pg**	**23 19 36.6**	**-0.6**
IDI				*e*SN	**Sn**	**23 19 54.2**	**-0.5**
IDI	**Anoyia**	**1.16**	**346**	P	**Pg**	**23 19 36.6**	**-0.6**
IDI				S	**Sb**	**23 19 52.8**	**-0.5**
IDI				*e*Sn	**Sn**	**23 19 54.2**	**-0.5**
ZKR	**Zakros**	**1.25**	**40**	P	**Pg**	**23 19 38.4**	**-0.6**
ZKR	**Zakros**	**1.25**	**40**	*e*PN	**Pg**	**23 19 38.5**	**-0.6**
ZKR				*e*SN	**Sn**	**23 19 57.4**	**+0.4**
ZKR	**Zakros**	**1.25**	**40**	P	**Pg**	**23 19 38.4**	**-0.6**
ZKR				*e*Sn	**Sn**	**23 19 57.4**	**+0.4**
VAM	**Vamos**	**1.50**	**326**	P	**Pn**	**23 19 42.5**	**-0.5**
VAM				S	**Sb**	**23 20 02.5**	**-0.6**
VAM	**Vamos**	**1.50**	**326**	*e*PN	**Pn**	**23 19 42.9**	**-0.1**
VAM	**Vamos**	**1.50**	**326**	P	**Pn**	**23 19 42.5**	**-0.5**
VAM	**Vamos**	**1.50**	**326**	*e*Pn	**Pn**	**23 19 42.9**	**-0.1**
VAM				S	**Sb**	**23 20 02.5**	**-0.6**
APE	**Apeiranthos**	**2.91**	**5**	*e*PN	**Pn**	**23 20 04.1**	**+1.7**
APE				*e*SN	**Sn**	**23 20 38.1**	**+0.1**
APE	**Apeiranthos**	**2.91**	**5**	*e*Pn	**Pn**	**23 20 04.1**	**+1.7**
APE				*e*Sn	**Sn**	**23 20 38.1**	**+0.1**
DAT	**Datca**	**3.20**	**36**	*e*PN	**Pn**	**23 20 06.5**	**+0.1**
DAT	**Datca**	**3.20**	**36**	*e*Pn	**Pn**	**23 20 06.5**	**+0.1**
BODT	**Bodrum**	**3.35**	**30**	*e*PN	**Pn**	**23 20 08.9**	**+0.4**
BODT	**Bodrum**	**3.35**	**30**	*e*Pn	**Pn**	**23 20 08.9**	**+0.4**
MLSB	**Milas**	**3.75**	**33**	*e*PN	**Pn**	**23 20 14.4**	**+0.5**
MLSB	**Milas**	**3.75**	**33**	*e*Pn	**Pn**	**23 20 14.4**	**+0.5**
DALY	**Dalyan (Mu¨la**	**3.85**	**46**	*e*PN	**Pn**	**23 20 15.5**	**+0.3**
DALY	**Dalyan (Mu¨la**	**3.85**	**46**	*e*Pn	**Pn**	**23 20 15.5**	**+0.3**
YER	**Yerkesik**	**3.87**	**39**	*e*PN	**Pn**	**23 20 16.0**	**+0.4**
YER	**Yerkesik**	**3.87**	**39**	*e*Pn	**Pn**	**23 20 16.0**	**+0.4**
ELL	**Elmali**	**4.61**	**55**	*e*PN	**Pn**	**23 20 26.5**	**+0.7**
ELL	**Elmali**	**4.61**	**55**	*e*Pn	**Pn**	**23 20 26.5**	**+0.7**
KULA	**Kula-Manisa**	**5.15**	**32**	*e*PN	**Pn**	**23 20 34.3**	**+1.1**
KULA	**Kula-Manisa**	**5.15**	**32**	*e*Pn	**Pn**	**23 20 34.3**	**+1.1**
BCK	**Bucak**	**5.46**	**51**	*e*PN	**Pn**	**23 20 38.6**	**+1.1**
BCK	**Bucak**	**5.46**	**51**	*e*Pn	**Pn**	**23 20 38.6**	**+1.1**
SUTC	**Sutluce-Ispart**	**5.74**	**53**	*e*PN	**Pn**	**23 20 42.5**	**+1.2**
SUTC	**Sutluce-Ispart**	**5.74**	**53**	*e*Pn	**Pn**	**23 20 42.5**	**+1.2**
MMAI	**Mount Meron Ar**	**8.57**	**95**	Pn	**Pn**	**23 21 19.2**	**-0.9**
	0.8nm,0.3s,baz=274,slow=12,SNR=6.5						
MMAI				Sn	**Sn**	**23 22 53.7**	**-3.7**
	0.6nm,0.3s,baz=268,slow=22,SNR=3.6						
BRTR	**Keskin Array B**	**8.72**	**48**	Pn	**Pn**	**23 21 23.8**	**+1.4**
	0.0nm,0.3s,baz=12,slow=29,SNR=2.9						
EIL	**Elat**	**9.40**	**116**	Pn	Pn	23 21 29.6	-1.8
	0.8nm,0.3s,baz=9.1,slow=13,SNR=10						
VRAC	**Vranov**	**16.43**	**340**	Pn	**P**	**23 23 09.5**	**0.0**
	0.2nm,0.3s,baz=114,slow=10,SNR=7.4						
GNI	**Garni**	**16.65**	**63**	Pn	**P**	**23 23 13.8**	**+1.6**
	0.3nm,0.3s,baz=274,slow=0.9,SNR=3.7						
KBZ	**Khabaz**	**16.71**	**50**	Pn	**P**	**23 23 13.4**	**+0.9**
	0.1nm,0.3s,baz=256,slow=8.3,SNR=3.4						
GERES	**GERESS Array B**	**16.99**	**333**	P	**P**	**23 23 15.9**	**+0.1**
	0.1nm,0.3s,baz=146,slow=13,SNR=12						
CLL	**Collm**	**19.30**	**336**	*i* P	**P**	**23 23 41.6**	**+0.5**
	comp=Z,4.0nm,0.9s						
ESDC	**Sonseca Array**	**23.92**	**292**	P	**P**	**23 24 29.7**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=80,slow=9.2,SNR=6.2						
FINES	**FINESS Array B**	**27.30**	**1**	P	**P**	**23 25 00.6**	**-0.1**
	comp=Z,4.5nm,1.2s,baz=185,slow=11,SNR=3.3						
TORD	**Torodi Ar. Bea**	**29.90**	**231**	P	**P**	**23 25 24.3**	**0.0**
	comp=Z,2.6nm,0.6s,baz=31,slow=8.6,SNR=31						
MKAR	**Makanchi Array**	**44.28**	**56**	P	**P**	**23 27 26.6**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=284,slow=5.9,SNR=11						
SONM	**Songino Array**	**60.08**	**50**	P	**P**	**23 29 23.6**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=283,slow=8.1,SNR=7.3						

MAN 11 23:24:23,6.°55N×123.°33E,h14km,mb3.5,ML2.2,MS1.7, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**1.13**	**54**	⇓*i*P	Pb	23 24 43.1	-1.2
PAGZ	**Pagadian**	**1.29**	**2**	*e*P	Pn	23 24 45.9	-0.8
PAGZ				*e*S	Sg	23 25 04.4	-0.2
IPIL	**Ipil**	**1.44**	**329**	*e*P	Pn	23 24 48.4	-0.3
BUKP	**Musuan**	**2.17**	**52**	*e*P	Pn	23 24 59.5	+0.7

*IDC **11** 23:30:01.2±0.5,34.°11N×25.°59E,h0km,mb4.3/22, mb1 4.4/30,mb1mx4.3/36,mbtmp4.2/30,ML3.6/6,MS3.6/12, Ms1 3.6/12,ms1mx3.3/41,Error ellipse: s-maj=13.4km s-min=12.1km az=171.0*
*HLW **11** 23:30:03.4,34.°06N×25.°80E,h32km±33km,Md4.1,Ml4.1*
*BJI **11** 23:30:03.2,34.°00N×25.°05E,h48km,mB4.9/2,mb4.5/6*
*ISCJB **11** 23:30:03.2±0.2,33.°92N±0.°02×25.°66E±0.°02,h33km±2km, mb4.4/82,MS3.8/11,Error ellipse: s-maj=2.8km s-min=2.0km az=37.9*
*CSEM **11** 23:30:04.6±0.1,33.°90N×25.°65E,h30km,mb4.5/37,Ms3.3, Mw4.3,Error ellipse: s-maj=3.4km s-min=2.1km az=37.0*
*NEIC **11** 23:30:04.3±1.3,34.°04N×25.°60E,h21km±9km,mb4.4/16, Error ellipse: s-maj=6.4km s-min=4.1km az=189.0*
*MOS **11** 23:30:05.1±1.1,34.°16N×25.°59E,h33km,mb4.5/36,Error ellipse: s-maj=8.6km s-min=4.4km az=92.7*
*THE **11** 23:30:07.2,34.°20N×25.°54E,h2km,ML3.9/11,Error ellipse: s-maj=1.1km s-min=0.4km az=172.0*
*ATH **11** 23:30:07.5,34.°22N×25.°53E,h40km±3km,MD4.2/36, ML3.8*

ISC 11 23:30:04.5±0.3,34.°00N±0.°03×25.°61E±0.°02,h21km±2km, n608,σ1°27/673,mb4.4/81,MS3.8/11,15C-5D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**1.17**	**355**	P	**Pn**	**23 30 25.4**	**-0.3**
LAST				S	**Sb**	**23 30 39.7**	**-1.1**
LAST	**Lasithi**	**1.17**	**355**	*e*P	**Pn**	**23 30 25.7**	**0.0**
LAST				*e*S	**Sb**	**23 30 39.2**	**-1.6**
LAST	**Lasithi**	**1.17**	**355**	*e*P	**Pn**	**23 30 25.7**	**0.0**
LAST				*e*S	**Sb**	**23 30 39.2**	**-1.6**
SIVA	**Sivas**	**1.22**	**327**	P	**Pn**	**23 30 26.2**	**-0.1**
SIVA				S	**Sb**	**23 30 41.1**	**-0.9**
SIVA	**Sivas**	**1.22**	**327**	*e*P	**Pb**	**23 30 26.5**	**-0.3**
SIVA				*e*S	**Sb**	**23 30 40.4**	**-1.6**
SIVA	**Sivas**	**1.22**	**327**	*e*P	**Pb**	**23 30 26.5**	**-0.3**
SIVA				*e*S	**Sb**	**23 30 40.4**	**-1.6**
ZKR	**Zakros**	**1.23**	**24**	P	**Pb**	**23 30 26.7**	**-0.3**
ZKR				S	**Sn**	**23 30 42.7**	**+0.4**
ZKR	**Zakros**	**1.23**	**24**	*e*P	**Pb**	**23 30 27.4**	**+0.4**
ZKR				*e*S	**Sb**	**23 30 41.7**	**-0.7**
ZKR	**Zakros**	**1.23**	**24**	*e*P	**Pb**	**23 30 27.4**	**+0.4**
ZKR				*e*S	**Sb**	**23 30 41.7**	**-0.7**
NPS	**Neapolis**	**1.27**	**0**	P	**Pb**	**23 30 27.2**	**-0.4**
NPS				S	**Sn**	**23 30 42.4**	**-0.9**
NPS	**Neapolis**	**1.27**	**0**	*e*P	**Pb**	**23 30 27.3**	**-0.4**
NPS				*e*S	**Sn**	**23 30 40.8**	**-2.5**
NPS	**Neapolis**	**1.27**	**0**	*e*P	**Pb**	**23 30 27.3**	**-0.4**
NPS				*e*S	**Sn**	**23 30 40.8**	**-2.5**
IDI	**Anoyia**	**

DYR **Agios Nikonas** 3.84 317 *e*P **Pn** 23 31 03.8 +1.3
DYR *e*S **Sn** 23 31 44.3 -2.7
FETY Fethiye 3.87 46 *e*PN **Pn** 23 31 03.9 +1.1
AKAS Kas 3.96 55 *e*Pn **Pn** 23 31 05.1 +0.9
AKAS *e*Sn **Sn** 23 31 46.3 -3.9
DID Didima 4.00 332 P **Pn** 23 31 05.1 +0.5
DID S **Sn** 23 31 51.0 +0.2
DID Didima 4.00 332 *e*P **Pn** 23 31 04.9 +0.3
DID *e*S **Sn** 23 31 48.3 -2.5
DID Didima 4.00 332 P **Pn** 23 31 05.1 +0.5
DID *e*S **Sn** 23 31 48.3 -2.5
AYDN Tasoluk 4.10 26 *e*Pn **Pn** 23 31 07.7 +1.8
AYDN *e*Sn **Sn** 23 31 49.0 -4.2
NAIG Nisos Aigina 4.13 336 *e*P **Pn** 23 31 06.7 +0.3
NAIG Nisos Aigina 4.13 336 *e*P **Pn** 23 31 06.7 +0.3
ATHU Athens Univers 4.23 340 P **Pn** 23 31 08.5 +0.8
ATHU Athens Univers 4.23 340 P **Pn** 23 31 08.5 +0.8
ATH Athens Observa 4.25 339 *e*P **Pn** 23 31 08.6 +0.5
ATH *e*S **Sn** 23 31 53.7 -3.4
ATH Athens Observa 4.25 339 *e*P **Pn** 23 31 08.6 +0.5
ATH *e*S **Sn** 23 31 53.7 -3.4
VLX Vlachokerasia 4.27 323 P **Pn** 23 31 09.3 +0.9
VLX Vlachokerasia 4.27 323 *e*P **Pn** 23 31 09.1 +0.7
VLX Vlachokerasia 4.27 323 *e*P **Pn** 23 31 09.1 +0.7
PYL PYLOS 4.28 314 P **Pn** 23 31 09.7 +1.3
PYL PYLOS 4.28 314 *e*P **Pn** 23 31 09.6 +1.2
PYL PYLOS 4.28 314 *e*P **Pn** 23 31 09.6 +1.2
PTL Penteli 4.29 341 P **Pn** 23 31 09.6 +1.1
PTL Penteli 4.29 341 *e*P **Pn** 23 31 09.4 +0.9
PTL *e*S **Sn** 23 31 54.5 -3.4
PTL Penteli 4.29 341 *e*P **Pn** 23 31 09.4 +0.9
PTL *e*S **Sn** 23 31 54.5 -3.4
ITM Ithomi 4.37 318 P **Pn** 23 31 10.5 +0.8
ITM Ithomi 4.37 318 *e*P **Pn** 23 31 10.9 +1.2
ITM Ithomi 4.37 318 *e*P **Pn** 23 31 10.9 +1.2
CHOS Chios island 4.40 5 P **Pn** 23 31 11.3 +1.2
CHOS S **Sn** 23 32 00.7 0.0
CHOS Chios island 4.40 5 *e*P **Pn** 23 31 10.9 +0.8
CHOS Chios island 4.40 5 *e*P **Pn** 23 31 10.9 +0.8
CHOS S **Sn** 23 32 00.7 0.0
ELL Elmali 4.46 51 *e*PN **Pn** 23 31 12.4 +1.4
BLCB Balcova 4.53 14 *e*PN **Pn** 23 31 12.0 +0.1
LTK Loutraki 4.55 333 P **Pn** 23 31 13.0 +0.8
LTK S **Sn** 23 32 04.5 0.0
LTK Loutraki 4.55 333 *e*P **Pn** 23 31 12.7 +0.5
LTK Loutraki 4.55 333 P **Pn** 23 31 13.0 +0.8
LTK S **Sn** 23 32 04.5 0.0
GOLH Golhisar 4.56 44 *e*Pn **Pn** 23 31 14.1 +1.7
GOLH *e*Sn **Sn** 23 32 09.4 +4.5
DNZL Cakiroluk 4.62 36 *e*Pn Pn 23 31 16.7 +3.3
SWA2 4.74 182 P **Pn** 23 31 13.9 -0.8
baz=184
SWA2 S **Sn** 23 32 06.9 -2.1
baz=184
SWA2 4.74 182 P **Pn** 23 31 13.9 -0.8
SWA2 S **Sn** 23 32 06.9 -2.1
GUR Goura 4.74 327 P **Pn** 23 31 16.0 +1.1
GUR S **Sn** 23 32 09.2 0.0
GUR Goura 4.74 327 *e*P **Pn** 23 31 16.4 +1.5
GUR Goura 4.74 327 *e*P **Pn** 23 31 16.4 +1.5
GUR S **Sn** 23 32 09.2 0.0
AMT Artemida-Makis 4.75 319 P **Pn** 23 31 15.8 +1.0
AMT S **Sn** 23 32 09.4 +0.2
AMT Artemida-Makis 4.75 319 *e*P **Pn** 23 31 15.8 +1.0
AMT Artemida-Makis 4.75 319 *e*P **Pn** 23 31 15.8 +1.0
AMT S **Sn** 23 32 09.4 +0.2
KORT Korkueli 4.89 51 *e*Pn **Pn** 23 31 18.7 +1.7
KORT *e*Sn **Sn** 23 32 10.3 -2.7
KLV Kalavryta, Ach 4.92 326 P **Pn** 23 31 18.0 +0.8
KLV S **Sn** 23 32 13.8 +0.3
KLV Kalavryta, Ach 4.92 326 *e*P **Pn** 23 31 18.4 +1.2
KLV Kalavryta, Ach 4.92 326 P **Pn** 23 31 18.0 +0.8
KLV S **Sn** 23 32 13.8 +0.3
ANTB Antalya 5.04 53 *e*PN **Pn** 23 31 20.4 +1.6
DSF Desfina 5.06 331 P **Pn** 23 31 20.2 +1.0
DSF S **Sn** 23 32 17.4 +0.3
DSF Desfina 5.06 331 P **Pn** 23 31 20.2 +1.0
DSF S **Sn** 23 32 17.4 +0.3
LKR Lokris 5.10 336 *e*P **Pn** 23 31 21.2 +1.5
LKR Lokris 5.10 336 *e*P **Pn** 23 31 21.2 +1.5
LAKA Lakka 5.16 326 *e*P **Pn** 23 31 22.3 +1.8
LAKA Lakka 5.16 326 *e*P **Pn** 23 31 22.3 +1.8
AKHS Akhisar 5.19 19 *e*Pn **Pn** 23 31 22.4 +1.5
KALE Kalithea 5.21 328 P **Pn** 23 31 22.5 +1.4
KALE Kalithea 5.21 328 *e*P **Pn** 23 31 22.6 +1.4
KALE Kalithea 5.21 328 *e*P **Pn** 23 31 22.6 +1.4
SIGR SIGRI 5.21 2 P **Pn** 23 31 22.1 +0.9
SIGR SIGRI 5.21 2 P **Pn** 23 31 22.1 +0.9
TRIZ Trizonia 5.21 328 *e*P **Pn** 23 31 22.3 +1.1
TRIZ Trizonia 5.21 328 *e*P **Pn** 23 31 22.3 +1.1
RLS Riolos of Patr 5.26 322 *e*P **Pn** 23 31 23.4 +1.5
RLS Riolos of Patr 5.26 322 *e*P **Pn** 23 31 23.4 +1.5
PRK Paraskevi 5.27 6 *e*P **Pn** 23 31 23.3 +1.3
PRK Paraskevi 5.27 6 *e*P **Pn** 23 31 23.3 +1.3
BCK Bucak 5.33 48 *e*PN **Pn** 23 31 24.3 +1.5
EFP Efpalio 5.34 327 *e*P **Pn** 23 31 24.3 +1.3
EFP Efpalio 5.34 327 *e*P **Pn** 23 31 24.3 +1.3
KHL Karahalli 5.36 35 *e*PN **Pn** 23 31 24.1 +0.8
KHAL Karahalli 5.38 35 *e*P **Pn** 23 31 24.5 +0.9
KHAL Karahalli 5.38 35 *e*P **Pn** 23 31 24.5 +0.9
LJBD Adjabya 5.51 238 *i*P **Pn** 23 31 25.7 +0.4
SNR=76
ISP Isparta 5.52 45 *e*PN **Pn** 23 31 26.7 +1.2
SUTC Sutluce-Ispart 5.59 50 *e*PN **Pn** 23 31 28.0 +1.4
DEMI Demirci 5.62 26 *e*Pn **Pn** 23 31 28.0 +1.0
NEO Neokhori 5.64 341 *e*P **Pn** 23 31 27.9 +0.8
NEO Neokhori 5.64 341 *e*P **Pn** 23 31 27.9 +0.8
AGG Agios Georgios 5.67 333 *e*P **Pn** 23 31 29.3 +1.8
AGG Agios Georgios 5.67 333 *e*P **Pn** 23 31 29.3 +1.8
EVR Evrytania 5.79 329 *e*P **Pn** 23 31 31.7 +2.5
EVR Evrytania 5.79 329 *e*P **Pn** 23 31 31.7 +2.5
BALB Balikesir 5.92 17 *e*PN **Pn** 23 31 30.7 -0.2
GAZI Gazipasa 5.93 66 *e*Pn **Pn** 23 31 30.2 -0.9
GAZI *e*Sn Sn 23 32 32.7 -5.8
SHUT Suhut-Afyon 6.05 40 *e*PN **Pn** 23 31 33.5 +0.7
HMYD Mayadein 6.08 132 P Pn 23 31 29.7 -3.5
baz=133
HMYD Mayadein 6.08 132 P Pn 23 31 29.7 -3.5
LUJL Ujela 6.09 218 *i*P **Pn** 23 31 32.1 -1.2
SNR=70
DST Dursunbey 6.10 22 *e*PN **Pn** 23 31 33.2 -0.2
LEF Lefka 6.11 77 *e*PN **Pn** 23 31 34.5 +0.9
ALT Altintas 6.21 34 *e*PN **Pn** 23 31 35.7 +0.6
LKD2 Lefkada island 6.23 322 *e*P **Pn** 23 31 36.3 +1.1
LKD2 Lefkada island 6.23 322 *e*P **Pn** 23 31 36.3 +1.1
TVSB Tavsanli 6.26 28 *e*PN **Pn** 23 31 35.7 0.0
GONE Gonen-Balikesi 6.26 15 *e*PN **Pn** 23 31 35.4 -0.3
AWBH 6.32 153 P **Pn** 23 31 34.5 -2.0
baz=154
AWBH 6.32 153 P **Pn** 23 31 34.5 -2.0
GELI Tayfur-Gelibol 6.43 6 *e*PN **Pn** 23 31 36.5 -1.4
CSS Prodhromos 6.45 79 *e*PN **Pn** 23 31 39.1 +0.8
CSS Prodhromos 6.45 79 *e*Pn **Pn** 23 31 38.8 +0.6
20nm,0.4s
CSS *e*Sn Sn 23 32 44.8 -6.4
CSS Prodhromos 6.45 79 Pn **Pn** 23 31 38.1 -0.1
ERMK Ermenek 6.53 64 *e*Pn **Pn** 23 31 40.1 +0.6
ERMK *e*Sn **Sn** 23 32 51.7 -1.7
LIT Litokhoron 6.58 339 *e*P **Pn** 23 31 41.8 +1.7
LIT Litokhoron 6.58 339 *e*P **Pn** 23 31 41.8 +1.7
LFK Lefkose 6.66 77 *e*PN **Pn** 23 31 42.4 +1.3
HSAF As Saff 6.68 129 P Pn 23 31 38.3 -3.1
baz=130
HSAF As Saff 6.68 129 P Pn 23 31 38.3 -3.1
KONT Konya--Tatoy 6.75 52 *e*PN **Pn** 23 31 43.5 +1.2
GLL Jalalah 6.81 129 P Pn 23 31 40.0 -3.2
baz=130
GLL S Sn 23 32 54.6 -5.5
baz=130
GLL Jalalah 6.81 129 P Pn 23 31 40.0 -3.2
GLL S Sn 23 32 54.6 -5.5
JAN Janina 6.82 327 *e*P **Pn** 23 31 45.2 +1.9
JAN Janina 6.82 327 *e*P **Pn** 23 31 45.2 +1.9
LADK Ladik-KONYA 6.89 51 *e*PN **Pn** 23 31 45.4 +1.0
IKL Isikli 6.99 69 *e*PN **Pn** 23 31 46.0 +0.4
KIZT Kizilcal 7.02 44 *e*PN **Pn** 23 31 46.6 +0.4
EREN Erenkoy 7.21 75 *e*PN **Pn** 23 31 50.5 +1.8
HFRF Wahat Farafira 7.21 160 P **Pn** 23 31 46.6 -2.0
baz=161
HFRF Wahat Farafira 7.21 160 P **Pn** 23 31 46.7 -2.0

YLV Yalova 7.21 23 *e*PN **Pn** 23 31 48.6 -0.2
AMAG Maghara 7.25 115 P **Pn** 23 31 46.5 -2.7
baz=116
AMAG Maghara 7.25 115 P **Pn** 23 31 46.5 -2.7
KEK Kerkira 7.37 322 *e*P **Pn** 23 31 51.1 +0.3
KEK Kerkira 7.37 322 *e*P **Pn** 23 31 51.1 +0.3
GRG Griva 7.40 341 *e*P **Pn** 23 31 53.2 +1.9
GRG Griva 7.40 341 *e*P **Pn** 23 31 53.2 +1.9
SUZ 7.41 122 P **Pn** 23 31 48.7 -2.7
baz=123
SUZ 7.41 122 P **Pn** 23 31 48.7 -2.7
NVR Nevrokopi 7.47 350 *e*P **Pn** 23 31 53.3 +1.0
NVR Nevrokopi 7.47 350 *e*P **Pn** 23 31 53.3 +1.0
RSH 7.49 112 P **Pn** 23 31 50.1 -2.5
baz=112
RSH 7.49 112 P **Pn** 23 31 50.1 -2.5
GULT Gulveren 7.52 30 *e*PN **Pn** 23 31 52.7 -0.3
ZAF 7.55 127 P **Pn** 23 31 50.9 -2.5
baz=127
ZAF 7.55 127 P **Pn** 23 31 50.9 -2.5
FNA Florina 7.57 335 *e*P **Pn** 23 31 55.0 +1.4
FNA Florina 7.57 335 *e*P **Pn** 23 31 55.0 +1.4
KDZ Kurdzhali 7.64 359 *i*P **Pn** 23 31 54.0 -0.6
RZN Rozhen 7.71 355 *i*P **Pn** 23 31 57.3 +1.6
OFRI Ofer 7.97 97 Pn **Pn** 23 31 57.8 -1.3
KZIT Kziot 8.04 110 Pn **Pn** 23 31 58.6 -1.5
SLTI Sal'it 8.10 100 Pn **Pn** 23 31 58.5 -2.4
KKB Krupnik 8.11 347 *i*P **Pn** 23 32 03.4 +2.4
GULE Gulek 8.15 64 *e*Pn **Pn** 23 32 01.5 -0.3
HNKL Nakhl 8.19 117 P **Pn** 23 31 59.2 -2.9
baz=118
HNKL Nakhl 8.19 117 P **Pn** 23 31 59.2 -2.9
RTMI Retamim 8.21 108 Pn **Pn** 23 32 00.9 -1.5
MMAI Mount Meron Ar 8.24 94 Pn **Pn** 23 32 00.9 -2.0
MMAI Sn **Sn** 23 33 31.8 -3.5
MMAI Mount Meron Ar 8.24 94 Pn **Pn** 23 32 00.9 -2.0
6.5nm,0.3s,baz=272,slow=12,SNR=14
MMAI Sn **Sn** 23 33 31.8 -3.5
10.0nm,0.3s,baz=267,slow=24,SNR=9.1
MMAI Mount Meron Ar 8.24 94 Pn **Pn** 23 32 00.9 -2.0
MMAI Sn **Sn** 23 33 31.8 -3.5
KARA Karaisali 8.35 64 *e*PN **Pn** 23 32 05.2 +0.9
NIG Nigde 8.37 58 *e*PN **Pn** 23 32 04.7 0.0
MMLI Mount Malkishu 8.37 98 Pn **Pn** 23 32 02.6 -2.0
GRB Gharib 8.39 131 P **Pn** 23 32 02.7 -2.2
baz=132
GRB Gharib 8.39 131 P **Pn** 23 32 02.7 -2.2
KAMT Kaman 8.43 48 *e*PN **Pn** 23 32 05.7 +0.2
RMNI Mount Ramon 8.46 111 Pn **Pn** 23 32 05.3 -0.6
HMDT Nahal Hemdat 8.50 99 Pn **Pn** 23 32 04.8 -1.5
DSI Dead Sea 8.57 104 Pn **Pn** 23 32 05.8 -1.6
BR131 Keskin Array S 8.61 46 *e*Pn **Pn** 23 32 08.7 +0.8
6.7nm,0.9s
BR131 *e*Sn **Sn** 23 33 42.4 -2.0
BR131 Keskin Array S 8.61 46 *e*Pn **Pn** 23 32 08.7 +0.8
6.7nm,0.9s
BR131 *e*Sn **Sn** 23 33 42.4 -2.0
BRTR Keskin Array B 8.61 46 Pn **Pn** 23 32 08.7 +0.8
BRTR Keskin Array B 8.61 46 Pn **Pn** 23 32 08.7 +0.8
0.2nm,0.3s,baz=232,slow=13,SNR=18
BRTR Keskin Array B 8.61 46 P **Pn** 23 32 08.7 +0.8
KRMI Paran Flat 8.65 114 Pn **Pn** 23 32 07.1 -1.3
MZDA Masada 8.65 105 Pn **Pn** 23 32 06.9 -1.5
PRNI Paran 8.75 112 Pn **Pn** 23 32 08.9 -1.0
LZLA Zalla 8.76 234 *i*P **Pn** 23 32 08.8 -1.2
SNR=70
VTS Vitosha 8.79 348 *i*P **Pn** 23 32 11.1 +0.7
TIP Timpagrande 8.80 309 *e*Pn **Pn** 23 32 09.0 -1.5
25nm,0.8s
TIP *e*Sn Sn 23 33 38.3 -11
TIP Timpagrande 8.80 309 *e*Pn **Pn** 23 32 09.0 -1.5
25nm,0.8s
ZFRI Zfri 8.80 110 Pn **Pn** 23 32 08.7 -1.7
TR2 8.92 127 P **Pn** 23 32 09.5 -2.6
baz=127
TR2 8.92 127 P **Pn** 23 32 09.5 -2.6
HRFI Mount Harif 8.92 114 Pn **Pn** 23 32 11.7 -0.5
CEL Celeste 8.94 301 *e*Pn **Pn** 23 32 11.2 -1.2
73nm,0.8s
CEL *e*Sn Sn 23 33 40.6 -12
CEL Celeste 8.94 301 *e*Pn **Pn** 23 32 11.2 -1.2
73nm,0.8s
MBRI Mt Berech 8.95 115 Pn **Pn** 23 32 11.3 -1.3
HKAT Jabal Katrina 9.01 125 P **Pn** 23 32 11.5 -2.1
baz=126
HKAT Jabal Katrina 9.01 125 P **Pn** 23 32 11.5 -2.1
EIL Elat 9.04 116 Pn **Pn** 23 32 12.8 -1.0
EIL Sn Sn 23 33 47.0 -7.9
EIL Elat 9.04 116 Pn **Pn** 23 32 12.8 -1.0
1.7nm,0.3s,baz=291,slow=6.1,SNR=34
EIL Sn Sn 23 33 47.0 -7.9
1.8nm,0.3s,baz=314,slow=18,SNR=4.1
EIL Elat 9.04 116 Pn **Pn** 23 32 12.3 -1.5
ASF Jabal al Asfar 9.64 98 Pn **Pn** 23 32 20.5 -1.6
ASF Sn Sn 23 34 04.3 -5.6
ASF Jabal al Asfar 9.64 98 Pn **Pn** 23 32 20.5 -1.6
ASF Sn Sn 23 34 04.3 -5.6
LJFR Jufra 9.68 242 *i*P **Pn** 23 32 21.3 -1.2
SNR=70
CUC Castrocucco 9.86 310 *e*Pn **Pn** 23 32 24.0 -1.0
34nm,0.8s
CUC *e*Sn Sn 23 34 07.3 -7.7
CUC Castrocucco 9.86 310 *e*Pn **Pn** 23 32 24.0 -1.0
34nm,0.8s
HSFG 10.32 134 P **Pn** 23 32 29.2 -2.1
baz=134
HSFG 10.32 134 P **Pn** 23 32 29.2 -2.1
MLR Muntele Rosu 11.48 1 Pn **Pn** 23 32 45.3 -2.0
MLR Muntele Rosu 11.48 1 Pn **Pn** 23 32 45.3 -2.0
0.0nm,0.3s,baz=230,slow=17,SNR=2.0
MLR LR LR 23 37 56.4
comp=Z,112nm,20.4s,baz=322,slow=42
KIS Kishinev 13.21 10 *e*
KIS LRM MLR 23 38 54.0
700nm,12.0s
KEST Kesra 13.47 282 *e*Pn **Pn** 23 33 14.4 -0.1
KEST Kesra 13.47 282 Pn **Pn** 23 33 14.4 -0.1
0.0nm,0.3s,baz=66,slow=15,SNR=2.7
KEST LR LR 23 40 05.7
comp=Z,48nm,19.4s,baz=346,slow=45
KEST Kesra 13.47 282 *e*Pn **Pn** 23 33 14.4 -0.1
UZH Uzhgorod 14.83 351 *e*P **Pn** 23 33 32.7 -0.2
UZH *e*S **Sn** 23 36 15.1 -1.3
UZH MLR MLR
comp=N,500nm,13.0s
UZH MLR MLR
comp=E,300nm,13.0s
UZH MLR MLR
comp=Z,200nm,13.0s
VOY Vojsko 14.98 327 *e*Pn **Pn** 23 33 34.3 -0.7
VOY *e* 23 33 40.4
VOY *e* 23 33 47.9
VOY Vojsko 14.98 327 *e*Pn **Pn** 23 33 34.3 -0.7
SOKA Soboth 15.00 331 ⇓ *i*Pn **Pn** 23 33 31.4 -3.8
comp=Z,13nm,0.7s
KOLS Kolonicke sedl 15.13 352 *e*P **Pn** 23 33 36.6 -0.3
KOLS Kolonicke sedl 15.13 352 *e*PN **Pn** 23 33 36.6 -0.3
VYHS Vyhne 15.35 343 *e*P **Pn** 23 33 37.7 -2.0
VYHS Vyhne 15.35 343 *e*PN **Pn** 23 33 37.7 -2.0
CHVG Ch'k'valeri 15.56 51 P **Pn** 23 33 44.2 +1.6
CHVG Ch'k'valeri 15.56 51 P **Pn** 23 33 44.2 +1.6
PGF Pioggiola 15.57 308 *e*P **Pn** 23 33 42.6 -0.2
comp=Z,108nm,1.2s
STHS Stebnicka Huta 15.75 349 *e*P **P** 23 33 47.4 -1.3
STHS Stebnicka Huta 15.75 349 *e*PN **P** 23 33 47.3 -1.4
STHS Stebnicka Huta 15.75 349 *e*P **P** 23 33 49.6 +0.9
STHS Stebnicka Huta 15.75 349 *e*P **P** 23 33 47.4 -1.3
KWP Kalwaria Pacla 15.77 353 *e*P **Pn** 23 33 45.3 +0.1
LVV L'vov 15.86 356 *e*P P 23 33 57.8 +7.9
LVV MLR MLR
comp=N,360nm,13.0s
LVV MLR MLR
comp=E,200nm,13.0s
LVV MLR MLR
comp=Z,400nm,13.0s
AKH Akhalkalaki 15.96 57 P **P** 23 33 52.0 +0.7
AKH Akhalkalaki 15.96 57 P **P** 23 33 52.0 +0.7
KBA Koelnbreinsper 16.03 328 ⇓ *i*Pn **Pn** 23 33 46.2 -2.5
comp=Z,16nm,0.7s,SNR=11
ABTA Abfaltersbach 16.15 326 ⇑ *i*Pn **Pn** 23 33 50.7 +0.5
comp=Z,22nm,0.7s,SNR=18
ABTA Abfaltersbach 16.15 326 Pn **Pn** 23 33 50.7 +0.5
comp=Z,22nm,0.7s,SNR=18
MOA Molln 16.25 332 ⇓ *i*Pn **Pn** 23 33 49.4 -2.1

comp=Z,17nm,0.8s,SNR=9.6
GNI Garni 16.45 63 *e*Pn **Pn** 23 33 54.1 0.0
comp=Z,14nm,1.1s
GNI Garni 16.45 63 Pn **P** 23 33 58.0 +1.3
comp=Z,0.3nm,0.3s,baz=355,slow=11,SNR=6.3
GNI Garni 16.45 63 *e*Pn **Pn** 23 33 54.1 0.0
comp=Z,14nm,1.1s
GNI Garni 16.45 63 *i*P **P** 23 33 57.3 +0.6
comp=Z,18nm,1.7s
KIV Kislovodsk 16.56 48 *c i*P **P** 23 33 58.5 +0.6
KIV pmax pmax
comp=Z,37nm,1.7s
KIV MLR MLR
comp=Z,100nm,14.0s
KIV Kislovodsk 16.56 48 *i*P **P** 23 33 58.5 +0.6
comp=Z,100nm,14.0s
KBZ Khabaz 16.58 49 P **P** 23 33 57.0 -1.0
KBZ Khabaz 16.58 49 Pn **P** 23 33 57.0 -1.0
KBZ Khabaz 16.58 49 Pn **P** 23 33 57.0 -1.0
comp=Z,0.1nm,0.3s,baz=259,slow=8.8,SNR=19
KBZ Khabaz 16.58 49 P **P** 23 33 57.0 -1.0
VRAC Vranov 16.70 339 Pn **Pn** 23 33 55.1 -2.0
VRAC Vranov 16.70 339 Pn **Pn** 23 33 55.1 -2.0
comp=Z,0.2nm,0.3s,baz=147,slow=10,SNR=7.1
VRAC LR LR 23 41 31.6
comp=Z,172nm,18.5s,baz=162,slow=42
OKC Ostrava-Krasne 16.76 343 *e*P **Pn** 23 33 56.8 -1.0
OKC MLR MLR
comp=Z,300nm,12.6s
OKC Ostrava-Krasne 16.76 343 *e*P **Pn** 23 33 56.8 -1.0
OKC *ex* x 23 34 01.0
OKC AMS AMS 23 41 30.0
comp=Z,300nm,12.6s
ZEI Tsey 16.78 53 *e*P **P** 23 34 02.1 +1.6
ZEI pmax pmax
comp=Z,11nm,0.5s
ZEI Tsey 16.78 53 *e*P **P** 23 34 02.1 +1.6
comp=Z,11nm,0.5s
MORC Moravsky Berou 16.86 342 *e*P **Pn** 23 33 57.2 -1.9
MORC pmax pmax
comp=Z,8.0nm,1.0s
MORC Moravsky Berou 16.86 342 *e*Pn **Pn** 23 33 57.2 -1.9
comp=Z,8.5nm,1.0s
MORC Moravsky Berou 16.86 342 *e*Pn **Pn** 23 33 57.2 -1.9
comp=Z,8.5nm,1.0s
WTTA Wattenberg 16.94 326 ⇑ *i*Pn **Pn** 23 33 56.7 -3.6
comp=Z,16nm,0.7s,SNR=9.0
TBLG Delisi 16.94 57 *e*P **P** 23 34 01.5 -0.6
TBLG Delisi 16.94 57 P **P** 23 34 01.5 -0.6
TBLG Delisi 16.94 57 P **P** 23 34 01.5 -0.6
TREC Trest 17.03 337 *i*P **Pn** 23 33 59.4 -1.4
TREC MLR MLR
comp=Z,200nm,11.3s
TREC Trest 17.03 337 *i*P **Pn** 23 33 59.9 -1.4
TREC AMS AMS 23 41 40.0
comp=Z,200nm,11.3s
SBF Sospel 17.20 310 *e*P **Pn** 23 34 02.7 -0.8
comp=Z,76nm,1.0s
SBF Sospel 17.20 310 *e*P **Pn** 23 34 02.7 -0.8
comp=Z,38nm,1.0s
FETA Feichten 17.20 324 ⇑ *i*Pn **Pn** 23 34 02.0 -1.6
comp=Z,8.0nm,0.7s,SNR=7.0
FETA Feichten 17.20 324 Pn **Pn** 23 34 02.0 -1.6
comp=Z,8.0nm,0.7s,SNR=7.0
AUTN L'Aution 17.27 311 *e*P **Pn** 23 34 03.8 -0.7
AUTN L'Aution 17.27 311 *e*P **Pn** 23 34 03.8 -0.7
GEC2 GERESS Array S 17.28 333 *e*P **P** 23 34 05.8 -0.1
comp=Z,30nm,1.0s
GEC2 GERESS Array S 17.28 333 *e*P **P** 23 34 05.8 -0.1
GEC2 pmax pmax
comp=Z,18nm,1.0s
GEC2 GERESS Array S 17.28 333 *e*P **P** 23 34 05.8 -0.1
comp=Z,18nm,1.0s
GERES GERESS Array B 17.28 333 P **Pn** 23 34 03.3 -1.2
GERES GERESS Array B 17.28 333 P **Pn** 23 34 03.3 -1.2
comp=Z,0.4nm,0.3s,baz=148,slow=13,SNR=41
DGRG David-gareji 17.30 59 P **P** 23 34 07.2 +1.2
DGRG David-gareji 17.30 59 P **P** 23 34 07.2 +1.2
KRLC Kraliky 17.33 341 *i*P **P** 23 34 06.9 +0.5
KRLC Kraliky 17.33 341 *i*P **P** 23 34 06.9 +0.5
KRLC Kraliky 17.33 341 *i*P **P** 23 34 06.9 +0.5
TOUF Mont Tournerai 17.39 311 *e*P **P** 23 34 07.9 +0.7
TOUF Mont Tournerai 17.39 311 *e*P **P** 23 34 07.9 +0.7
DAVOX Davos/Dischmat 17.47 322 P **P** 23 34 08.1 +0.1
DAVOX Davos/Dischmat 17.47 322 P **P** 23 34 08.1 +0.1
comp=Z,0.3nm,0.3s,baz=150,slow=8.6,SNR=19
DAVOX Davos/Dischmat 17.47 322 P **P** 23 34 08.1 +0.1
CALN Calern 17.50 309 *e*P **P** 23 34 09.2 +0.9
CALN Calern 17.50 309 *e*P **P** 23 34 09.2 +0.9
LMR La Mourre 17.56 308 *e*P **Pn** 23 34 07.2 -0.7
comp=Z,50nm,1.3s
LMR La Mourre 17.56 308 *e*P **Pn** 23 34 07.2 -0.7
comp=Z,25nm,1.3s
KHC Kasperske Hory 17.57 333 *e*P **Pn** 23 34 07.0 -0.9
KHC Kasperske Hory 17.57 333 *e*P **Pn** 23 34 07.0 -0.9
KHC *ex* x 23 34 09.5
KHC Kasperske Hory 17.57 333 *e*P **Pn** 23 34 07.0 -0.9
FRF La Foret Royal 17.57 308 *e*P **Pn** 23 34 07.2 -0.8
comp=Z,25nm,1.1s
FRF La Foret Royal 17.57 308 *e*P **Pn** 23 34 07.2 -0.8
comp=Z,12nm,1.1s
DPC Dobruska-Polom 17.71 340 *e*P **Pn** 23 34 08.3 -1.4
DPC Dobruska-Polom 17.71 340 *e*P **Pn** 23 34 08.3 -1.4
DPC *epP* **P** 23 34 12.2 +1.7
DPC AMS AMS 23 42 00.0
DPC Dobruska-Polom 17.71 340 *e*P **Pn** 23 34 08.3 -1.4
DAVA Damuels 17.81 323 *i*P **P** 23 34 11.4 -0.3
comp=Z,8.0nm,0.7s,SNR=9.6
DAVA Damuels 17.81 323 P **P** 23 34 11.4 -0.3
comp=Z,8.0nm,0.7s,SNR=9.6
WET Wettzell 17.84 332 *e*P **P** 23 34 12.0 0.0
comp=Z,52nm,1.4s
WET Wettzell 17.84 332 *e*P **P** 23 34 12.0 0.0
WET pmax pmax
comp=Z,24nm,1.4s
WET Wettzell 17.84 332 *e*P **P** 23 34 12.0 0.0
comp=Z,24nm,1.4s
UPC Upice 17.94 340 *e*P **Pn** 23 34 10.0 -2.5
UPC *ex* x 23 34 31.6
PRU Pruhonice 17.94 336 *i*P **Pn** 23 34 10.5 -2.0
PRU MLR MLR
comp=Z,200nm,15.1s
PRU Pruhonice 17.94 336 *i*P **Pn** 23 34 10.5 -2.0
PRU *epP* **P** 23 34 14.1 +1.1
PRU AMS AMS 23 43 00.0
comp=Z,200nm,15.1s
MBDF Montbardon 18.04 312 *e*P **Pn** 23 34 13.2 -0.8
comp=Z,48nm,1.2s
MBDF Montbardon 18.04 312 *e*P **Pn** 23 34 13.2 -0.8
comp=Z,24nm,1.2s
PVCC Panska Ves 18.40 337 *e*P **P** 23 34 16.4 -1.6
PVCC Panska Ves 18.40 337 *e*P **P** 23 34 16.4 -1.6
PVCC Panska Ves 18.40 337 *e*P **P** 23 34 16.4 -1.6
SMRF Simiane la Rot 18.45 309 *e*P **Pn** 23 34 19.7 +0.9
comp=Z,48nm,1.3s
SMRF Simiane la Rot 18.45 309 *e*P **Pn** 23 34 19.7 +0.9
comp=Z,24nm,1.3s
LPG La Plagne 18.45 314 *e*P **Pn** 23 34 20.0 +0.9
comp=Z,22nm,1.1s
LPG La Plagne 18.45 314 *e*P **Pn** 23 34 20.0 +0.9
comp=Z,11nm,1.1s
LPL La Plagne 18.47 314 *e*P **Pn** 23 34 20.3 +1.0
comp=Z,16nm,1.0s
LPL La Plagne 18.47 314 *e*P **Pn** 23 34 20.3 +1.0
comp=Z,8.0nm,1.0s
ROTZ Rotzenmuhle 18.61 332 *e*P **P** 23 34 20.2 -0.1
comp=Z,37nm,2.2s
ORIF Oris-en-Rattie 18.69 312 *e*P **P** 23 34 20.7 -0.7
comp=Z,88nm,1.8s
ORIF *e*R
comp=Z,262nm,19.8s
ORIF Oris-en-Rattie 18.69 312 *e*P **P** 23 34 20.7 -0.7
comp=Z,44nm,1.8s
BRG Berggiesshubel 18.90 337 *e*P **P** 23 34 23.4 -0.1
comp=Z,3.2nm,1.2s
BRG
comp=N,162nm,20.6s
BRG
comp=E,94nm,13.0s
BRG
comp=Z,223nm,12.6s
BRG Berggiesshubel 18.90 337 *e*P **P** 23 34 23.2 -0.3
comp=Z,100nm,2.9s
BRG Berggiesshubel 18.90 337 *e*P **P** 23 34 23.4 -0.1
BRG pmax pmax
comp=Z,3.0nm,1.2s

BRG MLR MLR
comp=N,162nm,20.6s
BRG MLR MLR
comp=E,94nm,13.0s
BRG MLR MLR
comp=Z,223nm,12.6s
BRG Berggiesshubel 18.90 337 *eP* **P 23 34 23.4 -0.1**
comp=Z,223nm,12.6s
SPAK Spaichingen-Ko 18.90 323 *eP* **Pn 23 34 25.1 +0.7**
ROHR Rohrbach 18.94 333 *eP* **P 23 34 23.5 -0.5**
comp=Z,2.0nm,1.2s
GRA1 Grafenberg Arr 18.94 330 *eP* **P 23 34 23.2 -0.9**
comp=Z,4.0nm,1.1s
GRF Grafenberg Arr 18.94 330 *eP* **P 23 34 23.2 -0.9**
comp=Z,54nm,1.1s
GRF Grafenberg Arr 18.94 330 *eP* **P 23 34 23.2 -0.9**
GRF pmax pmax
comp=Z,4.0nm,1.1s
WERN Wernitzgruen 18.96 333 *eP* **Pn 23 34 24.6 -0.4**
comp=Z,11nm,1.2s
TANN Tannenbergstha 19.03 333 *eP* **P 23 34 24.1 -1.0**
comp=Z,16nm,0.9s
GUNZ Gunzen 19.04 333 *eP* **P 23 34 24.7 -0.4**
comp=Z,16nm,1.3s
WERD Werda 19.12 333 *eP* **P 23 34 25.5 -0.5**
comp=Z,26nm,1.1s
FBE Freiberg 19.14 336 *eP* **P 23 34 26.3 +0.2**
comp=Z,32nm,1.0s
BBS Basel-Blauen 19.15 320 *eP* **P 23 34 26.4 0.0**
FELD Feldberg im Sc 19.15 322 *eP* **P 23 34 26.4 -0.1**
PLN Plauen 19.20 333 *eP* **P 23 34 26.9 0.0**
comp=Z,86nm,1.0s
VIVF Saint-Julien-l 19.42 310 *eP* **P 23 34 28.2 -1.1**
comp=Z,15nm,1.0s
VIVF Saint-Julien-l 19.42 310 *eP* **P 23 34 28.2 -1.1**
comp=Z,7.3nm,1.0s
CABF La Chapelle 19.44 316 *eP* **P 23 34 29.0 -0.6**
comp=Z,77nm,1.2s
CABF La Chapelle 19.44 316 *eP* **P 23 34 29.0 -0.6**
comp=Z,38nm,1.2s
MOX Moxa 19.54 333 *eP* **P 23 34 30.1 -0.4**
comp=Z,9.0nm,0.8s
MOX Moxa 19.54 333 *eP* **P 23 34 30.1 -0.4**
MOX pmax pmax
comp=Z,3.0nm,0.8s
MOX Moxa 19.54 333 *eP* **P 23 34 30.1 -0.4**
comp=Z,3.0nm,0.8s
CLL Collm 19.58 336 *eP* **P 23 34 30.1 -0.9**
comp=Z,20nm,1.2s
CLL Collm 19.58 336⇑ *iP* **P 23 34 30.2 -0.8**
CLL *i* S **S 23 38 05.5 -5.4**
CLL pmax pmax
comp=Z,4.0nm,1.2s
CLL Collm 19.58 336⇑ *iP* **P 23 34 30.2 -0.8**
comp=Z,20nm,1.2s
CLL *i* S **S 23 38 05.5 -5.4**
CLL Collm 19.58 336 *iP* **P 23 34 30.2 -0.8**
comp=Z,4.0nm,1.2s
LASF Ste Croix 19.62 307 *eP* **P 23 34 30.4 -1.1**
comp=Z,48nm,1.2s
LASF Ste Croix 19.62 307 *eP* **P 23 34 30.4 -1.1**
comp=Z,24nm,1.2s
VORD Divnogorie 19.68 26 *eP* **P 23 34 31.4 -0.6**
VORD pmax pmax
comp=Z,30nm,1.5s
VORD pmax pmax
comp=N,30nm,1.0s
VORD pmax pmax
comp=E,30nm,1.0s
VORD Divnogorie 19.68 26 *eP* **P 23 34 31.4 -0.6**
comp=E,30nm,1.5s
HINF Hinteralfeld 19.72 320 *eP* **P 23 34 32.9 +0.3**
comp=E,24nm,1.0s
HINF Hinteralfeld 19.72 320 *eP* **P 23 34 32.9 +0.3**
comp=E,12nm,1.0s
VSR Storozhevoye 19.84 26 *eP* **P 23 34 32.9 -0.9**
VSR pmax pmax
comp=Z,20nm,1.2s
VSR pmax pmax
comp=N,30nm,1.4s
VSR pmax pmax
comp=E,20nm,1.3s
VSR Storozhevoye 19.84 26 *eP* **P 23 34 32.9 -0.9**
comp=E,30nm,1.4s
CDF Champ du Feu 19.87 322 *eP* **P 23 34 34.4 +0.1**
comp=E,9.4nm,0.7s
CDF Champ du Feu 19.87 322 *eP* **P 23 34 34.4 +0.1**
comp=E,4.7nm,0.7s
NEUB Neuenburg 19.93 334 *eP* **P 23 34 34.5 -0.3**
comp=Z,64nm,1.9s
TOD Tromm 19.93 327 *eP* **Pn 23 34 37.1 +0.5**
LANF Langenberg 19.98 324 *eP* **Pn 23 34 37.5 +0.4**
LANF Langenberg 19.98 324 *eP* **Pn 23 34 37.5 +0.4**
KTD Kalmit 20.07 325 *eP* Pn 23 34 38.8 +0.5
SUW Suwalki 20.09 356 *eP* **P 23 34 35.6 -0.8**
SUW Suwalki 20.09 356 *eP* **P 23 34 35.7 -0.7**
HAU Haudompre 20.10 320 *eP* **P 23 34 36.2 -0.5**
comp=Z,30nm,0.9s
HAU *eR*
comp=Z,173nm,20.8s
HAU Haudompre 20.10 320 *eP* **P 23 34 36.2 -0.5**
comp=Z,15nm,0.9s
MTLF Montolieu 20.45 304 *eP* **P 23 34 40.2 -0.4**
comp=Z,27nm,1.3s
MTLF Montolieu 20.45 304 *eP* **P 23 34 40.2 -0.4**
comp=Z,13nm,1.3s
LBL Lubilhac 20.49 310 *eP* Pn 23 34 43.4 +0.1
LBL Lubilhac 20.49 310 *eP* Pn 23 34 43.4 +0.1
PAGF Fort de Pagny 20.77 320 *eP* **P 23 34 43.9 0.0**
comp=Z,38nm,1.4s
PAGF Fort de Pagny 20.77 320 *eP* **P 23 34 43.9 0.0**
comp=Z,19nm,1.4s
SMF Signal de Mont 20.78 314 *eP* **P 23 34 43.7 -0.4**
comp=Z,12nm,0.8s
SMF Signal de Mont 20.78 314 *eP* **P 23 34 43.7 -0.4**
comp=Z,6.2nm,0.8s
RUP Ruppelstein 20.82 324 *eP* **P 23 34 44.7 +0.1**
TAM Tamanrasset 20.86 243 *eP* **P 23 34 46.1 +0.8**
TAM pmax pmax
comp=Z,19nm,1.3s
TAM Tamanrasset 20.86 243 *eP* **P 23 34 46.1 +0.8**
comp=Z,19nm,1.3s
TAM Tamanrasset 20.86 243 *eP* **P 23 34 46.1 +0.8**
comp=Z,19nm,1.3s
PYM Petit Puy Mans 20.87 311 *eP* **P 23 34 46.0 +0.9**
PYM Petit Puy Mans 20.87 311 *eP* **P 23 34 46.0 +0.9**
NACGM Naroch 20.92 2 *e* **P 23 34 44.0 -1.5**
AGO Saint Agoulin 20.93 312 *eP* **P 23 34 46.2 +0.5**
AGO Saint Agoulin 20.93 312 *eP* **P 23 34 46.2 +0.5**
SFTF Sexfontaines 20.93 319 *eP* **P 23 34 45.9 +0.2**
comp=Z,80nm,1.2s
SFTF Sexfontaines 20.93 319 *eP* **P 23 34 45.9 +0.2**
comp=Z,40nm,1.2s
LOR Lormes 21.08 315 *eP* **P 23 34 46.7 -0.7**
comp=Z,28nm,1.1s
LOR *eR*
comp=Z,153nm,21.5s
LOR Lormes 21.08 315 *eP* **P 23 34 46.7 -0.7**
comp=Z,14nm,1.1s
MEZF Maizieres J'vi 21.09 320 *eP* **P 23 34 47.6 +0.2**
comp=Z,256nm,1.7s
MEZF Maizieres J'vi 21.09 320 *eP* **P 23 34 47.6 +0.2**
comp=Z,128nm,1.7s
CAF Calviac 21.13 308 *eP* **P 23 34 47.2 -0.7**
comp=Z,21nm,1.0s
CAF Calviac 21.13 308 *eP* **P 23 34 47.2 -0.7**
comp=Z,11nm,1.0s
AVF Avril sur Loir 21.14 314 *eP* **P 23 34 47.1 -0.9**
comp=Z,16nm,1.0s
AVF Avril sur Loir 21.14 314 *eP* **P 23 34 47.1 -0.9**
comp=Z,8.1nm,1.0s
SSF Saint Saulge 21.18 315 *eP* **P 23 34 48.6 +0.2**
comp=Z,26nm,1.0s
SSF Saint Saulge 21.18 315 *eP* **P 23 34 48.6 +0.2**
comp=Z,13nm,1.0s
WLF Walferdange 21.24 323 P **P 23 34 53.1 +4.1**
comp=Z,19nm,1.1s
BGF Bois d'Agland 21.34 313 *eP* **P 23 34 49.8 -0.3**
comp=Z,52nm,1.0s
BGF Bois d'Agland 21.34 313 *eP* **P 23 34 49.8 -0.3**
comp=Z,26nm,1.0s
TCF Toulx Ste Croi 21.61 312 *eP* **P 23 34 52.8 -0.2**
comp=Z,62nm,1.2s
TCF Toulx Ste Croi 21.61 312 *eP* **P 23 34 52.8 -0.2**
comp=Z,31nm,1.2s
RJF Les Rejaudoux 21.64 309 *eP* **P 23 34 53.2 -0.1**
comp=Z,39nm,1.0s
RJF *eR*
comp=Z,129nm,17.2s
RJF Les Rejaudoux 21.64 309 *eP* **P 23 34 53.2 -0.1**
comp=Z,19nm,1.0s
EPF Esparros 21.67 302 *eP* **P 23 34 53.4 -0.3**
comp=Z,13nm,0.9s
EPF Esparros 21.67 302 *eP* **P 23 34 53.4 -0.3**
comp=Z,6.4nm,0.9s
MEM Membach 21.93 325 P **P 23 34 56.9 +0.5**
comp=Z,8.4nm,0.9s
MEM Membach 21.93 325 P **P 23 34 56.9 +0.5**
comp=Z,8.4nm,0.9s
LFF La Frestale 22.01 307 *eP* **P 23 34 57.0 -0.3**
comp=Z,38nm,0.9s
LFF La Frestale 22.01 307 *eP* **P 23 34 57.0 -0.3**
comp=Z,19nm,0.9s
HGN Heimansgroeve 22.07 325 *eP* **P 23 34 59.9 +2.0**
comp=Z,31nm,1.0s
HGN *eS* Sn 23 39 06.2 -5.1
HGN *eL* L 23 44 40.4
comp=Z,86nm,20.4s
GIVF Givet 22.18 323 *eP* **P 23 35 00.3 +1.2**
comp=Z,47nm,0.9s
GIVF Givet 22.18 323 *eP* **P 23 35 00.3 +1.2**
comp=Z,23nm,0.9s
ETSF Etsaut 22.27 301 *eP* **P 23 35 00.9 +0.7**
comp=Z,11nm,0.8s
ETSF Etsaut 22.27 301 *eP* **P 23 35 00.9 +0.7**
comp=Z,5.4nm,0.8s
DOU Dourbes 22.30 323 P **P 23 34 59.9 -0.5**
comp=Z,9.0nm,1.1s
DOU Dourbes 22.30 323 P **P 23 34 59.8 -0.5**
comp=Z,9.0nm,1.1s
OBN Obninsk 22.46 17 *c iP* **P 23 34 59.8 -2.2**
OBN *e**PP pP 23 35 10.5 +2.5
OBN *e* 23 35 24.5
OBN *e* 23 38 58.2
OBN *e*SS SS 23 39 40.5
OBN pmax pmax
comp=Z,34nm,1.7s
OBN MLR MLR
comp=Z,300nm,15.0s
OBN Obninsk 22.46 17 *i* P **P 23 34 59.8 -2.2**
comp=Z,34nm,1.7s
BAIF Baives 22.47 322 *eP* **P 23 35 02.3 +0.1**
comp=Z,29nm,0.7s
BAIF Baives 22.47 322 *eP* **P 23 35 02.3 +0.1**
comp=Z,14nm,0.7s
WTSB Winterswijk 22.51 329 *eP* **P 23 35 03.2 +0.6**
comp=Z,24nm,1.0s
WTSB Winterswijk 22.51 329 *eP* **P 23 35 03.2 +0.6**
comp=Z,24nm,1.0s
SJPF Ste Jean 22.80 301 *eP* **P 23 35 05.2 -0.6**
comp=Z,43nm,1.2s
SJPF Ste Jean 22.80 301 *eP* **P 23 35 05.2 -0.6**
comp=Z,22nm,1.2s
MFF Saint Martin d 23.21 311 *eP* **P 23 35 09.4 -0.6**
comp=Z,32nm,1.1s
MFF Saint Martin d 23.21 311 *eP* **P 23 35 09.4 -0.6**
comp=Z,16nm,1.1s
LDF La Druitiere 24.07 315 *eP* **P 23 35 17.3 -0.9**
ESDC Sonseca Array 24.27 292 P **P 23 35 19.7 -0.6**
ESDC Sonseca Array 24.27 292 P **P 23 35 19.7 -0.6**
comp=Z,8.1nm,1.0s,baz=83,slow=9.3,SNR=28
ESLA Sonseca Array 24.27 292 *eP* **P 23 35 18.7 -1.6**
comp=Z,5.2nm,1.2s
FLN La Foliniere 24.36 315 *eP* **P 23 35 20.1 -0.8**
comp=Z,52nm,1.1s
FLN *eR*
comp=Z,111nm,20.8s
GRR Gorron 24.41 314 *eP* **P 23 35 21.8 +0.5**
comp=Z,29nm,0.9s
VSU Vasula 24.48 1 *c iP* **P 23 35 22.6 +0.7**
VSU pmax pmax
comp=Z,33nm,1.0s
PAB San Pablo 24.56 292 *eP* **P 23 35 22.5 -0.5**
PAB pmax pmax
comp=Z,20nm,1.4s
PAB San Pablo 24.56 292 *eP* **P 23 35 22.5 -0.5**
comp=Z,20nm,1.4s
MUD Monsted U'grnd 25.14 338 *eP* **P 23 35 26.8 -1.0**
MUD pmax pmax
comp=Z,11nm,1.0s
MUD Monsted U'grnd 25.14 338 *i* P **P 23 35 26.8 -1.0**
comp=Z,11nm,1.0s
MDT Midelt 25.22 276 P **P 23 35 28.5 -0.5**
MDT Midelt 25.22 276 P **P 23 35 28.5 -0.5**
comp=Z,4.2nm,0.8s,baz=78,slow=9.9,SNR=7.0
SGMF Saint Gilles 25.38 313 *eP* **P 23 35 30.1 0.0**
comp=Z,153nm,1.6s
QUIF Quistinic 25.62 312 *eP* **P 23 35 31.7 -0.6**
comp=Z,65nm,1.1s
ROSF Rostrenen 25.85 312 *eP* **P 23 35 34.2 -0.2**
comp=Z,83nm,1.4s
PBRG Braganca 26.57 297 *eP* **P 23 35 40.7 -0.4**
comp=Z,19nm,1.3s
PBRG Braganca 26.57 297 *eP* **P 23 35 40.7 -0.4**
comp=Z,19nm,1.3s
PBAR Barrancos 26.63 288 *eP* **P 23 35 41.7 +0.1**
comp=Z,20nm,1.8s
PBAR Barrancos 26.63 288 *eP* **P 23 35 41.7 +0.1**
comp=Z,20nm,1.8s
MVO Moncorvo 26.73 295 *eP* **P 23 35 44.0 +1.5**
comp=Z,22nm,0.7s
MVO Moncorvo 26.73 295 *eP* **P 23 35 44.0 +1.5**
comp=Z,22nm,0.7s
PMRV Marv??o 26.91 291 *eP* **P 23 35 43.5 -0.6**
comp=Z,17nm,1.8s
PMRV Marv??o 26.91 291 *eP* **P 23 35 43.5 -0.6**
comp=Z,17nm,1.8s
PESTR Estremoz 27.06 290 *eP* **P 23 35 44.9 -0.6**
comp=Z,14nm,1.4s
PESTR Estremoz 27.06 290 *eP* **P 23 35 44.9 -0.6**
comp=Z,14nm,1.4s
MTE Manteigas 27.07 293 *eP* **P 23 35 45.2 -0.4**
comp=Z,18nm,1.6s
MTE Manteigas 27.07 293 *eP* **P 23 35 45.2 -0.4**
comp=Z,18nm,1.6s
HFS Hagfors 27.29 347 P **P 23 35 45.7 -1.5**
HFS Hagfors 27.29 347 P **P 23 35 45.7 -1.5**
comp=Z,5.5nm,0.8s,baz=184,slow=10,SNR=7.9
EVO Evora 27.39 289 *eP* **P 23 35 48.9 +0.5**
comp=Z,11nm,0.9s
EVO *eR*
comp=Z,70nm,21.5s
FINES FINESS Array B 27.47 0 P **P 23 35 47.3 -1.5**
FINES PcP **PcP 23 39 07.0 +0.3**
FINES FINESS Array B 27.47 0 P **P 23 35 47.3 -1.5**
comp=Z,5.7nm,0.7s,baz=158,slow=12,SNR=38
FINES PcP **PcP 23 39 07.0 +0.3**
comp=Z,0.5nm,0.4s,baz=174,slow=2.1,SNR=4.9
FINES LR LR 23 47 49.6
comp=Z,99nm,19.0s,baz=280,slow=39
FINES FINESS Array B 27.47 0 PcP **PcP 23 39 07.0 +0.3**
comp=Z,99nm,19.0s
KAF Kangasniemi 28.14 1 *ep* **P 23 35 53.4 -1.4**
KAF Kangasniemi 28.14 1 *eP* **P 23 35 53.4 -1.4**
NAO01 NORSAR Array S 28.51 345 *eP* **P 23 35 56.9 -1.3**
comp=Z,6.7nm,0.8s
NB2 NORSAR Subarra 28.62 345 P **P 23 35 58.2 -0.9**
comp=Z,3.0nm,0.8s,baz=157,slow=9.3
NB2 NORSAR Subarra 28.62 345 P **P 23 35 58.2 -0.9**
comp=Z,3.0nm,0.8s,SNR=9.1
NOA NORSAR Array B 28.62 345 P **P 23 35 58.2 -0.9**
NOA NORSAR Array B 28.62 345 P **P 23 35 58.2 -0.9**
comp=Z,2.6nm,0.8s,baz=158,slow=9.5,SNR=10
AKTO Aktyubinsk 28.79 45 *i* P **P 23 36 00.0 -0.7**
AKTO pmax pmax
comp=Z,11nm,1.4s
AKTO Aktyubinsk 28.79 45 P **P 23 36 00.3 -0.4**
AKTO Aktyubinsk 28.79 45 P **P 23 36 00.3 -0.4**
comp=Z,3.4nm,0.7s,baz=237,slow=7.2,SNR=10
JOF Joensuu 29.17 5 *ep* **P 23 36 02.6 -1.3**
comp=Z,4.1nm,0.4s
JOF Joensuu 29.17 5 *eP* **P 23 36 02.6 -1.3**
JOF pmax pmax
comp=Z,4.0nm,0.4s
EKA Eskdalemuir Ar 29.21 326 P **P 23 36 03.6 -0.8**
EKA Eskdalemuir Ar 29.21 326 P **P 23 36 03.6 -0.8**
comp=Z,4.2nm,0.8s,baz=133,slow=9.3,SNR=10.0
AB31 Akbulak array 29.55 49 *ceP* **P 23 36 07.5 0.0**
AB31 pmax pmax
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 29.55 49 *eP* **P 23 36 07.6 +0.1**
comp=Z,3.1nm,0.7s
TORD Torodi Ar. Bea 30.05 232 P **P 23 36 12.1 -0.1**
TORD PcP **PcP 23 39 13.9 -0.1**
TORD Torodi Ar. Bea 30.05 232 P **P 23 36 12.1 -0.1**
comp=Z,2.5nm,0.7s,baz=36,slow=8.3,SNR=40
TORD PcP **PcP 23 39 13.9 -0.1**
comp=Z,0.3nm,0.8s,baz=19,slow=2.5,SNR=5.7
TORD LR LR 23 50 57.9
comp=Z,255nm,18.9s,baz=40,slow=42
TORD Torodi Ar. Bea 30.05 232 PcP **PcP 23 39 13.9 -0.1**
ARU Arti 31.78 35 *d iP* **P 23 36 25.7 -1.4**
ARU 23 37 27.4
ARU S **S 23 41 37.2 +1.3**
ARU SS **SnSn 23 43 22.3 -1.4**
ARU pmax pmax
comp=Z,7.0nm,1.7s
ARU Arti 31.78 35 *i* P **P 23 36 25.7 -1.4**
comp=Z,7.0nm,1.7s
SOKR Solikamsk 32.77 29 *eP* **P 23 36 38.6 +2.9**
SOKR pmax pmax
comp=Z,10.0nm,1.4s
SOKR MLR MLR
comp=Z,190nm,18.0s
ARCES ARCESS Array B 35.59 360 P **P 23 36 58.5 -1.6**
ARCES ARCESS Array B 35.59 360 P **P 23 36 58.5 -1.6**
comp=Z,2.5nm,0.6s,baz=184,slow=9.3,SNR=31
ARCES LR LR 23 53 32.4
comp=Z,83nm,19.0s,baz=176,slow=40
ARCES ARCESS Array B 35.59 360 P **P 23 36 58.5 -1.6**
comp=Z,83nm,19.0s
KKAR Karatay Array 35.91 62 *eP* **P 23 37 03.5 +0.3**
KKAR pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 35.91 62 *eP* **P 23 37 03.5 +0.3**
comp=Z,2.0nm,0.8s
KKAR Karatay Array 35.91 62 *eP* **P 23 37 03.5 +0.3**
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 36.61 160 LR LR 23 55 16.9
comp=Z,81nm,18.4s,baz=283,slow=41
BRVK Borovoye 36.84 45 *ceP* **P 23 37 11.3 +0.3**
BRVK pmax pmax
comp=Z,10.0nm,1.7s
BRVK Borovoye 36.84 45 *eP* **P 23 37 11.4 +0.4**
comp=Z,4.1nm,0.9s
BRVK Borovoye 36.84 45 *eP* **P 23 37 11.3 +0.3**
comp=Z,10.0nm,1.7s
AAK Ala-Archa 38.85 62⇑ *eP* **P 23 37 28.6 +0.2**
AAK pmax pmax
comp=Z,13nm,1.7s
AAK Ala-Archa 38.85 62 *eP* **P 23 37 28.6 +0.2**
comp=Z,13nm,1.7s
DBIC Dimbokro 39.15 233 LR LR 23 56 03.4
comp=Z,219nm,18.3s,baz=24,slow=40
MK31 Makanchi Array 44.12 56 *ceP* **P 23 38 11.5 +0.2**
MK31 pmax pmax
comp=Z,7.0nm,0.6s
MK31 Makanchi Array 44.12 56 *eP* **P 23 38 11.0 -0.3**
MK31 Makanchi Array 44.12 56 *eP* **P 23 38 11.0 -0.3**
MKAR Makanchi Array 44.12 56 *ceP* **P 23 38 11.6 +0.3**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 44.12 56 P **P 23 38 11.7 +0.4**
MKAR Makanchi Array 44.12 56 P **P 23 38 11.7 +0.4**
comp=Z,3.6nm,0.7s,baz=279,slow=5.7,SNR=17
MKAR Makanchi Array 44.12 56 *eP* **P 23 38 11.6 +0.3**
comp=Z,4.0nm,0.7s
NVS Novosibirsk 44.66 44 *eP* **P 23 38 14.8 -0.6**
NVS pmax pmax
comp=Z,10.0nm,1.0s
NVS pmax pmax
comp=E,3.0nm,0.9s
NVS Novosibirsk 44.66 44 *eP* **P 23 38 14.8 -0.6**
comp=E,10.0nm,1.0s
ZAA0 Zalesovo Array 45.55 45 *eP* **P 23 38 21.5 -1.0**
ZAA0 Zalesovo Array 45.55 45 *eP* **P 23 38 21.5 -1.0**
ZALV Zalesovo Beam 45.55 45 P **P 23 38 22.2 -0.4**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV MLR MLR
comp=Z,56nm,18.3s
ZALV Zalesovo Beam 45.55 45 P **P 23 38 22.1 -0.4**
ZALV Zalesovo Beam 45.55 45 P **P 23 38 22.1 -0.4**
comp=Z,3.6nm,0.5s,baz=270,slow=9.5,SNR=14
ZALV LR LR 00 01 44.8
comp=Z,56nm,18.3s,baz=251,slow=42
ZALV Zalesovo Beam 45.55 45 P **P 23 38 22.1 -0.4**
DAG Danmarks Havn 47.27 347 *i* P **P 23 38 34.8 -0.9**
DAG pmax pmax
comp=Z,4.0nm,0.8s
DAG Danmarks Havn 47.27 347 *i* P **P 23 38 34.8 -0.9**
comp=Z,4.8nm,0.8s
SUMG Summit 50.20 339 *i* P **P 23 38 58.1 -0.6**
SUMG pmax pmax
comp=Z,9.0nm,1.0s
SUMG Summit 50.20 339 *eP* **P 23 38 58.5 -0.3**
comp=Z,8.6nm,0.9s
SUMG Summit 50.20 339 *i* P **P 23 38 58.1 -0.6**
comp=Z,9.4nm,1.0s
SUMG Summit 50.20 339 *eP* **P 23 38 58.5 -0.3**
comp=Z,8.6nm,0.9s
HVS Khovu-Aksy 51.13 49 *c iP* **P 23 39 06.2 +0.4**
HVS pmax pmax
comp=Z,20nm,1.0s
HVS Khovu-Aksy 51.13 49 *i* P **P 23 39 06.2 +0.4**
comp=Z,20nm,1.0s
TSUM Tsumeb 53.45 189 P **P 23 39 24.7 +1.5**
TSUM Tsumeb 53.45 189 P **P 23 39 24.7 +1.5**
comp=Z,1.5nm,0.5s,baz=50,slow=1.4,SNR=4.6
MOY Mondy 55.53 47 *eP* **P 23 39 39.0 +0.9**
MOY Mondy 55.53 47 *eP* **P 23 39 39.0 +0.9**
TLY Talaya 57.13 46 *eP* **P 23 39 50.3 +0.9**
TLY pmax pmax
comp=Z,7.0nm,1.3s
TLY MLR MLR
comp=Z,19nm,6.0s
ZAK Zakamensk 57.24 48 *eP* **P 23 39 49.9 -0.4**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
SONM Songino Array 59.94 50 P **P 23 40 09.3 +0.1**
SONM Songino Array 59.94 50 P **P 23 40 09.3 +0.1**
comp=Z,1.1nm,0.7s,baz=283,slow=8.0,SNR=9.1
ULN Ulaanbaatar 60.35 50 *eP* **P 23 40 11.7 -0.3**
comp=Z,4.2nm,1.4s
TIXI Tiksi 62.13 20⇑ *eP* **P 23 40 22.5 -0.9**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
BOSA Boshof 62.27 180 P **P 23 40 25.9 +0.9**
BOSA Boshof 62.27 180 P **P 23 40 25.9 +0.9**
comp=Z,3.1nm,0.9s,baz=10,slow=17,SNR=3.8
BOSA LR LR 00 08 09.3
comp=Z,80nm,18.0s,baz=165,slow=37
SCHQ Schefferville 64.31 320 *eP* **P 23 40 37.8 -0.5**
comp=Z,18nm,1.1s
SCHQ Schefferville 64.31 320 P **P 23 40 37.1 -1.1**
comp=Z,9.7nm,0.7s,baz=76,slow=5.6,SNR=13
CMAR Chiang Mai Arr 66.34 83 P **P 23 40 51.4 -0.6**
CMAR Chiang Mai Arr 66.34 83 P **P 23 40 51.4 -0.6**
comp=Z,1.8nm,0.9s,baz=294,slow=6.7,SNR=5.6
KLR Kul'dur 74.40 41 *eP* P 23 41 36.8 -3.9
SEY Seymchan 74.49 22‖ *eP* **P 23 41 42.1 +1.1**
USRK Ussuriysk Arr 77.41 45 P **P 23 41 57.2 -0.7**
comp=Z,2.7nm,0.7s,baz=273,slow=8.4,SNR=5.5
YKA Yellowknife Ar 78.67 342 P **P 23 42 04.4 -0.2**
YKA Yellowknife Ar 78.67 342 P **P 23 42 04.4 -0.2**
comp=Z,1.5nm,0.7s,baz=35,slow=5.2,SNR=12
KSAR Wonju Array Be 78.68 52 P **P 23 42 05.7 +0.6**
KSRS Korea Array 78.70 52 P **P 23 42 05.7 +0.5**
comp=Z,1.9nm,0.8s,baz=307,slow=5.1,SNR=4.1
KSRS LR LR 00 18 52.9
comp=Z,37nm,18.8s,baz=295,slow=37
COLD Coldfoot 79.04 358 *eP* **P 23 42 06.9 +0.3**
comp=Z,4.5nm,1.0s
FFC Flin Flon 80.83 332 *i* P **P 23 42 18.0 +1.5**
ILAR Eielson Array 81.38 357 P **P 23 42 19.0 -0.3**
ILAR Eielson Array 81.38 357 P **P 23 42 19.0 -0.3**
comp=Z,1.4nm,0.8s,baz=358,slow=4.2,SNR=12
TRF Thorofare Moun 82.83 358 *eP* **P 23 42 26.0 -1.1**
comp=Z,3.2nm,0.9s
BDFB Brasilia 85.61 248 P **P 23 42 43.0 +1.2**
BDFB Brasilia 85.61 248 P **P 23 42 43.0 +1.2**
comp=Z,2.6nm,0.7s,baz=73,slow=11,SNR=4.5
ECSD EROS Data Cent 86.43 322 *eP* **P 23 42 45.0 -0.5**
comp=Z,2.7nm,0.8s
LRAL Lakeview Retre 88.07 309 *eP* **P 23 42 53.1 -0.4**
comp=Z,4.4nm,1.0s
PDAR Pinedale Array 93.29 329 P **P 23 43 17.4 -0.7**
PDAR Pinedale Array 93.29 329 P **P 23 43 17.4 -0.7**
comp=Z,0.3nm,0.6s,baz=29,slow=3.4,SNR=3.7
CPUP Villa Florida 98.85 244 LR LR 00 33 25.5

comp=Z,65nm,18.1s,baz=227,slow=38
WRA Warramunga Arr 116.08 97 PKP **PKPdf 23 48 45.5 -0.9**
WRA Warramunga Arr 116.08 97 PKP **PKPdf 23 48 45.6 -0.9**
comp=Z,0.4nm,0.9s,baz=316,slow=1.5,SNR=3.4
ASAR Alice Springs 117.47 101 PKP **PKPdf 23 48 48.0 -1.1**
ASAR Alice Springs 117.47 101 PKP **PKPdf 23 48 48.0 -1.1**
comp=Z,0.7nm,1.0s,baz=306,slow=1.5,SNR=3.0

MEX 11 23:34:23.2±0.4, 19°42N×103°83W, h96km±3km, MD3.8, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZ5V		**0.22**	**74**	*i* P	Pn	23 34 36.0	-1.4
EZ5V				*i* S	Sn	23 34 46.2	-1.7
R15V		**0.29**	**211**	*i* P	Pn	23 34 36.1	-1.3
R15V				*i* S	Sn	23 34 46.4	-1.5
MMIG	**Aquila**	**1.21**	**158**	*e*P	Pn	23 34 44.8	-1.0
MMIG				*i* S	Sn	23 35 00.9	-2.0
SFJM	**Santa Fe**	**1.29**	**35**	*i* P	Pn	23 34 45.9	-1.1
SFJM				*i* S	Sn	23 35 03.1	-1.8
ANIG	**Ahuacatlan**	**1.75**	**338**	*e*P	Pn	23 34 51.2	-1.4
ANIG				*i* S	Sn	23 35 12.4	-2.5
ZIIG	**Zihuatanejo**	**2.88**	**128**	*e*P	Pn	23 35 06.4	-0.8
ZIIG				*e*S	Sn	23 35 39.8	-1.3
ZIIG				*i* S		23 35 40.2	
ARIG	**Puente Sto Nin**	**3.48**	**108**	*e*P	Pn	23 35 15.4	0.0

IDC ***11*** *23:56:42.4±2.0, 42°.52S×170°.87E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/12, mbtmp3.4/2, Error ellipse: s-maj=124.4km s-min=42.9km az=32.0*
ISCJB ***11*** *23:56:48.9±0.7, 44°.22S±0°.03×168°.59E±0°.05, h8km±5km, mb3.4/2, Error ellipse: s-maj=6.7km s-min=4.9km az=38.9*
WEL ***11*** *23:56:49.2±0.1, 44°.23S×168°.60E, h5km, ML4.0/16, Error ellipse: s-maj=1.6km s-min=0.9km az=90.0*
WEL Felt in the Otago region, maximum reported intensity MM 3.

ISC 11 23:56:49.4±1.1, 44°23S±0°.04×168°62E±0°.04, h7km±9km, n21, σ0.56/23, 1C-4D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCZ	**Jackson Bay**	**0.18**	**34**	⇑PG	**Pg**	**23 56 53.2**	**+0.2**
JCZ				SG	**Sg**	**23 56 55.7**	**+0.2**
JCZ				AML	AML	23 56 56.1	
JCZ				AML	AML	23 56 56.2	
JCZ				AML	AML	23 56 56.3	
MSZ	**Milford Sound**	**0.67**	**228**	P*	**Pg**	**23 57 01.9**	**-0.3**
MSZ				SG	**Sg**	**23 57 11.0**	**+0.1**
MSZ				AML	AML	23 57 12.0	
MSZ				AML	AML	23 57 12.3	
MSZ				AML	AML	23 57 13.0	
WKZ	**Wanaka**	**0.67**	**155**	⇓P*	**Pg**	**23 57 02.2**	**0.0**
WKZ				SG	**Sg**	**23 57 11.1**	**+0.2**
WKZ				AML	AML	23 57 12.5	
WKZ				AML	AML	23 57 12.5	
WKZ				AML	AML	23 57 13.8	
FOZ	**Fox Glacier**	**1.02**	**50**	P*	**Pb**	**23 57 09.5**	**+0.2**
FOZ				AML	AML	23 57 28.3	
FOZ				AML	AML	23 57 28.4	
FOZ				AML	AML	23 57 30.0	
FOZ				AML	AML	23 57 30.0	
EAZ	**Earnscleugh**	**1.12**	**154**	⇓P*	**Pg**	**23 57 10.3**	**-0.5**
EAZ				S*	**Sg**	**23 57 25.4**	**0.0**
EAZ				AML	AML	23 57 29.1	
EAZ				AML	AML	23 57 29.3	
EAZ				AML	AML	23 57 29.3	
LBZ	**Lake Benmore**	**1.14**	**99**	⇓P*	**Pg**	**23 57 11.2**	**0.0**
LBZ				S*	**Sg**	**23 57 25.5**	**-0.4**
LBZ				AML	AML	23 57 30.7	
LBZ				AML	AML	23 57 32.2	
LBZ				AML	AML	23 57 32.2	
MLZ	**Mavora Lakes**	**1.17**	**196**	⇓P*	**Pg**	**23 57 11.1**	**-0.6**
MLZ				AML	AML	23 57 31.4	
MLZ				AML	AML	23 57 31.8	
DCZ	**Deep Cove**	**1.63**	**219**	PN	**Pn**	**23 57 17.9**	**-0.5**
DCZ				AML	AML	23 57 43.7	
DCZ				AML	AML	23 57 43.7	
DCZ				AML	AML	23 57 45.5	
DCZ				AML	AML	23 57 45.5	
ODZ	**Otahua Downs**	**1.66**	**120**	PN	**Pn**	**23 57 18.8**	**-0.1**
ODZ				AML	AML	23 57 45.9	
ODZ				AML	AML	23 57 46.7	
WHZ	**Wether Hill Ro**	**1.74**	**196**	PN	**Pn**	**23 57 19.9**	**-0.1**
WHZ				AML	AML	23 57 45.9	
WHZ				AML	AML	23 57 48.7	
RPZ	**Rata Peaks**	**1.83**	**75**	PN	**Pn**	**23 57 21.1**	**-0.1**
RPZ				AML	AML	23 57 50.2	
RPZ				AML	AML	23 57 51.5	
TUZ	**Tuapeka**	**1.87**	**158**	PN	**Pn**	**23 57 22.1**	**+0.3**
TUZ				AML	AML	23 57 51.4	
TUZ				AML	AML	23 57 51.7	
WVZ	**Waitaha Valley**	**1.92**	**54**	PN	**Pn**	**23 57 20.9**	**-1.5**
WVZ				AML	AML	23 57 51.0	
WVZ				AML	AML	23 57 54.8	
SYZ	**Scrubby Hill**	**2.34**	**171**	PN	**Pn**	**23 57 28.5**	**+0.3**
LTZ	**Lake Taylor**	**3.02**	**63**	AML	AML	23 58 38.2	
LTZ				AML	AML	23 58 41.2	
THZ	**Tophouse**	**3.99**	**53**	AML	AML	23 58 19.0	
QRZ	**Quartz Range**	**4.46**	**42**	AML	AML	23 59 30.4	
ASAR	**Alice Springs**	**34.99**	**294**	P	**P**	**00 03 43.8**	**+1.4**
	0.3nm,0.8s,baz=129,slow=6.7,SNR=4.0						
WRA	**Warramunga Arr**	**37.39**	**299**	P	**P**	**00 04 03.0**	**0.0**
	0.5nm,0.7s,baz=136,slow=7.9,SNR=9.8						
TORD	**Torodi Ar. Bea**	**147.06**	**204**	PKPbc	**PKPbc**	**00 16 32.8**	**-0.4**
	0.6nm,0.9s,baz=135,slow=1.8,SNR=4.1						
FINES	**FINESS Array B**	**152.10**	**321**	PKPbc	**PKPdf**	**00 16 37.6**	**-0.2**
	4.0nm,1.1s,baz=80,slow=4.5,SNR=7.1						

ISCJB ***12*** *00:05:15.6±1.0, 26°.13N±0°.09×127°.26E±0°.05, h50km±6km, mb3.3/4, Error ellipse: s-maj=14.4km s-min=7.6km az=169.8*
JMA ***12*** *00:05:16.2±0.1, 26°.14N×127°.26E, h45km±1km, M3.0*
JMA Felt I J1.
IDC ***12*** *00:05:20.6±2.7, 25°.98N×124°.94E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/24, mbtmp3.5/4, Error ellipse: s-maj=188.8km s-min=24.8km az=65.0*

ISC 12 00:05:15.6±1.3, 26°06N±0°.09×127°29E±0°.05, h46km±10km, n13, σ1.91/19, mb3.4/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.42**	**79**	P	**Pn**	**00 05 26.4**	**+0.7**
JJT2				S	**Sn**	**00 05 33.5**	**+0.6**
JKE	**Kume jima 2**	**0.52**	**301**	P	**Pn**	**00 05 26.7**	**-0.2**
JKE				S	**Sn**	**00 05 34.5**	**-0.5**
JAGN	**Aguni-jima**	**0.53**	**356**	P	**Pn**	**00 05 26.6**	**-0.5**
JAGN				S	**Sn**	**00 05 33.9**	**-1.3**
JIH	**Iheya**	**1.15**	**32**	P	**Pn**	**00 05 35.1**	**-0.2**
JIH				S	**Sn**	**00 05 49.4**	**-0.5**
JOW	**Kunigami**	**1.18**	**49**	P	**Pn**	**00 05 36.4**	**+0.7**
JOW				*e*S	**Sn**	**00 05 51.0**	**+0.4**
JTK	**Tokunoshima**	**2.27**	**40**	P	**Pn**	**00 05 50.9**	**+0.2**
JTK				S	**Sn**	**00 06 17.2**	**-0.4**
JAMN	**Amaminishikomi**	**2.75**	**37**	P	**Pn**	**00 05 57.5**	**+0.2**
JAM	**Amami Oshima**	**3.12**	**41**	P	**Pn**	**00 06 02.8**	**+0.4**
JAM				*e*S	**Sn**	**00 06 35.3**	**-3.2**
JMZ	**Minamidaito 2**	**3.55**	**93**	P	**Pn**	**00 06 06.2**	**-2.0**
SONM	**Songino Array**	**27.25**	**328**	P	**P**	**00 10 57.8**	**+2.3**
	0.4nm,0.6s,baz=140,slow=9.5,SNR=4.5						
MKAR	**Makanchi Array**	**41.02**	**312**	P	**P**	**00 12 53.2**	**-1.1**
	0.4nm,0.5s,baz=100,slow=10.0,SNR=6.9						
ZALV	**Zalesovo Beam**	**41.88**	**323**	P	**P**	**00 13 01.9**	**+0.7**
	0.3nm,0.4s,baz=119,slow=5.1,SNR=3.4						
WRA	**Warramunga Arr**	**46.23**	**171**	P	P	00 13 50.1	+14
	0.4nm,0.9s,baz=349,slow=8.5,SNR=2.6						

IDC ***12*** *00:23:35.2±1.3, 6°.88S×130°.26E, h0km, mb4.0/3, mb1 4.4/6, mb1mx4.0/19, mbtmp4.3/6, ML4.5/3, Error ellipse: s-maj=69.8km s-min=20.3km az=74.0*
ISCJB ***12*** *00:23:41.9±0.5, 6°.94S±0°.03×130°.64E±0°.05, h78km, mb3.8/3, Error ellipse: s-maj=7.4km s-min=4.5km az=175.2*
AUST ***12*** *00:23:42.9, 6°.97S×130°.54E, h60km*

ISC 12 00:23:42.7±0.7, 7°03S±0°.05×130°61E±0°.07, h78km, n18, σ2.95/22, mb3.9/3, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.59**	**344**	P	**Pn**	**00 24 21.8**	**-0.7**
	baz=2.5,SNR=4.1						
BNDI				S	**Sn**	**00 24 50.6**	**-2.4**
	baz=2.5,SNR=3.1						
FAKI	**Fak Fak**	**4.40**	**22**	P	**Pn**	**00 24 47.0**	**-0.1**
	baz=4.4,SNR=14						
FAKI				S	**Sn**	**00 25 35.5**	**-1.6**
	baz=4.4,SNR=6.8						
MTN	**Manton Dam**	**5.80**	**175**	P	Pn	00 25 10.9	+4.7
	baz=5.9,SNR=11						
MTN				S	**Sn**	**00 26 14.2**	**+2.8**
	baz=5.9,SNR=9.6						
KDU	**Kakadu**	**5.92**	**162**	P	Pn	00 25 12.0	+4.2
	baz=6.0,SNR=70						
KDU				S	**Sn**	**00 26 19.2**	**+5.0**
	baz=6.0,SNR=7.2						
SWI	**Sorong**	**6.16**	**6**	S	Sn	00 26 13.6	-6.6
	baz=6.2,SNR=4.5						
SOEI	**Soe**	**6.83**	**246**	P	Pn	00 25 22.6	+2.2
	baz=6.8,SNR=8.1						
SOEI				S	**Sn**	**00 26 39.1**	**+2.2**
	baz=6.8,SNR=3.2						
KNRA	**Kununurra**	**8.78**	**192**	P	**Pn**	**00 25 48.8**	**+1.9**
	baz=8.9,SNR=61						
KNRA				S	**Sn**	**00 27 21.2**	**-3.2**
	baz=8.9,SNR=8.4						
JAY	**Jayapura**	**11.01**	**66**	S	Sn	00 28 34.6	+16
	baz=11,SNR=4.6						
FITZ	**Fitzroy Crossi**	**12.02**	**203**	Pn	**Pn**	**00 26 29.8**	**-1.3**
	6.3nm,0.3s,baz=27,slow=12,SNR=114						
FITZ				Sn	Sn	00 28 34.9	-8.6
	0.9nm,0.3s,baz=27,slow=18,SNR=5.6						
FITZ	**Fitzroy Crossi**	**12.02**	**203**	P	**Pn**	**00 26 30.1**	**-1.1**
	baz=12,SNR=36						
FITZ				S	**Sn**	**00 28 37.8**	**-5.7**
	baz=12,SNR=4.3						
WRA	**Warramunga Arr**	**13.34**	**165**	Pn	**Pn**	**00 26 49.2**	**+0.3**
	1.8nm,0.3s,baz=345,slow=13,SNR=70						
WRA				Sn	**Sn**	**00 29 10.7**	**-4.8**
	2.9nm,0.3s,baz=338,slow=19,SNR=18						
COEN	**Coen**	**14.14**	**120**	P	**P**	**00 27 04.3**	**-0.3**
	baz=14,SNR=8.6						
COEN				S	**Sn**	**00 29 33.7**	**-1.3**
	baz=14,SNR=4.7						
ASAR	**Alice Springs**	**16.84**	**170**	P	**P**	**00 27 35.2**	**+0.6**
	1.0nm,0.3s,baz=344,slow=9.9,SNR=59						
ASAR				S	**Sn**	**00 30 35.7**	**-4.7**
	1.0nm,0.3s,baz=354,slow=25,SNR=11						
MTSU	**Mount Surprise**	**17.33**	**131**	P	P	00 27 45.5	+5.5
	baz=18,SNR=5.5						
MEEK	**Meekatharra**	**22.60**	**209**	P	**P**	**00 28 39.7**	**+2.6**
	baz=23,SNR=4.5						
STKA	**Stephens Creek**	**26.76**	**159**	P	**P**	**00 29 18.8**	**+3.5**
	2.1nm,0.5s,baz=342,slow=7.5,SNR=6.3						
SONM	**Songino Array**	**58.66**	**341**	P	**P**	**00 33 33.7**	**+1.6**
	0.3nm,0.3s,baz=154,slow=5.7,SNR=3.1						
MKAR	**Makanchi Array**	**68.58**	**327**	P	**P**	**00 34 37.2**	**-0.1**
	0.7nm,0.6s,baz=114,slow=8.0,SNR=13						

KRSC 12 00:38:27.4±0.3, 53°24N×160°17E, h57km±46km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.17**	**212**	*i* P	Pn	00 38 36.5	+0.2
SPN				*e*S	Sn	00 38 42.8	+0.1
NLC	**Nalytchevo**	**0.50**	**262**	S	Sn	00 38 47.8	+0.2
SDLR	**Sedlovina**	**0.77**	**273**	*i* P	Pn	00 38 43.0	+0.5
SDLR				*i* S	Sn	00 38 54.3	+0.7
UGLR	**Uglovaya**	**0.81**	**268**	*i* P	Pn	00 38 43.7	+0.7
UGLR				*i* S	Sn	00 38 55.4	+1.0
SMAR	**Somma**	**0.82**	**272**	*i* P	Pn	00 38 43.6	+0.3
SMAR				*e*S	Sn	00 38 55.4	+0.4
KRER	**Koryakskii**	**0.86**	**275**	*i* P	Pn	00 38 44.3	+0.8
KRER				*e*S	Sn	00 38 56.5	+0.8
AVH	**Avacha**	**0.86**	**272**	*e*P	Pn	00 38 44.3	+0.7
AVH				*e*S	Sn	00 38 56.5	+1.0
KII	**Karymskiy**	**0.91**	**332**	*i* P	Pn	00 38 44.4	+0.2
KII				*e*S	Sn	00 38 55.9	-0.7
KOK	**Koryaka**	**0.92**	**274**	*i* P	Pn	00 38 45.0	+0.6
KOK				*e*S	Sn	00 38 57.3	+0.3
PET	**Petropavlovsk**	**0.94**	**257**	*i* P	Pn	00 38 45.0	+0.5
PET				*i* S	Sn	00 38 57.4	+0.3
RUS	**Russkaya**	**1.29**	**232**	*i* P	Pn	00 38 49.6	+0.5
RUS				*i* S	Sn	00 39 05.6	+0.2
GNL	**Ganaly**	**1.41**	**290**	*e*P	Pn	00 38 51.7	+0.8
GNL				*e*S	Sn	00 39 08.6	0.0
MTVR	**Mutnovka**	**1.42**	**239**	*i* P	Pn	00 38 52.0	+0.8
MTVR				*e*S	Sn	00 39 09.5	+0.5
GRL	**Gorelyy**	**1.45**	**242**	*e*P	Pn	00 38 52.9	+1.5
MKZ	**Mys Kozlova**	**1.61**	**34**	*e*P	Pn	00 38 53.3	-0.1
MKZ				*e*S	Sn	00 39 13.0	-0.1
ASAK	**Asacha**	**1.62**	**239**	*e*P	Pn	00 38 55.4	+1.6
ASAK				*e*S	Sn	00 39 15.6	+1.9
APC	**Apacha**	**1.84**	**261**	*e*P	Pn	00 38 58.2	+1.6
APC				*e*S	Sn	00 39 20.0	+1.2
TUMR	**Tumrok**	**2.05**	**360**	*i* P	Pn	00 39 01.3	+1.7
MIPR	**Malaya Ipel'ka**	**2.29**	**246**	*e*P	Pn	00 39 04.7	+2.0
KMNR	**Kamenistaya**	**2.52**	**1**	*e*P	Pn	00 39 09.5	+3.5
BZMR	**Bezymyannaya**	**2.71**	**4**	*e*P	Pn	00 39 12.2	+3.6
BZGR	**Bezymyannyi-Gr**	**2.72**	**6**	*e*P	Pn	00 39 11.3	+2.5
KPT	**Kopyto**	**2.73**	**1**	*e*P	Pn	00 39 10.9	+2.0
BZWR	**Bezymyannyi-We**	**2.74**	**4**	*e*P	Pn	00 39 11.7	+2.6
ZLN	**Zelenaya**	**2.81**	**7**	P	Pn	00 39 11.9	+2.0
ZLN				S	Sn	00 39 43.9	+1.2
ESO	**Esso**	**2.82**	**343**	*e*P	Pn	00 39 11.3	+1.2
KOZ	**Kozyrevsk**	**2.83**	**357**	P	Pn	00 39 12.8	+2.7
SRDR	**Sredinnyy**	**3.10**	**355**	*e*P	Pn	00 39 15.6	+1.8
SRDR				*e*S	Sn	00 39 51.4	+1.8
KBG	**Krutoberegovo**	**3.36**	**25**	*e*S	Sn	00 39 57.0	+1.1
BDR	**Baidarnaya**	**3.39**	**10**	P	Pn	00 39 20.4	+2.5
BDR				*e*S	Sn	00 39 59.1	+2.2
SMKR	**Semkarok**	**3.43**	**12**	P	Pn	00 39 20.6	+2.2
SMKR				*e*S	Sn	00 39 59.6	+1.7
SRKR	**Sorokina**	**3.47**	**9**	P	Pn	00 39 20.4	+1.4
BKI	**Bering**	**3.93**	**58**	S	Sn	00 40 06.6	-3.4

IDC 12 01:34:58.6±3.1, 31°.85S×178°.09W, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.6/18, mbtmp3.6/3, ML3.2/1, Error ellipse: s-maj=71.7km s-min=36.4km az=113.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.51**	**210**	Pn	Pn	01 36 50.1	+0.8
	0.3nm,0.3s,baz=14,slow=12,SNR=2.4						
URZ				Sn	Sn	01 38 13.4	-1.8
	1.3nm,0.3s,baz=187,slow=9.9,SNR=8.2						
ASAR	**Alice Springs**	**42.97**	**269**	P	P	01 43 00.1	+0.4
	0.2nm,0.4s,baz=109,slow=7.5,SNR=4.3						
WRA	**Warramunga Arr**	**44.09**	**274**	P	P	01 43 08.4	-0.4
	0.3nm,0.3s,baz=114,slow=7.8,SNR=13						
FINES	**FINESS Array B**	**146.47**	**339**	PKPbc	PKPdf	01 54 39.9	+0.3
	0.8nm,0.8s,baz=64,slow=3.2,SNR=5.7						

IDC ***12*** *02:32:34.2±2.5, 33°.92N×135°.81E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/27, mbtmp3.5/5, ML3.6/2, Error ellipse: s-maj=65.7km s-min=28.3km az=58.0*
ISCJB ***12*** *02:32:41.3±0.5, 33°.85N±0°.04×135°.39E±0°.04, h55km±5km, mb3.2/3, Error ellipse: s-maj=6.8km s-min=5.1km az=176.3*
JMA ***12*** *02:32:42.5, 33°.87N×135°.41E, h47km±1km, M3.3*
JMA Felt I J1.

ISC 12 02:32:42.1±0.9, 33°85N±0°.04×135°40E±0°.03, h49km±7km, n16, σ0.70/28, mb3.2/3, 5C-5D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.04**	**269**	⇓P	**Pn**	**02 32 49.7**	**+0.1**
JWM				S	**Sn**	**02 32 54.7**	**-0.3**
JWY	**Kouya**	**0.40**	**24**	⇓P	**Pn**	**02 32 52.4**	**+0.1**
JWY				S	**Sn**	**02 32 59.2**	**-0.3**
JWZ	**Kozaga**	**0.41**	**140**	⇓P	**Pn**	**02 32 52.4**	**+0.1**
JWZ				S	**Sn**	**02 32 59.8**	**+0.2**
JAJ2	**Tsuna**	**0.71**	**323**	⇓P	**Pn**	**02 32 56.2**	**+0.3**
JAJ2				S	**Sn**	**02 33 06.1**	**+0.2**
JAI	**Aioi**	**0.79**	**266**	⇑P	**Pn**	**02 32 57.0**	**+0.1**
JAI				S	**Sn**	**02 33 07.7**	**-0.1**
JKN2	**Miekihoku**	**0.82**	**62**	⇑P	**Pn**	**02 32 57.3**	**-0.1**
JKN2				S	**Sn**	**02 33 08.0**	**-0.6**
JHE	**Heguri**	**0.84**	**17**	⇑P	**Pn**	**02 32 57.6**	**0.0**
JHE				S	**Sn**	**02 33 08.5**	**-0.4**
TTO1	**TONANKAI O.B.S**	**1.18**	**101**	P	**Pn**	**02 33 02.1**	**+0.2**
TTO1				S	**Sn**	**02 33 17.5**	**+0.8**
TSUJ	**Tsu 2**	**1.21**	**44**	⇑P	**Pn**	**02 33 02.2**	**-0.3**
TSUJ				*e*S	**Sn**	**02 33 17.5**	**-0.3**
JIE	**Ise**	**1.21**	**63**	⇑P	**Pn**	**02 33 02.8**	**+0.1**
JIE				S	**Sn**	**02 33 17.8**	**-0.2**
JKS	**Kasai**	**1.22**	**338**	⇓P	**Pn**	**02 33 02.8**	**+0.1**
JKS				S	**Sn**	**02 33 17.6**	**-0.5**
JNU	**Nakatsue**	**3.84**	**260**	Pn	**Pn**	**02 33 39.2**	**+0.4**
	5.7nm,0.3s,baz=53,slow=3.5,SNR=64						
JNU				Sn	**Sn**	**02 34 20.2**	**-2.5**
	1.3nm,0.3s,baz=165,slow=18,SNR=3.9						
KSRS	**Korea Array**	**7.07**	**303**	Pn	**Pn**	**02 34 24.6**	**+1.7**
	0.4nm,0.3s,baz=120,slow=14,SNR=3.2						
SONM	**Songino Array**	**25.83**	**311**	P	**P**	**02 38 08.8**	**0.0**
	0.3nm,0.6s,baz=121,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**41.74**	**304**	P	**P**	**02 40 26.7**	**+0.3**
	0.3nm,0.6s,baz=81,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**53.50**	**181**	P	**P**	**02 41 57.2**	**-0.4**
	0.7nm,0.9s,baz=358,slow=7.7,SNR=5.1						

NIED ***12*** *02:36:00.33°.90N×135°.40E, h53km, Mw3.6 Best double couple: M0 3.09000×10^14 NP1:φs346.00000°, δ89.00000°, λ-68.00000°. NP2:φs80.00000°, δ22.00000°, λ-176.00000°.*
IDC ***12*** *02:36:11.4±2.5, 33°.86N×135°.74E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.4/27, mbtmp3.5/5, ML3.5/2, MS2.4/1, Ms1 2.4/1, ms1mx2.2/29, Error ellipse: s-maj=66.8km s-min=27.1km az=58.0*
ISCJB ***12*** *02:36:17.8±0.5, 33°.84N±0°.04×135°.39E±0°.04, h53km±4km, mb3.3/3, Error ellipse: s-maj=6.9km s-min=4.8km az=160.8*
JMA ***12*** *02:36:18.9, 33°.87N×135°.41E, h47km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs189.00000°, δ81.00000°, λ78.00000°. NP2:φs65.00000°, δ15.00000°, λ145.00000°. Principal axes: T Plg52.0000°, Azm85.0000°; N Plg12.0000°, Azm191.0000°; P Plg35.0000°, Azm290.0000°;*
JMA Felt II J1.

ISC 12 02:36:18.8±0.9, 33°.85N±0°.04×135°.40E±0°.03, h46km±7km, n18, σ0.81/29, mb3.5/3, 2C-6D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.04**	**277**	⇑P	**Pn**	**02 36 26.2**	**+0.2**
JWM				S	**Sn**	**02 36 31.2**	**+0.1**
JWY	**Kouya**	**0.41**	**23**	⇓P	**Pn**	**02 36 28.8**	**-0.1**
JWY				S	**Sn**	**02 36 35.7**	**-0.2**
JWZ	**Kozaga**	**0.41**	**140**	⇓P	**Pn**	**02 36 28.9**	**+0.1**
JWZ				S	**Sn**	**02 36 36.2**	**+0.4**
JAJ2	**Tsuna**	**0.71**	**323**	P	**Pn**	**02 36 32.7**	**+0.1**
JAJ2				S	**Sn**	**02 36 42.5**	**-0.1**
JAI	**Aioi**	**0.79**	**266**	⇑P	**Pn**	**02 36 33.5**	**-0.2**
JAI				S	**Sn**	**02 36 43.9**	**-0.5**
JKN2	**Miekihoku**	**0.83**	**61**	⇓P	**Pn**	**02 36 33.8**	**-0.3**
JKN2				S	**Sn**	**02 36 44.3**	**-0.9**
JHE	**Heguri**	**0.84**	**16**	⇓P	**Pn**	**02 36 34.0**	**-0.4**
JHE				S	**Sn**	**02 36 45.2**	**-0.5**
TTO1	**TONANKAI O.B.S**	**1.18**	**101**	⇓P	**Pn**	**02 36 38.5**	**-0.1**
TSUJ	**Tsu 2**	**1.21**	**44**	P	**Pn**	**02 36 38.7**	**-0.6**
TSUJ				S	**Sn**	**02 36 53.5**	**-1.0**
JIE	**Ise**	**1.21**	**63**	P	**Pn**	**02 36 39.4**	**0.0**
JIE				S	**Sn**	**02 36 54.1**	**-0.6**
JKS	**Kasai**	**1.22**	**338**	⇓P	**Pn**	**02 36 39.3**	**-0.2**
JKS				S	**Sn**	**02 36 54.1**	**-0.8**
MAT	**Matsushiro**	**3.54**	**40**	P	**Pn**	**02 37 12.1**	**+0.8**
MAT				*e*S	**Sn**	**02 37 55.1**	**+3.2**
JNU	**Nakatsue**	**3.85**	**260**	Pn	**Pn**	**02 37 15.8**	**+0.2**
	3.1nm,0.3s,baz=74,slow=6.7,SNR=20						
JNU				Sn	**Sn**	**02 37 59.4**	**-0.1**
	3.0nm,0.3s,baz=172,slow=19,SNR=5.9						
KSRS	**Korea Array**	**7.07**	**303**	Pn	**Pn**	**02 38 00.3**	**+0.6**
	0.9nm,0.3s,baz=119,slow=14,SNR=6.2						
ASAJ	**Asahikawa**	**11.68**	**26**	LR	LR	02 42 56.6	
	comp=Z,20nm,19.6s,baz=180,slow=35						
SONM	**Songino Array**	**25.83**	**311**	P	**P**	**02 41 46.2**	**+0.3**
	0.4nm,0.7s,baz=115,slow=10.0,SNR=3.8						
MKAR	**Makanchi Array**	**41.75**	**304**	P	**P**	**02 44 03.9**	**+0.4**
	0.5nm,0.5s,baz=92,slow=10,SNR=6.3						
WRA	**Warramunga Arr**	**53.50**	**181**	P	**P**	**02 45 33.8**	**-0.8**
	0.7nm,1.1s,baz=357,slow=7.7,SNR=4.0						

IDC ***12*** *02:37:07.7±1.5, 38°.59N×22°.11E, h0km, mb3.1/3, mb1 3.2/4, mb1mx3.1/26, mbtmp3.1/4, ML2.6/1, Error ellipse: s-maj=59.2km s-min=24.7km az=158.0*
ISCJB ***12*** *02:37:09.2±0.2, 38°.34N±0°.01×22°.14E±0°.02, h7km±2km, mb3.2/2, Error ellipse: s-maj=2.4km s-min=2.2km az=157.0*
CSEM ***12*** *02:37:09.3±0.1, 38°.33N×22°.15E, h8km, MD3.1, Error ellipse: s-maj=1.9km s-min=1.7km az=57.0*
ATH ***12*** *02:37:09.1, 38°.34N×22°.16E, h12km±1km, MD3.1/19, ML3.0*
THE ***12*** *02:37:09.6, 38°.33N×22°.16E, h3km, ML3.0/16, Error ellipse: s-maj=0.6km s-min=0.2km az=275.0*

ISC 12 02:37:09.2±0.7, 38°34N±0°.01×22°15E±0°.01, h9km±4km, n115, σ0.67/196, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.05**	**353**	P	**Pg**	**02 37 11.4**	**+0.2**
KALE				S	**

RLS				S	Sb	02 37 30.1	-0.5
RLS	**Riolos of Patr**	**0.61**	**242**	*e*PB	Pg	02 37 21.0	+0.1
RLS				*e*SB	Sb	02 37 30.1	-0.5
RLS	**Riolos of Patr**	**0.61**	**242**	P	Pg	02 37 21.0	+0.1
RLS				S	Sb	02 37 30.1	-0.5
AXS	**Araxos**	**0.62**	**257**	P	Pg	02 37 21.6	+0.3
AXS				S	Sb	02 37 30.9	-0.2
AXS	**Araxos**	**0.62**	**257**	P	Pg	02 37 21.6	+0.3
AXS				S	Sb	02 37 30.9	-0.2
EVR	**Evrytania**	**0.63**	**335**	P	Pg	02 37 21.4	0.0
EVR				S	Sb	02 37 31.1	-0.4
EVR	**Evrytania**	**0.63**	**335**	*e*PG	Pg	02 37 21.3	-0.1
EVR				*e*SB	Sb	02 37 31.0	-0.4
EVR	**Evrytania**	**0.63**	**335**	P	Pg	02 37 21.4	0.0
EVR				*e*Sb	Sb	02 37 31.0	-0.4
MAKR	**Makrakomi, Fth**	**0.67**	**359**	P	Pg	02 37 22.2	0.0
MAKR				S	Sb	02 37 32.3	-0.2
MAKR	**Makrakomi, Fth**	**0.67**	**359**	P	Pg	02 37 22.2	0.0
MAKR				S	Sb	02 37 32.3	-0.2
AGG	**Agios Georgios**	**0.69**	**12**	P	Pg	02 37 22.1	-0.5
AGG				S	Sb	02 37 32.8	-0.4
AGG	**Agios Georgios**	**0.69**	**12**	*e*PG	Pg	02 37 22.0	-0.5
AGG				*e*SB	Sg	02 37 32.5	+0.8
AGG	**Agios Georgios**	**0.69**	**12**	P	Pg	02 37 22.1	-0.5
AGG				*e*Sb	Sg	02 37 32.5	+0.8
LTK	**Loutraki**	**0.72**	**116**	P	Pg	02 37 22.8	-0.3
LTK				S	Sg	02 37 33.1	+0.6
LTK	**Loutraki**	**0.72**	**116**	*e*PB	Pg	02 37 23.2	+0.1
LTK				*e*SB	Sb	02 37 33.4	-0.5
LTK	**Loutraki**	**0.72**	**116**	P	Pg	02 37 22.8	-0.3
LTK	**Loutraki**	**0.72**	**116**	*e*Pb	Pg	02 37 23.2	+0.1
LTK				S	Sg	02 37 33.1	+0.6
LKR	**Lokris**	**0.74**	**65**	*e*PG	Pg	02 37 22.9	-0.5
LKR				*e*SB	Sg	02 37 33.3	+0.3
LKR	**Lokris**	**0.74**	**65**	*e*Pg	Pg	02 37 22.9	-0.5
LKR				*e*Sb	Sg	02 37 33.3	+0.3
AMT	**Artemida-Makis**	**0.88**	**203**	P	Pg	02 37 25.9	-0.2
AMT				S	Sb	02 37 38.7	+0.2
AMT	**Artemida-Makis**	**0.88**	**203**	*e*PB	Pg	02 37 25.9	-0.2
AMT				*e*SB	Sb	02 37 38.7	+0.2
AMT	**Artemida-Makis**	**0.88**	**203**	P	Pg	02 37 25.9	-0.2
AMT				S	Sb	02 37 38.7	+0.2
VLX	**Vlachokerasia**	**0.99**	**169**	P	Pg	02 37 27.5	-0.7
VLX				S	Sb	02 37 42.2	+0.5
VLX	**Vlachokerasia**	**0.99**	**169**	*e*PG	Pg	02 37 27.4	-0.7
VLX				*e*SB	Sb	02 37 41.6	-0.1
VLX	**Vlachokerasia**	**0.99**	**169**	P	Pg	02 37 27.5	-0.7
VLX				*e*Sb	Sb	02 37 41.6	-0.1
VLX				S	Sb	02 37 42.2	+0.5
SMIA	**Simia**	**0.99**	**57**	P	Pg	02 37 28.1	-0.1
SMIA				S	Sn	02 37 42.9	-0.5
SMIA	**Simia**	**0.99**	**57**	P	Pg	02 37 28.1	-0.1
SMIA				S	Sn	02 37 42.9	-0.5
ITM	**Ithomi**	**1.17**	**189**	P	Pb	02 37 30.8	-0.9
ITM	**Ithomi**	**1.17**	**189**	*e*PN	Pb	02 37 30.7	-0.9
ITM	**Ithomi**	**1.17**	**189**	P	Pb	02 37 30.8	-0.9
MRKA	**Markates**	**1.19**	**72**	P	Pb	02 37 31.7	-0.2
MRKA				S	Sn	02 37 48.8	+0.6
MRKA	**Markates**	**1.19**	**72**	P	Pb	02 37 31.7	-0.2
MRKA				S	Sn	02 37 48.8	+0.6
DID	**Didima**	**1.20**	**134**	P	Pb	02 37 31.6	-0.5
DID				S	Sn	02 37 49.0	+0.4
DID	**Didima**	**1.20**	**134**	*e*PB	Pb	02 37 31.6	-0.5
DID				*e*SB	Sg	02 37 48.0	+0.2
DID	**Didima**	**1.20**	**134**	P	Pb	02 37 31.6	-0.5
DID				*e*Sb	Sg	02 37 48.0	+0.2
DID				S	Sn	02 37 49.0	+0.4
DIDY	**Didyma**	**1.21**	**135**	P	Pb	02 37 31.8	-0.5
DIDY				S	Sn	02 37 49.3	+0.5
DIDY	**Didyma**	**1.21**	**135**	P	Pb	02 37 31.8	-0.5
DIDY				S	Sn	02 37 49.3	+0.5
THL	**Klokotos Trika**	**1.22**	**355**	P	Pn	02 37 32.5	0.0
THL				S	Sn	02 37 50.5	+1.4
THL	**Klokotos Trika**	**1.22**	**355**	*e*PB	Pn	02 37 32.4	0.0
THL				*e*SB	Sn	02 37 50.1	+1.0
THL	**Klokotos Trika**	**1.22**	**355**	P	Pn	02 37 32.5	0.0
THL				*e*Sb	Sn	02 37 50.1	+1.0
VLS	**Valsamata**	**1.24**	**263**	P	Pn	02 37 32.1	-0.6
VLS	**Valsamata**	**1.24**	**263**	*e*PN	Pn	02 37 32.0	-0.6
VLS				*e*SB	Sn	02 37 50.6	+1.1
VLS	**Valsamata**	**1.24**	**263**	P	Pn	02 37 32.1	-0.6
VLS				*e*Sb	Sn	02 37 50.6	+1.1
LKD2	**Lefkada island**	**1.25**	**291**	P	Pb	02 37 33.1	+0.1
LKD2				S	Sn	02 37 51.2	+1.4
LKD2	**Lefkada island**	**1.25**	**291**	*e*PB	Pb	02 37 33.1	+0.1
LKD2	**Lefkada island**	**1.25**	**291**	P	Pb	02 37 33.1	+0.1
LKD2				S	Sn	02 37 51.2	+1.4
NEO	**Neokhori**	**1.28**	**41**	*e*PB	Pn	02 37 33.5	+0.3
NEO	**Neokhori**	**1.28**	**41**	*e*Pb	Pn	02 37 33.5	+0.3
ATH	**Athens Observa**	**1.29**	**106**	P	Pn	02 37 33.5	+0.1
ATH				S	Sn	02 37 52.3	+1.6
ATH	**Athens Observa**	**1.29**	**106**	*e*PB	Pn	02 37 33.5	+0.1
ATH				*e*SB	Sn	02 37 51.0	+0.3
ATH	**Athens Observa**	**1.29**	**106**	P	Pn	02 37 33.5	+0.1
ATH				*e*Sb	Sn	02 37 51.0	+0.3
ATH				S	Sn	02 37 52.3	+1.6
XOR	**Xorichti**	**1.31**	**38**	P	Pn	02 37 33.8	+0.2
XOR				S	Sg	02 37 52.8	+1.5
XOR	**Xorichti**	**1.31**	**38**	P	Pn	02 37 33.8	+0.2
XOR				S	Sg	02 37 52.8	+1.5
SKIA	**Skiathos**	**1.32**	**51**	P	Pb	02 37 34.1	0.0
SKIA	**Skiathos**	**1.32**	**51**	P	Pb	02 37 34.1	0.0
ATHU	**Athens Univers**	**1.34**	**106**	P	Pb	02 37 34.4	-0.1
ATHU				S	Sg	02 37 53.4	+1.0
ATHU	**Athens Univers**	**1.34**	**106**	P	Pb	02 37 34.4	-0.1
ATHU				S	Sg	02 37 53.4	+1.0
PTL	**Penteli**	**1.39**	**102**	P	Pn	02 37 35.0	+0.3
PTL	**Penteli**	**1.39**	**102**	*e*PG	Pb	02 37 35.4	+0.2
PTL				*e*SB	Sb	02 37 52.5	-0.5
PTL	**Penteli**	**1.39**	**102**	P	Pn	02 37 35.0	+0.3
PTL	**Penteli**	**1.39**	**102**	*e*Pg	Pb	02 37 35.4	+0.2
PTL				*e*Sb	Sb	02 37 52.5	-0.5
PYL	**PYLOS**	**1.48**	**193**	*e*PG	Pn	02 37 36.2	+0.2
PYL	**PYLOS**	**1.48**	**193**	*e*Pg	Pn	02 37 36.2	+0.2
DYR	**Agios Nikonas**	**1.58**	**175**	P	Pn	02 37 37.9	+0.5
DYR	**Agios Nikonas**	**1.58**	**175**	*e*PG	Pn	02 37 37.8	+0.4
DYR	**Agios Nikonas**	**1.58**	**175**	P	Pn	02 37 37.9	+0.5
VLI	**Veliai**	**1.74**	**159**	P	Pn	02 37 39.7	+0.2
VLI				S	Sb	02 38 03.2	0.0
VLI	**Veliai**	**1.74**	**159**	*e*PN	Pn	02 37 40.0	+0.8
VLI	**Veliai**	**1.74**	**159**	P	Pn	02 37 39.7	+0.2
VLI	**Veliai**	**1.74**	**159**	*e*Pn	Pn	02 37 40.3	+0.8
VLI				S	Sb	02 38 03.2	0.0
LIT	**Litokhoron**	**1.78**	**9**	P	Pn	02 37 40.5	+0.4
LIT	**Litokhoron**	**1.78**	**9**	*e*PB	Pn	02 37 40.4	+0.4
LIT	**Litokhoron**	**1.78**	**9**	P	Pn	02 37 40.5	+0.4
KZN	**Kozani**	**1.98**	**352**	P	Pn	02 37 43.6	+0.6
KZN	**Kozani**	**1.98**	**352**	*e*PN	Pb	02 37 44.5	-1.0
KZN	**Kozani**	**1.98**	**352**	P	Pn	02 37 43.6	+0.6
KZN	**Kozani**	**1.98**	**352**	*e*Pn	Pb	02 37 44.5	-1.0
KEK	**Kerkira**	**2.28**	**308**	*e*PN	Pb	02 37 49.8	-0.8
KEK	**Kerkira**	**2.28**	**308**	*e*Pn	Pb	02 37 49.8	-0.8
FNA	**Florina**	**2.51**	**347**	P	Pn	02 37 51.2	+1.0
FNA	**Florina**	**2.51**	**347**	*e*PB	Pn	02 37 51.7	+1.5
FNA	**Florina**	**2.51**	**347**	P	Pn	02 37 51.2	+1.0
STON	**Ston**	**5.65**	**325**	*i* Pn	Pn	02 38 33.6	+0.4
STON					Sn	02 39 38.2	0.0
UDBI	**Udbina**	**7.82**	**324**	*e*Pn	Pn	02 39 02.3	-0.9
UDBI					Sn	02 40 27.8	-0.9
UDBI	**Udbina**	**7.82**	**324**	*e*Pn	Pn	02 39 02.2	-0.9
NVLJ	**Novalja**	**8.27**	**321**	*e*Pn	Pn	02 39 09.6	+0.3
NVLJ					Sn	02 40 40.9	-1.8
NVLJ	**Novalja**	**8.27**	**321**	*e*Pn	Pn	02 39 09.5	+0.3
NVLJ					Sn	02 40 40.9	-1.8
BRTR	**Keskin Array B**	**9.05**	**78**	Pn	Pn	02 39 21.7	+1.6
	0.1nm,0.3s,baz=253,slow=13,SNR=2.8						
ESDC	**Sonseca Array**	**20.32**	**282**	P	P	02 41 45.1	-0.4
	0.6nm,0.7s,baz=76,slow=12,SNR=5.3						
TORD	**Torodi Ar. Bea**	**30.98**	**221**	P	P	02 43 28.1	+1.2
	0.3nm,0.9s,baz=31,slow=8.8,SNR=6.0						
MKAR	**Makanchi Array**	**44.12**	**59**	P	P	02 45 16.0	-1.8
	0.2nm,0.4s,baz=285,slow=7.7,SNR=4.6						

IDC **12** *02:37:44.8*±*7.1,37.*′*76N*±*70.*′*01E,h0*km*,mb3.5/1, mb1 3.8/3,mb1mx3.3/27,mbtmp3.8/3,ML3.9/2,Error ellipse: s-maj=273.5km s-min=24.1km az=145.0*

ISC 12 02:37:47.6±**1.7,37.9N**±**0.1**×**69.8E**±**0.2,h12**km**,n12, σ2**§**05/8,2C-2D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.21**	**34**	P	Pn	02 39 10.6	+4.9
	SNR=26						
KK31	**Karatay Array**	**5.24**	**6**	⇓Pn	**Pb**	**02 39 17.9**	**-1.2**
	0.4nm,0.2s,baz=177,slow=13,SNR=33						
KK31				⇓Sn	**Sb**	**02 40 23.1**	**+1.2**
	1.0nm,0.3s,baz=184,slow=22,SNR=4.5						
KK31				⇑Lg	Lg	02 40 49.8	
	2.1nm,0.5s						
EKS2	**Erkin-Say**	**5.67**	**32**	P	Pn	02 39 18.0	+6.2
	SNR=6.0						
KZA	**Kyzart**	**5.94**	**44**	P	**Pn**	**02 39 17.4**	**+1.6**
	SNR=6.0						
AAK	**Ala-Archa**	**5.96**	**36**	P	Pn	02 39 20.4	+4.5
	SNR=5.6						
CHMS	**Chumysh**	**6.37**	**35**	P	Pn	02 39 25.2	+3.9
	SNR=11						
USP	**Ospenovka**	**6.47**	**32**	P	Pn	02 39 27.0	+4.3
	SNR=5.5						
TKM2	**Tokmak 2**	**6.72**	**40**	⇑Pn	**Pn**	**02 39 28.3**	**+2.0**
	5.2nm,0.5s						
TKM2	**Tokmak 2**	**6.72**	**40**	P	**Pn**	**02 39 28.6**	**+2.4**
	SNR=9.4						
MKAR	**Makanchi Array**	**12.84**	**42**	Pn	**Pn**	**02 40 48.1**	**-1.8**
	0.2nm,0.3s,baz=226,slow=15,SNR=13						
ZALV	**Zalesovo Beam**	**19.11**	**28**	P	**P**	**02 42 08.6**	**-1.6**
	0.9nm,0.3s,baz=216,slow=10,SNR=9.5						
TORD	**Torodi Ar. Bea**	**64.77**	**267**	P	**P**	**02 48 26.8**	**+0.5**
	0.7nm,1.1s,baz=55,slow=6.0,SNR=5.1						

ISCJB **12** *02:58:19.5*±*0.9,5.*′*02S*±*0.*′*02*×*134.*′*04E*±*0.*′*03,h13*km±*5*km*, mb5.2/106,MS4.3/28,Error ellipse: s-maj=4.6km s-min=3.4km az=145.2*

IDC **12** *02:58:19.5*±*0.3,4.*′*99S*×*134.*′*03E,h0*km*,mb5.1/23, mb1 5.2/28,mb1mx5.2/29,mbtmp5.1/28,ML5.1/5,MS4.4/11, Ms1 4.4/11,ms1mx4.0/26,Error ellipse: s-maj=17.6km s-min=9.8km az=77.0*

BJI **12** *02:58:20.3,5.*′*39S*×*134.*′*33E,h42*km*,mB5.2/24,mb5.2/43, Ms4.7/33,Ms7 4.4/32*

NEIC **12** *02:58:21.0*±*2.0,5.*′*01S*×*134.*′*07E,h11*km±*12*km*,mb5.4/47, Error ellipse: s-maj=5.5km s-min=3.9km az=62.0*

DJA **12** *02:58:22.8*±*1.0,5*°*S*±*2*°*×13*°*4E*±*°,h14*km±*8*km*,M5.4/44, mB5.8/27,mb5.5/44,MLv5.5/10,Mw(mB)5.3/27,Mwp6.3/1*

BKK **12** *02:58:22.6*±*0.2,5*°*S*±*4*°*×13*°*4E*±*°,h10*km*,M5.3/30, mB5.5/13,mb5.3/30,MLv5.8/2,Mw(mB)5.0/13,Mwp6.5/1*

AUST **12** *02:58:23.2,4.*′*96S*×*134.*′*03E,h35*km*

MOS **12** *02:58:23.2*±*1.0,4.*′*92S*×*134.*′*03E,h33*km*,mb5.4/52, MS4.2/11,Error ellipse: s-maj=10.8km s-min=5.8km az=111.6*

GCMT **12** *02:58:25.0*±*0.2,4.*′*85S*×*133.*′*93E,h23*km*,MW5.1,Moment Tensor Solution. s45,c60; s75,c112; Moment tensor: Scale 10*16*Nm; Mrr-5.83*±*.23; Mθθ-0.36*±*.15; Mφφ6.19*±*.16; Mrθ-0.28*±*.27; Mrφ0.13*±*.12; Mθφ0.89*±*.22; Best double couple: M*w*6.10000×10*16 *NP1:*φ*s4.00000°, δ41.00000°, λ-85.00000°. NP2:*φ*s178.00000°, δ49.00000°, λ-94.00000°. Principal axes: T 6.2600, Plg4.0000°, Azm271.0000°; N -0.3500, Plg3.0000°, Azm181.0000°; P -5.9100, Plg85.0000°, Azm55.0000°; Data Used: IU IC G CN II.*

TEH **12** *02:58:25.0,5.*′*04S*×*134.*′*06E,h35*km*,ML5.4*

ISC 12 02:58:23.7±**1.0,5.03S**±**0.03**×**134.01E**±**0.04,h30**km±**7km, n608,σ1§28/647,mb5.3/112,MS4.3/29,8C-16D,Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.74**	**320**	P	**Pn**	**02 59 04.7**	**-0.9**
FAKI				S	**Sn**	**02 59 34.4**	**-3.4**
FAKI	**Fak Fak**	**2.74**	**320**	P	**Pn**	**02 59 04.8**	**-0.9**
	baz=2.7,SNR=468						
FAKI				S	**Sn**	**02 59 35.9**	**-1.9**
	baz=2.7,SNR=6.1						
RKPI	**Ransiki, Papua**	**3.50**	**3**	P	**Pn**	**02 59 16.1**	**-0.1**
RKPI				S	**Sn**	**02 59 53.8**	**-2.8**
SRPI	**Serui, Papua**	**3.84**	**35**	P	**Pn**	**02 59 20.5**	**-0.4**
BNDI	**Bandanaira**	**4.13**	**277**	P	**Pn**	**02 59 25.4**	**+0.7**
BNDI	**Bandanaira**	**4.13**	**277**	P	**Pn**	**02 59 25.5**	**+0.7**
	baz=4.1,SNR=49						
BAKI	**Biak**	**4.35**	**29**	P	**Pn**	**02 59 27.7**	**-0.1**
WAMI	**Wamena**	**4.82**	**77**	P	Pn	02 59 39.1	+4.8
SWI	**Sorong**	**4.97**	**326**	P	**Pn**	**02 59 35.7**	**-0.7**
SWI	**Sorong**	**4.97**	**326**	P	**Pn**	**02 59 35.6**	**-0.7**
	baz=4.9,SNR=32						
SWI				S	**Sn**	**03 00 29.9**	**-2.9**
	baz=4.9,SNR=4.3						
MSAI	**Masohi**	**5.34**	**288**	P	**Pn**	**02 59 41.5**	**0.0**
	276nm,1.1s,4μm0.9nm						
NLAI	**Namlea**	**7.12**	**284**	P	**Pn**	**03 00 06.5**	**+0.5**
	406nm,1.1s,12μm1.8nm						
NLAI				S	**Sn**	**03 01 25.7**	**-0.2**
	406nm,1.1s,12μm1.8nm						
JAY	**Jayapura**	**7.13**	**70**	P	**Pn**	**03 00 06.3**	**+0.2**
	362nm,0.9s,15μm1.7nm						
JAY	**Jayapura**	**7.13**	**70**	P	**Pn**	**03 00 06.1**	**0.0**
	baz=7.1,SNR=61						
MMPI	**Merauke**	**7.19**	**119**	S	**Sn**	**03 01 29.5**	**+1.9**
KDU	**Kakadu**	**7.76**	**191**	P	**Pn**	**03 00 15.2**	**+0.5**
	baz=7.9,SNR=268						
KDU				S	**Sn**	**03 01 38.5**	**-3.1**
	baz=7.9,SNR=8.0						
LBMI	**Labuha**	**7.83**	**304**	P	**Pn**	**03 00 15.6**	**-0.1**
	592nm,1.1s,5μm2.0nm						
MTN	**Manton Dam**	**8.27**	**200**	P	**Pn**	**03 00 21.6**	**-0.1**
	baz=8.4,SNR=1000						
MTN				S	**Sn**	**03 01 52.9**	**-1.3**
	baz=8.4,SNR=6.9						
TNTI	**Ternate**	**8.79**	**311**	P	**Pn**	**03 00 28.8**	**-0.1**
	186nm,1.2s						
SOEI	**Soe**	**10.74**	**244**	P	**Pn**	**03 00 55.0**	**-0.8**
	1μm,0.8s,9μm						
SOEI	**Soe**	**10.74**	**244**	P	**Pn**	**03 00 55.0**	**-0.8**
	baz=11,SNR=88						
SOEI				S	**Sn**	**03 02 51.3**	**-3.9**
	baz=11,SNR=16						
MNI	**Manado**	**11.20**	**305**	P	**Pn**	**03 01 01.5**	**-0.4**
	342nm,1.1s,155μm						
BBSI	**Bau Bau**	**11.40**	**267**	P	Pn	03 01 10.7	+6.0
KMSI	**Cibinong**	**11.46**	**299**	P	**Pn**	**03 01 05.4**	**-0.1**
	1μm,1.1s,8μm						
KNRA	**Kununurra**	**11.77**	**206**	P	**Pn**	**03 01 08.2**	**-1.5**
	baz=12,SNR=388						
KNRA				S	Sn	03 03 12.0	-8.1
	baz=12,SNR=26						
LUWI	**Luwuk**	**11.90**	**289**	P	**Pn**	**03 01 10.3**	**-1.2**
	722nm,1.2s,7μm						
LUWI	**Luwuk**	**11.90**	**289**	P	**Pn**	**03 01 10.5**	**-1.0**
	baz=12,SNR=15						
MMRI	**Maumere**	**12.23**	**252**	P	**Pn**	**03 01 16.6**	**+0.6**
	162nm,0.9s,2μm						
GTOI	**Gorontalo**	**12.35**	**297**	P	**Pn**	**03 01 19.1**	**+1.5**
	671nm,1.1s,6μm						
COEN	**Coen**	**12.66**	**135**	*e*Pn	**Pn**	**03 01 19.4**	**-2.5**
	130nm,0.8s						
COEN				*e*Sn	Sn	03 03 33.1	-8.8
COEN	**Coen**	**12.66**	**135**	P	**Pn**	**03 01 19.1**	**-2.7**
	baz=13,SNR=444						
MRSI	**Marisa**	**13.24**	**294**	P	**Pn**	**03 01 28.2**	**-1.6**
	112nm,1.3s,1μm						
BSSI	**Bau Bau, Buton**	**13.51**	**265**	P	P	03 01 38.8	-3.5
PMG	**Port Moresby**	**13.74**	**109**	*e*Pn	**Pn**	**03 01 34.9**	**-1.7**
PMG				Sn	Sn	03 03 59.3	-9.2
PMG				Lg	Lg	03 05 46.9	
PMG	**Port Moresby**	**13.74**	**109**	P	**Pn**	**03 01 35.2**	**-1.5**
	283nm,0.9s,2μm						
PMG	**Port Moresby**	**13.74**	**109**	Pn	**Pn**	**03 01 35.0**	**-1.7**
	4.4nm,0.3s,baz=298,slow=7.3,SNR=51						
PMG				Sn	Sn	03 03 59.3	-9.2
	4.0nm,0.3s,baz=243,slow=18,SNR=3.5						
PMG				Lg	Lg	03 05 46.9	
	0.8nm,0.3s,baz=19,slow=20,SNR=2.2						
PMG				LR	LR	03 07 44.5	
	comp=Z,2μm,18.2s,baz=151,slow=41						
BKSI	**Bulukumba**	**13.84**	**268**	P	**Pn**	**03 01 39.0**	**+1.0**
	148nm,1.1s,2μm						
KAPI	**Kappang**	**14.21**	**269**	Pn	**Pn**	**03 01 42.1**	**-1.0**
	691nm,1.0s,SNR=5.7						
KAPI	**Kappang**	**14.21**	**269**	*e*Pn	**Pn**	**03 01 43.2**	**+0.2**
KAPI	**Kappang**	**14.21**	**269**	P	**Pn**	**03 01 44.0**	**+0.9**
	143nm,1.3s,1μm						
KAPI	**Kappang**	**14.21**	**269**	Pn	**Pn**	**03 01 42.6**	**-0.5**
	6.2nm,0.3s,baz=187,slow=15,SNR=10						
KAPI				LR	LR	03 07 04.0	
	comp=Z,853nm,21.9s,baz=117,slow=37						
SPSI	**Sidrap Palu**	**14.24**	**274**	P	**Pn**	**03 01 43.9**	**+0.4**
	205nm,1.0s,2μm						
TTSI	**Tana Toraja**	**14.30**	**277**	P	**Pn**	**03 01 45.5**	**+1.2**
	109nm,1.1s,2μm						
WSI	**Waingapu**	**14.36**	**250**	P	**P**	**03 01 51.0**	**-0.8**
WSI	**Waingapu**	**14.36**	**250**	S	Sn	03 04 17.4	-6.1
	baz=14,SNR=3.2						
WRAB	**Tennant Creek**	**14.82**	**179**	Pn	**Pn**	**03 01 49.7**	**-1.6**
	2μm,0.5s,SNR=6.8						
WRAB	**Tennant Creek**	**14.82**	**179**	*e*P	**Pn**	**03 01 48.7**	**-2.6**
WRAB				pmax	pmax		
	comp=Z,251nm,0.8s						
WRAB	**Tennant Creek**	**14.82**	**179**	*e*Pn	**Pn**	**03 01 48.7**	**-2.6**
	comp=Z,251nm,0.8s						
WRAB				*e*Sn	Sn	03 04 26.4	-8.3
WRA	**Warramunga Arr**	**14.83**	**179**	Pn	**Pn**	**03 01 49.6**	**-1.8**
WRA				Sn	Sn	03 04 23.4	-11
WRA				Lg	Lg	03 06 17.9	
WRA	**Warramunga Arr**	**14.83**	**179**	Pn	**Pn**	**03 01 49.6**	**-1.8**
	comp=Z,10nm,0.3s,baz=353,slow=13,SNR=196						
WRA				Sn	Sn	03 04 23.4	-11
	comp=Z,29nm,0.3s,baz=354,slow=23,SNR=8.3						
WRA				Lg	Lg	03 06 17.8	
	baz=349,slow=27,SNR=6.1						
FITZ	**Fitzroy Crossi**	**15.36**	**212**	*e*Pn	**Pn**	**03 01 54.1**	**-4.4**
	comp=Z,0.8nm,1.1s						
FITZ				*e*Sn	Sn	03 04 34.9	-13
FITZ	**Fitzroy Crossi**	**15.36**	**212**	Pn	**Pn**	**03 01 54.4**	**-4.0**
	comp=Z,19nm,0.3s,baz=37,slow=13,SNR=148						
FITZ				Sn	Sn	03 04 36.1	-12
	comp=Z,110nm,0.3s,baz=173,slow=16,SNR=16						
FITZ				LR	LR	03 08 41.6	
	comp=Z,833nm,18.1s,baz=37,slow=40						
FITZ	**Fitzroy Crossi**	**15.36**	**212**	P	**Pn**	**03 01 54.5**	**-4.0**
	baz=16,SNR=208						
FITZ				S	Sn	03 04 35.8	-12
	baz=16,SNR=18						
MTSU	**Mount Surprise**	**16.46**	**143**	P	**Pn**	**03 02 08.8**	**-4.0**
	baz=17,SNR=47						
MYLDM	**Lahad Datu**	**18.52**	**303**	P	**Pn**	**03 02 39.7**	**+1.5**
MYLDM	**Lahad Datu**	**18.52**	**303**	P	**Pn**	**03 02 40.5**	**+2.3**
	comp=Z,174nm,1.3s,comp=Z,4μm						
AS31	**Alice Springs**	**18.53**	**180**	*e*P	**P**	**03 02 36.5**	**-1.5**
AS31				*e*Sn	Sn	03 05 53.6	-11
ASAR	**Alice Springs**	**18.53**	**180**	P	**P**	**03 02 37.0**	**-1.1**
ASAR				S	Sn	03 05 54.8	-10
ASAR				Lg	Lg	03 08 10.2	
ASAR	**Alice Springs**	**18.53**	**180**	P	**P**	**03 02 37.0**	**-1.1**
	comp=Z,13nm,0.3s,baz=6.2,slow=10,SNR=158						
ASAR				S	Sn	03 05 54.8	-10
	comp=Z,5.8nm,0.3s,baz=4.3,slow=29,SNR=6.0						
ASAR				Lg	Lg	03 08 10.2	
	baz=341,slow=31,SNR=3.0						
ASAR				LR	LR	03 10 12.5	
	comp=Z,1μm,19.9s,baz=359,slow=38						
KHKI	**Kahang-Kahang**	**18.58**	**259**	P	**P**	**03 02 36.2**	**-2.3**
	comp=Z,98nm,1.2s						
TSM	**Tawau**	**18.59**	**300**	P	**Pn**	**03 02 38.9**	**-0.3**
SRBI	**Singaraja**	**18.92**	**260**	P	**P**	**03 02 41.3**	**-1.0**
	comp=Z,170nm,1.2s						
CTA	**Charters Tower**	**19.13**	**143**	P	**Pn**	**03 02 46.2**	**+0.7**
CTA				S	**S**	**03 06 26.0**	**+6.1**
CTA				Lg	Lg	03 08 30.6	
CTA	**Charters Tower**	**19.13**	**143**	P	**Pn**	**03 02 46.2**	**+0.7**
	comp=Z,17nm,0.3s,baz=324,slow=14,SNR=155						
CTA				S	**S**	**03 06 26.0**	**+6.1**
	comp=Z,1.5nm,0.3s,baz=49,slow=19,SNR=2.9						
CTA				Lg	Lg	03 08 30.6	
	comp=Z,3.8nm,0.3s,baz=34,slow=23,SNR=4.7						
CTAO	**Charters Tower**	**19.13**	**143**	*e*P	**Pn**	**03 02 46.0**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,135nm,0.6s						
CTAO	**Charters Tower**	**19.13**	**143**	*e*P	**Pn**	**03 02 46.0**	**+0.4**
	comp=Z,134nm,0.6s						
BBKI	**Banjar Baru**	**19.18**	**274**	P	**Pn**	**03 02 46.3**	**0.0**
	comp=Z,596nm,1.1s,comp=Z

comp=Z,24nm,1.0s
CAN Canberra 33.17 157 *e*P **P 03 04 57.9 +0.1**
comp=Z,24nm,1.0s
RKGY Rocky Gully 33.40 206 P **P 03 05 01.7 +2.0**
baz=34,SNR=12
QIZ Qiongzhong 33.74 316 P **P 03 05 03.4 +0.5**
QIZ S **S 03 10 26.9 +2.2**
QIZ pmax pmax
comp=Z,140nm,4.5s
QIZ LR LR
comp=Z,310nm,4.5s
PPI Padang Panjang 33.88 277 P **P 03 05 06.0 +1.9**
TOO Toolangi 34.05 164 P **P 03 05 07.5 +2.1**
baz=34,SNR=4.6
KULM Kulim 34.86 287 *e*P **P 03 05 13.5 +0.8**
comp=Z,26nm,1.0s
PSI Prapat 35.91 282 P **P 03 05 22.6 +0.7**
PSI Prapat 35.91 282 P **P 03 05 22.6 +0.7**
comp=Z,13nm,0.8s,baz=119,slow=1.0,SNR=5.3
PSI Prapat 35.91 282 P **P 03 05 23.7 +1.8**
baz=36,SNR=4.0
PANO Nakornpanom 36.46 308 P **P 03 05 27.1 +0.8**
comp=Z,40nm,1.2s
JNU Nakatsue 38.06 356 *e*P **P 03 05 39.6 -0.1**
comp=Z,78nm,1.1s
JNU Nakatsue 38.06 356 P **P 03 05 39.6 -0.1**
comp=Z,104nm,1.0s,baz=155,slow=5.3,SNR=32
JNU LR LR 03 18 47.4
comp=Z,401nm,21.9s,baz=335,slow=32
LOEI Loei 39.33 305 P **P 03 05 47.9 -2.7**
WHN Wuhan 40.07 333 ⇑P **P 03 05 58.0 +1.5**
WHN S **S 03 12 02.2 +1.4**
WHN pmax pmax
comp=Z,75nm,0.9s
WHN LR LR
comp=N,810nm,29.0s
WHN LR LR
comp=E,460nm,20.3s
WHN LR LR
comp=Z,600nm,18.4s
NANT Nan 40.47 307 P P 03 06 03.5 +3.4
comp=Z,33nm,0.8s
GYA Guiyang 41.01 321 ⇑*i*P **P 03 06 04.7 +0.2**
GYA pP pP 03 06 14.5 +1.1
GYA sP sP 03 06 23.2 +6.2
GYA PP **PnPn 03 07 42.7 -1.2**
GYA PcP **PcP 03 08 06.4 +2.0**
GYA ScP **ScP 03 11 52.0 -0.2**
GYA S **S 03 12 12.6 -2.6**
GYA pmax pmax
comp=Z,40nm,0.8s
GYA pmax pmax
comp=Z,160nm,4.4s
GYA LR LR
comp=N,700nm,17.1s
GYA LR LR
comp=E,510nm,18.9s
GYA LR LR
comp=Z,640nm,17.3s
LAMP Lampang 41.18 306 P **P 03 06 07.2 +1.2**
comp=Z,5.8nm,0.7s
MAJO Matsushiro 41.54 5 *e*P **P 03 06 06.6 -2.0**
MAJO *e* 03 08 05.8
MAJO pmax pmax
comp=Z,15nm,0.9s
MAJO Matsushiro 41.54 5 *e*P **P 03 06 06.6 -2.0**
comp=Z,15nm,0.9s
MAJO *e*PcP **PcP 03 08 05.8 0.0**
MAT Matsushiro 41.54 5 P **P 03 06 06.1 -2.5**
MAT *e*S **S 03 12 24.6 +2.0**
CMAR Chiang Mai Arr 41.71 305 P **P 03 06 10.8 +0.5**
CMAR PcP **PcP 03 08 06.2 -0.5**
CMAR Chiang Mai Arr 41.71 305 P **P 03 06 10.8 +0.5**
comp=Z,6.5nm,0.8s,baz=132,slow=7.0,SNR=22
CMAR PcP **PcP 03 08 06.2 -0.5**
comp=Z,4.5nm,0.9s,baz=130,slow=2.6,SNR=5.4
CMMT Chiang Mai 41.89 305 P **P 03 06 12.1 +0.3**
comp=Z,22nm,1.1s
CHTO Chiang Mai 41.89 305 *e*P **P 03 06 11.9 +0.1**
CHTO pmax pmax
comp=Z,16nm,1.0s
CHTO MLR MLR
comp=Z,205nm,22.0s
CHTO Chiang Mai 41.89 305 *e*P **P 03 06 11.9 +0.1**
comp=Z,16nm,1.0s
CHTO LR LR
comp=Z,205nm,22.0s
CHTO Chiang Mai 41.89 305 P **P 03 06 12.2 +0.4**
comp=Z,24nm,1.2s
ENH Enshi 42.24 328 *e*P **P 03 06 14.0 -0.4**
comp=Z,20nm,0.8s
KSAR Wonju Array Be 42.64 353 P **P 03 06 18.2 +0.7**
KSAR PcP **PcP 03 08 10.1 +0.8**
KSRS Korea Array 42.64 353 P **P 03 06 18.2 +0.7**
comp=Z,50nm,0.9s,baz=172,slow=9.7,SNR=80
KSRS PcP **PcP 03 08 10.1 +0.8**
comp=Z,9.1nm,0.9s,baz=185,slow=3.8,SNR=7.2
KSRS LR LR 03 25 44.8
comp=Z,360nm,18.3s,baz=169,slow=39
KMI Kunming 42.69 316 P **P 03 06 19.5 +1.1**
KMI pP pP 03 06 31.3 +4.0
KMI S S 03 12 35.3 -5.1
KMI pmax pmax
comp=Z,23nm,1.0s
KMI LR LR
comp=N,160nm,15.0s
KMI LR LR
comp=E,300nm,15.0s
KMI LR LR
comp=Z,250nm,16.3s
INCN Inchon 42.85 351 *e*P **P 03 06 19.5 +0.2**
MSVF Nonsavu 44.85 110 P **P 03 06 37.6 +1.8**
comp=Z,328nm,1.2s,SNR=5.6
MSVF Nonsavu 44.85 110 *e*P **P 03 06 36.2 +0.4**
MSVF pmax pmax
comp=Z,62nm,1.0s
MSVF Nonsavu 44.85 110 *e*P **P 03 06 36.2 +0.4**
comp=Z,62nm,1.0s
XAN Xi'an 45.52 330 P **P 03 06 40.3 -0.5**
XAN pP pP 03 06 50.0 +0.3
XAN sP sP 03 06 54.8 +1.5
XAN pmax pmax
comp=Z,9.0nm,1.1s
XAN pmax pmax
comp=Z,37nm,5.0s
XAN LR LR
comp=N,100nm,16.4s
XAN LR LR
comp=E,44nm,17.4s
XAN LR LR
comp=E,65nm,17.4s
CD2 Chengdu 45.97 323 P **P 03 06 46.0 +1.6**
CD2 pP pP 03 06 56.3 +3.0
CD2 sP sP 03 07 00.5 +3.6
CD2 PcP **PcP 03 08 22.0 +1.1**
CD2 PP **PP 03 08 34.4 +1.9**
CD2 ScP **ScP 03 12 11.1 -1.1**
CD2 PcS **PcS 03 12 15.2 -0.2**
CD2 S **S 03 13 28.8 +1.2**
CD2 sS sS 03 13 46.0 +3.7
CD2 SS ScS 03 16 46.3 +7.9
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,220nm,5.4s
CD2 LR LR
comp=N,280nm,18.1s
CD2 LR LR
comp=Z,270nm,17.1s
SNY Shenyang 47.60 349 ⇓P **P 03 06 57.2 +0.4**
SNY pmax pmax
comp=Z,70nm,1.4s
SNY pmax pmax
comp=Z,290nm,6.0s
SNY LR LR
comp=N,330nm,20.4s
SNY LR LR
comp=E,220nm,12.8s
SNY LR LR
comp=Z,410nm,21.2s
BJT Baijiatuan 47.74 341 *e*P **P 03 06 58.3 +0.3**
comp=Z,36nm,0.8s
BJT *e*pP pP 03 07 10.5 +3.5
BJT LR LR
comp=Z,212nm,21.0s
BJI Beijing 47.76 341 P **P 03 06 58.1 0.0**
BJI S **S 03 13 58.1 +5.4**
BJI pmax pmax
comp=Z,52nm,1.4s
BJI pmax pmax
comp=Z,220nm,3.6s
BJI LR LR
comp=N,180nm,19.6s
BJI LR LR
comp=E,190nm,15.1s
BJI LR LR
comp=Z,120nm,23.9s
VLA Vladivostok 47.96 358 *d*iP **P 03 06 59.5 -0.1**
VLA pmax pmax
comp=Z,156nm,1.7s
USRK Ussuriysk Arra 49.04 358 P **P 03 07 08.2 +0.3**
comp=Z,12nm,0.8s,baz=189,slow=7.7,SNR=29
USRK PcP **PcP 03 08 32.1 +0.6**
comp=Z,6.8nm,0.9s,baz=197,slow=3.8,SNR=3.2
USRK LR LR 03 28 07.3
comp=Z,321nm,18.0s,baz=321,slow=36
ASAJ Asahikawa 49.53 8 *e*P **P 03 07 10.9 -0.8**
comp=Z,5.7nm,0.8s
ASAJ Asahikawa 49.53 8 P **P 03 07 11.5 -0.2**
comp=Z,17nm,0.8s,baz=235,slow=9.0,SNR=29
ASAJ LR LR 03 25 45.3
comp=Z,200nm,21.0s,baz=347,slow=33
MDJ Mudanjiang 49.58 356 P **P 03 07 12.6 +0.5**
MDJ pP pP 03 07 21.6 +0.5
MDJ sP sP 03 07 25.4 +0.8
MDJ PcP **PcP 03 08 32.0 -1.4**
MDJ PP **PP 03 09 07.6 +0.9**
MDJ ScP **ScP 03 12 24.6 -2.4**
MDJ PcS **PcS 03 12 28.7 -1.3**
MDJ S **S 03 14 21.4 +3.1**
MDJ ScS **ScS 03 17 01.0 -0.7**
MDJ pmax pmax
comp=Z,82nm,1.1s
MDJ pmax pmax
comp=Z,97nm,3.6s
MDJ LR LR
comp=N,110nm,21.3s
MDJ LR LR
comp=E,85nm,20.5s
MDJ LR LR
comp=Z,160nm,18.8s
MDJ Mudanjiang 49.58 356 *e*P **P 03 07 12.3 +0.2**
comp=Z,111nm,1.2s
MDJ LR LR
comp=Z,269nm,20.0s
LZH Lanzhou 49.72 328 ⇓P **P 03 07 14.5 +1.0**
LZH pP pP 03 07 24.1 +1.6
LZH sP sP 03 07 27.6 +1.5
LZH PcP **PcP 03 08 35.5 +1.1**
LZH PP **PP 03 09 11.1 +2.8**
LZH *e*S **S 03 14 19.2 -1.7**
LZH SS **SS 03 17 53.1 -0.7**
LZH pmax pmax
comp=Z,40nm,1.0s
LZH pmax pmax
comp=Z,190nm,5.2s
LZH LR LR
comp=N,640nm,15.4s
LZH LR LR
comp=E,570nm,14.7s
LZH LR LR
comp=Z,870nm,16.6s
YUK Yuzh-Kuril'sk 49.99 11 *e*P P 03 07 10.1 -5.1
YUK *e* 03 09 12.4
YUK *e*S S 03 14 14.7 -9.3
HHC Hu-ho-hao-te 50.08 338 *e*P **P 03 07 16.8 +0.7**
HHC pP pP 03 07 25.7 +0.6
HHC sP sP 03 07 31.7 +3.0
HHC PcP **PcP 03 08 37.6 +2.1**
HHC PP **PP 03 09 12.4 +0.9**
HHC ScP **ScP 03 12 27.8 -1.6**
HHC S **S 03 14 25.3 -0.4**
HHC sS sS 03 14 42.1 +1.6
HHC ScS **ScS 03 17 01.1 -4.4**
HHC SS **SS 03 17 55.1 -4.2**
HHC pmax pmax
comp=Z,52nm,0.5s
HHC LR LR
comp=N,370nm,20.4s
HHC LR LR
comp=E,450nm,18.0s
HHC LR LR
comp=Z,240nm,18.0s
RPZ Rata Peaks 50.47 146 *e*P **P 03 07 19.0 +0.1**
comp=Z,46nm,0.9s
RPZ Rata Peaks 50.47 146 P **P 03 07 18.8 -0.1**
comp=Z,43nm,0.9s,baz=32,slow=8.5,SNR=10
SHL Shillong 50.96 309 *e*P **P 03 07 23.0 -0.1**
ODZ Otahua Downs 51.09 147 *e*P **P 03 07 23.3 -0.2**
comp=Z,23nm,0.8s
YSS Yuzh-Sakhalins 52.33 8 ⇓*i*P **P 03 07 33.1 +0.4**
YSS pmax pmax
comp=Z,50nm,1.0s
HABR Khabarovsk 53.29 1 *de*P **P 03 07 39.1 -0.6**
HABR *e**SP sP 03 07 51.5 -0.8
HABR *e* 03 08 44.4
HABR *e*S **S 03 15 08.9 -0.3**
HABR *e**SS sS 03 15 23.8 -0.4
HABR *e* 03 17 23.9
HABR *e*SS **SS 03 18 47.9 -1.6**
HABR *e*SSS SSS 03 20 40.7
HABR pmax pmax
comp=Z,106nm,1.9s
HABR pmax pmax
comp=E,40nm,1.4s
HABR pmax pmax
comp=N,33nm,1.9s
HABR MLR MLR
comp=Z,94nm,17.0s
MCQ Macquarie Isla 53.30 162 P **P 03 07 40.9 +1.2**
baz=54,SNR=3.8
LSA Lhasa 53.67 313 *e*P **P 03 07 44.6 +1.0**
LSA Lhasa 53.67 313 *e*P **P 03 07 44.6 +1.0**
KLR Kul'dur 54.07 358 *e*P P 03 07 42.2 -3.3
KLR *e*S **S 03 15 19.5 -0.4**
KLR *e* 03 17 34.0
KLR pmax pmax
comp=E,65nm,2.2s
KLR pmax pmax
comp=Z,200nm,2.2s
GTA Gaotai 54.32 328 ⇓P **P 03 07 48.6 +0.9**
GTA pP pP 03 07 58.7 +1.9
GTA sP sP 03 08 02.6 +2.3
GTA S **S 03 15 24.2 +0.3**
GTA sS sS 03 15 41.1 +2.2
GTA SS **SS 03 19 07.0 +0.5**
GTA pmax pmax
comp=Z,44nm,1.5s
GTA pmax pmax
comp=Z,140nm,5.9s
GTA LR LR
comp=N,140nm,16.6s
GTA LR LR
comp=E,130nm,16.6s
GTA LR LR
comp=Z,130nm,16.2s
ODAN Odare 55.11 308 *e*P **P 03 07 53.4 -0.3**
comp=Z,59nm,1.0s
RAMN Ramite 55.77 307 *e*P **P 03 07 58.6 0.0**
comp=Z,1μm,2.6s
GUN Gumba 56.78 308 *e*P **P 03 08 05.7 -0.2**
comp=Z,70nm,1.0s
KKN Kakani 57.20 308 *e*P **P 03 08 08.3 -0.4**
comp=Z,36nm,1.0s
DMN Daman 57.26 307 *e*P **P 03 08 09.1 0.0**
comp=Z,94nm,1.4s
ULN Ulaanbaatar 57.76 339 *e*P **P 03 08 12.7 +0.5**
comp=Z,46nm,1.4s
ULN LR LR
comp=Z,219nm,22.0s
SONM Songino Array 57.97 338 P **P 03 08 14.1 +0.4**
SONM PcP **PcP 03 09 05.9 +0.4**
SONM ⇑*e* 03 38 05.4
SONM P'P'ab **P'P'ab 03 38 22.2 +0.8**
SONM Songino Array 57.97 338 P **P 03 08 14.1 +0.4**
comp=Z,6.7nm,0.8s,baz=155,slow=7.0,SNR=35
SONM PcP **PcP 03 09 05.9 +0.4**
comp=Z,7.4nm,0.9s,baz=159,slow=4.9,SNR=6.6
SONM PKP2bc 03 38 05.4
comp=Z,0.7nm,0.8s,baz=256,slow=1.2,SNR=4.4
SONM PKP2ab 03 38 22.2
comp=Z,0.6nm,0.5s,baz=236,slow=0.5,SNR=3.6
KOLN Koldanda 58.52 307 *e*P **P 03 08 17.9 -0.1**
comp=Z,77nm,1.4s
HYB Hyderabad 59.11 294 *i*P **P 03 08 20.5 -1.5**
PYUN Piuthan 59.15 307 *e*P **P 03 08 22.2 -0.1**
comp=Z,280nm,0.9s
ZAK Zakamensk 61.23 338 *e*P **P 03 08 35.9 -0.1**
ZAK pmax pmax
comp=Z,10.0nm,1.4s
PETK Petropavlovsk- 61.28 16 P **P 03 08 36.6 +0.4**
PETK pmax pmax
comp=Z,14nm,0.7s
PETK Petropavlovsk- 61.28 16 P **P 03 08 36.6 +0.4**
PETK Petropavlovsk- 61.28 16 P **P 03 08 36.6 +0.4**
comp=Z,14nm,0.7s,baz=186,slow=7.8,SNR=18
DRV Dumont d'Urvil 61.67 177 P P 03 08 31.0 -7.5
DRV S S 03 17 25.0 +26
DRV SS SS 03 21 15.0 +14
DRV L L 03 23 00.0
DRV R 03 29 00.0
CLNS Chul'man 62.11 354 *e*P **P 03 08 42.3 +0.6**
CLNS pmax pmax
comp=Z,45nm,0.9s
CLNS pmax pmax
comp=N,32nm,1.0s
CLNS pmax pmax
comp=E,15nm,1.0s
TLY Talaya 62.16 339 *e*P **P 03 08 43.4 +1.3**
TLY pmax pmax
comp=Z,9.0nm,1.0s
TLY MLR MLR
comp=Z,171nm,19.0s
IRK Irkutsk 62.41 340 *e*P **P 03 08 44.4 +0.6**
IRK pmax pmax
comp=Z,44nm,2.3s
MOY Mondy 63.12 338 *e*P **P 03 08 49.3 +0.6**
MOY pmax pmax
comp=Z,40nm,2.3s
CASY Casey 63.30 190 *e*P **P 03 08 50.4 +1.0**
comp=Z,24nm,0.8s
WMQ Urumqi 64.03 324 P **P 03 08 55.6 +0.8**
HVS Khovu-Aksy 65.73 333 *d*iP **P 03 09 05.9 +0.2**
HVS pmax pmax
comp=Z,108nm,1.0s
FX1 Attu Island--F 66.49 25 *e*P **P 03 09 10.7 +0.2**
YAK Yakutsk 66.95 358 *d*iP **P 03 09 13.4 +0.2**
YAK *e**PP pP 03 09 24.4 +2.0
YAK *e* 03 09 45.1
YAK *e* 03 11 41.6
YAK *e*S **S 03 18 02.3 -1.9**
YAK *e* 03 19 07.5
YAK *e*SS **SS 03 22 23.8 +0.5**
YAK pmax pmax
comp=Z,142nm,0.8s
YAK pmax pmax
comp=N,37nm,1.0s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=N,10.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK smax smax
comp=E,70nm,2.8s
YAK smax smax
comp=N,21nm,2.3s
YAK MLR MLR
comp=Z,197nm,20.0s
YAK MLR MLR
comp=N,140nm,21.0s
MK31 Makanchi Array 68.86 325 *ce*P **P 03 09 25.8 +0.2**
MK31 pmax pmax
comp=Z,55nm,0.9s
MK31 Makanchi Array 68.86 325 *e*P **P 03 09 25.7 +0.2**
MKAR Makanchi Array 68.86 325 P **P 03 09 26.1 +0.5**
MKAR pmax pmax
comp=Z,26nm,0.7s
MKAR Makanchi Array 68.86 325 P **P 03 09 26.1 +0.5**
MKAR Makanchi Array 68.86 325 P **P 03 09 26.1 +0.5**
comp=Z,26nm,0.7s,baz=116,slow=8.1,SNR=215
SEY Seymchan 69.20 9 *d*iP **P 03 09 28.0 +0.7**
KSH Kashi 69.35 315 P **P 03 09 30.3 +1.4**
KSH pP pP 03 09 43.1 +4.9
KSH sP sP 03 09 48.3 +6.6
KSH PP PP 03 12 09.4 +6.9
KSH S S 03 18 29.7 -4.3
KSH ScS **SKSac 03 19 26.8 -0.5**
KSH SS **SS 03 23 07.3 +5.7**
KSH pmax pmax
comp=Z,21nm,0.9s
KSH pmax pmax
comp=Z,160nm,6.8s
KSH LR LR
comp=N,120nm,7.7s
KSH LR LR
comp=E,180nm,8.5s
KSH LR LR
comp=Z,86nm,7.6s
KZA Kyzart 70.95 318 *i*P **P 03 09 40.8 +1.8**
KZA Kyzart 70.95 318 P **P 03 09 40.8 +1.8**
SNR=7.9
TKM2 Tokmak 2 71.08 319 *e*P **P 03 09 39.9 +0.3**
TKM2 pmax pmax
comp=Z,20nm,1.0s
TKM2 MLR MLR
comp=Z,145nm,20.0s
TKM2 Tokmak 2 71.08 319 P **P 03 09 40.3 +0.7**
SNR=15
TKM2 Tokmak 2 71.08 319 *e*P **P 03 09 39.9 +0.3**
comp=Z,20nm,1.0s
TKM2 LR LR
comp=Z,145nm,20.0s
ZAA0 Zalesovo Array 71.67 332 *e*P **P 03 09 41.4 -1.1**
ZALV Zalesovo Beam 71.67 332 *i*P **P 03 09 42.0 -0.5**
ZALV pmax pmax
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 71.67 332 P **P 03 09 42.1 -0.4**
ZALV Zalesovo Beam 71.67 332 P **P 03 09 42.1 -0.4**
comp=Z,12nm,0.8s,baz=107,slow=4.8,SNR=48
AAK Ala-Archa 71.69 318 *d*iP **P 03 09 43.9 +0.7**
AAK Ala-Archa 71.69 318 P **P 03 09 44.2 +1.0**
SNR=8.7
AAK Ala-Archa 71.69 318 *e*P **P 03 09 44.0 +0.8**
comp=Z,17nm,1.0s
AAK Ala-Archa 71.69 318 P **P 03 09 43.7 +0.5**
comp=Z,12nm,0.9s,baz=123,slow=2.8,SNR=22
FRU Bishkek 71.69 318 ⇓*i*P **P 03 09 42.0 -1.0**
FRU pmax pmax
comp=Z,26nm,1.8s
USP Ospenovka 71.96 319 *i*P **P 03 09 45.3 +0.6**
USP Ospenovka 71.96 319 P **P 03 09 45.2 +0.6**
SNR=23
AML Almayashu 72.02 317 *i*P **P 03 09 46.5 +1.1**
AML Almayashu 72.02 317 P **P 03 09 46.5 +1.1**
SNR=27
EKS2 Erkin-Say 72.18 318 *e*P **P 03 09 46.8 +0.7**
EKS2 pmax pmax
comp=Z,110nm,1.9s
EKS2 MLR MLR
comp=Z,169nm,22.0s
EKS2 Erkin-Say 72.18 318 P **P 03 09 47.0 +0.9**
SNR=16
EKS2 Erkin-Say 72.18 318 *e*P **P 03 09 46.8 +0.7**
comp=Z,110nm,1.9s
EKS2 LR LR
comp=Z,169nm,22.0s
KBL Kabul 72.62 308 *e*P **P 03 09 49.2 +0.2**
KBL pmax pmax
comp=Z,39nm,1.3s
KBL Kabul 72.62 308 *e*P **P 03 09 49.1 +0.2**
comp=Z,39nm,1.3s
NVS Novosibirsk 72.94 332 *e*P **P 03 09 48.6 -1.5**
NVS pmax pmax
comp=N,17nm,1.6s
NVS pmax pmax
comp=Z,35nm,1.6s
NVS pmax pmax
comp=E,19nm,1.3s
KURK Kurchatov 73.00 327 P **P 03 09 50.3 -0.2**
comp=E,177nm,1.0s,SNR=19
VNDA Vanda 73.94 174 *e*P **P 03 09 56.1 +0.4**
comp=E,22nm,1.0s
VNDA Vanda 73.94 174 P **P 03 09 56.1 +0.4**
comp=E,15nm,0.9s,baz=322,slow=6.3,SNR=78

VNDA LR LR 03 41 38.3
comp=E,340nm,20.0s,baz=352,slow=35
KK31 Karatay Array 74.56 317 *ce*P **P 03 09 59.0 -0.9**
KK31 pmax pmax
comp=Z,23nm,0.8s
KKAR Karatay Array 74.56 317 *e*P **P 03 10 00.0 0.0**
KKAR pmax pmax
comp=Z,20nm,0.9s
KKAR Karatay Array 74.56 317 *e*P **P 03 09 60.0 0.0**
comp=Z,20nm,0.9s
SBA Scott Base 74.78 173 *e*P **P 03 10 02.1 +1.5**
SBA pmax pmax
comp=Z,32nm,1.2s
SBA MLR MLR
comp=Z,262nm,19.0s
SBA Scott Base 74.78 173 *e*P **P 03 10 02.1 +1.5**
comp=Z,32nm,1.2s
SBA LR LR
comp=Z,262nm,19.0s
BILL Bilibino 76.34 12 ǁ *i*P **P 03 10 09.1 -0.5**
BILL *i* 03 10 19.8
BILL pmax pmax
comp=Z,8.0nm,1.0s
BILL MLR MLR
comp=Z,100nm,17.0s
TIXI Tiksi 76.60 358 *de*P **P 03 10 09.6 -1.4**
TIXI pmax pmax
comp=Z,31nm,1.0s
UNV Unalaska Valle 76.73 32 *e*P **P 03 10 11.9 -0.1**
comp=Z,62nm,1.0s
VOSK Vostochnaya 78.13 326 P **P 03 10 18.4 -1.6**
VOSK pmax pmax
comp=Z,24nm,1.0s
MAW Mawson 78.24 202 P **P 03 10 21.8 +1.6**
MAW Mawson 78.24 202 P **P 03 10 21.8 +1.6**
comp=Z,34nm,1.0s,baz=75,slow=6.7,SNR=24
MAW LR LR 03 42 08.2
comp=Z,446nm,18.8s,baz=86,slow=34
MAW Mawson 78.24 202 P **P 03 10 21.9 +1.6**
baz=78,SNR=30
BVA0 Borovoye Array 78.58 326 *i*P **P 03 10 21.7 -0.8**
BVA0 pmax pmax
comp=Z,47nm,1.2s
BRVK Borovoye 78.66 326 P **P 03 10 22.0 -0.9**
comp=Z,159nm,0.8s,SNR=9.2
BRVK Borovoye 78.66 326 *d i*P **P 03 10 22.6 -0.3**
BRVK pmax pmax
comp=Z,25nm,0.8s
BRVK Borovoye 78.66 326 *e*P **P 03 10 22.5 -0.3**
comp=Z,19nm,0.8s
BRVK LR LR
comp=Z,174nm,20.0s
SDPT Sand Point 80.54 32 *e*P **P 03 10 33.0 0.0**
comp=Z,56nm,0.8s
IAKL Akhelmad 81.24 308 *e*P **P 03 10 37.3 -0.3**
ISFR Sfrayin 81.93 308 *e*Pn **P 03 10 41.6 +0.4**
CHGN Chignik 81.98 31 *e*P **P 03 10 40.1 -0.5**
ISHV Shirvan 82.27 309 *e*Pn **P 03 10 43.5 +0.6**
AB31 Akbulak array 83.49 321 *ce*P **P 03 10 47.9 -0.8**
AB31 pmax pmax
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 83.49 321 *e*P **P 03 10 48.0 -0.7**
comp=Z,4.9nm,0.7s
IMEH Mehriz 83.59 302 *e*P P 03 10 47.1 -2.8
ICHK Chekchek 83.91 303 *e*P **P 03 10 50.7 -0.8**
ISAD Sadrabad 84.46 303 *e*Pn **P 03 10 53.3 -1.1**
QSPA South Pole Qui 84.93 180 *e*P **P 03 10 56.0 +0.2**
comp=Z,70nm,0.8s
QSPA South Pole Qui 84.93 180 P **P 03 10 56.1 +0.2**
comp=Z,68nm,0.8s,baz=321,slow=1.6,SNR=292
OHAK Old Harbor 84.95 31 *e*P **P 03 10 55.8 -0.1**
comp=Z,90nm,1.0s
AKTO Aktyubinsk 85.00 321 *i*P **P 03 10 56.0 -0.3**
AKTO pmax pmax
comp=Z,36nm,1.4s
SVE Sverdlovsk 85.19 328 ǁ *e*P **P 03 10 57.5 +0.4**
SVE pmax pmax
comp=Z,24nm,1.3s
KDAK Kodiak Island 85.47 31 P **P 03 10 58.0 -0.5**
comp=Z,423nm,0.8s,SNR=13
KDAK Kodiak Island 85.47 31 *e*P **P 03 10 58.6 +0.1**
comp=Z,97nm,1.2s
KDAK Kodiak Island 85.47 31 P **P 03 10 58.8 +0.3**
comp=Z,52nm,0.8s,baz=231,slow=2.5,SNR=28
ARU Arti 86.18 327 *d i*P **P 03 11 00.3 -1.8**
ARU 03 14 20.8
ARU S S 03 21 22.9 -12
ARU pmax pmax
comp=Z,7.0nm,1.2s
IKLH Kolahrood 86.43 304 *e*P **P 03 11 05.0 +0.8**
IPIR Pirpir 86.92 303 *e*P **P 03 11 07.3 +0.7**
SYO Syowa Base 86.93 201 ǁ *e*P **P 03 11 05.0 -0.5**
RC01 Rabbit Creek A 87.77 28 *e*P **P 03 11 09.1 -0.6**
comp=Z,119nm,1.0s
SML Sawmill 88.59 28 *e*P **P 03 11 13.6 0.0**
SML pmax pmax
comp=Z,28nm,1.0s
SML Sawmill 88.59 28 *e*P **P 03 11 13.6 0.0**
comp=Z,28nm,1.0s
MCK McKinley 88.78 26 *e*P **P 03 11 13.9 -0.5**
MCK pmax pmax
comp=Z,71nm,1.3s
MCK McKinley 88.78 26 *e*P **P 03 11 13.9 -0.5**
comp=Z,71nm,1.3s
COLD Coldfoot 89.14 22 *e*P **P 03 11 16.0 0.0**
comp=Z,22nm,1.0s
COLA College 89.50 25 *e*P **P 03 11 16.8 -1.0**
COLA pmax pmax
comp=Z,47nm,1.1s
COLA College 89.50 25 *e*P **P 03 11 16.8 -1.0**
comp=Z,47nm,1.1s
DIV Divide 89.65 29 *e*P **P 03 11 19.5 +0.8**
comp=Z,79nm,1.1s
ILAR Eielson Array 89.88 25 P **P 03 11 18.1 -1.5**
ILAR PKKPbc **PKKPdf 03 28 51.4 +1.3**
ILAR Eielson Array 89.88 25 P **P 03 11 18.1 -1.5**
comp=Z,9.3nm,1.0s,baz=270,slow=4.7,SNR=28
ILAR PKKPbc **PKKPdf 03 28 51.4 +1.3**
comp=Z,0.5nm,0.6s,baz=4.5,slow=1.0,SNR=8.1
BMRM Bremner River 90.18 29 *e*P **P 03 11 21.5 +0.3**
comp=Z,46nm,1.3s
RAYN Ar Rayn 90.62 293 P **P 03 11 24.0 0.0**
comp=Z,126nm,0.9s,SNR=8.5
MAK Makhachkala 90.84 313 *e*P P 03 11 30.2 +5.7
DGRG David-gareji 92.27 311 P P 03 11 23.6 -7.7
EGAK Eagle 92.30 25 *e*P **P 03 11 29.4 -1.4**
comp=Z,11nm,1.0s
TBLG Delisi 92.77 311 *e*P **P 03 11 33.4 -0.1**
TBLG Delisi 92.77 311 P **P 03 11 33.4 -0.1**
DUS Dusheti 92.82 312 P **P 03 11 35.7 +1.8**
AKH Akhalkalaki 93.68 311 P **P 03 11 38.5 +0.5**
KBZ Khabaz 94.25 313 P **P 03 11 42.5 +2.3**
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 94.25 313 P **P 03 11 42.5 +2.3**
KBZ Khabaz 94.25 313 P **P 03 11 42.5 +2.3**
comp=Z,2.5nm,0.8s,baz=178,slow=3.0,SNR=5.4
KIV Kislovodsk 94.41 314 *e*P **P 03 11 38.3 -2.8**
KIV pmax pmax
comp=Z,4.0nm,0.7s
CHVG Ch'k'valeri 94.80 312 P P 03 11 37.1 -5.7
MAIT Maitri 95.40 196 *e*P P 03 11 36.2 -8.7
MAIT *e* 03 12 48.2
INK Inuvik 95.55 22 P **P 03 11 44.2 -1.4**
INK Inuvik 95.55 22 P **P 03 11 44.2 -1.4**
comp=Z,6.9nm,1.0s,baz=262,slow=7.4,SNR=5.5
KMBO Kilima Mbogo 96.64 268 *e*P **P 03 11 52.7 +0.6**
KMBO Kilima Mbogo 96.64 268 P **P 03 11 52.8 +0.6**
comp=Z,0.5nm,0.2s,baz=150,slow=8.8,SNR=2.9
TMCR Tamitsa 97.11 334 *e*P **P 03 11 50.8 -2.0**
TMCR pmax pmax
comp=Z,17nm,1.2s
SNAA Sanae 98.47 193 *e*P Pdif 03 11 59.5 +0.5
comp=Z,19nm,1.2s
SNAA PKKPbc **PKKPbc 03 28 27.9 -3.9**
SNAA Sanae 98.47 193 P Pdif 03 11 59.3 +0.3
comp=Z,3.4nm,0.8s,baz=151,slow=3.7,SNR=31
SNAA PKKPbc **PKKPbc 03 28 27.9 -3.9**
comp=Z,0.3nm,1.0s,baz=348,slow=3.2,SNR=4.0
ARCES ARCESS Array B 101.11 340 P **Pdif 03 12 09.7 -0.9**
ARCES PKKPbc **PKKPbc 03 28 22.4 -1.8**
ARCES ARCESS Array B 101.11 340 P **Pdif 03 12 09.7 -0.9**
comp=Z,5.0nm,0.8s,baz=75,slow=5.1,SNR=23
ARCES PKKPbc **PKKPbc 03 28 22.4 -1.8**
comp=Z,0.4nm,0.6s,baz=306,slow=2.7,SNR=4.3
BRTR Keskin Array B 101.17 309 P **Pdif 03 12 10.2 -1.5**
comp=Z,0.6nm,0.9s,baz=117,slow=1.6,SNR=3.2
PUL Pulkovo 101.21 330 *ce*P **Pdif 03 12 10.8 -0.4**
FINES FINESS Array B 102.93 332 P **Pdif 03 12 18.7 -0.2**
FINES PP **PKiKP 03 16 36.3 -2.6**
FINES PKKPbc **PKKPbc 03 28 16.6 -2.1**
FINES FINESS Array B 102.93 332 P **Pdif 03 12 18.7 -0.2**
comp=Z,2.5nm,1.0s,baz=116,slow=3.2,SNR=5.3
FINES PP **PKiKP 03 16 36.3 -2.6**
comp=Z,1.7nm,0.9s,baz=47,slow=8.2,SNR=3.4
FINES PKKPbc **PKKPbc 03 28 16.6 -2.1**
comp=Z,1.6nm,0.8s,baz=104,slow=4.9,SNR=5.1
WDC Whiskeytown Da 103.47 50 *e*P **Pdif 03 12 22.5 +0.8**
WDC Whiskeytown Da 103.47 50 *e*Pdif **Pdif 03 12 22.5 +0.8**
YKW3 Yellowknife Ar 104.20 26 *e*Pdif **Pdif 03 12 23.8 -0.7**
YKA Yellowknife Ar 104.23 26 Pdif **Pdif 03 12 24.1 -0.5**
YKA PKiKP **PKiKP 03 16 41.8 +0.5**
YKA PKKPbc **PKKPbc 03 28 12.1 -2.8**
YKA PKKPab **PKKPab 03 28 29.3 -2.4**
YKA Yellowknife Ar 104.23 26 Pdiff **Pdif 03 12 24.0 -0.5**
comp=Z,1.2nm,0.8s,baz=286,slow=4.5,SNR=9.4
YKA PKiKP **PKiKP 03 16 41.8 +0.5**
comp=Z,0.4nm,0.7s,baz=290,slow=1.8,SNR=5.0
YKA PKKPbc **PKKPbc 03 28 12.0 -2.8**
comp=Z,0.5nm,0.7s,baz=102,slow=2.6,SNR=6.1
YKA PKKPab **PKKPab 03 28 29.3 -2.4**
comp=Z,0.7nm,0.8s,baz=100,slow=5.2,SNR=6.7
WVOR Wild Horse Val 106.17 47 *e*PKP **PKiKP 03 16 45.9 +0.2**
WVOR *e*PP **PP 03 16 56.1 -1.9**
DAG Danmarks Havn 106.77 354 *i*P **PKKPab 03 28 18.8 -1.4**
comp=Z,2.0nm,0.8s
DAG
comp=Z,240nm,11.0s
NVAR Mina Array Bea 106.95 51 Pdif **Pdif 03 12 40.5 +2.8**
NVAR Mina Array Bea 106.95 51 Pdiff **Pdif 03 12 40.5 +2.8**
comp=Z,2.1nm,0.8s,baz=254,slow=7.4,SNR=5.5
A13A Flathead Natio 107.88 40 P 03 16 49.0
baz=108
D14A Greenough 108.90 42 P 03 16 50.5
baz=109
ELK Elko 108.95 49 Pdif **Pdif 03 12 49.0 +2.5**
ELK PKiKP **PKiKP 03 16 51.9 +0.8**
ELK Elko 108.95 49 Pdiff **Pdif 03 12 49.0 +2.5**
comp=Z,0.4nm,0.5s,baz=227,slow=19,SNR=2.3
ELK PKiKP **PKiKP 03 16 51.9 +0.8**
comp=Z,0.6nm,0.6s,baz=356,slow=3.0,SNR=4.3
HLID Hailey 109.03 46 *e*PKP **PKiKP 03 16 51.7 +0.7**
NOA NORSAR Array B 109.80 334 PKiKP **PKiKP 03 16 52.4 +0.6**
NOA PKKPbc **PKKPbc 03 27 54.4 -3.1**
NOA NORSAR Array B 109.80 334 PKiKP **PKiKP 03 16 52.4 +0.6**
comp=Z,0.4nm,0.8s,baz=347,slow=1.7,SNR=3.2
NOA PKKPbc **PKKPbc 03 27 54.4 -3.1**
comp=Z,1.0nm,0.8s,baz=72,slow=3.2,SNR=3.7
BC3 Big Chuckawall 109.84 56 P 03 16 52.4
baz=110
NAO01 NORSAR Array S 110.03 334 *e*PKP **PKiKP 03 16 51.3 -0.9**
A17A Triple J Farms 110.24 39 P 03 16 53.3
baz=110
BOZ Bozeman (W) 110.50 43 *e*PKiKP **PKiKP 03 16 53.3 -0.4**
BOZ Bozeman (W) 110.50 43 *e*PKP **PKiKP 03 16 53.3 -0.4**
MORC Moravsky Berou 110.74 322 *e*PKiKP **PKiKP 03 16 54.1 +0.2**
MORC Moravsky Berou 110.74 322 *e*PKP **PKiKP 03 16 54.1 +0.2**
DUG Dugway 110.87 49 *e*PKiKP **PKiKP 03 16 54.9 +0.3**
DUG Dugway 110.87 49 *e*PKP **PKiKP 03 16 54.9 +0.3**
HWUT Hardware Ranch 111.50 47 *e*PKP **PKiKP 03 16 55.5 -0.3**
B20A Solberg Farm, 112.09 39 P 03 16 57.1
baz=112
SUMG Summit 112.37 358 *i*P **PKKPbc 03 27 47.6 -2.2**
comp=Z,5.8nm,0.8s
SUMG
comp=Z,550nm,12.0s
BRG Berggiesshubel 112.56 324 *e*(P) **PKiKP 03 16 57.6 +0.4**
comp=Z,5.4nm,1.1s
BRG Berggiesshubel 112.56 324 *e*PKiKP **PKiKP 03 16 57.4 +0.2**
BRG Berggiesshubel 112.56 324 *e*PKiKP **PKiKP 03 16 57.6 +0.4**
BRG pmax pmax
comp=Z,5.0nm,1.1s
BW06 Boulder Array 112.67 46 *e*PKP **PKiKP 03 16 57.8 -0.2**
PDAR Pinedale Array 112.67 46 PKiKP **PKiKP 03 16 58.3 +0.3**
PDAR PKKPbc **PKKPbc 03 27 45.4 -2.4**
PDAR Pinedale Array 112.67 46 PKiKP **PKiKP 03 16 58.3 +0.3**
comp=Z,1.5nm,0.7s,baz=222,slow=0.9,SNR=11
PDAR PKKPbc **PKKPbc 03 27 45.4 -2.4**
comp=Z,2.0nm,0.8s,baz=114,slow=6.9,SNR=16
G20A Bridger 112.93 43 P 03 16 58.9
baz=113
CLL Collm 112.95 324 *e*PKiKP **PKiKP 03 16 57.4 -0.5**
CLL Collm 112.95 324 *i*PKiKP **PKiKP 03 16 57.7 -0.2**
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 112.95 324 *i*PKPdf **PKiKP 03 16 57.7 -0.2**
comp=Z,4.0nm,0.9s
TSUM Tsumeb 112.99 247 *e*PKP **PKiKP 03 16 59.5 +0.4**
X16A Lo Mia Camp, P 113.02 55 P 03 16 59.2
baz=113
GOLS Golise 113.11 318 *i*PKPdf **PKiKP 03 16 58.8 +0.4**
K19A Absolon Red Bu 113.16 45 P 03 16 59.0
baz=113
FFC Flin Flon 113.21 32 *e*PKiKP **PKiKP 03 16 58.2 -0.1**
FFC Flin Flon 113.21 32 *e*PKP **PKiKP 03 16 58.2 -0.1**
GEC2 GERESS Array S 113.42 322 *e*PKiKP **PKiKP 03 16 59.0 -0.1**
GEC2 GERESS Array S 113.42 322 *i*PKiKP **PKiKP 03 16 59.0 -0.1**
GERES GERESS Array B 113.42 322 PKiKP **PKiKP 03 16 58.9 -0.1**
GERES GERESS Array B 113.42 322 PKiKP **PKiKP 03 16 58.9 -0.1**
comp=Z,2.1nm,0.8s,baz=73,slow=1.8,SNR=17
J20A Shoshoni 113.55 45 P 03 16 59.7
baz=114
D22A Cohagen 113.68 40 P 03 17 00.3
baz=114
WERD Werda 113.69 324 *e*PKiKP **PKiKP 03 16 59.4 0.0**
GUNZ Gunzen 113.70 323 *e*PKiKP **PKiKP 03 16 59.8 +0.3**
WET Wettzell 113.82 322 *e*PKiKP **PKiKP 03 16 59.4 -0.3**
WET Wettzell 113.82 322 *i*PKiKP **PKiKP 03 16 59.4 -0.3**
LJU Ljubljana 113.83 318 *i*PKPdf **PKiKP 03 17 00.1 +0.3**
TUC Tucson 113.92 57 *e*PKiKP **PKiKP 03 17 00.4 -0.1**
TUC Tucson 113.92 57 *e*PKP **PKiKP 03 17 00.4 -0.1**
MOX Moxa 114.02 324 *e*L L 03 52 34.2
comp=Z,317nm,21.0s
N20A Spence Gulch, 114.10 47 P PKPdf 03 17 01.5 +0.7
baz=114
CADS Cadrg 114.29 319 *i*PKPdf PKPdf 03 17 00.3 -0.4
O20A White River Ci 114.30 48 P PKPdf 03 17 01.4 +0.3
baz=114
SKDS Skedanscina 114.33 318 *i*PKPdf PKPdf 03 16 59.1 -1.7
H22A Clearmont 114.38 43 P PKPdf 03 17 01.0 -0.1
baz=114
A24A Westby 114.42 38 P PKPdf 03 17 01.3 +0.4
baz=114
I22A 9 Mile Ranch, 114.51 44 P PKPdf 03 17 01.6 +0.2
baz=114
Q20A Ridgley Place, 114.55 49 P PKPdf 03 17 03.0 +1.3
baz=114
M21A Separation Pea 114.55 46 P PKPdf 03 17 01.7 +0.1
baz=114
GRF Grafenberg Arr 114.62 323 *e*L L 03 54 05.3
comp=Z,327nm,21.0s
J22A Midwest 114.66 44 P PKPdf 03 17 01.5 -0.1
baz=115
N21A Black Mountain 114.67 47 P PKPdf 03 17 02.4 +0.5
baz=115
C24A Savage 114.67 39 P PKPdf 03 17 01.7 +0.3
baz=115
R20A Redvale 114.67 50 P PKPdf 03 17 03.0 +1.0
baz=115
S20A Disappointment 114.77 51 P PKPdf 03 17 03.3 +1.1
baz=115
MVCO Mesa Verde 114.81 51 P PKPdf 03 17 03.0 +0.7
baz=115
Q21A Lamborn Mesa, 115.12 49 P **PKPdf 03 17 03.7 +0.9**
baz=115
V20A Brimhall 115.14 53 P **PKPdf 03 17 03.5 +0.6**
baz=115
FUR Furstenfeldbru 115.17 322 *e*PKiKP **PKiKP 03 17 02.2 -0.1**
FUR Furstenfeldbru 115.17 322 *i*PKiKP **PKiKP 03 17 02.2 -0.1**
S21A Coal Bank Pass 115.25 51 P **PKPdf 03 17 04.2 +1.0**
baz=115
G24A Alzada 115.44 42 P **PKPdf 03 17 03.0 -0.1**
baz=115
O22A Kremmling 115.54 48 P **PKPdf 03 17 04.0 +0.3**
baz=116
H24A Dirks Ranch, A 115.55 42 P **PKPdf 03 17 03.3 0.0**
baz=116
Z20A Nine Sixteen R 115.60 56 P **PKPdf 03 17 04.7 +0.9**
baz=116
Y20A Horse Springs, 115.61 55 P **PKPdf 03 17 04.7 +0.8**
baz=116
Q22A Crested Butte, 115.62 49 P **PKPdf 03 17 04.9 +1.0**
baz=116
U21A Nageezi 115.64 52 P **PKPdf 03 17 05.0 +1.1**
baz=116
120A U Bar Ranch, L 115.67 56 P **PKPdf 03 17 05.2 +1.3**
baz=116
R22A Saguache, Gunn 115.90 50 P **PKPdf 03 17 05.8 +1.4**
baz=116
S22A 4UR Ranch, Cre 115.97 50 P **PKPdf 03 17 05.6 +1.1**
baz=116
X21A Alamocita Cree 115.98 54 P **PKPdf 03 17 05.5 +0.9**
baz=116
T22A Edith 116.09 51 P **PKPdf 03 17 06.3 +1.6**
baz=116
RSSD Black Hills 116.11 43 *e*PKiKP **PKPdf 03 17 04.0 -0.5**
RSSD Black Hills 116.11 43 *e*PKPdf **PKPdf 03 17 04.0 -0.5**
STU Stuttgart 116.21 323 *e*PKiKP **PKPdf 03 17 04.3 0.0**
STU Stuttgart 116.21 323 *e*PKiKP **PKPdf 03 17 03.8 -0.5**
STU Stuttgart 116.21 323 *e*PKPdf **PKPdf 03 17 03.8 -0.5**
U22A Llaves 116.28 52 P **PKPdf 03 17 06.2 +1.1**
baz=116
ISCO Idaho Springs 116.33 48 P **PKPdf 03 17 05.8 +0.5**
baz=116
I25A Rochford 116.35 43 P **PKPdf 03 17 05.1 +0.1**
baz=116
V22A San Miguel Ran 116.35 52 P **PKPdf 03 17 05.7 +0.5**
baz=116
121A Cookes Peak, D 116.38 56 P **PKPdf 03 17 05.7 +0.4**
baz=116
J25A Sunshine Ranch 116.51 44 P **PKPdf 03 17 05.4 +0.2**
baz=116
Y22A Socorro 116.76 55 P **PKPdf 03 17 06.6 +0.6**
baz=117
H26A Fairpoint 116.79 42 P **PKPdf 03 17 06.0 +0.4**
baz=117
ANMO Albuquerque 116.94 53 *e*PKPdf **PKPdf 03 17 07.0 +0.6**
V23A Ortiz Mt. (NFS 116.96 52 P **PKPdf 03 17 07.2 +0.8**
baz=117
SDCO Great Sand Dun 116.98 50 *e*PKPdf **PKPdf 03 17 07.0 +0.5**
G27A Dupree 117.06 41 P **PKPdf 03 17 06.2 +0.1**
baz=117
W23A Werner Place, 117.13 53 P **PKPdf 03 17 07.9 +1.1**
baz=117
R24A Sanders Place, 117.15 49 P **PKPdf 03 17 06.4 -0.3**
baz=117
H27A Howes 117.24 42 P **PKPdf 03 17 06.6 +0.1**
baz=117
P25A Willow Gulch B 117.48 48 P **PKPdf 03 17 08.0 +0.8**
baz=117
Y23A Lovelace Mesa, 117.50 54 P **PKPdf 03 17 08.1 +0.6**
baz=117
Z23A Rita Site, Whi 117.50 55 P **PKPdf 03 17 08.2 +0.8**
baz=117
CDF Champ du Feu 117.51 323 *e*PKiKP **PKPdf 03 17 05.9 -1.0**
comp=Z,11nm,1.0s
WLF Walferdange 117.61 325 PKP **PKPdf 03 17 05.9 -1.1**
V24A Rampart Ranch, 117.69 52 P **PKPdf 03 17 08.9 +1.0**
baz=118
W24A Lazy 6 Ranch, 117.71 53 P **PKPdf 03 17 09.0 +1.2**
baz=118
R25A Fountain Ranch 117.80 49 P **PKPdf 03 17 08.6 +0.7**
baz=118
S25A Robets Cordova 117.82 50 P **PKPdf 03 17 08.1 +0.1**
baz=118
H28A Mission Ridge 117.93 41 P **PKPdf 03 17 07.8 0.0**
baz=118
T25A Trinidad 117.98 50 P **PKPdf 03 17 09.1 +0.7**
baz=118
Y24A Capitan 118.00 54 P **PKPdf 03 17 09.0 +0.6**
baz=118
HINF Hinteralfeld 118.03 323 *e*PKiKP **PKPdf 03 17 07.0 -0.9**
comp=Z,36nm,1.2s
P26A Davis Ranch, A 118.07 48 P **PKPdf 03 17 09.0 +0.6**
baz=118
I28A Midland 118.08 42 P **PKPdf 03 17 08.3 +0.2**
baz=118
V25A Rancho No Teng 118.17 52 P **PKPdf 03 17 09.8 +1.0**
baz=118
Z24A Sheeppen Canyo 118.19 55 P **PKPdf 03 17 09.6 +0.7**
baz=118
HAU Haudompre 118.25 323 *e*PKiKP **PKPdf 03 17 07.7 -0.6**
comp=Z,27nm,1.0s
N27A Anderson Farm, 118.26 46 P **PKPdf 03 17 08.8 +0.2**
baz=118
124A Stringfield Ra 118.26 56 P **PKPdf 03 17 09.2 +0.1**
baz=118
W25A X Bar L Ranch, 118.46 53 P **PKPdf 03 17 09.7 +0.4**
baz=118
O27A Beecher Island 118.51 47 P **PKPdf 03 17 09.4 +0.2**
baz=118
324A Moseley Ranch, 118.52 57 P **PKPdf 03 17 09.6 +0.1**
baz=118
S26A Kim 118.56 50 P **PKPdf 03 17 10.0 +0.7**
baz=118
Y25A Mesa, Roswell 118.60 54 P **PKPdf 03 17 10.0 +0.5**
baz=118
T26A Comanche Natio 118.60 50 P **PKPdf 03 17 10.3 +0.8**
baz=118
U26A Atchley Ranch, 118.70 51 P **PKPdf 03 17 09.8 +0.1**
baz=119
MEZF Maizieres J'vi 118.79 324 *e*PKiKP **PKPdf 03 17 09.1 -0.2**
comp=Z,11nm,0.9s
V26A Tequesquite Ra 118.83 52 P **PKPdf 03 17 10.2 +0.2**
baz=119
125A Gardner Draw, 118.93 55 P **PKPdf 03 17 10.7 +0.5**
baz=119
325A Bean Ranch, Si 118.96 57 P **PKPdf 03 17 10.7 +0.4**
baz=119
CABF La Chapelle 119.03 322 *e*PKiKP **PKPdf 03 17 09.7 -0.2**
comp=Z,34nm,1.1s
O28A Krutsinger Ran 119.04 46 P **PKPdf 03 17 10.5 +0.3**
baz=119
425A Indio Mountain 119.07 58 P **PKPdf 03 17 10.6 +0.1**
baz=119
LPG La Plagne 119.09 320 *e*PKiKP **PKPdf 03 17 09.9 -0.4**
comp=Z,13nm,0.9s
LPL La Plagne 119.09 320 *e*PKiKP **PKPdf 03 17 09.8 -0.4**
comp=Z,13nm,0.9s
K29A Lazy Trails An 119.12 43 P **PKPdf 03 17 10.8 +0.6**
baz=119
X26A CR and CF Fran 119.15 53 P **PKPdf 03 17 11.0 +0.4**
baz=119
SBF Sospel 119.31 318 *e*PKiKP **PKPdf 03 17 09.7 -0.8**
comp=Z,21nm,0.9s
BNI Bardonecchia 119.32 320 *e*PKiKP **PKPdf 03 17 10.1 -0.5**
BNI Bardonecchia 119.32 320 *e*PKPdf **PKPdf 03 17 10.1 -0.5**
MBDF Montbardon 119.39 319 *e*PKiKP **PKPdf 03 17 09.8 -1.0**
226B Tecolote Peak, 119.47 56 P **PKPdf 03 17 11.7 +0.5**
baz=119
R28A Tribune 119.59 48 P **PKPdf 03 17 12.0 +0.7**
baz=120
O29A 4D Ranch, Culb 119.74 46 P **PKPdf 03 17 11.7 +0.3**
baz=120
T28A Walsh 119.75 50 P **PKPdf 03 17 11.6 0.0**
baz=120
326A Caldwell Ranch 119.80 57 P **PKPdf 03 17 11.7 -0.1**
baz=120
P29A Atwood 119.83 47 P **PKPdf 03 17 12.2 +0.6**
baz=120
Y27A Causey 119.84 54 P **PKPdf 03 17 12.5 +0.6**
baz=120
ORIF Oris-en-Rattie 119.89 320 *e*PKiKP **PKPdf 03 17 11.0 -0.6**
comp=Z,6.1nm,0.7s
426A McDonald Obser 119.90 57 P **PKPdf 03 17 12.5 +0.3**
baz=120
Z27A Tatum 119.94 54 P **PKPdf 03 17 12.6 +0.5**
baz=120
FRF La Foret Royal 119.95 318 *e*PKiKP **PKPdf 03 17 11.0 -0.7**
comp=Z,16nm,1.0s
526A Mary Lane Ranc 119.98 58 P **PKPdf 03 17 12.8 +0.5**
baz=120
127A Arkansas Junct 119.99 55 P **PKPdf 03 17 12.6 +0.4**
baz=120
Q29A Oakley 120.03 48 P **PKPdf 03 17 12.4 +0.3**
baz=120
V28A Channing 120.07 51 P **PKPdf 03 17 12.8 +0.5**
baz=120
LOR Lormes 120.08 323 *e*PKiKP **PKPdf 03 17 11.4 -0.4**
comp=Z,9.7nm,0.9s
MSTX Muleshoe 120.13 54 P **PKPdf 03 17 12.7 +0.3**
baz=120
O30A MW Ranch, Wils 120.25 46 P **PKPdf 03 17 12.6 +0.2**
baz=120
P30A Selden 120.34 47 P **PKPdf 03 17 13.3 +0.6**
baz=120
S29A Ulysses 120.34 49 P **PKPdf 03 17 12.8 +0.1**
baz=120

T29A	**Hugoton** baz=120	**120.36**	**50**	P		**PKPdf**	**03 17 13.1**	**+0.3**
527A	**Woodward Ranch** baz=120	**120.37**	**58**	P		**PKPdf**	**03 17 13.1**	**+0.1**
427A	**Hayter Ranch,** baz=120	**120.39**	**57**	P		**PKPdf**	**03 17 13.2**	**+0.2**
SMF	**Signal de Mont**	**120.39**	**322**	*e*PKIKP		**PKPdf**	**03 17 12.0**	**-0.4**
SSF	**Saint Saulge** comp=Z,18nm,0.8s	**120.39**	**323**	*e*PKIKP		**PKPdf**	**03 17 12.2**	**-0.2**
X28A	**Dimmitt** baz=120	**120.44**	**53**	P		**PKPdf**	**03 17 13.2**	**+0.2**
SMRF	**Simiane la Rot** comp=Z,14nm,0.9s	**120.49**	**319**	*e*PKIKP		**PKPdf**	**03 17 12.6**	**-0.1**
TXAR	**Lajitas Array**	**120.50**	**59**	PKP		**PKPdf**	**03 17 13.8**	**+0.5**
TXAR				PKKPbc		**PKKPbc**	**03 27 18.5**	**-1.1**
TXAR	**Lajitas Array** comp=Z,1.6nm,0.7s,baz=246,slow=2.0,SNR=11	**120.50**	**59**	PKP		**PKPdf**	**03 17 13.8**	**+0.5**
TXAR	comp=Z,0.7nm,0.7s,baz=123,slow=6.3,SNR=10			PKKPbc		**PKKPbc**	**03 27 18.5**	**-1.1**
Y28A	**McKinney Farm,** baz=120	**120.56**	**53**	P		**PKPdf**	**03 17 13.8**	**+0.5**
V29A	**Stinnett** baz=120	**120.58**	**51**	P		**PKPdf**	**03 17 13.5**	**+0.3**
AVF	**Avril sur Loir**	**120.62**	**323**	*e*PKIKP		**PKPdf**	**03 17 12.0**	**-0.8**
VIVF	**Saint-Julien-l** comp=Z,9.4nm,0.9s	**120.69**	**320**	*e*PKIKP		**PKPdf**	**03 17 12.5**	**-0.6**
627A	**Terlingua Ranc** baz=121	**120.71**	**59**	P		**PKPdf**	**03 17 14.2**	**+0.5**
R30A	**Dighton** baz=121	**120.75**	**48**	P		**PKPdf**	**03 17 13.3**	**-0.1**
328A	**Wristen Ranch,** baz=121	**120.75**	**56**	P		**PKPdf**	**03 17 13.6**	**0.0**
KEST	**Kesra**	**120.78**	**309**	*e*PKPdf		**PKPdf**	**03 17 13.7**	**+0.1**
KEST	**Kesra** comp=Z,2.2nm,0.8s,baz=27,slow=2.3,SNR=6.0	**120.78**	**309**	PKP		**PKPdf**	**03 17 13.8**	**+0.2**
X29A	**Tulia** baz=121	**120.85**	**53**	P		**PKPdf**	**03 17 14.2**	**+0.4**
P31A	**Stockton** baz=121	**120.98**	**46**	P		**PKPdf**	**03 17 14.2**	**+0.4**
BGF	**Bois d'Agland** comp=Z,24nm,0.9s	**121.03**	**323**	*e*PKIKP		**PKPdf**	**03 17 13.5**	**-0.2**
Y29A	**Porterfield Fa** baz=121	**121.04**	**53**	P		**PKPdf**	**03 17 14.6**	**+0.4**
U30A	**WK&E Inc. Balk** baz=121	**121.04**	**50**	P		**PKPdf**	**03 17 14.7**	**+0.6**
628A	**Black Gap, Mar** baz=121	**121.13**	**59**	P		**PKPdf**	**03 17 14.3**	**-0.1**
BGNE	**Belgrade** baz=121	**121.13**	**44**	P		**PKPdf**	**03 17 13.8**	**-0.3**
Z29A	**Hungry Hill Ra** baz=121	**121.18**	**54**	P		**PKPdf**	**03 17 14.3**	**-0.2**
ECSD	**EROS Data Cent**	**121.20**	**41**	*e*PKPdf		**PKPdf**	**03 17 13.7**	**-0.4**
129A	**Stewart Farms,** baz=121	**121.22**	**55**	P		**PKPdf**	**03 17 14.7**	**+0.2**
R31A	**Burdett** baz=121	**121.30**	**48**	P		**PKPdf**	**03 17 14.9**	**+0.4**
329A	**Wagon Wheel Ra** baz=121	**121.42**	**56**	P		**PKPdf**	**03 17 14.8**	**-0.1**
X30A	**Coker Ranch, T** baz=121	**121.50**	**52**	P		**PKPdf**	**03 17 15.1**	**+0.1**
529A	**Stev Forest Ra** baz=122	**121.55**	**58**	P		**PKPdf**	**03 17 15.4**	**+0.2**
TCF	**Toulx Ste Croi** comp=Z,26nm,0.9s	**121.55**	**323**	*e*PKIKP		**PKPdf**	**03 17 14.5**	**-0.2**
LASF	**Ste Croix**	**121.56**	**320**	*e*PKIKP		**PKPdf**	**03 17 13.5**	**-1.3**
T31A	**Randall Ranch,** baz=122	**121.60**	**49**	P		**PKPdf**	**03 17 15.4**	**+0.3**
Z30A	**Sanderson Ranc** baz=122	**121.63**	**54**	P		**PKPdf**	**03 17 15.4**	**+0.2**
429A	**Davenport Ranc** baz=122	**121.70**	**57**	P		**PKPdf**	**03 17 15.3**	**-0.2**
U31A	**Nine Bar Ranch** baz=122	**121.71**	**50**	P		**PKPdf**	**03 17 16.2**	**+0.9**
V31A	**Spring Creek L** baz=122	**121.90**	**51**	P		**PKPdf**	**03 17 16.6**	**+0.9**
W31A	**Holland Ranch,** baz=122	**122.01**	**51**	P		**PKPdf**	**03 17 16.3**	**+0.4**
230A	**Sterling City** baz=122	**122.03**	**55**	P		**PKPdf**	**03 17 16.0**	**0.0**
330A	**Mertzon** baz=122	**122.10**	**56**	P		**PKPdf**	**03 17 16.5**	**+0.3**
X31A	**McDonald Ranch** baz=122	**122.15**	**52**	P		**PKPdf**	**03 17 16.5**	**+0.3**
430A	**Baggett Ranch,** baz=122	**122.21**	**57**	P		**PKPdf**	**03 17 16.7**	**+0.2**
530A	**J-C Ranch, Com** baz=122	**122.28**	**57**	P		**PKPdf**	**03 17 17.2**	**+0.5**
CAF	**Calviac** comp=Z,31nm,1.2s	**122.30**	**321**	*e*PKIKP		**PKPdf**	**03 17 16.4**	**+0.2**
131A	**Roby** baz=122	**122.40**	**54**	P		**PKPdf**	**03 17 16.7**	**-0.1**
Z31A	**Sharp Cattle R** baz=122	**122.42**	**54**	P		**PKPdf**	**03 17 17.0**	**+0.2**
RJF	**Les Rejaudoux** comp=Z,20nm,1.1s	**122.45**	**322**	*e*PKIKP		**PKPdf**	**03 17 15.6**	**-0.8**
231A	**Bronte** baz=123	**122.67**	**55**	P		**PKPdf**	**03 17 17.4**	**+0.1**
331A	**San Angelo** baz=123	**122.75**	**56**	P		**PKPdf**	**03 17 17.5**	**0.0**
431A	**Sonora** baz=123	**122.76**	**57**	P		**PKPdf**	**03 17 17.9**	**+0.4**
MFF	**Saint Martin d** comp=Z,42nm,1.1s	**122.79**	**324**	*e*PKIKP		**PKPdf**	**03 17 16.6**	**-0.4**
531A	**Rocksprings** baz=123	**122.94**	**57**	P		**PKPdf**	**03 17 18.1**	**+0.2**
Z32A	**Haskell** baz=123	**122.95**	**53**	P		**PKPdf**	**03 17 18.3**	**+0.5**
MTLF	**Montolieu** comp=Z,8.1nm,0.9s	**122.95**	**320**	*e*PKIKP		**PKPdf**	**03 17 17.0**	**-0.4**
ABTX	**Abilene, Hawle** baz=123	**123.02**	**54**	P		**PKPdf**	**03 17 18.5**	**+0.5**
631A	**Perdido Creek** baz=123	**123.11**	**58**	P		**PKPdf**	**03 17 18.4**	**+0.3**
232A	**Coleman** baz=123	**123.23**	**55**	P		**PKPdf**	**03 17 18.7**	**+0.3**
332A	**Millersview** baz=123	**123.29**	**56**	P		**PKPdf**	**03 17 18.8**	**+0.3**
432A	**Menard** baz=123	**123.38**	**56**	P		**PKPdf**	**03 17 18.9**	**+0.2**
JCT	**Junction City**	**123.48**	**57**	*e*PKIKP		**PKPdf**	**03 17 18.9**	**0.0**
JCT	**Junction City**	**123.48**	**57**	*e*PKPdf		**PKPdf**	**03 17 18.9**	**0.0**
JCT	**Junction City** baz=123	**123.48**	**57**	P		**PKPdf**	**03 17 19.1**	**+0.2**
532A	**Rocksprings** baz=123	**123.49**	**57**	P		**PKPdf**	**03 17 19.3**	**+0.4**
632A	**Uvalde** baz=124	**123.75**	**58**	P		**PKPdf**	**03 17 20.3**	**+0.9**
732A	**Laxson Ranch,** baz=124	**123.79**	**59**	P		**PKPdf**	**03 17 20.2**	**+0.7**
EPF	**Esparros** comp=Z,16nm,1.0s	**124.31**	**320**	*e*PKIKP		**PKPdf**	**03 17 19.9**	**-0.2**
TUL1	**Tulsa** baz=125	**124.94**	**49**	P		**PKPdf**	**03 17 22.0**	**+0.5**
ETSF	**Etsaut** comp=Z,14nm,0.9s	**124.95**	**320**	*e*PKIKP		**PKPdf**	**03 17 21.9**	**+0.5**
WHTX	**Lake Whitney** baz=125	**124.97**	**54**	P		**PKPdf**	**03 17 22.0**	**+0.3**
JFWS	**Jewell Farm**	**125.68**	**39**	*e*PKIKP		**PKPdf**	**03 17 21.8**	**-0.9**
JFWS	**Jewell Farm**	**125.68**	**39**	*e*PKPdf		**PKPdf**	**03 17 21.8**	**-0.9**
MIAR	**Mount Ida**	**127.14**	**50**	*e*PKIKP		**PKPdf**	**03 17 25.9**	**+0.2**
MIAR	**Mount Ida**	**127.14**	**50**	*e*PKPdf		**PKPdf**	**03 17 25.9**	**+0.2**
TAM	**Tamanrasset**	**127.28**	**295**	*e*PKIKP		**PKPdf**	**03 17 27.4**	**+0.9**
TAM	**Tamanrasset**	**127.28**	**295**	*e*PKPdf		**PKPdf**	**03 17 27.4**	**+0.9**
SCHQ	**Schefferville**	**127.56**	**15**	PKP		**PKPdf**	**03 17 25.8**	**-0.1**
SCHQ	**Schefferville** comp=Z,7.8nm,0.8s,baz=320,slow=4.2,SNR=7.9	**127.56**	**15**	PKP		**PKPdf**	**03 17 25.8**	**-0.1**
ESDC	**Sonseca Array**	**128.79**	**318**	PKP		**PKPdf**	**03 17 29.4**	**+0.6**
ESDC	**Sonseca Array** comp=Z,1.2nm,0.8s,baz=18,slow=2.7,SNR=8.5	**128.79**	**318**	PKP		**PKPdf**	**03 17 29.4**	**+0.6**
SFIN	**Scholer Farm** baz=129	**129.02**	**40**	P		**PKPdf**	**03 17 29.7**	**+0.6**
PLCA	**Paso Flores**	**129.19**	**156**	*e*PKPdf		**PKPdf**	**03 17 29.9**	**+0.3**
PLCA	**Paso Flores** comp=Z,8.4nm,1.1s,baz=205,slow=5.4,SNR=6.0	**129.19**	**156**	PKP		**PKPdf**	**03 17 29.9**	**+0.3**
OLIL	**Olney**	**129.22**	**43**	*e*PKPdf		**PKPdf**	**03 17 29.8**	**+0.3**
MVO	**Moncorvo**	**129.94**	**322**	*e*PKPdf		**PKPdf**	**03 17 32.6**	**+1.6**
POLO	**Lamas de Olo**	**130.29**	**322**	*e*PKPdf		**PKPdf**	**03 17 33.2**	**+1.6**
MTE	**Manteigas**	**130.70**	**321**	*e*PKPdf		**PKPdf**	**03 17 32.4**	**0.0**
PCBR	**Castelo Branco**	**130.98**	**321**	*e*PKPdf		**PKPdf**	**03 17 34.1**	**+1.2**
PBAR	**Barrancos**	**131.62**	**318**	*e*PKPdf		**PKPdf**	**03 17 35.6**	**+1.5**
EVO	**Evora** comp=Z,14nm,1.1s	**132.06**	**319**	*e*PKIKP		**PKPdf**	**03 17 35.0**	**0.0**
PBEJ	**Beja**	**132.25**	**319**	*e*PKPdf		**PKPdf**	**03 17 37.0**	**+1.7**
TOA0	**Torodi Ar. Sit**	**132.30**	**283**	*e*PKPdf		**PKPdf**	**03 17 35.8**	**-0.2**
TORD	**Torodi Ar. Bea**	**132.30**	**283**	PKPpre	PKPpre	03 17 23.0		
TORD				PKP		**PKPdf**	**03 17 36.0**	**0.0**
TORD				PP		**PP**	**03 20 02.9**	**+3.9**
TORD				SKPbc		**SKPbc**	**03 21 01.8**	**+1.0**
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.7s,baz=72,slow=1.6,SNR=5.0	**132.30**	**283**	PKhKP	PKPpre	03 17 23.0		
TORD	comp=Z,5.5nm,0.8s,baz=101,slow=1.9,SNR=5.5			PKP		**PKPdf**	**03 17 36.0**	**0.0**
TORD	comp=Z,1.4nm,1.1s,baz=15,slow=6.2,SNR=3.7			PP		**PP**	**03 20 02.9**	**+3.9**
TORD	comp=Z,0.8nm,0.8s,baz=74,slow=4.0,SNR=3.6			SKPbc		**SKPbc**	**03 21 01.8**	**+1.0**
PCVE	**Castro Verde**	**132.58**	**318**	*e*PKPdf		**PKPdf**	**03 17 36.8**	**+0.8**
PBDV	**Barranco-do-Ve**	**132.72**	**318**	*e*PKPdf		**PKPdf**	**03 17 38.0**	**+1.7**
LRAL	**Lakeview Retre**	**132.74**	**49**	*e*PKPdf		**PKPdf**	**03 17 36.6**	**+0.2**
LONY	**Lake Ozonia**	**133.28**	**28**	*e*PKPdf		**PKPdf**	**03 17 37.8**	**+0.7**
TKL	**Tuckaleechee C**	**133.76**	**44**	*e*PKPdf		**PKPdf**	**03 17 38.5**	**+0.3**
TKL	**Tuckaleechee C** comp=Z,12nm,0.7s,baz=323,slow=5.1,SNR=21	**133.76**	**44**	PKP		**PKPdf**	**03 17 38.6**	**+0.3**
TRQA	**Tornquist**	**134.63**	**162**	*e*PKPdf		**PKPdf**	**03 17 40.3**	**+0.5**
KMSC	**Kings Mountain** baz=136	**135.71**	**43**	P		**PKPdf**	**03 17 42.2**	**+0.3**
TIGA	**Tifton** baz=136	**136.04**	**49**	P		**PKPdf**	**03 17 42.6**	**0.0**
CFAA	**Coronel Fontan**	**137.84**	**151**	PKPpre	PKPpre	03 17 35.6		
CFAA				PKP		**PKPdf**	**03 17 45.1**	**-1.0**
CFAA	**Coronel Fontan** comp=Z,0.2nm,0.5s,baz=281,slow=5.2,SNR=3.5	**137.84**	**151**	PKhKP	PKPpre	03 17 35.6		
CFAA	comp=Z,0.7nm,0.9s,baz=232,slow=1.8,SNR=6.6			PKP		**PKPdf**	**03 17 45.1**	**-1.0**
DBIC	**Dimbokro**	**139.06**	**274**	PKPpre	PKPpre	03 17 40.4		
DBIC	**Dimbokro** comp=Z,7.3nm,0.9s,baz=76,slow=8.3,SNR=2.8	**139.06**	**274**	PKhKP	PKPpre	03 17 40.4		
LVC	**Limon Verde**	**144.54**	**142**	*e*PKPdf		**PKPdf**	**03 17 58.6**	**0.0**
NNA	**Nana**	**144.97**	**119**	*e*PKPdf		**PKPdf**	**03 17 59.2**	**-0.1**
ATAH	**Atahualpa**	**145.47**	**110**	PKPbc		**PKPab**	**03 18 02.9**	**+2.0**
ATAH	**Atahualpa** comp=Z,137nm,1.0s,baz=193,slow=1.7,SNR=57	**145.47**	**110**	PKPbc		**PKPab**	**03 18 02.9**	**+2.0**
ASCN	**Ascension**	**145.93**	**248**	*e*PKPbc		**PKPab**	**03 18 02.2**	**+0.1**
BCIP	**Isla Barro Col**	**146.17**	**81**	*e*PKPbc		**PKPdf**	**03 18 01.5**	**+0.2**
CPUP	**Villa Florida**	**146.94**	**161**	PKPbc		**PKPbc**	**03 18 04.8**	**+0.6**
CPUP	**Villa Florida** comp=Z,67nm,0.7s,baz=194,slow=1.9,SNR=153	**146.94**	**161**	PKPbc		**PKPbc**	**03 18 04.8**	**+0.6**
OTAV	**Otavalo**	**147.23**	**97**	*e*PKPbc		**PKPbc**	**03 18 05.9**	**0.0**
LPAZ	**La Paz**	**149.53**	**134**	PKP		**PKPdf**	**03 18 08.2**	**+0.6**
LPAZ				*e*PKPdf		**PKPbc**	**03 18 08.4**	**-3.6**
LPAZ				PKPbc		**PKiKP**	**03 18 12.8**	**-0.4**
LPAZ				*e*PKPbc		**PKPab**	**03 18 12.9**	**-4.0**
LPAZ	**La Paz** comp=Z,4.8nm,1.0s,baz=182,slow=4.6,SNR=6.6	**149.53**	**134**	PKP		**PKPdf**	**03 18 08.2**	**+0.6**
LPAZ	comp=Z,19nm,0.8s,baz=183,slow=0.9,SNR=68			PKPbc		**PKiKP**	**03 18 12.8**	**-0.4**
ROSC	**El Rosal**	**151.76**	**89**	PKP		**PKPdf**	**03 18 11.6**	**+0.9**
ROSC				PKPbc		**PKiKP**	**03 18 18.0**	**+0.5**
ROSC	**El Rosal** comp=Z,2.4nm,0.4s,baz=229,slow=20,SNR=3.8	**151.76**	**89**	PKP		**PKPdf**	**03 18 11.6**	**+0.9**
ROSC	comp=Z,73nm,0.8s,baz=253,slow=19,SNR=49			PKPbc		**PKiKP**	**03 18 18.0**	**+0.5**
SAML	**Samuel**	**157.94**	**129**	*e*PKPdf		**PKPdf**	**03 18 18.9**	**+0.1**
SAML				*e*PKPab		**PKPab**	**03 18 50.7**	**-1.1**
BDFB	**Brasilia**	**159.37**	**174**	PKPab		**PKPab**	**03 18 58.1**	**+0.3**
BDFB	**Brasilia** comp=Z,8.2nm,0.8s,baz=112,slow=2.5,SNR=8.9	**159.37**	**174**	PKPab		**PKPab**	**03 18 58.1**	**+0.3**

IDC ***12*** *03:01:09.4±0.5,25.˙11N×106.˙64W, h0km, mb4.2/20, mb1 4.4/27, mb1mx4.3/33, mbtmp4.2/27, ML4.0/4, MS4.4/27, Ms1 4.4/27, ms1mx4.4/35, Error ellipse: s-maj=12.1km s-min=9.2km az=72.0*

GCMT ***12*** *03:01:10.3±0.2, 25.˙28N×106.˙87W, h12km, MW5.1, Moment Tensor Solution. s40,c57; s84,c150; Moment tensor: Scale 10^16Nm; Mrr=5.17±.10; Mθθ=0.53±.09; Mφφ=4.65±.09; Mrθ=0.38±.38; Mrφ=-0.76±.08; Mθφ=1.43±.29; Best double couple: M0=5.20000×10^16 NP1:φs=344.00000°, δ=38.00000°, λ=-100.00000°. NP2:φs=176.00000°, δ=53.00000°, λ=-83.00000°. Principal axes: T 4.9600, Plg=8.0000°, Azm=261.0000°; N 0.4600, Plg=6.0000°, Azm=352.0000°; P -5.4100, Plg=80.0000°, Azm=119.0000°; Data Used: IU II G CN IC.*

ISCJB ***12*** *03:01:11.4±1.0, 25.˙07N±0.˙02×106.˙67W±0.˙03, h22km±7km, mb4.7/68, MS4.5/27 Error ellipse: s-maj=4.8km s-min=2.9km az=145.8*

MOS ***12*** *03:01:12.8±1.0, 25.˙11N×106.˙62W, h33km, mb5.1/21, Error ellipse: s-maj=8.0km s-min=4.3km az=101.8*

MEX ***12*** *03:01:12.3±0.5, 25.˙06N×106.˙85W, h5km, MD4.7*

NEIC ***12*** *03:01:14.4±1.0, 25.˙04N×106.˙68W, h34km±8km, mb4.8/89, MD4.7(MEX), Error ellipse: s-maj=4.7km s-min=3.2km az=222.0*

NEIC Felt [IV] at Culiacan and [II] at Durango. Also felt at Mazatlan, Navolato, Papasquiaro and Tepehuanes.

BJI ***12*** *03:01:16.4, 25.˙20N×106.˙60W, h46km, mB5.4/4, Ms7 4.7/1*

ISC 12 03:01:14.5±1.5, 25.˙06N±0.˙03×106.˙82W±0.˙04, h32km±11km, n652, σ1s18/599, mb4.8/68, MS4.5/27, 149C-159D, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAIG	**Mazatlaan**	**1.90**	**169**	*e*P	Pn	03 01 41.4	-3.2
MAIG				*i* S	**Sn**	**03 02 05.5**	**-1.9**
MAIG	**Mazatlaan**	**1.90**	**169**	*e*P	Pn	03 01 41.4	-3.2
MAIG				*i* S	**Sn**	**03 02 05.5**	**-1.9**
HPIG		**2.14**	**29**	*e*P	**Pn**	**03 01 45.6**	**-2.4**
HPIG				*e*S	**Sn**	**03 02 11.9**	**-1.7**
HPIG		**2.14**	**29**	*e*P	**Pn**	**03 01 45.6**	**-2.4**
HPIG				*e*S	**Sn**	**03 02 11.9**	**-1.7**
LPIG	**La Paz**	**3.32**	**254**	*e*P	**Pn**	**03 02 02.2**	**-1.9**
LPIG				*i* S	**Sn**	**03 02 40.4**	**-2.1**
LPIG	**La Paz**	**3.32**	**254**	*e*P	**Pn**	**03 02 02.2**	**-1.9**
LPIG				*i* S	**Sn**	**03 02 40.4**	**-2.1**
ZAIG	**Zacatecas**	**4.51**	**120**	*e*P	**Pn**	**03 02 20.1**	**-0.7**
ZAIG				*i* S	**Sn**	**03 03 11.7**	**-0.6**
ZAIG	**Zacatecas**	**4.51**	**120**	*e*P	**Pn**	**03 02 20.1**	**-0.7**
ZAIG				*i* S	**Sn**	**03 03 11.7**	**-0.6**
ANIG	**Ahuacatlan**	**4.51**	**152**	*e*P	**Pn**	**03 02 19.8**	**-0.9**
ANIG				*i* S	**Sn**	**03 03 12.2**	**+0.1**
ANIG	**Ahuacatlan**	**4.51**	**152**	*e*P	**Pn**	**03 02 19.8**	**-0.9**
ANIG				*i* S	**Sn**	**03 03 12.2**	**+0.1**
626A	**Big Bend Ranch** baz=5.0,SNR=114	**5.07**	**27**	⇓P	**Pn**	**03 02 25.8**	**-2.5**
626A	baz=5.0			⇓S	**Sb**	**03 03 46.4**	**+3.3**
626A	baz=5.0			⇓S	**Sb**	**03 03 46.4**	**+3.3**
TXAR	**Lajitas Array**	**5.10**	**33**	Pn	Pn	03 02 25.7	-3.0
TXAR				Pg	Pb	03 02 36.7	-6.3
TXAR				Lg	Lg	03 03 45.4	
TXAR	**Lajitas Array** 10nm,0.3s,baz=205,slow=14,SNR=310	**5.10**	**33**	Pn	Pn	03 02 25.7	-3.0
TXAR	14nm,0.3s,baz=218,slow=16,SNR=27			Pg	Pb	03 02 36.7	-6.3
TXAR	133nm,0.3s,baz=218,slow=29,SNR=12			Lg	Lg	03 03 45.4	
TXAR	comp=Z,4μm,21.6s,baz=20,slow=44			LR	LR	03 04 45.7	
627A	**Terlingua Ranc** baz=5.3,SNR=47	**5.33**	**34**	⇑P	Pn	03 02 28.7	-3.3
627A	baz=5.3			⇓S	**Sb**	**03 03 54.0**	**+3.3**
627A	baz=5.3			⇓S	**Sb**	**03 03 54.0**	**+3.3**
SRIG	**Santa Rosalia**	**5.37**	**296**	*i* P	Pn	03 02 29.8	-2.5
SRIG				*i* S	**Sn**	**03 03 31.8**	**-1.3**
SRIG	**Santa Rosalia**	**5.37**	**296**	*i* P	Pn	03 02 29.8	-2.5
SRIG				*i* S	**Sn**	**03 03 31.8**	**-1.3**
CGIG		**5.39**	**349**	*e*P	**Pn**	**03 02 31.6**	**-1.1**
CGIG				*e*S	**Sn**	**03 03 31.8**	**-1.9**
CGIG		**5.39**	**349**	*e*P	**Pn**	**03 02 31.6**	**-1.1**
CGIG				*e*S	**Sn**	**03 03 31.8**	**-1.9**
HSIG		**5.40**	**318**	*i* P	**Pn**	**03 02 30.8**	**-1.9**
HSIG				*i* S	**Sn**	**03 03 31.7**	**-2.1**
HSIG		**5.40**	**318**	*i* P	**Pn**	**03 02 30.8**	**-1.9**
HSIG				*i* S	**Sn**	**03 03 31.7**	**-2.1**
526A	**Mary Lane Ranc** baz=5.5,SNR=127	**5.54**	**25**	⇓P	**Pn**	**03 02 32.4**	**-2.4**
628A	**Black Gap, Mar** baz=5.6,SNR=95	**5.63**	**38**	⇓P	Pn	03 02 33.1	-2.8
CJM	**Chamela**	**5.77**	**163**	*e*P	**Pn**	**03 02 35.8**	**-2.1**
CJM				*i* S	**Sn**	**03 03 43.4**	**+0.3**
CJM	**Chamela**	**5.77**	**163**	*e*P	**Pn**	**03 02 35.8**	**-2.1**
CJM				*i* S	**Sn**	**03 03 43.4**	**+0.3**
527A	**Woodward Ranch** baz=5.8,SNR=92	**5.81**	**29**	⇑P	Pn	03 02 35.8	-2.7
425A	**Indio Mountain**	**5.93**	**15**	⇓P	**Pn**	**03 02 37.9**	**-2.3**
426A	**McDonald Obser** baz=6.1,SNR=379	**6.11**	**23**	⇓P	**Pn**	**03 02 40.2**	**-2.5**
324A	**Moseley Ranch,** baz=6.5,SNR=23	**6.47**	**10**	⇑P	**Pn**	**03 02 45.6**	**-2.0**
529A	**Stev Forest Ra** baz=6.4,SNR=28	**6.49**	**38**	⇓P	**Pn**	**03 02 46.0**	**-1.8**
325A	**Bean Ranch, Si** baz=6.5,SNR=66	**6.50**	**14**	⇑P	**Pn**	**03 02 46.5**	**-1.5**
427A	**Hayter Ranch,** baz=6.5,SNR=58	**6.51**	**27**	⇓P	**Pn**	**03 02 45.8**	**-2.3**
319A	**Douglas** baz=6.7,SNR=79	**6.66**	**341**	⇓P	**Pn**	**03 02 49.5**	**-0.7**
LNIG	**Linares**	**6.67**	**90**	*e*P	**Pn**	**03 02 49.1**	**-1.1**
LNIG				*i* S	**Sn**	**03 04 05.9**	**+0.7**
LNIG	**Linares**	**6.67**	**90**	*e*P	**Pn**	**03 02 50.8**	**+0.5**
LNIG				*i* S	**Sn**	**03 04 05.9**	**+0.7**
326A	**Caldwell Ranch** baz=6.7,SNR=115	**6.72**	**21**	⇓P	**Pn**	**03 02 48.9**	**-2.1**
428A	**Kincaid Ranch,** baz=6.7,SNR=22	**6.72**	**32**	⇑P	**Pn**	**03 02 49.7**	**-1.4**
MNTX	**Cornudas Mount** 516nm,2.4s	**6.74**	**10**	*e*Pn	**Pn**	**03 02 48.7**	**-2.4**
MNTX				*e*S	Sb	03 04 37.4	+6.6
223A	**Chaparral, Ant** baz=7.0,SNR=7.6	**6.93**	**3**	⇓P	**Pn**	**03 02 52.9**	**-1.0**
327A	**Balmorhea Ranc** baz=6.9	**6.94**	**24**	⇓P	**Pn**	**03 02 52.4**	**-1.5**
221A	**Mesquite Ranch** baz=7.0,SNR=221	**6.98**	**353**	⇑P	**Pn**	**03 02 53.3**	**-1.2**
220A	**Playas Peak, P** baz=7.0,SNR=244	**6.99**	**348**	⇑P	**Pn**	**03 02 53.4**	**-1.3**
530A	**J-C Ranch, Com** baz=7.0,SNR=9.4	**7.02**	**43**	⇓P	**Pn**	**03 02 52.6**	**-2.5**
222A	**Williams Famil** baz=7.1,SNR=12	**7.03**	**358**	⇑P	**Pn**	**03 02 54.2**	**-1.0**
631A	**Perdido Creek** baz=7.0,SNR=80	**7.04**	**51**	P	**Pn**	**03 02 53.0**	**-2.4**
429A	**Davenport Ranc** baz=7.0,SNR=22	**7.05**	**37**	⇑P	**Pn**	**03 02 53.3**	**-2.2**
224A	**Cornudas Mount** baz=7.1,SNR=76	**7.08**	**9**	⇓P	**Pn**	**03 02 54.0**	**-2.1**
732A	**Laxson Ranch,** baz=7.0,SNR=14	**7.12**	**58**	P	**Pn**	**03 02 54.5**	**-1.9**
328A	**Wristen Ranch,** baz=7.2,SNR=23	**7.22**	**28**	⇓P	**Pn**	**03 02 56.3**	**-1.6**
225A	**Deer Hill, Car** baz=7.3,SNR=41	**7.24**	**14**	⇑P	**Pn**	**03 02 57.1**	**-1.1**
226B	**Tecolote Peak,** baz=7.4,SNR=39	**7.37**	**18**	⇓P	**Pn**	**03 02 58.8**	**-1.2**
GDL2	**Guadalupe Moun**	**7.43**	**16**	*e*Pn	**Pn**	**03 03 00.4**	**-0.4**
MMIG	**Aquila**	**7.47**	**154**	*e*P	**Pn**	**03 03 01.1**	**-0.2**
MMIG				*i* S	**Sn**	**03 04 25.7**	**+0.9**
MMIG	**Aquila**	**7.47**	**154**	*e*P	**Pn**	**03 03 01.1**	**-0.2**
MMIG				*i* S	**Sn**	**03 04 25.7**	**+0.9**
121A	**Cookes Peak, D** baz=7.6,SNR=290	**7.50**	**354**	⇓P	**Pn**	**03 03 00.3**	**-1.4**
531A	**Rocksprings** baz=7.5,SNR=35	**7.53**	**46**	⇓P	**Pn**	**03 03 00.5**	**-1.6**
430A	**Baggett Ranch,** baz=7.5,SNR=18	**7.54**	**40**	⇓P	**Pn**	**03 03 01.0**	**-1.3**
123A	**Bell Site, Whi** baz=7.6,SNR=6.9	**7.56**	**4**	⇑P	**Pn**	**03 03 01.5**	**-1.1**
227A	**Bennet, Jal** baz=7.6,SNR=5.4	**7.59**	**23**	P	**Pn**	**03 03 02.6**	**-0.3**
122A	**Conniff Cattle** baz=7.7,SNR=50	**7.62**	**359**	⇑P	**Pn**	**03 03 03.4**	**+0.1**
CLNB	**Carlsbad** 186nm,1.3s	**7.63**	**19**	*e*Pn	**Pn**	**03 03 03.8**	**+0.4**
120A	**U Bar Ranch, L** baz=7.7,SNR=144	**7.63**	**348**	⇑P	**Pn**	**03 03 03.0**	**-0.5**
632A	**Uvalde** baz=7.6,SNR=38	**7.66**	**53**	P	**Pn**	**03 03 01.9**	**-1.9**
329A	**Wagon Wheel Ra** baz=7.7,SNR=13	**7.69**	**33**	⇓P	**Pn**	**03 03 04.1**	**-0.2**
124A	**Stringfield Ra** baz=7.7	**7.71**	**9**	⇑P	**Pn**	**03 03 05.7**	**+1.0**
125A	**Gardner Draw,** baz=7.8,SNR=72	**7.80**	**14**	⇑P	**Pn**	**03 03 05.0**	**-1.0**
431A	**Sonora** baz=7.8,SNR=68	**7.84**	**43**	⇑P	**Pn**	**03 03 05.8**	**-0.6**
532A	**Rocksprings** baz=7.9,SNR=23	**7.94**	**49**	⇑P	**Pn**	**03 03 06.7**	**-1.1**
126A	**Clayton Basin,** baz=8.0,SNR=15	**7.95**	**17**	⇓P	**Pn**	**03 03 08.2**	**+0.3**
228A	**UT Block 9, Go** baz=7.9,SNR=5.6	**7.95**	**27**	P	**Pn**	**03 03 07.2

baz=9.5,SNR=9.6
131A Roby 9.45 35 ⇓P Pn 03 03 26.9 -1.4
baz=9.4,SNR=9.2
MSTX Muleshoe 9.55 21 ⇓P Pn 03 03 28.7 -1.1
baz=9.6,SNR=13
X20A Quemado 9.56 352 ⇑P Pn 03 03 31.4 +1.3
baz=9.6,SNR=9.6
Z30A Sanderson Ranc 9.58 30 ⇑P Pn 03 03 28.7 -1.6
baz=9.6,SNR=23
X25A Clemmons Ranch 9.62 11 ⇑P Pn 03 03 31.4 +0.6
baz=9.6,SNR=33
Y28A McKinney Farm, 9.67 23 ⇓P Pn 03 03 31.4 -0.2
baz=9.7,SNR=16
SPIG San Pedro Mart 9.69 310 *i* P Pn 03 03 30.6 -1.4
SPIG *i* S Sn 03 05 20.2 +0.4
SPIG San Pedro Mart 9.69 310 *i* P Pn 03 03 30.6 -1.4
SPIG *i* S Sn 03 05 20.2 +0.4
113A Mohawk Valley, 9.80 323 ⇑P Pn 03 03 35.8 +2.6
baz=9.9,SNR=8.6
X26A CR and CF Fran 9.81 15 ⇑P Pn 03 03 34.1 +0.7
baz=9.8
ABTX Abilene, Hawle 9.81 38 ⇑P Pn 03 03 32.6 -0.8
baz=9.8,SNR=16
X18A Snowflake 9.82 345 ⇑P Pn 03 03 34.1 +0.5
baz=9.9,SNR=25
Y29A Porterfield Fa 9.85 26 P Pn 03 03 32.9 -1.0
baz=9.8,SNR=21
ANMO Albuquerque 9.86 2 *e*Pn Pn 03 03 34.2 +0.1
0.7nm,0.7s
ANMO *e*Lg Lg 03 06 21.2
ANMO Albuquerque 9.86 2 Pn Pn 03 03 34.0 -0.1
1.1nm,0.3s,baz=183,slow=14,SNR=58
ANMO Lg Lg 03 06 21.1
2.2nm,0.3s,baz=296,slow=18,SNR=5.5
ANMO LR LR 03 07 53.8
comp=Z,1μm,21.9s,baz=190,slow=41
W22A Albuquerque 9.98 360 ⇓P Pn 03 03 37.2 +1.4
baz=10.0
Z31A Sharp Cattle R 10.08 34 ⇑P Pn 03 03 36.2 -0.9
baz=10.0,SNR=18
X27A F and S Farms, 10.08 18 ⇑P Pn 03 03 37.1 -0.1
baz=10
X16A Lo Mia Camp, P 10.15 338 ⇑P Pn 03 03 40.0 +1.8
baz=10,SNR=81
Y30A Stafford Cattl 10.19 29 ⇑P Pn 03 03 38.8 +0.3
baz=10
W24A Lazy 6 Ranch, 10.19 7 ⇑P Pn 03 03 38.9 +0.2
baz=10,SNR=27
X28A Dimmitt 10.24 22 ⇓P Pn 03 03 38.9 -0.4
baz=10,SNR=6.1
W25A X Bar L Ranch, 10.33 11 ⇓P Pn 03 03 40.7 +0.2
baz=10,SNR=29
W18A Petrified Fore 10.34 347 ⇓P Pn 03 03 43.1 +2.4
baz=10
W26A Owens Ranch, T 10.34 14 ⇓P Pn 03 03 41.6 +0.9
baz=10
X29A Tulia 10.35 24 ⇓P Pn 03 03 39.8 -1.0
baz=10
Y14A Wickenburg 10.36 330 ⇑P Pn 03 03 43.0 +2.2
baz=10,SNR=46
Z32A Haskell 10.42 36 ⇑P Pn 03 03 41.4 -0.2
baz=10,SNR=44
W27A Bowe Ranch, En 10.49 17 ⇓P Pn 03 03 43.0 +0.3
baz=10,SNR=7.2
Y31A Rekieta Farm, 10.55 31 ⇑P Pn 03 03 43.5 +0.1
baz=10,SNR=16
GLA Glamis 10.61 321 *e*P Pn 03 03 44.7 +0.5
GLA Glamis 10.61 321 *e*Pn Pn 03 03 44.7 +0.5
GLA *e*Lg Lg 03 06 43.9
V23A Ortiz Mt. (NFS 10.67 3 ⇓P Pn 03 03 47.6 +2.4
baz=11,SNR=9.5
X30A Coker Ranch, T 10.68 27 ⇓P Pn 03 03 44.7 -0.6
baz=11,SNR=31
V24A Rampart Ranch, 10.71 7 ⇓P Pn 03 03 46.6 +0.7
baz=11
V21A Milan 10.73 356 ⇓P Pn 03 03 48.7 +2.5
baz=11
WHTX Lake Whitney 10.74 48 ⇑P Pn 03 03 45.1 -0.9
baz=11,SNR=13
AMTX Amarillo 10.75 23 *e*Pn Pn 03 03 45.1 -1.2
56nm,0.7s
V20A Brimhall 10.80 353 ⇓P Pn 03 03 49.2 +2.1
baz=11
V22A San Miguel Ran 10.82 360 ⇑P Pn 03 03 49.5 +2.2
baz=11,SNR=20
V25A Rancho No Teng 10.91 9 P Pn 03 03 49.6 +1.1
baz=11,SNR=46
W28A Vega 10.92 20 ⇓P Pn 03 03 48.5 0.0
baz=11
Y12C Blythe 10.96 324 ⇑P Pn 03 03 52.1 +3.1
baz=11,SNR=5.9
W29A Amraillo 10.98 23 ⇑P Pn 03 03 48.9 -0.5
baz=11,SNR=9.1
Y32A R-V Farms, Ver 10.98 34 ⇓P Pn 03 03 48.4 -1.0
baz=11,SNR=26
V26A Tequesquite Ra 11.02 13 P Pn 03 03 49.9 0.0
baz=11,SNR=23
SWSC Sam W. Stewart 11.11 317 ⇑P Pn 03 03 54.4 +3.4
baz=11,SNR=6.8
WUAZ Wupatki 11.14 340 *e*Pn Pn 03 03 54.0 +2.3
84nm,1.1s
WUAZ *e*Lg Lg 03 06 58.1
WUAZ Wupatki 11.14 340 ⇓P Pn 03 03 54.1 +2.4
baz=11,SNR=39
V27A Dan Oppiter Fa 11.20 17 ⇑P Pn 03 03 51.9 -0.5
baz=11
U23A El Rito 11.25 3 P Pn 03 03 55.6 +2.4
baz=11,SNR=38
U22A Llaves 11.28 360 ⇓P Pn 03 03 55.6 +2.0
baz=11,SNR=19
U21A Nageezi 11.36 357 ⇓P Pn 03 03 56.8 +2.1
baz=11,SNR=21
U20A Newcomb 11.38 353 ⇓P Pn 03 03 56.9 +2.0
baz=11
U24A Moreno Valley 11.39 6 ⇓P Pn 03 03 56.3 +1.1
baz=11,SNR=8.0
BC3 Big Chuckawall 11.40 321 ⇓P Pn 03 03 58.1 +2.9
baz=12,SNR=12
W30A Crocket Farms 11.44 27 ⇓P Pn 03 03 56.0 +0.3
baz=11
MONP Monument Peak 11.47 315 ⇑P Pn 03 03 59.4 +3.2
baz=12,SNR=6.1
U25A Circle Dot Ran 11.49 10 ⇑P Pn 03 03 57.1 +0.6
baz=12,SNR=22
BAR Barrett 11.50 314 *e*Pn Pn 03 03 59.0 +2.5
35nm,1.4s
U26A Atchley Ranch, 11.60 12 ⇓P Pn 03 03 58.3 +0.3
baz=12,SNR=17
IRM Iron Mountain 11.61 323 ⇓P Pn 03 04 00.3 +2.3
baz=12,SNR=20
V29A Stinnett 11.70 22 ⇓P Pn 03 03 58.8 -0.5
baz=12
W31A Holland Ranch, 11.71 29 ⇑P Pn 03 03 59.0 -0.4
baz=12,SNR=8.7
W13A Hualapai Mount 11.73 330 P Pn 03 04 02.4 +2.6
baz=12,SNR=31
U27A Thompson Grove 11.83 16 ⇑P Pn 03 04 01.1 0.0
baz=12,SNR=6.6
WMOK Wichita Mounta 11.89 34 *e*P Pn 03 03 59.3 -2.5
WMOK pmax pmax
comp=Z,92nm,1.3s
WMOK Wichita Mounta 11.89 34 *e*Pn Pn 03 03 59.3 -2.5
comp=Z,92nm,1.3s
WMOK *e*Lg Lg 03 07 21.5
V30A Spur Ranch, Mi 11.90 25 ⇑P Pn 03 04 01.2 -0.8
baz=12
109C Camp Elliot, M 11.91 313 ⇓P Pn 03 04 03.8 +1.8
baz=12
T22A Edith 11.92 360 ⇓P Pn 03 04 05.7 +3.3
baz=12,SNR=22
PFO Pinyon Flat Ob 11.96 318 *e*Pn Pn 03 04 05.7 +2.8
PFO *e*Lg Lg 03 07 15.7
PFO Pinyon Flat Ob 11.96 318 Pn Pn 03 04 05.9 +3.0
comp=Z,0.0nm,0.3s,baz=114,slow=11,SNR=12
PFO Lg Lg 03 07 34.4
comp=Z,0.5nm,0.3s,baz=102,slow=19,SNR=5.0
PFO LR LR 03 08 19.4
comp=Z,2μm,21.2s,baz=140,slow=36
PFO Pinyon Flat Ob 11.96 318 ⇑P Pn 03 04 05.0 +2.1
baz=12,SNR=6.0
BELC Belle Mtn. Jos 11.97 320 ⇑P Pn 03 04 05.8 +2.8
baz=12,SNR=8.6
MVCO Mesa Verde 12.20 354 *e*Pn Pn 03 04 07.4 +1.2
MVCO *e*Lg Lg 03 07 34.0
MVCO Mesa Verde 12.20 354 ⇑P Pn 03 04 07.7 +1.5
baz=12,SNR=8.7
T25A Trinidad 12.22 9 ⇓P Pn 03 04 07.6 +1.2
baz=12
V31A Spring Creek L 12.25 28 ⇑P Pn 03 04 06.4 -0.4
baz=12,SNR=6.2
U15A North Rim 12.27 339 ⇑P Pn 03 04 09.9 +2.8
baz=12,SNR=27
LDFC Landfair 12.29 326 *e*Pn Pn 03 04 08.3 +0.9
LDFC *e*Lg Lg 03 07 38.0
GMRC Granite Mounta 12.35 324 ⇓P Pn 03 04 10.4 +2.3
baz=12,SNR=6.2
T26A Comanche Natio 12.39 12 P Pn 03 04 09.1 +0.3
baz=12,SNR=8.3
MURC Murrieta 12.42 316 ⇓P Pn 03 04 12.5 +3.4
baz=12
T27A Campo 12.47 15 ⇑P Pn 03 04 10.7 +1.0
baz=12
S21A Coal Bank Pass 12.59 356 ⇓P Pn 03 04 12.9 +1.3
baz=13
U30A WK&E Inc. Balk 12.60 23 ⇑P Pn 03 04 11.6 +0.2
baz=13
S24A Houchin Ranch, 12.62 6 ⇑P Pn 03 04 13.0 +1.1
baz=13,SNR=13
S22A 4UR Ranch, Cre 12.65 360 P Pn 03 04 15.3 +3.0
baz=13,SNR=13
SDCO Great Sand Dun 12.70 5 *e*Pn Pn 03 04 14.3 +1.2
comp=Z,233nm,1.4s
SDCO *e*Lg Lg 03 07 47.0
S25A Robets Cordova 12.73 9 ⇑P Pn 03 04 14.1 +0.7
baz=13,SNR=6.0
HEC Hecor Ludlow 12.75 322 ⇑P Pn 03 04 16.8 +3.2
baz=13,SNR=7.6
S20A Disappointment 12.80 354 ⇓P Pn 03 04 15.9 +1.4
baz=13
S26A Kim 12.84 12 ⇓P Pn 03 04 15.3 +0.3
baz=13
TUQ Turquoise Moun 12.99 325 ⇓P Pn 03 04 20.3 +3.4
baz=13,SNR=14
R23A Moffat 13.12 3 ⇑P Pn 03 04 19.9 +1.1
baz=13,SNR=12
PV01 Paradox Valley 13.12 354 *e*Pn Pn 03 04 18.3 -0.5
comp=Z,1.6nm,0.8s
BFSC Mount Baldy Ra 13.13 317 ⇑P Pn 03 04 22.0 +3.2
baz=13
R22A Saguache, Gunn 13.13 0 ⇓P Pn 03 04 21.6 +2.6
baz=13
R20A Redvale 13.16 355 ⇓P Pn 03 04 22.0 +2.8
baz=13
S28A Manter 13.18 17 ⇓P Pn 03 04 18.8 -0.6
baz=13
R24A Sanders Place, 13.21 6 P Pn 03 04 21.9 +1.9
baz=13,SNR=11
R25A Fountain Ranch 13.22 9 P Pn 03 04 21.9 +1.7
baz=13,SNR=11
R21A Cimarron 13.29 357 ⇓P Pn 03 04 22.8 +1.7
baz=13
GSC Goldstone 13.37 322 *e*P Pn 03 04 23.8 +1.8
GSC Goldstone 13.37 322 *e*Pn Pn 03 04 23.8 +1.8
GSC Goldstone 13.37 322 ⇓P Pn 03 04 24.2 +2.2
baz=14
MWC Mount Wilson 13.37 316 *e*P Pn 03 04 23.1 +0.9
MWC Mount Wilson 13.37 316 *e*Pn Pn 03 04 23.1 +0.9
PV04 Paradox Valley 13.41 353 *e*Pn Pn 03 04 23.0 +0.3
PV04 *e*Lg Lg 03 08 08.4
S29A Ulysses 13.43 20 ⇓P Pn 03 04 22.1 -0.7
baz=13
T31A Randall Ranch, 13.46 25 ⇑P Pn 03 04 22.4 -0.9
baz=14
SHOC Shoshone 13.53 325 ⇑P Pn 03 04 26.9 +2.7
baz=14
R27A Eads 13.62 14 ⇑P Pn 03 04 25.4 -0.1
baz=14
CCUT Cedar City 13.65 337 *e*Pn Pn 03 04 28.9 +2.9
CCUT *e*Lg Lg 03 08 13.1
Q21A Lamborn Mesa, 13.75 358 ⇓P Pn 03 04 28.9 +1.6
baz=14
EDW2 Edwards Air Fo 13.76 318 ⇓P Pn 03 04 30.2 +2.9
baz=14
Q22A Crested Butte, 13.76 360 P Pn 03 04 29.2 +1.6
baz=14,SNR=8.2
ARUT Antelope Range 13.89 338 *e*P Pn 03 04 31.0 +1.8
ARUT pmax pmax
comp=Z,7μm,0.9s
ARUT Antelope Range 13.89 338 *e*Pn Pn 03 04 31.0 +1.8
comp=Z,7μm,0.9s
R28A Tribune 13.91 17 ⇑P Pn 03 04 29.0 -0.4
baz=14
Q20A Ridgley Place, 13.91 355 ⇓P Pn 03 04 31.0 +1.5
baz=14
Q24A Divide 13.94 5 ⇑P Pn 03 04 31.3 +1.3
baz=14
Q25A Bedland, Calha 13.98 8 ⇓P Pn 03 04 32.1 +1.6
baz=14
LRMC Laurel Mountai 13.99 320 ⇓P Pn 03 04 33.1 +2.6
baz=14
S31A Mullinville 13.99 25 ⇑P Pn 03 04 30.4 -0.1
baz=14
SMCO Snowmass 14.08 359 *e*Pn Pn 03 04 32.5 +0.5
Q26A Hugo 14.10 11 ⇓P Pn 03 04 33.2 +1.1
baz=14
MSU Marysvale 14.16 343 *e*P Pn 03 04 34.8 +1.8
MSU Marysvale 14.16 343 *e*Pn Pn 03 04 34.8 +1.8
MSU *e*Lg Lg 03 08 35.1
MVU Marysvale 14.16 342 *e*Pn Pn 03 04 34.9 +1.9
MVU *e*Lg Lg 03 08 31.2
FURC Furnace Creek, 14.27 325 ⇓P Pn 03 04 36.0 +1.8
baz=14
MPMC Manual Prospec 14.30 323 P Pn 03 04 36.9 +2.1
baz=14,SNR=14
P23A Jefferson 14.30 3 P Pn 03 04 36.6 +1.7
baz=14,SNR=12
Q16A Castle Valley 14.30 346 ⇑P Pn 03 04 36.7 +1.9
baz=14
R30A Dighton 14.30 21 ⇑P Pn 03 04 33.6 -1.2
baz=14
SRU San Rafael 14.36 348 *e*P Pn 03 04 35.6 0.0
SRU San Rafael 14.36 348 *e*Pn Pn 03 04 35.6 0.0
SRU *e*Lg Lg 03 08 37.9
TUL1 Tulsa 14.38 39 ⇓P Pn 03 04 35.5 -0.3
baz=14
P21A Newcastle 14.43 358 ⇓P Pn 03 04 39.1 +2.4
baz=14
P20A De Beque 14.46 355 ⇓P Pn 03 04 39.6 +2.6
baz=14
P22A Eagle 14.49 0 ⇑P Pn 03 04 38.5 +0.9
baz=15
R31A Burdett 14.57 23 ⇑P Pn 03 04 37.3 -1.1
baz=15
ISA Isabella 14.58 319 *e*P Pn 03 04 40.5 +1.9
ISA Isabella 14.58 319 *e*Pn Pn 03 04 40.5 +1.9
ISA *e*Lg Lg 03 09 01.8
ISA Isabella 14.58 319 ⇑P Pn 03 04 41.1 +2.5
baz=15
P25A Willow Gulch B 14.58 8 ⇑P Pn 03 04 39.7 +1.1
baz=15
P19A Cripple Cowboy 14.65 353 ⇓P Pn 03 04 41.2 +1.6
baz=15
Q29A Oakley 14.65 18 ⇑P Pn 03 04 39.2 -0.3
baz=15
TMUT Trail Mountain 14.67 346 *e*Pn Pn 03 04 40.3 +0.3
TMUT *e*Lg Lg 03 08 51.9
ISCO Idaho Springs 14.73 4 *e*P Pn 03 04 41.0 +0.2
ISCO Idaho Springs 14.73 4 *e*Pn Pn 03 04 41.0 +0.2
ISCO *e*Lg Lg 03 08 59.4
ISCO Idaho Springs 14.73 4 P Pn 03 04 42.6 +1.8
baz=15,SNR=9.0
P26A Davis Ranch, A 14.75 11 ⇓P Pn 03 04 42.2 +1.3
baz=15
MIAR Mount Ida 14.87 47 *e*P Pn 03 04 42.3 -0.1
MIAR Mount Ida 14.87 47 *e*Pn Pn 03 04 42.2 -0.1
MIAR *e*Lg Lg 03 09 08.2
PKM Peak Mountain 14.92 314 ⇑P Pn 03 04 46.3 +3.0
baz=15
GRAC Grapevine Rang 14.94 325 ⇑P Pn 03 04 46.3 +3.0
baz=15
Q30A Quinter 14.95 20 ⇑P Pn 03 04 42.0 -1.5
baz=15
O22A Kremmling 15.06 1 ⇓P Pn 03 04 46.7 +1.5
baz=15,SNR=21
O20A White River Ci 15.08 356 ⇓P Pn 03 04 47.0 +1.6
baz=15
O24A Longmont 15.09 5 ⇓P Pn 03 04 46.6 +1.1
baz=15
O23A Lake Granby, G 15.13 3 ⇓P Pn 03 04 47.5 +1.4
baz=15,SNR=9.7
O25A Wiggins 15.18 8 ⇓P Pn 03 04 47.5 +0.9
baz=15
Q31A Ellis 15.25 22 ⇑P Pn 03 04 47.3 -0.2
baz=15
SMMC Simmler 15.29 315 ⇓P Pn 03 04 51.1 +3.0
baz=15
O19A Miners Draw (B 15.32 353 ⇓P Pn 03 04 49.2 +0.7
baz=15,SNR=6.3
O26A Horse Wrangler 15.42 10 ⇑P Pn 03 04 50.4 +0.6
baz=16
MPU Maple Canyon 15.45 346 *e*Pn Pn 03 04 51.2 +0.9
comp=Z,303nm,3.0s
MPU *e*Lg Lg 03 09 17.8
P30A Selden 15.47 19 ⇓P Pn 03 04 49.3 -0.9
baz=16
NLU North Lily Min 15.50 345 *e*P P 03 04 56.1 +1.2
comp=Z,16nm,1.1s
O27A Beecher Island 15.52 12 ⇑P Pn 03 04 51.5 +0.4
baz=16
O28A Krutsinger Ran 15.61 15 ⇓P Pn 03 04 52.7 +0.6
baz=16
N21A Black Mountain 15.67 358 ⇑P Pn 03 04 54.3 +1.2
baz=16,SNR=6.7
N22A Wattenberg Ran 15.70 1 ⇑P Pn 03 04 55.2 +1.7
baz=16,SNR=10
DAU Daniels Canyon 15.76 347 *e*P Pn 03 04 54.5 +0.2
DAU Daniels Canyon 15.76 347 *e*Pn Pn 03 04 54.5 +0.2
DAU *e*Lg Lg 03 09 30.0
N20A Spence Gulch, 15.78 356 ⇓P P 03 04 57.6 -0.5
baz=16
N24A Carr 15.81 5 ⇑P Pn 03 04 55.7 +0.9
baz=16
N23A Red Feather La 15.81 2 ⇓P Pn 03 04 55.9 +1.0
baz=16,SNR=9.1
MTUM Tungsten Hills 15.83 324 *e*P P 03 05 00.7 +2.0
UALR University of 15.83 49 *e*Pn Pn 03 04 52.4 -2.6
comp=Z,49nm,1.1s
O29A 4D Ranch, Culb 15.85 17 ⇓P Pn 03 04 54.9 -0.3
baz=16
DUG Dugway 15.91 343 *e*P Pn 03 04 57.5 +1.4
DUG Dugway 15.91 343 *e*Pn Pn 03 04 57.5 +1.4
DUG Dugway 15.91 343 P Pn 03 04 57.6 +1.6
baz=16,SNR=34
JLU Jordanelle 15.98 347 *e*Pn Pn 03 04 58.2 +1.2
comp=Z,52nm,1.5s
VBMS Vicksburg 15.98 60 *e*Pn Pn 03 04 55.2 -1.6
comp=Z,69nm,0.3s
N27A Anderson Farm, 16.11 12 ⇑P Pn 03 04 58.3 -0.3
baz=16
CTU Camp Tracy 16.13 346 *e*Pn Pn 03 05 00.3 +1.4
comp=Z,30nm,1.1s
PHWY Pilot Hill 16.24 4 *e*Pn Pn 03 05 00.1 -0.3
comp=Z,105nm,2.0s
PHWY *e*Lg Lg 03 09 40.5
M22A Cedar Creek Ra 16.30 1 ⇑P Pn 03 05 02.7 +1.5
baz=16
M23A Laramie 16.39 3 ⇓P Pn 03 05 03.5 +1.2
baz=16
NV11 Mina Array Sit 16.44 327 *e*Pn Pn 03 05 04.4 +1.6
KSU1 Kansas State U 16.44 29 *e*Pn Pn 03 05 00.5 -2.2
comp=Z,23nm,0.8s
KSU1 *e*Lg Lg 03 09 48.6
M24A Cheyenne 16.45 5 ⇓P Pn 03 05 03.4 +0.4
baz=16
M25A Palm-Egli Farm 16.49 7 ⇑P Pn 03 05 04.9 +1.4
baz=16
NVAR Mina Array Bea 16.51 327 Pn P 03 05 06.1 -0.1
NVAR Lg Lg 03 09 49.1
NVAR Mina Array Bea 16.51 327 Pn P 03 05 06.1 -0.1
comp=Z,0.1nm,0.3s,baz=147,slow=14,SNR=6.7
NVAR Lg Lg 03 09 49.1
comp=Z,0.1nm,0.3s,baz=132,slow=23,SNR=2.5
NVAR LR LR 03 10 51.8
comp=Z,946nm,20.5s,baz=223,slow=35
M21A Separation Pea 16.51 359 ⇓P Pn 03 05 04.8 +1.0
baz=17
RWWY Rawlins 16.59 359 *e*Pn P 03 05 07.3 +0.2
comp=Z,277nm,1.8s
M26A McRoberts Ranc 16.65 10 ⇑P Pn 03 05 06.0 +0.5
baz=17
BGU Big Grassy Mou 16.65 343 *e*Pn Pn 03 05 06.7 +1.2
comp=Z,136nm,2.4s
M17A Scullys Gap (B 16.68 350 ⇑P Pn 03 05 06.7 +0.7
baz=17
L21A Rawlins 16.87 359 ⇓P Pn 03 05 08.9 +0.6
baz=17
M28A Bar X Bar Ranc 16.91 14 ⇑P Pn 03 05 08.8 0.0
baz=17
L22A Ellis Ranch, M 16.93 1 ⇑P Pn 03 05 10.5 +1.4
baz=17
HWUT Hardware Ranch 16.97 348 *e*Pn Pn 03 05 10.0 +0.5
comp=Z,107nm,1.8s
HWUT *e*Lg Lg 03 10 04.0
L18A Fontenelle, Gr 17.03 352 ⇑P Pn 03 05 11.7 +1.3
baz=17
L19A Farson 17.13 354 ⇓P Pn 03 05 12.2 +0.7
baz=17,SNR=7.9
WAKR Walker 17.15 324 *e*P P 03 05 15.4 +2.2
ELK Elko 17.15 338 *e*Pn P 03 05 13.6 +0.3
comp=Z,183nm,3.0s
ELK *e*Lg Lg 03 10 10.4
ELK Elko 17.15 338 Pn Pn 03 05 13.3 +1.4
comp=Z,0.0nm,0.3s,baz=154,slow=7.7,SNR=21
ELK Lg Lg 03 10 09.0
comp=Z,0.1nm,0.3s,baz=89,slow=8.2,SNR=4.8
CMB Columbia Colle 17.33 322 *e*P Pn 03 05 13.7 -0.2
CMB pmax pmax
comp=Z,13nm,1.3s
CMB Columbia Colle 17.33 322 *e*Pn Pn 03 05 13.7 -0.2
comp=Z,13nm,1.3s
CMB *e*Lg Lg 03 10 18.9
HVU Hansel Valley 17.39 345 *e*P Pn 03 05 15.4 +0.6
HVU pmax pmax
comp=Z,129nm,2.1s
HVU Hansel Valley 17.39 345 *e*Pn Pn 03 05 15.4 +0.6
comp=Z,129nm,2.1s
K22A Casper 17.55 1 ⇑P P 03 05 17.8 +0.2
baz=18
K20A Yellowstone Ra 17.60 356 ⇓P Pn 03 05 18.1 +0.8
baz=18
BMN Battle Mountai 17.63 333 *e*P Pn 03 05 18.3 +0.5
BMN pmax pmax
comp=Z,170nm,2.6s
BMN Battle Mountai 17.63 333 *e*Pn Pn 03 05 18.2 +0.5
comp=Z,170nm,2.6s
BMN *e*Lg Lg 03 10 33.8
K23A Bowen Ranch, D 17.68 3 ⇑P Pn 03 05 18.7 +0.4
baz=18
TEIG Tepich 17.77 102 P Pn 03 05 18.0 -1.5
TEIG Tepich 17.77 102 P Pn 03 05 18.0 -1.5
comp=Z,0.4nm,0.3s,baz=301,slow=18,SNR=3.1
TEIG LR LR 03 13 33.9
comp=Z,2μm,21.0s,baz=147,slow=42
K19A Absolon Red Bu 17.80 355 ⇓P Pn 03 05 20.4 +0.5
baz=18
BW06 Boulder Array 17.81 353 *e*Pn Pn 03 05 18.8 -1.2
comp=Z,16nm,1.2s
BW06 *e*Lg Lg 03 10 36.9
PDAR Pinedale Array 17.81 353 P Pn 03 05 18.6 -1.4
PDAR Lg Lg 03 10 26.2
PDAR Pinedale Array 17.81 353 P Pn 03 05 18.6 -1.4
comp=Z,0.2nm,0.3s,baz=170,slow=12,SNR=24
PDAR Lg Lg 03 10 26.2
comp=Z,0.0nm,0.3s,baz=170,slow=22,SNR=3.7
PDAR LR LR 03 12 20.2
comp=Z,574nm,21.6s,baz=333,slow=38
K26A Motz Farm, Whi 17.85 9 ⇑P Pn 03 05 21.1 +0.7
baz=18
K27A Flueckinger Fa 18.00 11 ⇓P Pn 03 05 22.7 +0.4
baz=18
AHID Auburn Hatcher 18.01 350 *e*Pn Pn 03 05 22.4 0.0
comp=Z,9.2nm,0.7s
PAHR Pah Rah Range 18.03 327 *e*P P 03 05 25.1 +2.2
comp=Z,155nm,2.1s
J21A Lysite 18.25 359 ⇑P Pn 03 05 25.6 +0.2
baz=18,SNR=6.5
J19A Crowheart 18.25 355 ⇓P Pn 03 05 25.3 -0.1
baz=18,SNR=11
J20A Shoshoni 18.28 357 ⇓P P 03 05 25.6 -0.1
baz=18
J22A Midwest 18.31 1 ⇑P P 03 05 25.2 -0.7
baz=18,SNR=15
K29A Lazy Trails An 18.45 15 ⇓P P 03 05 27.3 -0.1
baz=18
RRI2 Red Ridge 18.61 350 *e*P P 03 05 28.8 -0.6
comp=Z,58nm,1.4s
PARMO Parma 18.63 48 *e*Pn P 03 05 29.3 -0.1
BEKR Beckworth 18.64 326 *e*P Pn 03 05 31.2 +1.1
comp=Z,13nm,1.3s
SNOW Snow King Moun 18.64 351 *e*P Pn 03 05 30.8 +0.6
comp=Z,247nm,2.5s
TPAW Teton Pass 18.70 351 *e*P P 03 05 30.7 +0.3

comp=Z,24nm,1.1s
I21A Big Trails, Te 18.71 359 P P 03 05 31.2 +0.8
baz=19,SNR=13
I18A Diamond G Ranc 18.76 353 ⇑P Pn 03 05 32.6 +1.0
baz=19
LOHW Long Hollow 18.77 351 *e*P P 03 05 31.4 +0.3
comp=Z,234nm,2.9s
I22A 9 Mile Ranch, 18.79 1 P Pn 03 05 32.9 +1.1
baz=19,SNR=8.2
I24A Kuemmerle Ranc 18.84 5 ⇑P P 03 05 31.8 0.0
baz=19
OHCM Honcut 18.85 323 *e*Pn Pn 03 05 33.8 +1.3
I20A Worland 18.88 357 ⇑P P 03 05 32.8 +0.7
baz=19
J28A Allard Ranch, 18.88 13 ⇓P Pn 03 05 33.9 +1.0
baz=19
MOOW Moose Ponds 18.92 351 *e*P P 03 05 31.5 -1.2
comp=Z,190nm,2.6s
I19A Meeteetse 19.02 355 P Pn 03 05 35.2 +0.5
baz=19,SNR=17
LRAL Lakeview Retre 19.04 61 *e*P P 03 05 32.2 -1.7
comp=Z,41nm,1.4s
UTMT University of 19.07 50 *e*P P 03 05 34.2 +0.1
comp=Z,121nm,1.1s
I17A Pilgrim Ck. 19.07 352 ⇓P Pn 03 05 36.5 +1.3
baz=19
I25A Rochford 19.08 7 ⇓P Pn 03 05 35.7 +0.2
baz=19
IMW Indian Meadow 19.09 351 *e*P P 03 05 35.6 +0.9
comp=Z,27nm,1.2s
I16A Newdale 19.16 350 ⇓P P 03 05 36.3 +1.1
baz=19,SNR=12
H20A Greybull 19.41 357 ⇑P P 03 05 38.8 +0.9
baz=20
I28A Midland 19.45 12 ⇑P P 03 05 38.8 +0.4
baz=20
HLID Hailey 19.48 343 *e*P P 03 05 39.6 +0.8
comp=Z,14nm,1.3s
H22A Clearmont 19.49 1 ⇓P P 03 05 39.3 +0.4
baz=20
H21A Big Horn, Sher 19.52 360 ⇓P Pn 03 05 41.3 +0.6
baz=20
H17A Grant Village 19.53 352 ⇓P Pn 03 05 41.2 +0.3
baz=20
SIUC Southern Illin 19.58 46 *e*P P 03 05 38.7 -1.0
comp=Z,26nm,0.8s
I14A Mackay 19.59 346 ⇓P Pn 03 05 43.0 +1.4
baz=20,SNR=11
YFT Old Faithful 19.62 351 *e*P P 03 05 41.9 +1.5
comp=Z,62nm,1.5s
H19A Powell 19.65 355 P Pn 03 05 42.9 +0.7
baz=20,SNR=12
WVT Waverly 19.68 51 *e*P P 03 05 38.6 -2.3
WVT pmax pmax
comp=Z,69nm,0.9s
WVT Waverly 19.68 51 *e*P P 03 05 38.6 -2.3
comp=Z,69nm,0.9s
H25A Fruitdale 19.69 7 ⇓P P 03 05 41.5 +0.5
baz=20
H18A Shoshone NF, C 19.71 354 ⇑P P 03 05 41.7 +0.3
baz=20,SNR=14
H24A Dirks Ranch, A 19.73 5 ⇓P P 03 05 42.0 +0.6
baz=20
MFID Camas Ranch 19.75 340 *e*P P 03 05 42.5 +0.9
comp=Z,115nm,2.5s
MFID Camas Ranch 19.75 340 ⇓P P 03 05 42.7 +1.0
baz=20
YMR Madison River 19.85 351 *e*P P 03 05 43.4 +0.4
comp=Z,51nm,1.2s
WVOR Wild Horse Val 19.89 334 *e*P P 03 05 43.1 -0.2
WVOR pmax pmax
comp=Z,16nm,1.2s
WVOR Wild Horse Val 19.89 334 *e*P P 03 05 43.1 -0.2
comp=Z,16nm,1.2s
I12A Atlanta 19.89 342 P P 03 05 44.7 +1.4
baz=20,SNR=18
H27A Howes 19.91 10 ⇓P P 03 05 44.3 +0.9
baz=20
H16A Russell Place, 19.93 351 ⇓P P 03 05 45.0 +1.2
baz=20,SNR=10
QLMT Earthquake Lak 20.08 350 *e*P P 03 05 46.3 +0.9
RLMT Red Lodge 20.12 355 *e*P P 03 05 46.6 +0.9
comp=Z,32nm,1.3s
G22A Birney 20.12 1 ⇑P P 03 05 46.4 +0.7
baz=20
G21A Lodge Grass 20.12 359 ⇓P P 03 05 46.7 +0.9
baz=20
H28A Mission Ridge 20.13 12 ⇓P P 03 05 46.0 +0.2
baz=20
G23A Biddle 20.13 3 ⇑P P 03 05 46.7 +0.9
baz=20
G20A Bridger 20.15 357 ⇓P Pn 03 05 48.7 +0.6
baz=20
MOD Modoc 20.18 330 *e*P P 03 05 47.9 +1.5
comp=Z,105nm,1.9s
SCIA State Center 20.23 31 *e*P Pn 03 05 48.4 -0.4
comp=Z,43nm,0.8s
KIPM Iron Peak 20.30 320 *e*P Pn 03 05 50.7 +0.7
comp=Z,269nm,2.0s
WDC Whiskeytown Da 20.30 323 *e*P P 03 05 47.5 -0.1
WDC pmax pmax
comp=Z,7.0nm,1.0s
WDC Whiskeytown Da 20.30 323 *e*P P 03 05 47.5 -0.1
comp=Z,7.4nm,1.0s
MCMT McKenzie Canyo 20.32 348 *e*P P 03 05 49.3 +1.2
comp=Z,8.2nm,0.9s
G18A Lazy EL Ranch, 20.34 354 ⇑P Pn 03 05 49.9 -0.4
baz=20,SNR=9.4
BRSD Miller 20.37 16 ⇓P Pn 03 05 50.6 +0.1
baz=20,SNR=6.8
ECSD EROS Data Cent 20.41 22 *e*P P 03 05 48.1 -0.6
comp=Z,52nm,1.4s
G17A Pierce Place, 20.46 352 ⇑P P 03 05 51.2 +1.7
baz=20
G26A Maurine 20.48 9 ⇓P P 03 05 50.1 +0.6
baz=20
H12A Diamond D Ranc 20.52 343 P P 03 05 51.4 +1.3
baz=21,SNR=14
F23A Volborg 20.65 3 ⇓P P 03 05 51.3 -0.1
baz=21
G27A Dupree 20.66 10 ⇓P P 03 05 52.5 +1.0
baz=21
F22A Rosebud 20.68 1 ⇓P P 03 05 51.7 -0.1
baz=21
F20A Billings 20.73 357 ⇑P P 03 05 52.7 +0.4
baz=21
USIN University of 20.73 47 *e*P P 03 05 52.0 -0.3
comp=Z,62nm,0.8s
DLMT Dillon 20.79 348 *e*P P 03 05 53.3 +0.2
comp=Z,31nm,1.4s
GCMT Greycliff 20.82 354 *e*P P 03 05 51.1 -2.2
comp=Z,8.4nm,1.0s
F19A Roth Farm, Mol 20.82 356 ⇓P P 03 05 53.1 -0.2
baz=21,SNR=7.9
F24A Ekalaka 20.83 5 ⇓P P 03 05 53.9 +0.6
baz=21
OLIL Olney 20.88 45 *e*P P 03 05 53.5 -0.4
comp=Z,89nm,0.9s
BOZ Bozeman (W) 20.91 351 *e*P P 03 05 54.1 -0.2
BOZ pmax pmax
comp=Z,15nm,1.2s
BOZ Bozeman (W) 20.91 351 *e*P P 03 05 54.1 -0.2
comp=Z,15nm,1.2s
F18A Big Timber 20.93 354 P P 03 05 54.7 +0.2
baz=21,SNR=14
F25A Bowman 21.00 7 ⇓P P 03 05 55.3 +0.1
baz=21
F17A Fitzpatrick Pl 21.03 353 ⇓P P 03 05 56.9 +1.3
baz=21,SNR=36
K05A Summer Lake 21.09 330 P P 03 05 58.4 +2.0
KHMM Horse Mountain 21.16 322 *e*P P 03 05 57.5 +0.4
comp=Z,24nm,0.8s
G12A Big Creek, Yel 21.18 343 ⇑P P 03 05 58.4 +1.1
baz=21
LRM Limekiln Ridge 21.21 349 *e*P P 03 05 58.6 +0.9
YBH Yreka Blue Hor 21.22 325 *e*P P 03 05 58.5 +0.9
comp=Z,3.1nm,0.8s
YBH Lg Lg 03 12 30.2
YBH Yreka Blue Hor 21.22 325 P P 03 05 56.9 -0.7
comp=Z,3.1nm,0.8s,baz=118,slow=7.1,SNR=7.0
YBH Lg Lg 03 12 30.2
comp=Z,0.6nm,0.4s,baz=172,slow=10,SNR=3.2
YBH LR LR 03 14 44.4
comp=Z,723nm,21.4s,baz=149,slow=38
HDIL Hopedale 21.29 39 *e*P P 03 05 57.1 -1.1
comp=Z,37nm,0.9s
E22A Miles City 21.35 2 ⇑P P 03 05 58.9 +0.1
baz=21
TGUH Tegucigalpa,Un 21.39 117 *e*P P 03 05 59.9 +0.4
comp=Z,70nm,1.0s
TIGA Tifton 21.40 67 ⇑P P 03 05 58.6 -1.0
baz=21
E19A Rath Farm, Rou 21.42 356 P P 03 05 59.7 0.0
baz=22,SNR=10
E20A Meyer Farm, Mu 21.43 358 ⇑P P 03 05 59.8 0.0
baz=22,SNR=6.5
E23A Ismay 21.43 3 ⇓P P 03 05 59.7 0.0
baz=22
E21A Keefer Ranch, 21.44 360 ⇓P P 03 06 00.4 +0.5
baz=22
E24A Baker 21.55 5 ⇓P P 03 06 01.8 +0.7
baz=22
E17A Martinsdale 21.60 352 ⇑P P 03 06 03.2 +1.5
baz=22,SNR=18
E18A Harlowton 21.61 354 ⇑P P 03 06 02.8 +1.1
baz=22
E26A Carlson Angus 21.65 8 ⇑P P 03 06 02.4 +0.3
baz=22
E16A East Helena 21.78 351 ⇓P P 03 06 04.7 +1.1
baz=22,SNR=8.9
WCI Wyandotte Cave 21.79 48 *e*P P 03 06 00.7 -3.0
WCI pmax pmax
comp=Z,42nm,1.0s
WCI Wyandotte Cave 21.79 48 *e*P P 03 06 00.7 -3.0
comp=Z,42nm,1.0s
CPCT Cooper Cave 21.82 56 *e*P P 03 06 02.0 -2.0
D21A La Casta Ranch 21.96 360 ⇑P P 03 06 06.1 +0.6
baz=22
GOGA Godfrey 21.98 62 *e*P P 03 06 05.2 -0.5
GOGA pmax pmax
comp=Z,15nm,0.8s
GOGA Godfrey 21.98 62 *e*P P 03 06 05.2 -0.5
comp=Z,14nm,0.8s
HRY Holter Researc 21.98 351 *e*P P 03 06 05.4 -0.3
D22A Cohagen 22.05 1 ⇓P P 03 06 06.7 +0.3
baz=22
D24A Glendive 22.10 5 ⇑P P 03 06 06.8 -0.1
baz=22
D23A Lindsay 22.11 3 ⇑P P 03 06 07.0 0.0
baz=22
D19A Cripps Ranch, 22.12 356 ⇑P P 03 06 07.6 +0.3
baz=22,SNR=8.1
BLO Bloomington 22.14 46 *e*P P 03 06 06.3 -1.1
BLO pmax pmax
comp=Z,292nm,2.2s
BLO Bloomington 22.14 46 *e*P P 03 06 06.3 -1.1
comp=Z,292nm,2.2s
D18A Linhart Farms, 22.22 355 ⇑P P 03 06 08.6 +0.3
baz=22,SNR=7.8
D16A Dana Ranch, Ca 22.25 351 P P 03 06 08.7 0.0
baz=22,SNR=14
D17A Six Diamond Ra 22.26 353 ⇑P P 03 06 09.0 +0.1
baz=22,SNR=44
D15A Lincoln 22.41 350 ⇓P P 03 06 10.5 +0.2
baz=22,SNR=32
CHMT Chamberlain Mo 22.41 348 *e*P P 03 06 10.6 +0.1
JFWS Jewell Farm 22.42 33 *e*P P 03 06 08.4 -2.0
JFWS pmax pmax
comp=Z,20nm,0.9s
JFWS Jewell Farm 22.42 33 *e*P P 03 06 08.4 -2.0
comp=Z,20nm,0.9s
E12A Beaver Dam Sad 22.44 344 ⇑P P 03 06 11.1 +0.4
baz=22,SNR=10
TKL Tuckaleechee C 22.46 57 *e*P P 03 06 10.0 -0.9
TKL S S 03 10 16.4 +0.8
TKL Lg Lg 03 13 01.7
TKL Tuckaleechee C 22.46 57 P P 03 06 09.0 -1.9
comp=Z,19nm,1.1s,baz=221,slow=8.4,SNR=19
TKL S S 03 10 16.4 +0.8
comp=Z,3.5nm,1.0s,baz=238,slow=9.5,SNR=1.8
TKL Lg Lg 03 13 01.7
comp=Z,2.1nm,0.9s,baz=172,slow=15,SNR=2.6
TKL LR LR 03 15 33.0
comp=Z,2μm,21.8s,baz=249,slow=39
SFIN Scholer Farm 22.48 42 P P 03 06 10.4 -0.6
baz=22,SNR=18
C24A Savage 22.51 4 ⇓P P 03 06 11.3 0.0
baz=23
WIFE Three Sisters- 22.56 331 P P 03 06 13.6 +1.5
D14A Greenough 22.62 348 P P 03 06 13.2 +0.6
baz=23,SNR=24
C20A Veseth Ranch, 22.63 358 ⇓P P 03 06 13.8 +1.1
baz=23,SNR=10
C22A Vida 22.66 2 ⇓P P 03 06 14.5 +1.7
baz=23
C19A Slack Wire Ran 22.70 356 P P 03 06 14.2 +0.8
baz=23,SNR=14
C21A Desert Coulee 22.73 360 ⇓P P 03 06 14.0 +0.4
baz=23
C23A Lambert 22.74 3 ⇓P P 03 06 14.5 +0.8
baz=23
C17A Wharram Farm, 22.75 353 P P 03 06 13.6 -0.3
baz=23,SNR=32
SLMT Seeley Lake 22.77 348 *e*P P 03 06 14.6 +0.4
D13A Huson 22.82 346 ⇑P P 03 06 15.6 +0.9
baz=23,SNR=23
KEBM Edson Butte 22.87 325 *e*P P 03 06 17.5 +2.2
comp=Z,84nm,1.2s
VTHM Trough 22.95 334 P P 03 06 16.9 +0.9
TZTN Tazewell 22.97 55 *e*P P 03 06 13.3 -3.0
comp=Z,45nm,1.0s
C16A Fuhringer Ranc 23.03 351 ⇓P P 03 06 17.3 +0.4
baz=23,SNR=14
EGMT Eagleton 23.04 355 *e*P P 03 06 17.2 +0.3
comp=Z,460nm,2.8s
EGMT Eagleton 23.04 355 ⇑P P 03 06 17.3 +0.4
baz=23,SNR=12
SPMN St. Paul 23.09 26 ⇑P P 03 06 18.2 +0.8
baz=23
SWMT Swartz Lake 23.12 348 *e*P P 03 06 17.9 +0.1
C15A Salmond Ranch, 23.13 350 P P 03 06 18.5 +0.6
baz=23,SNR=5.9
H04A Detroit Lake 23.21 331 P P 03 06 18.9 +0.2
C14A Swan Lake 23.32 348 ⇓P P 03 06 20.4 +0.6
baz=23
B21A Ellsworth Farm 23.33 360 ⇑P P 03 06 20.2 +0.5
baz=23
B20A Solberg Farm, 23.36 358 ⇑P P 03 06 20.1 +0.1
baz=23,SNR=9.0
C13A Hot Springs 23.40 347 ⇑P P 03 06 20.3 -0.2
baz=24,SNR=8.9
B17A L&G Farms, Che 23.40 353 P P 03 06 20.2 -0.3
baz=24,SNR=7.0
JTMT Jette 23.40 347 *e*P P 03 06 20.4 -0.3
B23A Brockton 23.41 3 ⇓P P 03 06 20.8 +0.2
baz=24,SNR=5.8
B18A Beardsley Farm 23.41 355 P P 03 06 20.6 0.0
baz=24,SNR=16
B19A Brinkman Farms 23.41 356 P P 03 06 20.5 -0.1
baz=24,SNR=12
YBMT Yellow Bay 23.46 348 *e*P P 03 06 20.9 -0.3
comp=Z,56nm,1.9s
HAWA Hanford 23.60 338 *e*P P 03 06 21.0 -1.4
comp=Z,72nm,2.2s
BSMT Bassoo Peak 23.61 347 *e*P P 03 06 22.0 -0.7
B16A M & M Farms, S 23.63 352 ⇓P P 03 06 22.5 -0.2
baz=24
B15A Bradely Ranch, 23.65 350 P P 03 06 22.4 -0.5
baz=24,SNR=20
BLMT Blacktail Moun 23.67 347 *e*P P 03 06 23.1 -0.2
A20A Cobblestone Ra 23.79 358 P P 03 06 23.9 -0.3
baz=24,SNR=11
A19A Klindworth Far 23.88 357 P P 03 06 24.9 -0.2
baz=24,SNR=7.9
TRW Toppenish Ridg 23.88 336 P P 03 06 25.7 +0.6
A22A Carney Farms, 23.90 1 ⇓P P 03 06 24.9 -0.4
baz=24
A24A Westby 23.92 5 ⇑P P 03 06 25.7 +0.2
baz=24
C11A Tepee Creek (N 23.93 344 ⇓P P 03 06 25.6 0.0
baz=24,SNR=12
A18A Metzger Ranch, 23.94 355 ⇑P P 03 06 25.4 -0.2
baz=24,SNR=7.9
A17A Triple J Farms 24.04 354 ⇑P P 03 06 26.4 -0.1
baz=24,SNR=12
B13A Whitefish 24.04 347 ⇓P P 03 06 26.7 +0.1
baz=24,SNR=16
A16A West Butte Ran 24.14 352 ⇓P P 03 06 27.3 -0.3
baz=24
ASR Mount Adams--S 24.16 334 P P 03 06 28.7 +0.9
KMSC Kings Mountain 24.17 59 ⇑P P 03 06 25.9 -2.0
baz=24
A15A Johnson Ranch, 24.32 351 ⇑P P 03 06 29.0 -0.2
baz=24,SNR=12
B12A Libby 24.37 346 ⇑P P 03 06 30.5 +0.9
baz=24
A14A Double T Ranch 24.43 349 ⇑P P 03 06 29.9 -0.3
baz=24,SNR=8.8
NEW Newport 24.55 343 *e*P P 03 06 30.4 -0.8
comp=Z,258nm,2.8s
NEW Newport 24.55 343 ⇑P P 03 06 31.5 +0.3
baz=25,SNR=14
A13A Flathead Natio 24.57 348 ⇓P P 03 06 32.9 +1.5
baz=25
NHSC New Hope 24.57 65 *e*P P 03 06 30.5 -1.0
comp=Z,37nm,1.0s
WALA Waterton Lakes 24.59 349 *e*P P 03 06 31.0 -0.7
comp=Z,0.7nm,1.4s
TBM Table Mountain 24.64 337 P P 03 06 32.2 +0.1
LON Longmire 24.74 335 *e*P P 03 06 33.4 +0.4
LON pmax pmax
comp=Z,12nm,0.9s
LON Longmire 24.74 335 *e*P P 03 06 33.4 +0.4
comp=Z,12nm,0.9s
AGMN Agassiz Nation 24.75 18 *e*P P 03 06 31.8 -1.1
comp=Z,26nm,0.8s
COWI Conover 25.34 30 *e*P P 03 06 36.1 -2.2
comp=Z,14nm,1.0s
BLA Blacksburg 25.55 55 *e*P P 03 06 39.8 -0.6
BLA pmax pmax
comp=Z,80nm,0.9s
BLA Blacksburg 25.55 55 *e*P P 03 06 39.8 -0.6
comp=Z,80nm,0.9s
EYMN Ely 25.86 24 *e*P P 03 06 43.5 +0.4
comp=Z,11nm,0.9s
ULM Lac du Bonnet 26.54 16 *e*P P 03 06 47.6 -1.5
comp=Z,34nm,1.1s
ULM Lg Lg 03 14 58.5
ULM Lac du Bonnet 26.54 16 P P 03 06 47.9 -1.3
comp=Z,22nm,0.9s,baz=206,slow=9.6,SNR=12
ULM Lg Lg 03 14 58.5
comp=Z,4.7nm,0.9s,baz=225,slow=2.9,SNR=2.8
ULM LR LR 03 17 54.2
comp=Z,746nm,21.4s,baz=178,slow=38
CNNC Cliffs of the 26.91 61 *e*P P 03 06 51.6 -1.0
ALLY Alegheny Colle 27.59 47 *e*P P 03 06 58.7 -0.1
comp=Z,91nm,1.5s
SADO Sadowa 29.80 42 Lg Lg 03 16 37.7
comp=Z,5.3nm,0.8s,baz=249,slow=8.6,SNR=2.3
SADO LR LR 03 19 48.8
comp=Z,3μm,18.7s,baz=209,slow=38
FFC Flin Flon 29.85 6 *e*P P 03 07 16.7 -1.9
FFC pmax pmax
comp=Z,5.0nm,1.1s
FFC Flin Flon 29.85 6 *e*P P 03 07 16.7 -1.9
comp=Z,5.0nm,1.1s
BINY Binghamton 30.62 48 *e*P P 03 07 24.0 -1.7
comp=Z,45nm,1.0s
LONY Lake Ozonia 32.57 45 *e*P P 03 07 41.1 -1.7
comp=Z,26nm,1.4s
MDV Middlebury 33.22 47 *e*P P 03 07 46.8 -1.6
LBNH Lisbon 34.15 47 *e*P P 03 07 54.4 -2.1
LBNH pmax pmax
comp=Z,15nm,1.0s
LBNH Lisbon 34.15 47 *e*P P 03 07 54.4 -2.1
comp=Z,15nm,1.0s
OTAV Otavalo 36.89 128 *e*P P 03 08 21.0 +0.2
comp=Z,5.7nm,0.9s
ROSC El Rosal 37.08 117 *e*P P 03 08 24.6 +2.2
ROSC El Rosal 37.08 117 P P 03 08 22.1 -0.3
comp=Z,3.4nm,0.4s,baz=287,slow=19,SNR=7.5
ROSC LR LR 03 24 09.9
comp=Z,437nm,21.2s,baz=192,slow=37
YKA Yellowknife Ar 37.79 354 P P 03 08 25.6 -1.7
YKA PcP PcP 03 10 45.2 +1.6
YKA Yellowknife Ar 37.79 354 P P 03 08 25.6 -1.7
comp=Z,2.3nm,0.7s,baz=167,slow=8.6,SNR=22
YKA PcP PcP 03 10 45.2 +1.6
comp=Z,0.8nm,0.9s,baz=156,slow=3.5,SNR=3.7
YKA LR LR 03 24 40.7
comp=Z,45nm,18.5s,baz=0.0,slow=37
YKW3 Yellowknife Ar 37.86 354 *e*P P 03 08 26.0 -1.9
SDV Santo Domingo 38.00 109 *e*P P 03 08 29.7 -0.3
comp=Z,17nm,0.8s
SCHQ Schefferville 41.79 34 P P 03 08 58.4 -2.3
SCHQ Schefferville 41.79 34 P P 03 08 58.4 -2.3
comp=Z,1.7nm,0.6s,baz=173,slow=7.1,SNR=3.0
SCHQ LR LR 03 27 08.5
comp=Z,1μm,20.5s,baz=71,slow=37
ATAH Atahualpa 42.30 135 P P 03 09 06.4 +0.5
ATAH Atahualpa 42.30 135 P P 03 09 06.4 +0.5
comp=Z,5.6nm,0.7s,baz=227,slow=3.4,SNR=4.3
EGAK Eagle 45.46 340 *e*P P 03 09 30.5 +0.4
PAX Paxson 45.71 337 *e*P P 03 09 36.0 +3.7
PAX pmax pmax
comp=Z,12nm,0.8s
PAX Paxson 45.71 337 *e*P P 03 09 36.0 +3.7
comp=Z,12nm,0.8s
KDAK Kodiak Island 46.01 328 P P 03 09 34.7 +0.1
KDAK Kodiak Island 46.01 328 P P 03 09 34.7 +0.1
comp=Z,6.1nm,0.8s,baz=119,slow=2.4,SNR=6.2
OHAK Old Harbor 46.12 327 *e*P P 03 09 36.5 +1.1
comp=Z,60nm,1.8s
SML Sawmill 46.12 334 *e*P P 03 09 33.0 -2.5
SML pmax pmax
comp=Z,13nm,2.1s
SML Sawmill 46.12 334 *e*P P 03 09 33.0 -2.5
comp=Z,13nm,2.1s
INK Inuvik 46.19 347 P P 03 09 35.8 -0.1
INK Inuvik 46.19 347 P P 03 09 35.8 -0.1
comp=Z,2.0nm,0.7s,baz=108,slow=14,SNR=8.9
PMR Palmer 46.32 334 *e*P P 03 09 37.9 +1.0
PMR pmax pmax
comp=Z,19nm,1.5s
PMR Palmer 46.32 334 *e*P P 03 09 37.9 +1.0
comp=Z,19nm,1.5s
NNA Nana 47.01 138 *e*P P 03 09 42.7 -0.3
comp=Z,15nm,0.8s
RSO Redoubt South 47.28 331 *e*P P 03 09 47.1 +2.4
ILAR Eielson Array 47.31 338 P P 03 09 45.0 +0.3
ILAR Eielson Array 47.31 338 P P 03 09 45.0 +0.3
comp=Z,3.1nm,0.9s,baz=138,slow=3.9,SNR=40
ILAR LR LR 03 30 08.4
comp=Z,372nm,18.8s,baz=321,slow=37
SPU Mount Spurr 47.32 332 *e*P P 03 09 45.9 +1.0
MCK McKinley 47.42 336 *e*P P 03 09 46.3 +0.6
MCK pmax pmax
comp=Z,13nm,1.0s
MCK McKinley 47.42 336 *e*P P 03 09 46.3 +0.6
comp=Z,13nm,1.0s
COLA College 47.70 338 *e*P P 03 09 47.8 +0.1
COLA pmax pmax
comp=Z,14nm,0.6s
COLA College 47.70 338 *e*P P 03 09 47.8 +0.1
comp=Z,14nm,0.6s
TRF Thorofare Moun 47.77 335 *e*P P 03 09 48.4 -0.1
comp=Z,26nm,0.7s
SVW2 Sparrevohn 48.81 331 *e*P P 03 09 55.5 -0.8
comp=Z,20nm,1.4s
COLD Coldfoot 49.87 340 *e*P P 03 10 05.5 +1.1
comp=Z,43nm,1.9s
RES Resolute Bay 50.07 4 LR LR 03 32 18.6
comp=Z,564nm,18.8s,baz=179,slow=37
SAML Samuel 54.30 123 *e*P P 03 10 34.9 -3.2
comp=Z,6.3nm,0.9s
RKT Rikitea 55.13 212 *e*S S 03 18 28.3 +3.6
comp=Z,311nm,28.8s
RKT *e*LR LR 03 26 53.7
comp=Z,775nm,26.2s,baz=32
LPAZ La Paz 55.77 133 *e*P P 03 10 47.9 -1.4
comp=Z,9.8nm,1.6s
LPAZ PcP PcP 03 11 47.4 -0.8
LPAZ La Paz 55.77 133 P P 03 10 48.4 -0.9
comp=Z,0.8nm,0.8s,baz=335,slow=19,SNR=3.4
LPAZ PcP PcP 03 11 47.4 -0.8
comp=Z,2.3nm,0.8s,baz=24,slow=5.1,SNR=6.0
LPAZ LR LR 03 33 41.5
comp=Z,278nm,20.8s,baz=188,slow=35
PPT Papeete 59.41 229 LR LR 03 30 42.5
comp=Z,339nm,18.8s,baz=334,slow=30
PPT2 Papeete2 59.43 229 *e*S S 03 19 24.9 +3.3
comp=Z,272nm,28.0s
PPT2 *e*LR LR 03 28 44.0
comp=Z,933nm,28.0s,baz=32
SUMG Summit 59.84 19 *e*P P 03 11 17.0 +0.1
SUMG pmax pmax
comp=Z,14nm,1.2s
SUMG Summit 59.84 19 *e*P P 03 11 17.0 +0.1
comp=Z,14nm,1.2s
SUMG Summit 59.84 19 *i* P P 03 11 20.9 +4.0
comp=Z,6.3nm,1.0s
LVC Limon Verde 59.98 139 *e*P P 03 11 18.9 +0.6

comp=Z,8.2nm,1.0s
TBI Tubuai 63.44 224 *e*LQ LQ 03 27 53.6
comp=Z,299nm,32.2s
TBI *e*LR LR 03 30 29.2
comp=Z,522nm,30.0s
DAG Danmarks Havn 65.38 15 *i* P **P 03 11 53.0 -0.3**
DAG pmax pmax
comp=Z,2.0nm,0.7s
DAG Danmarks Havn 65.38 15 *i* P **P 03 11 53.0 -0.3**
comp=Z,3.5nm,0.7s
BILL Bilibino 65.88 336 *e*P **P 03 11 56.4 -0.2**
BILL pmax pmax
comp=Z,14nm,1.6s
CFAA Coronel Fontan 67.34 145 P **P 03 12 06.6 +0.1**
CFAA Coronel Fontan 67.34 145 P **P 03 12 06.6 +0.1**
comp=Z,0.7nm,0.6s,baz=313,slow=5.4,SNR=12
CPUP Villa Florida 69.94 133 P P 03 12 21.4 -1.3
CPUP Villa Florida 69.94 133 P P 03 12 21.4 -1.3
comp=Z,4.3nm,0.7s,baz=297,slow=6.4,SNR=15
CPUP LR LR 03 43 33.2
comp=Z,164nm,20.2s,baz=316,slow=36
BDFB Brasilia 70.14 119 P **P 03 12 23.6 -0.7**
BDFB Brasilia 70.14 119 P **P 03 12 23.6 -0.7**
comp=Z,4.0nm,0.9s,baz=309,slow=4.5,SNR=4.0
BDFB LR LR 03 47 18.4
comp=Z,189nm,18.2s,baz=333,slow=40
SEY Seymchan 72.73 332⇑ *e*P **P 03 12 38.8 -0.3**
PETK Petropavlovsk- 73.51 321 P **P 03 12 45.1 +1.2**
PETK Petropavlovsk- 73.51 321 P **P 03 12 45.1 +1.2**
PETK Petropavlovsk- 73.51 321 P **P 03 12 45.1 +1.2**
comp=Z,2.4nm,0.8s,baz=99,slow=6.4,SNR=3.5
PLCA Paso Flores 73.62 152 P **P 03 12 44.7 0.0**
PLCA Paso Flores 73.62 152 P **P 03 12 44.7 0.0**
comp=Z,1.9nm,0.7s,baz=281,slow=5.3,SNR=2.9
PLCA LR LR 03 42 03.5
comp=Z,149nm,19.1s,baz=1.9,slow=33
AFI Afiamalu 74.21 246 LR LR 03 37 55.8
comp=Z,386nm,20.2s,baz=58,slow=30
TIXI Tiksi 76.26 344⇑ *e*P **P 03 12 58.0 -1.4**
TIXI pmax pmax
comp=Z,31nm,2.5s
ARCES ARCESS Array B 79.66 15 P **P 03 13 18.1 -0.2**
ARCES ARCESS Array B 79.66 15 P **P 03 13 18.1 -0.2**
comp=Z,2.1nm,0.9s,baz=32,slow=8.6,SNR=3.3
ARCES LR LR 03 48 03.3
comp=Z,161nm,21.0s,baz=10.0,slow=35
NB2 NORSAR Subarra 80.76 26 P **P 03 13 24.0 -0.5**
comp=Z,5.7nm,1.1s,baz=303,slow=4.6
NOA NORSAR Array B 80.76 26 P **P 03 13 24.1 -0.5**
NOA NORSAR Array B 80.76 26 P **P 03 13 24.1 -0.5**
comp=Z,2.7nm,1.1s,baz=307,slow=5.1,SNR=4.9
NOA LR LR 03 48 29.9
comp=Z,471nm,20.3s,baz=300,slow=35
ESDC Sonseca Array 83.56 49 P **P 03 13 38.9 -0.7**
ESDC Sonseca Array 83.56 49 P **P 03 13 38.9 -0.7**
comp=Z,0.8nm,0.8s,baz=308,slow=3.7,SNR=4.0
ESDC LR LR 03 48 56.6
comp=Z,510nm,21.0s,baz=295,slow=34
YSS Yuzh-Sakhalins 84.84 320 *e*P P 03 13 44.3 -1.6
FINES FINESS Array B 85.83 21 P **P 03 13 49.5 -1.0**
FINES FINESS Array B 85.83 21 P **P 03 13 49.5 -1.0**
comp=Z,2.1nm,0.8s,baz=329,slow=4.8,SNR=6.1
ERM Erimo 87.17 315⇓ *e*P **P 03 13 57.8 +0.3**
ERM pmax pmax
comp=Z,38nm,1.7s
CLL Collm 87.43 33 *i* P P 03 13 57.3 -1.3
CLL pmax pmax
comp=Z,20nm,1.4s
CLL Collm 87.43 33 *i* P P 03 13 57.3 -1.3
comp=Z,6.0nm,1.4s
CLL LmH 03 52 00.0
comp=N,200nm,21.1s
CLL LmH 03 52 00.0
comp=E,300nm,20.0s
CLL LmV 03 55 00.0
comp=Z,400nm,18.7s
PVCC Panska Ves 88.69 33 AMS AMS 03 51 30.0
comp=Z,400nm,18.7s
PRU Pruhonice 89.02 33 AMS AMS 03 52 40.0
comp=Z,400nm,22.3s
GERES GERESS Array B 89.31 35 LR LR 03 55 22.2
comp=Z,338nm,19.7s,baz=296,slow=36
DPC Dobruska-Polom 89.67 32 AMS AMS 03 52 50.0
TREC Trest 89.94 34 AMS AMS 03 54 10.0
comp=Z,400nm,18.2s
OKC Ostrava-Krasne 90.89 32 AMS AMS 03 55 40.0
comp=Z,300nm,17.2s
VLA Vladivostok 93.33 321⇑ *e*P **P 03 14 25.5 -0.8**
VLA pmax pmax
comp=Z,32nm,1.7s
MAJO Matsushiro 93.37 313 *e*P **P 03 14 26.2 -0.4**
MAJO pmax pmax
comp=Z,15nm,1.2s
MAJO Matsushiro 93.37 313 *e*P **P 03 14 26.2 -0.4**
comp=Z,15nm,1.2s
MAT Matsushiro 93.37 313 P **P 03 14 25.9 -0.8**
KEST Kesra 94.61 47 *e*P **P 03 14 32.3 -0.2**
KEST Kesra 94.61 47 LR LR 03 55 55.3
comp=Z,99nm,20.2s,baz=277,slow=35
KIEV Kiev 95.17 26 *e*P P 03 14 33.3 -1.3
KIEV pmax pmax
comp=Z,31nm,1.9s
KIEV Kiev 95.17 26 *e*P P 03 14 33.3 -1.3
comp=Z,31nm,1.9s
DZM Mont Dzumac 96.29 249 *e*LR LR 03 45 50.9
comp=Z,563nm,26.1s
DBIC Dimbokro 97.94 79 LR LR 04 00 19.0
comp=Z,142nm,18.8s,baz=301,slow=36
KSRS Korea Array 99.30 319 LR LR 03 53 46.4
comp=Z,59nm,21.2s,baz=60,slow=32
TORD Torodi Ar. Bea 100.68 70 P **Pdif 03 14 58.1 -1.9**
TORD Torodi Ar. Bea 100.68 70 P **Pdif 03 14 58.1 -1.9**
comp=Z,0.9nm,1.0s,baz=316,slow=4.0,SNR=2.6
HHC Hu-ho-hao-te 105.36 331 Pdif **Pdif 03 15 20.3 -0.3**
HHC PP **PP 03 19 43.9 +2.6**
HHC S Sdif 03 27 07.4 -6.7
HHC AMB AMB
comp=Z,93nm,9.6s
HHC LR LR
comp=Z,240nm,20.4s
KSH Kashi 115.71 358 *e*PKP **PKPdf 03 19 56.4 +2.5**
CD2 Chengdu 117.12 331 PKP **PKPdf 03 19 54.4 -2.4**
CD2 sPKP 03 20 13.8
CD2 PP **PP 03 21 08.3 +2.5**
CD2 PKS PKSdf 03 23 29.8 -3.8
CD2 SKS SKSdf 03 27 00.2 -6.6
CD2 SKKS SKKSac 03 27 55.8 -10
CD2 SS SS 03 37 08.2 -3.7
CD2 AMB AMB
comp=Z,120nm,5.4s
GYA Guiyang 119.44 325 *e*Pdif **Pdif 03 16 22.0 -1.5**
GYA PKP **PKPdf 03 20 01.8 +0.4**
GYA sPKP 03 20 18.9
GYA PP **PP 03 21 24.3 +2.2**
GYA AMB AMB
comp=Z,90nm,7.8s
WRAB Tennant Creek 123.66 262 *e*PKIKP **PKPdf 03 20 10.3 +0.8**
WRAB Tennant Creek 123.66 262 *e*PKPdf **PKPdf 03 20 10.3 +0.8**
WRA Warramunga Arr 123.67 262 PKP **PKPdf 03 20 08.4 -1.1**
WRA Warramunga Arr 123.67 262 PKP **PKPdf 03 20 08.4 -1.1**
comp=Z,2.0nm,0.8s,baz=70,slow=2.2,SNR=8.5
ASAR Alice Springs 125.09 258 PKP **PKPdf 03 20 11.1 -1.1**
ASAR Alice Springs 125.09 258 PKP **PKPdf 03 20 11.1 -1.1**
comp=Z,1.2nm,0.8s,baz=101,slow=1.7,SNR=6.8
CMAR Chiang Mai Arr 130.00 327 PKP **PKPdf 03 20 21.6 -0.1**
CMAR Chiang Mai Arr 130.00 327 PKP **PKPdf 03 20 21.6 -0.1**
comp=Z,0.6nm,0.3s,baz=22,slow=1.0,SNR=3.7

KRSC 12 03:24:12.1±0.5, 55.˚15N×160.˚54E, h4km±5km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUMR	**Tumrok**	**0.26**	**301**	P	Pg	03 24 18.1	+0.7
KMNR	**Kamenistaya**	**0.63**	**344**	P	Pb	03 24 26.1	+0.2
KMNR				S	Sb	03 24 36.5	+1.3
BZMR	**Bezymyannaya**	**0.79**	**358**	P	Pn	03 24 29.4	-0.8
BZMR				S	Sn	03 24 41.6	-1.0
BZGR	**Bezymyannyi-Gr**	**0.80**	**6**	P	Pb	03 24 29.4	+0.7
BZGR				S	Sn	03 24 42.1	-0.6
KIRR	**Kirishev**	**0.81**	**352**	P	Pb	03 24 29.6	+0.6
KIRR				S	Sn	03 24 42.4	-0.8
BZWR	**Bezymyannyi-We**	**0.82**	**358**	P	Pn	03 24 29.9	-0.7
KPT	**Kopyto**	**0.84**	**348**	P	Pb	03 24 29.9	+0.5
KPT				S	Sn	03 24 43.2	-0.5
ZLN	**Zelenaya**	**0.88**	**10**	P	Pn	03 24 31.7	+0.3
CIRR	**Tsirk**	**0.97**	**7**	P	Pn	03 24 33.0	+0.2
KOZ	**Kozyrevsk**	**0.99**	**338**	P	Pb	03 24 32.1	+0.3
KOZ				S	Sn	03 24 46.9	-0.3
KRSR	**Krestovskiy**	**1.07**	**1**	P	Pn	03 24 34.1	+0.1
KRSR				S	Sn	03 24 50.2	+0.8
KLY	**Klyuchi**	**1.17**	**3**	P	Pn	03 24 35.6	+0.4
KLY				S	Sn	03 24 53.2	+1.6
SRDR	**Sredinnyy**	**1.26**	**339**	P	Pg	03 24 35.9	-0.5
ESO	**Esso**	**1.30**	**307**	P	Pn	03 24 35.7	-1.4
ESO				S	Sg	03 24 53.6	-0.5
BDR	**Baidarnaya**	**1.47**	**15**	P	Pg	03 24 41.9	+1.5
SMKR	**Semkarok**	**1.53**	**20**	P	Pg	03 24 42.7	+1.2
SRKR	**Sorokina**	**1.55**	**13**	P	Pg	03 24 43.1	+1.2
KBG	**Krutoberegovo**	**1.65**	**47**	P	Pb	03 24 43.2	+0.1
KBG				S	Sg	03 25 06.3	+1.2
SPN	**Mys Shipunski**	**2.08**	**189**	P	Pn	03 24 48.6	+0.9
SPN				S	Sb	03 25 15.3	-1.2
NLC	**Nalytchevo**	**2.10**	**200**	P	Pb	03 24 51.2	+0.5
GNL	**Ganaly**	**2.10**	**227**	P	Pb	03 24 49.7	-1.3
GNL				S	Sb	03 25 16.9	-0.6
KRER	**Koryakskii**	**2.13**	**210**	P	Pb	03 24 51.6	+0.1
SMAR	**Somma**	**2.15**	**209**	P	Pb	03 24 51.8	0.0
KOK	**Koryaka**	**2.17**	**212**	P	Pb	03 24 51.8	-0.3
UGLR	**Uglovaya**	**2.19**	**208**	P	Pb	03 24 52.2	-0.2
RUS	**Russkaya**	**2.98**	**205**	P	Pn	03 25 02.3	+2.3
RUS				S	Sb	03 25 39.2	-3.1
APC	**Apacha**	**2.99**	**223**	P	Pn	03 25 02.7	+2.5
MTVR	**Mutnovka**	**3.02**	**209**	P	Pb	03 25 04.0	-2.5
MTVR				S	Sb	03 25 41.4	-2.4
BKI	**Bering**	**3.12**	**87**	S	Sn	03 25 41.7	+2.2
ASAK	**Asacha**	**3.18**	**211**	P	Pb	03 25 06.5	-2.8
ASAK				S	Sn	03 25 44.8	+3.3

IDC **12** *04:05:03.5±0.8, 34.˚02N×25.˚27E, h0km, mb4.0/18, mb1 4.0/26, mb1mx4.0/36, mbtmp3.9/26, ML3.9/4, MS3.0/3, Ms1 3.0/3, ms1mx2.6/57, Error ellipse: s-maj=19.1km s-min=13.4km az=177.0*
CSEM **12** *04:05:04.8±0.2, 33.˚94N×25.˚25E, h10km, mb4.1/22, Ms3.1, Error ellipse: s-maj=7.7km s-min=3.7km az=11.0*
ISCJB **12** *04:05:06.4±0.9, 33.˚99N±0.˚06×25.˚29E±0.˚04, h34km±7km, mb4.0/28, MS3.0/2, Error ellipse: s-maj=9.8km s-min=5.3km az=0.8*
MOS **12** *04:05:08.8±1.1, 34.˚26N×25.˚43E, h33km, mb4.2/16, Error ellipse: s-maj=13.8km s-min=6.7km az=87.5*
VIE **12** *04:05:13.0, 34.˚09N×25.˚20E, h69km, mb3.7, ML3.7 138 km S of Iraklion*
ISK **12** *04:05:27.7, 35.˚55N×26.˚46E, h5km, MD3.9*
ISC 12 04:05:09.5±1.1, 33.˚96N±0.˚07×25.˚32E±0.˚06, h45km±10km, n172, σ1°33/174, mb4.0/29, 7C-6D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**3.32**	**33**	*e*PN	**Pn**	**04 05 57.4**	**-1.6**
DAT				*e*SN	Px	04 06 17.6	
DAT	**Datca**	**3.32**	**33**	*e*Pn	**Pn**	**04 05 57.4**	**-1.6**
BODT	**Bodrum**	**3.49**	**27**	*e*PN	**Pn**	**04 05 58.9**	**-2.4**
BODT	**Bodrum**	**3.49**	**27**	*e*Pn	**Pn**	**04 05 58.9**	**-2.4**
MLSB	**Milas**	**3.88**	**30**	*e*PN	**Pn**	**04 06 04.5**	**-2.1**
MLSB	**Milas**	**3.88**	**30**	*e*Pn	**Pn**	**04 06 04.5**	**-2.1**
DALY	**Dalyan (Mu˘la**	**3.94**	**43**	*e*PN	**Pn**	**04 06 06.3**	**-1.0**
DALY	**Dalyan (Mu˘la**	**3.94**	**43**	*e*Pn	**Pn**	**04 06 06.3**	**-1.0**
TURN	**Turunc**	**3.95**	**42**	*e*Pn	Pn	04 06 03.4	-4.2
TURN				*e*Sn	**Sn**	**04 06 48.5**	**-4.1**
YER	**Yerkesik**	**3.98**	**36**	*e*PN	**Pn**	**04 06 06.1**	**-1.9**
YER	**Yerkesik**	**3.98**	**36**	*e*Pn	**Pn**	**04 06 06.1**	**-1.9**
FETY	**Fethiye**	**4.07**	**48**	*e*PN	**Pn**	**04 06 09.5**	**+0.3**
FETY	**Fethiye**	**4.07**	**48**	*e*Pn	**Pn**	**04 06 09.5**	**+0.3**
AKAS	**Kas**	**4.18**	**56**	*e*Pn	**Pn**	**04 06 10.2**	**-0.6**
AKAS				*e*Sn	**Sn**	**04 06 56.4**	**-2.0**
AYDN	**Tasoluk**	**4.23**	**29**	*e*Pn	**Pn**	**04 06 11.4**	**-0.1**
AYDN				*e*Sn	**Sn**	**04 07 00.9**	**+1.2**
IZM	**Izmir**	**4.70**	**19**	*e*PN	**Pn**	**04 06 17.2**	**-0.5**
IZM	**Izmir**	**4.70**	**19**	*e*Pn	**Pn**	**04 06 17.3**	**-0.5**
GOLH	**Golhisar**	**4.75**	**45**	*e*Pn	**Pn**	**04 06 18.6**	**0.0**
GOLH				*e*Sn	**Sn**	**04 07 08.8**	**-3.8**
DNZL	**Cakiroluk**	**4.79**	**38**	*e*Pn	**Pn**	**04 06 20.6**	**+1.3**
DNZL				*e*Sn	**Sn**	**04 07 14.2**	**+0.5**
ANTB	**Antalya**	**5.25**	**55**	*e*PN	**Pn**	**04 06 27.5**	**+2.2**
ANTB	**Antalya**	**5.25**	**55**	*e*Pn	**Pn**	**04 06 27.5**	**+2.2**
KULA	**Kula-Manisa**	**5.28**	**30**	*e*PN	**Pn**	**04 06 23.9**	**-2.0**
KULA	**Kula-Manisa**	**5.28**	**30**	*e*Pn	**Pn**	**04 06 23.9**	**-2.0**
KHL	**Karahalli**	**5.52**	**37**	*e*PN	**Pn**	**04 06 27.9**	**-1.3**
KHL	**Karahalli**	**5.52**	**37**	*e*Pn	**Pn**	**04 06 27.9**	**-1.3**
BCK	**Bucak**	**5.53**	**49**	*e*PN	**Pn**	**04 06 30.0**	**+0.8**
BCK	**Bucak**	**5.53**	**49**	*e*Pn	**Pn**	**04 06 30.0**	**+0.8**
SUTC	**Sutluce-Ispart**	**5.80**	**51**	*e*PN	**Pn**	**04 06 34.7**	**+1.7**
ALT	**Altintas**	**6.38**	**36**	*e*PN	**Pn**	**04 06 40.3**	**-0.7**
ALT	**Altintas**	**6.38**	**36**	*e*Pn	**Pn**	**04 06 40.3**	**-0.7**
TVSB	**Tavsanli**	**6.41**	**30**	*e*PN	**Pn**	**04 06 40.4**	**-0.9**
TVSB	**Tavsanli**	**6.41**	**30**	*e*Pn	**Pn**	**04 06 40.4**	**-0.9**
KONT	**Konya--Tatoy**	**6.95**	**53**	*e*PN	**Pn**	**04 06 50.9**	**+2.1**
KIZT	**Kizilcal**	**7.21**	**45**	*e*PN	**Pn**	**04 06 52.2**	**-0.1**
KIZT	**Kizilcal**	**7.21**	**45**	*e*Pn	**Pn**	**04 06 52.3**	**-0.1**
MMAI	**Mount Meron Ar**	**8.47**	**94**	Pn	**Pn**	**04 07 08.8**	**-0.9**
	2.0nm,0.3s,baz=258,slow=10,SNR=3.9						
MMAI				Sn	**Sn**	**04 08 42.3**	**-1.7**
	2.2nm,0.3s,baz=268,slow=24,SNR=4.5						
BRTR	**Keskin Array B**	**8.80**	**47**	Pn	**Pn**	**04 07 11.9**	**-2.3**
	baz=230,slow=13,SNR=3.9						
BRTR				Sn	**Sn**	**04 08 51.2**	**-0.8**
	0.1nm,0.3s,baz=217,slow=25,SNR=2.3						
BRTR	**Keskin Array B**	**8.80**	**47**	P	**Pn**	**04 07 11.9**	**-2.3**
BRTR				S	**Sn**	**04 08 51.3**	**-0.8**
EIL	**Elat**	**9.24**	**115**	Pn	**Pn**	**04 07 18.3**	**-1.8**
	0.9nm,0.3s,baz=260,slow=12,SNR=4.3						
EIL				Sn	**Sn**	**04 09 01.6**	**-1.2**
	0.6nm,0.3s,baz=40,slow=14,SNR=3.5						
ASF	**Jabal al Asfar**	**9.88**	**97**	Pn	**Pn**	**04 07 26.3**	**-2.6**
MLR	**Muntele Rosu**	**11.52**	**2**	LR	LR	04 11 53.9	
	comp=Z,28nm,18.8s,baz=195,slow=36						
PLOR	**Plostina**	**11.92**	**4**	⇑*i*P	Pn	04 07 53.4	-3.3
PLOR	**Plostina**	**11.92**	**4**	⇑*i*P	Pn	04 07 53.4	-3.3
PLOR	**Plostina**	**11.92**	**4**	⇑*i*P	Pn	04 07 53.4	-3.3
VRI	**Vrincioaia**	**11.94**	**5**	⇓*i*P	Pn	04 07 53.8	-3.2
VRI	**Vrincioaia**	**11.94**	**5**	⇓*i*P	Pn	04 07 53.8	-3.2
VRI	**Vrincioaia**	**11.94**	**5**	⇓*i*P	Pn	04 07 53.8	-3.2
CJR	**Cluj-Napoca**	**12.80**	**355**	⇑*i*P	Pn	04 08 02.6	-6.2
DRGR		**12.97**	**352**	⇑*i*P	**Pn**	**04 08 09.9**	**-1.2**
DRGR		**12.97**	**352**	⇑*i*P	**Pn**	**04 08 09.9**	**-1.2**
ANN	**Anapa**	**14.29**	**37**	*e*P	**Pn**	**04 08 27.9**	**-1.1**
ANN				pmax	pmax		
	comp=Z,13nm,0.8s						
PGF	**Pioggiola**	**15.40**	**309**	*e*P	**Pn**	**04 08 41.6**	**-2.2**
	comp=Z,52nm,1.3s						
ABTA	**Abfaltersbach**	**16.05**	**327**	⇓*i*P	**P**	**04 08 54.7**	**-0.1**
	comp=Z,4.4nm,0.6s						
ABTA	**Abfaltersbach**	**16.05**	**327**	P	**P**	**04 08 54.7**	**-0.1**
	comp=Z,4.4nm,0.6s						
MOA	**Molln**	**16.17**	**332**	⇑*i*P	**P**	**04 08 55.8**	**-0.3**
	comp=Z,5.7nm,0.7s						
MOA	**Molln**	**16.17**	**332**	P	**P**	**04 08 55.8**	**-0.3**
	comp=Z,5.7nm,0.7s						
VRAC	**Vranov**	**16.64**	**340**	Pn	**Pn**	**04 08 57.2**	**-2.2**
	baz=131,slow=20,SNR=2.9						
GNI	**Garni**	**16.67**	**63**	Pn	**Pn**	**04 09 00.8**	**+0.8**
	comp=Z,1.7nm,0.3s,baz=318,slow=12,SNR=2.7						
GNI	**Garni**	**16.67**	**63**	*e*P	**P**	**04 09 02.8**	**+0.9**
	comp=Z,14nm,1.0s						
KIV	**Kislovodsk**	**16.76**	**48**	*e*P	**P**	**04 09 06.1**	**+3.4**
KIV				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KBZ	**Khabaz**	**16.78**	**49**	P	**P**	**04 09 05.2**	**+2.4**
KBZ	**Khabaz**	**16.78**	**49**	Pn	**P**	**04 09 05.2**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=244,slow=11,SNR=5.4						
SBF	**Sospel**	**17.04**	**311**	*e*P	**Pn**	**04 09 02.9**	**-1.6**
SBF	**Sospel**	**17.04**	**311**	*e*P	**Pn**	**04 09 02.9**	**-1.6**
GERES	**GERESS Array B**	**17.20**	**333**	P	**Pn**	**04 09 05.5**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=150,slow=11,SNR=23						
GERES	**GERESS Array B**	**17.20**	**333**	P	**Pn**	**04 09 05.5**	**-1.0**
DAVOX	**Davos/Dischmat**	**17.35**	**322**	P	**P**	**04 09 09.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=141,slow=13,SNR=3.3						
DAVOX	**Davos/Dischmat**	**17.35**	**322**	P	**P**	**04 09 09.7**	**+0.4**
KHC	**Kasperske Hory**	**17.49**	**334**	*e*P	**P**	**04 09 11.0**	**+0.3**
KHC	**Kasperske Hory**	**17.49**	**334**	*e*P	**P**	**04 09 11.0**	**+0.3**
KHC	**Kasperske Hory**	**17.49**	**334**	P	**P**	**04 09 11.0**	**+0.3**
MBDF	**Montbardon**	**17.89**	**312**	*e*P	**Pn**	**04 09 14.9**	**-0.1**
	comp=Z,17nm,1.1s						
MBDF	**Montbardon**	**17.89**	**312**	*e*P	**Pn**	**04 09 14.9**	**-0.1**
	comp=Z,8.6nm,1.1s						
BRG	**Berggiesshubel**	**18.83**	**337**	*e*(P)	**P**	**04 09 24.6**	**-0.9**
	comp=Z,3.1nm,0.9s						
BRG				*e*		04 09 33.6	
	comp=Z,3.3nm,1.0s						
BRG	**Berggiesshubel**	**18.83**	**337**	*e*P	**P**	**04 09 24.5**	**-0.9**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRG	**Berggiesshubel**	**18.83**	**337**	*e*P	**P**	**04 09 24.5**	**-0.9**
	comp=Z,3.0nm,1.0s						
CABF	**La Chapelle**	**19.30**	**317**	*e*P	**P**	**04 09 28.7**	**-2.0**
	comp=Z,14nm,1.1s						
CABF	**La Chapelle**	**19.30**	**317**	*e*P	**P**	**04 09 28.7**	**-2.0**
	comp=Z,6.8nm,1.1s						
LASF	**Ste Croix**	**19.45**	**308**	*e*P	**P**	**04 09 31.8**	**-0.4**
LASF	**Ste Croix**	**19.45**	**308**	*e*P	**P**	**04 09 31.8**	**-0.4**
CLL	**Collm**	**19.51**	**336**	*i* P	**P**	**04 09 32.4**	**-0.4**
CLL				pmax	pmax		
	comp=Z,4.0nm,1.5s						
CLL	**Collm**	**19.51**	**336**	*i* P	**P**	**04 09 32.4**	**-0.4**
	comp=Z,9.0nm,1.5s						
CLL				*e*		04 09 40.0	
CLL	**Collm**	**19.51**	**336**	*i* P	**P**	**04 09 32.4**	**-0.4**
	comp=Z,4.0nm,1.5s						
HINF	**Hinteralfeld**	**19.59**	**320**	*e*P	**P**	**04 09 32.1**	**-1.7**
	comp=Z,3.9nm,0.6s						
HINF	**Hinteralfeld**	**19.59**	**320**	*e*P	**P**	**04 09 32.1**	**-1.7**
	comp=Z,2.0nm,0.6s						
CDF	**Champ du Feu**	**19.75**	**322**	*e*P	**P**	**04 09 35.1**	**-0.4**
	comp=Z,17nm,1.3s						
CDF	**Champ du Feu**	**19.75**	**322**	*e*P	**P**	**04 09 35.1**	**-0.4**
	comp=Z,8.6nm,1.3s						
VORD	**Divnogorie**	**19.81**	**27**	*e*P	**Pn**	**04 09 41.7**	**+3.8**
VORD				pmax	pmax		
	comp=N,40nm,0.6s						
VORD				pmax	pmax		
	comp=E,40nm,0.6s						
VORD				pmax	pmax		
	comp=Z,7.0nm,0.6s						
VSR	**Storozhevoye**	**19.97**	**26**	*e*P	**P**	**04 09 39.1**	**+1.3**
VSR				pmax	pmax		
	comp=N,4.0nm,0.4s						
VSR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
VSR				pmax	pmax		
	comp=E,8.0nm,0.7s						
VSR	**Storozhevoye**	**19.97**	**26**	*e*P	**P**	**04 09 39.1**	**+1.3**
HAU	**Haudompre**	**19.98**	**320**	*e*P	**P**	**04 09 38.1**	**+0.2**
HAU				*e*R			
	comp=E,95nm,20.5s						
HAU	**Haudompre**	**19.98**	**320**	*e*P	**P**	**04 09 38.1**	**+0.2**
SMF	**Signal de Mont**	**20.63**	**314**	*e*P	**P**	**04 09 43.8**	**-1.2**
SMF	**Signal de Mont**	**20.63**	**314**	*e*P	**P**	**04 09 43.8**	**-1.2**
PAGF	**Fort de Pagny**	**20.64**	**321**	*e*P	**P**	**04 09 44.9**	**-0.2**
	comp=E,8.0nm,1.0s						
PAGF	**Fort de Pagny**	**20.64**	**321**	*e*P	**P**	**04 09 44.9**	**-0.2**
	comp=E,4.0nm,1.0s						
SFTF	**Sexfontaines**	**20.80**	**319**	*e*P	**P**	**04 09 46.2**	**-0.6**
SFTF	**Sexfontaines**	**20.80**	**319**	*e*P	**P**	**04 09 46.2**	**-0.6**
LOR	**Lormes**	**20.94**	**316**	*e*P	**P**	**04 09 47.6**	**-0.8**
	comp=E,11nm,0.9s						
LOR				*e*R			
	comp=E,142nm,19.5s						
LOR	**Lormes**	**20.94**	**316**	*e*P	**P**	**04 09 47.6**	**-0.8**
	comp=E,5.6nm,0.9s						
MEZF	**Maizieres J'vi**	**20.96**	**320**	*e*P	**P**	**04 09 47.9**	**-0.7**
	comp=E,28nm,1.1s						
MEZF	**Maizieres J'vi**	**20.96**	**320**	*e*P	**P**	**04 09 47.9**	**-0.7**
	comp=E,14nm,1.1s						
AVF	**Avril sur Loir**	**20.99**	**314**	*e*P	**P**	**04 09 48.4**	**-0.5**
AVF	**Avril sur Loir**	**20.99**	**314**	*e*P	**P**	**04 09 48.4**	**-0.5**
SSF	**Saint Saulge**	**21.04**	**315**	*e*P	**P**	**04 09 49.0**	**-0.4**
	comp=E,12nm,1.0s						
SSF	**Saint Saulge**	**21.04**	**315**	*e*P	**P**	**04 09 49.0**	**-0.4**
	comp=E,5.9nm,1.0s						
BGF	**Bois d'Agland**	**21.18**	**313**	*e*P	**P**	**04 09 50.9**	**-0.1**
	comp=E,16nm,0.9s						
BGF	**Bois d'Agland**	**21.18**	**313**	*e*P	**P**	**04 09 50.9**	**-0.1**
	comp=E,7.8nm,0.9s						
TCF	**Toulx Ste Croi**	**21.45**	**312**	*e*P	**P**	**04 09 53.2**	**-0.7**
TCF	**Toulx Ste Croi**	**21.45**	**312**	*e*P	**P**	**04 09 53.2**	**-0.7**
RJF	**Les Rejaudoux**	**21.47**	**309**	*e*P	**P**	**04 09 53.2**	**-0.9**
	comp=E,26nm,1.1s						
RJF				*e*R			
	comp=E,130nm,22.0s						
RJF	**Les Rejaudoux**	**21.47**	**309**	*e*P	**P**	**04 09 53.2**	**-0.9**
	comp=E,13nm,1.1s						
ETSF	**Etsaut**	**22.08**	**301**	*e*P	**P**	**04 10 00.2**	**-0.5**
ETSF	**Etsaut**	**22.08**	**301**	*e*P	**P**	**04 10 00.2**	**-0.5**
BAIF	**Baives**	**22.35**	**322**	*e*P	**P**	**04 10 01.8**	**-1.6**
	comp=E,12nm,0.9s						
BAIF	**Baives**	**22.35**	**322**	*e*P	**P**	**04 10 01.8**	**-1.6**
	comp=E,5.8nm,0.9s						
OBN	**Obninsk**	**22.56**	**17**	*e*P	**P**	**04 10 05.1**	**-0.5**
OBN				*i* *PP	**pP**	**04 10 21.1**	**+4.7**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
OBN	**Obninsk**	**22.56**	**17**	*e*P	**P**	**04 10 05.1**	**-0.5**
	comp=Z,3.0nm,0.9s						
MFF	**Saint Martin d**	**23.05**	**311**	*e*P	**P**	**04 10 09.2**	**-1.7**
	comp=Z,21nm,1.1s						
MFF	**Saint Martin d**	**23.05**	**311**	*e*P	**P**	**04 10 09.2**	**-1.7**
	comp=Z,11nm,1.1s						
LDF	**La Druitiere**	**23.92**	**315**	*e*P	**P**	**04 10 17.7**	**-1.4**
LDF	**La Druitiere**	**

	comp=Z,2.0nm,0.8s								
MKAR	**Makanchi Array**	**44.33**	**56**	P		**P**		**04 13 15.6**	**+0.5**
MKAR				pmax		pmax			
	comp=Z,4.0nm,0.7s								
MKAR	**Makanchi Array**	**44.33**	**56**	P		**P**		**04 13 15.6**	**+0.5**
	comp=Z,3.9nm,0.7s,baz=276,slow=6.8,SNR=32								
MKAR	**Makanchi Array**	**44.33**	**56**	P		**P**		**04 13 15.6**	**+0.5**
	comp=Z,4.0nm,0.7s								
ZALV	**Zalesovo Beam**	**45.74**	**45**	*i* P		**P**		**04 13 26.1**	**0.0**
ZALV				pmax		pmax			
	comp=Z,2.0nm,0.5s								
ZALV	**Zalesovo Beam**	**45.74**	**45**	P		**P**		**04 13 26.3**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=264,slow=8.8,SNR=6.1								
ZALV	**Zalesovo Beam**	**45.74**	**45**	*i* P		**P**		**04 13 26.1**	**0.0**
	comp=Z,2.0nm,0.5s								
HVS	**Khovu-Aksy**	**51.34**	**49**	*d i* P		**P**		**04 14 09.8**	**+0.5**
HVS				pmax		pmax			
	comp=Z,13nm,0.8s								
HVS	**Khovu-Aksy**	**51.34**	**49**	*i* P		**P**		**04 14 09.8**	**+0.5**
	comp=Z,13nm,0.8s								
ZAK	**Zakamensk**	**57.44**	**48**	*e*P		**P**		**04 14 54.5**	**+0.8**
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.4s								
ZAK	**Zakamensk**	**57.44**	**48**	*e*P		**P**		**04 14 54.5**	**+0.8**
	comp=Z,2.0nm,1.4s								
SONM	**Songino Array**	**60.14**	**50**	P		**P**		**04 15 13.5**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=280,slow=7.7,SNR=8.0								
SONM	**Songino Array**	**60.14**	**50**	P		**P**		**04 15 13.5**	**+1.0**
	comp=Z,1.0nm,0.6s								
SCHQ	**Schefferville**	**64.19**	**320**	P		**P**		**04 15 38.5**	**-0.8**
	comp=Z,3.6nm,0.9s,baz=48,slow=13,SNR=3.7								
USRK	**Ussuriysk Arra**	**77.60**	**45**	P		**P**		**04 17 00.4**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=155,slow=37,SNR=4.3								
YKA	**Yellowknife Ar**	**78.63**	**342**	P		**P**		**04 17 06.2**	**0.0**
	comp=Z,0.3nm,0.7s,baz=30,slow=5.7,SNR=3.6								
YKA	**Yellowknife Ar**	**78.63**	**342**	P		**P**		**04 17 06.2**	**0.0**
KSRS	**Korea Array**	**78.90**	**52**	P		**P**		**04 17 09.0**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=323,slow=5.3,SNR=3.0								
KSRS	**Korea Array**	**78.90**	**52**	P		**P**		**04 17 09.0**	**+0.8**
	comp=Z,1.0nm,0.5s								
FFC	**Flin Flon**	**80.75**	**332**	*i* P		**P**		**04 17 19.7**	**+1.8**
FFC	**Flin Flon**	**80.75**	**332**	*i* P		**P**		**04 17 19.7**	**+1.8**
ILAR	**Eielson Array**	**81.40**	**357**	P		**P**		**04 17 21.9**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=0.0,slow=4.2,SNR=6.6								
ILAR	**Eielson Array**	**81.40**	**357**	P		**P**		**04 17 21.9**	**+0.7**
	comp=Z,1.0nm,0.7s								
WRA	**Warramunga Arr**	**116.31**	**97**	PKP		**PKPdf**		**04 23 48.8**	**+0.3**
	comp=Z,0.6nm,1.0s,baz=296,slow=3.8,SNR=3.5								
ASAR	**Alice Springs**	**117.70**	**101**	PKP		**PKPdf**		**04 23 51.5**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=270,slow=1.9,SNR=3.4								
STKA	**Stephens Creek**	**127.25**	**107**	PKP		**PKPdf**		**04 24 09.7**	**+0.5**
	comp=Z,4.1nm,1.0s,baz=282,slow=7.3,SNR=3.3								

IDC ***12*** *04:08:08.8±1.1,36°.09N×24°.67E,h0km,mb3.8/9, mb1 3.9/11,mb1mx3.7/28,mbtmp3.8/11,ML4.1/2,Error ellipse: s-maj=25.2km s-min=20.3km az=157.0*
ISCJB ***12*** *04:08:17.8±0.3,35°.88N±0°.03×24°.78E±0°.02,h93km±3km, mb3.7/9,Error ellipse: s-maj=4.6km s-min=2.9km az=23.3*
ATH ***12*** *04:08:18.8,35°.97N×24°.79E,h58km±5km,ML3.0*
CSEM ***12*** *04:08:19.5±0.1,35°.90N×24°.77E,h73km±1km,ML3.4/9, Error ellipse: s-maj=1.6km s-min=1.2km az=9.0*
THE ***12*** *04:08:19.8,35°.90N×24°.76E,h75km±1km,ML3.4/9,Error ellipse: s-maj=1.7km s-min=0.3km az=167.0*

ISC 12 04:08:18.3±0.7,35°.90N±0°.03×24°.78E±0°.02,h81km±6km, n160,σ1°.09/201,mb3.8/9,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**0.61**	**172**	P	Pn	**04 08 33.9**	**+0.7**
IDI				S	Sn	**04 08 44.2**	**-0.1**
IDI	**Anoyia**	**0.61**	**172**	*e*P	Pn	**04 08 33.7**	**+0.5**
IDI				*e*S	Sn	**04 08 43.9**	**-0.4**
IDI	**Anoyia**	**0.61**	**172**	P	Pn	**04 08 33.9**	**+0.7**
IDI				S	Sn	**04 08 44.2**	**-0.1**
VAM	**Vamos**	**0.68**	**224**	P	Pn	**04 08 34.7**	**+0.9**
VAM				S	Sn	**04 08 45.7**	**+0.4**
VAM	**Vamos**	**0.68**	**224**	*e*P	Pn	**04 08 34.6**	**+0.8**
VAM				*e*S	Sn	**04 08 45.1**	**-0.2**
VAM	**Vamos**	**0.68**	**224**	*e*P	Pn	**04 08 34.6**	**+0.8**
VAM				S	Sn	**04 08 45.7**	**+0.4**
THR3	**Thira Island,**	**0.72**	**44**	P	Pn	**04 08 35.3**	**+1.2**
THR3	**Thira Island,**	**0.72**	**44**	P	Pn	**04 08 35.3**	**+1.2**
SANT	**Santorini**	**0.72**	**49**	P	Pn	**04 08 35.2**	**+0.9**
SANT				S	Sn	**04 08 46.4**	**+0.2**
SANT	**Santorini**	**0.72**	**49**	P	Pn	**04 08 35.2**	**+0.9**
SANT				S	Sn	**04 08 46.4**	**+0.2**
THR1	**Thera Island**	**0.72**	**49**	P	Pn	**04 08 35.2**	**+0.9**
THR1	**Thera Island**	**0.72**	**49**	P	Pn	**04 08 35.2**	**+0.9**
THR2	**Thira island,**	**0.76**	**44**	P	Pn	**04 08 35.4**	**+0.8**
THR2	**Thira island,**	**0.76**	**44**	P	Pn	**04 08 35.4**	**+0.8**
SIVA	**Sivas**	**0.88**	**178**	P	Pn	**04 08 37.0**	**+1.1**
SIVA				S	Sn	**04 08 49.9**	**+0.8**
SIVA	**Sivas**	**0.88**	**178**	P	Pn	**04 08 37.0**	**+1.1**
SIVA				S	Sn	**04 08 49.9**	**+0.8**
NPS	**Neapolis**	**0.93**	**133**	P	Pn	**04 08 37.2**	**+0.7**
NPS				S	Sn	**04 08 50.9**	**+0.8**
NPS	**Neapolis**	**0.93**	**133**	*e*P	Pn	**04 08 37.1**	**+0.6**
NPS				*e*S	Sn	**04 08 50.2**	**+0.1**
NPS	**Neapolis**	**0.93**	**133**	P	Pn	**04 08 37.2**	**+0.7**
NPS				S	Sn	**04 08 50.9**	**+0.8**
LAST	**Lasithi**	**0.93**	**142**	P	Pn	**04 08 37.4**	**+0.9**
LAST				S	Sn	**04 08 51.2**	**+0.9**
LAST	**Lasithi**	**0.93**	**142**	*e*P	Pn	**04 08 37.5**	**+0.9**
LAST				*e*S	Sn	**04 08 50.7**	**+0.4**
LAST	**Lasithi**	**0.93**	**142**	*e*P	Pn	**04 08 37.5**	**+0.9**
LAST				*e*S	Sn	**04 08 50.7**	**+0.4**
GVD	**Gavdhos**	**1.20**	**208**	P	Pn	**04 08 40.6**	**+0.8**
GVD				S	Sn	**04 08 57.1**	**+1.2**
GVD	**Gavdhos**	**1.20**	**208**	*e*P	Pn	**04 08 40.8**	**+1.0**
GVD				*e*S	Sn	**04 08 58.4**	**+2.5**
GVD	**Gavdhos**	**1.20**	**208**	P	Pn	**04 08 40.6**	**+0.8**
GVD				S	Sn	**04 08 57.1**	**+1.2**
ANKY	**Antikythira Is**	**1.20**	**269**	P	Pn	**04 08 40.4**	**+0.6**
ANKY				S	Sn	**04 08 56.7**	**+0.8**
ANKY	**Antikythira Is**	**1.20**	**269**	*e*P	Pn	**04 08 40.4**	**+0.6**
ANKY				*e*S	Sn	**04 08 55.7**	**-0.2**
ANKY	**Antikythira Is**	**1.20**	**269**	P	Pn	**04 08 40.4**	**+0.6**
ANKY				S	Sn	**04 08 56.7**	**+0.8**
APE	**Apeiranthos**	**1.32**	**27**	*e*PN	Pn	**04 08 42.2**	**+0.9**
APE				*e*SN	Sn	**04 08 59.0**	**+0.4**
APE	**Apeiranthos**	**1.32**	**27**	P	Pn	**04 08 42.0**	**+0.7**
APE				S	Sn	**04 08 59.6**	**+1.0**
APE	**Apeiranthos**	**1.32**	**27**	*e*P	Pn	**04 08 41.9**	**+0.7**
APE	**Apeiranthos**	**1.32**	**27**	P	Pn	**04 08 42.0**	**+0.7**
APE				S	Sn	**04 08 59.6**	**+1.0**
ZKR	**Zakros**	**1.41**	**123**	P	Pn	**04 08 43.8**	**+1.4**
ZKR				S	Sn	**04 09 02.0**	**+1.4**
ZKR	**Zakros**	**1.41**	**123**	*e*P	Pn	**04 08 43.8**	**+1.4**
ZKR				*e*S	Sn	**04 09 01.6**	**+1.0**
ZKR	**Zakros**	**1.41**	**123**	P	Pn	**04 08 43.8**	**+1.4**
ZKR				*e*S	Sn	**04 09 01.6**	**+1.0**
KYTH	**Kithira**	**1.46**	**286**	P	Pn	**04 08 43.8**	**+0.7**
KYTH	**Kithira**	**1.46**	**286**	*e*P	Pn	**04 08 43.8**	**+0.7**
KYTH	**Kithira**	**1.46**	**286**	P	Pn	**04 08 43.8**	**+0.7**
VLI	**Veliai**	**1.70**	**299**	P	Pn	**04 08 46.9**	**+0.7**
VLI				S	Sn	**04 09 07.1**	**-0.3**
VLI	**Veliai**	**1.70**	**299**	*e*P	Pn	**04 08 46.9**	**+0.7**
VLI				*e*S	Sn	**04 09 07.0**	**-0.3**
VLI	**Veliai**	**1.70**	**299**	P	Pn	**04 08 46.9**	**+0.7**
VLI				S	Sn	**04 09 07.1**	**-0.3**
KARP	**Karpathos**	**1.97**	**100**	P	Pn	**04 08 50.6**	**+0.8**
KARP				S	Sn	**04 09 15.0**	**+1.2**
KARP	**Karpathos**	**1.97**	**100**	*e*P	Pn	**04 08 50.7**	**+0.9**
KARP	**Karpathos**	**1.97**	**100**	*e*P	Pn	**04 08 50.7**	**+0.9**
KARP				S	Sn	**04 09 15.0**	**+1.2**
DIDY	**Didyma**	**2.02**	**322**	P	Pn	**04 08 51.2**	**+0.7**
DIDY	**Didyma**	**2.02**	**322**	P	Pn	**04 08 51.2**	**+0.7**
DID	**Didima**	**2.03**	**323**	P	Pn	**04 08 51.5**	**+0.9**
DID				S	Sn	**04 09 16.2**	**+1.0**
DID	**Didima**	**2.03**	**323**	*e*P	Pn	**04 08 51.5**	**+0.9**
DID	**Didima**	**2.03**	**323**	P	Pn	**04 08 51.5**	**+0.9**
DID				S	Sn	**04 09 16.2**	**+1.0**
NAIG	**Nisos Aigina**	**2.13**	**331**	*e*P	Pn	**04 08 53.0**	**+1.2**
NAIG	**Nisos Aigina**	**2.13**	**331**	*e*P	Pn	**04 08 53.0**	**+1.2**
DYR	**Agios Nikonas**	**2.15**	**294**	P	Pn	**04 08 54.4**	**+2.2**
DYR	**Agios Nikonas**	**2.15**	**294**	*e*P	Pn	**04 08 54.4**	**+2.2**
DYR	**Agios Nikonas**	**2.15**	**294**	P	Pn	**04 08 54.4**	**+2.2**
ATHU	**Athens Univers**	**2.21**	**339**	P	Pn	**04 08 54.4**	**+1.4**
ATHU	**Athens Univers**	**2.21**	**339**	P	Pn	**04 08 54.4**	**+1.4**
ATH	**Athens Observa**	**2.24**	**338**	*e*P	Pn	**04 08 54.8**	**+1.5**
ATH	**Athens Observa**	**2.24**	**338**	*e*P	Pn	**04 08 54.8**	**+1.5**
PTL	**Penteli**	**2.27**	**341**	P	Pn	**04 08 55.2**	**+1.4**
PTL	**Penteli**	**2.27**	**341**	*e*P	Pn	**04 08 55.0**	**+1.2**
PTL	**Penteli**	**2.27**	**341**	*e*P	Pn	**04 08 55.0**	**+1.2**
BODT	**Bodrum**	**2.35**	**60**	*e*PN	Pn	**04 08 55.9**	**+1.1**
DAT	**Datca**	**2.41**	**69**	*e*PN	Pn	**04 08 56.6**	**+1.0**
DAT				*e*SN	Sn	**04 09 23.5**	**-0.8**
VLX	**Vlachokerasia**	**2.43**	**308**	P	Pn	**04 08 56.9**	**+0.9**
VLX				S	Sn	**04 09 25.9**	**+1.1**
VLX	**Vlachokerasia**	**2.43**	**308**	*e*P	Pn	**04 08 57.1**	**+1.1**
VLX	**Vlachokerasia**	**2.43**	**308**	P	Pn	**04 08 56.9**	**+0.9**
VLX				S	Sn	**04 09 25.9**	**+1.1**
SMG	**Samos**	**2.45**	**42**	P	Pn	**04 08 57.4**	**+1.2**
SMG	**Samos**	**2.45**	**42**	P	Pn	**04 08 57.4**	**+1.2**
LTK	**Loutraki**	**2.57**	**326**	P	Pn	**04 08 59.0**	**+1.2**
LTK	**Loutraki**	**2.57**	**326**	*e*P	Pn	**04 08 59.1**	**+1.2**
LTK	**Loutraki**	**2.57**	**326**	P	Pn	**04 08 59.0**	**+1.2**
ITM	**Ithomi**	**2.63**	**300**	P	Pn	**04 09 00.0**	**+1.4**
ITM	**Ithomi**	**2.63**	**300**	*e*P	Pn	**04 09 00.0**	**+1.4**
ITM	**Ithomi**	**2.63**	**300**	P	Pn	**04 09 00.0**	**+1.4**
PYL	**PYLOS**	**2.65**	**293**	P	Pn	**04 08 59.2**	**+0.4**
PYL	**PYLOS**	**2.65**	**293**	*e*P	Pn	**04 08 59.1**	**+0.3**
PYL	**PYLOS**	**2.65**	**293**	P	Pn	**04 08 59.2**	**+0.4**
CHOS	**Chios island**	**2.69**	**22**	P	Pn	**04 09 00.6**	**+1.2**
CHOS	**Chios island**	**2.69**	**22**	*e*P	Pn	**04 09 00.6**	**+1.2**
CHOS	**Chios island**	**2.69**	**22**	P	Pn	**04 09 00.6**	**+1.2**
THAL	**Thalero**	**2.73**	**322**	P	Pn	**04 09 00.9**	**+1.0**
THAL	**Thalero**	**2.73**	**322**	P	Pn	**04 09 00.9**	**+1.0**
ARG	**Arkhangelos**	**2.73**	**82**	P	Pn	**04 09 01.4**	**+1.5**
ARG	**Arkhangelos**	**2.73**	**82**	*e*P	Pn	**04 09 01.5**	**+1.5**
ARG				*e*S	Sn	**04 09 32.0**	**0.0**
ARG	**Arkhangelos**	**2.73**	**82**	P	Pn	**04 09 01.4**	**+1.5**
ARG				*e*S	Sn	**04 09 32.0**	**0.0**
GUR	**Goura**	**2.82**	**317**	P	Pn	**04 09 02.1**	**+0.8**
GUR				S	Sn	**04 09 35.5**	**+1.2**
GUR	**Goura**	**2.82**	**317**	*e*P	Pn	**04 09 02.1**	**+0.8**
GUR	**Goura**	**2.82**	**317**	P	Pn	**04 09 02.1**	**+0.8**
GUR				S	Sn	**04 09 35.5**	**+1.2**
AMT	**Artemida-Makis**	**2.96**	**304**	P	Pn	**04 09 04.5**	**+1.5**
AMT				S	Sn	**04 09 38.8**	**+1.2**
AMT	**Artemida-Makis**	**2.96**	**304**	*e*P	Pn	**04 09 04.7**	**+1.7**
AMT	**Artemida-Makis**	**2.96**	**304**	P	Pn	**04 09 04.5**	**+1.5**
AMT				S	Sn	**04 09 38.8**	**+1.2**
MRKA	**Markates**	**2.96**	**342**	P	Pn	**04 09 04.5**	**+1.4**
MRKA	**Markates**	**2.96**	**342**	P	Pn	**04 09 04.5**	**+1.4**
KLV	**Kalavryta, Ach**	**3.00**	**316**	P	Pn	**04 09 04.6**	**+0.9**
KLV	**Kalavryta, Ach**	**3.00**	**316**	*e*P	Pn	**04 09 04.5**	**+0.9**
KLV				*e*S	Sn	**04 09 39.2**	**+0.5**
KLV	**Kalavryta, Ach**	**3.00**	**316**	P	Pn	**04 09 04.6**	**+0.9**
KLV				*e*S	Sn	**04 09 39.2**	**+0.5**
BLCB	**Balcova**	**3.07**	**35**	*e*PN	Pn	**04 09 06.0**	**+1.5**
YER	**Yerkesik**	**3.08**	**65**	*e*PN	Pn	**04 09 06.2**	**+1.5**
DSF	**Desfina**	**3.09**	**325**	P	Pn	**04 09 05.7**	**+0.9**
DSF	**Desfina**	**3.09**	**325**	P	Pn	**04 09 05.7**	**+0.9**
LKR	**Lokris**	**3.09**	**333**	*e*P	Pn	**04 09 06.2**	**+1.4**
LKR	**Lokris**	**3.09**	**333**	*e*P	Pn	**04 09 06.2**	**+1.4**
IZM	**Izmir**	**3.19**	**38**	*e*PN	Pn	**04 09 07.8**	**+1.6**
SMIA	**Simia**	**3.23**	**338**	P	Pn	**04 09 08.0**	**+1.3**
SMIA	**Simia**	**3.23**	**338**	P	Pn	**04 09 08.0**	**+1.3**
LAKA	**Lakka**	**3.24**	**317**	P	Pn	**04 09 07.8**	**+0.9**
LAKA	**Lakka**	**3.24**	**317**	*e*P	Pn	**04 09 07.7**	**+0.9**
LAKA	**Lakka**	**3.24**	**317**	P	Pn	**04 09 07.8**	**+0.9**
DALY	**Dalyan (Mu˘la**	**3.26**	**73**	*e*PN	Pn	**04 09 08.9**	**+1.8**
KALE	**Kalithea**	**3.26**	**321**	P	Pn	**04 09 08.1**	**+0.9**
KALE	**Kalithea**	**3.26**	**321**	*e*P	Pn	**04 09 08.0**	**+0.9**
KALE	**Kalithea**	**3.26**	**321**	P	Pn	**04 09 08.1**	**+0.9**
TRIZ	**Trizonia**	**3.28**	**320**	P	Pn	**04 09 08.2**	**+0.7**
TRIZ	**Trizonia**	**3.28**	**320**	*e*P	Pn	**04 09 07.7**	**+0.4**
TRIZ	**Trizonia**	**3.28**	**320**	P	Pn	**04 09 08.0**	**+0.7**
AXAR	**Agios Charalam**	**3.33**	**330**	P	Pn	**04 09 09.3**	**+1.3**
AXAR	**Agios Charalam**	**3.33**	**330**	P	Pn	**04 09 09.3**	**+1.3**
EFP	**Efpalio**	**3.41**	**319**	P	Pn	**04 09 10.1**	**+0.9**
EFP	**Efpalio**	**3.41**	**319**	*e*P	Pn	**04 09 10.1**	**+0.9**
EFP	**Efpalio**	**3.41**	**319**	P	Pn	**04 09 10.1**	**+0.9**
SIGR	**SIGRI**	**3.42**	**14**	P	Pn	**04 09 10.2**	**+1.0**
SIGR	**SIGRI**	**3.42**	**14**	P	Pn	**04 09 10.2**	**+1.0**
RLS	**Riolos of Patr**	**3.42**	**310**	*e*P	Pn	**04 09 11.1**	**+1.9**
RLS	**Riolos of Patr**	**3.42**	**310**	*e*P	Pn	**04 09 11.1**	**+1.9**
PRK	**Paraskevi**	**3.55**	**19**	*e*P	Pn	**04 09 12.0**	**+1.0**
PRK	**Paraskevi**	**3.55**	**19**	*e*P	Pn	**04 09 12.0**	**+1.0**
FETY	**Fethiye**	**3.56**	**77**	*e*PN	Pn	**04 09 12.9**	**+1.8**
AGG	**Agios Georgios**	**3.68**	**329**	P	Pn	**04 09 14.0**	**+1.2**
AGG	**Agios Georgios**	**3.68**	**329**	*e*P	Pn	**04 09 14.2**	**+1.4**
AGG	**Agios Georgios**	**3.68**	**329**	P	Pn	**04 09 14.0**	**+1.2**
XOR	**Xorichti**	**3.69**	**340**	P	Pn	**04 09 14.0**	**+1.1**
XOR	**Xorichti**	**3.69**	**340**	P	Pn	**04 09 14.0**	**+1.1**
EVR	**Evrytania**	**3.83**	**323**	P	Pn	**04 09 16.2**	**+1.2**
EVR	**Evrytania**	**3.83**	**323**	P	Pn	**04 09 16.2**	**+1.2**
VLS	**Valsamata**	**4.05**	**305**	P	Pn	**04 09 19.0**	**+1.1**
VLS	**Valsamata**	**4.05**	**305**	*e*P	Pn	**04 09 19.4**	**+1.5**
VLS	**Valsamata**	**4.05**	**305**	P	Pn	**04 09 19.0**	**+1.1**
KULA	**Kula-Manisa**	**4.05**	**49**	*e*PN	Pn	**04 09 19.3**	**+1.3**
ELL	**Elmali**	**4.23**	**77**	*e*PN	Pn	**04 09 21.7**	**+1.3**
THL	**Klokotos Trika**	**4.27**	**330**	P	Pn	**04 09 21.8**	**+1.0**
THL	**Klokotos Trika**	**4.27**	**330**	*e*P	Pn	**04 09 21.9**	**+1.1**
THL	**Klokotos Trika**	**4.27**	**330**	*e*P	Pn	**04 09 21.9**	**+1.1**
LKD2	**Lefkada island**	**4.37**	**313**	P	Pn	**04 09 23.2**	**+1.0**
LKD2	**Lefkada island**	**4.37**	**313**	*e*P	Pn	**04 09 23.1**	**+0.9**
LKD2	**Lefkada island**	**4.37**	**313**	P	Pn	**04 09 23.2**	**+1.0**
BRTR	**Keskin Array B**	**7.98**	**59**	Pn	Pn	04 10 06.9	-4.7
	0.1nm,0.3s,baz=231,slow=15,SNR=2.3						
STON	**Ston**	**8.86**	**324**	*i* Pn	Pn	04 10 19.2	-4.2
STON				Sn	Sn	04 11 50.7	-11
MMAI	**Mount Meron Ar**	**9.23**	**105**	Pn	Pn	04 10 24.9	-3.7
	1.5nm,0.3s,baz=304,slow=12,SNR=3.5						
MMAI				Sn	Sn	04 12 03.9	-6.9
	3.8nm,0.3s,baz=300,slow=28,SNR=4.0						
EIL	**Elat**	**10.57**	**123**	Pn	**Pn**	**04 10 44.6**	**-2.3**
	1.4nm,0.3s,baz=320,slow=4.9,SNR=10						
EIL				Sn	Sn	04 12 34.2	-9.2
	0.9nm,0.3s,baz=354,slow=10,SNR=4.9						
UDBI	**Udbina**	**11.03**	**324**	*e*Pn	Pn	04 10 50.0	-3.1
UDBI				Sn	Sn	04 12 44.8	-10
NVLJ	**Novalja**	**11.49**	**322**	*e*Pn	Pn	04 10 55.8	-3.4
NVLJ				Sn	Sn	04 12 53.1	-13
FINES	**FINESS Array B**	**25.58**	**1**	P	**P**	**04 13 37.6**	**-1.8**
	1.2nm,0.8s,baz=165,slow=13,SNR=4.8						
TORD	**Torodi Ar. Bea**	**30.74**	**228**	P	**P**	**04 14 26.1**	**+0.3**
	0.2nm,0.3s,baz=33,slow=8.9,SNR=19						
ARCES	**ARCESS Array B**	**33.70**	**0**	P	**P**	**04 14 49.2**	**-2.0**
	0.5nm,0.4s,baz=175,slow=8.6,SNR=9.5						
KURBB	**Kurchatov Arra**	**40.90**	**52**	P	**P**	**04 15 52.3**	**-0.1**
	1.4nm,0.3s,baz=272,slow=6.6,SNR=8.3						
MKAR	**Makanchi Array**	**43.63**	**57**	P	**P**	**04 16 14.6**	**0.0**
	0.5nm,0.3s,baz=271,slow=7.6,SNR=25						
ZALV	**Zalesovo Beam**	**44.72**	**47**	P	**P**	**04 16 22.0**	**-1.1**
	1.3nm,0.5s,baz=271,slow=9.4,SNR=4.6						
SONM	**Songino Array**	**59.26**	**51**	P	**P**	**04 18 11.4**	**+0.1**
	0.5nm,0.6s,baz=290,slow=7.4,SNR=3.8						
SCHQ	**Schefferville**	**62.42**	**319**	P	**P**	**04 18 32.8**	**+0.3**
	2.4nm,0.9s,baz=35,slow=9.5,SNR=3.4						
ILAR	**Eielson Array**	**79.45**	**356**	P	**P**	**04 20 15.0**	**-0.4**
	0.2nm,0.7s,baz=344,slow=5.6,SNR=2.4						

NEIC ***12*** *04:11:37.9,40°.38N×125°.48W,h10km,mb3.5/1, MW3.6(BRK),After NCEDC.*
IDC ***12*** *04:11:48.4±2.6,40°.51N×124°.17W,h0km,mb2.9/2, mb1 3.5/3,mb1mx3.3/26,mbtmp3.0/3,ML3.0/1,MS2.9/1, Ms1 2.9/1,ms1mx2.2/13,Error ellipse: s-maj=29.0km s-min=14.9km az=73.0*

ISC 12 04:11:38.5±2.4,40°.42N±0°.05×125°.2W±0°.1,h8km±12km, n31,σ1°.94/39,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**1.20**	**67**	*e*Pg	**Pb**	**04 12 02.1**	**+0.5**
KHMM				*e*Sg	**Sn**	**04 12 18.5**	**+0.1**
KCPM	**Cahto Peak**	**1.43**	**120**	*e*Pn	**Pn**	**04 12 05.1**	**+0.1**
KIPM	**Iron Peak**	**1.44**	**114**	*e*Pn	**Pn**	**04 12 05.4**	**+0.3**
KRMB	**Red Mountain**	**1.47**	**41**	*e*Pn	**Pn**	**04 12 05.0**	**-0.5**
KRMB				*e*Sn	**Sn**	**04 12 27.5**	**+2.5**
KBO	**Bosley Butte**	**1.94**	**22**	*e*Pn	**Pn**	**04 12 11.4**	**-0.5**
KBO				*e*Sn	**Sn**	**04 12 33.6**	**-2.9**
WDC	**Whiskeytown Da**	**2.02**	**84**	*e*Pn	**Pn**	**04 12 13.9**	**+0.9**
WDC				*e*Sn	**Sn**	**04 12 39.0**	**+0.5**
HOPS	**Hopland**	**2.16**	**130**	*e*Pn	**Pn**	**04 12 15.5**	**+0.6**
YBH	**Yreka Blue Hor**	**2.29**	**54**	*e*Pn	**Pn**	**04 12 17.1**	**+0.4**
YBH				*e*Pg	**Pg**	**04 12 24.2**	**+1.9**
YBH				*e*Sn	**Sn**	**04 12 46.4**	**+1.3**
YBH				*e*Sg	**Sg**	**04 12 52.0**	**0.0**
YBH	**Yreka Blue Hor**	**2.29**	**54**	Pn	**Pn**	**04 12 18.2**	**+1.4**
	1.9nm,0.3s,baz=245,slow=11,SNR=26						
YBH				Sn	**Sn**	**04 12 42.9**	**-2.2**
	6.5nm,0.3s,baz=155,slow=16,SNR=11						
HUMO	**Hull Mountain**	**2.76**	**37**	*e*Pn	**Pn**	**04 12 24.1**	**+1.0**
HUMO				*e*Pg	**Pg**	**04 12 32.6**	**+1.3**
HUMO				*e*Sn	**Sn**	**04 12 56.2**	**-0.4**
BUOR	**Burton Butte**	**2.89**	**49**	P	**Pb**	**04 12 28.8**	**-1.7**
LTIM	**Timbered Crate**	**2.91**	**74**	P	**Pn**	**04 12 27.7**	**+2.4**
LBCM	**Butte Creek Ri**	**2.95**	**81**	P	**Pn**	**04 12 27.9**	**+2.0**
DBO	**Dodson Butte**	**3.07**	**28**	P	**Pn**	**04 12 28.8**	**+1.4**
BBOR	**Butler Butte**	**3.10**	**36**	P	**Pn**	**04 12 30.1**	**+2.1**
BEKR	**Beckworth**	**3.74**	**97**	*e*Pn	**Pn**	**04 12 38.4**	**+1.7**
BEKR				*e*Sn	**Sn**	**04 13 22.4**	**+1.3**
MOD	**Modoc**	**3.97**	**66**	*e*Pn	**Pn**	**04 12 41.6**	**+1.6**
MOD				*e*Pg	**Pg**	**04 12 53.7**	**-0.9**
MOD				*e*Sn	**Sn**	**04 13 22.3**	**-4.6**
IRO	**Indian Ridge**	**4.20**	**30**	P	**Pn**	**04 12 45.7**	**+2.7**
CMB	**Columbia Colle**	**4.42**	**121**	*e*Pn	**Pn**	**04 12 48.7**	**+2.7**
CMB				*e*Sg	**Sg**	**04 13 56.8**	**-3.6**
PAHR	**Pah Rah Range**	**4.51**	**97**	*e*Pn	**Pn**	**04 12 49.0**	**+1.7**
WAKR	**Walker**	**4.84**	**111**	*e*Pn	**Pn**	**04 12 55.1**	**+3.2**
NVAR	**Mina Array Bea**	**5.69**	**108**	Pn	**Pn**	**04 13 05.6**	**+2.1**
NVAR				Lg	Lg	04 14 25.8	
NVAR	**Mina Array Bea**	**5.69**	**108**	Pn	**Pn**	**04 13 05.6**	**+2.1**
	0.6nm,0.3s,baz=287,slow=14,SNR=7.7						
NVAR				Lg	Lg	04 14 25.8	
	0.0nm,0.3s,baz=305,slow=25,SNR=2.8						
MTUM	**Tungsten Hills**	**6.00**	**119**	*e*Pn	Pn	04 13 11.2	+3.3
ISA	**Isabella**	**7.11**	**130**	*e*Pn	**Pn**	**04 13 24.4**	**+1.5**
PFO	**Pinyon Flat Ob**	**9.74**	**131**	LR	LR	04 17 57.1	
	comp=Z,74nm,18.7s,baz=341,slow=40						
SDCO	**Great Sand

SONM	**Songino Array**	**56.60**	**351**	P	P	04 46 06.8	0.0
	0.6nm,0.6s,baz=171,slow=8.0,SNR=5.8							
MKAR	**Makanchi Array**	**63.08**	**334**	P	P	04 46 50.2	-0.6
	0.3nm,0.6s,baz=156,slow=7.3,SNR=3.0							
VNDA	**Vanda**	**73.05**	**171**	P	P	04 47 53.0	+0.6
	0.2nm,0.4s,baz=311,slow=3.8,SNR=4.4							
TORD	**Torodi Ar. Bea**	**116.99**	**281**	PKP	PKPdf	04 55 05.6	-1.1
	1.0nm,1.2s,baz=108,slow=1.8,SNR=6.5							

WEL 12 04:42:44.1±0.3, 38°31S×175°97E, h148km±3km, ML3.5/11, 6C-1D, Error ellipse: s-maj=2.5km s-min=2.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTVZ	**Oturere**	**0.89**	**195**	PN	Pn	04 43 08.5	+0.5
URZ	**Urewera**	**0.90**	**87**	⇓PN	Pn	04 43 07.3	-0.5
URZ				SN	Sn	04 43 25.9	0.0
URZ				AML	AML	04 43 29.0	
BKZ	**Black Stump Fm**	**0.95**	**155**	⇑PN	Pn	04 43 08.5	+0.1
BKZ				SN	Sn	04 43 26.9	-0.1
BKZ				AML	AML	04 43 28.2	
WHVZ	**Whangaehu Hut**	**1.02**	**197**	PN	Pn	04 43 09.2	+0.1
WNVZ	**Wahianoa**	**1.06**	**196**	PN	Pn	04 43 09.5	0.0
RAHZ	**Arahi**	**1.07**	**125**	PN	Pn	04 43 09.8	+0.5
MOVZ	**Moawhango**	**1.11**	**189**	⇑PN	Pn	04 43 09.5	-0.3
MOVZ				SN	Sn	04 43 28.7	-0.7
BHHZ	**Black Hill Sta**	**1.18**	**176**	PN	Pn	04 43 10.2	-0.3
BHHZ				SN	Sn	04 43 29.8	-0.8
MWZ	**Matawai**	**1.23**	**92**	PN	Pn	04 43 10.5	-0.4
MWZ				SN	Sn	04 43 31.2	0.0
MWZ				AML	AML	04 44 00.9	
VRZ	**Vera Road**	**1.25**	**229**	PN	Pn	04 43 11.1	+0.1
KNZ	**Kokohu**	**1.52**	**119**	PN	Pn	04 43 13.7	0.0
KNZ				AML	AML	04 43 56.0	
CKHZ	**Cape Kidnapper**	**1.60**	**148**	PN	Pn	04 43 14.9	+0.3
CKHZ				SN	Sn	04 43 37.9	-0.1
PNHZ	**Pukenui**	**1.62**	**174**	PN	Pn	04 43 14.2	-0.6
PNHZ				SN	Sn	04 43 38.3	-0.1
WAZ	**Wanganui**	**1.64**	**208**	PN	Pn	04 43 14.7	-0.3
MHGZ	**Mahia Peninsul**	**1.74**	**120**	PN	Pn	04 43 16.3	+0.1
TSZ	**Takapari Road**	**1.75**	**180**	PN	Pn	04 43 15.5	-0.8
TSZ				AML	AML	04 43 42.7	
CNGZ	**Carnagh Statio**	**1.77**	**96**	PN	Pn	04 43 16.7	+0.2
WPHZ	**Waipukurau**	**1.79**	**168**	PN	Pn	04 43 16.2	-0.6
PXZ	**Pawanui**	**1.86**	**158**	PN	Pn	04 43 17.0	-0.4
PXZ				AML	AML	04 43 18.3	
PXZ				SN	Sn	04 43 42.1	-1.0
DVHZ	**Dannevirke**	**2.00**	**176**	⇑PN	Pn	04 43 17.9	-1.2
POWZ	**Post Office Ro**	**2.09**	**184**	PN	Pn	04 43 18.9	-1.3
ANWZ	**Angora Road**	**2.19**	**170**	⇑PN	Pn	04 43 20.4	-0.9
PRWZ	**Pori Road**	**2.25**	**180**	PN	Pn	04 43 20.8	-1.3
MRZ	**Mangatainoka R**	**2.37**	**187**	⇑PN	Pn	04 43 21.7	-1.8
MRZ				AML	AML	04 43 22.7	
MRZ				AML	AML	04 43 54.8	
BFZ	**Birch Farm**	**2.38**	**175**	PN	Pn	04 43 22.3	-1.4
BFZ				AML	AML	04 43 53.5	
OGWZ	**Otaki Gorge**	**2.58**	**194**	PN	Pn	04 43 24.1	-2.0
HOWZ	**Holdsworth Sta**	**2.61**	**188**	⇑PN	Pn	04 43 24.3	-2.3
KIW	**Kapiti Island**	**2.68**	**197**	PN	Pn	04 43 24.8	-2.5
MTW	**Mount Morrison**	**2.87**	**187**	PN	Pn	04 43 27.2	-2.6
CAW	**Cannon Point**	**2.88**	**194**	PN	Pn	04 43 27.2	-2.7
TRWZ	**Traveller**	**3.10**	**184**	PN	Pn	04 43 29.8	-2.9
TRWZ				AML	AML	04 43 44.1	
PAWZ	**Paruwai Farm**	**3.10**	**188**	PN	Pn	04 43 29.7	-3.0
MSWZ	**Moikau Station**	**3.15**	**190**	PN	Pn	04 43 30.4	-3.0
MSWZ				AML	AML	04 43 30.8	
MSWZ				AML	AML	04 43 31.2	
TCW	**Tory Channel**	**3.18**	**204**	PN	Pn	04 43 30.9	-2.8
TCW				AML	AML	04 44 00.0	
TUWZ	**Tuamarina**	**3.49**	**206**	PN	Pn	04 43 34.3	-3.3
NNZ	**Nelson**	**3.53**	**214**	PN	Pn	04 43 34.6	-3.5
QRZ	**Quartz Range**	**3.66**	**225**	PN	Pn	04 43 35.5	-4.4
BSWZ	**Blackbirch Sta**	**3.76**	**205**	PN	Pn	04 43 37.8	-3.4
THZ	**Tophouse**	**4.18**	**213**	PN	Pn	04 43 42.6	-4.1
KHZ	**Kahutara**	**4.50**	**204**	PN	Pn	04 43 46.9	-4.0

IDC 12 04:42:44.3±2.9, 9°10S×114°72E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/19, mbtmp3.2/3, Error ellipse: s-maj=162.7km s-min=28.7km az=48.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.81**	**122**	P	P	04 47 38.9	+0.6
	0.7nm,0.7s,baz=297,slow=12,SNR=6.6						
ASAR	**Alice Springs**	**23.38**	**131**	P	P	04 47 54.2	-0.7
	0.2nm,0.6s,baz=305,slow=9.7,SNR=3.1						
MKAR	**Makanchi Array**	**62.71**	**336**	P	P	04 53 11.0	0.0
	0.2nm,0.5s,baz=147,slow=2.5,SNR=3.7						

IDC 12 04:52:28.2±4.2, 24°72N×106°20W, h0km, mb3.4/3, mb1 3.7/7, mb1mx3.5/25, mbtmp3.3/7, ML3.4/4, MS3.4/2, Ms1 3.4/2, ms1mx2.6/24, Error ellipse: s-maj=77.8km s-min=22.3km az=132.0

ISC 12 04:52:36.9±2.0, 25°3N±0°1×106°68W±0°07, h10km, n109, σ1°05/125, mb3.6/3, 62C-50D, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
626A	**Big Bend Ranch**	**4.79**	**28**	⇑P	**Pn**	**04 53 49.4**	**+0.2**
	baz=4.5,SNR=9.8						
626A				⇓S	**Sn**	**04 54 44.3**	**-0.5**
	baz=4.5						
626A	**Big Bend Ranch**	**4.79**	**28**	⇑P	**Pn**	**04 53 49.4**	**+0.2**
	baz=4.5,SNR=9.8						
626A				⇓S	**Sn**	**04 54 44.3**	**-0.5**
	baz=4.5						
TXAR	**Lajitas Array**	**4.81**	**33**	Pn	**Pn**	**04 53 48.6**	**-0.9**
	0.8nm,0.3s,baz=202,slow=14,SNR=21						
TXAR				Pg	Pb	04 53 57.3	-4.1
	1.5nm,0.3s,baz=208,slow=15,SNR=17						
TXAR				Lg	Lg	04 55 09.0	
	6.4nm,0.3s,baz=213,slow=29,SNR=9.0						
627A	**Terlingua Ranc**	**5.05**	**35**	⇑P	**Pn**	**04 53 52.2**	**-0.6**
	baz=4.8						
627A				⇑S	**Sn**	**04 54 50.5**	**-0.8**
	baz=4.8						
627A	**Terlingua Ranc**	**5.05**	**35**	⇑P	**Pn**	**04 53 52.2**	**-0.6**
	baz=4.8						
627A				⇑S	**Sn**	**04 54 50.5**	**-0.8**
	baz=4.8						
526A	**Mary Lane Ranc**	**5.25**	**25**	⇓P	**Pn**	**04 53 55.5**	**-0.1**
	baz=5.0,SNR=12						
526A				⇑S	**Sn**	**04 54 56.1**	**-0.2**
	baz=5.0						
526A	**Mary Lane Ranc**	**5.25**	**25**	⇓P	**Pn**	**04 53 55.5**	**-0.1**
	baz=5.0,SNR=12						
526A				⇑S	**Sn**	**04 54 56.1**	**-0.2**
	baz=5.0						
628A	**Black Gap, Mar**	**5.35**	**38**	⇓P	**Pn**	**04 53 56.0**	**-0.8**
	baz=5.1,SNR=13						
628A				⇓S	**Sn**	**04 54 57.6**	**-0.9**
	baz=5.1						
628A	**Black Gap, Mar**	**5.35**	**38**	⇓P	**Pn**	**04 53 56.0**	**-0.8**
	baz=5.1,SNR=13						
628A				⇓S	**Sn**	**04 54 57.6**	**-0.9**
	baz=5.1						
527A	**Woodward Ranch**	**5.52**	**29**	⇑P	**Pn**	**04 53 58.9**	**-0.4**
	baz=5.3,SNR=9.7						
527A				⇓S	**Sn**	**04 55 02.3**	**-0.7**
	baz=5.3						
527A	**Woodward Ranch**	**5.52**	**29**	⇑P	**Pn**	**04 53 58.9**	**-0.4**
	baz=5.3,SNR=9.7						
527A				⇓S	**Sn**	**04 55 02.3**	**-0.7**
	baz=5.3						
425A	**Indio Mountain**	**5.65**	**15**	⇑P	**Pn**	**04 54 01.1**	**+0.1**
	baz=5.4,SNR=7.0						
425A				⇓S	**Sn**	**04 55 06.5**	**+0.5**
	baz=5.4						
425A	**Indio Mountain**	**5.65**	**15**	⇑P	**Pn**	**04 54 01.1**	**+0.1**
	baz=5.4,SNR=7.0						
425A				⇓S	**Sn**	**04 55 06.5**	**+0.5**
	baz=5.4						
426A	**McDonald Obser**	**5.82**	**23**	⇑P	**Pn**	**04 54 03.2**	**-0.3**
	baz=5.5,SNR=23						
426A				⇓S	**Sn**	**04 55 09.7**	**-0.7**
	baz=5.5						
426A	**McDonald Obser**	**5.82**	**23**	⇑P	**Pn**	**04 54 03.2**	**-0.3**
	baz=5.5,SNR=23						
426A				⇓S	**Sn**	**04 55 09.7**	**-0.7**
	baz=5.5						
528A	**Cox Ranch, San**	**5.93**	**35**	⇑S	**Sn**	**04 55 11.6**	**-1.3**
	baz=5.7						
528A	**Cox Ranch, San**	**5.93**	**35**	⇑S	**Sn**	**04 55 11.6**	**-1.3**
	baz=5.7						
324A	**Moseley Ranch,**	**6.19**	**10**	⇓P	**Pn**	**04 54 08.0**	**-0.5**
	baz=5.9						
324A	**Moseley Ranch,**	**6.19**	**10**	⇓P	**Pn**	**04 54 08.0**	**-0.5**
	baz=5.9						
529A	**Stev Forest Ra**	**6.21**	**39**	⇓P	**Pn**	**04 54 09.4**	**+0.8**
	baz=6.0						
529A				⇑S	**Sn**	**04 55 17.6**	**-2.1**
	baz=6.0						
529A	**Stev Forest Ra**	**6.21**	**39**	⇓P	**Pn**	**04 54 09.4**	**+0.8**
	baz=6.0						
529A				⇑S	**Sn**	**04 55 17.6**	**-2.1**
	baz=6.0						
325A	**Bean Ranch, Si**	**6.21**	**14**	⇑P	**Pn**	**04 54 09.5**	**+0.6**
	baz=5.9						
325A				⇑S	**Sn**	**04 55 19.8**	**-0.3**
	baz=5.9						
325A	**Bean Ranch, Si**	**6.21**	**14**	⇑P	**Pn**	**04 54 09.5**	**+0.6**
	baz=5.9						
325A				⇑S	**Sn**	**04 55 19.8**	**-0.3**
	baz=5.9						
427A	**Hayter Ranch,**	**6.22**	**27**	⇑P	**Pn**	**04 54 08.9**	**0.0**
	baz=6.0,SNR=5.6						
427A				⇑S	**Sn**	**04 55 19.4**	**-0.8**
	baz=6.0						
427A	**Hayter Ranch,**	**6.22**	**27**	⇑P	**Pn**	**04 54 08.9**	**0.0**
	baz=6.0,SNR=5.6						
427A				⇑S	**Sn**	**04 55 19.4**	**-0.8**
	baz=6.0						
326A	**Caldwell Ranch**	**6.43**	**21**	⇓P	**Pn**	**04 54 11.6**	**-0.1**
	baz=6.2						
326A	**Caldwell Ranch**	**6.43**	**21**	⇓P	**Pn**	**04 54 11.6**	**-0.1**
	baz=6.2						
428A	**Kincaid Ranch,**	**6.44**	**32**	⇓P	**Pn**	**04 54 12.5**	**+0.6**
	baz=6.2						
428A	**Kincaid Ranch,**	**6.44**	**32**	⇓P	**Pn**	**04 54 12.5**	**+0.6**
	baz=6.2						
319A	**Douglas**	**6.45**	**340**	⇑P	**Pn**	**04 54 11.8**	**-0.3**
	baz=6.2,SNR=9.0						
319A	**Douglas**	**6.45**	**340**	⇑P	**Pn**	**04 54 11.8**	**-0.3**
	baz=6.2,SNR=9.0						
221A	**Mesquite Ranch**	**6.74**	**352**	P	**Pn**	**04 54 16.3**	**+0.3**
	baz=6.5,SNR=13						
221A	**Mesquite Ranch**	**6.74**	**352**	P	**Pn**	**04 54 16.3**	**+0.3**
	baz=6.5,SNR=13						
530A	**J-C Ranch, Com**	**6.75**	**43**	⇑P	**Pn**	**04 54 16.8**	**+0.7**
	baz=6.5						
530A	**J-C Ranch, Com**	**6.75**	**43**	⇑P	**Pn**	**04 54 16.8**	**+0.7**
	baz=6.5						
220A	**Playas Peak, P**	**6.76**	**347**	P	**Pn**	**04 54 16.0**	**-0.3**
	baz=6.5,SNR=17						
220A	**Playas Peak, P**	**6.76**	**347**	P	**Pn**	**04 54 16.0**	**-0.3**
	baz=6.5,SNR=17						
429A	**Davenport Ranc**	**6.77**	**38**	⇓P	**Pn**	**04 54 17.5**	**+1.1**
	baz=6.5						
429A	**Davenport Ranc**	**6.77**	**38**	⇓P	**Pn**	**04 54 17.5**	**+1.1**
	baz=6.5						
222A	**Williams Famil**	**6.77**	**357**	⇑P	**Pn**	**04 54 17.1**	**+0.7**
	baz=6.5						
222A	**Williams Famil**	**6.77**	**357**	⇑P	**Pn**	**04 54 17.1**	**+0.7**
	baz=6.5						
631A	**Perdido Creek**	**6.79**	**52**	⇑P	**Pn**	**04 54 16.4**	**-0.2**
	baz=6.6						
631A	**Perdido Creek**	**6.79**	**52**	⇑P	**Pn**	**04 54 16.4**	**-0.2**
	baz=6.6						
224A	**Cornudas Mount**	**6.81**	**8**	⇓P	**Pn**	**04 54 18.1**	**+1.1**
	baz=6.5						
224A	**Cornudas Mount**	**6.81**	**8**	⇓P	**Pn**	**04 54 18.1**	**+1.1**
	baz=6.5						
226B	**Tecolote Peak,**	**7.09**	**18**	⇓P	**Pn**	**04 54 22.0**	**+1.3**
	baz=6.8						
226B	**Tecolote Peak,**	**7.09**	**18**	⇓P	**Pn**	**04 54 22.0**	**+1.3**
	baz=6.8						
121A	**Cookes Peak, D**	**7.25**	**353**	P	**Pn**	**04 54 23.1**	**0.0**
	baz=7.0,SNR=15						
121A	**Cookes Peak, D**	**7.25**	**353**	P	**Pn**	**04 54 23.1**	**0.0**
	baz=7.0,SNR=15						
531A	**Rocksprings**	**7.27**	**47**	⇓P	**Pn**	**04 54 24.3**	**+1.1**
	baz=7.0						
531A	**Rocksprings**	**7.27**	**47**	⇓P	**Pn**	**04 54 24.3**	**+1.1**
	baz=7.0						
122A	**Conniff Cattle**	**7.36**	**358**	⇑P	**Pn**	**04 54 24.9**	**+0.4**
	baz=7.1						
122A	**Conniff Cattle**	**7.36**	**358**	⇑P	**Pn**	**04 54 24.9**	**+0.4**
	baz=7.1						
120A	**U Bar Ranch, L**	**7.40**	**347**	⇓P	**Pn**	**04 54 24.9**	**-0.3**
	baz=7.2,SNR=9.1						
120A	**U Bar Ranch, L**	**7.40**	**347**	⇓P	**Pn**	**04 54 24.9**	**-0.3**
	baz=7.2,SNR=9.1						
632A	**Uvalde**	**7.41**	**54**	⇑P	**Pn**	**04 54 25.3**	**+0.2**
	baz=7.2						
632A	**Uvalde**	**7.41**	**54**	⇑P	**Pn**	**04 54 25.3**	**+0.2**
	baz=7.2						
124A	**Stringfield Ra**	**7.43**	**8**	⇑P	**Pn**	**04 54 27.4**	**+1.8**
	baz=7.2,SNR=18						
124A	**Stringfield Ra**	**7.43**	**8**	⇑P	**Pn**	**04 54 27.4**	**+1.8**
	baz=7.2,SNR=18						
125A	**Gardner Draw,**	**7.53**	**13**	⇑P	**Pn**	**04 54 27.8**	**+1.0**
	baz=7.3,SNR=7.4						
125A	**Gardner Draw,**	**7.53**	**13**	⇑P	**Pn**	**04 54 27.8**	**+1.0**
	baz=7.3,SNR=7.4						
431A	**Sonora**	**7.57**	**44**	⇑P	**Pn**	**04 54 28.8**	**+1.4**
	baz=7.3,SNR=5.9						
431A	**Sonora**	**7.57**	**44**	⇑P	**Pn**	**04 54 28.8**	**+1.4**
	baz=7.3,SNR=5.9						
532A	**Rocksprings**	**7.68**	**50**	⇓P	**Pn**	**04 54 31.1**	**+2.2**
	baz=7.5						
532A	**Rocksprings**	**7.68**	**50**	⇓P	**Pn**	**04 54 31.1**	**+2.2**
	baz=7.5						
330A	**Mertzon**	**7.76**	**37**	⇓P	**Pn**	**04 54 32.3**	**+2.3**
	baz=7.5,SNR=8.6						
330A	**Mertzon**	**7.76**	**37**	⇓P	**Pn**	**04 54 32.3**	**+2.3**
	baz=7.5,SNR=8.6						
Z22A	**Elephant Butte**	**7.91**	**358**	P	**Pn**	**04 54 32.5**	**+0.4**
	baz=7.7,SNR=13						
Z22A	**Elephant Butte**	**7.91**	**358**	P	**Pn**	**04 54 32.5**	**+0.4**
	baz=7.7,SNR=13						
Z20A	**Nine Sixteen R**	**7.94**	**348**	⇓P	**Pn**	**04 54 33.2**	**+0.7**
	baz=7.7						
Z20A	**Nine Sixteen R**	**7.94**	**348**	⇓P	**Pn**	**04 54 33.2**	**+0.7**
	baz=7.7						
JCT	**Junction City**	**7.96**	**48**	⇓P	**Pn**	**04 54 33.5**	**+0.7**
	baz=7.7						
JCT	**Junction City**	**7.96**	**48**	⇓P	**Pn**	**04 54 33.5**	**+0.7**
	baz=7.7						
Z21A	**St. Cloud Mine**	**8.01**	**354**	⇑P	**Pn**	**04 54 34.3**	**+0.7**
	baz=7.8						
Z21A	**St. Cloud Mine**	**8.01**	**354**	⇑P	**Pn**	**04 54 34.3**	**+0.7**
	baz=7.8						
Z24A	**Sheeppen Canyo**	**8.06**	**8**	⇑P	**Pn**	**04 54 34.2**	**-0.1**
	baz=7.8,SNR=7.8						
Z24A	**Sheeppen Canyo**	**8.06**	**8**	⇑P	**Pn**	**04 54 34.2**	**-0.1**
	baz=7.8,SNR=7.8						
Z25A	**Roswell**	**8.12**	**12**	⇑P	**Pn**	**04 54 35.8**	**+0.9**
	baz=7.8						
Z25A	**Roswell**	**8.12**	**12**	⇑P	**Pn**	**04 54 35.8**	**+0.9**
	baz=7.8						
128A	**Castleberry Fa**	**8.15**	**26**	⇑P	**Pn**	**04 54 35.4**	**+0.1**
	baz=7.9						
128A	**Castleberry Fa**	**8.15**	**26**	⇑P	**Pn**	**04 54 35.4**	**+0.1**
	baz=7.9						
230A	**Sterling City**	**8.17**	**36**	⇓P	**Pn**	**04 54 38.1**	**+2.5**
	baz=7.9,SNR=7.4						
230A	**Sterling City**	**8.17**	**36**	⇓P	**Pn**	**04 54 38.1**	**+2.5**
	baz=7.9,SNR=7.4						
432A	**Menard**	**8.22**	**46**	⇑P	**Pn**	**04 54 38.5**	**+2.2**
	baz=8.0						
432A	**Menard**	**8.22**	**46**	⇑P	**Pn**	**04 54 38.5**	**+2.2**
	baz=8.0						
Z27A	**Tatum**	**8.52**	**20**	⇑P	**Pn**	**04 54 41.4**	**+0.9**
	baz=8.3,SNR=7.0						
Z27A	**Tatum**	**8.52**	**20**	⇑P	**Pn**	**04 54 41.4**	**+0.9**
	baz=8.3,SNR=7.0						
332A	**Millersview**	**8.59**	**44**	⇑P	**Pn**	**04 54 42.9**	**+1.6**
	baz=8.3						
332A	**Millersview**	**8.59**	**44**	⇑P	**Pn**	**04 54 42.9**	**+1.6**
	baz=8.3						
Y22A	**Socorro**	**8.59**	**358**	⇓P	**Pn**	**04 54 42.3**	**+0.8**
	baz=8.3						
Y22A	**Socorro**	**8.59**	**358**	⇓P	**Pn**	**04 54 42.3**	**+0.8**
	baz=8.3						
Y23A	**Lovelace Mesa,**	**8.60**	**3**	⇓P	**Pn**	**04 54 42.7**	**+1.1**
	baz=8.3,SNR=5.2						
Y23A	**Lovelace Mesa,**	**8.60**	**3**	⇓P	**Pn**	**04 54 42.7**	**+1.1**
	baz=8.3,SNR=5.2						
Y20A	**Horse Springs,**	**8.69**	**351**	⇑P	**Pn**	**04 54 43.8**	**+0.9**
	baz=8.4						
Y20A	**Horse Springs,**	**8.69**	**351**	⇑P	**Pn**	**04 54 43.8**	**+0.9**
	baz=8.4						
Y21A	**Point of Rocks**	**8.70**	**355**	⇓P	**Pn**	**04 54 44.7**	**+1.7**
	baz=8.4						
Y21A	**Point of Rocks**	**8.70**	**355**	⇓P	**Pn**	**04 54 44.7**	**+1.7**
	baz=8.4						
ANMO	**Albuquerque**	**9.60**	**1**	Pn	**Pn**	**04 54 56.1**	**+0.9**
	0.1nm,0.3s,baz=178,slow=14,SNR=4.8						
ANMO				Lg	Lg	04 57 44.5	
	0.2nm,0.3s,baz=216,slow=6.3,SNR=4.4						
V25A	**Rancho No Teng**	**10.63**	**9**	⇓P	**Pn**	**04 55 11.5**	**+2.1**
	baz=10,SNR=5.4						
V25A	**Rancho No Teng**	**10.63**	**9**	⇓P	**Pn**	**04 55 11.5**	**+2.1**
	baz=10,SNR=5.4						
NVAR	**Mina Array Bea**	**16.36**	**326**	P	**P**	**04 56 30.3**	**+0.5**
	0.1nm,0.3s,baz=143,slow=12,SNR=3.9						
PDAR	**Pinedale Array**	**17.56**	**353**	P	**Pn**	**04 56 42.6**	**+0.6**
	0.0nm,0.3s,baz=160,slow=11,SNR=4.2						
C17A	**Wharram Farm,**	**22.50**	**353**	⇑P	**P**	**04 57 37.8**	**+1.2**
	baz=22,SNR=5.2						
C17A	**Wharram Farm,**	**22.50**	**353**	⇑P	**P**	**04 57 37.8**	**+1.2**
	baz=22,SNR=5.2						
SADO	**Sadowa**	**29.52**	**42**	LR	LR	05 10 37.5	
	comp=Z,60nm,19.1s,baz=0.7,slow=37						
YKA	**Yellowknife Ar**	**37.54**	**354**	P	**P**	**04 59 48.9**	**-2.0**
	0.1nm,0.3s,baz=163,slow=7.6,SNR=3.6						
INK	**Inuvik**	**45.97**	**346**	P	P	05 00 57.8	-2.0
	0.4nm,0.5s,baz=158,slow=5.4,SNR=2.2						
ILAR	**Eielson Array**	**47.12**	**338**	P	P	05 01 06.9	-2.0
	0.7nm,0.9s,baz=147,slow=6.9,SNR=7.7						
FX1	**Attu Island--F**	**64.40**	**319**	LR	LR	05 27 17.4	
	comp=Z,37nm,19.1s,baz=269,slow=32						

SKHL 12 05:15:37.2±0.1, 49°65N×142°00E, h15km±4km, mb5.4/1, mbh5.0/1, Ms3.8/2

IDC 12 05:15:37.5±0.6, 49°56N×142°29E, h0km, mb3.9/16, mb1 4.1/17, mb1mx4.0/27, mbtmp3.9/17, ML3.3/1, MS3.1/5, Ms1 3.1/5, ms1mx2.8/36, Error ellipse: s-maj=16.6km s-min=14.8km az=155.0

MOS 12 05:15:38.8±1.1, 49°58N×142°19E, h17km, mb4.2/13, Error ellipse: s-maj=17.0km s-min=8.0km az=91.4

ISCJB 12 05:15:39.4±0.9, 49°55N±0°03×142°18E±0°07, h23km±7km, mb3.9/22, MS3.3/2, Error ellipse: s-maj=7.6km s-min=5.2km az=179.8

ISC 12 05:15:40.5±1.0, 49°55N±0°02×142°04E±0°04, h17km±6km, n50, σ1°42/65, mb3.9/22, 3C-3D, Sakalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGL	**Uglegorsk**	**0.48**	**178**	⇑*i*PN	**Pg**	**05 15 48.8**	**-1.3**
UGL				*e*S	**Sg**	**05 15 56.0**	**-0.5**
UGL				pmax	pmax		
	comp=Z,239nm,0.3s						
UGL				smax	smax		
	comp=N,2μm,0.5s						
UGL				smax	smax		
	comp=E,4μm,0.5s						
UGL				smax	smax		
	comp=Z,2μm,0.3s						
UGL	**Uglegorsk**	**0.48**	**178**	⇑*i*Pg	**Pg**	**05 15 48.6**	**-1.5**
UGL				⇑*i*Pg	**Pg**	**05 15 48.6**	**-1.5**
UGL				AMB	AMB	05 15 49.2	
	comp=Z,239nm,0.3s						
UGL				pP	**Pn**	**05 15 52.6**	**+0.1**
UGL				*e*Sg	**Sb**	**05 15 56.6**	**-0.5**
UGL				A	A	05 15 58.5	
	comp=Z,250nm,0.2s						
UGL				A	A	05 15 58.5	
	comp=Z,280nm,0.2s						
UGL				A	A	05 15 59.0	
	comp=Z,2μm,0.5s						
UGL				A	A	05 15 59.0	
	comp=Z,4μm,0.5s						
UGL				A	A	05 15 59.0	
	comp=Z,2μm,0.5s						
TYV	**Tymovskoe**	**1.37**	**17**	*e*Pg	**Pn**	**05 16 03.0**	**-1.8**
TYV				AMB	AMB	05 16 05.0	
	comp=Z,341nm,0.8s						
TYV				AMB	AMB	05 16 05.0	
	comp=Z,792nm,0.8s						
TYV				AMB	AMB	05 16 05.0	
	comp=Z,1μm,3.0s						
TYV				AMB	AMB	05 16 05.0	
	comp=Z,1μm,3.0s						
TYV				pP	**Pg**	**05 16 08.3**	**+1.4**
TYV				*e*Sg	**Sn**	**05 16 21.0**	**-1.5**
TYV				A	A	05 16 26.0	
	comp=Z,902nm,0.8s						
TYV				A	A	05 16 26.0	
	comp=Z,3μm,2.0s						
TYV				AMS	AMS	05 16 52.0	
	comp=Z,6μm,5.0s						
TYV				AMS	AMS	05 16 52.0	
	comp=Z,2μm,5.0s						
TYV				AMS	AMS	05 16 52.0	
	comp=Z,4μm,5.0s						
YSS	**Yuzh-Sakhalins**	**2.65**	**169**	⇓*e*PN	**Pn**	**05 16 22.5**	**+0.2**
YSS				*e*		05 16 58.5	
YSS				pmax	pmax		
	comp=Z,100nm,0.7s						
YSS				smax	smax		
	comp=E,160nm,0.9s						
YSS				smax	smax		
	comp=N,310nm,1.0s						
YSS	**Yuzh-Sakhalins**	**2.65**	**169**	⇓*e*P	**Pn**	**05 16 22.0**	**-0.3**
YS

	comp=N,11nm,0.6s								
TEY					*e*S		**Sn**	05 18 14.0	**+1.3**
TEY					A		A	05 18 42.0	
	comp=N,60nm,0.7s								
TEY					A		A	05 18 42.0	
	comp=N,32nm,0.7s								
KUR	**Kuril'sk**	**5.86**	**135**	*e*PN		Pb		05 17 14.3	-7.8
KUR	**Kuril'sk**	**5.86**	**135**	*e*P		**Pn**		**05 17 08.0**	**+1.5**
KUR				*e*S		**Sn**		**05 18 13.5**	**+0.3**
KUR				A		A		05 18 18.0	
	comp=N,80nm,0.7s								
KUR				A		A		05 18 18.0	
	comp=N,30nm,0.7s								
EKMR	**Ekimchan**	**6.70**	**305**	*e*P		**Pn**		**05 17 18.0**	**0.0**
EKMR				*e*Pg		**Pg**		**05 17 48.5**	**-0.1**
EKMR				AMB		AMB		05 17 49.3	
	comp=N,4.0nm,0.5s								
EKMR				A		A		05 19 11.0	
	comp=N,96nm,0.9s								
EKMR				A		A		05 19 11.0	
	comp=N,29nm,0.9s								
EKMR				A		A		05 19 11.0	
	comp=N,19nm,0.9s								
EKMR				*e*Sg		**Sg**		**05 19 17.5**	**+2.3**
KLR	**Kul'dur**	**6.73**	**271**	*e*PN		**Pn**		**05 17 16.2**	**-2.2**
KLR				MLR		MLR			
	comp=E,600nm,9.0s								
KLR				MLR		MLR			
	comp=Z,2µm,9.0s								
ERM	**Erimo**	**7.58**	**174**	*e*PN		Pn		05 17 34.0	+3.9
USRK	**Ussuriysk Arra**	**8.71**	**236**	Lg		Lg		05 20 11.7	
	comp=Z,0.5nm,0.3s,baz=6.6,slow=15,SNR=4.6								
ZEA	**Zeya**	**10.10**	**300**	*e*Sg				05 20 57.8	
ZEA				A		A		05 21 07.2	
	comp=Z,90nm,1.0s								
ZEA				AMS		AMS		05 22 40.0	
	comp=Z,300nm,8.0s								
PETK	**Petropavlovsk-**	**10.42**	**64**	PN		**Pn**		**05 18 09.3**	**+0.2**
PETK				MLR		MLR			
	comp=Z,88nm,18.3s								
PETK	**Petropavlovsk-**	**10.42**	**64**	Pn		**Pn**		**05 18 09.3**	**+0.2**
	baz=254,slow=10,SNR=2.2								
PETK				LR		LR		05 22 22.8	
	comp=Z,88nm,18.3s,baz=231,slow=39								
KROS	**Kirovskiy**	**10.49**	**303**	*e*Pg		**Pn**		**05 18 09.0**	**-1.0**
KROS				AMB		AMB		05 18 10.2	
	comp=Z,1.0nm,0.6s								
KROS				*e*Sg				05 21 17.5	
KROS				A		A		05 21 18.5	
	comp=Z,32nm,0.9s								
KSRS	**Korea Array**	**15.81**	**225**	LR		LR		05 25 18.5	
	comp=Z,47nm,19.1s,baz=332,slow=36								
BILL	**Bilibino**	**22.10**	**24**	*e*P		**P**		**05 20 34.8**	**+0.3**
BILL				*e*				05 24 29.1	
BILL				pmax		pmax			
	comp=Z,4.0nm,1.2s								
TIXI	**Tiksi**	**22.98**	**349**	*e*P		**P**		**05 20 42.9**	**-0.9**
TIXI				pmax		pmax			
	comp=Z,3.0nm,1.0s								
SONM	**Songino Array**	**23.46**	**280**	P		**P**		**05 20 49.7**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=72,slow=9.5,SNR=4.5								
SONM				Lg		Lg		05 28 06.1	
	comp=Z,0.5nm,1.0s,baz=78,slow=30,SNR=5.2								
SONM				LR		LR		05 30 57.6	
	comp=Z,79nm,18.6s,baz=235,slow=39								
ZAK	**Zakamensk**	**24.76**	**287**	*e*P		**P**		**05 21 02.7**	**+1.6**
ZAK				pmax		pmax			
	comp=Z,6.0nm,1.0s								
ZALV	**Zalesovo Beam**	**34.86**	**300**	P		**P**		**05 22 31.3**	**+0.9**
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.4s								
ZALV	**Zalesovo Beam**	**34.86**	**300**	P		**P**		**05 22 31.3**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=95,slow=8.8,SNR=3.1								
MKAR	**Makanchi Array**	**39.03**	**290**	P		**P**		**05 23 07.2**	**+1.2**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
MKAR				MLR		MLR			
	comp=Z,48nm,18.6s								
MKAR	**Makanchi Array**	**39.03**	**290**	P		**P**		**05 23 07.2**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=68,slow=7.8,SNR=12								
MKAR				LR		LR		05 40 12.1	
	comp=Z,48nm,18.6s,baz=266,slow=38								
ILAR	**Eielson Array**	**39.09**	**40**	P		**P**		**05 23 05.0**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=285,slow=8.2,SNR=12								
KURK	**Kurchatov**	**39.55**	**297**	P		**P**		**05 23 12.2**	**+1.9**
KURK				pmax		pmax			
	comp=Z,2.0nm,0.8s								
KURBB	**Kurchatov Arra**	**39.64**	**297**	P		**P**		**05 23 12.2**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=65,slow=8.3,SNR=9.1								
BVAR	**Borovoye Array**	**43.23**	**303**	P		**P**		**05 23 41.2**	**+0.8**
BVAR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
BVAR	**Borovoye Array**	**43.23**	**303**	P		**P**		**05 23 41.2**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=67,slow=11,SNR=5.2								
BRVK	**Borovoye**	**43.27**	**303**	*e*P		**P**		**05 23 41.4**	**+0.6**
BRVK				pmax		pmax			
	comp=Z,2.0nm,1.0s								
INK	**Inuvik**	**43.29**	**33**	P		**P**		**05 23 39.8**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=332,slow=5.7,SNR=3.7								
ARU	**Arti**	**47.77**	**312**	*d*P		**P**		**05 24 16.3**	**0.0**
ARU				S		**S**		**05 31 13.0**	**+1.3**
ARU				pmax		pmax			
	comp=Z,5.0nm,1.0s								
YKA	**Yellowknife Ar**	**52.97**	**34**	P		**P**		**05 24 54.5**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=306,slow=7.0,SNR=16								
FINES	**FINESS Array B**	**58.09**	**329**	P		**P**		**05 25 32.1**	**-0.2**
	comp=Z,2.4nm,0.8s,baz=48,slow=8.5,SNR=10.0								
NOA	**NORSAR Array B**	**62.89**	**336**	P		**P**		**05 26 05.1**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=33,slow=6.6,SNR=3.0								
FFC	**Flin Flon**	**63.09**	**36**	*i*P		**P**		**05 26 07.7**	**+1.2**
NVAR	**Mina Array Bea**	**67.42**	**57**	P		**P**		**05 26 33.6**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=291,slow=6.0,SNR=6.9								
PDAR	**Pinedale Array**	**68.78**	**49**	P		**P**		**05 26 43.2**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=332,slow=2.0,SNR=9.6								
ULM	**Lac du Bonnet**	**68.92**	**36**	P		**P**		**05 26 41.5**	**-2.6**
	comp=Z,2.5nm,0.7s,baz=6.7,slow=2.9,SNR=3.0								
WRA	**Warramunga Arr**	**69.52**	**188**	P		**P**		**05 26 46.8**	**-1.2**
	comp=Z,1.5nm,0.9s,baz=8.3,slow=6.9,SNR=8.2								
CLL	**Collm**	**70.53**	**329**	*i*P		**P**		**05 26 55.5**	**+1.5**
CLL	**Collm**	**70.53**	**329**	*i*P		**P**		**05 26 55.5**	**+1.5**
ASAR	**Alice Springs**	**73.25**	**188**	P		**P**		**05 27 11.2**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=8.5,slow=5.9,SNR=14								
TXAR	**Lajitas Array**	**82.19**	**53**	P		**P**		**05 28 00.3**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=298,slow=2.7,SNR=11								

IDC 12 05:25:43.6±1.1, 23°.13S×66°.51W, h208km±10km, mb3.0/4, mb1 3.3/8, mb1mx3.2/19, mbtmp3.1/8, Error ellipse: s-maj=16.9km s-min=15.6km az=152.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.27**	**282**	P	Pn	05 26 27.2	+1.4
	17nm,0.3s,baz=91,slow=6.2,SNR=359						
LVC				S	S	05 26 59.0	+0.7
	18nm,0.3s,baz=103,slow=3.7,SNR=25						
LPAZ	**La Paz**	**6.97**	**347**	P	Pn	05 27 25.1	+0.7
	0.9nm,0.3s,baz=164,slow=8.9,SNR=29						
LPAZ				S	S	05 28 42.3	-2.0
	0.0nm,0.3s,baz=176,slow=19,SNR=3.3						
CFAA	**Coronel Fontan**	**8.59**	**190**	P	Pn	05 27 42.9	-1.5
	0.0nm,0.3s,baz=6.1,slow=13,SNR=8.2						
CFAA				S	S	05 29 14.6	-6.5
	0.2nm,0.3s,baz=274,slow=18,SNR=14						
SIV	**San Ignacio**	**8.75**	**37**	P	Pn	05 27 46.5	-0.2
	0.3nm,0.3s,baz=223,slow=12,SNR=5.8						
SIV				S	S	05 29 25.7	+0.4
	0.1nm,0.3s,baz=288,slow=13,SNR=1.9						
CPUP	**Villa Florida**	**8.93**	**113**	P	Pn	05 27 49.0	+0.1
	0.1nm,0.3s,baz=287,slow=19,SNR=2.8						
TXAR	**Lajitas Array**	**63.24**	**324**	P	P	05 35 49.7	-0.4
	0.3nm,0.8s,baz=140,slow=5.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**75.83**	**69**	P	P	05 37 06.8	-0.6
	0.2nm,0.4s,baz=259,slow=6.2,SNR=3.9						
PDAR	**Pinedale Array**	**76.63**	**329**	P	P	05 37 11.4	-0.1
	0.3nm,0.6s,baz=122,slow=7.8,SNR=3.0						
YKA	**Yellowknife Ar**	**93.46**	**340**	P	P	05 38 34.5	-0.4
	0.2nm,0.5s,baz=130,slow=4.6,SNR=5.9						
WRA	**Warramunga Arr**	**132.61**	**207**	PKP	PKPdf	05 44 33.1	-1.1
	0.4nm,0.8s,baz=152,slow=1.7,SNR=4.8						
MKAR	**Makanchi Array**	**145.56**	**39**	PKPbc	PKPbc	05 44 57.7	+0.2
	1.1nm,0.6s,baz=305,slow=3.7,SNR=12						

*DDA **12** 05:30:17.9, 39°.42N×33°.04E, h4km, MD3.5*
*ISK **12** 05:30:17.6, 39°.52N×32°.97E, h5km, MD3.6*

*CSEM **12** 05:30:19.0±0.1, 39°.51N×32°.98E, h2km, MD3.6, Error ellipse: s-maj=3.5km s-min=2.7km az=12.0*

ISC 12 05:30:19.0±1.1, 39°.50N±0°.02×32°.97E±0°.02, h1km±11km, n97, σ0.74/113, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFSR	**Af'ar-Bala (A**	**0.09**	**127**	*e*PG	**Pg**	**05 30 20.1**	**-0.7**
AFSR				*e*SG	**Sg**	**05 30 22.3**	**+0.2**
AFSR	**Af'ar-Bala (A**	**0.09**	**127**	*e*Pg	**Pg**	**05 30 20.2**	**-0.7**
AFSR				*e*Sg	**Sg**	**05 30 22.3**	**+0.2**
BBAL	**Bala**	**0.12**	**71**	*i*P	**Pg**	**05 30 21.1**	**-0.3**
BBAL				*i*S	**Sg**	**05 30 23.6**	**+0.6**
BBAL	**Bala**	**0.12**	**71**	*i*P	**Pg**	**05 30 21.1**	**-0.3**
BBAL				*i*S	**Sg**	**05 30 23.6**	**+0.6**
ANTO	**Ankara**	**0.39**	**339**	*e*PG	**Pg**	**05 30 26.0**	**-0.5**
ANTO	**Ankara**	**0.39**	**339**	*e*Pg	**Pg**	**05 30 26.0**	**-0.5**
LOD	**Lodumlu**	**0.42**	**337**	*e*PG	**Pg**	**05 30 26.5**	**-0.6**
LOD				*e*SG	**Sg**	**05 30 33.5**	**+1.0**
LOD	**Lodumlu**	**0.42**	**337**	*e*Pg	**Pg**	**05 30 26.5**	**-0.6**
LOD				*e*Sg	**Sg**	**05 30 33.5**	**+1.0**
KAMT	**Kaman**	**0.59**	**103**	*e*PG	**Pg**	**05 30 29.5**	**-0.8**
KAMT	**Kaman**	**0.59**	**103**	*e*Pg	**Pg**	**05 30 29.5**	**-0.8**
KIZT	**Kizilcal**	**1.05**	**234**	*e*PG	**Pg**	**05 30 38.4**	**-0.8**
KIZT	**Kizilcal**	**1.05**	**234**	*e*Pg	**Pg**	**05 30 38.4**	**-0.8**
CDAG	**Cicekdag**	**1.09**	**83**	*i*P	**Pg**	**05 30 38.4**	**-1.5**
CDAG				*i*S	**Sn**	**05 30 56.8**	**-0.4**
CDAG	**Cicekdag**	**1.09**	**83**	*i*P	**Pg**	**05 30 38.4**	**-1.5**
CDAG				*i*S	**Sn**	**05 30 56.8**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.12**	**268**	*e*PN	**Pg**	**05 30 40.2**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.12**	**268**	*e*Pn	**Pg**	**05 30 40.2**	**-0.4**
CANT	**Cankiri**	**1.21**	**24**	*e*PN	**Pg**	**05 30 41.7**	**-0.5**
SULT	**Sultanhani-AKS**	**1.37**	**162**	*e*PN	**Pg**	**05 30 44.9**	**-0.4**
SULT	**Sultanhani-AKS**	**1.37**	**162**	*e*Pn	**Pg**	**05 30 44.9**	**-0.4**
CORM	**Corum**	**1.44**	**62**	*e*PN	**Pn**	**05 30 45.2**	**-1.2**
CORM	**Corum**	**1.44**	**62**	*e*Pn	**Pn**	**05 30 45.2**	**-1.2**
KONT	**Konya--Tatoy**	**1.63**	**197**	*e*PN	**Pn**	**05 30 48.7**	**-0.1**
KONT	**Konya--Tatoy**	**1.63**	**197**	*e*Pn	**Pn**	**05 30 48.7**	**-0.1**
AVNT	**Avonos**	**1.63**	**116**	*i*P	**Pn**	**05 30 47.3**	**-1.7**
AVNT				*i*S	**Sg**	**05 31 12.9**	**+1.5**
AVNT	**Avonos**	**1.63**	**116**	*i*P	**Pn**	**05 30 47.3**	**-1.7**
AVNT				*i*S	**Sg**	**05 31 12.9**	**+1.5**
ESKT	**Eskisehir**	**1.64**	**271**	*e*PN	**Pb**	**05 30 49.5**	**-0.7**
ESKT	**Eskisehir**	**1.64**	**271**	*e*Pn	**Pb**	**05 30 49.5**	**-0.7**
SEYT	**Eskypehyr**	**1.64**	**271**	*i*P	**Pb**	**05 30 50.1**	**-0.1**
SEYT				*i*S	**Sg**	**05 31 12.2**	**+0.4**
SEYT	**Eskypehyr**	**1.64**	**271**	*i*P	**Pb**	**05 30 50.1**	**-0.1**
SEYT				*i*S	**Sg**	**05 31 12.2**	**+0.4**
ILGA	**Ilgaz**	**1.65**	**20**	*i*P	**Pb**	**05 30 49.6**	**-0.7**
ILGA				*i*S	**Sg**	**05 31 13.2**	**+1.2**
ILGA	**Ilgaz**	**1.65**	**20**	*i*P	**Pb**	**05 30 49.6**	**-0.7**
ILGA				*i*S	**Sg**	**05 31 13.2**	**+1.2**
MDUB	**Mudurnu**	**1.67**	**306**	*e*PN	**Pn**	**05 30 49.0**	**-0.5**
MDUB	**Mudurnu**	**1.67**	**306**	*e*Pn	**Pn**	**05 30 49.0**	**-0.5**
TOS	**Tosya**	**1.73**	**27**	*e*PN	**Pn**	**05 30 50.3**	**0.0**
TOS	**Tosya**	**1.73**	**27**	*e*Pn	**Pn**	**05 30 50.3**	**0.0**
SAFT	**Safranbolu**	**1.75**	**353**	*e*PN	**Pn**	**05 30 50.0**	**-0.5**
SAFT	**Safranbolu**	**1.75**	**353**	*e*Pn	**Pn**	**05 30 50.0**	**-0.5**
CTKT	**Corum**	**1.79**	**51**	*i*P	**Pn**	**05 30 51.5**	**+0.3**
CTKT				*i*S	**Sg**	**05 31 18.4**	**+2.0**
CTKT	**Corum**	**1.79**	**51**	*i*P	**Pn**	**05 30 51.5**	**+0.3**
CTKT				*i*S	**Sg**	**05 31 18.4**	**+2.0**
YOZ	**Yozgat**	**1.82**	**85**	*e*PN	**Pn**	**05 30 51.2**	**-0.4**
YOZ	**Yozgat**	**1.82**	**85**	*e*Pn	**Pn**	**05 30 51.2**	**-0.4**
NIG	**Nigde**	**1.89**	**137**	*e*PN	**Pn**	**05 30 52.5**	**-0.1**
NIG	**Nigde**	**1.89**	**137**	*e*Pn	**Pn**	**05 30 52.5**	**-0.1**
GULT	**Gulveren**	**2.10**	**297**	*e*PN	**Pn**	**05 30 55.3**	**-0.2**
GULT	**Gulveren**	**2.10**	**297**	*e*Pn	**Pn**	**05 30 55.3**	**-0.2**
SHUT	**Suhut-Afyon**	**2.11**	**244**	*e*PN	**Pn**	**05 30 55.4**	**-0.2**
SHUT	**Suhut-Afyon**	**2.11**	**244**	*e*Pn	**Pn**	**05 30 55.4**	**-0.2**
KDZE	**Karadeniz Ereo**	**2.15**	**328**	*e*PN	**Pn**	**05 30 55.7**	**-0.4**
KDZE	**Karadeniz Ereo**	**2.15**	**328**	*e*Pn	**Pn**	**05 30 55.7**	**-0.4**
ALT	**Altintas**	**2.27**	**260**	*e*PN	**Pn**	**05 30 58.0**	**+0.3**
ALT	**Altintas**	**2.27**	**260**	*e*Pn	**Pn**	**05 30 58.0**	**+0.3**
BNN	**Bunyan**	**2.33**	**105**	*e*PN	**Pn**	**05 30 58.6**	**+0.1**
BNN	**Bunyan**	**2.33**	**105**	*e*Pn	**Pn**	**05 30 58.6**	**+0.1**
SPNC	**Sapanca-Adapaz**	**2.36**	**301**	*e*PN	**Pn**	**05 30 58.8**	**-0.1**
SPNC	**Sapanca-Adapaz**	**2.36**	**301**	*e*Pn	**Pn**	**05 30 58.8**	**-0.1**
CAVI	**Cavuskoy**	**2.51**	**287**	*e*PN	**Pn**	**05 31 01.2**	**+0.2**
CAVI	**Cavuskoy**	**2.51**	**287**	*e*Pn	**Pn**	**05 31 01.2**	**+0.2**
SUTC	**Sutluce-Ispart**	**2.55**	**218**	*e*PN	**Pn**	**05 31 01.8**	**+0.2**
SUTC	**Sutluce-Ispart**	**2.55**	**218**	*e*Pn	**Pn**	**05 31 01.8**	**+0.2**
ISP	**Isparta**	**2.55**	**230**	*e*PN	**Pn**	**05 31 02.2**	**+0.6**
ISP	**Isparta**	**2.55**	**230**	*e*Pn	**Pn**	**05 31 02.2**	**+0.6**
ADVT	**Abdulvahap**	**2.65**	**292**	*e*PN	**Pn**	**05 31 03.5**	**+0.6**
ADVT	**Abdulvahap**	**2.65**	**292**	*e*Pn	**Pn**	**05 31 03.5**	**+0.6**
TVSB	**Tavsanli**	**2.72**	**270**	*e*PN	**Pn**	**05 31 04.1**	**+0.2**
TVSB	**Tavsanli**	**2.72**	**270**	*e*Pn	**Pn**	**05 31 04.1**	**+0.2**
DIKM	**Dikmen**	**2.76**	**38**	*e*PN	**Pn**	**05 31 04.3**	**-0.1**
DIKM	**Dikmen**	**2.76**	**38**	*e*Pn	**Pn**	**05 31 04.3**	**-0.1**
BCK	**Bucak**	**2.77**	**223**	*e*PN	**Pn**	**05 31 04.7**	**+0.2**
BCK	**Bucak**	**2.77**	**223**	*e*Pn	**Pn**	**05 31 04.7**	**+0.2**
KARA	**Karaisali**	**2.77**	**143**	*e*PN	**Pn**	**05 31 04.5**	**0.0**
KARA	**Karaisali**	**2.77**	**143**	*e*Pn	**Pn**	**05 31 04.5**	**0.0**
KVT	**Kavak**	**2.83**	**55**	*e*PN	**Pn**	**05 31 05.5**	**+0.1**
KVT	**Kavak**	**2.83**	**55**	*e*Pn	**Pn**	**05 31 05.5**	**+0.1**
HRT	**Hereke**	**2.85**	**299**	*e*PN	**Pn**	**05 31 05.9**	**+0.2**
HRT	**Hereke**	**2.85**	**299**	*e*Pn	**Pn**	**05 31 05.9**	**+0.2**
TOKT	**Tokat**	**2.87**	**72**	*e*PN	**Pn**	**05 31 06.5**	**+0.6**
TOKT	**Tokat**	**2.87**	**72**	*e*Pn	**Pn**	**05 31 06.5**	**+0.6**
SARI	**SarD1z-Kayseri**	**2.90**	**111**	*e*PN	**Pn**	**05 31 07.1**	**+0.6**
KHL	**Karahalli**	**2.94**	**247**	*e*PN	**Pn**	**05 31 07.7**	**+0.8**
KHL	**Karahalli**	**2.94**	**247**	*e*Pn	**Pn**	**05 31 07.7**	**+0.8**
KOZT	**Kozan**	**3.02**	**131**	*e*PN	**Pn**	**05 31 08.5**	**+0.6**
KOZT	**Kozan**	**3.02**	**131**	*e*Pn	**Pn**	**05 31 08.5**	**+0.6**
SVSK	**Karacayir**	**3.13**	**81**	*e*PN	**Pn**	**05 31 10.4**	**+1.0**
SVSK	**Karacayir**	**3.13**	**81**	*e*Pn	**Pn**	**05 31 10.4**	**+1.0**
IKL	**Isikli**	**3.31**	**170**	*e*PN	**Pn**	**05 31 12.8**	**+0.9**
IKL	**Isikli**	**3.31**	**170**	*e*Pn	**Pn**	**05 31 12.8**	**+0.9**
CEYT	**Ceyhan**	**3.31**	**138**	*e*PN	**Pn**	**05 31 12.4**	**+0.5**
CEYT	**Ceyhan**	**3.31**	**138**	*e*Pn	**Pn**	**05 31 12.4**	**+0.5**
RSDY	**Resadiye-TOKAT**	**3.46**	**74**	*e*PN	**Pn**	**05 31 14.8**	**+0.7**
RSDY	**Resadiye-TOKAT**	**3.46**	**74**	*e*Pn	**Pn**	**05 31 14.8**	**+0.7**
DARE	**Darende-Malaty**	**3.63**	**103**	*e*PN	**Pn**	**05 31 17.5**	**+1.1**
KMRS	**Kahramanmaras**	**3.67**	**122**	*e*PN	**Pn**	**05 31 17.3**	**+0.4**
KMRS	**Kahramanmaras**	**3.67**	**122**	*e*Pn	**Pn**	**05 31 17.3**	**+0.4**
MYA	**Malataya**	**4.41**	**104**	*e*PN	**Pn**	**05 31 28.4**	**+1.2**
MYA	**Malataya**	**4.41**	**104**	*e*Pn	**Pn**	**05 31 28.4**	**+1.2**
PTK	**Pertek**	**5.02**	**95**	*e*PN	**Pn**	**05 31 37.0**	**+1.4**
PTK	**Pertek**	**5.02**	**95**	*e*Pn	**Pn**	**05 31 37.0**	**+1.4**

NEIC 12 05:35:59.0, 7°.81S×79°.59W, h83km, MG4.0(ARE), After ARE., Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.96**	**147**	*e*Pn	Pn	05 37 13.9	+2.8
NNA				*e*Sn	Sn	05 38 11.6	+4.4
OTAV	**Otavalo**	**8.07**	**8**	*e*Pn	Pn	05 37 58.2	+4.0
	3.1nm,0.6s						
OTAV				*e*Sn	Sn	05 39 29.8	+5.5
ROSC	**El Rosal**	**13.63**	**23**	*e*Pn	Pn	05 39 09.0	-0.4
LPAZ	**La Paz**	**14.01**	**128**	Pn	Pn	05 39 15.3	+0.6
SAML	**Samuel**	**16.27**	**95**	*e*Pn	Pn	05 39 40.4	-2.3
SAML				*e*Sn	Sn	05 42 30.9	-12

MEX 12 05:38:30.9±0.6, 16°.87N×99°.01W, h16km±999km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.97**	**120**	*e*P	Pb	05 39 46.6	-2.8
PNIG				*i*S	Sb	05 38 57.2	-4.7
CAIG	**El Cayaco**	**1.22**	**278**	*e*P	Pn	05 38 49.8	-3.5
CAIG				*i*S	Sb	05 39 03.7	-5.4
PLIG	**Platanillo**	**1.58**	**343**	*e*P	Pn	05 38 55.1	-3.3
PLIG				*i*S	Sn	05 39 13.7	-5.0
ARIG	**Puente Sto Nin**	**1.90**	**318**	*e*P	Pn	05 38 60.0	-2.7
ARIG				*e*S	Sn	05 39 21.5	-4.7
YAIG	**Yautepec**	**1.98**	**358**	*e*P	Pn	05 39 00.8	-3.1
YAIG				*e*S	Sn	05 39 24.0	-4.6
PPM	**Popocatepetl**	**2.21**	**9**	*e*P	Pn	05 39 03.6	-4.0
PPM				*e*S	Sn	05 39 30.0	-5.1
ZIIG	**Zihuatanejo**	**2.46**	**288**	*e*P	Pn	05 39 07.7	-2.6
ZIIG				*i*S	Sn	05 39 35.6	-4.5

SKHL 12 05:51:44.5±0.4, 49°.65N×141°.68E, h10km, mb3.7/6, 1C,

Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UGL	**Uglegorsk**	**0.63**	**156**	*i*Pg	Pg	05 51 57.0	+0.4
UGL				*e*Pg	Pg	05 51 57.0	+0.4
UGL				AMB	AMB	05 51 57.2	
	193nm,0.3s						
UGL				*e*Sg	Sb	05 52 06.0	-0.3
UGL				A	A	05 52 07.8	
	400nm,0.5s						
UGL				A	A	05 52 07.8	
	785nm,0.5s						
TYV	**Tymovskoe**	**1.37**	**27**	*e*Pg	Pg	05 52 12.0	+1.3
TYV				AMB	AMB	05 52 12.6	
	22nm,0.8s						
TYV				AMB	AMB	05 52 12.6	
	90nm,0.8s						
TYV				*e*Sg	Sg	05 52 31.0	+2.5
TYV				A	A	05 52 34.4	
	224nm,0.8s						
TYV				A	A	05 52 34.4	
	275nm,0.8s						
YSS	**Yuzh-Sakhalins**	**2.79**	**165**	*e*Pg	Pg	05 52 39.2	+1.2
YSS				AMB	AMB	05 52 39.4	
	30nm,0.6s						
YSS				*e*Sg	Sg	05 53 18.0	+3.9
YSS				A	A	05 53 19.0	
	50nm,0.7s						
GRNR	**Gornyy**	**3.56**	**290**	*e*Pg	Pg	05 52 53.0	+0.3
GRNR				AMB	AMB	05 52 53.2	
	6.0nm,0.5s						
GRNR				*e*Sg	Sg	05 53 45.0	+6.2
GRNR				A	A	05 53 54.0	
	30nm,0.4s						
GRNR				A	A	05 53 54.0	
	20nm,0.4s						
NKL	**Nikolayevsk**	**3.56**	**350**	*e*P	Pn	05 52 41.0	+1.3
NKL				AMB	AMB	05 52 41.6	
	7.0nm,0.6s						
NKL				*e*Pg	Pg	05 52 55.7	+3.0
NKL				AMB	AMB	05 52 55.9	
	18nm,0.5s						
NKL				*e*S	Sn	05 53 21.5	-0.3
NKL				*e*Sg	Sg	05 53 44.5	+5.7
NKL				A	A	05 53 48.5	
	31nm,0.5s						
EKMR	**Ekimchan**	**6.45**	**305**	*e*Pg	Pg	05 53 51.8	+3.8
EKMR				AMB	AMB	05 53 57.4	
	2.0nm,0.5s						
EKMR				*e*Sg	Sg	05 55 21.5	+10
EKMR				A	A	05 55 23.5	
	7.0nm,0.7s						
EKMR				A	A	05 55 23.5	
	4.0nm,0.7s						
EKMR				A	A	05 55 23.5	
	6.0nm,0.7s						

*DJA **12** 06:12:32.8±6.7, 15°.S±20°.×7°.1W±1°.2, h57km±54km, M5.8/9, mB6.3/4, mb5.7/9, Mw(mB)6.0/4, Mwp5.4/1*

*ISCJB **12** 06:12:40.9±0.5, 15°.02S±0°.02×70°.58W±0°.03, h151km±4km, mb5.7/341, Error ellipse: s-maj=4.5km s-min=3.5km az=143.8*

*IDC **12** 06:12:43.9±0.7, 15°.10S×70°.58W, h168km±5km, mb5.3/39, mb1 5.4/44, mb1mx5.4/44, mbtmp5.3

PB09 **Plate Boundary** 6.83 170 *e*P Pn 06 14 19.0 -6.6
NNA **Nana** 6.84 296 Pn Pn 06 14 21.0 -4.7
9µm,0.4s
NNA **Nana** 6.84 296 P Pn 06 14 21.6 -4.1
NNA S Sn 06 15 32.2 -11
NNA ScP **ScP** 06 24 11.2 +2.4
NNA **Nana** 6.84 296‖ *e*P Pn 06 14 21.0 -4.7
NNA **Nana** 6.84 296 P Pn 06 14 21.6 -4.1
199nm,0.3s,baz=129,slow=10.0,SNR=246
NNA S Sn 06 15 32.2 -11
135nm,0.3s,baz=156,slow=11,SNR=4.5
NNA ScP **ScP** 06 24 11.2 +2.4
0.7nm,0.3s,baz=289,slow=1.7,SNR=4.8
LVC **Limon Verde** 7.69 169 P Pn 06 14 31.2 -5.5
LVC S Sn 06 15 52.2 -12
LVC ScP **ScP** 06 24 13.5 +3.8
LVC **Limon Verde** 7.69 169⇑ *e*P Pn 06 14 30.7 -6.0
LVC **Limon Verde** 7.69 169 P Pn 06 14 31.2 -5.5
1µm,0.3s,baz=353,slow=9.5,SNR=1180
LVC S Sn 06 15 52.2 -12
1µm,0.3s,baz=206,slow=21,SNR=18
LVC LR LR 06 17 05.7
comp=Z,13µm,20.7s,baz=202,slow=34
LVC ScP **ScP** 06 24 13.5 +3.8
0.5nm,0.3s,baz=225,slow=5.4,SNR=3.2
ANCH **Antofagasta** 8.60 179 P Pn 06 14 41.5 -6.9
ANCH **Antofagasta** 8.60 179 *e*P Pn 06 14 41.5 -6.9
SIV **San Ignacio** 9.17 97 P **Pn** **06 14 54.4 -1.6**
SIV S Sn 06 16 32.2 -6.5
SIV PKiKP **PKiKP** **06 28 58.2 +0.1**
SIV *e* 06 51 39.0
SIV **San Ignacio** 9.17 97 P **Pn** **06 14 54.4 -1.6**
30nm,0.3s,baz=292,slow=10,SNR=142
SIV S Sn 06 16 32.2 -6.5
26nm,0.3s,baz=219,slow=23,SNR=3.5
SIV PKiKP **PKiKP** **06 28 58.2 +0.1**
0.7nm,0.3s,baz=233,slow=5.1,SNR=4.6
SIV P3KPbc 06 51 39.0
0.0nm,0.3s,baz=0.0,slow=1.0,SNR=3.6
SAML **Samuel** 9.40 51 *e*Pn **Pn** **06 14 58.9 -0.1**
641nm,0.9s
SAML *e*Sn **Sn** **06 16 41.9 -2.3**
ATAH **Atahualpa** 11.01 315 P **Pn** **06 15 18.4 -1.7**
ATAH **Atahualpa** 11.01 315 P **Pn** **06 15 18.4 -1.7**
7.8nm,0.3s,baz=135,slow=9.1,SNR=110
LCO **Las Campanas** 13.90 181 P Pn 06 15 50.9 -5.5
LCO **Las Campanas** 13.90 181 *e*P Pn 06 15 50.9 -5.5
LCO AMb AMB 06 15 55.2
comp=Z,2µm,1.1s
TLL **Tololo Astrono** 15.06 181 P **Pn** **06 16 07.8 -2.8**
TLL **Tololo Astrono** 15.06 181 P **Pn** **06 16 07.8 -2.8**
TLL **Tololo Astrono** 15.06 181 *e*P **Pn** **06 16 07.8 -2.8**
CFAA **Coronel Fontan** 16.62 173 P **P** **06 16 26.2 -2.0**
CFAA S S 06 19 20.6 -11
CFAA ScP **ScP** **06 24 24.4 +1.7**
CFAA PKiKP **PKiKP** **06 28 59.9 0.0**
CFAA **Coronel Fontan** 16.62 173 P **P** **06 16 26.2 -2.0**
comp=Z,6.9nm,0.3s,baz=344,slow=11,SNR=220
CFAA S S 06 19 20.6 -11
comp=Z,1.2nm,0.3s,baz=232,slow=19,SNR=3.5
CFAA ScP **ScP** **06 24 24.4 +1.7**
comp=Z,0.1nm,0.3s,baz=288,slow=3.2,SNR=6.2
CFAA PKiKP **PKiKP** **06 28 59.9 0.0**
comp=Z,0.1nm,0.3s,baz=262,slow=3.8,SNR=5.1
CPUP **Villa Florida** 16.68 134 P **P** **06 16 26.5 -2.4**
CPUP ScP **ScP** **06 24 24.5 +1.8**
CPUP PKiKP **PKiKP** **06 28 59.5 -0.5**
CPUP **Villa Florida** 16.68 134 P **P** **06 16 26.5 -2.4**
comp=Z,10nm,0.3s,baz=296,slow=10,SNR=99
CPUP ScP **ScP** **06 24 24.5 +1.8**
comp=Z,2.6nm,0.3s,baz=262,slow=2.9,SNR=4.7
CPUP PKiKP **PKiKP** **06 28 59.5 -0.5**
comp=Z,0.4nm,0.3s,baz=45,slow=2.9,SNR=4.1
OTAV **Otavalo** 17.08 332 *e*Pn **Pn** **06 16 35.1 -0.1**
comp=Z,3µm,1.1s
OTAV *e*S **S** **06 19 44.0 +2.1**
OTAV *e*ScP **ScP** **06 24 25.2 +0.9**
ROCH **El Roble** 17.86 181 *e*P **P** **06 16 38.5 -3.5**
PEL **Peldehue** 18.02 180⇑ *e*P **P** **06 16 40.6 -2.9**
PEL AMb AMB 06 16 46.1
comp=Z,3µm,1.1s
PEL AMS AMS 06 20 37.7
comp=E,23µm,19.0s
FCH **Farellones** 18.21 179 *e*P **P** **06 16 47.0 +1.2**
FCH AMb AMB 06 16 52.3
comp=Z,2µm,1.1s
LMEL **Las Melosas** 18.73 179 P **P** **06 16 49.4 -1.9**
LMEL **Las Melosas** 18.73 179 *e*P **P** **06 16 49.4 -1.9**
ROSC **El Rosal** 20.12 349 P **P** **06 17 06.1 -0.6**
comp=Z,53nm,0.5s
ROSC **El Rosal** 20.12 349 P **P** **06 17 06.1 -0.6**
comp=Z,55nm,0.5s,baz=185,slow=1.3,SNR=59
ROSC LR LR 06 25 11.0
comp=Z,7µm,20.2s,baz=188,slow=37
CCHI **Chillan** 21.52 183 P **P** **06 17 19.9 -0.9**
CCHI **Chillan** 21.52 183‖ *e*P **P** **06 17 19.9 -0.9**
CCHI AMb AMB 06 17 42.4
comp=Z,2µm,1.8s
CCHI AMS AMS 06 21 46.6
comp=N,8µm,18.5s
BDFB **Brasilia** 21.73 95 P **P** **06 17 22.8 -0.5**
BDFB ScP **ScP** **06 24 35.1 +0.6**
BDFB PKiKP **PKiKP** **06 29 02.7 +0.1**
BDFB **Brasilia** 21.73 95 P **P** **06 17 22.8 -0.5**
comp=N,74nm,0.5s,baz=260,slow=12,SNR=130
BDFB ScP **ScP** **06 24 35.1 +0.6**
comp=N,121nm,1.0s,baz=329,slow=5.9,SNR=3.7
BDFB PKiKP **PKiKP** **06 29 02.7 +0.1**
comp=N,20nm,1.2s,baz=74,slow=15,SNR=2.9
LPA **La Plata** 22.80 152*d* /P **P** **06 17 32.0 -1.0**
comp=N,3µm,1.1s
LPA pP **pP** **06 18 12.0 +3.4**
LPA S **S** **06 21 27.0 +0.1**
LPA S(2) 06 21 33.0
LPA sS **sS** **06 22 29.0 -2.3**
LPA PKiKP **PKiKP** **06 29 03.0 +0.6**
SDV **Santo Domingo** 23.77 360 *e*P **P** **06 17 41.9 -0.3**
comp=N,3µm,1.8s
TRQA **Tornquist** 24.14 163 *e*P **P** **06 17 42.7 -2.5**
comp=N,2µm,1.6s
TRQA *e*PcP **PcP** **06 21 22.1 +1.4**
TRQA *e*ScP **ScP** **06 24 42.3 +1.9**
PAYG **Puerto Ayora** 24.18 304 P **P** **06 17 46.7 +1.0**
comp=N,238nm,0.9s
PLCA **Paso Flores** 25.60 180 *e*P **P** **06 17 56.4 -1.9**
comp=N,576nm,1.0s
PLCA *e*pP **pP** **06 18 35.2 -2.9**
PLCA *e*sP **sP** **06 19 01.2 -0.3**
PLCA PcP **PcP** **06 21 24.7 +0.8**
PLCA *e*PcP PcP 06 21 25.2 +1.3
PLCA *e*S S 06 22 22.9 +11
PLCA *e*ScP **ScP** **06 24 46.7 +2.2**
PLCA **Paso Flores** 25.60 180 P **P** **06 17 56.3 -2.1**
comp=N,462nm,1.1s,baz=354,slow=10.0,SNR=119
PLCA PcP **PcP** **06 21 24.7 +0.8**
comp=N,61nm,0.8s,baz=353,slow=4.3,SNR=5.7
PLCA ScP **ScP** **06 24 46.7 +2.2**
comp=N,15nm,0.6s,baz=358,slow=4.7,SNR=12
BCIP **Isla Barro Col** 25.76 338 *e*P **P** **06 18 01.3 +1.3**
comp=N,4µm,1.8s
TPP **Pointe-a-Pierr** 26.75 20 *e*P **P** **06 18 12.7 +3.8**
TPP **Pointe-a-Pierr** 26.75 20 *e* pP 06 18 54.2 +5.3
TBH **Brigand Hill** 27.04 21 *e*P **P** **06 18 08.8 -2.6**
TBH **Brigand Hill** 27.04 21 *e*P **P** **06 18 14.7 +3.2**
TRN **Trinidad (W)** 27.08 20 *e*P **P** **06 18 14.0 +2.3**
TPR **Prospect** 27.79 21 *e*P **P** **06 18 20.1 +2.0**
GRGR **Grenville** 28.39 19 *e*P **P** **06 18 23.4 -0.1**
GRGR *e*S **S** **06 22 50.5 -5.3**
GRW **Mount Saint Ca** 28.42 18 *e*P **P** **06 18 25.0 +1.2**
GRW **Mount Saint Ca** 28.42 18 *e* pP 06 19 09.1 +5.0
GRHS **Sauteurs** 28.48 18 *e*P **P** **06 18 25.4 +1.2**
GRSS **Sisters** 28.57 18 *e*P **P** **06 18 25.6 +0.6**
GRSS **Sisters** 28.57 18 *e* pP 06 19 09.2 +3.9
BHS **Barnard House** 29.66 19 *e*P **P** **06 18 36.3 +1.7**
BBGH **Gun Hill** 30.04 22 P **P** **06 18 37.6 -0.3**
comp=N,695nm,1.0s
SLB **Belfond** 30.18 19 *e*P **P** **06 18 38.1 -1.2**
FDF **Fort de France** 31.00 18 *e*P **P** **06 18 45.6 -0.9**
DSHT **Scott's Head** 31.40 17 *e* **P** **06 18 49.2 -0.6**
DFBT **Forest Bistro** 31.43 17 *e* **P** **06 18 51.2 +1.1**
DPMT **Pointe Michel** 31.44 17 *e* **P** **06 18 49.8 -0.4**
MDN **Morne-Daniel** 31.49 17 *e* P 06 18 54.3 +3.6
CDVI **St. Croix** 33.08 10 *e*P **P** **06 19 02.7 -1.7**
comp=N,445nm,0.7s

OBIP **Obispado Ponce** 33.10 7 *e*P **P** **06 19 03.2 -1.5**
comp=N,464nm,1.0s
CELP **Cerrillos** 33.14 7 *e*P **P** **06 19 03.8 -1.2**
LSP **Las Mesas** 33.18 6 *e*P **P** **06 19 04.2 -1.2**
MPR **Mayaguez** 33.21 6 *e*P **P** **06 19 04.0 -1.6**
comp=N,612nm,1.2s
SJG **San Juan** 33.23 8 *e*P **P** **06 19 03.7 -2.0**
comp=N,507nm,1.1s
HUMP **Col San Antoni** 33.30 8 *e*P **P** **06 19 05.2 -1.1**
TGUH **Tegucigalpa,Un** 33.32 329 *e*P **P** **06 19 07.4 +0.8**
comp=N,509nm,1.2s
LRS **Lares** 33.32 6 *e*P **P** **06 19 05.0 -1.6**
AOPR **Arecibo Observ** 33.38 7 *e*P **P** **06 19 05.8 -1.4**
comp=N,302nm,0.7s
HOJ **Hope** 33.40 349 *i* PA **P** **06 19 08.7 +1.4**
GWJ **Greenwich** 33.47 349 *i* PA **P** **06 19 08.6 +0.6**
STH **Stony Hill** 33.48 349 *i* PA **P** **06 19 08.2 +0.1**
MCJ **Malvern** 33.51 348 *i* P **P** **06 19 08.2 -0.1**
SDDR **Presa de Saban** 33.82 359 *e*P **P** **06 19 10.2 -0.7**
comp=N,64nm,0.6s
RCBR **Riachuelo** 35.22 79 P **P** **06 19 24.7 +1.6**
RCBR **Riachuelo** 35.22 79 P **P** **06 19 24.7 +1.6**
comp=N,170nm,0.8s,baz=248,slow=9.9,SNR=88
GRTK **Grand Turk** 36.33 359 *e*P **P** **06 19 32.0 -0.3**
comp=N,1µm,1.7s
EFI **East Falkland** 37.89 167 P **P** **06 19 43.0 -2.1**
comp=N,4µm,0.9s,SNR=37
EFI **East Falkland** 37.89 167 *e*P **P** **06 19 44.2 -0.9**
EFI *e**PP **pP** **06 20 26.7 -0.1**
EFI **East Falkland** 37.89 167 *e*P **P** **06 19 44.2 -0.9**
comp=N,1µm,0.8s
EFI *e*pP **pP** **06 20 26.7 -0.1**
RPN **Rapa Nui** 38.00 245 P **P** **06 19 46.0 -0.4**
comp=N,5µm,1.1s,SNR=12
RPN **Rapa Nui** 38.00 245 *e*P **P** **06 19 46.0 -0.4**
comp=N,1µm,1.1s
RPN *e*pP **pP** **06 20 26.2 -2.0**
TEIG **Tepich** 39.15 333 P **P** **06 19 56.1 +0.2**
comp=N,157nm,0.9s
TEIG *e*pP **pP** **06 20 39.3 +1.4**
TEIG *e*sP **sP** **06 21 02.6 +2.1**
TEIG *e*PP **PP** **06 21 25.6 -4.6**
TEIG *e*PcP **PcP** **06 22 02.5 +1.2**
TEIG ScP **ScP** **06 25 34.1 +3.2**
TEIG **Tepich** 39.15 333 P **P** **06 19 56.1 +0.2**
comp=N,435nm,0.9s,baz=161,slow=5.8,SNR=14
TEIG PcP **PcP** **06 22 02.6 +1.2**
comp=N,54nm,0.8s,baz=182,slow=6.2,SNR=3.7
TEIG ScP **ScP** **06 25 34.1 +3.2**
comp=N,126nm,1.1s,baz=102,slow=0.6,SNR=15
USHA **Ushuaia** 39.74 178 P **P** **06 19 59.1 -1.3**
USHA PcP **PcP** **06 22 03.0 +0.3**
USHA ScP **ScP** **06 25 34.7 +2.0**
USHA **Ushuaia** 39.74 178 P **P** **06 19 59.1 -1.3**
comp=N,220nm,0.7s,baz=351,slow=5.1,SNR=83
USHA PcP **PcP** **06 22 03.0 +0.3**
comp=N,59nm,0.9s,baz=308,slow=6.2,SNR=3.8
USHA ScP **ScP** **06 25 34.7 +2.0**
comp=N,21nm,1.0s,baz=0.0,slow=4.0,SNR=3.8
BBSR **BB Station** 47.47 7 *e*P **P** **06 21 01.4 -0.9**
comp=N,64nm,0.6s
BBSR *e*pP **pP** **06 21 44.2 -1.6**
BBSR *e*sP **sP** **06 22 12.7 +4.8**
BBSR *e*PP **PP** **06 22 55.1 -0.6**
BBSR *e*ScP **ScP** **06 26 07.3 +2.8**
BBSR *e*S **S** **06 27 41.2 -0.4**
TIGA **Tifton** 47.88 345 ‖P **P** **06 21 04.5 -1.0**
baz=48,SNR=105
BRAL **Brewton** 48.47 341 *e*P **P** **06 21 10.7 +0.8**
comp=N,924nm,0.6s
BRAL *e*ScP **ScP** **06 26 13.3 +4.6**
NHSC **New Hope** 48.76 349 *e*P **P** **06 21 11.3 -0.7**
comp=N,693nm,0.8s
PMSA **Palmer Station** 49.88 176 *e*P **P** **06 21 19.8 -0.4**
comp=N,740nm,1.3s
PMSA ScP **ScP** **06 26 16.4 +2.1**
PMSA **Palmer Station** 49.88 176 P **P** **06 21 19.6 -0.6**
comp=N,484nm,1.1s,baz=0.4,slow=7.5,SNR=25
PMSA ScP **ScP** **06 26 16.4 +2.1**
comp=N,25nm,0.8s,baz=349,slow=5.2,SNR=3.0
KVTX **Kingsville** 49.96 328 *e*P **P** **06 21 22.7 +1.4**
comp=N,209nm,0.9s
KVTX *e*pP **pP** **06 22 07.6 +2.3**
KVTX *e*sP **sP** **06 22 30.6 +3.3**
KVTX *e*PcP **PcP** **06 22 40.9 +2.4**
KVTX *e*ScP **ScP** **06 26 20.1 +4.9**
KVTX *e*S S 06 28 09.7 -6.8
LRAL **Lakeview Retre** 50.33 342 *e*P **P** **06 21 22.6 -1.4**
comp=N,141nm,0.6s
LRAL *e*ScP **ScP** **06 26 19.0 +2.4**
LRAL *e*S **S** **06 28 18.2 -3.2**
CNNC **Cliffs of the** 50.49 352 *e*P **P** **06 21 23.6 -1.6**
comp=N,165nm,1.0s
VBMS **Vicksburg** 50.74 338 *e*P **P** **06 21 26.6 -0.4**
comp=N,492nm,0.8s
VBMS *e*PcP **PcP** **06 22 43.3 +2.0**
VBMS *e*S S 06 28 17.9 -9.2
KMSC **Kings Mountain** 50.95 349 ⇑P **P** **06 21 27.7 -0.9**
baz=51,SNR=165
CPCT **Cooper Cave** 51.94 345 *e*P **P** **06 21 34.4 -1.5**
CPCT *e*pP **pP** **06 22 17.9 -2.3**
CPCT *e*PcP **PcP** **06 22 47.1 +1.4**
CPCT *e*ScP **ScP** **06 26 27.1 +3.5**
TKL **Tuckaleechee C** 51.96 346 P **P** **06 21 34.6 -1.5**
comp=N,398nm,0.9s
TKL ScP **ScP** **06 26 26.6 +2.8**
TKL S **S** **06 28 40.6 -3.1**
TKL P'P' 06 52 05.2
TKL **Tuckaleechee C** 51.96 346 P **P** **06 21 34.6 -1.5**
comp=N,202nm,0.8s,baz=158,slow=9.3,SNR=156
TKL ScP **ScP** **06 26 26.6 +2.8**
comp=N,38nm,1.2s,baz=168,slow=6.3,SNR=11
TKL S **S** **06 28 40.6 -3.1**
comp=N,4.9nm,0.9s,baz=272,slow=22,SNR=6.6
TKL PKPPKP **P'P'df** **06 52 05.2 -1.2**
comp=N,4.3nm,1.0s,baz=276,slow=6.2,SNR=3.8
732A **Laxson Ranch,** 52.00 327 ⇓P **P** **06 21 36.4 -0.1**
baz=52,SNR=133
632A **Uvalde** 52.52 328 ⇑P **P** **06 21 40.5 +0.1**
baz=53,SNR=147
TZTN **Tazewell** 52.76 347 *e*P **P** **06 21 40.4 -1.6**
comp=N,182nm,1.0s
TZTN *e*ScP **ScP** **06 26 29.8 +2.6**
TZTN *e*S **S** **06 28 52.9 -1.6**
BLA **Blacksburg** 52.80 350 *e*P **P** **06 21 41.2 -1.1**
BLA S **S** **06 28 51.6 -3.6**
BLA pmax pmax
comp=Z,377nm,1.3s
BLA **Blacksburg** 52.80 350 *e*P **P** **06 21 41.2 -1.1**
comp=Z,377nm,1.3s
BLA *e*pP **pP** **06 22 26.2 -0.5**
BLA *e*ScP **ScP** **06 26 29.4 +2.1**
BLA S **S** **06 28 51.6 -3.6**
631A **Perdido Creek** 52.86 327 ⇓P **P** **06 21 42.4 -0.4**
baz=53,SNR=222
JSRW **J. Sargeant Re** 52.91 353 *e*P **P** **06 21 40.9 -2.0**
JSRW *e*pP **pP** **06 22 27.6 +0.2**
JSRW *e*ScP **ScP** **06 26 30.6 +2.9**
532A **Rocksprings** 53.08 328 ⇑P **P** **06 21 44.6 +0.1**
baz=53,SNR=81
MET **Memphis--Engin** 53.18 340 *e*P **P** **06 21 46.0 +1.0**
comp=Z,461nm,0.9s
JCT **Junction City** 53.31 328 *e*P **P** **06 21 46.2 0.0**
JCT *e* 06 22 52.4
JCT *e*S **S** **06 29 01.2 -1.2**
JCT pmax pmax
comp=Z,45nm,0.6s
JCT **Junction City** 53.31 328 *e*P **P** **06 21 46.2 0.0**
comp=Z,45nm,0.6s
JCT *e*pP **pP** **06 22 33.8 +3.1**
JCT *e* 06 22 52.4
JCT *e*ScP **ScP** **06 26 32.0 +2.2**
JCT *e*S **S** **06 29 01.1 -1.2**
JCT **Junction City** 53.31 328 ⇑P **P** **06 21 46.1 -0.1**
baz=54,SNR=53
CBN **Corbin** 53.35 353 *e*P **P** **06 21 44.8 -1.4**
comp=Z,79nm,0.6s
CBN *e*pP **pP** **06 22 30.9 +0.2**
WHTX **Lake Whitney** 53.41 331 ⇑P **P** **06 21 47.0 +0.2**
baz=54,SNR=107
531A **Rocksprings** 53.44 327 ⇓P **P** **06 21 47.2 +0.1**
baz=54,SNR=167
WVT **Waverly** 53.46 343 *e*P **P** **06 21 44.8 -2.2**
WVT *e**PP **pP** **06 22 29.6 -1.9**
WVT *e* 06 22 52.3
WVT *e*S **S** **06 28 58.7 -5.3**
WVT pmax pmax
comp=Z,192nm,0.7s
WVT **Waverly** 53.46 343 *e*P **P** **06 21 44.8 -2.2**
comp=Z,192nm,0.7s
WVT *e*pP **pP** **06 22 29.6 -1.9**
WVT *e*PcP **PcP** **06 22 52.3 +0.9**
WVT *e*ScP **ScP** **06 26 31.3 +1.1**
WVT *e*S **S** **06 28 58.7 -5.3**
432A **Menard** 53.63 329 ⇑P **P** **06 21 48.1 -0.3**
baz=54,SNR=83
UALR **University of** 53.70 338 *e*P **P** **06 21 47.5 -1.3**
comp=Z,493nm,1.0s
UALR *e*pP **pP** **06 22 34.8 +1.4**
UALR *e*ScP **ScP** **06 26 31.7 +0.4**
HALT **Halls** 53.71 341 *e*P **P** **06 21 48.0 -0.9**
HALT *e*ScP **ScP** **06 26 33.6 +2.3**
HBAR **Harrisburg** 53.81 340 *e*P **P** **06 21 49.3 -0.3**
HBAR *e*pP **pP** **06 22 36.1 +1.9**
HBAR *e*ScP **ScP** **06 26 36.1 +4.4**
530A **J-C Ranch, Com** 53.85 327 ⇓P **P** **06 21 49.8 -0.2**
baz=54,SNR=186
431A **Sonora** 53.89 328 ⇓P **P** **06 21 50.0 -0.3**
baz=54,SNR=147
MIAR **Mount Ida** 53.96 336 *e*P **P** **06 21 49.9 -0.8**
MIAR *e*S S 06 29 03.8 -7.0
MIAR pmax pmax
comp=Z,473nm,1.1s
MIAR **Mount Ida** 53.96 336 *e*P **P** **06 21 49.9 -0.8**
comp=Z,473nm,1.1s
MIAR *e*pP **pP** **06 22 35.1 -0.3**
MIAR *e*ScP **ScP** **06 26 34.9 +2.4**
MIAR *e*S S 06 29 03.8 -7.0
UTMT **University of** 53.96 342 P **P** **06 21 49.1 -1.6**
comp=Z,414nm,0.8s
UTMT *e*pP **pP** **06 22 36.3 +1.1**
GNAR **Gosnell** 53.98 340 P **P** **06 21 50.6 -0.2**
comp=Z,4µm,1.0s
332A **Millersview** 54.01 329 ⇓P **P** **06 21 51.3 +0.1**
baz=54,SNR=224
GLAT **Glass** 54.02 341 *e*P **P** **06 21 50.0 -1.2**
628A **Black Gap, Mar** 54.17 325 ⇑P **P** **06 21 52.8 +0.3**
baz=54,SNR=287
PVMO **Portageville** 54.28 341 *e*P **P** **06 21 52.7 -0.3**
comp=Z,912nm,1.0s
331A **San Angelo** 54.30 328 ⇑P **P** **06 21 53.0 -0.3**
baz=55,SNR=81
430A **Baggett Ranch,** 54.30 327 ⇑P **P** **06 21 52.9 -0.4**
baz=55,SNR=183
529A **Stev Forest Ra** 54.30 326 ⇑P **P** **06 21 53.4 0.0**
baz=55,SNR=120
232A **Coleman** 54.37 329 ⇑P **P** **06 21 53.8 0.0**
baz=55,SNR=132
627A **Terlingua Ranc** 54.43 324 ⇑P **P** **06 21 54.5 +0.1**
baz=55,SNR=166
SDMD **Soldier's Deli** 54.49 354 *e*P **P** **06 21 53.1 -1.3**
comp=Z,30nm,0.7s
TXAR **Lajitas Array** 54.49 324 P **P** **06 21 54.4 -0.4**
TXAR PcP **PcP** **06 22 56.6 +0.9**
TXAR PKKP **PKKPdf** **06 43 44.3 -2.0**
TXAR P'P' 06 52 03.3
TXAR ⇑*e* 06 52 18.3
TXAR **Lajitas Array** 54.49 324 P **P** **06 21 54.4 -0.4**
comp=Z,62nm,1.0s,baz=149,slow=7.9,SNR=212
TXAR PcP **PcP** **06 22 56.6 +0.9**
comp=Z,6.1nm,0.5s,baz=129,slow=4.8,SNR=5.1
TXAR PKKP **PKKPdf** **06 43 44.3 -2.0**
comp=Z,0.4nm,0.9s,baz=72,slow=2.9,SNR=3.9
TXAR PKPPKP **P'P'df** **06 52 03.3 -0.7**
comp=Z,1.2nm,0.9s,baz=329,slow=1.5,SNR=4.6
TXAR PKP2bc 06 52 18.3
comp=Z,3.4nm,1.0s,baz=231,slow=0.7,SNR=8.4
429A **Davenport Ranc** 54.52 327 ⇓P **P** **06 21 54.9 0.0**
baz=55,SNR=246
PARMO **Parma** 54.53 341 *e*P **P** **06 21 53.9 -0.9**
PARMO *e*ScP **ScP** **06 26 37.3 +2.5**
528A **Cox Ranch, San** 54.64 325 ⇑P **P** **06 21 56.4 +0.5**
baz=55,SNR=76
231A **Bronte** 54.74 329 ⇑P **P** **06 21 56.2 -0.3**
baz=55,SNR=44
330A **Mertzon** 54.76 328 ⇑P **P** **06 21 56.3 -0.3**
baz=55,SNR=68
626A **Big Bend Ranch** 54.93 324 ⇓P **P** **06 21 58.0 +0.1**
baz=55,SNR=331
ABTX **Abilene, Hawle** 54.97 330 ⇓P **P** **06 21 58.3 +0.2**
baz=55,SNR=153
WCI **Wyandotte Cave** 55.01 345 *e*P **P** **06 21 56.2 -2.1**
WCI pmax pmax
comp=Z,181nm,0.6s
WCI **Wyandotte Cave** 55.01 345 *e*P **P** **06 21 56.2 -2.1**
comp=Z,181nm,0.6s
WCI *e*pP **pP** **06 22 41.7 -1.3**
WCI *e*ScP **ScP** **06 26 39.3 +2.3**
428A **Kincaid Ranch,** 55.02 326 ⇓P **P** **06 21 58.6 0.0**
baz=55,SNR=158
527A **Woodward Ranch** 55.08 325 ⇑P **P** **06 21 58.9 -0.2**
baz=55,SNR=208
230A **Sterling City** 55.11 328 ⇑P **P** **06 21 59.5 +0.4**
baz=55,SNR=36
USIN **University of** 55.12 344 *e*P **P** **06 21 57.2 -1.8**
comp=Z,438nm,0.7s
USIN *e*pP **pP** **06 22 42.3 -1.5**
SACV **Santiago Islan** 55.14 59 P **P** **06 21 59.9 +0.3**
comp=Z,1µm,0.8s,SNR=12
329A **Dragon Wheel Ra** 55.24 327 ⇓P **P** **06 22 00.4 +0.4**
baz=56
526A **Mary Lane Ranc** 55.28 324 ⇑P **P** **06 22 00.8 +0.3**
baz=56,SNR=226
SIUC **Southern Illin** 55.34 342 *e*P **P** **06 21 59.5 -1.0**
comp=Z,1µm,0.6s
SIUC *e*pP **pP** **06 22 46.9 +1.5**
131A **Roby** 55.38 329 ⇓P **P** **06 22 01.2 +0.2**
baz=56,SNR=71
Z32A **Haskell** 55.45 331 ⇓P **P** **06 22 01.6 +0.1**
baz=56,SNR=149
427A **Hayter Ranch,** 55.50 326 ⇓P **P** **06 22 01.8 -0.3**
baz=56,SNR=132
229A **Bryant Ranch,** 55.53 328 ⇑P **P** **06 22 02.2 +0.1**
baz=56,SNR=42
328A **Wristen Ranch,** 55.60 326 ⇓P **P** **06 22 03.2 +0.6**
baz=56,SNR=142
130A **Snyder** 55.60 329 ⇑P **P** **06 22 02.5 -0.2**
baz=56,SNR=40
CPNY **Central Park** 55.64 357 *e*P **P** **06 22 01.6 -1.0**
comp=Z,34nm,0.7s
426A **McDonald Obser** 55.71 325 ⇑P **P** **06 22 03.4 -0.2**
baz=56,SNR=115
Z31A **Sharp Cattle R** 55.78 330 ⇑P **P** **06 22 03.9 +0.1**
baz=56,SNR=285
TRIS **Tristan da Cun** 55.82 125 P **P** **06 22 05.9 +1.8**
comp=Z,208nm,0.8s
327A **Balmorhea Ranc** 55.95 326 ⇑P **P** **06 22 06.4 +1.3**
baz=56,SNR=8.3
BLO **Bloomington** 55.96 345 *e*P **P** **06 22 03.1 -1.9**
BLO *e**PP **pP** **06 22 47.9 -2.0**
BLO pmax pmax
comp=Z,200nm,0.6s
BLO **Bloomington** 55.96 345 *e*P **P** **06 22 03.1 -1.9**
comp=Z,200nm,0.6s
BLO *e*pP **pP** **06 22 47.9 -2.0**
BLO *e*ScP **ScP** **06 26 43.9 +2.8**
OLIL **Olney** 55.96 343 *e*P **P** **06 22 03.3 -1.7**
comp=Z,110nm,0.6s
OLIL *e*PcP **PcP** **06 23 02.4 +1.4**
Y32A **R-V Farms, Ver** 56.01 331 ⇓P **P** **06 22 05.6 +0.2**
baz=56,SNR=345
TUL1 **Tulsa** 56.03 335 ⇓P **P** **06 22 05.5 -0.1**
baz=56,SNR=215
228A **UT Block 9, Go** 56.05 327 ⇑P **P** **06 22 05.9 0.0**
baz=56,SNR=36
129A **Stewart Farms,** 56.08 328 ⇑P **P** **06 22 06.3 +0.2**
baz=56,SNR=93
YLE **Yale** 56.11 358 *e*P **P** **06 22 04.8 -1.1**
comp=Z,336nm,1.0s
YLE *e*ScP **ScP** **06 26 44.7 +3.0**
326A **Caldwell Ranch** 56.18 325 ⇑P **P** **06 22 07.2 +0.4**
baz=56,SNR=48
Z30A **Sanderson Ranc** 56.24 329 ⇑P **P** **06 22 07.2 +0.1**
baz=56,SNR=243
WMOK **Wichita Mounta** 56.31 332 *e*P **P** **06 22 07.2 -0.4**
WMOK *e**PP **pP** **06 22 52.5 -0.1**
WMOK *e*S **S** **06 29 42.8 +0.7**
WMOK pmax pmax
comp=Z,117nm,0.8s
WMOK **Wichita Mounta** 56.31 332 *e*P **P** **06 22 07.2 -0.4**
comp=Z,117nm,0.8s

WMOK ep P pP 06 22 52.5 -0.1
WMOK eScP ScP 06 26 46.0 +3.2
WMOK eS S 06 29 42.8 +0.7
425A Indio Mountain 56.34 324 ⇑P P 06 22 07.9 -0.1
baz=57,SNR=324
227A Bennet, Jal 56.34 326 ⇓P P 06 22 08.5 +0.6
baz=57,SNR=79
Y31A Rekieta Farm, 56.36 330 ⇓P P 06 22 08.3 +0.4
baz=57,SNR=357
128A Castleberry Fa 56.40 328 ⇑P P 06 22 08.3 0.0
baz=57,SNR=54
SLM Saint Louis 56.49 342 eP P 06 22 07.9 -0.8
SLM e*PP pP 06 22 52.5 -1.3
SLM pmax pmax
comp=Z,189nm,0.7s
SLM Saint Louis 56.49 342 eP P 06 22 07.9 -0.8
comp=Z,189nm,0.7s
SLM epP pP 06 22 52.5 -1.3
SLM eScP ScP 06 26 45.7 +2.2
Z29A Hungry Hill Ra 56.50 329 ⇓P P 06 22 08.7 -0.4
baz=57,SNR=58
Y30A Stafford Cattl 56.60 330 ⇓P P 06 22 10.1 +0.4
baz=57,SNR=50
BRYW Bryant College 56.68 359 eP P 06 22 08.6 -1.4
comp=Z,266nm,1.0s
BRYW epP pP 06 22 56.2 +1.1
BRYW ePP PP 06 24 18.5 -0.1
325A Bean Ranch, Si 56.77 325 ⇑P P 06 22 10.9 -0.2
baz=57,SNR=516
X31A McDonald Ranch 56.78 331 ⇓P P 06 22 11.6 +0.8
baz=57,SNR=43
CLNB Carlsbad 56.85 326 eP P 06 22 12.5 +0.9
comp=Z,30nm,1.1s
CLNB epP pP 06 22 59.5 +2.9
226B Tecolote Peak, 56.86 326 ⇓P P 06 22 11.9 +0.3
baz=57,SNR=337
Z28A Tucker Farm, M 56.87 328 ⇓P P 06 22 11.5 -0.2
baz=57,SNR=51
127A Arkansas Junct 56.89 327 ⇑P P 06 22 11.8 0.0
baz=57,SNR=41
Y29A Porterfield Fa 56.97 329 ⇑P P 06 22 11.9 -0.3
baz=57,SNR=131
X30A Coker Ranch, T 57.05 330 ⇑P P 06 22 12.4 -0.4
baz=57,SNR=157
GDL2 Guadalupe Moun 57.06 326 eP P 06 22 13.4 +0.4
comp=Z,35nm,0.3s
ALLY Alegheny Colle 57.10 351 eP P 06 22 11.7 -1.3
comp=Z,423nm,0.9s
ALLY epP pP 06 22 57.1 -1.0
ALLY eScP ScP 06 26 49.2 +3.1
324A Moseley Ranch, 57.11 324 ⇑P P 06 22 12.7 -0.8
baz=57,SNR=297
WES Weston 57.14 359 eP P 06 22 12.1 -1.1
WES e*PP pP 06 22 56.2 -2.1
WES pmax pmax
comp=Z,241nm,1.3s
WES Weston 57.14 359 eP P 06 22 12.1 -1.1
comp=Z,241nm,1.3s
WES epP pP 06 22 56.2 -2.1
WES eScP ScP 06 26 46.0 -0.2
BINY Binghamton 57.17 355 eP P 06 22 12.3 -1.2
comp=Z,145nm,0.9s
BINY epP pP 06 22 57.5 -1.1
BINY eScP ScP 06 26 48.2 +1.8
W31A Holland Ranch, 57.22 331 ⇑P P 06 22 13.7 -0.2
baz=58,SNR=65
126A Clayton Basin, 57.22 326 ⇑P P 06 22 14.8 +0.7
baz=58,SNR=113
MNTX Cornudas Mount 57.25 325 eP P 06 22 13.4 -0.8
comp=Z,167nm,1.8s
MNTX epP pP 06 22 59.3 -0.1
MNTX esP sP 06 23 22.4 +1.3
MNTX eS S 06 29 55.9 +1.4
SFIN Scholer Farm 57.25 345 ⇓P P 06 22 11.7 -2.3
baz=58,SNR=85
225A Deer Hill, Car 57.25 325 ⇑P P 06 22 14.4 0.0
baz=58,SNR=222
HRV Adam Dziewonsk 57.27 359 eP P 06 22 12.8 -1.3
HRV pmax pmax
comp=Z,106nm,1.0s
HRV Adam Dziewonsk 57.27 359 eP P 06 22 12.8 -1.3
comp=Z,106nm,1.0s
HRV eScP ScP 06 26 48.8 +2.0
Y28A McKinney Farm, 57.29 329 ⇑P P 06 22 14.6 0.0
baz=58,SNR=34
Z27A Tatum 57.32 328 ⇑P P 06 22 14.4 -0.4
baz=58,SNR=215
X29A Tulia 57.45 330 ⇓P P 06 22 15.1 -0.6
baz=58,SNR=132
W30A Crocket Farms 57.51 331 ⇑P P 06 22 16.5 +0.5
baz=58,SNR=10
ERPA Erie 57.54 352 eP P 06 22 14.6 -1.4
comp=Z,520nm,0.8s
ERPA epP pP 06 23 00.8 -0.3
TRY Troy 57.56 357 eP P 06 22 15.5 -0.6
comp=Z,105nm,0.8s
125A Gardner Draw, 57.58 326 ⇑P P 06 22 16.9 +0.2
baz=58,SNR=102
MSTX Muleshoe 57.60 328 ⇑P P 06 22 16.8 0.0
baz=58,SNR=139
224A Cornudas Mount 57.61 325 ⇓P P 06 22 16.5 -0.4
baz=58,SNR=468
Y27A Causey 57.74 328 ⇓P P 06 22 17.3 -0.4
baz=58,SNR=146
X28A Dimmitt 57.75 329 ⇑P P 06 22 17.5 -0.3
baz=58,SNR=35
AMTX Amarillo 57.79 330 eP P 06 22 18.6 +0.5
comp=Z,197nm,1.1s
AMTX epP pP 06 23 03.5 +0.3
AMTX eS S 06 30 04.7 +3.0
W29A Amraillo 57.97 330 ⇓P P 06 22 19.3 +0.1
baz=58,SNR=61
V30A Spur Ranch, Mi 58.03 331 ⇓P P 06 22 20.7 +1.0
baz=58,SNR=24
124A Stringfield Ra 58.04 325 ⇑P P 06 22 19.8 -0.2
baz=58,SNR=163
223A Chaparral, Ant 58.06 324 ⇓P P 06 22 20.9 +0.8
baz=58,SNR=15
Z25A Roswell 58.08 326 ⇑P P 06 22 19.8 -0.3
baz=58,SNR=247
Y26A Elida 58.11 327 ⇑P P 06 22 20.1 -0.2
baz=58,SNR=12
U31A Nine Bar Ranch 58.15 332 ⇓P P 06 22 21.0 +0.5
baz=58,SNR=70
ACCN Adirondack Com 58.21 357 eP P 06 22 19.9 -0.7
comp=Z,126nm,1.4s
ACCN eScP ScP 06 26 54.1 +3.2
FFD Franklin Falls 58.23 359 eP P 06 22 20.2 -0.5
comp=Z,70nm,0.8s
X27A F and S Farms, 58.30 329 ⇑P P 06 22 21.5 -0.2
baz=59,SNR=43
W28A Vega 58.35 330 ⇓P P 06 22 22.1 +0.2
baz=59,SNR=46
123A Bell Site, Whi 58.44 325 ⇓P P 06 22 23.4 +0.8
baz=59
Z24A Sheeppen Canyo 58.47 326 ⇓P P 06 22 22.9 0.0
baz=59,SNR=276
HNH Hanover 58.48 359 eP P 06 22 22.1 -0.3
comp=Z,288nm,1.5s
HNH eScP ScP 06 26 51.1 -1.0
V29A Stinnett 58.52 331 ⇓P P 06 22 23.6 +0.6
baz=59,SNR=22
222A Williams Famil 58.52 324 ⇑P P 06 22 23.8 +0.6
baz=59,SNR=52
Y25A Mesa, Roswell 58.56 327 ⇓P P 06 22 23.4 -0.1
baz=59,SNR=96
X26A CR and CF Fran 58.59 328 ⇓P P 06 22 23.6 -0.1
baz=59,SNR=92
W27A Bowe Ranch, En 58.62 329 ⇓P P 06 22 23.9 +0.1
baz=59,SNR=55
U30A WK&E Inc. Balk 58.65 332 ⇑P P 06 22 24.4 +0.5
baz=59,SNR=78
T31A Randall Ranch, 58.68 333 ⇓P P 06 22 24.6 +0.5
baz=59
V28A Channing 58.75 330 ⇓P P 06 22 24.9 +0.2
baz=59
MDV Middlebury 58.80 358 eP P 06 22 23.4 -1.3
NCB Newcomb 58.82 357 eP P 06 22 23.9 -1.0
comp=Z,110nm,1.3s
NCB ePP PP 06 24 35.4 -2.2
NCB eScP ScP 06 26 56.4 +2.7
NCB eS S 06 30 11.9 -2.6
221A Mesquite Ranch 58.84 323 ⇑P P 06 22 26.0 +0.5
baz=59,SNR=41
U29A Oasis Ranch, S 58.87 331 ⇓P P 06 22 25.9 +0.5
baz=59,SNR=27
Z23A Rita Site, Whi 58.89 325 ⇑P P 06 22 26.3 +0.6
baz=59,SNR=51
122A Conniff Cattle 58.90 324 ⇓P P 06 22 26.7 +0.8
baz=59,SNR=24
Y24A Capitan 58.96 326 ⇓P P 06 22 26.7 +0.4
baz=59,SNR=38
W26A Owens Ranch, T 58.99 328 ⇓P P 06 22 26.8 +0.4
baz=59,SNR=16
LBNH Lisbon 59.01 359 eP P 06 22 24.8 -1.3
LBNH e 06 24 38.7
LBNH pmax pmax
comp=Z,149nm,1.3s
LBNH Lisbon 59.01 359 eP P 06 22 24.8 -1.3
comp=Z,149nm,1.3s
LBNH ePP PP 06 24 38.7 -0.5
X25A Clemmons Ranch 59.01 327 ⇓P P 06 22 26.5 -0.1
baz=59,SNR=42
T30A Plains 59.02 332 ⇓P P 06 22 27.1 +0.6
baz=59,SNR=20
S31A Mullinville 59.03 333 ⇑P P 06 22 27.3 +0.8
baz=59,SNR=241
V27A Dan Oppiter Fa 59.05 330 ⇓P P 06 22 27.4 +0.6
baz=59,SNR=34
KSU1 Kansas State U 59.12 337 eP P 06 22 26.1 -0.9
comp=Z,662nm,0.9s
KSU1 ePP PP 06 24 39.1 -1.2
220A Playas Peak, P 59.20 322 ⇓P P 06 22 28.4 +0.5
baz=60,SNR=370
121A Cookes Peak, D 59.23 323 ⇓P P 06 22 28.7 +0.6
baz=60,SNR=131
U28A Mallet 59.26 330 ⇑P P 06 22 28.4 +0.2
baz=60,SNR=134
319A Douglas 59.27 321 ⇑P P 06 22 29.7 +1.3
baz=60,SNR=115
Z22A Elephant Butte 59.29 325 ⇓P P 06 22 29.5 +0.9
baz=60,SNR=112
Y23A Lovelace Mesa, 59.30 326 ⇑P P 06 22 29.2 +0.5
baz=60
W25A X Bar L Ranch, 59.45 328 ⇑P P 06 22 29.3 -0.2
baz=60,SNR=100
X24A Lazy VL Ranch, 59.45 327 ⇑P P 06 22 30.5 +0.9
baz=60,SNR=22
T29A Hugoton 59.45 332 ⇑P P 06 22 30.0 +0.5
baz=60,SNR=98
S30A Montezuma 59.48 333 ⇓P P 06 22 30.1 +0.5
baz=60,SNR=55
LONY Lake Ozonia 59.49 357 eP P 06 22 28.2 -1.2
comp=Z,130nm,1.3s
LONY ePcP PcP 06 23 12.3 -2.5
LONY eScP ScP 06 26 58.8 +2.2
LONY eS S 06 30 21.4 -1.6
EMMW East Machias 59.53 3 eP P 06 22 28.8 -0.8
comp=Z,135nm,1.0s
V26A Tequesquite Ra 59.56 329 ⇑P P 06 22 30.6 +0.4
baz=60,SNR=224
U27A Thompson Grove 59.58 330 ⇓P P 06 22 30.6 +0.2
baz=60,SNR=109
R31A Burdett 59.61 334 ⇑P P 06 22 30.5 +0.1
baz=60,SNR=150
120A U Bar Ranch, L 59.73 323 ⇑P P 06 22 31.9 +0.4
baz=60,SNR=99
Z21A St. Cloud Mine 59.73 324 ⇓P P 06 22 32.1 +0.5
baz=60,SNR=312
S29A Ulysses 59.75 332 ⇓P P 06 22 32.1 +0.6
baz=60,SNR=89
BNM Barren Site 59.78 326 eP P 06 22 32.8 +0.9
comp=Z,117nm,1.2s
Y22A Socorro 59.80 325 ⇓P P 06 22 32.5 +0.4
baz=60,SNR=108
T28A Walsh 59.80 331 ⇑P P 06 22 32.0 +0.1
baz=60
X23A Hourglass Bar 59.86 326 ⇑P P 06 22 32.5 0.0
baz=60,SNR=90
MSNY Massena 59.88 356 eP P 06 22 31.2 -0.8
comp=Z,777nm,0.9s
Y22D IRIS PASSCAL I 59.88 325 ⇑P P 06 22 34.0 +1.5
baz=60
LPM Los Pinos Moun 59.90 326 eP P 06 22 33.2 +0.5
comp=Z,87nm,1.0s
R30A Dighton 59.93 333 ⇑P P 06 22 33.1 +0.5
baz=60,SNR=167
W24A Lazy 6 Ranch, 59.93 327 ⇓P P 06 22 33.5 +0.6
baz=60,SNR=66
LENM Lemitar 59.98 325 eP P 06 22 33.6 +0.4
comp=Z,88nm,1.0s
U26A Atchley Ranch, 60.01 329 ⇑P P 06 22 33.6 +0.2
baz=60,SNR=165
V25A Rancho No Teng 60.01 328 ⇓P P 06 22 34.0 +0.5
baz=60,SNR=156
SADO Sadowa 60.04 353 P P 06 22 31.4 -1.8
SADO ScP ScP 06 27 02.2 +3.2
SADO ⇑e 06 52 04.7
SADO Sadowa 60.04 353 P P 06 22 31.4 -1.8
comp=Z,95nm,0.8s,baz=200,slow=2.4
SADO ScP ScP 06 27 02.2 +3.2
comp=Z,11nm,0.8s,baz=214,slow=2.0,SNR=4.8
SADO PKP2bc 06 52 04.7
comp=Z,11nm,1.0s,baz=89,slow=5.0,SNR=4.4
T27A Campo 60.04 331 ⇓P P 06 22 33.7 +0.2
baz=60,SNR=199
S28A Manter 60.09 332 ⇓P P 06 22 33.6 -0.2
baz=60,SNR=236
Z20A Nine Sixteen R 60.12 323 ⇓P P 06 22 34.8 +0.6
baz=60,SNR=188
Q31A Ellis 60.16 334 ⇑P P 06 22 35.1 +0.9
baz=60,SNR=75
LAZ Ladron 60.24 325 eP P 06 22 35.7 +0.7
comp=Z,88nm,0.9s
Y21A Point of Rocks 60.25 325 ⇓P P 06 22 35.9 +0.8
baz=60,SNR=406
X22A Bernardo 60.25 326 ⇓P P 06 22 34.5 -0.6
baz=60,SNR=48
V24A Rampart Ranch, 60.26 328 ⇓P P 06 22 35.2 0.0
baz=60,SNR=114
W23A Werner Place, 60.28 327 ⇓P P 06 22 35.8 +0.4
baz=60,SNR=40
ANMO Albuquerque 60.28 326 eP P 06 22 35.5 +0.2
comp=Z,43nm,0.8s
ANMO Albuquerque 60.28 326 P P 06 22 35.3 0.0
comp=Z,27nm,0.7s,baz=135,slow=8.0,SNR=130
U25A Circle Dot Ran 60.34 329 ⇓P P 06 22 36.3 +0.7
baz=61,SNR=203
SCIA State Center 60.41 341 eP P 06 22 34.2 -1.6
comp=Z,228nm,0.6s
SCIA eScP ScP 06 27 03.6 +2.8
JFWS Jewell Farm 60.45 343 eP P 06 22 34.2 -1.8
JFWS pmax pmax
comp=Z,190nm,0.5s
JFWS Jewell Farm 60.45 343 eP P 06 22 34.2 -1.8
comp=Z,190nm,0.5s
JFWS eScP ScP 06 27 04.0 +3.1
Q30A Quinter 60.48 334 ⇓P P 06 22 37.0 +0.6
baz=61,SNR=188
T26A Comanche Natio 60.55 330 ⇑P P 06 22 37.3 +0.3
baz=61,SNR=233
Y20A Horse Springs, 60.57 324 ⇑P P 06 22 37.8 +0.4
baz=61,SNR=192
P31A Stockton 60.58 335 ⇑P P 06 22 37.5 +0.5
baz=61,SNR=128
W22A Albuquerque 60.60 326 ⇑P P 06 22 38.3 +0.9
baz=61,SNR=25
X21A Alamocita Cree 60.63 325 ⇓P P 06 22 38.5 +0.8
baz=61,SNR=137
R28A Tribune 60.66 332 ⇑P P 06 22 38.7 +1.1
baz=61,SNR=68
Q29A Oakley 60.74 333 ⇑P P 06 22 39.1 +1.0
baz=61
V23A Ortiz Mt. (NFS 60.74 327 ⇑P P 06 22 39.0 +0.5
baz=61,SNR=77
U24A Moreno Valley 60.79 328 ⇑P P 06 22 39.7 +0.9
baz=61,SNR=62
TUC Tucson 60.84 321 eP P 06 22 39.1 +0.1
TUC eS S 06 30 38.4 -2.4
TUC pmax pmax
comp=Z,47nm,1.0s
TUC Tucson 60.84 321 eP P 06 22 39.1 +0.1
comp=Z,47nm,1.0s
TUC eS S 06 30 38.4 -2.4
S26A Kim 60.85 330 ⇓P P 06 22 39.7 +0.7
baz=61,SNR=620
T25A Trinidad 60.92 329 ⇓P P 06 22 40.3 +0.7
baz=61,SNR=169
GLMI Grayling 60.94 349 eP P 06 22 38.0 -1.2
comp=Z,263nm,1.0s
GLMI eScP ScP 06 27 06.4 +3.3
BBTS Babate 61.00 64 P P 06 22 40.6 +0.4
BBTS Babate 61.00 64 P P 06 22 40.6 +0.4
comp=Z,187nm,0.9s,baz=278,slow=0.8,SNR=30
RKT Rikitea 61.02 252 eP P 06 22 41.4 +1.1
comp=Z,305nm,1.0s
RKT eS S 06 30 38.0 -5.4
RKT comp=Z,6μm,27.8s eLQ LQ 06 38 08.6
comp=Z,2μm,31.2s
W21A San Fidel 61.06 326 ⇓P P 06 22 41.3 +0.8
baz=61,SNR=46
R27A Eads 61.06 331 ⇓P P 06 22 40.4 0.0
baz=61,SNR=146
X20A Quemado 61.10 325 ⇓P P 06 22 41.5 +0.6
baz=61,SNR=108
U23A El Rito 61.20 328 ⇓P P 06 22 42.1 +0.7
baz=62,SNR=81
Q28A Sharon Springs 61.26 333 ⇓P P 06 22 42.2 +0.6
baz=62,SNR=41
V22A San Miguel Ran 61.26 327 ⇓P P 06 22 42.7 +0.8
baz=62,SNR=254
P29A Atwood 61.31 334 ⇑P P 06 22 43.8 +1.9
baz=62,SNR=108
S25A Robets Cordova 61.34 330 ⇑P P 06 22 42.8 +0.4
baz=62,SNR=233
R26A Arlington 61.38 331 ⇑P P 06 22 42.9 +0.4
baz=62,SNR=327
O30A MW Ranch, Wils 61.42 335 ⇓P P 06 22 44.0 +1.4
baz=62,SNR=57
PQI Presque Isle 61.47 2 eP P 06 22 41.8 -0.9
comp=Z,130nm,0.9s
W20A Ramah 61.53 325 ⇑P P 06 22 44.3 +0.5
baz=62,SNR=153
V21A Milan 61.56 326 ⇓P P 06 22 44.8 +0.9
baz=62,SNR=11
KSCO Kaye Shedlock' 61.57 332 ⇓P P 06 22 44.5 +0.7
baz=62,SNR=123
U22A Llaves 61.58 327 ⇓P P 06 22 45.1 +1.0
baz=62,SNR=78
P28A Saint Francis 61.64 333 ⇓P P 06 22 45.6 +1.4
baz=62,SNR=17
R25A Fountain Ranch 61.66 330 ⇓P P 06 22 45.3 +0.9
baz=62,SNR=90
T23A Casias Ranch, 61.66 328 ⇓P P 06 22 45.5 +0.9
baz=62,SNR=106
O29A 4D Ranch, Culb 61.68 334 ⇓P P 06 22 45.6 +1.2
baz=62,SNR=57
BGNE Belgrade 61.70 337 ⇓P P 06 22 44.6 +0.1
baz=62,SNR=184
S24A Houchin Ranch, 61.71 329 ⇑P P 06 22 45.8 +0.9
baz=62,SNR=113
214A Organ Pipe Nat 61.84 320 ⇑P P 06 22 46.6 +0.9
baz=62,SNR=126
Q26A Hugo 61.91 331 ⇑P P 06 22 47.0 +0.9
baz=62,SNR=157
X18A Snowflake 61.92 324 ⇑P P 06 22 46.8 +0.5
baz=62,SNR=135
SDCO Great Sand Dun 61.94 329 eP P 06 22 47.2 +0.8
comp=Z,252nm,1.0s
SDCO eS S 06 30 50.4 -4.5
N30A Hueftle Ranch, 61.95 335 ⇓P P 06 22 47.2 +0.9
baz=62
P27A Ficken Ranch, 61.99 332 ⇑P P 06 22 47.6 +1.0
baz=62,SNR=79
V20A Brimhall 62.01 326 ⇑P P 06 22 47.8 +0.9
baz=62,SNR=70
U21A Nageezi 62.04 327 ⇑P P 06 22 48.1 +1.0
baz=62,SNR=117
T22A Edith 62.09 328 ⇓P P 06 22 48.4 +1.0
baz=62,SNR=95
O28A Krutsinger Ran 62.10 333 ⇑P P 06 22 48.0 +0.7
baz=62,SNR=87
R24A Sanders Place, 62.12 330 ⇑P P 06 22 48.6 +1.0
baz=62,SNR=120
S23A Nye Farm, Mont 62.16 329 ⇓P P 06 22 48.7 +0.8
baz=62,SNR=95
N29A Votaw Ranch, W 62.19 335 ⇓P P 06 22 49.0 +1.2
baz=62,SNR=64
W18A Petrified Fore 62.22 324 ⇑P P 06 22 48.9 +0.7
baz=62,SNR=34
Q25A Bedland, Calha 62.25 331 ⇓P P 06 22 49.1 +0.7
baz=62,SNR=35
P26A Davis Ranch, A 62.34 332 ⇑P P 06 22 49.6 +0.6
baz=63,SNR=36
R23A Moffat 62.44 329 ⇑P P 06 22 50.6 +0.8
baz=63,SNR=125
U20A Newcomb 62.47 326 ⇓P P 06 22 50.9 +1.0
baz=63,SNR=60
O27A Beecher Island 62.47 333 ⇓P P 06 22 50.6 +0.9
baz=63,SNR=246
N28A Pribbeno Ranch 62.47 334 ⇓P P 06 22 50.3 +0.6
baz=63,SNR=76
M30A Dale-Ortello V 62.49 335 ⇓P P 06 22 50.4 +0.7
baz=63
S22A 4UR Ranch, Cre 62.61 328 ⇑P P 06 22 51.6 +0.6
baz=63,SNR=117
P25A Willow Gulch B 62.69 331 ⇑P P 06 22 52.2 +0.9
baz=63,SNR=181
X16A Lo Mia Camp, P 62.70 322 ⇓P P 06 22 52.3 +0.8
baz=63,SNR=287
Q24A Divide 62.72 330 ⇓P P 06 22 52.4 +0.7
baz=63,SNR=131
M29A Burnside Ranch 62.74 335 ⇑P P 06 22 52.6 +1.2
baz=63,SNR=43
O26A Horse Wrangler 62.88 332 ⇑P P 06 22 53.4 +0.9
baz=63,SNR=108
Z14A Wintersburg 62.88 321 ⇓P P 06 22 53.2 +0.7
baz=63,SNR=44
OGNE Ogallala 62.89 334 eP P 06 22 52.9 +0.4
comp=Z,690nm,1.0s
OGNE eS S 06 31 03.4 -2.9
OGNE Ogallala 62.89 334 ⇓P P 06 22 53.6 +1.1
baz=63,SNR=39
R22A Saguache, Gunn 62.94 328 ⇓P P 06 22 53.6 +0.4
baz=63,SNR=53
M28A Bar X Bar Ranc 62.98 334 ⇓P P 06 22 54.1 +1.0
baz=63,SNR=38
113A Mohawk Valley, 62.99 320 ⇑P P 06 22 53.5 +0.4
baz=63,SNR=116
N27A Anderson Farm, 62.99 333 ⇓P P 06 22 53.6 +0.4
baz=63,SNR=30
Q23A Hartsel 63.00 330 ⇓P P 06 22 54.6 +1.0
baz=63
P24A Kohler Place, 63.03 331 ⇓P P 06 22 54.7 +1.2
baz=63,SNR=151
S21A Coal Bank Pass 63.04 327 ⇑P P 06 22 54.7 +0.9
baz=63,SNR=72
MVCO Mesa Verde 63.07 327 eP P 06 22 54.1 +0.2
comp=Z,120nm,0.9s
MVCO epP pP 06 23 42.8 +2.9
MVCO Mesa Verde 63.07 327 ⇑P P 06 22 54.4 +0.4
baz=63,SNR=99
COWI Conover 63.13 346 eP P 06 22 52.8 -1.1
comp=Z,100nm,1.1s
COWI ePP PP 06 25 07.8 -7.7
COWI eScP 06 27 15.8
O25A Wiggins 63.14 332 ⇑P P 06 22 55.6 +1.4
baz=63,SNR=15
ECSD EROS Data Cent 63.17 339 eP P 06 22 53.4 -0.7
comp=Z,10nm,0.6s
ECSD eScP 06 27 14.4
ECSD eS S 06 31 07.3 -2.1
L29A Maesberg Ranch 63.17 335 ⇓P P 06 22 55.1 +0.8
baz=64,SNR=88
SPMN St. Paul 63.29 343 ⇓P P 06 22 53.9 -1.0
baz=64,SNR=93
Y14A Wickenburg 63.31 321 ⇓P P 06 22 55.8 +0.5
baz=64,SNR=97
N26A Koester Ranch, 63.31 333 ⇑P P 06 22 56.2 +0.9
baz=64,SNR=28
P23A Jefferson 63.37 330 ⇑P P 06 22 57.1 +1.2
baz=64,SNR=61
WUAZ Wupatki 63.44 323 eP P 06 22 57.1 +0.8
comp=Z,228nm,1.1s
WUAZ epP pP 06 23 43.7 +1.3
WUAZ Wupatki 63.44 323 ⇑P P 06 22 57.1 +0.8
baz=64,SNR=205
R21A Cimarron 63.45 328 ⇑P P 06 22 57.2 +0.8
baz=64,SNR=117
S20A Disappointment 63.46 327 ⇓P P 06 22 57.5 +1.0
baz=64,SNR=147
Q22A Crested Butte, 63.50 329 ⇓P P 06 22 57.6 +0.8
baz=64,SNR=131
M27A Reverse DX Ran 63.52 334 ⇑P P 06 22 58.1 +1.5
baz=64,SNR=19
L28A Connealy Angus 63.55 335 ⇓P P 06 22 58.5 +1.7
baz=64,SNR=29
O24A Longmont 63.59 331 ⇑P P 06 22 58.2 +1.0
baz=64,SNR=39
ISCO Idaho Springs 63.59 330 eP P 06 22 57.8 +0.4
ISCO e*PP pP 06 23 43.9 +0.4

ISCO pmax pmax
comp=Z,199nm,1.2s
ISCO Idaho Springs 63.59 330 *e*P **P 06 22 57.8 +0.4**
comp=Z,199nm,1.2s
ISCO *e*pP **pP 06 23 43.9 +0.4**
ISCO Idaho Springs 63.59 330 ⇓P **P 06 22 58.1 +0.7**
baz=64,SNR=224
N25A Grover 63.69 332 ⇑P **P 06 22 59.2 +1.4**
baz=64,SNR=36
K29A Lazy Trails An 63.70 336 ⇑P **P 06 22 58.5 +0.8**
baz=64,SNR=235
R20A Redvale 63.74 327 ⇓P **P 06 22 59.3 +1.0**
baz=64,SNR=204
SMCO Snowmass 63.77 329 *e*P **P 06 22 59.6 +0.9**
comp=Z,142nm,0.9s
SMCO *e*pP **pP 06 23 44.7 0.0**
SMCO S **S 06 31 17.1 -0.9**
M26A McRoberts Ranc 63.80 333 ⇓P **P 06 22 59.4 +0.9**
baz=64,SNR=18
PV01 Paradox Valley 63.80 327 *e*P **P 06 22 59.1 +0.4**
comp=Z,12µm,0.9s
PV01 *e*pP **pP 06 23 47.1 +2.3**
Q21A Lamborn Mesa, 63.81 328 ⇑P **P 06 22 59.6 +0.9**
baz=64,SNR=13
GLA Glamis 63.84 319 *e*P **P 06 23 00.1 +1.3**
GLA *e* 06 23 33.7
GLA *e**PP **pP 06 23 45.6 +0.7**
GLA *e*S **S 06 31 21.7 +3.5**
GLA pmax pmax
comp=Z,52nm,0.9s
GLA Glamis 63.84 319 *e*P **P 06 23 00.1 +1.3**
comp=Z,52nm,0.9s
GLA *e*PcP **PcP 06 23 33.7 +0.9**
GLA *e*pP **pP 06 23 45.6 +0.7**
GLA *e*S **S 06 31 21.7 +3.5**
GLA Glamis 63.84 319 ⇓P **P 06 23 00.1 +1.3**
baz=64,SNR=20
L27A T5 Ranch, Ells 63.95 334 ⇓P **P 06 23 00.3 +0.9**
baz=64,SNR=14
P22A Eagle 63.99 329 ⇓P **P 06 23 00.8 +0.9**
baz=64,SNR=128
O23A Lake Granby, G 64.06 330 ⇑P **P 06 23 01.3 +0.9**
baz=64,SNR=188
N24A Carr 64.06 332 ⇓P **P 06 23 01.2 +0.9**
baz=64,SNR=104
K28A Ten Mile Ranch 64.08 335 ⇑P **P 06 23 01.8 +1.6**
baz=64,SNR=80
Y12C Blythe 64.11 320 ⇓P **P 06 23 01.5 +1.0**
baz=64,SNR=38
PV04 Paradox Valley 64.17 327 *e*P **P 06 23 02.0 +1.0**
PV04 *e*pP **pP 06 23 48.4 +1.2**
M25A Palm-Egli Farm 64.17 333 ⇑P **P 06 23 02.6 +1.6**
baz=64,SNR=32
L26A Underwood Farm 64.23 334 ⇑P **P 06 23 02.0 +0.7**
baz=64,SNR=33
Q20A Ridgley Place, 64.27 328 ⇓P **P 06 23 02.8 +1.2**
baz=64,SNR=24
P21A Newcastle 64.28 329 ⇓P **P 06 23 02.8 +1.1**
baz=64
O22A Kremmling 64.33 330 ⇑P **P 06 23 02.5 +0.4**
baz=65,SNR=350
SWSC Sam W. Stewart 64.39 319 ⇑P **P 06 23 03.2 +0.9**
baz=65,SNR=21
DVTC Desert V Tower 64.40 318 ⇓P **P 06 23 04.4 +1.9**
baz=65,SNR=22
K27A Flueckinger Fa 64.43 335 ⇑P **P 06 23 03.4 +0.9**
baz=65,SNR=188
M24A Cheyenne 64.55 332 ⇓P **P 06 23 04.0 +0.7**
baz=65,SNR=128
U15A North Rim 64.61 324 ⇑P **P 06 23 05.0 +1.0**
baz=65,SNR=167
N23A Red Feather La 64.61 331 ⇓P **P 06 23 04.8 +0.9**
baz=65,SNR=220
BRSD Miller 64.61 338 ⇓P **P 06 23 03.7 +0.2**
baz=65,SNR=84
J28A Allard Ranch, 64.62 336 ⇑P **P 06 23 04.9 +1.2**
baz=65,SNR=463
W13A Hualapai Mount 64.63 321 ⇓P **P 06 23 05.5 +1.4**
baz=65,SNR=94
BC3 Big Chuckawall 64.63 319 ⇑P **P 06 23 05.5 +1.4**
baz=65,SNR=70
PHWY Pilot Hill 64.70 332 *e*P **P 06 23 05.2 +0.6**
comp=Z,202nm,1.0s
PHWY *e*pP **pP 06 23 50.9 +0.2**
PHWY *e*S **S 06 31 32.3 +3.3**
L25A Engebretsen Ra 64.72 333 ⇓P **P 06 23 05.6 +1.2**
baz=65,SNR=26
P20A De Beque 64.73 328 ⇑P **P 06 23 05.8 +1.1**
baz=65
MONP Monument Peak 64.75 318 ⇑P **P 06 23 05.7 +0.8**
baz=65,SNR=51
IRM Iron Mountain 64.78 320 ⇑P **P 06 23 05.4 +0.5**
baz=65,SNR=108
N22A Wattenberg Ran 64.78 331 ⇓P **P 06 23 06.0 +0.9**
baz=65,SNR=107
BAR Barrett 64.78 318 *e*P **P 06 23 05.6 +0.7**
comp=Z,158nm,1.0s
BAR *e*PcP **PcP 06 23 37.1 +0.4**
BAR *e*pP **pP 06 23 51.5 +0.4**
O21A Pagoda 64.82 329 ⇑P **P 06 23 06.9 +1.7**
baz=65,SNR=69
K26A Motz Farm, Whi 64.82 334 ⇓P **P 06 23 06.3 +1.2**
baz=65,SNR=70
NEE2 Needles Airpor 64.85 321 ⇓P **P 06 23 07.0 +1.7**
baz=65,SNR=6.3
M23A Laramie 64.96 331 ⇓P **P 06 23 07.1 +1.0**
baz=65,SNR=67
K25A Mack Ranch, Ha 65.04 333 ⇓P **P 06 23 07.8 +1.3**
baz=65,SNR=26
L24A Wheatland 65.05 332 ⇑P **P 06 23 07.8 +1.1**
baz=65,SNR=69
I28A Midland 65.08 336 ⇓P **P 06 23 07.8 +1.2**
baz=65
P19A Cripple Cowboy 65.13 328 ⇓P **P 06 23 07.8 +0.6**
baz=65,SNR=184
O20A White River Ci 65.14 329 ⇓P **P 06 23 08.2 +1.0**
baz=65,SNR=142
109C Camp Elliot, M 65.20 318 ⇓P **P 06 23 08.6 +1.1**
baz=65,SNR=24
BELC Belle Mtn. Jos 65.20 319 ⇓P **P 06 23 08.6 +0.8**
baz=65,SNR=53
PFO Pinyon Flat Ob 65.24 319 P **P 06 23 08.7 +0.8**
comp=Z,325nm,1.7s,SNR=21
PFO Pinyon Flat Ob 65.24 319 *e*P **P 06 23 08.8 +0.8**
comp=Z,173nm,1.5s
PFO *e*pP **pP 06 23 54.6 +0.3**
PFO Pinyon Flat Ob 65.24 319 ⇓P **P 06 23 08.8 +0.8**
baz=66,SNR=34
N21A Black Mountain 65.26 330 ⇓P **P 06 23 09.0 +1.0**
baz=66,SNR=110
M22A Cedar Creek Ra 65.31 331 ⇑P **P 06 23 09.6 +1.1**
baz=66,SNR=82
LDFC Landfair 65.36 321 *e*P **P 06 23 10.3 +1.7**
comp=Z,257nm,1.2s
LDFC *e*pP **pP 06 23 57.1 +2.1**
EYMN Ely 65.44 345 *e*P **P 06 23 07.1 -1.7**
comp=Z,144nm,0.8s
EYMN *e*PcP **PcP 06 23 39.5 +0.5**
EYMN *e*pP **pP 06 23 53.5 -1.6**
L23A Garrett 65.46 332 ⇑P **P 06 23 10.1 +0.7**
baz=66,SNR=152
I27A Quinn 65.48 336 ⇑P **P 06 23 10.7 +1.5**
baz=66
GMRC Granite Mounta 65.50 320 ⇑P **P 06 23 10.4 +0.8**
baz=66,SNR=129
K24A Anderson Ranch 65.55 333 ⇓P **P 06 23 11.3 +1.5**
baz=66,SNR=14
SRU San Rafael 65.55 327 *e*P **P 06 23 10.3 +0.4**
SRU *e**PP **pP 06 23 56.3 0.0**
SRU pmax pmax
comp=Z,15nm,0.7s
SRU San Rafael 65.55 327 *e*P **P 06 23 10.3 +0.4**
comp=Z,15nm,0.7s
SRU *e*pP **pP 06 23 56.3 0.0**
H28A Mission Ridge 65.59 337 ⇓P **P 06 23 10.8 +1.0**
baz=66
J25A Sunshine Ranch 65.65 334 ⇓P **P 06 23 11.6 +1.2**
baz=66
N20A Spence Gulch, 65.68 329 ⇓P **P 06 23 11.7 +0.9**
baz=66,SNR=264
O19A Miners Draw (B 65.70 328 ⇓P **P 06 23 11.5 +0.7**
baz=66,SNR=235
O19A ⇓P P 06 51 54.5
baz=66
O19A ⇓P P 06 51 54.5
baz=66
MURC Murrieta 65.71 318 ⇑P **P 06 23 12.0 +1.1**
baz=66,SNR=30
L22A Ellis Ranch, M 65.73 331 ⇑P **P 06 23 12.3 +1.3**
baz=66,SNR=93
Q16A Castle Valley 65.76 326 ⇑P **P 06 23 12.6 +1.3**
baz=66,SNR=67
Q16A ⇑P P 06 51 51.1
baz=66
Q16A ⇑P P 06 51 51.1
baz=66
I26A New Underwood 65.78 335 ⇑P **P 06 23 12.7 +1.6**
baz=66
M21A Separation Pea 65.83 330 ⇓P **P 06 23 12.7 +1.0**
baz=66,SNR=124
G28A Parade 65.88 337 ⇓P **P 06 23 12.9 +1.1**
baz=66
K23A Bowen Ranch, D 65.93 332 ⇑P **P 06 23 13.3 +1.1**
baz=66,SNR=77
HEC Hector,Ludlow 65.95 320 ⇓P **P 06 23 13.7 +1.2**
baz=66,SNR=62
HEC ⇑P P 06 51 54.8
baz=66
HEC ⇑P P 06 51 54.8
baz=66
BBRC Big Bear Solar 65.95 319 ⇓P **P 06 23 14.3 +1.7**
baz=66,SNR=18
H27A Howes 65.96 336 ⇑P **P 06 23 13.0 +0.8**
baz=66
J24A Dixon Ranch, L 65.97 333 ⇓P **P 06 23 14.0 +1.6**
baz=66,SNR=70
CCUT Cedar City 66.00 324 *e*P **P 06 23 14.2 +1.3**
comp=Z,16nm,0.7s
CCUT *e*pP **pP 06 24 00.3 +1.0**
MSU Marysvale 66.01 325 *e*P **P 06 23 13.7 +0.7**
MSU pmax pmax
comp=Z,187nm,0.4s
MSU Marysvale 66.01 325 *e*P **P 06 23 13.7 +0.7**
comp=Z,187nm,0.4s
MVU Marysvale 66.03 325 *e*P **P 06 23 14.0 +0.9**
comp=Z,519nm,0.6s
MVU *e*pP **pP 06 24 00.7 +1.2**
MVU *e*S **S 06 31 50.1 +5.0**
TMUT Trail Mountain 66.05 326 *e*P **P 06 23 14.3 +1.0**
comp=Z,42nm,0.7s
TMUT *e*pP **pP 06 24 01.4 +1.8**
TUQ Turquoise Moun 66.09 321 ⇓P **P 06 23 14.3 +0.9**
baz=66,SNR=66
L21A Rawlins 66.11 331 ⇑P **P 06 23 14.3 +0.8**
baz=66,SNR=252
L21A ⇑P P 06 51 50.1
baz=66
L21A ⇑P P 06 51 50.1
baz=66
I25A Rochford 66.13 334 ⇑P **P 06 23 14.9 +1.4**
baz=66
M20A Sweetwater, Wa 66.14 330 ⇑P **P 06 23 14.7 +1.0**
baz=66,SNR=132
M20A ⇓P P 06 51 51.1
baz=66
M20A ⇓P P 06 51 51.1
baz=66
HOR Horta 66.17 35 *e*P P 06 23 22.5 +8.9
SCI San Clemente I 66.20 317 ⇓P **P 06 23 14.8 +0.9**
baz=66,SNR=8.1
PCED Cedros 66.20 35 *e*P P 06 23 18.4 +4.6
comp=Z,426nm,1.4s
ARUT Antelope Range 66.21 324 P **P 06 23 15.5 +1.3**
ARUT pmax pmax
comp=Z,195nm,0.9s
ARUT Antelope Range 66.21 324 P **P 06 23 15.4 +1.3**
comp=Z,195nm,0.9s
ARUT *e*pP **pP 06 24 03.4 +2.8**
H26A Fairpoint 66.23 335 ⇓P **P 06 23 15.4 +1.5**
baz=66
K22A Casper 66.25 332 ⇑P **P 06 23 15.4 +1.1**
baz=66,SNR=163
K22A ⇑P P 06 51 49.4
baz=66
K22A ⇑P P 06 51 49.4
baz=66
PICO Pico 66.27 35 *e*P **P 06 23 13.3 -1.0**
RSSD Black Hills 66.34 334 *e*P **P 06 23 15.3 +0.4**
RSSD *e**PP **pP 06 24 01.7 +0.4**
RSSD pmax pmax
comp=Z,224nm,1.0s
RSSD Black Hills 66.34 334 *e*P **P 06 23 15.3 +0.4**
comp=Z,224nm,1.0s
RSSD *e*pP **pP 06 24 01.6 +0.4**
CIS Catalina Islan 66.37 317 ⇑P **P 06 23 15.8 +0.7**
baz=67
I24A Kuemmerle Ranc 66.38 334 ⇑P **P 06 23 16.2 +1.2**
baz=67,SNR=72
RRX Edison Barstow 66.40 319 ⇑P **P 06 23 16.1 +0.9**
baz=67,SNR=9.9
BFSC Mount Baldy Ra 66.41 319 ⇑P **P 06 23 16.4 +0.9**
baz=67,SNR=41
J23A Dilts Ranch, B 66.41 333 ⇑P **P 06 23 16.4 +1.1**
baz=67,SNR=9.4
FMP Fort Macarthur 66.49 318 ⇓P **P 06 23 17.1 +1.3**
baz=67,SNR=8.1
ROSA Rosais 66.52 35 *e*P P 06 23 19.2 +3.3
comp=Z,473nm,1.5s
ROSA *e*P pP 06 24 01.0 -1.3
G27A Dupree 66.53 336 ⇓P **P 06 23 16.5 +0.6**
baz=67
GSC Goldstone 66.55 320 *e*P **P 06 23 17.8 +1.6**
GSC *e*S **S 06 31 55.2 +4.0**
GSC pmax pmax
comp=Z,229nm,1.4s
GSC Goldstone 66.55 320 *e*P **P 06 23 17.8 +1.6**
comp=Z,229nm,1.4s
GSC *e*pP **pP 06 24 04.7 +2.0**
GSC *e*S **S 06 31 55.2 +4.0**
GSC Goldstone 66.55 320 ⇓P **P 06 23 17.2 +0.9**
baz=67,SNR=100
H25A Fruitdale 66.56 335 ⇓P **P 06 23 16.7 +0.6**
baz=67
L20A Wamsutter 66.61 330 ⇓P **P 06 23 17.6 +1.0**
baz=67,SNR=218
L20A ⇑P P 06 51 49.5
baz=67,SNR=6.0
L20A ⇑P P 06 51 49.5
baz=67,SNR=6.0
SHOC Shoshone 66.62 321 ⇑P **P 06 23 17.7 +1.1**
baz=67,SNR=60
M19A Rock Springs 66.63 329 ⇑P **P 06 23 17.6 +0.8**
baz=67,SNR=21
M19A ⇑P P 06 51 49.4
baz=67
M19A ⇑P P 06 51 49.4
baz=67
MWC Mount Wilson 66.66 318 *e*P **P 06 23 18.3 +1.2**
MWC pmax pmax
comp=Z,170nm,1.1s
MWC Mount Wilson 66.66 318 *e*P **P 06 23 18.3 +1.2**
comp=Z,170nm,1.1s
MWC *e*pP **pP 06 24 05.3 +1.8**
PASC Pasadena Art C 66.70 318 *e*P **P 06 23 16.9 -0.3**
comp=Z,210nm,1.2s
PASC *e*pP **pP 06 24 05.5 +1.9**
G26A Maurine 66.72 336 ⇓P **P 06 23 17.8 +0.8**
baz=67
MPU Maple Canyon 66.80 327 *e*P **P 06 23 18.6 +0.7**
comp=Z,183nm,1.3s
MPU *e*pP **pP 06 24 05.7 +1.4**
MPU S **S 06 31 56.4 +2.2**
I23A Meade Ranch, G 66.82 333 ⇑P **P 06 23 19.1 +1.3**
baz=67,SNR=6.4
I23A ⇑P P 06 51 48.7
baz=67
I23A ⇑P P 06 51 48.7
baz=67
J22A Midwest 66.83 332 ⇑P **P 06 23 18.7 +0.7**
baz=67,SNR=296
J22A ⇑P P 06 51 48.5
baz=67,SNR=5.9
J22A ⇑P P 06 51 48.5
baz=67,SNR=5.9
DECC Green Verdugo 66.85 318 ⇓P **P 06 23 19.0 +0.9**
baz=67,SNR=34
DECC ⇓P P 06 51 48.5
baz=67
DECC ⇓P P 06 51 48.5
baz=67
VNA1 Neumayer--Stat 66.86 161 *e*P **P 06 23 17.6 +0.1**
VNA1 Neumayer--Stat 66.86 161 *e*PcP **PcP 06 23 44.5 -0.1**
VNA1 Neumayer--Stat 66.86 161 *e*pP pP 06 24 02.8 -1.2
DAU Daniels Canyon 66.89 327 *e*P **P 06 23 19.4 +0.9**
DAU pmax pmax
comp=Z,252nm,1.4s
DAU Daniels Canyon 66.89 327 *e*P **P 06 23 19.4 +0.9**
comp=Z,252nm,1.4s
DAU *e*pP **pP 06 24 07.8 +2.8**
G25A Newell 66.96 335 ⇓P **P 06 23 19.5 +0.9**
baz=67
AGMN Agassiz Nation 66.97 342 *e*P **P 06 23 17.5 -1.0**
comp=Z,138nm,0.6s
AGMN *e*pP **pP 06 24 03.3 -1.7**
EDW2 Edwards Air Fo 67.03 319 ⇓P **P 06 23 19.8 +0.6**
baz=67,SNR=71
EDW2 ⇓P P 06 51 48.9
baz=67
EDW2 ⇓P P 06 51 48.9
baz=67
ADH Angra Heroismo 67.04 36 *e*P **P 06 23 21.4 +2.3**
comp=Z,360nm,1.3s
H24A Dirks Ranch, A 67.06 334 ⇓P **P 06 23 19.8 +0.5**
baz=67,SNR=196
K20A Yellowstone Ra 67.11 331 ⇓P **P 06 23 20.0 +0.3**
baz=67,SNR=191
K20A ⇓P P 06 51 47.1
baz=67
K20A ⇓P P 06 51 47.1
baz=67
JLU Jordanelle 67.12 327 *e*P **P 06 23 20.8 +0.8**
comp=Z,155nm,1.2s
JLU *e*pP **pP 06 24 07.5 +1.0**
L19A Farson 67.17 330 ⇑P **P 06 23 20.9 +0.7**
baz=67,SNR=277
L19A ⇑P P 06 51 43.5
baz=67,SNR=9.1
L19A ⇑P P 06 51 43.5
baz=67,SNR=9.1
PSMN Pico do Norte, 67.18 38 *e*P **P 06 23 19.7 -0.4**
comp=Z,224nm,1.6s
PSMN *e*P **pP 06 24 03.8 -2.8**
I22A 9 Mile Ranch, 67.21 333 ⇓P **P 06 23 21.2 +0.9**
baz=68,SNR=305
I22A ⇑P P 06 51 46.6
baz=68,SNR=5.2
I22A ⇑P P 06 51 46.6
baz=68,SNR=5.2
LRMC Laurel Mountai 67.22 320 ⇑P **P 06 23 21.3 +0.8**
baz=68,SNR=37
LRMC ⇑P P 06 51 47.9
baz=68
LRMC ⇑P P 06 51 47.9
baz=68
J21A Lysite 67.22 332 ⇑P **P 06 23 21.5 +1.0**
baz=68,SNR=221
J21A ⇓P P 06 51 47.0
baz=68,SNR=5.6
J21A ⇓P P 06 51 47.0
baz=68,SNR=5.6
BLG Laguna Peak 67.24 318 ⇑P **P 06 23 21.0 +0.5**
baz=68,SNR=14
H23A Clabaugh Cattl 67.27 334 ⇑P **P 06 23 21.8 +1.2**
baz=68,SNR=32
H23A ⇑P P 06 51 47.4
baz=68
H23A ⇑P P 06 51 47.4
baz=68
OSI Osito Adit 67.33 318 *e*P **P 06 23 21.8 +0.6**
comp=Z,110nm,0.9s
OSI *e*pP **pP 06 24 09.2 +1.5**
OSI Osito Adit 67.33 318 ⇓P **P 06 23 21.7 +0.6**
baz=68,SNR=21
OSI ⇑P P 06 51 46.9
baz=68
OSI ⇑P P 06 51 46.9
baz=68
PSET Sete Cidades 67.34 37 *e*P **P 06 23 21.8 +0.7**
comp=Z,368nm,1.5s
PSET *e*P pP 06 24 02.4 -5.2
FURC Furnace Creek, 67.34 321 ⇑P **P 06 23 22.4 +1.3**
baz=68,SNR=146
CTU Camp Tracy 67.35 327 *e*P **P 06 23 22.4 +1.1**
comp=Z,56nm,1.0s
CTU *e*pP **pP 06 24 09.0 +1.2**
M17A Scullys Gap (B 67.36 328 ⇑P **P 06 23 22.2 +0.8**
baz=68,SNR=127
M17A ⇑P P 06 51 41.3
baz=68,SNR=8.6
M17A ⇑P P 06 51 41.3
baz=68,SNR=8.6
L18A Fontenelle, Gr 67.38 329 ⇑P **P 06 23 22.1 +0.6**
baz=68,SNR=64
L18A ⇓P P 06 51 47.4
baz=68
L18A ⇓P P 06 51 47.4
baz=68
MPMC Manual Prospec 67.47 320 ⇑P **P 06 23 22.6 +0.5**
baz=68,SNR=75
MPMC ⇑P P 06 51 47.5
baz=68
MPMC ⇑P P 06 51 47.5
baz=68
K19A Absolon Red Bu 67.47 330 ⇓P **P 06 23 22.6 +0.6**
baz=68,SNR=269
K19A ⇑P P 06 51 45.7
baz=68
K19A ⇑P P 06 51 45.7
baz=68
G24A Alzada 67.48 335 ⇑P **P 06 23 22.8 +0.9**
baz=68,SNR=271
G24A ⇑P P 06 51 47.7
baz=68
G24A ⇑P P 06 51 47.7
baz=68
I21A Big Trails, Te 67.51 332 ⇓P **P 06 23 23.0 +0.7**
baz=68,SNR=512
I21A ⇓P P 06 51 45.6
baz=68,SNR=9.4
I21A ⇓P P 06 51 45.6
baz=68,SNR=9.4
J20A Shoshoni 67.52 331 ⇑P **P 06 23 23.4 +1.1**
baz=68,SNR=34
J20A ⇑P P 06 51 46.1
baz=68
J20A ⇑P P 06 51 46.1
baz=68
DUG Dugway 67.56 326 *e*P **P 06 23 23.5 +0.9**
DUG *e**PP **pP 06 24 10.4 +1.2**
DUG *e*S **S 06 32 01.7 -1.5**
DUG pmax pmax
comp=Z,147nm,1.1s
DUG Dugway 67.56 326 *e*P **P 06 23 23.5 +0.9**
comp=Z,148nm,1.1s
DUG *e*pP **pP 06 24 10.4 +1.2**
DUG *e*S **S 06 32 01.7 -1.5**
DUG Dugway 67.56 326 ⇑P **P 06 23 23.5 +0.9**
baz=68,SNR=140
F25A Bowman 67.58 336 ⇓P **P 06 23 23.5 +1.0**
baz=68
E26A Carlson Angus 67.64 337 ⇑P **P 06 23 23.4 +0.5**
baz=68,SNR=216
H22A Clearmont 67.71 333 ⇓P **P 06 23 24.2 +0.8**
baz=68,SNR=101
H22A ⇑P P 06 51 45.7
baz=68
H22A ⇑P P 06 51 45.7
baz=68
ARVC Arvin 67.72 319 ⇓P **P 06 23 24.4 +0.9**
baz=68,SNR=19
ARVC ⇑P P 06 51 45.6
baz=68
ARVC ⇑P P 06 51 45.6
baz=68
BW06 Boulder Array 67.77 330 *e*P **P 06 23 23.9 0.0**
comp=Z,208nm,1.2s
BW06 *e*pP **pP 06 24 10.2 -0.4**
PDAR Pinedale Array 67.77 330 P **P 06 23 23.6 -0.4**
PDAR pP **pP 06 24 10.1 -0.5**
PDAR S **S 06 32 08.3 +2.5**
PDAR ⇑*e* 06 51 45.2
PDAR *e* 07 00 08.1
PDAR Pinedale Array 67.77 330 P **P 06 23 23.6 -0.4**
comp=Z,33nm,0.6s,baz=124,slow=6.4,SNR=158
PDAR pP **pP 06 24 10.1 -0.5**
comp=Z,46nm,1.1s,baz=156,slow=8.1,SNR=2.6
PDAR S **S 06 32 08.3 +2.5**
comp=Z,4.1nm,1.0s,baz=134,slow=15,SNR=6.7
PDAR PKP2bc 06 51 45.2
comp=Z,7.2nm,1.1s,baz=273,slow=2.5,SNR=17
PDAR P4KPbc 07 00 08.1

comp=Z,0.8nm,1.0s,baz=123,slow=3.3,SNR=4.4
MDND Maddock 67.78 339 ⇓P **P 06 23 24.3 +0.7**
baz=68,SNR=266
G23A Biddle 67.78 334 ⇓P **P 06 23 24.3 +0.5**
baz=68,SNR=369
G23A ⇑P P 06 51 45.5
baz=68,SNR=7.8
G23A ⇑P P 06 51 45.5
baz=68,SNR=7.8
ISA Isabella 67.83 319 *e*P **P 06 23 24.8 +0.6**
ISA *e* 06 23 49.9
ISA pmax pmax
comp=Z,126nm,1.0s
ISA Isabella 67.83 319 *e*P **P 06 23 24.8 +0.6**
comp=Z,126nm,1.0s
ISA *e*PcP **PcP 06 23 49.9 +0.5**
ISA *e*pP **pP 06 24 12.7 +1.8**
ISA Isabella 67.83 319 ⇓P **P 06 23 25.1 +0.8**
baz=68,SNR=70
ISA ⇓P P 06 51 40.3
baz=68,SNR=5.3
ISA ⇓P P 06 51 40.3
baz=68,SNR=5.3
SBC Santa Barbara 67.86 318 ⇑P **P 06 23 25.3 +0.9**
baz=68
J19A Crowheart 67.91 331 ⇓P **P 06 23 25.7 +1.0**
baz=68,SNR=65
J19A ⇓P P 06 51 44.7
baz=68
J19A ⇓P P 06 51 44.7
baz=68
F24A Ekalaka 67.91 335 ⇑P **P 06 23 25.5 +0.9**
baz=68,SNR=472
F24A ⇑P P 06 51 42.8
baz=68
F24A ⇑P P 06 51 42.8
baz=68
HWUT Hardware Ranch 67.92 328 *e*P **P 06 23 25.1 +0.2**
comp=Z,57nm,0.7s
HWUT *e*pP **pP 06 24 12.0 +0.6**
GRAC Grapevine Rang 68.00 321 ⇓P **P 06 23 26.0 +0.8**
baz=68,SNR=55
GRAC ⇓P P 06 51 42.5
baz=68
GRAC ⇓P P 06 51 42.5
baz=68
I20A Worland 68.00 332 ⇑P **P 06 23 25.8 +0.6**
baz=68,SNR=162
I20A ⇑P P 06 51 43.6
baz=68
I20A ⇑P P 06 51 43.6
baz=68
E25A Miller Ranch, 68.03 336 ⇑P **P 06 23 26.3 +1.0**
baz=68,SNR=125
E25A ⇓P P 06 51 46.6
baz=68
E25A ⇓P P 06 51 46.6
baz=68
H21A Big Horn, Sher 68.04 333 ⇓P **P 06 23 25.7 +0.2**
baz=68,SNR=110
H21A ⇓P P 06 51 43.2
baz=68
H21A ⇓P P 06 51 43.2
baz=68
CWC Cottonwood Cre 68.08 320 ⇓P **P 06 23 26.9 +1.0**
baz=68
G22A Birney 68.18 334 ⇓P **P 06 23 27.5 +1.2**
baz=68,SNR=94
G22A ⇑P P 06 51 43.5
baz=68,SNR=6.3
G22A ⇑P P 06 51 43.5
baz=68,SNR=6.3
F23A Volborg 68.20 334 ⇓P **P 06 23 27.4 +1.0**
baz=68,SNR=308
F23A ⇑P P 06 51 43.4
baz=68,SNR=5.8
F23A ⇑P P 06 51 43.4
baz=68,SNR=5.8
PKM Peak Mountain 68.21 318 ⇓P **P 06 23 27.5 +0.7**
baz=68,SNR=59
PKM ⇑P P 06 51 43.6
baz=68
PKM ⇑P P 06 51 43.6
baz=68
LIC Lamto 68.26 77 *e*P **P 06 23 25.5 -1.8**
comp=Z,336nm,0.7s,baz=254
LIC *e*R
comp=Z,4μm,22.0s
VES Vestal, Richgr 68.33 319 ⇓P **P 06 23 29.6 +2.4**
baz=69,SNR=34
H20A Greybull 68.36 332 ⇑P **P 06 23 27.9 +0.5**
baz=69,SNR=308
H20A ⇓P P 06 51 41.7
baz=69,SNR=6.3
H20A ⇓P P 06 51 41.7
baz=69,SNR=6.3
E24A Baker 68.44 336 ⇓P **P 06 23 29.0 +1.2**
baz=69,SNR=156
E24A ⇓P P 06 51 43.5
baz=69
E24A ⇓P P 06 51 43.5
baz=69
I19A Meeteetse 68.47 331 ⇓P **P 06 23 29.2 +1.0**
baz=69,SNR=164
I19A ⇑P P 06 51 38.3
baz=69,SNR=6.0
I19A ⇑P P 06 51 38.3
baz=69,SNR=6.0
AHID Auburn Hatcher 68.53 329 *e*P **P 06 23 29.0 +0.3**
comp=Z,136nm,0.8s
AHID *e*pP **pP 06 24 16.0 +0.7**
DBIC Dimbokro 68.56 77 *e*P **P 06 23 27.9 -1.3**
DBIC Dimbokro 68.56 77 *e*P **P 06 23 27.9 -1.3**
comp=Z,322nm,0.8s
DBIC *e*pP **pP 06 24 15.7 -0.1**
DBIC pP **pP 06 24 16.7 +0.8**
DBIC S **S 06 32 10.5 -5.3**
DBIC Dimbokro 68.56 77 P **P 06 23 27.6 -1.5**
comp=Z,308nm,0.7s,baz=231,slow=5.9,SNR=231
DBIC pP **pP 06 24 16.7 +0.8**
comp=Z,132nm,0.9s,baz=235,slow=4.4,SNR=5.3
DBIC S **S 06 32 10.5 -5.3**
comp=Z,12nm,1.0s,baz=29,slow=17,SNR=6.6
DBIC LR LR 06 53 22.9
comp=Z,2μm,19.2s,baz=129,slow=36
G21A Lodge Grass 68.58 333 ⇑P **P 06 23 29.2 +0.5**
baz=69,SNR=85
G21A ⇓P P 06 51 42.4
baz=69
G21A ⇓P P 06 51 42.4
baz=69
SMMC Simmler 68.58 318 ⇓P **P 06 23 30.1 +1.2**
baz=69,SNR=54
SMMC ⇑P P 06 51 42.8
baz=69
SMMC ⇑P P 06 51 42.8
baz=69
I18A Diamond G Ranc 68.60 330 ⇑P **P 06 23 29.8 +0.6**
baz=69,SNR=91
I18A ⇑P P 06 51 43.2
baz=69
I18A ⇑P P 06 51 43.2
baz=69
F22A Rosebud 68.61 334 ⇑P **P 06 23 29.4 +0.5**
baz=69,SNR=171
F22A ⇑P P 06 51 40.8
baz=69,SNR=6.5
F22A ⇑P P 06 51 40.8
baz=69,SNR=6.5
HVU Hansel Valley 68.67 327 *e*P **P 06 23 29.6 +0.2**
HVU *e**PP **pP 06 24 16.7 +0.5**
HVU *e* 06 26 05.7
HVU pmax pmax
comp=Z,74nm,0.8s
HVU Hansel Valley 68.67 327 *e*P **P 06 23 29.6 +0.2**
comp=Z,74nm,0.8s
HVU *e*pP **pP 06 24 16.7 +0.5**
HVU *e*PP **PP 06 26 05.7 +1.7**
RCTC Rector, Farmer 68.72 319 ⇑P **P 06 23 31.5 +1.9**
baz=69,SNR=26
ULM Lac du Bonnet 68.72 343 P **P 06 23 28.1 -1.2**
ULM S **S 06 32 12.6 -3.7**
ULM ⇑*e* 06 51 38.7
ULM Lac du Bonnet 68.72 343 P **P 06 23 28.1 -1.2**
comp=Z,230nm,0.7s,baz=153,slow=6.1,SNR=105
ULM S **S 06 32 12.6 -3.7**
comp=Z,28nm,1.2s,baz=59,slow=23,SNR=11
ULM PKP2bc 06 51 38.7
comp=Z,29nm,1.1s,baz=334,slow=4.2,SNR=16
E23A Ismay 68.79 335 ⇑P **P 06 23 31.1 +1.2**
baz=69,SNR=161
E23A ⇑P P 06 51 42.3
baz=69,SNR=6.8
E23A ⇑P P 06 51 42.3
baz=69,SNR=6.8
SNAA Sanae 68.86 162 *e*P **P 06 23 29.5 -0.6**
SNAA Sanae 68.86 162 P **P 06 23 29.1 -1.0**
comp=Z,32nm,1.0s
SNAA *e*pP **pP 06 24 17.7 +0.8**
SNAA *es*P **sP 06 24 38.2 -0.1**
SNAA S **S 06 32 19.4 +1.8**
SNAA ⇑*e* 06 51 38.8
SNAA Sanae 68.86 162 P **P 06 23 29.1 -1.0**
comp=Z,216nm,0.8s,baz=286,slow=6.4,SNR=457
SNAA S **S 06 32 19.4 +1.8**
comp=Z,1.4nm,1.0s,baz=185,slow=21,SNR=7.2
SNAA PKP2bc 06 51 38.8
comp=Z,4.5nm,1.3s,baz=9.4,slow=1.8,SNR=12
SNOW Snow King Moun 68.88 330 *e*P **P 06 23 31.3 +0.5**
comp=Z,88nm,0.8s
SNOW *e*pP **pP 06 24 18.1 +0.5**
D24A Glendive 68.90 336 ⇓P **P 06 23 31.9 +1.3**
baz=69,SNR=205
D24A ⇓P P 06 51 41.1
baz=69
D24A ⇓P P 06 51 41.1
baz=69
LOHW Long Hollow 68.91 330 *e*P **P 06 23 31.6 +0.6**
comp=Z,96nm,0.9s
LOHW *e*pP **pP 06 24 18.6 +0.9**
H19A Powell 68.95 332 ⇑P **P 06 23 31.8 +0.7**
baz=69,SNR=66
H19A ⇓P P 06 51 40.5
baz=69,SNR=7.2
H19A ⇓P P 06 51 40.5
baz=69,SNR=7.2
TPAW Teton Pass 68.99 330 *e*P **P 06 23 32.2 +0.7**
comp=Z,142nm,0.9s
TPAW *e*pP **pP 06 24 19.2 +0.9**
TPAW *e*S **S 06 32 22.0 +1.7**
E22A Miles City 69.01 335 ⇓P **P 06 23 32.2 +0.9**
baz=69,SNR=86
E22A ⇓P P 06 51 40.1
baz=69,SNR=12
E22A ⇓P P 06 51 40.1
baz=69,SNR=12
F21A Absaloka Mine, 69.01 333 ⇑P **P 06 23 32.3 +0.9**
baz=69,SNR=113
F21A ⇓P P 06 51 39.5
baz=69,SNR=5.2
F21A ⇓P P 06 51 39.5
baz=69,SNR=5.2
G20A Bridger 69.02 332 ⇑P **P 06 23 32.3 +0.8**
baz=69,SNR=86
G20A ⇑P P 06 51 39.9
baz=69
G20A ⇑P P 06 51 39.9
baz=69
RRI2 Red Ridge 69.07 329 *e*P **P 06 23 32.6 +0.6**
comp=Z,378nm,0.9s
RRI2 *e*PcP **PcP 06 23 56.6 +1.9**
RRI2 *e*pP **pP 06 24 19.3 +0.5**
RRI2 *e*S **S 06 32 23.5 +2.3**
MOOW Moose Ponds 69.08 330 *e*P **P 06 23 32.4 +0.3**
comp=Z,91nm,1.0s
MOOW *e*pP **pP 06 24 19.5 +0.6**
I17A Pilgrim Ck. 69.13 330 ⇑P **P 06 23 33.4 +1.1**
baz=69,SNR=75
I17A ⇓P P 06 51 42.7
baz=69
I17A ⇓P P 06 51 42.7
baz=69
ELK Elko 69.26 325 *e*P **P 06 23 33.6 +0.4**
comp=Z,48nm,1.0s
ELK *e*pP **pP 06 24 20.6 +0.5**
ELK *e*S **S 06 32 24.2 +0.7**
ELK S **S 06 32 27.1 +3.6**
ELK Elko 69.26 325 S **S 06 32 27.1 +3.6**
comp=Z,0.3nm,0.3s,baz=239,slow=20,SNR=5.8
H18A Shoshone NF, C 69.27 331 ⇑P **P 06 23 33.4 +0.2**
baz=70,SNR=211
H18A ⇑P P 06 51 40.3
baz=70
H18A ⇑P P 06 51 40.3
baz=70
C24A Savage 69.28 336 ⇓P **P 06 23 34.6 +1.7**
baz=70,SNR=183
C24A ⇑P P 06 51 43.6
baz=70
C24A ⇑P P 06 51 43.6
baz=70
IMW Indian Meadow 69.29 330 *e*P **P 06 23 34.0 +0.6**
comp=Z,213nm,1.0s
IMW *e*pP **pP 06 24 21.5 +1.3**
D23A Lindsay 69.30 335 ⇑P **P 06 23 34.7 +1.6**
baz=70,SNR=344
D23A ⇑P P 06 51 40.2
baz=70,SNR=6.2
D23A ⇑P P 06 51 40.2
baz=70,SNR=6.2
MLAC Mammoth Lakes 69.30 321 ⇑P **P 06 23 35.3 +1.8**
baz=70,SNR=24
NV11 Mina Array Sit 69.40 322 *e*P **P 06 23 34.8 +0.7**
NV11 *e*pP **pP 06 24 22.3 +1.4**
RLMT Red Lodge 69.42 332 *e*P **P 06 23 34.9 +0.8**
comp=Z,328nm,1.2s
RLMT *e*pP **pP 06 24 23.2 +2.3**
F20A Billings 69.44 333 ⇓P **P 06 23 35.2 +1.2**
baz=70,SNR=82
F20A ⇑P P 06 51 38.5
baz=70,SNR=6.8
F20A ⇑P P 06 51 38.5
baz=70,SNR=6.8
H17A Grant Village 69.48 330 ⇓P **P 06 23 36.5 +2.0**
baz=70,SNR=76
NVAR Mina Array Bea 69.49 322 P **P 06 23 35.4 +0.7**
NVAR ⇑*e* 06 51 39.3
NVAR *e* 07 00 17.1
NVAR Mina Array Bea 69.49 322 P **P 06 23 35.4 +0.7**
comp=Z,44nm,0.9s,baz=135,slow=5.7,SNR=164
NVAR PKP2bc 06 51 39.3
comp=Z,9.4nm,1.0s,baz=275,slow=3.8,SNR=22
NVAR P4KPbc 07 00 17.1
comp=Z,0.4nm,0.8s,baz=159,slow=5.8,SNR=3.5
LKWY Lake 69.53 331 *e*P **P 06 23 36.7 +1.9**
LKWY *e**PP **pP 06 24 23.6 +2.0**
LKWY pmax pmax
comp=Z,301nm,1.0s
LKWY Lake 69.53 331 *e*P **P 06 23 36.6 +1.9**
comp=Z,301nm,1.0s
LKWY *e*pP **pP 06 24 23.6 +2.0**
I16A Newdale 69.54 330 ⇓P **P 06 23 36.1 +1.4**
baz=70
E21A Keefer Ranch, 69.56 334 ⇑P **P 06 23 35.7 +1.0**
baz=70,SNR=246
E21A ⇑P P 06 51 39.0
baz=70
E21A ⇑P P 06 51 39.0
baz=70
YFT Old Faithful 69.65 330 *e*P **P 06 23 38.0 +2.4**
comp=Z,366nm,1.3s
YFT *e*PcP **PcP 06 23 59.5 +2.4**
YFT *e*pP **pP 06 24 25.1 +2.7**
SCHQ Schefferville 69.67 2 P **P 06 23 34.0 -1.1**
comp=Z,22nm,1.0s
SCHQ *e*pP **pP 06 24 20.2 -1.8**
SCHQ *es*P **sP** 06 24 48.8 +5.6
SCHQ *e*PP **PP 06 26 10.5 -1.7**
SCHQ Schefferville 69.67 2 P **P 06 23 34.0 -1.1**
comp=Z,42nm,0.8s,baz=187,slow=4.5,SNR=28
D22A Cohagen 69.67 335 ⇓P **P 06 23 37.4 +2.0**
baz=70,SNR=791
D22A ⇑P P 06 51 38.9
baz=70,SNR=12
D22A ⇑P P 06 51 38.9
baz=70,SNR=12
G18A Lazy EL Ranch, 69.71 332 ⇓P **P 06 23 36.5 +0.7**
baz=70,SNR=309
G18A ⇓P P 06 51 37.9
baz=70
G18A ⇓P P 06 51 37.9
baz=70
YNR Norris Junctio 69.77 331 *e*P **P 06 23 37.6 +1.4**
comp=Z,94nm,0.8s
YNR *e*pP **pP 06 24 24.8 +1.6**
C23A Lambert 69.80 336 ⇓P **P 06 23 37.3 +1.2**
baz=70,SNR=146
C23A ⇓P P 06 51 37.8
baz=70,SNR=8.2
C23A ⇓P P 06 51 37.8
baz=70,SNR=8.2
F19A Roth Farm, Mol 69.84 332 ⇓P **P 06 23 37.3 +0.8**
baz=70,SNR=269
F19A ⇓P P 06 51 36.2
baz=70
F19A ⇓P P 06 51 36.2
baz=70
YMR Madison River 69.87 330 *e*P **P 06 23 38.5 +1.6**
comp=Z,525nm,1.3s
YMR *e*pP **pP 06 24 24.7 +0.9**
D21A La Casta Ranch 69.94 334 ⇓P **P 06 23 38.2 +1.1**
baz=70,SNR=541
D21A ⇑P P 06 51 36.6
baz=70,SNR=12
D21A ⇑P P 06 51 36.6
baz=70,SNR=12
DGMT Dagmar 69.96 337 *e*P **P 06 23 37.8 +0.8**
comp=Z,456nm,0.8s
DGMT *e*pP **pP 06 24 25.0 +1.0**
DGMT Dagmar 69.96 337 ⇓P **P 06 23 38.3 +1.2**
baz=70,SNR=190
DGMT ⇑P P 06 51 37.5
baz=70,SNR=8.2
DGMT ⇑P P 06 51 37.5
baz=70,SNR=8.2
DGMT ⇑P P 06 51 37.5
baz=70,SNR=8.2
DGMT ⇑P P 06 51 37.5
baz=70,SNR=8.2
E20A Meyer Farm, Mu 69.98 333 ⇑P **P 06 23 38.9 +1.6**
baz=70,SNR=309
E20A ⇑P P 06 51 34.0
baz=70,SNR=6.9
E20A ⇑P P 06 51 34.0
baz=70,SNR=6.9
C22A Vida 70.03 335 ⇑P **P 06 23 38.5 +0.9**
baz=70,SNR=323
C22A ⇓P P 06 51 37.1
baz=70,SNR=14
C22A ⇓P P 06 51 37.1
baz=70,SNR=14
H16A Russell Place, 70.03 330 ⇑P **P 06 23 39.5 +1.6**
baz=70,SNR=219
GCMT Greycliff 70.11 332 *e*P **P 06 23 38.9 +0.7**
comp=Z,553nm,1.4s
GCMT *e*pP **pP 06 24 27.1 +2.0**
BMN Battle Mountai 70.16 324 *e*P **P 06 23 39.2 +0.5**
BMN *e**PP **pP 06 24 25.2 -0.4**
BMN pmax pmax
comp=Z,93nm,1.5s
BMN Battle Mountai 70.16 324 *e*P **P 06 23 39.2 +0.5**
comp=Z,93nm,1.5s
BMN *e*pP **pP 06 24 25.2 -0.4**
QLMT Earthquake Lak 70.22 330 *e*P **P 06 23 40.5 +1.5**
comp=Z,11nm,0.8s
QLMT *e*pP **pP 06 24 28.0 +2.1**
QLMT *e*PP **PP 06 26 20.3 +3.0**
F18A Big Timber 70.22 332 ⇓P **P 06 23 40.0 +1.1**
baz=70,SNR=396
E19A Rath Farm, Rou 70.24 333 ⇓P **P 06 23 39.8 +0.9**
baz=70,SNR=481
E19A ⇓P P 06 51 35.0
baz=70
E19A ⇓P P 06 51 35.0
baz=70
G17A Pierce Place, 70.25 331 ⇑P **P 06 23 40.1 +1.0**
baz=70,SNR=26
B23A Brockton 70.26 336 ⇓P **P 06 23 40.1 +1.2**
baz=70,SNR=347
A24A Westby 70.26 337 ⇓P **P 06 23 40.2 +1.4**
baz=70,SNR=177
A24A ⇑P P 06 51 37.1
baz=70
A24A ⇑P P 06 51 37.1
baz=70
SAO San Andreas Ge 70.40 319 *e*P **P 06 23 39.8 -0.1**
SAO pmax pmax
comp=Z,115nm,1.4s
SAO San Andreas Ge 70.40 319 *e*P **P 06 23 39.8 -0.1**
comp=Z,115nm,1.4s
SAO *e*pP **pP 06 24 27.4 +0.5**
CMB Columbia Colle 70.51 320 *e*P **P 06 23 40.9 +0.3**
CMB *e**PP **pP 06 24 27.9 +0.3**
CMB pmax pmax
comp=Z,83nm,1.2s
CMB Columbia Colle 70.51 320 *e*P **P 06 23 40.9 +0.3**
comp=Z,83nm,1.2s
CMB *e*pP **pP 06 24 27.9 +0.3**
CMB *es*P sP 06 24 55.1 +6.2
B22A Reddig Ranch S 70.52 336 ⇑P **P 06 23 41.4 +0.9**
baz=71,SNR=258
B22A ⇑P P 06 51 35.2
baz=71,SNR=9.7
B22A ⇑P P 06 51 35.2
baz=71,SNR=9.7
I14A Mackay 70.55 329 ⇑P **P 06 23 42.2 +1.2**
baz=71,SNR=184
C21A Desert Coulee 70.58 335 ⇓P **P 06 23 41.8 +0.9**
baz=71,SNR=242
A23A Redstone 70.62 337 ⇓P **P 06 23 43.0 +1.9**
baz=71,SNR=113
A23A ⇑P P 06 51 32.1
baz=71
A23A ⇑P P 06 51 32.1
baz=71
F17A Fitzpatrick Pl 70.66 332 ⇑P **P 06 23 42.9 +1.4**
baz=71,SNR=195
E18A Harlowton 70.82 332 ⇑P **P 06 23 43.4 +1.0**
baz=71,SNR=220
D19A Cripps Ranch, 70.82 333 ⇑P **P 06 23 43.3 +0.9**
baz=71,SNR=363
C20A Veseth Ranch, 70.87 334 ⇓P **P 06 23 43.9 +1.3**
baz=71,SNR=208
C20A ⇓P P 06 51 32.9
baz=71
C20A ⇓P P 06 51 32.9
baz=71
MCMT McKenzie Canyo 70.90 330 *e*P **P 06 23 44.2 +1.1**
comp=Z,59nm,0.9s
MCMT *e*pP **pP 06 24 32.1 +2.0**
BOZ Bozeman (W) 70.92 331 *e*P **P 06 23 43.2 +0.1**
BOZ *e**PP **pP 06 24 30.3 +0.2**
BOZ *es* **S 06 32 38.0 -4.3**
BOZ pmax pmax
comp=Z,370nm,1.6s
BOZ Bozeman (W) 70.92 331 *e*P **P 06 23 43.2 +0.1**
comp=Z,370nm,1.6s
BOZ *e*pP **pP 06 24 30.3 +0.2**
BOZ *e*S **S 06 32 38.0 -4.3**
B21A Ellsworth Farm 71.03 335 ⇓P **P 06 23 45.1 +1.5**
baz=71,SNR=36
B21A ⇑P P 06 51 33.0
baz=71
B21A ⇑P P 06 51 33.0
baz=71
A22A Carney Farms, 71.05 336 ⇑P **P 06 23 44.9 +1.3**
baz=71,SNR=279
E17A Martinsdale 71.16 332 ⇓P **P 06 23 45.6 +1.0**
baz=71,SNR=297
DLMT Dillon 71.17 330 *e*P **P 06 23 45.2 +0.6**
comp=Z,314nm,1.6s
DLMT *e*pP **pP 06 24 32.3 +0.7**
DLMT *e*S **S 06 32 43.9 -1.4**
D18A Linhart Farms, 71.25 333 ⇓P **P 06 23 46.1 +1.2**
baz=72,SNR=232
I12A Atlanta 71.32 328 ⇓P **P 06 23 46.5 +0.9**
baz=72,SNR=153
C19A Slack Wire Ran 71.33 334 ⇓P **P 06 23 46.6 +1.2**
baz=72,SNR=436
MFID Camas Ranch 71.42 327 *e*P **P 06 23 47.1 +1.0**
comp=Z,220nm,1.0s
MFID *e*pP **pP 06 24 34.1 +1.0**
MFID Camas Ranch 71.42 327 ⇑P **P 06 23 47.1 +1.0**
baz=72,SNR=200
LRM Limekiln Ridge 71.43 330 *e*P **P 06 23 46.6 +0.4**
comp=Z,480nm,0.9s
LRM *e*pP **pP 06 24 34.0 +0.6**
LRM *e*PP **PP 06 26 24.6 -3.2**
A21A Bergtoll Ranch 71.44 336 ⇑P **P 06 23 47.3 +1.3**
baz=72,SNR=89
A21A ⇑P P 06 51 32.6

baz=72
A21A ⇑P P 06 51 32.6
baz=72
B20A Solberg Farm, 71.45 335 ⇓P **P 06 23 47.4 +1.3**
baz=72,SNR=71
SAC San Andreas 71.51 319 *eP* **P 06 23 47.7 +1.1**
SAC pmax pmax
comp=Z,178nm,1.0s
SAC San Andreas 71.51 319 *eP* **P 06 23 47.7 +1.1**
comp=Z,178nm,1.0s
SAC *epP* **pP 06 24 37.9 +4.2**
E16A East Helena 71.59 331 ⇑P **P 06 23 48.2 +1.1**
baz=72,SNR=46
D17A Six Diamond Ra 71.61 332 ⇓P **P 06 23 48.3 +1.1**
baz=72,SNR=391
BEKR Beckworth 71.63 322 *eP* **P 06 23 48.3 +0.8**
comp=Z,118nm,1.5s
BEKR *epP* **pP 06 24 35.9 +1.3**
H12A Diamond D Ranc 71.70 328 ⇑P **P 06 23 48.8 +1.0**
baz=72,SNR=117
A20A Cobblestone Ra 71.76 335 ⇓P **P 06 23 49.2 +1.3**
baz=72,SNR=150
HRY Holter Researc 71.80 331 *eP* **P 06 23 49.3 +1.0**
comp=Z,96nm,0.8s
B19A Brinkman Farms 71.85 334 ⇑P **P 06 23 49.7 +1.2**
baz=72,SNR=359
EGMT Eagleton 71.86 333 *eP* **P 06 23 49.0 +0.4**
comp=Z,2µm,0.5s
EGMT *eP*cP **PcP 06 24 05.6 -0.6**
EGMT *epP* **pP 06 24 36.8 +1.1**
EGMT *eS* **S 06 32 47.8 -5.1**
EGMT Eagleton 71.86 333 ⇑P **P 06 23 49.8 +1.2**
baz=72,SNR=313
D16A Dana Ranch, Ca 71.91 332 ⇓P **P 06 23 50.0 +1.1**
baz=72,SNR=458
C17A Wharram Farm, 72.00 333 ⇑P **P 06 23 50.2 +0.8**
baz=72,SNR=214
A19A Klindworth Far 72.13 335 ⇓P **P 06 23 51.4 +1.2**
baz=72,SNR=448
B18A Beardsley Farm 72.15 334 ⇓P **P 06 23 51.3 +1.0**
baz=72,SNR=448
WVOR Wild Horse Val 72.28 325 *eP* **P 06 23 51.7 +0.4**
WVOR *e*PP **pP 06 24 39.2 +0.7**
WVOR pmax pmax
comp=Z,109nm,1.4s
WVOR Wild Horse Val 72.28 325 *eP* **P 06 23 51.7 +0.4**
comp=Z,109nm,1.4s
WVOR *epP* **pP 06 24 39.1 +0.7**
G12A Big Creek, Yel 72.35 328 ⇑P **P 06 23 52.9 +1.2**
baz=73
D15A Lincoln 72.36 331 ⇓P **P 06 23 52.8 +1.2**
baz=73,SNR=310
B17A L&G Farms, Che 72.52 333 ⇑P **P 06 23 53.5 +1.1**
baz=73,SNR=111
C16A Fuhringer Ranc 72.57 332 ⇓P **P 06 23 53.8 +1.0**
baz=73,SNR=231
A18A Metzger Ranch, 72.59 334 ⇓P **P 06 23 53.9 +1.1**
baz=73,SNR=247
CHMT Chamberlain Mo 72.61 331 *eP* **P 06 23 54.1 +0.9**
comp=Z,96nm,1.2s
CHMT *epP* **pP 06 24 42.2 +1.8**
HOPS Hopland 72.76 320 *eP* **P 06 23 55.3 +1.3**
comp=Z,161nm,1.6s
HOPS *epP* **pP 06 24 42.2 +0.9**
J08A Circle Bar Ran 72.80 325 P **P 06 23 56.0 +1.7**
D14A Greenough 72.85 331 ⇓P **P 06 23 55.6 +1.1**
baz=73,SNR=136
MOD Modoc 72.89 323 *eP* **P 06 23 54.8 -0.1**
comp=Z,209nm,1.1s
MOD *epP* **pP 06 24 43.0 +0.8**
MOD *eS* **S 06 33 01.2 -3.8**
C15A Salmond Ranch, 72.94 332 ⇓P **P 06 23 56.1 +1.1**
baz=73,SNR=464
SLMT Seeley Lake 72.96 331 *eP* **P 06 23 56.0 +0.8**
comp=Z,15nm,0.2s
SLMT *epP* **pP 06 24 44.4 +1.9**
A17A Triple J Farms 72.97 334 ⇑P **P 06 23 55.9 +0.8**
baz=73,SNR=495
B16A M & M Farms, S 73.01 333 ⇑P **P 06 23 56.0 +0.6**
baz=73,SNR=98
BMO Blue Mountains 73.18 327 *eP* **P 06 23 56.5 +0.1**
comp=Z,183nm,1.3s
BMO *epP* **pP 06 24 43.4 -0.3**
BMO *eS* **SKiKP 06 33 02.3 -5.5**
D13A Huson 73.31 330 ⇓P **P 06 23 58.2 +1.1**
baz=74,SNR=124
B15A Bradely Ranch, 73.32 332 ⇓P **P 06 23 57.9 +0.7**
baz=74,SNR=264
MAIT Maitri 73.36 160 *eP* P 06 23 47.5 -10
A16A West Butte Ran 73.36 333 ⇓P **P 06 23 58.4 +0.9**
baz=74,SNR=295
E12A Beaver Dam Sad 73.37 329 ⇓P **P 06 23 58.3 +0.7**
baz=74,SNR=168
WDC Whiskeytown Da 73.39 321 *eP* **P 06 23 57.4 -0.2**
WDC *e*PP **pP 06 24 44.3 -0.7**
WDC pmax pmax
comp=Z,35nm,0.6s
WDC Whiskeytown Da 73.39 321 *eP* **P 06 23 57.4 -0.2**
comp=Z,35nm,0.6s
WDC *epP* **pP 06 24 44.3 -0.7**
SWMT Swartz Lake 73.39 331 *eP* **P 06 23 58.6 +0.9**
comp=Z,99nm,1.1s
SWMT *epP* **pP 06 24 47.0 +2.0**
C14A Swan Lake 73.46 331 ⇓P **P 06 23 59.1 +1.1**
baz=74
KCPM Cahto Peak 73.49 320 *eP* **P 06 24 00.6 +2.2**
comp=Z,81nm,1.2s
KCPM *epP* **pP 06 24 47.8 +2.0**
KIPM Iron Peak 73.50 320 *eP* **P 06 23 58.5 0.0**
comp=Z,93nm,1.0s
YBMT Yellow Bay 73.65 331 *eP* **P 06 24 00.3 +1.1**
comp=Z,80nm,0.9s
YBMT *epP* **pP 06 24 48.6 +2.0**
B14A Marquette Ranc 73.67 332 ⇑P **P 06 24 00.3 +1.0**
baz=74,SNR=64
JTMT Jette 73.70 331 *eP* **P 06 24 00.2 +0.8**
comp=Z,105nm,1.2s
JTMT *epP* **pP 06 24 49.4 +2.5**
C13A Hot Springs 73.78 331 ⇑P **P 06 24 01.0 +1.1**
baz=74,SNR=213
A15A Johnson Ranch, 73.88 333 ⇓P **P 06 24 01.1 +0.6**
baz=74,SNR=132
MEH Mehetia 73.90 255 *eP* **P 06 24 02.8 +1.6**
comp=Z,341nm,1.2s
BLMT Blacktail Moun 73.92 331 *eP* **P 06 24 01.6 +0.7**
comp=Z,187nm,1.3s
BLMT *epP* **pP 06 24 50.1 +1.8**
BSMT Bassoo Peak 74.01 331 *eP* **P 06 24 02.5 +1.1**
comp=Z,222nm,1.5s
BSMT *epP* **pP 06 24 51.3 +2.6**
A14A Double T Ranch 74.19 332 ⇑P **P 06 24 03.4 +1.1**
baz=74,SNR=188
YBH Yreka Blue Hor 74.19 322 *eP* **P 06 24 01.7 -0.7**
comp=Z,58nm,1.0s
YBH *epP* **pP 06 24 48.8 -1.0**
YBH S **S 06 33 20.9 +1.4**
YBH Yreka Blue Hor 74.19 322 P **P 06 24 01.7 -0.7**
comp=Z,60nm,1.0s,baz=108,slow=3.7,SNR=97
YBH S **S 06 33 20.9 +1.4**
comp=Z,2.2nm,1.0s,baz=234,slow=20,SNR=8.1
TBI Tubuai 74.20 250 *eP* **P 06 24 04.4 +1.6**
comp=Z,595nm,1.3s
TBI *eS* **SKiKP 06 33 14.9 +5.0**
comp=Z,2µm,29.2s
TBI Tubuai 74.20 250 *eLQ* LQ 06 43 43.9
comp=Z,4µm,32.2s
B13A Whitefish 74.23 331 ⇓P **P 06 24 03.6 +1.2**
baz=74,SNR=106
C12B Naegeli Ranch, 74.23 330 ⇑P **P 06 24 03.6 +1.2**
baz=74,SNR=54
KHMM Horse Mountain 74.29 321 *eP* **P 06 24 04.2 +1.2**
comp=Z,182nm,1.0s
KHMM *epP* **pP 06 24 51.4 +0.9**
PMOR Pomariorio Ree 74.30 258 *eP* **P 06 24 05.3 +1.9**
comp=Z,635nm,1.1s
FFC Flin Flon 74.45 342 P **P 06 24 03.5 0.0**
comp=Z,757nm,0.8s,SNR=54
FFC Flin Flon 74.45 342 *eP* **P 06 24 02.6 -0.8**
FFC *e*PP **pP 06 24 48.2 -2.7**
FFC pmax pmax
comp=Z,92nm,0.8s
FFC Flin Flon 74.45 342 *eP* **P 06 24 02.6 -0.8**
comp=Z,92nm,0.8s
FFC *epP* **pP 06 24 48.2 -2.7**
WALA Waterton Lakes 74.47 332 *eP* **P 06 24 04.3 +0.4**
comp=Z,6.4nm,1.1s
WALA *epP* **pP 06 24 51.8 +0.4**

A13A Flathead Natio 74.61 332 ⇓P **P 06 24 06.8 +2.2**
baz=75
C11A Tepee Creek (N 74.70 330 ⇑P **P 06 24 06.4 +1.2**
baz=75
KRMB Red Mountain 74.78 321 *eP* **P 06 24 06.3 +0.5**
comp=Z,121nm,1.2s
KRMB *epP* **pP 06 24 54.7 +1.3**
B12A Libby 74.83 331 ⇓P **P 06 24 07.2 +1.4**
baz=75,SNR=164
HUMO Hull Mountain 74.87 323 *eP* **P 06 24 06.7 +0.5**
comp=Z,65nm,1.1s
HUMO *epP* **pP 06 24 53.2 -0.5**
TVO Taravao 75.02 255 *eP* **P 06 24 09.6 +1.9**
comp=Z,454nm,1.3s
QSPA South Pole Qui 75.11 180 P **P 06 24 06.8 -0.6**
QSPA PP **PP 06 26 55.6 -2.4**
QSPA PKiKP **PKiKP 06 29 55.6 +0.3**
QSPA S **S 06 33 29.6 +0.5**
QSPA P'P' 06 51 25.2
QSPA South Pole Qui 75.11 180 P **P 06 24 06.8 -0.6**
comp=Z,300nm,1.0s,baz=150,slow=2.6,SNR=226
QSPA PP **PP 06 26 55.6 -2.4**
comp=Z,48nm,1.1s,baz=66,slow=5.7,SNR=3.5
QSPA PKiKP **PKiKP 06 29 55.6 +0.3**
comp=Z,7.4nm,1.0s,baz=214,slow=11,SNR=4.1
QSPA S **S 06 33 29.5 +0.5**
comp=Z,1.9nm,1.1s,baz=24,slow=23,SNR=6.1
QSPA PKPPKP P'P'df 06 51 25.2 -5.8
comp=Z,7.0nm,1.0s,baz=286,slow=2.7,SNR=7.1
TIAR Tiarei 75.16 256 *eP* **P 06 24 10.1 +1.7**
comp=Z,117nm,0.9s
A12A Yaak River Ran 75.18 331 ⇑P **P 06 24 09.0 +1.1**
baz=75,SNR=150
PAE Paea 75.36 255 *eP* **P 06 24 11.4 +1.9**
comp=Z,63nm,1.2s
PPT2 Papeete2 75.36 255 *eP* **P 06 24 11.8 +2.1**
comp=Z,330nm,1.4s
PPT2 *eS* **S 06 33 29.4 -4.0**
comp=Z,3µm,27.5s
PPT2 Papeete2 75.36 255 *eLQ* LQ 06 44 11.8
comp=Z,2µm,25.0s
HAWA Hanford 75.37 327 *eP* **P 06 24 10.0 +1.1**
comp=Z,224nm,1.3s
HAWA *epP* **pP 06 24 58.5 +2.0**
PPT Papeete 75.37 255 P **P 06 24 11.7 +2.1**
PPT Papeete 75.37 255 P **P 06 24 11.7 +2.1**
comp=Z,141nm,0.9s,baz=83,slow=14,SNR=8.8
KBO Bosley Butte 75.38 322 *eP* **P 06 24 09.3 +0.1**
comp=Z,529nm,1.6s
KBO *ePcP* **PcP 06 24 19.3 -2.2**
KBO *epP* **pP 06 24 58.9 +2.1**
NEW Newport 75.42 330 *eP* **P 06 24 09.2 0.0**
comp=Z,125nm,1.5s
NEW *epP* **pP 06 24 56.3 -0.5**
NEW *eS* **S 06 33 31.2 -1.5**
NEW Newport 75.42 330 ⇑P **P 06 24 10.0 +0.8**
baz=76,SNR=50
WRD Warden 75.44 328 P **P 06 24 12.2 +2.9**
KEBM Edson Butte 75.84 322 *eP* **P 06 24 13.0 +1.2**
comp=Z,338nm,1.1s
KEBM *epP* **pP 06 25 01.3 +1.9**
VLL Laurance Lake 75.92 326 P **P 06 24 14.8 +2.6**
RNO Roman Nose 76.11 323 P **P 06 24 15.7 +2.4**
COR Corvallis 76.27 324 *eP* **P 06 24 15.4 +1.3**
COR pmax pmax
comp=Z,316nm,1.2s
COR Corvallis 76.27 324 *eP* **P 06 24 15.3 +1.3**
comp=Z,316nm,1.2s
MPOR Mary's Peak 76.36 324 P **P 06 24 16.1 +1.3**
WPW White Pass 76.63 327 P **P 06 24 17.2 +1.0**
TOA0 Torodi Ar. Sit 76.77 72 *eP* **P 06 24 16.0 -1.5**
TOA0 *epP* **pP 06 25 07.3 +2.1**
TORD Torodi Ar. Bea 76.77 72 P **P 06 24 16.0 -1.5**
TORD pP **pP 06 25 04.6 -0.6**
TORD PKiKP **PKiKP 06 29 59.3 +0.2**
TORD S **S 06 33 43.4 -5.1**
TORD PKKPbc **PKKPbc 06 43 26.4 +0.7**
TORD P'P' 06 51 26.9
TORD Torodi Ar. Bea 76.77 72 P **P 06 24 16.0 -1.5**
comp=Z,702nm,0.7s,baz=270,slow=4.6,SNR=561
TORD pP **pP 06 25 04.6 -0.6**
comp=Z,254nm,1.0s,baz=260,slow=4.5,SNR=5.7
TORD PKiKP **PKiKP 06 29 59.3 +0.2**
comp=Z,4.6nm,1.1s,baz=260,slow=1.4,SNR=3.2
TORD S **S 06 33 43.4 -5.1**
comp=Z,12nm,1.0s,baz=261,slow=11,SNR=12
TORD PKKPbc **PKKPbc 06 43 26.4 +0.7**
comp=Z,1.5nm,0.8s,baz=55,slow=1.7,SNR=5.8
TORD PKPPKP **P'P'df 06 51 26.9 -2.6**
comp=Z,1.7nm,1.0s,baz=38,slow=1.6,SNR=4.3
TORD LR LR 06 57 59.6
comp=Z,3µm,18.7s,baz=245,slow=35
KMOR Kings Mountain 77.02 325 P **P 06 24 20.9 +2.6**
BMW Boistfort Moun 77.39 326 P **P 06 24 21.4 +1.0**
BMW Boistfort Moun 77.39 326 P **P 06 24 21.4 +1.0**
RTC Rabat Centre 77.73 50 *eP* **P 06 24 24.4 +1.9**
comp=Z,130nm,0.8s
RTC *epP* **pP 06 25 14.7 +4.4**
PFVI Vila Bisbo 77.82 46 *eP* **P 06 24 25.2 +2.3**
comp=Z,214nm,1.2s
PFVI *epP* **pP 06 25 10.6 -0.1**
PFVI *i* P x 06 25 40.4
PFVI *eS* **S 06 34 00.2 +1.1**
MORF Marmelete 78.03 46 *eP* **P 06 24 25.6 +1.4**
comp=Z,318nm,1.1s
MORF *epP* **pP 06 25 14.0 +2.0**
MORF Marmelete 78.03 46 *e*PP PP 06 27 24.3 +0.9
MORF *eS* **S 06 34 04.3 +2.9**
MORF Marmelete 78.03 46 *eP* **P 06 24 25.5 +1.4**
MORF *eS* **S 06 34 04.0 +2.6**
PTEO Sao Teotonio 78.10 46 *eP* **P 06 24 26.6 +2.2**
comp=Z,604nm,0.9s
PTEO *epP* **pP 06 25 14.9 +2.6**
PTEO *i* P x 06 25 42.4
PTEO Sao Teotonio 78.10 46 *e*PP PP 06 27 26.6 +2.7
NLWA Neilton Lookou 78.30 326 *eP* **P 06 24 25.2 -0.1**
comp=Z,235nm,1.2s
NLWA *epP* **pP 06 25 14.1 +0.8**
NLWA *eS* **S 06 34 04.0 +0.2**
A05A Maple Falls 78.37 328 P **P 06 24 26.2 +0.6**
LIS Lisbon 78.39 45 *eP* **P 06 24 28.0 +2.1**
LIS AMb AMb 06 24 29.7
comp=Z,134nm,1.3s
LIS *eS* **S 06 34 07.6 +2.6**
LIS Lisbon 78.39 45 *eP* **P 06 24 28.0 +2.1**
comp=Z,134nm,1.3s
LIS *eS* **S 06 34 07.6 +2.6**
LIS Lisbon 78.39 45 *eP* **P 06 24 28.0 +2.1**
LIS *eS* **S 06 34 07.6 +2.6**
PMAFR Mafra 78.42 44 *eP* **P 06 24 27.6 +1.5**
comp=Z,199nm,1.4s
PMAFR *epP* **pP 06 25 12.5 -1.6**
PMAFR *i* P x 06 25 43.1
PMAFR Mafra 78.42 44 *e*PP PP 06 27 32.3 +5.7
PMAFR *eS* **S 06 34 06.3 +0.9**
PBDV Barranco-do-Ve 78.50 46 *eP* **P 06 24 28.9 +2.2**
comp=Z,251nm,1.4s
PBDV *epP* **pP 06 25 15.6 +1.0**
PBDV *i* P x 06 25 44.0
PBDV Barranco-do-Ve 78.50 46 *e*PP PP 06 27 27.2 -0.1
PBDV *eS* **S 06 34 08.2 +1.8**
PNCL Nicolau / Gran 78.51 45 *eP* **P 06 24 28.9 +2.3**
PNCL *epP* **pP 06 25 14.8 +0.2**
PNCL *i* P x 06 25 44.0
PNCL Nicolau / Gran 78.51 45 *e*PP PP 06 27 26.9 -0.4
PNCL *eS* **S 06 34 08.4 +2.0**
PCVE Castro Verde 78.61 46 *eP* **P 06 24 28.6 +1.4**
comp=Z,178nm,0.8s
PCVE *epP* **pP 06 25 15.9 +0.7**
PCVE *i* P x 06 25 44.7
PCVE Castro Verde 78.61 46 *e*PP PP 06 27 30.4 +2.2
PVAQ Vaqueiros 78.73 46 *eP* **P 06 24 29.3 +1.5**
PVAQ *epP* **pP 06 25 15.7 -0.1**
PVAQ *i* P x 06 25 45.5
PVAQ *eS* **S 06 34 10.1 +1.4**
PGC Sidney 78.85 327 *eP* **P 06 24 28.9 +0.7**
comp=Z,27nm,1.3s
PGC *epP* **pP 06 25 16.8 +0.6**
MDT Midelt 78.88 52 P **P 06 24 30.7 +1.7**
MDT PKKPbc **PKKPbc 06 43 22.3 +0.1**
MDT Midelt 78.88 52 P **P 06 24 30.7 +1.7**
comp=Z,79nm,1.0s,baz=252,slow=5.1,SNR=86
MDT PKKPbc **PKKPbc 06 43 22.3 +0.1**
comp=Z,1.4nm,0.5s,baz=201,slow=4.3,SNR=10

PBEJ Beja 78.92 46 *eP* **P 06 24 30.2 +1.3**
PBEJ *epP* **pP 06 25 20.1 +3.2**
PBEJ *i* P x 06 25 45.8
PBEJ Beja 78.92 46 *e*PP PP 06 27 36.4 +5.6
EVO Evora 79.07 45 *eP* **P 06 24 29.4 -0.3**
comp=Z,357nm,1.1s
EVO *epP* **pP 06 25 16.9 -0.8**
EVO *eR*
comp=Z,2µm,22.5s
EVO Evora 79.07 45 *eP* **P 06 24 30.6 +0.9**
comp=Z,126nm,1.1s
EVO *epP* **pP 06 25 17.7 0.0**
EVO *i* P x 06 25 46.4
EVO Evora 79.07 45 *e*PP PP 06 27 37.9 +5.9
PMTG Montargil 79.19 45 *eP* **P 06 24 31.0 +0.7**
PMTG *epP* **pP 06 25 17.2 -1.1**
PMTG *i* P x 06 25 47.2
PMTG Montargil 79.19 45 *e*PP PP 06 27 32.9 0.0
PMTG *eS* **S 06 34 15.3 +1.8**
PTOM Tomar 79.33 44 *eP* **P 06 24 31.9 +0.8**
PTOM *epP* **pP 06 25 16.2 -2.9**
PTOM *i* P x 06 25 47.9
PESTR Estremoz 79.52 45 *eP* **P 06 24 33.5 +1.4**
comp=Z,204nm,1.0s
PESTR *epP* **pP 06 25 19.0 -1.2**
PESTR *i* P x 06 25 49.2
PESTR Estremoz 79.52 45 *e*PP PP 06 27 41.6 +5.8
PESTR *eS* **S 06 34 19.6 +2.5**
PBAR Barrancos 79.57 46 *eP* **P 06 24 33.8 +1.4**
comp=Z,143nm,1.1s
PBAR *epP* **pP 06 25 19.7 -0.7**
PBAR *i* P x 06 25 49.2
PBAR Barrancos 79.57 46 *e*PP PP 06 27 42.6 +6.5
PBAR *eS* **S 06 34 18.7 +1.1**
PMRV Marv??o 79.93 45 *eP* **P 06 24 35.3 +1.0**
PMRV *epP* **pP 06 25 22.5 +0.1**
PMRV *i* P x 06 25 50.7
PMRV Marv??o 79.93 45 *e*PP PP 06 27 39.1 0.0
PMRV *eS* **S 06 34 21.8 +0.5**
PTO Porto 79.96 43 *eP* **P 06 24 36.3 +1.9**
PCBR Castelo Branco 80.07 44 *eP* **P 06 24 35.9 +0.9**
comp=Z,100nm,1.0s
PCBR *epP* **pP 06 25 24.1 +1.0**
PVIS Viseu 80.22 43 *eP* **P 06 24 36.5 +0.6**
PVIS *epP* **pP 06 25 26.8 +2.8**
MTE Manteigas 80.29 44 *eP* **P 06 24 37.6 +1.3**
comp=Z,127nm,1.1s
MTE *epP* **pP 06 25 23.4 -1.1**
MTE *i* P x 06 25 53.0
MTE *eS* **S 06 34 25.1 -0.1**
MTE Manteigas 80.29 44 *eP* **P 06 24 36.5 +0.2**
comp=Z,87nm,1.0s
MTE *epP* **pP 06 25 23.6 -0.8**
MTE *e*PP **PP 06 27 39.6 -2.5**
PGAV Gavieira, Arco 80.59 42 *eP* **P 06 24 37.6 -0.3**
PGAV *epP* **pP 06 25 25.8 -0.3**
PGAV *eS* **S 06 34 28.0 -0.3**
POLO Lamas de Olo 80.61 43 *eP* **P 06 24 39.6 +1.6**
comp=Z,41nm,1.1s
POLO *epP* **pP 06 25 27.2 +1.0**
POLO *i* P x 06 25 54.8
POLO *eS* **S 06 34 28.3 -0.2**
PVRL Vila Real 80.61 43 *eP* **P 06 24 39.0 +1.0**
PVRL *epP* **pP 06 25 30.1 +4.0**
PCAB Cabril 80.62 42 *eP* **P 06 24 38.9 +0.9**
PCAB *epP* **pP 06 25 27.6 +1.4**
KOMG Komaggas 80.99 118 *eP* **P 06 24 42.0 +1.7**
KOMG AMb AMb 06 24 42.9
comp=Z,164nm,1.2s
MVO Moncorvo 81.01 43 *eP* **P 06 24 41.5 +1.4**
comp=Z,109nm,1.4s
MVO *epP* **pP 06 25 26.8 -1.5**
MVO *eS* **S 06 34 32.9 +0.3**
PBRG Braganca 81.50 43 *eP* **P 06 24 43.8 +1.1**
PBRG *epP* **pP 06 25 28.8 -2.2**
PBRG *i* P x 06 25 59.8
ELIM Elim 81.84 124 *eP* **P 06 24 44.4 -0.4**
ELIM AMb AMb 06 24 46.8
comp=Z,179nm,1.2s
SBA Scott Base 81.87 190 *eP* **P 06 24 44.0 0.0**
SBA pmax pmax
comp=Z,289nm,1.2s
SBA Scott Base 81.87 190 *eP* **P 06 24 44.0 0.0**
comp=Z,289nm,1.2s
SBA *epP* **pP 06 25 32.6 +0.4**
SBA *es*P **sP 06 25 55.1 +1.9**
PAB San Pablo 82.06 46 *eP* **P 06 24 45.0 -0.7**
PAB *e* 06 27 57.1
PAB pmax pmax
comp=Z,109nm,0.9s
PAB San Pablo 82.06 46 *eP* **P 06 24 45.0 -0.7**
comp=Z,108nm,0.9s
PAB *epP* **pP 06 25 33.9 -0.1**
PAB *e*PP **PP 06 27 57.0 +0.3**
WIN Windhoek 82.23 111 *eP* **P 06 24 48.1 +1.0**
WIN AMb AMb 06 24 49.0
comp=Z,60nm,1.2s
ESDC Sonseca Array 82.39 46 P **P 06 24 48.2 +0.9**
ESDC pP **pP 06 25 34.1 -1.6**
ESDC PKiKP **PKiKP 06 30 08.3 +1.1**
ESDC PKKPbc **PKKPbc 06 43 13.2 -1.3**
ESDC P'P' 06 51 13.8
ESDC Sonseca Array 82.39 46 P **P 06 24 48.2 +0.9**
comp=Z,78nm,0.9s,baz=251,slow=5.0,SNR=198
ESDC pP **pP 06 25 34.1 -1.6**
comp=Z,18nm,1.0s,baz=258,slow=4.9,SNR=0.9
ESDC PKiKP **PKiKP 06 30 08.3 +1.1**
comp=Z,0.3nm,0.5s,baz=273,slow=2.0,SNR=3.3
ESDC PKKPbc **PKKPbc 06 43 13.2 -1.3**
comp=Z,0.5nm,0.6s,baz=19,slow=2.8,SNR=5.7
ESDC PKPPKP **P'P'df 06 51 13.8 -3.8**
comp=Z,0.1nm,0.2s,baz=41,slow=2.1,SNR=8.9
ESDC LR LR 06 57 55.6
comp=Z,1µm,20.1s,baz=240,slow=33
ESLA Sonseca Array 82.39 46 *eP* **P 06 24 47.3 -0.1**
comp=Z,43nm,1.1s
ESLA *epP* **pP 06 25 35.1 -0.6**
CVNA Calvinia 82.55 120 *eP* **P 06 24 49.9 +1.4**
CVNA AMb AMb 06 24 51.1
comp=Z,334nm,1.3s
VNDA Vanda 82.91 190 P **P 06 24 49.3 0.0**
comp=Z,80nm,1.2s
VNDA *epP* **pP 06 25 38.6 +0.9**
VNDA PKKP **PKKPdf 06 43 01.9 -1.1**
VNDA PKKPbc **PKKPbc 06 43 10.5 -3.3**
VNDA P'P' 06 51 17.9
VNDA Vanda 82.91 190 P **P 06 24 49.3 0.0**
comp=Z,108nm,1.0s,baz=131,slow=4.3,SNR=203
VNDA PKKP **PKKPdf 06 43 01.9 -1.1**
comp=Z,0.9nm,0.9s,baz=268,slow=3.9,SNR=3.8
VNDA PKKPbc **PKKPbc 06 43 10.5 -3.3**
comp=Z,3.6nm,1.0s,baz=286,slow=4.2,SNR=12
VNDA PKPPKP **P'P'df 06 51 17.9 +1.4**
comp=Z,1.6nm,1.0s,baz=286,slow=8.6,SNR=3.8
SYO Syowa Base 83.06 160 ‖ *eP* **P 06 24 48.0 -2.2**
SYO Syowa Base 83.06 160 ‖ *i*PcP **P 06 24 50.0 -0.2**
SYO Syowa Base 83.06 160 *eSH* **SKSac 06 34 53.4 +0.6**
SFJD Kangerlussuaq 83.11 8 P **P 06 24 49.9 -0.5**
SFJD Kangerlussuaq 83.11 8 P **P 06 24 49.9 -0.5**
comp=Z,24nm,0.8s,baz=187,slow=5.4,SNR=2.7
SUR Sutherland 83.21 122 P **P 06 24 53.1 +1.1**
comp=Z,970nm,1.1s,SNR=9.9
SUR Sutherland 83.21 122 *eP* **P 06 24 53.5 +1.5**
SUR AMb AMb 06 24 55.2
comp=Z,152nm,3.5s
SUR Sutherland 83.21 122 P **P 06 24 54.4 +2.4**
SNR=5.3
SUR Sutherland 83.21 122 *eP* **P 06 24 52.6 +0.6**
comp=Z,190nm,1.0s
SUR *epP* **pP 06 25 40.9 +0.4**
TAM Tamanrasset 83.37 64 *eP* **P 06 24 54.1 +1.2**
TAM *e*PP **pP 06 25 42.6 +1.3**
TAM pmax pmax
comp=Z,100nm,0.9s
TAM Tamanrasset 83.37 64 *eP* **P 06 24 54.0 +1.2**
comp=Z,100nm,0.9s
TAM *epP* **pP 06 25 42.6 +1.3**
TSUM Tsumeb 83.44 108 *eP* **P 06 24 54.1 +0.8**
TSUM Tsumeb 83.44 108 *eP* **P 06 24 53.6 +0.2**
comp=Z,421nm,1.0s
TSUM *epP* **pP 06 25 40.9 -0.9**
RAR Rarotonga 83.99 250 P **P 06 24 55.7 -0.2**
RAR Rarotonga 83.99 250 P **P 06 24 55.7 -0.2**

comp=Z,90nm,1.0s,baz=270,slow=2.7,SNR=7.7
ETRT Tiaret 84.41 51 P **P** **06 24 59.5 +1.7**
EANR 'Ain N'Sour 84.48 51 P **P** **06 24 59.8 +1.7**
YKA Yellowknife Ar 84.61 341 P **P** **06 24 57.6 -0.4**
YKA PKiKP **PKiKP** **06 30 10.2 +0.3**
YKA S **S** **06 35 02.4 -5.5**
YKA PKKP **PKKPdf** **06 43 00.8 -1.6**
YKA PKKPbc **PKKPbc** **06 43 07.8 -2.6**
YKA P'P' 06 51 12.4
YKA Yellowknife Ar 84.61 341 P **P** **06 24 57.6 -0.4**
comp=Z,168nm,0.6s,baz=134,slow=5.0,SNR=354
YKA PKiKP **PKiKP** **06 30 10.1 +0.3**
comp=Z,1.3nm,0.6s,baz=146,slow=1.7,SNR=5.4
YKA S **S** **06 35 02.4 -5.5**
comp=Z,1.7nm,0.9s,baz=92,slow=9.2,SNR=6.8
YKA PKKP **PKKPdf** **06 43 00.7 -1.6**
comp=Z,0.5nm,0.7s,baz=321,slow=3.6,SNR=4.4
YKA PKKPbc **PKKPbc** **06 43 07.8 -2.6**
comp=Z,2.9nm,0.9s,baz=309,slow=2.4,SNR=13
YKA PKPPKP **P'P'df** **06 51 12.4 +0.7**
comp=Z,2.8nm,1.0s,baz=319,slow=2.4,SNR=7.5
YKA LR LR 07 04 56.0
comp=Z,157nm,19.8s,baz=125,slow=37
VAL Valentia 84.61 33 ⇓*iP* **P** **06 25 00.0 +1.8**
VAL Valentia 84.61 33 ⇓*iS* **S** **06 35 03.2 -5.1**
YKW3 Yellowknife Ar 84.67 341 *e*P **P** **06 24 57.9 -0.4**
comp=Z,8.0nm,0.9s
YKW3 *e*pP **pP** **06 25 44.8 -2.2**
ECHA Ech Chlef 84.75 51 P **P** **06 25 00.0 +0.7**
EBNR Beni Rached 84.93 51 P **P** **06 25 02.5 +2.2**
SJPF Ste Jean 85.74 43 *e*P **P** **06 25 05.1 +1.0**
SJPF *e*pP **pP** **06 25 55.2 +2.3**
LARF Larrau 85.86 44 *e*P **P** **06 25 05.9 +1.1**
EMHD Djebel Mahouad 85.96 51 P **P** **06 25 07.2 +1.7**
ATE Arette 86.07 44 *e*P **P** **06 25 06.7 +0.9**
ETSF Etsaut 86.09 44 *e*P **P** **06 25 06.9 +1.0**
comp=Z,54nm,0.9s
REYF Montagne du Re 86.27 44 *e*P **P** **06 25 08.1 +1.3**
VIEF Viey 86.47 44 *e*P **P** **06 25 09.0 +1.2**
LABF Labassere 86.58 44 *e*P **P** **06 25 09.5 +1.2**
QUIF Quistinic 86.60 38 *e*P **P** **06 25 07.9 -0.3**
comp=Z,27nm,0.7s
RESF Ens 86.66 44 *e*P **P** **06 25 10.0 +1.3**
ROSF Rostrenen 86.73 38 *e*P **P** **06 25 08.7 -0.1**
EPF Esparros 86.75 44 *e*P **P** **06 25 09.8 +0.7**
comp=Z,49nm,0.9s
MELF Melles 86.96 44 *e*P **P** **06 25 11.7 +1.5**
SGMF Saint Gilles 87.12 38 *e*P **P** **06 25 10.3 -0.4**
comp=Z,99nm,1.3s
SALF Salau 87.21 44 *e*P **P** **06 25 12.7 +1.4**
MLS Moulis 87.22 44 *e*P **P** **06 25 12.2 +0.9**
HVD Gariep Dam 87.53 121 *e*P **P** **06 25 13.6 +0.2**
HVD AMB AMB 06 25 15.0
comp=Z,128nm,1.2s
GRM Grahamstown 87.61 124 *e*P **P** **06 25 13.9 +0.3**
GRM AMB AMB 06 25 14.7
comp=Z,124nm,3.2s
CRAG Craig 87.63 330 *e*P **P** **06 25 13.6 +0.7**
comp=Z,251nm,1.4s
CRAG *e*pP **pP** **06 26 02.4 +0.5**
WRAK Wrangell Islan 87.75 331 *e*P **P** **06 25 14.3 +0.8**
comp=Z,467nm,1.5s
WRAK *e*pP **pP** **06 26 02.2 -0.3**
LFF La Frestale 87.78 42 *e*P **P** **06 25 13.9 0.0**
comp=Z,100nm,1.0s
LFF *e*pP **pP** **06 26 03.8 +0.9**
DLBC Dease Lake 87.78 333 PKKPbc PKKPbc 06 43 01.9 -0.8
DLBC Dease Lake 87.78 333 PKKPbc PKKPbc 06 43 01.9 -0.8
comp=Z,5.7nm,1.0s,baz=267,slow=1.5,SNR=6.3
BORG Borgarnes 87.83 19 P **P** **06 25 16.0 +2.4**
comp=Z,406nm,1.3s,SNR=5.2
BORG Borgarnes 87.83 19 P **P** **06 25 15.6 +2.0**
BORG *e*pP **pP** **06 26 04.2 +1.6**
BORG Borgarnes 87.83 19 P **P** **06 25 15.6 +2.0**
comp=Z,72nm,1.2s,baz=289,slow=1.2,SNR=7.2
BOSA Boshof 87.87 119 *e*P **P** **06 25 14.1 -0.9**
BOSA AMB AMB 06 25 16.2
comp=Z,96nm,2.7s
BOSA Boshof 87.87 119 *e*P **P** **06 25 14.6 -0.4**
comp=Z,86nm,1.0s
BOSA *e*pP **pP** **06 26 04.3 +0.3**
BOSA PKiKP **PKiKP** **06 30 17.1 +0.5**
BOSA PKKPbc **PKKPbc** **06 43 01.1 +0.5**
BOSA Boshof 87.87 119 P **P** **06 25 14.4 -0.6**
comp=Z,70nm,1.0s,baz=258,slow=4.0,SNR=57
BOSA PKiKP **PKiKP** **06 30 17.1 +0.5**
comp=Z,5.4nm,1.0s,baz=279,slow=4.0,SNR=4.0
BOSA PKKPbc **PKKPbc** **06 43 01.1 +0.5**
comp=Z,3.8nm,0.6s,baz=97,slow=2.1,SNR=9.1
MFF Saint Martin d 87.89 41 *e*P **P** **06 25 14.3 -0.1**
comp=Z,95nm,1.1s
MFF *e*pP **pP** **06 26 04.0 +0.6**
FILF Fillols 88.06 45 *e*P **P** **06 25 16.1 +0.7**
MTLF Montolieu 88.13 44 *e*P **P** **06 25 15.6 0.0**
comp=Z,88nm,1.2s
MTLF *e*pP **pP** **06 26 05.4 +0.8**
GRR Gorron 88.20 39 *e*P **P** **06 25 15.3 -0.5**
comp=Z,40nm,0.7s
GRR *e*pP **pP** **06 26 05.1 +0.3**
SWZ Schweizer 88.33 118 *e*P **P** **06 25 17.0 -0.2**
SWZ AMB AMB 06 25 18.3
comp=Z,126nm,1.2s
RJF Les Rejaudoux 88.43 42 *e*P **P** **06 25 16.8 -0.2**
comp=Z,94nm,1.3s
RJF *e*R
comp=Z,3µm,23.0s
FLN La Foliniere 88.58 38 *e*P **P** **06 25 17.3 -0.3**
comp=Z,43nm,0.8s
FLN *e*R
comp=Z,1µm,21.5s
CAF Calviac 88.64 43 *e*P **P** **06 25 18.0 0.0**
comp=Z,14nm,0.5s
LDF La Druitiere 88.73 39 *e*P **P** **06 25 17.9 -0.4**
comp=Z,68nm,0.8s
LDF *e*pP **pP** **06 26 07.8 +0.4**
LBTB Lobatse 89.15 116 *e*P **P** **06 25 20.7 -0.3**
LBTB AMB AMB 06 25 24.4
comp=Z,116nm,2.9s
LBTB Lobatse 89.15 116 *e*P **P** **06 25 21.0 0.0**
comp=Z,70nm,0.8s
TCF Toulx Ste Croi 89.26 41 *e*P **P** **06 25 20.4 -0.5**
comp=Z,29nm,0.8s
TCF *e*pP **pP** **06 26 10.3 +0.3**
CMAH Djebel Manchou 89.48 52 P **P** **06 25 22.5 +0.3**
LASF Ste Croix 89.51 44 *e*P **P** **06 25 22.5 +0.4**
LASF *e*pP **pP** **06 26 12.5 +1.3**
LBL Lubilhac 89.53 43 *e*P **P** **06 25 22.8 +0.6**
PYM Petit Puy Mans 89.57 42 *e*P **P** **06 25 22.8 +0.4**
AGO Saint Agoulin 89.76 42 *e*P **P** **06 25 23.5 +0.3**
BGF Bois d'Agland 89.77 41 *e*P **P** **06 25 23.0 -0.2**
comp=Z,88nm,0.7s
BGF *e*pP **pP** **06 26 12.8 +0.5**
EKA Eskdalemuir Ar 89.96 32 P **P** **06 25 23.3 -0.5**
EKA pP **pP** **06 26 12.7 -0.3**
EKA PKKPbc **PKKPbc** **06 42 55.5 -1.5**
EKA Eskdalemuir Ar 89.96 32 P **P** **06 25 23.3 -0.5**
comp=Z,5.0nm,0.8s,baz=241,slow=3.9,SNR=11
EKA pP **pP** **06 26 12.7 -0.3**
comp=Z,6.4nm,0.8s,baz=238,slow=4.8,SNR=2.6
EKA PKKPbc **PKKPbc** **06 42 55.5 -1.5**
comp=Z,4.2nm,0.9s,baz=63,slow=4.3,SNR=4.7
SUMG Summit 89.96 9 *i*P **P** **06 25 24.9 +0.9**
SUMG *i* *PP **pP** **06 26 13.8 +0.7**
SUMG *i* 06 35 34.7
SUMG *e* 06 35 58.4
SUMG pmax pmax
comp=Z,84nm,1.1s
SUMG Summit 89.96 9 *e*P **P** **06 25 23.6 -0.4**
comp=Z,126nm,1.0s
SUMG *e*PP **PP** **06 28 58.1 -1.9**
SUMG Summit 89.96 9 *i*P **P** **06 25 24.9 +0.9**
comp=Z,84nm,1.1s
SUMG *i* pP **pP** **06 26 13.8 +0.7**
SUMG *i* 06 35 34.7
SUMG *e* 06 35 58.4
KSR Koster 90.05 117 *e*P **P** **06 25 26.4 +1.1**
KSR AMB AMB 06 25 28.2
comp=Z,16nm,1.0s
PRYS Parys 90.13 118 *e*P **P** **06 25 25.8 +0.2**
PRYS AMB AMB 06 25 27.0
comp=Z,143nm,1.3s
AVF Avril sur Loir 90.18 41 *e*P **P** **06 25 24.7 -0.4**
comp=Z,40nm,0.9s
VIVF Saint-Julien-l 90.33 43 *e*P **P** **06 25 26.4 +0.5**
comp=Z,118nm,1.4s
VIVF *e*pP **pP** **06 26 16.4 +1.3**
SSF Saint Saulge 90.38 41 *e*P **P** **06 25 25.3 -0.7**
comp=Z,44nm,1.1s
SSF *e*pP **pP** **06 26 15.1 -0.1**
SSB Saint Sauveur 90.40 43 *e*P **P** **06 25 26.8 +0.6**
SSB pmax pmax
comp=Z,92nm,1.6s
SSB Saint Sauveur 90.40 43 *e*P **P** **06 25 26.8 +0.6**
comp=Z,92nm,1.6s
SMF Signal de Mont 90.44 42 *e*P **P** **06 25 26.1 -0.2**
comp=Z,110nm,1.0s
SMF *e*pP **pP** **06 26 15.9 +0.4**
KLOF Kloof 90.52 117 *e*P **P** **06 25 27.9 +0.5**
KLOF AMB AMB 06 25 29.1
comp=Z,123nm,1.1s
SMRF Simiane la Rot 90.63 44 *e*P **P** **06 25 28.2 +0.9**
comp=Z,115nm,1.4s
SMRF *e*pP **pP** **06 26 18.2 +1.7**
SKAG Skagway 90.67 332 *e*P **P** **06 25 27.8 +0.7**
comp=Z,335nm,1.5s
KEST Kesra 90.68 53 P **P** **06 25 28.0 +0.2**
KEST *e*pP **pP** **06 26 12.0 -4.9**
KEST *e*PP **PP** **06 29 04.3 -1.9**
KEST PP PP 06 29 06.3 +0.1
KEST PKKPbc **PKKPbc** **06 42 54.8 +0.5**
KEST Kesra 90.68 53 P **P** **06 25 28.0 +0.2**
comp=Z,7.2nm,0.9s,baz=202,slow=3.2,SNR=10.0
KEST PP **PP** **06 29 06.3 +0.1**
comp=Z,7.5nm,1.1s,baz=209,slow=8.0,SNR=3.9
KEST PKKPbc **PKKPbc** **06 42 54.8 +0.5**
comp=Z,2.3nm,0.9s,baz=126,slow=4.9,SNR=4.9
LOR Lormes 90.68 41 *e*P **P** **06 25 26.8 -0.6**
comp=Z,13nm,0.6s
LOR *e*R
comp=Z,1µm,18.8s
KSD Kokstad 90.78 122 *e*P **P** **06 25 29.7 +1.1**
KSD AMB AMB 06 25 30.8
comp=Z,137nm,1.2s
RES Resolute Bay 90.84 354 P **P** **06 25 28.4 +0.8**
RES Resolute Bay 90.84 354 P **P** **06 25 28.4 +0.8**
comp=Z,24nm,1.0s,baz=168,slow=11,SNR=12
MAW Mawson 90.93 164 P **P** **06 25 27.9 -0.3**
MAW PKKPbc **PKKPbc** **06 42 52.8 -1.5**
MAW Mawson 90.93 164 P **P** **06 25 27.9 -0.3**
comp=Z,194nm,1.0s,baz=229,slow=6.1,SNR=145
MAW PKKPbc **PKKPbc** **06 42 52.8 -1.5**
comp=Z,2.9nm,0.5s,baz=70,slow=1.5,SNR=23
MAW LR LR 07 07 42.8
comp=Z,1µm,18.5s,baz=131,slow=36
LMR La Mourre 91.05 45 *e*P **P** **06 25 29.5 +0.3**
comp=Z,148nm,1.4s
ERPM east rand prop 91.06 118 *e*P **P** **06 25 30.1 +0.1**
ERPM AMB AMB 06 25 31.7
comp=Z,108nm,2.7s
ORIF Oris-en-Rattie 91.16 44 *e*P **P** **06 25 30.6 +0.8**
comp=Z,37nm,0.7s
ORIF *e*R
comp=Z,3µm,22.0s
FRF La Foret Royal 91.22 45 *e*P **P** **06 25 30.4 +0.4**
comp=Z,156nm,1.5s
SLR Silverton 91.27 117 *e*P **P** **06 25 31.4 +0.4**
SLR AMB AMB 06 25 32.5
comp=Z,117nm,1.2s
SCO Scoresbysund 91.61 15 *i*P **P** **06 25 31.6 +0.4**
SCO *i* 06 35 44.0
SCO *e* 06 36 15.5
SCO pmax pmax
comp=Z,10.0nm,0.7s
SCO Scoresbysund 91.61 15 *i*P **P** **06 25 31.6 +0.4**
comp=Z,9.6nm,0.7s
SCO *i* pP **pP** **06 26 22.5 +2.1**
SCO *i* 06 35 44.0
SCO *e* 06 36 15.5
SCO
comp=Z,1µm,22.0s
MBDF Montbardon 91.69 44 *e*P **P** **06 25 32.9 +0.5**
comp=Z,74nm,1.5s
MBDF *e*pP **pP** **06 26 22.9 +1.3**
BNI Bardonecchia 91.74 44 *e*P **P** **06 25 33.0 +0.5**
BNI pmax pmax
comp=Z,40nm,1.6s
BNI Bardonecchia 91.74 44 *e*P **P** **06 25 33.0 +0.5**
comp=Z,40nm,1.6s
SFTF Sexfontaines 91.76 40 *e*P **P** **06 25 32.0 -0.4**
comp=Z,99nm,1.0s
SFTF *e*pP **pP** **06 26 21.9 +0.3**
SBF Sospel 91.86 45 *e*P **P** **06 25 33.2 +0.2**
comp=Z,149nm,1.4s
VSL Villasalto 91.86 50 *e*P **P** **06 25 33.3 +0.2**
comp=Z,28nm,0.9s
VSL *e*pP **pP** **06 26 24.1 +1.8**
MEZF Maizieres J'vi 91.87 40 *e*P **P** **06 25 32.8 -0.1**
comp=Z,109nm,1.2s
MEZF *e*pP **pP** **06 26 22.8 +0.7**
CABF La Chapelle 91.88 42 *e*P **P** **06 25 33.0 -0.1**
comp=Z,13nm,0.7s
BAIF Baives 91.91 38 *e*P **P** **06 25 32.9 -0.1**
comp=Z,22nm,1.0s
LPL La Plagne 91.93 43 *e*P **P** **06 25 34.3 +0.8**
comp=Z,65nm,1.2s
LPL *e*pP **pP** **06 26 24.2 +1.5**
LPG La Plagne 91.94 43 *e*P **P** **06 25 34.4 +0.8**
comp=Z,73nm,1.2s
DOU Dourbes 92.16 39 AP pP 06 26 25.7 +2.4
GIVF Givet 92.30 39 *e*P **P** **06 25 34.7 -0.1**
comp=Z,36nm,0.8s
PAGF Fort de Pagny 92.31 40 *e*P **P** **06 25 35.1 +0.2**
comp=Z,20nm,1.1s
THEF They Montfort 92.36 41 *e*P **P** **06 25 35.5 +0.3**
HAU Haudompre 92.51 41 *e*P **P** **06 25 35.5 -0.4**
comp=Z,17nm,0.8s
HAU *e*R
comp=Z,1µm,19.2s
PGF Pioggiola 92.53 47 *e*P **P** **06 25 36.4 +0.2**
PNL Peninsula 92.60 332 *e*P **P** **06 25 36.5 +0.5**
comp=Z,136nm,1.4s
HINF Hinteralfeld 92.77 41 *e*P **P** **06 25 36.6 -0.5**
comp=Z,14nm,0.7s
WLF Walferdange 92.95 39 P **P** **06 25 37.3 -0.6**
comp=Z,29nm,1.8s
WLF AP **pP** **06 26 28.0 +0.9**
WLF Walferdange 92.95 39 *e*P **P** **06 25 37.0 -0.8**
comp=Z,165nm,2.0s
WLF *e*SKSac **SKSac** **06 35 52.2 -0.4**
WLF *e*SP **SP** **06 37 37.8 -1.9**
WLF Walferdange 92.95 39 *e*P **P** **06 25 38.0 +0.2**
WLF pmax pmax
comp=Z,36nm,1.1s
WLF Walferdange 92.95 39 *e*P **P** **06 25 38.0 +0.2**
comp=Z,36nm,1.1s
WLF *e*pP **pP** **06 26 28.5 +1.4**
WLF *e*sP sP 06 26 54.3 +6.5
BEBN Eben Emael 93.05 38 P **P** **06 25 38.4 +0.1**
ECH Echery 93.09 41 *e*P **P** **06 25 38.2 -0.4**
ECH pmax pmax
comp=Z,24nm,1.1s
ECH Echery 93.09 41 *e*P **P** **06 25 38.2 -0.4**
comp=Z,24nm,1.1s
CDF Champ du Feu 93.23 41 *e*P **P** **06 25 38.9 -0.4**
comp=Z,20nm,0.9s
CDF *e*pP **pP** **06 26 28.9 +0.4**
POGA Pongola 93.61 119 *e*P **P** **06 25 42.8 +1.3**
POGA AMB AMB 06 25 45.5
comp=Z,59nm,1.9s
LANF Langenberg 93.75 40 *e*P **P** **06 25 41.8 +0.2**
BFO Black Forest 93.87 41 *e*P **P** **06 25 40.9 -1.3**
comp=Z,85nm,2.2s
BFO *e*SKSac **SKSac** **06 35 58.2 +0.4**
BFO *e*SP **SP** **06 37 47.3 -2.7**
BFO Black Forest 93.87 41 *e*P **P** **06 25 40.9 -1.3**
BFO *e* 06 35 58.2
BFO *e*SP SP 06 37 47.3 -2.7
BFO pmax pmax
comp=Z,8.0nm,2.2s
BFO Black Forest 93.87 41 *e*P **P** **06 25 43.3 +1.1**
comp=Z,14nm,1.2s
BFO *e*pP **pP** **06 26 32.3 +0.9**
TUE Stuetta 93.96 43 *e*P **P** **06 25 42.9 0.0**
comp=Z,55nm,1.6s
TUE *e*PP **PP** **06 29 32.1 +0.3**
BUG Bochum--Univer 94.21 38 *e*P **P** **06 25 42.7 -0.8**
comp=Z,150nm,2.2s
BUG *e*PP PKiKP 06 30 17.7 -8.6
BUG *e*SKSac **SKSac** **06 35 59.7 +0.4**
BUG *e*SP **SP** **06 37 50.4 -3.0**
LSZ Lusaka 94.24 107 *e*P **P** **06 25 47.1 +2.3**
LSZ Lusaka 94.24 107 P **P** **06 25 47.1 +2.3**
SNR=6.8
LSZ Lusaka 94.24 107 *e*P **P** **06 25 45.8 +1.0**
comp=Z,56nm,1.4s
LSZ *e*pP **pP** **06 26 32.3 -1.6**
LSZ S **SKSac** **06 36 08.1 +6.7**
LSZ PKKPbc **PKKPbc** **06 42 46.6 +2.3**
LSZ Lusaka 94.24 107 S **SKSac** **06 36 08.1 +6.7**
comp=Z,1.5nm,1.0s,baz=98,slow=17,SNR=6.9
LSZ PKKPbc **PKKPbc** **06 42 46.6 +2.3**
comp=Z,6.1nm,0.5s,baz=39,slow=5.9,SNR=15
INK Inuvik 94.37 341 P **P** **06 25 45.1 +1.2**
INK PP **PP** **06 29 34.3 +0.1**
INK PKKPbc **PKKPdf** **06 42 44.0 -1.1**
INK Inuvik 94.37 341 P **P** **06 25 45.1 +1.2**
comp=Z,155nm,1.1s,baz=105,slow=5.1,SNR=106
INK PP **PP** **06 29 34.3 +0.1**
comp=Z,64nm,1.4s,baz=122,slow=16,SNR=7.5
INK PKKPbc **PKKPdf** **06 42 44.0 -1.1**
comp=Z,14nm,0.9s,baz=335,slow=3.2,SNR=19
DAVOX Davos/Dischmat 94.40 43 P **P** **06 25 45.0 +0.2**
DAVOX PP **PP** **06 29 33.5 -1.7**
DAVOX S **SKSac** **06 36 02.5 +1.4**
DAVOX PKKPbc **PKKPdf** **06 42 44.2 -0.6**
DAVOX Davos/Dischmat 94.40 43 P **P** **06 25 45.0 +0.2**
comp=Z,12nm,0.9s,baz=246,slow=4.5,SNR=17
DAVOX PP **PP** **06 29 33.5 -1.7**
comp=Z,26nm,1.0s,baz=256,slow=9.5,SNR=9.4
DAVOX S **SKSac** **06 36 02.5 +1.4**
comp=Z,0.5nm,0.4s,baz=353,slow=19,SNR=3.5
DAVOX PKKPbc **PKKPdf** **06 42 44.2 -0.6**
comp=Z,4.4nm,0.6s,baz=228,slow=15,SNR=6.8
TNS Taunus Mts 94.53 39 *e*P **P** **06 25 44.6 -0.6**
comp=Z,26nm,1.5s
TNS *e*SKSac **SKSac** **06 36 03.4 +2.1**
TNS *e*SP **SP** **06 37 54.6 -2.6**
TNS Taunus Mts 94.53 39 *e*P **P** **06 25 44.6 -0.6**
TNS *e* 06 36 03.4
TNS *e*SP SP 06 37 54.6 -2.6
TNS pmax pmax
comp=Z,17nm,1.5s
DAVA Damuels 94.55 42 ⇑*iP* **P** **06 25 45.4 -0.1**
comp=Z,23nm,1.2s,SNR=8.3
STU Stuttgart 94.56 41 *e*P **P** **06 25 44.3 -0.9**
comp=Z,39nm,1.1s
STU *e*SKSac **SKSac** **06 36 02.2 +0.8**
STU *e*SP **SP** **06 37 56.8 -0.6**
STU Stuttgart 94.56 41 *e*P **P** **06 25 45.2 0.0**
STU pmax pmax
comp=Z,36nm,1.1s
STU Stuttgart 94.56 41 *e*P **P** **06 25 45.2 0.0**
comp=Z,36nm,1.1s
IBBN Ibbenburen 94.77 37 *e*P **P** **06 25 45.5 -0.6**
comp=Z,76nm,1.8s
IBBN *e*PP **PKiKP** **06 30 22.7 -4.6**
IBBN *e*SKSac **SKSac** **06 36 02.9 +0.6**
IBBN *e*SP **SP** **06 37 55.7 -3.9**
FETA Feichten 95.03 43 *i*PcP **PcP** **06 25 48.0 +0.1**
comp=Z,16nm,1.2s,SNR=11
RETA Reutte 95.19 42 ⇑*i*PcP **PcP** **06 25 48.7 +0.2**
comp=Z,34nm,1.4s,SNR=14
DRV Dumont d'Urvil 95.45 192 PP x 06 30 38.0
DRV SKS SKSac 06 35 57.0 -8.6
DRV S x 06 37 09.0
DRV SP PS 06 39 44.0 +13
DRV SS SS 06 43 05.0 -14
DRV Dumont d'Urvil 95.45 192 L L 06 52 00.0
DRV R 06 58 00.0
JMIC Jan Mayen 95.46 17 *e*SKS **SKSac** **06 36 03.5 -1.7**
EGAK Eagle 95.49 336 *e*P **P** **06 25 49.5 +0.3**
comp=Z,120nm,0.9s
EGAK *e*pP **pP** **06 26 38.2 -0.2**
BMRM Bremner River 95.50 332 *e*P **P** **06 25 49.0 -0.3**
comp=Z,52nm,1.1s
BMRM *e*pP **pP** **06 26 38.0 -0.6**
UBBA Unterbreizbach 95.66 39 *e*P **P** **06 25 49.7 -0.4**
comp=Z,62nm,1.9s
UBBA *e*PP **PKiKP** **06 30 28.4 -0.3**
UBBA *e*SKSac **SKSac** **06 36 09.9 +3.0**
UBBA *e*SP **SP** **06 38 08.3 -1.0**
WATA Walderalm 95.67 43 ⇑*i*PcP **PcP** **06 25 50.8 0.0**
comp=Z,34nm,1.5s,SNR=7.9
WTTA Wattenberg 95.69 43 ⇑*i*PcP **PcP** **06 25 51.2 +0.3**
comp=Z,54nm,1.7s,SNR=16
FUR Furstenfeldbru 95.71 42 *e*P **P** **06 25 50.0 -0.5**
comp=Z,53nm,1.1s
FUR *e*pP **pP** **06 26 38.6 -1.2**
FUR *e*SKSac **SKSac** **06 36 08.0 +0.4**
FUR *e*SP **SP** **06 38 08.3 -1.8**
FUR Furstenfeldbru 95.71 42 *e*P **P** **06 25 50.0 -0.5**
FUR *e**PP **pP** **06 26 38.6 -1.2**
FUR *e* 06 36 08.0
FUR *e*SP SP 06 38 08.3 -1.8
FUR pmax pmax
comp=Z,69nm,1.1s
MENT Mentasta 95.83 334 *e*P **P** **06 25 50.8 +0.1**
DIV Divide 96.08 332 *e*P **P** **06 25 52.3 +0.3**
comp=Z,39nm,0.9s
DIV *e*pP **pP** **06 26 41.1 -0.2**
GRFO Grafenberg 96.09 40 *e*P **P** **06 25 53.5 +1.3**
GRFO *e* 06 29 45.8
GRFO pmax pmax
comp=Z,31nm,1.3s
GRFO Grafenberg 96.09 40 *e*P **P** **06 25 53.5 +1.3**
comp=Z,31nm,1.3s
GRFO *e*pP **pP** **06 26 43.6 +2.1**
GRFO *e*PP **PP** **06 29 45.8 -2.2**
GRF Grafenberg Arr 96.09 40 *e*P **P** **06 25 52.0 -0.2**
comp=Z,70nm,1.8s
GRF *e*PP **PKiKP** **06 30 31.9 +2.2**
GRF *e*SKSac **SKSac** **06 36 12.1 +2.6**
GRF *e*Sdiff **S** **06 36 50.3 -3.4**
GRF *e*SP **SP** **06 38 12.5 -1.7**
GRF Grafenberg Arr 96.09 40 *e*P **P** **06 25 52.0 -0.2**
GRF *e* 06 36 12.1
GRF *e*S **S** **06 36 50.3 -3.4**
GRF *e*SP **SP** **06 38 12.5 -1.7**
BER Bergen 96.12 29 *e*pP **pP** **06 26 40.1 -1.2**
BER *e*SKS **SKSac** **06 36 07.4 -1.6**
ABTA Abfaltersbach 96.13 43 *i*PcP **PcP** **06 25 52.9 +0.2**
comp=Z,30nm,1.3s,SNR=13
CLZ Clausthal 96.17 38 *e*P **P** **06 25 52.2 -0.4**
comp=Z,26nm,1.3s
CLZ *e*PP **PKiKP** **06 30 32.7 +2.9**
CLZ *e*SKSac **SKSac** **06 36 12.5 +2.6**
CLZ *e*SP **SP** **06 38 12.5 -2.5**
CLZ Clausthal 96.17 38 *e*P **P** **06 25 52.2 -0.4**
CLZ *e* 06 36 12.5
CLZ *e*SP SP 06 38 12.5 -2.5
CLZ pmax pmax
comp=Z,19nm,1.3s
NRDL Niedersach Rie 96.20 37 *e*P **P** **06 25 52.6 +0.1**
comp=Z,60nm,1.7s
NRDL *e*PP **PKiKP** **06 30 33.1 +3.4**
NRDL *e*SP SP 06 38 10.4 -4.7
RJOB Jochberg 96.58 42 *e*P **P** **06 25 54.0 -0.5**
comp=Z,18nm,1.2s
RJOB *e*pP **pP** **06 26 42.5 -1.4**
RJOB *e*SKSac **SKSac** **06 36 11.8 -0.4**
RJOB *e*SP **SP** **06 38 18.9 -0.7**
ODD1 Odda 96.58 30 *e*SKS **SKSac** **06 36 12.3 +0.7**
PAX Paxson 96.58 334 *e*P **P** **06 25 54.3 0.0**
PAX *e**PP **pP** **06 26 43.6 0.0**
PAX pmax pmax
comp=Z,63nm,1.3s
PAX Paxson 96.58 334 *e*P **P** **06 25 54.3 0.0**
comp=Z,63nm,1.3s
PAX *e*pP **pP** **06 26 43.6 0.0**
MOX Moxa 96.60 39 *e*P **P** **06 25 54.0 -0.5**
comp=Z,72nm,2.2s
MOX *e*PP **PKiKP** **06 30 35.6 +5.0**
MOX *e*SKSac **SKSac** **06 36 15.3 +3.3**
MOX *e*Sdiff **S** **06 36 56.1 -1.9**
MOX *e*SP **SP** **06 38 16.8 -2.8**
MOX Moxa 96.60 39 *e*P **P** **06 25 54.0 -0.5**
MOX *e* 06 36 15.3
MOX *e*S **S** **06 36 56.1 -1.9**
MOX *e*SP **SP** **06 38 16.8 -2.8**
BSEG Bad Segeberg 96.73 36 *e*P **P** **06 25 54.6 -0.3**
comp=Z,26nm,0.9s
BSEG *e*PP PKiKP 06 30 37.2 +6.6
BSEG *e*SKSac **SKSac** **06 36 14.2 +1.7**
BSEG *e*SP **SP** **06 38 16.8 -4.0**

BSEG Bad Segeberg 96.73 36 *e*P **P** **06 25 54.6 -0.3**
BSEG pmax pmax
comp=Z,36nm,0.9s
ROTZ Rotzenmuhle 96.73 40 *e*P **P** **06 25 55.1 0.0**
comp=Z,26nm,1.4s
ROTZ *e*PP PKiKP 06 30 36.3 +5.5
ROTZ *e*SKSac **SKSac** **06 36 16.0 +3.2**
ROTZ *e*SP **SP** **06 38 17.8 -3.3**
KBA Koelnbreinsper 96.77 43⇑ *i*PcP **PcP** **06 25 55.6 0.0**
comp=Z,9.0nm,1.4s
HYA Hoyanger 96.78 28 *e*SKS **SKSac** **06 36 10.9 -1.5**
MUD Monsted U'grnd 96.81 33 *i* P **P** **06 25 56.4 +1.1**
MUD *i* 06 29 51.3
MUD pmax pmax
comp=Z,18nm,0.9s
MUD Monsted U'grnd 96.81 33 *i* P **P** **06 25 56.4 +1.1**
comp=Z,18nm,0.8s
MUD *i* 06 29 51.3
CADS Cadrg 96.82 44 *e*P **P** **06 25 56.2 +0.6**
CADS *e*pP **pP** **06 26 46.9 +1.9**
CADS *e*sP sP 06 27 11.6 +6.0
CADS *i* PP **PP** **06 29 52.5 -1.2**
CADS *e* 06 30 35.1
CADS *e*SKSac **SKSac** **06 36 14.7 +1.2**
CADS *e* 06 37 01.4
VOY Vojsko 96.87 44 *e*P **P** **06 25 56.3 +0.3**
VOY *e*pP **pP** **06 26 49.3 +4.0**
VOY *e*PP **PP** **06 29 52.3 -1.9**
WET Wettzell 96.99 41 *e*P **P** **06 25 55.9 -0.4**
comp=Z,45nm,1.8s
WET *e*pP **pP** **06 26 44.6 -1.1**
WET *e*PP PKiKP 06 30 38.2 +6.9
WET *e*SKSac **SKSac** **06 36 15.6 +1.4**
WET *e*SP **SP** **06 38 22.0 -2.0**
WET pmax pmax
comp=Z,52nm,1.8s
TANN Tannenbergstha 97.06 40 *e*P Pdif 06 25 56.7 0.0
comp=Z,22nm,1.4s
TANN *e*pP pP 06 26 45.4 -0.6
TANN *e*PP PKiKP 06 30 39.4 +8.0
TANN *e*SKSac **SKSac** **06 36 17.7 +3.2**
TANN *e*Sdiff **S** **06 37 00.3 -1.7**
TANN *e*SP **SP** **06 38 21.0 -3.7**
CRNS Crni Vrh 97.13 44 *i* P Pdif 06 25 57.6 +0.5
CRNS *i* pP pP 06 26 48.3 +1.9
CRNS *e* 06 29 13.0
CRNS *i* PP **PP** **06 29 55.0 -1.1**
CRNS *e* 06 30 38.1
CRNS *e* 06 36 26.0
CRNS *e* 06 38 37.5
LJU Ljubljana 97.30 44 *e*P Pdif 06 25 58.4 +0.5
LJU *e*pP pP 06 26 49.4 +2.3
LJU *i* PP **PP** **06 29 56.6 -0.7**
LJU *e* 06 30 40.7
LJU *e* 06 31 04.7
LJU *e*SKSac **SKSac** **06 36 16.9 +1.0**
LJU *e* 06 37 02.3
LJU *e* 06 38 30.5
LJU *e*PKKPbc **PKKPbc** **06 42 36.0 -1.3**
KHC Kasperske Hory 97.43 41 *e*P **P** **06 25 56.0 -2.3**
KHC *e* 06 29 55.0
KHC Kasperske Hory 97.43 41 *e*P **P** **06 25 56.0 -2.3**
KHC *e*pP **pP** **06 26 48.5 +0.8**
KHC *ex* x 06 28 52.0
KHC *e*PP **PP** **06 29 55.0 -3.3**
GEC2 GERESS Array S 97.44 42 *e*P **P** **06 25 57.8 -0.7**
comp=Z,26nm,1.5s
GEC2 *e*pP **pP** **06 26 46.5 -1.3**
GEC2 *e*SKSac **SKSac** **06 36 17.2 +0.5**
GEC2 *e*Sdiff **S** **06 37 02.3 -3.2**
GEC2 *e*SP **SP** **06 38 26.2 -2.8**
GEC2 GERESS Array S 97.44 42 *e*P **P** **06 25 57.8 -0.7**
GEC2 *e**PP **pP** **06 26 46.5 -1.3**
GEC2 *e* 06 36 17.2
GEC2 *e*S **S** **06 37 02.3 -3.2**
GEC2 *e*SP **SP** **06 38 26.2 -2.8**
GEC2 pmax pmax
comp=Z,30nm,1.5s
GERES GERESS Array B 97.44 42 P **P** **06 25 58.2 -0.3**
GERES PP **PP** **06 29 57.0 -1.5**
GERES PKiKP **PKiKP** **06 30 32.5 +0.3**
GERES PKKPbc **PKKPbc** **06 42 36.1 -1.1**
GERES P'P' 06 50 48.8
GERES GERESS Array B 97.44 42 P **P** **06 25 58.2 -0.3**
comp=Z,3.5nm,0.8s,baz=249,slow=3.7,SNR=21
GERES PP **PP** **06 29 57.0 -1.5**
comp=Z,6.9nm,1.0s,baz=263,slow=5.4,SNR=6.2
GERES PKiKP **PKiKP** **06 30 32.5 +0.3**
comp=Z,0.6nm,0.7s,baz=254,slow=3.6,SNR=2.0
GERES PKKPbc **PKKPbc** **06 42 36.1 -1.1**
comp=Z,0.8nm,0.5s,baz=96,slow=1.5,SNR=15
GERES PKPPKP **P'P'df** **06 50 48.8 -0.5**
comp=Z,0.9nm,0.9s,baz=42,slow=4.2,SNR=5.2
SML Sawmill 97.47 332 *e*P **P** **06 25 57.3 -0.9**
SML pmax pmax
comp=Z,14nm,0.7s
SML Sawmill 97.47 332 *e*P **P** **06 25 57.3 -0.9**
comp=Z,14nm,0.7s
SML *e*pP **pP** **06 26 47.0 -0.6**
MOA Molln 97.56 43⇑ *i*PcP Pdif 06 25 59.1 +0.1
comp=Z,19nm,1.3s
CLL Collm 97.61 39 *e*P **P** **06 25 58.8 -0.2**
comp=Z,13nm,1.1s
CLL *e*pP **pP** **06 26 47.6 -0.8**
CLL *e*PP PKiKP 06 30 43.4 +11
CLL *e*SKSac **SKSac** **06 36 19.2 +2.1**
CLL *e*Sdiff **S** **06 37 03.8 -2.8**
CLL *e*SP **SP** **06 38 28.2 -2.4**
CLL Collm 97.61 39 *i* P Pdif 06 25 59.7 +0.6
CLL *e**PP pP 06 26 48.0 -0.4
CLL *i* 06 36 19.3
CLL pmax pmax
comp=Z,9.0nm,1.5s
CLL Collm 97.61 39 *i* Pdif Pdif 06 25 59.7 +0.6
comp=Z,16nm,1.5s
CLL *e*pP pP 06 26 48.0 -0.4
comp=Z,19nm,1.3s
CLL *i* PP **PP** **06 29 58.7 -0.9**
comp=Z,73nm,1.8s
CLL *e*PPIp 06 29 58.0
CLL *e*pPP 06 30 44.0
CLL *e*PPP PPP 06 32 06.0
CLL *i* SKSac **SKSac** **06 36 19.3 +2.1**
CLL *e*S **S** **06 37 05.0 -1.6**
CLL *e*SP **SP** **06 38 30.0 -0.6**
CLL *e*PS **PS** **06 39 00.0 +4.0**
CLL *e*PPS PPS 06 39 44.0
CLL *e*SS **SS** **06 43 55.0 +3.4**
CLL *e*sSS 06 45 10.0
CLL *e*SSS SSS 06 47 45.0
CLL *e*(sSSS) 06 49 12.0
CLL *e*PKPPKPd **P'P'df** **06 50 48.0 -0.6**
CLL L L 07 06 00.0
comp=Z,800nm,21.7s
PDKS Podkum 97.63 44 *e*P **P** **06 25 59.2 0.0**
PDKS *e*PP **PP** **06 29 58.6 -1.2**
BOJS Bojanci 97.67 45 *e*P Pdif 06 26 00.1 +0.6
BOJS *e*PP **PP** **06 29 58.9 -1.3**
BOJS *e*SKSac **SKSac** **06 36 19.0 +1.3**
BOJS *e* 06 38 33.8
PMR Palmer 97.77 332 *e*P **P** **06 25 59.0 -0.5**
PMR *e**PP **pP** **06 26 47.3 -1.5**
PMR pmax pmax
comp=Z,22nm,1.0s
PMR Palmer 97.77 332 *e*P **P** **06 25 59.0 -0.5**
comp=Z,22nm,1.0s
PMR *e*pP **pP** **06 26 47.3 -1.5**
ILAR Eielson Array 97.78 335 P **P** **06 25 59.2 -0.2**
ILAR pP **pP** **06 26 46.7 -2.1**
ILAR PP **PP** **06 29 57.4 -3.0**
ILAR PKiKP **PKiKP** **06 30 33.1 +0.9**
ILAR S **SKSac** **06 36 18.2 +0.8**
ILAR PKKPbc **PKKPbc** **06 42 33.6 -3.1**
ILAR Eielson Array 97.78 335 P **P** **06 25 59.2 -0.2**
comp=Z,5.5nm,0.8s,baz=145,slow=3.5,SNR=40
ILAR pP **pP** **06 26 46.7 -2.1**
comp=Z,3.9nm,1.0s,baz=137,slow=4.4,SNR=1.9
ILAR PP **PP** **06 29 57.4 -3.0**
comp=Z,9.4nm,0.9s,baz=106,slow=6.9,SNR=9.6
ILAR PKiKP **PKiKP** **06 30 33.1 +0.9**
comp=Z,2.0nm,0.9s,baz=101,slow=4.7,SNR=2.3
ILAR S **SKSac** **06 36 18.2 +0.8**
comp=Z,0.3nm,0.4s,baz=139,slow=7.1,SNR=6.6
ILAR PKKPbc **PKKPbc** **06 42 33.6 -3.1**
comp=Z,1.8nm,0.7s,baz=290,slow=3.5,SNR=14
SOKA Soboth 97.79 44⇓ *i*Pdiff Pdif 06 26 00.3 +0.2
comp=Z,4.8nm,1.3s
RC01 Rabbit Creek A 97.90 331 *e*P Pdif 06 26 00.3 +0.2
comp=Z,34nm,0.9s
KONO Kongsberg 97.94 30 *e*pP **pP** **06 26 48.2 -1.4**
KONO *e*PP **PP** **06 30 02.1 +0.3**
KONO *e*SKS **SKSac** **06 36 17.2 -1.3**
BRG Berggiesshubel 98.08 40 *e*P Pdif 06 26 01.9 +0.7
comp=Z,15nm,1.4s
BRG pP pP 06 26 48.0 -2.5
BRG PP PP 06 29 44.0 -19
BRG SKS **SKSac** **06 36 18.0 -1.6**
BRG S **SKSac** **06 36 46.0 -3.5**
BRG SS SS 06 43 38.0 -20
BRG *e*PKPPKP **P'P'df** **06 50 46.6 -1.2**
comp=Z,21nm,1.7s
BRG
comp=N,495nm,22.7s
BRG
comp=E,759nm,22.3s
BRG
comp=Z,981nm,19.6s
BRG Berggiesshubel 98.08 40 *e*P **P** **06 26 01.0 -0.2**
comp=Z,33nm,1.9s
BRG *e*pP **pP** **06 26 49.9 -0.6**
BRG *e*SKSac **SKSac** **06 36 21.7 +2.1**
BRG *e*SP **SP** **06 38 33.6 -2.1**
BRG Berggiesshubel 98.08 40 *e*P Pdif 06 26 01.9 +0.7
BRG *PP pP 06 26 48.0 -2.5
BRG 06 36 18.0
BRG pmax pmax
comp=Z,15nm,1.4s
BRG pmax pmax
comp=Z,21nm,1.7s
BRG MLR MLR
comp=N,495nm,22.7s
BRG MLR MLR
comp=E,759nm,22.3s
BRG MLR MLR
comp=Z,981nm,19.6s
PRA Prague 98.20 40 P Pdif 06 26 02.0 +0.3
PRA pP pP 06 26 55.0 +4.0
COLA College 98.20 335 *e*P **P** **06 26 01.2 -0.1**
COLA *e**PP **pP** **06 26 49.3 -1.4**
COLA College 98.20 335 *e*P **P** **06 26 01.1 -0.1**
comp=Z,183nm,1.0s
COLA *e*pP **pP** **06 26 49.3 -1.4**
PRU Pruhonice 98.25 41 *e*P Pdif 06 26 02.0 +0.1
PRU *e* 06 36 22.9
PRU *e* 06 39 55.0
PRU Pruhonice 98.25 41 *e*P Pdif 06 26 02.0 +0.1
PRU *e*pP pP 06 26 54.1 +2.8
PRU *e*SKS **SKSac** **06 36 22.9 +2.4**
PRU *e*SP **SP** **06 38 31.3 -6.2**
PRU *ex* x 06 39 55.0
PRU *e*SS SS 06 43 50.9 -10
ARSA Arzberg 98.25 43⇑ *i*Pdiff Pdif 06 26 02.1 +0.1
comp=Z,11nm,1.6s
MCK McKinley 98.31 334 *e*P **P** **06 26 01.7 -0.2**
MCK pmax pmax
comp=Z,19nm,0.9s
MCK McKinley 98.31 334 *e*P **P** **06 26 01.7 -0.2**
comp=Z,19nm,0.9s
PVCC Panska Ves 98.39 40 *e*P Pdif 06 26 03.7 +1.2
PVCC *e* 06 36 24.1
PVCC *e* 06 38 35.5
PVCC *e* 06 39 57.9
PVCC Panska Ves 98.39 40 *e*P Pdif 06 26 03.7 +1.2
PVCC *e*pP pP 06 26 56.0 +4.1
PVCC *e*SKS **SKSac** **06 36 24.1 +2.9**
PVCC *e*SP **SP** **06 38 35.5 -3.5**
PVCC *ex* x 06 39 57.9
KDAK Kodiak Island 98.41 328 P **P** **06 26 02.4 0.0**
KDAK Kodiak Island 98.41 328 P **P** **06 26 02.4 0.0**
comp=Z,4.9nm,0.5s,baz=109,slow=4.8,SNR=9.9
KDAK LR LR 07 09 47.0
comp=Z,734nm,22.0s,baz=3.8,slow=35
OHAK Old Harbor 98.63 327 *e*P **P** **06 26 03.0 -0.4**
comp=Z,51nm,1.2s
OHAK *e*pP **pP** **06 26 51.5 -1.3**
TREC Trest 98.69 41 *e*P Pdif 06 26 05.4 +1.5
TREC *e* 06 36 25.8
TREC Trest 98.69 41 *e*PDIFF Pdif 06 26 05.4 +1.5
TREC *e*SKS **SKSac** **06 36 25.8 +3.0**
TREC *e*SP **SP** **06 38 38.4 -4.0**
TRF Thorofare Moun 98.81 333 *e*P **P** **06 26 03.3 -1.0**
comp=Z,16nm,0.7s
TRF *e*pP **pP** **06 26 53.0 -0.7**
CASY Casey 98.91 180 P **P** **06 26 03.8 -0.8**
comp=Z,15nm,0.9s
RPZ Rata Peaks 98.96 220 LR LR 07 01 57.5
comp=Z,984nm,20.7s,baz=280,slow=30
NB2 NORSAR Subarra 99.08 29 P **Pdif** **06 26 07.3 +1.9**
comp=Z,26nm,2.0s,baz=253,slow=4.8
NB2 NORSAR Subarra 99.08 29 P **Pdif** **06 26 07.3 +1.9**
baz=253,slow=4.8
NOA NORSAR Array B 99.08 29 P **Pdif** **06 26 06.8 +1.3**
NOA PP **PP** **06 30 10.6 +0.1**
NOA PKKPbc **PKKPbc** **06 42 30.3 -2.7**
NOA P'P' 06 50 45.5
NOA NORSAR Array B 99.08 29 P **Pdif** **06 26 06.8 +1.3**
comp=Z,1.8nm,0.9s,baz=253,slow=4.3,SNR=4.8
NOA PP **PP** **06 30 10.6 +0.1**
comp=Z,4.7nm,1.1s,baz=258,slow=8.0,SNR=3.5
NOA PKKPbc **PKKPbc** **06 42 30.3 -2.7**
comp=Z,4.4nm,1.1s,baz=259,slow=2.9,SNR=6.2
NOA PKPPKP **P'P'df** **06 50 45.5 +0.3**
comp=Z,6.5nm,1.1s,baz=259,slow=3.1,SNR=6.2
NOA LR LR 07 06 48.5
comp=Z,1µm,21.4s,baz=245,slow=33
NC602 NORSAR Array S 99.16 30 *e*SKS **SKSac** **06 36 23.8 -0.7**
RSO Redoubt South 99.16 330 *e*Pdif **Pdif** **06 26 03.3 -2.7**
comp=Z,70nm,0.6s
UPC Upice 99.28 40 *e*PDIFF **Pdif** **06 26 07.5 +1.0**
UPC *e*pP **pP** **06 26 57.8 +1.9**
UPC *ex* x 06 29 27.3
UPC *e*PP **PP** **06 30 10.9 -1.4**
VRAC Vranov 99.40 41 P **Pdif** **06 26 07.5 +0.4**
VRAC Vranov 99.40 41 P **Pdif** **06 26 07.5 +0.4**
comp=Z,4.5nm,1.1s,baz=234,slow=3.4,SNR=7.8
DPC Dobruska-Polom 99.44 40 *e*P **Pdif** **06 26 07.4 +0.1**
DPC Dobruska-Polom 99.44 40 *e*PDIFF **Pdif** **06 26 07.4 +0.1**
DPC *e*pP **pP** **06 26 58.8 +2.1**
KSP Ksiaz 99.53 40 *e*P **Pdif** **06 26 08.7 +1.1**
KSP *e* 06 30 13.2
KSP *e* 06 36 27.5
KSP *e*SP SP 06 38 49.0 -2.3
KSP Ksiaz 99.53 40 *e*PP PP 06 30 13.1 -1.1
KRLC Kraliky 99.68 41 *e*P **Pdif** **06 26 09.6 +1.2**
KRLC Kraliky 99.68 41 *e*PDIFF **Pdif** **06 26 09.6 +1.2**
KRLC *e*pP **pP** **06 27 01.0 +3.2**
COLD Coldfoot 99.79 337 *e*Pdif **Pdif** **06 26 08.4 0.0**
HFS Hagfors 100.06 30 PKKPbc PKKPbc 06 42 27.3 -2.8
HFS Hagfors 100.06 30 PKKPbc PKKPbc 06 42 27.3 -2.8
comp=Z,3.2nm,0.8s,baz=116,slow=6.8,SNR=9.5
MORC Moravsky Berou 100.10 41 *e*P **Pdif** **06 26 11.4 +1.1**
MORC *e* 06 30 16.1
MORC pmax pmax
comp=Z,23nm,1.6s
MORC Moravsky Berou 100.10 41 *e*Pdif **Pdif** **06 26 11.4 +1.1**
comp=Z,23nm,1.6s
MORC *e*pP pP 06 27 02.4 +2.7
MORC *e*PP **PP** **06 30 16.1 -2.4**
PKSM Moragy 100.13 45⇑ *i*P **PKKPbc** **06 42 27.6 -1.7**
OKC Ostrava-Krasne 100.50 41 *e*P **Pdif** **06 26 13.6 +1.7**
OKC *e* 06 36 34.7
OKC Ostrava-Krasne 100.50 41 *e*PDIFF **Pdif** **06 26 13.6 +1.7**
OKC *e*pP pP 06 27 05.9 +4.6
OKC *e*SKS 06 36 34.7
GKP Gorka Klasztor 100.58 38 *e*PP PP 06 30 20.7 -1.3
VYHS Vyhne 100.69 43 *e*P **Pdif** **06 26 13.2 +0.3**
VYHS Vyhne 100.69 43 PDIF **Pdif** **06 26 13.2 +0.3**
CHGN Chignik 101.20 325 *e*Pdif **Pdif** **06 26 15.3 +0.4**
OJC Ojcow 101.61 41 *e*Pdiff **Pdif** **06 26 16.0 -0.9**
OJC *e*PP **PP** **06 30 28.2 -1.7**
OJC *e*PKiKP **PKiKP** **06 30 37.3 -2.2**
OJC *e*SKSac **SKSac** **06 36 36.1 -0.9**
OJC *e*SS **SS** **06 44 42.9 -4.4**
OJC L L 07 09 09.1
comp=Z,600nm,20.1s
NIE Niedzica 101.81 42 *e*P **Pdif** **06 26 17.0 -0.8**
NIE Niedzica 101.81 42 *e*Pdiff **Pdif** **06 26 17.0 -0.8**
NIE *e*PP x 06 26 29.1
NIE *e*PKiKP **PKiKP** **06 30 38.3 -1.6**
NIE *e*SKSac **SKSac** **06 36 37.4 -0.6**
NIE *e*SS **SS** **06 44 44.8 -5.4**
BZS Buzias 102.07 46⇑ *i*P **PP** **06 30 34.1 +0.7**
BZS Buzias 102.07 46⇑ *i*P **PKKPbc** **06 42 19.8 -3.9**
BEL Belsk 102.48 39 *e*PKiKP PKiKP 06 30 35.3 -5.7
KKB Krupnik 102.53 50 *e*P **PP** **06 30 34.7 -2.3**
VTS Vitosha 102.74 49 *e*P **PP** **06 30 38.0 -0.7**
VTS Vitosha 102.74 49⇑ *i*P **PKKPbc** **06 42 19.6 -2.2**
MMB Musomiste 102.97 50 *e*P **PP** **06 30 40.5 +0.2**
UZH Uzhgorod 102.98 43 *e*P **Pdif** **06 26 24.0 +1.0**
DRGR 103.00 45⇓ *i*P **PP** **06 30 38.0 -2.4**
DRGR 103.00 45⇓ *i*P **PKKPbc** **06 42 19.8 -1.3**
KBS Kingsbay 103.21 11 *e* Pdif 06 27 07.8 +44
KBS *e*PP **PP** **06 30 39.3 -1.7**
KBS *e*SKS 06 36 42.9
KWP Kalwaria Pacla 103.38 42 *e*PKiKP **PKiKP** **06 30 42.5 -0.3**
LOT Lotru 103.55 46⇑ *i*P **PKKPbc** **06 42 18.0 -1.5**
CJR Cluj-Napoca 103.59 45⇓ *i*P **PKiKP** **06 30 42.2 -1.1**
RZN Rozhen 103.72 50 *e*P **PKiKP** **06 30 41.4 -2.5**
PLD Plovdiv 103.76 50 *e*P **PP** **06 30 45.2 -0.9**
TRO Tromso 103.79 21 *e*PP PP 06 30 42.4 -3.1
TRO *e*SKS 06 36 44.7
TRO *e*SS **SS** **06 45 17.1 +1.0**
SPA0 Spitsbergen Ar 103.98 12 *e*PP PP 06 30 44.8 -2.0
SPA0 *e*SKS 06 36 48.7
SPITS Spitsbergen Ar 103.98 12 PKKPbc PKKPbc 06 42 16.5 -2.6
SPITS Spitsbergen Ar 103.98 12 PKKPbc PKKPbc 06 42 16.5 -2.6
comp=Z,2.1nm,0.5s,baz=127,slow=5.4,SNR=6.8
ARR Arges 104.14 46⇓ *i*P **PP** **06 30 48.1 -0.8**
ARR Arges 104.14 46⇓ *i*P **PKKPbc** **06 42 17.0 -0.6**
SUW Suwalki 104.19 37 *e*PKiKP **PKiKP** **06 30 47.5 +3.4**
SUW *e*PP **PP** **06 30 53.8 +4.9**
KDZ Kurdzhali 104.23 50 *e*P **PKiKP** **06 30 47.3 +2.7**
HUMR Humele 104.28 47⇑ *i*P **PKKPbc** **06 42 16.5 -0.6**
VOIR 104.44 46⇑ *i*P **PKiKP** **06 30 48.7 +3.8**
BURAR Bucovina Array 104.80 44⇑ *i*P **PKKPab** **06 42 33.4 +1.2**
MLR Muntele Rosu 105.07 46 Pdif **Pdif** **06 26 35.0 +2.4**
MLR PP PP **06 30 55.5 -0.3**
MLR PKKPbc **PKKPbc** **06 42 14.7 -0.2**
MLR Muntele Rosu 105.07 46⇑ *i*P **PP** **06 30 53.0 -2.9**
MLR Muntele Rosu 105.07 46⇑ *i*P **PKKPbc** **06 42 13.4 -1.5**
MLR Muntele Rosu 105.07 46 Pdiff **Pdif** **06 26 35.0 +2.4**
comp=Z,0.4nm,0.6s,baz=323,slow=6.2,SNR=3.6
MLR PP **PP** **06 30 55.5 -0.3**
comp=Z,9.9nm,1.1s,baz=293,slow=7.7,SNR=7.6
MLR PKKPbc **PKKPbc** **06 42 14.7 -0.2**
comp=Z,1.2nm,0.6s,baz=207,slow=2.8,SNR=10
KTK1 Kautokeino 105.28 22 *e*SKS **SKSac** **06 36 54.7 +1.6**
PLOR Plostina 105.60 46⇓ *i*P PKiKP 06 30 52.8 +5.8
VRI Vrincioaia 105.66 46⇓ *i*P **PKiKP** **06 30 46.3 -0.8**
VRI Vrincioaia 105.66 46⇓ *i*P **PKKPbc** **06 42 11.1 -1.9**
PRD Provadia 105.87 49 *e*P **PP** **06 30 58.7 -2.9**
IIGN Ignalina 106.06 36 *e*P **PKKPbc** **06 42 10.2 -1.9**
IIGN AMB AMB 06 42 11.7
comp=Z,5.8nm,1.0s
ARCES ARCESS Array B 106.09 21 Pdif **Pdif** **06 26 38.0 +1.7**
ARCES PKiKP **PKiKP** **06 30 47.6 +0.4**
ARCES PKKPbc **PKKPbc** **06 42 08.1 -4.4**
ARCES P'P' 06 50 31.9
ARCES ARCESS Array B 106.09 21 Pdiff **Pdif** **06 26 38.0 +1.7**
comp=Z,2.4nm,1.0s,baz=259,slow=1.2,SNR=5.5
ARCES PKiKP **PKiKP** **06 30 47.6 +0.4**
comp=Z,1.7nm,0.9s,baz=258,slow=4.3,SNR=2.5
ARCES PKKPbc **PKKPbc** **06 42 08.1 -4.4**
comp=Z,4.1nm,0.5s,baz=99,slow=2.8,SNR=29
ARCES PKPPKP **P'P'df** **06 50 31.9 +0.6**
comp=Z,5.0nm,1.1s,baz=86,slow=1.6,SNR=9.0
ARE0 ARCESS Array S 106.09 21 *e*PP PP 06 31 00.4 -2.1
ARE0 *e*SKS **SKSac** **06 36 55.1 -1.7**
IZAR Zarasai 106.09 36 *e*P **PKKPbc** **06 42 10.8 -1.1**
IZAR AMB AMB 06 42 12.5
comp=Z,5.4nm,1.3s
FINES FINESS Array B 106.24 30 PKiKP **PKiKP** **06 30 47.8 +0.2**
FINES PKKPbc PKKPbc 06 42 04.0 -7.7
FINES P'P' 06 50 30.8
FINES FINESS Array B 106.24 30 PKiKP **PKiKP** **06 30 47.8 +0.2**
comp=Z,3.6nm,0.8s,baz=186,slow=1.4,SNR=12
FINES PKKPbc PKKPbc 06 42 04.0 -7.7
comp=Z,1.6nm,0.7s,baz=94,slow=4.6,SNR=8.5
FINES PKPPKP **P'P'df** **06 50 30.8 -0.7**
comp=Z,2.7nm,0.7s,baz=116,slow=4.4,SNR=8.2
FIA1 FINESS Array S 106.24 30 PKPdf **PKiKP** **06 30 50.8 +3.2**
IDID Didziasalis 106.35 36 *e*P **PKKPbc** **06 42 09.0 -2.2**
IDID AMB AMB 06 42 11.8
comp=Z,12nm,1.2s
PSN Preselentsi 106.48 48 *e*P **PKiKP** **06 30 49.3 +0.7**
CFR Carcaliu 106.58 47⇑ *i*P **PKiKP** **06 30 49.7 +1.0**
KMBO Kilima Mbogo 106.86 96 PKKPbc PKKPbc 06 42 10.7 +2.2
KMBO Kilima Mbogo 106.86 96 PKKPbc PKKPbc 06 42 10.7 +2.2
comp=Z,1.7nm,0.8s,baz=73,slow=23,SNR=3.8
KHAL Karahalli 106.96 54 *i* P **PKiKP** **06 30 50.8 +0.9**
MICGM Minsk 106.97 37 *e*P **PKiKP** **06 30 48.0 -1.2**
KIS Kishinev 107.19 45 *e*PP PP 06 31 54.0 +43
KIS *i* SKS **SKSac** **06 37 00.0 -2.4**
KIS *i* S **SKKSac** **06 37 50.0 -4.5**
KIS Kishinev 107.19 45 *i* PS **SP** **06 40 12.0 +0.4**
KIS LRM MLR 07 11 40.0
comp=Z,400nm,22.0s
KIEV Kiev 107.64 41 *e*PKPdf **PKiKP** **06 30 51.0 +0.5**
KIEV *e*PP **PP** **06 31 12.6 -1.7**
ISP Isparta 107.71 55⇓ *i*P **PKKPdf** **06 42 19.0 -0.8**
SEYT Eskypehyr 108.12 53 *i* P **PKiKP** **06 30 53.8 +1.8**
KDHN Kadinhani 109.02 54 *i* P **PKiKP** **06 30 51.8 -1.9**
APA Apatity 109.11 23⇑ *e*P **Pdif** **06 26 49.0 -0.8**
APA *i* 06 31 21.0
APA *i* 06 37 12.0
APA *i* 06 42 06.0
APA *i* SS SS 06 46 26.0 -2.3
CSS Prodhromos 109.71 58 *e*PKPdf **PKiKP** **06 30 55.0 0.0**
BR131 Keskin Array S 110.28 53 *e*PKPdf **PKiKP** **06 30 56.3 +0.2**
BR131 *e*SKPdf **SKiKP** **06 34 16.3 +3.6**
BRTR Keskin Array B 110.28 53 Pdif **Pdif** **06 27 01.9 +6.0**
BRTR PKiKP **PKiKP** **06 30 56.5 +0.4**
BRTR PP **PP** **06 31 31.4 -2.7**
BRTR SKP 06 34 15.3
BRTR PKKPbc **PKKPbc** **06 41 56.3 -1.8**
BRTR PKKPab **PKKPab** **06 42 08.1 -0.1**
BRTR Keskin Array B 110.28 53 Pdiff **Pdif** **06 27 01.9 +6.0**
comp=Z,0.2nm,0.3s,baz=221,slow=5.7,SNR=2.9
BRTR PKiKP **PKiKP** **06 30 56.5 +0.4**
comp=Z,8.5nm,0.9s,baz=194,slow=3.4,SNR=16
BRTR PP **PP** **06 31 31.4 -2.7**
comp=Z,11nm,1.1s,baz=255,slow=4.9,SNR=6.3
BRTR SKP 06 34 15.3
comp=Z,4.5nm,1.1s,baz=204,slow=2.7,SNR=4.2
BRTR PKKPbc **PKKPbc** **06 41 56.5 -1.8**
comp=Z,2.6nm,1.0s,baz=123,slow=4.6,SNR=5.7
BRTR PKKPab **PKKPab** **06 42 08.1 -0.1**
comp=Z,5.5nm,1.0s,baz=121,slow=4.6,SNR=8.8
ILGA Ilgaz 110.40 51 *i* P **PKiKP** **06 30 57.8 +1.5**
EIL Elat 110.58 64 PKiKP **PKiKP** **06 30 57.9 +1.1**
EIL Elat 110.58 64 PKiKP **PKiKP** **06 30 57.9 +1.1**
comp=Z,15nm,0.8s,baz=314,slow=3.4,SNR=12
GULE Gulek 111.04 56 *i* P **PKiKP** **06 30 59.5 +1.9**
MMAI Mount Meron Ar 111.27 60 PKiKP **PKiKP** **06 30 59.5 +1.4**
MMAI PKKPab **PKKPab** **06 42 04.0 +0.1**
MMAI Mount Meron Ar 111.27 60 PKiKP **PKiKP** **06 30 59.5 +1.4**
comp=Z,7.4nm,0.5s,baz=83,slow=2.6,SNR=12
MMAI PKKPab **PKKPab** **06 42 04.0 +0.1**
comp=Z,0.7nm,0.2s,baz=27,slow=5.8,SNR=6.3
OBN Obninsk 111.98 36⇓ *i*PKiKP **PKiKP** **06 31 00.0 +1.4**
OBN *i* 06 31 43.8
OBN *i* 06 37 27.0
OBN *i* PS PS 06 40 58.6 -23
OBN pmax pmax
comp=Z,35nm,1.0s
OBN MLR MLR
comp=Z,1µm,20.0s
ANDN Andirin 112.30 55 *i* P **PKiKP** **06 31 01.9 +2.0**
AYKD Aykdinkavak 112.66 55 *i* P **PKiKP** **06 31 02.3 +1.8**
DZM Mont Dzumac 113.08 238 *e*PS PS 06 41 24.8 -7.6
comp=Z,3µm,29.2s
DZM Mont Dzumac 113.08 238 PKiKP **PKiKP** **06 31 03.0 +1.1**
DZM Mont Dzumac 113.08 238 PKiKP **PKiKP** **06 31 03.0 +1.1**

comp=Z,9.9nm,0.9s,baz=270,slow=24,SNR=13
ANN Anapa 113.16 47 *i* PKIKP **PKiKP 06 31 01.6 +0.4**
ANN *e* 06 31 51.5
ANN *e* 06 37 28.6
ANN *e*PS **PS 06 41 33.6 +1.2**
ANN *i* 06 42 40.9
ANN pmax pmax
comp=Z,53nm,1.8s
GZT Gaziantep 113.27 56 *i* P **PKiKP 06 31 03.7 +1.9**
VSR Storozhevoye 113.91 40 *e*PKIKP **PKiKP 06 31 02.9 +0.5**
VSR *e* 06 31 57.0
VSR pmax pmax
comp=Z,30nm,0.9s
VSR pmax pmax
comp=N,7.0nm,0.7s
VSR pmax pmax
comp=E,9.0nm,0.9s
VSR pmax pmax
comp=Z,50nm,1.2s
VSR pmax pmax
comp=N,20nm,1.1s
VSR pmax pmax
comp=E,70nm,1.2s
MALT Malatya 113.97 55⇓ *i* P **PKKPdf 06 42 09.2 +1.2**
VORD Divnogorie 114.02 41 *e*PKIKP **PKiKP 06 31 02.2 -0.4**
VORD *e* 06 31 57.6
VORD pmax pmax
comp=Z,30nm,1.1s
VORD pmax pmax
comp=N,220nm,0.5s
VORD pmax pmax
comp=E,90nm,0.3s
VORD pmax pmax
comp=Z,30nm,1.1s
VORD pmax pmax
comp=N,570nm,0.5s
VORD pmax pmax
comp=E,540nm,0.6s
KEMA Kemaliye 114.02 53 *i* P **PKiKP 06 31 04.7 +1.5**
KELT Kelkit 114.61 52 *i* P PKPdf 06 31 06.2 +1.8
SOC Sochi 114.85 49 *d*PKIKP PKPdf 06 31 05.8 +1.3
SOC *e* 06 31 54.0
SOC *e* 06 32 04.1
SOC *i* 06 37 35.8
SOC *e*PS **PS 06 41 50.6 +2.7**
SOC pmax pmax
comp=Z,42nm,0.6s
ATD Arta Tunnel 115.28 84 PKP **PKPdf 06 31 08.7 +2.5**
ATD Arta Tunnel 115.28 84 PKP **PKPdf 06 31 08.7 +2.5**
comp=Z,30nm,0.9s,baz=117,slow=2.3,SNR=7.6
BILL Bilibino 115.97 340⇑ *i* PKIKP **PKPdf 06 31 07.2 +1.3**
BILL *i* 06 31 53.1
BILL *i* 06 32 07.8
BILL *i* PS **SP 06 41 28.1 -4.8**
BILL *i* SS **SS 06 47 53.3 -5.4**
BILL pmax pmax
comp=Z,83nm,1.2s
BEST Besiri 116.21 55 *i* P **PKiKP 06 31 07.2 -0.2**
DBAD Bademkaya 116.44 51 *i* P **PKPdf 06 31 09.0 +1.3**
ARTV Artvin 116.60 51 *i* P **PKPdf 06 31 08.9 +0.7**
KIV Kislovodsk 116.97 48 *e*P **Pdif 06 27 26.4 +0.9**
KIV *i* 06 31 09.5
KIV *e* 06 32 22.9
KIV *e* 06 37 42.7
KIV *e*PS **PS 06 42 08.3 +0.9**
KIV *e*SS SS 06 48 19.2 +5.7
KIV pmax pmax
comp=Z,28nm,1.1s
KBZ Khabaz 117.14 48 PKIKP **PKPdf 06 31 09.5 +0.7**
KBZ 06 32 22.2
KBZ pmax pmax
comp=Z,40nm,0.8s
KBZ pmax pmax
comp=Z,10.0nm,0.9s
KBZ pmax pmax
comp=N,12nm,0.9s
KBZ pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 117.14 48 PKP **PKPdf 06 31 09.5 +0.7**
KBZ PP **PP 06 32 22.2 +0.1**
KBZ SKP 06 34 28.4
KBZ PKKPbc **PKKPbc 06 41 33.3 -1.8**
KBZ Khabaz 117.14 48 PKP **PKPdf 06 31 09.5 +0.7**
comp=Z,40nm,0.8s,baz=180,slow=0.5,SNR=54
KBZ PP **PP 06 32 22.2 +0.1**
comp=Z,9.9nm,0.9s,baz=256,slow=5.7,SNR=5.5
KBZ SKP 06 34 28.4
comp=Z,12nm,0.9s,baz=205,slow=1.1,SNR=5.7
KBZ PKKPbc **PKKPbc 06 41 33.3 -1.8**
comp=Z,3.8nm,1.0s,baz=219,slow=1.9,SNR=3.9
FX1 Attu Island--F 117.68 322 *e*PKPdf **PKPdf 06 31 08.5 -1.1**
FX1 PKP **PKPdf 06 31 10.1 +0.4**
FX1 Attu Island--F 117.68 322 PKP **PKPdf 06 31 10.1 +0.4**
comp=Z,6.3nm,0.5s,baz=291,slow=18,SNR=5.6
AKH Akhalkalaki 117.77 51 P **PP 06 32 29.8 +3.1**
ZEI Tsey 117.95 49 *i* PKIKP **PKPdf 06 31 12.2 +1.4**
ZEI pmax pmax
comp=Z,34nm,0.9s
KZR Kazreti 118.46 51 P **PP 06 32 29.3 -2.1**
TBLG Delisi 118.67 50 P **PP 06 32 29.4 -3.3**
GNI Garni 118.81 52 PKPdf **PKPdf 06 31 14.9 +2.5**
SNR=9.0
GNI Garni 118.81 52 PKP **PKPdf 06 31 13.3 +0.9**
GNI *e*PKPdf **PKiKP 06 31 14.7 +2.2**
GNI PP **PP 06 32 32.1 -1.9**
GNI Garni 118.81 52 PKP **PKPdf 06 31 13.3 +0.9**
comp=Z,21nm,0.6s,baz=10,slow=19,SNR=17
GNI PP **PP 06 32 32.1 -1.9**
comp=Z,4.6nm,0.5s,baz=143,slow=21,SNR=5.7
DGRG David-gareji 119.17 51 P **PP 06 32 33.0 -3.3**
ISHB Shabestar 119.62 54 *e*P **PKPdf 06 31 14.0 -0.2**
IAZR Azarshahr 119.95 55 *e*P **PKPdf 06 31 15.7 +0.9**
IDHR Dehrash 120.44 58 *e*P **PKPdf 06 31 16.3 +0.5**
MAK Makhachkala 120.57 49 *i* P **Pdif 06 27 37.3 -4.0**
MAK *i* 06 31 14.9
MAK *e* 06 32 02.3
MAK *e* 06 37 54.2
MAK *e*SSS SSS 06 53 27.5
MAK pmax pmax
comp=Z,32nm,0.4s
IGHG Ghaleghazi 120.60 59 *e*P **PKPdf 06 31 17.5 +1.3**
ILIN Lien 120.90 58 *e*P **PKPdf 06 31 16.2 -0.5**
NAY Al-Naaiem 121.26 65 *e*P **PKPdf 06 31 18.5 +1.2**
NAY AMb AMB 06 31 19.4
comp=Z,48nm,1.2s
ISRB Sarab 121.27 55 *e*P **PKPdf 06 31 17.0 -0.3**
IKOM Komasi 121.39 59 *e*P **PKPdf 06 31 18.2 +0.6**
KBD Kabd 121.65 65 *e*P **PKPdf 06 31 19.3 +1.3**
UMR Umm Al-Rimmam 121.67 64 *e*P **PKPdf 06 31 19.7 +1.7**
UMR AMb AMB 06 31 20.5
comp=Z,215nm,0.6s
TIXI Tiksi 122.23 353 *d* PKIKP **PKPdf 06 31 18.3 +0.5**
TIXI pmax pmax
comp=Z,43nm,1.2s
EIDS Eidsvold 122.93 226 *e*PKPdf **PKPdf 06 31 20.4 -0.3**
EIDS *e*PP **PP 06 32 58.7 -2.6**
IRAZ Razeghan 123.29 57 *e*P **PKPdf 06 31 22.2 +0.9**
IGZV Ghazvin 123.44 56 *e*P **PKPdf 06 31 22.3 +0.8**
ARU Arti 123.57 31 *i* PKIKP **PKPdf 06 31 21.3 +0.5**
ARU 06 33 03.0
ARU PPP PPP 06 35 43.3
ARU 06 38 03.5
SEY Seymchan 123.57 338 *d* PKIKP **PKPdf 06 31 22.3 +1.7**
STKA Stephens Creek 124.09 213 PKP **PKPdf 06 31 21.9 -0.8**
STKA *e*PKPdf **PKiKP 06 31 22.0 -1.0**
STKA *ep*PKPdf **pPKPdf 06 32 15.7 +1.5**
STKA *e*PP **PP 06 33 06.8 -1.8**
STKA SKP 06 34 41.4
STKA Stephens Creek 124.09 213 PKhKP PKPpre 06 31 05.0
comp=Z,3.0nm,0.7s,baz=124,slow=7.3,SNR=5.8
STKA PKP **PKPdf 06 31 21.9 -0.8**
comp=Z,60nm,0.5s,baz=107,slow=3.1,SNR=129
STKA SKP 06 34 41.4
comp=Z,16nm,1.0s,baz=150,slow=1.3,SNR=5.2
IR3 Iran Long-Peri 124.18 57 *e*P **PKPdf 06 31 24.4 +1.6**
IPIR Pirpir 124.29 61 *e*P **PKPdf 06 31 24.1 +0.7**
SVE Sverdlovsk 124.41 30⇓ *i* PKIKP **PKPdf 06 31 24.4 +2.0**
SVE pmax pmax
comp=Z,40nm,1.0s
IVRN Varamin 124.80 58 *e*P **PKPdf 06 31 25.6 +1.6**
IKLH Kolahrood 124.82 60 *e*P **PKPdf 06 31 24.6 +0.3**
IDMV Damavand 124.98 57 *e*P **PKPdf 06 31 25.2 +0.6**
IGAR Gharneh 125.28 61 *e*P **PKPdf 06 31 26.1 +0.9**

ISFB Sefidab 125.28 58 *e*P **PKPdf 06 31 25.2 +0.3**
IZEF Zefreh 125.49 60 *e*P **PKPdf 06 31 25.8 +0.2**
AKTO Aktyubinsk 125.69 38 PKKP 06 41 44.1
comp=Z,1.2nm,0.5s,baz=119,slow=4.0,SNR=4.2
AKTO SKKPbc SKKPbc 06 44 36.5 +0.3
comp=Z,2.1nm,0.9s,baz=118,slow=6.2,SNR=3.8
ILAS Lasjerd 125.76 57 *e*P **PKPdf 06 31 27.4 +1.4**
PET Petropavlovsk 125.94 326 *e*PKIKP **PKPdf 06 31 26.4 +0.9**
PET *e* 06 33 20.7
PET *e*PPP PPP 06 36 04.2
PET *e* 06 38 18.9
PET *e*SP SP 06 42 59.7 -2.6
PET *e*SPP SPP 06 44 36.3
PET *e*SS **SS 06 50 09.2 +2.8**
PET *e*SSS SSS 06 54 54.0
PET pmax pmax
comp=Z,200nm,10.8s
PET MLR MLR
comp=Z,400nm,22.0s
ISHM Shahmirzad 125.97 57 *e*P **PKPdf 06 31 28.3 +1.8**
BBOO Buckleboo 126.05 208 *e*PKPdf **PKPdf 06 31 26.5 +0.1**
ABTO Aybut 126.17 79 P **PKPdf 06 31 29.0 +2.0**
SNR=12
IPAR Pars 126.30 64 *e*P **PKPdf 06 31 28.4 +1.1**
ISRV Sarvestan 126.38 64 *e*P **PKPdf 06 31 28.9 +1.4**
PEA0B Petropavlovsk- 126.42 326 *e*PKPdf **PKPdf 06 31 26.8 +0.4**
PETK Petropavlovsk- 126.42 326 PKIKP **PKPdf 06 31 26.7 +0.3**
PETK 06 33 24.1
PETK pmax pmax
comp=Z,33nm,0.7s
PETK pmax pmax
comp=Z,15nm,1.1s
PETK Petropavlovsk- 126.42 326 PKP **PKPdf 06 31 26.7 +0.3**
PETK PP **PP 06 33 24.1 -0.2**
PETK Petropavlovsk- 126.42 326 PKP **PKPdf 06 31 26.7 +0.3**
comp=Z,33nm,0.7s,baz=108,slow=4.7,SNR=59
PETK PP **PP 06 33 24.1 -0.2**
comp=Z,15nm,1.1s,baz=69,slow=9.4,SNR=3.7
IANJ Anjilo 126.52 57 *e*P **PKPdf 06 31 28.4 +0.9**
ISAD Sadrabad 126.71 61 *e*P **PKPdf 06 31 29.5 +1.5**
RBK Rabkut 127.05 79 P **PKPdf 06 31 30.3 +1.6**
SNR=8.6
AB31 Akbulak array 127.28 39 *i* PKIKP **PKPdf 06 31 29.2 +1.0**
AB31 pmax pmax
comp=Z,93nm,0.7s
ABKAR Akbulak array 127.28 39 *e*PKPdf **PKPdf 06 31 28.9 +0.7**
ABKAR *e*SKPdf **SKiKP 06 34 48.9 +3.1**
IMEH Mehriz 127.54 62 *e*P **PKPdf 06 31 29.5 -0.1**
IBAF Bafgh 128.34 62 *e*P **PKPdf 06 31 31.4 +0.4**
ISHV Shirvan 129.19 54 *e*P **PKPdf 06 31 34.4 +1.9**
ISFR Sfrayin 129.51 54 *e*P **PKPdf 06 31 35.1 +1.9**
ARQ Araqi 129.55 72 PKPdf **PKPdf 06 31 34.6 +1.3**
SNR=6.3
CTAO Charters Tower 129.73 227 *e*PKIKP **PKPdf 06 31 33.8 0.0**
CTAO Charters Tower 129.73 227 *e*PKPdf **PKPdf 06 31 33.8 0.0**
IKRD Kardeh 129.97 54 *e*P **PKPdf 06 31 36.5 +2.5**
BSY Bisya 130.17 73 PKPdf **PKPdf 06 31 36.5 +2.0**
SNR=10
IAKL Akhelmad 130.20 55 *e*P **PKPdf 06 31 35.3 +0.8**
HOQ Hoqain 130.28 72 PKPdf **PKPdf 06 31 36.1 +1.4**
SNR=5.8
IPAY Payeh 130.42 55 *e*P **PKPdf 06 31 35.4 +0.5**
IMOG Moghan 130.76 55 *e*P **PKPdf 06 31 36.5 +0.9**
ISRO Mashad 130.82 55 *e*P **PKPdf 06 31 37.0 +1.5**
ITEG Tejag 130.85 59 *e*P **PKPdf 06 31 37.0 +1.3**
YAK Yakutsk 130.91 348 *d* PKIKP **PKPdf 06 31 35.7 +1.0**
YAK *e*PS **SP 06 43 43.0 -1.4**
YAK *e* 06 45 22.0
YAK pmax pmax
comp=Z,165nm,1.2s
YAK pmax pmax
comp=N,19nm,1.4s
YAK pmax pmax
comp=E,12nm,1.4s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=Z,16nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.4s
SMDO Samad 130.95 72 P **PKPdf 06 31 37.9 +1.8**
SNR=12
SMDO Samad 130.95 72 PKPdf **PKPdf 06 31 36.9 +0.8**
SNR=19
JMDO Jabal Madar 131.00 73 P **PKPdf 06 31 37.3 +1.2**
SNR=8.5
JMDO Jabal Madar 131.00 73 PKPdf **PKPdf 06 31 37.5 +1.5**
SNR=5.7
FORT Forrest 131.06 201 *e*PKPdf **PKPdf 06 31 36.0 -0.1**
BRVK Borovoye 131.12 30 *c* PKIKP **PKPdf 06 31 36.3 +0.9**
BRVK Borovoye 131.12 30 PKPdf **PKPdf 06 31 37.5 +2.1**
SNR=27
BRVK Borovoye 131.12 30 *e*PKPdf **PKPdf 06 31 35.1 -0.3**
BRVK *e*PP **PP 06 33 51.8 -3.0**
IKOO Kooshah 131.13 60 *e*P **PKPdf 06 31 37.7 +1.3**
BVA0 Borovoye Array 131.19 30 *i* PKIKP **PKPdf 06 31 36.3 +0.8**
BVA0 pmax pmax
comp=Z,75nm,1.1s
BVAR Borovoye Array 131.19 30 PKIKP PKPpre 06 31 28.7
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR pmax pmax
comp=Z,44nm,0.9s
BVAR pmax pmax
comp=N,40nm,0.7s
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR pmax pmax
comp=N,7.0nm,0.9s
BVAR Borovoye Array 131.19 30 PKPpre PKPpre 06 31 28.7
BVAR PKP **PKiKP 06 31 36.8 +0.3**
BVAR SKPbc **SKPab 06 34 43.9 +1.8**
BVAR PKKP **PKKPdf 06 41 33.3 -1.9**
BVAR SKKPbc **SKKPbc 06 44 18.8 +1.7**
BVAR Borovoye Array 131.19 30 PKhKP PKPpre 06 31 28.7
comp=N,0.5nm,0.4s,baz=108,slow=4.8,SNR=4.0
BVAR PKP **PKiKP 06 31 36.8 +0.3**
comp=N,44nm,0.9s,baz=270,slow=1.5,SNR=108
BVAR SKPbc **SKPab 06 34 43.9 +1.8**
comp=N,40nm,0.7s,baz=282,slow=2.6,SNR=24
BVAR PKKP **PKKPdf 06 41 33.3 -1.9**
comp=N,1.7nm,0.6s,baz=133,slow=1.8,SNR=4.8
BVAR SKKPbc **SKKPbc 06 44 18.8 +1.7**
comp=N,6.6nm,0.9s,baz=128,slow=4.5,SNR=6.5
IMYA Miami 131.31 55 *e*P **PKPdf 06 31 38.2 +1.7**
VOSK Vostochnaya 131.66 30 PKIKP **PKPdf 06 31 38.2 +1.8**
VOSK pmax pmax
comp=Z,13nm,1.1s
NWAO Narrogin (SRO) 131.73 189 PKPdf **PKPdf 06 31 38.2 +1.0**
SNR=5.1
NWAO Narrogin (SRO) 131.73 189 *e*PKPdf **PKPdf 06 31 37.6 +0.4**
WBK Wadi Bani Khal 131.80 73 PKPdf **PKPdf 06 31 39.7 +2.1**
SNR=10
ASAR Alice Springs 134.71 212 PKP **PKPdf 06 31 42.7 -0.5**
ASAR PP **PP 06 34 14.8 -2.8**
ASAR SKPbc **SKPbc 06 34 55.2 +0.5**
ASAR PKKP **PKKPdf 06 41 28.1 +0.6**
ASAR SKKPbc **SKKPbc 06 44 03.5 +1.9**
ASAR Alice Springs 134.71 212 PKhKP PKPpre 06 31 27.4
comp=Z,7.0nm,0.6s,baz=136,slow=2.6,SNR=38
ASAR PKP **PKPdf 06 31 42.7 -0.5**
comp=Z,43nm,0.5s,baz=136,slow=1.9,SNR=68
ASAR PP **PP 06 34 14.8 -2.8**
comp=Z,4.3nm,0.8s,baz=144,slow=5.8,SNR=4.9
ASAR SKPbc **SKPbc 06 34 55.2 +0.5**
comp=Z,20nm,0.7s,baz=139,slow=3.7,SNR=14
ASAR PKKP **PKKPdf 06 41 28.1 +0.6**
comp=Z,2.4nm,0.7s,baz=348,slow=1.5,SNR=13
ASAR SKKPbc **SKKPbc 06 44 03.5 +1.9**
comp=Z,3.9nm,1.2s,baz=333,slow=3.6,SNR=4.6
AS31 Alice Springs 134.71 212 *e*PKPdf **PKPdf 06 31 43.0 -0.1**
AS31 *ep*PKPdf **pPKPdf 06 32 34.3 -0.4**
NVS Novosibirsk 135.37 21 *e*PKIKP **PKPdf 06 31 41.2 -2.1**
NVS *e* 06 38 36.7
NVS pmax pmax
comp=E,42nm,1.3s
PMG Port Moresby 135.44 239 *e*PKPdf **PKPdf 06 31 45.7 +1.1**
PMG *ep*PKPdf **pPKPdf 06 32 37.0 +0.8**
PMG PP **PP 06 34 21.3 -1.9**
PMG Port Moresby 135.44 239 PKP **PKPdf 06 31 46.0 +1.4**
COEN Coen 135.93 231 *e*PKPdf **PKPdf 06 31 46.2 +0.6**
COEN *ep*PKPdf **pPKPdf 06 32 39.9 +2.8**
COEN *e*PP **PP 06 34 24.1 -2.0**
KK31 Karatay Array 136.54 42 PKIKP **PKPdf 06 31 46.4 +0.5**

KK31 pmax pmax
comp=Z,7.0nm,0.6s
KKAR Karatay Array 136.54 42 *e*PKIKP **PKPdf 06 31 47.7 +1.8**
KKAR Karatay Array 136.54 42 *e*PKPdf **PKPdf 06 31 47.7 +1.8**
KURK Kurchatov 136.59 28 PKIKP **PKPdf 06 31 47.4 +1.7**
KURK 06 34 33.0
KURK Kurchatov 136.59 28 PKP **PKPdf 06 31 47.4 +1.7**
KURK PP **PP 06 34 33.0 +3.6**
KURK SKPbc **SKPbc 06 35 02.0 +2.5**
KURK PKKP **PKKPdf 06 41 23.3 -1.3**
KURK SKKPbc **SKKPbc 06 43 52.7 -4.4**
KURBB Kurchatov Arra 136.61 28 PKhKP PKPpre 06 31 36.0
comp=Z,3.5nm,0.9s,baz=306,slow=3.3,SNR=11
KURBB PKP **PKiKP 06 31 47.4 -0.2**
comp=Z,51nm,0.8s,baz=304,slow=2.7,SNR=99
KURBB PP **PP 06 34 33.0 +3.5**
comp=Z,2.8nm,0.8s,baz=318,slow=6.9,SNR=4.9
KURBB SKPbc **SKPbc 06 35 02.0 +2.5**
comp=Z,21nm,1.0s,baz=311,slow=3.6,SNR=22
KURBB PKKP **PKKPdf 06 41 23.3 -1.3**
comp=Z,0.8nm,0.4s,baz=115,slow=1.4,SNR=6.7
KURBB SKKPbc **SKKPbc 06 43 52.7 -4.3**
comp=Z,7.0nm,1.1s,baz=117,slow=4.8,SNR=5.8
ZAA0 Zalesovo Array 136.64 21 *e*PKPdf **PKPdf 06 31 45.1 -0.6**
ZALV Zalesovo Beam 136.64 21 PKIKP **PKPdf 06 31 46.3 +0.6**
ZALV Zalesovo Beam 136.64 21 PKP **PKPdf 06 31 46.3 +0.6**
ZALV SKPbc **SKiKP 06 35 02.6 -2.1**
ZALV SKKPbc **SKKPbc 06 43 57.0 0.0**
ZALV Zalesovo Beam 136.64 21 PKhKP PKPpre 06 31 33.9
comp=Z,2.3nm,0.5s,baz=343,slow=3.1,SNR=9.6
ZALV PKP **PKPdf 06 31 46.3 +0.6**
comp=Z,411nm,0.9s,baz=302,slow=2.7,SNR=150
ZALV SKPbc **SKiKP 06 35 02.6 -2.1**
comp=Z,27nm,0.8s,baz=312,slow=3.5,SNR=12
ZALV SKKPbc **SKKPbc 06 43 57.0 0.0**
comp=Z,3.5nm,0.7s,baz=132,slow=2.2,SNR=4.6
CLNS Chul'man 136.66 348 *e*PKHKP PKPpre 06 31 36.0
CLNS pmax pmax
comp=Z,63nm,0.9s
CLNS pmax pmax
comp=N,21nm,1.1s
CLNS pmax pmax
comp=E,8.0nm,0.8s
KRAR Krasnoyarsk 137.17 14⇑ *i* PKIKP **PKPdf 06 31 48.3 +1.7**
WRA Warramunga Arr 137.49 216 PKP **PKPdf 06 31 48.3 -0.1**
WRA PP **PP 06 34 33.1 -2.0**
WRA SKPbc **SKPbc 06 35 04.2 +1.0**
WRA PKKP **PKKPdf 06 41 22.4 +0.2**
WRA SKKPbc **SKKPbc 06 43 57.0 +5.9**
WRA Warramunga Arr 137.49 216 PKhKP PKPpre 06 31 36.0
comp=E,11nm,0.5s,baz=138,slow=3.1,SNR=103
WRA PKP **PKPdf 06 31 48.3 -0.1**
comp=E,175nm,0.7s,baz=151,slow=1.5,SNR=65
WRA PP **PP 06 34 33.1 -2.0**
comp=E,7.0nm,1.1s,baz=144,slow=5.1,SNR=6.3
WRA SKPbc **SKPbc 06 35 04.2 +1.0**
comp=E,47nm,0.8s,baz=139,slow=2.6,SNR=18
WRA PKKP **PKKPdf 06 41 22.4 +0.2**
comp=E,0.8nm,1.0s,baz=322,slow=1.5,SNR=5.1
WRA SKKPbc **SKKPbc 06 43 57.0 +5.9**
comp=E,1.6nm,0.9s,baz=334,slow=4.3,SNR=6.5
WRAB Tennant Creek 137.49 216 *e*PKIKP **PKPdf 06 31 48.8 +0.5**
WRAB Tennant Creek 137.49 216 *e*PKPdf **PKPdf 06 31 48.8 +0.5**
WRAB *ep*PKPdf **pPKPdf 06 32 40.9 +1.0**
WRAB *e*SKPbc **SKPbc 06 35 03.9 +0.7**
YUK Yuzh-Kuril'sk 137.69 321 *i* PKHKP PKPpre 06 31 41.1
YUK *i* 06 34 34.2
YUK *i* SS SS 06 52 36.2 +6.9
YUK *i* SSS SSS 06 57 38.3
YUK MLR MLR
comp=Z,420nm,19.0s
YSS Yuzh-Sakhalins 137.83 326 *e*PKHKP PKPpre 06 31 38.4
YSS *i* 06 31 50.0
YSS *e* 06 32 40.0
YSS *e* 06 34 40.0
YSS *e*SS SS 06 52 37.0 +6.4
YSS pmax pmax
comp=Z,1μm,5.0s
KBL Kabul 138.83 54 *e*PKIKP **PKPdf 06 31 51.8 +1.2**
KBL Kabul 138.83 54 *e*PKPdf **PKPdf 06 31 51.8 +1.2**
KBL *e*SKPbc **SKiKP 06 35 08.9 -1.3**
EKS2 Erkin-Say 138.85 41 P **PKPdf 06 31 53.4 +3.1**
SNR=50
EKS2 Erkin-Say 138.85 41 P **SKPbc 06 35 09.8 +3.3**
SNR=7.7
USP Ospenovka 138.98 40 P **PKPdf 06 31 53.1 +2.7**
SNR=24
USP Ospenovka 138.98 40 P **SKPbc 06 35 10.4 +3.7**
SNR=16
AML Almayashu 139.07 42 P **PKPdf 06 31 54.0 +3.0**
SNR=28
AML Almayashu 139.07 42 P **SKPbc 06 35 11.7 +4.3**
SNR=11
CHMS Chumysh 139.28 40 P **PKPdf 06 31 53.8 +2.9**
SNR=11
CHMS Chumysh 139.28 40 P **SKPbc 06 35 11.5 +4.0**
SNR=12
FRU Bishkek 139.28 40⇓ *e*PKIKP **PKPdf 06 31 53.0 +2.0**
FRU pmax pmax
comp=Z,117nm,1.8s
AAK Ala-Archa 139.31 40 *d* PKIKP **PKPdf 06 31 53.4 +2.2**
AAK Ala-Archa 139.31 40 PKPdf **PKPdf 06 31 54.0 +2.8**
SNR=30
AAK Ala-Archa 139.31 40 P **PKPdf 06 31 54.5 +3.3**
SNR=20
AAK Ala-Archa 139.31 40 P **SKPbc 06 35 12.3 +4.5**
SNR=12
AAK Ala-Archa 139.31 40 PKP **PKPdf 06 31 52.7 +1.5**
AAK *e*PKPdf **PKiKP 06 31 52.8 -0.7**
AAK SKPbc **SKiKP 06 35 11.3 +0.5**
AAK SKKPbc **SKKPbc 06 43 47.9 +1.5**
AAK Ala-Archa 139.31 40 PKP **PKPdf 06 31 52.7 +1.5**
comp=Z,55nm,0.9s,baz=180,slow=1.9,SNR=57
AAK SKPbc **SKiKP 06 35 11.3 +0.5**
comp=Z,37nm,0.8s,baz=216,slow=2.1,SNR=29
AAK SKKPbc **SKKPbc 06 43 47.9 +1.5**
comp=Z,2.3nm,0.3s,baz=144,slow=6.3,SNR=4.4
UCH Uchtor 139.54 41 P **PKPdf 06 31 55.5 +3.5**
SNR=8.9
UCH Uchtor 139.54 41 P **SKPbc 06 35 13.7 +4.8**
SNR=5.7
KBK Karagaybulak 139.59 40 P **PKPdf 06 31 54.8 +3.1**
SNR=8.2
KBK Karagaybulak 139.59 40 P **SKPbc 06 35 12.4 +3.8**
SNR=5.9
ASAJ Asahikawa 139.61 323 PKPpre PKPpre 06 31 43.5
ASAJ *e*PKPdf **PKiKP 06 31 52.7 -1.2**
ASAJ PKP **PKiKP 06 31 52.9 -1.0**
ASAJ *ep*PKPdf pPKPdf 06 32 42.4 -0.6
ASAJ *e*SKPbc **SKiKP 06 35 10.3 -0.9**
ASAJ SKPbc **SKiKP 06 35 11.4 +0.2**
ASAJ Asahikawa 139.61 323 PKhKP PKPpre 06 31 43.5
comp=Z,23nm,0.8s,baz=242,slow=2.1,SNR=17
ASAJ PKP **PKiKP 06 31 52.9 -1.0**
comp=Z,61nm,0.9s,baz=313,slow=1.2,SNR=19
ASAJ SKPbc **SKiKP 06 35 11.4 +0.2**
comp=Z,14nm,0.9s,baz=292,slow=18,SNR=5.3
TKM2 Tokmak 2 139.84 39 P **PKPdf 06 31 54.8 +2.6**
SNR=30
TKM2 Tokmak 2 139.84 39 P **SKPbc 06 35 12.2 +2.9**
SNR=8.5
KZA Kyzart 140.08 41 P **PKPdf 06 31 56.4 +3.4**
SNR=11
KZA Kyzart 140.08 41 P **SKPbc 06 35 14.9 +4.6**
SNR=7.1
ERM Erimo 140.45 320 *d* PKIKP **PKPdf 06 31 50.8 -2.2**
ERM Erimo 140.45 320 *e*PKPdf PKPdf 06 31 47.3 -5.7
ERM *e* 06 35 15.1
HABR Khabarovsk 140.57 333 *de*PKIKP **PKPdf 06 31 51.8 -1.2**
HABR 06 32 41.9
HABR *e* 06 34 54.2
HABR 06 38 44.0
HABR *e*SS SS 06 53 04.1 +1.9
HABR pmax pmax
comp=Z,160nm,1.5s
HABR pmax pmax
comp=N,51nm,1.5s
HABR pmax pmax
comp=E,50nm,1.2s
HABR MLR MLR
comp=Z,532nm,21.0s
ULHL Ulahol 140.61 40 P **PKPdf 06 31 56.8 +3.2**
SNR=28
ULHL Ulahol 140.61 40 P **SKPbc 06 35 14.9 +3.6**
SNR=23

MK31	**Makanchi Array**	**141.07**	**30**	*e*PKIKP	**PKPdf**	**06 31 55.6**	**+1.5**
MK31	**Makanchi Array**	**141.07**	**30**	*e*PKPdf	**PKPdf**	**06 31 55.6**	**+1.5**
MKAR	**Makanchi Array**	**141.07**	**30**	PKHKP	PKPpre	06 31 48.6	
MKAR						06 31 53.5	
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,28nm,0.7s						
MKAR				pmax	pmax		
	comp=N,28nm,0.6s						
MKAR				pmax	pmax		
	comp=N,2.0nm,0.7s						
MKAR	**Makanchi Array**	**141.07**	**30**	PKPpre	PKPpre	06 31 48.6	
MKAR				PKP	**PKPdf**	**06 31 53.5**	**-0.6**
MKAR				SKPbc	**SKiKP**	**06 35 14.5**	**+0.4**
MKAR				PKKP	**PKKPdf**	**06 41 14.4**	**-1.6**
MKAR				SKKPbc	**SKKPab**	**06 43 37.8**	**-1.5**
MKAR	**Makanchi Array**	**141.07**	**30**	PKhKP	PKPpre	06 31 48.6	
	comp=N,7.2nm,0.6s,baz=315,slow=3.8,SNR=36						
MKAR				PKP	**PKPdf**	**06 31 53.5**	**-0.6**
	comp=N,28nm,0.7s,baz=312,slow=2.4,SNR=54						
MKAR				SKPbc	**SKiKP**	**06 35 14.5**	**+0.4**
	comp=N,28nm,0.6s,baz=336,slow=2.8,SNR=16						
MKAR				PKKP	**PKKPdf**	**06 41 14.4**	**-1.6**
	comp=N,0.3nm,0.5s,baz=168,slow=3.8,SNR=4.4						
MKAR				SKKPbc	**SKKPab**	**06 43 37.8**	**-1.5**
	comp=N,1.8nm,0.7s,baz=139,slow=5.1,SNR=4.9						
KLR	**Kul'dur**	**141.33**	**337**	*e*PKHKP	PKPpre	06 31 44.3	
KLR				*e*		06 31 53.8	
HVS	**Khovu-Aksy**	**141.82**	**16**	*d i*PKIKP	**PKPdf**	**06 31 56.9**	**+1.6**
KSH	**Kashi**	**141.88**	**44**	*e*PKP	**PKPdf**	**06 31 54.9**	**-1.0**
KSH				PP	**PP**	**06 35 07.2**	**+4.6**
KSH				SKS	**SKSdf**	**06 38 42.7**	**-4.5**
KSH				SKKS	**SKKSac**	**06 41 34.1**	**-2.3**
KSH				SS	**SS**	**06 53 13.6**	**-5.3**
KSH				AMB	AMB		
	comp=Z,3μm,5.9s						
KSH				LR	LR		
	comp=N,460nm,12.8s						
KSH				LR	LR		
	comp=E,430nm,14.4s						
KSH				LR	LR		
	comp=Z,800nm,22.9s						
MBWA	**Marble Bar**	**142.64**	**196**	PKPdf	**PKPdf**	**06 31 53.9**	**-3.7**
	SNR=9.4						
MBWA	**Marble Bar**	**142.64**	**196**	*e*PKPdf	PKPdf	06 31 52.3	-5.3
IRK	**Irkutsk**	**142.66**	**5**	*e*PKIKP	**PKPdf**	**06 31 52.5**	**-4.2**
IRK				pmax	pmax		
	comp=Z,140nm,1.4s						
MOY	**Mondy**	**142.84**	**9**	*e*PKIKP	**PKPdf**	**06 31 55.5**	**-1.7**
MOY				pmax	pmax		
	comp=Z,145nm,2.2s						
CIT	**Chita**	**142.97**	**356**	*e*PKIKP	**PKPdf**	**06 31 55.8**	**-1.5**
CIT				*e*		06 32 43.1	
CIT				pmax	pmax		
	comp=Z,168nm,1.5s						
TLY	**Talaya**	**143.15**	**6**	*d i*PKIKP	PKPbc	06 31 56.1	+1.0
TLY				*e*		06 32 44.6	
TLY				*e*		06 35 08.6	
ZAK	**Zakamensk**	**144.40**	**7**	*e*PKIKP	**PKPdf**	**06 31 59.8**	**-0.1**
ZAK				*e*		06 32 51.0	
ZAK				pmax	pmax		
	comp=Z,90nm,1.4s						
THN	**Thein Dam**	**144.79**	**55**	*e*P	PKPbc	06 31 59.8	-0.7
THN				*ex*	x	06 35 18.7	
HIA	**Hailar**	**144.84**	**348**	*e*PKPbc	**PKPdf**	**06 32 01.1**	**+0.5**
USRK	**Ussuriysk Arra**	**145.19**	**331**	PKPbc	**PKPbc**	**06 32 01.4**	**+0.1**
	comp=Z,182nm,0.6s,baz=32,slow=2.8,SNR=259						
USRK				SKPbc	**SKiKP**	**06 35 25.6**	**+2.9**
	comp=Z,9.1nm,0.6s,baz=41,slow=1.0,SNR=6.0						
DHRM	**DHARAMSHALA**	**145.31**	**55**	*e*P	**PKPab**	**06 32 02.8**	**0.0**
DHRM				AMS	AMS	07 25 42.2	
	comp=Z,262nm,3.1s						
GOA	**Goa**	**145.64**	**84**	*ex*	**PKPab**	**06 32 04.3**	**+0.2**
GOA				AMS	AMS	07 24 52.5	
	comp=Z,1μm,14.4s						
GUMO	**Guam**	**145.69**	**272**	*e*PKPdf	**PKPdf**	**06 32 02.8**	**-0.2**
GUMO				*e*PKPbc	**PKPbc**	**06 32 04.0**	**+0.2**
GUMO				*ep*PKPdf	**pPKPdf**	**06 32 53.9**	**-0.7**
POO	**Poona**	**145.76**	**79**	*e*P	**PKPbc**	**06 32 03.9**	**-0.1**
POO				AMS	AMS	07 26 47.7	
	comp=Z,463nm,8.3s						
WMQ	**Urumqi**	**145.83**	**29**	PKPbc	**PKPab**	**06 32 04.6**	**+0.4**
MDJ	**Mudanjiang**	**145.93**	**334**	PKPbc	**PKPdf**	**06 32 03.0**	**+0.4**
MDJ				pPKP	**pPKPdf**	**06 32 54.0**	**-0.3**
MDJ				sPKP		06 33 14.5	
MDJ				PP	**PP**	**06 35 26.6**	**+0.6**
MDJ				PKS	**PKSdf**	**06 35 38.4**	**+0.5**
MDJ				SS	SS	06 54 05.0	+1.2
MDJ				AMB	AMB		
	comp=Z,160nm,5.0s						
MDJ				LR	LR		
	comp=Z,500nm,33.7s						
MDJ	**Mudanjiang**	**145.93**	**334**	*e*PKPbc	**PKPbc**	**06 32 03.8**	**+0.2**
VLA	**Vladivostok**	**146.06**	**330**	*d i*PKP2	**PKPbc**	**06 32 03.8**	**-0.2**
SDNR	**Sundarnagar**	**146.12**	**55**	*e*P	**PKPbc**	**06 32 04.5**	**-0.2**
SDNR				*ex*	x	06 35 27.5	
SMLA	**Simla**	**146.41**	**56**	*e*P	**PKPbc**	**06 32 05.5**	**0.0**
SMLA				*i* P	**PKPab**	**06 32 05.6**	**-1.1**
SMLA				AMS	AMS	07 22 57.1	
	comp=Z,297nm,12.7s						
MAJO	**Matsushiro**	**146.63**	**315**	*e*PKP2	**PKPdf**	**06 32 04.7**	**+0.6**
MAJO				*e*		06 32 06.8	
MAJO				*e*		06 32 55.6	
MAJO	**Matsushiro**	**146.63**	**315**	*e*PKPdf	**PKPdf**	**06 32 04.7**	**+0.6**
MAJO				*e*PKPbc	**PKPab**	**06 32 06.8**	**-0.7**
MAJO				*ep*PKPdf	**pPKPdf**	**06 32 55.6**	**-0.1**
MAT	**Matsushiro**	**146.63**	**315**	PKP	**PKPdf**	**06 32 04.1**	**0.0**
SONM	**Songino Array**	**147.20**	**4**	PKPbc	**PKPbc**	**06 32 06.6**	**-0.7**
SONM				SKPbc	**SKiKP**	**06 35 30.2**	**+3.3**
SONM	**Songino Array**	**147.20**	**4**	PKPbc	**PKPbc**	**06 32 06.6**	**-0.7**
	comp=Z,202nm,0.6s,baz=302,slow=0.9,SNR=176						
SONM				SKPbc	**SKiKP**	**06 35 30.2**	**+3.3**
	comp=Z,8.0nm,0.8s,baz=324,slow=2.2,SNR=3.6						
ULN	**Ulaanbaatar**	**147.21**	**3**	PKPdf	**PKPbc**	**06 32 06.8**	**-0.6**
	SNR=169						
ULN	**Ulaanbaatar**	**147.21**	**3**	*e*PKPdf	**PKPbc**	**06 32 06.4**	**-1.0**
ULN				*e*PKPbc	**PKPab**	**06 32 09.0**	**-0.5**
NDI	**New Delhi**	**147.26**	**60**	*e*P	**PKPdf**	**06 32 05.0**	**-0.3**
NDI				*ex*	x	06 32 26.9	
DDI	**Dehra Dun**	**147.41**	**57**	*e*P	**PKPdf**	**06 32 06.0**	**+0.4**
DDI				AMS	AMS	07 27 28.8	
	comp=Z,1μm,23.7s						
TRD	**Trivandrum**	**147.55**	**98**	*e*P	**PKPbc**	**06 32 08.2**	**-0.9**
TRD				AMS	AMS	07 22 46.8	
	comp=Z,657nm,5.5s						
CN2	**Changchun**	**148.25**	**338**	*e*PKPbc	**PKPdf**	**06 32 07.6**	**+1.1**
CN2				*ep*PKP	**pPKPdf**	**06 32 57.5**	**-0.7**
CN2				PP	PP	06 35 45.2	+5.7
CN2				SS	SS	06 54 28.4	-1.4
CN2				AMB	AMB		
	comp=Z,1μm,3.0s						
CN2				LR	LR		
	comp=N,800nm,20.0s						
CN2				LR	LR		
	comp=E,500nm,20.0s						
CN2				LR	LR		
	comp=Z,1μm,25.0s						
LATR	**Latur**	**148.33**	**79**	*e*P	**PKPdf**	**06 32 08.2**	**+0.9**
LATR				*e*P	**PKPbc**	**06 32 08.3**	**-2.7**
BHPL	**Bhopal**	**148.71**	**70**	*e*P	**PKPdf**	**06 32 08.6**	**+0.7**
BHPL				AMS	AMS	07 15 42.0	
	comp=Z,296nm,6.1s						
COCO	**West Island**	**150.19**	**155**	*e*PKIKP	**PKPdf**	**06 32 10.5**	**+0.1**
COCO				*e*		06 32 23.5	
COCO	**West Island**	**150.19**	**155**	*e*PKPdf	**PKPdf**	**06 32 10.5**	**+0.1**
COCO				*e*PKPbc	**PKiKP**	**06 32 17.1**	**+0.6**
COCO				*e*PKPab	**PKPab**	**06 32 23.5**	**+1.3**
HYB	**Hyderabad**	**150.24**	**81**	*i* PKP	**PKPdf**	**06 32 09.0**	**-1.5**
	comp=Z,69nm,0.5s						
HYB				*ep*PKP	**PKPab**	**06 32 25.0**	**+2.3**
HYB				*e*		06 33 04.0	
HYB	**Hyderabad**	**150.24**	**81**	*e*P	**PKPdf**	**06 32 10.9**	**+0.5**
HYB				AMS	AMS	07 26 31.5	
	comp=Z,286nm,7.2s						
NGP	**Nagpur**	**150.49**	**74**	*e*P	**PKPdf**	**06 32 10.4**	**-0.3**
NGP				*ex*	x	06 32 16.4	
NGP				*ex*	x	06 32 17.7	
	comp=E,98nm,1.0s						
SNY	**Shenyang**	**150.65**	**338**	‖PKPbc	**PKPdf**	**06 32 10.9**	**+0.6**
SNY				SKKS		06 42 26.2	
SNY				SS	**SS**	**06 54 58.1**	**+1.8**
SNY				AMB	AMB		
	comp=Z,970nm,10.4s						
SNY				LR	LR		
	comp=N,400nm,23.6s						
SNY				LR	LR		
	comp=E,660nm,26.9s						
SNY				LR	LR		
	comp=Z,770nm,25.6s						
PALK	**Pallekele**	**150.77**	**102**	PKPdf	**PKPdf**	**06 32 14.0**	**+2.5**
	SNR=7.8						
PALK	**Pallekele**	**150.77**	**102**	*e*PKPdf	**PKPdf**	**06 32 12.4**	**+1.0**
PALK				*e*PKPbc	**PKiKP**	**06 32 18.6**	**+0.8**
PALK				*e*PKPab	**PKPab**	**06 32 26.3**	**+1.3**
JBP	**Jabalpur**	**151.04**	**69**	‖*i*P	**PKPdf**	**06 32 10.1**	**-1.3**
JBP				*i* x	x	06 32 14.7	
	comp=Z,216nm,1.3s						
JBP				*ex*	x	06 32 19.0	
PYUN	**Piuthan**	**152.24**	**58**	*e*P	**PKPdf**	**06 32 14.7**	**+1.2**
	comp=Z,716nm,1.0s						
KSRS	**Korea Array**	**152.31**	**327**	PKP	**PKPdf**	**06 32 14.8**	**+1.8**
	comp=Z,64nm,0.9s,baz=33,slow=1.0,SNR=98						
KSRS				PKPbc	**PKiKP**	**06 32 21.2**	**+1.1**
	comp=Z,224nm,0.8s,baz=7.8,slow=2.3,SNR=117						
KSRS				PKPbc	**pPKPbc**	**06 33 07.2**	**-4.1**
	comp=Z,29nm,1.1s,baz=44,slow=1.4,SNR=0.9						
KSAR	**Wonju Array Be**	**152.34**	**327**	PKP	**PKPdf**	**06 32 14.8**	**+1.8**
KSAR				PKPbc	**PKiKP**	**06 32 21.2**	**+1.0**
KSAR				pPKPbc	**pPKPbc**	**06 33 07.2**	**-4.2**
DANN	**Dangsing**	**152.76**	**57**	*e*P	**PKPdf**	**06 32 16.0**	**+1.6**
	comp=Z,821nm,1.0s						
KOLN	**Koldanda**	**152.86**	**58**	*e*P	**PKPdf**	**06 32 15.3**	**+0.9**
	comp=Z,105nm,0.9s						
INCN	**Inchon**	**152.95**	**329**	*e*PKPdf	**PKPdf**	**06 32 14.5**	**+0.5**
INCN				*e*PKPbc	**PKiKP**	**06 32 22.0**	**+0.5**
JNU	**Nakatsue**	**153.52**	**317**	*e*PKPdf	**PKPdf**	**06 32 15.6**	**+0.6**
JNU				PKP	**PKPdf**	**06 32 15.7**	**+0.7**
JNU				PKPbc	**PKPbc**	**06 32 22.7**	**-0.1**
JNU				*e*PKPbc	**PKPbc**	**06 32 22.9**	**+0.1**
JNU				PKPab	**PKPab**	**06 32 34.0**	**-1.9**
JNU				*e*PKPab	**PKPab**	**06 32 36.6**	**+0.7**
JNU	**Nakatsue**	**153.52**	**317**	PKP	**PKPdf**	**06 32 15.7**	**+0.7**
	comp=Z,23nm,1.1s,baz=70,slow=4.6,SNR=5.9						
JNU				PKPbc	**PKPbc**	**06 32 22.7**	**-0.1**
	comp=Z,67nm,1.0s,baz=56,slow=4.7,SNR=14						
JNU				PKPab	**PKPab**	**06 32 34.0**	**-1.9**
	comp=Z,26nm,0.8s,baz=206,slow=20,SNR=5.8						
DL2	**Dalian**	**153.93**	**338**	PKPbc	PKPdf	06 32 09.4	-5.9
DL2				PP	**PP**	**06 36 10.3**	**-1.5**
DL2				SS	SS	06 55 28.3	-3.9
DL2				AMB	AMB		
	comp=Z,370nm,2.9s						
DMN	**Daman**	**154.15**	**57**	*e*P	**PKPdf**	**06 32 17.1**	**+0.8**
	comp=Z,270nm,1.0s						
KKN	**Kakani**	**154.22**	**57**	*e*P	**PKPdf**	**06 32 17.4**	**+1.1**
	comp=Z,223nm,0.7s						
HHC	**Hu-ho-hao-te**	**154.22**	**356**	*e*PKPbc	**PKPdf**	**06 32 17.9**	**+2.1**
HHC				pPKP	**pPKPdf**	**06 33 09.1**	**+1.5**
HHC				sPKP		06 33 31.9	
HHC				PP	**PP**	**06 36 16.1**	**+2.8**
HHC				SKKS		06 42 43.3	
HHC				AMB	AMB		
	comp=Z,390nm,7.2s						
HHC				LR	LR		
	comp=N,1μm,24.0s						
HHC				LR	LR		
	comp=E,1μm,22.8s						
HHC				LR	LR		
	comp=Z,680nm,18.0s						
GTA	**Gaotai**	**154.29**	**17**	PKPbc	**PKPdf**	**06 32 17.0**	**+1.0**
GTA				PKPab	**PKPab**	**06 32 42.2**	**+3.1**
GTA				sPKP		06 33 30.1	
GTA				PP	**PP**	**06 36 18.4**	**+4.5**
GTA				SKS	**SKSdf**	**06 39 03.7**	**-0.4**
GTA				SKKS	**SKKSac**	**06 42 45.1**	**-0.2**
GTA				SS	**SS**	**06 55 38.0**	**+1.8**
GTA				AMB	AMB		
	comp=Z,500nm,7.1s						
GTA				LR	LR		
	comp=N,540nm,21.8s						
GTA				LR	LR		
	comp=E,350nm,19.0s						
GTA				LR	LR		
	comp=Z,1μm,22.3s						
BJI	**Beijing**	**154.41**	**348**	PKPbc	**PKPdf**	**06 32 17.5**	**+1.6**
BJI				pPKP	**pPKPdf**	**06 33 07.1**	**-0.6**
BJI				PP	**PP**	**06 36 15.0**	**+0.7**
BJI				SKKS		06 42 43.3	
BJI				SS	**SS**	**06 55 38.9**	**+1.9**
BJI				LR	LR		
	comp=N,640nm,24.2s						
BJI				LR	LR		
	comp=E,450nm,25.1s						
BJI				LR	LR		
	comp=Z,800nm,28.9s						
PKI	**Pulchoki**	**154.41**	**57**	*e*P	**PKPdf**	**06 32 17.3**	**+0.5**
	comp=Z,96nm,0.8s						
BJT	**Baijiatuan**	**154.43**	**348**	*e*PKPdf	**PKPdf**	**06 32 18.0**	**+2.1**
BJT				*e*PKPbc	**PKiKP**	**06 32 25.8**	**+1.3**
BTO	**Baotou**	**154.53**	**359**	*e*PKPbc	**PKPdf**	**06 32 17.2**	**+1.0**
GUN	**Gumba**	**154.65**	**56**	*e*P	**PKPdf**	**06 32 18.2**	**+1.1**
	comp=Z,619nm,1.1s						
VIS	**Vishakhapatnam**	**154.79**	**80**	*e*P	**PKPdf**	**06 32 16.0**	**-1.0**
JIRN	**Jiri**	**155.00**	**56**	*e*P	**PKPdf**	**06 32 18.3**	**+0.7**
	comp=Z,134nm,1.0s						
RAMN	**Ramite**	**155.63**	**57**	*e*P	**PKPdf**	**06 32 19.0**	**+0.7**
	comp=Z,211nm,1.0s						
BOK	**Bokaro**	**156.15**	**65**	*e*P	**PKPdf**	**06 32 17.2**	**-1.6**
ODAN	**Odare**	**156.31**	**57**	*e*P	**PKPdf**	**06 32 20.3**	**+1.1**
	comp=Z,142nm,1.0s						
TAPN	**Taplejung**	**156.35**	**55**	*e*P	**PKPdf**	**06 32 20.0**	**+0.7**
	comp=Z,115nm,1.1s						
KAPI	**Kappang**	**157.62**	**208**	PKPdf	**PKPdf**	**06 32 21.4**	**+0.4**
	SNR=6.8						
KAPI	**Kappang**	**157.62**	**208**	*e*PKPdf	**PKPdf**	**06 32 20.8**	**-0.1**
KAPI				PKPab	**PKPab**	**06 32 53.1**	**-0.7**
KAPI				*e*PKPab	PKPab	06 32 53.6	-0.2
KAPI				*e*PP	**PP**	**06 36 31.0**	**-1.4**
LSA	**Lhasa**	**157.69**	**46**	PKP	**PKPdf**	**06 32 22.8**	**+1.6**
LSA	**Lhasa**	**157.69**	**46**	*e*PKIKP	**PKPdf**	**06 32 22.0**	**+0.8**
LSA				*e*		06 32 56.5	
LSA	**Lhasa**	**157.69**	**46**	*e*PKPdf	**PKPdf**	**06 32 22.0**	**+0.8**
LSA				*e*PKPab	**PKPab**	**06 32 56.5**	**+2.0**
TIA	**Tai'an**	**157.83**	**343**	PKP	**PKPdf**	**06 32 21.4**	**+0.8**
LZH	**Lanzhou**	**158.45**	**12**	‖PKP	**PKPdf**	**06 32 23.8**	**+2.3**
LZH				pPKP	**pPKPdf**	**06 33 15.2**	**+1.8**
LZH				sPKP		06 33 38.1	
LZH				SKKS		06 43 06.0	
LZH				SS	**SS**	**06 56 21.7**	**+1.1**
LZH				AMB	AMB		
	comp=Z,500nm,5.1s						
LZH				LR	LR		
	comp=N,790nm,19.1s						
LZH				LR	LR		
	comp=E,570nm,17.9s						
LZH				LR	LR		
	comp=Z,860nm,20.1s						
SHL	**Shillong**	**160.49**	**55**	*ex*	**PKPdf**	**06 32 21.7**	**-2.4**
SHL				*ex*	x	06 37 35.5	
SSE	**Sheshan**	**160.75**	**328**	PKP	**PKPdf**	**06 32 25.6**	**+1.6**
NJ2	**Nanjing**	**161.02**	**335**	*e*PKP	**PKPdf**	**06 32 25.5**	**+1.2**
NJ2				PKPab	**PKPab**	**06 33 08.1**	**-0.1**
NJ2				pPKP	**pPKPdf**	**06 33 16.0**	**-0.2**
NJ2				PP	**PP**	**06 36 52.0**	**+1.3**
NJ2				SKS	**SKSdf**	**06 39 09.0**	**-1.7**
NJ2				SS	**SS**	**06 56 50.0**	**+2.1**
NJ2				AMB	AMB		
	comp=Z,120nm,5.8s						
NJ2				LR	LR		
	comp=N,870nm,19.0s						
NJ2				LR	LR		
	comp=E,750nm,23.8s						
NJ2				LR	LR		
	comp=Z,570nm,22.3s						
XAN	**Xi'an**	**161.08**	**1**	PKP	**PKPdf**	**06 32 26.1**	**+1.7**
XAN				pPKP	**pPKPdf**	**06 33 13.8**	**-2.5**
XAN				SKS	SKSdf	06 39 03.0	-7.9
XAN				AMB	AMB		
	comp=Z,210nm,13.3s						
XAN				LR	LR		
	comp=N,700nm,25.6s						
XAN				LR	LR		
	comp=Z,280nm,23.5s						
DAV	**Davao City (W)**	**162.32**	**245**	PKPab	**PKPab**	**06 33 15.6**	**+1.0**
DAV				PP	**PP**	**06 36 58.4**	**-0.8**
DAV	**Davao City (W)**	**162.32**	**245**	PKPab	**PKPab**	**06 33 15.6**	**+1.0**
	comp=Z,92nm,0.4s,baz=53,slow=9.8,SNR=7.0						
DAV				PP	**PP**	**06 36 58.4**	**-0.8**
	comp=Z,102nm,0.3s,baz=70,slow=22,SNR=4.0						
CD2	**Chengdu**	**163.36**	**17**	PKP	**PKPdf**	**06 32 28.6**	**+1.8**
CD2				pPKP	**pPKPdf**	**06 33 21.5**	**+2.8**
CD2				PKPab	**PKPab**	**06 33 22.5**	**+4.0**
CD2				sPKP		06 33 42.2	
CD2				PKS	**PKSdf**	**06 36 00.6**	**+0.7**
CD2				PP	PP	06 37 08.6	+5.6
CD2				SKS	**SKSdf**	**06 39 11.4**	**-1.4**
CD2				SKKS	**SKKSac**	**06 43 34.1**	**+1.4**
CD2				SS	**SS**	**06 57 14.2**	**+2.3**
CD2				AMB	AMB		
	comp=Z,1μm,8.6s						
CD2				LR	LR		
	comp=N,920nm,23.5s						
CD2				LR	LR		
	comp=E,920nm,27.4s						
CD2				LR	LR		
	comp=Z,980nm,24.9s						
DGPR	**DIGLIPUR**	**163.86**	**95**	*e*P	**PKPdf**	**06 32 28.5**	**+1.0**
DGPR				*ex*	x	06 33 22.1	
DGPR				AMS	AMS	07 23 02.9	
	comp=Z,435nm,2.6s						
WHN	**Wuhan**	**163.93**	**345**	PKP	**PKPdf**	**06 32 28.9**	**+1.7**
WHN				PKPab	**PKPab**	**06 33 20.7**	**-0.2**
WHN				PP	**PP**	**06 37 05.4**	**-0.4**
WHN				pPP		06 37 51.2	
WHN				LR	LR		
	comp=N,2μm,38.3s						
WHN				LR	LR		
	comp=E,2μm,33.6s						
WHN				LR	LR		
	comp=Z,2μm,20.9s						
PSI	**Prapat**	**164.00**	**138**	PKP	**PKPdf**	**06 32 27.0**	**-0.9**
PSI				PKPab	**PKPab**	**06 33 19.7**	**-2.2**
PSI				PP	**PP**	**06 37 11.2**	**+4.0**
PSI	**Prapat**	**164.00**	**138**	PKP	**PKPdf**	**06 32 27.0**	**-0.9**
	comp=Z,64nm,1.1s,baz=262,slow=2.0,SNR=20						
PSI				PKPab	**PKPab**	**06 33 19.7**	**-2.2**
	comp=Z,50nm,1.0s,baz=184,slow=7.4,SNR=6.2						
PSI				PP	**PP**	**06 37 11.2**	**+4.0**
	comp=Z,14nm,0.8s,baz=192,slow=7.9,SNR=5.2						
ENH	**Enshi**	**164.84**	**360**	*e*PKPdf	**PKPdf**	**06 32 28.3**	**+0.2**
KGM	**Kluang**	**165.71**	**154**	P	**PKPab**	**06 33 30.1**	**+0.9**
MYKOM	**Kota Tinggi**	**165.71**	**157**	P	**PKPab**	**06 33 30.1**	**+0.9**
FRIM	**Kepong**	**165.95**	**146**	P	**PKPab**	**06 33 30.3**	**-0.1**
YULB	**Yu-li**	**166.08**	**308**	*e*PKPdf	**PKPdf**	**06 32 29.5**	**+0.2**
YULB				*e*SKPdf	**SKPdf**	**06 35 41.2**	**-0.8**
SSLB	**Suanglung**	**166.11**	**311**	*e*PKPdf	**PKPdf**	**06 32 29.8**	**+0.5**
TSM	**Tawau**	**166.49**	**219**	P	**PKPdf**	**06 32 31.7**	**+1.9**
KSM	**Kuching**	**166.49**	**184**	*e*PKPdf	**PKPdf**	**06 32 30.6**	**+0.7**
KSM				*e*		06 33 32.1	
KSM	**Kuching**	**166.49**	**184**	P	**PKPdf**	**06 32 31.4**	**+1.5**
KSM	**Kuching**	**166.49**	**184**	P	**PKPab**	**06 33 33.4**	**+0.9**
TWG	**Pinlang**	**166.57**	**307**	*e*PKPdf	**PKPdf**	**06 32 30.5**	**+0.8**
TPUB	**Ta-pu**	**166.64**	**310**	*e*PKPdf	**PKPdf**	**06 32 30.5**	**+0.8**
TPUB				*e*PKPab	**PKPab**	**06 33 33.0**	**-0.3**
MYLDM	**Lahad Datu**	**166.77**	**223**	P	**PKPdf**	**06 32 33.0**	**+2.9**
QZH	**Quanzhou**	**166.94**	**320**	*i* PKP	**PKPdf**	**06 32 29.5**	**-0.4**
QZH				pPKP	**pPKPdf**	**06 33 23.0**	**+1.2**
QZH				PP	PP	06 37 28.0	+5.7
QZH				LR	LR		
	comp=Z,2μm,21.5s						
KULM	**Kulim**	**167.00**	**137**	P	**PKPab**	**06 33 35.9**	**+0.9**
SBUM	**Sibu**	**167.20**	**193**	P	**PKPdf**	**06 32 32.1**	**+1.7**
SBUM	**Sibu**	**167.20**	**193**	P	**PKPab**	**06 33 36.3**	**+0.7**
BTM	**Bintulu**	**167.71**	**197**	P	**PKPdf**	**06 32 32.1**	**+1.4**
SDKM	**Sandakan**	**167.96**	**220**	P	**PKPdf**	**06 32 26.9**	**-4.1**
SDKM	**Sandakan**	**167.96**	**220**	P	**PKPdf**	**06 32 31.4**	**+0.4**
KMI	**Kunming**	**168.15**	**31**	PKP	**PKPdf**	**06 32 32.3**	**+1.3**
KMI				pPKP	**pPKPdf**	**06 33 21.7**	**-1.3**
KMI				sPKP		06 33 44.1	
KMI				PP	**PP**	**06 37 32.9**	**+4.5**
KMI				LR	LR		
	comp=N,450nm,20.9s						
KMI				LR	LR		
	comp=E,390nm,19.2s						
KMI				LR	LR		
	comp=Z,420nm,19.8s						
GYA	**Guiyang**	**168.34**	**13**	PKP	**PKPdf**	**06 32 32.3**	**+1.3**
GYA				pPKP	**pPKPdf**	**06 33 23.9**	**+0.9**
GYA				PKPab	**PKPab**	**06 33 40.4**	**-0.2**
GYA				PKS	**PKSdf**	**06 36 01.0**	**-2.8**
GYA				PP	**PP**	**06 37 31.5**	**+2.8**
GYA				SKS	**SKSdf**	**06 39 11.3**	**-5.0**
GYA				SKKS	**SKKSac**	**06 43 57.5**	**-0.3**
GYA				AMB	AMB		
	comp=Z,830nm,12.8s						
GYA				LR	LR		
	comp=N,520nm,24.1s						
GYA				LR	LR		
	comp=E,430nm,25.9s						
GYA				LR	LR		
	comp=Z,580nm,23.3s						
KDM	**Kudat**	**169.16**	**223**	N	**PKPdf**	**06 32 33.7**	**+2.0**
CHTO	**Chiang Mai**	**169.26**	**68**	*e*PKIKP	**PKPdf**	**06 32 31.8**	**+0.2**
CHTO				*e*		06 33 22.1	
CHTO				*e*		06 33 45.7	
CHTO	**Chiang Mai**	**169.26**	**68**	PKPdf	**PKPdf**	**06 32 32.5**	**+0.9**
	SNR=14						
CHTO	**Chiang Mai**	**169.26**	**68**	*e*PKPdf	**PKPdf**	**06 32 31.8**	**+0.2**
CHTO				*ep*PKPdf	**pPKPdf**	**06 33 22.1**	**-1.5**
CHTO				*e*PKPab	**PKPab**	**06 33 45.7**	**+0.7**
CHTO	**Chiang Mai**	**169.26**	**68**	P	**PKPab**	**06 33 46.2**	**+

az=113.0

ISC 12 06:57:40.4±1.0, 31°72S±0°09×179°3W±0°2, h45km, n31, σ2961/23, mb4.2/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.75**	**27**	P	Pn	06 58 27.4	+5.4
	284nm,0.3s,baz=270,slow=20,SNR=2.4						
RAO				S	**Sn**	**06 58 58.3**	**+4.4**
	306nm,0.3s,baz=73,slow=19,SNR=3.7						
PUZ	**Puketiti**	**6.64**	**197**	PN	Pn	06 59 18.6	+3.2
PUZ				SN	**Sn**	**07 00 33.7**	**+3.9**
CNGZ	**Carnagh Statio**	**7.04**	**196**	PN	Pn	06 59 24.1	+3.2
MWZ	**Matawai**	**7.09**	**200**	PN	Pn	06 59 24.9	+3.4
MWZ				SN	**Sn**	**07 00 45.1**	**+4.3**
URZ	**Urewera**	**7.15**	**203**	P	Pn	06 59 26.4	+4.0
	3.8nm,0.3s,baz=170,slow=19,SNR=39						
URZ				S	**Sn**	**07 00 45.3**	**+3.1**
	9.2nm,0.3s,baz=186,slow=2.5,SNR=5.9						
URZ				LR	LR	07 01 57.4	
	comp=Z,1μm,20.2s,baz=84,slow=35						
URZ	**Urewera**	**7.15**	**203**	PN	Pn	06 59 26.1	+3.7
URZ				*e*SN	**Sn**	**07 00 46.1**	**+3.8**
KNZ	**Kokohu**	**7.69**	**198**	PN	Pn	06 59 32.2	+2.5
MHGZ	**Mahia Peninsul**	**7.75**	**196**	PN	Pn	06 59 32.9	+2.3
RAHZ	**Arahi**	**7.76**	**201**	PN	Pn	06 59 33.3	+2.6
BKZ	**Black Stump Fm**	**8.18**	**203**	*e*PN	Pn	06 59 38.7	+2.2
WHVZ	**Whangaehu Hut**	**8.61**	**207**	PN	Pn	06 59 46.1	+3.5
PNHZ	**Pukenui**	**8.95**	**203**	PN	Pn	**06 59 47.2**	**+0.2**
MRZ	**Mangatainoka R**	**9.82**	**203**	PN	Pn	**06 59 57.8**	**-1.2**
HOWZ	**Holdsworth Sta**	**10.06**	**203**	PN	Pn	**07 00 00.6**	**-1.6**
OGWZ	**Otaki Gorge**	**10.11**	**205**	PN	Pn	**07 00 02.1**	**-0.8**
KIW	**Kapiti Island**	**10.24**	**205**	PN	Pn	**07 00 03.3**	**-1.4**
MTW	**Mount Morrison**	**10.30**	**202**	PN	Pn	**07 00 03.4**	**-2.1**
CAW	**Cannon Point**	**10.40**	**204**	PN	Pn	**07 00 05.6**	**-1.3**
NNZ	**Nelson**	**11.14**	**210**	PN	Pn	**07 00 16.0**	**-1.1**
QRZ	**Quartz Range**	**11.21**	**214**	PN	Pn	**07 00 16.9**	**-1.1**
THZ	**Tophouse**	**11.80**	**210**	PN	Pn	**07 00 24.3**	**-1.8**
KHZ	**Kahutara**	**12.10**	**206**	PN	Pn	**07 00 27.4**	**-2.7**
LTZ	**Lake Taylor**	**12.90**	**209**	PN	Pn	**07 00 38.2**	**-3.0**
HNR	**Honiara**	**29.36**	**315**	LR	LR	07 13 53.4	
	comp=Z,222nm,19.1s,baz=158,slow=33						
CTA	**Charters Tower**	**32.92**	**282**	P	**P**	**07 04 12.1**	**+1.4**
	1.8nm,0.4s,baz=92,slow=12,SNR=3.7						
ASAR	**Alice Springs**	**41.92**	**269**	P	**P**	**07 05 26.8**	**-0.1**
	2.4nm,0.6s,baz=108,slow=7.5,SNR=8.8						
WRA	**Warramunga Arr**	**43.03**	**274**	P	**P**	**07 05 36.1**	**+0.2**
	8.3nm,0.4s,baz=113,slow=8.0,SNR=124						
NWAO	**Narrogin (SRO)**	**52.88**	**251**	LR	LR	07 27 14.5	
	comp=Z,642nm,19.9s,baz=254,slow=33						
MAW	**Mawson**	**70.67**	**201**	P	**P**	**07 08 49.4**	**-1.6**
	0.9nm,0.4s,baz=136,slow=4.0,SNR=6.9						
FINES	**FINESS Array B**	**145.97**	**338**	PKPbc	**PKPdf**	**07 17 09.6**	**-4.0**
	0.6nm,0.5s,baz=44,slow=4.4,SNR=7.5						
TORD	**Torodi Ar. Bea**	**161.49**	**183**	PKPab	**PKPab**	**07 18 19.3**	**-1.9**
	0.4nm,0.5s,baz=177,slow=3.5,SNR=7.6						

IDC 12 06:58:48.2±1.9, 17°.57S×167°.39E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, ML4.6/1, Error ellipse: s-maj=54.1km s-min=32.7km az=129.0
NOU 12 06:58:48.7±1.5, 18°.18S×169°.67E, h30km, MD3.2, ML2.9
ISCJB 12 06:58:50.0±1.4, 17°.72S±0°.06×167°.3E±0°.2, h19km, mb3.4/3, Error ellipse: s-maj=31.5km s-min=8.6km az=178.6

ISC 12 06:58:50.8±1.6, 17°.65S±0°.10×167°.5E±0°.3, h19km, n9, σ1§88/12, mb3.5/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.51**	**193**	*e*P	**Pn**	**06 59 58.6**	**+0.4**
DZM				AMP		07 01 06.8	
	comp=Z,724nm,5.3s						
DZM	**Mont Dzumac**	**4.51**	**193**	Pn	**Pn**	**06 59 58.8**	**+0.6**
	comp=Z,26nm,0.3s,baz=60,slow=20,SNR=244						
DZM				Sn	**Sn**	**07 00 48.5**	**-1.7**
	comp=Z,8.5nm,0.3s,baz=90,slow=20,SNR=2.7						
BAYA	**Yate Dam**	**4.52**	**187**	*e*S	**Sn**	**07 00 48.0**	**-2.3**
BAYA				AMP		07 01 00.4	
	comp=Z,5.3nm,5.8s						
NOUC	**Port Laguerre**	**4.57**	**194**	*e*S	**Sn**	**07 00 55.9**	**+4.4**
NOUC				AMP		07 01 04.8	
	comp=Z,41nm,1.6s						
NORM	**Noumea**	**4.65**	**192**	*e*P	**Pn**	**07 00 01.3**	**+1.2**
NORM				*e*S	**Sn**	**07 00 53.1**	**-0.5**
PLUM	**Mont Dore**	**4.67**	**190**	*e*P	**Pn**	**07 00 00.6**	**+0.3**
PLUM				*e*S	**Sn**	**07 00 52.9**	**-1.1**
WRA	**Warramunga Arr**	**31.46**	**261**	P	**P**	**07 05 11.0**	**-0.4**
	comp=Z,0.1nm,0.6s,baz=91,slow=8.3,SNR=2.8						
ASAR	**Alice Springs**	**31.96**	**253**	P	**P**	**07 05 14.9**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=81,slow=8.5,SNR=6.8						
ILAR	**Eielson Array**	**89.22**	**18**	P	**P**	**07 11 45.3**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=226,slow=6.0,SNR=3.3						

ISC 12 07:23:18.5±1.3, 45°.13N±0°.04×14°.75E±0°.06, h10km, n5, σ0§52/9, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDS	**Knezji Dol**	**0.48**	**327**	*i* Pg	**Pg**	**07 23 27.7**	**-0.2**
KNDS				*i* Sg	**Sg**	**07 23 35.2**	**+0.9**
BOJS	**Bojanci**	**0.52**	**43**	*i* Pg	**Pg**	**07 23 28.5**	**-0.1**
BOJS				*i* Sg	**Sg**	**07 23 35.9**	**+0.4**
NVLJ	**Novalja**	**0.57**	**171**	*e*Pg	**Pg**	**07 23 29.3**	**-0.2**
NVLJ				Sg	**Sb**	**07 23 38.8**	**+0.1**
CEY	**Cerknica**	**0.65**	**340**	*i* Pg	**Pg**	**07 23 30.8**	**-0.5**
VISS	**Visnje**	**0.68**	**5**	*i* Pg	**Pg**	**07 23 31.6**	**-0.1**
VISS				*e*Sg	**Sg**	**07 23 40.2**	**-0.4**

AUST 12 08:16:22.0, 6°.83S×103°.39E, h30km
IDC 12 08:16:26.6±1.0, 6°.37S×104°.65E, h0km, mb4.1/13, mb1 4.2/13, mb1mx4.0/23, mbtmp4.1/13, Error ellipse: s-maj=49.9km s-min=14.3km az=51.0
DJA 12 08:16:34.5±1.1, 7°.5S×6°×10°.5E±°, h33km, M4.8/6, mb6.2/1, MLv4.1/6

ISC 12 08:16:29.6±1.7, 6°.67S±0°.06×104°.58E±0°.07, h24km±12km, n36, σ1§53/40, mb4.2/14, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLSI	**Bandar Lampung**	**1.46**	**27**	P	**Pb**	**08 16 55.9**	**-0.2**
SBJI	**Serang**	**1.64**	**71**	P	**Pb**	**08 16 58.7**	**-0.5**
KLSI		**1.98**	**4**	P	**Pb**	**08 17 04.1**	**-0.8**
KLSI				S	**Sb**	**08 17 29.6**	**+0.5**
DBJI	**Dramaga**	**2.16**	**87**	P	**Pb**	**08 17 06.9**	**-1.2**
DBJI				S	**Sb**	**08 17 34.6**	**+0.1**
CBJI	**Citeko**	**2.27**	**84**	P	**Pb**	**08 17 10.6**	**+0.6**
CBJI				S	**Sb**	**08 17 41.2**	**+3.5**
MNAI	**Manna**	**2.81**	**325**	S	Pn	08 17 17.1	+4.1
	baz=2.5,SNR=12						
LEM	**Lembang**	**3.02**	**93**	P	**Pb**	**08 17 21.0**	**-1.9**
LEM	**Lembang**	**3.02**	**93**	P	**Pb**	**08 17 21.9**	**-1.0**
	baz=4.2,SNR=5.1						
CISI	**Cisompet, Garu**	**3.33**	**105**	P	**Pb**	**08 17 25.5**	**-2.6**
	baz=4.4,SNR=4.9						
KSI	**Kapahiang**	**3.59**	**327**	P	**Pb**	**08 17 33.6**	**+1.1**
XMI	**Christmas Isla**	**3.91**	**164**	P	**Pn**	**08 17 28.7**	**+0.5**
	baz=4.3,SNR=7.0						
XMI				S	**Sn**	**08 18 12.3**	**-1.1**
	baz=4.3,SNR=5.2						
XMIS	**Christmas Isla**	**3.93**	**164**	P	**Pn**	**08 17 28.2**	**-0.2**
	baz=4.3,SNR=36						
XMIS				S	**Sn**	**08 18 11.4**	**-2.5**
	baz=4.3,SNR=5.2						
UGM	**Wanagama**	**6.03**	**102**	P	Pn	08 18 02.7	+5.4
	baz=7.2,SNR=6.1						
PPI	**Padang Panjang**	**7.45**	**326**	P	**Pb**	**08 18 36.4**	**-1.8**
JAGI	**Jajag, Banyuwa**	**9.66**	**101**	P	Pn	08 18 51.3	+4.1
	baz=11,SNR=12						
BMNI	**Bima**	**14.12**	**98**	P	**P**	**08 19 54.1**	**-1.5**
SOEI	**Soe**	**19.73**	**100**	P	**Pn**	**08 20 58.9**	**-0.5**
	baz=21,SNR=4.8						
FITZ	**Fitzroy Crossi**	**23.47**	**121**	P	**P**	**08 21 38.6**	**+1.0**
	2.4nm,0.8s,baz=297,slow=6.7,SNR=5.0						
KNRA	**Kununurra**	**25.33**	**113**	P	**P**	**08 21 55.4**	**+0.6**
	baz=26,SNR=4.2						
KNRA				S	S	08 26 41.2	+21
	baz=26,SNR=3.1						
CMAR	**Chiang Mai Arr**	**25.58**	**348**	P	**P**	**08 21 58.0**	**+1.0**
	1.1nm,0.3s,baz=185,slow=9.1,SNR=4.1						
MTN	**Manton Dam**	**26.87**	**105**	P	**P**	**08 22 12.6**	**+3.9**
	baz=28,SNR=4.7						
KDU	**Kakadu**	**28.13**	**104**	P	P	08 22 25.9	+5.9
	baz=29,SNR=3.5						
WRA	**Warramunga Arr**	**31.75**	**117**	P	**P**	**08 22 52.8**	**+0.7**
	1.1nm,0.7s,baz=302,slow=9.1,SNR=43						
WRA				PcP	**PcP**	**08 25 44.2**	**+0.8**
	0.3nm,0.4s,baz=306,slow=2.1,SNR=5.8						
ASAR	**Alice Springs**	**32.85**	**124**	P	**P**	**08 23 03.5**	**+1.8**
	0.5nm,0.5s,baz=296,slow=7.9,SNR=12						
ASAR				PcP	**PcP**	**08 25 47.7**	**+1.3**
	0.3nm,0.6s,baz=306,slow=1.7,SNR=4.6						
STKA	**Stephens Creek**	**42.66**	**131**	P	**P**	**08 24 26.8**	**+2.3**
	2.2nm,0.6s,baz=304,slow=10,SNR=5.8						
STKA	**Stephens Creek**	**42.66**	**131**	P	**P**	**08 24 27.0**	**+2.5**
	baz=44,SNR=5.1						
SONM	**Songino Array**	**54.30**	**2**	P	**P**	**08 25 52.9**	**-1.0**
	0.3nm,0.4s,baz=187,slow=10,SNR=4.8						
SONM				PcP	**PcP**	**08 26 57.9**	**0.0**
	0.7nm,0.6s,baz=182,slow=4.0,SNR=5.4						
USRK	**Ussuriysk Arra**	**56.36**	**23**	P	**P**	**08 26 07.2**	**-1.5**
	2.6nm,0.5s,baz=206,slow=8.0,SNR=8.1						
MKAR	**Makanchi Array**	**56.80**	**342**	P	**P**	**08 26 10.9**	**-0.9**
	2.0nm,0.5s,baz=149,slow=8.9,SNR=23						
KURBB	**Kurchatov Arra**	**61.35**	**341**	P	**P**	**08 26 42.4**	**-0.8**
	1.4nm,0.6s,baz=156,slow=6.2,SNR=9.6						
ZALV	**Zalesovo Beam**	**62.65**	**347**	P	**P**	**08 26 50.5**	**-1.4**
	2.3nm,0.4s,baz=148,slow=6.0,SNR=9.1						
BVAR	**Borovoye Array**	**66.15**	**338**	P	**P**	**08 27 14.1**	**-0.8**
	1.9nm,0.6s,baz=149,slow=9.1,SNR=12						
BRTR	**Keskin Array B**	**79.82**	**312**	P	**P**	**08 28 36.3**	**0.0**
	0.7nm,0.7s,baz=125,slow=8.9,SNR=3.5						
FINES	**FINESS Array B**	**90.35**	**332**	P	**P**	**08 29 28.2**	**-0.2**
	2.3nm,0.9s,baz=119,slow=11,SNR=3.5						
ARCES	**ARCESS Array B**	**92.40**	**340**	P	**P**	**08 29 37.5**	**-0.3**
	0.7nm,0.6s,baz=98,slow=5.0,SNR=9.1						
TXAR	**Lajitas Array**	**145.12**	**46**	PKP	**PKPdf**	**08 36 05.9**	**0.0**
	1.3nm,0.6s,baz=278,slow=1.1,SNR=24						

IDC 12 08:21:32.6±17.0, 18°.73S×172°.99W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.8/22, mbtmp4.1/5, Error ellipse: s-maj=321.7km s-min=155.2km az=81.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**38.40**	**261**	P	P	08 28 56.2	+0.2
	3.2nm,0.8s,baz=97,slow=12,SNR=4.6						
STKA	**Stephens Creek**	**42.80**	**243**	P	P	08 29 32.4	0.0
	2.5nm,1.0s,baz=63,slow=9.0,SNR=3.2						
ASAR	**Alice Springs**	**49.53**	**255**	P	P	08 30 25.2	-0.4
	2.0nm,0.5s,baz=95,slow=7.4,SNR=36						
WRA	**Warramunga Arr**	**49.54**	**259**	P	P	08 30 25.2	-0.5
	1.2nm,0.5s,baz=95,slow=7.3,SNR=13						
FITZ	**Fitzroy Crossi**	**57.96**	**260**	P	P	08 31 27.5	+0.1
	0.7nm,0.4s,baz=72,slow=3.2,SNR=3.7						

AUST 12 08:24:23.5, 5°.00N×121°.50E, h10km
IDC 12 08:25:26.3±3.6, 0°.15N×122°.02E, h211km±35km, mb3.3/6, mb1 3.5/8, mb1mx3.3/23, mbtmp3.4/8, Error ellipse: s-maj=58.6km s-min=11.7km az=64.0

ISC 12 08:25:25.4±0.8, 0°.2N±0°.1×122°.0E±0°.1, h202km, n19, σ0§57/20, mb3.8/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.44**	**147**	P	**Pn**	**08 25 58.5**	**-0.3**
	baz=6.2,SNR=43						
KAPI	**Kappang**	**5.63**	**203**	P	**Pn**	**08 26 48.3**	**+0.3**
	1.0nm,0.3s,baz=42,slow=9.9,SNR=4.8						
MTN	**Manton Dam**	**15.80**	**145**	P	**Pn**	**08 28 57.6**	**+0.2**
	baz=20,SNR=19						
KDU	**Kakadu**	**16.48**	**141**	P	**Pn**	**08 29 05.0**	**-0.5**
	baz=21,SNR=4.0						
FITZ	**Fitzroy Crossi**	**18.52**	**169**	P	**P**	**08 29 27.3**	**+0.4**
	0.7nm,0.3s,baz=357,slow=9.0,SNR=23						
FITZ	**Fitzroy Crossi**	**18.52**	**169**	P	**P**	**08 29 27.4**	**+0.5**
	baz=24,SNR=4.8						
JAY	**Jayapura**	**18.89**	**98**	S	**S**	**08 32 56.5**	**+1.3**
	baz=21,SNR=3.7						
PPI	**Padang Panjang**	**21.61**	**268**	S	S	08 33 31.5	-14
	baz=22,SNR=6.5						
WRA	**Warramunga Arr**	**23.37**	**150**	P	**P**	**08 30 15.6**	**-0.5**
	5.9nm,0.5s,baz=324,slow=11,SNR=98						
WRA				PcP	**PcP**	**08 33 56.1**	**-0.9**
	0.3nm,0.8s,baz=323,slow=2.4,SNR=4.6						
ASAR	**Alice Springs**	**26.38**	**155**	P	**P**	**08 30 43.2**	**-0.1**
	2.1nm,0.5s,baz=344,slow=14,SNR=47						
ASAR				PcP	**PcP**	**08 34 02.9**	**-0.8**
	0.5nm,0.3s,baz=349,slow=2.2,SNR=11						
MEEK	**Meekatharra**	**26.86**	**187**	P	**P**	**08 30 47.4**	**-0.2**
	baz=32,SNR=4.1						
MORW	**Morawa**	**29.64**	**191**	P	**P**	**08 31 12.2**	**+0.1**
	baz=34,SNR=4.4						
BLDU	**Ballidu**	**31.04**	**189**	P	**P**	**08 31 24.1**	**-0.3**
	baz=36,SNR=11						
STKA	**Stephens Creek**	**36.89**	**152**	P	**P**	**08 32 14.8**	**0.0**
	2.7nm,0.5s,baz=320,slow=13,SNR=13						
STKA	**Stephens Creek**	**36.89**	**152**	P	**P**	**08 32 15.2**	**+0.4**
	baz=42,SNR=4.4						
SONM	**Songino Array**	**49.36**	**346**	P	**P**	**08 33 54.5**	**0.0**
	0.3nm,0.7s,baz=165,slow=6.0,SNR=1.7						
MKAR	**Makanchi Array**	**57.93**	**329**	P	**P**	**08 34 56.7**	**+0.1**
	0.3nm,0.3s,baz=128,slow=8.5,SNR=8.3						
KURBB	**Kurchatov Arra**	**62.30**	**330**	P	**P**	**08 35 27.0**	**+0.8**
	baz=143,slow=5.7						
VNDA	**Vanda**	**80.57**	**172**	P	**P**	**08 37 14.4**	**-0.4**
	0.3nm,0.5s,baz=298,slow=5.9,SNR=4.4						

MEX 12 08:37:05.2±0.9, 16°.26N×99°.84W, h16km±17km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.61**	**358**	*e*P	Pn	08 37 18.5	-0.8
ACX				*i* S	Sb	08 37 26.7	+0.7
CAIG	**El Cayaco**	**0.89**	**332**	*i* P	Pb	08 37 18.8	-3.4
CAIG				*i* S	Sb	08 37 29.1	-4.9
PNIG	**Pinotepa**	**1.65**	**85**	*e*P	Pn	08 37 30.4	-3.1
PNIG				*i* S	Sn	08 37 48.6	-5.8
ZIIG	**Zihuatanejo**	**2.06**	**311**	*e*P	Pn	08 37 36.0	-3.1
ZIIG				*i* S	Sn	08 37 60.0	-4.5
ARIG	**Puente Sto Nin**	**2.07**	**346**	*e*P	Pn	08 37 36.9	-2.5
ARIG				*i* S	Sn	08 38 00.5	-4.4
PLIG	**Platanillo**	**2.15**	**8**	*e*P	Pn	08 37 38.1	-2.4
PLIG				*i* S	Sn	08 38 03.0	-3.9
YAIG	**Yautepec**	**2.69**	**16**	*e*P	Pn	08 37 45.5	-2.6
YAIG				*i* S	Sn	08 38 16.9	-4.7
PPM	**Popocatepetl**	**3.02**	**22**	*i* P	Pn	08 37 50.8	-2.3
PPM				*i* S	Sn	08 38 25.8	-3.7

NEIC 12 08:38:28.9, 38°.13S×176°.16E, h160km, MG4.0(WEL), After WEL.

WEL 12 08:38:30.0±0.3, 38°.15S×176°.17E, h148km±3km, ML3.9/16, 7C-3D, Error ellipse: s-maj=2.5km s-min=1.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.75**	**99**	Pn	Pn	08 38 52.3	-0.3
URZ	**Urewera**	**0.75**	**99**	⇓PN	Pn	08 38 52.3	-0.3
URZ				SN	Sn	08 39 10.0	+0.2
URZ				AML	AML	08 39 10.4	
BKZ	**Black Stump Fm**	**1.05**	**166**	Pn	Pn	08 38 55.1	0.0
BKZ				Sn	Sn	08 39 14.2	-0.1
BKZ	**Black Stump Fm**	**1.05**	**166**	PN	Pn	08 38 55.1	0.0
BKZ				SN	Sn	08 39 14.3	-0.1
BKZ				AML	AML	08 39 14.9	
RAHZ	**Arahi**	**1.05**	**137**	Pn	Pn	08 38 55.7	+0.6
RAHZ				Sn	Sn	08 39 15.7	+1.4
RAHZ	**Arahi**	**1.05**	**137**	PN	Pn	08 38 55.7	+0.6
MWZ	**Matawai**	**1.09**	**100**	Pn	Pn	08 38 55.2	-0.2
MWZ	**Matawai**	**1.09**	**100**	⇓PN	Pn	08 38 55.2	-0.2
MWZ				SN	Sn	08 39 14.7	-0.1
MWZ				AML	AML	08 39 15.5	
MWZ				AML	AML	08 39 15.8	
MWZ				AML	AML	08 39 15.9	
OTVZ	**Oturere**	**1.09**	**201**	Pn	Pn	08 38 55.9	+0.3
OTVZ	**Oturere**	**1.09**	**201**	PN	Pn	08 38 55.9	+0.3
HIZ	**Hauiti**	**1.09**	**250**	Pn	Pn	08 38 55.5	+0.1
HIZ	**Hauiti**	**1.09**	**250**	PN	Pn	08 38 55.5	+0.1
WHVZ	**Whangaehu Hut**	**1.22**	**202**	PN	Pn	08 38 56.8	-0.1
WNVZ	**Wahianoa**	**1.26**	**201**	Pn	Pn	08 38 57.1	-0.1
WNVZ	**Wahianoa**	**1.26**	**201**	PN	Pn	08 38 57.1	-0.1
MOVZ	**Moawhango**	**1.30**	**194**	Pn	Pn	08 38 57.0	-0.4
MOVZ	**Moawhango**	**1.30**	**194**	⇑PN	Pn	08 38 57.0	-0.4
MOVZ				*e*SN	Sn	08 39 17.6	-1.0
BHHZ	**Black Hill Sta**	**1.34**	**183**	Pn	Pn	08 38 57.5	-0.4
BHHZ	**Black Hill Sta**	**1.34**	**183**	⇑PN	Pn	08 38 57.5	-0.4
BHHZ				SN	Sn	08 39 19.0	-0.3
MCHZ	**McNeill Hill**	**1.36**	**162**	Pn	Pn	08 38 58.6	+0.7
MCHZ	**McNeill Hill**	**1.36**	**162**	PN	Pn	08 38 58.6	+0.7
KNZ	**Kokohu**	**1.47**	**127**	Pn	Pn	08 38 59.2	+0.1
KNZ	**Kokohu**	**1.47**	**127**	PN	Pn	08 38 59.2	+0.1
KNZ				AML	AML	08 39 22.4	
KNZ				AML	AML	08 39 23.1	
VRZ	**Vera Road**	**1.47**	**228**	Pn	Pn	08 38 59.2	0.0
VRZ	**Vera Road**	**1.47**	**228**	PN	Pn	08 38 59.2	0.0
PRGZ	**Paritu Road**	**1.55**	**120**	PN	Pn	08 39 00.1	+0.1
CNGZ	**Carnagh Statio**	**1.64**	**102**	Pn	Pn	08 39 01.2	+0.3
CNGZ	**Carnagh Statio**	**1.64**	**102**	PN	Pn	08 39 01.3	+0.4
PUZ	**Puketiti**	**1.65**	**88**	Pn	Pn	08 39 00.3	-0.8
PUZ	**Puketiti**	**1.65**	**88**	⇓PN	Pn	08 39 00.3	-0.8
PUZ				AML	AML	08 39 24.0	
PUZ				SN	Sn	08 39 24.1	-0.8
MHGZ	**Mahia Peninsul**	**1.69**	**127**	PN	Pn	08 39 01.7	+0.2
KAHZ	**Kahuranaki**	**1.73**	**162**	Pn	Pn	08 39 02.1	0.0
KAHZ	**Kahuranaki**	**1.73**	**162**	PN	Pn	08 39 02.1	0.0
PNHZ	**Pukenui**	**1.76**	**179**	Pn	Pn	08 39 01.7	-0.7
PNHZ	**Pukenui**	**1.76**	**179**	PN	Pn	08 39 01.6	-0.8
WAZ	**Wanganui**	**1.85**	**210**	Pn	Pn	08 39 02.9	-0.4
WAZ	**Wanganui**	**1.85**	**210**	PN	Pn	08 39 02.9	-0.4
TSZ	**Takapari Road**	**1.92**	**185**	Pn	Pn	08 39 03.1	-1.0
TSZ	**Takapari Road**	**1.92**	**185**	⇑PN	Pn	08 39 03.1	-1.0
WPHZ	**Waipukurau**	**1.93**	**174**	Pn	Pn	08 39 03.5	-0.7
WPHZ	**Waipukurau**	**1.93**	**174**	PN	Pn	08 39 03.5	-0.7
PXZ	**Pawanui**	**1.96**	**164**	Pn	Pn	08 39 04.0	-0.5
PXZ	**Pawanui**	**1.96**	**164**	PN	Pn	08 39 04.0	-0.5
PXZ				AML	AML	08 39 04.3	
PXZ				AML	AML	08 39 40.1	
PXZ				AML	AML	08 40 04.7	
DVHZ	**Dannevirke**	**2.15**	**180**	Pn	Pn	08 39 05.5	-1.4
DVHZ	**Dannevirke**	**2.15**	**180**	⇑PN	Pn	08 39 05.5	-1.4
POWZ	**Post Office Ro**	**2.26**	**188**	Pn	Pn	08 39 06.6	-1.6
POWZ	**Post Office Ro**	**2.26**	**188**	PN	Pn	08 39 06.6	-1.6
ANWZ	**Angora Road**	**2.32**	**174**	⇑PN	Pn	08 39 07.8	-1.0
ANWZ				SN	Sn	08 39 36.2	-2.5
PRWZ	**Pori Road**	**2.41**	**184**	PN	Pn	08 39 08.5	-1.4
BFZ	**Birch Farm**	**2.53**	**179**	Pn	Pn	08 39 09.7	-1.7
BFZ	**Birch Farm**	**2.53**	**179**	PN	Pn	08 39 09.7	-1.7
BFZ				AML	AML	08 39 30.8	
MRZ	**Mangatainoka R**	**2.55**	**190**	Pn	Pn	08 39 09.6	-2.1
MRZ	**Mangatainoka R**	**2.55**	**190**	⇑PN	Pn	08 39 09.6	-2.1
MRZ				AML	AML	08 39 42.9	
MRZ				AML	AML	08 39 42.9	
TIWZ	**Tintock**	**2.63**	**185**	Pn	Pn	08 39 10.8	-2.0
TIWZ	**Tintock**	**2.63**	**185**	PN	Pn	08 39 10.9	-1.9
OGWZ	**Otaki Gorge**	**2.77**	**196**	Pn	Pn	08 39 12.4	-2.1
OGWZ	**Otaki Gorge**	**2.77**	**196**	PN	Pn	08 39 12.2	-2.2
HOWZ	**Holdsworth Sta**	**2.79**	**190**	Pn	Pn	08 39 12.2	-2.5
HOWZ	**Holdsworth Sta**	**2.79**	**190**	⇑PN	Pn	08 39 12.2	-2.5
KIW	**Kapiti Island**	**2.88**	**199**	Pn	Pn	08 39 13.2	-2.6
KIW	**Kapiti Island**	**2.88**	**199**	PN	Pn	08 39 13.2	-2.6
KIW				AML	AML	08 39 50.3	
KIW				AML	AML	08 39 51.1	
TMWZ	**Te Maipa**	**2.96**	**184**	Pn	Pn	08 39 14.3	-2.5
TMWZ	**Te Maipa**	**2.96**	**184**	PN	Pn	08 39 14.3	-2.5
MTW	**Mount Morrison**	**3.05**	**190**	Pn	Pn	08 39 15.0	-2.9
MTW	**Mount Morrison**	**3.05**	**190**	PN	Pn	08 39 15.0	-2.9
MTW				AML	AML	08 39 52.0	
MTW				AML	AML	08 39 52.9	
CAW	**Cannon Point**	**3.08**	**196**	P

FIAM S Sg 08 38 59.9 0.0
FIAM Fiamignano 0.21 246 Pg Pg 08 38 56.3 -0.6
FIAM Sg Sg 08 38 59.9 0.0
109µm,0.5s
TERO Teramo 0.32 32 Pg Pg 08 38 58.0 -0.9
TERO Sg Sb 08 39 04.5 -1.1
64µm,0.8s
TERO Teramo 0.32 32 P Pg 08 38 57.9 -0.9
TERO S Sb 08 39 04.5 -1.1
TERO Teramo 0.32 32 Pg Pg 08 38 58.0 -0.9
TERO S Sb 08 39 04.4 -1.1
PTQR Pietraquaria 0.33 176⇑*i*Pg Pg 08 38 58.0 -1.1
PTQR Pietraquaria 0.33 176 P Pg 08 38 58.0 -1.1
PTQR Pietraquaria 0.33 176⇑*i*Pg Pg 08 38 58.0 -1.1
VCEL Villa Celiera 0.35 83 Pg Pg 08 38 58.6 -0.9
VCEL Sg Sg 08 39 05.0 +0.9
53µm,0.9s
VCEL Villa Celiera 0.35 83 P Pg 08 38 58.5 -0.9
VCEL S Sb 08 39 06.7 +0.2
VCEL Villa Celiera 0.35 83 Pg Pg 08 38 58.6 -0.9
VCEL Sg Sg 08 39 05.0 +0.9
53µm,0.9s
VCEL S Sb 08 39 06.7 +0.2
LNSS Leonessa 0.35 316 Pg Pg 08 38 59.0 -0.6
LNSS Sg Sb 08 39 06.1 -0.4
40µm,0.7s
LNSS Leonessa 0.35 316 P Pg 08 38 58.9 -0.6
LNSS S Sb 08 39 06.1 -0.4
LNSS Leonessa 0.35 316 P Pg 08 38 58.9 -0.6
GAVE Gavelli 0.49 314 Pg Pg 08 39 01.9 -0.2
GAVE Gavelli 0.49 314 Pg Pg 08 39 01.9 -0.2
CERT Cerreto 0.50 216 Pg Pg 08 39 00.9 -1.2
CERT Sg Sg 08 39 08.6 -0.1
35µm,0.4s
CERT Cerreto 0.50 216 P Pg 08 39 00.9 -1.2
CERT S Sg 08 39 08.6 -0.1
CERT Cerreto 0.50 216 Pg Pg 08 39 00.9 -1.2
CERT Sg Sg 08 39 08.6 -0.1
35µm,0.4s
MNS Montasola 0.51 274 P Pg 08 39 01.4 -1.1
MNS S Sb 08 39 12.5 +1.4
MNS Montasola 0.51 274 Pg Pg 08 39 01.4 -1.1
15µm,0.4s
MNS Montasola 0.51 274 P Pg 08 39 01.4 -1.1
MNS S Sb 08 39 12.5 +1.4
MNS Montasola 0.51 274 Pg Pg 08 39 01.4 -1.1
15µm,0.4s
MNS S Sb 08 39 12.5 +1.4
VVLD Villa Vallelon 0.52 159 Pg Pg 08 39 01.2 -1.3
8µm,0.6s
VVLD Villa Vallelon 0.52 159 P Pg 08 39 01.2 -1.3
VVLD Villa Vallelon 0.52 159 Pg Pg 08 39 01.2 -1.3
8µm,0.6s
NRCA Norcia 0.52 338 Pg Pg 08 39 01.5 -1.1
NRCA Norcia 0.52 338 P Pg 08 39 01.5 -1.1
NRCA Norcia 0.52 338 Pg Pg 08 39 01.5 -1.1
INTR Introdacqua 0.52 131 Pg Pg 08 39 01.3 -1.3
INTR Sg Sg 08 39 09.5 0.0
15µm,0.9s
INTR Introdacqua 0.52 131 P Pg 08 39 01.2 -1.5
INTR S Sg 08 39 09.7 +0.1
INTR Introdacqua 0.52 131 Pg Pg 08 39 01.3 -1.3
INTR S Sg 08 39 09.7 +0.1
GUAR Guarcino 0.56 185 Pg Pg 08 39 02.0 -1.3
13µm,0.5s
GUAR Guarcino 0.56 185 P Pg 08 39 02.0 -1.3
GUAR Guarcino 0.56 185 Pg Pg 08 39 02.0 -1.3
13µm,0.5s
MTCE Montecelio 0.57 235 Pg Pg 08 39 02.4 -1.2
MTCE Sg Sg 08 39 10.6 -0.5
7µm,0.5s
MTCE Montecelio 0.57 235 P Pg 08 39 02.4 -1.2
MTCE S Sg 08 39 10.8 -0.3
MTCE Montecelio 0.57 235 Pg Pg 08 39 02.4 -1.2
MTCE S Sg 08 39 10.8 -0.3
TRTR Tortoreto Alta 0.61 41 Pg Pg 08 39 04.2 0.0
45µm,0.7s
TRTR Tortoreto Alta 0.61 41 Pg Pg 08 39 04.2 0.0
45µm,0.7s
OFFI Offida 0.63 22 Pg Pg 08 39 04.5 -0.1
58µm,0.6s
OFFI Offida 0.63 22 Pg Pg 08 39 04.5 -0.1
58µm,0.6s
CESX Cesi 0.64 294 Pg Pg 08 39 03.6 -1.3
16µm,0.6s
CESX Cesi 0.64 294 Pg Pg 08 39 03.6 -1.3
16µm,0.6s
POFI Posta Fibreno 0.68 158 Pg Pg 08 39 03.9 -1.8
7µm,0.6s
POFI Posta Fibreno 0.68 158 Pg Pg 08 39 03.9 -1.8
7µm,0.6s
FDMO Fiordimonte 0.71 343 Pg Pg 08 39 05.1 -1.2
7µm,0.5s
FDMO Fiordimonte 0.71 343 Pg Pg 08 39 05.1 -1.2
7µm,0.5s
SDI San Donato 0.72 153 Pg Pg 08 39 04.5 -1.9
SDI San Donato 0.72 153 Pg Pg 08 39 04.5 -1.9
CAFR Castel Frentan 0.73 99 Pg Pg 08 39 05.5 -1.1
8µm,0.6s
CAFR Castel Frentan 0.73 99 Pg Pg 08 39 05.5 -1.1
8µm,0.6s
RMP Rome, Mte Porz 0.74 223 Pg Pg 08 39 05.1 -1.6
9µm,0.4s
RMP Rome, Mte Porz 0.74 223 Pg Pg 08 39 05.1 -1.6
9µm,0.4s
CESI CESI - Serrava 0.74 332 Pg Pg 08 39 05.6 -1.2
5µm,0.6s
CESI CESI - Serrava 0.74 332 Pg Pg 08 39 05.6 -1.2
5µm,0.6s
RDP Rocca di Papa 0.77 220 Pg Pg 08 39 05.8 -1.5
17µm,0.5s
RDP Rocca di Papa 0.77 220 Pg Pg 08 39 05.8 -1.5
17µm,0.5s
MA9 Marino 0.79 223 Pg Pg 08 39 06.1 -1.6
14µm,0.6s
MA9 Marino 0.79 223 Pg Pg 08 39 06.1 -1.6
14µm,0.6s
GIUL Giuliano Di Ro 0.80 186 Pg Pg 08 39 06.1 -1.8
8µm,0.7s
GIUL Giuliano Di Ro 0.80 186 Pg Pg 08 39 06.1 -1.8
8µm,0.7s
GUMA Gualdo di Mace 0.82 30 Pg Pg 08 39 05.4 -2.9
25µm,0.5s
GUMA Gualdo di Mace 0.82 30 Pg Pg 08 39 05.4 -2.9
25µm,0.5s
ASSB Assisi San Ben 0.87 323 Pg Pg 08 39 07.8 -1.4
12µm,0.6s
ASSB Assisi San Ben 0.87 323 Pg Pg 08 39 07.8 -1.4
12µm,0.6s
RNI2 Rionero Sannit 0.87 138 Pg Pg 08 39 07.6 -1.7
9µm,0.9s
RNI2 Rionero Sannit 0.87 138 Pg Pg 08 39 07.6 -1.7
9µm,0.9s
CERA Filignano 0.90 147 Pg Pg 08 39 07.4 -2.3
9µm,0.8s
MIDA Miranda 0.97 137 Pg Pg 08 39 08.7 -2.4
6µm,1.1s
CING Cingoli 1.03 353 Pg Pg 08 39 10.6 -1.7
8µm,0.7s
CING Cingoli 1.03 353 Pg Pg 08 39 10.6 -1.7
8µm,0.7s
TOLF Tolfa 1.06 255 Pg Pg 08 39 10.9 -1.9
3µm,0.7s
TOLF Tolfa 1.06 255 Pg Pg 08 39 10.9 -1.9
3µm,0.7s
MGAB Montegabbione 1.09 301 Pg Pb 08 39 12.3 -1.1
10µm,0.5s
MGAB Montegabbione 1.09 301 Pg Pb 08 39 12.3 -1.1
10µm,0.5s
MURB Monte Urbino 1.10 326 Pg Pb 08 39 12.2 -1.5
22µm,0.5s
MURB Monte Urbino 1.10 326 Pg Pb 08 39 12.2 -1.5
22µm,0.5s
VAGA Valle Agricola 1.14 145 Pg Pb 08 39 12.3 -1.9
3µm,1.0s
VAGA Valle Agricola 1.14 145 Pg Pb 08 39 12.3 -1.9
3µm,1.0s
ARVD Arcevia 1.19 345 Pg Pb 08 39 13.6 -1.5
6µm,0.7s
ARVD Arcevia 1.19 345 Pg Pb 08 39 13.6 -1.5
6µm,0.7s
LATE Laterza 1.19 283 Pg Pb 08 39 14.5 -0.6
LATE Laterza 1.19 283 Pg Pb 08 39 14.5 -0.6
AOI Ancona 1.21 8 Pg Pn 08 39 13.9 -1.6
6µm,1.1s
AOI Ancona 1.21 8 Pg Pn 08 39 13.9 -1.6
6µm,1.1s
PTRJ Pietraroja 1.31 138 Pg Pn 08 39 15.6 -1.3
PTRJ Pietraroja 1.31 138 Pg Pn 08 39 15.6 -1.3
CDCA Citt' di Caste 1.39 323 Pg Pn 08 39 17.8 0.0
7µm,1.1s
CDCA Citt' di Caste 1.39 323 Pg Pn 08 39 17.8 0.0
7µm,1.1s
CAFI Castiglion Fio 1.42 314 Pg Pn 08 39 17.8 -0.6
3µm,0.6s
CAFI Castiglion Fio 1.42 314 Pg Pn 08 39 17.8 -0.6
3µm,0.6s
ARCI Arcidosso 1.49 290 Pg Pn 08 39 19.6 +0.3
1µm,0.7s
ARCI Arcidosso 1.49 290 Pg Pn 08 39 19.6 +0.3
1µm,0.7s
PARC Parchiule 1.54 328 Pg Pn 08 39 20.2 +0.2
4µm,1.0s
PARC Parchiule 1.54 328 Pg Pn 08 39 20.2 +0.2
4µm,1.0s
MAON Monte Argentar 1.66 273 Pg Pn 08 39 20.9 -0.8
1µm,0.7s
MAON Monte Argentar 1.66 273 Pg Pn 08 39 20.9 -0.8
1µm,0.7s
NVLJ Novalja 2.46 26 *i* Pn Pn 08 39 32.7 0.0
NVLJ Sn Sn 08 40 02.2 -0.6
NVLJ Novalja 2.46 26 *i* Pn Pn 08 39 32.7 0.0
NVLJ Sn Sn 08 40 02.2 -0.6
UDBI Udbina 2.79 38 *i* Pn Pn 08 39 38.3 +1.1
UDBI Sn Sn 08 40 13.1 +2.2
UDBI Udbina 2.79 38 *i* Pn Pn 08 39 38.3 +1.1
UDBI Sn Sn 08 40 13.0 +2.2
VLC Villacollemand 2.83 311 *e*Pn Pn 08 39 38.2 +0.4
VLC Sn Sn 08 40 13.1 +1.1
VLC Villacollemand 2.83 311 *e*Pn Pn 08 39 38.2 +0.4
VLC Sn Sn 08 40 13.1 +1.1
BAI Bari 2.90 114 *e*Pn Pn 08 39 39.8 +1.1
BAI *e*Sn Sn 08 40 15.9 +2.3
CUC Castrocucco 2.99 141 *e*Pn Pn 08 39 42.1 +2.1
CUC Castrocucco 2.99 141 *e*Pn Pn 08 39 42.1 +2.1
SKDS Skadanscina 3.23 8 *i* Pn Pn 08 39 43.0 -0.2
SKDS *e*Sn Sn 08 40 21.7 0.0
SKDS
comp=Z,127nm,0.3s
SKDS Skadanscina 3.23 8 Pn Pn 08 39 43.0 -0.2
SKDS *e*Sn Sn 08 40 21.7 0.0
comp=Z,127nm,0.3s
STON Ston 3.24 79 *i* Pn Pn 08 39 43.1 -0.2
STON Sn Sn 08 40 19.2 -2.7
STON Ston 3.24 79 *i* Pn Pn 08 39 43.0 -0.2
STON Sn Sn 08 40 19.1 -2.7
PGF Pioggiola 3.24 275 *e*P Pn 08 39 43.5 0.0
PGF *e*Sn Sn 08 40 17.2 -5.0
comp=Z,123nm,0.6s
PGF Pioggiola 3.24 275 *e*P Pn 08 39 43.5 0.0
PGF *e*Sn Sn 08 40 17.2 -5.0
comp=Z,62nm,0.6s
TRI Trieste 3.37 5 *e*P Pn 08 39 44.9 -0.2
TRI *e* 08 40 25.9
TRI Trieste 3.37 5 *e*Pn Pn 08 39 44.9 -0.2
TRI *e*Sn Sn 08 40 25.9 +0.8
TRI Trieste 3.37 5 *e*P Pn 08 39 44.9 -0.2
TRI *e*S Sn 08 40 25.9 +0.8
PE1 Pezze di Greco 3.41 116 *e*Pn Pn 08 39 46.3 +0.7
BOJS Bojanci 3.43 23⇑*i*Pn Pn 08 39 46.3 +0.3
BOJS *e*Sn Sn 08 40 28.5 +1.8
BOJS Bojanci 3.43 23⇑*i*Pn Pn 08 39 46.3 +0.3
BOJS *e*Sn Sn 08 40 28.5 +1.8
VOY Vojsko 3.70 6 *e*Pn Pn 08 39 49.3 -0.4
VOY *e* 08 40 03.5
VOY *e*Sn Sn 08 40 33.6 +0.2
VOY Vojsko 3.70 6 *e*Pn Pn 08 39 49.3 -0.4
VOY *e*Sn Sn 08 40 33.6 +0.2
LJU Ljubljana 3.78 12 *e*Pn Pn 08 39 51.5 +0.7
HCY Herceg Novi 3.79 87⇓*i*Pn Pn 08 39 51.5 +0.5
HCY *e*Sn Sn 08 40 37.2 +1.6
HCY Herceg Novi 3.79 87⇓*i*Pn Pn 08 39 51.5 +0.5
HCY *e*Sn Sn 08 40 37.2 +1.6
BRY Bratogost 3.85 80⇓*i*Pn Pn 08 39 52.5 +0.6
BRY *e*Sn Sn 08 40 37.7 +0.4
BRY Bratogost 3.85 80⇓*i*Pn Pn 08 39 52.5 +0.6
BRY *e*Sn Sn 08 40 37.7 +0.4
TIP Timpagrande 4.08 140 *e*Pn Pn 08 39 49.9 -5.1
BUM Brajici-Budva 4.09 89⇓*i*Pn Pn 08 39 55.9 +0.8
BUM *e*Sn Sn 08 40 43.9 +0.8
BUM Brajici-Budva 4.09 89⇓*i*Pn Pn 08 39 55.9 +0.8
BUM *e*Sn Sn 08 40 43.9 +0.8
VSL Villasalto 4.16 228 *e*Pn Pn 08 39 55.8 -0.2
VSL *e*Sn Sn 08 40 46.0 +1.3
VSL Villasalto 4.16 228 *e*Pn Pn 08 39 55.8 -0.2
VSL *e*Sn Sn 08 40 46.0 +1.3
UPM Unac-Piva 4.16 76⇓*i*Pn Pn 08 39 56.6 +0.4
UPM *e*Sn Sn 08 40 45.3 +0.4
UPM Unac-Piva 4.16 76⇓*i*Pn Pn 08 39 56.6 +0.4
UPM *e*Sn Sn 08 40 45.3 +0.4
OBKA Obir 4.24 11⇑*i*Pn Pn 08 39 57.3 +0.1
SNR=21
OBKA Obir 4.24 11 Pn Pn 08 39 57.3 +0.1
SNR=21
PDG Podgorica 4.36 87⇑*i*Pn Pn 08 39 59.5 +0.8
PDG Podgorica 4.36 87⇓*i*Pn Pn 08 39 59.5 +0.8
PDG *e*Sn Sn 08 40 50.3 +0.8
TTG Podgorica 4.36 87⇓*i*Pn Pn 08 39 59.5 +0.8
TTG *e*Sn Sn 08 40 50.3 +0.8
ULC Ulcinj 4.38 93⇑*i*Pn Pn 08 39 59.9 +0.8
ULC *e*Sn Sn 08 40 50.9 +0.7
ULC Ulcinj 4.38 93⇑*i*Pn Pn 08 39 59.9 +0.8
ULC *e*Sn Sn 08 40 50.9 +0.7
ABTA Abfaltersbach 4.44 352⇓*i*Pn Pn 08 40 00.7 +0.8
SNR=303
ABTA Abfaltersbach 4.44 352 Pn Pn 08 40 00.7 +0.8
SNR=303
CEL Celeste 4.52 154 *e*Pn Pn 08 40 02.0 +1.0
CEL Celeste 4.52 154 *e*Pn Pn 08 40 02.0 +1.0
PLE Pljevlja 4.53 76⇓*i*Pn Pn 08 40 01.9 +0.7
PLE *e*Sn Sn 08 40 54.4 +0.4
PLE Pljevlja 4.53 76⇓*i*Pn Pn 08 40 01.9 +0.7
PLE *e*Sn Sn 08 40 54.4 +0.4
SAOF Saorge 4.56 293 P Pn 08 40 02.2 +0.7
SBF Sospel 4.60 291 *e*P Pn 08 40 02.4 +0.3
SBF *e*Sn Sn 08 40 49.2 -6.4
comp=Z,95nm,0.6s
SBF Sospel 4.60 291 *e*P Pn 08 40 02.4 +0.3
REVF Revere 4.61 290 P Pn 08 40 02.2 -0.1
AUTN L'Aution 4.65 293 P Pn 08 40 03.3 +0.4
BBLS Lazići 4.67 69⇑*i*Pn Pn 08 40 04.3 +1.3
BBLS *e*Sn Sn 08 40 59.8 +2.5
BBLS Lazići 4.67 69⇑*i*Pn Pn 08 40 04.3 +1.3
BBLS *e*Sn Sn 08 40 59.8 +2.5
KBA Koelnbreinsper 4.73 360⇑*i*Pn Pn 08 40 04.5 +0.6
SNR=47
KBA Koelnbreinsper 4.73 360 Pn Pn 08 40 04.5 +0.6
SNR=47
TOUF Mont Tournerai 4.78 292 P Pn 08 40 05.5 +0.9
BEHE Becsehely 4.78 29⇓*e*Pn Pn 08 40 02.6 -2.0
BEHE Becsehely 4.78 29⇓*e*P Pn 08 40 02.6 -2.0
MVIF Mont Vial 4.81 291 P Pn 08 40 05.6 +0.6
BEY Berane 4.84 82⇓*i*Pn Pn 08 40 05.6 +0.2
BEY *e*Sn Sn 08 41 02.0 +0.4
IVA Berane 4.84 82⇓*i*Pn Pn 08 40 05.6 +0.2
IVA *e*Sn Sn 08 41 02.0 +0.4
PVY Plav 4.88 85⇑*i*Pn Pn 08 40 06.7 +0.7
PVY *e*Sn Sn 08 41 03.3 +0.8
PVY Plav 4.88 85⇑*i*Pn Pn 08 40 06.7 +0.7
PVY *e*Sn Sn 08 41 03.3 +0.8
SJES Sjenica 4.94 77 *e*Pn Pn 08 40 07.2 +0.4
CALN Calern 4.95 289 P Pn 08 40 07.7 +0.7
TIR Tirane 4.95 100 *e*P Pn 08 40 07.4 +0.5
TIR *e* 08 41 06.5
TIR Tirane 4.95 100 *e*Pn Pn 08 40 07.4 +0.5
TIR *e*Sn Sn 08 41 06.5 +2.3
TIR Tirane 4.95 100⇓*i*Pn Pn 08 40 07.7 +0.8
TIR *e*Sn Sn 08 41 04.9 +0.7
TIR Tirane 4.95 100 *e*P Pn 08 40 07.4 +0.5
TIR *e*Sn Sn 08 41 04.9 +0.7
TIR *e*S Sn 08 41 06.5 +2.3
TUE Stuetta 5.03 326 *e*Pn Pn 08 40 08.7 +0.5
comp=Z,46nm,0.6s
TUE *e*Sn Sn 08 41 06.2 -0.1
TUE Stuetta 5.03 326 *e*Pn Pn 08 40 08.6 +0.5
comp=Z,46nm,0.6s
TUE *e*Sn Sn 08 41 06.2 -0.1
FETA Feichten 5.03 339⇑*i*Pn Pn 08 40 09.5 +1.4
SNR=48
FETA Feichten 5.03 339 Pn Pn 08 40 09.5 +1.4
SNR=48
WTTA Wattenberg 5.06 346⇑*i*Pn Pn 08 40 10.7 +2.0
SNR=31
WTTA Wattenberg 5.06 346 Pn Pn 08 40 10.6 +2.0
SNR=31
DAVOX Davos/Dischmat 5.08 332 Pn Pn 08 40 10.6 +1.8
DAVOX Sn Sn 08 41 08.1 +0.5
DAVOX Davos/Dischmat 5.08 332 Pn Pn 08 40 10.6 +1.8
comp=Z,9.6nm,0.3s,baz=162,slow=9.5,SNR=54
DAVOX Sn Sn 08 41 08.1 +0.5
comp=Z,5.4nm,0.3s,baz=314,slow=23,SNR=4.6
DAVOX Davos/Dischmat 5.08 332 P Pn 08 40 10.6 +1.8
comp=Z,10.0nm,0.3s
DAVOX S Sn 08 41 08.1 +0.5
comp=Z,5.0nm,0.3s
FRF La Foret Royal 5.08 286 *e*Pn Pn 08 40 08.0 -0.7
FRF La Foret Royal 5.08 286 *e*Pn Pn 08 40 08.0 -0.7
ARSA Arzberg 5.13 17⇓*i*Pn Pn 08 40 09.1 -0.3
SNR=15
ARSA Arzberg 5.13 17⇑*i*Pn Pn 08 40 09.0 -0.3
ARSA Arzberg 5.13 17⇑*i*Pn Pn 08 40 09.0 -0.3
LMR La Mourre 5.14 283 *e*Pn Pn 08 40 08.4 -1.1
LMR La Mourre 5.14 283 *e*Pn Pn 08 40 08.4 -1.1
DIVS Divibare 5.14 68⇑*i*Pn Pn 08 40 09.7 +0.1
DIVS *e*Sn Sn 08 41 09.8 +0.8
DIVS Divibare 5.14 68⇑*i*Pn Pn 08 40 09.7 +0.1
DIVS *e*Sn Sn 08 41 09.8 +0.8
WATA Walderalm 5.14 346⇑*i*Pn Pn 08 40 11.5 +1.9
SNR=48
WATA Walderalm 5.14 346 Pn Pn 08 40 11.5 +1.9
SNR=48
MBDF Montbardon 5.35 299 *e*P Pn 08 40 14.2 +1.7
MBDF Montbardon 5.35 299 *e*P Pn 08 40 14.2 +1.7
PKSM Moragy 5.40 43⇓P Pn 08 40 14.6 +1.6
PKSM Moragy 5.40 43⇓*i*P Pn 08 40 14.6 +1.6
PKSM Moragy 5.40 43⇓*e*Pn Pn 08 40 11.6 -1.4
PKSM Moragy 5.40 43⇓*e*P Pn 08 40 11.6 -1.4
FGSL Fruska Gora 5.44 57 *e*Pn Pn 08 40 13.8 +0.2
FRGS Fruska Gora 5.44 57 *e*Pn Pn 08 40 13.8 +0.2
RETA Reutte 5.46 341⇑*i*Pn Pn 08 40 15.4 +1.5
SNR=15
RETA Reutte 5.46 341 Pn Pn 08 40 15.4 +1.5
SNR=15
DAVA Damuels 5.52 334⇓*i*Pn Pn 08 40 16.7 +1.8
SNR=50
DAVA Damuels 5.52 334 Pn Pn 08 40 16.7 +1.8
SNR=50
MOA Molln 5.53 6⇑*i*Pn Pn 08 40 15.5 +0.6
SNR=16
MOA Molln 5.53 6 Pn Pn 08 40 15.5 +0.6
SNR=16
BNI Bardonecchia 5.55 301 *e*P Pn 08 40 16.9 +1.7
BNI pmax pmax
comp=Z,32nm,0.8s
BNI Bardonecchia 5.55 301 *e*Pn Pn 08 40 16.9 +1.7
comp=Z,32nm,0.8s
BNI Bardonecchia 5.55 301 *e*P Pn 08 40 16.9 +1.7
comp=Z,32nm,0.8s
GRUS Gruza 5.59 72⇑*i*Pn Pn 08 40 15.7 +0.1
GRUS *e*Sn Sn 08 41 19.9 0.0
GRUS Gruza 5.59 72⇑*i*Pn Pn 08 40 15.7 +0.1
GRUS *e*Sn Sn 08 41 19.9 0.0
LPG La Plagne 5.72 306 *e*P Pn 08 40 18.8 +1.1
LPG La Plagne 5.72 306 *e*P Pn 08 40 18.8 +1.1
LPL La Plagne 5.74 306 *e*P Pn 08 40 19.0 +1.1
LPL La Plagne 5.74 306 *e*P Pn 08 40 19.0 +1.1
CONA Conrad Observa 5.85 17⇑*i*Pn Pn 08 40 19.3 +0.1
SNR=28
CONA Conrad Observa 5.85 17 Pn Pn 08 40 19.3 +0.1
SNR=28
SMRF Simiane la Rot 5.93 289 *e*P Pn 08 40 21.5 +1.2
SMRF Simiane la Rot 5.93 289 *e*P Pn 08 40 21.5 +1.2
SKO Skopje 6.01 91 *e*Pn Pn 08 40 21.7 +0.3
SKO *e*Sg Sn 08 41 32.1 +1.9
SKO Skopje 6.01 91 *e*Pn Pn 08 40 21.7 +0.3
ORIF Oris-en-Rattie 6.01 298 *e*P Pn 08 40 24.0 +2.5
SVIS Svilajnac 6.03 69 *e*Pn Pn 08 40 21.9 +0.2
BIA Bitola 6.10 100 *e*Pn Pn 08 40 22.9 +0.1
BIA *e*Sg Sn 08 41 33.5 +1.0
BIA Bitola 6.10 100 *e*Pn Pn 08 40 22.8 +0.1
BARS Barje 6.25 83⇑*i*Pn Pn 08 40 24.7 0.0
BARS *e*Sn Sn 08 41 34.2 -2.0
BARS Barje 6.25 83⇑*i*Pn Pn 08 40 24.7 0.0
BOLS Boljevac 6.45 74⇑*i*Pn Pn 08 40 26.8 -0.7
BOLS Boljevac 6.45 74⇑*i*Pn Pn 08 40 26.8 -0.7
GEC2 GERESS Array S 6.50 2 *e*Pn Pn 08 40 27.7 -0.5
GEC2 *e*Sn Sn 08 41 39.5 -2.9
GEC2 GERESS Array S 6.50 2 *e*P Pn 08 40 27.7 -0.5
GEC2 *e* 08 41 39.5
GEC2 GERESS Array S 6.50 2 *e*P Pn 08 40 27.7 -0.5
GERES GERESS Array B 6.50 2 Pn Pn 08 40 27.7 -0.5
GERES Sn Sn 08 41 40.8 -1.6
GERES Lg Lg 08 42 13.9
GERES GERESS Array B 6.50 2 Pn Pn 08 40 27.7 -0.5
comp=Z,2.3nm,0.3s,baz=176,slow=12,SNR=55
GERES Sn Sn 08 41 40.8 -1.6
comp=Z,7.0nm,0.3s,baz=180,slow=22,SNR=10
GERES Lg Lg 08 42 13.9
baz=180,slow=29,SNR=2.1
GERES LR LR 08 42 35.2
comp=Z,70nm,21.9s,baz=100,slow=35
GERES GERESS Array B 6.50 2 P Pn 08 40 27.7 -0.5
comp=Z,2.0nm,0.3s
GERES S Sn 08 41 40.8 -1.6
comp=Z,70nm,21.9s
BBS Basel-Blauen 6.59 323 P Pn 08 40 29.1 -0.3
SPAK Spaichingen-Ko 6.60 332 P Pn 08 40 28.3 -1.2
FELD Feldberg im Sc 6.70 327 P Pn 08 40 30.9 -0.1
CABF La Chapelle 6.73 312 *e*Pn Pn 08 40 31.0 -0.3
CABF *e*Sn Sn 08 41 40.1 -7.9
comp=Z,92nm,1.1s
CABF La Chapelle 6.73 312 *e*Pn Pn 08 40 31.0 -0.3
KHC Kasperske Hory 6.78 1 *e*P Pn 08 40 31.5 -0.5
KHC *e* 08 41 46.5
KHC MLR MLR
comp=Z,400nm,13.0s
KHC Kasperske Hory 6.78 1 *e*PN Pn 08 40 31.5 -0.5
KHC *ex* x 08 40 40.0
KHC *e*SN Sn 08 41 46.5 -2.8
KHC *ex* x 08 41 58.0
KHC AMS AMS 08 43 20.0
comp=Z,400nm,13.0s
KHC Kasperske Hory 6.78 1 *e*Pn Pn 08 40 31.1 -0.9
comp=Z,19nm,0.8s
KHC *e*Sn Sn 08 41 45.4 -3.9
KHC Kasperske Hory 6.78 1 Pn Pn 08 40 31.5 -0.5
KHC Sn Sn 08 41 46.5 -2.8
BZS Buzias 6.78 58⇓P Pn 08 40 34.3 +2.3
BZS Buzias 6.78 58⇓*i*P Pn 08 40 34.3 +2.3
BZS Buzias 6.78 58 P Pn 08 40 34.3 +2.3
VIVF Saint-Julien-l 6.79 295 *e*P Pn 08 40 33.4 +1.2
VIVF *e*Sn Sn 08 41 42.8 -6.8
comp=Z,15nm,0.7s
VIVF Saint-Julien-l 6.79 295 *e*P Pn 08 40 33.4 +1.2
WET Wettzell 6.80 357 *e*Pn Pn 08 40 31.7 -0.6
WET *e*Sn Sn 08 41 45.4 -4.3
WET Wettzell 6.80 357 *e*P Pn 08 40 31.7 -0.6
WET *e* 08 41 45.4
WET Wettzell 6.80 357 *e*P Pn 08 40 31.7 -0.6
LOMF Lomont 6.83 319 P Pn 08 40 32.6 -0.1
LOMF S Sn 08 41 50.2 -0.2
ZAPS Zavoj 6.87 79⇑*i*Pn Pn 08 40 35.2 +1.9
ZAPS Zavoj 6.87 79⇑*i*Pn Pn 08 40 35.2 +1.9
VAY Valandovo 6.95 95 *e*Pn Pn 08 40 30.3 -4.0
VAY *e*Sg Sn 08 41 50.8 -2.5
BFO Black Forest 6.95 331 *e*P Pn 08 40 34.0 -0.4
BFO *e* 08 41 51.2
BFO pmax pmax
comp=Z,17nm,0.6s
BFO Black Forest 6.95 331 *e*Pn Pn 08 40 34.0 -0.4
comp=Z,17nm,0.6s
BFO *e*Sn Sn 08 41 51.2 -2.3
BFO Black Forest 6.95 331 *e*P Pn 08 40 34.0 -0.4
comp=Z,17nm,0.6s
BFO *e*S Sn 08 41 51.2 -2.3
SSB Saint Sauveur 7.03 298 *e*P Pn 08 40 35.9 +0.5
SSB pmax pmax
comp=Z,13nm,0.7s
SSB Saint Sauveur 7.03 298 *e*Pn Pn 08 40 35.9 +0.5
comp=Z,13nm,0.7s
SSB Saint Sauveur 7.03 298 *e*P Pn 08 40 35.9 +0.5

comp=Z,13nm,0.7s
MOF Molkenrain 7.05 323 P Pn 08 40 35.4 -0.4
MOF S Sn 08 41 54.1 -1.9
STU Stuttgart 7.06 337 P Pn 08 40 35.6 -0.2
STU pmax pmax
comp=Z,23nm,0.6s
STU Stuttgart 7.06 337 Pn Pn 08 40 35.6 -0.2
comp=Z,23nm,0.6s
STU Stuttgart 7.06 337 P Pn 08 40 35.6 -0.2
comp=Z,23nm,0.6s
TREC Trest 7.10 11 eP Pn 08 40 35.9 -0.5
TREC MLR MLR
comp=Z,600nm,9.4s
TREC Trest 7.10 11 ePN Pn 08 40 35.9 -0.5
TREC AMS AMS 08 43 40.0
comp=Z,600nm,9.4s
TREC Trest 7.10 11 Pn Pn 08 40 35.9 -0.5
HINF Hinteralfeld 7.15 322 ePn Pn 08 40 36.0 -1.1
HINF eSn Sn 08 41 51.2 -7.1
comp=Z,45nm,0.4s
HINF Hinteralfeld 7.15 322 ePn Pn 08 40 36.0 -1.1
LASF Ste Croix 7.16 287 ePn Pn 08 40 35.6 -1.6
LASF eSn Sn 08 41 51.2 -7.4
comp=Z,38nm,1.3s
LASF Ste Croix 7.16 287 ePn Pn 08 40 35.6 -1.6
PSZ Piszkesteto 7.23 37 ||P Pn 08 40 39.7 +1.5
PSZ Piszkesteto 7.23 37 ||*i*P Pn 08 40 39.7 +1.5
PSZ Piszkesteto 7.23 37 P Pn 08 40 39.7 +1.5
VYHS Vyhne 7.24 30 eP Pn 08 40 38.7 +0.4
VYHS Vyhne 7.24 30 ePN Pn 08 40 38.7 +0.4
VYHS Vyhne 7.24 30 eP Pn 08 40 38.7 +0.4
EVR Evrytania 7.28 115 ePB Pn 08 40 42.2 +3.3
EVR Evrytania 7.28 115 ePb Pn 08 40 42.2 +3.3
VTS Vitosha 7.28 85 ||P Pn 08 40 40.2 +1.3
VTS S Sn **08 41 59.9 -1.8**
VTS Vitosha 7.28 85 ||*i*P Pn 08 40 40.2 +1.3
VTS Vitosha 7.28 85 ||*i*Pn Pn 08 40 39.7 +0.8
VTS Vitosha 7.28 85 ||*i*Pn Pn 08 40 39.7 +0.8
VTS Vitosha 7.28 85 P Pn 08 40 40.2 +1.3
VRAC Vranov 7.31 17 Pn Pn 08 40 38.7 -0.6
VRAC Sn Sn **08 41 58.6 -3.6**
VRAC Lg Lg 08 42 50.9
VRAC Vranov 7.31 17 Pn Pn 08 40 38.7 -0.6
comp=Z,0.8nm,0.3s,baz=188,slow=10,SNR=6.3
VRAC Sn Sn **08 41 58.6 -3.6**
comp=Z,0.6nm,0.3s,baz=288,slow=20,SNR=1.8
VRAC Lg Lg 08 42 50.9
comp=Z,0.6nm,0.3s,baz=317,slow=19,SNR=1.9
VRAC Vranov 7.31 17 P Pn 08 40 38.7 -0.6
comp=Z,1.0nm,0.3s
KEST Kesra 7.32 207 Pn Pn 08 40 42.7 +3.3
KEST Sn Sn **08 42 03.0 +0.4**
KEST Kesra 7.32 207 Pn Pn 08 40 42.7 +3.3
comp=Z,5.6nm,0.3s,baz=308,slow=3.5,SNR=150
KEST Sn Sn **08 42 03.0 +0.4**
baz=3.5,slow=19,SNR=1.2
KEST Kesra 7.32 207 Sn Sn 08 42 03.0 +0.4
ECH Echery 7.32 325 eP Pn 08 40 38.7 -0.7
ECH *e* 08 41 58.9
ECH pmax pmax
comp=Z,19nm,0.6s
ECH Echery 7.32 325 ePn Pn 08 40 38.7 -0.7
comp=Z,20nm,0.6s
ECH eSn Sn **08 41 58.9 -3.6**
ECH Echery 7.32 325 eP Pn 08 40 38.7 -0.7
comp=Z,19nm,0.6s
CDF Champ du Feu 7.42 327 ePn Pn 08 40 40.0 -0.9
CDF eSn Sn 08 41 57.8 -7.3
comp=Z,49nm,0.6s
CDF Champ du Feu 7.42 327 ePn Pn 08 40 40.0 -0.9
ROTZ Rotzenmuhle 7.46 354 ePn Pn 08 40 41.5 +0.2
ROTZ eSn Sn **08 42 00.8 -5.1**
GRFO Grafenberg 7.49 349 eP Pn 08 40 40.4 -1.3
GRFO *e* 08 42 02.5
GRFO pmax pmax
comp=Z,4.0nm,0.6s
GRFO Grafenberg 7.49 349 ePn Pn 08 40 40.4 -1.3
comp=Z,4.4nm,0.6s
GRFO eSn Sn **08 42 02.5 -4.2**
GRFO Grafenberg 7.49 349 eP Pn 08 40 40.4 -1.3
comp=Z,4.0nm,0.6s
GRA1 Grafenberg Arr 7.49 349 eP Pn 08 40 41.6 -0.1
GRF Grafenberg Arr 7.49 349 ePn Pn 08 40 41.6 -0.1
GRF Grafenberg Arr 7.49 349 eP Pn 08 40 41.6 -0.1
HAU Haudompre 7.52 321 ePn Pn 08 40 41.6 -0.5
HAU eSn Sn 08 42 00.2 -7.2
comp=Z,102nm,0.7s
HAU Haudompre 7.52 321 ePn Pn 08 40 41.6 -0.5
EFP Efpalio 7.60 118 ePG Pn 08 40 46.0 +2.8
EFP Efpalio 7.60 118 ePg Pn 08 40 46.0 +2.8
PRU Pruhonice 7.68 6 eP Pn 08 40 44.1 -0.2
PRU *e* 08 42 09.5
PRU MLR MLR
comp=Z,300nm,7.8s
PRU Pruhonice 7.68 6 ePN Pn 08 40 44.1 -0.2
PRU eSN Sn **08 42 09.5 -1.8**
PRU AMS AMS 08 44 10.0
comp=Z,300nm,7.8s
PRU Pruhonice 7.68 6 Pn Pn 08 40 44.1 -0.2
PRU Sn Sn **08 42 09.5 -1.8**
LANF Langenberg 7.69 331 P Pn 08 40 44.4 0.0
SJAF Saint Jean de 7.76 275 P Pn 08 40 43.9 -1.6
KALE Kalithea 7.77 118 ePN Pn 08 40 49.6 +3.9
KALE Kalithea 7.77 118 ePn Pn 08 40 49.6 +3.9
THEF They Montfort 7.85 321 P Pn 08 40 46.2 -0.4
KECS Kecovo 7.91 37 eP Pn 08 40 49.5 +2.0
KECS Kecovo 7.91 37 ePN Pn 08 40 49.5 +2.0
KECS Kecovo 7.91 37 eP Pn 08 40 49.5 +2.0
ROHR Rohrbach 7.92 355 eSn Sn 08 42 11.5 -5.7
TOD Tromm 7.92 338 P Pn 08 40 46.6 -1.0
WERN Wernitzgruen 7.97 355 eSn Sn 08 42 15.0 -3.4
MORC Moravsky Berou 7.97 20 eP Pn 08 40 46.7 -1.6
MORC *e* 08 42 09.6
MORC pmax pmax
comp=Z,14nm,1.1s
MORC Moravsky Berou 7.97 20 ePn Pn 08 40 46.7 -1.6
comp=Z,14nm,1.1s
MORC eSn Sn 08 42 09.6 -8.9
MORC Moravsky Berou 7.97 20 eP Pn 08 40 46.7 -1.6
comp=Z,14nm,1.1s
KLV Kalavryta, Ach 7.98 120 ePN Pn 08 40 52.0 +3.5
KLV Kalavryta, Ach 7.98 120 ePn Pn 08 40 52.0 +3.5
FILL Fillols 8.00 275 P Pn 08 40 48.7 -0.1
DRGR 8.01 53 ⇑P Pn 08 40 50.0 +1.1
DRGR 8.01 53 ⇑*i*P Pn 08 40 50.0 +1.1
DRGR 8.01 53 P Pn 08 40 50.0 +1.1
GUNZ Gunzen 8.05 355 ePn Pn 08 40 50.1 +0.7
SMF Signal de Mont 8.05 305 ePn Pn 08 40 48.7 -0.7
SMF eSn Sn 08 42 12.9 -7.6
comp=Z,37nm,0.8s
SMF Signal de Mont 8.05 305 ePn Pn 08 40 48.7 -0.7
TANN Tannenbergstha 8.09 356 ePn Pn 08 40 50.5 +0.5
WERD Werda 8.13 355 ePn Pn 08 40 51.3 +0.8
GUR Goura 8.16 120 ePN Pn 08 40 54.0 +2.9
GUR Goura 8.16 120 ePn Pn 08 40 54.0 +2.9
OKC Ostrava-Krasne 8.19 22 AMS AMS 08 45 00.0
comp=Z,600nm,7.6s
PAGF Fort de Pagny 8.21 322 ePn Pn 08 40 48.9 -2.6
PAGF eSn Sn 08 42 16.6 -7.6
comp=Z,6.1nm,0.6s
PAGF Fort de Pagny 8.21 322 ePn Pn 08 40 48.9 -2.6
DPC Dobruska-Polom 8.26 13 eP Pn 08 40 51.4 -0.8
DPC Dobruska-Polom 8.26 13 ePN Pn 08 40 51.4 -0.8
DPC Dobruska-Polom 8.26 13 Pn Pn 08 40 51.4 -0.8
MTLF Montolieu 8.26 281 ePn Pn 08 40 50.7 -1.5
MTLF Montolieu 8.26 281 ePn Pn 08 40 50.7 -1.5
SFTF Sexfontaines 8.29 318 ePn Pn 08 40 50.3 -2.4
SFTF eSn Sn 08 42 18.5 -7.8
comp=Z,12nm,0.5s
SFTF Sexfontaines 8.29 318 ePn Pn 08 40 50.3 -2.4
LOR Lormes 8.36 309 ePn Pn 08 40 51.5 -2.1
LOR eSn Sn 08 42 20.2 -7.8
comp=Z,21nm,0.6s
LOR Lormes 8.36 309 ePn Pn 08 40 51.5 -2.1
UPC Upice 8.36 12 ePN Pn 08 40 54.1 +0.5
MOX Moxa 8.38 352 ePn Pn 08 40 54.3 +0.4
MOX eSn Sn 08 42 22.5 -6.1
MOX Moxa 8.38 352 eP Pn 08 40 54.3 +0.4
MOX *e* 08 42 22.5
MOX Moxa 8.38 352 eP Pn 08 40 54.3 +0.4
VALF Valcebollere 8.41 274 P Pn 08 40 53.5 -1.0
AVF Avril sur Loir 8.41 305 ePn Pn 08 40 50.8 -3.6
AVF eSn Sn 08 42 21.4 -8.0

comp=Z,17nm,0.6s
SSF Saint Saulge 8.46 307 ePn Pn 08 40 52.4 -2.6
SSF eSn Sn 08 42 22.5 -7.9
comp=Z,9.7nm,0.5s
SSF Saint Saulge 8.46 307 ePn Pn 08 40 52.4 -2.6
MEZF Maizieres J'vi 8.48 319 ePn Pn 08 40 52.8 -2.5
MEZF eSn Sn 08 42 23.2 -7.9
comp=Z,17nm,0.5s
MEZF Maizieres J'vi 8.48 319 ePn Pn 08 40 52.8 -2.5
BRG Berggiesshubel 8.53 2 PN Pn 08 40 55.6 -0.4
BRG PG Pn **08 40 55.7 -0.3**
BRG *i* 08 41 34.2
BRG Berggiesshubel 8.53 2 SG Sn 08 42 29.2 -3.0
comp=Z,15nm,0.7s
BRG Berggiesshubel 8.53 2 P Pn 08 40 55.6 -0.4
BRG 08 42 29.2
BRG smax smax
comp=N,15nm,0.7s
BRG Berggiesshubel 8.53 2 P Pn 08 40 55.6 -0.4
comp=N,15nm,0.7s
RUP Ruppelstein 8.56 331 P Pn 08 40 57.1 +0.7
FBE Freiberg 8.57 360 eSn Sn 08 42 28.8 -4.4
CAF Calviac 8.60 291 eP Pn 08 40 58.1 +1.2
CAF eSn Sn 08 42 25.7 -8.2
comp=N,1.3nm,0.4s
CAF Calviac 8.60 291 eP Pn 08 40 58.1 +1.2
BGF Bois d'Agland 8.62 303 ePn Pn 08 40 54.3 -2.9
BGF eSn Sn 08 42 26.4 -8.1
comp=N,29nm,0.7s
ARR Arges 8.68 66 ⇑*i*P Pn 08 41 00.2 +2.2
ARR Arges 8.68 66 ⇑*i*P Pn 08 41 00.2 +2.2
UZH Uzhgorod 8.87 42 eP Pn 08 41 00.3 -0.2
UZH eS Sn **08 42 37.9 -2.5**
UZH MLR MLR
comp=N,500nm,10.0s
UZH MLR MLR
comp=E,600nm,10.0s
UZH MLR MLR
comp=Z,200nm,10.0s
UZH Uzhgorod 8.87 42 eP Pn 08 41 00.3 -0.2
WLF Walferdange 8.87 328 PN Pn 08 41 01.8 +1.2
WLF Walferdange 8.87 328 SN Sn 08 42 42.4 +1.9
comp=E,13nm,0.0s
WLF Walferdange 8.87 328 eP Pn 08 41 01.6 +1.0
WLF *e* 08 42 40.6
WLF pmax pmax
comp=Z,16nm,0.9s
WLF Walferdange 8.87 328 ePn Pn 08 41 01.6 +1.0
comp=Z,16nm,0.9s
WLF eSn Sn **08 42 40.6 +0.1**
WLF Walferdange 8.87 328 eP Pn 08 41 01.6 +1.0
comp=Z,16nm,0.9s
WLF eS Sn **08 42 40.6 +0.1**
TCF Toulx Ste Croi 8.92 300 ePn Pn 08 40 59.1 -2.2
TCF eSn Sn 08 42 33.5 -8.2
comp=Z,4.8nm,0.5s
TCF Toulx Ste Croi 8.92 300 ePn Pn 08 40 59.1 -2.2
STHS Stebnicka Huta 8.94 35 eP Pn 08 41 04.9 +3.3
STHS Stebnicka Huta 8.94 35 ePN Pn 08 41 04.9 +3.3
CLL Collm 8.96 359 ePn Pn 08 41 02.4 +0.6
CLL Collm 8.96 359 *i* P Pn 08 41 02.5 +0.6
CLL *e* 08 42 38.0
CLL Collm 8.96 359 *i* Pn Pn 08 41 02.5 +0.6
comp=Z,2.0nm,0.3s
CLL eSn Sn **08 42 38.0 -4.8**
CLL eSg Sg 08 43 55.0 +15
comp=Z,53nm,1.3s
CLL Collm 8.96 359 *i* P Pn 08 41 02.5 +0.6
VOIR 8.98 66 ||P Pn 08 41 04.7 +2.5
VOIR 8.98 66 ||*i*P Pn 08 41 04.7 +2.5
VOIR 8.98 66 P Pn 08 41 04.7 +2.5
RJF Les Rejaudoux 9.06 293 ePn Pn 08 41 00.0 -3.3
RJF eSn Sn 08 42 36.8 -8.6
comp=Z,2.0nm,0.4s
MLS Moulis 9.07 278 P Pn 08 41 02.7 -0.7
LFF La Frestale 9.52 290 ePn Pn 08 41 06.6 -2.9
LFF eSn Sn 08 42 47.5 -8.9
comp=Z,6.4nm,0.5s
MLR Muntele Rosu 9.60 67 Pn Pn 08 41 12.9 +2.2
MLR Muntele Rosu 9.60 67 ||*i*P Pn 08 41 12.1 +1.3
MLR Muntele Rosu 9.60 67 Pn Pn 08 41 12.9 +2.2
comp=Z,0.1nm,0.3s,baz=220,slow=3.0,SNR=11
MLR Muntele Rosu 9.60 67 P Pn 08 41 12.1 +1.3
MLR Muntele Rosu 9.60 67 Pn Pn 08 41 12.9 +2.2
EPF Esparros 9.62 278 ePn Pn 08 41 07.4 -3.6
EPF Esparros 9.62 278 eP Pn 08 41 13.6 +2.6
MEM Membach 9.69 331 PN Pn 08 41 12.8 +1.0
MEM SN Sn **08 42 59.6 -1.1**
comp=E,6.8nm,0.0s
MEM Membach 9.69 331 Pn Pn 08 41 12.8 +1.0
MEM Sn Sn **08 42 59.5 -1.1**
GIVF Givet 9.75 326 ePn Pn 08 41 10.1 -2.6
GIVF eSn Sn 08 42 53.0 -9.1
comp=E,12nm,0.7s
GIVF Givet 9.75 326 ePn Pn 08 41 10.1 -2.6
DOU Dourbes 9.84 325 PN Pn 08 41 15.7 +1.8
DOU SN Sn **08 43 04.4 0.0**
comp=E,5.5nm,0.0s
DOU Dourbes 9.84 325 Pn Pn 08 41 15.7 +1.8
DOU Sn Sn **08 43 04.4 0.0**
BURAR Bucovina Array 9.90 54 ⇑P Pn 08 41 17.9 +3.1
BURAR Bucovina Array 9.90 54 ⇑*i*P Pn 08 41 17.9 +3.1
BUR08 Bucovina Ar. S 9.90 54 Pn Pn 08 41 11.0 -3.9
BUR08 eSn Sn **08 43 05.9 -0.2**
BAIF Baives 9.98 324 ePn Pn 08 41 13.4 -2.4
BAIF eSn Sn 08 42 58.7 -9.1
comp=E,2.7nm,0.5s
BAIF Baives 9.98 324 ePn Pn 08 41 13.4 -2.4
VRI Vrincioaia 10.23 65 ||P Pn 08 41 20.7 +1.5
VRI Vrincioaia 10.23 65 ||*i*P Pn 08 41 20.7 +1.5
VRI Vrincioaia 10.23 65 P Pn 08 41 20.7 +1.5
ETSF Etsaut 10.29 278 ePn Pn 08 41 16.5 -3.6
SJPF Ste Jean 10.77 279 ePn Pn 08 41 23.1 -3.6
CFR Carcaliu 11.04 70 ||P Pn 08 41 31.4 +1.0
CFR Carcaliu 11.04 70 ||*i*P Pn 08 41 31.4 +1.0
CFR Carcaliu 11.04 70 P Pn 08 41 31.4 +1.0
KIS Kishinev 11.93 62 eP Pn 08 41 45.0 +2.5
KIS LRM MLR 08 47 16.0
comp=E,900nm,12.0s
KIS Kishinev 11.93 62 eP Pn 08 41 45.0 +2.5
KIS MLR MLR
comp=Z,900nm,12.0s
KIS MLR MLR
comp=E,400nm,13.0s
KIS MLR MLR
comp=Z,900nm,12.0s
KIS Kishinev 11.93 62 eP Pn 08 41 45.0 +2.5
comp=Z,900nm,12.0s
ESDC Sonseca Array 13.36 264 Pn Pn 08 42 00.8 -1.4
ESDC Sonseca Array 13.36 264 Pn Pn 08 42 00.8 -1.4
comp=Z,0.4nm,0.3s,baz=69,slow=14,SNR=15
ESDC LR LR 08 46 51.0
comp=Z,44nm,18.9s,baz=205,slow=36
ESDC Sonseca Array 13.36 264 Pn Pn 08 42 00.8 -1.4
SIM Simferopol' 15.24 73 P P 08 42 30.1 -2.4
SIM pmax pmax
comp=Z,300nm,7.2s
SIM MLR MLR
comp=Z,40nm,12.0s
MVO Moncorvo 15.27 272 eP P 08 42 35.3 +2.3
comp=Z,21nm,2.2s
MVO Moncorvo 15.27 272 eP P 08 42 35.3 +2.3
comp=Z,21nm,2.2s
BRTR Keskin Array B 15.52 93 Pn P 08 42 33.9 -2.0
BRTR Keskin Array B 15.52 93 Pn P 08 42 33.9 -2.0
comp=Z,0.1nm,0.3s,baz=287,slow=15,SNR=2.8
BRTR Keskin Array B 15.52 93 Pn P 08 42 33.8 -2.0
MTE Manteigas 15.82 270 eP P 08 42 40.4 +1.3
comp=Z,23nm,1.9s
MTE Manteigas 15.82 270 eP P 08 42 40.4 +1.3
comp=Z,23nm,1.9s
PVIS Viseu 16.01 271 eP P 08 42 42.8 +1.6
comp=Z,24nm,2.1s
PVIS Viseu 16.01 271 eP P 08 42 42.8 +1.6
comp=Z,24nm,2.1s
PESTR Estremoz 16.29 265 eP P 08 42 45.8 +1.5
comp=Z,17nm,1.7s
PESTR Estremoz 16.29 265 eP P 08 42 45.8 +1.5
comp=Z,17nm,1.7s
PMTG Montargil 16.70 266 eP P 08 42 50.1 +1.4
comp=Z,22nm,1.7s
PMTG Montargil 16.70 266 eP P 08 42 50.1 +1.4
EKA Eskdalemuir Ar 16.88 326 Pn Pn 08 42 48.1 -0.6

EKA Eskdalemuir Ar 16.88 326 Pn **Pn** **08 42 48.1 -0.6**
baz=135,slow=13,SNR=4.8
EKA Eskdalemuir Ar 16.88 326 Pn **Pn** **08 42 48.1 -0.6**
MDT Midelt 17.11 242 P **P** **08 42 54.3 +0.7**
MDT Midelt 17.11 242 P **P** **08 42 54.3 +0.7**
comp=Z,0.1nm,0.3s,baz=75,slow=10,SNR=4.7
MDT Midelt 17.11 242 P **P** **08 42 54.3 +0.7**
PNCL Nicolau / Gran 17.24 263 *e*P **P** **08 42 55.2 +0.4**
comp=Z,23nm,1.8s
PNCL Nicolau / Gran 17.24 263 *e*P **P** **08 42 55.2 +0.4**
comp=Z,23nm,1.8s
ANN Anapa 17.59 74 *e*P **P** **08 42 59.1 +0.5**
ANN *e*S **Sn** **08 46 13.5 +0.1**
ANN pmax pmax
comp=Z,23nm,0.8s
ANN Anapa 17.59 74 *e*P **P** **08 42 59.1 +0.5**
comp=Z,23nm,0.8s
HFS Hagfors 17.81 1 P **Pn** **08 42 59.2 -0.9**
HFS Hagfors 17.81 1 P **Pn** **08 42 59.2 -0.9**
comp=Z,0.1nm,0.3s,baz=186,slow=13,SNR=3.3
HFS Hagfors 17.81 1 P **Pn** **08 42 59.2 -0.9**
VSU Vasula 18.18 23 *e*P **P** **08 43 05.8 +0.8**
VSU pmax pmax
comp=Z,43nm,0.6s
VSU Vasula 18.18 23 *e*P **P** **08 43 05.8 +0.8**
comp=Z,43nm,0.6s
NAO01 NORSAR Array S 18.58 356 *e*P **Pn** **08 43 09.7 0.0**
comp=Z,7.1nm,0.9s
NAO01 NORSAR Array S 18.58 356 *e*P **Pn** **08 43 09.7 0.0**
comp=Z,7.1nm,0.9s
NB2 NORSAR Subarra 18.76 357 P **P** **08 43 11.3 -0.1**
comp=Z,5.2nm,1.0s,baz=176,slow=12
NB2 NORSAR Subarra 18.76 357 P **P** **08 43 11.3 -0.1**
comp=Z,5.2nm,1.0s,baz=176,slow=11,SNR=3.6
NOA NORSAR Array B 18.76 357 P **P** **08 43 11.6 +0.2**
NOA NORSAR Array B 18.76 357 P **P** **08 43 11.6 +0.2**
comp=Z,0.1nm,0.3s,baz=175,slow=11,SNR=5.7
NOA LR LR 08 51 53.2
comp=Z,69nm,19.0s,baz=180,slow=42
NOA NORSAR Array B 18.76 357 P **P** **08 43 11.6 +0.2**
comp=Z,69nm,19.0s
MMAI Mount Meron Ar 19.73 111 P **Pn** **08 43 25.2 +1.5**
MMAI Mount Meron Ar 19.73 111 P **Pn** **08 43 25.2 +1.5**
comp=Z,2.1nm,0.3s,baz=297,slow=13,SNR=3.4
MMAI Mount Meron Ar 19.73 111 P **Pn** **08 43 25.2 +1.5**
OBN Obninsk 19.81 42 ||*i*P **P** **08 43 23.3 +0.5**
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,200nm,16.0s
OBN Obninsk 19.81 42 *i* P **P** **08 43 23.3 +0.5**
comp=Z,200nm,16.0s
TAM Tamanrasset 20.58 201 P **P** **08 43 31.8 +0.2**
TAM pmax pmax
comp=Z,6.0nm,0.9s
TAM Tamanrasset 20.58 201 P **P** **08 43 31.8 +0.2**
comp=Z,5.8nm,0.9s
TAM Tamanrasset 20.58 201 P **P** **08 43 31.8 +0.2**
comp=Z,5.8nm,0.9s
FINES FINESS Array B 20.59 17 P **P** **08 43 31.2 -0.1**
FINES FINESS Array B 20.59 17 P **P** **08 43 31.2 -0.1**
comp=Z,18nm,0.9s,baz=180,slow=9.0,SNR=24
FINES LR LR 08 52 30.7
comp=Z,146nm,20.4s,baz=198,slow=40
FINES FINESS Array B 20.59 17 P **P** **08 43 31.2 -0.1**
comp=Z,146nm,20.5s
FIA1 FINESS Array S 20.59 17 *e*P **P** **08 43 30.8 -0.5**
FIA1 FINESS Array S 20.59 17 *e*P **P** **08 43 30.8 -0.5**
KAF Kangasniemi 21.24 17 *e*p **P** **08 43 38.6 +0.3**
comp=Z,4.0nm,0.6s
KAF Kangasniemi 21.24 17 *e*P **P** **08 43 38.6 +0.3**
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 21.24 17 *e*P **P** **08 43 38.6 +0.3**
comp=Z,4.0nm,0.6s
KIV Kislovodsk 21.40 76 *e*P **P** **08 43 42.1 +1.8**
KIV pmax pmax
comp=Z,26nm,1.1s
KIV MLR MLR
comp=Z,56nm,15.0s
KIV Kislovodsk 21.40 76 *e*P **P** **08 43 42.1 +1.8**
comp=Z,56nm,15.0s
EIL Elat 21.49 119 P **P** **08 43 43.0 +1.7**
EIL Elat 21.49 119 P **P** **08 43 43.0 +1.7**
comp=Z,1.3nm,0.4s,baz=329,slow=8.4,SNR=4.0
EIL Elat 21.49 119 P **P** **08 43 43.0 +1.7**
KBZ Khabaz 21.58 76 P **P** **08 43 43.4 +1.3**
KBZ pmax pmax
comp=Z,11nm,1.0s
KBZ Khabaz 21.58 76 P **P** **08 43 43.4 +1.3**
KBZ Khabaz 21.58 76 P **P** **08 43 43.4 +1.3**
comp=Z,10nm,1.0s,baz=284,slow=12,SNR=5.6
KBZ Khabaz 21.58 76 P **P** **08 43 43.4 +1.3**
comp=Z,11nm,1.0s
JOF Joensuu 23.14 21 *e*p **P** **08 43 58.7 +0.2**
comp=Z,2.5nm,0.6s
JOF Joensuu 23.14 21 *e*P **P** **08 43 58.7 +0.2**
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF Joensuu 23.14 21 *e*P **P** **08 43 58.7 +0.2**
comp=Z,3.0nm,0.6s
GNI Garni 23.62 85 P **P** **08 44 02.0 -1.8**
comp=Z,6.7nm,0.6s
GNI Garni 23.62 85 P **P** **08 44 05.2 +1.4**
comp=Z,6.6nm,0.6s,baz=129,slow=20,SNR=4.4
GNI Garni 23.62 85 *i* P **P** **08 44 06.3 +2.5**
comp=Z,10.0nm,1.0s
TMCR Tamitsa 26.04 25 *e*P **P** **08 44 24.8 -0.6**
TMCR pmax pmax
comp=Z,13nm,1.0s
TMCR Tamitsa 26.04 25 *e*P **P** **08 44 24.8 -0.6**
comp=Z,13nm,1.0s
ARCES ARCESS Array B 27.97 9 P **P** **08 44 42.0 -0.8**
ARCES ARCESS Array B 27.97 9 P **P** **08 44 42.0 -0.8**
comp=Z,0.9nm,0.8s,baz=193,slow=5.0,SNR=6.3
ARCES ARCESS Array B 27.97 9 P **P** **08 44 42.0 -0.8**
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 30.81 203 P **P** **08 45 09.3 +0.8**
TORD Torodi Ar. Bea 30.81 203 P **P** **08 45 09.3 +0.8**
comp=Z,1.5nm,0.6s,baz=15,slow=8.9,SNR=11
TORD LR LR 08 58 53.1
comp=Z,78nm,19.6s,baz=350,slow=39
TORD Torodi Ar. Bea 30.81 203 P **P** **08 45 09.3 +0.8**
AKTK Aktyubinsk 31.43 60 P **P** **08 45 13.8 +0.1**
comp=Z,1.0nm,0.7s
AKTO Aktyubinsk 31.43 60 P **P** **08 45 13.8 +0.1**
AKTO pmax pmax
comp=Z,1.0nm,0.7s
AKTO Aktyubinsk 31.43 60 P **P** **08 45 13.8 +0.1**
AKTO Aktyubinsk 31.43 60 P **P** **08 45 13.8 +0.1**
comp=Z,1.0nm,0.7s,baz=276,slow=11,SNR=3.3
AKTO Aktyubinsk 31.43 60 P **P** **08 45 13.8 +0.1**
ARU Arti 31.97 48 *d* *i*P **P** **08 45 18.1 -0.2**
ARU 08 46 20.7
ARU S **S** **08 50 29.8 +0.4**
ARU pmax pmax
comp=Z,18nm,1.2s
ARU MLR MLR
comp=Z,215nm,15.0s
ARU Arti 31.97 48 *i* P **P** **08 45 18.1 -0.2**
comp=Z,18nm,1.2s
ARU S **S** **08 50 29.8 +0.4**
comp=Z,215nm,15.0s
ABKAR Akbulak array 32.76 62 P **P** **08 45 24.8 -0.5**
comp=Z,0.8nm,0.8s
ABKAR Akbulak array 32.76 62 P **P** **08 45 24.8 -0.5**
comp=Z,0.8nm,0.8s
SVE Sverdlovsk 33.15 48 ||*e*P **P** **08 45 29.7 +1.0**
SVE pmax pmax
comp=Z,13nm,1.0s
SVE Sverdlovsk 33.15 48 *e*P **P** **08 45 29.7 +1.0**
comp=Z,13nm,1.0s
BRVK Borovoye 38.79 54 *e*P **P** **08 46 18.9 +1.9**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 38.79 54 *e*P **P** **08 46 18.9 +1.9**
comp=Z,3.0nm,0.7s
KKAR Karatay Array 41.27 69 P **P** **08 46 36.3 -1.5**
KKAR pmax pmax
comp=Z,1.0nm,0.6s
KKAR Karatay Array 41.27 69 P **P** **08 46 36.3 -1.5**
comp=Z,1.5nm,0.6s
KKAR Karatay Array 41.27 69 P **P** **08 46 36.3 -1.5**
comp=Z,1.5nm,0.6s
AAK Ala-Archa 44.18 68 *e*P **P** **08 47 03.8 +2.2**
AAK pmax pmax

comp=Z,20nm,1.7s
AAK Ala-Archa 44.18 68 *e*P **P 08 47 03.8 +2.2**
comp=Z,20nm,1.7s
NVS Novosibirsk 45.96 49 *e*P **P 08 47 15.3 0.0**
NVS Novosibirsk 45.96 49 *e*P **P 08 47 15.3 0.0**
ZALV Zalesovo Beam 47.09 50 P **P 08 47 24.6 +0.4**
ZALV pmax pmax
comp=Z,2.0nm,0.8s
ZALV MLR MLR
comp=Z,186nm,18.6s
ZALV Zalesovo Beam 47.09 50 P **P 08 47 24.6 +0.4**
ZALV Zalesovo Beam 47.09 50 P **P 08 47 24.6 +0.4**
comp=Z,1.8nm,0.8s,baz=293,slow=7.6,SNR=6.2
ZALV LR LR 09 09 19.2
comp=Z,186nm,18.6s,baz=249,slow=39
ZALV Zalesovo Beam 47.09 50 P **P 08 47 24.6 +0.4**
comp=Z,186nm,18.6s
MKAR Makanchi Array 47.86 60 *c e*P **P 08 47 31.0 +0.6**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 47.86 60 P **P 08 47 30.9 +0.6**
MKAR Makanchi Array 47.86 60 P **P 08 47 30.9 +0.6**
comp=Z,1.3nm,0.6s,baz=285,slow=7.0,SNR=19
MKAR Makanchi Array 47.86 60 P **P 08 47 30.9 +0.6**
TLY Talaya 58.46 47 *e*P **P 08 48 50.4 +2.1**
TLY pmax pmax
comp=Z,6.0nm,1.2s
TLY MLR MLR
comp=Z,97nm,16.0s
TLY Talaya 58.46 47 *e*P **P 08 48 50.4 +2.1**
comp=Z,97nm,16.0s
SONM Songino Array 61.99 50 P **P 08 49 13.5 +0.8**
SONM Songino Array 61.99 50 P **P 08 49 13.5 +0.8**
comp=Z,4.7nm,1.2s,baz=284,slow=7.7,SNR=15
SONM Songino Array 61.99 50 P **P 08 49 13.5 +0.8**
comp=Z,5.0nm,1.2s
YKA Yellowknife Ar 67.50 337 P **P 08 49 48.2 0.0**
YKA Yellowknife Ar 67.50 337 P **P 08 49 48.2 0.0**
comp=Z,0.6nm,0.5s,baz=38,slow=5.5,SNR=6.4
YKA Yellowknife Ar 67.50 337 P **P 08 49 48.2 0.0**
comp=Z,1.0nm,0.5s
BILL Bilibino 68.06 11 *e*P **P 08 49 53.4 +1.8**
BILL *i* 08 50 12.9
BILL *e* 08 52 17.7
BILL pmax pmax
comp=Z,5.0nm,1.1s
BILL Bilibino 68.06 11 *e*P **P 08 49 53.4 +1.8**
comp=Z,5.0nm,1.1s
FFC Flin Flon 68.74 326 *i* P **P 08 49 57.0 +0.9**
FFC Flin Flon 68.74 326 *i* P **P 08 49 57.0 +0.9**
HHC Hu-ho-hao-te 69.07 54 *e*P **P 08 49 57.9 -0.7**
HHC pP **pP 08 50 01.5 -0.4**
HHC sP **sP 08 50 05.1 +2.0**
HHC PP **PP 08 52 31.9 +1.2**
HHC S **S 08 58 59.4 -4.4**
HHC sS **sS 08 59 06.9 -2.3**
HHC Hu-ho-hao-te 69.07 54 SS SS 09 03 26.6 -2.4
HHC pmax pmax
comp=Z,15nm,1.2s
HHC pmax pmax
comp=Z,64nm,4.9s
HHC LR LR
comp=N,120nm,16.7s
HHC LR LR
comp=E,220nm,16.7s
HHC LR LR
comp=Z,57nm,16.7s
ILAR Eielson Array 72.10 351 P **P 08 50 16.0 -0.5**
ILAR Eielson Array 72.10 351 P **P 08 50 16.0 -0.5**
comp=Z,0.3nm,0.8s,baz=9.0,slow=6.0,SNR=6.0
ILAR Eielson Array 72.10 351 P **P 08 50 16.0 -0.5**
GYA Guiyang 74.97 68 *e*P **P 08 50 33.0 -1.2**
GYA pmax pmax
comp=Z,10.0nm,1.0s
EGMT Eagleton 76.97 325 *e*P **P 08 50 46.4 +1.2**
comp=Z,3.6nm,0.8s
EGMT Eagleton 76.97 325 *e*P **P 08 50 46.3 +1.2**
comp=Z,3.6nm,0.8s
PETK Petropavlovsk- 80.07 21 LR LR 09 31 08.6
comp=Z,33nm,19.8s,baz=257,slow=39
PDAR Pinedale Array 80.95 321 P **P 08 51 07.2 -0.1**
PDAR Pinedale Array 80.95 321 P **P 08 51 07.2 -0.1**
comp=Z,0.4nm,0.8s,baz=20,slow=5.2,SNR=3.4
PDAR Pinedale Array 80.95 321 P **P 08 51 07.2 -0.1**
BMO Blue Mountains 82.64 327 *e*P **P 08 51 15.8 -0.2**
comp=Z,2.9nm,0.9s
BMO Blue Mountains 82.64 327 *e*P **P 08 51 15.8 -0.2**
comp=Z,2.9nm,0.9s
HWUT Hardware Ranch 82.78 322 *e*P **P 08 51 17.2 +0.3**
comp=Z,2.2nm,0.8s
HWUT Hardware Ranch 82.78 322 *e*P **P 08 51 17.2 +0.3**
comp=Z,2.2nm,0.8s
TXAR Lajitas Array 88.11 309 P **P 08 51 44.2 +0.6**
TXAR Lajitas Array 88.11 309 P **P 08 51 44.2 +0.6**
comp=Z,0.2nm,0.5s,baz=31,slow=2.9,SNR=3.8
TXAR Lajitas Array 88.11 309 P **P 08 51 44.2 +0.6**

CSEM **12** *08:40:06.5,39.79N×19.89E,h65km,After ATH*
ATH 12 08:40:06.5,39.79N×19.89E,h65km±4km**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.10**	**222**	*e*P	Pn	08 40 16.5	+0.3
KEK	**Kerkira**	**0.10**	**222**	*e*P	Pn	08 40 16.5	+0.3
JAN	**Janina**	**0.75**	**100**	*e*P	Pn	08 40 22.9	+1.2
JAN				*e*S	Sn	08 40 34.1	+1.1
JAN	**Janina**	**0.75**	**100**	*e*P	Pn	08 40 22.9	+1.2
JAN				*e*S	Sn	08 40 34.1	+1.1
KZN	**Kozani**	**1.53**	**70**	*e*P	Pn	08 40 33.4	+1.5
KZN				*e*S	Sn	08 40 51.8	+0.8
KZN	**Kozani**	**1.53**	**70**	*e*P	Pn	08 40 33.4	+1.5
KZN				*e*S	Sn	08 40 51.8	+0.8
THL	**Klokotos Trika**	**1.66**	**97**	*e*P	Pn	08 40 35.5	+2.1
THL	**Klokotos Trika**	**1.66**	**97**	*e*P	Pn	08 40 35.5	+2.1
VLS	**Valsamata**	**1.70**	**161**	*e*P	Pn	08 40 35.5	+1.5
VLS	**Valsamata**	**1.70**	**161**	*e*P	Pn	08 40 35.5	+1.5
EVR	**Evrytania**	**1.72**	**120**	*e*P	Pn	08 40 35.4	+0.9
EVR				*e*S	Sn	08 40 56.0	+0.4
EVR	**Evrytania**	**1.72**	**120**	*e*P	Pn	08 40 35.4	+0.9
EVR				*e*S	Sn	08 40 56.0	+0.4
LIT	**Litokhoron**	**2.02**	**80**	*e*P	Pn	08 40 38.8	+0.4
LIT	**Litokhoron**	**2.02**	**80**	*e*P	Pn	08 40 38.8	+0.4

IDC 12 09:05:35.0±1.7, 18°.25S×178°.15W, h550km±20km, mb3.4/10, mb1 3.6/11, mb1mx3.4/21, mbtmp3.4/11, Error ellipse: s-maj=18.1km s-min=13.1km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.49**	**56**	P	P	09 07 26.5	-1.5
	3.2nm,0.3s,baz=216,slow=19,SNR=2.4						
AFI				S	S	09 08 55.3	-5.1
	2.2nm,0.3s,baz=106,slow=19,SNR=2.0						
RAO	**Raoul Island**	**10.95**	**179**	P	P	09 08 04.3	+1.7
	541nm,0.3s,baz=60,slow=20,SNR=4.6						
PMG	**Port Moresby**	**34.76**	**280**	P	P	09 11 41.1	+0.9
	26nm,0.9s,baz=49,slow=1.2,SNR=6.3						
STKA	**Stephens Creek**	**38.68**	**242**	P	P	09 12 11.8	-0.3
	7.0nm,1.0s,baz=80,slow=7.7,SNR=7.1						
WRA	**Warramunga Arr**	**44.81**	**260**	P	P	09 12 60.0	-0.7
	3.8nm,0.5s,baz=97,slow=6.9,SNR=139						
WRA				PcP	PcP	09 14 30.4	-0.4
	0.2nm,0.4s,baz=103,slow=3.5,SNR=2.8						
ASAR	**Alice Springs**	**44.94**	**255**	P	P	09 13 01.5	-0.1
	16nm,0.6s,baz=88,slow=8.9,SNR=184						
ASAR				PcP	PcP	09 14 30.3	-0.9
	0.6nm,0.5s,baz=115,slow=3.3,SNR=4.1						
VNDA	**Vanda**	**60.12**	**185**	P	P	09 14 49.2	+0.1
	0.3nm,0.5s,baz=350,slow=3.8,SNR=3.4						
QSPA	**South Pole Qui**	**71.81**	**180**	P	P	09 16 01.6	-0.5
	1.1nm,0.4s,baz=22,slow=19						
PETK	**Petropavlovsk-**	**74.07**	**345**	P	P	09 16 14.8	-0.2
	2.4nm,0.6s,baz=152,slow=6.5,SNR=3.8						
NVAR	**Mina Array Bea**	**79.50**	**44**	P	P	09 16 45.5	+0.2
	1.1nm,0.8s,baz=227,slow=10,SNR=9.2						
TXAR	**Lajitas Array**	**85.97**	**58**	P	P	09 17 18.9	+1.1
	1.7nm,0.9s,baz=219,slow=6.3,SNR=25						
PDAR	**Pinedale Array**	**87.43**	**43**	P	P	09 17 24.1	-0.5
	0.2nm,0.5s,baz=253,slow=7.1,SNR=3.7						
BRTR	**Keskin Array B**	**145.20**	**315**	PKPbc	PKPdf	09 24 11.2	+0.4
	0.9nm,0.7s,baz=125,slow=3.0,SNR=4.8						
GERES	**GERESS Array B**	**148.00**	**345**	PKPbc	PKPbc	09 24 17.9	-1.1
	0.4nm,0.6s,baz=45,slow=5.7,SNR=3.7						

IDC 12 09:12:00.9±2.1, 30°.76S×178°.67W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/17, mbtmp3.8/3, Error ellipse: s-maj=61.8km s-min=36.2km az=44.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.25**	**204**	Sn	Sn	09 15 26.6	-9.1
	0.4nm,0.3s,baz=281,slow=18,SNR=2.5						
ASAR	**Alice Springs**	**42.51**	**268**	P	P	09 19 58.2	-0.1
	0.5nm,0.4s,baz=107,slow=7.4,SNR=9.3						
WRA	**Warramunga Arr**	**43.53**	**273**	P	P	09 20 06.4	-0.2
	0.5nm,0.4s,baz=114,slow=8.1,SNR=2.3						
QSPA	**South Pole Qui**	**59.35**	**180**	P	P	09 22 04.6	0.0
	1.5nm,0.9s,baz=78,slow=2.3,SNR=3.4						
FINES	**FINESS Array B**	**145.28**	**339**	PKPbc	PKPbc	09 31 38.7	-0.9
	1.4nm,0.8s,baz=39,slow=5.5,SNR=5.2						

AUST **12** *09:20:49.4,6.50S×126.02E,h450km*
ISCJB **12** *09:20:51.3±0.7,6.93S±0.07×126.29E±0.09,h412km, mb3.7/4, Error ellipse: s-maj=12.7km s-min=9.2km az=179.9*
IDC **12** *09:20:54.8±5.8,7.01S×126.37E,h444km±81km, mb3.4/4, mb1 3.5/7, mb1mx3.1/19, mbtmp3.4/7, Error ellipse: s-maj=101.0km s-min=25.7km az=57.0*
ISC 12 09:20:52.9±0.8, 6.95S±0.08×126.5E±0.1, h412km, n17, σ1s49/17, mb3.8/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.53**	**218**	P	P	09 22 05.9	+4.4
	baz=3.7,SNR=4.6						
LUWI	**Luwuk**	**6.92**	**328**	S	**S**	**09 24 01.6**	**+1.2**
	baz=6.3,SNR=3.2						
FAKI	**Fak Fak**	**7.03**	**56**	S	**S**	**09 24 02.2**	**-0.3**
	baz=7.2,SNR=3.6						
MTN	**Manton Dam**	**7.45**	**142**	P	**P**	**09 22 44.5**	**+2.3**
	baz=8.1,SNR=6.3						
KDU	**Kakadu**	**8.22**	**134**	P	**P**	**09 22 52.3**	**+1.6**
	baz=8.9,SNR=7.8						
KNRA	**Kununurra**	**8.96**	**166**	P	**P**	**09 23 00.8**	**+1.9**
	baz=9.6,SNR=29						
FITZ	**Fitzroy Crossi**	**11.11**	**184**	P	**P**	**09 23 23.7**	**+1.1**
	0.9nm,0.3s,baz=14,slow=8.0,SNR=16						
WRA	**Warramunga Arr**	**15.01**	**150**	P	**P**	**09 24 05.1**	**-0.1**
	1.8nm,0.3s,baz=324,slow=11,SNR=90						
WRA				S	**S**	**09 26 40.8**	**-3.6**
	0.1nm,0.3s,baz=331,slow=20,SNR=4.5						
COEN	**Coen**	**17.85**	**114**	P	**P**	**09 24 35.7**	**+0.1**
	baz=18,SNR=7.6						
ASAR	**Alice Springs**	**18.10**	**157**	P	**P**	**09 24 38.0**	**-0.1**
	1.8nm,0.3s,baz=343,slow=12,SNR=90						
MEEK	**Meekatharra**	**20.95**	**200**	P	**P**	**09 25 04.8**	**-0.6**
	baz=21,SNR=11						
STKA	**Stephens Creek**	**28.54**	**152**	P	**P**	**09 26 12.9**	**-0.3**
	3.3nm,0.5s,baz=343,slow=8.0,SNR=11						
STKA	**Stephens Creek**	**28.54**	**152**	P	**P**	**09 26 13.2**	**+0.1**
	baz=29,SNR=7.9						
CMSA	**Cobar Meteorol**	**30.36**	**146**	P	**P**	**09 26 29.6**	**+0.6**
	baz=31,SNR=6.2						
SONM	**Songino Array**	**57.35**	**344**	P	**P**	**09 29 60.0**	**-0.2**
	0.7nm,0.5s,baz=164,slow=5.7,SNR=5.8						
MKAR	**Makanchi Array**	**66.30**	**328**	P	**P**	**09 30 58.0**	**-0.9**
	0.8nm,0.6s,baz=127,slow=8.5,SNR=7.0						
ZALV	**Zalesovo Beam**	**70.02**	**335**	P	**P**	**09 31 20.0**	**-1.5**
	1.9nm,0.4s,baz=128,slow=6.2,SNR=7.3						

ISCJB **12** *09:29:20.9±1.4,42.84N±0.05×1.46W±0.06,h14km±11km, Error ellipse: s-maj=8.0km s-min=7.6km az=0.9*
CSEM **12** *09:29:21.6±0.1,42.85N×1.47W,h8km, ML1.6, Error ellipse: s-maj=1.0km s-min=1.0km az=49.0*
LDG **12** *09:29:21.9±0.1,42.86N×1.49W,h2km, Md1.9/3, Ml1.7/1, Error ellipse: s-maj=1.1km s-min=1.0km az=76.0*
MDD **12** *09:29:21.8±0.4,42.85N×1.48W,h4km±2km, mbLg1.6/9, Error ellipse: s-maj=2.3km s-min=1.8km az=131.0, PRXIMO*
ISC 12 09:29:21.9±1.1, 42.85N±0.03×1.47W±0.03, h5km±7km, n27, σ0s17/32, 2C-1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZUN	**Zunzarren**	**0.01**	**57**	⇓P*g*	**Pg**	**09 29 22.8**	**-0.1**
	63nm,0.1s,SNR=18						
IZUN				Lg	Lg	09 29 23.6	
	255nm,0.0s,SNR=7.9						
IZUN	**Zunzarren**	**0.01**	**57**	P*g*	**Pg**	**09 29 22.8**	**-0.1**
	63nm,0.1s,SNR=18						
IZUN				Lg	Lg	09 29 23.6	
	255nm,0.0s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**192**	⇑P*g*	**Pg**	**09 29 24.2**	**+0.2**
	11nm,0.1s,SNR=18						
IUNC				Lg	Lg	09 29 26.2	
	36nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**192**	P*g*	**Pg**	**09 29 24.2**	**+0.2**
	11nm,0.1s,SNR=18						
IUNC				Lg	Lg	09 29 26.2	
	36nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**328**	⇑P*g*	**Pg**	**09 29 24.3**	**+0.1**
	8.9nm,0.1s,SNR=18						
IUSE				Lg	Lg	09 29 26.0	
	70nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**328**	P*g*	**Pg**	**09 29 24.3**	**+0.1**
	8.9nm,0.1s,SNR=18						
IUSE				Lg	Lg	09 29 26.0	
	70nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**0.12**	**225**	P*g*	**Pg**	**09 29 24.2**	**-0.1**
	6.1nm,0.1s,SNR=54						
EARA				Lg	Lg	09 29 26.3	
	126nm,0.1s,SNR=5.3						
EARA	**Aranguren**	**0.12**	**225**	P*g*	**Pg**	**09 29 24.2**	**-0.1**
	6.1nm,0.1s,SNR=54						
EARA				Lg	Lg	09 29 26.3	
	126nm,0.1s,SNR=5.3						
IEPA	**Eparoz**	**0.17**	**117**	P*g*	**Pg**	**09 29 25.1**	**-0.1**
	3.7nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	09 29 28.4	
	38nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**0.17**	**117**	P*g*	**Pg**	**09 29 25.1**	**-0.1**
	3.7nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	09 29 28.4	
	38nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**0.17**	**94**	P*g*	**Pg**	**09 29 25.5**	**+0.2**
	5.5nm,0.1s,SNR=7.9						
IELO				Lg	Lg	09 29 28.7	
	40nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**0.17**	**94**	P*g*	**Pg**	**09 29 25.5**	**+0.2**
	5.5nm,0.1s,SNR=7.9						
IELO				Lg	Lg	09 29 28.7	
	40nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**0.31**	**352**	P*g*	**Pg**	**09 29 28.0**	**+0.1**
	3.7nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.31**	**352**	P*g*	**Pg**	**09 29 28.0**	**+0.1**
	3.7nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**0.32**	**35**	*e*P*g*	**Pg**	**09 29 27.9**	**-0.1**
SJPF				*e*S*g*	**Sg**	**09 29 32.4**	**+0.2**
	7.5nm,0.2s						
SJPF	**Ste Jean**	**0.32**	**35**	P*g*	**Pg**	**09 29 27.9**	**-0.1**
SJPF				*e*S*g*	**Sg**	**09 29 32.4**	**+0.2**
	3.8nm,0.2s						
EALK	**Alkurruntz**	**0.37**	**356**	P*g*	**Pg**	**09 29 29.1**	**+0.1**
	1.0nm,0.1s,SNR=5.9						
EALK				Lg	Lg	09 29 35.2	
	2.1nm,0.1s,SNR=9.1						
EALK	**Alkurruntz**	**0.37**	**356**	P*g*	**Pg**	**09 29 29.1**	**+0.1**
	1.0nm,0.1s,SNR=5.9						
EALK				Lg	Lg	09 29 35.2	
	2.1nm,0.1s,SNR=9.1						
LARF	**Larrau**	**0.40**	**62**	P*g*	**Pg**	**09 29 29.7**	**+0.1**
LARF				Lg	Lg	09 29 35.5	
ETSF	**Etsaut**	**0.67**	**86**	*e*P*g*	**Pg**	**09 29 34.9**	**+0.1**
ETSF				*e*S*g*	**Sg**	**09 29 43.8**	**+0.3**
	1.8nm,0.2s						
ETSF	**Etsaut**	**0.67**	**86**	P*g*	**Pg**	**09 29 34.9**	**+0.1**
ETSF				Lg	Lg	09 29 43.8	
	0.8nm,0.2s						
ETSF				*e*S*g*	**Sg**	**09 29 43.8**	**+0.3**
	0.9nm,0.2s						
EBIE	**Bielsa**	**1.20**	**98**	P*g*	**Pg**	**09 29 45.0**	**+0.1**
	1.0nm,0.1s,SNR=9.0						
EBIE				Lg	Lg	09 30 01.3	
	0.1nm,0.1s,SNR=5.0						
EBIE	**Bielsa**	**1.20**	**98**	P*g*	**Pg**	**09 29 45.0**	**+0.1**
	1.0nm,0.1s,SNR=9.0						
EBIE				Lg	Lg	09 30 01.3	
	0.1nm,0.1s,SNR=5.0						
EPF	**Esparros**	**1.34**	**82**	*e*P*g*	**Pn**	**09 29 47.1**	**-0.2**
EPF				*e*S*g*	**Sb**	**09 30 04.8**	**-0.3**
	1.1nm,0.2s						
EPF	**Esparros**	**1.34**	**82**	P*g*	**Pn**	**09 29 47.1**	**-0.2**
EPF				Lg	Lg	09 30 04.8	
	0.6nm,0.2s						
ESAC	**San Caprasio**	**1.35**	**146**	P*g*	**Pn**	**09 29 47.4**	**-0.1**
	3.4nm,0.2s,SNR=5.6						
ESAC				Lg	Lg	09 30 05.7	
	2.7nm,0.3s,SNR=5.0						
ESAC	**San Caprasio**	**1.35**	**146**	P*g*	**Pn**	**09 29 47.4**	**-0.1**
	3.4nm,0.2s,SNR=5.6						
ESAC				Lg	Lg	09 30 05.7	
	2.7nm,0.3s,SNR=5.0						

CSEM **12** *09:29:37.3,42.85N×1.47W,h10km,ML0.8,After MDD*
MDD 12 09:29:37.3±1.3, 42.85N×1.47W, h10km±6km, mbLg0.8/4, Error ellipse: s-maj=6.5km s-min=3.2km az=107.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZUN	**Zunzarren**	**0.01**	**37**	Lg	Lg	09 29 40.6	
	26nm,0.1s,SNR=7.9						
IZUN	**Zunzarren**	**0.01**	**37**	Lg	Lg	09 29 40.6	
	26nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**195**	P*g*	P*g*	09 29 40.4	+0.4
	2.1nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	09 29 43.3	
	6.5nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**195**	P*g*	P*g*	09 29 40.4	+0.4
	2.1nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	09 29 43.3	
	6.5nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**327**	P*g*	P*g*	09 29 40.6	+0.3
	3.9nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	09 29 43.5	
	4.0nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**327**	P*g*	P*g*	09 29 40.6	+0.4
	3.9nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	09 29 43.5	
	4.0nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.12**	**227**	P*g*	P*g*	09 29 40.5	+0.3
	4.4nm,0.1s,SNR=7.9						
EARA				Lg	Lg	09 29 43.2	
	4.0nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.12**	**227**	P*g*	P*g*	09 29 40.5	+0.3
	4.4nm,0.1s,SNR=7.9						
EARA				Lg	Lg	09 29 43.2	
	4.0nm,0.1s,SNR=7.9						

MEX 12 09:38:20.9±0.7, 15.59N×95.87W, h10km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.29**	**307**	*e*P	Pg	09 38 25.9	-0.9
HUIG				*i* S	Sg	09 38 31.1	+0.3
PNIG	**Pinotepa**	**2.32**	**290**	*e*P	Pn	09 38 56.6	-2.6
PNIG				*i* S	Sn	09 39 23.7	-4.0
TGIG		**2.89**	**66**	*e*P	Pn	09 39 05.2	-1.9
TGIG				*i* S	Sn	09 39 38.8	-3.2

ISCJB **12** *09:43:21.7±0.5,3.52S±0.07×68.28E±0.07,h12km, mb4.3/23, MS3.8/16, Error ellipse: s-maj=10.4km s-min=9.8km az=36.2*
IDC **12** *09:43:21.6±0.6,3.49S×68.32E,h0km,mb4.2/16, mb1 4.3/16,mb1mx4.1/26,mbtmp4.2/16,MS3.8/16, Ms1 3.8/16,ms1mx3.6/28, Error ellipse: s-maj=18.6km s-min=15.4km az=174.0*
BJI **12** *09:43:21.5,3.60S×68.20E,h23km,mB5.1/4,mb4.6/9, Ms4.7/1,Ms7 4.4/1*
NEIC **12** *09:43:23.2±0.3,3.49S×68.30E,h10km,mb4.7/8, Error ellipse: s-maj=9.1km s-min=8.3km az=201.0*
ISC 12 09:43:23.6±0.5, 3.52S±0.10×68.29E±0.09, h12km, n82, σ0s83/76, mb4.4/23, MS3.8/16, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**5.67**	**133**	*e*P*n*	**Pn**	**09 44 47.8**	**0.0**
OPO	**Ambohidratompo**	**25.50**	**232**	LR	LR	09 56 48.0	
	comp=Z,322nm,19.7s,baz=256,slow=32						
KMBO	**Kilima Mbogo**	**31.10**	**274**	P	**P**	**09 49 44.0**	**+1.5**
KMBO	**Kilima Mbogo**	**31.10**	**274**	P	**P**	**09 49 44.0**	**+1.5**
	1.3nm,0.8s,baz=47,slow=18,SNR=3.4						
KMBO				LR	LR	09 59 42.6	
	comp=Z,81nm,19.4s,baz=92,slow=32						
PSI	**Prapat**	**31.26**	**79**	LR	LR	09 59 40.9	
	comp=Z,269nm,19.2s,baz=239,slow=31						
KOLN	**Koldanda**	**34.43**	**24**	*e*P	**P**	**09 50 11.4**	**0.0**
	6.5nm,0.4s						
DMN	**Daman**	**34.94**	**27**	*e*P	**P**	**09 50 16.1**	**+0.2**
	70nm,1.0s						
DANN	**Dangsing**	**35.01**	**24**	*e*P	**P**	**09 50 16.6**	**+0.1**
	31nm,0.9s						
PKI	**Pulchoki**	**35.04**	**27**	*e*P	**P**	**09 50 16.7**	**-0.2**
	15nm,0.7s						
PKIN	**Phulchoki**	**35.04**	**27**	*e*P	**P**	**09 50 16.5**	**-0.3**
	22nm,1.1s						
RAMN	**Ramite**	**35.08**	**29**	*e*P	**P**	**09 50 17.7**	**+0.6**
	41nm,1.0s						
KKN	**Kakani**	**35.17**	**27**	*e*P	**P**	**09 50 18.0**	**+0.1**
	48nm,0.9s						
ODAN	**Odare**	**35.39**	**30**	*e*P	**P**	**09 50 20.5**	**+0.7**
	57nm,0.8s						
JIRN	**Jiri**	**35.48**	**28**	*e*P	**P**	**09 50 20.7**	**0.0**
	18nm,0.7s						
GUN	**Gumba**	**35.55**	**27**	*e*P	**P**	**09 50 21.6**	**+0.4**
	106nm,1.0s						
TAPN	**Taplejung**	**35.96**	**30**	*e*P	**P**	**09 50 25.3**	**+0.6**
	66nm,0.9s						
SHL	**Shillong**	**36.87**	**37**	*e*P	**P**	**09 50 34.0**	**+1.6**
CMAR	**Chiang Mai Arr**	**37.26**	**53**	P	**P**	**09 50 36.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**37.26**	**53**	P	**P**	**09 50 36.6**	**+0.9**
	4.0nm,0.6s,baz=245,slow=9.8,SNR=17						
CMAR				LR	LR	10 03 43.9	
	comp=Z,108nm,21.9s,baz=235,slow=33						
CHTO	**Chiang Mai**	**37.46**	**53**	*e*P	**P**	**09 50 38.2**	**+0.9**
	9.7nm,0.9s						
LSA	**Lhasa**	**39.63**	**32**	P	**P**	**09 50 56.6**	**+0.6**
LSA				pmax	pmax		
	comp=Z,20nm,1.1s						
LSA	**Lhasa**	**39.63**	**32**	*e*P	**P**	**09 50 56.8**	**+0.9**
	comp=Z,8.3nm,0.6s						
LSZ	**Lusaka**	**41.16**	**251**	*e*P	**P**	**09 51 08.9**	**+0.4**
	comp=Z,12nm,1.0s						
LSZ	**Lusaka**	**41.16**	**251**	P	**P**	**09 51 08.8**	**+0.4**
	comp=Z,5.8nm,0.8s,baz=59,slow=11,SNR=14						
AAK	**Ala-Archa**	**46.28**	**6**	P	**P**	**09 51 50.0**	**+0.7**
AAK	**Ala-Archa**	**46.28**	**6**	P	**P**	**09 51 50.0**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=195,slow=11,SNR=5.9						
BOSA	**Boshof**	**47.89**	**234**	*e*P	**P**	**09 52 01.9**	**-0.2**
	comp=Z,50nm,1.8s						
BOSA	**Boshof**	**47.89**	**234**	P	**P**	**09 52

ABKAR	**Akbulak array**	**53.06**	**353**	*e*P		**P**	**09 52 39.8**	**-0.8**
	comp=Z,5.2nm,0.9s							
BRTR	**Keskin Array B**	**53.52**	**327**	P		**P**	**09 52 43.9**	**-0.5**
BRTR	**Keskin Array B**	**53.52**	**327**	P		**P**	**09 52 43.9**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=138,slow=8.2,SNR=4.7							
ZAA0	**Zalesovo Array**	**58.90**	**11**	*e*P		**P**	**09 53 20.8**	**-1.6**
ZALV	**Zalesovo Beam**	**58.90**	**11**	P		**P**	**09 53 20.8**	**-1.6**
ZALV	**Zalesovo Beam**	**58.90**	**11**	P		**P**	**09 53 20.8**	**-1.6**
	comp=Z,3.7nm,0.8s,baz=210,slow=5.9,SNR=11							
ZALV				LR		LR	10 18 10.5	
	comp=Z,64nm,19.5s,baz=251,slow=36							
SONM	**Songino Array**	**61.05**	**28**	P		**P**	**09 53 37.3**	**-0.2**
SONM	**Songino Array**	**61.05**	**28**	P		**P**	**09 53 37.3**	**-0.2**
	comp=Z,12nm,1.3s,baz=221,slow=6.1,SNR=30							
SONM				LR		LR	10 19 52.6	
	comp=Z,264nm,20.7s,baz=5.7,slow=36							
ULN	**Ulaanbaatar**	**61.38**	**29**	*e*P		**P**	**09 53 39.7**	**0.0**
	comp=Z,9.9nm,1.5s							
MAW	**Mawson**	**64.08**	**182**	LR		LR	10 15 32.9	
	comp=Z,89nm,18.6s,baz=178,slow=30							
ASAR	**Alice Springs**	**66.29**	**114**	P		**P**	**09 54 12.2**	**-0.3**
ASAR	**Alice Springs**	**66.29**	**114**	P		**P**	**09 54 12.2**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=280,slow=7.1,SNR=10							
WRA	**Warramunga Arr**	**66.31**	**110**	P		**P**	**09 54 12.1**	**-0.6**
WRA	**Warramunga Arr**	**66.31**	**110**	P		**P**	**09 54 12.1**	**-0.6**
	comp=Z,2.7nm,1.0s,baz=287,slow=5.8,SNR=12							
WRAB	**Tennant Creek**	**66.32**	**110**	*e*P		**P**	**09 54 11.9**	**-0.8**
	comp=Z,4.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**68.13**	**286**	P		**P**	**09 54 23.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**68.13**	**286**	P		**P**	**09 54 23.4**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=100,slow=5.8,SNR=3.7							
KSRS	**Korea Array**	**68.61**	**48**	LR		LR	10 24 54.2	
	comp=Z,86nm,18.8s,baz=347,slow=36							
JNU	**Nakatsue**	**69.36**	**53**	LR		LR	10 26 11.7	
	comp=Z,47nm,19.2s,baz=57,slow=37							
STKA	**Stephens Creek**	**73.98**	**122**	P		**P**	**09 54 59.6**	**+0.2**
STKA	**Stephens Creek**	**73.98**	**122**	P		**P**	**09 54 59.6**	**+0.2**
	comp=Z,7.7nm,1.2s,baz=311,slow=8.7,SNR=3.0							
STKA				LR		LR	10 24 48.7	
	comp=Z,121nm,18.6s,baz=20,slow=34							
USRK	**Ussuriysk Arra**	**74.00**	**42**	LR		LR	10 27 30.5	
	comp=Z,63nm,21.3s,baz=166,slow=36							
NOA	**NORSAR Array B**	**77.83**	**335**	P		**P**	**09 55 21.1**	**+0.3**
NOA	**NORSAR Array B**	**77.83**	**335**	P		**P**	**09 55 21.1**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=112,slow=5.9,SNR=3.7							
ARCES	**ARCESS Array B**	**78.43**	**346**	LR		LR	10 29 51.8	
	comp=Z,36nm,20.4s,baz=131,slow=36							
ESDC	**Sonseca Array**	**78.69**	**311**	P		**P**	**09 55 26.0**	**-0.1**
ESDC	**Sonseca Array**	**78.69**	**311**	P		**P**	**09 55 26.0**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=92,slow=4.6,SNR=9.4							
ASAJ	**Asahikawa**	**81.25**	**45**	LR		LR	10 33 17.8	
	comp=Z,40nm,21.7s,baz=147,slow=37							
PDAR	**Pinedale Array**	**140.87**	**357**	PKP		**PKPdf**	**10 02 54.1**	**-0.2**
PDAR	**Pinedale Array**	**140.87**	**357**	PKP		**PKPdf**	**10 02 54.1**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=106,slow=1.3,SNR=2.6							
SMCO	**Snowmass**	**144.24**	**354**	*e*PKPdf		**PKPdf**	**10 03 00.5**	**-0.1**
NVAR	**Mina Array Bea**	**144.73**	**9**	PKP		**PKPab**	**10 02 59.5**	**-0.4**
NVAR	**Mina Array Bea**	**144.73**	**9**	PKP		**PKPab**	**10 02 59.5**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=350,slow=3.3,SNR=9.4							
MIAR	**Mount Ida**	**144.82**	**334**	*e*PKPdf		**PKPab**	**10 03 00.0**	**0.0**
MSU	**Marysvale**	**145.17**	**1**	*e*PKPdf		**PKPdf**	**10 03 01.9**	**-0.1**
MVU	**Marysvale**	**145.17**	**1**	*e*PKPdf		**PKPdf**	**10 03 02.4**	**+0.4**
PV04	**Paradox Valley**	**145.19**	**356**	*e*PKPbc		**PKPdf**	**10 03 03.0**	**+1.1**
PV01	**Paradox Valley**	**145.43**	**356**	*e*PKPdf		**PKPbc**	**10 03 02.3**	**-0.1**
SDCO	**Great Sand Dun**	**145.46**	**351**	*e*PKPdf		**PKPbc**	**10 03 02.0**	**-0.6**
OTAV	**Otavalo**	**146.60**	**265**	*e*PKPbc		**PKPbc**	**10 03 06.7**	**-0.2**
WMOK	**Wichita Mounta**	**146.69**	**340**	*e*PKPdf		**PKPdf**	**10 03 04.8**	**+0.3**
WUAZ	**Wupatki**	**148.16**	**359**	*e*PKPbc		**PKPbc**	**10 03 11.2**	**+0.9**
JCT	**Junction City**	**150.91**	**338**	*e*PKPbc		**PKPbc**	**10 03 16.3**	**-0.8**
JCT				*e*PKPab		**PKPab**	**10 03 23.1**	**-1.1**
MNTX	**Cornudas Mount**	**151.34**	**349**	*e*PKPbc		**PKPbc**	**10 03 17.8**	**-0.2**
TUC	**Tucson**	**151.34**	**358**	*e*PKPbc		**PKPbc**	**10 03 18.5**	**+0.4**
TXAR	**Lajitas Array**	**153.21**	**344**	PKPbc		**PKPbc**	**10 03 21.8**	**-0.6**
TXAR	**Lajitas Array**	**153.21**	**344**	PKPbc		**PKPbc**	**10 03 21.8**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=144,slow=1.6,SNR=9.3							

JMA 12 09:47:41.3±0.3, 43°.86N×148°.23E, h0km, M3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.87**	**256**	P	Pn	09 48 14.9	+0.3
NEM2				*e*S	Sb	09 48 39.6	-0.7
JRA	**Rausu**	**2.25**	**273**	P	Pn	09 48 20.9	+1.2
JRA				*e*S	Sb	09 48 50.3	-0.8
JNK	**Nakash**	**2.56**	**265**	P	Pn	09 48 25.1	+1.1
JNK				*e*S	Sn	09 48 56.6	+0.7
JAK	**Akkeshi**	**2.71**	**253**	P	Pn	09 48 27.5	+1.4
JAK				*e*S	Sb	09 49 02.7	-1.8
JTKR	**Abashiri--Toko**	**3.12**	**274**	P	Pn	09 48 33.6	+1.8
JAR	**Ashorobuto**	**3.29**	**262**	P	Pn	09 48 36.0	+1.9
JAR				*e*S	Sn	09 49 16.4	+2.5
JCH	**Churui**	**3.77**	**252**	P	Pn	09 48 43.1	+2.5
JCH				*e*S	Sn	09 49 28.1	+2.4
JNBK	**Urakawa-nobuka**	**4.31**	**250**	P	Pn	09 48 50.2	+2.1
JNBK				*e*S	Sn	09 49 40.1	+1.0
JKB	**Kayabe**	**5.64**	**252**	P	Pn	09 49 08.3	+1.9
JKB				*e*S	Sn	09 50 12.4	+0.5
JOT	**Ohata**	**5.85**	**247**	P	Pn	09 49 11.0	+1.8
JOT				*e*S	Sn	09 50 16.6	-0.3
JANG	**Nango**	**6.09**	**237**	P	Pn	09 49 13.0	+0.5
JANG				*e*S	Sn	09 50 20.2	-2.7

IDC 12 10:06:35.1±5.1, 39°.39N×110°.73E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/25, mbtmp3.7/5, Error ellipse: s-maj=108.1km s-min=22.0km az=84.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**9.01**	**341**	Pn	Pn	10 08 46.1	-0.4
	baz=154,slow=13,SNR=16						
SONM				Sn	Sn	10 10 27.2	-1.6
	0.0nm,0.3s,baz=152,slow=19,SNR=3.6						
SONM				Lg	Lg	10 11 18.2	
	0.2nm,0.3s,baz=161,slow=27,SNR=3.9						
MKAR	**Makanchi Array**	**21.96**	**299**	P	P	10 11 30.2	-0.2
	2.4nm,0.8s,baz=97,slow=12,SNR=20						
ZALV	**Zalesovo Beam**	**22.81**	**318**	P	P	10 11 41.2	+1.9
	0.3nm,0.4s,baz=105,slow=9.3,SNR=3.0						
CMAR	**Chiang Mai Arr**	**23.22**	**209**	P	P	10 11 43.2	-0.6
	2.9nm,0.8s,baz=12,slow=10.0,SNR=13						
KURBB	**Kurchatov Arra**	**25.18**	**307**	P	P	10 12 01.9	-0.2
	1.8nm,0.9s,baz=108,slow=9.8,SNR=8.0						

CSEM 12 10:24:03.3, 42°.85N×1°.49W, h4km, ML0.8, After MDD
MDD 12 10:24:03.3±0.8, 42°.85N×1°.49W, h4km±4km, mbLg0.8/6, Error ellipse: s-maj=3.0km s-min=2.5km az=146.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IZUN	**Zunzarren**	**0.02**	**71**	Pg	Pg	10 24 04.2	0.0
	4.1nm,0.1s,SNR=7.9						
IZUN				Lg	Lg	10 24 05.0	
	34nm,0.1s,SNR=7.9						
IZUN	**Zunzarren**	**0.02**	**71**	Pg	Pg	10 24 04.2	0.0
	4.1nm,0.1s,SNR=7.9						
IZUN				Lg	Lg	10 24 05.0	
	34nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**186**	Pg	Pg	10 24 05.6	+0.2
	1.6nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	10 24 07.5	
	6.4nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**186**	Pg	Pg	10 24 05.6	+0.2
	1.6nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	10 24 07.5	
	6.4nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.10**	**334**	Pg	Pg	10 24 05.7	+0.2
	1.0nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	10 24 07.7	
	4.0nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.10**	**334**	Pg	Pg	10 24 05.7	+0.2
	1.0nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	10 24 07.7	
	4.0nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**0.11**	**221**	Pg	Pg	10 24 05.4	-0.1
	0.5nm,0.1s,SNR=7.9						
EARA				Lg	Lg	10 24 07.7	
	6.8nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.11**	**221**	Pg	Pg	10 24 05.4	-0.1
	0.5nm,0.1s,SNR=7.9						
EARA				Lg	Lg	10 24 07.7	
	6.8nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.18**	**115**	Pg	Pg	10 24 07.3	+0.4
	0.8nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	10 24 09.8	
	1.1nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.18**	**115**	Pg	Pg	10 24 07.3	+0.5
	0.8nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	10 24 09.8	
	1.1nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.18**	**93**	Pg	Pg	10 24 06.9	-0.1
	0.5nm,0.1s,SNR=7.9						
IELO				Lg	Lg	10 24 10.2	
	2.4nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.18**	**93**	Pg	Pg	10 24 06.9	-0.1
	0.5nm,0.1s,SNR=7.9						
IELO				Lg	Lg	10 24 10.1	
	2.4nm,0.1s,SNR=7.9						

ISCJB 12 10:24:15.2±1.2, 42°.85N±0°.04×1°.46W±0°.06, h9km±12km, Error ellipse: s-maj=7.5km s-min=7.1km az=174.1
CSEM 12 10:24:15.6±0.1, 42°.85N×1°.48W, h5km, ML1.3, Error ellipse: s-maj=2.2km s-min=2.1km az=71.0
LDG 12 10:24:15.8±0.1, 42°.86N×1°.49W, h2km, Md1.4/3, Ml1.2/1, Error ellipse: s-maj=2.2km s-min=1.8km az=77.0
MDD 12 10:24:15.7±0.5, 42°.86N×1°.47W, h4km±3km, mbLg1.3/8, Error ellipse: s-maj=2.4km s-min=2.3km az=156.0, PRXIMO
ISC 12 10:24:15.8±1.1, 42°.85N±0°.03×1°.47W±0°.03, h4km±7km, n27, σ0s36/33, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IZUN	**Zunzarren**	**0.01**	**52**	Pg	Pg	10 24 16.6	-0.1
	60nm,0.2s,SNR=7.9						
IZUN				Lg	Lg	10 24 17.1	
	132nm,0.1s,SNR=7.9						
IZUN	**Zunzarren**	**0.01**	**52**	Pg	Pg	10 24 16.6	-0.1
	60nm,0.2s,SNR=7.9						
IZUN				Lg	Lg	10 24 17.1	
	132nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**193**	Pg	Pg	10 24 18.0	+0.1
	7.4nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	10 24 20.9	
	29nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**193**	Pg	Pg	10 24 18.0	+0.1
	7.4nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	10 24 20.9	
	29nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**328**	Pg	Pg	10 24 17.9	-0.2
	4.8nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	10 24 20.0	
	33nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**328**	Pg	Pg	10 24 17.9	-0.2
	4.8nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	10 24 20.0	
	33nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**0.12**	**225**	Pg	Pg	10 24 17.9	-0.3
	2.2nm,0.1s,SNR=7.9						
EARA				Lg	Lg	10 24 20.9	
	32nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.12**	**225**	Pg	Pg	10 24 17.9	-0.3
	2.2nm,0.1s,SNR=7.9						
EARA				Lg	Lg	10 24 20.9	
	32nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.17**	**117**	Pg	Pg	10 24 18.3	-0.8
	SNR=7.9						
IEPA				Lg	Lg	10 24 22.6	
	9.7nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.17**	**117**	Pg	Pg	10 24 18.3	-0.8
	SNR=7.9						
IEPA				Lg	Lg	10 24 22.6	
	9.7nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.17**	**94**	Pg	Pg	10 24 19.2	0.0
	2.0nm,0.1s,SNR=7.9						
IELO				Lg	Lg	10 24 22.5	
	7.3nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.17**	**94**	Pg	Pg	10 24 19.2	0.0
	2.0nm,0.1s,SNR=7.9						
IELO				Lg	Lg	10 24 22.5	
	7.3nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.31**	**352**	Pg	Pg	10 24 21.7	-0.2
	0.9nm,0.1s,SNR=7.9						
ELIZ				Lg	Lg	10 24 27.4	
	1.6nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.31**	**352**	Pg	Pg	10 24 21.7	-0.2
	0.9nm,0.1s,SNR=7.9						
ELIZ				Lg	Lg	10 24 27.4	
	1.6nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**0.32**	**35**	*e*Pg	Pg	10 24 21.8	-0.1
SJPF				*e*Sg	Sg	10 24 26.2	+0.1
	3.2nm,0.2s						
SJPF	**Ste Jean**	**0.32**	**35**	Pg	Pg	10 24 21.8	-0.1
SJPF				*e*Sg	Sg	10 24 26.2	+0.1
	1.6nm,0.2s						
EALK	**Alkurruntz**	**0.37**	**356**	Pg	Pg	10 24 22.7	-0.2
	0.6nm,0.1s,SNR=7.9						
EALK				Lg	Lg	10 24 28.9	
	1.6nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.37**	**356**	Pg	Pg	10 24 22.7	-0.2
	0.6nm,0.1s,SNR=7.9						
EALK				Lg	Lg	10 24 28.9	
	1.6nm,0.1s,SNR=7.9						
LARF	**Larrau**	**0.40**	**62**	Pg	Pg	10 24 23.6	+0.1
LARF				Lg	Lg	10 24 29.4	
ETSF	**Etsaut**	**0.67**	**86**	*e*Pg	Pg	10 24 28.7	0.0
ETSF				*e*Sg	Sg	10 24 37.8	+0.4
	1.1nm,0.3s						
ETSF	**Etsaut**	**0.67**	**86**	Pg	Pg	10 24 28.7	0.0
ETSF				*e*Sg	Sg	10 24 37.8	+0.4
	0.6nm,0.3s						
EBIE	**Bielsa**	**1.20**	**98**	Pg	Pn	10 24 40.3	+0.7
	0.6nm,0.1s,SNR=7.9						
EBIE				Lg	Lg	10 24 55.4	
	0.1nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**1.20**	**98**	Pg	Pn	10 24 40.3	+0.7
	0.6nm,0.1s,SNR=7.9						
EBIE				Lg	Lg	10 24 55.4	
	0.1nm,0.1s,SNR=7.9						
EPF	**Esparros**	**1.34**	**82**	*e*Pg	Pn	10 24 41.0	-0.4
EPF				*e*Sg	Sg	10 24 58.5	-0.4
	0.4nm,0.2s						
EPF	**Esparros**	**1.34**	**82**	Pg	Pn	10 24 41.0	-0.4
EPF				*e*Sg	Sg	10 24 58.5	-0.4
	0.2nm,0.2s						
ESAC	**San Caprasio**	**1.35**	**146**	Pg	Pn	10 24 41.6	+0.1
	1.7nm,0.2s,SNR=7.9						
ESAC				Lg	Lg	10 25 00.2	
	1.0nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.35**	**146**	Pg	Pn	10 24 41.6	+0.1
	1.7nm,0.2s,SNR=7.9						
ESAC				Lg	Lg	10 25 00.2	
	1.0nm,0.2s,SNR=7.9						

IDC 12 10:30:24.6±1.3, 39°.62N×73°.46E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.5/27, mbtmp3.7/7, ML3.6/2, Error ellipse: s-maj=28.2km s-min=15.4km az=117.0
NNC 12 10:30:35.5±5.4, 40°.13N×73°.21E, h12km±22km, mb3.7, mpv3.4, Error ellipse: s-maj=39.8km s-min=15.5km az=177.0
ISC 12 10:30:27.3±1.1, 39°.66N±0°.09×73°.48E±0°.07, h14km, n22, σ2s05/23, mb3.7/5, 1C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**2.47**	**4**	P	Pn	10 31 09.5	+2.0
	SNR=51						
UCH	**Uchtor**	**2.68**	**17**	P	Pb	10 31 15.1	-0.2
	SNR=12						
KZA	**Kyzart**	**2.76**	**29**	P	Pn	10 31 14.2	+2.6
	SNR=23						
EKS2	**Erkin-Say**	**3.00**	**4**	P	Pn	10 31 17.0	+2.4
	SNR=23						
AAK	**Ala-Archa**	**3.06**	**14**	P	Pb	10 31 18.9	-2.9
	SNR=17						
AAK	**Ala-Archa**	**3.06**	**14**	Pn	Pn	10 31 18.5	+3.0
	11nm,0.3s,baz=172,slow=7.4,SNR=21						
AAK				Pg	Pb	10 31 22.0	+0.2
	11nm,0.3s,baz=180,slow=12,SNR=36						
AAK				Sn	Sb	10 31 59.0	-0.1
	6.0nm,0.3s,baz=329,slow=19,SNR=10						
KBK	**Karagaybulak**	**3.19**	**20**	P	Pb	10 31 25.0	+1.1
	SNR=15						
CHMS	**Chumysh**	**3.47**	**16**	P	Pb	10 31 25.9	-2.7
	SNR=15						
TKM2	**Tokmak 2**	**3.62**	**25**	⇓Pn	Pn	10 31 27.3	+4.1
	13nm,0.6s						
TKM2				⇑Lg	Lg	10 32 21.5	
	45nm,0.5s						
TKM2	**Tokmak 2**	**3.62**	**25**	P	Pb	10 31 29.9	-1.5
	SNR=14						
USP	**Ospenovka**	**3.68**	**12**	P	Pn	10 31 26.3	+2.4
	SNR=12						
KK31	**Karatay Array**	**4.10**	**328**	Pn	Pn	10 31 32.4	+2.8
	2.3nm,0.3s,baz=132,slow=12,SNR=143						
KK31				⇓Pg	Pb	10 31 40.5	+1.3
	2.5nm,0.2s,baz=144,slow=16,SNR=20						
KK31				⇓Lg	Lg	10 32 30.7	
	28nm,0.5s,baz=140,slow=29,SNR=6.2						
MKAR	**Makanchi Array**	**9.60**	**39**	Pn	Pn	10 32 49.8	+4.8
	0.1nm,0.3s,baz=218,slow=10,SNR=2.4						
MKAR				Lg	Lg	10 35 21.8	
	0.1nm,0.3s,baz=224,slow=29,SNR=3.0						
KURBB	**Kurchatov Arra**	**11.52**	**16**	Lg	Lg	10 36 27.8	
	0.0nm,0.3s,baz=203,slow=29,SNR=4.8						
AB31	**Akbulak array**	**13.60**	**319**	P	Pn	10 33 39.0	-0.6
	0.5nm,0.5s,baz=128,slow=13,SNR=7.4						
AB31				⇓S	Sn	10 36 06.4	-3.9
	0.6nm,0.5s,baz=121,slow=26,SNR=5.2						
AKTO	**Aktyubinsk**	**15.31**	**320**	Pn	Pn	10 34 04.0	+1.1
	0.2nm,0.3s,baz=126,slow=14,SNR=5.7						
ZALV	**Zalesovo Beam**	**16.23**	**25**	Pn	Pn	10 34 14.6	-0.1
	0.1nm,0.3s,baz=208,slow=12,SNR=2.3						
BRTR	**Keskin Array B**	**30.48**	**283**	P	P	10 36 39.5	-0.4
	0.9nm,0.7s,baz=102,slow=7.2,SNR=5.0						
FINES	**FINESS Array B**	**36.04**	**323**	P	P	10 37 28.6	+0.7
	1.2nm,0.8s,baz=129,slow=11,SNR=3.1						
ARCES	**ARCESS Array B**	**39.02**	**335**	P	P	10 37 54.5	+1.4
	0.7nm,0.8s,baz=103,slow=7.8,SNR=3.2						
TORD	**Torodi Ar. Bea**	**67.74**	**269**	P	P	10 41 22.5	-2.2
	0.6nm,0.6s,baz=50,slow=5.1,SNR=11						
WRA	**Warramunga Arr**	**82.07**	**124**	P	P	10 42 47.5	+0.1
	0.6nm,0.9s,baz=332,slow=5.5,SNR=3.5						

CSEM 12 10:38:42.1, 42°.85N×1°.48W, h4km, ML1.1, After MDD
MDD 12 10:38:42.1±0.8, 42°.85N×1°.48W, h4km±4km, mbLg1.1/6, Error ellipse: s-maj=3.0km s-min=2.5km az=141.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IZUN	**Zunzarren**	**0.02**	**58**	Pg	Pg	10 38 43.2	+0.2
	11nm,0.1s,SNR=7.9						
IZUN				Lg	Lg	10 38 43.9	
	61nm,0.1s,SNR=7.9						
IZUN	**Zunzarren**	**0.02**	**58**	Pg	Pg	10 38 43.2	+0.2
	11nm,0.1s,SNR=7.9						
IZUN				Lg	Lg	10 38 43.9	
	61nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**190**	Pg	Pg	10 38 44.5	+0.3
	2.6nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	10 38 46.4	
	5.8nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**190**	Pg	Pg	10 38 44.5	+0.3
	2.6nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	10 38 46.4	
	5.8nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**0.11**	**224**	Pg	Pg	10 38 44.5	+0.1
	0.8nm,0.1s,SNR=7.9						
EARA				Lg	Lg	10 38 46.4	
	22nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.11**	**224**	Pg	Pg	10 38 44.5	+0.1
	0.8nm,0.1s,SNR=7.9						
EARA				Lg	Lg	10 38 46.4	
	22nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**331**	Pg	Pg	10 38 44.7	+0.2
	1.4nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	10 38 46.6	
	17nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**331**	Pg	Pg	10 38 44.7	+0.2
	1.4nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	10 38 46.6	
	17nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**0.17**	**115**	Pg	Pg	10 38 45.6	0.0
	SNR=7.9						
IEPA				Lg	Lg	10 38 48.3	
	5.9nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**0.17**	**115**	Pg	Pg	10 38 45.6	0.0
	SNR=7.9						
IEPA				Lg	Lg	10 38 48.3	
	5.9nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**0.18**	**93**	Pg	Pg	10 38 45.7	0.0
	1.3nm,0.1s,SNR=7.9						
IELO				Lg	Lg	10 38 48.7	
	4.5nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**0.18**	**93**	Pg	Pg	10 38 45.7	0.0
	1.3nm,0.1s,SNR=7.9						
IELO				Lg	Lg	10 38 48.7	
	4.5nm,0.2s,SNR=7.9						

ISCJB 12 10:38:51.3±1.3, 42°.85N±0°.04×1°.45W±0°.06, h10km±13km, Error ellipse: s-maj=7.5km s-min=7.0km az=40.4
CSEM 12 10:38:51.7±0.1, 42°.85N×1°.47W, h5km, ML1.5/1, Error ellipse: s-maj=1.6km s-min=1.5km az=125.0
MDD 12 10:38:51.7±0.4, 42°.85N×1°.48W, h4km±2km, mbLg1.4/10, Error ellipse: s-maj=2.3km s-min=2.0km az=132.0, PRXIMO
LDG 12 10:38:51.7±0.1, 42°.85N×1°.48W, h2km, Md1.7/3, Ml1.5/1, Error ellipse: s-maj=1.1km s-min=1.0km az=79.0
ISC 12 10:38:51.8±1.2, 42°.85N±0°.03×1°.47W±0°.03, h4km±7km, n27, σ0s26/34, 1C-1D, Pyrenees

ELIZ					Lg	Lg	10 39 01.4		
	3.5nm,0.1s,SNR=7.9								
SJPF	**Ste Jean**	**0.31**	**34**	*e*Pg	**Pg**		**10 38 57.8**	**-0.1**
SJPF				*e*Sg	**Sg**		**10 39 02.3**	**+0.3**
	4.7nm,0.2s								
SJPF	**Ste Jean**	**0.31**	**34**	*e*Pg	**Pg**		**10 38 57.8**	**-0.1**
SJPF				*e*Sg	**Sg**		**10 39 02.3**	**+0.3**
	2.3nm,0.2s								
EALK	**Alkurruntz**	**0.37**	**355**	Pg	**Pg**		**10 38 58.9**	**0.0**
	1.7nm,0.1s,SNR=12								
EALK				Lg	Lg		10 39 05.7		
	4.1nm,0.3s,SNR=7.3								
EALK	**Alkurruntz**	**0.37**	**355**	Pg	**Pg**		**10 38 58.9**	**0.0**
	1.7nm,0.1s,SNR=12								
EALK				Lg	Lg		10 39 05.7		
	4.1nm,0.3s,SNR=7.3								
LARF	**Larrau**	**0.40**	**62**	Pg	**Pg**		**10 38 59.5**	**0.0**
LARF				Lg	Lg		10 39 05.4		
OSSF	**Osses**	**0.43**	**20**	Pg	**Pg**		**10 38 59.8**	**-0.3**
OSSF				Lg	Lg		10 39 05.8		
ORDF	**Ordiarp**	**0.53**	**47**	Pg	**Pg**		**10 39 02.2**	**+0.2**
ORDF				Sg	**Sg**		**10 39 09.5**	**+0.6**
ETSF	**Etsaut**	**0.67**	**86**	*e*Pg	**Pg**		**10 39 04.8**	**+0.2**
ETSF				*e*Sg	**Sg**		**10 39 13.5**	**+0.2**
	3.0nm,0.3s								
ETSF	**Etsaut**	**0.67**	**86**	*e*Pg	**Pg**		**10 39 04.8**	**+0.2**
ETSF				*e*Sg	**Sg**		**10 39 13.5**	**+0.2**
	1.5nm,0.3s								
EBIE	**Bielsa**	**1.20**	**98**	Pg	**Pn**		**10 39 15.8**	**+0.2**
	2.0nm,0.3s,SNR=11								
EBIE				Lg	Lg		10 39 32.4		
	2.6nm,0.5s,SNR=5.0								
EBIE	**Bielsa**	**1.20**	**98**	Pg	**Pn**		**10 39 15.8**	**+0.2**
	2.0nm,0.3s,SNR=11								
EBIE				Lg	Lg		10 39 32.4		
	2.6nm,0.5s,SNR=5.0								
EPF	**Esparros**	**1.34**	**82**	*e*Pg	**Pn**		**10 39 16.7**	**-0.6**
EPF				*e*Sg	**Sg**		**10 39 34.6**	**-0.2**
	1.3nm,0.4s								
EPF	**Esparros**	**1.34**	**82**	*e*Pg	**Pn**		**10 39 16.7**	**-0.6**
EPF				*e*Sg	**Sg**		**10 39 34.6**	**-0.2**
	0.6nm,0.4s								

*ISCJB **12** 10:39:23.7±1.2,42°.85N±0°.04×1°.45W±0°.05,h8km±13km, Error ellipse: s-maj=7.3km s-min=6.6km az=12.0*
*MDD **12** 10:39:24.0±0.5,42°.85N×1°.48W,h5km±3km,mbLg1.2/7, Error ellipse: s-maj=2.6km s-min=2.2km az=119.0, PRXIMO*
*CSEM **12** 10:39:24.0±0.1,42°.86N×1°.47W,h5km,ML1.2,Error ellipse: s-maj=1.9km s-min=1.9km az=120.0*
*LDG **12** 10:39:24.1±0.1,42°.85N×1°.48W,h2km,Md1.4/3,Ml1.2/1, Error ellipse: s-maj=1.7km s-min=1.6km az=99.0*

ISC 12 10:39:23.9±1.1,42°.86N±0°.03×1°.46W±0°.03,h3km±6km,n27, σ0s55/34,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZUN	**Zunzarren**	**0.01**	**78**	Pg	**Pg**	**10 39 24.6**	**0.0**
	30nm,0.1s,SNR=7.9						
IZUN				Lg	Lg	10 39 25.9	
	214nm,0.1s,SNR=7.9						
IZUN	**Zunzarren**	**0.01**	**78**	Pg	**Pg**	**10 39 24.6**	**0.0**
	30nm,0.1s,SNR=7.9						
IZUN				Lg	Lg	10 39 25.9	
	214nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**325**	Pg	**Pg**	**10 39 26.5**	**+0.4**
	7.7nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	10 39 28.8	
	42nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.11**	**325**	Pg	**Pg**	**10 39 26.5**	**+0.4**
	7.7nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	10 39 28.8	
	42nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**0.11**	**194**	Pg	**Pg**	**10 39 26.2**	**+0.1**
	16nm,0.2s,SNR=7.9						
IUNC				Lg	Lg	10 39 28.5	
	SNR=7.9						
IUNC	**Unciti**	**0.11**	**194**	Pg	**Pg**	**10 39 26.2**	**+0.1**
	16nm,0.2s,SNR=7.9						
IUNC				Lg	Lg	10 39 28.5	
	SNR=7.9						
EARA	**Aranguren**	**0.12**	**224**	Pg	**Pg**	**10 39 26.4**	**+0.1**
	1.7nm,0.1s,SNR=7.9						
EARA				Lg	Lg	10 39 28.7	
	82nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.12**	**224**	Pg	**Pg**	**10 39 26.4**	**+0.1**
	1.7nm,0.1s,SNR=7.9						
EARA				Lg	Lg	10 39 28.7	
	82nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.17**	**119**	Pg	**Pg**	**10 39 27.6**	**+0.5**
	7.3nm,0.2s,SNR=7.9						
IEPA				Lg	Lg	10 39 30.9	
	5.0nm,0.3s,SNR=7.9						
IEPA	**Eparoz**	**0.17**	**119**	Pg	**Pg**	**10 39 27.6**	**+0.5**
	7.3nm,0.2s,SNR=7.9						
IEPA				Lg	Lg	10 39 30.9	
	5.0nm,0.3s,SNR=7.9						
IELO	**Elcoad**	**0.17**	**96**	Pg	**Pg**	**10 39 27.8**	**+0.6**
	0.5nm,0.2s,SNR=7.9						
IELO				Lg	Lg	10 39 31.3	
	7.0nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.17**	**96**	Pg	**Pg**	**10 39 27.8**	**+0.6**
	0.5nm,0.2s,SNR=7.9						
IELO				Lg	Lg	10 39 31.3	
	7.0nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.31**	**351**	Pg	**Pg**	**10 39 30.3**	**+0.4**
	2.9nm,0.1s,SNR=7.9						
ELIZ				Lg	Lg	10 39 35.6	
	0.6nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**0.31**	**351**	Pg	**Pg**	**10 39 30.3**	**+0.4**
	2.9nm,0.1s,SNR=7.9						
ELIZ				Lg	Lg	10 39 35.6	
	0.6nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**0.31**	**35**	*e*Pg	**Pg**	**10 39 29.6**	**-0.3**
SJPF				*e*Sg	**Sg**	**10 39 34.1**	**+0.2**
	5.1nm,0.2s						
SJPF	**Ste Jean**	**0.31**	**35**	Pg	**Pg**	**10 39 29.6**	**-0.3**
SJPF				Lg	Lg	10 39 34.1	
	2.4nm,0.2s						
SJPF				*e*Sg	**Sg**	**10 39 34.1**	**+0.2**
	2.5nm,0.2s						
EALK	**Alkurruntz**	**0.36**	**355**	Pg	**Pg**	**10 39 31.2**	**+0.3**
	0.6nm,0.2s,SNR=7.9						
EALK				Lg	Lg	10 39 37.7	
	1.7nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**0.36**	**355**	Pg	**Pg**	**10 39 31.2**	**+0.3**
	0.6nm,0.2s,SNR=7.9						
EALK				Lg	Lg	10 39 37.7	
	1.7nm,0.2s,SNR=7.9						
LARF	**Larrau**	**0.39**	**63**	Pg	**Pg**	**10 39 31.9**	**+0.4**
LARF				Sg	**Sg**	**10 39 37.6**	**+1.0**
OSSF	**Osses**	**0.42**	**20**	Pg	**Pg**	**10 39 32.2**	**+0.2**
OSSF				Lg	Lg	10 39 37.8	
ORDF	**Ordiarp**	**0.53**	**47**	Pg	**Pg**	**10 39 34.4**	**+0.4**
ETSF	**Etsaut**	**0.67**	**86**	*e*Pg	**Pg**	**10 39 36.7**	**0.0**
ETSF				*e*Sg	**Sg**	**10 39 45.9**	**+0.6**
	0.5nm,0.2s						
ETSF	**Etsaut**	**0.67**	**86**	Pg	**Pg**	**10 39 36.7**	**0.0**
ETSF				*e*Sg	**Sg**	**10 39 45.9**	**+0.6**
	0.2nm,0.2s						
EBIE	**Bielsa**	**1.20**	**98**	Pg	**Pn**	**10 39 48.3**	**+0.6**
	0.7nm,0.2s,SNR=7.9						
EBIE				Lg	Lg	10 40 03.7	
	0.4nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**1.20**	**98**	Pg	**Pn**	**10 39 48.3**	**+0.6**
	0.7nm,0.2s,SNR=7.9						
EBIE				Lg	Lg	10 40 03.7	
	0.4nm,0.2s,SNR=7.9						
EPF	**Esparros**	**1.34**	**82**	*e*Pg	**Pn**	**10 39 49.0**	**-0.5**
EPF				*e*Sg	**Sb**	**10 40 05.8**	**-1.3**
	0.3nm,0.2s						
EPF	**Esparros**	**1.34**	**82**	Pg	**Pn**	**10 39 49.0**	**-0.5**
EPF				*e*Sg	**Sb**	**10 40 05.8**	**-1.3**
	0.2nm,0.2s						

*CSEM **12** 10:39:52.1,42°.86N×1°.49W,h4km,ML0.8,After MDD*

MDD 12 10:39:52.1±1.0,42°.86N×1°.49W,h4km±5km,mbLg0.8/4, Error ellipse: s-maj=3.5km s-min=3.0km az=73.0, PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUSE	**Utxeti**	**0.10**	**335**	Pg	Pg	10 39 54.6	+0.3
	0.8nm,0.2s,SNR=7.9						
IUSE				Lg	Lg	10 39 56.4	
	8.3nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.10**	**335**	Pg	Pg	10 39 54.6	+0.3
	0.8nm,0.2s,SNR=7.9						
IUSE				Lg	Lg	10 39 56.4	
	8.3nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**183**	Pg	Pg	10 39 54.5	+0.2
	2.3nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	10 39 56.5	
	5.5nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**183**	Pg	Pg	10 39 54.5	+0.2
	2.3nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	10 39 56.5	
	5.5nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.11**	**218**	Pg	Pg	10 39 54.6	+0.3
	0.7nm,0.2s,SNR=7.9						
EARA				Lg	Lg	10 39 56.6	
	6.7nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.11**	**218**	Pg	Pg	10 39 54.6	+0.3
	0.7nm,0.2s,SNR=7.9						
EARA				Lg	Lg	10 39 56.6	
	6.7nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.18**	**115**	Lg	Lg	10 39 58.9	
	0.4nm,0.3s,SNR=7.9						
IEPA	**Eparoz**	**0.18**	**115**	Lg	Lg	10 39 58.9	
	0.4nm,0.3s,SNR=7.9						
IELO	**Elcoad**	**0.19**	**94**	Pg	Pg	10 39 55.8	-0.1
	0.8nm,0.1s,SNR=7.9						
IELO				Lg	Lg	10 39 59.1	
	2.1nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.19**	**94**	Pg	Pg	10 39 55.8	-0.1
	0.8nm,0.1s,SNR=7.9						
IELO				Lg	Lg	10 39 59.1	
	2.1nm,0.1s,SNR=7.9						

IDC 12 10:42:56.5±2.1,4°.79N×127°.03E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.4/20,mbtmp3.4/3,Error ellipse: s-maj=156.6km s-min=25.4km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.61**	**164**	P	P	10 48 27.0	-0.7
	0.6nm,0.5s,baz=344,slow=10,SNR=9.8						
ASAR	**Alice Springs**	**29.07**	**167**	P	P	10 48 59.6	+0.8
	0.2nm,0.7s,baz=346,slow=6.8,SNR=3.9						
MKAR	**Makanchi Array**	**56.86**	**325**	P	P	10 52 43.0	-0.1
	0.1nm,0.3s,baz=104,slow=9.6,SNR=3.9						

*ISCJB **12** 10:54:42.5±0.3,42°.32N±0°.02×13°.37E±0°.03,h14km±2km, Error ellipse: s-maj=3.3km s-min=3.1km az=147.1*
*LDG **12** 10:54:42.6±0.7,42°.28N×13°.33E,h10km,Ml2.4/3,Error ellipse: s-maj=15.3km s-min=9.5km az=149.0*
*ROM **12** 10:54:42.8±0.1,42°.31N×13°.37E,h10km,Md3.0/30, Ml3.0/24,Error ellipse: s-maj=1.0km s-min=0.8km az=75.0*
*CSEM **12** 10:54:43.0±0.1,42°.32N×13°.38E,h5km,ML3.5/7,Error ellipse: s-maj=3.1km s-min=2.7km az=56.0*
*IDC **12** 10:54:46.0±2.4,42°.57N×13°.07E,h0km,mb3.2/1, mb1 3.3/4,mb1mx3.1/28,mbtmp3.2/4,ML3.0/3,Error ellipse: s-maj=55.4km s-min=20.6km az=100.0*

ISC 12 10:54:43.0±0.8,42°.33N±0°.02×13°.37E±0°.02,h14km±4km, n92,σ1s31/117,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.04**	**39**	Pg	**Pg**	**10 54 45.2**	**-0.5**
AQU				Sg	**Sg**	**10 54 46.7**	**-0.8**
	24μm,0.6s						
AQU	**L'Aquila**	**0.04**	**39**	Pg	**Pg**	**10 54 45.2**	**-0.5**
AQU				Sg	**Sg**	**10 54 46.7**	**-0.8**
	24μm,0.6s						
FIAM	**Fiamignano**	**0.20**	**253**	Pg	**Pg**	**10 54 47.8**	**+0.2**
FIAM				Sg	**Sg**	**10 54 51.1**	**+0.4**
	6μm,0.6s						
FIAM	**Fiamignano**	**0.20**	**253**	Pg	**Pg**	**10 54 47.8**	**+0.2**
FIAM				Sg	**Sg**	**10 54 51.1**	**+0.4**
	6μm,0.6s						
PTQR	**Pietraquaria**	**0.30**	**176**	Pg	**Pg**	**10 54 49.4**	**0.0**
PTQR				Sg	**Sg**	**10 54 54.1**	**+0.4**
PTQR	**Pietraquaria**	**0.30**	**176**	Pg	**Pg**	**10 54 49.4**	**0.0**
PTQR				Sg	**Sg**	**10 54 54.1**	**+0.4**
TERO	**Teramo**	**0.34**	**30**	Pg	**Pg**	**10 54 49.6**	**-0.5**
TERO				Sg	**Sb**	**10 54 55.8**	**-0.4**
	4μm,0.6s						
TERO	**Teramo**	**0.34**	**30**	Pg	**Pg**	**10 54 49.6**	**-0.5**
TERO				Sg	**Sb**	**10 54 55.8**	**-0.4**
	4μm,0.6s						
VCEL	**Villa Celiera**	**0.35**	**79**	Pg	**Pg**	**10 54 50.0**	**-0.3**
VCEL				Sg	**Sb**	**10 54 56.5**	**-0.1**
	2μm,0.5s						
VCEL	**Villa Celiera**	**0.35**	**79**	Pg	**Pg**	**10 54 50.0**	**-0.3**
VCEL				Sg	**Sb**	**10 54 56.5**	**-0.1**
	2μm,0.5s						
LNSS	**Leonessa**	**0.37**	**318**	Pg	**Pg**	**10 54 50.8**	**+0.2**
LNSS				Sg	**Sb**	**10 54 57.5**	**+0.4**
	1μm,0.4s						
LNSS	**Leonessa**	**0.37**	**318**	Pg	**Pg**	**10 54 50.8**	**+0.2**
LNSS				Sg	**Sb**	**10 54 57.5**	**+0.4**
	1μm,0.4s						
CERT	**Cerreto**	**0.48**	**218**	Pg	**Pg**	**10 54 52.4**	**-0.1**
CERT				Sg	**Sg**	**10 54 58.9**	**0.0**
	3μm,0.5s						
CERT	**Cerreto**	**0.48**	**218**	Pg	**Pg**	**10 54 52.4**	**-0.1**
CERT				Sg	**Sg**	**10 54 58.9**	**0.0**
	3μm,0.5s						
VVLD	**Villa Vallelon**	**0.49**	**158**	Pg	**Pg**	**10 54 52.4**	**-0.4**
	710nm,0.7s						
VVLD	**Villa Vallelon**	**0.49**	**158**	Pg	**Pg**	**10 54 52.4**	**-0.4**
	710nm,0.7s						
INTR	**Introdacqua**	**0.51**	**128**	Pg	**Pg**	**10 54 52.7**	**-0.3**
INTR				Sg	**Sb**	**10 55 00.8**	**-0.2**
	916nm,0.6s						
INTR	**Introdacqua**	**0.51**	**128**	Pg	**Pg**	**10 54 52.7**	**-0.3**
INTR				Sg	**Sb**	**10 55 00.8**	**-0.2**
	916nm,0.6s						
MNS	**Montasola**	**0.52**	**277**	Pg	**Pg**	**10 54 52.8**	**-0.4**
	575nm,0.6s						
MNS	**Montasola**	**0.52**	**277**	Pg	**Pg**	**10 54 52.8**	**-0.4**
	575nm,0.6s						
GUAR	**Guarcino**	**0.53**	**185**	Pg	**Pg**	**10 54 53.5**	**0.0**
	812nm,0.5s						
GUAR	**Guarcino**	**0.53**	**185**	Pg	**Pg**	**10 54 53.5**	**0.0**
	812nm,0.5s						
NRCA	**Norcia**	**0.54**	**340**	Pg	**Pg**	**10 54 53.4**	**-0.3**
NRCA				Sg	**Sb**	**10 55 02.2**	**+0.2**
NRCA	**Norcia**	**0.54**	**340**	Pg	**Pg**	**10 54 53.4**	**-0.3**
NRCA				Sg	**Sb**	**10 55 02.2**	**+0.2**
MTCE	**Montecelio**	**0.56**	**237**	Pg	**Pg**	**10 54 53.8**	**-0.2**
MTCE	**Montecelio**	**0.56**	**237**	Pg	**Pg**	**10 54 53.8**	**-0.2**
TRTR	**Tortoreto Alta**	**0.63**	**40**	Pg	**Pb**	**10 54 55.9**	**+0.2**
	3μm,0.6s						
TRTR	**Tortoreto Alta**	**0.63**	**40**	Pg	**Pb**	**10 54 55.9**	**+0.2**
	3μm,0.6s						
CESX	**Cesi**	**0.65**	**296**	Pg	**Pg**	**10 54 55.9**	**+0.2**
	539nm,0.4s						
CESX	**Cesi**	**0.65**	**296**	Pg	**Pg**	**10 54 55.9**	**+0.2**
	539nm,0.4s						
OFFI	**Offida**	**0.65**	**21**	Pg	**Pg**	**10 54 55.7**	**0.0**
	4μm,0.5s						
OFFI	**Offida**	**0.65**	**21**	Pg	**Pg**	**10 54 55.7**	**0.0**
	4μm,0.5s						
POFI	**Posta Fibreno**	**0.66**	**157**	Pg	**Pg**	**10 54 55.5**	**-0.4**
POFI	**Posta Fibreno**	**0.66**	**157**	Pg	**Pg**	**10 54 55.5**	**-0.4**
SDI	**San Donato**	**0.70**	**152**	Pg	**Pg**	**10 54 56.2**	**-0.4**
	185nm,0.3s						
SDI	**San Donato**	**0.70**	**152**	Pg	**Pg**	**10 54 56.2**	**-0.4**
	185nm,0.3s						
RMP	**Rome, Mte Porz**	**0.72**	**224**	Pg	**Pg**	**10 54 56.1**	**-0.9**
	564nm,0.4s						
RMP	**Rome, Mte Porz**	**0.72**	**224**	Pg	**Pg**	**10 54 56.1**	**-0.9**
	564nm,0.4s						
FDMO	**Fiordimonte**	**0.74**	**344**	Pg	**Pg**	**10 54 56.7**	**-0.7**
	320nm,0.4s						
FDMO	**Fiordimonte**	**0.74**	**344**	Pg	**Pg**	**10 54 56.7**	**-0.7**
	320nm,0.4s						
CESI	**CESI - Serrava**	**0.76**	**333**	Pg	**Pg**	**10 54 57.3**	**-0.5**
	169nm,0.6s						
CESI	**CESI - Serrava**	**0.76**	**333**	Pg	**Pg**	**10 54 57.3**	**-0.5**
	169nm,0.6s						
GUMA	**Gualdo di Mace**	**0.84**	**29**	Pg	**Pg**	**10 54 56.9**	**-2.5**
	1μm,0.4s						
GUMA	**Gualdo di Mace**	**0.84**	**29**	Pg	**Pg**	**10 54 56.9**	**-2.5**
	1μm,0.4s						
CERA	**Filignano**	**0.87**	**146**	Pg	**Pg**	**10 54 58.6**	**-1.3**
	368nm,0.6s						
CERA	**Filignano**	**0.87**	**146**	Pg	**Pg**	**10 54 58.6**	**-1.3**
	368nm,0.6s						
ASSB	**Assisi San Ben**	**0.89**	**324**	Pg	**Pg**	**10 54 59.8**	**-0.4**
	348nm,0.6s						
ASSB	**Assisi San Ben**	**0.89**	**324**	Pg	**Pg**	**10 54 59.8**	**-0.4**
	348nm,0.6s						
MIDA	**Miranda**	**0.95**	**136**	Pg	**Pb**	**10 55 00.2**	**-1.1**
	272nm,0.8s						
MIDA	**Miranda**	**0.95**	**136**	Pg	**Pb**	**10 55 00.2**	**-1.1**
	272nm,0.8s						
CING	**Cingoli**	**1.06**	**353**	Pg	**Pb**	**10 55 02.2**	**-0.9**
	239nm,0.6s						
CING	**Cingoli**	**1.06**	**353**	Pg	**Pb**	**10 55 02.2**	**-0.9**
	239nm,0.6s						
MGAB	**Montegabbione**	**1.10**	**303**	Pg	**Pb**	**10 55 04.0**	**+0.2**
	345nm,0.5s						
MGAB	**Montegabbione**	**1.10**	**303**	Pg	**Pb**	**10 55 04.0**	**+0.2**
	345nm,0.5s						
VAGA	**Valle Agricola**	**1.11**	**144**	Pg	**Pb**	**10 55 03.8**	**-0.3**
	147nm,0.8s						
VAGA	**Valle Agricola**	**1.11**	**144**	Pg	**Pb**	**10 55 03.8**	**-0.3**
	147nm,0.8s						
ARVD	**Arcevia**	**1.21**	**345**	Pg	**Pn**	**10 55 05.6**	**0.0**
	191nm,0.6s						
ARVD	**Arcevia**	**1.21**	**345**	Pg	**Pn**	**10 55 05.6**	**0.0**
	191nm,0.6s						
NVLJ	**Novalja**	**2.49**	**26**	*e*Pn	**Pn**	**10 55 24.3**	**+1.3**
NVLJ				Sn	**Sn**	**10 55 53.5**	**+0.4**
NVLJ	**Novalja**	**2.49**	**26**	*e*Pn	**Pn**	**10 55 24.3**	**+1.3**
NVLJ				Sn	**Sn**	**10 55 53.5**	**+0.4**
UDBI	**Udbina**	**2.81**	**38**	*e*Pn	**Pn**	**10 55 29.9**	**+2.4**
UDBI				Sn	**Sn**	**10 56 02.9**	**+1.7**
UDBI	**Udbina**	**2.81**	**38**	*e*Pn	**Pn**	**10 55 29.9**	**+2.4**
UDBI				Sn	**Sn**	**10 56 02.8**	**+1.7**
STON	**Ston**	**3.24**	**79**	*i* Pn	**Pn**	**10 55 35.2**	**+1.8**
STON				Sn	**Sn**	**10 56 11.0**	**-0.8**
STON	**Ston**	**3.24**	**79**	*i* Pn	**Pn**	**10 55 35.1**	**+1.8**
STON				Sn	**Sn**	**10 56 10.9**	**-0.8**
PGF	**Pioggiola**	**3.24**	**275**	*e*P	**Pn**	**10 55 34.6**	**+1.0**
PGF				*e*Sn	**Sn**	**10 56 07.5**	**-4.5**
	1.4nm,0.3s						
PGF	**Pioggiola**	**3.24**	**275**	*e*P	**Pn**	**10 55 34.6**	**+1.0**
SBF	**Sospel**	**4.61**	**291**	*e*P	**Pn**	**10 55 53.9**	**+1.6**
SBF				*e*Sn	**Sn**	**10 56 40.6**	**-5.0**
	1.4nm,0.2s						
SBF	**Sospel**	**4.61**	**291**	*e*P	**Pn**	**10 55 53.9**	**+1.6**
BBLS	**Lazići**	**4.68**	**69**	*e*Pn	Pn	10 55 57.6	+4.4
FRF	**La Foret Royal**	**5.09**	**286**	*e*Pn	**Pn**	**10 55 58.6**	**-0.2**
FRF	**La Foret Royal**	**5.09**	**286**	*e*Pn	**Pn**	**10 55 58.6**	**-0.2**
DAVOX	**Davos/Dischmat**	**5.10**	**332**	Pn	**Pn**	**10 56 01.5**	**+2.3**
	0.5nm,0.3s,baz=147,slow=18,SNR=5.4						
DAVOX				Sn	**Sn**	**10 56 56.2**	**-1.7**
	baz=151,slow=19,SNR=1.7						
LMR	**La Mourre**	**5.15**	**284**	*e*Pn	**Pn**	**10 55 58.9**	**-0.7**
LMR	**La Mourre**	**5.15**	**284**	*e*Pn	**Pn**	**10 55 58.9**	**-0.7**
DIVS	**Divibare**	**5.15**	**68**	*e*Pn	**Pn**	**10 56 00.1**	**+0.4**
MBDF	**Montbardon**	**5.37**	**299**	*e*P	**Pn**	**10 56 04.7**	**+2.0**
MBDF	**Montbardon**	**5.37**	**299**	*e*P	**Pn**	**10 56 04.7**	**+2.0**
LPG	**La Plagne**	**5.74**	**306**	*e*P	**Pn**	**10 56 10.2**	**+2.2**
LPG	**La Plagne**	**5.74**	**306**	*e*P	**Pn**	**10 56 10.2**	**+2.2**
LPL	**La Plagne**	**5.76**	**306**	*e*P	**Pn**	**10 56 10.1**	**+1.9**
LPL	**La Plagne**	**5.76**	**306**	*e*P	**Pn**	**10 56 10.1**	**+1.9**
SMRF	**Simiane la Rot**	**5.94**	**289**	*e*P	**Pn**	**10 56 13.0**	**+2.5**
SMRF	**Simiane la Rot**	**5.94**	**289**	*e*P	**Pn**	**10 56 13.0**	**+2.5**
ORIF	**Oris-en-Rattie**	**6.02**	**298**	*e*P	**Pn**	**10 56 14.7**	**+3.0**
ORIF	**Oris-en-Rattie**	**6.02**	**298**	*e*P	**Pn**	**10 56 14.7**	**+3.0**
BARS	**Barje**	**6.25**	**83**	*e*Pn	Pn	**10 56 16.7**	**+1.9**
GERES	**GERESS Array B**	**6.52**	**2**	Pn	**Pn**	**10 56 19.7**	**+1.1**
	0.2nm,0.3s,baz=179,slow=12,SNR=5.2						
GERES				Sn	**Sn**	**10 57 32.1**	**-0.7**
	0.4nm,0.3s,baz=184,slow=25,SNR=3.9						
VIVF	**Saint-Julien-l**	**6.80**	**295**	*e*P	**Pn**	**10 56 24.7**	**+2.3**
VIVF				*e*Sn	Sn	10 57 33.1	-6.5
	0.4nm,0.3s						
VIVF	**Saint-Julien-l**	**6.80**	**295**	*e*P	**Pn**	**10 56 24.7**	**+2.3**
KEST	**Kesra**	**7.29**	**207**	Pn	Pn	10 56 34.7	+5.5
	0.3nm,0.3s,baz=332,slow=7.7,SNR=9.2						
CDF	**Champ du Feu**	**7.45**	**327**	*e*Pn	**Pn**	**10 56 29.6**	**-1.6**
FINES	**FINESS Array B**	**20.62**	**17**	P	Pn	10 59 26.7	+2.9
	1.3nm,0.9s,baz=195,slow=10,SNR=3.4						

*CSEM **12** 10:57:40.0,37°.11N×20°.87E,h12km,MD3.5,After ATH*

ATH 12 10:57:40.0,37°.11N×20°.87E,h12km±1km,MD3.5/17, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.73**	**107**	*e*PB	Pg	10 57 54.1	-0.1
PYL				*e*SB	Sg	10 58 04.2	+0.4
PYL	**PYLOS**	**0.73**	**107**	*e*Pb	Pg	10 57 54.1	-0.1
PYL				*e*Sb	Sg	10 58 04.2	+0.4
AMT	**Artemida-Makis**	**0.79**	**58**	*e*PB	Pg	10 57 55.1	-0.3
AMT				*e*SB	Sb	10 58 06.2	-0.3
AMT	**Artemida-Makis**	**0.79**	**58**	*e*Pb	Pg	10 57 55.1	-0.3
AMT				*e*Sb	Sb

IDC 12 11:08:03.4±14.0, 17.74S×167.03E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/18, mbtmp3.9/4, ML3.8/1, MS3.6/2, Ms1 3.6/2, ms1mx3.1/18, Error ellipse: s-maj=238.2km s-min=38.0km az=67.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.34**	**187**	Pn	Pn	11 09 10.5	-0.3
	4.9nm,0.3s,baz=271,slow=24,SNR=29						
DZM				Sn	Sn	11 10 00.6	-1.6
	2.7nm,0.3s,baz=90,slow=24,SNR=9.1						
STKA	**Stephens Creek**	**26.95**	**234**	P	P	11 13 48.0	+1.3
	3.1nm,0.8s,baz=74,slow=8.0,SNR=4.6						
WRA	**Warramunga Arr**	**31.00**	**261**	P	P	11 14 22.2	-0.6
	1.4nm,1.2s,baz=90,slow=9.2,SNR=3.8						
ASAR	**Alice Springs**	**31.50**	**254**	P	P	11 14 26.9	-0.4
	0.8nm,0.7s,baz=80,slow=8.6,SNR=8.3						
ASAR				LR	LR	11 27 31.5	
	comp=Z,99nm,19.4s,baz=108,slow=37						
PPT	**Papeete**	**41.28**	**97**	LR	LR	11 27 19.1	
	comp=Z,107nm,21.6s,baz=328,slow=28						

*IDC **12** 11:26:45.1±3.9, 6.65N×72.89W, h167km±29km, mb3.3/4, mb1 3.7/5, mb1mx3.2/23, mbtmp3.4/5, Error ellipse: s-maj=58.3km s-min=22.5km az=75.0*
*FUNV **12** 11:26:52.9, 7.09N×72.62W, h142km, MW3.4*

ISC 12 11:26:46.7±1.0, 7.0N±0.1×72.7W±0.0, h166km, n22, σ2.6 s06/24, mb3.4/3, 8C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.96**	**28** ⇑*iP*		**Pn**	**11 27 14.2**	**+1.3**
CAPV				*i* S	**Sn**	**11 27 32.1**	**-1.1**
SOCV	**Socops**	**2.28**	**56** ⇑*iP*		**Pn**	**11 27 28.4**	**+2.4**
SOCV				*i* S	**Sn**	**11 27 53.4**	**-3.1**
VIGV	**El Vigia**	**2.29**	**37** ⇑*iP*		**Pn**	**11 27 28.7**	**+2.5**
VIGV				*i* S	**Sn**	**11 27 54.7**	**-2.1**
ROSC	**El Rosal**	**2.65**	**216**	P	Pn	11 27 26.1	-4.6
	44nm,0.3s,baz=107,slow=21,SNR=72						
ROSC				S	Sn	11 27 56.0	-8.9
	34nm,0.3s,baz=102,slow=15,SNR=8.1						
ELOV	**Elorza**	**3.26**	**90** ⇑*iP*		**Pn**	**11 27 40.4**	**+2.4**
CURV	**Curarigua**	**4.08**	**43** ⇑*eP*		**Pn**	**11 27 51.0**	**+2.5**
DABV	**Dabajuro**	**4.42**	**28** *eP*		**Pn**	**11 27 55.2**	**+2.3**
TEPV	**Terepaima**	**4.60**	**50** ⇑*iP*		**Pn**	**11 27 57.8**	**+2.6**
BAUV	**El Baul**	**5.06**	**67** ⇑*eP*		**Pn**	**11 28 02.3**	**+1.1**
MAPV	**Macapo**	**5.10**	**56** ⇑*iP*		**Pn**	**11 28 04.2**	**+2.4**
MONV	**Montecano**	**5.63**	**29** *eP*		**Pn**	**11 28 10.1**	**+1.3**
TURV	**Turiamo**	**5.95**	**55** *eP*		**Pn**	**11 28 14.8**	**+1.8**
MERV	**Las Mercedes**	**6.78**	**70** *eP*		**Pn**	**11 28 25.4**	**+1.4**
BIRV	**Birongo**	**7.29**	**61** *eP*		**Pn**	**11 28 32.2**	**+1.5**
CUPV	**Cœpira**	**7.54**	**66** *eP*		**Pn**	**11 28 35.3**	**+1.2**
TEIG	**Tepich**	**19.96**	**313**	P	**P**	**11 31 08.2**	**+2.0**
	4.8nm,0.6s,baz=95,slow=11,SNR=5.2						
TXAR	**Lajitas Array**	**36.60**	**311**	P	**P**	**11 33 36.1**	**-1.0**
	0.5nm,0.6s,baz=122,slow=8.5,SNR=10.0						
PDAR	**Pinedale Array**	**48.13**	**324**	P	**P**	**11 35 09.7**	**-0.6**
	0.4nm,0.5s,baz=125,slow=8.4,SNR=4.0						
YKA	**Yellowknife Ar**	**63.20**	**340**	P	**P**	**11 36 56.7**	**-0.2**
	1.0nm,0.5s,baz=134,slow=6.7,SNR=11						
MKAR	**Makanchi Array**	**122.02**	**20**	PKP	**PKPdf**	**11 45 20.4**	**-1.3**
	0.4nm,0.9s,baz=333,slow=2.3,SNR=3.2						
ASAR	**Alice Springs**	**149.50**	**234**	PKPbc	**PKPdf**	**11 46 14.8**	**+2.2**
	0.5nm,1.1s,baz=115,slow=3.0,SNR=4.6						
WRA	**Warramunga Arr**	**150.73**	**241**	PKPbc	**PKPbc**	**11 46 17.8**	**-2.4**
	0.3nm,0.6s,baz=106,slow=3.1,SNR=9.0						

IDC 12 11:41:33.9±60.0, 15.06S×166.65E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/18, mbtmp4.1/3, Error ellipse: s-maj=1018.0km s-min=105.0km az=66.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.32**	**229**	P	P	11 47 29.2	-0.4
	6.4nm,1.2s,baz=66,slow=9.5,SNR=7.9						
WRA	**Warramunga Arr**	**31.16**	**256**	P	P	11 47 55.2	+0.3
	0.4nm,0.3s,baz=86,slow=9.0,SNR=18						
ASAR	**Alice Springs**	**32.00**	**249**	P	P	11 48 02.1	-0.1
	0.9nm,0.3s,baz=75,slow=9.6,SNR=46						

IDC 12 11:54:13.3±2.0, 3.63S×151.75E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.5/3, Error ellipse: s-maj=156.3km s-min=27.8km az=125.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.47**	**225**	P	P	11 59 24.6	-0.3
	1.1nm,0.9s,baz=51,slow=9.6,SNR=7.6						
ASAR	**Alice Springs**	**26.34**	**219**	P	P	11 59 51.7	+0.4
	0.6nm,0.7s,baz=50,slow=9.6,SNR=10						
ILAR	**Eielson Array**	**81.48**	**22**	P	P	12 06 32.1	-0.1
	0.6nm,0.8s,baz=249,slow=5.3,SNR=6.8						

*HLW **12** 12:07:21.7, 35.22N×25.24E, h33km±21km, Md3.9, Ml3.8*
*IDC **12** 12:07:35.0±1.2, 34.27N×25.53E, h0km, mb3.7/8, mb1 3.8/12, mb1mx3.7/28, mbtmp3.6/12, ML3.6/4, Error ellipse: s-maj=28.7km s-min=19.3km az=159.0*
*CSEM **12** 12:07:37.9±0.4, 34.06N×25.66E, h40km, MD3.7, Error ellipse: s-maj=15.7km s-min=8.3km az=68.0*
*ATH **12** 12:07:40.3, 34.36N×25.45E, h28km±1km, MD3.7/9*

ISC 12 12:07:35.1±1.6, 34.16N±0.05×25.51E±0.04, h7km±10km, n45, σ1.9s40/51, mb3.6/8, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.73**	**12**	*e*PN	**Pn**	**12 07 51.8**	**-0.1**
XRY	**Khrisi**	**0.73**	**12**	*e*Pn	**Pn**	**12 07 51.8**	**-0.1**
LAST	**Lasithi**	**1.00**	**359**	*e*PN	**Pn**	**12 07 52.3**	**+0.6**
LAST				*e*SN	**Sg**	**12 08 07.4**	**0.0**
LAST	**Lasithi**	**1.00**	**359**	*e*Pn	**Pn**	**12 07 56.3**	**+0.6**
LAST				*e*Sn	**Sg**	**12 08 07.4**	**0.0**
SIVA	**Sivas**	**1.03**	**326**	*e*PN	**Pn**	**12 07 56.6**	**+0.5**
SIVA				*e*SN	**Sg**	**12 08 08.6**	**+0.2**
SIVA	**Sivas**	**1.03**	**326**	*e*Pn	**Pn**	**12 07 56.6**	**+0.5**
SIVA				*e*Sn	**Sg**	**12 08 08.6**	**+0.2**
NPS	**Neapolis**	**1.11**	**4**	*e*PN	**Pn**	**12 07 58.2**	**+1.1**
NPS				*e*SN	**Sb**	**12 08 09.9**	**-1.4**
NPS	**Neapolis**	**1.11**	**4**	*e*Pn	**Pn**	**12 07 58.2**	**+1.1**
NPS				*e*Sn	**Sb**	**12 08 09.9**	**-1.4**
ZKR	**Zakros**	**1.12**	**31**	*e*PN	**Pg**	**12 07 59.0**	**+2.4**
ZKR				*e*SN	**Sn**	**12 08 13.2**	**+0.2**
ZKR	**Zakros**	**1.12**	**31**	*e*Pn	**Pg**	**12 07 59.0**	**+2.4**
ZKR				*e*Sn	**Sn**	**12 08 13.2**	**+0.2**
IDI	**Anoyia**	**1.24**	**336**	*e*PN	**Pg**	**12 08 00.6**	**+1.7**
IDI				*e*SN	**Sb**	**12 08 15.2**	**+0.1**
IDI	**Anoyia**	**1.24**	**336**	*e*Pn	**Pg**	**12 08 00.6**	**+1.7**
IDI				*e*Sn	**Sb**	**12 08 15.2**	**+0.1**
VAM	**Vamos**	**1.65**	**320**	*e*PN	**Pg**	**12 08 06.7**	**0.0**
VAM				*e*SN	**Sb**	**12 08 26.5**	**-0.3**
VAM	**Vamos**	**1.65**	**320**	*e*Pn	**Pg**	**12 08 06.7**	**0.0**
VAM				*e*Sn	**Sb**	**12 08 26.5**	**-0.3**
KARP	**Karpathos**	**1.94**	**44**	*e*PN	**Pg**	**12 08 12.6**	**+0.3**
KARP	**Karpathos**	**1.94**	**44**	*e*Pn	**Pg**	**12 08 12.6**	**+0.3**
ANKY	**Antikythira Is**	**2.49**	**314**	*e*PN	**Pb**	**12 08 18.6**	**-1.6**
ANKY	**Antikythira Is**	**2.49**	**314**	*e*Pn	**Pb**	**12 08 18.6**	**-1.6**
SLUM		**2.67**	**185**	P	**Pn**	**12 08 17.0**	**-1.5**
APE	**Apeiranthos**	**2.91**	**0**	*e*PN	**Pb**	**12 08 24.3**	**-3.0**
APE	**Apeiranthos**	**2.91**	**0**	*e*Pn	**Pb**	**12 08 24.3**	**-3.0**
KYTH	**Kithira**	**2.93**	**317**	*e*PN	**Pb**	**12 08 25.4**	**-2.3**
KYTH	**Kithira**	**2.93**	**317**	*e*Pn	**Pb**	**12 08 25.4**	**-2.3**
ARG	**Arkhangelos**	**2.97**	**45**	*e*PN	**Pb**	**12 08 26.1**	**-2.3**
ARG	**Arkhangelos**	**2.97**	**45**	*e*Pn	**Pb**	**12 08 26.1**	**-2.3**
VLI	**Veliai**	**3.31**	**321**	*e*PN	Pn	12 08 29.9	+2.6
VLI	**Veliai**	**3.31**	**321**	*e*Pn	Pn	12 08 29.9	+2.6
SWA2		**4.90**	**181**	P	**Pn**	**12 08 47.6**	**-1.6**
	baz=178						
SWA2		**4.90**	**181**	P	**Pn**	**12 08 47.6**	**-1.6**
RSH		**7.63**	**112**	P	Pn	12 09 20.6	-6.1
	baz=118						
RSH		**7.63**	**112**	P	Pn	12 09 20.6	-6.1
HNKL	**Nakhl**	**8.33**	**118**	P	Pn	12 09 31.4	-5.0
	baz=123						
HNKL	**Nakhl**	**8.33**	**118**	P	Pn	12 09 31.4	-5.0
MMAI	**Mount Meron Ar**	**8.34**	**95**	Pn	**Pn**	**12 09 36.9**	**+0.4**
	0.3nm,0.3s,baz=256,slow=12,SNR=2.2						
BRTR	**Keskin Array B**	**8.56**	**47**	Pn	**Pn**	**12 09 39.1**	**-0.4**
	0.2nm,0.3s,baz=222,slow=13,SNR=8.0						
KBZ	**Khabaz**	**16.54**	**50**	Pn	**P**	**12 11 31.3**	**+1.3**
	0.1nm,0.3s,baz=251,slow=13,SNR=4.4						
GERES	**GERESS Array B**	**17.10**	**333**	P	**P**	**12 11 35.6**	**-0.9**
	0.2nm,0.3s,baz=150,slow=11,SNR=10						
ESDC	**Sonseca Array**	**24.14**	**292**	P	**P**	**12 12 53.9**	**+2.1**
	0.1nm,0.3s,baz=81,slow=10,SNR=4.7						
HFS	**Hagfors**	**27.12**	**347**	P	**P**	**12 13 19.3**	**+0.8**
	0.6nm,0.6s,baz=127,slow=9.4,SNR=1.6						
FINES	**FINESS Array B**	**27.31**	**1**	P	**P**	**12 13 19.4**	**-0.8**
	1.3nm,0.8s,baz=151,slow=20,SNR=2.8						
TORD	**Torodi Ar. Bea**	**30.08**	**232**	P	**P**	**12 13 46.3**	**+1.1**
	0.3nm,0.7s,baz=37,slow=8.8,SNR=3.4						
ARCES	**ARCESS Array B**	**35.43**	**360**	P	**P**	**12 14 29.5**	**-2.1**
	0.8nm,0.8s,baz=206,slow=8.1,SNR=5.6						
MKAR	**Makanchi Array**	**44.09**	**56**	P	**P**	**12 15 44.8**	**+0.9**
	0.9nm,0.6s,baz=276,slow=5.8,SNR=12						
ZALV	**Zalesovo Beam**	**45.50**	**45**	P	**P**	**12 15 55.3**	**+0.3**
	1.3nm,0.5s,baz=268,slow=8.8,SNR=4.8						
YKA	**Yellowknife Ar**	**78.49**	**342**	P	**P**	**12 19 37.0**	**+0.5**
	0.3nm,0.6s,baz=35,slow=5.5,SNR=2.8						

IDC 12 12:14:32.0±11.0, 5.17S×154.38E, h232km±108km, mb3.3/8, mb1 3.5/8, mb1mx3.3/18, mbtmp3.3/8, Error ellipse: s-maj=47.8km s-min=33.7km az=106.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.41**	**231**	P	P	12 19 30.1	+0.4
	1.3nm,0.5s,baz=54,slow=9.9,SNR=16						
ASAR	**Alice Springs**	**26.97**	**225**	P	P	12 19 53.0	+0.4
	0.2nm,0.3s,baz=54,slow=9.2,SNR=17						
ASAR				pP	pP	12 20 21.2	-17
	0.2nm,0.4s,baz=49,slow=8.8,SNR=1.5						
FITZ	**Fitzroy Crossi**	**30.88**	**243**	P	P	12 20 25.8	-1.3
	0.9nm,0.3s,baz=66,slow=11,SNR=9.9						
CMAR	**Chiang Mai Arr**	**59.46**	**295**	P	P	12 24 11.6	+0.4
	0.9nm,0.4s,baz=116,slow=5.6,SNR=5.0						
SONM	**Songino Array**	**67.48**	**327**	P	P	12 25 03.5	+0.3
	0.6nm,0.4s,baz=124,slow=4.7,SNR=5.1						
MKAR	**Makanchi Array**	**81.64**	**319**	P	P	12 26 24.6	+0.3
	0.4nm,0.5s,baz=98,slow=6.1,SNR=6.6						
ILAR	**Eielson Array**	**81.91**	**22**	P	P	12 26 25.2	-0.2
	0.2nm,0.6s,baz=260,slow=5.1,SNR=3.1						
ZALV	**Zalesovo Beam**	**82.34**	**326**	P	P	12 26 27.2	-0.5
	1.0nm,0.5s,baz=103,slow=5.6,SNR=5.2						
TORD	**Torodi Ar. Bea**	**151.92**	**288**	PKPbc	PKPbc	12 34 00.4	-0.1
	0.1nm,0.3s,baz=70,slow=2.3,SNR=6.9						

*IDC **12** 12:26:38.9±3.2, 19.81S×168.66E, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/16, mbtmp4.2/4, ML3.2/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/31, Error ellipse: s-maj=87.1km s-min=35.6km az=125.0*
*NOU **12** 12:26:49.0±0.3, 21.00S×169.23E, h10km, MD3.1, ML2.6*

ISC 12 12:26:40.9±2.7, 20.5S±0.4×169.2E±0.4, h31km, n13, σ1.35/12, mb4.1/5, MS3.3/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**2.70**	**232**	*e*S	**Sn**	**12 27 53.6**	**-0.3**
DZM	**Mont Dzumac**	**2.99**	**238**	Pn	**Pn**	**12 27 27.5**	**+1.2**
	2.7nm,0.3s,baz=270,slow=24,SNR=27						
DZM				Sn	**Sn**	**12 28 00.7**	**-0.5**
	30nm,0.3s,baz=271,slow=24,SNR=9.6						
NORM	**Noumea**	**3.05**	**235**	*e*S	**Sn**	**12 28 02.0**	**-0.4**
NOUC	**Port Laguerre**	**3.12**	**239**	*e*P	**Pb**	**12 27 33.8**	**-2.0**
NOUC				*e*S	**Sn**	**12 28 06.9**	**+2.7**
NOUC				AMP		12 28 22.1	
	comp=Z,47nm,0.0s						
CTA	**Charters Tower**	**21.51**	**267**	P	**P**	**12 31 28.2**	**+0.8**
	comp=Z,4.5nm,0.5s,baz=91,slow=11,SNR=5.8						
RPZ	**Rata Peaks**	**23.20**	**177**	LR	LR	12 38 35.8	
	comp=Z,113nm,20.1s,baz=338,slow=30						
PMG	**Port Moresby**	**23.93**	**294**	LR	LR	12 38 09.2	
	comp=Z,39nm,18.8s,baz=42,slow=30						
STKA	**Stephens Creek**	**27.15**	**240**	P	**P**	**12 32 22.8**	**+1.3**
	comp=Z,2.7nm,0.8s,baz=99,slow=14,SNR=5.4						
WRA	**Warramunga Arr**	**32.66**	**265**	P	**P**	**12 33 09.4**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=90,slow=8.4,SNR=19						
ASAR	**Alice Springs**	**32.79**	**258**	P	**P**	**12 33 11.7**	**+0.1**
	comp=Z,9.3nm,0.6s,baz=84,slow=9.1,SNR=199						
KDAK	**Kodiak Island**	**84.23**	**19**	LR	LR	13 16 14.4	
	comp=Z,40nm,18.3s,baz=294,slow=36						
SONM	**Songino Array**	**88.19**	**323**	P	**P**	**12 39 28.8**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=140,slow=4.5,SNR=4.0						
GERES	**GERESS Array B**	**145.56**	**331**	PKP	**PKPbc**	**12 46 16.1**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=42,slow=2.2,SNR=11						

IDC 12 12:49:47.5±7.2, 6.21S×147.76E, h95km±64km, mb3.9/2, mb1 3.8/4, mb1mx3.3/18, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=80.5km s-min=53.5km az=121.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.23**	**191**	P	Pn	12 50 37.3	+1.0
	7.7nm,0.3s,baz=7.6,slow=8.6,SNR=22						
PMG				S	Sn	12 51 14.1	+0.1
	11nm,0.3s,baz=210,slow=20,SNR=12						
WRA	**Warramunga Arr**	**18.88**	**222**	P	P	12 54 00.1	-0.4
	0.5nm,0.3s,baz=44,slow=11,SNR=22						
ASAR	**Alice Springs**	**21.88**	**216**	P	P	12 54 33.5	+0.5
	1.3nm,0.3s,baz=52,slow=8.9,SNR=41						
FITZ	**Fitzroy Crossi**	**24.61**	**239**	P	P	12 54 59.6	+0.5
	6.5nm,0.5s,baz=58,slow=8.6,SNR=50						
TORD	**Torodi Ar. Bea**	**145.87**	**284**	PKPbc	PKPdf	13 09 15.3	-0.9
	0.5nm,0.7s,baz=72,slow=3.9,SNR=4.7						

IDC 12 13:00:45.5±56.0, 22.15S×173.69W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/19, mbtmp4.0/3, Error ellipse: s-maj=1071.0km s-min=181.9km az=87.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.76**	**246**	P	P	13 08 27.9	-0.5
	1.7nm,0.6s,baz=93,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**48.07**	**258**	P	P	13 09 27.0	-0.1
	1.2nm,0.8s,baz=88,slow=7.3,SNR=33						
WRA	**Warramunga Arr**	**48.36**	**263**	P	P	13 09 29.5	+0.1
	0.8nm,0.3s,baz=102,slow=8.1,SNR=73						

WEL 12 13:35:27.7±0.2, 40.92S×173.07E, h173km±2km, ML3.5/11, 7C-2D, Error ellipse: s-maj=1.8km s-min=1.8km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.38**	**142**	⇑PN	Pn	13 35 51.2	0.0
NNZ				SN	Sn	13 36 08.4	-0.9
QRZ	**Quartz Range**	**0.42**	**282**	⇑PN	Pn	13 35 51.1	-0.3
QRZ				SN	Sn	13 36 08.0	-1.4
DUWZ	**D'Urville Isla**	**0.66**	**80**	⇑PN	Pn	13 35 52.7	+0.2
DUWZ				SN	Sn	13 36 11.0	-0.4
TUWZ	**Tuamarina**	**0.84**	**128**	PN	Pn	13 35 53.8	+0.3
TUWZ				AML	AML	13 36 13.8	
TUWZ				AML	AML	13 36 14.6	
THZ	**Tophouse**	**0.85**	**188**	⇑PN	Pn	13 35 53.8	+0.1
THZ				SN	Sn	13 36 13.1	-0.8
TCW	**Tory Channel**	**0.96**	**108**	PN	Pn	13 35 54.8	+0.4
TCW				SN	Sn	13 36 14.3	-0.7
TCW				AML	AML	13 36 15.8	
BSWZ	**Blackbirch Sta**	**1.00**	**143**	AML	AML	13 35 12.8	
BSWZ				PN	Pn	13 35 55.0	+0.3
BSWZ				SN	Sn	13 36 14.6	-1.0
DSZ	**Denniston Nort**	**1.26**	**228**	PN	Pn	13 35 56.3	-0.6
WEL	**Wellington**	**1.34**	**107**	PN	Pn	13 35 57.5	0.0
WEL				SN	Sn	13 36 19.1	-1.5
KIW	**Kapiti Island**	**1.40**	**88**	PN	Pn	13 35 58.0	-0.1
KIW				AML	AML	13 36 21.4	
KIW				AML	AML	13 36 21.6	
BHW	**Baring Head**	**1.45**	**110**	AML	AML	13 36 21.2	
BHW				AML	AML	13 36 22.3	
CAW	**Cannon Point**	**1.53**	**98**	PN	Pn	13 35 59.2	-0.2
CAW				AML	AML	13 36 23.5	
CAW				AML	AML	13 36 24.1	
KHZ	**Kahutara**	**1.54**	**167**	⇓PN	Pn	13 35 59.3	-0.1
KHZ				AML	AML	13 36 23.5	
OGWZ	**Otaki Gorge**	**1.60**	**87**	⇑PN	Pn	13 36 00.1	0.0
MSWZ	**Moikau Station**	**1.72**	**108**	PN	Pn	13 36 01.0	-0.3
MSWZ				AML	AML	13 36 25.4	
MSWZ				AML	AML	13 36 27.3	
PLWZ	**Palliser**	**1.77**	**112**	PN	Pn	13 36 01.6	-0.3
DFE	**Dawson Falls**	**1.78**	**27**	PN	Pn	13 36 01.6	-0.5
HOWZ	**Holdsworth Sta**	**1.86**	**90**	PN	Pn	13 36 02.4	-0.3
MTW	**Mount Morrison**	**1.86**	**98**	PN	Pn	13 36 02.5	-0.3
MTW				AML	AML	13 36 29.2	
MTW				AML	AML	13 36 29.7	
WAZ	**Wanganui**	**1.87**	**52**	⇓PN	Pn	13 36 03.1	+0.2
MRZ	**Mangatainoka R**	**1.93**	**83**	⇑PN	Pn	13 36 03.0	-0.5
MRZ				AML	AML	13 36 31.0	
MRZ				AML	AML	13 36 31.5	
TRWZ	**Traveller**	**2.04**	**105**	AML	AML	13 36 33.4	
TRWZ				AML	AML	13 36 34.9	
POWZ	**Post Office Ro**	**2.12**	**77**	PN	Pn	13 36 05.0	-0.6
TIWZ	**Tintock**	**2.14**	**87**	⇑PN	Pn	13 36 05.6	-0.4
TSZ	**Takapari Road**	**2.37**	**70**	PN	Pn	13 36 07.9	-0.6
BFZ	**Birch Farm**	**2.43**	**85**	PN	Pn	13 36 08.7	-0.4
WNVZ	**Wahianoa**	**2.51**	**52**	PN	Pn	13 36 09.2	-1.1
OXZ	**Oxford**	**2.52**	**197**	PN	Pn	13 36 09.1	-1.2
WHVZ	**Whangaehu Hut**	**2.53**	**51**	PN	Pn	13 36 09.6	-1.1
PNHZ	**Pukenui**	**2.59**	**68**	PN	Pn	13 36 10.4	-0.8
CRLZ	**Canterbury Las**	**2.68**	**187**	PN	Pn	13 36 10.4	-1.6
BHHZ	**Black Hill Sta**	**2.70**	**59**	PN	Pn	13 36 11.3	-1.3
WVZ	**Waitaha Valley**	**2.77**	**218**	PN	Pn	13 36 12.2	-0.9
MQZ	**McQueen's Vall**	**2.81**	**186**	PN	Pn	13 36 11.7	-1.9
LBZ	**Lake Benmore**	**4.07**	**211**	PN	Pn	13 36 27.4	-2.0
JCZ	**Jackson Bay**	**4.48**	**224**	PN	Pn	13 36 32.5	-2.4
ODZ	**Otahua Downs**	**4.49**	**202**	PN	Pn	13 36 33.4	-1.5

*IDC **12** 13:36:23.0±1.2, 2.42S×140.24E, h0km, mb4.0/6, mb1 4.3/7, mb1mx4.0/17, mbtmp4.0/7, ML4.1/1, MS3.6/9, Ms1 3.6/9, ms1mx3.3/22, Error ellipse: s-maj=41.1km s-min=15.0km az=95.0*
*AUST **12** 13:36:24.7, 2.43S×140.01E, h0km*
*ISCJB **12** 13:36:26.1±0.8, 2.39S±0.09×139.9E±0.1, h25km, mb3.9/5, MS3.7/8, Error ellipse: s-maj=18.4km s-min=10.8km az=24.8*

ISC 12 13:36:28.0±0.9, 2.38S±0.10×140.0E±0.1, h25km, n25, σ1.974/19, mb4.0/6, MS3.6/8, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.74**	**101**	P	Pb	13 36 34.4	-7.9
	baz=0.7,SNR=378						
KDU	**Kakadu**	**12.65**	**216**	P	**Pn**	**13 39 25.9**	**-0.6**
	baz=13,SNR=18						
MTN	**Manton Dam**	**13.59**	**220**	P	**Pn**	**13 39 39.6**	**+0.3**
	baz=14,SNR=8.1						
MTSU	**Mount Surprise**	**16.23**	**165**	P	**P**	**13 40 16.6**	**-0.8**
	baz=16,SNR=4.0						
DAV	**Davao City (W)**	**17.16**	**303**	LR	LR	13 47 21.6	
	comp=Z,149nm,19.3s,baz=237,slow=38						
KNRA	**Kununurra**	**17.22**	**219**	P	**Pn**	**13 40 27.1**	**0.0**
	baz=17,SNR=12						
KNRA				S	**Sn**	**13 43 35.7**	**-2.3**
	baz=17,SNR=5.2						
SOEI	**Soe**	**17.24**	**244**	P	**P**	**13 40 31.0**	**+2.2**
	baz=17,SNR=3.5						
WRA	**Warramunga Arr**	**18.30**	**197**	P	**P**	**13 40 37.6**	**-2.7**
	0.6nm,0.3s,baz=22,slow=12,SNR=35						
FITZ	**Fitzroy Crossi**	**21.02**	**221**	P	**P**	**13 41 10.5**	**+0.6**
	7.0nm,0.9s,baz=38,slow=10,SNR=9.6						
FITZ				LR	LR	13 50 49.4	
	comp=Z,172nm,19.1s,baz=44,slow=41						
FITZ	**Fitzroy Crossi**	**21.02**	**221**	P	**P**	**13 41 10.4**	**+0.4**
	baz=21,SNR=5.8						
ASAR	**Alice Springs**	**21.96**	**195**	P	**P**	**13 41 18.4**	**-1.8**
	4.4nm,0.6s,baz=26,slow=10,SNR=48						
ASAR				S	**S**	**13 45 24.1**	**+2.5**
	1.7nm,0.9s,baz=14,slow=28,SNR=4.7						
EIDS	**Eidsvold**	**25.24**	**156**	P	**P**	**13 41 54.4**	**+2.3**
	baz=25,SNR=3.4						
RMQ	**Roma**	**25.41**	**161**	P	**P**	**13 41 57.0**	**+3.2**
	baz=26,SNR=4.6						
STKA	**Stephens Creek**	**29.38**	**177**	LR	LR	13 54 08.8	
	comp=Z,183nm,18.5s,baz=193,slow=36						
MNAI	**Manna**	**37.00**	**266**	S	S	13 49 13.6	-6.9
	baz=37,SNR=5.0						
KSRS	**Korea Array**	**41.18**	**345**	LR	LR	13 58 01.3	
	comp=Z,73nm,20.7s,baz=355,slow=31						
CMAR	**Chiang

QASN						AML	AML	14 15 16.8	
	comp=E,486nm,0.2s								
QASN						AML	AML	14 15 16.8	
	comp=N,2μm,0.4s								
QASN						AML	AML	14 15 17.2	
	comp=Z,2μm,0.3s								
QASN	**Qassioun**	**0.75**	**74**	*eP*		**Pb**		**14 15 04.2**	**+0.3**
	SNR=72								
QASN					*eS*		**Sg**	**14 15 13.4**	**0.0**
	comp=Z,2μm,0.3s,SNR=93								
TCHB	**Talchebab**	**0.80**	**145**	*eP*		**Pg**		**14 15 04.2**	**-0.3**
TCHB					*eS*		**Sg**	**14 15 14.3**	**-0.8**
TCHB					AML	AML		14 15 16.1	
	comp=E,439nm,0.3s								
TCHB					AML	AML		14 15 23.6	
	comp=N,528nm,0.6s								
TCHB					AML	AML		14 15 24.1	
	comp=Z,220nm,0.4s								
TCHB	**Talchebab**	**0.80**	**145**	*eP*		**Pg**		**14 15 04.2**	**-0.3**
TCHB					*eP*		**Pg**	**14 15 04.4**	**-0.1**
TCHB					*eS*		**Sg**	**14 15 14.4**	**-0.7**
TCHB					AML	AML		14 15 16.1	
	comp=E,438nm,0.3s								
TCHB					AML	AML		14 15 23.6	
	comp=N,528nm,0.6s								
TCHB					AML	AML		14 15 24.1	
	comp=Z,220nm,0.4s								
TCHB	**Talchebab**	**0.80**	**145**	*eP*		**Pg**		**14 15 04.4**	**-0.1**
	SNR=45								
TCHB					*eS*		**Sg**	**14 15 14.4**	**-0.7**
	comp=Z,220nm,0.4s,SNR=93								
TOTH	**TOTAH**	**0.85**	**87**	*eP*		**Pg**		**14 15 05.3**	**-0.1**
TOTH					*eS*		**Sg**	**14 15 16.8**	**+0.3**
TOTH					AML	AML		14 15 20.9	
	comp=N,192nm,0.7s								
TOTH					AML	AML		14 15 22.7	
	comp=E,148nm,0.2s								
TOTH					AML	AML		14 15 29.8	
	comp=Z,112nm,0.6s								
TOTH	**TOTAH**	**0.85**	**87**	*eP*		**Pg**		**14 15 05.3**	**-0.1**
TOTH					*eS*		**Sg**	**14 15 16.6**	**+0.1**
TOTH					AML	AML		14 15 20.9	
	comp=N,192nm,0.7s								
TOTH					AML	AML		14 15 22.7	
	comp=E,148nm,0.2s								
TOTH					AML	AML		14 15 29.9	
	comp=Z,112nm,0.6s								
TOTH	**TOTAH**	**0.85**	**87**	*eP*		**Pg**		**14 15 05.3**	**-0.1**
	SNR=72								
TOTH					*eS*		**Sg**	**14 15 16.6**	**+0.1**
	comp=Z,112nm,0.6s,SNR=93								
HWQ	**Hawqa**	**1.05**	**25**	*eP*		**Pb**		**14 15 08.3**	**-0.8**
HWQ	**Hawqa**	**1.05**	**25**	*eP*		**Pb**		**14 15 08.3**	**-0.8**
SALA	**Sala**	**1.26**	**119**	*eP*		**Pn**		**14 15 12.4**	**-0.2**
SALA					*eS*		**Sb**	**14 15 28.9**	**-0.1**
SALA					AML	AML		14 15 30.9	
	comp=N,368nm,0.5s								
SALA					AML	AML		14 15 31.2	
	comp=Z,426nm,0.5s								
SALA					AML	AML		14 15 32.5	
	comp=E,25nm,0.4s								
SALA	**Sala**	**1.26**	**119**	*eP*		**Pn**		**14 15 12.3**	**-0.3**
SALA					*eS*		**Sb**	**14 15 28.1**	**-1.0**
SALA					AML	AML		14 15 30.9	
	comp=N,368nm,0.5s								
SALA					AML	AML		14 15 31.1	
	comp=Z,426nm,0.5s								
SALA					AML	AML		14 15 32.5	
	comp=E,25nm,0.4s								
SALA	**Sala**	**1.26**	**119**	*eP*		**Pn**		**14 15 12.3**	**-0.3**
	SNR=61								
SALA					*eS*		**Sb**	**14 15 28.1**	**-1.0**
	comp=E,25nm,0.4s,SNR=62								
HAWK	**Haweek**	**1.45**	**34**	*eP*		**Pn**		**14 15 14.7**	**-0.3**
HAWK					*eS*		**Sn**	**14 15 30.3**	**-3.7**
HAWK					*eS*		**Sb**	**14 15 31.1**	**-3.2**
HAWK					AML	AML		14 15 38.5	
	comp=E,126nm,0.4s								
HAWK					AML	AML		14 15 38.9	
	comp=Z,126nm,0.5s								
HAWK					AML	AML		14 15 43.9	
	comp=N,189nm,0.5s								
HAWK	**Haweek**	**1.45**	**34**	*eP*		**Pn**		**14 15 15.0**	**-0.1**
HAWK					*eS*		**Sb**	**14 15 35.0**	**+0.7**
HAWK					AML	AML		14 15 38.9	
	comp=Z,126nm,0.5s								
HAWK					AML	AML		14 15 40.0	
	comp=E,112nm,0.3s								
HAWK					AML	AML		14 15 43.9	
	comp=N,189nm,0.5s								
HAWK	**Haweek**	**1.45**	**34**	*eP*		**Pn**		**14 15 15.0**	**-0.1**
	SNR=61								
HAWK					*eS*		**Sb**	**14 15 35.0**	**+0.7**
	comp=N,189nm,0.5s,SNR=62								
ZALF	**Zalf**	**1.66**	**104**	*eP*		**Pn**		**14 15 18.4**	**+0.5**
ZALF					*eS*		**Sn**	**14 15 38.9**	**-0.2**
ZALF					AML	AML		14 15 42.9	
	comp=N,84nm,0.3s								
ZALF					AML	AML		14 15 43.6	
	comp=E,60nm,0.4s								
ZALF					AML	AML		14 15 46.2	
	comp=Z,84nm,0.4s								
ZALF	**Zalf**	**1.66**	**104**	*eP*		**Pn**		**14 15 18.4**	**+0.5**
ZALF					*eS*		**Sn**	**14 15 38.4**	**-0.7**
ZALF					AML	AML		14 15 43.6	
	comp=E,62nm,0.4s								
ZALF					AML	AML		14 15 46.2	
	comp=Z,84nm,0.4s								
ZALF					AML	AML		14 15 47.2	
	comp=N,80nm,0.4s								
ZALF	**Zalf**	**1.66**	**104**	*eP*		**Pn**		**14 15 18.4**	**+0.5**
	SNR=47								
ZALF					*eS*		**Sn**	**14 15 38.4**	**-0.7**
	comp=N,80nm,0.4s,SNR=49								
ROOS	**tl_alroos**	**1.77**	**61**	*eP*		**Pb**		**14 15 21.9**	**+0.5**
ROOS					*eS*		**Sb**	**14 15 43.7**	**+0.1**
ROOS					AML	AML		14 15 49.9	
	comp=Z,1.5nm,0.3s								
ROOS					AML	AML		14 15 52.1	
	comp=N,1.3nm,0.4s								
ROOS					AML	AML		14 15 53.6	
	comp=E,1.9nm,0.3s								
ROOS	**tl_alroos**	**1.77**	**61**	*eP*		**Pb**		**14 15 21.9**	**+0.5**
	SNR=47								
ROOS					*eS*		**Sb**	**14 15 43.7**	**+0.1**
	comp=E,1.9nm,0.3s,SNR=49								
BIDA	**Albida**	**1.84**	**24**	*eP*		**Pn**		**14 15 21.2**	**+0.8**
BIDA					*eS*		**Sn**	**14 15 42.5**	**-1.2**
BIDA					AML	AML		14 15 48.6	
	comp=Z,116nm,0.4s								
BIDA	**Albida**	**1.84**	**24**	*eP*		**Pn**		**14 15 21.2**	**+0.8**
	SNR=47								
BIDA					*eS*		**Sn**	**14 15 42.5**	**-1.2**
	comp=Z,116nm,0.4s,SNR=49								
YTIR	**Yattir**	**1.97**	**188**		Pn		**Pb**	**14 15 24.0**	**-0.9**
YTIR					Sn		**Sb**	**14 15 50.5**	**+1.1**
MZDA	**Masada**	**2.01**	**181**		Pn		**Pn**	**14 15 24.0**	**+1.4**
MZDA					Sn		**Sb**	**14 15 50.4**	**+0.1**
WRDH	**Warideh**	**2.33**	**20**	*eP*		**Pn**		**14 15 28.6**	**+1.5**
WRDH					*eS*		**Sn**	**14 15 56.7**	**+1.1**
WRDH					AML	AML		14 16 08.2	
	comp=N,54nm,0.6s								
WRDH					AML	AML		14 16 12.6	
	comp=E,75nm,0.5s								
WRDH					AML	AML		14 16 14.5	
	comp=Z,75nm,0.5s								
WRDH	**Warideh**	**2.33**	**20**	*eP*		**Pn**		**14 15 28.6**	**+1.5**
	SNR=47								
WRDH					*eS*		**Sn**	**14 15 56.7**	**+1.1**
	comp=Z,75nm,0.5s,SNR=49								
RTMI	**Retamim**	**2.35**	**195**		Pn		**Pn**	**14 15 29.0**	**+1.7**
SLNF	**Slenfeh**	**2.36**	**16**	*eP*		**Pb**		**14 15 31.4**	**-0.1**
SLNF					*eS*		**Sb**	**14 16 00.8**	**+0.3**
SLNF					AML	AML		14 16 08.8	
	comp=N,178nm,0.6s								
SLNF					AML	AML		14 16 10.2	
	comp=Z,230nm,0.3s								
SLNF					AML	AML		14 16 11.7	
	comp=E,61nm,0.4s								
SLNF	**Slenfeh**	**2.36**	**16**	*eP*		**Pb**		**14 15 31.4**	**-0.1**
	SNR=47								
SLNF					*eS*		**Sb**	**14 16 00.9**	**+0.3**
	comp=E,61nm,0.4s,SNR=49								
ARNB	**Al Arnab**	**2.57**	**10**	*eP*		**Pn**		**14 15 30.0**	**-0.5**
ARNB					*eS*		**Sn**	**14 16 01.3**	**-0.3**
ARNB					AML	AML		14 16 10.9	
	comp=E,76nm,0.3s								
ARNB					AML	AML		14 16 14.3	
	comp=N,34nm,0.4s								
ARNB					AML	AML		14 16 18.1	
	comp=Z,53nm,0.6s								
ARNB	**Al Arnab**	**2.57**	**10**	*eP*		**Pn**		**14 15 30.0**	**-0.5**
	SNR=47								
ARNB					*eS*		**Sn**	**14 16 01.3**	**-0.3**
	comp=Z,53nm,0.6s,SNR=49								
RSH		**2.76**	**212**		P		**Pn**	**14 15 33.3**	**+0.3**
ZFRI	**Zfri**	**2.77**	**184**		Pn		**Pn**	**14 15 34.2**	**+1.1**
BTCH	**Batrach**	**2.84**	**17**	*eP*		**Pn**		**14 15 34.8**	**+0.7**
BTCH					*eS*		**Sn**	**14 16 11.2**	**+2.9**
BTCH					AML	AML		14 16 25.7	
	comp=E,49nm,0.3s								
BTCH					AML	AML		14 16 27.3	
	comp=N,102nm,0.4s								
BTCH					AML	AML		14 16 32.2	
	comp=Z,78nm,0.6s								
BTCH	**Batrach**	**2.84**	**17**	*eP*		**Pn**		**14 15 34.8**	**+0.7**
	SNR=47								
BTCH					*eS*		**Sn**	**14 16 11.1**	**+2.9**
	comp=Z,78nm,0.6s,SNR=49								
AMAG	**Maghara**	**3.27**	**216**		P		**Pn**	**14 15 40.5**	**+0.5**
AMAG					S		**Sn**	**14 16 18.3**	**-0.5**
MBRI	**Mt Berech**	**3.55**	**187**		Pn		**Pn**	**14 15 45.2**	**+1.3**
HNKL	**Nakhl**	**3.60**	**200**		P		**Pn**	**14 15 45.5**	**+0.9**
GLL	**Jalalah**	**4.90**	**221**		P		**Pn**	**14 16 02.8**	**+0.4**
TR2		**5.14**	**197**		P		**Pn**	**14 16 06.4**	**+0.7**
GRB	**Gharib**	**5.52**	**205**		P		**Pn**	**14 16 11.1**	**+0.1**

MOS ***12*** *14:43:46.2±0.9,30.°56S×71.°17W,h33km,mb5.1/29,Error ellipse: s-maj=15.9km s-min=8.4km az=104.8*

GUC ***12*** *14:43:48.9±0.5,30.°60S×71.°34W,h38km±2km, ML5.1*

ISCJB ***12*** *14:43:49.8±0.4,30.°65S±0.°03×71.°18W±0.°06,h67km±3km, mb4.8/101,Error ellipse: s-maj=8.9km s-min=4.5km az=4.5*

BJI ***12*** *14:43:50.4,30.°60S×71.°20W,h59km,mB5.1/5,Ms5.2/3, Ms7 5.0/3*

NEIC ***12*** *14:43:50.3±0.4,30.°65S×71.°15W,h59km±3km,mb4.9/88, Error ellipse: s-maj=6.5km s-min=4.0km az=80.0*

NEIC Felt [III] at Andacollo, Combarbala, Coquimbo, La Serena, Ovalle and Vicuna; [II] at Canela, Copiapo, Huasco, Santiago and Vallenar.

IDC ***12*** *14:43:51.7±2.2,30.°61S×71.°22W,h69km±18km,mb4.7/15, mb1 4.8/20,mb1mx4.8/22,mbtmp4.7/20,MS4.4/17, Ms1 4.3/17,ms1mx4.1/29,Error ellipse: s-maj=18.2km s-min=12.5km az=87.0*

GCMT ***12*** *14:43:55.9±0.2,30.°71S×71.°58W,h66km±1km,MW5.2, Moment Tensor Solution. s67,c86; s76,c109; Moment tensor: Scale 10^{16}Nm; M_{rr}5.77±.17; $M_{\theta\theta}$1.16±.15; $M_{\phi\phi}$-6.92±.16; $M_{r\theta}$0.79±.11; $M_{r\phi}$0.83±.14; $M_{\theta\phi}$-3.06±.15; Best double couple: $M_0$7.10000×10^{16} NP1:ϕ_s360.00000°, δ32.00000°,λ99.00000°. NP2:ϕ_s169.00000°,δ58.00000°, λ84.00000°. Principal axes: T 6.5300, Plg76.0000°, Azm63.0000°; N 1.2100, Plg5.0000°, Azm172.0000°; P -7.7300, Plg13.0000°, Azm263.0000°; Data Used: II IU IC G CN.*

ISC 12 14:43:50.3±0.5,30.°66S±0.°03×71.°22W±0.°05,h56km±4km, h56km:pP-P,n597,σ1§10/631,mb4.9/100,MS4.4/14, 195C-161D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMCH	**Combarbala**	**0.54**	**159**	*i*	P	**Pn**	**14 44 02.0**	**-0.6**
CMCH				*i*	S	**Sn**	**14 44 11.3**	**-0.1**
CMCH	**Combarbala**	**0.54**	**159**	*i*	P	**Pn**	**14 44 02.0**	**-0.6**
CMCH				*i*	S	**Sn**	**14 44 11.3**	**-0.1**
CMCH					AML	AML	14 44 14.2	
	comp=E,244μm,0.6s							
TLL	**Tololo Astrono**	**0.61**	**36**	*i*	P	**Pn**	**14 44 04.4**	**+0.8**
TLL				*i*	S	**Sn**	**14 44 14.3**	**+1.2**
TLL	**Tololo Astrono**	**0.61**	**36**	*i*	P	**Pn**	**14 44 04.3**	**+0.8**
TLL				*i*	S	**Sn**	**14 44 14.3**	**+1.2**
TLL	**Tololo Astrono**	**0.61**	**36**	*i*	P	**Pn**	**14 44 04.3**	**+0.8**
TLL				*i*	S	**Sn**	**14 44 14.3**	**+1.2**
TLL					AML	AML	14 44 18.8	
	comp=N,137μm,0.6s							
CHNG	**Los Chungos**	**1.24**	**191**	*i*	P	**Pn**	**14 44 11.4**	**+0.1**
CHNG				*i*	S	**Sn**	**14 44 28.2**	**+1.1**
CHNG	**Los Chungos**	**1.24**	**191**	*i*	P	**Pn**	**14 44 11.4**	**+0.1**
CHNG				*i*	S	**Sn**	**14 44 28.2**	**+1.1**
PTCH	**Petorca**	**1.62**	**171**	*i*	P	**Pn**	**14 44 17.0**	**+0.5**
PTCH				*i*	S	**Sn**	**14 44 38.6**	**+2.3**
PTCH	**Petorca**	**1.62**	**171**	*i*	P	**Pn**	**14 44 17.0**	**+0.5**
PTCH				*i*	S	**Sn**	**14 44 38.6**	**+2.3**
PTCH					AML	AML	14 44 43.5	
	comp=N,29μm,0.1s							
LCO	**Las Campanas**	**1.71**	**16**	*i*	P	**Pn**	**14 44 17.4**	**-0.6**
LCO				*i*	S	**Sn**	**14 44 39.3**	**+0.5**
LCO	**Las Campanas**	**1.71**	**16**	*i*	P	**Pn**	**14 44 17.4**	**-0.6**
LCO				*i*	S	**Sn**	**14 44 39.3**	**+0.5**
LCO					AML	AML	14 44 43.1	
	comp=E,32μm,0.4s							
CFAA	**Coronel Fontan**	**2.73**	**111**		P	**Pn**	**14 44 34.5**	**+2.8**
CFAA					S	**Sn**	**14 45 08.3**	**+4.8**
CFAA	**Coronel Fontan**	**2.73**	**111**		P	**Pn**	**14 44 34.5**	**+2.8**
	comp=E,70nm,0.3s,baz=294,slow=13,SNR=1460							
CFAA					S	**Sn**	**14 45 08.3**	**+4.8**
	comp=E,76nm,0.3s,baz=235,slow=22,SNR=9.7							
LVC	**Limon Verde**	**8.28**	**15**		P	**Pn**	**14 45 46.6**	**-1.4**
LVC					S	**Sn**	**14 47 21.5**	**+1.3**
LVC	**Limon Verde**	**8.28**	**15**		P	**Pn**	**14 45 46.6**	**-1.4**
	comp=E,3.3nm,0.3s,baz=186,slow=9.1,SNR=20							
LVC					S	**Sn**	**14 47 21.5**	**+1.3**
	comp=E,42nm,0.3s,baz=188,slow=14,SNR=3.4							
PLCA	**Paso Flores**	**10.06**	**177**	*eP*		**Pn**	**14 46 11.6**	**-0.6**
	comp=E,26nm,1.1s							
PLCA	**Paso Flores**	**10.06**	**177**		P	**Pn**	**14 46 12.9**	**+0.8**
	comp=E,0.4nm,0.3s,baz=61,slow=2.2,SNR=5.3							
PLCA					LR	LR	14 50 38.0	
	comp=E,1μm,20.7s,baz=348,slow=40							
TRQA	**Tornquist**	**10.61**	**136**	*eP*		**Pn**	**14 46 19.4**	**-0.2**
	comp=E,265nm,1.1s							
CPUP	**Villa Florida**	**12.96**	**74**		P	Pn	14 46 48.8	-2.9
CPUP					S	**Sn**	**14 49 11.6**	**-2.7**
CPUP	**Villa Florida**	**12.96**	**74**		P	Pn	14 46 48.8	-2.9
	comp=E,3.8nm,0.3s,baz=233,slow=11,SNR=32							
CPUP					S	**Sn**	**14 49 11.6**	**-2.7**
	comp=E,14nm,0.3s,baz=220,slow=19,SNR=2.0							
CPUP					LR	LR	14 52 23.3	
	comp=E,2μm,19.4s,baz=259,slow=40							
LPAZ	**La Paz**	**14.59**	**12**	*eP*		**Pn**	**14 47 14.4**	**+0.2**
	comp=E,40nm,0.7s							
LPAZ					S	**Sn**	**14 50 00.1**	**+5.3**
LPAZ	**La Paz**	**14.59**	**12**		P	**Pn**	**14 47 14.9**	**+0.7**
	comp=E,0.8nm,0.3s,baz=157,slow=7.0,SNR=58							
LPAZ					S	**Sn**	**14 50 00.1**	**+5.3**
	comp=E,0.4nm,0.3s,baz=36,slow=19,SNR=1.4							
SIV	**San Ignacio**	**17.31**	**35**		P	**Pn**	**14 47 47.8**	**-0.4**
SIV	**San Ignacio**	**17.31**	**35**		P	**Pn**	**14 47 47.8**	**-0.4**
	comp=E,4.5nm,0.3s,baz=226,slow=11,SNR=105							
SIV					LR	LR	14 55 48.5	
	comp=E,608nm,21.0s,slow=42							
NNA	**Nana**	**19.30**	**343**	*eP*		**Pn**	**14 48 13.2**	**+0.9**
	comp=E,30nm,1.3s							
NNA	**Nana**	**19.30**	**343**		P	**Pn**	**14 48 13.5**	**+1.2**
	comp=E,1.0nm,0.3s,baz=200,slow=9.1,SNR=3.8							
NNA					LR	LR	14 54 10.0	
	comp=E,470nm,20.4s,baz=170,slow=32							
SAML	**Samuel**	**22.87**	**21**	*eP*		**P**	**14 48 47.9**	**-1.3**
	comp=E,32nm,0.9s							
USHA	**Ushuaia**	**24.24**	**176**		P	**P**	**14 49 02.5**	**+0.8**
USHA	**Ushuaia**	**24.24**	**176**		P	**P**	**14 49 02.5**	**+0.8**
	comp=E,22nm,0.6s,baz=358,slow=6.9,SNR=16							
USHA					LR	LR	14 58 48.0	
	comp=E,936nm,20.9s,baz=295,slow=37							
ATAH	**Atahualpa**	**24.35**	**343**		LR		14 56 08.5	
	comp=E,556nm,21.8s,baz=257,slow=30							
BDFB	**Brasilia**	**25.98**	**60**		P	**P**	**14 49 17.4**	**-0.6**
BDFB	**Brasilia**	**25.98**	**60**		P	**P**	**14 49 17.4**	**-0.6**
	comp=E,101nm,0.8s,baz=228,slow=9.5,SNR=116							
BDFB					LR	LR	15 00 40.2	
	comp=E,2μm,19.7s,baz=223,slow=39							
OTAV	**Otavalo**	**31.49**	**346**	*eP*		**P**	**14 50 08.9**	**+1.5**
	comp=E,5.0nm,0.8s							
RCBR	**Riachuelo**	**41.35**	**61**	*eP*		**P**	**14 51 31.9**	**+0.9**
	comp=E,74nm,1.5s							
SJG	**San Juan**	**48.74**	**6**	*eP*		**P**	**14 52 28.1**	**-1.3**
	comp=E,91nm,1.0s							

TEIG	**Tepich**	**53.19**	**340**	*eP*		**P**		**14 53 02.2**	**-0.6**
	comp=E,13nm,0.5s								
SNAA	**Sanae**	**54.42**	**159**	*eP*		**P**		**14 53 11.2**	**-0.2**
	comp=E,39nm,1.1s								
RKT	**Rikitea**	**56.70**	**261**	*eS*		**S**		**15 01 22.5**	**+5.5**
	comp=E,283nm,35.2s								
RKT					*eLR*	LR		15 10 10.6	
	comp=E,495nm,28.0s,baz=119								
MAIT	**Maitri**	**59.08**	**157**	*eP*		P		14 53 34.7	-10
LRAL	**Lakeview Retre**	**65.09**	**345**	*eP*		**P**		**14 54 24.2**	**-0.8**
	comp=E,28nm,1.4s								
732A	**Laxson Ranch,**	**65.11**	**332**	⇑	P	**P**		**14 54 25.7**	**+0.5**
	baz=65,SNR=20								
632A	**Uvalde**	**65.73**	**333**	⇓	P	**P**		**14 54 29.9**	**+0.7**
	baz=66,SNR=14								
KMSC	**Kings Mountain**	**66.14**	**351**	⇓	P	**P**		**14 54 32.1**	**+0.4**
	baz=66								
532A	**Rocksprings**	**66.33**	**333**	⇑	P	**P**		**14 54 33.9**	**+0.8**
	baz=67,SNR=23								
JCT	**Junction City**	**66.60**	**333**	*eP*		**P**		**14 54 34.7**	**-0.1**
JCT					pmax	pmax			
	comp=Z,29nm,1.1s								
JCT	**Junction City**	**66.60**	**333**	*eP*		**P**		**14 54 34.7**	**-0.1**
	comp=Z,29nm,1.1s								
JCT	**Junction City**	**66.60**	**333**	⇓	P	**P**		**14 54 35.6**	**+0.9**
	baz=67,SNR=9.7								
531A	**Rocksprings**	**66.61**	**332**	⇑	P	**P**		**14 54 35.7**	**+0.8**
	baz=67,SNR=11								
530A	**J-C Ranch, Com**	**66.92**	**332**	⇓	P	**P**		**14 54 37.3**	**+0.5**
	baz=67,SNR=12								
CPCT	**Cooper Cave**	**66.94**	**348**	*eP*		**P**		**14 54 35.9**	**-0.9**
432A	**Menard**	**66.95**	**333**	⇓	P	**P**		**14 54 37.3**	**+0.3**
	baz=67,SNR=5.1								
628A	**Black Gap, Mar**	**66.99**	**330**	⇑	P	**P**		**14 54 38.2**	**+0.9**
	baz=67,SNR=15								
TKL	**Tuckaleechee C**	**67.02**	**349**	*eP*		**P**		**14 54 36.2**	**-1.1**
WHTX	**Lake Whitney**	**67.09**	**336**	⇑	P	**P**		**14 54 38.1**	**+0.3**
	baz=67,SNR=6.3								
431A	**Sonora**	**67.10**	**333**	⇑	P	**P**		**14 54 38.7**	**+0.7**
	baz=67,SNR=6.1								
627A	**Terlingua Ranc**	**67.17**	**330**	⇑	P	**P**		**14 54 38.9**	**+0.3**
	baz=68,SNR=8.1								
TXAR	**Lajitas Array**	**67.19**	**329**		P	**P**		**14 54 39.0**	**+0.4**
TXAR					PKKP	PKKPdf		15 14 42.9	-6.8
TXAR	**Lajitas Array**	**67.19**	**329**		P	**P**		**14 54 39.0**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=151,slow=8.5,SNR=37								
TXAR					PKKP	PKKPdf		15 14 42.9	-6.8
	comp=Z,0.3nm,0.8s,baz=197,slow=3.9,SNR=3.5								
TXAR					LR	LR		15 19 18.9	
	comp=Z,172nm,20.1s,baz=180,slow=32								
529A	**Stev Forest Ra**	**67.26**	**331**	⇑	P	**P**		**14 54 39.6**	**+0.6**
	baz=68,SNR=20								
332A	**Millersview**	**67.38**	**334**	⇑	P	**P**		**14 54 39.9**	**+0.1**
	baz=68,SNR=8.9								
430A	**Baggett Ranch,**	**67.44**	**332**	⇓	P	**P**		**14 54 40.2**	**+0.1**
	baz=68,SNR=9.8								
VNDA	**Vanda**	**67.50**	**191**	*eP*		**P**		**14 54 41.0**	**+1.1**
	comp=Z,9.0nm,1.3s								
VNDA	**Vanda**	**67.50**	**191**		P	**P**		**14 54 41.1**	**+1.2**
	comp=Z,5.5nm,1.2s,baz=145,slow=4.8,SNR=12								
528A	**Cox Ranch, San**	**67.53**	**331**	⇓	P	**P**		**14 54 41.0**	**+0.2**
	baz=68								
429A	**Davenport Ranc**	**67.56**	**332**	⇓	P	**P**		**14 54 41.5**	**+0.6**
	baz=68								
331A	**San Angelo**	**67.58**	**333**	⇓	P	**P**		**14 54 41.2**	**+0.2**
	baz=68,SNR=9.5								
626A	**Big Bend Ranch**	**67.59**	**329**	⇓	P	**P**		**14 54 41.7**	**+0.6**
	baz=68,SNR=16								
232A	**Coleman**	**67.80**	**334**	⇑	P	**P**		**14 54 42.6**	**+0.3**
	baz=68,SNR=12								
TZTN	**Tazewell**	**67.85**	**349**	*eP*		**P**		**14 54 41.2**	**-1.3**
	comp=Z,29nm,1.2s								
527A	**Woodward Ranch**	**67.87**	**330**	⇑	P	**P**		**14 54 43.4**	**+0.4**
	baz=68,SNR=12								
330A	**Mertzon**	**67.96**	**333**	⇓	P	**P**		**14 54 43.6**	**+0.2**
	baz=68,SNR=7.4								
428A	**Kincaid Ranch,**	**67.98**	**331**	⇑	P	**P**		**14 54 44.0**	**+0.4**
	baz=68								
526A	**Mary Lane Ranc**	**68.00**	**330**	⇓	P	**P**		**14 54 44.4**	**+0.6**
	baz=68,SNR=14								
231A	**Bronte**	**68.09**	**334**	⇑	P	**P**		**14 54 44.2**	**0.0**
	baz=68,SNR=5.9								
MIAR	**Mount Ida**	**68.20**	**340**	*eP*		**P**		**14 54 44.3**	**-0.4**
MIAR					pmax	pmax			
	comp=Z,26nm,0.2s								
MIAR	**Mount Ida**	**68.20**	**340**	*eP*		**P**		**14 54 44.3**	**-0.4**
	comp=Z,26nm,0.2s								
WVT	**Waverly**	**68.25**	**346**	*eP*		**P**		**14 54 44.2**	**-0.8**
WVT					pmax	pmax			
	comp=Z,72nm,1.4s								
WVT	**Waverly**	**68.25**	**346**	*eP*		**P**		**14 54 44.2**	**-0.8**
	comp=Z,72nm,1.4s								
329A	**Wagon Wheel Ra**	**68.36**	**332**	⇓	P	**P**		**14 54 46.3**	**+0.5**
	baz=69,SNR=7.5								
230A	**Sterling City**	**68.36**	**333**	⇑	P	**P**		**14 54 46.5**	**+0.6**
	baz=69								
HALT	**Halls**	**68.38**	**344**	*eP*		**P**		**14 54 46.

TUL1 **Tulsa** 70.13 339 ⇑P P 14 54 56.5 -0.2
baz=70,SNR=11
126A **Clayton Basin,** 70.21 331 ⇓P P 14 54 57.9 +0.5
baz=70,SNR=7.3
Y29A **Porterfield Fa** 70.32 333 ⇓P P 14 54 58.1 +0.1
baz=71
224A **Cornudas Mount** 70.36 329 ⇓P P 14 54 58.0 -0.4
baz=71,SNR=12
X31A **McDonald Ranch** 70.38 335 ⇓P P 14 54 58.4 +0.1
baz=71,SNR=11
Z27A **Tatum** 70.45 332 ⇑P P 14 54 59.4 +0.5
baz=71
125A **Gardner Draw,** 70.48 330 ⇑P P 14 54 59.1 0.0
baz=71,SNR=7.8
X30A **Coker Ranch, T** 70.54 334 ⇓P P 14 54 59.8 +0.5
baz=71
Y28A **McKinney Farm,** 70.59 333 ⇑P P 14 54 60.0 +0.3
baz=71,SNR=6.0
Z26A **Caprock** 70.73 331 ⇑P P 14 55 00.7 +0.2
baz=71,SNR=10
OLIL **Olney** 70.81 346 eP P 14 55 00.0 -0.7
comp=Z,11nm,0.3s
MSTX **Muleshoe** 70.85 333 ⇓P P 14 55 01.3 0.0
baz=71,SNR=14
X29A **Tulia** 70.85 334 ⇓P P 14 55 01.4 +0.2
baz=71
W31A **Holland Ranch,** 70.86 335 ⇓P P 14 55 01.5 +0.3
baz=71
124A **Stringfield Ra** 70.86 330 ⇓P P 14 55 02.6 +1.1
baz=71,SNR=9.3
BLO **Bloomington** 70.92 347 eP P 14 54 59.4 -2.0
BLO pmax pmax
comp=Z,16nm,0.6s
BLO **Bloomington** 70.92 347 eP P 14 54 59.4 -2.0
comp=Z,16nm,0.6s
Y27A **Causey** 70.93 332 ⇑P P 14 55 02.0 +0.3
baz=71
Z25A **Roswell** 71.05 331 ⇑P P 14 55 03.0 +0.5
baz=71,SNR=6.2
X28A **Dimmitt** 71.11 333 ⇑P P 14 55 03.5 +0.7
baz=71
123A **Bell Site, Whi** 71.16 329 ⇓P P 14 55 04.9 +1.8
baz=72
AMTX **Amarillo** 71.23 334 eP P 14 55 03.0 -0.5
comp=Z,35nm,1.3s
Y26A **Elida** 71.23 332 ⇑P P 14 55 04.8 +1.2
baz=72
221A **Mesquite Ranch** 71.31 328 ⇓P P 14 55 06.4 +2.3
baz=72
V31A **Spring Creek L** 71.35 336 ⇓P P 14 55 05.8 +1.6
baz=72
Z24A **Sheeppen Canyo** 71.36 330 ⇑P P 14 55 04.9 +0.4
baz=72,SNR=6.8
W29A **Amraillo** 71.43 334 ⇑P P 14 55 05.2 +0.5
baz=72
PPT2 **Papeete2** 71.44 260 eS S 15 04 26.2 +6.4
comp=Z,275nm,34.5s
PPT2 **Papeete2** 71.44 260 eLR LR 15 17 01.1
comp=Z,482nm,24.5s,baz=119
PPT **Papeete** 71.45 260 LR LR 15 17 47.3
comp=Z,402nm,19.8s,baz=6.3,slow=28
319A **Douglas** 71.49 326 ⇓P P 14 55 06.2 +0.9
baz=72
122A **Conniff Cattle** 71.54 329 ⇑P P 14 55 06.9 +1.4
baz=72
X27A **F and S Farms,** 71.57 333 ⇓P P 14 55 06.2 +0.6
baz=72
220A **Playas Peak, P** 71.57 327 ⇑P P 14 55 06.2 +0.5
baz=72,SNR=14
Y25A **Mesa, Roswell** 71.59 331 ⇓P P 14 55 06.3 +0.5
baz=72,SNR=5.8
V30A **Spur Ranch, Mi** 71.64 335 ⇑P P 14 55 07.6 +1.6
baz=72
Z23A **Rita Site, Whi** 71.68 330 ⇓P P 14 55 08.0 +1.7
baz=72
121A **Cookes Peak, D** 71.76 328 ⇓P P 14 55 08.1 +1.2
baz=72,SNR=8.2
W28A **Vega** 71.76 334 ⇓P P 14 55 07.3 +0.6
baz=72
X26A **CR and CF Fran** 71.77 332 ⇓P P 14 55 07.4 +0.5
baz=72,SNR=8.2
Y24A **Capitan** 71.91 331 ⇓P P 14 55 08.4 +0.6
baz=72,SNR=6.9
W27A **Bowe Ranch, En** 71.92 333 ⇑P P 14 55 08.3 +0.6
baz=72,SNR=5.6
Z22A **Elephant Butte** 72.00 329 ⇓P P 14 55 09.0 +0.8
baz=72,SNR=7.4
X25A **Clemmons Ranch** 72.10 331 ⇓P P 14 55 09.4 +0.6
baz=72
120A **U Bar Ranch, L** 72.16 327 ⇓P P 14 55 10.2 +0.9
baz=72,SNR=10.0
Y23A **Lovelace Mesa,** 72.17 330 ⇓P P 14 55 10.0 +0.7
baz=72,SNR=12
V28A **Channing** 72.20 334 ⇑P P 14 55 10.2 +0.8
baz=72
W26A **Owens Ranch, T** 72.22 332 ⇑P P 14 55 10.1 +0.6
baz=73,SNR=8.0
U29A **Oasis Ranch, S** 72.47 335 ⇑P P 14 55 12.2 +1.3
baz=73
T31A **Randall Ranch,** 72.48 336 ⇓P P 14 55 12.2 +1.3
baz=73
BNM **Barren Site** 72.61 330 eP P 14 55 12.2 +0.2
comp=Z,3.0nm,1.0s
Z20A **Nine Sixteen R** 72.61 328 ⇓P P 14 55 13.1 +1.2
baz=73,SNR=13
W25A **X Bar L Ranch,** 72.61 332 ⇓P P 14 55 12.3 +0.4
baz=73,SNR=10.0
LPM **Los Pinos Moun** 72.75 330 eP P 14 55 12.8 0.0
comp=Z,5.2nm,0.9s
U28A **Mallet** 72.76 334 ⇓P P 14 55 13.7 +1.1
baz=73
HDIL **Hopedale** 72.81 346 eP P 14 55 11.6 -1.1
comp=Z,11nm,0.6s
V26A **Tequesquite Ra** 72.85 333 ⇓P P 14 55 14.2 +1.0
baz=73,SNR=5.2
Y21A **Point of Rocks** 72.95 329 ⇑P P 14 55 15.5 +1.5
baz=73,SNR=6.5
TUC **Tucson** 72.99 326 eP P 14 55 14.7 +0.6
TUC pmax pmax
comp=Z,10.0nm,1.5s
TUC **Tucson** 72.99 326 eP P 14 55 14.7 +0.6
comp=Z,10nm,1.5s
W24A **Lazy 6 Ranch,** 73.00 331 ⇓P P 14 55 15.0 +0.8
baz=73,SNR=8.7
U27A **Thompson Grove** 73.02 334 ⇑P P 14 55 15.3 +1.1
baz=73
LAZ **Ladron** 73.04 330 eP P 14 55 15.8 +1.3
comp=Z,6.5nm,1.3s
X22A **Bernardo** 73.08 330 ⇓P P 14 55 16.3 +1.6
baz=73
T29A **Hugoton** 73.11 335 ⇑P P 14 55 15.8 +1.1
baz=73
Y20A **Horse Springs,** 73.18 328 ⇑P P 14 55 16.7 +1.4
baz=74
ANMO **Albuquerque** 73.21 330 eP P 14 55 16.0 +0.5
comp=Z,11nm,1.3s
ANMO **Albuquerque** 73.21 330 LR LR 15 22 57.7
comp=Z,188nm,19.8s,baz=94,slow=32
V25A **Rancho No Teng** 73.22 332 ⇑P P 14 55 15.7 +0.2
baz=74,SNR=15
S30A **Montezuma** 73.25 336 ⇑P P 14 55 16.5 +1.0
baz=74
W23A **Werner Place,** 73.27 331 ⇓P P 14 55 16.6 +0.8
baz=74,SNR=6.8
KSU1 **Kansas State U** 73.32 340 eP P 14 55 15.6 -0.2
comp=Z,13nm,0.9s
U26A **Atchley Ranch,** 73.35 333 ⇑P P 14 55 17.1 +0.8
baz=74
X21A **Alamocita Cree** 73.36 329 ⇑P P 14 55 17.4 +1.0
baz=74,SNR=12
T28A **Walsh** 73.37 335 ⇑P P 14 55 17.0 +0.7
baz=74
V24A **Rampart Ranch,** 73.39 332 ⇓P P 14 55 17.5 +1.0
baz=74,SNR=5.3
S29A **Ulysses** 73.46 336 ⇑P P 14 55 17.8 +1.1
baz=74
DBIC **Dimbokro** 73.47 72 eP P 14 55 17.1 -0.1
comp=Z,76nm,0.9s
DBIC **Dimbokro** 73.47 72 P P 14 55 17.2 -0.1
comp=Z,62nm,0.9s,baz=213,slow=6.3,SNR=39
DBIC LR LR 15 24 44.6
comp=Z,364nm,20.1s,baz=212,slow=33
R31A **Burdett** 73.51 337 ⇓P P 14 55 17.4 +0.4
baz=74,SNR=5.6
T27A **Campo** 73.55 334 ⇓P P 14 55 17.8 +0.5
baz=74,SNR=8.8
U25A **Circle Dot Ran** 73.62 333 ⇓P P 14 55 18.7 +0.8
baz=74

214A **Organ Pipe Nat** 73.71 324 ⇓P P 14 55 19.5 +1.3
baz=74,SNR=9.0
S28A **Manter** 73.71 335 ⇓P P 14 55 18.8 +0.5
baz=74,SNR=11
R30A **Dighton** 73.76 337 ⇑P P 14 55 19.2 +0.8
baz=74
X20A **Quemado** 73.76 329 ⇑P P 14 55 19.9 +1.1
baz=74,SNR=6.0
V23A **Ortiz Mt. (NFS** 73.78 331 ⇑P P 14 55 20.1 +1.3
baz=74
W21A **San Fidel** 73.87 330 ⇑P P 14 55 20.8 +1.4
baz=74,SNR=5.9
T26A **Comanche Natio** 73.98 334 ⇓P P 14 55 20.4 +0.5
baz=74,SNR=9.1
Q31A **Ellis** 74.11 338 ⇑P P 14 55 21.6 +1.1
baz=74,SNR=9.3
R29A **Marienthal** 74.18 336 ⇑P P 14 55 22.3 +1.4
baz=74,SNR=5.5
V22A **San Miguel Ran** 74.23 331 ⇓P P 14 55 22.8 +1.3
baz=75,SNR=17
W20A **Ramah** 74.25 329 ⇑P P 14 55 22.6 +1.0
baz=75,SNR=15
T25A **Trinidad** 74.26 333 ⇑P P 14 55 22.7 +1.0
baz=75,SNR=18
U23A **El Rito** 74.28 331 ⇑P P 14 55 22.9 +1.2
baz=75,SNR=8.0
S26A **Kim** 74.32 334 ⇑P P 14 55 22.9 +1.0
baz=75,SNR=16
R28A **Tribune** 74.35 335 ⇑P P 14 55 22.9 +1.0
baz=75
Q30A **Quinter** 74.36 337 ⇓P P 14 55 23.3 +1.3
baz=75
X18A **Snowflake** 74.41 328 ⇑P P 14 55 23.6 +1.1
baz=75,SNR=6.4
Q29A **Oakley** 74.54 336 ⇑P P 14 55 23.3 +0.3
baz=75,SNR=9.9
LBNH **Lisbon** 74.55 359 eP P 14 55 23.7 +0.9
LBNH pmax pmax
comp=Z,12nm,0.8s
LBNH **Lisbon** 74.55 359 eP P 14 55 23.7 +0.9
comp=Z,12nm,0.8s
P31A **Stockton** 74.57 338 ⇑P P 14 55 23.8 +0.7
baz=75,SNR=13
U22A **Llaves** 74.60 331 ⇑P P 14 55 25.1 +1.5
baz=75,SNR=9.8
R27A **Eads** 74.66 335 ⇓P P 14 55 24.0 +0.2
baz=75,SNR=7.0
S25A **Robets Cordova** 74.73 333 ⇑P P 14 55 24.9 +0.6
baz=75,SNR=14
W18A **Petrified Fore** 74.80 328 ⇑P P 14 55 26.5 +1.7
baz=75
V20A **Brimhall** 74.80 329 ⇑P P 14 55 25.5 +0.7
baz=75,SNR=5.1
P30A **Selden** 74.88 337 ⇓P P 14 55 25.9 +0.9
baz=75
R26A **Arlington** 74.91 334 ⇑P P 14 55 25.8 +0.6
baz=75,SNR=9.7
U21A **Nageezi** 74.98 330 ⇑P P 14 55 26.9 +1.1
baz=75,SNR=15
LONY **Lake Ozonia** 74.98 358 eP P 14 55 25.2 -0.1
comp=Z,18nm,1.1s
SCIA **State Center** 75.00 343 eP P 14 55 25.4 -0.1
comp=Z,22nm,0.6s
S24A **Houchin Ranch,** 75.02 333 ⇓P P 14 55 27.3 +1.3
baz=75,SNR=25
X16A **Lo Mia Camp, P** 75.02 326 ⇑P P 14 55 27.1 +1.0
baz=75,SNR=23
R25A **Fountain Ranch** 75.09 334 ⇓P P 14 55 27.3 +1.0
baz=75
T22A **Edith** 75.16 331 ⇑P P 14 55 28.4 +1.5
baz=76,SNR=17
P29A **Atwood** 75.17 337 ⇑P P 14 55 27.2 +0.6
baz=76
SDCO **Great Sand Dun** 75.22 333 eP P 14 55 27.1 -0.1
comp=Z,30nm,1.8s
KSCO **Kaye Shedlock'** 75.23 335 ⇓P P 14 55 28.6 +1.6
baz=76
JFWS **Jewell Farm** 75.28 346 eP P 14 55 26.4 -0.6
JFWS pmax pmax
comp=Z,15nm,0.5s
JFWS **Jewell Farm** 75.28 346 eP P 14 55 26.4 -0.6
comp=Z,14nm,0.5s
U20A **Newcomb** 75.31 330 ⇑P P 14 55 29.0 +1.3
baz=76
MSNY **Massena** 75.37 357 eP P 14 55 27.8 +0.3
comp=Z,167nm,1.0s
Y14A **Wickenburg** 75.39 325 ⇑P P 14 55 28.9 +0.9
baz=76,SNR=8.9
T21A **Navajo Lake** 75.41 331 ⇑P P 14 55 29.9 +1.6
baz=76
P28A **Saint Francis** 75.42 336 ⇓P P 14 55 29.4 +1.3
baz=76,SNR=6.0
Q26A **Hugo** 75.48 334 ⇑P P 14 55 30.0 +1.4
baz=76
R24A **Sanders Place,** 75.48 333 ⇓P P 14 55 29.7 +1.0
baz=76,SNR=15
O29A **4D Ranch, Culb** 75.59 337 ⇓P P 14 55 30.3 +1.3
baz=76
GLA **Glamis** 75.61 323 ⇑P P 14 55 30.6 +1.4
baz=76
P27A **Fiehn Ranch,** 75.70 335 ⇑P P 14 55 30.4 +0.6
baz=76
R23A **Moffat** 75.73 333 ⇑P P 14 55 31.1 +0.9
baz=76
S22A **4UR Ranch, Cre** 75.76 332 ⇓P P 14 55 31.1 +0.7
baz=76,SNR=8.2
WUAZ **Wupatki** 75.89 327 eP P 14 55 31.8 +0.8
comp=Z,20nm,1.1s
WUAZ **Wupatki** 75.89 327 ⇑P P 14 55 32.0 +1.1
baz=76,SNR=16
O28A **Krutsinger Ran** 75.92 336 ⇑P P 14 55 31.8 +0.8
baz=76
P26A **Davis Ranch, A** 75.98 335 ⇓P P 14 55 32.1 +0.7
baz=76
Y12C **Blythe** 76.00 324 ⇑P P 14 55 33.1 +1.7
baz=76
MVCO **Mesa Verde** 76.00 330 eP P 14 55 30.9 -0.8
comp=Z,29nm,1.4s
MVCO **Mesa Verde** 76.00 330 ⇑P P 14 55 32.4 +0.8
baz=76,SNR=13
S21A **Coal Bank Pass** 76.08 331 ⇓P P 14 55 33.2 +1.0
baz=76,SNR=13
Q24A **Divide** 76.14 333 ⇑P P 14 55 33.1 +0.6
baz=76,SNR=16
R22A **Saguache, Gunn** 76.14 332 ⇓P P 14 55 34.1 +1.6
baz=76,SNR=5.0
N29A **Votaw Ranch, W** 76.15 337 ⇑P P 14 55 33.8 +1.5
baz=76
MAW **Mawson** 76.18 164 P P 14 55 32.3 +0.3
MAW **Mawson** 76.18 164 P P 14 55 32.3 +0.3
comp=Z,13nm,0.4s,baz=220,slow=6.4,SNR=78
MAW LR LR 15 29 45.7
comp=Z,276nm,18.7s,baz=231,slow=36
O27A **Beecher Island** 76.23 336 ⇑P P 14 55 33.7 +1.0
baz=77,SNR=7.5
P25A **Willow Gulch B** 76.24 334 ⇓P P 14 55 34.2 +1.3
baz=77,SNR=8.7
BAR **Barrett** 76.28 322 eP P 14 55 33.5 +0.4
comp=Z,2.7nm,0.8s
BC3 **Big Chuckawall** 76.40 323 ⇑P P 14 55 35.0 +1.2
baz=77,SNR=9.7
S20A **Disappointment** 76.47 331 ⇑P P 14 55 35.7 +1.4
baz=77,SNR=12
R21A **Cimarron** 76.58 331 ⇓P P 14 55 36.1 +1.2
baz=77,SNR=9.3
IRM **Iron Mountain** 76.64 324 ⇑P P 14 55 36.1 +1.0
baz=77,SNR=7.3
M29A **Burnside Ranch** 76.74 338 ⇑P P 14 55 36.8 +1.3
baz=77
Q22A **Crested Butte,** 76.74 332 ⇑P P 14 55 36.9 +1.0
baz=77,SNR=12
O25A **Wiggins** 76.75 335 ⇑P P 14 55 36.7 +1.0
baz=77
W13A **Hualapai Mount** 76.75 325 ⇑P P 14 55 37.1 +1.1
baz=77,SNR=13
P23A **Jefferson** 76.76 333 ⇓P P 14 55 37.0 +1.0
baz=77
R20A **Redvale** 76.78 331 ⇓P P 14 55 37.2 +1.2
baz=77,SNR=12
N27A **Anderson Farm,** 76.79 336 ⇑P P 14 55 36.8 +0.9
baz=77
PV01 **Paradox Valley** 76.81 331 eP P 14 55 36.8 +0.6
comp=Z,2µm,1.5s
PFO **Pinyon Flat Ob** 76.89 323 eP P 14 55 38.0 +1.4
comp=Z,13nm,1.1s
PFO **Pinyon Flat Ob** 76.89 323 LR LR 15 23 03.4
comp=Z,144nm,19.7s,baz=116,slow=31
PFO **Pinyon Flat Ob** 76.89 323 ⇓P P 14 55 38.2 +1.6
baz=77,SNR=6.4

BELC **Belle Mtn. Jos** 76.95 323 ⇑P P 14 55 38.7 +1.7
baz=77
PQI **Presque Isle** 77.03 2 eP P 14 55 37.3 +0.4
comp=Z,24nm,1.0s
SMCO **Snowmass** 77.04 332 eP P 14 55 38.2 +0.5
comp=Z,30nm,1.1s
ISCO **Idaho Springs** 77.04 333 eP P 14 55 38.0 +0.4
ISCO pmax pmax
comp=Z,8.0nm,1.0s
ISCO **Idaho Springs** 77.04 333 eP P 14 55 38.0 +0.4
comp=Z,8.2nm,1.0s
ISCO **Idaho Springs** 77.04 333 ⇑P P 14 55 38.5 +1.0
baz=77,SNR=14
U15A **North Rim** 77.06 327 ⇑P P 14 55 38.7 +1.0
baz=77,SNR=12
PV04 **Paradox Valley** 77.17 330 eP P 14 55 39.0 +0.9
MURC **Murrieta** 77.27 322 ⇑P P 14 55 39.7 +1.0
baz=78
P22A **Eagle** 77.31 333 ⇑P P 14 55 40.5 +1.6
baz=78,SNR=9.5
LDFC **Landfair** 77.35 324 eP P 14 55 40.1 +1.0
Q20A **Ridgley Place,** 77.39 331 ⇑P P 14 55 40.0 +0.7
baz=78
GMRC **Granite Mounta** 77.39 324 ⇓P P 14 55 40.7 +1.3
baz=78,SNR=6.9
O23A **Lake Granby, G** 77.51 333 ⇓P P 14 55 41.3 +1.2
baz=78,SNR=14
P21A **Newcastle** 77.53 332 ⇓P P 14 55 41.6 +1.4
baz=78
ECSD **EROS Data Cent** 77.60 341 eP P 14 55 39.7 -0.5
comp=Z,45nm,0.9s
N24A **Carr** 77.66 334 ⇑P P 14 55 42.4 +1.6
baz=78
O22A **Kremmling** 77.71 333 ⇓P P 14 55 42.1 +0.8
baz=78,SNR=17
HEC **Hector,Ludlow** 77.77 323 ⇑P P 14 55 42.8 +1.3
baz=78,SNR=8.2
K29A **Lazy Trails An** 77.81 339 ⇑P P 14 55 42.2 +0.8
baz=78,SNR=5.1
BFSC **Mount Baldy Ra** 78.01 322 ⇓P P 14 55 43.9 +1.0
baz=78,SNR=6.1
SPMN **St. Paul** 78.04 345 ⇑P P 14 55 42.6 0.0
baz=78,SNR=6.2
TUQ **Turquoise Moun** 78.04 324 ⇑P P 14 55 44.6 +1.6
baz=78,SNR=5.9
K28A **Ten Mile Ranch** 78.10 338 ⇑P P 14 55 44.3 +1.2
baz=78,SNR=8.2
COWI **Conover** 78.11 347 eP P 14 55 42.1 -0.9
comp=Z,16nm,1.1s
N23A **Red Feather La** 78.11 334 ⇑P P 14 55 44.4 +1.0
baz=78,SNR=7.7
O21A **Pagoda** 78.12 332 ⇑P P 14 55 44.6 +1.1
baz=78
M24A **Cheyenne** 78.19 335 ⇑P P 14 55 45.6 +1.8
baz=78
N22A **Wattenberg Ran** 78.23 333 ⇑P P 14 55 45.4 +1.2
baz=79,SNR=7.5
P19A **Cripple Cowboy** 78.25 331 ⇓P P 14 55 45.4 +1.2
baz=79
PHWY **Pilot Hill** 78.28 334 eP P 14 55 45.0 +0.6
comp=Z,4.9nm,0.7s
O20A **White River Ci** 78.37 332 ⇓P P 14 55 45.7 +0.9
baz=79,SNR=6.5
DECC **Green Verdugo** 78.37 322 ⇓P P 14 55 46.8 +2.0
baz=79
K27A **Flueckinger Fa** 78.38 337 ⇑P P 14 55 45.7 +1.1
baz=79
GSC **Goldstone** 78.38 323 eP P 14 55 45.5 +0.6
GSC pmax pmax
comp=Z,2.0nm,0.4s
GSC **Goldstone** 78.38 323 eP P 14 55 45.5 +0.6
comp=Z,1.6nm,0.4s
GSC **Goldstone** 78.38 323 ⇑P P 14 55 45.9 +1.0
baz=79,SNR=5.4
SRU **San Rafael** 78.47 330 P P 14 55 44.3 -1.1
SRU pmax pmax
comp=Z,16nm,1.1s
SRU **San Rafael** 78.47 330 P P 14 55 44.3 -1.1
comp=Z,16nm,1.1s
CCUT **Cedar City** 78.47 327 eP P 14 55 46.6 +1.2
comp=Z,12nm,1.1s
L25A **Engebretsen Ra** 78.49 336 ⇓P P 14 55 46.9 +1.6
baz=79
M23A **Laramie** 78.53 334 ⇑P P 14 55 46.5 +0.8
baz=79,SNR=5.9
SHOC **Shoshone** 78.58 324 ⇓P P 14 55 46.6 +0.8
baz=79
Q16A **Castle Valley** 78.59 329 ⇓P P 14 55 46.8 +0.8
baz=79,SNR=13
N21A **Black Mountain** 78.61 333 ⇑P P 14 55 47.7 +1.5
baz=79,SNR=13
EDW2 **Edwards Air Fo** 78.67 322 ⇑P P 14 55 47.1 +0.6
baz=79,SNR=5.6
J28A **Allard Ranch,** 78.69 338 ⇑P P 14 55 47.2 +0.8
baz=79,SNR=9.6
MSU **Marysvale** 78.70 328 eP P 14 55 47.7 +1.0
MSU pmax pmax
comp=Z,12nm,1.3s
MSU **Marysvale** 78.70 328 eP P 14 55 47.7 +1.0
comp=Z,12nm,1.3s
MVU **Marysvale** 78.71 328 eP P 14 55 46.4 -0.4
comp=Z,14nm,1.3s
O19A **Miners Draw (B** 78.86 331 ⇑P P 14 55 48.6 +1.1
baz=79,SNR=6.7
BRSD **Miller** 78.92 340 ⇓P P 14 55 47.3 -0.2
baz=79
N20A **Spence Gulch,** 78.97 332 ⇓P P 14 55 48.7 +0.6
baz=79,SNR=6.1
LRMC **Laurel Mountai** 78.98 323 ⇓P P 14 55 49.0 +0.9
baz=79,SNR=5.6
L23A **Garrett** 79.08 335 ⇓P P 14 55 49.1 +0.4
baz=79
I28A **Midland** 79.19 338 ⇓P P 14 55 49.9 +0.9
baz=80
M21A **Separation Pea** 79.27 333 ⇓P P 14 55 50.8 +1.0
baz=80
L22A **Ellis Ranch, M** 79.28 334 ⇑P P 14 55 50.7 +0.9
baz=80,SNR=5.7
K24A **Anderson Ranch** 79.28 335 ⇓P P 14 55 51.3 +1.6
baz=80
FURC **Furnace Creek,** 79.32 324 ⇑P P 14 55 51.4 +1.6
baz=80
MPMC **Manual Prospec** 79.32 323 ⇑P P 14 55 50.8 +0.7
baz=80,SNR=5.3
TSUM **Tsumeb** 79.46 106 eP P 14 55 51.7 +0.4
comp=Z,39nm,1.0s
M20A **Sweetwater, Wa** 79.49 333 ⇑P P 14 55 51.5 +0.5
baz=80
J25A **Sunshine Ranch** 79.52 336 ⇑P P 14 55 52.1 +1.2
baz=80
ISA **Isabella** 79.53 323 eP P 14 55 51.2 +0.1
ISA pmax pmax
comp=Z,15nm,1.1s
ISA **Isabella** 79.53 323 eP P 14 55 51.2 +0.1
comp=Z,14nm,1.1s
ISA **Isabella** 79.53 323 ⇓P P 14 55 52.4 +1.3
baz=80,SNR=10
I27A **Quinn** 79.53 338 ⇓P P 14 55 52.0 +1.1
baz=80
L21A **Rawlins** 79.58 333 ⇓P P 14 55 51.8 +0.4
baz=80,SNR=18
K23A **Bowen Ranch, D** 79.61 335 ⇑P P 14 55 52.9 +1.4
baz=80,SNR=7.0
PKM **Peak Mountain** 79.66 321 ⇓P P 14 55 53.8 +1.8
baz=80
MPU **Maple Canyon** 79.69 330 eP P 14 55 52.2 +0.1
comp=Z,31nm,1.4s
H28A **Mission Ridge** 79.75 339 ⇑P P 14 55 52.8 +0.8
baz=80
J24A **Dixon Ranch, L** 79.76 336 ⇑P P 14 55 53.9 +1.7
baz=80,SNR=5.1
I26A **New Underwood** 79.77 337 ⇓P P 14 55 53.2 +1.0
baz=80
K22A **Casper** 79.85 334 ⇑P P 14 55 53.5 +0.7
baz=80,SNR=8.1
DAU **Daniels Canyon** 79.86 330 eP P 14 55 53.9 +0.8
DAU pmax pmax
comp=Z,9.0nm,1.1s
DAU **Daniels Canyon** 79.86 330 eP P 14 55 53.9 +0.8
comp=Z,8.9nm,1.1s
VES **Vestal, Richgr** 79.98 322 ⇓P P 14 55 54.2 +0.8
baz=80
GRAC **Grapevine Rang** 79.99 324 ⇑P P 14 55 54.8 +1.3
baz=80,SNR=5.5
L20A **Wamsutter** 79.99 333 ⇑P P 14 55 54.6 +0.9
baz=80
H27A **Howes** 80.05 338 ⇓P P 14 55 54.6 +0.9

baz=80
I25A Rochford 80.05 337 ⇑P P 14 55 54.7 +0.8
baz=80
SMMC Simmler 80.07 321 ⇓P P 14 55 55.0 +1.0
baz=80
G28A Parade 80.08 339 ⇑P P 14 55 54.8 +1.0
baz=80
K21A Alcova 80.11 334 ⇑P P 14 55 55.0 +0.8
baz=80
I24A Kuemmerle Ranc 80.21 336 ⇓P P 14 55 55.2 +0.5
baz=81
RSSD Black Hills 80.24 337 *e*P P 14 55 54.9 -0.1
RSSD pmax pmax
comp=Z,19nm,1.1s
RSSD Black Hills 80.24 337 *e*P P 14 55 54.9 -0.1
comp=Z,19nm,1.1s
H26A Fairpoint 80.26 338 ⇑P P 14 55 57.2 +2.4
baz=81
EYMN Ely 80.34 346 *e*P P 14 55 53.5 -1.6
comp=Z,25nm,1.3s
DUG Dugway 80.36 329 *e*P P 14 55 55.1 -0.5
DUG pmax pmax
comp=Z,18nm,1.4s
DUG Dugway 80.36 329 *e*P P 14 55 55.1 -0.5
comp=Z,18nm,1.4s
DUG Dugway 80.36 329 ⇓P P 14 55 56.5 +0.9
baz=81,SNR=10
M17A Scullys Gap (B 80.49 331 ⇑P P 14 55 56.7 +0.3
baz=81,SNR=5.0
J22A Midwest 80.49 335 ⇑P P 14 55 56.2 0.0
baz=81,SNR=8.1
H25A Fruitdale 80.53 337 ⇓P P 14 55 56.9 +0.6
baz=81
K20A Yellowstone Ra 80.55 333 ⇑P P 14 55 57.0 +0.4
baz=81,SNR=7.4
G27A Dupree 80.67 339 ⇑P P 14 55 57.1 +0.1
baz=81
J21A Lysite 80.79 334 ⇑P P 14 55 58.4 +0.5
baz=81
G26A Maurine 80.80 338 ⇓P P 14 55 57.9 +0.2
baz=81
K19A Absolon Red Bu 80.89 333 ⇓P P 14 55 58.3 -0.1
baz=81,SNR=12
I22A 9 Mile Ranch, 80.90 335 ⇑P P 14 55 58.6 +0.2
baz=81,SNR=8.9
H24A Dirks Ranch, A 80.97 337 ⇓P P 14 55 58.7 +0.1
baz=81,SNR=12
HWUT Hardware Ranch 80.98 331 *e*P P 14 55 58.4 -0.5
comp=Z,11nm,0.8s
G25A Newell 80.98 338 ⇓P P 14 55 59.3 +0.6
baz=81
BOSA Boshof 81.01 118 *e*P P 14 55 59.1 -0.4
comp=Z,24nm,0.9s
BOSA Boshof 81.01 118 P P 14 55 59.8 +0.3
comp=Z,23nm,0.8s,baz=242,slow=5.1,SNR=28
BOSA LR LR 15 26 29.6
comp=Z,181nm,18.5s,baz=256,slow=32
J20A Shoshoni 81.04 334 ⇓P P 14 56 00.6 +1.5
baz=81,SNR=11
BW06 Boulder Array 81.12 332 *e*P P 14 55 57.0 -2.7
comp=Z,18nm,1.5s
PDAR Pinedale Array 81.12 332 P P 14 55 59.5 -0.2
PDAR Pinedale Array 81.12 332 P P 14 55 59.5 -0.2
comp=Z,2.2nm,0.5s,baz=137,slow=7.4,SNR=22
PDAR LR LR 15 28 48.4
comp=Z,135nm,21.5s,baz=129,slow=33
I21A Big Trails, Te 81.13 334 ⇑P P 14 55 59.4 -0.2
baz=82,SNR=8.9
J19A Crowheart 81.34 333 ⇑P P 14 56 01.4 +0.7
baz=82,SNR=6.4
G24A Alzada 81.43 337 ⇑P P 14 56 01.4 +0.3
baz=82,SNR=8.6
NVAR Mina Array Bea 81.56 324 P P 14 56 02.2 +0.1
NVAR Mina Array Bea 81.56 324 P P 14 56 02.2 +0.1
comp=Z,3.2nm,0.8s,baz=155,slow=5.9,SNR=20
I20A Worland 81.56 334 ⇓P P 14 56 02.2 +0.3
baz=82,SNR=7.2
HVU Hansel Valley 81.64 330 *e*P P 14 56 01.6 -0.7
HVU pmax pmax
comp=Z,8.0nm,0.9s
HVU Hansel Valley 81.64 330 *e*P P 14 56 01.6 -0.7
comp=Z,7.9nm,0.9s
F25A Bowman 81.64 338 ⇑P P 14 56 02.6 +0.5
baz=82
AGMN Agassiz Nation 81.65 344 *e*P P 14 56 01.1 -1.0
comp=Z,15nm,0.7s
G23A Biddle 81.65 336 ⇓P P 14 56 02.4 +0.1
baz=82,SNR=8.0
H21A Big Horn, Sher 81.74 335 ⇑P P 14 56 03.4 +0.5
baz=82
E26A Carlson Angus 81.81 339 ⇓P P 14 56 03.6 +0.6
baz=82
ELK Elko 81.90 328 *e*P P 14 56 03.5 -0.4
comp=Z,31nm,1.6s
ELK *e*pP pP 14 56 21.1 +1.4
I19A Meeteetse 81.97 334 ⇓P P 14 56 04.7 +0.6
baz=82
H20A Greybull 81.97 334 ⇓P P 14 56 03.9 -0.1
baz=82,SNR=7.9
I18A Diamond G Ranc 82.00 333 ⇓P P 14 56 04.8 +0.4
baz=82
F23A Volborg 82.11 337 ⇑P P 14 56 04.9 +0.2
baz=82
E25A Miller Ranch, 82.13 338 ⇑P P 14 56 05.1 +0.3
baz=82,SNR=7.8
LOHW Long Hollow 82.24 332 *e*P P 14 56 05.2 -0.4
comp=Z,12nm,1.4s
TPAW Teton Pass 82.28 332 *e*P P 14 56 05.2 -0.6
comp=Z,7.6nm,1.1s
G21A Lodge Grass 82.31 335 ⇑P P 14 56 05.9 +0.1
baz=83
MOOW Moose Ponds 82.41 332 *e*P P 14 56 05.9 -0.6
comp=Z,6.7nm,1.5s
TOA0 Torodi Ar. Sit 82.42 70 *e*P P 14 56 06.4 -0.5
TORD Torodi Ar. Bea 82.42 70 P P 14 56 06.7 -0.2
TORD Torodi Ar. Bea 82.42 70 P P 14 56 06.7 -0.2
comp=Z,43nm,0.8s,baz=275,slow=6.0,SNR=201
TORD LR LR 15 30 11.5
comp=Z,355nm,20.0s,baz=240,slow=34
E24A Baker 82.48 338 ⇑P P 14 56 06.9 +0.3
baz=83,SNR=7.3
H19A Powell 82.50 334 ⇑P P 14 56 07.3 +0.5
baz=83
IMW Indian Meadow 82.61 332 *e*P P 14 56 07.7 +0.1
comp=Z,4.0nm,0.8s
G20A Bridger 82.68 335 ⇑P P 14 56 07.3 -0.4
baz=83,SNR=7.5
E23A Ismay 82.75 337 ⇑P P 14 56 08.0 0.0
baz=83
H18A Shoshone NF, C 82.77 333 ⇑P P 14 56 08.4 +0.1
baz=83,SNR=11
I16A Newdale 82.82 332 ⇓P P 14 56 09.0 +0.5
baz=83,SNR=5.7
D24A Glendive 82.97 338 ⇑P P 14 56 09.8 +0.7
baz=83
RLMT Red Lodge 82.99 334 *e*P P 14 56 09.1 -0.3
comp=Z,4.2nm,0.6s
LBTB Lobatse 83.08 115 *e*P P 14 56 10.0 -0.4
comp=Z,60nm,0.9s
G18A Lazy EL Ranch, 83.27 334 ⇑P P 14 56 11.1 +0.4
baz=84,SNR=5.2
D23A Lindsay 83.31 337 ⇓P P 14 56 11.3 +0.4
baz=84,SNR=19
C24A Savage 83.37 338 ⇑P P 14 56 11.7 +0.6
baz=84,SNR=23
E21A Keefer Ranch, 83.40 336 ⇑P P 14 56 11.5 +0.2
baz=84,SNR=6.5
H16A Russell Place, 83.41 333 ⇓P P 14 56 12.2 +0.6
baz=84
ULM Lac du Bonnet 83.47 344 P P 14 56 11.0 -0.5
ULM Lac du Bonnet 83.47 344 P P 14 56 11.0 -0.5
comp=Z,14nm,0.9s,baz=163,slow=6.3,SNR=10.0
F19A Roth Farm, Mol 83.49 335 ⇓P P 14 56 11.6 -0.3
baz=84
D22A Cohagen 83.62 337 ⇓P P 14 56 12.7 +0.3
baz=84,SNR=10
I14A Mackay 83.67 331 ⇑P P 14 56 13.7 +0.7
baz=84,SNR=6.7
GCMT Greycliff 83.70 334 *e*P P 14 56 12.7 -0.3
comp=Z,7.4nm,1.3s
E20A Meyer Farm, Mu 83.74 335 ⇓P P 14 56 13.2 +0.2
baz=84,SNR=13
F18A Big Timber 83.82 334 ⇓P P 14 56 13.5 0.0
baz=84,SNR=9.5
D21A La Casta Ranch 83.82 336 ⇑P P 14 56 13.9 +0.5
baz=84
C23A Lambert 83.86 338 ⇑P P 14 56 14.0 +0.4
baz=84,SNR=10
E19A Rath Farm, Rou 83.94 335 ⇑P P 14 56 14.1 0.0
baz=84,SNR=16
C22A Vida 84.04 337 ⇓P P 14 56 14.4 -0.1
baz=84,SNR=5.7
DGMT Dagmar 84.13 339 *e*P P 14 56 15.0 +0.2
comp=Z,77nm,0.9s
DGMT Dagmar 84.13 339 ⇓P P 14 56 15.1 +0.2
baz=84,SNR=18
MCMT McKenzie Canyo 84.16 332 *e*P P 14 56 15.2 -0.3
comp=Z,6.3nm,1.2s
F17A Fitzpatrick Pl 84.18 334 ⇓P P 14 56 16.1 +0.7
baz=84
I12A Atlanta 84.28 330 ⇓P P 14 56 16.5 +0.5
baz=85
MFID Camas Ranch 84.29 329 ⇑P P 14 56 16.3 +0.4
baz=85
BOZ Bozeman (W) 84.34 333 *e*P P 14 56 16.0 -0.3
BOZ pmax pmax
comp=Z,9.0nm,1.8s
BOZ Bozeman (W) 84.34 333 *e*P P 14 56 16.0 -0.3
comp=Z,9.3nm,1.8s
B23A Brockton 84.37 338 ⇑P P 14 56 16.6 +0.4
baz=85,SNR=6.3
E18A Harlowton 84.45 334 ⇓P P 14 56 17.5 +0.8
baz=85,SNR=5.6
A24A Westby 84.47 339 ⇑P P 14 56 17.1 +0.5
baz=85,SNR=5.2
DLMT Dillon 84.49 332 P P 14 56 17.4 +0.3
comp=Z,18nm,1.4s
C21A Desert Coulee 84.52 337 ⇑P P 14 56 16.8 -0.2
baz=85,SNR=5.2
B22A Reddig Ranch S 84.56 338 ⇓P P 14 56 17.1 -0.1
baz=85,SNR=14
D19A Cripps Ranch, 84.58 335 ⇓P P 14 56 17.3 0.0
baz=85,SNR=11
E17A Martinsdale 84.72 334 ⇑P P 14 56 18.8 +0.7
baz=85
C20A Veseth Ranch, 84.73 336 ⇑P P 14 56 17.5 -0.5
baz=85,SNR=10
H12A Diamond D Ranc 84.77 330 ⇑P P 14 56 19.3 +0.8
baz=85
WVOR Wild Horse Val 84.81 327 *e*P P 14 56 18.3 -0.3
WVOR pmax pmax
comp=Z,6.0nm,1.4s
WVOR Wild Horse Val 84.81 327 *e*P P 14 56 18.3 -0.3
comp=Z,6.5nm,1.4s
LRM Limekiln Ridge 84.81 332 *e*P P 14 56 19.2 +0.5
comp=Z,92nm,1.4s
D18A Linhart Farms, 84.94 335 ⇓P P 14 56 19.4 +0.2
baz=85,SNR=8.8
C19A Slack Wire Ran 85.12 335 ⇑P P 14 56 19.9 -0.1
baz=86,SNR=7.6
A22A Carney Farms, 85.13 338 ⇑P P 14 56 20.3 +0.3
baz=86,SNR=11
MOD Modoc 85.20 326 *e*P P 14 56 20.7 0.0
comp=Z,2.9nm,0.6s
SCHQ Schefferville 85.23 3 *e*P P 14 56 19.2 -1.1
comp=Z,32nm,1.4s
SCHQ Schefferville 85.23 3 P P 14 56 20.4 +0.1
comp=Z,2.3nm,0.5s,baz=171,slow=6.8,SNR=5.2
D17A Six Diamond Ra 85.23 334 ⇓P P 14 56 20.7 +0.1
baz=86,SNR=15
B20A Solberg Farm, 85.36 336 ⇑P P 14 56 21.0 -0.1
baz=86,SNR=6.2
G12A Big Creek, Yel 85.43 330 ⇓P P 14 56 22.3 +0.5
baz=86
D16A Dana Ranch, Ca 85.46 334 ⇑P P 14 56 22.1 +0.4
baz=86,SNR=7.4
EGMT Eagleton 85.62 335 P P 14 56 22.7 +0.2
comp=Z,6.6nm,0.8s
C17A Wharram Farm, 85.66 334 ⇑P P 14 56 22.9 +0.2
baz=86
B19A Brinnan Farms 85.69 336 ⇓P P 14 56 22.8 -0.1
baz=86,SNR=7.1
A20A Cobblestone Ra 85.70 337 ⇓P P 14 56 22.7 -0.2
baz=86,SNR=15
D15A Lincoln 85.84 333 ⇑P P 14 56 24.0 +0.3
baz=86,SNR=6.7
B18A Beardsley Farm 85.94 335 ⇓P P 14 56 23.9 -0.2
baz=86,SNR=9.1
CHMT Chamberlain Mo 86.02 333 *e*P P 14 56 25.1 +0.4
comp=Z,1.5nm,0.8s
A19A Klindworth Far 86.03 336 ⇓P P 14 56 24.0 -0.5
baz=86,SNR=5.7
C16A Fuhringer Ranc 86.17 334 ⇑P P 14 56 25.1 -0.2
baz=86,SNR=18
B17A L&G Farms, Che 86.22 335 ⇓P P 14 56 25.5 0.0
baz=87
D14A Greenough 86.26 333 ⇑P P 14 56 25.9 +0.1
baz=87,SNR=12
YBH Yreka Blue Hor 86.27 324 *e*P P 14 56 25.1 -0.7
comp=Z,4.0nm,1.1s
SLMT Seeley Lake 86.39 333 *e*P P 14 56 25.8 -0.6
comp=Z,4.6nm,0.6s
A18A Metzger Ranch, 86.41 336 ⇑P P 14 56 26.0 -0.4
baz=87,SNR=8.5
C15A Salmond Ranch, 86.48 333 ⇓P P 14 56 27.0 +0.2
baz=87,SNR=14
E12A Beaver Dam Sad 86.56 331 ⇑P P 14 56 27.6 +0.3
baz=87
D13A Huson 86.65 332 ⇓P P 14 56 27.8 +0.1
baz=87,SNR=10
B16A M & M Farms, S 86.66 334 ⇓P P 14 56 27.0 -0.7
baz=87,SNR=12
A17A Triple J Farms 86.73 335 ⇑P P 14 56 27.8 -0.1
baz=87,SNR=15
SWMT Swartz Lake 86.80 333 *e*P P 14 56 27.8 -0.6
comp=Z,2.9nm,0.7s
B15A Bradely Ranch, 86.90 334 ⇓P P 14 56 28.2 -0.6
baz=87,SNR=12
C14A Swan Lake 86.92 333 ⇓P P 14 56 29.0 +0.1
baz=87
A16A West Butte Ran 87.06 335 ⇓P P 14 56 29.5 -0.2
baz=87
C13A Hot Springs 87.17 332 ⇓P P 14 56 30.9 +0.8
baz=88,SNR=5.2
B14A Marquette Ranc 87.21 333 ⇑P P 14 56 30.9 +0.5
baz=88
BLMT Blacktail Moun 87.35 333 *e*P P 14 56 30.6 -0.6
comp=Z,13nm,1.0s
BSMT Bassoo Peak 87.39 332 *e*P P 14 56 30.9 -0.5
comp=Z,9.6nm,1.3s
A15A Johnson Ranch, 87.51 334 ⇓P P 14 56 31.0 -0.7
baz=88,SNR=8.1
C12B Naegeli Ranch, 87.56 332 ⇑P P 14 56 32.2 +0.2
baz=88
B13A Whitefish 87.69 333 ⇑P P 14 56 32.8 +0.2
baz=88
A14A Double T Ranch 87.77 334 ⇑P P 14 56 32.7 -0.4
baz=88,SNR=7.1
C11A Tepee Creek (N 87.98 332 ⇑P P 14 56 33.8 -0.2
baz=88
WALA Waterton Lakes 88.03 333 *e*P P 14 56 33.2 -1.0
comp=Z,0.5nm,1.2s
A13A Flathead Natio 88.12 333 ⇑P P 14 56 34.8 +0.2
baz=88
HAWA Hanford 88.26 329 *e*P P 14 56 35.6 +0.3
comp=Z,4.7nm,0.6s
NEW Newport 88.67 331 ⇑P P 14 56 37.1 -0.1
baz=89
FFC Flin Flon 89.07 343 *ce*P P 14 56 38.6 -0.2
FFC Flin Flon 89.07 343 *e*P P 14 56 37.0 -1.8
comp=Z,13nm,1.3s
LSZ Lusaka 90.18 108 *e*P P 14 56 46.5 +1.2
comp=Z,31nm,1.0s
TAM Tamanrasset 90.75 64 *e*P P 14 56 48.1 +0.4
TAM pmax pmax
comp=Z,7.0nm,0.9s
TAM Tamanrasset 90.75 64 *e*P P 14 56 48.1 +0.4
comp=Z,6.5nm,0.9s
ESDC Sonseca Array 93.76 46 P P 14 57 01.1 0.0
ESDC Sonseca Array 93.76 46 P P 14 57 01.1 0.0
comp=Z,0.5nm,0.6s,baz=249,slow=4.3,SNR=9.1
ESDC LR LR 15 37 45.9
comp=Z,136nm,19.0s,baz=245,slow=34
YKA Yellowknife Ar 99.13 341 P Pdif 14 57 23.8 -1.0
YKA Yellowknife Ar 99.13 341 P Pdif 14 57 23.8 -1.0
comp=Z,0.9nm,0.5s,baz=146,slow=4.7,SNR=8.7
DZM Mont Dzumac 103.76 234 *e*LR LR 15 31 55.0
comp=Z,539nm,27.9s
GERES GERESS Array B 109.31 44 PKiKP **PKiKP** 15 02 13.2 -0.7
GERES GERESS Array B 109.31 44 PKiKP **PKiKP** 15 02 13.2 -0.7
comp=Z,0.5nm,0.7s,baz=231,slow=4.7,SNR=4.6
CLL Collm 109.92 42 *e*PP PP 15 02 48.0 -0.6
CLL L L 15 48 00.0
comp=Z,200nm,20.5s
ILAR Eielson Array 111.53 333 PKiKP **PKiKP** 15 02 16.9 -0.6
ILAR Eielson Array 111.53 333 PKiKP **PKiKP** 15 02 16.9 -0.6
comp=Z,0.2nm,0.5s,baz=114,slow=0.8,SNR=4.1
BRTR Keskin Array B 119.57 59 PKP **PKPdf** 15 02 32.7 -1.2
BRTR Keskin Array B 119.57 59 PKP **PKPdf** 15 02 32.7 -1.2
comp=Z,0.3nm,0.5s,baz=253,slow=1.3,SNR=4.7
FINES FINESS Array B 119.84 33 PKP **PKPdf** 15 02 32.5 -1.0
FINES FINESS Array B 119.84 33 PKP **PKPdf** 15 02 32.5 -1.0
comp=Z,0.8nm,0.8s,baz=288,slow=0.6,SNR=4.8
ARCES ARCESS Array B 120.70 24 PKP **PKPdf** 15 02 34.4 -0.6
ARCES ARCESS Array B 120.70 24 PKP **PKPdf** 15 02 34.4 -0.6
comp=Z,0.5nm,0.8s,baz=242,slow=2.3,SNR=5.0
AS31 Alice Springs 120.85 207 *e*PKPdf **PKPdf** 15 02 35.5 -1.4
ASAR Alice Springs 120.85 207 PKP **PKPdf** 15 02 35.7 -1.1
ASAR PKKPbc **PKKPbc** 15 12 40.6 +0.3
ASAR Alice Springs 120.85 207 PKP **PKPdf** 15 02 35.7 -1.1
comp=Z,0.8nm,0.8s,baz=136,slow=1.7,SNR=17
ASAR PKKPbc **PKKPbc** 15 12 40.6 +0.3
comp=Z,0.5nm,0.8s,baz=327,slow=3.1,SNR=6.2
LVZ Lovozero 123.98 26 *i* PKIKP **PKPdf** 15 02 41.6 +0.3
LVZ pmax pmax
comp=Z,15nm,2.5s
WRA Warramunga Arr 124.00 209 PKP **PKPdf** 15 02 41.1 -1.8
WRA PKKPbc **PKKPbc** 15 12 27.8 -0.4
WRA Warramunga Arr 124.00 209 PKP **PKPdf** 15 02 41.1 -1.8
comp=Z,1.5nm,0.5s,baz=161,slow=1.7,SNR=62
WRA PKKPbc **PKKPbc** 15 12 27.8 -0.4
comp=Z,0.3nm,0.5s,baz=336,slow=4.4,SNR=9.3
OBN Obninsk 124.52 42 *i* PKIKP **PKPdf** 15 02 42.1 -0.5
OBN *e* 15 04 29.6
OBN pmax pmax
comp=Z,6.0nm,1.5s
OBN MLR MLR
comp=Z,100nm,17.0s
BILL Bilibino 130.12 335 *i* PKIKP **PKPdf** 15 02 50.2 -2.8
BILL pmax pmax
comp=Z,18nm,1.2s
ARU Arti 136.74 39 *i* PKIKP **PKPdf** 15 03 06.0 +0.2
SEY Seymchan 137.45 332 *i* PKIKP **PKPdf** 15 03 07.7 +0.8
AKTO Aktyubinsk 137.62 47 PKIKP **PKPdf** 15 03 06.6 -1.0
AKTO Aktyubinsk 137.62 47 PKP **PKPdf** 15 03 06.6 -1.0
AKTO Aktyubinsk 137.62 47 PKP **PKPdf** 15 03 06.6 -1.0
comp=Z,1.4nm,0.8s,baz=244,slow=2.5,SNR=4.0
PETK Petropavlovsk- 138.26 317 PKIKP **PKPdf** 15 03 09.2 +0.5
PETK Petropavlovsk- 138.26 317 PKP **PKPdf** 15 03 09.2 +0.5
PETK Petropavlovsk- 138.26 317 PKP **PKPdf** 15 03 09.2 +0.5
comp=Z,4.6nm,1.1s,baz=188,slow=9.0,SNR=4.5
AB31 Akbulak array 139.03 49 *e*PKIKP PKPdf 15 03 04.3 -5.9
ABKAR Akbulak array 139.03 49 *e*PKPdf **PKPdf** 15 03 09.7 -0.6
BRVK Borovoye 144.26 40 PKIKP **PKPab** 15 03 17.6 +0.1
BRVK pmax pmax
comp=Z,29nm,1.2s
BRVK Borovoye 144.26 40 *e*PKPdf **PKPab** 15 03 17.5 +0.1
BVA0 Borovoye Array 144.33 40 *i* PKIKP **PKPab** 15 03 18.3 +0.5
BVA0 pmax pmax
comp=Z,8.0nm,0.8s
VOSK Vostochnaya 144.78 40 PKIKP **PKPab** 15 03 19.6 +0.1
VOSK pmax pmax
comp=Z,18nm,1.0s
YAK Yakutsk 145.79 343 *c* *i* PKP2 **PKPdf** 15 03 21.5 -0.3
YAK *e* 15 06 42.3
YAK *e* 15 19 28.0
YAK pmax pmax
comp=Z,70nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=Z,25nm,1.7s
YAK pmax pmax
comp=E,15nm,2.5s
YAK pmax pmax
comp=N,16nm,1.7s
KK31 Karatay Array 147.25 57 *i* PKP2 **PKPbc** 15 03 26.9 -0.4
KK31 pmax pmax
comp=Z,22nm,1.0s
KKAR Karatay Array 147.25 57 *e*PKP2 **PKPbc** 15 03 26.7 -0.6
KKAR Karatay Array 147.25 57 *e*PKPbc **PKPbc** 15 03 26.7 -0.6
YSS Yuzh-Sakhalins 149.22 312 *e*PKP2 **PKPbc** 15 03 31.5 -0.8
HYB Hyderabad 149.52 109 *i* PKP **PKPbc** 15 03 32.5 -1.5
NVS Novosibirsk 149.73 30 *i* PKHKP PKPpre 15 03 31.7
NVS pmax pmax
comp=Z,47nm,1.0s
USP Ospenovka 150.07 56 P **PKPbc** 15 03 35.0 +0.4
SNR=9.4
ASAJ Asahikawa 150.19 306 *e*PKPbc **PKPbc** 15 03 33.7 -1.0
ASAJ Asahikawa 150.19 306 PKPbc **PKPbc** 15 03 33.6 -1.1
comp=Z,12nm,1.0s,baz=260,slow=4.3,SNR=11
AAK Ala-Archa 150.21 57 *c* *i* PKIKP **PKPbc** 15 03 35.5 +0.4
AAK pmax pmax
comp=Z,58nm,1.2s
AAK Ala-Archa 150.21 57 P **PKPbc** 15 03 35.8 +0.7
SNR=8.3
AAK Ala-Archa 150.21 57 *e*PKPbc **PKPbc** 15 03 35.1 0.0
FRU Bishkek 150.26 56 *e*PKIKP **PKPbc** 15 03 35.0 0.0
FRU pmax pmax
comp=Z,57nm,1.8s
CHMS Chumysh 150.32 56 P **PKPbc** 15 03 35.4 +0.2
SNR=7.9
KZA Kyzart 150.88 58 P **PKPbc** 15 03 38.1 +1.1
SNR=6.7
TKM2 Tokmak 2 150.94 56 P **PKPbc** 15 03 36.7 -0.2
SNR=10
ZALV Zalesovo Beam 151.02 30 PKIKP **PKPdf** 15 03 29.3 -1.3
ZALV 15 03 35.8
ZALV Zalesovo Beam 151.02 30 PKP **PKPdf** 15 03 29.2 -1.3
ZALV PKPbc **PKPbc** 15 03 35.8 -0.6
ZALV Zalesovo Beam 151.02 30 PKP **PKPdf** 15 03 29.2 -1.3
comp=Z,39nm,0.4s,baz=318,slow=2.0,SNR=11
ZALV PKPbc **PKPbc** 15 03 35.8 -0.6
comp=Z,40nm,0.4s,baz=306,slow=3.2,SNR=11
CLNS Chul'man 151.51 341 *e*PKIKP **PKPbc** 15 03 36.0 -1.5
CLNS pmax pmax
comp=Z,14nm,0.9s
CLNS pmax pmax
comp=N,4.0nm,0.9s
CLNS pmax pmax
comp=E,2.0nm,0.9s
KSH Kashi 151.87 63 PKPbc **PKPbc** 15 03 38.8 -0.2
KSH pPKP pPKPdf 15 03 59.0 +10
KSH sPKP 15 04 03.6
KSH PP **PP** 15 07 18.3 -2.2
KSH SKS 15 11 50.0
KSH Kashi 151.87 63 SKKS 15 14 00.5
HABR Khabarovsk 153.25 319 *e*PKIKP **PKPdf** 15 03 33.1 -1.0
HABR *e* 15 03 48.2
HABR *e* 15 03 52.8
HABR *e* 15 07 27.0
HABR *e* 15 10 36.0
HABR PPP PPP 15 10 55.2
HABR *e*SS SS 15 26 58.5 +1.5
HABR *e*SSS SSS 15 32 48.4
HABR pmax pmax
comp=N,5.0nm,0.8s
HABR pmax pmax
comp=Z,13nm,1.3s
HABR pmax pmax
comp=E,13nm,1.3s
MK31 Makanchi Array 153.98 44 *e*PKIKP **PKPbc** 15 03 41.7 -1.6
MK31 Makanchi Array 153.98 44 *e*PKPbc **PKPbc** 15 03 41.7 -1.6
MKAR Makanchi Array 153.98 44 PKIKP **PKPdf** 15 03 33.9 -1.4
MKAR 15 03 42.4
MKAR Makanchi Array 153.98 44 PKP **PKPdf** 15 03 33.9 -1.4
MKAR PKPbc **PKPbc** 15 03 42.4 -1.0
MKAR PKPab **PKPab** 15 03 56.9 +0.1
MKAR Makanchi Array 153.98 44 PKP **PKPdf** 15 03 33.9 -1.4
comp=E,0.6nm,0.8s,baz=22,slow=1.3,SNR=4.8
MKAR PKPbc **PKPbc** 15 03 42.4 -1.0
comp=E,3.5nm,0.8s,baz=314,slow=2.2,SNR=22
MKAR PKPab **PKPab** 15 03 56.9 +0.1
comp=E,6.7nm,0.9s,baz=285,slow=4.3,SNR=14
ZAK Zakamensk 159.88 10 *e*PKP2 **PKPab** 15 04 22.6 +0.5
ZAK pmax pmax
comp=Z,2.0nm,1.4s
SONM Songino Array 162.75 5 PKP **PKPdf** 15 03 44.7 -1.3
SONM PKPab **PKPab** 15 04 34.6 -0.2
SONM Songino Array 162.75 5 PKP **PKPdf** 15 03 44.7 -1.3
comp=Z,0.5nm,0.7s,baz=213,slow=1.0,SNR=3.6
SONM PKPab **PKPab** 15 04 34.6 -0.2
comp=Z,1.7nm,1.0s,baz=340,slow=2.8,SNR=6.0
CMAR Chiang Mai Arr 164.92 141 PKP **PKPdf** 15 03 48.2 -0.4
CMAR PKPab **PKPab** 15 04 44.1 -0.9
CMAR Chiang Mai Arr 164.92 141 PKP **PKPdf** 15 03 48.2 -0.4
comp=Z,0.5nm,0.6s,baz=222,slow=1.2,SNR=3.8
CMAR PKPab **PKPab** 15 04 44.1 -0.9
comp=Z,5.5nm,0.9s,baz=231,slow=5.8,SNR=17

QIZ	**Qiongzhong**	**168.38**	**185**	PKP	**PKPdf**	**15 03 50.5**	**-0.7**
QIZ				PP	**PP**	**15 08 49.3**	**+1.5**
QIZ				SS	SS	15 29 37.3	+3.3
GTA	**Gaotai**	**168.60**	**38**	*e*PKP	**PKPdf**	**15 03 51.6**	**+0.6**
GTA				pPKP	**pPKPdf**	**15 04 09.8**	**+2.1**
GTA				sPKP		15 04 17.6	
GTA				PKPab	**PKPab**	**15 05 02.0**	**+1.1**
GTA				PP	**PP**	**15 08 53.7**	**+3.8**
GTA				SKS	**SKSdf**	**15 10 46.9**	**-3.1**
GTA				SKKS	**SKKSac**	**15 15 33.1**	**+0.6**
GTA				SS	**SS**	**15 29 38.4**	**+0.5**
GTA				AMB	AMB		
	comp=Z,120nm,5.0s						
GTA				LR	LR		
	comp=N,180nm,18.8s						
GTA				LR	LR		
	comp=E,160nm,19.5s						
GTA				LR	LR		
	comp=Z,180nm,17.6s						
HHC	**Hu-ho-hao-te**	**169.59**	**348**	*e*PKP	**PKPdf**	**15 03 53.5**	**+2.0**
HHC				sPKP		15 04 10.4	
HHC				PKS	**PKSdf**	**15 07 24.6**	**+0.6**
HHC				PP	**PP**	**15 08 59.3**	**+5.1**
HHC				SKKS		15 15 39.7	
HHC				SS	**SS**	**15 29 50.7**	**+4.2**
HHC				LR	LR		
	comp=N,880nm,18.0s						
HHC				LR	LR		
	comp=E,780nm,16.8s						
HHC				LR	LR		
	comp=Z,510nm,16.8s						
LZH	**Lanzhou**	**173.20**	**36**	*e*PKP	**PKPdf**	**15 03 51.6**	**-1.9**
LZH				pPKP	**pPKPdf**	**15 04 10.7**	**+0.4**
LZH				sPKP		15 04 17.3	
LZH				LR	LR		
	comp=N,120nm,17.5s						
LZH				LR	LR		
	comp=E,150nm,19.0s						
LZH				LR	LR		
	comp=Z,220nm,20.3s						
GYA	**Guiyang**	**175.42**	**156**	PKP	**PKPdf**	**15 03 52.0**	**-2.5**
GYA				pPKP	**pPKPdf**	**15 04 10.2**	**-1.0**
GYA				sPKP		15 04 17.9	
GYA				PKPab	**PKPab**	**15 05 31.0**	**-0.3**
GYA				PKS	**PKSdf**	**15 07 22.8**	**-4.1**
GYA				PP	**PP**	**15 09 23.7**	**+0.6**
GYA				AMB	AMB		
	comp=Z,90nm,7.8s						
CD2	**Chengdu**	**175.68**	**85**	PKP	**PKPdf**	**15 03 53.4**	**-0.9**

ISK ***12*** *14:47:23.8, 37.˚18N×28.˚18E, h15km, MD2.4*
ISCJB ***12*** *14:47:24.2±0.5, 37.˚22N±0.˚03×28.˚20E±0.˚04, h0km, Error ellipse: s-maj=5.7km s-min=3.7km az=36.7*
CSEM ***12*** *14:47:24.3±0.2, 37.˚21N×28.˚20E, h1km, MD2.4, Error ellipse: s-maj=5.7km s-min=3.4km az=32.0*
DDA ***12*** *14:47:24.1, 37.˚23N×28.˚20E, h7km, MD2.3*
ISC 12 14:47:24.8±1.3**, 37.˚22N**±0.˚03**×28.˚20E**±0.˚03**, h0km, n18,**
σ0$79/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.11**	**140**	*e*PG	**Pg**	**14 47 27.0**	**+0.1**
YER				*e*SG	**Sg**	**14 47 29.8**	**+1.5**
YER	**Yerkesik**	**0.11**	**140**	*e*Pg	**Pg**	**14 47 27.0**	**+0.1**
YER				*e*Sg	**Sg**	**14 47 29.8**	**+1.5**
MLSB	**Milas**	**0.34**	**283**	*e*PG	**Pg**	**14 47 31.3**	**-0.1**
MLSB				*e*SG	**Sg**	**14 47 36.7**	**+0.9**
MLSB	**Milas**	**0.34**	**283**	*e*Pg	**Pg**	**14 47 31.3**	**-0.1**
MLSB				*e*Sg	**Sg**	**14 47 36.7**	**+0.9**
TURN	**Turunc**	**0.47**	**136**	*i* P	**Pg**	**14 47 32.9**	**-1.0**
TURN				*i* S	**Sg**	**14 47 40.1**	**0.0**
TURN	**Turunc**	**0.47**	**136**	*i* P	**Pg**	**14 47 32.9**	**-1.0**
AYDN	**Tasoluk**	**0.51**	**331**	*i* P	**Pg**	**14 47 34.3**	**-0.3**
AYDN				*i* S	**Sg**	**14 47 41.5**	**+0.3**
AYDN	**Tasoluk**	**0.51**	**331**	*i* P	**Pg**	**14 47 34.3**	**-0.3**
AYDN				*i* S	**Sg**	**14 47 41.5**	**+0.3**
DALY	**Dalyan (Mu˘la**	**0.54**	**137**	*e*PG	**Pg**	**14 47 34.9**	**-0.3**
DALY	**Dalyan (Mu˘la**	**0.54**	**137**	*e*Pg	**Pg**	**14 47 34.9**	**-0.3**
DAT	**Datca**	**0.69**	**226**	*e*PG	**Pg**	**14 47 36.9**	**-1.2**
DAT	**Datca**	**0.69**	**226**	*e*Pg	**Pg**	**14 47 36.9**	**-1.2**
BODT	**Bodrum**	**0.72**	**258**	*e*PG	**Pg**	**14 47 38.1**	**-0.5**
BODT	**Bodrum**	**0.72**	**258**	*e*Pg	**Pg**	**14 47 38.2**	**-0.5**
DNZL	**Cakiroluk**	**0.82**	**55**	*i* P	**Pg**	**14 47 40.0**	**-0.6**
DNZL				*i* S	**Sg**	**14 47 51.6**	**+0.2**
DNZL	**Cakiroluk**	**0.82**	**55**	*i* P	**Pg**	**14 47 40.0**	**-0.6**
FETY	**Fethiye**	**0.92**	**129**	*e*PG	**Pg**	**14 47 41.6**	**-0.8**
FETY	**Fethiye**	**0.92**	**129**	*e*Pg	**Pg**	**14 47 41.6**	**-0.8**

ISK ***12*** *14:47:53.5, 39.˚18N×30.˚61E, h14km, MD2.3*
ISCJB ***12*** *14:47:54.9±1.0, 39.˚27N±0.˚06×30.˚53E±0.˚06, h0km, Error ellipse: s-maj=9.2km s-min=4.9km az=145.8*
CSEM ***12*** *14:47:54.7±0.3, 39.˚26N×30.˚53E, h1km, MD2.5, Error ellipse: s-maj=8.4km s-min=3.5km az=151.0*
DDA ***12*** *14:47:57.6, 39.˚62N×30.˚58E, h7km, MD2.5*
ISC 12 14:47:55.0±1.2**, 39.˚27N**±0.˚05**×30.˚52E**±0.˚04**, h0km, n14,**
σ0$67/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESKT	**Eskisehir**	**0.36**	**46**	*e*PG	**Pg**	**14 48 01.7**	**-0.2**
ESKT				*e*SG	**Sg**	**14 48 08.0**	**+1.5**
ESKT	**Eskisehir**	**0.36**	**46**	*e*Pg	**Pg**	**14 48 01.7**	**-0.2**
ESKT				*e*Sg	**Sg**	**14 48 08.0**	**+1.5**
SEYT	**Eskypehyr**	**0.36**	**46**	*i* P	**Pg**	**14 48 01.7**	**-0.2**
SEYT				*i* S	**Sg**	**14 48 07.1**	**+0.6**
SEYT	**Eskypehyr**	**0.36**	**46**	*i* P	**Pg**	**14 48 01.7**	**-0.2**
SEYT				*i* S	**Sg**	**14 48 07.1**	**+0.6**
ALT	**Altintas**	**0.38**	**236**	*e*PG	**Pg**	**14 48 02.1**	**-0.3**
ALT				*e*SG	**Sg**	**14 48 08.1**	**+0.7**
ALT	**Altintas**	**0.38**	**236**	*e*Pg	**Pg**	**14 48 02.1**	**-0.3**
ALT				*e*Sg	**Sg**	**14 48 08.1**	**+0.7**
TVSB	**Tavsanli**	**0.84**	**283**	*e*PG	**Pg**	**14 48 11.9**	**+0.8**
TVSB	**Tavsanli**	**0.84**	**283**	*e*Pg	**Pg**	**14 48 11.9**	**+0.8**
CAVI	**Cavuskoy**	**1.06**	**331**	*e*PN	**Pb**	**14 48 16.2**	**-0.2**
CAVI				*e*SN	**Sn**	**14 48 32.8**	**0.0**
CAVI	**Cavuskoy**	**1.06**	**331**	*e*Pn	**Pb**	**14 48 16.2**	**-0.2**
CAVI				*e*Sn	**Sn**	**14 48 32.8**	**0.0**
ULDT	**Uludag**	**1.38**	**310**	*i* P	**Pn**	**14 48 21.1**	**-0.6**
ULDT				*i* S	**Sg**	**14 48 38.8**	**-0.5**
ULDT	**Uludag**	**1.38**	**310**	*i* P	**Pn**	**14 48 21.1**	**-0.6**
ULDT				*i* S	**Sg**	**14 48 38.8**	**-0.5**
DURS	**Dursunbey**	**1.62**	**282**	*e*P	**Pn**	**14 48 24.5**	**-0.4**
DURS				*e*S	**Sg**	**14 48 47.8**	**+0.8**
DURS	**Dursunbey**	**1.62**	**282**	*e*P	**Pn**	**14 48 24.5**	**-0.4**
DURS				*e*S	**Sg**	**14 48 47.8**	**+0.8**

ISCJB ***12*** *14:48:14.5±0.3, 40.˚31N±0.˚02×19.˚23E±0.˚02, h2km±2km, mb3.8/10, MS3.1/2, Error ellipse: s-maj=2.9km s-min=2.0km az=43.9*
IDC ***12*** *14:48:16.7±1.1, 40.˚34N×19.˚56E, h0km, mb3.8/11, mb1 3.9/19, mb1mx3.8/36, mbtmp3.8/19, ML3.6/7, MS2.9/4, Ms1 2.9/4, ms1mx2.4/46, Error ellipse: s-maj=18.7km s-min=14.2km az=21.0*
LDG ***12*** *14:48:18.0±0.1, 40.˚33N×19.˚50E, h2km, Ml3.9/16, Error ellipse: s-maj=2.7km s-min=1.8km az=18.0*
BEO ***12*** *14:48:18.8±0.9, 40.˚18N×19.˚43E, h27km±5km, ML3.6/1*
TIR ***12*** *14:48:18.4, 40.˚29N×19.˚71E, h10km, ML3.8*
ATH ***12*** *14:48:18.7, 40.˚30N×19.˚41E, h29km±1km, MD3.8/31, ML3.9*
ROM ***12*** *14:48:20.3±0.1, 40.˚24N×19.˚59E, h34km, Ml4.1/41, Error ellipse: s-maj=2.2km s-min=1.4km az=122.0*
CSEM ***12*** *14:48:20.1±0.1, 40.˚31N×19.˚47E, h20km, ML3.8, Error ellipse: s-maj=2.8km s-min=2.2km az=60.0*
THE ***12*** *14:48:20.5, 40.˚32N×19.˚60E, h5km, ML3.9/1, Error ellipse: s-maj=0.6km s-min=0.3km az=94.0*
PDG ***12*** *14:48:20.1±0.7, 40.˚33N×19.˚52E, h22km±1km, ML3.4/8, Error ellipse: s-maj=0.7km s-min=0.7km az=90.0*
ISC 12 14:48:18.1±1.0**, 40.˚34N**±0.˚02×**19.˚48E**±0.˚02**, h12**km±7km**,
n282, σ1$65/348, mb3.8/10**, 24C-11D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.60**	**139**	*e*PG	**Pg**	**14 48 30.0**	**+0.2**
SRN				*i* SG	**Sg**	**14 48 37.9**	**+0.1**
SRN	**Sarande**	**0.60**	**139**	P	**Pg**	**14 48 30.1**	**+0.2**
SRN				S	**Sb**	**14 48 38.7**	**-0.3**
SRN	**Sarande**	**0.60**	**139**	P	**Pg**	**14 48 30.1**	**+0.2**
SRN				S	**Sb**	**14 48 38.7**	**-0.3**
KEK	**Kerkira**	**0.67**	**159**	P	**Pb**	**14 48 32.4**	**+0.7**
KEK				S	**Sb**	**14 48 41.6**	**+0.7**
KEK	**Kerkira** 6µm,0.4s	**0.67**	**159**	Pg	**Pb**	**14 48 31.9**	**+0.2**
KEK	**Kerkira**	**0.67**	**159**	*e*PN	**Pb**	**14 48 32.3**	**+0.6**
KEK				*e*SN	**Sb**	**14 48 41.5**	**+0.7**
KEK	**Kerkira** 6µm,0.4s	**0.67**	**159**	Pg	**Pb**	**14 48 31.9**	**+0.2**
KEK	**Kerkira**	**0.67**	**159**	*e*Pn	**Pb**	**14 48 32.3**	**+0.6**
KEK				S	**Sb**	**14 48 41.6**	**+0.7**
SCTE	**Santa Cesarea**	**0.82**	**252**	Pg	**Pn**	**14 48 36.6**	**+1.1**
SCTE	10µm,0.3s			Sg	**Sn**	**14 48 49.6**	**+2.0**
SCTE	**Santa Cesarea**	**0.82**	**252**	Pg	**Pn**	**14 48 36.6**	**+1.1**
SCTE	10µm,0.3s			Sg	**Sn**	**14 48 49.6**	**+2.0**
KBN	**Korca**	**1.04**	**73**	*e*PG	**Pn**	**14 48 39.1**	**+0.6**
KBN				*i* SG	**Sg**	**14 48 51.2**	**-0.4**
KBN	**Korca**	**1.04**	**73**	*e*Pg	**Pn**	**14 48 39.1**	**+0.6**
KBN				*i* Sg	**Sg**	**14 48 51.2**	**-0.4**
TIR	**Tirane**	**1.05**	**16**	*e*PG	**Pn**	**14 48 40.7**	**+2.0**
TIR				*i* SG	**Sn**	**14 48 56.9**	**+3.6**
TIR	**Tirane**	**1.05**	**16**	Pg	**Pn**	**14 48 40.5**	**+1.8**
TIR	3µm,0.8s			Sg	**Sn**	**14 48 55.6**	**+2.3**
TIR	**Tirane**	**1.05**	**16**	*e*Sg	**Sn**	**14 48 58.2**	**+4.9**
TIR	**Tirane**	**1.05**	**16**	Pg	**Pn**	**14 48 40.5**	**+1.8**
TIR	3µm,0.8s			Sg	**Sn**	**14 48 55.6**	**+2.3**
JAN	**Janina**	**1.25**	**122**	*e*PN	**Pg**	**14 48 43.0**	**+0.9**
JAN				*e*SN	**Sn**	**14 48 59.4**	**+1.2**
JAN	**Janina**	**1.25**	**122**	*e*Pn	**Pg**	**14 48 43.0**	**+0.9**
JAN				*e*Sn	**Sn**	**14 48 59.4**	**+1.2**
MESG	**Mesagne** 6µm,0.5s	**1.27**	**282**	Pg	**Pg**	**14 48 43.4**	**+0.9**
MESG	**Mesagne** 6µm,0.5s	**1.27**	**282**	Pg	**Pg**	**14 48 43.4**	**+0.9**
FNA	**Florina**	**1.51**	**72**	*e*PN	**Pg**	**14 48 47.2**	**+0.1**
FNA				*e*SN	**Sg**	**14 49 07.3**	**+0.6**
PHP	**Peshkopia**	**1.53**	**28**	*e*PG	**Pb**	**14 48 47.3**	**+0.8**
PHP				*i* SG	**Sg**	**14 49 08.9**	**+1.5**
PHP	**Peshkopia**	**1.53**	**28**	*e*Pg	**Pb**	**14 48 47.3**	**+0.8**
PHP				*i* Sg	**Sg**	**14 49 08.9**	**+1.5**
BIA	**Bitola**	**1.56**	**63**	*i* Pn	**Pb**	**14 48 47.0**	**+0.1**
BIA				*e*Sn	**Sb**	**14 49 07.3**	**+0.7**
ULC	**Ulcinj**	**1.64**	**354**	⇑*i* Pn	**Pb**	**14 48 48.2**	**-0.1**
ULC				*e*Sn	**Sg**	**14 49 10.9**	**+0.1**
ULC	**Ulcinj**	**1.64**	**354**	⇑*i* Pn	**Pb**	**14 48 48.2**	**-0.1**
ULC				*e*Sn	**Sg**	**14 49 10.9**	**+0.1**
PE1	**Pezze di Greco**	**1.64**	**287**	*e*Pn	**Pb**	**14 48 48.2**	**0.0**
PUK	**Puka**	**1.73**	**10**	*e*PG	**Pb**	**14 48 50.2**	**+0.3**
PUK				*i* SG	**Sg**	**14 49 13.9**	**0.0**
PUK	**Puka**	**1.73**	**10**	*e*Pg	**Pb**	**14 48 50.2**	**+0.3**
PUK				*i* Sg	**Sg**	**14 49 13.9**	**0.0**
KZN	**Kozani**	**1.75**	**90**	*e*PN	**Pb**	**14 48 50.5**	**+0.3**
KZN				*e*SN	**Sb**	**14 49 13.1**	**+0.9**
LKD2	**Lefkada island**	**1.79**	**149**	*e*PN	**Pn**	**14 48 50.1**	**+1.2**
NOCI	**Noci** 3µm,0.6s	**1.90**	**285**	Pg	**Pn**	**14 48 51.7**	**+1.4**
NOCI	**Noci** 3µm,0.6s	**1.90**	**285**	Pg	**Pn**	**14 48 51.7**	**+1.4**
BUM	**Brajici-Budva**	**2.01**	**347**	⇑*i* Pn	**Pn**	**14 48 53.3**	**+1.3**
BUM				*e*Sn	**Sb**	**14 49 20.4**	**+0.6**
BUM	**Brajici-Budva**	**2.01**	**347**	⇑*i* Pn	**Pn**	**14 48 53.3**	**+1.3**
BUM				*e*Sn	**Sb**	**14 49 20.4**	**+0.6**
BCI	**Bajram Curri**	**2.08**	**12**	*e*PG	**Pb**	**14 48 55.4**	**-0.4**
BCI				*i* SG	**Sb**	**14 49 22.2**	**+0.6**
BCI	**Bajram Curri**	**2.08**	**12**	*e*Pg	**Pb**	**14 48 55.4**	**-0.4**
BCI				*i* Sg	**Sb**	**14 49 22.2**	**+0.6**
THL	**Klokotos Trika**	**2.09**	**111**	*e*PB	**Pb**	**14 48 54.9**	**-1.1**
THL				*e*SN	**Sn**	**14 49 20.8**	**+1.8**
THL	**Klokotos Trika**	**2.09**	**111**	*e*Pb	**Pb**	**14 48 54.9**	**-1.1**
THL				*e*Sn	**Sn**	**14 49 20.8**	**+1.8**
PDG	**Podgorica**	**2.10**	**355**	*e*Pn	**Pn**	**14 48 55.1**	**+2.0**
PDG				*e*Sn	**Sn**	**14 49 21.0**	**+1.8**
PDG	**Podgorica**	**2.10**	**355**	*e*Pn	**Pn**	**14 48 55.1**	**+2.0**
PDG				*e*Sn	**Sn**	**14 49 21.0**	**+1.8**
TTG	**Podgorica**	**2.10**	**355**	⇓*i* Pn	**Pb**	**14 48 55.5**	**-0.6**
TTG				*e*Sn	**Sb**	**14 49 21.6**	**-0.6**
BAI	**Bari**	**2.12**	**292**	*e*Pn	**Pn**	**14 48 55.3**	**+1.9**
SKO	**Skopje**	**2.21**	**41**	*i* Pn	**Pn**	**14 48 56.7**	**+2.1**
SKO				*e*Sn	**Sb**	**14 49 24.6**	**-0.6**
SKO	**Skopje**	**2.21**	**41**	*i* Pn	**Pn**	**14 48 56.6**	**+2.1**
SKO				*e*Sn	**Sb**	**14 49 24.6**	**-0.6**
HCY	**Herceg Novi**	**2.24**	**341**	⇓*i* Pn	**Pn**	**14 48 56.0**	**+1.0**
HCY				*e*Sn	**Sb**	**14 49 25.3**	**-0.9**
HCY	**Herceg Novi**	**2.24**	**341**	⇓*i* Pn	**Pn**	**14 48 56.0**	**+1.0**
HCY				*e*Sn	**Sb**	**14 49 25.3**	**-0.9**
AMUR	**Altamura** 1µm,0.6s	**2.26**	**286**	Pg	**Pn**	**14 48 56.8**	**+1.4**
AMUR	**Altamura** 1µm,0.6s	**2.26**	**286**	Pg	**Pn**	**14 48 56.8**	**+1.4**
PVY	**Plav**	**2.29**	**9**	*e*Pn	**Pb**	**14 48 58.4**	**-1.0**
PVY				*e*Sn	**Sn**	**14 49 26.6**	**+2.6**
PVY	**Plav**	**2.29**	**9**	*e*Pn	**Pb**	**14 48 58.4**	**-1.0**
PVY				*e*Sn	**Sn**	**14 49 26.6**	**+2.6**
EVR	**Evrytania**	**2.29**	**127**	*e*PB	**Pb**	**14 48 58.4**	**-1.0**
EVR				*e*SN	**Sn**	**14 49 25.8**	**+1.9**
EVR	**Evrytania**	**2.29**	**127**	*e*Pb	**Pb**	**14 48 58.4**	**-1.0**
EVR				*e*Sn	**Sn**	**14 49 25.8**	**+1.9**
LIT	**Litokhoron**	**2.31**	**95**	*e*PN	**Pn**	**14 48 57.8**	**+1.7**
LIT	**Litokhoron**	**2.31**	**95**	*e*Pn	**Pn**	**14 48 57.8**	**+1.7**
VLS	**Valsamata**	**2.32**	**158**	*e*PN	**Pn**	**14 48 56.5**	**+0.4**
VLS				*e*SN	**Sn**	**14 49 24.8**	**+0.2**
VLS	**Valsamata**	**2.32**	**158**	*e*Pn	**Pn**	**14 48 56.5**	**+0.4**
VLS				*e*Sn	**Sn**	**14 49 24.8**	**+0.2**
CRAC	**Craco** 4µm,0.8s	**2.33**	**272**	Pg	**Pn**	**14 48 58.4**	**+2.1**
CRAC	**Craco** 4µm,0.8s	**2.33**	**272**	Pg	**Pn**	**14 48 58.4**	**+2.1**
MIGL	**Miglionico**	**2.34**	**278**	Pg	**Pn**	**14 48 58.6**	**+2.2**
MIGL	**Miglionico**	**2.34**	**278**	Pg	**Pn**	**14 48 58.6**	**+2.2**
ORI	**Oriolo Calabro** 3µm,0.5s	**2.34**	**264**	Pg	**Pn**	**14 48 58.2**	**+1.8**
ORI	**Oriolo Calabro** 3µm,0.5s	**2.34**	**264**	Pg	**Pn**	**14 48 58.2**	**+1.8**
TIP	**Timpagrande** 248nm,0.7s	**2.40**	**242**	Pg	**Pn**	**14 48 58.6**	**+1.4**
TIP	**Timpagrande** 248nm,0.7s	**2.40**	**242**	Pg	**Pn**	**14 48 58.6**	**+1.4**
SERS	**Sersale** 352nm,0.6s	**2.52**	**240**	Pg	**Pn**	**14 48 59.8**	**+0.9**
SERS	**Sersale** 352nm,0.6s	**2.52**	**240**	Pg	**Pn**	**14 48 59.8**	**+0.9**
VAY	**Valandovo**	**2.54**	**66**	*i* Pn	**Pn**	**14 49 00.3**	**+1.1**
VAY				*e*Sn	**Sb**	**14 49 37.5**	**+2.6**
AGG	**Agios Georgios**	**2.56**	**120**	*e*PN	**Pn**	**14 49 01.8**	**+2.4**
AGG				*e*SN	**Sn**	**14 49 32.8**	**+2.3**
AGG	**Agios Georgios**	**2.56**	**120**	*e*Pn	**Pn**	**14 49 01.8**	**+2.4**
MRVN	**Minervino Murg** 790nm,0.6s	**2.60**	**287**	Pg	**Pn**	**14 49 01.6**	**+1.6**
MRVN	**Minervino Murg** 790nm,0.6s	**2.60**	**287**	Pg	**Pn**	**14 49 01.6**	**+1.6**
SCHR	**S. Chirico Rap** 527nm,1.0s	**2.61**	**268**	Pg	**Pn**	**14 49 02.2**	**+2.0**
SCHR	**S. Chirico Rap** 527nm,1.0s	**2.61**	**268**	Pg	**Pn**	**14 49 02.2**	**+2.0**
EFP	**Efpalio**	**2.67**	**135**	*e*PN	**Pn**	**14 49 03.2**	**+2.2**
ACER	**Acerenza**	**2.73**	**281**	Pg	**Pn**	**14 49 04.1**	**+2.2**
ACER	**Acerenza**	**2.73**	**281**	Pg	**Pn**	**14 49 04.1**	**+2.2**
CARO	**Carolei** 914nm,0.8s	**2.74**	**248**	Pg	**Pn**	**14 49 03.6**	**+1.7**
CARO	**Carolei** 914nm,0.8s	**2.74**	**248**	Pg	**Pn**	**14 49 03.6**	**+1.7**
RLS	**Riolos of Patr**	**2.75**	**145**	*e*PN	**Pn**	**14 49 03.7**	**+1.7**
RLS				*e*SN	**Sn**	**14 49 35.7**	**+0.6**
RLS	**Riolos of Patr**	**2.75**	**145**	*e*Pn	**Pn**	**14 49 03.7**	**+1.7**
RLS				*e*Sn	**Sn**	**14 49 35.7**	**+0.6**
TRIZ	**Trizonia**	**2.81**	**134**	*e*PN	**Pn**	**14 49 05.1**	**+2.3**
TRIZ				*e*SN	**Sn**	**14 49 36.9**	**+0.2**
MCEL	**Monticello** 816nm,1.0s	**2.81**	**271**	Pg	**Pn**	**14 49 04.4**	**+1.4**
MCEL	**Monticello** 816nm,1.0s	**2.81**	**271**	Pg	**Pn**	**14 49 04.4**	**+1.4**
CUC	**Castrocucco** 421nm,0.6s	**2.83**	**264**	Pg	**Pn**	**14 49 05.8**	**+2.6**
CUC	**Castrocucco** 421nm,0.6s	**2.83**	**264**	Pg	**Pn**	**14 49 05.8**	**+2.6**
KALE	**Kalithea**	**2.83**	**132**	*e*PN	**Pn**	**14 49 05.5**	**+2.3**
LAKA	**Lakka**	**2.85**	**136**	*e*PN	**Pn**	**14 49 05.3**	**+1.8**
MTSN	**Montesano sull** 609nm,0.6s	**2.85**	**270**	Pg	**Pn**	**14 49 05.2**	**+1.6**
MTSN	**Montesano sull** 609nm,0.6s	**2.85**	**270**	Pg	**Pn**	**14 49 05.2**	**+1.6**
STON	**Ston**	**2.87**	**333**	*e*Pn	**Pn**	**14 49 04.2**	**+0.6**
STON				Sn	**Sn**	**14 49 38.4**	**+0.3**
STON	**Ston**	**2.87**	**333**	*e*Pn	**Pn**	**14 49 04.2**	**+0.6**
STON				Sn	**Sn**	**14 49 38.3**	**+0.3**
SJES	**Sjenica**	**2.95**	**7**	⇑*i* Pn	**Pn**	**14 49 06.3**	**+1.4**
SJES				*e*Sn	**Sn**	**14 49 42.8**	**+2.6**
SJES	**Sjenica**	**2.95**	**7**	⇑*i* Pn	**Pn**	**14 49 06.3**	**+1.4**
SJES				*e*Sn	**Sn**	**14 49 42.8**	**+2.6**
MS1	**Monte Sant'Ang**	**3.01**	**298**	*e*Pn	**Pn**	**14 49 07.5**	**+1.8**
MGR	**Morigerati** 456nm,0.6s	**3.01**	**268**	Pg	**Pn**	**14 49 08.0**	**+2.3**
MGR	**Morigerati** 456nm,0.6s	**3.01**	**268**	Pg	**Pn**	**14 49 08.0**	**+2.3**
PLAC	**Placanica** 210nm,0.7s	**3.02**	**232**	Pg	**Pn**	**14 49 06.8**	**+1.0**
PLAC	**Placanica** 210nm,0.7s	**3.02**	**232**	Pg	**Pn**	**14 49 06.8**	**+1.0**
PLG	**Polygyros**	**3.03**	**88**	*e*PN	**Pn**	**14 49 06.7**	**+0.8**
PLG				*e*SN	**Sn**	**14 49 42.6**	**+0.5**
MSAG	**Monte S. Angel** 1µm,0.5s	**3.03**	**298**	Pg	**Pn**	**14 49 07.2**	**+1.2**
MSAG	**Monte S. Angel** 1µm,0.5s	**3.03**	**298**	Pg	**Pn**	**14 49 07.2**	**+1.2**
BARS	**Barje**	**3.04**	**34**	⇑*i* Pn	**Pn**	**14 49 07.4**	**+1.4**
BARS				*e*Sn	**Sn**	**14 49 43.3**	**+1.0**
BARS	**Barje**	**3.04**	**34**	⇑*i* Pn	**Pn**	**14 49 07.4**	**+1.4**
BARS				*e*Sn	**Sn**	**14 49 43.3**	**+1.0**
NEO	**Neokhori**	**3.06**	**108**	*e*PN	**Pn**	**14 49 08.4**	**+2.1**
MRLC	**Muro Lucano** 326nm,0.6s	**3.07**	**279**	Pg	**Pn**	**14 49 08.2**	**+1.7**
MRLC	**Muro Lucano** 326nm,0.6s	**3.07**	**279**	Pg	**Pn**	**14 49 08.2**	**+1.7**
KLV	**Kalavryta, Ach**	**3.09**	**137**	*e*PN	**Pn**	**14 49 08.5**	**+1.8**
KKB	**Krupnik**	**3.12**	**59**	*i* P	**Pn**	**14 49 08.6**	**+1.4**
KKB	**Krupnik**	**3.12**	**59**	*i* P	**Pn**	**14 49 08.6**	**+1.4**
SGRT	**San Giovanni R** 549nm,0.6s	**3.16**	**298**	Pg	**Pn**	**14 49 09.5**	**+1.7**
SGRT	**San Giovanni R** 549nm,0.6s	**3.16**	**298**	Pg	**Pn**	**14 49 09.5**	**+1.7**
CDRU	**Civita di Ruta** 316nm,0.9s	**3.19**	**274**	Pg	**Pn**	**14 49 09.8**	**+1.6**
CDRU	**Civita di Ruta** 316nm,0.9s	**3.19**	**274**	Pg	**Pn**	**14 49 09.8**	**+1.6**
SGO	**Sicignano** 168nm,0.4s	**3.19**	**275**	Pg	**Pn**	**14 49 10.1**	**+1.9**
SGO	**Sicignano** 168nm,0.4s	**3.19**	**275**	Pg	**Pn**	**14 49 10.1**	**+1.9**
CMPR	**Campora** 139nm,0.5s	**3.19**	**271**	Pg	**Pn**	**14 49 10.3**	**+2.1**
CMPR	**Campora** 139nm,0.5s	**3.19**	**271**	Pg	**Pn**	**14 49 10.3**	**+2.1**
LKR	**Lokris**	**3.20**	**121**	*e*PN	**Pn**	**14 49 09.4**	**+1.2**
GUR	**Goura**	**3.27**	**136**	*e*PN	**Pn**	**14 49 11.1**	**+1.8**
JOPP	**Joppolo** 126nm,0.4s	**3.27**	**239**	Pg	**Pn**	**14 49 10.7**	**+1.4**
JOPP	**Joppolo** 126nm,0.4s	**3.27**	**239**	Pg	**Pn**	**14 49 10.7**	**+1.4**
AMT	**Artemida-Makis**	**3.29**	**147**	*e*PN	**Pn**	**14 49 10.9**	**+1.4**
AMT	**Artemida-Makis**	**3.29**	**147**	*e*Pn	**Pn**	**14 49 10.9**	**+1.4**
CAFE	**Carife** 712nm,0.6s	**3.30**	**283**	Pg	**Pn**	**14 49 11.5**	**+1.8**
CAFE	**Carife** 712nm,0.6s	**3.30**	**283**	Pg	**Pn**	**14 49 11.5**	**+1.8**
FG5	**Orsara di Pugl** 501nm,0.6s	**3.34**	**288**	Pg	**Pn**	**14 49 12.6**	**+2.5**
FG5	**Orsara di Pugl** 501nm,0.6s	**3.34**	**288**	Pg	**Pn**	**14 49 12.6**	**+2.5**
MMB	**Musomiste**	**3.45**	**67**	*i* P	**Pn**	**14 49 12.8**	**+1.1**
NVR	**Nevrokopi**	**3.47**	**72**	*e*PN	**Pn**	**14 49 13.4**	**+1.4**
NVR	**Nevrokopi**	**3.47**	**72**	*e*Pn	**Pn**	**14 49 13.4**	**+1.4**
SOI	**Samo** 381nm,1.2s	**3.49**	**231**	Pg	**Pn**	**14 49 13.3**	**+1.1**
SOI	**Samo** 381nm,1.2s	**3.49**	**231**	Pg	**Pn**	**14 49 13.3**	**+1.1**
LTK	**Loutraki**	**3.56**	**129**	*e*PN	**Pn**	**14 49 14.2**	**+1.0**
VTS	**Vitosha**	**3.59**	**50**	*i* P	**Pn**	**14 49 15.9**	**+2.1**
VTS	**Vitosha**	**3.59**	**50**	⇑*i* P	**Pn**

272nm,0.9s
VVLD Villa Vallelon 4.69 291 Pg **Pn** **14 49 31.4 +2.7**
272nm,0.9s
VCEL Villa Celiera 4.72 298 Pg **Pn** **14 49 31.7 +2.5**
299nm,0.8s
VCEL Villa Celiera 4.72 298 Pg **Pn** **14 49 31.7 +2.5**
299nm,0.8s
KYTH Kithira 4.92 144 *e*PN **Pn** **14 49 33.8 +1.9**
KYTH Kithira 4.92 144 *e*Pn **Pn** **14 49 33.8 +1.9**
TERO Teramo 4.97 299 Pg **Pn** **14 49 34.9 +2.3**
159nm,1.0s
TERO Teramo 4.97 299 Pg **Pn** **14 49 34.9 +2.3**
159nm,1.0s
UDBI Udbina 5.01 328 *e*Pn **Pn** **14 49 35.7 +2.4**
UDBI Sn **Sn** **14 50 32.3 +1.2**
UDBI Udbina 5.01 328 *e*Pn **Pn** **14 49 35.6 +2.4**
UDBI Sn **Sn** **14 50 32.3 +1.2**
CERT Cerreto 5.17 290 Pg **Pn** **14 49 37.5 +2.2**
113nm,0.6s
CERT Cerreto 5.17 290 Pg **Pn** **14 49 37.5 +2.2**
113nm,0.6s
FIAM Fiamignano 5.17 294 Pg **Pn** **14 49 38.1 +2.7**
114nm,0.9s
FIAM Fiamignano 5.17 294 Pg **Pn** **14 49 38.1 +2.7**
114nm,0.9s
PRK Paraskevi 5.34 100 *e*PN **Pn** **14 49 39.6 +2.0**
PRK Paraskevi 5.34 100 *e*Pn **Pn** **14 49 39.6 +2.0**
LNSS Leonessa 5.34 297 Pg **Pn** **14 49 40.6 +2.8**
211nm,1.1s
LNSS Leonessa 5.34 297 Pg **Pn** **14 49 40.6 +2.8**
211nm,1.1s
NRCA Norcia 5.39 300 Pg **Pn** **14 49 40.8 +2.4**
26nm,0.6s
NRCA Norcia 5.39 300 Pg **Pn** **14 49 40.8 +2.4**
26nm,0.6s
NVLJ Novalja 5.43 323 *e*Pn **Pn** **14 49 40.4 +1.5**
NVLJ Sn **Sn** **14 50 40.0 -1.2**
NVLJ Novalja 5.43 323 *e*Pn **Pn** **14 49 40.3 +1.5**
NVLJ Sn **Sn** **14 50 40.0 -1.2**
CHOS Chios island 5.45 109 *e*PN **Pn** **14 49 41.5 +2.2**
CHOS Chios island 5.45 109 *e*Pn **Pn** **14 49 41.5 +2.2**
BZS Buzias 5.51 16 *j*P **Pn** **14 49 41.9 +2.0**
APE Apeiranthos 5.75 123 *e*PN **Pn** **14 49 45.2 +2.0**
APE Apeiranthos 5.75 123 *e*Pn **Pn** **14 49 45.2 +2.0**
VAM Vamos 6.17 141 *e*PN **Pn** **14 49 48.4 -0.7**
VAM Vamos 6.17 141 *e*Pn **Pn** **14 49 48.4 -0.7**
ARR Arges 6.29 35 ⇓*j*P **Pn** **14 49 50.8 0.0**
ARR Arges 6.29 35 ⇓*j*P **Pn** **14 49 50.8 0.0**
VOIR 6.54 37 ⇑*j*P **Pn** **14 49 54.6 +0.5**
VOIR 6.54 37 ⇑*j*P **Pn** **14 49 54.6 +0.5**
IDI Anoyia 6.61 138 *e*PN **Pn** **14 49 53.9 -1.2**
DRGR 6.87 19 ⇓*j*P **Pn** **14 50 00.1 +1.5**
DRGR 6.87 19 ⇓*j*P **Pn** **14 50 00.1 +1.5**
MLR Muntele Rosu 7.00 40 ⇑*j*P **Pn** **14 50 01.1 +0.5**
MLR Muntele Rosu 7.00 40 Pn **Pn** **14 50 02.6 +2.1**
0.1nm,0.3s,baz=195,slow=15,SNR=4.3
MLR Sn 14 51 14.2 -6.0
0.0nm,0.3s,baz=14,slow=14,SNR=2.1
MLR Muntele Rosu 7.00 40 ⇑*j*P **Pn** **14 50 01.1 +0.5**
VOY Vojsko 7.01 326 *e*Pn **Pn** **14 50 01.4 +0.8**
VOY *e*Sn **Sn** **14 51 16.7 -3.5**
VOY Vojsko 7.01 326 *e*Pn **Pn** **14 50 01.4 +0.8**
OBKA Obir 7.14 331 ⇑*j*Pn **Pn** **14 50 01.7 -0.7**
OBKA ⇓*j*Sn **Sn** **14 51 22.6 -0.9**
OBKA Obir 7.14 331 Pn **Pn** **14 50 01.7 -0.7**
OBKA Sn **Sn** **14 51 22.6 -0.9**
PSZ Piszkesteto 7.59 2 ⇑*j*P Pn 14 50 13.0 +4.5
PLOR Plostina 7.61 41 ⇓*j*P **Pn** **14 50 09.3 +0.5**
PLOR Plostina 7.61 41 ⇓*j*P **Pn** **14 50 09.3 +0.5**
WTTA Wattenberg 8.95 323 ⇑*j*Pn **Pn** **14 50 26.6 -0.7**
WTTA ⇑*j*Sn **Sn** **14 52 05.6 -2.5**
WTTA Wattenberg 8.95 323 Pn **Pn** **14 50 26.6 -0.7**
WATA Walderalm 9.03 323 ⇑*j*Pn **Pn** **14 50 27.9 -0.5**
SNR=6.6
WATA Walderalm 9.03 323 Pn **Pn** **14 50 27.9 -0.5**
SNR=6.6
KEST Kesra 9.22 243 Pn Pn 14 50 34.8 +3.8
0.1nm,0.3s,baz=184,slow=16,SNR=4.2
GERES GERESS Array B 9.45 336 Pn **Pn** **14 50 35.2 +1.1**
0.3nm,0.3s,baz=154,slow=13,SNR=14
GERES Sn **Sn** **14 52 16.2 -4.1**
0.2nm,0.3s,baz=149,slow=23,SNR=3.3
DAVOX Davos/Dischmat 9.49 316 Pn **Pn** **14 50 37.0 +2.3**
0.3nm,0.3s,baz=152,slow=18,SNR=3.6
DAVOX Sn **Sn** **14 52 21.3 -0.1**
0.4nm,0.3s,baz=168,slow=23,SNR=3.3
DAVOX LR LR 14 54 07.9
comp=Z,46nm,19.8s,baz=87,slow=37
KHC Kasperske Hory 9.74 336 *e*PN **Pn** **14 50 39.1 +1.0**
KHC *e*SN **Sn** **14 52 25.0 -2.4**
KHC AMS AMS 14 55 10.0
comp=Z,300nm,14.1s
KHC Kasperske Hory 9.74 336 Pn **Pn** **14 50 39.1 +1.0**
MBDF Montbardon 10.36 299 *e*Pn **Pn** **14 50 45.3 -1.3**
MBDF *e*Sn Sn 14 52 35.3 -7.3
6.1nm,0.7s
LPG La Plagne 10.66 303 *e*Pn **Pn** **14 50 49.8 -1.1**
LPG *e*Sn Sn 14 52 42.7 -7.6
10nm,0.7s
LPL La Plagne 10.68 303 *e*Pn **Pn** **14 50 50.0 -1.1**
LPL *e*Sn Sn 14 52 43.2 -7.5
7.7nm,0.5s
BRTR Keskin Array B 10.88 89 Pn **Pn** **14 50 55.1 +1.4**
0.1nm,0.3s,baz=258,slow=12,SNR=4.4
SMRF Simiane la Rot 10.95 294 *e*Pn **Pn** **14 50 53.0 -1.5**
SMRF *e*Sn Sn 14 52 49.5 -7.4
0.9nm,0.3s
ORIF Oris-en-Rattie 11.02 299 *e*Pn **Pn** **14 50 54.1 -1.5**
ORIF *e*Sn Sn 14 52 51.2 -7.5
10.0nm,0.9s
CABF La Chapelle 11.57 307 *e*Pn **Pn** **14 51 01.7 -1.4**
CABF *e*Sn Sn 14 53 04.4 -7.9
5.0nm,0.5s
HINF Hinteralfeld 11.76 314 *e*Pn **Pn** **14 51 04.3 -1.3**
HINF *e*Sn Sn 14 53 08.5 -8.2
5.3nm,0.6s
CDF Champ du Feu 11.88 317 *e*Pn **Pn** **14 51 05.9 -1.5**
CDF *e*Sn Sn 14 53 11.7 -8.2
0.8nm,0.3s
HAU Haudompre 12.14 313 *e*Pn **Pn** **14 51 09.1 -1.8**
HAU *e*Sn Sn 14 53 17.9 -8.3
11nm,0.7s
SMF Signal de Mont 12.98 304 *e*Pn **Pn** **14 51 20.6 -1.7**
SMF *e*Sn Sn 14 53 37.9 -8.7
1.8nm,0.2s
LOR Lormes 13.23 307 *e*Pn **Pn** **14 51 24.0 -1.7**
LOR *e*Sn Sn 14 53 44.0 -8.7
6.7nm,0.7s
SSF Saint Saulge 13.36 305 *e*Pn **Pn** **14 51 26.2 -1.3**
SSF *e*Sn Sn 14 53 47.0 -8.9
1.5nm,0.3s
BGF Bois d'Agland 13.58 303 *e*Pn **Pn** **14 51 28.6 -1.9**
BGF *e*Sn Sn 14 53 52.2 -9.1
2.3nm,0.3s
MMAI Mount Meron Ar 14.71 115 Pn **Pn** **14 51 43.7 -2.3**
0.9nm,0.3s,baz=317,slow=12,SNR=3.0
ASF Jabal al Asfar 16.22 115 LR LR 14 59 23.5
comp=Z,20nm,21.5s,baz=42,slow=41
EIL Elat 16.52 125 Pn **Pn** **14 52 05.3 -4.4**
0.3nm,0.3s,baz=307,slow=10,SNR=3.6
KBZ Khabaz 17.71 71 P **Pn** **14 52 22.9 -1.6**
0.1nm,0.3s,baz=180,slow=1.0,SNR=1.9
ESDC Sonseca Array 17.97 276 P **P** **14 52 30.0 +1.7**
0.2nm,0.3s,baz=71,slow=10,SNR=15
GNI Garni 19.27 82 P **P** **14 52 43.2 +0.4**
0.6nm,0.3s,baz=354,slow=17,SNR=3.8
HFS Hagfors 20.15 352 P **P** **14 52 51.8 -0.1**
1.5nm,0.6s,baz=165,slow=12,SNR=4.9
EKA Eskdalemuir Ar 21.21 323 P **P** **14 53 04.9 +1.4**
1.3nm,0.6s,baz=138,slow=9.0,SNR=4.4
NB2 NORSAR Subarra 21.35 349 P **P** **14 53 05.0 0.0**
comp=Z,1.6nm,0.8s,baz=162,slow=11
NB2 NORSAR Subarra 21.35 349 P **P** **14 53 05.0 0.0**
comp=Z,1.6nm,0.8s,SNR=3.7
NOA NORSAR Array B 21.35 349 P **P** **14 53 05.2 +0.3**
comp=Z,1.1nm,0.7s,baz=163,slow=10,SNR=5.7
FINES FINESS Array B 21.52 9 P **P** **14 53 06.7 -0.1**
comp=Z,1.2nm,0.7s,baz=185,slow=11,SNR=4.1
AKTO Aktyubinsk 28.59 56 P **P** **14 54 13.3 -0.7**
comp=Z,2.8nm,0.6s,baz=273,slow=7.4,SNR=11
ARCES ARCESS Array B 29.44 4 P **P** **14 54 22.2 +0.9**
comp=Z,0.7nm,0.9s,baz=186,slow=6.1,SNR=2.7
ARCES LR LR 15 07 29.3
comp=Z,44nm,20.7s,baz=291,slow=39
TORD Torodi Ar. Bea 31.27 215 P **P** **14 54 38.6 +0.7**
comp=Z,1.1nm,0.8s,baz=32,slow=8.5,SNR=7.5
TORD LR LR 15 08 04.4
comp=Z,41nm,18.6s,baz=325,slow=38
ZALV Zalesovo Beam 44.88 50 P **P** **14 56 31.9 -0.2**
comp=Z,1.8nm,0.5s,baz=275,slow=8.4,SNR=9.1
MKAR Makanchi Array 44.89 60 P **P** **14 56 31.9 -0.5**
comp=Z,2.7nm,0.6s,baz=284,slow=6.9,SNR=6.4
SONM Songino Array 59.72 51 P **P** **14 58 23.0 +0.3**
comp=Z,0.8nm,0.9s,baz=308,slow=7.2,SNR=4.9
KSRS Korea Array 78.58 50 P **P** **15 00 19.7 +0.1**
comp=Z,1.7nm,0.7s,baz=313,slow=4.9,SNR=5.4

IDC 12 15:08:35.2±11.0, 6.17S×70.96E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/24, mbtmp3.4/4, Error ellipse: s-maj=347.2km s-min=32.9km az=65.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
MKAR	**Makanchi Array**	**53.69**	**10**	P	P	15 17 58.9	+0.1
	0.3nm,0.8s,baz=210,slow=7.0,SNR=2.5						
SONM	**Songino Array**	**62.17**	**26**	P	P	15 18 58.3	-0.3
	0.2nm,0.3s,baz=226,slow=7.7,SNR=2.5						
ASAR	**Alice Springs**	**62.78**	**113**	P	P	15 19 03.2	+0.1
	0.2nm,0.6s,baz=272,slow=7.5,SNR=5.5						
WRA	**Warramunga Arr**	**62.91**	**109**	P	P	15 19 03.9	-0.1
	0.3nm,0.7s,baz=282,slow=6.5,SNR=1.6						

WEL 12 15:09:02.2±0.8, 36.13S×179.42E, h177km±11km, ML3.9/12, 2D, Error ellipse: s-maj=10.8km s-min=9.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
PUZ	**Puketiti**	**2.15**	**205**	AML	AML	15 09 36.2	
PUZ				⇓P	Pn	15 09 40.7	0.0
PUZ				SN	Sn	15 10 09.6	-1.1
CNGZ	**Carnagh Statio**	**2.54**	**202**	PN	Pn	15 09 45.9	+0.7
MWZ	**Matawai**	**2.67**	**214**	⇓P	Pn	15 09 47.0	+0.3
MWZ				AML	AML	15 10 01.8	
MWZ				*e*SN	Sn	15 10 21.3	-0.2
URZ	**Urewera**	**2.81**	**220**	PN	Pn	15 09 48.4	0.0
URZ				SN	Sn	15 10 23.6	-0.8
URZ				AML	AML	15 10 31.3	
PRGZ	**Paritu Road**	**3.04**	**203**	PN	Pn	15 09 52.2	+1.0
KNZ	**Kokohu**	**3.20**	**205**	PN	Pn	15 09 52.8	-0.3
KNZ				AML	AML	15 10 35.6	
MHGZ	**Mahia Peninsul**	**3.25**	**201**	PN	Pn	15 09 54.2	+0.5
RAHZ	**Arahi**	**3.34**	**213**	PN	Pn	15 09 55.5	+0.6
ALRZ	**Allen Road**	**3.45**	**224**	PN	Pn	15 09 57.0	+0.7
BKZ	**Black Stump Fm**	**3.82**	**217**	PN	Pn	15 10 00.9	0.0
BKZ				SN	Sn	15 10 47.1	+0.1
MCHZ	**McNeill Hill**	**3.95**	**212**	PN	Pn	15 10 03.3	+0.7
BHHZ	**Black Hill Sta**	**4.28**	**217**	PN	Pn	15 10 07.0	+0.2
WHVZ	**Whangaehu Hut**	**4.37**	**223**	PN	Pn	15 10 08.4	+0.1
WHVZ				SN	Sn	15 11 00.3	+0.3
WNVZ	**Wahianoa**	**4.40**	**222**	*e*PN	Pn	15 10 08.8	+0.2
PNHZ	**Pukenui**	**4.55**	**213**	PN	Pn	15 10 10.0	-0.3
TSZ	**Takapari Road**	**4.78**	**214**	AML	AML	15 11 11.3	
MRZ	**Mangatainoka R**	**5.44**	**213**	PN	Pn	15 10 20.5	-1.2
KIW	**Kapiti Island**	**5.90**	**215**	AML	AML	15 11 35.9	
CAW	**Cannon Point**	**6.03**	**213**	PN	Pn	15 10 28.9	-0.6
TCW	**Tory Channel**	**6.48**	**217**	AML	AML	15 11 47.8	
TUWZ	**Tuamarina**	**6.80**	**217**	AML	AML	15 11 57.2	
QRZ	**Quartz Range**	**7.16**	**227**	PN	Pn	15 10 43.0	-1.3
THZ	**Tophouse**	**7.58**	**220**	PN	Pn	15 10 48.3	-1.7
KHZ	**Kahutara**	**7.76**	**214**	AML	AML	15 12 18.5	

*BKK **12** 15:25:05.0±0.5, 4.5S±5.5×10.1E±.*, *h10km, M5.2/22, mB5.6/7, mb4.9/22, MLv5.3/7, Mw(mB)5.1/7*
*MOS **12** 15:25:06.7±0.9, 3.69S×101.11E, h33km, mb5.1/28, MS4.4/5, Error ellipse: s-maj=14.0km s-min=6.3km az=106.6*
*ISCJB **12** 15:25:06.8±0.6, 3.89S±0.04×100.96E±0.04, h42km±4km, mb4.8/72, MS4.3/30, Error ellipse: s-maj=8.4km s-min=4.1km az=137.0*
*DJA **12** 15:25:06.2±1.6, 4.5S±5.5×10.1E±.*, *h25km±12km, M4.9/24, mB5.3/9, mb4.9/24, MLv5.3/12, Mw(mB)4.7/9*
*NEIC **12** 15:25:07.3±2.5, 3.79S×101.05E, h26km±16km, mb4.7/17, Error ellipse: s-maj=12.9km s-min=4.8km az=51.0*
*AUST **12** 15:25:08.1±2.1, 3.82S×101.04E, h31km, Error ellipse: s-maj=2.3km s-min=0.7km az=230.0*
*IDC **12** 15:25:09.6±2.4, 3.80S×101.07E, h46km±21km, mb4.3/20, mb1 4.5/22, mb1mx4.3/27, mbtmp4.4/22, ML4.3/2, MS4.1/12, Ms1 4.1/12, ms1mx3.8/41, Error ellipse: s-maj=24.9km s-min=9.8km az=46.0*
*BJI **12** 15:25:09.6, 3.70S×101.10E, h45km, mB5.0/26, mb5.0/41, Ms4.7/34, Ms7 4.5/31*
ISC 12 15:25:09.5±0.5, 3.84S±0.05×101.06E±0.05, h47km±2km, h47km:pP-P,n346,σ1°39/388, mb5.0/83, MS4.3/30, 72C-52D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
KSI	**Kapahiang**	**1.54**	**83**	P	**Pn**	**15 25 34.8**	**+0.1**
MNAI	**Manna**	**1.96**	**105**	P	**Pn**	**15 25 40.6**	**+0.2**
MNAI	**Manna**	**1.96**	**105**	P	**Pn**	**15 25 40.5**	**+0.2**
	baz=2.0,SNR=120						
LWLI	**Liwa**	**3.21**	**111**	P	**Pn**	**15 25 58.0**	**+0.4**
PPI	**Padang Panjang**	**3.43**	**349**	P	**Pn**	**15 25 59.5**	**-1.0**
PPI	**Padang Panjang**	**3.43**	**349**	P	**Pn**	**15 25 59.9**	**-0.6**
	baz=3.4,SNR=6.2						
RGRI	**Rengat**	**3.70**	**20**	P	**Pn**	**15 26 05.5**	**+1.3**
KLSI		**3.76**	**103**	P	**Pn**	**15 26 06.8**	**+1.8**
PMBI	**Palembang**	**3.82**	**76**	P	**Pn**	**15 26 07.4**	**+1.6**
BKNI	**Bangkinang**	**4.14**	**360**	P	**Pn**	**15 26 10.2**	**-0.1**
PPBI	**Pangkal Pinang**	**5.34**	**72**	P	**Pn**	**15 26 28.5**	**+1.7**
	62nm,0.9s,2µm0.6nm						
SBJI	**Serang**	**5.54**	**114**	P	Pn	15 26 40.6	+11
BTDF	**Bukit Timah Da**	**5.84**	**28**	P	Pn	15 26 29.4	-4.2
	baz=5.9,SNR=4.0						
BTDF				P	Pn	15 26 29.4	-4.2
	baz=5.9,SNR=4.0						
KGM	**Kluang**	**6.24**	**21**	P	**Pn**	**15 26 37.3**	**-1.9**
MYKOM	**Kota Tinggi**	**6.25**	**27**	P	**Pn**	**15 26 37.5**	**-1.9**
MYKOM	**Kota Tinggi**	**6.25**	**27**	P	**Pn**	**15 26 41.6**	**+2.3**
DBJI	**Dramaga**	**6.28**	**116**	P	**Pn**	**15 26 40.7**	**+1.1**
	159nm,0.8s,2µm1.0nm						
PSI	**Prapat**	**6.94**	**342**	P	Pn	15 26 45.0	-3.8
PSI	**Prapat**	**6.94**	**342**	P	Pn	15 26 45.0	-3.8
	4.1nm,0.3s,baz=155,slow=3.8,SNR=7.2						
FRIM	**Kepong**	**7.06**	**5**	P	**Pn**	**15 26 49.2**	**-1.1**
LEM	**Lembang**	**7.17**	**115**	P	**Pn**	**15 26 53.6**	**+1.5**
	207nm,0.9s,3µm0.7nm						
LEM	**Lembang**	**7.17**	**115**	P	**Pn**	**15 26 54.0**	**+1.9**
	baz=7.2,SNR=7.4						
CISI	**Cisompet, Garu**	**7.67**	**119**	P	**Pn**	**15 26 56.9**	**-1.9**
	333nm,0.8s,9µm1.8nm						
CISI	**Cisompet, Garu**	**7.67**	**119**	P	**Pn**	**15 26 56.8**	**-2.0**
	baz=7.7,SNR=99						
CISI				S	**Sn**	**15 28 20.8**	**-3.6**
	baz=7.7,SNR=5.2						
KULM	**Kulim**	**9.08**	**357**	*e*P	**Pn**	**15 27 17.1**	**-1.0**
	52nm,1.1s						
KULM	**Kulim**	**9.08**	**357**	P	**Pn**	**15 27 15.9**	**-2.2**
KULM	**Kulim**	**9.08**	**357**	P	**Pn**	**15 27 17.5**	**-0.6**
	56nm,1.7s						
KTGM	**Kuala Trenggan**	**9.34**	**13**	P	**Pn**	**15 27 21.9**	**+0.2**
LHMI	**Lhok Sumawe**	**9.90**	**335**	P	**Pn**	**15 27 29.5**	**+0.1**
	baz=9.9,SNR=4.2						
UGM	**Wanagama**	**10.24**	**114**	P	**Pn**	**15 27 33.5**	**-0.6**
	baz=10,SNR=5.3						
WOJI	**Wonogiri, Jawa**	**10.58**	**112**	P	**Pn**	**15 27 38.0**	**-0.7**
	88nm,1.3s						
SJI	**Sawahan**	**11.33**	**110**	P	**Pn**	**15 27 49.4**	**+0.4**
	68nm,1.5s						
SBUM	**Sibu**	**12.79**	**61**	P	Pn	15 28 13.1	+4.3
SBUM	**Sibu**	**12.79**	**61**	P	Pn	15 28 12.9	+4.1
	33nm,1.1s						
BLJI	**Banyuglugur**	**13.06**	**108**	P	**Pn**	**15 28 13.5**	**+1.0**
	55nm,1.9s						
JAGI	**Jajag, Banyuwa**	**13.80**	**110**	P	**Pn**	**15 28 22.0**	**-0.7**
	66nm,1.2s						
JAGI	**Jajag, Banyuwa**	**13.80**	**110**	P	**Pn**	**15 28 21.3**	**-1.4**
	baz=14,SNR=8.4						
BTM	**Bintulu**	**13.91**	**60**	P	**P**	**15 28 28.4**	**-2.7**
KKM	**Kota Kinabalu**	**18.04**	**57**	P	**Pn**	**15 29 19.0**	**+1.9**
TSM	**Tawau**	**18.64**	**64**	P	**Pn**	**15 29 26.5**	**+2.2**
SDKM	**Sandakan**	**18.67**	**60**	P	**Pn**	**15 29 25.7**	**+1.0**
KAPI	**Kappang**	**18.67**	**94**	*e*P	**P**	**15 29 23.4**	**-0.5**
	50nm,0.9s						
KAPI	**Kappang**	**18.67**	**94**	P	**P**	**15 29 23.5**	**-0.5**
	58nm,1.0s						
KAPI	**Kappang**	**18.67**	**94**	P	**P**	**15 29 23.4**	**-0.5**
	1.5nm,0.3s,baz=276,slow=9.9,SNR=14						
KAPI				LR	LR	15 38 23.7	
	comp=Z,558nm,18.3s,baz=109,slow=43						
TTSI	**Tana Toraja**	**18.74**	**88**	P	**Pn**	**15 29 26.1**	**+0.6**
	62nm,1.3s,581nm						
KDM	**Kudat**	**19.03**	**56**	P	**Pn**	**15 29 29.8**	**+0.9**
BKSI	**Bulukumba**	**19.06**	**95**	P	**Pn**	**15 29 29.1**	**-0.2**
	95nm,1.5s,999nm						
UBPT	**Khong Chiam**	**19.50**	**13**	P	**P**	**15 29 32.2**	**-0.7**
	48nm,1.1s						
UBPT	**Khong Chiam**	**19.50**	**13**	P	**P**	**15 29 32.8**	**-0.1**
	48nm,1.1s						
MYLDM	**Lahad Datu**	**19.59**	**63**	P	**Pn**	**15 29 37.3**	**+1.6**
MYLDM	**Lahad Datu**	**19.59**	**63**	P	**Pn**	**15 29 36.9**	**+1.2**
	107nm,1.2s						
CHAI	**Chaiyaphum**	**19.64**	**3**	P	**P**	**15 29 35.3**	**+0.8**
	7.4nm,1.0s						
PBKT	**Sadao Pong**	**20.28**	**360**	P	**P**	**15 29 42.5**	**+1.1**
	12nm,1.4s						
SKSI	**Soroako, Sulaw**	**20.29**	**87**	P	**P**	**15 29 42.6**	**+0.9**
	64nm,1.1s,556nm						
PANO	**Nakornpanom**	**21.15**	**9**	P	**P**	**15 29 49.8**	**-1.0**
	86nm,0.9s,14µm						
LOEI	**Loei**	**21.22**	**1**	P	**P**	**15 29 50.3**	**-1.3**
	32nm,1.3s						
MRSI	**Marisa**	**21.31**	**79**	P	**P**	**15 29 53.8**	**+1.2**
	73nm,1.0s,598nm						
LUWI	**Luwuk**	**21.87**	**83**	P	P	15 30 04.6	+6.0
	baz=22,SNR=3.8						
CMAR	**Chiang Mai Arr**	**22.26**	**355**	P	**P**	**15 30 00.6**	**-2.2**
CMAR				PcP	**PcP**	**15 33 57.7**	**0.0**
CMAR	**Chiang Mai Arr**	**22.26**	**355**	P	**P**	**15 30 00.6**	**-2.2**
	15nm,0.9s,baz=182,slow=8.6,SNR=38						
CMAR				PcP	**PcP**	**15 33 57.7**	**0.0**
	1.6nm,0.9s,baz=210,slow=3.7,SNR=7.0						
CMAR				LR	LR	15 39 56.2	
	comp=Z,364nm,19.6s,baz=190,slow=40						
GTOI	**Gorontalo**	**22.39**	**79**	P	**P**	**15 30 04.7**	**+0.5**
	71nm,1.2s						
CHTO	**Chiang Mai**	**22.61**	**355**	*e*P	**P**	**15 30 05.7**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,19nm,1.1s						
CHTO	**Chiang Mai**	**22.61**	**355**	*e*P	**P**	**15 30 05.7**	**-0.8**
	comp=Z,19nm,1.1s						
CHTO	**Chiang Mai**	**22.61**	**355**	P	**P**	**15 30 05.6**	**-0.9**
	comp=Z,18nm,1.1s						
CHTO	**Chiang Mai**	**22.61**	**355**	P	**P**	**15 30 06.8**	**+0.3**
	comp=Z,24nm,1.4s						
SOEI	**Soe**	**23.77**	**105**	P	**P**	**15 30 15.5**	**-2.7**
	baz=24,SNR=4.2						
SOEI				S	**S**	**15 34 30.0**	**-0.8**
	baz=24,SNR=4.6						
QIZ	**Qiongzhong**	**24.32**	**21**	P	**P**	**15 30 23.1**	**+0.1**
QIZ				pP	**pP**	**15 30 34.4**	**-0.9**
QIZ				sP	**sP**	**15 30 40.3**	**-0.5**
QIZ				S	**S**	**15 34 41.4**	**+2.3**
QIZ				pmax	pmax		
	comp=Z,170nm,3.9s						
QIZ				LR	LR		
	comp=Z,510nm,20.3s						
QIZ	**Qiongzhong**	**24.32**	**21**	*e*P	**P**	**15 30 21.6**	**-1.4**
LBMI	**Labuha**	**26.61**	**84**	P	**P**	**15 30 45.0**	**+1.1**
	comp=Z,66nm,1.1s						
FITZ	**Fitzroy Crossi**	**27.92**	**122**	*e*P	**P**	**15 30 55.2**	**-0.4**
	comp=Z,19nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.92**	**122**	P	**P**	**15 30 55.6**	**+0.1**
	comp=Z,17nm,0.9s,baz=285,slow=7.0,SNR=21						
FITZ				LR	LR	15 42 03.4	
	comp=Z,296nm,20.4s,baz=306,slow=36						
FITZ	**Fitzroy Crossi**	**27.92**	**122**	P	**P**	**15 30 55.7**	**+0.1**
	baz=28,SNR=8.1						
KMI	**Kunming**	**28.84**	**3**	P	**P**	**15 31 05.6**	**+1.7**
KMI				S	**S**	**15 35 55.5**	**+4.5**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KMI				LR	LR		
	comp=N,450nm,16.9s						
KMI				LR	LR		
	comp=E,620nm,14.4s						
KMI				LR	LR		
	comp=Z,670nm,14.1s						
KNRA	**Kununurra**	**29.68**	**115**	P	**P**	**15 31 10.1**	**-1.1**
	baz=30,SNR=8.1						
SHL	**Shillong**	**30.56**	**344**	*e*P	**P**	**15 31 18.5**	**-0.6**
GYA	**Guiyang**	**30.61**	**10**	*e*P	**P**	**15 31 22.0**	**+2.6**
GYA				pP	**pP**	**15 31 33.2**	**+1.4**
GYA				sP	**sP**	**15 31 39.0**	**+1.7**
GYA				PP	**PnPn**	**15 32 24.2**	**+3.9**
GYA				S	**S**	**15 36 19.8**	**+1.2**
GYA				sS	**sS**	**15 36 41.8**	**+2.5**
GYA				ScP	**ScP**	**15 37 56.5**	**+0.3**
GYA				PcS	**PcS**	**15 38 02.3**	**+1.0**
GYA				ScS	**ScS**	**15 41 51.5**	**-1.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=N,420nm,17.1s						
GYA				LR	LR		
	comp=E,330nm,18.9s						
GYA				LR	LR		
	comp=Z,480nm,17.3s						
MTN	**Manton Dam**	**31.04**	**109**	P	P	**15 31 21.8**	**-1.4**
	baz=31,SNR=4.0						
KDU	**Kakadu**	**32.27**	**108**	P	P	**15 31 32.9**	**-1.2**
	baz=32,SNR=3.4						
ODAN	**Odare**	**33.26**	**337**	*e*P	P	**15 31 43.5**	**+0.6**
	comp=Z,96nm,1.0s						
TAPN	**Taplejung**	**33.58**	**338**	*e*P	P	**15 31 46.8**	**+1.1**
	comp=Z,155nm,1.0s						
RAMN	**Ramite**	**33.65**	**336**	*e*P	P	**15 31 47.3**	**+1.0**
	comp=Z,163nm,1.5s						
JIRN	**Jiri**	**34.45**	**336**	*e*P	P	**15 31 54.2**	**+0.9**
	comp=Z,92nm,0.8s						
CD2	**Chengdu**	**34.66**	**4**	P	P	**15 31 56.1**	**+1.4**
CD2				pP	pP	**15 32 08.0**	**+0.9**
CD2				sP	sP	**15 32 13.2**	**+0.5**
CD2				PP	PP	**15 33 14.1**	**+0.1**
CD2				PcP	PcP	**15 34 29.2**	**+1.0**
CD2				S	S	**15 37 22.4**	**+1.1**
CD2				sS	sS	**15 37 42.3**	**+0.2**
CD2				PcS	PcS	**15 38 14.7**	**-0.2**
CD2				SS	SnSn	**15 39 37.2**	**0.0**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,180nm,5.2s						
CD2				LR	LR		
	comp=N,930nm,16.0s						
CD2			

comp=Z,3.6nm,1.0s,baz=293,slow=16,SNR=9.2
WRA LR LR 15 48 55.6
comp=Z,257nm,19.6s,baz=265,slow=39
WRAB Tennant Creek 36.17 119 *e*P **P 15 32 07.5 -0.4**
WRAB pmax pmax
comp=Z,17nm,0.9s
WRAB Tennant Creek 36.17 119 *e*P **P 15 32 07.5 -0.4**
comp=Z,17nm,0.9s
PYUN Piuthan 36.22 332 *e*P **P 15 32 08.9 +0.6**
comp=Z,165nm,1.1s
WHN Wuhan 36.48 19 *e*P **P 15 32 08.2 -2.1**
WHN LR LR
comp=N,2μm,18.2s
WHN LR LR
comp=E,800nm,14.4s
WHN LR LR
comp=Z,1μm,12.8s
ASAR Alice Springs 37.33 125 P **P 15 32 17.9 +0.2**
ASAR PcP **PcP 15 34 37.0 +0.7**
ASAR S **S 15 38 01.6 -0.9**
ASAR Alice Springs 37.33 125 P **P 15 32 17.9 +0.2**
comp=Z,4.6nm,0.8s,baz=300,slow=7.7,SNR=50
ASAR PcP **PcP 15 34 37.0 +0.7**
comp=Z,1.0nm,0.8s,baz=315,slow=3.4,SNR=4.1
ASAR S **S 15 38 01.6 -0.9**
comp=Z,1.3nm,1.1s,baz=291,slow=16,SNR=5.1
ASAR LR LR 15 49 01.8
comp=Z,239nm,19.4s,baz=285,slow=38
AS31 Alice Springs 37.33 125 *e*P **P 15 32 17.7 0.0**
XAN Xi'an 38.40 11 P **P 15 32 25.9 -0.7**
XAN pP **pP 15 32 39.7 +0.6**
XAN pmax pmax
comp=Z,17nm,1.0s
XAN LR LR
comp=N,400nm,13.2s
XAN LR LR
comp=E,130nm,16.3s
XAN LR LR
comp=Z,180nm,14.2s
NJ2 Nanjing 39.51 24 *e*P **P 15 32 36.7 +0.9**
NJ2 pP **pP 15 32 49.0 +0.7**
NJ2 sP **sP 15 32 54.0 +0.1**
NJ2 S **S 15 38 38.8 +3.9**
NJ2 sS **sS 15 38 57.0 +1.0**
NJ2 pmax pmax
comp=Z,50nm,1.1s
NJ2 pmax pmax
comp=Z,210nm,4.5s
NJ2 LR LR
comp=N,1μm,13.3s
NJ2 LR LR
comp=E,1μm,10.3s
NJ2 LR LR
comp=Z,1μm,12.3s
SSE Sheshan 39.70 28 P P 15 32 31.0 -6.4
SSE pmax pmax
comp=Z,15nm,0.7s
SSE pmax pmax
comp=Z,42nm,3.3s
SSE LR LR
comp=N,170nm,21.6s
SSE LR LR
comp=E,52nm,21.6s
SSE LR LR
comp=Z,140nm,21.5s
LZH Lanzhou 39.81 4 ⇑P **P 15 32 39.0 +0.5**
LZH pP **pP 15 32 50.7 -0.3**
LZH sP **sP 15 32 55.0 -1.5**
LZH PP **PnPn 15 34 17.1 +2.9**
LZH *e*S **S 15 38 38.0 -1.7**
LZH SS **SS 15 41 30.2 -7.2**
LZH pmax pmax
comp=Z,45nm,1.1s
LZH pmax pmax
comp=Z,200nm,4.2s
LZH LR LR
comp=N,680nm,15.9s
LZH LR LR
comp=E,850nm,15.5s
LZH LR LR
comp=Z,1μm,18.1s
GTA Gaotai 43.06 359 ⇑P **P 15 33 05.3 +0.3**
GTA pP **pP 15 33 17.8 +0.1**
GTA sP **sP 15 33 23.0 -0.2**
GTA S **S 15 39 29.1 +1.4**
GTA sS **sS 15 39 49.3 +0.4**
GTA SS **SS 15 42 35.8 -5.7**
GTA pmax pmax
comp=Z,22nm,1.4s
GTA pmax pmax
comp=Z,140nm,5.5s
GTA LR LR
comp=N,410nm,17.3s
GTA LR LR
comp=E,530nm,18.5s
GTA LR LR
comp=Z,620nm,15.9s
MTSU Mount Surprise 44.63 112 P **P 15 33 18.1 +0.2**
baz=45,SNR=4.7
HHC Hu-ho-hao-te 45.51 11 *e*P **P 15 33 25.6 +1.1**
HHC pP **pP 15 33 38.1 +0.8**
HHC sP **sP 15 33 43.0 +0.2**
HHC PcP **PcP 15 35 04.4 +1.6**
HHC PP **PP 15 35 11.6 -0.2**
HHC ScP **ScP 15 38 51.0 -1.0**
HHC S **S 15 40 04.1 +0.8**
HHC sS **sS 15 40 24.5 -0.1**
HHC ScS **ScS 15 43 15.9 -1.3**
HHC SS SS 15 43 18.3 -10
HHC pmax pmax
comp=Z,40nm,1.2s
HHC pmax pmax
comp=Z,75nm,4.8s
HHC LR LR
comp=N,880nm,14.4s
HHC LR LR
comp=E,780nm,15.6s
HHC LR LR
comp=Z,510nm,14.4s
BJI Beijing 45.83 16 P **P 15 33 28.1 +1.2**
BJI S **S 15 40 10.3 +2.7**
BJI pmax pmax
comp=Z,27nm,1.2s
BJI pmax pmax
comp=Z,84nm,3.5s
BJI LR LR
comp=N,500nm,19.5s
BJI LR LR
comp=E,320nm,20.8s
BJI LR LR
comp=Z,240nm,23.9s
JNU Nakatsue 46.35 35 *e*P **P 15 33 30.2 -1.0**
comp=Z,17nm,1.0s
CTAO Charters Tower 46.87 114 *e*P **P 15 33 36.1 +0.5**
CTAO pmax pmax
comp=Z,23nm,1.1s
CTAO Charters Tower 46.87 114 *e*P **P 15 33 36.1 +0.5**
comp=Z,22nm,1.1s
STKA Stephens Creek 47.15 131 *e*P **P 15 33 37.9 +0.4**
comp=Z,3.3nm,0.9s
STKA Stephens Creek 47.15 131 P **P 15 33 38.5 +1.0**
comp=Z,6.6nm,0.8s,baz=292,slow=9.3,SNR=9.2
STKA Stephens Creek 47.15 131 P **P 15 33 38.5 +1.0**
baz=47,SNR=4.6
KSAR Wonju Array Be 48.06 29 P **P 15 33 44.5 0.0**
KSRS Korea Array 48.09 29 P **P 15 33 44.5 -0.2**
comp=Z,13nm,1.0s,baz=219,slow=8.0,SNR=24
KSH Kashi 48.94 334 P **P 15 33 49.4 -2.0**
KSH pP **pP 15 34 04.6 +0.3**
KSH sP **sP 15 34 10.9 +1.2**
KSH PP **PP 15 35 47.4 +2.2**
KSH S **S 15 40 50.4 -1.9**
KSH sS **sS 15 41 10.3 -3.5**
KSH ScS **ScS 15 43 35.1 -4.8**
KSH SS SS 15 44 16.0 -7.8
KSH pmax pmax
comp=Z,18nm,1.4s
KSH pmax pmax
comp=Z,85nm,4.7s
KSH LR LR
comp=N,99nm,5.6s
KSH LR LR
comp=E,93nm,6.7s
WMQ Urumqi 48.95 347 P **P 15 33 52.0 +0.7**
CMSA Cobar Meteorol 50.14 129 P **P 15 34 01.6 +1.1**
baz=50,SNR=14

SONM Songino Array 51.67 5 P **P 15 34 12.8 +0.9**
SONM Songino Array 51.67 5 P **P 15 34 12.8 +0.9**
comp=E,17nm,0.9s,baz=186,slow=8.8,SNR=83
ULN Ulaanbaatar 51.76 5 *e*P **P 15 34 13.0 +0.4**
comp=E,26nm,1.3s
AAK Ala-Archa 52.15 335 *c i*P **P 15 34 15.9 +0.4**
AAK pmax pmax
comp=Z,45nm,2.5s
AAK MLR MLR
comp=Z,588nm,20.0s
AAK Ala-Archa 52.15 335 *e*P **P 15 34 15.7 +0.2**
comp=Z,2.7nm,0.8s
AAK Ala-Archa 52.15 335 P **P 15 34 15.6 0.0**
comp=Z,1.6nm,0.4s,baz=188,slow=3.6,SNR=6.5
FRU Bishkek 52.26 336 *e*P **P 15 34 16.0 -0.2**
FRU pmax pmax
comp=Z,63nm,2.2s
CN2 Changchun 52.26 22 *e*P **P 15 34 15.7 -0.5**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 LR LR
comp=N,300nm,18.0s
CN2 LR LR
comp=E,200nm,18.0s
CN2 LR LR
comp=Z,200nm,17.0s
MAJO Matsushiro 53.06 37 *e*P **P 15 34 20.4 -1.8**
MAJO pmax pmax
comp=Z,12nm,1.1s
MAJO Matsushiro 53.06 37 *e*P **P 15 34 20.4 -1.8**
comp=Z,12nm,1.1s
MAT Matsushiro 53.06 37 P **P 15 34 20.7 -1.5**
MAT *e*S **S 15 41 50.4 +1.3**
MK31 Makanchi Array 53.08 344 *i*P **P 15 34 21.8 -0.4**
MK31 pmax pmax
comp=Z,20nm,1.0s
MK31 Makanchi Array 53.08 344 *e*P **P 15 34 21.7 -0.4**
MKAR Makanchi Array 53.08 344 P **P 15 34 22.0 -0.2**
MKAR Makanchi Array 53.08 344 P **P 15 34 22.0 -0.2**
MKAR Makanchi Array 53.08 344 P **P 15 34 22.0 -0.2**
comp=Z,11nm,0.8s,baz=148,slow=7.5,SNR=77
ZAK Zakamensk 54.05 2 ⇑*i*P **P 15 34 29.6 +0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
KK31 Karatay Array 54.27 333 *i*P **P 15 34 30.4 -0.6**
KKAR Karatay Array 54.27 333 *e*P **P 15 34 30.6 -0.4**
KKAR pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 54.27 333 *e*P **P 15 34 30.6 -0.4**
comp=Z,1.8nm,0.8s
HVS Khovu-Aksy 55.13 354 *i*P **P 15 34 36.8 -0.3**
HVS pmax pmax
comp=Z,24nm,1.1s
USRK Ussuriysk Arra 55.30 27 P **P 15 34 38.8 +0.4**
comp=Z,32nm,0.9s,baz=222,slow=5.7,SNR=31
TLY Talaya 55.36 2 *e*P **P 15 34 39.4 +0.7**
TLY *e*S **S 15 42 16.2 -3.4**
TLY MLR MLR
comp=Z,328nm,16.0s
IRK Irkutsk 55.94 2 *e*P **P 15 34 43.3 +0.5**
IRK pmax pmax
comp=Z,33nm,1.5s
KURBB Kurchatov Arra 57.61 343 P **P 15 34 54.4 -0.3**
comp=Z,11nm,0.9s,baz=161,slow=6.6,SNR=86
KURK Kurchatov 57.66 343 P **P 15 34 54.4 -0.7**
KURK Kurchatov 57.66 343 P **P 15 34 54.4 -0.7**
ZAA0 Zalesovo Array 59.17 349 *e*P **P 15 35 04.8 -0.6**
ZALV Zalesovo Beam 59.17 349 P **P 15 35 05.1 -0.4**
ZALV Zalesovo Beam 59.17 349 P **P 15 35 05.1 -0.4**
ZALV Zalesovo Beam 59.17 349 P **P 15 35 05.1 -0.4**
comp=Z,22nm,0.9s,baz=160,slow=4.7,SNR=81
ZALV LR LR 16 03 20.4
comp=Z,187nm,21.6s,baz=65,slow=39
KLR Kul'dur 59.19 23 *e*P P 15 35 00.0 -5.7
KLR pmax pmax
comp=Z,40nm,1.6s
HABR Khabarovsk 59.95 25 *e*P **P 15 35 09.0 -1.9**
HABR *e**PP **pP 15 35 19.0 -5.1**
HABR *e* 15 35 55.1
HABR *e* 15 37 21.4
HABR *e*S **S 15 43 18.7 -1.1**
HABR *e* 15 43 31.1
HABR *e**SS sS 15 43 35.9 -5.9
HABR *e* 15 44 56.5
HABR *e*SS **SS 15 47 16.3 -0.8**
HABR pmax pmax
comp=Z,12nm,1.2s
HABR pmax pmax
comp=N,11nm,2.1s
HABR pmax pmax
comp=E,22nm,1.5s
HABR MLR MLR
comp=Z,189nm,21.0s
KRAR Krasnoyarsk 60.03 355 ⇓*e*P **P 15 35 11.6 +0.2**
KRAR pmax pmax
comp=Z,32nm,1.2s
NVS Novosibirsk 60.32 348 *e*P **P 15 35 11.0 -2.4**
NVS *e* 15 43 37.7
NVS pmax pmax
comp=N,13nm,1.8s
NVS pmax pmax
comp=Z,29nm,1.8s
NVS pmax pmax
comp=E,10.0nm,1.5s
VOSK Vostochnaya 61.82 340 P **P 15 35 22.7 -0.9**
VOSK pmax pmax
comp=Z,10.0nm,1.0s
BVA0 Borovoye Array 62.27 340 *i*P **P 15 35 25.5 -1.1**
BVA0 pmax pmax
comp=Z,11nm,1.0s
BRVK Borovoye 62.33 340 *c i*P **P 15 35 26.0 -1.0**
BRVK pmax pmax
comp=Z,15nm,1.2s
BRVK Borovoye 62.33 340 *e*P **P 15 35 25.9 -1.1**
comp=Z,7.1nm,0.8s
YSS Yuzh-Sakhalins 62.49 31 ⇑*e*P **P 15 35 28.6 +0.4**
YSS *e* 15 35 43.4
YSS pmax pmax
comp=Z,50nm,1.2s
AB31 Akbulak array 63.76 331 *i*P **P 15 35 35.5 -1.0**
AB31 pmax pmax
comp=Z,15nm,0.9s
ABKAR Akbulak array 63.76 331 *e*P **P 15 35 35.7 -0.8**
comp=Z,17nm,1.0s
KMBO Kilima Mbogo 63.79 271 LR LR 15 57 14.6
comp=Z,84nm,21.7s,baz=92,slow=30
DZM Mont Dzumac 65.77 112 *e*LR LR 15 55 39.1
comp=Z,358nm,22.0s
MAW Mawson 68.78 195 LR LR 15 59 31.6
comp=Z,245nm,19.9s,baz=36,slow=30
SVE Sverdlovsk 68.78 338 *i*P **P 15 36 08.7 +0.1**
SVE pmax pmax
comp=Z,33nm,1.2s
YAK Yakutsk 69.26 14 *e*P **P 15 36 10.0 -1.4**
YAK *e**PP pP 15 36 18.0 -6.9
YAK *e* 15 36 30.4
YAK *e*PPP PPP 15 40 25.0
YAK *e*S **S 15 45 12.4 -1.6**
YAK *e* 15 46 03.3
YAK pmax pmax
comp=Z,30nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=N,13nm,1.3s
YAK pmax pmax
comp=Z,95nm,4.6s
YAK pmax pmax
comp=E,29nm,3.9s
YAK pmax pmax
comp=N,37nm,4.4s
YAK smax smax
comp=E,37nm,3.3s
YAK smax smax
comp=N,27nm,3.2s
YAK MLR MLR
comp=Z,300nm,18.0s
YAK MLR MLR
comp=E,117nm,16.0s
YAK MLR MLR
comp=N,190nm,17.0s
ARU Arti 69.31 336 *c i*P **P 15 36 11.3 -0.6**
ARU PPP PPP 15 40 24.3
ARU S **S 15 45 17.0 +2.1**
ARU pmax pmax
comp=Z,24nm,1.7s
KBZ Khabaz 70.38 319 P **P 15 36 18.6 -0.1**
KBZ Khabaz 70.38 319 P **P 15 36 18.6 -0.1**
KBZ Khabaz 70.38 319 P **P 15 36 18.6 -0.1**
comp=Z,4.3nm,0.8s,baz=151,slow=5.1,SNR=8.4
KIV Kislovodsk 70.62 319 *e*P **P 15 36 20.3 0.0**
KIV *e*S **S 15 45 30.0 -1.0**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,57nm,18.0s
EIL Elat 71.40 303 P **P 15 36 26.1 +0.8**
baz=71,SNR=3.7
SOKR Solikamsk 72.18 338 *d i*P **P 15 36 29.8 +0.6**
SOKR pmax pmax
comp=Z,20nm,0.9s
PETK Petropavlovsk- 73.88 32 P **P 15 36 38.6 -0.9**
PETK Petropavlovsk- 73.88 32 P **P 15 36 38.6 -0.9**
PETK Petropavlovsk- 73.88 32 P **P 15 36 38.6 -0.9**
comp=Z,2.0nm,0.7s,baz=227,slow=4.2,SNR=4.6
BR131 Keskin Array S 75.34 313 *e*P **P 15 36 47.1 -1.3**
comp=Z,1.4nm,0.7s
BRTR Keskin Array B 75.34 313 P **P 15 36 46.6 -1.8**
BRTR Keskin Array B 75.34 313 P **P 15 36 46.6 -1.8**
comp=Z,3.3nm,0.9s,baz=128,slow=6.9,SNR=14
BOSA Boshof 75.71 242 LR LR 16 03 20.8
comp=Z,153nm,18.9s,baz=164,slow=30
URZ Urewera 76.68 128 LR LR 16 08 10.4
comp=Z,409nm,19.8s,baz=92,slow=34
SEY Seymchan 76.94 22 ⇓*e*P **P 15 36 57.4 +0.6**
TIXI Tiksi 77.50 9 *d i*P **P 15 36 58.8 -1.0**
TIXI pmax pmax
comp=Z,21nm,2.5s
TIXI MLR MLR
comp=Z,231nm,18.0s
OBN Obninsk 78.91 328 *e*P **P 15 37 07.1 -0.8**
OBN *i* 15 37 15.8
OBN pmax pmax
comp=Z,14nm,1.2s
VNDA Vanda 80.16 169 *e*P **P 15 37 15.5 +1.1**
comp=Z,4.8nm,1.1s
VNDA Vanda 80.16 169 P **P 15 37 15.8 +1.4**
comp=Z,1.9nm,1.0s,baz=310,slow=4.0,SNR=3.8
VNDA LR LR 16 10 27.8
comp=Z,74nm,18.3s,baz=311,slow=34
TMCR Tamitsa 82.04 337 *e*P **P 15 37 24.0 -0.5**
TMCR *e* 15 37 29.6
TMCR pmax pmax
comp=Z,28nm,1.3s
BUR08 Bucovina Ar. S 83.35 319 *e*P **P 15 37 32.2 +0.4**
BILL Bilibino 84.51 20 *c i*P **P 15 37 37.1 -0.1**
BILL *i* 15 40 51.9
BILL pmax pmax
comp=Z,8.0nm,0.8s
LVZ Lovozero 84.87 340 ⇑*e*P **P 15 37 38.7 -0.3**
LVZ pmax pmax
comp=Z,9.0nm,1.2s
FINES FINESS Array B 86.22 332 P **P 15 37 46.0 +0.1**
FINES FINESS Array B 86.22 332 P **P 15 37 46.0 +0.1**
comp=Z,5.3nm,1.0s,baz=120,slow=18,SNR=10
ARCES ARCESS Array B 88.56 340 P **P 15 37 57.1 +0.1**
ARCES ARCESS Array B 88.56 340 P **P 15 37 57.1 +0.1**
comp=Z,5.6nm,0.9s,baz=114,slow=5.4,SNR=22
ARE0 ARCESS Array S 88.56 340 *e*P **P 15 37 57.1 +0.2**
GERES GERESS Array B 91.12 319 P **P 15 38 09.2 -0.3**
GERES GERESS Array B 91.12 319 P **P 15 38 09.2 -0.3**
comp=Z,1.3nm,0.8s,baz=116,slow=4.6,SNR=9.1
BRG Berggiesshubel 91.13 321 *e*(P) **P 15 38 10.4 +1.1**
comp=Z,2.7nm,1.0s
BRG Berggiesshubel 91.13 321 *e*P **P 15 38 10.4 +1.1**
BRG pmax pmax
comp=Z,3.0nm,1.0s
NOA NORSAR Array B 93.26 331 P **P 15 38 18.8 -0.2**
NOA NORSAR Array B 93.26 331 P **P 15 38 18.8 -0.2**
comp=Z,1.2nm,0.9s,baz=98,slow=4.7,SNR=3.3
TORD Torodi Ar. Bea 99.97 283 LR LR 16 23 29.0
comp=Z,97nm,18.2s,baz=265,slow=35
TBI Tubuai 106.23 116 *e*LR LR 16 14 20.3
comp=Z,147nm,23.0s
PPT2 Papeete2 107.19 110 *e*LR LR 16 14 46.4
comp=Z,92nm,22.8s
C11A Tepee Creek (N 125.72 30 ⇑P **PKPdf 15 44 06.0 -0.3**
baz=126
A13A Flathead Natio 125.87 28 ⇓P **PKPdf 15 44 08.1 +1.5**
baz=126
B13A Whitefish 126.23 29 ⇓P **PKPdf 15 44 07.8 +0.6**
baz=126
D13A Huson 127.12 30 ⇑P **PKPdf 15 44 09.1 +0.1**
baz=127
B15A Bradely Ranch, 127.17 28 ⇓P **PKPdf 15 44 09.4 +0.3**
baz=127
C15A Salmond Ranch, 127.54 28 ⇑P **PKPdf 15 44 10.6 +0.8**
baz=127
A17A Triple J Farms 127.55 26 ⇑P **PKPdf 15 44 10.5 +0.7**
baz=127
D15A Lincoln 128.10 29 ⇓P **PKPdf 15 44 12.3 +1.3**
baz=128
D16A Dana Ranch, Ca 128.57 28 ⇓P **PKPdf 15 44 13.4 +1.6**
baz=128
DLMT Dillon 129.25 30 *e*PKPdf **PKPdf 15 44 14.3 +1.1**
D18A Linhart Farms, 129.26 27 ⇑P **PKPdf 15 44 15.0 +1.8**
baz=129
C20A Veseth Ranch, 129.65 25 ⇑P **PKPdf 15 44 14.9 +1.1**
baz=130
I14A Mackay 129.80 32 ⇑P **PKPdf 15 44 16.4 +2.0**
baz=130
C21A Desert Coulee 129.94 25 ⇑P **PKPdf 15 44 15.7 +1.4**
baz=130
NVAR Mina Array Bea 130.32 41 PKP **PKPdf 15 44 16.2 +0.6**
NVAR Mina Array Bea 130.32 41 PKP **PKPdf 15 44 16.2 +0.6**
comp=Z,1.1nm,0.8s,baz=254,slow=2.9,SNR=8.3
C22A Vida 130.50 24 ⇑P **PKPdf 15 44 17.4 +2.0**
baz=130
D22A Cohagen 130.86 24 ⇓P **PKPdf 15 44 18.9 +2.9**
baz=131
H19A Powell 131.53 28 ⇓P **PKPdf 15 44 20.8 +3.2**
baz=131
BSC Santa Cruz Isl 131.73 47 ⇑P **PKPdf 15 44 19.1 +1.0**
baz=132
MPMC Manual Prospec 132.17 43 ⇓P **PKPdf 15 44 20.5 +1.4**
baz=132
HWUT Hardware Ranch 132.40 33 *e*PKPdf **PKPdf 15 44 20.1 +0.8**
I20A Worland 132.47 29 ⇓P **PKPdf 15 44 20.0 +0.7**
baz=132
PDAR Pinedale Array 132.64 31 PKP **PKPdf 15 44 20.9 +1.0**
PDAR Pinedale Array 132.64 31 PKP **PKPdf 15 44 20.9 +1.0**
comp=Z,0.2nm,0.4s,baz=145,slow=5.4,SNR=4.2
J20A Shoshoni 132.94 29 ⇑P **PKPdf 15 44 21.7 +1.4**
baz=133
I21A Big Trails, Te 132.97 28 ⇓P **PKPdf 15 44 21.7 +1.4**
baz=133
MSU Marysvale 134.11 37 *e*PKIKP **PKPdf 15 44 23.9 +1.2**
MSU Marysvale 134.11 37 *e*PKPdf **PKPdf 15 44 23.9 +1.2**
GMRC Granite Mounta 134.12 43 ⇓P **PKPdf 15 44 24.2 +1.5**
baz=134
BELC Belle Mtn. Jos 134.31 44 ⇑P **PKPdf 15 44 24.9 +1.8**
baz=134
I25A Rochford 134.40 25 ⇓P **PKPdf 15 44 23.3 +0.3**
baz=134
Q16A Castle Valley 134.44 36 ⇓P **PKPdf 15 44 25.4 +2.1**
baz=134
MONP Monument Peak 134.60 46 ⇑P **PKPdf 15 44 24.5 +0.7**
baz=134
BC3 Big Chuckawall 134.88 44 ⇑P **PKPdf 15 44 25.7 +1.5**
baz=135
L23A Garrett 135.02 28 ⇓P **PKPdf 15 44 25.4 +1.1**
baz=135
SWSC Sam W. Stewart 135.02 46 ⇓P **PKPdf 15 44 27.1 +2.9**
baz=135
W13A Hualapai Mount 135.13 42 ⇓P **PKPdf 15 44 26.9 +2.2**
baz=135
N21A Black Mountain 135.15 31 ⇑P **PKPdf 15 44 25.5 +0.9**
baz=135
P19A Cripple Cowboy 135.18 33 ⇑P **PKPdf 15 44 26.1 +1.4**
baz=135
O20A White River Ci 135.22 32 ⇑P **PKPdf 15 44 26.0 +1.3**
baz=135
U15A North Rim 135.36 39 ⇑P **PKPdf 15 44 26.6 +1.4**
baz=135
Q20A Ridgley Place, 136.04 33 ⇑P **PKPdf 15 44 27.9 +1.6**
baz=136
WUAZ Wupatki 136.51 39 ⇑P **PKPdf 15 44 29.5 +2.3**
baz=136
ISCO Idaho Springs 136.83 30 ⇑P **PKPdf 15 44 29.0 +1.2**
baz=137
Q22A Crested Butte, 136.85 32 ⇑P **PKPdf 15 44 29.2 +1.3**
baz=137

S21A	**Coal Bank Pass** baz=137	137.23	34	⇑P		PKPdf	15 44 30.0 +1.4
R22A	**Saguache, Gunn** baz=137	137.40	33	⇑P		PKPdf	15 44 31.4 +2.5
S22A	**4UR Ranch, Cre** baz=138	137.71	33	⇓P		PKPdf	15 44 30.7 +1.2
X18A	**Snowflake** baz=138	138.04	40	⇑P		PKPdf	15 44 31.5 +1.4
U21A	**Nageezi** baz=138	138.17	36	⇓P		PKPdf	15 44 32.8 +2.4
T22A	**Edith** baz=138	138.19	34	⇓P		PKPdf	15 44 33.0 +2.7
W20A	**Ramah** baz=138	138.56	38	⇑P		PKPdf	15 44 33.3 +2.2
V22A	**San Miguel Ran** baz=139	138.96	35	⇑P		PKPdf	15 44 33.5 +1.7
Y20A	**Horse Springs,** baz=139	139.44	39	⇑P		PKPdf	15 44 35.1 +2.3
X21A	**Alamocita Cree** baz=139	139.45	38	⇑P		PKPdf	15 44 34.8 +2.0
T25A	**Trinidad** baz=139	139.46	32	⇑P		PKPdf	15 44 34.3 +1.6
V23A	**Ortiz Mt. (NFS** baz=139	139.50	35	⇓P		PKPdf	15 44 35.3 +2.5
Y21A	**Point of Rocks** baz=140	139.81	38	⇓P		PKPdf	15 44 35.6 +2.2
Z20A	**Nine Sixteen R** baz=140	139.81	40	⇓P		PKPdf	15 44 36.0 +2.7
Y22A	**Socorro** baz=140	140.29	38	⇓P		PKPdf	15 44 36.4 +2.2
V25A	**Rancho No Teng** baz=140	140.31	33	⇓P		PKPdf	15 44 36.1 +1.9
W24A	**Lazy 6 Ranch,** baz=140	140.32	35	⇑P		PKPdf	15 44 36.3 +2.0
220A	**Playas Peak, P** baz=140	140.63	41	⇑P		PKPdf	15 44 36.8 +2.0
Z22A	**Elephant Butte** baz=141	140.75	38	⇓P		PKPdf	15 44 36.5 +1.4
Y23A	**Lovelace Mesa,** baz=141	140.84	37	⇑P		PKPdf	15 44 36.9 +1.7
W25A	**X Bar L Ranch,** baz=141	140.85	34	⇓P		PKPdf	15 44 37.2 +2.1
Y24A	**Capitan** baz=141	141.22	36	⇑P		PKPdf	15 44 37.6 +1.7
Y25A	**Mesa, Roswell** baz=142	141.65	36	⇓P		PKPdf	15 44 37.6 +1.0
Z24A	**Sheeppen Canyo** baz=142	141.68	37	⇑P		PKPdf	15 44 40.3 +3.6
W27A	**Bowe Ranch, En** baz=142	141.73	33	⇓P		PKPdf	15 44 38.9 +2.2
Z27A	**Tatum** baz=143	142.94	35	⇑P		PKPdf	15 44 38.2 -0.7
325A	**Bean Ranch, Si** baz=143	143.26	39	⇑P		PKPdf	15 44 39.8 +0.2
226B	**Tecolote Peak,** baz=143	143.27	37	⇑P		PKPdf	15 44 38.7 -0.8
Y29A	**Porterfield Fa** baz=143	143.39	33	⇑P		PKPdf	15 44 38.7 -1.0
Z28A	**Tucker Farm, M** baz=143	143.43	34	⇓P		PKPbc	15 44 38.1 +1.2
425A	**Indio Mountain** baz=144	143.65	40	⇓P		PKPbc	15 44 38.8 +1.1
X31A	**McDonald Ranch** baz=144	143.67	30	⇓P		PKPbc	15 44 38.7 +1.2
Z29A	**Hungry Hill Ra** baz=144	143.83	33	⇑P		PKPdf	15 44 39.4 -1.0
Y31A	**Rekieta Farm,** baz=144	144.06	31	⇓P		PKPbc	15 44 39.2 +0.5
Z30A	**Sanderson Ranc** baz=144,SNR=6.1	144.12	33	⇓P		PKPbc	15 44 39.5 +0.6
WMOK	**Wichita Mounta**	144.17	29	*e*PKIKP		PKPab	15 44 38.7 +0.1
WMOK	**Wichita Mounta**	144.17	29	*e*PKP		PKPab	15 44 38.7 +0.1
129A	**Stewart Farms,** baz=144,SNR=12	144.21	34	⇑P		PKPbc	15 44 40.0 +0.7
OLIL	**Olney**	144.28	12	*e*PKP		PKPbc	15 44 39.5 +0.3
426A	**McDonald Obser** baz=144,SNR=27	144.33	39	⇓P		PKPdf	15 44 40.9 -0.7
TUL1	**Tulsa** baz=144,SNR=9.5	144.50	24	⇑P		PKPbc	15 44 40.3 +0.4
328A	**Wristen Ranch,** baz=144	144.58	37	⇑P		PKPdf	15 44 41.5 -0.2
427A	**Hayter Ranch,** baz=144,SNR=12	144.60	38	⇑P		PKPdf	15 44 42.0 +0.1
Z31A	**Sharp Cattle R** baz=144,SNR=14	144.62	32	⇑P		PKPbc	15 44 41.0 +0.5
526A	**Mary Lane Ranc** baz=145,SNR=18	144.71	40	⇑P		PKPdf	15 44 42.6 +0.5
229A	**Bryant Ranch,** baz=145,SNR=7.1	144.74	35	⇑P		PKPdf	15 44 42.0 0.0
130A	**Snyder** baz=145	144.74	33	⇓P		PKPdf	15 44 41.5 -0.4
527A	**Woodward Ranch** baz=145,SNR=40	144.95	39	⇓P		PKPdf	15 44 43.2 +0.7
Z32A	**Haskell** baz=145,SNR=12	144.97	31	⇑P		PKPbc	15 44 41.9 +0.3
131A	**Roby** baz=145,SNR=13	144.99	33	⇑P		PKPdf	15 44 42.3 -0.1
329A	**Wagon Wheel Ra** baz=145,SNR=22	144.99	36	⇑P		PKPdf	15 44 42.8 +0.3
SIUC	**Southern Illin**	145.00	14	*e*PKP		PKPab	15 44 41.4 -0.1
626A	**Big Bend Ranch** baz=145,SNR=35	145.02	40	⇑P		PKPdf	15 44 43.3 +0.7
USIN	**University of**	145.12	12	*e*PKP		PKPab	15 44 41.9 0.0
USIN				*e*			15 44 50.0
428A	**Kincaid Ranch,** baz=145,SNR=73	145.12	37	⇓P		PKPdf	15 44 44.1 +1.4
WCI	**Wyandotte Cave**	145.12	10	*e*PKIKP		PKPbc	15 44 41.5 -0.5
WCI	**Wyandotte Cave**	145.12	10	*e*PKP		PKPbc	15 44 41.5 -0.5
230A	**Sterling City** baz=145,SNR=40	145.19	34	⇓P		PKPdf	15 44 43.5 +0.7
ABTX	**Abilene, Hawle** baz=145,SNR=8.6	145.42	32	⇑P		PKPab	15 44 43.9 +0.6
528A	**Cox Ranch, San** baz=145,SNR=45	145.45	38	⇓P		PKPab	15 44 44.9 +1.3
TXAR	**Lajitas Array**	145.47	40	PKPbc		PKPab	15 44 44.6 +1.0
TXAR	**Lajitas Array** comp=Z,19nm,0.8s,baz=298,slow=1.4,SNR=205	145.47	40	PKPbc		PKPab	15 44 44.6 +1.0
330A	**Mertzon** baz=145,SNR=22	145.51	35	⇑P		PKPab	15 44 44.2 +0.5
627A	**Terlingua Ranc** baz=145,SNR=68	145.57	40	⇑P		PKPab	15 44 45.1 +1.0
231A	**Bronte** baz=145,SNR=14	145.59	33	⇑P		PKPab	15 44 44.5 +0.5
429A	**Davenport Ranc** baz=146,SNR=12	145.67	37	⇑P		PKPab	15 44 44.6 +0.3
529A	**Stev Forest Ra** baz=146,SNR=5.5	145.83	38	⇓P		PKPab	15 44 45.5 +0.6
628A	**Black Gap, Mar** baz=146,SNR=34	145.86	39	⇑P		PKPab	15 44 46.0 +1.0
430A	**Baggett Ranch,** baz=146,SNR=10.0	145.94	36	⇓P		PKPab	15 44 45.8 +0.5
232A	**Coleman** baz=146,SNR=31	145.99	33	⇑P		PKPab	15 44 45.9 +0.4
331A	**San Angelo** baz=146,SNR=16	146.01	34	⇓P		PKPab	15 44 45.7 +0.2
332A	**Millersview** baz=146,SNR=33	146.33	33	⇑P		PKPab	15 44 46.8 0.0
530A	**J-C Ranch, Com** baz=146,SNR=22	146.34	37	⇑P		PKPab	15 44 46.9 +0.1
431A	**Sonora** baz=146,SNR=6.3	146.38	35	⇑P		PKPab	15 44 46.5 -0.4
GNAR	**Gosnell**	146.44	16	*e*PKPbc		PKPab	15 44 46.5 -0.4
MIAR	**Mount Ida**	146.56	22	*e*PKP2		PKPdf	15 44 45.3 +0.4
MIAR	**Mount Ida**	146.56	22	*e*PKPdf		PKPdf	15 44 45.3 +0.4
MIAR				*e*			15 44 55.2
432A	**Menard** baz=146,SNR=12	146.69	34	⇓P		PKPab	15 44 47.8 -0.3
531A	**Rocksprings** baz=147	146.79	36	⇓P		PKPab	15 44 48.1 -0.5
UALR	**University of**	146.80	20	*e*PKPdf		PKPdf	15 44 45.3 -0.1
WVT	**Waverly**	146.84	13	*e*PKP2		PKPdf	15 44 45.3 -0.1
WVT	**Waverly**	146.84	13	*e*PKPdf		PKPdf	15 44 45.3 -0.1
WVT				*e*PKPbc		PKPbc	15 44 47.0 -0.2
JCT	**Junction City**	146.99	34	*e*PKP2		PKPdf	15 44 46.7 +0.9
JCT	**Junction City**	146.99	34	*e*PKPdf		PKPdf	15 44 46.7 +0.9
JCT	**Junction City** baz=147,SNR=15	146.99	34	⇓P		PKPbc	15 44 48.2 +0.3
TZTN	**Tazewell**	147.18	7	*e*PKPdf		PKPdf	15 44 46.9 +0.9
532A	**Rocksprings** baz=147,SNR=8.7	147.19	35	⇓P		PKPbc	15 44 49.1 +0.7
631A	**Perdido Creek** baz=147	147.33	37	⇓P		PKPab	15 44 49.9 -0.8
632A	**Uvalde** baz=148	147.72	36	⇑P		PKPab	15 44 51.2 -1.0
TKL	**Tuckaleechee C**	148.03	7	*e*PKPbc		PKPbc	15 44 49.9 -0.6
CPCT	**Cooper Cave**	148.13	9	*e*PKPbc		PKPbc	15 44 50.3 -0.4
732A	**Laxson Ranch,** baz=148	148.19	37	⇑P		PKPbc	15 44 52.1 +1.0
KMSC	**Kings Mountain** baz=149	148.78	4	⇓P		PKPbc	15 44 52.3 -0.1
LRAL	**Lakeview Retre**	150.00	14	*e*PKPbc		PKPbc	15 44 55.0 -0.6

IDC ***12*** *15:43:16.4±0.9,6˚.86N×126˚.44E,h0km,mb3.7/7, mb1 3.8/7,mb1mx3.6/24,mbtmp3.7/7,Error ellipse: s-maj=27.8km s-min=14.8km az=52.0*

ISCJB ***12*** *15:43:18.7±0.7,6˚.49N±0˚.05×126˚.15E±0˚.06,h10km, mb3.5/7,Error ellipse: s-maj=8.0km s-min=6.4km az=162.1*

MAN ***12*** *15:43:20,6˚.54N×126˚.11E,h19km,mb4.7,ML3.6,MMS3.5*

ISC 12 15:43:19.4±1.0,6˚.51N±0˚.07×126˚.11E±0˚.06,h10km,n19, σ1§00/21,mb3.6/7,2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
MATI	**Mati**	**0.45**	**19**		*e*P		**Pb**	**15 43 29.9**	**+0.4**
MATI					*e*S		**Sg**	**15 43 34.4**	**+0.1**
DAV	**Davao City (W)** 199nm,0.3s,baz=226,slow=1.4,SNR=60	**0.77**	**316**	Pn			**Pn**	**15 43 36.7**	**+0.4**
DAV				Sn			**Sn**	**15 43 48.9**	**+1.0**
KCP	**Kidapawan** 380nm,0.3s,baz=256,slow=1.2,SNR=22	**1.13**	**296**	⇑P	*i*		**Pb**	**15 43 41.1**	**+0.1**
KCP					*i*	S	**Sb**	**15 43 56.5**	**+0.8**
BUKP	**Musuan**	**1.71**	**323**		*e*P		**Pn**	**15 43 48.8**	**-0.5**
CTBH	**Cotabato--PC H**	**1.98**	**291**	⇓P	*e*P		**Pn**	**15 43 52.9**	**-0.1**
CGP	**Cagayan de Oro** 0.2nm,0.0s,baz=180,slow=5.8,SNR=3.9	**2.39**	**324**	⇑P	*e*P		**Pn**	**15 43 59.1**	**+0.5**
CGP					*e*S		**Sn**	**15 44 28.0**	**+0.1**
BUTP	**Butuan**	**2.49**	**349**		*e*P		**Pn**	**15 44 01.2**	**+1.2**
PAGZ	**Pagadian**	**3.02**	**296**		*e*P		**Pn**	**15 44 07.8**	**+0.6**
IPIL	**Ipil**	**3.73**	**290**		*e*P		**Pn**	**15 44 18.0**	**+0.9**
MSLP	**Maasin**	**3.81**	**341**		*e*P		**Pn**	**15 44 18.4**	**+0.3**
TBP	**Tagbilaran**	**3.86**	**325**		*e*P		**Pn**	**15 44 20.2**	**+1.3**
FITZ	**Fitzroy Crossi** 0.7nm,0.4s,baz=35,slow=16,SNR=7.5	**24.46**	**181**	P			**P**	**15 48 40.4**	**+1.7**
WRA	**Warramunga Arr** 0.7nm,0.7s,baz=339,slow=10,SNR=10	**27.51**	**163**	P			**P**	**15 49 07.7**	**+1.4**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=339,slow=7.0,SNR=17	**30.95**	**166**	P			**P**	**15 49 37.0**	**+0.2**
SONM	**Songino Array** 0.1nm,0.3s,baz=180,slow=5.8,SNR=3.9	**44.48**	**341**	P			**P**	**15 51 29.1**	**-1.9**
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=115,slow=7.7,SNR=13	**54.94**	**324**	P			P	15 52 47.4	-3.2
KURBB	**Kurchatov Arra** 0.7nm,0.4s,baz=125,slow=6.0,SNR=12	**59.08**	**327**	P			**P**	**15 53 18.5**	**-1.3**
ARCES	**ARCESS Array B** 0.3nm,0.7s,baz=81,slow=5.6,SNR=4.3	**87.64**	**340**	P			P	15 56 03.6	-4.1
TORD	**Torodi Ar. Bea** 1.8nm,1.2s,baz=101,slow=2.9,SNR=3.6	**121.44**	**290**	PKP			**PKPdf**	**16 02 13.3**	**-0.9**

IDC ***12*** *15:44:29.2±0.7,5˚.87S×153˚.39E,h0km,mb4.5/16, mb1 4.6/17,mb1mx4.5/21,mbtmp4.5/17,ML3.8/1,MS4.0/6, Ms1 4.0/6,ms1mx3.5/33,Error ellipse: s-maj=25.6km s-min=13.9km az=99.0*

ISCJB ***12*** *15:44:32.6±0.4,5˚.86S±0˚.05×153˚.37E±0˚.08,h32km, mb4.6/33,MS4.5/10,Error ellipse: s-maj=11.1km s-min=6.1km az=15.1*

BJI ***12*** *15:44:36.8,5˚.22S×153˚.56E,h45km,mB5.1/15,mb4.8/32, Ms5.1/13,Ms7 4.8/12*

NEIC ***12*** *15:44:39.1±1.2,5˚.89S×153˚.22E,h71km±11km,mb4.5/9, Error ellipse: s-maj=10.8km s-min=8.6km az=102.0*

AUST ***12*** *15:44:47.5±0.0,6˚.60S×153˚.16E,h103km,Error ellipse: s-maj=1.7km s-min=1.0km az=31.0*

ISC 12 15:44:34.3±0.5,5˚.81S±0˚.06×153˚.39E±0˚.08,h32km,n86, σ1§46/94,mb4.6/33,MS4.4/10,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
MANU	**Manus Island** baz=7.4,SNR=4.6	**7.08**	**302**	P			**Pb**	**15 46 33.9**	**-2.7**
PMG	**Port Moresby**	**7.13**	**240**		*e*P		**Pn**	**15 46 17.0**	**+0.5**
PMG				Sn			**Sn**	**15 47 36.2**	**-0.4**
PMG	**Port Moresby** 10nm,0.3s,baz=48,slow=6.8,SNR=36	**7.13**	**240**	Pn			**Pn**	**15 46 16.6**	**+0.1**
PMG				Sn			**Sn**	**15 47 36.2**	**-0.4**
HNR	**Honiara** 4.7nm,0.3s,baz=300,slow=20,SNR=3.5	**7.43**	**119**	P			Pn	15 46 27.1	+6.6
PMG				LR			LR	15 48 49.0	
COEN	**Coen** 107nm,0.9s	**12.91**	**230**	P			**P**	**15 47 48.1**	**+2.2**
MTSU	**Mount Surprise** baz=12,SNR=7.8	**15.12**	**215**	P			**P**	**15 48 12.2**	**+1.7**
CTA	**Charters Tower** baz=14,SNR=16	**15.80**	**205**	Pn			**P**	**15 48 18.1**	**+0.1**
CTA	**Charters Tower** 0.5nm,0.3s,baz=35,slow=12,SNR=12	**15.80**	**205**	Pn			**P**	**15 48 18.1**	**+0.1**
EIDS	**Eidsvold** 23nm,0.9s	**19.57**	**186**		*e*P		**P**	**15 48 59.5**	**-0.2**
EIDS	**Eidsvold** baz=19,SNR=12	**19.57**	**186**	P			**P**	**15 48 59.8**	**+0.1**
RMQ	**Roma** baz=20,SNR=13	**21.03**	**192**	P			**P**	**15 49 15.4**	**-0.1**
KDU	**Kakadu** baz=21,SNR=9.2	**21.73**	**250**	P			**P**	**15 49 22.9**	**-0.3**
WRAB	**Tennant Creek** 15nm,1.0s	**23.23**	**231**		*e*P		**P**	**15 49 39.8**	**+0.8**
WRA	**Warramunga Arr**	**23.24**	**231**	P			**P**	**15 49 37.9**	**-1.2**
WRA	**Warramunga Arr** 4.1nm,0.6s,baz=53,slow=9.7,SNR=30	**23.24**	**231**	P			**P**	**15 49 37.9**	**-1.2**
ARMA	**Armidale** baz=24,SNR=5.0	**24.53**	**184**	P			**P**	**15 49 51.8**	**+0.6**
AS31	**Alice Springs**	**25.82**	**225**		*e*P		**P**	**15 50 01.9**	**-1.0**
ASAR	**Alice Springs**	**25.82**	**225**	P			**P**	**15 50 02.1**	**-0.8**
ASAR	**Alice Springs** 8.0nm,0.8s,baz=58,slow=9.3,SNR=47	**25.82**	**225**	P			**P**	**15 50 02.1**	**-0.8**
ASAR				LR			LR	16 00 24.6	
KNRA	**Kununurra** baz=26,SNR=9.9	**26.07**	**246**	P			**P**	**15 50 05.9**	**+0.6**
CMSA	**Cobar Meteorol** baz=26,SNR=7.2	**26.59**	**195**	P			**P**	**15 50 10.2**	**+0.5**
STKA	**Stephens Creek**	**28.18**	**202**	P			**P**	**15 50 22.9**	**-1.1**
STKA	**Stephens Creek** 4.6nm,0.8s,baz=350,slow=10.0,SNR=6.9	**28.18**	**202**	P			**P**	**15 50 22.9**	**-1.1**
STKA				LR			LR	16 02 24.2	
FITZ	**Fitzroy Crossi**	**29.71**	**243**	P			**P**	**15 50 36.8**	**-0.9**
FITZ	**Fitzroy Crossi** 4.6nm,0.6s,baz=78,slow=7.5,SNR=14	**29.71**	**243**	P			**P**	**15 50 36.8**	**-0.9**
FITZ	**Fitzroy Crossi** baz=29,SNR=11	**29.71**	**243**	P			**P**	**15 50 36.8**	**-0.9**
JNU	**Nakatsue** 9.0nm,0.8s	**44.23**	**333**		*e*P		**P**	**15 52 41.0**	**+0.3**
MAT	**Matsushiro**	**44.47**	**342**	P			**P**	**15 52 40.2**	**-2.4**
KSRS	**Korea Array** 2.8nm,0.7s,baz=151,slow=8.0,SNR=7.4	**49.16**	**333**	P			**P**	**15 53 19.5**	**+0.3**
KSAR	**Wonju Array Be**	**49.17**	**333**	P			**P**	**15 53 19.5**	**+0.2**
ASAJ	**Asahikawa** 2.3nm,0.6s	**50.64**	**350**		*e*P		**P**	**15 53 30.7**	**+0.3**
USRK	**Ussuriysk Arra** 6.3nm,0.8s,baz=170,slow=7.0,SNR=7.6	**53.39**	**341**	P			**P**	**15 53 51.2**	**+0.5**
MDJ	**Mudanjiang**	**54.57**	**339**	P			**P**	**15 54 00.1**	**+0.6**
MDJ				pmax		pmax			
	comp=Z,12nm,1.1s								
MDJ				pmax		pmax			
	comp=Z,55nm,6.0s								
ENH	**Enshi** comp=Z,23nm,1.1s	**55.27**	**313**		*e*P		**P**	**15 54 05.5**	**+0.6**
CN2	**Changchun**	**55.46**	**336**		*e*P		**P**	**15 54 06.6**	**+0.7**
CN2					*e*S		**S**	**16 01 44.8**	**-3.9**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.9s								
CN2				LR		LR			
	comp=N,1μm,20.0s								
CN2				LR		LR			
	comp=E,700nm,20.0s								
CN2				LR		LR			
	comp=Z,700nm,15.0s								
GYA	**Guiyang**	**55.47**	**308**		*e*P		**P**	**15 54 08.7**	**+2.2**
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
XAN	**Xi'an**	**57.76**	**317**	P			**P**	**15 54 22.8**	**+0.3**
XAN				pP			**pP**	**15 54 35.0**	**+2.7**
XAN				pmax		pmax			
	comp=Z,3.0nm,1.1s								
PETK	**Petropavlovsk-**	**58.81**	**3**	P			**P**	**15 54 29.1**	**-0.3**
PETK	**Petropavlovsk-** comp=Z,2.5nm,0.5s,baz=165,slow=7.9,SNR=26	**58.81**	**3**	P			**P**	**15 54 29.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**58.84**	**296**	P			**P**	**15 54 29.1**	**-1.3**
CMAR	**Chiang Mai Arr** comp=Z,1.6nm,0.8s,baz=127,slow=3.4,SNR=7.9	**58.84**	**296**	P			**P**	**15 54 29.1**	**-1.3**
CD2	**Chengdu**	**59.84**	**311**	P			**P**	**15 54 39.0**	**+1.9**
CD2				pP			pP	15 54 56.5	+10
CD2				PP			**PP**	**15 56 53.6**	**+4.2**
CD2				ScP			**ScP**	**15 59 18.1**	**-4.2**
CD2				S			**S**	**16 02 43.8**	**-3.0**
CD2				SS			**SS**	**16 06 42.0**	**-1.6**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
HHC	**Hu-ho-hao-te**	**60.21**	**324**		*e*P		P	15 54 42.7	+3.2
HHC				PcP			**PcP**	**15 55 26.7**	**+1.9**
HHC				ScP			**ScP**	**15 59 21.7**	**-2.1**
HHC				S			**S**	**16 02 51.5**	**+0.2**
HHC				ScS			SKKSac	16 04 23.8	-4.0
HHC				pmax		pmax			
	comp=Z,96nm,8.4s								
HHC				LR		LR			
	comp=N,440nm,14.4s								
HHC				LR		LR			
	comp=E,610nm,14.4s								
HHC				LR		LR			
	comp=Z,210nm,15.6s								
LZH	**Lanzhou**	**62.36**	**316**		*e*P		**P**	**15 54 56.6**	**+2.4**
LZH				pP			pP	15 55 12.6	+8.5
LZH				sP			sP	15 55 18.7	+11
LZH				PP			**PP**	**15 57 14.3**	**+2.5**
LZH				SS			**SS**	**16 07 23.4**	**+0.2**
LZH				pmax		pmax			
	comp=Z,20nm,1.1s								
LZH				pmax		pmax			
	comp=Z,110nm,5.0s								
LZH				LR		LR			
	comp=N,550nm,18.6s								
LZH				LR		LR			
	comp=E,550nm,18.2s								
LZH				LR		LR			
	comp=Z,2μm,19.7s								
GTA	**Gaotai**	**66.79**	**317**		*e*P		**P**	**15 55 25.3**	**+2.2**
GTA				pP			pP	15 55 41.7	+8.7
GTA				S			**S**	**16 04 12.9**	**-0.6**
GTA				pmax		pmax			
	comp=Z,5.0nm,1.4s								
GTA				pmax		pmax			
	comp=Z,220nm,5.2s								
GTA				LR		LR			
	comp=N,180nm,19.0s								
GTA				LR		LR			
	comp=E,160nm,19.5s								
GTA				LR		LR			
	comp=Z,190nm,17.1s								
ULN	**Ulaanbaatar** comp=Z,3.7nm,0.8s	**67.16**	**328**		*e*P		**P**	**15 55 26.9**	**+1.7**
SONM	**Songino Array**	**67.49**	**328**	P			**P**	**15 55 28.5**	**+1.2**
SONM	**Songino Array** comp=Z,2.2nm,0.6s,baz=144,slow=5.3,SNR=15	**67.49**	**328**	P			**P**	**15 55 28.5**	**+1.2**
LSA	**Lhasa**	**69.29**	**305**	P			**P**	**15 55 40.7**	**+1.3**
LSA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
LSA	**Lhasa** comp=Z,7.5nm,0.8s	**69.29**	**305**		*e*P		**P**	**15 55 40.7**	**+1.3**
ODAN	**Odare** comp=Z,30nm,0.8s	**71.56**	**301**		*e*P		**P**	**15 55 53.9**	**+0.9**
VNDA	**Vanda**	**71.81**	**178**	P			**P**	**15 55 53.0**	**-0.3**
VNDA	**Vanda** comp=Z,1.6nm,0.9s,baz=323,slow=7.4,SNR=8.4	**71.81**	**178**	P			**P**	**15 55 53.0**	**-0.3**
JIRN	**Jiri** comp=Z,18nm,0.7s	**72.81**	**301**		*e*P		**P**	**15 55 58.0**	**-2.7**
DMN	**Daman** comp=Z,29nm,0.9s	**73.72**	**301**		*e*P		P	15 56 02.0	-3.9
KOLN	**Koldanda** comp=Z,17nm,0.8s	**75.05**	**301**		*e*P		P	15 56 09.1	-4.5
DANN	**Dangsing** comp=Z,13nm,0.5s	**75.06**	**301**		*e*P		P	15 56 06.2	-7.6
MK31	**Makanchi Array**	**81.47**	**319**		*e*P		**P**	**15 56 48.9**	**+0.4**
MKAR	**Makanchi Array**	**81.47**	**319**	P			**P**	**15 56 49.2**	**+0.8**
MKAR	**Makanchi Array** comp=Z,4.3nm,0.8s,baz=99,slow=6.7,SNR=26	**81.47**	**319**	P			**P**	**15 56 49.2**	**+0.8**
ZALV	**Zalesovo Beam**	**82.31**	**326**	P			**P**	**15 56 52.6**	**-0.1**
ZALV	**Zalesovo Beam** comp=Z,4.6nm,0.5s,baz=112,slow=6.0,SNR=21	**82.31**	**326**	P			**P**	**15 56 52.6**	**-0.1**
ILAR	**Eielson Array**	**82.87**	**22**	P			**P**	**15 56 53.0**	**-2.4**
ILAR	**Eielson Array** comp=Z,1.4nm,0.8s,baz=256,slow=5.1,SNR=12	**82.87**	**22**	P			**P**	**15 56 53.0**	**-2.4**
KSH	**Kashi**	**84.03**	**311**	P			**P**	**15 57 04.8**	**+2.7**
KSH				pP			pP	15 57 21.0	+8.7
KSH				PP			PP	16 00 21.7	+5.3
KSH				S			**S**	**16 07 24.2**	**-0.4**
KSH				SS			**SS**	**16 12 57.1**	**+3.4**
KSH				pmax		pmax			
	comp=Z,6.0nm,1.1s								
KSH				pmax		pmax			
	comp=Z,130nm,5.7s								
KSH				LR		LR			
	comp=N,1μm,13.2s								
KSH				LR		LR			
	comp=E,590nm,14.7s								
KSH				LR		LR			
	comp=Z,890nm,17.3s								
QSPA	**South Pole Qui**	**84.16**	**180**	P			**P**	**15 57 01.9**	**-0.3**
QSPA	**South Pole Qui** comp=Z,8.7nm,1.0s,baz=331,slow=2.6,SNR=17	**84.16**	**180**	P			**P**	**15 57 01.9**	**-0.3**
MAW	**Mawson**	**84.87**	**203**	P			**P**	**15 57 05.1**	**-0.5**
MAW	**Mawson** comp=Z,3.9nm,1.0s,baz=58,slow=3.8,SNR=6.7	**84.87**	**203**	P			**P**	**15 57 05.1**	**-0.5**
EGAK	**Eagle** comp=Z,3.1nm,0.9s	**85.05**	**23**		*e*P		**P**	**15 57 06.0**	**-0.5**
AAK	**Ala-Archa**	**85.78**	**313**		*e*P		**P**	**15 57 10.3**	**-0.6**
AAK	**Ala-Archa** comp=Z,2.2nm,0.5s,baz=195,slow=9.2,SNR=6.0	**85.78**	**313**	P			**P**	**15 57 10.5**	**-0.4**
BBB	**Bella Bella** comp=Z,84nm,19.8s,baz=235,slow=33	**87.54**	**37**	LR			LR	16 32 38.0	
DLBC	**Dease Lake** comp=Z,58nm,19.3s,baz=319,slow=34	**87.94**	**31**	LR			LR	16 33 56.9	
YBH	**Yreka Blue Hor** comp=Z,165nm,19.0s,baz=181,slow=31	**89.29**	**48**	LR			LR	16 30 47.6	
BVAR	**Borovoye Array**	**90.40**	**323**	P			**P**	**15 57 32.2**	**-0.2**
BVAR	**Borovoye Array** comp=Z,9.7nm,0.8s,baz=107,slow=5.0,SNR=37	**90.40**	**323**	P			**P**	**15 57 32.2**	**-0.2**
BRVK	**Borovoye** comp=Z,13nm,1.0s	**90.47**	**323**		*e*P		**P**	**15 57 32.9**	**+0.1**
GERES	**GERESS Array

-2.7400, Plg22.0000°, Azm188.0000°; Data Used: IU II CN IC G.
PLV ***12*** *16:01:25.3ₛ3.3,25˚.18N×101˚.12E,h1ᵏᵐₛ28ᵏᵐ,MD4.0*
SZGRF ***12*** *16:01:28.4,25˚.95N×100˚.25E,h33ᵏᵐ,mb4.9,MS4.4, Yunnan, China*
ISC 12 16:01:21.9±0.4**,25˚.69N**±0˚.03×**101˚.10E**±0˚.03**,h17**ᵏᵐₛ2ᵏᵐ**, h17**ᵏᵐ**:pP-P,n353,**σ1ₛ**67**/397**,mb4.8**/130**,MS4.3**/45**, 30C-8D,Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.59**	**111**	Pn	**Pn**	**16 01 49.4**	**-0.1**
KMI				Sn	**Sb**	**16 02 11.8**	**+0.9**
KMI				Sg	**Sg**	**16 02 12.3**	**-1.0**
KMI				smax	smax		
	comp=N,9μm,0.8s						
KMI				smax	smax		
	comp=E,9μm,0.8s						
KMI	**Kunming**	**1.59**	**111**	P	**Pn**	**16 01 49.4**	**-0.1**
KMI	**Kunming**	**1.59**	**111**	Pn	**Pn**	**16 01 49.4**	**-0.1**
TGV	**Tuan Giao**	**4.61**	**152**	*e*Sg	**Sb**	**16 03 38.6**	**+1.1**
DBV	**Dienbien**	**4.63**	**157**	*e*Pn	**Pn**	**16 02 29.7**	**-1.6**
DBV				*e*Pg	**Pb**	**16 02 44.8**	**+1.9**
DBV				*e*Sg	**Sb**	**16 03 40.9**	**+2.5**
SLVN	**Son La**	**5.05**	**149**	*e*Pn	**Pn**	**16 02 36.4**	**-0.6**
SLVN				*e*Pg	Pb	16 02 53.5	+3.6
SLVN				*e*Sg	**Sb**	**16 03 51.0**	**+0.8**
GYA	**Guiyang**	**5.06**	**80**	Pn	**Pn**	**16 02 38.6**	**+1.4**
GYA				Sn	**Sn**	**16 03 38.8**	**+3.4**
GYA				smax	smax		
	comp=N,500nm,0.6s						
GYA				smax	smax		
	comp=E,470nm,0.7s						
CD2	**Chengdu**	**5.70**	**24**	*i* Pn	Pn	16 02 49.5	+3.6
CD2				Sn	Sn	16 03 58.5	+7.5
MCVV	**Moc Chau**	**5.86**	**145**	*e*Pn	**Pn**	**16 02 47.9**	**-0.2**
MCVV				*e*Pg	Pg	16 03 09.5	-4.8
MCVV				*e*Sg	Sb	16 04 21.3	+7.5
IMP	**Imphal**	**6.55**	**264**	*e*4	Pn	16 03 02.0	+4.4
IMP				*e*S	**Sg**	**16 04 53.0**	**+0.8**
CHTO	**Chiang Mai**	**7.13**	**197**	*e*P	**Pn**	**16 03 04.6**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,232nm,1.0s						
CHTO	**Chiang Mai**	**7.13**	**197**	*e*P	**Pn**	**16 03 04.6**	**-0.9**
	comp=Z,232nm,1.0s						
CHTO	**Chiang Mai**	**7.13**	**197**	P	**Pn**	**16 03 04.7**	**-0.8**
	comp=Z,124nm,1.2s,comp=Z,2μmcomp=Z,2.8nm						
CHTO	**Chiang Mai**	**7.13**	**197**	P	**Pn**	**16 03 05.5**	**0.0**
	comp=Z,28nm,0.7s,comp=Z,2μmcomp=Z,1.1nm						
CMMT	**Chiang Mai**	**7.13**	**197**	P	**Pn**	**16 03 05.0**	**-0.5**
CMMT	**Chiang Mai**	**7.13**	**197**	P	**Pn**	**16 03 05.1**	**-0.5**
	comp=Z,278nm,1.1s,comp=Z,2μm						
CMAR	**Chiang Mai Arr**	**7.47**	**196**	Pn	**Pn**	**16 03 09.7**	**-0.6**
CMAR				Pg	Pg	16 03 38.2	-6.7
CMAR				Lg	Lg	16 05 17.6	
CMAR	**Chiang Mai Arr**	**7.47**	**196**	Pn	**Pn**	**16 03 09.7**	**-0.6**
	comp=Z,3.4nm,0.3s,baz=11,slow=13,SNR=39						
CMAR				Pg	Pg	16 03 38.2	-6.7
	comp=Z,6.8nm,0.3s,baz=9.9,slow=17,SNR=72						
CMAR				Lg	Lg	16 05 17.6	
	comp=Z,11nm,0.3s,baz=119,slow=24,SNR=5.4						
CMAR				LR	LR	16 06 31.9	
	comp=Z,2μm,18.1s,baz=15,slow=42						
LOEI	**Loei**	**8.14**	**179**	P	**Pn**	**16 03 20.9**	**+1.4**
	comp=Z,46nm,1.1s,comp=Z,2μmcomp=Z,0.5nm						
SHL	**Shillong**	**8.32**	**271**	*e*4	Pn	16 03 25.2	+3.2
SHL				*ex*	x	16 06 47.2	
ENH	**Enshi**	**8.71**	**57**	*e*P	**Pn**	**16 03 28.8**	**+1.7**
	comp=Z,120nm,0.4s						
PBKT	**Sadao Pong**	**9.08**	**181**	P	**Pn**	**16 03 35.2**	**+3.0**
	comp=Z,17nm,1.0s						
PBKT	**Sadao Pong**	**9.08**	**181**	P	Pn	16 03 35.9	+3.7
	comp=Z,17nm,1.0s						
SKNT	**Sakolnakorn**	**9.08**	**162**	P	**Pn**	**16 03 34.1**	**+1.8**
	comp=Z,76nm,1.1s						
PANO	**Nakornpanom**	**9.11**	**158**	P	**Pn**	**16 03 33.7**	**+1.0**
	comp=Z,126nm,0.8s						
LSA	**Lhasa**	**9.68**	**297**	P	**Pn**	**16 03 42.0**	**+1.2**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LSA	**Lhasa**	**9.68**	**297**	*e*P	**Pn**	**16 03 41.8**	**+0.9**
LSA				pmax	pmax		
	comp=Z,22nm,0.8s						
LSA	**Lhasa**	**9.68**	**297**	*e*P	**Pn**	**16 03 41.8**	**+0.9**
	comp=Z,22nm,0.8s						
CHAI	**Chaiyaphum**	**9.78**	**175**	P	**Pn**	**16 03 43.2**	**+1.4**
	comp=Z,7.2nm,1.4s,comp=Z,127nm						
QIZ	**Qiongzhong**	**10.46**	**128**	P	**Pn**	**16 03 50.8**	**-0.4**
QIZ				S	**Sn**	**16 05 50.1**	**+2.1**
QIZ				LR	LR		
	comp=N,5μm,12.5s						
QIZ				LR	LR		
	comp=E,2μm,12.9s						
QIZ				LR	LR		
	comp=Z,2μm,8.4s						
LZH	**Lanzhou**	**10.62**	**12**	*e*P	Pn	16 03 59.0	+5.5
LZH				pP		16 04 02.3	
LZH				sP		16 04 05.0	
LZH				*e*S	Sn	16 06 00.0	+7.8
LZH				sS		16 06 04.0	
LZH				pmax	pmax		
	comp=Z,52nm,1.0s						
LZH				pmax	pmax		
	comp=Z,240nm,4.6s						
LZH				LR	LR		
	comp=N,5μm,7.2s						
LZH				LR	LR		
	comp=E,4μm,6.9s						
LZH				LR	LR		
	comp=Z,6μm,9.6s						
XAN	**Xi'an**	**10.73**	**37**	P	**Pn**	**16 03 54.5**	**-0.4**
XAN				pP		16 04 00.7	
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
XAN				pmax	pmax		
	comp=Z,71nm,5.6s						
XAN				LR	LR		
	comp=N,4μm,9.7s						
XAN				LR	LR		
	comp=E,2μm,9.7s						
XAN				LR	LR		
	comp=Z,1μm,11.8s						
UBPT	**Khong Chiam**	**11.14**	**158**	P	**Pn**	**16 04 01.6**	**+1.1**
	comp=Z,66nm,0.7s						
UBPT	**Khong Chiam**	**11.14**	**158**	P	**Pn**	**16 04 01.8**	**+1.3**
	comp=Z,66nm,0.7s						
WHN	**Wuhan**	**12.65**	**65**	⇓*i*P	**Pn**	**16 04 21.4**	**+0.3**
WHN				S	**Sn**	**16 06 38.2**	**-3.5**
WHN				LR	LR		
	comp=N,9μm,9.4s						
WHN				LR	LR		
	comp=E,5μm,9.6s						
WHN				LR	LR		
	comp=Z,6μm,10.2s						
GTA	**Gaotai**	**13.72**	**356**	⇑P	**P**	**16 04 46.7**	**+2.3**
GTA				pP	pP	16 04 51.4	
GTA				sP		16 04 53.8	
GTA				S	**S**	**16 07 28.1**	**-2.4**
GTA				sS	sS	16 07 33.9	
GTA				SS	SbSb	16 07 44.9	-20
GTA				pmax	pmax		
	comp=Z,42nm,1.9s						
GTA				pmax	pmax		
	comp=Z,250nm,5.5s						
GTA				LR	LR		
	comp=N,3μm,10.2s						
GTA				LR	LR		
	comp=E,2μm,11.2s						
GTA				LR	LR		
	comp=Z,3μm,11.4s						
BTO	**Baotou**	**16.63**	**24**	*e*P	**Pn**	**16 05 14.9**	**+0.6**
NJ2	**Nanjing**	**16.79**	**64**	*e*P	**Pn**	**16 05 15.8**	**-0.4**
NJ2				sP	**sP**	**16 05 23.0**	**-2.3**
NJ2				S	**Sn**	**16 08 24.7**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,50nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,210nm,4.5s						
NJ2				LR	LR		
	comp=N,2μm,13.3s						
NJ2				LR	LR		
	comp=E,5μm,15.3s						
NJ2				LR	LR		
	comp=Z,3μm,11.3s						
TIA	**Tai'an**	**17.27**	**49**	⇑P	**Pn**	**16 05 22.4**	**+0.2**
TIA				pmax	pmax		
	comp=Z,130nm,1.2s						
TIA				pmax	pmax		
	comp=Z,360nm,4.5s						
TIA				LR	LR		
	comp=N,3μm,12.2s						
TIA				LR	LR		
	comp=E,3μm,9.8s						
TIA				LR	LR		
	comp=Z,1μm,10.4s						
HHC	**Hu-ho-hao-te**	**17.44**	**27**	*e*P	**Pn**	**16 05 23.8**	**-0.7**
HHC				pP	**pP**	**16 05 34.1**	**+3.6**
HHC				PP	**PnPn**	**16 05 38.9**	**+4.0**
HHC				S	**Sn**	**16 08 36.3**	**-2.1**
HHC				sS	**sS**	**16 08 50.6**	**-3.5**
HHC				SS	**SnSn**	**16 08 59.1**	**+7.1**
HHC				PcP	**PcP**	**16 10 02.6**	**-2.7**
HHC				pmax	pmax		
	comp=Z,17nm,1.3s						
HHC				pmax	pmax		
	comp=Z,330nm,7.2s						
HHC				LR	LR		
	comp=N,6μm,13.2s						
HHC				LR	LR		
	comp=E,7μm,15.6s						
HHC				LR	LR		
	comp=Z,2μm,15.6s						
SSLB	**Suanglung**	**18.14**	**92**	P	**P**	**16 05 35.7**	**+2.3**
	comp=Z,42nm,1.1s						
YHNB	**Yeheng**	**18.38**	**89**	*e*P	**Pn**	**16 05 36.4**	**+0.2**
	comp=Z,49nm,1.2s						
TWG	**Pinlang**	**18.44**	**95**	*e*P	**Pn**	**16 05 38.5**	**+1.8**
	comp=Z,257nm,1.1s						
SSE	**Sheshan**	**18.47**	**68**	P	**P**	**16 05 33.1**	**-3.8**
SSE				S	**Sn**	**16 08 59.0**	**-4.1**
SSE				pmax	pmax		
	comp=Z,30nm,0.8s						
SSE				pmax	pmax		
	comp=Z,60nm,3.4s						
SSE				LR	LR		
	comp=N,2μm,10.3s						
SSE				LR	LR		
	comp=E,560nm,10.3s						
SSE				LR	LR		
	comp=Z,1μm,14.6s						
BJT	**Baijiatuan**	**19.05**	**38**	*e*P	**Pn**	**16 05 45.9**	**+1.9**
	comp=Z,24nm,0.6s						
BJI	**Beijing**	**19.07**	**38**	P	**P**	**16 05 43.2**	**-0.2**
BJI				S	**S**	**16 09 18.7**	**-0.5**
BJI				pmax	pmax		
	comp=Z,22nm,1.9s						
BJI				pmax	pmax		
	comp=Z,760nm,3.9s						
BJI				LR	LR		
	comp=N,3μm,14.4s						
BJI				LR	LR		
	comp=E,3μm,14.4s						
BJI				LR	LR		
	comp=Z,490nm,22.4s						
JBP	**Jabalpur**	**19.39**	**267**	*e*S	**P**	**16 05 45.4**	**-1.7**
KALG	**Kalgarh**	**20.16**	**286**	*ex*	P	16 05 46.4	-9.0
KALG				AML	AML	16 05 53.7	
	comp=E,46nm,0.3s						
KALG				AML	AML	16 05 55.8	
	comp=Z,32nm,0.3s						
KULM	**Kulim**	**20.29**	**181**	*e*P	**P**	**16 05 57.1**	**+0.1**
	comp=Z,37nm,1.1s						
AGRA	**Agra**	**20.78**	**279**	*e*S	P	16 05 50.2	-12
AGRA				AML	AML	16 06 02.7	
	comp=N,58nm,0.3s						
AGRA				AML	AML	16 06 03.8	
	comp=E,44nm,0.4s						
WMQ	**Urumqi**	**21.12**	**332**	P	**P**	**16 06 07.7**	**+1.8**
WMQ	**Urumqi**	**21.12**	**332**	P	P	**16 06 07.9**	**+2.0**
WMQ				pP	**pP**	**16 06 12.0**	**+1.3**
WMQ				sP	**sP**	**16 06 14.9**	**+2.0**
WMQ				PP	**PnPn**	**16 06 31.3**	**+6.1**
WMQ				S	**S**	**16 09 58.3**	**-2.0**
WMQ				sS	Sn	16 10 04.9	-2.2
WMQ				PcP	**PcP**	**16 10 13.4**	**+1.7**
WMQ				SS	**SnSn**	**16 10 31.8**	**+10**
WMQ				ScP	**ScP**	**16 13 48.3**	**+0.5**
WMQ				PcS	**PcS**	**16 13 50.1**	**+0.4**
WMQ				ScS	**ScS**	**16 17 30.8**	**-0.7**
WMQ				pmax	pmax		
	comp=Z,47nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,130nm,4.0s						
WMQ				LR	LR		
	comp=N,1μm,16.0s						
WMQ				LR	LR		
	comp=E,2μm,17.3s						
WMQ				LR	LR		
	comp=Z,250nm,20.0s						
NDI	**New Delhi**	**21.44**	**283**	*ex*	**P**	**16 06 07.0**	**-2.4**
SONA	**Sohna**	**21.55**	**282**	*e*S	**P**	**16 06 06.3**	**-4.2**
BHGR	**Bahadurgarh**	**21.69**	**283**	*e*S	**P**	**16 06 07.9**	**-4.1**
SMLA	**Simla**	**21.72**	**290**	*i* S	**P**	**16 06 11.7**	**-0.6**
DL2	**Dalian**	**21.73**	**48**	P	**P**	**16 06 15.9**	**+3.6**
DL2				pmax	pmax		
	comp=Z,77nm,0.8s						
DL2				pmax	pmax		
	comp=Z,450nm,2.6s						
DL2				LR	LR		
	comp=E,880nm,14.2s						
DL2				LR	LR		
	comp=Z,650nm,14.7s						
KKR	**Kurukshetra**	**21.87**	**287**	*e*S	**P**	**16 06 13.5**	**-0.5**
RTK	**Rohtak**	**22.16**	**284**	*e*4	**P**	**16 06 15.2**	**-1.9**
TSI	**Tuntungan**	**22.20**	**187**	P	**P**	**16 06 21.5**	**+4.0**
	comp=Z,139nm,1.2s						
FRIM	**Kepong**	**22.33**	**179**	P	**P**	**16 06 21.3**	**+2.3**
SONM	**Songino Array**	**22.49**	**9**	P	**P**	**16 06 20.9**	**+0.3**
SONM	**Songino Array**	**22.49**	**9**	P	**P**	**16 06 20.9**	**+0.3**
	comp=Z,16nm,0.8s,baz=190,slow=9.7,SNR=68						
SONM				LR	LR	16 16 21.2	
	comp=Z,252nm,21.0s,baz=191,slow=40						
HYB	**Hyderabad**	**22.50**	**253**	*i* P	**P**	**16 06 21.0**	**+0.1**
ULN	**Ulaanbaatar**	**22.62**	**10**	*e*P	**P**	**16 06 21.9**	**-0.1**
	comp=Z,22nm,0.8s						
ULN	**Ulaanbaatar**	**22.62**	**10**	P	**P**	**16 06 22.1**	**0.0**
	comp=Z,39nm,1.1s,comp=Z,515nm						
PSI	**Prapat**	**22.86**	**186**	P	**P**	**16 06 24.9**	**+0.2**
PSI	**Prapat**	**22.86**	**186**	P	**P**	**16 06 24.9**	**+0.2**
	comp=Z,51nm,1.0s,baz=322,slow=4.8,SNR=13						
KGM	**Kluang**	**23.64**	**174**	P	**P**	**16 06 32.1**	**-0.3**
MYKOM	**Kota Tinggi**	**23.91**	**173**	P	P	16 06 43.8	+8.8
KDM	**Kudat**	**23.96**	**138**	P	**P**	**16 06 37.0**	**+1.5**
KKM	**Kota Kinabalu**	**24.30**	**141**	P	**P**	**16 06 42.9**	**+4.0**
KKM	**Kota Kinabalu**	**24.30**	**141**	P	**P**	**16 06 41.7**	**+2.9**
	comp=Z,70nm,1.3s						
SNY	**Shenyang**	**24.55**	**43**	⇑P	**P**	**16 06 40.9**	**+0.1**
SNY				pmax	pmax		
	comp=Z,71nm,1.5s						
SNY				pmax	pmax		
	comp=Z,340nm,3.5s						
SNY				LR	LR		
	comp=N,1μm,20.0s						
SNY				LR	LR		
	comp=E,1μm,17.2s						
ZAK	**Zakamensk**	**24.71**	**3**	⇑*i*P	**P**	**16 06 43.6**	**+1.4**
ZAK				pmax	pmax		
	comp=Z,31nm,0.9s						
KSH	**Kashi**	**25.16**	**309**	P	**P**	**16 06 48.8**	**+2.4**
KSH				pP	**pP**	**16 06 51.2**	**-0.4**
KSH				sP	**sP**	**16 06 55.9**	**+2.2**
KSH				PP	**PnPn**	**16 07 25.8**	**+5.4**
KSH				S	**S**	**16 11 10.3**	**-0.5**
KSH				sS	**sS**	**16 11 17.8**	**-1.5**
KSH				SS	**SnSn**	**16 12 08.9**	**+7.9**
KSH				pmax	pmax		
	comp=Z,26nm,1.0s						
KSH				LR	LR		
	comp=N,1μm,13.2s						
KSH				LR	LR		
	comp=E,590nm,14.7s						
KSH				LR	LR		
	comp=Z,890nm,17.3s						
SDKM	**Sandakan**	**25.20**	**140**	P	**P**	**16 06 50.7**	**+3.8**
SBUM	**Sibu**	**25.47**	**153**	P	**P**	**16 06 52.7**	**+3.4**
SBUM	**Sibu**	**25.47**	**153**	P	**P**	**16 06 52.1**	**+2.9**
	comp=Z,32nm,1.2s						
KSAR	**Wonju Array Be**	**25.56**	**56**	P	**P**	**16 06 49.1**	**-0.8**
KSRS	**Korea Array**	**25.60**	**56**	P	**P**	**16 06 49.1**	**-1.1**
	comp=Z,5.7nm,0.8s,baz=242,slow=9.4,SNR=13						
KSRS				LR	LR	16 18 27.1	
	comp=Z,539nm,20.4s,baz=256,slow=40						
KSM	**Kuching**	**25.66**	**158**	P	**P**	**16 06 51.3**	**+0.3**
KSM	**Kuching**	**25.66**	**158**	P	**P**	**16 06 53.7**	**+2.7**
	comp=Z,38nm,1.1s						
MK31	**Makanchi Array**	**25.83**	**329**	*i* P	**P**	**16 06 53.1**	**+0.8**
MK31				pmax	pmax		
	comp=Z,18nm,0.7s						
MK31	**Makanchi Array**	**25.83**	**329**	*e*P	**P**	**16 06 53.1**	**+0.8**
MKAR	**Makanchi Array**	**25.83**	**329**	P	**P**	**16 06 53.4**	**+1.1**
MKAR						16 10 20.7	
MKAR				pmax	pmax		
	comp=Z,19nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR				pmax	pmax		
	comp=N,1.0nm,0.8s						
MKAR	**Makanchi Array**	**25.83**	**329**	P	**P**	**16 06 53.4**	**+1.1**
MKAR				PcP	**PcP**	**16 10 20.7**	**-0.8**
MKAR				ScP	**ScP**	**16 13 59.2**	**-1.1**
MKAR	**Makanchi Array**	**25.83**	**329**	P	**P**	**16 06 53.4**	**+1.1**
	comp=N,19nm,0.8s,baz=136,slow=11,SNR=157						
MKAR				PcP	**PcP**	**16 10 20.7**	**-0.8**
	comp=N,2.4nm,0.8s,baz=111,slow=6.6,SNR=3.9						
MKAR				ScP	**ScP**	**16 13 59.2**	**-1.1**
	comp=N,0.7nm,0.8s,baz=91,slow=6.2,SNR=3.8						
MOY	**Mondy**	**25.94**	**360**	*e*P	**P**	**16 06 55.2**	**+1.8**
MOY				pmax	pmax		
	comp=Z,48nm,2.2s						
TLY	**Talaya**	**26.02**	**4**	*e*P	**P**	**16 06 56.5**	**+2.5**
TLY				*e*		16 07 30.0	
TLY				*e*S	**S**	**16 11 29.3**	**+5.2**
TLY				pmax	pmax		
	comp=Z,17nm,0.9s						
TLY				MLR	MLR		
	comp=Z,510nm,11.0s						
HVS	**Khovu-Aksy**	**26.03**	**349**	*d i* P	**P**	**16 06 55.2**	**+1.0**
HVS				pmax	pmax		
	comp=Z,121nm,2.2s						
IRK	**Irkutsk**	**26.62**	**4**	*e*P	**P**	**16 07 00.6**	**+1.2**
IRK				pmax	pmax		
	comp=Z,101nm,2.2s						
TSM	**Tawau**	**26.68**	**140**	P	**P**	**16 07 01.1**	**+0.9**
PALK	**Pallekele**	**26.72**	**230**	*e*P	**P**	**16 06 59.3**	**-1.4**
	comp=Z,79nm,1.2s						
PALK	**Pallekele**	**26.72**	**230**	P	**P**	**16 07 05.2**	**+4.5**
	comp=Z,53nm,1.2s						
CN2	**Changchun**	**26.80**	**41**	*e*P	**P**	**16 07 01.2**	**+0.1**
CN2				*e*pP	**pP**	**16 07 06.8**	**+0.5**
CN2				*e*sP	**sP**	**16 07 10.0**	**+1.6**
CN2				*e*S	**S**	**16 11 40.0**	**+3.5**
CN2				pmax	pmax		
	comp=Z,20nm,0.6s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,800nm,15.0s						
CN2				LR	LR		
	comp=E,800nm,15.0s						
CN2				LR	LR		
	comp=Z,500nm,13.0s						
JNU	**Nakatsue**	**26.92**	**67**	*e*P	**P**	**16 07 00.2**	**-2.1**
	comp=Z,12nm,0.9s						
JNU	**Nakatsue**	**26.92**	**67**	P	**P**	**16 07 00.7**	**-1.7**
	comp=Z,28nm,0.9s,baz=347,slow=3.5,SNR=3.4						
AAK	**Ala-Archa**	**27.59**	**314**	⇑*e*P	**P**	**16 07 10.2**	**+1.8**
AAK				pmax	pmax		
	comp=Z,41nm,1.7s						
AAK				MLR	MLR		
	comp=Z,1μm,16.0s						
AAK	**Ala-Archa**	**27.59**	**314**	*e*P	**P**	**16 07 09.7**	**+1.3**
	comp=Z,9.1nm,0.9s						
AAK	**Ala-Archa**	**27.59**	**314**	P	**P**	**16 07 09.6**	**+1.3**
	comp=Z,6.8nm,0.8s,baz=201,slow=2.8,SNR=8.0						
AAK				LR	LR	16 19 13.4	
	comp=Z,623nm,18.5s,baz=99,slow=39						
FRU	**Bishkek**	**27.61**	**315**	*e*P	**P**	**16 07 09.0**	**+0.6**
HIA	**Hailar**	**27.65**	**27**	*e*P	**P**	**16 07 09.2**	**+0.5**
	comp=Z,31nm,0.9s						
KBL	**Kabul**	**29.00**	**295**	P	**P**	**16 07 21.1**	**0.0**
KBL				pmax	pmax		
	comp=Z,21nm,0.9s						
KBL	**Kabul**	**29.00**	**295**	P	**P**	**16 07 21.1**	**0.0**
	comp=Z,20nm,0.9s						
MDJ	**Mudanjiang**	**29.76**	**43**	P	**P**	**16 07 27.2**	**-0.3**
MDJ				pP	**pP**	**16 07 30.3**	**-2.4**
MDJ				PcP	**PcP**	**16 10 29.7**	**-1.3**
MDJ				S	**S**	**16 12 23.2**	**+0.2**
MDJ				ScP	**ScP**	**16 14 11.7**	**-0.7**
MDJ				PcS	**PcS**	**16 14 13.1**	**-1.0**
MDJ				ScS	**ScS**	**16 18 06.8**	**-0.4**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,47nm,6.1s						
MDJ				LR	LR		
	comp=N,1μm,16.9s						
MDJ				LR	LR		
	comp=E,680nm,18.6s						
MDJ				LR	LR		
	comp=Z,720nm,18.6s						
DAV	**Davao City (W)**	**29.81**	**124**	LR	LR	16 19 44.1	
	comp=Z,393nm,19.3s,baz=329,slow=37						
KK31	**Karatay Array**	**30.41**	**313**	*i* P	**P**	**16 07 33.3**	**0.0**
KKAR	**Karatay Array**	**30.41**	**313**	*e*P	**P**	**16 07 33.3**	**0.0**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KKAR	**Karatay Array**	**30.41**	**313**	*e*P	**P**	**16 07 33.3**	**0.0**
	comp=Z,0.8nm,0.5s						
VLA	**Vladivostok**	**30.55**	**48**	*c i* P	**P**	**16 07 34.1**	**-0.4**
VLA				pmax	pmax		
	comp=Z,149nm,2.0s						
ZALV	**Zalesovo Beam**	**30.71**	**341**	P	**P**	**16 07 35.5**	**-0.3**
ZALV						16 10 31.2	
ZALV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZALV				MLR	MLR		
	comp=Z,276nm,20.4s						
ZALV	**Zalesovo Beam**	**30.71**	**341**	P	**P**	**16 07 35.5**	**-0.3**
ZALV				PcP	**PcP**	**16 10 31.2**	**-2.1**
ZALV	**Zalesovo Beam**	**30.71**	**341**	P	**P**	**16 07 35.5**	**-0.3**
	comp=Z,8.7nm,0.8s,baz=146,slow=9.0,SNR=36						
ZALV				PcP	**PcP**	**16 10 31.2**	**-2.1**
	comp=Z,1.9nm,0.7s,baz=168,slow=4.0,SNR=4.0						
ZALV				LR	LR	16 21 03.0	
	comp=Z,276nm,20.4s,baz=62,slow=39						
USRK	**Ussuriysk Arra**	**31.09**	**46**	P	**P**	**16 07 39.0**	**-0.2**
	comp=Z,32nm,0.9s,baz=244,slow=7.8,SNR=36						
USRK				LR	LR	16 19 57.2	
	comp=Z,548nm,19.4s,baz=233,slow=36						
NVS	**Novosibirsk**	**31.95**	**340**	*e*P	P	16 07 40.6	-6.1
NVS				*e*		16 10 32.8	
NVS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NVS				pmax	pmax		
	comp=N,5.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.0s						
MAT	**Matsushiro**	**33.38**	**62**	P	**P**	**16 07 57.9**	**-1.5**
MAT				*e*S	S	16 13 31.4	+12
KLR	**Kul'dur**	**33.44**	**37**	*e*P	P	16 07 55.8	-4.0
KLR				pmax	pmax		
	comp=Z,33nm,1.4s						
KLR				MLR	MLR		
	comp=N,2μm,13.5s						
KLR				MLR	MLR		
	comp=E,1μm,13.5s						
KLR				MLR	MLR		
	comp=E,1μm,12.5s						
KLR				MLR	MLR		
	comp=Z,2μm,12.5s						
HABR	**Khabarovsk**	**34.93**	**40**	*ce*P	**P**	**16 08 10.5**	**-2.2**
HABR				*e*S	**S**	**16 13 43.4**	**0.0**
HABR				*e*SS	**SnSn**	**16 16 00.0**	**+1.6**
HABR				*e*		16 18 31.5	
HABR				pmax	pmax		
	comp=N,2.0nm,0.6s						
HABR				pmax	pmax		
	comp=Z,8.0nm,1.6s						
HABR				pmax	pmax		
	comp=E,11nm,1.3s						
HABR				MLR	MLR		

VOSK pmax pmax
comp=Z,4.0nm,0.9s
CLNS Chul'man 35.52 22 *e*P **P** **16 08 18.1 +0.4**
CLNS *e**PP pP 16 08 28.6 +5.6
CLNS *e* 16 09 36.5
CLNS *e* 16 10 45.2
CLNS *e*S **S** **16 13 49.9 -2.5**
CLNS pmax pmax
comp=Z,6.0nm,0.9s
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,1.1s
CLNS pmax pmax
comp=Z,2.0nm,1.2s
CLNS pmax pmax
comp=N,3.0nm,1.0s
CLNS pmax pmax
comp=E,4.0nm,1.0s
CLNS smax smax
comp=N,96nm,16.7s
CLNS smax smax
comp=E,257nm,11.6s
CLNS MLR MLR
comp=N,546nm,15.0s
CLNS MLR MLR
comp=Z,727nm,13.0s
CLNS MLR MLR
comp=E,487nm,12.0s
BVA0 Borovoye Array 35.69 328 *i*P **P** **16 08 19.5 +0.3**
BVA0 pmax pmax
comp=Z,11nm,1.5s
BRVK Borovoye 35.76 328*c i*P **P** **16 08 20.2 +0.4**
BRVK pmax pmax
comp=Z,17nm,1.7s
ERM Erimo 38.12 54*d i*P **P** **16 08 40.2 +0.2**
ERM pmax pmax
comp=Z,106nm,1.2s
ERM Erimo 38.12 54 *e*P **P** **16 08 40.5 +0.4**
comp=Z,70nm,0.8s
ASAJ Asahikawa 38.20 51 *e*P **P** **16 08 41.0 +0.2**
comp=Z,31nm,0.9s
YSS Yuzh-Sakhalins 39.11 46⇑ *e*P **P** **16 08 49.0 +0.7**
YSS pmax pmax
comp=Z,50nm,0.9s
YSS MLR MLR
comp=Z,900nm,14.0s
AB31 Akbulak array 39.57 317 *i*P **P** **16 08 52.3 +0.2**
AB31 pmax pmax
comp=Z,11nm,0.7s
ABKAR Akbulak array 39.57 317 *e*P **P** **16 08 52.0 -0.1**
comp=Z,11nm,0.7s
YUK Yuzh-Kuril'sk 40.47 51*c i*P **P** **16 08 56.9 -2.7**
YUK *i* 16 10 32.2
YUK *e*S **S** **16 15 12.8 +5.2**
YUK *i* SS **SS** **16 18 05.7 -1.3**
YUK pmax pmax
comp=E,173nm,1.2s
YUK pmax pmax
comp=Z,162nm,1.2s
YUK pmax pmax
comp=N,60nm,1.2s
YUK MLR MLR
comp=E,321nm,17.0s
YUK MLR MLR
comp=Z,231nm,17.0s
YAK Yakutsk 41.08 20 *e*P **P** **16 09 03.0 -1.4**
YAK *e**PP **pP** **16 09 11.4 +1.7**
YAK *e* 16 10 37.4
YAK *e*PPP PPP 16 11 05.0
YAK *e*S **S** **16 15 15.6 -0.6**
YAK *e* 16 19 10.0
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK pmax pmax
comp=Z,39nm,2.6s
YAK pmax pmax
comp=N,18nm,2.8s
YAK pmax pmax
comp=E,20nm,1.8s
YAK smax smax
comp=E,36nm,3.7s
YAK smax smax
comp=N,33nm,3.3s
YAK MLR MLR
comp=N,374nm,13.0s
YAK MLR MLR
comp=Z,435nm,11.0s
YAK MLR MLR
comp=E,111nm,12.0s
SVE Sverdlovsk 42.48 328⇑ *i*P **P** **16 09 16.9 +1.0**
SVE *e*S **S** **16 15 37.3 +0.3**
SVE *e* 16 18 44.2
SVE pmax pmax
comp=Z,31nm,1.4s
SVE MLR MLR
comp=Z,267nm,12.0s
ARU Arti 43.29 327*c i*P **P** **16 09 22.3 -0.2**
ARU 16 11 00.3
ARU S **S** **16 15 52.8 +3.8**
ARU SS SS 16 18 51.4 -11
ARU pmax pmax
comp=Z,22nm,1.7s
ARU MLR MLR
comp=Z,252nm,21.0s
SOKR Solikamsk 45.59 330*d i*P **P** **16 09 41.8 +1.0**
SOKR pmax pmax
comp=Z,30nm,1.1s
SOKR MLR MLR
comp=Z,320nm,20.0s
RDF Al-Radifah 47.36 287 *e*P **P** **16 09 53.6 -1.6**
RDF AMb AMB 16 09 54.3
comp=Z,41nm,0.5s
MIB Mutribah 47.40 288 *e*P **P** **16 09 53.9 -1.6**
MIB AMb AMB 16 09 58.0
comp=Z,36nm,0.8s
NAY Al-Naaiem 47.57 287 *e*P **P** **16 09 55.0 -1.8**
NAY AMb AMB 16 09 56.0
comp=Z,34nm,0.6s
DGRG David-gareji 48.22 304 P **P** **16 10 03.0 +1.2**
TIXI Tiksi 48.56 11*c i*P **P** **16 10 03.2 -0.6**
TIXI pmax pmax
comp=Z,25nm,1.7s
TIXI MLR MLR
comp=Z,295nm,18.0s
FITZ Fitzroy Crossi 49.65 149 *e*P **P** **16 10 11.7 -1.1**
comp=Z,20nm,1.2s
FITZ Fitzroy Crossi 49.65 149 P **P** **16 10 11.7 -1.1**
comp=Z,6.5nm,0.8s,baz=348,slow=7.7,SNR=10.0
PETK Petropavlovsk- 49.95 41 P **P** **16 10 12.7 -2.1**
PETK pmax pmax
comp=Z,2.0nm,0.9s
PETK MLR MLR
comp=Z,224nm,20.5s
PETK Petropavlovsk- 49.95 41 P **P** **16 10 12.7 -2.1**
PETK Petropavlovsk- 49.95 41 P **P** **16 10 12.7 -2.1**
comp=Z,2.0nm,0.9s,baz=230,slow=15,SNR=3.1
PETK LR LR 16 30 57.3
comp=Z,224nm,20.4s,baz=86,slow=36
SEY Seymchan 50.09 28 *i*P **P** **16 10 14.8 -0.9**
KIV Kislovodsk 50.24 307 *e*P **P** **16 10 17.3 0.0**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,109nm,16.0s
VORD Divnogorie 52.87 316 *e*P **P** **16 10 35.5 -1.2**
VORD pmax pmax
comp=Z,7.0nm,0.6s
VORD pmax pmax
comp=N,2.0nm,0.8s
VORD pmax pmax
comp=E,9.0nm,0.6s
VSR Storozhevoye 52.97 316 *e*P **P** **16 10 35.8 -1.6**
VSR pmax pmax
comp=Z,6.0nm,0.7s
VSR pmax pmax
comp=N,6.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.4s
MOS Moscow 54.30 321 *e*P P 16 10 39.4 -7.7
OBN Obninsk 54.84 321*c i*P **P** **16 10 50.1 -0.9**
OBN *i* 16 12 58.0

OBN pmax pmax
comp=Z,31nm,1.6s
OBN MLR MLR
comp=Z,300nm,22.0s
TMCR Tamitsa 55.48 332 *e*P **P** **16 10 54.4 -1.1**
TMCR *e* 16 11 52.7
TMCR pmax pmax
comp=Z,7.0nm,0.4s
WRAB Tennant Creek 55.69 141 *e*P **P** **16 10 56.3 -1.2**
WRAB pmax pmax
comp=Z,22nm,0.6s
WRAB Tennant Creek 55.69 141 *e*P **P** **16 10 56.3 -1.2**
comp=Z,22nm,0.6s
WRA Warramunga Arr 55.69 141 P **P** **16 10 56.5 -1.0**
WRA Warramunga Arr 55.69 141 P **P** **16 10 56.5 -1.0**
comp=Z,19nm,0.6s,baz=331,slow=8.0,SNR=63
ASF Jabal al Asfar 55.84 293 LR LR 16 38 06.1
comp=Z,74nm,18.3s,baz=137,slow=40
BILL Bilibino 57.18 24*c i*P **P** **16 11 06.9 -0.7**
BILL pmax pmax
comp=Z,63nm,1.0s
BILL MLR MLR
comp=Z,400nm,13.0s
BRTR Keskin Array B 57.23 302 P **P** **16 11 07.0 -1.6**
BRTR Keskin Array B 57.23 302 P **P** **16 11 07.0 -1.6**
comp=Z,1.9nm,0.9s,baz=96,slow=5.0,SNR=6.8
LVZ Lovozero 57.62 336*c i*P **P** **16 11 09.7 -1.0**
LVZ pmax pmax
comp=Z,22nm,1.2s
EIL Elat 58.00 290 LR LR 16 39 09.4
comp=Z,101nm,19.1s,baz=274,slow=39
APA Apatity 58.02 335⇑ *e*P **P** **16 11 13.2 -0.3**
APA MLR MLR
comp=Z,300nm,16.0s
JOF Joensuu 58.26 330 *ep* **P** **16 11 14.2 -1.0**
comp=Z,4.4nm,0.6s
JOF Joensuu 58.26 330 *e*P **P** **16 11 14.2 -1.0**
JOF pmax pmax
comp=Z,4.0nm,0.6s
AS31 Alice Springs 58.45 144 *e*P **P** **16 11 15.9 -1.2**
ASAR Alice Springs 58.45 144 P **P** **16 11 16.4 -0.8**
ASAR Alice Springs 58.45 144 P **P** **16 11 16.4 -0.8**
comp=Z,14nm,0.9s,baz=328,slow=6.6,SNR=52
FX1 Attu Island--F 59.25 42 LR LR 16 36 31.1
comp=Z,147nm,19.1s,baz=256,slow=36
KIEV Kiev 59.26 315 *e*P **P** **16 11 20.8 -1.6**
KIEV pmax pmax
comp=Z,29nm,1.4s
KIEV Kiev 59.26 315 *e*P **P** **16 11 20.8 -1.6**
comp=Z,29nm,1.4s
KIS Kishinev 59.85 311 *e*P **P** **16 11 27.0 +0.5**
VSU Vasula 60.35 324 *i*P **P** **16 11 29.0 -0.8**
VSU pmax pmax
comp=Z,45nm,1.0s
KAF Kangasniemi 60.54 329 *ep* **P** **16 11 30.4 -0.6**
comp=Z,1.1nm,0.6s
KAF Kangasniemi 60.54 329 *e*P **P** **16 11 30.4 -0.6**
KAF pmax pmax
comp=Z,1.0nm,0.6s
KEV Kevo 60.64 337 *ep* **P** **16 11 31.0 -0.5**
comp=Z,6.6nm,0.6s
KEV Kevo 60.64 337 *e*P **P** **16 11 31.0 -0.5**
KEV pmax pmax
comp=Z,7.0nm,0.6s
KEV Kevo 60.64 337 *e*P **P** **16 11 30.8 -0.7**
comp=Z,13nm,1.0s
FINES FINESS Array B 60.65 328 P **P** **16 11 31.1 -0.6**
FINES FINESS Array B 60.65 328 P **P** **16 11 31.1 -0.6**
comp=Z,2.4nm,0.6s,baz=99,slow=6.7,SNR=9.6
ARCES ARCESS Array B 61.15 337 P **P** **16 11 34.2 -0.8**
ARCES ARCESS Array B 61.15 337 P **P** **16 11 34.2 -0.8**
comp=Z,4.2nm,0.8s,baz=92,slow=8.5,SNR=18
ARCES LR LR 16 40 19.7
comp=Z,395nm,19.1s,baz=97,slow=38
ARE0 ARCESS Array S 61.15 337 *e*P **P** **16 11 33.7 -1.4**
TESR Tescani 61.39 311⇑ *i*P **P** **16 11 36.0 -1.1**
VRI Vrincioaia 61.42 310⇓ P **P** **16 11 37.2 -0.1**
VRI Vrincioaia 61.42 310⇓ *i*P **P** **16 11 37.2 -0.1**
PLOR Plostina 61.48 310⇑ P **P** **16 11 37.8 +0.1**
PLOR Plostina 61.48 310⇑ *i*P **P** **16 11 37.8 +0.1**
MLR Muntele Rosu 62.02 310 P **P** **16 11 41.4 -0.2**
MLR Muntele Rosu 62.02 310⇑ *i*P **P** **16 11 40.7 -0.8**
MLR Muntele Rosu 62.02 310 P **P** **16 11 41.4 -0.2**
comp=Z,3.4nm,1.0s,baz=159,slow=1.9,SNR=16
BUR08 Bucovina Ar. S 62.20 312 *e*P **P** **16 11 41.5 -1.2**
SUW Suwalki 62.64 319 *e*P **P** **16 11 43.7 -1.6**
SUW pmax pmax
comp=Z,51nm,1.1s
SUW Suwalki 62.64 319 *e*P **P** **16 11 43.6 -1.6**
comp=Z,51nm,1.1s
SUW Suwalki 62.64 319 *e*P **P** **16 11 44.7 -0.6**
LVV L'vov 62.66 315 *e*P **P** **16 11 44.2 -1.3**
KWP Kalwaria Pacla 63.53 315⇑ P **P** **16 11 51.0 -0.4**
KWP Kalwaria Pacla 63.53 315 *e*P **P** **16 11 50.8 -0.5**
comp=Z,24nm,0.6s
KWP Kalwaria Pacla 63.53 315⇑ *i*P **P** **16 11 51.0 -0.4**
KWP Kalwaria Pacla 63.53 315 *e*P **P** **16 11 50.9 -0.4**
LOT Lotru 63.54 310⇑ *i*P **P** **16 11 50.0 -1.6**
KOLS Kolonicke sedl 63.93 314 *e*P **P** **16 11 53.2 -0.8**
KOLS pmax pmax
comp=Z,4.0nm,1.2s
KOLS Kolonicke sedl 63.93 314 *e*P **P** **16 11 53.2 -0.8**
KOLS *e* 16 35 21.6
UZH Uzhgorod 63.97 314 *e*P **P** **16 11 53.1 -1.1**
UZH *e* 16 12 08.5
VTS Vitosha 64.50 307⇑ P **P** **16 11 56.8 -1.2**
VTS Vitosha 64.50 307⇑ *i*P **P** **16 11 56.8 -1.2**
STHS Stebnicka Huta 64.51 315 *e*P **P** **16 11 57.3 -0.5**
STHS pmax pmax
comp=Z,4.0nm,0.7s
STHS Stebnicka Huta 64.51 315 *e*P **P** **16 11 57.3 -0.5**
STHS *e* 16 35 21.6
NIE Niedzica 65.11 315 *e*P **P** **16 12 03.4 +1.7**
NIE Niedzica 65.11 315 *e*P **P** **16 12 03.4 +1.7**
KECS Kecovo 65.18 314 *e*P **P** **16 12 01.8 -0.3**
KECS pmax pmax
comp=Z,5.0nm,1.3s
KECS Kecovo 65.18 314 *e*P **P** **16 12 01.8 -0.3**
KECS *e* 16 35 24.2
OJC Ojcow 65.28 316 *e*P **P** **16 12 02.0 -0.8**
VYHS Vyhne 66.25 314 *e*P **P** **16 12 08.2 -0.9**
VYHS Vyhne 66.25 314 *e*P **P** **16 12 08.2 -0.9**
VYHS *e* 16 35 25.2
OKC Ostrava-Krasne 66.40 315 *i*P **P** **16 12 09.7 -0.3**
OKC Ostrava-Krasne 66.40 315 *i*P **P** **16 12 09.7 -0.3**
OKC *e*pP **pP** **16 12 12.9 -2.6**
MORC Moravsky Berou 66.80 316 *e*P **P** **16 12 11.8 -0.8**
MORC pmax pmax
comp=Z,10.0nm,1.3s
MORC Moravsky Berou 66.80 316 *e*P **P** **16 12 11.8 -0.8**
comp=Z,10.0nm,1.3s
HFS Hagfors 66.81 327 P **P** **16 12 11.3 -1.1**
HFS Hagfors 66.81 327 P **P** **16 12 11.3 -1.1**
comp=Z,6.3nm,0.8s,baz=83,slow=4.6,SNR=11
HFS LR LR 16 42 01.5
comp=Z,152nm,18.6s,baz=76,slow=37
PKSM Moragy 66.89 312⇓ P **P** **16 12 12.0 -1.2**
PKSM Moragy 66.89 312⇓ *i*P **P** **16 12 12.0 -1.2**
KMBO Kilima Mbogo 67.09 257 *e*P **P** **16 12 14.1 -1.1**
comp=Z,15nm,1.1s
KMBO Kilima Mbogo 67.09 257 P **P** **16 12 14.5 -0.7**
comp=Z,10nm,1.0s,baz=43,slow=11,SNR=15
KMBO LR LR 16 40 54.8
comp=Z,136nm,18.8s,baz=95,slow=35
KRLC Kraliky 67.21 316 *e*P **P** **16 12 14.9 -0.3**
KRLC Kraliky 67.21 316 *e*P **P** **16 12 14.9 -0.3**
KSP Ksiaz 67.34 317 *e*P **P** **16 12 15.6 -0.4**
DPC Dobruska-Polom 67.44 316 *i*P **P** **16 12 16.4 -0.2**
DPC Dobruska-Polom 67.44 316 *i*P **P** **16 12 16.4 -0.2**
DPC *e*pP **pP** **16 12 19.5 -2.7**
DPC AMS AMS 16 42 10.0
VRAC Vranov 67.51 315 P **P** **16 12 16.5 -0.6**
VRAC Vranov 67.51 315 P **P** **16 12 16.5 -0.6**
comp=Z,9.8nm,1.0s,baz=82,slow=6.9,SNR=9.2
UPC Upice 67.59 317 *e*P **P** **16 12 17.5 -0.1**
NB2 NORSAR Subarra 67.82 328 P **P** **16 12 17.3 -1.5**
comp=Z,4.7nm,0.7s,baz=77,slow=6.5
NOA NORSAR Array B 67.82 328 P **P** **16 12 17.6 -1.2**
NOA NORSAR Array B 67.82 328 P **P** **16 12 17.6 -1.2**
comp=Z,4.2nm,0.8s,baz=78,slow=6.4,SNR=22
NAO01 NORSAR Array S 68.02 328 *e*P **P** **16 12 18.7 -1.4**
comp=Z,6.0nm,1.0s
TREC Trest 68.21 315 *i*P **P** **16 12 21.5 0.0**
TREC Trest 68.21 315 *i*P **P** **16 12 21.5 0.0**

TREC *e*pP **pP** **16 12 24.7 -2.4**
PRU Pruhonice 68.64 316 *i*P **P** **16 12 23.4 -0.7**
PRU MLR MLR
comp=Z,200nm,21.1s
PRU Pruhonice 68.64 316 *i*P **P** **16 12 23.4 -0.7**
PRU *e*pP **pP** **16 12 27.3 -2.3**
PRU AMS AMS 16 42 40.0
comp=Z,200nm,21.1s
BRG Berggiesshubel 68.78 317 *e*P **P** **16 12 24.3 -0.7**
comp=Z,4.6nm,0.9s
BRG *e* 16 12 28.3
comp=Z,7.1nm,1.2s
BRG Berggiesshubel 68.78 317 *e*P **P** **16 12 23.9 -1.1**
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 68.78 317 *e*P **P** **16 12 24.3 -0.7**
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG pmax pmax
comp=Z,7.0nm,1.2s
GOLS Golise 68.97 312 *e*P **P** **16 12 25.6 -0.7**
STKA Stephens Creek 69.08 144 P **P** **16 12 25.9 -1.0**
STKA Stephens Creek 69.08 144 P **P** **16 12 25.9 -1.0**
comp=Z,11nm,0.7s,baz=322,slow=5.2,SNR=25
PERS Pernice 69.14 313 *i*P **P** **16 12 26.4 -1.0**
CLL Collm 69.24 318 *e*P **P** **16 12 26.5 -1.3**
comp=Z,5.0nm,1.2s
CLL Collm 69.24 318 *i*P **P** **16 12 26.7 -1.1**
CLL pmax pmax
comp=Z,16nm,1.4s
CLL Collm 69.24 318 *i*P **P** **16 12 26.7 -1.1**
comp=Z,7.0nm,1.4s
CLL *i* 16 13 36.3
CLL L L 16 44 00.0
comp=Z,200nm,20.7s
GEC2 GERESS Array S 69.47 315 *e*P **P** **16 12 28.5 -0.9**
comp=Z,5.0nm,0.9s
GEC2 GERESS Array S 69.47 315 *e*P **P** **16 12 28.5 -0.9**
GEC2 pmax pmax
comp=Z,26nm,0.9s
GERES GERESS Array B 69.47 315 P **P** **16 12 29.0 -0.4**
GERES GERESS Array B 69.47 315 P **P** **16 12 29.0 -0.4**
comp=Z,2.1nm,0.7s,baz=68,slow=5.4,SNR=20
KHC Kasperske Hory 69.47 316 *i*P **P** **16 12 28.7 -0.7**
KHC MLR MLR
comp=Z,200nm,9.7s
KHC Kasperske Hory 69.47 316 *i*P **P** **16 12 28.7 -0.7**
KHC *e*pP **pP** **16 12 32.2 -2.7**
KHC AMS AMS 16 43 50.0
comp=Z,200nm,9.7s
VISS Visnje 69.56 312 *i*P **P** **16 12 29.2 -0.7**
TANN Tannenbergstha 69.81 317 *e*P **P** **16 12 30.5 -1.0**
comp=Z,4.0nm,1.0s
CEY Cernica 69.85 312 *i*P **P** **16 12 31.0 -0.8**
WERD Werda 69.90 317 *e*P **P** **16 12 31.0 -1.0**
comp=Z,5.0nm,1.4s
WERN Wernitzgruen 69.90 317 *e*P **P** **16 12 31.3 -0.7**
comp=Z,14nm,1.5s
GUNZ Gunzen 69.90 317 *e*P **P** **16 12 31.2 -0.8**
comp=Z,9.0nm,1.2s
WET Wettzell 69.90 316 *e*P **P** **16 12 31.4 -0.6**
comp=Z,8.0nm,1.3s
WET Wettzell 69.90 316 *e*P **P** **16 12 31.4 -0.6**
WET pmax pmax
comp=Z,45nm,1.3s
BSEG Bad Segeberg 70.09 321 *e*P **P** **16 12 32.3 -0.7**
comp=Z,13nm,0.9s
BSEG Bad Segeberg 70.09 321 *e*P **P** **16 12 32.3 -0.7**
BSEG pmax pmax
comp=Z,26nm,0.9s
ROTZ Rotzenmuhle 70.15 316 *e*P **P** **16 12 33.1 -0.4**
comp=Z,17nm,1.4s
CADS Cadrg 70.17 313 *e*P **P** **16 12 32.3 -1.5**
MOX Moxa 70.26 317 *e*P **P** **16 12 33.7 -0.5**
comp=Z,6.0nm,1.3s
MOX *e*L L 16 44 45.5
comp=Z,174nm,21.3s
MOX Moxa 70.26 317 *e*P **P** **16 12 33.7 -0.5**
MOX pmax pmax
comp=Z,72nm,1.3s
MOX MLR MLR
comp=Z,6μm,21.3s
RJOB Jochberg 70.36 314 *e*P **P** **16 12 34.0 -0.9**
comp=Z,12nm,1.2s
NRDL Niedersach Rie 70.63 320 *e*P **P** **16 12 35.9 -0.4**
comp=Z,11nm,1.3s
CLZ Clausthal 70.67 319 *e*P **P** **16 12 36.1 -0.6**
comp=Z,14nm,1.2s
CLZ Clausthal 70.67 319 *e*P **P** **16 12 36.1 -0.6**
CLZ pmax pmax
comp=Z,26nm,1.2s
GRF Grafenberg Arr 70.78 317 *e*P **P** **16 12 36.6 -0.8**
comp=Z,24nm,1.6s
GRF *e*L L 16 44 22.3
comp=Z,263nm,21.7s
GRF Grafenberg Arr 70.78 317 *e*P **P** **16 12 36.6 -0.8**
GRF pmax pmax
comp=Z,70nm,1.6s
FUR Furstenfeldbru 71.20 315 *e*P **P** **16 12 39.4 -0.6**
comp=Z,27nm,1.2s
FUR Furstenfeldbru 71.20 315 *e*P **P** **16 12 39.4 -0.6**
FUR pmax pmax
comp=Z,53nm,1.2s
JMIC Jan Mayen 72.05 341 LR LR 16 46 31.4
comp=Z,200nm,20.3s,baz=82,slow=38
IBBN Ibbenburen 72.06 320 *e*P **P** **16 12 44.6 -0.4**
comp=Z,8.0nm,1.0s
DAVOX Davos/Dischmat 72.54 314 P **P** **16 12 47.4 -0.8**
DAVOX Davos/Dischmat 72.54 314 P **P** **16 12 47.4 -0.8**
comp=Z,6.9nm,0.6s,baz=102,slow=6.9,SNR=17
DAVOX LR LR 16 45 58.1
comp=Z,139nm,21.5s,baz=248,slow=37
BUG Bochum--Univer 72.63 319 *e*P **P** **16 12 47.6 -0.8**
comp=Z,8.0nm,0.8s
BFO Black Forest 73.02 316 *e*P **P** **16 12 49.7 -1.2**
comp=Z,26nm,1.9s
BFO Black Forest 73.02 316 *e*P **P** **16 12 49.7 -1.2**
BFO pmax pmax
comp=Z,85nm,1.9s
COLD Coldfoot 73.47 23 *e*P **P** **16 12 52.8 -0.3**
comp=Z,5.1nm,1.0s
CDF Champ du Feu 73.65 316 *e*P **P** **16 12 53.7 -1.0**
WLF Walferdange 73.91 318 P **P** **16 12 56.2 +0.2**
WLF Walferdange 73.91 318 *e*P **P** **16 12 56.2 +0.2**
comp=Z,36nm,1.6s
HINF Hinteralfeld 74.13 316 *e*P **P** **16 12 56.8 -0.6**
GIVF Givet 74.55 318 *e*P **P** **16 12 59.0 -0.8**
PAGF Fort de Pagny 74.57 317 *e*P **P** **16 12 59.2 -0.7**
PGF Pioggiola 74.57 310 *e*P **P** **16 12 59.1 -1.1**
BAIF Baives 74.94 318 *e*P **P** **16 13 01.3 -0.7**
MEZF Maizieres J'vi 75.00 317 *e*P **P** **16 13 01.6 -0.8**
LPG La Plagne 75.02 313⇑ *i*P **P** **16 13 02.3 -0.7**
comp=Z,14nm,0.7s
LPL La Plagne 75.03 313⇑ *i*P **P** **16 13 02.3 -0.6**
comp=Z,18nm,0.7s
TRF Thorofare Moun 75.18 26 *e*P **P** **16 13 02.7 -0.6**
comp=Z,3.8nm,0.9s
MBDF Montbardon 75.29 313 *e*P **P** **16 13 03.4 -1.0**
comp=Z,7.6nm,0.7s
COLA College 75.43 24 *e*P **P** **16 13 03.8 -0.8**
COLA pmax pmax
comp=Z,22nm,0.9s
COLA College 75.43 24 *e*P **P** **16 13 03.8 -0.8**
comp=Z,22nm,0.9s
FRF La Foret Royal 75.81 312 *e*P **P** **16 13 06.0 -1.1**
ILAR Eielson Array 75.84 24 P **P** **16 13 04.8 -2.1**
ILAR PP **PP** **16 15 58.5 +2.0**
ILAR Eielson Array 75.84 24 P **P** **16 13 04.8 -2.1**
comp=Z,1.6nm,0.8s,baz=288,slow=5.0,SNR=17
ILAR PP **PP** **16 15 58.5 +2.0**
comp=Z,0.5nm,0.8s,baz=288,slow=7.0,SNR=4.0
LMR La Mourre 75.98 311 *e*P **P** **16 13 06.9 -1.2**
LOR Lormes 76.21 316 *e*P **P** **16 13 07.9 -1.5**
LOR *e*R
comp=Z,137nm,20.5s
SMRF Simiane la Rot 76.37 312 *e*P **P** **16 13 09.7 -0.7**
SMF Signal de Mont 76.47 315 *e*P **P** **16 13 09.7 -1.2**
SSF Saint Saulge 76.52 316 *e*P **P** **16 13 10.0 -1.1**
RC01 Rabbit Creek A 76.53 28 *e*P **P** **16 13 09.5 -1.4**
comp=Z,5.0nm,0.9s
PMR Palmer 76.54 28 *e*P **P** **16 13 08.1 -2.8**
PMR pmax pmax
comp=Z,13nm,1.0s
PMR Palmer 76.54 28 *e*P **P** **16 13 08.1 -2.8**
comp=Z,13nm,1.0s
VIVF Saint-Julien-l 76.63 313⇑ *i*P **P** **16 13 10.7 -1.1**
comp=Z,7.8nm,0.8s

AVF	**Avril sur Loir**	**76.72**	**316**	⇑*i*P		**P**		**16 13 11.0**	**-1.2**
OHAK	**Old Harbor**	**76.72**	**33**	*e*P		**P**		**16 13 11.5**	**-0.5**
	comp=Z,7.8nm,0.8s								
SML	**Sawmill**	**76.77**	**27**	*e*P		**P**		**16 13 11.9**	**-0.4**
SML				pmax		pmax			
	comp=Z,3.0nm,0.8s								
SML	**Sawmill**	**76.77**	**27**	*e*P		**P**		**16 13 11.8**	**-0.4**
	comp=Z,3.2nm,0.8s								
KDAK	**Kodiak Island**	**76.80**	**32**	*e*P		**P**		**16 13 11.8**	**-0.7**
	comp=Z,23nm,1.3s								
KDAK	**Kodiak Island**	**76.80**	**32**	LR		LR		16 50 21.7	
	comp=Z,170nm,19.2s,baz=37,slow=38								
EKA	**Eskdalemuir Ar**	**76.89**	**325**	P		**P**		**16 13 11.6**	**-1.5**
EKA	**Eskdalemuir Ar**	**76.89**	**325**	P		**P**		**16 13 11.6**	**-1.5**
	comp=Z,3.4nm,0.9s,baz=59,slow=8.0,SNR=3.9								
PAX	**Paxson**	**77.31**	**25**	P		**P**		**16 13 14.9**	**-0.5**
PAX				pmax		pmax			
	comp=Z,2.0nm,0.9s								
PAX	**Paxson**	**77.31**	**25**	P		**P**		**16 13 14.9**	**-0.5**
	comp=Z,1.6nm,0.9s								
TCF	**Toulx Ste Croi**	**77.64**	**315**	*e*P		**P**		**16 13 16.7**	**-0.8**
	comp=Z,20nm,1.2s								
INK	**Inuvik**	**78.11**	**18**	LR		LR		16 52 44.4	
	comp=Z,204nm,19.4s,baz=278,slow=40								
DIV	**Divide**	**78.17**	**27**	*e*P		**P**		**16 13 20.3**	**+0.1**
SUMG	**Summit**	**78.21**	**348**	*i*P		**P**		**16 13 19.4**	**-1.3**
SUMG				pmax		pmax			
	comp=Z,11nm,0.9s								
SUMG	**Summit**	**78.21**	**348**	*e*P		**P**		**16 13 19.3**	**-1.3**
	comp=Z,14nm,1.0s								
SUMG	**Summit**	**78.21**	**348**	*i*P		**P**		**16 13 19.4**	**-1.3**
	comp=Z,11nm,0.9s								
CAF	**Calviac**	**78.30**	**314**	*e*P		**P**		**16 13 20.7**	**-0.5**
RJF	**Les Rejaudoux**	**78.49**	**315**	*e*P		**P**		**16 13 21.0**	**-1.2**
	comp=Z,9.5nm,0.9s								
RJF				*e*R					
	comp=Z,89nm,18.5s								
BMRM	**Bremner River**	**78.74**	**27**	*e*P		**P**		**16 13 22.9**	**-0.4**
	comp=Z,29nm,1.0s								
MTLF	**Montolieu**	**78.86**	**313**	*e*P		**P**		**16 13 23.3**	**-0.9**
	comp=Z,13nm,1.1s								
ETSF	**Etsaut**	**80.88**	**313**	*e*P		**P**		**16 13 33.9**	**-1.4**
	comp=Z,3.3nm,0.6s								
SKAG	**Skagway**	**83.34**	**25**	*e*P		**P**		**16 13 48.6**	**+0.8**
	comp=Z,15nm,1.1s								
ESDC	**Sonseca Array**	**84.65**	**312**	P		**P**		**16 13 54.1**	**-0.8**
ESDC	**Sonseca Array**	**84.65**	**312**	P		**P**		**16 13 54.1**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=42,slow=4.1,SNR=5.3								
SFJD	**Kangerlussuaq**	**85.17**	**349**	LR		LR		16 54 10.0	
	comp=Z,211nm,20.5s,baz=0.4,slow=37								
YKA	**Yellowknife Ar**	**87.61**	**16**	P		**P**		**16 14 08.2**	**-0.8**
YKA	**Yellowknife Ar**	**87.61**	**16**	P		**P**		**16 14 08.2**	**-0.8**
	comp=Z,4.2nm,0.7s,baz=327,slow=4.9,SNR=28								
BOSA	**Boshof**	**90.65**	**238**	P		**P**		**16 14 24.5**	**+0.5**
BOSA	**Boshof**	**90.65**	**238**	P		**P**		**16 14 24.5**	**+0.5**
	comp=Z,4.0nm,1.0s,baz=89,slow=9.3,SNR=4.4								
BOSA				LR		LR		16 52 10.4	
	comp=Z,138nm,18.7s,baz=165,slow=34								
TORD	**Torodi Ar. Bea**	**92.64**	**286**	PP		PP		16 18 15.2	+0.1
TORD	**Torodi Ar. Bea**	**92.64**	**286**	PP		PP		16 18 15.2	+0.1
	comp=Z,0.9nm,0.9s,baz=63,slow=4.5,SNR=3.8								
TORD				LR		LR		16 59 41.5	
	comp=Z,118nm,18.5s,baz=35,slow=38								
MAW	**Mawson**	**97.28**	**194**	LR		LR		16 56 33.4	
	comp=Z,76nm,20.5s,baz=189,slow=34								
SCHQ	**Schefferville**	**99.14**	**353**	LR		LR		17 02 38.7	
	comp=Z,160nm,21.6s,baz=85,slow=37								
TXAR	**Lajitas Array**	**120.35**	**25**	PKP		**PKPdf**		**16 20 11.8**	**-1.1**
TXAR	**Lajitas Array**	**120.35**	**25**	PKP		**PKPdf**		**16 20 11.8**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=206,slow=2.5,SNR=5.9								
SDV	**Santo Domingo**	**144.70**	**346**	*e*PKP		**PKPab**		**16 20 56.3**	**-1.2**
ROSC	**El Rosal**	**149.31**	**351**	*e*PKPbc		**PKPbc**		**16 21 10.7**	**-0.5**
ROSC	**El Rosal**	**149.31**	**351**	PKPbc		**PKPbc**		**16 21 10.0**	**-1.2**
	comp=Z,34nm,0.8s,baz=100,slow=7.6,SNR=17								
BDFB	**Brasilia**	**149.49**	**283**	PKPbc		**PKPbc**		**16 21 10.0**	**-1.1**
BDFB	**Brasilia**	**149.49**	**283**	PKPbc		**PKPbc**		**16 21 10.0**	**-1.1**
	comp=Z,7.8nm,1.1s,baz=58,slow=10,SNR=4.5								

IDC ***12*** *16:08:46.9±1.7, 34.°42N×29.°47E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.3/23, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=124.4km s-min=24.9km az=140.0*
ATH ***12*** *16:08:57.1, 36.°65N×27.°63E, h105km±1km*
ISCJB ***12*** *16:08:57.4±0.3, 36.°63N±0.°03×27.°63E±0.°03, h103km±4km, mb3.6/2, Error ellipse: s-maj=5.3km s-min=3.2km az=151.9*
CSEM ***12*** *16:08:58.4±0.2, 36.°61N×27.°65E, h96km±3km, MD3.1, Error ellipse: s-maj=5.1km s-min=3.3km az=162.0*
DDA ***12*** *16:08:58.7, 36.°74N×27.°63E, h90km, MD3.3*
ISK ***12*** *16:08:59.6, 36.°74N×27.°70E, h84km, MD3.1*
THE ***12*** *16:09:01.0, 36.°59N×27.°53E, h89km±1km, ML3.4/2, Error ellipse: s-maj=2.1km s-min=0.9km az=74.0*

ISC 12 16:08:58.0±0.8, 36.°65N±0.°03×27.°62E±0.°02, h96km±5km, n93, σ1s16/133, Dodecanese Islands region

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.08**	**338**	PG	**Pn**	**16 09 12.1**	**+0.5**
DAT				*e*SG	**Sn**	**16 09 20.7**	**-1.1**
DAT	**Datca**	**0.08**	**338**	*i* Pg	**Pn**	**16 09 12.1**	**+0.5**
DAT				*e*Sg	**Sn**	**16 09 20.7**	**-1.1**
NIS1	**Nisyros Isl.**	**0.36**	**262**	P	**Pn**	**16 09 13.2**	**+0.7**
NIS1				S	**Sn**	**16 09 23.0**	**-0.3**
NIS1	**Nisyros Isl.**	**0.36**	**262**	*e*P	**Pn**	**16 09 13.2**	**+0.7**
NIS1	**Nisyros Isl.**	**0.36**	**262**	P	**Pn**	**16 09 13.2**	**+0.7**
NIS1				S	**Sn**	**16 09 23.0**	**-0.3**
BODT	**Bodrum**	**0.48**	**329**	PG	**Pn**	**16 09 13.7**	**+0.4**
BODT	**Bodrum**	**0.48**	**329**	*i* Pg	**Pn**	**16 09 13.7**	**+0.4**
ARG	**Arkhangelos**	**0.60**	**137**	P	**Pn**	**16 09 15.1**	**+0.9**
ARG				S	**Sn**	**16 09 26.4**	**+0.1**
ARG	**Arkhangelos**	**0.60**	**137**	*e*P	**Pn**	**16 09 14.8**	**+0.6**
ARG				*e*S	**Sn**	**16 09 27.5**	**+1.2**
ARG	**Arkhangelos**	**0.60**	**137**	*e*P	**Pn**	**16 09 14.8**	**+0.6**
ARG				*e*S	**Sn**	**16 09 27.5**	**+1.2**
MLSB	**Milas**	**0.65**	**11**	*e*PG	**Pn**	**16 09 15.1**	**+0.4**
MLSB	**Milas**	**0.65**	**11**	*e*Pg	**Pn**	**16 09 15.1**	**+0.4**
YER	**Yerkesik**	**0.72**	**48**	*e*PG	**Pn**	**16 09 15.9**	**+0.6**
YER				*e*SG	**Sn**	**16 09 26.8**	**-1.5**
YER	**Yerkesik**	**0.72**	**48**	*e*Pg	**Pn**	**16 09 15.9**	**+0.6**
YER				*e*Sg	**Sn**	**16 09 26.8**	**-1.5**
TURN	**Turunc**	**0.82**	**74**	*i* P	**Pn**	**16 09 14.0**	**-2.2**
TURN				*i* S	**Sn**	**16 09 25.2**	**-4.7**
TURN	**Turunc**	**0.82**	**74**	*i* P	**Pn**	**16 09 14.0**	**-2.2**
DALY	**Dalyan (Mu¨la**	**0.85**	**79**	*e*Pg	**Pn**	**16 09 17.5**	**+1.0**
DALY				*e*SG	**Sn**	**16 09 29.9**	**-0.5**
DALY	**Dalyan (Mu¨la**	**0.85**	**79**	*e*Pg	**Pn**	**16 09 17.5**	**+1.0**
DALY				*e*Sg	**Sn**	**16 09 29.9**	**-0.5**
AYDN	**Tasoluk**	**1.03**	**12**	*i* P	**Pn**	**16 09 19.2**	**+0.7**
AYDN				*i* S	**Sn**	**16 09 33.9**	**0.0**
AYDN	**Tasoluk**	**1.03**	**12**	*i* P	**Pn**	**16 09 19.2**	**+0.7**
AYDN				*i* S	**Sn**	**16 09 33.9**	**0.0**
KARP	**Karpathos**	**1.16**	**199**	P	**Pn**	**16 09 20.5**	**+0.5**
KARP				S	**Sn**	**16 09 35.9**	**-0.7**
KARP	**Karpathos**	**1.16**	**199**	*e*P	**Pn**	**16 09 20.5**	**+0.5**
KARP				*e*S	**Sn**	**16 09 36.9**	**+0.3**
KARP	**Karpathos**	**1.16**	**199**	P	**Pn**	**16 09 20.5**	**+0.5**
KARP				*e*S	**Sn**	**16 09 36.9**	**+0.3**
FETY	**Fethiye**	**1.18**	**90**	*e*PN	**Pn**	**16 09 20.8**	**+0.6**
FETY	**Fethiye**	**1.18**	**90**	*e*Pn	**Pn**	**16 09 20.8**	**+0.6**
SMG	**Samos**	**1.22**	**330**	*e*P	**Pn**	**16 09 21.1**	**+0.4**
SMG	**Samos**	**1.22**	**330**	*e*P	**Pn**	**16 09 21.1**	**+0.4**
DNZL	**Cakiroluk**	**1.54**	**47**	*i* P	**Pn**	**16 09 25.1**	**+0.4**
DNZL				*i* S	**Sn**	**16 09 45.9**	**+0.9**
DNZL	**Cakiroluk**	**1.54**	**47**	*i* P	**Pn**	**16 09 25.1**	**+0.4**
DNZL				*i* S	**Sn**	**16 09 45.9**	**+0.9**
AKAS	**Kas**	**1.66**	**104**	*i* P	**Pn**	**16 09 26.2**	**+0.1**
AKAS				*i* S	**Sn**	**16 09 47.8**	**+0.3**
AKAS	**Kas**	**1.66**	**104**	*i* P	**Pn**	**16 09 26.2**	**+0.1**
AKAS				*i* S	**Sn**	**16 09 47.8**	**+0.3**
GOLH	**Golhisar**	**1.66**	**69**	*i* P	**Pn**	**16 09 27.3**	**+1.1**
GOLH				*i* S	**Sn**	**16 09 49.1**	**+1.5**
GOLH	**Golhisar**	**1.66**	**69**	*i* P	**Pn**	**16 09 27.3**	**+1.1**
GOLH				*i* S	**Sn**	**16 09 49.1**	**+1.5**
KSL	**Kastellorizon**	**1.66**	**107**	*e*P	**Pn**	**16 09 26.4**	**+0.3**
KSL	**Kastellorizon**	**1.66**	**107**	*e*P	**Pn**	**16 09 26.4**	**+0.3**
APE	**Apeiranthos**	**1.72**	**285**	*e*PN	Pn	16 09 29.9	+3.0
APE	**Apeiranthos**	**1.72**	**285**	P	**Pn**	**16 09 27.9**	**+1.1**
APE	**Apeiranthos**	**1.72**	**285**	*e*P	**Pn**	**16 09 28.0**	**+1.1**
APE				*e*S	**Sn**	**16 09 50.0**	**+1.1**
APE	**Apeiranthos**	**1.72**	**285**	P	**Pn**	**16 09 27.9**	**+1.1**
APE	**Apeiranthos**	**1.72**	**285**	*e*Pn	Pn	16 09 29.9	+3.0
APE				*e*S	**Sn**	**16 09 50.0**	**+1.1**
SANT	**Santorini**	**1.76**	**261**	P	**Pn**	**16 09 27.9**	**+0.6**
SANT	**Santorini**	**1.76**	**261**	*e*P	**Pn**	**16 09 28.3**	**+1.0**
SANT	**Santorini**	**1.76**	**261**	P	**Pn**	**16 09 27.9**	**+0.6**
THR1	**Thera Island**	**1.76**	**261**	P	**Pn**	**16 09 28.2**	**+0.9**
THR1	**Thera Island**	**1.76**	**261**	P	**Pn**	**16 09 28.2**	**+0.9**
THR3	**Thira Island,**	**1.80**	**263**	P	**Pn**	**16 09 28.8**	**+1.0**
THR3	**Thira Island,**	**1.80**	**263**	P	**Pn**	**16 09 28.8**	**+1.0**
ELL	**Elmali**	**1.84**	**86**	*e*PN	**Pn**	**16 09 29.6**	**+1.1**
ELL	**Elmali**	**1.84**	**86**	*e*Pn	**Pn**	**16 09 29.6**	**+1.1**
ZKR	**Zakros**	**1.91**	**217**	*e*P	**Pn**	**16 09 30.1**	**+0.9**
ZKR				*e*S	**Sn**	**16 09 53.5**	**+0.4**
ZKR	**Zakros**	**1.91**	**217**	*e*P	**Pn**	**16 09 30.1**	**+0.9**
ZKR				*e*S	**Sn**	**16 09 53.5**	**+0.4**
MANT	**Manisa**	**1.98**	**22**	*i* P	**Pn**	**16 09 30.2**	**-0.1**
MANT				*i* S	**Sn**	**16 09 53.7**	**-1.4**
MANT	**Manisa**	**1.98**	**22**	*i* P	**Pn**	**16 09 30.2**	**-0.1**
MANT				*i* S	**Sn**	**16 09 53.7**	**-1.4**
KULA	**Kula-Manisa**	**2.04**	**24**	*e*PN	**Pn**	**16 09 31.3**	**+0.4**
KULA	**Kula-Manisa**	**2.04**	**24**	*e*Pn	**Pn**	**16 09 31.3**	**+0.4**
NPS	**Neapolis**	**2.14**	**230**	P	**Pn**	**16 09 32.5**	**+0.3**
NPS				S	**Sn**	**16 09 57.6**	**-0.8**
NPS	**Neapolis**	**2.14**	**230**	*e*P	**Pn**	**16 09 32.4**	**+0.3**
NPS				*e*S	**Sn**	**16 09 58.0**	**-0.4**
NPS	**Neapolis**	**2.14**	**230**	P	**Pn**	**16 09 32.5**	**+0.3**
NPS				*e*S	**Sn**	**16 09 58.0**	**-0.4**
KORT	**Korkueli**	**2.22**	**80**	*i* P	**Pn**	**16 09 34.8**	**+1.4**
KORT				*i* S	**Sn**	**16 10 03.2**	**+2.7**
KORT	**Korkueli**	**2.22**	**80**	*i* P	**Pn**	**16 09 34.8**	**+1.4**
KORT				*i* S	**Sn**	**16 10 03.2**	**+2.7**
KHL	**Karahalli**	**2.25**	**42**	*e*PN	**Pn**	**16 09 34.3**	**+0.5**
KHL	**Karahalli**	**2.25**	**42**	*e*Pn	**Pn**	**16 09 34.3**	**+0.5**
KHAL	**Karahalli**	**2.27**	**40**	*i* P	**Pn**	**16 09 34.3**	**+0.2**
KHAL				*i* S	**Sn**	**16 10 00.6**	**-1.1**
KHAL	**Karahalli**	**2.27**	**40**	*i* P	**Pn**	**16 09 34.3**	**+0.2**
KHAL				*i* S	**Sn**	**16 10 00.6**	**-1.1**
LAST	**Lasithi**	**2.29**	**230**	*e*P	**Pn**	**16 09 34.5**	**+0.3**
LAST				*e*S	**Sn**	**16 10 01.9**	**-0.1**
LAST	**Lasithi**	**2.29**	**230**	*e*P	**Pn**	**16 09 34.5**	**+0.3**
LAST				*e*S	**Sn**	**16 10 01.9**	**-0.1**
ANTB	**Antalya**	**2.45**	**83**	*e*PN	**Pn**	**16 09 38.2**	**+1.9**
ANTB	**Antalya**	**2.45**	**83**	*e*Pn	**Pn**	**16 09 38.2**	**+1.9**
IDI	**Anoyia**	**2.60**	**239**	*e*P	**Pn**	**16 09 38.4**	**+0.1**
IDI	**Anoyia**	**2.60**	**239**	*e*P	**Pn**	**16 09 38.4**	**+0.1**
SIVA	**Sivas**	**2.80**	**235**	*e*P	**Pn**	**16 09 42.1**	**+1.1**
SIVA	**Sivas**	**2.80**	**235**	*e*P	**Pn**	**16 09 42.1**	**+1.1**
VAM	**Vamos**	**3.04**	**247**	*e*P	**Pn**	**16 09 44.7**	**+0.6**
VAM	**Vamos**	**3.04**	**247**	*e*P	**Pn**	**16 09 44.7**	**+0.6**
DID	**Didima**	**3.60**	**285**	*e*P	**Pn**	**16 09 52.4**	**+0.6**
DID	**Didima**	**3.60**	**285**	*e*P	**Pn**	**16 09 52.4**	**+0.6**
KYTH	**Kithira**	**3.71**	**266**	P	**Pn**	**16 09 54.3**	**+1.1**
KYTH	**Kithira**	**3.71**	**266**	*e*P	**Pn**	**16 09 54.3**	**+1.1**
KYTH	**Kithira**	**3.71**	**266**	P	**Pn**	**16 09 54.3**	**+1.1**
VLI	**Veliai**	**3.76**	**272**	*e*P	**Pn**	**16 09 55.4**	**+1.6**
VLI	**Veliai**	**3.76**	**272**	*e*P	**Pn**	**16 09 55.4**	**+1.6**
GAZI	**Gazipasa**	**3.81**	**95**	*i* P	**Pn**	**16 09 54.0**	**-0.6**
GAZI				*i* S	**Sn**	**16 10 35.3**	**-3.1**
GAZI	**Gazipasa**	**3.81**	**95**	*i* P	**Pn**	**16 09 54.0**	**-0.6**
GAZI				*i* S	**Sn**	**16 10 35.3**	**-3.1**
ERMK	**Ermenek**	**4.26**	**89**	*i* P	**Pn**	**16 10 03.0**	**+2.3**
ERMK				*i* S	**Sn**	**16 10 50.9**	**+1.4**
ERMK	**Ermenek**	**4.26**	**89**	*i* P	**Pn**	**16 10 03.0**	**+2.3**
ERMK				*i* S	**Sn**	**16 10 50.9**	**+1.4**
SLUM		**5.52**	**202**	P	**Pn**	**16 10 16.7**	**-1.0**
BRTR	**Keskin Array B**	**5.65**	**55**	Pn	**Pn**	**16 10 21.1**	**+1.5**
	1.0nm,0.3s,baz=220,slow=11,SNR=29						
AMAG	**Maghara**	**7.59**	**141**	P	**Pn**	**16 10 43.6**	**-2.3**
RSH		**7.62**	**136**	P	**Pn**	**16 10 45.0**	**-1.2**
HNKL	**Nakhl**	**8.56**	**140**	P	**Pn**	**16 10 57.3**	**-1.8**
HKAT	**Jabal Katrina**	**9.72**	**145**	P	**Pn**	**16 11 13.8**	**-1.3**
TORD	**Torodi Ar. Bea**	**32.98**	**231**	P	**P**	**16 15 22.9**	**-0.8**
	0.7nm,0.4s,baz=34,slow=8.4,SNR=16						
MKAR	**Makanchi Array**	**41.29**	**58**	P	**P**	**16 16 33.2**	**-0.5**
	0.3nm,0.5s,baz=270,slow=8.0,SNR=6.6						

SZGRF ***12*** *16:15:35.5, 22.°99S×178.°60W, h33km, South of Fiji Islands*
ISCJB ***12*** *16:16:41.7±0.5, 21.°65S±0.°1×179.°02W±0.°09, h602km, mb4.1/12, Error ellipse: s-maj=15.3km s-min=8.1km az=149.7*
IDC ***12*** *16:16:44.2±2.0, 21.°65S×179.°02W, h620km±24km, mb3.6/12, mb1 3.8/14, mb1mx3.6/21, mbtmp3.6/14, Error ellipse: s-maj=19.9km s-min=10.0km az=152.0*
AUST ***12*** *16:16:44.5±9.4, 21.°32S×179.°30W, h588km, Error ellipse: s-maj=7.0km s-min=2.9km az=276.0*

ISC 12 16:16:42.2±0.5, 21.°7S±0.°1×178.°93W±0.°08, h602km, n91, σ0s90/103, mb4.1/12, 6C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**8.84**	**74**	S	**S**	**16 20 35.6**	**+1.4**
	baz=9.1,SNR=3.3						
DZM	**Mont Dzumac**	**13.58**	**266**	P	**P**	**16 19 38.2**	**+1.1**
	0.7nm,0.3s,baz=270,slow=20,SNR=4.5						
URZ	**Urewera**	**16.84**	**191**	P	**P**	**16 20 07.0**	**0.0**
	2.1nm,0.3s,baz=360,slow=6.2,SNR=16						
URZ				S	**S**	**16 22 49.9**	**-3.7**
	0.7nm,0.3s,baz=354,slow=20,SNR=7.3						
EIDS	**Eidsvold**	**27.70**	**257**	P	**P**	**16 21 44.7**	**+0.6**
	baz=27,SNR=3.4						
ARMA	**Armidale**	**27.77**	**246**	P	**P**	**16 21 46.6**	**+1.9**
	baz=28,SNR=9.5						
RMQ	**Roma**	**29.83**	**254**	P	**P**	**16 22 04.2**	**+1.8**
	baz=30,SNR=5.1						
CNB	**Canberra Magne**	**30.84**	**237**	P	**P**	**16 22 12.9**	**+1.9**
	baz=31,SNR=9.1						
CMSA	**Cobar Meteorol**	**32.98**	**245**	P	**P**	**16 22 30.2**	**+1.0**
	baz=33,SNR=43						
MTSU	**Mount Surprise**	**34.68**	**269**	P	**P**	**16 22 43.5**	**0.0**
	baz=34,SNR=8.7						
STKA	**Stephens Creek**	**36.49**	**245**	P	**P**	**16 22 59.5**	**+1.2**
	9.1nm,0.8s,baz=98,slow=10,SNR=28						
STKA	**Stephens Creek**	**36.49**	**245**	P	**P**	**16 22 59.5**	**+1.2**
	baz=36,SNR=21						
BBOO	**Buckleboo**	**41.24**	**245**	P	**P**	**16 23 37.0**	**+0.6**
	baz=41,SNR=8.7						
ASAR	**Alice Springs**	**43.41**	**258**	P	**P**	**16 23 53.8**	**+0.3**
	18nm,0.8s,baz=93,slow=7.8,SNR=324						
ASAR				PcP	**PcP**	**16 25 28.8**	**+0.7**
	2.5nm,0.5s,baz=110,slow=3.7,SNR=11						
ASAR				S	**S**	**16 29 39.4**	**0.0**
	1.6nm,0.8s,baz=94,slow=15,SNR=11						
WRA	**Warramunga Arr**	**43.59**	**263**	P	**P**	**16 23 54.4**	**-0.5**
	15nm,0.9s,baz=96,slow=7.6,SNR=212						
WRA				S	**S**	**16 29 37.8**	**-4.2**
	0.8nm,0.9s,baz=99,slow=15,SNR=3.7						
KDU	**Kakadu**	**47.12**	**273**	P	**P**	**16 24 21.5**	**-0.3**
	baz=47,SNR=5.2						
MTN	**Manton Dam**	**48.32**	**272**	P	**P**	**16 24 29.9**	**-0.8**
	baz=48,SNR=10						
KNRA	**Kununurra**	**49.72**	**268**	P	**P**	**16 24 41.1**	**+0.1**
	baz=49,SNR=20						
FITZ	**Fitzroy Crossi**	**52.02**	**264**	P	**P**	**16 24 58.0**	**+0.4**
	baz=52,SNR=16						
SWI	**Sorong**	**52.73**	**286**	P	**P**	**16 25 02.6**	**-0.1**
	baz=52,SNR=7.2						
SOEI	**Soe**	**55.68**	**273**	P	**P**	**16 25 25.2**	**+1.7**
	baz=55,SNR=5.1						
MEEK	**Meekatharra**	**56.71**	**252**	P	**P**	**16 25 30.3**	**0.0**
	baz=56,SNR=6.4						
KLBR	**Kellerberrin**	**56.76**	**246**	P	**P**	**16 25 31.1**	**+0.6**
	baz=56,SNR=8.8						
MORW	**Morawa**	**58.57**	**248**	P	**P**	**16 25 43.3**	**+0.5**
	baz=58,SNR=5.5						
MAT	**Matsushiro**	**70.68**	**325**	P	**P**	**16 26 57.5**	**-1.1**
ASAJ	**Asahikawa**	**74.38**	**332**	P	**P**	**16 27 20.5**	**+0.8**
	4.0nm,0.7s,baz=230,slow=5.1,SNR=10						
PETK	**Petropavlovsk-**	**77.22**	**346**	P	**P**	**16 27 34.1**	**-0.9**
	5.2nm,0.7s,baz=186,slow=4.5,SNR=24						
USRK	**Ussuriysk Arra**	**79.47**	**326**	P	**P**	**16 27 47.9**	**+0.6**
	5.3nm,0.8s,baz=126,slow=3.1,SNR=9.6						
YBH	**Yreka Blue Hor**	**81.77**	**39**	P	**P**	**16 28 00.0**	**+0.7**
	3.0nm,0.8s,baz=187,slow=2.7,SNR=14						
NVAR	**Mina Array Bea**	**82.50**	**44**	P	**P**	**16 28 03.5**	**+0.3**
	2.2nm,0.7s,baz=222,slow=8.5,SNR=16						
TXAR	**Lajitas Array**	**88.44**	**58**	P	**P**	**16 28 32.4**	**+0.5**
	1.6nm,0.9s,baz=208,slow=5.1,SNR=15						
ILAR	**Eielson Array**	**89.68**	**13**	P	**P**	**16 28 35.3**	**-1.3**
	1.1nm,0.5s,baz=218,slow=5.3,SNR=12						
CMAR	**Chiang Mai Arr**	**89.70**	**290**	P	**P**	**16 28 39.4**	**+1.5**
	4.5nm,0.9s,baz=127,slow=3.2,SNR=23						
PDAR	**Pinedale Array**	**90.43**	**44**	P	**P**	**16 28 40.6**	**-0.3**
	1.3nm,0.7s,baz=212,slow=3.2,SNR=13						
MKAR	**Makanchi Array**	**111.39**	**313**	PKiKP	**PKiKP**	**16 34 07.7**	**-1.1**
	0.5nm,0.6s,baz=188,slow=0.7,SNR=8.6						
ARCES	**ARCESS Array B**	**129.94**	**349**	PKP	**PKPdf**	**16 34 43.2**	**-0.5**
	3.6nm,0.6s,baz=12,slow=1.0,SNR=37						
ARCES				SKPbc	SKPab	16 37 11.9	+0.7
	1.3nm,0.8s,baz=331,slow=7.2,SNR=5.6						
FINES	**FINESS Array B**	**136.67**	**343**	PKhKP	PKPpre	16 34 46.2	
	0.2nm,0.3s,baz=79,slow=4.1,SNR=3.9						
FINES				PKP	**PKPdf**	**16 34 55.6**	**-0.8**
	1.6nm,0.5s,baz=74,slow=2.0,SNR=14						
NB2	**NORSAR Subarra**	**140.06**	**352**	PKP	PKPpre	16 34 55.3	
	comp=Z,0.8nm,0.5s,baz=5.8,slow=3.7						
NOA	**NORSAR Array B**	**140.06**	**352**	PKhKP	PKPpre	16 34 55.0	
	comp=Z,1.1nm,0.6s,baz=9.3,slow=2.3,SNR=7.4						
NOA				PKP	**PKPdf**	**16 35 02.3**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=13,slow=4.0,SNR=4.8						
BRTR	**Keskin Array B**	**146.98**	**310**	PKPbc	**PKPbc**	**16 35 18.4**	**-0.3**
	comp=Z,4.3nm,0.7s,baz=140,slow=4.4,SNR=24						
BSEG	**Bad Segeberg**	**147.06**	**350**	*e*PKPbc	**PKPbc**	**16 35 18.4**	**+0.2**
TLCR		**147.35**	**322**	‖*i*P	**PKPbc**	**16 35 19.5**	**+0.3**
MMAI	**Mount Meron Ar**	**147.63**	**298**	PKPbc	**PKPbc**	**16 35 21.5**	**+1.0**
	comp=Z,6.2nm,0.5s,baz=70,slow=4.8,SNR=14						
TESR	**Tescani**	**147.70**	**326**	⇑*i*P	**PKPbc**	**16 35 19.8**	**-0.3**
VRI	**Vrincioaia**	**148.08**	**325**	⇑*i*P	**PKPbc**	**16 35 21.6**	**+0.5**
PLOR	**Plostina**	**148.13**	**325**	⇑*i*P	**PKPbc**	**16 35 21.6**	**+0.3**
NRDL	**Niedersach Rie**	**148.49**	**349**	*e*PKPbc	**PKPbc**	**16 35 21.9**	**+0.1**
EIL	**Elat**	**148.54**	**292**	PKPbc	**PKPbc**	**16 35 22.9**	**+0.1**
	comp=Z,4.4nm,0.7s,baz=330,slow=4.3,SNR=6.8						
DOPR	**Dopca**	**148.71**	**326**	‖*i*P	**PKPbc**	**16 35 23.4**	**+0.7**
MLR	**Muntele Rosu**	**148.74**	**325**	‖*i*P	**PKPbc**	**16 35 22.9**	**0.0**
MLR	**Muntele Rosu**	**148.74**	**325**	PKPbc	**PKPbc**	**16 35 22.9**	**0.0**
	comp=Z,1.9nm,0.9s,baz=107,slow=3.1,SNR=8.0						
UPC	**Upice**	**148.95**	**341**	*e*PKPdf	**PKPbc**	**16 35 23.5**	**+0.4**
DPC	**Dobruska-Polom**	**149.00**	**341**	*i* PKPdf	**PKPbc**	**16 35 23.7**	**+0.4**
DPC				*ex*	x	16 35 30.3	
CLL	**Collm**

ZLN				*e*S		**Sn**	**16 34 42.8**	**+0.2**
CIRR	**Tsirk**	**2.08**	**276**	*e*P		**Pn**	**16 34 18.2**	**+1.4**
CIRR				S		**Sn**	**16 34 43.4**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**2.11**	**271**	*e*P		**Pn**	**16 34 18.8**	**+1.6**
BZGR				S		**Sn**	**16 34 43.8**	**-0.3**
LGNR	**Loginova**	**2.11**	**275**	P		**Pn**	**16 34 19.0**	**+1.6**
KLY	**Klyuchi**	**2.15**	**281**	*e*P		**Pn**	**16 34 17.2**	**-0.4**
KLY				*e*S		**Sn**	**16 34 41.6**	**-3.4**
KRSR	**Krestovskiy**	**2.19**	**278**	P		**Pn**	**16 34 19.5**	**+1.2**
KRSR				S		**Sn**	**16 34 45.4**	**-0.7**
BZWR	**Bezymyannyi-We**	**2.22**	**272**	*e*P		**Pn**	**16 34 20.5**	**+1.7**
BZMR	**Bezymyannaya**	**2.23**	**271**	*e*P		**Pn**	**16 34 20.3**	**+1.5**
KPT	**Kopyto**	**2.38**	**272**	*e*P		**Pn**	**16 34 22.5**	**+1.7**
KMNR	**Kamenistaya**	**2.38**	**267**	P		**Pb**	**16 34 23.1**	**-1.2**
TUMR	**Tumrok**	**2.53**	**256**	*e*P		**Pb**	**16 34 25.1**	**+2.1**
KOZ	**Kozyrevsk**	**2.57**	**274**	*e*P		**Pb**	**16 34 25.9**	**-1.6**
KOZ				*e*S		**Sn**	**16 34 56.1**	**+0.8**
SRDR	**Sredinnyy**	**2.67**	**280**	*e*P		**Pn**	**16 34 26.4**	**+1.6**
SRDR				*e*S		**Sn**	**16 34 57.0**	**-0.9**
ESO	**Esso**	**3.23**	**272**	*e*P		**Pn**	**16 34 34.9**	**+2.4**
SPN	**Mys Shipunski**	**3.85**	**224**	P		**Pn**	**16 34 41.4**	**+0.4**
SPN				S		**Sn**	**16 35 23.1**	**-3.8**
NLC	**Nalytchevo**	**4.08**	**229**	S		**Sn**	**16 35 30.9**	**-1.5**
KRER	**Koryakskii**	**4.25**	**234**	P		**Pn**	**16 34 48.0**	**+1.4**
UGLR	**Uglovaya**	**4.28**	**232**	P		**Pn**	**16 34 49.2**	**+2.3**
GNL	**Ganaly**	**4.39**	**242**	P		**Pn**	**16 34 50.7**	**+2.2**
PET	**Petropavlovsk**	**4.48**	**231**	P		**Pn**	**16 34 51.4**	**+1.8**
PET				S		**Sn**	**16 35 41.2**	**-1.1**
PETK	**Petropavlovsk-**	**4.86**	**237**	Pn		Pn	16 34 58.2	+3.4
	0.2nm,0.3s,baz=83,slow=17,SNR=6.6							
RUS	**Russkaya**	**4.96**	**227**	P		**Pn**	**16 34 58.3**	**+2.1**
MTVR	**Mutnovka**	**5.06**	**229**	P		**Pn**	**16 34 58.8**	**+1.0**
MTVR				S		**Sn**	**16 35 55.2**	**-1.7**
ASAK	**Asacha**	**5.26**	**230**	P		**Pn**	**16 35 02.2**	**+1.9**
FX1	**Attu Island--F**	**5.95**	**118**	Pn		**Pn**	**16 35 12.4**	**+2.7**
	1.1nm,0.3s,baz=331,slow=6.4,SNR=10							
FX1				Sn		**Sn**	**16 36 14.8**	**-3.7**
	1.9nm,0.3s,baz=271,slow=20,SNR=7.3							
KDAK	**Kodiak Island**	**23.27**	**68**	P		**P**	**16 38 49.5**	**+0.3**
	2.1nm,0.6s,baz=300,slow=14,SNR=4.6							
ILAR	**Eielson Array**	**25.00**	**50**	P		**P**	**16 39 05.7**	**+0.1**
	0.5nm,0.6s,baz=269,slow=9.3,SNR=5.6							
INK	**Inuvik**	**30.04**	**41**	P		**P**	**16 39 51.4**	**+0.7**
	1.0nm,0.6s,baz=292,slow=7.2,SNR=7.2							
TXAR	**Lajitas Array**	**67.24**	**71**	P		**P**	**16 44 37.4**	**+0.8**
	0.3nm,0.7s,baz=307,slow=4.6,SNR=5.3							

IDC 12 16:36:13.7±1.1, 34°01N×25°25E, h0km, mb3.7/6, mb1 3.8/10, mb1mx3.6/28, mbtmp3.7/10, ML3.8/4, Error ellipse: s-maj=25.9km s-min=18.3km az=170.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMAI	**Mount Meron Ar**	**8.53**	**94**	Pn	Pn	16 38 17.8	-0.8
	1.3nm,0.3s,baz=277,slow=13,SNR=3.3						
MMAI				Sn	Sn	16 39 51.7	-4.0
	0.9nm,0.3s,baz=267,slow=22,SNR=3.2						
EIL	**Elat**	**9.31**	**115**	Pn	Pn	16 38 28.6	-0.6
	0.4nm,0.3s,baz=328,slow=9.8,SNR=6.0						
EIL				Sn	Sn	16 40 12.2	-2.5
	0.3nm,0.3s,baz=45,slow=17,SNR=2.6						
VRAC	**Vranov**	**16.58**	**340**	Pn	P	16 40 10.1	-0.1
	0.2nm,0.3s,baz=138,slow=11,SNR=5.0						
GERES	**GERESS Array B**	**17.14**	**333**	P	P	16 40 16.0	-0.4
	0.2nm,0.3s,baz=147,slow=11,SNR=17						
ESDC	**Sonseca Array**	**24.00**	**292**	P	P	16 41 29.4	-0.7
	0.9nm,0.7s,baz=82,slow=9.8,SNR=10						
MDT	**Midelt**	**24.92**	**276**	P	P	16 41 39.5	+0.8
	2.3nm,0.9s,baz=148,slow=5.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**29.82**	**232**	P	P	16 42 22.5	-0.1
	1.2nm,0.5s,baz=34,slow=8.0,SNR=13						
ARCES	**ARCESS Array B**	**35.58**	**0**	P	P	16 43 10.8	-1.6
	1.0nm,1.1s,baz=64,slow=30,SNR=2.8						
MKAR	**Makanchi Array**	**44.35**	**56**	P	P	16 44 26.2	+0.6
	0.5nm,0.6s,baz=268,slow=7.9,SNR=7.1						
ZALV	**Zalesovo Beam**	**45.75**	**45**	P	P	16 44 36.9	+0.4
	0.7nm,0.5s,baz=273,slow=10.0,SNR=2.4						

*ISCJB **12** 16:50:55.0±1.3, 72°.95N×0°.05×5°.7E±0°.5, h11km, mb3.6/1, Error ellipse: s-maj=20.3km s-min=7.6km az=177.5*
*IDC **12** 16:50:55.3±3.1, 72°.83N×5°.06E, h0km, mb3.6/1, mb1 3.5/6, mb1mx3.2/29, mbtmp3.5/6, ML3.4/4, Error ellipse: s-maj=47.8km s-min=22.6km az=91.0*
*NAO **12** 16:50:56.6±2.9, 72°.88N×5°.59E, ML3.1*
*CSEM **12** 16:50:57.5±0.1, 72°.92N×5°.70E, h10km, ML2.4, Error ellipse: s-maj=5.2km s-min=2.0km az=83.0*
*BER **12** 16:50:59.3±2.8, 72°.91N×5°.35E, h10km, ML2.4, ML3.1(NAO)*

ISC 12 16:50:57.4±1.6, 72°.95N±0°.07×5°.7E±0°.2, h11km, n32, σ0s59/33, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**5.88**	**22**	Pn	**Pn**	**16 52 25.1**	**+0.7**
	baz=207,slow=16						
SPA0	**Spitsbergen Ar**	**5.88**	**22**	Pn	**Pn**	**16 52 25.1**	**+0.7**
	baz=207,slow=16						
SPA0				*e*S	**Sn**	**16 53 30.0**	**-1.6**
SPA0	**Spitsbergen Ar**	**5.88**	**22**	Pn	**Pn**	**16 52 25.1**	**+0.7**
	baz=207,slow=15,SNR=50						
SPITS	**Spitsbergen Ar**	**5.88**	**22**	Pn	**Pn**	**16 52 24.9**	**+0.5**
	baz=204,slow=16,SNR=12						
KBS	**Kingsbay**	**6.20**	**11**	Pn	**Pn**	**16 52 29.4**	**+0.7**
KBS	**Kingsbay**	**6.20**	**11**	Pn	**Pn**	**16 52 29.4**	**+0.7**
KBS	**Kingsbay**	**6.20**	**11**	Pn	**Pn**	**16 52 29.4**	**+0.7**
	SNR=50						
ARA0	**ARCESS Array S**	**7.22**	**109**	Pn	**Pn**	**16 52 43.2**	**+0.5**
	baz=321,slow=10						
ARA0	**ARCESS Array S**	**7.22**	**109**	Pn	**Pn**	**16 52 43.2**	**+0.5**
	baz=321,slow=10						
ARA0	**ARCESS Array S**	**7.22**	**109**	Pn	**Pn**	**16 52 43.2**	**+0.5**
	baz=321,slow=10,SNR=50						
ARCES	**ARCESS Array B**	**7.22**	**109**	Pn	**Pn**	**16 52 43.6**	**+0.9**
	0.6nm,0.3s,baz=322,slow=11,SNR=36						
MOR8	**Moi Rana**	**7.45**	**152**	*e*P	**Pn**	**16 52 45.7**	**-0.2**
MOR8				*e*S	Sn	16 54 02.9	-7.3
MOR8				AML	AML	16 54 10.1	
	comp=Z,5.5nm,0.3s						
MOR8	**Moi Rana**	**7.45**	**152**	*e*P	**Pn**	**16 52 45.7**	**-0.2**
	SNR=47						
KEV	**Kevo**	**7.51**	**105**	*e*p	**Pn**	**16 52 46.7**	**0.0**
	comp=Z,1.5nm,0.4s						
KEV	**Kevo**	**7.51**	**105**	*e*P	**Pn**	**16 52 46.7**	**0.0**
	comp=Z,1.5nm,0.4s						
NB2	**NORSAR Subarra**	**12.14**	**167**	Pn	**Pn**	**16 53 50.0**	**-0.1**
	baz=348,slow=12						
NB2	**NORSAR Subarra**	**12.14**	**167**	Pn	**Pn**	**16 53 50.0**	**-0.1**
	baz=348,slow=12						
NB2	**NORSAR Subarra**	**12.14**	**167**	Pn	**Pn**	**16 53 50.0**	**-0.1**
	baz=348,slow=12,SNR=50						
NOA	**NORSAR Array B**	**12.14**	**167**	Pn	**Pn**	**16 53 49.7**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=331,slow=11,SNR=4.0						
HFS	**Hagfors**	**13.23**	**162**	Pn	**Pn**	**16 54 05.5**	**+0.5**
	baz=356,slow=14						
HFS	**Hagfors**	**13.23**	**162**	Pn	**Pn**	**16 54 05.5**	**+0.5**
	baz=356,slow=14						
HFS	**Hagfors**	**13.23**	**162**	Pn	**Pn**	**16 54 04.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=355,slow=13,SNR=9.4						
HFS	**Hagfors**	**13.23**	**162**	Pn	**Pn**	**16 54 05.5**	**+0.5**
	baz=356,slow=13,SNR=50						
KAF	**Kangasniemi**	**13.31**	**134**	*e*p	**Pn**	**16 54 06.6**	**+0.6**
KAF	**Kangasniemi**	**13.31**	**134**	*e*P	**Pn**	**16 54 06.6**	**+0.6**
JOF	**Joensuu**	**13.76**	**124**	*e*p	**Pn**	**16 54 12.4**	**+0.4**
	comp=Z,0.9nm,0.4s						
JOF	**Joensuu**	**13.76**	**124**	*e*P	**Pn**	**16 54 12.4**	**+0.4**
	comp=Z,0.9nm,0.4s						
FIA0	**FINESS Array S**	**13.86**	**136**	Pn	**Pn**	**16 54 13.5**	**0.0**
	baz=340,slow=11						
FIA0	**FINESS Array S**	**13.86**	**136**	Pn	**Pn**	**16 54 13.5**	**0.0**
	baz=340,slow=11						
FIA0	**FINESS Array S**	**13.86**	**136**	Pn	**Pn**	**16 54 13.5**	**0.0**
	baz=340,slow=10,SNR=50						
FINES	**FINESS Array B**	**13.86**	**136**	Pn	**Pn**	**16 54 13.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=338,slow=11,SNR=14						
BRTR	**Keskin Array B**	**35.97**	**142**	P	**P**	**16 57 57.3**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=356,slow=9.2,SNR=3.8						

*ISCJB **12** 17:04:26.1±0.8, 25°.19N±0°.08×100°.88E±0°.06, h13km, mb3.2/3, Error ellipse: s-maj=11.3km s-min=8.3km az=8.7*
*BJI **12** 17:04:28.4, 25°.52N×101°.05E, h9km, ML3.5/9*
*IDC **12** 17:04:28.4±1.4, 25°.61N×100°.96E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/24, mbtmp3.3/3, Error ellipse: s-maj=46.1km s-min=20.5km az=87.0*

ISC 12 17:04:28.7±1.1, 25°.28N±0°.09×100°.95E±0°.07, h13km, n7, σ1s26/8, mb3.2/3, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.63**	**95**	Pn	**Pb**	**17 04 58.4**	**-0.4**
KMI				Pg	**Pg**	**17 05 00.8**	**+0.7**
KMI				Sg	**Sg**	**17 05 20.6**	**-0.7**
KMI				smax	smax		
	comp=N,470nm,0.6s						
KMI				smax	smax		
	comp=E,310nm,0.6s						
CD2	**Chengdu**	**6.13**	**23**	Pn	**Pn**	**17 06 00.7**	**+1.6**
CD2				smax	smax		
	comp=N,40nm,0.6s						
CD2				smax	smax		
	comp=E,60nm,1.1s						
CMAR	**Chiang Mai Arr**	**7.04**	**196**	Pg	**Pg**	**17 06 44.0**	**+0.5**
	comp=E,0.5nm,0.3s,baz=7.6,slow=17,SNR=24						
CMAR				Lg	Lg	17 08 21.3	
	comp=E,0.3nm,0.3s,baz=25,slow=26,SNR=3.6						
WMQ	**Urumqi**	**21.43**	**333**	P	**P**	**17 09 16.4**	**-0.1**
SONM	**Songino Array**	**22.92**	**9**	P	**P**	**17 09 30.7**	**-1.8**
	comp=E,0.3nm,0.5s,baz=186,slow=8.7,SNR=3.3						
MKAR	**Makanchi Array**	**26.11**	**330**	P	**P**	**17 10 01.4**	**-0.8**
	comp=E,0.4nm,0.7s,baz=126,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**55.45**	**141**	P	P	17 14 06.6	+3.3
	comp=E,0.3nm,0.6s,baz=330,slow=8.0,SNR=6.4						

CSEM 12 17:22:25.3±0.5, 39°.46N×51°.51E, h40km, mb3.8, 1C-2D, Error ellipse: s-maj=14.2km s-min=4.0km az=158.0, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGRG	**David-gareji**	**5.08**	**295**	P	Pn	17 23 39.3	+0.3
DGRG				S	Sn	17 24 35.8	-0.8
DGRG	**David-gareji**	**5.08**	**295**	P	Pn	17 23 39.3	+0.3
DGRG				S	Sn	17 24 35.8	-0.7
AB31	**Akbulak array**	**11.49**	**29**	P	Pn	17 25 06.7	-0.1
	0.3nm,0.3s,baz=206,slow=14,SNR=9.8						
AB31				⇑S	Sn	17 27 13.8	+0.1
	0.4nm,0.5s,baz=214,slow=22,SNR=3.5						
AB31	**Akbulak array**	**11.49**	**29**	P	Pn	17 25 06.7	0.0
	0.3nm,0.3s,baz=206,SNR=9.8						
AB31				S	Sn	17 27 13.8	+0.1
	0.4nm,0.5s,baz=214,SNR=3.5						
AKTO	**Aktyubinsk**	**11.89**	**21**	⇓P	Pn	17 25 12.1	-0.1
	2.8nm,0.6s						
AKTO				⇓S	Sn	17 27 24.2	+0.7
	2.7nm,1.4s						
AKTO	**Aktyubinsk**	**11.89**	**21**	P	Pn	17 25 12.1	-0.1
	2.8nm,0.6s						
AKTO				S	Sn	17 27 24.2	+0.7
	2.7nm,1.4s						

IDC 12 17:28:08.5±1.7, 4°.06N×126°.97E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/22, mbtmp3.6/5, Error ellipse: s-maj=96.7km s-min=23.0km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.06**	**183**	P	P	17 33 04.9	-0.2
	1.0nm,0.8s,baz=13,slow=9.4,SNR=4.2						
WRA	**Warramunga Arr**	**24.93**	**163**	P	P	17 33 33.8	+0.2
	2.4nm,0.6s,baz=343,slow=10,SNR=36						
ASAR	**Alice Springs**	**28.37**	**167**	P	P	17 34 04.6	-0.1
	0.4nm,0.6s,baz=348,slow=7.2,SNR=10						
STKA	**Stephens Creek**	**38.35**	**160**	P	P	17 35 31.2	-0.1
	1.5nm,0.8s,baz=338,slow=16.8,SNR=4.9						
MKAR	**Makanchi Array**	**57.42**	**325**	P	P	17 37 59.1	-0.1
	0.1nm,0.4s,baz=116,slow=8.2,SNR=2.3						

WEL 12 17:35:55.1±0.3, 38°.70S×175°.25E, h239km±2km, ML3.7/10, 9C-1D, Error ellipse: s-maj=3.3km s-min=3.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPVZ	**Whakapapa**	**0.55**	**155**	PN	Pn	17 36 26.9	-0.1
WPVZ				*e*SN	S	17 36 51.2	-0.9
OTVZ	**Oturere**	**0.56**	**145**	PN	Pn	17 36 27.4	+0.3
OTVZ				*e*SN	S	17 36 52.1	-0.1
VRZ	**Vera Road**	**0.57**	**222**	PN	Pn	17 36 26.3	-0.6
FWVZ	**Far West T-bar**	**0.60**	**157**	⇑PN	Pn	17 36 27.2	-0.1
FWVZ				SN	S	17 36 51.5	-1.2
WHVZ	**Whangaehu Hut**	**0.64**	**155**	⇑PN	Pn	17 36 27.4	-0.1
WNVZ	**Wahianoa**	**0.68**	**157**	PN	Pn	17 36 27.5	0.0
MOVZ	**Moawhango**	**0.81**	**151**	PN	Pn	17 36 27.6	-0.4
BHHZ	**Black Hill Sta**	**1.01**	**141**	⇑PN	Pn	17 36 28.8	-0.3
BHHZ				SN	S	17 36 55.3	-0.5
WAZ	**Wanganui**	**1.07**	**191**	⇑PN	Pn	17 36 29.4	+0.1
BKZ	**Black Stump Fm**	**1.07**	**116**	PN	Pn	17 36 29.2	-0.3
BKZ				AML	AML	17 36 56.8	
BKZ				AML	AML	17 37 48.9	
MCHZ	**McNeill Hill**	**1.35**	**124**	PN	Pn	17 36 30.0	+0.8
MCHZ				SN	S	17 36 59.6	+0.1
PNHZ	**Pukenui**	**1.42**	**149**	PN	Pn	17 36 31.8	+0.1
PNHZ				SN	S	17 36 59.0	-1.5
RAHZ	**Arahi**	**1.45**	**99**	PN	Pn	17 36 32.0	0.0
RAHZ				SN	S	17 36 59.6	-1.3
TSZ	**Takapari Road**	**1.46**	**158**	PN	Pn	17 36 32.2	+0.1
TSZ				AML	AML	17 37 01.8	
WPHZ	**Waipukurau**	**1.65**	**146**	PN	Pn	17 36 33.6	+0.1
KAHZ	**Kahuranaki**	**1.67**	**131**	PN	Pn	17 36 34.2	+0.4
POWZ	**Post Office Ro**	**1.73**	**167**	PN	Pn	17 36 34.1	-0.1
DVHZ	**Dannevirke**	**1.75**	**156**	PN	Pn	17 36 34.1	-0.2
PXZ	**Pawanui**	**1.82**	**137**	PN	Pn	17 36 35.0	0.0
PXZ				AML	AML	17 37 13.1	
PXZ				AML	AML	17 37 53.2	
PRHZ	**Porangahau**	**1.90**	**146**	⇓PN	Pn	17 36 35.8	+0.2
KNZ	**Kokohu**	**1.92**	**100**	PN	Pn	17 36 35.9	0.0
KNZ				AML	AML	17 36 47.2	
KNZ				AML	AML	17 37 51.1	
PRWZ	**Pori Road**	**1.93**	**163**	PN	Pn	17 36 35.9	0.0
MRZ	**Mangatainoka R**	**1.97**	**173**	⇑PN	Pn	17 36 35.9	-0.5
MRZ				AML	AML	17 37 07.5	
MRZ				AML	AML	17 37 08.9	
ANWZ	**Angora Road**	**2.00**	**152**	PN	Pn	17 36 36.6	+0.1
OGWZ	**Otaki Gorge**	**2.11**	**182**	⇑PN	Pn	17 36 37.4	-0.2
BFZ	**Birch Farm**	**2.12**	**159**	PN	Pn	17 36 37.3	-0.4
BFZ				AML	AML	17 38 01.0	
MHGZ	**Mahia Peninsul**	**2.12**	**103**	PN	Pn	17 36 38.2	+0.5
TIWZ	**Tintock**	**2.13**	**167**	PN	Pn	17 36 37.4	-0.5
KIW	**Kapiti Island**	**2.17**	**187**	PN	Pn	17 36 37.5	-0.7
HOWZ	**Holdsworth Sta**	**2.20**	**175**	PN	Pn	17 36 37.8	-0.7
DUWZ	**D'Urville Isla**	**2.33**	**206**	PN	Pn	17 36 38.9	-1.0
CAW	**Cannon Point**	**2.41**	**183**	⇑PN	Pn	17 36 39.9	-0.7
CAW				AML	AML	17 37 15.6	
CAW				AML	AML	17 37 16.9	
TMWZ	**Te Maipa**	**2.45**	**169**	PN	Pn	17 36 40.3	-0.7
MTW	**Mount Morrison**	**2.46**	**176**	PN	Pn	17 36 40.2	-0.9
WEL	**Wellington**	**2.61**	**188**	PN	Pn	17 36 41.6	-1.0
TCW	**Tory Channel**	**2.62**	**196**	PN	Pn	17 36 42.0	-0.7
TCW				AML	AML	17 37 19.3	
TCW				AML	AML	17 37 19.3	
SNZO	**South Karori**	**2.64**	**189**	PN	Pn	17 36 41.8	-1.0
SNZO				AML	AML	17 37 31.2	
SNZO				AML	AML	17 37 40.7	
MSWZ	**Moikau Station**	**2.71**	**180**	PN	Pn	17 36 42.7	-1.0
TRWZ	**Traveller**	**2.71**	**173**	PN	Pn	17 36 42.9	-0.8
TRWZ				AML	AML	17 37 21.6	
PLWZ	**Palliser**	**2.86**	**180**	PN	Pn	17 36 44.2	-1.2
NNZ	**Nelson**	**2.89**	**209**	⇑PN	Pn	17 36 44.1	-1.6
TUWZ	**Tuamarina**	**2.90**	**200**	PN	Pn	17 36 44.7	-1.0
QRZ	**Quartz Range**	**2.98**	**224**	⇑PN	Pn	17 36 44.4	-2.3
BSWZ	**Blackbirch Sta**	**3.19**	**199**	PN	Pn	17 36 48.0	-0.9
THZ	**Tophouse**	**3.54**	**210**	PN	Pn	17 36 50.9	-2.2
KHZ	**Kahutara**	**3.93**	**199**	PN	Pn	17 36 56.1	-1.4
DSZ	**Denniston Nort**	**4.02**	**220**	PN	Pn	17 36 55.8	-2.8
LTZ	**Lake Taylor**	**4.66**	**208**	PN	Pn	17 37 04.0	-2.3
OXZ	**Oxford**	**5.22**	**207**	PN	Pn	17 37 10.2	-2.9
MQZ	**McQueen's Vall**	**5.37**	**201**	PN	Pn	17 37 11.8	-3.1
WVZ	**Waitaha Valley**	**5.55**	**217**	PN	Pn	17 37 14.5	-2.7
ODZ	**Otahua Downs**	**7.21**	**207**	PN	Pn	17 37 36.3	-1.9

*IDC **12** 17:38:13.7±1.2, 28°.20N×51°.32E, h0km, mb3.7/8, mb1 3.7/9, mb1mx3.5/27, mbtmp3.6/9, ML3.1/1, Error ellipse: s-maj=27.6km s-min=27.0km az=49.0*
*ISCJB **12** 17:38:14.4±0.8, 28°.20N±0°.07×51°.26E±0°.06, h16km, mb3.6/8, Error ellipse: s-maj=10.4km s-min=7.1km az=5.8*
*CSEM **12** 17:38:16.2±1.6, 28°.17N×51°.35E, h20km, ML3.5, Error ellipse: s-maj=37.5km s-min=13.5km az=32.0*
*TEH **12** 17:38:17.1, 28°.22N×51°.49E, h16km, ML3.5*
*THR **12** 17:38:17.0±0.6, 28°.31N×51°.43E, h44km, ML3.5*

ISC 12 17:38:16.1±1.0, 28°.20N±0°.09×51°.40E±0°.05, h16km, n30, σ0s69/34, mb3.6/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.40**	**86**	*e*Pg	**Pb**	**17 38 42.3**	**+0.3**
GHIR				*e*Sg	**Sg**	**17 39 01.1**	**-0.3**
GHIR				AML	AML	17 39 03.9	
	comp=N,718nm,0.5s						
GHIR				AML	AML	17 39 05.0	
	comp=E,723nm,0.4s						
GHIR	**Ghir-Karzin**	**1.40**	**86**	*e*Pg	**Pb**	**17 38 42.3**	**+0.3**
GHIR				*e*Sg	**Sg**	**17 39 01.1**	**-0.3**
SHI	**Shiraz**	**1.74**	**34**	*e*Pn	**Pn**	**17 38 46.3**	**+0.5**
SHI				*e*Sg	**Sb**	**17 39 09.7**	**+0.2**
SHI				*e*		17 39 11.4	
	comp=E,6μm,0.2s						
SHI	**Shiraz**	**1.74**	**34**	*e*Pn	**Pn**	**17 38 46.3**	**+0.5**
SHI				*e*Sg	**Sb**	**17 39 09.7**	**+0.2**
ISRV	**Sarvestan**	**1.91**	**51**	*e*Pn	**Pn**	**17 38 48.1**	**-0.2**
ISRV				*e*		17 39 22.2	
	comp=Z,7μm,0.4s						
ISRV	**Sarvestan**	**1.91**	**51**	*e*Pn	**Pn**	**17 38 48.1**	**-0.2**
IGAR	**Gharneh**	**4.23**	**7**	*e*Pn	**Pn**	**17 39 20.2**	**+0.1**
IGAR				*e*		17 39 21.6	
	comp=Z,284nm,0.1s						
IMEH	**Mehriz**	**4.23**	**40**	*e*Pn	**Pn**	**17 39 20.1**	**-0.1**
IMEH				*e*		17 39 26.2	
	comp=Z,1μm,0.2s						
IMEH	**Mehriz**	**4.23**	**40**	*e*Pn	**Pn**	**17 39 20.1**	**-0.1**
IPIR	**Pirpir**	**4.50**	**355**	*e*Pn	**Pn**	**17 39 24.5**	**+0.6**
IPIR				*e*		17 39 43.0	
	comp=Z,167nm,0.1s						
IPIR	**Pirpir**	**4.50**	**355**	*e*Pn	**Pn**	**17 39 24.5**	**+0.6**
NASN	**Na'in**	**4.75**	**14**	*e*Pn	**Pn**	**17 39 25.9**	**-1.4**
NASN	**Na'in**	**4.75**	**14**	*e*Pn	**Pn**	**17 39 25.9**	**-1.4**
IZEF	**Zefreh**	**4.75**	**9**	*e*Pn	**Pn**	**17 39 27.2**	**-0.2**
IZEF				*e*		17 39 28.1	
	comp=Z,241nm,0.1s						
IZEF	**Zefreh**	**4.75**	**9**	*e*Pn	**Pn**	**17 39 27.2**	**-0.2**
IBAF	**Bafgh**	**4.95**	**46**	*e*Pn	**Pn**	**17 39 29.7**	**-0.3**
IBAF				*e*		17 39 34.5	
	comp=Z,522nm,0.2s						
IBAF	**Bafgh**	**4.95**	**46**	*e*Pn	**Pn**	**17 39 29.7**	**-0.3**
KRBR	**Kerman**	**5.02**	**68**	*e*Pn	**Pn**	**17 39 30.7**	**-0.3**
KRBR				AML	AML	17 40 32.1	
	comp=E,24nm,0.8s						
KRBR				AML	AML	17 40 32.4	
	comp=N,26nm,0.6s						
KRBR	**Kerman**	**5.02**	**68**	*e*Pn	**Pn**	**17 39 30.7**	**-0.3**
ASAO	**Ashtian**	**6.44**	**350**	*e*Pn	**Pn**	**17 39 50.1**	**-0.4**
ASAO	**Ashtian**	**6.44**	**350**	*e*Pn	**Pn**	**17 39 50.1**	**-0.4**
BRTR	**Keskin Array B**	**18.65**	**313**	P	**P**	**17 42 33.8**	**+0.3**
	comp=N,0.1nm,0.3s,baz=160,slow=15,SNR=2.2						
AKTO	**Aktyubinsk**	**22.77**	**11**	P	**P**	**17 43 17.4**	**-0.4**
	comp=N,0.9nm,0.7s,baz=192,slow=18,SNR=4.4						
BVAR	**Borovoye Array**	**28.51**	**24**	P	**P**	**17 44 11.1**	**+0.5**
	comp=N,0.5nm,0.4s,baz=226,slow=9.9,SNR=3.4						
ZALV	**Zalesovo Beam**	**35.45**	**34**	P	**P**	**17 45 12.9**	**+1.4**
	comp=N,0.7nm,0.5s,baz=251,slow=9.0,SNR=3.4						
FINES	**FINESS Array B**	**37.29**	**340**	P	**P**	**17 45 25.9**	**-1.2**
	comp=N,0.6nm,0.7s,baz=161,slow=8.8,SNR=4.9						
ARCES	**ARCESS Array B**	**44.01**	**347**	P	**P**	**17 46 21.7**	**-0.8**
	comp=N,0.8nm,0.7s,baz=147,slow=7.3,SNR=5.1						
TORD	**Torodi Ar. Bea**	**48.53**	**263**	P	**P**	**17 46 58.7**	**0.0**

MAW	**Mawson**	**38.83**	**142**	P	**P**	**18 32 23.9**	**+0.3**
	0.6nm,0.5s,baz=299,slow=10,SNR=5.0							
BDFB	**Brasilia**	**44.65**	**328**	LR	LR	18 49 03.9		
	comp=Z,85nm,19.9s,baz=107,slow=32							
BOSA	**Boshof**	**45.20**	**73**	LR	LR	18 48 50.1		
	comp=Z,165nm,19.1s,baz=165,slow=32							
VNDA	**Vanda**	**45.75**	**182**	P	**P**	**18 33 20.3**	**+0.5**
VNDA	**Vanda**	**45.75**	**182**	P	**P**	**18 33 20.3**	**+0.5**
	1.1nm,0.6s,baz=188,slow=6.1,SNR=7.9							
LPAZ	**La Paz**	**51.73**	**304**	*eP*	**P**	**18 34 07.7**	**+0.6**
	13nm,0.6s							
LPAZ	**La Paz**	**51.73**	**304**	P	**P**	**18 34 08.6**	**+1.5**
	17nm,0.6s,baz=146,slow=5.8,SNR=22							
SAML	**Samuel**	**56.16**	**313**	*eP*	**P**	**18 34 38.4**	**-0.3**
	6.1nm,1.0s							
DBIC	**Dimbokro**	**65.55**	**22**	LR	LR	18 56 49.8		
	comp=Z,45nm,19.3s,baz=325,slow=29							
TORD	**Torodi Ar. Bea**	**73.32**	**27**	P	**P**	**18 36 30.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**73.32**	**27**	P	**P**	**18 36 30.5**	**+0.1**
	0.5nm,0.6s,baz=194,slow=6.3,SNR=3.5							
TORD				LR	LR	19 03 20.1		
	comp=Z,35nm,18.5s,baz=170,slow=31							
KEST	**Kesra**	**96.84**	**28**	LR	LR	19 13 48.0		
	comp=Z,26nm,21.8s,baz=269,slow=30							
ASAR	**Alice Springs**	**97.83**	**161**	P	**P**	**18 38 33.5**	**-0.9**
ASAR	**Alice Springs**	**97.83**	**161**	P	**P**	**18 38 33.5**	**-0.9**
	0.7nm,0.9s,baz=184,slow=4.8,SNR=6.9							
ARCES	**ARCESS Array B**	**131.37**	**21**	PKP	**PKPdf**	**18 44 09.6**	**+0.1**
ARCES	**ARCESS Array B**	**131.37**	**21**	PKP	**PKPdf**	**18 44 09.6**	**+0.1**
	0.9nm,0.9s,baz=219,slow=1.2,SNR=3.4							
YKA	**Yellowknife Ar**	**137.52**	**317**	PKP	**PKPdf**	**18 44 21.1**	**0.0**
YKA	**Yellowknife Ar**	**137.52**	**317**	PKP	**PKPdf**	**18 44 21.1**	**0.0**
	0.7nm,0.6s,baz=120,slow=2.2,SNR=5.2							
SONM	**Songino Array**	**149.74**	**87**	PKPbc	**PKPbc**	**18 44 48.0**	**+0.2**
SONM	**Songino Array**	**149.74**	**87**	PKPbc	**PKPbc**	**18 44 48.0**	**+0.2**
	1.7nm,0.6s,baz=225,slow=3.2,SNR=14							
ILAR	**Eielson Array**	**151.47**	**310**	PKPbc	**PKPbc**	**18 44 52.1**	**+0.9**
ILAR	**Eielson Array**	**151.47**	**310**	PKPbc	**PKPbc**	**18 44 52.1**	**+0.9**
	4.7nm,0.9s,baz=122,slow=1.9,SNR=15							

IDC 12 18:34:12.0±0.9, 57.19S×25.61W, h0km, mb4.1/5, mb1 4.0/6, mb1mx3.8/20, mbtmp3.9/6, ML3.2/1, MS3.5/2, Ms1 3.4/2, ms1mx2.9/20, Error ellipse: s-maj=37.1km s-min=22.8km az=58.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**17.34**	**156**	P		P	18 38 16.4	-0.2
	0.1nm,0.3s,baz=329,slow=14,SNR=14							
QSPA	**South Pole Qui**	**33.05**	**180**	P		P	18 40 49.8	+0.9
	0.8nm,0.8s,baz=153,slow=2.3,SNR=3.9							
PLCA	**Paso Flores**	**33.06**	**280**	LR		LR	18 52 16.1	
	comp=Z,69nm,18.4s,baz=359,slow=33							
BOSA	**Boshof**	**45.43**	**73**	LR		LR	18 57 20.5	
	comp=Z,57nm,18.7s,baz=165,slow=31							
LVC	**Limon Verde**	**46.63**	**299**	P		P	18 42 43.3	+1.2
	2.6nm,0.4s,baz=120,slow=5.0,SNR=5.3							
SIV	**San Ignacio**	**49.00**	**312**	P		P	18 42 59.7	-0.5
	0.7nm,0.5s,baz=175,slow=11,SNR=4.8							
LPAZ	**La Paz**	**51.75**	**304**	P		P	18 43 21.8	-0.1
	5.0nm,0.5s,baz=140,slow=5.7,SNR=33							
TORD	**Torodi Ar. Bea**	**73.64**	**28**	P		P	18 45 48.9	+1.8
	0.6nm,0.8s,baz=194,slow=6.4,SNR=3.1							
SONM	**Songino Array**	**149.92**	**87**	PKPbc	PKPdf		18 54 00.5	+2.1
	0.6nm,0.7s,baz=238,slow=3.1,SNR=5.1							
ILAR	**Eielson Array**	**151.53**	**310**	PKPbc	PKPbc		18 54 04.0	-2.4
	0.9nm,0.9s,baz=127,slow=1.4,SNR=6.8							

*IDC **12** 18:38:00.0±4.0, 21.65S×168.67E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/17, Error ellipse: s-maj=236.0km s-min=29.3km az=159.0*

*NOU **12** 18:38:01.7±1.8, 21.09S×168.75E, h10km, MD2.7, ML3.3, MS1.3*

ISC 12 18:38:02.7±2.2, 21.6S±0.6×168.7E±0.3, h20km, n11, σ0.983/18, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**1.78**	**253**	*eP*		**Pn**	**18 38 32.2**	**-0.1**
BAYA				*eS*		**Sn**	**18 38 53.9**	**-0.5**
BAYA				AMP			18 38 57.4	
	comp=Z,50nm,16.5s							
PLUM	**Mont Dore**	**2.04**	**251**	*eP*		**Pn**	**18 38 36.3**	**+0.5**
PLUM				*eS*		**Sb**	**18 39 02.9**	**-0.9**
PLUM				AMP			18 39 10.1	
	comp=Z,250nm,1.2s							
LASL	**Noumea**	**2.11**	**253**	*eP*		**Pn**	**18 38 37.3**	**+0.4**
LASL				AMP		**Sn**	**18 39 02.5**	**0.0**
	comp=Z,520nm,4.7s							
LASL				*eS*		**Sn**	**18 39 02.5**	**0.0**
DZM	**Mont Dzumac**	**2.16**	**258**	Pn		**Pn**	**18 38 36.7**	**-1.0**
	comp=Z,36nm,0.3s,baz=270,slow=24,SNR=702							
DZM				Sn		**Sn**	**18 39 03.1**	**-0.9**
	comp=Z,41nm,0.3s,baz=270,slow=24,SNR=7.4							
DZM				LR		LR	18 39 12.1	
	comp=Z,453nm,20.6s,baz=358,slow=34							
NORM	**Noumea**	**2.16**	**254**	*eP*		**Pn**	**18 38 37.7**	**+0.1**
NORM				*eS*		**Sn**	**18 39 04.3**	**+0.6**
MVNO	**Noumea**	**2.21**	**253**	*eS*		**Sn**	**18 39 06.8**	**+1.8**
NOUC	**Port Laguerre**	**2.29**	**258**	*eP*		**Pn**	**18 38 40.2**	**+0.8**
NOUC				*eS*		**Sn**	**18 39 08.3**	**+1.2**
NOUC				AMP			18 39 25.5	
	comp=Z,72nm,7.2s							
ASAR	**Alice Springs**	**32.15**	**260**	P		**P**	**18 44 28.8**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=84,slow=9.1,SNR=14							
WRA	**Warramunga Arr**	**32.15**	**267**	P		**P**	**18 44 30.2**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=96,slow=8.5,SNR=3.6							
ARCES	**ARCESS Array B**	**127.24**	**345**	PKP		**PKPdf**	**18 57 04.4**	**-0.7**
	comp=Z,0.9nm,1.0s,baz=72,slow=6.0,SNR=5.6							
GERES	**GERESS Array B**	**146.33**	**330**	PKPbc		**PKPab**	**18 57 42.9**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=30,slow=4.7,SNR=5.2							

WEL 12 18:42:56.3±0.3, 39.14S×174.77E, h210km±2km, ML3.9/17, 6C-10D, Error ellipse: s-maj=2.2km s-min=2.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.02**	**337**	⇑PN		Pn	18 43 22.9	-0.8
VRZ				SN		S	18 43 43.8	-1.3
RAEZ	**Rainy Point**	**0.33**	**243**	PN		Pn	18 43 23.9	-0.2
NEZ	**North Egmont**	**0.54**	**256**	PN		Pn	18 43 24.8	0.0
DFE	**Dawson Falls**	**0.55**	**250**	PN		Pn	18 43 24.9	0.0
PKE	**Pukeiti**	**0.61**	**265**	⇓PN		Pn	18 43 24.8	-0.2
FWVZ	**Far West T-bar**	**0.62**	**101**	⇓PN		Pn	18 43 25.2	-0.2
FWVZ				SN		S	18 43 46.7	-1.3
HIZ	**Hauiti**	**0.63**	**6**	⇑PN		Pn	18 43 24.1	-1.0
WAZ	**Wanganui**	**0.64**	**165**	PN		Pn	18 43 25.6	+0.4
WAZ				SN		S	18 43 46.5	-1.3
WHVZ	**Whangaehu Hut**	**0.65**	**103**	PN		Pn	18 43 25.5	-0.1
WNVZ	**Wahianoa**	**0.67**	**106**	PN		Pn	18 43 25.4	-0.2
OTVZ	**Oturere**	**0.70**	**92**	PN		Pn	18 43 25.7	0.0
OTVZ				SN		S	18 43 47.6	-0.8
TUVZ	**Tukino**	**0.70**	**101**	PN		Pn	18 43 25.6	0.0
NMEZ	**Namu Road**	**0.74**	**248**	PN		Pn	18 43 25.6	0.0
MOVZ	**Moawhango**	**0.81**	**110**	PN		Pn	18 43 25.6	-0.5
BHHZ	**Black Hill Sta**	**1.06**	**109**	PN		Pn	18 43 27.2	-0.5
TSZ	**Takapari Road**	**1.30**	**135**	⇓PN		Pn	18 43 29.4	+0.1
TSZ				SN		S	18 43 53.9	-1.0
TSZ				AML		AML	18 43 55.9	
BKZ	**Black Stump Fm**	**1.34**	**92**	⇓PN		Pn	18 43 28.9	-0.8
BKZ				AML		AML	18 43 55.8	
BKZ				AML		AML	18 43 57.6	
PNHZ	**Pukenui**	**1.35**	**125**	PN		Pn	18 43 29.7	0.0
PNHZ				SN		S	18 43 54.7	-0.9
POWZ	**Post Office Ro**	**1.47**	**149**	PN		Pn	18 43 30.5	-0.1
POWZ				SN		S	18 43 55.8	-1.4
MCHZ	**McNeill Hill**	**1.53**	**102**	PN		Pn	18 43 31.5	+0.4
DVHZ	**Dannevirke**	**1.58**	**137**	⇓PN		Pn	18 43 31.5	-0.1
WPHZ	**Waipukurau**	**1.59**	**126**	⇓PN		Pn	18 43 31.8	+0.2
WPHZ				SN		S	18 43 58.0	-1.0
MRZ	**Mangatainoka R**	**1.64**	**158**	⇓PN		Pn	18 43 31.9	-0.3
MRZ				AML		AML	18 43 59.0	
MRZ				AML		AML	18 43 59.0	
PRWZ	**Pori Road**	**1.69**	**147**	PN		Pn	18 43 32.7	+0.1
OGWZ	**Otaki Gorge**	**1.70**	**170**	PN		Pn	18 43 32.8	+0.1
KIW	**Kapiti Island**	**1.72**	**176**	PN		Pn	18 43 32.6	-0.3
KIW				AML		AML	18 44 00.9	
KIW				AML		AML	18 44 01.0	
KAHZ	**Kahuranaki**	**1.76**	**112**	PN		Pn	18 43 33.5	+0.2
DUWZ	**D'Urville Isla**	**1.78**	**201**	PN		Pn	18 43 33.0	-0.4
RAHZ	**Arahi**	**1.82**	**84**	PN		Pn	18 43 33.4	-0.4
PRHZ	**Porangahau**	**1.83**	**129**	⇓PN		Pn	18 43 34.0	+0.1
PRHZ				SN		S	18 44 02.4	-0.5
HOWZ	**Holdsworth Sta**	**1.85**	**162**	PN		Pn	18 43 33.6	-0.4
PXZ	**Pawanui**	**1.85**	**119**	AML		AML	18 43 33.4	
PXZ				⇓PN		Pn	18 43 34.0	0.0
PXZ				AML		AML	18 44 05.2	
PXZ				AML		AML	18 44 42.7	
TIWZ	**Tintock**	**1.85**	**153**	PN		Pn	18 43 33.8	-0.2
ANWZ	**Angora Road**	**1.86**	**136**	⇓PN		Pn	18 43 34.3	+0.1
CKHZ	**Cape Kidnapper**	**1.86**	**107**	PN		Pn	18 43 34.4	+0.2
CKHZ				SN		S	18 44 03.6	+0.2
BFZ	**Birch Farm**	**1.91**	**144**	PN		Pn	18 43 34.3	-0.4
BFZ				AML		AML	18 44 05.1	
BFZ				AML		AML	18 44 06.4	
BFZ				AML		AML	18 44 30.5	
CAW	**Cannon Point**	**1.98**	**173**	PN		Pn	18 43 35.0	-0.3
CAW				AML		AML	18 44 06.7	
CAW				AML		AML	18 44 07.2	
MTW	**Mount Morrison**	**2.09**	**165**	PN		Pn	18 43 35.9	-0.6
MTW				AML		AML	18 44 08.4	
MTW				AML		AML	18 44 08.5	
TCW	**Tory Channel**	**2.10**	**190**	PN		Pn	18 43 36.3	-0.2
TCW				AML		AML	18 44 08.3	
TCW				AML		AML	18 44 08.5	
WEL	**Wellington**	**2.14**	**180**	PN		Pn	18 43 36.6	-0.4
TMWZ	**Te Maipa**	**2.15**	**157**	PN		Pn	18 43 36.5	-0.5
SNZO	**South Karori**	**2.17**	**181**	PN		Pn	18 43 36.6	-0.6
SNZO				AML		AML	18 44 07.7	
SNZO				AML		AML	18 44 08.4	
KNZ	**Kokohu**	**2.27**	**88**	PN		Pn	18 43 37.4	-0.8
KNZ				AML		AML	18 45 25.3	
KNZ				AML		AML	18 45 35.9	
BHW	**Baring Head**	**2.27**	**178**	PN		Pn	18 43 37.6	-0.6
BHW				AML		AML	18 44 10.9	
BHW				AML		AML	18 44 11.0	
MSWZ	**Moikau Station**	**2.30**	**171**	PN		Pn	18 43 38.0	-0.7
MSWZ				AML		AML	18 44 10.5	
MSWZ				AML		AML	18 44 10.9	
MWZ	**Matawai**	**2.30**	**70**	AML		AML	18 44 07.3	
MWZ				AML		AML	18 44 08.0	
MWZ				AML		AML	18 44 21.1	
NNZ	**Nelson**	**2.33**	**207**	⇑PN		Pn	18 43 38.0	-0.9
TRWZ	**Traveller**	**2.36**	**163**	PN		Pn	18 43 38.7	-0.6
TRWZ				AML		AML	18 44 12.4	
TUWZ	**Tuamarina**	**2.37**	**195**	PN		Pn	18 43 38.7	-0.7
TUWZ				AML		AML	18 43 39.6	
TUWZ				AML		AML	18 44 12.9	
QRZ	**Quartz Range**	**2.41**	**225**	⇑PN		Pn	18 43 38.1	-1.7
MHGZ	**Mahia Peninsul**	**2.44**	**91**	PN		Pn	18 43 39.6	-0.6
PLWZ	**Palliser**	**2.46**	**171**	PN		Pn	18 43 39.5	-0.8
BSWZ	**Blackbirch Sta**	**2.66**	**195**	PN		Pn	18 43 42.2	-0.3
PUZ	**Puketiti**	**2.94**	**70**	AML		AML	18 44 08.3	
PUZ				AML		AML	18 44 19.9	
THZ	**Tophouse**	**2.98**	**208**	⇑PN		Pn	18 43 44.7	-1.5
KHZ	**Kahutara**	**3.40**	**195**	PN		Pn	18 43 49.9	-1.2
DSZ	**Denniston Nort**	**3.45**	**220**	PN		Pn	18 43 49.5	-2.2
LTZ	**Lake Taylor**	**4.10**	**207**	PN		Pn	18 43 57.8	-1.9
OXZ	**Oxford**	**4.66**	**205**	PN		Pn	18 44 03.6	-3.0
CRLZ	**Canterbury Las**	**4.72**	**199**	PN		Pn	18 44 04.5	-2.8
MQZ	**McQueen's Vall**	**4.83**	**199**	PN		Pn	18 44 05.7	-3.0
WVZ	**Waitaha Valley**	**4.97**	**216**	PN		Pn	18 44 07.3	-3.2
RPZ	**Rata Peaks**	**5.36**	**210**	⇑PN		Pn	18 44 12.3	-3.1
FOZ	**Fox Glacier**	**5.84**	**219**	PN		Pn	18 44 17.7	-3.8
LBZ	**Lake Benmore**	**6.26**	**212**	PN		Pn	18 44 23.4	-3.5
ODZ	**Otahua Downs**	**6.65**	**206**	PN		Pn	18 44 29.7	-2.2
JCZ	**Jackson Bay**	**6.67**	**220**	PN		Pn	18 44 28.4	-4.1
WKZ	**Wanaka**	**7.11**	**215**	PN		Pn	18 44 34.1	-3.9

IDC 12 18:48:21.2±2.4, 3.93N×126.17E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.4/3, 1C, Error ellipse: s-maj=238.0km s-min=24.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**3.79**	**330**	*i*	*iP*	Pb	18 49 29.7	+0.7
WRA	**Warramunga Arr**	**25.05**	**162**	P		P	18 53 47.2	-0.2
	0.5nm,0.6s,baz=340,slow=10,SNR=3.1							
ASAR	**Alice Springs**	**28.45**	**165**	P		P	18 54 18.1	+0.1
	0.3nm,0.8s,baz=350,slow=7.3,SNR=4.1							
MKAR	**Makanchi Array**	**57.07**	**325**	P		P	18 58 09.3	0.0
	0.6nm,0.5s,baz=119,slow=8.0,SNR=14							

MAN 12 19:21:49, 7.41N×124.49E, h33km, mb3.9, ML2.6, MS2.2, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.30**	**232**	⇑	*iP*	Pn	19 21 58.8	+1.7
CTBH					*i* S	Sn	19 22 05.0	+2.8
BUKP	**Musuan**	**0.74**	**51**	*eP*		Pb	19 22 04.3	+0.8
BUKP				*eS*		Sb	19 22 15.7	+2.2
CGP	**Cagayan de Oro**	**1.06**	**11**	⇑	*iP*	Pn	19 22 07.8	+0.3
CGP					*i* S	Sn	19 22 21.2	0.0
PAGZ	**Pagadian**	**1.18**	**292**	*eP*		Pb	19 22 10.1	-0.8
PAGZ				*eS*		Sb	19 22 25.3	-0.6
IPIL	**Ipil**	**1.94**	**281**	*eP*		Pb	19 22 21.9	-1.8
IPIL				*eS*		Sb	19 22 48.8	+1.3

*NIED **12** 19:28:00, 43.00N×145.40E, h41km, Mw4.4 Best double couple: M0 4.05000×10^15 NP1:φs 26.00000°, δ 68.00000°, λ 80.00000°. NP2:φs 231.00000°, δ 24.00000°, λ 112.00000°.*

*ISCJB **12** 19:28:07.0±0.5, 42.95N±0.04×145.45E±0.04, h50km±3km, mb4.5/97, MS3.6/17, Error ellipse: s-maj=7.0km s-min=3.7km az=152.6*

*IDC **12** 19:28:07.9±0.7, 43.02N×145.50E, h42km±5km, mb4.2/29, mb1 4.3/33, mb1mx4.3/36, mbtmp4.1/33, ML4.1/3, MS3.5/17, Ms1 3.5/17, ms1mx3.3/38, Error ellipse: s-maj=14.5km s-min=10.6km az=171.0*

*SZGRF **12** 19:28:07.0, 42.39N×144.62E, h62km, mb4.6, Hokkaido, Japan, region*

*NEIC **12** 19:28:07.6±0.3, 42.98N×145.45E, mb4.6/18, MW4.3(NIED), Error ellipse: s-maj=8.6km s-min=4.6km az=153.0*

NEIC Recorded [3 JMA] in eastern Hokkaido.

*BJI **12** 19:28:07.7, 42.93N×145.46E, h64km, mB4.8/22, mb4.7/35, Ms4.1/16, Ms7 4.4/9*

*MOS **12** 19:28:07.7±1.0, 43.04N×145.39E, h54km, mb4.7/40, Error ellipse: s-maj=8.0km s-min=5.5km az=106.9*

*JMA **12** 19:28:08.0±0.1, 42.98N×145.43E, h47km±1km, M4.4*

JMA Felt III J1.

*SKHL **12** 19:28:09.0±0.7, 43.01N×145.40E, h44km±11km, mb4.8/5*

ISC 12 19:28:08.6±0.4, 42.96N±0.05×145.49E±0.03, h54km±2km, h53km:pP-P, n267, σ1.935/347, mb4.6/97, MS3.5/17, 19C-18D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.45**	**24**	⇑	P	**Pn**	**19 28 18.3**	**-1.2**
NEM2					eS	**Sn**	**19 28 25.3**	**-2.1**
JAK	**Akkeshi**	**0.59**	**274**	⇓	P	**Pn**	**19 28 19.6**	**-1.5**
JAK					eS	**Sn**	**19 28 28.1**	**-2.0**
JNK	**Nakash**	**0.85**	**318**	⇓	P	**Pn**	**19 28 22.8**	**-1.6**
JNK					eS	**Sn**	**19 28 33.2**	**-2.8**
JRA	**Rausu**	**1.02**	**345**	⇓	P	**Pn**	**19 28 25.5**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**1.11**	**14**	*d*	*iP*	**Pn**	**19 28 26.8**	**-1.1**
YUK					*i* S	**Sn**	**19 28 40.9**	**-1.3**
YUK					pmax	pmax		
	comp=E,100nm,0.3s							
YUK					pmax	pmax		
	comp=N,152nm,0.2s							
YUK					pmax	pmax		
	comp=Z,998nm,0.2s							
YUK					smax	smax		
	comp=N,8μm,0.5s							
YUK					smax	smax		
	comp=E,6μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.11**	**14**	⇓	*iP*	**Pn**	**19 28 26.9**	**-1.0**
YUK					AMB	AMB	19 28 27.6	
	comp=E,150nm,0.3s							
YUK					AMB	AMB	19 28 27.6	
	comp=E,100nm,0.3s							
YUK					AMB	AMB	19 28 27.6	
	comp=E,1μm,0.3s							
YUK					*i* S	**Sn**	**19 28 40.9**	**-1.3**
YUK					A	A	19 28 44.2	
	comp=E,8μm,0.5s							
YUK					A	A	19 28 44.2	
	comp=E,6μm,0.5s							
JOB	**Onbets**	**1.22**	**268**	⇓	P	**Pn**	**19 28 28.1**	**-1.3**
JOB					eS	**Sn**	**19 28 43.0**	**-1.8**
JAR	**Ashorobuto**	**1.31**	**286**	⇓	P	**Pn**	**19 28 29.5**	**-1.1**
JAR					eS	**Sn**	**19 28 45.1**	**-1.9**
JTKR	**Abashiri--Toko**	**1.54**	**312**	⇓	P	**Pn**	**19 28 33.1**	**-0.6**
ERM	**Erimo**	**1.97**	**242**	*c*	*iPN*	**Pn**	**19 28 39.2**	**-0.3**
ERM	**Erimo**	**1.97**	**242**		*ePn*	**Pn**	**19 28 39.7**	**+0.2**
ASAJ	**Asahikawa**	**2.40**	**300**		*ePn*	**Pn**	**19 28 45.5**	**0.0**
ASAJ	**Asahikawa**	**2.40**	**300**		P	**Pn**	**19 28 46.0**	**+0.5**
	comp=E,116nm,0.3s,baz=124,slow=12,SNR=296							
ASAJ					S	**Sn**	**19 29 17.6**	**+3.8**
	comp=E,57nm,0.3s,baz=19,slow=27,SNR=3.7							
ASAJ					LR	LR	19 30 00.9	
	comp=E,936nm,20.2s,baz=41,slow=47							
KUR	**Kuril'sk**	**2.85**	**36**	*e*	*PN*	**Pn**	**19 28 52.5**	**+0.9**
KUR					*eS*	**Sn**	**19 29 25.0**	**+0.4**
KUR					pmax	pmax		
	comp=Z,430nm,0.8s							
KUR					pmax	pmax		
	comp=N,180nm,0.3s							
KUR					pmax	pmax		
	comp=E,80nm,0.5s							
KUR					smax	smax		
	comp=N,2μm,0.5s							
KUR					smax	smax		
	comp=E,860nm,0.4s							
KUR	**Kuril'sk**	**2.85**	**36**	*e*	*P*	**Pn**	**19 28 52.5**	**+0.9**
KUR					AMB	AMB	19 29 06.2	
	comp=E,180nm,0.3s							
KUR					AMB	AMB	19 29 06.2	
	comp=E,80nm,0.5s							
KUR					AMB	AMB	19 29 06.2	
	comp=E,430nm,0.8s							
KUR					*eS*	**Sn**	**19 29 25.0**	**+0.4**
KUR					A	A	19 29 32.3	
	comp=E,2μm,0.5s							
KUR					A	A	19 29 32.3	
	comp=E,860nm,0.5s							
YSS	**Yuzh-Sakhalins**	**4.45**	**335**	⇑	*iPN*	**Pn**	**19 29 14.1**	**+0.7**
YSS					*eS*	**Sn**	**19 30 02.5**	**-1.3**
YSS					pmax	pmax		
	comp=Z,30nm,0.8s							
YSS					smax	smax		
	comp=E,70nm,0.7s							
YSS					MLR	MLR		
	comp=Z,500nm,15.0s							
YSS	**Yuzh-Sakhalins**	**4.45**	**335**	⇑	*iP*	**Pn**	**19 29 14.1**	**+0.7**
YSS					AMB	AMB	19 29 15.8	
	comp=Z,30nm,0.8s							
YSS					*eS*	**Sn**	**19 30 02.5**	**-1.3**
YSS					A	A	19 30 03.5	
	comp=Z,70nm,0.7s							
YSS					*e*LQ	LQ	19 30 26.0	
YSS					AMS	AMS	19 31 09.0	
	comp=Z,500nm,15.0s							
UGL	**Uglegorsk**	**6.57**	**340**	*eP*		**Pn**	**19 29 43.5**	**+1.0**
UGL					AMB	AMB	19 29 47.5	
	comp=Z,98nm,0.9s							
TEY	**Ternei**	**6.74**	**291**	*eP*		**Pn**	**19 29 46.2**	**+1.3**
TYV	**Tymovskoe**	**8.14**	**347**	*eP*		**Pn**	**19 30 05.0**	**+0.9**
TYV					AMB	AMB	19 30 10.0	
	comp=Z,18nm,1.0s							
TYV					AMB	AMB	19 30 10.0	
	comp=Z,40nm,1.0s							
MAJO	**Matsushiro**	**8.51**	**224**	*e*	*PN*	**Pn**	**19 30 07.6**	**-1.7**
MAJO	**Matsushiro**	**8.51**	**224**	*e*	*Pn*	**Pn**	**19 30 07.5**	**-1.7**
MAT	**Matsushiro**	**8.51**	**224**		P	**Pn**	**19 30 08.0**	**-1.2**
MAT					eS	**Sn**	**19 31 39.3**	**-4.6**
HABR	**Khabarovsk**	**9.15**	**311**	*e*	*PN*	**Pn**	**19 30 19.2**	**+1.3**
HABR					pmax	pmax		
	comp=N,8.0nm,0.8s							
HABR					pmax	pmax		
	comp=E,41nm,1.7s							
HABR					pmax	pmax		
	comp=Z,30nm,0.9s							
HABR					MLR	MLR		
	comp=Z,179nm,16.0s							
USRK	**Ussuriysk Arra**	**9.87**	**282**		P	**Pn**	**19 30 28.8**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=86,slow=15,SNR=8.4							
USRK					LR	LR	19 34 20.3	
	comp=Z,187nm,19.9s,baz=24,slow=38							
VLA	**Vladivostok**	**9.96**	**276**	*i*	PN	**Pn**	**19 30 30.1**	**+1.1**
VLA					pmax	pmax		
	comp=Z,19nm,0.9s							
NKL	**Nikolayevsk**	**10.69**	**344**	*eP*		**Pn**	**19 30 36.8**	**-2.1**
KLR	**Kul'dur**	**11.41**	**308**	*e*	*PN*	**Pn**	**19 30 47.3**	**-1.5**
MDJ	**Mudanjiang**	**11.62**	**284**	P		**Pn**	**19 30 50.6**	**-1.0**
MDJ					S	**Sn**	**19 32 58.0**	**-1.7**
MDJ					PcP	**PcP**	**19 36 36.5**	**-1.9**
MDJ					ScP	**ScP**	**19 40 05.1**	**-1.4**
MDJ					PcS	**PcS**	**19 40 11.7**	**-0.6**

HHC pmax pmax
comp=Z,12nm,4.4s
HHC LR LR
comp=N,170nm,15.6s
HHC LR LR
comp=E,210nm,18.0s
ULN Ulaanbaatar 27.23 294 *e*P **P** **19 33 46.0 -1.5**
comp=E,4.9nm,0.8s
BILL Bilibino 27.46 17 *e*P P 19 33 43.0 -6.2
BILL *i* 19 34 48.5
BILL *i* 19 37 06.7
BILL pmax pmax
comp=Z,14nm,1.1s
SONM Songino Array 27.67 294 P **P** **19 33 51.4 -0.1**
SONM Songino Array 27.67 294 P **P** **19 33 51.4 -0.1**
comp=Z,9.4nm,0.8s,baz=87,slow=8.4,SNR=86
SONM LR LR 19 45 49.0
comp=Z,134nm,20.3s,baz=75,slow=38
WHN Wuhan 27.70 254 ⇓P **P** **19 33 52.5 +0.9**
ZAK Zakamensk 29.57 299 *e*P **P** **19 34 07.9 -0.4**
ZAK pmax pmax
comp=Z,3.0nm,1.1s
XAN Xi'an 29.78 265 P **P** **19 34 10.4 +0.2**
XAN pP **pP** **19 34 26.9 +3.1**
XAN sP sP 19 34 35.2 +5.0
XAN pmax pmax
comp=Z,2.0nm,1.4s
ENH Enshi 31.31 258 *e*P **P** **19 34 23.0 -0.7**
comp=Z,13nm,1.1s
LZH Lanzhou 32.59 272 *e*P **P** **19 34 36.4 +1.3**
LZH pP **pP** **19 34 47.3 -1.5**
LZH sP **sP** **19 34 54.8 -0.3**
LZH PP **PnPn** **19 35 43.0 -1.1**
LZH *e*S **S** **19 39 46.2 -0.9**
LZH SS **SnSn** **19 41 45.6 +0.3**
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,89nm,4.7s
LZH LR LR
comp=N,400nm,16.2s
LZH LR LR
comp=E,470nm,15.1s
LZH LR LR
comp=Z,680nm,17.5s
GTA Gaotai 34.24 280 *e*P **P** **19 34 49.8 +0.4**
GTA pP **pP** **19 35 04.8 +1.7**
GTA sP **sP** **19 35 11.9 +2.5**
GTA S **S** **19 40 12.5 +0.1**
GTA sS **sS** **19 40 38.0 +2.4**
GTA SS **SnSn** **19 42 26.0 +0.9**
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,58nm,5.2s
GTA LR LR
comp=N,69nm,15.9s
GTA LR LR
comp=E,93nm,15.2s
CD2 Chengdu 35.12 264 P **P** **19 34 56.3 -0.7**
CD2 pP **pP** **19 35 12.0 +1.3**
CD2 sP **sP** **19 35 19.5 +2.5**
CD2 PP **PnPn** **19 36 16.1 +0.4**
CD2 PcP **PcP** **19 37 27.5 0.0**
CD2 S **S** **19 40 22.9 -3.1**
CD2 sS **sS** **19 40 49.6 +0.4**
CD2 PcS **PcS** **19 41 13.2 -1.3**
CD2 SS **SnSn** **19 42 41.0 -5.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.4s
GYA Guiyang 35.55 255 *e*P **P** **19 35 01.6 +0.8**
GYA pP **pP** **19 35 16.2 +1.7**
GYA sP **sP** **19 35 24.0 +3.2**
GYA PP **PP** **19 36 22.8 +0.6**
GYA S **S** **19 40 29.6 -3.2**
GYA sS **sS** **19 40 57.5 +1.4**
GYA ScP **ScP** **19 41 08.0 -2.1**
GYA PcS **PcS** **19 41 15.2 -1.1**
GYA ScS **ScS** **19 45 12.8 -2.3**
GYA pmax pmax
comp=Z,10.0nm,0.8s
KMI Kunming 39.16 257 P **P** **19 35 32.2 +0.7**
KMI pP **pP** **19 35 49.9 +4.5**
KMI pmax pmax
comp=Z,11nm,1.0s
ZALV Zalesovo Beam 40.52 308 P **P** **19 35 41.7 -0.4**
ZALV 19 37 44.2
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV pmax pmax
comp=Z,6.0nm,0.5s
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV MLR MLR
comp=Z,49nm,20.4s
ZALV Zalesovo Beam 40.52 308 P **P** **19 35 41.6 -0.4**
ZALV PcP **PcP** **19 37 44.2 +0.6**
ZALV pPcP 19 37 57.3
ZALV Zalesovo Beam 40.52 308 P **P** **19 35 41.6 -0.4**
comp=Z,1.3nm,0.4s,baz=83,slow=8.4,SNR=9.8
ZALV PcP **PcP** **19 37 44.2 +0.6**
comp=Z,5.7nm,0.5s,baz=87,slow=3.6,SNR=16
ZALV pPcP 19 37 57.3
comp=Z,2.5nm,0.5s,baz=83,slow=2.2,SNR=5.1
ZALV LR LR 19 52 54.3
comp=Z,49nm,20.4s,baz=339,slow=37
PPLA Purkeypile 40.56 39 *e*P **P** **19 35 41.7 -0.8**
KDAK Kodiak Island 40.67 46 *e*P **P** **19 35 41.9 -1.4**
comp=Z,9.2nm,0.6s
KDAK pP **pP** **19 35 54.8 -2.5**
KDAK Kodiak Island 40.67 46 P **P** **19 35 43.1 -0.2**
comp=Z,3.4nm,0.5s,baz=7.5,slow=2.9,SNR=9.3
KDAK pP **pP** **19 35 54.8 -2.5**
comp=Z,8.2nm,0.5s,baz=276,slow=3.6,SNR=11
COLD Coldfoot 41.47 32 *e*P **P** **19 35 50.1 +0.3**
comp=Z,28nm,2.4s
MCK McKinley 42.00 37 *e*P **P** **19 35 53.8 -0.4**
MCK pmax pmax
comp=Z,6.0nm,0.9s
MCK McKinley 42.00 37 *e*P **P** **19 35 53.8 -0.4**
comp=Z,5.8nm,0.9s
SML Sawmill 42.41 40 *e*P **P** **19 35 59.0 +1.5**
SML pmax pmax
comp=Z,3.0nm,0.9s
SML Sawmill 42.41 40 *e*P **P** **19 35 59.0 +1.5**
comp=Z,2.6nm,0.9s
COLA College 42.42 36 *e*P **P** **19 35 57.2 -0.3**
COLA pmax pmax
comp=Z,33nm,0.9s
COLA College 42.42 36 *e*P **P** **19 35 57.2 -0.3**
comp=Z,33nm,0.9s
ILAR Eielson Array 42.84 36 P **P** **19 36 01.8 +0.8**
ILAR Eielson Array 42.84 36 P **P** **19 36 01.8 +0.8**
comp=Z,2.5nm,0.6s,baz=262,slow=5.5,SNR=33
ILAR LR LR 19 51 49.2
comp=Z,32nm,20.9s,baz=165,slow=33
MK31 Makanchi Array 43.88 298 *e*P **P** **19 36 08.8 -0.8**
MK31 Makanchi Array 43.88 298 *e*P **P** **19 36 08.8 -0.8**
MKAR Makanchi Array 43.88 298 P **P** **19 36 09.5 -0.2**
MKAR 19 37 55.4
MKAR pmax pmax
comp=Z,9.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR MLR MLR
comp=Z,55nm,21.0s
MKAR Makanchi Array 43.88 298 P **P** **19 36 09.5 -0.2**
MKAR PcP **PcP** **19 37 55.4 +0.4**
MKAR Makanchi Array 43.88 298 P **P** **19 36 09.5 -0.2**
comp=Z,8.9nm,0.8s,baz=79,slow=8.8,SNR=66
MKAR PcP **PcP** **19 37 55.4 +0.4**
comp=Z,1.4nm,0.6s,baz=72,slow=2.5,SNR=4.6
MKAR LR LR 19 55 33.0
comp=Z,55nm,21.0s,baz=38,slow=38
BMRM Bremner River 44.29 41 *e*P **P** **19 36 12.8 +0.1**
comp=Z,7.9nm,0.9s
KURK Kurchatov 44.97 304 P **P** **19 36 18.5 +0.3**
KURK 19 37 59.2
KURK pmax pmax
comp=Z,5.0nm,0.5s
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURK Kurchatov 44.97 304 P **P** **19 36 18.5 +0.3**
KURK PcP **PcP** **19 37 59.2 +0.7**
KURBB Kurchatov Arra 45.06 304 P **P** **19 36 18.5 -0.4**
comp=Z,5.2nm,0.5s,baz=72,slow=8.8,SNR=47
KURBB PcP **PcP** **19 37 59.2 +0.4**
comp=Z,2.5nm,0.6s,baz=82,slow=3.4,SNR=8.5
EGAK Eagle 45.28 35 *e*P **P** **19 36 21.1 +0.7**
comp=Z,4.2nm,0.8s
CHTO Chiang Mai 45.90 253 *e*P **P** **19 36 23.7 -2.3**
CHTO pmax pmax
comp=Z,7.0nm,1.0s
CHTO Chiang Mai 45.90 253 *e*P **P** **19 36 23.6 -2.3**
comp=Z,7.2nm,1.0s
CMAR Chiang Mai Arr 46.14 253 P **P** **19 36 28.9 +1.0**
CMAR Chiang Mai Arr 46.14 253 P **P** **19 36 28.9 +1.0**
comp=Z,2.0nm,0.8s,baz=43,slow=7.5,SNR=12
INK Inuvik 47.70 30 P **P** **19 36 40.0 +0.7**
INK Inuvik 47.70 30 P **P** **19 36 40.0 +0.7**
comp=Z,3.4nm,0.5s,baz=286,slow=6.3,SNR=21
VOSK Vostochnaya 48.84 309 P **P** **19 36 47.4 -1.0**
VOSK pmax pmax
comp=Z,3.0nm,0.5s
BVA0 Borovoye Array 49.07 309 *i* P **P** **19 36 50.2 0.0**
BVA0 pmax pmax
comp=Z,3.0nm,0.6s
BVAR Borovoye Array 49.07 309 P **P** **19 36 50.3 +0.1**
BVAR 19 38 13.7
BVAR pmax pmax
comp=Z,5.0nm,0.4s
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 49.07 309 P **P** **19 36 50.3 +0.1**
BVAR PcP **PcP** **19 38 13.7 +0.6**
BVAR Borovoye Array 49.07 309 P **P** **19 36 50.3 +0.1**
comp=Z,4.6nm,0.4s,baz=77,slow=8.1,SNR=40
BVAR PcP **PcP** **19 38 13.7 +0.6**
comp=Z,2.2nm,0.6s,baz=98,slow=3.0,SNR=4.5
BRVK Borovoye 49.12 309 *i* P **P** **19 36 50.8 +0.3**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
KSH Kashi 51.02 291 P P 19 37 09.4 +4.1
KSH pP pP 19 37 25.5 +5.8
KSH sP sP 19 37 31.3 +5.5
KSH PP PP 19 39 07.4 +5.4
KSH S **S** **19 44 22.6 +3.9**
KSH sS sS 19 44 50.0 +7.2
KSH ScS **ScS** **19 46 50.3 -0.8**
KSH SS **SS** **19 47 56.2 +2.4**
KSH pmax pmax
comp=Z,7.0nm,1.1s
KSH pmax pmax
comp=Z,65nm,4.3s
KSH LR LR
comp=N,120nm,7.7s
KSH LR LR
comp=E,130nm,7.6s
KSH LR LR
comp=Z,110nm,6.6s
ARU Arti 54.10 317 *d* *i*P **P** **19 37 27.1 -0.5**
ARU S **S** **19 45 00.5 +0.6**
ARU pmax pmax
comp=Z,2.0nm,0.5s
AB31 Akbulak array 56.62 309 *i* P **P** **19 37 45.6 -0.2**
AB31 pmax pmax
comp=Z,6.0nm,0.4s
ABKAR Akbulak array 56.62 309 *e*P **P** **19 37 46.0 +0.1**
YKA Yellowknife Ar 57.13 33 P **P** **19 37 48.9 -0.3**
YKA Yellowknife Ar 57.13 33 P **P** **19 37 48.9 -0.3**
comp=Z,0.9nm,0.5s,baz=301,slow=6.9,SNR=6.5
AKTO Aktyubinsk 57.13 310 P **P** **19 37 49.2 -0.3**
AKTO pmax pmax
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 57.13 310 P **P** **19 37 49.2 -0.3**
AKTO Aktyubinsk 57.13 310 P **P** **19 37 49.2 -0.3**
comp=Z,1.8nm,0.6s,baz=57,slow=14,SNR=8.9
KBL Kabul 58.32 289 *e*P **P** **19 37 57.5 -0.8**
KBL pmax pmax
comp=Z,7.0nm,0.7s
KBL Kabul 58.32 289 *e*P **P** **19 37 57.5 -0.8**
comp=Z,6.5nm,0.7s
ARCES ARCESS Array B 59.57 339 P **P** **19 38 05.7 -0.4**
ARCES ARCESS Array B 59.57 339 P **P** **19 38 05.7 -0.4**
comp=Z,1.9nm,0.8s,baz=50,slow=8.1,SNR=7.4
ARCES LR LR 20 09 20.2
comp=Z,35nm,19.2s,baz=212,slow=42
JOF Joensuu 62.22 332 *ep* **P** **19 38 24.9 +0.7**
comp=Z,3.1nm,0.4s
JOF Joensuu 62.22 332 *e*P **P** **19 38 24.9 +0.7**
JOF pmax pmax
comp=Z,3.0nm,0.4s
WRA Warramunga Arr 63.42 192 P **P** **19 38 32.7 +0.1**
WRA Warramunga Arr 63.42 192 P **P** **19 38 32.7 +0.1**
comp=Z,1.3nm,0.7s,baz=11,slow=6.8,SNR=7.9
YBH Yreka Blue Hor 64.34 56 P **P** **19 38 38.9 +0.1**
YBH Yreka Blue Hor 64.34 56 P **P** **19 38 38.9 +0.1**
comp=Z,0.8nm,0.6s,baz=81,slow=11,SNR=4.1
KAF Kangasniemi 64.47 333 *ep* **P** **19 38 38.6 -0.5**
comp=Z,3.8nm,0.5s
KAF Kangasniemi 64.47 333 *e*P **P** **19 38 38.6 -0.5**
KAF pmax pmax
comp=Z,4.0nm,0.5s
SUMG Summit 64.74 1 *e*P **P** **19 38 41.6 +0.4**
SUMG pmax pmax
comp=Z,7.0nm,0.6s
SUMG Summit 64.74 1 *e*P **P** **19 38 41.6 +0.4**
comp=Z,6.6nm,0.6s
SUMG Summit 64.74 1 *i* P **P** **19 38 41.4 +0.2**
comp=Z,4.8nm,0.7s
FIA1 FINESS Array S 65.03 333 *e*P **P** **19 38 42.0 -0.7**
FINES FINESS Array B 65.03 333 P **P** **19 38 42.3 -0.4**
FINES FINESS Array B 65.03 333 P **P** **19 38 42.3 -0.4**
comp=Z,6.6nm,0.4s,baz=47,slow=7.4,SNR=78
FINES LR LR 20 09 20.7
comp=Z,31nm,18.2s,baz=159,slow=38
OBN Obninsk 65.23 323 *i* P **P** **19 38 43.7 -0.4**
OBN *i* 19 39 16.1
OBN pmax pmax
comp=Z,13nm,0.9s
VSR Storozhevoye 66.54 319 *e*P **P** **19 38 52.5 -0.1**
VSR pmax pmax
comp=Z,10.0nm,0.4s
VSR pmax pmax
comp=N,20nm,1.1s
VSR pmax pmax
comp=E,10.0nm,0.9s
VORD Divnogorie 66.64 319 *e*P **P** **19 38 52.9 -0.4**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,20nm,0.6s
VSU Vasula 66.92 330 *c* *i*P **P** **19 38 54.4 -0.5**
VSU pmax pmax
comp=Z,39nm,1.3s
FFC Flin Flon 67.05 36 *i* P **P** **19 38 57.2 +1.4**
FFC Flin Flon 67.05 36 *e*P **P** **19 38 56.5 +0.7**
comp=Z,3.6nm,0.7s
ASAR Alice Springs 67.14 192 P **P** **19 38 57.9 +1.1**
ASAR Alice Springs 67.14 192 P **P** **19 38 57.9 +1.1**
comp=Z,1.1nm,0.7s,baz=7.0,slow=6.3,SNR=16
BOZ Bozeman (W) 68.34 47 *e*P **P** **19 39 03.3 -1.0**
BOZ pmax pmax
comp=Z,1.0nm,0.6s
BOZ Bozeman (W) 68.34 47 *e*P **P** **19 39 03.2 -1.0**
comp=Z,1.4nm,0.6s
NVAR Mina Array Bea 69.02 57 P **P** **19 39 08.1 -0.7**
NVAR Mina Array Bea 69.02 57 P **P** **19 39 08.1 -0.7**
comp=Z,1.8nm,0.7s,baz=286,slow=6.9,SNR=9.6
KIV Kislovodsk 69.38 311 *e*P **P** **19 39 11.5 +0.8**
KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,23nm,17.0s
KBZ Khabaz 69.41 311 P **P** **19 39 11.9 +1.1**
KBZ pmax pmax
comp=Z,9.0nm,0.8s
KBZ MLR MLR
comp=Z,34nm,19.2s
KBZ Khabaz 69.41 311 P **P** **19 39 11.9 +1.1**
KBZ Khabaz 69.41 311 P **P** **19 39 11.9 +1.1**
comp=Z,9.2nm,0.8s,baz=60,slow=4.8,SNR=18
KBZ LR LR 20 11 08.8
comp=Z,34nm,19.2s,baz=29,slow=37
NB2 NORSAR Subarra 69.90 338 P **P** **19 39 13.2 -0.4**
comp=Z,4.9nm,0.5s,baz=33,slow=6.5
NOA NORSAR Array B 69.90 338 P **P** **19 39 13.2 -0.4**
NOA NORSAR Array B 69.90 338 P **P** **19 39 13.2 -0.4**
comp=Z,7.5nm,0.7s,baz=35,slow=6.2,SNR=45
NOA LR LR 20 13 42.4
comp=Z,30nm,18.0s,baz=10.0,slow=39
HFS Hagfors 69.95 337 LR LR 20 11 57.0
comp=Z,35nm,19.3s,baz=183,slow=38
PDAR Pinedale Array 71.34 49 P **P** **19 39 23.6 +0.7**
PDAR pP **pP** **19 39 35.3 -2.6**
PDAR Pinedale Array 71.34 49 P **P** **19 39 23.6 +0.7**
comp=Z,2.2nm,0.7s,baz=245,slow=1.0,SNR=10
PDAR pP **pP** **19 39 35.3 -2.6**
comp=Z,1.1nm,0.6s,baz=263,slow=1.7,SNR=5.8
KIEV Kiev 71.51 323 *e*P **P** **19 39 23.1 -0.3**
KIEV pmax pmax
comp=Z,13nm,0.7s
KIEV Kiev 71.51 323 *e*P **P** **19 39 23.1 -0.3**
comp=Z,13nm,0.7s
ANN Anapa 71.65 315 *e*P **P** **19 39 23.6 -0.8**
ANN pmax pmax
comp=Z,13nm,0.6s
BEL Belsk 74.15 328 *e*P **P** **19 39 39.8 +0.8**
KWP Kalwaria Pacla 75.09 326 ⇑P **P** **19 39 45.3 +0.7**
KWP Kalwaria Pacla 75.09 326 *e*P **P** **19 39 43.1 -1.5**
comp=Z,21nm,1.0s
KWP Kalwaria Pacla 75.09 326 ⇑ *i*P **P** **19 39 45.3 +0.7**
KWP Kalwaria Pacla 75.09 326 *e*P **P** **19 39 45.3 +0.7**
PRAR RASCA 75.29 322 ⇑ *i*P **P** **19 39 45.9 +0.1**
BUR08 Bucovina Ar. S 75.53 323 *e*P **P** **19 39 46.8 -0.5**
MALT Malatya 75.54 309 *ep*P pP 19 40 05.9 +3.2
MALT Malatya 75.54 309 ⇑ *i*P pP 19 40 05.6 +3.0
TLCR 75.70 319 ⇑P **P** **19 39 48.3 +0.2**
TLCR 75.70 319 ⇑ *i*P **P** **19 39 48.3 +0.2**
TESR Tescani 75.73 321 ⇑ *i*P **P** **19 39 48.7 +0.4**
KOLS Kolonicke sedl 75.81 325 *e*P **P** **19 39 49.4 +0.7**
KOLS pmax pmax
comp=Z,6.0nm,0.9s
KOLS Kolonicke sedl 75.81 325 *e*P **P** **19 39 49.4 +0.7**
OJC Ojcow 75.81 327 *e*P **P** **19 39 49.3 +0.6**
OJC Ojcow 75.81 327 *e*P **P** **19 39 49.3 +0.6**
OJC Ojcow 75.81 327 *e*P **P** **19 39 49.2 +0.6**
STHS Stebnicka Huta 75.86 326 *e*P **P** **19 39 50.4 +1.4**
STHS pmax pmax
comp=Z,6.0nm,0.8s
STHS Stebnicka Huta 75.86 326 *e*P **P** **19 39 50.4 +1.4**
VRI Vrincioaia 76.18 321 ⇓P **P** **19 39 52.8 +1.9**
VRI Vrincioaia 76.18 321 ⇓ *i*P **P** **19 39 52.8 +1.9**
PLOR Plostina 76.23 321 ⇓P **P** **19 39 53.3 +2.1**
PLOR Plostina 76.23 321 ⇓ *i*P **P** **19 39 53.3 +2.1**
NIE Niedzica 76.23 327 *e*P **P** **19 39 53.5 +2.3**
NIE Niedzica 76.23 327 *e*P **P** **19 39 53.5 +2.3**
GRER 76.43 320 ⇓ *i*P P 19 39 57.2 +4.9
DOPR Dopca 76.72 322 ⇓ *i*P **P** **19 39 56.1 +2.1**
OKC Ostrava-Krasne 76.76 328 *i* P **P** **19 39 55.0 +0.9**
OKC Ostrava-Krasne 76.76 328 *i* P **P** **19 39 55.0 +0.9**
MLR Muntele Rosu 76.83 321 ⇑ *i*P **P** **19 39 55.6 +0.9**
UPC Upice 77.03 330 *e*P **P** **19 39 56.4 +0.8**
UPC *ep*P **PcP** **19 40 06.8 +0.4**
DPC Dobruska-Polom 77.04 329 *i* P **P** **19 39 56.6 +0.9**
DPC *e* 19 40 13.5
DPC Dobruska-Polom 77.04 329 *i* P **P** **19 39 56.6 +0.9**
DPC *es*P **sP** **19 40 13.5 -3.4**
MORC Moravsky Berou 77.04 328 *e*P **P** **19 39 56.5 +0.8**
MORC *e**PP **pP** **19 40 13.3 +2.4**
MORC Moravsky Berou 77.04 328 *e*P **P** **19 39 56.5 +0.8**
MORC *ep*P **pP** **19 40 13.3 +2.4**
KRLC Kraliky 77.09 329 *i* P **P** **19 39 56.6 +0.6**
KRLC *e**PP **PcP** **19 40 08.3 +1.6**
KRLC Kraliky 77.09 329 *i* P **P** **19 39 56.6 +0.6**
KRLC *ep*P **PcP** **19 40 08.3 +1.6**
BR131 Keskin Array S 77.21 313 *e*P **P** **19 39 55.6 -1.4**
comp=Z,1.8nm,0.6s
BRTR Keskin Array B 77.21 313 P **P** **19 39 57.3 +0.3**
BRTR Keskin Array B 77.21 313 P **P** **19 39 57.3 +0.3**
comp=Z,2.1nm,0.6s,baz=73,slow=3.7,SNR=14
BRTR LR LR 20 18 39.9
comp=Z,23nm,19.7s,baz=101,slow=39
VOIR 77.28 322 ⇑P **P** **19 39 58.6 +1.4**
VOIR 77.28 322 ⇑ *i*P **P** **19 39 58.6 +1.4**
CLL Collm 77.45 332 *i* P **P** **19 39 57.7 -0.2**
CLL *i* *PP **pP** **19 40 15.0 +1.9**
CLL pmax pmax
comp=Z,17nm,0.9s
CLL Collm 77.45 332 *i* P **P** **19 39 57.7 -0.2**
comp=Z,11nm,0.9s
CLL *i* sP **pP** **19 40 15.0 +1.9**
comp=Z,8.0nm,0.7s
BRG Berggiesshubel 77.48 331 *e*P **P** **19 39 58.2 +0.1**
comp=Z,1.9nm,0.7s
BRG Berggiesshubel 77.48 331 *e*P **P** **19 39 58.2 +0.1**
BRG pmax pmax
comp=Z,2.0nm,0.7s
VYHS Vyhne 77.56 327 *e*P **P** **19 39 59.3 +0.7**
VYHS pmax pmax
comp=Z,3.0nm,1.0s
VYHS Vyhne 77.56 327 *e*P **P** **19 39 59.3 +0.7**
PSZ Piszkesteto 77.59 326 ⇑P P 19 39 54.9 -4.0
PSZ Piszkesteto 77.59 326 *e*P **P** **19 39 59.9 +1.1**
PSZ Piszkesteto 77.59 326 ⇑ *i*P P 19 39 54.9 -4.0
PRU Pruhonice 78.00 330 *i* P **P** **19 40 01.8 +0.8**
PRU *e**PP **PcP** **19 40 13.1 +2.6**
PRU *e* 19 40 18.7
PRU Pruhonice 78.00 330 *i* P **P** **19 40 01.8 +0.8**
PRU *ep*P **PcP** **19 40 13.1 +2.6**
PRU *es*P **sP** **19 40 18.7 -3.5**
TREC Trest 78.21 329 *i* P **P** **19 40 02.6 +0.4**
TREC Trest 78.21 329 *i* P **P** **19 40 02.6 +0.4**
SCHQ Schefferville 78.76 18 P **P** **19 40 04.8 -0.3**
SCHQ Schefferville 78.76 18 P **P** **19 40 04.8 -0.3**
comp=Z,2.6nm,0.7s,baz=308,slow=5.0,SNR=4.2
SCHQ LR LR 20 17 22.9
comp=Z,39nm,18.0s,baz=287,slow=38
KHC Kasperske Hory 79.06 330 *i* P **P** **19 40 07.4 +0.5**
KHC *e**PP **pP** **19 40 19.2 -2.9**
KHC *e* 19 40 24.9
KHC Kasperske Hory 79.06 330 *i* P **P** **19 40 07.4 +0.5**
KHC *ep*P **pP** **19 40 19.2 -2.9**
KHC *es*P **sP** **19 40 24.9 -3.2**
KHC Kasperske Hory 79.06 330 *e*P **P** **19 40 06.6 -0.3**
GERES GERESS Array B 79.25 330 P **P** **19 40 08.1 +0.1**
GERES GERESS Array B 79.25 330 P **P** **19 40 08.1 +0.1**
comp=Z,1.5nm,0.8s,baz=35,slow=4.9,SNR=14
GERES LR LR 20 18 21.7
comp=Z,64nm,19.8s,baz=274,slow=38
GRF Grafenberg Arr 79.43 332 *e*P **P** **19 40 09.6 +0.7**
comp=Z,7.0nm,1.0s
GRF *ep*P **pP** **19 40 26.7 +2.6**
GRF Grafenberg Arr 79.43 332 *e*P **P** **19 40 09.6 +0.7**
GRF *e**PP **pP** **19 40 26.7 +2.6**
PKSM Moragy 79.47 326 ⇓P **P** **19 40 08.9 -0.2**
PKSM Moragy 79.47 326 ⇓ *i*P **P** **19 40 08.9 -0.2**
VTS Vitosha 80.31 321 ⇑P **P** **19 40 14.8 +0.8**
VTS Vitosha 80.31 321 ⇑ *i*P **P** **19 40 14.8 +0.8**
GROS Grobnik 80.53 328 *i* P **P** **19 40 15.1 +0.1**
ASF Jabal al Asfar 80.72 305 P **P** **19 40 17.3 +1.1**
ASF Jabal al Asfar 80.72 305 P **P** **19 40 17.3 +1.1**
comp=Z,1.8nm,0.4s
GOLS Golise 80.86 327 *i* P **P** **19 40 16.8 +0.1**
MMAI Mount Meron Ar 81.01 307 P **P** **19 40 19.1 +1.3**
MMAI Mount Meron Ar 81.01 307 P **P** **19 40 19.1 +1.3**
comp=Z,6.8nm,0.6s,baz=40,slow=6.8,SNR=23
LJU Ljubljana 81.26 328 *i* P **P** **19 40 18.4 -0.3**
CEY Cerknica 81.55 328 *e*P **P** **19 40 19.8 -0.5**
CDF Champ du Feu 81.86 333 *e*P **P** **19 40 22.1 +0.1**
comp=Z,11nm,0.9s
PAGF Fort de Pagny 82.24 334 *e*P **P** **19 40 24.2 +0.3**
comp=Z,3.4nm,0.7s
MEZF Maizieres J'vi 82.50 335 *e*P **P** **19 40 25.6 +0.4**
EIL Elat 83.67 305 P **P** **19 40 32.7 +1.0**
EIL Elat 83.67 305 P **P** **19 40 32.7 +1.0**
comp=Z,5.1nm,0.7s,baz=337,slow=4.2,SNR=6.3
FLN La Foliniere 83.89 338 *e*P **P** **19 40 33.6 +1.2**
comp=Z,40nm,1.2s
FLN *e*R
comp=Z,38nm,22.5s
LOR Lormes 83.96 335 *e*P **P** **19 40 32.8 0.0**
comp=Z,5.2nm,0.7s
LOR *e*R
comp=Z,32nm,18.8s
TXAR Lajitas Array 84.09 55 P **P** **19 40 35.2 +1.3**
TXAR pP **pP** **19 40 47.5 -1.7**
TXAR Lajitas Array 84.09 55 P **P** **19 40 35.2 +1.3**
comp=Z,1.2nm,0.7s,baz=292,slow=4.0,SNR=17
TXAR pP **pP** **19 40 47.5 -1.7**

comp=Z,1.7nm,0.7s,baz=301,slow=3.8,SNR=13

SSF	**Saint Saulge**	**84.26**	**335**	*e*P		**P**	**19 40 34.4**	**+0.1**
	comp=Z,8.7nm,0.9s							
GRR	**Gorron**	**84.33**	**338**	*e*P		**P**	**19 40 36.2**	**+1.6**
SMF	**Signal de Mont**	**84.52**	**335**	*e*P		**P**	**19 40 35.8**	**+0.1**
	comp=Z,8.1nm,0.7s							
AVF	**Avril sur Loir**	**84.55**	**335**	*e*P		**P**	**19 40 35.9**	**+0.2**
	comp=Z,19nm,1.1s							
LPL	**La Plagne**	**84.57**	**332**	*e*P		**P**	**19 40 36.8**	**+0.6**
	comp=Z,6.1nm,0.8s							
LPG	**La Plagne**	**84.58**	**332**	*e*P		**P**	**19 40 36.9**	**+0.6**
	comp=Z,3.9nm,0.6s							
MBDF	**Montbardon**	**85.24**	**332**	*e*P		**P**	**19 40 39.6**	**+0.1**
TCF	**Toulx Ste Croi**	**85.35**	**335**	*e*P		**P**	**19 40 40.2**	**+0.4**
ORIF	**Oris-en-Rattie**	**85.38**	**332**	*e*P		**P**	**19 40 40.6**	**+0.5**
ORIF	comp=Z,6.4nm,0.8s			*e*R				
	comp=Z,57nm,22.0s							
MFF	**Saint Martin d**	**85.76**	**337**	*e*P		**P**	**19 40 42.6**	**+0.8**
	comp=Z,11nm,0.8s							
SBF	**Sospel**	**85.77**	**331**	*e*P		**P**	**19 40 41.6**	**-0.4**
	comp=Z,31nm,1.0s							
VIVF	**Saint-Julien-l**	**85.84**	**333**	*e*P		**P**	**19 40 42.9**	**+0.6**
	comp=Z,4.8nm,0.7s							
FRF	**La Foret Royal**	**86.31**	**331**	*e*P		**P**	**19 40 45.7**	**+1.1**
	comp=Z,11nm,0.9s							
SMRF	**Simiane la Rot**	**86.31**	**332**	*e*P		**P**	**19 40 45.4**	**+0.7**
RJF	**Les Rejaudoux**	**86.44**	**335**	*e*P		**P**	**19 40 46.0**	**+0.8**
RJF	comp=Z,7.4nm,0.8s			*e*R				
	comp=Z,36nm,19.8s							
LMR	**La Mourre**	**86.55**	**331**	*e*P		**P**	**19 40 45.8**	**0.0**
	comp=Z,15nm,0.8s							
CAF	**Calviac**	**86.62**	**335**	*e*P		**P**	**19 40 47.4**	**+1.3**
	comp=Z,19nm,1.0s							
LASF	**Ste Croix**	**86.80**	**333**	*e*P		**P**	**19 40 47.9**	**+0.9**
LFF	**La Frestale**	**87.01**	**336**	*e*P		**P**	**19 40 49.1**	**+1.1**
	comp=Z,20nm,0.9s							
MTLF	**Montolieu**	**87.99**	**334**	*e*P		**P**	**19 40 53.7**	**+0.9**
	comp=Z,5.7nm,0.8s							
ETSF	**Etsaut**	**89.26**	**336**	*e*P		**P**	**19 40 59.7**	**+0.9**
	comp=Z,7.2nm,0.7s							
KEST	**Kesra**	**92.06**	**326**	P		**P**	**19 41 11.2**	**-0.7**
KEST	**Kesra**	**92.06**	**326**	P		**P**	**19 41 11.2**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=12,slow=7.3,SNR=4.0							
ESDC	**Sonseca Array**	**93.22**	**337**	P		**P**	**19 41 16.3**	**-0.9**
ESDC	**Sonseca Array**	**93.22**	**337**	P		**P**	**19 41 16.3**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=5.4,slow=4.3,SNR=8.0							
TORD	**Torodi Ar. Bea**	**115.06**	**321**	PKP		**PKPdf**	**19 46 43.1**	**-0.9**
TORD				pPKP	PKiKP		19 46 55.9	+12
TORD	**Torodi Ar. Bea**	**115.06**	**321**	PKP		**PKPdf**	**19 46 43.1**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=42,slow=2.3,SNR=4.9							
TORD				pPKP	PKiKP		19 46 55.9	+12
	comp=Z,1.0nm,1.1s,baz=3.2,slow=1.3,SNR=2.3							
VNDA	**Vanda**	**120.63**	**176**	PKP		**PKPdf**	**19 46 53.5**	**+0.7**
VNDA	**Vanda**	**120.63**	**176**	PKP		**PKPdf**	**19 46 53.5**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=356,slow=4.3,SNR=3.7							
MAW	**Mawson**	**126.23**	**208**	PKP		**PKPdf**	**19 47 05.1**	**+1.3**
MAW	**Mawson**	**126.23**	**208**	PKP		**PKPdf**	**19 47 05.1**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=20,slow=5.3,SNR=4.5							
BDFB	**Brasilia**	**150.42**	**27**	PKPbc		**PKPbc**	**19 47 55.2**	**+0.7**
BDFB	**Brasilia**	**150.42**	**27**	PKPbc		**PKPbc**	**19 47 55.2**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=109,slow=6.0,SNR=3.3							
PLCA	**Paso Flores**	**153.18**	**98**	PKPbc		**PKPbc**	**19 48 00.8**	**+0.8**
PLCA	**Paso Flores**	**153.18**	**98**	PKPbc		**PKPbc**	**19 48 00.8**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=220,slow=3.1,SNR=6.2							

*ISCJB **12** 19:32:17.6±0.6,38°.22N±0°.04×73°.3E±0°.1,h103km, mb3.4/4, Error ellipse: s-maj=12.1km s-min=6.2km az=177.4*
*IDC **12** 19:32:21.7±4.8,38°.45N×73°.22E,h119km±36km, mb3.3/4, mb1 3.5/9,mb1mx3.2/31,mbtmp3.4/9, Error ellipse: s-maj=44.3km s-min=23.4km az=159.0*
*NNC **12** 19:32:24.7±4.4,38°.65N×73°.15E,h91km±70km, mb3.5, mpv3.8, Error ellipse: s-maj=38.6km s-min=23.7km az=1.0*

ISC 12 19:32:20.3±0.9,38°41N±0°.07×73°23E±0°.10,h103km,n31, σ1§47/30,mb3.5/4,4C-2D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.73**	**5**	P	**Pn**	**19 33 17.8**	**+1.6**
	SNR=463						
UCH	**Uchtor**	**3.93**	**14**	P	**Pn**	**19 33 20.6**	**+1.6**
	SNR=20						
KZA	**Kyzart**	**3.97**	**22**	P	**Pn**	**19 33 20.5**	**+0.9**
	SNR=32						
EKS2	**Erkin-Say**	**4.26**	**5**	P	**Pn**	**19 33 25.2**	**+2.0**
	SNR=131						
AAK	**Ala-Archa**	**4.32**	**12**	P	**Pn**	**19 33 25.9**	**+1.9**
	SNR=19						
AAK	**Ala-Archa**	**4.32**	**12**	P	**Pn**	**19 33 25.9**	**+1.9**
	7.9nm,0.3s,baz=161,slow=8.0,SNR=27						
AAK				S	**Sn**	**19 34 15.4**	**+1.9**
	5.0nm,0.3s,baz=135,slow=23,SNR=8.7						
KBK	**Karagaybulak**	**4.44**	**17**	P	**Pn**	**19 33 27.2**	**+1.6**
	SNR=18						
ULHL	**Ulahol**	**4.47**	**30**	P	**Pn**	**19 33 26.7**	**+0.6**
	SNR=47						
CHMS	**Chumysh**	**4.72**	**14**	P	**Pn**	**19 33 30.9**	**+1.5**
	SNR=13						
TKM2	**Tokmak 2**	**4.85**	**21**	⇓P	**Pn**	**19 33 32.2**	**+1.1**
	6.4nm,0.4s						
TKM2				⇑S	**Sn**	**19 34 26.3**	**+0.1**
TKM2	**Tokmak 2**	**4.85**	**21**	P	**Pn**	**19 33 32.3**	**+1.1**
	SNR=20						
USP	**Ospenovka**	**4.94**	**11**	P	**Pn**	**19 33 33.9**	**+1.6**
	SNR=15						
KK31	**Karatay Array**	**5.12**	**337**	⇓P	**Pn**	**19 33 36.4**	**+1.7**
	4.4nm,0.2s,baz=145,slow=11,SNR=271						
KK31				⇑S	**Sn**	**19 34 31.1**	**-1.4**
	46nm,0.5s,baz=151,slow=22,SNR=25						
DLH	**Dalhousie**	**6.27**	**158**	*e*P	**Pn**	**19 33 53.0**	**+2.5**
DLH				*e*4	x	19 35 15.0	
THN	**Thein Dam**	**6.30**	**160**	*e*P	Pn	19 33 55.0	+4.3
THN				*e*S	Sn	19 34 54.1	-7.2
SMLA	**Simla**	**7.96**	**155**	*i* P	**Pn**	**19 34 12.1**	**-1.1**
SMLA				*i* S	Sn	19 35 28.2	-13
KALG	**Kalgarh**	**10.00**	**151**	*e*S	Sn	19 36 10.7	-20
KALG				AML	AML	19 36 13.8	
	comp=Z,26nm,0.4s						
KALG				AML	AML	19 36 16.3	
	comp=E,33nm,0.6s						
SONA	**Sohna**	**10.63**	**161**	*e*S	Sn	19 36 34.1	-13
SONA				AML	AML	19 36 36.0	
	comp=N,5.1nm,0.1s						
SONA				AML	AML	19 36 36.4	
	comp=E,14nm,0.4s						
MKAR	**Makanchi Array**	**10.70**	**36**	P	**Pn**	**19 34 50.0**	**-0.5**
	comp=E,0.1nm,0.3s,baz=208,slow=14,SNR=10						
AGRA	**Agra**	**11.83**	**159**	*e*S	Sn	19 37 01.7	-14
AGRA				AML	AML	19 37 13.7	
	comp=N,40nm,0.4s						
AGRA				AML	AML	19 37 14.4	
	comp=E,54nm,0.2s						
KURBB	**Kurchatov Arra**	**12.77**	**15**	P	**Pn**	**19 35 15.4**	**-2.6**
	comp=E,0.1nm,0.3s,baz=206,slow=13,SNR=8.9						
AB31	**Akbulak array**	**14.45**	**323**	⇑P	**Pn**	**19 35 39.3**	**-0.4**
	comp=E,0.9nm,0.5s,baz=131,slow=13,SNR=17						
BVA0	**Borovoye Array**	**14.74**	**353**	P	**P**	**19 35 48.1**	**+1.2**
	comp=E,4.4nm,0.5s,baz=160,slow=9.3,SNR=6.4						
BVAR	**Borovoye Array**	**14.74**	**353**	P	**Pn**	**19 35 42.3**	**-1.2**
	comp=E,0.2nm,0.3s,baz=162,slow=11,SNR=8.5						
AKTO	**Aktyubinsk**	**16.16**	**323**	⇑P	**P**	**19 36 02.7**	**+0.2**
	comp=E,1.6nm,0.6s						
AKTO	**Aktyubinsk**	**16.16**	**323**	P	**P**	**19 36 02.3**	**-0.3**
	comp=E,0.4nm,0.3s,baz=113,slow=7.4,SNR=5.9						
ZALV	**Zalesovo Beam**	**17.45**	**23**	P	**P**	**19 36 14.8**	**-1.9**
	comp=E,1.0nm,0.3s,baz=217,slow=13,SNR=3.8						
SONM	**Songino Array**	**25.80**	**58**	P	**P**	**19 37 42.3**	**+0.5**
	comp=E,0.6nm,0.8s,baz=260,slow=10,SNR=4.7						
TORD	**Torodi Ar. Bea**	**67.53**	**269**	P	**P**	**19 43 05.3**	**-0.5**
	comp=E,0.5nm,0.5s,baz=49,slow=4.4,SNR=13						
INK	**Inuvik**	**71.72**	**10**	P	**P**	**19 43 29.4**	**-1.2**
	comp=E,0.5nm,0.4s,baz=334,slow=8.4,SNR=4.9						
YKA	**Yellowknife Ar**	**79.24**	**4**	P	**P**	**19 44 13.6**	**-0.1**
	comp=E,0.2nm,0.5s,baz=347,slow=5.1,SNR=3.2						

IDC 12 19:34:56.1±6.8,18°.90N×145°.45E,h624km±96km, mb2.9/10,mb1 3.1/10,mb1mx2.8/25,mbtmp2.9/10,Error ellipse: s-maj=33.5km s-min=17.0km az=69.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.11**	**196**	P	**P**	19 41 40.1	0.0
	0.9nm,0.4s,baz=4.7,slow=8.7,SNR=10.0						
SONM	**Songino Array**	**42.84**	**321**	P	P	19 42 01.4	+0.1
	0.8nm,0.6s,baz=129,slow=6.1,SNR=8.6						
ASAR	**Alice Springs**	**43.78**	**195**	P	P	19 42 08.6	-0.1
	0.5nm,0.4s,baz=12,slow=6.6,SNR=9.8						
ZALV	**Zalesovo Beam**	**57.71**	**322**	P	P	19 43 48.3	-0.5
	0.6nm,0.4s,baz=111,slow=8.9,SNR=3.7						
MKAR	**Makanchi Array**	**58.15**	**314**	P	P	19 43 52.3	+0.3
	0.7nm,0.5s,baz=91,slow=8.7,SNR=15						
KURBB	**Kurchatov Arra**	**61.01**	**318**	P	P	19 44 10.8	0.0
	4.5nm,0.8s,baz=96,slow=7.3,SNR=51						
ILAR	**Eielson Array**	**63.57**	**26**	P	P	19 44 26.5	-0.4
	0.3nm,0.5s,baz=236,slow=6.5,SNR=4.5						
BVAR	**Borovoye Array**	**66.17**	**320**	P	P	19 44 43.5	+0.1
	1.4nm,0.6s,baz=91,slow=8.2,SNR=8.6						
YKA	**Yellowknife Ar**	**77.92**	**28**	P	P	19 45 51.7	+0.8
	0.3nm,0.4s,baz=286,slow=5.6,SNR=5.3						
ARCES	**ARCESS Array B**	**82.23**	**342**	P	P	19 46 12.8	-0.3
	1.1nm,0.7s,baz=81,slow=7.5,SNR=7.4						

*CSEM **12** 19:40:39.8±0.2,28°.30N×54°.29E,h2km,ML3.0, Error ellipse: s-maj=6.2km s-min=5.3km az=55.0*
*ISCJB **12** 19:40:40.5±0.7,28°.26N±0°.06×54°.23E±0°.09,h24km, mb3.2/2, Error ellipse: s-maj=12.9km s-min=6.4km az=142.7*
*OMAN **12** 19:40:45.6±0.7,28°.24N×54°.84E,h12km, Error ellipse: s-maj=47.0km s-min=18.1km az=256.0*
*IDC **12** 19:40:47.9±2.8,27°.93N×52°.68E,h0km, mb3.3/2, mb1 3.3/3, mb1mx3.1/25, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=80.6km s-min=31.2km az=158.0*

ISC 12 19:40:42.0±0.9,28°.28N±0°.06×54°.21E±0°.07,h24km,n15, σ1§10/18,5C-1D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.07**	**271**	*e*Pg	**Pb**	**19 41 01.8**	**-0.2**
BNDS	**Bandar-Abbas**	**1.95**	**116**	*e*Pg	**Pn**	**19 41 12.9**	**-0.8**
KRBR	**Kerman**	**2.81**	**52**	*e*Pn	**Pn**	**19 41 25.4**	**-0.3**
KRBR				*e*Sg	**Sb**	**19 42 07.4**	**+1.6**
BANOM	**Banah**	**3.00**	**141**	⇓P	**Pn**	**19 41 27.7**	**-0.3**
	SNR=15						
BANOM				⇑S	**Sn**	**19 42 00.6**	**-2.5**
BANOM	**Banah**	**3.00**	**141**	P	**Pn**	**19 41 27.7**	**-0.3**
	SNR=15						
ASHO	**Ashiyiah**	**3.94**	**155**	⇑P	**Pn**	**19 41 41.9**	**+0.8**
	SNR=14						
ASHO				⇑S	**Sn**	**19 42 27.9**	**+1.3**
ASHO	**Ashiyiah**	**3.94**	**155**	P	**Pn**	**19 41 41.9**	**+0.8**
	SNR=14						
ASHO				S	**Sn**	**19 42 27.9**	**+1.3**
NASN	**Na'in**	**4.67**	**345**	*e*Pn	**Pn**	**19 41 51.8**	**+0.5**
SMDO	**Samad**	**6.25**	**145**	⇑P	**Pn**	**19 42 13.5**	**+0.7**
	SNR=5.1						
SMDO	**Samad**	**6.25**	**145**	P	**Pn**	**19 42 13.5**	**+0.7**
	SNR=5.1						
WBK	**Wadi Bani Khal**	**7.10**	**142**	⇑P	**Pn**	**19 42 23.7**	**-0.7**
WBK	**Wadi Bani Khal**	**7.10**	**142**	P	**Pn**	**19 42 23.7**	**-0.7**
BRTR	**Keskin Array B**	**20.47**	**309**	P	**P**	**19 45 18.6**	**+0.4**
	0.1nm,0.3s,baz=128,slow=9.3,SNR=4.7						
MKAR	**Makanchi Array**	**28.71**	**42**	P	P	19 46 57.1	+20
	0.2nm,0.6s,baz=231,slow=6.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**50.99**	**264**	P	**P**	**19 49 41.3**	**-0.9**
	0.3nm,0.5s,baz=58,slow=7.5,SNR=6.7						

WEL 12 19:51:40.9±0.3,38°.67S×178°.48E,h28km±1km,ML3.8/11, 1C-1D,Error ellipse: s-maj=2.7km s-min=1.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.28**	**311**	⇑P*	Pb	19 51 47.9	-0.1
PRGZ	**Paritu Road**	**0.53**	**241**	P*	Pb	19 51 51.9	0.0
PRGZ				S*	Sb	19 51 58.8	-0.4
PUZ	**Puketiti**	**0.62**	**343**	P*	Pb	19 51 53.2	-0.1
PUZ				S*	Sn	19 52 02.9	-0.1
PUZ				AML	AML	19 52 04.4	
MHGZ	**Mahia Peninsul**	**0.66**	**223**	P*	Pb	19 51 53.9	-0.1
KNZ	**Kokohu**	**0.72**	**241**	⇓P*	Pb	19 51 54.4	-0.6
KNZ				S*	Sn	19 52 05.5	+0.1
KNZ				AML	AML	19 52 05.8	
MWZ	**Matawai**	**0.82**	**294**	PN	Pb	19 51 55.9	-0.8
MWZ				SN	Sb	19 52 07.6	+0.2
MWZ				AML	AML	19 52 07.9	
MWZ				AML	AML	19 52 07.9	
MWZ				AML	AML	19 52 08.0	
MXZ	**Matakaoa Point**	**1.11**	**353**	AML	AML	19 52 21.8	
MXZ				AML	AML	19 52 22.0	
RAHZ	**Arahi**	**1.12**	**257**	PN	Pn	19 52 00.2	-0.5
URZ	**Urewera**	**1.15**	**290**	PN	Pn	19 52 00.5	-0.6
URZ				SN	Sb	19 52 16.7	0.0
URZ				AML	AML	19 52 17.5	
MCHZ	**McNeill Hill**	**1.59**	**240**	PN	Pb	19 52 07.8	+0.5
BKZ	**Black Stump Fm**	**1.63**	**252**	PN	Pn	19 52 07.2	-0.7
BKZ				AML	AML	19 52 28.2	
BKZ				AML	AML	19 52 28.5	
KAHZ	**Kahuranaki**	**1.68**	**227**	PN	Pn	19 52 08.1	-0.4
PXZ	**Pawanui**	**1.85**	**222**	AML	AML	19 52 36.0	
PXZ				AML	AML	19 52 38.9	
PXZ				AML	AML	19 53 14.5	
BHHZ	**Black Hill Sta**	**2.05**	**246**	PN	Pb	19 52 13.0	-0.7
WPHZ	**Waipukurau**	**2.11**	**228**	PN	Pn	19 52 13.2	-1.2
PRHZ	**Porangahau**	**2.14**	**221**	*e*PN	Pn	19 52 13.7	-1.2
PNHZ	**Pukenui**	**2.16**	**234**	PN	Pn	19 52 13.8	-1.4
MOVZ	**Moawhango**	**2.25**	**250**	PN	Pn	19 52 16.9	+0.5
MOVZ				AML	AML	19 52 44.6	
WHVZ	**Whangaehu Hut**	**2.34**	**254**	PN	Pn	19 52 17.6	-0.2
WNVZ	**Wahianoa**	**2.34**	**253**	PN	Pn	19 52 17.6	-0.2
WNVZ				AML	AML	19 53 09.6	
WNVZ				AML	AML	19 53 19.1	
WPVZ	**Whakapapa**	**2.35**	**256**	PN	Pn	19 52 17.5	-0.3
FWVZ	**Far West T-bar**	**2.36**	**255**	PN	Pn	19 52 17.9	-0.1
FWVZ				AML	AML	19 53 02.6	
DVHZ	**Dannevirke**	**2.42**	**227**	PN	Pn	19 52 17.0	-1.7
PRWZ	**Pori Road**	**2.70**	**225**	PN	Pn	19 52 20.6	-2.0
POWZ	**Post Office Ro**	**2.71**	**230**	PN	Pn	19 52 22.0	-0.7
HOWZ	**Holdsworth Sta**	**3.19**	**225**	PN	Pn	19 52 27.1	-2.1
QRZ	**Quartz Range**	**5.07**	**243**	AML	AML	19 53 58.1	

*CSEM **12** 19:51:44.4±0.4,39°.14N×40°.98E,h2km, MD2.4, Error ellipse: s-maj=14.5km s-min=8.1km az=120.0*
*ISK **12** 19:51:44.6,39°.13N×41°.16E,h13km, MD2.4*
*DDA **12** 19:51:46.0,39°.35N×40°.86E,h13km, MD2.8*

ISC 12 19:51:45.8±1.2,39°32N±0°.04×40°89E±0°.04,h6km±12km, n13,σ1§66/17,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	**Bing˜¶l**	**0.37**	**207**	PG	**Pg**	**19 51 52.8**	**-0.1**
BNGB				*e*SG	**Sg**	**19 51 59.1**	**+1.4**
BNGL	**BINGOL**	**0.42**	**151**	*i* P	**Pg**	**19 51 54.8**	**+0.9**
BNGL				*i* S	**Sb**	**19 52 03.3**	**+0.9**
BINT	**Bingol**	**0.54**	**216**	*i* Pg	Pg	19 51 52.8	-3.5
BINT				*e*Sg	**Sg**	**19 51 59.1**	**-4.2**
EZM	**Erzurum**	**0.69**	**32**	*e*PG	**Pb**	**19 52 00.4**	**-0.1**
ERZM	**Erzurum**	**0.69**	**32**	*i* P	**Pg**	**19 51 59.0**	**-0.1**
ERZM				*i* S	**Sn**	**19 52 12.4**	**-1.2**
ERZN	**Erzurum**	**0.69**	**32**	*i* P	**Pg**	**19 51 59.0**	**-0.1**
ERZM				*i* S	**Sn**	**19 52 12.4**	**-1.2**
ERZN	**Erzincan**	**0.95**	**287**	*e*PN	**Pn**	**19 52 07.3**	**+1.5**
BTMT	**Batman**	**1.22**	**157**	*e*PG	Pn	19 52 04.6	-4.8
BTMT	**Batman**	**1.22**	**157**	*e*Pg	Pn	19 52 04.6	-4.8
PTK	**Pertek**	**1.24**	**250**	*e*PN	**Pg**	**19 52 10.4**	**+0.8**
PTK	**Pertek**	**1.24**	**250**	*e*Pn	**Pg**	**19 52 10.4**	**+0.8**
KEMA	**Kemaliye**	**1.86**	**269**	*i* P	**Pb**	**19 52 18.7**	**-1.6**
KEMA				*i* S	**Sg**	**19 52 46.8**	**+1.1**
KEMA	**Kemaliye**	**1.86**	**269**	*i* P	**Pb**	**19 52 18.7**	**-1.6**
KEMA				*i* S	**Sg**	**19 52 46.8**	**+1.1**

*IDC **12** 19:53:39.4±1.1,34°.09N×25°.21E,h0km, mb3.7/9, mb1 3.9/14,mb1mx3.8/30,mbtmp3.7/14, ML3.9/5, Error ellipse: s-maj=22.0km s-min=17.1km az=3.0*
*CSEM **12** 19:53:39.9,34°.03N×25°.22E,h5km,MD3.5, After ATH*
*ATH **12** 19:53:39.9,34°.03N×25°.22E,h5km±2km,MD3.5/11*

ISC 12 19:53:39.2±1.8,34°.00N±0°.06×25°.22E±0°.03,h0km±11km, n45,σ1§15/60,mb3.7/9,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.07**	**342**	*e*PN	**Pb**	**19 54 00.1**	**-0.5**
SIVA				*e*SB	**Sb**	**19 54 15.0**	**-0.1**
SIVA	**Sivas**	**1.07**	**342**	*e*Pn	**Pb**	**19 54 00.1**	**-0.5**
SIVA				*e*Sb	**Sb**	**19 54 15.0**	**-0.1**
LAST	**Lasithi**	**1.18**	**11**	*e*PN	**Pg**	**19 54 01.6**	**-0.2**
LAST				*e*SB	**Sb**	**19 54 18.3**	**-0.1**
LAST	**Lasithi**	**1.18**	**11**	*e*Pn	**Pg**	**19 54 01.6**	**-0.2**
LAST				*e*Sb	**Sb**	**19 54 18.3**	**-0.1**
GVD	**Gavdhos**	**1.25**	**312**	*e*PB	**Pb**	**19 54 03.7**	**0.0**
GVD				*e*SB	**Sb**	**19 54 20.3**	**-0.1**
GVD	**Gavdhos**	**1.25**	**312**	*e*Pb	**Pb**	**19 54 03.7**	**0.0**
GVD				*e*Sb	**Sb**	**19 54 20.3**	**-0.1**
NPS	**Neapolis**	**1.30**	**14**	*e*PG	**Pg**	**19 54 03.7**	**-0.5**
NPS				*e*SB	**Sb**	**19 54 21.7**	**-0.1**
NPS	**Neapolis**	**1.30**	**14**	*e*Pg	**Pg**	**19 54 03.7**	**-0.5**
NPS				*e*Sb	**Sb**	**19 54 21.7**	**-0.1**
IDI	**Anoyia**	**1.31**	**348**	*e*PG	**Pg**	**19 54 03.9**	**-0.5**
IDI				*e*SB	**Sb**	**19 54 21.8**	**-0.4**
IDI	**Anoyia**	**1.31**	**348**	*e*Pg	**Pg**	**19 54 03.9**	**-0.5**
IDI				*e*Sb	**Sb**	**19 54 21.8**	**-0.4**
ZKR	**Zakros**	**1.39**	**36**	*e*PB	**Pb**	**19 54 05.8**	**-0.2**
ZKR				*e*SB	**Sn**	**19 54 24.7**	**-0.1**
ZKR	**Zakros**	**1.39**	**36**	*e*Pb	**Pb**	**19 54 05.8**	**-0.2**
ZKR				*e*Sb	**Sn**	**19 54 24.7**	**-0.1**
VAM	**Vamos**	**1.64**	**329**	*e*PB	**Pg**	**19 54 10.6**	**0.0**
VAM				*e*SB	**Sg**	**19 54 33.4**	**+1.6**
VAM	**Vamos**	**1.64**	**329**	*e*Pb	**Pg**	**19 54 10.6**	**0.0**
VAM				*e*Sb	**Sg**	**19 54 33.4**	**+1.6**
KARP	**Karpathos**	**2.22**	**45**	*e*PN	**Pb**	**19 54 20.0**	**-0.3**
KARP				*e*SN	**Sb**	**19 54 49.0**	**+0.6**
KARP	**Karpathos**	**2.22**	**45**	*e*Pn	**Pb**	**19 54 20.0**	**-0.3**
KARP				*e*Sn	**Sb**	**19 54 49.0**	**+0.6**
SANT	**Santorini**	**2.37**	**5**	*e*PN	**Pb**	**19 54 22.1**	**-0.8**
SANT	**Santorini**	**2.37**	**5**	*e*Pn	**Pb**	**19 54 22.1**	**-0.8**
KYTH	**Kithira**	**2.89**	**322**	*e*PN	**Pb**	**19 54 29.5**	**-2.2**
KYTH	**Kithira**	**2.89**	**322**	*e*Pn	**Pb**	**19 54 29.5**	**-2.2**
APE	**Apeiranthos**	**3.07**	**5**	*e*PB	**Pn**	**19 54 31.1**	**+2.0**
APE	**Apeiranthos**	**3.07**	**5**	*e*Pb	**Pn**	**19 54 31.1**	**+2.0**
ARG	**Arkhangelos**	**3.25**	**46**	*e*PN	**Pb**	**19 54 35.2**	**-2.6**
ARG	**Arkhangelos**	**3.25**	**46**	*e*Pn	**Pb**	**19 54 35.2**	**-2.6**
VLI	**Veliai**	**3.29**	**326**	*e*PN	**Pb**	**19 54 35.6**	**-2.9**
VLI	**Veliai**	**3.29**	**326**	*e*Pn	**Pb**	**19 54 35.6**	**-2.9**
DYR	**Agios Nikonas**	**3.62**	**320**	*e*PB	Pn	19 54 40.2	+3.6
DYR	**Agios Nikonas**	**3.62**	**320**	*e*Pb	Pn	19 54 40.2	+3.6
MMAI	**Mount Meron Ar**	**8.56**	**94**	Pn	**Pn**	**19 55 44.2**	**-0.3**
	0.8nm,0.3s,baz=266,slow=11,SNR=5.1						
MMAI				S	**Sn**	**19 57 21.2**	**-0.7**
	0.7nm,0.3s,baz=275,slow=20,SNR=3.2						
BRTR	**Keskin Array B**	**8.84**	**47**	Pn	**Pn**	**19 55 46.0**	**-2.4**
	0.1nm,0.3s,baz=190,slow=16,SNR=2.7						
EIL	**Elat**	**9.34**	**115**	Pn	**Pn**	**19 55 54.8**	**-0.3**
	0.3nm,0.3s,baz=256,slow=15,SNR=6.2						
VRAC	**Vranov**	**16.58**	**340**	Pn	**Pn**	**19 57 33.5**	**+0.6**
	0.3nm,0.3s,baz=148,slow=9.2,SNR=5.1						
KBZ	**Khabaz**	**16.82**	**50**	Pn	**P**	**19 57 39.6**	**+1.4**
	0.1nm,0.3s,baz=150,slow=14,SNR=2.7						
GERES	**GERESS Array B**	**17.13**	**333**	P	**Pn**	**19 57 40.1**	**+0.1**
	0.3nm,0.3s,baz=146,slow=12,SNR=50						
CLL	**Collm**	**19.44**	**336**	*i* (P)	**Pn**	**19 58 08.3**	**+0.1**
	comp=Z,8.0nm,1.1s						
ESDC	**Sonseca Array**	**23.97**	**292**	P	**P**	**19 58 55.7**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=88,slow=9.6,SNR=4.2						
HFS	**Hagfors**	**27.21**	**347**	P	**P**	**19 59 23.3**	**-1.1**
	comp=Z,1.7nm,0.7s,baz=157,slow=12,SNR=4.4						
FINES	**FINESS Array B**

JNU	**Nakatsue**	**8.92**	**22**	Pn	**Pn**	**20 08 52.3**	**+1.5**
	0.6nm,0.3s,baz=127,slow=5.1,SNR=5.5						
SONM	**Songino Array**	**28.14**	**330**	P	**P**	**20 12 33.8**	**+0.3**
	0.6nm,0.4s,baz=148,slow=11,SNR=8.4						
MKAR	**Makanchi Array**	**41.63**	**313**	P	**P**	**20 14 29.9**	**+0.5**
	0.8nm,0.4s,baz=99,slow=9.2,SNR=16						
ZALV	**Zalesovo Beam**	**42.68**	**324**	P	**P**	**20 14 37.9**	**+0.1**
	0.3nm,0.4s,baz=117,slow=8.6,SNR=2.3						
KURBB	**Kurchatov Arra**	**45.09**	**318**	P	**P**	**20 14 57.5**	**+0.3**
	0.5nm,0.3s,baz=108,slow=9.2,SNR=8.0						
WRA	**Warramunga Arr**	**45.09**	**170**	P	**P**	**20 14 59.3**	**+1.8**
	0.3nm,0.6s,baz=350,slow=8.8,SNR=3.5						
FINES	**FINESS Array B**	**73.50**	**331**	P	**P**	**20 18 15.5**	**+2.0**
	0.9nm,0.7s,baz=49,slow=5.8,SNR=6.4						
NOA	**NORSAR Array B**	**80.04**	**334**	P	**P**	**20 18 50.7**	**+0.1**
	0.4nm,0.7s,baz=56,slow=5.8,SNR=3.4						

WEL 12 20:12:54.1±0.3,39°21S×174°38E,h219km±2km, ML3.6/13, 3C-1D, Error ellipse: s-maj=3.3km s-min=2.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FWVZ	**Far West T-bar**	**0.52**	**95**	PN	Pn	20 13 23.0	-0.7
FWVZ				SN	S	20 13 45.1	-1.7
WAZ	**Wanganui**	**0.55**	**172**	⇑PN	Pn	20 13 23.8	+0.3
WAZ				SN	S	20 13 46.3	-0.4
WHVZ	**Whangaehu Hut**	**0.55**	**97**	PN	Pn	20 13 23.4	-0.4
WNVZ	**Wahianoa**	**0.57**	**102**	PN	Pn	20 13 23.5	-0.3
WNVZ				SN	S	20 13 45.4	-1.6
MOVZ	**Moawhango**	**0.70**	**106**	PN	Pn	20 13 23.6	-0.6
BHHZ	**Black Hill Sta**	**0.96**	**107**	PN	Pn	20 13 25.1	-0.5
TSZ	**Takapari Road**	**1.19**	**136**	PN	Pn	20 13 27.4	+0.4
TSZ				AML	AML	20 13 52.1	
TSZ				AML	AML	20 13 54.0	
PNHZ	**Pukenui**	**1.24**	**125**	PN	Pn	20 13 27.6	+0.2
PNHZ				SN	S	20 13 52.7	-0.7
POWZ	**Post Office Ro**	**1.36**	**150**	PN	Pn	20 13 28.3	0.0
POWZ				SN	S	20 13 53.7	-1.3
MCHZ	**McNeill Hill**	**1.43**	**100**	PN	Pn	20 13 28.8	0.0
MCHZ				SN	S	20 13 55.9	+0.1
WPHZ	**Waipukurau**	**1.47**	**126**	PN	Pn	20 13 29.4	+0.2
WPHZ				SN	S	20 13 55.9	-0.6
MRZ	**Mangatainoka R**	**1.54**	**160**	PN	Pn	20 13 29.7	-0.1
MRZ				SN	S	20 13 56.6	-1.0
MRZ				AML	AML	20 13 58.5	
OGWZ	**Otaki Gorge**	**1.62**	**172**	⇑PN	Pn	20 13 30.5	+0.2
OGWZ				SN	S	20 13 57.9	-0.8
KIW	**Kapiti Island**	**1.65**	**179**	⇓PN	Pn	20 13 30.6	0.0
KAHZ	**Kahuranaki**	**1.65**	**111**	PN	Pn	20 13 31.1	+0.4
RAHZ	**Arahi**	**1.74**	**81**	PN	Pn	20 13 30.9	-0.6
DUWZ	**D'Urville Isla**	**1.75**	**205**	PN	Pn	20 13 31.3	-0.3
HOWZ	**Holdsworth Sta**	**1.75**	**164**	PN	Pn	20 13 31.3	-0.3
CAW	**Cannon Point**	**1.90**	**176**	PN	Pn	20 13 32.8	-0.2
CAW				SN	S	20 14 03.7	+0.3
URZ	**Urewera**	**1.99**	**62**	AML	AML	20 14 40.9	
URZ				AML	AML		
MTW	**Mount Morrison**	**2.00**	**166**	PN	Pn	20 13 33.5	-0.4
TCW	**Tory Channel**	**2.05**	**193**	PN	Pn	20 13 34.3	-0.1
KNZ	**Kokohu**	**2.18**	**86**	PN	Pn	20 13 34.9	-0.8
KNZ				AML	AML	20 14 05.4	
MWZ	**Matawai**	**2.25**	**68**	AML	AML	20 13 35.1	
NNZ	**Nelson**	**2.31**	**209**	⇑PN	Pn	20 13 36.3	-0.8
TUWZ	**Tuamarina**	**2.33**	**198**	PN	Pn	20 13 37.0	-0.2
QRZ	**Quartz Range**	**2.42**	**228**	PN	Pn	20 13 36.6	-1.6
BSWZ	**Blackbirch Sta**	**2.61**	**197**	PN	Pn	20 13 40.2	-0.1
PUZ	**Puketiti**	**2.88**	**68**	PN	Pn	20 13 40.9	-2.4
THZ	**Tophouse**	**2.96**	**210**	PN	Pn	20 13 43.2	-1.1
KHZ	**Kahutara**	**3.36**	**197**	PN	Pn	20 13 48.0	-0.7
OXZ	**Oxford**	**4.63**	**207**	PN	Pn	20 14 02.0	-2.2
WVZ	**Waitaha Valley**	**4.97**	**218**	PN	Pn	20 14 05.8	-2.6

IGQ 12 21:06:57.5,0.85N×80.92W,h10km±148km, Mb4.1,Ms3.9, 1C-2D, Error ellipse: s-maj=6.2km s-min=5.4km az=9.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**1.31**	**147**	P	Pn	21 07 21.6	-0.3
MAG1	**Magdalena**	**1.46**	**129**	⇓S	Sn	21 07 43.0	-0.3
MAG1	**Magdalena**	**1.46**	**129**	⇓P	Pb	21 07 25.1	+0.2
PECV	**Mancha de Ca P**	**1.83**	**152**	P	Pn	21 07 28.1	-1.0
GOLV	**Golondrinas**	**1.89**	**110**	P	Pb	21 07 31.1	-1.1
PINO	**Pino**	**2.52**	**113**	P	Pn	21 07 40.3	+1.1
TERV	**Terraza Guagua**	**2.53**	**114**	P	Pn	21 07 41.3	+1.9
GGP	**Refugio Guagua**	**2.54**	**114**	P	Pn	21 07 40.6	+1.1
OTAV	**Otavalo**	**2.54**	**104**	⇑P	Pn	21 07 41.2	+1.8
JUA2	**San Juan 2**	**2.54**	**114**	P	Pn	21 07 40.8	+1.4
LITE	**Lita**	**2.55**	**91**	S	Sn	21 08 08.5	-2.0
LITE	**Lita**	**2.55**	**91**	P	Pn	21 07 40.0	+0.8
COTA	**Cotacachi**	**2.63**	**101**	P	Pn	21 07 42.6	+1.9
CAMI	**Rancho Maria**	**2.85**	**122**	P	Pn	21 07 45.1	+1.4
PITA	**Cotopaxi Volc**	**2.85**	**119**	P	Pn	21 07 45.7	+2.0
NAS2	**Nasa**	**2.86**	**121**	P	Pb	21 07 47.5	-1.9
BNAS	**Cotopaxi Volca**	**2.87**	**122**	P	Pn	21 07 46.1	+2.2
BREF	**Cotopaxi Volca**	**2.90**	**121**	P	Pn	21 07 46.9	+2.4
BMOR	**Cotopaxi Volca**	**2.92**	**122**	P	Pn	21 07 46.5	+1.8
VC1	**Cotopaxi 1**	**2.92**	**120**	P	Pb	21 07 49.0	-1.3
MOV1	**Cotopaxi Vol s**	**2.92**	**122**	P	Pn	21 07 47.5	+2.6
BTAM	**Cotopaxi Volca**	**2.94**	**121**	P	Pn	21 07 47.4	+2.4
TAMB	**Tambo**	**2.97**	**121**	P	Pn	21 07 48.2	+2.7
COV1	**Cotopaxi Volc**	**2.98**	**120**	P	Pn	21 07 47.8	+2.2
CAYR	**Refugio Cayamb**	**3.03**	**106**	P	Pb	21 07 50.1	-2.2
CAYA	**Cayambe**	**3.03**	**105**	P	Pb	21 07 49.5	-2.7
ANTI	**Antisana**	**3.04**	**115**	P	Pb	21 07 49.5	-3.0
PISA	**Pisayambo**	**3.16**	**127**	P	Pb	21 07 51.3	-3.2
RETU	**Refugio**	**3.36**	**133**	P	Pn	21 07 53.8	+3.0
CHAR	**Charly**	**3.38**	**106**	P	Pb	21 07 56.3	-1.7
BULB	**Ulba Tungurahu**	**3.38**	**132**	P	Pn	21 07 53.9	+3.0
ARRY	**Arrayan**	**3.40**	**134**	P	Pn	21 07 53.8	+2.7
CONE	**Cono NE Rev Vo**	**3.40**	**106**	P	Pb	21 07 56.3	-2.0
BPAT	**Tungurahua Vol**	**3.41**	**133**	P	Pn	21 07 54.2	+2.9
LAV4	**Lava4-Reventad**	**3.42**	**106**	P	Pb	21 07 57.0	-1.5

*IDC **12** 21:14:10.6±1.1,1°.24S×97°.39E,h0km,mb3.9/11, mb1 4.0/13,mb1mx3.9/25,mbtmp3.9/13,ML3.9/2,MS3.6/12, Ms1 3.6/12,ms1mx3.3/33,Error ellipse: s-maj=34.4km s-min=18.5km az=54.0*

*ISCJB **12** 21:14:12.7±0.7,1°.08S±0°.09×97°.6E±0°.1,h23km,mb4.1/15, MS3.6/11,Error ellipse: s-maj=20.8km s-min=9.8km az=153.3*

*NEIC **12** 21:14:16.2±0.6,1°.13S×97°.54E,h35km,mb4.4/5,Error ellipse: s-maj=18.2km s-min=8.1km az=63.0*

ISC 12 21:14:14.5±0.9,1°.1S±0°.1×97.6E±0°.2,h23km,n41, σ0s82/34,mb4.1/15,MS3.6/11,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.10**	**20**	Pn	**Pn**	**21 15 14.5**	**-1.4**
PSI	**Prapat**	**4.10**	**20**	Pn	**Pn**	**21 15 14.5**	**-1.4**
	3.0nm,0.3s,baz=177,slow=10,SNR=9.5						
CMAR	**Chiang Mai Arr**	**19.47**	**4**	P	**Pn**	**21 18 41.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**19.47**	**4**	P	**Pn**	**21 18 41.9**	**+0.7**
	0.3nm,0.3s,baz=194,slow=10,SNR=17						
CMAR				LR	LR	21 26 48.7	
	comp=Z,186nm,18.3s,baz=185,slow=39						
CHTO	**Chiang Mai**	**19.82**	**4**	*eP*	**P**	**21 18 44.4**	**+0.7**
	3.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**32.35**	**123**	P	**P**	**21 20 42.2**	**-0.3**
ENH	**Enshi**	**33.19**	**19**	*eP*	**P**	**21 20 48.5**	**-1.2**
	6.0nm,0.6s						
WRA	**Warramunga Arr**	**40.56**	**120**	P	**P**	**21 21 52.5**	**-0.1**
WRA	**Warramunga Arr**	**40.56**	**120**	P	**P**	**21 21 52.5**	**-0.1**
	0.8nm,0.7s,baz=302,slow=9.7,SNR=4.5						
WRAB	**Tennant Creek**	**40.57**	**120**	*eP*	**P**	**21 21 53.0**	**+0.4**
	3.9nm,0.9s						
ASAR	**Alice Springs**	**41.77**	**125**	P	**P**	**21 22 02.8**	**+0.3**
ASAR	**Alice Springs**	**41.77**	**125**	P	**P**	**21 22 02.8**	**+0.3**
	0.3nm,0.4s,baz=295,slow=7.7,SNR=11						
KSAR	**Wonju Array Be**	**47.51**	**33**	P	**P**	**21 22 48.4**	**+0.4**
KSRS	**Korea Array**	**47.54**	**33**	P	**P**	**21 22 48.4**	**+0.2**
	1.1nm,0.9s,baz=219,slow=7.2,SNR=3.3						
KSRS				LR	LR	21 43 33.5	
	comp=Z,76nm,19.7s,baz=218,slow=37						
AAK	**Ala-Archa**	**48.23**	**337**	LR	LR	21 45 13.4	
	comp=Z,41nm,20.5s,baz=188,slow=39						
SONM	**Songino Array**	**49.33**	**8**	P	**P**	**21 23 03.7**	**+1.6**
SONM	**Songino Array**	**49.33**	**8**	P	**P**	**21 23 03.7**	**+1.6**
	0.6nm,0.5s,baz=186,slow=10,SNR=7.1						
ULN	**Ulaanbaatar**	**49.45**	**8**	*eP*	**P**	**21 23 04.2**	**+1.2**
	5.8nm,0.8s						
MK31	**Makanchi Array**	**49.53**	**346**	*eP*	**P**	**21 23 03.9**	**+0.4**
MKAR	**Makanchi Array**	**49.53**	**346**	P	**P**	**21 23 04.7**	**+1.2**
MKAR	**Makanchi Array**	**49.53**	**346**	P	**P**	**21 23 04.7**	**+1.2**
	2.8nm,0.6s,baz=155,slow=8.4,SNR=30						
MKAR				LR	LR	21 47 07.9	
	comp=Z,43nm,18.1s,baz=310,slow=40						
STKA	**Stephens Creek**	**51.59**	**131**	P	**P**	**21 23 19.1**	**-0.2**
STKA	**Stephens Creek**	**51.59**	**131**	LR	LR	21 48 09.8	
	comp=Z,84nm,18.0s,baz=205,slow=40						
KURBB	**Kurchatov Arra**	**54.02**	**345**	P	**P**	**21 23 37.2**	**+0.4**
	1.2nm,0.5s,baz=169,slow=5.8,SNR=6.5						
USRK	**Ussuriysk Arra**	**54.55**	**30**	P	**P**	**21 23 41.7**	**+0.8**
	1.2nm,0.6s,baz=204,slow=1.9,SNR=3.2						
ZALV	**Zalesovo Beam**	**55.86**	**351**	P	**P**	**21 23 50.6**	**+0.6**
ZALV	**Zalesovo Beam**	**55.86**	**351**	P	**P**	**21 23 50.6**	**+0.6**
	5.3nm,0.4s,baz=169,slow=6.6,SNR=34						
ZALV				LR	LR	21 50 27.4	
	comp=Z,29nm,18.3s,baz=70,slow=39						
BVAR	**Borovoye Array**	**58.51**	**341**	LR	LR	21 51 15.1	
	comp=Z,47nm,19.5s,baz=286,slow=38						
ABKAR	**Akbulak array**	**59.69**	**332**	*eP*	**P**	**21 24 16.2**	**-0.9**
	2.1nm,0.7s						
KMBO	**Kilima Mbogo**	**60.29**	**269**	LR	LR	21 45 21.6	
	comp=Z,43nm,19.1s,baz=97,slow=31						
BRTR	**Keskin Array B**	**70.91**	**313**	P	**P**	**21 25 29.4**	**-0.9**
BRTR	**Keskin Array B**	**70.91**	**313**	P	**P**	**21 25 29.4**	**-0.9**
	0.3nm,0.5s,baz=140,slow=5.1,SNR=2.6						
BOSA	**Boshof**	**73.96**	**241**	LR	LR	21 52 14.0	
	comp=Z,42nm,19.3s,baz=164,slow=31						
FINES	**FINESS Array B**	**82.18**	**333**	P	**P**	**21 26 33.2**	**-0.2**
FINES	**FINESS Array B**	**82.18**	**333**	P	**P**	**21 26 33.2**	**-0.2**
	0.8nm,0.7s,baz=101,slow=8.0,SNR=6.3						
VNDA	**Vanda**	**83.53**	**169**	LR	LR	21 58 39.9	
	comp=Z,61nm,20.9s,baz=312,slow=32						
ARCES	**ARCESS Array B**	**84.79**	**340**	P	**P**	**21 26 46.7**	**0.0**
ARCES	**ARCESS Array B**	**84.79**	**340**	P	**P**	**21 26 46.7**	**0.0**
	0.7nm,0.7s,baz=103,slow=5.4,SNR=6.6						
ARCES				LR	LR	22 07 11.7	
	comp=Z,30nm,18.2s,baz=237,slow=38						
NOA	**NORSAR Array B**	**89.16**	**331**	LR	LR	22 10 09.2	
	comp=Z,15nm,18.4s,baz=180,slow=38						
TXAR	**Lajitas Array**	**145.39**	**34**	PKPbc	**PKPdf**	**21 33 51.5**	**-0.1**
TXAR	**Lajitas Array**	**145.39**	**34**	PKPbc	**PKPdf**	**21 33 51.5**	**-0.1**
	0.3nm,0.7s,baz=342,slow=0.5,SNR=6.2						

IDC 12 21:23:09.0±2.0,3°.00N×126°.51E,h0km,mb3.3/4, mb1 3.5/4,mb1mx3.3/21,mbtmp3.3/4,Error ellipse: s-maj=120.1km s-min=25.1km az=69.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.98**	**182**	P	Pn	21 27 55.5	-1.0
	1.1nm,0.6s,baz=12,slow=9.3,SNR=4.3						
WRA	**Warramunga Arr**	**24.06**	**162**	P	P	21 28 25.0	-1.2
	0.6nm,0.4s,baz=338,slow=12,SNR=6.5						
ASAR	**Alice Springs**	**27.46**	**165**	P	P	21 28 57.9	+0.8
	0.2nm,0.7s,baz=345,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**58.03**	**326**	P	P	21 33 03.1	-0.7
	0.3nm,0.5s,baz=119,slow=8.5,SNR=4.7						

WEL 12 21:38:55.1±0.6,36°.88S×177°.40E,h183km±6km, ML3.7/13, 1D, Error ellipse: s-maj=7.9km s-min=7.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**1.37**	**150**	PN	Pn	21 39 25.8	-0.3
PUZ				AML	AML	21 39 44.2	
PUZ				SN	Sn	21 39 49.0	-1.3
MWZ	**Matawai**	**1.46**	**176**	PN	Pn	21 39 26.7	-0.1
MWZ				SN	Sn	21 39 51.7	0.0
MWZ				AML	AML	21 39 52.2	
CNGZ	**Carnagh Statio**	**1.73**	**158**	PN	Pn	21 39 29.8	+0.4
RAHZ	**Arahi**	**2.05**	**187**	PN	Pn	21 39 33.5	+0.6
KNZ	**Kokohu**	**2.15**	**174**	PN	Pn	21 39 33.8	0.0
KNZ				AML	AML	21 40 06.7	
MHGZ	**Mahia Peninsul**	**2.31**	**170**	PN	Pn	21 39 35.8	+0.2
BKZ	**Black Stump Fm**	**2.39**	**197**	⇓PN	Pn	21 39 36.7	0.0
BKZ				SN	Sn	21 40 08.3	-1.0
BHHZ	**Black Hill Sta**	**2.81**	**202**	PN	Pn	21 39 41.5	-0.1
BHHZ				SN	Sn	21 40 18.6	+0.6
WNVZ	**Wahianoa**	**2.83**	**210**	PN	Pn	21 39 42.3	+0.4
PNHZ	**Pukenui**	**3.17**	**197**	PN	Pn	21 39 45.5	-0.4
PXZ	**Pawanui**	**3.17**	**187**	PN	Pn	21 39 45.3	-0.6
PXZ				AML	AML	21 40 21.1	
PXZ				SN	Sn	21 40 23.9	-1.8
WPHZ	**Waipukurau**	**3.27**	**193**	PN	Pn	21 39 46.3	-0.7
DVHZ	**Dannevirke**	**3.55**	**195**	PN	Pn	21 39 49.5	-1.1
BFZ	**Birch Farm**	**3.90**	**193**	PN	Pn	21 39 53.8	-1.2
BFZ				AML	AML	21 40 39.4	
MRZ	**Mangatainoka R**	**4.03**	**200**	PN	Pn	21 39 55.2	-1.4
HOWZ	**Holdsworth Sta**	**4.27**	**200**	PN	Pn	21 39 57.9	-1.8
TMWZ	**Te Maipa**	**4.38**	**195**	PN	Pn	21 39 59.5	-1.6
KIW	**Kapiti Island**	**4.42**	**205**	PN	Pn	21 39 59.7	-1.9
MTW	**Mount Morrison**	**4.52**	**198**	PN	Pn	21 40 00.6	-2.2
CAW	**Cannon Point**	**4.59**	**203**	PN	Pn	21 40 01.7	-2.1
SNZO	**South Karori**	**4.89**	**204**	PN	Pn	21 40 05.1	-2.4
TCW	**Tory Channel**	**4.96**	**208**	PN	Pn	21 40 06.2	-2.3
PLWZ	**Palliser**	**4.97**	**199**	PN	Pn	21 40 06.1	-2.5
THZ	**Tophouse**	**5.99**	**214**	PN	Pn	21 40 19.6	-2.4
KHZ	**Kahutara**	**6.28**	**207**	PN	Pn	21 40 23.3	-2.3

GUC 12 21:40:16.4±0.6,34°.24S×70°.07W,h15km±7km, MD3.5, ML2.7,5C-5D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LMEL	**Las Melosas**	**0.41**	**344**	⇑*i*P	Pg	21 40 24.1	-0.7
LMEL				*i* S	Sg	21 40 30.4	-0.1
LMEL				AML	AML	21 40 31.5	
	comp=N,1μm,0.1s						
CACH	**El Canelo**	**0.46**	**285**	⇓*i*P	Pg	21 40 25.2	-0.6
CACH				*i* S	Sg	21 40 31.4	-0.6
CHCH	**Chadas Angostu**	**0.57**	**302**	⇑*i*P	Pg	21 40 27.4	-0.4
CHCH				*i* S	Sg	21 40 35.2	-0.3
SJCH	**San Jose de Ma**	**0.64**	**338**	⇑*i*P	Pg	21 40 27.6	-1.6
SJCH				*i* S	Sg	21 40 36.8	-0.9
SJCH				AML	AML	21 40 38.4	
	comp=E,419nm,0.5s						
PCH	**Pirque**	**0.72**	**329**	⇓*i*P	Pg	21 40 29.9	-0.7
PCH				*i* S	Sg	21 40 40.1	-0.1
ANTU	**Antumapu**	**0.82**	**325**	⇓*i*P	Pb	21 40 31.8	-0.6
ANTU				*i* S	Sb	21 40 43.3	0.0
ANTU				AML	AML	21 40 43.7	
	comp=N,895nm,0.4s						
CLCH	**Cerro Calan**	**0.93**	**335**	⇑*i*P	Pb	21 40 33.6	-0.6
CLCH				*i* S	Sg	21 40 46.9	+0.2
CLCH				AML	AML	21 40 54.2	
	comp=E,472nm,0.5s						
SAN	**Santiago**	**0.93**	**328**	*e*S	Sg	21 40 46.5	-0.1
SAN				AML	AML	21 40 47.0	
	comp=N,613nm,0.2s						
TACH	**Talagante**	**0.93**	**309**	⇑*i*P	Pb	21 40 33.7	-0.6
TACH				*e*S	Sb	21 40 46.1	-0.3
LNV	**Longovilo**	**1.15**	**284**	⇓*i*P	Pn	21 40 37.3	-0.6
LNV				*i* S	Sn	21 40 53.0	-0.3
PEL	**Peldehue**	**1.21**	**335**	⇓*i*P	Pn	21 40 38.5	-0.3
PEL				*i* S	Sg	21 40 55.5	-0.1
PEL				AML	AML	21 40 57.2	
	comp=E,407nm,0.3s						
ROCH	**El Roble**	**1.49**	**328**	*e*P	Pb	21 40 43.5	-0.5

*IDC **12** 21:40:45.0±10.0,24°.25N×141°.42E,h0km,mb3.9/6, mb1 4.0/6,mb1mx3.6/25,mbtmp3.9/6,Error ellipse: s-maj=235.9km s-min=47.6km az=159.0*

*ISCJB **12** 21:41:49.9±0.9,27°.2N±0°.1×141°.0E±0°.2,h500km,mb3.4/6, Error ellipse: s-maj=26.2km s-min=12.6km az=149.7*

*JMA **12** 21:41:53.0±0.2,27°.48N×140°.90E,h471km,M3.5*

ISC 12 21:41:51.3±1.3,27°.1N±0°.2×140°.9E±0°.2,h500km,n15, σ1s51/15,mb3.4/6,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.11**	**92**	P	**P**	**21 42 52.0**	**-0.8**
CBIJ				*e*S	S	21 43 38.9	-3.9
JHHJ	**Haha-jima-NKT**	**1.22**	**114**	P	**P**	**21 42 53.6**	**+0.4**
JHHJ				*e*S	**S**	**21 43 41.8**	**-1.6**

JIE	**Ise**	**8.10**	**334**	P	**P**	**21 43 48.0**	**-0.5**
JOD2	**Odawara 2**	**8.26**	**349**	P	**P**	**21 43 49.6**	**-0.6**
JHU	**Hanno**	**8.80**	**351**	P	**P**	**21 43 54.2**	**-1.7**
JRY	**Ryogami san**	**9.02**	**349**	P	**P**	**21 43 56.6**	**-1.6**
JAG	**Ashikaga**	**9.35**	**353**	P	**P**	**21 44 00.4**	**-1.2**
JHO	**Hitachi**	**9.45**	**358**	P	**P**	**21 44 02.8**	**+0.1**
JFK	**Kawauchi**	**10.20**	**360**	P	**P**	**21 44 11.7**	**+1.1**
PETK	**Petropavlovsk-**	**28.79**	**21**	P	**P**	**21 47 07.0**	**-0.8**
	3.2nm,0.5s,baz=214,slow=6.3,SNR=4.1						
MKAR	**Makanchi Array**	**49.59**	**310**	P	**P**	**21 49 53.8**	**-2.2**
	0.1nm,0.3s,baz=88,slow=9.8,SNR=4.1						
KURBB	**Kurchatov Arra**	**52.22**	**314**	P	**P**	**21 50 15.0**	**0.0**
	0.6nm,0.3s,baz=92,slow=8.5,SNR=6.0						
BVAR	**Borovoye Array**	**57.26**	**317**	P	**P**	**21 50 51.9**	**+1.5**
	1.0nm,0.4s,baz=91,slow=6.6,SNR=4.3						
ARCES	**ARCESS Array B**	**73.14**	**341**	P	P	21 52 34.0	+4.0
	0.5nm,0.6s,baz=52,slow=7.9,SNR=5.6						
FINES	**FINESS Array B**	**77.42**	**333**	P	**P**	**21 52 56.8**	**+2.8**
	0.8nm,0.5s,baz=66,slow=3.7,SNR=14						

TAP 12 21:52:19.1,21°.87N×121°.52E,h94km, ML3.6,4C,C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.17**	**9**	P	Pn	21 52 32.4	-0.1
	baz=11						
LAY				S	Sn	21 52 42.1	-0.4
	baz=11						
TSEB	**Hengchuen, Pin**	**0.58**	**273**	*e*P	Pn	21 52 35.7	+0.9
	baz=277						
TSEB				*e*S	Sn	21 52 48.6	+1.9
	baz=277						
TWK1	**Hengchun**	**0.67**	**276**	P	Pn	21 52 36.3	+0.6
	baz=278						
TWK1				S	Sn	21 52 49.0	+0.9
	baz=278						
TAW	**Tawu**	**0.76**	**310**	P	Pn	21 52 36.6	+0.2
	baz=316						
TAW				S	Sn	21 52 48.9	-0.6
	baz=316						
EAST	**Anshuo**	**0.81**	**309**	⇑*i*P	Pn	21 52 37.5	+0.4
	baz=315						
EAST				*i* S	Sn	21 52 50.6	0.0
	baz=315						
ECL	**Taimali**	**0.89**	**324**	*i* P	Pn	21 52 37.8	-0.1
	baz=320						
ECL				S	Sn	21 52 51.1	-0.9
	baz=320						
SCZT	**Fangliau**	**0.97**	**301**	⇑*i*P	Pn	21 52 39.6	+0.8
	baz=301						
SCZT				*e*S	Sn	21 52 52.9	-0.7
	baz=301						
TWG	**Pinlang**	**1.03**	**336**	⇑*i*P	Pn	21 52 39.4	0.0
	baz=337						
TWG				*e*S	Sn	21 52 53.6	-1.1
	baz=337						
CHKT	**Chengkung**	**1.23**	**353**	P	Pn	21 52 42.1	+0.4
	baz=347						
CHKT				*e*S	Sn	21 52 59.8	+1.1
	baz=347						
SGLT	**Jiouru**	**1.28**	**312**	*e*P	Pn	21 52 43.2	+0.9
	baz=319						
ELDTW	**Lidau**	**1.39**	**340**	*e*P	Pn	21 52 43.9	+0.1
	baz=342						
TWM1	**Shoushan**	**1.39**	**313**	⇑P	Pn	21 52 45.4	+1.7
	baz=313						
SGST	**Jiashian**	**1.48**	**324**	*e*P	Pn	21 52 45.5	+0.6
	baz=325						
SGST				*e*S	Sn	21 53 05.3	+0.9
	baz=325						
TWF1	**Yuli**	**1.49**	**352**	*e*P	Pn	21 52 45.4	+0.4
	baz=345						
TWF1				*e*S	Sn	21 53 03.9	-0.6
	baz=345						
CHN1	**Nanshi**	**1.60**	**325**	P	Pn	21 52 47.1	+0.8
	baz=325						
CHN1				*e*S	Sn	21 53 06.7	-0.2
	baz=325						
WTP	**Ta-pu**	**1.60**	**329**	*e*P	Pn	21 52 47.0	+0.6
	baz=320						
WTP				*e*S	Sn	21 53 08.1	+0.9
	baz=320						
EHY	**Hungye**	**1.64**	**353**	*e

CSEM **12** *22:03:27.8±0.2, 32.°91N×5.°38W, h5km, MD3.1, Error ellipse: s-maj=4.3km s-min=2.9km az=121.0*
CNRM **12** *22:03:29.6, 32.°89N×5.°34W, h4km, MD3.1*
MDD **12** *22:03:29.1±0.5, 32.°89N×5.°38W, h0km, mb4.1/2, Error ellipse: s-maj=4.4km s-min=3.9km az=125.0, PRXIMO*
INMG **12** *22:03:30.9±0.8, 33.°11N×5.°50W, h0km, ML2.2, Error ellipse: s-maj=8.9km s-min=4.8km az=72.0*

ISC 12 22:03:28.6±1.2, 32.°94N±0.°03×5.°36W±0.°04, h19km±3km, n55, σ1$40/84, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CZD	**Col de Zad**	**0.28**	**71**	Pg	**Pg**	**22 03 34.0**	**-1.0**
CZD				Lg	Lg	22 03 40.0	
CZD	**Col de Zad**	**0.28**	**71**	*i* P	**Pg**	**22 03 34.0**	**-1.0**
CZD				*i* S	**Sg**	**22 03 40.0**	**+0.6**
MIF	**Mishlifen**	**0.48**	**13**	Pg	**Pg**	**22 03 39.0**	**+0.6**
MIF				Lg	Lg	22 03 47.0	
MIF	**Mishlifen**	**0.48**	**13**	*i* P	**Pg**	**22 03 39.0**	**+0.6**
MIF				Lg	Lg	22 03 47.0	
KIB	**El Ksiba**	**0.68**	**238**	Pg	**Pb**	**22 03 41.5**	**-0.3**
KIB				Lg	Lg	22 03 51.0	
KIB	**El Ksiba**	**0.68**	**238**	*i* P	**Pb**	**22 03 41.5**	**-0.3**
KIB				Lg	Lg	22 03 51.0	
TGT	**Taghat**	**1.15**	**13**	Pg	**Pg**	**22 03 51.5**	**+0.6**
TGT				Lg	Lg	22 04 07.0	
TGT	**Taghat**	**1.15**	**13**	*i* P	**Pg**	**22 03 51.5**	**+0.6**
TGT				Lg	Lg	22 04 07.0	
ZFT	**Errachidia**	**1.24**	**137**	Pg	**Pn**	**22 03 51.0**	**-0.1**
ZFT				Lg	Lg	22 04 08.0	
ZFT	**Errachidia**	**1.24**	**137**	*i* P	**Pn**	**22 03 51.0**	**-0.1**
ZFT				*i* S	**Sb**	**22 04 08.0**	**+0.8**
TZC	**Tazercounte**	**1.24**	**231**	Pg	**Pn**	**22 03 51.0**	**-0.1**
TZC				Lg	Lg	22 04 08.0	
TZC	**Tazercounte**	**1.24**	**231**	*i* P	**Pn**	**22 03 51.0**	**-0.1**
TZC				Lg	Lg	22 04 08.0	
TZK	**Tazeka**	**1.51**	**40**	Pn	**Pb**	**22 03 57.0**	**+0.9**
TZK				Sn	**Sb**	**22 04 15.5**	**+0.6**
TZK	**Tazeka**	**1.51**	**40**	*i* P	**Pb**	**22 03 57.0**	**+0.9**
TZK				Sn	**Sb**	**22 04 15.5**	**+0.6**
OUK	**Oukaimeden**	**2.74**	**232**	Pn	**Pn**	**22 04 12.0**	**+0.1**
OUK				Sn	**Sn**	**22 04 45.0**	**+0.3**
OUK	**Oukaimeden**	**2.74**	**232**	*i* P	**Pn**	**22 04 12.0**	**+0.1**
OUK				*i* S	**Sn**	**22 04 45.0**	**+0.3**
CIA	**Chichaoua**	**3.19**	**245**	Pn	**Pn**	**22 04 18.0**	**+0.2**
CIA				Sn	**Sn**	**22 04 56.0**	**+0.6**
CIA	**Chichaoua**	**3.19**	**245**	*e*P	**Pn**	**22 04 18.0**	**+0.2**
CIA				*i* S	**Sn**	**22 04 56.0**	**+0.6**
PBDV	**Barranco-do-Ve**	**4.78**	**335**	*e*Pn	**Pn**	**22 04 40.1**	**+0.5**
PBDV				*e*Sn	**Sn**	**22 05 32.4**	**-2.1**
PBDV				A	A	22 05 38.5	
	2.5nm,0.4s						
PBDV	**Barranco-do-Ve**	**4.78**	**335**	Pn	**Pn**	**22 04 40.1**	**+0.5**
PBDV	**Barranco-do-Ve**	**4.78**	**335**	*e*Pn	**Pn**	**22 04 40.1**	**+0.5**
PBDV				*e*Sn	**Sn**	**22 05 32.4**	**-2.1**
	2.5nm,0.4s						
PVAQ	**Vaqueiros**	**4.85**	**337**	*e*Pn	**Pn**	**22 04 41.1**	**+0.5**
PVAQ				*e*Sn	**Sn**	**22 05 34.1**	**-2.1**
PVAQ				A	A	22 05 39.4	
	1.8nm,0.3s						
PVAQ	**Vaqueiros**	**4.85**	**337**	Pn	**Pn**	**22 04 41.1**	**+0.5**
PVAQ	**Vaqueiros**	**4.85**	**337**	*e*Pn	**Pn**	**22 04 41.1**	**+0.5**
PVAQ				*e*Sn	**Sn**	**22 05 34.1**	**-2.1**
	1.8nm,0.3s						
EGRO	**El Granado**	**4.90**	**340**	P	**Pn**	**22 04 42.0**	**+0.8**
	1.5nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**22 05 35.2**	**-2.2**
	1.1nm,0.1s,SNR=4.0						
EGRO	**El Granado**	**4.90**	**340**	P	**Pn**	**22 04 42.0**	**+0.8**
	1.5nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**22 05 35.2**	**-2.2**
	1.1nm,0.1s,SNR=4.0						
EMIN	**Mina Concepcio**	**4.93**	**348**	P	**Pn**	**22 04 42.6**	**+0.9**
	0.3nm,0.1s,SNR=7.5						
EMIN				S	**Sn**	**22 05 36.8**	**-1.4**
	0.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.93**	**348**	P	**Pn**	**22 04 42.6**	**+0.9**
	0.3nm,0.1s,SNR=7.5						
EMIN				S	**Sn**	**22 05 36.8**	**-1.4**
	0.1nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.06**	**327**	P	**Pn**	**22 04 44.5**	**+1.1**
	1.1nm,0.2s,SNR=4.0						
PFVI				S	**Sn**	**22 05 39.2**	**-2.1**
	1.3nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.06**	**327**	P	**Pn**	**22 04 44.5**	**+1.1**
	1.1nm,0.2s,SNR=4.0						
PFVI				S	**Sn**	**22 05 39.2**	**-2.1**
	1.3nm,0.1s,SNR=7.9						
PCVE	**Castro Verde**	**5.17**	**336**	*e*Pn	**Pn**	**22 04 45.6**	**+0.7**
PCVE				*e*Sn	**Sn**	**22 05 42.0**	**-2.0**
PCVE				A	A	22 05 47.4	
	1.4nm,0.2s						
PCVE	**Castro Verde**	**5.17**	**336**	Pn	**Pn**	**22 04 45.6**	**+0.7**
PCVE	**Castro Verde**	**5.17**	**336**	*e*Pn	**Pn**	**22 04 45.6**	**+0.7**
PCVE				*e*Sn	**Sn**	**22 05 42.0**	**-2.0**
	1.4nm,0.2s						
EADA	**Adamuz**	**5.25**	**7**	P	**Pn**	**22 04 48.1**	**+2.0**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**22 05 45.0**	**-1.1**
	0.7nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.25**	**7**	P	**Pn**	**22 04 48.1**	**+2.0**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**22 05 45.0**	**-1.1**
	0.7nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.36**	**330**	*e*Pn	**Pn**	**22 04 48.3**	**+0.8**
PTEO				*e*Sn	**Sn**	**22 05 46.7**	**-1.9**
PTEO				A	A	22 05 51.4	
	4.7nm,0.7s						
PTEO	**Sao Teotonio**	**5.36**	**330**	Pn	**Pn**	**22 04 48.3**	**+0.8**
PTEO	**Sao Teotonio**	**5.36**	**330**	*e*Pn	**Pn**	**22 04 48.3**	**+0.8**
PBAR	**Barrancos**	**5.40**	**346**	*e*Pn	**Pn**	**22 04 49.0**	**+0.9**
PBAR				*e*Sn	**Sn**	**22 05 47.5**	**-2.2**
PBAR				A	A	22 05 52.2	
	0.9nm,0.2s						
PBAR	**Barrancos**	**5.40**	**346**	Pn	**Pn**	**22 04 49.0**	**+0.9**
PBAR	**Barrancos**	**5.40**	**346**	*e*Pn	**Pn**	**22 04 49.0**	**+0.9**
PNCL	**Nicolau / Gran**	**5.77**	**334**	*e*Pn	**Pn**	**22 04 54.6**	**+1.4**
PNCL				*e*Sn	**Sn**	**22 05 56.8**	**-2.0**
PNCL				A	A	22 06 01.4	
	1.4nm,0.5s						
PNCL	**Nicolau / Gran**	**5.77**	**334**	*e*Pn	**Pn**	**22 04 54.6**	**+1.4**
EBAD	**Badajoz**	**5.96**	**347**	P	**Pn**	**22 04 56.5**	**+0.8**
	0.7nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**22 06 00.1**	**-3.3**
	0.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.96**	**347**	P	**Pn**	**22 04 56.5**	**+0.8**
	0.7nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**6.18**	**344**	*e*Pn	**Pn**	**22 05 00.0**	**+1.1**
PESTR				*e*Sn	**Sn**	**22 06 06.3**	**-2.8**
PESTR				A	A	22 06 13.1	
	0.4nm,0.1s						
PESTR	**Estremoz**	**6.18**	**344**	Pn	**Pn**	**22 05 00.0**	**+1.1**
PESTR	**Estremoz**	**6.18**	**344**	*e*Pn	**Pn**	**22 05 00.0**	**+1.1**
PMTG	**Montargil**	**6.54**	**340**	*e*Pn	**Pn**	**22 05 04.9**	**+1.2**
PMTG				*e*Sn	**Sn**	**22 06 15.9**	**-1.9**
PMTG				A	A	22 06 22.6	
	1.4nm,0.1s						
PMTG	**Montargil**	**6.54**	**340**	*e*Pn	**Pn**	**22 05 04.9**	**+1.2**
PMRV	**Marv??o**	**6.68**	**346**	*e*Pn	**Pn**	**22 05 07.3**	**+1.6**
PMRV	**Marv??o**	**6.68**	**346**	Pn	**Pn**	**22 05 07.3**	**+1.6**
PMRV	**Marv??o**	**6.68**	**346**	*e*Pn	**Pn**	**22 05 07.3**	**+1.6**
EPLA	**Plasencia**	**7.13**	**356**	P	**Pn**	**22 05 11.5**	**-0.4**
	0.3nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**22 06 28.0**	**-4.5**
	0.4nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**7.13**	**356**	P	**Pn**	**22 05 11.5**	**-0.4**
	0.3nm,0.1s,SNR=7.9						

ISCJB **12** *22:14:24.7±0.2, 42.°35N±0.°01×13.°34E±0.°02, h9km±1km, mb3.6/6, MS3.3/5, Error ellipse: s-maj=2.1km s-min=2.0km az=11.5*
NEIC **12** *22:14:24.9, 42.°33N×13.°34E, h5km, ML3.6(ROM), After ROM.*
NEIC Felt [IV] at L'Aquila; [III] at Avezzano, Borgorose, Isola del Liri, Montorio al Vomano, Rome, Tagliacozzo and Teramo; [II] at Ascoli Piceno, Atri, Bellante, Campli, Carsoli, Frosinone, Guilianova, Marcellina, Penne, Pescara, Pratola Peligna, Rieti, Roseto degli Abruzzi, Sant' Omero, Scurcola Marsicana, Sora, Subiaco and Sulmona.

ROM **12** *22:14:24.7±0.1, 42.°34N×13.°39E, h11km, MI3.8/30, Error ellipse: s-maj=1.0km s-min=0.8km az=84.0*
LDG **12** *22:14:24.6±0.1, 42.°35N×13.°35E, h2km, MI3.4/24, Error ellipse: s-maj=2.5km s-min=1.9km az=30.0*
SZGRF **12** *22:14:24.0, 42.°12N×13.°33E, h10km, Central Italy*
CSEM **12** *22:14:25.4±0.1, 42.°34N×13.°37E, h2km, ML4.1/6, Error ellipse: s-maj=2.0km s-min=1.9km az=9.0*
IDC **12** *22:14:25.7±1.1, 42.°49N×13.°25E, h0km, mb3.5/6, mb1 3.6/14, mb1mx3.6/33, mbtmp3.5/14, ML3.6/7, MS3.1/8, Ms1 3.1/8, ms1mx2.7/40, Error ellipse: s-maj=18.4km s-min=13.2km az=92.0*
BEO **12** *22:14:26.3±0.9, 42.°28N×13.°17E, h20km±5km, ML3.8/1*
PRU **12** *22:14:27.0, 42.°49N×13.°22E, h0km*

ISC 12 22:14:25.2±0.5, 42.°36N±0.°01×13.°34E±0.°01, h5km±3km, n497, σ1$40/529, mb3.6/6, MS3.4/5, 29C-10D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AQU	**L'Aquila**	**0.04**	**93**	⇓ *i* Pg	**Pg**	**22 14 27.2**	**+0.7**
AQU				Sg	**Sg**	**22 14 28.4**	**+1.0**
AQU	**L'Aquila**	**0.04**	**93**	P	**Pg**	**22 14 27.1**	**+0.6**
AQU	**L'Aquila**	**0.04**	**93**	P	**Pg**	**22 14 27.1**	**+0.6**
AQU				Sg	**Sg**	**22 14 28.4**	**+1.0**
CAMP	**Campotosto**	**0.19**	**15**	*e*P	**Pg**	**22 14 30.8**	**+1.9**
CAMP	**Campotosto**	**0.19**	**15**	⇑ *i* Pg	**Pg**	**22 14 29.6**	**+0.7**
CAMP				Sg	**Sg**	**22 14 32.8**	**+1.4**
	36µm,0.8s						
CAMP	**Campotosto**	**0.19**	**15**	P	**Pg**	**22 14 30.8**	**+1.9**
CAMP	**Campotosto**	**0.19**	**15**	⇑ *i* Pg	**Pg**	**22 14 29.6**	**+0.7**
CAMP	**Campotosto**	**0.19**	**15**	*e*P	**Pg**	**22 14 30.8**	**+1.9**
CAMP				Sg	**Sg**	**22 14 32.8**	**+1.4**
	36µm,0.8s						
FIAM	**Fiamignano**	**0.19**	**242**	⇑ *i* Pg	**Pg**	**22 14 29.9**	**+0.9**
FIAM				Sg	**Sg**	**22 14 33.3**	**+1.8**
	33µm,0.6s						
FIAM	**Fiamignano**	**0.19**	**242**	P	**Pg**	**22 14 29.5**	**+0.5**
FIAM	**Fiamignano**	**0.19**	**242**	P	**Pg**	**22 14 29.5**	**+0.5**
FIAM	**Fiamignano**	**0.19**	**242**	⇑ *i* Pg	**Pg**	**22 14 29.9**	**+0.9**
FIAM				Sg	**Sg**	**22 14 33.3**	**+1.8**
	33µm,0.6s						
TERO	**Teramo**	**0.33**	**36**	⇑ *i* Pg	**Pg**	**22 14 31.5**	**-0.2**
TERO				Sg	**Sg**	**22 14 36.2**	**+0.2**
	11µm,0.4s						
TERO	**Teramo**	**0.33**	**36**	P	**Pg**	**22 14 31.4**	**-0.2**
TERO	**Teramo**	**0.33**	**36**	⇑ *i* Pg	**Pg**	**22 14 31.5**	**-0.2**
TERO				Sg	**Sg**	**22 14 36.2**	**+0.2**
	11µm,0.4s						
LNSS	**Leonessa**	**0.33**	**318**	Pg	**Pb**	**22 14 32.5**	**-1.2**
LNSS				Sg	**Sb**	**22 14 38.1**	**-1.3**
	10µm,0.6s						
LNSS	**Leonessa**	**0.33**	**318**	P	**Pb**	**22 14 32.5**	**-1.2**
LNSS	**Leonessa**	**0.33**	**318**	Pg	**Pb**	**22 14 32.5**	**-1.2**
LNSS				Sg	**Sb**	**22 14 38.1**	**-1.3**
	10µm,0.6s						
PTQR	**Pietraquaria**	**0.34**	**173**	⇑ *i* Pg	**Pg**	**22 14 31.7**	**-0.1**
PTQR	**Pietraquaria**	**0.34**	**173**	P	**Pg**	**22 14 31.7**	**-0.1**
PTQR	**Pietraquaria**	**0.34**	**173**	⇑ *i* Pg	**Pg**	**22 14 31.7**	**-0.1**
VCEL	**Villa Celiera**	**0.37**	**84**	Pg	**Pg**	**22 14 32.1**	**-0.3**
VCEL				Sg	**Sg**	**22 14 37.2**	**-0.1**
	14µm,0.4s						
VCEL	**Villa Celiera**	**0.37**	**84**	P	**Pg**	**22 14 32.1**	**-0.3**
VCEL	**Villa Celiera**	**0.37**	**84**	Pg	**Pg**	**22 14 32.1**	**-0.3**
VCEL				Sg	**Sg**	**22 14 37.2**	**-0.1**
	14µm,0.4s						
CERT	**Cerreto**	**0.49**	**214**	⇑ *i* Pg	**Pg**	**22 14 34.6**	**0.0**
	9µm,0.4s						
CERT	**Cerreto**	**0.49**	**214**	P	**Pg**	**22 14 34.6**	**0.0**
CERT	**Cerreto**	**0.49**	**214**	⇑ *i* Pg	**Pg**	**22 14 34.6**	**0.0**
	9µm,0.4s						
MNS	**Montasola**	**0.49**	**274**	Pg	**Pg**	**22 14 35.0**	**+0.3**
	5µm,0.7s						
MNS	**Montasola**	**0.49**	**274**	P	**Pg**	**22 14 35.0**	**+0.3**
MNS	**Montasola**	**0.49**	**274**	Pg	**Pg**	**22 14 35.0**	**+0.3**
	5µm,0.7s						
NRCA	**Norcia**	**0.51**	**341**	⇑ *i* Pg	**Pg**	**22 14 35.2**	**+0.2**
NRCA	**Norcia**	**0.51**	**341**	P	**Pg**	**22 14 35.2**	**+0.2**
NRCA	**Norcia**	**0.51**	**341**	⇑ *i* Pg	**Pg**	**22 14 35.2**	**+0.2**
VVLD	**Villa Vallelon**	**0.53**	**157**	Pg	**Pg**	**22 14 34.6**	**-0.8**
	2µm,0.6s						
VVLD	**Villa Vallelon**	**0.53**	**157**	P	**Pg**	**22 14 34.6**	**-0.8**
VVLD	**Villa Vallelon**	**0.53**	**157**	Pg	**Pg**	**22 14 34.6**	**-0.8**
	2µm,0.6s						
INTR	**Introdacqua**	**0.54**	**129**	Pg	**Pg**	**22 14 34.9**	**-0.7**
	4µm,0.6s						
INTR	**Introdacqua**	**0.54**	**129**	P	**Pg**	**22 14 34.9**	**-0.7**
INTR	**Introdacqua**	**0.54**	**129**	Pg	**Pg**	**22 14 34.9**	**-0.7**
	4µm,0.6s						
MTCE	**Montecelio**	**0.56**	**233**	Pg	**Pg**	**22 14 36.0**	**+0.1**
	2µm,0.7s						
MTCE	**Montecelio**	**0.56**	**233**	P	**Pg**	**22 14 36.0**	**+0.1**
MTCE	**Montecelio**	**0.56**	**233**	Pg	**Pg**	**22 14 36.0**	**+0.1**
	2µm,0.7s						
GUAR	**Guarcino**	**0.56**	**182**	Pg	**Pg**	**22 14 35.5**	**-0.5**
	4µm,0.9s						
GUAR	**Guarcino**	**0.56**	**182**	P	**Pg**	**22 14 35.5**	**-0.5**
GUAR	**Guarcino**	**0.56**	**182**	Pg	**Pg**	**22 14 35.5**	**-0.5**
	4µm,0.9s						
TRTR	**Tortoreto Alta**	**0.62**	**43**	P	**Pb**	**22 14 38.4**	**-0.1**
TRTR	**Tortoreto Alta**	**0.62**	**43**	P	**Pb**	**22 14 38.4**	**-0.1**
CESX	**Cesi**	**0.62**	**294**	Pg	**Pg**	**22 14 37.2**	**+0.1**
	5µm,0.5s						
CESX	**Cesi**	**0.62**	**294**	P	**Pg**	**22 14 37.2**	**+0.1**
CESX	**Cesi**	**0.62**	**294**	Pg	**Pg**	**22 14 37.2**	**+0.1**
	5µm,0.5s						
OFFI	**Offida**	**0.63**	**24**	Pg	**Pg**	**22 14 37.8**	**+0.4**
	19µm,0.7s						
OFFI	**Offida**	**0.63**	**24**	P	**Pg**	**22 14 37.9**	**+0.5**
OFFI	**Offida**	**0.63**	**24**	Pg	**Pg**	**22 14 37.8**	**+0.4**
	19µm,0.7s						
POFI	**Posta Fibreno**	**0.69**	**157**	Pg	**Pg**	**22 14 37.2**	**-1.4**
POFI	**Posta Fibreno**	**0.69**	**157**	P	**Pg**	**22 14 37.4**	**-1.1**
POFI	**Posta Fibreno**	**0.69**	**157**	P	**Pg**	**22 14 37.4**	**-1.1**
FDMO	**Fiordimonte**	**0.71**	**345**	Pg	**Pg**	**22 14 38.5**	**-0.2**
	3µm,0.4s						
FDMO	**Fiordimonte**	**0.71**	**345**	P	**Pg**	**22 14 38.6**	**-0.2**
FDMO	**Fiordimonte**	**0.71**	**345**	P	**Pg**	**22 14 38.6**	**-0.2**
CESI	**CESI - Serrava**	**0.72**	**334**	Pg	**Pg**	**22 14 39.0**	**-0.1**
	1µm,0.3s						
CESI	**CESI - Serrava**	**0.72**	**334**	P	**Pg**	**22 14 39.0**	**-0.1**
CESI	**CESI - Serrava**	**0.72**	**334**	Pg	**Pg**	**22 14 39.0**	**-0.1**
	1µm,0.3s						
RMP	**Rome, Mte Porz**	**0.72**	**221**	Pg	**Pg**	**22 14 38.7**	**-0.4**
	2µm,0.4s						
RMP	**Rome, Mte Porz**	**0.72**	**221**	Pg	**Pg**	**22 14 38.7**	**-0.4**
	2µm,0.4s						
SDI	**San Donato**	**0.73**	**152**	Pg	**Pg**	**22 14 38.0**	**-1.3**
SDI	**San Donato**	**0.73**	**152**	P	**Pg**	**22 14 38.0**	**-1.3**
SDI	**San Donato**	**0.73**	**152**	Pg	**Pg**	**22 14 38.0**	**-1.3**
CAFR	**Castel Frentan**	**0.76**	**99**	Pg	**Pg**	**22 14 39.3**	**-0.4**
CAFR	**Castel Frentan**	**0.76**	**99**	Pg	**Pg**	**22 14 39.3**	**-0.4**
RDP	**Rocca di Papa**	**0.76**	**218**	Pg	**Pg**	**22 14 39.4**	**-0.3**
	5µm,0.5s						
RDP	**Rocca di Papa**	**0.76**	**218**	P	**Pg**	**22 14 39.4**	**-0.3**
RDP	**Rocca di Papa**	**0.76**	**218**	Pg	**Pg**	**22 14 39.4**	**-0.3**
	5µm,0.5s						
MA9	**Marino**	**0.78**	**221**	P	**Pg**	**22 14 39.6**	**-0.5**
MA9	**Marino**	**0.78**	**221**	P	**Pg**	**22 14 39.6**	**-0.5**
GIUL	**Giuliano Di Ro**	**0.80**	**185**	Pg	**Pg**	**22 14 39.6**	**-1.0**
	2µm,0.7s						
GIUL	**Giuliano Di Ro**	**0.80**	**185**	P	**Pg**	**22 14 39.5**	**-1.0**
GIUL	**Giuliano Di Ro**	**0.80**	**185**	Pg	**Pg**	**22 14 39.6**	**-1.0**
	2µm,0.7s						
GUMA	**Gualdo di Mace**	**0.83**	**32**	Pg	**Pg**	**22 14 38.8**	**-2.4**
	9µm,0.4s						
GUMA	**Gualdo di Mace**	**0.83**	**32**	Pg	**Pg**	**22 14 38.8**	**-2.4**
	9µm,0.4s						
LAV9	**Lanuvio**	**0.83**	**216**	P	**Pg**	**22 14 40.7**	**-0.4**
LAV9	**Lanuvio**	**0.83**	**216**	P	**Pg**	**22 14 40.7**	**-0.4**
ASSB	**Assisi San Ben**	**0.85**	**324**	Pg	**Pg**	**22 14 41.3**	**-0.3**
	2µm,0.5s						
ASSB	**Assisi San Ben**	**0.85**	**324**	P	**Pg**	**22 14 40.8**	**-0.8**
ASSB	**Assisi San Ben**	**0.85**	**324**	P	**Pg**	**22 14 40.8**	**-0.8**
ASSB	**Assisi San Ben**	**0.85**	**324**	Pg	**Pg**	**22 14 41.3**	**-0.3**
	2µm,0.5s						
RNI2	**Rionero Sannit**	**0.89**	**137**	Pg	**Pg**	**22 14 41.0**	**-1.3**
	2µm,0.6s						
RNI2	**Rionero Sannit**	**0.89**	**137**	P	**Pg**	**22 14 40.8**	**-1.5**
RNI2	**Rionero Sannit**	**0.89**	**137**	Pg	**Pg**	**22 14 41.0**	**-1.3**
	2µm,0.6s						
CERA	**Filignano**	**0.91**	**146**	Pg	**Pg**	**22 14 40.8**	**-1.9**
	2µm,0.7s						
CERA	**Filignano**	**0.91**	**146**	Pg	**Pg**	**22 14 40.8**	**-1.9**
	2µm,0.7s						

SNTG	**Esanatoglia**	**0.95**	**342**	Pg	**Pg**	**22 14 42.8**	**-0.6**
SNTG	**Esanatoglia**	**0.95**	**342**	P	**Pg**	**22 14 42.8**	**-0.6**
SNTG	**Esanatoglia**	**0.95**	**342**	Pg	**Pg**	**22 14 42.8**	**-0.6**
MIDA	**Miranda**	**0.98**	**136**	Pg	**Pg**	**22 14 42.1**	**-2.0**
	1µm,0.9s						
MIDA	**Miranda**	**0.98**	**136**	P	**Pg**	**22 14 42.3**	**-1.8**
MIDA	**Miranda**	**0.98**	**136**	P	**Pg**	**22 14 42.3**	**-1.8**
CING	**Cingoli**	**1.02**	**354**	Pg	**Pg**	**22 14 44.0**	**-0.8**
	3µm,0.9s						
CING	**Cingoli**	**1.02**	**354**	P	**Pg**	**22 14 44.1**	**-0.8**
CING	**Cingoli**	**1.02**	**354**	P	**Pg**	**22 14 44.1**	**-0.8**
TOLF	**Tolfa**	**1.04**	**254**	Pg	**Pb**	**22 14 45.4**	**-0.3**
TOLF	**Tolfa**	**1.04**	**254**	P	**Pg**	**22 14 44.7**	**-0.4**
TOLF	**Tolfa**	**1.04**	**254**	P	**Pg**	**22 14 44.7**	**-0.4**
TOLF	**Tolfa**	**1.04**	**254**	Pg	**Pb**	**22 14 45.4**	**-0.3**
MGAB	**Montegabbione**	**1.06**	**302**	Pg	**Pg**	**22 14 45.9**	**-0.9**
	2µm,0.5s						
MGAB	**Montegabbione**	**1.06**	**302**	P	**Pb**	**22 14 45.7**	**-0.5**
MGAB	**Montegabbione**	**1.06**	**302**	Pg	**Pn**	**22 14 45.9**	**-0.9**
	2µm,0.5s						
MURB	**Monte Urbino**	**1.09**	**327**	Pg	**Pg**	**22 14 45.6**	**-0.5**
	5µm,0.4s						
MURB	**Monte Urbino**	**1.09**	**327**	P	**Pg**	**22 14 45.7**	**-0.4**
MURB	**Monte Urbino**	**1.09**	**327**	P	**Pg**	**22 14 45.7**	**-0.4**
LATE	**Laterza**	**1.17**	**283**	P	Pg	22 14 43.4	-4.2
LATE	**Laterza**	**1.17**	**283**	P	Pg	22 14 43.4	-4.2
ARVD	**Arcevia**	**1.18**	**346**	Pg	**Pg**	**22 14 46.8**	**-1.0**
	2µm,0.7s						
ARVD	**Arcevia**	**1.18**	**346**	Pg	**Pg**	**22 14 46.8**	**-1.0**
	2µm,0.7s						
AOI	**Ancona**	**1.21**	**9**	Pg	**Pb**	**22 14 47.5**	**-1.1**
	2µm,0.9s						
AOI	**Ancona**	**1.21**	**9**	P	**Pb**	**22 14 47.5**	**-1.1**
AOI	**Ancona**	**1.21**	**9**	Pg	**Pb**	**22 14 47.5**	**-1.1**
	2µm,0.9s						
CDCA	**Citt' di Caste**	**1.37**	**324**	P	**Pg**	**22 14 51.4**	**-0.1**
CDCA	**Citt' di Caste**	**1.37**	**324**	P	**Pg**	**22 14 51.4**	**-0.1**
FSSB	**Fossombrone**	**1.40**	**343**	Pg	**Pn**	**22 14 50.8**	**-0.6**
FSSB	**Fossombrone**	**1.40**	**343**	Pg	**Pn**	**22 14 50.8**	**-0.6**
CAFI	**Castiglion Fio**	**1.40**	**314**	Pg	**Pg**	**22 14 51.7**	**-0.4**
CAFI	**Castiglion Fio**	**1.40**	**314**	Pg	**Pg**	**22 14 51.7**	**-0.4**
FG2	**Serracapriola**	**1.46**	**112**	P	**Pn**	**22 14 52.7**	**+0.5**
FG2	**Serracapriola**	**1.46**	**112**	P	**Pn**	**22 14 52.7**	**+0.5**
PARC	**Parchiule**	**1.52**	**328**	Pg	**Pb**	**22 14 53.5**	**-0.5**
	1µm,0.9s						
PARC	**Parchiule**	**1.52**	**328**	P	**Pb**	**22 14 53.7**	**-0.3**
PARC	**Parchiule**	**1.52**	**328**	P	**Pb**	**22 14 53.7**	**-0.3**
VENT	**Ventotene**	**1.56**	**178**	P	**Pb**	**22 14 54.4**	**-0.2**
VENT	**Ventotene**	**1.56**	**178**	P	**Pb**	**22 14 54.4**	**-0.2**
PSB1	**Pescosannita**	**1.58**	**135**	P	**Pg**	**22 14 56.8**	**+1.4**
PSB1	**Pescosannita**	**1.58**	**135**	P	**Pg**	**22 14 56.8**	**+1.4**
CRE	**Caprese Michel**	**1.62**	**322**	P	**Pb**	**22 14 55.0**	**-0.7**
CRE	**Caprese Michel**	**1.62**	**322**	P	**Pb**	**22 14 55.0**	**-0.7**
PESA	**Pesaro**	**1.63**	**347**	P	**Pb**	**22 14 55.8**	**+0.1**
PESA	**Pesaro**	**1.63**	**347**	P	**Pb**	**22 14 55.8**	**+0.1**
MAON	**Monte Argentar**	**1.64**	**273**	P	**Pn**	**22 14 54.7**	**0.0**
MAON	**Monte Argentar**	**1.64**	**273**	P	**Pn**	**22 14 54.7**	**0.0**
RSM	**Repubblica di**	**1.70**	**338**	P	**Pg**	**22 14 57.6**	**-0.3**
RSM	**Repubblica di**	**1.70**	**338**	P	**Pg**	**22 14 57

DOBS	Dobrina	4.09	21	P		Pn	22 15 30.0	+1.6
DOBS	Dobrina	4.09	21	P		Pn	22 15 30.0	+1.6
QLNO	Quiliano	4.14	300	P		Pn	22 15 30.2	+1.1
QLNO	Quiliano	4.14	300	P		Pn	22 15 30.2	+1.1
VSL	Villasalto	4.14	228	eP	Pn	Pn	22 15 29.4	+0.2
VSL				eSn	Sn	Sn	22 16 16.0	-2.0
VSL	Villasalto	4.14	228	eP	Pn	Pn	22 15 29.4	+0.2
VSL				eSn	Sn	Sn	22 16 16.0	-2.0
MABI	Malga Bissina	4.22	332	P		Pn	22 15 31.4	+1.0
MABI	Malga Bissina	4.22	332	P		Pn	22 15 31.4	+1.0
GRI	Girifalco	4.24	145	P		Pn	22 15 35.5	+5.1
OBKA	Obir	4.24	11	⇓iP		Pn	22 15 30.8	+0.3
	SNR=22							
OBKA	Obir	4.24	11	P		Pn	22 15 31.1	+0.5
OBKA	Obir	4.24	11	Pn		Pn	22 15 30.8	+0.3
	SNR=22							
OBKA	Obir	4.24	11	P		Pn	22 15 31.1	+0.5
FVI	Forni Avoltri	4.26	355	P		Pn	22 15 31.5	+0.7
FVI	Forni Avoltri	4.26	355	P		Pn	22 15 31.5	+0.7
PDG	Podgorica	4.38	87	ePn		Pn	22 15 34.0	+1.7
PDG				eSn		Sn	22 16 24.2	+0.5
PDG	Podgorica	4.38	87	ePn		Pn	22 15 34.0	+1.7
PDG				eSn		Sn	22 16 24.2	+0.5
ABTA	Abfaltersbach	4.43	353	⇑iPn		Pn	22 15 34.0	+0.9
	SNR=97							
ABTA	Abfaltersbach	4.43	353	P		Pn	22 15 34.2	+1.0
ABTA	Abfaltersbach	4.43	353	Pn		Pn	22 15 34.0	+0.9
	SNR=97							
SOKA	Soboth	4.49	15	⇓iPn		Pn	22 15 34.3	+0.4
SOKA	Soboth	4.49	15	Pn		Pn	22 15 34.3	+0.4
CEL	Celeste	4.53	154	ePn		Pn	22 15 37.5	+3.0
CEL	Celeste	4.53	154	ePn		Pn	22 15 37.5	+3.0
SAOF	Saorge	4.54	293	P		Pn	22 15 36.0	+1.5
SAOF	Saorge	4.54	293	P		Pn	22 15 35.8	+1.3
SBF	Sospel	4.58	291	eP		Pn	22 15 36.2	+1.1
SBF				eSn		Sn	22 16 23.4	-5.4
	comp=Z,17nm,0.4s							
SBF	Sospel	4.58	291	Pn		Pn	22 15 36.3	+1.1
SBF	Sospel	4.58	291	eP		Pn	22 15 36.2	+1.1
KOGS	Kog	4.59	26	P		Pn	22 15 36.6	+1.3
KOGS	Kog	4.59	26	P		Pn	22 15 36.6	+1.3
REVF	Revere	4.59	290	P		Pn	22 15 36.1	+0.8
AUTN	L'Aution	4.63	293	P		Pn	22 15 37.2	+1.2
BRMO	Bormio	4.64	334	P		Pn	22 15 38.0	+2.0
BRMO	Bormio	4.64	334	P		Pn	22 15 38.0	+2.0
BBLS	Lazići	4.69	69	ePn		Pn	22 15 38.1	+1.4
BBLS	Lazići	4.69	69	ePn		Pn	22 15 38.1	+1.4
MMGO	Monte Magaggia	4.70	184	P		Pn	22 15 41.3	+4.5
MMGO	Monte Magaggia	4.70	184	P		Pn	22 15 41.3	+4.5
KBA	Koelnbreinsper	4.72	0	⇑iPn		Pn	22 15 37.9	+0.7
	SNR=25							
KBA	Koelnbreinsper	4.72	0	P		Pn	22 15 38.2	+1.0
KBA	Koelnbreinsper	4.72	0	Pn		Pn	22 15 37.9	+0.7
	SNR=25							
KBA	Koelnbreinsper	4.72	0	P		Pn	22 15 38.2	+1.0
TOUF	Mont Tournerai	4.75	292	P		Pn	22 15 38.9	+1.2
CALN	Calern	4.93	289	P		Pn	22 15 41.2	+1.1
DOI	San Damiano	4.93	298	P		Pn	22 15 42.4	+2.4
DOI	San Damiano	4.93	298	P		Pn	22 15 42.4	+2.4
SJES	Sjenica	4.96	77	ePn		Pn	22 15 41.0	+0.5
TIR	Tirane	4.97	100	ePn		Pn	22 15 42.0	+1.5
TIR	Tirane	4.97	100	ePn		Pn	22 15 41.6	+1.1
TIR				eSn		Sn	22 16 37.0	-1.4
TIR	Tirane	4.97	100	ePn		Pn	22 15 41.6	+1.1
TIR				eSn		Sn	22 16 37.0	-1.4
TEKS	Tekeris	5.01	62	ePn		Pn	22 15 42.2	+1.2
TEKS	Tekeris	5.01	62	ePn		Pn	22 15 42.2	+1.2
TUE	Stuetta	5.01	327	ePn		Pn	22 15 42.6	+1.4
TUE				eSn		Sn	22 16 40.6	+1.0
TUE	Stuetta	5.01	327	ePn		Pn	22 15 42.7	+1.4
TUE				eSn		Sn	22 16 40.6	+1.0
FETA	Feichten	5.02	339	⇓iPn		Pn	22 15 43.2	+1.9
	SNR=30							
FETA	Feichten	5.02	339	P		Pn	22 15 43.8	+2.4
FETA	Feichten	5.02	339	Pn		Pn	22 15 43.2	+1.9
	SNR=30							
FETA	Feichten	5.02	339	P		Pn	22 15 43.8	+2.4
WTTA	Wattenberg	5.05	347	⇓iPn		Pn	22 15 43.7	+1.9
	SNR=26							
WTTA	Wattenberg	5.05	347	P		Pn	22 15 43.8	+1.9
WTTA	Wattenberg	5.05	347	Pn		Pn	22 15 43.7	+1.9
	SNR=26							
FRF	La Foret Royal	5.06	286	ePn		Pn	22 15 41.9	+0.2
FRF	La Foret Royal	5.06	286	Pn		Pn	22 15 41.3	-0.4
FRF	La Foret Royal	5.06	286	ePn		Pn	22 15 41.9	+0.2
DAVOX	Davos/Dischmat	5.07	332	Pn		Pn	22 15 42.8	+0.8
	comp=Z,3.3nm,0.3s,baz=160,slow=18,SNR=31							
DAVOX				Sn		Sn	22 16 44.0	+3.0
	comp=Z,2.8nm,0.3s,baz=308,slow=23,SNR=4.8							
LMR	La Mourre	5.12	283	ePn		Pn	22 15 42.3	-0.2
LMR	La Mourre	5.12	283	Pn		Pn	22 15 42.9	+0.4
LMR	La Mourre	5.12	283	Pn		Pn	22 15 42.9	+0.4
ARSA	Arzberg	5.13	17	P		Pn	22 15 45.4	+2.6
ARSA	Arzberg	5.13	17	P		Pn	22 15 45.4	+2.6
WATA	Walderalm	5.13	346	iPn		Pn	22 15 45.4	+2.4
	SNR=27							
WATA	Walderalm	5.13	346	P		Pn	22 15 45.3	+2.4
WATA	Walderalm	5.13	346	P		Pn	22 15 45.3	+2.4
DIVS	Divibare	5.16	68	⇓iPn		Pn	22 15 43.7	+0.5
DIVS				eSn		Sn	22 16 43.0	-0.1
DIVS	Divibare	5.16	68	⇓iPn		Pn	22 15 43.7	+0.5
DIVS				eSn		Sn	22 16 43.0	-0.1
MBDF	Montbardon	5.33	299	eP		Pn	22 15 47.2	+1.6
MBDF	Montbardon	5.33	299	P		Pn	22 15 47.4	+1.8
MBDF	Montbardon	5.33	299	eP		Pn	22 15 47.2	+1.6
PKSM	Moragy	5.42	43	P		Pn	22 15 50.0	+3.5
PKSM	Moragy	5.42	43	⇓iP		Pn	22 15 50.1	+3.5
PKSM	Moragy	5.42	43	eP		Pn	22 15 47.0	+0.4
PKSM	Moragy	5.42	43	eP		Pn	22 15 47.0	+0.4
OGDI	Digne	5.43	291	P		Pn	22 15 50.6	+3.7
DAVA	Damuels	5.51	335	⇑iPn		Pn	22 15 49.8	+1.8
	SNR=10							
DAVA	Damuels	5.51	335	P		Pn	22 15 50.7	+2.7
DAVA	Damuels	5.51	335	Pn		Pn	22 15 49.8	+1.8
	SNR=10							
DAVA	Damuels	5.51	335	P		Pn	22 15 50.7	+2.7
BNI	Bardonecchia	5.53	301	ePn		Pn	22 15 49.0	+0.7
BNI				eSn		Sn	22 16 54.1	+1.8
BNI	Bardonecchia	5.53	301	ePn		Pn	22 15 49.0	+0.7
BNI				eSn		Sn	22 16 54.1	+1.8
MOA	Molln	5.53	6	⇑iPn		Pn	22 15 48.8	+0.6
	SNR=40							
MOA	Molln	5.53	6	P		Pn	22 15 49.6	+1.4
MOA	Molln	5.53	6	Pn		Pn	22 15 48.8	+0.6
	SNR=40							
MOA	Molln	5.53	6	P		Pn	22 15 49.6	+1.4
GRUS	Gruza	5.61	72	ePn		Pn	22 15 50.2	+0.9
GRUS				eSn		Sn	22 16 52.9	-1.2
GRUS	Gruza	5.61	72	ePn		Pn	22 15 50.2	+0.9
GRUS				eSn		Sn	22 16 52.9	-1.2
LPG	La Plagne	5.70	306	eP		Pn	22 15 52.6	+1.8
LPG				eSn		Sn	22 16 50.6	-6.2
	comp=Z,18nm,0.6s							
LPG	La Plagne	5.70	306	Pn		Pn	22 15 53.4	+2.6
LPG	La Plagne	5.70	306	eP		Pn	22 15 52.6	+1.8
LPG	La Plagne	5.70	306	Pn		Pn	22 15 53.4	+2.6
LPL	La Plagne	5.72	306	eP		Pn	22 15 52.9	+1.9
LPL				eSn		Sn	22 16 50.9	-6.3
	comp=Z,10nm,0.5s							
LPL	La Plagne	5.72	306	Pn		Pn	22 15 51.9	+0.9
LPL				Sn		Sn	22 16 55.6	-1.6
LPL	La Plagne	5.72	306	Pn		Pn	22 15 51.9	+0.9
LPL	La Plagne	5.72	306	eP		Pn	22 15 52.9	+1.9
CONA	Conrad Observa	5.85	17	⇑iPn		Pn	22 15 52.6	0.0
	SNR=21							
CONA	Conrad Observa	5.85	17	Pn		Pn	22 15 52.6	0.0
	SNR=21							
SMRF	Simiane la Rot	5.91	289	eP		Pn	22 15 55.3	+1.8
SMRF	Simiane la Rot	5.91	289	P		Pn	22 15 55.2	+1.8
SMRF	Simiane la Rot	5.91	289	P		Pn	22 15 55.2	+1.8
ARBF	Arbois	5.99	284	P		Pn	22 15 57.0	+2.5
ARBF	Arbois	5.99	284	P		Pn	22 15 57.0	+2.5
ORIF	Oris-en-Rattie	5.99	298	eP		Pn	22 15 57.8	+3.2
ORIF				eSn		Sn	22 16 57.4	-6.2
	comp=Z,10nm,0.7s							
ORIF	Oris-en-Rattie	5.99	298	P		Pn	22 15 58.0	+3.4
ORIF	Oris-en-Rattie	5.99	298	eP		Pn	22 15 57.8	+3.2
SVIS	Svilajnac	6.05	69	ePn		Pn	22 15 55.6	+0.3
SVIS	Svilajnac	6.05	69	ePn		Pn	22 15 55.6	+0.3
BARS	Barje	6.27	83	⇑iPn		Pn	22 15 59.0	+0.6
BARS	Barje	6.27	83	⇑iPn		Pn	22 15 59.0	+0.6
GEC2	GERESS Array S	6.50	2	ePn		Pn	22 16 01.2	-0.3
GEC2				eSn		Sn	22 17 13.6	-2.4
GEC2	GERESS Array S	6.50	2	ePn		Pn	22 16 01.6	+0.1
GEC2				eSn		Sn	22 17 12.7	-3.3
GEC2	GERESS Array S	6.50	2	ePn		Pn	22 16 01.6	+0.1
GERES	GERESS Array B	6.50	2	Pn		Pn	22 16 01.2	-0.3
	comp=Z,0.8nm,0.3s,baz=172,slow=13,SNR=29							
GERES				Sn		Sn	22 17 14.5	-1.5
	comp=Z,2.9nm,0.3s,baz=192,slow=28,SNR=12							
BBS	Basel-Blauen	6.57	323	P		Pn	22 16 03.3	+0.8
SPAK	Spaichingen-Ko	6.58	332	P		Pn	22 16 04.9	+2.2
CABF	La Chapelle	6.71	312	ePn		Pn	22 16 04.0	-0.4
CABF				eSn		Sn	22 17 14.5	-6.8
	comp=Z,26nm,1.0s							
CABF	La Chapelle	6.71	312	Pn		Pn	22 16 05.4	+1.0
CABF				Sn		Sn	22 17 20.2	-1.1
CABF	La Chapelle	6.71	312	Pn		Pn	22 16 05.4	+1.0
CABF				Sn		Sn	22 17 20.2	-1.1
VIVF	Saint-Julien-l	6.77	295	eP		Pn	22 16 07.1	+1.9
VIVF	Saint-Julien-l	6.77	295	P		Pn	22 16 06.9	+1.7
VIVF	Saint-Julien-l	6.77	295	P		Pn	22 16 06.9	+1.7
KHC	Kasperske Hory	6.78	1	ePN		Pn	22 16 04.6	-0.7
KHC				ex		x	22 16 14.5	
KHC				eSN		Sn	22 17 19.1	-3.8
KHC	Kasperske Hory	6.78	1	ePn		Pn	22 16 04.8	-0.5
KHC				eSn		Sn	22 17 16.2	-6.6
KHC	Kasperske Hory	6.78	1	ePn		Pn	22 16 04.8	-0.5
WET	Wettzell	6.80	357	ePn		Pn	22 16 05.5	-0.1
WET				eSn		Sn	22 17 18.8	-4.5
WET	Wettzell	6.80	357	P		Pn	22 16 05.8	+0.2
WET	Wettzell	6.80	357	P		Pn	22 16 05.8	+0.2
BZS	Buzias	6.80	59	P		Pn	22 16 07.6	+2.0
BZS	Buzias	6.80	59	⇑iP		Pn	22 16 07.8	+2.2
BZS	Buzias	6.80	59	⇑iPn		Pn	22 16 07.3	+1.7
BZS	Buzias	6.80	59	⇑iPn		Pn	22 16 07.3	+1.7
BZS	Buzias	6.80	59	P		Pn	22 16 07.6	+2.0
LOMF	Lomont	6.81	319	P		Pn	22 16 06.6	+0.8
ZAPS	Zavoj	6.89	79	ePn		Pn	22 16 08.2	+1.3
ZAPS	Zavoj	6.89	79	ePn		Pn	22 16 08.2	+1.3
BFO	Black Forest	6.94	331	ePn		Pn	22 16 07.5	0.0
BFO				eSn		Sn	22 17 24.3	-2.5
BFO	Black Forest	6.94	331	ePn		Pn	22 16 07.5	0.0
MOF	Molkenrain	7.03	323	P		Pn	22 16 08.9	0.0
TREC	Trest	7.10	11	ePN		Pn	22 16 09.3	-0.4
TREC	Trest	7.10	11	Pn		Pn	22 16 09.3	-0.4
HINF	Hinteralfeld	7.13	322	ePn		Pn	22 16 09.6	-0.6
HINF				eSn		Sn	22 17 24.6	-7.0
	comp=Z,19nm,0.6s							
HINF	Hinteralfeld	7.13	322	Pn		Pn	22 16 10.9	+0.7
HINF				Sn		Sn	22 17 30.7	-0.9
HINF	Hinteralfeld	7.13	322	Pn		Pn	22 16 10.9	+0.7
HINF				Sn		Sn	22 17 30.7	-0.9
LASF	Ste Croix	7.14	287	ePn		Pn	22 16 09.5	-0.8
LASF	Ste Croix	7.14	287	Pn		Pn	22 16 11.4	+1.1
LASF	Ste Croix	7.14	287	Pn		Pn	22 16 11.4	+1.1
PSZ	Piszkesteto	7.24	38	ePn		Pn	22 16 10.7	-0.9
PSZ	Piszkesteto	7.24	38	ePn		Pn	22 16 10.7	-0.9
VTS	Vitosha	7.30	85	P		Pn	22 16 14.1	+1.5
VTS	Vitosha	7.30	85	⇑iP		Pn	22 16 14.1	+1.5
VTS	Vitosha	7.30	85	S		Sn	22 17 33.0	-2.9
VTS	Vitosha	7.30	85	⇑iPn		Pn	22 16 14.1	+1.5
VTS	Vitosha	7.30	85	⇑iP		Pn	22 16 14.1	+1.5
KEST	Kesra	7.31	206	ePn		Pn	22 16 17.0	+4.4
KEST	Kesra	7.31	206	Pn		Pn	22 16 15.7	+3.0
	comp=Z,1.3nm,0.3s,baz=304,slow=3.2,SNR=45							
VRAC	Vranov	7.31	17	Pn		Pn	22 16 12.7	0.0
	comp=Z,0.3nm,0.3s,baz=213,slow=15,SNR=3.2							
VRAC				LR		LR	22 19 14.0	
	comp=Z,65nm,18.3s,baz=209,slow=40							
VRAC	Vranov	7.31	17	ePn		Pn	22 16 12.6	0.0
CDF	Champ du Feu	7.41	327	ePn		Pn	22 16 13.3	-0.7
CDF				eSn		Sn	22 17 31.3	-7.2
	comp=Z,21nm,0.6s							
CDF	Champ du Feu	7.41	327	Pn		Pn	22 16 14.5	+0.5
CDF	Champ du Feu	7.41	327	Pn		Pn	22 16 14.5	+0.5
ROTZ	Rotzenmuhle	7.45	354	ePn		Pn	22 16 16.3	+1.7
ROTZ				eSn		Sn	22 17 35.8	-3.7
GRFO	Grafenberg	7.48	349	ePn		Pn	22 16 15.2	+0.2
GRFO				eSn		Sn	22 17 33.7	-6.5
GRFO	Grafenberg	7.48	349	ePn		Pn	22 16 15.2	+0.2
HAU	Haudompre	7.50	321	ePn		Pn	22 16 15.0	-0.3
HAU				eSn		Sn	22 17 33.1	-7.6
	comp=Z,22nm,0.5s							
HAU	Haudompre	7.50	321	P		Pn	22 16 15.0	-0.3
HAU	Haudompre	7.50	321	ePn		Pn	22 16 15.0	-0.3
LANF	Langenberg	7.67	332	P		Pn	22 16 18.0	+0.4
PRU	Pruhonice	7.68	6	ePN		Pn	22 16 17.2	-0.4
PRU				eSN		Sn	22 17 40.1	-4.9
PRU	Pruhonice	7.68	6	Pn		Pn	22 16 17.2	-0.4
EJON	La Jonquera	7.74	274	P		Pn	22 16 17.8	-0.7
EJON	La Jonquera	7.74	274	P		Pn	22 16 17.8	-0.7
MORC	Moravsky Berou	7.97	20	ePn		Pn	22 16 23.8	+2.1
MORC	Moravsky Berou	7.97	20	ePn		Pn	22 16 23.8	+2.1
DRGR		8.02	53	P		Pn	22 16 25.3	+2.9
DRGR		8.02	53	⇓iP		Pn	22 16 25.3	+2.9
DRGR		8.02	53	P		Pn	22 16 25.3	+2.9
SMF	Signal de Mont	8.03	306	ePn		Pn	22 16 21.6	-0.9
SMF				eSn		Sn	22 17 46.0	-7.7
	comp=Z,7.4nm,0.6s							
SMF	Signal de Mont	8.03	306	Pn		Pn	22 16 24.5	+2.0
SMF	Signal de Mont	8.03	306	Pn		Pn	22 16 24.5	+2.0
GUNZ	Gunzen	8.04	355	eSn		Sn	22 17 51.8	-2.1
WERD	Werda	8.13	355	ePn		Pn	22 16 24.6	+0.8
CFON	Fontmartina	8.14	269	P		Pn	22 16 23.6	-0.5
CFON	Fontmartina	8.14	269	P		Pn	22 16 23.6	-0.5
PAGF	Fort de Pagny	8.19	322	ePn		Pn	22 16 22.6	-2.0
PAGF				eSn		Sn	22 17 49.8	-7.7
	comp=Z,1.4nm,0.5s							
PVCC	Panska Ves	8.22	5	ePN		Pn	22 16 23.9	-1.1
PVCC	Panska Ves	8.22	5	Pn		Pn	22 16 23.9	-1.1
MTLF	Montolieu	8.23	281	ePn		Pn	22 16 24.6	-0.7
MTLF	Montolieu	8.23	281	Pn		Pn	22 16 25.0	-0.3
MTLF	Montolieu	8.23	281	Pn		Pn	22 16 25.0	-0.3
DPC	Dobruska-Polom	8.26	13	ePN		Pn	22 16 26.2	+0.6
DPC	Dobruska-Polom	8.26	13	Pn		Pn	22 16 26.2	+0.6
SFTF	Sexfontaines	8.27	318	ePn		Pn	22 16 23.8	-2.0
SFTF				eSn		Sn	22 17 51.9	-7.7
	comp=Z,5.4nm,0.5s							
LOR	Lormes	8.34	309	ePn		Pn	22 16 24.3	-2.4
LOR				eSn		Sn	22 17 53.3	-7.9
	comp=Z,6.3nm,0.6s							
LOR	Lormes	8.34	309	Pn		Pn	22 16 26.5	-0.2
LOR	Lormes	8.34	309	Pn		Pn	22 16 26.5	-0.2
ETOS	Mallorca	8.36	256	P		Pn	22 16 29.0	+1.9
ETOS	Mallorca	8.36	256	P		Pn	22 16 29.0	+1.9
MOX	Moxa	8.38	352	ePn		Pn	22 16 26.3	-0.9
MOX				eSn		Sn	22 17 57.3	-4.8
AVF	Avril sur Loir	8.39	305	ePn		Pn	22 16 25.0	-2.5
AVF				eSn		Sn	22 17 54.5	-8.1
	comp=Z,3.1nm,0.6s							
AVF	Avril sur Loir	8.39	305	Pn		Pn	22 16 28.5	+1.0
AVF	Avril sur Loir	8.39	305	Pn		Pn	22 16 28.5	+1.0
SSF	Saint Saulge	8.44	307	ePn		Pn	22 16 25.7	-2.3
SSF				eSn		Sn	22 17 55.6	-8.0
	comp=Z,2.8nm,0.4s							
SSF	Saint Saulge	8.44	307	Pn		Pn	22 16 30.0	+2.0
SSF				Sn		Sn	22 18 00.8	-2.8
SSF	Saint Saulge	8.44	307	Pn		Pn	22 16 30.0	+2.0
MEZF	Maizieres J'vi	8.47	319	ePn		Pn	22 16 25.9	-2.6
MEZF				eSn		Sn	22 17 56.5	-7.9
	comp=Z,9.0nm,0.5s							
MEZF	Maizieres J'vi	8.47	319	Pn		Pn	22 16 30.0	+1.5
MEZF				Sn		Sn	22 18 03.8	-0.6
MEZF	Maizieres J'vi	8.47	319	Pn		Pn	22 16 30.0	+1.5
MEZF				Sn		Sn	22 18 03.8	-0.6
CAF	Calviac	8.57	291	eP		Pn	22 16 31.5	+1.5
CAF				eSn		Sn	22 17 59.2	-7.8
	comp=Z,0.8nm,0.4s							
CAF	Calviac	8.57	291	Pn		Pn	22 16 32.5	+2.5
CAF	Calviac	8.57	291	eP		Pn	22 16 31.5	+1.5
CAF	Calviac	8.57	291	Pn		Pn	22 16 32.5	+2.5
BGF	Bois d'Agland	8.60	303	ePn		Pn	22 16 28.2	-2.1
BGF				eSn		Sn	22 17 59.6	-8.1
	comp=Z,6.6nm,0.5s							
BGF	Bois d'Agland	8.60	303	Pn		Pn	22 16 32.5	+2.2
BGF	Bois d'Agland	8.60	303	Pn		Pn	22 16 32.5	+2.2
ARR	Arges	8.70	66	P		Pn	22 16 33.8	+2.1
ARR	Arges	8.70	66	⇑iP		Pn	22 16 33.9	+2.2
ARR	Arges	8.70	66	P		Pn	22 16 33.8	+2.1
WLF	Walferdange	8.85	328	ePn		Pn	22 16 34.6	+0.8
WLF	Walferdange	8.85	328	ePn		Pn	22 16 34.6	+0.8
TCF	Toulx Ste Croi	8.89	300	ePn		Pn	22 16 33.3	-1.1
TCF				eSn		Sn	22 17 13.6	-4.2
	comp=Z,1.5nm,0.5s							
TCF	Toulx Ste Croi	8.89	300	Pn		Pn	22 16 37.0	+2.6
TCF	Toulx Ste Croi	8.89	300	Pn		Pn	22 16 37.0	+2.6
CLL	Collm	8.96	359	ePn		Pn	22 16 37.0	+1.8
CLL				eSn		Sn	22 18 12.0	-4.4
CLL				eSg		Sg	22 19 21.0	+8.4
VOIR		9.00	66	P		Pn	22 16 38.9	+3.1
VOIR		9.00	66	⇓iP		Pn	22 16 38.9	+3.1
CSOR	Sort	9.04	274	P		Pn	22 16 37.5	+1.0
CSOR	Sort	9.04	274	P		Pn	22 16 37.5	+1.0
RJF	Les Rejaudoux	9.04	293	ePn		Pn	22 16 33.8	-2.6
RJF				eSn		Sn	22 18 10.1	-8.4
	comp=Z,0.8nm,0.5s							
RJF	Les Rejaudoux	9.04	293	P		Pn	22 16 38.3	+1.9
RJF	Les Rejaudoux	9.04	293	P		Pn	22 16 38.3	+1.9
EPOB	Poblet	9.21	268	P		Pn	22 16 39.0	+0.3
EPOB	Poblet	9.21	268	P		Pn	22 16 39.0	+0.3
LFF	La Frestale	9.49	290	ePn		Pn	22 16 40.2	-2.3
LFF				eSn		Sn	22 18 21.4	-8.2
	comp=Z,3.8nm,0.6s							
LFF	La Frestale	9.49	290	P		Pn	22 16 44.6	+2.1
LFF	La Frestale	9.49	290	P		Pn	22 16 44.6	+2.1
EPF	Esparros	9.60	278	ePn		Pn	22 16 41.1	-3.0
MLR	Muntele Rosu	9.62	67	P		Pn	22 16 47.1	+2.7
MLR	Muntele Rosu	9.62	67	⇑iP		Pn	22 16 47.2	+2.8
MLR	Muntele Rosu	9.62	67	Pn		Pn	22 16 46.6	+2.3
	comp=Z,0.1nm,0.3s,baz=142,slow=14,SNR=7.6							
MLR	Muntele Rosu	9.62	67	P		Pn	22 16 47.1	+2.7
GIVF	Givet	9.73	326	ePn		Pn	22 16 43.7	-2.1
GIVF				eSn		Sn	22 18 26.7	-8.8
	comp=Z,3.1nm,0.4s							
EBIE	Bielsa	9.75	276	P		Pn	22 16 49.1	+2.8
EBIE	Bielsa	9.75	276	P		Pn	22 16 49.1	+2.8
KWP	Kalwaria Pacla	9.76	39	P		Pn	22 16 51.5	+5.3
KWP	Kalwaria Pacla	9.76	39	⇑iP		Pn	22 16 51.6	+5.3
ERTA	Horta de San J	9.84	266	P		Pn	22 16 47.7	+0.4
ERTA	Horta de San J	9.84	266	P		Pn	22 16 47.7	+0.4
BURAR	Bucovina Array	9.92	54	⇑iP		Pn	22 16 51.6	+3.2
BAIF	Baives	9.96	324	ePn		Pn	22 16 46.6	-2.4
BAIF				eSn		Sn	22 18 32.3	-8.8
	comp=Z,2.5nm,0.7s							
ETSF	Etsaut	10.26	278	ePn		Pn	22 16 50.4	-2.8
SJPF	Ste Jean	10.75	279	ePn		Pn	22 16 56.8	-2.9
EBEN	Beniarda	10.95	255	P		Pn	22 17 05.3	+2.7
EBEN	Beniarda	10.95	255	P		Pn	22 17 05.3	+2.7
SGMF	Saint Gilles	12.64	303	P		Pn	22 17 26.8	+1.2
SGMF	Saint Gilles	12.64	303	P		Pn	22 17 26.8	+1.2
ESDC	Sonseca Array	13.34	264	Pn		Pn	22 17 33.8	-1.5
	comp=Z

PSMN	**Pico do Norte,**	**8.87**	**338**	*e*Pn		**Pn**	**22 21 24.6**	**+0.6**
BART	**Pico Bartolome**	**9.61**	**340**	*e*Pn		**Pn**	**22 21 36.1**	**+1.9**
BART				*e*P		**Sn**	**22 23 16.9**	**-5.4**
BART	**Pico Bartolome**	**9.61**	**340**	*e*Pn		**Pn**	**22 21 36.1**	**+1.9**
CMLA	**Cha da Macela**	**9.71**	**338**	*e*Pn		**Pn**	**22 21 36.9**	**+1.4**
CMLA				*e*P		Sn	22 23 18.3	-6.4
CMLA	**Cha da Macela**	**9.71**	**338**	*e*Pn		**Pn**	**22 21 37.0**	**+1.5**
	75nm,0.3s							
CMLA	**Cha da Macela**	**9.71**	**338**	*e*Pn		**Pn**	**22 21 36.9**	**+1.4**
PDA	**Ponta Delgada**	**9.74**	**337**	*e*Pn		**Pn**	**22 21 37.1**	**+1.2**
PDA				*e*P		Sn	22 23 19.0	-6.4
PDA	**Ponta Delgada**	**9.74**	**337**	*e*Pn		**Pn**	**22 21 37.1**	**+1.2**
PSET	**Sete Cidades**	**9.83**	**337**	*e*Pn		**Pn**	**22 21 38.9**	**+1.7**
PSET				*e*P		Sn	22 23 21.4	-6.3
PSET	**Sete Cidades**	**9.83**	**337**	*e*Pn		**Pn**	**22 21 38.9**	**+1.7**
PID	**Ribeirinha**	**11.31**	**330**	*e*Pn		**Pn**	**22 21 58.9**	**+1.5**
PID				*e*P		Sn	22 23 56.6	-7.2
PID	**Ribeirinha**	**11.31**	**330**	*e*Pn		**Pn**	**22 21 58.9**	**+1.5**
PMAN	**Manadas**	**11.45**	**331**	*e*Pn		**Pn**	**22 22 00.6**	**+1.3**
PMAN				*e*P		Sn	22 23 58.8	-8.5
PMAN	**Manadas**	**11.45**	**331**	*e*Pn		**Pn**	**22 22 00.6**	**+1.3**
PCAN	**Candelaria**	**11.49**	**329**	*e*Pn		**Pn**	**22 22 00.9**	**+1.1**
PCAN				*e*P		Sn	22 23 59.8	-8.4
PCAN	**Candelaria**	**11.49**	**329**	*e*Pn		**Pn**	**22 22 00.9**	**+1.1**
PICO	**Pico**	**11.49**	**329**	*e*Pn		**Pn**	**22 22 01.0**	**+1.1**
PICO				*e*P		Sn	22 23 57.9	-10
PICO	**Pico**	**11.49**	**329**	*e*Pn		**Pn**	**22 22 01.0**	**+1.1**
ROSA	**Rosais**	**11.59**	**330**	*e*Pn		**Pn**	**22 22 02.5**	**+1.3**
ROSA				*e*P		Sn	22 24 02.8	-7.9
ROSA	**Rosais**	**11.59**	**330**	*e*Pn		**Pn**	**22 22 02.5**	**+1.3**
CALA	**Caldeira**	**11.68**	**329**	*e*Pn		**Pn**	**22 22 04.0**	**+1.4**
CALA				*e*P		Sn	22 24 03.5	-10
CALA	**Caldeira**	**11.68**	**329**	*e*Pn		**Pn**	**22 22 04.0**	**+1.4**
PCED	**Cedros**	**11.72**	**329**	*e*Pn		Sn	22 24 05.3	-8.6
PCED	**Cedros**	**11.72**	**329**	*e*Pn		Sn	22 24 05.3	-8.6
PGRA	**Graciosa**	**11.74**	**332**	*e*Pn		**Pn**	**22 22 04.6**	**+1.3**
PGRA				*e*P		Sn	22 24 07.9	-6.5
PGRA	**Graciosa**	**11.74**	**332**	*e*Pn		**Pn**	**22 22 04.6**	**+1.3**
PFVI	**Vila Bisbo**	**13.12**	**48**	*e*P		Pn	22 22 26.9	+4.7
PFVI				A		A	22 24 55.0	
	7.6nm,0.6s							
PFVI	**Vila Bisbo**	**13.12**	**48**	P		Pn	22 22 26.5	+4.4
PFVI				S		**Sn**	**22 24 46.8**	**-1.4**
PFVI	**Vila Bisbo**	**13.12**	**48**	*e*P		Pn	22 22 26.9	+4.7
	7.6nm,0.6s							
PFVI				S		**Sn**	**22 24 46.8**	**-1.4**
PTEO	**Sao Teotonio**	**13.43**	**46**	*e*P		**P**	**22 22 33.6**	**-2.2**
PTEO	**Sao Teotonio**	**13.43**	**46**	*e*P		**P**	**22 22 33.6**	**-2.2**
PBDV	**Barranco-do-Ve**	**13.77**	**49**	*e*P		P	22 22 36.1	-3.6
PBDV				*e*S		**Sn**	**22 25 03.8**	**-0.3**
	3.9nm,0.6s							
PBDV	**Barranco-do-Ve**	**13.77**	**49**	*e*P		P	22 22 36.1	-3.6
PBDV				*e*S		**Sn**	**22 25 03.8**	**-0.3**
	3.9nm,0.6s							
PNCL	**Nicolau / Gran**	**13.90**	**45**	*e*P		**P**	**22 22 39.6**	**-1.4**
PNCL				*e*S		**Sn**	**22 25 06.1**	**-1.0**
PNCL				A		A	22 25 20.5	
	3.7nm,0.5s							
PNCL	**Nicolau / Gran**	**13.90**	**45**	*e*P		**P**	**22 22 39.6**	**-1.4**
PNCL				*e*S		**Sn**	**22 25 06.1**	**-1.0**
	3.7nm,0.5s							
PCVE	**Castro Verde**	**13.92**	**47**	*e*P		**P**	**22 22 38.8**	**-2.5**
PCVE				*e*S		**Sn**	**22 25 07.9**	**+0.2**
PCVE				A		A	22 25 17.8	
	3.3nm,0.1s							
PCVE	**Castro Verde**	**13.92**	**47**	*e*P		**P**	**22 22 38.8**	**-2.5**
PCVE				*e*S		**Sn**	**22 25 07.9**	**+0.2**
	3.3nm,0.1s							
PVAQ	**Vaqueiros**	**14.00**	**49**	*e*P		**P**	**22 22 39.1**	**-3.1**
PVAQ				*e*S		**Sn**	**22 25 08.4**	**-1.3**
PVAQ				A		A	22 25 28.1	
	4.7nm,0.5s							
PVAQ	**Vaqueiros**	**14.00**	**49**	*e*P		**P**	**22 22 39.1**	**-3.1**
PVAQ				*e*S		**Sn**	**22 25 08.4**	**-1.3**
	4.7nm,0.5s							
EGRO	**El Granado**	**14.23**	**49**	P		**P**	**22 22 43.1**	**-1.6**
EGRO				S		**Sn**	**22 25 13.8**	**-1.4**
EGRO	**El Granado**	**14.23**	**49**	P		**P**	**22 22 43.1**	**-1.6**
EGRO				S		**Sn**	**22 25 13.8**	**-1.4**
PBEJ	**Beja**	**14.26**	**47**	*e*P		**P**	**22 22 43.5**	**-1.6**
PBEJ				*e*S		**Sn**	**22 25 12.4**	**-3.7**
PBEJ				A		A	22 25 21.9	
	1.4nm,0.3s							
PBEJ	**Beja**	**14.26**	**47**	*e*P		**P**	**22 22 43.5**	**-1.6**
PBEJ				*e*S		**Sn**	**22 25 12.4**	**-3.7**
	1.4nm,0.3s							
MDT	**Midelt**	**14.59**	**70**	Pn		**P**	**22 22 48.9**	**0.0**
MDT				Sn		**Sn**	**22 25 28.3**	**+4.0**
MDT	**Midelt**	**14.59**	**70**	Pn		**P**	**22 22 48.9**	**0.0**
	1.5nm,0.3s,baz=257,slow=8.9,SNR=36							
MDT				Sn		**Sn**	**22 25 28.3**	**+4.0**
	1.0nm,0.3s,baz=194,slow=10,SNR=6.9							
MDT				LR		LR	22 27 46.2	
	comp=Z,38nm,18.3s,baz=234,slow=34							
MDT	**Midelt**	**14.59**	**70**	Pn		**P**	**22 22 48.9**	**0.0**
MDT				Sn		**Sn**	**22 25 28.3**	**+4.0**
PMTG	**Montargil**	**14.69**	**43**	*e*P		**P**	**22 22 52.2**	**+2.4**
PMTG				A		A	22 25 51.6	
	1.9nm,0.6s							
PMTG	**Montargil**	**14.69**	**43**	*e*P		**P**	**22 22 52.2**	**+2.4**
	1.9nm,0.6s							
PBAR	**Barrancos**	**14.88**	**48**	*e*P		**P**	**22 22 52.2**	**+0.2**
PBAR				*e*S		**Sn**	**22 25 33.5**	**+2.4**
PBAR				A		A	22 25 44.2	
	2.1nm,0.2s							
PBAR	**Barrancos**	**14.88**	**48**	*e*P		**P**	**22 22 52.2**	**+0.2**
PBAR				*e*S		**Sn**	**22 25 33.5**	**+2.4**
	2.1nm,0.2s							
EMIN	**Mina Concepcio**	**14.90**	**49**	P		**P**	**22 22 51.3**	**-0.8**
EMIN				S		**Sn**	**22 25 27.9**	**-3.6**
EMIN	**Mina Concepcio**	**14.90**	**49**	P		**P**	**22 22 51.3**	**-0.8**
EMIN				S		**Sn**	**22 25 27.9**	**-3.6**
PESTR	**Estremoz**	**14.94**	**44**	*e*P		**P**	**22 22 54.5**	**+1.8**
PESTR				*e*S		**Sn**	**22 25 32.4**	**-0.3**
PESTR				A		A	22 25 48.6	
	1.7nm,0.5s							
PESTR	**Estremoz**	**14.94**	**44**	*e*P		**P**	**22 22 54.5**	**+1.8**
PESTR				*e*S		**Sn**	**22 25 32.4**	**-0.3**
	1.7nm,0.5s							
ESPR	**Espera**	**15.01**	**54**	P		**P**	**22 22 51.7**	**-1.6**
ESPR				S		**Sn**	**22 25 31.3**	**-2.8**
ESPR	**Espera**	**15.01**	**54**	P		**P**	**22 22 51.7**	**-1.6**
ESPR				S		**Sn**	**22 25 31.3**	**-2.8**
EBAD	**Badajoz**	**15.23**	**46**	P		**P**	**22 22 56.3**	**+0.4**
EBAD				S		**Sn**	**22 25 37.8**	**-1.9**
EBAD	**Badajoz**	**15.23**	**46**	P		**P**	**22 22 56.3**	**+0.4**
EBAD				S		**Sn**	**22 25 37.8**	**-1.9**
PMRV	**Marv??o**	**15.41**	**43**	*e*P		**P**	**22 23 01.4**	**+3.5**
PMRV				*e*S		**Sn**	**22 25 45.8**	**+1.7**
PMRV				A		A	22 25 54.4	
	1.8nm,0.8s							
PMRV	**Marv??o**	**15.41**	**43**	*e*P		**P**	**22 23 01.4**	**+3.5**
PMRV				*e*S		**Sn**	**22 25 45.8**	**+1.7**
	1.8nm,0.8s							
ELOJ	**Sierra Loja**	**16.35**	**55**	P		**P**	**22 23 12.3**	**+4.0**
ELOJ	**Sierra Loja**	**16.35**	**55**	P		**P**	**22 23 12.3**	**+4.0**
ELUQ	**Luque**	**16.45**	**54**	P		**P**	**22 23 13.1**	**+3.7**
ELUQ	**Luque**	**16.45**	**54**	P		**P**	**22 23 13.1**	**+3.7**
EADA	**Adamuz**	**16.52**	**51**	P		**P**	**22 23 13.0**	**+2.8**
EADA				S		**Sn**	**22 26 08.5**	**-2.5**
EADA	**Adamuz**	**16.52**	**51**	P		**P**	**22 23 13.0**	**+2.8**
EADA				S		**Sn**	**22 26 08.5**	**-2.5**
ERON	**Agron**	**16.54**	**56**	P		**P**	**22 23 14.6**	**+4.0**
ERON				S		**Sn**	**22 26 09.1**	**-2.6**
ERON	**Agron**	**16.54**	**56**	P		**P**	**22 23 14.6**	**+4.0**
ERON				S		**Sn**	**22 26 09.1**	**-2.6**
EPLA	**Plasencia**	**16.60**	**44**	P		**P**	**22 23 15.5**	**+4.4**
EPLA				S		**Sn**	**22 26 12.5**	**-0.5**
EPLA	**Plasencia**	**16.60**	**44**	P		**P**	**22 23 15.5**	**+4.4**
EPLA				S		**Sn**	**22 26 12.5**	**-0.5**
EGUA	**Guajares**	**16.64**	**57**	P		**P**	**22 23 14.3**	**+2.7**
EGUA	**Guajares**	**16.64**	**57**	P		**P**	**22 23 14.3**	**+2.7**
ELOB	**Lobios**	**16.71**	**35**	P		P	22 23 20.9	+8.5
ELOB	**Lobios**	**16.71**	**35**	P		P	22 23 20.9	+8.5
MVO	**Moncorvo**	**16.77**	**39**	P		P	22 23 20.1	+7.1
MVO	**Moncorvo**	**16.77**	**39**	P		P	22 23 20.0	+7.1
ECOG	**Cogollos-Vega**	**16.82**	**55**	P		P	22 23 18.9	+5.2
ECOG	**Cogollos-Vega**	**16.82**	**55**	P		P	22 23 18.9	+5.2
EBAN	**Banos Encina**	**17.07**	**52**	P		**P**	**22 23 20.2**	**+4.0**
EBAN				S		**Sn**	**22 26 25.3**	**+1.1**
EBAN	**Banos Encina**	**17.07**	**52**	P		**P**	**22 23 20.2**	**+4.0**
EBAN				S		**Sn**	**22 26 25.3**	**+1.1**
EMAZ	**Mazaricos**	**17.09**	**31**	P		P	22 23 26.0	+10
EBER	**Berja**	**17.17**	**57**	P		**P**	**22 23 21.7**	**+4.2**
EBER				S		**Sn**	**22 26 26.0**	**-0.9**
EBER	**Berja**	**17.17**	**57**	P		**P**	**22 23 21.7**	**+4.2**
EBER				S		**Sn**	**22 26 26.0**	**-0.9**
PAB	**San Pablo**	**17.39**	**48**	*e*Pn		P	22 23 25.1	+5.3
	1.9nm,0.4s							
PAB				*e*Sn		**Sn**	**22 26 29.0**	**-3.1**
PAB	**San Pablo**	**17.39**	**48**	*e*Pn		P	22 23 25.1	+5.3
	1.9nm,0.4s							
PAB				*e*Sn		**Sn**	**22 26 29.0**	**-3.1**
EQES	**Quesada**	**17.41**	**54**	P		P	22 23 25.3	+5.2
EQES				S		Sn	22 26 24.9	-7.7
ECAL	**Calabor**	**17.46**	**38**	P		P	22 23 28.7	+8.1
ENIJ	**Nijar**	**17.70**	**58**	P		P	22 23 29.9	+6.7
ESDC	**Sonseca Array**	**17.71**	**48**	P		P	22 23 29.2	+5.9
ESDC	**Sonseca Array**	**17.71**	**48**	P		P	22 23 28.3	+4.9
	1.6nm,0.3s,baz=240,slow=13,SNR=28							
ESDC				LR		LR	22 29 57.4	
	comp=Z,46nm,19.2s,baz=250,slow=35							
ESLA	**Sonseca Array**	**17.71**	**48**	*e*Pn		P	22 23 30.2	+6.9
	0.3nm,0.4s							
EHUE	**Huescar**	**17.75**	**55**	P		P	22 23 30.1	+6.1
EHUE				S		**Sn**	**22 26 43.7**	**+2.6**
GUD	**Guadarrama**	**18.13**	**45**	P		P	22 23 35.5	+7.4
GUD				S		Sn	22 26 42.7	-7.4
EVIA	**Vianos**	**18.18**	**53**	P		P	22 23 35.7	+7.0
EPON	**Pontenova**	**18.25**	**34**	P		P	22 23 42.3	+13
EMUR	**La Murta**	**18.74**	**56**	P		Pn	22 23 43.4	+8.2
EMUR	**La Murta**	**18.74**	**56**	P		Pn	22 23 43.4	+8.2
ETOB	**Tobarra**	**18.85**	**54**	P		Pn	22 23 42.0	+5.5
ETOB				S		**Sn**	**22 27 03.2**	**-4.4**
EBEN	**Beniarda**	**19.82**	**55**	P		Pn	22 23 58.4	+10
EBEN	**Beniarda**	**19.82**	**55**	P		Pn	22 23 58.4	+10
EMOS	**Mosqueruela**	**20.37**	**50**	P		Pn	22 24 08.7	+14
EMOS	**Mosqueruela**	**20.37**	**50**	P		Pn	22 24 08.7	+14
ELIZ	**Elizondo**	**21.19**	**42**	P		P	22 24 21.2	+20
ELIZ	**Elizondo**	**21.19**	**42**	P		P	22 24 21.2	+20
EALK	**Alkurruntz**	**21.24**	**42**	P		P	22 24 21.4	+20
EALK	**Alkurruntz**	**21.24**	**42**	P		P	22 24 21.4	+20
EBIE	**Bielsa**	**21.94**	**45**	P		P	22 24 29.8	+20
EBIE	**Bielsa**	**21.94**	**45**	P		P	22 24 29.8	+20
CSOR	**Sort**	**22.40**	**47**	P		P	22 24 36.2	+22
CSOR	**Sort**	**22.40**	**47**	P		P	22 24 36.2	+22
SSB	**Saint Sauveur**	**26.00**	**44**	P		P	22 24 55.6	+6.8
SSB	**Saint Sauveur**	**26.00**	**44**	P		P	22 24 55.6	+6.8
TOA0	**Torodi Ar. Sit**	**26.19**	**122**	*e*P		**P**	**22 24 53.0**	**+2.3**
TORD	**Torodi Ar. Bea**	**26.19**	**122**	P		**P**	**22 24 52.1**	**+1.4**
TORD	**Torodi Ar. Bea**	**26.19**	**122**	P		**P**	**22 24 52.1**	**+1.4**
	0.8nm,0.7s,baz=312,slow=9.0,SNR=12							
DBIC	**Dimbokro**	**26.76**	**142**	LR		LR	22 34 56.5	
	comp=Z,34nm,18.2s,baz=146,slow=35							
DAVOX	**Davos/Dischmat**	**29.98**	**45**	LR		LR	22 37 14.1	
	comp=Z,46nm,18.9s,baz=263,slow=35							
NOA	**NORSAR Array B**	**38.70**	**24**	LR		LR	22 43 16.1	
	comp=Z,10nm,18.6s,baz=275,slow=37							
FINES	**FINESS Array B**	**44.94**	**30**	P		**P**	**22 27 31.6**	**+1.0**
FINES	**FINESS Array B**	**44.94**	**30**	P		**P**	**22 27 31.6**	**+1.0**
	0.6nm,0.5s,baz=232,slow=6.3,SNR=5.2							
FINES	**FINESS Array B**	**44.94**	**30**	P		**P**	**22 27 31.5**	**+1.0**
PDAR	**Pinedale Array**	**70.12**	**308**	P		P	22 30 23.9	-4.8
PDAR	**Pinedale Array**	**70.12**	**308**	P		P	22 30 23.9	-4.8
	2.7nm,0.8s,baz=80,slow=6.3,SNR=19							
TXAR	**Lajitas Array**	**70.68**	**293**	P		P	22 30 25.1	-7.0
TXAR	**Lajitas Array**	**70.68**	**293**	P		P	22 30 25.1	-7.0
	0.2nm,0.5s,baz=93,slow=6.6,SNR=4.1							
TXAR	**Lajitas Array**	**70.68**	**293**	P		P	22 30 25.1	-7.0
ILAR	**Eielson Array**	**77.73**	**339**	P		**P**	**22 31 10.8**	**-1.8**
ILAR	**Eielson Array**	**77.73**	**339**	P		**P**	**22 31 10.8**	**-1.8**
	0.3nm,0.7s,baz=46,slow=2.6,SNR=3.5							
ILAR	**Eielson Array**	**77.73**	**339**	P		**P**	**22 31 10.8**	**-1.8**
MKAR	**Makanchi Array**	**77.86**	**43**	P		**P**	**22 31 13.0**	**-0.7**
MKAR	**Makanchi Array**	**77.86**	**43**	P		**P**	**22 31 13.0**	**-0.7**
	0.3nm,0.6s,baz=325,slow=4.7,SNR=4.6							
MKAR	**Makanchi Array**	**77.86**	**43**	P		**P**	**22 31 13.0**	**-0.7**
SONM	**Songino Array**	**90.25**	**32**	P		**P**	**22 32 16.0**	**-0.9**
SONM	**Songino Array**	**90.25**	**32**	P		**P**	**22 32 16.0**	**-0.9**
	0.4nm,0.8s,baz=266,slow=4.3,SNR=3.0							
SONM	**Songino Array**	**90.25**	**32**	P		**P**	**22 32 16.0**	**-0.9**

ISCJB ***12*** *22:21:45.2±0.3, 42.34N±0.02×13.36E±0.03, h13km±2km, Error ellipse: s-maj=3.3km s-min=3.0km az=152.3*
CSEM ***12*** *22:21:45.7±0.1, 42.34N×13.39E, h2km, ML3.3/7, Error ellipse: s-maj=2.7km s-min=2.2km az=66.0*
ROM ***12*** *22:21:45.5±0.1, 42.34N×13.37E, h11km, Ml2.8/26, Error ellipse: s-maj=0.9km s-min=0.7km az=78.0*
LDG ***12*** *22:21:48.6±0.6, 42.33N×13.08E, h2km, Ml2.9/10, Error ellipse: s-maj=11.5km s-min=8.5km az=111.0*

ISC 12 22:21:46.1±0.9, 42.34N±0.02×13.36E±0.02, h11km±4km, n92, σ1°12/116, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.04**	**59**	Pg	**Pg**	**22 21 47.9**	**-0.4**
AQU				Sg	**Sg**	**22 21 49.1**	**-0.7**
	19µm,0.4s						
AQU	**L'Aquila**	**0.04**	**59**	Pg	**Pg**	**22 21 47.9**	**-0.4**
AQU				Sg	**Sg**	**22 21 49.1**	**-0.7**
	19µm,0.4s						
FIAM	**Fiamignano**	**0.19**	**249**	Pg	**Pg**	**22 21 50.7**	**+0.3**
FIAM				Sg	**Sg**	**22 21 53.9**	**+0.6**
	2µm,0.5s						
FIAM	**Fiamignano**	**0.19**	**249**	Pg	**Pg**	**22 21 50.7**	**+0.3**
FIAM				Sg	**Sg**	**22 21 53.9**	**+0.6**
	2µm,0.5s						
PTQR	**Pietraquaria**	**0.32**	**175**	Pg	**Pg**	**22 21 52.4**	**-0.1**
PTQR				Sg	**Sg**	**22 21 57.3**	**+0.5**
PTQR	**Pietraquaria**	**0.32**	**175**	Pg	**Pg**	**22 21 52.4**	**-0.1**
PTQR				Sg	**Sg**	**22 21 57.3**	**+0.5**
TERO	**Teramo**	**0.34**	**32**	Pg	**Pg**	**22 21 52.2**	**-0.8**
TERO				Sg	**Sg**	**22 21 58.5**	**+1.0**
	1µm,0.4s						
TERO	**Teramo**	**0.34**	**32**	Pg	**Pg**	**22 21 52.2**	**-0.8**
TERO				Sg	**Sg**	**22 21 58.5**	**+1.0**
	1µm,0.4s						
LNSS	**Leonessa**	**0.36**	**318**	Pg	**Pg**	**22 21 53.2**	**-0.1**
LNSS				Sg	**Sg**	**22 21 58.0**	**-0.1**
	1µm,0.7s						
LNSS	**Leonessa**	**0.36**	**318**	Pg	**Pg**	**22 21 53.2**	**-0.1**
LNSS				Sg	**Sg**	**22 21 58.0**	**-0.1**
	1µm,0.7s						
VCEL	**Villa Celiera**	**0.36**	**80**	Pg	**Pg**	**22 21 52.8**	**-0.6**
VCEL				Sg	**Sg**	**22 21 58.7**	**+0.5**
	2µm,0.8s						
VCEL	**Villa Celiera**	**0.36**	**80**	Pg	**Pg**	**22 21 52.8**	**-0.6**
VCEL				Sg	**Sg**	**22 21 58.7**	**+0.5**
	2µm,0.8s						
CERT	**Cerreto**	**0.48**	**216**	Pg	**Pg**	**22 21 55.4**	**-0.1**
CERT				Sg	**Sg**	**22 22 02.0**	**+0.1**
	969nm,0.3s						
CERT	**Cerreto**	**0.48**	**216**	Pg	**Pg**	**22 21 55.4**	**-0.1**
CERT				Sg	**Sg**	**22 22 02.0**	**+0.1**
	969nm,0.3s						
VVLD	**Villa Vallelon**	**0.50**	**157**	Pg	**Pg**	**22 21 55.3**	**-0.7**
	342nm,0.6s						
VVLD	**Villa Vallelon**	**0.50**	**157**	Pg	**Pg**	**22 21 55.3**	**-0.7**
	342nm,0.6s						
MNS	**Montasola**	**0.51**	**276**	Pg	**Pg**	**22 21 55.8**	**-0.3**
	387nm,0.6s						
MNS	**Montasola**	**0.51**	**276**	Pg	**Pg**	**22 21 55.8**	**-0.3**
	387nm,0.6s						
INTR	**Introdacqua**	**0.52**	**129**	Pg	**Pg**	**22 21 55.8**	**-0.5**
INTR				Sg	**Sg**	**22 22 03.5**	**+0.4**
	1µm,1.1s						
INTR	**Introdacqua**	**0.52**	**129**	Pg	**Pg**	**22 21 55.8**	**-0.5**
INTR				Sg	**Sg**	**22 22 03.5**	**+0.4**
	1µm,1.1s						
NRCA	**Norcia**	**0.53**	**340**	Pg	**Pg**	**22 21 56.0**	**-0.5**
NRCA				Sg	**Sg**	**22 22 03.8**	**+0.2**
NRCA	**Norcia**	**0.53**	**340**	Pg	**Pg**	**22 21 56.0**	**-0.5**
NRCA				Sg	**Sg**	**22 22 03.8**	**+0.2**
GUAR	**Guarcino**	**0.54**	**184**	Pg	**Pg**	**22 21 56.1**	**-0.6**
	338nm,0.4s						
GUAR	**Guarcino**	**0.54**	**184**	Pg	**Pg**	**22 21 56.1**	**-0.6**
	338nm,0.4s						
MTCE	**Montecelio**	**0.56**	**236**	Pg	**Pg**	**22 21 56.8**	**-0.2**
MTCE	**Montecelio**	**0.56**	**236**	Pg	**Pg**	**22 21 56.8**	**-0.2**
CESX	**Cesi**	**0.64**	**296**	Pg	**Pg**	**22 21 58.4**	**-0.2**
	383nm,0.5s						
CESX	**Cesi**	**0.64**	**296**	Pg	**Pg**	**22 21 58.4**	**-0.2**
	383nm,0.5s						
OFFI	**Offida**	**0.65**	**22**	Pg	**Pg**	**22 21 57.6**	**-1.1**
	1µm,0.5s						
OFFI	**Offida**	**0.65**	**22**	Pg	**Pg**	**22 21 57.6**	**-1.1**
	1µm,0.5s						
POFI	**Posta Fibreno**	**0.67**	**157**	Pg	**Pg**	**22 21 58.5**	**-0.7**
POFI	**Posta Fibreno**	**0.67**	**157**	Pg	**Pg**	**22 21 58.5**	**-0.7**
SDI	**San Donato**	**0.71**	**152**	Pg	**Pg**	**22 21 58.8**	**-1.1**
	82nm,0.4s						
SDI	**San Donato**	**0.71**	**152**	Pg	**Pg**	**22 21 58.8**	**-1.1**
	82nm,0.4s						
RMP	**Rome, Mte Porz**	**0.72**	**223**	Pg	**Pg**	**22 21 59.4**	**-0.6**
	292nm,0.5s						
RMP	**Rome, Mte Porz**	**0.72**	**223**	Pg	**Pg**	**22 21 59.4**	**-0.6**
	292nm,0.5s						
FDMO	**Fiordimonte**	**0.73**	**344**	Pg	**Pg**	**22 21 59.3**	**-1.0**
	244nm,0.3s						
FDMO	**Fiordimonte**	**0.73**	**344**	Pg	**Pg**	**22 21 59.3**	**-1.0**
	244nm,0.3s						
CAFR	**Castel Frentan**	**0.74**	**98**	Pg	**Pg**	**22 21 59.9**	**-0.5**
CAFR	**Castel Frentan**	**0.74**	**98**	Pg	**Pg**	**22 21 59.9**	**-0.5**
CESI	**CESI - Serrava**	**0.75**	**333**	Pg	**Pg**	**22 21 59.8**	**-0.8**
	109nm,0.3s						
CESI	**CESI - Serrava**	**0.75**	**333**	Pg	**Pg**	**22 21 59.8**	**-0.8**
	109nm,0.3s						
RDP	**Rocca di Papa**	**0.75**	**220**	Pg	**Pg**	**22 22 00.1**	**-0.6**
	554nm,0.4s						
RDP	**Rocca di Papa**	**0.75**	**220**	Pg	**Pg**	**22 22 00.1**	**-0.6**
	554nm,0.4s						
GIUL	**Giuliano Di Ro**	**0.78**	**186**	Pg	**Pg**	**22 22 00.4**	**-0.8**
	185nm,0.6s						
GIUL	**Giuliano Di Ro**	**0.78**	**186**	Pg	**Pg**	**22 22 00.4**	**-0.8**
	185nm,0.6s						
GUMA	**Gualdo di Mace**	**0.84**	**30**	Pg	Pg	22 21 59.4	-3.0
	831nm,0.4s						
GUMA	**Gualdo di Mace**	**0.84**	**30**	Pg	Pg	22 21 59.4	-3.0
	831nm,0.4s						
RNI2	**Rionero Sannit**	**0.86**	**137**	Pg	**Pg**	**22 22 02.7**	**-0.1**
	246nm,0.7s						
RNI2	**Rionero Sannit**	**0.86**	**137**	Pg	**Pg**	**22 22 02.7**	**-0.1**
	246nm,0.7s						
ASSB	**Assisi San Ben**	**0.88**	**324**	Pg	**Pg**	**22 22 02.2**	**-0.9**
	224nm,0.3s						
ASSB	**Assisi San Ben**	**0.88**	**324**	Pg	**Pg**	**22 22 02.2**	**-0.9**
	224nm,0.3s						
CERA	**Filignano**	**0.89**	**146**	Pg	**Pg**	**22 22 01.9**	**-1.3**
	190nm,0.7s						
CERA	**Filignano**	**0.89**	**146**	Pg	**Pg**	**22 22 01.9**	**-1.3**
	190nm,0.7s						
MIDA	**Miranda**	**0.96**	**136**	Pg	**Pg**	**22 22 03.0**	**-1.7**
	203nm,1.1s						
MIDA	**Miranda**	**0.96**	**136**	Pg	**Pg**	**22 22 03.0**	**-1.7**
	203nm,1.1s						
CING	**Cingoli**	**1.05**	**353**	Pg	**Pg**	**22 22 04.8**	**-1.5**
	152nm,0.4s						
CING	**Cingoli**	**1.05**	**353**	Pg	**Pg**	**22 22 04.8**	**-1.5**
	152nm,0.4s						
MGAB	**Montegabbione**	**1.09**	**302**	Pg	**Pg**	**22 22 06.6**	**-0.5**
	149nm,0.5s						
MGAB	**Montegabbione**	**1.09**	**302**	Pg	**Pg**	**22 22 06.6**	**-0.5**
	149nm,0.5s						
MURB	**Monte Urbino**	**1.11**	**327**	Pg	**Pg**	**22 22 06.7**	**-0.9**
	345

	baz=0.2,SNR=1000									
I24A	**Kuemmerle Ranc**	**0.48**	**106**		P		**Pg**	**22 35 17.5**	**+0.5**	
	baz=0.4,SNR=111									
I24A	**Kuemmerle Ranc**	**0.48**	**106**		P		**Pg**	**22 35 17.5**	**+0.5**	
	baz=0.4,SNR=111									
H23A	**Clabaugh Cattl**	**0.58**	**350**		P		**Pb**	**22 35 20.1**	**-0.8**	
	baz=0.6,SNR=16									
H23A	**Clabaugh Cattl**	**0.58**	**350**		P		**Pb**	**22 35 20.1**	**-0.8**	
	baz=0.6,SNR=16									
J23A	**Dilts Ranch, B**	**0.62**	**200**		⇑P		**Pg**	**22 35 19.0**	**-0.7**	
	baz=0.7									
J23A	**Dilts Ranch, B**	**0.62**	**200**		⇑P		**Pg**	**22 35 19.0**	**-0.7**	
	baz=0.7									
J24A	**Dixon Ranch, L**	**0.79**	**146**		P		**Pg**	**22 35 22.7**	**-0.3**	
	baz=0.8,SNR=214									
J24A	**Dixon Ranch, L**	**0.79**	**146**		P		**Pg**	**22 35 22.7**	**-0.3**	
	baz=0.8,SNR=214									
I22A	**9 Mile Ranch,**	**0.89**	**264**		P		**Pg**	**22 35 24.4**	**-0.4**	
	baz=0.9,SNR=58									
I22A					⇑S		**Sg**	**22 35 36.2**	**-0.2**	
	baz=0.9									
I22A	**9 Mile Ranch,**	**0.89**	**264**		P		**Pg**	**22 35 24.4**	**-0.4**	
	baz=0.9,SNR=58									
I22A					⇑S		**Sg**	**22 35 36.2**	**-0.2**	
	baz=0.9									
RSSD	**Black Hills**	**0.89**	**81**		ePg		**Pg**	**22 35 25.1**	**+0.1**	
RSSD					eSg		**Sg**	**22 35 34.9**	**-1.6**	
H24A	**Dirks Ranch, A**	**0.91**	**34**		⇓P		**Pg**	**22 35 25.7**	**+0.4**	
	baz=0.9,SNR=105									
H24A	**Dirks Ranch, A**	**0.91**	**34**		⇓P		**Pg**	**22 35 25.7**	**+0.4**	
	baz=0.9,SNR=105									
H22A	**Clearmont**	**0.99**	**308**		⇓P		**Pg**	**22 35 27.0**	**+0.2**	
	baz=1.0,SNR=45									
H22A	**Clearmont**	**0.99**	**308**		⇓P		**Pg**	**22 35 27.0**	**+0.2**	
	baz=1.0,SNR=45									
J22A	**Midwest**	**1.05**	**237**		P		**Pg**	**22 35 26.5**	**-1.6**	
	baz=1.1,SNR=214									
J22A	**Midwest**	**1.05**	**237**		P		**Pg**	**22 35 26.5**	**-1.6**	
	baz=1.1,SNR=214									
I25A	**Rochford**	**1.10**	**88**		⇓P		**Pg**	**22 35 29.1**	**+0.1**	
	baz=1.1									
I25A	**Rochford**	**1.10**	**88**		⇓P		**Pg**	**22 35 29.1**	**+0.1**	
	baz=1.1									
G23A	**Biddle**	**1.21**	**356**		P		**Pg**	**22 35 31.1**	**0.0**	
	baz=1.2,SNR=178									
G23A	**Biddle**	**1.21**	**356**		P		**Pg**	**22 35 31.1**	**0.0**	
	baz=1.2,SNR=178									
J25A	**Sunshine Ranch**	**1.22**	**119**		P		**Pg**	**22 35 30.5**	**-0.7**	
	baz=1.2,SNR=104									
J25A	**Sunshine Ranch**	**1.22**	**119**		P		**Pg**	**22 35 30.5**	**-0.7**	
	baz=1.2,SNR=104									
K24A	**Anderson Ranch**	**1.31**	**165**		⇓P		**Pg**	**22 35 31.5**	**-1.4**	
	baz=1.3,SNR=111									
K24A					⇓S		**Sg**	**22 35 49.4**	**-0.5**	
	baz=1.3									
K24A	**Anderson Ranch**	**1.31**	**165**		⇓P		**Pg**	**22 35 31.5**	**-1.4**	
	baz=1.3,SNR=111									
K24A					⇓S		**Sg**	**22 35 49.4**	**-0.5**	
	baz=1.3									
H25A	**Fruitdale**	**1.35**	**62**		⇓P		**Pg**	**22 35 33.7**	**-0.1**	
	baz=1.3,SNR=46									
H25A					S		**Sn**	**22 35 53.0**	**+0.3**	
	baz=1.3									
H25A	**Fruitdale**	**1.35**	**62**		⇓P		**Pg**	**22 35 33.7**	**-0.1**	
	baz=1.3,SNR=46									
H25A					S		**Sn**	**22 35 53.0**	**+0.3**	
	baz=1.3									
H21A	**Big Horn, Sher**	**1.43**	**297**		P		**Pn**	**22 35 34.6**	**-0.5**	
	baz=1.5,SNR=45									
H21A					S		**Sn**	**22 35 54.6**	**-0.1**	
	baz=1.5									
H21A	**Big Horn, Sher**	**1.43**	**297**		P		**Pn**	**22 35 34.6**	**-0.5**	
	baz=1.5,SNR=45									
H21A					S		**Sn**	**22 35 54.6**	**-0.1**	
	baz=1.5									
G22A	**Birney**	**1.43**	**329**		⇑P		**Pn**	**22 35 34.9**	**-0.3**	
	baz=1.4,SNR=69									
G22A	**Birney**	**1.43**	**329**		⇑P		**Pn**	**22 35 34.9**	**-0.3**	
	baz=1.4,SNR=69									
G24A	**Alzada**	**1.47**	**24**		⇑P		**Pb**	**22 35 36.0**	**0.0**	
	baz=1.4,SNR=101									
G24A	**Alzada**	**1.47**	**24**		⇑P		**Pb**	**22 35 36.0**	**0.0**	
	baz=1.4,SNR=101									
I21A	**Big Trails, Te**	**1.48**	**264**		⇑P		**Pn**	**22 35 33.9**	**-2.0**	
	baz=1.5,SNR=228									
I21A	**Big Trails, Te**	**1.48**	**264**		⇑P		**Pn**	**22 35 33.9**	**-2.0**	
	baz=1.5,SNR=228									
K22A	**Casper**	**1.63**	**215**		⇓P		**Pn**	**22 35 36.7**	**-1.2**	
	baz=1.7,SNR=246									
K22A	**Casper**	**1.63**	**215**		⇓P		**Pn**	**22 35 36.7**	**-1.2**	
	baz=1.7,SNR=246									
J21A	**Lysite**	**1.71**	**249**		⇓P		**Pn**	**22 35 38.0**	**-1.1**	
	baz=1.8,SNR=116									
J21A					S		**Sn**	**22 36 00.1**	**-1.7**	
	baz=1.8									
J21A	**Lysite**	**1.71**	**249**		⇓P		**Pn**	**22 35 38.0**	**-1.1**	
	baz=1.8,SNR=116									
J21A					S		**Sn**	**22 36 00.1**	**-1.7**	
	baz=1.8									
K25A	**Mack Ranch, Ha**	**1.71**	**143**		⇑Pb		**Pn**	**22 35 39.2**	**+0.1**	
	baz=1.7,SNR=70									
K25A	**Mack Ranch, Ha**	**1.71**	**143**		⇑Pb		**Pn**	**22 35 39.2**	**+0.1**	
	baz=1.7,SNR=70									
F23A	**Volborg**	**1.73**	**357**		⇑P		**Pb**	**22 35 40.1**	**-0.5**	
	baz=1.7,SNR=77									
F23A					Sb		**Sg**	**22 36 05.0**	**+1.5**	
	baz=1.7									
F23A	**Volborg**	**1.73**	**357**		⇑P		**Pb**	**22 35 40.1**	**-0.5**	
	baz=1.7,SNR=77									
F23A					Sb		**Sg**	**22 36 05.0**	**+1.5**	
	baz=1.7									
I26A	**New Underwood**	**1.73**	**88**		⇓Pb		**Pb**	**22 35 40.6**	**0.0**	
	baz=1.7,SNR=25									
I26A	**New Underwood**	**1.73**	**88**		⇓Pb		**Pb**	**22 35 40.6**	**0.0**	
	baz=1.7,SNR=25									
G25A	**Newell**	**1.78**	**47**		⇑Pb		**Pb**	**22 35 41.5**	**+0.1**	
	baz=1.7									
G25A					Sb		**Sg**	**22 36 06.5**	**+1.4**	
	baz=1.7									
G25A	**Newell**	**1.78**	**47**		⇑Pb		**Pb**	**22 35 41.5**	**+0.1**	
	baz=1.7									
G25A					Sb		**Sg**	**22 36 06.5**	**+1.4**	
	baz=1.7									
G21A	**Lodge Grass**	**1.86**	**312**		⇓P		**Pn**	**22 35 41.5**	**+0.4**	
	baz=1.9,SNR=96									
G21A					S		**Sb**	**22 36 06.0**	**-0.5**	
	baz=1.9									
G21A	**Lodge Grass**	**1.86**	**312**		⇓P		**Pn**	**22 35 41.5**	**+0.4**	
	baz=1.9,SNR=96									
G21A					S		**Sb**	**22 36 06.0**	**-0.5**	
	baz=1.9									
H26A	**Fairpoint**	**1.89**	**70**		⇓Pb		**Pb**	**22 35 43.4**	**+0.1**	
	baz=1.8									
H26A	**Fairpoint**	**1.89**	**70**		⇓Pb		**Pb**	**22 35 43.4**	**+0.1**	
	baz=1.8									
L23A	**Garrett**	**1.90**	**190**		P		**Pn**	**22 35 41.0**	**-0.8**	
	baz=1.9,SNR=72									
L23A					Sb		**Sn**	**22 36 07.1**	**+0.6**	
	baz=1.9									
L23A	**Garrett**	**1.90**	**190**		P		**Pn**	**22 35 41.0**	**-0.8**	
	baz=1.9,SNR=72									
L23A					Sb		**Sn**	**22 36 07.1**	**+0.6**	
	baz=1.9									
F22A	**Rosebud**	**1.92**	**339**		⇑P		**Pn**	**22 35 42.1**	**+0.2**	
	baz=1.9,SNR=34									
F22A					S		**Sg**	**22 36 09.5**	**-0.1**	
	baz=1.9									
F22A	**Rosebud**	**1.92**	**339**		⇑P		**Pn**	**22 35 42.1**	**+0.2**	
	baz=1.9,SNR=34									
F22A					S		**Sg**	**22 36 09.5**	**-0.1**	
	baz=1.9									
F24A	**Ekalaka**	**1.94**	**17**		⇓Pb		**Pb**	**22 35 44.3**	**+0.1**	
	baz=1.9,SNR=11									
F24A	**Ekalaka**	**1.94**	**17**		⇓Pb		**Pb**	**22 35 44.3**	**+0.1**	
	baz=1.9,SNR=11									
L24A	**Wheatland**	**1.96**	**173**		⇑Pb		**Pn**	**22 35 42.6**	**+0.1**	
	baz=2.0,SNR=13									
L24A	**Wheatland**	**1.96**	**173**		⇑Pb		**Pn**	**22 35 42.6**	**+0.1**	
	baz=2.0,SNR=13									
K21A	**Alcova**	**1.99**	**228**		⇓P		**Pn**	**22 35 42.7**	**-0.2**	
	baz=2.0									
K21A					S		**Sn**	**22 36 08.4**	**-0.2**	
	baz=2.0									
K21A	**Alcova**	**1.99**	**228**		⇓P		**Pn**	**22 35 42.7**	**-0.2**	
	baz=2.0									
K21A					S		**Sn**	**22 36 08.4**	**-0.2**	
	baz=2.0									
K26A	**Motz Farm, Whi**	**1.99**	**130**		⇑P		**Pn**	**22 35 43.1**	**+0.2**	
	baz=2.0,SNR=26									
K26A	**Motz Farm, Whi**	**1.99**	**130**		⇑P		**Pn**	**22 35 43.1**	**+0.2**	
	baz=2.0,SNR=26									
H20A	**Greybull**	**2.03**	**285**		⇓Pb		**Pb**	**22 35 44.8**	**-0.8**	
	baz=2.1									
H20A					S		**Sb**	**22 36 10.6**	**-0.8**	
	baz=2.1									
H20A	**Greybull**	**2.03**	**285**		⇓Pb		**Pb**	**22 35 44.8**	**-0.8**	
	baz=2.1									
H20A					S		**Sb**	**22 36 10.6**	**-0.8**	
	baz=2.1									
L25A	**Engebretsen Ra**	**2.07**	**152**		⇑Pb		**Pn**	**22 35 44.5**	**+0.6**	
	baz=2.1,SNR=49									
L25A	**Engebretsen Ra**	**2.07**	**152**		⇑Pb		**Pn**	**22 35 44.5**	**+0.6**	
	baz=2.1,SNR=49									
I20A	**Worland**	**2.07**	**270**		⇑P		**Pn**	**22 35 44.1**	**+0.1**	
	baz=2.1,SNR=90									
I20A	**Worland**	**2.07**	**270**		⇑P		**Pn**	**22 35 44.1**	**+0.1**	
	baz=2.1,SNR=90									
L22A	**Ellis Ranch, M**	**2.14**	**204**		⇑Pb		**Pn**	**22 35 45.7**	**+0.7**	
	baz=2.2,SNR=50									
L22A	**Ellis Ranch, M**	**2.14**	**204**		⇑Pb		**Pn**	**22 35 45.7**	**+0.7**	
	baz=2.2,SNR=50									
J20A	**Shoshoni**	**2.15**	**254**		⇓Pb		**Pn**	**22 35 46.4**	**+1.4**	
	baz=2.2									
J20A	**Shoshoni**	**2.15**	**254**		⇓Pb		**Pn**	**22 35 46.4**	**+1.4**	
	baz=2.2									
F21A	**Absaloka Mine,**	**2.26**	**325**		⇓P		**Pn**	**22 35 46.5**	**0.0**	
	baz=2.3,SNR=9.3									
F21A	**Absaloka Mine,**	**2.26**	**325**		⇓P		**Pn**	**22 35 46.5**	**0.0**	
	baz=2.3,SNR=9.3									
G26A	**Maurine**	**2.30**	**55**		⇑Pb		**Pb**	**22 35 49.7**	**-0.6**	
	baz=2.2									
G26A	**Maurine**	**2.30**	**55**		⇑Pb		**Pb**	**22 35 49.7**	**-0.6**	
	baz=2.2									
I27A	**Quinn**	**2.32**	**87**		⇓Pb		**Pb**	**22 35 50.0**	**-0.5**	
	baz=2.3									
I27A	**Quinn**	**2.32**	**87**		⇓Pb		**Pb**	**22 35 50.0**	**-0.5**	
	baz=2.3									
F25A	**Bowman**	**2.32**	**33**		⇑P		**Pb**	**22 35 49.3**	**-1.3**	
	baz=2.3									
F25A	**Bowman**	**2.32**	**33**		⇑P		**Pb**	**22 35 49.3**	**-1.3**	
	baz=2.3									
H27A	**Howes**	**2.37**	**73**		⇑Pb		**Pb**	**22 35 51.7**	**+0.2**	
	baz=2.3									
H27A	**Howes**	**2.37**	**73**		⇑Pb		**Pb**	**22 35 51.7**	**+0.2**	
	baz=2.3									
G20A	**Bridger**	**2.44**	**301**		P		**Pn**	**22 35 48.8**	**-0.3**	
	baz=2.5,SNR=106									
G20A	**Bridger**	**2.44**	**301**		P		**Pn**	**22 35 48.8**	**-0.3**	
	baz=2.5,SNR=106									
E22A	**Miles City**	**2.50**	**349**		⇑P		**Pn**	**22 35 50.1**	**+0.3**	
	baz=2.5,SNR=14									
E22A	**Miles City**	**2.50**	**349**		⇑P		**Pn**	**22 35 50.1**	**+0.3**	
	baz=2.5,SNR=14									
E23A	**Ismay**	**2.51**	**359**		⇓P		**Pn**	**22 35 50.7**	**+0.8**	
	baz=2.5									
E23A	**Ismay**	**2.51**	**359**		⇓P		**Pn**	**22 35 50.7**	**+0.8**	
	baz=2.5									
L21A	**Rawlins**	**2.55**	**218**		P		**Pn**	**22 35 50.8**	**+0.1**	
	baz=2.6,SNR=29									
L21A	**Rawlins**	**2.55**	**218**		P		**Pn**	**22 35 50.8**	**+0.1**	
	baz=2.6,SNR=29									
K20A	**Yellowstone Ra**	**2.61**	**240**		⇓Pb		**Pb**	**22 35 53.8**	**-1.8**	
	baz=2.7									
K20A	**Yellowstone Ra**	**2.61**	**240**		⇓Pb		**Pb**	**22 35 53.8**	**-1.8**	
	baz=2.7									
E24A	**Baker**	**2.66**	**14**		⇑P		**Pn**	**22 35 53.5**	**+1.5**	
	baz=2.6,SNR=18									
E24A	**Baker**	**2.66**	**14**		⇑P		**Pn**	**22 35 53.5**	**+1.5**	
	baz=2.6,SNR=18									
PHWY	**Pilot Hill**		**2.69**	**183**		ePn	**Pn**	**22 35 52.4**	**-0.2**	
PHWY						eSn	**Sn**	**22 36 26.5**	**+0.3**	
I19A	**Meeteetse**		**2.69**	**272**		⇑P	**Pn**	**22 35 53.2**	**+0.5**	
	baz=2.7									
I19A	**Meeteetse**		**2.69**	**272**		⇑P	**Pn**	**22 35 53.2**	**+0.5**	
	baz=2.7									
M25A	**Palm-Egli Farm**		**2.71**	**160**		⇓P	**Pn**	**22 35 53.8**	**+1.1**	
	baz=2.7									
M25A	**Palm-Egli Farm**		**2.71**	**160**		⇓P	**Pn**	**22 35 53.8**	**+1.1**	
	baz=2.7									
RWWY	**Rawlins**		**2.71**	**213**		ePn	**Pn**	**22 35 54.1**	**+1.2**	
RWWY						eSn	**Sn**	**22 36 27.2**	**+0.7**	
F20A	**Billings**		**2.73**	**312**		⇓P	**Pn**	**22 35 52.9**	**-0.2**	
	baz=2.7,SNR=6.8									
F20A	**Billings**		**2.73**	**312**		⇓P	**Pn**	**22 35 52.9**	**-0.2**	
	baz=2.7,SNR=6.8									
H19A	**Powell**		**2.76**	**286**		⇓P	**Pn**	**22 35 53.7**	**+0.2**	
	baz=2.8,SNR=8.0									
H19A	**Powell**		**2.76**	**286**		⇓P	**Pn**	**22 35 53.7**	**+0.2**	
	baz=2.8,SNR=8.0									
M21A	**Separation Pea**		**2.84**	**214**		⇑P	**Pn**	**22 35 55.6**	**+0.9**	
	baz=2.9									
M21A	**Separation Pea**		**2.84**	**214**		⇑P	**Pn**	**22 35 55.6**	**+0.9**	
	baz=2.9									
RLMT	**Red Lodge**		**3.08**	**293**		ePn	**Pn**	**22 35 57.8**	**-0.2**	
RLMT						ePg	**Pb**	**22 36 04.1**	**+0.5**	
RLMT						eSg	**Sg**	**22 36 46.6**	**-0.1**	
N23A	**Red Feather La**		**3.14**	**189**		⇓P	**Pn**	**22 35 59.2**	**+0.4**	
	baz=3.2									
N23A	**Red Feather La**		**3.14**	**189**		⇓P	**Pn**	**22 35 59.2**	**+0.4**	
	baz=3.2									
F19A	**Roth Farm, Mol**		**3.21**	**307**		⇑P	**Pn**	**22 36 00.1**	**+0.4**	
	baz=3.2,SNR=34									
F19A	**Roth Farm, Mol**		**3.21**	**307**		⇑P	**Pn**	**22 36 00.1**	**+0.4**	
	baz=3.2,SNR=34									
D22A	**Cohagen**		**3.22**	**349**		⇑P	**Pn**	**22 36 00.4**	**+0.6**	
	baz=3.2,SNR=14									
D22A	**Cohagen**		**3.22**	**349**		⇑P	**Pn**	**22 36 00.4**	**+0.6**	
	baz=3.2,SNR=14									
G18A	**Lazy EL Ranch,**		**3.34**	**295**		⇓P	**Pn**	**22 36 01.6**	**+0.1**	
	baz=3.4,SNR=14									
G18A	**Lazy EL Ranch,**		**3.34**	**295**		⇓P	**Pn**	**22 36 01.6**	**+0.1**	
	baz=3.4,SNR=14									
PDAR	**Pinedale Array**		**3.36**	**250**		Pn	**Pn**	22 36 05.3	+3.5	
PDAR						Lg	Lg	22 36 50.0		
PDAR	**Pinedale Array**		**3.36**	**250**		Pn	**Pn**	22 36 05.3	+3.5	
	2.1nm,0.3s,baz=69,slow=16,SNR=46									
PDAR						Lg	Lg	22 36 50.0		
	6.7nm,0.3s,baz=69,slow=29,SNR=15									
BW06	**Boulder Array**		**3.36**	**250**		ePn	**Pn**	**22 36 02.3**	**+0.4**	
BW06						eSn	**Sn**	**22 36 44.2**	**+1.6**	
E19A	**Rath Farm, Rou**		**3.51**	**316**		P	**Pn**	**22 36 03.3**	**-0.4**	
	baz=3.5,SNR=11									
E19A	**Rath Farm, Rou**		**3.51**	**316**		P	**Pn**	**22 36 03.3**	**-0.4**	
	baz=3.5,SNR=11									
GCMT	**Greycliff**		**3.61**	**301**		ePn	**Pn**	**22 36 05.1**	**0.0**	
GCMT						ePg	**Pg**	**22 36 15.4**	**-1.6**	
GCMT						eSn	**Sn**	**22 36 48.6**	**0.0**	
F18A	**Big Timber**		**3.70**	**303**		⇓P	**Pn**	**22 36 06.7**	**+0.4**	
	baz=3.7,SNR=11									
F18A	**Big Timber**		**3.70**	**303**		⇓P	**Pn**	**22 36 06.7**	**+0.4**	
	baz=3.7,SNR=11									
C23A	**Lambert**		**3.81**	**1**		P	**Pn**	**22 36 09.6**	**+1.7**	
	baz=3.8,SNR=20									
C23A	**Lambert**		**3.81**	**1**		P	**Pn**	**22 36 09.6**	**+1.7**	
	baz=3.8,SNR=20									
OGNE	**Ogallala**		**3.87**	**141**		ePn	**Pn**	**22 36 08.4**	**-0.2**	
OGNE						ePg	**Pg**	**22 36 20.0**	**-1.9**	
OGNE						eSg	**Sg**	**22 37 10.8**	**-1.3**	
OGNE	**Ogallala**		**3.87**	**141**		P	**Pn**	**22 36 08.7**	**0.0**	
	baz=3.9,SNR=15									
OGNE	**Ogallala**		**3.87**	**141**		P	**Pn**	**22 36 08.7**	**0.0**	
	baz=3.9,SNR=15									
LOHW	**Long Hollow**		**3.89**	**266**		ePn	**Pn**	**22 36 10.4**	**+1.4**	
LOHW						ePg	**Pb**	**22 36 19.2**	**+1.8**	
LOHW						eSg	**Sg**	**22 37 13.7**	**+1.1**	
MOOW	**Moose Ponds**		**3.97**	**268**		ePn	**Pn**	**22 36 10.8**	**+0.6**	
MOOW						ePg	**Pg**	**22 36 25.0**	**+1.0**	
MOOW						S	**Sg**	**22 37 13.3**	**-2.1**	
SNOW	**Snow King Moun**		**4.02**	**264**		ePn	**Pn**	**22 36 11.2**	**+0.4**	
SNOW						ePg	**Pg**	**22 36 23.0**	**-1.8**	
SNOW						eSn	**Sn**	**22 37 00.4**	**+1.6**	
SNOW						eSg	**Sg**	**22 37 19.4**	**+2.6**	
IMW	**Indian Meadow**		**4.10**	**271**		ePn	**Pn**	**22 36 13.0**	**+0.9**	
IMW						ePg	**Pb**	**22 36 22.1**	**+1.0**	
IMW						eSg	**Sg**	**22 37 19.5**	**0.0**	
TPAW	**Teton Pass**		**4.15**	**265**		ePn	**Pn**	**22 36 13.2**	**+0.4**	
TPAW						ePg	**Pg**	**22 36 28.9**	**+1.5**	
TPAW						eSn	**Sn**	**22 37 03.2**	**+1.1**	
TPAW						eSg	**Sg**	**22 37 21.6**	**+0.4**	
ISCO	**Idaho Springs**		**4.20**	**184**		ePn	**Pn**	**22 36 13.9**	**+0.6**	
ISCO						ePg	**Pb**	**22 36 25.4**	**+2.7**	
ISCO						eSn	**Sn**	**22 37 02.6**	**-0.6**	
ISCO						eSg	**Sb**	**22 37 17.2**	**+3.2**	
RRI2	**Red Ridge**		**4.44**	**264**		ePn	**Pn**	**22 36 16.4**	**-0.4**	
RRI2						ePg	**Pg**	**22 36 33.8**	**+0.9**	
RRI2						eSn	**Sn**	**22 37 10.3**	**+1.1**	
DGMT	**Dagmar**		**4.54**	**9**		ePn	**Pn**	**22 36 16.8**	**-1.0**	
DGMT						ePg	**Pb**	**22 36 29.3**	**+0.9**	
DGMT						eSg	**Sg**	**22 37 32.0**	**-1.7**	
BOZ	**Bozeman (W)**		**4.82**	**292**		ePn	**Pn**	**22 36 22.0**	**+0.2**	
BOZ						ePg	**Pb**	**22 36 34.6**	**+1.3**	
BOZ						eSn	**Sb**	**22 37 34.9**	**+2.9**	
SMCO	**Snowmass**		**4.98**	**196**		ePn	**Pn**	**22 36 23.9**	**-0.3**	
SMCO						ePg	**Pb**	**22 36 36.1**	**0.0**	
SMCO						eSn	**Sn**	**22 37 22.7**	**0.0**	
SMCO						eSg	**Sg**	**22 37 47.0**	**-0.8**	
EGMT	**Eagleton**		**5.10**	**324**		ePn	**Pn**	**22 36 26.0**	**+0.3**	
EGMT						ePg	**Pg**	**22 36 43.1**	**-2.5**	
EGMT						eSn	**Sn**	**22 37 27.3**	**+2.0**	
EGMT						eSg	**Sg**	**22 37 50.5**	**-1.3**	
HRY	**Holter Researc**		**5.37**	**303**		ePn	**Pn**	**22 36 29.1**	**-0.2**	
HRY						eSn	**Sn**	**22 37 31.9**	**+0.1**	
LRM	**Limekiln Ridge**		**5.42**	**292**		ePn	**Pn**	**22 36 30.2**	**+0.1**	
LRM						ePg	Pb	22 36 47.3	+3.7	
LRM						eSg	**Sg**	**22 37 57.1**	**-5.0**	
JLU	**Jordanelle**		**5.70**	**236**		ePn	**Pn**	**22 36 34.2**	**+0.2**	
JLU						eSn	**Sn**	**22 37 40.8**	**+0.5**	
HVU	**Hansel Valley**		**5.95**	**251**		ePn	**Pn**	**22 36 36.6**	**-0.7**	
PV04	**Paradox Valley**		**6.23**	**207**		ePn	**Pn**	**22 36 41.7**	**+0.5**	
PV04						ePg	**Pg**	**22 37 08.5**	**+1.3**	
ECSD	**EROS Data Cent**		**6.26**	**89**		ePn	**Pn**	**22 36 40.5**	**-0.9**	
ECSD						ePg	Pb	22 37 02.5	+4.8	
ECSD						eSg	**Sg**	**22 38 25.8**	**-3.0**	
SRU	**San Rafael**		**6.27**	**221**		ePn	**Pn**	**22 36 41.5**	**-0.3**	
SRU						ePg	**Pg**	**22 37 09.1**	**+1.0**	
SRU						eSg	**Sg**	**22 38 30.8**	**+1.5**	
CHMT	**Chamberlain Mo**		**6.33**	**300**		ePn	**Pn**	**22 36 43.2**	**+0.6**	
CHMT						ePg	**Pg**	**22 37 09.0**	**-0.1**	
PV01	**Paradox Valley**		**6.36**	**204**		ePn	**Pn**	**22 36 44.3**	**+1.2**	
	368nm,0.9s									
PV01						eSn	**Sn**	**22 37 59.1**	**+2.5**	
DUG	**Dugway**		**6.78**	**239**		ePn	**Pn**	**22 36 48.9**	**+0.2**	
SWMT	**Swartz Lake**		**7.05**	**303**		ePn	**Pn**	**22 36 51.6**	**-0.8**	
SWMT						eSn	**Sn**	**22 38 15.5**	**+2.3**	
MVCO	**Mesa Verde**		**7.21**	**201**		ePn	**Pn**	**22 36 55.1**	**+0.5**	
MVCO						eSn	**Sn**	**22 38 18.3**	**+1.0**	
YBMT	**Yellow Bay**		**7.22**	**305**		ePn	**Pn**	**22 36 55.5**	**+0.7**	
	4.8nm,0.7s									
YBMT						eSn	**Sn**	**22 38 18.3**	**+0.7**	
MVU	**Marysvale**		**7.58**	**226**		ePn	**Pn**	**22 37 00.3**	**+0.6**	
MVU						ePg	**Pg**	**22 37 32.6**	**-0.5**	
MVU						eSn	**Sn**	**22 38 27.6**	**+1.1**	
AGMN	**Agassiz Nation**		**7.82**	**53**		ePn	**Pn**	**22 37 00.6**	**-2.2**	
AGMN						eSg	**Sg**	**22 39 15.5**	**-3.3**	
CCUT	**Cedar City**		**8.89**	**226**		ePn	**Pn**	**22 37 18.3**	**+0.5**	
ULM	**Lac du Bonnet**		**8.95**	**42**		Pg	Pg	22 37 50.7	-8.4	
ULM	**Lac du Bonnet**		**8.95**	**42**		Pg	Pg	22 37 50.7

KULA	**Kula-Manisa**	5.25	31	*e*Pn		Pn	22 37 52.8	-0.3
KHL	**Karahalli**	5.50	38	*e*PN		Pn	22 37 56.7	+0.2
KHL	**Karahalli**	5.50	38	*e*Pn		Pn	22 37 56.7	+0.2
KHAL	**Karahalli**	5.51	37	*i* P		Pn	22 37 54.8	-2.0
KHAL				*i* S		Sn	22 38 57.7	-2.0
BCK	**Bucak**	5.52	50	*e*PN		Pn	22 37 58.6	+1.8
BCK	**Bucak**	5.52	50	*e*Pn		Pn	22 37 58.6	+1.8
DEMI	**Demirci**	5.72	28	*i* P		Pn	22 38 00.6	+1.0
SUTC	**Sutluce-Ispart**	5.79	52	*e*PN		Pn	22 38 03.0	+2.3
SUTC	**Sutluce-Ispart**	5.79	52	*e*Pn		Pn	22 38 03.0	+2.3
GAZI	**Gazipasa**	6.18	67	*i* P		Pn	22 38 04.0	-1.9
GAZI				*i* S		Sn	22 39 11.3	-4.6
SHUT	**Suhut-Afyon**	6.21	42	*e*PN		Pn	22 38 07.4	+1.0
SHUT	**Suhut-Afyon**	6.21	42	*e*Pn		Pn	22 38 07.4	+1.0
ALT	**Altintas**	6.35	36	*e*PN		Pn	22 38 08.9	+0.6
ALT	**Altintas**	6.35	36	*e*Pn		Pn	22 38 08.9	+0.6
CSS	**Prodhromos**	6.72	80	*e*Pn		Pn	22 38 14.4	+1.1
CSS	**Prodhromos**	6.72	80	*e*Pn		Pn	22 38 14.4	+1.1
ERMK	**Ermenek**	6.77	65	*i* P		Pn	22 38 15.6	+1.5
KONT	**Konya--Tatoy**	6.95	54	*e*PN		Pn	22 38 19.3	+2.8
KONT	**Konya--Tatoy**	6.95	54	*e*Pn		Pn	22 38 19.3	+2.8
KDHN	**Kadinhani**	7.12	49	*i* P		Pn	22 38 18.8	0.0
ANTO	**Ankara**	8.38	44	*e*Pn		Pn	22 38 35.4	-0.8
ANTO	**Ankara**	8.38	44	*e*Pn		Pn	22 38 35.3	-0.8
TIR	**Tirane**	8.46	331	*e*Pn		Pn	22 38 34.3	-2.9
MMAI	**Mount Meron Ar**	8.53	94	Pn		Pn	22 38 38.6	+0.5
MMAI				Sn		Sn	22 40 13.4	-0.4
MMAI	**Mount Meron Ar**	8.53	94	Pn		Pn	22 38 38.6	+0.5
	0.8nm,0.3s,baz=275,slow=11,SNR=4.9							
MMAI				Sn		Sn	22 40 13.4	-0.4
	2.1nm,0.3s,baz=265,slow=20,SNR=5.1							
MMAI	**Mount Meron Ar**	8.53	94	Pn		Pn	22 38 38.6	+0.5
CEL	**Celeste**	8.67	302	*e*Pn		Pn	22 38 40.2	+0.1
CEL	**Celeste**	8.67	302	*e*Pn		Pn	22 38 40.2	+0.1
BRTR	**Keskin Array B**	8.79	47	Pn		Pn	22 38 42.3	+0.5
BRTR	**Keskin Array B**	8.79	47	Pn		Pn	22 38 42.3	+0.5
	0.1nm,0.3s,baz=221,slow=12,SNR=2.8							
BRTR	**Keskin Array B**	8.79	47	Pn		Pn	22 38 42.3	+0.5
EIL	**Elat**	9.31	115	Pn		Pn	22 38 47.7	-1.2
EIL	**Elat**	9.31	115	Pn		Pn	22 38 47.7	-1.2
	0.6nm,0.3s,baz=318,slow=20,SNR=10							
EIL	**Elat**	9.31	115	Pn		Pn	22 38 47.7	-1.2
CUC	**Castrocucco**	9.62	311	*e*Pn		Pn	22 38 53.0	0.0
CUC	**Castrocucco**	9.62	311	*e*Pn		Pn	22 38 53.0	0.0
PGF	**Pioggiola**	15.33	308	*e*P		Pn	22 40 12.2	+1.3
	36nm,1.0s							
VRAC	**Vranov**	16.56	340	Pn		Pn	22 40 27.6	+0.9
VRAC	**Vranov**	16.56	340	Pn		Pn	22 40 27.6	+0.9
	0.4nm,0.3s,baz=156,slow=10.0,SNR=9.9							
VRAC	**Vranov**	16.56	340	Pn		Pn	22 40 27.6	+0.9
OKC	**Ostrava-Krasne**	16.64	344	*e*P		Pn	22 40 25.4	-2.3
KBZ	**Khabaz**	16.77	50	Pn		P	22 40 31.2	-0.2
KBZ	**Khabaz**	16.77	50	Pn		P	22 40 31.2	-0.2
	0.1nm,0.3s,baz=244,slow=8.7,SNR=2.9							
KBZ	**Khabaz**	16.77	50	Pn		P	22 40 31.2	-0.2
TREC	**Trest**	16.89	337	*e*P		P	22 40 33.2	+0.5
TREC	**Trest**	16.89	337	P		P	22 40 33.2	+0.5
KIEV	**Kiev**	16.90	9	*e*Pn		P	22 40 32.2	-0.6
	4.5nm,0.7s							
KIEV	**Kiev**	16.90	9	*e*Pn		P	22 40 32.2	-0.6
	4.4nm,0.7s							
GEC2	**GERESS Array S**	17.12	333	*e*Pn		P	22 40 36.4	+0.9
GEC2	**GERESS Array S**	17.12	333	*e*Pn		P	22 40 36.3	+0.9
GERES	**GERESS Array B**	17.12	333	P		Pn	22 40 33.1	-0.7
GERES	**GERESS Array B**	17.12	333	P		Pn	22 40 33.1	-0.7
	0.3nm,0.3s,baz=147,slow=11,SNR=36							
TUE	**Stuetta**	17.34	321	*e*Pn		P	22 40 38.2	+0.3
	50nm,2.7s							
TUE	**Stuetta**	17.34	321	*e*Pn		P	22 40 38.2	+0.3
	50nm,2.7s							
KHC	**Kasperske Hory**	17.40	334	*e*P		P	22 40 39.7	+1.2
KHC	**Kasperske Hory**	17.40	334	*e*Pn		Pn	22 40 36.3	-1.0
	4.3nm,0.9s							
KHC	**Kasperske Hory**	17.40	334	*e*Pn		Pn	22 40 36.3	-1.0
	4.3nm,0.9s							
KHC	**Kasperske Hory**	17.40	334	P		P	22 40 39.7	+1.2
DPC	**Dobruska-Polom**	17.58	341	*e*P		P	22 40 40.4	0.0
DPC	**Dobruska-Polom**	17.58	341	P		P	22 40 40.4	0.0
MBDF	**Montbardon**	17.81	312	*e*P		P	22 40 44.2	+1.1
	8.9nm,0.9s							
MBDF	**Montbardon**	17.81	312	*e*P		P	22 40 44.2	+1.1
	4.4nm,0.9s							
SMRF	**Simiane la Rot**	18.20	309	*e*P		P	22 40 48.9	+1.6
	14nm,1.0s							
SMRF	**Simiane la Rot**	18.20	309	*e*P		P	22 40 48.9	+1.6
	7.1nm,1.0s							
ORIF	**Oris-en-Rattie**	18.45	312	*e*P		Pn	22 40 50.3	0.0
ORIF				*e*R				
	48nm,19.8s							
ORIF	**Oris-en-Rattie**	18.45	312	*e*P		Pn	22 40 50.3	0.0
GRFO	**Grafenberg**	18.77	331	*e*Pn		Pn	22 40 55.9	+1.9
	22nm,1.2s							
GRFO	**Grafenberg**	18.77	331	*e*Pn		Pn	22 40 55.9	+1.9
	22nm,1.2s							
VIVF	**Saint-Julien-l**	19.18	310	*e*P		Pn	22 40 59.0	0.0
VIVF	**Saint-Julien-l**	19.18	310	*e*P		Pn	22 40 59.0	0.0
CABF	**La Chapelle**	19.22	317	*e*P		P	22 40 57.3	-1.2
	23nm,1.3s							
CABF	**La Chapelle**	19.22	317	*e*P		P	22 40 57.3	-1.2
	12nm,1.3s							
LASF	**Ste Croix**	19.37	308	*e*P		Pn	22 41 00.8	-0.5
LASF	**Ste Croix**	19.37	308	*e*P		Pn	22 41 00.8	-0.5
CLL	**Collm**	19.43	336	*i* P		Pn	22 41 01.7	-0.2
	comp=Z,3.0nm,0.8s							
CDF	**Champ du Feu**	19.67	322	*e*P		Pn	22 41 05.0	+0.1
	comp=Z,9.4nm,1.0s							
CDF	**Champ du Feu**	19.67	322	*e*P		Pn	22 41 05.0	+0.1
	comp=Z,4.7nm,1.0s							
SUW	**Suwalki**	20.03	356	*e*Pn		Pn	22 41 10.3	+1.3
	comp=Z,17nm,0.9s							
SUW	**Suwalki**	20.03	356	*e*Pn		Pn	22 41 10.3	+1.3
	comp=Z,17nm,0.9s							
MTLF	**Montolieu**	20.20	304	*e*P		P	22 41 09.6	+0.4
	comp=Z,4.5nm,0.9s							
MTLF	**Montolieu**	20.20	304	*e*P		P	22 41 09.6	+0.4
	comp=Z,2.2nm,0.9s							
SMF	**Signal de Mont**	20.55	314	*e*P		P	22 41 13.1	+0.2
SMF	**Signal de Mont**	20.55	314	*e*P		P	22 41 13.1	+0.2
TAM	**Tamanrasset**	20.62	242	*e*P		P	22 41 13.8	-0.3
	comp=Z,2.5nm,0.8s							
TAM	**Tamanrasset**	20.62	242	*e*P		P	22 41 13.8	-0.3
	comp=Z,2.5nm,0.8s							
SFTF	**Sexfontaines**	20.72	319	*e*P		P	22 41 16.0	+1.3
SFTF	**Sexfontaines**	20.72	319	*e*P		P	22 41 16.0	+1.3
LOR	**Lormes**	20.86	316	*e*P		P	22 41 16.5	+0.2
	comp=Z,3.9nm,0.7s							
LOR				*e*R				
	comp=Z,29nm,20.8s							
LOR	**Lormes**	20.86	316	*e*P		P	22 41 16.5	+0.2
	comp=Z,2.0nm,0.7s							
CAF	**Calviac**	20.88	308	*e*P		P	22 41 17.4	+0.8
CAF	**Calviac**	20.88	308	*e*P		P	22 41 17.4	+0.8
MEZF	**Maizieres J'vi**	20.88	320	*e*P		P	22 41 17.8	+1.3
MEZF	**Maizieres J'vi**	20.88	320	*e*P		P	22 41 17.8	+1.3
AVF	**Avril sur Loir**	20.91	314	*e*P		P	22 41 17.9	+1.1
	comp=Z,16nm,1.2s							
AVF	**Avril sur Loir**	20.91	314	*e*P		P	22 41 17.9	+1.1
	comp=Z,8.2nm,1.2s							
SSF	**Saint Saulge**	20.96	315	*e*P		Pn	22 41 19.1	-0.9
SSF	**Saint Saulge**	20.96	315	*e*P		Pn	22 41 19.1	-0.9
WLF	**Walferdange**	21.04	324	*e*P		P	22 41 17.7	-0.5
	comp=Z,19nm,1.3s							
WLF	**Walferdange**	21.04	324	*e*P		P	22 41 17.7	-0.5
	comp=Z,19nm,1.3s							
BGF	**Bois d'Agland**	21.10	313	*e*P		P	22 41 20.1	+1.2
	comp=Z,12nm,0.9s							
BGF	**Bois d'Agland**	21.10	313	*e*P		P	22 41 20.1	+1.2
	comp=Z,5.9nm,0.9s							
RJF	**Les Rejaudoux**	21.39	309	*e*P		P	22 41 22.0	0.0
RJF				*e*R				
	comp=Z,39nm,19.8s							
RJF	**Les Rejaudoux**	21.39	309	*e*P		P	22 41 22.0	0.0
EPF	**Esparros**	21.41	302	*e*P		P	22 41 22.7	+0.4
EPF	**Esparros**	21.41	302	*e*P		P	22 41 22.7	+0.4
LFF	**La Frestale**	21.76	307	*e*P		P	22 41 27.0	+1.1
LFF	**La Frestale**	21.76	307	*e*P		P	22 41 27.0	+1.1
ETSF	**Etsaut**	22.01	301	*e*P		P	22 41 29.8	+1.1
	comp=Z,7.5nm,1.0s							
ETSF	**Etsaut**	22.01	301	*e*P		P	22 41 29.8	+1.1
	comp=Z,3.8nm,1.0s							
BAIF	**Baives**	22.27	322	*e*P		P	22 41 31.0	-0.3
	comp=Z,8.7nm,0.7s							
BAIF	**Baives**	22.27	322	*e*P		P	22 41 31.0	-0.3
	comp=Z,4.3nm,0.7s							
SJPF	**Ste Jean**	22.54	302	*e*P		P	22 41 34.2	-0.1
SJPF	**Ste Jean**	22.54	302	*e*P		P	22 41 34.2	-0.1
MFF	**Saint Martin d**	22.98	311	*e*P		P	22 41 39.9	+1.0
MFF	**Saint Martin d**	22.98	311	*e*P		P	22 41 39.9	+1.0
ESDC	**Sonseca Array**	24.00	292	*e*P		P	22 41 49.4	+0.3
ESDC	**Sonseca Array**	24.00	292	P		P	22 41 49.4	+0.3
	comp=Z,1.6nm,0.7s,baz=81,slow=9.4,SNR=19							
ESDC	**Sonseca Array**	24.00	292	P		P	22 41 49.4	+0.3
FLN	**La Foliniere**	24.13	315	*e*P		P	22 41 49.5	-0.6
FLN				*e*R				
	comp=Z,24nm,21.2s							
FLN	**La Foliniere**	24.13	315	*e*P		P	22 41 49.5	-0.6
GRR	**Gorron**	24.18	314	*e*P		P	22 41 51.4	+0.8
GRR	**Gorron**	24.18	314	*e*P		P	22 41 51.4	+0.8
PAB	**San Pablo**	24.29	292	*e*P		P	22 41 52.3	+0.5
	comp=Z,13nm,1.6s							
PAB	**San Pablo**	24.29	292	*e*P		P	22 41 52.3	+0.5
	comp=Z,13nm,1.6s							
MDT	**Midelt**	24.93	276	P		P	22 41 57.7	0.0
MDT	**Midelt**	24.93	276	P		P	22 41 57.7	0.0
	comp=Z,2.3nm,0.8s,baz=98,slow=10,SNR=5.1							
MDT	**Midelt**	24.93	276	P		P	22 41 57.7	0.0
HFS	**Hagfors**	27.19	347	P		P	22 42 16.8	-0.9
HFS	**Hagfors**	27.19	347	P		P	22 42 16.8	-0.9
	comp=Z,1.6nm,0.7s,baz=186,slow=12,SNR=3.2							
HFS	**Hagfors**	27.19	347	P		P	22 42 16.8	-0.9
FINES	**FINESS Array B**	27.43	1	P		P	22 42 18.9	-0.9
FINES	**FINESS Array B**	27.43	1	P		P	22 42 18.9	-0.9
	comp=Z,1.8nm,1.0s,baz=142,slow=9.6,SNR=3.4							
FINES	**FINESS Array B**	27.43	1	P		P	22 42 19.0	-0.9
NOA	**NORSAR Array B**	28.51	346	P		P	22 42 28.8	-0.8
NOA	**NORSAR Array B**	28.51	346	P		P	22 42 28.8	-0.8
	comp=Z,0.9nm,0.9s,baz=175,slow=10,SNR=3.9							
NOA	**NORSAR Array B**	28.51	346	P		P	22 42 28.8	-0.8
EKA	**Eskdalemuir Ar**	29.02	326	P		P	22 42 33.5	-0.6
EKA	**Eskdalemuir Ar**	29.02	326	P		P	22 42 33.5	-0.6
	comp=Z,1.2nm,0.8s,baz=125,slow=10,SNR=5.1							
EKA	**Eskdalemuir Ar**	29.02	326	P		P	22 42 33.5	-0.6
TORD	**Torodi Ar. Bea**	29.84	232	P		P	22 42 42.2	+0.4
TORD	**Torodi Ar. Bea**	29.84	232	P		P	22 42 42.2	+0.4
	comp=Z,1.9nm,0.5s,baz=33,slow=8.5,SNR=32							
TORD	**Torodi Ar. Bea**	29.84	232	P		P	22 42 42.2	+0.4
ARCES	**ARCESS Array B**	35.56	0	P		P	22 43 29.4	-1.7
ARCES	**ARCESS Array B**	35.56	0	P		P	22 43 29.4	-1.7
	comp=Z,1.1nm,0.8s,baz=185,slow=10,SNR=5.7							
MK31	**Makanchi Array**	44.33	56	*e*P		P	22 44 44.9	+0.6
MK31	**Makanchi Array**	44.33	56	*e*P		P	22 44 44.9	+0.6
MKAR	**Makanchi Array**	44.33	56	*e*P		P	22 44 45.9	+1.6
MKAR	**Makanchi Array**	44.33	56	P		P	22 44 45.8	+1.4
	comp=Z,0.9nm,0.6s,baz=273,slow=7.2,SNR=14							
MKAR	**Makanchi Array**	44.33	56	*e*P		P	22 44 45.9	+1.6
ZALV	**Zalesovo Beam**	45.73	45	P		P	22 44 55.3	0.0
ZALV	**Zalesovo Beam**	45.73	45	P		P	22 44 55.3	0.0
	comp=Z,0.7nm,0.4s,baz=277,slow=12,SNR=3.4							
ZALV	**Zalesovo Beam**	45.73	45	P		P	22 44 55.3	0.0
SONM	**Songino Array**	60.14	50	P		P	22 46 42.8	+0.9
SONM	**Songino Array**	60.14	50	P		P	22 46 42.8	+0.9
	comp=Z,0.5nm,0.7s,baz=290,slow=6.7,SNR=4.9							
SONM	**Songino Array**	60.14	50	P		P	22 46 42.8	+0.9

ISCJB ***12*** *22:38:51.1±2.2,33.°87N±0.°05×25.°53E±0.°06,h4km±17km, mb3.5/3, Error ellipse: s-maj=9.9km s-min=7.0km az=137.4*

CSEM ***12*** *22:38:51.4±0.5,33.°88N×25.°44E,h2km,MD3.4, Error ellipse: s-maj=10.9km s-min=5.4km az=28.0*

ATH ***12*** *22:38:51.6,33.°77N×25.°46E,h49km, MD3.4/7*

IDC ***12*** *22:38:53.5±1.4,34.°00N×25.°62E,h0km,mb3.6/3, mb1 3.7/7,mb1mx3.5/27,mbtmp3.6/7,ML3.4/3,Error ellipse: s-maj=44.4km s-min=22.1km az=147.0*

ISK ***12*** *22:39:10.2,34.°82N×26.°42E,h33km, MD3.4*

ISC 12 22:38:56.0±2.0,34.°03N±0.°07×25.°49E±0.°06,h20km±7km, n42,σ1§12/55,mb3.8/3,Crete

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
LAST	**Lasithi**	1.13	360	*e*P		Pn	22 39 15.8	-1.0
LAST				*e*S		Sg	22 39 33.4	+0.6
LAST	**Lasithi**	1.13	360	*e*P		Pn	22 39 15.8	-1.0
LAST				*e*S		Sg	22 39 33.4	+0.6
SIVA	**Sivas**	1.13	331	*e*P		Pn	22 39 15.1	-1.7
SIVA				*e*S		Sn	22 39 32.3	+0.5
SIVA	**Sivas**	1.13	331	*e*P		Pn	22 39 15.1	-1.7
SIVA				*e*S		Sn	22 39 32.3	+0.5
NPS	**Neapolis**	1.23	5	*e*P		Pn	22 39 16.5	-1.7
NPS				*e*S		Sn	22 39 35.4	+1.1
NPS	**Neapolis**	1.23	5	*e*P		Pn	22 39 16.5	-1.7
NPS				*e*S		Sn	22 39 35.4	+1.1
ZKR	**Zakros**	1.24	29	*e*P		Pn	22 39 16.9	-1.3
ZKR				*e*S		Sn	22 39 35.5	+1.1
ZKR	**Zakros**	1.24	29	*e*P		Pn	22 39 16.9	-1.3
ZKR				*e*S		Sn	22 39 35.5	+1.1
IDI	**Anoyia**	1.35	339	*e*P		Pn	22 39 19.3	-0.5
IDI				*e*S		Sb	22 39 38.5	+1.0
IDI	**Anoyia**	1.35	339	*e*P		Pn	22 39 19.3	-0.5
IDI				*e*S		Sb	22 39 38.5	+1.0
VAM	**Vamos**	1.74	323	*e*P		Pn	22 39 23.8	-1.3
VAM				*e*S		Sn	22 39 46.6	-0.1
VAM	**Vamos**	1.74	323	*e*P		Pn	22 39 23.8	-1.3
VAM				*e*S		Sn	22 39 46.6	-0.1
KARP	**Karpathos**	2.05	42	*e*P		Pn	22 39 28.4	-1.0
KARP	**Karpathos**	2.05	42	*e*P		Pn	22 39 28.4	-1.0
APE	**Apeiranthos**	3.03	1	*e*PN		Pb	22 39 47.7	-1.6
APE				*e*SN		Sn	22 40 15.1	-3.6
ARG	**Arkhangelos**	3.07	44	*e*P		Pn	22 39 42.1	-1.3
ARG	**Arkhangelos**	3.07	44	*e*P		Pn	22 39 42.1	-1.3
DAT	**Datca**	3.19	32	*e*PN		Pn	22 39 44.4	-0.8
DAT	**Datca**	3.19	32	*e*Pn		Pn	22 39 44.4	-0.8
BODT	**Bodrum**	3.37	26	*e*PN		Pn	22 39 47.6	0.0
BODT	**Bodrum**	3.37	26	*e*Pn		Pn	22 39 47.6	0.0
MLSB	**Milas**	3.75	29	*e*PN		Pn	22 39 52.8	-0.1
MLSB	**Milas**	3.75	29	*e*Pn		Pn	22 39 52.8	-0.1
DALY	**Dalyan (Mu¨la**	3.80	42	*e*PN		Pn	22 39 52.5	-0.9
DALY	**Dalyan (Mu¨la**	3.80	42	*e*Pn		Pn	22 39 52.5	-0.9
YER	**Yerkesik**	3.84	36	*e*PN		Pn	22 39 53.5	-0.6
YER	**Yerkesik**	3.84	36	*e*Pn		Pn	22 39 53.5	-0.6
FETY	**Fethiye**	3.92	47	*e*PN		Pn	22 39 54.4	-0.8
FETY	**Fethiye**	3.92	47	*e*Pn		Pn	22 39 54.4	-0.8
ELL	**Elmali**	4.52	52	*e*PN		Pn	22 40 03.1	-0.3
ELL	**Elmali**	4.52	52	*e*Pn		Pn	22 40 03.1	-0.3
IZM	**Izmir**	4.59	18	*e*PN		Pn	22 40 05.8	+1.5
IZM	**Izmir**	4.59	18	*e*Pn		Pn	22 40 05.8	+1.5
BCK	**Bucak**	5.38	49	*e*PN		Pn	22 40 15.0	-0.2
BCK	**Bucak**	5.38	49	*e*Pn		Pn	22 40 15.0	-0.2
MMAI	**Mount Meron Ar**	8.34	94	Pn		Pn	22 40 54.6	-1.3
	baz=277,slow=12,SNR=1.7							
BRTR	**Keskin Array B**	8.65	47	Pn		Pn	22 41 00.5	+0.3
	0.1nm,0.3s,baz=224,slow=12,SNR=3.9							
KBZ	**Khabaz**	16.63	49	Pn		P	22 42 51.2	+1.1
	0.1nm,0.3s,baz=203,slow=7.7,SNR=4.3							
GERES	**GERESS Array B**	17.21	333	P		P	22 42 56.6	0.0
	0.1nm,0.3s,baz=144,slow=12,SNR=6.7							
TORD	**Torodi Ar. Bea**	29.99	232	P		P	22 45 04.7	+1.3
	0.3nm,0.7s,baz=38,slow=8.2,SNR=2.6							
MKAR	**Makanchi Array**	44.18	56	P		P	22 47 03.2	-0.2
	0.8nm,0.6s,baz=271,slow=4.8,SNR=7.2							
ZALV	**Zalesovo Beam**	45.60	45	P		P	22 47 13.8	-0.8
	0.4nm,0.4s,baz=276,slow=7.1,SNR=2.6							

IDC 12 22:51:42.2±2.2,1.°60N×126.°64E,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.4/19,mbtmp3.5/3,MS2.8/1,Ms1 2.8/1, ms1mx2.1/22,Error ellipse: s-maj=186.5km s-min=26.7km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
DAV	**Davao City (W)**	5.54	349	LR	LR		22 54 55.4	
	comp=Z,76nm,18.0s,baz=246,slow=35							
WRA	**Warramunga Arr**	22.70	161	P		P	22 56 45.6	-0.1
	0.6nm,0.3s,baz=339,slow=10,SNR=19							
ASAR	**Alice Springs**	26.09	165	P		P	22 57 17.7	-0.1
	0.4nm,0.5s,baz=347,slow=7.2,SNR=5.2							
MKAR	**Makanchi Array**	59.26	326	P		P	23 01 45.8	+0.1
	0.4nm,0.7s,baz=110,slow=8.8,SNR=4.2							

AUST ***12*** *22:56:14.3,0.°00N×124.°50E,h35km*

ISCJB ***12*** *22:56:18.5±0.5,0.°31S±0.°04×124.°25E±0.°04,h60km, mb3.8/4, Error ellipse: s-maj=6.2km s-min=5.7km az=164.5*

IDC ***12*** *22:56:18.6±8.5,0.°25S×124.°24E,h54km±83km,mb3.5/4, mb1 3.8/5,mb1mx3.4/21,mbtmp3.7/5,ML4.5/1,MS2.9/1, Ms1 2.9/1,ms1mx2.2/24,Error ellipse: s-maj=56.8km s-min=22.1km az=50.0*

DJA ***12*** *22:56:19.3±1.4,0.°S±5.°×12.°4E±.°,h32km±19km,M4.5/8, mb4.7/4,mB5.2/1,MLv4.5/8,Mw(mB)4.6/1*

ISC 12 22:56:19.5±0.8,0.°26S±0.°05×124.°29E±0.°05,h60km,n22, σ1§62/25,mb3.8/4,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
KMSI	**Cibinong**	0.89	340	P		Pn	22 56 35.3	-0.8
KMSI				S		Sn	22 56 47.9	+0.5
GTOI	**Gorontalo**	1.56	305	P		Pn	22 56 46.3	+1.3
LUWI	**Luwuk**	1.70	243	P		Pn	22 56 47.1	+0.1
LUWI	**Luwuk**	1.70	243	P		Pn	22 56 46.6	-0.3
	baz=2.0,SNR=117							
LUWI				S		Sn	22 57 10.4	+2.7
	baz=2.0,SNR=6.3							
MNI	**Manado**	1.78	18	P		Pn	22 56 50.1	+2.0
MRSI	**Marisa**	2.46	287	P		Pn	22 56 54.7	-2.6
LBMI	**Labuha**	3.23	97	P		Pn	22 57 07.9	+0.1
LBMI				S		Sn	22 57 46.1	+1.0
TNTI	**Ternate**	3.24	72	P		Pn	22 57 09.7	+1.7
TTSI	**Tana Toraja**	5.25	238	P		Pn	22 57 36.6	+1.1
	97nm,0.6s,3µm0.7nm							
SPSI	**Sidrap Palu**	5.82	231	P		Pn	22 57 44.0	+0.7
	72nm,0.4s							
KAPI	**Kappang**	6.54	224	P		Pn	22 57 52.4	-0.8
	38nm,1.3s,0.1nm							
KAPI	**Kappang**	6.54	224	P		Pn	22 57 52.9	-0.3
	10nm,0.3s,baz=66,slow=4.8,SNR=29							
KAPI				S		Sn	22 59 05.4	-1.0
	6.9nm,0.3s,baz=62,slow=23,SNR=7.1							
KAPI				LR	LR		23 00 35.2	
	comp=Z,86nm,18.1s,baz=21,slow=39							
BSSI	**Bau Bau, Buton**	6.96	213	P		Pn	22 58 00.0	+1.0
BNDI	**Bandanaira**	7.03	127	P		Pn	22 57 52.9	-6.9
	baz=7.0,SNR=4.1							
FAKI	**Fak Fak**	8.38	108	P		Pn	22 58 17.4	-1.0
FAKI	**Fak Fak**	8.38	108	P		Pn	22 58 09.0	-9.4
	baz=8.3,SNR=3.4							
FAKI				S		Sn	22 59 47.1	-4.6
	baz=8.3,SNR=3.9							
MTN	**Manton Dam**	14.22	152	P		Pn	22 59 40.0	+2.0
	baz=14,SNR=3.7							
KDU	**Kakadu**	14.77	147	P		Pn	22 59 46.3	+1.2
	baz=15,SNR=3.2							
WRA	**Warramunga Arr**	21.89	154	P		P	23 01 07.0	-0.7
	2.9nm,0.8s,baz=330,slow=11,SNR=21							
ASAR	**Alice Springs**	25.07	159	P		P	23 01 39.2	+0.7
	1.0nm,0.8s,baz=335,slow=7.0,SNR=9.6							
STKA	**Stephens

TOZ	Tahuroa Road	2.36 249	PN	Pn	23 01 46.6	-1.2		
MKAZ	Moumakai	2.50 265	Pn	Pn	23 01 47.9	-1.7		
MKAZ	Moumakai	2.50 265	PN	Pn	23 01 47.9	-1.7		
WHTZ	Whakaora	2.54 226	PN	Pn	23 01 51.4	+1.2		
TLZ	Tolley Road	2.59 236	PN	Pn	23 01 50.8	-0.1		
HATZ	Hinemaiaia	2.62 221	P*	Pn	23 01 51.8	+0.6		
HATZ	Hinemaiaia	2.62 221	PN	Pn	23 01 51.8	+0.6		
BKZ	Black Stump Fm	2.65 212	P*	Pn	23 01 51.5	-0.1		
BKZ	Black Stump Fm	2.65 212	PN	Pn	23 01 51.7	+0.1		
BKZ			AML	AML	23 02 37.2			
BKZ			AML	AML	23 02 39.8			
WATZ	Wairara	2.70 228	P*	Pn	23 01 53.0	+0.7		
WATZ	Wairara	2.70 228	PN	Pn	23 01 52.9	+0.7		
MTAZ	Motutapu	2.71 272	Pn	Pn	23 01 50.8	-1.5		
MTAZ	Motutapu	2.71 272	PN	Pn	23 01 50.8	-1.5		
KBAZ	Karaka Road Bo	2.72 265	PN	Pn	23 01 51.7	-0.8		
RATZ	Rangitukua	2.78 225	P*	Pn	23 01 54.6	+1.3		
RATZ	Rangitukua	2.78 225	PN	Pn	23 01 54.4	+1.1		
ABAZ	Army Bay	2.79 276	⇓PN	Pn	23 01 51.8	-1.6		
RITZ	Rihia Road	2.81 222	PN	Pn	23 01 55.2	+1.5		
MCHZ	McNeill Hill	2.81 206	Pn	Pn	23 01 54.2	+0.5		
MCHZ	McNeill Hill	2.81 206	PN	Pn	23 01 54.2	+0.5		
KAAZ	Kauri Point	2.87 271	Pn	Pn	23 01 53.6	-0.8		
KAAZ	Kauri Point	2.87 271	PN	Pn	23 01 53.6	-0.8		
CKHZ	Cape Kidnapper	2.90 199	Pn	Pn	23 01 55.5	+0.6		
KATZ	Kakaramea	2.90 224	P*	Pn	23 01 57.0	+2.0		
KATZ	Kakaramea	2.90 224	PN	Pn	23 01 57.1	+2.1		
WTAZ	Waiatarua	2.97 269	Pn	Pn	23 01 54.9	-0.9		
WTAZ	Waiatarua	2.97 269	PN	Pn	23 01 54.9	-0.9		
RVAZ	Riverhead Bore	2.98 272	PN	Pn	23 01 54.6	-1.3		
KRVZ	Karewarewa	3.01 223	P*	Pn	23 01 57.9	+1.4		
KRVZ	Karewarewa	3.01 223	PN	Pn	23 01 57.9	+1.4		
OTVZ	Oturere	3.05 222	P*	Pn	23 01 57.9	+0.9		
OTVZ	Oturere	3.05 222	PN	Pn	23 01 57.9	+0.9		
WTVZ	West Tongariro	3.06 223	PN	Pn	23 01 58.7	+1.6		
KAHZ	Kahuranaki	3.08 201	Pn	Pn	23 01 57.0	-0.3		
KAHZ	Kahuranaki	3.08 201	PN	Pn	23 01 57.0	-0.3		
NGZ	Ngauruhoe	3.09 222	P*	Pn	23 01 58.8	+1.2		
NGZ	Ngauruhoe	3.09 222	PN	Pn	23 01 58.8	+1.2		
BHHZ	Black Hill Sta	3.10 214	P*	Pn	23 01 57.8	+0.1		
BHHZ	Black Hill Sta	3.10 214	PN	Pn	23 01 57.8	+0.1		
TWVZ	Taurewa	3.11 225	eP*	Pn	23 01 58.5	+0.7		
TWVZ	Taurewa	3.11 225	ePN	Pn	23 01 58.5	+0.7		
TUVZ	Tukino	3.13 221	P*	Pn	23 01 59.4	+1.3		
TUVZ	Tukino	3.13 221	PN	Pn	23 01 59.4	+1.3		
WPVZ	Whakapapa	3.14 223	P*	Pn	23 01 60.0	+1.7		
WPVZ	Whakapapa	3.14 223	PN	Pn	23 01 59.9	+1.7		
HIZ	Hauiti	3.15 239	Pn	Pn	23 01 58.7	+0.5		
HIZ	Hauiti	3.15 239	PN	Pn	23 01 58.7	+0.5		
WHVZ	Whangaehu Hut	3.17 221	PN	Pn	23 02 00.0	+1.2		
FWVZ	Far West T-bar	3.18 222	P*	Pn	23 02 00.0	+1.2		
FWVZ	Far West T-bar	3.18 222	PN	Pn	23 01 60.0	+1.2		
DRZ	Dome Shelter	3.18 222	P*	Pn	23 02 01.4	+2.5		
DRZ	Dome Shelter	3.18 222	PN	Pn	23 02 01.6	+2.7		
MOVZ	Moawhango	3.19 218	P*	Pn	23 01 59.1	+0.3		
MOVZ	Moawhango	3.19 218	PN	Pn	23 01 59.1	+0.3		
WNVZ	Wahianoa	3.21 221	P*	Pn	23 01 59.9	+0.8		
WNVZ	Wahianoa	3.21 221	PN	Pn	23 01 59.4	+0.3		
TRVZ	Turoa	3.21 221	P*	Pn	23 02 01.5	+2.2		
PXZ	Pawanui	3.30 199	Pn	Pn	23 01 58.7	-1.5		
PXZ	Pawanui	3.30 199	PN	Pn	23 01 58.7	-1.5		
PXZ			AML	AML	23 03 14.8			
PXZ			AML	AML	23 03 14.8			
PXZ			AML	AML	23 03 19.4			
PXZ			AML	AML	23 03 19.4			
PKVZ	Pokaka	3.31 224	P*	Pn	23 02 01.8	+1.4		
PKVZ	Pokaka	3.31 224	PN	Pn	23 02 01.8	+1.4		
MTVZ	Mangateitei	3.31 221	P*	Pn	23 02 01.7	+0.6		
MTVZ	Mangateitei	3.31 221	PN	Pn	23 02 01.1	+0.6		
WCZ	Waipu Caves	3.32 286	Pn	Pn	23 01 58.3	-2.3		
WCZ	Waipu Caves	3.32 286	⇑PN	Pn	23 01 58.3	-2.3		
PNHZ	Pukenui	3.41 208	Pn	Pn	23 02 00.7	-1.0		
WPHZ	Waipukurau	3.46 204	Pn	Pn	23 02 01.5	-0.8		
WPHZ	Waipukurau	3.46 204	PN	Pn	23 02 01.7	-0.6		
PRHZ	Porangahau	3.58 201	Pn	Pn	23 02 02.5	-1.5		
PRHZ	Porangahau	3.58 201	PN	Pn	23 02 02.2	-1.8		
TSZ	Takapari Road	3.63 209	AML	AML	23 03 02.9			
TSZ			AML	AML	23 03 08.2			
DVHZ	Dannevirke	3.76 206	Pn	Pn	23 02 04.8	-1.6		
DVHZ	Dannevirke	3.76 206	PN	Pn	23 02 04.8	-1.6		
ANWZ	Angora Road	3.81 201	PN	Pn	23 02 06.7	-0.4		
WAZ	Wanganui	3.84 221	Pn	Pn	23 02 07.9	+0.4		
WAZ	Wanganui	3.84 221	PN	Pn	23 02 07.2	-0.3		
POWZ	Post Office Ro	3.99 209	Pn	Pn	23 02 08.2	-1.2		
NEZ	North Egmont	4.05 233	Pn	Pn	23 02 13.5	+3.0		
NEZ	North Egmont	4.05 233	PN	Pn	23 02 13.5	+3.0		
PRWZ	Pori Road	4.06 206	PN	Pn	23 02 09.9	-0.5		
BFZ	Birch Farm	4.08 202	Pn	Pn	23 02 08.6	-2.1		
BFZ	Birch Farm	4.08 202	PN	Pn	23 02 08.6	-2.1		
BFZ			AML	AML	23 03 30.9			
BFZ			AML	AML	23 03 30.9			
BFZ			AML	AML	23 03 33.3			
BFZ			AML	AML	23 03 33.3			
DFE	Dawson Falls	4.08 233	PN	Pn	23 02 14.0	+3.2		
PKE	Pukeiti	4.08 235	Pn	Pn	23 02 13.5	+2.7		
PKE	Pukeiti	4.08 235	PN	Pn	23 02 13.5	+2.7		
KHEZ	Kahui Hut	4.12 234	PN	Pn	23 02 14.1	+2.8		
OUZ	Omahuta	4.16 293	ePn	Pn	23 02 10.0	-1.8		
OUZ			eSn	Sn	23 02 52.9	-6.5		
OUZ	Omahuta	4.16 293	PN	Pn	23 02 09.8	-2.0		
TIWZ	Tintock	4.28 205	Pn	Pn	23 02 12.4	-1.1		
TIWZ	Tintock	4.28 205	PN	Pn	23 02 12.4	-1.1		
MRZ	Mangatainoka R	4.29 209	Pn	Pn	23 02 11.5	-2.1		
MRZ	Mangatainoka R	4.29 209	PN	Pn	23 02 11.5	-2.1		
MRZ			AML	AML	23 03 31.4			
MRZ			AML	AML	23 03 33.2			
HOWZ	Holdsworth Sta	4.52 208	Pn	Pn	23 02 14.3	-2.4		
HOWZ	Holdsworth Sta	4.52 208	PN	Pn	23 02 14.3	-2.4		
TMWZ	Te Maipa	4.58 203	Pn	Pn	23 02 14.6	-2.8		
TMWZ	Te Maipa	4.58 203	PN	Pn	23 02 14.6	-2.8		
OGWZ	Otaki Gorge	4.59 211	PN	Pn	23 02 15.0	-2.6		
KIW	Kapiti Island	4.74 213	Pn	Pn	23 02 17.2	-2.4		
KIW	Kapiti Island	4.74 213	PN	Pn	23 02 17.0	-2.5		
KIW			AML	AML	23 03 34.3			
KIW			AML	AML	23 03 34.7			
MTW	Mount Morrison	4.75 206	Pn	Pn	23 02 16.7	-3.1		
MTW	Mount Morrison	4.75 206	PN	Pn	23 02 16.9	-2.9		
MTW			AML	AML	23 03 43.4			
MTW			AML	AML	23 03 44.8			
CAW	Cannon Point	4.88 210	Pn	Pn	23 02 19.2	-2.6		
CAW	Cannon Point	4.88 210	PN	Pn	23 02 19.0	-2.5		
CAW			AML	AML	23 03 40.0			
CAW			AML	AML	23 03 43.4			
TRWZ	Traveller	4.91 203	Pn	Pn	23 02 19.5	-2.4		
TRWZ	Traveller	4.91 203	PN	Pn	23 02 19.5	-2.4		
TRWZ			AML	AML	23 03 54.4			
TRWZ			AML	AML	23 03 56.9			
MSWZ	Moikau Station	5.07 207	Pn	Pn	23 02 21.9	-2.2		
MSWZ	Moikau Station	5.07 207	PN	Pn	23 02 21.4	-2.7		
MSWZ			AML	AML	23 03 49.6			
MSWZ			AML	AML	23 03 56.4			
WEL	Wellington	5.15 211	Pn	Pn	23 02 23.6	-1.5		
WEL	Wellington	5.15 211	PN	Pn	23 02 23.6	-1.5		
DUWZ	D'Urville Isla	5.16 220	Pn	Pn	23 02 23.4	-2.0		
DUWZ	D'Urville Isla	5.16 220	PN	Pn	23 02 23.3	-2.0		
SNZO	South Karori	5.19 211	ePn	Pn	23 02 24.1	-1.6		
SNZO			eSn	Sn	23 03 25.0	+0.7		
SNZO	South Karori	5.19 211	PN	Pn	23 02 22.3	-3.4		
SNZO			AML	AML	23 03 44.9			
SNZO			AML	AML	23 03 48.4			
PLWZ	Palliser	5.21 206	Pn	Pn	23 02 22.7	-3.3		
PLWZ	Palliser	5.21 206	PN	Pn	23 02 23.0	-3.0		
BHW	Baring Head	5.21 210	Pn	Pn	23 02 23.4	-2.5		
BHW	Baring Head	5.21 210	PN	Pn	23 02 23.4	-2.5		
BHW			AML	AML	23 03 48.6			
BHW			AML	AML	23 03 49.9			
TCW	Tory Channel	5.30 215	Pn	Pn	23 02 24.5	-2.7		
TCW	Tory Channel	5.30 215	PN	Pn	23 02 24.0	-3.2		
TCW			AML	AML	23 03 31.3			
TCW			AML	AML	23 03 48.0			
TUWZ	Tuamarina	5.63 215	Pn	Pn	23 02 28.6	-3.0		
TUWZ	Tuamarina	5.63 215	AML	AML	23 03 41.0			
TUWZ			AML	AML	23 03 44.0			
NNZ	Nelson	5.74 220	Pn	Pn	23 02 31.2	-2.1		
NNZ	Nelson	5.74 220	PN	Pn	23 02 31.2	-2.1		
BSWZ	Blackbirch Sta	5.88 214	Pn	Pn	23 02 32.6	-2.5		
BSWZ	Blackbirch Sta	5.88 214	PN	Pn	23 02 32.6	-2.5		
BSWZ			AML	AML	23 04 13.8			
BSWZ			AML	AML	23 04 20.9			

QRZ	Quartz Range	5.95 227	Pn	Pn	23 02 33.9	-2.1		
QRZ	Quartz Range	5.95 227	PN	Pn	23 02 33.7	-2.3		
THZ	Tophouse	6.38 219	Pn	Pn	23 02 39.1	-2.9		
THZ	Tophouse	6.38 219	PN	Pn	23 02 38.3	-3.7		
KHZ	Kahutara	6.60 212	ePn	Pn	23 02 42.8	-2.0		
KHZ			eSn	Sn	23 03 54.8	-3.7		
KHZ	Kahutara	6.60 212	PN	Pn	23 02 40.8	-4.0		
KHZ			AML	AML	23 04 07.3			
KHZ			AML	AML	23 04 10.2			
DSZ	Denniston Nort	6.96 224	PN	Pn	23 02 46.1	-3.7		
CTZ	Chatham Island	7.84 152	Pn	Pn	23 03 01.1	-0.6		
CTZ	Chatham Island	7.84 152	PN	Pn	23 03 01.1	-0.6		
OXZ	Oxford	7.99 215	PN	Pn	23 02 58.9	-4.8		
MQZ	McQueen's Vall	8.03 211	Pn	Pn	23 02 59.4	-4.8		
MQZ	McQueen's Vall	8.03 211	PN	Pn	23 02 59.5	-4.8		
WVZ	Waitaha Valley	8.45 221	Pn	Pn	23 03 07.0	-2.9		
WVZ	Waitaha Valley	8.45 221	PN	Pn	23 03 07.0	-2.9		
RPZ	Rata Peaks	8.75 217	ePn	Pn	23 03 12.6	-1.5		
RPZ			eSn	Sn	23 04 48.9	-2.0		
RPZ	Rata Peaks	8.75 217	P	Pn	23 03 11.6	-2.4		
	6.9nm,0.3s,baz=80,slow=1.3,SNR=13							
RPZ			S	Sn	23 04 44.7	-6.1		
	13nm,0.3s,baz=20,slow=6.9,SNR=3.9							
RPZ			LR	LR	23 07 16.2			
	comp=Z,715nm,20.6s,baz=56,slow=40							
RPZ	Rata Peaks	8.75 217	PN	Pn	23 03 11.7	-2.4		
LBZ	Lake Benmore	9.67 217	Pn	Pn	23 03 22.6	-3.9		
LBZ	Lake Benmore	9.67 217	PN	Pn	23 03 22.4	-4.1		
ODZ	Otahua Downs	9.96 213	ePn	Pn	23 03 27.4	-3.1		
ODZ			eSn	Sn	23 05 15.0	-5.2		
ODZ	Otahua Downs	9.96 213	PN	Pn	23 03 25.5	-5.0		
JCZ	Jackson Bay	10.18 222	Pn	Pn	23 03 29.8	-3.8		
WKZ	Wanaka	10.56 219	Pn	Pn	23 03 35.3	-3.5		
WKZ	Wanaka	10.56 219	PN	Pn	23 03 35.5	-3.3		
TUZ	Tuapeka	11.11 213	Pn	Pn	23 03 43.9	-2.3		
TUZ	Tuapeka	11.11 213	PN	Pn	23 03 43.9	-2.3		
MLZ	Mavora Lakes	11.35 219	Pn	Pn	23 03 47.8	-1.6		
MLZ	Mavora Lakes	11.35 219	PN	Pn	23 03 47.8	-1.6		
SYZ	Scrubby Hill	11.78 213	Pn	Pn	23 03 54.2	-0.9		
SYZ	Scrubby Hill	11.78 213	PN	Pn	23 03 53.1	-2.0		
WHZ	Wether Hill Ro	11.85 218	ePn	Pn	23 03 53.9	-2.1		
WHZ			eSn	Sn	23 05 53.8	-12		
WHZ	Wether Hill Ro	11.85 218	PN	Pn	23 03 54.2	-1.9		
DCZ	Deep Cove	11.96 221	Pn	Pn	23 03 54.5	-3.0		
DCZ	Deep Cove	11.96 221	PN	Pn	23 03 54.5	-3.0		
PYZ	Puysegur Point	12.67 220	Pn	Pn	23 04 04.3	-2.6		
PYZ	Puysegur Point	12.67 220	PN	Pn	23 04 04.3	-2.6		
DZM	Mont Dzumac	18.01 322	eLR	LR	23 09 38.8			
	1um,26.7s							
DZM	Mont Dzumac	18.01 322	LR	LR	23 11 06.2			
	comp=Z,502nm,18.9s,baz=88,slow=34							
MSVF	Nonsavu	19.11 359	ePn	P	23 05 25.9	+0.2		
	38nm,0.7s							
ARMA	Armidale	23.07 279	eP	P	23 06 09.0	+1.4		
	42nm,1.6s							
AFI	Afiamalu	24.58 24	ePn	P	23 06 23.2	+2.0		
	90nm,1.0s							
RAR	Rarotonga	24.67 57	LR	LR	23 14 06.8			
	comp=Z,164nm,19.6s,baz=135,slow=32							
EIDS	Eidsvold	25.88 289	eP	P	23 06 33.7	+0.7		
	24nm,1.3s							
EIDS			eSP	sP	23 06 55.7	-11		
STKA	Stephens Creek	30.56 269	eP	P	23 07 17.0	+2.4		
	6.0nm,1.3s							
STKA	Stephens Creek	30.56 269	P	P	23 07 16.7	+2.0		
	22nm,1.1s,baz=101,slow=11,SNR=11							
STKA			LR	LR	23 17 00.3			
	comp=Z,248nm,20.8s,baz=289,slow=31							
TBI	Tubuai	30.84 73	eLR	LR	23 15 22.4			
	505nm,30.8s							
CTA	Charters Tower	32.56 292	P	P	23 07 32.4	+0.1		
CTA	Charters Tower	32.56 292	P	P	23 07 32.4	+0.1		
	8.6nm,1.0s,baz=125,slow=10,SNR=7.1							
CTAO	Charters Tower	32.56 292	eP	P	23 07 33.5	+1.2		
	29nm,1.4s							
PPT2	Papeete2	34.22 64	eLR	LR	23 16 52.3			
	676nm,29.8s							
PPT	Papeete	34.23 64	LR	LR	23 18 24.9			
	comp=Z,176nm,21.3s,baz=2.9,slow=30							
COEN	Coen	38.75 297	eP	P	23 08 26.4	+1.2		
	159nm,0.8s							
PMG	Port Moresby	39.28 306	LR	LR	23 21 09.2			
	comp=Z,249nm,19.9s,baz=338,slow=31							
AS31	Alice Springs	40.19 276	eP	P	23 08 37.6	+0.4		
ASAR	Alice Springs	40.19 276	P	P	23 08 38.2	+1.1		
ASAR			ScP	ScP	23 14 17.7	-1.8		
ASAR			S	S	23 14 38.5	+1.7		
ASAR	Alice Springs	40.19 276	P	P	23 08 38.2	+1.1		
	33nm,0.9s,baz=116,slow=7.3,SNR=101							
ASAR			ScP	ScP	23 14 17.7	-1.8		
	2.2nm,1.1s,baz=116,slow=3.6,SNR=4.6							
ASAR			S	S	23 14 38.5	+1.7		
	0.8nm,0.9s,baz=118,slow=14,SNR=3.7							
ASAR			LR	LR	23 23 57.7			
	comp=Z,219nm,18.4s,baz=112,slow=34							
VNDA	Vanda	41.32 185	eP	P	23 08 50.5	+4.7		
	5.3nm,0.8s							
VNDA	Vanda	41.32 185	P	P	23 08 49.5	+3.7		
	1.2nm,0.8s,baz=8.1,slow=7.1,SNR=6.6							
VNDA			LR	LR	23 24 06.5			
	comp=Z,75nm,21.3s,baz=282,slow=33							
SBA	Scott Base	41.33 184	eP	P	23 08 48.7	+2.9		
FORT	Forrest	41.77 263	eP	P	23 08 51.1	+1.1		
WRAB	Tennant Creek	41.78 282	eP	P	23 08 50.8	+0.5		
	17nm,0.6s							
WRA	Warramunga Arr	41.79 282	P	P	23 08 50.7	+0.5		
WRA			PcP	PcP	23 10 44.3	-0.4		
WRA			ScP	ScP	23 14 23.8	-2.0		
WRA			S	S	23 15 03.9	+3.5		
WRA	Warramunga Arr	41.79 282	P	P	23 08 50.7	+0.5		
	18nm,0.7s,baz=118,slow=8.1,SNR=132							
WRA			PcP	PcP	23 10 44.3	-0.4		
	3.9nm,1.0s,baz=122,slow=3.3,SNR=6.0							
WRA			ScP	ScP	23 14 23.8	-2.0		
	1.7nm,0.9s,baz=124,slow=4.0,SNR=6.0							
WRA			S	S	23 15 03.9	+3.5		
	3.2nm,1.0s,baz=122,slow=14,SNR=5.7							
RKT	Rikitea	42.34 85	eLR	LR	23 20 30.9			
	470nm,32.8s							
NWAO	Narrogin (SRO)	49.47 256	P	P	23 09 52.0	+1.4		
NWAO	Narrogin (SRO)	49.47 256	P	P	23 09 52.0	+1.4		
	9.9nm,0.9s,baz=140,slow=8.7,SNR=7.7							
NWAO			LR	LR	23 28 50.9			
	comp=Z,75nm,20.8s,baz=187,slow=33							
FITZ	Fitzroy Crossi	49.67 277	P	P	23 09 53.0	+0.7		
FITZ	Fitzroy Crossi	49.67 277	P	P	23 09 53.0	+0.7		
	23nm,0.8s,baz=134,slow=8.3,SNR=36							
FITZ			LR	LR	23 28 46.8			
	comp=Z,122nm,20.5s,baz=119,slow=33							
QSPA	South Pole Qui	53.20 180	eP	P	23 10 22.6	+4.4		
	52nm,0.9s							
QSPA	South Pole Qui	53.20 180	P	P	23 10 22.8	+4.6		
	28nm,1.0s,baz=28,slow=2.1,SNR=88							
MAW	Mawson	65.12 202	P	P	23 11 42.7	+2.6		
MAW	Mawson	65.12 202	P	P	23 11 42.7	+2.6		
	4.5nm,0.9s,baz=124,slow=8.1,SNR=9.2							
MAW			LR	LR	23 37 14.5			
	comp=Z,77nm,18.9s,baz=325,slow=33							
SYO	Syowa Base	70.06 195	eP	P	23 12 11.6	+0.5		
SYO	Syowa Base	70.06 195	ePcP	PcP	23 12 34.0	+1.4		
SNAA	Sanae	71.71 180	eP	P	23 12 23.6	+2.4		
	18nm,1.0s							
MAIT	Maitri	72.17 185	eP	P	23 12 16.5	-7.3		
PLCA	Paso Flores	80.28 134	eP	P	23 13 14.0	+3.6		
	8.2nm,0.8s							
PLCA	Paso Flores	80.28 134	P	P	23 13 14.3	+3.9		
	9.6nm,0.9s,baz=214,slow=6.5,SNR=11							
PLCA			LR	LR	23 40 03.3			
	comp=Z,159nm,18.3s,baz=180,slow=29							
JNU	Nakatsue	82.54 321	P	P	23 13 21.4	-0.7		
JNU	Nakatsue	82.54 321	P	P	23 13 21.4	-0.7		
	24nm,1.2s,baz=69,slow=4.4,SNR=3.9							
KSRS	Korea Array	87.44 322	P	P	23 13 47.6	+1.2		
	6.0nm,0.7s,baz=142,slow=5.3,SNR=18							
KSRS			LR	LR	23 52 55.6			
	comp=Z,19nm,18.1s,baz=150,slow=36							
KSAR	Wonju Array Be	87.45 322	P	P	23 13 47.6	+1.1		
CFAA	Coronel Fontan	87.74 128	LR	LR	23 44 09.9			
	comp=Z,15nm,20.2s,baz=72,slow=29							
FX1	Attu Island--F	89.54 357	LR	LR	23 49 16.5			
	comp=Z,40nm,18.3s,baz=48,slow=32							
USRK	Ussuriysk Arra	90.99 329	P	P	23 14 03.0	+0.1		
	1.0nm,0.5s,baz=122,slow=2.5,SNR=4.5							
PETK	Petropavlovsk-	91.43 348	P	P	23 14 02.7	-2.0		
PETK	Petropavlovsk-	91.43 348	P	P	23 14 02.7	-2.0		
	2.1nm,0.4s,baz=87,slow=5.2,SNR=4.1							
PETK			LR	LR	23 51 01.1			
	comp=Z,27nm,19.2s,baz=346,slow=33							
GYA	Guiyang	92.21 302	P	P	23 14 13.0	+3.8		
GYA			pP	pP	23 14 30.8	-4.8		
GYA			PP	PP	23 17 57.2	+6.0		
GYA			SKS	SKSac	23 24 40.9	+7.5		
GYA			S	ScS	23 25 08.5	+2.6		
GYA			pmax	pmax				
	comp=Z,10.0nm,1.0s							
GYA			pmax	pmax				
	comp=Z,90nm,5.0s							
CMAR	Chiang Mai Arr	92.72 291	P	P	23 14 12.8	+1.2		
CMAR	Chiang Mai Arr	92.72 291	P	P	23 14 12.8	+1.2		
	comp=Z,4.6nm,0.8s,baz=148,slow=3.4,SNR=14							
CMAR			LR	LR	23 56 29.2			
	comp=Z,37nm,19.8s,baz=155,slow=36							
LVC	Limon Verde	93.34 121	LR	LR	23 46 04.0			
	comp=Z,100nm,20.6s,baz=155,slow=29							
NNA	Nana	94.47 108	LR	LR	23 48 26.5			
	comp=Z,40nm,18.6s,baz=316,slow=30							
BJI	Beijing	95.48 317	P	P	23 14 31.3	+7.6		
BJI			pmax	pmax				
	comp=Z,8.0nm,0.5s							
BJI			pmax	pmax				
	comp=Z,94nm,4.8s							
BJI			LR	LR				
	comp=N,130nm,25.2s							
BJI			LR	LR				
	comp=E,83nm,25.6s							
BJI			LR	LR				
	comp=Z,46nm,27.2s							
ATAH	Atahualpa	96.28 104	LR	LR	23 47 35.2			
	comp=Z,58nm,19.3s,baz=85,slow=29							
CD2	Chengdu	97.00 303	P	P	23 14 34.8	+3.8		
CD2			pP	pP	23 14 51.8	-5.6		
CD2			PP	PP	23 18 33.9	+5.6		
CD2			SKS	SKSac	23 25 05.4	+6.6		
CD2			S	ScS	23 25 49.4	+3.8		
CD2			SS	SS	23 32 31.3	+6.6		
CD2			pmax	pmax				
	comp=Z,10.0nm,0.5s							
CD2			pmax	pmax				
	comp=Z,100nm,5.6s							
LPAZ	La Paz	98.12 117	P	Pdif	23 14 39.5	+2.3		
LPAZ	La Paz	98.12 117	P	Pdif	23 14 39.5	+2.3		
	comp=Z,1.8nm,0.7s,baz=213,slow=6.0,SNR=11							
LPAZ			LR	LR	23 47 55.3			
	comp=Z,66nm,21.7s,baz=191,slow=28							
CPUP	Villa Florida	98.18 132	LR	LR	23 51 10.0			
	comp=Z,89nm,18.3s,baz=33,slow=30							
TXAR	Lajitas Array	98.43 60	P	Pdif	23 14 38.7	+1.2		
TXAR	Lajitas Array	98.43 60	P	Pdif	23 14 38.7	+1.2		
	comp=Z,0.6nm,0.9s,baz=205,slow=8.1,SNR=5.5							
TXAR			LR	LR	23 49 34.0			
	comp=Z,43nm,19.2s,baz=45,slow=30							
HHC	Hu-ho-hao-te	98.59 315	eP	Pdif	23 14 45.2	+7.2		
HHC			PP	PP	23 18 49.1	+8.7		
HHC			SS	SS	23 32 45.2	-1.6		
HHC			pmax	pmax				
	comp=Z,12nm,1.1s							
HHC			pmax	pmax				
	comp=Z,80nm,7.2s							
HHC			LR	LR				
	comp=N,210nm,14.4s							
HHC			LR	LR				
	comp=E,270nm,15.6s							
HHC			LR	LR				
	comp=Z,100nm,15.6s							
LZH	Lanzhou	100.17 308	eP	Pdif	23 14 53.1	+7.9		
LZH			pmax	pmax				
	comp=Z,12nm,1.0s							
SONM	Songino Array	105.91 318	PKKPbc	PKKPbc	23 30 48.3	+2.4		
SONM	Songino Array	105.91 318	PKKPbc	PKKPbc	23 30 48.3	+2.4		
	comp=Z,0.2nm,0.3s,baz=275,slow=3.2,SNR=4.1							
MKAR	Makanchi Array	119.48 308	PKP	PKP

ISCJB **12** *23:31:29.4±0.2, 43°.56N±0'.04×130°.51E±0'.03, h580km±3km, mb4.0/67, Error ellipse: s-maj=6.0km s-min=3.8km az=3.5*
BJI **12** *23:31:30.2, 43°.66N×130°.36E, h584km, mB4.5/5, mb4.7/15*
NEIC **12** *23:31:30.4±0.4, 43°.57N×130°.44E, h574km±5km, mb4.1/25, Error ellipse: s-maj=11.7km s-min=5.7km az=175.0*
IDC **12** *23:31:30.7±0.5, 43°.75N×130°.36E, h574km±5km, mb3.4/24, mb1 3.6/27, mb1mx3.5/36, mbtmp3.4/27, Error ellipse: s-maj=13.3km s-min=8.1km az=176.0*
JMA **12** *23:31:31.9±0.4, 43°.53N×131°.04E, h599km, M4.2*
ISC 12 23:31:29.6±0.4, 43°.58N±0'.06×130°.50E±0'.05, h570km±4km, n324, σ1°32'/352, mb4.1/76, 64C-58D, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDJ	**Mudanjiang**	**1.23**	**328**	P	**P**	**23 32 40.7**	**+2.5**
MDJ				S	**S**	**23 33 37.7**	**+3.2**
MDJ				PcP	**PcP**	**23 38 53.7**	**-0.4**
MDJ				ScP	**ScP**	**23 41 30.6**	**-0.9**
MDJ				PcS	**PcS**	**23 42 27.2**	**+1.2**
MDJ				ScS	**ScS**	**23 45 03.5**	**+0.1**
MDJ	**Mudanjiang**	**1.23**	**328**	*eP*	**P**	**23 32 40.0**	**+1.8**
MDJ	**Mudanjiang**	**1.23**	**328**	*eP*	**P**	**23 32 40.0**	**+1.8**
USRK	**Ussuriysk Arra**	**1.24**	**60**	P	**P**	**23 32 40.6**	**+2.3**
	15nm,0.3s,baz=280,slow=1.7,SNR=203						
USRK				S	**S**	**23 33 36.6**	**+2.0**
	2.1nm,0.3s,baz=216,slow=8.5,SNR=5.7						
CN2	**Changchun**	**3.67**	**275**	⇑P	**P**	**23 32 52.2**	**+1.7**
CN2				*eS*	**S**	**23 33 51.8**	**-4.8**
TEY	**Ternei**	**4.61**	**70**	⇓*i* P	**P**	**23 32 58.0**	**+0.7**
TEY				AMB	AMB	23 32 58.5	
	41nm,0.6s						
TEY				*eS*	**S**	**23 34 10.0**	**+0.8**
KLR	**Kul'dur**	**5.71**	**8**	*eP*	**P**	**23 33 04.7**	**-1.7**
KLR				*e*		23 34 23.0	
KLR	**Kul'dur**	**5.71**	**8**	*eP*	**P**	**23 33 04.7**	**-1.7**
KSRS	**Korea Array**	**6.43**	**199**	P	P	23 33 16.2	+3.1
	4.0nm,0.3s,baz=16,slow=8.6,SNR=99						
KSRS				S	**S**	**23 34 41.8**	**+4.1**
	baz=15,slow=16,SNR=4.0						
JOSM	**Okushiri--Mats**	**6.76**	**100**	P	**P**	**23 33 16.1**	**0.0**
INCN	**Inchon**	**6.77**	**207**	*eP*	**P**	**23 33 19.0**	**+2.7**
JSH	**Shimam**	**7.04**	**94**	P	**P**	**23 33 18.9**	**+0.2**
JSK	**Shakotan**	**7.26**	**88**	P	**P**	**23 33 21.0**	**+0.3**
JYM2	**Yakumo 2**	**7.40**	**98**	P	**P**	**23 33 22.6**	**+0.6**
JSR	**Shiriuchi**	**7.60**	**102**	P	**P**	**23 33 24.5**	**+0.5**
JIW	**Iwasaki**	**7.67**	**110**	P	**P**	**23 33 24.9**	**+0.1**
JSI2	**Shiura 2**	**7.76**	**106**	P	**P**	**23 33 25.7**	**+0.1**
JNB	**Noboribetsu**	**7.80**	**95**	P	**P**	**23 33 25.8**	**-0.1**
JKB	**Kayabe**	**7.93**	**99**	P	**P**	**23 33 27.9**	**+0.7**
JSZ	**Suzu**	**8.05**	**137**	P	**P**	**23 33 29.9**	**+1.5**
JSZ				*eS*	**S**	**23 35 03.7**	**-2.1**
JSD	**Sado**	**8.08**	**131**	P	**P**	**23 33 29.2**	**+0.5**
JTB	**Tobi-shima**	**8.09**	**120**	P	**P**	**23 33 29.5**	**+0.7**
JOT	**Ohata**	**8.10**	**102**	P	**P**	**23 33 29.2**	**+0.4**
JHR	**Hokuryu**	**8.14**	**85**	P	**P**	**23 33 29.4**	**+0.2**
JAH	**Hinai**	**8.28**	**111**	P	**P**	**23 33 31.3**	**+0.6**
JYW	**Yuwa**	**8.32**	**116**	P	**P**	**23 33 31.5**	**+0.5**
JTM	**Tenmabayashi**	**8.33**	**106**	P	**P**	**23 33 30.6**	**-0.5**
JRG	**Rokugo**	**8.68**	**115**	P	**P**	**23 33 34.7**	**+0.1**
JRG				*eS*	**S**	**23 35 12.6**	**-4.5**
JBT2	**Biratori 2**	**8.71**	**91**	P	**P**	**23 33 34.6**	**-0.2**
ASAJ	**Asahikawa**	**8.76**	**82**	*eP*	**P**	**23 33 35.9**	**+0.7**
ASAJ	**Asahikawa**	**8.76**	**82**	P	**P**	**23 33 36.2**	**+1.0**
ASAJ	**Asahikawa**	**8.76**	**82**	*eP*	**P**	**23 33 35.9**	**+0.7**
ASAJ	**Asahikawa**	**8.76**	**82**	P	**P**	**23 33 36.3**	**+1.0**
	6.8nm,0.3s,baz=245,slow=7.1,SNR=12						
ASAJ				S	**S**	**23 35 18.3**	**-0.1**
	0.6nm,0.3s,baz=162,slow=19,SNR=3.0						
JKA	**Kamikawa-asahi**	**8.76**	**82**	P	**P**	**23 33 36.3**	**+1.0**
JKA				S	**S**	**23 35 18.3**	**-0.2**
JYK	**Kaneyama**	**8.76**	**119**	P	**P**	**23 33 35.1**	**-0.3**
JSE	**Soyaes**	**8.78**	**77**	P	**P**	**23 33 36.3**	**+0.9**
JSE				*eS*	**S**	**23 35 14.5**	**-4.2**
JANG	**Nango**	**8.80**	**108**	P	**P**	**23 33 36.0**	**+0.2**
JANG				*eS*	**S**	**23 35 14.0**	**-5.4**
JHS	**Saijyo**	**8.81**	**166**	P	**P**	**23 33 38.1**	**+2.1**
JFR	**Furan**	**8.82**	**89**	P	**P**	**23 33 36.9**	**0.0**
JKZ	**Kuzumaki**	**8.85**	**110**	P	**P**	**23 33 35.6**	**-0.7**
JOM	**Ohasama**	**9.07**	**113**	P	**P**	**23 33 37.5**	**-1.0**
JOM				*eS*	**S**	**23 35 20.2**	**-4.1**
MAJO	**Matsushiro**	**9.18**	**137**	*eP*	**P**	**23 33 39.3**	**-0.3**
MAJO	**Matsushiro**	**9.18**	**137**	*eP*	**P**	**23 33 39.3**	**-0.3**
MAT	**Matsushiro**	**9.18**	**137**	P	**P**	**23 33 39.2**	**-0.4**
MAT	**Matsushiro**	**9.18**	**137**	P	**P**	**23 33 39.7**	**+0.1**
YSS	**Yuzh-Sakhalins**	**9.27**	**64**	*eP*	**P**	**23 33 43.0**	**+2.7**
JMK	**Ichinoseki**	**9.30**	**116**	P	**P**	**23 33 39.4**	**-1.3**
HIA	**Hailar**	**9.35**	**311**	*eP*	**P**	**23 33 42.0**	**+0.9**
	25nm,0.6s						
HIA	**Hailar**	**9.35**	**311**	*eP*	**P**	**23 33 42.0**	**+0.9**
ERM	**Erimo**	**9.43**	**95**	*d i* P	**P**	**23 33 42.2**	**+0.2**
ERM	**Erimo**	**9.43**	**95**	*eP*	**P**	**23 33 42.2**	**+0.2**
	65nm,0.3s						
ERM				*eS*	**S**	**23 35 25.4**	**-5.4**
ERM	**Erimo**	**9.43**	**95**	⇓*i* P	**P**	**23 33 42.2**	**+0.2**
JCH	**Churui**	**9.46**	**91**	P	**P**	**23 33 40.9**	**-1.4**
JCH				*eS*	S	23 35 24.8	-6.4
EKMR	**Ekimchan**	**9.63**	**9**	*eP*	**P**	**23 33 44.1**	**+0.3**
EKMR				AMB	AMB	23 33 45.0	
	8.0nm,0.5s						
JTKR	**Abashiri--Toko**	**9.71**	**83**	P	**P**	**23 33 44.9**	**+0.2**
JRY	**Ryogami san**	**9.94**	**137**	*eS*	**S**	**23 35 36.7**	**-3.6**
JIE	**Ise**	**10.37**	**150**	P	**P**	**23 33 52.0**	**+0.4**
JHO	**Hitachi**	**10.38**	**129**	*eS*	S	23 35 41.7	-6.8
ZEA	**Zeya**	**10.39**	**349**	*eP*	**P**	**23 33 53.1**	**+1.7**
NEM2	**Nemuro 2**	**11.08**	**86**	P	**P**	**23 33 57.9**	**-0.8**
KROS	**Kirovskiy**	**11.10**	**349**	⇓*i* P	**P**	**23 33 58.5**	**-0.2**
KROS				AMB	AMB	23 33 59.8	
	6.0nm,0.5s						
NKL	**Nikolayevsk**	**11.71**	**32**	*eP*	**P**	**23 34 05.7**	**+0.8**
HHC	**Hu-ho-hao-te**	**14.30**	**265**	*eP*	**P**	**23 34 30.6**	**-1.2**
HHC				sP	sP	23 36 30.5	
HHC				S	S	23 36 53.7	-7.7
HHC				PcP	**PcP**	**23 39 05.7**	**+1.3**
HHC				ScP	**ScP**	**23 41 42.7**	**-1.8**
HHC				PcS	**PcS**	**23 42 38.9**	**-0.7**
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,5.0s						
ULN	**Ulaanbaatar**	**16.91**	**293**	*eP*	**P**	**23 34 57.3**	**+0.8**
	comp=Z,34nm,1.4s						
ULN	**Ulaanbaatar**	**16.91**	**293**	*eP*	**P**	**23 34 57.3**	**+0.8**
SONM	**Songino Array**	**17.34**	**293**	P	**P**	**23 35 01.3**	**+0.8**
	comp=Z,1.6nm,0.3s,baz=94,slow=9.2,SNR=42						
ZAK	**Zakamensk**	**19.71**	**300**	*eP*	**P**	**23 35 22.2**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TLY	**Talaya**	**19.75**	**304**	*eP*	**P**	**23 35 23.5**	**+1.3**
TLY				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TLY	**Talaya**	**19.75**	**304**	*eP*	**P**	**23 35 23.5**	**+1.3**
PETK	**Petropavlovsk-**	**20.32**	**53**	P	**P**	**23 35 28.4**	**+1.1**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PETK	**Petropavlovsk-**	**20.32**	**53**	P	**P**	**23 35 28.4**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=224,slow=6.2,SNR=4.1						
GTA	**Gaotai**	**23.29**	**270**	P	**P**	**23 35 55.7**	**+1.4**
GTA				pmax	pmax		
	comp=Z,13nm,1.5s						
GYA	**Guiyang**	**25.80**	**236**	P	**P**	**23 36 17.0**	**+0.4**
GYA				sP	**sP**	**23 38 52.2**	**-0.8**
GYA				S	**S**	**23 40 06.5**	**-0.2**
GYA				ScP	**ScP**	**23 42 12.3**	**+0.1**
GYA				PcS	**PcS**	**23 43 08.0**	**-0.1**
GYA				ScS	**ScS**	**23 46 01.2**	**-1.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HVS	**Khovu-Aksy**	**25.83**	**300**	*eP*	**P**	**23 36 16.9**	**+0.4**
HVS				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HVS	**Khovu-Aksy**	**25.83**	**300**	*eP*	**P**	**23 36 16.9**	**+0.4**
FX1	**Attu Island--F**	**29.51**	**56**	P	**P**	**23 36 49.5**	**+1.1**
	comp=Z,3.7nm,0.3s,baz=357,slow=11,SNR=33						
WMQ	**Urumqi**	**30.70**	**286**	P	**P**	**23 36 59.9**	**+1.1**
BILL	**Bilibino**	**30.87**	**25**	*eP*	**P**	**23 36 57.7**	**-2.2**
BILL				*i*		23 39 34.5	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BILL	**Bilibino**	**30.87**	**25**	*eP*	**P**	**23 36 57.7**	**-2.2**
ZALV	**Zalesovo Beam**	**31.33**	**306**	P	**P**	**23 37 03.5**	**-0.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**31.33**	**306**	P	**P**	**23 37 03.5**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=89,slow=7.6,SNR=9.6						
MK31	**Makanchi Array**	**33.71**	**293**	*ceP*	**P**	**23 37 24.4**	**+0.1**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MK31	**Makanchi Array**	**33.71**	**293**	*eP*	**P**	**23 37 24.3**	**0.0**
MKAR	**Makanchi Array**	**33.71**	**293**	P	**P**	**23 37 24.5**	**+0.3**
MKAR						23 39 46.2	
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MKAR	**Makanchi Array**	**33.71**	**293**	*eP*	**P**	**23 37 24.6**	**+0.3**
MKAR	**Makanchi Array**	**33.71**	**293**	P	**P**	**23 37 24.5**	**+0.3**
MKAR	**Makanchi Array**	**33.71**	**293**	P	**P**	**23 37 24.4**	**+0.3**
	comp=Z,5.2nm,0.8s,baz=84,slow=9.5,SNR=49						
MKAR				PcP	**PcP**	**23 39 46.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=74,slow=3.4,SNR=4.2						
LSA	**Lhasa**	**34.15**	**259**	*eP*	**P**	**23 37 29.0**	**+0.3**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
LSA	**Lhasa**	**34.15**	**259**	*eP*	**P**	**23 37 29.0**	**+0.3**
	comp=Z,4.5nm,0.6s						
LSA	**Lhasa**	**34.15**	**259**	P	**P**	**23 37 29.0**	**+0.3**
KURK	**Kurchatov**	**35.37**	**300**	P	**P**	**23 37 38.3**	**+0.4**
KURK						23 39 51.5	
KURK				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KURK	**Kurchatov**	**35.37**	**300**	P	**P**	**23 37 38.3**	**+0.4**
KURBB	**Kurchatov Arra**	**35.44**	**300**	P	**P**	**23 37 38.3**	**-0.2**
	comp=Z,6.7nm,0.5s,baz=82,slow=8.5,SNR=70						
KURBB				PcP	**PcP**	**23 39 51.5**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=86,slow=3.6,SNR=4.1						
TAPN	**Taplejung**	**37.98**	**259**	*eP*	**P**	**23 38 00.8**	**+0.8**
	comp=Z,12nm,0.4s						
JIRN	**Jiri**	**38.88**	**261**	*eP*	**P**	**23 38 08.2**	**+0.8**
	comp=Z,9.5nm,0.4s						
GUN	**Gumba**	**38.96**	**261**	*eP*	**P**	**23 38 08.8**	**+0.8**
	comp=Z,17nm,0.5s						
RAMN	**Ramite**	**39.01**	**260**	*eP*	**P**	**23 38 08.4**	**+0.1**
	comp=Z,16nm,0.8s						
KKN	**Kakani**	**39.46**	**262**	*eP*	**P**	**23 38 12.5**	**+0.6**
	comp=Z,14nm,0.5s						
PKI	**Pulchoki**	**39.50**	**261**	*eP*	**P**	**23 38 12.9**	**+0.6**
	comp=Z,12nm,0.6s						
BVAR	**Borovoye Array**	**39.99**	**305**	P	**P**	**23 38 15.1**	**-0.3**
BVAR						23 40 05.9	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**39.99**	**305**	P	**P**	**23 38 15.1**	**-0.3**
	comp=Z,1.4nm,0.3s,baz=82,slow=7.8,SNR=14						
BVAR				PcP	**PcP**	**23 40 05.9**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=64,slow=3.4,SNR=4.0						
BRVK	**Borovoye**	**40.04**	**305**	*eP*	**P**	**23 38 15.5**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRVK	**Borovoye**	**40.04**	**305**	*eP*	**P**	**23 38 15.5**	**-0.4**
DANN	**Dangsing**	**40.23**	**264**	*eP*	**P**	**23 38 19.0**	**+0.9**
	comp=Z,2nm,0.6s						
AAK	**Ala-Archa**	**40.24**	**289**	*eP*	**P**	**23 38 18.0**	**+0.2**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
AAK	**Ala-Archa**	**40.24**	**289**	*eP*	**P**	**23 38 18.0**	**+0.2**
KOLN	**Koldanda**	**40.68**	**263**	*eP*	**P**	**23 38 22.1**	**+0.5**
	comp=Z,16nm,0.6s						
PYUN	**Piuthan**	**40.93**	**264**	*eP*	**P**	**23 38 24.2**	**+0.6**
	comp=Z,43nm,0.7s						
KK31	**Karatay Array**	**42.78**	**291**	*ceP*	**P**	**23 38 37.4**	**-0.3**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KKAR	**Karatay Array**	**42.78**	**291**	*eP*	**P**	**23 38 37.7**	**0.0**
KKAR	**Karatay Array**	**42.78**	**291**	*eP*	**P**	**23 38 37.7**	**0.0**
SVE	**Sverdlovsk**	**44.66**	**313**	*eP*	**P**	**23 38 52.2**	**+0.3**
SVE				pmax	pmax		
	comp=Z,15nm,0.9s						
SVE	**Sverdlovsk**	**44.66**	**313**	*eP*	**P**	**23 38 52.2**	**+0.3**
SVW2	**Sparrevohn**	**45.71**	**41**	*eP*	**P**	**23 39 01.7**	**+1.8**
ARU	**Arti**	**45.87**	**313**	*d i* P	**P**	**23 39 00.7**	**-0.4**
ARU				*PP	**pP**	**23 40 39.1**	**-4.6**
ARU				S	**S**	**23 45 03.9**	**+0.1**
ARU				pmax	pmax		
	comp=Z,12nm,0.7s						
ARU	**Arti**	**45.87**	**313**	⇓*i* P	**P**	**23 39 00.7**	**-0.4**
COLD	**Coldfoot**	**46.74**	**32**	*eP*	**P**	**23 39 08.6**	**+1.1**
	comp=Z,5.9nm,0.9s						
RSO	**Redoubt South**	**47.21**	**41**	*eP*	**P**	**23 39 12.6**	**+1.1**
	comp=Z,22nm,0.9s						
SPU	**Mount Spurr**	**47.35**	**40**	*eP*	**P**	**23 39 14.2**	**+1.9**
AB31	**Akbulak array**	**47.36**	**303**	*ceP*	**P**	**23 39 10.8**	**-1.7**
AB31				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ABKAR	**Akbulak array**	**47.36**	**303**	*eP*	**P**	**23 39 12.1**	**-0.4**
TRF	**Thorofare Moun**	**47.56**	**37**	*eP*	**P**	**23 39 14.5**	**+0.5**
	comp=Z,4.1nm,0.8s						
KBL	**Kabul**	**47.60**	**281**	*eP*	**P**	**23 39 14.1**	**-0.7**
KBL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KBL	**Kabul**	**47.60**	**281**	*eP*	**P**	**23 39 14.1**	**-0.7**
	comp=Z,6.1nm,1.0s						
OHAK	**Old Harbor**	**47.88**	**45**	*eP*	**P**	**23 39 16.5**	**+0.3**
	comp=Z,12nm,0.6s						
MCK	**McKinley**	**48.07**	**36**	*eP*	**P**	**23 39 17.9**	**+0.3**
MCK				pmax	pmax		
	comp=Z,11nm,1.1s						
MCK	**McKinley**	**48.07**	**36**	*eP*	**P**	**23 39 17.9**	**+0.3**
	comp=Z,11nm,1.1s						
MCK	**McKinley**	**48.07**	**36**	*eP*	**P**	**23 39 17.9**	**+0.3**
KDAK	**Kodiak Island**	**48.07**	**45**	P	**P**	**23 39 18.1**	**+0.6**
	comp=Z,9.4nm,0.4s,baz=285,slow=3.7,SNR=29						
AKTO	**Aktyubinsk**	**48.09**	**305**	P	**P**	**23 39 17.2**	**-0.7**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKTO	**Aktyubinsk**	**48.09**	**305**	P	**P**	**23 39 17.2**	**-0.7**
	comp=Z,2.4nm,0.6s,baz=84,slow=9.3,SNR=6.9						
COLA	**College**	**48.22**	**35**	*eP*	**P**	**23 39 20.1**	**+1.5**
COLA				pmax	pmax		
	comp=Z,116nm,0.8s						
COLA	**College**	**48.22**	**35**	*eP*	**P**	**23 39 20.1**	**+1.5**
	comp=Z,116nm,0.8s						
COLA	**College**	**48.22**	**35**	*eP*	**P**	**23 39 20.1**	**+1.5**
RC01	**Rabbit Creek A**	**48.46**	**40**	*eP*	**P**	**23 39 21.0**	**+0.6**
	comp=Z,11nm,0.4s						
PMR	**Palmer**	**48.59**	**39**	*eP*	**P**	**23 39 21.5**	**+0.1**
PMR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
PMR	**Palmer**	**48.59**	**39**	*eP*	**P**	**23 39 21.5**	**+0.1**
	comp=Z,3.4nm,0.6s						
PMR	**Palmer**	**48.59**	**39**	*eP*	**P**	**23 39 21.5**	**+0.1**
ILAR	**Eielson Array**	**48.64**	**34**	P	**P**	**23 39 22.1**	**+0.3**
ILAR	**Eielson Array**	**48.64**	**34**	P	**P**	**23 39 22.1**	**+0.3**
	comp=Z,9.7nm,0.5s,baz=289,slow=7.9,SNR=77						
SML	**Sawmill**	**48.88**	**39**	*eP*	**P**	**23 39 24.5**	**+0.8**
SML				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SML	**Sawmill**	**48.88**	**39**	*eP*	**P**	**23 39 24.5**	**+0.8**
	comp=Z,2.6nm,0.8s						
SML	**Sawmill**	**48.88**	**39**	*eP*	**P**	**23 39 24.5**	**+0.8**
PAX	**Paxson**	**49.79**	**37**	*eP*	**P**	**23 39 30.9**	**+0.5**
PAX				pmax	pmax		
	comp=Z,4.0nm,1.2s						
PAX	**Paxson**	**49.79**	**37**	*eP*	**P**	**23 39 30.9**	**+0.5**
	comp=Z,4.4nm,1.2s						
MENT	**Mentasta**	**50.55**	**36**	*eP*	**P**	**23 39 36.4**	**+0.5**
BMRM	**Bremner River**	**50.86**	**39**	*eP*	**P**	**23 39 39.5**	**+1.4**
	comp=Z,11nm,0.9s						
EGAK	**Eagle**	**50.97**	**33**	*eP*	**P**	**23 39 39.0**	**+0.2**
	comp=Z,11nm,0.7s						
ARCES	**ARCESS Array B**	**54.77**	**335**	P	**P**	**23 40 05.2**	**-0.5**
ARCES	**ARCESS Array B**	**54.77**	**335**	P	**P**	**23 40 05.2**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=59,slow=8.9,SNR=26						
OBN	**Obninsk**	**57.75**	**317**	*eP*	**P**	**23 40 25.2**	**-1.2**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
OBN	**Obninsk**	**57.75**	**317**	*eP*	**P**	**23 40 25.2**	**-1.2**
VSR	**Storozhevoye**	**58.44**	**312**	*eP*	**P**	**23 40 29.6**	**-1.5**
VSR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
VSR				pmax	pmax		
	comp=N,7.0nm,0.7s						
VSR				pmax	pmax		
	comp=E,9.0nm,1.0s						
VORD	**Divnogorie**	**58.50**	**312**	*eP*	**P**	**23 40 30.1**	**-1.4**
VORD				pmax	pmax		
	comp=Z,6.0nm,0.9s						
VORD				pmax	pmax		
	comp=N,9.0nm,1.4s						
VORD				pmax	pmax		
	comp=E,7.0nm,0.9s						
FINES	**FINESS Array B**	**58.97**	**327**	P	**P**	**23 40 33.7**	**-0.8**
FINES	**FINESS Array B**	**58.97**	**327**	P	**P**	**23 40 33.7**	**-0.8**
	comp=E,4.2nm,0.4s,baz=77,slow=6.2,SNR=53						
FINES				PcP	**PcP**	**23 41 14.8**	**-1.2**
	comp=E,0.8nm,0.4s,baz=62,slow=4.5,SNR=4.4						
KBZ	**Khabaz**	**60.32**	**304**	P	**P**	**23 40 43.1**	**-0.6**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KBZ	**Khabaz**	**60.32**	**304**	P	**P**	**23 40 43.1**	**-0.6**
KBZ	**Khabaz**	**60.32**	**304**	P	**P**	**23 40 43.1**	**-0.6**
	comp=Z,2.3nm,0.5s,baz=46,slow=3.8,SNR=5.8						
KIV	**Kislovodsk**	**60.32**	**304**	*eP*	**P**	**23 40 43.6**	**-0.3**
KIV				pmax	pmax		
	comp=Z,14nm,1.0s						
KIV	**Kislovodsk**	**60.32**	**304**	P	**P**	**23 40 43.6**	**-0.3**
GNI	**Garni**	**61.16**	**299**	P	**P**	**23 40 49.4**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=199,slow=22,SNR=3.7						
YKA	**Yellowknife Ar**	**62.20**	**28**	P	**P**	**23 40 55.9**	**+0.2**
YKA	**Yellowknife Ar**	**62.20**	**28**	P	**P**	**23 40 55.9**	**+0.2**
	comp=Z,4.1nm,0.4s,baz=312,slow=6.3,SNR=66						
WRA	**Warramunga Arr**	**63.31**	**176**	P	**P**	**23 41 05.3**	**+1.9**
	comp=Z,0.2nm,0.7s,baz=355,slow=7.0,SNR=3.5						
HFS	**Hagfors**	**64.49**	**330**	P	**P**	**23 41 09.4**	**-1.0**
HFS	**Hagfors**	**64.49**	**330**	P	**P**	**23 41 09.4**	**-1.0**
	comp=Z,2.4nm,0.5s,baz=76,slow=6.3,SNR=28						
NB2	**NORSAR Subarra**	**64.72**	**332**	P	**P**	**23 41 11.0**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=41,slow=6.5						
NOA	**NORSAR Array B**	**64.72**	**332**	P	**P**	**23 41 10.8**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=42,slow=6.1,SNR=12						
MALT	**Malatya**	**66.21**	**301**	⇓*i* P	P	23 41 38.1	+16
KWP	**Kalwaria Pacla**	**67.82**	**318**	⇓*i* P	**P**	**23 41 31.1**	**-0.1**
BUR08	**Bucovina Ar. S**	**67.89**	**315**	*eP*	**P**	**23 41 31.1**	**-0.7**
BURAR	**Bucovina Array**	**67.90**	**315**	⇓*i* P	**P**	**23 41 31.2**	**-0.7**
BRTR	**Keskin Array B**	**68.27**	**304**	P	**P**	**23 41 33.4**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=84,slow=3.3,SNR=7.1						
OJC	**Ojcow**	**68.81**	**320**	*eP*	**P**	**23 41 37.0**	**-0.2**
OJC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
OJC	**Ojcow**	**68.81**	**320**	*eP*	**P**	**23 41 37.0**	**-0.2**
	comp=Z,8.6nm,1.1s						
OJC	**Ojcow**	**68.81**	**320**	*eP*	**P**	**23 41 37.0**	**-0.2**
OJC	**Ojcow**	**68.81**	**320**	*eP*	**P**	**23 41 36.9**	**-0.2**
MLR	**Muntele Rosu**	**68.91**	**313**	P	**P**	**23 41 37.3**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=179,slow=11,SNR=4.0						
NIE	**Niedzica**	**69.12**	**319**	*eP*	**P**	**23 41 40.8**	**+1.7**
NIE	**Niedzica**	**69.12**	**319**	*eP*	**P**	**23 41 40.8**	**+1.7**
MORC	**Moravsky Berou**	**70.17**	**321**	*eP*	**P**	**23 41 44.2**	**-1.1**
MORC				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MORC	**Moravsky Berou**	**70.17**	**321**	*eP*	**P**	**23 41 44.2**	**-1.1**
	comp=Z,3.2nm,1.0s						
CLL	**Collm**	**71.09**	**324**	*i* P	**P**	**23 41 49.9**	**-0.7**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CLL	**Collm**	**71.09**	**324**	*i* P	**P**	**23 41 49.9**	**-0.7**
	comp=Z,3.0nm,0.7s						
CLL	**Collm**	**71.09**	**324**	*i* P	**P**	**23 41 49.9**	**-0.7**
HAWA	**Hanford**	**71.09**	**43**	*eP*	**P**	**23 41 51.5**	**+0.7**
	comp=Z,5.3nm,0.6s						
MMAI	**Mount Meron Ar**	**71.44**	**298**	P	**P**	**23 41 52.6**	**-0.5**
	comp=Z,0.3nm,0.2s,baz=57,slow=11,SNR=4.1						
WALA	**Waterton Lakes**	**71.88**	**39**	*eP*	**P**	**23 41 56.3**	**+0.8**
	comp=Z,0.1nm,0.6s						
A14A	**Double T Ranch**	**72.17**	**38**	⇑P	**P**	**23 41 58.3**	**+1.1**
	baz=72,SNR=6.6						
BSMT	**Bassoo Peak**	**72.35**	**40**	*eP*	**P**	**23 41 59.7**

	baz=77							
I20A	**Worland**	78.35	39	⇑P		P	23 42 33.2	+1.6
	baz=78,SNR=6.4							
BW06	**Boulder Array**	78.60	41	*e*P		P	23 42 33.5	+0.4
	comp=Z,3.7nm,0.8s							
PDAR	**Pinedale Array**	78.60	41	P		P	23 42 33.6	+0.5
	comp=Z,3.9nm,0.7s,baz=31,slow=1,3,SNR=31							
I21A	**Big Trails, Te**	78.84	39	⇑P		P	23 42 35.0	+0.8
	baz=79							
L19A	**Farson**	79.20	41	⇑P		P	23 42 37.3	+1.0
	baz=79							
J22A	**Midwest**	79.52	38	⇑P		P	23 42 38.2	+0.3
	baz=79							
RSSD	**Black Hills**	80.04	37	*e*P		P	23 42 40.8	+0.2
RSSD	**Black Hills**	80.04	37	*e*P		P	23 42 40.8	+0.2
GSC	**Goldstone**	80.45	50	⇑P		P	23 42 44.3	+1.5
	baz=80							
MVU	**Marysvale**	80.53	45	*e*P		P	23 42 45.1	+1.8
	comp=Z,2.1nm,0.3s							
MSU	**Marysvale**	80.54	45	*e*P		P	23 42 45.1	+1.8
MSU				pmax		pmax		
	comp=Z,2.0nm,0.6s							
MSU	**Marysvale**	80.54	45	*e*P		P	23 42 45.1	+1.8
	comp=Z,1.8nm,0.6s							
L22A	**Ellis Ranch, M**	80.62	39	⇓P		P	23 42 44.8	+1.1
	baz=80							
N20A	**Spence Gulch,**	80.70	41	⇑P		P	23 42 45.6	+1.4
	baz=80							
O19A	**Miners Draw (B**	80.70	42	⇑P		P	23 42 45.1	+1.0
	baz=80							
BFSC	**Mount Baldy Ra**	80.75	51	⇑P		P	23 42 45.5	+1.1
	baz=80							
H28A	**Mission Ridge**	80.86	34	⇑P		P	23 42 45.5	+0.8
	baz=81							
I27A	**Quinn**	80.93	35	⇑P		P	23 42 44.8	-0.2
	baz=81							
O20A	**White River Ci**	81.26	42	⇑P		P	23 42 48.2	+1.2
	baz=81							
P19A	**Cripple Cowboy**	81.29	42	⇑P		P	23 42 48.5	+1.3
	baz=81,SNR=7.9							
I28A	**Midland**	81.35	35	⇓P		P	23 42 47.9	+0.7
	baz=81							
M23A	**Laramie**	81.40	39	⇓P		P	23 42 48.8	+1.0
	baz=81							
GMRC	**Granite Mounta**	81.47	50	⇓P		P	23 42 49.8	+1.7
	baz=81							
BELC	**Belle Mtn. Jos**	81.86	50	⇑P		P	23 42 50.8	+0.8
	baz=82							
PFO	**Pinyon Flat Ob**	81.89	51	⇓P		P	23 42 51.2	+1.0
	baz=82							
U15A	**North Rim**	82.06	46	⇓P		P	23 42 53.4	+2.2
	baz=82							
P21A	**Newcastle**	82.11	41	⇑P		P	23 42 52.5	+1.1
	baz=82							
Q20A	**Ridgley Place,**	82.15	42	⇓P		P	23 42 52.8	+1.3
	baz=82							
W13A	**Hualapai Mount**	82.20	48	⇑P		P	23 42 54.0	+2.1
	baz=82							
IRM	**Iron Mountain**	82.21	50	⇓P		P	23 42 53.7	+2.0
	baz=82							
O23A	**Lake Granby, G**	82.30	40	⇓P		P	23 42 55.0	+2.6
	baz=82							
P22A	**Eagle**	82.39	41	⇓P		P	23 42 54.2	+1.4
	baz=82							
BC3	**Big Chuckawall**	82.42	50	⇑P		P	23 42 54.1	+1.2
	baz=82							
SMCO	**Snowmass**	82.61	41	*e*P		P	23 42 54.9	+0.7
	comp=Z,5.7nm,0.9s							
PV01	**Paradox Valley**	82.65	43	*e*P		P	23 42 55.3	+1.2
	comp=Z,104nm,0.5s							
R20A	**Redvale**	82.70	43	⇑P		P	23 42 55.9	+1.6
	baz=82,SNR=7.8							
ISCO	**Idaho Springs**	82.77	40	*e*P		P	23 42 55.7	+0.9
ISCO				pmax		pmax		
	comp=Z,2.0nm,0.8s							
ISCO	**Idaho Springs**	82.77	40	*e*P		P	23 42 55.7	+0.9
	comp=Z,2.4nm,0.8s							
ISCO	**Idaho Springs**	82.77	40	⇑P		P	23 42 56.4	+1.6
	baz=82							
Q22A	**Crested Butte,**	82.89	42	⇑P		P	23 42 57.3	+1.8
	baz=83							
R21A	**Cimarron**	82.97	42	⇓P		P	23 42 57.4	+1.7
	baz=83							
S20A	**Disappointment**	82.99	43	⇓P		P	23 42 58.0	+2.1
	baz=83							
P23A	**Jefferson**	83.00	41	⇑P		P	23 42 57.8	+1.8
	baz=83							
L29A	**Maesberg Ranch**	83.23	36	⇑P		P	23 42 58.8	+2.0
	baz=83							
S21A	**Coal Bank Pass**	83.40	43	⇑P		P	23 43 00.2	+2.2
	baz=83,SNR=9.2							
MVCO	**Mesa Verde**	83.40	44	⇓P		P	23 42 59.5	+1.6
	baz=83							
OGNE	**Ogallala**	83.47	37	⇑P		P	23 42 58.9	+0.9
	baz=83							
S22A	**4UR Ranch, Cre**	83.81	42	⇑P		P	23 43 01.7	+1.7
	baz=84							
R24A	**Sanders Place,**	84.25	41	⇓P		P	23 43 03.6	+1.6
	baz=84							
T22A	**Edith**	84.35	43	⇓P		P	23 43 04.6	+2.1
	baz=84							
U21A	**Nageezi**	84.43	44	⇓P		P	23 43 04.8	+1.8
	baz=84							
SDCO	**Great Sand Dun**	84.45	41	*e*P		P	23 43 03.2	0.0
	comp=Z,1.0nm,0.6s							
S24A	**Houchin Ranch,**	84.67	41	⇑P		P	23 43 05.7	+1.5
	baz=84							
U22A	**Llaves**	84.87	43	⇑P		P	23 43 07.2	+2.0
	baz=85							
U23A	**El Rito**	85.24	43	⇑P		P	23 43 08.9	+2.0
	baz=85							
T25A	**Trinidad**	85.46	41	⇑P		P	23 43 09.1	+1.2
	baz=85							
S26A	**Kim**	85.51	40	⇓P		P	23 43 08.8	+0.7
	baz=85							
R28A	**Tribune**	85.69	39	⇓P		P	23 43 09.6	+0.8
	baz=85							
T26A	**Comanche Natio**	85.82	40	⇑P		P	23 43 10.3	+0.7
	baz=86							
Q30A	**Quinter**	85.88	37	⇑P		P	23 43 10.2	+0.5
	baz=86							
X21A	**Alamocita Cree**	85.92	45	⇓P		P	23 43 10.5	+0.3
	baz=86							
Y20A	**Horse Springs,**	86.04	46	⇓P		P	23 43 12.0	+1.2
	baz=86							
U25A	**Circle Dot Ran**	86.05	41	⇑P		P	23 43 12.0	+1.3
	baz=86							
S28A	**Manter**	86.27	39	⇓P		P	23 43 12.8	+1.2
	baz=86							
V25A	**Rancho No Teng**	86.40	42	⇓P		P	23 43 13.7	+1.3
	baz=86							
S29A	**Ulysses**	86.60	39	⇑P		P	23 43 13.7	+0.5
	baz=86							
U27A	**Thompson Grove**	86.79	40	⇓P		P	23 43 15.4	+1.3
	baz=86							
V26A	**Tequesquite Ra**	86.83	41	⇓P		P	23 43 15.6	+1.2
	baz=87							
S30A	**Montezuma**	86.88	38	⇓P		P	23 43 15.6	+1.2
	baz=87							
U28A	**Mallet**	87.10	40	⇑P		P	23 43 16.3	+0.7
	baz=87							
T31A	**Randall Ranch,**	87.68	38	⇓P		P	23 43 19.6	+1.5
	baz=87							
225A	**Deer Hill, Car**	89.28	44	⇓P		P	23 43 28.0	+2.2
	baz=89							
Z29A	**Hungry Hill Ra**	89.89	41	⇓P		P	23 43 30.1	+1.5
	baz=90							
Z30A	**Sanderson Ranc**	90.15	41	⇑P		P	23 43 31.2	+1.5
	baz=90							
326A	**Caldwell Ranch**	90.34	44	⇑P		P	23 43 32.2	+1.5
	baz=90							
TUL1	**Tulsa**	90.37	36	⇓P		P	23 43 31.9	+1.3
	baz=90							
426A	**McDonald Obser**	90.84	45	⇓P		P	23 43 34.6	+1.4
	baz=91							
428A	**Kincaid Ranch,**	91.47	44	⇑P		P	23 43 38.0	+2.0
	baz=91							
TXAR	**Lajitas Array**	92.10	45	P		P	23 43 40.3	+1.5
	comp=Z,1.0nm,0.9s,baz=294,slow=3.3,SNR=11							
LPAZ	**La Paz**	148.51	36	PKPbc		PKPbc	23 50 13.7	0.0
	comp=Z,1.2nm,0.5s,baz=346,slow=2.6,SNR=4.6							
SIV	**San Ignacio**	150.78	23	PKPbc		PKPbc	23 50 17.0	-1.4
	comp=Z,1.4nm,0.7s,baz=322,slow=5.1,SNR=3.8							
CFAA	**Coronel Fontan**	160.98	57	PKPab		PKPab	23 51 12.3	+0.4
	comp=Z,0.2nm,0.6s,baz=352,slow=5.7,SNR=4.9							

*ISK **12** 23:32:55.9, 37°.95N×29°.39E, h5km, ML4.0*

*ISCJB **12** 23:32:56.6±0.5, 37°.96N±0°.01×29°.41E±0°.02, h7km±3km, mb3.8/7, MS2.9/4, Error ellipse: s-maj=2.2km s-min=2.0km az=24.1*

*IDC **12** 23:32:56.2±1.0, 37°.92N×29°.39E, h0km, mb3.8/7, mb1 3.9/13, mb1mx3.7/32, mbtmp3.8/13, ML3.5/4, MS2.9/5, Ms1 2.9/5, ms1mx2.5/42, Error ellipse: s-maj=19.4km s-min=16.6km az=55.0*

*DDA **12** 23:32:57.3, 37°.98N×29°.37E, h22km, MD3.8, ML3.9*

*THE **12** 23:32:57.8, 38°.00N×29°.45E, h0km, ML3.9/7, Error ellipse: s-maj=0.5km s-min=0.4km az=108.0*

*CSEM **12** 23:32:57.1±0.1, 37°.93N×29°.40E, h2km, ML3.9, Error ellipse: s-maj=2.0km s-min=1.5km az=46.0*

*NSSC **12** 23:33:03.1±1.7, 38°.24N×30°.15E, h37km±999km, MD2.7, ML2.7*

ISC 12 23:32:57.8±1.0, 37°.96N±0°.02×29°.42E±0°.02, h6km±7km, n351,σ0s98/401, mb3.7/7, MS2.7/4, 31C-14D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHL	**Karahalli**	0.37	13	PG			Pg	23 33 04.9	-0.1
KHL	**Karahalli**	0.37	13	*i* Pg			Pg	23 33 04.9	-0.1
DNZL	**Cakiroluk**	0.40	227	*i* P			Pg	23 33 05.3	-0.4
DNZL				*i* S			Sg	23 33 11.5	+0.6
DNZL	**Cakiroluk**	0.40	227	*i* P			Pg	23 33 05.3	-0.4
DNZL				*i* S			Sg	23 33 11.5	+0.6
GOLH	**Golhisar**	0.73	171	*i* P			Pg	23 33 11.3	-0.6
GOLH				*i* S			Sg	23 33 23.8	+0.5
GOLH	**Golhisar**	0.73	171	*i* P			Pg	23 33 11.3	-0.6
KULA	**Kula-Manisa**	0.81	313	PG			Pg	23 33 13.0	-0.4
KULA	**Kula-Manisa**	0.81	313	P			Pg	23 33 13.3	-0.1
KULA				S			Sb	23 33 26.5	+0.9
KULA	**Kula-Manisa**	0.81	313	*i* Pg			Pg	23 33 13.0	-0.4
KULA	**Kula-Manisa**	0.81	313	P			Pg	23 33 13.3	-0.1
KULA				S			Sb	23 33 26.5	+0.9
MANT	**Manisa**	0.86	308	*i* P			Pg	23 33 13.1	-1.2
MANT				*i* S			Sg	23 33 24.9	-0.6
MANT	**Manisa**	0.86	308	*i* P			Pg	23 33 13.1	-1.2
MANT				*i* S			Sg	23 33 24.9	-0.6
ISP	**Isparta**	0.88	99	PG			Pg	23 33 14.0	-0.8
ISP				*e*SG			Sb	23 33 28.2	+0.5
ISP	**Isparta**	0.88	99	P			Pg	23 33 14.4	-0.4
ISP				S			Sb	23 33 28.1	+0.5
ISP	**Isparta**	0.88	99	⇓*i* P			Pg	23 33 13.8	-1.0
ISP				S			Sb	23 33 28.1	+0.5
ISP	**Isparta**	0.88	99	*i* Pg			Pg	23 33 14.0	-0.8
ISP	**Isparta**	0.88	99	P			Pg	23 33 14.4	-0.4
ISP				S			Sb	23 33 28.1	+0.5
BCK	**Bucak**	1.05	118	PG			Pg	23 33 17.0	-1.0
BCK	**Bucak**	1.05	118	*i* Pg			Pg	23 33 17.0	-1.0
SHUT	**Suhut-Afyon**	1.07	56	PN			Pg	23 33 17.5	-0.8
SHUT				*e*SN			Sn	23 33 34.0	-0.6
SHUT	**Suhut-Afyon**	1.07	56	*i* Pn			Pg	23 33 17.5	-0.8
SHUT				*e*Sn			Sn	23 33 34.0	-0.6
GDZ	**Gediz**	1.13	2	*i* P			Pg	23 33 18.8	-0.6
GDZ				*i* S			Sg	23 33 33.7	-0.3
GDZ	**Gediz**	1.13	2	*i* P			Pg	23 33 18.8	-0.6
GDZ				*i* S			Sg	23 33 33.7	-0.3
DEMI	**Demirci**	1.21	333	*i* P			Pg	23 33 20.3	-0.8
DEMI				*i* S			Sg	23 33 36.1	-0.7
DEMI	**Demirci**	1.21	333	*i* P			Pg	23 33 20.3	-0.8
DEMI				*i* S			Sg	23 33 36.1	-0.7
KORT	**Korkueli**	1.21	142	*i* P			Pg	23 33 20.7	-0.4
KORT				*i* S			Sg	23 33 36.0	-0.8
KORT	**Korkueli**	1.21	142	*i* P			Pg	23 33 20.7	-0.4
KORT				*i* S			Sg	23 33 36.0	-0.8
ALT	**Altintas**	1.22	26	*e*PN			Pg	23 33 20.1	-1.1
ALT	**Altintas**	1.22	26	P			Pg	23 33 20.1	-1.1
ALT				S			Sg	23 33 37.1	+0.1
ALT	**Altintas**	1.22	26	P			Pg	23 33 20.1	-1.1
ALT				S			Sg	23 33 37.1	+0.1
YER	**Yerkesik**	1.22	228	*e*PN			Pg	23 33 20.1	-1.2
YER	**Yerkesik**	1.22	228	*e*Pn			Pg	23 33 20.1	-1.2
AYDN	**Tasoluk**	1.26	257	*i* P			Pn	23 33 20.9	-1.0
AYDN				*i* S			Sg	23 33 36.6	-1.6
AYDN	**Tasoluk**	1.26	257	*i* P			Pn	23 33 20.9	-1.0
AYDN				*i* S			Sg	23 33 36.6	-1.6
TURN	**Turunc**	1.27	211	*i* P			Pg	23 33 24.8	+2.7
TURN				*i* S			Sn	23 33 46.4	+7.1
DALY	**Dalyan (Mu¨la**	1.30	208	*e*PN			Pn	23 33 21.5	-0.8
DALY	**Dalyan (Mu¨la**	1.30	208	*e*Pn			Pn	23 33 21.5	-0.8
SUTC	**Sutluce-Ispart**	1.34	111	*e*PN			Pn	23 33 22.3	-0.9
SUTC	**Sutluce-Ispart**	1.34	111	*e*Pn			Pn	23 33 22.3	-0.9
BOLV	**Bolvadin**	1.42	57	*i* P			Pn	23 33 23.9	-0.3
BOLV				*i* S			Sg	23 33 45.5	+2.0
BOLV	**Bolvadin**	1.42	57	*i* P			Pn	23 33 23.9	-0.3
BOLV				*i* S			Sg	23 33 45.5	+2.0
ANTB	**Antalya**	1.45	137	*e*PN			Pb	23 33 25.0	-0.1
ANTB	**Antalya**	1.45	137	*e*Pn			Pb	23 33 25.0	-0.1
MLSB	**Milas**	1.47	243	*e*PN			Pn	23 33 24.0	-0.7
MLSB	**Milas**	1.47	243	*e*Pn			Pn	23 33 24.0	-0.7
TVSB	**Tavsanli**	1.49	1	*e*PN			Pn	23 33 24.4	-0.7
TVSB	**Tavsanli**	1.49	1	*e*Pn			Pn	23 33 24.4	-0.7
AKHS	**Akhisar**	1.56	306	*i* P			Pn	23 33 24.5	-1.5
AKHS				*i* S			Sg	23 33 50.5	+2.6
AKHS	**Akhisar**	1.56	306	*i* P			Pn	23 33 24.5	-1.5
AKAS	**Kas**	1.73	175	*i* P			Pb	23 33 29.7	-0.3
AKAS				*i* S			Sg	23 33 55.4	+1.9
AKAS	**Kas**	1.73	175	*i* P			Pb	23 33 29.7	-0.3
GCAM	**G?zelcaml?**	1.75	262	*i* P			Pn	23 33 27.1	-1.5
GCAM				*i* S			Sn	23 33 49.5	-1.7
GCAM	**G?zelcaml?**	1.75	262	*i* P			Pn	23 33 27.1	-1.5
GCAM				*i* S			Sn	23 33 49.5	-1.7
IZM	**Izmir**	1.75	285	*e*PN			Pn	23 33 27.7	-1.1
IZM	**Izmir**	1.75	285	*e*Pn			Pn	23 33 27.7	-1.1
KSL	**Kastellorizon**	1.81	176	*e*PN			Pb	23 33 30.8	-0.5
BODT	**Bodrum**	1.90	242	*e*PN			Pn	23 33 30.1	-0.7
BODT	**Bodrum**	1.90	242	*e*Pn			Pn	23 33 30.1	-0.7
DAT	**Datca**	1.92	231	*e*PN			Pn	23 33 30.0	-1.0
DAT	**Datca**	1.92	231	*e*Pn			Pn	23 33 30.0	-1.0
ESKT	**Eskisehir**	1.92	35	*e*PN			Pn	23 33 31.2	+0.2
ESKT	**Eskisehir**	1.92	35	*e*Pn			Pn	23 33 31.2	+0.2
SEYT	**Eskypehyr**	1.92	35	*i* P			Pn	23 33 30.5	-0.5
SEYT	**Eskypehyr**	1.92	35	*i* P			Pn	23 33 30.5	-0.5
BLCB	**Balcova**	1.92	283	*e*PN			Pn	23 33 30.7	-0.3
BLCB	**Balcova**	1.92	283	*e*Pn			Pn	23 33 30.7	-0.3
ARG	**Arkhangelos**	2.03	211	P			Pn	23 33 33.1	+0.7
ARG				S			Sn	23 33 59.1	+1.1
ARG	**Arkhangelos**	2.03	211	*e*PN			Pn	23 33 33.3	+0.9
ARG	**Arkhangelos**	2.03	211	P			Pn	23 33 33.1	+0.7
ARG				S			Sn	23 33 59.1	+1.1
SMG	**Samos**	2.06	264	P			Pn	23 33 31.8	-1.1
SMG				S			Sn	23 33 59.7	+0.8
SMG	**Samos**	2.06	264	*e*PB			Pn	23 33 31.7	-1.1
SMG	**Samos**	2.06	264	P			Pn	23 33 31.8	-1.1
SMG				S			Sn	23 33 59.7	+0.8
BALB	**Balikesir**	2.06	325	*e*PN			Pn	23 33 32.6	-0.3
BALB	**Balikesir**	2.06	325	*e*Pn			Pn	23 33 32.6	-0.3
ORLT	**Orhaneli**	2.12	349	*e*PN			Pn	23 33 33.2	-0.6
ORLT	**Orhaneli**	2.12	349	*e*Pn			Pn	23 33 33.2	-0.6
KIZT	**Kizilcal**	2.14	64	*e*PN			Pn	23 33 34.6	+0.5
KIZT	**Kizilcal**	2.14	64	*e*Pn			Pn	23 33 34.6	+0.5
KDHN	**Kadinhani**	2.20	74	*i* P			Pn	23 33 34.8	-0.1
KDHN				*i* S			Sn	23 33 58.4	-4.0
KDHN	**Kadinhani**	2.20	74	*i* P			Pn	23 33 34.8	-0.1
SVRH	**Sivrihisar-ESK**	2.21	47	*e*PN			Pn	23 33 35.1	0.0
SVRH	**Sivrihisar-ESK**	2.21	47	*e*Pn			Pn	23 33 35.1	0.0
NIS1	**Nisyros Isl.**	2.25	233	P			Pn	23 33 35.1	-0.4
NIS1				S			Sn	23 34 04.7	+1.3
NIS1	**Nisyros Isl.**	2.25	233	*e*PN			Pn	23 33 35.7	+0.2
NIS1	**Nisyros Isl.**	2.25	233	P			Pn	23 33 35.1	-0.4
NIS1				S			Sn	23 34 04.7	+1.3
CAVI	**Cavuskoy**	2.26	8	*e*PN			Pn	23 33 36.2	+0.5
CAVI	**Cavuskoy**	2.26	8	*e*Pn			Pn	23 33 36.2	+0.5
URLA	**Izmir**	2.26	281	*i* P			Pn	23 33 34.7	-1.0
URLA				*i* S			Sg	23 34 11.6	+1.2
URLA	**Izmir**	2.26	281	*i* P			Pn	23 33 34.7	-1.0
KONT	**Konya--Tatoy**	2.33	90	*e*PN			Pn	23 33 37.0	+0.4
KONT	**Konya--Tatoy**	2.33	90	*e*Pn			Pn	23 33 37.0	+0.4
LADK	**Ladik-KONYA**	2.34	83	*e*PN			Pn	23 33 37.2	+0.5
LADK	**Ladik-KONYA**	2.34	83	*e*Pn			Pn	23 33 37.3	+0.5
GPA	**Golpazari**	2.42	16	*e*PN			Pn	23 33 39.1	+1.2
GPA	**Golpazari**	2.42	16	*e*Pn			Pn	23 33 39.2	+1.2
MDNY	**Mudanya-Bursa**	2.44	350	*e*PN			Pn	23 33 38.3	+0.2
MDNY	**Mudanya-Bursa**	2.44	350	*e*Pn			Pn	23 33 38.3	+0.2
KCTX	**Karacabey (Bur**	2.44	341	*e*PN			Pn	23 33 37.6	-0.6
KCTX	**Karacabey (Bur**	2.44	341	*e*Pn			Pn	23 33 37.6	-0.6
GEMT	**Gemlik**	2.48	356	*e*PN			Pn	23 33 38.9	+0.3
GEMT	**Gemlik**	2.48	356	*e*Pn			Pn	23 33 38.9	+0.3
ADVT	**Abdulvahap**	2.48	6	*e*PN			Pn	23 33 39.1	+0.4
ADVT	**Abdulvahap**	2.48	6	*e*Pn			Pn	23 33 39.1	+0.4
GONE	**Gonen-Balikesi**	2.48	328	*e*PN			Pn	23 33 38.3	-0.4
GONE	**Gonen-Balikesi**	2.48	328	*e*Pn			Pn	23 33 38.3	-0.4
YLV	**Yalova**	2.60	359	*e*PN			Pn	23 33 41.5	+1.1
YLV	**Yalova**	2.60	359	*e*Pn			Pn	23 33 41.5	+1.1
GULT	**Gulveren**	2.61	19	*e*PN			Pn	23 33 40.8	+0.2
GULT	**Gulveren**	2.61	19	*e*Pn			Pn	23 33 40.8	+0.2
ARMT	**Armutlu**	2.64	351	*e*PN			Pn	23 33 40.7	-0.1
ARMT	**Armutlu**	2.64	351	*e*Pn			Pn	23 33 40.7	-0.1
BNT	**Bandirma**	2.66	334	*e*PN			Pn	23 33 40.7	-0.5
BNT	**Bandirma**	2.66	334	*e*Pn			Pn	23 33 40.7	-0.5
CHOS	**Chios island**	2.69	280	P			Pn	23 33 41.0	-0.6
CHOS				S			Sn	23 34 15.0	+0.6
CHOS	**Chios island**	2.69	280	*e*PN			Pn	23 33 41.0	-0.6
CHOS	**Chios island**	2.69	280	P			Pn	23 33 41.0	-0.6
CHOS				S			Sn	23 34 15.0	+0.6
PRK	**Paraskevi**	2.78	298	P			Pn	23 33 42.3	-0.5
PRK				S			Sn	23 34 17.1	+0.5
PRK	**Paraskevi**	2.78	298	*e*PN			Pn	23 33 42.4	-0.4
PRK	**Paraskevi**	2.78	298	P			Pn	23 33 42.3	-0.5
PRK				S			Sn	23 34 17.1	+0.5
SPNC	**Sapanca-Adapaz**	2.81	14	*e*PN			Pn	23 33 43.7	+0.5
SPNC	**Sapanca-Adapaz**	2.81	14	*e*Pn			Pn	23 33 43.7	+0.5
MDUB	**Mudurnu**	2.86	28	*e*PN			Pn	23 33 44.7	+0.7
MDUB	**Mudurnu**	2.86	28	*e*Pn			Pn	23 33 44.7	+0.7
HRT	**Hereke**	2.86	4	*e*PN			Pn	23 33 44.2	+0.2
HRT	**Hereke**	2.86	4	*e*Pn			Pn	23 33 44.2	+0.2
GAZI	**Gazipasa**	2.89	126	*i* P			Pn	23 33 45.2	+0.9
GAZI				*i* S			Sn	23 34 20.3	+1.0
GAZI	**Gazipasa**	2.89	126	*i* P			Pn	23 33 45.2	+0.9
GAZI				*i* S			Sn	23 34 20.3	+1.0
KRBG	**Karabiga-Canak**	2.94	326	*e*PN			Pn	23 33 44.3	-0.6
KRBG	**Karabiga-Canak**	2.94	326	*e*Pn			Pn	23 33 44.3	-0.6
KARP	**Karpathos**	3.02	218	P			Pn	23 33 46.0	-0.1
KARP				S			Sn	23 34 23.9	+1.4
KARP	**Karpathos**	3.02	218	*e*PN			Pn	23 33 45.9	-0.1
KARP	**Karpathos**	3.02	218	P			Pn	23 33 46.0	-0.1
KARP				S			Sn	23 34 23.9	+1.4
EZN	**Ezine**	3.05	309	*e*PN			Pn	23 33 46.1	-0.4
EZN	**Ezine**	3.05	309	*e*Pn			Pn	23 33 46.1	-0.4
SIGR	**SIGRI**	3.06	295	P			Pn	23 33 45.9	-0.7
SIGR				S			Sn	23 34 24.0	+0.5
SIGR	**SIGRI**	3.06	295	P			Pn	23 33 45.9	-0.7
SIGR				S			Sn	23 34 24.0	+0.5
ERMK	**Ermenek**	3.08	114	*i* P			Pn	23 33 49.7	+2.6
ISK	**Istanbul-Kandi**	3.11	355	*e*PN			Pn	23 33 48.2	+0.9
ISK	**Istanbul-Kandi**	3.11	355	P			Pn	23 33 46.0	-1.3
ISK				S			Sn	23 34 24.0	-0.8
ISK	**Istanbul-Kandi**	3.11	355	P			Pn	23 33 46.0	-1.3
ISK	**Istanbul-Kandi**	3.11	355	*e*Pn			Pn	23 33 48.2	+0.9
ISK				S			Sn	23 34 24.0	-0.8
LPK	**Lapseki**	3.17	320	*e*PN			Pn	23 33 48.1	-0.1
LPK	**Lapseki**	3.17	320	*e*Pn			Pn	23 33 48.1	-0.1
SILT	**Sile**	3.19	3	*e*PN			Pn	23 33 49.3	+0.8
SILT	**Sile**	3.19	3	*e*Pn			Pn	23 33 49.3	+0.8
AFSR	**Af¨ar-Bala (A**

HORT	**Hortiatis**	**5.56**	**300**	P		**Pn**	**23 34 21.1**	**-0.1**
GUR	**Goura**	**5.59**	**272**	P		**Pn**	**23 34 22.0**	**+0.5**
GUR	**Goura**	**5.59**	**272**	*e*PN		**Pn**	**23 34 22.1**	**+0.5**
GUR	**Goura**	**5.59**	**272**	P		**Pn**	**23 34 22.0**	**+0.5**
VLX	**Vlachokerasia**	**5.62**	**266**	*e*PN		**Pn**	**23 34 21.6**	**-0.3**
AGG	**Agios Georgios**	**5.66**	**283**	*e*Pn		**Pn**	**23 34 23.0**	**+0.6**
KLV	**Kalavryta, Ach**	**5.74**	**273**	*e*PN		**Pn**	**23 34 24.2**	**+0.6**
KALE	**Kalithea**	**5.75**	**277**	*e*PN		**Pn**	**23 34 24.5**	**+0.8**
LIT	**Litokhoron**	**5.80**	**294**	*e*PN		**Pn**	**23 34 24.8**	**+0.4**
TRIZ	**Trizonia**	**5.80**	**276**	*e*PN		**Pn**	**23 34 25.3**	**+1.0**
LAKA	**Lakka**	**5.88**	**275**	*e*PN		**Pn**	**23 34 26.5**	**+1.1**
EFP	**Efpalio**	**5.94**	**277**	*e*PN		**Pn**	**23 34 27.1**	**+0.9**
KNT	**Kendrikon**	**5.97**	**304**	P		**Pn**	**23 34 26.8**	**+0.2**
KNT	**Kendrikon**	**5.97**	**304**	P		**Pn**	**23 34 26.8**	**+0.2**
THL	**Klokotos Trika**	**6.00**	**288**	*e*PN		**Pn**	**23 34 28.0**	**+0.9**
EVR	**Evrytania**	**6.05**	**281**	*e*PN		**Pn**	**23 34 29.0**	**+1.2**
GRG	**Griva**	**6.20**	**301**	*e*PN		**Pn**	**23 34 30.9**	**+1.1**
ZIMR		**6.47**	**333**	⇑*i*P		**Pn**	**23 34 33.4**	**0.0**
HAWK	**Haweek**	**6.61**	**119**	*e*P		**Pn**	**23 34 34.5**	**-1.0**
HAWK				*e*S		Sn	23 35 39.4	-12
HAWK	comp=N,15nm,0.5s			AML		AML	23 35 57.5	
HAWK	comp=E,18nm,0.5s			AML		AML	23 35 57.8	
HAWK	comp=Z,8.7nm,0.4s			AML		AML	23 36 06.2	
HAWK	**Haweek** SNR=90	**6.61**	**119**	*e*P		**Pn**	**23 34 34.5**	**-1.0**
VTS	**Vitosha**	**6.63**	**316**	⇓*i*P		**Pn**	**23 34 36.0**	**+0.2**
VTS	**Vitosha**	**6.63**	**316**	⇓*i*P		**Pn**	**23 34 36.0**	**+0.2**
FNA	**Florina**	**6.84**	**297**	*e*PN		**Pn**	**23 34 39.6**	**+1.0**
MPEP	**Malo Peshtene**	**6.90**	**323**	*i* P		**Pn**	**23 34 39.6**	**+0.2**
MMA0	**Mount Meron ar**	**6.94**	**134**	Pn		**Pn**	**23 34 39.1**	**-0.9**
MMAI	**Mount Meron Ar** comp=Z,21nm,0.3s,baz=327,slow=12,SNR=123	**6.94**	**134**	Pn		**Pn**	**23 34 39.3**	**-0.7**
MMAI	comp=Z,17nm,0.3s,baz=305,slow=23,SNR=9.4			Sn		**Sn**	**23 35 55.4**	**-4.0**
KSDI	**Kefar Szold**	**6.96**	**131**	Pn		**Pn**	**23 34 39.4**	**-0.9**
BRBR	**Barbar**	**6.99**	**129**	*e*P		**Pn**	**23 34 40.5**	**-0.4**
BRBR				*e*S		Sn	23 35 50.2	-11
BRBR	comp=N,41nm,0.8s			AML		AML	23 36 02.2	
BRBR	comp=Z,14nm,0.4s			AML		AML	23 36 02.8	
BRBR	comp=E,54nm,0.7s			AML		AML	23 36 02.9	
BRBR	**Barbar** SNR=90	**6.99**	**129**	*e*P		**Pn**	**23 34 40.5**	**-0.4**
OFRI	**'Ofer**	**7.01**	**138**	Pn		**Pn**	**23 34 39.7**	**-1.2**
MALT	**Malatya**	**7.11**	**84**	⇑*i*P		Pn	23 34 38.1	-4.3
KSHT	**Keshet**	**7.20**	**132**	Pn		**Pn**	**23 34 43.9**	**+0.3**
TLCR		**7.23**	**357**	⇑*i*P		**Pn**	**23 34 44.7**	**+0.8**
TLCR		**7.23**	**357**	⇑*i*P		**Pn**	**23 34 44.7**	**+0.8**
CFR	**Carcaliu**	**7.27**	**353**	⇑*i*P		**Pn**	**23 34 45.3**	**+0.8**
CFR	**Carcaliu**	**7.27**	**353**	⇑*i*P		**Pn**	**23 34 45.3**	**+0.8**
SLTI	**Sal'it**	**7.33**	**139**	Pn		**Pn**	**23 34 43.8**	**-1.6**
HUMR	**Humele**	**7.36**	**334**	⇑*i*P		**Pn**	**23 34 46.1**	**+0.4**
HUMR	**Humele**	**7.36**	**334**	⇑*i*P		**Pn**	**23 34 46.1**	**+0.4**
MMLI	**Mount Malkishu**	**7.38**	**137**	Pn		**Pn**	**23 34 45.4**	**-0.7**
ISR	**Istrita**	**7.47**	**344**	⇑*i*P		**Pn**	**23 34 48.0**	**+0.8**
ISR	**Istrita**	**7.47**	**344**	⇑*i*P		**Pn**	**23 34 48.0**	**+0.8**
BARS	**Barje**	**7.56**	**312**	⇓*i*Pn		**Pn**	**23 34 48.8**	**+0.3**
HMDT	**Nahal Hemdat**	**7.58**	**137**	Pn		**Pn**	**23 34 48.1**	**-0.7**
HMDT				Sn		**Sn**	**23 36 12.5**	**-2.4**
GRER		**7.63**	**347**	⇓*i*P		**Pn**	**23 34 50.3**	**+0.8**
GRER		**7.63**	**347**	⇓*i*P		**Pn**	**23 34 50.3**	**+0.8**
SALA	**Sala**	**7.95**	**129**	*e*P		**Pn**	**23 34 53.8**	**-0.1**
SALA				*e*S		Sn	23 36 15.5	-8.7
SALA	comp=Z,14nm,0.5s			AML		AML	23 36 32.0	
SALA	comp=E,1.2nm,0.5s			AML		AML	23 36 32.5	
SALA	comp=N,13nm,0.5s			AML		AML	23 36 33.0	
SALA	**Sala** SNR=90	**7.95**	**129**	*e*P		**Pn**	**23 34 53.8**	**-0.1**
MLR	**Muntele Rosu**	**7.96**	**342**	⇑*i*P		**Pn**	**23 34 55.1**	**+1.1**
MLR	**Muntele Rosu** comp=N,0.2nm,0.3s,baz=123,slow=3.5,SNR=12	**7.96**	**342**	Pn		**Pn**	**23 34 54.4**	**+0.4**
MLR	**Muntele Rosu**	**7.96**	**342**	⇑*i*P		**Pn**	**23 34 55.1**	**+1.1**
DSI	**Dead Sea**	**8.04**	**141**	Pn		**Pn**	**23 34 53.9**	**-1.2**
BOLS	**Boljevac**	**8.14**	**318**	*e*Pn		**Pn**	**23 34 54.9**	**-1.5**
RTMI	**Retamim**	**8.15**	**146**	Pn		**Pn**	**23 34 55.4**	**-1.2**
PLOR	**Plostina**	**8.15**	**346**	⇑*i*P		**Pn**	**23 34 57.7**	**+1.1**
PLOR	**Plostina**	**8.15**	**346**	⇑*i*P		**Pn**	**23 34 57.7**	**+1.1**
KZIT	**Kziot**	**8.15**	**148**	Pn		**Pn**	**23 34 54.9**	**-1.7**
VRI	**Vrincioaia**	**8.15**	**347**	⇓*i*P		**Pn**	**23 34 57.2**	**+0.7**
VRI	**Vrincioaia**	**8.15**	**347**	⇓*i*P		**Pn**	**23 34 57.2**	**+0.7**
VOIR		**8.15**	**338**	⇑*i*P		**Pn**	**23 34 56.6**	**0.0**
VOIR		**8.15**	**338**	⇑*i*P		**Pn**	**23 34 56.6**	**0.0**
ZALF	**Zalf**	**8.18**	**126**	*e*P		**Pn**	**23 34 57.3**	**+0.2**
ZALF				*e*S		Sn	23 36 19.2	-11
ZALF	comp=N,5.9nm,0.7s			AML		AML	23 36 42.9	
ZALF	comp=E,8.0nm,0.6s			AML		AML	23 36 47.2	
ZALF	comp=Z,6.3nm,0.8s			AML		AML	23 36 50.2	
ZALF	**Zalf** SNR=90	**8.18**	**126**	*e*P		**Pn**	**23 34 57.3**	**+0.2**
ARR	**Arges**	**8.22**	**336**	⇑*i*P		**Pn**	**23 34 58.1**	**+0.5**
ARR	**Arges**	**8.22**	**336**	⇑*i*P		**Pn**	**23 34 58.1**	**+0.5**
MZDA	**Masada**	**8.24**	**142**	Pn		**Pn**	**23 34 57.3**	**-0.5**
ASF	**Jabal al Asfar**	**8.42**	**131**	Pn		**Pn**	**23 34 60.0**	**-0.4**
ASF	comp=Z,30nm,19.3s,baz=326,slow=38			LR		LR	23 38 19.1	
DOPR	**Dopca**	**8.54**	**341**	⇓*i*P		**Pn**	**23 35 02.5**	**+0.6**
DOPR	**Dopca**	**8.54**	**341**	⇓*i*P		**Pn**	**23 35 02.5**	**+0.6**
LOT	**Lotru**	**8.59**	**332**	⇑*i*P		**Pn**	**23 35 03.1**	**+0.4**
LOT	**Lotru**	**8.59**	**332**	⇑*i*P		**Pn**	**23 35 03.1**	**+0.4**
TESR	**Tescani**	**8.79**	**347**	⇑*i*P		**Pn**	**23 35 05.2**	**-0.1**
TESR	**Tescani**	**8.79**	**347**	⇑*i*P		**Pn**	**23 35 05.2**	**-0.1**
ZFRI	**Zfri**	**8.79**	**146**	Pn		**Pn**	**23 35 04.7**	**-0.6**
GRUS	**Gruza**	**8.85**	**315**	*e*Pn		**Pn**	**23 35 06.8**	**+0.6**
PRNI	**Paran**	**8.89**	**147**	Pn		**Pn**	**23 35 05.2**	**-1.5**
GZR	**Gura Zlata**	**8.93**	**328**	⇑*i*P		**Pn**	**23 35 07.3**	**0.0**
GZR	**Gura Zlata**	**8.93**	**328**	⇑*i*P		**Pn**	**23 35 07.3**	**0.0**
HRFI	**Mount Harif**	**9.18**	**148**	Pn		**Pn**	**23 35 08.3**	**-2.4**
MBRI	**Mt Berech**	**9.34**	**149**	Pn		**Pn**	**23 35 10.8**	**-2.1**
EIL	**Elat** comp=Z,0.8nm,0.3s,baz=350,slow=11,SNR=7.8	**9.46**	**149**	Pn		**Pn**	**23 35 12.1**	**-2.5**
EIL	comp=Z,2.2nm,0.3s,baz=90,slow=20,SNR=6.0			Sn		**Sn**	**23 36 56.0**	**-5.3**
EIL	**Elat**	**9.46**	**149**	Pn		**Pn**	**23 35 12.1**	**-2.5**
BZS	**Buzias**	**9.61**	**325**	⇑*i*P		**Pn**	**23 35 15.3**	**-1.3**
BZS	**Buzias**	**9.61**	**325**	⇑*i*P		**Pn**	**23 35 15.3**	**-1.3**
DRGR		**10.12**	**333**	⇑*i*P		**Pn**	**23 35 24.1**	**+0.5**
DRGR		**10.12**	**333**	⇑*i*P		**Pn**	**23 35 24.1**	**+0.5**
BURAR	**Bucovina Array**	**10.13**	**344**	⇓*i*P		**Pn**	**23 35 24.7**	**+1.0**
BURAR	**Bucovina Array**	**10.13**	**344**	⇓*i*P		**Pn**	**23 35 24.7**	**+1.0**
KWP	**Kalwaria Pacla**	**12.62**	**340**	⇑*i*P		**Pn**	**23 35 59.0**	**+1.2**
KWP	**Kalwaria Pacla**	**12.62**	**340**	⇑*i*P		**Pn**	**23 35 59.0**	**+1.2**
GERES	**GERESS Array B** comp=Z,0.1nm,0.3s,baz=125,slow=12,SNR=15	**15.74**	**319**	Pn		**P**	**23 36 42.4**	**-1.7**
MBDF	**Montbardon**	**18.27**	**299**	*e*P		**P**	**23 37 13.8**	**+1.7**
ORIF	**Oris-en-Rattie** comp=Z,5.9nm,1.0s	**18.93**	**299**	*e*P		**Pn**	**23 37 21.7**	**+1.8**
ORIF	**Oris-en-Rattie** comp=Z,5.0nm,1.0s	**18.93**	**299**	*e*P		**Pn**	**23 37 21.7**	**+1.8**
CDF	**Champ du Feu** comp=Z,3.3nm,0.7s	**19.16**	**310**	*e*P		**Pn**	**23 37 25.3**	**+2.6**
SSF	**Saint Saulge**	**21.08**	**304**	*e*P		**P**	**23 37 45.3**	**+2.7**
AVF	**Avril sur Loir**	**21.11**	**303**	*e*P		**P**	**23 37 44.4**	**+1.5**
AVF	**Avril sur Loir**	**21.11**	**303**	*e*P		**P**	**23 37 44.4**	**+1.5**
FINES	**FINESS Array B** comp=Z,1.6nm,0.8s,baz=146,slow=18,SNR=4.8	**23.60**	**356**	P		**P**	**23 38 08.0**	**-1.0**
FINES	comp=Z,34nm,20.1s,baz=189,slow=38			LR		LR	23 47 50.9	
AKTO	**Aktyubinsk** comp=Z,1.8nm,0.8s,baz=247,slow=9.0,SNR=7.8	**23.83**	**49**	P		**P**	**23 38 12.7**	**+1.3**
HFS	**Hagfors** comp=Z,24nm,21.8s,baz=334,slow=37	**24.34**	**341**	LR		LR	23 48 07.1	
NOA	**NORSAR Array B** comp=Z,14nm,18.2s,baz=165,slow=39	**25.77**	**340**	LR		LR	23 49 37.1	
ARCES	**ARCESS Array B** comp=Z,0.7nm,0.8s,baz=141,slow=5.8,SNR=2.7	**31.70**	**357**	P		**P**	**23 39 20.6**	**-1.2**
TORD	**Torodi Ar. Bea** comp=Z,4.2nm,0.6s,baz=34,slow=8.6,SNR=46	**34.91**	**232**	P		**P**	**23 39 49.3**	**-1.0**
KURBB	**Kurchatov Arra** comp=Z,1.3nm,0.7s,baz=275,slow=8.8,SNR=12	**36.70**	**54**	P		**P**	**23 40 04.5**	**-0.7**
MKAR	**Makanchi Array** comp=Z,1.2nm,0.6s,baz=284,slow=6.6,SNR=10.0	**39.38**	**60**	P		**P**	**23 40 27.5**	**-0.6**
ZALV	**Zalesovo Beam**	**40.59**	**48**	P		**P**	**23 40 37.7**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=261,slow=7.4,SNR=4.2							
PDAR	**Pinedale Array** comp=Z,17nm,18.9s,baz=252,slow=36	**91.42**	**331**	LR		LR	00 27 19.5	

IDC 12 23:45:49.5±1.7, 23.75S×66.90W, h182km±23km, mb3.3/1, mb1 3.5/5, mb1mx3.2/19, mbtmp3.4/5, Error ellipse: s-maj=31.6km s-min=17.7km az=124.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.17**	**301**	P		Pn		23 46 29.8	+0.9
LVC	17nm,0.3s,baz=136,slow=6.9,SNR=218			S		Sn		23 46 59.2	-0.2
LPAZ	**La Paz**	**7.51**	**351**	P		Pn		23 47 38.6	+1.4
LPAZ	0.3nm,0.3s,baz=153,slow=9.6,SNR=5.0			S		Sn		23 49 03.7	+1.3
CFAA	**Coronel Fontan**	**7.92**	**188**	P		Pn		23 47 37.3	-4.4
CFAA	0.0nm,0.3s,baz=11,slow=14,SNR=7.7			S		Sn		23 48 59.2	-11
SIV	**San Ignacio**	**9.47**	**36**	P		Pn		23 48 02.5	+0.4
BDFB	1.0nm,0.3s,baz=232,slow=12,SNR=12 **Brasilia**	**19.51**	**69**	P		P		23 50 03.2	0.0
PMSA	1.5nm,0.3s,baz=244,slow=11,SNR=24 **Palmer Station**	**41.06**	**178**	P		P		23 53 15.3	+0.5
TORD	41nm,0.9s,baz=342,slow=20,SNR=6.3 **Torodi Ar. Bea**	**76.40**	**69**	P		P		23 57 18.1	-1.1
MKAR	0.3nm,0.4s,baz=255,slow=5.5,SNR=10 **Makanchi Array**	**146.28**	**39**	PKPbc		PKPbc		00 05 08.6	+0.1
	0.3nm,0.5s,baz=296,slow=2.8,SNR=4.6								

IDC 12 23:54:28.4±2.1, 0.02N×98.56E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/25, mbtmp3.6/7, ML3.5/1, Error ellipse: s-maj=75.2km s-min=19.9km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.79**	**8**	Pn		Pn		23 55 14.1	-0.5
CMAR	8.7nm,0.3s,baz=162,slow=7.5,SNR=23 **Chiang Mai Arr**	**18.33**	**1**	P		Pn		23 58 43.9	-0.4
WRA	baz=192,slow=12,SNR=3.6 **Warramunga Arr**	**40.26**	**122**	P		P		00 02 07.1	-0.4
ASAR	0.2nm,0.5s,baz=305,slow=9.0,SNR=2.8 **Alice Springs**	**41.60**	**127**	P		P		00 02 18.6	0.0
SONM	0.3nm,0.7s,baz=292,slow=7.8,SNR=4.1 **Songino Array**	**48.11**	**7**	P		P		00 03 10.3	+0.1
MKAR	1.4nm,0.5s,baz=192,slow=8.7,SNR=13 **Makanchi Array**	**48.72**	**345**	P		P		00 03 14.7	-0.1
KURBB	1.4nm,0.6s,baz=153,slow=7.7,SNR=18 **Kurchatov Arra**	**53.23**	**344**	P		P		00 03 47.9	-0.6
	0.2nm,0.2s,baz=166,slow=7.4,SNR=5.5								

*IDC **13** 00:00:47.8±1.2, 35.04S×179.86W, h0km, mb4.1/4, mb1 4.3/5, mb1mx4.0/18, mbtmp4.1/5, ML4.0/1, Error ellipse: s-maj=32.3km s-min=27.1km az=50.0*
*ISCJB **13** 00:00:51.5±1.4, 35.07S±0.06×180.0W±0.2, h39km, mb4.0/6, Error ellipse: s-maj=23.6km s-min=8.2km az=4.9*
*NEIC **13** 00:00:52.6±0.9, 34.94S×179.87W, h35km, mb4.2/4, Error ellipse: s-maj=21.5km s-min=17.0km az=66.0*

ISC 13 00:00:53.6±0.9, 35.06S±0.09×180.0W±0.1, h39km, n31, σ0.80/35, mb4.2/6, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**3.33**	**205**	PN		**Pn**		**00 01 43.0**	**-0.1**
PUZ				SN		**Sn**		**00 02 21.3**	**-0.1**
CNGZ	**Carnagh Statio**	**3.72**	**203**	PN		**Pn**		**00 01 48.6**	**+0.2**
MWZ	**Matawai**	**3.84**	**211**	PN		**Pn**		**00 01 49.7**	**-0.4**
URZ	**Urewera**	**3.96**	**215**	Pn		**Pn**		**00 01 52.0**	**+0.2**
URZ				Sn		**Sn**		**00 02 37.7**	**+0.7**
URZ	**Urewera** 11nm,0.3s,baz=335,slow=2.1,SNR=92	**3.96**	**215**	Pn		**Pn**		**00 01 52.0**	**+0.2**
URZ	13nm,0.3s,baz=272,slow=20,SNR=8.3			Sn		**Sn**		**00 02 37.7**	**+0.7**
URZ	**Urewera**	**3.96**	**215**	PN		**Pn**		**00 01 51.5**	**-0.3**
URZ				SN		**Sn**		**00 02 35.7**	**-1.3**
TOZ	**Tahuroa Road**	**4.52**	**233**	PN		**Pn**		**00 02 00.4**	**+1.0**
BKZ	**Black Stump Fm**	**4.98**	**214**	PN		**Pn**		**00 02 04.9**	**-0.9**
BHHZ	**Black Hill Sta**	**5.44**	**214**	*e*PN		**Pn**		**00 02 11.3**	**-0.7**
BFZ	**Birch Farm**	**6.36**	**207**	PN		**Pn**		**00 02 23.6**	**-1.1**
DZM	**Mont Dzumac**	**17.58**	**314**	*e*Pn		**Pn**		**00 04 53.7**	**-1.9**
STKA	**Stephens Creek** 0.2nm,0.7s	**32.09**	**265**	*e*P		**P**		**00 07 16.8**	**-0.1**
ASAR	**Alice Springs**	**41.45**	**273**	P		**P**		**00 08 37.2**	**+0.5**
ASAR	**Alice Springs** 2.0nm,0.5s,baz=114,slow=7.9,SNR=30	**41.45**	**273**	P		**P**		**00 08 37.2**	**+0.5**
WRAB	**Tennant Creek** 5.5nm,0.8s	**42.86**	**278**	*e*P		**P**		**00 08 49.3**	**+1.2**
WRA	**Warramunga Arr**	**42.86**	**278**	P		**P**		**00 08 49.4**	**+1.2**
WRA	**Warramunga Arr** 2.7nm,0.4s,baz=117,slow=7.7,SNR=47	**42.86**	**278**	P		**P**		**00 08 49.4**	**+1.2**
FITZ	**Fitzroy Crossi** 6.1nm,1.2s	**50.88**	**275**	*e*P		**P**		**00 09 50.5**	**-0.4**
FITZ	**Fitzroy Crossi** 0.9nm,0.5s,baz=130,slow=9.8,SNR=3.8	**50.88**	**275**	P		**P**		**00 09 50.2**	**-0.6**
QSPA	**South Pole Qui** 0.8nm,0.6s	**55.06**	**180**	*e*P		**P**		**00 10 21.2**	**0.0**
QSPA	**South Pole Qui** 0.7nm,0.5s,baz=0.0,slow=12,SNR=9.5	**55.06**	**180**	P		**P**		**00 10 20.8**	**-0.4**
ARCES	**ARCESS Array B**	**142.73**	**346**	PKPpre		PKPpre		00 20 18.4	
ARCES	**ARCESS Array B** 0.7nm,0.7s,baz=83,slow=3.8,SNR=5.0	**142.73**	**346**	PKhKP		PKPpre		00 20 18.4	
FINES	**FINESS Array B**	**148.83**	**336**	PKPbc		**PKPbc**		**00 20 35.8**	**-0.3**
FINES	**FINESS Array B** 1.0nm,0.5s,baz=42,slow=3.3,SNR=20	**148.83**	**336**	PKPbc		**PKPbc**		**00 20 35.8**	**-0.3**
DBIC	**Dimbokro**	**151.39**	**170**	PKPbc		**PKPbc**		**00 20 44.7**	**+1.0**
DBIC	**Dimbokro** 5.7nm,1.1s,baz=172,slow=7.1,SNR=4.9	**151.39**	**170**	PKPbc		**PKPbc**		**00 20 44.7**	**+1.0**
BRTR	**Keskin Array B**	**152.99**	**290**	PKPbc		**PKPbc**		**00 20 46.0**	**-0.7**
BRTR	**Keskin Array B** 0.3nm,0.5s,baz=150,slow=4.7,SNR=2.9	**152.99**	**290**	PKPbc		**PKPbc**		**00 20 46.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**158.13**	**184**	PKP		**PKPdf**		**00 20 47.8**	**+1.0**
TORD				PKPab		**PKPab**		**00 21 20.5**	**+0.1**
TORD	**Torodi Ar. Bea** 0.5nm,1.0s,baz=205,slow=2.7,SNR=2.0	**158.13**	**184**	PKP		**PKPdf**		**00 20 47.8**	**+1.0**
TORD	0.4nm,0.6s,baz=148,slow=4.9,SNR=4.7			PKPab		**PKPab**		**00 21 20.5**	**+0.1**

KRSC 13 00:02:43.2±0.5, 52.48N×160.78E, h5km±5km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.77**	**324**	P		Pb		00 02 59.4	+0.3
SPN				S		Sb		00 03 11.1	+1.2
RUS	**Russkaya**	**1.39**	**269**	P		Pb		00 03 09.5	-0.1
RUS				S		Sn		00 03 28.3	+0.4
UGLR	**Uglovaya**	**1.39**	**302**	P		Pg		00 03 10.0	-0.1
UGLR				S		Sn		00 03 29.5	+1.2
PET	**Petropavlovsk**	**1.40**	**294**	P		Pb		00 03 09.8	0.0
PET				S		Sg		00 03 28.8	+0.5
SMAR	**Somma**	**1.43**	**304**	P		Pg		00 03 10.9	-0.1
SMAR				S		Sg		00 03 31.3	+1.5
KRER	**Koryakskii**	**1.48**	**305**	P		Pg		00 03 11.3	-0.2
KRER				S		Sg		00 03 31.3	0.0
KOK	**Koryaka**	**1.53**	**303**	P		Pb		00 03 12.2	0.0
KOK				S		Sg		00 03 33.2	+0.5
MTVR	**Mutnovka**	**1.59**	**271**	P		Pb		00 03 12.7	-0.5
MTVR				S		Sg		00 03 34.6	0.0
GRL	**Gorelyy**	**1.66**	**274**	P		Pb		00 03 14.1	-0.3
GRL				S		Sb		00 03 36.1	+0.5
ASAK	**Asacha**	**1.77**	**268**	P		Pb		00 03 15.5	-0.7
ASAK				S		Sb		00 03 38.7	0.0
GNL	**Ganaly**	**2.10**	**307**	P		Pb		00 03 20.9	-1.0
GNL				S		Sb		00 03 48.4	0.0
APC	**Apacha**	**2.25**	**283**	*e*P		Pb		00 03 22.7	-1.6
APC				S		Sb		00 03 51.7	-0.7
MIPR	**Malaya Ipel'ka**	**2.47**	**267**	P		Pn		00 03 25.6	+1.4
TUMR	**Tumrok**	**2.83**	**353**	P		Pb		00 03 32.0	-2.4
KMNR	**Kamenistaya**	**3.30**	**355**	P		Pn		00 03 37.1	+1.5
BZMR	**Bezymyannaya**	**3.47**	**357**	P		Pn		00 03 40.3	+2.3
BZGR	**Bezymyannyi-Gr**	**3.47**	**359**	P		Pn		00 03 40.4	+2.5
KIRR	**Kirishev**	**3.49**	**356**	P		Pn		00 03 40.6	+2.3
KPT	**Kopyto**	**3.51**	**355**	P		Pn		00 03 40.8	+2.3
ZLN	**Zelenaya**	**3.54**	**0**	P		Pn		00 03 41.4	+2.4
ESO	**Esso**	**3.66**	**341**	P		Pn		00 03 42.7	+2.2
SRDR	**Sredinnyy**	**3.90**	**351**	P		Pn		00 03 46.8	+3.0
KBG	**Krutoberegovo**	**3.95**	**16**	S		Sn		00 04 33.7	+2.7
BKI	**Bering**	**4.11**	**46**	S		Sn		00 04 29.2	-5.8

*ISCJB **13** 00:11:48.0±0.3, 31.36S±0.07×58.41E±0.08, h10km, mb4.5/38, MS4.0/23, Error ellipse: s-maj=10.6km s-min=7.9km az=43.8*
*IDC **13** 00:11:48.2±0.5, 31.29S×58.48E, h0km, mb4.3/22, mb1 4.4/23, mb1mx4.4/32, mbtmp4.3/23, ML4.8/1, MS3.9/23, Ms1 3.9/23, ms1mx3.9/27, Error ellipse: s-maj=16.9km s-min=12.2km az=48.0*
*BJI **13** 00:11:48.3, 31.55S×57.66E, h29km, mB4.9/4, mb4.8/13, Ms7 4.4/2*
*NEIC **13** 00:11:49.7±0.3, 31.29S×58.47E, h10km, mb4.6/11, Error ellipse: s-maj=10.1km s-min=7.0km az=221.0*

ISC 13 00:11:50.0±0.4, 31.34S±0.07×58.38E±0.08, h10km, n113, σ1.24/115, mb4.5/38, MS3.9/23, 5C-9D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRIV	**Mauritius Mete**	**11.02**	**356**	*e*Pn		Pn		00 14 23.4	-4.4
ABPO	**Ambohimpanom** 26nm,0.7s	**15.87**	**318**	*e*Pn		**Pn**		**00 15 33.4**	**-0.4**
ABPO				*e*Sn		Sn		00 18 20.8	-9.1
OPO	**Ambohidratompo**	**16.25**	**319**	Pn		**Pn**		**00 15 38.2**	**-0.5**
OPO				Sn		Sn		00 18 27.3	-12
OPO	**Ambohidratompo** 3.5nm,0.3s,baz=138,slow=12,SNR=52	**16.25**	**319**	Pn		**Pn**		**00 15 38.2**	**-0.5**
OPO	2.2nm,0.3s,baz=237,slow=12,SNR=3.0			Sn		Sn		00 18 27.3	-12
OPO	comp=Z,668nm,21.6s,baz=182,slow=32			LR		LR		00 20 26.1	
BOSA	**Boshof** comp=Z,103nm,18.8s,baz=118,slow=32	**28.76**	**267**	LR		LR		00 26 58.9	
LBTB	**Lobatse**	**29.51**	**274**	P		**P**		**00 17 54.5**	**-0.2**
LBTB	**Lobatse** 3.9nm,0.9s,baz=135,slow=8.6,SNR=2.8	**29.51**	**274**	P		**P**		**00 17 54.5**	**-0.2**
LSZ	**Lusaka** 9.5nm,1.1s	**31.86**	**293**	*e*P		**P**		**00 18 15.5**	**-0.1**
LSZ	**Lusaka** 4.4nm,1.0s,baz=86,slow=11,SNR=8.4	**31.86**	**293**	P		**P**		**00 18 14.7**	**-0.9**
KMBO	**Kilima Mbogo** 1.3nm,0.7s	**36.09**	**322**	*e*P		**P**		**00 18 53.1**	**+0.7**
KMBO	**Kilima Mbogo** 1.0nm,0.3s,baz=240,slow=23,SNR=10	**36.09**	**322**	P		**P**		**00 18 53.1**	**+0.7**
KMBO	comp=Z,143nm,18.3s,baz=281,slow=35			LR		LR		00 32 56.6	
MAW	**Mawson**	**36.40**	**177**	P		**P**		**00 18 54.9**	**+0.7**
MAW	**Mawson** 2.3nm,0.6s,baz=338,slow=8.8,SNR=10	**36.40**	**177**	P		**P**		**00 18 54.9**	**+0.7**
MAW	comp=Z,204nm,19.0s,baz=339,slow=30			LR		LR		00 29 57.8	
TSUM	**Tsumeb** 11nm,1.0s	**38.61**	**278**	*e*P		**P**		**00 19 13.4**	**-0.4**
TSUM	**Tsumeb** 5.2nm,0.9s,baz=118,slow=7.6,SNR=5.2	**38.61**	**278**	P		**P**		**00 19 14.1**	**+0.3**
SYO	**Syowa Base**	**39.23**	**191**	⇓*e*P		**P**		**00 19 17.0**	**-1.1**
SYO	**Syowa Base**	**39.23**	**191**	⇓*e*sP		sP		00 19 23.5	+1.1
COCO	**West Island**	**40.20**	**70**	*e*P		**P**		**00 19 26.3**	**-0.6**
MBAR	**Mbarara**	**40.24**	**314**	P		**P**		**00 19 27.5**	**+0.2**
MBAR	**Mbarara** 1.4nm,0.7s,baz=148,slow=9.5,SNR=3.8	**40.24**	**314**	P		**P**		**00 19 27.5**	**+0.2**
ATD	**Arta Tunnel**	**45.15**	**338**	P		**P**		**00 20 05.8**	**-1.3**
ATD	**Arta Tunnel** 9.2nm,0.7s,ba

MLR	Muntele Rosu	81.94	338	⇓*i*	P		P	00 24 09.6	-0.2
VRI	Vrincioaia	82.03	338	⇓*i*	P		P	00 24 09.9	-0.2
PLOR	Plostina	82.04	338	⇑*i*	P		P	00 24 09.8	-0.4
VOIR		82.19	337	⇑*i*	P		P	00 24 10.0	-1.0
ARR	Arges	82.27	337	⇓*i*	P		P	00 24 10.6	-0.8
LOT	Lotru	82.64	336	⇑*i*	P		P	00 24 11.7	-1.7
BZS	Buzias	83.54	335	⇓*i*	P		P	00 24 18.0	+0.1
BURAR	Bucovina Array	84.06	338	⇓*i*	P		P	00 24 20.7	0.0
DRGR		84.17	336	⇓*i*	P		P	00 24 21.0	-0.2
BRVK	Borovoye	84.68	7	*e*P	P		P	00 24 24.0	+0.5
	comp=Z,7.5nm,0.9s								
KIEV	Kiev	85.65	342	*e*P	P		P	00 24 27.0	-1.4
KOLS	Kolonicke sedl	86.17	337	*e*P	P			00 24 39.1	+8.0
VYHS	Vyhne	86.99	335	*e*P	P			00 24 39.2	+4.0
HHC	Hu-ho-hao-te	87.03	37	*e*P	P			00 24 36.0	+0.3
HHC				SKS	SKSac			00 35 00.3	-2.6
HHC				S	SKKSac			00 35 13.1	+1.5
HHC				SS	SS			00 41 00.8	+2.4
HHC				pmax	pmax				
	comp=Z,13nm,0.6s								
HHC				pmax	pmax				
	comp=Z,93nm,8.3s								
HHC				LR	LR				
	comp=Z,95nm,20.6s								
ZALV	Zalesovo Beam	87.97	15	P	P		P	00 24 38.0	-1.6
ZALV	Zalesovo Beam	87.97	15	P	P		P	00 24 38.0	-1.6
	comp=Z,1.3nm,0.6s,baz=207,slow=3.0,SNR=6.2								
ZALV				LR	LR			01 02 34.8	
	comp=Z,36nm,18.4s,baz=250,slow=35								
WTTA	Wattenberg	88.83	330	⇑*i*	P		P	00 24 42.7	-1.5
	comp=Z,7.9nm,1.0s								
FETA	Feichten	89.03	330	⇑*i*	P		P	00 24 45.0	-0.1
	comp=Z,5.7nm,0.9s								
MBDF	Montbardon	89.09	326	*e*P	P		P	00 24 46.4	+0.9
	comp=Z,13nm,1.0s								
GERES	GERESS Array B	89.23	332	P	P		P	00 24 45.1	-0.8
GERES	GERESS Array B	89.23	332	P	P		P	00 24 45.1	-0.8
	comp=Z,0.6nm,0.8s,baz=149,slow=5.4,SNR=5.9								
GERES				LR	LR			01 02 52.6	
	comp=Z,39nm,21.9s,baz=268,slow=34								
SONM	Songino Array	89.81	30	P	P			00 24 45.3	-3.4
SONM	Songino Array	89.81	30	P	P			00 24 45.3	-3.4
	comp=Z,1.0nm,0.8s,baz=233,slow=3.5,SNR=8.1								
SONM				LR	LR			01 02 40.8	
	comp=Z,68nm,18.2s,baz=26,slow=34								
ULN	Ulaanbaatar	90.12	30	*e*P	P		P	00 24 49.5	-0.7
	comp=Z,8.6nm,1.6s								
ESDC	Sonseca Array	91.29	317	P	P			00 24 57.0	+1.2
ESDC	Sonseca Array	91.29	317	P	P			00 24 57.0	+1.2
	comp=Z,1.4nm,1.0s,baz=129,slow=3.6,SNR=5.6								
ESDC				LR	LR			01 05 20.6	
	comp=Z,64nm,20.4s,baz=350,slow=35								
PLCA	Paso Flores	94.14	216	LR	LR			01 01 29.3	
	comp=Z,91nm,21.9s,baz=183,slow=32								
KSRS	Korea Array	94.32	48	LR	LR			01 02 40.2	
	comp=Z,38nm,18.3s,baz=242,slow=32								
BDFB	Brasilia	95.40	248	LR	LR			00 58 57.1	
	comp=Z,100nm,20.1s,baz=351,slow=30								
CPUP	Villa Florida	96.02	234	LR	LR			01 02 07.4	
	comp=Z,66nm,18.5s,baz=230,slow=31								
CN2	Changchun	96.63	42	*e*P	P			00 25 21.0	+0.9
CN2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
MDJ	Mudanjiang	99.52	43	P	Pdif			00 25 33.0	-0.1
MDJ				pmax	pmax				
	comp=Z,8.0nm,1.8s								
MDJ				pmax	pmax				
	comp=Z,44nm,3.3s								
NOA	NORSAR Array B	99.73	339	LR	LR			01 09 09.9	
	comp=Z,25nm,21.2s,baz=180,slow=34								
PMR	Palmer	144.83	23	*e*PKPdf	PKPab			00 31 25.1	-0.4
PAX	Paxson	144.87	19	*e*PKPdf	PKPab			00 31 26.1	+0.3
PAX				*e*SKPdf	SKPdf			00 34 59.4	-1.6
PAX				*e*SKPbc	SKPbc			00 35 05.6	-0.5
SML	Sawmill	144.93	22	*e*PKPdf	PKPab			00 31 24.0	-1.9
RC01	Rabbit Creek A	144.99	24	*e*PKPab	PKPab			00 31 25.9	-0.2
KDAK	Kodiak Island	146.10	30	*e*PKPab	PKPab			00 31 36.4	+6.0
YKA	Yellowknife Ar	148.50	354	PKPbc	PKPbc			00 31 36.0	-0.2
YKA	Yellowknife Ar	148.50	354	PKPbc	PKPbc			00 31 36.0	-0.2
	comp=Z,2.2nm,0.8s,baz=360,slow=2.3,SNR=8.9								
CPCT	Cooper Cave	148.88	288	*e*PKPab	PKPab			00 31 45.4	+3.3
COWI	Conover	150.92	310	*e*PKPbc	PKPbc			00 31 43.8	+1.0
COWI				*e*PKPab	PKPab			00 31 51.2	+1.0
OLIL	Olney	151.69	294	*e*PKPbc	PKPbc			00 31 44.1	-0.7
OLIL				*e*PKPab	PKPab			00 31 52.4	-1.2
EYMN	Ely	151.72	315	*e*PKPbc	PKPbc			00 31 45.2	+0.7
EYMN				*e*PKPab	PKPab			00 31 52.8	-0.6
ULM	Lac du Bonnet	153.07	322	PKPbc	PKPbc			00 31 48.4	+0.9
ULM				*e*PKPab	PKPab			00 31 55.6	-3.4
ULM	Lac du Bonnet	153.07	322	PKPbc	PKPbc			00 31 48.4	+0.9
	comp=Z,2.4nm,0.6s,baz=44,slow=3.9,SNR=2.5								
TXAR	Lajitas Array	164.37	267	PKP	PKPdf			00 31 52.9	-1.5
TXAR				PKPab	PKPab			00 32 51.5	+2.8
TXAR	Lajitas Array	164.37	267	PKP	PKPdf			00 31 52.9	-1.5
	comp=Z,0.1nm,0.4s,baz=182,slow=8.1,SNR=3.3								
TXAR				PKPab	PKPab			00 32 51.5	+2.8
	comp=Z,0.4nm,0.8s,baz=154,slow=7.0,SNR=3.5								
PDAR	Pinedale Array	165.09	323	PKP	PKPdf			00 31 54.9	+0.2
PDAR	Pinedale Array	165.09	323	PKP	PKPdf			00 31 54.9	+0.2
	comp=Z,0.4nm,0.9s,baz=148,slow=5.3,SNR=2.6								
KHMM	Horse Mountain	170.33	10	*e*PKPdf	PKPdf			00 31 56.9	-1.4

IDC 13 00:12:58.9±1.8, 5.79S×151.06E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, Error ellipse: s-maj=55.8km s-min=28.0km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.28	227	Sn	Sn	00 15 16.8	-3.9
	1.2nm,0.3s,baz=152,slow=14,SNR=2.0						
WRA	Warramunga Arr	21.50	228	P	P	00 17 49.5	0.0
	1.5nm,0.5s,baz=53,slow=10,SNR=26						
ASAR	Alice Springs	24.26	221	P	P	00 18 18.0	0.0
	2.1nm,0.7s,baz=56,slow=8.8,SNR=22						
FITZ	Fitzroy Crossi	27.67	242	P	P	00 18 48.6	-0.2
	1.8nm,0.8s,baz=45,slow=10.0,SNR=4.1						
SONM	Songino Array	66.25	329	P	P	00 23 48.9	-0.1
	0.1nm,0.4s,baz=131,slow=6.3,SNR=2.3						
QSPA	South Pole Qui	84.18	180	P	P	00 25 31.9	-0.2
	1.0nm,0.8s,baz=235,slow=3.6,SNR=3.5						
TORD	Torodi Ar. Bea	148.93	286	PKPbc	PKPbc	00 32 49.7	-0.2
	0.5nm,0.6s,baz=62,slow=2.8,SNR=9.8						

MEX 13 00:34:24.1±0.4, 14.54N×92.47W, h80km±5km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		0.42	28	*e*P	Pn	00 34 35.9	-1.3
THIG				*i* S	Sn	00 34 45.1	-1.7
PCIG		1.37	328	*e*P	Pn	00 34 46.8	-0.9
PCIG				*i* S	Sn	00 35 03.9	-1.6
CCIG	Comitan	1.76	10	*e*P	Pn	00 34 51.8	-1.4
CCIG				*e*S	Sn	00 35 13.2	-2.0
TGIG		2.31	344	*e*P	Pn	00 34 59.0	-1.3
TGIG				*e*S	Sn	00 35 26.2	-1.8
HUIG	Huatulco	3.72	290	*e*P	Pn	00 35 19.0	-0.2
HUIG				*i* S	Sn	00 35 59.9	-2.1

*KRSC **13** 00:35:20.4±0.9, 61.49N×168.49E, h6km±5km, ML4.4*
*MOS **13** 00:35:20.3±1.2, 61.43N×167.71E, h7km, mb3.8/3, Error ellipse: s-maj=53.2km s-min=16.1km az=89.6*
*IDC **13** 00:35:21.6±0.9, 61.42N×167.55E, h0km, mb3.5/8, mb1 3.9/9, mb1mx3.6/28, mbtmp3.6/9, ML3.5/1, Error ellipse: s-maj=25.7km s-min=17.4km az=71.0*
*ISCJB **13** 00:35:23.3±0.6, 61.60N±0.08×167.8E±0.2, h18km, mb3.6/7, Error ellipse: s-maj=17.4km s-min=7.3km az=31.3*

ISC 13 00:35:24.4±0.7, 61.47N±0.07×167.7E±0.1, h18km, n15, σ1s10/15, mb3.6/7, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TILK	Tilichiki	1.28	218	*e*P	Pg	00 35 47.8	-1.3
TILK				*i* S	Sg	00 36 07.6	+1.9
PALN	Palana	4.54	242	P	Pb	00 36 37.1	-6.3
BKI	Bering	6.35	189	PN	Pn	00 36 57.1	+0.2
BKI	Bering	6.35	189	*e*P	Pn	00 36 57.1	+0.2
BILL	Bilibino	6.63	355	P	Pn	00 36 59.8	-1.0
FX1	Attu Island--F	9.10	159	Pn	Pn	00 37 32.8	-1.8
	1.5nm,0.3s,baz=293,slow=7.7,SNR=4.5						
ILAR	Eielson Array	20.44	61	P	P	00 40 01.2	+0.9
	1.8nm,1.0s,baz=266,slow=9.7,SNR=9.8						
INK	Inuvik	24.92	49	P	P	00 40 45.6	-0.3
	1.6nm,0.8s,baz=296,slow=8.7,SNR=5.4						
ARCES	ARCESS Array B	46.55	343	P	P	00 43 50.3	+0.1
	0.4nm,0.5s,baz=31,slow=11,SNR=5.9						
MKAR	Makanchi Array	48.42	294	P	P	00 44 04.8	-0.3
MKAR	Makanchi Array	48.42	294	P	P	00 44 04.8	-0.3
	0.3nm,0.6s,baz=38,slow=7.3,SNR=3.3						
PDAR	Pinedale Array	50.34	72	P	P	00 44 22.0	+2.0
	0.4nm,0.8s,baz=284,slow=3.6,SNR=2.8						
NOA	NORSAR Array B	56.50	347	P	P	00 45 05.0	+0.2
	0.6nm,0.5s,baz=12,slow=7.4,SNR=3.3						
GERES	GERESS Array B	68.08	342	P	P	00 46 22.8	+0.3
	0.4nm,0.6s,baz=26,slow=6.4,SNR=4.3						
WRA	Warramunga Arr	85.42	211	P	P	00 48 00.1	-0.3
	0.3nm,0.8s,baz=16,slow=6.1,SNR=3.6						

IDC 13 01:08:17.7±4.2, 3.49S×144.71E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.4/17, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=129.9km s-min=34.5km az=95.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.23	211	P	P	01 12 42.5	-1.1
	0.1nm,0.3s,baz=33,slow=11,SNR=8.4						
ASAR	Alice Springs	22.62	207	P	P	01 13 21.1	+0.7
	0.6nm,0.8s,baz=30,slow=11,SNR=4.1						
MKAR	Makanchi Array	74.12	321	P	P	01 19 56.1	+0.1
	0.4nm,0.8s,baz=100,slow=8.1,SNR=2.8						

IDC 13 01:28:07.7±0.8, 11.43N×142.94E, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.1/23, mbtmp4.1/11, MS4.0/2, Ms1 4.0/2, ms1mx2.8/36, Error ellipse: s-maj=27.4km s-min=20.7km az=91.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	Korea Array	29.21	335	LR	LR	01 45 12.1	
	comp=Z,35nm,18.3s,baz=162,slow=35						
WRA	Warramunga Arr	32.30	195	P	P	01 34 37.4	-1.2
	0.8nm,0.6s,baz=18,slow=9.5,SNR=7.8						
ASAR	Alice Springs	35.98	194	P	P	01 35 10.2	-0.3
	0.3nm,0.5s,baz=24,slow=11,SNR=6.6						
CMAR	Chiang Mai Arr	42.99	285	P	P	01 36 10.5	+1.3
	7.0nm,0.7s,baz=86,slow=6.4,SNR=18						
SONM	Songino Array	47.45	327	P	P	01 36 43.8	-0.7
	0.5nm,0.6s,baz=145,slow=6.5,SNR=4.0						
RAO	Raoul Island	55.34	138	LR	LR	01 55 19.6	
	comp=Z,1μm,20.6s,baz=253,slow=30						
MKAR	Makanchi Array	61.76	317	P	P	01 38 28.6	+0.4
	2.7nm,0.8s,baz=96,slow=8.5,SNR=20						
ZALV	Zalesovo Beam	62.30	325	P	P	01 38 31.0	-0.7
	1.5nm,0.5s,baz=100,slow=7.1,SNR=7.7						
ILAR	Eielson Array	71.31	25	P	P	01 39 28.1	-0.9
	0.8nm,0.6s,baz=251,slow=5.4,SNR=9.6						
YKA	Yellowknife Ar	85.63	27	P	P	01 40 48.5	+0.5
	0.4nm,0.4s,baz=286,slow=5.0,SNR=4.4						
ARCES	ARCESS Array B	88.54	342	P	P	01 41 01.7	-0.4
	0.8nm,0.6s,baz=68,slow=6.7,SNR=14						
NVAR	Mina Array Bea	89.74	51	P	P	01 41 10.0	+1.4
	1.6nm,0.6s,baz=262,slow=5.8,SNR=7.1						
FINES	FINESS Array B	92.30	335	P	P	01 41 18.1	-1.7
	0.7nm,0.6s,baz=54,slow=7.1,SNR=10						
TORD	Torodi Ar. Bea	134.45	301	PKP	PKPdf	01 47 29.5	+0.5
	0.6nm,0.9s,baz=350,slow=2.2,SNR=2.4						
LPAZ	La Paz	149.47	103	PKPbc	PKPbc	01 48 01.6	+0.8
	0.7nm,0.6s,baz=249,slow=2.2,SNR=4.4						

KRSC 13 01:46:56.2±0.7, 52.48N×160.79E, h5km±5km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	Mys Shipunski	0.78	323	P	Pb	01 47 12.2	0.0
SPN				S	Sb	01 47 23.2	+0.2
RUS	Russkaya	1.39	269	P	Pn	01 47 22.4	+0.1
RUS				S	Sn	01 47 41.8	+0.8
UGLR	Uglovaya	1.40	302	P	Pb	01 47 22.8	-0.2
PET	Petropavlovsk	1.41	294	P	Pb	01 47 23.0	+0.1
PET				S	Sg	01 47 42.8	+1.4
SMAR	Somma	1.44	304	P	Pn	01 47 22.8	-0.4
KRER	Koryakskii	1.49	305	P	Pn	01 47 24.2	+0.3
KRER				S	Sg	01 47 44.9	+0.4
KOK	Koryaka	1.54	303	P	Pb	01 47 25.1	-0.2
KOK				S	Sg	01 47 46.4	+0.5
MTVR	Mutnovka	1.59	271	P	Pn	01 47 25.6	+0.3
MTVR				S	Sb	01 47 47.3	+0.4
GRL	Gorelyy	1.66	274	P	Pb	01 47 27.4	-0.1
GRL				S	Sg	01 47 50.0	+0.1
ASAK	Asacha	1.77	268	P	Pn	01 47 28.4	+0.8
ASAK				S	Sb	01 47 51.5	-0.4
GNL	Ganaly	2.10	306	P	Pb	01 47 33.8	-1.2
GNL				S	Sb	01 48 01.2	-0.4
APC	Apacha	2.25	283	P	Pn	01 47 35.6	+1.5
APC				S	Sb	01 48 04.9	-0.6
MIPR	Malaya Ipel'ka	2.48	267	P	Pn	01 47 38.4	+1.2
MIPR				S	Sn	01 48 09.4	+1.5
TUMR	Tumrok	2.83	353	P	Pn	01 47 44.3	+2.0
KMNR	Kamenistaya	3.30	355	P	Pn	01 47 51.1	+2.5
BZMR	Bezymyannaya	3.47	357	P	Pn	01 47 53.6	+2.6
BZGR	Bezymyannyi-Gr	3.47	359	P	Pn	01 47 52.5	+1.6
BZGR				S	Sn	01 48 34.5	+2.0
BZWR	Bezymyannyi-We	3.50	357	P	Pn	01 47 53.7	+2.3
KPT	Kopyto	3.51	355	P	Pn	01 47 53.6	+2.1
SRDR	Sredinnyy	3.90	351	P	Pn	01 47 59.7	+2.9
BKI	Bering	4.11	46	S	Sn	01 48 42.4	-5.5

IDC 13 01:47:57.5±0.9, 15.88S×172.98W, h0km, mb4.0/8, mb1 4.3/9, mb1mx4.0/23, mbtmp4.0/9, ML2.3/1, Error ellipse: s-maj=47.8km s-min=17.2km az=137.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.28	31	Pn	Pn	01 48 35.7	-0.8
	42nm,0.3s,baz=33,slow=1.8,SNR=45						
AFI				Sn	Sn	01 48 59.5	-5.8
	387nm,0.3s,baz=54,slow=23,SNR=29						
DZM	Mont Dzumac	20.40	249	eLR	LR	01 57 30.6	
	177nm,25.2s						
PPT2	Papeete2	22.48	98	eLR	LR	01 58 00.1	
	97nm,26.8s						
TBI	Tubuai	23.35	112	eLR	LR	01 58 33.1	
	84nm,26.5s						
URZ	Urewera	23.95	199	P	P	01 53 13.3	-0.1
	9.7nm,0.7s,baz=72,slow=3.2,SNR=4.8						
STKA	Stephens Creek	44.15	240	P	P	01 56 08.0	-0.2
	5.7nm,1.2s,baz=39,slow=14,SNR=2.9						
WRA	Warramunga Arr	50.13	257	P	P	01 56 54.4	-0.6
	1.5nm,0.9s,baz=96,slow=6.7,SNR=12						
ASAR	Alice Springs	50.35	252	P	P	01 56 56.5	-0.2
	3.5nm,0.8s,baz=84,slow=8.5,SNR=29						
NVAR	Mina Array Bea	74.41	42	P	P	01 59 38.0	+0.2
	0.7nm,0.5s,baz=209,slow=7.2,SNR=4.3						
TXAR	Lajitas Array	80.54	56	P	P	02 00 12.1	-0.1
	0.2nm,0.5s,baz=219,slow=8.4,SNR=4.6						
PDAR	Pinedale Array	82.35	42	P	P	02 00 21.6	-0.1
	0.8nm,0.8s,baz=180,slow=3.0,SNR=6.1						
ILAR	Eielson Array	82.83	1	P	P	02 00 23.1	-0.2
	0.3nm,0.6s,baz=233,slow=6.9,SNR=4.8						
BRTR	Keskin Array B	146.78	321	PKPbc	PKPab	02 07 42.9	-0.3
	0.9nm,0.8s,baz=95,slow=3.0,SNR=4.0						

*NOU **13** 01:52:00.2±1.1, 20.78S×169.90E, h10km, MD2.8, ML3.0*
*IDC **13** 01:52:02.0±7.0, 21.21S×169.85E, h77km±49km, mb3.2/2, mb1 3.6/3, mb1mx3.3/18, mbtmp3.4/3, ML3.9/1, Error ellipse: s-maj=187.5km s-min=46.5km az=160.0*

ISC 13 01:52:01.7±4.3, 21.23S±0.9×169.91E±0.3, h80km±34km, n9, σ0s8s/14, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAYA	Yate Dam	2.94	253	*e*P	Pn	01 52 46.1	-0.1
BAYA				*e*S	Sn	01 53 20.3	-0.4
BAYA				AMP		01 53 23.1	
	comp=Z,16nm,3.5s						
PLUM	Mont Dore	3.20	252	*e*P	Pn	01 52 49.2	-0.4
PLUM				*e*S	Sn	01 53 27.1	+0.4
DZM	Mont Dzumac	3.32	257	*e*P	Pn	01 52 50.8	-0.6
DZM				*e*S	Sn	01 53 28.6	-1.3
DZM				AMP		01 53 31.8	
	comp=Z,1μm,0.7s						
DZM	Mont Dzumac	3.32	257	P	Pn	01 52 51.5	0.0
	comp=Z,14nm,0.3s,baz=99,slow=23,SNR=178						
DZM				S	Sn	01 53 29.6	-0.3
	comp=Z,35nm,0.3s,baz=90,slow=24,SNR=32						
NOUC	Port Laguerre	3.46	257	*e*P	Pn	01 52 55.1	+1.9
NOUC				*e*S	Sn	01 53 33.6	+0.6
NOUC				AMP		01 53 36.4	
	comp=Z,46nm,3.2s						
WRA	Warramunga Arr	33.29	266	P	P	01 58 31.6	-0.3
	comp=Z,0.2nm,0.6s,baz=99,slow=8.3,SNR=5.8						
ASAR	Alice Springs	33.31	259	P	P	01 58 32.6	+0.6
	comp=Z,0.4nm,0.5s,baz=81,slow=8.3,SNR=3.1						
ARCES	ARCESS Array B	127.24	345	PKP	PKPdf	02 10 56.0	-0.2
	comp=Z,1.4nm,1.0s,baz=40,slow=1.5,SNR=4.6						
GERES	GERESS Array B	146.63	331	PKPbc	PKPbc	02 11 34.0	-0.2
	comp=Z,0.5nm,0.6s,baz=48,slow=2.0,SNR=4.3						

*ISCJB **13** 01:52:21.2±0.6, 36.93N±0.05×71.71E±0.10, h10km, mb3.6/13, Error ellipse: s-maj=11.1km s-min=7.1km az=10.5*
*IDC **13** 01:52:21.0±1.0, 36.97N×72.16E, h0km, mb3.7/12, mb1 3.9/18, mb1mx3.8/31, mbtmp3.7/18, ML3.7/6, Error ellipse: s-maj=18.0km s-min=16.5km az=147.0*
*NNC **13** 01:52:21.4±3.6, 36.95N×71.56E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=31.0km s-min=24.9km az=164.0*

ISC 13 01:52:23.2±0.6, 37.05N±0.04×71.70E±0.10, h10km, n35, σ2s25/34, mb3.7/13, 5C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	Cherat	3.23	177	P	Pg	01 53 24.3	-0.7
CEP				S	Sg	01 54 08.0	+1.2
SARP	Sargodha	5.18	171	P	Pn	01 53 39.3	-1.4
AML	Almayashu	5.30	16	P	Pn	01 53 44.7	+1.9
	SNR=9.0						
KZA	Kyzart	5.72	28	P	Pn	01 53 50.7	+2.2
	SNR=10.0						
EKS2	Erkin-Say	5.83	15	P	Pn	01 53 53.4	+3.7
	SNR=13						
AAK	Ala-Archa	5.98	20	Pn	Pn	01 53 53.9	+2.1
	3.0nm,0.3s,baz=133,slow=2.2,SNR=10.0						
AAK				Sn	Sn	01 54 56.3	-4.1
	0.1nm,0.3s,baz=228,slow=14,SNR=1.6						
KK31	Karatay Array	6.11	352	⇓Pn	Pn	01 53 55.4	+1.9
	5.5nm,0.4s,baz=173,slow=13,SNR=99						
KK31				⇓Sn	Sn	01 55 06.7	+3.1
	5.6nm,0.4s,baz=171,slow=23						
CHMS	Chumysh	6.39	21	P	Pn	01 54 00.0	+2.7
	SNR=8.3						
TKM2	Tokmak 2	6.58	26	⇑Pn	Pn	01 54 02.9	+2.7
	6.5nm,0.6s						
TKM2				⇓Sn	Sn	01 55 20.5	+5.1
	6.0nm,0.6s						
TKM2	Tokmak 2	6.58	26	P	Pn	01 54 03.3	+3.1
	SNR=13						
MK31	Makanchi Array	12.52	36	⇓P	Pn	01 55 21.6	+0.3
	1.4nm,0.8s,baz=202,slow=8.7,SNR=7.6						
MKAR	Makanchi Array	12.52	36	Pn	Pn	01 55 22.0	+0.7
	0.1nm,0.3s,baz=159,slow=15,SNR=8.9						
MKAR				Lg	Lg	01 58 52.8	
	0.1nm,0.3s,baz=222,slow=21,SNR=2.4						
KURBB	Kurchatov Arra	14.43	18	⇑P	Pn	01 55 45.4	-1.9
	4.0nm,0.7s						
KURBB	Kurchatov Arra	14.43	18	Pn	Pn	01 55 44.2	-3.1
	0.1nm,0.3s,baz=212,slow=12,SNR=13						
KURBB				Lg	Lg	01 59 46.7	
	0.0nm,0.3s,baz=207,slow=30,SNR=3.3						
AB31	Akbulak array	14.89	329	⇑P	Pn	01 55 51.8	-1.8
	2.2nm,0.5s,baz=143,slow=12,SNR=81						
VOSK	Vostochnaya	15.68	358	⇑P	Pn	01 56 01.7	-2.3
	2.5nm,1.0s						
BVA0	Borovoye Array	16.00	357	⇓P	P	01 56 10.6	-1.1
	2.1nm,0.5s,baz=164,slow=11,SNR=4.3						
BVAR	Borovoye Array	16.00	357	Pn	Pn	01 56 05.6	-2.6
	0.3nm,0.3s,baz=165,slow=13,SNR=6.1						
BVAR				Lg	Lg	02 00 58.1	
	baz=149,slow=25,SNR=1.8						
AKTO	Aktyubinsk	16.60	328	⇑P	Pn	01 56 16.6	+0.8
	13nm,0.8s						
AKTO	Aktyubinsk	16.60	328	Pn	Pn	01 56 15.0	-0.8
	0.3nm,0.3s,baz=124,slow=13,SNR=13						
AKTO				Sn	Sn	01 59 14.7	-5.3
	0.1nm,0.3s,baz=46,slow=18,SNR=1.2						
ZALV	Zalesovo Beam	19.18	24	P	P	01 56 45.4	-1.4
	1.2nm,0.3s,baz=212,slow=10,SNR=16						
GNI	Garni	21.26	287	P	P	01 57 15.0	+5.3
	5.9nm,0.7s,baz=41,slow=4.1,SNR=7.7						
KBZ	Khabaz	22.86	296	P	P	01 57 31.1	+4.6
	1.9nm,0.7s

SDNR				*e*S		**Sn**	02 00 49.1	+0.4	
SMLA	**Simla**	**4.97**	**135**	*i* P		**Pn**	**02 00 03.9**	**+2.4**	
SMLA				*e*S		**Sn**	**02 00 57.3**	**-0.8**	
SMLA				AML	AML		02 01 23.9		
	comp=E,1µm,0.3s								
SMLA				AML	AML		02 01 24.3		
	comp=N,1µm,0.9s								
DDI	**Dehra Dun**	**6.08**	**135**	*e*P		**Pn**	**02 00 18.0**	**+1.2**	
DDI				*e*S		**Sn**	**02 01 24.6**	**-1.0**	
DDI				*e*S		**Sn**	**02 01 25.9**	**+0.3**	
DDI				AML	AML		02 01 33.4		
	comp=E,1µm,0.3s								
DDI				AML	AML		02 01 33.9		
	comp=N,1µm,0.1s								
NDI	**New Delhi**	**6.99**	**149**	*e*P		**Pb**	**02 00 50.9**	**+1.9**	
NDI				*e*S		Sb	02 02 05.8	-6.2	
NDI				AML	AML		02 02 10.3		
	comp=N,92nm,0.2s								
NDI				AML	AML		02 02 11.7		
	comp=E,93nm,0.2s								
AML	**Almayashu**	**7.39**	**3**	*i* P		Pn	02 00 38.3	+3.2	
AML	**Almayashu**	**7.39**	**3**	P		Pn	02 00 38.3	+3.2	
	SNR=68								
KZA	**Kyzart**	**7.52**	**12**	*i* P		Pn	02 00 40.4	+3.6	
KZA	**Kyzart**	**7.52**	**12**	P		Pn	02 00 40.4	+3.6	
	SNR=12								
UCH	**Uchtor**	**7.56**	**8**	*i* P		Pn	02 00 40.9	+3.5	
UCH	**Uchtor**	**7.56**	**8**	P		Pn	02 00 40.9	+3.5	
	SNR=12								
ULHL	**Ulahol**	**7.89**	**17**	*i* P		Pn	02 00 45.7	+4.0	
ULHL	**Ulahol**	**7.89**	**17**	P		Pn	02 00 45.7	+4.0	
	SNR=7.0								
EKS2	**Erkin-Say**	**7.93**	**4**	P		Pn	02 00 45.6	+3.4	
	SNR=27								
AAK	**Ala-Archa**	**7.96**	**7**	P		Pn	02 00 46.3	+3.7	
AAK							02 02 12.1		
AAK				pmax	pmax				
	comp=Z,3.0nm,0.3s								
AAK				smax	smax				
	comp=N,1.0nm,0.3s								
AAK				MLR	MLR				
	comp=Z,199nm,19.1s								
AAK	**Ala-Archa**	**7.96**	**7**	P		Pn	02 00 46.1	+3.5	
	SNR=7.3								
AAK	**Ala-Archa**	**7.96**	**7**	Pn		Pn	02 00 46.3	+3.7	
AAK				Sn		**Sn**	**02 02 12.1**	**+0.2**	
AAK	**Ala-Archa**	**7.96**	**7**	Pn		Pn	02 00 46.3	+3.7	
	comp=Z,2.6nm,0.3s,baz=175,slow=8.9,SNR=13								
AAK				Sn		**Sn**	**02 02 12.1**	**+0.2**	
	comp=Z,1.4nm,0.3s,baz=28,slow=8.2,SNR=1.9								
AAK				LR	LR		02 04 00.0		
	comp=Z,199nm,19.1s,baz=227,slow=40								
KBK	**Karagaybulak**	**8.04**	**10**	*i* P		Pn	02 00 47.3	+3.6	
KBK	**Karagaybulak**	**8.04**	**10**	P		Pn	02 00 47.3	+3.6	
	SNR=12								
FRU	**Bishkek**	**8.17**	**8**	*e*P		**Pn**	**02 00 48.0**	**+2.6**	
FRU				pmax	pmax				
	comp=Z,26nm,1.8s								
AJM	**Ajmer**	**8.34**	**170**	*i* P		**Pn**	**02 00 48.0**	**+0.1**	
AJM				*i* S		**Sn**	**02 02 18.0**	**-3.3**	
TKM2	**Tokmak 2**	**8.40**	**13**	⇓P		**Pn**	**02 00 51.5**	**+2.8**	
	comp=Z,8.8nm,0.4s								
TKM2				⇓S		**Sn**	**02 02 22.2**	**-0.6**	
	comp=Z,5.5nm,0.6s								
TKM2	**Tokmak 2**	**8.40**	**13**	P		**Pn**	**02 00 51.0**	**+2.3**	
TKM2				pmax	pmax				
	comp=Z,9.0nm,0.4s								
TKM2	**Tokmak 2**	**8.40**	**13**	P		Pn	02 00 52.3	+3.6	
	SNR=8.0								
KK31	**Karatay Array**	**8.59**	**347**	⇓P		**Pn**	**02 00 53.4**	**+2.3**	
	comp=Z,24nm,0.4s,baz=165,slow=13,SNR=399								
KK31				S		**Sn**	**02 02 28.3**	**+1.1**	
	comp=Z,7.4nm,0.4s,baz=172,slow=21,SNR=7.0								
KK31	**Karatay Array**	**8.59**	**347**	*i* P		**Pn**	**02 00 53.4**	**+2.3**	
KK31				pmax	pmax				
	comp=Z,44nm,0.3s								
KKAR	**Karatay Array**	**8.59**	**347**	*e*P		**Pn**	**02 00 53.5**	**+2.4**	
KKAR				*e*S		**Sn**	**02 02 26.2**	**-1.0**	
KKAR	**Karatay Array**	**8.59**	**347**	*e*Pn		**Pn**	**02 00 53.5**	**+2.4**	
KKAR				*e*S		**Sn**	**02 02 26.2**	**-1.0**	
PYUN	**Piuthan**	**10.73**	**125**	*e*P		**Pn**	**02 01 18.8**	**-2.0**	
	comp=Z,67nm,0.3s								
DANN	**Dangsing**	**11.10**	**122**	*e*P		**Pn**	**02 01 24.2**	**-1.7**	
	comp=Z,71nm,0.3s								
KOLN	**Koldanda**	**11.36**	**125**	*e*P		**Pn**	**02 01 27.9**	**-1.4**	
	comp=Z,62nm,0.4s								
BHJ	**Bhuj**	**11.83**	**196**	*e*S		Sn	02 03 39.3	-7.6	
BHPL	**Bhopal**	**12.07**	**161**	*e*P		**Pn**	**02 01 38.1**	**-0.8**	
BHPL				*e*S		Sn	02 03 45.0	-7.7	
BHPL				AML	AML		02 03 49.4		
	comp=E,47nm,0.3s								
BHPL				AML	AML		02 03 49.7		
	comp=N,33nm,0.3s								
DMN	**Daman**	**12.50**	**121**	*e*P		**Pn**	**02 01 42.5**	**-2.4**	
	comp=N,59nm,0.4s								
KKN	**Kakani**	**12.51**	**120**	*e*P		**Pn**	**02 01 42.6**	**-2.5**	
	comp=N,38nm,0.4s								
PKI	**Pulchoki**	**12.73**	**121**	*e*P		Pn	02 01 45.5	-2.7	
	comp=N,56nm,0.3s								
GUN	**Gumba**	**12.87**	**118**	*e*P		**Pn**	**02 01 47.6**	**-2.5**	
	comp=N,52nm,0.3s								
JBP	**Jabalpur**	**13.01**	**151**	⇑*i* P		**Pn**	**02 01 51.1**	**-0.6**	
JBP				*e*S		Sn	02 04 06.8	-8.8	
JIRN	**Jiri**	**13.24**	**119**	*e*P		**Pn**	**02 01 52.6**	**-2.6**	
	comp=N,97nm,0.3s								
MK31	**Makanchi Array**	**13.90**	**27**	⇓P		**Pn**	**02 02 04.1**	**+0.4**	
	comp=N,1.3nm,0.4s,baz=191,slow=11,SNR=34								
MK31	**Makanchi Array**	**13.90**	**27**	*ce*P		**Pn**	**02 02 03.6**	**-0.1**	
MK31				pmax	pmax				
	comp=Z,2.0nm,0.3s								
MK31	**Makanchi Array**	**13.90**	**27**	*e*Pn		**Pn**	**02 02 04.7**	**+1.0**	
MKAR	**Makanchi Array**	**13.90**	**27**	P		**Pn**	**02 02 03.8**	**+0.1**	
MKAR				MLR	MLR				
	comp=Z,53nm,21.7s								
MKAR	**Makanchi Array**	**13.90**	**27**	Pn		**Pn**	**02 02 03.8**	**+0.1**	
MKAR	**Makanchi Array**	**13.90**	**27**	Pn		**Pn**	**02 02 03.8**	**+0.1**	
	comp=Z,0.4nm,0.3s,baz=201,slow=14,SNR=15								
MKAR				LR		LR	02 08 17.9		
	comp=Z,52nm,21.7s,baz=159,slow=41								
RAMN	**Ramite**	**13.95**	**120**	*e*P		Pn	02 02 01.5	-3.3	
	comp=Z,84nm,0.4s								
WMQ	**Urumqi**	**14.48**	**47**	P		**Pn**	**02 02 10.6**	**-1.1**	
TAPN	**Taplejung**	**14.52**	**117**	*e*P		Pn	02 02 09.0	-3.7	
	comp=Z,36nm,0.3s								
ODAN	**Odare**	**14.57**	**119**	*e*P		Pn	02 02 09.3	-4.0	
	comp=Z,27nm,0.4s								
KURBB	**Kurchatov Arra**	**16.36**	**12**	⇑P		**Pn**	**02 02 33.9**	**-2.3**	
	comp=Z,6.5nm,0.7s								
KURBB	**Kurchatov Arra**	**16.36**	**12**	Pn		**Pn**	**02 02 33.6**	**-2.6**	
	comp=Z,0.1nm,0.3s,baz=202,slow=11,SNR=14								
KURBB				Lg		Lg	02 07 28.9		
	comp=Z,0.0nm,0.3s,baz=204,slow=32,SNR=3.6								
KURK	**Kurchatov**	**16.46**	**12**	P		**Pn**	**02 02 33.7**	**-3.9**	
KURK	**Kurchatov**	**16.46**	**12**	Pn		**Pn**	**02 02 33.6**	**-3.9**	
KURK				Lg		Lg	02 07 28.9		
AB31	**Akbulak array**	**17.45**	**330**	P		**Pn**	**02 02 48.3**	**-1.7**	
	comp=Z,1.8nm,0.5s,baz=140,slow=13,SNR=54								
AB31	**Akbulak array**	**17.45**	**330**	*e*P		**Pn**	**02 02 48.3**	**-1.7**	
AB31				pmax	pmax				
	comp=Z,3.0nm,0.4s								
ABKAR	**Akbulak array**	**17.45**	**330**	*e*Pn		**Pn**	**02 02 48.1**	**-1.9**	
VOSK	**Vostochnaya**	**18.04**	**356**	⇓P		**Pn**	**02 02 56.3**	**-1.0**	
	comp=Z,5.2nm,0.5s								
BVA0	**Borovoye Array**	**18.38**	**355**	P		**Pn**	**02 03 02.0**	**+0.6**	
	comp=Z,13nm,0.5s,baz=157,slow=9.5,SNR=60								
BVA0	**Borovoye Array**	**18.38**	**355**	*i* P		**Pn**	**02 03 02.0**	**+0.6**	
BVA0				pmax	pmax				
	comp=Z,13nm,0.5s								
BVAR	**Borovoye Array**	**18.38**	**355**	P		**P**	**02 03 00.2**	**-1.1**	
BVAR				pmax	pmax				
	comp=Z,7.0nm,0.3s								
BVAR				MLR	MLR				
	comp=Z,140nm,19.1s								
BVAR	**Borovoye Array**	**18.38**	**355**	P		**P**	**02 03 00.2**	**-1.1**	
BVAR	**Borovoye Array**	**18.38**	**355**	P		**P**	**02 03 00.2**	**-1.1**	
	comp=Z,7.2nm,0.3s,baz=154,slow=9.2,SNR=84								
BVAR				LR		LR	02 10 21.9		
	comp=Z,140nm,19.1s,baz=112,slow=38								
BRVK	**Borovoye**	**18.42**	**355**	*c i* P		**Pn**	**02 03 02.3**	**+0.4**	
BRVK				pmax	pmax				
	comp=Z,20nm,0.7s								
BRVK	**Borovoye**	**18.42**	**355**	*e*Pn		Pn	**02 03 02.6**	**+0.7**	
	comp=Z,19nm,0.6s								
AKTO	**Aktyubinsk**	**19.16**	**330**	⇓P		**Pn**	**02 03 10.7**	**-0.1**	
	comp=Z,23nm,0.8s								
AKTO	**Aktyubinsk**	**19.16**	**330**	P		**Pn**	**02 03 10.7**	**-0.1**	
AKTO				S		Sn	02 06 36.6	-8.0	
AKTO				pmax	pmax				
	comp=Z,3.0nm,0.3s								
AKTO	**Aktyubinsk**	**19.16**	**330**	P		**Pn**	**02 03 10.7**	**-0.1**	
AKTO				S		Sn	02 06 36.6	-8.0	
AKTO	**Aktyubinsk**	**19.16**	**330**	P		**Pn**	**02 03 10.7**	**-0.1**	
	comp=Z,2.6nm,0.3s,baz=132,slow=11,SNR=61								
AKTO				S		Sn	02 06 36.6	-8.0	
	comp=Z,0.2nm,0.3s,baz=8.7,slow=3.7,SNR=1.2								
ZALV	**Zalesovo Beam**	**20.90**	**20**	P		**P**	**02 03 28.1**	**-0.7**	
ZALV				pmax	pmax				
	comp=Z,10.0nm,0.4s								
ZALV				MLR	MLR				
	comp=Z,80nm,19.7s								
ZALV	**Zalesovo Beam**	**20.90**	**20**	P		**P**	**02 03 28.1**	**-0.7**	
ZALV	**Zalesovo Beam**	**20.90**	**20**	P		**P**	**02 03 28.1**	**-0.7**	
	comp=Z,10nm,0.4s,baz=212,slow=10,SNR=40								
ZALV				LR	LR		02 12 09.6		
	comp=Z,80nm,19.6s,baz=340,slow=38								
GTA	**Gaotai**	**21.79**	**70**	*e*P		**P**	**02 03 38.9**	**+0.3**	
GTA				pP		**pP**	**02 03 44.6**	**-0.8**	
GTA				sP		**sP**	**02 03 47.9**	**-0.7**	
GTA				pmax	pmax				
	comp=Z,4.0nm,1.2s								
HVS	**Khovu-Aksy**	**22.15**	**36**	*e*P		**P**	**02 03 42.5**	**+0.1**	
HVS				pmax	pmax				
	comp=Z,27nm,1.7s								
GNI	**Garni**	**23.10**	**292**	P		**P**	**02 03 55.6**	**+3.1**	
GNI	**Garni**	**23.10**	**292**	P		**P**	**02 03 55.6**	**+3.1**	
	comp=Z,1.4nm,0.3s,baz=34,slow=11,SNR=2.7								
ARU	**Arti**	**23.86**	**340**	*c i* P		**P**	**02 04 00.4**	**+0.8**	
ARU							02 04 32.4		
ARU				S		S	02 07 59.1	-15	
ARU				pmax	pmax				
	comp=Z,14nm,0.8s								
ZAK	**Zakamensk**	**26.93**	**45**	*e*P		**P**	**02 04 28.0**	**+0.2**	
ZAK				pmax	pmax				
	comp=Z,1.0nm,0.9s								
SONM	**Songino Array**	**28.00**	**52**	P		**P**	**02 04 38.2**	**+0.9**	
SONM	**Songino Array**	**28.00**	**52**	P		**P**	**02 04 38.2**	**+0.9**	
	comp=Z,0.7nm,0.7s,baz=252,slow=9.7,SNR=4.5								
SONM				LR	LR		02 17 36.3		
	comp=Z,94nm,20.3s,baz=1.2,slow=40								
CMAR	**Chiang Mai Arr**	**28.12**	**119**	P		**P**	**02 04 40.0**	**+1.5**	
CMAR	**Chiang Mai Arr**	**28.12**	**119**	P		**P**	**02 04 40.0**	**+1.5**	
	comp=Z,0.7nm,0.3s,baz=300,slow=7.2,SNR=4.8								
BRTR	**Keskin Array B**	**31.62**	**291**	P		**P**	**02 05 10.3**	**+0.7**	
BRTR	**Keskin Array B**	**31.62**	**291**	P		**P**	**02 05 10.3**	**+0.7**	
	comp=Z,0.4nm,0.8s,baz=38,slow=15,SNR=2.3								
JOF	**Joensuu**	**38.24**	**330**	*e*P		**P**	**02 06 06.9**	**+0.8**	
JOF				pmax	pmax				
	comp=Z,6.0nm,0.6s								
LVZ	**Lovozero**	**39.72**	**338**	*e*P		**P**	**02 06 19.5**	**+1.0**	
LVZ				pmax	pmax				
	comp=Z,9.0nm,1.2s								
FINES	**FINESS Array B**	**39.89**	**327**	P		**P**	**02 06 19.5**	**-0.4**	
FINES	**FINESS Array B**	**39.89**	**327**	P		**P**	**02 06 19.5**	**-0.4**	
	comp=Z,1.4nm,0.6s,baz=120,slow=9.6,SNR=8.8								
KAF	**Kangasniemi**	**40.02**	**328**	*e*P		P	02 06 26.5	+5.5	
KAF				pmax	pmax				
	comp=Z,1.0nm,0.7s								
KEV	**Kevo**	**43.06**	**338**	P		**P**	**02 06 46.5**	**+0.7**	
KEV				pmax	pmax				
	comp=Z,4.0nm,0.7s								
KEV	**Kevo**	**43.06**	**338**	P		**P**	**02 06 46.5**	**+0.7**	
	comp=Z,3.7nm,0.7s								
ARCES	**ARCESS Array B**	**43.42**	**338**	P		**P**	**02 06 49.4**	**+0.7**	
ARCES	**ARCESS Array B**	**43.42**	**338**	P		**P**	**02 06 49.4**	**+0.7**	
	comp=Z,5.6nm,0.7s,baz=112,slow=8.3,SNR=45								
ARCES				LR	LR		02 26 03.2		
	comp=Z,136nm,18.3s,baz=7.2,slow=38								
ARE0	**ARCESS Array S**	**43.42**	**338**	*e*P		**P**	**02 06 49.1**	**+0.4**	
USRK	**Ussuriysk Arra**	**45.57**	**60**	LR		LR	02 28 28.3		
	comp=Z,72nm,21.3s,baz=217,slow=39								
TIXI	**Tiksi**	**46.78**	**21**	*e*P		**P**	**02 07 15.5**	**+0.2**	
TIXI				pmax	pmax				
	comp=Z,3.0nm,1.1s								
NB2	**NORSAR Subarra**	**46.81**	**324**	P		**P**	**02 07 16.1**	**+0.3**	
	comp=Z,1.5nm,0.7s,baz=97,slow=7.9								
NOA	**NORSAR Array B**	**46.81**	**324**	P		**P**	**02 07 15.9**	**+0.2**	
NOA	**NORSAR Array B**	**46.81**	**324**	P		**P**	**02 07 15.9**	**+0.2**	
	comp=Z,1.1nm,0.7s,baz=96,slow=7.7,SNR=8.0								
NOA				LR	LR		02 28 02.6		
	comp=Z,22nm,19.8s,baz=90,slow=38								
KEST	**Kesra**	**51.23**	**291**	P		**P**	**02 07 51.6**	**+1.5**	
KEST	**Kesra**	**51.23**	**291**	P		**P**	**02 07 51.6**	**+1.5**	
	comp=Z,0.4nm,0.7s,baz=0.0,slow=3.0,SNR=5.5								
MJAR	**Matsushiro Arr**	**52.02**	**68**	P		**P**	**02 07 56.0**	**+0.1**	
MJAR	**Matsushiro Arr**	**52.02**	**68**	P		**P**	**02 07 56.0**	**+0.1**	
	comp=Z,0.9nm,0.4s,baz=288,slow=9.7,SNR=3.7								
ESDC	**Sonseca Array**	**59.80**	**300**	P		**P**	**02 08 49.6**	**-2.0**	
ESDC	**Sonseca Array**	**59.80**	**300**	P		**P**	**02 08 49.6**	**-2.0**	
	comp=Z,0.1nm,0.4s,baz=54,slow=6.7,SNR=3.7								
TORD	**Torodi Ar. Bea**	**67.41**	**271**	P		**P**	**02 09 41.6**	**-0.6**	
TORD	**Torodi Ar. Bea**	**67.41**	**271**	P		**P**	**02 09 41.6**	**-0.6**	
	comp=Z,1.0nm,0.5s,baz=45,slow=5.4,SNR=19								
FITZ	**Fitzroy Crossi**	**72.47**	**128**	P		**P**	**02 10 14.2**	**+1.2**	
FITZ	**Fitzroy Crossi**	**72.47**	**128**	P		**P**	**02 10 14.2**	**+1.2**	
	comp=Z,2.4nm,1.0s,baz=338,slow=5.4,SNR=2.4								
ILAR	**Eielson Array**	**75.99**	**16**	P		**P**	**02 10 32.5**	**-0.5**	
ILAR	**Eielson Array**	**75.99**	**16**	P		**P**	**02 10 32.5**	**-0.5**	
	comp=Z,0.2nm,0.3s,baz=309,slow=4.8,SNR=5.5								
BOSA	**Boshof**	**77.54**	**222**	P		**P**	**02 10 42.6**	**+0.4**	
BOSA	**Boshof**	**77.54**	**222**	P		**P**	**02 10 42.6**	**+0.4**	
	comp=Z,1.3nm,0.6s,baz=67,slow=2.3,SNR=4.0								
WRA	**Warramunga Arr**	**79.61**	**123**	P		**P**	**02 10 53.4**	**-0.4**	
WRA	**Warramunga Arr**	**79.61**	**123**	P		**P**	**02 10 53.4**	**-0.4**	
	comp=Z,0.5nm,0.4s,baz=323,slow=4.8,SNR=20								
ASAR	**Alice Springs**	**81.85**	**126**	P		**P**	**02 11 05.7**	**0.0**	
ASAR	**Alice Springs**	**81.85**	**126**	P		**P**	**02 11 05.7**	**0.0**	
	comp=Z,0.6nm,0.6s,baz=306,slow=5.3,SNR=6.4								
YKA	**Yellowknife Ar**	**82.91**	**4**	P		**P**	**02 11 10.0**	**-0.6**	
YKA	**Yellowknife Ar**	**82.91**	**4**	P		**P**	**02 11 10.0**	**-0.6**	
	comp=Z,0.7nm,0.4s,baz=347,slow=5.5,SNR=9.2								

IDC ***13*** *02:11:37.1±7.0, 18°.31S×167°.65E, h73km±63km, mb3.3/3, mb1 3.5/4, mb1mx3.3/16, mbtmp3.3/4, ML3.1/1, MS3.4/4, Ms1 3.4/4, ms1mx3.1/15, Error ellipse: s-maj=54.3km s-min=43.6km az=159.0*

ISC 13 02:11:31.8±1.7, 18°.02S±0°.09×167°.6E±0°.3, h25km, n13, σ1§27/12, mb3.7/3, MS3.3/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.17**	**189**	*e*S	**Sn**	**02 13 21.0**	**-0.8**
DZM	**Mont Dzumac**	**4.18**	**195**	*e*Pn	**Pn**	**02 12 35.7**	**+1.6**
	13nm,0.3s						
DZM				*e*Sn	**Sn**	**02 13 21.7**	**-0.4**
	25nm,0.3s						
DZM	**Mont Dzumac**	**4.18**	**195**	P	**Pn**	**02 12 35.1**	**+1.0**
	1.3nm,0.3s,baz=90,slow=24,SNR=12						
DZM				S	**Sn**	**02 13 19.8**	**-2.3**
	10nm,0.3s,baz=270,slow=24,SNR=3.2						
DZM				LR	LR	02 13 21.7	
	comp=Z,405nm,20.7s,baz=180,slow=27						
NOUC	**Port Laguerre**	**4.24**	**196**	*e*S	**Sn**	**02 13 24.1**	**+0.5**
STKA	**Stephens Creek**	**27.22**	**235**	LR	LR	02 26 57.2	
	comp=Z,89nm,21.0s,baz=27,slow=34						
WRA	**Warramunga Arr**	**31.47**	**261**	P	**P**	**02 17 51.0**	**-0.7**
	0.7nm,0.9s,baz=93,slow=8.0,SNR=3.7						
WRA				LR	LR	02 30 05.2	
	comp=Z,60nm,19.2s,baz=95,slow=35						
ASAR	**Alice Springs**	**31.93**	**254**	P	**P**	**02 17 56.1**	**+0.3**
	0.9nm,0.6s,baz=81,slow=8.5,SNR=8.4						
FITZ	**Fitzroy Crossi**	**39.82**	**263**	LR	LR	02 34 13.3	
	comp=Z,76nm,20.6s,baz=98,slow=34						
PPT2	**Papeete2**	**40.72**	**96**	*e*LR	LR	02 30 27.1	
	48nm,24.0s						
SONM	**Songino Array**	**85.31**	**324**	P	**P**	**02 24 07.8**	**+1.1**
	0.4nm,0.8s,baz=140,slow=4.9,SNR=3.4						
ARCES	**ARCESS Array B**	**123.49**	**345**	PKP	**PKPdf**	**02 30 24.9**	**-1.4**
	0.7nm,0.6s,baz=89,slow=1.2,SNR=14						
DAVOX	**Davos/Dischmat**	**145.93**	**332**	PKPbc	**PKPbc**	**02 31 08.9**	**-0.6**
	baz=219,slow=7.2						
TORD	**Torodi Ar. Bea**	**165.58**	**252**	PKPab	**PKPab**	**02 32 33.4**	**-0.5**
	0.3nm,0.9s,baz=101,slow=2.9,SNR=3.0						

GUC 13 02:17:29.7±0.9, 34°.99S×72°.48W, h37km±3km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTCH	**Constitucion**	**0.34**	**171**	*e*P	Pn	02 17 37.8	-0.2
CTCH				*e*S	Sn	02 17 44.8	-0.1
CTCH				AML	AML	02 17 50.4	
	comp=E,11µm,0.7s						
TALC	**Talca**	**0.80**	**121**	*e*P	Pn	02 17 44.9	+0.5
TALC				*e*S	Sn	02 17 55.7	+0.6
TALC				AML	AML	02 18 04.4	
	comp=E,5µm,0.4s						
COCH	**Cobquecura**	**1.16**	**193**	*e*P	Pn	02 17 50.2	+0.8
COCH				*e*S	Sn	02 18 05.7	+1.6
CCHI	**Chillan**	**1.64**	**169**	*e*P	Pn	02 17 56.8	+0.9
CCHI				*e*S	Sn	02 18 18.6	+2.8
CCHI				AML	AML	02 18 28.9	
	comp=E,561nm,0.5s						
CACH	**El Canelo**	**1.78**	**61**	*e*P	Pn	02 17 59.9	+1.8
CHCH	**Chadas Angostu**	**1.84**	**55**	*e*P	Pn	02 18 00.1	+1.3
LMEL	**Las Melosas**	**2.20**	**59**	*e*P	Pn	02 18 05.6	+1.7
LMEL				*e*S	Sn	02 18 35.1	+5.2
LMEL				AML	AML	02 18 42.3	
	comp=N,510nm,0.6s						
CLCH	**Cerro Calan**	**2.26**	**46**	*e*P	Pn	02 18 05.2	+0.5
CLCH				AML	AML	02 18 51.6	
	comp=E,610nm,0.8s						
ROCH	**El Roble**	**2.35**	**32**	*e*P	Pn	02 18 06.1	0.0
ROCH				*e*S	Sn	02 18 35.2	+1.3
ROCH				AML	AML	02 18 47.5	
	comp=N,339nm,0.6s						
PEL	**Peldehue**	**2.37**	**39**	*e*P	Pn	02 18 07.4	+1.4
PEL				AML	AML	02 18 50.9	
	comp=E,550nm,0.5s						

IDC 13 02:18:20.0±1.4, 2°.65N×94°.67E, h0km, mb4.0/9, mb1 4.0/11, mb1mx3.8/28, mbtmp3.9/11, ML4.3/1, MS3.0/1, Ms1 3.2/1, ms1mx2.4/39, Error ellipse: s-maj=48.2km s-min=19.2km az=51.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.25**	**88**	Pn	Pn	02 19 24.2	-2.0
	0.1nm,0.3s,baz=262,slow=15,SNR=2.5						
PSI				Sn	Sb	02 20 25.1	-2.7
	0.6nm,0.3s,baz=169,slow=23,SNR=1.8						
CMAR	**Chiang Mai Arr**	**16.26**	**15**	Pn	Pn	02 22 07.9	-2.0
	0.4nm,0.3s,baz=205,slow=7.8,SNR=3.0						
CMAR				LR	LR	02 29 14.9	
	comp=Z,52nm,18.1s,baz=205,slow=40						
WRA	**Warramunga Arr**	**44.94**	**122**	P	P	02 26 37.4	+0.2
	0.8nm,1.0s,baz=351,slow=31,SNR=6.3						
MKAR	**Makanchi Array**	**45.27**	**348**	P	P	02 26 39.3	-0.1
	2.2nm,0.5s,baz=168,slow=8.5,SNR=41						
SONM	**Songino Array**	**46.14**	**11**	P	P	02 26 46.8	+0.4
	1.1nm,0.5s,baz=188,slow=9.0,SNR=9.1						
SONM				PcP	PcP	02 28 22.9	+0.4
	0.2nm,0.4s,baz=186,slow=5.2,SNR=2.6						
ASAR	**Alice Springs**	**46.28**	**127**	P	P	02 26 47.9	+0.1
	0.4nm,0.7s,baz=300,slow=7.4,SNR=3.6						
KURBB	**Kurchatov Arra**	**49.72**	**347**	P	P	02 27 14.4	+0.6
	1.7nm,0.7s,baz=169,slow=7.1,SNR=16						
ZALV	**Zalesovo Beam**	**51.77**	**353**	P	P	02 27 29.8	+0.5
	2.9nm,0.4s,baz=178,slow=7.2,SNR=14						
BVAR	**Borovoye Array**	**54.09**	**342**	P	P	02 27 45.9	-0.5
	1.1nm,0.6s,baz=142,slow=7.4,SNR=8.3						
FINES	**FINESS Array B**	**77.56**	**33**	P	P	02 30 16.5	-1.1
	1.0nm,0.9s,baz=104,slow=17,SNR=3.1						
GERES	**GERESS Array B**	**82.07**	**319**	P	P	02 30 41.9	-0.6
	0.1nm,0.3s,baz=139,slow=4.7,SNR=3.8						
TXAR	**Lajitas Array**	**143.67**	**28**	PKP	PKPbc	02 37 56.3	+1.0
	0.1nm,0.5s,baz=229,slow=1.9,S

KLV	**Kalavryta, Ach**	**1.52**	**30**	*e*Pg		**Pb**	**02 34 01.7**	**+0.2**
KLV				*e*Sb		**Sg**	**02 34 24.3**	**+1.7**
VLS	**Valsamata**	**1.53**	**342**	P		**Pb**	**02 34 01.1**	**-0.5**
VLS				S		**Sg**	**02 34 24.4**	**+1.7**
VLS	**Valsamata**	**1.53**	**342**	*e*PB		**Pb**	**02 34 01.1**	**-0.5**
VLS				*e*SB		**Sg**	**02 34 23.8**	**+1.1**
VLS	**Valsamata**	**1.53**	**342**	P		**Pb**	**02 34 01.1**	**-0.5**
VLS				*e*Sb		**Sg**	**02 34 23.8**	**+1.1**
VLS				S		**Sg**	**02 34 24.4**	**+1.7**
KYTH	**Kithira**	**1.55**	**106**	P		**Pg**	**02 34 02.3**	**-1.0**
KYTH	**Kithira**	**1.55**	**106**	*e*PB		**Pb**	**02 34 02.0**	**0.0**
KYTH	**Kithira**	**1.55**	**106**	*e*Pb		**Pb**	**02 34 02.0**	**0.0**
LAKA	**Lakka**	**1.64**	**22**	P		**Pb**	**02 34 03.9**	**+0.5**
LAKA				S		**Sg**	**02 34 26.5**	**+0.2**
LAKA	**Lakka**	**1.64**	**22**	*e*PG		**Pg**	**02 34 04.0**	**+0.5**
LAKA	**Lakka**	**1.64**	**22**	P		**Pb**	**02 34 03.9**	**+0.5**
LAKA				S		**Sg**	**02 34 26.5**	**+0.2**
THAL	**Thalero**	**1.76**	**41**	P		**Pb**	**02 34 05.7**	**+0.2**
THAL	**Thalero**	**1.76**	**41**	P		**Pb**	**02 34 05.7**	**+0.2**
DIDY	**Didyma**	**1.78**	**64**	P		**Pn**	**02 34 04.7**	**+0.8**
DIDY	**Didyma**	**1.78**	**64**	P		**Pn**	**02 34 04.7**	**+0.8**
TRIZ	**Trizonia**	**1.78**	**23**	P		**Pb**	**02 34 06.0**	**+0.1**
TRIZ	**Trizonia**	**1.78**	**23**	*e*PN		**Pb**	**02 34 05.6**	**-0.3**
TRIZ				*e*SN		**Sg**	**02 34 31.4**	**+0.5**
TRIZ	**Trizonia**	**1.78**	**23**	*e*Pn		**Pb**	**02 34 05.6**	**-0.3**
TRIZ	**Trizonia**	**1.78**	**23**	P		**Pb**	**02 34 06.0**	**+0.1**
TRIZ				*e*Sn		**Sg**	**02 34 31.4**	**+0.5**
EFP	**Efpalio**	**1.79**	**18**	*e*PG		**Pb**	**02 34 06.2**	**+0.1**
EFP	**Efpalio**	**1.79**	**18**	*e*Pg		**Pb**	**02 34 06.2**	**+0.1**
DID	**Didima**	**1.81**	**64**	P		**Pb**	**02 34 05.2**	**-1.2**
DID				S		**Sg**	**02 34 30.4**	**-1.5**
DID	**Didima**	**1.81**	**64**	*e*PN		**Pb**	**02 34 05.2**	**-1.2**
DID				*e*SN		**Sg**	**02 34 31.8**	**-0.1**
DID	**Didima**	**1.81**	**64**	P		**Pb**	**02 34 05.2**	**-1.2**
DID				S		**Sg**	**02 34 30.4**	**-1.5**
DID				*e*Sn		**Sg**	**02 34 31.8**	**-0.1**
KALE	**Kalithea**	**1.83**	**24**	P		**Pb**	**02 34 06.8**	**+0.1**
KALE	**Kalithea**	**1.83**	**24**	*e*PN		**Pb**	**02 34 06.2**	**-0.5**
KALE				*e*SN		**Sg**	**02 34 31.6**	**-0.7**
KALE	**Kalithea**	**1.83**	**24**	*e*Pn		**Pb**	**02 34 06.2**	**-0.5**
KALE	**Kalithea**	**1.83**	**24**	P		**Pb**	**02 34 06.8**	**+0.1**
KALE				*e*Sn		**Sg**	**02 34 31.6**	**-0.7**
LTK	**Loutraki**	**1.92**	**47**	P		**Pb**	**02 34 07.1**	**-1.2**
LTK	**Loutraki**	**1.92**	**47**	*e*PN		**Pb**	**02 34 07.2**	**-1.1**
LTK				*e*SN		**Sg**	**02 34 34.1**	**-1.2**
LTK	**Loutraki**	**1.92**	**47**	*e*Pn		**Pb**	**02 34 07.2**	**-1.1**
LTK				*e*Sn		**Sg**	**02 34 34.1**	**-1.2**
DSF	**Desfina**	**1.99**	**32**	P		**Pb**	**02 34 08.6**	**-0.9**
DSF	**Desfina**	**1.99**	**32**	P		**Pb**	**02 34 08.6**	**-0.9**
LKD2	**Lefkada island**	**2.10**	**349**	*e*PN		**Pb**	**02 34 09.9**	**+1.6**
LKD2	**Lefkada island**	**2.10**	**349**	*e*Pn		**Pb**	**02 34 09.9**	**+1.6**
NAIG	**Nisos Aigina**	**2.11**	**60**	*e*PN		**Pb**	**02 34 10.9**	**-0.5**
NAIG	**Nisos Aigina**	**2.11**	**60**	*e*Pn		**Pb**	**02 34 10.9**	**-0.5**
EVR	**Evrytania**	**2.24**	**12**	P		**Pb**	**02 34 12.4**	**-1.4**
EVR				S		**Sb**	**02 34 40.5**	**-1.0**
EVR	**Evrytania**	**2.24**	**12**	*e*PN		**Pb**	**02 34 12.3**	**-1.5**
EVR	**Evrytania**	**2.24**	**12**	*e*Pn		**Pb**	**02 34 12.3**	**-1.5**
EVR				S		**Sb**	**02 34 40.5**	**-1.0**
AXAR	**Agios Charalam**	**2.35**	**29**	P		**Pb**	**02 34 13.7**	**-1.9**
AXAR	**Agios Charalam**	**2.35**	**29**	P		**Pb**	**02 34 13.7**	**-1.9**
ATH	**Athens Observa**	**2.37**	**57**	*e*PN		**Pb**	**02 34 14.3**	**-1.6**
ATH				*e*SN		**Sb**	**02 34 44.5**	**-0.4**
ATH	**Athens Observa**	**2.37**	**57**	*e*Pn		**Pb**	**02 34 14.3**	**-1.6**
ATH				*e*Sn		**Sb**	**02 34 44.5**	**-0.4**
LKR	**Lokris**	**2.40**	**36**	*e*PB		**Pn**	**02 34 13.6**	**+1.3**
LKR	**Lokris**	**2.40**	**36**	*e*Pb		**Pn**	**02 34 13.6**	**+1.3**
MAKR	**Makrakomi, Fth**	**2.40**	**18**	P		**Pb**	**02 34 14.7**	**-1.8**
MAKR	**Makrakomi, Fth**	**2.40**	**18**	P		**Pb**	**02 34 14.7**	**-1.8**
AGG	**Agios Georgios**	**2.47**	**21**	*e*PN		**Pn**	**02 34 15.2**	**+2.0**
AGG	**Agios Georgios**	**2.47**	**21**	*e*Pn		**Pn**	**02 34 15.2**	**+2.0**
PTL	**Penteli**	**2.51**	**57**	*e*PN		**Pn**	**02 34 14.9**	**+1.1**
PTL	**Penteli**	**2.51**	**57**	*e*Pn		**Pn**	**02 34 14.9**	**+1.1**
THL	**Klokotos Trika**	**2.91**	**13**	P		**Pn**	**02 34 21.3**	**+2.0**
THL	**Klokotos Trika**	**2.91**	**13**	*e*PN		**Pn**	**02 34 21.1**	**+1.8**
THL				*e*SN		**Sb**	**02 34 57.9**	**-2.6**
THL	**Klokotos Trika**	**2.91**	**13**	*e*Pn		**Pn**	**02 34 21.1**	**+1.8**
THL				*e*Sn		**Sb**	**02 34 57.9**	**-2.6**
JAN	**Janina**	**2.94**	**355**	*e*PB		**Pn**	**02 34 21.8**	**+2.0**
JAN	**Janina**	**2.94**	**355**	*e*Pb		**Pn**	**02 34 21.8**	**+2.0**
NEO	**Neokhori**	**3.04**	**31**	*e*PN		**Pn**	**02 34 22.9**	**+1.8**
NEO				*e*SN		**Sn**	**02 35 01.0**	**+3.7**
NEO	**Neokhori**	**3.04**	**31**	*e*Pn		**Pn**	**02 34 22.9**	**+1.8**
NEO				*e*Sn		**Sn**	**02 35 01.0**	**+3.7**
KEK	**Kerkira**	**3.18**	**340**	*e*PN		**Pn**	**02 34 23.8**	**+0.8**
KEK				*e*SN		**Sn**	**02 34 45.1**	**+1.8**
KEK	**Kerkira**	**3.18**	**340**	*e*Pn		**Pn**	**02 34 23.8**	**+0.8**
KEK				*e*Sn		**Sn**	**02 35 02.5**	**+1.8**
LIT	**Litokhoron**	**3.52**	**16**	*e*PN		**Pn**	**02 34 29.1**	**+1.3**
LIT	**Litokhoron**	**3.52**	**16**	*e*Pn		**Pn**	**02 34 29.1**	**+1.3**
KZN	**Kozani**	**3.61**	**7**	*e*PN		**Pn**	**02 34 30.9**	**+1.9**
KZN	**Kozani**	**3.61**	**7**	*e*Pn		**Pn**	**02 34 30.9**	**+1.9**
NEST	**Nestorio**	**3.69**	**358**	P		**Pn**	**02 34 32.5**	**+2.4**
NEST	**Nestorio**	**3.69**	**358**	P		**Pn**	**02 34 32.5**	**+2.4**
BIA	**Bitola**	**4.29**	**1**	*e*Pn		**Pn**	**02 34 39.3**	**+0.9**
BIA				*e*Sg		**Sn**	**02 35 30.4**	**+2.1**
BIA	**Bitola**	**4.29**	**1**	*e*Pn		**Pn**	**02 34 39.2**	**+0.9**
BIA				*e*Sg		**Sn**	**02 35 30.3**	**+2.1**
BARS	**Barje**	**6.11**	**4**	*e*Pn		**Pn**	**02 35 02.7**	**-0.5**
STON	**Ston**	**6.70**	**337**	*e*Pn		**Pn**	**02 35 09.8**	**-1.6**
STON				Sn		**Sn**	**02 36 24.2**	**-3.2**
STON	**Ston**	**6.70**	**337**	*e*Pn		**Pn**	**02 35 09.7**	**-1.6**
GRUS	**Gruza**	**7.17**	**357**	*e*Pn		**Pn**	**02 35 16.6**	**-1.2**
BBLS	**Lazići**	**7.26**	**350**	*e*Pn		**Pn**	**02 35 18.1**	**-1.1**
UDBI	**Udbina**	**8.82**	**334**	*e*Pn		**Pn**	**02 35 40.5**	**0.0**
UDBI				Sn		**Sn**	**02 37 17.6**	**-2.1**
UDBI	**Udbina**	**8.82**	**334**	*e*Pn		**Pn**	**02 35 40.4**	**0.0**
NVLJ	**Novalja**	**9.18**	**330**	*e*Pn		**Pn**	**02 35 45.1**	**-0.4**
NVLJ				Sn		**Sn**	**02 37 24.2**	**-4.3**
NVLJ	**Novalja**	**9.18**	**330**	*e*Pn		**Pn**	**02 35 45.0**	**-0.4**
BOJS	**Bojanci**	**9.85**	**335**	*i* Pn		**Pn**	**02 35 54.3**	**-0.2**
BOJS				*e*Sn		**Sn**	**02 37 41.6**	**-3.1**
BOJS	**Bojanci**	**9.85**	**335**	Pn		**Pn**	**02 35 54.3**	**-0.2**
GBRS	**Gornja Briga**	**10.03**	**333**	*e*Pn		**Pn**	**02 35 57.2**	**+0.2**
BRTR	**Keskin Array B**	**10.24**	**69**	Pn		Pn	02 36 04.5	+4.4
	0.0nm,0.3s,baz=284,slow=12,SNR=2.5							
CEY	**Cerknica**	**10.34**	**333**	*e*Pn		**Pn**	**02 36 01.4**	**+0.1**
CEY				*e*Sn		**Sn**	**02 37 53.3**	**-3.7**
CEY	**Cerknica**	**10.34**	**333**	*e*Pn		**Pn**	**02 36 01.4**	**+0.1**
KECS	**Kecovo**	**11.76**	**358**	*e*PN		**Pn**	**02 36 23.4**	**+2.7**
VYHS	**Vyhne**	**11.89**	**352**	*e*PN		**Pn**	**02 36 21.1**	**-1.4**
VYHS	**Vyhne**	**11.89**	**352**	*e*Pn		**Pn**	**02 36 21.1**	**-1.4**
KOLS	**Kolonicke sedl**	**12.23**	**3**	*e*PN		Pn	02 36 31.2	+4.1
STHS	**Stebnicka Huta**	**12.69**	**0**	*e*PN		Pn	02 36 37.9	+4.5
DAVOX	**Davos/Dischmat**	**13.11**	**324**	Pn		**Pn**	**02 36 40.1**	**+0.8**
	0.1nm,0.3s,baz=150,slow=20,SNR=3.3							
DAVOX				Sn		**Sn**	**02 39 05.9**	**+1.0**
	0.2nm,0.3s,baz=305,slow=22,SNR=3.8							
GERES	**GERESS Array B**	**13.29**	**338**	Pn		**Pn**	**02 36 40.6**	**-1.1**
	0.1nm,0.3s,baz=161,slow=15,SNR=3.7							
ESDC	**Sonseca Array**	**19.97**	**286**	P		**P**	**02 38 05.9**	**+0.6**
	0.1nm,0.5s,baz=84,slow=10,SNR=3.5							
HFS	**Hagfors**	**23.92**	**351**	P		**P**	**02 38 46.6**	**0.0**
	1.3nm,0.8s,baz=139,slow=12,SNR=3.5							
FINES	**FINESS Array B**	**24.93**	**6**	P		**P**	**02 38 54.9**	**-1.0**
	0.8nm,0.5s,baz=159,slow=11,SNR=7.2							
NB2	**NORSAR Subarra**	**25.15**	**349**	P		**P**	**02 39 01.8**	**+3.9**
	comp=Z,0.4nm,0.7s,baz=155,slow=9.3							
NOA	**NORSAR Array B**	**25.15**	**349**	P		**P**	**02 38 58.5**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=160,slow=9.0,SNR=2.4							
TORD	**Torodi Ar. Bea**	**29.27**	**222**	P		**P**	**02 39 35.5**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=32,slow=8.8,SNR=4.2							
ARCES	**ARCESS Array B**	**32.95**	**3**	P		**P**	**02 40 08.5**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=193,slow=12,SNR=4.1							
ARCES				LR		LR	02 52 50.6	
	comp=Z,21nm,21.0s,baz=27,slow=35							
MKAR	**Makanchi Array**	**45.62**	**57**	P		**P**	**02 41 51.2**	**-2.0**
	comp=Z,0.3nm,0.5s,baz=276,slow=6.7,SNR=6.8							
ZALV	**Zalesovo Beam**	**46.28**	**47**	P		**P**	**02 41 55.9**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=302,slow=6.0,SNR=2.0							

*CSEM **13** 02:40:21.6±0.5,36.67N×21.14E,h2km,ML3.0/2, Error ellipse: s-maj=9.0km s-min=5.1km az=22.0*
*ATH **13** 02:40:21.8,36.65N×21.17E,h14km±1km, MD3.5/24, ML3.1*
*THE **13** 02:40:23.5,36.76N×21.21E,h2km±2km,ML3.0/2, Error ellipse: s-maj=3.3km s-min=1.2km az=93.0*
ISC 13 02:40:21.4±1.6,36.66N±0.05×21.13E±0.04,h6km±10km, n80,σ0.99/113,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.55**	**64**	P	**Pg**	**02 40 31.6**	**-0.3**
PYL				S	**Sg**	**02 40 39.1**	**+0.1**
PYL	**PYLOS**	**0.55**	**64**	*e*PG	**Pg**	**02 40 31.6**	**-0.3**
PYL				*e*SB	**Sg**	**02 40 39.4**	**+0.4**
PYL	**PYLOS**	**0.55**	**64**	P	**Pg**	**02 40 31.6**	**-0.3**
PYL				S	**Sg**	**02 40 39.1**	**+0.1**
ITM	**Ithomi**	**0.82**	**51**	P	**Pg**	**02 40 36.7**	**-0.5**
ITM				S	**Sg**	**02 40 48.0**	**+0.1**
ITM	**Ithomi**	**0.82**	**51**	*e*PG	**Pg**	**02 40 36.7**	**-0.5**
ITM				*e*SB	**Sb**	**02 40 48.4**	**-1.0**
ITM	**Ithomi**	**0.82**	**51**	P	**Pg**	**02 40 36.7**	**-0.5**
ITM				S	**Sg**	**02 40 48.0**	**+0.1**
DYR	**Agios Nikonas**	**0.97**	**83**	P	**Pg**	**02 40 39.6**	**-0.5**
DYR				S	**Sb**	**02 40 53.8**	**+0.1**
DYR	**Agios Nikonas**	**0.97**	**83**	*e*PB	**Pg**	**02 40 39.8**	**-0.3**
DYR				*e*SB	**Sb**	**02 40 53.2**	**-0.5**
DYR	**Agios Nikonas**	**0.97**	**83**	*e*Pb	**Pg**	**02 40 39.8**	**-0.3**
DYR				*e*Sb	**Sb**	**02 40 53.2**	**-0.5**
AMT	**Artemida-Makis**	**0.99**	**28**	P	**Pg**	**02 40 39.5**	**-0.9**
AMT				S	**Sg**	**02 40 52.8**	**-0.4**
AMT	**Artemida-Makis**	**0.99**	**28**	*e*PG	**Pg**	**02 40 40.1**	**-0.3**
AMT				*e*SB	**Sb**	**02 40 54.9**	**+0.7**
AMT	**Artemida-Makis**	**0.99**	**28**	P	**Pg**	**02 40 39.5**	**-0.9**
AMT	**Artemida-Makis**	**0.99**	**28**	*e*Pg	**Pg**	**02 40 40.1**	**-0.3**
AMT				S	**Sg**	**02 40 52.8**	**-0.4**
AMT				*e*Sb	**Sb**	**02 40 54.9**	**+0.7**
VLX	**Vlachokerasia**	**1.23**	**54**	P	**Pg**	**02 40 44.3**	**-0.6**
VLX				S	**Sg**	**02 41 00.5**	**-0.4**
VLX	**Vlachokerasia**	**1.23**	**54**	*e*PB	**Pg**	**02 40 44.6**	**-0.3**
VLX				*e*SB	**Sg**	**02 41 00.5**	**-0.4**
VLX	**Vlachokerasia**	**1.23**	**54**	P	**Pg**	**02 40 44.3**	**-0.6**
VLX	**Vlachokerasia**	**1.23**	**54**	*e*Pb	**Pg**	**02 40 44.6**	**-0.3**
VLX				S	**Sg**	**02 41 00.5**	**-0.4**
RLS	**Riolos of Patr**	**1.42**	**11**	P	**Pn**	**02 40 47.9**	**+0.2**
RLS				S	**Sn**	**02 41 07.3**	**+0.6**
RLS	**Riolos of Patr**	**1.42**	**11**	*e*PB	**Pg**	**02 40 49.2**	**+0.5**
RLS				*e*SB	**Sn**	**02 41 08.2**	**+1.5**
RLS	**Riolos of Patr**	**1.42**	**11**	P	**Pn**	**02 40 47.9**	**+0.2**
RLS	**Riolos of Patr**	**1.42**	**11**	*e*Pb	**Pg**	**02 40 49.2**	**+0.5**
RLS				S	**Sn**	**02 41 07.3**	**+0.6**
RLS				*e*Sb	**Sn**	**02 41 08.2**	**+1.5**
VLI	**Veliai**	**1.45**	**87**	*e*PB	**Pg**	**02 40 49.3**	**0.0**
VLI				*e*SB	**Sn**	**02 41 08.2**	**+0.7**
VLI	**Veliai**	**1.45**	**87**	*e*Pb	**Pg**	**02 40 49.3**	**0.0**
VLI				*e*Sb	**Sn**	**02 41 08.2**	**+0.7**
AXS	**Araxos**	**1.55**	**7**	P	**Pn**	**02 40 50.0**	**+0.6**
AXS	**Araxos**	**1.55**	**7**	P	**Pn**	**02 40 50.0**	**+0.6**
VLS	**Valsamata**	**1.58**	**344**	P	**Pn**	**02 40 49.9**	**0.0**
VLS				S	**Sn**	**02 41 11.0**	**+0.4**
VLS	**Valsamata**	**1.58**	**344**	*e*PG	**Pb**	**02 40 51.2**	**+0.3**
VLS				*e*SB	**Sg**	**02 41 14.5**	**+2.4**
VLS	**Valsamata**	**1.58**	**344**	P	**Pn**	**02 40 49.9**	**0.0**
VLS	**Valsamata**	**1.58**	**344**	*e*Pg	**Pb**	**02 40 51.2**	**+0.3**
VLS				S	**Sn**	**02 41 11.0**	**+0.4**
KYTH	**Kithira**	**1.58**	**103**	P	**Pg**	**02 40 51.8**	**+0.1**
KYTH	**Kithira**	**1.58**	**103**	*e*PB	**Pg**	**02 40 51.6**	**-0.1**
KYTH	**Kithira**	**1.58**	**103**	*e*Pb	**Pg**	**02 40 51.6**	**-0.1**
GUR	**Goura**	**1.60**	**37**	P	**Pn**	**02 40 50.0**	**-0.3**
GUR	**Goura**	**1.60**	**37**	*e*PG	**Pn**	**02 40 50.7**	**+0.4**
GUR	**Goura**	**1.60**	**37**	P	**Pn**	**02 40 50.0**	**-0.3**
GUR	**Goura**	**1.60**	**37**	*e*Pg	**Pn**	**02 40 50.7**	**+0.4**
KLV	**Kalavryta, Ach**	**1.60**	**30**	P	**Pn**	**02 40 50.6**	**+0.3**
KLV	**Kalavryta, Ach**	**1.60**	**30**	*e*PG	**Pb**	**02 40 51.5**	**+0.1**
KLV				*e*SB	**Sg**	**02 41 13.5**	**+0.5**
KLV	**Kalavryta, Ach**	**1.60**	**30**	P	**Pn**	**02 40 50.6**	**+0.3**
KLV	**Kalavryta, Ach**	**1.60**	**30**	*e*Pg	**Pb**	**02 40 51.5**	**+0.1**
LAKA	**Lakka**	**1.72**	**23**	P	**Pn**	**02 40 52.6**	**+0.8**
LAKA	**Lakka**	**1.72**	**23**	*e*PN	**Pb**	**02 40 53.3**	**0.0**
LAKA				*e*SN	**Sg**	**02 41 16.3**	**-0.3**
LAKA	**Lakka**	**1.72**	**23**	P	**Pn**	**02 40 52.6**	**+0.8**
LAKA	**Lakka**	**1.72**	**23**	*e*Pn	**Pb**	**02 40 53.3**	**0.0**
LAKA				*e*Sn	**Sg**	**02 41 16.3**	**-0.3**
TRIZ	**Trizonia**	**1.86**	**23**	*e*PN	**Pb**	**02 40 55.4**	**-0.4**
TRIZ	**Trizonia**	**1.86**	**23**	*e*Pn	**Pb**	**02 40 55.4**	**-0.4**
EFP	**Efpalio**	**1.87**	**19**	P	**Pb**	**02 40 55.9**	**0.0**
EFP	**Efpalio**	**1.87**	**19**	*e*PG	**Pb**	**02 40 56.1**	**+0.2**
EFP				*e*SN	**Sg**	**02 41 20.6**	**-0.9**
EFP	**Efpalio**	**1.87**	**19**	P	**Pb**	**02 40 55.9**	**0.0**
EFP				*e*Sn	**Sg**	**02 41 20.6**	**-0.9**
DID	**Didima**	**1.89**	**63**	*e*PB	**Pn**	**02 40 54.5**	**+0.4**
DID	**Didima**	**1.89**	**63**	*e*Pb	**Pn**	**02 40 54.5**	**+0.4**
KALE	**Kalithea**	**1.91**	**25**	*e*PN	**Pb**	**02 40 56.5**	**-0.1**
KALE	**Kalithea**	**1.91**	**25**	*e*Pn	**Pb**	**02 40 56.5**	**-0.1**
LTK	**Loutraki**	**2.00**	**47**	*e*PN	**Pb**	**02 40 57.5**	**-0.6**
LTK	**Loutraki**	**2.00**	**47**	*e*Pn	**Pb**	**02 40 57.5**	**-0.6**
DSF	**Desfina**	**2.07**	**32**	P	**Pn**	**02 40 57.8**	**+1.1**
DSF				S	**Sn**	**02 41 21.8**	**-1.1**
DSF	**Desfina**	**2.07**	**32**	P	**Pn**	**02 40 57.8**	**+1.1**
DSF				S	**Sn**	**02 41 21.8**	**-1.1**
LKD2	**Lefkada island**	**2.16**	**350**	*e*PN	**Pn**	**02 40 59.3**	**+1.4**
LKD2	**Lefkada island**	**2.16**	**350**	*e*Pn	**Pn**	**02 40 59.3**	**+1.4**
NAIG	**Nisos Aigina**	**2.18**	**59**	*e*PN	**Pn**	**02 40 59.6**	**+1.5**
NAIG	**Nisos Aigina**	**2.18**	**59**	*e*Pn	**Pn**	**02 40 59.6**	**+1.5**
EVR	**Evrytania**	**2.32**	**13**	*e*PN	**Pb**	**02 41 02.5**	**-1.1**
EVR	**Evrytania**	**2.32**	**13**	*e*Pn	**Pb**	**02 41 02.5**	**-1.1**
ATH	**Athens Observa**	**2.44**	**57**	*e*PN	**Pn**	**02 41 03.3**	**+1.6**
ATH	**Athens Observa**	**2.44**	**57**	*e*Pn	**Pn**	**02 41 03.3**	**+1.6**
LKR	**Lokris**	**2.48**	**36**	*e*PB	**Pn**	**02 41 03.7**	**+1.4**
LKR	**Lokris**	**2.48**	**36**	*e*Pb	**Pn**	**02 41 03.7**	**+1.4**
AGG	**Agios Georgios**	**2.54**	**22**	*e*PN	**Pn**	**02 41 05.1**	**+1.9**
AGG	**Agios Georgios**	**2.54**	**22**	*e*Pn	**Pn**	**02 41 05.1**	**+1.9**
PTL	**Penteli**	**2.58**	**57**	*e*PB	**Pn**	**02 41 05.6**	**+1.9**
PTL	**Penteli**	**2.58**	**57**	*e*Pb	**Pn**	**02 41 05.6**	**+1.9**
THL	**Klokotos Trika**	**2.98**	**13**	*e*PN	**Pn**	**02 41 10.6**	**+1.4**
THL	**Klokotos Trika**	**2.98**	**13**	*e*Pn	**Pn**	**02 41 10.6**	**+1.4**
LIT	**Litokhoron**	**3.60**	**17**	*e*PN	**Pn**	**02 41 19.7**	**+2.0**
LIT	**Litokhoron**	**3.60**	**17**	*e*Pn	**Pn**	**02 41 19.7**	**+2.0**
STON	**Ston**	**6.74**	**338**	*i* Pn	**Pn**	**02 41 59.4**	**-1.5**
STON				Sn	Sn	02 43 11.1	-6.8
STON	**Ston**	**6.74**	**338**	*i* Pn	**Pn**	**02 41 59.3**	**-1.5**
DIVS	**Divibare**	**7.48**	**354**	*e*Pn	**Pn**	**02 42 09.3**	**-1.8**
NVLJ	**Novalja**	**9.22**	**331**	*e*Pn	**Pn**	**02 42 35.8**	**+1.0**
NVLJ				Sn	**Sn**	**02 44 14.1**	**-4.5**
NVLJ	**Novalja**	**9.22**	**331**	*e*Pn	**Pn**	**02 42 35.7**	**+1.0**

*IDC **13** 03:01:43.2±0.7,52.59N×160.58E,h0km,mb4.0/20, mb1 4.2/22,mb1mx4.1/30,mbtmp4.1/22,ML4.0/2,MS3.2/4, Ms1 3.2/4,ms1mx2.8/35,Error ellipse: s-maj=20.8km s-min=11.4km az=173.0*
*BJI **13** 03:01:44.0,53.25N×160.52E,h19km,mB4.7/4,mb4.3/7, Ms7 4.1/2*
*KRSC **13** 03:01:44.4±0.4,52.42N×160.67E,h4km±5km, ML4.5*
*NEIC **13** 03:01:46.0±4.3,52.59N×160.68E,h19km±28km,mb4.4/2, Error ellipse: s-maj=15.1km s-min=8.6km az=163.0*
*MOS **13** 03:01:46.5±1.6,52.50N×160.69E,h42km,mb4.5/23,Error ellipse: s-maj=9.3km s-min=6.3km az=94.7*
ISC 13 03:01:43.4±1.4,52.37N±0.03×160.73E±0.04,h7km±8km, n126,σ1s55/161,mb4.3/35,MS3.2/3,2C-1D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.85**	**330**	PN	**Pb**	**03 02 00.4**	**0.0**
SPN				S	**Sb**	**03 02 11.9**	**-0.1**
SPN	**Mys Shipunski**	**0.85**	**330**	P	**Pb**	**03 02 00.4**	**0.0**
SPN				*i* S	**Sb**	**03 02 11.9**	**-0.1**
NLC	**Nalytchevo**	**1.17**	**314**	PN	**Pb**	**03 02 05.7**	**-0.1**
NLC				S	**Sb**	**03 02 20.6**	**-0.5**
NLC	**Nalytchevo**	**1.17**	**314**	P	**Pb**	**03 02 05.7**	**-0.1**
NLC				*i* S	**Sb**	**03 02 20.6**	**-0.5**
RUS	**Russkaya**	**1.36**	**274**	PN	**Pb**	**03 02 10.4**	**+1.3**
RUS				S	**Sn**	**03 02 29.0**	**+2.0**
RUS	**Russkaya**	**1.36**	**274**	P	**Pb**	**03 02 10.4**	**+1.3**
RUS				*i* S	**Sn**	**03 02 29.0**	**+2.0**
PET	**Petropavlovsk**	**1.43**	**298**	PN	**Pg**	**03 02 10.8**	**+0.1**
PET				S	**Sn**	**03 02 29.9**	**+1.3**
PET	**Petropavlovsk**	**1.43**	**298**	P	**Pg**	**03 02 10.8**	**+0.1**
PET				*i* S	**Sn**	**03 02 29.9**	**+1.3**
UGLR	**Uglovaya**	**1.43**	**307**	P	**Pg**	**03 02 10.8**	**-0.1**
UGLR				*i* S	**Sn**	**03 02 29.9**	**+0.9**
INSR	**Institute**	**1.47**	**299**	*e*P	**Pg**	**03 02 11.0**	**-0.6**
INSR				*i* S	**Sn**	**03 02 30.0**	**+0.3**
SMAR	**Somma**	**1.48**	**308**	P	**Pb**	**03 02 11.1**	**-0.1**
SMAR				*i* S	**Sn**	**03 02 30.5**	**+0.3**
KRER	**Koryakskii**	**1.53**	**309**	P	**Pg**	**03 02 12.2**	**-0.5**
KRER				*i* S	**Sg**	**03 02 32.3**	**-0.1**
MTVR	**Mutnovka**	**1.57**	**275**	*i* P	**Pg**	**03 02 13.5**	**+0.1**
MTVR				*i* S	**Sg**	**03 02 35.2**	**+1.5**
KOK	**Koryaka**	**1.57**	**307**	P	**Pb**	**03 02 12.8**	**0.0**
KOK				*i* S	**Sg**	**03 02 33.7**	**-0.2**
GRL	**Gorelyy**	**1.64**	**278**	P	**Pg**	**03 02 15.2**	**+0.4**
GRL				*i* S	**Sg**	**03 02 37.9**	**+1.9**
ASAK	**Asacha**	**1.74**	**272**	P	**Pg**	**03 02 16.4**	**-0.3**
ASAK				*i* S	**Sg**	**03 02 39.4**	**+0.2**
PETK	**Petropavlovsk-**	**1.99**	**293**	PN	**Pb**	**03 02 19.1**	**-0.7**
PETK						03 02 45.4	
PETK				pmax	pmax		
	comp=Z,78nm,0.3s						
PETK				smax	smax		
	comp=N,60nm,0.3s						
PETK	**Petropavlovsk-**	**1.99**	**293**	Pn	**Pb**	**03 02 19.1**	**-0.7**
PETK				Sn	**Sg**	**03 02 45.4**	**-1.9**
PETK	**Petropavlovsk-**	**1.99**	**293**	Pn	**Pb**	**03 02 19.1**	**-0.7**
	comp=N,78nm,0.3s,baz=94,slow=20,SNR=337						
PETK				Sn	**Sg**	**03 02 45.4**	**-1.9**
	comp=N,60nm,0.3s,baz=115,slow=17,SNR=5.3						
GNL	**Ganaly**	**2.15**	**309**	P	**Pb**	**03 02 21.8**	**-0.8**
GNL				*i* S	**Sb**	**03 02 48.5**	**-0.9**
APC	**Apacha**

NVS pmax pmax
comp=Z,14nm,1.1s
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,9.0nm,1.2s
SPITS Spitsbergen Ar 47.91 351 P **P** 03 10 20.9 -0.7
SPITS Spitsbergen Ar 47.91 351 P **P** 03 10 20.9 -0.7
comp=E,3.1nm,0.4s,baz=66,slow=8.4,SNR=14
MK31 Makanchi Array 48.82 297 *e*P **P** 03 10 26.8 -2.2
MK31 Makanchi Array 48.82 297 *e*P **P** 03 10 26.8 -2.2
MKAR Makanchi Array 48.82 297 P **P** 03 10 27.0 -2.0
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 48.82 297 P **P** 03 10 27.0 -2.0
MKAR Makanchi Array 48.82 297 P **P** 03 10 27.0 -2.0
comp=Z,0.8nm,0.4s,baz=54,slow=6.8,SNR=20
KEV Kevo 53.63 342 *e*P **P** 03 11 03.4 -1.2
KEV pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 54.10 342 P **P** 03 11 07.8 -0.4
ARCES ARCESS Array B 54.10 342 P **P** 03 11 07.8 -0.4
comp=Z,4.1nm,0.8s,baz=38,slow=8.0,SNR=17
ARU Arti 54.20 318*d i*P **P** 03 11 07.7 -1.3
ARU 03 13 05.4
ARU S **S** 03 18 43.0 -2.9
ARU SS **SKiKP** 03 22 21.2 +0.9
ARU pmax pmax
comp=Z,5.0nm,1.0s
TMCR Tamitsa 55.60 333 *e*P P 03 11 15.9 -3.1
TMCR *e* 03 12 17.8
TMCR pmax pmax
comp=Z,17nm,0.8s
PDAR Pinedale Array 57.54 61 P **P** 03 11 34.5 +1.0
PDAR Pinedale Array 57.54 61 P **P** 03 11 34.5 +1.0
comp=Z,0.4nm,0.7s,baz=264,slow=1.5,SNR=4.4
CMAR Chiang Mai Arr 58.42 259 P **P** 03 11 41.0 +1.4
CMAR Chiang Mai Arr 58.42 259 P **P** 03 11 41.0 +1.4
comp=Z,2.8nm,0.7s,baz=24,slow=7.2,SNR=7.6
KAF Kangasniemi 60.30 337 *e*P **P** 03 11 51.2 -0.8
KAF pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 60.94 337 P **P** 03 11 56.1 -0.3
FINES FINESS Array B 60.94 337 P **P** 03 11 56.1 -0.3
comp=Z,3.8nm,0.5s,baz=33,slow=8.4,SNR=37
NB2 NORSAR Subarra 64.35 344 P **P** 03 12 18.7 -0.4
comp=Z,0.9nm,0.6s,baz=22,slow=6.9
NOA NORSAR Array B 64.35 344 P **P** 03 12 18.8 -0.4
NOA NORSAR Array B 64.35 344 P **P** 03 12 18.8 -0.4
comp=Z,1.4nm,0.7s,baz=21,slow=6.7,SNR=10
NOA LR LR 03 47 03.5
comp=Z,13nm,18.1s,baz=45,slow=42
HFS Hagfors 64.76 342 P **P** 03 12 21.0 -0.9
HFS Hagfors 64.76 342 P **P** 03 12 21.0 -0.9
comp=Z,1.0nm,0.6s,baz=70,slow=1.7,SNR=6.4
VSR Storozhevoye 65.65 324 *e*P **P** 03 12 26.7 -1.1
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=N,7.0nm,0.6s
VSR pmax pmax
comp=E,6.0nm,0.6s
VORD Divnogorie 65.81 324 *e*P P 03 12 26.2 -2.6
VORD pmax pmax
comp=Z,9.0nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,40nm,0.7s
KBZ Khabaz 70.33 317 P **P** 03 12 57.8 +0.5
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 70.33 317 P **P** 03 12 57.8 +0.5
KBZ Khabaz 70.33 317 P **P** 03 12 57.8 +0.5
comp=Z,5.2nm,0.9s,baz=286,slow=1.5,SNR=9.1
TXAR Lajitas Array 70.56 67 P **P** 03 12 59.9 +0.8
TXAR Lajitas Array 70.56 67 P **P** 03 12 59.9 +0.8
comp=Z,0.2nm,0.4s,baz=297,slow=5.1,SNR=6.8
EKA Eskdalemuir Ar 71.84 350 P **P** 03 13 06.0 -0.3
EKA Eskdalemuir Ar 71.84 350 P **P** 03 13 05.9 -0.3
comp=Z,1.2nm,0.7s,baz=12,slow=7.3,SNR=3.1
KWP Kalwaria Pacla 72.32 333 *e*P **P** 03 13 09.6 +0.4
KWP pmax pmax
comp=Z,5.0nm,0.9s
KWP Kalwaria Pacla 72.32 333 *e*P **P** 03 13 09.6 +0.4
comp=Z,4.7nm,0.9s
KWP Kalwaria Pacla 72.32 333 *e*P **P** 03 13 09.7 +0.5
KOLS Kolonicke sedl 73.07 333 *e*P **P** 03 13 14.3 +0.6
CLL Collm 73.17 340 *i*P **P** 03 13 15.3 +1.1
CLL pmax pmax
comp=Z,11nm,0.9s
CLL Collm 73.17 340 *i*P **P** 03 13 15.3 +1.1
comp=Z,6.0nm,0.9s
BUR08 Bucovina Ar. S 73.38 330 *e*P **P** 03 13 15.2 -0.5
VYHS Vyhne 74.40 335 *e*P **P** 03 13 20.0 -1.6
VYHS pmax pmax
comp=Z,8.0nm,1.9s
VYHS Vyhne 74.40 335 *e*P **P** 03 13 20.0 -1.6
GERES GERESS Array B 75.33 338 P **P** 03 13 26.9 -0.1
GERES GERESS Array B 75.33 338 P **P** 03 13 26.9 -0.1
comp=Z,0.6nm,0.6s,baz=38,slow=6.8,SNR=4.5
BRTR Keskin Array B 77.43 321 P **P** 03 13 39.4 +0.2
BRTR Keskin Array B 77.43 321 P **P** 03 13 39.4 +0.2
comp=Z,1.3nm,0.6s,baz=0.7,slow=3.8,SNR=8.1
ASAR Alice Springs 79.26 205 P **P** 03 13 50.6 +1.5
ASAR Alice Springs 79.26 205 P **P** 03 13 50.6 +1.5
comp=Z,0.5nm,0.5s,baz=23,slow=5.0,SNR=4.2
LPL La Plagne 79.97 342 *e*P **P** 03 13 54.3 +1.2
comp=Z,6.9nm,0.9s
LPG La Plagne 79.98 342 *e*P **P** 03 13 54.4 +1.1
ORIF Oris-en-Rattie 80.70 342 *e*P **P** 03 13 58.1 +1.2
comp=Z,8.2nm,0.9s
ETSF Etsaut 83.74 346 *e*P **P** 03 14 14.0 +1.1
comp=Z,21nm,1.4s
ESDC Sonseca Array 87.37 348 P **P** 03 14 30.4 -0.6
ESDC Sonseca Array 87.37 348 P **P** 03 14 30.4 -0.6
comp=Z,1.2nm,0.8s,baz=4.8,slow=4.5,SNR=5.8

IDC ***13*** *03:06:24.4±0.4, 52°.76N×34°.86W, h0km, mb4.2/28, mb1 4.4/30, mb1mx4.4/37, mbtmp4.3/30, ML3.5/2, MS3.7/32, Ms1 3.7/32, ms1mx3.6/40, Error ellipse: s-maj=12.1km s-min=10.8km az=162.0*

MOS ***13*** *03:06:24.5±1.0, 52°.74N×34°.92W, h10km, mb4.8/27, Error ellipse: s-maj=10.9km s-min=7.4km az=60.1*

CSEM ***13*** *03:06:26.3±0.1, 52°.80N×34°.99W, h10km, mb4.6/58, Ms3.5, Mw4.8, Error ellipse: s-maj=7.5km s-min=3.6km az=7.0*

GCMT ***13*** *03:06:26.9±0.3, 52°.88N×34°.77W, h18km±1km, MW4.8, Moment Tensor Solution. s17,c23; s60,c90; Moment tensor: Scale 10^16Nm; Mrr-2.11±.16; Mθθ0.23±.10; Mϕϕ1.88±.10; Mrθ0.78±.34; Mϕθ-0.11±.07; Mϕr-0.14±.22; Best double couple: M0 2.10000×10^16 NP1:ϕs192.00000°, δ45.00000°, λ-66.00000°. NP2:ϕs340.00000°, δ50.00000°, λ-112.00000°. Principal axes: T 1.9000, Plg3.0000°, Azm85.0000°; N 0.4500, Plg17.0000°, Azm354.0000°; P -2.3500, Plg73.0000°, Azm185.0000°; Data Used: IU II G IC CN.*

BJI ***13*** *03:06:26.1, 53°.35N×34°.73W, h10km, mB5.1/10, mb4.7/19, Ms4.9/3, Ms7 4.7/4*

NEIC ***13*** *03:06:26.1±0.2, 52°.72N×34°.85W, h10km, mb4.7/32, Error ellipse: s-maj=5.7km s-min=3.8km az=180.0*

ISCJB ***13*** *03:06:26.4±2.2, 52°.80N±0°.05×34°.99W±0°.04, h20km±16km, mb4.5/108, MS3.7/35, Error ellipse: s-maj=8.3km s-min=4.2km az=4.0*

ISC 13 03:06:27.2±0.5, 52.77N±0°.06×34.90W±0°.05, h18km±2km, n495, σ1§10/507, mb4.6/108, MS3.7/35, 80C-81D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**13.87**	**25**	LR	LR	03 13 00.9	
	comp=Z,63nm,21.2s,baz=70,slow=29						
SFJD	**Kangerlussuaq**	**16.22**	**338**	LR	LR	03 15 14.7	
	comp=Z,220nm,21.5s,baz=148,slow=33						
EKA	**Eskdalemuir Ar**	**18.72**	**69**	P	**P**	**03 10 44.7 +0.1**	
EKA	**Eskdalemuir Ar**	**18.72**	**69**	P	**P**	**03 10 44.7 +0.1**	
	baz=276,slow=7.4,SNR=9.0						
EKA	**Eskdalemuir Ar**	**18.72**	**69**	P	**P**	**03 10 44.7 +0.1**	
SCHQ	**Schefferville**	**18.89**	**289**	*e*Pn	**P**	**03 10 45.5 -1.0**	
	56nm,1.4s						
SCHQ	**Schefferville**	**18.89**	**289**	P	**P**	**03 10 45.5 -1.0**	
	0.4nm,0.3s,baz=95,slow=12,SNR=6.9						
SCHQ				LR	LR	03 16 49.2	
	comp=Z,332nm,21.4s,baz=245,slow=33						
SCHQ	**Schefferville**	**18.89**	**289**	*e*Pn	**P**	**03 10 45.5 -1.0**	
	56nm,1.4s						
SUMG	**Summit**	**19.94**	**357**	*e*P	**P**	**03 10 58.9 +0.7**	
SUMG				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SUMG	**Summit**	**19.94**	**357**	*e*P	**P**	**03 10 58.4 +0.2**	
	comp=Z,176nm,2.8s						
SUMG	**Summit**	**19.94**	**357**	*i*P	**P**	**03 10 58.9 +0.7**	
	comp=Z,8.4nm,1.0s						
SUMG	**Summit**	**19.94**	**357**	*e*P	**P**	**03 10 58.4 +0.2**	
	comp=Z,176nm,2.8s						
FRB	**Frobisher Bay**	**20.55**	**315**	LR	LR	03 17 15.1	
	comp=Z,289nm,19.2s,baz=101,slow=32						
PGAV	**Gavieira, Arco**	**20.90**	**110**	*e*P	Pn	03 11 10.7 -0.5	
	comp=Z,32nm,1.1s						
PGAV				*e*LQ	LQ	03 15 07.9	
PGAV				*e*LR	LR	03 16 14.9	
	comp=Z,361nm,18.0s						
PGAV	**Gavieira, Arco**	**20.90**	**110**	*e*P	Pn	03 11 10.7 -0.5	
	comp=Z,32nm,1.1s						
JMIC	**Jan Mayen**	**21.75**	**23**	LR	LR	03 16 54.5	
	comp=Z,149nm,18.5s,baz=254,slow=29						
PVIS	**Viseu**	**21.94**	**113**	*e*P	**P**	**03 11 19.7 0.0**	
	comp=Z,25nm,1.8s						
PVIS	**Viseu**	**21.94**	**113**	*e*P	**P**	**03 11 19.7 0.0**	
	comp=Z,25nm,1.8s						
MVO	**Moncorvo**	**22.13**	**110**	*e*P	**P**	**03 11 23.5 +1.7**	
	comp=Z,28nm,1.7s						
MVO				*e*LQ	LQ	03 15 31.1	
MVO				*e*LR	LR	03 16 53.7	
	comp=Z,320nm,20.0s						
MVO	**Moncorvo**	**22.13**	**110**	*e*P	**P**	**03 11 23.5 +1.7**	
	comp=Z,28nm,1.7s						
MTE	**Manteigas**	**22.35**	**113**	*e*P	**P**	**03 11 24.4 +0.3**	
	comp=Z,29nm,1.6s						
MTE				*e*LQ	LQ	03 15 32.5	
MTE				*e*LR	LR	03 16 53.9	
	comp=Z,332nm,20.0s						
MTE	**Manteigas**	**22.35**	**113**	*e*P	**P**	**03 11 24.4 +0.3**	
	comp=Z,29nm,1.6s						
PTOM	**Tomar**	**22.41**	**115**	*e*P	**P**	**03 11 27.1 +2.4**	
	comp=Z,56nm,1.5s						
PTOM	**Tomar**	**22.41**	**115**	*e*P	**P**	**03 11 27.1 +2.4**	
	comp=Z,56nm,1.5s						
PCBR	**Castelo Branco**	**22.77**	**114**	*e*P	**P**	**03 11 30.1 +1.6**	
	comp=Z,33nm,1.3s						
PCBR	**Castelo Branco**	**22.77**	**114**	*e*P	**P**	**03 11 30.1 +1.6**	
	comp=Z,33nm,1.3s						
EMMW	**East Machias**	**22.78**	**262**	*e*P	**P**	**03 11 28.0 -0.5**	
	comp=Z,46nm,1.2s						
EMMW	**East Machias**	**22.78**	**262**	*e*P	**P**	**03 11 28.0 -0.5**	
	comp=Z,46nm,1.2s						
PMRV	**Marv??o**	**23.11**	**114**	*e*LQ	LQ	03 15 41.3	
PMRV				*e*LR	LR	03 17 14.6	
	comp=Z,280nm,20.0s						
MFF	**Saint Martin d**	**23.15**	**91**	*e*P	**P**	**03 11 33.6 +1.2**	
	comp=Z,79nm,1.5s						
MFF	**Saint Martin d**	**23.15**	**91**	*e*P	**P**	**03 11 33.6 +1.2**	
	comp=Z,40nm,1.5s						
PMOZ	**Porto Moniz, M**	**23.68**	**140**	*e*LR	LR	03 16 02.3	
	comp=Z,82nm,20.0s						
BAIF	**Baives**	**24.34**	**81**	*e*P	**P**	**03 11 44.8 +1.1**	
BAIF	**Baives**	**24.34**	**81**	*e*P	**P**	**03 11 44.8 +1.1**	
PVAQ	**Vaqueiros**	**24.38**	**118**	*e*LQ	LQ	03 16 07.6	
PVAQ				*e*LR	LR	03 17 59.8	
	comp=Z,103nm,20.0s						
LFF	**La Frestale**	**24.52**	**94**	*e*P	**P**	**03 11 47.6 +2.2**	
	comp=Z,51nm,1.4s						
LFF	**La Frestale**	**24.52**	**94**	*e*P	**P**	**03 11 47.6 +2.2**	
	comp=Z,25nm,1.4s						
GIVF	**Givet**	**24.69**	**80**	*e*P	**P**	**03 11 48.3 +1.4**	
GIVF	**Givet**	**24.69**	**80**	*e*P	**P**	**03 11 48.3 +1.4**	
TCF	**Toulx Ste Croi**	**24.73**	**90**	*e*P	**P**	**03 11 48.4 +1.0**	
	comp=Z,32nm,1.4s						
TCF	**Toulx Ste Croi**	**24.73**	**90**	*e*P	**P**	**03 11 48.4 +1.0**	
	comp=Z,16nm,1.4s						
DAG	**Danmarks Havn**	**24.87**	**9**	*e*P	**P**	**03 11 49.0 +0.7**	
DAG				pmax	pmax		
	comp=Z,4.0nm,1.1s						
DAG	**Danmarks Havn**	**24.87**	**9**	*i*P	**P**	**03 11 49.0 +0.7**	
	comp=Z,3.2nm,1.1s						
ESDC	**Sonseca Array**	**24.87**	**109**	P	**P**	**03 11 47.8 -1.0**	
ESDC	**Sonseca Array**	**24.87**	**109**	P	**P**	**03 11 47.8 -1.0**	
	comp=Z,2.3nm,0.9s,baz=312,slow=8.9,SNR=12						
ESDC				LR	LR	03 19 54.3	
	comp=Z,242nm,18.7s,baz=315,slow=33						
ESDC	**Sonseca Array**	**24.87**	**109**	P	**P**	**03 11 47.8 -1.0**	
BGF	**Bois d'Agland**	**24.99**	**89**	*e*P	**P**	**03 11 51.3 +1.6**	
	comp=Z,69nm,1.3s						
BGF	**Bois d'Agland**	**24.99**	**89**	*e*P	**P**	**03 11 51.3 +1.6**	
	comp=Z,34nm,1.3s						
SSF	**Saint Saulge**	**25.16**	**88**	*e*P	**P**	**03 11 53.0 +1.8**	
	comp=Z,27nm,1.2s						
SSF	**Saint Saulge**	**25.16**	**88**	*e*P	**P**	**03 11 53.0 +1.8**	
	comp=Z,14nm,1.2s						
AVF	**Avril sur Loir**	**25.19**	**88**	*e*P	**P**	**03 11 53.4 +1.9**	
	comp=Z,53nm,1.5s						
AVF	**Avril sur Loir**	**25.19**	**88**	*e*P	**P**	**03 11 53.4 +1.9**	
	comp=Z,26nm,1.5s						
LOR	**Lormes**	**25.28**	**87**	*e*P	**P**	**03 11 54.1 +1.8**	
	comp=Z,35nm,1.1s						
LOR				*e*R			
	comp=Z,95nm,17.8s						
LOR	**Lormes**	**25.28**	**87**	*e*P	**P**	**03 11 54.1 +1.8**	
	comp=Z,18nm,1.1s						
CAF	**Calviac**	**25.33**	**93**	*e*P	**P**	**03 11 54.3 +1.5**	
	comp=Z,30nm,1.3s						
CAF	**Calviac**	**25.33**	**93**	*e*P	**P**	**03 11 54.3 +1.5**	
	comp=Z,15nm,1.3s						
MEZF	**Maizieres J'vi**	**25.46**	**83**	*e*P	**P**	**03 11 55.9 +2.0**	
	comp=Z,78nm,1.5s						
MEZF	**Maizieres J'vi**	**25.46**	**83**	*e*P	**P**	**03 11 55.9 +2.0**	
	comp=Z,39nm,1.5s						
SMF	**Signal de Mont**	**25.55**	**88**	*e*P	**P**	**03 11 56.7 +1.9**	
	comp=Z,60nm,1.4s						
SMF	**Signal de Mont**	**25.55**	**88**	*e*P	**P**	**03 11 56.7 +1.9**	
	comp=Z,30nm,1.4s						
SFTF	**Sexfontaines**	**25.58**	**84**	*e*P	**P**	**03 11 57.0 +2.0**	
	comp=Z,68nm,1.2s						
SFTF	**Sexfontaines**	**25.58**	**84**	*e*P	**P**	**03 11 57.0 +2.0**	
	comp=Z,34nm,1.2s						
BUG	**Bochum-Univer**	**25.67**	**76**	*e*P	**P**	**03 11 58.1 +2.3**	
	comp=Z,21nm,1.2s						
IBBN	**Ibbenburen**	**25.67**	**74**	*e*P	**P**	**03 11 57.8 +2.0**	
	comp=Z,23nm,1.1s						
PAGF	**Fort de Pagny**	**25.84**	**83**	*e*P	**P**	**03 11 59.7 +2.3**	
	comp=Z,13nm,1.4s						
PAGF	**Fort de Pagny**	**25.84**	**83**	*e*P	**P**	**03 11 59.7 +2.3**	
	comp=Z,6.7nm,1.4s						
NOA	**NORSAR Array B**	**25.99**	**53**	P	**P**	**03 11 58.8 +0.1**	
NOA	**NORSAR Array B**	**25.99**	**53**	P	**P**	**03 11 58.8 +0.1**	
	comp=Z,1.3nm,0.9s,baz=274,slow=9.1,SNR=3.4						
NOA				LR	LR	03 20 31.9	
	comp=Z,142nm,19.4s,baz=275,slow=33						
NOA	**NORSAR Array B**	**25.99**	**53**	P	**P**	**03 11 58.8 +0.1**	
MTLF	**Montolieu**	**26.28**	**96**	*e*P	**P**	**03 12 03.6 +2.2**	
	comp=Z,45nm,1.5s						
MTLF	**Montolieu**	**26.28**	**96**	*e*P	**P**	**03 12 03.6 +2.2**	
	comp=Z,22nm,1.5s						
TNS	**Taunus Mts**	**26.80**	**78**	*e*P	**P**	**03 12 08.6 +2.4**	
	comp=Z,18nm,1.4s						
TNS	**Taunus Mts**	**26.80**	**78**	*e*P	**P**	**03 12 08.6 +2.4**	
TNS				pmax	pmax		
	comp=Z,26nm,1.4s						
TNS	**Taunus Mts**	**26.80**	**78**	*e*P	**P**	**03 12 08.6 +2.4**	
	comp=Z,26nm,1.4s						
CDF	**Champ du Feu**	**26.84**	**82**	*e*P	**P**	**03 12 08.5 +2.0**	
CDF	**Champ du Feu**	**26.84**	**82**	*e*P	**P**	**03 12 08.5 +2.0**	
HINF	**Hinteralfeld**	**26.84**	**84**	*e*P	**P**	**03 12 08.5 +2.0**	
HINF	**Hinteralfeld**	**26.84**	**84**	*e*P	**P**	**03 12 08.5 +2.0**	
CABF	**La Chapelle**	**26.93**	**87**	*e*P	**P**	**03 12 09.6 +2.2**	
	comp=Z,37nm,1.4s						
CABF	**La Chapelle**	**26.93**	**87**	*e*P	**P**	**03 12 09.6 +2.2**	
	comp=Z,18nm,1.4s						
VIVF	**Saint-Julien-l**	**26.95**	**91**	*e*P	**P**	**03 12 10.0 +2.5**	
	comp=Z,26nm,1.3s						
VIVF	**Saint-Julien-l**	**26.95**	**91**	*e*P	**P**	**03 12 10.0 +2.5**	
	comp=Z,13nm,1.3s						
NRDL	**Niedersach Rie**	**26.98**	**72**	*e*P	**P**	**03 12 10.5 +3.0**	
	comp=Z,30nm,1.5s						
HFS	**Hagfors**	**27.28**	**55**	LR	LR	03 21 12.3	
	comp=Z,214nm,21.3s,baz=276,slow=33						
MOX	**Moxa**	**28.52**	**75**	*e*L	L	03 23 08.1	
	comp=Z,325nm,18.1s						
GRF	**Grafenberg Arr**	**28.66**	**77**	*e*L	L	03 22 13.9	
	comp=Z,115nm,19.8s						
LMR	**La Mourre**	**28.88**	**92**	*e*P	**P**	**03 12 27.0 +2.3**	
LMR	**La Mourre**	**28.88**	**92**	*e*P	**P**	**03 12 27.0 +2.3**	
CLL	**Collm**	**29.08**	**73**	*e*P	**P**	**03 12 26.4 +0.1**	
	comp=Z,14nm,1.3s						
CLL	**Collm**	**29.08**	**73**	⇓*i*P	**P**	**03 12 26.8 +0.5**	
CLL				pmax	pmax		
	comp=Z,3.0nm,1.2s						
CLL	**Collm**	**29.08**	**73**	⇓*i*P	**P**	**03 12 26.8 +0.5**	
	comp=Z,11nm,1.2s						
CLL				LmV		03 23 00.0	
	comp=Z,200nm,20.4s						
CLL	**Collm**	**29.08**	**73**	*i*P	**P**	**03 12 26.8 +0.5**	
	comp=Z,3.0nm,1.2s						
TANN	**Tannenbergstha**	**29.10**	**75**	*e*P	**P**	**03 12 26.9 +0.2**	
	comp=Z,3.0nm,0.9s						
DAVOX	**Davos/Dischmat**	**29.15**	**84**	LR	LR	03 23 58.8	
	comp=Z,126nm,19.4s,baz=269,slow=36						
BRG	**Berggiesshubel**	**29.79**	**74**	*e*P	**P**	**03 12 33.9 +1.1**	
	comp=Z,3.4nm,1.1s						
BRG				*e*		03 12 39.8	
	comp=Z,8.5nm,1.2s						
BRG	**Berggiesshubel**	**29.79**	**74**	*e*P	**P**	**03 12 33.8 +1.1**	
BRG				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BRG	**Berggiesshubel**	**29.79**	**74**	*e*P	**P**	**03 12 33.8 +1.1**	
	comp=Z,3.0nm,1.1s						
SADO	**Sadowa**	**29.83**	**272**	LR	LR	03 23 39.3	
	comp=Z,220nm,20.6s,baz=350,slow=35						
KHC	**Kasperske Hory**	**30.29**	**77**	*e*P	**P**	**03 12 39.7 +2.5**	
KHC				MLR	MLR		
	comp=Z,200nm,19.1s						
KHC	**Kasperske Hory**	**30.29**	**77**	*e*P	**P**	**03 12 39.7 +2.5**	
KHC				AMS	AMS	03 23 50.0	
	comp=Z,200nm,19.1s						
KHC	**Kasperske Hory**	**30.29**	**77**	*e*P	**P**	**03 12 39.7 +2.5**	
	comp=Z,200nm,19.1s						
PVCC	**Panska Ves**	**30.29**	**74**	AMS	AMS	03 23 50.0	
	comp=Z,300nm,16.4s						
GEC2	**GERESS Array S**	**30.49**	**78**	*e*P	**P**	**03 12 41.0 +2.0**	
GEC2	**GERESS Array S**	**30.49**	**78**	*e*P	**P**	**03 12 41.0 +2.0**	
GEC2	**GERESS Array S**	**30.49**	**78**	*e*P	**P**	**03 12 41.0 +2.0**	
GERES	**GERESS Array B**	**30.49**	**78**	P	**P**	**03 12 38.7 -0.3**	
GERES	**GERESS Array B**	**30.49**	**78**	P	**P**	**03 12 38.7 -0.3**	
	comp=Z,1.7nm,1.1s,baz=302,slow=7.7,SNR=8.0						
GERES				LR	LR	03 23 59.8	
	comp=Z,89nm,18.1s,baz=285,slow=35						
GERES	**GERESS Array B**	**30.49**	**78**	P	**P**	**03 12 38.7 -0.3**	
PRU	**Pruhonice**	**30.50**	**75**	*e*P	**P**	**03 12 38.8 -0.1**	
PRU				MLR	MLR		
	comp=Z,300nm,13.8s						
PRU	**Pruhonice**	**30.50**	**75**	*e*P	**P**	**03 12 38.8 -0.1**	
PRU				AMS	AMS	03 24 30.0	
	comp=Z,300nm,13.8s						
PRU	**Pruhonice**	**30.50**	**75**	*e*P	**P**	**03 12 38.8 -0.1**	
	comp=Z,300nm,13.8s						
UPC	**Upice**	**31.14**	**73**	*e*P	**P**	**03 12 45.4 +0.8**	
UPC				*e*		03 12 52.7	
UPC	**Upice**	**31.14**	**73**	*e*P	**P**	**03 12 45.4 +0.8**	
UPC				*ex*	x	03 12 52.7	
UPC	**Upice**	**31.14**	**73**	*e*P	**P**	**03 12 45.4 +0.8**	
TREC	**Trest**	**31.35**	**76**	*e*P	**P**	**03 12 48.3 +1.8**	
TREC				MLR	MLR		
	comp=Z,300nm,14.9s						
TREC	**Trest**	**31.35**	**76**	*e*P	**P**	**03 12 48.3 +1.8**	
TREC				AMS	AMS	03 25 10.0	
	comp=Z,300nm,14.9s						
TREC	**Trest**	**31.35**	**76**	*e*P	**P**	**03 12 48.3 +1.8**	
	comp=Z,300nm,14.9s						
DPC	**Dobruska-Polom**	**31.39**	**74**	*e*P	**P**	**03 12 47.2 +0.3**	
DPC				*e*		03 12 55.6	
DPC	**Dobruska-Polom**	**31.39**	**74**	*e*P	**P**	**03 12 47.2 +0.3**	
DPC				*ex*	x	03 12 55.6	
DPC				AMS	AMS	03 24 30.0	
DPC	**Dobruska-Polom**	**31.39**	**74**	*e*P	**P**	**03 12 47.2 +0.3**	
KRLC	**Kraliky**	**31.77**	**74**	*e*P	**P**	**03 12 49.5 -0.7**	
KRLC	**Kraliky**	**31.77**	**74**	*e*P	**P**	**03 12 49.5 -0.7**	
KRLC				*ex*	x	03 12 59.4	
KRLC	**Kraliky**	**31.77**	**74**	*e*P	**P**	**03 12 49.5 -0.7**	
ARCES	**ARCESS Array B**	**31.89**	**35**	P	**P**	**03 12 50.8 -0.2**	
ARCES	**ARCESS Array B**	**31.89**	**35**	P	**P**	**03 12 50.8 -0.2**	
	comp=Z,7.2nm,1.2s,baz=262,slow=8.5,SNR=8.8						
ARCES				LR	LR	03 23 50.9	
	comp=Z,39nm,18.3s,baz=264,slow=33						
ARCES	**ARCESS Array B**	**31.89**	**35**	P	**P**	**03 12 50.8 -0.2**	
MORC	**Moravsky Berou**	**32.34**	**74**	*e*P	**P**	**03 12 56.3 +1.1**	
MORC				pmax	pmax		
	comp=Z,20nm,1.9s						
MORC	**Moravsky Berou**	**32.34**	**74**	*e*P	**P**	**03 12 56.3 +1.1**	
	comp=Z,20nm,1.9s						
MORC	**Moravsky Berou**	**32.34**	**74**	*e*P	**P**	**03 12 56.3 +1.1**	
	comp=Z,20nm,1.9s						
OKC	**Ostrava-Krasne**	**32.67**	**73**	AMS	AMS	03 25 30.0	
	comp=Z,200nm,15.0s						
FINES	**FINESS Array B**	**33.05**	**50**	P	**P**	**03 13 00.7 -0.5**	
FINES	**FINESS Array B**	**33.05**	**50**	P	**P**	**03 13 00.7 -0.5**	
	comp=Z,2.9nm,0.8s,baz=267,slow=7.6,SNR=5.2						
FINES				LR	LR	03 24 44.8	
	comp=Z,210nm,21.1s,baz=269,slow=33						
FINES	**FINESS Array B**	**33.05**	**50**	P	**P**	**03 13 00.7 -0.5**	
OJC	**Ojcow**	**33.46**	**72**	*e*P	**P**	**03 13 06.1 +1.1**	
	comp=Z,22nm,1.7s						
OJC	**Ojcow**	**33.46**	**72**	*e*P	**P**	**03 13 06.1 +1.1**	
	comp=Z,22nm,1.7s						
STHS	**Stebnicka Huta**	**34.66**	**72**	*e*P	**P**	**03 13 14.2 -1.2**	
STHS	**Stebnicka Huta**	**34.66**	**72**	*e*P	**P**	**03 13 14.2 -1.2**	
	comp=Z,2.2nm,0.8s						
KEST	**Kesra**	**35.32**	**101**	*e*P	**P**	**03 13 21.2 -0.1**	
KEST	**Kesra**	**35.32**	**101**	P	**P**	**03 13 20.8 -0.5**	
	comp=Z,3.5nm,1.1s,baz=293,slow=0.9,SNR=9.2						
KEST				LR	LR	03 25 58.6	
	comp=Z,57nm,18.4s,baz=181,slow=33						
KEST	**Kesra**	**35.32**	**101**	*e*P	**P**	**03 13 21.2 -0.1**	
LVZ	**Lovozero**	**35.36**	**38**	*e*P	**P**	**03 13 22.2 +1.0**	
LVZ				pmax	pmax		
	comp=Z,16nm,1.7s						
UZH	**Uzhgorod**	**35.64**	**73**	*e*P	**P**	**03 13 24.8 +1.0**	
ULM	**Lac du Bonnet**	**37.04**	**291**	LR	LR	03 27 15.0	
	comp=Z,130nm,21.4s,baz=152,slow=34						
SFIN	**Scholer Farm**	**37.15**	**272**	⇑P	**P**	**03 13 37.5 +0.7**	
	baz=

D23A **Lindsay** 43.91 292 ⇑P P 03 14 33.7 +1.0
baz=44
VORD **Divnogorie** 43.95 61 *e*P P 03 14 32.7 -0.1
VORD pmax pmax
comp=Z,10.0nm,1.3s
VORD pmax pmax
comp=N,30nm,0.9s
VORD pmax pmax
comp=E,60nm,0.8s
E22A **Miles City** 44.75 292 ⇓P P 03 14 40.0 +0.6
baz=45
MIAR **Mount Ida** 44.84 270 *e*P P 03 14 40.2 +0.1
MIAR pmax pmax
comp=Z,7.0nm,1.0s
MIAR **Mount Ida** 44.84 270 *e*P P 03 14 40.1 +0.1
comp=Z,7.3nm,1.0s
MIAR **Mount Ida** 44.84 270 *e*P P 03 14 40.2 +0.1
comp=Z,7.3nm,1.0s
B19A **Brinkman Farms** 45.26 296 ⇑P P 03 14 43.5 +0.1
baz=45
INK **Inuvik** 45.29 329 P P 03 14 42.4 -0.9
INK PcP PcP 03 16 21.3 -1.4
INK **Inuvik** 45.29 329 P P 03 14 42.4 -0.9
comp=Z,8.2nm,1.1s,baz=51,slow=8.8,SNR=12
INK PcP PcP 03 16 21.3 -1.4
comp=Z,4.4nm,1.0s,baz=61,slow=5.2,SNR=5.4
INK **Inuvik** 45.29 329 P P 03 14 42.4 -0.9
B18A **Beardsley Farm** 45.75 296 ⇓P P 03 14 47.8 +0.5
baz=46
EGMT **Eagleton** 45.95 296 *e*P P 03 14 50.1 +1.2
comp=Z,31nm,1.7s
EGMT **Eagleton** 45.95 296 *e*P P 03 14 50.1 +1.2
comp=Z,31nm,1.7s
EGMT **Eagleton** 45.95 296 ⇓P P 03 14 49.5 +0.6
baz=46
R31A **Burdett** 45.97 279 ⇓P P 03 14 49.8 +0.6
baz=46
B17A **L&G Farms, Che** 46.37 297 ⇓P P 03 14 52.6 +0.5
baz=46
I22A **9 Mile Ranch,** 46.57 289 ⇓P P 03 14 54.0 +0.2
baz=46
C17A **Wharram Farm,** 46.73 296 ⇑P P 03 14 54.7 -0.3
baz=47,SNR=5.3
B16A **M & M Farms, S** 46.79 297 ⇑P P 03 14 56.4 +0.9
baz=47
D17A **Six Diamond Ra** 46.97 295 ⇑P P 03 14 57.6 +0.6
baz=47
C16A **Fuhringer Ranc** 47.17 296 ⇓P P 03 14 59.0 +0.5
baz=47
F18A **Big Timber** 47.18 293 ⇑P P 03 14 59.3 +0.7
baz=47
B15A **Bradely Ranch,** 47.31 297 ⇓P P 03 14 59.6 0.0
baz=47
A14A **Double T Ranch** 47.38 299 ⇓P P 03 14 59.6 -0.5
baz=47,SNR=5.7
BRTR **Keskin Array B** 47.39 77 P P 03 15 01.2 +0.9
BRTR **Keskin Array B** 47.39 77 P P 03 15 01.2 +0.9
comp=Z,2.8nm,0.9s,baz=308,slow=4.9,SNR=9.8
BRTR LR LR 03 36 34.5
comp=Z,81nm,20.3s,baz=296,slow=38
BRTR **Keskin Array B** 47.39 77 P P 03 15 01.2 +0.9
E17A **Martinsdale** 47.48 295 ⇓P P 03 15 00.7 -0.3
baz=47
WALA **Waterton Lakes** 47.59 299 *e*P P 03 15 01.9 +0.1
comp=Z,0.2nm,1.1s
WALA **Waterton Lakes** 47.59 299 *e*P P 03 15 01.9 +0.1
comp=Z,0.2nm,1.1s
B14A **Marquette Ranc** 47.66 298 ⇓P P 03 15 02.7 +0.3
baz=48
F17A **Fitzpatrick Pl** 47.70 294 ⇓P P 03 15 03.5 +0.7
baz=48
T29A **Hugoton** 47.77 279 ⇑P P 03 15 04.1 +0.8
baz=48
J20A **Shoshoni** 47.81 290 ⇓P P 03 15 04.7 +1.1
baz=48
WMOK **Wichita Mounta** 47.87 274 *e*P P 03 15 03.5 -0.5
WMOK pmax pmax
comp=Z,4.0nm,1.0s
WMOK **Wichita Mounta** 47.87 274 *e*P P 03 15 03.5 -0.5
comp=Z,3.6nm,1.0s
WMOK **Wichita Mounta** 47.87 274 *e*P P 03 15 03.5 -0.5
comp=Z,3.6nm,1.0s
D15A **Lincoln** 48.04 296 ⇑P P 03 15 06.1 +0.7
baz=48,SNR=7.7
N23A **Red Feather La** 48.12 286 ⇓P P 03 15 08.2 +2.0
baz=48,SNR=8.4
C14A **Swan Lake** 48.27 298 ⇑P P 03 15 07.0 0.0
baz=48
B13A **Whitefish** 48.29 299 ⇑P P 03 15 08.0 +0.8
baz=48
R26A **Arlington** 48.31 281 ⇑P P 03 15 08.2 +0.8
baz=48
V30A **Spur Ranch, Mi** 48.34 277 ⇑P P 03 15 08.9 +1.2
baz=48
M21A **Separation Pea** 48.49 287 ⇓P P 03 15 10.0 +1.0
baz=48
CHMT **Chamberlain Mo** 48.52 296 *e*P P 03 15 10.2 +1.1
CHMT **Chamberlain Mo** 48.52 296 *e*P P 03 15 10.2 +1.1
D14A **Greenough** 48.56 297 ⇓P P 03 15 09.8 +0.5
baz=48
SWMT **Swartz Lake** 48.56 297 *e*P P 03 15 09.8 +0.5
SWMT **Swartz Lake** 48.56 297 *e*P P 03 15 09.8 +0.5
K19A **Absolon Red Bu** 48.58 289 ⇓P P 03 15 09.7 +0.1
baz=48
ISCO **Idaho Springs** 48.62 284 *e*P P 03 15 12.1 +2.0
ISCO pmax pmax
comp=Z,4.0nm,1.1s
ISCO **Idaho Springs** 48.62 284 *e*P P 03 15 12.1 +2.0
comp=Z,4.2nm,1.1s
ISCO **Idaho Springs** 48.62 284 *e*P P 03 15 12.1 +2.0
comp=Z,4.2nm,1.1s
X31A **McDonald Ranch** 48.67 275 ⇑P P 03 15 10.2 +0.1
baz=49
H16A **Russell Place,** 48.77 293 ⇓P P 03 15 11.3 +0.3
baz=49
Y32A **R-V Farms, Ver** 48.77 274 ⇓P P 03 15 12.2 +1.2
baz=49
C13A **Hot Springs** 48.77 298 ⇑P P 03 15 11.3 +0.4
baz=49
BSMT **Bassoo Peak** 48.78 298 *e*P P 03 15 11.5 +0.5
BSMT **Bassoo Peak** 48.78 298 *e*P P 03 15 11.5 +0.5
L20A **Wamsutter** 48.80 288 ⇓P P 03 15 12.2 +0.8
baz=49
R25A **Fountain Ranch** 48.91 282 ⇓P P 03 15 12.6 +0.5
baz=49
PDAR **Pinedale Array** 49.02 290 P P 03 15 12.7 -0.3
PDAR **Pinedale Array** 49.02 290 P P 03 15 12.7 -0.3
comp=Z,1.2nm,0.9s,baz=54,slow=7.7,SNR=8.9
PDAR **Pinedale Array** 49.02 290 P P 03 15 12.7 -0.3
M20A **Sweetwater, Wa** 49.04 288 ⇑P P 03 15 14.0 +0.8
baz=49
D13A **Huson** 49.06 297 ⇓P P 03 15 13.5 +0.4
baz=49
TORD **Torodi Ar. Bea** 49.10 130 P P 03 15 12.7 -1.0
TORD **Torodi Ar. Bea** 49.10 130 P P 03 15 12.7 -1.0
comp=Z,3.2nm,0.8s,baz=328,slow=7.3,SNR=13
TORD LR LR 03 33 49.3
comp=Z,93nm,18.9s,baz=340,slow=34
TORD **Torodi Ar. Bea** 49.10 130 P P 03 15 12.6 -1.0
U27A **Thompson Grove** 49.18 279 ⇑P P 03 15 14.7 +0.5
baz=49
V28A **Channing** 49.27 278 ⇑P P 03 15 15.3 +0.4
baz=49
Z32A **Haskell** 49.27 274 ⇓P P 03 15 15.3 +0.5
baz=49
Y31A **Rekieta Farm,** 49.29 275 ⇑P P 03 15 16.0 +1.1
baz=49
L19A **Farson** 49.33 289 ⇓P P 03 15 16.1 +0.7
baz=49
X30A **Coker Ranch, T** 49.33 276 ⇓P P 03 15 16.0 +0.7
baz=49
W29A **Amraillo** 49.34 277 ⇑P P 03 15 16.1 +0.7
baz=49
N20A **Spence Gulch,** 49.51 287 ⇓P P 03 15 17.7 +0.9
baz=49
AMTX **Amarillo** 49.52 277 *e*P P 03 15 17.4 +0.6
comp=Z,11nm,1.0s
AMTX **Amarillo** 49.52 277 *e*P P 03 15 17.4 +0.6
comp=Z,11nm,1.0s
C11A **Tepee Creek (N** 49.57 299 ⇑P P 03 15 17.4 +0.4
baz=49
T25A **Trinidad** 49.65 281 ⇑P P 03 15 18.5 +0.7
baz=50
Z31A **Sharp Cattle R** 49.66 274 ⇑P P 03 15 18.0 +0.2
baz=50
DLBC **Dease Lake** 49.69 317 P P 03 15 18.4 +0.7
DLBC **Dease Lake** 49.69 317 P P 03 15 18.4 +0.7
comp=Z,3.1nm,0.9s,baz=29,slow=10,SNR=5.6
DLBC **Dease Lake** 49.69 317 P P 03 15 18.4 +0.7
NEW **Newport** 49.77 300 *e*P P 03 15 18.9 +0.5
comp=Z,6.5nm,1.2s
NEW **Newport** 49.77 300 *e*P P 03 15 18.9 +0.5
comp=Z,6.5nm,1.2s
NEW **Newport** 49.77 300 ⇓P P 03 15 19.0 +0.5
baz=50
X29A **Tulia** 49.83 276 ⇓P P 03 15 19.8 +0.6
baz=50
ABTX **Abilene, Hawle** 49.84 273 ⇓P P 03 15 19.9 +0.8
baz=50
EGAK **Eagle** 49.85 327 *e*P P 03 15 19.1 +0.4
comp=Z,11nm,1.1s
EGAK **Eagle** 49.85 327 *e*P P 03 15 19.1 +0.4
comp=Z,11nm,1.1s
P21A **Newcastle** 49.88 285 ⇓P P 03 15 21.1 +1.5
baz=50,SNR=5.5
KIV **Kislovodsk** 49.93 67 *e*P P 03 15 18.7 -1.1
KIV *e*S S 03 22 29.4 +0.3
KIV *e*SS SS 03 26 03.0 +1.6
KIV pmax pmax
comp=Z,6.0nm,1.1s
O20A **White River Ci** 49.95 286 ⇓P P 03 15 20.6 +0.5
baz=50
E12A **Beaver Dam Sad** 50.09 297 ⇑P P 03 15 20.1 -0.9
baz=50,SNR=5.6
U25A **Circle Dot Ran** 50.14 280 ⇓P P 03 15 22.2 +0.6
baz=50
V26A **Tequesquite Ra** 50.17 279 ⇓P P 03 15 22.2 +0.4
baz=50
KBZ **Khabaz** 50.19 67 LR LR 03 35 48.4
comp=Z,113nm,21.5s,baz=6.0,slow=35
ARU **Arti** 50.20 46*d* *i*P P 03 15 21.8 +0.3
ARU 03 17 12.1
ARU S S 03 22 34.6 +2.2
ARU SS SS 03 26 01.5 -3.6
ARU pmax pmax
comp=Z,7.0nm,1.0s
Y29A **Porterfield Fa** 50.22 276 ⇓P P 03 15 22.3 +0.3
baz=50
W27A **Bowe Ranch, En** 50.23 278 ⇓P P 03 15 22.7 +0.4
baz=50
232A **Coleman** 50.35 272 ⇑P P 03 15 22.8 -0.2
baz=50
O19A **Miners Draw (B** 50.35 287 ⇑P P 03 15 24.0 +0.9
baz=50,SNR=7.7
M17A **Scullys Gap (B** 50.48 289 ⇓P P 03 15 24.1 -0.1
baz=50
I14A **Mackay** 50.49 293 ⇓P P 03 15 24.2 +0.1
baz=50
V25A **Rancho No Teng** 50.64 280 ⇑P P 03 15 25.6 +0.2
baz=50
130A **Snyder** 50.66 274 ⇑P P 03 15 25.9 +0.5
baz=51
S22A **4UR Ranch, Cre** 50.69 283 ⇓P P 03 15 25.7 -0.1
baz=51
R21A **Cimarron** 50.70 284 ⇑P P 03 15 27.2 +1.3
baz=51
P19A **Cripple Cowboy** 50.70 286 ⇓P P 03 15 26.7 +0.8
baz=51
231A **Bronte** 50.73 273 ⇑P P 03 15 26.1 +0.3
baz=51
Q20A **Ridgley Place,** 50.75 285 ⇑P P 03 15 27.8 +1.6
baz=51
G12A **Big Creek, Yel** 50.76 296 ⇓P P 03 15 26.7 +0.5
baz=51
332A **Millersview** 50.77 272 ⇑P P 03 15 26.4 +0.3
baz=51
MSTX **Muleshoe** 50.81 277 ⇑P P 03 15 27.1 +0.6
baz=51
H12A **Diamond D Ranc** 50.87 295 ⇑P P 03 15 27.7 +0.7
baz=51
COLD **Coldfoot** 50.91 333 *e*P P 03 15 27.9 +1.2
comp=Z,5.8nm,1.3s
COLD **Coldfoot** 50.91 333 *e*P P 03 15 27.9 +1.2
comp=Z,5.8nm,1.3s
W25A **X Bar L Ranch,** 50.97 279 ⇑P P 03 15 28.5 +0.6
baz=51
X26A **CR and CF Fran** 51.03 278 ⇓P P 03 15 28.5 +0.2
baz=51
Z28A **Tucker Farm, M** 51.04 276 ⇓P P 03 15 28.6 +0.3
baz=51
Y27A **Causey** 51.10 277 ⇑P P 03 15 28.5 -0.3
baz=51
432A **Menard** 51.15 272 ⇑P P 03 15 28.4 -0.7
baz=51,SNR=5.7
331A **San Angelo** 51.23 272 ⇓P P 03 15 30.1 +0.4
baz=51
230A **Sterling City** 51.24 273 ⇓P P 03 15 30.8 +1.0
baz=51
R20A **Redvale** 51.31 285 ⇓P P 03 15 31.2 +0.9
baz=51
S21A **Coal Bank Pass** 51.31 284 ⇓P P 03 15 31.4 +0.9
baz=51
JCT **Junction City** 51.44 271 *e*P P 03 15 30.9 -0.4
JCT pmax pmax
comp=Z,9.0nm,1.2s
JCT **Junction City** 51.44 271 *e*P P 03 15 30.9 -0.4
comp=Z,9.4nm,1.2s
JCT **Junction City** 51.44 271 *e*P P 03 15 30.9 -0.4
comp=Z,9.4nm,1.2s
JCT **Junction City** 51.44 271 ⇓P P 03 15 31.2 -0.1
baz=51
PV04 **Paradox Valley** 51.48 285 *e*P P 03 15 33.7 +2.1
PV04 **Paradox Valley** 51.48 285 *e*P P 03 15 33.7 +2.1
I12A **Atlanta** 51.51 294 ⇑P P 03 15 31.1 -0.7
baz=51,SNR=7.5
W24A **Lazy 6 Ranch,** 51.54 280 ⇑P P 03 15 32.7 +0.6
baz=51,SNR=5.4
330A **Mertzon** 51.62 273 ⇑P P 03 15 32.7 +0.1
baz=52
ILAR **Eielson Array** 51.67 330 P P 03 15 33.5 +1.0
ILAR PcP PcP 03 16 45.0 -0.7
ILAR **Eielson Array** 51.67 330 P P 03 15 33.5 +1.0
comp=Z,5.7nm,1.1s,baz=39,slow=5.6,SNR=34
ILAR PcP PcP 03 16 45.0 -0.7
comp=Z,2.6nm,0.8s,baz=16,slow=3.0,SNR=12
ILAR LR LR 03 36 42.4
comp=Z,22nm,19.7s,baz=69,slow=35
ILAR **Eielson Array** 51.67 330 P P 03 15 33.5 +1.0
ILAR **Eielson Array** 51.67 330 PcP PcP 03 16 45.0 -0.7
431A **Sonora** 51.78 272 ⇓P P 03 15 34.4 +0.5
baz=52
SRU **San Rafael** 51.95 287 *e*P P 03 15 35.7 +0.6
SRU pmax pmax
comp=Z,7.0nm,1.3s
SRU **San Rafael** 51.95 287 *e*P P 03 15 35.6 +0.6
comp=Z,6.8nm,1.3s
SRU **San Rafael** 51.95 287 *e*P P 03 15 35.7 +0.6
comp=Z,6.8nm,1.3s
Y25A **Mesa, Roswell** 52.00 278 ⇓P P 03 15 36.0 +0.6
baz=52
329A **Wagon Wheel Ra** 52.05 274 ⇑P P 03 15 35.9 +0.1
baz=52
531A **Rocksprings** 52.12 271 ⇑P P 03 15 36.3 0.0
baz=52
DBIC **Dimbokro** 52.12 141 P P 03 15 35.3 -1.0
DBIC **Dimbokro** 52.12 141 P P 03 15 35.3 -1.0
comp=Z,4.7nm,0.8s,baz=336,slow=7.3,SNR=3.5
DBIC LR LR 03 34 39.8
comp=Z,73nm,20.0s,baz=328,slow=33
DBIC **Dimbokro** 52.12 141 P P 03 15 35.3 -1.0
632A **Uvalde** 52.12 270 ⇑P P 03 15 36.8 +0.5
baz=52
MFID **Camas Ranch** 52.14 294 ⇑P P 03 15 36.7 +0.3
baz=52
ANMO **Albuquerque** 52.35 280 *e*P P 03 15 39.8 +1.6
comp=Z,6.6nm,1.4s
ANMO **Albuquerque** 52.35 280 *e*P P 03 15 39.8 +1.6
comp=Z,6.6nm,1.4s
Y24A **Capitan** 52.44 279 ⇓P P 03 15 39.3 +0.5
baz=52
Q16A **Castle Valley** 52.45 287 ⇑P P 03 15 39.4 +0.5
baz=52
Z25A **Roswell** 52.45 277 ⇑P P 03 15 39.3 +0.5
baz=52
DUG **Dugway** 52.55 289 *e*P P 03 15 39.8 +0.3
DUG pmax pmax
comp=Z,16nm,1.6s
DUG **Dugway** 52.55 289 *e*P P 03 15 39.8 +0.3
comp=Z,16nm,1.6s
DUG **Dugway** 52.55 289 *e*P P 03 15 39.8 +0.3
comp=Z,16nm,1.6s
DUG **Dugway** 52.55 289 ⇑P P 03 15 40.1 +0.5
baz=52
429A **Davenport Ranc** 52.61 273 ⇑P P 03 15 39.2 -0.8
baz=52,SNR=5.8
530A **J-C Ranch, Com** 52.61 272 ⇑P P 03 15 40.2 +0.3
baz=52
328A **Wristen Ranch,** 52.63 274 ⇓P P 03 15 40.0 -0.1
baz=52
631A **Perdido Creek** 52.67 271 ⇑P P 03 15 40.4 0.0
baz=53
732A **Laxson Ranch,** 52.79 270 ⇓P P 03 15 41.0 -0.2
baz=53
125A **Gardner Draw,** 52.85 277 ⇑P P 03 15 41.7 -0.1
baz=53
226B **Tecolote Peak,** 52.96 276 ⇓P P 03 15 42.6 0.0
baz=53
BNM **Barren Site** 53.00 280 *e*P P 03 15 44.3 +1.2
comp=Z,6.4nm,1.3s
BNM **Barren Site** 53.00 280 *e*P P 03 15 44.3 +1.2
comp=Z,6.4nm,1.3s
428A **Kincaid Ranch,** 53.01 274 ⇓P P 03 15 43.1 +0.1
baz=53
MCK **McKinley** 53.04 329 *e*P P 03 15 43.2 +0.5
MCK pmax pmax
comp=Z,25nm,1.2s
MCK **McKinley** 53.04 329 *e*P P 03 15 43.2 +0.5
comp=Z,24nm,1.2s
MCK **McKinley** 53.04 329 *e*P P 03 15 43.2 +0.5
comp=Z,24nm,1.2s
529A **Stev Forest Ra** 53.16 273 ⇑P P 03 15 44.3 +0.3
baz=53
124A **Stringfield Ra** 53.30 277 ⇓P P 03 15 45.7 +0.5
baz=53
225A **Deer Hill, Car** 53.33 276 ⇓P P 03 15 45.9 +0.4
baz=53
Y22A **Socorro** 53.35 280 ⇓P P 03 15 46.2 +0.6
baz=53
427A **Hayter Ranch,** 53.36 274 ⇓P P 03 15 45.9 +0.3
baz=53
326A **Caldwell Ranch** 53.38 275 ⇓P P 03 15 46.4 +0.7
baz=53
528A **Cox Ranch, San** 53.48 273 ⇑P P 03 15 46.9 +0.4
baz=53
X21A **Alamocita Cree** 53.49 281 ⇑P P 03 15 46.8 +0.2
baz=53
TRF **Thorofare Moun** 53.66 330 *e*P P 03 15 47.8 +0.4
comp=Z,18nm,1.1s
TRF **Thorofare Moun** 53.66 330 *e*P P 03 15 47.8 +0.4
comp=Z,18nm,1.1s
Y21A **Point of Rocks** 53.73 280 ⇓P P 03 15 49.3 +0.9
baz=54
224A **Cornudas Mount** 53.78 277 ⇑P P 03 15 49.3 +0.6
baz=54
Z22A **Elephant Butte** 53.82 279 ⇑P P 03 15 49.7 +0.7
baz=54
NLWA **Neilton Lookou** 53.83 303 *e*P P 03 15 49.6 +0.9
comp=Z,15nm,1.0s
NLWA **Neilton Lookou** 53.83 303 *e*P P 03 15 49.6 +0.9
comp=Z,15nm,1.0s
426A **McDonald Obser** 53.87 275 ⇓P P 03 15 49.9 +0.4
baz=54
628A **Black Gap, Mar** 54.02 273 ⇑P P 03 15 51.0 +0.7
baz=54
Z21A **St. Cloud Mine** 54.21 280 ⇓P P 03 15 52.2 +0.3
baz=54
Y20A **Horse Springs,** 54.21 281 ⇑P P 03 15 52.4 +0.4
baz=54
526A **Mary Lane Ranc** 54.34 274 ⇑P P 03 15 53.2 +0.4
baz=54
627A **Terlingua Ranc** 54.35 273 ⇑P P 03 15 52.8 0.0
baz=54,SNR=9.7
TXAR **Lajitas Array** 54.60 273 P P 03 15 54.8 +0.2
TXAR PcP PcP 03 16 56.9 -0.7
TXAR **Lajitas Array** 54.60 273 P P 03 15 54.8 +0.2
comp=Z,1.1nm,1.0s,baz=46,slow=5.4,SNR=6.4
TXAR PcP PcP 03 16 56.9 -0.7
comp=Z,1.1nm,0.9s,baz=38,slow=4.7,SNR=4.5
TXAR LR LR 03 38 30.8
comp=Z,70nm,20.2s,baz=25,slow=35
TXAR **Lajitas Array** 54.60 273 P P 03 15 54.8 +0.2
TXAR **Lajitas Array** 54.60 273 PcP PcP 03 16 56.9 -0.7
CCUT **Cedar City** 54.65 287 *e*P P 03 15 56.9 +1.9
comp=Z,5.0nm,1.2s
CCUT **Cedar City** 54.65 287 *e*P P 03 15 56.9 +1.9
comp=Z,5.0nm,1.2s
PMR **Palmer** 54.67 328 *e*P P 03 15 55.6 +1.1
PMR pmax pmax
comp=Z,18nm,1.2s
PMR **Palmer** 54.67 328 *e*P P 03 15 55.6 +1.1
comp=Z,18nm,1.2s
PMR **Palmer** 54.67 328 *e*P P 03 15 55.6 +1.1
comp=Z,18nm,1.2s
626A **Big Bend Ranch** 54.73 274 ⇓P P 03 15 56.3 +0.7
baz=55
U15A **North Rim** 54.79 286 ⇑P P 03 15 56.5 +0.3
baz=55
121A **Cookes Peak, D** 54.82 279 ⇑P P 03 15 56.6 +0.3
baz=55
WUAZ **Wupatki** 54.88 284 ⇑P P 03 15 57.1 +0.5
baz=55
RC01 **Rabbit Creek A** 55.24 328 *e*P P 03 15 59.9 +1.2
comp=Z,20nm,1.1s
RC01 **Rabbit Creek A** 55.24 328 *e*P P 03 15 59.9 +1.2
comp=Z,20nm,1.1s
120A **U Bar Ranch, L** 55.32 280 ⇓P P 03 16 00.8 +0.9
baz=55
TIXI **Tiksi** 55.35 6⇑ *i*P P 03 16 00.7 +1.4
TIXI pmax pmax
comp=Z,14nm,0.9s
ABKAR **Akbulak array** 55.50 52 *e*P P 03 16 00.2 -0.5
ABKAR **Akbulak array** 55.50 52 *e*P P 03 16 00.2 -0.5
220A **Playas Peak, P** 55.71 279 ⇓P P 03 16 03.2 +0.6
baz=56
SPU **Mount Spurr** 55.91 329 *e*P P 03 16 04.1 +0.5
SPU **Mount Spurr** 55.91 329 *e*P P 03 16 04.1 +0.5
PAHR **Pah Rah Range** 56.60 293 *e*P P 03 16 09.9 +0.9
comp=Z,24nm,1.5s
PAHR **Pah Rah Range** 56.60 293 *e*P P 03 16 09.9 +0.9
comp=Z,24nm,1.5s
W13A **Hualapai Mount** 56.65 286 ⇑P P 03 16 10.2 +0.8
baz=56
NVAR **Mina Array Bea** 56.88 291 P P 03 16 11.3 +0.3
NVAR **Mina Array Bea** 56.88 291 P P 03 16 11.3 +0.3
comp=Z,0.5nm,0.5s,baz=52,slow=2.6,SNR=4.1
NVAR LR LR 03 39 58.5
comp=Z,121nm,19.2s,baz=194,slow=35
NVAR **Mina Array Bea** 56.88 291 P P 03 16 11.3 +0.3
Y14A **Wickenburg** 56.94 284 ⇓P P 03 16 12.4 +1.1
baz=57
YBH **Yreka Blue Hor** 57.04 297 P P 03 16 10.9 -1.0
YBH **Yreka Blue Hor** 57.04 297 P P 03 16 10.9 -1.0
comp=Z,1.5nm,0.9s,baz=354,slow=6.9,SNR=3.5
YBH **Yreka Blue Hor** 57.04 297 P P 03 16 10.9 -1.0
GRAC **Grapevine Rang** 57.34 289 ⇓P P 03 16 14.9 +0.8
baz=57
PDMCI **Parker Dam,Lak** 57.35 285 ⇑P P 03 16 15.1 +0.9
baz=57
BRVK **Borovoye** 57.50 44*c* *i*P P 03 16 16.0 +1.1
BRVK pmax pmax
comp=Z,11nm,1.2s
BRVK **Borovoye** 57.50 44 *e*P P 03 16 15.6 +0.7
comp=Z,7.9nm,0.9s
BRVK **Borovoye** 57.50 44 *e*P P 03 16 15.6 +0.7
comp=Z,7.9nm,0.9s
ROSC **El Rosal** 57.70 228 P P 03 16 18.2 +1.0
ROSC **El Rosal** 57.70 228 P P 03 16 18.2 +1.0
comp=Z,33nm,0.9s,baz=88,slow=7.7,SNR=31
ROSC LR LR 03 35 35.5
comp=Z,68nm,20.1s,baz=9.2,slow=30
ROSC **El Rosal** 57.70 228 P P 03 16 18.2 +1.0
GMRC **Granite Mounta** 57.91 286 ⇓P P 03 16 18.9 +0.7
baz=58
Y12C **Blythe** 57.97 285 ⇑P P 03 16 19.1 +0.6
baz=58,SNR=5.8
IRM **Iron Mountain** 58.05 286 ⇓P P 03 16 19.9 +0.9
baz=58
MPMC **Manual Prospec** 58.06 289 ⇑P P 03 16 20.0 +0.6
baz=58
GSC **Goldstone** 58.20 288 ⇑P P 03 16 20.9 +0.7
baz=58
113A **Mohawk Valley,** 58.22 283 ⇓P P 03 16 21.2 +1.0
baz=58
214A **Organ Pipe Nat** 58.23 282 ⇓P P 03 16 20.7 +0.3
baz=58
HEC **Hector,Ludlow** 58.26 287 ⇑P P 03 16 21.2 +0.6
baz=58
BC3 **Big Chuckawall** 58.58 285 ⇑P P 03 16 23.2 +0.3
baz=58,SNR=6.4
LRMC **Laurel Mountai** 58.59 288 ⇓P P 03 16 23.7 +0.7
baz=58

BELC	**Belle Mtn. Jos**	**58.65**	**286**	⇑P		**P**	**03 16 24.7**	**+1.2**
	baz=58								
ISA	**Isabella**	**58.91**	**289**	⇑P		**P**	**03 16 26.3**	**+1.2**
	baz=59								
VES	**Vestal, Richgr**	**59.13**	**290**	⇓P		**P**	**03 16 27.2**	**+0.7**
	baz=59								
EDW2	**Edwards Air Fo**	**59.19**	**288**	⇓P		**P**	**03 16 27.9**	**+0.8**
	baz=59								
PFO	**Pinyon Flat Ob**	**59.20**	**286**	⇑P		**P**	**03 16 28.0**	**+0.8**
	baz=59								
BFSC	**Mount Baldy Ra**	**59.45**	**287**	⇓P		**P**	**03 16 30.1**	**+1.1**
	baz=59								
MURC	**Murrieta**	**59.64**	**287**	⇑P		**P**	**03 16 31.2**	**+1.0**
	baz=60								
PKM	**Peak Mountain**	**60.23**	**289**	⇓P		**P**	**03 16 35.4**	**+1.1**
	baz=60								
ZALV	**Zalesovo Beam**	**62.44**	**35**	P		**P**	**03 16 48.6**	**-0.3**
ZALV	**Zalesovo Beam**	**62.44**	**35**	P		**P**	**03 16 48.5**	**-0.3**
ZALV	**Zalesovo Beam**	**62.44**	**35**	P		**P**	**03 16 48.5**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=316,slow=6.2,SNR=4.6								
ZALV				LR		LR	03 43 32.5		
	comp=Z,32nm,19.8s,baz=256,slow=36								
ZALV	**Zalesovo Beam**	**62.44**	**35**	P		**P**	**03 16 48.5**	**-0.3**
SEY	**Seymchan**	**64.49**	**356**	⇑*i*P		**P**	**03 17 02.6**	**+0.4**
SAML	**Samuel**	**66.06**	**211**	*e*P		**P**	**03 17 11.9**	**-1.0**
	comp=Z,18nm,1.4s								
SAML	**Samuel**	**66.06**	**211**	*e*P		**P**	**03 17 11.9**	**-1.0**
	comp=Z,18nm,1.4s								
AAK	**Ala-Archa**	**67.22**	**49**	*e*P		**P**	**03 17 22.5**	**+2.1**
AAK				pmax		pmax			
	comp=Z,11nm,1.2s								
MK31	**Makanchi Array**	**67.27**	**41**	*e*P		**P**	**03 17 20.4**	**0.0**
MK31	**Makanchi Array**	**67.27**	**41**	*e*P		**P**	**03 17 20.4**	**0.0**
MK31	**Makanchi Array**	**67.27**	**41**	*e*P		**P**	**03 17 20.4**	**0.0**
MKAR	**Makanchi Array**	**67.27**	**41**	*ce*P		**P**	**03 17 20.7**	**+0.3**
MKAR				pmax		pmax			
	comp=Z,3.0nm,0.9s								
MKAR	**Makanchi Array**	**67.27**	**41**	P		**P**	**03 17 20.1**	**-0.3**
MKAR	**Makanchi Array**	**67.27**	**41**	P		**P**	**03 17 20.1**	**-0.3**
	comp=Z,3.2nm,0.9s,baz=329,slow=6.0,SNR=28								
MKAR				LR		LR	03 45 03.3		
	comp=Z,71nm,20.8s,baz=104,slow=34								
MKAR	**Makanchi Array**	**67.27**	**41**	P		**P**	**03 17 20.1**	**-0.3**
HVS	**Khovu-Aksy**	**67.79**	**32**	⇑*i*P		**P**	**03 17 24.6**	**+0.9**
HVS				pmax		pmax			
	comp=Z,44nm,1.0s								
BDFB	**Brasilia**	**69.07**	**194**	P		**P**	**03 17 31.8**	**-0.2**
BDFB	**Brasilia**	**69.07**	**194**	P		**P**	**03 17 31.8**	**-0.2**
	comp=Z,5.5nm,0.8s,baz=44,slow=5.6,SNR=7.7								
BDFB				LR		LR	03 42 43.2		
	comp=Z,93nm,19.4s,baz=357,slow=32								
BDFB	**Brasilia**	**69.07**	**194**	P		**P**	**03 17 31.8**	**-0.2**
MOY	**Mondy**	**69.53**	**28**	*e*P		**P**	**03 17 35.9**	**+1.3**
KSH	**Kashi**	**70.37**	**50**	P		**P**	**03 17 40.8**	**+0.8**
KSH				pP		**pP**	**03 17 46.9**	**+1.2**
KSH				sP		**sP**	**03 17 48.5**	**+0.7**
KSH				PP		PP	03 20 20.8	+5.6
KSH				S		**S**	**03 26 50.6**	**-0.9**
KSH				SKS		**SKSac**	**03 27 40.0**	**-0.7**
KSH				SS		**SS**	**03 31 24.6**	**+3.3**
KSH				pmax		pmax			
	comp=Z,7.0nm,0.8s								
KSH				pmax		pmax			
	comp=Z,81nm,4.0s								
KSH				LR		LR			
	comp=N,50nm,6.7s								
KSH				LR		LR			
	comp=E,83nm,8.0s								
KSH				LR		LR			
	comp=Z,180nm,5.1s								
ZAK	**Zakamensk**	**71.32**	**27**	*e*P		**P**	**03 17 45.3**	**-0.2**
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.8s								
SIV	**San Ignacio**	**72.12**	**206**	P		**P**	**03 17 50.9**	**+0.4**
SIV	**San Ignacio**	**72.12**	**206**	P		**P**	**03 17 50.9**	**+0.4**
	comp=Z,3.8nm,0.6s,baz=32,slow=5.3,SNR=16								
SIV	**San Ignacio**	**72.12**	**206**	P		**P**	**03 17 50.9**	**+0.4**
PETK	**Petropavlovsk-**	**73.96**	**352**	P		**P**	**03 18 01.2**	**+0.1**
PETK	**Petropavlovsk-**	**73.96**	**352**	P		**P**	**03 18 01.2**	**+0.1**
PETK	**Petropavlovsk-**	**73.96**	**352**	P		**P**	**03 18 01.2**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=64,slow=3.8,SNR=4.4								
PETK				LR		LR	03 52 40.1		
	comp=Z,36nm,19.3s,baz=331,slow=38								
PETK	**Petropavlovsk-**	**73.96**	**352**	P		**P**	**03 18 01.2**	**+0.1**
SONM	**Songino Array**	**74.48**	**26**	P		**P**	**03 18 04.6**	**+0.3**
SONM	**Songino Array**	**74.48**	**26**	P		**P**	**03 18 04.6**	**+0.3**
	comp=Z,7.0nm,1.0s,baz=328,slow=5.5,SNR=31								
SONM	**Songino Array**	**74.48**	**26**	P		**P**	**03 18 04.6**	**+0.3**
LPAZ	**La Paz**	**74.53**	**213**	*e*P		**P**	**03 18 05.2**	**-0.2**
	comp=Z,7.1nm,0.9s								
LPAZ	**La Paz**	**74.53**	**213**	P		**P**	**03 18 05.7**	**+0.3**
	comp=Z,5.2nm,0.9s,baz=20,slow=6.0,SNR=18								
LPAZ				LR		LR	03 45 45.0		
	comp=Z,43nm,20.1s,baz=198,slow=32								
LPAZ	**La Paz**	**74.53**	**213**	*e*P		**P**	**03 18 05.2**	**-0.2**
	comp=Z,7.0nm,0.9s								
ULN	**Ulaanbaatar**	**74.63**	**25**	*e*P		**P**	**03 18 05.8**	**+0.6**
	comp=Z,14nm,1.1s								
ULN	**Ulaanbaatar**	**74.63**	**25**	*e*P		**P**	**03 18 05.8**	**+0.6**
	comp=Z,14nm,1.1s								
GTA	**Gaotai**	**80.15**	**34**	*e*P		**P**	**03 18 36.9**	**+0.7**
GTA				pP		**pP**	**03 18 41.8**	**-0.2**
GTA				sP		**sP**	**03 18 43.9**	**-0.2**
GTA				pmax		pmax			
	comp=Z,4.0nm,1.6s								
KMBO	**Kilima Mbogo**	**80.17**	**105**	LR		LR	03 51 07.9		
	comp=Z,51nm,20.1s,baz=277,slow=34								
LVC	**Limon Verde**	**80.69**	**212**	P		**P**	**03 18 40.4**	**+1.1**
LVC	**Limon Verde**	**80.69**	**212**	P		**P**	**03 18 40.4**	**+1.1**
	comp=Z,9.5nm,0.8s,baz=22,slow=5.9,SNR=12								
LVC	**Limon Verde**	**80.69**	**212**	P		**P**	**03 18 40.4**	**+1.1**
CPUP	**Villa Florida**	**81.17**	**200**	P		**P**	**03 18 40.4**	**-1.0**
CPUP	**Villa Florida**	**81.17**	**200**	P		**P**	**03 18 40.4**	**-1.0**
	comp=Z,3.7nm,0.7s,baz=0.2,slow=4.8,SNR=12								
CPUP				LR		LR	03 48 18.1		
	comp=Z,97nm,18.9s,baz=161,slow=31								
CPUP	**Villa Florida**	**81.17**	**200**	P		**P**	**03 18 40.4**	**-1.0**
MDJ	**Mudanjiang**	**82.08**	**11**	P		**P**	**03 18 45.6**	**-0.6**
MDJ				pmax		pmax			
	comp=Z,5.0nm,1.3s								
MDJ				pmax		pmax			
	comp=Z,28nm,3.1s								
CN2	**Changchun**	**82.32**	**14**	*e*P		**P**	**03 18 47.3**	**-0.2**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
HHC	**Hu-ho-hao-te**	**82.34**	**25**	*e*P		**P**	**03 18 46.3**	**-1.5**
HHC				pP		**PcP**	**03 18 50.5**	**-2.5**
HHC				sP		**sP**	**03 18 52.8**	**-2.9**
HHC				PP		**PP**	**03 21 57.3**	**+1.6**
HHC				S		**S**	**03 28 59.4**	**-3.3**
HHC				SKS		**SKSac**	**03 29 01.8**	**-5.9**
HHC				sS		**SKKSac**	**03 29 06.5**	**-4.7**
HHC				pmax		pmax			
	comp=Z,19nm,1.3s								
HHC				pmax		pmax			
	comp=Z,50nm,6.0s								
HHC				LR		LR			
	comp=N,170nm,14.3s								
HHC				LR		LR			
	comp=E,220nm,19.0s								
HHC				LR		LR			
	comp=Z,150nm,17.8s								
USRK	**Ussuriysk Arra**	**82.75**	**9**	P		**P**	**03 18 50.4**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=262,slow=5.8,SNR=4.1								
LZH	**Lanzhou**	**84.50**	**32**	*e*P		**P**	**03 18 58.3**	**-0.8**
LZH				pP		**PcP**	**03 19 03.4**	**+0.7**
LZH				sP		**sP**	**03 19 05.5**	**-1.5**
LZH				pmax		pmax			
	comp=Z,14nm,1.0s								
CFAA	**Coronel Fontan**	**88.92**	**208**	P		**P**	**03 19 19.8**	**-0.4**
CFAA	**Coronel Fontan**	**88.92**	**208**	P		**P**	**03 19 19.8**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=6.7,slow=4.1,SNR=7.5								
CFAA	**Coronel Fontan**	**88.92**	**208**	P		**P**	**03 19 19.8**	**-0.4**
CD2	**Chengdu**	**89.20**	**35**	P		**P**	**03 19 22.0**	**+0.1**
CD2				pP		**pP**	**03 19 26.9**	**-0.9**
CD2				sP		**sP**	**03 19 29.0**	**-0.8**
CD2				PP		**PP**	**03 22 53.8**	**+2.3**
CD2				SKS		**SKSac**	**03 29 49.4**	**-1.6**
CD2				S		**S**	**03 30 07.8**	**-2.4**
CD2				sS		**ScS**	**03 30 15.3**	**+0.1**
CD2				SS		**SS**	**03 36 03.4**	**+0.6**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,100nm,5.6s								
NJ2	**Nanjing**	**92.48**	**22**	*e*P		**P**	**03 19 36.8**	**-0.2**
NJ2				pmax		pmax			
	comp=Z,20nm,0.6s								
GYA	**Guiyang**	**94.28**	**34**	*e*P		**P**	**03 19 45.0**	**-0.6**
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
BOSA	**Boshof**	**96.47**	**130**	LR		LR	04 00 49.9		
	comp=Z,65nm,18.5s,baz=165,slow=34								
SNAA	**Sanae**	**126.20**	**168**	*e*PKPdf		**PKPdf**	**03 25 26.3**	**-0.7**
SNAA	**Sanae**	**126.20**	**168**	PKP		**PKPdf**	**03 25 26.4**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=335,slow=1.4,SNR=14								
MAW	**Mawson**	**139.92**	**144**	PKP		**PKPdf**	**03 25 53.8**	**+1.1**
MAW	**Mawson**	**139.92**	**144**	PKP		**PKPdf**	**03 25 53.8**	**+1.1**
	comp=Z,1.2nm,0.5s,baz=312,slow=2.9,SNR=6.2								
MAW	**Mawson**	**139.92**	**144**	PKIKP		**PKPdf**	**03 25 53.8**	**+1.1**
QSPA	**South Pole Qui**	**142.66**	**180**	PKPpre		PKPpre	03 25 53.4		
QSPA	**South Pole Qui**	**142.66**	**180**	PKhKP		PKPpre	03 25 53.3		
	comp=Z,2.1nm,0.8s,baz=235,slow=1.2,SNR=8.5								
DZM	**Mont Dzumac**	**145.25**	**324**	PKPbc		**PKPab**	**03 26 03.8**	**+0.3**
DZM	**Mont Dzumac**	**145.25**	**324**	PKPbc		**PKPab**	**03 26 03.8**	**+0.3**
	comp=Z,22nm,1.0s,baz=83,slow=19,SNR=6.3								
DZM	**Mont Dzumac**	**145.25**	**324**	PKPbc		**PKPab**	**03 26 03.8**	**+0.3**
WRA	**Warramunga Arr**	**146.18**	**18**	PKPbc		**PKPdf**	**03 26 05.8**	**+0.4**
WRA	**Warramunga Arr**	**146.18**	**18**	PKPbc		**PKPdf**	**03 26 05.8**	**+0.4**
	comp=Z,10nm,1.0s,baz=342,slow=3.1,SNR=40								
WRA	**Warramunga Arr**	**146.18**	**18**	PKPbc		**PKPdf**	**03 26 05.8**	**+0.4**
CTA	**Charters Tower**	**147.36**	**358**	PKPbc		**PKPbc**	**03 26 09.9**	**+0.2**
CTA	**Charters Tower**	**147.36**	**358**	PKPbc		**PKPbc**	**03 26 09.9**	**+0.2**
	comp=Z,2.7nm,0.6s,baz=354,slow=4.4,SNR=5.2								
CTA	**Charters Tower**	**147.36**	**358**	PKPbc		**PKPbc**	**03 26 09.9**	**+0.2**
AS31	**Alice Springs**	**149.71**	**21**	*e*PKPbc		**PKPbc**	**03 26 15.4**	**-0.4**
AS31	**Alice Springs**	**149.71**	**21**	*e*PKPbc		**PKPbc**	**03 26 15.4**	**-0.4**
ASAR	**Alice Springs**	**149.71**	**21**	PKPbc		**PKPbc**	**03 26 15.1**	**-0.7**
ASAR	**Alice Springs**	**149.71**	**21**	PKPbc		**PKPbc**	**03 26 15.1**	**-0.7**
	comp=Z,5.2nm,0.8s,baz=347,slow=2.3,SNR=36								
ASAR	**Alice Springs**	**149.71**	**21**	PKPbc		**PKPbc**	**03 26 15.1**	**-0.7**
VNDA	**Vanda**	**154.40**	**188**	PKPbc		**PKPbc**	**03 26 25.1**	**+0.4**
VNDA	**Vanda**	**154.40**	**188**	PKPbc		**PKPbc**	**03 26 25.1**	**+0.4**
	comp=Z,2.6nm,0.9s,baz=256,slow=2.7,SNR=13								
VNDA	**Vanda**	**154.40**	**188**	PKPbc		**PKPbc**	**03 26 25.1**	**+0.4**

IDC 13 03:09:44.8±3.1, 17.16S×128.68E, h0km, mb1 3.3/4, mb1mx3.2/17, mbtmp3.1/4, ML2.9/4, Error ellipse: s-maj=39.0km s-min=14.3km az=6.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**3.05**	**252**	Pn	Pn	03 10 34.6	+0.3
	0.3nm,0.3s,baz=274,slow=21,SNR=26						
FITZ				Sn	Sn	03 11 12.2	+0.7
	1.7nm,0.3s,baz=330,slow=20,SNR=5.7						
FITZ				Lg	Lg	03 11 21.3	
	4.3nm,0.3s,baz=165,slow=20,SNR=11						
WRA	**Warramunga Arr**	**6.04**	**118**	Pn	Pn	03 11 15.8	+0.4
	0.2nm,0.3s,baz=296,slow=13,SNR=17						
WRA				Sn	Sn	03 12 25.4	+0.1
	0.7nm,0.3s,baz=298,slow=24,SNR=6.9						
WRA				Lg	Lg	03 12 54.9	
	0.8nm,0.3s,baz=294,slow=28,SNR=5.3						
ASAR	**Alice Springs**	**8.11**	**144**	Pn	Pn	03 11 46.0	+2.0
	0.1nm,0.3s,baz=325,slow=11,SNR=4.4						
ASAR				Sn	Sn	03 13 20.1	+3.6
	0.3nm,0.3s,baz=319,slow=22,SNR=7.3						
ASAR				Lg	Lg	03 14 03.7	
	0.1nm,0.3s,baz=326,slow=31,SNR=3.6						
STKA	**Stephens Creek**	**18.75**	**144**	P	P	03 14 03.5	-1.9
	0.1nm,0.3s,baz=310,slow=7.9,SNR=2.2						

IDC 13 03:10:31.9±1.7, 4.22N×126.71E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/22, mbtmp3.8/5, Error ellipse: s-maj=107.7km s-min=22.3km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.20**	**183**	P	P	03 15 30.0	-0.1
	1.0nm,0.5s,baz=342,slow=9.6,SNR=3.6						
WRA	**Warramunga Arr**	**25.16**	**163**	P	P	03 15 57.8	-1.4
	0.6nm,0.4s,baz=342,slow=10,SNR=5.5						
ASAR	**Alice Springs**	**28.59**	**166**	P	P	03 16 31.4	+1.4
	0.5nm,0.6s,baz=343,slow=7.1,SNR=4.3						
STKA	**Stephens Creek**	**38.59**	**159**	P	P	03 17 56.9	0.0
	2.6nm,0.7s,baz=356,slow=10.0,SNR=3.6						
MKAR	**Makanchi Array**	**57.15**	**325**	P	P	03 20 20.6	0.0
	0.4nm,0.4s,baz=119,slow=7.2,SNR=12						

MEX 13 03:23:24.5±0.8, 16.80N×100.13W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.28**	**332**	*e*P	Pg	03 23 29.6	-0.4
CAIG				*i* S	Sg	03 23 33.5	-0.3
MEIG	**Mezcala**	**1.22**	**23**	*e*P	Pg	03 23 44.0	-4.1
MEIG				*i* S	Sg	03 23 59.4	-4.8
ARIG	**Puente Sto Nin**	**1.49**	**352**	*e*P	Pn	03 23 48.6	-3.4
ARIG				*e*S	Sn	03 24 07.2	-4.7
ZIIG	**Zihuatanejo**	**1.51**	**302**	*e*P	Pn	03 23 48.3	-3.9
ZIIG				*i* S	Sn	03 24 07.8	-4.5
PLIG	**Platanillo**	**1.70**	**21**	*e*P	Pn	03 23 51.8	-3.1
PLIG				*i* S	Sn	03 24 13.1	-4.1
PNIG	**Pinotepa**	**1.96**	**102**	*e*P	Pn	03 23 54.9	-3.6
PNIG				*i* S	Sn	03 24 19.2	-4.3
YAIG	**Yautepec**	**2.29**	**26**	*e*P	Pn	03 24 00.5	-2.7
YAIG				*e*S	Sn	03 24 28.0	-3.9

MEX 13 03:36:35.8±0.7, 16.79N×100.14W, h7km±7km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.28**	**335**	*e*P	Pg	03 36 41.0	-0.3
CAIG				*i* S	Sg	03 36 45.0	-0.2
MEIG	**Mezcala**	**1.23**	**24**	*e*P	Pb	03 36 55.3	-4.3
MEIG				*i* S	Sg	03 37 10.6	-5.2
ARIG	**Puente Sto Nin**	**1.49**	**353**	*e*P	Pn	03 36 59.9	-3.2
ARIG				*e*S	Sn	03 37 18.2	-4.7
ZIIG	**Zihuatanejo**	**1.50**	**303**	*e*P	Pn	03 36 59.7	-3.5
ZIIG				*e*S	Sn	03 37 17.8	-5.2
PLIG	**Platanillo**	**1.71**	**21**	*e*P	Pn	03 37 03.2	-2.9
PLIG				*e*S	Sn	03 37 24.3	-4.0
PNIG	**Pinotepa**	**1.97**	**101**	*e*P	Pn	03 37 07.0	-2.7
PNIG				*i* S	Sn	03 37 29.9	-4.9
YAIG	**Yautepec**	**2.30**	**26**	*i* P	Pn	03 37 10.6	-3.8
YAIG				*i* S	Sn	03 37 38.9	-4.2

WEL 13 03:42:06.0±1.3, 36.46S×177.56E, h185km±15km, ML3.5/4, Error ellipse: s-maj=16.1km s-min=10.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**1.70**	**161**	PN	Pn	03 42 40.0	-0.3
PUZ				SN	Sn	03 43 05.3	-1.8
PUZ				AML	AML	03 43 25.5	
URZ	**Urewera**	**1.83**	**191**	PN	Pn	03 42 41.8	+0.3
MWZ	**Matawai**	**1.87**	**181**	PN	Pn	03 42 42.6	+0.6
MWZ				AML	AML	03 42 43.0	
MWZ				AML	AML	03 43 58.4	
CNGZ	**Carnagh Statio**	**2.08**	**166**	PN	Pn	03 42 44.6	+0.3
BFZ	**Birch Farm**	**4.34**	**193**	PN	Pn	03 43 11.6	+0.1
BFZ				SN	Sn	03 44 01.8	-1.1
MRZ	**Mangatainoka R**	**4.47**	**200**	PN	Pn	03 43 12.7	-0.5

*BJI **13** 03:52:31.1, 1.73N×98.06E, h38km, mB4.9/5, mb4.8/17, Ms7 4.3/2*
*MOS **13** 03:52:32.4±0.9, 1.98N×97.93E, h33km, mb4.8/22, Error ellipse: s-maj=16.0km s-min=6.2km az=109.7*
*ISCJB **13** 03:52:36.6±0.6, 2.00N±0.04×97.87E±0.04, h66km±4km, mb4.5/53, Error ellipse: s-maj=7.7km s-min=5.6km az=23.3*
*IDC **13** 03:52:37.8±3.1, 2.01N×97.94E, h61km±25km, mb4.2/16, mb1 4.3/17, mb1mx4.1/26, mbtmp4.2/17, ML4.8/1, MS3.5/13, Ms1 3.5/13, ms1mx3.2/47, Error ellipse: s-maj=32.3km s-min=11.9km az=52.0*
*NEIC **13** 03:52:38.8±1.4, 2.04N×97.99E, h72km±11km, mb4.6/8, Error ellipse: s-maj=15.4km s-min=5.6km az=54.0*
*DJA **13** 03:52:38.8±2.2, 2.2N±3×9.8E±, h39km±29km, M4.8/8, mb4.9/2, MLv4.7/8*
*BKK **13** 03:52:56.6±0.6, 3.5N±5×9.9E±, h82km±10km, M4.5/7, mB4.2/1, mb4.6/7, MLv4.5/6, Mw(mB)3.4/1*

ISC 13 03:52:35.7±0.8, 1.93N±0.06×97.83E±0.04, h43km±6km, n165, σ1.905/168, mb4.6/53, MS3.6/14, 6C-8D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**1.39**	**51**	P	**Pn**	**03 52 59.1**	**+0.4**
PSI				S	**Sn**	**03 53 19.1**	**+3.1**
PSI	**Prapat**	**1.39**	**51**	P	**Pn**	**03 52 59.1**	**+0.4**
	65nm,0.3s,baz=203,slow=5.3,SNR=216						
PSI				S	**Sn**	**03 53 19.1**	**+3.1**
	210nm,0.3s,baz=134,slow=23,SNR=10						
SNSI	**Sinabang, Aceh**	**1.58**	**288**	P	**Pn**	**03 53 03.2**	**+2.0**
SNSI				S	**Sn**	**03 53 21.8**	**+1.3**
KCSI	**Kotacane, Aceh**	**1.58**	**358**	P	**Pn**	**03 53 02.0**	**+0.7**
KCSI				S	**Sn**	**03 53 20.3**	**-0.3**
TSI	**Tuntungan**	**1.72**	**25**	P	**Pn**	**03 53 05.5**	**+2.3**
TSI				S	**Sn**	**03 53 26.8**	**+2.8**
LHMI	**Lhok Sumawe**	**3.40**	**345**	P	**Pn**	**03 53 28.6**	**+2.4**
PPI	**Padang Panjang**	**3.49**	**133**	P	Pn	03 53 32.0	+4.5
BKNI	**Bangkinang**	**3.58**	**116**	P	Pn	03 53 34.4	+5.7
FRIM	**Kepong**	**4.00**	**71**	P	**Pn**	**03 53 36.5**	**+1.9**
IPM	**Ipoh**	**4.07**	**51**	*e*Pn	**Pn**	**03 53 37.5**	**+2.0**
IPM	**Ipoh**	**4.07**	**51**	P	**Pn**	**03 53 37.3**	**+1.8**
IPM	**Ipoh**	**4.07**	**51**	P	**Pn**	**03 53 37.1**	**+1.6**
BSI	**Banda Aceh**	**4.36**	**325**	P	**Pn**	**03 53 39.6**	**+0.2**
KULM	**Kulim**	**4.36**	**40**	*e*Pn	**Pn**	**03 53 40.6**	**+1.1**
KULM				*e*S	**Sn**	**03 54 29.1**	**0.0**
KULM	**Kulim**	**4.36**	**40**	P	**Pn**	**03 53 39.2**	**-0.3**
KULM	**Kulim**	**4.36**	**40**	P	**Pn**	**03 53 40.8**	**+1.3**
KGM	**Kluang**	**5.48**	**89**	P	**Pn**	**03 53 56.7**	**+1.9**
MYKOM	**Kota Tinggi**	**6.01**	**91**	P	**Pn**	**03 54 03.6**	**+1.5**
MYKOM	**Kota Tinggi**	**6.01**	**91**	P	Pn	03 54 05.7	+3.5
	50nm,0.5s,0.3nm						
TRTT	**Trang**	**6.15**	**17**	P	**Pn**	**03 54 04.9**	**+0.8**
KTGM	**Kuala Trenggan**	**6.28**	**57**	P	**Pn**	**03 54 07.1**	**+1.4**
PHET	**Kaeng Krachan**	**11.05**	**9**	P	**Pn**	**03 55 12.3**	**+1.0**
PBKT	**Sadao Pong**	**14.87**	**12**	P	**P**	**03 56 07.6**	**-0.6**
	40nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.46**	**4**	P	**Pn**	**03 56 23.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**16.46**	**4**	P	**Pn**	**03 56 23.6**	**-0.1**
	1.2nm,0.3s,baz=195,slow=11,SNR=18						
PANO	**Nakornpanom**	**16.53**	**23**	P	**P**	**03 56 27.4**	**+0.8**
	35nm,0.7s						
LAMP	**Lampang**	**16.59**	**6**	P	**P**	**03 56 28.5**	**+1.3**
	5.1nm,0.7s,132nm						
CHTO	**Chiang Mai**	**16.82**	**4**	*e*P	**Pn**	**03 56 26.7**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CHTO	**Chiang Mai**	**16.82**	**4**	*e*Pn	**Pn**	**03 56 26.7**	**-1.4**
	comp=Z,8.9nm,0.7s						
CHTO	**Chiang Mai**	**16.82**	**4**	P	**P**	**03 56 29.1**	**-0.7**
	comp=Z,19nm,0.9s						
KAPI	**Kappang**	**22.96**	**108**	P	**P**	**03 57 36.2**	**-0.4**
KAPI	**Kappang**	**22.96**	**108**	P	**P**	**03 57 36.2**	**-0.4**
	comp=Z,12nm,1.0s,baz=317,slow=8.7,SNR=4.0						
KMI	**Kunming**	**23.54**	**11**	P	**P**	**03 57 42.4**	**0.0**
KMI				pmax	pmax		
	comp=Z,15nm,1.1s						
SHL	**Shillong**	**24.19**	**347**	*e*P	**P**	**03 57 49.0**	**+0.6**
TAPN	**Taplejung**	**27.08**	**340**	*e*P	**P**	**03 58 14.7**	**0.0**
	comp=Z,32nm,0.8s						
RAMN	**Ramite**	**27.11**	**338**	*e*P	**P**	**03 58 15.4**	**+0.4**
	comp=Z,23nm,0.5s						
JIRN	**Jiri**	**27.91**	**338**	*e*P	**P**	**03 58 22.5**	**+0.3**
	comp=Z,30nm,0.8s						
PKI	**Pulchoki**	**28.14**	**336**	*e*P	**P**	**03 58 25.1**	**+0.9**
	comp=Z,18nm,0.6s						
GUN	**Gumba**	**28.25**	**337**	*e*P	**P**	**03 58 25.7**	**+0.4**
	comp=Z,68nm,0.8s						
DMN	**Daman**	**28.30**	**336**	*e*P	**P**	**03 58 26.6**	**+1.1**
	comp=Z,17nm,0.6s						
KKN	**Kakani**	**28.38**	**336**	*e*P	**P**	**03 58 26.0**	**-0.3**
KOLN	**Koldanda**	**29.08**	**333**	*e*P	**P**	**03 58 32.8**	**+0.3**
	comp=Z,35nm,0.7s						
**CD

KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 47.69 333 *eP* **P 04 01 08.7 +0.6**
comp=Z,2.6nm,0.6s
ZAK Zakamensk 48.50 5 *eP* **P 04 01 11.4 -2.9**
ZAK pmax pmax
comp=Z,3.0nm,0.7s
HVS Khovu-Aksy 49.16 357 *eP* **P 04 01 18.7 -0.6**
HVS pmax pmax
comp=Z,28nm,1.2s
USRK Ussuriysk Arra 51.83 31 LR LR 04 26 47.8
comp=Z,65nm,19.2s,baz=110,slow=40
ZALV Zalesovo Beam 52.95 350 P **P 04 01 47.3 -0.3**
ZALV Zalesovo Beam 52.95 350 P **P 04 01 47.2 -0.3**
ZALV Zalesovo Beam 52.95 350 P **P 04 01 47.2 -0.3**
comp=Z,21nm,0.4s,baz=168,slow=6.9,SNR=77
STKA Stephens Creek 53.38 133 P **P 04 01 51.6 +0.4**
STKA Stephens Creek 53.38 133 P **P 04 01 51.6 +0.4**
comp=Z,2.5nm,0.8s,baz=8,8,slow=5.7,SNR=5.7
KRAR Krasnoyarsk 54.07 357 *eP* **P 04 01 55.9 +0.2**
KRAR pmax pmax
comp=Z,23nm,0.9s
NVS Novosibirsk 54.08 350 *eP* **P 04 01 54.7 -1.1**
NVS pmax pmax
comp=Z,11nm,1.2s
NVS pmax pmax
comp=N,6.0nm,1.0s
KLR Kul'dur 55.32 26 *eP* P 04 02 00.0 -5.0
VOSK Vostochnaya 55.33 340 P **P 04 02 04.3 -0.7**
VOSK pmax pmax
comp=Z,16nm,0.6s
BVA0 Borovoye Array 55.78 340 P **P 04 02 07.1 -1.1**
BVA0 pmax pmax
comp=Z,17nm,0.9s
BVAR Borovoye Array 55.78 340 LR LR 04 27 35.5
comp=Z,42nm,21.1s,baz=261,slow=38
BRVK Borovoye 55.84 340*c iP* **P 04 02 07.9 -0.7**
BRVK pmax pmax
comp=Z,14nm,0.7s
BRVK Borovoye 55.84 340 *eP* **P 04 02 08.0 -0.7**
comp=Z,16nm,0.8s
AB31 Akbulak array 57.18 331*ceP* **P 04 02 17.7 -0.5**
AB31 pmax pmax
comp=Z,1.0nm,0.2s
ABKAR Akbulak array 57.18 331 *eP* **P 04 02 17.6 -0.6**
comp=Z,6.9nm,0.7s
ASAJ Asahikawa 57.70 37 LR LR 04 26 05.6
comp=Z,28nm,21.4s,baz=158,slow=35
YSS Yuzh-Sakhalins 59.39 34 *eP* P 04 02 29.8 -3.9
KMBO Kilima Mbogo 60.65 268 LR LR 04 24 03.7
comp=Z,46nm,19.4s,baz=279,slow=31
GNI Garni 61.22 316 LR LR 04 31 48.8
comp=Z,20nm,19.2s,baz=270,slow=38
SVE Sverdlovsk 62.25 338⇓ *eP* **P 04 02 52.7 -0.3**
SVE pmax pmax
comp=Z,19nm,0.9s
ARU Arti 62.77 337*d iP* **P 04 02 55.8 -0.6**
ARU S **S 04 11 22.6 +0.4**
ARU pmax pmax
comp=Z,10.0nm,1.2s
KBZ Khabaz 63.94 319 P **P 04 03 04.7 +0.2**
KBZ Khabaz 63.94 319 P **P 04 03 04.7 +0.2**
KBZ Khabaz 63.94 319 P **P 04 03 04.7 +0.2**
comp=Z,8.1nm,0.8s,baz=128,slow=6.6,SNR=18
KIV Kislovodsk 64.18 319 *eP* **P 04 03 06.5 +0.4**
KIV pmax pmax
comp=Z,11nm,1.0s
YAK Yakutsk 64.55 16 *eP* **P 04 03 05.7 -2.3**
YAK pmax pmax
comp=Z,20nm,0.9s
BRTR Keskin Array B 69.09 312 P **P 04 03 37.1 -0.5**
BRTR Keskin Array B 69.09 312 P **P 04 03 37.1 -0.5**
comp=Z,2.0nm,0.7s,baz=127,slow=7.2,SNR=13
BR131 Keskin Array S 69.10 312 *eP* **P 04 03 36.7 -0.9**
comp=Z,2.7nm,0.9s
OBN Obninsk 72.34 328 *eP* **P 04 03 55.7 -1.1**
OBN *i* 04 04 13.1
OBN pmax pmax
comp=Z,5.0nm,1.1s
SEY Seymchan 72.85 23 *eP* **P 04 03 59.7 0.0**
MAW Mawson 73.56 193 LR LR 04 33 04.6
comp=Z,42nm,18.4s,baz=164,slow=33
VRI Vrincioaia 75.52 317⇓ **P 04 04 15.7 0.0**
VRI Vrincioaia 75.52 317⇓ *iP* **P 04 04 15.7 0.0**
BOSA Boshof 75.69 240 LR LR 04 34 30.2
comp=Z,52nm,21.3s,baz=344,slow=33
TESR Tescani 75.71 318⇑ *iP* **P 04 04 16.8 0.0**
MLR Muntele Rosu 75.98 316⇑ *iP* **P 04 04 18.5 0.0**
BURAR Bucovina Array 76.90 318⇑⇑ **P 04 04 24.5 +0.9**
BURAR Bucovina Array 76.90 318⇑ *iP* **P 04 04 24.5 +0.9**
BUR08 Bucovina Ar. S 76.92 319 *eP* **P 04 04 24.1 +0.4**
VTS Vitosha 77.40 313⇓⇓ **P 04 04 26.1 -0.5**
VTS Vitosha 77.40 313⇓⇓ *iP* **P 04 04 26.1 -0.5**
JOF Joensuu 77.76 335 *eP* **P 04 04 27.9 -0.1**
JOF pmax pmax
comp=Z,2.0nm,0.6s
KWP Kalwaria Pacla 78.92 320⇓⇓ **P 04 04 35.5 +0.8**
KWP Kalwaria Pacla 78.92 320⇓⇓ *iP* **P 04 04 35.5 +0.8**
KOLS Kolonicke sedl 79.08 319 *eP* **P 04 04 36.4 +0.7**
KOLS pmax pmax
comp=Z,4.0nm,1.1s
KOLS Kolonicke sedl 79.08 319 *eP* **P 04 04 36.3 +0.7**
FINES FINESS Array B 79.65 332 P **P 04 04 38.1 -0.3**
FINES FINESS Array B 79.65 332 P **P 04 04 38.1 -0.3**
comp=Z,4.2nm,0.6s,baz=102,slow=5.7,SNR=20
KAF Kangasniemi 79.72 333 *eP* **P 04 04 38.1 -0.7**
KAF pmax pmax
comp=Z,6.0nm,0.6s
STHS Stebnicka Huta 79.82 320 *eP* **P 04 04 38.6 -1.0**
STHS pmax pmax
comp=Z,2.0nm,0.7s
STHS Stebnicka Huta 79.82 320 *eP* **P 04 04 38.6 -1.0**
KECS Kecovo 80.18 319 *eP* **P 04 04 42.0 +0.5**
KECS Kecovo 80.18 319 *eP* **P 04 04 42.0 +0.5**
BILL Bilibino 80.26 21 *eP* **P 04 04 40.9 -0.7**
BILL pmax pmax
comp=Z,4.0nm,1.2s
VYHS Vyhne 81.27 319 *eP* **P 04 04 44.7 -2.7**
VYHS pmax pmax
comp=Z,11nm,2.4s
VYHS Vyhne 81.27 319 *eP* **P 04 04 44.7 -2.7**
KEV Kevo 81.63 341 *eP* **P 04 04 48.2 -0.6**
KEV pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 82.07 340 P **P 04 04 51.2 +0.1**
ARCES ARCESS Array B 82.07 340 P **P 04 04 51.2 +0.1**
comp=Z,1.7nm,0.4s,baz=98,slow=4.5,SNR=65
ARCES LR LR 04 42 45.9
comp=Z,24nm,21.1s,baz=266,slow=37
ARE0 ARCESS Array S 82.07 340 *eP* **P 04 04 50.9 -0.3**
GERES GERESS Array B 84.69 319 P **P 04 05 05.2 0.0**
GERES GERESS Array B 84.69 319 P **P 04 05 05.2 0.0**
comp=Z,0.5nm,0.5s,baz=101,slow=7.2,SNR=9.4
HFS Hagfors 85.41 330 LR LR 04 46 46.7
comp=Z,21nm,19.5s,baz=40,slow=38
SPITS Spitsbergen Ar 86.37 348 LR LR 04 48 55.4
comp=Z,34nm,18.4s,baz=170,slow=39
NB2 NORSAR Subarra 86.68 331 P **P 04 05 14.3 -0.5**
comp=Z,1.7nm,0.6s,baz=93,slow=5.3
NOA NORSAR Array B 86.68 331 P **P 04 05 14.4 -0.3**
NOA NORSAR Array B 86.68 331 P **P 04 05 14.4 -0.3**
comp=Z,2.9nm,0.7s,baz=93,slow=5.0,SNR=18
NOA LR LR 04 47 12.2
comp=Z,14nm,19.8s,baz=320,slow=38
KEST Kesra 87.66 306 P **P 04 05 21.4 +1.3**
KEST Kesra 87.66 306 P **P 04 05 21.4 +1.3**
comp=Z,1.4nm,0.8s,baz=279,slow=4.8,SNR=6.8
MEZF Maizieres J'vi 90.42 318 *eP* **P 04 05 33.0 +0.3**
comp=Z,7.7nm,0.7s
SFTF Sexfontaines 90.44 318 *eP* **P 04 05 33.0 +0.2**
comp=Z,11nm,0.9s
BAIF Baives 90.87 320 *eP* **P 04 05 35.4 +0.7**
comp=Z,9.4nm,0.9s
LOR Lormes 91.30 317 *eP* **P 04 05 36.4 -0.5**
comp=Z,9.0nm,0.8s
SMF Signal de Mont 91.36 317 *eP* **P 04 05 37.3 +0.2**
comp=Z,12nm,0.9s
LASF Ste Croix 91.53 314 *eP* **P 04 05 39.4 +1.4**
comp=Z,11nm,0.9s
AVF Avril sur Loir 91.68 317 *eP* **P 04 05 38.9 +0.3**
comp=Z,7.6nm,0.9s
PDAR Pinedale Array 129.11 26 PKP **PKPdf 04 11 38.9 -0.8**
PDAR Pinedale Array 129.11 26 PKP **PKPdf 04 11 38.9 -0.8**
comp=Z,0.4nm,0.6s,baz=215,slow=4.9,SNR=3.5
TXAR Lajitas Array 142.72 32 PKPpre PKPpre 04 12 00.9
comp=Z,0.3nm,0.6s,baz=264,slow=2.2,SNR=5.3
CPUP Villa Florida 145.97 222 PKPbc **PKPab 04 12 12.2 +0.3**
CPUP Villa Florida 145.97 222 PKPbc **PKPab 04 12 12.2 +0.3**
comp=Z,1.3nm,0.7s,baz=106,slow=4.4,SNR=4.7

IDC 13 04:09:41.8±3.7, 4.74S×154.84E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.4/18, mbtmp3.7/2, Error ellipse: s-maj=171.9km s-min=50.9km az=122.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
WRA	**Warramunga Arr**	**25.03**	**231**	P		P	04 15 07.9	0.0
	1.7nm,0.6s,baz=57,slow=10.3,SNR=6.3							
ASAR	**Alice Springs**	**27.59**	**225**	P		P	04 15 30.6	-0.4
	0.3nm,0.5s,baz=53,slow=9.2,SNR=4.6							
TORD	**Torodi Ar. Bea**	**152.21**	**289**	PKPbc		PKPbc	04 29 40.7	+0.1
	0.6nm,1.0s,baz=77,slow=2.4,SNR=2.6							

IDC 13 04:12:44.3±0.7, 18.02S×167.31E, h0km, mb4.5/14, mb1 4.7/15, mb1mx4.6/20, mbtmp4.5/15, ML4.0/1, MS3.8/4, Ms1 3.8/4, ms1mx3.3/30, Error ellipse: s-maj=23.9km s-min=16.9km az=120.0
SZGRF 13 04:12:44.9, 20.41S×166.50E, h31km, Loyalty Islands
NEIC 13 04:12:45.5±0.3, 18.02S×167.40E, h10km, mb4.8/18, Error ellipse: s-maj=11.1km s-min=7.3km az=128.0
ISCJB 13 04:12:47.7±1.4, 18.15S±0.06×167.26E±0.07, h33km±13km, mb4.6/28, MS3.8/3, Error ellipse: s-maj=12.1km s-min=9.0km az=39.5
NOU 13 04:12:47.0±2.1, 18.03S×167.80E, h30km, MD3.2, ML3.8, MS1.8
AUST 13 04:12:53.4, 17.47S×166.87E, h60km
ISC 13 04:12:50.9±1.5, 18.05S±0.08×167.10E±0.07, h41km±13km, n109, σ1°31/103, mb4.6/27, MS3.8/3, 2C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
DZM	**Mont Dzumac**	**4.05**	**189**	*eP*n		Pn	04 13 47.7	-2.7
	43nm,0.2s							
DZM				*eS*n		**Sn**	**04 14 33.7**	**-3.0**
	90nm,0.3s							
DZM	**Mont Dzumac**	**4.05**	**189**	*eP*		Pn	04 13 47.1	-3.3
DZM				*eS*		Sn	04 14 31.8	-4.8
DZM	**Mont Dzumac**	**4.05**	**189**	*eP*n		Pn	04 13 47.5	-2.9
DZM				Sn		Sn	04 14 31.7	-5.0
DZM				*eS*			04 14 34.3	
DZM	**Mont Dzumac**	**4.05**	**189**	Pn		Pn	04 13 47.6	-2.9
	8.9nm,0.3s,baz=90,slow=24,SNR=62							
DZM				Sn		Sn	04 14 31.7	-5.0
	32nm,0.3s,baz=92,slow=23,SNR=8.0							
BAYA	**Yate Dam**	**4.09**	**183**	*eP*		Pn	04 13 47.7	-3.2
BAYA				*eS*		**Sn**	**04 14 33.8**	**-3.8**
BAYA				AMP			04 14 39.0	
	comp=Z,20nm,10.6s							
NOUC	**Port Laguerre**	**4.10**	**190**	*eP*		**Pn**	**04 13 50.2**	**-0.8**
NOUC				*eS*		**Sn**	**04 14 35.9**	**-1.9**
NOUC				AMP			04 14 49.0	
	comp=Z,54nm,13.0s							
LASL	**Noumea**	**4.19**	**187**	*eP*		Pn	04 13 49.5	-2.8
LASL				*eS*		Sn	04 14 35.7	-4.4
LASL				AMP			04 14 38.1	
	comp=Z,450nm,2.4s							
NORM	**Noumea**	**4.20**	**188**	*eP*		Pn	04 13 50.0	-2.4
MSVF	**Nonsavu**	**10.43**	**90**	*ePn*		**Pn**	**04 15 18.3**	**+0.2**
	comp=Z,24nm,0.9s							
HNR	**Honiara**	**11.02**	**320**	LR		LR	04 19 08.5	
	comp=Z,234nm,18.6s,baz=290,slow=34							
EIDS	**Eidsvold**	**16.56**	**241**	*ePn*		**P**	**04 16 43.5**	**+1.2**
RMQ	**Roma**	**18.92**	**240**	P		**Pn**	**04 17 12.8**	**+3.5**
	baz=19,SNR=12							
CTA	**Charters Tower**	**19.80**	**261**	P		**Pn**	**04 17 20.9**	**+1.0**
CTA	**Charters Tower**	**19.80**	**261**	P		**Pn**	**04 17 20.9**	**+1.0**
	comp=Z,9.6nm,0.7s,baz=89,slow=12,SNR=19							
CTAO	**Charters Tower**	**19.80**	**261**	*eP*		**Pn**	**04 17 20.6**	**+0.7**
	comp=Z,12nm,0.7s							
AFI	**Afiamalu**	**20.72**	**82**	LR		LR	04 23 44.7	
	comp=Z,281nm,18.3s,baz=340,slow=32							
MTSU	**Mount Surprise**	**21.65**	**266**	P		**P**	**04 17 40.0**	**+1.9**
	baz=22,SNR=17							
YNG	**Young**	**23.25**	**222**	P		**P**	**04 17 57.0**	**+2.2**
	baz=24,SNR=5.6							
CNB	**Canberra Magne**	**23.32**	**219**	P		**P**	**04 17 57.6**	**+2.1**
	baz=24,SNR=5.5							
CMSA	**Cobar Meteorol**	**23.56**	**231**	P		**P**	**04 17 59.1**	**+1.3**
	baz=24,SNR=6.1							
MANU	**Manus Island**	**25.06**	**307**	S		**S**	**04 22 28.8**	**-4.6**
	baz=25,SNR=5.6							
STKA	**Stephens Creek**	**26.82**	**234**	*eP*		**P**	**04 18 28.9**	**+1.4**
	comp=Z,4.4nm,0.8s							
STKA	**Stephens Creek**	**26.82**	**234**	P		**P**	**04 18 28.8**	**+1.4**
	comp=Z,22nm,0.8s,baz=66,slow=7.3,SNR=24							
STKA	**Stephens Creek**	**26.82**	**234**	P		**P**	**04 18 28.9**	**+1.4**
	baz=27,SNR=14							
JAY	**Jayapura**	**30.13**	**298**	S		S	04 23 41.9	-12
	baz=30,SNR=5.9							
WRAB	**Tennant Creek**	**31.00**	**261**	*eP*		**P**	**04 19 05.0**	**+0.2**
	comp=Z,3.0nm,0.7s							
WRA	**Warramunga Arr**	**31.00**	**261**	P		**P**	**04 19 04.3**	**-0.6**
WRA	**Warramunga Arr**	**31.00**	**261**	P		**P**	**04 19 04.3**	**-0.6**
	comp=Z,1.5nm,0.4s,baz=80,slow=5.9,SNR=28							
AS31	**Alice Springs**	**31.47**	**254**	P		**P**	**04 19 08.4**	**-0.5**
ASAR	**Alice Springs**	**31.47**	**254**	P		**P**	**04 19 08.7**	**-0.3**
ASAR	**Alice Springs**	**31.47**	**254**	P		**P**	**04 19 08.7**	**-0.3**
	comp=Z,7.0nm,0.7s,baz=82,slow=8.6,SNR=73							
BBOO	**Buckleboo**	**31.51**	**236**	P		**P**	**04 19 10.2**	**+1.1**
	baz=32,SNR=8.4							
KNRA	**Kununurra**	**36.72**	**268**	P		**P**	**04 19 54.5**	**0.0**
	baz=36,SNR=5.3							
FITZ	**Fitzroy Crossi**	**39.35**	**263**	*eP*		**P**	**04 20 17.4**	**+0.7**
	comp=Z,36nm,0.9s							
FITZ	**Fitzroy Crossi**	**39.35**	**263**	P		**P**	**04 20 17.3**	**+0.7**
	comp=Z,31nm,0.8s,baz=106,slow=7.7,SNR=35							
FITZ				LR		LR	04 35 47.5	
	comp=Z,202nm,21.3s,baz=96,slow=35							
FITZ	**Fitzroy Crossi**	**39.35**	**263**	P		**P**	**04 20 17.2**	**+0.6**
	baz=39,SNR=20							
TBI	**Tubuai**	**40.87**	**105**	*eS*		**S**	**04 26 41.5**	**+3.6**
	comp=Z,47nm,30.2s							
TBI				*e*LR		LR	04 31 43.1	
	comp=Z,251nm,29.0s							
PPT2	**Papeete2**	**41.18**	**96**	*eS*		**S**	**04 26 44.9**	**+2.0**
	comp=Z,47nm,28.0s							
PPT2				*e*LR		LR	04 31 57.4	
	comp=Z,350nm,27.8s							
MEEK	**Meekatharra**	**45.43**	**250**	P		**P**	**04 21 06.7**	**+0.7**
	baz=45,SNR=14							
WSI	**Waingapu**	**46.09**	**274**	S		S	04 27 43.4	-11
	baz=46,SNR=4.0							
KLBR	**Kellerberrin**	**46.41**	**243**	P		**P**	**04 21 13.7**	**0.0**
	baz=46,SNR=14							
LUWI	**Luwuk**	**46.68**	**286**	S		**S**	**04 28 00.1**	**-2.9**
	baz=46,SNR=4.1							
NWAO	**Narrogin (SRO)**	**46.97**	**242**	*eP*		**P**	**04 21 18.1**	**0.0**
	comp=Z,8.3nm,0.6s							
MORW	**Morawa**	**47.75**	**247**	P		**P**	**04 21 24.5**	**+0.3**
	baz=48,SNR=9.8							
KSM	**Kuching**	**59.13**	**283**	*eP*		**P**	**04 22 48.7**	**+0.8**
	comp=Z,20nm,1.1s							
VNDA	**Vanda**	**59.56**	**181**	*eP*		**P**	**04 22 49.6**	**-0.2**
VNDA	**Vanda**	**59.56**	**181**	P		**P**	**04 22 49.4**	**-0.5**
	comp=Z,1.7nm,0.9s,baz=352,slow=6.5,SNR=7.6							
SBA	**Scott Base**	**59.84**	**180**	*eP*		**P**	**04 22 52.3**	**+0.6**
	comp=Z,9.3nm,1.0s							
MJAR	**Matsushiro Arr**	**60.77**	**334**	P		**P**	**04 22 57.9**	**-0.8**
MJAR	**Matsushiro Arr**	**60.77**	**334**	P		**P**	**04 22 57.9**	**-0.8**
	comp=Z,3.5nm,1.0s,baz=172,slow=7.5,SNR=4.8							
USRK	**Ussuriysk Arra**	**69.76**	**334**	P		**P**	**04 23 56.9**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=97,slow=1.6,SNR=5.1							
MDJ	**Mudanjiang**	**71.13**	**333**	*eP*		**P**	**04 24 05.7**	**+0.7**
	comp=Z,7.1nm,0.8s							
QSPA	**South Pole Qui**	**72.00**	**180**	*eP*		**P**	**04 24 09.0**	**-1.3**
	comp=Z,6.8nm,0.9s							
CMAR	**Chiang Mai Arr**	**76.16**	**295**	P		**P**	**04 24 37.0**	**+1.7**
CMAR	**Chiang Mai Arr**	**76.16**	**295**	P		**P**	**04 24 37.0**	**+1.7**
	comp=Z,3.4nm,0.5s,baz=126,slow=4.3,SNR=14							
CMAR				LR		LR	04 56 13.2	
	comp=Z,46nm,18.2s,baz=245,slow=34							
CHTO	**Chiang Mai**	**76.31**	**295**	*eP*		**P**	**04 24 37.2**	**+1.1**
	comp=Z,2.6nm,0.6s							
MAW	**Mawson**	**78.76**	**202**	P		**P**	**04 24 49.8**	**+0.9**
MAW	**Mawson**	**78.76**	**202**	P		**P**	**04 24 49.8**	**+0.9**
	comp=Z,2.8nm,0.9s,baz=94,slow=6.9,SNR=6.4							
RSO	**Redoubt South**	**84.67**	**19**	*eP*		**P**	**04 25 18.1**	**-2.2**
	comp=Z,37nm,0.8s							
ULN	**Ulaanbaatar**	**84.71**	**324**	*eP*		**P**	**04 25 21.0**	**+0.3**
	comp=Z,6.9nm,1.3s							
SONM	**Songino Array**	**85.06**	**324**	P		**P**	**04 25 22.3**	**-0.1**
SONM	**Songino Array**	**85.06**	**324**	P		**P**	**04 25 22.3**	**-0.1**
	comp=Z,3.7nm,1.1s,baz=148,slow=5.5,SNR=12							
PMR	**Palmer**	**86.67**	**19**	*eP*		**P**	**04 25 28.2**	**-1.6**
	comp=Z,6.1nm,1.0s							
TRF	**Thorofare Moun**	**87.73**	**18**	*eP*		**P**	**04 25 32.9**	**-2.4**
	comp=Z,9.5nm,0.9s							
MCK	**McKinley**	**88.34**	**18**	*eP*		**P**	**04 25 36.3**	**-1.6**
	comp=Z,2.4nm,0.6s							
NVAR	**Mina Array Bea**	**89.55**	**49**	P		**P**	**04 25 43.7**	**-0.7**
NVAR	**Mina Array Bea**	**89.55**	**49**	P		**P**	**04 25 43.7**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=230,slow=8.1,SNR=9.7							
ILAR	**Eielson Array**	**89.72**	**18**	P		**P**	**04 25 42.3**	**-2.0**
ILAR	**Eielson Array**	**89.72**	**18**	P		**P**	**04 25 42.3**	**-2.0**
	comp=Z,5.6nm,0.6s,baz=237,slow=5.2,SNR=70							
SNAA	**Sanae**	**90.24**	**183**	*eP*		**P**	**04 25 46.2**	**-0.8**
	comp=Z,4.5nm,0.8s							
COLD	**Coldfoot**	**90.66**	**15**	*eP*		**P**	**04 25 48.2**	**-0.5**
	comp=Z,3.6nm,0.9s							
EGAK	**Eagle**	**91.48**	**20**	*eP*		**P**	**04 25 51.5**	**-1.0**
	comp=Z,3.7nm,0.8s							
MKAR	**Makanchi Array**	**99.47**	**316**	P		**Pdif**	**04 26 29.2**	**-0.2**
MKAR	**Makanchi Array**	**99.47**	**316**	P		**Pdif**	**04 26 29.2**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=97,slow=5.9,SNR=7.9							
ARCES	**ARCESS Array B**	**123.40**	**345**	PKP		**PKPdf**	**04 31 42.0**	**-1.0**
ARCES	**ARCESS Array B**	**123.40**	**345**	PKP		**PKPdf**	**04 31 42.0**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=48,slow=1.8,SNR=9.1							
CLL	**Collm**	**140.98**	**334**	*e*PKiKP		**PKiKP**	**04 32 20.0**	**+0.8**
GERES	**GERESS Array B**	**142.48**	**331**	PKP		**PKPdf**	**04 32 18.4**	**-1.0**
GERES	**GERESS Array B**	**142.48**	**331**	PKP		**PKPdf**	**04 32 18.4**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=72,slow=4.3,SNR=4.4							
ABTA	**Abfaltersbach**	**144.54**	**329**⇑ *i*	PKPdf		**PKPab**	**04 32 21.4**	**-0.2**
	comp=Z,9.9nm,0.8s							
LANF	**Langenberg**	**144.88**	**336**	PKP		**PKPdf**	**04 32 23.5**	**0.0**
WLF	**Walferdange**	**144.93**	**338**	*e*PKPbc		**PKPdf**	**04 32 23.8**	**+0.3**
WLF				*ep*PKPbc		PKiKP	04 32 33.1	+5.7
FETA	**Feichten**	**145.18**	**331**⇓	*i*PKPbc		**PKPab**	**04 32 24.3**	**+0.3**
	comp=Z,23nm,1.0s							
BFO	**Black Forest**	**145.20**	**335**	*e*PKPbc		**PKPbc**	**04 32 24.0**	**+0.2**
BFO				*ep*PKPbc		pPKPbc	04 32 33.4	-3.3
BFO	**Black Forest**	**145.20**	**335**	*e*PKPdf		**PKPbc**	**04 32 23.9**	**+0.1**
DAVA	**Damuels**	**145.36**	**332**	*e*PKPbc		**PKPbc**	**04 32 24.4**	**-0.1**
DAVA				*ep*PKPbc		pPKPbc	04 32 33.9	-3.4
DAVA	**Damuels**	**145.36**	**332**⇑	*i*PKPab		**PKPbc**	**04 32 24.6**	**+0.1**
	comp=Z,30nm,1.2s							
SLE	**Schleitheim**	**145.58**	**334**	*e*PKPbc		**PKPdf**	**04 32 25.0**	**+0.2**
WILA	**Wila**	**145.68**	**333**	*e*PKPbc		**PKPdf**	**04 32 25.4**	**+0.4**
DAVOX	**Davos/Dischmat**	**145.74**	**332**	PKPbc		**PKPab**	**04 32 26.4**	**+0.2**
DAVOX	**Davos/Dischmat**	**145.74**	**332**	PKPbc		**PKPab**	**04 32 26.4**	**+0.2**
	comp=Z,15nm,0.9s,baz=63,slow=1.7,SNR=25							
ECH	**Echery**	**145.75**	**336**	*e*PKPbc		**PKPdf**	**04 32 24.1**	**-1.0**
PLONS	**Plons/SG**	**145.76**	**333**	*e*PKPbc		**PKPbc**	**04 32 26.0**	**+0.3**
SULZ	**Cheisacher**	**145.93**	**334**	*e*PKPbc		**PKPdf**	**04 32 26.0**	**+0.6**
THEF	**They Montfort**	**146.19**	**337**	PKP		**PKPdf**	**04 32 24.9**	**-0.9**
TUE	**Stuetta**	**146.22**	**332**	PKPbc		**PKPdf**	**04 32 26.2**	**0.0**
BALST	**Balsthal**	**146.25**	**334**	*e*PKPbc		**PKPbc**	**04 32 27.2**	**+0.1**
LOMF	**Lomont**	**146.59**	**335**	PKP		**PKPdf**	**04 32 25.1**	**-1.5**
TIP	**Timpagrande**	**146.75**	**315**	*e*PKPbc		**PKPdf**	**04 32 27.9**	**+0.8**
CEL	**Celeste**	**147.81**	**315**	*e*PKPbc		**PKPbc**	**04 32 31.3**	**-0.5**
BNI	**Bardonecchia**	**148.50**	**333**	*e*PKPbc		**PKPbc**	**04 32 34.0**	**+0.6**
AGO	**Saint Agoulin**	**149.07**	**338**	PKP		**PKPbc**	**04 32 35.3**	**+0.5**
LBL	**Lubilhac**	**149.73**	**337**	PKP		**PKPbc**	**04 32 37.1**	**+0.6**
KEST	**Kesra**	**153.57**	**316**	PKPbc		**PKPbc**	**04 32 46.1**	**+0.5**
KEST	**Kesra**	**153.57**	**316**	PKPbc		**PKPbc**	**04 32 46.1**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=282,slow=5.7,SNR=5.5							
ESDC	**Sonseca Array**	**157.10**	**342**	PKPab		**PKPab**	**04 33 12.9**	**-0.1**
ESDC	**Sonseca Array**	**157.10**	**342**	PKPab		**PKPab**	**04 33 12.9**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=10,slow=4.6,SNR=7.7							
TORD	**Torodi Ar. Bea**	**165.12**	**253**	PKP		**PKPdf**	**04 32 51.1**	**-0.5**
TORD				PKPab		**PKPab**	**04 33 47.4**	**-1.4**
TORD	**Torodi Ar. Bea**	**165.12**	**253**	PKP		**PKPdf**	**04 32 51.1**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=162,slow=1.0,SNR=6.6							
TORD				PKPab		**PKPab**	**04 33 47.4**	**-1.4**
	comp=Z,1.5nm,1.0s,baz=76,slow=6.3,SNR=5.1							

NEIC 13 04:16:39.4, 37.80S×176.73E, h161km, MG4.3(WEL), After WEL.
WEL 13 04:16:40.2±0.3, 37.84S×176.73E, h155km±2km, ML4.2/22, 8C-1D, Error ellipse: s-maj=2.0km s-min=2.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
OPRZ	**Ohinepanea**	**0.14**	**266**	Pn		Pn	04 17 00.8	-0.1
OPRZ				Sn		Sn	04 17 17.2	+0.5
OPRZ	**Ohinepanea**	**0.14**	**266**⇑	PN		Pn	04 17 00.8	-0.1
OPRZ				SN		Sn	04 17 17.2	+0.5
TGRZ	**Tauranga**	**0.38**	**286**	Pn		Pn	04 17 01.7	0.0
TGRZ				Sn		Sn	04 17 18.8	+0.9
TGRZ	**Tauranga**	**0.38**	**286**	PN		Pn	04 17 01.7	0.0
TGRZ				SN		Sn	04 17 18.8	+0.9
TARZ	**Mount Tarawera**	**0.43**	**204**	Pn		Pn	04 17 02.5	+0.5
TARZ	**Mount Tarawera**	**0.43**	**204**	PN		Pn	04 17 02.4	+0.4
URZ	**Urewera**	**0.52**	**144**	*e*Pn		Pn	04 17 01.9	-0.3
URZ				*e*S		Sn	04 17 18.9	-0.2
URZ	**Urewera**	**0.52**	**144**	PN		Pn	04 17 01.7	-0.5
URZ				SN		Sn	04 17 18.3	-0.7
URZ				AML		AML	04 17 19.4	
RRRZ	**Republican Roa**	**0.53**	**198**	Pn		Pn	04 17 02.5	+0

FWVZ	**Far West T-bar**	**1.69 213**	PN	Pn	04 17 12.0	-0.5
WHVZ	**Whangaehu Hut**	**1.70 211**	PN	Pn	04 17 12.4	-0.2
DRZ	**Dome Shelter**	**1.70 212**	Pn	Pn	04 17 11.8	-0.9
DRZ	**Dome Shelter**	**1.70 212**	PN	Pn	04 17 12.2	-0.5
BHHZ	**Black Hill Sta**	**1.73 197**	Pn	Pn	04 17 12.2	-0.4
BHHZ	**Black Hill Sta**	**1.73 197** ⇑	PN	Pn	04 17 12.2	-0.5
WNVZ	**Wahianoa**	**1.73 210**	Pn	Pn	04 17 12.7	-0.2
WNVZ	**Wahianoa**	**1.73 210** ⇑	PN	Pn	04 17 12.6	-0.2
MOVZ	**Moawhango**	**1.74 206**	Pn	Pn	04 17 12.2	-0.6
MOVZ	**Moawhango**	**1.74 206** ⇑	PN	Pn	04 17 12.2	-0.6
PKVZ	**Pokaka**	**1.81 216**	Pn	Pn	04 17 13.5	-0.1
PKVZ	**Pokaka**	**1.81 216**	PN	Pn	04 17 13.5	-0.1
CKHZ	**Cape Kidnapper**	**1.84 172**	Pn	Pn	04 17 14.0	+0.2
CKHZ	**Cape Kidnapper**	**1.84 172**	PN	Pn	04 17 13.9	+0.1
KAHZ	**Kahuranaki**	**1.96 177**	Pn	Pn	04 17 15.2	0.0
KAHZ	**Kahuranaki**	**1.96 177** ⇑	PN	Pn	04 17 15.2	0.0
PNHZ	**Pukenui**	**2.12 191**	Pn	Pn	04 17 16.1	-0.9
PNHZ	**Pukenui**	**2.12 191**	PN	Pn	04 17 16.0	-1.0
PXZ	**Pawanui**	**2.19 177**	Pn	Pn	04 17 17.0	-0.9
PXZ	**Pawanui**	**2.19 177**	PN	Pn	04 17 17.0	-0.9
PXZ			AML	AML	04 17 48.8	
PXZ			AML	AML	04 17 48.9	
PXZ			AML	AML	04 17 49.2	
WPHZ	**Waipukurau**	**2.24 186**	Pn	Pn	04 17 17.7	-0.7
WPHZ	**Waipukurau**	**2.24 186**	PN	Pn	04 17 17.5	-0.9
TSZ	**Takapari Road**	**2.30 195**	Pn	Pn	04 17 18.0	-1.2
TSZ	**Takapari Road**	**2.30 195**	PN	Pn	04 17 18.0	-1.2
TSZ			AML	AML	04 17 51.3	
TSZ			AML	AML	04 17 53.1	
WAZ	**Wanganui**	**2.35 215**	Pn	Pn	04 17 19.5	-0.3
WAZ	**Wanganui**	**2.35 215**	PN	Pn	04 17 19.4	-0.4
PRHZ	**Porangahau**	**2.43 182**	Pn	Pn	04 17 19.8	-0.9
PRHZ	**Porangahau**	**2.43 182**	PN	Pn	04 17 19.8	-0.9
DVHZ	**Dannevirke**	**2.50 190**	Pn	Pn	04 17 20.1	-1.5
DVHZ	**Dannevirke**	**2.50 190**	PN	Pn	04 17 20.1	-1.5
PKE	**Pukeiti**	**2.54 237**	Pn	Pn	04 17 22.7	+0.6
PKE	**Pukeiti**	**2.54 237**	PN	Pn	04 17 22.6	+0.5
KHEZ	**Kahui Hut**	**2.58 235**	PN	Pn	04 17 23.1	+0.5
ANWZ	**Angora Road**	**2.63 184**	PN	Pn	04 17 21.9	-1.2
POWZ	**Post Office Ro**	**2.66 196**	Pn	Pn	04 17 22.2	-1.3
POWZ	**Post Office Ro**	**2.66 196**	PN	Pn	04 17 22.1	-1.4
PRWZ	**Pori Road**	**2.78 192**	PN	Pn	04 17 23.6	-1.4
BFZ	**Birch Farm**	**2.86 187**	Pn	Pn	04 17 24.3	-1.7
BFZ	**Birch Farm**	**2.86 187**	PN	Pn	04 17 24.3	-1.7
BFZ			AML	AML	04 18 01.6	
BFZ			AML	AML	04 18 01.6	
BFZ			AML	AML	04 18 02.0	
BFZ			AML	AML	04 18 02.0	
MRZ	**Mangatainoka R**	**2.96 197**	Pn	Pn	04 17 25.3	-2.0
MRZ	**Mangatainoka R**	**2.96 197**	PN	Pn	04 17 25.3	-2.0
MRZ			AML	AML	04 18 02.2	
MRZ			AML	AML	04 18 02.6	
TIWZ	**Tintock**	**3.01 192**	Pn	Pn	04 17 26.1	-1.8
TIWZ	**Tintock**	**3.01 192**	PN	Pn	04 17 26.1	-1.8
HOWZ	**Holdsworth Sta**	**3.20 197**	Pn	Pn	04 17 27.9	-2.4
HOWZ	**Holdsworth Sta**	**3.20 197** ⇑	PN	Pn	04 17 27.9	-2.4
OGWZ	**Otaki Gorge**	**3.21 202**	Pn	Pn	04 17 28.3	-2.1
OGWZ	**Otaki Gorge**	**3.21 202**	PN	Pn	04 17 28.3	-2.1
TMWZ	**Te Maipa**	**3.33 191**	Pn	Pn	04 17 29.7	-2.2
TMWZ	**Te Maipa**	**3.33 191**	PN	Pn	04 17 29.5	-2.4
KIW	**Kapiti Island**	**3.33 204**	Pn	Pn	04 17 29.4	-2.6
KIW	**Kapiti Island**	**3.33 204**	PN	Pn	04 17 29.4	-2.6
KIW			AML	AML	04 18 10.2	
KIW			AML	AML	04 18 10.6	
MTW	**Mount Morrison**	**3.45 196**	Pn	Pn	04 17 30.7	-2.8
MTW	**Mount Morrison**	**3.45 196**	PN	Pn	04 17 30.6	-2.9
MTW			AML	AML	04 18 12.8	
MTW			AML	AML	04 18 12.9	
CAW	**Cannon Point**	**3.51 201**	Pn	Pn	04 17 17.7	-17
TRWZ	**Traveller**	**3.65 192**	Pn	Pn	04 17 33.2	-2.8
TRWZ	**Traveller**	**3.65 192**	PN	Pn	04 17 33.2	-2.8
TRWZ			AML	AML	04 18 18.2	
TRWZ			AML	AML	04 18 18.4	
DUWZ	**D'Urville Isla**	**3.67 215**	Pn	Pn	04 17 33.7	-2.7
DUWZ	**D'Urville Isla**	**3.67 215**	PN	Pn	04 17 33.7	-2.7
PAWZ	**Paruwai Farm**	**3.68 195**	Pn	Pn	04 17 33.4	-3.0
PAWZ	**Paruwai Farm**	**3.68 195**	PN	Pn	04 17 33.4	-3.0
PAWZ			AML	AML	04 18 17.2	
PAWZ			AML	AML	04 18 17.8	
MSWZ	**Moikau Station**	**3.75 197**	Pn	Pn	04 17 34.2	-3.1
MSWZ	**Moikau Station**	**3.75 197**	PN	Pn	04 17 34.1	-3.2
MSWZ			AML	AML	04 18 19.1	
MSWZ			AML	AML	04 18 19.6	
WEL	**Wellington**	**3.76 203**	Pn	Pn	04 17 34.8	-2.7
WEL	**Wellington**	**3.76 203**	PN	Pn	04 17 34.6	-3.0
SNZO	**South Karori**	**3.80 204**	ePn	Pn	04 17 35.2	-2.7
SNZO			eS	Sn	04 18 19.8	-3.1
SNZO	**South Karori**	**3.80 204**	PN	Pn	04 17 34.9	-3.1
SNZO			AML	AML	04 18 20.8	
SNZO			AML	AML	04 18 21.8	
BHW	**Baring Head**	**3.84 201**	Pn	Pn	04 17 35.4	-3.1
BHW	**Baring Head**	**3.84 201**	PN	Pn	04 17 35.3	-3.2
BHW			AML	AML	04 18 21.7	
BHW			AML	AML	04 18 23.2	
TCW	**Tory Channel**	**3.87 209**	Pn	Pn	04 17 35.7	-3.1
TCW	**Tory Channel**	**3.87 209**	PN	Pn	04 17 35.7	-3.1
TCW			AML	AML	04 18 22.3	
TCW			AML	AML	04 18 24.6	
PLWZ	**Palliser**	**3.90 196**	Pn	Pn	04 17 35.9	-3.4
PLWZ	**Palliser**	**3.90 196**	PN	Pn	04 17 35.9	-3.4
TUWZ	**Tuamarina**	**4.18 210**	Pn	Pn	04 17 39.5	-3.4
TUWZ	**Tuamarina**	**4.18 210**	PN	Pn	04 17 39.5	-3.4
TUWZ			AML	AML	04 18 28.0	
TUWZ			AML	AML	04 18 30.5	
NNZ	**Nelson**	**4.25 216**	Pn	Pn	04 17 39.3	-4.6
NNZ	**Nelson**	**4.25 216**	PN	Pn	04 17 40.6	-3.3
CMWZ	**Cape Campbell**	**4.36 206**	PN	Pn	04 17 42.6	-2.6
CMWZ			AML	AML	04 18 34.8	
QRZ	**Quartz Range**	**4.42 226**	Pn	Pn	04 17 42.5	-3.5
QRZ	**Quartz Range**	**4.42 226**	PN	Pn	04 17 42.4	-3.6
BSWZ	**Blackbirch Sta**	**4.45 209**	Pn	Pn	04 17 43.0	-3.4
BSWZ	**Blackbirch Sta**	**4.45 209**	PN	Pn	04 17 43.0	-3.4
BSWZ			AML	AML	04 18 37.4	
THZ	**Tophouse**	**4.90 216**	Pn	Pn	04 17 49.6	-2.9
THZ	**Tophouse**	**4.90 216**	PN	Pn	04 17 49.1	-3.4
KHZ	**Kahutara**	**5.19 207**	Pn	Pn	04 17 52.5	-3.6
KHZ	**Kahutara**	**5.19 207**	PN	Pn	04 17 52.4	-3.7
KHZ			AML	AML	04 18 51.6	
LTZ	**Lake Taylor**	**6.00 213**	Pn	Pn	04 18 02.6	-4.4
LTZ	**Lake Taylor**	**6.00 213**	PN	Pn	04 18 02.8	-4.2
OXZ	**Oxford**	**6.54 212**	PN	Pn	04 18 09.0	-5.1
MQZ	**McQueen's Vall**	**6.63 207**	Pn	Pn	04 18 09.8	-5.4
MQZ	**McQueen's Vall**	**6.63 207**	PN	Pn	04 18 09.8	-5.4
WVZ	**Waitaha Valley**	**6.94 219**	PN	Pn	04 18 16.4	-3.0
LBZ	**Lake Benmore**	**8.20 215**	PN	Pn	04 18 32.4	-3.7
ODZ	**Otahua Downs**	**8.53 210**	Pn	Pn	04 18 35.9	-4.6
ODZ	**Otahua Downs**	**8.53 210**	PN	Pn	04 18 35.9	-4.6

IDC 13 04:17:35.6±1.6, 3.06S×140.31E, h0km, mb3.8/4, mb1 4.2/5, mb1mx3.8/18, mbtmp3.9/5, ML4.4/1, MS3.8/1, Ms1 3.8/1, ms1mx2.6/25, Error ellipse: s-maj=63.5km s-min=24.1km az=106.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.76**	**199**	P		P		04 21 45.2	-0.1
	1.2nm,0.3s,baz=18,slow=13,SNR=45								
WRA				S		Sn		04 24 47.0	-16
	0.4nm,0.3s,baz=20,slow=23,SNR=5.0								
FITZ	**Fitzroy Crossi**	**20.74**	**223**	P		P		04 22 17.2	-0.7
	4.1nm,1.0s,baz=85,slow=7.9,SNR=9.7								
FITZ				S		S		04 25 54.6	-16
	3.8nm,0.7s,baz=181,slow=9.1,SNR=5.5								
ASAR	**Alice Springs**	**21.40**	**196**	P		P		04 22 25.2	+0.1
	5.2nm,0.6s,baz=28,slow=10,SNR=47								
ASAR				S		S		04 26 12.4	-11
	0.6nm,0.8s,baz=16,slow=21,SNR=4.8								
ASAR				LR		LR		04 30 09.9	
	comp=Z,214nm,18.2s,baz=95,slow=35								
MKAR	**Makanchi Array**	**71.04**	**322**	P		P		04 28 55.6	0.0
	0.4nm,0.5s,baz=116,slow=6.7,SNR=4.9								
ILAR	**Eielson Array**	**85.49**	**24**	P		P		04 30 15.2	+0.1
	0.5nm,0.8s,baz=254,slow=5.7,SNR=6.2								

*IDC **13** 04:21:27.0±0.8, 18.03S×167.29E, h0km, mb4.4/11, mb1 4.5/13, mb1mx4.3/20, mbtmp4.3/13, ML3.8/2, MS3.8/11, Ms1 3.8/11, ms1mx3.5/29, Error ellipse: s-maj=26.9km s-min=19.3km az=133.0*

*ISCJB **13** 04:21:28.8±0.5, 18.16S±0.04×167.3E±0.1, h23km, mb4.4/17, MS3.8/10, Error ellipse: s-maj=13.7km s-min=5.9km az=4.6*

*NEIC **13** 04:21:28.4±0.4, 18.04S×167.34E, h10km, mb4.5/8, Error ellipse: s-maj=13.6km s-min=9.7km az=123.0*

*NOU **13** 04:21:29.2±1.5, 17.99S×167.69E, h30km, MD3.1, ML4.2, MS1.5*

ISC 13 04:21:30.7±0.6, 18.15S±0.07×167.3E±0.1, h23km, n68, σ1§01/62, mb4.5/16, MS3.7/10, 1C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.98**	**191**	*e*Pn		**Pn**		**04 22 30.1**	**-0.2**
	16nm,0.3s								
DZM				*e*Sn		**Sn**		**04 23 14.1**	**-2.2**
	56nm,0.3s								
DZM	**Mont Dzumac**	**3.98**	**191**	*e*P		**Pn**		**04 22 29.9**	**-0.4**
DZM				*e*S		**Sn**		**04 23 14.8**	**-1.5**
DZM				AMP				04 23 20.4	
	comp=Z,1μm,3.0s								
DZM	**Mont Dzumac**	**3.98**	**191**	Pn		**Pn**		**04 22 30.0**	**-0.4**
DZM				Sn		**Sn**		**04 23 14.7**	**-1.5**
DZM	**Mont Dzumac**	**3.98**	**191**	Pn		**Pn**		**04 22 30.0**	**-0.4**
	comp=Z,3.8nm,0.3s,baz=267,slow=24,SNR=32								
DZM				Sn		**Sn**		**04 23 14.7**	**-1.5**
	comp=Z,8.8nm,0.3s,baz=136,slow=23,SNR=4.5								
BAYA	**Yate Dam**	**4.00**	**185**	*e*S		**Sn**		**04 23 15.9**	**-0.9**
NOUC	**Port Laguerre**	**4.03**	**193**	*e*P		**Pn**		**04 22 32.0**	**+1.0**
NOUC				*e*S		**Sn**		**04 23 17.8**	**+0.2**
NOUC				AMP				04 23 38.6	
	comp=Z,45nm,31.3s								
NORM	**Noumea**	**4.12**	**190**	*e*P		**Pn**		**04 22 32.2**	**0.0**
HNR	**Honiara**	**11.20**	**320**	LR		LR		04 27 32.9	
	comp=Z,235nm,19.4s,baz=309,slow=33								
CTA	**Charters Tower**	**19.94**	**261**	P		**Pn**		**04 26 02.5**	**-0.5**
CTA	**Charters Tower**	**19.94**	**261**	P		**Pn**		**04 26 02.5**	**-0.5**
	comp=Z,3.3nm,0.3s,baz=90,slow=13,SNR=6.1								
CTAO	**Charters Tower**	**19.94**	**261**	*e*P		**Pn**		**04 26 03.2**	**+0.2**
	comp=Z,22nm,1.1s								
AFI	**Afiamalu**	**20.58**	**81**	LR		LR		04 32 24.2	
	comp=Z,342nm,19.8s,baz=224,slow=32								
PMG	**Port Moresby**	**21.35**	**291**	LR		LR		04 32 47.5	
	comp=Z,288nm,18.1s,baz=114,slow=32								
CMSA	**Cobar Meteorol**	**23.62**	**232**	P		**P**		**04 26 41.3**	**+1.2**
	baz=14,SNR=7.3								
MANU	**Manus Island**	**25.24**	**307**	S		S		04 31 11.1	-8.6
	baz=21,SNR=7.2								
STKA	**Stephens Creek**	**26.89**	**235**	*e*P		**P**		**04 27 11.1**	**+1.1**
	comp=Z,4.9nm,1.1s								
STKA	**Stephens Creek**	**26.89**	**235**	P		**P**		**04 27 11.4**	**+1.4**
	comp=Z,13nm,0.8s,baz=87,slow=7.9,SNR=11								
STKA				LR		LR		04 37 32.6	
	comp=Z,124nm,18.1s,baz=29,slow=36								
STKA	**Stephens Creek**	**26.89**	**235**	P		**P**		**04 27 11.5**	**+1.5**
	baz=17,SNR=7.4								
WRA	**Warramunga Arr**	**31.14**	**261**	P		**P**		**04 27 47.1**	**-0.8**
WRA	**Warramunga Arr**	**31.14**	**261**	P		**P**		**04 27 47.1**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=85,slow=5.7,SNR=3.9								
WRA				LR		LR		04 39 42.8	
	comp=Z,136nm,19.2s,baz=80,slow=35								
RAR	**Rarotonga**	**31.16**	**101**	LR		LR		04 37 19.5	
	comp=Z,243nm,21.7s,baz=315,slow=31								
ASAR	**Alice Springs**	**31.59**	**254**	P		**P**		**04 27 51.0**	**-0.9**
ASAR	**Alice Springs**	**31.59**	**254**	P		**P**		**04 27 51.0**	**-0.9**
	comp=Z,2.1nm,0.5s,baz=82,slow=8.4,SNR=16								
ASAR				LR		LR		04 39 52.7	
	comp=Z,327nm,19.9s,baz=111,slow=35								
FITZ	**Fitzroy Crossi**	**39.49**	**263**	P		**P**		**04 28 59.8**	**0.0**
FITZ	**Fitzroy Crossi**	**39.49**	**263**	P		**P**		**04 28 59.8**	**0.0**
	comp=Z,17nm,1.0s,baz=119,slow=8.4,SNR=10								
FITZ	**Fitzroy Crossi**	**39.49**	**263**	P		**P**		**04 28 59.8**	**0.0**
	baz=29,SNR=8.3								
TBI	**Tubuai**	**40.69**	**105**	*e*LR		LR		04 40 24.8	
	comp=Z,230nm,29.2s								
PPT2	**Papete2**	**41.02**	**96**	*e*LR		LR		04 40 34.6	
	comp=Z,371nm,27.5s								
PPT	**Papeete**	**41.02**	**96**	LR		LR		04 43 04.4	
	comp=Z,181nm,18.1s,baz=318,slow=32								
MEEK	**Meekatharra**	**45.54**	**250**	P		**P**		**04 29 48.8**	**-0.2**
	baz=35,SNR=14								
KLBR	**Kellerberrin**	**46.50**	**243**	P		**P**		**04 29 55.8**	**-0.6**
	baz=36,SNR=7.8								
NWAO	**Narrogin (SRO)**	**47.06**	**242**	*e*P		**P**		**04 30 00.6**	**-0.2**
	comp=Z,9.6nm,0.6s								
MORW	**Morawa**	**47.85**	**247**	P		**P**		**04 30 06.8**	**-0.2**
	baz=38,SNR=5.5								
DAV	**Davao City (W)**	**48.16**	**298**	LR		LR		04 48 21.8	
	comp=Z,98nm,18.7s,baz=284,slow=34								
VNDA	**Vanda**	**59.46**	**181**	P		**P**		**04 31 32.0**	**+0.7**
VNDA	**Vanda**	**59.46**	**181**	P		**P**		**04 31 32.0**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=29,slow=6.8,SNR=4.0								
SBA	**Scott Base**	**59.73**	**180**	*e*P		**P**		**04 31 34.7**	**+1.6**
	comp=Z,5.1nm,1.3s								
QSPA	**South Pole Qui**	**71.90**	**180**	P		**P**		**04 32 52.5**	**+0.7**
	comp=Z,6.2nm,1.1s								
CMAR	**Chiang Mai Arr**	**76.35**	**295**	P		**P**		**04 33 19.7**	**+1.2**
CMAR	**Chiang Mai Arr**	**76.35**	**295**	P		**P**		**04 33 19.7**	**+1.2**
	comp=Z,2.0nm,0.5s,baz=124,slow=4.4,SNR=10								
MAW	**Mawson**	**78.73**	**202**	P		**P**		**04 33 32.0**	**+1.1**
MAW	**Mawson**	**78.73**	**202**	P		**P**		**04 33 32.0**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=12,slow=17,SNR=5.2								
SONM	**Songino Array**	**85.23**	**324**	P		**P**		**04 34 04.3**	**-1.2**
SONM	**Songino Array**	**85.23**	**324**	P		**P**		**04 34 04.3**	**-1.2**
	comp=Z,1.9nm,1.0s,baz=139,slow=5.4,SNR=7.8								
NVAR	**Mina Array Bea**	**89.50**	**49**	P		**P**		**04 34 26.9**	**+0.4**
NVAR	**Mina Array Bea**	**89.50**	**49**	P		**P**		**04 34 26.9**	**+0.4**
	comp=Z,1.8nm,1.0s,baz=220,slow=6.1,SNR=7.3								
COLA	**College**	**89.56**	**18**	*e*P		**P**		**04 34 23.3**	**-2.4**
	comp=Z,15nm,0.9s								
ILAR	**Eielson Array**	**89.77**	**18**	P		**P**		**04 34 24.9**	**-1.8**
ILAR	**Eielson Array**	**89.77**	**18**	P		**P**		**04 34 24.9**	**-1.8**
	comp=Z,2.2nm,0.6s,baz=236,slow=5.3,SNR=27								
COLD	**Coldfoot**	**90.72**	**15**	*e*P		**P**		**04 34 30.9**	**-0.3**
	comp=Z,2.5nm,1.0s								
EGAK	**Eagle**	**91.52**	**20**	*e*P		**P**		**04 34 33.8**	**-1.2**
	comp=Z,3.5nm,1.1s								
PDAR	**Pinedale Array**	**97.26**	**47**	LR		LR		05 08 53.8	
	comp=Z,28nm,20.9s,baz=70,slow=29								
TXAR	**Lajitas Array**	**97.90**	**62**	LR		LR		05 10 28.5	
	comp=Z,28nm,20.0s,baz=15,slow=30								
MKAR	**Makanchi Array**	**99.65**	**316**	P		**Pdif**		**04 35 12.3**	**-0.2**
MKAR	**Makanchi Array**	**99.65**	**316**	P		**Pdif**		**04 35 12.3**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=99,slow=6.3,SNR=4.4								
ARCES	**ARCESS Array B**	**123.54**	**345**	PKP		**PKPdf**		**04 40 24.7**	**-0.8**
ARCES	**ARCESS Array B**	**123.54**	**345**	PKP		**PKPdf**		**04 40 24.7**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=5.2,slow=2.7,SNR=5.6								
GNI	**Garni**	**126.20**	**307**	PKP		**PKPdf**		**04 40 33.3**	**+1.5**
GNI	**Garni**	**126.20**	**307**	PKP		**PKPdf**		**04 40 33.3**	**+1.5**
	comp=Z,4.8nm,0.5s,baz=37,slow=4.7,SNR=3.8								
FETA	**Feichten**	**145.34**	**331**	∥*i*PKPdf		**PKPbc**		**04 41 06.3**	**-0.4**
	comp=Z,15nm,1.0s								
BFO	**Black Forest**	**145.36**	**335**	*e*PKPbc		**PKPbc**		**04 41 06.6**	**0.0**
DAVA	**Damuels**	**145.52**	**332**	⇑*i*PKPab		**PKPdf**		**04 41 07.2**	**0.0**
	comp=Z,15nm,1.1s								
DAVOX	**Davos/Dischmat**	**145.91**	**332**	PKPbc		**PKPdf**		**04 41 08.2**	**+0.2**
DAVOX	**Davos/Dischmat**	**145.91**	**332**	PKPbc		**PKPdf**		**04 41 08.2**	**+0.2**
	comp=Z,8.8nm,0.8s,baz=24,slow=1.6,SNR=11								
TIP	**Timpagrande**	**146.94**	**315**	*e*PKPbc		**PKPbc**		**04 41 11.7**	**0.0**
BNI	**Bardonecchia**	**148.66**	**333**	*e*PKPbc		**PKPbc**		**04 41 16.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**165.24**	**252**	PKP		**PKPdf**		**04 41 33.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**165.24**	**252**	PKP		**PKPdf**		**04 41 33.1**	**-1.0**
	comp=Z,1.1nm,1.1s,baz=190,slow=1.4,SNR=4.5								

IDC 13 04:21:53.7±1.3, 34.02N×25.32E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.4/27, mbtmp3.5/6, ML3.4/2, Error ellipse: s-maj=39.9km s-min=24.8km az=147.0, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EIL	**Elat**	**9.27**	**115**	Pn		Pn		04 24 09.5	+0.9
	0.1nm,0.3s,baz=300,slow=20,SNR=2.5								
GERES	**GERESS Array B**	**17.15**	**333**	P		P		04 25 56.0	-0.6
	0.1nm,0.3s,baz=155,slow=13,SNR=6.6								
TORD	**Torodi Ar. Bea**	**29.87**	**232**	P		P		04 28 02.9	-0.1
	0.3nm,0.6s,baz=32,slow=7.9,SNR=6.5								
KURBB	**Kurchatov Arra**	**41.74**	**50**	P		P		04 29 43.8	-0.5
	0.6nm,0.8s,baz=279,slow=8.7,SNR=5.4								
MKAR	**Makanchi Array**	**44.30**	**56**	P		P		04 30 05.0	-0.2
	0.8nm,0.6s,baz=275,slow=7.1,SNR=12								
SONM	**Songino Array**	**60.11**	**50**	P		P		04 32 02.8	-0.1
	0.3nm,0.5s,baz=292,slow=7.6,SNR=3.4								

*NIED **13** 04:38:00, 25.00N×128.00E, h5km, Mw4.5 Best double couple: M0 5.32000×10¹⁵ NP1:φ=27.00000°, δ=45.00000°, λ=-95.00000°. NP2:φ=215.00000°, δ=45.00000°, λ=-85.00000°.*

*IDC **13** 04:38:39.6±0.6, 24.87N×128.08E, h0km, mb4.2/20, mb1 4.3/24, mb1mx4.3/30, mbtmp4.2/24, ML3.7/4, MS3.8/12, Ms1 3.8/12, ms1mx3.3/36, Error ellipse: s-maj=21.9km s-min=14.1km az=75.0*

*NEIC **13** 04:38:41.2±0.3, 24.84N×127.96E, h10km, mb4.7/10, MW4.4(NIED), Error ellipse: s-maj=6.8km s-min=5.5km az=132.0*

*MOS **13** 04:38:43.0±1.0, 24.85N×128.04E, h33km, mb4.8/16, Error ellipse: s-maj=14.5km s-min=6.9km az=108.6*

*JMA **13** 04:38:43.4±0.3, 24.97N×128.02E, h72km, MW4.3*

*BJI **13** 04:38:44.3, 24.93N×127.88E, h31km, mB4.7/28, mb4.4/37, Ms4.2/25, Ms7 3.9/26*

ISC 13 04:38:44.2±0.5, 24.91N±0.04×128.07E±0.04, h30km±2km, h30km:pP-P, n157, σ1§97/207, mb4.4/49, MS3.8/21, 5C-3D, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.25**	**347**	P		**Pn**		**04 39 04.7**	**-1.0**
JJT2				S		**Sn**		**04 39 20.1**	**-1.5**
JKE	**Kume jima 2**	**1.83**	**321**	P		**Pn**		**04 39 12.4**	**-1.2**
JKE				S		**Sn**		**04 39 33.4**	**-2.3**
JAGN	**Aguni-jima**	**1.83**	**336**	P		**Pn**		**04 39 12.6**	**-1.0**
JAGN				S		**Sn**		**04 39 34.2**	**-1.6**
JOW	**Kunigami**	**1.92**	**5**	*e*Pn		**Pn**		**04 39 13.3**	**-1.6**
JOW				*e*S		**Sn**		**04 39 35.5**	**-2.5**
JOW	**Kunigami**	**1.92**	**5**	P		**Pn**		**04 39 13.3**	**-1.6**
JOW				S		**Sn**		**04 39 34.0**	**-4.0**
JIH	**Iheya**	**2.12**	**357**	P		**Pn**		**04 39 16.5**	**-1.0**
JIH				S		**Sn**		**04 39 39.8**	**-3.0**
JOGS	**Gusukube**	**2.43**	**267**	P		**Pn**		**04 39 20.9**	**-0.9**
JOGS				S		**Sn**		**04 39 48.7**	**-1.8**
JMJ	**Miyako jima 2**	**2.53**	**268**	P		**Pn**		**04 39 22.3**	**-0.9**
JMJ				S		**Sn**		**04 39 50.3**	**-2.7**
JTK	**Tokunoshima**	**2.97**	**15**	P		**Pn**		**04 39 27.7**	**-1.6**
JTK				S		**Sn**		**04 39 58.8**	**-5.1**
JMZ	**Minamidaito 2**	**2.99**	**72**	P		Pn		04 39 25.4	-4.1
JMZ				S		Sn		04 39 57.6	-6.7
JTJ	**Tarama**	**3.08**	**266**	P		**Pn**		**04 39 29.4**	**-1.4**
JTJ				S		**Sn**		**04 40 03.1**	**-3.4**
JAMN	**Amaminishikomi**	**3.46**	**16**	P		**Pn**		**04 39 34.3**	**-1.7**
JAMN				S		**Sn**		**04 40 11.4**	**-4.6**
JIJ	**Ishigaki jima**	**3.62**	**262**	P		**Pn**		**04 39 36.2**	**-2.0**
JIJ				S		Sn		04 40 14.1	-5.8
JAM	**Amami Oshima**	**3.74**	**21**	P		**Pn**		**04 39 37.7**	**-2.2**
JAM				S		Sn		04 40 17.1	-5.9
JKRS	**Kuro-shima**	**3.76**	**261**	P		**Pn**		**04 39 39.2**	**-1.0**
JKRS				S		**Sn**		**04 40 18.7**	**-4.7**
JZK	**Kikaishima**	**3.79**	**26**	P		**Pn**		**04 39 40.0**	**-0.6**
JZK				S		**Sn**		**04 40 21.1**	**-3.1**
**IRIF

HHC					pmax	pmax			
	comp=Z,100nm,3.6s								
HHC					LR	LR			
	comp=N,430nm,16.7s								
HHC					LR	LR			
	comp=E,400nm,14.3s								
HHC					LR	LR			
	comp=Z,220nm,19.0s								
CD2	**Chengdu**	**22.28**	**291**		P	**P**	**04 43 38.6**	**-0.5**	
CD2					pP	**pP**	**04 43 48.3**	**+1.1**	
CD2					sP	**sP**	**04 43 52.5**	**+1.4**	
CD2					PP	**PnPn**	**04 44 05.3**	**+3.2**	
CD2					S	S	04 47 35.0	-7.6	
CD2					PcP	**PcP**	**04 47 36.3**	**+1.9**	
CD2					sS	Sn	04 47 50.4	-4.9	
CD2					SS	**SnSn**	**04 48 15.0**	**+4.0**	
CD2					pmax	pmax			
	comp=Z,30nm,0.5s								
CD2					pmax	pmax			
	comp=Z,230nm,5.6s								
CD2					LR	LR			
	comp=Z,690nm,12.7s								
ASAJ	**Asahikawa**	**22.52**	**28**		LR	LR	04 52 43.1		
	comp=Z,63nm,20.3s,baz=331,slow=37								
KMI	**Kunming**	**22.95**	**276**		P	**P**	**04 43 47.8**	**+1.4**	
KMI					pP	**pP**	**04 43 58.9**	**+4.3**	
KMI					pmax	pmax			
	comp=Z,25nm,1.1s								
KMI					LR	LR			
	comp=Z,110nm,7.2s								
LZH	**Lanzhou**	**23.60**	**304**	*e*P		**P**	**04 43 51.3**	**-1.4**	
LZH					pP	**pP**	**04 43 59.3**	**-1.9**	
LZH					sP	**sP**	**04 44 05.0**	**0.0**	
LZH					PP	**PnPn**	**04 44 24.5**	**+4.3**	
LZH				*e*S		**S**	**04 48 02.0**	**-3.3**	
LZH					pmax	pmax			
	comp=Z,14nm,1.0s								
LZH					pmax	pmax			
	comp=Z,100nm,4.0s								
LZH					LR	LR			
	comp=N,750nm,14.5s								
LZH					LR	LR			
	comp=E,670nm,14.3s								
LZH					LR	LR			
	comp=Z,890nm,16.2s								
HABR	**Khabarovsk**	**24.15**	**11**	*e*P		**P**	**04 43 56.5**	**-1.0**	
HABR				*e**PP		**pP**	**04 44 05.8**	**-0.5**	
HABR				*e**SP		**sP**	**04 44 10.0**	**0.0**	
HABR				*e*			04 47 35.9		
HABR				*e*S		**S**	**04 48 13.5**	**0.0**	
HABR				pmax	pmax				
	comp=E,23nm,0.8s								
HABR				pmax	pmax				
	comp=Z,17nm,0.8s								
HABR				pmax	pmax				
	comp=N,14nm,0.8s								
HABR				MLR	MLR				
	comp=Z,85nm,17.0s								
KLR	**Kul'dur**	**24.44**	**6**	*e*P		**P**	**04 43 56.9**	**-3.3**	
KLR				*e*			04 44 07.7		
KLR				pmax	pmax				
	comp=Z,45nm,1.6s								
KLR				MLR	MLR				
	comp=Z,500nm,11.0s								
YSS	**Yuzh-Sakhalins**	**24.92**	**24**	*e*P		**P**	**04 44 07.0**	**+2.5**	
YSS				*e*			04 44 19.4		
GTA	**Gaotai**	**27.81**	**308**	*e*P		**P**	**04 44 30.3**	**-0.6**	
GTA				pP		**pP**	**04 44 39.8**	**+0.1**	
GTA				sP		**sP**	**04 44 43.8**	**+0.4**	
GTA				S		**S**	**04 49 09.5**	**-2.6**	
GTA				sS		**sS**	**04 49 24.9**	**-1.8**	
GTA				SS		**SnSn**	**04 50 31.0**	**+4.8**	
GTA				pmax	pmax				
	comp=Z,5.0nm,1.6s								
GTA				pmax	pmax				
	comp=Z,75nm,4.3s								
GTA				LR	LR				
	comp=N,200nm,15.7s								
GTA				LR	LR				
	comp=E,270nm,16.4s								
GTA				LR	LR				
	comp=Z,180nm,16.4s								
ULN	**Ulaanbaatar**	**28.30**	**329**	*e*P		**P**	**04 44 34.5**	**-0.7**	
	comp=Z,3.5nm,0.8s								
SONM	**Songino Array**	**28.59**	**329**	P		**P**	**04 44 36.9**	**-0.8**	
SONM	**Songino Array**	**28.59**	**329**	P		**P**	**04 44 36.9**	**-0.8**	
	comp=Z,1.4nm,0.5s,baz=135,slow=11,SNR=9.3								
SONM				LR		LR	04 58 00.3		
	comp=Z,139nm,19.4s,baz=338,slow=40								
ZAK	**Zakamensk**	**31.84**	**329**	*e*P		P	04 45 03.2	-3.2	
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.7s								
TLY	**Talaya**	**32.59**	**331**	*e*P		**P**	**04 45 13.2**	**+0.3**	
TLY				*e*			04 46 16.1		
TLY				*e*S		**S**	**04 50 27.7**	**+1.1**	
TLY				pmax	pmax				
	comp=Z,2.0nm,0.6s								
TLY				MLR	MLR				
	comp=Z,84nm,13.0s								
PETK	**Petropavlovsk-**	**35.90**	**31**	P		**P**	**04 45 42.0**	**+0.5**	
PETK	**Petropavlovsk-**	**35.90**	**31**	P		**P**	**04 45 42.0**	**+0.5**	
PETK	**Petropavlovsk-**	**35.90**	**31**	P		**P**	**04 45 42.0**	**+0.5**	
	comp=Z,1.8nm,0.7s,baz=145,slow=5.4,SNR=3.6								
TAPN	**Taplejung**	**36.21**	**283**	*e*P		**P**	**04 45 46.1**	**+1.2**	
	comp=Z,51nm,1.1s								
ODAN	**Odare**	**36.55**	**282**	*e*P		**P**	**04 45 48.6**	**+0.9**	
	comp=Z,46nm,0.8s								
RAMN	**Ramite**	**37.24**	**282**	*e*P		**P**	**04 45 54.0**	**+0.4**	
	comp=Z,18nm,0.8s								
JIRN	**Jiri**	**37.53**	**284**	*e*P		**P**	**04 45 57.2**	**+1.1**	
	comp=Z,19nm,0.6s								
GUN	**Gumba**	**37.78**	**284**	*e*P		**P**	**04 45 59.2**	**+1.0**	
	comp=Z,20nm,0.7s								
PKI	**Pulchoki**	**38.22**	**284**	*e*P		**P**	**04 46 02.4**	**+0.4**	
	comp=Z,24nm,0.8s								
KKN	**Kakani**	**38.32**	**284**	*e*P		**P**	**04 46 03.5**	**+0.9**	
	comp=Z,11nm,0.4s								
DMN	**Daman**	**38.49**	**284**	*e*P		**P**	**04 46 04.9**	**+0.8**	
	comp=Z,25nm,0.9s								
PMG	**Port Moresby**	**38.86**	**149**	LR		LR	05 01 31.6		
	comp=Z,51nm,20.4s,baz=185,slow=35								
DANN	**Dangsing**	**39.60**	**285**	*e*P		**P**	**04 46 14.8**	**+1.3**	
	comp=Z,50nm,0.7s								
KOLN	**Koldanda**	**39.80**	**284**	*e*P		**P**	**04 46 15.9**	**+0.9**	
	comp=Z,19nm,0.8s								
PYUN	**Piuthan**	**40.30**	**285**	*e*P		**P**	**04 46 20.2**	**+1.0**	
	comp=Z,61nm,0.9s								
SEY	**Seymchan**	**41.32**	**17**⇑	*e*P		**P**	**04 46 27.8**	**+1.0**	
COEN	**Coen**	**41.35**	**157**	*e*P		**P**	**04 46 27.6**	**0.0**	
	comp=Z,62nm,1.0s								
MK31	**Makanchi Array**	**42.31**	**313**	*e*P		**P**	**04 46 35.1**	**-0.2**	
MK31	**Makanchi Array**	**42.31**	**313**	*e*P		**P**	**04 46 35.0**	**-0.2**	
MKAR	**Makanchi Array**	**42.31**	**313**	*e*P		**P**	**04 46 35.2**	**-0.1**	
MKAR							04 48 28.4		
MKAR	**Makanchi Array**	**42.31**	**313**	*e*P		**P**	**04 46 35.1**	**-0.1**	
MKAR				PcP		**PcP**	**04 48 28.4**	**-0.1**	
MKAR	**Makanchi Array**	**42.31**	**313**	P		**P**	**04 46 35.1**	**-0.1**	
	comp=Z,3.7nm,0.5s,baz=100,slow=10,SNR=50								
MKAR				PcP		**PcP**	**04 48 28.4**	**-0.1**	
	comp=Z,1.0nm,0.7s,baz=87,slow=5.0,SNR=3.8								
MKAR				LR		LR	05 06 04.6		
	comp=Z,55nm,19.1s,baz=175,slow=39								
ZALV	**Zalesovo Beam**	**43.21**	**324**	P		**P**	**04 46 42.2**	**-0.2**	
ZALV	**Zalesovo Beam**	**43.21**	**324**	P		**P**	**04 46 42.2**	**-0.2**	
ZALV	**Zalesovo Beam**	**43.21**	**324**	P		**P**	**04 46 42.2**	**-0.2**	
	comp=Z,5.2nm,0.6s,baz=111,slow=8.3,SNR=17								
ZALV				LR		LR	05 06 20.7		
	comp=Z,95nm,18.6s,baz=74,slow=38								
WRAB	**Tennant Creek**	**44.99**	**172**	*e*P		**P**	**04 46 56.1**	**-0.9**	
WRAB				pmax	pmax				
	comp=Z,10.0nm,0.7s								
WRAB	**Tennant Creek**	**44.99**	**172**	*e*P		**P**	**04 46 56.1**	**-0.9**	
	comp=Z,10nm,0.7s								
WRA	**Warramunga Arr**	**45.00**	**172**	P		**P**	**04 46 56.4**	**-0.6**	
WRA	**Warramunga Arr**	**45.00**	**172**	P		**P**	**04 46 56.4**	**-0.6**	
	comp=Z,7.9nm,0.8s,baz=352,slow=8.7,SNR=55								
KURK	**Kurchatov**	**45.68**	**318**	P		**P**	**04 47 02.5**	**+0.3**	
KURK	**Kurchatov**	**45.68**	**318**	P		**P**	**04 47 02.5**	**+0.3**	
KURBB	**Kurchatov Arra**	**45.72**	**317**	P		**P**	**04 47 02.5**	**0.0**	
	comp=Z,2.2nm,0.6s,baz=103,slow=8.5,SNR=14								
KSH	**Kashi**	**45.82**	**302**	P		P	04 47 08.3	+4.7	
KSH				pP		pP	04 47 16.4	+3.7	
KSH				sP		sP	04 47 19.9	+3.6	
KSH				PP		**PP**	**04 48 55.8**	**+4.7**	
KSH				S		**S**	**04 53 46.9**	**+1.2**	
KSH				sS		sS	04 54 06.5	+5.8	
KSH				ScS		**ScS**	**04 56 57.1**	**-0.6**	
KSH				pmax	pmax				
	comp=Z,12nm,1.4s								
KSH				pmax	pmax				
	comp=Z,64nm,4.8s								
KSH				LR	LR				
	comp=N,71nm,6.7s								
KSH				LR	LR				
	comp=E,98nm,5.9s								
KSH				LR	LR				
	comp=Z,95nm,6.0s								
HNR	**Honiara**	**46.16**	**134**	LR		LR	05 05 09.5		
	comp=Z,94nm,18.5s,baz=268,slow=34								
TIXI	**Tiksi**	**46.77**	**0**⇑	*e*P		**P**	**04 47 11.2**	**+0.8**	
TIXI				pmax	pmax				
	comp=Z,5.0nm,1.2s								
TIXI				MLR	MLR				
	comp=Z,62nm,17.0s								
AAK	**Ala-Archa**	**47.11**	**306**	*i* P		**P**	**04 47 15.2**	**+1.4**	
ASAR	**Alice Springs**	**48.62**	**173**	P		**P**	**04 47 25.4**	**0.0**	
ASAR	**Alice Springs**	**48.62**	**173**	P		**P**	**04 47 25.4**	**0.0**	
	comp=Z,1.1nm,0.4s,baz=0.4,slow=14,SNR=20								
BILL	**Bilibino**	**48.96**	**18**	*i* P		**P**	**04 47 28.4**	**+1.0**	
BILL				*e*S		**S**	**04 54 33.5**	**+4.1**	
BILL				pmax	pmax				
	comp=Z,8.0nm,1.1s								
KKAR	**Karatay Array**	**50.06**	**306**	*e*P		**P**	**04 47 36.9**	**+0.6**	
KKAR				*e*			04 47 50.3		
KKAR	**Karatay Array**	**50.06**	**306**	*e*P		**P**	**04 47 36.9**	**+0.6**	
KKAR				*e*			04 47 50.2		
BRVK	**Borovoye**	**51.23**	**319**	*d* P		**P**	**04 47 45.4**	**+0.5**	
BRVK				pmax	pmax				
	comp=Z,19nm,1.2s								
BRVK	**Borovoye**	**51.23**	**319**	*e*P		**P**	**04 47 45.7**	**+0.8**	
	comp=Z,7.5nm,0.6s								
BRVK				*e*			04 47 57.9		
KBL	**Kabul**	**51.53**	**295**	*e*P		**P**	**04 47 48.8**	**+1.1**	
KBL				pmax	pmax				
	comp=Z,21nm,0.6s								
KBL	**Kabul**	**51.53**	**295**	*e*P		**P**	**04 47 48.8**	**+1.1**	
	comp=Z,20nm,0.6s								
ABKAR	**Akbulak array**	**57.45**	**314**	*e*P		**P**	**04 48 30.7**	**+0.5**	
	comp=Z,4.1nm,0.5s								
ABKAR				*e*			04 48 42.5		
STKA	**Stephens Creek**	**57.93**	**166**	P		**P**	**04 48 33.3**	**-0.3**	
STKA	**Stephens Creek**	**57.93**	**166**	P		**P**	**04 48 33.3**	**-0.3**	
	comp=Z,1.8nm,0.6s,baz=159,slow=16,SNR=4.0								
ARU	**Arti**	**58.34**	**322**	*d* P		**P**	**04 48 37.0**	**+0.7**	
ARU				S		**S**	**04 56 39.9**	**+3.2**	
ARU				pmax	pmax				
	comp=Z,13nm,1.7s								
AKTO	**Aktyubinsk**	**58.66**	**315**	P		**P**	**04 48 39.7**	**+1.1**	
AKTO	**Aktyubinsk**	**58.66**	**315**	P		**P**	**04 48 39.7**	**+1.1**	
AKTO	**Aktyubinsk**	**58.66**	**315**	P		**P**	**04 48 39.7**	**+1.1**	
	comp=Z,2.0nm,0.6s,baz=93,slow=10,SNR=8.9								
MCK	**McKinley**	**64.88**	**29**	*e*P		**P**	**04 49 21.7**	**+1.3**	
MCK				*e*			04 49 33.6		
MCK				pmax	pmax				
	comp=Z,6.0nm,0.8s								
MCK	**McKinley**	**64.88**	**29**	*e*P		**P**	**04 49 21.6**	**+1.3**	
	comp=Z,6.0nm,0.8s								
MCK				*e*			04 49 33.6		
ILAR	**Eielson Array**	**65.66**	**28**	P		**P**	**04 49 24.9**	**-0.4**	
ILAR	**Eielson Array**	**65.66**	**28**	P		**P**	**04 49 24.9**	**-0.4**	
	comp=Z,0.6nm,0.8s,baz=273,slow=5.8,SNR=6.5								
KIP	**Kipapa**	**67.26**	**76**	*c*eP		**P**	**04 49 36.7**	**+0.4**	
KIP				pmax	pmax				
	comp=Z,112nm,1.7s								
TMCR	**Tamitsa**	**67.90**	**332**	*e*P		**P**	**04 49 40.0**	**+0.5**	
TMCR				*e*			04 49 51.4		
TMCR				pmax	pmax				
	comp=Z,13nm,0.4s								
APA	**Apatity**	**68.99**	**336**⇑	*e*P		**P**	**04 49 49.0**	**+2.6**	
APA				MLR	MLR				
	comp=Z,100nm,16.0s								
KBZ	**Khabaz**	**69.89**	**310**	P		**P**	**04 49 53.1**	**+0.8**	
KBZ	**Khabaz**	**69.89**	**310**	P		**P**	**04 49 53.0**	**+0.8**	
KBZ	**Khabaz**	**69.89**	**310**	P		**P**	**04 49 53.0**	**+0.8**	
	comp=Z,6.6nm,0.8s,baz=106,slow=4.0,SNR=15								
KIV	**Kislovodsk**	**69.97**	**310**	*e*P		**P**	**04 49 54.2**	**+1.2**	
KIV				pmax	pmax				
	comp=Z,8.0nm,0.6s								
VORD	**Divnogorie**	**70.32**	**318**	*e*P		**P**	**04 49 54.0**	**-0.8**	
VORD				*e**SP		**sP**	**04 50 05.9**	**-2.0**	
VORD				pmax	pmax				
	comp=Z,4.0nm,0.9s								
VORD				pmax	pmax				
	comp=N,8.0nm,0.7s								
VORD				pmax	pmax				
	comp=E,10.0nm,1.5s								
VSR	**Storozhevoye**	**70.33**	**318**	*e*P		**P**	**04 49 53.8**	**-1.1**	
VSR				*e**SP		**sP**	**04 50 05.3**	**-2.6**	
VSR				pmax	pmax				
	comp=Z,10.0nm,1.1s								
VSR				pmax	pmax				
	comp=N,8.0nm,0.8s								
VSR				pmax	pmax				
	comp=E,9.0nm,1.1s								
OBN	**Obninsk**	**70.78**	**323**	*e*P		**P**	**04 49 59.6**	**+2.1**	
OBN				pmax	pmax				
	comp=Z,8.0nm,1.2s								
JOF	**Joensuu**	**71.12**	**331**	*e*P		**P**	**04 49 59.7**	**+0.2**	
JOF				pmax	pmax				
	comp=Z,2.0nm,0.5s								
ARCES	**ARCESS Array B**	**71.18**	**339**	P		**P**	**04 50 00.3**	**+0.5**	
ARCES	**ARCESS Array B**	**71.18**	**339**	P		**P**	**04 50 00.3**	**+0.5**	
	comp=Z,0.7nm,0.6s,baz=67,slow=12,SNR=5.1								
ARCES				LR		LR	05 28 53.6		
	comp=Z,50nm,18.3s,baz=250,slow=42								
FINES	**FINESS Array B**	**73.94**	**331**	P		**P**	**04 50 16.2**	**0.0**	
FINES	**FINESS Array B**	**73.94**	**331**	P		**P**	**04 50 16.2**	**0.0**	
	comp=Z,2.8nm,0.7s,baz=70,slow=6.3,SNR=11								
FINES				LR		LR	05 27 01.4		
	comp=Z,132nm,18.2s,baz=199,slow=39								
KIEV	**Kiev**	**76.45**	**320**	*e*P		**P**	**04 50 31.1**	**+0.1**	
KIEV				pmax	pmax				
	comp=Z,3.0nm,0.6s								
KIEV	**Kiev**	**76.45**	**320**	*e*P		**P**	**04 50 31.1**	**+0.1**	
	comp=Z,2.9nm,0.6s								
BR131	**Keskin Array S**	**77.73**	**308**	*e*P		**P**	**04 50 39.3**	**+0.8**	
	comp=Z,1.6nm,0.7s								
BRTR	**Keskin Array B**	**77.73**	**308**	P		**P**	**04 50 39.5**	**+0.9**	
BRTR	**Keskin Array B**	**77.73**	**308**	P		**P**	**04 50 39.5**	**+0.9**	
	comp=Z,1.6nm,0.7s,baz=94,slow=5.4,SNR=9.5								
YKA	**Yellowknife Ar**	**79.78**	**25**	P		**P**	**04 50 49.1**	**0.0**	
YKA	**Yellowknife Ar**	**79.78**	**25**	P		**P**	**04 50 49.1**	**0.0**	
	comp=Z,1.5nm,0.7s,baz=297,slow=5.3,SNR=4.7								
HFS	**Hagfors**	**79.92**	**332**	P		**P**	**04 50 49.9**	**-0.1**	
HFS	**Hagfors**	**79.92**	**332**	P		**P**	**04 50 49.9**	**-0.1**	
	comp=Z,1.4nm,0.5s,baz=86,slow=6.1,SNR=10								
NB2	**NORSAR Subarra**	**80.43**	**334**	P		**P**	**04 50 52.3**	**-0.5**	
	comp=Z,1.6nm,0.6s,baz=53,slow=5.3								
NOA	**NORSAR Array B**	**80.43**	**334**	P		**P**	**04 50 53.0**	**+0.2**	
NOA	**NORSAR Array B**	**80.43**	**334**	P		**P**	**04 50 53.0**	**+0.2**	
	comp=Z,1.9nm,0.6s,baz=52,slow=5.4,SNR=13								
NOA				LR		LR	05 29 46.5		
	comp=Z,40nm,19.8s,baz=75,slow=38								
STHS	**Stebnicka Huta**	**81.63**	**321**	*e*pP		pP	04 51 10.6	+1.6	
SUMG	**Summit**	**82.33**	**356**	*i* P		**P**	**04 51 04.0**	**+0.9**	
SUMG				*i*			04 51 16.2		
SUMG				pmax	pmax				
	comp=Z,5.0nm,0.9s								
SUMG	**Summit**	**82.33**	**356**	*e*P		**P**	**04 51 04.1**	**+0.9**	
	comp=Z,5.7nm,0.8s								
SUMG	**Summit**	**82.33**	**356**	*i* P		**P**	**04 51 04.0**	**+0.9**	
	comp=Z,5.1nm,0.9s								
SUMG				*i*			04 51 16.2		
KECS	**Kecovo**	**82.52**	**320**	*e*P		P	04 51 11.4	+7.3	
DPC	**Dobruska-Polom**	**83.91**	**323**	*e*P		**P**	**04 51 13.8**	**+2.5**	
DPC	**Dobruska-Polom**	**83.91**	**323**	*e*P		**P**	**04 51 13.8**	**+2.5**	
CLL	**Collm**	**85.15**	**325**	*e*P		**P**	**04 51 19.0**	**+1.6**	
CLL				*e*			04 51 30.0		
CLL				LmV			05 32 00.0		
	comp=Z,100nm,19.6s								
CONA	**Conrad Observa**	**85.46**	**321**	⇑ *i* PcP		**PcP**	**04 51 21.0**	**-1.2**	
	comp=Z,5.5nm,1.2s								
KHC	**Kasperske Hory**	**86.07**	**323**	*e*pP		pP	04 51 30.0	-1.8	
GERES	**GERESS Array B**	**86.16**	**323**	P		**P**	**04 51 23.4**	**+0.7**	
GERES	**GERESS Array B**	**86.16**	**323**	P		**P**	**04 51 23.4**	**+0.7**	
	comp=Z,0.8nm,0.7s,baz=42,slow=4.2,SNR=7.4								
GERES				LR		LR	05 32 58.3		
	comp=Z,65nm,18.9s,baz=192,slow=38								
FFC	**Flin Flon**	**89.83**	**26**	*i* P		**P**	**04 51 40.9**	**+1.0**	
PPT	**Papeete**	**90.59**	**109**	LR		LR	05 29 10.2		
	comp=Z,156nm,18.4s,baz=93,slow=34								
KMBO	**Kilima Mbogo**	**91.22**	**269**	LR		LR	05 32 47.1		
	comp=Z,49nm,18.1s,baz=97,slow=36								
NVAR	**Mina Array Bea**	**91.52**	**46**	P		**P**	**04 51 49.4**	**+1.0**	
NVAR	**Mina Array Bea**	**91.52**	**46**	P		**P**	**04 51 49.4**	**+1.0**	
	comp=Z,1.1nm,0.8s,baz=76,slow=6.3,SNR=4.6								
PDAR	**Pinedale Array**	**94.28**	**39**	P		**P**	**04 52 01.4**	**+0.3**	
PDAR	**Pinedale Array**	**94.28**	**39**	P		**P**	**04 52 01.4**	**+0.3**	
	comp=Z,0.1nm,0.3s,baz=16,slow=22,SNR=3.8								
TORD	**Torodi Ar. Bea**	**115.47**	**300**	PKP		**PKPdf**	**04 57 22.8**	**-1.2**	
TORD	**Torodi Ar. Bea**	**115.47**	**300**	PKP		**PKPdf**	**04 57 22.8**	**-1.2**	
	comp=Z,0.2nm,0.5s,baz=77,slow=1.3,SNR=8.5								

IDC 13 04:52:39.5±5.2, 1°42N×99°24E, h97km±24km, mb3.4/4, mb1 3.6/4, mb1mx3.2/24, mbtmp3.4/4, Error ellipse: s-maj=160.1km s-min=18.7km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**1.41**	**347**	P	Pn	04 53 03.1	-1.5
	12nm,0.3s,baz=202,slow=11,SNR=29						
PSI				S	Sn	04 53 21.3	-2.3
	10nm,0.3s,baz=173,slow=9.9,SNR=10.0						
WRA	**Warramunga Arr**	**40.44**	**123**	P	P	05 00 08.8	+0.1
	0.7nm,0.4s,baz=291,slow=7.2,SNR=8.6						
ASAR	**Alice Springs**	**41.92**	**129**	P	P	05 00 20.4	-0.4
	0.3nm,0.6s,baz=312,slow=7.4,SNR=2.8						
MKAR	**Makanchi Array**	**47.55**	**344**	P	P	05 01 05.0	-0.2
	0.5nm,0.4s,baz=163,slow=8.2,SNR=11						
ZALV	**Zalesovo Beam**	**53.69**	**349**	P	P	05 01 51.1	0.0
	1.4nm,0.5s,baz=168,slow=7.4,SNR=4.9						

IDC 13 04:55:44.8±1.9, 17°88S×167°23E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/19, mbtmp3.8/5, ML3.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/24, Error ellipse: s-maj=52.7km s-min=30.7km az=129.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.24**	**190**	Pn	Pn	04 56 49.6	-1.2
	0.9nm,0.3s,baz=90,slow=24,SNR=12						
DZM				Sn	Sn	04 57 33.8	-7.3
	4.8nm,0.3s,baz=266,slow=24,SNR=7.7						
DZM				LR	LR	04 57 39.2	
	comp=Z,240nm,19.3s,baz=0.2,slow=27						
STKA	**Stephens Creek**	**27.03**	**234**	P	P	05 01 30.4	+1.6
	1.6nm,0.8s,baz=82,slow=7.1,SNR=3.3						
WRA	**Warramunga Arr**	**31.16**	**261**	P	P	05 02 05.2	-0.6
	0.5nm,0.9s,baz=83,slow=5.6,SNR=4.8						
ASAR	**Alice Springs**	**31.64**	**254**	P	P	05 02 09.7	-0.3
	0.7nm,0.5s,baz=81,slow=8.6,SNR=13						
ILAR	**Eielson Array**	**89.52**	**18**	P	P	05 08 43.6	0.0
	0.5nm,0.6s,baz=229,slow=5.4,SNR=8.1						

CSEM ***13*** *05:32:33.8±0.1, 46°05N×14°40E, h10km, ML1.6/5, Error ellipse: s-maj=2.4km s-min=1.8km az=6.0*

LJU 13 05:32:33.8, 46°05N×14°40E, h8km, ML1.1, 3C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LJU	**Ljubljana**	**0.09**	**92**	⇑ *i* Pg	Pg	05 32 36.1	0.0
LJU				*i* Sg	Sg	05 32 37.7	0.0
LJU							
	comp=Z,55nm,0.1s						
LJU	**Ljubljana**	**0.09**	**92**	Pg	Pg	05 32 36.1	0.0
LJU				*i* Sg	Sg	05 32 37.7	0.0
	comp=Z,55nm,0.1s						
CRNS	**Crni Vrh**	**0.10**	**290**	⇑ *i* Pg	Pg	05 32 36.3	+0.1
CRNS				*i* Sg	Sg	05 32 38.1	+0.1
CRNS							
	comp=Z,138nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.22**	**75**	⇑ *i* Pg	Pg	05 32 38.3	0.0
MOZS	**Mozjanca**	**0.25**	**7**	*i* Pg	Pg	05 32 39.1	+0.2
MOZS				*i* Sg	Sg	05 32 42.6	+0.3
MOZS							
	comp=Z,6.0nm,0.1s						
MOZS	**Mozjanca**	**0.25**	**7**	*i* Pg	Pg	05 32 39.1	+0.2
MOZS				*i* Sg	Sg	05 32 42.6	+0.3
	comp=Z,6.0nm,0.1s						
CEY	**Cerknica**	**0.31**	**176**	*e*Pg	Pg	05 32 40.2	+0.2
CEY				*i* Sg	Sg	05 32 44.7	+0.6
CEY							
	comp=Z,5.0nm,0.1s						
CEY	**Cerknica**	**0.31**	**176**	*e*Pg	Pg	05 32 40.2	+0.2
CEY				*i* Sg	Sg	05 32 44.7	+0.6
	comp=Z,5.0nm,0.1s						
VOJS	**Vojsko**	**0.36**	**268**	*i* Pg	Pg	05 32 40.7	-0.3
VOJS				*e*Sg	Sg	05 32 46.5	+0.6
VOJS							
	comp=Z,5.0nm,0.1s						
VOJS	**Vojsko**	**0.36**	**268**	*i* Pg	Pg	05 32 40.7	-0.3
VOJS				*e*Sg	Sg	05 32 46.5	+0.7
	comp=Z,5.0nm,0.1s						
VISS	**Visnje**	**0.39**	**128**	*i* Pg	Pg	05 32 41.8	+0.2
VISS	**Visnje**	**

ENA				*e*S		**Sn**	**05 33 48.6**	**-0.8**
	baz=223							
ENTT	**Nioudou**	**1.17**	**240**	P		**Pn**	**05 33 26.3**	**+0.3**
	baz=240							
ENTT				*e*S		**Sn**	**05 33 49.2**	**-0.3**
	baz=240							
IRIF	**Iriomote-Funau**	**1.30**	**133**	P		**Pn**	**05 33 27.2**	**+0.1**
IRIF				*e*S		**Sn**	**05 33 50.2**	**-1.2**
NSK	**Sanguang**	**1.32**	**246**	⇑*i*P		**Pn**	**05 33 27.4**	**0.0**
	baz=237							
NSK				S		**Sn**	**05 33 50.0**	**-1.7**
	baz=237							
NCU	**National Centr**	**1.38**	**260**	*e*P		**Pn**	**05 33 28.0**	**+0.3**
	baz=266							
NCU				*e*S		**Sn**	**05 33 51.9**	**-0.6**
	baz=266							
NNS	**Nan Shan**	**1.42**	**237**	*e*P		**Pn**	**05 33 28.7**	**+0.4**
	baz=241							
NNS				*e*S		**Sn**	**05 33 52.8**	**-0.7**
	baz=241							
TWD	**Chiawan**	**1.50**	**221**	*i* P		**Pn**	**05 33 28.8**	**0.0**
	baz=220							
TWD				*e*S		**Sn**	**05 33 52.8**	**-1.8**
	baz=220							
HATJ	**Hateruma jima**	**1.55**	**138**	P		**Pn**	**05 33 30.1**	**+0.8**
HATJ				S		**Sn**	**05 33 54.2**	**-1.1**
JKRS	**Kuro-shima**	**1.56**	**129**	P		**Pn**	**05 33 30.2**	**+0.9**
JKRS				S		**Sn**	**05 33 54.6**	**-0.9**
JIJ	**Ishigaki jima**	**1.58**	**122**	P		**Pn**	**05 33 29.9**	**+0.3**
JIJ				S		**Sn**	**05 33 54.1**	**-1.8**
NSTT	**Nanjuang**	**1.63**	**249**	⇑*i*P		**Pn**	**05 33 30.3**	**+0.2**
	baz=243							
NSTT				*e*S		**Sn**	**05 33 55.1**	**-1.7**
	baz=243							
TWT	**Tachien**	**1.67**	**235**	*e*P		**Pn**	**05 33 31.4**	**+0.7**
	baz=238							
TWT				S		**Sn**	**05 33 57.6**	**-0.1**
	baz=238							
ESL	**Shilin**	**1.80**	**219**	*i* P		**Pn**	**05 33 31.1**	**-0.6**
	baz=223							
ESL				*e*S		**Sn**	**05 33 57.3**	**-2.5**
	baz=223							
NSY	**Sanyi**	**1.92**	**246**	*e*P		**Pn**	**05 33 33.3**	**+0.4**
	baz=245							
NSY				*e*S		**Sn**	**05 34 00.7**	**-1.1**
	baz=245							
JTJ	**Tarama**	**1.93**	**107**	P		**Pn**	**05 33 34.3**	**+1.4**
JTJ				S		**Sn**	**05 34 01.7**	**-0.2**
TWQ1	**Liyutan**	**1.94**	**244**	*e*P		**Pn**	**05 33 33.4**	**+0.3**
	baz=237							
TWQ1				*e*S		**Sn**	**05 34 00.3**	**-1.8**
	baz=237							
SMLT	**Sun Moon Lake**	**2.10**	**231**	*e*P		**Pn**	**05 33 35.6**	**+0.7**
	baz=231							
SMLT				*e*S		**Sn**	**05 34 04.9**	**-0.5**
	baz=231							
EHY	**Hungye**	**2.11**	**216**	*e*P		**Pn**	**05 33 33.9**	**-1.0**
	baz=217							
EHY				*e*S		**Sn**	**05 34 03.9**	**-1.6**
	baz=217							
TCU	**Taichung**	**2.11**	**240**	*e*P		**Pn**	**05 33 36.0**	**+1.1**
	baz=245							
TCU				*e*S		**Sn**	**05 34 03.8**	**-1.6**
	baz=245							
TYC	**Yuchr**	**2.12**	**232**	⇑*i*P		**Pn**	**05 33 35.6**	**+0.7**
	baz=232							
TYC				S		**Sn**	**05 34 04.6**	**-0.9**
	baz=232							
TWF1	**Yuli**	**2.25**	**214**	P		**Pn**	**05 33 35.7**	**-0.7**
	baz=215							
TWF1				*e*S		**Sn**	**05 34 07.9**	**-0.2**
	baz=215							
WNT	**Mingjian**	**2.26**	**234**	*e*P		**Pn**	**05 33 37.0**	**+0.5**
	baz=234							
WNT				*e*S		**Sn**	**05 34 07.3**	**-0.9**
	baz=234							
YUS	**Yu-Shan**	**2.34**	**223**	*e*P		**Pn**	**05 33 38.9**	**+1.0**
	baz=219							
YUS				*e*S		**Sn**	**05 34 09.6**	**-1.1**
	baz=219							
JMJ	**Miyako jima**	**2.41**	**99**	P		**Pn**	**05 33 39.8**	**+1.7**
JMJ				S		**Sn**	**05 34 10.8**	**-0.3**
ALS	**Alishan**	**2.41**	**225**	*e*P		**Pn**	**05 33 39.2**	**+0.7**
	baz=221							
ALS				*e*S		**Sn**	**05 34 11.1**	**-0.8**
	baz=221							
CHKT	**Chengkung**	**2.43**	**210**	*e*P		**Pn**	**05 33 38.4**	**0.0**
	baz=206							
CHKT				*e*S		**Sn**	**05 34 09.8**	**-1.9**
	baz=206							
CHN5	**Tsauling**	**2.44**	**229**	*e*P		**Pn**	**05 33 39.2**	**+0.6**
	baz=235							
CHN5				*e*S		**Sn**	**05 34 11.7**	**-0.3**
	baz=235							
WGK	**Gukeng**	**2.46**	**232**	*e*P		**Pn**	**05 33 39.2**	**+0.5**
	baz=232							
WGK				*e*S		**Sn**	**05 34 11.4**	**-0.9**
	baz=232							
JOGS	**Gusukube**	**2.52**	**100**	P		**Pn**	**05 33 41.1**	**+1.8**
JOGS				S		**Sn**	**05 34 13.3**	**-0.1**
ELDTW	**Lidau**	**2.53**	**217**	P		**Pn**	**05 33 39.7**	**0.0**
	baz=214							
ELDTW				*e*S		**Sn**	**05 34 13.1**	**-0.9**
	baz=214							
CHN2	**Minshiung**	**2.62**	**231**	*e*P		**Pn**	**05 33 41.2**	**+0.6**
	baz=230							
CHN2				*e*S		**Sn**	**05 34 14.2**	**-1.3**
	baz=230							
CHN4	**Tsaushan**	**2.66**	**226**	*e*P		**Pn**	**05 33 41.5**	**+0.4**
	baz=226							
CHN4				S		**Sn**	**05 34 15.6**	**-0.9**
	baz=226							
CHY	**Chiayi**	**2.68**	**231**	*e*P		**Pn**	**05 33 41.8**	**+0.5**
	baz=230							
CHY				*e*S		**Sn**	**05 34 15.5**	**-1.3**
	baz=230							
STYT	**Tauyuan**	**2.70**	**221**	*e*P		**Pn**	**05 33 42.3**	**+0.7**
	baz=221							
STYT				*e*S		**Sn**	**05 34 16.9**	**-0.4**
	baz=221							
WTP	**Ta-pu**	**2.73**	**224**	*e*P		**Pn**	**05 33 42.4**	**+0.5**
	baz=231							
WTP				*e*S		**Sn**	**05 34 16.8**	**-1.1**
	baz=231							
TWK	**Hsinying**	**2.79**	**226**	*e*P		**Pn**	**05 33 43.0**	**+0.4**
	baz=226							
TWK				*e*S		**Sn**	**05 34 18.2**	**-1.1**
	baz=226							
TWG	**Pinlang**	**2.81**	**212**	*e*P		**Pn**	**05 33 41.7**	**-1.0**
	baz=215							
TWG				*e*S		**Sn**	**05 34 17.1**	**-2.4**
	baz=215							
CHN1	**Nanshi**	**2.82**	**225**	*e*P		**Pn**	**05 33 43.6**	**+0.7**
	baz=230							
CHN1				*e*S		**Sn**	**05 34 18.8**	**-1.1**
	baz=230							
SGST	**Jiashian**	**2.86**	**222**	*e*P		**Pn**	**05 33 43.1**	**-0.3**
	baz=229							
SGST				*e*S		**Sn**	**05 34 19.9**	**-0.8**
	baz=229							
ECL	**Taimali**	**3.05**	**211**	*e*P		**Pn**	**05 33 47.0**	**+1.4**
	baz=212							
ECL				*e*S		**Sn**	**05 34 23.7**	**-1.0**
	baz=212							
EAST	**Anshuo**	**3.29**	**211**	*e*P		**Pn**	**05 33 48.2**	**-0.3**
	baz=210							
EAST				*e*S		**Sn**	**05 34 28.4**	**-1.4**
	baz=210							
PNG	**Penghu**	**3.29**	**241**	*e*P		**Pn**	**05 33 49.3**	**+0.9**
	baz=239							
PNG				*e*S		**Sn**	**05 34 27.6**	**-2.1**
	baz=239							
SCZT	**Fangliau**	**3.41**	**214**	*e*P		**Pn**	**05 33 49.2**	**-0.7**
	baz=215							
SCZT				*e*S		**Sn**	**05 34 31.7**	**-0.6**
	baz=215							
JKE	**Kume jima**	**3.86**	**73**	P		**Pn**	**05 33 56.0**	**+0.5**
JKE				*e*S		**Sn**	**05 34 42.7**	**+0.3**
JAGN	**Aguni-jima**	**4.33**	**71**	P		**Pn**	**05 34 01.7**	**+0.4**
JAGN				*e*S		**Sn**	**05 34 50.9**	**-2.0**
JIH	**Iheya**	**5.08**	**68**	P		**Pn**	**05 34 10.6**	**-0.3**
JOW	**Kunigami**	**5.28**	**71**	P		**Pn**	**05 34 12.7**	**-0.8**
JOW				*e*S		**Sn**	**05 35 10.8**	**-4.1**
JTK	**Tokunoshima**	**6.17**	**64**	P		**Pn**	**05 34 23.6**	**-1.4**
JTK				*e*S		Sn	05 35 30.0	-5.7
JAMN	**Amaminishikomi**	**6.54**	**61**	P		**Pn**	**05 34 28.4**	**-1.4**
MKAR	**Makanchi Array**	**38.56**	**314**	P		**P**	**05 39 59.4**	**-0.2**
	0.3nm,0.3s,baz=97,slow=9.1,SNR=9.6							
FITZ	**Fitzroy Crossi**	**43.16**	**176**	P		**P**	**05 40 37.6**	**+0.4**
	1.2nm,0.7s,baz=18,slow=6.4,SNR=3.7							
WRA	**Warramunga Arr**	**46.30**	**165**	P		**P**	**05 41 03.2**	**+1.1**
	0.4nm,0.8s,baz=348,slow=8.8,SNR=6.7							
ASAR	**Alice Springs**	**49.80**	**166**	P		**P**	**05 41 30.6**	**+1.7**
	0.3nm,0.7s,baz=347,slow=6.8,SNR=3.7							
ILAR	**Eielson Array**	**67.67**	**28**	P		**P**	**05 43 31.6**	**+0.1**
	0.2nm,0.5s,baz=270,slow=5.4,SNR=3.9							
ARCES	**ARCESS Array B**	**69.09**	**338**	P		**P**	**05 43 40.4**	**+0.3**
	0.5nm,0.8s,baz=74,slow=6.7,SNR=3.2							
FINES	**FINESS Array B**	**71.24**	**330**	P		**P**	**05 43 53.3**	**0.0**
	0.6nm,0.3s,baz=61,slow=5.5,SNR=6.9							

ROM 13 05:34:27.6±0.1, 42.60N×13.20E, h10km, Md1.5/3, Ml1.1/1, Error ellipse: s-maj=1.3km s-min=0.3km az=166.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNSS	**Leonessa**	**0.12**	**272**	Pg	Pg	05 34 31.0	+0.3
LNSS				Sg	Sg	05 34 33.5	+0.6
	54nm,0.3s						
LNSS	**Leonessa**	**0.12**	**272**	Sg	Sg	05 34 33.5	+0.6
	54nm,0.3s						
NRCA	**Norcia**	**0.24**	**345**	Pg	Pg	05 34 33.3	+0.5
NRCA				Sg	Sg	05 34 37.5	+1.2
	1.0nm,0.2s						

IDC 13 05:39:54.3±1.7, 7.74S×119.06E, h0km, mb3.9/3, mb1 3.9/6, mb1mx3.6/23, mbtmp3.7/6, ML3.4/3, Error ellipse: s-maj=54.0km s-min=19.1km az=70.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**2.80**	**14**	Pn	Pn	05 40 41.1	+0.7
	3.8nm,0.3s,baz=188,slow=5.8,SNR=16						
KAPI				Sn	Sn	05 41 14.2	-0.6
	7.9nm,0.3s,baz=49,slow=20,SNR=4.7						
FITZ	**Fitzroy Crossi**	**12.13**	**149**	Pn	Pn	05 42 48.6	+0.1
	0.1nm,0.3s,baz=311,slow=9.3,SNR=3.3						
FITZ				Sn	Sn	05 44 56.1	-8.5
	0.1nm,0.3s,baz=181,slow=18,SNR=3.4						
WRA	**Warramunga Arr**	**19.14**	**131**	P	P	05 44 19.1	-0.2
	0.2nm,0.3s,baz=307,slow=12,SNR=6.0						
ASAR	**Alice Springs**	**21.30**	**140**	P	P	05 44 42.9	+0.2
	2.5nm,0.4s,baz=316,slow=8.8,SNR=30						
STKA	**Stephens Creek**	**31.89**	**142**	P	P	05 46 21.4	-0.1
	1.3nm,0.4s,baz=323,slow=12,SNR=4.2						
MKAR	**Makanchi Array**	**63.37**	**333**	P	P	05 50 25.4	-0.1
	0.5nm,0.7s,baz=141,slow=8.5,SNR=5.1						

IDC 13 05:47:17.6±0.6, 0.03S×24.86W, h0km, mb4.0/15, mb1 4.2/15, mb1mx4.0/27, mbtmp4.0/15, MS3.8/13, Ms1 3.8/13, ms1mx3.5/28, Error ellipse: s-maj=20.9km s-min=16.9km az=128.0

ISCJB 13 05:47:19.1±0.5, 0.05S±0.1×24.75W±0.09, h18km, mb4.1/19, MS3.8/11, Error ellipse: s-maj=15.9km s-min=12.9km az=166.1

NEIC 13 05:47:19.2±0.3, 0.06S×24.85W, h10km, mb4.4/6, Error ellipse: s-maj=12.2km s-min=10.6km az=159.0

ISC 13 05:47:20.5±0.5, 0.05S±0.1×24.8W±0.1, h18km, n52, σ0s85/48, mb4.1/20, MS3.8/11, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**12.45**	**242**	LR	LR	05 53 55.2	
	comp=Z,446nm,20.1s,baz=243,slow=32						
BBTS	**Babate**	**16.75**	**29**	LR	LR	05 56 24.2	
	comp=Z,259nm,18.5s,baz=341,slow=33						
DBIC	**Dimbokro**	**21.02**	**71**	*e*P	**P**	**05 52 04.5**	**+1.1**
DBIC	**Dimbokro**	**21.02**	**71**	P	**P**	**05 52 04.5**	**+1.1**
	8.9nm,1.1s,baz=262,slow=15,SNR=3.1						
DBIC				LR	LR	05 58 22.4	
	comp=Z,205nm,20.9s,baz=158,slow=32						
BDFB	**Brasilia**	**27.64**	**235**	LR	LR	06 03 00.6	
	comp=Z,437nm,18.1s,baz=46,slow=34						
TORD	**Torodi Ar. Bea**	**29.38**	**62**	P	**P**	**05 53 21.1**	**-1.9**
TORD	**Torodi Ar. Bea**	**29.38**	**62**	P	**P**	**05 53 21.1**	**-1.9**
	1.0nm,0.7s,baz=242,slow=8.5,SNR=6.7						
TORD				LR	LR	06 03 49.5	
	comp=Z,313nm,19.2s,baz=245,slow=34						
CPUP	**Villa Florida**	**40.78**	**228**	LR	LR	06 10 21.9	
	comp=Z,154nm,21.1s,baz=47,slow=34						
ESDC	**Sonseca Array**	**43.88**	**23**	P	**P**	**05 55 26.1**	**0.0**
ESDC	**Sonseca Array**	**43.88**	**23**	P	**P**	**05 55 26.1**	**0.0**
	0.2nm,0.3s,baz=217,slow=9.0,SNR=6.7						
LPAZ	**La Paz**	**45.64**	**247**	P	**P**	**05 55 41.5**	**+0.3**
LPAZ	**La Paz**	**45.64**	**247**	P	**P**	**05 55 41.5**	**+0.3**
	1.6nm,0.8s,baz=69,slow=7.5,SNR=8.0						
LPAZ				LR	LR	06 14 33.6	
	comp=Z,298nm,18.1s,baz=24,slow=36						
KEST	**Kesra**	**47.72**	**38**	P	**P**	**05 55 58.4**	**+1.8**
KEST	**Kesra**	**47.72**	**38**	P	**P**	**05 55 58.4**	**+1.8**
	0.7nm,0.7s,baz=249,slow=4.0,SNR=4.3						
KEST				LR	LR	06 16 29.8	
	comp=Z,140nm,19.8s,baz=196,slow=37						
ROSC	**El Rosal**	**49.67**	**276**	LR	LR	06 15 14.8	
	comp=Z,91nm,20.9s,baz=25,slow=34						
LSZ	**Lusaka**	**54.51**	**109**	P	**P**	**05 56 48.0**	**+0.1**
LSZ	**Lusaka**	**54.51**	**109**	P	**P**	**05 56 48.0**	**+0.1**
	0.4nm,0.3s,baz=46,slow=13,SNR=4.8						
BOSA	**Boshof**	**55.64**	**125**	P	**P**	**05 56 55.6**	**-0.4**
BOSA	**Boshof**	**55.64**	**125**	P	**P**	**05 56 55.6**	**-0.4**
	2.6nm,0.7s,baz=225,slow=7.1,SNR=5.2						
BOSA				LR	LR	06 17 52.6	
	comp=Z,56nm,18.8s,baz=344,slow=33						
GERES	**GERESS Array B**	**58.92**	**29**	P	**P**	**05 57 17.7**	**-1.0**
GERES	**GERESS Array B**	**58.92**	**29**	P	**P**	**05 57 17.7**	**-1.0**
	0.3nm,0.3s,baz=243,slow=5.8,SNR=5.9						
GERES				LR	LR	06 23 18.5	
	comp=Z,28nm,21.6s,baz=273,slow=37						
KMBO	**Kilima Mbogo**	**62.09**	**91**	LR	LR	06 21 35.6	
	comp=Z,115nm,19.3s,baz=275,slow=33						
BR131	**Keskin Array S**	**66.24**	**46**	*e*P	**P**	**05 58 08.4**	**+0.5**
	1.0nm,0.6s						
BRTR	**Keskin Array B**	**66.24**	**46**	P	**P**	**05 58 08.3**	**+0.4**
BRTR	**Keskin Array B**	**66.24**	**46**	P	**P**	**05 58 08.3**	**+0.4**
	2.3nm,0.7s,baz=240,slow=5.4,SNR=12						
NB2	**NORSAR Subarra**	**66.86**	**18**	P	**P**	**05 58 11.5**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=220,slow=6.5						
NOA	**NORSAR Array B**	**66.86**	**18**	P	**P**	**05 58 11.8**	**+0.5**
NOA	**NORSAR Array B**	**66.86**	**18**	P	**P**	**05 58 11.8**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=219,slow=6.4,SNR=4.8						
NOA				LR	LR	06 26 39.5	
	comp=Z,14nm,18.7s,baz=205,slow=35						
FINES	**FINESS Array B**	**72.40**	**23**	P	**P**	**05 58 45.6**	**+0.3**
FINES	**FINESS Array B**	**72.40**	**23**	P	**P**	**05 58 45.6**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=178,slow=5.5,SNR=4.9						
SNAA	**Sanae**	**72.91**	**173**	*e*P	**P**	**05 58 48.9**	**+0.6**
SNAA	**Sanae**	**72.91**	**173**	P	**P**	**05 58 48.8**	**+0.5**
	comp=Z,0.2nm,0.8s,baz=296,slow=5.4,SNR=3.6						
TXAR	**Lajitas Array**	**80.28**	**300**	P	**P**	**05 59 30.6**	**-0.3**
TXAR	**Lajitas Array**	**80.28**	**300**	P	**P**	**05 59 30.6**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=116,slow=5.7,SNR=12						
PDAR	**Pinedale Array**	**86.14**	**313**	P	**P**	**06 00 00.2**	**-0.9**
PDAR	**Pinedale Array**	**86.14**	**313**	P	**P**	**06 00 00.2**	**-0.9**
	comp=Z,1.1nm,0.9s,baz=90,slow=4.7,SNR=6.9						
LOHW	**Long Hollow**	**86.95**	**314**	*e*P	**P**	**06 00 05.1**	**0.0**
	comp=Z,1.8nm,0.7s						
SNOW	**Snow King Moun**	**87.05**	**313**	*e*P	**P**	**06 00 05.6**	**-0.1**
	comp=Z,2.1nm,0.8s						
IMW	**Indian Meadow**	**87.21**	**314**	*e*P	**P**	**06 00 06.3**	**-0.1**
	comp=Z,2.3nm,0.9s						
MSU	**Marysvale**	**87.94**	**308**	*e*P	**P**	**06 00 08.9**	**-1.0**
	comp=Z,9.8nm,1.5s						
YBMT	**Yellow Bay**	**89.47**	**318**	*e*P	**P**	**06 00 19.1**	**+2.2**
	comp=Z,1.2nm,0.6s						
QSPA	**South Pole Qui**	**90.04**	**180**	*e*P	**P**	**06 00 19.6**	**+0.5**
QSPA	**South Pole Qui**	**90.04**	**180**	P	**P**	**06 00 19.4**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=219,slow=3.2,SNR=13						
STKA	**Stephens Creek**	**145.76**	**159**	PKPbc	**PKPdf**	**06 06 58.7**	**-0.1**
STKA	**Stephens Creek**	**145.76**	**159**	PKPbc	**PKPdf**	**06 06 58.7**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=72,slow=20,SNR=3.6						
FITZ	**Fitzroy Crossi**	**145.84**	**123**	PKPbc	**PKPab**	**06 07 00.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**145.84**	**123**	PKPbc	**PKPab**	**06 07 00.0**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=272,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**148.68**	**140**	PKPbc	**PKPbc**	**06 07 07.1**	**-0.6**
ASAR	**Alice Springs**	**148.68**	**140**	PKPbc	**PKPbc**	**06 07 07.1**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=212,slow=1.7,SNR=24						
WRA	**Warramunga Arr**	**151.53**	**135**	PKPbc	**PKPbc**	**06 07 13.7**	**-1.0**
	comp=Z,2.1nm,0.8s,baz=238,slow=2.5,SNR=13						
WRAB	**Tennant Creek**	**151.55**	**135**	*e*PKPdf	**PKPdf**	**06 07 08.0**	**-0.5**
WRAB				*e*PKPbc	**PKPbc**	**06 07 13.9**	**-0.7**
WRAB				*e*PKPab	**PKPab**	**06 07 23.6**	**+0.5**

IDC 13 05:48:06.5±0.6, 55.89S×26.93W, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.1/19, mbtmp4.0/9, ML3.5/1, Error ellipse: s-maj=31.8km s-min=15.6km az=58.0

NEIC 13 05:48:12.0±0.4, 55.89S×26.99W, h35km, mb4.1/1, Error ellipse: s-maj=20.4km s-min=9.7km az=61.0

ISCJB 13 05:48:13.8±0.7, 56.0S±0.1×27.1W±0.2, h63km, mb4.0/10, Error ellipse: s-maj=29.4km s-min=11.5km az=149.5

ISC 13 05:48:15.0±0.6, 56.0S±0.1×27.1W±0.2, h63km, n33, σ0s74/37, mb4.1/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**18.80**	**156**	*e*P	**P**	**05 52 29.3**	**+0.2**
SNAA	**Sanae**	**18.80**	**156**	P	**P**	**05 52 29.1**	**+0.1**
	0.1nm,0.3s,baz=301,slow=10.0,SNR=23						
QSPA	**South Pole Qui**	**34.28**	**180**	*e*P	**P**	**05 54 55.1**	**+0.2**
QSPA				PcP	**PcP**	**05 57 28.6**	**-0.9**
QSPA	**South Pole Qui**	**34.28**	**180**	P	**P**	**05 54 54.9**	**0.0**
	2.0nm,0.6s,baz=213,slow=4.1,SNR=25						
QSPA				PcP	**PcP**	**05 57 28.6**	**-0.9**
	0.7nm,0.6s,baz=324,slow=0.8,SNR=4.6						
CPUP	**Villa Florida**	**36.78**	**311**	P	**P**	**05 55 17.1**	**+0.6**
CPUP	**Villa Florida**	**36.78**	**311**	P	**P**	**05 55 17.1**	**+0.6**
	1.3nm,0.5s,baz=121,slow=8.5,SNR=6.3						
CFAA	**Coronel Fontan**	**37.56**	**293**	P	**P**	**05 55 22.2**	**-0.9**
CFAA				PcP	**PcP**	**05 57 39.2**	**-0.6**
CFAA	**Coronel Fontan**	**37.56**	**293**	P	**P**	**05 55 22.2**	**-0.9**
	0.1nm,0.4s,baz=156,slow=12,SNR=3.6						
CFAA				PcP	**PcP**	**05 57 39.2**	**-0.6**
	0.1nm,0.4s,baz=160,slow=3.1,SNR=5.8						
MAW	**Mawson**	**40.19**	**144**	P	**P**	**05 55 44.4**	**-0.2**
MAW	**Mawson**	**40.19**	**144**	P	**P**	**05 55 44.4**	**-0.2**
	1.7nm,0.6s,baz=232,slow=8.4,SNR=6.1						
SBA	**Scott Base**	**46.17**	**184**	*e*P	**P**	**05 56 33.5**	**+0.8**
	1.2nm,0.5s						
VNDA	**Vanda**	**46.66**	**183**	*e*P	**P**	**05 56 37.0**	**+0.5**
VNDA	**Vanda**	**46.66**	**183**	P	**P**	**05 56 36.8**	**+0.3**
	3.1nm,0.8s,baz=192,slow=6.6,SNR=10						
SIV	**San Ignacio**	**47.55**	**313**	P	**P**	**05 56 44.3**	**+0.2**
SIV	**San Ignacio**	**47.55**	**313**	P	**P**	**05 56 44.3**	**+0.2**
	0.6nm,0.5s,baz=175,slow=9.1,SNR=3.6						
LPAZ	**La Paz**	**50.36**	**305**	P	**P**	**05 57 07.5**	**+1.1**
LPAZ	**La Paz**	**50.36**	**305**	P	**P**	**05 57 07.5**	**+1.1**
	3.6nm,0.4s,baz=172,slow=4.1,SNR=46						
TORD	**Torodi Ar. Bea**	**72.96**	**29**	P	**P**	**05 59 38.2**	**+0.7**
TORD	**Torodi Ar. Bea**	**72.96**	**29**	P	**P**	**05 59 38.2**	**+0.7**
	0.4nm,0.7s,baz=204,slow=6.3,SNR=4.1						
ASAR	**Alice Springs**	**99.06**	**162**	P	**Pdif**	**06 01 49.7**	**+0.7**
ASAR	**Alice Springs**	**99.06**	**162**	P	**Pdif**	**06 01 49.7**	**+0.7**
	0.5nm,0.7s,baz=177,slow=3.7,SNR=5.0						
FINES	**FINESS Array B**	**124.29**	**28**	PKP	**PKPdf**	**06 07 04.2**	**-0.8**
FINES	**FINESS Array B**	**124.29**	**28**	PKP	**PKPdf**	**06 07 04.2**	**-0.8**
	1.5nm,1.0s,baz=132,slow=2.8,SNR=4.5						
ARCES	**ARCESS Array B**	**130.85**	**22**	PKP	**PKPdf**	**06 07 17.1**	**-0.3**
ARCES	**ARCESS Array B**	**130.85**	**22**	PKP	**PKPdf**	**06 07 17.1**	**-0.3**
	0.6nm,0.7s,baz=207,slow=1.1,SNR=6.2						
ZALV	**Zalesovo Beam**	**142.30**	**64**	PKP	**PKPdf**	**06 07 40.0**	**+1.1**
ZALV	**Zalesovo Beam**	**142.30**	**64**	PKP	**PKPdf**	**06 07 40.0**	**+1.1**
	0.7nm,0.4s,baz=225,slow=4.0,SNR=3.6						
ILAR	**Eielson Array**	**150.09**	**312**	PKPbc	**PKPbc**	**06 07 55.9**	**-1.1**
ILAR	**Eielson Array**	**150.09**	**312**	PKPbc	**PKPbc**	**06 07 55.9**	**-1.1**
	1.9nm,0.7s,baz=128,slow=1.9,SNR=18						
SONM	**Songino Array**	**150.68**	**86**	PKPbc	**PKPbc**	**06 07 58.2**	**-0.9**
SONM	**Songino Array**	**150.68**	**86**	PKPbc	**PKPbc**	**06 07 58.2**	**-0.9**
	0.6nm,0.5s,baz=202,slow=4.0,SNR=5.9						
KDAK	**Kodiak Island**	**150.81**	**297**	PKPbc	**PKPbc**	**06 07 58.8**	**0.0**
KDAK	**Kodiak Island**	**150.81**	**297**	PKPbc	**PKPbc**	**06 07 58.8**	**0.0**
	3.5nm,0.4s,baz=156,slow=2.9,SNR=18						

IDC 13 06:14:41.9±5.6, 38.65N×69.48E, h0km, mb3.1/1, mb1 3.5/3, mb1mx3.2/28, mbtmp3.5/3, ML3.0/1, Error ellipse: s-maj=231.6km s-min=22.9km az=147.0

NNC 13 06:14:56.6±8.0, 37.80N×72.00E, h170km±96km, mb2.8, mpv3.5, Error ellipse: s-maj=75.2km s-min=36.9km az=4.0

ISC 13 06:14:52.4±3.1, 37.5N±0.2×72.1E±0.1, h130km, n15, σ1s99/16, 5C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.80**	**15**	P	**Pn**	**06 16 05.2**	**+2.1**
	SN

KRVZ	Karewarewa	5.17	207	PN	Pn	06 22 33.9	+2.5		
WTVZ	West Tongariro	5.21	207	Pn	Pn	06 22 36.1	+4.2		
WTVZ	West Tongariro	5.21	207	PN	Pn	06 22 36.1	+4.2		
OTVZ	Oturere	5.22	206	Pn	Pn	06 22 34.0	+1.9		
OTVZ	Oturere	5.22	206	PN	Pn	06 22 33.9	+1.9		
TWVZ	Taurewa	5.23	208	PN	Pn	06 22 34.5	+2.4		
NGZ	Ngauruhoe	5.26	206	PN	Pn	06 22 36.0	+3.5		
WPVZ	Whakapapa	5.30	207	Pn	Pn	06 22 37.0	+4.0		
WPVZ	Whakapapa	5.30	207	PN	Pn	06 22 36.7	+3.7		
TUVZ	Tukino	5.32	206	Pn	Pn	06 22 35.1	+1.8		
TUVZ	Tukino	5.32	206	PN	Pn	06 22 35.3	+2.0		
WHVZ	Whangaehu Hut	5.36	206	PN	Pn	06 22 35.6	+1.8		
BHHZ	Black Hill Sta	5.38	202	Pn	Pn	06 22 35.0	+1.0		
BHHZ	Black Hill Sta	5.38	202	PN	Pn	06 22 35.0	+1.0		
WNVZ	Wahianoa	5.39	206	Pn	Pn	06 22 36.1	+2.0		
WNVZ	Wahianoa	5.39	206	PN	Pn	06 22 36.1	+2.0		
MOVZ	Moawhango	5.41	204	PN	Pn	06 22 34.7	+0.4		
PKVZ	Pokaka	5.45	208	PN	Pn	06 22 37.1	+2.3		
KAHZ	Kahuranaki	5.47	194	Pn	Pn	06 22 35.3	+0.4		
KAHZ	Kahuranaki	5.47	194	PN	Pn	06 22 35.3	+0.4		
PXZ	Pawanui	5.70	194	Pn	Pn	06 22 37.4	-0.4		
PXZ	Pawanui	5.70	194	PN	Pn	06 22 37.4	-0.4		
PNHZ	Pukenui	5.74	199	Pn	Pn	06 22 38.3	-0.1		
PNHZ	Pukenui	5.74	199	PN	Pn	06 22 38.2	-0.2		
WPHZ	Waipukurau	5.82	197	Pn	Pn	06 22 40.2	+0.9		
WPHZ	Waipukurau	5.82	197	PN	Pn	06 22 38.8	-0.5		
RAEZ	Rainy Point	5.86	214	PN	Pn	06 22 45.5	+5.8		
TSZ	Takapari Road	5.94	200	Pn	Pn	06 22 41.0	+0.1		
TSZ	Takapari Road	5.94	200	PN	Pn	06 22 40.5	-0.4		
PRHZ	Porangahau	5.97	195	PN	Pn	06 22 40.6	-0.6		
WAZ	Wanganui	6.00	208	PN	Pn	06 22 43.8	+2.3		
DVHZ	Dannevirke	6.11	198	Pn	Pn	06 22 42.2	-0.8		
DVHZ	Dannevirke	6.11	198	PN	Pn	06 22 42.2	-0.8		
POWZ	Post Office Ro	6.30	200	PN	Pn	06 22 46.8	+1.5		
PRWZ	Pori Road	6.40	198	PN	Pn	06 22 47.3	+0.7		
BFZ	Birch Farm	6.45	196	Pn	Pn	06 22 46.4	-0.7		
BFZ	Birch Farm	6.45	196	PN	Pn	06 22 46.2	-0.9		
MRZ	Mangatainoka R	6.61	200	Pn	Pn	06 22 48.1	-1.1		
MRZ	Mangatainoka R	6.61	200	PN	Pn	06 22 48.0	-1.1		
TIWZ	Tintock	6.63	198	PN	Pn	06 22 49.4	-0.1		
OGWZ	Otaki Gorge	6.88	202	Pn	Pn	06 22 51.4	-1.0		
OGWZ	Otaki Gorge	6.88	202	PN	Pn	06 22 51.3	-1.1		
TMWZ	Te Maipa	6.94	197	PN	Pn	06 22 52.1	-1.2		
KIW	Kapiti Island	7.00	204	Pn	Pn	06 22 53.6	-0.5		
KIW	Kapiti Island	7.00	204	PN	Pn	06 22 53.6	-0.5		
MTW	Mount Morrison	7.09	199	Pn	Pn	06 22 54.2	-1.0		
MTW	Mount Morrison	7.09	199	PN	Pn	06 22 54.0	-1.2		
CAW	Cannon Point	7.17	202	Pn	Pn	06 22 55.1	-1.1		
CAW	Cannon Point	7.17	202	PN	Pn	06 22 54.9	-1.3		
TRWZ	Traveller	7.27	198	Pn	Pn	06 22 56.7	-0.7		
TRWZ	Traveller	7.27	198	PN	Pn	06 22 56.7	-0.7		
DUWZ	D'Urville Isla	7.31	209	PN	Pn	06 22 57.4	-0.6		
PAWZ	Paruwai Farm	7.32	199	PN	Pn	06 22 57.2	-0.9		
MSWZ	Moikau Station	7.40	200	Pn	Pn	06 22 58.1	-1.0		
MSWZ	Moikau Station	7.40	200	PN	Pn	06 22 58.0	-1.1		
SNZO	South Karori	7.47	203	Pn	Pn	06 22 58.6	-1.3		
SNZO	South Karori	7.47	203	PN	Pn	06 22 58.3	-1.6		
TCW	Tory Channel	7.53	206	Pn	Pn	06 23 00.2	-0.5		
TCW	Tory Channel	7.53	206	PN	Pn	06 22 59.5	-1.2		
PLWZ	Palliser	7.54	200	Pn	Pn	06 22 59.9	-1.1		
PLWZ	Palliser	7.54	200	PN	Pn	06 22 59.9	-1.1		
TUWZ	Tuamarina	7.84	207	Pn	Pn	06 23 03.5	-1.2		
TUWZ	Tuamarina	7.84	207	PN	Pn	06 23 03.4	-1.2		
NNZ	Nelson	7.88	210	Pn	Pn	06 23 04.1	-1.1		
NNZ	Nelson	7.88	210	PN	Pn	06 23 04.1	-1.1		
QRZ	Quartz Range	7.95	216	PN	Pn	06 23 05.8	-0.2		
BSWZ	Blackbirch Sta	8.11	206	PN	Pn	06 23 07.2	-0.9		
THZ	Tophouse	8.53	210	Pn	Pn	06 23 13.8	+0.3		
THZ	Tophouse	8.53	210	PN	Pn	06 23 13.8	+0.3		
KHZ	Kahutara	8.85	205	PN	Pn	06 23 16.0	-1.4		
DSZ	Denniston Nort	9.01	215	Pn	Pn	06 23 19.5	+0.1		
DSZ	Denniston Nort	9.01	215	PN	Pn	06 23 19.5	+0.1		
OXZ	Oxford	10.19	208	PN	Pn	06 23 32.6	-1.7		
RPZ	Rata Peaks	10.91	210	P	Pn	06 23 42.1	-1.3		
RPZ				S	S	06 25 44.2	-1.3		
RPZ	Rata Peaks	10.91	210	P	Pn	06 23 42.1	-1.3		
	1.2nm,0.3s,baz=55,slow=13,SNR=5.3								
RPZ				S	S	06 25 44.2	-1.3		
	3.5nm,0.3s,baz=160,slow=23,SNR=12								
ODZ	Otahua Downs	12.18	208	Pn	Pn	06 24 00.5	+1.3		
MSVF	Nonsavu	16.70	358	eP	P	06 24 46.6	-5.6		
	28nm,0.8s								
CTA	Charters Tower	31.98	288	P	P	06 27 17.6	+1.0		
CTA	Charters Tower	31.98	288	P	P	06 27 17.6	+1.0		
	7.3nm,0.6s,baz=112,slow=11,SNR=12								
ASAR	Alice Springs	40.25	273	P	P	06 28 26.8	+0.3		
ASAR	Alice Springs	40.25	273	P	P	06 28 26.8	+0.3		
	4.9nm,0.7s,baz=114,slow=7.6,SNR=50								
WRAB	Tennant Creek	41.62	279	eP	P	06 28 37.4	-0.2		
	4.4nm,0.6s								
WRA	Warramunga Arr	41.63	279	P	P	06 28 37.2	-0.4		
WRA	Warramunga Arr	41.63	279	P	P	06 28 37.2	-0.4		
	4.2nm,0.6s,baz=118,slow=7.5,SNR=46								
VNDA	Vanda	43.75	185	P	P	06 28 55.7	+1.8		
VNDA	Vanda	43.75	185	P	P	06 28 55.7	+1.8		
	0.6nm,0.6s,baz=1.5,slow=12,SNR=6.6								
QSPA	South Pole Qui	55.62	180	P	P	06 30 25.0	+1.6		
QSPA	South Pole Qui	55.62	180	P	P	06 30 25.0	+1.6		
	11nm,0.6s,baz=14,slow=1.6,SNR=86								
MAW	Mawson	67.46	202	P	P	06 31 42.5	+0.5		
MAW	Mawson	67.46	202	P	P	06 31 42.5	+0.5		
	1.0nm,0.3s,baz=139,slow=5.8,SNR=4.5								
SYO	Syowa Base	72.47	194	eP	P	06 32 10.2	-2.1		
SNAA	Sanae	74.12	180	eP	P	06 32 21.3	-0.7		
	9.4nm,1.1s								
SNAA	Sanae	74.12	180	P	P	06 32 21.5	-0.6		
	1.9nm,0.8s,baz=182,slow=3.5,SNR=26								
ARCES	ARCESS Array B	141.89	345	PKPpre	PKPpre	06 40 08.4			
ARCES	ARCESS Array B	141.89	345	PKhKP	PKPpre	06 40 08.4			
	0.5nm,0.6s,baz=60,slow=2.9,SNR=4.7								
FINES	FINESS Array B	147.84	335	PKPbc	PKPdf	06 40 22.7	-2.1		
FINES	FINESS Array B	147.84	335	PKPbc	PKPdf	06 40 22.7	-2.1		
	1.3nm,0.4s,baz=46,slow=5.5,SNR=10								
DBIC	Dimbokro	152.12	173	PKPbc	PKPbc	06 40 37.3	-2.5		
DBIC	Dimbokro	152.12	173	PKPbc	PKPbc	06 40 37.3	-2.5		
	3.6nm,0.5s,baz=100,slow=3.9,SNR=8.5								
NB2	NORSAR Subarra	152.23	347	PKP	PKPdf	06 40 32.7	+0.9		
	comp=Z,0.5nm,0.5s,baz=21,slow=2.5								
NOA	NORSAR Array B	152.23	347	PKPbc	PKPdf	06 40 33.0	+1.3		
NOA	NORSAR Array B	152.23	347	PKPbc	PKPdf	06 40 33.0	+1.3		
	comp=Z,0.4nm,0.6s,baz=27,slow=4.0,SNR=5.3								
TORD	Torodi Ar. Bea	158.56	188	PKPab	PKPab	06 41 15.7	-2.1		
TORD	Torodi Ar. Bea	158.56	188	PKPab	PKPab	06 41 15.7	-2.1		
	comp=Z,1.6nm,0.5s,baz=163,slow=4.8,SNR=19								

ISCJB ***13*** *06:29:48.9±0.3, 14.°49N×0.°04×91.°58W×0.°04, h101km±3km, mb4.1/35, Error ellipse: s-maj=7.7km s-min=3.4km az=41.0*

CASC ***13*** *06:29:48.6±1.5, 14.°42N×91.°63W, h98km±11km, MD4.1, ML3.9*

NEIC ***13*** *06:29:49.9, 14.°40N×91.°68W, h108km, mb4.3/27, MD4.3(MEX), After MEX.*

MEX ***13*** *06:29:50.3±0.4, 14.°38N×91.°72W, h104km±5km, MD4.3*

IDC ***13*** *06:29:50.5±0.7, 14.°85N×90.°88W, h100km±5km, mb3.6/13, mb1 3.9/14, mb1mx3.7/25, mbtmp3.6/14, MS3.1/9, Ms1 3.1/9, ms1mx2.9/28, Error ellipse: s-maj=34.6km s-min=9.5km az=60.0*

ISC 13 06:29:49.8±0.5, 14.°46N±0.°04×91.°62W±0.°04, h99km±4km, h98km: pP-P, n236, σ1 s26/267, mb4.2/35, 72C-73D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAT	Jato	0.14	186	↑eP		Pn	06 30 02.8	-0.9
FUG	Fuego 3	0.75	91	↓eP		Pn	06 30 06.5	-1.2
THIG		0.77	306	eP		Pn	06 30 07.1	-0.6
THIG				eS		Sn	06 30 20.6	-0.6
THIG		0.77	306	eP		Pn	06 30 07.1	-0.6
THIG				eS		Sn	06 30 20.6	-0.6
PCG	Pacaya	0.98	94	eP		Pn	06 30 09.4	-0.8
GCG	Guatemala City	1.06	83	eP		Pn	06 30 10.8	-0.1
NBG	Las Nubes	1.24	84	eP		Pn	06 30 13.0	-0.1
CCIG	Comitan	1.88	345	eP		Pn	06 30 21.8	+0.8
CCIG				i S		Sn	06 30 45.2	+0.5
CCIG	Comitan	1.88	345	eP		Pn	06 30 21.8	+0.8
CCIG				i S		Sn	06 30 45.2	+0.5
RBDL	Robledal	1.91	100	eP		Pn	06 30 20.2	-1.0
RBDL				eS		Sn	06 30 43.2	-2.0
MRL	Marmol	1.96	72	↓eP		Pn	06 30 22.2	+0.3
PCIG		1.98	309	eP		Pn	06 30 21.6	-0.4
PCIG				eS		Sn	06 30 45.7	-0.9
PCIG		1.98	309	eP		Pn	06 30 21.6	-0.4
PCIG				eS		Sn	06 30 45.7	-0.9
RTR	El Retiro	2.00	106	eP		Pn	06 30 21.5	-1.0
SBLS	San Blas	2.03	107	eP		Pn	06 30 21.9	-1.1
SNJE	San Jose	2.04	106	eP		Pn	06 30 21.9	-1.1
BOQS	Boqueron	2.38	107	eP		Pn	06 30 26.4	-1.1
SNET	Serv Nac Est T	2.44	108	eS		Sn	06 30 57.9	+0.3
SNET					AML	AML	06 31 14.8	
	comp=Z,824nm,0.3s							
LBRS	Las Brisas	2.60	106	eP		Pn	06 30 29.4	-0.9
LFRS	El Faro	2.62	108	eP		Pn	06 30 29.4	-1.1
TGIG		2.72	328	eP		Pn	06 30 31.4	-0.5
TGIG				eS		Sn	06 31 04.4	+0.1
TGIG		2.72	328	eP		Pn	06 30 31.4	-0.5
TGIG				eS		Sn	06 31 04.4	+0.1
SNVI	San Vicente	2.83	107	eP		Pn	06 30 32.6	-0.8
CNCH	Conchagua	3.86	107	eP		Pn	06 30 46.4	-0.8
TGUH	Tegucigalpa,Un	4.23	95	ePn		Pn	06 30 51.1	-1.0
TGUH				eSn		Sn	06 31 38.1	-2.4
SCIG	Sabancuy	4.50	5	eP		Pn	06 30 55.3	-0.4
SCIG				i S		Sn	06 31 47.8	+0.7
SCIG	Sabancuy	4.50	5	eP		Pn	06 30 55.3	-0.4
SCIG				i S		Sn	06 31 46.1	-1.0
HUIG	Huatulco	4.53	287	eP		Pn	06 30 54.1	-1.9
HUIG				i S		Sn	06 31 44.9	-2.7
HUIG	Huatulco	4.53	287	eP		Pn	06 30 54.3	-1.8
HUIG				i S		Sn	06 31 43.7	-3.9
PNIG	Pinotepa	6.56	288	eP		Pn	06 31 23.1	-0.7
PNIG				i S		Sn	06 32 33.8	-3.5
PNIG	Pinotepa	6.56	288	eP		Pn	06 31 23.1	-0.7
PNIG				i S		Sn	06 32 33.8	-3.5
TEIG	Tepich	6.57	29	ePn		Pn	06 31 22.4	-1.4
TEIG				eSn		Sn	06 32 33.6	-3.6
TEIG	Tepich	6.57	29	P		Pn	06 31 22.3	-1.4
	comp=Z,115nm,0.3s,baz=194,slow=2.8,SNR=232							
TEIG				S		Sn	06 32 32.0	-5.2
	comp=Z,17nm,0.3s,baz=161,slow=23,SNR=8.8							
VCR	Vista de Mar	7.26	126	eP		Pn	06 31 33.9	+0.5
JCR	Jicaral	7.84	125	eP		Pn	06 31 41.7	+0.5
CGA2	Cerro Gallo 2	8.27	121	eP		Pn	06 31 47.6	+0.5
QCR	Quepos	8.84	124	eP		Pn	06 31 56.0	+1.2
URSC	Urasca	8.94	120	eP		Pn	06 31 56.0	-0.2
BUS	Buena Vista	9.10	121	eP		Pn	06 31 59.5	+0.7
ACR	Cerro Adams	10.09	124	eP		Pn	06 32 12.9	+1.0
732A	Laxson Ranch,	16.18	333	↓P		P	06 33 33.1	+0.4
	baz=16							
632A	Uvalde	16.77	335	↓P		P	06 33 40.1	+0.8
	baz=17							
BRAL	Brewton	17.00	14	ePn		Pn	06 33 41.1	-0.4
	comp=Z,44nm,0.8s							
631A	Perdido Creek	17.03	332	↑P		P	06 33 43.0	+0.8
	baz=17							
JCT	Junction City	17.64	336	ePn		Pn	06 33 51.0	+1.7
	comp=Z,5.7nm,0.8s							
JCT				eSn		Sn	06 37 05.1	-0.7
JCT	Junction City	17.64	336	↑P		Pn	06 33 49.6	+0.3
	baz=18							
531A	Rocksprings	17.66	334	↑P		Pn	06 33 50.2	+0.6
	baz=18							
432A	Menard	17.98	337	↑P		Pn	06 33 53.7	+0.2
	baz=18							
530A	J C Ranch, Com	18.00	332	↓P		Pn	06 33 55.4	+1.7
	baz=18,SNR=5.8							
431A	Sonora	18.14	334	↑P		Pn	06 33 56.0	+0.6
	baz=18							
628A	Black Gap, Mar	18.23	327	↑P		Pn	06 33 57.4	+1.0
	baz=18							
WHTX	Lake Whitney	18.25	344	↑P		P	06 33 56.0	+0.4
	baz=18							
529A	Stev Forest Ra	18.40	330	↓P		Pn	06 33 59.3	+0.8
	baz=18,SNR=5.3							
332A	Millersview	18.42	338	↓P		Pn	06 33 58.8	+0.1
	baz=18,SNR=20							
TIGA	Tifton	18.44	22	↑P		Pn	06 33 58.3	-0.5
	baz=19,SNR=13							
627A	Terlingua Ranc	18.47	326	↑P		Pn	06 34 00.1	+0.7
	baz=18,SNR=9.6							
TXAR	Lajitas Array	18.53	325	P		Pn	06 34 01.0	+0.9
	comp=Z,0.4nm,0.3s,baz=152,slow=12,SNR=46							
TXAR				PcP		PcP	06 38 25.4	+0.8
	comp=Z,0.0nm,0.3s,baz=144,slow=4.5,SNR=4.9							
TXAR				LR		LR	06 41 31.8	
	comp=Z,21nm,18.4s,baz=110,slow=38							
TXAR				ScP		ScP	06 41 53.3	+1.9
	comp=Z,0.0nm,0.3s,baz=145,slow=4.6,SNR=10							
331A	San Angelo	18.62	336	↑P		Pn	06 34 00.8	-0.2
	baz=19,SNR=16							
429A	Davenport Ranc	18.66	331	↓P		Pn	06 34 01.4	-0.2
	baz=19							
528A	Cox Ranch, San	18.71	328	↑P		Pn	06 34 02.2	0.0
	baz=19							
232A	Coleman	18.84	338	↑P		P	06 34 02.6	+0.6
	baz=19,SNR=16							
626A	Big Bend Ranch	18.96	324	↑P		Pn	06 34 05.6	+0.5
	baz=19,SNR=6.3							
LRAL	Lakeview Retre	18.97	12	eP		Pn	06 34 04.2	-0.9
	comp=Z,44nm,1.0s							
330A	Mertzon	19.01	334	↓P		Pn	06 34 04.9	-0.8
	baz=19,SNR=8.6							
428A	Kincaid Ranch,	19.12	330	↓P		Pn	06 34 06.5	-0.6
	baz=19							
527A	Woodward Ranch	19.13	327	↓P		Pn	06 34 06.9	-0.3
	baz=19							
231A	Bronte	19.13	337	↑P		P	06 34 05.7	+0.5
	baz=19,SNR=6.9							
OTAV	Otavalo	19.22	136	ePn		Pn	06 34 09.7	+1.0
526A	Mary Lane Ranc	19.32	326	↓P		Pn	06 34 09.5	+0.1
	baz=19,SNR=9.4							
230A	Sterling City	19.40	335	↓P		P	06 34 08.5	+0.3
	baz=20							
329A	Wagon Wheel Ra	19.43	332	↓P		P	06 34 09.1	+0.7
	baz=20							
ABTX	Abilene, Hawle	19.51	339	↓P		P	06 34 09.7	+0.4
	baz=20,SNR=6.2							
427A	Hayter Ranch,	19.58	328	↓P		P	06 34 10.9	+0.7
	baz=20							
328A	Wristen Ranch,	19.72	331	↑P		P	06 34 12.9	+1.2
	baz=20,SNR=11							
426A	McDonald Obser	19.76	327	↑P		Pn	06 34 13.8	-0.9
	baz=20,SNR=7.8							
229A	Bryant Ranch,	19.76	334	↓P		P	06 34 12.1	0.0
	baz=20							
131A	Roby	19.82	338	↓P		P	06 34 12.2	-0.5
	baz=20							
130A	Snyder	19.97	336	↓P		P	06 34 14.0	-0.3
	baz=20							
Z32A	Haskell	20.08	341	↑P		P	06 34 15.4	0.0
	baz=20,SNR=16							
MIAR	Mount Ida	20.08	355	eP		P	06 34 14.6	-0.8
	comp=Z,9.5nm,0.6s							
MIAR				eS		S	06 37 52.2	-3.4
228A	UT Block 9, Go	20.24	332	↑P		P	06 34 17.1	-0.2
	baz=20							
UALR	University of	20.24	358	eP		P	06 34 16.5	-0.7
	comp=Z,17nm,1.1s							
UALR				epP		pP	06 34 43.1	+7.1
326A	Caldwell Ranch	20.25	328	↓P		P	06 34 18.7	+1.3
	baz=20,SNR=14							
GOGA	Godfrey	20.27	20	eP		P	06 34 17.5	0.0
	comp=Z,42nm,1.5s							
Z31A	Sharp Cattle R	20.31	339	↑P		P	06 34 17.9	-0.1
	baz=20,SNR=10							
129A	Stewart Farms,	20.36	334	↓P		P	06 34 18.7	+0.1
	baz=20,SNR=20							
425A	Indio Mountain	20.37	325	↑P		P	06 34 20.1	+1.4
	baz=20,SNR=18							
227A	Bennet, Jal	20.47	331	↓P		P	06 34 20.5	+0.7
	baz=21,SNR=5.2							
128A	Castleberry Fa	20.62	333	↑P		P	06 34 21.3	-0.1
	baz=21,SNR=8.1							
Z30A	Sanderson Ranc	20.64	337	↑P		P	06 34 21.0	-0.5
	baz=21							
Y32A	R-V Farms, Ver	20.71	341	↑P		P	06 34 22.3	0.0
	baz=21							
325A	Bean Ranch, Si	20.81	326	↑P		P	06 34 24.1	+0.5
	baz=21,SNR=8.4							
Z29A	Hungry Hill Ra	20.84	336	↓P		P	06 34 23.1	-0.7
	baz=21,SNR=11							
Y31A	Rekieta Farm,	20.94	340	↓P		P	06 34 24.3	-0.4
	baz=21,SNR=5.6							
226B	Tecolote Peak,	20.95	329	↓P		P	06 34 25.9	+0.9
	baz=21,SNR=5.6							
127A	Arkansas Junct	21.06	331	↑P		P	06 34 25.8	-0.3
	baz=21							
Y30A	Stafford Cattl	21.08	338	↓P		P	06 34 25.6	-0.7
	baz=21							
324A	Moseley Ranch,	21.15	325	↑P		P	06 34 27.7	+0.6
	baz=21							
Z28A	Tucker Farm, M	21.15	334	↓P		P	06 34 26.5	-0.5
	baz=21,SNR=5.4							
WMOK	Wichita Mounta	21.20	344	eP		P	06 34 26.9	-0.6
	comp=Z,11nm,1.0s							
WMOK				eS		S	06 38 18.5	+0.7
NHSC	New Hope	21.28	27	eP		P	06 34 30.1	+1.8
	comp=Z,8.1nm,0.5s							
MNTX	Cornudas Mount	21.29	326	eP		P	06 34 29.0	+0.5
	comp=Z,7.1nm,0.9s							
MNTX				eS		S	06 38 20.4	+0.9
225A	Deer Hill, Car	21.31	328	↓P		P	06 34 29.6	+0.7
	baz=21							
126A	Clayton Basin,	21.34	330	↓P		P	06 34 29.7	+0.5
	baz=21							
Y29A	Porterfield Fa	21.36	336	↑P		P	06 34 28.3	-0.9
	baz=22,SNR=5.9							
X31A	McDonald Ranch	21.46	341	↑P		P	06 34 29.8	-0.5
	baz=22,SNR=7.8							
Z27A	Tatum	21.53	333	↑P		P	06 34 30.0	-1.1
	baz=22,SNR=5.7							
X30A	Coker Ranch, T	21.59	339	↓P		P	06 34 30.6	-1.0
	baz=22,SNR=5.1							
Y28A	McKinney Farm,	21.63	335	↑P		P	06 34 31.1	-1.1
	baz=22,SNR=6.7							
224A	Cornudas Mount	21.66	326	↓P		P	06 34 32.5	-0.1
	baz=22,SNR=14							
125A	Gardner Draw,	21.67	329	↑P		P	06 34 32.4	-0.2
	baz=22							
Z26A	Caprock	21.84	331	↑P		P	06 34 33.9	-0.5
	baz=22							
WVT	Waverly	21.85	8	eP		P	06 34 32.7	-1.6
	comp=Z,8.7nm,0.8s							
X29A	Tulia	21.89	337	↓P		P	06 34 33.9	-1.0
	baz=22,SNR=7.6							
MSTX	Muleshoe	21.90	334	↓P		P	06 34 34.3	-0.7
	baz=22							
W31A	Holland Ranch,	21.96	342	↓P		P	06 34 34.7	-0.9
	baz=22							
Y27A	Causey	21.99	334	↓P		P	06 34 34.9	-1.1
	baz=22							
124A	Stringfield Ra	22.11	328	↑P		P	06 34 38.0	+0.6
	baz=22,SNR=18							
X28A	Dimmitt	22.14	336	↓P		P	06 34 37.1	-0.6
	baz=22							
W30A	Crocket Farms	22.16	340	↓P		P	06 34 37.3	-0.4
	baz=22							
Z25A	Roswell	22.20	330	↓P		P	06 34 38.0	-0.2
	baz=22							
TKL	Tuckaleechee C	22.26	17	eP		P	06 34 38.7	0.0
TKL	Tuckaleechee C	22.26	17	P		P	06 34 37.2	-1.5
	comp=Z,5.9nm,0.7s,baz=183,slow=12,SNR=12							
TKL				LR		LR	06 44 03.0	
	comp=Z,80nm,21.6s,baz=280,slow=39							
AMTX	Amarillo	22.27	338	eP		P	06 34 38.0	-0.9
	comp=Z,15nm,0.8s							
W29A	Amraillo	22.47	338	↓P		P	06 34 39.8	-1.2
	baz=23							
V31A	Spring Creek L	22.47	342	↑P		P	06 34 40.3	-0.7
	baz=23							
222A	Williams Famil	22.55	324	↓P		P	06 34 42.7	+0.7
	baz=23							
Z24A	Sheeppen Canyo	22.56	329	↓P		P	06 34 42.9	+0.8
	baz=23,SNR=8.3							
KMSC	Kings Mountain	22.58	22	↑P		P	06 34 40.8	-1.3
	baz=23,SNR=8.8							
X27A	F and S Farms,	22.62	335	↑P		P	06 34 41.6	-1.0
	baz=23							
Y25A	Mesa, Roswell	22.71	331	↑P		P	06 34 44.0	+0.4
	baz=23,SNR=6.5							
W28A	Vega	22.80	337	↓P		P	06 34 43.0	-1.4
	baz=23							
X26A	CR and CF Fran	22.84	333	↓P

R28A	**Tribune** baz=26	**25.44**	**341**	⇑P		**P**	**06 35 07.8 -0.8**
W20A	**Ramah** baz=26	**25.58**	**327**	⇓P		**P**	**06 35 12.4 +2.4**
SFIN	**Scholer Farm** baz=26	**26.13**	**8**	⇓P		**P**	**06 35 13.0 -1.6**
X16A	**Lo Mia Camp, P** baz=27,SNR=5.4	**26.75**	**321**	⇑P		**P**	**06 35 22.1 +1.6**
S22A	**4UR Ranch, Cre** baz=27	**26.84**	**333**	⇓P		**P**	**06 35 21.1 -0.3**
MVCO	**Mesa Verde** comp=Z,5.8nm,1.1s	**27.19**	**330**	*e*P		**P**	**06 35 25.0 +0.5**
WUAZ	**Wupatki** baz=28	**27.47**	**323**	⇑P		**P**	**06 35 28.4 +1.5**
GLA	**Glamis** baz=28	**28.06**	**315**	⇑P		**P**	**06 35 34.6 +2.5**
PDMCI	**Parker Dam,Lak** baz=28	**28.36**	**318**	⇓P		**P**	**06 35 37.2 +2.6**
JFWS	**Jewell Farm** comp=Z,5.8nm,0.6s	**28.38**	**2**	*e*P		**P**	**06 35 34.7 0.0**
U15A	**North Rim** baz=29,SNR=5.3	**28.64**	**324**	⇑P		**P**	**06 35 38.9 +1.5**
BC3	**Big Chuckawall** baz=29,SNR=5.5	**28.84**	**316**	⇑P		**P**	**06 35 41.1 +2.0**
IRM	**Iron Mountain** baz=29	**28.94**	**317**	⇓P		**P**	**06 35 42.2 +2.4**
BELC	**Belle Mtn. Jos** baz=29	**29.41**	**316**	⇓P		**P**	**06 35 46.7 +2.6**
GMRC	**Granite Mounta** baz=30	**29.64**	**317**	⇑P		**P**	**06 35 48.3 +2.1**
O19A	**Miners Draw (B** baz=30	**29.95**	**333**	⇓P		**P**	**06 35 49.4 +0.5**
N20A	**Spence Gulch,** baz=30	**30.02**	**334**	⇑P		**P**	**06 35 49.8 +0.3**
CCUT	**Cedar City** comp=Z,5.0nm,1.1s	**30.03**	**324**	*e*P		**P**	**06 35 52.4 +2.7**
ARUT	**Antelope Range** comp=Z,2.3nm,0.9s	**30.24**	**324**	*e*P		**P**	**06 35 54.5 +2.9**
MPMC	**Manual Prospec** baz=32	**31.61**	**318**	⇓P		**P**	**06 36 05.6 +2.0**
PDAR	**Pinedale Array** comp=Z,0.3nm,0.5s,baz=129,slow=12,SNR=4.4	**32.16**	**335**	P		**P**	**06 36 08.8 +0.4**
PDAR	comp=Z,0.5nm,0.7s,baz=140,slow=4.2,SNR=5.6			PcP		**PcP**	**06 38 54.9 -0.3**
PDAR	comp=Z,0.9nm,0.8s,baz=145,slow=5.4,SNR=6.8			ScP		**ScP**	**06 42 31.1 +1.1**
VES	**Vestal, Richgr** baz=33	**32.54**	**316**	⇓P		**P**	**06 36 14.0 +2.6**
SNOW	**Snow King Moun** comp=Z,6.0nm,0.8s	**33.23**	**334**	*e*P		**P**	**06 36 17.9 +0.2**
SNOW				*e*pP		**pP**	**06 36 41.8 +1.8**
TPAW	**Teton Pass**	**33.34**	**334**	*e*P		**P**	**06 36 19.0 +0.3**
TPAW				*e*pP		**pP**	**06 36 42.7 +1.7**
NV11	**Mina Array Sit**	**33.46**	**320**	*e*P		**P**	**06 36 22.3 +2.6**
NVAR	**Mina Array Bea** comp=Z,3.0nm,0.6s,baz=132,slow=8.2,SNR=22	**33.55**	**320**	P		**P**	**06 36 23.2 +2.7**
NVAR				pP		**pP**	**06 36 44.6 +1.7**
NVAR	comp=Z,1.3nm,0.6s,baz=136,slow=9.0,SNR=3.8			PcP		**PcP**	**06 39 00.0 +0.9**
D22A	**Cohagen** baz=35	**34.79**	**342**	⇓P		**P**	**06 36 30.4 -0.5**
E20A	**Meyer Farm, Mu** baz=35	**34.82**	**340**	⇑P		**P**	**06 36 30.6 -0.6**
E19A	**Rath Farm, Rou** baz=35	**35.01**	**339**	⇑P		**P**	**06 36 32.7 -0.1**
I12A	**Atlanta** baz=36	**35.48**	**330**	⇑P		**P**	**06 36 38.6 +1.5**
MFID	**Camas Ranch** baz=36	**35.54**	**329**	⇓P		**P**	**06 36 38.8 +1.3**
ULM	**Lac du Bonnet** comp=Z,44nm,20.3s,baz=123,slow=37	**35.86**	**355**	LR		LR	06 51 52.2
H12A	**Diamond D Ranc** baz=36	**35.91**	**331**	⇑P		**P**	**06 36 41.5 +0.7**
EGMT	**Eagleton** comp=Z,2.6nm,0.8s	**36.69**	**340**	*e*P		**P**	**06 36 50.1 +3.0**
MOD	**Modoc** comp=Z,2.2nm,0.8s	**36.92**	**323**	*e*P		**P**	**06 36 50.2 +0.9**
B18A	**Beardsley Farm** baz=37	**37.02**	**340**	⇑P		**P**	**06 36 49.6 -0.4**
C16A	**Fuhringer Ranc** baz=37	**37.21**	**337**	⇓P		**P**	**06 36 51.3 -0.3**
E12A	**Beaver Dam Sad** baz=38	**37.66**	**333**	⇓P		**P**	**06 36 55.8 +0.3**
D13A	**Huson** baz=38	**37.71**	**334**	⇑P		**P**	**06 36 55.8 0.0**
A17A	**Triple J Farms** baz=38	**37.80**	**339**	⇓P		**P**	**06 36 55.9 -0.7**
C13A	**Hot Springs** baz=38	**38.22**	**335**	⇓P		**P**	**06 36 59.9 -0.2**
LPAZ	**La Paz** comp=Z,1.2nm,0.9s,baz=305,slow=9.7,SNR=4.8	**38.36**	**142**	P		**P**	**06 37 03.3 +1.0**
LPAZ	comp=Z,1.7nm,0.8s,baz=336,slow=5.9,SNR=4.8			pP		**pP**	**06 37 23.7 -1.2**
LPAZ	comp=Z,32nm,18.6s,baz=271,slow=34			LR		LR	06 51 14.8
A15A	**Johnson Ranch,** baz=39	**38.55**	**338**	⇑P		**P**	**06 37 02.3 -0.6**
SIV	**San Ignacio** comp=Z,3.1nm,0.8s,baz=330,slow=8.8,SNR=13	**42.74**	**134**	P		**P**	**06 37 36.5 -1.1**
SIV	comp=Z,3.8nm,0.8s,baz=318,slow=10,SNR=8.3			pP		**pP**	**06 37 59.8 -0.9**
SIV	comp=Z,1.4nm,0.7s,baz=291,slow=3.6,SNR=3.5			PcP		**PcP**	**06 39 27.8 +0.1**
SCHQ	**Schefferville** comp=Z,4.1nm,0.6s,baz=202,slow=7.3,SNR=11	**44.67**	**20**	P		P	06 37 48.5 -4.1
YKA	**Yellowknife Ar** comp=Z,1.1nm,0.5s,baz=148,slow=7.1,SNR=8.4	**50.67**	**346**	P		**P**	**06 38 37.3 -1.5**
YKA	comp=Z,2.1nm,0.7s,baz=151,slow=7.6,SNR=7.0			pP		**pP**	**06 39 02.1 -0.4**
YKA	comp=Z,3.0nm,18.1s,baz=50,slow=43			LR		LR	07 06 00.3
CFAA	**Coronel Fontan** comp=Z,0.5nm,0.8s,baz=340,slow=7.9,SNR=11	**51.00**	**154**	P		**P**	**06 38 42.3 +0.5**
CPUP	**Villa Florida** comp=Z,1.7nm,0.8s,baz=349,slow=10,SNR=4.6	**52.50**	**140**	P		**P**	**06 38 51.0 -1.9**
PLCA	**Paso Flores** comp=Z,4.1nm,0.9s,baz=308,slow=6.8,SNR=4.7	**58.28**	**161**	P		**P**	**06 39 34.5 +0.2**
ILAR	**Eielson Array** comp=Z,0.6nm,0.6s,baz=116,slow=5.8,SNR=12	**62.57**	**337**	P		**P**	**06 40 01.8 -1.3**
ILAR	comp=Z,0.6nm,0.7s,baz=144,slow=3.9,SNR=3.5			pP		**pP**	**06 40 28.7 +1.1**
TRF	**Thorofare Moun** comp=Z,1.8nm,0.7s	**63.38**	**335**	*e*P		**P**	**06 40 07.5 -1.3**
RAR	**Rarotonga** comp=Z,15nm,19.9s,baz=45,slow=29	**75.69**	**243**	LR		LR	07 06 39.8
NB2	**NORSAR Subarra** comp=Z,1.1nm,0.9s,baz=288,slow=5.3	**83.57**	**29**	P		pP	06 42 30.7 -1.9
NOA	**NORSAR Array B** comp=Z,8.3nm,19.8s,baz=140,slow=35	**83.57**	**29**	LR		LR	07 17 38.9
ARCES	**ARCESS Array B** comp=Z,0.8nm,0.7s,baz=319,slow=4.8,SNR=4.0	**85.59**	**18**	P		P	06 42 13.3 -3.6
ARCES	comp=Z,26nm,18.1s,baz=339,slow=35			LR		LR	07 20 01.1
FINES	**FINESS Array B** comp=Z,12nm,18.3s,baz=352,slow=37	**89.93**	**25**	LR		LR	07 24 49.5
WRA	**Warramunga Arr** comp=Z,0.7nm,0.7s,baz=87,slow=2.5,SNR=13	**135.86**	**256**	PKP		**PKPdf**	**06 49 00.2 +0.2**
ASAR	**Alice Springs** comp=Z,0.6nm,0.8s,baz=91,slow=2.2,SNR=5.6	**136.16**	**251**	PKP		**PKPdf**	**06 49 01.9 +1.5**
CMAR	**Chiang Mai Arr** comp=Z,2.6nm,0.7s,baz=332,slow=2.8,SNR=11	**145.68**	**342**	PKPbc		**PKPdf**	**06 49 16.8 -0.8**

TAP 13 06:49:17.0, 24.75N×121.76E, h78km, ML3.7, 6D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILA	**Ilan** baz=325	**0.02**	**328**	P		Pn	06 49 28.9 +0.8
ILA	baz=325			*e*S		Sn	06 49 37.6 +1.4
TWE	**Neicheng** baz=266	**0.09**	**252**	⇓*i*P		Pn	06 49 28.8 +0.6
TWE	baz=266			S		Sn	06 49 37.5 +1.1
TWC	**Suao** baz=148	**0.16**	**150**	⇓*i*P		Pn	06 49 29.2 +0.9
TWC	baz=148			S		Sn	06 49 38.3 +1.6
ENTT	**Nioudou** baz=247	**0.21**	**239**	⇓*i*P		Pn	06 49 29.1 +0.6
ENTT	baz=247			*e*S		Sn	06 49 37.5 +0.5
TWA	**Mucha** baz=321	**0.28**	**325**	⇓*i*P		Pn	06 49 29.3 +0.4
TWA	baz=321			*i* S		Sn	06 49 38.0 +0.3
ENA	**Nanau** baz=190	**0.32**	**183**	*e*P		Pn	06 49 29.4 +0.3
ENA	baz=190			*e*S		Sn	06 49 39.7 +1.6
NWF	**Wu-fen Shan** baz=355	**0.32**	**3**	*i* P		Pn	06 49 29.6 +0.3
NWF	baz=355			S		Sn	06 49 38.7 +0.4
TWB1	**Santiao Chiao** baz=47	**0.33**	**39**	P		Pn	06 49 29.5 +0.3
TWB1	baz=47			S		Sn	06 49 38.5 +0.2
TAP1	**Taipei** baz=313	**0.36**	**323**	P		Pn	06 49 29.4 0.0
TAP1	baz=313			*i* S		Sn	06 49 38.8 +0.2
TAP	**Taipei** baz=313	**0.37**	**322**	P		Pn	06 49 29.6 +0.1
TAP	baz=313			*e*S		Sn	06 49 39.2 +0.5
NSK	**Sanguang** baz=259	**0.37**	**259**	⇓*i*P		Pn	06 49 29.6 +0.1
NSK	baz=259			*i* S		Sn	06 49 38.4 -0.5
NNS	**Nan Shan** baz=230	**0.47**	**229**	⇓*i*P		Pn	06 49 30.8 +0.4
NNS	baz=230			*e*S		Sn	06 49 40.6 +0.3
TWS1	**Kuangyinshan** baz=307	**0.47**	**319**	*i* P		Pn	06 49 30.8 +0.6
TWS1	baz=307			S		Sn	06 49 40.6 +0.5
TWY	**Chenhua** baz=336	**0.55**	**345**	*i* P		Pn	06 49 31.3 +0.4
TWY	baz=336			*i* S		Sn	06 49 41.7 +0.5
NCU	**National Centr** baz=286	**0.57**	**293**	*i* P		Pn	06 49 31.6 +0.5
NCU	baz=286			S		Sn	06 49 42.1 +0.6
TWD	**Chiawan** baz=204	**0.68**	**193**	*e*P		Pn	06 49 32.3 0.0
TWD	baz=204			*e*S		Sn	06 49 42.8 -0.8
NSTT	**Nanjuang** baz=261	**0.70**	**261**	P		Pn	06 49 32.8 +0.3
NSTT	baz=261			*i* S		Sn	06 49 44.2 +0.2
HSN	**Hsinchu** baz=276	**0.72**	**274**	P		Pn	06 49 32.6 0.0
HSN	baz=276			S		Sn	06 49 44.2 -0.1
TWT	**Tachien** baz=225	**0.72**	**227**	*e*P		Pn	06 49 34.0 +1.0
TWT	baz=225			*e*S		Sn	06 49 45.8 +1.0
WHF	**Hehuan Shan** baz=214	**0.75**	**217**	*i* P		Pn	06 49 33.9 +0.3
WHF	baz=214			*e*S		Sn	06 49 46.0 +0.2
HWA	**Hwalien** baz=202	**0.78**	**190**	*e*P		Pn	06 49 32.4 -1.0
HWA	baz=202			*e*S		Sn	06 49 47.2 +1.7
PCYT	**Pengchaiyu** baz=16	**0.92**	**18**	*e*P		Pn	06 49 36.0 +1.1
PCYT	baz=16			*e*S		Sn	06 49 49.0 +0.7
NSY	**Sanyi** baz=260	**0.97**	**250**	P		Pn	06 49 36.1 +0.6
NSY	baz=260			*e*S		Sn	06 49 50.0 +0.6
ESL	**Shilin** baz=201	**0.98**	**198**	*e*P		Pn	06 49 36.0 +0.4
ESL	baz=201			*e*S		Sn	06 49 48.6 -0.9
TWQ1	**Liyutan** baz=247	**0.98**	**246**	*e*P		Pn	06 49 36.2 +0.5
TWQ1	baz=247			*e*S		Sn	06 49 50.0 +0.3
TCU	**Taichung** baz=241	**1.16**	**239**	*e*P		Pn	06 49 38.1 +0.3
TCU	baz=241			*e*S		Sn	06 49 54.2 +0.8
SMLT	**Sun Moon Lake** baz=225	**1.17**	**223**	*e*P		Pn	06 49 38.7 +0.6
SMLT	baz=225			*e*S		Sn	06 49 54.5 +0.6
TYC	**Yuchr** baz=227	**1.18**	**225**	*e*P		Pn	06 49 38.9 +0.8
TYC	baz=227			*e*S		Sn	06 49 54.4 +0.5
EHY	**Hungye** baz=195	**1.30**	**198**	*e*P		Pn	06 49 40.3 +0.6
EHY	baz=195			*e*S		Sn	06 49 56.1 -0.6
WNT	**Mingjian** baz=240	**1.31**	**229**	*e*P		Pn	06 49 40.3 +0.5
WNT	baz=240			*e*S		Sn	06 49 57.6 +0.7
TWF1	**Yuli** baz=201	**1.45**	**197**	*e*P		Pn	06 49 42.0 +0.4
TWF1	baz=201			*e*S		Sn	06 49 59.2 -1.0
YUS	**Yu-Shan** baz=226	**1.45**	**211**	*e*P		Pn	06 49 43.1 +0.8
YUS	baz=226			*e*S		Sn	06 50 02.2 +0.9
ALS	**Alishan** baz=228	**1.51**	**216**	*e*P		Pn	06 49 42.6 -0.2
ALS	baz=228			*e*S		Sn	06 50 02.8 +0.7
CHN5	**Tsauling** baz=225	**1.51**	**221**	*e*P		Pn	06 49 43.4 +0.9
CHN5	baz=225			*e*S		Sn	06 50 02.8 +1.0
WGK	**Gukeng** baz=226	**1.52**	**226**	*e*P		Pn	06 49 43.4 +0.9
CHKT	**Chengkung** baz=202	**1.68**	**192**	*e*P		Pn	06 49 45.7 +1.1
CHKT	baz=202			*e*S		Sn	06 50 05.1 -0.4
ELDTW	**Lidau** baz=204	**1.69**	**204**	*e*P		Pn	06 49 45.4 +0.4
ELDTW	baz=204			*e*S		Sn	06 50 06.5 +0.4
CHN4	**Tsaushan** baz=222	**1.75**	**218**	*e*P		Pn	06 49 45.7 +0.2
CHN4	baz=222			*e*S		Sn	06 50 08.4 +1.1
STYT	**Tauyuan** baz=225	**1.82**	**210**	*e*P		Pn	06 49 47.7 +1.2
STYT	baz=225			*e*S		Sn	06 50 09.8 +0.7
WTP	**Ta-pu** baz=226	**1.83**	**215**	*e*P		Pn	06 49 46.8 +0.2
TWK	**Hsinying** baz=223	**1.88**	**219**	*e*P		Pn	06 49 48.5 +1.2
TWK	baz=223			*e*S		Sn	06 50 12.3 +2.0
CHN1	**Nanshi** baz=219	**1.92**	**216**	*e*P		Pn	06 49 47.6 -0.2
TWG	**Pinlang** baz=196	**2.02**	**198**	*e*P		Pn	06 49 48.9 -0.2
TWG	baz=196			*e*S		Sn	06 50 12.7 -0.9
ECL	**Taimali** baz=194	**2.27**	**199**	*e*P		Pn	06 49 53.7 +1.3
ECL	baz=194			*e*S		Sn	06 50 20.5 +1.1
SCZT	**Fangliau** baz=212	**2.59**	**204**	*e*P		Pn	06 49 56.5 -0.2
SCZT	baz=212			*e*S		Sn	06 50 29.7 +2.5

IDC 13 06:54:59.9N39.0, 17.25S×165.13W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.8/19, mbtmp4.3/3, MS4.0/2, Ms1 4.0/2, ms1mx3.0/28, Error ellipse: s-maj=805.6km s-min=204.5km az=83.0, Cook Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island** comp=Z,574nm,18.7s,baz=286,slow=29	**16.74**	**222**	LR		07 03 11.2	
STKA	**Stephens Creek** 1.6nm,0.5s,baz=82,slow=11,SNR=4.4	**50.13**	**243**	P		P	07 03 57.1 -0.2
ASAR	**Alice Springs** 3.8nm,0.6s,baz=92,slow=8.3,SNR=72	**57.12**	**253**	P		P	07 04 49.3 +0.5
WRA	**Warramunga Arr** 1.4nm,0.4s,baz=98,slow=6.0,SNR=46	**57.17**	**257**	P		P	07 04 48.5 -0.6
LVC	**Limon Verde** comp=Z,62nm,20.9s,baz=149,slow=28	**89.02**	**113**	LR		LR	07 36 01.3

IDC 13 07:39:06.2±2.7, 26.42N×89.72E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.3/26, mbtmp3.2/4, Error ellipse: s-maj=97.9km s-min=25.6km az=75.0
DMN 13 07:39:07.8±0.4, 26.11N×89.69E, h60km, Ml4.5/6, Error ellipse: s-maj=20.6km s-min=8.3km az=22.0
ISCJB 13 07:39:08.2±0.6, 26.29N±0.08×89.55E±0.05, h38km±11km, mb3.2/4, Error ellipse: s-maj=14.2km s-min=5.5km az=21.7

ISC 13 07:39:09.6±2.4, 26.27N±0.09×89.53E±0.06, h32km±19km, n24, σ1§48/32, mb3.3/4, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLGI	**Shiliguri**	**1.08**	**294**	*i* P		**Pn**	**07 39 27.0 -1.5**
SLGI				*i* S		**Sb**	**07 39 44.0 +0.4**
GTK	**Gangtok**	**1.33**	**323**	*e*P		**Pn**	**07 39 30.0 -2.2**
GTK				*e*S		**Sn**	**07 39 46.0 -3.0**
TAPN	**Taplejung** 829nm,0.4s	**1.95**	**304**	*e*Pn		**Pn**	**07 39 41.7 +1.0**
TAPN				*e*Sn		**Sn**	**07 40 07.0 +2.7**
ODAN	**Odare**	**2.00**	**288**	*e*Pn		**Pn**	**07 39 42.4 +1.0**
ODAN				*e*Sn		**Sn**	**07 40 07.4 +1.9**
SHL	**Shillong**	**2.23**	**108**	*e*P		Pn	07 39 41.0 -3.6
SHL				*e*S		**Sn**	**07 40 11.0 -0.2**
RAMN	**Ramite** 681nm,0.5s	**2.71**	**285**	*e*Pn		**Pn**	**07 39 52.2 +1.1**
RAMN				*e*Sn		**Sn**	**07 40 24.3 +1.4**
JIRN	**Jiri** 391nm,0.4s	**3.28**	**296**	*e*Pn		**Pn**	**07 40 00.1 +0.9**
JIRN				*e*Sn		**Sn**	**07 40 38.5 +1.1**
GUN	**Gumba**	**3.64**	**297**	*e*Pn		**Pn**	**07 40 05.2 +1.1**
PKI	**Pulchoki**	**3.90**	**290**	*e*Pn		**Pn**	**07 40 07.8 +0.2**
PKIN	**Phulchoki**	**3.91**	**290**	*e*Pn		**Pn**	**07 40 07.9 +0.2**
KKN	**Kakani**	**4.08**	**293**	*e*Pn		**Pn**	**07 40 10.2 +0.2**
BOK	**Bokaro**	**4.12**	**234**	*i* P		**Pn**	**07 40 09.0 -1.4**
DMN	**Daman**	**4.17**	**290**	*e*Pn		**Pn**	**07 40 11.3 +0.1**
IMP	**Imphal**	**4.25**	**109**	*e*P		**Pn**	**07 40 11.0 -1.2**
IMP				*e*4		x	07 41 20.0
KOLN	**Koldanda** 127nm,0.4s	**5.49**	**287**	*e*Pn		**Pn**	**07 40 29.0 -0.4**
KOLN				*e*Sn		**Sn**	**07 41 29.1 -2.5**
DANN	**Dangsing** 103nm,0.4s	**5.53**	**293**	*e*Pn		**Pn**	**07 40 29.3 -0.7**
DANN				*e*Sn		**Sn**	**07 41 31.2 -1.5**
PYUN	**Piuthan** 124nm,0.5s	**6.10**	**289**	*e*Pn		**Pn**	**07 40 36.7 -1.1**
PYUN				*e*Sn		**Sn**	**07 41 44.9 -1.7**
AGRA	**Agra**	**10.40**	**278**	*e*P		**Pn**	**07 41 36.2 -0.3**
AGRA				*e*S		Sn	07 43 22.2 -10
AGRA	comp=N,82nm,0.6s			AML		AML	07 43 30.4
AGRA	comp=E,90nm,0.8s			AML		AML	07 43 30.8
NDI	**New Delhi**	**11.19**	**285**	*e*4		**Sn**	**07 43 49.5 -2.0**
NDI				*e*4		x	07 45 05.5
SONA	**Sohna**	**11.25**	**283**	*e*S		Sn	07 43 42.9 -10
SONA	comp=N,21nm,0.6s			AML		AML	07 45 28.3
SONA	comp=E,22nm,0.3s			AML		AML	07 45 28.3
MKAR	**Makanchi Array** comp=E,0.2nm,0.6s,baz=154,slow=11,SNR=4.6	**21.27**	**346**	P		**P**	**07 43 52.6 -0.7**
SONM	**Songino Array** comp=E,0.3nm,0.6s,baz=236,slow=7.8,SNR=2.6	**25.28**	**27**	P		**P**	**07 44 32.7 -0.4**
WRA	**Warramunga Arr** comp=E,0.3nm,0.5s,baz=323,slow=7.1,SNR=6.9	**63.26**	**132**	P		**P**	**07 49 36.1 +0.8**
ASAR	**Alice Springs** comp=E,0.2nm,0.4s,baz=322,slow=5.9,SNR=2.8	**65.62**	**135**	P		**P**	**07 49 52.6 +1.8**

ISCJB 13 07:44:20.0±0.7, 57.34S±0.10×25.9W±0.3, h65km, mb4.1/6, Error ellipse: s-maj=28.4km s-min=9.1km az=156.5
IDC 13 07:44:20.5±6.0, 57.31S×25.81W, h54km±53km, mb4.0/6, mb1 4.0/7, mb1mx3.8/18, mbtmp3.9/7, ML3.6/1, MS2.3/1, Ms1 2.3/1, ms1mx2.3/21, Error ellipse: s-maj=33.9km s-min=17.9km az=67.0
NEIC 13 07:44:22.7±2.8, 57.34S×25.84W, h77km±25km, mb4.4/3, Error ellipse: s-maj=21.1km s-min=11.6km az=64.0

ISC 13 07:44:21.3±0.6, 57.4S±0.1×25.8W±0.2, h65km, n29, σ0§74/30, mb4.2/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae** 0.2nm,0.3s,baz=320,slow=13,SNR=25	**17.23**	**155**	*e*Pn		**P**	**07 48 18.4 +0.5**
SNAA				*e*Sn		**Sn**	**07 51 26.2 -1.7**
SNAA	**Sanae** comp=Z,10nm,19.6s,baz=220,slow=31	**17.23**	**155**	P		**Pn**	**07 48 17.3 +0.1**
SNAA				LR		LR	07 53 20.0
QSPA	**South Pole Qui** 4.1nm,0.6s	**32.90**	**180**	*e*P		**P**	**07 50 49.0 +0.1**
QSPA	**South Pole Qui** 4.3nm,0.6s,baz=203,slow=2.7,SNR=46	**32.90**	**180**	P		**P**	**07 50 49.3 +0.4**
CPUP	**Villa Florida**	**38.26**	**311**	P		**P**	**07 51 34.2 -0.8**
CPUP	**Villa Florida** 0.9nm,0.5s,baz=141,slow=8.8,SNR=3.7	**38.26**	**311**	P		**P**	**07 51 34.2 -0.8**
BDFB	**Brasilia**	**44.89**	**329**	P		**P**	**07 52 29.6 +0.2**
BDFB	**Brasilia** 1.7nm,0.5s,baz=121,slow=5.9,SNR=4.8	**44.89**	**329**	P		**P**	**07 52 29.6 +0.2**
VNDA	**Vanda** 2.3nm,0.7s	**45.30**	**182**	*e*P		**P**	**07 52 32.6 +0.7**
VNDA	**Vanda** 2.7nm,0.7s,baz=181,slow=6.1,SNR=24	**45.30**	**182**	P		**P**	**07 52 32.8 +0.9**
LPAZ	**La Paz** 2.4nm,0.5s	**51.77**	**305**	*e*P		**P**	**07 53 22.8 -0.1**
LPAZ	**La Paz** 2.5nm,0.5s,baz=150,slow=5.7,SNR=30	**51.77**	**305**	P		**P**	**07 53 22.6 -0.3**
TOA0	**Torodi Ar. Sit**	**73.82**	**28**	*e*P		**P**	**07 55 49.5 +0.9**
TORD	**Torodi Ar. Bea**	**73.82**	**28**	P		**P**	**07 55 49.2 +0.6**
TORD	**Torodi Ar. Bea** 1.7nm,0.6s,baz=198,slow=6.5,SNR=23	**73.82**	**28**	P		**P**	**07 55 49.2 +0.6**
PDAR	**Pinedale Array**	**121.70**	**301**	PKP		**PKPdf**	**08 03 08.2 +1.2**
PDAR	**Pinedale Array** 0.2nm,0.6s,baz=155,slow=6.6,SNR=2.9	**121.70**	**301**	PKP		**PKPdf**	**08 03 08.2 +1.2**
NVAR	**Mina Array Bea**	**122.62**	**291**	PKP		**PKPdf**	**08 03 09.0 +0.1**
NVAR	**Mina Array Bea** 0.3nm,0.6s,baz=132,slow=2.6,SNR=2.7	**122.62**	**291**	PKP		**PKPdf**	**08 03 09.0 +0.1**
FINES	**FINESS Array B**	**125.17**	**28**	PKP		**PKPdf**	**08 03 12.5 -0.2**
FINES	**FINESS Array B** 0.8nm,0.6s,baz=186,slow=1.4,SNR=4.1	**125.17**	**28**	PKP		**PKPdf**	**08 03 12.5 -0.2**
MKAR	**Makanchi Array**	**136.55**	**72**	PKP		**PKPdf**	**08 03 33.3 -1.5**
MKAR	**Makanchi Array** 0.1nm,0.6s,baz=174,slow=3.5,SNR=2.0	**136.55**	**72**	PKP		**PKPdf**	**08 03 33.3 -1.5**
YKA	**Yellowknife Ar**	**137.66**	**316**	PKP		**PKPdf**	**08 03 36.1 -0.1**
YKA	**Yellowknife Ar** 1.1nm,0.6s,baz=129,slow=2.1,SNR=6.6	**137.66**	**316**	PKP		**PKPdf**	**08 03 36.1 -0.1**
SONM	**Songino Array**	**150.00**	**88**	PKPbc		**PKPbc**	**08 04 03.3 -0.1**
SONM	**Songino Array** 0.9nm,0.6s,baz=222,slow=3.0,SNR=7.8	**150.00**	**88**	PKPbc		**PKPbc**	**08 04 03.3 -0.1**
ILAR	**Eielson Array**	**151.57**	**310**	PKPbc		**PKPbc**	**08 04 06.3 -0.1**
ILAR	**Eielson Array** 3.9nm,0.8s,baz=143,slow=3.3,SNR=35	**151.57**	**310**	PKPbc		**PKPbc**	**08 04 06.3 -0.1**

KRSC 13 07:47:20.1±1.2, 52.47N×160.67E, h5km±5km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.74**	**328**	*e*P		Pb	07 47 35.3 -0.2
SPN				S		Sb	07 47 46.2 +0.3
RUS	**Russkaya**	**1.32**	**269**	*e*P		Pb	07 47 45.3 0.0
RUS				*e*S		Sn	07 48 03.9 +0.8
UGLR	**Uglovaya**	**1.34**	**304**	*e*P		Pb	07 47 45.9 0.0
PET	**Petropavlovsk**	**1.35**	**295**	*e*P		Pb	07 47 45.8 0.0
PET				*e*S		Sn	07 48 04.5 +0.7
SMAR	**Somma**	**1.38**	**306**	P		Pb	07 47 46.8 +0.1
KOK	**Koryaka**	**1.48**	**305**	P		Pb	07 47 48.3 0.0
MTVR	**Mutnovka**	**1.52**	**271**	*e*P		Pn	07 47 48.5 +0.4
MTVR				S		Sg	07 48 09.2 -0.1
GRL	**Gorelyy**	**1.59**	**274**	P		Pb	07 47 50.3 +0.2
ASAK	**Asacha**	**1.70**	**268**	P		Pb	07 47 51.5 -0.4
GNL	**Ganaly**	**2.05**	**308**	*e*P		Pb	07 47 56.8 -1.2
APC	**Apacha**	**2.19**	**283**	*e*P		Pn	07 47 58.4 +1.4
MIPR	**Malaya Ipel'ka**	**2.41**	**267**	P		Pn	07 48 02.0 +1.9

PAU	**Pauzhetka**	**2.59**	**249**	P	Pn	07 48 03.8 +1.2
TUMR	**Tumrok**	**2.84**	**354**	*e*P	Pn	07 48 07.0 +0.8
KMNR	**Kamenistaya**	**3.30**	**356**	P	Pn	07 48 14.4 +1.8
ESO	**Esso**	**3.65**	**342**	P	Pn	07 48 18.3 +1.1
SRDR	**Sredinnyy**	**3.90**	**352**	P	Pn	07 48 22.2 +1.5

KRSC ***13*** *07:47:26.8±0.6, 52.°46N×160.°78E, h5km±5km, ML4.3*
MOS ***13*** *07:47:26.8±2.1, 52.°46N×160.°78E, h5km, mb4.4/1, Error ellipse: s-maj=27.9km s-min=20.7km az=115.9*
ISCJB ***13*** *07:47:27.4±1.1, 52.°49N±0.°05×160.°83E±0.°07, h1km±6km, Error ellipse: s-maj=9.4km s-min=4.0km az=139.7*

ISC 13 07:47:26.1±2.2, 52.°39N±0.°06×160.°81E±0.°07, h1km±11km, n31, σ1s27/51, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.86**	**327**	PN	**Pg**	**07 47 42.2**	**-0.4**
SPN				S	**Sb**	**07 47 53.4**	**-2.4**
SPN	**Mys Shipunski**	**0.86**	**327**	*e*P	**Pg**	**07 47 42.2**	**-0.4**
SPN				*i* S	**Sb**	**07 47 53.4**	**-2.4**
RUS	**Russkaya**	**1.41**	**273**	PN	**Pg**	**07 47 54.1**	**+1.1**
RUS				S	**Sn**	**07 48 13.6**	**+1.6**
RUS	**Russkaya**	**1.41**	**273**	P	**Pg**	**07 47 54.1**	**+1.1**
RUS				*i* S	**Sn**	**07 48 13.6**	**+1.6**
PET	**Petropavlovsk**	**1.46**	**297**	*i* PN	**Pg**	**07 47 54.5**	**+0.5**
PET				*e*S	**Sg**	**07 48 13.1**	**+0.2**
PET	comp=Z,719nm,0.5s			pmax	pmax		
PET	comp=N,715nm,0.4s			smax	smax		
PET	**Petropavlovsk**	**1.46**	**297**	P	**Pg**	**07 47 53.9**	**-0.1**
PET				*i* S	**Sg**	**07 48 13.4**	**+0.5**
UGLR	**Uglovaya**	**1.46**	**305**	P	**Pg**	**07 47 54.7**	**+0.6**
KOK	**Koryaka**	**1.60**	**305**	P	**Pn**	**07 47 55.1**	**-0.5**
MTVR	**Mutnovka**	**1.61**	**275**	P	**Pg**	**07 47 57.3**	**+0.4**
MTVR				*i* S	**Sg**	**07 48 19.1**	**+1.3**
GRL	**Gorelyy**	**1.68**	**277**	P	**Pb**	**07 47 57.4**	**-0.5**
GRL				*i* S	**Sb**	**07 48 19.6**	**0.0**
ASAK	**Asacha**	**1.78**	**271**	P	**Pb**	**07 47 59.8**	**+0.2**
ASAK				*i* S	**Sg**	**07 48 23.6**	**+0.3**
GNL	**Ganaly**	**2.17**	**308**	P	**Pb**	**07 48 04.6**	**-1.7**
GNL				*i* S	**Sb**	**07 48 31.7**	**-2.0**
APC	**Apacha**	**2.29**	**285**	P	**Pb**	**07 48 07.1**	**-1.1**
APC				*i* S	**Sb**	**07 48 37.0**	**+0.1**
MIPR	**Malaya Ipel'ka**	**2.49**	**269**	P	**Pn**	**07 48 09.0**	**+1.3**
MIPR				*i* S	**Sn**	**07 48 39.5**	**+0.8**
PAU	**Pauzhetka**	**2.64**	**251**	PN	**Pb**	**07 48 12.5**	**-1.7**
PAU	**Pauzhetka**	**2.64**	**251**	P	**Pb**	**07 48 12.5**	**-1.7**
TUMR	**Tumrok**	**2.93**	**353**	P	**Pn**	**07 48 15.5**	**+1.6**
SKR	**Severo-Kuril's**	**3.39**	**242**	*e*PN	**Pn**	**07 48 18.1**	**-2.0**
SKR	comp=Z,290nm,1.5s			pmax	pmax		
KMNR	**Kamenistaya**	**3.39**	**355**	P	**Pn**	**07 48 21.5**	**+1.2**
KMNR				*i* S	**Sn**	**07 49 02.2**	**+1.0**
BZMR	**Bezymyannaya**	**3.56**	**357**	P	**Pn**	**07 48 23.7**	**+1.1**
BZMR				*i* S	**Sn**	**07 49 04.9**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**3.56**	**359**	P	**Pn**	**07 48 23.8**	**+1.2**
BZGR				*i* S	**Sn**	**07 49 05.3**	**-0.1**
BZWR	**Bezymyannyi-We**	**3.59**	**357**	P	**Pn**	**07 48 23.1**	**+0.1**
ZLN	**Zelenaya**	**3.64**	**360**	P	**Pn**	**07 48 25.7**	**+2.1**
ZLN				*i* S	**Sn**	**07 49 09.0**	**+1.8**
CIRR	**Tsirk**	**3.74**	**359**	P	**Pn**	**07 48 25.1**	**+0.1**
ESO	**Esso**	**3.76**	**342**	PN	**Pn**	**07 48 26.9**	**+1.7**
ESO	**Esso**	**3.76**	**342**	P	**Pn**	**07 48 26.9**	**+1.7**
KRSR	**Krestovskiy**	**3.84**	**358**	P	**Pn**	**07 48 27.5**	**+1.1**
KRSR				*i* S	**Sn**	**07 49 11.4**	**-0.8**
SRDR	**Sredinnyy**	**3.99**	**351**	P	**Pn**	**07 48 30.1**	**+1.7**
BDR	**Baidarnaya**	**4.20**	**3**	P	**Pn**	**07 48 32.5**	**+1.2**
BDR				*i* S	**Sn**	**07 49 21.9**	**+0.9**
SMKR	**Semkarok**	**4.22**	**5**	P	**Pn**	**07 48 33.3**	**+1.7**
SMKR				*i* S	**Sn**	**07 49 21.9**	**+0.3**
SRKR	**Sorokina**	**4.28**	**3**	P	**Pn**	**07 48 33.9**	**+1.5**
SRKR				*i* S	**Sn**	**07 49 23.5**	**+0.4**

ISCJB ***13*** *08:16:06.9±0.5, 33.°63S±0.°09×57.°2E±0.°2, h14km, mb4.0/13, MS3.6/5, Error ellipse: s-maj=19.9km s-min=11.2km az=154.6*
IDC ***13*** *08:16:06.4±0.7, 33.°54S×57.°10E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.9/26, mbtmpb3.9/10, ML4.4/1, MS3.5/6, Ms1 3.5/6, ms1mx3.2/26, Error ellipse: s-maj=27.6km s-min=18.5km az=78.0*
NEIC ***13*** *08:16:08.0±0.4, 33.°60S×57.°16E, h10km, mb4.1/6, Error ellipse: s-maj=15.6km s-min=8.9km az=65.0*

ISC 13 08:16:08.5±0.6, 33.°6S±0.°1×57.°0E±0.°2, h14km, n35, σ0s51/30, mb4.0/13, MS3.6/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABPO	**Ambohimpanom**	**16.92**	**326**	*e*P	**P**	**08 20 07.5**	**+0.5**
	2.3nm,0.3s						
OPO	**Ambohidratompo**	**17.33**	**327**	P	**P**	**08 20 11.9**	**+0.4**
OPO	**Ambohidratompo**	**17.33**	**327**	P	**P**	**08 20 11.9**	**+0.4**
	1.3nm,0.3s,baz=157,slow=13,SNR=7.2						
OPO				LR	LR	08 25 04.1	
	comp=Z,104nm,18.4s,baz=344,slow=31						
MAW	**Mawson**	**34.26**	**176**	P	**P**	**08 22 54.4**	**+0.8**
MAW	**Mawson**	**34.26**	**176**	P	**P**	**08 22 54.4**	**+0.8**
	0.5nm,0.4s,baz=339,slow=14,SNR=2.7						
KMBO	**Kilima Mbogo**	**37.21**	**326**	LR	LR	08 36 43.9	
	comp=Z,25nm,20.0s,baz=258,slow=33						
CASY	**Casey**	**45.25**	**153**	P	P	08 24 29.8	+4.8
	4.0nm,0.7s						
QSPA	**South Pole Qui**	**56.62**	**180**	*e*P	**P**	**08 25 50.9**	**+0.1**
QSPA	**South Pole Qui**	**56.62**	**180**	P	**P**	**08 25 50.9**	**+0.1**
	0.5nm,0.3s,baz=288,slow=7.1,SNR=22						
VNDA	**Vanda**	**60.63**	**166**	*e*P	**P**	**08 26 18.6**	**+0.3**
	0.6nm,0.6s						
VNDA	**Vanda**	**60.63**	**166**	P	**P**	**08 26 18.6**	**+0.3**
	0.6nm,0.7s,baz=242,slow=5.5,SNR=3.1						
VNDA				LR	LR	08 52 00.0	
	comp=Z,49nm,19.0s,baz=301,slow=36						
CMAR	**Chiang Mai Arr**	**65.37**	**44**	P	**P**	**08 26 50.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**65.37**	**44**	P	**P**	**08 26 50.7**	**+0.1**
	0.7nm,0.3s,baz=233,slow=6.7,SNR=3.8						
ASAR	**Alice Springs**	**66.83**	**104**	P	**P**	**08 26 59.6**	**-0.5**
ASAR	**Alice Springs**	**66.83**	**104**	P	**P**	**08 26 59.6**	**-0.5**
	0.8nm,0.8s,baz=234,slow=6.0,SNR=9.2						
WRA	**Warramunga Arr**	**68.95**	**100**	P	**P**	**08 27 13.2**	**-0.3**
WRA	**Warramunga Arr**	**68.95**	**100**	P	**P**	**08 27 13.2**	**-0.3**
	2.3nm,0.9s,baz=239,slow=5.6,SNR=9.6						
WRAB	**Tennant Creek**	**68.97**	**100**	*e*P	**P**	**08 27 13.0**	**-0.6**
	1.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**70.22**	**302**	P	**P**	**08 27 21.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**70.22**	**302**	P	**P**	**08 27 21.0**	**-0.3**
	0.3nm,0.8s,baz=155,slow=5.3,SNR=2.7						
KBZ	**Khabaz**	**77.99**	**350**	LR	LR	08 58 39.8	
	comp=Z,31nm,20.1s,baz=43,slow=33						
ABKAR	**Akbulak array**	**82.48**	**2**	*e*P	**P**	**08 28 29.8**	**-0.3**
	0.2nm,0.2s						
MK31	**Makanchi Array**	**83.16**	**17**	*e*P	**P**	**08 28 34.1**	**+0.4**
MKAR	**Makanchi Array**	**83.16**	**17**	P	**P**	**08 28 34.1**	**+0.4**
MKAR	**Makanchi Array**	**83.16**	**17**	P	**P**	**08 28 34.1**	**+0.4**
	0.3nm,0.6s,baz=185,slow=4.6,SNR=3.6						
BVAR	**Borovoye Array**	**87.00**	**8**	P	**P**	**08 28 52.9**	**+0.1**
BVAR	**Borovoye Array**	**87.00**	**8**	P	**P**	**08 28 52.9**	**+0.1**
	1.6nm,0.7s,baz=163,slow=6.9,SNR=6.5						
BRVK	**Borovoye**	**87.02**	**8**	P	**P**	**08 28 53.4**	**+0.5**
ZALV	**Zalesovo Beam**	**90.41**	**16**	LR	LR	09 04 22.5	
	comp=Z,22nm,20.6s,baz=159,slow=32						
PLCA	**Paso Flores**	**91.69**	**217**	*e*P	**P**	**08 29 14.4**	**-1.1**
	6.1nm,1.2s						
PLCA	**Paso Flores**	**91.69**	**217**	LR	LR	09 00 53.2	
	comp=Z,106nm,20.1s,baz=360,slow=29						
ILAR	**Eielson Array**	**145.51**	**18**	PKPbc	**PKPdf**	**08 35 44.5**	**-0.8**
ILAR	**Eielson Array**	**145.51**	**18**	PKPbc	**PKPdf**	**08 35 44.5**	**-0.8**
	1.3nm,0.8s,baz=317,slow=4.1,SNR=15						
YKA	**Yellowknife Ar**	**150.56**	**352**	PKPbc	**PKPbc**	**08 35 59.2**	**+0.2**
YKA	**Yellowknife Ar**	**150.56**	**352**	PKPbc	**PKPbc**	**08 35 59.2**	**+0.2**
	1.5nm,0.8s,baz=12,slow=2.6,SNR=5.1						

ISCJB ***13*** *08:37:56.8±0.4, 52.°15N±0.°08×179.°67W±0.°08, h139km, mb3.7/13, Error ellipse: s-maj=12.3km s-min=5.3km az=156.8*
NEIC ***13*** *08:37:57.4, 51.°88N×179.°71W, h139km, mb4.0/8, After AEIC.*
IDC ***13*** *08:37:57.9±2.4, 52.°23N×179.°70W, h139km±23km, mb3.4/10, mb1 3.7/11, mb1mx3.4/29, mbtmpb3.4/11, Error ellipse: s-maj=28.2km s-min=12.3km az=159.0*

ISC 13 08:37:57.6±0.7, 52.°1N±0.°1×179.°65W±0.°07, h139km, n30, σ1s23/34, mb3.8/14, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CERAA	**Semis' Rag'd T**	**0.44**	**249**	P	**Pn**	**08 38 17.3**	**-0.1**
CERAA				S	**Sn**	**08 38 33.6**	**+1.2**
CEAP	**Semis' Anvil P**	**0.48**	**263**	P	**Pn**	**08 38 18.0**	**+0.4**
CEAP				S	**Sn**	**08 38 33.3**	**+0.6**
CESW	**Semis' Southwe**	**0.51**	**251**	P	**Pn**	**08 38 17.6**	**-0.2**
CETU	**Semis' Tuman**	**0.54**	**260**	P	**Pn**	**08 38 18.2**	**+0.3**
AMKA	**Amchitka**	**0.95**	**224**	P	**Pn**	**08 38 20.2**	**-0.7**
AMKA				S	**Sn**	**08 38 37.4**	**-1.1**
LSSE	**Little Sitkin**	**1.11**	**264**	P	**Pn**	**08 38 23.0**	**+0.7**
LSNW	**Little Sitkin**	**1.14**	**266**	P	**Pn**	**08 38 23.0**	**+0.4**
LSSA	**Little Sitkin**	**1.14**	**265**	P	**Pn**	**08 38 23.2**	**+0.5**
FX1	**Attu Island--F**	**4.47**	**283**	P	**Pn**	**08 39 03.2**	**-0.4**
	1.3nm,0.3s,baz=107,slow=19,SNR=8.4						
FX1				S	**Sn**	**08 39 54.2**	**-0.8**
	5.2nm,0.3s,baz=107,slow=19,SNR=11						
OHAK	**Old Harbor**	**16.05**	**61**	*e*Pn	**Pn**	**08 41 32.6**	**-2.6**
KDAK	**Kodiak Island**	**16.51**	**59**	*e*Pn	**P**	**08 41 39.4**	**-1.5**
	10nm,0.4s						
KDAK	**Kodiak Island**	**16.51**	**59**	P	**P**	**08 41 39.6**	**-1.3**
	1.9nm,0.3s,baz=270,slow=7.4,SNR=40						
SPU	**Mount Spurr**	**17.58**	**48**	*e*Pn	**Pn**	**08 41 55.7**	**+1.9**
PMR	**Palmer**	**19.05**	**48**	*e*Pn	**P**	**08 42 06.5**	**-2.1**
	2.7nm,0.7s						
TRF	**Thorofare Moun**	**19.17**	**42**	*e*P	**P**	**08 42 11.2**	**+1.1**
	9.3nm,1.0s						
COLD	**Coldfoot**	**20.95**	**32**	*e*P	**P**	**08 42 30.7**	**+1.7**
	35nm,2.6s						
ILAR	**Eielson Array**	**21.05**	**40**	P	**P**	**08 42 28.9**	**-1.2**
	0.7nm,0.5s,baz=239,slow=8.4,SNR=15						
PAX	**Paxson**	**21.07**	**46**	*e*P	**P**	**08 42 32.2**	**+1.6**
	5.3nm,0.8s						
EGAK	**Eagle**	**23.38**	**42**	*e*P	**P**	**08 42 54.3**	**+0.9**
	4.8nm,1.0s						
INK	**Inuvik**	**27.20**	**36**	P	**P**	**08 43 26.2**	**-1.6**
	1.0nm,0.5s,baz=271,slow=9.7,SNR=7.6						
YKA	**Yellowknife Ar**	**35.15**	**47**	P	**P**	**08 44 37.2**	**-0.2**
	1.0nm,0.6s,baz=280,slow=8.1,SNR=4.2						
YBH	**Yreka Blue Hor**	**39.31**	**82**	*e*P	**P**	**08 45 15.3**	**+2.4**
	2.2nm,0.9s						
MOD	**Modoc**	**40.68**	**80**	*e*P	**P**	**08 45 25.8**	**+1.6**
	7.8nm,1.5s						
NVAR	**Mina Array Bea**	**43.99**	**83**	P	**P**	**08 45 51.9**	**+0.7**
	2.8nm,0.7s,baz=296,slow=7.6,SNR=23						
PDAR	**Pinedale Array**	**46.60**	**72**	P	**P**	**08 46 11.3**	**-0.4**
	1.4nm,0.6s,baz=307,slow=3.6,SNR=14						
TXAR	**Lajitas Array**	**59.07**	**81**	P	**P**	**08 47 43.7**	**+0.6**
	1.0nm,0.6s,baz=302,slow=5.3,SNR=25						
MKAR	**Makanchi Array**	**59.19**	**308**	P	**P**	**08 47 43.3**	**-0.3**
	0.1nm,0.3s,baz=47,slow=3.4,SNR=3.0						
SCHQ	**Schefferville**	**59.79**	**38**	P	**P**	**08 47 47.2**	**-0.3**
	2.4nm,0.9s,baz=328,slow=9.5,SNR=2.9						
WRA	**Warramunga Arr**	**82.15**	**223**	P	**P**	**08 50 02.8**	**+0.1**
	0.5nm,0.5s,baz=32,slow=6.0,SNR=13						
ASAR	**Alice Springs**	**85.64**	**222**	P	**P**	**08 50 21.3**	**+0.9**
	0.4nm,0.7s,baz=27,slow=5.9,SNR=3.6						

IDC 13 09:34:44.9±0.8, 21.°44S×67.°10W, h186km±8km, mb3.5/6, mb1 3.7/11, mb1mx3.6/20, mbtmpb3.5/11, Error ellipse: s-maj=15.5km s-min=10.2km az=121.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.05**	**235**	P	Pn	09 35 23.7	+0.5
	102nm,0.3s,baz=52,slow=8.9,SNR=1928						
LVC				S	Sn	09 35 53.0	0.0
	20nm,0.3s,baz=260,slow=18,SNR=9.5						
LPAZ	**La Paz**	**5.21**	**349**	P	Pn	09 36 03.4	+0.8
	2.0nm,0.3s,baz=166,slow=8.3,SNR=57						
LPAZ				S	Sn	09 37 03.8	+0.1
	0.5nm,0.3s,baz=140,slow=14,SNR=3.6						
SIV	**San Ignacio**	**7.87**	**48**	P	Pn	09 36 35.9	-0.8
	2.3nm,0.3s,baz=235,slow=13,SNR=51						
SIV				S	Sn	09 38 05.9	+0.6
	3.1nm,0.3s,baz=149,slow=22,SNR=8.9						
CFAA	**Coronel Fontan**	**10.18**	**185**	P	Pn	09 37 05.6	-1.1
	0.1nm,0.3s,baz=13,slow=12,SNR=14						
CPUP	**Villa Florida**	**10.18**	**120**	P	Pn	09 37 10.1	+3.3
	1.8nm,0.3s,baz=278,slow=14,SNR=15						
BDFB	**Brasilia**	**18.99**	**76**	P	P	09 38 54.0	+1.3
	2.9nm,0.3s,baz=252,slow=8.2,SNR=14						
PLCA	**Paso Flores**	**19.46**	**188**	P	P	09 38 58.7	+1.2
	0.3nm,0.3s,baz=355,slow=11,SNR=4.0						
TXAR	**Lajitas Array**	**61.55**	**324**	P	P	09 44 41.7	-1.0
	0.2nm,0.7s,baz=149,slow=7.8,SNR=4.6						
DBIC	**Dimbokro**	**67.11**	**73**	P	P	09 45 17.6	-1.4
	4.6nm,0.8s,baz=246,slow=8.2,SNR=3.1						
PDAR	**Pinedale Array**	**74.91**	**329**	P	P	09 46 06.1	+0.5
	0.4nm,0.6s,baz=120,slow=9.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**75.75**	**70**	P	P	09 46 10.4	-0.3
	2.3nm,0.4s,baz=258,slow=5.7,SNR=57						
NVAR	**Mina Array Bea**	**76.49**	**321**	P	P	09 46 14.7	+0.1
	0.3nm,0.4s,baz=140,slow=5.7,SNR=4.4						
YKA	**Yellowknife Ar**	**91.69**	**340**	P	P	09 47 30.7	+0.1
	0.6nm,0.5s,baz=128,slow=5.3,SNR=4.5						
ASAR	**Alice Springs**	**130.72**	**206**	PKP	PKPdf	09 53 34.7	0.0
	0.4nm,0.5s,baz=138,slow=1.8,SNR=8.8						
WRA	**Warramunga Arr**	**133.84**	**208**	PKP	PKPdf	09 53 41.1	+0.5
	0.3nm,0.4s,baz=154,slow=2.0,SNR=9.6						
MKAR	**Makanchi Array**	**144.58**	**37**	PKP	PKPdf	09 53 59.4	+0.1
	0.8nm,0.6s,baz=316,slow=3.4,SNR=8.9						

CSEM ***13*** *10:03:45.9±0.1, 39.°12N×29.°04E, h2km, MD3.3, Error ellipse: s-maj=1.8km s-min=1.7km az=88.0*
DDA ***13*** *10:03:45.1, 39.°11N×29.°03E, h15km, MD3.3*
ISK ***13*** *10:03:45.5, 39.°11N×29.°04E, h6km, MD3.5*

ISC 13 10:03:45.7±1.0, 39.°11N±0.°02×29.°04E±0.°02, h4km±9km, n126, σ0s76/155, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.26**	**255**	*i* P	**Pg**	**10 03 51.3**	**+0.6**
DEMI				*i* S	**Sg**	**10 03 54.7**	**+0.5**
DEMI	**Demirci**	**0.26**	**255**	*i* P	**Pg**	**10 03 51.3**	**+0.6**
DEMI				*i* S	**Sg**	**10 03 54.7**	**+0.5**
TVSB	**Tavsanli**	**0.47**	**44**	PG	**Pg**	**10 03 55.3**	**+0.5**
TVSB				*e*SG	**Sg**	**10 04 01.6**	**+0.6**
TVSB	**Tavsanli**	**0.47**	**44**	*i* Pg	**Pg**	**10 03 55.3**	**+0.5**
TVSB				*e*Sg	**Sg**	**10 04 01.6**	**+0.6**
DURS	**Dursunbey**	**0.66**	**318**	*i* P	**Pg**	**10 03 58.3**	**0.0**
DURS				*e*S	**Sg**	**10 04 06.9**	**0.0**
DURS	**Dursunbey**	**0.66**	**318**	*i* P	**Pg**	**10 03 58.3**	**0.0**
DURS				*e*S	**Sg**	**10 04 06.9**	**0.0**
KULA	**Kula-Manisa**	**0.66**	**207**	*e*PG	**Pg**	**10 03 58.5**	**+0.1**
KULA	**Kula-Manisa**	**0.66**	**207**	*e*Pg	**Pg**	**10 03 58.5**	**+0.1**
MANT	**Manisa**	**0.72**	**212**	*i* P	**Pg**	**10 03 57.0**	**-2.6**
MANT				*i* S	**Sg**	**10 04 06.0**	**-3.0**
KHAL	**Karahalli**	**0.82**	**154**	*i* P	**Pb**	**10 04 02.0**	**-0.5**
KHAL				*i* S	**Sg**	**10 04 12.8**	**+0.8**
KHAL	**Karahalli**	**0.82**	**154**	*i* P	**Pb**	**10 04 02.0**	**-0.5**
KHAL				*i* S	**Sg**	**10 04 12.8**	**+0.8**
ALT	**Altintas**	**0.83**	**93**	*e*PG	**Pb**	**10 04 02.2**	**-0.6**
ALT				*e*SG	**Sb**	**10 04 14.4**	**0.0**
ALT	**Altintas**	**0.83**	**93**	*e*Pg	**Pb**	**10 04 02.2**	**-0.6**
ALT				*e*Sg	**Sb**	**10 04 14.4**	**0.0**
KHL	**Karahalli**	**0.87**	**154**	*e*PG	**Pb**	**10 04 03.0**	**-0.4**
KHL				*e*SG	**Sb**	**10 04 14.7**	**-0.7**
KHL	**Karahalli**	**0.87**	**154**	*e*Pg	**Pb**	**10 04 03.0**	**-0.4**
KHL				*e*Sg	**Sb**	**10 04 14.7**	**-0.7**
ORLT	**Orhaneli**	**0.94**	**353**	*e*PG	**Pg**	**10 04 03.9**	**+0.1**
ORLT	**Orhaneli**	**0.94**	**353**	*e*Pg	**Pg**	**10 04 03.9**	**+0.1**
AKHS	**Akhisar**	**0.98**	**257**	*i* P	**Pg**	**10 04 04.7**	**+0.2**
AKHS				*i* S	**Sg**	**10 04 17.7**	**+0.4**
AKHS	**Akhisar**	**0.98**	**257**	*i* P	**Pg**	**10 04 04.7**	**+0.2**
AKHS				*i* S	**Sg**	**10 04 17.7**	**+0.4**
ULDT	**Uludag**	**1.03**	**4**	*i* P	**Pg**	**10 04 05.3**	**-0.2**
ULDT				*i* S	**Sg**	**10 04 16.9**	**-2.1**
ULDT	**Uludag**	**1.03**	**4**	*i* P	**Pg**	**10 04 05.3**	**-0.2**
ULDT				*i* S	**Sg**	**10 04 16.9**	**-2.1**
BALB	**Balikesir**	**1.04**	**301**	*e*PG	**Pb**	**10 04 06.2**	**-0.1**
BALB	**Balikesir**	**1.04**	**301**	*e*Pg	**Pb**	**10 04 06.2**	**-0.1**
CAVI	**Cavuskoy**	**1.25**	**29**	*e*PN	**Pn**	**10 04 10.0**	**0.0**
CAVI	**Cavuskoy**	**1.25**	**29**	*e*Pn	**Pn**	**10 04 10.0**	**0.0**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*PN	**Pg**	**10 04 09.7**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*Pn	**Pg**	**10 04 09.7**	**-0.2**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*PN	**Pn**	**10 04 10.2**	**+0.1**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*Pn	**Pn**	**10 04 10.3**	**+0.1**
GEMT	**Gemlik**	**1.33**	**5**	*e*PN	**Pb**	**10 04 11.0**	**-0.1**
GEMT	**Gemlik**	**1.33**	**5**	*e*Pn	**Pb**	**10 04 11.0**	**-0.1**
BORA	**Eskisehir**	**1.34**	**54**	*i* P	**Pb**	**10 04 11.4**	**+0.1**
BORA				*i* S	**Sn**	**10 04 29.9**	**+0.5**
BORA	**Eskisehir**	**1.34**	**54**	*i* P	**Pb**	**10 04 11.4**	**+0.1**
BORA				*i* S	**Sn**	**10 04 29.9**	**+0.5**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*PN	**Pb**	**10 04 12.2**	**-0.2**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*Pn	**Pb**	**10 04 12.2**	**-0.2**
DNZL	**Cakiroluk**	**1.42**	**180**	*i* P	**Pn**	**10 04 12.5**	**+0.2**
DNZL				*e*S	**Sn**	**10 04 34.0**	**+2.5**
DNZL	**Cakiroluk**	**1.42**	**180**	*i* P	**Pn**	**10 04 12.5**	**+0.2**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*PN	**Pb**	**10 04 12.5**	**-0.3**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*Pn	**Pb**	**10 04 12.5**	**-0.3**
ARMT	**Armutlu**	**1.46**	**355**	*e*PN	**Pn**	**10 04 12.9**	**+0.1**
ARMT	**Armutlu**	**1.46**	**355**	*e*Pn	**Pn**	**10 04 12.9**	**+0.1**
ESKT	**Eskisehir**	**1.46**	**73**	*e*PN	**Pn**	**10 04 13.0**	**+0.1**
ESKT	**Eskisehir**	**1.46**	**73**	*e*Pn	**Pn**	**10 04 13.0**	**+0.1**
SEYT	**Eskypehyr**	**1.46**	**73**	*i* P	**Pb**	**10 04 13.3**	**-0.2**
SEYT				*i* S	**Sb**	**10 04 32.3**	**-0.2**
SEYT	**Eskypehyr**	**1.46**	**73**	*i* P	**Pb**	**10 04 13.3**	**-0.2**
SEYT				*i* S	**Sb**	**10 04 32.3**	**-0.2**
YLV	**Yalova**	**1.48**	**10**	*e*PN	**Pg**	**10 04 13.8**	**-0.2**
YLV	**Yalova**	**1.48**	**10**	*e*Pn	**Pg**	**10 04 13.8**	**-0.2**
BNT	**Bandirma**	**1.52**	**326**	*e*PN	**Pb**	**10 04 14.0**	**-0.3**
BNT	**Bandirma**	**1.52**	**326**	*e*Pn	**Pb**	**10 04 14.0**	**-0.3**
GPA	**Golpazari**	**1.53**	**39**	*e*PN	**Pn**	**10 04 13.6**	**-0.2**
GPA	**Golpazari**	**1.53**	**39**	*e*Pn	**Pn**	**10 04 13.6**	**-0.2**
BOLV	**Bolvadin**	**1.54**	**104**	*i* P	**Pb**	**10 04 14.4**	**-0.4**
BOLV				*i* S	**Sn**	**10 04 34.1**	**-0.4**
BOLV	**Bolvadin**	**1.54**	**104**	*i* P	**Pb**	**10 04 14.4**	**-0.4**
BOLV				*i* S	**Sn**	**10 04 34.1**	**-0.4**
IZM	**Izmir**	**1.56**	**243**	*e*PN	**Pn**	**10 04 14.3**	**+0.1**
IZM	**Izmir**	**1.56**	**243**	*e*Pn	**Pn**	**10 04 14.3**	**+0.1**
AYDN	**Tasoluk**	**1.71**	**213**	*i* P	**Pb**	**10 04 18.0**	**+0.3**
AYDN				*i* S	**Sn**	**10 04 37.1**	**-1.4**
AYDN	**Tasoluk**	**1.71**	**213**	*i* P	**Pb**	**10 04 18.0**	**+0.3**
AYDN				*i* S	**Sn**	**10 04 37.1**	**-1.4**
BLCB	**Balcova**	**1.72**	**246**	*e*PN	**Pn**	**10 04 16.7**	**+0.4**
BLCB	**Balcova**	**1.72**	**246**	*e*Pn	**Pn**	**10 04 16.7**	**+0.4**
ISP	**Isparta**	**1.73**	**137**	*e*PN	**Pb**	**10 04 17.8**	**-0.3**
ISP	**Isparta**	**1.73**	**137**	*e*Pn	**Pb**	**10 04 17.8**	**-0.3**
BUY	**Buyukada**	**1.74**	**2**	*e*PN	**Pn**	**10 04 16.9**	**+0.2**
BUY	**Buyukada**	**1.74**	**2**	*i* P	**Pn**	**10 04 15.9**	**-0.7**
BUY	**Buyukada**	**1.74**	**2**	*i* P	**Pn**	**10 04 15.9**	**-0.7**
BUY	**Buyukada**	**1.74**	**2**	*e*Pn

LSZ				LR	LR	10 24 01.8		
	comp=N,42nm,20.5s,baz=64,slow=36							
ATD	**Arta Tunnel**	**19.51**	**49**	LR	LR	10 27 32.7		
	comp=N,61nm,21.3s,baz=285,slow=36							
TSUM	**Tsumeb**	**20.48**	**209**	P	**P**	**10 20 20.1**	**+0.4**	
TSUM				S	S	10 23 58.3	-11	
TSUM				Lg	Lg	10 26 23.9		
TSUM	**Tsumeb**	**20.48**	**209**	P	**P**	**10 20 20.1**	**+0.4**	
	comp=N,2.0nm,0.4s,baz=24,slow=13,SNR=6.7							
TSUM				S	S	10 23 58.3	-11	
	comp=N,3.7nm,0.6s,baz=307,slow=20,SNR=4.0							
TSUM				Lg	Lg	10 26 23.9		
	comp=N,20nm,1.0s,baz=101,slow=18,SNR=4.7							
LBTB	**Lobatse**	**23.65**	**185**	P	**P**	**10 20 53.2**	**+0.1**	
LBTB	**Lobatse**	**23.65**	**185**	P	**P**	**10 20 53.2**	**+0.1**	
	comp=N,3.5nm,0.7s,baz=14,slow=12,SNR=6.0							
LBTB				LR	LR	10 30 37.3		
	comp=N,86nm,19.0s,baz=237,slow=38							
BOSA	**Boshof**	**27.25**	**185**	P	**P**	**10 21 25.7**	**-0.2**	
BOSA	**Boshof**	**27.25**	**185**	P	**P**	**10 21 25.7**	**-0.2**	
	comp=N,3.5nm,0.7s,baz=334,slow=10,SNR=6.9							
BOSA				LR	LR	10 32 57.8		
	comp=N,58nm,21.2s,baz=345,slow=38							
TOA0	**Torodi Ar. Sit**	**29.82**	**300**	*eP*	**P**	**10 21 47.6**	**-1.4**	
TORD	**Torodi Ar. Bea**	**29.82**	**300**	P	**P**	**10 21 47.7**	**-1.3**	
TORD	**Torodi Ar. Bea**	**29.82**	**300**	P	**P**	**10 21 47.7**	**-1.3**	
	comp=N,5.9nm,0.6s,baz=106,slow=7.0,SNR=49							
TORD				LR	LR	10 33 34.0		
	comp=N,51nm,19.9s,baz=110,slow=36							
SUR	**Sutherland**	**31.61**	**192**	P	**P**	**10 22 05.2**	**+0.4**	
SUR	**Sutherland**	**31.61**	**192**	P	**P**	**10 22 05.2**	**+0.4**	
	comp=N,11nm,1.0s,baz=51,slow=7.2,SNR=2.5							
DBIC	**Dimbokro**	**33.77**	**284**	P	**P**	**10 22 22.1**	**-1.5**	
DBIC	**Dimbokro**	**33.77**	**284**	P	**P**	**10 22 22.1**	**-1.5**	
	comp=N,4.0nm,0.6s,baz=128,slow=10,SNR=4.8							
BRTR	**Keskin Array B**	**41.19**	**7**	P	**P**	**10 23 25.3**	**-1.1**	
BRTR	**Keskin Array B**	**41.19**	**7**	P	**P**	**10 23 25.3**	**-1.1**	
	comp=N,4.8nm,0.9s,baz=186,slow=10.0,SNR=15							
KBZ	**Khabaz**	**46.81**	**15**	P	**P**	**10 24 12.2**	**+1.0**	
KBZ	**Khabaz**	**46.81**	**15**	P	**P**	**10 24 12.2**	**+1.0**	
	comp=N,1.8nm,0.8s,baz=180,slow=2.0,SNR=3.2							
GERES	**GERESS Array B**	**51.51**	**348**	P	**P**	**10 24 48.9**	**+1.6**	
GERES	**GERESS Array B**	**51.51**	**348**	P	**P**	**10 24 48.9**	**+1.6**	
	comp=N,0.7nm,0.6s,baz=170,slow=8.1,SNR=5.6							
GERES				LR	LR	10 50 22.6		
	comp=N,20nm,20.0s,baz=274,slow=40							
KHC	**Kasperske Hory**	**51.80**	**348**	*eP*	**P**	**10 24 51.2**	**+1.7**	
	comp=N,1.6nm,0.6s							
ABKAR	**Akbulak array**	**57.43**	**24**	*eP*	**P**	**10 25 30.7**	**+0.5**	
	comp=N,1.3nm,0.7s							
AKTO	**Aktyubinsk**	**57.60**	**22**	P	**P**	**10 25 32.5**	**+1.0**	
AKTO	**Aktyubinsk**	**57.60**	**22**	P	**P**	**10 25 32.5**	**+1.0**	
	comp=N,2.3nm,0.8s,baz=225,slow=7.8,SNR=9.9							
KKAR	**Karatay Array**	**58.39**	**36**	*eP*	P	10 25 33.2	-4.0	
EKA	**Eskdalemuir Ar**	**61.99**	**340**	P	**P**	**10 26 03.6**	**+2.1**	
EKA	**Eskdalemuir Ar**	**61.99**	**340**	P	**P**	**10 26 03.6**	**+2.1**	
	comp=N,0.3nm,0.3s,baz=146,slow=7.0,SNR=4.6							
NOA	**NORSAR Array B**	**63.55**	**351**	P	**P**	**10 26 14.0**	**+2.1**	
NOA	**NORSAR Array B**	**63.55**	**351**	P	**P**	**10 26 14.0**	**+2.1**	
	comp=N,0.5nm,0.6s,baz=163,slow=6.4,SNR=3.0							
BVAR	**Borovoye Array**	**64.68**	**27**	P	**P**	**10 26 20.1**	**+0.7**	
BVAR	**Borovoye Array**	**64.68**	**27**	P	**P**	**10 26 20.1**	**+0.7**	
	comp=N,0.4nm,0.4s,baz=228,slow=6.3,SNR=5.0							
MKAR	**Makanchi Array**	**67.41**	**37**	P	**P**	**10 26 36.5**	**-0.7**	
MKAR	**Makanchi Array**	**67.41**	**37**	P	**P**	**10 26 36.4**	**-0.7**	
	comp=N,0.9nm,0.6s,baz=243,slow=5.0,SNR=11							
ARCES	**ARCESS Array B**	**70.76**	**359**	P	**P**	**10 26 56.6**	**-0.9**	
ARCES	**ARCESS Array B**	**70.76**	**359**	P	**P**	**10 26 56.6**	**-0.9**	
	comp=N,1.7nm,0.6s,baz=178,slow=6.1,SNR=15							

IDC ***13*** *10:21:09.1±0.9,51.16N×179.69W,h0km,mb3.7/14, mb1 3.9/15,mb1mx3.8/30,mbtmp3.7/15,ML4.0/1, Error ellipse: s-maj=26.1km s-min=15.8km az=164.0*

ISCJB ***13*** *10:21:13.3±0.6,50.90N±0.07×179.63W±0.07,h43km, mb3.8/21, Error ellipse: s-maj=11.1km s-min=5.3km az=24.1*

NEIC ***13*** *10:21:13.6,50.99N×179.87W,h5km,mb4.0/8, ML3.5(AEIC), After AEIC.*

ISC 13 10:21:14.9±0.7,51.04N±0.10×179.50W±0.05,h43km,n52, σ1§76/57,mb3.7/21,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.83**	**295**	P	**Pn**	**10 21 27.0**	**-3.2**
AMKA				S	**Sn**	**10 21 35.5**	**-5.7**
CERAA	**Semis' Rag'd T**	**1.01**	**330**	P	**Pn**	**10 21 31.9**	**-0.7**
CESW	**Semis' Southwe**	**1.05**	**326**	P	**Pn**	**10 21 32.3**	**-0.8**
CETU	**Semis' Tuman**	**1.12**	**326**	P	**Pn**	**10 21 34.2**	**0.0**
CEAP	**Semis' Anvil P**	**1.13**	**329**	P	**Pn**	**10 21 33.8**	**-0.4**
CEAP				S	**Sn**	**10 21 50.5**	**+2.0**
LSSE	**Little Sitkin**	**1.51**	**307**	P	**Pn**	**10 21 38.6**	**-0.8**
LSPA	**Little Sitkin**	**1.52**	**308**	P	**Pn**	**10 21 38.9**	**-0.7**
LSPA				S	**Sn**	**10 21 58.8**	**+0.7**
LSSA	**Little Sitkin**	**1.54**	**307**	P	**Pn**	**10 21 39.0**	**-0.9**
LSNW	**Little Sitkin**	**1.56**	**308**	P	**Pn**	**10 21 39.0**	**-1.1**
SMY	**Shemya**	**4.32**	**296**	P	**Pn**	**10 22 17.9**	**-0.1**
FX1	**Attu Island--F**	**4.90**	**295**	P	**Pn**	**10 22 26.5**	**+0.5**
FX1				Sn	**Sn**	**10 23 23.6**	**+2.3**
FX1	**Attu Island--F**	**4.90**	**295**	Pn	**Pn**	**10 22 26.4**	**+0.5**
	4.9nm,0.3s,baz=78,slow=8.0,SNR=32						
FX1				Sn	**Sn**	**10 23 23.6**	**+2.3**
	baz=90,slow=20,SNR=2.8						
PETK	**Petropavlovsk-**	**14.17**	**287**	Pn	**P**	**10 24 40.2**	**+0.9**
PETK	**Petropavlovsk-**	**14.17**	**287**	Pn	**P**	**10 24 40.2**	**+0.9**
	0.1nm,0.3s,baz=98,slow=16,SNR=3.8						
KDAK	**Kodiak Island**	**16.98**	**56**	Pn	**Pn**	**10 25 06.1**	**-2.8**
KDAK				Sn	**Sn**	**10 28 12.5**	**-3.9**
KDAK	**Kodiak Island**	**16.98**	**56**	Pn	**Pn**	**10 25 06.1**	**-2.8**
	0.5nm,0.3s,baz=21,slow=2.8,SNR=9.3						
KDAK				Sn	**Sn**	**10 28 12.5**	**-3.9**
	0.2nm,0.3s,baz=323,slow=20,SNR=2.5						
TRF	**Thorofare Moun**	**19.88**	**40**	*eP*	**Pn**	**10 25 46.1**	**+1.9**
	8.5nm,0.9s						
COLA	**College**	**21.45**	**38**	*eP*	**P**	**10 26 03.5**	**+4.5**
	16nm,0.9s						
PAX	**Paxson**	**21.74**	**44**	*eP*	P	10 26 07.4	+5.0
	6.8nm,1.0s						
COLD	**Coldfoot**	**21.77**	**31**	*eP*	P	10 26 07.5	+5.0
	2.2nm,0.9s						
ILAR	**Eielson Array**	**21.78**	**38**	P	**P**	**10 26 02.3**	**-0.4**
ILAR	**Eielson Array**	**21.78**	**38**	P	**P**	**10 26 02.3**	**-0.4**
	0.5nm,0.6s,baz=240,slow=9.6,SNR=3.6						
EGAK	**Eagle**	**24.09**	**41**	*eP*	**P**	**10 26 26.7**	**+0.7**
	4.7nm,0.9s						
INK	**Inuvik**	**27.99**	**35**	P	**P**	**10 26 59.1**	**-2.0**
INK	**Inuvik**	**27.99**	**35**	P	**P**	**10 26 59.1**	**-2.0**
	0.4nm,0.5s,baz=272,slow=7.5,SNR=2.9						
YKA	**Yellowknife Ar**	**35.78**	**46**	P	**P**	**10 28 09.4**	**0.0**
YKA	**Yellowknife Ar**	**35.78**	**46**	P	**P**	**10 28 09.4**	**0.0**
	0.8nm,0.5s,baz=282,slow=7.3,SNR=3.5						
MCMT	**McKenzie Canyo**	**43.70**	**71**	*eP*	**P**	**10 29 17.0**	**+1.3**
	0.7nm,0.6s						
BOZ	**Bozeman (W)**	**43.98**	**69**	*eP*	**P**	**10 29 19.1**	**+1.2**
	1.3nm,0.6s						
NVAR	**Mina Array Bea**	**44.03**	**82**	P	**P**	**10 29 19.9**	**+1.5**
NVAR	**Mina Array Bea**	**44.03**	**82**	P	**P**	**10 29 19.9**	**+1.5**
	0.5nm,0.7s,baz=272,slow=6.1,SNR=4.0						
SONM	**Songino Array**	**46.41**	**297**	P	**P**	**10 29 37.1**	**0.0**
SONM	**Songino Array**	**46.41**	**297**	P	**P**	**10 29 37.1**	**0.0**
	0.4nm,0.5s,baz=59,slow=5.5,SNR=4.7						
BW06	**Boulder Array**	**46.83**	**72**	*eP*	**P**	**10 29 42.8**	**+2.3**
	4.4nm,1.0s						
PDAR	**Pinedale Array**	**46.83**	**72**	P	**P**	**10 29 42.0**	**+1.5**
PDAR	**Pinedale Array**	**46.83**	**72**	P	**P**	**10 29 42.0**	**+1.5**
	1.9nm,0.8s,baz=302,slow=3.4,SNR=13						
TXAR	**Lajitas Array**	**59.14**	**80**	P	**P**	**10 31 12.6**	**+1.4**
TXAR	**Lajitas Array**	**59.14**	**80**	P	**P**	**10 31 12.6**	**+1.4**
	0.2nm,0.6s,baz=305,slow=4.1,SNR=4.5						
MKAR	**Makanchi Array**	**59.90**	**308**	P	**P**	**10 31 15.4**	**-0.7**
MKAR	**Makanchi Array**	**59.90**	**308**	P	**P**	**10 31 15.4**	**-0.7**
	1.0nm,0.4s,baz=51,slow=6.7,SNR=16						
BVAR	**Borovoye Array**	**60.87**	**320**	P	**P**	**10 31 22.1**	**-0.5**
BVAR	**Borovoye Array**	**60.87**	**320**	P	**P**	**10 31 22.1**	**-0.5**
	0.5nm,0.3s,baz=62,slow=7.3,SNR=2.9						
FINES	**FINESS Array B**	**66.02**	**347**	P	**P**	**10 31 55.3**	**-1.2**
FINES	**FINESS Array B**	**66.02**	**347**	P	**P**	**10 31 55.3**	**-1.2**
	1.8nm,0.8s,baz=24,slow=6.0,SNR=3.8						
NOA	**NORSAR Array B**	**67.94**	**354**	P	**P**	**10 32 08.4**	**-0.3**
NOA	**NORSAR Array B**	**67.94**	**354**	P	**P**	**10 32 08.4**	**-0.3**
	0.4nm,0.5s,baz=8.5,slow=6.4,SNR=4.6						
GERES	**GERESS Array B**	**79.86**	**351**	P	**P**	**10 33 18.6**	**-0.1**
GERES	**GERESS Array B**	**79.86**	**351**	P	**P**	**10 33 18.6**	**-0.1**
	0.5nm,0.6s,baz=8.4,slow=5.3,SNR=3.6						
WRA	**Warramunga Arr**	**81.46**	**223**	P	**P**	**10 33 27.5**	**+0.1**
WRA	**Warramunga Arr**	**81.46**	**223**	P	**P**	**10 33 27.5**	**+0.1**
	0.2nm,0.4s,baz=35,slow=5.7,SNR=6.8						
ASAR	**Alice Springs**	**84.94**	**222**	P	**P**	**10 33 45.1**	**-0.2**
ASAR	**Alice Springs**	**84.94**	**222**	P	**P**	**10 33 45.1**	**-0.2**
	0.2nm,0.7s,baz=31,slow=6.5,SNR=5.4						

ISCJB ***13*** *10:40:53.7±0.4,6.12N±0.06×126.64E±0.08,h150km, mb3.7/14, Error ellipse: s-maj=13.1km s-min=5.7km az=151.9*

IDC ***13*** *10:40:54.9±1.2,6.10N×126.70E,h146km±11km,mb3.5/14, mb1 3.6/14,mb1mx3.5/24,mbtmp3.5/14, Error ellipse: s-maj=31.3km s-min=10.7km az=76.0*

AUST ***13*** *10:40:57.2,4.00N×125.00E,h0km*

ISC 13 10:40:55.0±0.6,6.08N±0.07×126.6E±0.1,h150km,n28, σ1§49/32,mb3.9/14,3C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.44**	**313**	P	**Pn**	**10 41 23.4**	**-0.5**
	156nm,0.3s,baz=259,slow=2.4,SNR=6.5						
DAV				S	**Sn**	**10 41 46.2**	**+0.2**
	191nm,0.3s,baz=311,slow=23,SNR=15						
DMPH	**Davao City--Mi**	**1.50**	**312**	*eP*	**Pn**	**10 41 22.9**	**-1.6**
DMPH				*eS*	**Sn**	**10 41 43.8**	**-3.3**
GSPH	**General Santos**	**1.68**	**270**	*eP*	**Pn**	**10 41 24.8**	**-1.8**
CTBH	**Cotabato--PC H**	**2.63**	**296**	*iP*	**Pn**	**10 41 38.0**	**+0.4**
CGP	**Cagayan de Oro**	**3.04**	**321**	*eP*	**Pn**	**10 41 42.1**	**-0.8**
CGP				*i* S	**Sn**	**10 42 19.0**	**-1.1**
MTN	**Manton Dam**	**19.32**	**167**	P	P	10 44 58.7	-10
	baz=18,SNR=3.8						
MTN				S	Sn	10 48 56.1	+6.4
	baz=18,SNR=4.6						
KDU	**Kakadu**	**19.53**	**163**	P	**Pn**	**10 45 11.5**	**-2.2**
	baz=18,SNR=4.1						
KNRA	**Kununurra**	**21.72**	**174**	P	P	**10 45 35.2**	**+0.8**
	baz=20,SNR=11						
FITZ	**Fitzroy Crossi**	**24.05**	**182**	P	P	**10 45 57.3**	**+0.9**
	3.1nm,0.7s,baz=31,slow=5.1,SNR=12						
WRA	**Warramunga Arr**	**26.95**	**164**	P	P	**10 46 22.4**	**-0.2**
	0.3nm,0.3s,baz=339,slow=10,SNR=14						
ASAR	**Alice Springs**	**30.41**	**167**	P	P	**10 46 53.5**	**+0.2**
	0.3nm,0.3s,baz=341,slow=6.9,SNR=15						
ASAR				PcP	**PcP**	**10 49 50.2**	**+0.8**
	0.3nm,0.6s,baz=341,slow=2.6,SNR=5.9						
ASAR				ScP	**ScP**	**10 53 19.8**	**+1.8**
	0.4nm,1.0s,baz=342,slow=2.8,SNR=4.6						
MEEK	**Meekatharra**	**33.44**	**193**	P	P	**10 47 20.7**	**+1.0**
	baz=31,SNR=7.7						
MORW	**Morawa**	**36.40**	**196**	P	P	**10 47 46.3**	**+1.2**
	baz=34,SNR=3.3						
USRK	**Ussuriysk Arra**	**38.26**	**6**	P	P	**10 48 01.1**	**+0.7**
	1.3nm,0.6s,baz=191,slow=8.0,SNR=3.6						
KLBR	**Kellerberrin**	**38.41**	**192**	P	P	**10 48 03.4**	**+1.5**
	baz=36,SNR=4.8						
EIDS	**Eidsvold**	**39.27**	**144**	S	**S**	**10 53 54.2**	**-4.6**
	baz=39,SNR=5.6						
BBOO	**Buckleboo**	**39.70**	**168**	P	P	**10 48 13.8**	**+1.2**
	baz=38,SNR=4.9						
STKA	**Stephens Creek**	**40.35**	**160**	P	P	**10 48 18.6**	**+0.6**
	3.9nm,1.0s,baz=346,slow=8.3,SNR=4.2						
ASAJ	**Asahikawa**	**40.39**	**18**	P	P	**10 48 19.3**	**+1.1**
	3.7nm,0.7s,baz=203,slow=7.7,SNR=3.8						
SONM	**Songino Array**	**45.06**	**341**	P	P	**10 48 56.1**	**+0.1**
	1.2nm,0.8s,baz=158,slow=8.7,SNR=7.1						
PETK	**Petropavlovsk-**	**53.31**	**23**	P	P	**10 49 58.7**	**+0.3**
	1.1nm,0.8s,baz=223,slow=7.5,SNR=2.5						
MKAR	**Makanchi Array**	**55.59**	**324**	P	P	**10 50 16.4**	**+1.4**
	1.0nm,0.6s,baz=123,slow=8.2,SNR=14						
ZALV	**Zalesovo Beam**	**58.47**	**332**	P	P	**10 50 34.4**	**-0.7**
	1.0nm,0.3s,baz=116,slow=10,SNR=5.3						
ILAR	**Eielson Array**	**83.03**	**26**	P	P	**10 53 02.6**	**-0.8**
	0.1nm,0.5s,baz=260,slow=5.4,SNR=3.8						
ARCES	**ARCESS Array B**	**88.22**	**340**	P	P	**10 53 28.2**	**-0.6**
	0.6nm,0.5s,baz=81,slow=6.0,SNR=12						
FINES	**FINESS Array B**	**89.73**	**332**	P	P	**10 53 35.7**	**-0.3**
	1.3nm,0.8s,baz=76,slow=4.4,SNR=3.3						
NOA	**NORSAR Array B**	**96.65**	**334**	P	P	**10 54 07.5**	**-0.4**
	0.5nm,0.8s,baz=66,slow=4.6,SNR=2.4						
TORD	**Torodi Ar. Bea**	**122.08**	**290**	PKP	**PKPdf**	**10 59 34.1**	**+1.3**
	0.4nm,0.8s,baz=66,slow=2.5,SNR=3.2						

ISCJB ***13*** *10:51:58.7±1.5,17.75S±0.08×168.37E±0.08, h113km±14km,mb4.4/22, Error ellipse: s-maj=14.3km s-min=11.8km az=143.0*

NOU ***13*** *10:51:58.6±2.0,17.68S×168.76E,h30km,MD3.1,ML4.2, MS2.7*

IDC ***13*** *10:51:59.9±2.9,17.77S×168.35E,h116km±26km, mb4.2/15,mb1 4.4/16,mb1mx4.4/23,mbtmp4.3/16, Error ellipse: s-maj=20.7km s-min=16.2km az=73.0*

NEIC ***13*** *10:52:03.8±1.2,17.73S×168.24E,h151km±11km, mb4.4/11, Error ellipse: s-maj=10.4km s-min=6.6km az=164.0*

AUST ***13*** *10:52:07.2,18.48S×167.90E,h100km*

ISC 13 10:51:59.5±2.2,17.7S±0.1×168.4E±0.1,h111km±19km, n68,σ0§92/71,mb4.4/21,1D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**4.63**	**197**	*eP*	**Pn**	**10 53 07.1**	**-0.2**
BAYA				*eS*	**Sn**	**10 53 58.6**	**-1.4**
BAYA				AMP		10 54 02.5	
	comp=Z,96nm,1.4s						
DZM	**Mont Dzumac**	**4.69**	**202**	*eP*	**Pn**	**10 53 08.0**	**-0.2**
DZM				*eS*	**Sn**	**10 53 59.5**	**-2.2**
DZM				AMP		10 54 03.5	
	comp=Z,5μm,0.0s						
DZM	**Mont Dzumac**	**4.69**	**202**	P	**Pn**	**10 53 09.2**	**+1.0**
DZM				S	**Sn**	**10 53 59.6**	**-2.0**
DZM				*e*Sn	Sn	10 54 00.2	-1.6
DZM	**Mont Dzumac**	**4.69**	**202**	P	**Pn**	**10 53 09.2**	**+1.0**
	comp=Z,177nm,0.3s,baz=89,slow=23,SNR=525						
DZM				S	**Sn**	**10 53 59.6**	**-2.0**
	comp=Z,83nm,0.3s,baz=311,slow=23,SNR=12						
NOUC	**Port Laguerre**	**4.77**	**203**	*eP*	**Pn**	**10 53 11.5**	**+2.2**
NOUC				*eS*	**Sn**	**10 54 03.7**	**+0.2**
NOUC				AMP		10 54 09.5	
	comp=Z,209nm,13.4s						
PLUM	**Mont Dore**	**4.81**	**199**	*eP*	**Pn**	**10 53 10.4**	**+0.6**
PLUM				*eS*	**Sn**	**10 54 04.3**	**-0.1**
PLUM				AMP		10 54 07.2	
	comp=Z,946nm,1.7s						
MSVF	**Nonsavu**	**9.24**	**92**	*e*Pn	Pn	10 54 15.5	+5.6
	comp=Z,199nm,1.5s						
EIDS	**Eidsvold**	**17.77**	**242**	*eP*	**Pn**	**10 56 00.4**	**+0.6**
	comp=Z,22nm,1.2s						
EIDS	**Eidsvold**	**17.77**	**242**	P	**Pn**	**10 56 01.1**	**+1.3**
	baz=17,SNR=4.4						
ARMA	**Armidale**	**19.79**	**227**	P	**Pn**	**10 56 23.3**	**-0.6**
	baz=19,SNR=6.1						
ARMA				S	S	10 59 24.6	-34
	baz=19,SNR=5.4						
RMQ	**Roma**	**20.12**	**241**	P	Pn	10 56 26.9	-0.7
	baz=19,SNR=12						
CTA	**Charters Tower**	**21.04**	**260**	P	**P**	**10 56 34.9**	**+0.3**
CTA	**Charters Tower**	**21.04**	**260**	P	**P**	**10 56 34.9**	**+0.3**
	comp=Z,14nm,0.5s,baz=86,slow=12,SNR=19						
CTAO	**Charters Tower**	**21.04**	**260**	*eP*	**P**	**10 56 34.8**	**+0.3**
	comp=Z,23nm,0.8s						
URZ	**Urewera**	**21.86**	**161**	P	**P**	**10 56 44.3**	**+1.2**
URZ	**Urewera**	**21.86**	**161**	P	**P**	**10 56 44.3**	**+1.2**
	comp=Z,6.8nm,0.6s,baz=111,slow=17,SNR=4.9						
PMG	**Port Moresby**	**22.18**	**289**	*eP*	**P**	**10 56 45.4**	**-1.3**
	comp=Z,17nm,0.8s						
PMG	**Port Moresby**	**22.18**	**289**	P	**P**	**10 56 47.2**	**+0.4**
	comp=Z,24nm,1.0s,baz=130,slow=6.1,SNR=5.3						
MTSU	**Mount Surprise**	**22.87**	**265**	P	**P**	**10 56 54.5**	**+0.8**
	baz=22,SNR=20						
YNG	**Young**	**24.30**	**223**	P	**P**	**10 57 07.4**	**+0.7**
	baz=24,SNR=6.0						
CNB	**Canberra Magne**	**24.34**	**220**	P	**P**	**10 57 07.8**	**+0.7**
	baz=24,SNR=12						
CMSA	**Cobar Meteorol**	**24.71**	**232**	P	**P**	**10 57 10.3**	**0.0**
	baz=24,SNR=13						
STKA	**Stephens Creek**	**27.99**	**235**	P	**P**	**10 57 39.9**	**0.0**
STKA	**Stephens Creek**	**27.99**	**235**	P	**P**	**10 57 39.9**	**0.0**
	comp=Z,7.0nm,0.7s,baz=66,slow=11,SNR=12						
STKA	**Stephens Creek**	**27.99**	**235**	P	**P**	**10 57 40.1**	**+0.2**
	baz=27,SNR=9.0						
ASAR	**Alice Springs**	**32.71**	**254**	P	**P**	**10 58 21.0**	**-0.7**
ASAR	**Alice Springs**	**32.71**	**254**	P	**P**	**10 58 21.0**	**-0.7**
	comp=Z,32nm,0.4s,baz=88,slow=7.5,SNR=2.5						
WSI	**Waingapu**	**47.26**	**273**	P	P	11 00 28.0	+6.1
	baz=47,SNR=3.1						
VNDA	**Vanda**	**59.92**	**182**	P	**P**	**11 01 53.1**	**-0.2**
VNDA	**Vanda**	**59.92**	**182**	P	**P**	**11 01 53.1**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=31,slow=5.2,SNR=3.9						
PETK	**Petropavlovsk-**	**71.13**	**353**	P	**P**	**11 03 06.2**	**+0.6**
PETK	**Petropavlovsk-**	**71.13**	**353**	P	**P**	**11 03 06.2**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=154,slow=9.3,SNR=17						
QSPA	**South Pole Qui**	**72.33**	**180**	P	**P**	**11 03 12.7**	**-0.4**
	comp=Z,4.3nm,1.0s						
QSPA				*e*PcP	**PcP**	**11 03 29.9**	**-0.5**
QSPA	**South Pole Qui**	**72.33**	**180**	P	**P**	**11 03 12.6**	**-0.4**
	comp=Z,7.9nm,0.9s,baz=359,slow=3.3,SNR=21						
SONM	**Songino Array**	**85.50**	**323**	P	**P**	**11 04 25.1**	**0.0**
SONM	**Songino Array**	**85.50**	**323**	P	**P**	**11 04 25.1**	**0.0**
	comp=Z,14nm,1.1s,baz=121,slow=6.9,SNR=2.1						
SYO	**Syowa Base**	**86.15**	**196**	*iP*	**P**	**11 04 29.4**	**+1.6**
CMB	**Columbia Colle**	**86.78**	**49**	*eP*	**P**	**11 04 30.9**	**-0.5**
	comp=Z,7.2nm,1.0s						
YBH	**Yreka Blue Hor**	**86.80**	**44**	*eP*	**P**	**11 04 31.9**	**+0.3**
	comp=Z,1.2nm,0.8s						
HUMO	**Hull Mountain**	**87.03**	**44**	*eP*	**P**	**11 04 32.8**	**+0.2**
	comp=Z,3.2nm,1.0s						
NVAR	**Mina Array Bea**	**88.43**	**49**	P	**P**	**11 04 40.0**	**+0.4**
NVAR	**Mina Array Bea**	**88.43**	**49**	P	**P**	**11 04 40.0**	**+0.4**
	comp=Z,3.2nm,0.8s,baz=228,slow=8.1,SNR=20						
MOD	**Modoc**	**88.49**	**45**	*eP*	**P**	**11 04 39.7**	**0.0**
	comp=Z,2.0nm,0.7s						
NV11	**Mina Array Sit**	**88.54**	**49**	*eP*	**P**	**11 04 39.8**	**-0.2**
ILAR	**Eielson Array**	**89.04**	**18**	P	**P**	**11 04 39.5**	**-2.0**
ILAR	**Eielson Array**	**89.04**	**18**	P	**P**	**11 04 39.5**	**-2.0**
	comp=Z,1.2nm,0.5s,baz=234,slow=5.3,SNR=18						
WVOR	**Wild Horse Val**	**89.84**	**45**	*eP*	**P**	**11 04 45.7**	**-0.3**
	comp=Z,6.5nm,1.2s						
COLD	**Coldfoot**	**90.03**	**15**	*eP*	**P**	**11 04 45.8**	**-0.2**
	comp=Z,1.4nm,0.9s						
MAIT	**Maitri**	**90.25**	**188**	*eP*	**P**	**11 04 49.1**	**+1.8**
SNAA	**Sanae**	**90.64**	**183**	P	**P**	**11 04 47.9**	**-1.3**
SNAA	**Sanae**	**90.64**	**183**	P	**P**	**11 04 47.9**	**-1.3**
	comp=Z,1.6nm,0.9s,baz=199,slow=5.4,SNR=26						
YBMT	**Yellow Bay**	**94.94**	**41**	P	**P**	**11 05 10.2**	**+0.8**
	comp=Z,5.7nm,0.9s						
PDAR	**Pinedale Array**	**96.20**	**47**	P	**P**	**11 05 14.4**	**-1.0**
PDAR	**Pinedale Array**	**96.20**	**47**	P	**P**	**11 05 14.4**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=211,slow=1.7,SNR=3.5						
TXAR	**Lajitas Array**	**96.78**	**61**	P	**P**	**11 05 18.5**	**+0.3**
TXAR	**Lajitas Array**	**96.78**	**61**	P	**P**	**11 05 18.5**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=223,slow=5.0,SNR=7.4						
YKA	**Yellowknife Ar**	**99.71**	**27**	P	**Pdif**	**11 05 30.1**	**-0.2**
YKA	**Yellowknife Ar**	**99.71**	**27**	P	**Pdif**	**11 05 30.1**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=256,slow=5.1,SNR=6.9						
MKAR	**Makanchi Array**	**100.06**	**316**	P	**Pdif**	**11 05 32.3**	**-0.1**
MKAR	**Makanchi Array**	**100.06**	**316**	P	**Pdif**	**11 05 32.3**	**-0.1**
	comp=Z,5.5nm,0.8s,baz=108,sl

3µm,0.8s,50µm51µm17nm
SOEI Soe 4.89 98 P **Pn** **10 53 33.1 +0.6**
SOEI Soe 4.89 98 P **Pn** **10 53 33.4 +0.9**
baz=4.9,SNR=523
BYJI Banyuwangi 5.02 280 P **Pn** **10 53 36.4 +2.2**
SPSI Sidrap Palu 5.12 5 P Pn 10 53 41.2 +5.7
6µm,0.7s,67µm78µm21nm
JAGI Jajag, Banyuwa 5.18 276 P **Pn** **10 53 35.9 -0.5**
5µm,0.9s,145µm53µm48nm
JAGI Jajag, Banyuwa 5.18 276 P **Pn** **10 53 34.6 -1.8**
baz=5.2,SNR=261
KMMI Kalianget 5.71 290 P **Pn** **10 53 46.3 +2.7**
1µm,0.8s,28µm7.9nm
BLJI Banyuglugur 5.86 283 P **Pn** **10 53 46.4 +0.8**
3µm,0.6s,60µm22nm
GMJI Gumukmas 5.90 278 P **Pn** **10 53 46.5 +0.3**
2µm,1.0s,101µm30nm
TTSI Tana Toraja 6.03 4 P Pn 10 53 53.6 +5.6
4µm,1.1s,38µm73µm16nm
KBKI Kotabaru 6.57 331 P Pn 10 53 59.3 +3.9
2µm,0.9s,17µm
SKSI Soroako, Sulaw 6.81 17 P Pn 10 54 04.3 +5.5
2µm,1.0s,14µm5.6nm
KRKI Karangkates 6.89 277 P **Pn** **10 54 02.4 +2.7**
6µm,0.7s,130µm
BBKI Banjar Baru 7.17 321 P Pn 10 54 08.0 +4.4
5µm,1.0s,33µm76µm12nm
PWJI Pagerwojo 7.54 278 P **Pn** **10 54 10.0 +1.3**
2µm,0.9s,31µm16nm
SJI Sawahan 7.63 280 P **Pn** **10 54 11.6 +1.7**
1µm,0.7s,21µm14nm
PCJI Pacitan 8.14 276 P **Pn** **10 54 17.6 +0.9**
1µm,1.0s,16µm
BKB Balikpapan 8.16 342 P Pn 10 54 26.2 +9.1
4µm,1.0s,34µm95µm
WOJI Wonogiri, Jawa 8.43 278 P **Pn** **10 54 23.1 +2.3**
761nm,1.0s,13µm
SGKI Sangatta, Kali 8.69 348 P Pn 10 54 43.8 +19
LUWI Luwuk 8.69 23 P Pn 10 54 30.1 +5.7
3µm,1.1s,25µm
LUWI Luwuk 8.69 23 P Pn 10 54 30.9 +6.5
baz=9.0,SNR=80
UGM Wanagama 8.81 277 *e*Pn **Pn** **10 54 26.8 +0.7**
UGM Wanagama 8.81 277 P **Pn** **10 54 28.0 +1.9**
1µm,0.9s,15µm
UGM Wanagama 8.81 277 P **Pn** **10 54 26.0 0.0**
baz=8.8,SNR=129
UGM S Sn 10 56 16.7 +13
baz=8.8,SNR=5.3
YOGI Yogyakarta 9.05 277 P **Pn** **10 54 30.9 +1.6**
1µm,1.0s,17µm
MTKI Muara Teweh, K 9.24 331 P Pn 10 54 37.2 +5.4
4µm,1.1s,38µm
BJII Banjamegara 9.71 280 P **Pn** **10 54 41.0 +2.7**
446nm,1.0s,6µm
MRSI Marisa 9.85 15 P Pn 10 54 45.5 +5.3
2µm,1.1s,19µm
PBKI Pangkalan Bun 9.94 309 P Pn 10 54 45.3 +4.0
3µm,1.0s,23µm
AAI Ambon 10.29 59 P Pn 10 54 51.8 +5.6
601nm,0.9s,7µm
AAI Ambon 10.29 59 P Pn 10 54 54.4 +8.1
baz=10,SNR=5.1
GTOI Gorontalo 10.33 21 P Pn 10 54 53.7 +7.0
835nm,0.9s,11µm
TGJI Tegal 10.38 282 P **Pn** **10 54 47.4 +0.1**
KMSI Cibinong 10.65 26 P Pn 10 54 58.4 +7.3
2µm,1.1s,23µm37µm
FITZ Fitzroy Crossi 10.83 146 P Pn 10 54 49.5 -4.1
FITZ S Sn 10 56 40.6 -13
FITZ Fitzroy Crossi 10.83 146 P Pn 10 54 49.5 -4.1
52nm,0.3s,baz=338,slow=7.9,SNR=417
FITZ S Sn 10 56 40.6 -13
151nm,0.3s,baz=170,slow=20,SNR=15
FITZ LR LR 10 59 27.9
comp=Z,14µm,20.6s,baz=324,slow=39
MSAI Masohi 11.10 60 P Pn 10 55 00.7 +3.5
110nm,0.9s,3µm
KNRA Kununurra 11.28 126 P Pn 10 54 55.4 -4.1
baz=11,SNR=558
KNRA S Sn 10 56 56.2 -7.7
baz=11,SNR=6.7
BNDI Bandanaira 11.42 67 P Pn 10 55 05.7 +4.2
4µm,0.9s,30µm
BNDI Bandanaira 11.42 67 P Pn 10 55 05.5 +3.9
baz=12,SNR=4.1
BNDI S Sn 10 57 38.2 +31
baz=12,SNR=6.2
CISI Cisompet, Garu 11.52 277 P **Pn** **10 55 00.6 -2.4**
1µm,0.7s,10µm
CISI Cisompet, Garu 11.52 277 P **Pn** **10 55 00.6 -2.4**
baz=12,SNR=28
LBMI Labuha 11.68 44 P Pn 10 55 10.9 +5.8
1µm,0.9s,10µm32µm
MNI Manado 11.81 28 P Pn 10 55 14.0 +7.1
1µm,1.1s,17µm
LEM Lembang 11.84 280 P **Pn** **10 55 08.6 +1.1**
571nm,0.8s,5µm
LEM Lembang 11.84 280 P **Pn** **10 55 10.6 +3.1**
baz=12,SNR=5.0
MBWA Marble Bar 12.00 178 Pn Pn 10 55 03.6 -5.8
SNR=12
MBWA Marble Bar 12.00 178 *e*Pn Pn 10 55 03.3 -6.1
MBWA *e*Sn Sn 10 57 01.9 -20
STKI Sintang 12.02 319 P P 10 55 14.9 -4.7
527nm,1.1s,17µm26µm
MTN Manton Dam 12.15 109 P Pn 10 55 07.4 -4.1
baz=12,SNR=340
MTN S Sn 10 57 18.8 -6.3
baz=12,SNR=5.4
TNTI Ternate 12.64 40 P P 10 55 22.5 -4.1
774nm,1.0s,12µm45µm
CBJI Citeko 12.67 281 P **Pn** **10 55 18.1 -0.5**
3µm,0.9s,29µm
DBJI Dramaga 12.74 281 P **Pn** **10 55 19.4 -0.2**
768nm,0.9s,7µm
SKJI Sukabumi 12.84 278 P **Pn** **10 55 21.9 +1.0**
TPI Tanjungpandan 13.23 298 P **P** **10 55 31.6 -1.5**
167nm,1.1s,2µm
KDU Kakadu 13.37 107 P Pn 10 55 24.0 -3.8
baz=13,SNR=390
KDU S Sn 10 57 48.6 -6.2
baz=13,SNR=4.5
TSM Tawau 13.38 354 P **P** **10 55 35.5 +0.6**
SBJI Serang 13.44 282 P **P** **10 55 37.3 +1.9**
742nm,1.0s,8µm
SBUM Sibu 13.50 328 P **P** **10 55 36.5 +0.4**
SBUM Sibu 13.50 328 P **P** **10 55 36.8 +0.7**
SBUM Sibu 13.50 328 P **P** **10 55 36.1 0.0**
234nm,1.0s,4µm52µm
XMI Christmas Isla 13.54 263 P **Pn** **10 55 30.8 +0.6**
baz=14,SNR=4.2
XMI S Sn 10 57 43.5 -15
baz=14,SNR=5.8
XMIS Christmas Isla 13.57 263 *e*Pn Pn 10 55 27.3 -3.4
369nm,0.9s
XMIS Christmas Isla 13.57 263 P Pn 10 55 27.0 -3.7
baz=14,SNR=5.6
XMIS S Sn 10 57 44.4 -16
baz=14,SNR=7.3
BTM Bintulu 13.72 333 P **P** **10 55 40.8 +2.1**
GAMI Galela, Maluku 13.73 38 P **P** **10 55 36.6 -2.1**
809nm,1.1s,11µm
KSM Kuching 13.84 319 *e*Pn **P** **10 55 39.5 -0.4**
KSM Kuching 13.84 319 P **P** **10 55 40.4 +0.5**
KSM Kuching 13.84 319 P **P** **10 55 42.0 +2.1**
406nm,1.1s,5µm50µm
KSM Kuching 13.84 319 P **P** **10 55 39.6 -0.3**
baz=14,SNR=7.1
MYLDM Lahad Datu 14.21 357 P **P** **10 55 46.3 +2.3**
MYLDM Lahad Datu 14.21 357 P P 10 55 47.2 +3.2
517nm,1.0s,11µm70µm
FAKI Fak Fak 14.21 65 P **Pn** **10 55 38.3 -0.7**
1µm,0.9s,10µm34µm
FAKI Fak Fak 14.21 65 P **Pn** **10 55 38.8 -0.2**
baz=14,SNR=258
SWI Sorong 14.40 56 P **Pn** **10 55 42.3 +0.9**
1µm,0.9s,11µm
SWI Sorong 14.40 56 P **Pn** **10 55 42.7 +1.3**
baz=15,SNR=18
SWI S **S** **10 58 33.5 -1.7**
baz=15,SNR=6.0
BLSI Bandar Lampung 14.48 284 P **P** **10 55 47.6 +0.6**
SDKM Sandakan 14.80 352 P P 10 55 55.2 +4.6
PPBI Pangkal Pinang 14.84 297 P **P** **10 55 50.5 -0.6**
232nm,0.9s,4µm
KLSI 15.16 286 P **Pn** **10 55 51.0 -0.3**
508nm,0.9s,5µm
KKM Kota Kinabalu 15.36 348 *e*P **P** **10 55 59.5 +2.5**
KKM Kota Kinabalu 15.36 348 P **P** **10 55 59.8 +2.9**
KKM Kota Kinabalu 15.36 348 P **P** **10 55 59.2 +2.2**
532nm,1.0s,6µm53µm
KKM Kota Kinabalu 15.36 348 P **P** **10 56 00.1 +3.1**
baz=16,SNR=7.0
LWLI Liwa 15.71 284 P **P** **10 56 00.6 -0.2**
1µm,0.7s,12µm19µm
PMBI Palembang 15.74 292 P **P** **10 56 05.6 +4.6**
578nm,1.1s
KDM Kudat 16.10 351 P **P** **10 56 09.2 +4.2**
RKPI Ransiki, Papua 16.56 64 P **Pn** **10 56 08.3 -0.6**
885nm,0.9s,9µm
CTBH Cotabato--PC H 16.93 17⇓ *e*P **P** **10 56 18.1 +3.9**
MNAI Manna 16.95 285 P **P** **10 56 14.3 -0.2**
1µm,1.1s,17µm
MNAI Manna 16.95 285 P **Pn** **10 56 12.4 -1.3**
baz=17,SNR=46
DAV Davao City (W) 17.22 21 P P 10 56 25.1 +7.8
SNR=24
DAV Davao City (W) 17.22 21⇓ *e*P **P** **10 56 20.8 +3.4**
DAV Davao City (W) 17.22 21 P **P** **10 56 19.0 +1.6**
DAV Davao City (W) 17.22 21 P **P** **10 56 20.3 +2.9**
526nm,1.3s,18µm39µm
DAV Davao City (W) 17.22 21 P **P** **10 56 19.0 +1.6**
50nm,0.3s,baz=189,slow=4.6,SNR=1.8
DAV LR LR 11 03 41.5
comp=Z,5µm,18.6s,baz=191,slow=40
MEEK Meekatharra 17.46 182 P **Pn** **10 56 16.6 -3.3**
baz=17,SNR=344
MEEK S Sn 10 59 10.5 -23
baz=17,SNR=21
KSI Kapahiang 17.51 287 P **P** **10 56 21.6 +0.9**
1µm,1.0s,12µm
DCPH Dipolog City 18.01 13⇑ *e*P Pn 10 56 34.9 +8.4
MASI Maura Aman, Be 18.01 288 P **Pn** **10 56 28.1 +1.4**
3µm,1.0s,23µm
WRA Warramunga Arr 18.06 128 P **P** **10 56 24.6 -2.0**
WRA S Sn 10 59 30.6 -18
WRA *e* 11 31 17.5
WRA Warramunga Arr 18.06 128 P **P** **10 56 24.6 -2.0**
13nm,0.3s,baz=302,slow=14,SNR=288
WRA S Sn 10 59 30.6 -18
12nm,0.3s,baz=303,slow=24,SNR=4.4
WRA LR LR 11 04 15.2
comp=Z,12µm,19.6s,baz=305,slow=40
WRA P3KPbc 11 31 17.5
0.0nm,0.3s,baz=136,slow=4.4,SNR=5.2
WRAB Tennant Creek 18.06 128 *e*P **P** **10 56 24.5 -2.2**
WRAB pmax pmax
comp=Z,350nm,0.7s
WRAB Tennant Creek 18.06 128 *e*P **P** **10 56 24.5 -2.2**
comp=Z,350nm,0.7s
CGP Cagayan de Oro 18.23 17⇓ *e*P **Pn** **10 56 32.1 +2.9**
SRPI Serui, Papua 18.27 68 P **Pn** **10 56 32.2 +2.5**
BAKI Biak 18.43 66 P **Pn** **10 56 31.8 +0.1**
comp=Z,872nm,0.9s,comp=Z,10µm
BTDF Bukit Timah Da 18.68 303 P Pn 10 56 41.6 +6.9
baz=19,SNR=4.4
BTDF P Pn 10 56 41.6 +6.9
baz=19,SNR=4.4
SNPH Sibulan 18.72 12⇑ *i*P P 10 56 28.5 -5.5
PPR Puerto Princes 18.76 358 *i* P **Pn** **10 56 39.8 +4.2**
MYKOM Kota Tinggi 18.86 304 P **Pn** **10 56 38.3 +1.4**
MYKOM Kota Tinggi 18.86 304 P **Pn** **10 56 39.2 +2.4**
comp=Z,188nm,1.1s,comp=Z,4µm
RGRI Rengat 19.05 296 P **Pn** **10 56 41.4 +2.3**
comp=Z,394nm,1.2s,comp=Z,56µm
KGM Kluang 19.42 304 P **Pn** **10 56 43.6 +0.1**
LLP Laju-Lapu 19.82 13 *e*P **Pn** **10 56 50.3 +2.1**
AS31 Alice Springs 20.09 138 *e*P **P** **10 56 47.7 -1.1**
ASAR Alice Springs 20.09 138 P **P** **10 56 48.5 -0.4**
ASAR S S 11 00 20.6 -10
ASAR ScP **ScP** **11 04 31.1 -0.2**
ASAR *e* 11 31 04.8
ASAR Alice Springs 20.09 138 P **P** **10 56 48.5 -0.4**
comp=Z,179nm,0.7s,baz=306,slow=9.6,SNR=787
ASAR S S 11 00 20.6 -10
comp=Z,67nm,0.8s,baz=314,slow=26,SNR=4.3
ASAR ScP **ScP** **11 04 31.1 -0.2**
comp=Z,55nm,1.0s,baz=339,slow=2.5,SNR=6.3
ASAR LR LR 11 05 07.1
comp=Z,9µm,20.6s,baz=316,slow=38
ASAR P3KPbc 11 31 04.8
comp=Z,0.7nm,1.0s,baz=130,slow=5.0,SNR=4.6
MORW Morawa 20.11 188 P **P** **10 56 46.5 -2.5**
baz=20,SNR=88
MORW S S 11 00 10.9 -20
baz=20,SNR=9.6
BKNI Bangkinang 20.50 296 P Pn 10 56 54.9 -1.3
comp=Z,776nm,1.0s,comp=Z,7µm
BKNI Bangkinang 20.50 296 P Pn 10 56 55.4 -0.8
baz=21,SNR=4.7
PPI Padang Panjang 20.73 293 P **P** **10 56 53.7 -2.1**
comp=Z,171nm,1.0s,comp=Z,2µm
PPI Padang Panjang 20.73 293 P **P** **10 56 54.0 -1.9**
baz=21,SNR=8.3
MMPI Merauke 20.79 90 S **S** **11 00 44.2 -0.1**
baz=21,SNR=6.6
RCP Roxas 20.80 9⇑ *e*P Pn 10 57 02.5 +2.9
FRIM Kepong 21.50 304 P **P** **10 57 06.6 +2.5**
BLDU Ballidu 21.55 186 P **P** **10 57 01.8 -2.6**
baz=21,SNR=254
BLDU S S 11 00 50.0 -9.2
baz=21,SNR=4.2
KTGM Kuala Trenggan 21.61 311 P **P** **10 57 09.1 +4.0**
JAY Jayapura 22.21 74 P **P** **10 57 10.3 -1.4**
comp=Z,231nm,0.9s,comp=Z,8µm
JAY Jayapura 22.21 74 P **P** **10 57 08.4 -3.4**
baz=22,SNR=14
JAY S **S** **11 01 11.8 0.0**
baz=22,SNR=5.8
PALU Palau 22.22 43 P **P** **10 57 12.1 +0.4**
baz=22,SNR=19
COCO West Island 22.34 260 *e*P **P** **10 57 11.8 -1.3**
COCO pmax pmax
comp=Z,878nm,1.4s
COCO West Island 22.34 260 *e*P **P** **10 57 11.8 -1.3**
comp=Z,878nm,1.4s
COCO West Island 22.34 260 P **P** **10 57 16.3 +3.2**
comp=Z,472nm,1.4s
KLBR Kellerberrin 22.43 184 P **P** **10 57 10.9 -3.0**
baz=22,SNR=121
KLBR S S 11 01 06.3 -8.8
baz=22,SNR=8.8
IPM Ipoh 22.71 306 *e*P **P** **10 57 16.6 -0.5**
IPM Ipoh 22.71 306 P **P** **10 57 18.3 +1.3**
IPM Ipoh 22.71 306 P **P** **10 57 19.2 +2.2**
comp=Z,132nm,1.2s
FORT Forrest 23.05 161 *e*P **P** **10 57 17.7 -2.5**
comp=Z,649nm,0.8s
FORT Forrest 23.05 161 P **P** **10 57 17.9 -2.3**
baz=23,SNR=78
TGY Tagaytay City 23.10 4 P **P** **10 57 24.8 +3.9**
TGY S S 11 01 37.7 +11
TGY Tagaytay City 23.10 4 P **P** **10 57 24.8 +3.9**
comp=Z,5µm,0.9s,baz=189,slow=3.1,SNR=79
TGY S S 11 01 37.7 +11
comp=Z,132nm,0.5s,baz=180,slow=20,SNR=4.5
TGY LR LR 11 06 04.0
comp=Z,17nm,20.7s,baz=179,slow=36
KULM Kulim 23.49 307 *e*P **P** **10 57 24.0 -0.5**
comp=Z,213nm,1.1s
KULM Kulim 23.49 307 P **P** **10 57 24.8 +0.2**
KULM Kulim 23.49 307 P **P** **10 57 24.7 +0.2**
comp=Z,188nm,1.1s
PSI Prapat 23.55 299 P **P** **10 57 23.7 -1.4**
PSI S **S** **11 01 30.4 -3.3**
PSI ScP **ScP** **11 04 40.7 +0.4**
PSI Prapat 23.55 299 P **P** **10 57 23.7 -1.4**
comp=Z,332nm,0.9s,baz=125,slow=7.1,SNR=46
PSI S **S** **11 01 30.4 -3.3**
comp=Z,9.7nm,0.7s,baz=138,slow=12,SNR=2.7
PSI ScP **ScP** **11 04 40.7 +0.4**
comp=Z,18nm,1.0s,baz=159,slow=5.6,SNR=3.6
PSI LR LR 11 07 42.1
comp=Z,6µm,20.2s,baz=120,slow=39
PSI Prapat 23.55 299 P **P** **10 57 23.8 -1.4**
baz=24,SNR=37
NWAO Narrogin (SRO) 23.80 184 P **P** **10 57 25.0 -2.1**
SNR=27
NWAO Narrogin (SRO) 23.80 184 P **P** **10 57 25.3 -1.8**
NWAO S **S** **11 01 39.2 +2.0**
NWAO Narrogin (SRO) 23.80 184 P **P** **10 57 25.3 -1.8**
comp=Z,555nm,0.8s,baz=4.4,slow=11,SNR=81
NWAO S **S** **11 01 39.2 +2.0**
comp=Z,484nm,0.6s,baz=267,slow=13,SNR=9.3
NWAO LR LR 11 06 54.1
comp=Z,5µm,20.4s,baz=5.1,slow=37
COEN Coen 23.83 104 *e*P **P** **10 57 27.2 -0.3**
comp=Z,298nm,0.9s
COEN Coen 23.83 104 P **P** **10 57 27.0 -0.6**
baz=24,SNR=54
TSI Tuntungan 24.21 300 P **P** **10 57 32.1 +1.1**
comp=Z,634nm,0.9s,comp=Z,7µm
RKGY Rocky Gully 25.49 185 P **P** **10 57 41.7 -0.7**
baz=25,SNR=18
RKGY S S 11 02 21.2 +17
baz=25,SNR=5.2
SNSI Sinabang, Aceh 25.64 295 P **P** **10 57 43.8 -0.2**
TRTT Trang 25.82 310 P **P** **10 57 47.8 +2.2**
comp=Z,67nm,0.9s
MTSU Mount Surprise 25.84 113 P **P** **10 57 46.6 +0.8**
baz=26,SNR=86
PMG Port Moresby 27.44 93 *e*P **P** **10 58 02.3 +2.0**
PMG ScP **ScP** **11 04 52.5 +1.3**
PMG Port Moresby 27.44 93 P **P** **10 58 01.7 +1.5**
comp=Z,157nm,0.9s,comp=Z,3µm
PMG Port Moresby 27.44 93 P **P** **10 58 01.0 +0.8**
comp=Z,91nm,0.8s,baz=274,slow=6.8,SNR=22
PMG ScP **ScP** **11 04 52.5 +1.3**
comp=Z,32nm,0.8s,baz=107,slow=5.6,SNR=3.6
CHBT CHBT 27.52 322 P **P** **10 58 05.4 +4.6**
comp=Z,55nm,1.1s,comp=Z,4µm
CHBT CHBT 27.52 322 P **P** **10 58 05.4 +4.6**
comp=Z,55nm,1.1s,comp=Z,4µm
UBPT Khong Chiam 27.86 330 P **P** **10 58 06.0 +2.2**
comp=Z,177nm,0.9s,comp=Z,2µm
UBPT Khong Chiam 27.86 330 P **P** **10 58 06.2 +2.4**
comp=Z,177nm,0.9s,comp=Z,2µm
CTA Charters Tower 28.18 116 P **P** **10 58 07.5 +0.6**
CTA Charters Tower 28.18 116 P **P** **10 58 07.5 +0.6**
comp=Z,31nm,0.7s,baz=281,slow=12,SNR=18
CTA LR LR 11 10 49.4
comp=Z,5µm,18.4s,baz=292,slow=39
CTAO Charters Tower 28.18 116 *e*P **P** **10 58 07.4 +0.6**
CTAO pmax pmax
comp=Z,74nm,0.8s
CTAO Charters Tower 28.18 116 *e*P **P** **10 58 07.4 +0.6**
comp=Z,74nm,0.8s
BBOO Buckleboo 28.20 149 *e*P **P** **10 58 05.2 -1.7**
comp=Z,197nm,0.8s
BBOO Buckleboo 28.20 149 P **P** **10 58 05.1 -1.7**
baz=28,SNR=90
NAYO Nakonayok 29.34 322 P **P** **10 58 20.0 +2.9**
comp=Z,47nm,1.0s
PHET Kaeng Krachan 29.36 318 P **P** **10 58 20.2 +3.0**
comp=Z,222nm,1.0s,comp=Z,2µm
QIZ Qiongzhong 29.48 341 P **P** **10 58 20.4 +2.2**
QIZ S **S** **11 03 12.8 +5.5**
QIZ LR LR
comp=Z,1µm,16.9s
SKNT Sakolnakorn 30.04 330 P **P** **10 58 24.5 +1.3**
comp=Z,456nm,0.9s,comp=Z,4µm
STKA Stephens Creek 30.66 141 *e*P **P** **10 58 27.7 -0.9**
comp=Z,31nm,0.7s
STKA Stephens Creek 30.66 141 P **P** **10 58 27.9 -0.6**
comp=Z,149nm,0.7s,baz=311,slow=9.1,SNR=130
STKA LR LR 11 11 45.0
comp=Z,5µm,21.6s,baz=302,slow=38
STKA Stephens Creek 30.66 141 P **P** **10 58 27.2 -1.4**
baz=30,SNR=14
PBKT Sadao Pong 31.32 324 P **P** **10 58 35.6 +1.1**
comp=Z,226nm,0.9s,comp=Z,2µm
PBKT Sadao Pong 31.32 324 P **P** **10 58 35.7 +1.2**
comp=Z,226nm,0.9s,comp=Z,2µm
HKC Hong Kong Obse 31.61 351 P **P** **10 58 36.0 -1.0**
LOEI Loei 31.91 326 P **P** **10 58 38.9 -0.9**
comp=Z,118nm,1.0s,comp=Z,1µm
TPUB Ta-pu 32.22 2 *e*P **P** **10 58 43.8 +1.4**
YULB Yu-li 32.34 3 *e*P **P** **10 58 43.2 -0.2**
comp=Z,87nm,0.9s
GZH Guangzhou 32.52 350 P P 10 58 48.9 +3.9
GZH S **S** **11 04 00.6 +5.9**
GZH LR LR
comp=N,3µm,14.3s
GZH LR LR
comp=E,2µm,12.8s
SSLB Suanglung 32.72 3 *e*P **P** **10 58 47.6 +0.9**
comp=E,88nm,0.9s
RMQ Roma 32.78 126 P **P** **10 58 48.0 +0.6**
baz=33,SNR=35
CMSA Cobar Meteorol 33.12 136 P **P** **10 58 50.0 -0.2**
baz=33,SNR=70
NACB Ninganchiao 33.14 4 *e*P **P** **10 58 51.3 +0.9**
YHNB Yeheng 33.62 3 *e*P **P** **10 58 55.0 +0.4**
comp=E,117nm,0.8s
LAMP Lampang 33.64 325 P **P** **10 58 56.6 +1.7**
comp=E,101nm,1.0s,comp=E,691nm
QZH Quanzhou 33.84 359⇓ *i*P **P** **10 58 57.4 +1.0**
QZH S **S** **11 04 14.6 -0.5**
QZH pmax pmax
comp=Z,50nm,0.8s
QZH pmax pmax
comp=Z,2µm,7.4s
QZH LR LR
comp=N,3µm,13.9s
QZH LR LR
comp=E,11µm,27.8s
QZH LR LR
comp=Z,6µm,23.2s
GUMO Guam 33.90 49 *e*P **P** **10 58 55.9 -1.3**
comp=Z,9.0nm,1.1s
TATO Taipei 33.93 3 *e*P **P** **10 58 58.1 +0.9**
comp=Z,98nm,1.1s
CMAR Chiang Mai Arr 33.99 324 P **P** **10 58 58.7 +0.8**
CMAR PcP **PcP** **11 01 36.0 +1.4**
CMAR ScP **ScP** **11 05 14.6 +1.8**
CMAR Chiang Mai Arr 33.99 324 P **P** **10 58 58.7 +0.8**
comp=Z,57nm,0.7s,baz=152,slow=6.7,SNR=84
CMAR PcP **PcP** **11 01 36.0 +1.4**
comp=Z,27nm,0.8s,baz=176,slow=3.0,SNR=6.9
CMAR ScP **ScP** **11 05 14.6 +1.8**
comp=Z,8.0nm,0.9s,baz=172,slow=2.8,SNR=4.7
CMAR LR LR 11 14 36.2
comp=Z,7µm,19.0s,baz=140,slow=39
EIDS Eidsvold 34.22 122 *e*P **P** **10 58 59.9 0.0**
comp=Z,24nm,0.8s
EIDS Eidsvold 34.22 122 P **P** **10 59 01.6 +1.7**
baz=34,SNR=5.8
CMMT Chiang Mai 34.27 324 P **P** **10 59 01.7 +1.4**
comp=Z,186nm,1.0s,comp=Z,2µm
CMMT Chiang Mai 34.27 324 P **P** **10 59 01.5 +1.2**
comp=Z,185nm,1.0s,comp=Z,2µm
CHTO Chiang Mai 34.27 324 *e*P **P** **10 59 01.4 +1.1**
CHTO pmax pmax
comp=Z,150nm,0.9s
CHTO Chiang Mai 34.27 324 P **P** **10 59 02.2 +1.9**
SNR=22
CHTO Chiang Mai 34.27 324 *e*P **P** **10 59 01.4 +1.1**
comp=Z,38nm,0.9s
CHTO Chiang Mai 34.27 324 P **P** **10 59 02.0 +1.7**
comp=Z,205nm,1.0s,comp=Z,2µm
CHTO Chiang Mai 34.27 324 P **P** **10 59 01.6 +1.3**
comp=Z,205nm,1.0s,comp=Z,2µm
ARPS Mount Arapiles 34.27 147 P **P** **10 58 59.7 -0.5**
baz=34,SNR=161
YNG Young 36.59 138 P **P** **10 59 20.3 +0.2**
baz=36,SNR=112
JOW Kunigami 36.75 13 *e*P **P** **10 59 22.1 +0.7**
comp=Z,31nm,0.9s
ARMA Armidale 36.83 130 *e*P **P** **10 59 23.8 +1.5**
comp=Z,62nm,0.8s
ARMA Armidale 36.83 130 P **P** **10 59 23.7 +1.5**
baz=37,SNR=36
TOO Toolangi 36.88 144 P **P** **10 59 23.2 +0.6**
baz=37,SNR=59
GYA Guiyang 37.43 341⇑ *i*P **P** **10 59 28.3 +0.9**
GYA S pP **pP** **10 59 48.0 +2.2**
GYA sP **sP** **10 59 56.3 +1.6**
GYA PP **PP** **11 00 53.4 -0.8**
GYA PcP **PcP** **11 01 45.8 +1.1**
GYA S **S** **11 05 10.3 -0.1**
GYA ScP **ScP** **11 05 27.0 +1.7**
GYA PcS **PcS** **11 05 35.4 +1.9**
GYA sS **sS** **11 05 44.9 +2.9**
GYA SS **SnSn** **11 07 52.8 -2.3**
GYA pmax pmax
comp=Z,130nm,0.9s
GYA pmax pmax
comp=Z,420nm,4.9s
GYA LR LR

comp=N,4µm,23.6s
GYA LR LR
comp=E,6µm,22.4s
GYA LR LR
comp=Z,6µm,26.4s
CAN Canberra 37.60 138 *e*P **P 10 59 28.6 0.0**
CAN pmax pmax
comp=Z,77nm,1.0s
CAN Canberra 37.60 138 *e*P **P 10 59 28.6 0.0**
comp=Z,77nm,1.0s
KMI Kunming 37.67 335 P **P 10 59 32.4 +2.9**
KMI pP **pP 10 59 50.1 +2.1**
KMI sP **sP 10 59 58.3 +1.4**
KMI PP **PnPn 11 00 58.5 -0.3**
KMI S **S 11 05 13.0 -1.3**
KMI SS **SnSn 11 07 57.3 -3.7**
KMI pmax pmax
comp=Z,170nm,1.0s
KMI pmax pmax
comp=Z,1µm,7.5s
KMI LR LR
comp=N,3µm,20.2s
KMI LR LR
comp=E,4µm,19.0s
KMI LR LR
comp=Z,5µm,22.5s
CNB Canberra Magne 37.83 138 P **P 10 59 30.8 +0.1**
baz=38,SNR=5.7
MGCD Mangrove Creek 37.85 134 P **P 10 59 32.2 +1.5**
baz=38,SNR=35
WHN Wuhan 39.70 353 ⇓P **P 10 59 48.1 +1.9**
WHN pP **pP 11 00 06.3 +1.5**
WHN PP **PnPn 11 01 27.1 +4.4**
WHN S **S 11 05 42.8 -1.5**
WHN pmax pmax
comp=Z,3µm,7.6s
WHN LR LR
comp=E,5µm,15.1s
SSE Sheshan 40.00 2 P **P 10 59 47.1 -1.5**
SSE pP **pP 11 00 06.4 -0.8**
SSE S **S 11 05 48.5 -0.2**
SSE pmax pmax
comp=Z,87nm,1.0s
SSE pmax pmax
comp=Z,1µm,7.9s
SSE LR LR
comp=N,3µm,34.1s
SSE LR LR
comp=E,950nm,35.3s
SSE LR LR
comp=Z,4µm,33.2s
HNR Honiara 40.05 94 *e*P **P 10 59 50.8 +1.4**
HNR Honiara 40.05 94 P **P 10 59 49.2 -0.1**
comp=Z,579nm,1.0s,baz=231,slow=4.4,SNR=6.6
ENH Enshi 40.27 347 *e*P **P 10 59 52.1 +1.1**
comp=Z,322nm,0.8s
NJ2 Nanjing 40.92 359 *e*P **P 10 59 58.3 +2.1**
NJ2 pP **pP 11 00 15.5 +0.7**
NJ2 sP **sP 11 00 23.5 -0.2**
NJ2 S **S 11 06 02.3 0.0**
NJ2 sS **sS 11 06 31.3 -2.9**
NJ2 pmax pmax
comp=Z,30nm,0.8s
NJ2 pmax pmax
comp=Z,2µm,7.8s
NJ2 LR LR
comp=N,3µm,26.1s
NJ2 LR LR
comp=E,4µm,25.2s
NJ2 LR LR
comp=Z,3µm,23.5s
MOO Moorlands 41.23 148 P **P 10 59 59.5 +0.8**
baz=41,SNR=16
TAU Tasmania Unive 41.63 149 P **P 11 00 02.2 +0.2**
comp=Z,610nm,0.8s,SNR=11
TAU Tasmania Unive 41.63 149 *e*P **P 11 00 02.1 +0.1**
TAU pmax pmax
comp=Z,80nm,0.8s
TAU Tasmania Unive 41.63 149 *e*P **P 11 00 02.0 +0.1**
comp=Z,81nm,0.8s
PALK Pallekele 41.81 292 *e*P **P 11 00 03.0 -0.9**
comp=Z,66nm,1.0s
IMP Imphal 41.82 324 *i* P **P 11 00 05.0 +1.2**
IMP *ex* x 11 00 21.0
IMP *ex* x 11 05 21.0
CD2 Chengdu 42.50 340 P **P 11 00 10.1 +0.9**
CD2 pP **pP 11 00 27.5 -0.5**
CD2 sP **sP 11 00 35.9 -0.9**
CD2 PP **PP 11 01 52.9 +3.7**
CD2 PcP **PcP 11 02 01.0 +0.3**
CD2 ScP **ScP 11 05 44.5 -0.3**
CD2 PcS **PcS 11 05 52.0 -1.0**
CD2 S **S 11 06 28.4 +2.5**
CD2 sS **sS 11 06 58.4 +0.5**
CD2 SS **SS 11 09 34.6 -3.7**
CD2 pmax pmax
comp=Z,80nm,0.6s
CD2 pmax pmax
comp=Z,1µm,5.7s
CD2 LR LR
comp=N,5µm,21.5s
CD2 LR LR
comp=E,5µm,21.5s
CD2 LR LR
comp=Z,5µm,19.6s
JNU Nakatsue 43.39 14 *e*P **P 11 00 16.1 -0.3**
JNU Nakatsue 43.39 14 P **P 11 00 15.6 -0.8**
comp=Z,35nm,0.8s,baz=163,slow=2.6,SNR=16
JNU LR LR 11 22 24.5
comp=Z,1µm,18.5s,baz=189,slow=42
SHL Shillong 43.61 323 *e*P **P 11 00 19.0 +0.5**
SHL AMB AMB 11 00 20.7
comp=Z,341nm,0.7s
SHL *ex* x 11 05 52.0
XAN Xi'an 44.03 348 P **P 11 00 21.4 -0.1**
XAN pP **pP 11 00 40.0 -0.3**
XAN sP **sP 11 00 48.3 -0.8**
XAN PP **PcP 11 02 06.1 +0.3**
XAN S **S 11 06 43.3 -4.8**
XAN sS **sS 11 07 18.1 -2.2**
XAN SS SS 11 10 00.8 -7.3
XAN pmax pmax
comp=Z,87nm,0.9s
XAN pmax pmax
comp=Z,320nm,7.8s
XAN LR LR
comp=N,3µm,23.5s
XAN LR LR
comp=Z,2µm,24.6s
VIS Vishakhapatnam 44.46 307 *e*P **P 11 00 24.5 -0.6**
TIA Tai'an 45.11 357 P **P 11 00 30.4 +0.4**
TRD Trivandrum 45.71 291 *e*P **P 11 00 35.6 +0.5**
BOK Bokaro 46.24 316 *e*P **P 11 00 38.4 -0.8**
INCN Inchon 46.83 8 *e*P **P 11 00 44.2 +0.7**
comp=Z,8.1nm,0.8s
NOUC Port Laguerre 46.84 112 *e*P **P 11 00 46.2 +2.3**
DZM Mont Dzumac 46.97 112 *e*P **P 11 00 47.6 +2.6**
comp=Z,162nm,1.1s
DZM *e*S **S 11 07 35.1 +4.0**
comp=Z,3µm,26.4s
DZM *e*LR LR 11 14 12.1
comp=Z,5µm,22.0s
DZM Mont Dzumac 46.97 112 *e*P **P 11 00 44.5 -0.5**
DZM Mont Dzumac 46.97 112 *e*P **P 11 00 46.0 +1.0**
DZM Mont Dzumac 46.97 112 P **P 11 00 46.0 +1.0**
comp=Z,39nm,0.9s,baz=54,slow=8.7,SNR=6.4
DZM LR LR 11 21 30.9
comp=Z,5µm,20.2s,baz=0.6,slow=37
KSAR Wonju Array Be 46.98 9 P **P 11 00 45.8 +1.1**
KSAR PcP **PcP 11 02 17.5 +1.6**
KSAR PP **PP 11 02 37.8 +1.7**
KSAR ScP **ScP 11 06 05.3 +2.3**
KSRS Korea Array 47.00 9 P **P 11 00 45.8 +1.0**
comp=Z,33nm,0.8s,baz=182,slow=8.2,SNR=76
KSRS PcP **PcP 11 02 17.5 +1.5**
comp=Z,24nm,0.7s,baz=184,slow=3.4,SNR=10
KSRS PP **PP 11 02 37.8 +1.6**
comp=Z,16nm,0.8s,baz=200,slow=3.3,SNR=4.2
KSRS ScP **ScP 11 06 05.3 +2.2**
comp=Z,7.7nm,1.0s,baz=199,slow=5.1,SNR=4.5
KSRS LR LR 11 20 02.5
comp=Z,2µm,21.5s,baz=185,slow=35
TIY Taiyuan 47.01 352 *e*P **P 11 00 43.8 -1.2**
TIY pP **pP 11 01 02.8 -1.2**
TIY sP **sP 11 01 13.1 +0.3**
TIY pmax pmax
comp=Z,830nm,5.6s
TIY LR LR
comp=N,920nm,11.4s
TIY LR LR
comp=E,410nm,12.0s
LSA Lhasa 47.17 326 P **P 11 00 47.8 +0.9**
LSA pmax pmax
comp=Z,80nm,1.0s
LSA Lhasa 47.17 326 *e*P **P 11 00 47.6 +0.8**
LSA pmax pmax
comp=Z,337nm,1.0s
LSA Lhasa 47.17 326 *e*P **P 11 00 47.6 +0.8**
comp=Z,337nm,1.0s
LZH Lanzhou 47.26 343 ⇓P **P 11 00 49.1 +2.0**
LZH pP **pP 11 01 08.0 +1.9**
LZH sP **sP 11 01 15.3 +0.4**
LZH PP **PP 11 02 41.0 +2.1**
LZH ScP **ScP 11 06 06.5 +2.0**
LZH S **S 11 07 34.0 -0.8**
LZH sS **sS 11 08 06.1 -1.2**
LZH pmax pmax
comp=Z,150nm,1.1s
LZH pmax pmax
comp=Z,2µm,5.8s
LZH LR LR
comp=N,2µm,14.0s
LZH LR LR
comp=E,2µm,15.0s
LZH LR LR
comp=Z,5µm,15.9s
ODAN Odare 47.32 320 *e*P **P 11 00 47.7 -0.1**
comp=Z,894nm,0.9s
TAPN Taplejung 47.47 321 *e*P **P 11 00 48.3 -0.7**
comp=Z,2µm,0.9s
DL2 Dalian 47.80 2 P **P 11 00 51.5 +0.5**
DL2 S **S 11 07 39.9 -2.1**
DL2 pmax pmax
comp=Z,390nm,0.9s
DL2 pmax pmax
comp=Z,940nm,6.7s
DL2 LR LR
comp=Z,1µm,27.8s
RAMN Ramite 47.89 319 *e*P **P 11 00 52.1 -0.1**
comp=Z,1µm,1.2s
HYB Hyderabad 48.16 303 *i* P **P 11 00 52.0 -2.2**
HYB *e*S **S 11 07 44.0 -3.9**
JIRN Jiri 48.64 320 *e*P **P 11 00 57.5 -0.7**
comp=Z,898nm,0.9s
MAJO Matsushiro 48.73 20 *e*P **P 11 00 57.1 -1.2**
MAJO pmax pmax
comp=Z,66nm,0.9s
MAJO Matsushiro 48.73 20 *e*P **P 11 00 57.1 -1.2**
comp=Z,11nm,0.9s
MAT Matsushiro 48.73 20 P **P 11 00 56.8 -1.5**
MAT S **S 11 07 58.0 +2.7**
MJAR Matsushiro Arr 48.73 20 P **P 11 00 56.9 -1.4**
MJAR PcP **PcP 11 02 21.6 -0.7**
MJAR ScP **ScP 11 06 10.3 -0.3**
MJAR Matsushiro Arr 48.73 20 P **P 11 00 56.9 -1.4**
comp=Z,52nm,1.0s,baz=198,slow=8.3,SNR=46
MJAR PcP **PcP 11 02 21.6 -0.7**
comp=Z,19nm,0.9s,baz=208,slow=5.6,SNR=3.8
MJAR ScP **ScP 11 06 10.3 -0.3**
comp=Z,18nm,1.1s,baz=213,slow=6.5,SNR=7.7
MJAR LR LR 11 21 41.9
comp=Z,935nm,21.7s,baz=195,slow=36
BJT Baijiatuau 48.95 357 *e*P **P 11 01 00.3 +0.5**
comp=Z,128nm,0.6s
BJI Beijing 48.98 357 P **P 11 01 00.0 0.0**
BJI S **S 11 07 54.3 -4.2**
BJI pmax pmax
comp=Z,150nm,1.2s
BJI pmax pmax
comp=Z,1µm,6.0s
BJI LR LR
comp=N,2µm,21.2s
BJI LR LR
comp=E,2µm,22.4s
BJI LR LR
comp=Z,3µm,32.3s
GUN Gumba 49.01 320 *e*P **P 11 01 00.5 -0.5**
comp=Z,975nm,0.8s
PKI Pulchoki 49.08 319 *e*P **P 11 01 00.5 -1.0**
comp=Z,241nm,0.8s
PKIN Phulchoki 49.10 319 *e*P **P 11 01 01.0 -0.5**
comp=Z,98nm,0.6s
DMN Daman 49.31 319 *e*P **P 11 01 02.6 -0.5**
comp=Z,345nm,0.8s
KKN Kakani 49.32 319 *e*P **P 11 01 03.0 -0.1**
comp=Z,216nm,0.8s
NGP Nagpur 49.71 308 *e*P **P 11 01 05.3 -0.7**
NGP *ex* x 11 01 08.8
comp=Z,115nm,1.4s
NGP *ex* x 11 07 38.8
JBP Jabalpur 50.12 310 ⇑*e*P **P 11 01 08.8 -0.3**
JBP *ex* x 11 07 47.4
BTO Baotou 50.20 351 *e*P **P 11 01 09.6 +0.2**
HHC Hu-ho-hao-te 50.21 352 *e*P **P 11 01 09.3 -0.3**
HHC pP **pP 11 01 31.6 +2.8**
HHC PcP **PcP 11 02 26.3 -1.4**
HHC PP **PP 11 03 06.8 +1.1**
HHC S **S 11 08 13.6 -2.5**
HHC sS **sS 11 08 51.6 +2.8**
HHC SS **SS 11 11 45.3 -5.4**
HHC pmax pmax
comp=Z,58nm,1.2s
HHC pmax pmax
comp=Z,1µm,13.1s
HHC LR LR
comp=N,3µm,17.2s
HHC LR LR
comp=E,3µm,18.0s
HHC LR LR
comp=Z,2µm,17.9s
KOLN Koldanda 50.40 318 *e*P **P 11 01 10.1 -1.3**
comp=Z,313nm,0.7s
DANN Dangsing 50.68 318 *e*P **P 11 01 12.4 -1.2**
comp=Z,446nm,0.7s
SNY Shenyang 50.82 4 ⇓P **P 11 01 12.3 -1.6**
SNY S **S 11 08 20.3 -3.9**
SNY pmax pmax
comp=Z,180nm,1.0s
SNY pmax pmax
comp=Z,2µm,12.0s
SNY LR LR
comp=N,2µm,21.1s
SNY LR LR
comp=E,2µm,21.6s
PYUN Piuthan 51.03 318 *e*P **P 11 01 14.9 -1.2**
comp=E,336nm,0.6s
GOA Goa 51.29 298 *e*P **P 11 01 16.0 -1.9**
GTA Gaotai 51.56 341 ⇓P **P 11 01 20.3 +0.6**
GTA pP **pP 11 01 40.8 +1.8**
GTA sP **sP 11 01 51.3 +3.6**
GTA PcP **PcP 11 02 32.1 -0.7**
GTA PP **PP 11 03 20.9 +2.9**
GTA ScP **ScP 11 06 18.8 -3.9**
GTA S **S 11 08 34.0 -0.8**
GTA SS **SS 11 12 08.9 -3.2**
GTA pmax pmax
comp=Z,180nm,1.9s
GTA pmax pmax
comp=Z,1µm,8.6s
GTA LR LR
comp=N,3µm,21.4s
GTA LR LR
comp=E,3µm,19.9s
GTA LR LR
comp=Z,4µm,22.3s
KAD Karad 51.78 300 *i* P **P 11 01 23.0 +1.3**
BHPL Bhopal 52.11 309 *e*P **P 11 01 22.4 -1.6**
POO Poona 52.62 302 *e*P **P 11 01 27.1 -0.8**
POO AMB AMB 11 01 32.6
comp=Z,70nm,1.0s
CN2 Changchun 52.94 6 ⇑P **P 11 01 28.8 -0.9**
CN2 *e*S **S 11 08 55.9 +2.7**
CN2 pmax pmax
comp=Z,60nm,0.9s
CN2 pmax pmax
comp=Z,700nm,4.0s
CN2 LR LR
comp=N,1µm,22.0s
CN2 LR LR
comp=E,2µm,22.0s
CN2 LR LR
comp=Z,2µm,23.0s
VLA Vladivostok 53.21 11*c* *i*P **P 11 01 31.6 0.0**
VLA pmax pmax
comp=Z,189nm,1.3s
MDJ Mudanjiang 54.26 9 P **P 11 01 38.6 -0.7**
MDJ pP **pP 11 01 56.3 -2.5**
MDJ sP **sP 11 02 04.6 -2.8**
MDJ ScP **ScP 11 06 34.1 -0.1**
MDJ PcS **PcS 11 06 41.9 -0.2**
MDJ S **S 11 09 08.3 -2.7**
MDJ sS **sS 11 09 41.5 -2.6**
MDJ pmax pmax
comp=Z,230nm,1.0s
MDJ pmax pmax
comp=Z,830nm,8.1s
MDJ LR LR
comp=N,3µm,30.5s
MDJ LR LR
comp=E,760nm,26.4s
MDJ LR LR
comp=Z,4µm,39.1s
MDJ Mudanjiang 54.26 9 *e*P **P 11 01 39.2 -0.2**
comp=Z,339nm,1.1s
USRK Ussuriysk Arra 54.27 11 P **P 11 01 39.5 +0.1**
comp=Z,58nm,0.8s,baz=191,slow=6.0,SNR=56
USRK LR LR 11 25 11.0
comp=Z,854nm,19.7s,baz=181,slow=36
MCQ Macquarie Isla 55.15 153 *e*P **P 11 01 46.4 +0.7**
MCQ Macquarie Isla 55.15 153 *e*P **P 11 01 46.4 +0.7**
comp=Z,2µm,1.1s
MCQ Macquarie Isla 55.15 153 P **P 11 01 46.4 +0.7**
baz=55,SNR=3.0
ERM Erimo 55.35 21*c* *i*P **P 11 01 48.5 +1.3**
ERM pmax pmax
comp=Z,54nm,0.7s
NDI New Delhi 55.36 314 *e*P **P 11 01 48.0 +0.4**
NDI *ex* x 11 09 15.0
DDI Dehra Dun 55.76 316 *e*P **P 11 01 50.3 -0.2**
DDI AMB AMB 11 01 51.9
comp=Z,160nm,1.0s
DDI *ex* x 11 02 05.0
AJM Ajmer 55.99 310 *i* P **P 11 01 50.0 -2.2**
RPZ Rata Peaks 56.50 137 *e*P **P 11 01 55.9 +0.3**
comp=Z,102nm,0.8s
RPZ Rata Peaks 56.50 137 P **P 11 01 55.9 +0.3**
comp=Z,104nm,0.8s,baz=263,slow=2.5,SNR=35
SMLA Simla 56.86 317 *e*P **P 11 01 56.9 -1.4**
SMLA AMB AMB 11 02 00.6
comp=Z,119nm,0.0s
ASAJ Asahikawa 57.00 20 *e*P **P 11 01 59.0 0.0**
ASAJ Asahikawa 57.00 20 P **P 11 01 58.5 -0.4**
comp=Z,53nm,0.7s,baz=236,slow=9.6,SNR=27
ASAJ LR LR 11 27 16.2
comp=Z,813nm,21.9s,baz=224,slow=37
SDNR Sundarnagar 57.22 317 *e*P **P 11 01 59.1 -1.7**
CASY Casey 57.42 184 *e*P **P 11 02 01.1 -0.5**
comp=Z,67nm,1.1s
BHK Bhakra 57.54 316 *e*P **P 11 02 03.3 +0.2**
BHK *e*4 11 02 56.2
MSVF Nonsavu 57.55 105 P **P 11 02 06.8 +3.3**
comp=Z,556nm,0.9s,SNR=5.4
MSVF Nonsavu 57.55 105 *e*P **P 11 02 05.6 +2.1**
MSVF pmax pmax
comp=Z,72nm,0.8s
MSVF Nonsavu 57.55 105 *e*P **P 11 02 05.6 +2.1**
comp=Z,82nm,0.8s
ULN Ulaanbaatar 57.75 350 P **P 11 02 04.5 +0.1**
SNR=67
ULN Ulaanbaatar 57.75 350 *e*P **P 11 02 05.0 +0.6**
comp=Z,149nm,0.9s
SONM Songino Array 57.83 350 P **P 11 02 06.0 +1.0**
SONM ScP **ScP 11 06 50.6 +0.5**
SONM P'P'
SONM ⇑*e* 11 32 00.6
SONM P'P'ab **P'P'ab 11 32 13.8 +0.2**
SONM Songino Array 57.83 350 P **P 11 02 06.0 +1.0**
comp=Z,263nm,0.8s,baz=167,slow=7.4,SNR=356
SONM ScP **ScP 11 06 50.6 +0.5**
comp=Z,7.3nm,0.9s,baz=165,slow=4.7,SNR=5.3
SONM LR LR 11 29 52.8
comp=Z,2µm,19.9s,baz=163,slow=39
SONM PKPPKP **P'P'df 11 31 47.9 +1.4**
comp=Z,0.7nm,0.9s,baz=277,slow=0.9,SNR=4.8
SONM PKP2bc 11 32 00.6
comp=Z,1.7nm,0.9s,baz=214,slow=1.0,SNR=6.0
SONM PKP2ab 11 32 13.8
comp=Z,1.9nm,0.9s,baz=312,slow=1.3,SNR=4.9
YUK Yuzh-Kuril'sk 58.09 22*d* *i*P P 11 02 00.7 -5.9
YUK *e*S **S 11 09 59.2 -2.5**
YUK pmax pmax
comp=N,165nm,0.9s
YUK pmax pmax
comp=E,222nm,0.9s
YUK pmax pmax
comp=Z,132nm,0.9s
YUK pmax pmax
comp=Z,41nm,0.1s
HIA Hailar 58.11 0 *e*P **P 11 02 07.0 +0.2**
comp=Z,53nm,0.7s
DHRM DHARAMSHALA 58.13 317 *e*P **P 11 02 06.2 -1.3**
DHRM AMB AMB 11 02 09.2
comp=Z,174nm,1.5s
DLH Dalhousie 58.53 317 *e*P **P 11 02 09.0 -1.2**
THN Thein Dam 58.63 317 *i* 4 P 11 02 07.0 -3.6
HABR Khabarovsk 58.97 12*de*P **P 11 02 11.1 -1.6**
HABR *e**PP **pP 11 02 28.0 -4.4**
HABR 11 02 58.6
HABR 11 04 21.1
HABR *e*S **S 11 10 13.6 +0.5**
HABR *e* 11 10 32.1
HABR *e**SS **sS 11 10 42.5 -4.1**
HABR *e* 11 11 52.9
HABR *e*SS **SS 11 14 07.1 -1.2**
HABR pmax pmax
comp=Z,206nm,1.1s
HABR pmax pmax
comp=N,64nm,1.0s
HABR pmax pmax
comp=E,80nm,0.9s
HABR pmax pmax
comp=Z,1µm,6.8s
HABR MLR MLR
comp=Z,586nm,17.0s
FUNA Funafuti 59.08 95 *e*P **P 11 02 15.1 +1.0**
comp=Z,132nm,0.9s
KLR Kul'dur 59.09 9 *e*P P 11 02 08.0 -5.5
KLR pmax pmax
comp=Z,110nm,1.4s
KLR pmax pmax
comp=Z,1µm,9.5s
KLR MLR MLR
comp=Z,1µm,14.0s
DRV Dumont d'Urvil 59.19 171 P P 11 01 55.0 -19
DRV S S 11 09 59.0 -16
DRV SS SS 11 14 01.0 -10
DRV L L 11 16 00.0
DRV R 11 20 00.0
URZ Urewera 59.23 129 *e*P **P 11 02 14.7 0.0**
comp=Z,65nm,1.1s
URZ Urewera 59.23 129 P **P 11 02 16.0 +1.3**
comp=Z,9.2nm,0.4s,baz=273,slow=4.8,SNR=11
YSS Yuzh-Sakhalins 59.57 18⇑*e*P **P 11 02 17.3 +0.5**
YSS pmax pmax
comp=N,60nm,1.0s
YSS pmax pmax
comp=E,30nm,1.0s
YSS pmax pmax
comp=Z,70nm,1.0s
YSS MLR MLR
comp=Z,1µm,20.0s
WMQ Urumqi 59.99 334 P **P 11 02 20.8 +0.9**
WMQ pP **pP 11 02 40.1 +0.4**
WMQ sP **sP 11 02 48.8 +0.5**
WMQ PcP **PcP 11 03 05.8 +0.5**
WMQ PP **PP 11 04 35.8 +2.6**
WMQ ScP **ScP 11 06 58.5 -1.1**
WMQ S **S 11 10 25.6 -1.1**
WMQ sS **sS 11 10 59.0 -1.3**
WMQ ScS **ScS 11 12 00.3 -3.1**
WMQ SS **SS 11 14 24.3 -0.5**
WMQ pmax pmax
comp=Z,240nm,0.8s
WMQ pmax pmax
comp=Z,1µm,3.9s
WMQ LR LR

comp=N,2μm,20.2s
WMQ LR LR
comp=E,2μm,21.5s
WMQ LR LR
comp=Z,2μm,22.4s
MIR Mirnyy 60.12 192 *e*P **P 11 02 21.0 +0.6**
MIR *e*SSS SSS 11 12 02.0
MIR pmax pmax
comp=Z,134nm,2.0s
MRIV Mauritius Mete 60.57 252 *e*P **P 11 02 25.0 +0.7**
MRIV *e*pP **pP 11 02 40.1 -4.0**
CIT Chita 61.08 356 *e*P **P 11 02 28.1 +1.0**
CIT *e* 11 02 35.4
CIT *e* 11 02 45.9
CIT *e* 11 03 07.9
CIT pmax pmax
comp=Z,143nm,1.9s
TLY Talaya 62.03 349 *d* iP **P 11 02 33.0 -0.5**
TLY *e* 11 04 51.2
TLY *e*S **S 11 10 51.4 -0.8**
TLY *e*PPS PPS 11 11 21.2
TLY pmax pmax
comp=Z,126nm,0.8s
TLY MLR MLR
comp=Z,2μm,20.0s
TLY Talaya 62.03 349 P **P 11 02 34.1 +0.6**
comp=Z,952nm,0.8s,SNR=18
IRK Irkutsk 62.45 350 *e*P **P 11 02 35.8 -0.5**
IRK pmax pmax
comp=Z,105nm,0.8s
MOY Mondy 62.56 347 *e*P **P 11 02 36.6 -0.5**
MOY pmax pmax
comp=Z,123nm,1.8s
KSH Kashi 62.89 323 P **P 11 02 39.4 -0.2**
KSH pP **pP 11 03 02.9 +3.4**
KSH sP **sP 11 03 11.6 +3.5**
KSH PP PP 11 05 04.9 +5.9
KSH S **S 11 11 02.3 -1.4**
KSH sS **sS 11 11 40.0 +2.5**
KSH ScS **SKSac 11 12 22.4 -3.2**
KSH SS **SS 11 15 13.6 +3.2**
KSH pmax pmax
comp=Z,120nm,0.7s
KSH pmax pmax
comp=Z,520nm,4.8s
KSH LR LR
comp=N,1μm,16.4s
KSH LR LR
comp=E,990nm,14.6s
KSH LR LR
comp=Z,4μm,25.2s
HVS Khovu-Aksy 63.97 342 *c* iP **P 11 02 45.9 -0.5**
HVS pmax pmax
comp=Z,287nm,1.2s
KBL Kabul 64.41 315 *e*P **P 11 02 48.0 -1.8**
KBL pmax pmax
comp=Z,160nm,0.6s
KBL Kabul 64.41 315 *e*P **P 11 02 48.0 -1.8**
comp=Z,160nm,0.6s
KBL Kabul 64.41 315 P **P 11 02 48.7 -1.1**
baz=65,SNR=18
ULHL Ulahol 64.53 326 *i* P **P 11 02 51.5 +1.0**
ULHL Ulahol 64.53 326 P **P 11 02 51.5 +1.0**
SNR=9.8
MK31 Makanchi Array 64.70 333 *e*P **P 11 02 51.1 -0.2**
MK31 Makanchi Array 64.70 333 *e*P **P 11 02 51.1 -0.2**
MKAR Makanchi Array 64.70 333 P **P 11 02 51.4 +0.1**
MKAR S **S 11 11 26.4 +0.7**
MKAR pmax pmax
comp=Z,97nm,0.7s
MKAR smax smax
comp=N,3.0nm,1.1s
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR pmax pmax
comp=Z,2.0nm,1.0s
MKAR MLR MLR
comp=Z,889nm,18.9s
MKAR Makanchi Array 64.70 333 P **P 11 02 51.4 +0.1**
MKAR S **S 11 11 26.4 +0.7**
MKAR P'P' 11 31 35.8
MKAR ⇑*e* 11 31 43.3
MKAR Makanchi Array 64.70 333 P **P 11 02 51.4 +0.1**
comp=Z,97nm,0.7s,baz=147,slow=7.4,SNR=121
MKAR S **S 11 11 26.4 +0.7**
comp=Z,3.4nm,1.1s,baz=150,slow=12,SNR=3.6
MKAR PKPPKP **P'P'df 11 31 35.8 -0.3**
comp=Z,0.6nm,0.9s,baz=305,slow=4.3,SNR=4.3
MKAR PKP2bc 11 31 43.3
comp=Z,1.8nm,1.0s,baz=300,slow=2.7,SNR=10.0
MKAR LR LR 11 34 17.1
comp=Z,889nm,18.9s,baz=140,slow=39
AAA Alma-Ata 64.83 327 *e*P **P 11 02 50.9 -1.3**
AAA *e*S **S 11 11 23.6 -3.8**
AAA pmax pmax
comp=Z,1μm,5.7s
AAA smax smax
comp=N,2μm,9.5s
AAA MLR MLR
comp=Z,2μm,24.0s
KZA Kyzart 64.97 325 *i* P **P 11 02 52.8 -0.8**
KZA Kyzart 64.97 325 P **P 11 02 52.8 -0.8**
SNR=104
TKM2 Tokmak 2 65.33 326 *i* P **P 11 02 55.5 -0.1**
TKM2 Tokmak 2 65.33 326 P **P 11 02 55.6 -0.1**
SNR=56
UCH Uchtor 65.48 325 *i* P **P 11 02 56.7 -0.3**
UCH Uchtor 65.48 325 P **P 11 02 56.7 -0.3**
SNR=5.6
KBK Karagaybulak 65.52 325 *i* P **P 11 02 56.4 -0.4**
KBK Karagaybulak 65.52 325 P **P 11 02 56.4 -0.4**
SNR=72
AAK Ala-Archa 65.76 325 P **P 11 02 58.0 -0.4**
comp=Z,654nm,0.9s,SNR=28
AAK Ala-Archa 65.76 325 *e*P **P 11 02 58.4 0.0**
AAK 11 03 25.9
AAK pmax pmax
comp=Z,106nm,0.9s
AAK Ala-Archa 65.76 325 P **P 11 02 57.9 -0.5**
SNR=45
AAK Ala-Archa 65.76 325 P **P 11 02 58.7 +0.4**
SNR=50
AAK Ala-Archa 65.76 325 *e*P **P 11 02 58.4 0.0**
comp=Z,106nm,0.9s
AAK PcP **PcP 11 03 25.9 -3.1**
AAK Ala-Archa 65.76 325 P **P 11 02 58.7 +0.4**
comp=Z,104nm,1.0s,baz=134,slow=4.1,SNR=55
AAK PcP **PcP 11 03 25.9 -3.1**
comp=Z,27nm,0.7s,baz=128,slow=8.9,SNR=4.6
FRU Bishkek 65.82 325 *e*P **P 11 02 59.0 +0.4**
FRU *e* 11 03 25.0
FRU *e* 11 12 00.0
FRU pmax pmax
comp=Z,40nm,1.4s
FRU MLR MLR
comp=Z,1μm,22.0s
CHMS Chumysh 65.85 326 *i* P **P 11 02 58.3 -0.5**
CHMS Chumysh 65.85 326 P **P 11 02 58.3 -0.5**
SNR=15
CLNS Chul'man 65.86 3 *e*P **P 11 02 58.5 0.0**
CLNS *e**PP pP 11 03 12.8 -5.8
CLNS *e* 11 03 27.8
CLNS *e* 11 05 22.5
CLNS *e*PPP PPP 11 06 58.3
CLNS *e*S **S 11 11 44.2 +4.8**
CLNS *e* 11 12 47.9
CLNS pmax pmax
comp=Z,148nm,1.0s
CLNS pmax pmax
comp=N,75nm,1.0s
CLNS pmax pmax
comp=E,50nm,0.9s
CLNS pmax pmax
comp=Z,15nm,0.9s
CLNS pmax pmax
comp=N,21nm,1.3s
CLNS pmax pmax
comp=E,7.0nm,1.3s
CLNS smax smax
comp=N,198nm,13.2s
CLNS smax smax
comp=E,168nm,12.0s
CLNS MLR MLR
comp=N,341nm,20.0s
CLNS MLR MLR
comp=Z,838nm,18.0s
CLNS MLR MLR
comp=E,411nm,19.0s
AML Almayashu 65.89 324 *i* P **P 11 02 59.8 +0.3**
AML Almayashu 65.89 324 P **P 11 02 59.8 +0.3**
SNR=88
USP Ospenovka 66.16 326 *i* P **P 11 03 00.6 -0.2**
USP Ospenovka 66.16 326 P **P 11 03 00.6 -0.2**
SNR=55
EKS2 Erkin-Say 66.18 325 P **P 11 03 00.2 -0.8**
SNR=56
WBK Wadi Bani Khal 66.99 299 P **P 11 03 06.4 0.0**
SNR=6.5
AFI Afiamalu 67.46 101 *e*P **P 11 03 12.3 +2.6**
comp=E,8.0nm,0.8s
AFI Afiamalu 67.46 101 P P 11 03 13.3 +3.6
comp=E,29nm,0.6s,baz=267,slow=6.6,SNR=4.6
SKR Severo-Kuril's 67.53 24 *e*P P 11 03 04.0 -5.2
SKR *e* 11 03 14.1
SKR *e* 11 03 23.0
SKR *e*PS PnS 11 11 58.0 -35
SKR *e* 11 12 32.0
SKR pmax pmax
comp=Z,1μm,6.0s
SKR pmax pmax
comp=E,1μm,10.0s
SKR pmax pmax
comp=N,100nm,1.0s
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,310nm,1.0s
JMDO Jabal Madar 67.65 299 P **P 11 03 11.4 +0.8**
SNR=7.4
SMDO Samad 67.94 299 P **P 11 03 12.2 -0.3**
SNR=24
KK31 Karatay Array 68.34 324 *i* P **P 11 03 13.3 -1.2**
KK31 pmax pmax
comp=Z,28nm,0.7s
KKAR Karatay Array 68.34 324 *e*P **P 11 03 13.4 -1.1**
comp=Z,31nm,0.8s
KRAR Krasnoyarsk 68.50 344 ⇑*i*P **P 11 03 15.1 -0.1**
KRAR pmax pmax
comp=Z,100nm,0.9s
BSY Bisya 68.56 299 P **P 11 03 16.1 -0.3**
SNR=9.4
HOQ Hoqain 68.76 300 P **P 11 03 17.0 -0.5**
SNR=21
KURBB Kurchatov Arra 69.21 334 P **P 11 03 18.9 -0.8**
comp=Z,29nm,0.7s,baz=142,slow=5.8,SNR=134
KURBB PP **PP 11 05 55.4 +1.7**
comp=Z,11nm,1.0s,baz=138,slow=9.5,SNR=4.2
KURBB S **S 11 12 25.5 +5.8**
comp=Z,1.6nm,0.9s,baz=127,slow=14,SNR=4.1
KURK Kurchatov 69.24 334 P **P 11 03 19.3 -0.6**
comp=Z,508nm,1.4s,SNR=42
KURK Kurchatov 69.24 334 P **P 11 03 19.0 -0.9**
KURK 11 05 55.4
KURK S **S 11 12 25.5 +5.5**
KURK pmax pmax
comp=Z,29nm,0.7s
KURK pmax pmax
comp=Z,11nm,1.0s
KURK smax smax
comp=N,2.0nm,1.0s
KURK Kurchatov 69.24 334 P **P 11 03 18.9 -0.9**
KURK PP **PP 11 05 55.4 +1.4**
KURK S **S 11 12 25.5 +5.5**
ZALV Zalesovo Beam 69.26 339 P **P 11 03 19.4 -0.5**
ZALV S **S 11 12 18.1 -2.0**
ZALV pmax pmax
comp=Z,81nm,0.7s
ZALV smax smax
comp=N,4.0nm,0.9s
ZALV pmax pmax
comp=Z,2.0nm,0.8s
ZALV MLR MLR
comp=Z,1μm,19.9s
ZALV Zalesovo Beam 69.26 339 P **P 11 03 19.4 -0.5**
ZALV S **S 11 12 18.1 -2.0**
ZALV P'P'ab **P'P'ab 11 31 31.7 +3.4**
ZALV Zalesovo Beam 69.26 339 P **P 11 03 19.4 -0.5**
comp=Z,81nm,0.7s,baz=141,slow=4.6,SNR=76
ZALV S **S 11 12 18.1 -2.0**
comp=Z,4.4nm,0.9s,baz=141,slow=9.6,SNR=7.9
ZALV PKP2ab 11 31 31.7
comp=Z,2.3nm,0.8s,baz=286,slow=5.4,SNR=3.7
ZALV LR LR 11 37 35.4
comp=Z,1μm,19.9s,baz=250,slow=39
MAW Mawson 69.27 200 P **P 11 03 19.7 -0.2**
MAW ⇑*e* 11 31 25.6
MAW Mawson 69.27 200 P **P 11 03 19.7 -0.2**
comp=Z,46nm,0.9s,baz=55,slow=6.9,SNR=36
MAW LR LR 11 28 05.6
comp=Z,2μm,21.6s,baz=52,slow=31
MAW PKP2bc 11 31 25.6
comp=Z,3.2nm,0.8s,baz=276,slow=2.6,SNR=6.3
MAW Mawson 69.27 200 P **P 11 03 19.8 -0.1**
baz=69,SNR=46
ARQ Araqi 69.35 299 P **P 11 03 21.2 0.0**
SNR=9.2
PETK Petropavlovsk- 70.02 23 P **P 11 03 25.5 +0.8**
PETK pmax pmax
comp=Z,164nm,1.0s
PETK Petropavlovsk- 70.02 23 P **P 11 03 25.4 +0.8**
PETK Petropavlovsk- 70.02 23 P **P 11 03 25.4 +0.8**
comp=Z,164nm,0.9s,baz=198,slow=5.3,SNR=93
UOSS Wadi Hilu 70.18 301 P **P 11 03 25.6 -0.7**
comp=Z,308nm,0.9s,SNR=11
ASHO Ashiyiah 70.22 300 P **P 11 03 26.2 -0.3**
SNR=17
ABPO Ambohimpanom 70.27 253 *e*P **P 11 03 28.1 +0.9**
ABPO pmax pmax
comp=Z,82nm,1.0s
ABPO Ambohimpanom 70.27 253 *e*P **P 11 03 28.1 +0.9**
comp=Z,82nm,1.0s
OPO Ambohidratompo 70.33 254 P **P 11 03 28.4 +0.9**
OPO Ambohidratompo 70.33 254 P **P 11 03 28.4 +0.9**
comp=Z,44nm,0.9s,baz=75,slow=3.3,SNR=35
OPO LR LR 11 27 30.1
comp=Z,386nm,19.7s,baz=88,slow=30
PET Petropavlovsk 70.34 24 *d* iP **P 11 03 25.8 -0.8**
PET *e*S **S 11 12 33.4 +0.7**
PET *e*PS **PnS 11 13 01.6 -8.6**
PET *e*PPS PPS 11 13 10.7
PET *e*SS **SS 11 17 03.7 -1.3**
PET pmax pmax
comp=Z,144nm,1.1s
PET pmax pmax
comp=Z,1μm,7.9s
PET pmax pmax
comp=Z,700nm,8.0s
PET MLR MLR
comp=Z,500nm,17.0s
PET MLR MLR
comp=Z,700nm,20.0s
ABTO Aybut 70.36 292 P **P 11 03 27.4 -0.1**
SNR=8.0
NVS Novosibirsk 70.53 339 ⇓*i*P **P 11 03 26.8 -0.9**
NVS *e* 11 03 47.4
NVS *i*S **S 11 12 30.6 -4.3**
NVS *e*PS **PnS 11 13 04.3 -8.4**
NVS pmax pmax
comp=N,33nm,1.2s
NVS pmax pmax
comp=E,48nm,1.2s
NVS pmax pmax
comp=Z,85nm,1.2s
NVS pmax pmax
comp=Z,37nm,1.9s
NVS pmax pmax
comp=N,13nm,1.4s
NVS pmax pmax
comp=E,17nm,1.6s
NVS smax smax
comp=N,11nm,1.6s
NVS smax smax
comp=E,23nm,1.4s
YAK Yakutsk 71.36 5 *e*P **P 11 03 31.7 -0.9**
YAK *e**PP **pP 11 03 53.7 +0.8**
YAK *e*S **S 11 12 40.7 -3.6**
YAK *e**SS **sS 11 13 14.8 -4.1**
YAK *e* 11 13 26.6
YAK pmax pmax
comp=E,15nm,1.0s
YAK pmax pmax
comp=Z,361nm,1.1s
YAK pmax pmax
comp=N,104nm,1.0s
YAK pmax pmax
comp=E,28nm,1.4s
YAK pmax pmax
comp=N,24nm,1.0s
YAK pmax pmax
comp=Z,35nm,1.2s
YAK smax smax
comp=E,76nm,1.5s
YAK smax smax
comp=N,87nm,1.8s
VNDA Vanda 71.84 171 *e*P **P 11 03 34.7 -0.7**
comp=N,57nm,1.1s
VNDA Vanda 71.84 171 P **P 11 03 34.9 -0.5**
comp=N,13nm,1.1s,baz=321,slow=5.9,SNR=30
VNDA LR LR 11 34 56.0
comp=N,2μm,18.2s,baz=330,slow=36
SBA Scott Base 72.84 171 *e*P **P 11 03 41.3 0.0**
SBA pmax pmax
comp=Z,44nm,1.0s
SBA Scott Base 72.84 171 *e*P **P 11 03 41.3 0.0**
comp=Z,44nm,1.0s
BVAR Borovoye Array 74.55 332 P **P 11 03 51.0 -0.7**
BVAR pmax pmax
comp=Z,20nm,0.6s
BVAR Borovoye Array 74.55 332 P **P 11 03 51.0 -0.7**
BVAR Borovoye Array 74.55 332 P **P 11 03 51.0 -0.7**
comp=Z,20nm,0.6s,baz=138,slow=7.1,SNR=78
BRVK Borovoye 74.62 332 ⇑*i*P **P 11 03 51.2 -0.9**
BRVK pmax pmax
comp=Z,70nm,1.2s
BRVK Borovoye 74.62 332 P **P 11 03 51.5 -0.5**
SNR=29
BRVK Borovoye 74.62 332 *e*P **P 11 03 51.1 -0.9**
comp=Z,78nm,1.3s
SEY Seymchan 76.17 15 *d* iP **P 11 04 00.3 -0.4**
FX1 Attu Island--F 76.79 30 *e*P **P 11 04 05.0 +0.6**
AB31 Akbulak array 77.84 325 *i* P **P 11 04 08.8 -1.6**
AB31 pmax pmax
comp=Z,144nm,0.8s
ABKAR Akbulak array 77.84 325 *e*P **P 11 04 09.4 -1.0**
comp=Z,102nm,0.8s
SYO Syowa Base 77.89 201 ⇑*i*P **P 11 04 09.0 -1.4**
SYO Syowa Base 77.89 201 ⇓*i*P P 11 04 19.4 +9.0
DAMY Dhamar 77.95 287 P **P 11 04 14.0 +1.9**
baz=78,SNR=5.0
RAR Rarotonga 78.31 110 P **P 11 04 15.8 +2.2**
RAR Rarotonga 78.31 110 P **P 11 04 15.8 +2.2**
comp=Z,6.3nm,0.5s,baz=346,slow=0.0,SNR=3.1
KBD Kabd 78.72 302 *e*P **P 11 04 15.1 -0.7**
KBD AMb AMB 11 04 17.8
comp=Z,168nm,1.0s
ATD Arta Tunnel 78.78 284 P **P 11 04 18.1 +1.7**
ATD Arta Tunnel 78.78 284 P **P 11 04 18.1 +1.7**
comp=Z,64nm,0.9s,baz=48,slow=2.8,SNR=13
UMR Umm Al-Rimmam 78.81 303 *e*P **P 11 04 15.5 -0.8**
UMR AMb AMB 11 04 17.9
comp=Z,244nm,0.8s
RAYN Ar Rayn 79.06 296 P **P 11 04 17.5 -0.3**
comp=Z,581nm,0.9s,SNR=42
NAY Al-Naaiem 79.12 302 *e*P **P 11 04 16.8 -1.1**
NAY AMb AMB 11 04 19.8
comp=Z,114nm,1.1s
AKTO Aktyubinsk 79.50 325 P **P 11 04 19.5 0.0**
AKTO S **S 11 14 11.0 -3.8**
AKTO pmax pmax
comp=Z,126nm,0.9s
AKTO smax smax
comp=N,2.0nm,0.9s
AKTO Aktyubinsk 79.50 325 P **P 11 04 19.5 0.0**
AKTO S **S 11 14 11.0 -3.8**
AKTO Aktyubinsk 79.50 325 P **P 11 04 19.5 0.0**
comp=N,126nm,0.9s,baz=119,slow=5.0,SNR=151
AKTO S **S 11 14 11.0 -3.8**
comp=N,2.0nm,0.9s,baz=272,slow=23,SNR=17
TIXI Tiksi 80.82 3 *d* iP **P 11 04 25.0 -1.1**
TIXI pmax pmax
comp=Z,200nm,1.0s
TIXI MLR MLR
comp=Z,2μm,22.0s
QSPA South Pole Qui 80.90 180 P **P 11 04 26.4 -0.6**
QSPA South Pole Qui 80.90 180 P **P 11 04 26.4 -0.6**
comp=Z,18nm,0.8s,baz=319,slow=1.7,SNR=21
SVE Sverdlovsk 81.33 332 ⇑*e*P **P 11 04 28.1 -1.1**
SVE *e* 11 07 32.7
SVE pmax pmax
comp=Z,101nm,0.9s
KMBO Kilima Mbogo 82.03 270 *e*P **P 11 04 35.2 +1.1**
KMBO Kilima Mbogo 82.03 270 P **P 11 04 35.9 +1.7**
SNR=8
KMBO Kilima Mbogo 82.03 270 *e*P **P 11 04 34.6 +0.5**
comp=Z,9.6nm,0.9s
KMBO Kilima Mbogo 82.03 270 P **P 11 04 35.2 +1.1**
comp=Z,29nm,0.8s,baz=70,slow=11,SNR=57
KMBO LR LR 11 37 34.1
comp=Z,834nm,19.3s,baz=96,slow=33
KMBO Kilima Mbogo 82.03 270 P **P 11 04 35.2 +1.1**
baz=82,SNR=13
ARU Arti 82.12 331 *d* iP **P 11 04 32.1 -1.3**
ARU *PP pP 11 04 48.5 -5.6
ARU 11 07 36.8
ARU PPP PPP 11 09 33.5
ARU S **S 11 14 41.5 -0.3**
ARU MLR MLR
comp=Z,3μm,27.0s
ARU Arti 82.12 331 P **P 11 04 32.0 -1.3**
comp=Z,317nm,0.8s,SNR=13
MAK Makhachkala 83.16 315 *e*P P 11 04 34.4 -4.6
MAK *e*PPP PPP 11 09 40.7
MAK *e*S S 11 14 45.1 -7.8
MAK *e*SS **SS 11 20 19.8 +0.8**
MAK pmax pmax
comp=Z,213nm,1.3s
MAK MLR MLR
comp=Z,669nm,20.0s
BILL Bilibino 83.79 16 *d* iP **P 11 04 41.5 -0.2**
BILL *i* S S 11 14 50.5 -7.8
BILL pmax pmax
comp=Z,38nm,1.0s
POGA Pongola 83.89 243 *e*P **P 11 04 44.8 +1.5**
POGA AMB AMB 11 04 46.3
comp=Z,141nm,0.9s
DGRG David-gareji 84.19 313 P **P 11 04 45.6 +1.2**
GNI Garni 84.26 312 P **P 11 04 46.1 +1.2**
SNR=14
GNI Garni 84.26 312 *e*P **P 11 04 45.5 +0.6**
comp=Z,150nm,1.1s
GNI Garni 84.26 312 P **P 11 04 46.2 +1.2**
comp=Z,24nm,0.7s,baz=9.8,slow=4.7,SNR=16
SOKR Solikamsk 84.48 333 *d* iP **P 11 04 43.9 -1.4**
SOKR 11 08 02.7
SOKR S S 11 14 55.8 -10
SOKR SS **SS 11 20 33.9 -3.9**
SOKR pmax pmax
comp=Z,90nm,1.0s
TBLG Delisi 84.72 314 P **P 11 04 47.1 0.0**
TBLG Delisi 84.72 314 P **P 11 04 47.1 0.0**
DUS Dusheti 84.86 314 P **P 11 04 50.3 +2.5**
KZR Kazreti 84.86 313 P **P 11 04 48.5 +0.7**
KSD Kokstad 85.39 240 *e*P **P 11 04 51.4 +0.5**
KSD AMB AMB 11 04 54.4
comp=Z,145nm,1.1s
AKH Akhalkalaki 85.53 313 P P 11 04 45.6 -5.8
ZEI Tsey 85.62 314 *e*P **P 11 04 52.0 +0.2**
ZEI *e*S **S 11 15 13.4 -4.6**
ZEI pmax pmax
comp=Z,273nm,6.4s
ZEI pmax pmax
comp=Z,161nm,1.3s
KBZ Khabaz 86.59 315 P **P 11 04 56.4 +0.2**
KBZ pmax pmax
comp=Z,30nm,0.8s
KBZ Khabaz 86.59 315 P **P 11 04 56.4 +0.2**
KBZ Khabaz 86.59 315 P **P 11 04 56.4 +0.2**
comp=Z,30nm,0.8s,baz=123,slow=4.7,SNR=40
KBZ LR LR 11 54 00.7
comp=Z,472nm,19.7s,baz=106,slow=43
KIV Kislovodsk 86.80 315 *e*P **P 11 04 57.2 -0.2**
KIV *e* 11 08 20.7
KIV *e* 11 15 17.4
KIV pmax pmax
comp=Z,199nm,3.6s
KIV pmax pmax

comp=Z,22nm,0.6s
ERPM east rand prop 87.01 244 *e*P **P 11 04 59.5 +0.5**
ERPM AMB AMB 11 05 02.2
comp=Z,70nm,1.1s
SLR Silverton 87.07 245 *e*P **P 11 04 59.5 +0.3**
SLR AMB AMB 11 05 02.6
comp=Z,111nm,1.5s
GRM Grahamstown 87.43 237 *e*P **P 11 05 03.0 +2.3**
GRM AMB AMB 11 05 07.8
comp=Z,79nm,2.2s
TBI Tubuai 87.53 113 *e*S S 11 15 44.9 +8.1
comp=Z,1µm,25.5s
TBI Tubuai 87.53 113 *e*LQ LQ 11 29 07.7
comp=Z,3µm,40.2s
TBI *e*LR LR 11 33 00.1
comp=Z,1µm,37.5s
PRYS Parys 87.71 243 *e*P **P 11 05 02.2 -0.1**
PRYS AMB AMB 11 05 04.9
comp=Z,85nm,0.9s
PPT2 Papeete2 88.30 107 *e*S S 11 15 52.1 +7.5
comp=Z,816nm,17.4s
PPT2 Papeete2 88.30 107 *e*LQ LQ 11 29 34.4
comp=Z,7µm,41.5s
PPT2 *e*LR LR 11 33 21.2
comp=Z,3µm,32.2s
PPT Papeete 88.31 107 LR LR 11 38 44.4
comp=Z,599nm,19.2s,baz=90,slow=32
ASF Jabal al Asfar 88.47 303 P **P 11 05 06.9 +1.2**
ASF Jabal al Asfar 88.47 303 P **P 11 05 06.9 +1.2**
comp=Z,32nm,1.0s
MALT Malatya 88.54 309 ⇓*i*P P 11 05 23.0 +17
MBAR Mbarara 88.54 270 *e*P **P 11 05 05.5 -1.0**
MBAR Mbarara 88.54 270 P **P 11 05 06.7 +0.2**
MBAR Mbarara 88.54 270 P **P 11 05 06.7 +0.2**
comp=Z,19nm,0.6s,baz=107,slow=6.3,SNR=23
HVD Gariep Dam 88.72 239 *e*P **P 11 05 08.9 +1.9**
HVD AMB AMB 11 05 09.1
comp=Z,31nm,2.8s
LSZ Lusaka 88.76 255 *e*P **P 11 05 08.7 +1.3**
LSZ Lusaka 88.76 255 *e*P **P 11 05 08.0 +0.6**
comp=Z,69nm,1.1s
LSZ Lusaka 88.76 255 P **P 11 05 08.9 +1.5**
comp=Z,25nm,0.7s,baz=83,slow=8.0,SNR=37
SOC Sochi 88.79 314 *e*P P 11 04 58.5 -8.2
SOC *e* 11 05 06.0
SOC *e* 11 15 41.9
SOC *e*SSS SSS 11 25 24.1
SOC pmax pmax
comp=Z,32nm,0.9s
SOC MLR MLR
comp=Z,994nm,24.0s
BOSA Boshof 89.27 241 *e*P **P 11 05 10.4 +0.8**
BOSA AMB AMB 11 05 12.3
comp=Z,38nm,0.9s
BOSA Boshof 89.27 241 *e*P **P 11 05 09.8 +0.2**
comp=Z,37nm,0.8s
BOSA Boshof 89.27 241 P **P 11 05 10.6 +0.9**
comp=Z,30nm,0.7s,baz=105,slow=4.4,SNR=30
BOSA LR LR 11 40 29.3
comp=Z,768nm,20.2s,baz=104,slow=32
SWZ Schweizer 89.45 243 *e*P **P 11 05 11.9 +1.4**
SWZ AMB AMB 11 05 14.0
comp=Z,54nm,1.4s
LBTB Lobatse 89.58 245 *e*P **P 11 05 11.8 +0.7**
LBTB AMB AMB 11 05 14.1
comp=Z,43nm,1.5s
LBTB Lobatse 89.58 245 *e*P **P 11 05 11.8 +0.7**
comp=Z,75nm,1.4s
LBTB Lobatse 89.58 245 P **P 11 05 12.3 +1.2**
comp=Z,21nm,0.9s,baz=123,slow=4.9,SNR=14
EIL Elat 89.63 300 P **P 11 05 13.3 +2.3**
EIL Elat 89.63 300 P **P 11 05 13.3 +2.3**
comp=Z,18nm,0.9s,baz=356,slow=5.6,SNR=14
EIL Elat 89.63 300 P P 11 05 15.3 +4.3
baz=90,SNR=6.9
MMAI Mount Meron Ar 89.87 303 P **P 11 05 12.8 +0.6**
MMAI Mount Meron Ar 89.87 303 P **P 11 05 12.8 +0.6**
comp=Z,20nm,0.6s,baz=84,slow=8.7,SNR=22
ANN Anapa 90.66 315 *e*P **P 11 05 13.7 -1.7**
ANN *e**PP **pP 11 05 32.7 -3.8**
ANN *e* 11 08 46.5
ANN *e* 11 15 38.5
ANN *e**SS S 11 16 13.8 +8.6
ANN pmax pmax
comp=Z,60nm,1.0s
ANN MLR MLR
comp=N,487nm,24.0s
ANN MLR MLR
comp=E,738nm,24.0s
ANN MLR MLR
comp=Z,856nm,24.0s
VORD Divnogorie 90.80 321 *e*P **P 11 05 14.2 -1.7**
VORD *e* 11 08 48.1
VORD *e*S **S 11 16 01.3 -4.9**
VORD pmax pmax
comp=Z,170nm,1.0s
VORD pmax pmax
comp=Z,30nm,5.6s
VORD pmax pmax
comp=N,40nm,7.3s
VORD pmax pmax
comp=E,10.0nm,4.3s
VORD smax smax
comp=N,310nm,8.9s
VORD smax smax
comp=Z,30nm,4.8s
VORD smax smax
comp=E,150nm,8.3s
VORD MLR MLR
comp=Z,1µm,25.0s
VORD MLR MLR
comp=N,1µm,22.0s
VORD MLR MLR
comp=E,620nm,17.0s
SNAA Sanae 91.00 196 *e*P **P 11 05 16.4 -0.3**
SNAA Sanae 91.00 196 *e*pP pP 11 05 37.3 -0.4
SNAA Sanae 91.00 196 *e*sP sP 11 05 45.8 -0.2
SNAA Sanae 91.00 196 *e*PP PP 11 08 51.5 -1.9
SNAA Sanae 91.00 196 *e*P **P 11 05 15.8 -0.9**
SNAA Sanae 91.00 196 *e*P **P 11 05 16.4 -0.3**
comp=E,28nm,0.8s
SNAA Sanae 91.00 196 P **P 11 05 16.5 -0.3**
comp=E,6.9nm,0.7s,baz=125,slow=3.8,SNR=37
SDPT Sand Point 91.87 34 *e*P **P 11 05 19.5 -1.3**
comp=E,62nm,0.6s
CSS Prodhromos 91.91 305 *e*P **P 11 05 22.0 +0.4**
comp=E,10nm,0.9s
SUR Sutherland 92.32 237 *e*P **P 11 05 22.8 -1.0**
SUR Sutherland 92.32 237 P **P 11 05 26.8 +3.0**
SUR Sutherland 92.32 237 P **P 11 05 26.8 +3.0**
comp=E,30nm,1.0s,baz=59,slow=7.7,SNR=5.6
BR131 Keskin Array S 92.47 310 *e*P **P 11 05 23.1 -1.1**
comp=E,13nm,0.9s
BRTR Keskin Array B 92.47 310 P **P 11 05 23.1 -1.1**
BRTR Keskin Array B 92.47 310 P **P 11 05 23.1 -1.1**
comp=E,14nm,0.9s,baz=121,slow=4.8,SNR=36
BRTR LR LR 11 52 22.5
comp=E,291nm,20.8s,baz=100,slow=39
MOS Moscow 92.82 326 *e*P **P 11 05 22.7 -2.5**
MOS *e**PP **pP 11 05 41.4 -4.8**
MOS *e* 11 09 03.5
MOS *e*PS PnS 11 17 52.8 +4.9
MOS pmax pmax
comp=Z,49nm,1.2s
MOS MLR MLR
comp=Z,2µm,23.0s
SIM Simferopol' **93.00 315** *e*P **P 11 05 24.0 -2.3**
SIM *e* 11 09 07.0
SIM *e* 11 15 52.0
SIM *e*S S 11 16 20.0 -6.3
SIM pmax pmax
comp=Z,25nm,0.9s
VNA1 Neumayer--Stat 93.03 195 *e*P P 11 05 21.0 -5.0
ANTO Ankara 93.14 310 ⇑*i*P P 11 05 31.5 +4.3
ANTO Ankara 93.14 310 ⇑*i*P P 11 05 31.5 +4.3
OBN Obninsk 93.28 325 *e*P **P 11 05 26.7 -0.6**
OBN *i* 11 09 18.1
OBN *i*S SKSac 11 16 03.9 +9.3
OBN *i*PS **PS 11 17 48.7 -2.6**
OBN *i*SS **SS 11 22 42.2 -3.6**
OBN pmax pmax
comp=Z,82nm,1.3s
CVNA Calvinia 93.38 238 *e*P **P 11 05 31.7 +3.1**
CVNA AMB AMB 11 05 32.2
comp=Z,61nm,1.3s

TMCR Tamitsa 94.35 334 *e*P **P 11 05 31.2 -0.8**
TMCR *e* 11 09 16.6
TMCR pmax pmax
comp=Z,71nm,1.1s
OHAK Old Harbor 96.14 33 *e*P **P 11 05 39.4 -1.0**
comp=Z,23nm,0.8s
LVZ Lovozero 96.37 338*c i*P **P 11 05 39.0 -2.3**
LVZ pmax pmax
comp=Z,45nm,1.1s
LVZ Lovozero 96.37 338 P **P 11 05 39.8 -1.5**
comp=Z,284nm,0.9s,SNR=9.8
KDAK Kodiak Island 96.59 33 P **P 11 05 42.0 -0.4**
comp=Z,134nm,0.8s,SNR=7.2
KDAK Kodiak Island 96.59 33 *e*P **P 11 05 41.7 -0.6**
comp=Z,13nm,0.7s
KDAK Kodiak Island 96.59 33 LR LR 11 44 33.6
comp=Z,395nm,21.1s,baz=256,slow=32
TLCR 96.76 315 ⇓P **P 11 05 43.6 +0.1**
TLCR 96.76 315 ⇓*i*P **P 11 05 43.6 +0.1**
APA Apatity 96.79 337 ⇓*i*P **P 11 05 42.0 -1.1**
APA *i* 11 16 14.0
APA *i* S **S 11 17 00.0 +1.7**
APA *i* PS **PS 11 18 24.0 -5.3**
APA *i* PPS PPS 11 19 00.0
APA pmax pmax
comp=Z,26nm,1.0s
APA MLR MLR
comp=Z,2µm,19.0s
RSO Redoubt South 96.80 30 *e*P **P 11 05 43.4 -0.2**
comp=Z,81nm,0.9s
KIEV Kiev 97.06 320 *e*P **P 11 05 44.0 -0.7**
KIEV pmax pmax
comp=Z,10.0nm,0.8s
KIEV Kiev 97.06 320 *e*P **P 11 05 44.0 -0.7**
comp=Z,10.0nm,0.8s
JOF Joensuu 97.14 333 *e*P **P 11 05 42.9 -1.9**
JOF pmax pmax
comp=Z,17nm,0.8s
CFR Carcaliu 97.23 315 ⇓P **P 11 05 45.6 0.0**
CFR Carcaliu 97.23 315 ⇓*i*P **P 11 05 45.6 0.0**
TSUM Tsumeb 97.99 249 *e*P **P 11 05 49.8 0.0**
TSUM Tsumeb 97.99 249 *e*P Pdif 11 05 51.2 +1.3
comp=Z,9.6nm,1.0s
TSUM Tsumeb 97.99 249 P Pdif 11 05 51.9 +2.0
comp=Z,6.1nm,0.9s,baz=92,slow=7.0,SNR=5.4
VRI Vrincioaia 98.28 315 ⇑P **P 11 05 50.2 -0.2**
VRI Vrincioaia 98.28 315 ⇑*i*P **P 11 05 50.2 -0.2**
PLOR Plostina 98.33 315 ⇑P Pdif 11 05 51.2 +0.5
PLOR Plostina 98.33 315 ⇑*i*P Pdif 11 05 51.2 +0.5
TESR Tescani 98.38 316 ⇓*i*P **P 11 05 50.0 -0.8**
MLR Muntele Rosu 98.80 315 ⇑*i*P Pdif 11 05 53.3 +0.4
NACGM Naroch 98.85 324 *e* P 11 05 48.0 -4.6
KEV Kevo 99.28 339 *e*P **Pdif 11 05 55.0 +0.7**
KEV pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 99.40 332 *e*P **Pdif 11 05 53.1 -1.8**
KAF pmax pmax
comp=Z,8.0nm,1.0s
BURAR Bucovina Array 99.43 317 ⇑P **Pdif 11 05 55.5 -0.1**
BURAR Bucovina Array 99.43 317 ⇑*i*P **Pdif 11 05 55.5 -0.1**
FIA1 FINESS Array S 99.49 331 *e*Pdif **Pdif 11 05 54.4 -0.9**
FINES FINESS Array B 99.49 331 P **Pdif 11 05 54.6 -0.7**
FINES PP **PP 11 10 04.5 +4.7**
FINES PKiKP **PKiKP 11 10 24.7 +0.5**
FINES FINESS Array B 99.49 331 P **Pdif 11 05 54.6 -0.7**
comp=Z,27nm,0.8s,baz=72,slow=6.2,SNR=54
FINES PP **PP 11 10 04.5 +4.7**
comp=Z,6.9nm,0.8s,baz=90,slow=11,SNR=5.8
FINES PKiKP **PKiKP 11 10 24.7 +0.5**
comp=Z,4.9nm,0.7s,baz=104,slow=3.0,SNR=6.2
FINES LR LR 11 59 43.8
comp=Z,1µm,20.8s,baz=202,slow=41
ILAR Eielson Array 99.77 26 P **Pdif 11 05 55.0 -1.5**
ILAR PKKPbc **PKKPbc 11 22 18.8 -1.0**
ILAR Eielson Array 99.77 26 P **Pdif 11 05 55.0 -1.5**
comp=Z,2.5nm,0.6s,baz=241,slow=5.0,SNR=24
ILAR PKKPbc **PKKPbc 11 22 18.8 -1.0**
comp=Z,0.9nm,0.8s,baz=102,slow=2.1,SNR=4.9
ILAR LR LR 11 51 18.1
comp=Z,253nm,21.7s,baz=108,slow=36
ARCES ARCESS Array B 99.81 339 P **Pdif 11 05 56.4 -0.3**
ARCES PP PP 11 09 54.5 -7.5
ARCES PKiKP **PKiKP 11 10 25.9 +1.2**
ARCES PKKPbc **PKKPbc 11 22 20.2 +0.4**
ARCES ARCESS Array B 99.81 339 P **Pdif 11 05 56.4 -0.3**
comp=Z,3.4nm,0.6s,baz=100,slow=5.0,SNR=14
ARCES PP PP 11 09 54.5 -7.5
comp=Z,5.8nm,0.9s,baz=89,slow=7.5,SNR=5.3
ARCES PKiKP **PKiKP 11 10 25.9 +1.2**
comp=Z,0.8nm,0.3s,baz=82,slow=2.6,SNR=19
ARCES PKKPbc **PKKPbc 11 22 20.2 +0.4**
comp=Z,1.0nm,0.9s,baz=270,slow=0.9,SNR=3.6
ARCES LR LR 11 57 26.5
comp=Z,2µm,20.7s,baz=92,slow=39
ARE0 ARCESS Array S 99.81 339 *e*PP PP 11 10 01.5 -0.5
ARE0 ARCESS Array S 99.81 339 *e*Pdif **Pdif 11 05 55.4 -1.2**
PAX Paxson 100.39 28 *e*P **Pdif 11 05 59.2 -0.3**
PAX pmax pmax
comp=Z,23nm,1.1s
PAX Paxson 100.39 28 *e*Pdif **Pdif 11 05 59.2 -0.3**
comp=Z,23nm,1.1s
RKT Rikitea 100.62 116 *e*Sdif Sdif 11 17 38.0 +5.5
comp=Z,876nm,28.0s
RKT *e*SP **SP 11 19 08.4 +6.1**
comp=Z,349nm,31.3s
RKT *e*SS **SS 11 24 26.0 -4.5**
comp=Z,1µm,28.8s
RKT Rikitea 100.62 116 *e*LQ LQ 11 34 47.1
comp=Z,1µm,38.8s
RKT *e*LR LR 11 38 57.1
comp=Z,2µm,31.2s
KTK1 Kautokeino 100.63 339 *e*P **Pdif 11 05 56.6 -3.7**
KTK1 *e*PP **PP 11 10 06.7 -1.5**
SUW Suwalki 100.92 323 *e*P **Pdif 11 06 02.5 +0.6**
KWP Kalwaria Pacla 101.17 319 ⇓P **Pdif 11 06 03.5 +0.4**
KWP Kalwaria Pacla 101.17 319 ⇓*i*P **Pdif 11 06 03.5 +0.4**
KWP Kalwaria Pacla 101.17 319 *e*P **Pdif 11 06 03.3 +0.2**
UZH Uzhgorod 101.42 318 *e*P **Pdif 11 06 10.0 +5.7**
KOLS Kolonicke sedl 101.44 318 *e*P **Pdif 11 06 04.8 +0.4**
KOLS pmax pmax
comp=Z,7.0nm,0.8s
KOLS Kolonicke sedl 101.44 318 PDIF **Pdif 11 06 04.8 +0.4**
SPA0 Spitsbergen Ar 101.50 348 *e*P **Pdif 11 06 02.7 -1.4**
SPA0 *e*PP **PP 11 10 14.7 +0.1**
SPA0 *e*SKS 11 16 36.5
TRO Tromso 102.11 339 *e*P **Pdif 11 06 03.1 -3.7**
TRO *e*PP **PP 11 10 18.1 -1.1**
TRO AMS AMS 11 49 31.9
comp=Z,2µm,37.0s
STHS Stebnicka Huta 102.12 319 *e*P **Pdif 11 06 08.3 +0.9**
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS Stebnicka Huta 102.12 319 PDIF **Pdif 11 06 08.3 +0.9**
KBS Kingsbay 102.19 349 *e*P **Pdif 11 06 06.5 -0.6**
KBS *e*PP **PP 11 10 20.1 +0.4**
KBS AMS AMS 11 55 46.6
comp=Z,1µm,25.3s
OKC Ostrava-Krasne 104.12 319 *e*PP PP 11 10 33.7 -1.2
OKC *e*SKS 11 16 44.4
OKC *e*XSKS 11 17 18.3
OKC *e*SP **SP 11 19 36.9 -1.3**
OKC AMS AMS 11 56 50.0
comp=Z,1µm,23.3s
VRAC Vranov 105.16 319 PP PP 11 10 42.4 -0.2
VRAC Vranov 105.16 319 PP PP 11 10 42.4 -0.2
comp=Z,7.3nm,0.8s,baz=93,slow=4.5,SNR=4.2
DPC Dobruska-Polom 105.27 320 *e*PP PP 11 10 43.2 -0.3
DPC *e*SKS **SKSac 11 16 52.9 -1.7**
DPC *e*SP **SP 11 19 45.4 -4.7**
DPC AMS AMS 11 59 40.0
UPC Upice 105.45 320 *e*PKP **PKiKP 11 10 30.3 -5.1**
CONA Conrad Observa 105.74 317 ⇑*i*PKiKP **PKiKP 11 10 39.1 +3.0**
comp=Z,10nm,1.1s
TREC Trest 105.89 319 AMS AMS 12 00 40.0
comp=Z,1µm,20.1s
BOJS Bojanci 106.31 315 *e*PP PP 11 10 48.8 -2.5
BOJS *e*SP SP 11 20 31.5 +30
BOJS *e* 11 21 37.1
BOJS *e*SS **SKKPbc 11 25 38.9 +2.4**
PVCC Panska Ves 106.37 320 AMS AMS 11 55 50.0
comp=Z,2µm,24.7s
PRU Pruhonice 106.44 319 *e*PP PP 11 10 51.8 -0.2
PRU *e*SKS **SKSac 11 16 57.7 -2.0**
PRU *e*XSKS 11 17 30.7

PRU *e*SP **SP 11 19 56.5 -5.7**
PRU AMS AMS 11 57 10.0
comp=Z,2µm,23.8s
PRA Prague 106.50 320 PP PP 11 10 52.0 -0.5
PRA SKS **SKSac 11 16 58.0 -2.0**
PRA AMS AMS 11 57 30.0
VISS Visnje 106.58 315 *e*PP PP 11 10 51.0 -2.3
VISS *e*SKSac SKSac 11 17 34.8 +34
VISS *e* 11 18 22.6
NB2 NORSAR Subarra106.67 331 P **Pdif 11 06 25.7 -1.7**
comp=Z,6.9nm,1.0s,baz=78,slow=4.6
NB2 NORSAR Subarra106.67 331 P **Pdif 11 06 25.7 -1.7**
baz=78,slow=4.6
NOA NORSAR Array B 106.67 331 Pdif **Pdif 11 06 26.1 -1.3**
NOA PKiKP **PKiKP 11 10 38.5 +1.0**
NOA PP **PP 11 10 54.2 +0.8**
NOA NORSAR Array B 106.67 331 Pdiff **Pdif 11 06 26.1 -1.3**
comp=Z,4.9nm,1.0s,baz=77,slow=4.5,SNR=8.5
NOA PKiKP **PKiKP 11 10 38.5 +1.0**
comp=Z,1.5nm,0.8s,baz=259,slow=3.4,SNR=5.4
NOA PP **PP 11 10 54.2 +0.8**
comp=Z,12nm,1.1s,baz=77,slow=7.6,SNR=6.0
BRG Berggiesshubel 106.73 320 PDIFF **Pdif 11 06 26.0 -1.8**
BRG pP 11 06 50.0
BRG PP **PP 11 10 50.0 -4.1**
BRG SKS SKSdf 11 17 29.0 -14
BRG SDIFF **Sdif 11 18 16.0 -6.3**
BRG SS SKKPbc 11 25 44.0 +8.4
BRG
comp=N,1µm,24.7s
BRG
comp=E,1µm,29.8s
BRG
comp=Z,1µm,24.9s
BRG Berggiesshubel 106.73 320 *e*SKSac SKSac 11 17 32.1 +31
BRG *e*SP SP 11 20 37.2 +32
BRG Berggiesshubel 106.73 320 P **Pdif 11 06 26.0 -1.8**
BRG 11 10 50.0
BRG MLR MLR
comp=N,3µm,24.7s
BRG MLR MLR
comp=E,1µm,29.8s
BRG MLR MLR
comp=Z,1µm,24.9s
COP Copenhagen 106.99 325 *i* P **PP 11 10 55.2 -0.6**
COP
comp=Z,690nm,21.0s
GEC2 GERESS Array S 107.09 318 *e*SKSac SKSac 11 17 35.6 +33
GEC2 *e*SP SP 11 20 38.4 +29
GERES GERESS Array B 107.09 318 Pdif **Pdif 11 06 31.1 +1.5**
GERES PKiKP **PKiKP 11 10 38.1 -0.5**
GERES PP **PP 11 10 59.2 +2.2**
GERES PKKPbc **PKKPbc 11 21 57.0 -0.5**
GERES PKKPab **PKKPdf 11 22 09.1 -1.0**
GERES GERESS Array B 107.09 318 Pdiff **Pdif 11 06 31.1 +1.5**
comp=Z,0.2nm,0.3s,baz=64,slow=2.3,SNR=3.0
GERES PKiKP **PKiKP 11 10 38.1 -0.5**
comp=Z,3.7nm,0.8s,baz=77,slow=2.9,SNR=10
GERES PP **PP 11 10 59.2 +2.2**
comp=Z,2.8nm,0.8s,baz=74,slow=5.7,SNR=4.2
GERES PKKPbc **PKKPbc 11 21 57.0 -0.5**
comp=Z,0.8nm,0.8s,baz=289,slow=3.0,SNR=3.3
GERES PKKPab **PKKPdf 11 22 09.1 -1.0**
comp=Z,0.3nm,0.2s,baz=267,slow=2.4,SNR=3.7
KHC Kasperske Hory 107.15 319 *e*SKS **SKSac 11 17 01.2 -1.8**
KHC *e*XSKS 11 17 36.3
KHC *e*SP **SP 11 20 10.3 +0.7**
KHC AMS AMS 12 01 00.0
comp=Z,2µm,22.8s
CLL Collm 107.27 321 *e*SKSac SKSdf 11 17 34.4 -9.4
CLL *e*SP SP 11 20 41.1 +31
CLL Collm 107.27 321 *e*P **Pdif 11 06 28.0 -2.2**
CLL *e* 11 17 01.0
CLL MLR MLR
comp=Z,1µm,21.4s
CLL Collm 107.27 321 *e*Pdif **Pdif 11 06 28.0 -2.2**
CLL *e*PP **PP 11 10 58.0 0.0**
CLL *e*SKSac **SKSac 11 17 01.0 -2.3**
CLL *e*Sdif **Sdif 11 18 24.0 -2.7**
CLL *e*PS **PS 11 20 30.0 +9.3**
CLL *e*(sPPS) 11 21 40.0
CLL *e*SS SS 11 25 48.0 -13
CLL L L 12 02 00.0
comp=Z,1µm,21.4s
WET Wettzell 107.60 319 *e*SKSac **SKSdf 11 17 37.7 -7.0**
TANN Tannenbergstha 107.72 320 *e*SKSac **SKSdf 11 17 38.0 -6.9**
TANN *e*SP SP 11 20 46.8 +31
KONO Kongsberg 107.75 330 *e*PP PP 11 11 00.7 -0.5
KONO AMS AMS 11 56 18.9
comp=Z,1µm,24.6s
RJOB Jochberg 107.81 317 *e*SKSac SKSdf 11 17 37.1 -8.1
ROTZ Rotzenmuhle 107.96 319 *e*SKSac **SKSdf 11 17 39.8 -5.5**
ABTA Abfaltersbach 108.11 316 ⇑*i*PKiKP **PKiKP 11 10 39.3 -1.3**
comp=Z,4.5nm,0.7s
MOX Moxa 108.22 320 *e*SKSac **SKSdf 11 17 39.8 -6.0**
MOX *e*L L 12 02 36.3
comp=Z,1µm,20.9s
BSEG Bad Segeberg 108.49 324 *e*SKSac **SKSdf 11 17 42.4 -3.6**
GRF Grafenberg Arr 108.61 319 *e*SKSac **SKSdf 11 17 42.1 -4.5**
GRF *e*L L 11 58 44.6
comp=Z,1µm,21.5s
WTTA Wattenberg 108.65 317 ⇑*i*PKiKP **PKiKP 11 10 42.0 +0.3**
comp=Z,15nm,0.6s
MUD Monsted U'grnd 108.65 327 *i* P **PP 11 11 03.7 -4.2**
MUD
comp=Z,950nm,23.0s
FUR Furstenfeldbru 108.78 318 *e*SP SP 11 20 54.6 +28
DAG Danmarks Havn 108.78 351 *i* P PP 11 11 14.0 +5.8
comp=Z,6.1nm,0.9s
DAG
comp=Z,950nm,22.0s
CLZ Clausthal 108.81 322 *e*SKSac **SKSdf 11 17 42.4 -4.5**
CLZ *e*SP SP 11 20 57.8 +31
UBBA Unterbreizbach 109.21 321 *e*SKSac **SKSdf 11 17 44.2 -3.2**
UBBA *e*SP SP 11 21 01.2 +31
BER Bergen 109.63 331 *e*PP PP 11 11 14.0 -0.9
BER AMS AMS 12 00 51.0
comp=Z,1µm,17.6s
DAVA Damuels 109.83 317 ⇑*i*PKiKP **PKiKP 11 10 44.3 +0.4**
comp=Z,17nm,0.8s
DAVOX Davos/Dischmat 109.90 316 PKiKP **PKiKP 11 10 43.6 -0.5**
DAVOX PKKPbc **PKKPbc 11 21 49.5 +0.9**
DAVOX Davos/Dischmat 109.90 316 PKiKP **PKiKP 11 10 43.6 -0.5**
comp=Z,4.0nm,0.6s,baz=176,slow=5.0,SNR=5.0
DAVOX PKKPbc **PKKPbc 11 21 49.5 +0.9**
comp=Z,2.0nm,0.3s,baz=356,slow=10.0,SNR=3.7
STU Stuttgart 110.06 319 *e*SKSac **SKSdf 11 17 46.2 -3.2**
STU *e*SP SP 11 21 09.0 +30
TNS Taunus Mts 110.29 320 *e*SKSac **SKSdf 11 17 50.7 +0.8**
TNS *e*SP SP 11 21 11.5 +30
JMIC Jan Mayen 110.31 344 *e*PP PP 11 11 20.5 +1.0
IBBN Ibbenburen 110.31 323 *e*SP SP 11 21 10.0 +29
BFO Black Forest 110.70 318 *e*SP SP 11 21 14.2 +29
BUG Bochum--Univer 110.79 322 *e*SKSac **SKSdf 11 17 51.5 +0.9**
BUG *e*SP SP 11 21 15.7 +30
CDF Champ du Feu 111.37 318 *e*PKiKP **PKiKP 11 10 45.1 -1.6**
comp=Z,8.8nm,0.8s
KEST Kesra 111.48 305 PP PP 11 11 27.6 -1.7
KEST Kesra 111.48 305 PP PP 11 11 27.6 -1.7
comp=Z,5.9nm,0.9s,baz=320,slow=6.2,SNR=7.5
HINF Hinteralfeld 111.76 318 *e*PKiKP **PKiKP 11 10 45.9 -1.5**
comp=Z,22nm,0.9s
WLF Walferdange 111.85 320 *e*SP SP 11 21 26.4 +31
HAU Haudompre 112.06 318 *e*PKiKP **PKiKP 11 10 46.8 -1.2**
comp=Z,22nm,0.8s
HAU *e*R
comp=Z,1µm,21.2s
LPG La Plagne 112.25 315 *e*PKiKP **PKiKP 11 10 47.7 -1.0**
LPL La Plagne 112.26 315 *e*PKiKP **PKiKP 11 10 47.7 -1.0**
comp=Z,14nm,1.0s
MBDF Montbardon 112.36 315 *e*PKiKP **PKiKP 11 10 47.4 -1.4**
comp=Z,6.6nm,0.8s
CABF La Chapelle 112.50 317 *e*PKiKP **PKiKP 11 10 48.2 -0.7**
comp=Z,26nm,0.9s
FRF La Foret Royal 112.64 313 *e*PKiKP **PKiKP 11 10 48.4 -0.8**
comp=Z,40nm,1.1s
ORIF Oris-en-Rattie 112.96 315 *e*PKiKP **PKiKP 11 10 48.8 -1.0**
comp=Z,13nm,0.9s
ORIF *e*R
comp=Z,2µm,21.8s
BAIF Baives 112.99 321 *e*PKiKP **PKiKP 11 10 48.3 -1.3**
comp=Z,15nm,0.9s
SMRF Simiane la Rot 113.34 314 *e*PKiKP **PKiKP 11 10 50.2 -0.3**
comp=Z,22nm,0.9s

VIVF	Saint-Julien-I	113.81	315	*e*PKIKP	PKiKP	11 10 50.6	-0.8		
	comp=Z,16nm,0.8s								
LOR	Lormes	113.86	318	*e*PKIKP	PKiKP	11 10 50.4	-1.0		
	comp=Z,7.4nm,0.7s								
LOR				*e*R					
	comp=Z,421nm,22.5s								
SMF	Signal de Mont	114.01	317	*e*PKIKP	PKiKP	11 10 50.5	-1.2		
SCO	Scoresbysund	114.02	347	*e*PKIKP	PKiKP	11 10 56.8	+5.8		
SCO				pmax	pmax				
	comp=Z,9.0nm,1.0s								
SCO	Scoresbysund	114.02	347	*i* P	PKPdf	11 10 56.8	+5.8		
	comp=Z,9.2nm,1.0s								
SCO									
	comp=Z,710nm,30.0s								
YKA	Yellowknife Ar	114.13	24	PKP	PKPdf	11 10 50.9	-0.6		
YKA	Yellowknife Ar	114.13	24	PKP	PKPdf	11 10 50.8	-0.6		
	comp=Z,4.2nm,0.6s,baz=289,slow=2.0,SNR=21								
SSF	Saint Saulge	114.14	318	*e*PKIKP	PKPdf	11 10 51.1	-0.8		
	comp=Z,34nm,0.8s								
AVF	Avril sur Loir	114.31	317	*e*PKIKP	PKPdf	11 10 51.1	-1.1		
	comp=Z,14nm,0.8s								
LASF	Ste Croix	114.54	314	*e*PKIKP	PKPdf	11 10 52.1	-0.7		
	comp=Z,23nm,0.8s								
SUMG	Summit	115.17	353	*i* PKIKP	PKPdf	11 10 54.8	+1.1		
SUMG				pmax	pmax				
	comp=Z,7.0nm,0.8s								
SUMG				MLR	MLR				
	comp=Z,840nm,28.0s								
SUMG	Summit	115.17	353	*i* P	PKPdf	11 10 54.8	+1.1		
	comp=Z,6.5nm,0.8s								
SUMG				*i*		11 11 16.6			
SUMG									
	comp=Z,830nm,27.0s								
TCF	Toulx Ste Croi	115.19	317	*e*PKIKP	PKPdf	11 10 52.4	-1.6		
	comp=Z,14nm,0.8s								
BMW	Boistfort Moun	115.33	43	PKIKP	PKPdf	11 10 55.0	+0.7		
BMW	Boistfort Moun	115.33	43	P	PKPdf	11 10 55.0	+0.7		
TAM	Tamanrasset	115.39	291	*e*PKIKP	PKPdf	11 10 55.9	+0.7		
TAM	Tamanrasset	115.39	291	*e*PKPdf	PKPdf	11 10 55.9	+0.7		
EKA	Eskdalemuir Ar	115.61	328	PKP	PKPdf	11 10 54.1	-0.3		
EKA				PP	PP	11 12 03.0	+5.4		
EKA	Eskdalemuir Ar	115.61	328	PKP	PKPdf	11 10 54.1	-0.3		
	comp=Z,2.2nm,0.6s,baz=351,slow=1.2,SNR=8.3								
EKA				PP	PP	11 12 03.0	+5.4		
	comp=Z,10.0nm,1.0s,baz=58,slow=8.0,SNR=6.3								
CAF	Calviac	115.61	316	*e*PKIKP	PKPdf	11 10 54.5	-0.4		
	comp=Z,34nm,0.9s								
JCW	Jim Creek	115.73	41	P	PKPdf	11 10 55.7	+0.7		
MTLF	Montolieu	115.85	314	*e*PKIKP	PKPdf	11 10 54.4	-0.9		
	comp=Z,17nm,0.9s								
RJF	Les Rejaudoux	115.90	316	*e*PKIKP	PKPdf	11 10 54.9	-0.5		
	comp=Z,34nm,0.9s								
RJF				*e*R					
	comp=Z,664nm,22.2s								
KRMB	Red Mountain	115.94	48	*e*PKPdf	PKPdf	11 10 56.1	+0.4		
FL2	Flat Top 2	115.99	43	P	PKPdf	11 10 56.7	+1.0		
LDF	La Druitiere	116.11	320	*e*PKIKP	PKPdf	11 10 54.7	-0.9		
	comp=Z,13nm,0.8s								
LON	Longmire	116.20	42	*e*PKIKP	PKPdf	11 10 56.4	+0.4		
LON	Longmire	116.20	42	*e*PKPdf	PKPdf	11 10 56.4	+0.4		
FLN	La Foliniere	116.29	320	*e*PKIKP	PKPdf	11 10 55.0	-1.0		
	comp=Z,18nm,0.7s								
FLN				*e*R					
	comp=Z,2µm,23.0s								
HUMO	Hull Mountain	116.41	47	*e*PKPdf	PKPdf	11 10 56.7	+0.2		
LFF	La Frestale	116.52	316	*e*PKIKP	PKPdf	11 10 56.1	-0.4		
	comp=Z,44nm,0.7s								
GRR	Gorron	116.64	320	*e*PKIKP	PKPdf	11 10 55.3	-1.4		
MFF	Saint Martin d	116.69	318	*e*PKIKP	PKPdf	11 10 55.9	-0.9		
	comp=Z,34nm,0.8s								
YBH	Yreka Blue Hor	116.77	48	*e*PKPdf	PKPdf	11 10 57.7	+0.4		
NAC	Naches	116.86	42	P	PKPdf	11 10 58.4	+1.1		
EPF	Esparros	117.26	314	*e*PKIKP	PKPdf	11 10 57.2	-0.9		
	comp=Z,8.9nm,0.8s								
VIPM	Ingram Point	117.60	44	PKIKP	PKPdf	11 11 00.7	+1.8		
VIPM	Ingram Point	117.60	44	P	PKPdf	11 11 00.7	+1.8		
SGMF	Saint Gilles	117.76	320	*e*PKIKP	PKPdf	11 10 57.7	-1.1		
	comp=Z,38nm,1.0s								
LTIM	Timbered Crate	117.79	48	P	PKPdf	11 10 59.9	+0.6		
HAWA	Hanford	117.81	42	*e*PKPdf	PKPdf	11 10 59.7	+0.7		
ETSF	Etsaut	117.93	314	*e*PKIKP	PKPdf	11 10 59.3	-0.1		
	comp=Z,18nm,0.8s								
ROSF	Rostrenen	118.18	320	*e*PKIKP	PKPdf	11 10 58.5	-1.1		
QUIF	Quistinic	118.25	320	*e*PKIKP	PKPdf	11 10 58.8	-1.0		
	comp=Z,20nm,1.0s								
SJPF	Ste Jean	118.35	314	*e*PKIKP	PKPdf	11 11 00.1	-0.1		
	comp=Z,25nm,0.7s								
MOD	Modoc	118.48	47	*e*PKPdf	PKPdf	11 11 00.7	0.0		
NEW	Newport	118.77	39	*e*PKPdf	PKPdf	11 11 01.6	+0.7		
NEW	Newport	118.77	39	⇓PKiKP	PKiKP	11 11 01.3	+0.4		
	baz=119								
TOA0	Torodi Ar. Sit	118.82	280	*e*PKPdf	PKPdf	11 11 01.2	-0.6		
TORD	Torodi Ar. Bea	118.82	280	PKP	PKPdf	11 11 01.1	-0.8		
TORD				PKKPbc	PKKPbc	11 21 17.0	+0.1		
TORD	Torodi Ar. Bea	118.82	280	PKP	PKPdf	11 11 01.1	-0.8		
	comp=Z,20nm,0.7s,baz=65,slow=1.3,SNR=70								
TORD				PKKPbc	PKKPbc	11 21 17.0	+0.1		
	comp=Z,2.0nm,0.6s,baz=303,slow=3.9,SNR=18								
WVOR	Wild Horse Val	119.55	46	*e*PKIKP	PKPdf	11 11 03.3	+0.7		
WVOR	Wild Horse Val	119.55	46	*e*PKPdf	PKPdf	11 11 03.3	+0.7		
B12A	Libby	119.65	39	⇓PKiKP	PKiKP	11 11 03.0	+0.3		
	baz=120								
BMO	Blue Mountains	119.77	43	*e*PKIKP	PKPdf	11 11 02.2	-0.8		
BMO	Blue Mountains	119.77	43	*e*PKPdf	PKPdf	11 11 02.2	-0.8		
C12B	Naegeli Ranch,	120.00	40	⇑PKiKP	PKiKP	11 11 03.6	+0.3		
	baz=120								
SMMC	Simmler	120.14	54	⇓PKiKP	PKPdf	11 11 03.8	-0.1		
	baz=120								
A13A	Flathead Natio	120.20	38	⇓PKiKP	PKiKP	11 11 04.0	+0.2		
	baz=120								
PKM	Peak Mountain	120.36	55	⇓PKiKP	PKPdf	11 11 04.4	-0.1		
	baz=120								
BSMT	Bassoo Peak	120.38	39	P	PKPdf	11 11 04.0	-0.1		
B13A	Whitefish	120.38	39	⇑PKiKP	PKiKP	11 11 04.2	+0.1		
	baz=120								
E12A	Beaver Dam Sad	120.40	41	⇑PKiKP	PKiKP	11 11 04.3	0.0		
	baz=120								
WALA	Waterton Lakes	120.45	38	*e*PKPdf	PKPdf	11 11 04.2	0.0		
SBC	Santa Barbara	120.53	55	⇓PKiKP	PKiKP	11 11 04.9	+0.3		
	baz=121								
RCTC	Rector, Farmer	120.55	53	⇓PKiKP	PKiKP	11 11 04.7	0.0		
	baz=121								
C13A	Hot Springs	120.58	39	⇑PKiKP	PKiKP	11 11 04.7	+0.2		
	baz=121								
BLMT	Blacktail Moun	120.58	39	*e*PKPdf	PKPdf	11 11 04.8	+0.3		
JTMT	Jette	120.73	39	*e*PKPdf	PKPdf	11 11 04.4	-0.4		
VES	Vestal, Richgr	120.77	54	⇑PKiKP	PKPdf	11 11 05.0	0.0		
	baz=121								
A14A	Double T Ranch	120.78	38	⇑PKiKP	PKPdf	11 11 04.6	-0.2		
	baz=121								
NVAR	Mina Array Bea	120.81	51	PKP	PKPdf	11 11 06.2	+0.9		
NVAR				PP	PP	11 12 33.9	-0.6		
NVAR				PKKPab	PKKPab	11 21 09.7	-0.8		
NVAR	Mina Array Bea	120.81	51	PKP	PKPdf	11 11 06.2	+0.9		
	comp=Z,5.8nm,0.7s,baz=266,slow=1.9,SNR=30								
NVAR				PP	PP	11 12 33.9	-0.6		
	comp=Z,24nm,1.1s,baz=272,slow=7.8,SNR=11								
NVAR				PKKPab	PKKPab	11 21 09.7	-0.8		
	comp=Z,1.9nm,0.7s,baz=128,slow=4.3,SNR=9.4								
YBMT	Yellow Bay	120.86	39	*e*PKPdf	PKPdf	11 11 05.6	+0.6		
D13A	Huson	120.87	40	⇓PKiKP	PKiKP	11 11 05.1	+0.1		
	baz=121								
SWMT	Swartz Lake	121.00	39	*e*PKPdf	PKPdf	11 11 05.3	+0.1		
G12A	Big Creek, Yel	121.00	42	⇑PKiKP	PKPdf	11 11 05.4	0.0		
	baz=121								
ARVC	Arvin	121.11	54	⇑PKiKP	PKPdf	11 11 05.7	0.0		
	baz=121								
BLG	Laguna Peak	121.12	56	⇑PKiKP	PKPdf	11 11 05.5	-0.2		
	baz=121								
B14A	Marquette Ranc	121.12	38	⇑PKiKP	PKiKP	11 11 05.7	+0.1		
	baz=121								
TIN	Tinemaha	121.18	52	⇑PKiKP	PKiKP	11 11 06.0	0.0		
	baz=121								
A15A	Johnson Ranch,	121.20	37	⇑PKiKP	PKiKP	11 11 05.8	0.0		
	baz=121								
MFID	Camas Ranch	121.23	44	*e*PKPdf	PKPdf	11 11 06.5	+0.7		
MFID	Camas Ranch	121.23	44	⇑PKiKP	PKiKP	11 11 06.2	+0.3		
	baz=121								
ESDC	Sonseca Array	121.23	311	PKP	PKPdf	11 11 06.2	+0.3		
ESDC	Sonseca Array	121.23	311	PKP	PKPdf	11 11 06.2	+0.3		
	comp=Z,5.6nm,0.6s,baz=24,slow=3.0,SNR=23								
ESLA	Sonseca Array	121.23	311	*e*PKPdf	PKPdf	11 11 05.8	0.0		
ISA	Isabella	121.29	54	⇓PKiKP	PKiKP	11 11 06.5	+0.2		
	baz=121								
OSI	Osito Adit	121.30	55	⇓PKiKP	PKPdf	11 11 05.8	-0.4		
	baz=121								
SLMT	Seeley Lake	121.42	40	*e*PKPdf	PKPdf	11 11 05.9	-0.2		
CWC	Cottonwood Cre	121.44	53	⇓PKiKP	PKPdf	11 11 06.5	0.0		
	baz=122								
D14A	Greenough	121.48	40	⇓PKiKP	PKiKP	11 11 06.7	+0.3		
	baz=122								
H12A	Diamond D Ranc	121.52	43	⇓PKiKP	PKiKP	11 11 06.6	+0.1		
	baz=122								
PAB	San Pablo	121.56	311	*e*PKIKP	PKPdf	11 11 06.6	+0.1		
PAB	San Pablo	121.56	311	*e*PKPdf	PKPdf	11 11 06.6	+0.1		
B15A	Bradely Ranch,	121.57	38	⇓PKiKP	PKiKP	11 11 06.5	0.0		
	baz=122								
DECC	Green Verdugo	121.69	55	⇑PKiKP	PKPdf	11 11 06.9	0.0		
	baz=122								
CHMT	Chamberlain Mo	121.70	40	P	PKPdf	11 11 06.7	-0.1		
SCI	San Clemente I	121.75	57	⇑PKiKP	PKiKP	11 11 07.4	+0.2		
	baz=122								
C15A	Salmond Ranch,	121.76	39	⇑PKiKP	PKiKP	11 11 07.1	+0.2		
	baz=122								
CIS	Catalina Islan	121.79	56	⇓PKiKP	PKiKP	11 11 07.4	+0.2		
	baz=122								
FMP	Fort Macarthur	121.82	56	⇓PKiKP	PKiKP	11 11 07.9	+0.7		
	baz=122								
EDW2	Edwards Air Fo	121.84	55	⇓PKiKP	PKiKP	11 11 07.8	+0.4		
	baz=122								
GRAC	Grapevine Rang	121.86	52	⇑PKiKP	PKiKP	11 11 08.0	+0.6		
	baz=122								
LRMC	Laurel Mountai	121.95	54	⇑PKiKP	PKiKP	11 11 07.9	+0.3		
	baz=122								
MPMC	Manual Prospec	121.98	53	⇓PKiKP	PKiKP	11 11 08.3	+0.5		
	baz=122								
B16A	M & M Farms, S	122.05	38	⇑PKiKP	PKPdf	11 11 07.2	-0.1		
	baz=122								
D15A	Lincoln	122.11	39	⇓PKiKP	PKiKP	11 11 08.0	+0.4		
	baz=122								
BFSC	Mount Baldy Ra	122.24	55	⇓PKiKP	PKPdf	11 11 07.8	-0.3		
	baz=122								
C16A	Fuhringer Ranc	122.28	38	⇓PKiKP	PKiKP	11 11 08.0	+0.1		
	baz=122								
FURC	Furnace Creek,	122.39	52	⇓PKiKP	PKiKP	11 11 08.8	+0.6		
	baz=122								
A17A	Triple J Farms	122.42	37	⇓PKiKP	PKiKP	11 11 08.2	+0.2		
	baz=122								
RRX	Edison Barstow	122.63	54	⇓PKiKP	PKPdf	11 11 08.7	0.0		
	baz=123								
LRM	Limekiln Ridge	122.64	41	*e*PKPdf	PKPdf	11 11 09.0	+0.3		
B17A	L&G Farms, Che	122.65	38	⇓PKiKP	PKiKP	11 11 08.5	0.0		
	baz=123								
HRY	Holter Researc	122.68	40	*e*PKPdf	PKPdf	11 11 09.5	+1.0		
I14A	Mackay	122.68	43	⇓PKiKP	PKiKP	11 11 09.1	+0.2		
	baz=123								
GSC	Goldstone	122.70	54	⇑PKiKP	PKiKP	11 11 09.3	+0.2		
	baz=123								
DLMT	Dillon	122.72	41	*e*PKPdf	PKPdf	11 11 09.2	+0.5		
D16A	Dana Ranch, Ca	122.72	39	⇓PKiKP	PKiKP	11 11 09.0	+0.2		
	baz=123								
MURC	Murrieta	122.74	56	⇑PKiKP	PKiKP	11 11 09.3	+0.1		
	baz=123								
MCMT	McKenzie Canyo	122.75	42	*e*PKPdf	PKPdf	11 11 09.8	+0.9		
BBRC	Big Bear Solar	122.83	55	⇓PKiKP	PKPdf	11 11 09.3	0.0		
	baz=123								
E16A	East Helena	122.85	40	⇑PKiKP	PKiKP	11 11 09.5	+0.5		
	baz=123								
A18A	Metzger Ranch,	122.94	37	⇑PKiKP	PKiKP	11 11 09.2	+0.1		
	baz=123								
109C	Camp Elliot, M	122.95	57	⇓PKiKP	PKiKP	11 11 09.4	-0.1		
	baz=123								
C17A	Wharram Farm,	122.95	38	⇓PKiKP	PKiKP	11 11 09.1	-0.1		
	baz=123								
SHOC	Shoshone	122.98	53	⇓PKiKP	PKiKP	11 11 09.6	+0.1		
	baz=123								
LCCM	Lewis and Clar	123.00	41	P	PKPdf	11 11 09.5	+0.3		
MVO	Moncorvo	123.05	314	*e*PKPdf	PKPdf	11 11 10.3	+1.0		
MVO	Moncorvo	123.05	314	*e*LR	LR	11 55 27.0			
	comp=Z,484nm,22.0s								
HEC	Hector,Ludlow	123.18	54	⇑PKiKP	PKPdf	11 11 09.5	-0.3		
	baz=123								
D17A	Six Diamond Ra	123.21	39	⇑PKiKP	PKiKP	11 11 09.8	0.0		
	baz=123								
B18A	Beardsley Farm	123.21	37	⇓PKiKP	PKiKP	11 11 09.9	+0.2		
	baz=123								
BOZ	Bozeman (W)	123.23	41	*e*PKIKP	PKPdf	11 11 10.3	+0.6		
BOZ	Bozeman (W)	123.23	41	*e*PKPdf	PKPdf	11 11 10.3	+0.6		
MDT	Midelt	123.32	303	PKP	PKPdf	11 11 10.3	+0.1		
MDT	Midelt	123.32	303	PKP	PKPdf	11 11 10.3	+0.1		
	comp=Z,11nm,0.9s,baz=81,slow=2.7,SNR=16								
PFO	Pinyon Flat Ob	123.34	56	*e*PKPdf	PKPdf	11 11 10.8	+0.5		
PFO	Pinyon Flat Ob	123.34	56	⇓PKiKP	PKiKP	11 11 10.5	+0.1		
	baz=123								
TUQ	Turquoise Moun	123.37	53	⇑PKiKP	PKPdf	11 11 10.3	+0.1		
	baz=123								
E17A	Martinsdale	123.39	40	⇓PKiKP	PKiKP	11 11 10.4	+0.1		
	baz=123								
EGMT	Eagleton	123.39	37	*e*PKPdf	PKPdf	11 11 10.0	+0.2		
EGMT	Eagleton	123.39	37	⇓PKiKP	PKiKP	11 11 10.3	+0.2		
	baz=123								
PVRL	Vila Real	123.50	314	*e*PKPdf	PKPdf	11 11 11.4	+1.2		
MONP	Monument Peak	123.52	57	⇓PKiKP	PKiKP	11 11 11.0	+0.1		
	baz=124								
POLO	Lars de Olo	123.52	314	*e*PKPdf	PKPdf	11 11 11.9	+1.6		
A19A	Klindworth Far	123.58	36	⇓PKiKP	PKiKP	11 11 10.7	+0.3		
	baz=124								
BELC	Belle Mtn. Jos	123.63	55	⇓PKiKP	PKiKP	11 11 11.1	+0.1		
	baz=124								
MTE	Manteigas	123.66	313	*e*PKPdf	PKPdf	11 11 11.7	+1.2		
MTE	Manteigas	123.66	313	*e*LR	LR	11 55 46.4			
	comp=Z,453nm,20.0s								
MTE	Manteigas	123.66	313	*e*PKPdf	PKPdf	11 11 10.8	+0.2		
PGAV	Gavieira, Arco	123.66	315	*e*PKPdf	PKPdf	11 11 10.9	+0.4		
PGAV	Gavieira, Arco	123.66	315	*e*LR	LR	11 55 38.2			
	comp=Z,477nm,20.0s								
B19A	Brinkman Farms	123.68	37	⇑PKiKP	PKiKP	11 11 11.0	+0.4		
	baz=124								
QLMT	Earthquake Lak	123.69	41	*e*PKPdf	PKPdf	11 11 12.3	+1.6		
GMRC	Granite Mounta	123.73	54	⇓PKiKP	PKiKP	11 11 11.6	+0.5		
	baz=124								
D18A	Linhart Farms,	123.73	38	⇓PKiKP	PKiKP	11 11 10.9	+0.2		
	baz=124								
F17A	Fitzpatrick Pl	123.75	40	⇓PKiKP	PKiKP	11 11 11.0	+0.1		
	baz=124								
PCBR	Castelo Branco	123.78	312	*e*PKPdf	PKPdf	11 11 11.4	+0.7		
PVIS	Viseu	123.81	313	*e*PKPdf	PKPdf	11 11 11.7	+0.9		
DVTC	Desert V Tower	123.83	57	⇓PKiKP	PKiKP	11 11 11.5	+0.1		
	baz=124								
PMRV	Marv??o	123.85	312	*e*PKPdf	PKPdf	11 11 11.6	+0.8		
PMRV	Marv??o	123.85	312	*e*LR	LR	11 56 38.5			
	comp=Z,549nm,22.0s								
H16A	Russell Place,	123.86	42	⇓PKiKP	PKiKP	11 11 11.6	+0.3		
	baz=124								
HVU	Hansel Valley	123.90	45	*e*PKIKP	PKPdf	11 11 11.9	+0.8		
HVU	Hansel Valley	123.90	45	*e*PKPdf	PKPdf	11 11 11.9	+0.8		
FFC	Felton	123.92	27	/ PKiKP	PKPdf	11 11 11.0	+0.5		
G17A	Pierce Place,	123.94	41	⇓PKiKP	PKiKP	11 11 11.7	+0.4		
	baz=124								
E18A	Harlowton	123.94	39	⇑PKiKP	PKiKP	11 11 11.3	+0.1		
	baz=124								
C19A	Slack Wire Ran	123.95	37	⇓PKiKP	PKiKP	11 11 11.4	+0.2		
	baz=124								
PBAR	Barrancos	123.95	310	*e*PKPdf	PKPdf	11 11 11.7	+0.6		
I16A	Newdale	124.02	43	⇑PKiKP	PKiKP	11 11 12.1	+0.6		
	baz=124								
SWSC	Sam W. Stewart	124.02	56	⇓PKiKP	PKiKP	11 11 11.6	0.0		
	baz=124								
YMR	Madison River	124.05	42	*e*PKPdf	PKPdf	11 11 12.5	+1.1		
A20A	Cobblestone Ra	124.07	36	⇑PKiKP	PKiKP	11 11 11.5	+0.1		
	baz=124								
BC3	Big Chuckawall	124.15	55	⇑PKiKP	PKiKP	11 11 12.3	+0.3		
	baz=124								
PESTR	Estremoz	124.16	311	*e*PKPdf	PKPdf	11 11 12.9	+1.4		
YFT	Old Faithful	124.22	42	*e*PKPdf	PKPdf	11 11 13.4	+1.7		
B20A	Solberg Farm,	124.23	36	⇑PKiKP	PKiKP	11 11 11.9	+0.3		
	baz=124								
IRM	Iron Mountain	124.28	55	⇓PKiKP	PKPdf	11 11 12.0	+0.1		
	baz=124								
D19A	Cripps Ranch,	124.31	38	⇓PKiKP	PKiKP	11 11 12.2	+0.3		
	baz=124								
RRI2	Red Ridge	124.33	43	*e*PKPdf	PKPdf	11 11 13.0	+0.9		
F18A	Big Timber	124.35	40	⇓PKiKP	PKiKP	11 11 12.3	+0.2		
	baz=124								
IMW	Indian Meadow	124.38	42	*e*PKPdf	PKPdf	11 11 13.0	+0.9		
DUG	Dugway	124.40	47	⇓PKiKP	PKiKP	11 11 12.5	+0.1		
	baz=124								
H17A	Grant Village	124.42	42	⇑PKiKP	PKiKP	11 11 12.7	+0.2		
	baz=124								
GCMT	Greycliff	124.43	40	*e*PKPdf	PKPdf	11 11 12.4	+0.4		
TPAW	Teton Pass	124.53	43	*e*PKPdf	PKPdf	11 11 12.8	+0.4		
PTOM	Tomar	124.54	312	*e*PKPdf	PKPdf	11 11 13.4	+1.3		
MOOW	Moose Ponds	124.56	42	*e*PKPdf	PKPdf	11 11 13.0	+0.6		
PMTG	Montargil	124.57	311	*e*PKPdf	PKPdf	11 11 12.1	-0.1		
EVO	Evora	124.58	311	*e*PKIKP	PKPdf	11 11 12.6	+0.4		
	comp=Z,28nm,0.9s								
EVO				*e*R					
	comp=Z,772nm,22.5s								
C20A	Veseth Ranch,	124.58	37	⇑PKiKP	PKiKP	11 11 12.7	+0.4		
	baz=125								
A21A	Bergtoll Ranch	124.59	35	⇓PKiKP	PKiKP	11 11 12.5	+0.1		
	baz=125								
I17A	Pilgrim Ck.	124.61	42	⇓PKiKP	PKiKP	11 11 13.1	+0.4		
	baz=125								
PBEJ	Beja	124.62	310	*e*PKPdf	PKPdf	11 11 13.8	+1.5		
SNOW	Snow King Moun	124.67	43	*e*PKPdf	PKPdf	11 11 13.8	+1.2		
E19A	Rath Farm, Rou	124.68	39	⇑PKiKP	PKiKP	11 11 12.9	+0.2		
	baz=125								
PVAQ	Vaqueiros	124.69	309	*e*PKPdf	PKPdf	11 11 13.6	+1.1		
PVAQ	Vaqueiros	124.69	309	*e*LR	LR	11 56 42.5			
	comp=Z,599nm,20.0s								
GLA	Glamis	124.80	56	⇑PKiKP	PKiKP	11 11 13.2	-0.1		
	baz=125								
B21A	Ellsworth Farm	124.82	36	⇑PKiKP	PKiKP	11 11 13.1	+0.3		
	baz=125								
LIC	Lamto	124.85	271	*e*PKIKP	PKPdf	11 11 12.3	-1.2		
	comp=Z,38nm,0.7s								
LIC				*e*R					
	comp=Z,765nm,21.0s								
F19A	Roth Farm, Mol	124.86	39	⇓PKiKP	PKiKP	11 11 13.3	+0.3		
	baz=125								
PCVE	Castro Verde	124.87	310	*e*PKPdf	PKPdf	11 11 14.0	+1.2		
Y12C	Blythe	124.88	55	⇑PKiKP	PKiKP	11 11 13.5	+0.1		
	baz=125								
PBDV	Barranco-do-Ve	124.90	309	*e*PKPdf	PKPdf	11 11 15.6	+2.7		
H18A	Shoshone NF, C	124.90	41	⇑PKiKP	PKiKP	11 11 13.5	+0.2		
	baz=125								
RLMT	Red Lodge	124.97	40	*e*PKPdf	PKPdf	11 11 13.3	+0.2		
PDMCI	Parker Dam,Lak	125.06	54	⇓PKiKP	PKiKP	11 11 13.8	+0.2		
	baz=125								
W13A	Hualapai Mount	125.07	53	⇑PKiKP	PKPdf	11 11 13.4	-0.2		
	baz=125								
C21A	Desert Coulee	125.07	37	⇑PKiKP	PKiKP	11 11 13.8	+0.4		
	baz=125								
E20A	Meyer Farm, Mu	125.07	38	⇑PKiKP	PKiKP	11 11 13.8	+0.4		
	baz=125								
PNCL	Nicolau / Gran	125.09	310	*e*PKPdf	PKPdf	11 11 14.6	+1.4		
A22A	Carney Farms,	125.17	35	⇑PKiKP	PKiKP	11 11 14.0	+0.5		
	baz=125								
I18A	Diamond G Ranc	125.20	42	⇓PKiKP

	baz=127								
E24A	**Baker**	127.35	37	⇓PKiKP	PKiKP	11 11 18.4	+0.4		
	baz=127								
P19A	**Cripple Cowboy**	127.36	47	⇑PKiKP	PKiKP	11 11 18.4	0.0		
	baz=127								
G23A	**Biddle**	127.37	39	⇓PKiKP	PKiKP	11 11 18.2	+0.2		
	baz=127								
N20A	**Spence Gulch,**	127.40	45	⇓PKiKP	PKiKP	11 11 18.5	0.0		
	baz=127								
L21A	**Rawlins**	127.56	43	⇓PKiKP	PKiKP	11 11 18.7	0.0		
	baz=128								
F24A	**Ekalaka**	127.63	38	⇑PKiKP	PKiKP	11 11 18.9	+0.3		
	baz=128								
H23A	**Clabaugh Cattl**	127.67	39	⇑PKiKP	PKiKP	11 11 18.9	+0.2		
	baz=128								
O20A	**White River Ci**	127.69	46	⇑PKiKP	PKiKP	11 11 19.1	+0.1		
	baz=128								
M21A	**Separation Pea**	127.71	44	⇓PKiKP	PKiKP	11 11 19.2	+0.1		
	baz=128								
K22A	**Casper**	127.83	42	⇑PKiKP	PKiKP	11 11 19.4	+0.2		
	baz=128								
P20A	**De Beque**	127.83	46	⇑PKiKP	PKiKP	11 11 19.4	+0.1		
	baz=128								
G24A	**Alzada**	127.91	38	⇓PKiKP	PKiKP	11 11 18.9	-0.3		
	baz=128								
E25A	**Miller Ranch,**	127.91	36	⇑PKiKP	PKiKP	11 11 19.4	+0.3		
	baz=128								
I23A	**Meade Ranch, G**	127.92	40	⇑PKiKP	PKPdf	11 11 18.9	+0.2		
	baz=128								
N21A	**Black Mountain**	127.95	45	⇑PKiKP	PKiKP	11 11 19.6	+0.1		
	baz=128								
Q20A	**Ridgley Place,**	128.10	47	⇑PKiKP	PKiKP	11 11 20.0	+0.2		
	baz=128								
H24A	**Dirks Ranch, A**	128.11	39	⇑PKiKP	PKiKP	11 11 19.8	+0.2		
	baz=128								
J23A	**Dilts Ranch, B**	128.12	41	⇑PKiKP	PKPdf	11 11 18.7	-0.4		
	baz=128								
L22A	**Ellis Ranch, M**	128.16	43	⇑PKiKP	PKiKP	11 11 19.9	0.0		
	baz=128								
O21A	**Pagoda**	128.20	45	⇑PKiKP	PKiKP	11 11 19.8	-0.3		
	baz=128								
TUC	**Tucson**	128.28	56	*e*PKiKP	PKPdf	11 11 20.7	+1.0		
TUC	**Tucson**	128.28	56	*e*PKPdf	PKPdf	11 11 20.7	+1.0		
M22A	**Cedar Creek Ra**	128.32	44	⇓PKiKP	PKiKP	11 11 20.4	+0.1		
	baz=128								
R20A	**Redvale**	128.32	48	⇓PKiKP	PKiKP	11 11 20.4	+0.1		
	baz=128								
W18A	**Petrified Fore**	128.32	52	⇓PKiKP	PKiKP	11 11 20.3	-0.1		
	baz=128								
X18A	**Snowflake**	128.34	53	⇑PKiKP	PKiKP	11 11 20.5	0.0		
	baz=128								
S20A	**Disappointment**	128.47	48	⇓PKiKP	PKiKP	11 11 20.8	+0.1		
	baz=128								
P21A	**Newcastle**	128.49	46	⇑PKiKP	PKiKP	11 11 20.4	-0.3		
	baz=128								
I24A	**Kuemmerle Ranc**	128.50	40	⇓PKiKP	PKPdf	11 11 19.7	0.0		
	baz=128								
MVCO	**Mesa Verde**	128.58	49	⇑PKiKP	PKiKP	11 11 21.0	+0.1		
	baz=129								
L23A	**Garrett**	128.61	42	⇓PKiKP	PKiKP	11 11 20.6	-0.2		
	baz=129								
N22A	**Wattenberg Ran**	128.67	44	⇑PKiKP	PKiKP	11 11 21.2	+0.1		
	baz=129								
Q21A	**Lamborn Mesa,**	128.67	47	⇓PKiKP	PKiKP	11 11 21.3	+0.3		
	baz=129								
J24A	**Dixon Ranch, L**	128.73	41	⇑PKiKP	PKPdf	11 11 20.4	+0.2		
	baz=129								
H25A	**Fruitdale**	128.76	39	⇓PKiKP	PKiKP	11 11 20.7	-0.1		
	baz=129								
U20A	**Newcomb**	128.85	50	⇑PKiKP	PKPdf	11 11 20.6	-0.2		
	baz=129								
R21A	**Cimarron**	128.86	47	⇑PKiKP	PKiKP	11 11 21.5	0.0		
	baz=129								
O22A	**Kremmling**	128.87	45	⇓PKiKP	PKPdf	11 11 20.8	0.0		
	baz=129								
M23A	**Laramie**	128.88	43	⇓PKiKP	PKiKP	11 11 21.7	+0.3		
	baz=129								
K24A	**Anderson Ranch**	128.92	41	⇓PKiKP	PKiKP	11 11 21.4	+0.1		
	baz=129								
S21A	**Coal Bank Pass**	128.95	48	⇓PKiKP	PKiKP	11 11 21.8	0.0		
	baz=129								
P22A	**Eagle**	128.95	46	⇓PKiKP	PKPdf	11 11 21.1	+0.2		
	baz=129								
SMCO	**Snowmass**	128.97	46	*e*PKPdf	PKPdf	11 11 22.3	+1.1		
N23A	**Red Feather La**	128.98	44	⇓PKiKP	PKiKP	11 11 21.8	+0.2		
	baz=129								
I25A	**Rochford**	128.98	39	⇓PKiKP	PKiKP	11 11 21.3	-0.2		
	baz=129								
V20A	**Brimhall**	129.09	51	⇓PKiKP	PKiKP	11 11 22.0	+0.1		
	baz=129								
Q22A	**Crested Butte,**	129.14	47	⇓PKiKP	PKiKP	11 11 22.0	-0.1		
	baz=129								
L24A	**Wheatland**	129.15	42	⇑PKiKP	PKPdf	11 11 21.1	0.0		
	baz=129								
J25A	**Sunshine Ranch**	129.25	40	⇑PKiKP	PKiKP	11 11 22.4	+0.5		
	baz=129								
H26A	**Fairpoint**	129.27	38	⇓PKiKP	PKiKP	11 11 21.6	-0.3		
	baz=129								
W20A	**Ramah**	129.28	52	⇑PKiKP	PKiKP	11 11 22.9	+0.5		
	baz=129								
O23A	**Lake Granby, G**	129.29	45	⇓PKiKP	PKiKP	11 11 22.6	+0.3		
	baz=129								
MDND	**Maddock**	129.30	33	⇑PKiKP	PKiKP	11 11 22.4	+0.7		
	baz=129								
G27A	**Dupree**	129.38	37	⇓PKiKP	PKPdf	11 11 21.5	+0.2		
	baz=129								
T21A	**Navajo Lake**	129.38	49	⇓PKiKP	PKiKP	11 11 23.1	+0.6		
	baz=129								
X20A	**Quemado**	129.47	52	⇓PKiKP	PKiKP	11 11 23.3	+0.6		
	baz=130								
M24A	**Cheyenne**	129.49	43	⇓PKiKP	PKiKP	11 11 22.2	-0.3		
	baz=130								
U21A	**Nageezi**	129.49	50	⇓PKiKP	PKiKP	11 11 23.6	+0.8		
	baz=130								
R22A	**Saguache, Gunn**	129.49	47	⇓PKiKP	PKiKP	11 11 23.4	+0.5		
	baz=130								
I26A	**New Underwood**	129.52	39	⇓PKiKP	PKiKP	11 11 22.4	0.0		
	baz=130								
K25A	**Mack Ranch, Ha**	129.58	41	⇑PKiKP	PKiKP	11 11 23.9	+1.3		
	baz=130								
PLCA	**Paso Flores**	129.58	170	PKP	PKPdf	11 11 24.2	+2.3		
PLCA	**Paso Flores**	129.58	170	PKP	PKPdf	11 11 24.2	+2.3		
	comp=Z,2.7nm,0.9s,baz=174,slow=1.5,SNR=2.6								
S22A	**4UR Ranch, Cre**	129.62	48	⇑PKiKP	PKiKP	11 11 24.1	+1.0		
	baz=130								
S22A				⇓SKP		11 14 35.7			
	baz=130								
S22A				⇓SKP		11 14 35.7			
	baz=130								
ULM	**Lac du Bonnet**	129.67	29	PKP	PKPdf	11 11 20.9	-0.7		
ULM				SKPbc	SKPab	11 14 36.0	-0.5		
ULM	**Lac du Bonnet**	129.67	29	PKP	PKPdf	11 11 20.9	-0.7		
	comp=Z,17nm,0.8s,baz=337,slow=4.5,SNR=8.1								
ULM				SKPbc	SKPab	11 14 36.0	-0.5		
	comp=Z,9.9nm,0.7s,baz=302,slow=4.0,SNR=5.2								
ISCO	**Idaho Springs**	129.67	45	⇓PKiKP	PKiKP	11 11 24.0	+0.9		
	baz=130								
ISCO				⇓SKP		11 14 36.5			
	baz=130,SNR=15								
ISCO				⇓SKP		11 14 36.5			
	baz=130,SNR=15								
ISCO				⇓SKP		11 14 36.5			
	baz=130,SNR=15								
ISCO				⇓SKP		11 14 36.5			
	baz=130,SNR=15								
H27A	**Howes**	129.69	38	⇑PKiKP	PKiKP	11 11 22.5	-0.2		
	baz=130								
H27A				⇑SKP		11 14 35.3			
	baz=130								
H27A				⇑SKP		11 14 35.3			
	baz=130								
P23A	**Jefferson**	129.69	46	⇑PKiKP	PKiKP	11 11 24.0	+0.7		
	baz=130								
P23A				⇓SKP		11 14 36.6			
	baz=130,SNR=12								
P23A				⇓SKP		11 14 36.6			
	baz=130,SNR=12								
V21A	**Milan**	129.72	51	⇓PKiKP	PKPdf	11 11 22.7	+0.2		
	baz=130								
V21A				⇑SKP		11 14 36.1			
	baz=130								
V21A				⇑SKP		11 14 36.1			
	baz=130								
N24A	**Carr**	129.73	44	⇑PKiKP	PKiKP	11 11 24.4	+1.3		
	baz=130								
N24A				⇓SKP		11 14 36.6			
	baz=130,SNR=9.8								
N24A				⇓SKP		11 14 36.6			
	baz=130,SNR=9.8								
L25A	**Engebretsen Ra**	129.74	42	⇓PKiKP	PKiKP	11 11 23.0	0.0		
	baz=130								
L25A				⇓SKP		11 14 36.1			
	baz=130								
L25A				⇓SKP		11 14 36.1			
	baz=130								
319A	**Douglas**	129.76	57	⇓PKiKP	PKiKP	11 11 24.4	+1.1		
	baz=130								
319A				⇑SKP		11 14 37.4			
	baz=130,SNR=9.6								
319A				⇑SKP		11 14 37.4			
	baz=130,SNR=9.6								
Y20A	**Horse Springs,**	129.76	53	⇓PKiKP	PKiKP	11 11 24.5	+1.0		
	baz=130								
Y20A				⇓SKP		11 14 37.4			
	baz=130,SNR=15								
Y20A				⇓SKP		11 14 37.4			
	baz=130,SNR=15								
Z20A	**Nine Sixteen R**	129.83	54	⇑PKiKP	PKiKP	11 11 24.4	+1.0		
	baz=130								
Z20A				⇓SKP		11 14 37.7			
	baz=130,SNR=13								
Z20A				⇓SKP		11 14 37.7			
	baz=130,SNR=13								
T22A	**Edith**	129.84	49	⇑PKiKP	PKiKP	11 11 24.6	+1.1		
	baz=130								
T22A				⇑SKP		11 14 37.1			
	baz=130								
T22A				⇑SKP		11 14 37.1			
	baz=130								
Q23A	**Hartsel**	129.89	46	⇓PKiKP	PKiKP	11 11 23.5	-0.1		
	baz=130								
Q23A				⇓SKP		11 14 37.0			
	baz=130								
Q23A				⇓SKP		11 14 37.0			
	baz=130								
O24A	**Longmont**	129.91	44	⇓PKiKP	PKiKP	11 11 23.7	+0.3		
	baz=130								
O24A				⇓SKP		11 14 37.5			
	baz=130,SNR=17								
O24A				⇓SKP		11 14 37.5			
	baz=130,SNR=17								
W21A	**San Fidel**	129.95	51	⇓PKiKP	PKiKP	11 11 24.9	+1.2		
	baz=130								
W21A				⇑SKP		11 14 37.9			
	baz=130,SNR=10								
W21A				⇑SKP		11 14 37.9			
	baz=130,SNR=10								
120A	**U Bar Ranch, L**	129.97	55	⇑PKiKP	PKiKP	11 11 25.0	+1.3		
	baz=130								
120A				⇓SKP		11 14 37.8			
	baz=130,SNR=8.6								
120A				⇓SKP		11 14 37.8			
	baz=130,SNR=8.6								
K26A	**Motz Farm, Whi**	129.99	41	⇑PKiKP	PKiKP	11 11 24.6	+1.2		
	baz=130								
K26A				⇑SKP		11 14 36.8			
	baz=130,SNR=12								
K26A				⇑SKP		11 14 36.8			
	baz=130,SNR=12								
I27A	**Quinn**	130.00	38	⇑PKiKP	PKiKP	11 11 23.9	+0.6		
	baz=130								
I27A				⇓SKP		11 14 36.2			
	baz=130								
I27A				⇓SKP		11 14 36.2			
	baz=130								
M25A	**Palm-Egli Farm**	130.01	42	⇑PKiKP	PKiKP	11 11 24.2	+0.6		
	baz=130								
M25A				⇑SKP		11 14 37.5			
	baz=130								
M25A				⇑SKP		11 14 37.5			
	baz=130								
X21A	**Alamocita Cree**	130.06	52	⇑PKiKP	PKiKP	11 11 25.2	+1.3		
	baz=130								
X21A				⇑SKP		11 14 37.9			
	baz=130								
X21A				⇑SKP		11 14 37.9			
	baz=130								
U22A	**Llaves**	130.11	50	⇓PKiKP	PKiKP	11 11 25.2	+1.2		
	baz=130								
G28A	**Parade**	130.15	37	⇑PKiKP	PKiKP	11 11 23.9	+0.4		
	baz=130								
G28A				⇓SKP		11 14 37.5			
	baz=130								
G28A				⇓SKP		11 14 37.5			
	baz=130								
R23A	**Moffat**	130.18	47	⇓PKiKP	PKiKP	11 11 25.6	+1.4		
	baz=130								
R23A				⇓SKP		11 14 38.2			
	baz=130								
R23A				⇓SKP		11 14 38.2			
	baz=130								
220A	**Playas Peak, P**	130.24	56	⇑PKiKP	PKiKP	11 11 25.3	+1.0		
	baz=130								
220A				⇓SKP		11 14 39.1			
	baz=130,SNR=26								
220A				⇓SKP		11 14 39.1			
	baz=130,SNR=26								
V22A	**San Miguel Ran**	130.24	50	⇓PKiKP	PKiKP	11 11 25.6	+1.3		
	baz=130								
V22A				⇓SKP		11 14 39.0			
	baz=130								
V22A				⇓SKP		11 14 39.0			
	baz=130								
S23A	**Nye Farm, Mont**	130.25	48	⇑PKiKP	PKiKP	11 11 24.7	+0.4		
	baz=130								
S23A				⇓SKP		11 14 38.2			
	baz=130								
S23A				⇓SKP		11 14 38.2			
	baz=130								
N25A	**Grover**	130.28	43	⇑PKiKP	PKiKP	11 11 24.1	0.0		
	baz=130								
N25A				⇓SKP		11 14 38.5			
	baz=130								
N25A				⇓SKP		11 14 38.5			
	baz=130								
P24A	**Kohler Place,**	130.29	45	⇓PKiKP	PKiKP	11 11 25.6	+1.4		
	baz=130								
P24A				⇑SKP		11 14 39.0			
	baz=130,SNR=9.4								
P24A				⇑SKP		11 14 39.0			
	baz=130,SNR=9.4								
Y21A	**Point of Rocks**	130.29	53	⇑PKiKP	PKiKP	11 11 25.6	+1.1		
	baz=130								
Y21A				⇓SKP		11 14 39.2			
	baz=130,SNR=12								
Y21A				⇓SKP		11 14 39.2			
	baz=130,SNR=12								
H28A	**Mission Ridge**	130.30	37	⇓PKiKP	PKiKP	11 11 23.7	-0.1		
	baz=130								
H28A				⇑SKP		11 14 37.8			
	baz=130								
H28A				⇑SKP		11 14 37.8			
	baz=130								
Q24A	**Divide**	130.35	46	⇑PKiKP	PKiKP	11 11 25.6	+1.1		
	baz=130								
Q24A				⇑SKP		11 14 39.0			
	baz=130,SNR=16								
Q24A				⇑SKP		11 14 39.0			
	baz=130,SNR=16								
L26A	**Underwood Farm**	130.37	41	⇓PKiKP	PKiKP	11 11 24.4	+0.2		
	baz=130								
L26A				⇑SKP		11 14 38.7			
	baz=130								
L26A				⇑SKP		11 14 38.7			
	baz=130								
T23A	**Casias Ranch,**	130.48	48	⇓PKiKP	PKiKP	11 11 25.7	+0.9		
	baz=130								
T23A				⇓SKP		11 14 39.5			
	baz=130								
T23A				⇓SKP		11 14 39.5			
	baz=130								
Z21A	**St. Cloud Mine**	130.51	54	⇓PKiKP	PKiKP	11 11 25.8	+0.9		
	baz=130								
Z21A				⇑SKP		11 14 40.4			
	baz=130,SNR=15								
Z21A				⇑SKP		11 14 40.4			
	baz=130,SNR=15								
W22A	**Albuquerque**	130.56	51	⇓SKP		11 14 40.3			
	baz=131								
O25A	**Wiggins**	130.57	44	⇓PKiKP	PKiKP	11 11 26.0	+1.3		
	baz=131								
O25A				⇑SKP		11 14 39.8			
	baz=131,SNR=31								
O25A				⇑SKP		11 14 39.8			
	baz=131,SNR=31								
I28A	**Midland**	130.58	38	⇓PKiKP	PKiKP	11 11 24.1	-0.3		
	baz=131								
I28A				⇑SKP		11 14 38.9			
	baz=131								
I28A				⇑SKP		11 14 38.9			
	baz=131								
K27A	**Flueckinger Fa**	130.59	40	⇑PKiKP	PKiKP	11 11 25.9	+1.3		
	baz=131								
K27A				⇓SKP		11 14 39.6			
	baz=131,SNR=6.5								
K27A				⇓SKP		11 14 39.6			
	baz=131,SNR=6.5								
M26A	**McRoberts Ranc**	130.61	42	⇑PKiKP	PKiKP	11 11 25.0	+0.2		
	baz=131								
M26A				⇓SKP		11 14 39.9			
	baz=131								
M26A				⇓SKP		11 14 39.9			
	baz=131								
U23A	**El Rito**	130.63	49	⇓PKiKP	PKiKP	11 11 26.0	+0.9		
	baz=131								
U23A				⇓SKP		11 14 40.2			
	baz=131,SNR=7.0								
U23A				⇓SKP		11 14 40.2			
	baz=131,SNR=7.0								
X22A	**Bernardo**	130.65	52	⇓PKiKP	PKiKP	11 11 25.1	0.0		
	baz=131								
X22A				⇑SKP		11 14 40.2			
	baz=131								
X22A				⇑SKP		11 14 40.2			
	baz=131								
121A	**Cookes Peak, D**	130.66	55	⇑PKiKP	PKiKP	11 11 26.3	+1.1		
	baz=131								
121A				⇑SKP		11 14 40.6			
	baz=131,SNR=20								
121A				⇑SKP		11 14 40.6			
	baz=131,SNR=20								
R24A	**Sanders Place,**	130.68	47	⇓SKP		11 14 40.6			
	baz=131,SNR=11								
P25A	**Willow Gulch B**	130.81	45	⇓PKiKP	PKiKP	11 11 26.3	+1.0		
	baz=131								
P25A				⇓SKP		11 14 40.6			
	baz=131,SNR=8.3								
P25A				⇓SKP		11 14 40.6			
	baz=131,SNR=8.3								
221A	**Mesquite Ranch**	130.81	55	⇓SKP		11 14 41.1			
	baz=131								
J28A	**Allard Ranch,**	130.84	39	⇑PKiKP	PKiKP	11 11 26.3	+1.3		
	baz=131								
J28A				⇓SKP		11 14 40.1			
	baz=131,SNR=10								
J28A				⇓SKP		11 14 40.1			
	baz=131,SNR=10								
L27A	**T5 Ranch, Ells**	130.85	41	⇓SKP		11 14 40.3			
	baz=131								
S24A	**Houchin Ranch,**	130.85	47	⇓PKiKP	PKiKP	11 11 26.4	+0.8		
	baz=131								
S24A				⇑SKP		11 14 41.0			
	baz=131,SNR=13								
S24A				⇑SKP		11 14 41.0			
	baz=131,SNR=13								
V23A	**Ortiz Mt. (NFS**	130.85	50	⇓PKiKP	PKPdf	11 11 24.6	0.0		
	baz=131								
V23A				⇓SKP		11 14 41.7			
	baz=131								
V23A				⇓SKP		11 14 41.7			
	baz=131								
N26A	**Koester Ranch,**	130.85	43	⇓SKP		11 14 40.1			
	baz=131								
Y22D	**IRIS PASSCAL I**	130.86	52	⇑SKP		11 14 41.6			
	baz=131								
Y22A	**Socorro**	130.87	53	⇑PKiKP	PKiKP	11 11 25.5	-0.1		
	baz=131								
Y22A				⇑SKP		11 14 40.9			
	baz=131,SNR=18								
Y22A				⇑SKP		11 14 40.9			
	baz=131,SNR=18								
ANMO	**Albuquerque**	130.92	51	*e*PKPdf	PKPdf	11 11 25.5	+0.8		
AGMN	**Agassiz Nation**	130.97	31	*e*PKPdf	PKPdf	11 11 24.8	+0.7		
Q25A	**Bedland, Calha**	131.01	45	⇓PKiKP	PKiKP	11 11 26.0	+0.3		
	baz=131								
Q25A				⇓SKP		11 14 40.8			
	baz=131,SNR=21								
Q25A				⇓SKP		11 14 40.8			
	baz=131,SNR=21								
O26A	**Horse Wrangler**	131.06	43	⇓PKiKP	PKiKP	11 11 26.0	+0.3		
	baz=131								
O26A				⇑SKP		11 14 40.4			
	baz=131,SNR=11								
O26A				⇑SKP		11 14 40.4			
	baz=131,SNR=11								
M27A	**Reverse DX Ran**	131.07	42	⇑SKP		11 14 40.9			
	baz=131								
W23A	**Werner Place,**	131.08	51	⇓PKiKP	PKiKP	11 11 26.0	0.0		
	baz=131								
W23A				⇓SKP		11 14 42.1			
	baz=131,SNR=20								
W23A				⇓SKP		11 14 42.1			
	baz=131,SNR=20								
Z22A	**Elephant Butte**	131.09	54	⇓PKiKP	PKiKP	11 11 25.8	-0.1		
	baz=131								
Z22A				⇓SKP		11 14 41.9			
	baz=131,SNR=16								
Z22A				⇓SKP		11 14 41.9			
	baz=131,SNR=16								
K28A	**Ten Mile Ranch**	131.13	40	⇓PKiKP	PKiKP	11 11 26.0	+0.3		
	baz=131								
K28A				⇓SKP		11 14 41.1			
	baz=131,SNR=11								
K28A				⇓SKP		11 14 41.1			
	baz=131,SNR=11								
122A	**Conniff Cattle**	131.24	54	⇓PKiKP	PKiKP	11 11 26.3	+0.1		
	baz=131								
122A				⇑SKP		11 14 42.7			
	baz=131,SNR=7.0								
122A				⇑SKP		11 14 42.7			
	baz=131,SNR=7.0								
X23A	**Hourglass Bar**	131.26	52	⇓SKP		11 14 42.2			
	baz=131								
U24A	**Moreno Valley**	131.28	49	⇓PKiKP	PKiKP	11 11 26.1	-0.4		
	baz=131								
U24A				⇓SKP		11 14 42.7			
	baz=131,SNR=15								
U24A				⇓SKP		11 14 42.7			
	baz=131,SNR=15								
R25A	**Fountain Ranch**	131.31	46	⇑PKiKP	PKiKP	11 11 26.1	-0.1		
	baz=131								
R25A				⇓SKP		11 14 42.2			
	baz=131,SNR=16								
R25A				⇓SKP		11 14 42.2			
	baz=131,SNR=16								
N27A	**Anderson Farm,**	131.32	42	⇑PKiKP	PKiKP	11 11 26.0	-0.2		
	baz=131								
N27A				⇓SKP		11 14 42.1			
	baz=131,SNR=8.7								
N27A				⇓SKP		11 14 42.1			
	baz=131,SNR=8.7								
222A	**Williams Famil**	131.34	55	⇓PKiKP	PKiKP	11 11 26.0	-0.5		
	baz=131								
222A				⇑SKP		11 14 42.7			
	baz=131								
222A				⇑SKP		11 14 42.7			
	baz=131								
P26A	**Davis Ranch, A**	131.35	44	⇓PKiKP	PKiKP	11 11 26.2	-0.1		
	baz=131								
P26A				⇓SKP		11 14 42.8			
	baz=131,SNR=25								
P26A				⇓SKP		11 14 42.8			
	baz=131,SNR=25								
S25A	**Robets Cordova**	131.40	47	⇓PKiKP	PKi

Y23A				⇑SKP			11 14 43.9		
	baz=132,SNR=12								
OGNE	**Ogallala**	**131.59**	**42**	⇑SKP			11 14 42.8		
	baz=132								
W24A	**Lazy 6 Ranch,**	**131.63**	**50**	⇓PKiKP	**PKiKP**		**11 11 26.9**	**-0.2**	
	baz=132								
W24A				⇑SKP			11 14 44.4		
	baz=132,SNR=18								
W24A				⇑SKP			11 14 44.4		
	baz=132,SNR=18								
T25A	**Trinidad**	**131.63**	**48**	⇑PKiKP	**PKiKP**		**11 11 26.9**	**-0.1**	
	baz=132								
T25A				⇓SKP			11 14 44.0		
	baz=132,SNR=14								
T25A				⇓SKP			11 14 44.0		
	baz=132,SNR=14								
O27A	**Beecher Island**	**131.65**	**43**	⇓PKiKP	**PKiKP**		**11 11 26.9**	**+0.1**	
	baz=132								
O27A				⇓SKP			11 14 43.4		
	baz=132,SNR=6.9								
O27A				⇓SKP			11 14 43.4		
	baz=132,SNR=6.9								
BRSD	**Miller**	**131.66**	**36**	⇑PKiKP	**PKiKP**		**11 11 26.8**	**+0.2**	
	baz=132								
BRSD				⇓SKP			11 14 43.3		
	baz=132,SNR=17								
BRSD				⇓SKP			11 14 43.3		
	baz=132,SNR=17								
Z23A	**Rita Site, Whi**	**131.67**	**53**	⇑PKiKP	**PKiKP**		**11 11 26.6**	**-0.5**	
	baz=132								
Z23A				⇑SKP			11 14 43.9		
	baz=132								
Z23A				⇑SKP			11 14 43.9		
	baz=132								
K29A	**Lazy Trails An**	**131.76**	**39**	⇓SKP			11 14 43.4		
	baz=132,SNR=7.1								
M28A	**Bar X Bar Ranc**	**131.80**	**41**	⇑SKP			11 14 43.5		
	baz=132								
R26A	**Arlington**	**131.84**	**46**	⇑PKiKP	**PKiKP**		**11 11 27.3**	**0.0**	
	baz=132								
R26A				⇓SKP			11 14 44.3		
	baz=132,SNR=14								
R26A				⇓SKP			11 14 44.3		
	baz=132,SNR=14								
X24A	**Lazy VL Ranch,**	**131.84**	**51**	⇑SKP			11 14 44.3		
	baz=132								
123A	**Bell Site, Whi**	**131.85**	**54**	⇓SKP			11 14 44.9		
	baz=132								
P27A	**Ficken Ranch,**	**131.88**	**44**	⇑PKiKP	**PKiKP**		**11 11 27.5**	**+0.2**	
	baz=132								
P27A				⇑SKP			11 14 44.2		
	baz=132,SNR=8.0								
P27A				⇑SKP			11 14 44.2		
	baz=132,SNR=8.0								
223A	**Chaparral, Ant**	**131.91**	**55**	⇓SKP			11 14 44.5		
	baz=132								
U25A	**Circle Dot Ran**	**131.93**	**49**	⇓PKiKP	**PKiKP**		**11 11 27.6**	**0.0**	
	baz=132								
U25A				⇓SKP			11 14 45.0		
	baz=132,SNR=19								
U25A				⇓SKP			11 14 45.0		
	baz=132,SNR=19								
V25A	**Rancho No Teng**	**132.00**	**49**	⇓PKiKP	**PKiKP**		**11 11 27.7**	**0.0**	
	baz=132								
V25A				⇑SKP			11 14 45.2		
	baz=132,SNR=18								
V25A				⇑SKP			11 14 45.2		
	baz=132,SNR=18								
L29A	**Maesberg Ranch**	**132.03**	**40**	⇑PKiKP	**PKiKP**		**11 11 27.4**	**-0.1**	
	baz=132								
L29A				⇑SKP			11 14 44.5		
	baz=132								
L29A				⇑SKP			11 14 44.5		
	baz=132								
N28A	**Pribbeno Ranch**	**132.04**	**42**	⇑PKiKP	**PKiKP**		**11 11 27.8**	**+0.2**	
	baz=132								
N28A				⇑SKP			11 14 44.6		
	baz=132,SNR=11								
N28A				⇑SKP			11 14 44.6		
	baz=132,SNR=11								
Y24A	**Capitan**	**132.07**	**52**	⇓PKiKP	**PKiKP**		**11 11 28.0**	**0.0**	
	baz=132								
Y24A				⇓SKP			11 14 45.3		
	baz=132,SNR=6.6								
Y24A				⇓SKP			11 14 45.3		
	baz=132,SNR=6.6								
KSCO	**Kaye Shedlock'**	**132.10**	**45**	⇑PKiKP	**PKiKP**		**11 11 28.0**	**+0.2**	
	baz=132								
KSCO				⇓SKP			11 14 44.9		
	baz=132,SNR=8.6								
KSCO				⇓SKP			11 14 44.9		
	baz=132,SNR=8.6								
S26A	**Kim**	**132.11**	**47**	⇑PKiKP	**PKiKP**		**11 11 28.4**	**+0.5**	
	baz=132								
S26A				⇓SKP			11 14 45.1		
	baz=132,SNR=18								
S26A				⇓SKP			11 14 45.1		
	baz=132,SNR=18								
O28A	**Krutsinger Ran**	**132.16**	**43**	⇓PKiKP	**PKiKP**		**11 11 28.4**	**+0.6**	
	baz=132								
O28A				⇑SKP			11 14 45.1		
	baz=132,SNR=9.7								
O28A				⇑SKP			11 14 45.1		
	baz=132,SNR=9.7								
T26A	**Comanche Natio**	**132.21**	**47**	⇓PKiKP	**PKiKP**		**11 11 28.3**	**+0.1**	
	baz=132								
T26A				⇓SKP			11 14 45.9		
	baz=132,SNR=20								
T26A				⇓SKP			11 14 45.9		
	baz=132,SNR=20								
M29A	**Burnside Ranch**	**132.22**	**41**	⇓PKiKP	**PKiKP**		**11 11 28.2**	**+0.3**	
	baz=132								
M29A				⇑SKP			11 14 45.2		
	baz=132								
M29A				⇑SKP			11 14 45.2		
	baz=132								
R27A	**Eads**	**132.31**	**46**	⇑PKiKP	**PKiKP**		**11 11 28.5**	**+0.2**	
	baz=132								
R27A				⇑SKP			11 14 46.1		
	baz=132,SNR=7.9								
R27A				⇑SKP			11 14 46.1		
	baz=132,SNR=7.9								
Z24A	**Sheeppen Canyo**	**132.33**	**53**	⇓PKiKP	**PKiKP**		**11 11 28.6**	**+0.1**	
	baz=132								
Z24A				⇑SKP			11 14 46.5		
	baz=132,SNR=9.0								
Z24A				⇑SKP			11 14 46.5		
	baz=132,SNR=9.0								
W25A	**X Bar L Ranch,**	**132.35**	**50**	⇓PKiKP	**PKiKP**		**11 11 28.6**	**+0.2**	
	baz=132								
W25A				⇑SKP			11 14 46.6		
	baz=132,SNR=9.5								
W25A				⇑SKP			11 14 46.6		
	baz=132,SNR=9.5								
U26A	**Atchley Ranch,**	**132.42**	**48**	⇓PKiKP	**PKiKP**		**11 11 28.9**	**+0.3**	
	baz=132								
U26A				⇑SKP			11 14 46.7		
	baz=132,SNR=18								
U26A				⇑SKP			11 14 46.7		
	baz=132,SNR=18								
P28A	**Saint Francis**	**132.44**	**44**	⇑PKiKP	**PKiKP**		**11 11 28.5**	**+0.1**	
	baz=132								
P28A				⇑SKP			11 14 46.1		
	baz=132,SNR=7.0								
P28A				⇑SKP			11 14 46.1		
	baz=132,SNR=7.0								
X25A	**Clemmons Ranch**	**132.45**	**51**	⇑SKP			11 14 46.5		
	baz=132								
124A	**Stringfield Ra**	**132.47**	**54**	⇑PKiKP	**PKiKP**		**11 11 29.0**	**+0.2**	
	baz=132								
124A				⇑SKP			11 14 47.1		
	baz=132								
124A				⇑SKP			11 14 47.1		
	baz=132								
S27A	**Las Animas**	**132.50**	**46**	⇓PKiKP	**PKiKP**		**11 11 28.8**	**+0.2**	
	baz=132								
S27A				⇑SKP			11 14 47.1		
	baz=132,SNR=14								
S27A				⇑SKP			11 14 47.1		
	baz=132,SNR=14								
N29A	**Votaw Ranch, W**	**132.58**	**41**	⇑PKiKP	**PKiKP**		**11 11 28.5**	**-0.1**	
	baz=133								
N29A				⇓SKP			11 14 46.7		
	baz=133								
N29A				⇓SKP			11 14 46.7		
	baz=133								
224A	**Cornudas Mount**	**132.62**	**54**	⇑PKiKP	**PKiKP**		**11 11 29.2**	**+0.1**	
	baz=133								
224A				⇓SKP			11 14 47.7		
	baz=133								
224A				⇓SKP			11 14 47.7		
	baz=133								
Q28A	**Sharon Springs**	**132.62**	**44**	⇑PKiKP	**PKiKP**		**11 11 28.9**	**0.0**	
	baz=133								
Q28A				⇑SKP			11 14 47.0		
	baz=133								
Q28A				⇑SKP			11 14 47.0		
	baz=133								
V26A	**Tequesquite Ra**	**132.63**	**49**	⇓PKiKP	**PKiKP**		**11 11 29.2**	**+0.3**	
	baz=133								
V26A				⇓SKP			11 14 47.1		
	baz=133,SNR=8.3								
V26A				⇓SKP			11 14 47.1		
	baz=133,SNR=8.3								
Y25A	**Mesa, Roswell**	**132.65**	**52**	⇑PKiKP	**PKiKP**		**11 11 29.0**	**-0.1**	
	baz=133								
Y25A				⇓SKP			11 14 47.7		
	baz=133,SNR=18								
Y25A				⇓SKP			11 14 47.7		
	baz=133,SNR=18								
M30A	**Dale-Ortello V**	**132.69**	**40**	⇓SKP			11 14 47.1		
	baz=133								
O29A	**4D Ranch, Culb**	**132.81**	**42**	⇑PKiKP	**PKiKP**		**11 11 29.2**	**+0.1**	
	baz=133								
O29A				⇑SKP			11 14 47.2		
	baz=133,SNR=5.6								
O29A				⇑SKP			11 14 47.2		
	baz=133,SNR=5.6								
324A	**Moseley Ranch,**	**132.85**	**55**	⇑PKiKP	**PKiKP**		**11 11 29.7**	**+0.1**	
	baz=133								
324A				⇓SKP			11 14 48.5		
	baz=133								
324A				⇓SKP			11 14 48.5		
	baz=133								
MNTX	**Cornudas Mount**	**132.85**	**55**	*e*PKPdf	**PKPdf**		**11 11 29.2**	**+1.0**	
Z25A	**Roswell**	**132.86**	**53**	⇓PKiKP	**PKiKP**		**11 11 29.4**	**-0.1**	
	baz=133								
Z25A				⇓SKP			11 14 48.2		
	baz=133,SNR=8.7								
Z25A				⇓SKP			11 14 48.2		
	baz=133,SNR=8.7								
T27A	**Campo**	**132.89**	**47**	⇓PKiKP	**PKiKP**		**11 11 30.0**	**+0.5**	
	baz=133								
T27A				⇓SKP			11 14 48.4		
	baz=133,SNR=8.4								
T27A				⇓SKP			11 14 48.4		
	baz=133,SNR=8.4								
W26A	**Owens Ranch, T**	**132.92**	**50**	⇑PKiKP	**PKiKP**		**11 11 29.9**	**+0.3**	
	baz=133								
W26A				⇑SKP			11 14 48.7		
	baz=133,SNR=12								
W26A				⇑SKP			11 14 48.7		
	baz=133,SNR=12								
R28A	**Tribune**	**132.97**	**45**	⇑PKiKP	**PKiKP**		**11 11 29.9**	**+0.3**	
	baz=133								
R28A				⇓SKP			11 14 48.3		
	baz=133,SNR=13								
R28A				⇓SKP			11 14 48.3		
	baz=133,SNR=13								
P29A	**Atwood**	**132.98**	**43**	⇓PKiKP	**PKiKP**		**11 11 29.7**	**+0.2**	
	baz=133								
P29A				⇓SKP			11 14 48.2		
	baz=133,SNR=6.1								
P29A				⇓SKP			11 14 48.2		
	baz=133,SNR=6.1								
U27A	**Thompson Grove**	**133.09**	**48**	⇑PKiKP	**PKiKP**		**11 11 29.9**	**0.0**	
	baz=133								
U27A				⇑SKP			11 14 49.0		
	baz=133,SNR=6.8								
U27A				⇑SKP			11 14 49.0		
	baz=133,SNR=6.8								
X26A	**CR and CF Fran**	**133.10**	**51**	⇓PKiKP	**PKiKP**		**11 11 30.0**	**0.0**	
	baz=133								
X26A				⇑SKP			11 14 49.0		
	baz=133,SNR=8.0								
X26A				⇑SKP			11 14 49.0		
	baz=133,SNR=8.0								
125A	**Gardner Draw,**	**133.12**	**53**	⇓PKiKP	**PKiKP**		**11 11 30.0**	**-0.1**	
	baz=133								
125A				⇓SKP			11 14 48.6		
	baz=133								
125A				⇓SKP			11 14 48.6		
	baz=133								
225A	**Deer Hill, Car**	**133.17**	**54**	⇑PKiKP	**PKiKP**		**11 11 30.2**	**-0.1**	
	baz=133								
225A				⇓SKP			11 14 48.9		
	baz=133								
225A				⇓SKP			11 14 48.9		
	baz=133								
S28A	**Manter**	**133.25**	**46**	⇓PKiKP	**PKiKP**		**11 11 30.3**	**+0.2**	
	baz=133								
S28A				⇓SKP			11 14 49.7		
	baz=133,SNR=11								
S28A				⇓SKP			11 14 49.7		
	baz=133,SNR=11								
O30A	**MW Ranch, Wils**	**133.28**	**42**	⇓PKiKP	**PKiKP**		**11 11 29.8**	**-0.2**	
	baz=133								
O30A				⇑SKP			11 14 48.2		
	baz=133								
O30A				⇑SKP			11 14 48.2		
	baz=133								
325A	**Bean Ranch, Si**	**133.29**	**55**	⇓PKiKP	**PKiKP**		**11 11 30.4**	**-0.1**	
	baz=133								
325A				⇑SKP			11 14 49.8		
	baz=133,SNR=6.1								
325A				⇑SKP			11 14 49.8		
	baz=133,SNR=6.1								
Q29A	**Oakley**	**133.29**	**44**	⇓PKiKP	**PKPdf**		**11 11 29.4**	**+0.4**	
	baz=133								
Q29A				⇓SKP			11 14 49.1		
	baz=133								
Q29A				⇓SKP			11 14 49.1		
	baz=133								
T28A	**Walsh**	**133.31**	**47**	⇑PKiKP	**PKiKP**		**11 11 30.3**	**+0.1**	
	baz=133								
T28A				⇑SKP			11 14 49.9		
	baz=133,SNR=21								
T28A				⇑SKP			11 14 49.9		
	baz=133,SNR=21								
Y26A	**Elida**	**133.32**	**51**	⇓PKiKP	**PKiKP**		**11 11 30.2**	**-0.2**	
	baz=133								
Y26A				⇑SKP			11 14 49.7		
	baz=133,SNR=6.5								
Y26A				⇑SKP			11 14 49.7		
	baz=133,SNR=6.5								
V27A	**Dan Oppiter Fa**	**133.35**	**49**	⇑PKiKP	**PKiKP**		**11 11 30.4**	**0.0**	
	baz=133								
V27A				⇓SKP			11 14 50.2		
	baz=133,SNR=11								
V27A				⇓SKP			11 14 50.2		
	baz=133,SNR=11								
R29A	**Marienthal**	**133.40**	**45**	⇑PKiKP	**PKiKP**		**11 11 29.9**	**-0.5**	
	baz=133								
R29A				⇑SKP			11 14 49.5		
	baz=133								
R29A				⇑SKP			11 14 49.5		
	baz=133								
Z26A	**Caprock**	**133.44**	**52**	⇑PKiKP	**PKiKP**		**11 11 30.6**	**-0.1**	
	baz=134								
Z26A				⇓SKP			11 14 50.2		
	baz=134,SNR=6.7								
Z26A				⇓SKP			11 14 50.2		
	baz=134,SNR=6.7								
425A	**Indio Mountain**	**133.46**	**56**	⇑PKiKP	**PKiKP**		**11 11 30.6**	**-0.2**	
	baz=134								
425A				⇑SKP			11 14 50.6		
	baz=134,SNR=19								
425A				⇑SKP			11 14 50.6		
	baz=134,SNR=19								
W27A	**Bowe Ranch, En**	**133.46**	**50**	⇑PKiKP	**PKiKP**		**11 11 30.6**	**0.0**	
	baz=134								
W27A				⇓SKP			11 14 50.4		
	baz=134,SNR=14								
W27A				⇓SKP			11 14 50.4		
	baz=134,SNR=14								
P30A	**Selden**	**133.47**	**43**	⇓PKiKP	**PKiKP**		**11 11 30.6**	**+0.2**	
	baz=134								
P30A				⇓SKP			11 14 50.1		
	baz=134,SNR=5.5								
P30A				⇓SKP			11 14 50.1		
	baz=134,SNR=5.5								
PMOZ	**Porto Moniz, M**	**133.51**	**307**	*e*LR	LR		11 58 39.8		
U28A	**Mallet**	**133.54**	**48**	⇑PKiKP	**PKiKP**		**11 11 31.0**	**+0.2**	
	baz=134								
U28A				⇑SKP			11 14 50.6		
	baz=134,SNR=8.1								
U28A				⇑SKP			11 14 50.6		
	baz=134,SNR=8.1								
X27A	**F and S Farms,**	**133.60**	**50**	⇑PKiKP	**PKiKP**		**11 11 30.9**	**-0.1**	
	baz=134								
X27A				⇑SKP			11 14 50.8		
	baz=134,SNR=12								
X27A				⇑SKP			11 14 50.8		
	baz=134,SNR=12								
126A	**Clayton Basin,**	**133.62**	**53**	⇓PKiKP	**PKiKP**		**11 11 31.0**	**-0.1**	
	baz=134								
126A				⇓SKP			11 14 50.9		
	baz=134,SNR=7.5								
126A				⇓SKP			11 14 50.9		
	baz=134,SNR=7.5								
226B	**Tecolote Peak,**	**133.71**	**54**	⇓PKiKP	**PKiKP**		**11 11 31.4**	**+0.2**	
	baz=134								
226B				⇓SKP			11 14 50.7		
	baz=134								
226B				⇓SKP			11 14 50.7		
	baz=134								
Q30A	**Quinter**	**133.77**	**43**	⇓PKiKP	**PKiKP**		**11 11 31.3**	**+0.2**	
	baz=134								
Q30A				⇓SKP			11 14 51.4		
	baz=134,SNR=13								
Q30A				⇓SKP			11 14 51.4		
	baz=134,SNR=13								
S29A	**Ulysses**	**133.79**	**46**	⇓PKiKP	**PKiKP**		**11 11 31.0**	**-0.2**	
	baz=134								
S29A				⇓SKP			11 14 51.2		
	baz=134								
S29A				⇓SKP			11 14 51.2		
	baz=134								
V28A	**Channing**	**133.81**	**48**	⇓PKiKP	**PKiKP**		**11 11 31.3**	**0.0**	
	baz=134								
V28A				⇑SKP			11 14 51.5		
	baz=134								
V28A				⇑SKP			11 14 51.5		
	baz=134								
Y27A	**Causey**	**133.84**	**51**	⇑PKiKP	**PKiKP**		**11 11 31.5**	**0.0**	
	baz=134								
Y27A				⇓SKP			11 14 51.8		
	baz=134,SNR=14								
Y27A				⇓SKP			11 14 51.8		
	baz=134,SNR=14								
BGNE	**Belgrade**	**133.85**	**39**	⇓PKiKP	**PKiKP**		**11 11 30.6**	**-0.5**	
	baz=134								
BGNE				⇑SKP			11 14 50.4		
	baz=134								
BGNE				⇑SKP			11 14 50.4		
	baz=134								
T29A	**Hugoton**	**133.88**	**46**	⇓PKiKP	**PKiKP**		**11 11 31.1**	**-0.3**	
	baz=134								
T29A				⇑SKP			11 14 51.1		
	baz=134								
T29A				⇑SKP			11 14 51.1		
	baz=134								
Z27A	**Tatum**	**134.02**	**52**	⇓PKiKP	**PKiKP**		**11 11 31.8**	**0.0**	
	baz=134								
Z27A				⇑SKP			11 14 52.3		
	baz=134,SNR=13								
Z27A				⇑SKP			11 14 52.3		
	baz=134,SNR=13								
W28A	**Vega**	**134.03**	**49**	⇑PKiKP	**PKiKP**		**11 11 31.5**	**-0.3**	
	baz=134								
W28A				⇑SKP			11 14 51.8		
	baz=134								
W28A				⇑SKP			11 14 51.8		
	baz=134								
P31A	**Stockton**	**134.06**	**42**	⇓PKiKP	**PKiKP**		**11 11 31.5**	**-0.1**	
	baz=134								
P31A				⇑SKP			11 14 51.4		
	baz=134								
P31A				⇑SKP			11 14 51.4		
	baz=134								
R30A	**Dighton**	**134.06**	**44**	⇑PKiKP	**PKiKP**		**11 11 32.1**	**+0.3**	
	baz=134								
R30A				⇑SKP			11 14 52.4		
	baz=134,SNR=16								
R30A				⇑SKP			11 14 52.4		
	baz=134,SNR=16								
326A	**Caldwell Ranch**	**134.11**	**55**	⇓PKiKP	**PKiKP**		**11 11 32.1**	**0.0**	
	baz=134								
326A				⇑SKP			11 14 52.7		
	baz=134,SNR=5.6								
326A				⇑SKP			11 14 52.7		
	baz=134,SNR=5.6								
MSTX	**Muleshoe**	**134.11**	**51**	⇑PKiKP	**PKiKP**		**11 11 31.9**	**-0.2**	
	baz=134								
MSTX				⇑SKP			11 14 52.7		
	baz=134,SNR=8.6								
MSTX				⇑SKP			11 14 52.7		
	baz=134,SNR=8.6								
SCHQ	**Schefferville**	**134.12**	**5**	*e*PKPdf	**PKPdf**		**11 11 29.5**	**-0.4**	
SCHQ				PKP	**PKPdf**		**11 11 30.6**	**+0.6**	
SCHQ				PP	**PP**		**11 13 59.4**	**-1.1**	
SCHQ				SKPbc	**SKPbc**		**11 14 52.8**	**+0.2**	
SCHQ	**Schefferville**	**134.12**	**5**	PKP	**PKPdf**		**11 11 30.6**	**+0.6**	
	comp=Z,7.2nm,0.5s,baz=14,slow=3.5,SNR=15								
SCHQ				PP	**PP**		**11 13 59.4**	**-1.1**	
	comp=Z,9.2nm,1.0s,baz=346,slow=9.0,SNR=3.9								
SCHQ				SKPbc	**SKPbc**		**11 14 52.8**	**+0.2**	
	comp=Z,26nm,0.8s,baz=6.8,slow=3.7,SNR=9.7								
127A	**Arkansas Junct**	**134.14**	**53**	⇑PKiKP	**PKiKP**		**11 11 32.2**	**+0.1**	
	baz=134								
127A				⇓SKP			11 14 52.7		
	baz=134,SNR=11								
127A				⇓SKP			11 14 52.7		
	baz=134,SNR=11								
U29A	**Oasis Ranch, S**	**134.21**	**47**	⇑SKP			11 14 52.7		
	baz=134								
S30A	**Montezuma**	**134.24**	**45**	⇓PKiKP	**PKiKP**		**11 11 31.8**	**-0.3**	
	baz=134								
S30A				⇓SKP			11 14 53.1		
	baz=134								
S30A				⇓SKP			11 14 53.1		
	baz=134								
V29A	**Stinnett**	**134.28**	**48**	⇓PKiKP	**PKiKP**		**11 11 32.6**	**+0.4**	
	baz=134								
V29A				⇓SKP			11 14 53.2		
	baz=134,SNR=10								
V29A				⇓SKP			11 14 53.2		
	baz=134,SNR=10								
426A	**McDonald Obser**	**134.28**	**56**	⇑PKiKP	**PKiKP**		**11 11 32.6**	**0.0**	
	baz=134								
426A				⇓SKP			11 14 53.2		
	baz=134,SNR=11								
426A				⇓SKP			11 14 53.2		
	baz=134,SNR=11								
Q31A	**Ellis**	**134.31**	**43**	⇓PKiKP	**PKiKP**		**11 11 32.0**	**-0.2**	
	baz=134								
Q31A				⇓SKP			11 14 52.7		
	baz=134								
Q31A				⇓SKP			11 14 52.7		
	baz=134								
X28A	**Dimmitt**	**134.33**	**50**	⇓PKiKP	**PKiKP**		**11 11 32.0**	**-0.5**	
	baz=134								
X28A				⇓SKP			11 14 53.1		
	baz=134								
X28A				⇓SKP			11 14 53.1		
	baz=134								
526A	**Mary Lane Ranc**	**134.42**	**57**	⇓PKiKP	**PKiKP**		**11 11 32.8**	**0.0**	
	baz=134								
526A				⇑SKP			11 14 53.7		
	baz=134,SNR=16								
526A				⇑SKP			11 14 53.7		
	baz=134,SNR=16								
227A	**Bennet, Jal**	**134.42**	**54**	⇑SKP			11 14 53.5		
	baz=134								
T30A	**Plains**	**134.47**	**46**	⇑PKiKP	**PKiKP**		**11 11 32.2**	**-0.4**	
	baz=134								
T30A				⇑SKP			11 14 53.9		
	baz=134								
T30A				⇑SKP			11 14 53.9		
	baz=134								
327A	**Balmorhea Ranc**	**134.48**	**55**	⇓SKP			11 14 54.0		
	baz=134								
W29A	**Amrailo**	**134.50**	**49**	⇓PKiKP	**PKiKP**		**11 11 32.8**	**+0.1**	
	baz=134								
W29A				⇑SKP			11 14 53.8		
	baz=134,SNR=12								
W29A				⇑SKP			11 14 53.8		
	baz=134,SNR=12								
626A	**Big Bend Ranch**	**134.54**	**57**	⇓PKiKP	**PKiKP**		**11 11 32.8**	**-0.1**	
	baz=135			

Y28A	**McKinney Farm,** baz=135	**134.54**	**51**	⇓PKiKP	**PKiKP**	**11 11 33.0**	**+0.1**
Y28A				⇓SKP		11 14 54.1	
Y28A	baz=135,SNR=11			⇓SKP		11 14 54.1	
AMTX	**Amarillo** baz=135,SNR=11	**134.57**	**49**	*e*PKPdf	**PKPdf**	**11 11 32.8**	**+1.3**
R31A	**Burdett** baz=135	**134.58**	**44**	⇑PKiKP	**PKiKP**	**11 11 32.2**	**-0.5**
R31A				⇓SKP		11 14 53.5	
R31A	baz=135			⇓SKP		11 14 53.5	
SPMN	**St. Paul** baz=135	**134.59**	**32**	⇓SKP		11 14 52.6	
U30A	**WK&E Inc. Balk** baz=135	**134.62**	**47**	⇓PKiKP	**PKiKP**	**11 11 33.2**	**+0.3**
U30A				⇑SKP		11 14 54.8	
U30A	baz=135,SNR=7.0			⇑SKP		11 14 54.8	
Z28A	**Tucker Farm, M** baz=135,SNR=7.0	**134.67**	**52**	⇑PKiKP	**PKiKP**	**11 11 32.8**	**-0.3**
Z28A				⇓SKP		11 14 54.2	
Z28A	baz=135			⇓SKP		11 14 54.2	
427A	**Hayter Ranch,** baz=135	**134.73**	**55**	⇓PKiKP	**PKiKP**	**11 11 33.5**	**+0.2**
427A				⇑SKP		11 14 54.7	
427A	baz=135,SNR=7.0			⇑SKP		11 14 54.7	
X29A	**Tulia** baz=135,SNR=7.0	**134.74**	**50**	⇑PKiKP	**PKiKP**	**11 11 33.4**	**+0.2**
X29A				⇑SKP		11 14 54.9	
X29A	baz=135,SNR=7.2			⇑SKP		11 14 54.9	
527A	**Woodward Ranch** baz=135,SNR=7.2	**134.79**	**56**	⇓PKiKP	**PKiKP**	**11 11 33.5**	**0.0**
527A				⇑SKP		11 14 54.9	
527A	baz=135,SNR=19			⇑SKP		11 14 54.9	
128A	**Castleberry Fa** baz=135,SNR=19	**134.84**	**53**	⇑PKiKP	**PKiKP**	**11 11 33.5**	**0.0**
128A				⇓SKP		11 14 55.3	
128A	baz=135,SNR=8.0			⇓SKP		11 14 55.3	
S31A	**Mullinville** baz=135,SNR=8.0	**134.93**	**45**	⇓PKiKP	**PKiKP**	**11 11 34.0**	**+0.5**
S31A				⇓SKP		11 14 54.8	
S31A	baz=135,SNR=8.0			⇓SKP		11 14 54.8	
V30A	**Spur Ranch, Mi** baz=135,SNR=8.0	**134.93**	**48**	⇓PKiKP	**PKiKP**	**11 11 33.5**	**0.0**
V30A				⇑SKP		11 14 55.2	
V30A	baz=135			⇑SKP		11 14 55.2	
228A	**UT Block 9, Go** baz=135	**134.94**	**53**	⇓PKiKP	**PKiKP**	**11 11 34.0**	**+0.2**
228A				⇑SKP		11 14 55.4	
228A	baz=135,SNR=9.8			⇑SKP		11 14 55.4	
TXAR	**Lajitas Array** baz=135,SNR=9.8	**134.99**	**57**	PKP	**PKPdf**	**11 11 33.0**	**+0.6**
TXAR				SKPbc	**SKPbc**	**11 14 56.0**	**-0.4**
TXAR				SKKPbc	**SKKPbc**	**11 24 09.2**	**+6.3**
TXAR	**Lajitas Array** comp=Z,0.5nm,0.5s,baz=242,slow=3.0,SNR=14	**134.99**	**57**	PKhKP	PKPpre	11 11 18.6	
TXAR				PKP	**PKPdf**	**11 11 33.0**	**+0.6**
TXAR	comp=Z,13nm,1.0s,baz=261,slow=1.4,SNR=20			SKPbc	**SKPbc**	**11 14 56.0**	**-0.4**
TXAR	comp=Z,17nm,1.0s,baz=282,slow=2.4,SNR=12			SKKPbc	**SKKPbc**	**11 24 09.2**	**+6.3**
Y29A	**Porterfield Fa** comp=Z,1.0nm,1.0s,baz=116,slow=5.7,SNR=3.5 baz=135	**135.00**	**51**	⇓PKiKP	**PKiKP**	**11 11 34.0**	**+0.3**
Y29A				⇑SKP		11 14 55.3	
Y29A	baz=135,SNR=23			⇑SKP		11 14 55.3	
328A	**Wristen Ranch,** baz=135,SNR=23	**135.03**	**54**	⇓SKP		11 14 55.0	
T31A	**Randall Ranch,** baz=135	**135.05**	**45**	⇓PKiKP	**PKiKP**	**11 11 34.1**	**+0.4**
T31A				⇓SKP		11 14 55.4	
T31A	baz=135,SNR=8.8			⇓SKP		11 14 55.4	
627A	**Terlingua Ranc** baz=135,SNR=8.8	**135.19**	**57**	⇓PKiKP	**PKiKP**	**11 11 34.4**	**+0.1**
627A				⇓SKP		11 14 55.6	
627A	baz=135,SNR=8.5			⇓SKP		11 14 55.6	
Z29A	**Hungry Hill Ra** baz=135,SNR=8.5	**135.21**	**51**	⇓PKiKP	**PKiKP**	**11 11 34.4**	**+0.2**
Z29A				⇑SKP		11 14 55.8	
Z29A	baz=135,SNR=11			⇑SKP		11 14 55.8	
U31A	**Nine Bar Ranch** baz=135,SNR=11	**135.26**	**46**	⇑PKiKP	**PKiKP**	**11 11 34.2**	**-0.1**
U31A				⇑SKP		11 14 56.1	
U31A	baz=135			⇑SKP		11 14 56.1	
W30A	**Crocket Farms** baz=135	**135.27**	**48**	⇓SKP		11 14 56.4	
129A	**Stewart Farms,** baz=135	**135.32**	**52**	⇓PKiKP	**PKiKP**	**11 11 34.7**	**+0.3**
129A				⇓SKP		11 14 56.1	
129A	baz=135,SNR=19			⇓SKP		11 14 56.1	
428A	**Kincaid Ranch,** baz=135,SNR=19	**135.35**	**55**	⇓PKiKP	**PKiKP**	**11 11 35.0**	**+0.4**
428A				⇑SKP		11 14 56.7	
428A	baz=135,SNR=9.0			⇑SKP		11 14 56.7	
X30A	**Coker Ranch, T** baz=135,SNR=9.0	**135.36**	**49**	⇑PKiKP	**PKiKP**	**11 11 34.7**	**+0.3**
X30A				⇓SKP		11 14 56.4	
X30A	baz=135,SNR=11			⇓SKP		11 14 56.4	
528A	**Cox Ranch, San** baz=135,SNR=11	**135.46**	**56**	⇓PKiKP	**PKiKP**	**11 11 34.5**	**-0.3**
528A				⇓SKP		11 14 57.0	
528A	baz=136			⇓SKP		11 14 57.0	
V31A	**Spring Creek L** baz=136	**135.54**	**47**	⇓PKiKP	**PKiKP**	**11 11 35.5**	**+0.7**
V31A				⇑SKP		11 14 57.6	
V31A	baz=136,SNR=9.5			⇑SKP		11 14 57.6	
Y30A	**Stafford Cattl** baz=136,SNR=9.5	**135.58**	**50**	⇑PKiKP	**PKiKP**	**11 11 34.5**	**-0.4**
Y30A				⇑SKP		11 14 56.6	
Y30A	baz=136			⇑SKP		11 14 56.6	
628A	**Black Gap, Mar** baz=136	**135.59**	**57**	⇓PKiKP	**PKiKP**	**11 11 35.4**	**+0.3**
628A				⇑SKP		11 14 57.1	
628A	baz=136,SNR=6.0			⇑SKP		11 14 57.1	
229A	**Bryant Ranch,** baz=136,SNR=6.0	**135.62**	**53**	⇑PKiKP	**PKiKP**	**11 11 35.3**	**+0.2**
229A				⇓SKP		11 14 57.2	
229A	baz=136,SNR=6.4			⇓SKP		11 14 57.2	
Z30A	**Sanderson Ranc** baz=136,SNR=6.4	**135.64**	**51**	⇓PKiKP	**PKiKP**	**11 11 35.3**	**+0.3**
Z30A				⇑SKP		11 14 57.1	
Z30A	baz=136,SNR=12			⇑SKP		11 14 57.1	
	baz=136,SNR=12						

329A	**Wagon Wheel Ra** baz=136	**135.65**	**54**	⇑PKiKP	**PKiKP**	**11 11 35.5**	**+0.3**
329A				⇓SKP		11 14 57.1	
329A	baz=136,SNR=14			⇓SKP		11 14 57.1	
W31A	**Holland Ranch,** baz=136,SNR=14	**135.73**	**48**	⇑PKiKP	**PKiKP**	**11 11 35.4**	**+0.2**
W31A				⇓SKP		11 14 57.8	
W31A	baz=136,SNR=14			⇓SKP		11 14 57.8	
529A	**Stev Forest Ra** baz=136,SNR=14	**135.93**	**56**	⇑PKiKP	**PKiKP**	**11 11 35.9**	**+0.1**
529A				⇓SKP		11 14 58.2	
529A	baz=136,SNR=14			⇓SKP		11 14 58.2	
X31A	**McDonald Ranch** baz=136,SNR=14	**135.95**	**49**	⇑PKiKP	**PKiKP**	**11 11 35.2**	**-0.4**
X31A				⇓SKP		11 14 58.2	
X31A	baz=136,SNR=18			⇓SKP		11 14 58.2	
Y31A	**Rekieta Farm,** baz=136,SNR=18	**136.03**	**50**	⇓PKiKP	**PKiKP**	**11 11 36.3**	**+0.5**
Y31A				⇑SKP		11 14 58.3	
Y31A	baz=136,SNR=12			⇑SKP		11 14 58.3	
429A	**Davenport Ranc** baz=136,SNR=12	**136.03**	**55**	⇑PKiKP	**PKiKP**	**11 11 36.3**	**+0.3**
429A				⇓SKP		11 14 58.6	
429A	baz=136,SNR=6.6			⇓SKP		11 14 58.6	
130A	**Snyder** baz=136,SNR=6.6	**136.04**	**52**	⇑PKiKP	**PKiKP**	**11 11 36.0**	**+0.2**
130A				⇓SKP		11 14 58.5	
130A	baz=136,SNR=14			⇓SKP		11 14 58.5	
230A	**Sterling City** baz=136,SNR=14	**136.19**	**53**	⇑PKiKP	**PKiKP**	**11 11 36.3**	**0.0**
230A				⇑SKP		11 14 58.9	
230A	baz=136,SNR=13			⇑SKP		11 14 58.9	
330A	**Mertzon** baz=136,SNR=13	**136.32**	**54**	⇓PKiKP	**PKiKP**	**11 11 36.8**	**+0.3**
330A				⇓SKP		11 14 59.0	
330A	baz=136,SNR=8.7			⇓SKP		11 14 59.0	
Z31A	**Sharp Cattle R** baz=136,SNR=8.7	**136.38**	**51**	⇓PKiKP	**PKiKP**	**11 11 37.0**	**+0.5**
Z31A				⇓SKP		11 14 59.5	
Z31A	baz=136,SNR=15			⇓SKP		11 14 59.5	
131A	**Roby** baz=136,SNR=15	**136.46**	**52**	⇑PKiKP	**PKiKP**	**11 11 37.2**	**+0.5**
131A				⇓SKP		11 14 59.6	
131A	baz=136,SNR=7.6			⇓SKP		11 14 59.6	
BBTS	**Babate** baz=136,SNR=7.6	**136.53**	**282**	SKPbc	**SKPbc**	**11 15 02.5**	**+1.2**
BBTS	**Babate** comp=Z,38nm,0.9s,baz=74,slow=1.9,SNR=5.4	**136.53**	**282**	SKPbc	**SKPbc**	**11 15 02.5**	**+1.2**
Y32A	**R-V Farms, Ver** baz=137	**136.62**	**49**	⇓PKiKP	**PKiKP**	**11 11 37.4**	**+0.4**
Y32A				⇑SKP		11 14 59.7	
Y32A	baz=137,SNR=5.2			⇑SKP		11 14 59.7	
530A	**J-C Ranch, Com** baz=137,SNR=5.2	**136.64**	**55**	⇑PKiKP	**PKiKP**	**11 11 37.7**	**+0.5**
530A				⇑SKP		11 15 00.1	
530A	baz=137,SNR=9.8			⇑SKP		11 15 00.1	
231A	**Bronte** baz=137,SNR=9.8	**136.80**	**52**	⇑PKiKP	**PKiKP**	**11 11 38.0**	**+0.6**
231A				⇑SKP		11 15 00.2	
231A	baz=137,SNR=17			⇑SKP		11 15 00.2	
Z32A	**Haskell** baz=137,SNR=17	**136.89**	**50**	⇓PKiKP	**PKiKP**	**11 11 37.9**	**+0.4**
Z32A				⇑SKP		11 15 01.1	
Z32A	baz=137,SNR=13			⇑SKP		11 15 01.1	
331A	**San Angelo** baz=137,SNR=13	**136.96**	**53**	⇓PKiKP	**PKiKP**	**11 11 37.9**	**+0.1**
331A				⇑SKP		11 15 00.9	
331A	baz=137,SNR=11			⇑SKP		11 15 00.9	
431A	**Sonora** baz=137,SNR=11	**137.04**	**54**	⇓PKiKP	**PKiKP**	**11 11 38.2**	**+0.2**
431A				⇓SKP		11 15 01.3	
431A	baz=137,SNR=14			⇓SKP		11 15 01.3	
ABTX	**Abilene, Hawle** baz=137,SNR=14	**137.05**	**51**	⇑PKiKP	**PKiKP**	**11 11 38.4**	**+0.5**
ABTX				⇑SKP		11 15 01.5	
ABTX	baz=137,SNR=16			⇑SKP		11 15 01.5	
531A	**Rocksprings** baz=137,SNR=16	**137.28**	**55**	⇑PKiKP	**PKiKP**	**11 11 38.9**	**+0.4**
531A				⇓SKP		11 15 02.3	
531A	baz=137,SNR=17			⇓SKP		11 15 02.3	
232A	**Coleman** baz=137,SNR=17	**137.34**	**52**	⇑PKiKP	**PKiKP**	**11 11 38.8**	**+0.3**
232A				⇑SKP		11 15 02.3	
232A	baz=137,SNR=12			⇑SKP		11 15 02.3	
332A	**Millersview** baz=137,SNR=12	**137.47**	**53**	⇓PKiKP	**PKiKP**	**11 11 38.9**	**+0.1**
332A				⇓SKP		11 15 02.7	
332A	baz=138,SNR=14			⇓SKP		11 15 02.7	
631A	**Perdido Creek** baz=138,SNR=14	**137.52**	**56**	⇑PKiKP	**PKiKP**	**11 11 39.3**	**+0.4**
631A				⇑SKP		11 15 02.8	
631A	baz=138,SNR=7.1			⇑SKP		11 15 02.8	
432A	**Menard** baz=138,SNR=7.1	**137.62**	**54**	⇓PKiKP	**PKiKP**	**11 11 38.5**	**-0.6**
432A				⇓SKP		11 15 03.0	
432A	baz=138,SNR=7.3			⇓SKP		11 15 03.0	
JCT	**Junction City** baz=138,SNR=7.3	**137.76**	**54**	⇓PKiKP	**PKiKP**	**11 11 39.4**	**-0.1**
JCT				⇑SKP		11 15 03.6	
JCT	baz=138,SNR=18			⇑SKP		11 15 03.6	
632A	**Uvalde** baz=138,SNR=18	**138.13**	**56**	⇓PKiKP	**PKiKP**	**11 11 40.4**	**+0.2**
632A				⇓SKP		11 15 04.8	
632A	baz=138,SNR=8.6			⇓SKP		11 15 04.8	
732A	**Laxson Ranch,** baz=138,SNR=8.6	**138.25**	**57**	⇓PKiKP	**PKiKP**	**11 11 39.7**	**-0.8**
732A				⇓SKP		11 15 05.3	
732A	baz=138,SNR=7.8			⇓SKP		11 15 05.3	
TUL1	**Tulsa** baz=138,SNR=7.8	**138.35**	**45**	⇑PKiKP	**PKiKP**	**11 11 39.9**	**-0.5**
TUL1				⇑SKP		11 15 05.0	
TUL1	baz=138			⇑SKP		11 15 05.0	
CFAA	**Coronel Fontan** baz=138	**138.88**	**170**	PKPpre	PKPpre	11 11 31.6	
CFAA				PKP	**PKPdf**	**11 11 40.0**	**+0.4**
CFAA				SKPbc	**SKiKP**	**11 15 09.9**	**-1.3**

CFAA	**Coronel Fontan** comp=Z,0.3nm,0.6s,baz=223,slow=4.2,SNR=7.5	**138.88**	**170**	PKhKP	PKPpre	11 11 31.6	
CFAA				PKP	**PKPdf**	**11 11 40.0**	**+0.4**
CFAA	comp=Z,1.2nm,0.6s,baz=244,slow=3.3,SNR=12			SKPbc	**SKiKP**	**11 15 09.9**	**-1.3**
WHTX	**Lake Whitney** comp=Z,1.0nm,1.0s,baz=197,slow=3.3,SNR=4.4 baz=139	**139.00**	**51**	⇓PKiKP	**PKiKP**	**11 11 41.6**	**-0.2**
WHTX				⇓SKP		11 15 07.1	
WHTX	baz=139			⇓SKP		11 15 07.1	
SFIN	**Scholer Farm** baz=139 baz=141	**140.97**	**33**	⇓PKiKP	**PKiKP**	**11 11 44.6**	**-1.1**
SFIN				⇓SKP		11 15 11.5	
SFIN	baz=141			⇓SKP		11 15 11.5	
BLO	**Bloomington** baz=141	**142.14**	**34**	*e*PKiKP	**PKPdf**	**11 11 42.7**	**-2.4**
BLO	**Bloomington**	**142.14**	**34**	*e*PKPdf	**PKPdf**	**11 11 42.7**	**-2.4**
LONY	**Lake Ozonia**	**142.60**	**16**	*e*PKPdf	**PKPdf**	**11 11 41.1**	**-4.6**
ERPA	**Erie**	**142.96**	**24**	*e*PKPdf	**PKPdf**	**11 11 43.9**	**-2.6**
WVT	**Waverly**	**143.46**	**38**	*e*PKiKP	PKPab	11 11 43.7	-0.1
WVT	**Waverly**	**143.46**	**38**	*e*PKPdf	PKPab	11 11 43.7	-0.1
MDV	**Middlebury**	**143.56**	**15**	*e*PKPdf	PKPbc	11 11 44.9	0.0
LBNH	**Lisbon**	**143.64**	**14**	*e*PKiKP	PKPbc	11 11 45.3	+0.1
LBNH	**Lisbon**	**143.64**	**14**	*e*PKPdf	PKPbc	11 11 45.2	+0.1
ACCN	**Adirondack Com**	**144.00**	**16**	*e*PKPdf	PKPbc	11 11 46.0	-0.2
VBMS	**Vicksburg**	**144.02**	**46**	*e*PKPdf	PKPbc	11 11 47.5	+0.8
EMMW	**East Machias**	**144.03**	**8**	*e*PKPdf	PKPbc	11 11 46.5	+0.2
HNH	**Hanover**	**144.06**	**14**	*e*PKPdf	PKPbc	11 11 46.9	+0.5
BINY	**Binghamton**	**144.37**	**20**	*e*PKPdf	PKPbc	11 11 47.4	-0.1
FFD	**Franklin Falls**	**144.43**	**14**	*e*PKPdf	**PKPdf**	**11 11 48.5**	**-0.5**
TRY	**Troy**	**144.60**	**17**	*e*PKPdf	**PKPab**	**11 11 44.7**	**-3.2**
CPUP	**Villa Florida**	**144.64**	**185**	PKP	PKPbc	11 11 48.9	+0.1
CPUP	**Villa Florida** comp=Z,46nm,0.8s,baz=162,slow=3.0,SNR=73	**144.64**	**185**	PKP	PKPbc	11 11 48.9	+0.1
HRV	**Adam Dziewonsk**	**145.37**	**14**	*e*PKiKP	**PKPab**	**11 11 50.7**	**-0.1**
HRV	**Adam Dziewonsk**	**145.37**	**14**	*e*PKPdf	**PKPab**	**11 11 50.7**	**-0.1**
WES	**Weston**	**145.54**	**14**	*e*PKiKP	**PKPbc**	**11 11 51.1**	**0.0**
WES	**Weston**	**145.54**	**14**	*e*PKPdf	**PKPbc**	**11 11 51.1**	**0.0**
TZTN	**Tazewell**	**145.66**	**34**	*e*PKPdf	**PKPdf**	**11 11 51.4**	**0.0**
BRYW	**Bryant College**	**145.93**	**15**	*e*PKPdf	**PKPbc**	**11 11 52.1**	**-0.3**
LRAL	**Lakeview Retre**	**145.95**	**42**	*e*PKPdf	**PKPdf**	**11 11 51.8**	**-0.1**
YLE	**Yale**	**146.12**	**17**	*e*PKPdf	**PKPbc**	**11 11 52.8**	**-0.1**
TKL	**Tuckaleechee C**	**146.18**	**35**	*e*PKPdf	**PKPbc**	**11 11 52.8**	**-0.5**
BRNJ	**Basking Ridge**	**146.20**	**19**	*e*PKPbc	**PKPbc**	**11 11 53.6**	**+0.4**
CPNY	**Central Park**	**146.29**	**18**	*e*PKPdf	**PKPbc**	**11 11 53.5**	**+0.1**
SDMD	**Soldier's Deli**	**146.52**	**23**	*e*PKPdf	**PKPdf**	**11 11 53.4**	**+0.7**
BLA	**Blacksburg**	**146.78**	**30**	*e*PKP2	**PKPbc**	**11 11 54.4**	**-0.7**
BLA	**Blacksburg**	**146.78**	**30**	*e*PKPbc	**PKPbc**	**11 11 54.4**	**-0.7**
CBN	**Corbin**	**147.34**	**25**	*e*PKPbc	**PKPbc**	**11 11 55.4**	**-1.2**
LVC	**Limon Verde**	**147.46**	**166**	PKPbc	**PKPbc**	**11 11 58.6**	**+0.9**
LVC	**Limon Verde** comp=Z,26nm,1.1s,baz=256,slow=2.4,SNR=17	**147.46**	**166**	PKPbc	**PKPbc**	**11 11 58.6**	**+0.9**
JSRW	**J. Sargeant Re**	**147.55**	**26**	*e*PKPbc	**PKPbc**	**11 11 56.7**	**-0.4**
KMSC	**Kings Mountain** baz=148	**147.91**	**33**	⇓PKiKP	**PKPbc**	**11 11 58.0**	**-0.2**
PAYG	**Puerto Ayora** baz=149	**148.92**	**107**	*e*PKPbc	**PKPbc**	**11 12 01.5**	**0.0**
TIGA	**Tifton**	**149.19**	**41**	⇑PKiKP	**PKiKP**	**11 12 02.6**	**-0.2**
CNNC	**Cliffs of the**	**149.57**	**29**	*e*PKPdf	**PKPdf**	**11 11 58.4**	**+0.6**
CNNC				*e*PKPbc	**PKiKP**	**11 12 03.3**	**-0.2**
NHSC	**New Hope**	**150.06**	**34**	*e*PKPbc	**PKPbc**	**11 12 01.8**	**-1.9**
BDFB	**Brasilia**	**152.42**	**207**	PKP	**PKPdf**	**11 12 04.2**	**+1.3**
BDFB				PKPbc	**PKiKP**	**11 12 10.7**	**+0.6**
BDFB	**Brasilia** comp=Z,17nm,0.9s,baz=140,slow=3.6,SNR=14	**152.42**	**207**	PKP	**PKPdf**	**11 12 04.2**	**+1.3**
BDFB	comp=Z,48nm,1.2s,baz=310,slow=1.6,SNR=8.5			PKPbc	**PKiKP**	**11 12 10.7**	**+0.6**
TGUH	**Tegucigalpa,Un**	**153.46**	**77**	*e*PKPbc	**PKPbc**	**11 12 12.0**	**+0.1**
NNA	**Nana**	**153.58**	**142**	*e*PKPdf	**PKPdf**	**11 12 06.3**	**+1.7**
LPAZ	**La Paz**	**153.71**	**164**	*e*PKPdf	**PKPdf**	**11 12 06.9**	**+1.5**
LPAZ				PKP	**PKPdf**	**11 12 07.3**	**+1.9**
LPAZ				PKPbc	**PKiKP**	**11 12 15.6**	**+2.2**
LPAZ	**La Paz** comp=Z,4.3nm,1.0s,baz=86,slow=3.8,SNR=14	**153.71**	**164**	PKP	**PKPdf**	**11 12 07.3**	**+1.9**
LPAZ	comp=Z,7.6nm,0.7s,baz=111,slow=6.5,SNR=8.9			PKPbc	**PKiKP**	**11 12 15.6**	**+2.2**
SIV	**San Ignacio**	**155.07**	**179**	PKP	**PKPdf**	**11 12 07.9**	**+1.4**
SIV				PKPab	**PKPab**	**11 12 31.9**	**+0.9**
SIV	**San Ignacio** comp=Z,9.4nm,1.1s,baz=154,slow=1.6,SNR=12	**155.07**	**179**	PKP	**PKPdf**	**11 12 07.9**	**+1.4**
SIV	comp=Z,14nm,0.9s,baz=184,slow=2.2,SNR=11			PKPab	**PKPab**	**11 12 31.9**	**+0.9**
SAML	**Samuel**	**161.90**	**172**	*e*PKPdf	**PKPdf**	**11 12 15.5**	**+0.8**

IDC ***13*** *11:14:20.2±1.4, 0°.43S×132°.66E, h0km, mb4.0/6, mb1 4.1/8, mb1mx3.8/23, mbtmp4.0/8, ML3.8/2, Error ellipse: s-maj=64.0km s-min=17.1km az=72.0*

AUST ***13*** *11:14:28.9, 0°.99S×132°.50E, h25km*

ISC 13 11:14:25.5±1.0, 0°.68S±0°.07×132°.5E±0°.1, h33km, n13, α2°.68/17, mb4.0/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
				Op	ISC		
SWI	**Sorong** baz=1.2,SNR=49	**1.28**	**262**	P	**Pn**	**11 14 47.6**	**+0.5**
SWI				S	**Sb**	**11 15 08.3**	**+3.1**
FAKI	**Fak Fak** baz=1.2,SNR=4.7 baz=1.9,SNR=49	**2.24**	**187**	P	**Pb**	**11 15 04.4**	**-1.0**
KDU	**Kakadu** baz=12,SNR=18	**11.93**	**180**	P	**Pn**	**11 17 14.9**	**+1.5**
KDU	baz=12,SNR=3.6			S	**Sn**	**11 19 27.6**	**+2.2**
MTN	**Manton Dam** baz=12,SNR=6.4	**12.17**	**186**	P	**Pn**	**11 17 18.1**	**+1.5**
KNRA	**Kununurra** baz=15,SNR=8.1	**15.36**	**194**	P	**Pn**	**11 18 00.5**	**+0.5**
KNRA	baz=15,SNR=3.5			S	**Sn**	**11 20 43.9**	**-5.3**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=24,slow=14,SNR=4.7	**18.59**	**201**	P	**Pn**	**11 18 40.9**	**+0.4**
FITZ	0.1nm,0.3s,baz=346,slow=19,SNR=2.4			S	**Sn**	**11 22 01.0**	**-6.5**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=355,slow=11,SNR=28	**19.23**	**175**	P	**Pn**	**11 18 49.4**	**+1.2**
WRA	0.0nm,0.3s,baz=356,slow=22,SNR=4.1			S	Sn	11 22 13.7	-9.3
ASAR	**Alice Springs** 2.5nm,0.5s,baz=354,slow=11,SNR=71	**22.89**	**177**	P	**P**	**11 19 28.8**	**+2.3**
STKA	**Stephens Creek** 5.8nm,1.1s,baz=9.3,slow=12,SNR=3.3	**32.19**	**165**	P	**P**	**11 20 51.4**	**+0.8**
CMAR	**Chiang Mai Arr** 0.6nm,0.4s,baz=124,slow=9.1,SNR=3.9	**38.09**	**302**	P	**P**	**11 21 41.0**	**-0.6**
MKAR	**Makanchi Array** 1.7nm,0.7s,baz=109,slow=8.3,SNR=17	**64.47**	**324**	P	**P**	**11 24 58.0**	**-1.0**
KURBB	**Kurchatov Arra** 1.1nm,0.7s,baz=121,slow=6.0,SNR=12	**68.57**	**326**	P	**P**	**11 25 24.1**	**-0.9**
BVAR	**Borovoye Array** 0.7nm,0.5s,baz=114,slow=10,SNR=4.2	**74.16**	**326**	P	**P**	**11 25 57.8**	**-0.9**

BJI ***13*** *11:33:57.3, 18°.40N×107°.60W, h10km, mB5.2/3, mb5.1/2, Ms5.2/4, Ms7 4.8/4*

ISCJB ***13*** *11:33:58.3±0.6, 18°.68N±0°.06×107°.48W±0°.04, h16km, mb4.4/57, MS4.8/5, Error ellipse: s-maj=9.1km s-min=4.4km az=16.5*

NEIC ***13*** *11:33:58.5±0.5, 18°.58N×107°.59W, h10km, mb4.5/70, MD4.5(MEX), Error ellipse: s-maj=7.9km s-min=4.6km az=206.0*

IDC ***13*** *11:33:58.7±0.8, 18°.85N×108°.04W, h0km, mb4.1/11, mb1 4.3/13, mb1mx4.2/26, mbtmp4.2/13, ML4.0/2, MS4.3/6, Ms1 4.3/6, ms1mx3.8/30, Error ellipse: s-maj=18.4km s-min=15.5km az=28.0*

MEX ***13*** *11:34:01.2±0.5, 18°.76N×107°.54W, h16km±26km, MD4.5*

ISC 13 11:33:59.5±0.6, 18°.70N±0°.07×107°.56W±0°.06, h16km, n517, σ1°.28/514, mb4.5/57, MS4.8/6, 176C-185D, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
				Op	ISC		
CJM	**Chamela**	**2.51**	**71**	*i* P	**Pn**	**11 34 37.8**	**-1.9**
CJM				*i* S	**Sn**	**11 35 06.0**	**-3.9**
CJM	**Chamela**	**2.51**	**71**	*i* P	**Pn**	**11 34 37.8**	**-1.9**
CJM				*i* S	**Sn**	**11 35 06.0**	**-3.9**
ANIG	**Ahuacatlan**	**3.70**	**50**	*e*P	**Pn**	**11 34 55.4**	**-0.7**
ANIG				*e*S	**Sn**	**11 35 37.1**	**-2.3**
ANIG	**Ahuacatlan**	**3.70**	**50**	*e*P	**Pn**	**11 34 55.4**	**-0.7**
ANIG				*e*S	**Sn**	**11 35 37.1**	**-2.3**

MMIG **Aquila** 4.02 95 *e*P Pn 11 34 59.2 -1.3
MMIG *i* S Sn 11 35 45.0 -2.3
MMIG Aquila 4.02 95 *e*P Pn 11 34 59.2 -1.3
MMIG *i* S Sn 11 35 45.0 -2.3
MAIG Mazatlaan 4.59 13 *e*P Pn 11 35 05.8 -2.4
MAIG *i* S Sn 11 35 57.0 -4.3
MAIG Mazatlaan 4.59 13 *e*P Pn 11 35 05.8 -2.4
MAIG *i* S Sn 11 35 56.2 -5.1
TXAR Lajitas Array 11.17 18 Pn Pn 11 36 39.2 +0.6
TXAR Lajitas Array 11.17 18 Pn Pn 11 36 39.2 +0.6
0.7nm,0.3s,baz=197,slow=13,SNR=33
TXAR LR LR 11 40 44.8
comp=Z,551nm,21.4s,baz=135,slow=36
626A Big Bend Ranch 11.25 15 ⇑P Pn 11 36 40.4 +0.7
baz=11,SNR=22
627A Terlingua Ranc 11.36 19 ⇓P Pn 11 36 42.9 +1.5
baz=12,SNR=14
628A Black Gap, Mar 11.55 21 ⇓P Pn 11 36 44.8 +0.9
baz=12,SNR=17
526A Mary Lane Ranc 11.74 15 ⇓P Pn 11 36 47.7 +1.1
baz=12,SNR=39
527A Woodward Ranch 11.95 17 ⇑P Pn 11 36 51.2 +1.8
baz=12,SNR=30
732A Laxson Ranch, 12.16 33 ⇑P Pn 11 36 54.0 +1.9
baz=12,SNR=19
528A Cox Ranch, San 12.21 20 ⇓P Pn 11 36 54.3 +1.4
baz=12
425A Indio Mountain 12.26 10 ⇓P Pn 11 36 54.7 +1.1
baz=12,SNR=28
426A McDonald Obser 12.34 14 ⇓P Pn 11 36 56.0 +1.2
baz=12,SNR=23
529A Stev Forest Ra 12.37 22 ⇑P Pn 11 36 57.3 +2.3
baz=12,SNR=8.1
631A Perdido Creek 12.42 30 ⇑P Pn 11 36 58.0 +2.3
baz=13,SNR=28
427A Hayter Ranch, 12.67 17 ⇓P Pn 11 37 01.6 +2.4
baz=13,SNR=11
319A Douglas 12.72 353 ⇑P Pn 11 37 02.0 +2.1
baz=13,SNR=71
530A J-C Ranch, Com 12.72 25 ⇑P Pn 11 37 01.7 +1.8
baz=13
428A Kincaid Ranch, 12.76 19 ⇓P Pn 11 37 02.1 +1.6
baz=13
324A Moseley Ranch, 12.83 8 ⇑P Pn 11 37 02.8 +1.4
baz=13,SNR=24
325A Bean Ranch, Si 12.83 10 ⇓P Pn 11 37 03.2 +1.7
baz=13,SNR=18
632A Uvalde 12.88 32 ⇓P Pn 11 37 04.5 +2.4
baz=13,SNR=30
429A Davenport Ranc 12.94 22 ⇑P Pn 11 37 05.3 +2.4
baz=13,SNR=9.4
326A Caldwell Ranch 12.97 14 ⇓P Pn 11 37 04.7 +1.4
baz=13,SNR=38
531A Rocksprings 13.07 28 ⇓P Pn 11 37 06.4 +1.7
baz=13
MNTX Cornudas Mount 13.09 8 *e*Pn Pn 11 37 06.3 +1.4
7.7nm,0.9s
327A Balmorhea Ranc 13.14 15 ⇓P Pn 11 37 07.8 +2.2
baz=13
220A Playas Peak, P 13.18 356 ⇓P Pn 11 37 08.0 +1.8
baz=13,SNR=42
221A Mesquite Ranch 13.26 359 ⇑P Pn 11 37 09.7 +2.5
baz=13,SNR=21
223A Chaparral, Ant 13.29 4 ⇑P Pn 11 37 09.8 +2.1
baz=14
328A Wristen Ranch, 13.34 18 ⇑P Pn 11 37 10.2 +1.9
baz=14
222A Williams Famil 13.36 2 ⇑P Pn 11 37 10.6 +2.0
baz=14
224A Cornudas Mount 13.45 7 ⇓P Pn 11 37 12.0 +2.2
baz=14,SNR=36
431A Sonora 13.49 27 ⇑P Pn 11 37 13.0 +2.5
baz=14,SNR=14
225A Deer Hill, Car 13.58 10 ⇓P Pn 11 37 14.1 +2.4
baz=14,SNR=7.9
226B Tecolote Peak, 13.67 12 ⇑P Pn 11 37 14.8 +1.9
baz=14,SNR=21
JCT Junction City 13.68 30 *e*Pn Pn 11 37 16.4 +3.4
JCT Junction City 13.68 30 ⇓P Pn 11 37 15.5 +2.6
baz=14,SNR=22
329A Wagon Wheel Ra 13.69 21 ⇓P Pn 11 37 14.8 +1.6
baz=14
GDL2 Guadalupe Moun 13.75 11 *e*Pn Pn 11 37 16.3 +2.4
121A Cookes Peak, D 13.78 359 ⇓P Pn 11 37 16.3 +1.9
baz=14,SNR=24
227A Bennet, Jal 13.80 15 ⇑P Pn 11 37 16.3 +1.6
baz=14
120A U Bar Ranch, L 13.82 356 ⇓P Pn 11 37 17.1 +2.1
baz=14,SNR=27
TUC Tucson 13.86 349 *e*Pn Pn 11 37 17.2 +1.7
330A Mertzon 13.91 23 ⇓P Pn 11 37 17.8 +1.8
baz=14,SNR=5.2
123A Bell Site, Whi 13.93 5 ⇓P Pn 11 37 18.7 +2.4
baz=14
122A Conniff Cattle 13.95 2 ⇑P Pn 11 37 19.5 +2.7
baz=14,SNR=16
432A Menard 14.02 29 ⇓P Pn 11 37 20.0 +2.5
baz=14,SNR=25
214A Organ Pipe Nat 14.02 341 ⇓P Pn 11 37 19.0 +1.4
baz=14,SNR=28
124A Stringfield Ra 14.07 7 ⇓P Pn 11 37 20.7 +2.2
baz=14,SNR=59
228A UT Block 9, Go 14.09 18 ⇑P Pn 11 37 20.6 +1.9
baz=14
331A San Angelo 14.12 26 ⇓P Pn 11 37 21.5 +2.6
baz=14,SNR=11
125A Gardner Draw, 14.14 10 ⇓P Pn 11 37 21.8 +2.4
baz=14,SNR=16
229A Bryant Ranch, 14.19 20 ⇓P Pn 11 37 22.0 +2.0
baz=14
126A Clayton Basin, 14.25 12 ⇓P Pn 11 37 23.2 +2.4
baz=14
230A Sterling City 14.36 23 ⇑P Pn 11 37 24.1 +1.8
baz=14
Z20A Nine Sixteen R 14.38 357 ⇑P Pn 11 37 24.7 +2.0
baz=15,SNR=14
127A Arkansas Junct 14.42 14 ⇓P Pn 11 37 25.0 +1.8
baz=15
332A Millersview 14.47 28 ⇓P Pn 11 37 26.1 +2.4
baz=15,SNR=16
Z22A Elephant Butte 14.51 2 ⇑P Pn 11 37 26.1 +1.7
baz=15,SNR=39
Z21A St. Cloud Mine 14.55 360 ⇑P Pn 11 37 26.8 +1.7
baz=15,SNR=40
Z23A Rita Site, Whi 14.55 4 ⇓P Pn 11 37 27.8 +2.8
baz=15,SNR=5.5
128A Castleberry Fa 14.60 17 ⇑P Pn 11 37 27.4 +1.9
baz=15
Z24A Sheeppen Canyo 14.70 7 ⇓P Pn 11 37 28.7 +1.6
baz=15,SNR=12
231A Bronte 14.71 25 ⇓P Pn 11 37 29.0 +2.0
baz=15
Z25A Roswell 14.74 9 ⇑P Pn 11 37 30.0 +2.4
baz=15,SNR=6.3
129A Stewart Farms, 14.79 19 ⇓P Pn 11 37 29.6 +1.5
baz=15,SNR=6.3
Z26A Caprock 14.86 12 ⇑P Pn 11 37 31.9 +2.7
baz=15,SNR=5.7
232A Coleman 14.95 27 ⇑P Pn 11 37 32.2 +2.0
baz=15,SNR=33
130A Snyder 15.05 22 ⇓P Pn 11 37 33.3 +1.6
baz=15
Z27A Tatum 15.07 14 ⇑P Pn 11 37 34.3 +2.4
baz=15,SNR=17
113A Mohawk Valley, 15.08 340 ⇑P Pn 11 37 33.3 +1.4
baz=15,SNR=20
Y20A Horse Springs, 15.17 357 ⇓P Pn 11 37 34.8 +1.5
baz=15,SNR=11
Y22A Socorro 15.19 2 ⇓P Pn 11 37 35.2 +1.7
baz=15,SNR=14
Y23A Lovelace Mesa, 15.23 5 ⇓P Pn 11 37 36.1 +1.9
baz=15,SNR=12
Y21A Point of Rocks 15.25 360 ⇑P Pn 11 37 35.6 +1.1
baz=15,SNR=22
Z28A Tucker Farm, M 15.25 17 ⇑P Pn 11 37 34.9 +0.6
baz=15,SNR=8.7
Y24A Capitan 15.28 7 ⇓P Pn 11 37 36.6 +1.8
baz=16,SNR=9.6
Y22D IRIS PASSCAL I 15.32 2 ⇓P Pn 11 37 36.9 +1.6
baz=16
131A Roby 15.34 23 ⇑P Pn 11 37 36.4 +1.0
baz=16,SNR=9.0
Y25A Mesa, Roswell 15.38 9 ⇑P Pn 11 37 37.8 +1.8
baz=16
Z14A Wintersburg 15.38 343 ⇑P Pn 11 37 37.2 +1.3
baz=16,SNR=7.2
BNM Barren Site 15.41 3 *e*Pn Pn 11 37 38.2 +1.6
12nm,1.1s
LENM Lemitar 15.41 2 *e*Pn Pn 11 37 38.0 +1.4
Z29A Hungry Hill Ra 15.42 19 ⇑P Pn 11 37 37.6 +1.0
baz=16
Y26A Elida 15.53 12 ⇓P Pn 11 37 38.8 +0.9
baz=16
LPM Los Pinos Moun 15.57 3 *e*Pn P 11 37 41.9 -1.0
ABTX Abilene, Hawle 15.59 26 ⇑P Pn 11 37 39.7 +1.1
baz=16,SNR=9.8
Y27A Causey 15.62 14 ⇓P Pn 11 37 40.3 +1.1
baz=16,SNR=19
Z30A Sanderson Ranc 15.63 20 ⇑P Pn 11 37 40.2 +1.0
baz=16,SNR=5.6
LAZ Ladron 15.64 1 *e*Pn Pn 11 37 41.3 +1.7
8.6nm,1.3s
X21A Alamocita Cree 15.69 359 ⇑P Pn 11 37 41.7 +1.6
baz=16,SNR=29
GLA Glamis 15.71 337 *e*Pn Pn 11 37 41.6 +1.3
155nm,1.1s
GLA Glamis 15.71 337 ⇑P Pn 11 37 41.6 +1.3
baz=16,SNR=35
X22A Bernardo 15.75 2 ⇑P Pn 11 37 42.6 +1.7
baz=16
MSTX Muleshoe 15.80 15 ⇑P Pn 11 37 43.8 +2.3
baz=16,SNR=18
X20A Quemado 15.80 357 ⇓P Pn 11 37 43.2 +1.6
baz=16,SNR=12
Y28A McKinney Farm, 15.87 16 ⇓P Pn 11 37 43.4 +0.9
baz=16,SNR=17
DVTC Desert V Tower 15.88 333 ⇓P Pn 11 37 43.8 +1.3
baz=16,SNR=6.8
X18A Snowflake 15.91 353 ⇑P Pn 11 37 44.2 +1.2
baz=16,SNR=14
X24A Lazy VL Ranch, 15.91 6 ⇑P Pn 11 37 44.4 +1.4
baz=16
Y14A Wickenburg 15.94 343 ⇓P Pn 11 37 44.0 +0.8
baz=16,SNR=19
X25A Clemmons Ranch 15.97 9 ⇓P Pn 11 37 44.8 +1.0
baz=16
Y29A Porterfield Fa 15.99 18 ⇑P Pn 11 37 45.8 +1.9
baz=16,SNR=14
SWSC Sam W. Stewart 15.99 334 ⇓P Pn 11 37 44.6 +0.7
baz=16,SNR=21
Z31A Sharp Cattle R 16.00 23 ⇓P Pn 11 37 45.2 +1.2
baz=16,SNR=7.6
X16A Lo Mia Camp, P 16.03 348 ⇑P Pn 11 37 45.6 +1.0
baz=16,SNR=36
WHTX Lake Whitney 16.07 33 ⇓P Pn 11 37 45.1 +0.3
baz=16,SNR=7.9
X26A CR and CF Fran 16.14 11 ⇑P Pn 11 37 46.9 +1.0
baz=16
BAR Barrett 16.15 331 *e*Pn Pn 11 37 45.8 -0.1
44nm,1.3s
ANMO Albuquerque 16.21 3 *e*Pn Pn 11 37 48.6 +1.7
17nm,1.0s
ANMO Albuquerque 16.21 3 Pn Pn 11 37 48.5 +1.6
0.2nm,0.3s,baz=186,slow=9.0,SNR=16
ANMO LR LR 11 43 55.9
comp=Z,436nm,18.6s,baz=16,slow=37
MONP Monument Peak 16.22 332 ⇑P Pn 11 37 47.9 +1.0
baz=16,SNR=20
Y12C Blythe 16.23 339 ⇓P Pn 11 37 47.8 +0.9
baz=16,SNR=23
Z32A Haskell 16.25 25 ⇑P Pn 11 37 47.4 +0.2
baz=16,SNR=32
W22A Albuquerque 16.32 2 ⇓P Pn 11 37 49.6 +1.4
baz=16
W21A San Fidel 16.35 360 ⇓P Pn 11 37 49.9 +1.2
baz=16
X27A F and S Farms, 16.37 13 ⇑P Pn 11 37 50.2 +1.3
baz=17
W20A Ramah 16.38 357 ⇓P Pn 11 37 50.2 +1.1
baz=17,SNR=29
W23A Werner Place, 16.44 4 ⇑P Pn 11 37 50.8 +1.0
baz=17,SNR=10
X28A Dimmitt 16.46 16 ⇓P Pn 11 37 50.7 +0.7
baz=17
W18A Petrified Fore 16.47 354 ⇑P Pn 11 37 51.6 +1.4
baz=17
BC3 Big Chuckawall 16.48 336 ⇓P Pn 11 37 50.8 +0.6
baz=17,SNR=61
109C Camp Elliot, M 16.52 331 ⇓P Pn 11 37 51.4 +0.7
baz=17
X29A Tulia 16.53 17 ⇓P Pn 11 37 52.1 +1.3
baz=17
Y31A Rekieta Farm, 16.54 22 ⇓P Pn 11 37 51.5 +0.6
baz=17,SNR=18
W24A Lazy 6 Ranch, 16.56 6 ⇓P Pn 11 37 52.4 +1.1
baz=17,SNR=17
PDMCI Parker Dam,Lak 16.61 341 ⇑P Pn 11 37 53.5 +1.8
baz=17,SNR=13
W26A Owens Ranch, T 16.67 11 ⇓P Pn 11 37 54.5 +1.8
baz=17
W25A X Bar L Ranch, 16.68 9 ⇑P Pn 11 37 53.9 +1.1
baz=17
X30A Coker Ranch, T 16.78 19 ⇓P Pn 11 37 54.6 +0.7
baz=17,SNR=9.4
W27A Bowe Ranch, En 16.78 13 ⇑P Pn 11 37 55.4 +1.3
baz=17,SNR=5.9
IRM Iron Mountain 16.82 338 ⇑P Pn 11 37 55.5 +1.0
baz=17,SNR=26
PFO Pinyon Flat Ob 16.85 334 *e*Pn Pn 11 37 56.5 +1.6
161nm,1.9s
PFO Pinyon Flat Ob 16.85 334 Pn P 11 37 57.1 +0.2
0.2nm,0.3s,baz=158,slow=11,SNR=24
PFO LR LR 11 43 42.5
comp=Z,684nm,20.1s,baz=348,slow=35
PFO Pinyon Flat Ob 16.85 334 ⇓P Pn 11 37 55.9 +1.1
baz=17,SNR=13
Y32A R-V Farms, Ver 16.88 24 ⇑P Pn 11 37 54.6 -0.5
baz=17,SNR=7.1
AMTX Amarillo 16.95 17 *e*Pn P 11 37 58.5 +0.5
88nm,1.4s
BELC Belle Mtn. Jos 17.00 335 ⇑P Pn 11 37 58.3 +1.4
baz=17,SNR=92
V23A Ortiz Mt. (NFS 17.02 4 ⇑P P 11 37 59.1 +0.1
baz=17,SNR=9.3
V21A Milan 17.04 360 ⇑P Pn 11 37 58.6 +1.2
baz=17
V20A Brimhall 17.05 357 ⇑P Pn 11 37 59.2 +1.7
baz=17
V24A Rampart Ranch, 17.08 6 ⇑P Pn 11 37 59.4 +1.5
baz=17
WUAZ Wupatki 17.09 349 *e*Pn Pn 11 37 59.4 +1.4
30nm,1.1s
WUAZ Wupatki 17.09 349 ⇓P Pn 11 37 59.3 +1.4
baz=17,SNR=13
V22A San Miguel Ran 17.16 2 ⇑P P 11 38 01.0 +0.6
baz=17,SNR=18
MURC Murrieta 17.16 332 ⇑P Pn 11 37 59.6 +0.9
baz=17,SNR=14
W28A Vega 17.16 15 ⇓P Pn 11 37 59.5 +0.6
baz=17
W29A Amraillo 17.18 17 ⇑P Pn 11 38 00.2 +1.2
baz=17
NEE2 Needles Airpor 17.19 340 ⇑P Pn 11 37 60.0 +0.9
baz=17,SNR=8.4
X31A McDonald Ranch 17.24 22 ⇑P Pn 11 38 01.0 +1.3
baz=17
V25A Rancho No Teng 17.27 8 ⇑P Pn 11 38 01.3 +1.0
baz=18,SNR=23
W13A Hualapai Mount 17.27 342 ⇓P Pn 11 38 01.4 +1.1
baz=17,SNR=18
SCI San Clemente I 17.30 327 ⇓P Pn 11 38 01.6 +1.1
baz=17
V26A Tequesquite Ra 17.36 10 ⇑P Pn 11 38 02.2 +0.9
baz=18,SNR=12
V27A Dan Oppiter Fa 17.50 13 ⇓P Pn 11 38 04.3 +1.3
baz=18
GMRC Granite Mounta 17.56 337 ⇑P Pn 11 38 03.9 +0.1
baz=18,SNR=34
CIS Catalina Islan 17.57 329 ⇑P Pn 11 38 03.5 -0.4
baz=18,SNR=5.4
BBRC Big Bear Solar 17.60 334 ⇓P P 11 38 05.9 +0.5
baz=18,SNR=16
U23A El Rito 17.60 4 ⇑P Pn 11 38 05.2 +0.8
baz=18,SNR=17
U22A Llaves 17.62 2 ⇑P P 11 38 06.0 +0.4
baz=18
V28A Channing 17.63 14 ⇑P P 11 38 06.0 +0.4
baz=18
U20A Newcomb 17.63 357 ⇑P Pn 11 38 05.9 +1.2
baz=18
LDFC Landfair 17.64 339 *e*Pn P 11 38 07.8 +2.2
173nm,1.2s
U21A Nageezi 17.66 360 ⇑P P 11 38 07.0 +1.0
baz=18,SNR=9.1
U24A Moreno Valley 17.76 6 ⇑P P 11 38 08.2 +1.0
baz=18
W31A Holland Ranch, 17.76 21 ⇓P P 11 38 07.5 +0.6
baz=18
FMP Fort Macarthur 17.77 329 ⇓P Pn 11 38 07.1 +1.0
baz=18
WMOK Wichita Mounta 17.78 24 *e*Pn Pn 11 38 05.6 -0.8
16nm,1.1s
U25A Circle Dot Ran 17.85 8 ⇑P P 11 38 08.9 +0.9
baz=18,SNR=9.1
HEC Hector,Ludlow 17.86 336 ⇑P P 11 38 09.2 +1.1
baz=18,SNR=10
BFSC Mount Baldy Ra 17.91 332 ⇑P Pn 11 38 09.2 +1.1
baz=18,SNR=18
V29A Stinnett 17.92 16 ⇓P P 11 38 10.0 +1.3
baz=18
U26A Atchley Ranch, 17.95 10 ⇑P P 11 38 10.2 +1.1
baz=18,SNR=6.0
MWC Mount Wilson 18.07 331 *e*P Pn 11 38 11.2 +1.0
120nm,1.5s
PASC Pasadena Art C 18.09 331 *e*Pn P 11 38 11.5 +1.0
45nm,1.4s
U27A Thompson Grove 18.14 12 ⇓P P 11 38 12.4 +1.1
baz=18,SNR=6.9
U15A North Rim 18.15 348 ⇓P P 11 38 12.2 +0.8
baz=18,SNR=16
RRX Edison Barstow 18.17 334 ⇑P Pn 11 38 12.2 +1.0
baz=18
DECC Green Verdugo 18.22 330 ⇑P Pn 11 38 12.8 +1.0
baz=18
U28A Mallet 18.23 14 ⇑P P 11 38 13.9 +1.8
baz=18
TUQ Turquoise Moun 18.24 338 ⇓P P 11 38 13.7 +1.3
baz=18,SNR=11
TEIG Tepich 18.25 82 P P 11 38 15.3 +2.9
TEIG Tepich 18.25 82 P P 11 38 15.3 +2.9
0.3nm,0.3s,baz=229,slow=12,SNR=4.7
T22A Edith 18.25 2 ⇑P P 11 38 14.1 +1.5
baz=18,SNR=39
T23A Casias Ranch, 18.32 4 ⇓P P 11 38 14.3 +0.9
baz=18,SNR=8.5
V31A Spring Creek L 18.33 20 ⇓P Pn 11 38 14.0 +0.8
baz=18
GSC Goldstone 18.46 335 *e*P Pn 11 38 16.0 +1.2
23nm,0.9s
GSC Goldstone 18.46 335 ⇓P P 11 38 14.7 0.0
baz=19,SNR=16
MVCO Mesa Verde 18.46 358 ⇓P P 11 38 15.3 +0.5
baz=19
BLG Laguna Peak 18.46 328 ⇓P P 11 38 14.7 +0.1
baz=19
U29A Oasis Ranch, S 18.53 16 ⇓P Pn 11 38 16.7 +1.0
baz=19
T25A Trinidad 18.58 8 ⇓P P 11 38 17.0 +0.9
baz=19,SNR=9.8
EDW2 Edwards Air Fo 18.59 332 ⇑P P 11 38 16.6 +0.5
baz=19,SNR=5.4
OSI Osito Adit 18.71 330 *e*P P 11 38 18.4 +1.1
13nm,0.3s
OSI Osito Adit 18.71 330 ⇓P P 11 38 18.1 +0.7
baz=19
T26A Comanche Natio 18.73 10 ⇓P Pn 11 38 19.2 +0.9
baz=19,SNR=13
U30A WK&E Inc. Balk 18.78 18 ⇓P Pn 11 38 19.4 +0.7
baz=19
T27A Campo 18.78 12 ⇑P Pn 11 38 20.0 +1.3
baz=19
SHOC Shoshone 18.79 338 ⇑P P 11 38 19.1 +0.9
baz=19
S21A Coal Bank Pass 18.89 359 ⇑P P 11 38 20.9 +1.2
baz=19,SNR=20
T28A Walsh 18.96 13 ⇓P Pn 11 38 21.6 +0.7
baz=19
LRMC Laurel Mountai 18.97 334 ⇑P P 11 38 20.9 +0.5
baz=19,SNR=18
S24A Houchin Ranch, 18.98 6 ⇓P Pn 11 38 22.1 +0.7
baz=19
S23A Nye Farm, Mont 18.99 4 ⇑P P 11 38 21.2 +0.6
baz=19
S22A 4UR Ranch, Cre 18.99 2 ⇑P Pn 11 38 22.5 +1.1
baz=19,SNR=6.5
SBC Santa Barbara 19.05 328 ⇓P P 11 38 21.8 +0.7
baz=19
SDCO Great Sand Dun 19.06 5 *e*P P 11 38 22.6 +1.1
12nm,1.1s
S20A Disappointment 19.07 358 ⇓P P 11 38 22.7 +1.1
baz=19,SNR=25
S25A Robets Cordova 19.09 8 ⇓P Pn 11 38 23.3 +0.8
baz=19,SNR=7.9
ARVC Arvin 19.18 331 ⇓P P 11 38 23.4 +0.9
baz=19
S26A Kim 19.19 10 ⇑P P 11 38 23.8 +1.0
baz=19,SNR=19
T29A Hugoton 19.19 15 ⇓P P 11 38 23.6 +0.9
baz=19
T30A Plains 19.30 17 ⇓P P 11 38 24.4 +0.5
baz=20
S27A Las Animas 19.35 11 ⇑P P 11 38 25.5 +1.0
baz=20
PV01 Paradox Valley 19.39 358 *e*P P 11 38 25.8 +0.9
515nm,1.0s
MPMC Manual Prospec 19.39 335 ⇓P P 11 38 25.8 +0.7
baz=20,SNR=40
R20A Redvale 19.43 358 ⇑P P 11 38 26.4 +0.9
baz=20,SNR=12
CCUT Cedar City 19.46 346 *e*P Pn 11 38 27.4 +0.4
28nm,1.3s
ISA Isabella 19.46 332 *e*P Pn 11 38 27.3 +0.4
39nm,1.4s
ISA Isabella 19.46 332 ⇓P P 11 38 26.9 +1.2
baz=20,SNR=18
S28A Manter 19.46 14 ⇓P P 11 38 26.1 +0.4
baz=20
PKM Peak Mountain 19.46 328 ⇓P P 11 38 26.1 +0.3
baz=20
R22A Saguache, Gunn 19.47 2 ⇓P P 11 38 27.4 +1.4
baz=20,SNR=16
R23A Moffat 19.48 4 ⇓P P 11 38 26.9 +0.8
baz=20,SNR=11
FURC Furnace Creek, 19.51 337 ⇓P P 11 38 27.0 +1.0
baz=20,SNR=19
R24A Sanders Place, 19.58 6 ⇓P P 11 38 28.5 +1.4
baz=20
R25A Fountain Ranch 19.59 8 ⇓P Pn 11 38 29.3 +0.8
baz=20,SNR=11
T31A Randall Ranch, 19.59 19 ⇓P P 11 38 27.8 +0.7
baz=20
R21A Cimarron 19.60 0 ⇓P Pn 11 38 29.2 +0.5
baz=20
PV04 Paradox Valley 19.66 357 *e*P P 11 38 28.2 +0.3
S29A Ulysses 19.68 15 ⇑P P 11 38 29.5 +1.5
baz=20
ARUT Antelope Range 19.70 346 *e*P P 11 38 29.3 +0.9
17nm,1.2s
R26A Arlington 19.86 10 ⇑P P 11 38 31.2 +1.2
baz=20,SNR=34
SMMC Simmler 19.88 329 ⇑P P 11 38 30.9 +0.7
baz=20
VES Vestal, Richgr 19.88 331 ⇑P P 11 38 31.2 +1.0
baz=20,SNR=18
R27A Eads 19.95 11 ⇑P P 11 38 32.5 +1.4
baz=20,SNR=23
CWC Cottonwood Cre 19.96 334 ⇓P P 11 38 31.1 -0.1
baz=20
TGUH Tegucigalpa,Un 20.00 100 P P 11 38 31.8 +0.2
56nm,1.4s
TUL1 Tulsa 20.05 29 ⇑P P 11 38 32.5 +0.5
baz=20
MIAR Mount Ida 20.10 35 *e*P P 11 38 32.8 +0.3
12nm,1.0s
Q22A Crested Butte, 20.10 1 ⇓P P 11 38 34.3 +1.4
baz=20
S31A Mullinville 20.13 19 ⇑P P 11 38 33.9 +1.0
baz=20
MVU Marysvale 20.15 349 *e*P P 11 38 34.6 +1.3
16nm,1.1s
MSU Marysvale 20.15 349 *e*P Pn 11 38 35.1 -0.1
GRAC Grapevine Rang 20.17 337 ⇓P P 11 38 34.4 +1.1
baz=20,SNR=26
Q20A Ridgley Place, 20.19 358 ⇓P P 11 38 34.5 +0.8
baz=20,SNR=7.3
R28A Tribune 20.20 13 ⇑P P 11 38 34.8 +1.0
baz=20
PTRM Twissleman Ran 20.26 329 *e*P P 11 38 35.1 +0.7
Q24A Divide 20.30 5 ⇓P P 11 38 35.7 +0.6
baz=20
RCTC Rector, Farmer 20.34 332 ⇓P P 11 38 35.4 +0.2
baz=20
Q16A Castle Valley 20.39 352 ⇓P P 11 38 36.6 +0.7
baz=21,SNR=11

VBMS Vicksburg 20.41 45 eP P 11 38 37.0 +1.1
SMCO Snowmass 20.41 1 eP P 11 38 38.0 +1.7
16nm,1.1s
R29A Marienthal 20.43 15 ⇑P P 11 38 36.9 +0.7
baz=21,SNR=6.5
Q26A Hugo 20.46 9 ⇑P P 11 38 36.2 -0.3
baz=21
SRU San Rafael 20.50 353 eP P 11 38 37.7 +0.6
17nm,1.1s
R30A Dighton 20.52 17 ⇑P P 11 38 37.2 0.0
baz=21,SNR=6.3
TIN Tinemaha 20.55 335 ⇑P P 11 38 37.6 +0.1
baz=21
P23A Jefferson 20.66 4 ⇓P P 11 38 40.1 +1.1
baz=21,SNR=8.8
KSCO Kaye Shedlock' 20.69 11 ⇑P P 11 38 40.0 +0.9
baz=21,SNR=10.0
R31A Burdett 20.74 18 ⇓P P 11 38 39.4 -0.1
baz=21,SNR=7.0
P20A De Beque 20.74 358 ⇓P P 11 38 40.5 +0.8
baz=21,SNR=9.3
P21A Newcastle 20.75 0 ⇓P P 11 38 40.6 +0.8
baz=21,SNR=23
TMUT Trail Mountain 20.77 352 eP P 11 38 40.6 +0.5
22nm,1.1s
P22A Eagle 20.84 2 ⇓P P 11 38 41.5 +0.7
baz=21,SNR=14
P24A Kohler Place, 20.87 6 ⇓P P 11 38 42.0 +0.9
baz=21
Q28A Sharon Springs 20.89 13 ⇑P P 11 38 41.6 +0.4
baz=21,SNR=7.4
P19A Cripple Cowboy 20.90 357 ⇑P P 11 38 41.5 +0.1
baz=21,SNR=8.7
Q29A Oakley 20.92 15 ⇓P P 11 38 41.9 +0.4
baz=21
MTUM Tungsten Hills 20.94 335 eP P 11 38 43.4 +1.5
P25A Willow Gulch B 20.95 7 ⇓P P 11 38 42.2 +0.3
baz=21
UALR University of 20.96 37 eP P 11 38 42.8 +1.0
14nm,0.9s
ISCO Idaho Springs 21.09 4 ⇓P P 11 38 44.8 +1.1
baz=21,SNR=19
Q30A Quinter 21.19 16 ⇑P P 11 38 44.6 +0.3
baz=21
P27A Ficken Ranch, 21.23 11 ⇓P P 11 38 45.3 +0.4
baz=21
MLAC Mammoth Lakes 21.29 335 ⇑P P 11 38 46.1 +0.5
baz=21
O20A White River Ci 21.37 359 ⇑P P 11 38 47.5 +1.0
baz=22,SNR=22
P28A Saint Francis 21.40 12 ⇓P P 11 38 47.4 +0.7
baz=22,SNR=6.8
O22A Kremmling 21.41 2 ⇑P P 11 38 47.7 +0.7
baz=22,SNR=14
Q31A Ellis 21.44 18 ⇓P P 11 38 47.4 +0.4
baz=22
O21A Pagoda 21.44 0 ⇑P P 11 38 48.5 +1.2
baz=22
O24A Longmont 21.46 5 ⇓P P 11 38 48.2 +0.8
baz=22
O23A Lake Granby, G 21.48 3 ⇑P P 11 38 48.6 +0.8
baz=22,SNR=7.7
MPU Maple Canyon 21.53 351 eP P 11 38 49.5 +1.2
14nm,1.0s
NLU North Lily Min 21.54 351 eP P 11 38 50.1 +1.8
27nm,1.4s
O25A Wiggins 21.55 7 ⇑P P 11 38 49.2 +0.9
baz=22
O19A Miners Draw (B 21.57 357 ⇑P P 11 38 49.1 +0.6
baz=22
P29A Atwood 21.61 14 ⇑P P 11 38 49.3 +0.4
baz=22
P30A Selden 21.71 15 ⇓P P 11 38 49.8 -0.2
baz=22
NV11 Mina Array Sit 21.72 337 eP P 11 38 51.0 +0.8
NVAR Mina Array Bea 21.77 337 P P 11 38 52.4 +1.5
NVAR Mina Array Bea 21.77 337 P P 11 38 52.4 +1.5
7.1nm,0.8s,baz=164,slow=14,SNR=44
O26A Horse Wrangler 21.78 9 ⇑P P 11 38 51.8 +1.1
baz=22
DAU Daniels Canyon 21.87 352 eP P 11 38 53.5 +1.5
DUG Dugway 21.90 349 eP P 11 38 53.5 +1.4
DUG Dugway 21.90 349 ⇑P P 11 38 52.8 +0.7
baz=22,SNR=16
P31A Stockton 21.92 17 ⇓P P 11 38 52.4 +0.1
baz=22
O28A Krutsinger Ran 21.93 12 ⇓P P 11 38 53.4 +1.1
baz=22,SNR=14
N21A Black Mountain 21.99 0 ⇓P P 11 38 53.7 +0.6
baz=22
N22A Wattenberg Ran 22.05 2 ⇑P P 11 38 54.5 +0.7
baz=22
N20A Spence Gulch, 22.07 359 ⇓P P 11 38 54.8 +0.8
baz=22,SNR=21
JLU Jordanelle 22.08 352 eP P 11 38 55.5 +1.3
22nm,1.3s
O29A 4D Ranch, Culb 22.14 14 ⇓P P 11 38 54.9 +0.4
baz=22
N23A Red Feather La 22.16 3 ⇓P P 11 38 55.7 +0.7
baz=22,SNR=9.9
N24A Carr 22.17 5 ⇓P P 11 38 55.8 +0.8
baz=22
CTU Camp Tracy 22.21 352 eP P 11 38 56.8 +1.2
25nm,1.1s
WAKR Walker 22.28 335 eP P 11 38 57.6 +1.4
CMB Columbia Colle 22.28 332 eP P 11 38 56.1 -0.1
21nm,1.0s
N26A Koester Ranch, 22.37 9 ⇑P P 11 38 58.1 +1.0
baz=23
KSU1 Kansas State U 22.44 23 eP P 11 38 58.3 +0.5
40nm,1.2s
N27A Anderson Farm, 22.45 10 ⇑P P 11 38 59.0 +1.0
baz=23
N28A Pribbeno Ranch 22.52 12 ⇓P P 11 38 59.4 +0.7
baz=23
PHWY Pilot Hill 22.60 4 eP P 11 39 00.8 +1.1
10nm,0.9s
BGU Big Grassy Mou 22.64 349 eP P 11 39 01.5 +1.4
12nm,1.1s
M22A Cedar Creek Ra 22.64 2 ⇓P P 11 39 01.0 +0.8
baz=23
OGNE Ogallala 22.67 11 ⇑P P 11 39 00.9 +0.6
baz=23
M20A Sweetwater, Wa 22.72 359 ⇓P P 11 39 01.9 +0.9
baz=23
M23A Laramie 22.75 4 ⇓P P 11 39 01.9 +0.7
baz=23
M24A Cheyenne 22.81 5 ⇓P P 11 39 03.0 +1.1
baz=23,SNR=9.8
M17A Scullys Gap (B 22.85 354 ⇑P P 11 39 02.9 +0.5
baz=23
M25A Palm-Egli Farm 22.86 7 ⇑P P 11 39 03.3 +1.0
baz=23,SNR=6.5
RWWY Rawlins 22.92 1 eP P 11 39 06.6 +3.5
22nm,1.4s
ELK Elko 22.94 345 P P 11 39 03.7 +0.4
ELK Elko 22.94 345 P P 11 39 03.7 +0.4
6.6nm,1.0s,baz=181,slow=7.9,SNR=16
HWUT Hardware Ranch 23.09 352 eP P 11 39 05.6 +0.8
8.4nm,0.9s
L21A Rawlins 23.19 0 ⇓P P 11 39 06.7 +0.9
baz=23
BMN Battle Mountai 23.20 341 eP P 11 39 06.4 +0.5
15nm,1.1s
L20A Wamsutter 23.24 359 ⇓P P 11 39 06.5 +0.1
baz=23
L18A Fontenelle, Gr 23.25 355 ⇓P P 11 39 06.3 0.0
baz=23
L22A Ellis Ranch, M 23.28 2 ⇑P P 11 39 07.1 +0.5
baz=24
PAHR Pah Rah Range 23.30 336 eP P 11 39 08.0 +1.1
188nm,2.7s
LRAL Lakeview Retre 23.31 48 eP P 11 39 08.5 +1.7
21nm,1.0s
L19A Farson 23.38 357 ⇑P P 11 39 07.9 +0.2
baz=24
L23A Garrett 23.39 3 ⇓P P 11 39 08.2 +0.3
baz=24
M29A Burnside Ranch 23.42 13 ⇑P P 11 39 08.2 +0.3
baz=24
HVU Hansel Valley 23.43 350 eP P 11 39 08.5 +0.3
164nm,2.8s
L26A Underwood Farm 23.57 8 ⇑P P 11 39 10.1 +0.6
baz=24
BEKR Beckworth 23.82 335 eP P 11 39 12.5 +0.5
16nm,1.5s
OHCM Honcut 23.84 332 eP P 11 39 13.0 +1.1
K20A Yellowstone Ra 23.89 359 ⇑P P 11 39 12.4 -0.3
baz=24
K22A Casper 23.89 2 ⇓P P 11 39 13.0 +0.4
baz=24,SNR=7.8
K23A Bowen Ranch, D 24.04 3 ⇑P P 11 39 14.0 0.0
baz=24
K25A Mack Ranch, Ha 24.04 7 ⇓P P 11 39 14.1 +0.1
baz=24
BW06 Border Array 24.05 356 eP P 11 39 13.6 -0.7
4.0nm,0.9s
PDAR Pinedale Array 24.05 356 P P 11 39 13.7 -0.5
PDAR Pinedale Array 24.05 356 P P 11 39 13.7 -0.5
1.2nm,0.6s,baz=159,slow=10,SNR=10
K24A Anderson Ranch 24.06 5 ⇑P P 11 39 14.3 +0.1
baz=24
K19A Absolon Red Bu 24.07 358 ⇓P P 11 39 14.4 0.0
baz=24
K26A Motz Farm, Whi 24.21 8 ⇑P P 11 39 16.1 +0.5
baz=24
K27A Flueckinger Fa 24.35 10 ⇑P P 11 39 18.2 +1.3
baz=24
K28A Ten Mile Ranch 24.51 11 ⇑P P 11 39 18.6 +0.3
baz=25
J19A Crowheart 24.52 357 ⇓P P 11 39 18.9 +0.4
baz=25,SNR=6.2
J21A Lysite 24.57 0 ⇑P P 11 39 19.7 +0.8
baz=25
WVT Waverly 24.58 41 eP P 11 39 19.3 +0.4
6.8nm,0.9s
J20A Shoshoni 24.58 359 ⇑P P 11 39 20.1 +1.1
baz=25
J24A Dixon Ranch, L 24.68 5 ⇑P P 11 39 20.4 +0.6
baz=25
RRI2 Red Ridge 24.78 353 eP P 11 39 21.6 +0.7
32nm,1.1s
J25A Sunshine Ranch 24.82 7 ⇓P P 11 39 21.8 +0.8
baz=25
TPAW Teton Pass 24.88 354 eP P 11 39 22.3 +0.5
SLM Saint Louis 24.93 34 P P 11 39 22.7 +0.7
LOHW Long Hollow 24.97 355 eP P 11 39 22.9 +0.3
I18A Diamond G Ranc 25.00 356 ⇑P P 11 39 23.7 +0.8
baz=25
LBCM Butte Creek Ri 25.04 335 P P 11 39 25.8 +2.7
I21A Big Trails, Te 25.04 0 ⇑P P 11 39 23.7 +0.6
baz=25
TIGA Tifton 25.08 55 ⇓P P 11 39 22.8 -0.6
baz=25
MOOW Moose Ponds 25.12 355 eP P 11 39 23.5 -0.4
12nm,0.9s
I22A 9 Mile Ranch, 25.13 2 ⇑P P 11 39 25.1 +1.1
baz=25
I20A Worland 25.18 359 ⇑P P 11 39 25.4 +1.0
baz=25,SNR=9.2
I24A Kuemmerle Ranc 25.21 5 ⇓P P 11 39 25.5 +0.9
baz=25
J28A Allard Ranch, 25.22 11 ⇓P P 11 39 25.2 +0.5
baz=25
IMW Indian Meadow 25.28 354 eP P 11 39 25.8 +0.3
13nm,1.1s
I19A Meeteetse 25.29 358 ⇑P P 11 39 26.0 +0.6
baz=26
I16A Newdale 25.32 353 ⇓P P 11 39 26.2 +0.6
baz=26
LTIM Timbered Crate 25.38 335 P P 11 39 26.7 +0.6
I25A Rochford 25.45 6 ⇑P P 11 39 27.3 +0.4
baz=26
HLID Haley 25.45 348 eP P 11 39 27.4 +0.6
5.2nm,0.9s
WVOR Wild Horse Val 25.46 341 P P 11 39 27.2 +0.3
RSSD Black Hills 25.52 6 eP P 11 39 28.9 +1.4
9.3nm,1.0s
MOD Modoc 25.55 338 eP P 11 39 28.2 +0.5
12nm,1.0s
MFID Camas Ranch 25.61 346 eP P 11 39 29.8 +1.5
14nm,1.3s
MFID Camas Ranch 25.61 346 ⇑P P 11 39 29.0 +0.7
baz=26,SNR=8.5
I14A Mackay 25.64 350 ⇑P P 11 39 28.7 +0.1
baz=26
H20A Greybull 25.71 359 ⇓P P 11 39 30.3 +1.2
baz=26,SNR=12
I27A Quinn 25.71 9 ⇓P P 11 39 29.4 +0.3
baz=26
H22A Clearmont 25.84 2 ⇑P P 11 39 30.5 +0.2
baz=26
USIN University of 25.88 38 eP P 11 39 31.7 +1.1
23nm,0.8s
H19A Powell 25.92 358 ⇓P P 11 39 31.3 +0.2
baz=26
H18A Shoshone NF, C 25.96 357 ⇑P P 11 39 31.8 +0.2
baz=26
GOGA Godfrey 26.05 51 eP P 11 39 33.0 +0.8
13nm,1.0s
YMR Madison River 26.05 354 eP P 11 39 34.3 +1.9
H25A Fruitdale 26.06 6 ⇑P P 11 39 32.8 +0.6
baz=26
H24A Dirks Ranch, A 26.09 5 ⇓P P 11 39 32.9 +0.3
baz=26
KHMM Horse Mountain 26.09 331 eP P 11 39 33.1 +0.4
15nm,0.9s
H16A Russell Place, 26.11 354 ⇑P P 11 39 33.1 +0.2
baz=26
OLIL Olney 26.16 36 eP P 11 39 33.4 +0.2
YBH Yreka Blue Hor 26.35 334 eP P 11 39 33.7 -1.2
2.0nm,0.8s
YBH Yreka Blue Hor 26.35 334 P P 11 39 34.0 -1.0
2.1nm,0.8s,baz=123,slow=5.4,SNR=8.2
RLMT Red Lodge 26.39 357 eP P 11 39 37.9 +2.5
11nm,1.2s
MCMT McKenzie Canyo 26.43 352 eP P 11 39 36.5 +0.8
4.9nm,1.0s
G20A Bridger 26.45 359 ⇑P P 11 39 37.6 +1.7
baz=27
G21A Lodge Grass 26.45 1 ⇓P P 11 39 37.6 +1.8
baz=27
G22A Birney 26.46 2 ⇑P P 11 39 37.6 +1.7
baz=27
G23A Biddle 26.49 3 ⇓P P 11 39 36.9 +0.8
baz=27
H12A Diamond D Ranc 26.49 348 ⇓P P 11 39 36.6 +0.3
baz=27,SNR=12
G18A Lazy EL Ranch, 26.59 357 ⇑P P 11 39 38.5 +1.3
baz=27
G17A Pierce Place, 26.68 355 ⇑P P 11 39 39.1 +1.2
baz=27
G24A Alzada 26.68 5 ⇑P P 11 39 39.3 +1.4
baz=27
TKL Tuckaleechee C 26.96 46 eP P 11 39 41.0 +0.5
TKL Tuckaleechee C 26.96 46 P P 11 39 43.0 +2.5
3.1nm,0.7s,baz=222,slow=12,SNR=4.3
F23A Volborg 27.00 3 ⇓P P 11 39 41.0 +0.2
baz=27
G27A Dupree 27.01 9 ⇓P P 11 39 41.8 +0.9
baz=27
F22A Rosebud 27.03 2 ⇑P P 11 39 42.2 +1.2
baz=27
GCMT Greycliff 27.07 357 eP P 11 39 40.9 -0.5
5.7nm,1.0s
BOZ Bozeman (W) 27.08 354 eP P 11 39 41.8 +0.2
3.6nm,1.2s
F19A Roth Farm, Mol 27.10 358 ⇑P P 11 39 42.1 +0.4
baz=27
G12A Big Creek, Yel 27.14 348 ⇑P P 11 39 41.8 -0.3
baz=27,SNR=7.3
F18A Big Timber 27.19 357 ⇑P P 11 39 42.7 +0.2
baz=27
F17A Fitzpatrick Pl 27.25 355 ⇑P P 11 39 43.7 +0.6
baz=27
LCCM Lewis and Clar 27.30 353 P P 11 39 44.3 +0.8
LRM Limekiln Ridge 27.35 353 eP P 11 39 44.6 +0.5
E22A Miles City 27.70 2 ⇓P P 11 39 47.3 +0.3
baz=28
E19A Rath Farm, Rou 27.70 358 ⇓P P 11 39 47.5 +0.4
baz=28
E20A Meyer Farm, Mu 27.73 359 ⇑P P 11 39 47.1 -0.2
baz=28
E21A Keefer Ranch, 27.77 1 ⇓P P 11 39 47.8 +0.2
baz=28
E17A Martinsdale 27.82 355 ⇓P P 11 39 48.5 +0.3
baz=28,SNR=7.0
E18A Harlowton 27.86 357 ⇓P P 11 39 48.6 +0.1
baz=28,SNR=5.4
E24A Baker 27.91 5 ⇑P P 11 39 49.1 +0.2
baz=28
VIPM Ingram Point 27.96 340 P P 11 39 50.3 +0.8
KEBM Edson Butte 27.97 333 eP P 11 39 49.9 +0.4
46nm,1.3s
IRO Indian Ridge 28.09 337 P P 11 39 51.1 +0.5
D21A La Casta Ranch 28.30 1 ⇑P P 11 39 52.7 +0.4
baz=28
D22A Cohagen 28.40 2 ⇓P P 11 39 53.3 +0.1
baz=29,SNR=6.0
D19A Cripps Ranch, 28.41 358 ⇓P P 11 39 53.5 +0.2
baz=29
E12A Beaver Dam Sad 28.42 348 ⇑P P 11 39 53.0 -0.5
baz=29
KMSC Kings Mountain 28.42 50 ⇑P P 11 39 52.0 -1.6
baz=28
D17A Six Diamond Ra 28.49 356 ⇓P P 11 39 53.9 -0.3
baz=29
CHMT Chamberlain Mo 28.53 352 eP P 11 39 55.0 +0.4
D15A Lincoln 28.56 353 ⇓P P 11 39 54.2 -0.6
baz=29
D14A Greenough 28.73 352 ⇑P P 11 39 56.1 -0.1
baz=29,SNR=12
D13A Huson 28.88 350 ⇓P P 11 39 56.5 -1.0
baz=29
SLMT Seeley Lake 28.88 352 eP P 11 39 57.9 +0.2
C20A Veseth Ranch, 28.94 359 ⇓P P 11 39 58.2 +0.2
baz=29,SNR=6.9
C17A Wharram Farm, 28.98 356 ⇑P P 11 39 58.3 -0.1
baz=29,SNR=6.5
C22A Vida 29.00 2 ⇓P P 11 39 59.2 +0.6
baz=29
C21A Desert Coulee 29.05 1 ⇓P P 11 39 59.2 +0.2
baz=29
C23A Lambert 29.09 3 ⇓P P 11 40 00.6 +1.2
baz=29
SWMT Swartz Lake 29.21 351 eP P 11 40 00.9 +0.4
C16A Fuhringer Ranc 29.23 354 ⇑P P 11 40 00.4 -0.3
baz=29
EGMT Eagleton 29.30 357 eP P 11 40 02.7 +1.4
13nm,1.4s
EGMT Eagleton 29.30 357 ⇑P P 11 40 01.8 +0.5
baz=30
B22A Reddig Ranch S 29.55 2 ⇑P P 11 40 04.2 +0.7
baz=30
B17A L&G Farms, Che 29.64 356 ⇓P P 11 40 04.2 0.0
baz=30
B20A Solberg Farm, 29.67 359 ⇓P P 11 40 04.3 -0.2
baz=30,SNR=9.1
B18A Beardsley Farm 29.68 357 ⇓P P 11 40 04.7 +0.2
baz=30
B19A Brinkman Farms 29.70 358 ⇑P P 11 40 05.2 +0.4
baz=30
B23A Brockton 29.76 3 ⇓P P 11 40 05.5 +0.2
baz=30
MDND Maddock 29.79 11 ⇓P P 11 40 05.9 +0.4
baz=30
B15A Bradely Ranch, 29.82 353 ⇑P P 11 40 05.8 0.0
baz=30
DGMT Dagmar 29.82 5 ⇑P P 11 40 07.4 +1.6
baz=30
B14A Marquette Ranc 29.95 352 ⇑P P 11 40 07.4 +0.3
baz=30
B13A Whitefish 30.13 351 ⇑P P 11 40 08.7 +0.1
baz=30
A19A Klindworth Far 30.17 358 ⇓P P 11 40 09.1 +0.2
baz=30
A18A Metzger Ranch, 30.20 357 ⇑P P 11 40 09.1 -0.1
baz=30
A22A Carney Farms, 30.25 2 ⇓P P 11 40 10.2 +0.5
baz=30
A17A Triple J Farms 30.28 356 ⇓P P 11 40 10.8 +0.9
baz=30
A15A Johnson Ranch, 30.49 353 ⇓P P 11 40 11.9 +0.1
baz=31
NEW Newport 30.50 347 eP P 11 40 13.8 +1.9
16nm,1.8s
NEW Newport 30.50 347 ⇑P P 11 40 12.2 +0.4
baz=31
A14A Double T Ranch 30.57 352 ⇓P P 11 40 12.6 0.0
baz=31
NLWA Neilton Lookou 31.58 339 eP P 11 40 21.6 +0.2
EYMN Ely 31.98 21 eP P 11 40 24.0 -0.8
15nm,1.4s
ULM Lac du Bonnet 32.84 14 P P 11 40 34.4 +2.1
ULM Lac du Bonnet 32.84 14 P P 11 40 34.4 +2.1
4.4nm,0.6s,baz=202,slow=5.6,SNR=3.8
OTAV Otavalo 33.96 119 P P 11 40 45.5 +2.6
10nm,1.2s
ROSC El Rosal 35.23 109 P P 11 40 59.7 +5.8
ROSC El Rosal 35.23 109 P P 11 40 59.7 +5.8
3.0nm,0.4s,baz=275,slow=17,SNR=1.9
FFC Flin Flon 36.21 5 eP P 11 41 02.1 +0.6
16nm,1.4s
SDV Santo Domingo 37.09 100 eP P 11 41 10.9 +1.2
7.2nm,0.7s
YKA Yellowknife Ar 44.03 355 P P 11 42 06.2 +0.1
YKA Yellowknife Ar 44.03 355 P P 11 42 06.2 +0.1
1.2nm,0.7s,baz=167,slow=8.0,SNR=3.6
KDAK Kodiak Island 51.10 331 eP P 11 43 01.7 +0.6
15nm,1.1s
KDAK Kodiak Island 51.10 331 P P 11 43 02.3 +1.2
5.1nm,0.6s,baz=97,slow=9.7,SNR=11
EGAK Eagle 51.23 342 eP P 11 43 02.4 +0.3
6.1nm,0.9s
PAX Paxson 51.31 339 eP P 11 43 02.5 -0.3
4.7nm,0.9s
SML Sawmill 51.59 337 eP P 11 43 05.2 +0.3
2.6nm,1.0s
LPAZ La Paz 52.10 129 P P 11 43 16.4 +6.5
LPAZ La Paz 52.10 129 P P 11 43 16.4 +6.5
1.5nm,0.7s,baz=293,slow=5.1,SNR=4.7
ILAR Eielson Array 52.98 340 P P 11 43 15.0 -0.1
ILAR Eielson Array 52.98 340 P P 11 43 15.0 -0.1
7.2nm,1.1s,baz=151,slow=6.7,SNR=28
TRF Thorofare Moun 53.30 338 eP P 11 43 17.4 -0.3
11nm,0.8s
PPT Papeete 54.82 231 LR LR 11 59 53.9
comp=Z,370nm,19.3s,baz=175,slow=28
COLD Coldfoot 55.60 341 eP P 11 43 34.6 +0.4
3.4nm,0.9s
SIV San Ignacio 57.29 124 P P 11 43 51.9 +5.0
SIV San Ignacio 57.29 124 P P 11 43 51.9 +5.0
0.7nm,0.4s,baz=339,slow=10,SNR=5.5
PETK Petropavlovsk- 78.05 322 P P 11 45 56.0 -1.5
PETK Petropavlovsk- 78.05 322 P P 11 45 56.0 -1.5
2.0nm,0.8s,baz=67,slow=12,SNR=3.5
URZ Urewera 90.43 230 LR LR 12 18 21.7
comp=Z,341nm,19.3s,baz=270,slow=30
DZM Mont Dzumac 93.31 248 LR LR 12 18 33.2
comp=Z,446nm,20.2s,baz=0.0,slow=29
MDJ Mudanjiang 98.29 323 P P 11 47 34.3 -2.2
MDJ pmax pmax
comp=Z,6.0nm,2.2s
STHS Stebnicka Huta 98.43 31 PDIF P 11 47 36.4 -0.6
KECS Kecovo 98.67 32 PDIF Pdif 11 47 40.5 +2.4
HHC Hu-ho-hao-te 110.50 329 ePKP PKiKP 11 52 31.8 +0.1
HHC PP PP 11 53 17.1 +11
HHC PKS PKSdf 11 56 07.3 -1.1
HHC SKS SKSdf 11 59 42.5 -0.9
HHC AMB AMB
comp=Z,81nm,10.7s
HHC LR LR
comp=N,280nm,20.2s
HHC LR LR
comp=E,280nm,23.8s
HHC LR LR
comp=Z,170nm,20.2s
WMQ Urumqi 116.23 348 PKP PKPdf 11 52 43.0 +0.5
LZH Lanzhou 117.93 331 ePKP PKPdf 11 52 42.1 -4.0
LZH sPKP 11 52 46.1
LZH LR LR
comp=N,140nm,17.0s
LZH LR LR
comp=E,180nm,18.2s
LZH LR LR
comp=Z,240nm,19.8s
WRA Warramunga Arr 121.88 258 PKP PKPdf 11 52 53.9 +0.1
WRA Warramunga Arr 121.88 258 PKP PKPdf 11 52 53.9 +0.1
comp=Z,0.5nm,0.3s,baz=76,slow=1.5,SNR=34
KSH Kashi 122.00 357 ePKP PKPdf 11 52 53.5 -0.3
KSH sPKP 11 53 01.8
KSH PP PP 11 54 33.8 +7.4
KSH SKS SKSdf 12 00 01.9 -3.6
KSH AMB AMB
comp=Z,120nm,5.4s
KSH LR LR
comp=N,400nm,10.7s
KSH LR LR
comp=E,160nm,7.9s
KSH LR LR
comp=Z,85nm,7.8s
CD2 Chengdu 122.22 328 PKP PKPdf 11 52 52.3 -2.0
ASAR Alice Springs 122.85 253 PKP PKPdf 11 52 55.6 0.0

ASAR	**Alice Springs**	**122.85**	**253**	PKP		**PKPdf**	**11**	**52**	**55.7**	**0.0**
	comp=Z,0.7nm,0.7s,baz=70,slow=2.3,SNR=5.4									

*AUST **13** 11:37:36.0,9.49S×118.96E,h35km*
*ISCJB **13** 11:37:38.2±0.5, 10.01S±0.04×119.22E±0.04, h33km, Error ellipse: s-maj=6.8km s-min=4.9km az=28.1*
*DJA **13** 11:37:41.4±0.4,9.7S±4.7×11.9E±°, h61km±6km, M4.2/17, mb4.3/4, MLv4.2/17*

ISC 13 11:37:39.3±0.8, 10.03S±0.06×119.16E±0.04, h33km, n30, σ1°94/26, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
WBSI	**Waikabubak, Su**	**0.45**	**31**	P		**Pn**	**11**	**37**	**50.6**	**+1.1**
WBSI				S		**Sn**	**11**	**37**	**59.9**	**+3.5**
WSI	**Waingapu**	**1.18**	**72**	P		**Pn**	**11**	**37**	**59.5**	**+0.1**
WSI				S		**Sn**	**11**	**38**	**14.4**	**+0.1**
WSI	**Waingapu**	**1.18**	**72**	P		**Pn**	**11**	**37**	**59.2**	**-0.2**
	baz=1.3,SNR=7.6									
WSI				S		**Sn**	**11**	**38**	**14.6**	**+0.3**
	baz=1.3,SNR=7.0									
BASI	**Baing, Sumba**	**1.41**	**98**	P		**Pb**	**11**	**38**	**05.7**	**+0.7**
BMNI	**Bima**	**1.55**	**343**	P		**Pn**	**11**	**38**	**03.6**	**-1.0**
MMRI	**Maumere**	**3.34**	**66**	P		**Pn**	**11**	**38**	**27.2**	**-2.0**
KHKI	**Kahang-Kahang**	**3.88**	**295**	P		**Pn**	**11**	**38**	**37.7**	**+1.1**
BSSI	**Bau Bau, Buton**	**4.08**	**19**	P		Pn	11	38	31.8	-7.6
IGBI	**Denpasar**	**4.14**	**287**	P		**Pn**	**11**	**38**	**41.6**	**+1.4**
SRBI	**Singaraja**	**4.35**	**296**	P		**Pn**	**11**	**38**	**42.8**	**-0.3**
BATI	**Baumata**	**4.44**	**93**	P		**Pn**	**11**	**38**	**45.3**	**+0.9**
BKSI	**Bulukumba**	**4.77**	**12**	P		Pn	11	38	41.5	-7.4
KAPI	**Kappang**	**5.02**	**7**	P		Pn	11	38	44.3	-8.0
SOEI	**Soe**	**5.04**	**87**	P		**Pn**	**11**	**38**	**52.8**	**+0.1**
SOEI	**Soe**	**5.04**	**87**	P		**Pn**	**11**	**38**	**52.7**	**-0.1**
	baz=5.2,SNR=9.8									
JAGI	**Jajag, Banyuwa**	**5.18**	**287**	P		**Pn**	**11**	**38**	**56.5**	**+1.9**
	56nm,0.4s,0.4nm									
JAGI	**Jajag, Banyuwa**	**5.18**	**287**	P		Pn	11	38	57.3	+2.7
	baz=4.9,SNR=19									
GMJI	**Gumukmas**	**5.91**	**287**	P		**Pn**	**11**	**39**	**06.1**	**+1.6**
	43nm,1.4s,0.4nm									
SPSI	**Sidrap Palu**	**6.05**	**6**	P		Pn	11	39	00.9	-5.7
	16nm,0.7s,0.1nm									
TTSI	**Tana Toraja**	**6.97**	**5**	P		Pn	11	39	12.5	-6.6
UGM	**Wanagama**	**8.79**	**283**	S		Sn	11	41	11.7	-10
	baz=8.5,SNR=4.7									
FITZ	**Fitzroy Crossi**	**10.19**	**143**	S		**Sn**	**11**	**41**	**59.6**	**+3.1**
	baz=11,SNR=6.6									
KNRA	**Kununurra**	**10.91**	**122**	P		**Pn**	**11**	**40**	**15.0**	**+1.8**
	baz=11,SNR=14									
KNRA				S		**Sn**	**11**	**42**	**14.3**	**0.0**
	baz=11,SNR=3.4									
MTN	**Manton Dam**	**12.06**	**105**	P		**Pn**	**11**	**40**	**28.9**	**-0.1**
	baz=12,SNR=4.6									
XMI	**Christmas Isla**	**13.26**	**267**	S		**Sn**	**11**	**43**	**06.7**	**-5.1**
	baz=13,SNR=4.0									
KDU	**Kakadu**	**13.32**	**103**	P		**Pn**	**11**	**40**	**44.1**	**-2.0**
	baz=14,SNR=5.7									
KDU				S		Sn	11	42	59.5	-14
	baz=14,SNR=5.4									
MEEK	**Meekatharra**	**16.53**	**182**	P		P	11	41	36.6	+5.6
	baz=17,SNR=4.9									
MEEK				S		**Sn**	**11**	**44**	**32.7**	**+1.4**
	baz=17,SNR=4.9									
MORW	**Morawa**	**19.17**	**188**	S		**Sn**	**11**	**45**	**31.7**	**-3.4**
	baz=20,SNR=7.7									
BKNI	**Bangkinang**	**20.76**	**299**	S		Sn	11	46	19.1	+5.4
	baz=20,SNR=3.1									
LHI	**Lord Howe Isla**	**42.67**	**126**	P		**P**	**11**	**45**	**32.3**	**-0.8**
	baz=43,SNR=4.0									

DJA 13 11:43:50.3±0.6, 9.9S±7.7×11.9E±°, h53km±10km, M3.7/7, MLv3.7/7, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
WBSI	**Waikabubak, Su**	**0.25**	**194**	P		Pn	11	44	00.6	+1.2
WBSI				S		Sn	11	44	09.2	+3.4
WSI	**Waingapu**	**0.88**	**108**	P		Pn	11	44	02.9	-3.6
BMNI	**Bima**	**1.14**	**319**	P		Sn	11	44	34.2	+10
BASI	**Baing, Sumba**	**1.38**	**126**	P		Pn	11	44	14.6	+1.4
MMRI	**Maumere**	**2.86**	**75**	P		Pn	11	44	34.3	+0.9
BSSI	**Bau Bau, Buton**	**3.40**	**18**	P		Pn	11	44	41.1	+0.2
BKSI	**Bulukumba**	**4.11**	**9**	P		Pn	11	44	50.9	+0.3
BATI	**Baumata**	**4.23**	**101**	P		Pn	11	44	51.9	-0.4
IGBI	**Denpasar**	**4.29**	**277**	P		Pn	11	44	52.2	-0.9

JSN 13 12:35:55.8±2.0, 17.62N×79.00W, h29km±999km, MD3.6, Jamaica region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
MCJ	**Malvern**	**1.29**	**76**	*i* P		Pn	12	36	15.2	-2.7
PCJ	**Portland Cotta**	**1.76**	**86**	*i* P		Pn	12	36	23.2	-1.2
STH	**Stony Hill**	**2.13**	**77**	*i* P		Pn	12	36	29.4	-0.1
STH				*i* S		Sn	12	36	53.4	-1.8
HOJ	**Hope**	**2.18**	**79**	*i* P		Pn	12	36	29.8	-0.3
GWJ	**Greenwich**	**2.21**	**78**	*i* P		Pn	12	36	30.7	0.0

IDC 13 12:41:23.6±1.2, 21.42S×68.29W, h96km±10km, mb3.6/5, mb1 3.8/6, mb1mx3.5/18, mbtmp3.6/6, Error ellipse: s-maj=25.3km s-min=14.5km az=124.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
LVC	**Limon Verde**	**1.32**	**206**	P		Pn	12	41	48.4	+0.5
	245nm,0.3s,baz=25,slow=9.2,SNR=265									
LVC				S		Sn	12	42	05.9	-0.3
	169nm,0.3s,baz=126,slow=22,SNR=41									
LPAZ	**La Paz**	**5.10**	**2**	P		Pn	12	42	43.0	+4.4
	4.6nm,0.3s,baz=209,slow=6.9,SNR=37									
SIV	**San Ignacio**	**8.71**	**53**	P		Pn	12	43	28.7	+1.7
	0.4nm,0.3s,baz=243,slow=12,SNR=8.2									
SIV				S		Sn	12	45	00.7	-2.8
	0.1nm,0.3s,baz=210,slow=20,SNR=3.0									
CFAA	**Coronel Fontan**	**10.15**	**180**	S		Sn	12	45	30.3	-8.1
	0.0nm,0.3s,baz=328,slow=13,SNR=2.6									
TXAR	**Lajitas Array**	**60.89**	**325**	P		P	12	51	26.0	-0.6
	0.2nm,0.5s,baz=155,slow=11,SNR=3.1									
SNAA	**Sanae**	**62.17**	**161**	P		P	12	51	34.4	-0.1
	0.9nm,1.2s,baz=288,slow=9.4,SNR=4.2									
TORD	**Torodi Ar. Bea**	**76.78**	**70**	P		P	12	53	05.4	+0.1
	1.7nm,0.5s,baz=254,slow=5.5,SNR=31									
MAW	**Mawson**	**84.25**	**163**	P		P	12	53	43.9	-0.3
	0.8nm,0.5s,baz=292,slow=5.4,SNR=3.2									
YKA	**Yellowknife Ar**	**91.30**	**340**	P		P	12	54	17.8	-0.1
	0.9nm,0.5s,baz=136,slow=4.4,SNR=5.6									
ASAR	**Alice Springs**	**130.25**	**207**	PKP		PKPdf	13	00	22.8	-0.7
	0.6nm,0.7s,baz=128,slow=1.7,SNR=11									
WRA	**Warramunga Arr**	**133.32**	**210**	PKP		PKPdf	13	00	28.7	-0.6
	0.5nm,0.5s,baz=151,slow=1.8,SNR=9.3									
KURBB	**Kurchatov Arra**	**140.95**	**34**	PKP		PKPdf	13	00	42.2	-0.2
	0.4nm,0.6s,baz=318,slow=3.3,SNR=5.1									
MKAR	**Makanchi Array**	**145.22**	**36**	PKPbc		PKPab	13	00	50.6	+0.5
	0.8nm,0.5s,baz=308,slow=4.9,SNR=6.9									

PRE 13 12:53:01.0±3.3, 29.50S×19.81E, h5km, ML4.3, 1C-1D, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
CVNA	**Calvinia**	**1.98**	**181**	*i*↑P		Pn	12	53	36.1	+0.8
CVNA				*e*S		Sn	12	54	01.3	+0.6
CVNA				AML		AML	12	54	02.2	
	comp=Z,960nm,0.6s									
KOMG	**Komaggas**	**2.04**	**261**	*e*P		Pn	12	53	36.2	+0.1
KOMG				*e*S		Sn	12	54	02.2	+0.2
KOMG				AML		AML	12	54	05.1	
	comp=Z,473nm,0.6s									
SUR	**Sutherland**	**3.00**	**164**	*i*↓P		Pn	12	53	51.2	+1.7
SUR				*e*S		Sn	12	54	26.7	+0.6
SUR				AML		AML	12	54	47.9	
	comp=Z,241nm,0.7s									
BOSA	**Boshof**	**4.85**	**81**	*e*P		Pn	12	54	16.5	+1.6
BOSA				*e*S		Sn	12	55	10.8	-0.7
BOSA				AML		AML	12	55	33.1	
	comp=Z,164nm,0.6s									
HVD	**Gariep Dam**	**5.06**	**104**	*e*P		Pn	12	54	18.4	+0.7
HVD				*e*S		Sn	12	55	17.0	+0.4
HVD				AML		AML	12	55	47.3	
	comp=Z,131nm,0.5s									

ELIM	**Elim**	**5.09**	**181**	*e*P		Pn	12	54	18.1	+0.1
ELIM				*e*S		Sn	12	55	13.1	-4.0
ELIM				AML		AML	12	55	46.7	
	comp=Z,131nm,0.5s									
SWZ	**Schweizer**	**5.39**	**66**	*e*P		Pn	12	54	22.5	+0.2
SWZ				*e*S		Sn	12	55	22.8	-2.1
SWZ				AML		AML	12	55	53.2	
	comp=Z,163nm,0.6s									
BUFB	**Buffelsbos**	**6.26**	**139**	*e*S		Sn	12	55	41.3	-4.6
BUFB				AML		AML	12	56	21.8	
	comp=Z,65nm,0.4s									
LBTB	**Lobatse**	**6.82**	**50**	*e*P		Pn	12	54	44.0	+2.2
LBTB				*e*S		Sn	12	55	56.6	-3.4
LBTB				AML		AML	12	56	34.0	
	comp=Z,71nm,0.5s									
GRM	**Grahamstown**	**6.88**	**125**	*e*P		Pn	12	54	43.6	+1.0
GRM				*e*S		Sn	12	56	02.5	+1.2
GRM				AML		AML	12	56	44.9	
	comp=Z,52nm,0.3s									
PRYS	**Parys**	**7.14**	**71**	*e*P		Pn	12	54	47.4	+1.0
PRYS				*e*S		Sn	12	56	04.5	-3.6
PRYS				AML		AML	12	56	46.2	
	comp=Z,74nm,0.4s									
WIN	**Windhoek**	**7.32**	**340**	*e*S		Sn	12	56	12.0	-0.5
WIN				AML		AML	12	56	57.8	
	comp=Z,16nm,0.5s									
ERPM	**east rand prop**	**8.10**	**69**	*e*P		Pn	12	55	02.3	+2.8
ERPM				*e*S		Sn	12	56	28.0	-3.7
ERPM				AML		AML	12	57	20.2	
	comp=Z,38nm,0.4s									
KSD	**Kokstad**	**8.40**	**100**	*e*P		Pn	12	55	05.7	+2.1
KSD				*e*S		Sn	12	56	34.4	-4.6
KSD				AML		AML	12	57	32.6	
	comp=Z,48nm,0.6s									
SLR	**Silverton**	**8.40**	**66**	*e*P		Pn	12	55	03.6	0.0
SLR				*e*S		Sn	12	56	33.0	-6.0
SLR				AML		AML	12	57	41.1	
	comp=Z,77nm,0.6s									
TSUM	**Tsumeb**	**10.45**	**348**	*e*S		Sn	12	57	21.8	-7.6
POGA	**Pongola**	**10.61**	**81**	*e*P		Pn	12	55	34.8	+1.1
POGA				*e*S		Sn	12	57	27.0	-5.9
POGA				AML		AML	12	58	35.6	
	comp=Z,27nm,0.5s									
CNG	**Changalane**	**11.41**	**77**	*e*S		Sn	12	57	43.0	-10
CNG				AML		AML	12	59	08.3	
	comp=Z,37nm,1.0s									

*NEIC **13** 12:59:01.5±0.4, 8.69S×112.38E, h35km, mb4.4/4, Error ellipse: s-maj=14.8km s-min=8.2km az=61.0*
*ISCJB **13** 12:59:05.8±0.4, 8.68S±0.05×112.50E±0.03, h93km±4km, mb4.1/20, Error ellipse: s-maj=8.1km s-min=4.3km az=12.3*
*AUST **13** 12:59:05.9±0.7, 8.93S×112.52E, h46km, Error ellipse: s-maj=1.2km s-min=0.7km az=7.0*
*IDC **13** 12:59:06.9±2.8, 8.58S×112.55E, h80km±24km, mb3.9/16, mb1 4.0/17, mb1mx3.9/23, mbtmp3.9/17, MS3.0/2, Ms1 3.0/2, ms1mx2.6/29, Error ellipse: s-maj=20.1km s-min=10.9km az=72.0*
*DJA **13** 12:59:07.4±0.8, 9.7S±7.1×11.2E±°, h21km±9km, M5.1/11, mb5.3/1, mB5.6/1, MLv4.9/11, Mw(mB)5.1/1*

ISC 13 12:59:06.6±0.8, 8.65S±0.07×112.47E±0.04, h79km±7km, n83, σ1°54/92, mb4.1/20, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
PWJI	**Pagerwojo**	**0.91**	**313**	P		**Pn**	**12**	**59**	**25.3**	**+0.8**
PWJI				S		**Sn**	**12**	**59**	**39.0**	**+1.2**
GMJI	**Gumukmas**	**1.03**	**69**	P		**Pn**	**12**	**59**	**25.3**	**-0.7**
GMJI				S		**Sn**	**12**	**59**	**40.7**	**+0.3**
SJI	**Sawahan**	**1.14**	**322**	P		**Pn**	**12**	**59**	**29.0**	**+1.5**
PCJI	**Pacitan**	**1.36**	**289**	P		**Pn**	**12**	**59**	**31.0**	**+0.9**
PCJI				S		**Sn**	**12**	**59**	**48.3**	**+0.6**
BLJI	**Banyuglugur**	**1.43**	**51**	P		**Pn**	**12**	**59**	**32.5**	**+1.5**
UGM	**Wanagama**	**2.06**	**291**	P		**Pn**	**12**	**59**	**42.4**	**+3.0**
UGM	**Wanagama**	**2.06**	**291**	P		**Pn**	**12**	**59**	**40.6**	**+1.2**
	baz=2.2,SNR=61									
UGM				S		**Sn**	**13**	**00**	**05.9**	**+1.5**
	baz=2.2,SNR=7.4									
KMMI	**Kalianget**	**2.17**	**43**	P		**Pn**	**12**	**59**	**42.4**	**+1.6**
YOGI	**Yogyakarta**	**2.31**	**291**	P		Pn	12	59	56.1	+13
IGBI	**Denpasar**	**2.65**	**94**	P		**Pn**	**12**	**59**	**48.3**	**+1.1**
DNP	**Denpasar**	**2.71**	**91**	P		Pn	12	59	51.3	+3.3
KHKI	**Kahang-Kahang**	**3.11**	**85**	P		**Pn**	**12**	**59**	**53.3**	**-0.2**
CISI	**Cisompet, Garu**	**4.74**	**283**	P		**Pn**	**13**	**00**	**17.6**	**+1.9**
CISI	**Cisompet, Garu**	**4.74**	**283**	P		**Pn**	**13**	**00**	**16.9**	**+1.2**
	baz=4.9,SNR=11									
CISI				S		**Sn**	**13**	**01**	**08.3**	**-1.1**
	baz=4.9,SNR=6.0									
LEM	**Lembang**	**5.14**	**290**	P		Pn	13	00	26.5	+5.2
LEM	**Lembang**	**5.14**	**290**	P		Pn	13	00	32.9	+12
	baz=5.3,SNR=3.1									
BBKI	**Banjar Baru**	**5.66**	**25**	P		Pn	13	00	31.9	+3.6
XMI	**Christmas Isla**	**6.93**	**254**	P		**Pn**	**13**	**00**	**43.8**	**-1.7**
	baz=6.9,SNR=8.3									
XMI				S		Sn	13	01	50.3	-13
	baz=6.9,SNR=7.8									
XMIS	**Christmas Isla**	**6.97**	**254**	P		**Pn**	**13**	**00**	**43.8**	**-2.4**
	baz=6.9,SNR=20									
XMIS				S		Sn	13	01	48.3	-16
	baz=6.9,SNR=3.6									
KAPI	**Kappang**	**8.08**	**64**	P		**Pn**	**13**	**01**	**01.2**	**0.0**
KAPI				S		**Sn**	**13**	**02**	**30.0**	**-1.1**
KAPI	**Kappang**	**8.08**	**64**	P		**Pn**	**13**	**01**	**01.2**	**0.0**
	2.0nm,0.3s,baz=238,slow=11,SNR=7.6									
KAPI				S		**Sn**	**13**	**02**	**30.0**	**-1.1**
	0.8nm,0.3s,baz=253,slow=19,SNR=2.3									
KAPI				LR		LR	13	04	46.4	
	comp=Z,92nm,20.2s,baz=34,slow=42									
MNAI	**Manna**	**10.37**	**294**	P		**Pn**	**13**	**01**	**34.3**	**+1.7**
	baz=10,SNR=7.4									
SOEI	**Soe**	**11.70**	**96**	P		**Pn**	**13**	**01**	**50.4**	**-0.4**
	baz=12,SNR=5.7									
MBWA	**Marble Bar**	**14.28**	**151**	*e*Pn		Pn	13	02	19.2	-5.9
	13nm,0.3s									
FITZ	**Fitzroy Crossi**	**15.88**	**128**	P		**Pn**	**13**	**02**	**42.4**	**-3.1**
FITZ				S		Sn	13	05	24.9	-16
FITZ	**Fitzroy Crossi**	**15.88**	**128**	P		**Pn**	**13**	**02**	**42.4**	**-3.1**
	0.8nm,0.3s,baz=329,slow=11,SNR=4.2									
FITZ				S		Sn	13	05	24.9	-16
	0.8nm,0.3s,baz=169,slow=16,SNR=6.3									
FITZ				LR		LR	13	08	23.8	
	comp=Z,82nm,21.9s,baz=120,slow=35									
FITZ	**Fitzroy Crossi**	**15.88**	**128**	P		**Pn**	**13**	**02**	**42.4**	**-3.1**
	baz=16,SNR=20									
KNRA	**Kununurra**	**17.38**	**115**	P		**Pn**	**13**	**03**	**04.0**	**-0.3**
	baz=17,SNR=44									
MTN	**Manton Dam**	**18.80**	**104**	P		**P**	**13**	**03**	**19.9**	**-0.1**
	baz=19,SNR=11									
MTN				S		S	13	06	40.3	-9.4
	baz=19,SNR=3.8									
MEEK	**Meekatharra**	**18.82**	**163**	P		**P**	**13**	**03**	**19.8**	**-0.4**
	baz=19,SNR=42									
MEEK				S		S	13	06	31.7	-18
	baz=19,SNR=8.7									
KDU	**Kakadu**	**20.06**	**103**	P		**P**	**13**	**03**	**32.4**	**-1.3**
	baz=20,SNR=14									
KDU				S		S	13	07	06.1	-8.9
	baz=20,SNR=6.2									
FAKI	**Fak Fak**	**20.47**	**75**	P		**P**	**13**	**03**	**38.6**	**+0.3**
	baz=20,SNR=5.5									
MORW	**Morawa**	**20.59**	**171**	P		Pn	13	03	42.7	+0.4
	baz=20,SNR=8.1									
MORW				S		S	13	07	16.0	-9.3
	baz=20,SNR=7.4									
WRA	**Warramunga Arr**	**23.95**	**120**	P		**P**	**13**	**04**	**13.0**	**-0.8**
WRA				PcP		**PcP**	**13**	**07**	**54.7**	**+0.2**
WRA				S		**S**	**13**	**08**	**31.3**	**+6.3**
WRA				ScP		**ScP**	**13**	**11**	**25.3**	**-0.8**
WRA	**Warramunga Arr**	**23.95**	**120**	P		**P**	**13**	**04**	**13.0**	**-0.8**
	4.6nm,0.5s,baz=299,slow=11,SNR=89									
WRA				PcP		**PcP**	**13**	**07**	**54.7**	**+0.2**
	0.3nm,0.3s,baz=329,slow=1.8,SNR=4.5									
WRA				S		**S**	**13**	**08**	**31.3**	**+6.3**
	0.2nm,0.3s,baz=289,slow=25,SNR=3.4									
WRA				ScP		**ScP**	**13**	**11**	**25.3**	**-0.8**
	0.9nm,0.5s,baz=304,slow=1.9,SNR=6.8									
WRAB	**Tennant Creek**	**23.95**	**120**	*e*P		**P**	**13**	**04**	**12.7**	**-1.2**
	9.8nm,1.0s									
NWAO	**Narrogin (SRO)**	**24.56**	**170**	P		**P**	**13**	**04**	**18.4**	**-0.7**
NWAO				S		S	13	08	46.3	+12
NWAO	**Narrogin (SRO)**	**24.56**	**170**	P		**P**	**13**	**04**	**18.4**	**-0.7**
	8.2nm,0.9s,baz=344,slow=7.4,SNR=2.7									
NWAO				S		S	13	08	46.3	+12
	9.2nm,1.0s,baz=112,slow=19,SNR=2.4									
ASAR	**Alice Springs**	**25.38**	**129**	P		**P**	**13**	**04**	**26.1**	**-0.6**
ASAR				S		S	13	09	15.5	+28
ASAR	**Alice Springs**	**25.38**	**129**	P		**P**	**13**	**04**	**26.1**	**-0.6**
	2.0nm,0.4s,baz=303,slow=9.4,SNR=70									
ASAR				S		S	13	09	15.5	+28
	3.0nm,0.7s,baz=309,slow=25,SNR=7.0									
AS31	**Alice Springs**	**25.38**	**129**	*e*P		**P**	**13**	**04**	**26.1**	**-0.6**
AS31				*e*S		**S**	**13**	**08**	**50.7**	**+2.9**
CMAR	**Chiang Mai Arr**	**30.06**	**334**	P		**P**	**13**	**05**	**09.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**30.06**	**334**	P		**P**	**13**	**05**	**09.5**	**+0.9**
	1.6nm,0.8s,baz=169,slow=8.5,SNR=6.8									
MTSU	**Mount Surprise**	**32.33**	**110**	P		**P**	**13**	**05**	**29.6**	**+0.9**
	baz=32,SNR=9.7									
STKA	**Stephens Creek**	**35.58**	**135**	*e*P		**P**	**13**	**05**	**56.5**	**-0.1**
	5.5nm,0.9s									
STKA				PcP		**PcP**	**13**	**08**	**24.4**	**+0.3**
STKA	**Stephens Creek**	**35.58**	**135**	P		**P**	**13**	**05**	**56.9**	**+0.3**
	21nm,0.5s,baz=311,slow=8.8,SNR=85									
STKA				PcP		**PcP**	**13**	**08**	**24.4**	**+0.3**
	3.5nm,0.8s,baz=339,slow=6.8,SNR=3.8									
STKA	**Stephens Creek**	**35.58**	**135**	P		**P**	**13**	**05**	**56.9**	**+0.3**
	baz=35,SNR=62									
CMSA	**Cobar Meteorol**	**38.37**	**131**	P		**P**	**13**	**06**	**22.3**	**+2.0**
	baz=38,SNR=5.9									
KSAR	**Wonju Array Be**	**48.06**	**17**	P		**P**	**13**	**07**	**39.0**	**+0.8**
KSRS	**Korea Array**	**48.09**	**17**	P		**P**	**13**	**07**	**39.0**	**+0.6**
	2.0nm,0.7s,baz=202,slow=8.2,SNR=7.4									
MAJO	**Matsushiro**	**51.04**	**27**	P		**P**	**13**	**08**	**00.1**	**-0.8**
MJAR	**Matsushiro Arr**	**51.04**	**27**	P		**P**	**13**	**07**	**58.6**	**-2.3**
MJAR	**Matsushiro Arr**	**51.04**	**27**	P		**P**	**13**	**07**	**58.6**	**-2.3**
	1.7nm,0.5s,baz=209,slow=8.1,SNR=6.4									
USRK	**Ussuriysk Arra**	**55.49**	**17**	P		**P**	**13**	**08**	**33.2**	**-0.1**
	5.4nm,0.7s,baz=215,slow=2.5,SNR=10									
SONM	**Songino Array**	**56.49**	**355**	P		**P**	**13**	**08**	**40.6**	**-0.1**
SONM	**Songino Array**	**56.49**	**355**	P		**P**	**13**	**08**	**40.6**	**-0.1**
	1.6nm,0.6s,baz=177,slow=8.4,SNR=14									
MK31	**Makanchi Array**	**61.40**	**337**	*e*P		**P**	**13**	**09**	**13.6**	**-0.9**
MKAR	**Makanchi Array**	**61.40**	**337**	P		**P**	**13**	**09**	**13.9**	**-0.6**
MKAR	**Makanchi Array**	**61.40**	**337**	P		**P**	**13**	**09**	**13.9**	**-0.6**
	2.3nm,0.5s,baz=146,slow=7.4,SNR=24									
KKAR	**Karatay Array**	**64.10**	**327**	*e*P		**P**	**13**	**09**	**31.8**	**-0.8**
	1.1nm,0.6s									
ZALV	**Zalesovo Beam**	**66.59**	**343**	P		**P**	**13**	**09**	**47.4**	**-1.0**
ZALV	**Zalesovo Beam**	**66.59**	**343**	P		**P**	**13**	**09**	**47.4**	**-1.0**
	2.0nm,0.4s,baz=159,slow=4.7,SNR=5.7									
MAW	**Mawson**	**67.45**	**198**	P		**P**	**13**	**09**	**54.4**	**+0.8**
MAW	**Mawson**	**67.45**	**198**	P		**P**	**13**	**09**	**54.4**	**+0.8**
	0.7nm,0.4s,baz=66,slow=5.3,SNR=7.2									
BVAR	**Borovoye Array**	**71.08**	**335**	P		**P**	**13**	**10**	**15.5**	**-0.8**
BVAR	**Borovoye Array**	**71.08**	**335**	P		**P**	**13**	**10**	**15.5**	**-0.8**
	1.0nm,0.7s,baz=106,slow=11,SNR=5.7									
PETK	**Petropavlovsk-**	**72.50**	**27**	P		**P**	**13**	**10**	**24.4**	**-0.3**
PETK	**Petropavlovsk-**	**72.50**	**27**	P		**P**	**13**	**10**	**24.4**	**-0.3**
	1.7nm,0.7s,baz=212,slow=3.8,SNR=9.1									
VNDA	**Vanda**

s-min=16.2km az=37.0
*MOS **13** 15:09:34.1±0.9,0°.63S×84°.32E,h10km,mb4.8/20,Error ellipse: s-maj=12.3km s-min=6.7km az=118.4*
*NEIC **13** 15:09:34.3±3.3,0°.74S×84°.22E,h4km±20km,mb4.7/5, Error ellipse: s-maj=8.5km s-min=7.8km az=56.0*
*SZGRF **13** 15:09:47.8,0°.44S×82°.01E,h33km,mb4.8, South Indian Ocean*
ISC 13 15:09:35.1±0.4,0°.78S±0°.06×84°.31E±0°.07,h10km,n195, σ1§09/213,mb4.7/82,MS3.7/15,13C-9D,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**8.77**	**336**	*e*P	n		**Pn**	**15 11 40.6**	**-1.6**
PALK				*e*S			Sn	15 13 09.5	-12
TRD	**Trivandrum**	**11.78**	**322**	*e*P			**Pn**	**15 12 21.6**	**-1.8**
DGAR	**Diego Garcia**	**13.53**	**241**	*e*P			**Pn**	**15 12 49.4**	**+2.1**
DGAR	**Diego Garcia**	**13.53**	**241**	P			**Pn**	**15 12 46.0**	**-1.3**
PSI	**Prapat**	**15.04**	**76**	LR			LR	15 18 23.8	
	comp=Z,233nm,18.1s,baz=93,slow=35								
COCO	**West Island**	**16.82**	**133**	P			**Pn**	**15 13 27.8**	**-3.1**
COCO	**West Island**	**16.82**	**133**	P			**Pn**	**15 13 27.8**	**-3.1**
VIS	**Vishakhapatnam**	**18.41**	**357**	*e*P			**P**	**15 13 50.1**	**-0.5**
HYB	**Hyderabad**	**18.95**	**343**	*i* P			**Pn**	**15 13 58.0**	**+0.7**
HYB				*e*S			**Sn**	**15 17 26.0**	**-3.7**
HYB	**Hyderabad**	**18.95**	**343**	*e*P			**P**	**15 13 55.0**	**-1.7**
LATR	**Latur**	**20.54**	**339**	*e*P			**P**	**15 14 13.0**	**-0.9**
POO	**Poona**	**21.77**	**332**	*e*P			**P**	**15 14 26.8**	**-0.5**
	comp=Z,58nm,1.4s								
POO					AMB		AMB	15 14 36.3	
	comp=Z,75nm,3.0s								
CMAR	**Chiang Mai Arr**	**23.93**	**36**	P			**P**	**15 14 50.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**23.93**	**36**	P			**P**	**15 14 50.4**	**+0.8**
	comp=Z,3.2nm,0.8s,baz=234,slow=11,SNR=16								
CMAR					LR		LR	15 23 21.1	
	comp=Z,131nm,21.3s,baz=225,slow=34								
BOK	**Bokaro**	**24.48**	**3**	*e*P			**P**	**15 14 53.4**	**-1.2**
BOK					AMB		AMB	15 14 53.6	
	comp=Z,28nm,2.3s								
BHPL	**Bhopal**	**24.80**	**345**	*e*P			**P**	**15 14 54.0**	**-3.6**
SHL	**Shillong**	**27.20**	**15**	*e*P			**P**	**15 15 20.0**	**+0.6**
DDI	**Dehra Dun**	**31.50**	**350**	*e*P			**P**	**15 15 56.4**	**-1.0**
QIZ	**Qiongzhong**	**31.88**	**51**	P			**P**	**15 16 00.0**	**-0.8**
QIZ				S			**S**	**15 21 11.9**	**0.0**
QIZ					pmax		pmax		
	comp=Z,160nm,4.3s								
SMLA	**Simla**	**32.45**	**349**	*e*P			**P**	**15 16 05.4**	**-0.3**
SMLA					AMB		AMB	15 16 22.1	
	comp=Z,6.7nm,0.6s								
DHRM	**DHARAMSHALA**	**33.72**	**348**	*e*P			P	15 16 13.3	-3.7
DHRM					AMB		AMB	15 16 26.6	
	comp=Z,12nm,1.1s								
GYA	**Guiyang**	**34.61**	**37**	*e*P			**P**	**15 16 26.9**	**+2.1**
GYA					pmax		pmax		
	comp=Z,10.0nm,0.8s								
CD2	**Chengdu**	**36.54**	**29**	P			**P**	**15 16 42.0**	**+0.8**
CD2				PP			**PP**	**15 18 06.8**	**+2.4**
CD2				PcP			**PcP**	**15 19 05.0**	**+0.2**
CD2				S			**S**	**15 22 24.9**	**+1.2**
CD2				ScP			**ScP**	**15 22 50.6**	**-1.1**
CD2				PcS			**PcS**	**15 22 51.8**	**-0.9**
CD2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
CD2					pmax		pmax		
	comp=Z,120nm,5.6s								
LZH	**Lanzhou**	**40.94**	**24**	*e*P			**P**	**15 17 20.5**	**+2.3**
LZH				pP			**pP**	**15 17 24.3**	**+3.0**
LZH				PP			**PnPn**	**15 18 55.4**	**-1.5**
LZH				*e*S			**S**	**15 23 29.6**	**-0.7**
LZH					pmax		pmax		
	comp=Z,15nm,1.0s								
LZH					pmax		pmax		
	comp=Z,95nm,4.6s								
LZH					LR		LR		
	comp=N,230nm,15.6s								
LZH					LR		LR		
	comp=E,210nm,12.3s								
LZH					LR		LR		
	comp=Z,370nm,16.5s								
GTA	**Gaotai**	**42.45**	**18**	P			**P**	**15 17 31.6**	**+1.2**
GTA				pP			**pP**	**15 17 36.1**	**+2.5**
GTA				S			**S**	**15 23 54.1**	**+1.7**
GTA					pmax		pmax		
	comp=Z,4.0nm,1.6s								
GTA					pmax		pmax		
	comp=Z,62nm,4.5s								
GTA					LR		LR		
	comp=N,120nm,18.8s								
GTA					LR		LR		
	comp=E,190nm,18.3s								
FITZ	**Fitzroy Crossi**	**44.08**	**115**	LR			LR	15 34 07.6	
	comp=E,105nm,20.1s,baz=270,slow=33								
AAK	**Ala-Archa**	**44.11**	**350**	*e*P			**P**	**15 17 45.5**	**+1.6**
AAK					pmax		pmax		
	comp=Z,15nm,1.9s								
WMQ	**Urumqi**	**44.51**	**3**	P			**P**	**15 17 48.0**	**+1.1**
WMQ				pP			**pP**	**15 17 52.0**	**+1.9**
WMQ				PP			**PP**	**15 19 33.0**	**+2.1**
WMQ				ScP			**ScP**	**15 23 22.4**	**-0.3**
WMQ				S			**S**	**15 24 22.3**	**0.0**
WMQ				ScS			**SS**	**15 27 43.3**	**+1.3**
WMQ					pmax		pmax		
	comp=Z,8.0nm,0.6s								
WMQ					pmax		pmax		
	comp=Z,140nm,4.6s								
WMQ					LR		LR		
	comp=N,97nm,5.3s								
WMQ					LR		LR		
	comp=E,91nm,5.2s								
NJ2	**Nanjing**	**46.19**	**42**	*e*P			P	15 18 09.6	+9.2
NJ2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
KMBO	**Kilima Mbogo**	**47.05**	**269**	*e*P			**P**	**15 18 09.0**	**+1.2**
	comp=Z,40nm,2.0s								
KMBO	**Kilima Mbogo**	**47.05**	**269**	P			**P**	**15 18 08.9**	**+1.2**
	comp=Z,3.1nm,0.6s,baz=96,slow=9.2,SNR=12								
KMBO					LR		LR	15 34 46.1	
	comp=Z,74nm,18.0s,baz=91,slow=32								
MK31	**Makanchi Array**	**47.41**	**358**	*e*P			**P**	**15 18 09.9**	**+0.2**
MK31	**Makanchi Array**	**47.41**	**358**	*e*P			**P**	**15 18 09.9**	**+0.2**
MKAR	**Makanchi Array**	**47.41**	**358**	*e*P			**P**	**15 18 08.8**	**-0.9**
MKAR	**Makanchi Array**	**47.41**	**358**	*e*P			**P**	**15 18 08.8**	**-0.9**
MKAR	**Makanchi Array**	**47.41**	**358**	P			**P**	**15 18 10.2**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=192,slow=8.6,SNR=30								
MKAR					LR		LR	15 39 29.6	
	comp=Z,39nm,18.8s,baz=175,slow=38								
HHC	**Hu-ho-hao-te**	**48.28**	**28**	*e*P			**P**	**15 18 15.9**	**-0.8**
HHC				PcP			**PcP**	**15 19 41.3**	**-2.3**
HHC				PP			**PP**	**15 20 08.8**	**-0.4**
HHC				ScP			**ScP**	**15 23 34.4**	**-4.1**
HHC				S			**S**	**15 25 15.5**	**-1.1**
HHC				ScS			**ScS**	**15 28 05.6**	**-4.5**
HHC				SS			**SS**	**15 28 41.8**	**-4.5**
HHC					pmax		pmax		
	comp=Z,22nm,1.1s								
HHC					LR		LR		
	comp=N,220nm,17.8s								
HHC					LR		LR		
	comp=E,220nm,16.7s								
HHC					LR		LR		
	comp=Z,140nm,19.0s								
BJI	**Beijing**	**49.96**	**32**	P			**P**	**15 18 30.3**	**+0.9**
BJI					pmax		pmax		
	comp=Z,10.0nm,0.6s								
KURBB	**Kurchatov Arra**	**51.45**	**355**	P			**P**	**15 18 41.1**	**+0.7**
	comp=Z,4.7nm,0.7s,baz=184,slow=7.2,SNR=36								
KURK	**Kurchatov**	**51.53**	**355**	P			**P**	**15 18 41.1**	**0.0**
KURK	**Kurchatov**	**51.53**	**355**	P			**P**	**15 18 41.1**	**0.0**
SONM	**Songino Array**	**52.10**	**19**	P			**P**	**15 18 46.3**	**+0.7**
SONM	**Songino Array**	**52.10**	**19**	P			**P**	**15 18 46.3**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=198,slow=7.7,SNR=19								
WRA	**Warramunga Arr**	**52.49**	**115**	P			**P**	**15 18 49.8**	**+1.0**
WRA	**Warramunga Arr**	**52.49**	**115**	P			**P**	**15 18 49.8**	**+1.0**
	comp=Z,1.6nm,0.9s,baz=299,slow=7.9,SNR=9.8								
WRAB	**Tennant Creek**	**52.50**	**115**	*e*P			**P**	**15 18 50.3**	**+1.4**
WRAB					pmax		pmax		
	comp=Z,4.0nm,0.8s								
WRAB	**Tennant Creek**	**52.50**	**115**	*e*P			**P**	**15 18 50.3**	**+1.4**
	comp=Z,4.4nm,0.8s								
ASAR	**Alice Springs**	**53.15**	**119**	P			**P**	**15 18 54.5**	**+0.9**
ASAR	**Alice Springs**	**53.15**	**119**	P			**P**	**15 18 54.5**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=299,slow=7.5,SNR=5.4								
ABKAR	**Akbulak array**	**54.09**	**341**	*e*P			**P**	**15 19 00.0**	**0.0**
ZALV	**Zalesovo Beam**	**54.54**	**0**	P			**P**	**15 19 03.4**	**+0.2**
ZALV	**Zalesovo Beam**	**54.54**	**0**	P			**P**	**15 19 03.4**	**+0.2**
	comp=Z,3.7nm,0.7s,baz=196,slow=7.7,SNR=17								
TLY	**Talaya**	**54.77**	**15**	*e*P			**P**	**15 19 03.5**	**-1.5**
TLY				*e*S			S	15 27 00.5	+15
TLY					pmax		pmax		
	comp=Z,2.0nm,0.8s								
TLY					MLR		MLR		
	comp=Z,41nm,18.0s								
BVAR	**Bovoye Array**	**54.87**	**350**	LR			LR	15 43 25.8	
	comp=Z,81nm,18.4s,baz=276,slow=37								
BRVK	**Borovoye**	**54.92**	**350**	*c i*P			**P**	**15 19 05.4**	**-0.6**
BRVK					pmax		pmax		
	comp=Z,5.0nm,1.3s								
KSRS	**Korea Array**	**55.40**	**42**	LR			LR	15 43 09.9	
	comp=Z,25nm,18.6s,baz=250,slow=36								
MALT	**Malatya**	**57.37**	**318**	⇑*i*P			P	15 19 41.8	+18
CN2	**Changchun**	**57.59**	**34**	*e*P			**P**	**15 19 26.3**	**+1.0**
KIV	**Kislovodsk**	**57.96**	**326**	*e*P			**P**	**15 19 28.8**	**+0.8**
KIV					pmax		pmax		
	comp=Z,16nm,1.0s								
MDJ	**Mudanjiang**	**60.46**	**36**	P			**P**	**15 19 45.4**	**+0.2**
MDJ					pmax		pmax		
	comp=Z,7.0nm,2.2s								
ARU	**Arti**	**60.72**	**344**	*d i*P			**P**	**15 19 46.4**	**-0.3**
ARU								15 21 56.4	
ARU					S		**S**	**15 28 04.3**	**+0.9**
ARU					SS		**SS**	**15 32 01.6**	**-0.7**
ARU					pmax		pmax		
	comp=Z,8.0nm,1.7s								
BRTR	**Keskin Array B**	**61.31**	**317**	P			**P**	**15 19 50.6**	**-0.6**
BRTR	**Keskin Array B**	**61.31**	**317**	P			**P**	**15 19 50.6**	**-0.6**
	comp=Z,2.1nm,0.9s,baz=129,slow=7.4,SNR=8.4								
STKA	**Stephens Creek**	**62.17**	**126**	P			**P**	**15 19 57.7**	**+0.7**
STKA	**Stephens Creek**	**62.17**	**126**	P			**P**	**15 19 57.7**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=297,slow=4.0,SNR=1.9								
OBN	**Obninsk**	**67.96**	**333**	⇑*i*P			**P**	**15 20 33.8**	**-0.3**
OBN					pmax		pmax		
	comp=Z,19nm,1.5s								
MAW	**Mawson**	**68.34**	**189**	LR			LR	15 47 00.1	
	comp=Z,42nm,18.1s,baz=273,slow=33								
VRI	**Vrincioaia**	**68.60**	**321**	⇓*i*P			**P**	**15 20 39.1**	**+0.7**
VRI	**Vrincioaia**	**68.60**	**321**	⇓*i*P			**P**	**15 20 39.1**	**+0.7**
TESR	**Tescani**	**68.92**	**321**	⇓*i*P			**P**	**15 20 40.3**	**-0.1**
MLR	**Muntele Rosu**	**68.94**	**320**	⇓*i*P			**P**	**15 20 40.7**	**0.0**
VOIR		**69.50**	**320**	⇓P			**P**	**15 20 44.7**	**+0.6**
VOIR		**69.50**	**320**	⇓*i*P			**P**	**15 20 44.7**	**+0.6**
VTS	**Vitosha**	**69.65**	**316**	⇑P			**P**	**15 20 45.1**	**-0.1**
VTS	**Vitosha**	**69.65**	**316**	⇑*i*P			**P**	**15 20 45.1**	**-0.1**
BURAR	**Bucovina Array**	**70.27**	**322**	⇑P			**P**	**15 20 50.1**	**+1.3**
BURAR	**Bucovina Array**	**70.27**	**322**	⇑*i*P			**P**	**15 20 50.1**	**+1.3**
BUR08	**Bucovina Ar. S**	**70.30**	**322**	*e*P			**P**	**15 20 49.2**	**+0.2**
DRGR		**71.52**	**320**	⇓P			**P**	**15 20 55.6**	**-0.8**
DRGR		**71.52**	**320**	⇓*i*P			**P**	**15 20 55.6**	**-0.8**
BZS	**Buzias**	**71.80**	**319**	⇑P			**P**	**15 20 58.5**	**+0.5**
BZS	**Buzias**	**71.80**	**319**	⇑*i*P			**P**	**15 20 58.5**	**+0.5**
KOLS	**Kolonicke sedl**	**72.60**	**322**	*e*P			**P**	**15 21 03.1**	**+0.3**
KOLS					pmax		pmax		
	comp=Z,9.0nm,1.5s								
KOLS	**Kolonicke sedl**	**72.60**	**322**	*e*P			**P**	**15 21 03.1**	**+0.3**
KECS	**Kecovo**	**73.54**	**321**	*e*P			**P**	**15 21 08.0**	**-0.3**
KECS					pmax		pmax		
	comp=Z,3.0nm,0.8s								
KECS	**Kecovo**	**73.54**	**321**	*e*P			**P**	**15 21 08.0**	**-0.3**
PKSM	**Moragy**	**73.96**	**319**	⇑P			**P**	**15 21 10.7**	**-0.1**
PKSM	**Moragy**	**73.96**	**319**	⇑*i*P			**P**	**15 21 10.7**	**-0.1**
VYHS	**Vyhne**	**74.57**	**321**	*e*P			**P**	**15 21 13.9**	**-0.5**
VYHS					pmax		pmax		
	comp=Z,3.0nm,1.1s								
VYHS	**Vyhne**	**74.57**	**321**	*e*P			**P**	**15 21 13.9**	**-0.5**
JOF	**Joensuu**	**74.73**	**338**	*e*P			**P**	**15 21 14.4**	**-0.5**
JOF					pmax		pmax		
	comp=Z,4.0nm,0.6s								
FINES	**FINESS Array B**	**76.05**	**335**	P			**P**	**15 21 22.2**	**-0.3**
FINES	**FINESS Array B**	**76.05**	**335**	P			**P**	**15 21 22.3**	**-0.3**
	comp=Z,4.4nm,0.8s,baz=108,slow=6.2,SNR=12								
FINES					LR		LR	15 57 21.9	
	comp=Z,74nm,19.4s,baz=128,slow=38								
KAF	**Kangasniemi**	**76.28**	**336**	*e*P			**P**	**15 21 22.6**	**-1.3**
KAF					pmax		pmax		
	comp=Z,8.0nm,0.7s								
KSP	**Ksiaz**	**76.89**	**323**	*e*P			**P**	**15 21 28.2**	**+0.6**
TIXI	**Tiksi**	**77.71**	**13**	*c i*P			**P**	**15 21 31.5**	**-0.2**
TIXI					pmax		pmax		
	comp=Z,15nm,1.7s								
TIXI					MLR		MLR		
	comp=Z,28nm,23.0s								
GEC2	**GERESS Array S**	**77.93**	**320**	*e*P			**P**	**15 21 33.1**	**-0.5**
	comp=Z,7.0nm,1.0s								
GEC2	**GERESS Array S**	**77.93**	**320**	*e*P			**P**	**15 21 33.9**	**+0.4**
GEC2	**GERESS Array S**	**77.93**	**320**	*e*P			**P**	**15 21 33.9**	**+0.4**
GERES	**GERESS Array B**	**77.93**	**320**	P			**P**	**15 21 33.0**	**-0.6**
GERES	**GERESS Array B**	**77.93**	**320**	P			**P**	**15 21 33.0**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=115,slow=6.0,SNR=18								
KHC	**Kasperske Hory**	**78.08**	**321**	*e*P			**P**	**15 21 34.1**	**-0.3**
KHC					pmax		pmax		
	comp=Z,8.0nm,0.8s								
KHC	**Kasperske Hory**	**78.08**	**321**	*e*P			**P**	**15 21 34.1**	**-0.3**
	comp=Z,8.1nm,0.8s								
RJOB	**Jochberg**	**78.23**	**319**	*e*P			**P**	**15 21 34.4**	**-0.8**
	comp=Z,7.0nm,1.0s								
KEST	**Kesra**	**78.28**	**307**	P			**P**	**15 21 36.2**	**+0.5**
KEST	**Kesra**	**78.28**	**307**	P			**P**	**15 21 36.2**	**+0.5**
	comp=Z,3.0nm,0.9s,baz=59,slow=5.9,SNR=5.9								
BRG	**Berggiesshubel**	**78.32**	**322**	*e*P			**P**	**15 21 36.2**	**+0.6**
	comp=Z,5.4nm,0.8s								
BRG	**Berggiesshubel**	**78.32**	**322**	*e*P			**P**	**15 21 36.2**	**+0.6**
BRG					pmax		pmax		
	comp=Z,1.0nm,0.9s								
WET	**Wettzell**	**78.53**	**321**	*e*P			**P**	**15 21 36.8**	**0.0**
	comp=Z,5.0nm,0.9s								
WET	**Wettzell**	**78.53**	**321**	*e*P			**P**	**15 21 36.8**	**0.0**
WET					pmax		pmax		
	comp=Z,8.0nm,0.9s								
FBE	**Freiberg**	**78.70**	**322**	*e*P			**P**	**15 21 38.4**	**+0.8**
	comp=Z,8.0nm,0.7s								
CLL	**Collm**	**79.01**	**323**	*e*P			**P**	**15 21 39.5**	**+0.2**
	comp=Z,6.0nm,0.9s								
CLL	**Collm**	**79.01**	**323**	*i* P			**P**	**15 21 39.6**	**+0.2**
CLL					pmax		pmax		
	comp=Z,6.0nm,1.1s								
CLL	**Collm**	**79.01**	**323**	*i* P			**P**	**15 21 39.6**	**+0.2**
	comp=Z,8.0nm,1.1s								
ROTZ	**Rotzenmuhle**	**79.11**	**321**	*e*P			**P**	**15 21 40.6**	**+0.7**
	comp=Z,6.0nm,0.9s								
MANZ	**Manzenberg**	**79.22**	**321**	*e*P			**P**	**15 21 41.4**	**+0.8**
	comp=Z,9.0nm,0.9s								
MOX	**Moxa**	**79.69**	**322**	*e*P			**P**	**15 21 43.5**	**+0.4**
	comp=Z,6.0nm,1.0s								
MOX	**Moxa**	**79.69**	**322**	*e*P			**P**	**15 21 43.5**	**+0.4**
MOX					pmax		pmax		
	comp=Z,1.0nm,1.0s								
GRF	**Grafenberg Arr**	**79.71**	**321**	*e*P			**P**	**15 21 43.7**	**+0.5**
	comp=Z,1.9nm,1.1s								
GRF	**Grafenberg Arr**	**79.71**	**321**	*e*P			**P**	**15 21 43.7**	**+0.5**
GRF					pmax		pmax		
	comp=Z,1.0nm,1.1s								
PGF	**Pioggiola**	**79.73**	**313**	*e*P			**P**	**15 21 42.9**	**-0.7**
	comp=Z,22nm,1.1s								
KEV	**Kevo**	**79.90**	**343**	*e*P			**P**	**15 21 43.8**	**0.0**
KEV					pmax		pmax		
	comp=Z,3.0nm,0.7s								
TAM	**Tamanrasset**	**79.97**	**293**	*e*P			**P**	**15 21 45.9**	**+0.6**
TAM					pmax		pmax		
	comp=Z,4.0nm,1.2s								
TAM	**Tamanrasset**	**79.97**	**293**	*e*P			**P**	**15 21 45.9**	**+0.6**
	comp=Z,4.0nm,1.2s								
ARCES	**ARCESS Array B**	**80.24**	**342**	P			**P**	**15 21 46.0**	**+0.3**
ARCES	**ARCESS Array B**	**80.24**	**342**	P			**P**	**15 21 46.0**	**+0.3**
	comp=Z,3.1nm,0.7s,baz=116,slow=5.5,SNR=19								
ARCES					LR		LR	16 00 10.2	
	comp=Z,49nm,18.6s,baz=274,slow=38								
CLZ	**Clausthal**	**80.73**	**323**	*e*P			**P**	**15 21 49.2**	**+0.5**
	comp=Z,7.0nm,0.7s								
CLZ	**Clausthal**	**80.73**	**323**	*e*P			**P**	**15 21 49.2**	**+0.5**
CLZ					pmax		pmax		
	comp=Z,14nm,0.7s								
SEY	**Seymchan**	**80.86**	**25**	⇑*i*P			**P**	**15 21 49.0**	**-0.1**
SBF	**Sospel**	**81.09**	**315**	*e*P			**P**	**15 21 50.4**	**-0.5**
	comp=Z,33nm,0.8s								
BSEG	**Bad Segeberg**	**81.25**	**325**	*e*P			**P**	**15 21 52.1**	**+0.8**
	comp=Z,10.0nm,0.8s								
BSEG	**Bad Segeberg**	**81.25**	**325**	*e*P			**P**	**15 21 52.1**	**+0.8**
BSEG					pmax		pmax		
	comp=Z,13nm,0.8s								
BFO	**Black Forest**	**81.28**	**319**	*e*P			**P**	**15 21 51.5**	**-0.2**
	comp=Z,4.0nm,0.6s								
BFO	**Black Forest**	**81.28**	**319**	*e*P			**P**	**15 21 51.5**	**-0.2**
BFO					pmax		pmax		
	comp=Z,26nm,0.6s								
TNS	**Taunus Mts**	**81.58**	**321**	*e*P			**P**	**15 21 54.1**	**+0.8**
	comp=Z,11nm,1.1s								
TNS	**Taunus Mts**	**81.58**	**321**	*e*P			**P**	**15 21 54.1**	**+0.8**
TNS					pmax		pmax		
	comp=Z,18nm,1.1s								
SENIN	**Lac Senin/Sane**	**81.61**	**317**	*e*P			**P**	**15 21 51.2**	**-2.5**
	comp=Z,6.8nm,0.8s								
MBDF	**Montbardon**	**81.70**	**315**	*e*P			**P**	**15 21 55.0**	**+0.8**
	comp=Z,8.9nm,0.8s								
LPG	**La Plagne**	**81.84**	**316**	*e*P			**P**	**15 21 54.3**	**-0.8**
	comp=Z,9.0nm,0.9s								
LPL	**La Plagne**	**81.86**	**316**	*e*P			**P**	**15 21 54.5**	**-0.6**
	comp=Z,7.6nm,0.7s								
CDF	**Champ du Feu**	**81.99**	**319**	*e*P			**P**	**15 21 55.2**	**-0.3**
ORIF	**Oris-en-Rattie**	**82.36**	**315**	*e*P			**P**	**15 21 56.7**	**-0.9**
ORIF				*e*R					
	comp=Z,42nm,23.0s								
SMRF	**Simiane la Rot**	**82.44**	**314**	*e*P			**P**	**15 21 57.4**	**-0.5**
CABF	**La Chapelle**	**82.48**	**317**	*e*P			**P**	**15 21 58.3**	**+0.1**
	comp=Z,26nm,1.1s								
HAU	**Haudompre**	**82.53**	**319**	*e*P			**P**	**15 21 58.1**	**-0.2**
HAU				*e*R					
	comp=Z,27nm,19.8s								
BUG	**Bochum-Univer**	**82.54**	**322**	*e*P			**P**	**15 21 59.0**	**+0.8**
	comp=Z,10.0nm,0.7s								
NB2	**NORSAR Subarra**	**82.55**	**332**	P			**P**	**15 21 56.9**	**-1.2**
	comp=Z,4.7nm,1.1s,baz=101,slow=5.3								
NOA	**NORSAR Array B**	**82.55**	**332**	P			**P**	**15 21 57.0**	**-1.1**
NOA	**NORSAR Array B**	**82.55**	**332**	P			**P**	**15 21 57.0**	**-1.1**
	comp=Z,1.9nm,0.8s,baz=103,slow=5.9,SNR=6.2								
NOA					LR		LR	16 03 19.4	
	comp=Z,32nm,18.9s,baz=130,slow=39								
WLF	**Walferdange**	**82.93**	**320**	*e*P			**P**	**15 22 00.8**	**+0.5**
	comp=Z,20nm,1.1s								
TORD	**Torodi Ar. Bea**	**82.98**	**283**	P			**P**	**15 22 01.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**82.98**	**283**	P			**P**	**15 22 01.2**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=85,slow=4.7,SNR=9.1								
PAGF	**Fort de Pagny**	**83.03**	**319**	*e*P			**P**	**15 22 01.1**	**+0.2**
VIVF	**Saint-Julien-l**	**83.20**	**315**	*e*P			**P**	**15 22 01.8**	**-0.1**
	comp=Z,8.7nm,0.9s								
SFTF	**Sexfontaines**	**83.43**	**319**	*e*P			**P**	**15 22 03.2**	**+0.3**
MEZF	**Maizieres J'vi**	**83.46**	**319**	*e*P			**P**	**15 22 03.4**	**+0.3**
	comp=Z,18nm,0.8s								
LASF	**Ste Croix**	**83.68**	**314**	*e*P			**P**	**15 22 04.5**	**+0.2**
GIVF	**Givet**	**83.85**	**320**	*e*P			**P**	**15 22 05.4**	**+0.4**
SMF	**Signal de Mont**	**84.02**	**317**	*e*P			**P**	**15 22 05.6**	**-0.4**
LOR	**Lormes**	**84.08**	**318**	*e*P			**P**	**15 22 06.4**	**+0.1**
	comp=Z,16nm,0.8s								
LOR				*e*R					
	comp=Z,27nm,22.5s								
BAIF	**Baives**	**84.24**	**320**	*e*P			**P**	**15 22 07.8**	**+0.8**
	comp=Z,30nm,0.9s								
SSF	**Saint Saulge**	**84.30**	**317**	*e*P			**P**	**15 22 07.6**	**+0.2**
	comp=Z,20nm,1.0s								
AVF	**Avril sur Loir**	**84.37**	**317**	*e*P			**P**	**15 22 07.7**	**0.0**
	comp=Z,8.3nm,0.9s								
BGF	**Bois d'Agland**	**84.69**	**317**	*e*P			**P**	**15 22 10.0**	**+0.6**
	comp=Z,22nm,0.7s								
TCF	**Toulx Ste Croi**	**85.09**	**316**	*e*P			**P**	**15 22 11.6**	**+0.1**
	comp=Z,4.7nm,0.7s								
RJF	**Les Rejaudoux**	**85.47**	**315**	*e*P			**P**	**15 22 14.1**	**+0.7**
	comp=Z,15nm,0.9s								
RJF				*e*R					
	comp=Z,28nm,18.2s								
MFF	**Saint Martin d**	**86.74**	**317**	*e*P			**P**	**15 22 19.9**	**+0.3**
	comp=Z,19nm,0.9s								
ETSF	**Etsaut**	**86.76**	**313**	*e*P			**P**	**15 22 20.6**	**+0.7**
	comp=Z,4.1nm,0.5s								
SJPF	**Ste Jean**	**87.26**	**313**

DIGR	**Digorskoe uzhe**	**1.29**	**167**	*i* Pg	Pn	15 29 45.2	0.0
DIGR				*e*Sg	Sg	15 30 03.3	-0.4
DOMR	**Dombai**	**1.42**	**233**	*e*Pg	Pb	15 29 48.0	+0.2
DOMR				*e*S	Sg	15 30 09.1	+1.5
DOMR	**Dombai**	**1.42**	**233**	*e*Pg	Pb	15 29 48.0	+0.2
DOMR				*e*Sg	Sg	15 30 09.1	+1.5
ZEI	**Tsey**	**1.49**	**159**	*e*PG	Pn	15 29 47.8	-0.1
ZEI				*i* S	Sb	15 30 08.1	+0.1
ZEI	**Tsey**	**1.49**	**159**	*e*Pg	Pn	15 29 47.8	-0.1
ZEI				*i* Sg	Sb	15 30 08.1	+0.1
VLKR	**Vladikavkaz**	**1.56**	**135**	*e*PG	Pn	15 29 49.2	+0.5
VLKR				*e*S	Sg	15 30 11.0	-0.9
VLKR	**Vladikavkaz**	**1.56**	**135**	*e*Pg	Pn	15 29 49.2	+0.5
VLKR				*e*Sg	Sg	15 30 11.0	-0.9
LACR	**Lac**	**1.56**	**148**	⇑*i* PG	Pn	15 29 48.7	-0.1
LACR				*i* S	Sb	15 30 10.2	+0.2
LACR	**Lac**	**1.56**	**148**	*i* Pg	Pn	15 29 48.7	-0.1
LACR				*i* Sg	Sb	15 30 10.2	+0.2

IDC ***13*** *15:43:50.6±1.6,62˚.00N×151˚.06W,h42km±22km,mb3.4/4, mb1 3.6/7,mb1mx3.4/25,mbtmp3.5/7,ML3.2/3,MS2.6/1, Ms1 2.6/1,ms1mx2.0/29,Error ellipse: s-maj=25.9km s-min=9.3km az=110.0*

ISCJB ***13*** *15:43:51.4±0.2,61˚.90N±0˚.02×150˚.58W±0˚.04,h83km±4km, mb3.6/4,Error ellipse: s-maj=3.6km s-min=3.2km az=31.1*

NEIC ***13*** *15:43:53.5,61˚.90N×150˚.64W,h62km,ML3.6(AEIC),After AEIC.*

ISC 13 15:43:52.9±0.8,61˚.92N±0˚.03×150˚.65W±0˚.03,h66km±7km, n87,σ0s85/103,mb3.5/4,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	**Skwentna**	**0.42**	**279**	P	**Pn**	**15 44 04.1**	**-0.5**
SUA	**Susitna One**	**0.46**	**186**	P	**Pn**	**15 44 04.8**	**-0.2**
SUA				S	**Sn**	**15 44 14.1**	**+0.1**
STLK	**Strandline Lak**	**0.70**	**234**	P	**Pn**	**15 44 07.0**	**-0.3**
PMR	**Palmer**	**0.79**	**114**	*e*P	**Pn**	**15 44 08.0**	**-0.6**
PMR				*e*S	**Sn**	**15 44 19.5**	**-0.6**
RC01	**Rabbit Creek A**	**0.94**	**152**	P	**Pn**	**15 44 09.8**	**-0.6**
RC01				S	**Sn**	**15 44 23.4**	**+0.1**
CRP	**Crater Peak**	**0.97**	**229**	P	**Pn**	**15 44 10.9**	**0.0**
CRP				S	**Sn**	**15 44 24.7**	**+0.3**
SPU	**Mount Spurr**	**1.00**	**223**	P	**Pn**	**15 44 10.9**	**-0.3**
BGL	**Barrier Glacie**	**1.06**	**233**	P	**Pn**	**15 44 12.2**	**+0.2**
CKL	**Chakachamna La**	**1.09**	**229**	P	**Pn**	**15 44 12.2**	**-0.2**
SML	**Sawmill**	**1.10**	**95**	P	**Pn**	**15 44 12.5**	**0.0**
SML				S	**Sn**	**15 44 27.8**	**+0.7**
SLKM	**Skilak Lake**	**1.43**	**172**	P	**Pn**	**15 44 16.6**	**-0.1**
BGRM	**Barrier Glacie**	**1.44**	**217**	P	**Pn**	**15 44 17.0**	**0.0**
TRF	**Thorofare Moun**	**1.55**	**6**	P	**Pn**	**15 44 18.2**	**-0.3**
TRF				S	**Sn**	**15 44 37.8**	**0.0**
SCM	**Sheep Creek Mo**	**1.57**	**92**	P	**Pn**	**15 44 18.9**	**+0.2**
SCM				S	**Sn**	**15 44 39.5**	**+1.2**
CAST	**Castle Rocks**	**1.65**	**337**	P	**Pn**	**15 44 19.6**	**0.0**
CAST				S	**Sn**	**15 44 39.8**	**-0.1**
DFR	**Drift River**	**1.66**	**217**	P	**Pn**	**15 44 19.9**	**+0.1**
RND	**Reindeer**	**1.71**	**28**	P	**Pn**	**15 44 20.9**	**+0.4**
NCT	**North Crescent**	**1.75**	**220**	P	**Pn**	**15 44 21.6**	**+0.5**
RSO	**Redoubt South**	**1.78**	**216**	*e*P	**Pn**	**15 44 21.8**	**+0.2**
RDWB	**Redoubt West**	**1.79**	**217**	P	**Pn**	**15 44 22.0**	**+0.4**
RDWB				S	**Sn**	**15 44 44.7**	**+1.3**
DHY	**Denali Highway**	**1.91**	**51**	P	**Pn**	**15 44 23.5**	**+0.2**
MCK	**McKinley**	**1.98**	**23**	P	**Pn**	**15 44 24.8**	**+0.6**
MCK				S	**Sn**	**15 44 49.5**	**+1.5**
CHUM	**Lake Minchumin**	**2.12**	**340**	P	**Pn**	**15 44 26.2**	**+0.3**
CHUM				S	**Sn**	**15 44 50.8**	**-0.3**
ILIM	**Iliamna**	**2.16**	**212**	P	**Pn**	**15 44 27.2**	**+0.6**
BRLK	**Bradley Lake**	**2.16**	**183**	P	**Pn**	**15 44 26.5**	**-0.1**
VLZ	**Valdez**	**2.21**	**109**	P	**Pn**	**15 44 26.4**	**-0.8**
KLU	**Klutina**	**2.29**	**99**	P	**Pn**	**15 44 28.1**	**-0.3**
BWN	**Browne**	**2.33**	**13**	P	**Pn**	**15 44 29.6**	**+0.8**
DIV	**Divide**	**2.47**	**107**	P	**Pn**	**15 44 29.8**	**-1.0**
SVW2	**Sparrevohn**	**2.50**	**253**	P	**Pn**	**15 44 30.9**	**-0.3**
PAX	**Paxson**	**2.63**	**64**	P	**Pn**	**15 44 33.6**	**+0.6**
TT01	**Tatalina**	**2.69**	**294**	P	**Pn**	**15 44 33.1**	**-0.6**
EYAK	**Cordova Ski Ar**	**2.74**	**118**	P	**Pn**	**15 44 33.3**	**-1.1**
NEA	**Nenana**	**2.76**	**14**	P	**Pn**	**15 44 34.7**	**0.0**
WRH	**Wood River Hil**	**2.81**	**23**	P	**Pn**	**15 44 35.5**	**+0.2**
CCB	**Clear Creek Bu**	**3.02**	**24**	P	**Pn**	**15 44 38.3**	**+0.1**
BMRM	**Bremner River**	**3.06**	**106**	*e*P	**Pn**	**15 44 37.6**	**-1.1**
MLY	**Manley**	**3.13**	**359**	P	**Pn**	**15 44 39.8**	**+0.1**
COLA	**College**	**3.22**	**22**	P	**Pn**	**15 44 41.0**	**+0.1**
MDM	**Murphy Dome**	**3.24**	**19**	P	**Pn**	**15 44 41.4**	**+0.2**
MID	**Middleton Isla**	**3.28**	**138**	P	**Pn**	**15 44 42.0**	**+0.3**
GLB	**Gilahina Butte**	**3.29**	**95**	P	**Pn**	**15 44 42.0**	**0.0**
IL1	**Eielson Array**	**3.33**	**29**	P	**Pn**	**15 44 42.5**	**+0.1**
ILAR	**Eielson Array**	**3.33**	**29**	P	**Pn**	**15 44 42.1**	**-0.3**
ILAR				S	**Sn**	**15 45 18.9**	**-1.8**
ILAR	**Eielson Array**	**3.33**	**29**	P	**Pn**	**15 44 42.1**	**-0.3**
	3.0nm,0.3s,baz=215,slow=14,SNR=98						
ILAR				S	**Sn**	**15 45 18.9**	**-1.8**
	11nm,0.3s,baz=217,slow=22,SNR=26						
MENT	**Mentasta**	**3.38**	**69**	*e*P	**Pn**	**15 44 43.0**	**-0.2**
VRDI	**Verde Repeater**	**3.51**	**98**	P	**Pn**	**15 44 44.3**	**-0.8**
NICHA	**Nichawak Mount**	**3.66**	**115**	P	**Pn**	**15 44 45.2**	**-1.7**
MCARA	**McCarthy VSAT**	**3.68**	**95**	P	**Pn**	**15 44 46.4**	**-0.8**
SCRK	**Sand Creek**	**3.68**	**53**	P	**Pn**	**15 44 46.2**	**-1.1**
BERG	**Berg Lake**	**3.70**	**111**	P	**Pn**	**15 44 45.8**	**-1.6**
KHIT	**Khitrov Hills**	**3.88**	**109**	P	**Pn**	**15 44 48.2**	**-1.7**
PTPK	**Patty Peak**	**3.98**	**97**	P	**Pn**	**15 44 51.4**	**-0.1**
BALM	**Baldy**	**4.08**	**99**	P	**Pn**	**15 44 51.8**	**-1.0**
KIAG	**Kiagna River**	**4.11**	**100**	P	**Pn**	**15 44 52.2**	**-1.0**
KULT	**Kultieth River**	**4.20**	**110**	P	**Pn**	**15 44 53.3**	**-1.0**
BARK	**Barkley Ridge**	**4.23**	**107**	P	**Pn**	**15 44 53.6**	**-1.2**
KAKN	**Katmai Knife C**	**4.25**	**213**	P	**Pn**	**15 44 55.1**	**0.0**
KDAK	**Kodiak Island**	**4.26**	**194**	*e*P	**Pn**	**15 44 56.0**	**+0.8**
KDAK				S	**Sn**	**15 45 42.2**	**-1.3**
KDAK	**Kodiak Island**	**4.26**	**194**	P	**Pn**	**15 44 53.8**	**-1.3**
	0.9nm,0.3s,baz=6.0,slow=12,SNR=26						
KDAK				S	**Sn**	**15 45 42.2**	**-1.3**
	4.7nm,0.3s,baz=300,slow=22,SNR=6.1						
BCA3	**Beaver Creek A**	**4.27**	**70**	P	**Pn**	**15 44 55.1**	**-0.2**
IM3	**Indian Mountai**	**4.30**	**343**	P	**Pn**	**15 44 55.8**	**0.0**
BAGL	**Bagley Icefiel**	**4.38**	**105**	P	**Pn**	**15 44 56.6**	**-0.1**
BARN	**Barnard Glacie**	**4.39**	**97**	P	**Pn**	**15 44 56.9**	**-0.2**
GRNC	**Granite Creek**	**4.45**	**102**	P	**Pn**	**15 44 57.6**	**-0.2**
MESA	**MESA**	**4.51**	**109**	P	**Pn**	**15 44 59.4**	**-0.2**
TABL	**Table Mountain**	**4.83**	**104**	P	**Pn**	**15 45 10.2**	**-0.4**
OHAK	**Old Harbor**	**4.90**	**197**	*e*P	**Pn**	**15 45 03.2**	**-0.6**
SAMH	**Samovar Hills**	**5.12**	**106**	P	**Pn**	**15 45 08.3**	**+1.3**
COLD	**Coldfoot**	**5.34**	**2**	P	**Pn**	**15 45 10.4**	**+0.7**
DAWY	**Dawson**	**5.56**	**62**	P	**Pn**	**15 45 13.5**	**+0.5**
PNL	**Peninsula**	**5.95**	**107**	P	**Pn**	**15 45 18.3**	**0.0**
BM3	**Burnt Mountain**	**6.10**	**22**	P	**Pn**	**15 45 20.9**	**+0.6**
HYT	**Haines Junctio**	**6.41**	**94**	P	**Pn**	**15 45 24.2**	**-0.4**
WHY	**Whitehorse**	**7.70**	**92**	P	**Pn**	**15 45 40.9**	**-1.3**
TNA	**Tin City**	**8.47**	**303**	*e*P	**Pn**	**15 45 54.1**	**+1.5**
INK	**Inuvik**	**9.62**	**41**	P	**Pn**	**15 46 07.8**	**-0.4**
INK				S	**Sn**	**15 47 55.2**	**+0.6**
INK	**Inuvik**	**9.62**	**41**	P	**Pn**	**15 46 07.8**	**-0.4**
	0.1nm,0.3s,baz=228,slow=13,SNR=3.8						
INK				S	**Sn**	**15 47 55.2**	**+0.6**
	0.3nm,0.3s,baz=225,slow=15,SNR=3.8						
DLBC	**Dease Lake**	**10.83**	**100**	LR	LR	15 50 45.0	
	comp=Z,32nm,18.5s,baz=269,slow=38						
NVAR	**Mina Array Bea**	**30.76**	**125**	P	**P**	**15 50 04.0**	**+2.1**
NVAR	**Mina Array Bea**	**30.76**	**125**	P	**P**	**15 50 04.0**	**+2.1**
	0.5nm,0.7s,baz=319,slow=11,SNR=4.2						
SONM	**Songino Array**	**54.59**	**306**	P	**P**	**15 53 14.3**	**+0.2**
SONM	**Songino Array**	**54.59**	**306**	P	**P**	**15 53 14.3**	**+0.2**
	0.5nm,0.6s,baz=50,slow=7.9,SNR=5.1						
ZALV	**Zalesovo Beam**	**56.49**	**324**	P	**P**	**15 53 26.1**	**-1.3**
ZALV	**Zalesovo Beam**	**56.49**	**324**	P	**P**	**15 53 26.1**	**-1.3**
	0.9nm,0.3s,baz=16,slow=6.6,SNR=3.6						
MKAR	**Makanchi Array**	**63.63**	**322**	P	**P**	**15 54 14.5**	**-2.0**
MKAR	**Makanchi Array**	**63.63**	**322**	P	**P**	**15 54 14.5**	**-2.0**
	0.1nm,0.4s,baz=45,slow=8.6,SNR=3.1						

IDC ***13*** *15:52:01.2±3.9,5˚.14S×102˚.87E,h0km,mb3.7/7, mb1 3.8/7,mb1mx3.7/22,mbtmp3.7/7,Error ellipse: s-maj=164.9km s-min=18.2km az=54.0*

DJA ***13*** *15:52:08.7±3.4,5˚S±31˚×10˚3E±2˚2,h24km±13km,M4.0/5, MLv4.0/5*

ISC 13 15:52:09.3±1.4,5˚.1S±0˚.2×103˚.0E±0˚.2,h59km,n13, σ0s64/13,mb3.7/7,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.72**	**353**	P	**Pn**	**15 52 24.0**	**+0.1**
LWLI	**Liwa**	**1.01**	**86**	P	**Pn**	**15 52 27.0**	**-0.6**
LWLI				S	Sn	15 52 27.2	-14
KSI	**Kapahiang**	**1.49**	**342**	P	**Pn**	**15 52 34.8**	**+0.8**
KLSI		**1.73**	**77**	P	**Pn**	**15 52 37.9**	**+0.9**
BLSI	**Bandar Lampung**	**2.21**	**97**	P	**Pn**	**15 52 44.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**23.74**	**350**	P	**P**	**15 57 15.3**	**-1.1**
	0.6nm,0.5s,baz=182,slow=9.1,SNR=4.9						
FITZ	**Fitzroy Crossi**	**25.59**	**122**	P	**P**	**15 57 33.9**	**+0.6**
	2.2nm,0.8s,baz=304,slow=14,SNR=2.5						
WRA	**Warramunga Arr**	**33.84**	**119**	P	**P**	**15 58 46.3**	**0.0**
	0.3nm,0.4s,baz=294,slow=9.6,SNR=11						
ASAR	**Alice Springs**	**35.00**	**125**	P	**P**	**15 58 56.3**	**-0.1**
	0.2nm,0.3s,baz=294,slow=7.5,SNR=11						
SONM	**Songino Array**	**52.78**	**3**	P	**P**	**16 01 18.7**	**+0.1**
	0.5nm,0.6s,baz=180,slow=9.4,SNR=5.7						
MKAR	**Makanchi Array**	**54.83**	**343**	P	**P**	**16 01 32.9**	**-0.5**
	0.5nm,0.5s,baz=142,slow=7.6,SNR=7.6						
ZALV	**Zalesovo Beam**	**60.77**	**348**	P	**P**	**16 02 14.8**	**-0.1**
	1.9nm,0.4s,baz=164,slow=6.0,SNR=4.3						
TXAR	**Lajitas Array**	**145.07**	**43**	PKPbc	**PKPdf**	**16 11 41.2**	**+0.2**
	0.3nm,0.7s,baz=164,slow=0.7,SNR=3.3						

IDC 13 15:56:11.2±4.7,10˚.93S×165˚.74E,h47km±33km,mb3.7/5, mb1 3.9/7,mb1mx3.6/22,mbtmp3.9/7,ML4.1/2,Error ellipse: s-maj=55.2km s-min=28.9km az=63.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.90**	**284**	P	Pn	15 57 35.9	-0.1
	18nm,0.3s,baz=77,slow=18,SNR=9.6						
HNR				S	Sn	15 58 48.4	+6.1
	4.0nm,0.3s,baz=319,slow=19,SNR=1.7						
DZM	**Mont Dzumac**	**11.10**	**177**	P	Pn	15 58 47.3	-0.1
	0.4nm,0.3s,baz=90,slow=24,SNR=9.6						
DZM				S	Sn	16 00 50.9	+0.6
	baz=90,slow=20						
CTA	**Charters Tower**	**20.85**	**242**	P	P	16 00 49.4	+0.1
	1.0nm,0.3s,baz=60,slow=13,SNR=3.3						
WRA	**Warramunga Arr**	**31.52**	**250**	P	P	16 02 28.8	-0.3
	1.0nm,0.6s,baz=81,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**32.84**	**243**	P	P	16 02 40.4	-0.3
	1.3nm,0.5s,baz=64,slow=10,SNR=28						
FITZ	**Fitzroy Crossi**	**39.41**	**255**	P	P	16 03 37.2	+0.4
	1.9nm,0.8s,baz=90,slow=9.1,SNR=4.1						
MKAR	**Makanchi Array**	**93.44**	**317**	P	P	16 09 21.5	-0.2
	0.2nm,0.7s,baz=100,slow=4.2,SNR=4.0						

IDC ***13*** *16:13:55.8±1.8,36˚.64N×13˚.32W,h0km,mb3.9/7, mb1 4.0/10,mb1mx3.8/33,mbtmp4.0/10,ML4.6/3,MS2.9/5, Ms1 2.9/5,ms1mx2.5/37,Error ellipse: s-maj=46.9km s-min=18.5km az=90.0*

INMG ***13*** *16:13:59.8±1.9,36˚.74N×13˚.70W,h10km,ML4.0,Error ellipse: s-maj=4.8km s-min=2.7km az=122.0*

MDD ***13*** *16:13:59.0±1.4,36˚.99N×13˚.31W,h0km,mb4.9/39,Error ellipse: s-maj=13.5km s-min=10.8km az=47.0,PRXIMO*

CNRM ***13*** *16:13:59.2,36˚.95N×13˚.18W,h30km,MD3.9*

SFS ***13*** *16:13:59.0,36˚.99N×13˚.20W,h0km,ML4.8*

IGIL ***13*** *16:14:00.3,37˚.00N×13˚.28W,h0km,ML4.1*

LDG ***13*** *16:14:01.5±0.4,37˚.07N×12˚.94W,h20km,Ml4.0/26,Error ellipse: s-maj=6.6km s-min=5.4km az=58.0*

CSEM ***13*** *16:14:03.4±0.3,37˚.12N×12˚.93W,h10km,ML4.5/15,Error ellipse: s-maj=6.7km s-min=4.7km az=41.0*

ISC 13 16:14:00.8±0.9,37˚.14N±0˚.04×13˚.03W±0˚.04,h10km,n223, σ1s98/308,mb3.8/7,MS2.8/4,3C-1D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.36**	**89**	*e*Pn	**Pn**	**16 14 54.3**	**+1.0**
PFVI				*e*Sn	**Sn**	**16 15 34.1**	**+0.9**
PFVI				A	A	16 15 43.4	
	213nm,0.4s						
PFVI	**Vila Bisbo**	**3.36**	**89**	⇑P	**Pn**	**16 14 54.3**	**+1.0**
	57nm,0.3s,SNR=18						
PFVI				S	**Sn**	**16 15 34.7**	**+1.5**
	546nm,0.2s,SNR=12						
PFVI	**Vila Bisbo**	**3.36**	**89**	P	**Pn**	**16 14 54.3**	**+1.0**
	57nm,0.3s,SNR=18						
PFVI				*e*Sn	**Sn**	**16 15 34.1**	**+0.9**
	213nm,0.4s						
PFVI				S	**Sn**	**16 15 34.7**	**+1.5**
	546nm,0.2s,SNR=12						
LIS	**Lisbon**	**3.45**	**62**	*e*P	**Pn**	**16 14 56.7**	**+2.2**
LIS				*e*S	**Sn**	**16 15 38.6**	**+3.2**
LIS				AML	AML	16 15 41.9	
	comp=E,772nm,0.5s						
LIS	**Lisbon**	**3.45**	**62**	*e*P	**Pn**	**16 14 56.7**	**+2.2**
LIS				*e*S	**Sn**	**16 15 38.6**	**+3.2**
LIS	**Lisbon**	**3.45**	**62**	*e*P	**Pn**	**16 14 56.7**	**+2.2**
LIS				*e*S	**Sn**	**16 15 38.6**	**+3.2**
PMAFR	**Mafra**	**3.47**	**57**	*e*Pn	**Pn**	**16 14 57.5**	**+2.6**
PMAFR				*e*Sn	**Sn**	**16 15 40.6**	**+4.6**
PMAFR				A	A	16 15 45.8	
	comp=E,263nm,0.2s						
PMAFR	**Mafra**	**3.47**	**57**	⇑P	**Pn**	**16 14 57.5**	**+2.6**
	comp=E,130nm,0.3s,SNR=18						
PMAFR				S	**Sn**	**16 15 40.4**	**+4.4**
	comp=E,571nm,0.5s,SNR=8.0						
PMAFR	**Mafra**	**3.47**	**57**	P	**Pn**	**16 14 57.5**	**+2.6**
	comp=E,130nm,0.3s,SNR=18						
PMAFR				S	**Sn**	**16 15 40.4**	**+4.4**
	comp=E,571nm,0.5s,SNR=8.0						
MORF	**Marmelete**	**3.50**	**86**	*e*Pn	**Pn**	**16 14 56.5**	**+1.2**
MORF				*e*Sn	**Sn**	**16 15 38.0**	**+1.3**
MORF				A	A	16 15 41.4	
	comp=E,282nm,0.3s						
PNCL	**Nicolau / Gran**	**3.70**	**73**	*e*Pn	**Pn**	**16 14 59.6**	**+1.6**
PNCL				*e*Sn	**Sn**	**16 15 44.0**	**+2.3**
PNCL				A	A	16 15 46.3	
	comp=E,107nm,0.3s						
MESJ	**Messejana**	**3.89**	**78**	*e*P	**Pn**	**16 15 02.1**	**+1.5**
MESJ				*e*S	**Sn**	**16 15 47.6**	**+1.3**
MESJ				AML	AML	16 15 52.3	
	comp=N,184nm,0.3s						
MESJ	**Messejana**	**3.89**	**78**	*e*P	**Pn**	**16 15 02.1**	**+1.5**
MESJ				*e*S	**Sn**	**16 15 47.6**	**+1.3**
MESJ	**Messejana**	**3.89**	**78**	*e*P	**Pn**	**16 15 02.1**	**+1.5**
MESJ				*e*S	**Sn**	**16 15 47.6**	**+1.3**
MOE	**Montemor**	**3.95**	**68**	*e*Pn	**Pn**	**16 15 03.9**	**+2.4**
MOE				*e*Sn	**Sn**	**16 15 50.0**	**+2.1**
MOE	**Montemor**	**3.95**	**68**	*e*Pn	**Pn**	**16 15 03.9**	**+2.4**
MOE				*e*Sn	**Sn**	**16 15 50.0**	**+2.1**
PCVE	**Castro Verde**	**4.00**	**81**	*e*Pn	**Pn**	**16 15 03.6**	**+1.4**
PCVE				*e*Sn	**Sn**	**16 15 50.5**	**+1.3**
PCVE				A	A	16 16 06.1	
	comp=N,129nm,0.6s						
ALMR	**Almeirim**	**4.05**	**59**	*e*P	**Pn**	**16 15 05.2**	**+2.4**
ALMR				*e*S	**Sn**	**16 15 52.7**	**+2.5**
ALMR				AML	AML	16 15 56.2	
	comp=E,396nm,0.3s						
ALMR	**Almeirim**	**4.05**	**59**	*e*P	**Pn**	**16 15 05.2**	**+2.4**
ALMR				*e*S	**Sn**	**16 15 52.7**	**+2.5**
ALMR	**Almeirim**	**4.05**	**59**	*e*P	**Pn**	**16 15 05.2**	**+2.4**
ALMR				*e*S	**Sn**	**16 15 52.7**	**+2.5**
PBDV	**Barranco-do-Ve**	**4.07**	**87**	*e*Pn	**Pn**	**16 15 04.6**	**+1.5**
PBDV				*e*Sn	**Sn**	**16 15 52.0**	**+1.1**
PBDV				A	A	16 15 59.2	
	comp=E,136nm,0.5s						
EVOP	**Sao Brissos**	**4.12**	**69**	*e*Pn	**Pn**	**16 15 05.3**	**+1.5**
EVO	**Evora**	**4.21**	**69**	*e*Pn	**Pn**	**16 15 05.3**	**+0.3**
EVO				*e*Sn	Sn	16 15 45.3	-8.9
	comp=E,193nm,0.3s						
EVO	**Evora**	**4.21**	**69**	*e*Pn	**Pn**	**16 15 06.9**	**+1.9**
EVO				*e*Sn	**Sn**	**16 15 55.9**	**+1.7**
EVO				A	A	16 15 59.0	
	comp=E,152nm,0.4s						
EVO	**Evora**	**4.21**	**69**	*e*Pn	**Pn**	**16 15 06.9**	**+1.9**
EVO				*e*Sn	**Sn**	**16 15 55.9**	**+1.7**
	comp=E,152nm,0.4s						
PVAQ	**Vaqueiros**	**4.24**	**85**	*e*Pn	**Pn**	**16 15 07.0**	**+1.5**
PVAQ				*e*Sn	**Sn**	**16 15 57.0**	**+1.9**
PVAQ				A	A	16 16 02.6	
	comp=E,113nm,0.4s						
PMTG	**Montargil**	**4.25**	**62**	*i* Pn	**Pn**	**16 15 07.6**	**+2.0**
PMTG				*e*Sn	**Sn**	**16 15 58.2**	**+3.0**
PMTG				A	A	16 16 01.6	
	comp=E,59nm,0.3s						
EGRO	**El Granado**	**4.44**	**83**	P	**Pn**	**16 15 09.7**	**+1.6**
	comp=E,14nm,0.2s,SNR=30						
EGRO				S	**Sn**	**16 16 00.9**	**+1.1**
	comp=E,188nm,0.3s,SNR=18						
EGRO	**El Granado**	**4.44**	**83**	P	**Pn**	**16 15 09.7**	**+1.6**
	comp=E,14nm,0.2s,SNR=30						
EGRO				S	**Sn**	**16 16 00.9**	**+1.1**
	comp=E,188nm,0.3s,SNR=18						
PESTR	**Estremoz**	**4.63**	**66**	*e*Pn	**Pn**	**16 15 12.3**	**+1.5**
PESTR				*e*Sn	**Sn**	**16 16 06.9**	**+2.3**
PESTR				A	A	16 16 12.0	
	comp=E,51nm,0.3s						
PESTR	**Estremoz**	**4.63**	**66**	⇑Pn	**Pn**	**16 15 12.3**	**+1.5**
PESTR				Sn	**Sn**	**16 16 06.9**	**+2.3**
	comp=E,51nm,0.3s						
PESTR	**Estremoz**	**4.63**	**66**	Pn	**Pn**	**16 15 12.3**	**+1.5**
PESTR				*e*Sn	**Sn**	**16 16 06.9**	**+2.3**
	comp=E,51nm,0.3s						
PBAR	**Barrancos**	**4.86**	**76**	*e*Pn	**Pn**	**16 15 16.1**	**+2.1**
PBAR				*e*Sn	**Sn**	**16 16 11.1**	**+0.7**
PBAR				A	A	16 16 17.0	
	comp=E,73nm,0.3s						
PBAR	**Barrancos**	**4.86**	**76**	Pn	**Pn**	**16 15 16.1**	**+2.1**
PBAR				Sn	**Sn**	**16 16 11.1**	**+0.7**
	comp=E,73nm,0.3s						
PBAR	**Barrancos**	**4.86**	**76**	Pn	**Pn**	**16 15 16.1**	**+2.1**
PBAR				*e*Sn	**Sn**	**16 16 11.1**	**+0.7**
	comp=E,73nm,0.3s						
PMRV	**Marv??o**	**4.99**	**61**	*e*Pn	**Pn**	**16 15 17.7**	**+1.9**
PMRV				*e*Sn	**Sn**	**16 16 15.8**	**+2.3**
PMRV				A	A	16 16 19.8	
	comp=E,87nm,0.4s						
PMRV	**Marv??o**	**4.99**	**61**	Pn	**Pn**	**16 15 17.7**	**+1.9**
PMRV				Sn	**Sn**	**16 16 15.8**	**+2.3**
	comp=E,87nm,0.4s						
PMRV	**Marv??o**	**4.99**	**61**	Pn	**Pn**	**16 15 17.7**	**+1.9**
PMRV				*e*Sn	**Sn**	**16 16 15.8**	**+2.3**
	comp=E,87nm,0.4s						
EBAD	**Badajoz**	**5.02**	**69**	P	**Pn**	**16 15 17.7**	**+1.6**
	comp=E,9.6nm,0.1s,SNR=69						
EBAD				S	**Sn**	**16 16 14.7**	**+0.4**
	comp=E,122nm,0.2s,SNR=5.3						
EBAD	**Badajoz**	**5.02**	**69**	P	**Pn**	**16 15 17.7**	**+1.6**
	comp=E,9.6nm,0.1s,SNR=69						
EBAD				S	**Sn**	**16 16 14.6**	**+0.4**
	comp=E,122nm,0.2s,SNR=5.3						
EMIN	**Mina Concepcio**	**5.10**	**81**	P	**Pn**	**16 15 18.6**	**+1.4**
	comp=E,2.7nm,0.2s,SNR=28						
EMIN				S	**Sn**	**16 16 16.3**	**+0.2**
	comp=E,76nm,0.3s,SNR=29						
EMIN	**Mina Concepcio**	**5.10**	**81**	P	**Pn**	**16 15 18.6**	**+1.4**
	comp=E,2.7nm,0.2s,SNR=28						
EMIN				S	**Sn**	**16 16 16.3**	**+0.2**
	comp=E,76nm,0.3s,SNR=29						
MTE	**Manteigas**	**5.38**	**51**	*e*Pn	**Pn**	**16 15 23.4**	**+2.2**
MTE				*e*Sn	**Sn**	**16 16 25.9**	**+2.6**
MTE				A	A	16 16 31.0	
	comp=E,119nm,0.5s						
MTE	**Manteigas**	**5.38**	**51**	Pn	**Pn**	**16 15 23.4**	**+2.2**
MTE				Sn	**Sn**	**16 16 25.9**	**+2.6**
	comp=E,60nm,0.5s						
MTE	**Manteigas**	**5.38**	**51**	Pn	**Pn**	**16 15 23.4**	**+2.2**
MTE				*e*Sn	**Sn**	**16 16 25.9**	**+2.6**
	comp=E,119nm,0.5s						
CNIL	**Conil**	**5.65**	**96**	P	Pn	16 15 27.0	+2.2
CNIL				S	**Sn**	**16 16 28.8**	**-1.0**
CNIL	**Conil**	**5.65**	**96**	P	Pn	16 15 27.0	+2.2
CNIL				S	**Sn**	**16 16 28.8**	**-1.0**
ESPR	**Espera**	**5.75**	**90**	P

	comp=E,2.0nm,0.3s,SNR=7.9								
ELOJ					S		Sn	16 17 04.6	-0.7
	comp=E,7.8nm,0.3s,SNR=7.9								
ERON	**Agron**	**7.37**	**88**		P		Pn	16 15 51.1	+2.5
	comp=E,1.9nm,0.2s,SNR=7.9								
ERON					S		**Sn**	**16 17 10.5**	**-1.9**
	comp=E,6.6nm,0.3s,SNR=7.9								
ERON	**Agron**	**7.37**	**88**		P		Pn	16 15 51.1	+2.5
	comp=E,1.9nm,0.2s,SNR=7.9								
ERON					S		**Sn**	**16 17 10.5**	**-1.9**
	comp=E,6.6nm,0.3s,SNR=7.9								
MIF	**Mishlifen**	**7.38**	**118**	*i*	P		**Pn**	**16 15 46.5**	**-2.3**
EBAN	**Banos Encina**	**7.40**	**79**		P		**Pn**	**16 15 50.2**	**+1.3**
	comp=E,2.6nm,0.1s,SNR=6.3								
EBAN					S		**Sn**	**16 17 12.1**	**-0.9**
	comp=E,29nm,0.4s,SNR=9.4								
EBAN	**Banos Encina**	**7.40**	**79**		P		**Pn**	**16 15 50.2**	**+1.3**
	comp=E,2.6nm,0.1s,SNR=6.3								
EBAN					S		**Sn**	**16 17 12.1**	**-0.9**
	comp=E,29nm,0.4s,SNR=9.4								
ECOG	**Cogollos-Vega**	**7.55**	**86**		P		**Pn**	**16 15 52.1**	**+1.1**
	comp=E,2.6nm,0.1s,SNR=7.9								
ECOG					S		**Sn**	**16 17 15.2**	**-1.5**
	comp=E,5.5nm,0.2s,SNR=7.9								
ECOG	**Cogollos-Vega**	**7.55**	**86**		P		**Pn**	**16 15 52.1**	**+1.1**
	comp=E,2.6nm,0.1s,SNR=7.9								
ECOG					S		**Sn**	**16 17 15.2**	**-1.5**
	comp=E,5.5nm,0.2s,SNR=7.9								
ESDC	**Sonseca Array**	**7.55**	**68**		P		**Pn**	**16 15 52.4**	**+1.4**
	comp=E,20nm,0.2s,baz=256,slow=13,SNR=52								
ESDC					S		**Sn**	**16 17 16.9**	**+0.2**
	comp=E,16nm,0.2s,baz=257,slow=23,SNR=8.4								
ESDC	**Sonseca Array**	**7.55**	**68**		Pn		**Pn**	**16 15 52.5**	**+1.4**
	comp=E,15nm,0.3s,baz=257,slow=13,SNR=89								
ESDC					Sn		**Sn**	**16 17 17.0**	**+0.3**
	comp=E,16nm,0.3s,baz=257,slow=24,SNR=11								
ESDC	**Sonseca Array**	**7.55**	**68**		P		**Pn**	**16 15 52.4**	**+1.4**
	comp=E,20nm,0.2s,slow=13,SNR=52								
ESDC					S		**Sn**	**16 17 16.9**	**+0.2**
	comp=E,16nm,0.2s,slow=23,SNR=8.4								
EGUA	**Guajares**	**7.58**	**89**		P		**Pn**	**16 15 53.1**	**+1.8**
	comp=E,6.4nm,0.3s,SNR=7.9								
EGUA					S		**Sn**	**16 17 15.7**	**-1.6**
	comp=E,22nm,0.3s,SNR=7.9								
EGUA	**Guajares**	**7.58**	**89**		P		**Pn**	**16 15 53.1**	**+1.8**
	comp=E,6.4nm,0.3s,SNR=7.9								
EGUA					S		**Sn**	**16 17 15.7**	**-1.6**
	comp=E,22nm,0.3s,SNR=7.9								
EPON	**Pontenova**	**7.64**	**34**		P		**Pn**	**16 15 52.8**	**+0.6**
	comp=E,14nm,0.3s,SNR=21								
EPON					S		**Sn**	**16 17 16.8**	**-2.1**
	comp=E,18nm,0.3s								
EPON	**Pontenova**	**7.64**	**34**		P		**Pn**	**16 15 52.8**	**+0.6**
	comp=E,14nm,0.3s,SNR=21								
EQUE	**Quentar**	**7.66**	**87**		P		**Pn**	**16 15 54.5**	**+2.1**
	comp=E,2.0nm,0.3s,SNR=7.9								
EQUE					S		**Sn**	**16 17 18.9**	**-0.4**
	comp=E,7.0nm,0.2s,SNR=7.9								
EQUE	**Quentar**	**7.66**	**87**		P		**Pn**	**16 15 54.5**	**+2.1**
	comp=E,2.0nm,0.3s,SNR=7.9								
EQUE					S		**Sn**	**16 17 18.9**	**-0.4**
	comp=E,7.0nm,0.2s,SNR=7.9								
GUD	**Guadarrama**	**7.75**	**60**		P		**Pn**	**16 15 55.5**	**+1.6**
	comp=E,12nm,0.3s,SNR=44								
GUD					S		**Sn**	**16 17 22.5**	**+0.7**
	comp=E,22nm,0.3s								
GUD	**Guadarrama**	**7.75**	**60**		P		**Pn**	**16 15 55.5**	**+1.6**
	comp=E,12nm,0.3s,SNR=44								
GUD					S		**Sn**	**16 17 22.5**	**+0.7**
	comp=E,22nm,0.3s								
EQES	**Quesada**	**7.95**	**82**		P		**Pn**	**16 15 57.5**	**+1.1**
	comp=E,1.9nm,0.2s,SNR=7.9								
EQES					S		**Sn**	**16 17 26.0**	**-0.4**
	comp=E,18nm,0.3s,SNR=7.9								
EQES	**Quesada**	**7.95**	**82**		P		**Pn**	**16 15 57.5**	**+1.1**
	comp=E,1.9nm,0.2s,SNR=7.9								
EQES					S		**Sn**	**16 17 26.0**	**-0.4**
	comp=E,18nm,0.3s,SNR=7.9								
EFAM	**Famara**	**8.00**	**183**		P		Pn	16 15 44.5	-13
	comp=E,12nm,0.5s,SNR=7.9								
EFAM					S		Sn	16 17 02.4	-25
	comp=E,14nm,0.2s,SNR=7.9								
EBER	**Berja**	**8.11**	**89**		P		**Pn**	**16 16 01.1**	**+2.3**
	comp=E,1.9nm,0.3s,SNR=5.2								
EBER					S		**Sn**	**16 17 27.5**	**-3.2**
	comp=E,6.7nm,0.4s,SNR=7.9								
EBER	**Berja**	**8.11**	**89**		P		**Pn**	**16 16 01.1**	**+2.3**
	comp=E,1.9nm,0.3s,SNR=5.2								
EBER					S		**Sn**	**16 17 27.5**	**-3.2**
	comp=E,6.7nm,0.4s,SNR=7.9								
EALB	**Alboran**	**8.13**	**95**		P		**Pn**	**16 15 59.6**	**+0.8**
	comp=E,1.9nm,0.1s,SNR=7.9								
EALB					S		**Sn**	**16 17 28.2**	**-2.6**
	comp=E,9.3nm,0.3s,SNR=7.9								
EALB	**Alboran**	**8.13**	**95**		P		**Pn**	**16 15 59.7**	**+0.8**
	comp=E,1.9nm,0.1s,SNR=7.9								
EALB					S		**Sn**	**16 17 28.2**	**-2.6**
	comp=E,9.3nm,0.3s,SNR=7.9								
MDT	**Midelt**	**8.14**	**119**		Pn		Pn	16 15 55.1	-4.0
	comp=E,2.9nm,0.3s,baz=306,slow=4.6,SNR=6.5								
MDT					Sn		Sn	16 17 22.4	-8.8
	comp=E,7.2nm,0.3s,baz=209,slow=22,SNR=17								
EHUE	**Huescar**	**8.32**	**82**		P		**Pn**	**16 16 03.4**	**+1.8**
	comp=E,1.7nm,0.4s,SNR=7.9								
EHUE					S		**Sn**	**16 17 34.5**	**-1.2**
	comp=E,4.6nm,0.2s,SNR=7.9								
EHUE	**Huescar**	**8.32**	**82**		P		**Pn**	**16 16 03.4**	**+1.8**
	comp=E,1.7nm,0.4s,SNR=7.9								
EHUE					S		**Sn**	**16 17 34.5**	**-1.2**
	comp=E,4.6nm,0.2s,SNR=7.9								
CFUE	**Fuerteventura**	**8.50**	**185**		P		Pn	16 15 49.3	-15
	comp=E,5.6nm,0.2s,SNR=7.9								
CFUE					S		Sn	16 17 11.2	-29
	comp=E,43nm,0.2s,SNR=7.9								
EARI	**Arriondas**	**8.58**	**42**		P		**Pn**	**16 16 07.4**	**+2.3**
	comp=E,2.0nm,0.2s,SNR=26								
EARI					S		**Sn**	**16 17 40.9**	**-1.0**
	comp=E,14nm,0.6s,SNR=5.1								
EARI	**Arriondas**	**8.58**	**42**		P		**Pn**	**16 16 07.4**	**+2.3**
	comp=E,2.0nm,0.2s,SNR=26								
CFTV	**Fuerteventura**	**8.74**	**186**		P		Pn	16 15 51.7	-16
	comp=E,2.7nm,0.2s,SNR=7.9								
CFTV					S		Sn	16 17 15.2	-31
	comp=E,11nm,0.3s,SNR=7.9								
EBAJ	**Bajamar**	**9.01**	**199**		P		Pn	16 15 57.7	-13
	comp=E,1.9nm,0.2s,SNR=7.9								
EBAJ					S		Sn	16 17 22.3	-30
	comp=E,14nm,0.5s,SNR=7.9								
ETOB	**Tobarra**	**9.20**	**77**		P		**Pn**	**16 16 14.1**	**+0.5**
	comp=E,3.0nm,0.3s,SNR=7.9								
ETOB					S		**Sn**	**16 17 55.7**	**-1.5**
	comp=E,12nm,0.4s,SNR=7.9								
ETOB	**Tobarra**	**9.20**	**77**		P		**Pn**	**16 16 14.1**	**+0.5**
	comp=E,3.0nm,0.3s,SNR=7.9								
ETOB					S		**Sn**	**16 17 55.7**	**-1.5**
	comp=E,12nm,0.4s,SNR=7.9								
EOSO	**Osorio**	**9.28**	**194**		S		Sn	16 17 27.2	-32
	comp=E,13nm,0.3s,SNR=7.9								
ETOR	**Torete**	**9.30**	**63**		P		**Pn**	**16 16 16.6**	**+1.6**
	comp=E,53nm,0.2s,SNR=18								
ETOR					S		**Sn**	**16 17 57.5**	**-2.2**
	comp=E,39nm,0.2s,SNR=7.9								
ETOR	**Torete**	**9.30**	**63**		P		**Pn**	**16 16 16.6**	**+1.6**
	comp=E,53nm,0.2s,SNR=18								
CCAN	**Las Canadas**	**9.38**	**200**		S		Sn	16 17 31.7	-31
	comp=E,12nm,0.6s,SNR=7.9								
EMUR	**La Murta**	**9.40**	**82**		P		**Pn**	**16 16 17.0**	**+0.8**
	comp=E,2.6nm,0.3s,SNR=4.0								
EMUR					S		**Sn**	**16 17 59.5**	**-2.5**
	comp=E,5.2nm,0.3s,SNR=7.9								
EMUR	**La Murta**	**9.40**	**82**		P		**Pn**	**16 16 17.0**	**+0.8**
	comp=E,2.6nm,0.3s,SNR=4.0								
EMUR					S		**Sn**	**16 17 59.5**	**-2.5**
	comp=E,5.2nm,0.3s,SNR=7.9								
EGOM	**La Gomera**	**9.62**	**203**		S		Sn	16 17 34.0	-33
	comp=E,20nm,0.3s,SNR=7.9								
ECHE	**Chera**	**9.78**	**72**		P		**Pn**	**16 16 24.0**	**+2.4**
	comp=E,3.3nm,0.3s,SNR=7.9								
ECHE					S		**Sn**	**16 18 08.5**	**-3.0**
	comp=E,3.1nm,0.4s,SNR=7.9								
ECHE	**Chera**	**9.78**	**72**		P		**Pn**	**16 16 24.0**	**+2.4**
	comp=E,3.3nm,0.3s,SNR=7.9								
EBEN	**Beniarda**	**10.24**	**77**		P		**Pn**	**16 16 29.4**	**+1.6**
	comp=E,1.7nm,0.5s,SNR=7.9								
EBEN					S		**Sn**	**16 18 19.2**	**-3.4**
	comp=E,3.3nm,0.4s,SNR=7.9								
EBEN	**Beniarda**	**10.24**	**77**		P		**Pn**	**16 16 29.4**	**+1.6**
	comp=E,1.7nm,0.5s,SNR=7.9								

EMOS	**Mosqueruela**	**10.32**	**68**		P		**Pn**	**16 16 31.1**	**+2.1**
	comp=E,3.9nm,0.3s,SNR=7.3								
EMOS					S		**Sn**	**16 18 22.5**	**-2.4**
	comp=E,7.6nm,0.2s,SNR=7.9								
EMOS	**Mosqueruela**	**10.32**	**68**		P		**Pn**	**16 16 31.1**	**+2.1**
	comp=E,3.9nm,0.3s,SNR=7.3								
EMOS					S		**Sn**	**16 18 22.5**	**-2.4**
	comp=E,7.6nm,0.2s,SNR=7.9								
IUNC	**Unciti**	**10.48**	**54**		P		**Pn**	**16 16 33.4**	**+2.4**
	comp=E,24nm,0.2s,SNR=7.9								
IUNC					S		**Sn**	**16 18 26.6**	**-1.9**
	comp=E,5.9nm,0.3s,SNR=7.9								
IUNC	**Unciti**	**10.48**	**54**		P		**Pn**	**16 16 33.4**	**+2.4**
	comp=E,24nm,0.2s,SNR=7.9								
IUSE	**Utxeti**	**10.54**	**53**		P		**Pn**	**16 16 34.3**	**+2.4**
	comp=E,3.7nm,0.2s,SNR=7.9								
IUSE					S		**Sn**	**16 18 28.6**	**-1.4**
	comp=E,3.6nm,0.3s,SNR=7.9								
IUSE	**Utxeti**	**10.54**	**53**		P		**Pn**	**16 16 34.3**	**+2.4**
	comp=E,3.7nm,0.2s,SNR=7.9								
IUSE					S		**Sn**	**16 18 28.6**	**-1.4**
	comp=E,3.6nm,0.3s,SNR=7.9								
IEPA	**Eparoz**	**10.64**	**54**		P		Pn	16 16 36.3	+3.0
	comp=E,34nm,0.3s,SNR=7.9								
IEPA	**Eparoz**	**10.64**	**54**		P		Pn	16 16 36.3	+3.0
	comp=E,34nm,0.3s,SNR=7.9								
ELIZ	**Elizondo**	**10.66**	**52**		P		**Pn**	**16 16 35.9**	**+2.4**
	comp=E,23nm,0.4s,SNR=38								
ELIZ	**Elizondo**	**10.66**	**52**		P		**Pn**	**16 16 35.9**	**+2.4**
	comp=E,23nm,0.4s,SNR=38								
IELO	**Elcoad**	**10.69**	**54**		P		**Pn**	**16 16 36.4**	**+2.5**
	comp=E,26nm,0.4s,SNR=7.9								
IELO					S		**Sn**	**16 18 30.8**	**-2.9**
	comp=E,2.9nm,0.2s,SNR=7.9								
IELO	**Elcoad**	**10.69**	**54**		P		**Pn**	**16 16 36.4**	**+2.5**
	comp=E,26nm,0.4s,SNR=7.9								
EALK	**Alkurruntz**	**10.70**	**52**		P		**Pn**	**16 16 37.0**	**+3.0**
	comp=E,8.2nm,0.3s,SNR=14								
EALK					S		**Sn**	**16 18 30.4**	**-3.4**
	comp=E,6.3nm,0.4s,SNR=7.9								
EALK	**Alkurruntz**	**10.70**	**52**		P		**Pn**	**16 16 37.0**	**+3.0**
	comp=E,8.2nm,0.3s,SNR=14								
ESAC	**San Caprasio**	**10.74**	**61**		P		**Pn**	**16 16 37.1**	**+2.5**
	comp=E,20nm,0.3s,SNR=22								
ESAC					S		**Sn**	**16 18 30.3**	**-4.6**
	comp=E,19nm,0.3s,SNR=7.9								
ESAC	**San Caprasio**	**10.74**	**61**		P		**Pn**	**16 16 37.1**	**+2.5**
	comp=E,20nm,0.3s,SNR=22								
SJPF	**Ste Jean**	**10.83**	**53**	*e*	Pn		**Pn**	**16 16 38.0**	**+2.2**
SJPF					*e*	Sn	Sn	16 18 26.2	-11
	comp=E,15nm,0.5s								
SJPF	**Ste Jean**	**10.83**	**53**		Pn		**Pn**	**16 16 38.0**	**+2.2**
OSSF	**Osses**	**10.87**	**52**	*e*	P		Pn	16 16 39.6	+3.2
OSSF	**Osses**	**10.87**	**52**	*e*	P		Pn	16 16 39.6	+3.2
ORDF	**Ordiarp**	**11.06**	**53**	*e*	P		**Pn**	**16 16 41.8**	**+2.8**
ORDF	**Ordiarp**	**11.06**	**53**	*e*	P		**Pn**	**16 16 41.8**	**+2.8**
ATE	**Arette**	**11.15**	**54**	*e*	P		**Pn**	**16 16 42.8**	**+2.6**
ATE	**Arette**	**11.15**	**54**	*e*	P		**Pn**	**16 16 42.8**	**+2.6**
ETSF	**Etsaut**	**11.15**	**55**	*e*	Pn		**Pn**	**16 16 42.6**	**+2.2**
ETSF					*e*	Sn	Sn	16 18 33.9	-11
	comp=E,8.1nm,0.4s								
ETSF	**Etsaut**	**11.15**	**55**		Pn		**Pn**	**16 16 42.6**	**+2.2**
REYF	**Montagne du Re**	**11.34**	**55**	*e*	P		Pn	16 16 45.9	+3.0
REYF	**Montagne du Re**	**11.34**	**55**	*e*	P		Pn	16 16 45.9	+3.0
EBIE	**Bielsa**	**11.53**	**57**	⇓	P		**Pn**	**16 16 48.1**	**+2.5**
	comp=E,14nm,0.2s,SNR=18								
EBIE					S		**Sn**	**16 18 54.0**	**-0.5**
	comp=E,5.0nm,0.5s,SNR=7.9								
EBIE	**Bielsa**	**11.53**	**57**		P		**Pn**	**16 16 48.1**	**+2.5**
	comp=E,14nm,0.2s,SNR=18								
EBIE					S		**Sn**	**16 18 54.0**	**-0.5**
	comp=E,5.0nm,0.5s,SNR=7.9								
VIEF	**Viey**	**11.53**	**56**	*e*	P		**Pn**	**16 16 48.2**	**+2.7**
VIEF	**Viey**	**11.53**	**56**	*e*	P		**Pn**	**16 16 48.2**	**+2.7**
RESF	**Ens**	**11.71**	**57**	*e*	P		Pn	16 16 51.0	+3.0
RESF	**Ens**	**11.71**	**57**	*e*	P		Pn	16 16 51.0	+3.0
EPOB	**Poblet**	**11.72**	**65**		P		**Pn**	**16 16 48.8**	**+0.8**
	comp=E,1.3nm,0.2s,SNR=7.9								
EPOB					S		**Sn**	**16 18 56.1**	**-2.8**
	comp=E,3.7nm,0.5s,SNR=7.9								
EPOB	**Poblet**	**11.72**	**65**		P		**Pn**	**16 16 48.8**	**+0.8**
	comp=E,1.3nm,0.2s,SNR=7.9								
EPF	**Esparros**	**11.81**	**56**	*e*	Pn		**Pn**	**16 16 51.6**	**+2.4**
EPF					*e*	Sn	Sn	16 18 49.4	-12
	comp=E,7.6nm,0.4s								
EPF	**Esparros**	**11.81**	**56**		Pn		**Pn**	**16 16 51.6**	**+2.4**
MELF	**Melles**	**12.02**	**57**	*e*	P		Pn	16 16 55.7	+3.5
MELF	**Melles**	**12.02**	**57**	*e*	P		Pn	16 16 55.7	+3.5
CSOR	**Sort**	**12.09**	**60**		P		**Pn**	**16 16 55.1**	**+2.0**
	comp=E,3.3nm,0.3s,SNR=9.4								
CSOR					S		**Sn**	**16 19 05.4**	**-2.6**
	comp=E,3.7nm,0.5s,SNR=7.9								
CSOR	**Sort**	**12.09**	**60**		P		**Pn**	**16 16 55.1**	**+2.0**
	comp=E,3.3nm,0.3s,SNR=9.4								
EMIR	**Miracle**	**12.21**	**63**		P		**Pn**	**16 16 55.8**	**+1.1**
	comp=E,6.2nm,0.3s,SNR=7.9								
EMIR					S		**Sn**	**16 19 07.2**	**-3.7**
	comp=E,2.5nm,0.3s,SNR=7.9								
EMIR	**Miracle**	**12.21**	**63**		P		**Pn**	**16 16 55.8**	**+1.1**
	comp=E,6.2nm,0.3s,SNR=7.9								
SALF	**Salau**	**12.27**	**58**	*e*	P		Pn	16 16 58.9	+3.4
SALF	**Salau**	**12.27**	**58**	*e*	P		Pn	16 16 58.9	+3.4
CFON	**Fontmartina**	**12.81**	**64**		P		**Pn**	**16 17 05.0**	**+2.0**
	comp=E,4.2nm,0.2s,SNR=15								
CFON	**Fontmartina**	**12.81**	**64**		P		**Pn**	**16 17 05.0**	**+2.0**
	comp=E,4.2nm,0.2s,SNR=15								
LFF	**La Frestale**	**12.98**	**49**	*e*	Pn		**Pn**	**16 17 06.8**	**+1.6**
LFF					*e*	Sn	Sn	16 19 17.6	-12
	comp=E,4.2nm,0.4s								
LFF	**La Frestale**	**12.98**	**49**		Pn		**Pn**	**16 17 06.8**	**+1.6**
QUIF	**Quistinic**	**12.99**	**31**	*e*	Pn		Pn	16 17 02.3	-3.0
QUIF					*e*	Sn	Sn	16 19 18.8	-11
	comp=E,24nm,0.7s								
MTLF	**Montolieu**	**13.19**	**57**	*e*	Pn		Pn	16 17 04.6	-3.4
MTLF					*e*	Sn	Sn	16 19 22.2	-13
	comp=E,1.2nm,0.4s								
ROSF	**Rostrenen**	**13.28**	**29**	*e*	Pn		**Pn**	**16 17 06.8**	**-2.5**
ROSF					*e*	Sn	Sn	16 19 26.0	-11
	comp=E,3.5nm,0.3s								
EJON	**La Jonquera**	**13.34**	**62**		P		**Pn**	**16 17 12.4**	**+2.3**
	comp=E,1.4nm,0.2s,SNR=7.9								
MFF	**Saint Martin d**	**13.46**	**41**	*e*	Pn		**Pn**	**16 17 13.0**	**+1.3**
MFF					*e*	Sn	Sn	16 19 29.3	-12
	comp=E,5.5nm,0.6s								
MFF	**Saint Martin d**	**13.46**	**41**		Pn		**Pn**	**16 17 13.0**	**+1.3**
RJF	**Les Rejaudoux**	**13.64**	**49**	*e*	Pn		**Pn**	**16 17 15.3**	**+1.1**
RJF					*e*	Sn	Sn	16 19 33.6	-12
	comp=E,10nm,0.5s								
RJF	**Les Rejaudoux**	**13.64**	**49**		Pn		**Pn**	**16 17 15.3**	**+1.1**
CAF	**Calviac**	**13.78**	**51**	*e*	Pn		**Pn**	**16 17 16.8**	**+0.6**
CAF					*e*	Sn	Sn	16 19 37.0	-12
	comp=E,5.3nm,0.5s								
CAF	**Calviac**	**13.78**	**51**		Pn		**Pn**	**16 17 16.8**	**+0.6**
GRR	**Gorron**	**14.34**	**35**	*e*	Pn		Pn	16 17 20.8	-3.0
GRR					*e*	Sn	Sn	16 19 50.9	-12
	comp=E,37nm,1.1s								
LASF	**Ste Croix**	**14.57**	**56**	*e*	Pn		Pn	16 17 23.6	-3.3
LASF					*e*	Sn	Sn	16 19 55.1	-13
	comp=E,2.1nm,0.4s								
TCF	**Toulx Ste Croi**	**14.58**	**46**	*e*	Pn		**Pn**	**16 17 27.0**	**-0.1**
TCF					*e*	Sn	Sn	16 19 55.9	-13
	comp=E,3.4nm,0.4s								
TCF	**Toulx Ste Croi**	**14.58**	**46**		Pn		**Pn**	**16 17 27.0**	**-0.1**
LBL	**Lubilhac**	**14.66**	**51**	*e*	P		**Pn**	**16 17 30.2**	**+1.9**
LBL	**Lubilhac**	**14.66**	**51**	*e*	P		**Pn**	**16 17 30.2**	**+1.9**
FLN	**La Foliniere**	**14.79**	**34**	*e*	Pn		**Pn**	**16 17 27.0**	**-2.9**
FLN					*e*	Sn	Sn	16 20 01.5	-12
	comp=E,5.8nm,0.5s								
LDF	**La Druitiere**	**14.83**	**35**	*e*	Pn		**Pn**	**16 17 27.8**	**-2.7**
LDF					*e*	Sn	Sn	16 20 02.2	-13
	comp=E,4.1nm,0.4s								
AGO	**Saint Agoulin**	**14.99**	**49**	*e*	P		**Pn**	**16 17 35.1**	**+2.4**
AGO	**Saint Agoulin**	**14.99**	**49**	*e*	P		**Pn**	**16 17 35.1**	**+2.4**
BGF	**Bois d'Agland**	**15.09**	**46**	*e*	Pn		**Pn**	**16 17 30.7**	**-3.3**
BGF					*e*	Sn	Sn	16 20 08.3	-13
	comp=E,7.8nm,0.6s								
VIVF	**Saint-Julien-l**	**15.41**	**54**	*e*	Pn		**Pn**	**16 17 34.7**	**-3.5**
VIVF					*e*	Sn	Sn	16 20 15.4	-14
	comp=E,1.2nm,0.4s								
AVF	**Avril sur Loir**	**15.51**	**46**	*e*	Pn		**Pn**	**16 17 36.9**	**-2.6**
AVF					*e*	Sn	Sn	16 20 18.2	-13
	comp=E,2.2nm,0.5s								
AVF	**Avril sur Loir**	**15.51**	**46**	*e*	Pn		**Pn**	**16 17 36.9**	**-2.6**
SMRF	**Simiane la Rot**	**15.69**	**58**	*e*	Pn		**Pn**	**16 17 38.4**	**-3.5**
SMRF					*e*	Sn	Sn	16 20 22.2	-14
	comp=E,0.7nm,0.2s								

SMRF	**Simiane la Rot**	**15.69**	**58**	*e*	Pn		**Pn**	**16 17 38.4**	**-3.5**
SMF	**Signal de Mont**	**15.72**	**48**	*e*	Pn		**Pn**	**16 17 39.1**	**-3.2**
SMF					*e*	Sn	Sn	16 20 23.0	-14
	comp=E,1.9nm,0.4s								
SMF	**Signal de Mont**	**15.72**	**48**	*e*	Pn		**Pn**	**16 17 39.1**	**-3.2**
SSF	**Saint Saulge**	**15.75**	**46**	*e*	Pn		**Pn**	**16 17 39.7**	**-2.9**
SSF					*e*	Sn	Sn	16 20 24.0	-13
	comp=E,1.5nm,0.4s								
SSF	**Saint Saulge**	**15.75**	**46**	*e*	Pn		**Pn**	**16 17 39.7**	**-2.9**
LOR	**Lormes**	**16.06**	**46**	*e*	Pn		**Pn**	**16 17 44.0**	**-2.7**
LOR					*e*	Sn	Sn	16 20 31.5	-13
	comp=E,1.5nm,0.4s								
LOR	**Lormes**	**16.06**	**46**	*e*	Pn		**Pn**	**16 17 44.0**	**-2.7**
ORIF	**Oris-en-Rattie**	**16.23**	**55**	*e*	Pn		**Pn**	**16 17 46.2**	**-2.6**
ORIF					*e*	Sn	Sn	16 20 35.2	-14
	comp=E,1.2nm,0.5s								
ORIF	**Oris-en-Rattie**	**16.23**	**55**	*e*	Pn		**Pn**	**16 17 46.2**	**-2.6**
MBDF	**Montbardon**	**16.75**	**57**	*e*	Pn		**Pn**	**16 17 53.1**	**-2.5**
MBDF					*e*	Sn	Sn	16 20 47.7	-14
	comp=E,1.2nm,0.3s								
MBDF	**Montbardon**	**16.75**	**57**	*e*	Pn		**Pn**	**16 17 53.1**	**-2.5**
EKA	**Eskdalemuir Ar**	**19.40**	**17**		P		**Pn**	**16 18 29.2**	**+1.2**
	baz=203,slow=9.3,SNR=7.7								
DAVOX	**Davos/Dischmat**	**19.51**	**53**		LR		LR	16 26 27.1	
	comp=E,38nm,18.8s,baz=264,slow=38								
GERES	**GERESS Array B**	**22.66**	**50**		P		**P**	**16 19 04.0**	**+1.9**
	comp=E,2.3nm,0.9s,baz=246,slow=10.0,SNR=14								
GERES					LR		LR	16 27 04.0	
	comp=E,14nm,18.5s,baz=42,slow=34								
VRAC	**Vranov**	**24.61**	**51**		LR		LR	16 28 56.7	
	comp=E,24nm,18.6s,baz=39,slow=36								
KECS	**Kecovo**	**26.86**	**54**	*e*	P		**P**	**16 19 38.9**	**-2.6**
KECS	**Kecovo**	**26.86**	**54**	*e*	P		**P**	**16 19 38.9**	**-2.6**
TORD	**Torodi Ar. Bea**	**27.28**	**147**		P		P	16 19 39.5	-6.0
	comp=E,1.5nm,0.5s,baz=324,slow=11,SNR=22								
TORD					LR		LR	16 30 25.9	
	comp=E,27nm,20.0s,baz=150,slow=37								
HFS	**Hagfors**	**28.64**	**28**		P		**P**	**16 19 58.6**	**+1.4**
	comp=E,0.9nm,0.5s,baz=198,slow=9.3,SNR=5.6								
DBIC	**Dimbokro**	**31.23**	**164**		P		P	16 20 13.4	-7.1
	comp=E,4

	11nm,0.3s							
SDI	**San Donato**	**0.85**	**153**	Pg	Pg	16 19 20.8	+0.1	
	11nm,0.3s							
MGAB	**Montegabbione**	**0.98**	**298**	Pg	Pg	16 19 22.6	-0.5	
MGAB	**Montegabbione**	**0.98**	**298**	Pg	Pg	16 19 22.6	-0.5	

*ISCJB **13** 16:35:46.2±0.7, 15°.29N±0°.05×93°.96W±0°.03, h59km±7km, mb3.9/8, MS3.1/2, Error ellipse: s-maj=9.0km s-min=5.1km az=6.5*
*MEX **13** 16:35:48.9±0.5, 15°.26N×93°.97W, h42km±17km, MD4.4*
*IDC **13** 16:35:50.6±4.5, 15°.43N×93°.52W, h81km±41km, mb3.5/8, mb1 3.8/9, mb1mx3.6/25, mbtmp3.5/9, MS3.2/3, Ms1 3.2/3, ms1mx2.7/19, Error ellipse: s-maj=33.9km s-min=15.9km az=52.0*
ISC 13 16:35:47.9±0.8, **15°.31N**±0°.06×**93°.92W**±0°.04, **h61**km±8km, **n22**, σ1°.74/32, **mb3.9/8, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
PCIG		**0.78**	**60**	*eP*			**Pn**	**16 36 02.6**	**-0.6**
PCIG				*i* S			**Sn**	**16 36 13.4**	**-1.0**
THIG		**1.65**	**104**	*eP*			**Pn**	**16 36 14.3**	**-0.3**
THIG				*i* S			**Sn**	**16 36 33.9**	**-0.9**
TGIG		**1.65**	**28**	*eP*			**Pn**	**16 36 14.8**	**+0.1**
TGIG				*i* S			**Sn**	**16 36 34.8**	**-0.2**
CCIG	**Comitan**	**1.97**	**60**	*eP*			**Pn**	**16 36 19.6**	**+0.4**
CCIG				*eS*			**Sn**	**16 36 43.3**	**+0.4**
HUIG	**Huatulco**	**2.16**	**283**	*eP*			**Pn**	**16 36 20.8**	**-0.7**
HUIG				*i* S			**Sn**	**16 36 44.2**	**-3.0**
TUIG	**Tuzandepetl**	**2.75**	**350**	*eP*			**Pn**	**16 36 27.5**	**-2.2**
TUIG				*i* S			**Sn**	**16 36 59.4**	**-2.3**
PNIG	**Pinotepa**	**4.19**	**285**	*eP*			**Pn**	**16 36 49.4**	**+0.1**
PNIG				*eS*			**Sn**	**16 37 35.4**	**-1.6**
SCIG	**Sabancuy**	**4.48**	**35**	*eP*			**Pn**	**16 36 52.8**	**-0.5**
SCIG				*i* S			**Sn**	**16 37 45.1**	**+0.9**
TPIG	**Tehuac#an**	**4.52**	**314**	*eP*			**Pn**	**16 36 54.7**	**+0.8**
TPIG				*eS*			**Sn**	**16 37 45.5**	**+0.2**
TEIG	**Tepich**	**7.27**	**47**	P			**Pn**	**16 37 28.9**	**-2.5**
	58nm,0.3s,baz=262,slow=1.0,SNR=116								
TEIG				S			**Sn**	**16 38 46.9**	**-5.8**
	44nm,0.3s,baz=72,slow=19,SNR=9.9								
TEIG				LR			LR	16 40 52.2	
	comp=Z,170nm,19.5s,baz=30,slow=44								
TXAR	**Lajitas Array**	**16.60**	**329**	P			**P**	**16 39 39.7**	**+1.3**
	0.3nm,0.3s,baz=149,slow=14,SNR=19								
ANMO	**Albuquerque**	**22.57**	**332**	P			**P**	**16 40 46.0**	**+2.5**
	1.5nm,0.5s,baz=146,slow=11,SNR=4.5								
PDAR	**Pinedale Array**	**30.48**	**337**	P			**P**	**16 41 56.9**	**+1.6**
	0.5nm,0.7s,baz=152,slow=6.0,SNR=3.1								
NVAR	**Mina Array Bea**	**31.49**	**322**	P			**P**	**16 42 06.1**	**+1.8**
	1.3nm,0.7s,baz=127,slow=8.6,SNR=8.9								
LPAZ	**La Paz**	**40.42**	**140**	LR			LR	16 59 28.8	
	comp=Z,20nm,18.6s,baz=239,slow=35								
SCHQ	**Schefferville**	**44.68**	**22**	LR			LR	17 04 25.6	
	comp=Z,36nm,19.8s,baz=142,slow=39								
SIV	**San Ignacio**	**44.94**	**132**	P			**P**	**16 43 56.1**	**-1.1**
	3.0nm,0.6s,baz=311,slow=8.9,SNR=16								
YKA	**Yellowknife Ar**	**49.34**	**348**	P			**P**	**16 44 30.9**	**+0.1**
	3.4nm,0.6s,baz=153,slow=7.4,SNR=17								
YKA				pP			**pP**	**16 44 46.7**	**+0.2**
	1.8nm,0.6s,baz=151,slow=7.4,SNR=5.3								
CFAA	**Coronel Fontan**	**52.76**	**152**	P			**P**	**16 44 56.9**	**-0.1**
	0.2nm,0.7s,baz=282,slow=9.3,SNR=3.7								
ILAR	**Eielson Array**	**60.91**	**337**	P			**P**	**16 45 54.6**	**+0.4**
	0.9nm,0.8s,baz=154,slow=5.6,SNR=7.5								
ILAR				pP			**pP**	**16 46 12.2**	**+1.7**
	0.5nm,0.6s,baz=121,slow=4.8,SNR=2.7								
ARCES	**ARCESS Array B**	**85.48**	**18**	P			**P**	**16 48 18.2**	**-0.6**
	0.8nm,0.7s,baz=287,slow=4.7,SNR=9.3								
ASAR	**Alice Springs**	**134.33**	**252**	PKP			**PKPdf**	**16 54 59.6**	**-0.2**
	1.2nm,1.1s,baz=108,slow=2.1,SNR=4.0								

IDC 13 16:40:30.6±7.8, **17°.89S**×**178°.04W**, **h447**km±82km, **mb3.4/6, mb1 3.7/6, mb1mx3.2/18, mbtmp3.4/6, Error ellipse: s-maj=102.7km s-min=25.4km az=152.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
CTA	**Charters Tower**	**33.79**	**260**	P			P	16 46 34.0	+0.1
	3.3nm,0.6s,baz=87,slow=4.7,SNR=9.8								
STKA	**Stephens Creek**	**38.95**	**241**	P			P	16 47 16.2	-0.4
	2.1nm,0.9s,baz=88,slow=14,SNR=4.8								
WRA	**Warramunga Arr**	**44.98**	**259**	P			P	16 48 04.2	-0.6
	2.1nm,0.5s,baz=95,slow=6.9,SNR=59								
WRA				PcP			PcP	16 49 36.7	-0.3
	0.5nm,0.8s,baz=91,slow=3.6,SNR=3.1								
ASAR	**Alice Springs**	**45.13**	**254**	P			P	16 48 06.1	+0.2
	12nm,0.5s,baz=88,slow=8.4,SNR=477								
ASAR				PcP			PcP	16 49 37.1	-0.3
	0.6nm,0.5s,baz=102,slow=3.9,SNR=4.8								
NVAR	**Mina Array Bea**	**79.17**	**44**	P			P	16 51 48.1	-0.1
	0.9nm,0.7s,baz=221,slow=8.0,SNR=5.8								
TXAR	**Lajitas Array**	**85.69**	**57**	P			P	16 52 21.6	+0.1
	0.9nm,0.8s,baz=225,slow=5.1,SNR=9.5								

IDC 13 17:02:45.8±1.7, **3°.59N**×**128°.54E**, **h0**km, **mb3.7/5, mb1 3.9/5, mb1mx3.6/22, mbtmp3.8/5, Error ellipse: s-maj=94.4km s-min=21.3km az=70.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
FITZ	**Fitzroy Crossi**	**21.74**	**187**	P			P	17 07 39.2	+0.2
	0.5nm,0.3s,baz=18,slow=12,SNR=9.3								
WRA	**Warramunga Arr**	**24.07**	**167**	P			P	17 08 03.3	+0.3
	1.1nm,0.6s,baz=345,slow=10,SNR=14								
ASAR	**Alice Springs**	**27.59**	**169**	P			P	17 08 35.7	+0.8
	0.4nm,0.6s,baz=349,slow=7.3,SNR=8.8								
STKA	**Stephens Creek**	**37.39**	**162**	P			P	17 09 58.6	-1.9
	1.6nm,0.6s,baz=325,slow=12,SNR=3.7								
MKAR	**Makanchi Array**	**58.71**	**324**	P			P	17 12 45.5	+0.1
	0.7nm,0.3s,baz=118,slow=8.5,SNR=21								

*ISK **13** 17:16:47.8, 40°.33N×25°.77E, h3km, MD2.7*
*ISCJB **13** 17:16:48.9±0.5, 40°.34N±0°.02×25°.80E±0°.03, h10km±3km, Error ellipse: s-maj=3.6km s-min=3.2km az=167.0*
*ATH **13** 17:16:48.4, 40°.34N×25°.84E, h27km±1km, MD2.9/8*
*CSEM **13** 17:16:49.0±0.1, 40°.33N×25°.79E, h10km, ML2.3/5, Error ellipse: s-maj=2.8km s-min=2.6km az=134.0*
*DDA **13** 17:16:49.9, 40°.30N×25°.94E, h17km, MD2.8*
*THE **13** 17:16:49.5, 40°.35N×25°.79E, h10km±1km, ML2.3/5, Error ellipse: s-maj=1.3km s-min=0.7km az=307.0*
ISC 13 17:16:49.1±1.0, **40°.34N**±0°.02×**25°.80E**±0°.02, **h12**km±8km, **n64**, σ0°.55/90, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
SMTH	**Samothraki Isl**	**0.24**	**304**	P			**Pg**	**17 16 54.8**	**+0.6**
SMTH	**Samothraki Isl**	**0.24**	**304**	*e*PB			**Pb**	**17 16 54.9**	**-0.6**
SMTH	**Samothraki Isl**	**0.24**	**304**	P			**Pg**	**17 16 54.8**	**+0.6**
ENEZ	**Enez**	**0.48**	**34**	*e*PG			**Pg**	**17 16 58.5**	**-0.1**
ENEZ				*e*SG			**Sb**	**17 17 06.1**	**-0.6**
ENEZ	**Enez**	**0.48**	**34**	*e*Pg			**Pg**	**17 16 58.5**	**-0.1**
ENEZ				*e*Sg			**Sb**	**17 17 06.1**	**-0.6**
GELI	**Tayfur-Gelibol**	**0.52**	**83**	*e*PG			**Pg**	**17 16 59.2**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.52**	**83**	*e*Pg			**Pg**	**17 16 59.2**	**-0.1**
BOZC	**Bozcaada**	**0.53**	**158**	*i* P			**Pg**	**17 16 59.5**	**0.0**
BOZC				*i* S			**Sg**	**17 17 06.6**	**+0.1**
ALN	**Alexandroupoli**	**0.59**	**19**	P			**Pg**	**17 17 00.5**	**-0.2**
ALN				S			**Sg**	**17 17 08.3**	**-0.2**
ALN	**Alexandroupoli**	**0.59**	**19**	*e*PN			**Pg**	**17 17 00.3**	**-0.4**
ALN				*e*SN			**Sg**	**17 17 08.5**	**0.0**
ALN	**Alexandroupoli**	**0.59**	**19**	P			**Pg**	**17 17 00.5**	**-0.2**
ALN				S			**Sg**	**17 17 08.3**	**-0.2**
LIA	**Limnos Island**	**0.64**	**227**	P			**Pb**	**17 17 02.1**	**-0.1**
LIA				S			**Sb**	**17 17 11.6**	**+0.5**
LIA	**Limnos Island**	**0.64**	**227**	*e*PN			**Pg**	**17 17 01.7**	**+0.1**
LIA				*e*SN			**Sb**	**17 17 11.6**	**+0.5**
LIA	**Limnos Island**	**0.64**	**227**	*e*Pn			**Pg**	**17 17 01.7**	**+0.1**
LIA	**Limnos Island**	**0.64**	**227**	P			**Pb**	**17 17 02.1**	**-0.1**
LIA				S			**Sb**	**17 17 11.6**	**+0.5**
EZN	**Ezine**	**0.65**	**141**	*e*PG			**Pg**	**17 17 01.3**	**-0.4**
EZN	**Ezine**	**0.65**	**141**	*e*Pg			**Pg**	**17 17 01.3**	**-0.4**
LPK	**Lapseki**	**0.74**	**87**	*e*PG			**Pg**	**17 17 03.2**	**-0.2**
LPK	**Lapseki**	**0.74**	**87**	*e*Pg			**Pg**	**17 17 03.2**	**-0.2**
RDO	**Rodhopi**	**0.83**	**346**	P			**Pg**	**17 17 05.0**	**-0.2**
RDO				S			**Sb**	**17 17 16.7**	**0.0**
RDO	**Rodhopi**	**0.83**	**346**	*e*PN			**Pg**	**17 17 05.0**	**-0.2**
RDO				*e*SN			**Sb**	**17 17 16.8**	**0.0**
RDO	**Rodhopi**	**0.83**	**346**	P			**Pg**	**17 17 05.0**	**-0.2**
RDO				S			**Sb**	**17 17 16.7**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.11**	**71**	*e*PN			**Pb**	**17 17 09.6**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.11**	**71**	*e*Pn			**Pb**	**17 17 09.6**	**-0.7**
SART	**Tekirdag**	**1.11**	**71**	*i* P			**Pb**	**17 17 09.3**	**-1.0**
SART				*i* S			**Sb**	**17 17 24.3**	**-0.5**
SART	**Tekirdag**	**1.11**	**71**	*i* P			**Pb**	**17 17 09.3**	**-1.0**
SART				*i* S			**Sb**	**17 17 24.3**	**-0.5**
PRK	**Paraskevi**	**1.15**	**161**	P			**Pb**	**17 17 10.7**	**-0.2**
PRK				S			**Sn**	**17 17 26.6**	**0.0**
PRK	**Paraskevi**	**1.15**	**161**	*e*PN			**Pb**	**17 17 10.1**	**-0.8**
PRK	**Paraskevi**	**1.15**	**161**	*e*Pn			**Pb**	**17 17 10.1**	**-0.8**
PRK	**Paraskevi**	**1.15**	**161**	P			**Pb**	**17 17 10.7**	**-0.2**
PRK				S			**Sn**	**17 17 26.6**	**0.0**
KRBG	**Karabiga-Canak**	**1.15**	**87**	*e*PN			**Pb**	**17 17 10.9**	**0.0**
KRBG	**Karabiga-Canak**	**1.15**	**87**	*e*Pn			**Pb**	**17 17 10.9**	**0.0**
KAVA	**Kavala**	**1.18**	**305**	P			**Pb**	**17 17 11.0**	**-0.4**
KAVA				S			**Sg**	**17 17 27.0**	**-0.1**
KAVA	**Kavala**	**1.18**	**305**	P			**Pb**	**17 17 11.0**	**-0.4**
KAVA				S			**Sg**	**17 17 27.0**	**-0.1**
MFT	**Murefte**	**1.22**	**68**	*e*PN			**Pn**	**17 17 12.2**	**+0.1**
MFT	**Murefte**	**1.22**	**68**	*e*Pn			**Pn**	**17 17 12.2**	**+0.1**
AYVA	**Ayvalik**	**1.23**	**146**	*i* P			**Pn**	**17 17 11.7**	**-0.5**
AYVA				*i* S			**Sb**	**17 17 27.5**	**-0.7**
AYVA	**Ayvalik**	**1.23**	**146**	*i* P			**Pn**	**17 17 11.7**	**-0.5**
AYVA				*i* S			**Sb**	**17 17 27.5**	**-0.7**
OUR	**Ouranopolis**	**1.39**	**271**	P			**Pn**	**17 17 13.7**	**-0.6**
OUR				S			**Sn**	**17 17 33.1**	**+0.6**
OUR	**Ouranopolis**	**1.39**	**271**	P			**Pn**	**17 17 13.7**	**-0.6**
OUR				S			**Sn**	**17 17 33.1**	**+0.6**
GONE	**Gonen-Balikesi**	**1.48**	**101**	*e*PN			**Pb**	**17 17 16.4**	**0.0**
GONE	**Gonen-Balikesi**	**1.48**	**101**	*e*Pn			**Pb**	**17 17 16.4**	**0.0**
TKR	**Tekirdag**	**1.48**	**63**	*e*PN			**Pb**	**17 17 16.5**	**0.0**
TKR	**Tekirdag**	**1.48**	**63**	*e*Pn			**Pb**	**17 17 16.5**	**0.0**
EDRB	**Edirne**	**1.67**	**25**	*e*PN			**Pn**	**17 17 18.8**	**+0.6**
EDRB	**Edirne**	**1.67**	**25**	P			**Pn**	**17 17 18.4**	**+0.2**
EDRB				S			**Sb**	**17 17 40.7**	**-0.2**
EDRB	**Edirne**	**1.67**	**25**	P			**Pn**	**17 17 18.4**	**+0.2**
EDRB	**Edirne**	**1.67**	**25**	*e*Pn			**Pn**	**17 17 18.8**	**+0.6**
EDRB				S			**Sb**	**17 17 40.7**	**-0.2**
BALB	**Balikesir**	**1.75**	**113**	*e*PN			**Pb**	**17 17 20.3**	**-0.7**
BALB	**Balikesir**	**1.75**	**113**	*e*Pn			**Pb**	**17 17 20.3**	**-0.7**
NVR	**Nevrokopi**	**1.78**	**305**	*e*PB			**Pn**	**17 17 19.0**	**-0.8**
NVR	**Nevrokopi**	**1.78**	**305**	*e*Pb			**Pn**	**17 17 19.0**	**-0.8**
AOS	**Alonnisos**	**1.88**	**232**	*e*PN			**Pn**	**17 17 21.6**	**+0.5**
AOS	**Alonnisos**	**1.88**	**232**	*e*Pn			**Pn**	**17 17 21.6**	**+0.5**
CHOS	**Chios island**	**1.96**	**174**	*e*PN			**Pn**	**17 17 21.6**	**-0.6**
CHOS	**Chios island**	**1.96**	**174**	*e*Pn			**Pn**	**17 17 21.6**	**-0.6**
KCTX	**Karacabey (Bur**	**1.96**	**91**	*e*PN			**Pn**	**17 17 23.1**	**+0.9**
KCTX	**Karacabey (Bur**	**1.96**	**91**	*e*Pn			**Pn**	**17 17 23.1**	**+0.9**
DURS	**Dursunbey**	**2.18**	**109**	*e*P			**Pb**	**17 17 28.9**	**+0.3**
DURS				*i* S			**Sn**	**17 17 53.5**	**+1.1**
DURS	**Dursunbey**	**2.18**	**109**	*e*P			**Pb**	**17 17 28.9**	**+0.3**
DURS				*i* S			**Sn**	**17 17 53.5**	**+1.1**
CTKS	**Kestanelik-??a**	**2.25**	**65**	*e*PN			**Pn**	**17 17 27.3**	**+1.2**
CTKS	**Kestanelik-??a**	**2.25**	**65**	*e*Pn			**Pn**	**17 17 27.3**	**+1.2**
ARMT	**Armutlu**	**2.35**	**83**	*e*PN			**Pn**	**17 17 28.8**	**+1.3**
ARMT	**Armutlu**	**2.35**	**83**	*e*Pn			**Pn**	**17 17 28.8**	**+1.3**

IDC 13 17:21:48.0±2.4, **0°.87N**×**125°.94E**, **h0**km, **mb3.1/3, mb1 3.4/3, mb1mx3.2/20, mbtmp3.2/3, Error ellipse: s-maj=248.8km s-min=26.7km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
WRA	**Warramunga Arr**	**22.26**	**159**	P			P	17 26 46.1	-0.8
	0.4nm,0.4s,baz=336,slow=11,SNR=11								
ASAR	**Alice Springs**	**25.59**	**163**	P			P	17 27 19.7	+0.6
	0.1nm,0.4s,baz=345,slow=12,SNR=4.4								
MKAR	**Makanchi Array**	**59.47**	**327**	P			P	17 31 52.8	-0.1
	0.1nm,0.4s,baz=120,slow=7.8,SNR=4.2								

*CSEM **13** 17:43:05.7±0.1, 40°.33N×25°.82E, h2km, ML2.2/5, Error ellipse: s-maj=3.1km s-min=2.8km az=17.0*
*THE **13** 17:43:05.5, 40°.33N×25°.84E, h4km±1km, ML2.2/5, Error ellipse: s-maj=1.6km s-min=0.7km az=208.0*
*ISK **13** 17:43:05.6, 40°.36N×25°.91E, h5km, MD3.0*
*ATH **13** 17:43:05.5, 40°.33N×25°.86E, h4km, MD3.2/8*
*DDA **13** 17:43:06.5, 40°.30N×25°.96E, h7km, MD2.7*
ISC 13 17:43:05.9±0.9, **40°.34N**±0°.02×**25°.84E**±0°.02, **h9**km±9km, **n73**, σ0°.89/115, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
SMTH	**Samothraki Isl**	**0.27**	**300**	P			**Pg**	**17 43 11.2**	**-0.1**
SMTH	**Samothraki Isl**	**0.27**	**300**	*e*PG			**Pg**	**17 43 11.2**	**-0.1**
SMTH				*e*SG			**Sg**	**17 43 15.2**	**+0.3**
SMTH	**Samothraki Isl**	**0.27**	**300**	P			**Pg**	**17 43 11.2**	**-0.1**
SMTH				*e*Sg			**Sg**	**17 43 15.2**	**+0.3**
ENEZ	**Enez**	**0.47**	**31**	*e*PG			**Pg**	**17 43 14.7**	**-0.3**
ENEZ				*e*SG			**Sb**	**17 43 22.5**	**-0.8**
ENEZ	**Enez**	**0.47**	**31**	*e*Pg			**Pg**	**17 43 14.7**	**-0.3**
ENEZ				*e*Sg			**Sb**	**17 43 22.5**	**-0.8**
GELI	**Tayfur-Gelibol**	**0.49**	**83**	*e*PG			**Pg**	**17 43 15.4**	**0.0**
GELI				*e*SG			**Sb**	**17 43 22.4**	**-1.6**
GELI	**Tayfur-Gelibol**	**0.49**	**83**	*e*Pg			**Pg**	**17 43 15.4**	**0.0**
GELI				*e*Sg			**Sb**	**17 43 22.4**	**-1.6**
BOZC	**Bozcaada**	**0.52**	**161**	*i* P			**Pg**	**17 43 15.9**	**-0.1**
BOZC				*i* S			**Sg**	**17 43 22.9**	**+0.1**
ALN	**Alexandroupoli**	**0.58**	**16**	P			**Pg**	**17 43 16.8**	**-0.4**
ALN				S			**Sg**	**17 43 24.8**	**0.0**
ALN	**Alexandroupoli**	**0.58**	**16**	*e*PG			**Pg**	**17 43 16.7**	**-0.4**
ALN				*e*SG			**Sg**	**17 43 24.5**	**-0.3**
ALN	**Alexandroupoli**	**0.58**	**16**	P			**Pg**	**17 43 16.8**	**-0.4**
ALN				*e*Sg			**Sg**	**17 43 24.5**	**-0.3**
EZN	**Ezine**	**0.63**	**143**	*e*PG			**Pb**	**17 43 19.3**	**+0.2**
EZN	**Ezine**	**0.63**	**143**	*e*Pg			**Pb**	**17 43 19.3**	**+0.2**
LIA	**Limnos Island**	**0.66**	**229**	P			**Pg**	**17 43 18.3**	**-0.4**
LIA				S			**Sg**	**17 43 28.2**	**+0.8**
LIA	**Limnos Island**	**0.66**	**229**	*e*PG			**Pg**	**17 43 18.3**	**-0.4**
LIA				*e*SG			**Sg**	**17 43 27.6**	**+0.2**
LIA	**Limnos Island**	**0.66**	**229**	P			**Pg**	**17 43 18.3**	**-0.4**
LIA				*e*Sg			**Sg**	**17 43 27.6**	**+0.2**
LIA				S			**Sg**	**17 43 28.2**	**+0.8**
LPK	**Lapseki**	**0.71**	**87**	*e*PG			**Pg**	**17 43 19.4**	**-0.1**
LPK				*e*SG			**Sb**	**17 43 29.4**	**-0.8**
LPK	**Lapseki**	**0.71**	**87**	*e*Pg			**Pg**	**17 43 19.4**	**-0.1**
LPK				*e*Sg			**Sb**	**17 43 29.4**	**-0.8**
RDO	**Rodhopi**	**0.84**	**344**	P			**Pg**	**17 43 21.3**	**-0.8**
RDO				S			**Sb**	**17 43 34.1**	**0.0**
RDO	**Rodhopi**	**0.84**	**344**	*e*PG			**Pg**	**17 43 21.3**	**-0.8**
RDO				*e*SG			**Sg**	**17 43 33.4**	**+0.4**
RDO	**Rodhopi**	**0.84**	**344**	P			**Pg**	**17 43 21.3**	**-0.8**
RDO				*e*Sg			**Sg**	**17 43 33.4**	**+0.4**
RDO				S			**Sb**	**17 43 34.1**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.08**	**71**	*e*PG			**Pg**	**17 43 26.1**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.08**	**71**	*e*Pg			**Pg**	**17 43 26.1**	**-0.6**
SART	**Tekirdag**	**1.08**	**71**	*i* P			**Pg**	**17 43 25.8**	**-0.9**
SART				*i* S			**Sb**	**17 43 40.8**	**-0.3**
SART	**Tekirdag**	**1.08**	**71**	*i* P			**Pg**	**17 43 25.8**	**-0.9**
SART				*i* S			**Sb**	**17 43 40.8**	**-0.3**
KRBG	**Karabiga-Canak**	**1.12**	**87**	*e*PG			**Pg**	**17 43 26.8**	**-0.6**
KRBG	**Karabiga-Canak**	**1.12**	**87**	*e*Pg			**Pg**	**17 43 26.8**	**-0.6**
PRK	**Paraskevi**	**1.14**	**163**	P			**Pg**	**17 43 26.2**	**-1.6**
PRK				S			**Sb**	**17 43 43.0**	**+0.4**
PRK	**Paraskevi**	**1.14**	**163**	*e*PB			**Pg**	**17 43 26.8**	**-1.0**
PRK				*e*SB			**Sg**	**17 43 42.1**	**-0.4**
PRK	**Paraskevi**	**1.14**	**163**	P			**Pg**	**17 43 26.2**	**-1.6**
PRK	**Paraskevi**	**1.14**	**163**	*e*Pb			**Pg**	**17 43 26.8**	**-1.0**
PRK				*e*Sb			**Sg**	**17 43 42.1**	**-0.4**
PRK				S			**Sb**	**17 43 43.0**	**+0.4**
MFT	**Murefte**	**1.19**	**67**	*e*PN			**Pb**	**17 43 28.6**	**-0.1**
MFT	**Murefte**	**1.19**	**67**	*e*Pn			**Pb**	**17 43 28.6**	**-0.1**
KAVA	**Kavala**	**1.20**	**304**	P			**Pg**	**17 43 27.4**	**-1.6**
KAVA				S			**Sb**	**17 43 45.6**	**+1.1**
KAVA	**Kavala**	**1.20**	**304**	P			**Pg**	**17 43 27.4**	**-1.6**
KAVA				S			**Sb**	**17 43 45.6**	**+1.1**
AYVA	**Ayvalik**	**1.22**	**147**	*i* P			**Pg**	**17 43 28.5**	**-0.8**
AYVA				*i* S			**Sb**	**17 43 44.8**	**-0.2**
AYVA	**Ayvalik**	**1.22**	**147**	*i* P			**Pg**	**17 43 28.5**	**-0.8**
AYVA				*i* S			**Sb**	**17 43 44.8**	**-0.2**
OUR	**Ouranopolis**	**1.42**	**271**	P			**Pn**	**17 43 30.0**	**-1.8**
OUR				S			**Sb**	**17 43 51.0**	**+0.4**
OUR	**Ouranopolis**	**1.42**	**271**	P			**Pn**	**17 43 30.0**	**-1.8**
OUR				S			**Sb**	**17 43 51.0**	**+0.4**
GONE	**Gonen-Balikesi**	**1.45**	**101**	*e*PN			**Pb**	**17 43 32.6**	**-0.4**
GONE	**Gonen-Balikesi**	**1.45**	**101**	*e*Pn			**Pb**	**17 43 32.6**	**-0.4**
TKR	**Tekirdag**	**1.45**	**63**	*e*PN			**Pb**	**17 43 32.8**	**-0.2**
TKR	**Tekirdag**	**1.45**	**63**	*e*Pn			**Pb**	**17 43 32.8**	**-0.2**
EDRB	**Edirne**	**1.66**	**24**	*e*PN			**Pn**	**17 43 35.3**	**+0.2**
EDRB	**Edirne**	**1.66**	**24**	P			**Pn**	**17 43 35.2**	**0.0**
EDRB				S			**Sn**	**17 43 57.3**	**+0.7**
EDRB	**Edirne**	**1.66**	**24**	*e*Pn			**Pn**	**17 43 35.3**	**+0.2**
EDRB				S			**Sn**	**17 43 57.3**	**+0.7**
BALB	**Balikesir**	**1.72**	**113**	*e*PN			**Pb**	**17 43 37.2**	**-0.4**
BALB	**Balikesir**	**1.72**	**113**	*e*Pn			**Pb**	**17 43 37.2**	**-0.4**
NVR	**Nevrokopi**	**1.81**	**305**	*e*PB			**Pb**	**17 43 39.8**	**+0.6**
NVR				*e*SB			**Sg**	**17 44 04.8**	**+0.8**
NVR	**Nevrokopi**	**1.81**	**305**	*e*Pb			**Pb**	**17 43 39.8**	**+0.6**
NVR				*e*Sb			**Sg**	**17 44 04.8**	**+0.8**
PLG	**Polygyros**	**1.83**	**272**	*e*PG			**Pb**	**17 43 39.8**	**+0.3**
PLG				*e*SB			**Sg**	**17 44 04.8**	**+0.2**
PLG	**Polygyros**	**1.83**	**272**	*e*Pg			**Pb**	**17 43 39.8**	**+0.3**
PLG				*e*Sb			**Sg**	**17 44 04.8**	**+0.2**
AOS	**Alonnisos**	**1.91**	**233**	*e*PN			**Pb**	**17 43 41.1**	**+0.3**
AOS				*e*SN			**Sg**	**17 44 07.1**	**0.0**
AOS	**Alonnisos**	**1.91**	**233**	*e*Pn			**Pb**	**17 43 41.1**	**+0.3**
AOS				*e*Sn			**Sg**	**17 44 07.1**	**0.0**
KCTX	**Karacabey (Bur**	**1.93**	**91**	*e*PN			**Pb**	**17 43 40.1**	**-1.1**
KCTX	**Karacabey (Bur**	**1.93**	**91**	*e*Pn			**Pb**	**17 43 40.1**	**-1.1**
CHOS	**Chios island**	**1.96**	**175**	*e*PG			**Pb**	**17 43 41.7**	**0.0**
CHOS				*e*SN			**Sg**	**17 44 07.6**	**-1.1**
CHOS	**Chios island**	**1.96**	**175**	*e*Pg			**Pb**	**17 43 41.7**	**0.0**
CHOS				*e*Sn			**Sg**	**17 44 07.6**	**-1.1**
SLVT	**Silivri**	**2.01**	**63**	*e*PN			**Pn**	**17 43 41.1**	**+1.2**
SLVT	**Silivri**	**2.01**	**63**	*e*Pn			**Pn**	**17 43 41.2**	**+1.2**
CTKS	**Kestanelik-??a**	**2.22**	**65**	*e*PN			**Pn**	**17 43 44.0**	**+1.2**
CTKS	**Kestanelik-??a**	**2.22**	**65**	*e*Pn			**Pn**	**17 43 44.0**	**+1.2**
ARMT	**Armutlu**	**2.32**	**83**	*e*PN

WNT				*e*S		**Sn**	**18 03 23.2**	**+0.3**
	baz=247							
YOJ	**Yonaguni jima**	**1.11**	**78**	*e*P		**Pn**	**18 03 09.0**	**+0.8**
	baz=67							
YOJ	**Yonaguni jima**	**1.11**	**78**	P		**Pb**	**18 03 07.7**	**-0.3**
YOJ				S		**Sn**	**18 03 25.4**	**+1.9**
ALS	**Alishan**	**1.17**	**232**	P		**Pb**	**18 03 09.0**	**-0.1**
	baz=231							
ALS				*e*S		**Sb**	**18 03 24.5**	**+0.2**
	baz=231							
CHKT	**Chengkung**	**1.20**	**200**	*e*P		**Pn**	**18 03 08.9**	**-0.4**
	baz=189							
CHN5	**Tsauling**	**1.22**	**239**	P		**Pg**	**18 03 10.3**	**+0.2**
	baz=239							
CHN5				*i* S		**Sn**	**18 03 27.3**	**+1.2**
	baz=239							
WGK	**Gukeng**	**1.27**	**245**	*e*P		**Pg**	**18 03 11.0**	**-0.2**
	baz=245							
WGK				*e*S		**Sg**	**18 03 28.9**	**+1.3**
	baz=245							
ELDTW	**Lidau**	**1.27**	**215**	*e*P		**Pn**	**18 03 09.5**	**-0.9**
	baz=227							
ELDTW				*e*S		**Sb**	**18 03 26.9**	**0.0**
	baz=227							
CHN2	**Minshiung**	**1.41**	**241**	*e*P		**Pg**	**18 03 13.8**	**-0.1**
	baz=241							
CHN2				*e*S		**Sg**	**18 03 33.0**	**+0.8**
	baz=241							
CHN4	**Tsaushan**	**1.42**	**232**	P		**Pb**	**18 03 13.3**	**+0.1**
	baz=233							
CHN4				S		**Sg**	**18 03 33.4**	**+0.8**
	baz=233							
STYT	**Tauyuan**	**1.44**	**223**	*e*P		**Pn**	**18 03 13.1**	**+0.4**
	baz=222							
STYT				*e*S		**Sb**	**18 03 32.2**	**+0.3**
	baz=222							
WTCT	**Ta-ch'eng**	**1.45**	**256**	*e*P		**Pb**	**18 03 13.5**	**-0.2**
	baz=255							
CHY	**Chiayi**	**1.47**	**241**	*e*P		**Pg**	**18 03 14.6**	**-0.4**
	baz=240							
CHY				*e*S		**Sg**	**18 03 33.9**	**-0.1**
	baz=240							
WTP	**Ta-pu**	**1.47**	**229**	*e*P		**Pb**	**18 03 14.3**	**+0.2**
	baz=229							
WTP				*e*S		**Sg**	**18 03 34.6**	**+0.4**
	baz=229							
TWK	**Hsinying**	**1.55**	**232**	*e*P		**Pb**	**18 03 15.7**	**+0.3**
	baz=233							
TWK				*e*S		**Sg**	**18 03 36.7**	**0.0**
	baz=233							
TWG	**Pinlang**	**1.56**	**206**	*e*P		**Pn**	**18 03 13.3**	**-1.0**
	baz=206							
CHN1	**Nanshi**	**1.57**	**229**	*e*P		**Pb**	**18 03 16.1**	**+0.3**
	baz=230							
CHN1				*e*S		**Sg**	**18 03 37.6**	**+0.2**
	baz=230							
WSF	**Szhu**	**1.57**	**248**	*e*P		**Pn**	**18 03 14.7**	**+0.3**
	baz=258							
WSF				*e*S		**Sb**	**18 03 36.2**	**+0.6**
	baz=258							
SGST	**Jiashian**	**1.61**	**225**	*e*P		**Pg**	**18 03 17.1**	**-0.5**
	baz=225							
SGST				*e*S		**Sg**	**18 03 38.8**	**+0.3**
	baz=225							
CHN8	**Yiju**	**1.71**	**239**	*e*P		**Pb**	**18 03 18.1**	**-0.1**
	baz=226							
CHN8				*e*S		**Sg**	**18 03 42.0**	**+0.1**
	baz=226							
IRIF	**Iriomote-Funau**	**1.75**	**86**	P		**Pn**	**18 03 17.4**	**+0.5**
IRIF				*e*S		**Sg**	**18 03 41.7**	**-1.4**
CHN3	**Shinhua**	**1.76**	**229**	*e*P		**Pb**	**18 03 19.0**	**+0.1**
	baz=233							
CHN3				*e*S		**Sg**	**18 03 42.3**	**-1.0**
	baz=233							
ECL	**Taimali**	**1.81**	**206**	*e*P		**Pb**	**18 03 19.1**	**-0.7**
	baz=193							
HATJ	**Hateruma jima**	**1.83**	**95**	*e*S		**Sb**	**18 03 42.2**	**-0.7**
TWM1	**Shoushan**	**1.90**	**223**	*e*P		**Pb**	**18 03 21.2**	**-0.1**
	baz=223							
JKRS	**Kuro-shima**	**2.00**	**89**	*e*S		**Sb**	**18 03 48.9**	**+0.9**
EAST	**Anshuo**	**2.04**	**206**	*e*P		**Pb**	**18 03 22.6**	**-1.3**
	baz=194							
JIJ	**Ishigaki jima**	**2.13**	**86**	P		**Pn**	**18 03 23.0**	**+0.9**
JIJ				*e*S		**Sn**	**18 03 49.2**	**+0.7**
SCZT	**Fangliau**	**2.15**	**211**	*e*P		**Pb**	**18 03 25.3**	**-0.4**
	baz=196							
JTJ	**Tarama**	**2.66**	**81**	*e*S		**Sb**	**18 04 06.1**	**-1.0**

BJI ***13*** *18:04:58.0,24.˚09N×122.˚23E,h6km,mB6.7/54,mb5.7/56, ML6.0/6,Ms6.8/70,Ms7 6.8/61*

IDC ***13*** *18:04:59.0±0.3,24.˚21N×122.˚30E,h0km,mb5.4/33, mb1 5.5/35,mb1mx5.5/36,mbtmp5.4/35,ML5.9/2,MS6.1/36, Ms1 6.1/36,ms1mx6.1/39,Error ellipse: s-maj=13.7km s-min=9.2km az=69.0*

NIED ***13*** *18:05:00,23.˚90N×122.˚30E,h35km,Mw6.4 Best double couple: M₀4.30000×10¹⁸ NP1:φ₈63.00000°,δ83.00000°, λ70.00000°. NP2:φ₈314.00000°,δ21.00000°,λ160.00000°.*

BGS ***13*** *18:05:01.9±2.1,24.˚76N×122.˚69E,h19km,mb5.8,MS6.9*

NEIC ***13*** *18:05:01.4±0.1,24.˚06N×122.˚20E,h17km,mb6.1/149, ME6.1,MS6.3/143,MW6.2,MW6.2,ML6.0(TAP),Error ellipse: s-maj=3.8km s-min=3.5km az=123.0,Moment Tensor Solution. s74 Moment tensor: Scale 10¹⁸Nm; Mrr1.40; Mθθ-1.80; Mφφ0.40; Mrθ1.84; Mθφ0.47; Mφr0.99; Best double couple: M₀2.70000×10¹⁸ NP1:φ₈72.00000°, δ73.00000°,λ66.00000°. NP2:φ₈309.00000°,δ29.00000°, λ143.00000°. Principal axes: T 2.7500, Plg55.0000°, Azm311.0000°; N -0.1100, Plg22.0000°, Azm79.0000°; P -2.6400, Plg24.0000°, Azm180.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [V] at Pan-ch'iao; [IV] at Chung-ho, Hsi-chih, Hsin-chu, Hua-lien, Shu-lin and Taipei; [III] at T'ai-chung, T'ao-yuan, Yuan-lin and Yung-ho; [II] at Kao-hsiung. Also felt at Chang-hua, Chung-li, Chu-pei, Hsin-chuang, Hsin-tien, I-lan, Lo-tung, Miao-li, P'ing-chen, P'o-tzu, San-ch'ung, Tan-shui and T'u-ch'eng. Felt [II] at Fuzhou, Fujian. Also felt at Wenzhou, Zhejiang. Recorded [4 TAP] in Hua-lien and I-lan; [3 TAP] in Hsin-chu, Nan-t'ou, T'ai-chung and T'ao-yuan; [2 TAP] in Chang-hua, Chia-i, Miao-li, T'ai-nan, T'ai-tung and Yun-lin; [1 TAP] in Kao-hsiung and P'ing-tung. Recorded [3 JMA] on Yonaguni-jima; [2 JMA] on Iriomote-jima and Ishigaki-jima; [1 JMA] on Hateruma-jima and Tarama-shima, Ryukyu Islands.

MOS ***13*** *18:05:02.3±1.1,24.˚16N×122.˚31E,h33km,mb6.2/85, MS6.4/77 Error ellipse: s-maj=6.5km s-min=3.6km az=115.4*

BKK ***13*** *18:05:02.5±0.3,24.˚N±4.˚×12.˚2E±.˚,h10km,M6.2/52, mb5.7/52,mB6.4/46,MLv6.4/1,Mw(mB)6.1/46,Mwp6.3/18*

DJA ***13*** *18:05:02.8±0.2,24.˚N±3.˚×12.˚2E±.˚,h10km,M6.2/93, mb5.9/93,mB6.5/80,MLv6.4/1,Mw(mB)6.2/80,Mwp6.3/25*

TAP ***13*** *18:05:02.6,24.˚02N×122.˚22E,h18km,ML6.0,C*

PDG ***13*** *18:05:03.6,24.˚10N×122.˚20E,h30km,mb6.3/1*

ISCJB ***13*** *18:05:03.5±0.2,24.˚07N±0.˚01×122.˚23E±0.˚01,h44km±1km, mb6.0/365,MS6.4/248,Error ellipse: s-maj=2.1km s-min=1.6km az=152.7*

JMA ***13*** *18:05:03.2±0.2,24.˚02N×122.˚22E,h34km,M6.5*

JMA Felt III J1.

SZGRF ***13*** *18:05:04.4,24.˚01N×122.˚58E,h49km,mb6.4,MS6.9, Taiwan region*

GCMT ***13*** *18:05:06.6±0.1,23.˚95N×122.˚03E,h26km,MW6.3, Moment Tensor Solution. s114,c276; s82,c138; Moment tensor: Scale 10¹⁸Nm; Mrr1.46±.02; Mθθ-2.24±.02; Mφφ0.78±.02; Mrθ3.09±.06; Mθφ0.24±.01; Mφr1.23±.04; Best double couple: M₀3.90000×10¹⁸ NP1:φ₈305.00000°,δ21.00000°,λ143.00000°. NP2: φ₈70.00000°,δ77.00000°,λ73.00000°. Principal axes: T 3.7000, Plg55.0000°, Azm319.0000°; N 0.3300, Plg17.0000°, Azm74.0000°; P -4.0300, Plg30.0000°, Azm174.0000°; Data Used: II IU CN IC G. Surface waves: sta=110, comp=244, per=.50.*

NEIC ***13*** *18:05:12.6±0.0,23.˚59N×122.˚07E,h35km,Moment Tensor Solution. s133 Moment tensor: Scale 10¹⁸Nm; Mrr1.67; Mθθ-2.03; Mφφ0.36; Mrθ1.66; Mθφ0.14; Mφr0.03; Best double couple: M₀2.50000×10¹⁸ NP1:φ₈90.00000°, δ66.00000°,λ87.00000°. NP2:φ₈278.00000°,δ24.00000°, λ97.00000°. Principal axes: T 2.3100, Plg68.0000°, Azm353.0000°; N 0.3600, Plg2.0000°, Azm91.0000°; P -2.6700, Plg20.0000°, Azm182.0000°;*

ISC 13 18:05:02.6±0.2,24.˚05N±0.˚02×122.˚23E±0.˚02,h24km±1km, h24km:pP-P,n1887,σ1s40/2265,mb6.1/372,MS6.4/249, 459C-401D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.52**	**300**	*e*P		**Pb**	**18 05 13.6**	**+0.4**
	baz=303							
EHP				*e*S		**Sn**	**18 05 22.1**	**-0.5**
	baz=303							
HWA	**Hwalien**	**0.58**	**263**	⇓*i*P		**Pb**	**18 05 14.5**	**+0.3**
	baz=248							
TWD	**Chiawan**	**0.58**	**273**	⇓*i*P		**Pb**	**18 05 14.2**	**0.0**
	baz=276							
TWD				*e*S		**Sb**	**18 05 23.0**	**+0.9**
	baz=276							
ENA	**Nanau**	**0.59**	**310**	⇑*i*P		**Pb**	**18 05 14.4**	**+0.1**
	baz=325							
NACB	**Ninganchiao**	**0.60**	**282**	*e*Pn		**Pb**	**18 05 14.4**	**0.0**
NACB				*e*Sn		**Sb**	**18 05 22.8**	**+0.3**
TWC	**Suao**	**0.66**	**328**	⇑*i*P		**Pb**	**18 05 15.5**	**0.0**
	baz=337							
ESF	**Shoufeng Towns**	**0.69**	**255**	*e*P		**Pb**	**18 05 15.8**	**-0.3**
	baz=244							
ESF				*e*S		**Sb**	**18 05 25.0**	**-0.1**
	baz=244							
TEGC	**Jichi Village**	**0.72**	**242**	*e*P		**Pb**	**18 05 15.9**	**-0.7**
	baz=243							
TEGC				S		**Sb**	**18 05 26.1**	**+0.1**
	baz=243							
ESL	**Shilin**	**0.77**	**252**	*e*P		**Pb**	**18 05 16.4**	**-1.0**
	baz=254							
YOJ	**Yonaguni jima**	**0.82**	**60**	⇓*i*P		**Pn**	**18 05 18.9**	**+0.3**
	baz=58							
YOJ				*e*S		**Sn**	**18 05 29.7**	**-0.3**
	baz=58							
YOJ	**Yonaguni jima**	**0.82**	**60**	⇓P		**Pn**	**18 05 18.8**	**+0.2**
YOJ				S		**Sn**	**18 05 30.1**	**+0.1**
ILA	**Ilan**	**0.84**	**328**	*e*P		**Pn**	**18 05 19.2**	**+0.3**
	baz=329							
ILA				*e*S		**Sn**	**18 05 33.5**	**+3.1**
	baz=329							
TWE	**Neicheng**	**0.84**	**322**	⇑*i*P		**Pn**	**18 05 19.1**	**+0.1**
	baz=333							
ENTT	**Nioudou**	**0.85**	**314**	P		**Pn**	**18 05 19.2**	**+0.1**
	baz=316							
NNS	**Nan Shan**	**0.88**	**296**	⇓*i*P		**Pn**	**18 05 19.6**	**0.0**
	baz=286							
WHF	**Hehuan Shan**	**0.89**	**276**	⇓*i*P		**Pb**	**18 05 19.4**	**-0.3**
	baz=278							
TWB1	**Santiao Chiao**	**0.98**	**347**	⇓*i*P		**Pb**	**18 05 21.6**	**+0.7**
	baz=348							
TWT	**Tachien**	**0.99**	**282**	⇓*i*P		**Pb**	**18 05 21.4**	**+0.2**
	baz=270							
EHY	**Hungye**	**1.00**	**237**	⇑P		**Pn**	**18 05 19.7**	**-1.4**
	baz=238							
YHNB	**Yeheng**	**1.00**	**308**	*e*Pn		**Pb**	**18 05 21.5**	**+0.2**
YHNB				*e*Sn		**Sb**	**18 05 31.9**	**-2.2**
NSK	**Sanguang**	**1.01**	**308**	⇓*i*P		**Pb**	**18 05 21.9**	**+0.3**
	baz=310							
YULB	**Yu-li**	**1.08**	**233**	*e*Pn		**Pn**	**18 05 21.1**	**-1.2**
YULB				*e*Sn		**Sb**	**18 05 34.5**	**-1.9**
NWF	**Wu-fen Shan**	**1.10**	**338**	⇓*i*P		**Pb**	**18 05 23.9**	**+0.9**
	baz=357							
TWA	**Mucha**	**1.10**	**327**	⇑*i*P		**Pb**	**18 05 24.2**	**+1.2**
	baz=328							
TWA				*e*S		**Sn**	**18 05 40.1**	**+3.1**
	baz=328							
TWF1	**Yuli**	**1.11**	**231**	⇑P		**Pn**	**18 05 21.5**	**-1.1**
	baz=232							
TATO	**Taipei**	**1.14**	**324**	*e*Pn		**Pb**	**18 05 24.7**	**+0.9**
TAP1	**Taipei**	**1.18**	**327**	⇓*i*P		**Pb**	**18 05 25.1**	**+0.8**
	baz=328							
TAP	**Taipei**	**1.19**	**326**	⇓*e*P		**Pb**	**18 05 25.1**	**+0.7**
	baz=328							
SSLB	**Suanglung**	**1.20**	**258**	*e*Pn		**Pn**	**18 05 23.9**	**0.0**
SSLB				*e*Sn		**Sn**	**18 05 36.7**	**-2.8**
SMLT	**Sun Moon Lake**	**1.23**	**262**	⇓*i*P		**Pn**	**18 05 24.5**	**+0.1**
	baz=264							
SMLT				S		**Sn**	**18 05 40.5**	**+0.1**
	baz=264							
CHKT	**Chengkung**	**1.24**	**220**	*e*P		**Pn**	**18 05 22.4**	**-2.0**
	baz=207							
CHKT				*e*S		**Sn**	**18 05 36.9**	**-3.4**
	baz=207							
NSTT	**Nanjuang**	**1.26**	**297**	⇓*i*P		**Pb**	**18 05 26.4**	**+0.6**
	baz=300							
TYC	**Yuchr**	**1.27**	**264**	⇓*i*P		**Pn**	**18 05 25.0**	**+0.1**
	baz=266							
TWS1	**Kuangyinshan**	**1.28**	**325**	⇓P		**Pb**	**18 05 26.6**	**+0.5**
	baz=327							
YUS	**Yu-Shan**	**1.30**	**245**	*e*P		**Pn**	**18 05 25.6**	**-0.1**
	baz=234							
NCU	**National Centr**	**1.32**	**314**	⇓*e*P		**Pb**	**18 05 27.0**	**+0.2**
	baz=316							
TWY	**Chenhua**	**1.35**	**335**	⇓P		**Pb**	**18 05 27.1**	**-0.2**
	baz=353							
TWQ1	**Liyutan**	**1.37**	**283**	⇓*i*P		**Pb**	**18 05 28.1**	**+0.6**
	baz=286							
HSN	**Hsinchu**	**1.37**	**303**	*e*P		**Pb**	**18 05 27.4**	**-0.3**
	baz=306							
HSN				*e*S		**Sb**	**18 05 46.5**	**+1.7**
	baz=306							
NSY	**Sanyi**	**1.39**	**285**	⇓*i*P		**Pb**	**18 05 28.7**	**+0.6**
	baz=288							
IRIF	**Iriomote-Funau**	**1.40**	**78**	⇓P		**Pb**	**18 05 27.4**	**-0.6**
IRIF				*e*S		**Sn**	**18 05 44.1**	**-0.1**
ELDTW	**Lidau**	**1.41**	**233**	⇑*e*P		**Pn**	**18 05 25.5**	**-1.3**
	baz=234							
ALS	**Alishan**	**1.42**	**248**	*e*P		**Pn**	**18 05 27.3**	**+0.2**
	baz=249							
ALS				*e*S		**Sn**	**18 05 45.2**	**0.0**
	baz=249							
TCU	**Taichung**	**1.43**	**274**	⇓*i*P		**Pb**	**18 05 29.0**	**+0.4**
	baz=277							
WNT	**Mingjian**	**1.43**	**263**	⇓P		**Pb**	**18 05 28.4**	**-0.2**
	baz=264							
WNT				*e*S		**Sb**	**18 05 47.3**	**+0.9**
	baz=264							
HATJ	**Hateruma jima**	**1.44**	**89**	P		**Pb**	**18 05 28.0**	**-0.7**
HATJ				*e*S		**Sn**	**18 05 45.2**	**0.0**
CHN5	**Tsauling**	**1.50**	**253**	⇓*i*P		**Pb**	**18 05 29.0**	**-0.8**
	baz=255							
WGK	**Gukeng**	**1.57**	**257**	*e*P		**Pb**	**18 05 30.3**	**-0.8**
	baz=259							
PCYT	**Pengchaiyu**	**1.58**	**355**	⇓*e*P		**Pb**	**18 05 30.2**	**-1.0**
	baz=354							
STYT	**Tauyuan**	**1.62**	**237**	⇑*i*P		**Pn**	**18 05 29.8**	**+0.1**
	baz=224							
TWG	**Pinlang**	**1.62**	**221**	⇑P		**Pn**	**18 05 28.2**	**-1.6**
	baz=221							
TWG	**Pinlang**	**1.62**	**221**	*e*Pn		**Pn**	**18 05 28.2**	**-1.6**
JKRS	**Kuro-shima**	**1.63**	**83**	⇓P		**Pb**	**18 05 31.0**	**-1.1**
JKRS				*e*S		**Sb**	**18 05 51.8**	**-0.4**
TTN	**Taitung**	**1.63**	**218**	*e*P		**Pn**	**18 05 28.9**	**-1.0**
	baz=204							
TPUB	**Ta-pu**	**1.65**	**243**	*e*Pn		**Pn**	**18 05 31.1**	**+1.0**
TPUB				*e*Sn		**Sn**	**18 05 48.8**	**-1.8**
CHN4	**Tsaushan**	**1.66**	**245**	*e*P		**Pb**	**18 05 31.7**	**-0.8**
	baz=247							
WTP	**Ta-pu**	**1.69**	**242**	⇑*e*P		**Pn**	**18 05 31.7**	**+1.0**
	baz=243							
CHN2	**Minshiung**	**1.69**	**253**	*e*P		**Pb**	**18 05 32.4**	**-0.7**
	baz=255							
CHY	**Chiayi**	**1.75**	**252**	⇓P		**Pb**	**18 05 32.9**	**-1.1**
	baz=254							
JIJ	**Ishigaki jima**	**1.77**	**79**	P		**Pn**	**18 05 32.3**	**+0.6**
JIJ				S		**Sb**	**18 05 55.4**	**-0.8**
TWK	**Hsinying**	**1.78**	**244**	*e*P		**Pn**	**18 05 33.3**	**+1.4**
	baz=245							
TWK				*e*S		**Sb**	**18 05 55.5**	**-1.1**
	baz=245							
CHN1	**Nanshi**	**1.79**	**241**	⇑P		**Pb**	**18 05 33.4**	**-1.3**
	baz=243							
SGST	**Jiashian**	**1.80**	**238**	⇑*e*P		**Pn**	**18 05 33.3**	**+1.2**
	baz=226							
WTCT	**Ta-ch'eng**	**1.80**	**264**	⇓P		**Pb**	**18 05 33.7**	**-1.2**
	baz=265							
WTCT				*e*S		**Sb**	**18 05 57.1**	**+0.2**
	baz=265							
ECL	**Taimali**	**1.86**	**219**	⇑*e*P		**Pn**	**18 05 31.3**	**-1.7**
	baz=220							
WSF	**Szhu**	**1.89**	**258**	*e*P		**Pb**	**18 05 35.0**	**-1.4**
	baz=259							
WSF				*e*S		**Sb**	**18 05 59.0**	**-0.6**
	baz=259							
CHN3	**Shinhua**	**1.97**	**241**	*e*P		**Pb**	**18 05 37.0**	**-0.8**
	baz=242							
CHN3				*e*S		**Sb**	**18 06 02.2**	**+0.2**
	baz=242							
CHN8	**Yiju**	**1.98**	**250**	*e*P		**Pn**	**18 05 36.2**	**+1.5**
	baz=251							
CHN8				*e*S		**Sb**	**18 06 00.5**	**-1.8**
	baz=251							
SCLT	**Jiali**	**2.06**	**245**	*e*P		**Pn**	**18 05 37.4**	**+1.6**
	baz=247							
SCLT				*e*S		**Sb**	**18 06 03.1**	**-1.6**
	baz=247							
TWM1	**Shoushan**	**2.06**	**234**	⇑P		**Pb**	**18 05 38.5**	**-1.0**
	baz=234							
SGLT	**Jiouru**	**2.08**	**231**	*e*P		**Pb**	**18 05 38.2**	**-1.4**
	baz=220							
SGLT				*e*S		**Sb**	**18 06 05.2**	**+0.2**
	baz=220							
TAW	**Tawu**	**2.09**	**216**	*e*P		**Pn**	**18 05 34.6**	**-1.5**
	baz=216							
EAST	**Anshuo**	**2.09**	**218**	⇑P		**Pn**	**18 05 35.0**	**-1.3**
	baz=218							
TAI1	**Yung-k'ang**	**2.10**	**242**	*e*P		**Pb**	**18 05 38.5**	**-1.5**
	baz=243							
LAY	**Lan-yu**	**2.10**	**198**	⇑*e*P		**Pn**	**18 05 34.4**	**-2.0**
	baz=197							
SCZT	**Fangliau**	**2.24**	**222**	*e*P		**Pn**	**18 05 38.4**	**+0.3**
	baz=215							
SCZT				*e*S		**Sn**	**18 06 05.3**	**+0.3**
	baz=215							
KAU	**Kaohsiung**	**2.31**	**231**	*e*P		**Pb**	**18 05 42.0**	**-1.6**
	baz=232							
JTJ	**Tarama**	**2.33**	**75**	P		**Pn**	**18 05 40.6**	**+1.2**
JTJ				S		**Sn**	**18 06 09.5**	**+2.3**
TWP	**Hsiaoliuchiu**	**2.42**	**226**	*e*P		**Pb**	**18 05 43.7**	**-1.8**
	baz=227							
HEN	**Hengchun**	**2.46**	**214**	⇑*i*P		**Pn**	**18 05 41.1**	**-0.1**
	baz=215							
HEN				*e*S		**Sn**	**18 06 09.8**	**-0.7**
	baz=215							
TSEB	**Hengchuen, Pin**	**2.47**	**210**	*e*P		**Pn**	**18 05 41.0**	**-0.4**
	baz=212							
TSEB				*e*S		**Sn**	**18 06 11.1**	**+0.4**
	baz=212							
TWK1	**Hengchun**	**2.48**	**212**	⇑*e*P		**Pn**	**18 05 40.9**	**-0.6**
	baz=214							
TWK1				*e*S		**Sn**	**18 06 11.8**	**+0.9**
	baz=214							
PNG	**Penghu**	**2.50**	**259**	⇓*i*P		**Pn**	**18 05 42.5**	**+0.7**
	baz=260							
PNG				*e*S		**Sn**	**18 06 11.6**	**+0.1**
	baz=260							
JMJ	**Miyako jima 2**	**2.89**	**74**	*e*P		**Pn**	**18 05 49.5**	**+2.3**
	baz=73							
JMJ	**Miyako jima 2**	**2.89**	**74**	P		**Pn**	**18 05 49.1**	**+2.0**
JMJ				S		**Sn**	**18 06 23.3**	**+2.2**
JOGS	**Gusukube**	**2.98**	**76**	P		**Pn**	**18 05 50.7**	**+2.4**
JOGS				S		**Sn**	**18 06 26.8**	**+3.5**
QZH	**Quanzhou**	**3.44**	**286**	⇑*i*Pn		**Pn**	**18 05 54.3**	**-0.3**
QZH				Sn		**Sn**	**18 06 33.8**	**-0.8**
QZH				smax	smax			
	comp=N,73μm,1.0s							
QZH				smax	smax			
	comp=E,45μm,1.0s							
KNM	**Kinmen**	**3.49**	**277**	⇓*e*P		**Pn**	**18 05 57.2**	**+1.8**
	baz=278							
JKE	**Kume jima 2**	**4.70**	**60**	P		**Pn**	**18 06 13.5**	**+1.4**
JKE				S		**Sn**	**18 07 08.7**	**+2.8**
JAGN	**Aguni-jima**	**5.19**	**60**	P		**Pn**	**18 06 20.9**	**+2.2**
JJT2	**Tamagusuku 2**	**5.41**	**66**	P		**Pn**	**18 06 23.2**	**+1.4**
PIP	**Pasuquin**	**5.89**	**195**	⇑*e*P		**Pn**	**18 06 28.8**	**+0.3**
JIH	**Iheya**	**5.97**	**59**	P		**Pn**	**18 06 29.9**	**+0.4**
JOW	**Kunigami**	**6.12**	**62**	*e*P		**Pn**	**18 06 31.6**	**0.0**
	baz=60							
JOW	**Kunigami**	**6.12**	**62**	*e*Pn		**Pn**	**18 06 31.6**	**0.0**
JOW	**Kunigami**	**6.12**	**62**	P		**Pn**	**18 06 31.1**	**-0.5**
SIPP	**Brgy, Tapao**	**6.32**	**196**	⇑*e*P		**Pn**	**18 06 35.4**	**+1.1**
CVP	**Callao Caves**	**6.33**	**184**	⇑*e*P		**Pn**	**18 06 34.0**	**-0.5**
SSE	**Sheshan**	**7.08**	**353**	P		**Pn**	**18 06 44.3**	**-0.4**
SSE				S		**Sn**	**18 08 03.8**	**-0.6**
SSE				smax	smax			
	comp=N,3μm,1.2s							
SSE				smax	smax			
	comp=E,4μm,1.5s							
SSE				LR	LR			
	comp=N,4220μm,14.5s							
SSE				LR	LR			
	comp=E,1010μm,14.8s							
SSE				LR	LR			
	comp=Z,5230μm,13.9s							
JTK	**Tokunoshima**	**7.10**	**57**	P		**Pn**	**18 06 44.1**	**-0.9**
JAMN	**Amaminishikomi**	**7.50**	**55**	P		**Pn**	**18 06 49.5**	**-1.1**
JAMN				*e*S		**Sn**	**18 08 14.6**	**-0.3**
HKC	**Hong Kong Obse**	**7.62**	**258**	⇑*i*P		**Pn**	**18 06 50.0**	**-2.1**
HKC				S		**Sn**	**18 08 16.0**	**-1.7**
BCPH	**Baguio City Da**	**7.79**	**192**	⇓*i*P		**Pn**	**18 06 55.2**	**+0.5**
JAM	**Amami Oshima**	**7.91**	**55**	P		**Pn**	**18 06 55.0**	**-1.2**
JZK	**Kikaishima**	**8.14**	**57**	P		**Pn**	**18 06 58.9**	**-0.4**
GZH	**Guangzhou**	**8.21**	**265**	P		Pn	18 06 56.0	-4.3
GZH				S		Sn	18 08 19.3	-13
GZH				smax	smax			
	comp=N,12μm,2.2s							
GZH				smax	smax			
	comp=E,5μm,1.1s							
JMZ	**Minamidaito 2**	**8.34**	**76**	P		Pn	18 06 58.7	-3.4
NJ2	**Nanjing**	**8.51**	**340**	*e*P		**Pn**	**18 07 03.4**	**-1.0**
NJ2				pP			18 07 07.8	
NJ2				sP			18 07 10.1	
NJ2				S		**Sn**	**18 08 39.3**	**-0.3**
NJ2				sS			18 08 46.0	
NJ2				LR	LR			
	comp=N,650μm,13.7s							
NJ2				LR	LR			
	comp=E,320μm,15.6s							
NJ2				LR	LR			
	comp=Z,832μm,12.5s							
JNN	**Nakanoshima**	**8.93**	**48**	P		**Pn**	**18 07 11.3**	**+1.2**
WHN	**Wuhan**	**9.54**	**314**	⇑*i*P		**Pn**	**18 07 18.8**	**+0.4**
WHN				S		**Sn**	**18 09 06.4**	**+1.6**
WHN				LR	LR			
	comp=N,622μm,10.3s							
WHN	

QIZ Qiongzhong 12.56 249 ePn Pn 18 07 58.2 -1.7
comp=Z,748nm,1.6s
JTY Toyota 12.76 35 P Pn 18 08 05.8 +3.2
TIA Tai'an 12.90 341 ⇑P Pn 18 08 06.1 +1.7
TIA pmax pmax
comp=Z,290nm,2.3s
TIA pmax pmax
comp=Z,26μm,10.7s
TIA LR LR
comp=N,396μm,16.0s
TIA LR LR
comp=E,253μm,11.7s
TIA LR LR
comp=Z,627μm,12.7s
ENH Enshi 12.93 301 ePn Pn 18 08 06.0 +1.2
comp=Z,11nm,0.6s
JKD Kudamatsu 13.05 38 P Pn 18 08 11.4 +4.9
PLP Palo 13.08 168⇓eP Pn 18 08 07.2 +0.2
LLP Lapu-Lapu 13.76 173⇓eP Pn 18 08 16.9 +0.6
INCN Inchon 13.91 15 Pn Pn 18 08 22.1 +3.9
SNR=58
INCN Inchon 13.91 15 ePn Pn 18 08 18.6 +0.4
KSAR Wonju Array Be 14.20 19 Pn Pn 18 08 24.6 +2.4
KSAR Lg Lg 18 12 25.5
KSRS Korea Array 14.22 19 Pn Pn 18 08 24.6 +2.1
comp=Z,3.6nm,0.3s,baz=204,slow=13,SNR=31
KSRS Lg Lg 18 12 25.5
comp=Z,0.5nm,0.3s,baz=213,slow=25,SNR=4.4
KSRS LR LR 18 14 26.8
comp=Z,96μm,19.4s,baz=200,slow=40
GYA Guiyang 14.29 283⇑iP Pn 18 08 24.3 +0.6
GYA sP 18 08 33.8
GYA S Sn 18 11 02.3 +0.8
GYA SS S 18 11 19.0 -2.5
GYA pmax pmax
comp=Z,360nm,1.0s
GYA pmax pmax
comp=Z,11μm,10.6s
GYA LR LR
comp=N,333μm,14.6s
GYA LR LR
comp=E,313μm,15.6s
GYA LR LR
comp=Z,389μm,15.3s
PPR Puerto Princes 14.59 194 i P Pn 18 08 30.1 +2.5
SNPH Sibulan 14.66 176⇓eP Pn 18 08 18.3 -10
DL2 Dalian 14.82 358 P Pn 18 08 33.1 +2.5
DL2 S Sn 18 11 22.8 +8.8
DL2 pmax pmax
comp=Z,1μm,2.0s
DL2 pmax pmax
comp=Z,16μm,10.6s
DL2 LR LR
comp=N,24μm,13.8s
DL2 LR LR
comp=E,163μm,13.8s
DL2 LR LR
comp=Z,212μm,14.1s
XAN Xi'an 15.30 314 P Pn 18 08 37.3 +0.2
XAN S Sn 18 11 28.3 +2.4
XAN pmax pmax
comp=Z,5μm,5.5s
XAN LR LR
comp=N,115μm,20.8s
XAN LR LR
comp=E,21μm,11.6s
XAN LR LR
comp=Z,94μm,16.9s
CGP Cagayan de Oro 15.69 171⇓eP P 18 08 47.0 +1.0
TIY Taiyuan 15.99 331 eP Pn 18 08 45.4 -0.7
TIY sP sP 18 08 57.0 -2.2
TIY S Sn 18 11 42.3 -0.4
TIY SS S 18 12 01.3 +5.2
TIY pmax pmax
comp=Z,24μm,4.8s
TIY LR LR
comp=N,341μm,13.5s
TIY LR LR
comp=E,88μm,10.3s
TIY LR LR
comp=Z,343μm,14.2s
BJT Baijiatuan 16.72 344 ePn Pn 18 08 56.1 +0.8
comp=Z,1μm,1.5s
BJI Beijing 16.74 344 P P 18 08 57.3 -0.3
BJI pmax pmax
comp=Z,340nm,2.5s
BJI pmax pmax
comp=Z,38μm,9.6s
BJI LR LR
comp=N,287μm,15.4s
BJI LR LR
comp=E,179μm,19.8s
BJI LR LR
comp=Z,111μm,26.3s
CTBH Cotabato--PC H 16.85 173⇑eP P 18 08 58.6 -0.3
DMPH Davao City--Mi 17.16 169⇑eP P 18 09 04.2 +1.8
DAV Davao City (W) 17.19 169 Pn Pn 18 09 00.8 -0.5
SNR=19
DAV Davao City (W) 17.19 169⇓eP Pn 18 09 00.5 -0.7
DAV Davao City (W) 17.19 169 ⇑S S 18 12 25.7 +5.1
DAV Davao City (W) 17.19 169 P Pn 18 09 01.4 +0.1
DAV Davao City (W) 17.19 169 P P 18 09 15.4 +13
DAV Davao City (W) 17.19 169 P Pn 18 09 01.4 +0.1
comp=Z,24nm,0.3s,baz=53,slow=7.6,SNR=6.8
DAV LR LR 18 15 49.3
comp=Z,79μm,18.6s,baz=9.1,slow=38
CD2 Chengdu 17.75 297 ⇑P Pn 18 09 08.0 -0.2
CD2 pP pP 18 09 15.4 -0.2
CD2 sP sP 18 09 19.9 +1.2
CD2 PP PnPn 18 09 22.9 +3.9
CD2 S Sn 18 12 22.0 -3.4
CD2 sS S 18 12 33.8 +1.7
CD2 SS SnSn 18 12 44.6 +5.6
CD2 pmax pmax
comp=Z,810nm,1.2s
CD2 pmax pmax
comp=Z,41μm,10.8s
CD2 LR LR
comp=N,288μm,10.4s
CD2 LR LR
comp=E,366μm,12.9s
CD2 LR LR
comp=Z,500μm,13.7s
KMI Kunming 17.76 277 P Pn 18 09 08.9 +0.3
KMI sP sP 18 09 19.3 +0.2
KMI PP PnPn 18 09 25.5 +6.1
KMI S Sn 18 12 24.6 -1.5
KMI pmax pmax
comp=Z,620nm,2.0s
KMI pmax pmax
comp=Z,23μm,11.2s
KMI LR LR
comp=N,64μm,7.9s
KMI LR LR
comp=E,363μm,12.0s
KMI LR LR
comp=Z,414μm,12.2s
SNY Shenyang 17.76 3 ⇑P P 18 09 09.3 +0.4
SNY S Sn 18 12 27.8 +2.4
SNY pmax pmax
comp=Z,630nm,2.5s
SNY pmax pmax
comp=Z,45μm,12.0s
SNY LR LR
comp=N,224μm,12.2s
SNY LR LR
comp=E,60μm,18.6s
SNY LR LR
comp=Z,278μm,12.6s
KDM Kudat 17.81 198 P P 18 09 14.1 +4.6
PANO Nakornpanom 17.86 251 P P 18 09 13.4 +3.3
comp=Z,713nm,3.0s,comp=Z,31μm
UBPT Khong Chiam 18.02 244 P P 18 09 14.9 +3.0
comp=Z,388nm,2.6s,comp=Z,22μm
UBPT Khong Chiam 18.02 244 P P 18 09 14.9 +3.0
comp=Z,388nm,2.6s,comp=Z,22μm
SKNT Sakolnakorn 18.48 251 P Pn 18 09 19.6 +2.4
comp=Z,686nm,3.7s,comp=Z,32μm
MAJO Matsushiro 18.55 44 eP P 18 09 17.7 +0.1
MAJO pmax pmax
comp=Z,108nm,1.1s
MAJO Matsushiro 18.55 44 eP P 18 09 17.7 +0.1
comp=Z,108nm,1.1s
MAT Matsushiro 18.55 44 P P 18 09 14.5 -3.1
MAT S Sn 18 12 45.6 +1.0
KKM Kota Kinabalu 18.82 199 ePn P 18 09 20.4 -0.4
comp=Z,672nm,1.2s
KKM Kota Kinabalu 18.82 199 P Pn 18 09 25.2 +3.9
KKM Kota Kinabalu 18.82 199 P Pn 18 09 24.2 +2.8
comp=Z,518nm,1.9s,comp=Z,18μmcomp=Z,116μm
SDKM Sandakan 18.94 196 P Pn 18 09 24.9 +2.1
MYLDM Lahad Datu 19.10 191 P P 18 09 24.0 +0.2
MYLDM Lahad Datu 19.10 191 P Pn 18 09 27.4 +2.7
comp=Z,916nm,2.0s,comp=Z,37μmcomp=Z,191μm
BTO Baotou 19.43 331 eP Pn 18 09 28.8 +0.2
BTO S S 18 13 03.3 -2.4
BTO LR LR
comp=N,132μm,12.7s
BTO LR LR
comp=E,45μm,13.7s
CN2 Changchun 19.88 7 ⇑P P 18 09 31.8 -0.3
CN2 esP sP 18 09 42.0 +0.1
CN2 eS S 18 13 10.4 -4.2
CN2 pmax pmax
comp=Z,110nm,1.4s
CN2 pmax pmax
comp=Z,17μm,6.0s
LZH Lanzhou 19.89 311 ⇑P Pn 18 09 35.1 +0.9
LZH pP pP 18 09 39.8 +0.6
LZH sP sP 18 09 42.3 0.0
LZH PP PnPn 18 09 54.3 +5.9
LZH S S 18 13 15.0 -0.3
LZH sS sS 18 13 24.3 -1.7
LZH pmax pmax
comp=Z,4μm,1.4s
LZH pmax pmax
comp=Z,26μm,5.8s
LZH LR LR
comp=N,246μm,14.4s
LZH LR LR
comp=E,160μm,12.2s
LZH LR LR
comp=Z,334μm,14.9s
TSM Tawau 20.09 193 P P 18 09 34.1 -0.4
VLA Vladivostok 20.62 20 eP P 18 09 39.2 -0.9
VLA pmax pmax
comp=Z,352nm,2.1s
VLA MLR MLR
comp=Z,112μm,17.0s
CHAI Chaiyaphum 20.67 251 P Pn 18 09 43.0 -0.3
comp=Z,80nm,1.3s,comp=Z,1μm
PBKT Sadao Pong 21.27 253 P P 18 09 49.7 +2.4
comp=Z,788nm,1.6s,comp=Z,18μm
PBKT Sadao Pong 21.27 253 P P 18 09 49.7 +2.4
comp=Z,788nm,1.6s,comp=Z,18μm
PAYA Payao 21.29 262 P P 18 09 53.1 +5.5
comp=Z,151nm,1.3s,comp=Z,3μm
MDJ Mudanjiang 21.38 15 P P 18 09 47.5 -0.8
MDJ pP pP 18 09 55.5 +0.4
MDJ sP sP 18 09 59.5 +1.3
MDJ S S 18 13 43.4 -1.0
MDJ PcS PcS 18 17 28.9 -0.7
MDJ ScS ScS 18 21 09.0 -2.0
MDJ pmax pmax
comp=Z,77nm,2.3s
MDJ pmax pmax
comp=Z,7μm,8.4s
MDJ LR LR
comp=N,96μm,16.5s
MDJ LR LR
comp=E,162μm,15.4s
MDJ LR LR
comp=Z,180μm,12.0s
MDJ Mudanjiang 21.38 15 eP P 18 09 48.1 -0.2
comp=Z,531nm,1.3s
MDJ LR LR
comp=Z,76μm,20.0s
USRK Ussuriysk Arra 21.63 19 P P 18 09 49.6 -1.4
comp=Z,58nm,0.8s,baz=205,slow=10,SNR=84
USRK LR LR 18 18 49.5
comp=Z,66μm,19.2s,baz=189,slow=39
LAMP Lampang 21.76 260 P P 18 09 54.9 +2.3
comp=Z,114nm,1.2s,comp=Z,1μm
CMAI Chiengmai2 21.88 264 P P 18 09 56.6 +2.5
comp=Z,697nm,1.8s,comp=Z,24μm
CHBT CHBT 21.95 243 P P 18 09 58.8 +4.2
comp=Z,624nm,1.6s,comp=Z,12μm
CHBT CHBT 21.95 243 P P 18 09 58.8 +4.2
comp=Z,624nm,1.6s,comp=Z,12μm
NAYO Nakonayok 21.97 248 P P 18 09 57.6 +2.7
comp=Z,572nm,0.9s
CMMT Chiang Mai 22.28 261 P P 18 10 00.1 +1.8
comp=Z,690nm,1.5s
CMMT Chiang Mai 22.28 261 P P 18 10 00.1 +1.8
comp=Z,690nm,1.5s
CHTO Chiang Mai 22.29 261 eP P 18 09 59.8 +1.5
CHTO pmax pmax
comp=Z,549nm,1.2s
CHTO MLR MLR
comp=Z,80μm,20.0s
CHTO Chiang Mai 22.29 261 P P 18 10 00.2 +1.9
SNR=111
CHTO Chiang Mai 22.29 261 eP P 18 09 59.8 +1.5
comp=Z,549nm,1.2s
CHTO LR LR
comp=Z,80μm,20.0s
CHTO Chiang Mai 22.29 261 P P 18 10 00.2 +1.9
comp=Z,386nm,2.0s,comp=Z,16μmcomp=Z,55μm
CHTO Chiang Mai 22.29 261 P P 18 10 00.2 +1.9
comp=Z,386nm,2.0s,comp=Z,16μm
CMAR Chiang Mai Arr 22.40 260 P P 18 10 01.0 +1.5
CMAR PcP PcP 18 13 54.8 +0.7
CMAR PKKKP 18 44 33.8
CMAR Chiang Mai Arr 22.40 260 P P 18 10 01.0 +1.5
comp=Z,79nm,1.0s,baz=65,slow=7.2,SNR=195
CMAR PcP PcP 18 13 54.8 +0.7
comp=Z,11nm,0.8s,baz=50,slow=0.8,SNR=11
CMAR LR LR 18 19 38.2
comp=Z,60μm,18.9s,baz=75,slow=39
CMAR P3KP 18 44 33.8
comp=Z,1.6nm,0.9s,baz=287,slow=3.7,SNR=4.6
BTM Bintulu 22.54 204 P P 18 10 00.8 -0.1
MNI Manado 22.61 173 P P 18 10 03.5 +1.7
comp=Z,429nm,1.0s,comp=Z,10μm
GAMI Galela, Maluku 22.73 166 P P 18 10 02.6 -0.4
comp=Z,1μm,1.4s
GTOI Gorontalo 23.29 178 P P 18 10 07.5 -1.2
comp=Z,1μm,1.6s,comp=Z,26μmcomp=Z,96μm
MRSI Marisa 23.44 181 P P 18 10 11.6 +1.4
comp=Z,455nm,1.5s,comp=Z,11μmcomp=Z,44μm
SBUM Sibu 23.56 206 P P 18 10 10.4 -1.0
SBUM Sibu 23.56 206 P P 18 10 12.3 +0.9
SBUM Sibu 23.56 206 P P 18 10 10.4 -1.0
comp=Z,147nm,2.4s,comp=Z,8μmcomp=Z,66μm
TNTI Ternate 23.67 167 P P 18 10 13.0 +0.5
comp=Z,2μm,2.2s,comp=Z,51μmcomp=Z,95μm
GUMO Guam 23.78 112 eP P 18 10 13.3 -0.3
comp=Z,2μm,1.3s
GUMO LR LR
comp=Z,39μm,20.0s
PHET Kaeng Krachan 24.09 247 P P 18 10 19.5 +3.0
comp=Z,301nm,1.5s,comp=Z,6μm
GTA Gaotai 24.36 314 ⇑P P 18 10 19.3 +0.4
GTA pP pP 18 10 24.0 -2.2
GTA sP sP 18 10 26.3 -2.9
GTA S S 18 14 39.6 +2.5
GTA sS sS 18 14 47.0 -1.9
GTA pmax pmax
comp=Z,140nm,1.9s
GTA pmax pmax
comp=Z,16μm,6.6s
GTA LR LR
comp=N,59μm,17.6s
GTA LR LR
comp=E,170μm,19.5s
GTA LR LR
comp=Z,192μm,18.1s
SGKI Sangatta, Kali 24.84 191 P P 18 10 26.2 +2.9
comp=Z,592nm,1.5s
LUWI Luwuk 24.95 179 P P 18 10 25.3 +1.1
comp=Z,581nm,1.8s,comp=Z,16μmcomp=Z,57μm
ERM Erimo 24.96 39 i P P 18 10 22.2 -1.9
ERM Erimo 24.96 39 PFAKE 18 10 40.0 +16
ERM LR LR
comp=Z,29μm,20.0s
LBMI Labuha 25.07 167 P P 18 10 25.3 0.0
comp=Z,1μm,1.4s,comp=Z,24μmcomp=Z,52μm
KSM Kuching 25.24 209 eP P 18 10 26.1 -0.8
comp=Z,648nm,1.3s
KSM LR LR
comp=Z,20μm,19.0s
KSM Kuching 25.24 209 P P 18 10 26.4 -0.5
KSM Kuching 25.24 209 P P 18 10 26.6 -0.3
comp=Z,117nm,1.5s,comp=Z,10μm
HIA Hailar 25.24 356 eP P 18 10 25.3 -1.4
comp=Z,1μm,1.5s
HIA LR LR
comp=Z,100μm,20.0s
BKB Balikpapan 25.69 192 P P 18 10 33.8 +2.9
comp=Z,670nm,1.5s,comp=Z,15μmcomp=Z,72μm
IMP Imphal 25.76 278 eP P 18 10 31.0 -0.7
IMP ex x 18 14 01.0
MTKI Muara Teweh, K 25.85 197 P P 18 10 33.0 +0.6
comp=Z,646nm,1.1s,comp=Z,7μm
STKI Sintang 26.03 205 P P 18 10 35.1 +1.1
comp=Z,169nm,2.7s,comp=Z,6μm
ASAJ Asahikawa 26.05 35 eP P 18 10 31.9 -2.1
comp=Z,460nm,2.2s
ASAJ Asahikawa 26.05 35 P P 18 10 31.6 -2.4
comp=Z,25nm,0.4s,baz=232,slow=7.4,SNR=33
ASAJ LR LR 18 21 02.6
comp=Z,56μm,19.2s,baz=239,slow=37
KTGM Kuala Trenggan 26.16 228 P P 18 10 38.6 +3.3
KLR Kul'dur 26.22 14⇓iP P 18 10 31.0 -4.5
KLR pmax pmax
comp=E,170nm,2.2s
KLR pmax pmax
comp=Z,370nm,2.2s
SWI Sorong 26.27 159 P P 18 10 37.6 +1.4
comp=Z,496nm,1.2s,comp=Z,7μmcomp=Z,65μm
HABR Khabarovsk 26.40 19 iP P 18 10 34.2 -2.9
HABR e*PP pP 18 10 43.7 -0.6
HABR e*SP sP 18 10 47.7 +0.4
HABR ePPP PPP 18 11 22.3
HABR e 18 13 59.5
HABR eS S 18 15 05.1 -3.9
HABR e*SS sS 18 15 21.3 +0.3
HABR SS SnSn 18 16 07.6 -3.0
HABR e 18 21 26.4
HABR pmax pmax
comp=Z,12μm,15.6s
HABR MLR MLR
comp=E,71μm,15.0s
HABR MLR MLR
comp=N,80μm,15.0s
HABR MLR MLR
comp=Z,112μm,17.0s
ULN Ulaanbaatar 26.66 337 P P 18 10 39.3 -0.3
SNR=634
ULN Ulaanbaatar 26.66 337 eP P 18 10 38.8 -0.9
comp=Z,661nm,1.2s
ULN LR LR
comp=Z,161μm,22.0s
ULN Ulaanbaatar 26.66 337 P P 18 10 39.0 -0.7
comp=Z,459nm,1.9s,comp=Z,11μmcomp=Z,57μm
SONM Songino Array 26.87 336 P P 18 10 41.3 -0.2
SONM PcP PcP 18 14 04.7 +1.1
SONM ScP ScP 18 17 42.1 -0.1
SONM e 18 43 24.1
SONM Songino Array 26.87 336 P P 18 10 41.3 -0.2
comp=Z,165nm,0.8s,baz=151,slow=8.3,SNR=637
SONM PcP PcP 18 14 04.7 +1.1
comp=Z,22nm,1.0s,baz=151,slow=2.9,SNR=4.1
SONM ScP ScP 18 17 42.1 -0.1
comp=Z,45nm,1.2s,baz=182,slow=1.6,SNR=10
SONM LR LR 18 22 32.5
comp=Z,262μm,18.6s,baz=151,slow=39
SONM P3KPbc 18 43 24.1
comp=Z,2.6nm,1.3s,baz=339,slow=3.6,SNR=5.1
TRTT Trang 26.94 237 P P 18 10 47.8 +5.5
comp=Z,119nm,1.0s,comp=Z,3μm
TTSI Tana Toraja 27.04 185 P P 18 10 44.3 +1.2
comp=Z,110nm,1.8s,comp=Z,5μmcomp=Z,123μm
SHL Shillong 27.57 280 iP P 18 10 48.0 -0.1
SHL AMB AMB 18 11 08.6
comp=Z,592nm,2.4s
SHL ix x 18 15 47.0
YUK Yuzh-Kuril'sk 27.77 38c iP P 18 10 42.4 -7.1
YUK i 18 10 49.2
YUK iPPP PPP 18 11 50.6
YUK iS S 18 15 35.0 +4.2
YUK iSS SnSn 18 15 54.1 -50
YUK iSSS SSS 18 17 06.2
YUK pmax pmax
comp=E,67nm,1.0s
YUK pmax pmax
comp=N,316nm,1.0s
YUK pmax pmax
comp=Z,795nm,1.0s
YUK MLR MLR
comp=N,10μm,22.0s
YUK MLR MLR
comp=E,31μm,22.0s
YUK MLR MLR
comp=Z,35μm,22.0s
RKPI Ransiki, Papua 27.93 154 P P 18 10 55.2 +4.0
comp=Z,362nm,1.6s,comp=Z,7μm
PKDT Phuket 27.96 239 P P 18 10 57.1 +5.6
comp=Z,185nm,1.0s,comp=Z,4μm
MSAI Masohi 28.00 166 P P 18 10 54.1 +2.3
comp=Z,68nm,1.9s,comp=Z,2μm
YSS Yuzh-Sakhalins 28.14 31c eP P 18 10 51.0 -1.8
YSS e 18 10 58.5
YSS e*SP sP 18 11 04.9 +1.8
YSS e 18 11 40.0
YSS ePPP PPP 18 11 52.5
YSS eS S 18 15 32.0 -4.6
YSS pmax pmax
comp=Z,60nm,1.0s
YSS MLR MLR
comp=N,47μm,15.0s
YSS MLR MLR
comp=Z,50μm,15.0s
YSS MLR MLR
comp=E,48μm,14.0s
IPM Ipoh 28.22 230 eP P 18 10 53.0 -0.8
comp=E,551nm,1.7s
IPM Ipoh 28.22 230 P P 18 10 56.4 +2.6
IPM Ipoh 28.22 230 P P 18 10 54.7 +0.9
comp=E,91nm,1.7s,comp=E,4μm
LSA Lhasa 28.24 288 P P 18 10 55.5 +1.1
LSA pP pP 18 11 00.0 -1.7
LSA pmax pmax
comp=Z,60nm,0.6s
LSA LR LR
comp=N,32μm,17.5s
LSA LR LR
comp=E,200μm,15.0s
LSA LR LR
comp=Z,200μm,16.0s
LSA Lhasa 28.24 288 eP P 18 10 55.6 +1.1
LSA pmax pmax
comp=Z,151nm,1.0s
LSA MLR MLR
comp=Z,12μm,22.0s
LSA Lhasa 28.24 288 eP P 18 10 55.5 +1.1
comp=Z,151nm,1.0s
LSA LR LR
comp=Z,12μm,22.0s
MYKOM Kota Tinggi 28.39 222 P P 18 10 57.1 +1.8
MYKOM Kota Tinggi 28.39 222 P P 18 10 58.1 +2.8
comp=Z,80nm,1.4s,comp=Z,3μm
BAKI Biak 28.48 150 P P 18 11 03.2 +7.1
comp=Z,387nm,1.6s,comp=Z,9μm
PBKI Pangkalan Bun 28.51 203 P P 18 11 00.7 +4.4
comp=Z,156nm,1.1s,comp=Z,5μm
FAKI Fak Fak 28.52 159 P P 18 10 56.6 +0.1
comp=Z,322nm,1.5s,comp=Z,5μm
KGM Kluang 28.54 223 P P 18 10 58.9 +2.2
CIT Chita 28.71 349 eP P 18 10 56.3 -1.5
CIT e 18 11 07.2
CIT e 18 12 01.8
CIT pmax pmax
comp=Z,1μm,2.1s
FRIM Kepong 28.71 227 P P 18 11 01.2 +3.0
KAPI Kappang 28.99 185 P P 18 10 59.9 -0.7
comp=Z,360nm,1.9s,SNR=8.6
KAPI Kappang 28.99 185 P P 18 10 59.5 -1.0
SNR=7.2
KAPI Kappang 28.99 185 eP P 18 10 59.0 -1.6
comp=Z,162nm,1.1s
KAPI Kappang 28.99 185 P P 18 10 58.5 -2.1
comp=Z,11nm,0.9s,baz=50,slow=11,SNR=7.0
KAPI LR LR 18 22 47.9
comp=Z,26μm,20.4s,baz=1.6,slow=37
SRPI Serui, Papua 29.14 150 P P 18 11 05.7 +3.7
comp=Z,261nm,1.1s,comp=Z,7μmcomp=Z,42μm
BBSI Bau Bau 29.36 179 P P 18 11 17.9 +14

ZAK	**Zakamensk**	**30.13**	**336**	*e*P		**P**	**18 11 09.0**	**-1.6**
ZAK				pmax		pmax			
	comp=Z,86nm,1.2s								
PPBI	**Pangkal Pinang**	**30.40**	**213**	P		P	18 11 17.3	+4.2	
	comp=Z,88nm,1.7s,comp=Z,2μm								
TSI	**Tuntungan**	**30.65**	**232**	P		P	18 11 19.3	+4.0	
	comp=Z,338nm,1.5s,comp=Z,9μm								
RGRI	**Rengat**	**31.00**	**221**	P		P	18 11 32.5	+14	
TLY	**Talaya**	**31.06**	**337***c*	*i*P		**P**	**18 11 18.2**	**-0.4**	
TLY				*e*			18 12 18.5		
TLY				*e*PPP		PPP	18 12 34.9		
TLY				*e*S		**S**	**18 16 26.6**	**+4.2**	
TLY				pmax		pmax			
	comp=Z,617nm,1.6s								
TLY				MLR		MLR			
	comp=Z,188μm,15.0s								
TLY	**Talaya**	**31.06**	**337**	P		**P**	**18 11 18.7**	**+0.1**	
	comp=Z,2μm,0.8s,SNR=93								
KCSI	**Kotacane, Aceh**	**31.21**	**233**	P		**P**	**18 11 22.7**	**+2.4**	
	comp=Z,60nm,1.7s,comp=Z,2μm								
TAPN	**Taplejung**	**31.22**	**283**	*e*P		**P**	**18 11 21.9**	**+1.2**	
	comp=Z,5μm,2.1s								
BKNI	**Bangkinang**	**31.28**	**224**	P		P	18 11 29.4	+8.5	
	comp=Z,154nm,1.1s,comp=Z,3μmcomp=Z,19μm								
IRK	**Irkutsk**	**31.31**	**339**	*e*P		**P**	**18 11 19.0**	**-1.9**	
IRK				*e*			18 21 47.6		
IRK				pmax		pmax			
	comp=Z,1μm,1.9s								
ODAN	**Odare**	**31.53**	**283**	*e*P		**P**	**18 11 24.3**	**+1.0**	
	comp=Z,3μm,1.7s								
PMBI	**Palembang**	**31.75**	**215**	P		P	18 11 30.5	+5.5	
	comp=Z,199nm,1.4s,comp=Z,4μm								
BSI	**Banda Aceh**	**31.80**	**239**	P		**P**	**18 11 28.3**	**+2.8**	
	comp=Z,142nm,1.4s,comp=Z,6μm								
MOY	**Mondy**	**32.03**	**335**	*e*P		**P**	**18 11 26.9**	**-0.4**	
MOY				pmax		pmax			
	comp=Z,710nm,1.9s								
RAMN	**Ramite**	**32.23**	**283**	*e*P		**P**	**18 11 30.3**	**+0.8**	
	comp=Z,5μm,2.1s								
PPI	**Padang Panjang**	**32.29**	**224**	P		**P**	**18 11 31.0**	**+1.2**	
	comp=Z,207nm,1.2s,comp=Z,4μm								
JIRN	**Jiri**	**32.56**	**284**	*e*P		**P**	**18 11 33.3**	**+0.7**	
	comp=Z,2μm,1.7s								
BLJI	**Banyuglugur**	**32.71**	**196**	P		**P**	**18 11 33.9**	**+0.5**	
	comp=Z,215nm,1.2s,comp=Z,4μm								
CLNS	**Chul'man**	**32.81**	**3**	*e*P		**P**	**18 11 31.8**	**-2.1**	
CLNS				*e**PP		**pP**	**18 11 41.1**	**-0.1**	
CLNS				*e*			18 12 39.0		
CLNS				*e*			18 14 18.2		
CLNS				*e*S		**S**	**18 16 44.5**	**-5.1**	
CLNS				*e*SS		**SnSn**	**18 18 43.8**	**-2.8**	
CLNS				pmax		pmax			
	comp=N,38nm,1.1s								
CLNS				pmax		pmax			
	comp=E,16nm,1.2s								
CLNS				pmax		pmax			
	comp=Z,37nm,1.3s								
CLNS				smax		smax			
	comp=N,7μm,20.5s								
CLNS				smax		smax			
	comp=E,2μm,19.1s								
CLNS				MLR		MLR			
	comp=N,123μm,16.0s								
CLNS				MLR		MLR			
	comp=Z,129μm,16.0s								
CLNS				MLR		MLR			
	comp=E,23μm,12.0s								
GUN	**Gumba**	**32.83**	**285**	*e*P		**P**	**18 11 35.5**	**+0.6**	
	comp=E,3μm,1.8s								
BOK	**Bokaro**	**33.17**	**277**	*e*P		**P**	**18 11 37.3**	**-0.1**	
BOK				AMB		AMB	18 11 56.0		
	comp=Z,546nm,1.3s								
SJI	**Sawahan**	**33.20**	**199**	P		**P**	**18 11 38.4**	**+0.6**	
	comp=Z,323nm,1.2s,comp=Z,5μm								
PKI	**Pulchoki**	**33.26**	**284**	*e*P		**P**	**18 11 38.9**	**+0.3**	
	comp=Z,2μm,1.9s								
PKIN	**Phulchoki**	**33.27**	**284**	*e*P		**P**	**18 11 39.6**	**+1.0**	
	comp=Z,769nm,1.7s								
KKN	**Kakani**	**33.37**	**284**	*e*P		**P**	**18 11 39.8**	**+0.4**	
	comp=Z,2μm,1.7s								
KRKI	**Karangkates**	**33.41**	**198**	P		P	18 11 50.6	+11	
BJII	**Banjamegara**	**33.50**	**203**	P		**P**	**18 11 42.9**	**+2.5**	
	comp=Z,113nm,1.8s,comp=Z,7μm								
DMN	**Daman**	**33.53**	**284**	*e*P		**P**	**18 11 41.2**	**+0.4**	
	comp=Z,3μm,2.1s								
KSI	**Kapahiang**	**33.53**	**217**	P		**P**	**18 11 42.8**	**+2.2**	
	comp=Z,185nm,1.6s,comp=Z,5μm								
PCJI	**Pacitan**	**33.82**	**200**	P		P	18 11 56.3	+13	
LEM	**Lembang**	**33.84**	**207**	P		P	18 11 47.4	+3.9	
	comp=Z,134nm,1.1s,comp=Z,7μm								
SBJI	**Serang**	**33.85**	**210**	P		P	18 11 49.2	+5.8	
	comp=Z,485nm,1.6s,comp=Z,8μm								
LWLI	**Liwa**	**33.89**	**214**	P		P	18 11 48.4	+4.5	
	comp=Z,369nm,0.9s,comp=Z,4μm								
CISI	**Cisompet, Garu**	**34.42**	**206**	P		P	18 11 54.3	+5.9	
	comp=Z,200nm,1.3s,comp=Z,4μm								
WMQ	**Urumqi**	**34.44**	**313**	P		**P**	**18 11 48.6**	**+0.2**	
WMQ	**Urumqi**	**34.44**	**313**	P		**P**	**18 11 49.0**	**+0.6**	
WMQ				pP		**pP**	**18 11 53.0**	**-2.7**	
WMQ				sP		**sP**	**18 11 55.5**	**-3.2**	
WMQ				PP		**PnPn**	**18 13 04.6**	**+1.1**	
WMQ				PcP		**PcP**	**18 14 24.8**	**+1.3**	
WMQ				S		**S**	**18 17 15.5**	**+0.3**	
WMQ				sS		**sS**	**18 17 22.8**	**-4.5**	
WMQ				ScP		**ScP**	**18 18 08.3**	**+1.1**	
WMQ				PcS		**PcS**	**18 18 09.9**	**+0.1**	
WMQ				SS		**SnSn**	**18 19 25.8**	**-0.7**	
WMQ				ScS		**ScS**	**18 22 09.3**	**-0.6**	
WMQ				pmax		pmax			
	comp=Z,210nm,2.3s								
WMQ				pmax		pmax			
	comp=Z,6μm,5.4s								
WMQ				LR		LR			
	comp=N,78μm,13.5s								
WMQ				LR		LR			
	comp=E,71μm,13.2s								
WMQ				LR		LR			
	comp=Z,31μm,15.9s								
DANN	**Dangsing**	**34.69**	**286**	*e*P		**P**	**18 11 51.5**	**+0.5**	
	comp=Z,4μm,2.1s								
HVS	**Khovu-Aksy**	**34.84**	**328***c*	*i*P		**P**	**18 11 51.3**	**-0.5**	
HVS				pmax		pmax			
	comp=Z,1μm,1.7s								
KOLN	**Koldanda**	**34.85**	**285**	*e*P		**P**	**18 11 52.6**	**+0.3**	
	comp=Z,312nm,0.9s								
PYUN	**Piuthan**	**35.38**	**285**	*e*P		**P**	**18 11 57.4**	**+0.6**	
	comp=Z,509nm,0.9s								
VIS	**Vishakhapatnam**	**36.80**	**268**	*e*P		**P**	**18 12 10.8**	**+2.0**	
VIS				AMB		AMB	18 12 26.9		
	comp=Z,320nm,1.1s								
SKR	**Severo-Kuril's**	**37.30**	**36**	*e*P		P	18 12 06.0	-6.6	
SKR				*e*PPP		PPP	18 13 38.0		
SKR				*e*			18 14 26.0		
SKR				*e*S		S	18 17 46.0	-13	
SKR				*e*			18 18 07.0		
SKR				*e*PS		PS	18 21 04.0		
SKR				pmax		pmax			
	comp=Z,110nm,1.0s								
SKR				pmax		pmax			
	comp=N,1μm,14.0s								
SKR				pmax		pmax			
	comp=E,2μm,14.0s								
SKR				pmax		pmax			
	comp=Z,3μm,14.0s								
SKR				smax		smax			
	comp=N,3μm,18.0s								
SKR				smax		smax			
	comp=E,6μm,18.0s								
SKR				MLR		MLR			
	comp=N,16μm,18.0s								
SKR				MLR		MLR			
	comp=E,35μm,18.0s								
SKR				MLR		MLR			
	comp=Z,31μm,18.0s								
YAK	**Yakutsk**	**38.30**	**6***c*	*i*P		**P**	**18 12 18.6**	**-2.3**	
YAK				*e**PP		**pP**	**18 12 28.0**	**-0.3**	
YAK				*e*			18 13 47.4		
YAK				*e*			18 14 33.4		
YAK				*e*S		S	18 18 05.1	-8.4	
YAK				*e*			18 22 26.9		
YAK				pmax		pmax			
	comp=Z,83nm,0.9s								
YAK				pmax		pmax			
	comp=N,52nm,1.3s								
YAK				pmax		pmax			
	comp=N,571nm,2.5s								
YAK				pmax		pmax			
	comp=E,200nm,1.9s								
YAK				pmax		pmax			
	comp=Z,2μm,4.0s								
YAK				smax		smax			
	comp=N,1μm,2.0s								
YAK				smax		smax			
	comp=E,594nm,3.7s								
YAK				MLR		MLR			
	comp=E,42μm,13.0s								
YAK				MLR		MLR			
	comp=Z,106μm,16.0s								
YAK				MLR		MLR			
	comp=N,72μm,15.0s								
KRAR	**Krasnoyarsk**	**38.48**	**334**	*e*P		**P**	**18 12 21.4**	**-1.2**	
KRAR				pmax		pmax			
	comp=Z,411nm,1.7s								
KRAR				MLR		MLR			
	comp=Z,234μm,20.0s								
JBP	**Jabalpur**	**38.62**	**278**⇑	*e*P		**P**	**18 12 24.5**	**+0.3**	
JBP				*e*S		**S**	**18 18 20.6**	**+1.3**	
JBP				*i* x		x	18 30 22.9		
	comp=Z,42μm,20.7s								
MK31	**Makanchi Array**	**39.10**	**316**	*e*P		**P**	**18 12 28.0**	**0.0**	
MK31	**Makanchi Array**	**39.10**	**316**	*e*P		**P**	**18 12 28.0**	**0.0**	
MKAR	**Makanchi Array**	**39.10**	**316**	*e*P		**P**	**18 12 28.1**	**+0.1**	
MKAR							18 14 39.3		
MKAR							18 18 25.2		
MKAR	**Makanchi Array**	**39.10**	**316**	*e*P		**P**	**18 12 28.1**	**+0.1**	
MKAR				PcP		**PcP**	**18 14 39.3**	**+1.9**	
MKAR				ScP		**ScP**	**18 18 25.2**	**+0.8**	
MKAR				PKKKP			18 44 07.5		
MKAR	**Makanchi Array**	**39.10**	**316**	P		**P**	**18 12 28.0**	**+0.1**	
	comp=Z,43nm,0.5s,baz=104,slow=9.4,SNR=241								
MKAR				PcP		**PcP**	**18 14 39.3**	**+1.9**	
	comp=Z,17nm,0.8s,baz=183,slow=2.5,SNR=3.9								
MKAR				ScP		**ScP**	**18 18 25.2**	**+0.8**	
	comp=Z,20nm,0.9s,baz=99,slow=4.6,SNR=8.9								
MKAR				LR		LR	18 30 19.4		
	comp=Z,97μm,18.6s,baz=109,slow=39								
MKAR				P3KP			18 44 07.5		
	comp=Z,0.4nm,1.0s,baz=298,slow=3.4,SNR=3.6								
PETK	**Petropavlovsk-**	**39.45**	**33**	P		**P**	**18 12 27.9**	**-2.8**	
PETK				MLR		MLR			
	comp=Z,34μm,18.3s								
PETK	**Petropavlovsk-**	**39.45**	**33**	P		**P**	**18 12 27.9**	**-2.8**	
PETK	**Petropavlovsk-**	**39.45**	**33**	P		**P**	**18 12 27.9**	**-2.8**	
	comp=Z,2.1nm,0.5s,baz=146,slow=2.2,SNR=12								
PETK				LR		LR	18 29 48.7		
	comp=Z,34μm,18.3s,baz=229,slow=38								
DDI	**Dehra Dun**	**39.60**	**289**	*e*P		**P**	**18 12 32.1**	**-0.3**	
DDI				AMB		AMB	18 12 50.8		
	comp=Z,2μm,3.7s								
NGP	**Nagpur**	**39.86**	**275**	*e*P		**P**	**18 12 33.4**	**-1.2**	
NGP				*e*x		x	18 12 53.2		
	comp=Z,608nm,2.1s								
NGP				*e*x		x	18 18 36.2		
NGP				AMP			18 31 16.5		
	comp=Z,27μm,17.1s								
PET	**Petropavlovsk**	**39.88**	**34***c*	*i*P		P	18 12 30.9	-3.4	
PET				*e*S		**S**	**18 18 33.7**	**-3.9**	
PET				pmax		pmax			
	comp=Z,2μm,8.2s								
PET				pmax		pmax			
	comp=Z,3μm,18.5s								
PET				pmax		pmax			
	comp=Z,80nm,1.0s								
PET				smax		smax			
	comp=N,3μm,18.5s								
PET				smax		smax			
	comp=E,2μm,13.0s								
PET				MLR		MLR			
	comp=Z,33μm,18.0s								
PET				MLR		MLR			
	comp=Z,36μm,18.0s								
SMLA	**Simla**	**40.34**	**290**	*i* P		**P**	**18 12 39.2**	**+0.8**	
SMLA				AMB		AMB	18 12 41.6		
	comp=Z,384nm,1.8s								
NDI	**New Delhi**	**40.42**	**287**	*e*P		**P**	**18 12 37.0**	**-2.1**	
NDI				*e*x		x	18 22 43.0		
SDNR	**Sundarnagar**	**40.51**	**291**	*e*P		**P**	**18 12 40.1**	**+0.2**	
ZALV	**Zalesovo Beam**	**40.88**	**327**	P		**P**	**18 12 41.1**	**-1.5**	
ZALV				pmax		pmax			
	comp=Z,58nm,0.5s								
ZALV	**Zalesovo Beam**	**40.88**	**327**	P		**P**	**18 12 41.1**	**-1.5**	
ZALV	**Zalesovo Beam**	**40.88**	**327**	P		**P**	**18 12 41.1**	**-1.5**	
	comp=Z,58nm,0.5s,baz=110,slow=6.3,SNR=193								
BHPL	**Bhopal**	**40.92**	**278**	*e*P		**P**	**18 12 43.2**	**-0.2**	
BHPL				AMB		AMB	18 13 01.0		
	comp=Z,340nm,1.2s								
DHRM	**DHARAMSHALA**	**41.06**	**292**	*e*P		**P**	**18 12 44.7**	**0.0**	
PMG	**Port Moresby**	**41.22**	**141**	*e*P		**P**	**18 12 45.1**	**-0.6**	
	comp=Z,224nm,1.0s								
PMG	**Port Moresby**	**41.22**	**141**	P		**P**	**18 12 46.5**	**+0.8**	
	comp=Z,156nm,1.1s,comp=Z,4μm								
PMG	**Port Moresby**	**41.22**	**141**	P		**P**	**18 12 46.2**	**+0.4**	
	comp=Z,91nm,0.9s,baz=23,slow=17,SNR=21								
PMG				LR		LR	18 29 53.7		
	comp=Z,23μm,18.4s,baz=179,slow=36								
HYB	**Hyderabad**	**41.26**	**269**⇓	*i*P		**P**	**18 12 46.0**	**-0.2**	
HYB				*e*			18 14 42.0		
HYB				*e*S		**S**	**18 19 00.0**	**+1.0**	
HYB				*e*SS		**SS**	**18 22 00.0**	**-2.7**	
HYB				*e*ScS		**ScS**	**18 22 50.0**	**+0.6**	
HYB				LR		LR			
	comp=Z,18nm,16.0s								
HYB	**Hyderabad**	**41.26**	**269**	*e*P		**P**	**18 12 47.6**	**+1.4**	
WAKE	**Wake Island**	**41.43**	**88**	PFAKE			18 13 00.0	+13	
WAKE				LR		LR			
	comp=Z,12μm,20.0s								
THN	**Thein Dam**	**41.56**	**292**	*i* P		**P**	**18 12 45.6**	**-2.8**	
THN				*e*x		x	18 18 43.0		
AAA	**Alma-Ata**	**41.70**	**309**	*e*P		**P**	**18 12 51.3**	**+1.7**	
AAA				*e*S		**S**	**18 19 07.9**	**+2.7**	
AAA				pmax		pmax			
	comp=Z,10μm,15.7s								
AAA				smax		smax			
	comp=E,12μm,13.1s								
AAA				MLR		MLR			
	comp=Z,70μm,14.0s								
KSH	**Kashi**	**41.78**	**303**	*e*P		P	18 12 54.3	+4.0	
KSH				pP		pP	18 13 00.3	+2.6	
KSH				sP		sP	18 13 04.3	+3.6	
KSH				PP		**PnPn**	**18 14 33.3**	**+1.2**	
KSH				S		**S**	**18 19 09.9**	**+3.4**	
KSH				sS		sS	18 19 22.8	+4.1	
KSH				SS		**SS**	**18 22 12.8**	**+0.2**	
KSH				pmax		pmax			
	comp=Z,250nm,1.4s								
KSH				pmax		pmax			
	comp=Z,5μm,4.8s								
KSH				LR		LR			
	comp=N,9μm,13.1s								
KSH				LR		LR			
	comp=E,11μm,10.8s								
KSH				LR		LR			
	comp=Z,16μm,14.2s								
AKL	**Akola**	**41.81**	**275**⇓	*i*P		**P**	**18 12 51.9**	**+1.2**	
AKL				AMP			18 13 11.9		
	comp=Z,763nm,1.9s								
AKL				*i* x		x	18 19 05.3		
ULHL	**Ulahol**	**42.01**	**307**	*i* P		**P**	**18 12 54.6**	**+2.3**	
ULHL	**Ulahol**	**42.01**	**307**	P		**P**	**18 12 54.6**	**+2.3**	
	SNR=16								
FITZ	**Fitzroy Crossi**	**42.03**	**175**	P		**P**	**18 12 50.8**	**-1.5**	
FITZ	**Fitzroy Crossi**	**42.03**	**175**	P		**P**	**18 12 50.8**	**-1.5**	
	comp=Z,10nm,0.8s,baz=6.2,slow=13,SNR=6.2								
FITZ				LR		LR	18 34 01.5		
	comp=Z,4μm,18.5s,baz=96,slow=41								
NVS	**Novosibirsk**	**42.14**	**327**⇓	*i*P		**P**	**18 12 51.9**	**-0.9**	
NVS				*i* *PP		**pP**	**18 13 03.0**	**+2.7**	
NVS				*e*			18 14 32.6		
NVS				*e*S		**S**	**18 19 09.9**	**-1.1**	
NVS				*i*			18 22 49.6		
NVS				pmax		pmax			
	comp=Z,1μm,2.0s								
NVS				pmax		pmax			
	comp=N,487nm,1.9s								
NVS				pmax		pmax			
	comp=E,614nm,1.9s								
NVS				pmax		pmax			
	comp=E,168nm,1.8s								
NVS				pmax		pmax			
	comp=Z,272nm,1.8s								
NVS				pmax		pmax			
	comp=N,163nm,2.0s								
NVS				smax		smax			
	comp=N,112nm,2.2s								
NVS				smax		smax			
	comp=E,217nm,2.0s								
TKM2	**Tokmak 2**	**42.60**	**308**	*i* P		**P**	**18 12 58.2**	**+1.1**	
TKM2	**Tokmak 2**	**42.60**	**308**	P		**P**	**18 12 58.3**	**+1.1**	
	SNR=158								
KZA	**Kyzart**	**42.70**	**307**	*i* P		**P**	**18 12 59.8**	**+1.6**	
KZA	**Kyzart**	**42.70**	**307**	P		**P**	**18 12 59.8**	**+1.6**	
	SNR=157								
LATR	**Latur**	**42.80**	**272**	*e*P		**P**	**18 12 58.5**	**-0.2**	
KURK	**Kurchatov**	**42.81**	**320**	P		**P**	**18 12 57.2**	**-1.2**	
	comp=E,2μm,1.7s								
KURBB	**Kurchatov Arra**	**42.83**	**320**	PKPPKP		P'P'df	18 44 53.0	-8.6	
	comp=E,1.4nm,1.1s,baz=262,slow=2.9,SNR=5.2								
AJM	**Ajmer**	**42.92**	**284**	*i* P		**P**	**18 12 59.0**	**-0.7**	
COEN	**Coen**	**42.96**	**149**	*e*P		**P**	**18 13 00.5**	**+0.5**	
	comp=E,2μm,0.9s								
KBK	**Karagaybulak**	**43.02**	**307**	*i* P		**P**	**18 13 01.7**	**+1.2**	
KBK	**Karagaybulak**	**43.02**	**307**	P		**P**	**18 13 01.7**	**+1.2**	
	SNR=68								
PALK	**Pallekele**	**43.12**	**254**	*e*P		**P**	**18 12 59.4**	**-2.1**	
	comp=E,153nm,1.3s								
PALK	**Pallekele**	**43.12**	**254**	P		P	18 13 07.2	+5.8	
	comp=E,73nm,2.5s,comp=E,3μm								
CHMS	**Chumysh**	**43.23**	**308**	*i* P		**P**	**18 13 02.8**	**+0.8**	
CHMS	**Chumysh**	**43.23**	**308**	P		**P**	**18 13 02.8**	**+0.8**	
	SNR=93								
UCH	**Uchtor**	**43.27**	**307**	*i* P		**P**	**18 13 04.6**	**+1.8**	
UCH	**Uchtor**	**43.27**	**307**	P		**P**	**18 13 04.6**	**+1.8**	
	SNR=50								
FRU	**Bishkek**	**43.29**	**308**	*e*P		**P**	**18 13 03.0**	**+0.5**	
FRU				*e*S		**S**	**18 19 33.0**	**+4.5**	
FRU				*e*SS		**SnSn**	**18 22 54.0**	**-6.0**	
FRU				pmax		pmax			
	comp=Z,6μm,8.0s								
FRU				MLR		MLR			
	comp=E,100μm,18.0s								
FRU				MLR		MLR			
	comp=Z,90μm,18.0s								
AAK	**Ala-Archa**	**43.35**	**307**	P		**P**	**18 13 04.0**	**+0.9**	
	comp=Z,462nm,1.3s,SNR=47								
AAK	**Ala-Archa**	**43.35**	**307***c*	*i*P		**P**	**18 13 04.2**	**+1.1**	
AAK				pmax		pmax			
	comp=Z,468nm,1.9s								
AAK				MLR		MLR			
	comp=Z,209μm,18.0s								
AAK	**Ala-Archa**	**43.35**	**307**	P		**P**	**18 13 04.4**	**+1.3**	
	SNR=93								
AAK	**Ala-Archa**	**43.35**	**307**	P		**P**	**18 13 04.2**	**+1.1**	
	SNR=26								
AAK	**Ala-Archa**	**43.35**	**307**	*e*P		**P**	**18 13 02.4**	**-0.7**	
	comp=Z,312nm,1.5s								
AAK				LR		LR			
	comp=Z,92μm,19.0s								
USP	**Ospenovka**	**43.45**	**308**	*i* P		**P**	**18 13 04.6**	**+0.8**	
USP	**Ospenovka**	**43.45**	**308**	P		**P**	**18 13 04.6**	**+0.8**	
	SNR=36								
COCO	**West Island**	**43.74**	**217**	PFAKE			18 13 20.0	+14	
COCO				LR		LR			
	comp=Z,11μm,20.0s								
SEY	**Seymchan**	**43.78**	**19**⇑	*i*P		**P**	**18 13 05.2**	**-0.8**	
AML	**Almayashu**	**43.85**	**306**	*i* P		**P**	**18 13 08.9**	**+1.4**	
AML	**Almayashu**	**43.85**	**306**	P		**P**	**18 13 08.9**	**+1.4**	
	SNR=130								
EKS2	**Erkin-Say**	**43.88**	**307**	P		**P**	**18 13 08.3**	**+1.0**	
	SNR=64								
MBWA	**Marble Bar**	**45.00**	**183**	*e*P		**P**	**18 13 15.1**	**-1.2**	
	comp=Z,239nm,1.5s								
MBWA				LR		LR			
	comp=Z,6μm,19.0s								
POO	**Poona**	**45.25**	**273**⇓	*i*x		P	18 13 14.0	-4.4	
	comp=Z,488nm,1.1s								
POO				*e*P		pP	18 13 18.5	-7.4	
KAD	**Karad**	**45.28**	**271**	*i* P		**P**	**18 13 19.5**	**+0.8**	
WRAB	**Tennant Creek**	**45.28**	**164**	P		**P**	**18 13 18.0**	**-0.5**	
	comp=E,654nm,1.1s,SNR=28								
WRAB	**Tennant Creek**	**45.28**	**164**	*e*P		**P**	**18 13 18.3**	**-0.2**	
WRAB	**Tennant Creek**	**45.28**	**164**	*e*P		**P**	**18 13 18.3**	**-0.2**	
WRA	**Warramunga Arr**	**45.29**	**164**	P		**P**	**18 13 18.1**	**-0.4**	
WRA				S		**S**	**18 19 55.4**	**-2.4**	
WRA				P'P'			18 44 52.5		
WRA	**Warramunga Arr**	**45.29**	**164**	P		**P**	**18 13 18.1**	**-0.4**	
	comp=Z,82nm,0.8s,baz=345,slow=8.7,SNR=80								
WRA				S		**S**	**18 19 55.4**	**-2.4**	
	comp=Z,31nm,1.4s,baz=342,slow=14,SNR=10								
WRA				PKPPKP		**P'P'df**	**18 44 52.5**	**+4.7**	
	comp=Z,1.7nm,1.0s,baz=121,slow=1.9,SNR=3.8								
TRD	**Trivandrum**	**45.90**	**258**	*e*P		**P**	**18 13 23.2**	**-0.3**	
GOA	**Goa**	**46.16**	**269**	*e*P		**P**	**18 13 23.3**	**-2.3**	
KKAR	**Karatay Array**	**46.31**	**307**	*e*P		**P**	**18 13 26.7**	**+0.1**	
KKAR	**Karatay Array**	**46.31**	**307**	*e*P		**P**	**18 13 26.6**	**+0.1**	
KBL	**Kabul**	**47.09**	**296**	*e*P		**P**	**18 13 33.7**	**+0.7**	
KBL				pmax		pmax			
	comp=Z,820nm,1.5s								
KBL	**Kabul**	**47.09**	**296**	*e*P		**P**	**18 13 33.7**	**+0.7**	
	comp=Z,820nm,1.5s								
TIXI	**Tiksi**	**47.78**	**3***c*	*i*P		**P**	**18 13 35.5**	**-2.0**	
TIXI				pmax		pmax			
	comp=Z,500nm,1.7s								
TIXI				MLR		MLR			
	comp=Z,133μm,16.0s								
FX1	**Attu Island--F**	**47.81**	**39**	*e*P		**P**	**18 13 38.5**	**+0.5**	
BHJ	**Bhuj**	**47.93**	**280**	*e*P		**P**	**18 13 38.8**	**-0.6**	
BRVK	**Borovoye**	**48.45**	**321**	P		**P**	**18 13 42.7**	**-0.3**	
	comp=Z,1μm,1.6s								
BRVK	**Borovoye**	**48.45**	**321***c*	*i*P		**P**	**18 13 42.8**	**-0.3**	
BRVK				pmax		pmax			
	comp=Z,627nm,1.7s								
BRVK				MLR		MLR			
	comp=Z,53μm,18.0s								
BRVK	**Borovoye**	**48.45**	**321**	P		**P**	**18 13 43.1**	**+0.1**	
	SNR=337								
BRVK	**Borovoye**	**48.45**	**321**	*e*P		**P**	**18 13 42.8**	**-0.3**	
	comp=Z,1μm,1.8s								
BRVK				LR		LR			
	comp=Z,46μm,19.0s								
AS31	**Alice Springs**	**48.77**	**166**	*e*P		**P**	**18 13 46.0**	**+0.3**	
ASAR	**Alice Springs**	**48.77**	**166**	P		**P**	**18 13 45.8**	**+0.1**	
ASAR				S		**S**	**18 20 50.0**	**+2.6**

SVE	**Sverdlovsk**	**54.72 324**	*d*	*i*P		**P**	**18 14 29.4**	**-0.4**
SVE				*e*			18 16 34.8	
SVE				*e*S		**S**	**18 22 08.2**	**-0.4**
SVE				*e*SS		**SS**	**18 25 52.7**	**+1.3**
SVE				pmax	pmax			
	comp=Z,4µm,17.2s							
SVE				pmax	pmax			
	comp=Z,409nm,1.4s							
SVE				MLR	MLR			
	comp=N,19µm,15.0s							
SVE				MLR	MLR			
	comp=E,58µm,17.0s							
SVE				MLR	MLR			
	comp=Z,82µm,17.0s							
FORT	**Forrest**	**54.80 174**		*e*P		**P**	**18 14 29.7**	**-0.9**
	comp=Z,231nm,1.0s							
FORT				*e*		pP	18 14 44.7	+6.5
ARU	**Arti**	**55.79 323**	*c*	*i*P		**P**	**18 14 36.5**	**-1.0**
ARU							18 15 34.1	
ARU							18 16 38.7	
ARU				PPP	PPP		18 17 53.3	
ARU				S	S		**18 22 21.9**	**-1.0**
ARU							18 24 19.8	
ARU				pmax	pmax			
	comp=Z,530nm,1.7s							
ARU				MLR	MLR			
	comp=Z,39µm,22.0s							
ARU	**Arti**	**55.79 323**		P		**P**	**18 14 36.8**	**-0.7**
	comp=Z,827nm,2.0s,SNR=77							
EIDS	**Eidsvold**	**56.51 148**		*e*P		**P**	**18 14 42.5**	**-0.6**
	comp=Z,820nm,2.5s							
NWAO	**Narrogin (SRO)**	**56.86 185**		PFAKE			18 15 00.0	+15
NWAO				LR	LR			
	comp=Z,5µm,22.0s							
NWAO	**Narrogin (SRO)**	**56.86 185**		P		**P**	**18 14 45.0**	**-0.3**
	comp=Z,34nm,1.0s,baz=12,slow=7.3,SNR=11							
SOKR	**Solikamsk**	**57.17 327**	*c*	*i*P		**P**	**18 14 46.4**	**-0.8**
SOKR							18 17 03.0	
SOKR				PPP	PPP		18 18 11.2	
SOKR				S	S		**18 22 39.2**	**-1.8**
SOKR				pmax	pmax			
	comp=Z,510nm,2.3s							
SOKR				MLR	MLR			
	comp=Z,89µm,15.0s							
WBK	**Wadi Bani Khal**	**57.66 282**		P		**P**	**18 14 52.8**	**+1.4**
	SNR=11							
DGAR	**Diego Garcia**	**57.76 244**		PFAKE			18 15 00.0	+8.0
DGAR				LR	LR			
	comp=Z,13µm,19.0s							
BBOO	**Buckleboo**	**58.06 166**		*e*P		**P**	**18 14 53.1**	**-0.7**
	comp=Z,6µm,1.1s							
BBOO				*e*pP		**pP**	**18 15 02.9**	**+1.5**
SMDO	**Samad**	**58.37 283**		P		**P**	**18 14 57.6**	**+1.2**
	SNR=13							
JMDO	**Jabal Madar**	**58.49 282**		P		**P**	**18 14 58.7**	**+1.5**
	SNR=8.1							
STKA	**Stephens Creek**	**58.61 161**		*e*P		**P**	**18 14 56.6**	**-1.1**
	comp=Z,53nm,1.4s							
STKA			⇑	*e*			18 44 46.6	
STKA	**Stephens Creek**	**58.61 161**		P		**P**	**18 14 58.1**	**+0.5**
	comp=Z,73nm,0.8s,baz=336,slow=6.9,SNR=34							
STKA				LR	LR		18 43 17.3	
	comp=Z,13µm,19.1s,baz=332,slow=39							
STKA				PKP2bc			18 44 46.6	
	comp=Z,5.4nm,1.0s,baz=330,slow=4.9,SNR=2.9							
HOQ	**Hoqain**	**58.89 284**		P		**P**	**18 15 01.0**	**+1.0**
	SNR=21							
BSY	**Bisya**	**59.20 283**		P		**P**	**18 15 03.2**	**+1.1**
	SNR=17							
BANOM	**Banah**	**59.21 287**		P		**P**	**18 15 03.9**	**+1.8**
	SNR=18							
UOSS	**Wadi Hilu**	**59.53 286**		P		**P**	**18 15 06.2**	**+1.9**
	comp=Z,134nm,2.0s,SNR=8.1							
ARQ	**Araqi**	**59.65 284**		P		**P**	**18 15 06.3**	**+1.1**
	SNR=14							
ASHO	**Ashiyiah**	**59.72 285**		P		**P**	**18 15 06.5**	**+0.8**
	SNR=19							
ARMA	**Armidale**	**61.06 151**		*e*P		**P**	**18 15 13.5**	**-1.2**
	comp=Z,269nm,1.5s							
DZM	**Mont Dzumac**	**62.84 133**		*e*P		P	18 15 30.9	+4.1
	comp=Z,182nm,1.2s							
DZM				*e*S		**S**	**18 23 57.1**	**+2.0**
	comp=Z,38µm,28.4s							
DZM				*e*SS		**SS**	**18 28 02.0**	**+1.2**
	comp=Z,14µm,24.9s							
DZM				*e*LR		LR	18 34 15.9	
	comp=Z,51µm,24.9s							
DZM	**Mont Dzumac**	**62.84 133**		*e*P		**P**	**18 15 27.4**	**+0.6**
	comp=Z,162nm,1.3s							
DZM	**Mont Dzumac**	**62.84 133**		P		**P**	**18 15 27.4**	**+0.6**
	comp=Z,37nm,0.9s,baz=271,slow=24,SNR=14							
DZM				LR		LR	18 37 58.1	
	comp=Z,18µm,21.5s,baz=359,slow=32							
MAK	**Makhachkala**	**63.13 307**	*c*	*i*P		**P**	**18 15 28.7**	**+0.3**
MAK				*e*			18 16 03.6	
MAK				*e*			18 17 48.3	
MAK				*e*S		**S**	**18 23 59.3**	**+1.2**
MAK				*e*SS		**SS**	**18 28 04.4**	**+0.5**
MAK				pmax	pmax			
	comp=Z,1µm,1.5s							
MAK				pmax	pmax			
	comp=Z,490nm,1.8s							
MAK				pmax	pmax			
	comp=N,567nm,2.3s							
MAK				pmax	pmax			
	comp=E,512nm,1.8s							
MAK				smax	smax			
	comp=E,5µm,7.0s							
MAK				smax	smax			
	comp=N,4µm,7.1s							
MAK				MLR	MLR			
	comp=N,40µm,18.0s							
MAK				MLR	MLR			
	comp=E,38µm,14.0s							
MAK				MLR	MLR			
	comp=Z,32µm,15.0s							
CAN	**Canberra**	**64.26 156**		*e*P		**P**	**18 15 35.4**	**-0.5**
CAN				pmax	pmax			
	comp=Z,296nm,1.8s							
CAN				MLR	MLR			
	comp=Z,11µm,19.0s							
CAN	**Canberra**	**64.26 156**		*e*P		**P**	**18 15 35.4**	**-0.5**
	comp=Z,296nm,1.8s							
CAN				LR	LR			
	comp=Z,11µm,19.0s							
FUNA	**Funafuti**	**64.32 113**		PFAKE			18 15 50.0	+13
FUNA				LR	LR			
	comp=Z,14µm,19.0s							
CHGN	**Chignik**	**64.49 37**		*e*P		**P**	**18 15 36.2**	**-0.9**
DGRG	**David-gareji**	**64.94 306**		P		**P**	**18 15 41.6**	**+1.1**
SEAG	**Tbilisi Sea**	**65.31 307**		P		**P**	**18 15 44.2**	**+1.4**
DUS	**Dusheti**	**65.32 307**		P		P	18 15 49.2	+6.3
TBLG	**Delisi**	**65.36 306**		P		**P**	**18 15 43.3**	**+0.2**
TBLG	**Delisi**	**65.36 306**		P		**P**	**18 15 43.3**	**+0.2**
SVW2	**Sparrevohn**	**65.50 32**		*e*P		**P**	**18 15 43.9**	**+0.2**
	comp=Z,351nm,2.1s							
KZR	**Kazreti**	**65.67 306**		P		**P**	**18 15 46.3**	**+1.1**
GNI	**Garni**	**65.67 305**		*e*P		**P**	**18 15 46.2**	**+0.9**
GNI	**Garni**	**65.67 305**		P		**P**	**18 15 46.4**	**+1.1**
	SNR=70							
GNI	**Garni**	**65.67 305**		*e*P		**P**	**18 15 45.1**	**-0.2**
	comp=Z,1µm,1.9s							
GNI				LR	LR			
	comp=Z,23µm,19.0s							
ZEI	**Tsey**	**65.77 308**		*e*P		**P**	**18 15 44.0**	**-2.0**
ZEI				*e*			18 18 10.6	
ZEI				*e*S		**S**	**18 24 31.4**	**+0.2**
ZEI				pmax	pmax			
	comp=Z,2µm,8.8s							
ZEI				pmax	pmax			
	comp=Z,495nm,2.2s							
ZEI				MLR	MLR			
	comp=Z,48µm,18.0s							
TMCR	**Tamitsa**	**66.12 332**	⇑	*i*P		**P**	**18 15 46.8**	**-0.7**
TMCR				*e*S		**S**	**18 24 34.9**	**+0.6**
TMCR				pmax	pmax			
	comp=Z,443nm,1.5s							
IBDR	**Badra**	**66.30 297**		*i* PKP		P	18 15 44.0	-5.2
IBDR				*i* SKS		**S**	**18 24 34.0**	**-3.5**
KBZ	**Khabaz**	**66.31 309**		P		**P**	**18 15 49.3**	**+0.2**
KBZ				pmax	pmax			
	comp=Z,89nm,1.1s							
KBZ				MLR	MLR			
	comp=Z,34µm,20.3s							
KBZ	**Khabaz**	**66.31 309**		P		**P**	**18 15 49.3**	**+0.2**
KBZ	**Khabaz**	**66.31 309**		P		**P**	**18 15 49.3**	**+0.2**
	comp=Z,88nm,1.1s,baz=88,slow=5.5,SNR=72							
KBZ				LR		LR	18 48 29.0	
	comp=Z,34µm,20.3s,baz=249,slow=39							
AKH	**Akhalkalaki**	**66.34 306**		P		**P**	**18 15 51.1**	**+1.5**
KIV	**Kislovodsk**	**66.42 309**	*c*	*i*P		**P**	**18 15 50.3**	**+0.3**
KIV				*e*			18 16 18.7	
KIV				*e*			18 18 16.9	
KIV				*e*S		**S**	**18 24 39.1**	**+0.3**
KIV				*e*SS		**SS**	**18 28 57.5**	**+2.2**
KIV				pmax	pmax			
	comp=Z,2µm,4.2s							
KIV				pmax	pmax			
	comp=Z,421nm,1.1s							
KIV				MLR	MLR			
	comp=Z,30µm,18.0s							
KIV	**Kislovodsk**	**66.42 309**		P		**P**	**18 15 50.9**	**+0.9**
	comp=Z,2µm,1.5s							
CLDR	**Caldiran**	**66.50 304**		*e*P		**P**	**18 15 52.1**	**+1.3**
DIGO	**Kars**	**66.64 305**		*i* P		**P**	**18 15 51.9**	**+0.3**
KARS	**Kars**	**66.81 306**		*e*P		**P**	**18 15 54.2**	**+1.6**
RSO	**Redoubt South**	**66.96 32**		*e*P		**P**	**18 15 53.3**	**0.0**
HAKT	**HAKKARI**	**67.01 302**		*i* P		**P**	**18 15 54.2**	**+0.1**
LVZ	**Lovozero**	**67.06 336**	*c*	*e*P		**P**	**18 15 52.8**	**-0.8**
LVZ				pmax	pmax			
	comp=Z,270nm,1.6s							
LVZ				MLR	MLR			
	comp=Z,37µm,16.0s							
LVZ	**Lovozero**	**67.06 336**		P		**P**	**18 15 53.4**	**-0.2**
	comp=Z,569nm,2.2s,SNR=29							
CHVG	**Ch'k'valeri**	**67.10 308**		P		**P**	**18 15 55.4**	**+1.2**
AGRB	**Hanur-Agry**	**67.11 304**		*e*P		**P**	**18 15 55.9**	**+1.3**
COLD	**Coldfoot**	**67.14 25**		*e*P		**P**	**18 15 54.0**	**0.0**
	comp=Z,1µm,2.9s							
CUKT	**Cukurca**	**67.16 302**		*e*P		**P**	**18 15 55.4**	**+0.5**
OHAK	**Old Harbor**	**67.17 36**		*e*P		**P**	**18 15 53.2**	**-1.2**
	comp=Z,723nm,2.2s							
SPU	**Mount Spurr**	**67.19 32**		*e*P		**P**	**18 15 53.9**	**-0.6**
VOR	**Voronezh**	**67.28 318**		*e*P		**P**	**18 15 54.0**	**-1.1**
VOR				pmax	pmax			
	comp=Z,1µm,2.0s							
TUTA	**Tutak**	**67.28 304**		*i* P		**P**	**18 15 56.1**	**+0.3**
GEVA	**Gevas**	**67.34 303**		*i* P		**P**	**18 15 56.6**	**+0.5**
VORD	**Divnogorie**	**67.36 317**		*e*P		**P**	**18 15 54.4**	**-1.2**
VORD				*e*S		**S**	**18 24 47.5**	**-2.2**
VORD				pmax	pmax			
	comp=Z,130nm,1.3s							
VORD				pmax	pmax			
	comp=N,30nm,0.6s							
VORD				pmax	pmax			
	comp=E,120nm,0.8s							
VORD				pmax	pmax			
	comp=Z,240nm,1.5s							
VORD				pmax	pmax			
	comp=N,270nm,2.5s							
VORD				pmax	pmax			
	comp=E,240nm,0.9s							
VORD				smax	smax			
	comp=E,960nm,3.8s							
VORD				smax	smax			
	comp=Z,310nm,3.3s							
VORD				smax	smax			
	comp=N,380nm,2.8s							
VORD				MLR	MLR			
	comp=E,17µm,16.0s							
VORD				MLR	MLR			
	comp=Z,21µm,16.0s							
VORD				MLR	MLR			
	comp=N,12µm,17.0s							
VSR	**Storozhevoye**	**67.39 317**		*e*P		**P**	**18 15 54.9**	**-1.0**
VSR				*e*S		**S**	**18 24 47.4**	**-2.7**
VSR				pmax	pmax			
	comp=Z,300nm,1.4s							
VSR				pmax	pmax			
	comp=N,50nm,1.6s							
VSR				pmax	pmax			
	comp=E,230nm,1.5s							
VSR				pmax	pmax			
	comp=Z,680nm,2.1s							
VSR				pmax	pmax			
	comp=N,120nm,1.4s							
VSR				pmax	pmax			
	comp=E,1µm,2.0s							
VSR				smax	smax			
	comp=E,390nm,2.4s							
VSR				smax	smax			
	comp=Z,120nm,2.2s							
VSR				smax	smax			
	comp=N,380nm,2.8s							
VSR				MLR	MLR			
	comp=E,28µm,17.0s							
VSR				MLR	MLR			
	comp=N,7µm,15.0s							
VSR				MLR	MLR			
	comp=E,8µm,13.0s							
KDAK	**Kodiak Island**	**67.46 35**		P		**P**	**18 15 55.0**	**-1.1**
	comp=E,636nm,1.6s,SNR=34							
KDAK	**Kodiak Island**	**67.46 35**		*e*P		**P**	**18 15 54.9**	**-1.3**
	comp=E,896nm,2.0s							
KDAK				S		**S**	**18 24 51.9**	**+1.2**
KDAK	**Kodiak Island**	**67.46 35**		P		**P**	**18 15 55.0**	**-1.1**
	comp=E,30nm,0.9s,baz=277,slow=4.0,SNR=42							
KDAK				S		**S**	**18 24 51.9**	**+1.2**
	comp=E,9.0nm,1.1s,baz=58,slow=20,SNR=6.8							
KDAK				LR		LR	18 45 36.3	
	comp=E,9µm,21.4s,baz=268,slow=36							
MOS	**Moscow**	**67.49 322**	*c*	*i*P		P	18 15 52.3	-4.1
MOS				*e*			18 16 03.8	
MOS				*e*PPP		PPP	18 19 58.8	
MOS				*e*S		S	18 24 45.1	-6.0
MOS				*e*			18 25 46.2	
MOS				pmax	pmax			
	comp=Z,4µm,2.7s							
MOS				pmax	pmax			
	comp=N,1µm,3.0s							
MOS				pmax	pmax			
	comp=E,1µm,3.0s							
MOS				pmax	pmax			
	comp=Z,977nm,2.0s							
MOS				smax	smax			
	comp=E,1µm,3.6s							
MOS				smax	smax			
	comp=N,2µm,3.0s							
MOS				MLR	MLR			
	comp=N,18µm,17.0s							
MOS				MLR	MLR			
	comp=Z,43µm,17.0s							
MOS				MLR	MLR			
	comp=E,33µm,16.0s							
BHD	**Baghdad**	**67.52 298**		*i* PKP		**P**	**18 15 54.0**	**-3.0**
BHD				*i* SKS		**S**	**18 24 51.0**	**-1.2**
ARTV	**Artvin**	**67.54 306**		*i* P		**P**	**18 15 57.6**	**+0.3**
DAGI	**Agillar**	**67.57 306**		*i* P		**P**	**18 15 57.5**	**+0.1**
APA	**Apatity**	**67.58 335**	⇑	*i*P		**P**	**18 15 57.0**	**+0.2**
APA				*i*			18 16 25.0	
APA				*i*			18 18 34.0	
APA				*i* PPP		PPP	18 20 06.0	
APA				*i* S		**S**	**18 24 50.0**	**-1.8**
APA				*i* PS		**PnS**	**18 25 15.0**	**-0.7**
APA				*i*			18 25 50.0	
APA				pmax	pmax			
	comp=Z,905nm,2.0s							
APA				MLR	MLR			
	comp=Z,65µm,16.0s							
TRF	**Thorofare Moun**	**67.66 29**		*e*P		**P**	**18 15 55.7**	**-1.9**
	comp=Z,465nm,2.1s							
DBOC	**Borcka**	**67.70 307**		*i* P		**P**	**18 15 58.0**	**-0.1**
DDEM	**Demirkent**	**67.74 306**		*i* P		**P**	**18 15 58.6**	**+0.2**
HOMI	**Horasan**	**67.81 305**		*i* P		**P**	**18 15 59.0**	**-0.1**
OBN	**Obninsk**	**68.20 322**	⇑	*i*P		**P**	**18 15 59.9**	**-1.0**
OBN				*i*			18 16 12.4	
OBN				*e*			18 16 27.5	
OBN				*i*			18 18 35.1	
OBN				pmax	pmax			
	comp=Z,883nm,2.5s							
OBN				MLR	MLR			
	comp=Z,35µm,18.0s							
OBN	**Obninsk**	**68.20 322**		P		**P**	**18 15 59.1**	**-1.8**
	comp=Z,1µm,1.7s,SNR=52							
MCK	**McKinley**	**68.21 29**		*e*P		**P**	**18 16 00.7**	**-0.1**
MCK				pmax	pmax			
	comp=Z,603nm,2.1s							
MCK	**McKinley**	**68.21 29**		*e*P		**P**	**18 16 00.7**	**-0.1**
	comp=Z,602nm,2.1s							
ERZM	**Erzurum**	**68.25 305**		*i* P		**P**	**18 16 02.3**	**+0.5**
EZM	**Erzurum**	**68.25 305**		*e*P		**P**	**18 16 03.5**	**+1.6**
PZAR	**Pazar-Rize**	**68.30 307**		*e*P		**P**	**18 16 02.8**	**+1.0**
RC01	**Rabbit Creek A**	**68.32 32**		*e*P		**P**	**18 16 00.5**	**-1.0**
	comp=Z,539nm,2.0s							
COLA	**College**	**68.47 27**		*e*P		**P**	**18 16 03.0**	**+0.6**
COLA				pmax	pmax			
	comp=Z,4µm,2.5s							
COLA				MLR	MLR			
	comp=Z,12µm,19.0s							
COLA	**College**	**68.47 27**		*e*P		**P**	**18 16 03.0**	**+0.6**
	comp=Z,4µm,2.5s							
COLA				LR	LR			
	comp=Z,12µm,19.0s							
MSVF	**Nonsavu**	**68.48 122**		*e*P		**P**	**18 16 02.0**	**-1.3**
MSVF				pmax	pmax			
	comp=Z,167nm,1.2s							
MSVF				MLR	MLR			
	comp=Z,7µm,20.0s							
MSVF	**Nonsavu**	**68.48 122**		*e*P		**P**	**18 16 02.0**	**-1.3**
	comp=Z,167nm,1.2s							
MSVF				LR	LR			
	comp=Z,7µm,20.0s							
PMR	**Palmer**	**68.51 31**		*e*P		**P**	**18 16 01.4**	**-1.3**
PMR				pmax	pmax			
	comp=Z,560nm,2.1s							
PMR	**Palmer**	**68.51 31**		*e*P		**P**	**18 16 01.4**	**-1.3**
	comp=Z,560nm,2.1s							
SOC	**Sochi**	**68.60 309**	*c*	*i*P		**P**	**18 16 03.3**	**-0.3**
SOC				*i* *PP		**pP**	**18 16 12.5**	**+1.1**
SOC				*e**SP		**sP**	**18 16 18.8**	**+4.5**
SOC				*e*			18 18 25.4	
SOC				*e*			18 18 33.4	
SOC				*e*PPP		PPP	18 20 18.1	
SOC				*i* S		**S**	**18 25 04.8**	**0.0**
SOC				*e**SS		sS	18 25 23.3	+5.7
SOC				*e*			18 26 00.9	
SOC				pmax	pmax			
	comp=Z,3µm,2.7s							
SOC				pmax	pmax			
	comp=Z,468nm,1.5s							
SOC				MLR	MLR			
	comp=E,14µm,19.0s							
SOC				MLR	MLR			
	comp=Z,32µm,19.0s							
SOC				MLR	MLR			
	comp=N,37µm,19.0s							
BNGL	**BINGOL**	**68.64 304**		*i* P		**P**	**18 16 05.1**	**+0.8**
SML	**Sawmill**	**68.84 31**		*e*P		**P**	**18 16 03.4**	**-1.5**
SML				pmax	pmax			
	comp=Z,27nm,1.0s							
SML	**Sawmill**	**68.84 31**		*e*P		**P**	**18 16 03.4**	**-1.5**
	comp=Z,27nm,1.0s							
ILAR	**Eielson Array**	**68.89 27**		P		**P**	**18 16 03.3**	**-1.8**
ILAR				P'P'			18 44 18.4	
ILAR	**Eielson Array**	**68.89 27**		P		**P**	**18 16 03.3**	**-1.8**
	comp=Z,7.8nm,0.7s,baz=285,slow=5.1,SNR=40							
ILAR				PKPPKP		**P'P'df**	**18 44 18.4**	**-4.2**
	comp=Z,5.1nm,1.2s,baz=113,slow=1.4,SNR=8.7							
ILAR				LR		LR	18 50 06.0	
	comp=Z,11µm,18.3s,baz=291,slow=39							
BNGB	**Bing ¶‖**	**68.99 304**		*e*P		**P**	**18 16 07.3**	**+1.0**
BAYT	**Ayd –ntepe-Bay**	**69.04 306**		*e*P		**P**	**18 16 07.8**	**+1.1**
MACK	**Trabzon**	**69.18 307**		*i* P		**P**	**18 16 07.5**	**+0.1**
JOF	**Joensuu**	**69.29 331**		*e*P		**P**	**18 16 06.3**	**-1.3**
JOF				pmax	pmax			
	comp=Z,19nm,0.6s							
RAYN	**Ar Rayn**	**69.30 287**		P		**P**	**18 16 08.5**	**+0.1**
	comp=Z,614nm,1.2s,SNR=73							
RAYN	**Ar Rayn**	**69.30 287**		*e*P		**P**	**18 16 08.2**	**-0.3**
	comp=Z,424nm,1.6s							
MARD	**Mardin**	**69.33 303**		*i* P		**P**	**18 16 09.1**	**+0.6**
KEV	**Kevo**	**69.45 338**		*e*P		**P**	**18 16 07.2**	**-1.2**
KEV				pmax	pmax			
	comp=Z,14nm,0.5s							
KEV	**Kevo**	**69.45 338**		*e*P		**P**	**18 16 07.8**	**-0.6**
	comp=Z,330nm,1.7s							
KEV				LR	LR			
	comp=Z,32µm,19.0s							
GUMT	**Gumushane**	**69.52 306**		*e*P		**P**	**18 16 10.7**	**+1.1**
EUZM	**Uzumlu**	**69.54 305**		*i* P		**P**	**18 16 10.6**	**+0.8**
MAZI	**Mazidag**	**69.55 303**		*e*P		**P**	**18 16 10.4**	**+0.6**
ERZN	**Erzincan**	**69.56 305**		*e*P		**P**	**18 16 11.0**	**+1.2**
DIYA	**Diyarbakir**	**69.68 303**		*i* P		**P**	**18 16 11.1**	**+0.6**
KELT	**Kelkit**	**69.76 306**		*i* P		**P**	**18 16 11.3**	**+0.1**
SPA0	**Spitsbergen Ar**	**69.82 348**	⇑	*i*P		**P**	**18 16 09.6**	**-1.0**
SPA0				*e*S		**S**	**18 25 17.7**	**-0.5**
SPITS	**Spitsbergen Ar**	**69.82 348**		LR		LR	18 51 00.1	
	comp=Z,56µm,19.0s,baz=55,slow=40							
PAX	**Paxson**	**69.89 29**		*e*P		**P**	**18 16 10.9**	**-0.5**
PAX				pmax	pmax			
	comp=Z,228nm,1.6s							
PAX	**Paxson**	**69.89 29**		*e*P		**P**	**18 16 10.9**	**-0.5**
	comp=Z,228nm,1.6s							
ANN	**Anapa**	**69.91 311**	*c*	*i*P		**P**	**18 16 10.9**	**-0.8**
ANN				*e**PP		**pP**	**18 16 20.3**	**+0.8**
ANN				*i*			18 16 34.5	
ANN				*i*			18 18 47.3	
ANN				*i* PPP		PPP	18 20 28.5	
ANN				*i* S		**S**	**18 25 19.7**	**-0.5**
ANN				pmax	pmax			
	comp=Z,2µm,7.9s							
ANN				pmax	pmax			
	comp=N,679nm,8.0s							
ANN				pmax	pmax			
	comp=E,625nm,7.2s							
ANN				pmax	pmax			
	comp=Z,859nm,2.0s							
ANN				pmax	pmax			
	comp=N,234nm,2.1s							
ANN				pmax	pmax			
	comp=E,341nm,2.1s							
ANN				smax	smax			
	comp=E,3µm,15.8s							
ANN				MLR	MLR			
	comp=N,13µm,23.0s							
ANN				MLR	MLR			
	comp=E,14µm,23.0s							
ANN				MLR	MLR			
	comp=Z,30µm,23.0s							
PTK	**Pertek**	**69.98 305**		*e*P		**P**	**18 16 13.5**	**+1.0**
ARCES	**ARCESS Array B**	**70.02 338**		P		**P**	**18 16 11.2**	**-0.7**
ARCES	**ARCESS Array B**	**70.02 338**		P		**P**	**18 16 11.2**	**-0.7**
	comp=Z,10.0nm,0.5s,baz=74,slow=6.4,SNR=50							
ARCES				LR		LR	18 53 16.4	
	comp=Z,32µm,18.5s,baz=66,slow=42							
ARE0	**ARCESS Array S**	**70.02 338**	⇑	*i*P		**P**	**18 16 09.6**	**-2.4**
ARE0				*e*S		**S**	**18 25 17.7**	**-3.1**
ARE0				*e*SS		**SS**	**18 29 52.3**	**+2.7**
ARE0	**ARCESS Array S**	**70.02 338**		*e*P		**P**	**18 16 10.7**	**-1.3**
DIV	**Divide**	**70.19 31**		*e*P		**P**	**18 16 12.3**	**-1.0**
	comp=Z,1µm,2.5s							
MID	**Middleton Isla**	**70.33 33**		P		**P**	**18 16 13.4**	**-0.6**
MID	**Middleton Isla**	**70.33 33**		P		**P**	**18 16 13.4**	**-0.6**
KBS	**Kingsbay**	**70.35 349**	⇑	*i*P		**P**	**18 16 11.5**	**-2.3**
KBS				*e*S		**S**	**18 25 24.3**	**-0.1**
KBS				AMS		AMS	18 51 12.4	
	comp=Z,72nm,16.0s							
KBS	**Kingsbay**	**70.35 349**	*c*	*e*P		**P**	**18 16 12.9**	**-0.9**
KBS				pmax	pmax			
	comp=Z,113nm,1.7s							
KBS				MLR	MLR			
	comp=Z,83µm,20.0s							
KBS	**Kingsbay**	**70.35 349**		*e*P		**P**	**18 16 12.8**	**-1.1**
	comp=Z,241nm,1.8s							
KBS				LR	LR			
	comp=Z,55µm,20.0s							
ELZG	**Elazig**	**70.39 304**		*i* P		**P**	**18 16 15.0**	**0.0**
HSP	**Hornsund**	**70.40 347**		*e*P		**P**	**18 16 13.6**	**-0.6**
BJO	**Bjornoya**	**70.44 344**		*e*P		**P**	**18 16 13.3**	**-1.1**
BJO				*e*S		**S**	**18 25 25.5**	**0.0**
BJO				AMS		AMS	18 53 03.4	
	comp=Z,43µm,13.5s							
ILIC	**ilic-Erzincan**	**70.45 305**		*e*P		**P**	**18 16 16.5**	**+1.2**
SUSE	**Suseh

comp=Z,2μm,2.7s
URFA Urfa 70.80 303 *e*P **P** **18 16 18.4 +0.9**
MALT Malatya 70.86 304 *e*P P 18 16 34.8 +17
MALT Malatya 70.86 304 PFAKE 18 16 30.0 +12
MALT LR LR
comp=Z,18μm,20.0s
MALT Malatya 70.86 304⇑ *i*P P 18 16 35.4 +18
MSEY Mahe Island 70.92 256 PFAKE 18 16 30.0 +12
MSEY LR LR
comp=Z,10μm,22.0s
KTK1 Kautokeino 70.94 338 *e*P **P** **18 16 16.7 -0.9**
KTK1 AMB AMB 18 16 22.7
comp=Z,1μm,1.5s
KTK1 *e*S **S** **18 25 30.1 -1.5**
RSDY Resadiye-TOKAT 71.12 306 *e*P **P** **18 16 19.2 0.0**
ATAB Bozova 71.20 303 *i*P **P** **18 16 20.6 +0.8**
AKCD Akcadag 71.25 304 *i*P **P** **18 16 21.1 +0.9**
EGAK Eagle 71.27 27 *e*P **P** **18 16 18.8 -0.9**
comp=Z,287nm,1.8s
EGAK LR LR
comp=Z,11μm,19.0s
SCER sogukcermik 71.41 306 *i*P **P** **18 16 20.7 -0.5**
ERBA Erbaa 71.46 307 *i*P **P** **18 16 21.0 -0.4**
SVSK Karacayir 71.49 306 *e*P **P** **18 16 22.6 +1.2**
DARE Darende-Malaty 71.51 305 *e*P **P** **18 16 23.1 +1.3**
TOKT Tokat 71.72 307 *e*P **P** **18 16 23.7 +0.8**
KAF Kangasniemi 71.74 330 *e*P **P** **18 16 22.3 -0.2**
KAF pmax pmax
comp=Z,12nm,0.6s
TOKA Tokat 71.76 307 *i*P **P** **18 16 23.2 +0.1**
GZT Gaziantep 71.79 303 *i*P **P** **18 16 23.9 +0.4**
FIA1 FINESS Array S 72.04 330 *e*P **P** **18 16 23.7 -0.6**
FINES FINESS Array B 72.04 330 P **P** **18 16 23.4 -1.0**
FINES FINESS Array B 72.04 330 P **P** **18 16 23.4 -1.0**
comp=Z,33nm,0.7s,baz=71,slow=3.7,SNR=101
FINES LR LR 18 51 24.5
comp=Z,116μm,19.0s,baz=75,slow=39
HAVZ Havza 72.11 308 *i*P **P** **18 16 25.0 -0.1**
SIM Simferopol' 72.14 312*c* *i*P **P** **18 16 24.0 -1.3**
SIM *e*PPP PPP 18 20 53.0
SIM *e*S **S** **18 25 44.0 -2.2**
SIM *e*SS **SS** **18 30 25.0 +1.7**
SIM pmax pmax
comp=Z,136nm,0.9s
TRO Tromso 72.18 339⇑ *i*P **P** **18 16 23.0 -2.1**
TRO AMB AMB 18 16 28.0
comp=Z,158nm,1.8s
TRO *e*PP **PP** **18 19 04.9 -0.2**
TRO *e*S **S** **18 25 43.7 -2.1**
KMRS Kahramanmaras 72.25 304 *e*P **P** **18 16 26.9 +0.8**
DIKM Dikmen 72.27 308 *e*P **P** **18 16 26.5 +0.3**
PINB Pinarbasi 72.29 305 *i*P **P** **18 16 27.3 +0.7**
KUZU Kuzuini 72.33 303 *i*P **P** **18 16 25.9 -0.8**
AYKD Aykdinkavak 72.35 304 *i*P **P** **18 16 27.2 +0.5**
VSU Vasula 72.62 327*c* *i*P **P** **18 16 27.1 -0.7**
VSU MLR MLR
comp=Z,194μm,18.0s
KIP Kipapa 72.62 74 PFAKE 18 16 40.0 +11
KIP LR LR
comp=Z,11μm,22.0s
ANDN Andirin 72.65 304 *i*P **P** **18 16 29.0 +0.4**
BNN Bunyan 72.65 305 *e*P **P** **18 16 29.0 +0.4**
CTKT Corum 72.91 307 *i*P **P** **18 16 30.2 0.0**
KOZT Kozan 73.07 304 *e*P **P** **18 16 32.6 +1.6**
CORM Corum 73.16 307 *e*P **P** **18 16 32.3 +0.8**
MICGM Minsk 73.22 323⇑ *i*P **P** **18 16 29.0 -2.5**
MNK Minsk 73.25 323⇑ *i*P **P** **18 16 29.0 -2.6**
MNK *e* 18 16 43.0
MNK *e* 18 19 14.0
MNK *e*PPP PPP 18 20 56.0
MNK *e*S **S** **18 25 54.0 -4.4**
MNK *e*PS **PnS** **18 26 36.0 +4.2**
MNK *e*SS **SS** **18 30 40.0 +0.4**
MNK *e*SSS SSS 18 33 44.0
MNK pmax pmax
comp=Z,630nm,1.2s
MNK pmax pmax
comp=E,660nm,1.8s
MNK pmax pmax
comp=N,290nm,2.0s
MNK MLR MLR
comp=N,16μm,12.0s
MNK MLR MLR
comp=Z,75μm,14.0s
MNK MLR MLR
comp=E,53μm,14.0s
CEYT Ceyhan 73.28 303 *e*P **P** **18 16 33.0 +0.9**
YAYL Yayladag 73.30 302 *i*P **P** **18 16 32.1 -0.4**
TOS Tosya 73.34 308 *e*P **P** **18 16 33.3 +0.7**
AVNT Avonos 73.41 305 *i*P **P** **18 16 32.7 -0.5**
YURE YUREGIR 73.42 303 *i*P **P** **18 16 33.4 +0.3**
CDAG Cicekdag 73.52 306 *i*P **P** **18 16 33.4 -0.3**
ILGA Ilgaz 73.56 308 *i*P **P** **18 16 33.9 -0.2**
IDID Didziasalis 73.59 324 *e*P **P** **18 16 33.7 0.0**
IDID AMB AMB 18 16 38.1
comp=Z,98nm,1.7s
ALE Alert 73.62 1 P **P** **18 16 32.6 -0.8**
comp=Z,438nm,1.5s,SNR=20
KIEV Kiev 73.62 319 *e*P **P** **18 16 32.6 -1.3**
KIEV pmax pmax
comp=Z,467nm,1.6s
KIEV MLR MLR
comp=Z,23μm,20.0s
KIEV Kiev 73.62 319 *e*P **P** **18 16 32.6 -1.3**
comp=Z,467nm,1.6s
KIEV LR LR
comp=Z,23μm,20.0s
PNL Peninsula 73.64 32 *e*P **P** **18 16 33.8 -0.2**
comp=Z,991nm,2.1s
NACGM Naroch 73.70 323 *e*P P 18 16 30.0 -4.3
IZAR Zarasai 73.72 324 *e*P **P** **18 16 34.3 -0.1**
IZAR AMB AMB 18 16 38.8
comp=Z,82nm,1.8s
KARA Karaisali 73.73 304 *e*P **P** **18 16 35.4 +0.5**
CANT Cankiri 73.77 308 *e*P **P** **18 16 35.5 +0.5**
NIG Nigde 73.80 305 *e*P **P** **18 16 36.8 +1.2**
IIGN Ignalina 73.86 324 *e*P **P** **18 16 35.1 -0.1**
GULE Gulek 73.93 304 *i*P **P** **18 16 36.1 -0.2**
HWQ Hawqa 73.97 301 *e*P **P** **18 16 36.4 0.0**
BR131 Keskin Array S 74.02 307 *e*P **P** **18 16 36.4 -0.3**
comp=Z,310nm,1.2s
BRTR Keskin Array B 74.02 307 P **P** **18 16 36.4 -0.3**
BRTR Keskin Array B 74.02 307 P **P** **18 16 36.4 -0.3**
comp=Z,169nm,1.1s,baz=103,slow=2.7,SNR=124
BRTR LR LR 18 55 20.3
comp=Z,9μm,18.9s,baz=176,slow=41
STEI Steigen 74.08 338 *e*P **P** **18 16 36.1 -0.2**
RCY Rachaya 74.30 300 *e*P **P** **18 16 38.7 +0.3**
BHL Bhannes 74.31 300 *e*P **P** **18 16 38.2 -0.2**
BBAL Bala 74.46 307 *i*P **P** **18 16 38.9 -0.3**
AFSR Af˘ar-Bala (A 74.53 307 *e*P **P** **18 16 39.6 +0.1**
SULT Sultanhani-AKS 74.59 305 *e*P **P** **18 16 40.5 +0.5**
ANTO Ankara 74.59 307 *e*P **P** **18 16 40.0 0.0**
ANTO Ankara 74.59 307 *e*P **P** **18 16 39.9 0.0**
ANTO pmax pmax
comp=Z,619nm,1.5s
ANTO MLR MLR
comp=Z,11μm,22.0s
ANTO Ankara 74.59 307 P **P** **18 16 40.3 +0.4**
SNR=64
ANTO Ankara 74.59 307 *e*P **P** **18 16 39.9 -0.1**
comp=Z,619nm,1.5s
ANTO LR LR
comp=Z,11μm,22.0s
LOD Lodumlu 74.61 307 *e*P **P** **18 16 40.2 +0.2**
KIZK Mersin 74.67 303 *i*P **P** **18 16 39.6 -0.7**
AFI Afiamalu 74.67 113 P **P** **18 16 42.2 +1.5**
AFI Afiamalu 74.67 113 P **P** **18 16 42.2 +1.5**
comp=Z,32nm,0.8s,baz=236,slow=16,SNR=5.6
AFI LR LR 18 47 36.7
comp=Z,8μm,18.6s,baz=289,slow=34
EREN Erenkoy 74.95 302 *e*P **P** **18 16 42.2 +0.3**
KIS Kishinev 75.04 315 *i*P **P** **18 16 40.0 -2.2**
comp=Z,1μm,2.3s
KIS Kishinev 75.04 315 *i* PcP **PcP** **18 16 56.0 +0.1**
KIS Kishinev 75.04 315 *i* PP PP 18 19 32.0 +2.0
comp=Z,2μm,16.0s
KIS Kishinev 75.04 315⇑ *i*P **P** **18 16 40.0 -2.2**
KIS *i* 18 16 56.0
KIS *i* 18 19 32.0
KIS *i* PPP PPP 18 21 14.0
KIS *e*S S 18 26 12.0 -6.8
KIS *e* 18 26 58.0
KIS pmax pmax
comp=Z,1μm,2.3s
KIS pmax pmax
comp=Z,3μm,11.0s
KIS pmax pmax
comp=Z,4μm,18.0s
KIS MLR MLR
comp=N,13μm,18.0s
KIS MLR MLR
comp=E,24μm,18.0s
KIS MLR MLR
comp=Z,32μm,18.0s
KIS MLR MLR
comp=Z,31μm,19.0s
IKL Isikli 75.09 303 *e*P **P** **18 16 42.4 -0.4**
MOR8 Moi Rana 75.12 336 *e*P **P** **18 16 40.3 -2.1**
MOR8 AMB AMB 18 16 44.5
comp=Z,155nm,1.9s
LADK Ladik-KONYA 75.45 306 *e*P **P** **18 16 44.3 -0.6**
KONS Konsvik 75.45 337 *e*P **P** **18 16 44.2 0.0**
KONS AMB AMB 18 16 47.4
comp=Z,187nm,1.6s
LFK Lefkose 75.52 302 *e*P **P** **18 16 45.6 +0.3**
KDHN Kadinhani 75.53 306 *i*P **P** **18 16 44.4 -1.0**
ERMK Ermenek 75.55 304 *i*P **P** **18 16 43.2 -2.4**
MDUB Mudurnu 75.56 308 *e*P **P** **18 16 45.5 0.0**
STOK Stokkvaagen 75.56 337 *e*P **P** **18 16 45.0 +0.2**
LEOM Leova 75.58 315⇑ *i*P **P** **18 16 44.6 -0.8**
LEOM Leova 75.58 315⇑ *i*P **P** **18 16 44.6 -0.8**
KIZT Kizilcal 75.58 306 *e*P **P** **18 16 46.0 +0.3**
TLCR 75.64 313⇓ *i*P **P** **18 16 45.8 +0.1**
TLCR 75.64 313⇓ *i*P **P** **18 16 45.8 +0.1**
SKAG Skagway 75.65 31 *e*P **P** **18 16 46.7 +1.2**
comp=Z,1μm,2.3s
SVRH Sivrihisar-ESK 75.66 307 *e*P **P** **18 16 46.0 -0.1**
CSS Prodhromos 75.78 302 P **P** **18 16 46.4 -0.4**
comp=Z,8.5nm,1.5s
CSS Prodhromos 75.78 302 *e*P **P** **18 16 46.8 0.0**
CSS Prodhromos 75.78 302 P **P** **18 16 46.5 -0.4**
CSS Prodhromos 75.78 302 *e*P **P** **18 16 46.5 -0.4**
comp=Z,806nm,1.8s
CSS LR LR
comp=Z,16μm,21.0s
MAMC Mammari 75.80 302 P **P** **18 16 47.4 +0.5**
SUW Suwalki 75.98 323 *e*P **P** **18 16 46.7 -0.8**
SUW pmax pmax
comp=Z,644nm,1.2s
SUW Suwalki 75.98 323 *e*P **P** **18 16 46.7 -0.8**
comp=Z,644nm,1.2s
SUW Suwalki 75.98 323 *e*P **P** **18 16 46.5 -1.0**
SUW *e*PP **PP** **18 19 39.9 +2.2**
SUW *e*S **S** **18 26 26.7 -2.3**
SUW *e*sS **sS** **18 26 41.6 -0.3**
SUW LMZ LR 18 53 24.0
GULT Gulveren 76.06 308 *e*P **P** **18 16 48.2 -0.1**
LEF Lefka 76.07 302 *e*P **P** **18 16 48.1 -0.4**
CFR Carcaliu 76.10 313⇓ *i*P **P** **18 16 47.8 -0.5**
CFR Carcaliu 76.10 313⇓ *i*P **P** **18 16 47.8 -0.5**
SPNC Sapanca-Adapaz 76.12 308 *e*P **P** **18 16 48.7 +0.1**
GAZI Gazipasa 76.14 304 *i*P **P** **18 16 47.1 -1.7**
TIRR Tirgusor 76.16 313 *e*P **P** **18 16 47.0 -1.7**
TIRR pmax pmax
comp=Z,609nm,1.9s
TIRR Tirgusor 76.16 313 *e*P **P** **18 16 47.0 -1.7**
comp=Z,608nm,1.9s
ALFC Alevga 76.29 302 P **P** **18 16 49.5 -0.2**
comp=Z,2.6nm,0.8s
BORA Eskisehir 76.29 308 *i*P **P** **18 16 48.7 -1.0**
BOLV Bolvadin 76.32 306 *i*P **P** **18 16 50.2 +0.3**
HARR Harsova 76.40 313⇓ *i*P **P** **18 16 50.0 -0.1**
HARR Harsova 76.40 313⇓ *i*P **P** **18 16 50.0 -0.1**
OUZ Omahuta 76.43 139 *e*P P 18 16 57.4 +7.2
comp=Z,203nm,1.7s
SILT Sile 76.44 309 *e*P **P** **18 16 50.1 -0.3**
PETR Petresti 76.50 314⇑ *i*P **P** **18 16 51.4 +0.8**
HRT Hereke 76.53 309 *e*P **P** **18 16 50.8 -0.2**
AKMC Akamas 76.54 302 P **P** **18 16 51.0 -0.1**
PPCY Paphos 76.57 302 P **P** **18 16 51.3 +0.1**
PRAR RASCA 76.58 316⇑ *i*P **P** **18 16 50.6 -0.5**
SIT Sitka 76.59 33 *e*P **P** **18 16 51.5 +0.6**
SIT pmax pmax
comp=Z,216nm,1.1s
SIT Sitka 76.59 33 *e*P **P** **18 16 51.5 +0.6**
comp=Z,216nm,1.1s
TESR Tescani 76.61 315⇑ *i*P **P** **18 16 50.7 -0.5**
ADVT Abdulvahap 76.62 308 *e*P **P** **18 16 51.2 -0.2**
CAVI Cavuskoy 76.62 308 *e*P **P** **18 16 51.4 -0.1**
DAG Danmarks Havn 76.64 351⇑ *i*P **P** **18 16 49.2 -1.7**
DAG *i* 18 19 37.6
DAG pmax pmax
comp=Z,40nm,0.9s
DAG MLR MLR
comp=Z,11μm,16.0s
DAG Danmarks Havn 76.64 351⇑ *i*P **P** **18 16 49.2 -1.7**
comp=Z,48nm,0.9s
DAG *i* 18 19 37.6
DAG
comp=Z,10μm,16.0s
SHUT Suhut-Afyon 76.67 306 *e*P **P** **18 16 52.2 +0.2**
SUTC Sutluce-Ispart 76.71 305 *e*P **P** **18 16 51.4 -0.7**
VRI Vrincioaia 76.78 314⇓ *i*P **P** **18 16 52.5 +0.2**
VRI Vrincioaia 76.78 314⇓ *i*P **P** **18 16 52.5 +0.2**
NSS Namsos 76.79 335⇑ *i*P **P** **18 16 49.8 -2.1**
NSS AMB AMB 18 16 54.9
comp=Z,55nm,1.9s
NSS AMS AMS 18 55 05.8
comp=Z,10μm,21.2s
GRER 76.80 314⇑ *i*P **P** **18 16 53.3 +1.0**
ALT Altintas 76.83 307 *e*P **P** **18 16 52.7 -0.1**
AMRR Amara 76.83 313⇓ *i*P **P** **18 16 53.1 +0.6**
AMRR Amara 76.83 313⇓ *i*P **P** **18 16 53.0 +0.6**
KLYT Kilyos 76.83 309 *e*P **P** **18 16 52.5 0.0**
YLV Yalova 76.83 309 *e*P **P** **18 16 52.1 -0.7**
PLOR Plostina 76.84 314⇑ *i*P **P** **18 16 52.6 0.0**
PLOR Plostina 76.84 314⇑ *i*P **P** **18 16 52.6 0.0**
ISK Istanbul-Kandi 76.88 309 *e*P **P** **18 16 52.9 0.0**
ISK Istanbul-Kandi 76.88 309 P **P** **18 16 52.2 -0.7**
BUY Buyukada 76.92 309 *e*P **P** **18 16 53.0 -0.1**
BUY Buyukada 76.92 309 *i*P **P** **18 16 51.9 -1.2**
ISP Isparta 76.95 306 *e*P **P** **18 16 52.6 -0.8**
ISP Isparta 76.95 306 P **P** **18 16 52.3 -1.2**
ISP Isparta 76.95 306⇑ P **P** **18 16 52.5 -1.0**
ISP Isparta 76.95 306 *e*P **P** **18 16 52.4 -1.0**
comp=Z,243nm,1.1s
ISP LR LR
comp=Z,10μm,19.0s
ISP Isparta 76.95 306⇑ *i*P **P** **18 16 52.5 -1.0**
GEMT Gemlik 77.01 309 *e*P **P** **18 16 53.2 -0.4**
BCK Bucak 77.02 305 *e*P **P** **18 16 51.8 -2.0**
LVV L'vov 77.04 319⇓ *i*P **P** **18 16 52.9 -0.7**
LVV 18 17 09.9
LVV 18 19 43.7
LVV PPP PPP 18 21 34.9
LVV S **S** **18 26 35.7 -5.1**
LVV PS **PnS** **18 27 25.3 +4.2**
LVV SS **SS** **18 31 33.1 -4.3**
LVV pmax pmax
comp=Z,450nm,1.8s
LVV MLR MLR
comp=E,18μm,18.0s
LVV MLR MLR
comp=Z,20μm,18.0s
LVV MLR MLR
comp=N,4μm,17.0s
BGKT Bogazkoy 77.05 309 *e*P **P** **18 16 53.5 -0.2**
BUR08 Bucovina Ar. S 77.12 316 *e*P **P** **18 16 53.8 -0.5**
BURAR Bucovina Array 77.12 316⇑ *i*P **P** **18 16 53.9 -0.4**
BURAR Bucovina Array 77.12 316⇑ *i*P **P** **18 16 53.9 -0.4**
ULDT Uludag 77.15 308 *i*P **P** **18 16 53.7 -1.0**
TVSB Tavsanli 77.16 308 *e*P **P** **18 16 54.6 0.0**
ISR Istrita 77.17 314⇑ *i*P **P** **18 16 55.1 +0.6**
ISR Istrita 77.17 314⇑ *i*P **P** **18 16 55.1 +0.6**
ARMT Armutlu 77.20 309 *e*P **P** **18 16 54.2 -0.5**
CTKS Kestanelik-??a 77.22 309 *e*P **P** **18 16 54.4 -0.3**
MDNY Mudanya-Bursa 77.25 309 *e*P **P** **18 16 54.2 -0.7**
CTYL Yal??k??y-??at 77.28 310 *e*P **P** **18 16 54.2 -0.9**
ELBA Catalca 77.30 309 *i*P **P** **18 16 54.3 -0.9**
KORT Korkueli 77.36 305 *i*P **P** **18 16 55.0 -0.8**
SLVT Silivri 77.43 310 *e*P **P** **18 16 56.0 +0.1**
MLR Muntele Rosu 77.43 314⇑ *i*P **P** **18 16 55.8 -0.3**
KHAL Karahalli 77.52 306 *i*P **P** **18 16 56.0 -0.7**
SECR 77.52 314⇓ *i*P **P** **18 16 56.6 +0.2**
SULR 77.52 313⇑ *i*P **P** **18 16 56.7 +0.3**
DOPR Dopca 77.62 315⇓ *i*P **P** **18 16 57.3 +0.3**
KCTX Karacabey (Bur 77.67 309 *e*P **P** **18 16 57.1 -0.3**
PHSR Pinarhisar 77.76 310 *e*P **P** **18 16 57.7 -0.2**
ELL Elmali 77.78 305 *e*P **P** **18 16 57.9 -0.2**
DURS Dursunbey 77.82 308 *i*P **P** **18 16 57.1 -1.2**
DEMI Demirci 77.84 307 *i*P **P** **18 16 57.9 -0.6**
GOLH Golhisar 77.87 305 *i*P **P** **18 16 56.9 -1.8**
KWP Kalwaria Pacla 77.91 319⇑ P **P** **18 16 58.6 +0.1**
KWP Kalwaria Pacla 77.91 319 PFAKE 18 17 10.0 +12
KWP LR LR
comp=Z,29μm,19.0s
KWP Kalwaria Pacla 77.91 319⇑ *i*P **P** **18 16 58.6 +0.1**
KWP Kalwaria Pacla 77.91 319 *e*P **P** **18 16 58.4 -0.1**
KWP *e*PP **PP** **18 19 55.6 +1.5**
KWP *e*S **S** **18 26 49.8 -0.4**
KWP LMZ LR 18 51 56.0
VOIR 78.04 314⇓ P **P** **18 16 58.6 -0.8**
VOIR 78.04 314⇓ *i*P **P** **18 16 58.6 -0.8**
KULA Kula-Manisa 78.08 307 *e*P **P** **18 16 59.6 -0.2**
TBLU Trondheim 78.08 335⇑ *i*P **P** **18 16 56.2 -2.9**
TBLU AMB AMB 18 17 01.6
comp=Z,429nm,2.5s
TBLU AMS AMS 18 54 56.9
comp=Z,43μm,16.1s
DNZL Cakiroluk 78.09 306 *i*P **P** **18 16 57.8 -2.1**
JMB Yambol 78.11 311 P **P** **18 17 00.0 +0.3**
BEL Belsk 78.15 322 *e*P **P** **18 16 59.6 -0.2**
BEL *e*PP **PP** **18 19 55.9 -0.1**
BEL *e*S **S** **18 26 53.1 +0.4**
BEL *e*sS **sS** **18 27 05.5 -0.2**
BEL LMZ LR 18 54 57.8
AKAS Kas 78.19 304 *i*P P 18 16 57.2 -3.3
RAO Raoul Island 78.21 129 LR LR 18 46 33.0
comp=Z,5μm,19.2s,baz=209,slow=32
GONE Gonen-Balikesi 78.22 309 *e*P **P** **18 17 00.1 -0.3**
EDRB Edirne 78.23 311 *e*P **P** **18 17 00.3 -0.1**
BALB Balikesir 78.23 308 *e*P **P** **18 17 00.4 -0.1**
MFT Murefte 78.24 309 *e*P **P** **18 17 00.1 -0.5**
ARR Arges 78.33 314⇑ *i*P **P** **18 17 01.0 0.0**
SART Tekirdag 78.35 309 *i*P **P** **18 17 00.1 -1.1**
RKY Sarkoy-Tekirda 78.35 309 *e*P **P** **18 17 00.9 -0.3**
WRAK Wrangell Islan 78.35 33 *e*P **P** **18 17 00.6 -0.2**
comp=Z,337nm,1.6s
WRAK LR LR
comp=Z,7μm,19.0s
CRAG Craig 78.37 34 *e*P **P** **18 16 59.9 -1.0**
comp=Z,355nm,1.6s
KRBG Karabiga-Canak 78.37 309 *e*P **P** **18 17 00.9 -0.3**
HUMR Humele 78.42 314⇑ *i*P **P** **18 17 00.6 -0.8**
FETY Fethiye 78.44 305 *e*P **P** **18 17 00.8 -1.0**
KOLS Kolonicke sedl 78.44 318 *e*P **P** **18 17 00.8 -0.7**
KOLS pmax pmax
comp=Z,193nm,2.0s
KOLS Kolonicke sedl 78.44 318 *e*P **P** **18 17 00.8 -0.7**
KOLS *e*S **S** **18 26 53.1 -2.9**
KOLS *e*SS **SS** **18 31 58.7 +0.1**
CJR Cluj-Napoca 78.48 316⇑ *i*P **P** **18 17 02.2 +0.4**
UZH Uzhgorod 78.55 318 *e*P **P** **18 17 01.4 -0.6**
UZH *e* 18 17 14.8
UZH *e* 18 19 59.8
UZH *i*S **S** **18 26 54.0 -3.1**
UZH *e*PS **PnS** **18 27 48.0 +7.8**
UZH MLR MLR
comp=N,3μm,18.0s
UZH MLR MLR
comp=E,15μm,18.0s
UZH MLR MLR
comp=Z,1μm,18.0s
AKHS Akhisar 78.56 307 *i*P **P** **18 17 01.2 -1.1**
TRPA Tarpa 78.59 318⇑ *i*P **P** **18 17 02.0 -0.2**
TRPA Tarpa 78.59 318⇑ *e*P **P** **18 17 02.1 -0.2**
DALY Dalyan (Mu˘la 78.70 305 *e*P **P** **18 17 02.8 -0.3**
TURN Turunc 78.71 305 *i*P **P** **18 17 03.0 -0.2**
LPK Lapseki 78.76 309 *e*P **P** **18 17 03.4 +0.1**
NB2 NORSAR Subarra 78.79 332 P **P** **18 17 02.1 -1.1**
comp=Z,706nm,2.0s,baz=55,slow=5.6
NB2 NORSAR Subarra 78.79 332 P **P** **18 17 02.1 -1.1**
baz=55,slow=5.6
NOA NORSAR Array B 78.79 332 P **P** **18 17 01.6 -1.6**
NOA PP **PP** **18 20 01.7 +0.6**
NOA NORSAR Array B 78.79 332 P **P** **18 17 01.6 -1.6**
comp=Z,22nm,0.8s,baz=58,slow=5.7,SNR=74
NOA PP **PP** **18 20 01.7 +0.6**
comp=Z,3.2nm,0.9s,baz=67,slow=8.1,SNR=3.5
NOA LR LR 18 55 35.4
comp=Z,89μm,18.4s,baz=60,slow=39
NC602 NORSAR Array S 78.80 332⇑ *i*P **P** **18 17 01.4 -1.7**
NC602 *e*S **S** **18 26 55.8 -3.6**
YER Yerkesik 78.86 306 *e*P **P** **18 17 03.8 -0.2**
STHS Stebnicka Huta 78.87 319 *e*P **P** **18 17 02.4 -1.4**
STHS pmax pmax
comp=Z,65nm,1.3s
STHS Stebnicka Huta 78.87 319 *e*P **P** **18 17 02.4 -1.4**
AYDN Tasoluk 78.96 306 *i*P **P** **18 17 04.6 0.0**
DRGR 79.02 316⇑ P **P** **18 17 04.6 -0.1**
DRGR 79.02 316⇑ *i*P **P** **18 17 04.6 -0.1**
NAO01 NORSAR Array S 79.02 332 *e*P **P** **18 17 03.0 -1.4**
comp=Z,111nm,1.4s
ENEZ Enez 79.06 310 *e*P **P** **18 17 04.9 -0.1**
IZM Izmir 79.14 307 *e*P **P** **18 17 05.2 -0.3**
MLSB Milas 79.17 306 *e*P **P** **18 17 06.0 +0.3**
JMIC Jan Mayen 79.20 345 *e*P **P** **18 17 05.5 +0.3**
JMIC *e*S S **18 27 03.0 -0.3**
JMIC AMS AMS 18 55 58.2
comp=Z,32μm,18.2s
AYVA Ayvalik 79.21 308 *i*P **P** **18 17 04.9 -1.0**
DEV Deva 79.25 315⇓ *i*P **P** **18 17 06.2 +0.2**
DEV Deva 79.25 315⇓ *i*P **P** **18 17 06.2 +0.2**
EZN Ezine 79.28 309 *e*P **P** **18 17 06.1 -0.1**
ARG Arkhangelos 79.31 305 P **P** **18 17 05.9 -0.6**
RDO Rodhopi 79.33 310 P **P** **18 17 05.9 -0.6**
OJC Ojcow 79.39 320 *e*P **P** **18 17 06.3 -0.3**
OJC pmax pmax
comp=Z,327nm,1.3s
OJC Ojcow 79.39 320 *e*P **P** **18 17 06.3 -0.3**
comp=Z,327nm,1.3s
OJC Ojcow 79.39 320 *i*P **P** **18 17 06.4 -0.2**
OJC *e*pP **pP** **18 17 12.9 -1.6**
OJC *e*PP **PP** **18 20 08.7 +2.3**
OJC *e*S **S** **18 27 06.2 +0.2**
OJC L L 18 56 58.2
comp=Z,20μm,19.9s
NIE Niedzica 79.42 319⇑ *i*P **P** **18 17 08.6 +1.7**
NIE *e* 18 17 09.4
NIE *e*S **S** **18 27 08.2 +1.7**
NIE Niedzica 79.42 319 *i*P **P** **18 17 08.6 +1.7**
NIE *e*PP pP 18 17 09.4 -5.3
NIE *e*S **S** **18 27 08.2 +1.7**
BOZC Bozcaada 79.47 309 *i*P **P** **18 17 05.8 -1.4**
MOL Molde 79.49 335⇑ *i*P **P** **18 17 06.2 -0.7**
MOL AMB AMB 18 17 10.7
comp=Z,397nm,2.0s
MOL *e*PP **PP** **18 20 06.1 -0.8**
MOL *e*S **S** **18 27 06.5 -0.1**
MOL AMS AMS 18 56 02.8
comp=Z,47μm,17.1s
GKP Gorka Klasztor 79.52 324 *e*P **P** **18 17 06.5 -0.7**
GKP *e*PP **PP** **18 20 06.5 -0.8**
GKP *e*S **S** **18 27 07.0 -0.2**
GKP *e*sS **sS** **18 27 20.2 0.0**
GKP LMZ LR 18 56 32.5
DAT Datca 79.53 305 *e*P **P** **18 17 06.9 -0.9**
PRK Paraskevi 79.54 308 P **P** **18 17 07.1 -0.5**
SMTH Samothraki Isl 79.59 310 P **P** **18 17 06.5 -1.4**
BODT Bodrum 79.61 306 *e*P **P** **18 17 07.3 -0.8**
URLA Izmir 79.64 307 *i*P **P** **18 17 07.2 -1.0**
KECS Kecovo 79.71 319 *e*P **P** **18 17 08.2 -0.2**
KECS pmax pmax
comp=Z,90nm,1.8s
KECS Kecovo 79.71 319 *e*P **P** **18 17 08.2 -0.2**
SMG Samos 79.71 307 P **P** **18 17 08.0 -0.6**
BSD Bornholm Skovb 79.90 326⇑ *i*P **P** **18 17 08.2 -1.1**
BSD *i*S **S** **18 27 09.6 -1.6**
BSD pmax pmax
comp=Z,31nm,1.2s
BSD MLR MLR
comp=E,65μm,16.0s
BSD Bornholm Skovb 79.90 326⇑ *i*P **P** **18 17 08.2 -1.1**
comp=Z,31nm,1.1s
BSD Bornholm Skovb 79.90 326 *i*S **S** **18 27 09.6 -1.6**
BSD
comp=Z,65μm,16.0s

LIA	Limnos Island	80.06 309	P	P	18 17 09.5	-0.9
KAVA	Kavala	80.10 310	P	P	18 17 09.8	-0.9
BZS	Buzias	80.19 316	⇑P	P	18 17 10.2	-0.8
BZS	Buzias	80.19 316	⇑*i*P	P	18 17 10.2	-0.8
KONO	Kongsberg	80.19 332	⇑*i*P	P	18 17 09.0	-1.7
KONO			AMB	AMB	18 17 15.7	
	comp=Z,206nm,1.7s					
KONO			*e*S	S	18 27 12.9	-1.1
KONO			AMS	AMS	18 56 09.2	
	comp=Z,131µm,15.7s					
KONO	Kongsberg	80.19 332	*e*P	P	18 17 09.7	-1.0
KONO			pmax	pmax		
	comp=Z,352nm,1.9s					
KONO			MLR	MLR		
	comp=Z,111µm,22.0s					
KONO	Kongsberg	80.19 332	*e*P	P	18 17 09.7	-1.0
	comp=Z,352nm,1.9s					
KONO			LR	LR		
	comp=Z,111µm,22.0s					
KARP	Karpathos	80.29 305	P	P	18 17 11.0	-0.8
PSZ	Piszkesteto	80.30 318	⇑P	P	18 17 11.5	-0.2
PSZ	Piszkesteto	80.30 318	*e*P	P	18 17 11.5	-0.2
	comp=Z,456nm,1.7s					
PSZ			LR	LR		
	comp=Z,19µm,20.0s					
PSZ	Piszkesteto	80.30 318	⇑*i*P	P	18 17 11.5	-0.2
PSZ	Piszkesteto	80.30 318	⇑*e*P	P	18 17 11.7	0.0
XMAS	Kiritimati	80.33 92	*e*P	P	18 17 14.7	+2.4
	comp=Z,392nm,1.2s					
XMAS			LR	LR		
	comp=Z,7µm,19.0s					
VTS	Vitosha	80.36 312	P	P	18 17 12.1	-0.2
VTS	Vitosha	80.36 312	⇑P	P	18 17 12.3	0.0
VTS	Vitosha	80.36 312	⇑*i*P	P	18 17 12.3	0.0
RAC	Raciborz	80.38 321	*e*P	P	18 17 12.4	+0.4
RAC			*e*S	S	18 27 16.2	-0.2
RAC			MLR	MLR		
	comp=Z,18µm,22.4s					
RAC			MLR	MLR		
	comp=N,33µm,17.5s					
RAC			MLR	MLR		
	comp=E,36µm,16.8s					
NVR	Nevrokopi	80.42 311	P	P	18 17 11.4	-1.0
OKC	Ostrava-Krasne	80.52 320	*i* P	P	18 17 12.4	-0.3
OKC			*e*		18 17 25.0	
OKC			*e*		18 20 18.5	
OKC			*e*S	S	18 27 16.3	-1.6
OKC			MLR	MLR		
	comp=Z,19µm,16.0s					
OKC	Ostrava-Krasne	80.52 320	*i* P	P	18 17 12.4	-0.3
OKC			*ex*	x	18 17 25.0	
OKC			*e*PP	PP	18 20 18.5	+2.8
OKC			*e*S	S	18 27 16.3	-1.6
OKC			AMS	AMS	18 56 30.0	
	comp=Z,19µm,16.0s					
URZ	Urewera	80.55 139	*e*P	P	18 17 16.5	+3.6
	comp=Z,265nm,1.8s					
URZ	Urewera	80.55 139	P	P	18 17 13.0	+0.1
	comp=Z,14nm,0.8s,baz=331,slow=1.3,SNR=5.1					
URZ			LR	LR	18 48 15.4	
	comp=Z,7µm,20.3s,baz=313,slow=32					
SRS	Serrai	80.69 311	P	P	18 17 12.5	-1.4
VYHS	Vyhne	80.69 319	*e*P	P	18 17 13.7	0.0
VYHS			pmax	pmax		
	comp=Z,1µm,2.8s					
VYHS	Vyhne	80.69 319	*e*P	P	18 17 13.7	0.0
VYHS	Vyhne	80.69 319	*e*S	S	18 27 16.9	-3.0
VYHS			*e*SS	SS	18 32 23.3	-9.0
OUR	Ouranopolis	80.74 310	P	P	18 17 13.1	-1.0
PKSN	Nyarlorinc	80.75 317	⇓*e*P	P	18 17 14.6	+0.6
HYA	Hoyanger	80.80 334	*e*P	P	18 17 13.3	-0.7
HYA			AMB	AMB	18 17 17.2	
	comp=Z,267nm,1.1s					
HYA			*e*PP	PP	18 20 17.1	-0.6
HYA			*e*S	S	18 27 20.1	-0.3
HYA			AMS	AMS	18 56 38.2	
	comp=Z,49µm,16.1s					
COP	Copenhagen	80.87 327	⇑*i*P	P	18 17 13.8	-0.7
COP			*e*S	S	18 27 19.0	-2.3
COP			pmax	pmax		
	comp=Z,21nm,0.8s					
COP			MLR	MLR		
	comp=Z,28µm,17.0s					
COP	Copenhagen	80.87 327	⇑*i*P	P	18 17 13.8	-0.7
	comp=Z,21nm,0.8s					
COP	Copenhagen	80.87 327	*e*S	S	18 27 19.0	-2.3
COP						
	comp=Z,28µm,17.0s					
MORC	Moravsky Berou	80.89 321	*e*P	P	18 17 14.5	-0.3
MORC			pmax	pmax		
	comp=Z,221nm,1.5s					
MORC	Moravsky Berou	80.89 321	*e*P	P	18 17 14.5	-0.3
	comp=Z,221nm,1.5s					
APE	Apeiranthos	80.92 306	⇑P	P	18 17 14.6	-0.6
APE	Apeiranthos	80.92 306	⇑*i*P	P	18 17 14.6	-0.6
RPZ	Rata Peaks	80.95 146	*e*P	P	18 17 18.0	+3.1
	comp=Z,170nm,1.1s					
RPZ	Rata Peaks	80.95 146	P	P	18 17 15.7	+0.8
	comp=Z,99nm,0.9s,baz=130,slow=2.1,SNR=25					
RPZ			LR	LR	18 50 20.6	
	comp=Z,10µm,19.6s,baz=321,slow=34					
RGN	Rugen	80.98 326	*e*P	P	18 17 14.7	-0.4
	comp=Z,636nm,2.0s					
RGN			*e*SS	S	18 27 17.8	-4.7
RGN	Rugen	80.98 326	*e*P	P	18 17 13.8	-1.2
	comp=Z,744nm,2.0s					
BUD	Budapest	81.02 318	⇑*e*P	P	18 17 15.2	-0.2
PLG	Polygyros	81.10 310	P	P	18 17 15.0	-1.1
PKS7	Kunszentmiklos	81.12 318	⇑*e*P	P	18 17 17.1	+1.1
KSP	Ksiaz	81.13 322	⇑*e*P	P	18 17 15.7	-0.2
KSP			*e**PP	pP	18 17 29.3	+5.4
KSP			*e*		18 20 20.0	
KSP			*e*S	S	18 27 22.7	-1.6
KSP			MLR	MLR		
	comp=Z,103µm,19.8s					
KSP	Ksiaz	81.13 322	*e*P	P	18 17 15.8	-0.2
KSP			*e*PP	PP	18 20 21.6	+0.8
KSP			*e*S	S	18 27 24.7	+0.4
KSP			*es*	SKKSac	18 27 39.2	+3.1
KSP			LMZ	LR	18 56 50.0	
LLD	Lille Linde	81.15 327	*i* P	P	18 17 16.8	+0.8
LLD			*i*		18 17 31.0	
LLD	Lille Linde	81.15 327	*i* P	P	18 17 16.8	+0.8
LLD			*i*		18 17 31.0	
KNT	Kendrikon	81.16 311	P	P	18 17 15.3	-1.0
SNZO	South Karori	81.20 143	PFAKE		18 17 30.0	+14
SNZO			LR	LR		
	comp=Z,9µm,19.0s					
KRLC	Kraliky	81.20 321	*i* P	P	18 17 16.1	-0.3
KRLC			*e*		18 17 30.3	
KRLC			*e*S	S	18 27 24.7	-0.4
KRLC	Kraliky	81.20 321	*i* P	P	18 17 16.1	-0.3
KRLC			*ex*	x	18 17 30.3	
KRLC			*e*S	S	18 27 24.7	-0.4
SANT	Santorini	81.24 306	P	P	18 17 14.4	-2.5
SANT	Santorini	81.24 306	*e*P	P	18 17 15.3	-1.6
	comp=Z,676nm,1.3s					
SANT			LR	LR		
	comp=Z,11µm,19.0s					
THR1	Thera Island	81.24 306	P	P	18 17 17.6	+0.7
HORT	Hortiatis	81.25 310	P	P	18 17 15.5	-1.4
AOS	Alonnisos	81.28 309	P	P	18 17 15.7	-1.3
ODD1	Odda	81.31 333	*e*P	P	18 17 16.4	-0.5
ODD1			AMS	AMS	18 56 49.9	
	comp=Z,90µm,15.9s					
VAY	Valandovo	81.32 311	P	P	18 17 15.4	-1.7
VAY	Valandovo	81.32 311	*e*P	P	18 17 15.9	-1.2
WNDE	Wendo Genet	81.32 274	*e*P	P	18 17 18.6	+0.6
KHZ	Kahutara	81.32 144	*e*P	P	18 17 19.6	+2.7
	comp=Z,109nm,1.0s					
PKS2	Kecel	81.33 317	*e*P	P	18 17 18.1	+1.0
DPC	Dobruska-Polom	81.34 321	*i* P	P	18 17 17.1	-0.1
DPC			*e*		18 17 30.2	
DPC			*e*		18 20 23.6	
DPC			*e*S	S	18 27 24.0	-2.6
DPC	Dobruska-Polom	81.34 321	*i* P	P	18 17 17.1	-0.1
DPC			*ex*	x	18 17 30.2	
DPC			*e*PP	PP	18 20 23.6	+1.0
DPC			*e*S	S	18 27 24.0	-2.6
DPC			AMS	AMS	18 56 50.0	
HOMB	Homborsund	81.39 331	⇑*i*P	P	18 17 15.6	-1.6
HOMB			AMS	AMS	18 57 00.5	
	comp=Z,87µm,17.0s					
SUE	Sulen	81.43 334	*e*P	P	18 17 15.6	-1.7
SUE			AMB	AMB	18 17 21.3	
	comp=Z,319nm,1.8s					
UPC	Upice	81.44 322	*i* P	P	18 17 17.3	-0.4
UPC			*e*		18 17 29.5	
UPC			*e*		18 20 24.0	
UPC			*e*S	S	18 27 26.0	-1.5
UPC	Upice	81.44 322	*i* P	P	18 17 17.3	-0.4
UPC			*ex*	x	18 17 29.5	
UPC			*e*PP	PP	18 20 24.0	+0.6
UPC			*e*S	S	18 27 26.0	-1.5
PKGG		81.45 318	⇑*e*P	P	18 17 17.4	-0.3
SMOL	Smolenice	81.53 319	*e*P	P	18 17 19.2	+1.1
SMOL	Smolenice	81.53 319	*e*P	P	18 17 19.2	+1.1
CSKK	Cs^tkako	81.54 318	⇑*e*P	P	18 17 17.8	-0.4
NPS	Neapolis	81.57 305	P	P	18 17 19.8	+1.2
GRG	Griva	81.58 311	P	P	18 17 17.2	-1.4
BER	Bergen	81.59 333	⇑*i*P	P	18 17 15.2	-2.9
BER			*e*S	S	18 27 29.7	+1.1
BER			AMS	AMS	18 57 16.5	
	comp=Z,92µm,17.9s					
BLS5	Blasjo	81.66 332	*e*P	P	18 17 18.7	0.0
BLS5			AMB	AMB	18 17 24.4	
	comp=Z,261nm,1.8s					
MRKA	Markates	81.67 309	P	P	18 17 17.4	-1.7
XOR	Xorichti	81.68 309	P	P	18 17 17.5	-1.7
LAST	Lasithi	81.71 305	P	P	18 17 19.1	-0.4
PKST	T^s	81.72 318	⇓*e*P	P	18 17 18.6	-0.6
RUE	Ruedersdorf	81.74 324	*e*P	P	18 17 18.9	-0.2
	comp=Z,343nm,1.3s					
RUE			*e*SS	S	18 27 24.2	-6.3
PKSM	Moragy	81.81 317	⇑P	P	18 17 19.3	-0.4
PKSM	Moragy	81.81 317	⇑*i*P	P	18 17 19.3	-0.4
PKSM	Moragy	81.81 317	⇑*e*P	P	18 17 19.1	-0.6
SKO	Skopje	81.82 312	P	P	18 17 20.1	+0.3
SKO	Skopje	81.82 312	*e*P	P	18 17 20.4	+0.6
ZST	Bratislava	81.86 319	*e*P	P	18 17 19.2	-0.7
ZST			*e*S	S	18 27 29.7	-2.3
ZST	Bratislava	81.86 319	*e*P	P	18 17 19.2	-0.7
PKS9	Tamasi	81.87 317	⇓*e*P	P	18 17 19.9	-0.1
DIVS	Divibare	81.87 315	P	P	18 17 19.5	-0.7
LIT	Litokhoron	81.88 310	P	P	18 17 18.8	-1.4
SNART	Snartemo	81.93 331	*e*P	P	18 17 20.7	+0.7
MUD	Monsted U'grnd	82.05 329	⇑*i*P	P	18 17 20.2	-0.5
MUD			*i* S	S	18 27 32.3	-1.2
MUD			pmax	pmax		
	comp=Z,29nm,1.1s					
MUD			MLR	MLR		
	comp=Z,88µm,18.0s					
MUD	Monsted U'grnd	82.05 329	⇑*i*P	P	18 17 20.2	-0.5
	comp=Z,29nm,1.1s					
MUD	Monsted U'grnd	82.05 329	*i* S	S	18 27 32.3	-1.2
MUD						
	comp=Z,88µm,17.0s					
IDI	Anoyia	82.10 305	P	P	18 17 21.9	+0.4
IDI	Anoyia	82.10 305	*e*P	P	18 17 20.5	-1.0
	comp=Z,311nm,1.5s					
PVCC	Panska Ves	82.25 322	*i* P	P	18 17 21.6	-0.3
PVCC			*e*		18 17 36.0	
PVCC			*e*S	S	18 27 35.2	-0.6
PVCC			MLR	MLR		
	comp=Z,64µm,17.3s					
PVCC	Panska Ves	82.25 322	*i* P	P	18 17 21.6	-0.3
PVCC			*ex*	x	18 17 36.0	
PVCC			*e*S	S	18 27 35.2	-0.6
PVCC			AMS	AMS	18 58 30.0	
	comp=Z,64µm,17.3s					
SIVA	Sivas	82.27 305	P	P	18 17 21.6	-0.7
KZN	Kozani	82.29 311	P	P	18 17 21.0	-1.4
TREC	Trest	82.31 321	*i* P	P	18 17 22.0	-0.3
TREC			*e*		18 17 34.7	
TREC			*e*		18 20 30.1	
TREC			*e*S	S	18 27 35.8	-0.7
TREC			MLR	MLR		
	comp=Z,34µm,18.3s					
TREC	Trest	82.31 321	*i* P	P	18 17 22.0	-0.3
TREC			*ex*	x	18 17 34.7	
TREC			*e*PP	PP	18 20 30.1	-0.4
TREC			*e*S	S	18 27 35.8	-0.7
TREC			AMS	AMS	18 56 50.0	
	comp=Z,34µm,18.3s					
AXAR	Agios Charalam	82.31 309	P	P	18 17 20.6	-1.9
FNA	Florina	82.36 311	P	P	18 17 21.1	-1.7
SCO	Scoresbysund	82.38 349	⇑*i*P	P	18 17 21.6	-0.6
SCO			pmax	pmax		
	comp=Z,25nm,0.9s					
SCO			MLR	MLR		
	comp=Z,19µm,22.0s					
SCO	Scoresbysund	82.38 349	⇑*i*P	P	18 17 21.6	-0.6
	comp=Z,25nm,0.9s					
SCO						
	comp=Z,19µm,21.0s					
DID	Didima	82.41 308	P	P	18 17 19.8	-3.3
BRG	Berggiesshubel	82.43 323	*i* P	P	18 17 22.4	-0.4
	comp=Z,674nm,2.3s					
BRG			PP	PP	18 20 27.0	-4.5
BRG			SKS	S	18 27 36.0	-1.7
BRG			S	S	18 27 39.0	+1.3
BRG			SS	SS	18 33 04.0	+6.1
BRG			*e*PKPPKP	PKKPbc	18 35 52.7	+2.9
	comp=Z,6.5nm,1.3s					
BRG						
	comp=N,30µm,17.9s					
BRG						
	comp=E,27µm,17.7s					
BRG						
	comp=Z,66µm,15.5s					
BRG	Berggiesshubel	82.43 323	*i* P	P	18 17 22.4	-0.4
BRG					18 20 27.0	
BRG					18 27 36.0	
BRG			S	S	18 27 39.0	+1.3
BRG			SS	SS	18 33 04.0	+6.1
BRG			MLR	MLR		
	comp=N,6µm,17.9s					
BRG			MLR	MLR		
	comp=E,30µm,17.7s					
BRG			MLR	MLR		
	comp=Z,27µm,15.5s					
THL	Klokotos Trika	82.43 310	P	P	18 17 20.7	-2.3
AGG	Agios Georgios	82.44 309	P	P	18 17 21.0	-2.1
DIDY	Didyma	82.44 308	P	P	18 17 19.8	-3.5
IVA	Berane	82.47 314	⇑*i*P	P	18 17 23.2	-0.1
PRU	Pruhonice	82.52 322	*i* P	P	18 17 23.0	-0.3
PRU			*e*		18 17 37.1	
PRU			*e*		18 20 33.0	
PRU			*e*S	S	18 27 37.6	-1.0
PRU			MLR	MLR		
	comp=Z,38µm,20.3s					
PRU	Pruhonice	82.52 322	*i* P	P	18 17 23.0	-0.3
PRU			*ex*	x	18 17 37.1	
PRU			*e*PP	PP	18 20 33.0	+0.8
PRU			*e*S	S	18 27 37.6	-1.0
PRU			AMS	AMS	18 57 30.0	
	comp=Z,38µm,20.3s					
PRA	Prague	82.54 322	P	P	18 17 23.0	-0.4
PRA			PP	PP	18 20 34.0	+1.6
PRA			AMS	AMS	18 58 00.0	
PVY	Plav	82.54 313	⇑*i*P	P	18 17 23.3	-0.5
DSF	Desfina	82.55 309	P	P	18 17 21.0	-2.8
VAM	Vamos	82.57 305	P	P	18 17 22.8	-1.1
MAKR	Makrakomi, Fth	82.58 309	P	P	18 17 21.9	-2.0
PLE	Pljevlja	82.60 314	⇑*i*P	P	18 17 27.5	+3.5
PHP	Peshkopia	82.61 312	P	P	18 17 23.1	-1.0
YKW3	Yellowknife Ar	82.67 23	*e*P	P	18 17 22.7	-1.1
	comp=Z,10nm,1.6s					
YKA	Yellowknife Ar	82.72 23	P	P	18 17 23.1	-0.9
YKA	Yellowknife Ar	82.72 23	P	P	18 17 23.1	-0.9
	comp=Z,59nm,1.0s,baz=314,slow=4.9,SNR=78					
YKA			LR	LR	19 02 06.9	
	comp=Z,1µm,18.2s,baz=130,slow=42					
CONA	Conrad Observa	82.73 319	*i* P	P	18 17 24.5	-0.1
	comp=Z,2µm,2.6s,SNR=40					
FBE	Freiberg	82.73 323	*e*P	P	18 17 24.2	-0.2
	comp=Z,761nm,2.0s					
FBE			*e*PP	PP	18 20 33.3	-0.6
SUMG	Summit	82.73 354	⇑*i*P	P	18 17 23.8	-0.7
SUMG			*i* S	S	18 27 41.2	+0.3
SUMG			pmax	pmax		
	comp=Z,62nm,0.9s					
SUMG			MLR	MLR		
	comp=Z,13µm,18.0s					
SUMG	Summit	82.73 354	*e*P	P	18 17 23.7	-0.8
	comp=Z,373nm,1.6s					
SUMG	Summit	82.73 354	⇑*i*P	P	18 17 23.8	-0.7
	comp=Z,62nm,0.9s					
SUMG	Summit	82.73 354	*i* S	S	18 27 41.2	+0.3
SUMG						
	comp=Z,13µm,17.0s					
CLL	Collm	82.73 323	*e*P	P	18 17 23.6	-0.9
	comp=Z,454nm,2.1s					
CLL			*e*PP	PP	18 20 32.8	-1.1
CLL			*e*SS	S	18 27 35.2	-5.6
CLL	Collm	82.73 323	⇑*i*P	P	18 17 23.5	-0.9
CLL			*e*S	S	18 27 39.0	-1.8
CLL			MLR	MLR		
	comp=Z,59µm,19.1s					
CLL	Collm	82.73 323	⇑*i*P	P	18 17 23.5	-0.9
	comp=Z,454nm,2.1s					
CLL			*e*Plp		18 17 24.0	
	comp=Z,4µm,12.6s					
CLL			*e*Pmax		18 17 25.0	
CLL			*i* sP	sP	18 17 31.3	-3.9
CLL			*i* PP	PP	18 20 32.8	-1.1
	comp=Z,66nm,1.5s					
CLL			*e*PPlp		18 20 36.0	
	comp=Z,2µm,19.1s					
CLL			*i* sPP		18 20 45.4	
CLL			*e*PPP	PPP	18 22 28.0	
CLL			*e*S	S	18 27 39.0	-1.8
	comp=N,4µm,20.8s					
CLL			*e*S	S	18 27 39.0	-1.8
	comp=E,3µm,32.8s					
CLL			*e*S	S	18 27 39.0	-1.8
	comp=Z,2µm,21.4s					
CLL			*e*SKSac	SKSac	18 27 44.0	-0.3
CLL			*e*PS	PnS	18 28 32.0	-0.3
CLL			*e*SS	SS	18 32 57.0	-5.4
CLL			*i* PKKPdf	PKKPbc	18 35 52.4	+3.3
CLL			*i* PKKPbc	PKKPdf	18 36 03.0	+24
CLL			*e*SSS	SSS	18 36 54.0	
CLL			*e*SKPPKPbc		18 47 17.0	
CLL			Lmax		18 58 00.0	
CLL			LmH		18 58 00.0	
	comp=N,41µm,18.1s					
CLL			LmH		18 58 00.0	
	comp=E,26µm,18.3s					
CLL			LmV		18 59 00.0	
	comp=Z,59µm,19.1s					
NEST	Nestorio	82.74 311	P	P	18 17 23.3	-1.5
BSEG	Bad Segeberg	82.81 326	*e*P	P	18 17 24.6	-0.1
	comp=Z,371nm,2.0s					
BSEG			*e*PP	PP	18 20 34.9	+0.4
BSEG			*e*SS	S	18 27 37.4	-4.0
BSEG	Bad Segeberg	82.81 326	*e*P	P	18 17 24.6	-0.1
BSEG			*e*		18 20 34.9	
BSEG			*e*SS	S	18 27 37.4	-4.0
KBN	Korca	82.83 311	P	P	18 17 23.8	-1.4
KALE	Kalithea	82.83 309	P	P	18 17 22.9	-2.4
EVR	Evrytania	82.85 309	P	P	18 17 23.5	-1.9
BEHE	Becsehely	82.85 318	⇓*e*P	P	18 17 25.1	0.0
GUR	Goura	82.88 308	P	P	18 17 23.2	-2.4
GVD	Gavdhos	82.88 305	P	P	18 17 24.4	-1.1
GVD	Gavdhos	82.88 305	*e*P	P	18 17 23.7	-1.8
	comp=Z,430nm,0.9s					
VLI	Veliai	82.96 307	P	P	18 17 23.2	-2.7
KLV	Kalavryta, Ach	82.97 308	P	P	18 17 23.6	-2.4
UPM	Unac-Piva	82.97 314	⇑*i*P	P	18 17 25.2	-0.9
LAKA	Lakka	83.01 309	P	P	18 17 24.5	-1.7
ANKY	Antikythira Is	83.04 306	P	P	18 17 24.8	-1.5
TTG	Podgorica	83.08 313	⇑*i*P	P	18 17 25.6	-0.8
NKY	Niksic	83.09 314	⇑*i*P	P	18 17 26.0	-0.6
VLX	Vlachokerasia	83.09 308	P	P	18 17 24.4	-2.3
TIR	Tirane	83.15 312	*e*P	P	18 17 26.7	-0.1
TIR			pmax	pmax		
	comp=Z,1µm,2.0s					
TIR			MLR	MLR		
	comp=Z,21µm,21.0s					
TIR	Tirane	83.15 312	*e*P	P	18 17 26.7	-0.1
	comp=Z,1µm,2.0s					
TIR			LR	LR		
	comp=Z,21µm,21.0s					
KOGS	Kog	83.18 318	*i* P	P	18 17 26.1	-0.7
KOGS			*e*PP	PP	18 20 39.5	+1.7
KOGS			*e*SKSac	S	18 27 45.3	-0.2
ARSA	Arzberg	83.25 319	*i* P	P	18 17 26.7	-0.5
	comp=Z,1µm,2.6s,SNR=62					
ULC	Ulcinj	83.30 313	⇑*i*P	P	18 17 26.2	-1.4
BRY	Bratogost	83.35 314	⇑*i*P	P	18 17 27.0	-0.9
DYR	Agios Nikonas	83.38 307	P	P	18 17 26.6	-1.5
BUM	Brajici-Budva	83.38 313	⇑*i*P	P	18 17 27.2	-0.8
NEUB	Neuenburg	83.45 324	*e*P	P	18 17 27.6	-0.5
	comp=Z,418nm,1.7s					
NEUB			*e*pP	pP	18 17 42.1	+6.1
NEUB			*e*SS	S	18 27 44.2	-3.8
RLS	Riolos of Patr	83.46 309	P	P	18 17 27.2	-1.2
AXS	Araxos	83.46 309	P	P	18 17 27.0	-1.4
TANN	Tannenbergstha	83.48 323	*e*P	P	18 17 27.8	-0.5
TANN			*e*SS	S	18 27 45.1	-3.4
KHC	Kasperske Hory	83.48 321	*i* P	P	18 17 27.9	-0.5
KHC			*e*		18 17 39.8	
KHC			*e*S	S	18 27 47.3	-1.3
KHC			MLR	MLR		
	comp=Z,37µm,17.1s					
KHC	Kasperske Hory	83.48 321	*i* P	P	18 17 27.9	-0.5
KHC			*ex*	x	18 17 39.8	
KHC			*ex*	x	18 20 23.0	
KHC			*e*S	S	18 27 47.3	-1.3
KHC			AMS	AMS	18 59 20.0	
	comp=Z,37µm,17.1s					
KHC	Kasperske Hory	83.48 321	*e*P	P	18 17 27.3	-1.1
	comp=Z,255nm,1.6s					
ITM	Ithomi	83.50 308	P	P	18 17 27.1	-1.6
WERD	Werda	83.55 323	*e*P	P	18 17 28.1	-0.6
	comp=Z,422nm,2.0s					
WERD			*e*pP	pP	18 17 42.6	+6.0
GEC2	GERESS Array S	83.55 321	*e*P	P	18 17 28.3	-0.5
	comp=Z,265nm,1.5s					
GEC2			*e*PP	PP	18 20 40.7	-0.2
GEC2			*e*SS	S	18 27 46.2	-3.2
GEC2	GERESS Array S	83.55 321	*e*P	P	18 17 28.3	-0.5
GEC2			*e*		18 20 40.7	
GEC2			*e*SS	S	18 27 46.2	-3.2
GERES	GERESS Array B	83.55 321	P	P	18 17 28.3	-0.5
GERES			PKKPbc	PKKPbc	18 35 48.5	+1.1
GERES			P'P'		18 43 54.9	
GERES	GERESS Array B	83.55 321	P	P	18 17 28.3	-0.5
	comp=Z,42nm,0.9s,baz=58,slow=5.0,SNR=108					
GERES			PKKPbc	PKKPbc	18 35 48.5	+1.1
	comp=Z,1.7nm,0.9s,baz=209,slow=1.8,SNR=8.8					
GERES			PKPPKP	P'P'df	18 43 54.9	-1.6
	comp=Z,0.5nm,0.8s,baz=116,slow=3.1,SNR=4.7					
GERES			LR	LR	18 58 12.0	
	comp=Z,32µm,19.8s,baz=63,slow=38					
SISC	Sisak	83.56 317	P	P	18 17 29.1	+0.3
GUNZ	Gunzen	83.57 323	*e*P	P	18 17 28.3	-0.5
	comp=Z,393nm,1.9s					
GUNZ			*e*pP	pP	18 17 42.7	+6.0
HCY	Herceg Novi	83.58 314	⇑*i*P	P	18 17 27.7	-1.3
WERN	Wernitzgruen	83.59 323	*e*P	P	18 17 28.5	-0.4
	comp=Z,244nm,1.6s					
WERN			*e*pP	pP	18 17 42.7	+5.9
PLN	Plauen	83.61 323	*e*P	P	18 17 28.7	-0.3
	comp=Z,2µm,2.0s					
PLN			*e*PP	PP	18 20 42.0	+0.9
IGT	Igoumenitsa	83.62 310	P	P	18 17 27.6	-1.6
NRDL	Niedersach Rie	83.67 325	*e*P	P	18 17 29.2	+0.1
	comp=Z,942nm,2.3s					
NRDL			*e*PP	PP	18 20 43.2	+1.7
SRN	Sarande	83.70 311	P	P	18 17 28.0	-1.6
MOA	Molln	83.71 320	*i* P	P	18 17 29.5	-0.1
	comp=Z,2µm,3.0s,SNR=82					
LKD2	Lefkada island	83.72 310	P	P	18 17 28.4	-1.4
PERS	Pernice	83.78 319	*i* P	P	18 17 29.4	-0.6
PERS			*e*PP	PP	18 20 45.2	+2.4
PERS			*e*SKSac	SKSac	18 27 46.5	-5.1
SOKA	Soboth	83.81 319	⇑*i*P	P	18 17 29.7	-0.5
	comp=Z,1µm,2.5s					
MOX	Moxa	83.83 323	*e*P	P	18 17 29.6	-0.5
	comp=Z,468nm,2.3s					
MOX			*e*pP	pP	18 17 43.8	+5.8
MOX			*e*SS	S	18 27 47.8

WET **Wettzell** 83.88 321 *e*P **P** 18 17 30.2 -0.2
comp=Z,460nm,1.9s
WET *e*SS **S** 18 27 49.3 -3.2
WET Wettzell 83.88 321 *e*P **P** 18 17 30.2 -0.2
WET *e*SS **S** 18 27 49.3 -3.2
CLZ Clausthal 83.88 325 *e*P **P** 18 17 30.2 -0.2
comp=Z,581nm,1.8s
CLZ *e*SS **S** 18 27 48.9 -3.5
CLZ Clausthal 83.88 325 *e*P **P** 18 17 30.2 -0.2
CLZ *e*SS **S** 18 27 48.9 -3.5
MANZ Manzenberg 83.89 322 *e*P **P** 18 17 30.1 -0.3
comp=Z,325nm,1.8s
MANZ *e*SS **S** 18 27 49.3 -3.3
STON Ston 83.91 314 P **P** 18 17 28.8 -1.8
KEK Kerkira 83.91 311 P **P** 18 17 29.4 -1.3
ROTZ Rotzenmuhle 83.94 322 *e*P **P** 18 17 30.6 -0.1
comp=Z,436nm,1.8s
ROTZ *e*pP pP 18 17 44.9 +6.3
ROTZ *e*PP **PP** 18 20 44.2 +0.3
ROTZ *e*SS **S** 18 27 50.2 -2.9
VLS Valsamata 84.03 309 P **P** 18 17 29.9 -1.5
OBKA Obir 84.19 319 *i* P **P** 18 17 31.4 -0.7
SNR=44
BOJS Bojanci 84.24 317 *i* P **P** 18 17 32.0 -0.3
BOJS *e*PP **PP** 18 20 49.3 +2.8
LRW Lerwick 84.32 335 *e*P **P** 18 17 31.0 -1.4
UDBI Udbina 84.39 316 P **P** 18 17 31.9 -1.2
LJU Ljubljana 84.43 318 *i* P **P** 18 17 32.8 -0.4
LJU *e*PP **PP** 18 20 50.5 +2.6
LJU *e* 18 22 48.0
LJU *e*SKSac **SKSac** 18 27 51.4 -4.2
LJU *e* 18 28 58.3
GRF Grafenberg Arr 84.53 322 *e*P **P** 18 17 33.5 -0.2
comp=Z,617nm,1.7s
GRF *e*pP pP 18 17 47.8 +6.2
GRF *e*SS **S** 18 27 54.7 -4.3
GRF *e*L L 18 59 38.4
comp=Z,47µm,19.6s
GRF Grafenberg Arr 84.53 322 *e*P **P** 18 17 33.5 -0.2
GRF *e**PP pP 18 17 47.8 +6.2
GRF *e*SS **S** 18 27 54.7 -4.3
GRF pmax pmax
comp=Z,19nm,1.7s
GRFO Grafenberg 84.53 322 *e*P **P** 18 17 33.9 +0.2
GRFO pmax pmax
comp=Z,294nm,1.4s
GRFO Grafenberg 84.53 322 *e*P **P** 18 17 33.9 +0.2
comp=Z,294nm,1.4s
UBBA Unterbreizbach 84.61 324 *e*P **P** 18 17 33.4 -0.5
comp=Z,564nm,2.0s
UBBA *e*PP **PP** 18 20 51.1 +1.9
UBBA *e*SS **S** 18 27 54.3 -5.2
RJOB Jochberg 84.63 320 *e*P **P** 18 17 33.9 -0.4
comp=Z,160nm,1.2s
RJOB *e*SS **S** 18 27 54.2 -5.9
KBA Koelnbreinsper 84.63 319 *i* P **P** 18 17 33.5 -1.0
comp=Z,1µm,3.2s,SNR=56
MYKA Terra Mystica 84.67 319⇑ *i*P **P** 18 17 33.5 -1.0
comp=Z,1µm,3.5s
ABPO Ambohimpanom 84.69 247 *e*P **P** 18 17 33.5 -1.6
ABPO pmax pmax
comp=Z,98nm,1.1s
ABPO MLR MLR
comp=Z,7µm,20.0s
ABPO Ambohimpanom 84.69 247 *e*P **P** 18 17 33.5 -1.6
comp=Z,98nm,1.1s
ABPO LR LR
comp=Z,7µm,20.0s
CADS Cadrg 84.82 319 *i* P **P** 18 17 33.8 -1.4
VOY Vojsko 84.82 318 *e*P **P** 18 17 34.2 -1.1
VOY *e* 18 18 08.9
NVLJ Novalja 84.93 317 P **P** 18 17 34.4 -1.3
IBBN Ibbenburen 84.99 326 *e*P **P** 18 17 35.5 -0.4
comp=Z,712nm,1.8s
IBBN *e*SS **S** 18 27 57.5 -5.9
TRI Trieste 85.06 318 *e*P **P** 18 17 35.1 -1.3
TRI pmax pmax
comp=Z,459nm,2.1s
TRI Trieste 85.06 318 *e*P **P** 18 17 35.0 -1.3
comp=Z,459nm,2.1s
FUR Furstenfeldbru 85.29 321 *e*P **P** 18 17 37.4 -0.1
comp=Z,986nm,1.6s
FUR *e*SS S 18 28 00.1 -6.5
FUR Furstenfeldbru 85.29 321 *e*P **P** 18 17 37.4 -0.1
FUR *e*SS S 18 28 00.1 -6.5
FUR pmax pmax
comp=Z,27nm,1.6s
ABTA Abfaltersbach 85.29 319⇑ *i*P **P** 18 17 36.0 -1.7
comp=Z,524nm,2.1s,SNR=32
WATA Walderalm 85.54 320⇓ *i*P **P** 18 17 37.8 -1.2
comp=Z,202nm,1.7s,SNR=15
WTTA Wattenberg 85.54 320 *i* P **P** 18 17 38.1 -0.9
comp=Z,1µm,2.4s,SNR=28
WTSB Winterswijk 85.67 326 *e*P **P** 18 17 38.1 -1.2
comp=Z,1µm,2.4s
BUG Bochum--Univer 85.72 325 *e*P **P** 18 17 39.0 -0.6
comp=Z,680nm,1.9s
BUG *e*SS S 18 28 04.6 -6.0
TNS Taunus Mts 85.77 324 *e*P **P** 18 17 39.6 -0.3
comp=Z,536nm,2.1s
TNS *e*SS **S** 18 28 05.7 -5.6
TNS Taunus Mts 85.77 324 *e*P **P** 18 17 39.6 -0.3
TNS *e*SS **S** 18 28 05.7 -5.6
KMBO Kilima Mbogo 85.87 267 P **P** 18 17 42.7 +1.4
SNR=44
KMBO Kilima Mbogo 85.87 267 *e*P **P** 18 17 41.6 +0.4
comp=Z,161nm,1.1s
KMBO Kilima Mbogo 85.87 267 P **P** 18 17 42.4 +1.1
comp=Z,85nm,1.0s,baz=44,slow=7.4,SNR=46
KMBO LR LR 18 58 08.6
comp=Z,6µm,18.7s,baz=200,slow=37
RETA Reutte 85.94 321 *i* P **P** 18 17 40.0 -0.8
comp=Z,2µm,3.6s,SNR=27
STU Stuttgart 86.15 322 *e*P **P** 18 17 41.1 -0.7
comp=Z,586nm,2.2s
STU *e*PP **PP** 18 21 03.5 +1.7
STU *e*SS S 18 28 07.7 -7.3
STU Stuttgart 86.15 322 *e*P **P** 18 17 41.7 -0.1
STU pmax pmax
comp=Z,287nm,1.7s
STU Stuttgart 86.15 322 *e*P **P** 18 17 41.7 -0.1
comp=Z,287nm,1.7s
FETA Feichten 86.20 320 *i* P **P** 18 17 41.5 -0.8
comp=Z,1µm,3.5s,SNR=29
TIP Timpagrande 86.25 311 *e*P **P** 18 17 42.1 -0.5
comp=Z,552nm,1.6s
TIP LR LR
comp=Z,19µm,21.0s
PAF Port-aux-Franc 86.49 211 PFAKE 18 17 50.0 +6.9
PAF LR LR
comp=Z,4µm,20.0s
CUC Castrocucco 86.51 312 *e*P **P** 18 17 42.1 -1.7
comp=Z,200nm,1.7s
CUC LR LR
comp=Z,14µm,20.0s
DAVA Damuels 86.55 321⇑ *i*P **P** 18 17 43.3 -0.7
comp=Z,2µm,3.7s,SNR=24
HGN Heimansgroeve 86.80 325 *e*P P 18 17 38.7 -6.2
comp=Z,1µm,2.6s
HGN *e*PP PP 18 20 45.5 -22
HGN *e*S **S** 18 28 16.7 -4.5
HGN *e*SS **SS** 18 34 07.3 +5.1
LANF Langenberg 86.80 323⇑ *e*P **P** 18 17 44.7 -0.3
MCD Coleburn Disti 86.81 334 *e*P **P** 18 17 42.4 -2.5
MEM Membach 86.85 325 P **P** 18 17 44.3 -0.8
comp=Z,392nm,2.4s
MEM Membach 86.85 325 XP sP 18 17 58.6 +2.6
MEM Membach 86.85 325 PP PP 18 21 07.7 +0.3
BFO Black Forest 86.87 322 P **P** 18 17 44.4 -0.9
comp=Z,279nm,1.7s,SNR=13
BFO Black Forest 86.87 322 *e*P **P** 18 17 44.4 -0.9
comp=Z,548nm,2.1s
BFO *e*pP pP 18 17 59.3 +6.0
BFO *e*PP **PP** 18 21 09.8 +2.1
BFO *e*SS S 18 28 14.0 -8.1
BFO Black Forest 86.87 322 *e*P **P** 18 17 44.4 -0.9
BFO *e**PP pP 18 17 59.3 +6.0
BFO *e* 18 21 09.8
BFO *e*SS S 18 28 14.0 -8.1
BFO Black Forest 86.87 322 *e*P **P** 18 17 44.0 -1.3
comp=Z,431nm,2.0s
BFO LR LR
comp=Z,38µm,20.0s
BEBN Eben Emael 86.92 325 P **P** 18 17 44.9 -0.5
comp=Z,90nm,2.8s
BEBN XP **sP** 18 17 59.7 +3.5
BEBN PP **PP** 18 21 08.4 +0.5
PGC Sidney 86.92 37 *e*P **P** 18 17 45.7 +0.2
comp=Z,27nm,1.7s
AQU L'Aquila 86.94 315 *e*P **P** 18 17 45.9 0.0
comp=Z,739nm,1.4s
AQU LR LR
comp=Z,18µm,21.0s
BORG Borgarnes 87.10 345 PFAKE 18 18 00.0 +14
BORG LR LR
comp=Z,30µm,19.0s
CEL Celeste 87.28 311 *e*P **P** 18 17 47.1 -0.4
comp=Z,1µm,1.5s
CEL LR LR
comp=Z,12µm,19.0s
TUE Stuetta 87.30 320 *e*P **P** 18 17 46.9 -0.8
comp=Z,677nm,2.1s
TUE LR LR
comp=Z,34µm,20.0s
WLF Walferdange 87.31 324 P **P** 18 17 47.4 0.0
comp=Z,198nm,2.1s
WLF AP **pP** 18 17 57.5 +2.1
WLF Walferdange 87.31 324 *e*P **P** 18 17 47.2 -0.2
comp=Z,626nm,1.8s
WLF *e*SS S 18 28 19.8 -6.4
WLF Walferdange 87.31 324 *e*P **P** 18 17 47.2 -0.2
WLF pmax pmax
comp=Z,268nm,1.4s
WLF MLR MLR
comp=Z,36µm,19.0s
WLF Walferdange 87.31 324 *e*P **P** 18 17 47.2 -0.2
comp=Z,268nm,1.4s
WLF LR LR
comp=Z,36µm,19.0s
NLWA Neilton Lookou 87.38 38 *e*P **P** 18 17 48.8 +0.9
comp=Z,504nm,1.6s
NLWA LR LR
comp=Z,4µm,20.0s
CDF Champ du Feu 87.41 323⇑ *i*P **P** 18 17 47.2 -0.8
comp=Z,1µm,1.8s
ECH Echery 87.58 323 *e*P **P** 18 17 47.4 -1.4
ECH pmax pmax
comp=Z,243nm,1.8s
ECH MLR MLR
comp=Z,33µm,20.0s
ECH Echery 87.58 323 *e*P **P** 18 17 47.4 -1.4
comp=Z,244nm,1.8s
ECH LR LR
comp=Z,33µm,20.0s
ESY Stoneypath 87.66 332 *e*P **P** 18 17 47.6 -1.4
KAC Achnashellach 87.68 335 *e*P **P** 18 17 47.3 -1.7
GIVF Givet 87.76 325⇑ *i*P **P** 18 17 48.8 -0.8
comp=Z,683nm,1.8s
MOF Molkenrain 87.80 322⇑ *e*P **P** 18 17 49.0 -0.9
DOU Dourbes 87.89 325 P **P** 18 17 49.5 -0.7
comp=Z,88nm,2.4s
DOU E 18 17 57.8
DOU AP pP 18 18 04.1 +5.9
EDI Edinburgh 87.89 333 AMS AMS 19 01 36.4
comp=Z,65µm,16.9s
VLC Villacollemand 87.91 318 *e*P **P** 18 17 51.3 +0.9
comp=Z,957nm,2.7s
VLC LR LR
comp=Z,23µm,19.0s
KPL Plockton 87.93 335 *e*P **P** 18 17 48.0 -2.2
KPL AMB AMB 18 17 51.5
comp=Z,128nm,2.3s
KPL AMS AMS 19 00 55.4
comp=Z,44µm,19.1s
EBL Broad Law 87.94 333 *e*P **P** 18 17 48.2 -2.1
HINF Hinteralfeld 87.98 322⇑ *i*P **P** 18 17 49.5 -1.2
comp=Z,600nm,1.9s
E03A Lebam 88.02 39 P **P** 18 17 51.7 +0.9
BAIF Baives 88.11 325⇑ *i*P **P** 18 17 50.4 -0.8
comp=Z,488nm,1.8s
HAU Haudompre 88.15 323⇑ *i*P **P** 18 17 50.3 -1.2
comp=Z,258nm,1.4s
HAU *e*R
comp=Z,57µm,17.5s
PAGF Fort de Pagny 88.18 323⇑ *i*P **P** 18 17 51.0 -0.6
comp=Z,275nm,1.9s
RAR Rarotonga 88.19 114 LR LR 18 50 49.2
comp=Z,5µm,21.7s,baz=45,slow=31
THEF They Montfort 88.22 323⇑ *e*P **P** 18 17 51.0 -0.8
BMW Boistfort Moun 88.25 39 P **P** 18 17 52.7 +0.6
BMW Boistfort Moun 88.25 39 P **P** 18 17 52.7 +0.6
LOMF Lomont 88.25 322⇑ *e*P **P** 18 17 51.2 -0.9
ESK Eskdalemuir 88.31 332 *e*P **P** 18 17 50.7 -1.3
ESK AMB AMB 18 17 53.8
comp=Z,155nm,2.4s
ESK Eskdalemuir 88.31 332 *e*P **P** 18 17 51.1 -0.9
ESK pmax pmax
comp=Z,324nm,1.9s
ESK MLR MLR
comp=Z,57µm,19.0s
ESK Eskdalemuir 88.31 332 *e*P **P** 18 17 51.1 -0.9
comp=Z,324nm,1.9s
ESK LR LR
comp=Z,57µm,19.0s
ECK Cauldkaine Hil 88.37 332 *e*P **P** 18 17 50.9 -1.5
C05A Tolt Reservoir 88.43 37 P **P** 18 17 53.4 +0.6
PGBU Glenifferbrans 88.51 333 AMS AMS 19 01 47.8
comp=Z,61µm,16.9s
HPK Haverah Park 88.51 331 *e*P **P** 18 17 51.9 -1.1
HPK AMB AMB 18 17 56.1
comp=Z,310nm,2.5s
HPK AMS AMS 19 02 06.3
comp=Z,36µm,18.5s
MEZF Maizieres J'vi 88.57 324⇑ *i*P **P** 18 17 52.8 -0.7
comp=Z,1µm,1.9s
RVC Mount Rainier- 88.70 38 P **P** 18 17 55.1 +0.8
KESW Keswick, Cumbr 88.75 332 *e*P **P** 18 17 52.8 -1.3
KESW AMB AMB 18 17 57.3
comp=Z,261nm,2.4s
KESW AMS AMS 19 02 38.6
comp=Z,40µm,15.6s
SFTF Sexfontaines 88.75 323⇑ *i*P **P** 18 17 53.4 -0.9
comp=Z,786nm,1.7s
MENF Mencas 88.86 326 *e*P **P** 18 17 53.5 -1.2
TDL Tradedollar La 88.90 39 P **P** 18 17 55.9 +0.7
LON Longmire 88.90 38 *e*P **P** 18 17 55.5 +0.3
LON pmax pmax
comp=Z,162nm,1.4s
LON Longmire 88.90 38 *e*P **P** 18 17 55.5 +0.3
comp=Z,162nm,1.4s
OG01 Vacheresse 88.91 321⇑ *e*P **P** 18 17 54.4 -0.8
GCD Castle Douglas 88.93 332 *e*P **P** 18 17 53.3 -1.6
ELSH Elham, Standar 89.01 327 *e*P **P** 18 17 54.0 -1.4
ELSH AMB AMB 18 17 58.2
comp=Z,272nm,2.4s
ELSH AMS AMS 19 00 06.5
comp=Z,29µm,21.3s
SFJD Kangerlussuaq 89.08 357 *e*P **P** 18 17 54.0 -1.4
comp=Z,373nm,1.6s
SFJD Kangerlussuaq 89.08 357⇑ *i*P **P** 18 17 54.0 -1.4
comp=Z,37nm,0.9s
SFJD Kangerlussuaq 89.08 357 *i* S **SKSac** 18 28 18.8 -4.6
SFJD
comp=Z,10µm,17.0s
WPW White Pass 89.08 38 P **P** 18 17 56.5 +0.5
CABF La Chapelle 89.09 322⇑ *i*P **P** 18 17 55.2 -0.9
comp=Z,577nm,1.9s
LTY Liberty 89.25 37 P **P** 18 17 57.0 +0.2
GAL1 Galloway 89.25 332 *e*P **P** 18 17 53.5 -3.0
GAL1 AMB AMB 18 17 58.0
comp=Z,152nm,2.5s
GAL1 AMS AMS 19 02 28.5
comp=Z,56µm,17.3s
COR Corvallis 89.25 41 *e*P **P** 18 17 58.7 +2.0
COR pmax pmax
comp=Z,518nm,1.4s
COR Corvallis 89.25 41 *e*P **P** 18 17 58.6 +2.0
comp=Z,518nm,1.4s
LPG La Plagne 89.34 321⇑ *i*P **P** 18 17 56.8 -0.7
comp=Z,165nm,1.0s
LPL La Plagne 89.34 321⇑ *i*P **P** 18 17 56.8 -0.6
comp=Z,208nm,1.2s
STNC Stoke 89.34 330 AMS AMS 19 02 34.0
comp=Z,50µm,17.6s
RNO Roman Nose 89.36 41 P **P** 18 17 58.8 +1.4
WDD Wield Dalam 89.40 309 *e*P **P** 18 17 56.3 -1.2
comp=Z,168nm,1.1s
WDD LR LR
comp=Z,6µm,20.0s
KEBM Edson Butte 89.57 42 *e*P **P** 18 17 59.9 +1.5
comp=Z,311nm,1.2s
PGF Pioggiola 89.62 317 *e*P **P** 18 17 58.0 -0.7
comp=Z,502nm,1.4s
BNI Bardonecchia 89.64 320 *e*P **P** 18 17 57.7 -1.0
BNI pmax pmax
comp=Z,78nm,1.3s
BNI MLR MLR
comp=Z,62µm,19.0s
BNI Bardonecchia 89.64 320 *e*P **P** 18 17 57.7 -1.0
comp=Z,78nm,1.3s
BNI LR LR
comp=Z,62µm,19.0s
OG35 Corcelles 89.71 322⇑ *e*P **P** 18 17 58.0 -0.9
SAOF Saorge 89.72 319⇑ *e*P **P** 18 17 58.2 -0.8
MBDF Montbardon 89.77 320⇑ *i*P **P** 18 17 57.8 -1.6
comp=Z,112nm,1.2s
AUTN L'Aution 89.79 319 *e*P **P** 18 17 58.3 -1.3
SBF Sospel 89.86 319⇑ *i*P **P** 18 17 58.1 -1.6
comp=Z,131nm,0.9s
TOUF Mont Tournerai 89.89 319⇑ *e*P **P** 18 17 59.2 -0.8
VFP Flag Point 89.92 39 P **P** 18 18 00.8 +0.7
FOEL Foel Wylfa 89.93 330 *e*P **P** 18 17 57.3 -2.4
FOEL AMB AMB 18 18 02.8
comp=Z,169nm,2.9s
FOEL AMS AMS 19 03 09.8
comp=Z,42µm,18.3s
LOR Lormes 89.95 323⇑ *i*P **P** 18 17 58.8 -1.2
comp=Z,590nm,1.9s
LOR *e*R
comp=Z,43µm,19.2s
REVF Revere 89.97 319 *e*P **P** 18 17 59.2 -1.0
KBO Bosley Butte 90.00 43 *e*P **P** 18 18 00.8 +0.4
comp=Z,650nm,2.0s
MVIF Mont Vial 90.01 319⇑ *e*P **P** 18 17 59.5 -1.0
HLM1 Long Mynd 90.03 330 *e*P **P** 18 17 58.7 -1.5
HLM1 AMB AMB 18 18 03.1
comp=Z,142nm,3.2s
ORIF Oris-en-Rattie 90.18 320⇑ *i*P **P** 18 18 00.5 -0.7
comp=Z,109nm,1.0s
ORIF *e*R
comp=Z,44µm,19.8s
SWN1 Swindon 90.19 329 *e*P **P** 18 17 58.0 -3.0
SWN1 AMB AMB 18 18 03.7
comp=Z,310nm,2.6s
SWN1 AMS AMS 19 02 32.8
comp=Z,66µm,20.3s
WLF1 Llynfaes 90.19 331 *e*P **P** 18 17 59.0 -1.9
WLF1 AMB AMB 18 18 03.8
comp=Z,162nm,2.8s
WLF1 AMS AMS 19 03 33.3
comp=Z,40µm,15.4s
CALN Calern 90.25 319⇑ *e*P **P** 18 18 00.6 -1.0
SSF Saint Saulge 90.27 323⇑ *i*P **P** 18 18 00.3 -1.1
comp=Z,344nm,1.7s
YRC Rhoscolyn 90.30 331 *e*P **P** 18 17 58.6 -2.7
SMF Signal de Mont 90.33 323⇑ *i*P **P** 18 18 00.7 -1.1
comp=Z,810nm,1.6s
HAWA Hanford 90.39 38 *e*P **P** 18 18 03.0 +0.9
comp=Z,297nm,1.4s
HAWA LR LR
comp=Z,4µm,20.0s
MCH1 Michaelchurch 90.43 330 *e*P **P** 18 17 59.7 -2.4
MCH1 AMB AMB 18 18 04.3
comp=Z,184nm,2.6s
CASY Casey 90.48 185 PFAKE 18 18 10.0 +8.3
CASY LR LR
comp=Z,4µm,20.0s
FRF La Foret Royal 90.50 319⇑ *i*P **P** 18 18 01.5 -1.1
comp=Z,311nm,1.5s
AVF Avril sur Loir 90.51 323⇑ *i*P **P** 18 18 01.5 -1.1
comp=Z,436nm,1.5s
NEW Newport 90.56 35 *e*P **P** 18 18 03.0 +0.2
comp=Z,200nm,1.3s
NEW LR LR
comp=Z,7µm,19.0s
KRMB Red Mountain 90.57 43 *e*P **P** 18 18 04.7 +1.6
comp=Z,269nm,2.3s
HYF Humbligny 90.61 324 *e*P **P** 18 18 02.6 -0.5
LMR La Mourre 90.71 319⇑ *i*P **P** 18 18 02.6 -1.0
comp=Z,357nm,1.5s
OG26 St.-Nazaire-De 90.71 320⇑ *e*P **P** 18 18 03.4 -0.2
SSB Saint Sauveur 90.74 321 *e*P **P** 18 18 02.1 -1.7
SSB pmax pmax
comp=Z,74nm,1.3s
SSB MLR MLR
comp=Z,33µm,19.0s
SSB Saint Sauveur 90.74 321 *e*P **P** 18 18 02.1 -1.7
comp=Z,74nm,1.3s
SSB LR LR
comp=Z,33µm,19.0s
SSB Saint Sauveur 90.74 321⇑ *e*P **P** 18 18 02.9 -0.8
SMRF Simiana la Rot 90.90 320⇑ *i*P **P** 18 18 03.9 -0.6
comp=Z,364nm,1.8s
A12A Yaak River Ran 90.91 34 ⇑P **P** 18 18 05.4 +0.9
baz=91,SNR=19
VIVF Saint-Julien-l 90.92 321⇑ *i*P **P** 18 18 03.6 -0.9
comp=Z,574nm,1.8s
BGF Bois d'Agland 90.93 323⇑ *i*P **P** 18 18 03.6 -0.9
comp=Z,399nm,1.7s
VSL Villasalto 91.03 315 *e*P **P** 18 18 04.2 -1.0
comp=Z,183nm,1.2s
VSL LR LR
comp=Z,10µm,22.0s
KHMM Horse Mountain 91.04 44 *e*P **P** 18 18 07.0 +1.6
comp=Z,174nm,1.8s
AGO Saint Agoulin 91.08 323⇑ *e*P **P** 18 18 04.9 -0.4
YBH Yreka Blue Hor 91.20 43 *e*P **P** 18 18 06.4 +0.3
comp=Z,134nm,1.5s
YBH Yreka Blue Hor 91.20 43 P **P** 18 18 06.5 +0.4
comp=Z,36nm,1.1s,baz=120,slow=0.7,SNR=33
B12A Libby 91.23 34 ⇓P **P** 18 18 07.0 +1.0
baz=91
LDF La Druitiere 91.25 326⇑ *i*P **P** 18 18 04.6 -1.3
comp=Z,306nm,1.9s
FLN La Foliniere 91.32 326 *e*P **P** 18 18 04.9 -1.4
comp=Z,308nm,1.9s
FLN *e*R
comp=Z,62µm,19.2s
PYM Petit Puy Mans 91.33 322⇑ *e*P **P** 18 18 06.1 -0.4
DRV Dumont d'Urvil 91.43 173 P P 18 17 56.0 -10
DRV Dumont d'Urvil 91.43 173 PP PP 18 21 32.0 -12
DRV SKS 18 27 47.0
DRV S **SKKSac** 18 28 55.0 +2.9
DRV SP SP 18 30 01.0 -11
DRV SS SS 18 34 54.0 -16
TCF Toulx Ste Croi 91.44 323⇑ *i*P **P** 18 18 06.2 -0.8
comp=Z,787nm,1.9s
LBL Lubilhac 91.51 322 *e*P **P** 18 18 07.2 -0.1
WALA Waterton Lakes 91.70 33 *e*P **P** 18 18 08.7 +0.5
comp=Z,18nm,1.8s
GRR Gorron 91.75 326⇑ *i*P **P** 18 18 07.2 -1.1
comp=Z,386nm,1.9s
C12B Naegeli Ranch, 91.77 35 ⇓P **P** 18 18 09.0 +0.5
baz=92,SNR=19
HTL Hartland 91.80 330 AMS AMS 19 03 59.5
comp=Z,84µm,18.6s
FRNF Fournols 91.80 322 *e*P **P** 18 18 08.8 +0.2
LASF Ste Croix 91.85 321⇑ *i*P **P** 18 18 08.3 -0.6
comp=Z,618nm,1.9s
B13A Whitefish 91.87 34 ⇓P **P** 18 18 09.9 +1.0
baz=92,SNR=53
WDC Whiskeytown Da 91.96 44 *e*P **P** 18 18 09.5 +0.1
WDC pmax pmax
comp=Z,81nm,1.3s
WDC Whiskeytown Da 91.96 44 *e*P **P** 18 18 09.5 +0.1
comp=Z,81nm,1.3s
A14A Double T Ranch 92.00 33 ⇓P **P** 18 18 10.3 +0.7
baz=92,SNR=97
BSMT Bassoo Peak 92.04 34 *e*P **P** 18 18 10.8 +0.8
BLMT Blacktail Moun 92.16 34 *e*P **P** 18 18 11.4 +0.9
C13A Hot Springs 92.26 34 ⇑P **P** 18 18 11.1 +0.3
baz=92
A15A Johnson Ranch, 92.34 33 ⇑P **P** 18 18 11.0 -0.2
baz=92,SNR=20
CAF Calviac 92.36 322⇑ *i*P **P** 18 18 10.9 -0.3
comp=Z,581nm,1.6s
JTMT Jette 92.37 34 *e*P **P** 18 18 12.0 +0.6
RJF Les Rejaudoux 92.43 323⇑ *i*P **P** 18 18 11.2 -0.3
comp=Z,1µm,1.8s
RJF *e*R
comp=Z,38µm,17.5s
YBMT Yellow Bay 92.43 34 *e*P **P** 18 18 12.0 +0.4
comp=Z,38nm,1.1s
B14A Marquette Ranc 92.48 33 ⇓P **P** 18 18 12.5 +0.6
baz=92,SNR=59
MFF Saint Martin d 92.52 324⇑ *i*P **P** 18 18 11.1 -0.8
comp=Z,588nm,1.9s

E12A **Beaver Dam Sad** 92.54 36 ⇑P P 18 18 12.4 +0.2
baz=92,SNR=70
BMO **Blue Mountains** 92.57 38 eP P 18 18 12.3 0.0
BMO pmax pmax
comp=Z,59nm,1.1s
BMO MLR MLR
comp=Z,7μm,20.0s
BMO **Blue Mountains** 92.57 38 eP P 18 18 12.2 0.0
BMO LR LR
comp=Z,59nm,1.1s
comp=Z,7μm,20.0s
SWMT **Swartz Lake** 92.67 34 eP P 18 18 12.9 +0.2
D13A **Huson** 92.70 35 ⇓P P 18 18 12.5 -0.3
baz=92,SNR=16
SGMF **Saint Gilles** 92.70 327 ⇑iP P 18 18 11.4 -1.3
comp=Z,154nm,1.5s
FFC **Flin Flon** 92.86 24 P P 18 18 12.4 -0.8
comp=Z,734nm,1.4s,SNR=34
FFC **Flin Flon** 92.86 24 eP P 18 18 12.5 -0.8
FFC pmax pmax
comp=Z,273nm,1.4s
FFC MLR MLR
comp=Z,10μm,19.0s
FFC **Flin Flon** 92.86 24 eP P 18 18 12.5 -0.8
comp=Z,273nm,1.4s
FFC LR LR
comp=Z,10μm,19.0s
B15A **Bradely Ranch,** 92.87 33 ⇑P P 18 18 13.4 -0.2
baz=93,SNR=37
A16A **West Butte Ran** 92.92 32 ⇑P P 18 18 13.6 -0.2
baz=93,SNR=42
MIR **Mirnyy** 92.99 191 ⇓iP P 18 18 17.0 +3.7
MIR e 18 18 27.0
MIR ePS S 18 29 20.0 +2.6
MIR pmax pmax
comp=Z,63nm,1.5s
MIR pmax pmax
comp=Z,1μm,4.0s
ROSF **Rostrenen** 93.00 327 ⇑iP P 18 18 12.8 -1.3
comp=Z,227nm,1.6s
KEST **Kesra** 93.08 311 eP P 18 18 14.5 -0.2
KEST **Kesra** 93.08 311 P P 18 18 14.6 -0.2
comp=Z,17nm,1.0s,baz=53,slow=1.0,SNR=25
KEST LR LR 19 07 26.4
comp=Z,6μm,18.6s,baz=332,slow=40
LFF **La Frestale** 93.09 323 ⇑iP P 18 18 14.2 -0.3
comp=Z,991nm,1.9s
SLMT **Seeley Lake** 93.10 34 eP P 18 18 14.8 0.0
D14A **Greenough** 93.20 34 ⇓P P 18 18 14.8 -0.4
baz=93,SNR=32
C15A **Salmond Ranch,** 93.20 34 ⇓P P 18 18 15.4 +0.2
baz=93,SNR=45
B16A **M & M Farms, S** 93.23 33 ⇓P P 18 18 14.9 -0.3
baz=93,SNR=14
MTLF **Montolieu** 93.24 321 ⇑iP P 18 18 14.7 -0.6
comp=Z,497nm,1.9s
WVOR **Wild Horse Val** 93.27 40 eP P 18 18 15.7 +0.1
WVOR pmax pmax
comp=Z,449nm,1.9s
WVOR MLR MLR
comp=Z,5μm,19.0s
WVOR **Wild Horse Val** 93.27 40 eP P 18 18 15.7 +0.1
comp=Z,449nm,1.9s
WVOR LR LR
comp=Z,5μm,19.0s
OHCM **Honcut** 93.33 44 eP P 18 18 16.0 +0.3
A17A **Triple J Farms** 93.36 32 ⇓P P 18 18 15.6 -0.2
baz=93,SNR=53
CHMT **Chamberlain Mo** 93.44 34 eP P 18 18 16.2 -0.2
FILF **Fillols** 93.51 320 eP P 18 18 15.9 -0.7
C16A **Fuhringer Ranc** 93.62 33 ⇑P P 18 18 16.6 -0.5
baz=93,SNR=14
BEKR **Beckworth** 93.73 43 eP P 18 18 17.7 -0.2
comp=Z,43nm,1.2s
D15A **Lincoln** 93.73 34 ⇑P P 18 18 17.5 -0.2
baz=94,SNR=8.3
A18A **Metzger Ranch,** 93.78 31 ⇓P P 18 18 17.4 -0.3
baz=94,SNR=32
CMAH **Djebel Manchou** 93.89 313 P P 18 18 20.0 +1.5
VALF **Valcebollere** 93.93 320 eP P 18 18 19.6 +0.9
ABSA **Djebel Ababsia** 94.05 313 P P 18 18 21.0 +1.7
H12A **Diamond D Ranc** 94.12 37 ⇑P P 18 18 19.9 +0.4
baz=94
MLS **Moulis** 94.12 321 eP P 18 18 18.4 -1.0
B18A **Beardsley Farm** 94.18 32 ⇓P P 18 18 19.6 0.0
baz=94,SNR=42
C17A **Wharram Farm,** 94.22 33 ⇓P P 18 18 19.2 -0.6
baz=94,SNR=12
D16A **Dana Ranch, Ca** 94.24 34 ⇑P P 18 18 19.9 -0.1
baz=94,SNR=28
MFID **Camas Ranch** 94.29 38 eP P 18 18 20.7 +0.4
comp=Z,394nm,1.9s
MFID **Camas Ranch** 94.29 38 ⇑P P 18 18 20.7 +0.4
baz=94
A19A **Klindworth Far** 94.30 31 ⇑P P 18 18 19.9 -0.2
baz=94,SNR=23
HRY **Holter Researc** 94.31 34 eP P 18 18 20.2 -0.1
comp=Z,166nm,1.7s
EGMT **Eagleton** 94.45 32 eP P 18 18 20.4 -0.5
comp=Z,230nm,1.7s
EGMT LR LR
comp=Z,9μm,20.0s
CKFL **Kef-Lekhel** 94.49 313 P P 18 18 22.0 +0.7
E16A **East Helena** 94.51 34 ⇑P P 18 18 21.2 -0.1
baz=94
EPF **Esparros** 94.51 321 ⇑iP P 18 18 19.8 -1.4
comp=Z,216nm,1.8s
B19A **Brinkman Farms** 94.54 31 ⇓P P 18 18 20.9 -0.3
baz=94,SNR=31
LRM **Limekiln Ridge** 94.58 35 eP P 18 18 21.7 0.0
comp=Z,374nm,1.2s
D17A **Six Diamond Ra** 94.59 33 ⇑P P 18 18 21.3 -0.3
baz=94,SNR=28
RESF **Ens** 94.65 321 eP P 18 18 21.7 -0.2
A20A **Cobblestone Ra** 94.72 31 ⇑P P 18 18 21.7 -0.3
baz=94,SNR=24
CASM **Ain Smara** 94.72 313 P P 18 18 23.0 +0.7
CMB **Columbia Colle** 94.78 45 eP P 18 18 22.4 -0.2
CMB pmax pmax
comp=Z,56nm,1.1s
CMB **Columbia Colle** 94.78 45 eP P 18 18 22.4 -0.2
comp=Z,56nm,1.1s
VIEF **Viey** 94.78 321 eP P 18 18 22.4 -0.1
REYF **Montagne du Re** 94.90 322 eP P 18 18 24.2 +1.2
DFRA **Djebel Bou Aff** 94.97 314 P P 18 18 24.5 +1.0
E17A **Martinsdale** 94.97 34 ⇓P P 18 18 23.6 +0.2
baz=95,SNR=31
B20A **Solberg Farm,** 94.98 31 ⇓P P 18 18 22.7 -0.6
baz=95
C19A **Slack Wire Ran** 94.99 32 ⇓P P 18 18 23.3 0.0
baz=95,SNR=45
HLID **Hailey** 94.99 38 eP P 18 18 24.3 +0.7
comp=Z,32nm,1.0s
D18A **Linhart Farms,** 95.00 33 ⇓P P 18 18 23.4 0.0
baz=95
MCMT **McKenzie Canyo** 95.03 36 eP P 18 18 23.7 -0.1
comp=Z,30nm,1.7s
ATE **Arette** 95.06 322 eP P 18 18 23.1 -0.6
A21A **Bergtoll Ranch** 95.10 30 ⇑P P 18 18 23.8 0.0
baz=95
ETSF **Etsaut** 95.10 322 ⇑iP P 18 18 23.8 -0.2
comp=Z,271nm,1.8s
ORDF **Ordiarp** 95.12 322 eP P 18 18 22.1 -1.8
BOZ **Bozeman (W)** 95.12 35 eP P 18 18 24.2 +0.1
BOZ pmax pmax
comp=Z,92nm,1.8s
BOZ MLR MLR
comp=Z,8μm,19.0s
BOZ **Bozeman (W)** 95.12 35 eP P 18 18 24.2 +0.1
comp=Z,92nm,1.8s
BOZ LR LR
comp=Z,8μm,19.0s
OSSF **Osses** 95.27 322 eP P 18 18 25.2 +0.6
I14A **Mackay** 95.29 37 ⇑P P 18 18 25.5 +0.6
baz=95
BMN **Battle Mountai** 95.33 41 eP P 18 18 25.7 +0.5
BMN pmax pmax
comp=Z,94nm,1.3s
BMN MLR MLR
comp=Z,5μm,19.0s
BMN **Battle Mountai** 95.33 41 eP P 18 18 25.6 +0.5
comp=Z,94nm,1.3s
BMN LR LR
comp=Z,5μm,19.0s
SJPF **Ste Jean** 95.34 322 ⇑iP P 18 18 24.6 -0.4
comp=Z,302nm,1.7s
E18A **Harlowton** 95.38 33 ⇓P P 18 18 25.2 0.0
baz=95,SNR=35
PPT **Papeete** 95.40 107 LR LR 18 54 58.0
comp=Z,6μm,19.6s,baz=277,slow=31
PPT2 **Papeete2** 95.40 107 ePP PP 18 22 16.3 -0.4
comp=Z,435nm,24.0s
PPT2 eS S 18 29 37.7 -3.2
comp=Z,16μm,26.2s
PPT2 eSS SS 18 36 10.0 +0.9
comp=Z,5μm,26.8s
PPT2 **Papeete2** 95.40 107 eLR LR 18 49 20.2
comp=Z,18μm,23.5s,baz=289
F17A **Fitzpatrick Pl** 95.45 34 ⇑P P 18 18 25.6 0.0
baz=95
B21A **Ellsworth Farm** 95.46 30 ⇑P P 18 18 24.9 -0.5
baz=95,SNR=15
D19A **Cripps Ranch,** 95.47 32 ⇑P P 18 18 25.5 0.0
baz=95,SNR=42
SET **Setif** 95.48 314 P P 18 18 26.0 +0.2
C20A **Veseth Ranch,** 95.51 31 ⇓P P 18 18 25.7 0.0
baz=95,SNR=16
A22A **Carney Farms,** 95.56 30 ⇓P P 18 18 24.9 -1.0
baz=95,SNR=12
G17A **Pierce Place,** 95.81 34 ⇓P P 18 18 27.1 -0.1
baz=96
C21A **Desert Coulee** 95.86 31 ⇓P P 18 18 26.4 -0.9
baz=96
NVAR **Mina Array Bea** 95.87 43 P P 18 18 27.9 +0.2
NVAR **Mina Array Bea** 95.87 43 P P 18 18 27.9 +0.2
comp=Z,11nm,0.7s,baz=287,slow=4.6,SNR=52
F18A **Big Timber** 95.93 34 ⇓P P 18 18 27.2 -0.5
baz=96
H16A **Russell Place,** 95.96 35 ⇑P P 18 18 28.4 +0.4
baz=96
NV11 **Mina Array Sit** 95.96 43 eP P 18 18 28.0 -0.1
E19A **Rath Farm, Rou** 96.01 33 ⇑P P 18 18 27.9 -0.1
baz=96,SNR=37
MLAC **Mammoth Lakes** 96.01 44 ⇓P P 18 18 28.1 -0.3
baz=96
B22A **Reddig Ranch S** 96.02 30 ⇓P P 18 18 26.7 -1.3
baz=96,SNR=16
GCMT **Greycliff** 96.03 34 eP P 18 18 28.8 +0.6
comp=Z,38nm,1.5s
A23A **Redstone** 96.04 29 ⇓P P 18 18 27.2 -0.9
baz=96
YMR **Madison River** 96.13 35 eP P 18 18 29.4 +0.6
E20A **Meyer Farm, Mu** 96.30 32 ⇓P P 18 18 29.0 -0.3
baz=96,SNR=11
ELK **Elko** 96.31 40 P P 18 18 30.4 +0.6
ELK **Elko** 96.31 40 P P 18 18 30.4 +0.6
comp=Z,7.0nm,1.0s,baz=316,slow=1.0,SNR=26
YFT **Old Faithful** 96.35 35 eP P 18 18 31.1 +1.3
comp=Z,267nm,1.9s
F19A **Roth Farm, Mol** 96.36 33 ⇑P P 18 18 29.3 -0.4
baz=96
B23A **Brockton** 96.36 29 ⇓P P 18 18 28.9 -0.6
baz=96
I16A **Newdale** 96.39 36 ⇑P P 18 18 30.2 +0.3
baz=96
G18A **Lazy EL Ranch,** 96.41 34 ⇑P P 18 18 29.7 -0.3
baz=96
D21A **La Casta Ranch** 96.45 31 ⇓P P 18 18 29.5 -0.4
baz=96,SNR=13
A24A **Westby** 96.46 29 ⇓P P 18 18 29.8 -0.1
baz=96
C22A **Vida** 96.48 30 ⇓P P 18 18 29.5 -0.5
baz=96
LKWY **Lake** 96.50 35 PFAKE 18 18 40.0 +9.5
LKWY LR LR
comp=Z,12μm,21.0s
H17A **Grant Village** 96.52 35 ⇓P P 18 18 31.8 +1.2
baz=96
RCTC **Rector, Farmer** 96.53 46 ⇑P P 18 18 29.5 -0.9
baz=96
SMMC **Simmler** 96.61 47 ⇑P P 18 18 30.9 0.0
baz=96
RLMT **Red Lodge** 96.70 34 eP P 18 18 31.4 0.0
comp=Z,79nm,1.6s
RLMT LR LR
comp=Z,6μm,20.0s
DGMT **Dagmar** 96.71 29 eP P 18 18 30.5 -0.6
comp=Z,255nm,1.6s
DGMT LR LR
comp=Z,9μm,20.0s
C23A **Lambert** 96.76 30 ⇑P P 18 18 31.0 -0.3
baz=96
TPH **Tonopah** 96.76 43 PFAKE 18 18 40.0 +8.2
TPH LR LR
comp=Z,3μm,21.0s
D22A **Cohagen** 96.78 31 ⇑P P 18 18 30.9 -0.6
baz=96
E21A **Keefer Ranch,** 96.79 32 ⇓P P 18 18 31.2 -0.3
baz=96
F20A **Billings** 96.79 33 ⇑P P 18 18 31.0 -0.6
baz=96
H18A **Shoshone NF, C** 96.80 34 ⇓P P 18 18 31.9 +0.1
baz=97
I17A **Pilgrim Ck.** 96.84 35 ⇑P P 18 18 32.3 +0.2
baz=97
VES **Vestal, Richgr** 96.91 46 ⇑P P 18 18 31.7 -0.5
baz=97
PKM **Peak Mountain** 96.97 47 ⇑P P 18 18 32.4 -0.3
baz=97
HVU **Hansel Valley** 97.07 38 eP Pdif 18 18 33.1 0.0
HVU pmax pmax
comp=Z,132nm,2.1s
HVU **Hansel Valley** 97.07 38 eP Pdif 18 18 33.1 0.0
comp=Z,132nm,2.1s
H19A **Powell** 97.16 34 ⇑P P 18 18 33.1 -0.2
baz=97
G20A **Bridger** 97.17 33 ⇓P P 18 18 32.2 -1.2
baz=97
CWC **Cottonwood Cre** 97.20 45 ⇑P P 18 18 33.0 -0.7
baz=97
D23A **Lindsay** 97.21 30 ⇓P P 18 18 33.3 -0.1
baz=97,SNR=9.7
F21A **Absaloka Mine,** 97.28 32 ⇑P P 18 18 32.8 -1.0
baz=97
SBC **Santa Barbara** 97.31 47 ⇑P P 18 18 33.7 -0.3
baz=97
C24A **Savage** 97.31 30 ⇑P P 18 18 33.5 -0.3
baz=97
GRAC **Gervine Rang** 97.32 44 ⇓P P 18 18 34.1 -0.1
baz=97
AHID **Auburn Hatcher** 97.34 37 PFAKE 18 18 50.0 +16
AHID LR LR
comp=Z,9μm,19.0s
I18A **Diamond G Ranc** 97.40 35 ⇓P P 18 18 34.3 -0.2
baz=97
E22A **Miles City** 97.40 31 ⇑P P 18 18 33.4 -0.8
baz=97
ISA **Isabella** 97.41 46 eP P 18 18 33.8 -0.8
ISA pmax pmax
comp=Z,17nm,1.1s
ISA **Isabella** 97.41 46 eP P 18 18 33.8 -0.8
comp=Z,17nm,1.1s
ISA **Isabella** 97.41 46 ⇑P P 18 18 33.7 -0.8
baz=97
ARVC **Arvin** 97.49 46 ⇓P P 18 18 34.0 -0.9
baz=97
I19A **Meeteetse** 97.59 35 ⇑P Pdif 18 18 35.5 0.0
baz=97
E23A **Isray** 97.66 31 ⇓P P 18 18 34.8 -0.6
baz=97
G21A **Lodge Grass** 97.66 33 ⇓P P 18 18 34.9 -0.7
baz=97
F22A **Rosebud** 97.73 32 ⇑P P 18 18 35.3 -0.5
baz=98
TBI **Tubuai** 97.75 112 ePP PP 18 22 34.1 -0.5
comp=Z,550nm,28.0s
TBI eSKSac SKSac 18 29 09.9 -2.5
comp=Z,4μm,28.0s
TBI eSP SP 18 31 24.6 +0.9
comp=Z,3μm,29.0s
TBI eSS SS 18 36 45.4 +3.4
comp=Z,5μm,28.8s
TBI **Tubuai** 97.75 112 eLR LR 18 50 08.2
comp=Z,7μm,31.2s,baz=295
H20A **Greybull** 97.79 34 ⇑P P 18 18 36.0 -0.2
baz=98
MPMC **Manual Prospec** 97.81 45 ⇑P P 18 18 35.9 -0.7
baz=98
HWUT **Hardware Ranch** 97.86 38 eP P 18 18 36.4 -0.2
comp=Z,34nm,1.3s
HWUT LR LR
comp=Z,7μm,19.0s
OSI **Osito Adit** 97.87 47 ⇑P Pdif 18 18 36.6 0.0
baz=98
BLG **Laguna Peak** 97.94 47 ⇓P P 18 18 36.3 -0.6
baz=98
FURC **Furnace Creek,** 97.97 44 ⇓P P 18 18 36.6 -0.4
baz=98
LRMC **Laurel Mountai** 98.03 46 ⇓P P 18 18 37.4 -0.1
baz=98
E24A **Baker** 98.08 30 ⇑P P 18 18 37.1 -0.3
baz=98
DUG **Dugway** 98.08 39 eP Pdif 18 18 37.9 +0.2
DUG pmax pmax
comp=Z,143nm,2.1s
DUG MLR MLR
comp=Z,7μm,19.0s
DUG **Dugway** 98.08 39 eP Pdif 18 18 37.9 +0.2
comp=Z,142nm,2.1s
DUG LR LR
comp=Z,7μm,19.0s
J19A **Crowheart** 98.10 35 ⇑P P 18 18 37.4 -0.3
baz=98
I20A **Worland** 98.10 34 ⇑P P 18 18 37.5 -0.1
baz=98
G22A **Birney** 98.12 32 ⇑P P 18 18 37.3 -0.3
baz=98
H21A **Big Horn, Sher** 98.17 33 ⇓P P 18 18 37.3 -0.6
baz=98
BW06 **Boulder Array** 98.17 36 eP P 18 18 37.1 -1.0
comp=Z,15nm,1.4s
BW06 LR LR
comp=Z,6μm,21.0s
PDAR **Pinedale Array** 98.17 36 P P 18 18 36.9 -1.2
PDAR PKKP PKKPdf 18 35 13.0 +0.6
PDAR **Pinedale Array** 98.17 36 P P 18 18 36.9 -1.2
comp=Z,1.2nm,0.6s,baz=56,slow=0.6,SNR=11
PDAR PKKP PKKPdf 18 35 13.0 +0.6
comp=Z,1.2nm,1.1s,baz=108,slow=3.3,SNR=4.8
PDAR LR LR 19 09 15.9
comp=Z,3μm,19.0s,baz=347,slow=39
F23A **Volborg** 98.18 32 ⇑P P 18 18 37.4 -0.4
baz=98
EDW2 **Edwards Air Fo** 98.19 46 ⇑P P 18 18 37.5 -0.6
baz=98
DECC **Green Verdugo** 98.34 47 ⇓P P 18 18 37.8 -1.0
baz=98
M17A **Scullys Gap (B** 98.45 37 ⇓P P 18 18 38.0 -1.4
baz=98
L18A **Fontenelle, Gr** 98.49 37 ⇑Pdiff P 18 18 39.1 -0.4
baz=98
K19A **Absolon Red Bu** 98.51 35 ⇑Pdiff P 18 18 38.1 -1.5
baz=98
H22A **Clearmont** 98.54 33 ⇓Pdiff P 18 18 38.9 -0.6
baz=98
E25A **Miller Ranch,** 98.54 30 ⇑Pdiff P 18 18 38.5 -0.9
baz=98
J20A **Shoshoni** 98.54 35 ⇓Pdiff P 18 18 39.1 -0.5
baz=98
F24A **Ekalaka** 98.55 31 ⇑Pdiff P 18 18 38.8 -0.7
baz=98
G23A **Biddle** 98.57 32 ⇑Pdiff P 18 18 38.5 -1.1
baz=98
I21A **Big Trails, Te** 98.63 34 ⇓Pdiff P 18 18 39.3 -0.7
baz=98
FMP **Fort Macarthur** 98.69 47 ⇑Pdiff P 18 18 39.2 -1.0
baz=98
ULM **Lac du Bonnet** 98.69 24 eP P 18 18 38.4 -1.5
comp=Z,62nm,1.5s
ULM **Lac du Bonnet** 98.69 24 P P 18 18 38.1 -1.8
comp=Z,14nm,0.9s,baz=324,slow=5.1,SNR=11
ULM LR LR 19 08 07.8
comp=Z,11μm,18.5s,baz=341,slow=38
SHOC **Shoshone** 98.69 44 ⇓Pdiff Pdif 18 18 40.3 0.0
baz=98
GSC **Goldstone** 98.72 45 eP P 18 18 40.4 -0.1
GSC pmax pmax
comp=Z,51nm,1.4s
GSC **Goldstone** 98.72 45 eP P 18 18 40.4 -0.1
comp=Z,51nm,1.4s
GSC **Goldstone** 98.72 45 ⇑Pdiff P 18 18 40.0 -0.4
baz=98
L19A **Farson** 98.74 36 ⇑Pdiff P 18 18 40.1 -0.5
baz=98
CIS **Catalina Islan** 98.79 48 ⇓Pdiff P 18 18 40.0 -0.8
baz=99
BFSC **Mount Baldy Ra** 98.80 46 ⇓Pdiff P 18 18 40.4 -0.5
baz=99
RRX **Edison Barstow** 98.84 46 ⇑Pdiff P 18 18 40.6 -0.3
baz=99
J21A **Lysite** 98.88 34 ⇓Pdiff P 18 18 40.6 -0.6
baz=99
MPU **Maple Canyon** 98.88 39 eP Pdif 18 18 41.8 +0.5
comp=Z,4.0nm,0.8s
K20A **Yellowstone Ra** 98.90 35 ⇑Pdiff P 18 18 40.4 -0.8
baz=99
G24A **Alzada** 98.94 31 ⇓Pdiff P 18 18 39.9 -1.4
baz=99
SCI **San Clemente I** 98.95 48 ⇓Pdiff P 18 18 41.2 -0.2
baz=99
I22A **9 Mile Ranch,** 98.98 33 ⇓Pdiff P 18 18 41.1 -0.4
baz=99
E26A **Carlson Angus** 98.99 29 ⇑Pdiff P 18 18 40.3 -1.1
baz=99
H23A **Clabaugh Cattl** 99.03 32 ⇑Pdiff Pdif 18 18 41.1 -0.6
baz=99
ESDC **Sonseca Array** 99.15 321 P Pdif 18 18 40.8 -1.5
ESDC PP PP 18 22 42.1 -2.1
ESDC PKKP PKKPdf 18 35 10.7 +0.2
ESDC **Sonseca Array** 99.15 321 P Pdif 18 18 40.8 -1.5
comp=Z,0.6nm,0.5s,baz=46,slow=5.0,SNR=5.1
ESDC PP PP 18 22 42.1 -2.1
comp=Z,1.5nm,0.7s,baz=29,slow=7.4,SNR=4.5
ESDC PKKP PKKPdf 18 35 10.7 +0.2
comp=Z,0.7nm,0.6s,baz=255,slow=2.4,SNR=6.8
ESDC LR LR 19 09 44.3
comp=Z,17μm,18.3s,baz=30,slow=39
MDND **Maddock** 99.16 27 ⇓Pdiff Pdif 18 18 41.4 -0.7
baz=99
TUQ **Turquoise Moun** 99.20 45 ⇓Pdiff Pdif 18 18 42.3 -0.4
baz=99
PBRG **Braganca** 99.25 324 ePdif Pdif 18 18 42.7 0.0
PBRG **Braganca** 99.25 324 ePP PP 18 22 44.4 -0.4
M19A **Rock Springs** 99.26 36 ⇓Pdiff Pdif 18 18 42.3 -0.7
baz=99
BBRC **Big Bear Solar** 99.27 46 ⇑Pdiff Pdif 18 18 41.9 -1.3
baz=99
H24A **Dirks Ranch, A** 99.31 32 ⇓Pdiff Pdif 18 18 42.2 -0.8
baz=99
HEC **Hector,Ludlow** 99.31 45 ⇓Pdiff Pdif 18 18 42.9 -0.2
baz=99
L20A **Wamsutter** 99.35 36 ⇓Pdiff Pdif 18 18 42.8 -0.5
baz=99
I23A **Meade Ranch, G** 99.44 33 ⇓Pdiff Pdif 18 18 42.4 -1.2
baz=99
PAB **San Pablo** 99.45 321 PFAKE 18 18 50.0 +6.3
PAB LR LR
comp=Z,21μm,19.0s
CCUT **Cedar City** 99.47 42 eP Pdif 18 18 47.0 +3.0
comp=Z,8.2nm,1.2s
MURC **Murrieta** 99.48 47 ⇓Pdiff Pdif 18 18 43.4 -0.5
baz=99
MVU **Marysvale** 99.54 40 eP Pdif 18 18 44.6 +0.3
comp=Z,70nm,1.9s
MVU LR LR
comp=Z,6μm,20.0s
MSU **Marysvale** 99.56 40 eP Pdif 18 18 44.7 +0.3
MSU pmax pmax
comp=Z,135nm,2.1s
MSU **Marysvale** 99.56 40 eP Pdif 18 18 44.7 +0.3
comp=Z,135nm,2.1s
LSZ **Lusaka** 99.69 258 eP Pdif 18 18 44.4 -0.7
comp=Z,30nm,1.1s
LSZ LR LR
comp=Z,10μm,20.0s
GMRC **Granite Mounta** 99.78 45 ⇓Pdiff Pdif 18 18 45.1 -0.2
baz=100
M20A **Sweetwater, Wa** 99.80 36 ⇑Pdiff Pdif 18 18 44.8 -0.6
baz=100
J23A **Dilts Ranch, B** 99.80 33 ⇓Pdiff Pdif 18 18 44.0 -1.2
baz=100
K22A **Casper** 99.85 34 ⇓Pdiff Pdif 18 18 44.5 -1.0
baz=100
MVO **Moncorvo** 99.85 324 ePdif Pdif 18 18 46.3 +0.9
MVO **Moncorvo** 99.85 324 ePP PP 18 22 48.5 -0.9
MVO eSKS SKSac 18 29 21.3 -1.5
MVO iP PS 18 31 54.3 +5.9
MVO **Moncorvo** 99.85 324 eLQ LQ 18 55 02.1
MVO eLR LR 18 59 01.4
comp=Z,23μm,18.0s
Q16A **Castle Valley** 99.88 39 ⇓Pdiff Pdif 18 18 45.2 -0.5
baz=100
L21A **Rawlins** 99.90 35 ⇓Pdiff Pdif 18 18 45.0 -0.8

	baz=100								
I24A	**Kuemmerle Ranc**	99.92	32	⇑	Pdiff	Pdif	18 18 44.9	-0.8	
	baz=100								
PGAV	**Gavieira, Arco**	99.95	325	*e*	Pdif	Pdif	18 18 47.0	+1.1	
PGAV	**Gavieira, Arco**	99.95	325	*e*	PP	PP	18 22 50.1	-0.1	
PGAV				*e*	SKS	SKSac	18 29 22.7	-0.7	
PGAV	**Gavieira, Arco**	99.95	325	*e*	LQ	LQ	18 56 13.2		
PGAV				*e*	LR	LR	19 00 09.0		
	comp=Z,34µm,20.0s								
PFO	**Pinyon Flat Ob**	99.97	46	*e*	P	Pdif	18 18 45.8	-0.3	
	comp=Z,31nm,1.3s								
PFO					LR	LR			
	comp=Z,5µm,20.0s								
PFO	**Pinyon Flat Ob**	99.97	46	⇑	Pdiff	Pdif	18 18 45.5	-0.7	
	baz=100								
109C	**Camp Elliot, M**	99.97	47	⇑	Pdiff	Pdif	18 18 45.3	-0.7	
	baz=100								
RSSD	**Black Hills**	100.02	32	*e*	P	Pdif	18 18 45.9	-0.4	
RSSD					pmax	pmax			
	comp=Z,136nm,2.1s								
RSSD	**Black Hills**	100.02	32	*e*	P	Pdif	18 18 45.9	-0.4	
	comp=Z,136nm,2.1s								
BELC	**Belle Mtn. Jos**	100.04	46	⇑	Pdiff	Pdif	18 18 45.8	-0.7	
	baz=100								
G27A	**Dupree**	100.06	30	⇓	Pdiff	Pdif	18 18 45.7	-0.5	
	baz=100								
O19A	**Miners Draw (B**	100.11	37	⇑	Pdiff	Pdif	18 18 45.6	-1.1	
	baz=100								
POLO	**Lamas de Olo**	100.12	324	*e*	Pdif	Pdif	18 18 44.9	-1.7	
POLO	**Lamas de Olo**	100.12	324	*e*	PP	PP	18 22 50.4	-1.1	
POLO				*e*	SKS	SKSac	18 29 23.4	-0.8	
POLO				*i*	P	PS	18 31 58.1	+6.8	
SRU	**San Rafael**	100.13	39	*e*	P	Pdif	18 18 46.9	+0.1	
SRU					pmax	pmax			
	comp=Z,7.0nm,0.8s								
SRU	**San Rafael**	100.13	39	*e*	P	Pdif	18 18 46.9	+0.1	
	comp=Z,6.5nm,0.8s								
M21A	**Separation Pea**	100.15	35	⇑	Pdiff	Pdif	18 18 46.1	-0.9	
	baz=100								
N20A	**Spence Gulch,**	100.21	37	⇑	Pdiff	Pdif	18 18 46.0	-1.2	
	baz=100								
K23A	**Bowen Ranch, D**	100.23	34	⇓	Pdiff	Pdif	18 18 46.0	-1.1	
	baz=100								
I25A	**Rochford**	100.24	32	⇑	Pdiff	Pdif	18 18 46.3	-0.9	
	baz=100								
H26A	**Fairpoint**	100.25	31	⇓	Pdiff	Pdif	18 18 46.1	-1.0	
	baz=100								
AGMN	**Agassiz Nation**	100.30	25	*e*	P	Pdif	18 18 46.2	-0.9	
	comp=Z,87nm,2.1s								
AGMN					LR	LR			
	comp=Z,14µm,20.0s								
J24A	**Dixon Ranch, L**	100.30	33	⇑	Pdiff	Pdif	18 18 46.3	-1.1	
	baz=100								
L22A	**Ellis Ranch, M**	100.34	35	⇓	Pdiff	Pdif	18 18 47.0	-0.7	
	baz=100								
BAR	**Barrett**	100.39	47	*e*	P	Pdif	18 18 48.1	+0.2	
	comp=Z,84nm,2.0s								
MONP	**Monument Peak**	100.43	47	⇑	Pdiff	Pdif	18 18 47.2	-1.2	
	baz=100								
NEE2	**Needles Airpor**	100.45	45	⇓	Pdiff	Pdif	18 18 47.2	-0.9	
	baz=100								
IRM	**Iron Mountain**	100.49	45	⇑	Pdiff	Pdif	18 18 47.6	-0.8	
	baz=100								
H27A	**Howes**	100.56	30	⇑	Pdiff	Pdif	18 18 47.3	-1.1	
	baz=100								
BC3	**Big Chuckawall**	100.61	46	⇑	Pdiff	Pdif	18 18 48.4	-0.5	
	baz=100								
PVIS	**Viseu**	100.63	324	*e*	Pdif	Pdif	18 18 49.4	+0.5	
PVIS	**Viseu**	100.63	324	*e*	PP	PP	18 22 54.8	-0.5	
P19A	**Cripple Cowboy**	100.65	38	⇑	Pdiff	Pdif	18 18 48.2	-1.0	
	baz=100								
I26A	**New Underwood**	100.65	31	⇑	Pdiff	Pdif	18 18 47.7	-1.2	
	baz=100								
L23A	**Garrett**	100.66	34	⇑	Pdiff	Pdif	18 18 47.8	-1.4	
	baz=100								
MTE	**Manteigas**	100.66	323	*e*	Pdif	Pdif	18 18 50.3	+1.3	
MTE	**Manteigas**	100.66	323	*e*	PP	PP	18 22 55.4	-0.2	
MTE				*e*	SKS		18 29 25.9		
MTE	**Manteigas**	100.66	323	*e*	LQ	LQ	18 56 37.6		
MTE				*e*	LR	LR	18 59 10.5		
	comp=Z,34µm,18.0s								
MTE	**Manteigas**	100.66	323		PFAKE		18 19 00.0	+11	
MTE					LR	LR			
	comp=Z,22µm,20.0s								
K24A	**Anderson Ranch**	100.67	33	⇓	Pdiff	Pdif	18 18 47.8	-1.3	
	baz=100								
N21A	**Black Mountain**	100.67	36	⇓	Pdiff	Pdif	18 18 48.1	-1.1	
	baz=100								
J25A	**Sunshine Ranch**	100.67	32	⇓	Pdiff	Pdif	18 18 48.1	-0.9	
	baz=100								
M22A	**Cedar Creek Ra**	100.70	35	⇓	Pdiff	Pdif	18 18 48.7	-0.8	
	baz=100								
O20A	**White River Ci**	100.71	37	⇓	Pdiff	Pdif	18 18 48.7	-0.7	
	baz=100								
W13A	**Hualapai Mount**	100.71	44	⇑	Pdiff	Pdif	18 18 48.7	-0.8	
	baz=100								
G28A	**Parade**	100.75	30	⇑	Pdiff	Pdif	18 18 48.2	-1.1	
	baz=100								
DVTC	**Desert V Tower**	100.79	47	⇑	Pdiff	Pdif	18 18 49.0	-0.7	
	baz=101								
SWSC	**Sam W. Stewart**	100.82	47	⇓	Pdiff	Pdif	18 18 49.0	-0.7	
	baz=101								
U15A	**North Rim**	100.85	42	⇑	Pdiff	Pdif	18 18 49.1	-1.1	
	baz=101								
I27A	**Quinn**	101.00	31	⇓	Pdiff	Pdif	18 18 50.0	-0.4	
	baz=101								
H28A	**Mission Ridge**	101.02	30	⇓	Pdiff	Pdif	18 18 49.8	-0.6	
	baz=101								
PCBR	**Castelo Branco**	101.02	323	*e*	PP	PP	18 23 01.1	+2.9	
SCHQ	**Schefferville**	101.06	5	*e*	P	Pdif	18 18 48.6	-1.7	
	comp=Z,36nm,1.2s								
SCHQ	**Schefferville**	101.06	5		P	Pdif	18 18 48.6	-1.7	
	comp=Z,16nm,1.0s,baz=350,slow=4.7,SNR=11								
PDMCI	**Parker Dam,Lak**	101.06	45	⇓	Pdiff	Pdif	18 18 50.4	-0.4	
	baz=101								
P20A	**De Beque**	101.07	38	⇑	Pdiff	Pdif	18 18 50.6	-0.4	
	baz=101								
O21A	**Pagoda**	101.08	37	⇓	Pdiff	Pdif	18 18 50.3	-0.8	
	baz=101								
L24A	**Wheatland**	101.10	34	⇓	Pdiff	Pdif	18 18 50.6	-0.4	
	baz=101								
M23A	**Laramie**	101.11	35	⇓	Pdiff	Pdif	18 18 50.7	-0.5	
	baz=101								
Y12C	**Blythe**	101.15	45	⇑	Pdiff	Pdif	18 18 51.1	-0.1	
	baz=101								
N22A	**Wattenberg Ran**	101.21	36	⇓	Pdiff	Pdif	18 18 50.9	-0.8	
	baz=101								
K25A	**Mack Ranch, Ha**	101.22	33	⇓	Pdiff	Pdif	18 18 50.8	-0.8	
	baz=101								
PMRV	**Marv??o**	101.26	323	*e*	Pdif	Pdif	18 18 50.7	-0.9	
PMRV	**Marv??o**	101.26	323	*e*	PP	PP	18 23 01.3	+1.3	
PMRV				*e*	SKS	SKSac	18 29 29.2	-0.4	
PMRV				*i*	P	PS	18 32 06.9	+3.5	
PMRV	**Marv??o**	101.26	323	*e*	LQ	LQ	18 57 16.4		
PMRV				*e*	LR	LR	19 01 25.3		
	comp=Z,34µm,18.0s								
MAW	**Mawson**	101.29	200		PP	PP	18 23 14.7	+14	
	comp=Z,3.1nm,0.9s,baz=45,slow=9.9,SNR=4.1								
GLA	**Glamis**	101.39	46	⇓	Pdiff	Pdif	18 18 51.9	-0.5	
	baz=101								
N23A	**Red Feather La**	101.41	35	⇓	Pdiff	Pdif	18 18 52.0	-0.6	
	baz=101								
I28A	**Midland**	101.47	30	⇑	Pdiff	Pdif	18 18 51.5	-1.0	
	baz=101								
K26A	**Motz Farm, Whi**	101.49	32	⇑	Pdiff	Pdif	18 18 51.6	-1.1	
	baz=101								
Q20A	**Ridgley Place,**	101.50	38	⇑	Pdiff	Pdif	18 18 52.5	-0.4	
	baz=101								
L25A	**Engebretsen Ra**	101.51	33	⇓	Pdiff	Pdif	18 18 52.4	-0.4	
	baz=101								
PV04	**Paradox Valley**	101.54	39	*e*	P	Pdif	18 18 54.7	+1.6	
M24A	**Cheyenne**	101.58	34	⇓	Pdiff	Pdif	18 18 52.0	-1.2	
	baz=101								
O22A	**Kremmling**	101.61	36	⇓	Pdiff	Pdif	18 18 52.8	-0.7	
	baz=101								
PTOM	**Tomar**	101.69	323	*e*	PP	PP	18 23 04.6	+1.4	
PESTR	**Estremoz**	101.76	322	*e*	Pdif	Pdif	18 18 54.8	+1.0	
PESTR	**Estremoz**	101.76	322	*e*	PP	PP	18 23 04.7	+0.9	
PESTR				*e*	SKS	SKSac	18 29 31.9	-0.2	
PESTR				*i*	P	PS	18 32 13.0	+4.2	
J28A	**Allard Ranch,**	101.88	31	⇑	Pdiff	Pdif	18 18 53.4	-0.9	
	baz=102								
P22A	**Eagle**	101.90	37	⇓	Pdiff	Pdif	18 18 53.6	-1.1	
	baz=102								
PV01	**Paradox Valley**	101.91	39	*e*	P	Pdif	18 18 55.2	+0.4	
	comp=Z,1µm,1.3s								
O23A	**Lake Granby, G**	101.92	36	⇓	Pdiff	Pdif	18 18 53.7	-1.2	
	baz=102								
PBAR	**Barrancos**	101.93	321	*e*	Pdif	Pdif	18 18 55.3	+0.7	
PBAR	**Barrancos**	101.93	321	*e*	PP	PP	18 23 05.0	-0.1	
PBAR				*e*	SKS	SKSac	18 29 32.8	0.0	
PBAR				*i*	P	PS	18 32 13.8	+3.3	
K27A	**Flueckinger Fa**	101.95	32	⇑	Pdiff	Pdif	18 18 53.6	-1.1	
	baz=102								
PMTG	**Montargil**	101.97	323	*e*	Pdif	Pdif	18 18 53.3	-1.4	
PMTG	**Montargil**	101.97	323	*e*	PP	PP	18 23 07.0	+1.6	
PMTG				*e*	SKS	SKSac	18 29 32.7	-0.3	
PMTG				*i*	P	PS	18 32 13.6	+2.7	
R20A	**Redvale**	101.98	39	⇓	Pdiff	Pdif	18 18 53.8	-1.4	
	baz=102								
Q21A	**Lamborn Mesa,**	101.99	38	⇓	Pdiff	Pdif	18 18 54.3	-0.8	
	baz=102								
M25A	**Palm-Egli Farm**	102.00	34	⇓	Pdiff	Pdif	18 18 53.5	-1.6	
	baz=102								
WUAZ	**Wupatki**	102.01	42	*e*	P	Pdif	18 18 56.0	+0.8	
	comp=Z,11nm,0.9s								
WUAZ					LR	LR			
	comp=Z,4µm,20.0s								
Y14A	**Wickenburg**	102.01	44	⇑	Pdiff	Pdif	18 18 54.6	-0.5	
	baz=102								
N24A	**Carr**	102.01	35	⇓	Pdiff	Pdif	18 18 54.1	-1.1	
	baz=102								
L26A	**Underwood Farm**	102.04	33	⇑	Pdiff	Pdif	18 18 54.4	-0.7	
	baz=102								
BRSD	**Miller**	102.12	29	⇑	Pdiff	Pdif	18 18 54.7	-0.6	
	baz=102								
EYMN	**Ely**	102.19	22	*e*	P	Pdif	18 18 54.0	-1.5	
	comp=Z,3.2nm,0.8s								
EYMN					LR	LR			
	comp=Z,15µm,19.0s								
EVO	**Evora**	102.23	322	⇑	*i* P	Pdif	18 18 55.4	-0.5	
	comp=Z,36nm,1.4s								
EVO				*e*	R				
	comp=Z,44µm,20.0s								
EVO	**Evora**	102.23	322	*e*	Pdif	Pdif	18 18 56.7	+0.8	
EVO	**Evora**	102.23	322	*e*	PP	PP	18 23 07.6	+0.3	
S20A	**Disappointment**	102.24	39	⇓	Pdiff	Pdif	18 18 56.0	-0.3	
	baz=102								
113A	**Mohawk Valley,**	102.26	46	⇑	Pdiff	Pdif	18 18 56.3	+0.1	
	baz=102								
R21A	**Cimarron**	102.33	38	⇑	Pdiff	Pdif	18 18 55.9	-0.8	
	baz=102								
Q22A	**Crested Butte,**	102.33	37	⇑	Pdiff	Pdif	18 18 56.1	-0.7	
	baz=102								
K28A	**Ten Mile Ranch**	102.36	31	⇑	Pdiff	Pdif	18 18 55.9	-0.6	
	baz=102								
ISCO	**Idaho Springs**	102.37	36	*e*	P	Pdif	18 18 58.6	+1.7	
ISCO					pmax	pmax			
	comp=Z,5.0nm,1.2s								
ISCO					MLR	MLR			
	comp=Z,8µm,20.0s								
ISCO	**Idaho Springs**	102.37	36	*e*	Pdif	Pdif	18 18 58.6	+1.7	
	comp=Z,5.0nm,1.2s								
ISCO					LR	LR			
	comp=Z,8µm,20.0s								
L27A	**T5 Ranch, Ells**	102.38	32	⇓	Pdiff	Pdif	18 18 56.2	-0.5	
	baz=102								
Z14A	**Wintersburg**	102.42	45	⇓	Pdiff	Pdif	18 18 56.3	-0.6	
	baz=102								
O24A	**Longmont**	102.43	35	⇓	Pdiff	Pdif	18 18 56.4	-0.6	
	baz=102								
M26A	**McRoberts Ranc**	102.43	33	⇑	Pdiff	Pdif	18 18 56.9	0.0	
	baz=102								
N25A	**Grover**	102.44	34	⇓	Pdiff	Pdif	18 18 56.9	-0.1	
	baz=102								
PBEJ	**Beja**	102.50	322	*e*	Pdif	Pdif	18 18 54.2	-2.9	
PBEJ	**Beja**	102.50	322	*e*	PP	PP	18 23 09.2	-0.2	
P23A	**Jefferson**	102.56	36	⇑	Pdiff	Pdif	18 18 57.0	-0.8	
	baz=102								
MVCO	**Mesa Verde**	102.59	39	*e*	P	Pdif	18 18 57.5	-0.4	
	comp=Z,9.8nm,1.1s								
MVCO					LR	LR			
	comp=Z,5µm,20.0s								
PMAFR	**Mafra**	102.63	323	*e*	Pdif	Pdif	18 18 57.3	-0.4	
PMAFR	**Mafra**	102.63	323	*e*	PP	PP	18 23 11.7	+1.3	
PMAFR				*e*	SKS		18 29 35.7		
S21A	**Coal Bank Pass**	102.68	39	⇑	Pdiff	Pdif	18 18 58.9	+0.5	
	baz=102								
X16A	**Lo Mia Camp, P**	102.69	43	⇑	Pdiff	Pdif	18 18 58.1	-0.2	
	baz=102								
LIS	**Lisbon**	102.73	323	*e*	P	Pdif	18 18 56.4	-1.7	
LIS				*e*	S	SKSac	18 29 34.6	-2.0	
LIS					AMS	AMS	19 11 22.7		
	comp=Z,25µm,19.5s								
LIS	**Lisbon**	102.73	323	*e*	P	Pdif	18 18 56.4	-1.7	
LIS	**Lisbon**	102.73	323		A	A	19 11 22.7		
	comp=Z,25µm,19.5s								
LIS	**Lisbon**	102.73	323	*e*	P	Pdif	18 18 56.4	-1.7	
LIS				*e*	S	SKSac	18 29 34.6	-2.0	
M27A	**Reverse DX Ran**	102.76	33	⇑	Pdiff	Pdif	18 18 58.1	-0.3	
	baz=102								
PNCL	**Nicolau / Gran**	102.81	322	*e*	Pdif	Pdif	18 18 58.3	-0.2	
PNCL	**Nicolau / Gran**	102.81	322	*e*	PP	PP	18 23 12.1	+0.4	
PNCL				*e*	SKS	SKSac	18 29 36.2	-0.8	
PNCL				*i*	P	PS	18 32 24.2	+4.3	
K29A	**Lazy Trails An**	102.81	31	⇓	Pdiff	Pdif	18 18 58.2	-0.3	
	baz=103								
L28A	**Connealy Angus**	102.82	32	⇑	Pdiff	Pdif	18 18 58.4	-0.3	
	baz=103								
MESJ	**Messejana**	102.83	322	*e*	P	Pdif	18 18 57.6	-1.0	
MESJ				*e*	PP	PP	18 23 11.1	-0.8	
MESJ				*e*	PP	PKiKP	18 23 11.6	-7.4	
MESJ				*e*	S	SKSac	18 29 35.6	-1.5	
MESJ					AMS	AMS	19 13 09.1		
	comp=N,21µm,16.7s								
MESJ	**Messejana**	102.83	322	*e*	P	Pdif	18 18 57.6	-1.0	
MESJ	**Messejana**	102.83	322	*e*	P	Pdif	18 18 57.6	-1.0	
MESJ				*e*			18 23 11.1		
MESJ				*e*	S	SKSac	18 29 35.6	-1.5	
PVAQ	**Vaqueiros**	102.85	321	*e*	Pdif	Pdif	18 18 59.7	+1.0	
PVAQ	**Vaqueiros**	102.85	321	*e*	PP	PP	18 23 11.8	-0.2	
PVAQ				*e*	SKS	SKSac	18 29 37.2	0.0	
PVAQ				*i*	P	PS	18 32 22.2	+1.9	
PVAQ	**Vaqueiros**	102.85	321	*e*	LQ	LQ	18 55 56.5		
PVAQ				*e*	LR	LR	19 02 44.8		
	comp=N,21µm,18.0s								
N26A	**Koester Ranch,**	102.87	34	⇓	Pdiff	Pdif	18 18 58.8	0.0	
	baz=103								
R22A	**Saguache, Gunn**	102.87	38	⇓	Pdiff	Pdif	18 18 59.3	+0.1	
	baz=103								
PCVE	**Castro Verde**	102.87	322	*e*	Pdif	Pdif	18 18 59.0	+0.2	
PCVE	**Castro Verde**	102.87	322	*e*	PP	PP	18 23 12.4	+0.2	
PCVE				*e*	SKS	SKSac	18 29 38.6	+1.3	
PCVE				*i*	P	PS	18 32 24.8	+4.3	
TAM	**Tamanrasset**	102.89	302		PFAKE		18 19 10.0	+11	
TAM					LR	LR			
	comp=Z,9µm,20.0s								
Q23A	**Hartsel**	102.90	37	⇑	Pdiff	Pdif	18 18 59.4	+0.1	
	baz=103								
O25A	**Wiggins**	102.93	35	⇓	Pdiff	Pdif	18 18 59.4	+0.2	
	baz=103								
P24A	**Kohler Place,**	102.95	36	⇑	Pdiff	Pdif	18 18 59.3	-0.1	
	baz=103								
PBDV	**Barranco-do-Ve**	103.08	321	*e*	Pdif	Pdif	18 19 00.8	+1.0	
PBDV	**Barranco-do-Ve**	103.08	321	*e*	PP	PP	18 23 14.4	+0.6	
PBDV				*e*	SKS	SKSac	18 29 38.0	-0.4	
PBDV				*i*	P	PS	18 32 25.7	+2.9	
U20A	**Newcomb**	103.15	40	⇑	Pdiff	Pdif	18 19 00.6	+0.3	
	baz=103								
S22A	**4UR Ranch, Cre**	103.17	38	⇓	Pdiff	Pdif	18 19 00.9	+0.4	
	baz=103								
Q24A	**Divide**	103.22	36	⇓	Pdiff	Pdif	18 19 00.8	+0.1	
	baz=103								
N27A	**Anderson Farm,**	103.23	33	⇓	Pdiff	Pdif	18 19 00.2	-0.3	
	baz=103								
O26A	**Horse Wrangler**	103.25	34	⇑	Pdiff	Pdif	18 18 60.0	-0.7	
	baz=103								
W18A	**Petrified Fore**	103.28	42	⇓	Pdiff	Pdif	18 19 01.1	+0.2	
	baz=103								
L29A	**Maesberg Ranch**	103.28	31	⇓	Pdiff	Pdif	18 19 00.5	-0.1	
	baz=103								
T21A	**Navajo Lake**	103.29	39	⇓	Pdiff	Pdif	18 19 01.1	+0.1	
	baz=103								
PTEO	**Sao Teotonio**	103.32	322	*e*	PP	PP	18 23 17.1	+1.6	
P25A	**Willow Gulch B**	103.35	35	⇑	Pdiff	Pdif	18 19 01.1	0.0	
	baz=103								
OGNE	**Ogallala**	103.38	33		PFAKE		18 19 10.0	+8.9	
OGNE					LR	LR			
	comp=Z,7µm,20.0s								
214A	**Organ Pipe Nat**	103.40	46	⇓	Pdiff	Pdif	18 19 01.6	+0.3	
	baz=103								
R23A	**Moffat**	103.41	37	⇑	Pdiff	Pdif	18 19 01.6	0.0	
	baz=103								
MORF	**Marmelete**	103.45	322	*e*	PP	PP	18 23 17.8	+1.2	
MORF				*e*	SKS		18 29 39.5		
MORF	**Marmelete**	103.45	322	*e*	P	Pdif	18 19 00.4	-1.0	
MORF				*e*			18 23 15.8		
MORF				*e*	S	SKSac	18 29 37.8	-2.3	
X18A	**Snowflake**	103.54	42	⇑	Pdiff	Pdif	18 19 02.6	+0.5	
	baz=103								
V20A	**Brimhall**	103.57	40	⇑	Pdiff	Pdif	18 19 02.7	+0.5	
	baz=103								
U21A	**Nageezi**	103.61	39	⇑	Pdiff	Pdif	18 19 02.9	+0.4	
	baz=103								
T22A	**Edith**	103.64	39	⇑	Pdiff	Pdif	18 19 03.0	+0.4	
	baz=103								
M29A	**Burnside Ranch**	103.65	32	⇓	Pdiff	Pdif	18 19 01.8	-0.5	
	baz=103								
S23A	**Nye Farm, Mont**	103.66	38	⇓	Pdiff	Pdif	18 19 01.8	-0.8	
	baz=103								
PFVI	**Vila Bisbo**	103.67	322	*e*	PP	PP	18 23 18.3	+0.2	
PFVI				*e*	SKS		18 29 40.7		
ECSD	**EROS Data Cent**	103.70	28	*e*	P	Pdif	18 19 00.8	-1.6	
	comp=Z,52nm,1.8s								
ECSD					LR	LR			
	comp=Z,13µm,19.0s								
O27A	**Beecher Island**	103.72	34	⇑	Pdiff	Pdif	18 19 02.0	-0.7	
	baz=104								
P26A	**Davis Ranch, A**	103.74	35	⇓	Pdiff	Pdif	18 19 01.9	-1.0	
	baz=104								
Q25A	**Bedland, Calha**	103.74	36	⇑	Pdiff	Pdif	18 19 02.4	-0.5	
	baz=104								
R24A	**Sanders Place,**	103.78	37	⇓	Pdiff	Pdif	18 19 02.6	-0.5	
	baz=104								
SDCO	**Great Sand Dun**	103.91	37		PFAKE		18 19 20.0	+16	
SDCO					LR	LR			
	comp=Z,7µm,20.0s								
M30A	**Dale-Ortello V**	103.97	31	⇑	Pdiff	Pdif	18 19 02.3	-1.4	
	baz=104								
W20A	**Ramah**	104.01	41	⇓	Pdiff	Pdif	18 19 03.2	-1.0	
	baz=104								
SPMN	**St. Paul**	104.02	25	⇑	Pdiff	Pdif	18 19 02.7	-1.0	
	baz=104								
VNDA	**Vanda**	104.03	172		PP	PP	18 23 21.8	+1.0	
VNDA					PKKPbc	**PKKPbc**	**18 34 53.1**	**-1.7**	
VNDA	**Vanda**	104.03	172		Pdiff	**Pdif**	**18 19 08.6**	**+5.8**	
	comp=Z,0.9nm,0.9s,baz=341,slow=6.2,SNR=3.0								
VNDA					PP	**PP**	**18 23 21.8**	**+1.0**	
	comp=Z,3.5nm,1.0s,baz=322,slow=6.6,SNR=5.5								
VNDA					PKKPbc	**PKKPbc**	**18 34 53.1**	**-1.7**	
	comp=Z,3.3nm,0.8s,baz=198,slow=1.4,SNR=16								
V21A	**Milan**	104.06	40	⇓	Pdiff	Pdif	18 19 03.7	-0.7	
	baz=104								
U22A	**Llaves**	104.11	39	⇑	Pdiff	Pdif	18 19 03.7	-0.9	
	baz=104								
T23A	**Casias Ranch,**	104.11	38	⇓	Pdiff	Pdif	18 19 04.3	-0.4	
	baz=104								
Q26A	**Hugo**	104.12	35	⇓	Pdiff	Pdif	18 19 03.9	-0.6	
	baz=104								
O28A	**Krutsinger Ran**	104.12	33	⇓	Pdiff	Pdif	18 19 03.8	-0.6	
	baz=104								
P27A	**Ficken Ranch,**	104.14	34	⇑	Pdiff	Pdif	18 19 03.6	-0.9	
	baz=104								
S24A	**Houchin Ranch,**	104.14	37	⇑	Pdiff	Pdif	18 19 03.9	-0.9	
	baz=104								
N29A	**Votaw Ranch, W**	104.16	32	⇓	Pdiff	Pdif	18 19 03.6	-1.0	
	baz=104								
R25A	**Fountain Ranch**	104.28	36	⇓	Pdiff	Pdif	18 19 04.6	-0.7	
	baz=104								
V22A	**San Miguel Ran**	104.41	39	⇓	Pdiff	Pdif	18 19 05.3	-0.7	
	baz=104								
X20A	**Quemado**	104.41	41	⇑	Pdiff	Pdif	18 19 05.2	-0.8	
	baz=104								
TUC	**Tucson**	104.48	44	*e*	P	Pdif	18 19 05.0	-1.2	
TUC					pmax	pmax			
	comp=Z,13nm,1.6s								
TUC					MLR	MLR			
	comp=Z,4

	baz=105								
T26A	**Comanche Natio**	**105.37**	**36**	⇑Pdiff	**Pdif**	**18 19 09.6**	**-0.5**
	baz=105								
T26A				⇑PKiKP	**PKiKP**	**18 23 23.6**	**-0.4**
	baz=105								
T26A				⇑PKiKP	**PKiKP**	**18 23 23.6**	**-0.4**
	baz=105								
T26A				⇑PKiKP	**PKiKP**	**18 23 23.6**	**-0.4**
	baz=105								
W23A	**Werner Place,**	**105.38**	**39**	⇑Pdiff	**Pdif**	**18 19 09.4**	**-0.9**
	baz=105								
W23A				⇓PKiKP	**PKiKP**	**18 23 23.9**	**-0.2**
	baz=105								
W23A				⇓PKiKP	**PKiKP**	**18 23 23.9**	**-0.2**
	baz=105								
W23A				⇓PKiKP	**PKiKP**	**18 23 23.9**	**-0.2**
	baz=105								
R28A	**Tribune**	**105.45**	**35**	⇑Pdiff	**Pdif**	**18 19 08.8**	**-1.6**
	baz=105								
R28A				⇓PKiKP	**PKiKP**	**18 23 23.9**	**-0.1**
	baz=105								
R28A				⇓PKiKP	**PKiKP**	**18 23 23.9**	**-0.1**
	baz=105								
R28A				⇓PKiKP	**PKiKP**	**18 23 23.9**	**-0.1**
	baz=105								
Q29A	**Oakley**	**105.46**	**34**	⇓Pdiff	**Pdif**	**18 19 09.3**	**-1.1**
	baz=105								
Q29A				⇓PKiKP	**PKiKP**	**18 23 24.0**	**+0.1**
	baz=105								
Q29A				⇓PKiKP	**PKiKP**	**18 23 24.0**	**+0.1**
	baz=105								
Q29A				⇓PKiKP	**PKiKP**	**18 23 24.0**	**+0.1**
	baz=105								
V24A	**Rampart Ranch,**	**105.48**	**39**	⇓Pdiff	**Pdif**	**18 19 10.5**	**-0.2**
	baz=105								
V24A				⇓PKiKP	**PKiKP**	**18 23 24.4**	**+0.2**
	baz=105								
V24A				⇓PKiKP	**PKiKP**	**18 23 24.4**	**+0.2**
	baz=105								
V24A				⇓PKiKP	**PKiKP**	**18 23 24.4**	**+0.2**
	baz=105								
U25A	**Circle Dot Ran**	**105.48**	**37**	⇓Pdiff	**Pdif**	**18 19 10.5**	**-0.2**
	baz=105								
U25A				⇓PKiKP	**PKiKP**	**18 23 24.2**	**0.0**
	baz=105								
U25A				⇓PKiKP	**PKiKP**	**18 23 24.2**	**0.0**
	baz=105								
U25A				⇓PKiKP	**PKiKP**	**18 23 24.2**	**0.0**
	baz=105								
Y22D	**IRIS PASSCAL I**	**105.68**	**41**	⇑Pdiff	**Pdif**	**18 19 11.6**	**+0.1**
	baz=106								
Y22D				⇓PKiKP	**PKiKP**	**18 23 23.8**	**-0.7**
	baz=106								
Y22D				⇓PKiKP	**PKiKP**	**18 23 23.8**	**-0.7**
	baz=106								
Y22D				⇓PKiKP	**PKiKP**	**18 23 23.8**	**-0.7**
	baz=106								
120A	**U Bar Ranch, L**	**105.68**	**43**	⇓Pdiff	**Pdif**	**18 19 10.7**	**-0.9**
	baz=106								
120A				⇓PKiKP	**PKiKP**	**18 23 24.5**	**-0.2**
	baz=106								
120A				⇓PKiKP	**PKiKP**	**18 23 24.5**	**-0.2**
	baz=106								
120A				⇓PKiKP	**PKiKP**	**18 23 24.5**	**-0.2**
	baz=106								
R29A	**Marienthal**	**105.73**	**34**	⇓Pdiff	**Pdif**	**18 19 10.7**	**-0.9**
	baz=106								
R29A				⇓PKiKP	**PKiKP**	**18 23 24.1**	**-0.3**
	baz=106								
R29A				⇓PKiKP	**PKiKP**	**18 23 24.1**	**-0.3**
	baz=106								
R29A				⇓PKiKP	**PKiKP**	**18 23 24.1**	**-0.3**
	baz=106								
Y22A	**Socorro**	**105.75**	**41**	⇓Pdiff	**Pdif**	**18 19 12.0**	**+0.1**
	baz=106								
Y22A				⇑PKiKP	**PKiKP**	**18 23 24.3**	**-0.4**
	baz=106								
Y22A				⇑PKiKP	**PKiKP**	**18 23 24.3**	**-0.4**
	baz=106								
Y22A				⇑PKiKP	**PKiKP**	**18 23 24.3**	**-0.4**
	baz=106								
Z21A	**St. Cloud Mine**	**105.76**	**42**	⇑Pdiff	**Pdif**	**18 19 12.0**	**0.0**
	baz=106								
Z21A				⇓PKiKP	**PKiKP**	**18 23 24.5**	**-0.3**
	baz=106								
Z21A				⇓PKiKP	**PKiKP**	**18 23 24.5**	**-0.3**
	baz=106								
Z21A				⇓PKiKP	**PKiKP**	**18 23 24.5**	**-0.3**
	baz=106								
X23A	**Hourglass Bar**	**105.76**	**40**	⇑Pdiff	**Pdif**	**18 19 12.2**	**+0.2**
	baz=106								
X23A				⇓PKiKP	**PKiKP**	**18 23 24.1**	**-0.7**
	baz=106								
X23A				⇓PKiKP	**PKiKP**	**18 23 24.1**	**-0.7**
	baz=106								
X23A				⇓PKiKP	**PKiKP**	**18 23 24.1**	**-0.7**
	baz=106								
W24A	**Lazy 6 Ranch,**	**105.77**	**39**	⇓Pdiff	**Pdif**	**18 19 12.0**	**0.0**
	baz=106								
W24A				⇓PKiKP	**PKiKP**	**18 23 24.5**	**-0.3**
	baz=106								
W24A				⇓PKiKP	**PKiKP**	**18 23 24.5**	**-0.3**
	baz=106								
W24A				⇓PKiKP	**PKiKP**	**18 23 24.5**	**-0.3**
	baz=106								
V25A	**Rancho No Teng**	**105.77**	**38**	⇑Pdiff	**Pdif**	**18 19 11.8**	**-0.2**
	baz=106								
V25A				⇓PKiKP	**PKiKP**	**18 23 24.1**	**-0.7**
	baz=106								
V25A				⇓PKiKP	**PKiKP**	**18 23 24.1**	**-0.7**
	baz=106								
V25A				⇓PKiKP	**PKiKP**	**18 23 24.1**	**-0.7**
	baz=106								
P31A	**Stockton**	**105.77**	**32**	⇑Pdiff	**Pdif**	**18 19 11.7**	**0.0**
	baz=106								
P31A				⇑PKiKP	**PKiKP**	**18 23 24.3**	**-0.1**
	baz=106								
P31A				⇑PKiKP	**PKiKP**	**18 23 24.3**	**-0.1**
	baz=106								
P31A				⇑PKiKP	**PKiKP**	**18 23 24.3**	**-0.1**
	baz=106								
Q30A	**Quinter**	**105.78**	**33**	⇑Pdiff	**Pdif**	**18 19 11.7**	**0.0**
	baz=106								
Q30A				⇑PKiKP	**PKiKP**	**18 23 24.3**	**-0.2**
	baz=106								
Q30A				⇑PKiKP	**PKiKP**	**18 23 24.3**	**-0.2**
	baz=106								
Q30A				⇑PKiKP	**PKiKP**	**18 23 24.3**	**-0.2**
	baz=106								
BNM	**Barren Site**	**105.80**	**40**	*e*P	**Pdif**	**18 19 13.8**	**+1.6**
	comp=Z,6.2nm,1.3s								
U26A	**Atchley Ranch,**	**105.85**	**37**	⇑Pdiff	**Pdif**	**18 19 11.9**	**-0.4**
	baz=106								
U26A				⇓PKiKP	**PKiKP**	**18 23 24.9**	**0.0**
	baz=106								
U26A				⇓PKiKP	**PKiKP**	**18 23 24.9**	**0.0**
	baz=106								
U26A				⇓PKiKP	**PKiKP**	**18 23 24.9**	**0.0**
	baz=106								
T27A	**Campo**	**105.92**	**36**	⇓Pdiff	**Pdif**	**18 19 12.0**	**-0.5**
	baz=106								
T27A				⇑PKiKP	**PKiKP**	**18 23 25.0**	**+0.1**
	baz=106								
T27A				⇑PKiKP	**PKiKP**	**18 23 25.0**	**+0.1**
	baz=106								
T27A				⇑PKiKP	**PKiKP**	**18 23 25.0**	**+0.1**
	baz=106								
S28A	**Manter**	**105.97**	**35**	⇓Pdiff	**Pdif**	**18 19 12.6**	**-0.1**
	baz=106								
S28A				⇓PKiKP	**PKiKP**	**18 23 25.2**	**+0.3**
	baz=106								
S28A				⇓PKiKP	**PKiKP**	**18 23 25.2**	**+0.3**
	baz=106								
S28A				⇓PKiKP	**PKiKP**	**18 23 25.2**	**+0.3**
	baz=106								
319A	**Douglas**	**106.06**	**44**	⇓Pdiff	**Pdif**	**18 19 13.3**	**0.0**
	baz=106								
319A				⇓PKiKP	**PKiKP**	**18 23 25.2**	**-0.1**
	baz=106								
319A				⇓PKiKP	**PKiKP**	**18 23 25.2**	**-0.1**
	baz=106								
319A				⇓PKiKP	**PKiKP**	**18 23 25.2**	**-0.1**
	baz=106								
Q31A	**Ellis**	**106.16**	**33**	⇑Pdiff	**Pdif**	**18 19 13.6**	**+0.1**
	baz=106								
Q31A				⇓PKiKP	**PKiKP**	**18 23 25.3**	**+0.1**
	baz=106								
Q31A				⇓PKiKP	**PKiKP**	**18 23 25.3**	**+0.1**
	baz=106								
Q31A				⇓PKiKP	**PKiKP**	**18 23 25.3**	**+0.1**
	baz=106								
220A	**Playas Peak, P**	**106.18**	**43**	⇑Pdiff	**Pdif**	**18 19 13.5**	**-0.3**
	baz=106								
220A				⇑PKiKP	**PKiKP**	**18 23 25.7**	**+0.1**
	baz=106								
220A				⇑PKiKP	**PKiKP**	**18 23 25.7**	**+0.1**
	baz=106								
220A				⇑PKiKP	**PKiKP**	**18 23 25.7**	**+0.1**
	baz=106								
T28A	**Walsh**	**106.20**	**36**	⇑Pdiff	**Pdif**	**18 19 13.0**	**-0.8**
	baz=106								
T28A				⇓PKiKP	**PKiKP**	**18 23 25.4**	**0.0**
	baz=106								
T28A				⇓PKiKP	**PKiKP**	**18 23 25.4**	**0.0**
	baz=106								
T28A				⇓PKiKP	**PKiKP**	**18 23 25.4**	**0.0**
	baz=106								
X24A	**Lazy VL Ranch,**	**106.21**	**39**	⇓Pdiff	**Pdif**	**18 19 13.5**	**-0.5**
	baz=106								
X24A				⇓PKiKP	**PKiKP**	**18 23 25.8**	**+0.2**
	baz=106								
X24A				⇓PKiKP	**PKiKP**	**18 23 25.8**	**+0.2**
	baz=106								
X24A				⇓PKiKP	**PKiKP**	**18 23 25.8**	**+0.2**
	baz=106								
121A	**Cookes Peak, D**	**106.22**	**42**	⇓Pdiff	**Pdif**	**18 19 14.5**	**+0.5**
	baz=106								
121A				⇓PKiKP	**PKiKP**	**18 23 25.5**	**-0.2**
	baz=106								
121A				⇓PKiKP	**PKiKP**	**18 23 25.5**	**-0.2**
	baz=106								
121A				⇓PKiKP	**PKiKP**	**18 23 25.5**	**-0.2**
	baz=106								
Z22A	**Elephant Butte**	**106.22**	**41**	⇑Pdiff	**Pdif**	**18 19 13.8**	**-0.2**
	baz=106								
Z22A				⇓PKiKP	**PKiKP**	**18 23 25.5**	**-0.1**
	baz=106								
Z22A				⇓PKiKP	**PKiKP**	**18 23 25.5**	**-0.1**
	baz=106								
Z22A				⇓PKiKP	**PKiKP**	**18 23 25.5**	**-0.1**
	baz=106								
V26A	**Tequesquite Ra**	**106.27**	**38**	⇓Pdiff	**Pdif**	**18 19 13.6**	**-0.5**
	baz=106								
V26A				⇑PKiKP	**PKiKP**	**18 23 25.8**	**+0.2**
	baz=106								
V26A				⇑PKiKP	**PKiKP**	**18 23 25.8**	**+0.2**
	baz=106								
V26A				⇑PKiKP	**PKiKP**	**18 23 25.8**	**+0.2**
	baz=106								
R30A	**Dighton**	**106.28**	**34**	⇓Pdiff	**Pdif**	**18 19 14.3**	**+0.3**
	baz=106								
R30A				⇓PKiKP	**PKiKP**	**18 23 25.4**	**-0.1**
	baz=106								
R30A				⇓PKiKP	**PKiKP**	**18 23 25.4**	**-0.1**
	baz=106								
R30A				⇓PKiKP	**PKiKP**	**18 23 25.4**	**-0.1**
	baz=106								
Y23A	**Lovelace Mesa,**	**106.29**	**40**	⇓Pdiff	**Pdif**	**18 19 13.7**	**-0.7**
	baz=106								
Y23A				⇑PKiKP	**PKiKP**	**18 23 26.3**	**+0.6**
	baz=106								
Y23A				⇑PKiKP	**PKiKP**	**18 23 26.3**	**+0.6**
	baz=106								
Y23A				⇑PKiKP	**PKiKP**	**18 23 26.3**	**+0.6**
	baz=106								
W25A	**X Bar L Ranch,**	**106.30**	**38**	⇓Pdiff	**Pdif**	**18 19 13.2**	**-1.1**
	baz=106								
W25A				⇑PKiKP	**PKiKP**	**18 23 26.3**	**+0.6**
	baz=106								
W25A				⇑PKiKP	**PKiKP**	**18 23 26.3**	**+0.6**
	baz=106								
W25A				⇑PKiKP	**PKiKP**	**18 23 26.3**	**+0.6**
	baz=106								
U27A	**Thompson Grove**	**106.34**	**37**	⇓Pdiff	**Pdif**	**18 19 14.2**	**-0.2**
	baz=106								
U27A				⇓PKiKP	**PKiKP**	**18 23 26.1**	**+0.4**
	baz=106								
U27A				⇓PKiKP	**PKiKP**	**18 23 26.1**	**+0.4**
	baz=106								
U27A				⇓PKiKP	**PKiKP**	**18 23 26.1**	**+0.4**
	baz=106								
S29A	**Ulysses**	**106.35**	**35**	⇑Pdiff	**Pdif**	**18 19 14.2**	**-0.2**
	baz=106								
S29A				⇓PKiKP	**PKiKP**	**18 23 26.3**	**+0.6**
	baz=106								
S29A				⇓PKiKP	**PKiKP**	**18 23 26.3**	**+0.6**
	baz=106								
S29A				⇓PKiKP	**PKiKP**	**18 23 26.3**	**+0.6**
	baz=106								
221A	**Mesquite Ranch**	**106.58**	**43**	⇓Pdiff	**Pdif**	**18 19 15.2**	**-0.4**
	baz=106								
221A				⇑PKiKP	**PKiKP**	**18 23 26.6**	**+0.4**
	baz=106								
221A				⇑PKiKP	**PKiKP**	**18 23 26.6**	**+0.4**
	baz=106								
221A				⇑PKiKP	**PKiKP**	**18 23 26.6**	**+0.4**
	baz=106								
122A	**Conniff Cattle**	**106.58**	**42**	⇓Pdiff	**Pdif**	**18 19 15.2**	**-0.4**
	baz=106								
122A				⇓PKiKP	**PKiKP**	**18 23 27.1**	**+0.9**
	baz=106								
122A				⇓PKiKP	**PKiKP**	**18 23 27.1**	**+0.9**
	baz=106								
122A				⇓PKiKP	**PKiKP**	**18 23 27.1**	**+0.9**
	baz=106								
T29A	**Hugoton**	**106.61**	**35**	⇓Pdiff	**Pdif**	**18 19 14.9**	**-0.6**
	baz=106								
T29A				⇓PKiKP	**PKiKP**	**18 23 26.8**	**+0.6**
	baz=106								
T29A				⇓PKiKP	**PKiKP**	**18 23 26.8**	**+0.6**
	baz=106								
T29A				⇓PKiKP	**PKiKP**	**18 23 26.8**	**+0.6**
	baz=106								
SCIA	**State Center**	**106.63**	**27**	PFAKE		18 23 40.0	
SCIA				LR	LR		
	comp=Z,10μm,19.0s								
Z23A	**Rita Site, Whi**	**106.66**	**41**	⇑Pdiff	**Pdif**	**18 19 16.5**	**+0.6**
	baz=106								
Z23A				⇓PKiKP	**PKiKP**	**18 23 27.5**	**+1.1**
	baz=106								
Z23A				⇓PKiKP	**PKiKP**	**18 23 27.5**	**+1.1**
	baz=106								
Z23A				⇓PKiKP	**PKiKP**	**18 23 27.5**	**+1.1**
	baz=106								
Y24A	**Capitan**	**106.66**	**40**	⇓Pdiff	**Pdif**	**18 19 16.5**	**+0.5**
	baz=106								
Y24A				⇓PKiKP	**PKiKP**	**18 23 26.9**	**+0.4**
	baz=106								
Y24A				⇓PKiKP	**PKiKP**	**18 23 26.9**	**+0.4**
	baz=106								
Y24A				⇓PKiKP	**PKiKP**	**18 23 26.9**	**+0.4**
	baz=106								
S30A	**Montezuma**	**106.67**	**34**	⇑Pdiff	**Pdif**	**18 19 15.7**	**-0.1**
	baz=106								
S30A				⇑PKiKP	**PKiKP**	**18 23 27.1**	**+0.9**
	baz=106								
S30A				⇑PKiKP	**PKiKP**	**18 23 27.1**	**+0.9**
	baz=106								
S30A				⇑PKiKP	**PKiKP**	**18 23 27.1**	**+0.9**
	baz=106								
X25A	**Clemmons Ranch**	**106.69**	**39**	⇓Pdiff	**Pdif**	**18 19 16.0**	**0.0**
	baz=106								
X25A				⇑PKiKP	**PKiKP**	**18 23 26.8**	**+0.4**
	baz=106								
X25A				⇑PKiKP	**PKiKP**	**18 23 26.8**	**+0.4**
	baz=106								
X25A				⇑PKiKP	**PKiKP**	**18 23 26.8**	**+0.4**
	baz=106								
U28A	**Mallet**	**106.69**	**36**	⇓Pdiff	**Pdif**	**18 19 15.8**	**-0.2**
	baz=106								
U28A				⇓PKiKP	**PKiKP**	**18 23 27.3**	**+0.9**
	baz=106								
U28A				⇓PKiKP	**PKiKP**	**18 23 27.3**	**+0.9**
	baz=106								
U28A				⇓PKiKP	**PKiKP**	**18 23 27.3**	**+0.9**
	baz=106								
W26A	**Owens Ranch, T**	**106.79**	**38**	⇓Pdiff	**Pdif**	**18 19 17.2**	**+0.7**
	baz=107								
W26A				⇑PKiKP	**PKiKP**	**18 23 26.5**	**-0.1**
	baz=107								
W26A				⇑PKiKP	**PKiKP**	**18 23 26.5**	**-0.1**
	baz=107								
W26A				⇑PKiKP	**PKiKP**	**18 23 26.5**	**-0.1**
	baz=107								
V27A	**Dan Oppiter Fa**	**106.82**	**37**	⇓Pdiff	**Pdif**	**18 19 16.5**	**-0.1**
	baz=107								
V27A				⇑PKiKP	**PKiKP**	**18 23 26.5**	**-0.1**
	baz=107								
V27A				⇑PKiKP	**PKiKP**	**18 23 26.5**	**-0.1**
	baz=107								
222A	**Williams Famil**	**106.93**	**42**	⇓Pdiff	**Pdif**	**18 19 17.0**	**-0.2**
	baz=107								
222A				⇓PKiKP	**PKiKP**	**18 23 26.3**	**-0.6**
	baz=107								
222A				⇓PKiKP	**PKiKP**	**18 23 26.3**	**-0.6**
	baz=107								
222A				⇓PKiKP	**PKiKP**	**18 23 26.3**	**-0.6**
	baz=107								
JFWS	**Jewell Farm**	**106.95**	**24**	PFAKE		18 23 40.0	
JFWS				LR	LR		
	comp=Z,10μm,20.0s								
123A	**Bell Site, Whi**	**107.08**	**41**	⇑Pdiff	**Pdif**	**18 19 18.4**	**+0.6**
	baz=107								
123A				⇓PKiKP	**PKiKP**	**18 23 27.8**	**+0.6**
	baz=107								
123A				⇓PKiKP	**PKiKP**	**18 23 27.8**	**+0.6**
	baz=107								
123A				⇓PKiKP	**PKiKP**	**18 23 27.8**	**+0.6**
	baz=107								
T30A	**Plains**	**107.09**	**35**	⇑Pdiff	**Pdif**	**18 19 16.7**	**-0.9**
	baz=107								
T30A				⇓PKiKP	**PKiKP**	**18 23 27.0**	**0.0**
	baz=107								
T30A				⇓PKiKP	**PKiKP**	**18 23 27.0**	**0.0**
	baz=107								
T30A				⇓PKiKP	**PKiKP**	**18 23 27.0**	**0.0**
	baz=107								
Y25A	**Mesa, Roswell**	**107.10**	**39**	⇑Pdiff	**Pdif**	**18 19 18.4**	**+0.6**
	baz=107								
Y25A				⇓PKiKP	**PKiKP**	**18 23 27.8**	**+0.6**
	baz=107								
Y25A				⇓PKiKP	**PKiKP**	**18 23 27.8**	**+0.6**
	baz=107								
Y25A				⇓PKiKP	**PKiKP**	**18 23 27.8**	**+0.6**
	baz=107								
Z24A	**Sheeppen Canyo**	**107.12**	**40**	⇑Pdiff	**Pdif**	**18 19 18.0**	**-0.1**
	baz=107								
Z24A				⇓PKiKP	**PKiKP**	**18 23 27.5**	**+0.2**
	baz=107								
Z24A				⇓PKiKP	**PKiKP**	**18 23 27.5**	**+0.2**
	baz=107								
Z24A				⇓PKiKP	**PKiKP**	**18 23 27.5**	**+0.2**
	baz=107								
U29A	**Oasis Ranch, S**	**107.15**	**36**	⇑Pdiff	**Pdif**	**18 19 17.8**	**-0.2**
	baz=107								
U29A				⇓PKiKP	**PKiKP**	**18 23 27.6**	**+0.5**
	baz=107								
U29A				⇓PKiKP	**PKiKP**	**18 23 27.6**	**+0.5**
	baz=107								
U29A				⇓PKiKP	**PKiKP**	**18 23 27.6**	**+0.5**
	baz=107								
X26A	**CR and CF Fran**	**107.16**	**38**	⇓Pdiff	**Pdif**	**18 19 18.5**	**+0.4**
	baz=107								
X26A				⇑PKiKP	**PKiKP**	**18 23 27.4**	**+0.1**
	baz=107								
X26A				⇑PKiKP	**PKiKP**	**18 23 27.4**	**+0.1**
	baz=107								
X26A				⇑PKiKP	**PKiKP**	**18 23 27.4**	**+0.1**
	baz=107								
V28A	**Channing**	**107.16**	**37**	⇑Pdiff	**Pdif**	**18 19 18.1**	**0.0**
	baz=107								
V28A				⇑PKiKP	**PKiKP**	**18 23 27.5**	**+0.3**
	baz=107								
V28A				⇑PKiKP	**PKiKP**	**18 23 27.5**	**+0.3**
	baz=107								
V28A				⇑PKiKP	**PKiKP**	**18 23 27.5**	**+0.3**
	baz=107								
S31A	**Mullinville**	**107.19**	**34**	⇓Pdiff	**Pdif**	**18 19 17.9**	**-0.2**
	baz=107								
S31A				⇑PKiKP	**PKiKP**	**18 23 27.4**	**+0.3**
	baz=107								
S31A				⇑PKiKP	**PKiKP**	**18 23 27.4**	**+0.3**
	baz=107								
S31A				⇑PKiKP	**PKiKP**	**18 23 27.4**	**+0.3**
	baz=107								
GLMI	**Grayling**	**107.20**	**20**	PFAKE		18 23 40.0	
GLMI				LR	LR		
	comp=Z,11μm,22.0s								
W27A	**Bowe Ranch, En**	**107.20**	**38**	⇑Pdiff	**Pdif**	**18 19 17.9**	**-0.4**
	baz=107								
W27A				⇓PKiKP	**PKiKP**	**18 23 27.6**	**+0.3**
	baz=107								
W27A				⇓PKiKP	**PKiKP**	**18 23 27.6**	**+0.3**
	baz=107								
W27A				⇓PKiKP	**PKiKP**	**18 23 27.6**	**+0.3**
	baz=107								
223A	**Chaparral, Ant**	**107.41**	**42**	⇑Pdiff	**Pdif**	**18 19 18.1**	**-1.2**
	baz=107								
223A				⇑PKiKP	**PKiKP**	**18 23 27.6**	**-0.2**
	baz=107								
223A				⇑PKiKP	**PKiKP**	**18 23 27.6**	**-0.2**
	baz=107								
223A				⇑PKiKP	**PKiKP**	**18 23 27.6**	**-0.2**
	baz=107								
U30A	**WK&E Inc. Balk**	**107.42**	**35**	⇓Pdiff	**Pdif**	**18 19 18.8**	**-0.4**
	baz=107								
U30A				⇓PKiKP	**PKiKP**	**18 23 27.8**	**+0.1**
	baz=107								
U30A				⇓PKiKP	**PKiKP**	**18 23 27.8**	**+0.1**
	baz=107								
U30A				⇓PKiKP	**PKiKP**	**18 23 27.8**	**+0.1**
	baz=107								
KSU1	**Kansas State U**	**107.43**	**31**	PFAKE		18 23 40.0	
KSU1				LR	LR		
	comp=Z,10μm,19.0s								
V29A	**Stinnett**	**107.45**	**36**	⇑Pdiff	**Pdif**	**18 19 17.7**	**-1.6**
	baz=107								
X27A	**F and S Farms,**	**107.49**	**38**	⇓Pdiff	**Pdif**	**18 19 19.1**	**-0.4**
	baz=107								
T31A	**Randall Ranch,**	**107.49**	**34**	⇓Pdiff	**Pdif**	**18 19 18.2**	**-1.2**
	baz=107								
124A	**Stringfield Ra**	**107.52**	**41**	⇓Pdiff	**Pdif**	**18 19 20.2**	**+0.3**
	baz=107								
W28A	**Vega**	**107.53**	**37**	⇑Pdiff	**Pdif**	**18 19 19.5**	**-0.3**
	baz=107								
Z25A	**Roswell**	**107.54**	**40**	⇓Pdiff	**Pdif**	**18 19 19.7**	**-0.1**
	baz=107								
Y26A	**Elida**	**107.60**	**39**	⇓Pdiff	**Pdif**	**18 19 20.3**	**+0.2**
	baz=107								
224A	**Cornudas Mount**	**107.91**	**41**	⇓Pdiff	**Pdif**	**18 19 21.8**	**+0.3**
	baz=108								
W29A	**Amraillo**	**107.94**	**37**	⇓Pdiff	**Pdif**	**18 19 20.9**	**-0.6**
	baz=108								
U31A	**Nine Bar Ranch**	**107.96**	**35**	⇓Pdiff	**Pdif**	**18 19 20.7**	**-0.8**
	baz=108								
V30A	**Spur Ranch, Mi**	**107.98**	**36**	⇑Pdiff	**Pdif**	**18 19 20.7**	**-0.9**
	baz=108								
Z26A	**Caprock**	**107.98**	**39**	⇑Pdiff	**Pdif**	**18 19 21.9**	**+0.2**
	baz=108								
Y27A	**Causey**	**108.01**	**39**	⇓Pdiff	**Pdif**	**18 19 22.0**	**+0.1**
	baz=108								
125A	**Gardner Draw,**	**108.02**	**40**	⇓Pdiff	**Pdif**	**18 19 22.0**	**+0.1**
	baz=108								
X28A	**Dimmitt**	**108.08**	**37**	⇑Pdiff	**Pdif**	**18 19 21.7**	**-0.6**
	baz=108								
AMTX	**Amarillo**	**108.10**	**37**	PFAKE		18 23 40.0	
AMTX				LR	LR		
	comp=Z,6μm,19.0s								
MSTX	**Muleshoe**	**108.17**	**38**	⇑Pdiff	**Pdif**	**18 19 22.7**	**+0.2**
	baz=108								

baz=108
127A Arkansas Junct 108.77 40 ⇑Pdiff **Pdif** **18 19 25.5 +0.2**
baz=108
W31A Holland Ranch, 108.81 36 ⇓Pdiff **Pdif** **18 19 25.6 +0.2**
baz=109
Y29A Porterfield Fa 108.86 38 ⇓Pdiff **Pdif** **18 19 26.1 +0.5**
baz=109
X30A Coker Ranch, T 108.87 37 ⇓Pdiff **Pdif** **18 19 25.2 -0.4**
baz=109
Z28A Tucker Farm, M 108.88 38 ⇓Pdiff **Pdif** **18 19 25.5 -0.3**
baz=109
425A Indio Mountain 109.14 42 ⇓Pdiff **Pdif** **18 19 26.9 -0.1**
baz=109
X31A McDonald Ranch 109.21 36 ⇑Pdiff **Pdif** **18 19 26.5 -0.6**
baz=109
Y30A Stafford Cattl 109.28 37 ⇑Pdiff **Pdif** **18 19 26.9 -0.6**
baz=109
227A Bennet, Jal 109.29 40 ⇑Pdiff **Pdif** **18 19 27.9 +0.3**
baz=109
Z29A Hungry Hill Ra 109.29 38 ⇓Pdiff **Pdif** **18 19 27.6 +0.1**
baz=109
128A Castleberry Fa 109.31 39 ⇑Pdiff **Pdif** **18 19 27.9 +0.2**
baz=109
HDIL Hopedale 109.34 25 PFAKE 18 23 40.0
HDIL LR LR
comp=Z,9μm,19.0s
326A Caldwell Ranch 109.38 41 ⇓Pdiff **Pdif** **18 19 28.3 +0.3**
baz=109
Y31A Rekieta Farm, 109.56 37 ⇑Pdiff **Pdif** **18 19 28.8 +0.1**
baz=109
Z30A Sanderson Ranc 109.59 38 ⇓Pdiff **Pdif** **18 19 28.4 -0.4**
baz=109
228A UT Block 9, Go 109.62 39 ⇓Pdiff **Pdif** **18 19 29.9 +0.9**
baz=109
SYO Syowa Base 109.62 202 ⇓*e*PP PP 18 24 03.8 +1.7
129A Stewart Farms, 109.66 39 ⇓Pdiff **Pdif** **18 19 29.7 +0.5**
baz=109
WMOK Wichita Mounta 109.77 35 PFAKE 18 23 40.0
WMOK LR LR
comp=Z,7μm,19.0s
426A McDonald Obser 109.81 41 ⇓Pdiff **Pdif** **18 19 30.7 +0.7**
baz=110
LONY Lake Ozonia 109.95 13 PFAKE 18 23 40.0
LONY LR LR
comp=Z,15μm,19.0s
Y32A R-V Farms, Ver 109.98 36 ⇓Pdiff **Pdif** **18 19 31.0 +0.5**
baz=110
328A Wristen Ranch, 110.03 40 ⇑Pdiff **Pdif** **18 19 31.6 +0.8**
baz=110
427A Hayter Ranch, 110.06 41 ⇓Pdiff **Pdif** **18 19 31.4 +0.4**
baz=110
Z31A Sharp Cattle R 110.11 37 ⇓Pdiff **Pdif** **18 19 32.2 +1.1**
baz=110
RKT Rikitea 110.16 107 *e*SKSac **SKSac** **18 30 07.2 -2.5**
comp=Z,2μm,27.5s
RKT Rikitea 110.16 107 *e*PS PS 18 33 37.2 +0.3
comp=Z,3μm,33.2s
RKT *e*SS SS 18 39 32.8 +0.1
comp=Z,4μm,28.0s
RKT Rikitea 110.16 107 *e*LR LR 18 56 04.9
comp=Z,12μm,23.2s,baz=295
229A Bryant Ranch, 110.18 39 ⇓Pdiff **Pdif** **18 19 31.9 +0.4**
baz=110
130A Snyder 110.20 38 ⇓Pdiff **Pdif** **18 19 32.4 +0.8**
baz=110
526A Mary Lane Ranc 110.20 42 ⇑Pdiff **Pdif** **18 19 32.9 +1.1**
baz=110
SFIN Scholer Farm 110.32 24 ⇓Pdiff **Pdif** **18 19 32.7 +0.9**
baz=110
TUL1 Tulsa 110.36 32 ⇓Pdiff **Pdif** **18 19 32.4 +0.2**
baz=110
527A Woodward Ranch 110.43 42 ⇑Pdiff **Pdif** **18 19 32.4 -0.4**
baz=110
329A Wagon Wheel Ra 110.43 39 ⇓Pdiff **Pdif** **18 19 32.6 -0.1**
baz=110
131A Roby 110.46 38 ⇓Pdiff **Pdif** **18 19 33.1 +0.4**
baz=110
Z32A Haskell 110.49 37 ⇑Pdiff **Pdif** **18 19 32.9 +0.1**
baz=110
626A Big Bend Ranch 110.53 42 ⇓Pdiff **Pdif** **18 19 33.3 +0.1**
baz=110
TSUM Tsumeb 110.55 258 PFAKE 18 23 50.0
TSUM LR LR
comp=Z,8μm,22.0s
428A Kincaid Ranch, 110.57 41 ⇓Pdiff **Pdif** **18 19 33.1 -0.2**
baz=110
230A Sterling City 110.64 39 ⇓Pdiff **Pdif** **18 19 34.4 +0.8**
baz=110
NCB Newcomb 110.65 13 PFAKE 18 23 40.0
NCB LR LR
comp=Z,17μm,19.0s
LBNH Lisbon 110.81 11 PFAKE 18 23 50.0
LBNH LR LR
comp=Z,17μm,20.0s
ABTX Abilene, Hawle 110.91 37 ⇑Pdiff **Pdif** **18 19 35.3 +0.6**
baz=111
528A Cox Ranch, San 110.92 41 ⇓Pdiff **Pdif** **18 19 34.7 -0.2**
baz=111
330A Mertzon 110.96 39 ⇓Pdiff **Pdif** **18 19 34.8 -0.2**
baz=111
TXAR Lajitas Array 110.98 42 Pdif **Pdif** **18 19 38.0 +2.9**
TXAR PKiKP **PKiKP** **18 23 35.2 +0.7**
TXAR PKKPab **PKKPab** **18 34 43.1 -0.8**
TXAR Lajitas Array 110.98 42 Pdiff **Pdif** **18 19 38.0 +2.9**
comp=Z,0.7nm,0.8s,baz=295,slow=4.5,SNR=7.7
TXAR PKiKP **PKiKP** **18 23 35.2 +0.7**
comp=Z,2.2nm,0.8s,baz=277,slow=2.1,SNR=9.0
TXAR PKKPab **PKKPab** **18 34 43.1 -0.8**
comp=Z,0.6nm,0.8s,baz=123,slow=9.1,SNR=4.0
231A Bronte 111.06 38 ⇓Pdiff **Pdif** **18 19 35.6 +0.3**
baz=111
627A Terlingua Ranc 111.06 42 ⇓Pdiff **Pdif** **18 19 35.9 +0.4**
baz=111
429A Davenport Ranc 111.11 40 ⇓Pdiff **Pdif** **18 19 36.2 +0.5**
baz=111
TORD Torodi Ar. Bea 111.16 296 Pdif **Pdif** **18 19 37.7 +1.6**
TORD PKiKP **PKiKP** **18 23 34.5 -0.5**
TORD PKKPab **PKKPab** **18 34 42.3 +0.1**
TORD Torodi Ar. Bea 111.16 296 Pdiff **Pdif** **18 19 37.7 +1.6**
comp=Z,0.6nm,0.8s,baz=58,slow=3.9,SNR=3.7
TORD PKiKP **PKiKP** **18 23 34.5 -0.5**
comp=Z,2.1nm,0.7s,baz=32,slow=2.2,SNR=13
TORD PKKPab **PKKPab** **18 34 42.3 +0.1**
comp=Z,7.4nm,1.1s,baz=264,slow=3.3,SNR=6.2
529A Stev Forest Ra 111.28 41 ⇓Pdiff **Pdif** **18 19 36.5 +0.1**
baz=111
BART Pico Bartolome 111.29 333 *e*PP PP 18 24 18.5 +4.8
BART Pico Bartolome 111.29 333 *e*LQ LQ 19 10 40.1
PGRA Graciosa 111.33 335 *e*PP PP 18 24 16.6 +2.7
PGRA Graciosa 111.33 335 *e*LQ LQ 19 07 39.0
628A Black Gap, Mar 111.34 42 ⇓Pdiff **Pdif** **18 19 37.1 +0.4**
baz=111
430A Baggett Ranch, 111.38 39 ⇑Pdiff **Pdif** **18 19 36.7 -0.2**
baz=111
CMLA Cha da Macela 111.45 333 PFAKE 18 23 50.0
CMLA LR LR
comp=Z,16μm,21.0s
331A San Angelo 111.46 39 ⇑Pdiff **Pdif** **18 19 36.4 -0.8**
baz=111
232A Coleman 111.47 38 ⇓Pdiff **Pdif** **18 19 37.3 +0.1**
baz=111
PMOZ Porto Moniz, M 111.47 324 *e*SKS **SKSac** **18 30 16.3 +1.0**
PMOZ *i* P PS 18 33 59.9 +12
PMOZ Porto Moniz, M 111.47 324 *e*LQ LQ 18 58 31.8
PMOZ *e*LR LR 19 04 17.7
comp=Z,13μm,20.0s
PSET Sete Cidades 111.48 333 *e*PP PP 18 24 14.7 -0.3
PSET Sete Cidades 111.48 333 *e*LQ LQ 19 10 40.1
SUR Sutherland 111.67 243 PFAKE 18 23 50.0
SUR LR LR
comp=Z,7μm,21.0s
ROSA Rosais 111.70 335 *e*LQ LQ 19 07 10.9
530A J-C Ranch, Com 111.79 40 ⇓Pdiff **Pdif** **18 19 38.7 0.0**
baz=112
332A Millersview 111.79 38 ⇓Pdiff **Pdif** **18 19 38.7 0.0**
baz=112
431A Sonora 111.82 39 ⇑Pdiff **Pdif** **18 19 39.0 +0.1**
baz=112
PSMN Pico do Norte, 111.90 332 *e*PP PP 18 24 20.4 +2.4
PSMN Pico do Norte, 111.90 332 *e*LQ LQ 19 10 28.0
BINY Binghamton 111.96 15 PFAKE 18 23 50.0
BINY LR LR
comp=Z,15μm,21.0s
432A Menard 112.14 38 ⇑Pdiff **Pdif** **18 19 40.7 +0.5**
baz=112
531A Rocksprings 112.24 39 ⇓Pdiff **Pdif** **18 19 41.4 +0.7**
baz=112
JCT Junction City 112.44 39 *e*PKIKP **PKiKP** **18 23 37.9 +0.7**
JCT Junction City 112.44 39 *e*P **PKiKP** **18 23 37.9 +0.7**
JCT LR LR
comp=Z,8μm,20.0s
MIAR Mount Ida 112.53 32 *e*PKIKP **PKiKP** **18 23 37.2 0.0**
MIAR Mount Ida 112.53 32 *e*PKiKP **PKiKP** **18 23 37.1 0.0**
MIAR LR LR
comp=Z,9μm,20.0s
WHTX Lake Whitney 112.59 36 ⇑Pdiff **Pdif** **18 19 42.7 +0.6**
baz=112
532A Rocksprings 112.64 39 ⇑Pdiff **Pdif** **18 19 42.4 -0.1**
baz=113
631A Perdido Creek 112.78 40 ⇓Pdiff **Pdif** **18 19 43.3 +0.3**
baz=113
632A Uvalde 113.17 39 ⇑Pdiff **Pdif** **18 19 45.2 +0.5**
baz=113
732A Laxson Ranch, 113.64 40 ⇓Pdiff **Pdif** **18 19 47.1 +0.2**
baz=113
WVT Waverly 113.74 26 *e*PKIKP **PKiKP** **18 23 38.1 -1.4**
WVT Waverly 113.74 26 *e*PKPdf **PKiKP** **18 23 38.1 -1.4**
QSPA South Pole Qui 113.84 180 *e*PKPdf **PKiKP** **18 23 38.1 -0.6**
QSPA PKKPbc **PKKPbc** **18 34 22.5 -1.2**
QSPA South Pole Qui 113.84 180 PKiKP **PKiKP** **18 23 37.8 -0.9**
comp=Z,14nm,1.1s,baz=317,slow=1.5,SNR=12
QSPA PKKPbc **PKKPbc** **18 34 22.5 -1.2**
comp=Z,5.3nm,1.1s,baz=254,slow=2.4,SNR=6.4
OXF Oxford 114.46 28 PFAKE 18 23 50.0 +9.1
OXF LR LR
comp=Z,6μm,19.0s
CBN Corbin 115.39 17 PFAKE 18 23 50.0 +7.4
CBN LR LR
comp=Z,17μm,19.0s
BLA Blacksburg 115.44 20 PFAKE 18 23 50.0 +7.2
BLA LR LR
comp=Z,19μm,19.0s
TKL Tuckaleechee C 115.71 23 *e*PKPdf **PKPdf** **18 23 41.8 -1.5**
TKL PKKPbc **PKKPbc** **18 34 13.3 -2.7**
TKL Tuckaleechee C 115.71 23 PKKPbc PKKPbc 18 34 13.3 -2.7
comp=Z,4.4nm,0.5s,baz=89,slow=4.8,SNR=7.5
KVTX Kingsville 115.74 39 PFAKE 18 24 00.0 +16
KVTX LR LR
comp=Z,7μm,19.0s
VBMS Vicksburg 115.89 31 PFAKE 18 24 00.0 +16
VBMS LR LR
comp=Z,10μm,19.0s
LRAL Lakeview Retre 116.76 27 *e*PKPdf **PKPdf** **18 23 44.5 -0.9**
LRAL LR LR
comp=Z,7μm,20.0s
KMSC Kings Mountain 117.03 22 ⇓Pdiff **Pdif** **18 19 57.2 -4.7**
baz=117
CNNC Cliffs of the 118.03 19 PFAKE 18 24 00.0 +12
CNNC LR LR
comp=Z,11μm,21.0s
BRAL Brewton 118.48 29 PFAKE 18 24 00.0 +11
BRAL LR LR
comp=Z,9μm,19.0s
MAIT Maitri 119.24 201 *e*P PKPdf 18 23 40.9 -7.9
NHSC New Hope 119.28 22 PFAKE 18 24 00.0 +10
NHSC LR LR
comp=Z,17μm,19.0s
TIGA Tifton 119.54 25 ⇑Pdiff **Pdif** **18 20 08.5 -4.5**
baz=119
DBIC Dimbokro 120.06 294 PKP **PKPdf** **18 23 52.6 +0.4**
DBIC PP **PP** **18 25 15.1 -1.5**
DBIC PKKPab **PKKPab** **18 34 04.0 +1.1**
DBIC Dimbokro 120.06 294 PKP **PKPdf** **18 23 52.6 +0.4**
comp=Z,8.7nm,0.7s,baz=336,slow=1.3,SNR=9.5
DBIC PP **PP** **18 25 15.1 -1.5**
comp=Z,8.4nm,1.0s,baz=7.4,slow=8.7,SNR=7.5
DBIC PKKPab **PKKPab** **18 34 04.0 +1.1**
comp=Z,9.3nm,1.2s,baz=312,slow=4.8,SNR=3.6
LIC Lamto 120.44 293 ⇑*i*PKIKP **PKPdf** **18 23 52.8 -0.1**
comp=Z,44nm,1.0s
LIC *e*R
comp=Z,14μm,22.2s
SNAA Sanae 123.41 198 *e*PKP **PKPdf** **18 23 56.4 -0.6**
SNAA Sanae 123.41 198 *e*Taiwan PKiKP 18 24 05.5 +8.3
SNAA Sanae 123.41 198 *e*PKKP **PKKPbc** **18 33 45.2 -3.0**
SNAA Sanae 123.41 198 *e*PKPdf **PKPdf** **18 23 55.7 -1.3**
SNAA PKP **PKPdf** **18 23 57.5 +0.5**
SNAA PKKPbc **PKKPbc** **18 33 48.8 +0.6**
SNAA Sanae 123.41 198 PKP **PKPdf** **18 23 57.5 +0.5**
comp=Z,6.2nm,1.2s,baz=92,slow=3.6,SNR=10
SNAA PKKPbc **PKKPbc** **18 33 48.8 +0.6**
comp=Z,1.1nm,0.9s,baz=343,slow=3.2,SNR=6.9
BBSR BB Station 123.50 7 PFAKE 18 24 10.0 +12
BBSR LR LR
comp=Z,7μm,20.0s
TEIG Tepich 126.89 37 PFAKE 18 24 20.0 +15
TEIG LR LR
comp=Z,5μm,20.0s
SACV Santiago Islan 128.84 316 *e*PKPdf **PKPdf** **18 24 08.8 -0.2**
TGUH Tegucigalpa,Un 132.40 40 *e*PKPdf **PKPdf** **18 24 16.4 +0.8**
TGUH LR LR
comp=Z,5μm,21.0s
GRTK Grand Turk 132.88 17 PFAKE 18 24 30.0 +14
GRTK LR LR
comp=Z,10μm,20.0s
GTBY Guantanamo Bay 133.13 23 PFAKE 18 24 30.0 +13
GTBY LR LR
comp=Z,8μm,20.0s
RPN Rapa Nui 133.65 105 PFAKE 18 24 30.0 +12
RPN LR LR
comp=Z,5μm,20.0s
SDDR Presa de Saban 135.24 18 PFAKE 18 24 30.0 +9.0
SDDR LR LR
comp=Z,13μm,22.0s
ASCN Ascension 135.52 284 PFAKE 18 24 30.0 +8.4
ASCN LR LR
comp=Z,2μm,20.0s
CELP Cerrillos 137.26 12 *e*PKPdf **PKPdf** **18 24 25.5 +0.8**
STVI Saint Thomas 137.28 10 *e*PKPdf **PKPdf** **18 24 24.6 -0.1**
OBIP Obispado Ponce 137.28 12 *e*PKPdf **PKPdf** **18 24 23.6 -1.1**
SJG San Juan 137.30 12 PFAKE 18 24 40.0 +15
SJG LR LR
comp=Z,8μm,21.0s
ANWB Willy Bob 138.35 6 PFAKE 18 24 40.0 +13
ANWB LR LR
comp=Z,4μm,20.0s
PMSA Palmer Station 139.08 176 *e*PKPdf **PKPdf** **18 24 28.6 +2.1**
PMSA PKP **PKPdf** **18 24 28.8 +2.3**
PMSA LR LR
comp=Z,4μm,20.0s
PMSA Palmer Station 139.08 176 PKP **PKPdf** **18 24 28.8 +2.3**
comp=Z,46nm,0.8s,baz=169,slow=24,SNR=11
TRIS Tristan da Cun 139.13 241 PFAKE 18 24 40.0 +12
TRIS LR LR
comp=Z,4μm,20.0s
BCIP Isla Barro Col 140.57 36 PFAKE 18 24 40.0 +9.1
BCIP LR LR
comp=Z,5μm,19.0s
PAYG Puerto Ayora 140.85 58 PFAKE 18 24 40.0 +8.6
PAYG LR LR
comp=Z,3μm,19.0s
BBGH Gun Hill 142.99 3 PFAKE 18 24 50.0 +15
BBGH LR LR
comp=Z,10μm,21.0s
GRGR Grenville 143.84 6 PFAKE 18 24 50.0 +13
GRGR LR LR
comp=Z,7μm,20.0s
ROSC El Rosal 147.04 31 PKPbc **PKPbc** **18 24 43.8 -1.0**
ROSC *e*PKPdf **PKPdf** **18 24 44.1 +1.4**
ROSC El Rosal 147.04 31 PKPbc **PKPbc** **18 24 43.8 -1.0**
comp=Z,9.1nm,0.3s,baz=99,slow=16,SNR=27
USHA Ushuaia 148.25 168 PKPbc **PKPbc** **18 24 47.7 +1.4**
USHA Ushuaia 148.25 168 PKPbc **PKPbc** **18 24 47.7 +1.4**
comp=Z,77nm,1.1s,baz=206,slow=1.5,SNR=10.0
OTAV Otavalo 148.60 43 *e*PKPdf **PKPdf** **18 24 44.7 -0.7**
OTAV LR LR
comp=Z,6μm,21.0s
RCBR Riachuelo 152.25 307 PKP **PKPdf** **18 24 50.5 0.0**
RCBR *e*PKPdf PKPbc 18 24 51.0 -6.3
RCBR PKPbc **PKiKP** **18 24 57.9 +0.3**
RCBR LR LR
comp=Z,8μm,20.0s
RCBR Riachuelo 152.25 307 PKP **PKPdf** **18 24 50.5 0.0**
comp=Z,20nm,1.1s,baz=351,slow=4.0,SNR=1.3
RCBR PKPbc **PKiKP** **18 24 57.9 +0.3**
comp=Z,38nm,0.7s,baz=27,slow=3.9,SNR=5.8
EFI East Falkland 152.42 180 PFAKE 18 25 00.0 +3.6
EFI LR LR
comp=Z,5μm,21.0s
ATAH Atahualpa 154.03 53 PKP **PKPdf** **18 24 54.8 +1.3**
ATAH PKPbc **PKiKP** **18 25 03.9 +2.2**
ATAH PKPab **PKPab** **18 25 15.7 +0.7**
ATAH Atahualpa 154.03 53 PKP **PKPdf** **18 24 54.8 +1.3**
comp=Z,15nm,1.0s,baz=287,slow=1.4,SNR=18
ATAH PKPbc **PKiKP** **18 25 03.9 +2.2**
comp=Z,64nm,1.2s,baz=21,slow=3.0,SNR=10
ATAH PKPab **PKPab** **18 25 15.7 +0.7**
comp=Z,77nm,1.1s,baz=100,slow=2.9,SNR=6.6
NNA Nana 158.28 60 PKP **PKPdf** **18 24 58.7 0.0**
NNA *e*PKPdf **PKPdf** **18 24 59.9 +1.2**
NNA PKPab **PKPab** **18 25 31.6 -1.2**
NNA LR LR
comp=Z,6μm,20.0s
NNA Nana 158.28 60 PKP **PKPdf** **18 24 58.7 0.0**
comp=Z,27nm,1.2s,baz=282,slow=8.2,SNR=3.3
NNA PKPab **PKPab** **18 25 31.6 -1.2**
comp=Z,12nm,0.8s,baz=350,slow=4.2,SNR=3.5
PLCA Paso Flores 160.21 150 *e*PKPdf **PKPdf** **18 25 01.2 +1.1**
PLCA PKPab **PKPab** **18 25 43.8 +3.4**
PLCA Paso Flores 160.21 150 PKP **PKPdf** **18 25 01.3 +1.1**
comp=Z,9.4nm,1.2s,baz=235,slow=3.2,SNR=4.2
PLCA PKPab **PKPab** **18 25 43.8 +3.4**
comp=Z,20nm,0.9s,baz=212,slow=3.3,SNR=8.7
SAML Samuel 164.11 20 *e*PKPdf **PKPdf** **18 25 04.4 -0.4**
TRQA Tornquist 165.58 167 *e*PKPdf **PKPdf** **18 25 06.4 +1.0**
TRQA LR LR
comp=Z,14μm,22.0s
LCO Las Campanas 167.41 116 PFAKE 18 25 20.0 +13
LCO LR LR
comp=Z,6μm,20.0s
LPAZ La Paz 167.58 53 *e*PKPdf **PKPdf** **18 25 08.8 +0.5**
LPAZ PP **PP** **18 29 57.2 -5.1**
LPAZ La Paz 167.58 53 PKP **PKPdf** **18 25 08.7 +0.5**
comp=Z,69nm,1.2s,baz=13,slow=2.5,SNR=57
LPAZ PP **PP** **18 29 57.2 -5.1**
comp=Z,5.8nm,1.1s,baz=284,slow=3.9,SNR=3.7
BDFB Brasilia 167.59 311 PKP **PKPdf** **18 25 07.6 0.0**
BDFB PKPab **PKPab** **18 26 13.4 -0.1**
BDFB Brasilia 167.59 311 PKP **PKPdf** **18 25 07.6 0.0**
comp=Z,21nm,1.0s,baz=105,slow=1.6,SNR=9.8
BDFB PKPab **PKPab** **18 26 13.4 -0.1**
comp=Z,14nm,0.8s,baz=31,slow=7.4,SNR=5.3
CFAA Coronel Fontan 168.07 131 PKP **PKPdf** **18 25 07.9 +0.4**
CFAA PKPab **PKPab** **18 26 18.5 +3.2**
CFAA Coronel Fontan 168.07 131 PKP **PKPdf** **18 25 07.9 +0.4**
comp=Z,0.9nm,0.9s,baz=309,slow=2.5,SNR=8.8
CFAA PKPab **PKPab** **18 26 18.5 +3.2**
comp=Z,1.3nm,0.9s,baz=268,slow=4.5,SNR=4.1
LPA La Plata 169.18 179 *ce*PKIKP **PKPdf** **18 25 12.0 +4.0**
LPA PP PP 18 31 45.0 +97
LPA
comp=Z,10μm,19.0s
LVC Limon Verde 169.66 84 PKP **PKPdf** **18 25 09.9 +0.9**
LVC *e*PKPdf PKPdf 18 25 10.5 +1.4
LVC PKPab **PKPab** **18 26 24.3 +1.4**
LVC PP **PP** **18 30 12.5 -0.7**
LVC LR LR
comp=Z,5μm,22.0s
LVC Limon Verde 169.66 84 PKP **PKPdf** **18 25 09.9 +0.9**
comp=Z,34nm,1.2s,baz=108,slow=0.8,SNR=12
LVC PKPab **PKPab** **18 26 24.3 +1.4**
comp=Z,14nm,0.9s,baz=311,slow=8.2,SNR=2.0
LVC PP **PP** **18 30 12.5 -0.7**
comp=Z,3.2nm,0.8s,baz=300,slow=5.9,SNR=3.9
SIV San Ignacio 171.40 22 PKP **PKPdf** **18 25 09.9 0.0**
SIV PKPab **PKPab** **18 26 28.9 -1.3**
SIV PP **PP** **18 30 16.3 -3.4**
SIV San Ignacio 171.40 22 PKP **PKPdf** **18 25 09.9 0.0**
comp=Z,38nm,1.1s,baz=27,slow=0.8,SNR=27
SIV PKPab **PKPab** **18 26 28.9 -1.3**
comp=Z,13nm,0.8s,baz=339,slow=4.4,SNR=7.2
SIV PP **PP** **18 30 16.3 -3.4**
comp=Z,6.2nm,1.0s,baz=6.3,slow=7.3,SNR=8.6
CPUP Villa Florida 177.70 190 PKP **PKPdf** **18 25 12.1 +0.6**
CPUP PP PP 18 31 03.6 +14
CPUP Villa Florida 177.70 190 PKP **PKPdf** **18 25 12.1 +0.6**
comp=Z,3.5nm,0.7s,baz=7.8,slow=1.8,SNR=7.6
CPUP PP PP 18 31 03.6 +14
comp=Z,2.5nm,0.8s,baz=196,slow=5.1,SNR=4.3

*IDC **13** 18:05:01.9±3.6,3.56S×151.30E, h0km, mb4.4/7, mb1 4.5/9, mb1mx4.4/22, mbtmp4.4/9, ML3.8/2, MS3.8/1, Ms1 3.8/1, ms1mx3.7/31, Error ellipse: s-maj=70.2km s-min=29.8km az=179.0*
*AUST **13** 18:05:01.2±2.2,3.14S×151.95E, h37km, Error ellipse: s-maj=3.4km s-min=1.2km az=228.0*
*ISCJB **13** 18:05:05.3±0.9,3.62S±0.09×151.42E±0.07, h33km, mb4.4/10, Error ellipse: s-maj=13.3km s-min=9.5km az=5.8*
*NEIC **13** 18:05:08.9±5.1,3.64S×151.24E, h52km±30km, mb4.8/4, Error ellipse: s-maj=48.1km s-min=15.1km az=190.0*
ISC 13 18:05:07.1±1.1,3.7S±0.1×151.54E±0.07, h35km, n36, σ1s28/36, mb4.3/10, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.82**	**131**	P	**Pn**	**18 05 20.7**	**-1.5**
	baz=1.1,SNR=390						
MANU	**Manus Island**	**4.47**	**291**	P	**Pn**	**18 06 11.7**	**-0.6**
	baz=4.7,SNR=8.0						
PMG	**Port Moresby**	**7.19**	**217**	Pn	**Pn**	**18 06 48.8**	**-1.1**
PMG				Sn	**Sn**	**18 08 11.7**	**+1.3**
PMG	**Port Moresby**	**7.19**	**217**	Pn	**Pn**	**18 06 48.8**	**-1.1**
	7.1nm,0.3s,baz=31,slow=7.4,SNR=24						
PMG				Sn	**Sn**	**18 08 11.7**	**+1.3**
	baz=330,slow=20,SNR=1.4						
PMG				LR	LR	18 09 26.7	
	comp=Z,725nm,21.3s,baz=30,slow=37						
MTSU	**Mount Surprise**	**16.05**	**206**	P	**P**	**18 08 51.9**	**-1.4**
	baz=17,SNR=25						
CTA	**Charters Tower**	**17.14**	**197**	P	**Pn**	**18 09 04.6**	**+0.5**
CTA	**Charters Tower**	**17.14**	**197**	P	**Pn**	**18 09 04.6**	**+0.5**
	0.2nm,0.3s,baz=21,slow=14,SNR=19						
CTAO	**Charters Tower**	**17.14**	**197**	*e*P	**Pn**	**18 09 04.5**	**+0.5**
	106nm,1.5s						
FAKI	**Fak Fak**	**19.28**	**272**	S	**S**	**18 13 06.7**	**+1.1**
	baz=20,SNR=6.1						
KDU	**Kakadu**	**20.89**	**243**	P	**P**	**18 09 45.0**	**-1.5**
	baz=22,SNR=7.2						
KDU				S	Sn	18 13 51.3	+6.9
	baz=22,SNR=4.7						
EIDS	**Eidsvold**	**21.60**	**181**	*e*P	**P**	**18 09 54.3**	**+0.2**
	54nm,1.1s						
EIDS	**Eidsvold**	**21.60**	**181**	P	**P**	**18 09 54.6**	**+0.4**
	baz=22,SNR=9.3						
MTN	**Manton Dam**	**22.15**	**244**	P	**P**	**18 09 59.5**	**-0.6**
	baz=23,SNR=4.3						
RMQ	**Roma**	**22.87**	**186**	P	**P**	**18 10 08.3**	**+0.6**
	baz=24,SNR=10						
RMQ				S	Sn	18 14 44.0	+12
	baz=24,SNR=12						
WRAB	**Tennant Creek**	**23.31**	**225**	*e*P	**P**	**18 10 10.3**	**-1.9**
WRA	**Warramunga Arr**	**23.32**	**225**	P	**P**	**18 10 10.0**	**-2.3**
WRA	**Warramunga Arr**	**23.32**	**225**	P	**P**	**18 10 10.0**	**-2.3**
	9.6nm,1.0s,baz=49,slow=9.5,SNR=36						
DZM	**Mont Dzumac**	**23.33**	**143**	*e*P	**P**	**18 10 14.5**	**+2.0**
	32nm,0.6s						
KNRA	**Kununurra**	**25.40**	**240**	P	**P**	**18 10 31.3**	**-0.3**
	baz=26,SNR=4.7						
ASAR	**Alice Springs**	**26.20**	**219**	P	**P**	**18 10 37.6**	**-1.2**
ASAR	**Alice Springs**	**26.20**	**219**	P	**P**	**18 10 37.6**	**-1.2**
	3.9nm,0.8s,baz=51,slow=8.7,SNR=29						
FITZ	**Fitzroy Crossi**	**29.15**	**239**	P	**P**	**18 11 04.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**29.15**	**239**	P	**P**	**18 11 04.4**	**-0.8**
	9.1nm,1.0s,baz=71,slow=9.6,SNR=4.5						
FITZ	**Fitzroy Crossi**	**29.15**	**239**	P	**P**	**18 11 05.1**	**-0.1**
	baz=30,SNR=4.1						
STKA	**Stephens Creek**	**29.60**	**197**	P	**P**	**18 11 08.1**	**-1.0**
STKA	**Stephens Creek**	**29.60**	**197**	P	**P**	**18 11 08.1**	**-1.0**
	3.8nm,0.7s,baz=22,slow=11,SNR=8.9						
STKA	**Stephens Creek**	**29.60**	**197**	P	**P**	**18 11 08.3**	**-0.7**
	baz=30,SNR=5.4						
MEEK	**Meekatharra**	**38.93**	**231**	P	P	18 12 33.6	+3.7
	baz=40,SNR=3.7						
URZ	**Urewera**	**41.61**	**149**	P	**P**	**18 12 54.1**	**+2.2**
URZ	**Urewera**	**41.61**	**149**	P	**P**	**18 12 54.1**	**+2.2**
	3.6nm,0.6s,baz=347,slow=4.8,SNR=5.3						
RPZ	**Rata Peaks**	**43.48**	**159**	P	**P**	**18 13 08.0**	**+1.0**
RPZ	**Rata Peaks**	**43.48**	**159**	P	**P**	**18 13 08.0**	**+1.0**
	10.0nm,0.8s,baz=349,slow=5.2,SNR=3.2						
PSI	**Prapat**	**52.98**	**276**	P	P	18 14 14.9	-6.1
	baz=53,SNR=3.2						
VNDA	**Vanda**	**74.02**	**178**	P	**P**	**18 16 39.3**	**+0.5**
VNDA	**Vanda**	**74.02**	**178**	P	**P**	**18 16 39.3**	**+0.5**
	0.7nm,0.8s,baz=335,slow=7.4,SNR=7.0						
QSPA	**South Pole Qui**	**86.31**	**180**	*e*P	**P**	**18 17 44.2**	**-1.2**

3.4nm,0.9s

IDC 13 18:06:04.4±33.0, 47.05N×147.75E, h489km±250km, mb2.8/3, mb1 2.9/4, mb1mx2.7/24, mbtmp2.9/4, Error ellipse: s-maj=508.7km s-min=204.9km az=121.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
USRK	**Ussuriysk Arra**	**11.39**	**261**	P	P		18 08 36.5	+0.1
	0.6nm,0.3s,baz=68,slow=11,SNR=8.9							
ARCES	**ARCESS Array B**	**56.31**	**339**	P	P		18 14 57.4	+0.1
	0.8nm,0.8s,baz=54,slow=7.9,SNR=3.0							
FINES	**FINESS Array B**	**62.14**	**332**	P	P		18 15 36.5	-0.1
	0.5nm,0.4s,baz=38,slow=7.0,SNR=8.2							
NOA	**NORSAR Array B**	**66.68**	**339**	P	P		18 16 05.5	0.0
	0.5nm,0.8s,baz=28,slow=6.6,SNR=3.9							

TAP 13 18:07:49.5, 24.06N×122.16E, h23km±1km, ML3.8, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
TWD	**Chiawan**	**0.51**	**273**	*e*P	Pb		18 08 00.2	+0.4
	baz=272							
TWD				S	Sb		18 08 07.6	+0.8
	baz=272							
ENA	**Nanau**	**0.53**	**314**	*e*P	Pb		18 08 00.3	+0.2
	baz=323							
ENA				S	Sb		18 08 08.3	+0.9
	baz=323							
TWC	**Suao**	**0.62**	**333**	*e*P	Pb		18 08 01.2	-0.4
	baz=341							
TWC				*e*S	Sb		18 08 10.3	+0.4
	baz=341							
ENTT	**Nioudou**	**0.79**	**317**	*e*P	Pn		18 08 05.0	-0.2
	baz=317							
TWE	**Neicheng**	**0.80**	**326**	*e*P	Pn		18 08 05.3	+0.1
	baz=335							
NNS	**Nan Shan**	**0.81**	**298**	*e*P	Pb		18 08 04.8	-0.3
	baz=287							
WHF	**Hehuan Shan**	**0.82**	**276**	*e*P	Pb		18 08 04.5	-1.1
	baz=276							
WHF				*e*S	Sb		18 08 16.2	-0.4
	baz=276							
NSK	**Sanguang**	**0.95**	**310**	*e*P	Pb		18 08 06.7	-0.7
	baz=310							
NSK				*e*S	Sn		18 08 20.6	+0.1
	baz=310							

IDC 13 18:24:48.0±2.0, 6.60S×130.42E, h0km, mb3.2/1, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.1/3, Error ellipse: s-maj=62.8km s-min=28.5km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
FITZ	**Fitzroy Crossi**	**12.34**	**202**	Pn	Pn		18 27 43.6	-1.5
	0.2nm,0.3s,baz=26,slow=13,SNR=12							
FITZ				Sn	Sn		18 29 45.2	-18
	0.1nm,0.3s,baz=249,slow=14,SNR=3.0							
WRA	**Warramunga Arr**	**13.79**	**164**	Pn	Pn		18 28 06.8	+1.8
	0.1nm,0.3s,baz=345,slow=14,SNR=7.0							
WRA				Sn	Sn		18 30 27.7	-11
	0.2nm,0.3s,baz=334,slow=21,SNR=8.9							
ASAR	**Alice Springs**	**17.29**	**169**	Pn	Pn		18 28 50.9	-0.2
	0.1nm,0.3s,baz=345,slow=9.4,SNR=6.2							
MKAR	**Makanchi Array**	**68.13**	**327**	P	P		18 35 50.0	0.0
	0.2nm,0.6s,baz=134,slow=8.3,SNR=2.4							

IDC ***13*** *18:26:13.1±0.6, 15.21S×173.49W, h0km, mb4.3/12, mb1 4.5/12, mb1mx4.3/22, mbtmp4.3/12, Error ellipse: s-maj=27.9km s-min=15.4km az=124.0*
NEIC ***13*** *18:26:14.2±0.5, 15.19S×173.38W, h10km, mb4.6/2, Error ellipse: s-maj=24.9km s-min=12.0km az=135.0*
ISCJB ***13*** *18:26:16.0±0.6, 15.2S±0.1×173.6W±0.1, h30km, mb4.2/13, Error ellipse: s-maj=22.7km s-min=12.7km az=40.0*

ISC 13 18:26:17.8±0.5, 15.2S±0.1×173.5W±0.2, h30km, n193, σ0s54/190, mb4.2/13, 81C-70D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AFI	**Afiamalu**	**2.14**	**53**	Pn	Pn		18 26 44.5	-7.0
AFI				Sn	Sn		18 27 03.5	-14
AFI	**Afiamalu**	**2.14**	**53**	Pn	Pn		18 26 44.5	-7.0
	127nm,0.3s,baz=91,slow=1.1,SNR=124							
AFI				Sn	Sn		18 27 03.5	-14
	888nm,0.3s,baz=49,slow=23,SNR=34							
URZ	**Urewera**	**24.39**	**198**	P	**P**		**18 31 32.9**	**-0.6**
URZ	**Urewera**	**24.39**	**198**	P	**P**		**18 31 32.9**	**-0.6**
	4.8nm,0.7s,baz=59,slow=16,SNR=3.2							
STKA	**Stephens Creek**	**44.02**	**240**	P	**P**		**18 34 22.8**	**-0.1**
STKA	**Stephens Creek**	**44.02**	**240**	P	**P**		**18 34 22.8**	**-0.1**
	4.4nm,0.7s,baz=82,slow=8.7,SNR=10							
WRAB	**Tennant Creek**	**49.76**	**257**	*e*P	**P**		**18 35 07.8**	**-0.1**
	3.4nm,0.9s							
WRA	**Warramunga Arr**	**49.77**	**257**	P	**P**		**18 35 07.8**	**-0.2**
WRA	**Warramunga Arr**	**49.77**	**257**	P	**P**		**18 35 07.8**	**-0.2**
	1.9nm,0.6s,baz=91,slow=7.0,SNR=37							
AS31	**Alice Springs**	**50.05**	**252**	*e*P	**P**		**18 35 08.8**	**-1.4**
ASAR	**Alice Springs**	**50.05**	**252**	P	**P**		**18 35 09.7**	**-0.5**
ASAR	**Alice Springs**	**50.05**	**252**	P	**P**		**18 35 09.7**	**-0.5**
	4.1nm,0.5s,baz=89,slow=7.5,SNR=96							
VNDA	**Vanda**	**63.54**	**186**	P	**P**		**18 36 46.5**	**+1.6**
VNDA	**Vanda**	**63.54**	**186**	P	**P**		**18 36 46.5**	**+1.6**
	1.3nm,0.9s,baz=24,slow=5.7,SNR=3.1							
PETK	**Petropavlovsk-**	**72.43**	**342**	P	**P**		**18 37 41.2**	**+0.2**
PETK	**Petropavlovsk-**	**72.43**	**342**	P	**P**		**18 37 41.2**	**+0.2**
	2.0nm,0.8s,baz=148,slow=8.7,SNR=3.8							
EDW2	**Edwards Air Fo**	**72.51**	**45**	⇑P	**P**		**18 37 42.1**	**+0.1**
	baz=73							
BELC	**Belle Mtn. Jos**	**73.42**	**47**	⇑P	**P**		**18 37 47.4**	**-0.1**
	baz=74							
MPMC	**Manual Prospec**	**73.50**	**44**	⇓P	**P**		**18 37 48.7**	**+0.7**
	baz=74							
GMRC	**Granite Mounta**	**74.07**	**46**	⇑P	**P**		**18 37 51.5**	**+0.3**
	baz=74							
IRM	**Iron Mountain**	**74.10**	**47**	⇓P	**P**		**18 37 51.6**	**+0.2**
	baz=74							
NVAR	**Mina Array Bea**	**74.28**	**42**	P	**P**		**18 37 52.3**	**-0.2**
NVAR	**Mina Array Bea**	**74.28**	**42**	P	**P**		**18 37 52.3**	**-0.2**
	0.9nm,0.6s,baz=227,slow=9.6,SNR=6.8							
113A	**Mohawk Valley,**	**74.39**	**49**	⇓P	**P**		**18 37 53.1**	**+0.1**
	baz=74							
KDAK	**Kodiak Island**	**74.77**	**11**	P	**P**		**18 37 55.1**	**+0.4**
KDAK	**Kodiak Island**	**74.77**	**11**	P	**P**		**18 37 55.1**	**+0.4**
	3.8nm,0.7s,baz=177,slow=4.6,SNR=7.3							
QSPA	**South Pole Qui**	**74.82**	**180**	*e*P	**P**		**18 37 54.9**	**-0.3**
	16nm,1.4s							
QSPA	**South Pole Qui**	**74.82**	**180**	P	**P**		**18 37 54.8**	**-0.4**
	3.3nm,0.7s,baz=117,slow=3.9,SNR=14							
PDMCI	**Parker Dam,Lak**	**74.89**	**48**	⇑P	**P**		**18 37 56.0**	**+0.1**
	baz=75							
Z14A	**Wintersburg**	**75.28**	**49**	⇑P	**P**		**18 37 58.4**	**+0.2**
	baz=75							
MFID	**Camas Ranch**	**78.62**	**39**	⇓P	**P**		**18 38 17.3**	**+0.3**
	baz=79							
425A	**Indio Mountain**	**80.15**	**54**	⇓P	**P**		**18 38 25.2**	**-0.4**
	baz=80							
626A	**Big Bend Ranch**	**80.33**	**56**	⇓P	**P**		**18 38 25.9**	**-0.6**
	baz=80							
325A	**Bean Ranch, Si**	**80.40**	**54**	⇑P	**P**		**18 38 26.7**	**-0.3**
	baz=80							
U21A	**Nageezi**	**80.56**	**48**	⇑P	**P**		**18 38 27.5**	**-0.3**
	baz=81							
526A	**Mary Lane Ranc**	**80.56**	**55**	⇑P	**P**		**18 38 27.5**	**-0.3**
	baz=81							
TXAR	**Lajitas Array**	**80.61**	**56**	P	**P**		**18 38 27.7**	**-0.4**
TXAR	**Lajitas Array**	**80.61**	**56**	P	**P**		**18 38 27.7**	**-0.4**
	3.0nm,1.0s,baz=226,slow=5.0,SNR=12							
426A	**McDonald Obser**	**80.86**	**55**	⇓P	**P**		**18 38 29.1**	**-0.4**
	baz=81							
527A	**Woodward Ranch**	**80.98**	**55**	⇑P	**P**		**18 38 30.2**	**+0.2**
	baz=81							
S21A	**Coal Bank Pass**	**81.02**	**47**	⇑P	**P**		**18 38 30.5**	**+0.2**
	baz=81							
Y24A	**Capitan**	**81.11**	**51**	⇑P	**P**		**18 38 30.8**	**0.0**
	baz=81							
628A	**Black Gap, Mar**	**81.30**	**56**	⇓P	**P**		**18 38 31.3**	**-0.4**
	baz=81							
226B	**Tecolote Peak,**	**81.31**	**53**	⇓P	**P**		**18 38 31.4**	**-0.3**
	baz=81							
Z25A	**Roswell**	**81.38**	**52**	⇓P	**P**		**18 38 31.8**	**-0.3**
	baz=81							
427A	**Hayter Ranch,**	**81.42**	**55**	⇑P	**P**		**18 38 32.3**	**-0.1**
	baz=81							
P20A	**De Beque**	**81.44**	**45**	⇓P	**P**		**18 38 32.2**	**-0.1**
	baz=82							
R21A	**Cimarron**	**81.51**	**47**	⇓P	**P**		**18 38 32.8**	**0.0**
	baz=82							
I16A	**Newdale**	**81.54**	**40**	⇓P	**P**		**18 38 33.0**	**+0.3**
	baz=82							
528A	**Cox Ranch, San**	**81.64**	**56**	⇓P	**P**		**18 38 33.3**	**-0.2**
	baz=82							
126A	**Clayton Basin,**	**81.66**	**53**	⇓P	**P**		**18 38 33.1**	**-0.4**
	baz=82							
Y25A	**Mesa, Roswell**	**81.67**	**52**	⇑P	**P**		**18 38 33.3**	**-0.3**
	baz=82							
W24A	**Lazy 6 Ranch,**	**81.67**	**50**	⇑P	**P**		**18 38 33.5**	**-0.2**
	baz=82							
C13A	**Hot Springs**	**81.71**	**36**	⇓P	**P**		**18 38 33.5**	**+0.1**
	baz=82							
X25A	**Clemmons Ranch**	**81.94**	**51**	⇑P	**P**		**18 38 34.2**	**-0.8**
	baz=82							
428A	**Kincaid Ranch,**	**81.94**	**55**	⇑P	**P**		**18 38 34.9**	**-0.2**
	baz=82							
Z26A	**Caprock**	**81.94**	**52**	⇓P	**P**		**18 38 34.9**	**-0.2**
	baz=82							
V24A	**Rampart Ranch,**	**81.99**	**50**	⇑P	**P**		**18 38 35.1**	**-0.3**
	baz=82							
529A	**Stev Forest Ra**	**82.08**	**56**	⇑P	**P**		**18 38 35.1**	**-0.7**
	baz=82							
328A	**Wristen Ranch,**	**82.10**	**55**	⇓P	**P**		**18 38 35.5**	**-0.3**
	baz=82							
Q22A	**Crested Butte,**	**82.18**	**46**	⇑P	**P**		**18 38 36.4**	**0.0**
	baz=82							
PDAR	**Pinedale Array**	**82.21**	**42**	P	**P**		**18 38 35.9**	**-0.5**
PDAR	**Pinedale Array**	**82.21**	**42**	P	**P**		**18 38 35.9**	**-0.5**
	2.2nm,0.9s,baz=230,slow=3.3,SNR=12							
ILAR	**Eielson Array**	**82.30**	**11**	P	**P**		**18 38 35.7**	**-0.3**
ILAR	**Eielson Array**	**82.30**	**11**	P	**P**		**18 38 35.7**	**-0.3**
	1.2nm,0.8s,baz=218,slow=7.0,SNR=8.3							
Y26A	**Elida**	**82.33**	**52**	⇓P	**P**		**18 38 36.8**	**-0.2**
	baz=82							
H17A	**Grant Village**	**82.37**	**40**	⇓P	**P**		**18 38 37.4**	**+0.2**
	baz=82							
W25A	**X Bar L Ranch,**	**82.38**	**50**	⇑P	**P**		**18 38 36.9**	**-0.5**
	baz=82							
O21A	**Pagoda**	**82.40**	**45**	⇑P	**P**		**18 38 37.2**	**-0.3**
	baz=82							
I18A	**Diamond G Ranc**	**82.50**	**41**	⇑P	**P**		**18 38 37.8**	**-0.1**
	baz=83							
M20A	**Sweetwater, Wa**	**82.51**	**44**	⇑P	**P**		**18 38 37.8**	**-0.2**
	baz=82							
V25A	**Rancho No Teng**	**82.52**	**50**	⇑P	**P**		**18 38 38.0**	**-0.2**
	baz=82							
429A	**Davenport Ranc**	**82.53**	**56**	⇑P	**P**		**18 38 37.1**	**-1.1**
	baz=82							
Z27A	**Tatum**	**82.55**	**53**	⇓P	**P**		**18 38 37.8**	**-0.4**
	baz=82							
D15A	**Lincoln**	**82.55**	**37**	⇑P	**P**		**18 38 37.3**	**-0.6**
	baz=83,SNR=6.0							
X26A	**CR and CF Fran**	**82.59**	**51**	⇑P	**P**		**18 38 38.2**	**-0.3**
	baz=83							
N21A	**Black Mountain**	**82.62**	**44**	⇓P	**P**		**18 38 38.7**	**+0.1**
	baz=83							
R23A	**Moffat**	**82.64**	**47**	⇑P	**P**		**18 38 38.5**	**-0.3**
	baz=83							
L20A	**Wamsutter**	**82.65**	**43**	⇓P	**P**		**18 38 38.9**	**+0.2**
	baz=83							
K19A	**Absolon Red Bu**	**82.70**	**42**	⇑P	**P**		**18 38 38.7**	**-0.2**
	baz=83							
J19A	**Crowheart**	**82.78**	**42**	⇑P	**P**		**18 38 38.9**	**-0.4**
	baz=83							
329A	**Wagon Wheel Ra**	**82.79**	**55**	⇓P	**P**		**18 38 39.0**	**-0.5**
	baz=83							
530A	**J-C Ranch, Com**	**82.80**	**56**	⇑P	**P**		**18 38 38.9**	**-0.6**
	baz=83							
Y27A	**Causey**	**82.81**	**52**	⇑P	**P**		**18 38 39.1**	**-0.5**
	baz=83							
B14A	**Marquette Ranc**	**82.82**	**36**	⇓P	**P**		**18 38 39.2**	**-0.1**
	baz=83							
128A	**Castleberry Fa**	**82.84**	**54**	⇓P	**P**		**18 38 39.0**	**-0.7**
	baz=83							
W26A	**Owens Ranch, T**	**82.84**	**51**	⇓P	**P**		**18 38 38.9**	**-0.9**
	baz=83							
S24A	**Houchin Ranch,**	**82.85**	**48**	⇑P	**P**		**18 38 40.2**	**+0.3**
	baz=83							
U25A	**Circle Dot Ran**	**82.91**	**49**	⇓P	**P**		**18 38 39.8**	**-0.3**
	baz=83							
K20A	**Yellowstone Ra**	**82.95**	**42**	⇑P	**P**		**18 38 39.8**	**-0.3**
	baz=83							
O22A	**Kremmling**	**83.01**	**45**	⇑P	**P**		**18 38 40.3**	**-0.5**
	baz=83,SNR=5.3							
A14A	**Double T Ranch**	**83.06**	**35**	⇓P	**P**		**18 38 40.2**	**-0.3**
	baz=83							
F17A	**Fitzpatrick Pl**	**83.07**	**39**	⇑P	**P**		**18 38 41.0**	**+0.3**
	baz=83							
H18A	**Shoshone NF, C**	**83.07**	**40**	⇑P	**P**		**18 38 40.9**	**+0.1**
	baz=83							
M21A	**Separation Pea**	**83.11**	**44**	⇑P	**P**		**18 38 40.2**	**-0.9**
	baz=83,SNR=8.1							
D16A	**Dana Ranch, Ca**	**83.11**	**37**	⇑P	**P**		**18 38 40.7**	**-0.1**
	baz=83							
430A	**Baggett Ranch,**	**83.12**	**56**	⇑P	**P**		**18 38 40.9**	**-0.3**
	baz=83							
631A	**Perdido Creek**	**83.14**	**57**	⇑P	**P**		**18 38 40.6**	**-0.6**
	baz=83							
MSTX	**Muleshoe**	**83.14**	**52**	⇑P	**P**		**18 38 40.7**	**-0.7**
	baz=83							
R24A	**Sanders Place,**	**83.17**	**48**	⇑P	**P**		**18 38 41.0**	**-0.5**
	baz=83							
I19A	**Meeteetse**	**83.18**	**41**	⇓P	**P**		**18 38 41.5**	**+0.1**
	baz=83							
T25A	**Trinidad**	**83.21**	**49**	⇑P	**P**		**18 38 40.9**	**-0.8**
	baz=83							
L21A	**Rawlins**	**83.27**	**43**	⇓P	**P**		**18 38 40.9**	**-1.0**
	baz=83							
N22A	**Wattenberg Ran**	**83.36**	**45**	⇑P	**P**		**18 38 42.2**	**-0.3**
	baz=83,SNR=5.5							
W27A	**Bowe Ranch, En**	**83.36**	**51**	⇑P	**P**		**18 38 41.8**	**-0.7**
	baz=83							
U26A	**Atchley Ranch,**	**83.39**	**50**	⇓P	**P**		**18 38 41.9**	**-0.7**
	baz=83							
330A	**Mertzon**	**83.40**	**55**	⇑P	**P**		**18 38 41.8**	**-0.8**
	baz=83							
S25A	**Robets Cordova**	**83.41**	**48**	⇑P	**P**		**18 38 42.4**	**-0.3**
	baz=83							
531A	**Rocksprings**	**83.44**	**56**	⇓P	**P**		**18 38 42.0**	**-0.8**
	baz=83							
J20A	**Shoshoni**	**83.44**	**42**	⇑P	**P**		**18 38 42.2**	**-0.5**
	baz=84,SNR=6.7							
G18A	**Lazy EL Ranch,**	**83.45**	**40**	⇓P	**P**		**18 38 43.0**	**+0.3**
	baz=84							
Q24A	**Divide**	**83.46**	**47**	⇑P	**P**		**18 38 42.7**	**-0.4**
	baz=84							
O23A	**Lake Granby, G**	**83.46**	**45**	⇑P	**P**		**18 38 43.1**	**+0.1**
	baz=84							
H19A	**Powell**	**83.49**	**40**	⇑P	**P**		**18 38 43.2**	**+0.3**
	baz=84							
M22A	**Cedar Creek Ra**	**83.53**	**44**	⇓P	**P**		**18 38 43.1**	**-0.2**
	baz=84							
F18A	**Big Timber**	**83.64**	**39**	⇑P	**P**		**18 38 43.5**	**-0.1**
	baz=84,SNR=6.3							
D17A	**Six Diamond Ra**	**83.68**	**38**	⇓P	**P**		**18 38 44.0**	**+0.2**
	baz=84,SNR=8.8							
Z29A	**Hungry Hill Ra**	**83.69**	**53**	⇓P	**P**		**18 38 43.5**	**-0.5**
	baz=84							
I20A	**Worland**	**83.69**	**41**	⇑P	**P**		**18 38 43.9**	**0.0**
	baz=84							
R25A	**Fountain Ranch**	**83.73**	**48**	⇓P	**P**		**18 38 43.8**	**-0.5**
	baz=84							
N23A	**Red Feather La**	**83.75**	**45**	⇓P	**P**		**18 38 44.0**	**-0.4**
	baz=84							
632A	**Uvalde**	**83.81**	**57**	⇑P	**P**		**18 38 44.3**	**-0.4**
	baz=84							
E18A	**Harlowton**	**83.85**	**38**	⇑P	**P**		**18 38 45.5**	**+0.8**
	baz=84,SNR=6.2							
J21A	**Lysite**	**83.85**	**42**	⇓P	**P**		**18 38 44.8**	**-0.1**
	baz=84							
P24A	**Kohler Place,**	**83.86**	**46**	⇓P	**P**		**18 38 44.7**	**-0.3**
	baz=84							
C17A	**Wharram Farm,**	**83.88**	**37**	⇓P	**P**		**18 38 44.9**	**+0.2**
	baz=84,SNR=14							
L22A	**Ellis Ranch, M**	**83.92**	**44**	⇓P	**P**		**18 38 45.7**	**+0.5**
	baz=84,SNR=5.1							
532A	**Rocksprings**	**83.94**	**57**	⇓P	**P**		**18 38 44.7**	**-0.7**
	baz=84							
H20A	**Greybull**	**84.03**	**41**	⇓P	**P**		**18 38 45.5**	**-0.1**
	baz=84							
A16A	**West Butte Ran**	**84.07**	**36**	⇑P	**P**		**18 38 45.9**	**+0.2**
	baz=84							
U27A	**Thompson Grove**	**84.08**	**50**	⇑P	**P**		**18 38 45.6**	**-0.4**
	baz=84							
F19A	**Roth Farm, Mol**	**84.09**	**39**	⇓P	**P**		**18 38 46.0**	**+0.2**
	baz=84,SNR=6.5							
S26A	**Kim**	**84.09**	**49**	⇑P	**P**		**18 38 45.8**	**-0.3**
	baz=84							
Z30A	**Sanderson Ranc**	**84.14**	**53**	⇑P	**P**		**18 38 45.6**	**-0.8**
	baz=84							
X29A	**Tulia**	**84.15**	**52**	⇓P	**P**		**18 38 45.6**	**-0.8**
	baz=84							
I21A	**Big Trails, Te**	**84.17**	**42**	⇓P	**P**		**18 38 46.0**	**-0.4**
	baz=84,SNR=9.4							
432A	**Menard**	**84.30**	**56**	⇓P	**P**		**18 38 46.1**	**-1.1**
	baz=84							
P25A	**Willow Gulch B**	**84.38**	**47**	⇑P	**P**		**18 38 47.2**	**-0.4**
	baz=84							
R26A	**Arlington**	**84.39**	**48**	⇑P	**P**		**18 38 47.0**	**-0.6**
	baz=84							
T27A	**Campo**	**84.41**	**49**	⇑P	**P**		**18 38 47.2**	**-0.6**
	baz=84							
N24A	**Carr**	**84.44**	**45**	⇑P	**P**		**18 38 47.4**	**-0.5**
	baz=84							
L23A	**Garrett**	**84.44**	**44**	⇓P	**P**		**18 38 46.9**	**-1.0**
	baz=84,SNR=6.3							
E19A	**Rath Farm, Rou**	**84.48**	**39**	⇑P	**P**		**18 38 47.6**	**-0.1**
	baz=84,SNR=6.2							
131A	**Roby**	**84.49**	**54**	⇑P	**P**		**18 38 47.6**	**-0.6**
	baz=84							
332A	**Millersview**	**84.53**	**56**	⇓P	**P**		**18 38 47.5**	**-0.8**
	baz=84							
S27A	**Las Animas**	**84.53**	**49**	⇓P	**P**		**18 38 47.3**	**-1.1**
	baz=84							
F20A	**Billings**	**84.55**	**40**	⇓P	**P**		**18 38 48.1**	**-0.1**
	baz=85							
A17A	**Triple J Farms**	**84.58**	**36**	⇓P	**P**		**18 38 48.4**	**+0.2**
	baz=85							
H21A	**Big Horn, Sher**	**84.70**	**41**	⇓P	**P**		**18 38 49.2**	**+0.2**
	baz=85							
I22A	**9 Mile Ranch,**	**84.72**	**42**	⇓P	**P**		**18 38 49.0**	**-0.1**
	baz=85							
D19A	**Cripps Ranch,**	**84.76**	**38**	⇑P	**P**		**18 38 49.6**	**+0.4**
	baz=85							
K23A	**Bowen Ranch, D**	**84.78**	**43**	⇓P	**P**		**18 38 49.0**	**-0.5**
	baz=85							
232A	**Coleman**	**84.79**	**55**	⇑P	**P**		**18 38 48.9**	**-0.7**
	baz=85							
Z31A	**Sharp Cattle R**	**84.92**	**54**	⇓P	**P**		**18 38 49.6**	**-0.7**
	baz=85							
C19A	**Slack Wire Ran**	**84.93**	**38**	⇑P	**P**		**18 38 49.8**	**-0.2**
	baz=85							
ABTX	**Abilene, Hawle**	**85.06**	**54**	⇓P	**P**		**18 38 50.5**	**-0.5**
	baz=85							
Y31A	**Rekieta Farm,**	**85.07**	**53**	⇑P	**P**		**18 38 50.2**	**-0.8**
	baz=85							
H22A	**Clearmont**	**85.12**	**41**	⇑P	**P**		**18 38 50.6**	**-0.5**
	baz=85							
B19A	**Brinkman Farms**	**85.34**	**37**	⇓P	**P**		**18 38 51.9**	**-0.1**
	baz=85							
Z32A	**Haskell**	**85.43**	**54**	⇓P	**P**		**18 38 52.1**	**-0.7**
	baz=85							
C20A	**Veseth Ranch,**	**85.54**	**38**	⇑P	**P**		**18 38 53.2**	**+0.1**
	baz=86							
E21A	**Keefer Ranch,**	**85.56**	**39**	⇑P	**P**		**18 38 53.6**	**+0.4**
	baz=86							
A19A	**Klindworth Far**	**85.69**	**37**	⇑P	**P**		**18 38 53.9**	**+0.1**
	baz=86							
Y32A	**R-V Farms, Ver**	**85.72**	**53**	⇓P	**P**		**18 38 53.7**	**-0.5**
	baz=86							
U30A	**WK&E Inc. Balk**	**85.74**	**51**	⇓P	**P**		**18 38 54.0**	**-0.4**
	baz=86							
W31A	**Holland Ranch,**	**85.77**	**52**	⇓P	**P**		**18 38 53.9**	**-0.6**
	baz=86							
A20A	**Cobblestone Ra**	**86.14**	**37**	⇓P	**P**		**18 38 55.9**	**-0.1**
	baz=86							
F23A	**Volborg**	**86.22**	**41**	⇓P	**P**		**18 38 56.7**	**+0.2**
	baz=86							
H24A	**Dirks Ranch, A**	**86.34**	**42**	⇑P	**P**		**18 38 57.0**	**-0.2**
	baz=86							
I25A	**Rochford**	**86.57**	**43**	⇑P	**P**		**18 38 58.3**	**-0.1**
	baz=87							
B22A	**Reddig Ranch S**	**87.01**	**38**	⇑P	**P**		**18 39 00.2**	**-0.1**
	baz=87							
G27A	**Dupree**	**88.30**	**42**	⇑P	**P**		**18 39 05.9**	**-0.7**
	baz=88							
KURK	**Kurchatov**	**112.93**	**319**	P'P'	**PKiKP**		**18 44 53.0**	**+1.2**
BVAR	**Borovoye Array**	**117.67**	**322**	PKP	**PKPdf**		**18 44 59.7**	**-1.1**
BVAR	**Borovoye Array**	**117.67**	**322**	PKP	**PKPdf**		**18 44 59.7**	**-1.1**
	0.8nm,0.8s,baz=353,slow=0.7,SNR=4.0							
ARCES	**ARCESS Array B**	**124.42**	**352**	PKP	**PKPdf**		**18 45 12.2**	**-1.2**
ARCES	**ARCESS Array B**	**124.42**	**352**	PKP	**PKPdf**		**18 45 12.2**	**-1.2**
	2.2nm,0.8s,baz=342,slow=2.0,SNR=8.2							
FINES	**FINESS Array B**	**131.75**	**348**	PKP	**PKPdf**		**18 45 28.1**	**+0.6**
FINES	**FINESS Array B**	**131.75**	**348**	PKP	**PKPdf**		**18 45 28.1**	**+0.6**
	1.1nm,0.8s,baz=72,slow=4.5,SNR=3.1							
KECS	**Kecovo**	**144.88**	**344**	*e*PKP	**PKPdf**		**18 45 52.1**	**+0.2**
VYHS	**Vyhne**	**145.29**	**346**	*e*PKP	**PKPab**		**18 45 53.6**

NSK	**Sanguang** baz=308	**1.01 311**	P	**Pb**	**18 41 23.0**	**+0.2**
NSK	baz=308		*e*S	**Sg**	**18 41 36.2**	**-0.3**
TWB1	**Santiao Chiao** baz=2.0	**1.01 349**	*e*P	**Pb**	**18 41 22.8**	**+0.1**
TWB1	baz=2.0		*e*S	**Sb**	**18 41 35.6**	**-0.2**
TWF1	**Yuli** baz=215	**1.05 231**	P	**Pb**	**18 41 23.5**	**-0.1**
TWF1	baz=215		*e*S	**Sb**	**18 41 36.9**	**-0.2**
TWA	**Mucha** baz=329	**1.11 330**	P	**Pg**	**18 41 24.9**	**-0.2**
TWA	baz=329		*e*S	**Sg**	**18 41 39.4**	**-0.3**
NWF	**Wu-fen Shan** baz=339	**1.12 340**	P	**Pn**	**18 41 24.7**	**0.0**
NWF	baz=339		*e*S	**Sn**	**18 41 39.2**	**-0.7**
CHKT	**Chengkung** baz=206	**1.19 220**	P	**Pn**	**18 41 24.8**	**-0.8**
CHKT	baz=206		*e*S	**Sb**	**18 41 39.1**	**-1.8**
TAP1	**Taipei** baz=327	**1.19 329**	*e*P	**Pg**	**18 41 27.1**	**+0.4**
TAP1	baz=327		*e*S	**Sg**	**18 41 41.5**	**-0.7**
SMLT	**Sun Moon Lake** baz=261	**1.19 264**	⇓*i*P	**Pn**	**18 41 26.2**	**+0.4**
SMLT	baz=261		*e*S	**Sn**	**18 41 42.2**	**+0.5**
TAP	**Taipei** baz=327	**1.20 329**	*e*P	**Pg**	**18 41 27.7**	**+0.9**
TAP	baz=327		*e*S	**Sg**	**18 41 41.9**	**-0.6**
TYC	**Yuchr** baz=262	**1.23 265**	P	**Pn**	**18 41 26.6**	**+0.4**
TYC	baz=262		*e*S	**Sn**	**18 41 42.8**	**+0.3**
NSTT	**Nanjuang** baz=297	**1.25 300**	P	**Pg**	**18 41 27.5**	**-0.3**
NSTT	baz=297		S	**Sg**	**18 41 43.5**	**-0.6**
YUS	**Yu-Shan** baz=242	**1.25 246**	*e*P	**Pn**	**18 41 27.3**	**+0.4**
YUS	baz=242		*e*S	**Sb**	**18 41 42.9**	**-0.4**
TWS1	**Kuangyinshan** baz=325	**1.29 327**	*e*P	**Pg**	**18 41 28.2**	**-0.4**
NCU	**National Centr** baz=314	**1.32 316**	*e*P	**Pb**	**18 41 28.3**	**+0.2**
TWQ1	**Liyutan** baz=268	**1.34 285**	P	**Pg**	**18 41 29.4**	**-0.1**
TWQ1	baz=268		*e*S	**Sg**	**18 41 46.7**	**-0.3**
ELDTW	**Lidau** baz=217	**1.36 233**	P	**Pn**	**18 41 27.7**	**-0.4**
ELDTW	baz=217		*e*S	**Sn**	**18 41 45.1**	**-0.7**
ALS	**Alishan** baz=246	**1.37 249**	*i* P	**Pb**	**18 41 29.3**	**+0.2**
ALS	baz=246		*e*S	**Sn**	**18 41 46.6**	**+0.3**
NSY	**Sanyi** baz=284	**1.37 287**	*e*P	**Pg**	**18 41 29.7**	**-0.3**
NSY	baz=284		*e*S	**Sg**	**18 41 48.1**	**+0.2**
TWY	**Chenhua** baz=354	**1.37 337**	*e*P	**Pg**	**18 41 30.6**	**+0.6**
WNT	**Mingjian** baz=262	**1.39 265**	*e*P	**Pg**	**18 41 30.6**	**+0.2**
WNT	baz=262		*e*S	**Sg**	**18 41 48.3**	**-0.2**
TCU	**Taichung** baz=272	**1.39 276**	*e*P	**Pg**	**18 41 30.4**	**-0.1**
TCU	baz=272		*e*S	**Sg**	**18 41 48.6**	**0.0**
IRIF	**Iriomote-Funau**	**1.44 77**	P	**Pn**	**18 41 29.6**	**+0.5**
IRIF			*e*S	**Sb**	**18 41 48.4**	**+0.2**
CHN5	**Tsauling** baz=239	**1.45 254**	*i* P	**Pb**	**18 41 30.9**	**+0.5**
CHN5	baz=239		*e*S	**Sb**	**18 41 49.6**	**+1.0**
HATJ	**Hateruma jima**	**1.47 88**	*e*S	**Sb**	**18 41 49.5**	**+0.3**
WGK	**Gukeng** baz=241	**1.53 258**	*e*P	**Pb**	**18 41 31.8**	**+0.2**
WGK	baz=241		*e*S	**Sg**	**18 41 52.8**	**-0.2**
STYT	**Tauyuan** baz=224	**1.57 238**	P	**Pn**	**18 41 31.9**	**+1.0**
STYT	baz=224		S	**Sb**	**18 41 52.2**	**+0.3**
TWG	**Pinlang** baz=220	**1.57 221**	*e*P	**Pn**	**18 41 30.7**	**-0.2**
TWG	baz=220		*e*S	**Sn**	**18 41 48.8**	**-2.2**
CHN4	**Tsaushan** baz=232	**1.61 246**	P	**Pb**	**18 41 33.4**	**+0.4**
CHN4	baz=232		*e*S	**Sb**	**18 41 53.2**	**+0.1**
WTP	**Ta-pu** baz=240	**1.64 242**	P	**Pb**	**18 41 33.5**	**0.0**
WTP	baz=240		*e*S	**Sb**	**18 41 55.5**	**+1.5**
JKRS	**Kuro-shima**	**1.67 82**	P	**Pn**	**18 41 33.2**	**+0.9**
JKRS			*e*S	**Sb**	**18 41 55.3**	**+0.4**
TWK	**Hsinying** baz=242	**1.73 245**	*e*P	**Pb**	**18 41 35.2**	**+0.1**
TWK	baz=242		*e*S	**Sb**	**18 41 58.2**	**+1.5**
CHN1	**Nanshi** baz=239	**1.74 242**	P	**Pb**	**18 41 35.2**	**0.0**
CHN1	baz=239		S	**Sb**	**18 41 58.4**	**+1.6**
SGST	**Jiashian** baz=236	**1.75 238**	P	**Pb**	**18 41 35.5**	**+0.1**
SGST	baz=236		S	**Sb**	**18 41 58.2**	**+1.2**
WTCT	**Ta-ch'eng** baz=263	**1.76 266**	*e*P	**Pb**	**18 41 35.7**	**+0.2**
ECL	**Taimali** baz=218	**1.81 219**	*e*P	**Pn**	**18 41 34.9**	**+0.6**
ECL	baz=218		*e*S	**Sn**	**18 41 55.4**	**-1.6**
JIJ	**Ishigaki jima**	**1.81 79**	P	**Pn**	**18 41 34.4**	**+0.2**
JIJ			*e*S	**Sn**	**18 41 56.4**	**-0.5**
WSF	**Szhu** baz=255	**1.84 259**	*e*P	**Pb**	**18 41 36.7**	**-0.3**
WSF	baz=255		*e*S	**Sb**	**18 42 01.3**	**+1.5**
CHN8	**Yiju** baz=249	**1.94 250**	*e*P	**Pn**	**18 41 37.1**	**+1.2**
TWM1	**Shoushan** baz=232	**2.01 234**	*e*P	**Pb**	**18 41 39.0**	**-0.9**
EAST	**Anshuo** baz=217	**2.04 218**	*e*P	**Pn**	**18 41 37.8**	**+0.4**
LAY	**Lan-yu** baz=198	**2.05 197**	*e*P	**Pn**	**18 41 37.4**	**-0.2**
LAY	baz=198		*e*S	**Sn**	**18 42 00.3**	**-2.5**
SCZT	**Fangliau** baz=215	**2.18 222**	*e*P	**Pn**	**18 41 40.9**	**+1.6**
JTJ	**Tarama**	**2.37 74**	*e*S	**Sn**	**18 42 11.2**	**+0.5**

IDC 13 18:52:28.2±0.8, 3°.39N×126°.59E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/24, mbtmp3.9/9, MS4.4/2, Ms1 4.4/2, ms1mx3.8/42, 1C, Error ellipse: s-maj=69.2km s-min=14.4km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)** comp=Z,2μm,19.8s,baz=127,slow=31	**3.79 345**		LR	LR	18 54 24.0	
CTBH	**Cotabato--PC H**	**4.46 329**	⇑*i*P	Pb		18 53 43.1	-4.4
FITZ	**Fitzroy Crossi** 2.1nm,0.8s,baz=15,slow=11,SNR=4.4	**21.38 182**	P	P		18 57 18.7	+1.3
WRA	**Warramunga Arr** 3.6nm,0.8s,baz=343,slow=9.6,SNR=24	**24.41 162**	P	P		18 57 47.6	-0.9
ASAR	**Alice Springs** 0.7nm,0.5s,baz=346,slow=7.0,SNR=15	**27.82 166**	P	P		18 58 19.4	-0.1
KSRS	**Korea Array** 1.0nm,0.8s,baz=194,slow=8.8,SNR=3.2	**33.92 2**	P	P		18 59 13.5	+0.5
HNR	**Honiara** comp=Z,1μm,18.4s,baz=297,slow=37	**35.60 111**	LR	LR		19 14 20.3	
STKA	**Stephens Creek** 4.1nm,0.8s,baz=332,slow=10,SNR=4.7	**37.87 159**	P	P		18 59 47.1	+0.1
SONM	**Songino Array** 0.3nm,0.6s,baz=167,slow=8.6,SNR=3.6	**47.57 342**	P	P		19 01 05.6	-0.2
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=123,slow=7.1,SNR=8.8	**57.75 325**	P	P		19 02 21.0	-0.1
KURBB	**Kurchatov Arra** 2.3nm,0.7s,baz=127,slow=6.0,SNR=22	**61.95 328**	P	P		19 02 49.6	-0.2
BVAR	**Borovoye Array** 2.0nm,1.0s,baz=123,slow=7.8,SNR=7.3	**67.53 327**	P	P		19 03 26.1	-0.2

IDC 13 18:54:03.0±2.0, 0°.79N×126°.76E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/20, mbtmp3.4/4, Error ellipse: s-maj=225.6km s-min=22.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=340,slow=9.8,SNR=2.3	**21.91 161**		P	P	18 58 57.4	-0.6
ASAR	**Alice Springs** 0.3nm,0.4s,baz=346,slow=12,SNR=4.1	**25.28 165**	P	P		18 59 32.1	+0.8
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=120,slow=8.6,SNR=6.9	**59.98 326**	P	P		19 04 11.3	-0.1
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=124,slow=5.8,SNR=3.2	**64.22 328**	P	P		19 04 39.7	-0.1

JMA 13 18:57:29.5, 35°.35N×137°.25E, h50km, M3.5, 2C-3D Broadband fault plane solution: P waves. NP1: ϕ_s309.00000°, δ69.00000°, λ-147.00000°. NP2: ϕ_s205.00000°, δ59.00000°, λ-25.00000°. Principal axes: T Plg6.0000°, Azm75.0000°; N Plg51.0000°, Azm337.0000°; P Plg38.0000°, Azm170.0000°; Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAO	**Obara**	**0.08 175**		⇓P	Pn	18 57 37.3	-0.1
JAO				S	Sn	18 57 42.8	-0.1
JGF	**Kuroka**	**0.27 19**		⇓P	Pn	18 57 38.2	-0.2
JGF				S	Sn	18 57 44.5	-0.3
JGM	**Miyama**	**0.56 309**		⇓P	Pn	18 57 41.7	+0.2
JGM				S	Sn	18 57 50.3	+0.2
SHZ3	**Shizuoka 3**	**0.84 110**		⇑P	Pn	18 57 46.5	-0.6
TSUJ	**Tsu 2**	**0.93 227**		P	Pn	18 57 46.0	-0.3
TSUJ				S	Sn	18 57 58.1	-0.6
JIE	**Ise**	**1.05 205**		P	Pn	18 57 47.9	-0.1
JIE				S	Sn	18 58 00.7	-0.9
JYN	**Shimob**	**1.07 82**		⇑P	Pn	18 57 48.4	+0.2
MAT	**Matsushiro**	**1.42 33**		P	Pn	18 57 53.5	+0.5
MAT				S	Sn	18 58 12.3	+1.7

*AUST **13** 19:12:40.3±0.0, 16°.96S×179°.86E, h309km Error ellipse: s-maj=3.1km s-min=1.4km az=337.0*
*IDC **13** 19:12:47.9±1.9, 17°.81S×178°.76W, h508km±22km, mb3.4/12, mb1 3.6/14, mb1mx3.4/23, mbtmp3.4/14, Error ellipse: s-maj=22.6km s-min=11.7km az=148.0*
*ISCJB **13** 19:12:49.6±0.6, 17°.8S±0°.1×178°.5W±0°.1, h579km, mb3.8/11, Error ellipse: s-maj=20.9km s-min=9.5km az=147.7*

ISC 13 19:12:51.3±0.8, 17°.9S±0°.2×178°.4W±0°.1, h579km, n28, σ1°67/23, mb3.7/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 9.1nm,0.3s,baz=306,slow=5.4,SNR=12	**7.49 59**		P	P	19 14 42.2	-3.0
AFI				S	**S**	**19 16 14.1**	**-4.2**
DZM	**Mont Dzumac** 1.3nm,0.3s,baz=90,slow=20,SNR=2.1	**14.85 251**		P	P	19 15 54.2	-4.5
URZ	**Urewera** 11nm,0.8s,baz=4.8,slow=7.5,SNR=4.6	**20.71 190**		P	**P**	**19 16 50.7**	**-1.4**
ARMA	**Armidale** baz=29,SNR=11	**29.97 240**		P	**P**	**19 18 13.7**	**-0.3**
RMQ	**Roma** baz=30,SNR=7.3	**31.52 248**		P	**P**	**19 18 26.7**	**-0.6**
CTA	**Charters Tower** 3.9nm,0.8s,baz=91,slow=10,SNR=6.5	**33.46 260**		P	**P**	**19 18 41.9**	**-1.8**
CNB	**Canberra Magne** baz=33,SNR=9.0	**33.46 232**		P	**P**	**19 18 43.8**	**+0.2**
CMSA	**Cobar Meteorol** baz=34,SNR=19	**35.18 240**		P	**P**	**19 18 57.2**	**-0.6**
TOO	**Toolangi** baz=36,SNR=6.9	**37.20 231**		P	**P**	**19 19 14.8**	**+0.4**
STKA	**Stephens Creek** 5.4nm,0.5s,baz=86,slow=10,SNR=33	**38.66 241**		P	**P**	**19 19 25.8**	**-0.5**
STKA	**Stephens Creek** baz=38,SNR=24	**38.66 241**		P	**P**	**19 19 26.2**	**-0.1**
BBOO	**Buckleboo** baz=42,SNR=7.1	**43.43 241**		P	**P**	**19 20 03.8**	**-0.3**
WRA	**Warramunga Arr** 1.6nm,0.5s,baz=94,slow=7.2,SNR=24	**44.64 259**		P	**P**	**19 20 11.7**	**-1.9**
ASAR	**Alice Springs** 15nm,0.5s,baz=89,slow=7.9,SNR=544	**44.81 254**		P	**P**	**19 20 13.8**	**-1.0**
KDU	**Kakadu** baz=46,SNR=5.9	**47.56 269**		P	**P**	**19 20 34.6**	**-1.1**
MTN	**Manton Dam** baz=47,SNR=3.2	**48.80 268**		S	S	19 27 11.5	+5.2
FITZ	**Fitzroy Crossi** 0.9nm,0.4s,baz=129,slow=6.8,SNR=7.2	**53.04 260**		P	**P**	**19 21 14.9**	**-0.6**
FITZ	**Fitzroy Crossi** baz=52,SNR=3.9	**53.04 260**		P	**P**	**19 21 15.1**	**-0.4**
MEEK	**Meekatharra** baz=57,SNR=4.0	**58.45 249**		P	**P**	**19 21 52.3**	**-0.5**
VNDA	**Vanda** 0.4nm,0.8s,baz=347,slow=6.8,SNR=4.6	**60.50 185**		P	**P**	**19 22 08.1**	**+2.6**
PETK	**Petropavlovsk-** 3.5nm,0.9s,baz=124,slow=7.4,SNR=3.8	**73.63 345**		P	**P**	**19 23 27.9**	**+1.7**
NVAR	**Mina Array Bea** 1.8nm,0.7s,baz=226,slow=9.1,SNR=15	**79.38 44**		P	P	19 24 02.5	+4.2
ILAR	**Eielson Array** 0.7nm,0.7s,baz=236,slow=4.6,SNR=6.3	**85.83 13**		P	**P**	**19 24 31.8**	**+2.0**
TXAR	**Lajitas Array** 1.2nm,0.7s,baz=224,slow=6.0,SNR=13	**85.97 58**		P	P	19 24 36.8	+5.4
PDAR	**Pinedale Array** 0.8nm,0.5s,baz=213,slow=2.0,SNR=7.6	**87.31 43**		P	P	19 24 41.2	+3.6
BRTR	**Keskin Array B** 0.6nm,0.6s,baz=20,slow=4.6,SNR=3.9	**144.74 315**		PKP	**PKPab**	**19 31 26.3**	**+1.7**
GERES	**GERESS Array B** 1.1nm,0.6s,baz=27,slow=1.5,SNR=10	**147.56 345**		PKPbc	**PKPab**	**19 31 33.7**	**-1.6**
DAVOX	**Davos/Dischmat** 1.5nm,0.5s,baz=0.0,slow=20,SNR=5.0	**150.35 348**		PKPbc	**PKPbc**	**19 31 40.7**	**+2.6**

IDC 13 19:23:28.5±5.4, 5°.85S×147°.61E, h191km±55km, mb3.2/2, mb1 3.4/4, mb1mx3.0/18, mbtmp3.2/4, MS3.3/1, Ms1 3.3/1, ms1mx2.8/18, Error ellipse: s-maj=99.1km s-min=46.2km az=126.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 7.2nm,0.3s,baz=23,slow=5.5,SNR=64	**3.56 187**		P	Pn	19 24 25.8	+1.3
PMG				S	Sn	19 25 08.1	-0.3
PMG	4.4nm,0.3s,baz=239,slow=20,SNR=12			LR	LR	19 26 05.0	
WRA	comp=Z,410nm,20.1s,baz=148,slow=44 **Warramunga Arr** 0.3nm,0.3s,baz=40,slow=11,SNR=9.7	**19.04 221**		P	P	19 27 36.6	+0.3
ASAR	**Alice Springs** 1.1nm,0.7s,baz=48,slow=7.9,SNR=10	**22.08 215**		P	P	19 28 09.2	+0.9
FITZ	**Fitzroy Crossi** 0.8nm,0.3s,baz=43,slow=12,SNR=9.0	**24.66 239**		P	P	19 28 31.7	-0.2
TORD	**Torodi Ar. Bea** 0.2nm,0.5s,baz=86,slow=2.7,SNR=4.5	**145.64 285**		PKPbc	PKPdf	19 42 43.8	-1.3

WEL 13 19:25:08.6±0.1, 42°.24S×173°.89E, h33km, ML3.7/30, 3C-9D, Error ellipse: s-maj=1.2km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.32 236**		⇓P*	Pn	19 25 17.0	+0.1
KHZ				S*	Sn	19 25 22.2	+0.1
KHZ				AML	AML	19 25 23.0	
BSWZ	**Blackbirch Sta**	**0.53 359**		⇑P*	Pb	19 25 19.1	-0.5
BSWZ				S*	Sb	19 25 26.6	-0.6
BSWZ				AML	AML	19 25 29.6	
CMWZ	**Cape Campbell**	**0.55 26**		P*	Pb	19 25 19.5	-0.5
CMWZ				S*	Sn	19 25 30.2	+2.1
CMWZ				AML	AML	19 25 30.9	
TUWZ	**Tuamarina**	**0.81 3**		⇑P*	Pn	19 25 23.3	-0.4
TUWZ				S*	Sn	19 25 34.2	-0.3
TUWZ				AML	AML	19 25 35.0	
THZ	**Tophouse**	**0.88 303**		P*	Pn	19 25 23.9	-0.9
THZ				AML	AML	19 25 38.7	
THZ				AML	AML	19 25 39.1	
TCW	**Tory Channel**	**1.07 16**		⇓P*	Pn	19 25 26.9	-0.4
TCW				AML	AML	19 25 42.3	
TCW				AML	AML	19 25 44.1	
NNZ	**Nelson**	**1.09 339**		⇑PN	Pn	19 25 27.0	-0.6
NNZ				AML	AML	19 25 42.0	
NNZ				AML	AML	19 25 42.9	
BHW	**Baring Head**	**1.11 42**		⇓P*	Pn	19 25 27.7	-0.1
BHW				AML	AML	19 25 56.8	
BHW				AML	AML	19 26 00.3	
SNZO	**South Karori**	**1.11 33**		P*	Pn	19 25 27.7	-0.1
SNZO				AML	AML	19 25 28.3	
SNZO				AML	AML	19 25 49.5	
WEL	**Wellington**	**1.16 35**		P*	Pn	19 25 28.4	-0.1
PLWZ	**Palliser**	**1.22 57**		⇓P*	Pn	19 25 29.0	-0.4
MSWZ	**Moikau Station**	**1.31 51**		⇓PN	Pn	19 25 30.2	-0.4
MSWZ				AML	AML	19 26 00.0	
MSWZ				AML	AML	19 26 04.5	
LTZ	**Lake Taylor**	**1.32 245**		PN	Pn	19 25 30.4	-0.3
LTZ				AML	AML	19 25 48.4	
CAW	**Cannon Point**	**1.43 38**		⇓PN	Pn	19 25 32.0	-0.3
CAW				AML	AML	19 25 58.9	
CAW				AML	AML	19 25 59.8	
DUWZ	**D'Urville Isla**	**1.44 1**		PN	Pn	19 25 32.2	-0.1
DUWZ				AML	AML	19 25 52.7	
DUWZ				AML	AML	19 25 55.0	
KIW	**Kapiti Island**	**1.57 29**		PN	Pn	19 25 34.1	-0.1
KIW				AML	AML	19 26 01.9	
KIW				AML	AML	19 26 02.8	
TRWZ	**Traveller**	**1.58 59**		⇓PN	Pn	19 25 33.6	-0.8
TRWZ				AML	AML	19 26 18.4	
TRWZ				AML	AML	19 26 21.8	
MTW	**Mount Morrison**	**1.62 49**		PN	Pn	19 25 34.0	-0.9
MTW				AML	AML	19 26 13.3	
MTW				AML	AML	19 26 19.8	
CRLZ	**Canterbury Las**	**1.63 215**		PN	Pn	19 25 34.6	-0.4
CRLZ				AML	AML	19 25 54.9	
DSZ	**Denniston Nort**	**1.63 287**		PN	Pn	19 25 35.5	+0.4
DSZ				AML	AML	19 25 57.4	
DSZ				AML	AML	19 25 57.8	
OGWZ	**Otaki Gorge**	**1.71 34**		⇓PN	Pn	19 25 35.8	-0.3
MQZ	**McQueen's Vall**	**1.73 211**		PN	Pn	19 25 35.4	-0.9
MQZ				AML	AML	19 25 57.6	
MQZ				AML	AML	19 25 57.9	
OXZ	**Oxford**	**1.74 231**		PN	Pn	19 25 35.7	-0.9
QRZ	**Quartz Range**	**1.74 324**		PN	Pn	19 25 37.6	+1.0
QRZ				AML	AML	19 25 59.1	
QRZ				AML	AML	19 26 00.4	
HOWZ	**Holdsworth Sta**	**1.81 43**		PN	Pn	19 25 36.7	-0.9
TMWZ	**Te Maipa**	**1.88 54**		PN	Pn	19 25 37.4	-1.0
MRZ	**Mangatainoka R**	**2.02 39**		⇓PN	Pn	19 25 39.6	-0.8
MRZ				AML	AML	19 26 26.9	
MRZ				AML	AML	19 26 28.6	
PRWZ	**Pori Road**	**2.30 44**		PN	Pn	19 25 43.0	-1.2
POWZ	**Post Office Ro**	**2.32 38**		PN	Pn	19 25 43.6	-1.0
WVZ	**Waitaha Valley**	**2.47 249**		PN	Pn	19 25 46.6	+0.1
RPZ	**Rata Peaks**	**2.55 234**		PN	Pn	19 25 46.8	-0.9
RPZ				AML	AML	19 26 16.8	
DVHZ	**Dannevirke**	**2.59 42**		PN	Pn	19 25 46.5	-1.7
WAZ	**Wanganui**	**2.62 19**		PN	Pn	19 25 49.8	+1.2
ANWZ	**Angora Road**	**2.63 48**		PN	Pn	19 25 47.0	-1.8
TSZ	**Takapari Road**	**2.68 36**		PN	Pn	19 25 48.4	-1.1
TSZ				AML	AML	19 26 50.8	
PNHZ	**Pukenui**	**2.91 38**		PN	Pn	19 25 51.2	-1.4
PKE	**Pukeiti**	**3.04 1**		PN	Pn	19 25 56.5	+2.0
PKE				AML	AML	19 26 48.0	
PKVZ	**Pokaka**	**3.15 21**		PN	Pn	19 25 56.8	+0.9
PKVZ				AML	AML	19 27 02.1	
MOVZ	**Moawhango**	**3.16 27**		PN	Pn	19 25 55.7	-0.5
MOVZ				AML	AML	19 27 06.7	
VRZ	**Vera Road**	**3.18 12**		PN	Pn	19 25 57.7	+1.4
VRZ				AML	AML	19 26 56.6	
VRZ				AML	AML	19 27 06.5	
BHHZ	**Black Hill Sta**	**3.20 32**		PN	Pn	19 25 55.8	-0.9
TUVZ	**Tukino**	**3.26 25**		PN	Pn	19 25 57.7	+0.1
WPVZ	**Whakapapa**	**3.28 23**		PN	Pn	19 25 58.4	+0.5
WPVZ				AML	AML	19 27 04.9	
WPVZ				AML	AML	19 27 08.2	
NGZ	**Ngauruhoe**	**3.33 24**		PN	Pn	19 25 58.7	+0.2
NGZ				AML	AML	19 27 09.8	
NGZ				AML	AML	19 27 22.2	
KAHZ	**Kahuranaki**	**3.33 44**		PN	Pn	19 25 55.8	-2.6
FOZ	**Fox Glacier**	**3.36 245**		PN	Pn	19 25 57.7	-1.1
KRVZ	**Karewarewa**	**3.41 24**		PN	Pn	19 25 59.7	0.0
KRVZ				AML	AML	19 27 05.7	
KRVZ				AML	AML	19 27 09.1	
LBZ	**Lake Benmore**	**3.45 230**		PN	Pn	19 25 59.6	-0.5
BKZ	**Black Stump Fm**	**3.65 34**		PN	Pn	19 26 00.8	-2.0
ODZ	**Otahua Downs**	**3.66 219**		PN	Pn	19 26 02.0	-1.0
HIZ	**Hauiti**	**3.79 12**		PN	Pn	19 26 05.4	+0.6
JCZ	**Jackson Bay**	**4.18 242**		PN	Pn	19 26 09.1	-1.1
WKZ	**Wanaka**	**4.39 232**		PN	Pn	19 26 12.1	-0.9
EAZ	**Earnscleugh**	**4.47 226**		PN	Pn	19 26 13.3	-0.7
MWZ	**Matawai**	**4.79 37**		PN	Pn	19 26 15.0	-3.5
TUZ	**Tuapeka**	**4.82 218**		PN	Pn	19 26 17.9	-0.9
MLZ	**Mavora Lakes**	**5.17 231**		PN	Pn	19 26 22.8	-0.9
SYZ	**Scrubby Hill**	**5.48 217**		PN	Pn	19 26 27.6	-0.2

*JMA **13** 19:37:27.4±0.4, 32°.95N×138°.13E, h359km±4km, M3.2*
*ISCJB **13** 19:37:29.7±0.8, 33°.2N±0°.1×138°.16E±0°.09, h347km±7km, mb2.8/3, Error ellipse: s-maj=16.9km s-min=10.2km az=158.3*
*IDC **13** 19:37:37.3±14.0, 32°.90N×137°.36E, h387km±78km, mb2.7/3, mb1 2.9/4, mb1mx2.6/26, mbtmp2.7/4, Error ellipse: s-maj=322.8km s-min=24.2km az=65.0*

ISC 13 19:37:30.7±1.1, 33°.2N±0°.1×138°.09E±0°.08, h340km±10km, n22, σ1°16/29, mb2.8/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIE	**Ise**	**1.63 316**		P	**Pn**	**19 38 18.9**	**+0.3**
HMMJ	**Hamamatsu 2**	**1.65 349**		P	**Pn**	**19 38 19.5**	**+0.8**
JKN2	**Miekihoku**	**1.82 304**		P	**Pn**	**19 38 19.7**	**-0.1**
JWZ	**Kozaga**	**2.01 279**		P	**Pn**	**19 38 20.3**	**-0.9**
JNY	**Yasuok**	**2.13 355**		P	**Pn**	**19 38 23.2**	**+1.1**
JAO	**Obara**	**2.15 342**		P	**Pn**	**19 38 23.0**	**+0.8**
JWY	**Kouya**	**2.30 296**		P	**Pn**	**19 38 23.4**	**0.0**
BSO3	**Boso 3**	**2.55 51**		P	**Pn**	**19 38 25.1**	**+0.1**
BSO3				S	**S**	**19 39 10.8**	**+1.3**
BSO4	**Boso 4**	**2.56 46**		S	**S**	**19 39 09.8**	**+0.6**
JGM	**Miyama**	**2.71 336**		P	**Pn**	**19 38 27.5**	**+0.8**
BSO1	**Boso 1**	**2.79 59**		P	**Pn**	**19 38 26.9**	**+0.1**
BSO1				S	**S**	**19 39 11.6**	**-0.3**
JHU	**Hanno**	**2.80 20**		P	**Pn**	**19 38 27.9**	**+0.5**
JHU				*e*S	**S**	**19 39 12.2**	**-0.8**
JRY	**Ryogami san**	**2.86 13**		P	**Pn**	**19 38 29.6**	**+1.6**
JRY				S	**S**	**19 39 15.0**	**+0.9**
JWT	**Wachi**	**3.02 313**		P	**Pn**	**19 38 29.5**	**0.0**
JAI	**Aioi**	**3.09 281**		P	**Pn**	**19 38 29.4**	**-0.7**
JAG	**Ashikaga**	**3.38 19**		P	**Pn**	**19 38 32.9**	**+0.1**
JAG				S	**S**	**19 39 20.4**	**-2.4**
JYT	**Yasato**	**3.46 30**		P	**Pn**	**19 38 33.2**	**-0.4**
JYT				*e*S	**S**	**19 39 21.9**	**-2.3**
JHO	**Hitachi**	**3.94 30**		P	**Pn**	**19 38 38.1**	**-0.3**
JHO				S	**S**	**19 39 29.8**	**-3.2**
KSRS	**Korea Array** 0.3nm,0.3s,baz=117,slow=11,SNR=5.1	**9.31 300**		P	**P**	**19 39 43.4**	**+0.6**
SONM	**Songino Array** 0.6nm,0.7s,baz=117,slow=7.2,SNR=6.1	**27.93 311**		P	**P**	**19 42 51.6**	**+0.9**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=87,slow=8.7,SNR=7.1	**43.95 305**		P	**P**	**19 45 05.1**	**+0.1**
WRA	**Warramunga Arr** 0.3nm,0.8s,baz=360,slow=7

0.7nm,0.9s,baz=49,slow=10.0,SNR=2.8
ASAR **Alice Springs** **25.84 218** P P 20 20 04.5 +0.5
0.6nm,0.8s,baz=52,slow=9.1,SNR=6.2
FITZ **Fitzroy Crossi** **28.61 238** P P 20 20 28.8 -0.1
3.1nm,1.0s,baz=54,slow=8.7,SNR=2.0
ILAR **Eielson Array** **81.76 23** P P 20 26 51.3 +0.3
0.5nm,0.6s,baz=253,slow=4.6,SNR=3.7
TORD **Torodi Ar. Bea** **148.07 289** PKPbc PKPbc 20 34 17.9 -1.5
0.6nm,0.8s,baz=83,slow=1.6,SNR=2.6

IDC 13 20:27:31.6±1.9, 3°59N×126°64E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/22, mbtmp3.6/4, Error ellipse: s-maj=119.8km s-min=23.8km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.57**	**183**	P	P	20 32 22.8	-0.2
	2.0nm,0.8s,baz=350,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**24.57**	**162**	P	P	20 32 53.5	0.0
	1.0nm,0.6s,baz=342,slow=10.0,SNR=7.7						
ASAR	**Alice Springs**	**28.00**	**166**	P	P	20 33 24.8	+0.3
	0.1nm,0.3s,baz=346,slow=12,SNR=3.0						
MKAR	**Makanchi Array**	**57.62**	**325**	P	P	20 37 23.4	-0.2
	2.1nm,0.7s,baz=128,slow=6.2,SNR=2.0						

IDC ***13*** *20:28:34.0±2.8, 21°.74S×179°.43W, h535km±29km, mb3.4/8, mb1 3.5/9, mb1mx3.3/20, mbtmp3.3/9, Error ellipse: s-maj=24.4km s-min=19.4km az=144.0*
ISCJB ***13*** *20:28:36.9±0.9, 21°.9S±0°.1×179°.5W±0°.1, h592km, mb3.9/8, Error ellipse: s-maj=19.0km s-min=16.4km az=141.3*
AUST ***13*** *20:28:36.8±14.0, 21°.52S×178°.91W, h645km, Error ellipse: s-maj=8.5km s-min=3.2km az=272.0*

ISC 13 20:28:38.6±1.1, 21°.9S±0°.2×179°.5W±0°.1, h592km, n23, σ1§87/25, mb4.2/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.01**	**267**	P	**P**	**20 31 26.0**	**-1.7**
	0.3nm,0.3s,baz=90,slow=24,SNR=2.8						
URZ	**Urewera**	**16.52**	**189**	P	**P**	**20 31 57.8**	**-3.1**
	1.5nm,0.3s,baz=354,slow=10,SNR=6.8						
URZ				S	S	20 34 37.3	-8.3
	0.6nm,0.3s,baz=246,slow=20,SNR=5.2						
LHI	**Lord Howe Isla**	**21.33**	**239**	P	**P**	**20 32 45.7**	**+1.1**
	baz=22,SNR=4.5						
EIDS	**Eidsvold**	**27.11**	**257**	P	**P**	**20 33 36.4**	**+0.6**
	baz=28,SNR=3.8						
ARMA	**Armidale**	**27.16**	**246**	P	**P**	**20 33 37.8**	**+1.5**
	baz=28,SNR=7.5						
CNB	**Canberra Magne**	**30.24**	**237**	P	**P**	**20 34 04.2**	**+1.3**
	baz=31,SNR=11						
CTA	**Charters Tower**	**31.95**	**267**	P	**P**	**20 34 17.9**	**+0.3**
	5.8nm,0.4s,baz=90,slow=11,SNR=19						
CMSA	**Cobar Meteorol**	**32.38**	**245**	P	**P**	**20 34 21.6**	**+0.6**
	baz=33,SNR=30						
TOO	**Toolangi**	**33.90**	**235**	P	**P**	**20 34 34.5**	**+0.8**
	baz=35,SNR=5.8						
MTSU	**Mount Surprise**	**34.12**	**270**	P	**P**	**20 34 36.5**	**+0.6**
	baz=35,SNR=8.5						
STKA	**Stephens Creek**	**35.88**	**246**	P	**P**	**20 34 50.6**	**+0.4**
	6.2nm,0.5s,baz=88,slow=9.9,SNR=30						
STKA	**Stephens Creek**	**35.88**	**246**	P	**P**	**20 34 51.0**	**+0.7**
	baz=37,SNR=23						
BBOO	**Buckleboo**	**40.63**	**245**	P	**P**	**20 35 28.5**	**-0.1**
	baz=41,SNR=11						
ASAR	**Alice Springs**	**42.81**	**258**	P	**P**	**20 35 45.5**	**-0.4**
	5.8nm,0.6s,baz=99,slow=8.0,SNR=88						
ASAR				PcP	**PcP**	**20 37 23.4**	**0.0**
	0.5nm,0.6s,baz=110,slow=4.0,SNR=4.6						
WRA	**Warramunga Arr**	**43.01**	**264**	P	**P**	**20 35 46.5**	**-0.9**
	2.3nm,0.3s,baz=94,slow=7.9,SNR=46						
WRA				ScP	**ScP**	**20 40 26.5**	**+7.1**
	0.2nm,0.3s,baz=91,slow=3.6,SNR=3.8						
KDU	**Kakadu**	**46.58**	**273**	P	**P**	**20 36 14.0**	**-0.7**
	baz=47,SNR=8.6						
KNRA	**Kununurra**	**49.16**	**268**	P	**P**	**20 36 32.4**	**-1.5**
	baz=50,SNR=4.0						
FITZ	**Fitzroy Crossi**	**51.44**	**264**	P	**P**	**20 36 50.6**	**+0.1**
	5.9nm,0.8s,baz=90,slow=9.2,SNR=21						
MEEK	**Meekatharra**	**56.11**	**252**	P	**P**	**20 37 22.6**	**-0.6**
	baz=57,SNR=5.3						
VNDA	**Vanda**	**56.36**	**185**	P	**P**	**20 37 25.4**	**+1.4**
	0.4nm,0.5s,baz=5.5,slow=7.0,SNR=7.6						
MORW	**Morawa**	**57.97**	**249**	P	**P**	**20 37 35.7**	**-0.2**
	baz=59,SNR=3.6						
PETK	**Petropavlovsk-**	**77.31**	**346**	P	**P**	**20 39 32.7**	**0.0**
	1.3nm,0.6s,baz=119,slow=8.4,SNR=2.8						
NVAR	**Mina Array Bea**	**83.05**	**44**	P	**P**	**20 40 02.3**	**-0.9**
	0.6nm,0.8s,baz=221,slow=8.1,SNR=3.1						

NIED ***13*** *20:28:00,24°.50N×122°.10E,h38km,Mw4.9 Best double couple: M0 2.97000×10^16 NP1:φs 73.00000°, δ78.00000°, λ-13.00000°. NP2:φs 166.00000°, δ78.00000°, λ-168.00000°.*
IDC ***13*** *20:28:49.3±0.4,24°.22N×122°.25E,h0km,mb4.6/34, mb1 4.7/34,mb1mx4.6/39,mbtmp4.6/34,MS4.6/15, Ms1 4.6/15,ms1mx4.2/39,Error ellipse: s-maj=14.4km s-min=10.2km az=72.0*
TAP ***13*** *20:28:53.0,24°.08N×122°.19E,h17km,ML5.2,C*
MOS ***13*** *20:28:52.9±1.0,24°.19N×122°.24E,h33km,mb5.2/52, MS4.7/8,Error ellipse: s-maj=9.6km s-min=4.6km az=121.0*
BJI ***13*** *20:28:53.8,24°.15N×122°.06E,h40km,mB5.0/33,mb4.7/47, ML4.9/8,Ms4.9/57,Ms7 4.9/53*
NEIC ***13*** *20:28:54.9±0.2,24°.09N×122°.12E,mb5.0/46,ML5.2(TAP), Error ellipse: s-maj=4.9km s-min=4.3km az=129.0*
NEIC Felt [III] at Taipei. Also felt at Chung-li, Hsin-chu, Hua-lien, T'ai-chung and Ts'ao-t'un. Recorded [2 TAP] in Hua-lien and I-lan; [1 TAP] in Chang-hua, Chia-i, Nan-t'ou, T'ai-chung, T'ai-nan, T'ai-pei, T'ai-tung and Yun-lin.
ISCJB ***13*** *20:28:54.6±0.2,24°.09N±0°.01×122°.19E±0°.01,h48km±1km, mb4.8/153,MS4.7/34,Error ellipse: s-maj=2.6km s-min=2.0km az=139.4*
JMA ***13*** *20:28:54.4±0.3,24°.46N×122°.11E,h46km,M5.2*
SZGRF ***13*** *20:28:56.4,24°.58N×122°.27E,h41km,mb5.0,Taiwan region*
BKK ***13*** *20:29:03.8±0.6,25°.N±5°.×12°.2E±°.,h59km±5km,M4.2/18, mB4.9/6,mb4.9/18,MLv3.9/1,Mw(mB)4.2/6*
DJA ***13*** *20:29:04.4±0.6,25°.N±5°.×12°.1E±°.,h29km±8km,M4.8/19, mB5.5/8,mb5.2/19,MLv4.5/1,Mw(mB)5.0/8*

ISC 13 20:28:54.5±0.3, 24°.05N±0°.02×122°.17E±0°.02, h33km±1km, h33km:pP-P, n531, σ1§30/652, mb5.0/164, MS4.8/34, 62C-34D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.47**	**304**	*e*P	**Pb**	**20 29 04.1**	**-0.6**
	baz=300						
EHP				*e*S	**Sn**	**20 29 13.0**	**+0.8**
	baz=300						
HWA	**Hwalien**	**0.53**	**263**	*e*P	**Pb**	**20 29 04.5**	**-1.0**
	baz=258						
HWA				*e*S	**Sn**	**20 29 13.5**	**+0.1**
	baz=258						
TWD	**Chiawan**	**0.53**	**274**	⇓*i*P	**Pb**	**20 29 04.4**	**-1.1**
	baz=269						
TWD				S	**Sb**	**20 29 12.7**	**-0.5**
	baz=269						
NACB	**Ninganchiao**	**0.54**	**284**	*e*Pn	**Pb**	**20 29 04.2**	**-1.7**
ENA	**Nanau**	**0.55**	**314**	⇑*i*P	**Pb**	**20 29 03.7**	**-2.2**
	baz=321						
TWC	**Suao**	**0.63**	**332**	⇑*i*P	**Pn**	**20 29 04.7**	**-2.4**
	baz=338						
ESF	**Shoufeng Towns**	**0.64**	**254**	*e*P	**Pn**	**20 29 05.7**	**-1.5**
	baz=238						
ESF				*e*S	**Sb**	**20 29 15.4**	**-0.6**
	baz=238						
TEGC	**Jichi Village**	**0.67**	**240**	*e*P	**Pn**	**20 29 06.7**	**-1.0**
	baz=237						
TEGC				*e*S	**Sb**	**20 29 16.7**	**-0.2**
	baz=237						
ESL	**Shilin**	**0.72**	**251**	⇑*i*P	**Pn**	**20 29 07.0**	**-1.3**
	baz=248						
ENTT	**Nioudou**	**0.81**	**317**	⇑*i*P	**Pn**	**20 29 08.6**	**-1.1**
	baz=323						
ILA	**Ilan**	**0.81**	**332**	*e*P	**Pn**	**20 29 08.7**	**-1.0**
	baz=331						
ILA				*e*S	**Sn**	**20 29 20.6**	**+0.1**
	baz=331						
TWE	**Neicheng**	**0.81**	**326**	⇑*i*P	**Pn**	**20 29 08.4**	**-1.3**
	baz=334						
TWE				*e*S	**Sn**	**20 29 20.4**	**-0.2**
	baz=334						
NNS	**Nan Shan**	**0.83**	**298**	⇓*i*P	**Pn**	**20 29 09.4**	**-0.6**
	baz=297						
NNS				*e*S	**Sn**	**20 29 21.5**	**+0.3**
	baz=297						
WHF	**Hehuan Shan**	**0.84**	**277**	⇓*i*P	**Pn**	**20 29 09.5**	**-0.8**
	baz=274						
YOJ	**Yonaguni jima**	**0.87**	**61**	⇓P	**Pn**	**20 29 09.9**	**-0.5**
	baz=62						
YOJ				S	**Sn**	**20 29 20.6**	**-1.3**
	baz=62						
YOJ	**Yonaguni jima**	**0.87**	**61**	P	**Pn**	**20 29 09.8**	**-0.6**
YOJ				S	**Sn**	**20 29 20.8**	**-1.1**
TWT	**Tachien**	**0.94**	**283**	⇓*i*P	**Pn**	**20 29 11.5**	**0.0**
	baz=266						
TWT				*e*S	**Sn**	**20 29 23.4**	**-0.4**
	baz=266						
EHY	**Hungye**	**0.95**	**236**	⇑*i*P	**Pn**	**20 29 10.6**	**-0.9**
	baz=221						
EHY				S	**Sn**	**20 29 23.0**	**-0.9**
	baz=221						
YHNB	**Yeheng**	**0.96**	**311**	*e*P	**Pn**	**20 29 11.0**	**-0.7**
TWB1	**Santiao Chiao**	**0.97**	**350**	⇑*e*P	**Pn**	**20 29 11.0**	**-0.8**
	baz=351						
TWB1				*e*S	**Sb**	**20 29 25.4**	**-0.1**
	baz=351						
NSK	**Sanguang**	**0.97**	**310**	⇓*i*P	**Pn**	**20 29 11.6**	**-0.3**
	baz=310						
NSK				*e*S	**Sb**	**20 29 25.9**	**+0.3**
	baz=310						
YULB	**Yu-li**	**1.03**	**231**	*e*P	**Pn**	**20 29 11.3**	**-1.4**
TWF1	**Yuli**	**1.06**	**229**	⇑*i*P	**Pn**	**20 29 12.4**	**-0.7**
	baz=245						
TWF1				*e*S	**Sn**	**20 29 27.3**	**+0.6**
	baz=245						
TWA	**Mucha**	**1.07**	**330**	⇑*i*P	**Pn**	**20 29 13.6**	**+0.3**
	baz=330						
TWA				*e*S	**Sb**	**20 29 29.2**	**+0.8**
	baz=330						
NWF	**Wu-fen Shan**	**1.08**	**341**	⇓*i*P	**Pn**	**20 29 13.5**	**+0.1**
	baz=358						
NWF				*e*S	**Sb**	**20 29 28.3**	**-0.4**
	baz=358						
TATO	**Taipei**	**1.12**	**326**	*e*Pn	**Pn**	**20 29 14.0**	**+0.2**
SSLB	**Suanglung**	**1.15**	**257**	*e*Pn	**Pn**	**20 29 13.7**	**-0.6**
TAP1	**Taipei**	**1.15**	**329**	⇓*i*P	**Pn**	**20 29 14.8**	**+0.5**
	baz=328						
TAP	**Taipei**	**1.16**	**329**	*e*P	**Pn**	**20 29 14.8**	**+0.4**
	baz=329						
TAP				*e*S	**Sb**	**20 29 30.4**	**-0.4**
	baz=329						
SMLT	**Sun Moon Lake**	**1.18**	**262**	⇓*i*P	**Pn**	**20 29 14.9**	**+0.2**
	baz=260						
SMLT				S	**Sn**	**20 29 30.1**	**+0.4**
	baz=260						
CHKT	**Chengkung**	**1.20**	**218**	*e*P	**Pn**	**20 29 13.6**	**-1.3**
	baz=204						
CHKT				*e*S	**Sn**	**20 29 27.8**	**-2.3**
	baz=204						
TYC	**Yuchr**	**1.21**	**264**	⇓*i*P	**Pn**	**20 29 15.3**	**+0.1**
	baz=261						
TYC				*e*S	**Sn**	**20 29 30.7**	**+0.3**
	baz=261						
NSTT	**Nanjuang**	**1.22**	**299**	⇓*i*P	**Pn**	**20 29 16.1**	**+0.9**
	baz=298						
NSTT				*e*S	**Sb**	**20 29 31.6**	**-0.8**
	baz=298						
YUS	**Yu-Shan**	**1.25**	**244**	⇑*e*P	**Pn**	**20 29 16.2**	**+0.1**
	baz=241						
YUS				S	**Sn**	**20 29 31.9**	**-0.1**
	baz=241						
TWS1	**Kuangyinshan**	**1.25**	**327**	*e*P	**Pn**	**20 29 16.3**	**+0.6**
	baz=341						
TWS1				S	**Sb**	**20 29 34.3**	**+0.8**
	baz=341						
NCU	**National Centr**	**1.29**	**316**	*e*P	**Pn**	**20 29 16.9**	**+0.7**
	baz=316						
NCU				*e*S	**Sb**	**20 29 35.7**	**+1.3**
	baz=316						
TWQ1	**Liyutan**	**1.31**	**283**	⇓*i*P	**Pb**	**20 29 18.0**	**-0.7**
	baz=282						
TWQ1				S	**Sb**	**20 29 35.4**	**+0.2**
	baz=282						
HSN	**Hsinchu**	**1.33**	**305**	*e*P	**Pn**	**20 29 17.4**	**+0.7**
	baz=305						
TWY	**Chenhua**	**1.33**	**337**	*e*P	**Pn**	**20 29 16.9**	**+0.2**
	baz=355						
NSY	**Sanyi**	**1.34**	**286**	⇓*e*P	**Pb**	**20 29 18.6**	**-0.6**
	baz=287						
ELDTW	**Lidau**	**1.36**	**231**	⇑P	**Pn**	**20 29 16.6**	**-0.8**
	baz=215						
ALS	**Alishan**	**1.36**	**247**	⇑*i*P	**Pn**	**20 29 18.2**	**+0.7**
	baz=245						
ALS				S	**Sn**	**20 29 35.5**	**+0.9**
	baz=245						
TCU	**Taichung**	**1.37**	**275**	⇓P	**Pb**	**20 29 19.1**	**-0.6**
	baz=272						
TCU				*e*S	**Sb**	**20 29 36.5**	**-0.3**
	baz=272						
WNT	**Mingjian**	**1.37**	**263**	⇓*i*P	**Pb**	**20 29 18.9**	**-0.8**
	baz=261						
WNT				*e*S	**Sb**	**20 29 36.8**	**-0.1**
	baz=261						
CHN5	**Tsauling**	**1.44**	**252**	⇓P	**Pn**	**20 29 19.6**	**+1.2**
	baz=252						
IRIF	**Iriomote-Funau**	**1.45**	**78**	P	**Pn**	**20 29 18.9**	**+0.5**
IRIF				*e*S	**Sb**	**20 29 38.0**	**-1.0**
HATJ	**Hateruma jima**	**1.49**	**89**	P	**Pb**	**20 29 21.3**	**-0.3**
HATJ				S	**Sb**	**20 29 40.9**	**+0.7**
WGK	**Gukeng**	**1.52**	**257**	⇓*e*P	**Pb**	**20 29 20.9**	**-1.2**
	baz=239						
WGK				S	**Sb**	**20 29 40.9**	**-0.2**
	baz=239						
STYT	**Tauyuan**	**1.57**	**236**	⇑*i*P	**Pn**	**20 29 20.7**	**+0.6**
	baz=234						
STYT				*e*S	**Sb**	**20 29 41.2**	**-1.3**
	baz=234						
PCYT	**Pengchaiyu**	**1.58**	**357**	*e*P	**Pn**	**20 29 20.1**	**-0.1**
	baz=357						
TWG	**Pinlang**	**1.58**	**220**	⇑P	**Pn**	**20 29 19.1**	**-1.1**
	baz=217						
TWG				*e*S	**Sn**	**20 29 38.3**	**-1.3**
	baz=217						
TWG	**Pinlang**	**1.58**	**220**	*e*Pn	**Pn**	**20 29 18.4**	**-1.8**
TTN	**Taitung**	**1.59**	**216**	*e*P	**Pn**	**20 29 20.0**	**-0.4**
	baz=204						
TTN				*e*S	**Sn**	**20 29 41.1**	**+1.2**
	baz=204						
TPUB	**Ta-pu**	**1.60**	**243**	*e*Pn	**Pn**	**20 29 21.4**	**+0.9**
CHN4	**Tsaushan**	**1.61**	**245**	⇑*e*P	**Pn**	**20 29 22.1**	**+1.5**
	baz=242						
CHN4				*e*S	**Sb**	**20 29 43.4**	**-0.1**
	baz=242						
WTP	**Ta-pu**	**1.64**	**241**	⇑*i*P	**Pn**	**20 29 22.3**	**+1.3**
	baz=239						
WTP				*e*S	**Sb**	**20 29 43.5**	**-0.9**
	baz=239						
CHN2	**Minshiung**	**1.64**	**252**	*e*P	**Pb**	**20 29 22.9**	**-1.2**
	baz=250						
CHN2				*e*S	**Sb**	**20 29 44.4**	**0.0**
	baz=250						
JKRS	**Kuro-shima**	**1.69**	**83**	P	**Pn**	**20 29 22.8**	**+1.1**
JKRS				*e*S	**Sb**	**20 29 44.5**	**-1.3**
CHY	**Chiayi**	**1.69**	**252**	P	**Pb**	**20 29 23.6**	**-1.5**
	baz=249						
CHY				*e*S	**Sb**	**20 29 45.4**	**-0.7**
	baz=249						
TWK	**Hsinying**	**1.73**	**244**	*e*P	**Pn**	**20 29 23.9**	**+1.5**
	baz=241						
TWK				*e*S	**Sb**	**20 29 45.8**	**-1.4**
	baz=241						
CHN1	**Nanshi**	**1.74**	**241**	⇑*i*P	**Pn**	**20 29 24.1**	**+1.7**
	baz=238						
CHN1				*e*S	**Sb**	**20 29 46.4**	**-0.9**
	baz=238						
WTCT	**Ta-ch'eng**	**1.74**	**264**	*e*P	**Pn**	**20 29 23.9**	**+1.5**
	baz=262						
WTCT				S	**Sb**	**20 29 47.8**	**+0.4**
	baz=262						
SGST	**Jiashian**	**1.75**	**237**	⇑P	**Pn**	**20 29 24.0**	**+1.5**
	baz=234						
SGST				S	**Sb**	**20 29 47.5**	**-0.1**
	baz=234						
JIJ	**Ishigaki jima**	**1.82**	**80**	P	**Pn**	**20 29 23.9**	**+0.3**
JIJ				S	**Sn**	**20 29 46.9**	**+1.3**
ECL	**Taimali**	**1.83**	**218**	*e*P	**Pn**	**20 29 22.3**	**-1.3**
	baz=215						
ECL				*e*S	**Sn**	**20 29 44.8**	**-0.8**
	baz=215						
WSF	**Szhu**	**1.83**	**258**	*e*P	**Pn**	**20 29 25.1**	**+1.4**
	baz=255						
WSF				S	**Sb**	**20 29 49.9**	**-0.1**
	baz=255						
CHN3	**Shinhua**	**1.92**	**240**	*e*P	**Pb**	**20 29 27.4**	**-1.6**
	baz=238						
CHN3				S	**Sb**	**20 29 53.1**	**+0.6**
	baz=238						
CHN8	**Yiju**	**1.93**	**249**	P	**Pn**	**20 29 26.5**	**+1.5**
	baz=247						
CHN8				*e*S	**Sb**	**20 29 51.4**	**-1.4**
	baz=247						
SCLT	**Jiali**	**2.01**	**245**	*e*P	**Pn**	**20 29 28.1**	**+2.0**
	baz=242						
SCLT				S	**Sb**	**20 29 53.9**	**-1.3**
	baz=242						
TWM1	**Shoushan**	**2.02**	**233**	*e*P	**Pb**	**20 29 29.2**	**-1.4**
	baz=215						
TWM1				*e*S	**Sb**	**20 29 56.3**	**+1.0**
	baz=215						
SGLT	**Jiouru**	**2.03**	**230**	*e*P	**Pb**	**20 29 29.0**	**-1.7**
	baz=214						
SGLT				*e*S	**Sb**	**20 29 57.0**	**+1.4**
	baz=214						
TAI1	**Yung-k'ang**	**2.05**	**241**	*e*P	**Pb**	**20 29 29.4**	**-1.7**
	baz=238						
TAI1				S	**Sb**	**20 29 54.6**	**-1.5**
	baz=238						
TAW	**Tawu**	**2.05**	**215**	*e*P	**Pn**	**20 29 25.7**	**-1.0**
	baz=214						
EAST	**Anshuo**	**2.06**	**217**	⇑*i*P	**Pn**	**20 29 26.0**	**-0.8**
	baz=215						
LAY	**Lan-yu**	**2.08**	**196**	⇑P	**Pn**	**20 29 25.5**	**-1.6**
	baz=196						
SCZT	**Fangliau**	**2.20**	**221**	*e*P	**Pn**	**20 29 30.3**	**+1.6**
	baz=210						
SCZT				*e*S	**Sn**	**20 29 57.4**	**+2.6**
	baz=210						
KAU	**Kaohsiung**	**2.26**	**230**	*e*P	**Pb**	**20 29 32.7**	**-2.0**
	baz=229						
TWP	**Hsiaoliuchiu**	**2.38**	**225**	*e*P	**Pb**	**20 29 34.5**	**-2.2**
	baz=224						
JTJ	**Tarama**	**2.38**	**75**	P	**Pn**	**20 29 32.6**	**+1.4**
JTJ				*e*S	**Sn**	**20 30 01.1**	**+1.8**
HEN	**Hengchun**	**2.42**	**213**	⇑*e*P	**Pn**	**20 29 32.2**	**+0.4**
	baz=210						
HEN				*e*S	**Sn**	**20 30 03.1**	**+2.8**
	baz=210						
TSEB	**Hengchuen, Pin**	**2.44**	**209**	*e*P	**Pn**	**20 29 32.5**	**+0.5**
	baz=208						
TSEB				*e*S	**Sn**	**20 30 01.8**	**+1.1**
	baz=208						
TWK1	**Hengchun**	**2.44**	**211**	⇓P	**Pn**	**20 29 32.3**	**+0.2**
	baz=209						
TWK1				*e*S	**Sn**	**20 30 03.3**	**+2.5**
	baz=209						
PNG	**Penghu**	**2.45**	**259**	*e*P	**Pn**	**20 29 32.7**	**+0.6**
	baz=256						
PNG				*e*S	**Sn**	**20 30 02.2**	**+1.3**
	baz=256						
JMJ	**Miyako jima 2**	**2.94**	**74**	*e*P	**Pn**	**20 29 41.8**	**+2.9**
	baz=73						
JMJ	**Miyako jima 2**	**2.94**	**74**	P	**Pn**	**20 29 40.5**	**+1.5**
JMJ				*e*S	**Sn**	**20 30 17.4**	**+4.2**
JOGS	**Gusukube**	**3.03**	**76**	P	**Pn**	**20 29 41.9**	**+1.7**
QZH	**Quanzhou**	**3.38**	**286**	*i*P	**Pn**	**20 29 44.4**	**-0.6**
QZH				S	**Sn**	**20 30 21.5**	**-2.5**
QZH				smax	smax		
	comp=N,10μm,1.4s						
QZH				smax	smax		
	comp=E,4μm,1.0s						
KNM	**Kinmen**	**3.44**	**277**	⇓*e*P	**Pn**	**20 29 47.1**	**+1.4**
	baz=278						
JKE	**Kume jima 2**	**4.75**	**61**	P	**Pn**	**20 30 03.5**	**-0.4**
JAGN	**Aguni-jima**	**5.24**	**60**	P	**Pn**	**20 30 12.7**	**+2.2**
JOW	**Kunigami**	**6.17**	**62**	*e*P	**Pn**	**20 30 22.4**	**-1.0**
	baz=58						
JOW	**Kunigami**	**6.17**	**62**	*e*Pn	**Pn**	**20 30 24.8**	**+1.4**
SIPP	**Brgy, Tapao**	**6.30**	**195**	⇑*e*P	**Pn**	**20 30 26.6**	**+1.4**
SSE	**Sheshan**	**7.08**	**353**	P	**Pn**	**20 30 34.3**	**-1.4**
SSE				S	**Sn**	**20 31 54.3**	**-0.7**
SSE				LR	LR		
	comp=N,6μm,13.6s						
SSE				LR	LR		
	comp=E,1μm,13.6s						
SSE				LR	LR		
	comp=Z,6μm,11.5s						
GZH	**Guangzhou**	**8.16**	**265**	P	Pn	20 30 46.5	-4.1
GZH				smax	smax		
	comp=N,540nm,1.3s						
GZH				smax	smax		
	comp=E,570nm,1.1s						
NJ2	**Nanjing**	**8.50**	**341**	*e*P	**Pn**	**20 30 54.8**	**-0.4**
NJ2				pP	pP	20 31 04.4	
NJ2				sP		20 31 08.3	
NJ2				S	**Sn**	**20 32 30.0**	**0.0**
NJ2				sS	sS	20 32 41.0	
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NJ2				LR	LR		
	comp=N,29μm,9.8s						
NJ2				LR	LR		
	comp=E,57μm,8.6s						
NJ2				LR	LR		
	comp=Z,38μm,10.8s						
WHN	**Wuhan**	**9.50**	**315**	P	**Pn**	**20 31 08.8**	**-0.2**
WHN				S	**Sn**	**20 32 51.5**	**-3.1**
WHN				LR	LR		
	comp=N,10μm,12.2s						
WHN				LR	LR		
	comp=E,7μm,10.6s						
WHN				LR	LR		
	comp=Z,16μm,14.0s						
TGY	**Tagaytay City**	**9.96**	**187**	Pn	Pn	20 31 26.0	+11
TGY	**Tagaytay City**	**9.96**	**187**	Pn	Pn	20 31 26.0	+10
	comp=Z,48nm,0.3s,baz=190,slow=10,SNR=4.5						
JNU	**Nakatsue**	**11.84**	**38**	*e*P	**Pn**	**20 31 43.5**	**+2.5**
	comp=Z,23nm,1.1s						
JNU	**Nakatsue**	**11.84**	**38**	Pn	**Pn**	**20 31 43.5**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=239,slow=14,SNR=5.1						
JNU				LR	LR	20 36 43.2	
	comp=Z,2μm,18.5s,baz=62,slow=41						
QIZ	**Qiongzhong**	**12.51**	**249**	P	**Pn**	**20 31 49.8**	**-0.5**
QIZ				S	**Sn**	**20 34 05.8**	**-2.8**
QIZ				pmax	pmax		
	comp=Z,6.0nm,1.8s						
QIZ				LR	LR		
	comp=N,3μm,15.0s						
QIZ				LR	LR		
	comp=Z,2μm,16.3s						
ENH	**Enshi**	**12.88**	**302**	*e*Pn	**Pn**	**20 31 53.7**	**-1.6**
TIA	**Tai'an**	**12.88**	**341**	P	**Pn**	**20 31 58.1**	**+2.8**
TIA				LR	LR		
	comp=N,5μm,11.8s						
TIA				LR	LR		
	comp=E,4μm,14.7s						
TIA				LR	LR		
	comp=Z,7μm,11.8s						
KSAR	**Wonju Array Be**	**14.22**	**19**	Pn	**Pn**	**20 32 15.6**	**+2.0**
GYA	**Guiyang**	**14.24**	**283**	⇑*i*P	**Pn**	**20 32 14.8**	**+0.8**
GYA		

| | | |

SVE *e* 20 51 31.2
SVE pmax pmax
comp=Z,24nm,1.1s
SVE MLR MLR
comp=Z,1µm,17.0s
ARU Arti 55.76 323 *d* iP **P 20 38 26.2 -1.7**
ARU 20 39 22.5
ARU S **S 20 46 10.8 -1.6**
ARU pmax pmax
comp=Z,23nm,1.7s
ARU Arti 55.76 323 P **P 20 38 26.7 -1.2**
comp=Z,63nm,0.9s,SNR=5.3
NWAO Narrogin (SRO) 56.85 185 P **P 20 38 36.8 +0.9**
NWAO Narrogin (SRO) 56.85 185 P **P 20 38 36.8 +0.9**
comp=Z,16nm,1.1s,baz=66,slow=10.0,SNR=3.0
STKA Stephens Creek 58.63 161 *e*P **P 20 38 48.6 +0.1**
comp=Z,60nm,2.8s
STKA Stephens Creek 58.63 161 P **P 20 38 49.0 +0.6**
comp=Z,6.0nm,0.7s,baz=342,slow=8.1,SNR=16
GNI Garni 65.62 305 *e*P **P 20 39 36.3 +0.7**
comp=Z,35nm,1.5s
TMCR Tamitsa 66.10 332 *e*P **P 20 39 37.7 -0.3**
TMCR pmax pmax
comp=Z,24nm,1.5s
KBZ Khabaz 66.27 309 P **P 20 39 40.0 +0.5**
KBZ Khabaz 66.27 309 P **P 20 39 40.0 +0.5**
KBZ Khabaz 66.27 309 P **P 20 39 40.0 +0.5**
comp=Z,5.5nm,0.8s,baz=94,slow=5.6,SNR=10
KBZ LR LR 21 12 06.5
comp=Z,417nm,18.6s,baz=46,slow=39
KIV Kislovodsk 66.38 309 *e*P **P 20 39 40.5 +0.2**
KIV pmax pmax
comp=Z,34nm,1.1s
KIV MLR MLR
comp=Z,269nm,18.0s
COLD Coldfoot 67.17 25 *e*P **P 20 39 45.0 +0.1**
comp=Z,19nm,1.7s
VORD Divnogorie 67.32 317 *e*P **P 20 39 44.0 -2.1**
VORD pmax pmax
comp=Z,20nm,1.9s
VORD pmax pmax
comp=N,30nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.7s
VSR Storozhevoye 67.36 317 *e*P **P 20 39 44.7 -1.6**
VSR pmax pmax
comp=Z,30nm,1.7s
VSR pmax pmax
comp=N,10.0nm,1.4s
VSR pmax pmax
comp=E,20nm,1.1s
MOS Moscow 67.46 322 *e*P P 20 39 39.9 -7.0
KDAK Kodiak Island 67.49 35 *e*P **P 20 39 45.9 -1.1**
comp=E,33nm,1.5s
KDAK Kodiak Island 67.49 35 P **P 20 39 45.6 -1.4**
comp=E,3.9nm,0.8s,baz=208,slow=8.7,SNR=5.0
APA Apatity 67.56 335⇑ *e*P P 20 39 54.0 +6.7
TRF Thorofare Moun 67.69 29 *e*P **P 20 39 47.6 -0.8**
comp=E,6.9nm,0.8s
OBN Obninsk 68.17 322⇑ *i*P **P 20 39 49.9 -1.4**
OBN *i* 20 40 12.5
OBN pmax pmax
comp=Z,30nm,1.4s
OBN MLR MLR
comp=Z,500nm,20.0s
MCK McKinley 68.24 29 *e*P **P 20 39 51.6 -0.1**
MCK pmax pmax
comp=Z,9.0nm,1.0s
MCK McKinley 68.24 29 *e*P **P 20 39 51.6 -0.1**
comp=Z,8.7nm,1.0s
SML Sawmill 68.87 31 *e*P **P 20 39 55.1 -0.6**
SML pmax pmax
comp=Z,3.0nm,0.9s
SML Sawmill 68.87 31 *e*P **P 20 39 55.1 -0.6**
comp=Z,2.6nm,0.9s
ILAR Eielson Array 68.92 27 P **P 20 39 53.5 -2.4**
ILAR Eielson Array 68.92 27 P **P 20 39 53.5 -2.4**
comp=Z,1.6nm,0.8s,baz=283,slow=5.8,SNR=16
RAYN Ar Rayn 69.25 287 *e*P **P 20 39 58.8 +0.1**
comp=Z,19nm,1.4s
JOF Joensuu 69.27 331 *e*P **P 20 39 55.6 -2.4**
JOF pmax pmax
comp=Z,2.0nm,0.6s
KEV Kevo 69.44 338 *e*P **P 20 39 58.3 -0.7**
KEV pmax pmax
comp=Z,2.0nm,0.6s
ANN Anapa 69.87 311 *e*P P 20 39 57.6 -4.5
ANN *e**PP pP 20 40 07.9 -4.5
ANN *e*PPP PPP 20 44 14.9
ANN *e*S S 20 49 03.1 -6.4
ANN pmax pmax
comp=Z,58nm,1.4s
ANN MLR MLR
comp=N,110nm,20.0s
ANN MLR MLR
comp=E,167nm,20.0s
ANN MLR MLR
comp=Z,422nm,20.0s
PAX Paxson 69.92 29 *e*P **P 20 40 01.4 -0.8**
PAX pmax pmax
comp=Z,7.0nm,1.0s
PAX Paxson 69.92 29 *e*P **P 20 40 01.4 -0.8**
comp=Z,6.8nm,1.0s
ARCES ARCESS Array B 70.00 338 P **P 20 39 59.9 -2.6**
ARCES ARCESS Array B 70.00 338 P **P 20 39 59.9 -2.6**
comp=Z,1.6nm,0.8s,baz=54,slow=6.2,SNR=6.5
ARCES LR LR 21 17 04.4
comp=Z,352nm,18.8s,baz=182,slow=41
DIV Divide 70.22 31 *e*P **P 20 40 03.4 -0.7**
comp=Z,18nm,1.1s
MENT Mentasta 70.71 29 *e*P **P 20 40 06.2 -0.8**
BMRM Bremner River 70.81 31 *e*P **P 20 40 06.8 -0.8**
comp=Z,17nm,1.0s
MALT Malatya 70.82 304⇑ *i*P P 20 40 25.5 +17
EGAK Eagle 71.30 27 *e*P **P 20 40 09.6 -0.8**
comp=Z,8.3nm,0.8s
KAF Kangasniemi 71.72 330 *e*P **P 20 40 11.5 -1.5**
KAF pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 72.02 330 P **P 20 40 13.8 -1.0**
FINES FINESS Array B 72.02 330 P **P 20 40 13.8 -1.0**
comp=Z,3.2nm,0.7s,baz=90,slow=5.7,SNR=13
FINES LR LR 21 15 11.9
comp=Z,1µm,19.1s,baz=78,slow=39
SIM Simferopol' 72.10 312 *c* iP **P 20 40 15.0 -0.7**
SIM pmax pmax
comp=Z,12nm,0.6s
VSU Vasula 72.59 327 *e*P **P 20 40 17.7 -0.6**
VSU pmax pmax
comp=Z,57nm,1.4s
INK Inuvik 73.01 22 P **P 20 40 19.4 -1.2**
INK Inuvik 73.01 22 P **P 20 40 19.4 -1.2**
comp=Z,11nm,0.8s,baz=299,slow=6.9,SNR=37
KIEV Kiev 73.58 319 *e*P **P 20 40 22.5 -1.8**
KIEV *e**PP **pP 20 40 34.2 -0.5**
KIEV Kiev 73.58 319 *e*P **P 20 40 22.5 -1.8**
KIEV *e*pP **pP 20 40 34.2 -0.5**
NACGM Naroch 73.67 323 *e* **P 20 40 22.0 -2.7**
BR131 Keskin Array S 73.98 307 *e*P **P 20 40 26.9 -0.2**
comp=Z,21nm,1.1s
BRTR Keskin Array B 73.98 307 P **P 20 40 27.0 -0.1**
BRTR Keskin Array B 73.98 307 P **P 20 40 27.0 -0.1**
comp=Z,9.8nm,0.9s,baz=104,slow=5.2,SNR=32
ANTO Ankara 74.55 307 ⇓P **P 20 40 30.5 +0.2**
ANTO Ankara 74.55 307 *e*P **P 20 40 30.2 -0.1**
comp=Z,99nm,1.8s
ANTO *e*pP **pP 20 40 41.8 +1.1**
ANTO Ankara 74.55 307⇓ *i*P **P 20 40 30.5 +0.2**
SKAG Skagway 75.68 31 *e*P **P 20 40 36.9 +0.6**
comp=Z,14nm,0.8s
SUW Suwalki 75.95 323 *e*P **P 20 40 36.5 -1.4**
SUW *e**PP **pP 20 40 48.2 -0.1**
SUW pmax pmax
comp=Z,48nm,0.9s
SUW Suwalki 75.95 323 *e*P **P 20 40 36.5 -1.4**
comp=Z,48nm,0.9s
SUW *e*pP **pP 20 40 48.2 -0.1**
SUW Suwalki 75.95 323 *e*P **P 20 40 36.7 -1.2**
CFR Carcaliu 76.06 313⇑ *i*P **P 20 40 37.8 -0.9**
CFR Carcaliu 76.06 313⇑ *i*P **P 20 40 37.8 -0.9**
TESR Tescani 76.57 315⇓ *i*P **P 20 40 40.7 -0.9**
SIT Sitka 76.63 33 *e*P **P 20 40 42.3 +0.6**
SIT pmax pmax
comp=Z,24nm,1.0s
SIT Sitka 76.63 33 *e*P **P 20 40 42.3 +0.6**
comp=Z,24nm,1.0s

VRI Vrincioaia 76.75 314⇑ P **P 20 40 42.6 -0.1**
VRI Vrincioaia 76.75 314⇑ *i*P **P 20 40 42.5 -0.1**
PLOR Plostina 76.80 314⇓ P **P 20 40 42.8 -0.2**
PLOR Plostina 76.80 314⇓ *i*P **P 20 40 42.8 -0.2**
BUR08 Bucovina Ar. S 77.09 316 *e*P **P 20 40 44.0 -0.7**
BUR08 *e*pP **pP 20 40 54.6 -0.5**
BURAR Bucovina Array 77.09 316⇑ P **P 20 40 43.9 -0.8**
BURAR Bucovina Array 77.09 316⇑ *i*P **P 20 40 43.9 -0.8**
MLR Muntele Rosu 77.39 314⇓ *i*P **P 20 40 45.8 -0.7**
KWP Kalwaria Pacla 77.87 319 *e*P **P 20 40 48.4 -0.5**
BEL Belsk 78.12 322 *e*P **P 20 40 49.4 -0.8**
ARR Arges 78.30 314⇑ *i*P **P 20 40 51.0 -0.4**
KOLS Kolonicke sedl 78.41 318 *e*P **P 20 40 51.3 -0.6**
KOLS pmax pmax
comp=Z,5.0nm,1.3s
KOLS Kolonicke sedl 78.41 318 *e*P **P 20 40 51.3 -0.6**
UZH Uzhgorod 78.52 318 *e*P **P 20 40 49.8 -2.6**
UZH *e* 20 41 03.2
DLBC Dease Lake 78.60 31 P **P 20 40 52.8 -0.1**
DLBC Dease Lake 78.60 31 P **P 20 40 52.8 -0.1**
comp=Z,6.5nm,0.9s,baz=327,slow=4.1,SNR=8.8
NB2 NORSAR Subarra 78.77 332 P **P 20 40 52.1 -1.6**
comp=Z,0.4nm,0.8s,baz=64,slow=6.2
NOA NORSAR Array B 78.77 332 P **P 20 40 52.2 -1.5**
NOA NORSAR Array B 78.77 332 P **P 20 40 52.2 -1.5**
comp=Z,2.0nm,0.8s,baz=58,slow=5.6,SNR=12
NOA LR LR 21 19 22.9
comp=Z,1µm,18.5s,baz=70,slow=39
LOT Lotru 78.83 315⇓ *i*P **P 20 40 54.3 -0.1**
STHS Stebnicka Huta 78.83 319 *e*P **P 20 40 53.8 -0.4**
STHS pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 78.83 319 *e*P **P 20 40 53.8 -0.4**
DRGR 78.98 316⇓ P **P 20 40 54.6 -0.6**
DRGR 78.98 316⇓ *i*P **P 20 40 54.6 -0.6**
OJC Ojcow 79.36 320 *e*P **P 20 40 56.8 -0.3**
OJC pmax pmax
comp=Z,13nm,0.8s
OJC Ojcow 79.36 320 *e*P **P 20 40 56.8 -0.3**
comp=Z,13nm,0.8s
OJC Ojcow 79.36 320 *e*P **P 20 40 56.6 -0.5**
NIE Niedzica 79.39 319 *e*P **P 20 40 58.4 +1.1**
NIE Niedzica 79.39 319 *e*P **P 20 40 58.4 +1.1**
KECS Kecovo 79.67 319 *e*P **P 20 40 58.4 -0.4**
KECS pmax pmax
comp=Z,9.0nm,1.7s
KECS Kecovo 79.67 319 *e*P **P 20 40 58.3 -0.5**
BZS Buzias 80.15 316⇓ P **P 20 41 00.4 -1.0**
BZS Buzias 80.15 316⇓ *i*P **P 20 41 00.4 -1.0**
PSZ Piszkesteto 80.27 318 *e*P **P 20 41 01.7 -0.4**
PSZ pmax pmax
comp=Z,13nm,1.2s
PSZ Piszkesteto 80.27 318 *e*P **P 20 41 01.7 -0.4**
comp=Z,13nm,1.2s
VTS Vitosha 80.33 312⇑ P **P 20 41 02.3 -0.4**
VTS Vitosha 80.33 312⇑ *i*P **P 20 41 02.3 -0.4**
OKC Ostrava-Krasne 80.48 320 *e*P **P 20 41 02.6 -0.5**
OKC *e* 20 41 13.8
OKC MLR MLR
comp=Z,300nm,15.0s
OKC Ostrava-Krasne 80.48 320 *e*P **P 20 41 02.6 -0.5**
OKC *e*pP **pP 20 41 13.8 +0.2**
OKC AMS AMS 21 22 10.0
comp=Z,300nm,15.0s
VYHS Vyhne 80.66 319 *e*P **P 20 41 04.1 -0.1**
VYHS pmax pmax
comp=Z,11nm,1.2s
VYHS Vyhne 80.66 319 *e*P **P 20 41 04.1 -0.1**
MORC Moravsky Berou 80.86 321 *e*P **P 20 41 05.0 -0.2**
MORC *e**PP **pP 20 41 16.5 +0.8**
MORC pmax pmax
comp=Z,12nm,1.4s
MORC Moravsky Berou 80.86 321 *e*P **P 20 41 05.0 -0.2**
comp=Z,12nm,1.4s
MORC *e*pP **pP 20 41 16.5 +0.8**
RPZ Rata Peaks 80.97 146 *e*pP pP 20 41 17.2 +1.1
KSP Ksiaz 81.10 322 *e*P **P 20 41 06.1 -0.3**
KSP Ksiaz 81.10 322 *e*P **P 20 41 05.8 -0.6**
KRLC Kraliky 81.17 321 *e*P **P 20 41 06.6 -0.3**
KRLC Kraliky 81.17 321 *e*P **P 20 41 06.6 -0.3**
DPC Dobruska-Polom 81.31 321 *e*P **P 20 41 07.7 +0.1**
DPC *e* 20 41 17.6
DPC Dobruska-Polom 81.31 321 *e*P **P 20 41 07.7 +0.1**
DPC *e*pP **pP 20 41 17.6 -0.5**
DPC AMS AMS 21 20 10.0
UPC Upice 81.41 322 *e*P **P 20 41 07.9 -0.2**
UPC Upice 81.41 322 *e*P **P 20 41 07.9 -0.2**
SMOL Smolenice 81.49 319 *e*P **P 20 41 08.5 -0.1**
SMOL Smolenice 81.49 319 *e*P **P 20 41 08.5 -0.1**
PKSM Moragy 81.78 317⇑ P **P 20 41 09.3 -0.8**
PKSM Moragy 81.78 317⇑ *i*P **P 20 41 09.3 -0.8**
PVCC Panska Ves 82.22 322 AMS AMS 21 22 20.0
comp=Z,800nm,16.0s
TREC Trest 82.27 321 *e*P **P 20 41 12.2 -0.5**
TREC *e* 20 41 23.6
TREC MLR MLR
comp=Z,500nm,15.8s
TREC Trest 82.27 321 *e*P **P 20 41 12.2 -0.5**
TREC *e*pP **pP 20 41 23.6 +0.4**
TREC AMS AMS 21 21 10.0
comp=Z,500nm,15.8s
BRG Berggiesshubel 82.40 323 *e*P **P 20 41 12.7 -0.6**
comp=Z,5.7nm,1.0s
BRG Berggiesshubel 82.40 323 *e*P **P 20 41 12.7 -0.6**
BRG pmax pmax
comp=Z,2.0nm,1.0s
PRU Pruhonice 82.49 322 *e*P **P 20 41 13.6 -0.1**
PRU *e* 20 41 24.9
PRU MLR MLR
comp=Z,400nm,17.6s
PRU Pruhonice 82.49 322 *e*P **P 20 41 13.6 -0.1**
PRU *e*pP **pP 20 41 24.9 +0.7**
PRU AMS AMS 21 20 50.0
comp=Z,400nm,17.6s
PRA Prague 82.51 322 P **P 20 41 14.0 +0.2**
PRA AMS AMS 21 21 00.0
CONA Conrad Observa 82.69 319⇑ *i*P **P 20 41 14.9 -0.1**
comp=Z,14nm,1.8s
YKW3 Yellowknife Ar 82.70 23 *e*P **P 20 41 13.2 -1.4**
comp=Z,0.4nm,0.9s
YKW3 *e*pP **pP 20 41 24.9 -0.1**
CLL Collm 82.70 323 *e*P **P 20 41 13.5 -1.3**
comp=Z,6.0nm,1.0s
CLL Collm 82.70 323 *i* P **P 20 41 14.0 -0.8**
CLL MLR MLR
comp=Z,700nm,19.0s
CLL Collm 82.70 323 *i* P **P 20 41 14.0 -0.8**
comp=Z,6.0nm,1.0s
CLL *i* pP **pP 20 41 25.4 +0.1**
CLL *e* 20 41 49.0
CLL *e*PP **PP 20 44 24.0 -0.4**
CLL LmV 21 22 00.0
comp=Z,700nm,19.0s
SUMG Summit 82.73 354 *i* P **P 20 41 14.0 -1.1**
SUMG *i* 20 41 29.2
SUMG pmax pmax
comp=Z,5.0nm,0.9s
SUMG Summit 82.73 354 *e*P **P 20 41 13.9 -1.2**
comp=Z,9.9nm,1.0s
SUMG Summit 82.73 354 *i* P **P 20 41 14.0 -1.1**
comp=Z,5.4nm,0.9s
SUMG *i* 20 41 29.2
YKA Yellowknife Ar 82.74 23 P **P 20 41 13.7 -1.2**
YKA Yellowknife Ar 82.74 23 P **P 20 41 13.6 -1.2**
comp=Z,11nm,0.8s,baz=313,slow=4.8,SNR=42
KOGS Kog 83.15 318 *i* P **P 20 41 16.2 -1.0**
TANN Tannenbergstha 83.45 323 *e*P **P 20 41 17.5 -1.3**
comp=Z,16nm,1.8s
KHC Kasperske Hory 83.45 321 *e*P **P 20 41 18.1 -0.7**
KHC *e* 20 41 30.0
KHC MLR MLR
comp=Z,500nm,20.7s
KHC Kasperske Hory 83.45 321 *e*P **P 20 41 18.1 -0.7**
KHC *e*pP **pP 20 41 30.0 +0.7**
KHC AMS AMS 21 21 50.0
comp=Z,500nm,20.7s
KHC Kasperske Hory 83.45 321 *e*P **P 20 41 17.9 -0.9**
comp=Z,4.1nm,1.0s
GEC2 GERESS Array S 83.52 321 *e*P **P 20 41 18.2 -1.1**
comp=Z,10.0nm,1.1s
GEC2 *e*pP **pP 20 41 30.1 +0.3**
GEC2 GERESS Array S 83.52 321 *e*P **P 20 41 18.2 -1.1**
GEC2 *e**PP **pP 20 41 30.1 +0.3**

GERES GERESS Array B 83.52 321 P **P 20 41 18.8 -0.5**
GERES GERESS Array B 83.52 321 P **P 20 41 18.8 -0.5**
comp=Z,4.9nm,0.8s,baz=57,slow=4.9,SNR=52
GERES LR LR 21 22 51.2
comp=Z,408nm,19.3s,baz=68,slow=39
MOA Molln 83.68 320⇑ *i*P **P 20 41 19.5 -0.5**
comp=Z,11nm,0.8s
PERS Pernice 83.75 318 *i* P **P 20 41 19.6 -0.9**
SOKA Soboth 83.78 319⇑ *i*P **P 20 41 19.8 -0.8**
comp=Z,7.1nm,0.7s
MOX Moxa 83.80 323 *e*P **P 20 41 19.6 -0.9**
comp=Z,24nm,1.7s
MOX *e*pP **pP 20 41 31.3 +0.3**
MOX Moxa 83.80 323 *e*P **P 20 41 19.6 -0.9**
MOX *e**PP **pP 20 41 31.3 +0.3**
MOX pmax pmax
comp=Z,63nm,1.7s
WET Wettzell 83.84 321 *e*P **P 20 41 20.0 -0.8**
comp=Z,22nm,1.7s
WET Wettzell 83.84 321 *e*P **P 20 41 20.0 -0.8**
CLZ Clausthal 83.85 325 *e*P **P 20 41 20.1 -0.7**
comp=Z,14nm,1.3s
CLZ Clausthal 83.85 325 *e*P **P 20 41 20.1 -0.7**
ROTZ Rotzenmuhle 83.91 322 *e*P **P 20 41 20.6 -0.5**
comp=Z,22nm,1.7s
ROTZ *e*pP **pP 20 41 32.1 +0.5**
OBKA Obir 84.16 319⇑ *i*P **P 20 41 21.6 -0.9**
comp=Z,8.5nm,0.8s
BOJS Bojanci 84.21 317 *i* P **P 20 41 22.3 -0.4**
LJU Ljubljana 84.39 318 *i* P **P 20 41 22.7 -0.9**
GRF Grafenberg Arr 84.50 322 *e*P **P 20 41 23.5 -0.6**
comp=Z,34nm,1.6s
GRF Grafenberg Arr 84.50 322 *e*P **P 20 41 23.5 -0.6**
GRF pmax pmax
comp=Z,47nm,1.6s
GRFO Grafenberg 84.50 322 *e*P **P 20 41 24.4 +0.3**
GRFO *e**PP **pP 20 41 35.9 +1.3**
GRFO pmax pmax
comp=Z,30nm,1.5s
GRFO Grafenberg 84.50 322 *e*P **P 20 41 24.4 +0.3**
comp=Z,30nm,1.5s
GRFO *e*pP **pP 20 41 35.9 +1.3**
UBBA Unterbreizbach 84.58 324 *e*P **P 20 41 23.4 -1.0**
comp=Z,19nm,1.8s
RJOB Jochberg 84.59 320 *e*P **P 20 41 23.6 -1.1**
comp=Z,9.0nm,1.0s
RJOB *e*pP **pP 20 41 35.9 +0.7**
KBA Koelnbreinsper 84.60 319⇑ *i*P **P 20 41 23.4 -1.4**
comp=Z,15nm,1.6s
ABPO Ambohimpanom 84.64 247 *e*P **P 20 41 24.8 -0.7**
ABPO *e**PP **pP 20 41 36.6 +0.6**
ABPO pmax pmax
comp=Z,11nm,1.0s
ABPO Ambohimpanom 84.64 247 *e*P **P 20 41 24.8 -0.7**
comp=Z,11nm,1.0s
ABPO *e*pP **pP 20 41 36.6 +0.6**
CADS Cadrg 84.78 319 *i* P **P 20 41 24.0 -1.6**
FUR Furstenfeldbru 85.26 321 *e*P **P 20 41 27.4 -0.6**
comp=Z,30nm,0.9s
FUR Furstenfeldbru 85.26 321 *e*P **P 20 41 27.4 -0.6**
ABTA Abfaltersbach 85.26 319⇑ *i*P **P 20 41 26.1 -2.0**
comp=Z,6.7nm,0.8s
WTTA Wettenberg 85.51 320⇑ *i*P **P 20 41 28.3 -1.1**
comp=Z,10nm,0.8s
BUG Bochum-Univer 85.69 325 *e*P **P 20 41 29.1 -0.9**
comp=Z,10.0nm,0.9s
KMBO Kilima Mbogo 85.81 267 *e*P **P 20 41 32.3 +0.7**
comp=Z,10.0nm,1.0s
KMBO *e*pP **pP 20 41 43.7 +1.6**
KMBO Kilima Mbogo 85.81 267 P **P 20 41 32.6 +1.0**
comp=Z,5.0nm,0.8s,baz=42,slow=9.3,SNR=12
TIP Timpagrande 86.21 311 *e*P **P 20 41 31.3 -1.6**
comp=Z,40nm,1.6s
CUC Castrocucco 86.47 312 *e*P **P 20 41 32.5 -1.7**
comp=Z,8.1nm,1.1s
CUC *e*pP **pP 20 41 43.6 -1.1**
FUORN Ofenpass-Fuorn 86.65 320 *e*P **P 20 41 34.9 -0.3**
BFO Black Forest 86.84 322 *e*P **P 20 41 34.7 -1.1**
comp=Z,13nm,1.6s
BFO Black Forest 86.84 322 *e*P **P 20 41 34.7 -1.1**
AQU L'Aquila 86.91 315 *e*P **P 20 41 36.3 0.0**
comp=Z,40nm,1.2s
CEL Celeste 87.24 311 *e*P **P 20 41 37.4 -0.6**
comp=Z,27nm,0.9s
WLF Walferdange 87.28 324 *e*P **P 20 41 37.4 -0.5**
comp=Z,20nm,1.2s
WLF *e*pP **pP 20 41 49.1 +0.7**
CDF Champ du Feu 87.38 323 *e*P **P 20 41 37.1 -1.4**
comp=Z,16nm,1.1s
NLWA Neilton Lookou 87.42 38 *e*P **P 20 41 37.2 -1.4**
NLWA *e*pP **pP 20 41 49.9 +0.8**
MBW Mount Baker 87.73 37 P **P 20 41 40.3 0.0**
GIVF Givet 87.73 325 *e*P **P 20 41 37.9 -2.1**
JCW Jim Creek 88.05 37 P **P 20 41 41.8 +0.2**
BAIF Baives 88.08 325 *e*P **P 20 41 39.5 -2.2**
HAU Haudompre 88.12 323 *e*P **P 20 41 40.3 -1.7**
HAU *e*R
comp=Z,736nm,18.0s
PAGF Fort de Pagny 88.15 323 *e*P **P 20 41 40.9 -1.1**
MEZF Maizieres J'vi 88.55 324 *e*P **P 20 41 42.7 -1.2**
SFTF Sexfontaines 88.72 323⇑ *i*P **P 20 41 43.4 -1.4**
comp=Z,21nm,0.8s
LON Longmire 88.94 38 *e*P **P 20 41 46.2 +0.3**
LON pmax pmax
comp=Z,8.0nm,1.0s
LON Longmire 88.94 38 *e*P **P 20 41 46.2 +0.3**
comp=Z,8.3nm,1.0s
FL2 Flat Top 2 88.95 39 P **P 20 41 46.7 +0.7**
WPW White Pass 89.12 38 P **P 20 41 47.3 +0.4**
ETW Entiat 89.27 37 P **P 20 41 47.5 0.0**
LPG La Plagne 89.31 321⇑ *i*P **P 20 41 46.9 -1.1**
comp=Z,18nm,0.8s
LPL La Plagne 89.31 321⇑ *i*P **P 20 41 46.9 -1.0**
comp=Z,18nm,0.8s
PGF Pioggiola 89.59 317⇑ *i*P **P 20 41 48.1 -1.0**
comp=Z,26nm,0.9s
BNI Bardonecchia 89.61 320 *e*P **P 20 41 48.4 -0.8**
BNI pmax pmax
comp=Z,8.0nm,1.1s
BNI Bardonecchia 89.61 320 *e*P **P 20 41 48.4 -0.8**
comp=Z,7.9nm,1.1s
KEBM Edson Butte 89.61 42 *e*P **P 20 41 49.6 +0.5**
MBDF Montbardon 89.73 320 *e*P **P 20 41 47.7 -2.1**
SBF Sospel 89.82 319 *e*P **P 20 41 48.4 -1.7**
MXC Moxie City 89.89 38 P **P 20 41 51.2 +0.9**
LOR Lormes 89.92 323 *e*P **P 20 41 48.6 -1.8**
LOR *e*R
comp=Z,617nm,20.0s
ORIF Oris-en-Rattie 90.15 320⇑ *i*P **P 20 41 50.4 -1.2**
comp=Z,9.0nm,0.8s
ORIF *e*R
comp=Z,632nm,19.8s
SSF Saint Saulge 90.24 323 *e*P **P 20 41 50.4 -1.5**
comp=Z,6.3nm,0.8s
SMF Signal de Mont 90.30 323⇑ *i*P **P 20 41 50.8 -1.4**
comp=Z,33nm,1.0s
HAWA Hanford 90.43 38 *e*P **P 20 41 52.3 -0.5**
comp=Z,27nm,1.4s
FRF La Foret Royal 90.47 319⇑ *i*P **P 20 41 51.4 -1.6**
comp=Z,17nm,1.0s
AVF Avril sur Loir 90.48 323 *e*P **P 20 41 51.5 -1.5**
comp=Z,15nm,0.9s
NEW Newport 90.60 35 *e*P **P 20 41 52.7 -0.9**
comp=Z,14nm,1.0s
NEW Newport 90.60 35 P **P 20 41 53.4 -0.2**
baz=90
LMR La Mourre 90.68 319 *e*P **P 20 41 52.9 -1.1**
comp=Z,47nm,1.4s
SMRF Simiane la Rot 90.87 320 *e*P **P 20 41 53.7 -1.2**
VIVF Saint-Julien-l 90.88 321 *e*P **P 20 41 53.7 -1.3**
comp=Z,13nm,0.9s
VIPM Ingram Point 90.92 40 P **P 20 41 55.7 +0.4**
VIPM Ingram Point 90.92 40 P **P 20 41 55.7 +0.4**
YBH Yreka Blue Hor 91.25 43 *e*P **P 20 41 56.7 -0.1**
comp=Z,17nm,1.8s
YBH Yreka Blue Hor 91.25 43 P **P 20 41 56.4 -0.4**
comp=Z,2.7nm,0.9s,baz=285,slow=9.5,SNR=4.4
C11A Tepee Creek (N 91.32 35 P **P 20 41 57.3 +0.3**
baz=91
TCF Toulx Ste Croi 91.42 323 *e*P **P 20 41 56.2 -1.2**
comp=Z,73nm,1.6s
A13A Flathead Natio 91.57 33 P **P 20 41 58.3 +0.1**
baz=91
WALA Waterton Lakes 91.74 33 *e*P **P 20 41 59.2 +0.2**
comp=Z,0.7nm,1.4s
LASF Ste Croix 91.81 321 *e*P **P 20 41 58.3 -1.0**

B13A	**Whitefish**	**91.90**	**34**	P		**P**	**20 42 00.2**	**+0.5**
	baz=92							
A14A	**Double T Ranch**	**92.04**	**33**	P		**P**	**20 42 00.5**	**+0.1**
	baz=92							
BSMT	**Bassoo Peak**	**92.08**	**34**	*e*P		**P**	**20 42 00.9**	**+0.3**
FRB	**Frobisher Bay**	**92.10**	**5**	P		**P**	**20 41 58.0**	**-2.0**
FRB	**Frobisher Bay**	**92.10**	**5**	P		**P**	**20 41 58.0**	**-2.0**
	comp=Z,7.9nm,0.9s,baz=322,slow=2.9,SNR=4.2							
C13A	**Hot Springs**	**92.30**	**34**	P		**P**	**20 42 01.7**	**+0.2**
	baz=92							
CAF	**Calviac**	**92.33**	**322**	⇑*i*P		**P**	**20 42 01.1**	**-0.6**
	comp=Z,18nm,0.9s							
RJF	**Les Rejaudoux**	**92.40**	**323**	⇑*i*P		**P**	**20 42 01.4**	**-0.6**
	comp=Z,36nm,1.0s							
RJF				*e*R				
	comp=Z,393nm,17.5s							
B14A	**Marquette Ranc**	**92.52**	**33**	P		**P**	**20 42 02.9**	**+0.3**
	baz=92							
C14A	**Swan Lake**	**92.66**	**34**	P		**P**	**20 42 03.2**	**-0.1**
	baz=92							
SWMT	**Swartz Lake**	**92.70**	**34**	*e*P		**P**	**20 42 03.3**	**-0.1**
FFC	**Flin Flon**	**92.89**	**24**	P		**P**	**20 42 03.4**	**-0.6**
	comp=Z,92nm,1.0s,SNR=5.2							
FFC	**Flin Flon**	**92.89**	**24**	*i* P		**P**	**20 42 03.3**	**-0.7**
FFC	**Flin Flon**	**92.89**	**24**	*e*P		**P**	**20 42 03.3**	**-0.7**
	comp=Z,17nm,1.0s							
FFC				*e*pP		**pP**	**20 42 14.8**	**+0.2**
B15A	**Bradely Ranch,**	**92.90**	**33**	P		**P**	**20 42 03.8**	**-0.5**
	baz=93							
A16A	**West Butte Ran**	**92.95**	**32**	P		**P**	**20 42 04.0**	**-0.6**
	baz=93							
KEST	**Kesra**	**93.04**	**311**	*e*P		**P**	**20 42 05.3**	**+0.1**
KEST	**Kesra**	**93.04**	**311**	P		**P**	**20 42 04.6**	**-0.6**
	comp=Z,2.3nm,1.0s,baz=196,slow=3.2,SNR=4.3							
SLMT	**Seeley Lake**	**93.14**	**34**	*e*P		**P**	**20 42 05.3**	**-0.2**
MTLF	**Montolieu**	**93.21**	**321**	*e*P		**P**	**20 42 04.0**	**-1.7**
D14A	**Greenough**	**93.24**	**34**	P		**P**	**20 42 05.6**	**-0.3**
	baz=93							
C15A	**Salmond Ranch,**	**93.24**	**34**	P		**P**	**20 42 06.2**	**+0.3**
	baz=93							
A17A	**Triple J Farms**	**93.39**	**32**	P		**P**	**20 42 06.2**	**-0.4**
	baz=93							
A18A	**Metzger Ranch,**	**93.82**	**31**	P		**P**	**20 42 08.4**	**-0.1**
	baz=94							
D16A	**Dana Ranch, Ca**	**94.27**	**34**	P		**P**	**20 42 10.1**	**-0.6**
	baz=94							
EPF	**Esparros**	**94.48**	**321**	*e*P		**P**	**20 42 09.8**	**-1.8**
	comp=Z,4.4nm,0.8s							
E17A	**Martinsdale**	**95.01**	**34**	P		**P**	**20 42 13.4**	**-0.7**
	baz=95							
B20A	**Solberg Farm,**	**95.02**	**31**	P		**P**	**20 42 13.2**	**-0.8**
	baz=95							
C19A	**Slack Wire Ran**	**95.02**	**32**	P		**P**	**20 42 13.8**	**-0.3**
	baz=95							
ETSF	**Etsaut**	**95.07**	**322**	*e*P		**P**	**20 42 13.6**	**-0.8**
	comp=Z,8.1nm,1.0s							
SJPF	**Ste Jean**	**95.31**	**322**	*e*P		**P**	**20 42 14.8**	**-0.6**
F17A	**Fitzpatrick Pl**	**95.49**	**34**	P		**P**	**20 42 16.7**	**+0.4**
	baz=95							
NVAR	**Mina Array Bea**	**95.91**	**43**	P		**P**	**20 42 18.5**	**0.0**
NVAR	**Mina Array Bea**	**95.91**	**43**	P		**P**	**20 42 18.5**	**0.0**
	comp=Z,1.9nm,0.7s,baz=292,slow=5.0,SNR=13							
ELK	**Elko**	**96.35**	**40**	P		**P**	**20 42 20.4**	**-0.1**
ELK	**Elko**	**96.35**	**40**	P		**P**	**20 42 20.4**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=38,slow=8.8,SNR=3.6							
R11A	**Troy Canyon, C**	**97.65**	**42**	P		**P**	**20 42 25.7**	**-0.6**
	baz=97							
MPMC	**Manual Prospec**	**97.86**	**45**	P		**P**	**20 42 27.1**	**-0.2**
	baz=98							
TORD	**Torodi Ar. Bea**	**111.11**	**296**	PP		PP	20 48 15.8	+12
	comp=Z,1.1nm,1.0s,baz=46,slow=6.4,SNR=3.9							
SDV	**Santo Domingo**	**144.96**	**22**	*e*PKPdf		**PKPab**	**20 48 27.3**	**-1.3**
OTAV	**Otavalo**	**148.65**	**43**	*e*PKPdf		**PKPdf**	**20 48 34.7**	**-1.3**
SAML	**Samuel**	**164.14**	**20**	*e*PKPdf		**PKPdf**	**20 48 53.1**	**-2.3**
LPAZ	**La Paz**	**167.63**	**53**	PKP		**PKPdf**	**20 48 58.9**	**0.0**
LPAZ				PKPab		**PKPab**	**20 50 03.4**	**-1.5**
LPAZ	**La Paz**	**167.63**	**53**	PKP		**PKPdf**	**20 48 58.9**	**0.0**
	comp=Z,4.7nm,1.1s,baz=352,slow=2.5,SNR=9.9							
LPAZ				PKPab		**PKPab**	**20 50 03.4**	**-1.5**
	comp=Z,1.8nm,0.8s,baz=2.0,slow=6.9,SNR=3.7							

IDC 13 20:31:21.8±20.0, 17.17°S×178.19°W, h437km±241km, mb2.9/2, mb1 3.2/2, mb1mx2.8/18, mbtmp2.9/2, Error ellipse: s-maj=294.5km s-min=51.2km az=165.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**45.20**	**254**	P		P	20 38 58.4	-0.1
	0.7nm,0.5s,baz=86,slow=8.7,SNR=4.4							
TXAR	**Lajitas Array**	**85.42**	**58**	P		P	20 43 12.4	0.0
	0.1nm,0.4s,baz=224,slow=5.0,SNR=4.0							
BRTR	**Keskin Array B**	**144.41**	**316**	PKP		PKPbc	20 50 07.0	-0.3
	0.4nm,0.4s,baz=80,slow=1.6,SNR=3.7							
GERES	**GERESS Array B**	**146.96**	**346**	PKPbc		PKPbc	20 50 13.7	-0.7
	0.2nm,0.4s,baz=1.8,slow=3.0,SNR=4.1							

WEL 13 20:47:49.3±0.5, 38.29°S×179.11°E, h33km, ML3.7/5, Error ellipse: s-maj=5.0km s-min=2.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PUZ	**Puketiti**	**0.71**	**287**	PN		Pn	20 48 02.3	-0.8
PUZ				SN		Sn	20 48 12.3	-0.5
PUZ				AML		AML	20 48 13.0	
CNGZ	**Carnagh Statio**	**0.74**	**254**	PN		Pn	20 48 03.0	-0.4
MXZ	**Matakaoa Point**	**0.96**	**318**	AML		AML	20 48 22.3	
MXZ				AML		AML	20 48 22.9	
MWZ	**Matawai**	**1.25**	**267**	PN		Pn	20 48 09.8	-0.7
MWZ				SN		Sn	20 48 24.8	-1.4
MWZ				AML		AML	20 48 25.8	
MWZ				AML		AML	20 48 25.8	
MWZ				AML		AML	20 48 27.5	
MHGZ	**Mahia Peninsul**	**1.28**	**227**	PN		Pn	20 48 10.2	-0.8
KNZ	**Kokohu**	**1.35**	**236**	PN		Pn	20 48 11.0	-0.7
URZ	**Urewera**	**1.58**	**270**	PN		Pn	20 48 15.4	+0.4
URZ				AML		AML	20 48 40.8	
URZ				AML		AML	20 48 41.5	
BKZ	**Black Stump Fm**	**2.23**	**246**	PN		Pn	20 48 23.9	-0.2
BKZ				SN		Sn	20 48 48.6	-2.0
KAHZ	**Kahuranaki**	**2.31**	**228**	PN		Pn	20 48 23.9	-1.1
KAHZ				SN		Sn	20 48 51.2	-1.1
BHHZ	**Black Hill Sta**	**2.67**	**242**	PN		Pn	20 48 29.6	-0.5
WPHZ	**Waipukurau**	**2.73**	**229**	PN		Pn	20 48 29.4	-1.5
PNHZ	**Pukenui**	**2.79**	**233**	PN		Pn	20 48 30.7	-1.0
MOVZ	**Moawhango**	**2.85**	**246**	PN		Pn	20 48 32.6	0.0
TUVZ	**Tukino**	**2.88**	**249**	PN		Pn	20 48 33.0	0.0
TSZ	**Takapari Road**	**3.02**	**233**	PN		Pn	20 48 33.2	-1.7
DVHZ	**Dannevirke**	**3.05**	**228**	PN		Pn	20 48 33.3	-2.0
HIZ	**Hauiti**	**3.35**	**265**	PN		Pn	20 48 40.2	+0.8
MRZ	**Mangatainoka R**	**3.62**	**228**	PN		Pn	20 48 41.1	-2.0
MRZ				AML		AML	20 49 22.2	
MRZ				AML		AML	20 49 23.0	
MTW	**Mount Morrison**	**4.00**	**223**	PN		Pn	20 48 45.0	-3.3
THZ	**Tophouse**	**5.90**	**232**	PN		Pn	20 49 11.2	-3.3
CTZ	**Chatham Island**	**6.33**	**151**	PN		Pn	20 49 22.7	+2.5

*ISCJB **13** 20:52:00.1±0.2, 44.09°N±0.01°×105.34°W±0.02, h0km, mb3.7/1, Error ellipse: s-maj=2.3km s-min=1.8km az=164.0*

*NEIC **13** 20:52:00.9±0.6, 44.09°N×105.26°W, h0km, ML3.1, Error ellipse: s-maj=8.7km s-min=7.2km az=174.0, Suspected Mining explosion.*

NEIC 30 km [20 miles] SE of Gillette.

*IDC **13** 20:52:01.6±1.0, 44.31°N×105.72°W, h0km, mb3.6/1, mb1 3.6/5, mb1mx3.4/28, mbtmp3.3/5, ML3.2/4, Error ellipse: s-maj=25.5km s-min=8.6km az=145.0*

ISC 13 20:52:00.4±0.6, 44.09°N±0.02°×105.34°W±0.02, h0km, n213, σ0.73/242, 66C-118D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I23A	**Meade Ranch, G**	**0.15**	**214**	⇓P		**Pg**	**20 52 04.1**	**+0.8**
	baz=0.2,SNR=1000							
I23A	**Meade Ranch, G**	**0.15**	**214**	⇓P		**Pg**	**20 52 04.1**	**+0.8**
	baz=0.2,SNR=1000							
H23A	**Clabaugh Cattl**	**0.48**	**355**	⇑P		**Pg**	**20 52 10.2**	**+0.7**
	baz=0.5,SNR=22							
H23A				⇓S		**Sg**	**20 52 16.1**	**+0.4**
	baz=0.5							
I24A	**Kuemmerle Ranc**	**0.57**	**113**	P		**Pg**	**20 52 11.7**	**+0.4**
	baz=0.5,SNR=74							
I24A	**Kuemmerle Ranc**	**0.57**	**113**	P		**Pg**	**20 52 11.7**	**+0.4**
	baz=0.5,SNR=74							
J23A	**Dilts Ranch, B**	**0.70**	**193**	P		**Pg**	**20 52 14.0**	**+0.2**
	baz=0.7,SNR=61							
J23A				⇓S		**Sg**	**20 52 23.6**	**+0.7**
	baz=0.7							
J23A	**Dilts Ranch, B**	**0.70**	**193**	P		**Pg**	**20 52 14.0**	**+0.2**
	baz=0.7,SNR=61							
J23A				⇓S		**Sg**	**20 52 23.6**	**+0.7**
	baz=0.7							
I22A	**9 Mile Ranch,**	**0.84**	**257**	⇑P		**Pg**	**20 52 16.8**	**+0.2**
	baz=0.9,SNR=187							
I22A				⇓S		**Sg**	**20 52 29.0**	**+1.4**
	baz=0.9							
I22A	**9 Mile Ranch,**	**0.84**	**257**	⇑P		**Pg**	**20 52 16.8**	**+0.2**
	baz=0.9,SNR=187							
I22A				⇓S		**Sg**	**20 52 29.0**	**+1.4**
	baz=0.9							
H24A	**Dirks Ranch, A**	**0.87**	**40**	P		**Pg**	**20 52 17.2**	**+0.1**
	baz=0.8,SNR=112							
H24A	**Dirks Ranch, A**	**0.87**	**40**	P		**Pg**	**20 52 17.2**	**+0.1**
	baz=0.8,SNR=112							
H22A	**Clearmont**	**0.88**	**305**	⇑P		**Pg**	**20 52 17.6**	**+0.2**
	baz=0.9,SNR=24							
H22A	**Clearmont**	**0.88**	**305**	⇑P		**Pg**	**20 52 17.6**	**+0.2**
	baz=0.9,SNR=24							
J24A	**Dixon Ranch, L**	**0.90**	**147**	⇓P		**Pg**	**20 52 17.9**	**+0.1**
	baz=0.9,SNR=239							
J24A				⇓S		**Sb**	**20 52 31.2**	**-0.5**
	baz=0.9							
J24A	**Dixon Ranch, L**	**0.90**	**147**	⇓P		**Pg**	**20 52 17.9**	**+0.1**
	baz=0.9,SNR=239							
J24A				⇓S		**Sb**	**20 52 31.2**	**-0.5**
	baz=0.9							
RSSD	**Black Hills**	**0.94**	**87**	*e*P		**Pg**	**20 52 18.1**	**-0.4**
J22A	**Midwest**	**1.06**	**231**	P		**Pg**	**20 52 20.2**	**-0.6**
	baz=1.1							
J22A	**Midwest**	**1.06**	**231**	P		**Pg**	**20 52 20.2**	**-0.6**
	baz=1.1							
G23A	**Biddle**	**1.11**	**358**	⇓P		**Pg**	**20 52 21.9**	**+0.1**
	baz=1.1,SNR=142							
G23A				⇑S		**Sg**	**20 52 37.0**	**+0.7**
	baz=1.1							
G23A	**Biddle**	**1.11**	**358**	⇓P		**Pg**	**20 52 21.9**	**+0.1**
	baz=1.1,SNR=142							
G23A				⇑S		**Sg**	**20 52 37.0**	**+0.7**
	baz=1.1							
I25A	**Rochford**	**1.16**	**93**	⇓P		**Pg**	**20 52 22.6**	**-0.2**
	baz=1.1,SNR=200							
I25A	**Rochford**	**1.16**	**93**	⇓P		**Pg**	**20 52 22.6**	**-0.2**
	baz=1.1,SNR=200							
J25A	**Sunshine Ranch**	**1.32**	**121**	P		**Pg**	**20 52 25.3**	**-0.4**
	baz=1.3							
J25A	**Sunshine Ranch**	**1.32**	**121**	P		**Pg**	**20 52 25.3**	**-0.4**
	baz=1.3							
G22A	**Birney**	**1.32**	**329**	⇓P		**Pg**	**20 52 25.4**	**-0.3**
	baz=1.3,SNR=37							
G22A				⇑S		**Sb**	**20 52 43.9**	**+0.2**
	baz=1.3							
G22A	**Birney**	**1.32**	**329**	⇓P		**Pg**	**20 52 25.4**	**-0.3**
	baz=1.3,SNR=37							
G22A				⇑S		**Sb**	**20 52 43.9**	**+0.2**
	baz=1.3							
H21A	**Big Horn, Sher**	**1.33**	**295**	⇑P		**Pg**	**20 52 25.7**	**-0.3**
	baz=1.4,SNR=40							
H21A	**Big Horn, Sher**	**1.33**	**295**	⇑P		**Pg**	**20 52 25.7**	**-0.3**
	baz=1.4,SNR=40							
K23A	**Bowen Ranch, D**	**1.35**	**189**	⇓P		**Pg**	**20 52 25.7**	**-0.5**
	baz=1.4,SNR=18							
K23A				⇓S		**Sn**	**20 52 45.6**	**+0.3**
	baz=1.4							
K23A	**Bowen Ranch, D**	**1.35**	**189**	⇓P		**Pg**	**20 52 25.7**	**-0.5**
	baz=1.4,SNR=18							
K23A				⇓S		**Sn**	**20 52 45.6**	**+0.3**
	baz=1.4							
H25A	**Fruitdale**	**1.36**	**66**	P		**Pg**	**20 52 26.2**	**-0.3**
	baz=1.3							
H25A	**Fruitdale**	**1.36**	**66**	P		**Pg**	**20 52 26.2**	**-0.3**
	baz=1.3							
G24A	**Alzada**	**1.41**	**28**	P		**Pn**	**20 52 27.2**	**-0.2**
	baz=1.4,SNR=62							
G24A	**Alzada**	**1.41**	**28**	P		**Pn**	**20 52 27.2**	**-0.2**
	baz=1.4,SNR=62							
K24A	**Anderson Ranch**	**1.42**	**164**	P		**Pn**	**20 52 27.0**	**-0.6**
	baz=1.4,SNR=78							
K24A				⇓S		**Sn**	**20 52 48.1**	**+1.1**
	baz=1.4							
K24A	**Anderson Ranch**	**1.42**	**164**	P		**Pn**	**20 52 27.0**	**-0.6**
	baz=1.4,SNR=78							
K24A				⇓S		**Sn**	**20 52 48.1**	**+1.1**
	baz=1.4							
I21A	**Big Trails, Te**	**1.43**	**260**	⇓P		**Pn**	**20 52 26.7**	**-1.2**
	baz=1.5							
I21A				⇑S		**Sb**	**20 52 47.0**	**0.0**
	baz=1.5							
I21A	**Big Trails, Te**	**1.43**	**260**	⇓P		**Pn**	**20 52 26.7**	**-1.2**
	baz=1.5							
I21A				⇑S		**Sb**	**20 52 47.0**	**0.0**
	baz=1.5							
F23A	**Volborg**	**1.64**	**358**	P		**Pn**	**20 52 30.7**	**+0.2**
	baz=1.6,SNR=150							
F23A				⇓S		**Sb**	**20 52 53.0**	**+0.3**
	baz=1.6							
F23A	**Volborg**	**1.64**	**358**	P		**Pn**	**20 52 30.7**	**+0.2**
	baz=1.6,SNR=150							
F23A				⇓S		**Sb**	**20 52 53.0**	**+0.3**
	baz=1.6							
K22A	**Casper**	**1.67**	**211**	P		**Pn**	**20 52 31.1**	**0.0**
	baz=1.7,SNR=112							
K22A	**Casper**	**1.67**	**211**	P		**Pn**	**20 52 31.1**	**0.0**
	baz=1.7,SNR=112							
J21A	**Lysite**	**1.69**	**245**	P		**Pn**	**20 52 31.2**	**-0.3**
	baz=1.7,SNR=38							
J21A				⇑S		**Sn**	**20 52 54.0**	**+0.1**
	baz=1.7							
J21A	**Lysite**	**1.69**	**245**	P		**Pn**	**20 52 31.2**	**-0.3**
	baz=1.7,SNR=38							
J21A				⇑S		**Sn**	**20 52 54.0**	**+0.1**
	baz=1.7							
G21A	**Lodge Grass**	**1.75**	**311**	⇑Pb		**Pb**	**20 52 33.4**	**-0.1**
	baz=1.8							
G21A				⇓S		**Sn**	**20 52 55.8**	**+0.6**
	baz=1.8							
G21A	**Lodge Grass**	**1.75**	**311**	⇑Pb		**Pb**	**20 52 33.4**	**-0.1**
	baz=1.8							
G21A				⇓S		**Sn**	**20 52 55.8**	**+0.6**
	baz=1.8							
G25A	**Newell**	**1.77**	**51**	Pb		**Pb**	**20 52 33.4**	**-0.4**
	baz=1.7							
G25A	**Newell**	**1.77**	**51**	Pb		**Pb**	**20 52 33.4**	**-0.4**
	baz=1.7							
I26A	**New Underwood**	**1.79**	**91**	⇑Pb		**Pb**	**20 52 34.1**	**-0.1**
	baz=1.7							
I26A	**New Underwood**	**1.79**	**91**	⇑Pb		**Pb**	**20 52 34.1**	**-0.1**
	baz=1.7							
F22A	**Rosebud**	**1.81**	**339**	⇓P		**Pn**	**20 52 33.1**	**+0.1**
	baz=1.8,SNR=109							
F22A	**Rosebud**	**1.81**	**339**	⇓P		**Pn**	**20 52 33.1**	**+0.1**
	baz=1.8,SNR=109							
K25A	**Mack Ranch, Ha**	**1.82**	**143**	⇑P		**Pn**	**20 52 33.8**	**+0.6**
	baz=1.8,SNR=43							
K25A	**Mack Ranch, Ha**	**1.82**	**143**	⇑P		**Pn**	**20 52 33.8**	**+0.6**
	baz=1.8,SNR=43							
H26A	**Fairpoint**	**1.92**	**73**	⇓Pb		**Pb**	**20 52 36.2**	**-0.1**
	baz=1.9							
H26A	**Fairpoint**	**1.92**	**73**	⇓Pb		**Pb**	**20 52 36.2**	**-0.1**
	baz=1.9							
H20A	**Greybull**	**1.95**	**283**	⇑P		**Pn**	**20 52 34.7**	**-0.1**
	baz=2.0,SNR=85							
H20A	**Greybull**	**1.95**	**283**	⇑P		**Pn**	**20 52 34.7**	**-0.1**
	baz=2.0,SNR=85							
L23A	**Garrett**	**1.99**	**188**	⇓P		**Pn**	**20 52 35.5**	**-0.1**
	baz=2.0,SNR=91							
L23A	**Garrett**	**1.99**	**188**	⇓P		**Pn**	**20 52 35.5**	**-0.1**
	baz=2.0,SNR=91							
K21A	**Alcova**	**2.01**	**224**	⇓P		**Pn**	**20 52 36.2**	**+0.4**
	baz=2.1,SNR=49							
K21A				⇓S		**Sn**	**20 53 02.6**	**+0.8**
	baz=2.1							
K21A	**Alcova**	**2.01**	**224**	⇓P		**Pn**	**20 52 36.2**	**+0.4**
	baz=2.1,SNR=49							
K21A				⇓S		**Sn**	**20 53 02.6**	**+0.8**
	baz=2.1							
I20A	**Worland**	**2.01**	**267**	⇓P		**Pn**	**20 52 36.0**	**+0.2**
	baz=2.1,SNR=134							
I20A				⇓S		**Sn**	**20 53 02.3**	**+0.6**
	baz=2.1							
I20A	**Worland**	**2.01**	**267**	⇓P		**Pn**	**20 52 36.0**	**+0.2**
	baz=2.1,SNR=134							
I20A				⇓S		**Sn**	**20 53 02.3**	**+0.6**
	baz=2.1							
L24A	**Wheatland**	**2.06**	**171**	⇓P		**Pn**	**20 52 36.8**	**+0.3**
	baz=2.1,SNR=26							
L24A	**Wheatland**	**2.06**	**171**	⇓P		**Pn**	**20 52 36.8**	**+0.3**
	baz=2.1,SNR=26							
K26A	**Motz Farm, Whi**	**2.10**	**130**	⇑P		**Pn**	**20 52 37.4**	**+0.5**
	baz=2.1,SNR=36							
K26A	**Motz Farm, Whi**	**2.10**	**130**	⇑P		**Pn**	**20 52 37.4**	**+0.5**
	baz=2.1,SNR=36							
J20A	**Shoshoni**	**2.12**	**251**	⇓Pb		**Pb**	**20 52 39.3**	**-0.5**
	baz=2.2							
J20A	**Shoshoni**	**2.12**	**251**	⇓Pb		**Pb**	**20 52 39.3**	**-0.5**
	baz=2.2							
F21A	**Absaloka Mine,**	**2.15**	**325**	⇑P		**Pn**	**20 52 37.7**	**+0.1**
	baz=2.2							
F21A	**Absaloka Mine,**	**2.15**	**325**	⇑P		**Pn**	**20 52 37.7**	**+0.1**
	baz=2.2							
L25A	**Engebretsen Ra**	**2.18**	**152**	⇓P		**Pn**	**20 52 39.1**	**+1.0**
	baz=2.2,SNR=6.3							
L25A	**Engebretsen Ra**	**2.18**	**152**	⇓P		**Pn**	**20 52 39.1**	**+1.0**
	baz=2.2,SNR=6.3							
G20A	**Bridger**	**2.34**	**300**	P		**Pn**	**20 52 40.2**	**-0.1**
	baz=2.4,SNR=103							
G20A	**Bridger**	**2.34**	**300**	P		**Pn**	**20 52 40.2**	**-0.1**
	baz=2.4,SNR=103							
I27A	**Quinn**	**2.37**	**89**	⇓Pb		**Pb**	**20 52 44.0**	**-0.1**
	baz=2.3							
I27A	**Quinn**	**2.37**	**89**	⇓Pb		**Pb**	**20 52 44.0**	**-0.1**
	baz=2.3							
E22A	**Miles City**	**2.39**	**350**	⇓P		**Pn**	**20 52 40.8**	**-0.1**
	baz=2.4							
E22A				⇓S		**Sn**	**20 53 12.0**	**+1.1**
	baz=2.4							
E22A	**Miles City**	**2.39**	**350**	⇓P		**Pn**	**20 52 40.8**	**-0.1**
	baz=2.4							
E22A				⇓S		**Sn**	**20 53 12.0**	**+1.1**
	baz=2.4							
E23A	**Ismay**	**2.41**	**1**	⇓P		**Pn**	**20 52 41.6**	**+0.4**
	baz=2.4,SNR=59							
E23A	**Ismay**	**2.41**	**1**	⇓P		**Pn**	**20 52 41.6**	**+0.4**
	baz=2.4,SNR=59							
E24A	**Baker**	**2.58**	**16**	⇑P		**Pn**	**20 52 44.1**	**+0.6**
	baz=2.6,SNR=28							
E24A	**Baker**	**2.58**	**16**	⇑P		**Pn**	**20 52 44.1**	**+0.6**
	baz=2.6,SNR=28							
L21A	**Rawlins**	**2.59**	**216**	⇓P		**Pn**	**20 52 44.6**	**+0.8**
	baz=2.6,SNR=15							
L21A	**Rawlins**	**2.59**	**216**	⇓P		**Pn**	**20 52 44.6**	**+0.8**
	baz=2.6,SNR=15							
F20A	**Billings**	**2.63**	**312**	⇓P		**Pn**	**20 52 43.9**	**-0.4**
	baz=2.7,SNR=7.0							
F20A	**Billings**	**2.63**	**312**	⇓P		**Pn**	**20 52 43.9**	**-0.4**
	baz=2.7,SNR=7.0							
I19A	**Meeteetse**	**2.63**	**270**	⇑P		**Pn**	**20 52 44.8**	**+0.4**
	baz=2.7,SNR=49							
I19A	**Meeteetse**	**2.63**	**270**	⇑P		**Pn**	**20 52 44.8**	**+0.4**
	baz=2.7,SNR=49							
M23A	**Laramie**	**2.63**	**186**	⇓P		**Pn**	**20 52 45.2**	**+0.9**
	baz=2.6,SNR=13							
M23A	**Laramie**	**2.63**	**186**	⇓P		**Pn**	**20 52 45.2**	**+0.9**
	baz=2.6,SNR=13							
M24A	**Cheyenne**	**2.65**	**172**	⇓P		**Pn**	**20 52 45.7**	**+1.2**
	baz=2.6,SNR=57							
M24A	**Cheyenne**	**2.65**	**172**	⇓P		**Pn**	**20 52 45.7**	**+1.2**
	baz=2.6,SNR=57							
K27A	**Flueckinger Fa**	**2.65**	**120**	⇓P		**Pn**	**20 52 45.5**	**+1.0**
	baz=2.6							
K27A	**Flueckinger Fa**	**2.65**	**120**	⇓P		**Pn**	**20 52 45.5**	**+1.0**
	baz=2.6							
H19A	**Powell**	**2.67**	**284**	⇑P		**Pn**	**20 52 45.2**	**+0.3**
	baz=2.7,SNR=26							
H19A	**Powell**	**2.67**	**284**	⇑P		**Pn**	**20 52 45.2**	**+0.3**
	baz=2.7,SNR=26							
E21A	**Keefer Ranch,**	**2.74**	**334**	⇑P		**Pn**	**20 52 45.5**	**-0.2**
	baz=2.8,SNR=8.1							
E21A	**Keefer Ranch,**	**2.74**	**334**	⇑P		**Pn**	**20 52 45.5**	**-0.2**
	baz=2.8,SNR=8.1							
E25A	**Miller Ranch,**	**2.78**	**29**	⇓P		**Pn**	**20 52 47.7**	**+1.5**
	baz=2.7							
E25A	**Miller Ranch,**	**2.78**	**29**	⇓P		**Pn**	**20 52 47.7**	**+1.5**
	baz=2.7							
PHWY	**Pilot Hill**	**2.79**	**182**	*e*P		**Pn**	**20 52 46.7**	**+0.2**
M25A	**Palm-Egli Farm**	**2.81**	**160**	⇓P		**Pn**	**20 52 48.2**	**+1.4**
	baz=2.8							
M25A	**Palm-Egli Farm**	**2.81**	**160**	⇓P		**Pn**	**20 52 48.2**	**+1.4**
	baz=2.8							
M22A	**Cedar Creek Ra**	**2.84**	**199**

N26A	**Koester Ranch,** baz=3.6	**3.61**	**154**	⇓P		**Pn**	**20 52 59.5**	**+1.7**
C22A	**Vida** baz=3.7	**3.68**	**354**	⇑P		**Pn**	**20 53 00.1**	**+1.4**
C22A	**Vida** baz=3.7	**3.68**	**354**	⇑P		**Pn**	**20 53 00.1**	**+1.4**
C23A	**Lambert** baz=3.7	**3.72**	**2**	⇑P		**Pn**	**20 53 00.7**	**+1.6**
C23A	**Lambert** baz=3.7	**3.72**	**2**	⇑P		**Pn**	**20 53 00.7**	**+1.6**
LOHW	**Long Hollow**	**3.83**	**265**	*e*P		**Pn**	**20 53 02.5**	**+1.6**
N27A	**Anderson Farm,** baz=3.9,SNR=8.3	**3.88**	**147**	⇑P		**Pn**	**20 53 02.2**	**+0.8**
N27A	**Anderson Farm,** baz=3.9,SNR=8.3	**3.88**	**147**	⇑P		**Pn**	**20 53 02.2**	**+0.8**
MOOW	**Moose Ponds**	**3.92**	**267**	*e*P		**Pn**	**20 53 03.2**	**+1.1**
O24A	**Longmont** baz=4.0,SNR=7.1	**3.97**	**177**	⇓P		**Pn**	**20 53 03.5**	**+0.8**
O24A	**Longmont** baz=4.0,SNR=7.1	**3.97**	**177**	⇓P		**Pn**	**20 53 03.5**	**+0.8**
OGNE	**Ogallala**	**3.98**	**141**	*e*P		**Pn**	**20 53 04.4**	**+1.6**
IMW	**Indian Meadow**	**4.04**	**269**	*e*P		**Pn**	**20 53 03.7**	**-0.1**
E18A	**Harlowton** baz=4.1,SNR=13	**4.07**	**309**	⇑P		**Pn**	**20 53 05.0**	**+0.9**
E18A	**Harlowton** baz=4.1,SNR=13	**4.07**	**309**	⇑P		**Pn**	**20 53 05.0**	**+0.9**
C20A	**Veseth Ranch,** baz=4.1	**4.08**	**334**	⇓P		**Pn**	**20 53 04.9**	**+0.8**
C20A	**Veseth Ranch,** baz=4.1	**4.08**	**334**	⇓P		**Pn**	**20 53 04.9**	**+0.8**
L29A	**Maesberg Ranch** baz=4.0	**4.10**	**118**	⇑P		**Pn**	**20 53 05.4**	**+1.0**
L29A	**Maesberg Ranch** baz=4.0	**4.10**	**118**	⇑P		**Pn**	**20 53 05.4**	**+1.0**
TPAW	**Teton Pass**	**4.10**	**264**	*e*P		**Pn**	**20 53 06.9**	**+2.3**
O26A	**Horse Wrangler** baz=4.1,SNR=8.6	**4.13**	**158**	⇑P		**Pn**	**20 53 05.7**	**+0.9**
O26A	**Horse Wrangler** baz=4.1,SNR=8.6	**4.13**	**158**	⇑P		**Pn**	**20 53 05.7**	**+0.9**
F17A	**Fitzpatrick Pl** baz=4.2,SNR=33	**4.19**	**298**	⇑P		**Pn**	**20 53 06.6**	**+1.0**
F17A	**Fitzpatrick Pl** baz=4.2,SNR=33	**4.19**	**298**	⇑P		**Pn**	**20 53 06.6**	**+1.0**
ISCO	**Idaho Springs**	**4.29**	**183**	*e*P		**Pn**	**20 53 04.9**	**-2.3**
RRI2	**Red Ridge**	**4.39**	**262**	*e*P		Pn	20 53 12.6	+3.9
AHID	**Auburn Hatcher**	**4.40**	**255**	*e*P		**Pn**	**20 53 09.8**	**+1.2**
DGMT	**Dagmar**	**4.46**	**10**	*e*P		**Pn**	**20 53 10.1**	**+0.9**
B21A	**Ellsworth Farm** baz=4.5	**4.50**	**346**	⇑P		**Pn**	**20 53 10.1**	**+0.3**
B21A	**Ellsworth Farm** baz=4.5	**4.50**	**346**	⇑P		**Pn**	**20 53 10.1**	**+0.3**
E17A	**Martinsdale** baz=4.6,SNR=16	**4.56**	**303**	⇓P		**Pn**	**20 53 11.5**	**+0.7**
E17A	**Martinsdale** baz=4.6,SNR=16	**4.56**	**303**	⇓P		**Pn**	**20 53 11.5**	**+0.7**
BOZ	**Bozeman (W)**	**4.73**	**291**	*e*P		**Pn**	**20 53 12.6**	**-0.6**
P26A	**Davis Ranch, A** baz=4.7,SNR=13	**4.76**	**161**	⇑P		**Pn**	**20 53 14.0**	**+0.4**
P26A	**Davis Ranch, A** baz=4.7,SNR=13	**4.76**	**161**	⇑P		**Pn**	**20 53 14.0**	**+0.4**
D17A	**Six Diamond Ra** baz=4.9,SNR=42	**4.84**	**311**	P		**Pn**	**20 53 15.0**	**+0.3**
D17A	**Six Diamond Ra** baz=4.9,SNR=42	**4.84**	**311**	P		**Pn**	**20 53 15.0**	**+0.3**
P27A	**Ficken Ranch,** baz=5.0,SNR=6.2	**4.98**	**155**	⇓P		**Pn**	**20 53 16.0**	**-0.5**
P27A	**Ficken Ranch,** baz=5.0,SNR=6.2	**4.98**	**155**	⇓P		**Pn**	**20 53 16.0**	**-0.5**
EGMT	**Eagleton** 17nm,0.6s	**4.99**	**324**	*e*P		**Pn**	**20 53 17.3**	**+0.6**
Q25A	**Bedland, Calha** baz=5.2	**5.23**	**171**	⇓P		**Pn**	**20 53 20.3**	**+0.2**
Q25A	**Bedland, Calha** baz=5.2	**5.23**	**171**	⇓P		**Pn**	**20 53 20.3**	**+0.2**
LRM	**Limekiln Ridge** 20nm,0.4s	**5.33**	**291**	*e*P		**Pn**	**20 53 22.2**	**+0.7**
Q26A	**Hugo** baz=5.3,SNR=6.7	**5.34**	**165**	⇓P		**Pn**	**20 53 21.8**	**+0.3**
Q26A	**Hugo** baz=5.3,SNR=6.7	**5.34**	**165**	⇓P		**Pn**	**20 53 21.8**	**+0.3**
R26A	**Arlington** baz=5.9,SNR=7.1	**5.95**	**165**	⇓P		**Pn**	**20 53 30.1**	**+0.2**
R26A	**Arlington** baz=5.9,SNR=7.1	**5.95**	**165**	⇓P		**Pn**	**20 53 30.1**	**+0.2**
R25A	**Fountain Ranch** baz=6.0,SNR=10	**5.99**	**172**	⇓P		**Pn**	**20 53 30.4**	**0.0**
R25A	**Fountain Ranch** baz=6.0,SNR=10	**5.99**	**172**	⇓P		**Pn**	**20 53 30.4**	**0.0**
SRU	**San Rafael** 10.0nm,0.4s	**6.31**	**220**	*e*P		**Pn**	**20 53 34.9**	**0.0**
S25A	**Robets Cordova** baz=6.5,SNR=8.9	**6.46**	**174**	P		**Pn**	**20 53 36.9**	**0.0**
S25A	**Robets Cordova** baz=6.5,SNR=8.9	**6.46**	**174**	P		**Pn**	**20 53 36.9**	**0.0**
D14A	**Greenough** baz=6.5,SNR=11	**6.46**	**300**	⇓P		**Pn**	**20 53 36.5**	**-0.4**
D14A	**Greenough** baz=6.5,SNR=11	**6.46**	**300**	⇓P		**Pn**	**20 53 36.5**	**-0.4**
S26A	**Kim** baz=6.6	**6.61**	**167**	⇓P		**Pn**	**20 53 39.0**	**0.0**
S26A	**Kim** baz=6.6	**6.61**	**167**	⇓P		**Pn**	**20 53 39.0**	**0.0**
DUG	**Dugway** 7.2nm,0.3s	**6.78**	**238**	*e*P		**Pn**	**20 53 41.7**	**+0.4**
DUG	**Dugway** baz=6.8,SNR=12	**6.78**	**238**	⇑P		**Pn**	**20 53 41.6**	**+0.4**
DUG	**Dugway** baz=6.8,SNR=12	**6.78**	**238**	⇑P		**Pn**	**20 53 41.6**	**+0.4**
D13A	**Huson** baz=7.1	**7.07**	**298**	⇓P		**Pn**	**20 53 45.1**	**0.0**
D13A	**Huson** baz=7.1	**7.07**	**298**	⇓P		**Pn**	**20 53 45.1**	**0.0**
T27A	**Campo** baz=7.3	**7.29**	**163**	⇓P		**Pn**	**20 53 48.5**	**+0.1**
T27A	**Campo** baz=7.3	**7.29**	**163**	⇓P		**Pn**	**20 53 48.5**	**+0.1**
ULM	**Lac du Bonnet**	**8.92**	**43**	Pn		**Pn**	**20 54 10.4**	**0.0**
ULM				Lg		Lg	20 56 38.1	
ULM	**Lac du Bonnet** 1.2nm,0.3s,baz=227,slow=13,SNR=6.6	**8.92**	**43**	Pn		**Pn**	**20 54 10.4**	**0.0**
ULM	0.6nm,0.3s,baz=303,slow=14,SNR=2.5			Lg		Lg	20 56 38.1	
NVAR	**Mina Array Bea**	**11.27**	**244**	Pn		Pn	20 54 46.8	+3.9
NVAR	**Mina Array Bea** 0.0nm,0.3s,baz=60,slow=13,SNR=3.0	**11.27**	**244**	Pn		Pn	20 54 46.8	+3.9
TXAR	**Lajitas Array**	**14.79**	**174**	Pn		**P**	**20 55 35.9**	**-1.2**
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=349,slow=8.7,SNR=2.4	**14.79**	**174**	Pn		**P**	**20 55 35.9**	**-1.2**
MKAR	**Makanchi Array**	**89.25**	**355**	P		**P**	**21 04 57.1**	**-1.1**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=350,slow=6.0,SNR=2.7	**89.25**	**355**	P		**P**	**21 04 57.1**	**-1.1**

PRE 13 21:00:29.9±2.9, 26°95S×26°83E, h2km, ML2.2, 4C-2D, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOAB	**Moab Khotsong**	**0.04**	**215**	*e*P	Pg	21 00 31.1	+0.1
MOAB				*e*S	Sg	21 00 31.9	+0.1
MOAB	comp=Z,2μm,0.2s			AML	AML	21 00 33.3	
MOAB	**Moab Khotsong**	**0.04**	**215**	*e*P	Pg	21 00 31.1	+0.1
MOAB				*e*S	Sg	21 00 31.9	+0.1
MOAB	comp=Z,2μm,0.2s			AML	AML	21 00 33.3	
BFSD	**Buffelsfontein**	**0.09**	**337**	*e*P	Pg	21 00 32.2	+0.3
BFSD				*e*S	Sg	21 00 33.9	+0.6
BFSD	comp=Z,1μm,0.4s			AML	AML	21 00 35.5	
BFSD	**Buffelsfontein**	**0.09**	**337**	*e*P	Pg	21 00 32.2	+0.3
BFSD				*e*S	Sg	21 00 33.9	+0.6
BFSD	comp=Z,1μm,0.4s			AML	AML	21 00 35.5	
TLEK	**Tau Lekoa**	**0.14**	**265**	*e*P	Pg	21 00 33.4	+0.5
TLEK				*e*S	Sg	21 00 35.1	+0.3
TLEK	comp=Z,594nm,0.3s			AML	AML	21 00 37.4	
TLEK	**Tau Lekoa**	**0.14**	**265**	*e*P	Pg	21 00 33.4	+0.5
TLEK				*e*S	Sg	21 00 35.1	+0.3
TLEK	comp=Z,594nm,0.3s			AML	AML	21 00 37.4	
PRYS	**Parys**	**0.48**	**87**	⇓*i*P	Pb	21 00 40.8	-0.5
PRYS				*e*S	Sg	21 00 46.7	+1.0
PRYS	comp=Z,99nm,0.6s			AML	AML	21 00 51.7	
PRYS	**Parys**	**0.48**	**87**	*e*P	Pg	21 00 39.9	+0.6
PRYS				*e*S	Sg	21 00 46.4	+0.8
PRYS	comp=Z,104nm,0.5s			AML	AML	21 00 51.9	
KLOF	**Kloof**	**0.92**	**50**	⇑*i*P	Pb	21 00 48.5	-0.4
KLOF				*e*S	Sg	21 00 58.5	-1.5
KLOF	comp=Z,205nm,0.2s			AML	AML	21 01 05.4	
KSR	**Koster**	**1.10**	**3**	⇑*i*P	Pg	21 00 51.4	+0.2
KSR				*e*S	Sg	21 01 05.3	-0.3
KSR	comp=Z,54nm,0.2s			AML	AML	21 01 11.0	
KSR	**Koster**	**1.10**	**3**	*e*P	Pb	21 00 51.6	-0.3
KSR				*e*S	Sg	21 01 06.2	+0.5
KSR	comp=Z,57nm,0.3s			AML	AML	21 01 12.0	
SWZ	**Schweizer**	**1.35**	**260**	*e*P	Pn	21 00 54.2	-1.8
SWZ				*e*S	Sg	21 01 13.3	-0.4
SWZ	comp=Z,79nm,0.4s			AML	AML	21 01 16.4	
SWZ	**Schweizer**	**1.35**	**260**	*e*P	Pb	21 00 57.0	+0.8
SWZ				*e*S	Sn	21 01 14.7	0.0
SWZ	comp=Z,83nm,0.4s			AML	AML	21 01 16.4	
ERPM	**east rand prop**	**1.40**	**65**	⇑*i*P	Pb	21 00 58.1	+1.0
ERPM				*e*S	Sg	21 01 14.9	-0.6
ERPM	comp=Z,15nm,0.2s			AML	AML	21 01 20.9	
ERPM	**east rand prop**	**1.40**	**65**	*e*P	Pb	21 00 58.5	+1.4
ERPM				*e*S	Sn	21 01 18.2	+2.1
ERPM	comp=Z,20nm,0.2s			AML	AML	21 01 19.1	
SLR	**Silverton**	**1.78**	**47**	⇑*i*P	Pb	21 01 03.1	-0.4
SLR				*e*S	Sn	21 01 25.7	+0.4
SLR	comp=Z,68nm,0.5s			AML	AML	21 01 27.9	
SLR	**Silverton**	**1.78**	**47**	*e*P	Pb	21 01 03.4	-0.1
SLR				*e*S	Sb	21 01 26.5	+0.1
SLR	comp=Z,72nm,0.5s			AML	AML	21 01 28.4	
BOSA	**Boshof**	**2.16**	**220**	⇓*i*P	Pn	21 01 08.3	+1.1
BOSA				*e*S	Sn	21 01 32.6	-2.1
BOSA	comp=Z,10nm,0.5s			AML	AML	21 01 49.0	
BOSA	**Boshof**	**2.16**	**220**	*e*P	Pn	21 01 07.6	+0.4
BOSA				*e*S	Sn	21 01 34.9	+0.2
BOSA	comp=Z,10nm,0.5s			AML	AML	21 01 49.1	
LBTB	**Lobatse**	**2.22**	**330**	*e*P	Pb	21 01 09.5	-1.4
LBTB				*e*S	Sn	21 01 37.0	+0.8
LBTB	comp=Z,20nm,0.6s			AML	AML	21 01 39.6	
LBTB	**Lobatse**	**2.22**	**330**	*e*P	Pb	21 01 09.6	-1.4
LBTB				*e*S	Sn	21 01 36.6	+0.5
LBTB	comp=Z,21nm,0.6s			AML	AML	21 01 39.7	
POGA	**Pongola**	**4.28**	**97**	*e*P	Pn	21 01 37.7	+1.6
POGA				*e*S	Sn	21 02 28.3	+1.5
POGA	comp=Z,9.2nm,0.4s			AML	AML	21 02 46.9	
POGA	**Pongola**	**4.28**	**97**	*e*P	Pn	21 01 37.7	+1.6
POGA				*e*S	Sn	21 02 28.3	+1.5
POGA	comp=Z,9.2nm,0.4s			AML	AML	21 02 46.9	

WEL 13 22:11:41.6±0.1, 43°00S×171°87E, h5km, ML3.5/12, Error ellipse: s-maj=0.6km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OXZ	**Oxford**	**0.35**	**160**	PG	Pg	22 11 48.6	+0.3
OXZ				SG	Sg	22 11 53.7	+0.7
LTZ	**Lake Taylor**	**0.36**	**53**	PG	Pg	22 11 48.9	+0.2
LTZ				SG	Sg	22 11 54.4	+0.8
CRLZ	**Canterbury Las**	**0.79**	**137**	P*	Pg	22 11 57.0	+0.2
CRLZ				S*	Sb	22 12 08.2	-0.7
CRLZ				AML	AML	22 12 09.3	
WVZ	**Waitaha Valley**	**0.84**	**264**	P*	Pg	22 11 57.7	0.0
WVZ				AML	AML	22 12 08.8	
WVZ				AML	AML	22 12 10.3	
MQZ	**McQueen's Vall**	**0.91**	**141**	P*	Pg	22 11 58.8	-0.2
MQZ				AML	AML	22 12 12.1	
MQZ				AML	AML	22 12 12.3	
RPZ	**Rata Peaks**	**0.93**	**220**	P*	Pg	22 11 59.4	-0.1
RPZ				AML	AML	22 12 13.6	
RPZ				AML	AML	22 12 14.3	
KHZ	**Kahutara**	**1.36**	**65**	PN	Pn	22 12 06.3	-0.9
KHZ				AML	AML	22 12 30.2	
KHZ				AML	AML	22 12 30.3	
THZ	**Tophouse**	**1.45**	**32**	PN	Pn	22 12 07.9	-0.7
THZ				AML	AML	22 12 30.2	
THZ				AML	AML	22 12 33.1	
FOZ	**Fox Glacier**	**1.69**	**250**	PN	Pn	22 12 10.5	-1.3
FOZ				AML	AML	22 12 36.6	
FOZ				AML	AML	22 12 36.8	
FOZ				AML	AML	22 12 36.8	
LBZ	**Lake Benmore**	**1.85**	**221**	PN	Pn	22 12 13.1	-0.9
LBZ				AML	AML	22 12 44.3	
LBZ				AML	AML	22 12 50.1	
BSWZ	**Blackbirch Sta**	**1.96**	**50**	PN	Pn	22 12 14.7	+0.1
BSWZ				AML	AML	22 12 47.7	
BSWZ				AML	AML	22 12 50.9	
NNZ	**Nelson**	**2.10**	**33**	PN	Pn	22 12 18.2	+0.7
TUWZ	**Tuamarina**	**2.20**	**45**	PN	Pn	22 12 19.7	+1.0
TUWZ				AML	AML	22 12 52.2	
TUWZ				AML	AML	22 12 53.6	
QRZ	**Quartz Range**	**2.23**	**13**	PN	Pn	22 12 18.6	-0.5
QRZ				AML	AML	22 12 24.6	
ODZ	**Otahua Downs**	**2.23**	**203**	PN	Pn	22 12 17.3	-1.9
TCW	**Tory Channel**	**2.53**	**46**	PN	Pn	22 12 23.6	+0.3
WKZ	**Wanaka**	**2.76**	**228**	PN	Pn	22 12 24.7	-1.8
EAZ	**Earnscleugh**	**2.90**	**219**	PN	Pn	22 12 26.4	-1.9
TUZ	**Tuapeka**	**3.36**	**208**	PN	Pn	22 12 33.2	-1.5
SYZ	**Scrubby Hill**	**4.04**	**208**	PN	Pn	22 12 42.4	-1.6

*ISCJB **13** 22:21:33.7±0.4, 41°33N±0°02×22°70E±0°03, h8km±4km, Error ellipse: s-maj=4.4km s-min=3.7km az=163.7*
*SKO **13** 22:21:33.4, 41°25N×22°68E, h15km, M1.5, ML1.8*
*ATH **13** 22:21:33.9, 41°36N×22°68E, h32km±15km, MD3.0/6*
*THE **13** 22:21:34.4, 41°31N×22°69E, h5km±2km, ML2.0/5, Error ellipse: s-maj=2.1km s-min=0.6km az=197.0*
*CSEM **13** 22:21:34.0±0.2, 41°29N×22°68E, h8km, ML1.9, Error ellipse: s-maj=4.1km s-min=3.6km az=65.0*
*BEO **13** 22:21:35.9±0.5, 41°37N×22°55E, h1km±4km, ML1.9/4*

ISC 13 22:21:34.3±0.8, 41°31N±0°02×22°68E±0°02, h10km±5km, n35, σ0°47/58, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.08**	**280**	P	**Pg**	**22 21 36.2**	**-0.5**
VAY				S	**Sg**	**22 21 38.2**	**-0.2**
VAY	**Valandovo**	**0.08**	**280**	*i* Pg	**Pg**	**22 21 36.8**	**+0.2**
VAY	comp=E,299nm,0.2s			*e*Lg	Lg	22 21 38.6	
VAY				*i* Sg	**Sg**	**22 21 38.6**	**+0.2**
VAY	comp=N,1μm,0.2s			*e*Lg	Lg	22 21 38.6	
VAY	**Valandovo**	**0.08**	**280**	*e*Pg	**Pg**	**22 21 36.1**	**-0.6**
VAY				*e*Sg	**Sg**	**22 21 38.0**	**-0.4**
VAY	**Valandovo**	**0.08**	**280**	P	**Pg**	**22 21 36.2**	**-0.5**
VAY	**Valandovo**	**0.08**	**280**	*i* Pg	**Pg**	**22 21 36.8**	**+0.2**
VAY				S	**Sg**	**22 21 38.2**	**-0.2**
VAY	comp=N,1μm,0.2s			*e*Lg	Lg	22 21 38.6	
KNT	**Kendrikon**	**0.22**	**131**	P	**Pg**	**22 21 39.0**	**+0.2**
KNT				S	**Sg**	**22 21 42.2**	**+0.3**
KNT	**Kendrikon**	**0.22**	**131**	P	**Pg**	**22 21 39.0**	**+0.2**
KNT				S	**Sg**	**22 21 42.2**	**+0.3**
THE	**Thessaloniki**	**0.71**	**162**	P	**Pg**	**22 21 47.7**	**-0.2**
THE				S	**Sb**	**22 21 58.2**	**-0.2**
THE	**Thessaloniki**	**0.71**	**162**	P	**Pg**	**22 21 47.7**	**-0.2**
THE				S	**Sb**	**22 21 58.2**	**-0.2**
SRS	**Serrai**	**0.71**	**105**	P	**Pg**	**22 21 47.7**	**-0.4**
SRS				S	**Sb**	**22 21 58.0**	**-0.7**
SRS	**Serrai**	**0.71**	**105**	P	**Pg**	**22 21 47.7**	**-0.4**
SRS				S	**Sb**	**22 21 58.0**	**-0.7**
HORT	**Hortiatis**	**0.78**	**156**	P	**Pg**	**22 21 49.1**	**-0.1**
HORT	**Hortiatis**	**0.78**	**156**	P	**Pg**	**22 21 49.1**	**-0.1**
NVR	**Nevrokopi**	**0.89**	**87**	P	**Pg**	**22 21 51.0**	**-0.4**
NVR				S	**Sg**	**22 22 03.3**	**+0.2**
NVR	**Nevrokopi**	**0.89**	**87**	*e*PN	**Pg**	**22 21 51.1**	**-0.4**
NVR				*e*SN	**Sg**	**22 22 03.3**	**+0.2**
NVR	**Nevrokopi**	**0.89**	**87**	P	**Pg**	**22 21 51.0**	**-0.4**
NVR				S	**Sg**	**22 22 03.3**	**+0.2**
BIA	**Bitola**	**1.06**	**255**	P	**Pb**	**22 21 54.9**	**+0.1**
BIA	**Bitola**	**1.06**	**255**	P	**Pb**	**22 21 54.9**	**+0.1**
PLG	**Polygyros**	**1.10**	**148**	*e*PN	**Pg**	**22 21 54.8**	**-0.6**
PLG				*e*SN	**Sb**	**22 22 10.2**	**+0.5**
PLG	**Polygyros**	**1.10**	**148**	*e*Pn	**Pg**	**22 21 54.8**	**-0.6**
PLG				*e*Sn	**Sb**	**22 22 10.2**	**+0.5**
FNA	**Florina**	**1.12**	**243**	P	**Pg**	**22 21 55.1**	**-0.6**
FNA				S	**Sb**	**22 22 10.9**	**+0.6**
FNA	**Florina**	**1.12**	**243**	*e*PN	**Pg**	**22 21 55.1**	**-0.6**
FNA	**Florina**	**1.12**	**243**	P	**Pg**	**22 21 55.1**	**-0.6**
FNA				S	**Sb**	**22 22 10.9**	**+0.6**
LIT	**Litokhoron**	**1.21**	**187**	*e*PB	**Pb**	**22 21 56.3**	**-1.0**
LIT	**Litokhoron**	**1.21**	**187**	*e*Pb	**Pb**	**22 21 56.3**	**-1.0**
VTS	**Vitosha**	**1.34**	**17**	P	**Pb**	**22 21 59.7**	**+0.1**
VTS				S	**Sn**	**22 22 17.5**	**+0.2**
VTS	**Vitosha**	**1.34**	**17**	*e*Pg	**Pb**	**22 21 59.8**	**+0.1**
VTS				*e*Sg	**Sn**	**22 22 17.4**	**+0.2**
VTS	**Vitosha**	**1.34**	**17**	*e*Pg	**Pb**	**22 21 59.8**	**+0.1**
VTS				*e*Sg	**Sn**	**22 22 17.4**	**+0.2**
BARS	**Barje**	**1.64**	**337**	*e*Pn	**Pn**	**22 22 03.4**	**+0.2**
BARS				*e*Sg	**Sb**	**22 22 25.4**	**+0.1**
BARS	**Barje**	**1.64**	**337**	*e*Pn	**Pn**	**22 22 03.4**	**+0.2**
BARS				*e*Sg	**Sb**	**22 22 25.4**	**+0.1**
THL	**Klokotos Trika**	**1.81**	**196**	*e*PB	**Pn**	**22 22 06.3**	**+0.8**
THL	**Klokotos Trika**	**1.81**	**196**	*e*Pb	**Pn**	**22 22 06.3**	**+0.8**
ZAPS	**Zavoj**	**1.97**	**359**	*e*Pn	**Pb**	**22 22 10.5**	**+0.3**
ZAPS				*e*Sg	**Sg**	**22 22 36.1**	**-1.4**
RDO	**Rodhopi**	**2.16**	**93**	*e*PB	**Pn**	**22 22 10.4**	**+0.1**
RDO	**Rodhopi**	**2.16**	**93**	*e*Pb	**Pn**	**22 22 10.4**	**+0.1**

*ISCJB **13** 22:31:54.5±0.3, 53°25S±0°07×118°3W±0°1, h10km, mb4.9/36, MS4.8/27, Error ellipse: s-maj=12.3km s-min=8.8km az=44.6*
*IDC **13** 22:31:54.4±0.4, 52°86S×118°53W, h0km, mb4.6/16, mb1 4.7/16, mb1mx4.7/18, mbtmp4.6/16, MS4.7/20, Ms1 4.6/20, ms1mx4.6/24, Error ellipse: s-maj=20.5km s-min=12.9km az=151.0*
*BJI **13** 22:31:56.7, 53°20S×118°40W, h10km, mB5.5/13, Ms5.3/12, Ms7 5.0/11*
*NEIC **13** 22:31:56.0±0.2, 53°17S×118°41W, h10km, mb5.2/24, Error ellipse: s-maj=9.7km s-min=6.8km az=137.0*
*SZGRF **13** 22:31:58.2, 53°20S×118°96W, h33km, mb4.7, Southern East Pacific Rise*
*GCMT **13** 22:32:00.5±0.2, 53°24S×118°32W, h12km, MW5.2, Moment Tensor Solution. s47,c66; s85,c128; Moment tensor: Scale 10¹⁶Nm; Mrr3.19±.18; Mθθ-6.73±.17; Mϕϕ3.55±.17; Mrθ-1.73±.46; Mrϕ-4.17±.16; Mθϕ0.89±.48; Best double couple: M°w7.10000×10¹⁶ NP1:ϕ28.00000°, δ65.00000°, λ17.00000°. NP2:ϕ291.00000°, δ75.00000°, λ154.00000°. Principal axes: T 5.8300, Plg29.0000°, Azm247.0000°; N 2.5400, Plg60.0000°, Azm83.0000°; P -8.3600, Plg7.0000°, Azm341.0000°; Data Used: IU II G IC CN.*

ISC 13 22:31:58.2±1.2, 53°16S±0°09×118°27W±0°08, h22km±8km, n433, σ0°88/464, mb5.0/37, MS4.8/28, 131C-106D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USHA	**Ushuaia**	**28.85**	**114**	LR	LR	22 46 13.9	
	comp=Z,838nm,19.8s,baz=175,slow=30						
PMSA	**Palmer Station**	**29.28**	**135**	LR	LR	22 46 11.5	
	comp=Z,2μm,21.3s,baz=244,slow=29						
PLCA	**Paso Flores**	**34.23**	**88**	*e*P	**P**	**22 38 42.2**	**+0.1**
	5.0nm,1.0s						
PLCA				PcP	**PcP**	**22 41 17.5**	**-0.8**
PLCA	**Paso Flores**	**34.23**	**88**	P	**P**	**22 38 43.1**	**+1.0**
	7.6nm,1.1s,baz=255,slow=6.1,SNR=4.1						
PLCA				PcP	**PcP**	**22 41 17.5**	**-0.8**
	2.5nm,0.9s,baz=227,slow=8.0,SNR=3.6						
PLCA				LR	LR	22 49 30.6	
	comp=Z,425nm,20.3s,baz=194,slow=31						
SBA	**Scott Base**	**35.58**	**201**	*e*P	**P**	**22 38 50.9**	**-2.4**
	215nm,2.5s						
VNDA	**Vanda**	**36.65**	**201**	*e*P	**P**	**22 39 02.2**	**-0.3**
	55nm,1.9s						
VNDA				*e*PcP	**PcP**	**22 41 25.0**	**+0.3**
VNDA				PcP	**PcP**	**22 41 25.4**	**+0.6**
VNDA	**Vanda**	**36.65**	**201**	P	P	22 39 05.5	+3.1
	2.7nm,0.8s,baz=102,slow=8.1,SNR=17						
VNDA				PcP	**PcP**	**22 41 25.4**	**+0.6**
	2.4nm,0.8s,baz=76,slow=1.4,SNR=4.3						
VNDA				LR	LR	22 51 23.7	
	comp=Z,810nm,18.7s,baz=94,slow=32						
QSPA	**South Pole Qui**	**37.03**	**180**	*e*P	**P**	**22 39 06.8**	**+0.8**
	30nm,1.3s						
QSPA				*e*PP	**PP**	**22 40 29.1**	**-1.2**
QSPA				PcP	**PcP**	**22 41 26.8**	**+0.5**
QSPA				*e*PcP	PcP	22 41 27.0	+0.7
QSPA	**South Pole Qui**	**37.03**	**180**	P	P	22 39 09.4	+3.3
	12nm,1.0s,baz=108,slow=3.9,SNR=19						
QSPA				PcP	**PcP**	**22 41 26.8**	**+0.5**
	1.9nm,0.8s,baz=345,slow=1.4,SNR=3.9						
TBI	**Tubuai**	**38.00**	**309**	*e*S	S	22 45 12.7	+7.5
	98nm,20.0s						
TBI				*e*LQ	LQ	22 47 41.7	
	652nm,26.5s						
TBI				*e*LR	LR	22 49 36.7	
	2μm,26.0s,baz=152						
TRQA	**Tornquist**	**41.07**	**92**	*e*P	**P**	**22 39 41.1**	**+1.1**
	1μm,2.8s						
CFAA	**Coronel Fontan**	**41.72**	**79**	P	**P**	**22 39 45.9**	**+0.5**
CFAA	**Coronel Fontan**	**41.72**	**79**	P	**P**	**22 39 45.9**	**+0.5**
	0.9nm,1.1s,baz=209,slow=9.3,SNR=6.8						
PPT2	**Papeete2**	**43.07**	**313**	*e*S	S	22 46 27.8	+6.7
	204nm,24.8s						
PPT2				*e*LQ	LQ	22 49 44.0	
	2μm,26.8s						
PPT2				*e*LR	LR	22 51 57.8	
	4μm,25.5s,baz=155						
PPT	**Papeete**	**43.09**	**313**	LR

ROSC **El Rosal** 68.60 48 P P 22 42 58.1 -1.7
ROSC **El Rosal** 68.60 48 P P 22 42 58.1 -1.7
4.7nm,0.4s,baz=260,slow=19,SNR=2.9
ROSC LR LR 23 08 10.8
comp=Z,238nm,18.1s,baz=219,slow=32
EIDS **Eidsvold** 70.49 254 eP P 22 43 10.9 -0.1
77nm,1.8s
STKA **Stephens Creek** 70.77 242 eP P 22 43 12.8 +0.2
STKA **Stephens Creek** 70.77 242 P P 22 43 11.7 -0.9
7.4nm,1.1s,baz=151,slow=11,SNR=6.8
STKA LR LR 23 07 40.3
comp=Z,461nm,20.0s,baz=308,slow=30
CTA **Charters Tower** 77.38 253 P P 22 43 51.0 -0.3
CTA **Charters Tower** 77.38 253 P P 22 43 51.0 -0.3
5.5nm,1.0s,baz=207,slow=5.4,SNR=6.8
CTAO **Charters Tower** 77.38 253 eP P 22 43 51.4 0.0
179nm,2.6s
RCBR **Riachuelo** 80.79 87 LR LR 23 18 03.7
comp=Z,851nm,18.1s,baz=202,slow=34
AS31 **Alice Springs** 81.39 242 eP P 22 44 11.3 -2.0
ASAR **Alice Springs** 81.39 242 P P 22 44 11.8 -1.5
ASAR **Alice Springs** 81.39 242 P P 22 44 11.8 -1.5
9.6nm,0.9s,baz=149,slow=5.0,SNR=44
ASAR LR LR 23 13 51.0
comp=Z,430nm,20.4s,baz=176,slow=31
732A **Laxson Ranch,** 83.09 16 ⇓P P 22 44 21.0 -0.6
baz=84
TXAR **Lajitas Array** 83.13 13 P P 22 44 21.9 -0.1
TXAR **Lajitas Array** 83.13 13 P P 22 44 21.9 -0.1
2.2nm,1.0s,baz=187,slow=7.6,SNR=17
TXAR LR LR 23 15 39.4
comp=Z,173nm,18.1s,baz=160,slow=32
627A **Terlingua Ranc** 83.28 13 ⇓P P 22 44 23.0 +0.2
baz=84
626A **Big Bend Ranch** 83.28 12 ⇓P P 22 44 22.7 -0.1
baz=84
628A **Black Gap, Mar** 83.38 13 ⇑P P 22 44 23.0 -0.2
baz=84,SNR=6.9
631A **Perdido Creek** 83.66 15 ⇓P P 22 44 24.2 -0.4
baz=84
526A **Mary Lane Ranc** 83.79 12 ⇑P P 22 44 25.2 -0.3
baz=84
632A **Uvalde** 83.88 16 ⇓P P 22 44 25.2 -0.6
baz=84
527A **Woodward Ranch** 83.93 13 ⇓P P 22 44 25.9 -0.3
baz=84
528A **Cox Ranch, San** 84.06 13 ⇓P P 22 44 26.7 -0.1
baz=84
529A **Stev Forest Ra** 84.11 14 ⇑P P 22 44 26.8 -0.1
baz=84
WRA **Warramunga Arr** 84.18 244 P P 22 44 26.1 -1.7
WRA **Warramunga Arr** 84.18 244 P P 22 44 26.1 -1.7
17nm,1.0s,baz=144,slow=4.7,SNR=63
WRAB **Tennant Creek** 84.18 244 P P 22 44 26.2 -1.6
156nm,1.2s,SNR=8.8
WRAB **Tennant Creek** 84.18 244 eP P 22 44 26.5 -1.3
83nm,1.6s
530A **J-C Ranch, Com** 84.26 15 ⇓P P 22 44 27.8 +0.1
baz=85
425A **Indio Mountain** 84.39 11 ⇓P P 22 44 28.0 -0.5
baz=85
426A **McDonald Obser** 84.39 12 ⇑P P 22 44 28.1 -0.5
baz=85
531A **Rocksprings** 84.40 15 ⇓P P 22 44 28.4 -0.1
baz=85
532A **Rocksprings** 84.47 16 ⇓P P 22 44 29.1 +0.3
baz=85,SNR=8.6
319A **Douglas** 84.55 8 ⇑P P 22 44 29.6 +0.4
baz=85
428A **Kincaid Ranch,** 84.63 13 ⇓P P 22 44 29.5 -0.1
baz=85
429A **Davenport Ranc** 84.64 14 ⇓P P 22 44 29.9 +0.2
baz=85
427A **Hayter Ranch,** 84.66 13 ⇑P P 22 44 29.7 -0.1
baz=85
JCT **Junction City** 84.83 16 eP P 22 44 30.4 -0.2
22nm,1.4s
JCT **Junction City** 84.83 16 ⇓P P 22 44 30.3 -0.3
baz=85
214A **Organ Pipe Nat** 84.89 5 ⇑P P 22 44 31.1 +0.3
baz=85,SNR=6.7
431A **Sonora** 84.90 15 ⇑P P 22 44 30.6 -0.3
baz=85
430A **Baggett Ranch,** 84.90 15 ⇓P P 22 44 30.7 -0.3
baz=85
325A **Bean Ranch, Si** 84.97 11 ⇓P P 22 44 30.8 -0.6
baz=85,SNR=6.8
324A **Moseley Ranch,** 84.98 11 ⇑P P 22 44 30.9 -0.6
baz=85,SNR=5.1
220A **Playas Peak, P** 85.13 8 ⇓P P 22 44 31.7 -0.5
baz=86,SNR=6.2
432A **Menard** 85.22 16 ⇓P P 22 44 31.9 -0.7
baz=86
MNTX **Cornudas Mount** 85.25 11 eP P 22 44 32.1 -0.5
17nm,1.8s
328A **Wristen Ranch,** 85.26 13 ⇓P P 22 44 32.5 -0.2
baz=86
PMG **Port Moresby** 85.28 261 P P 22 44 33.6 +0.3
PMG **Port Moresby** 85.28 261 P P 22 44 33.6 +0.3
13nm,1.0s,baz=89,slow=9.6,SNR=5.9
221A **Mesquite Ranch** 85.30 9 ⇓P P 22 44 33.0 0.0
baz=86
TUC **Tucson** 85.36 6 eP P 22 44 33.4 +0.1
211nm,2.0s
223A **Chaparral, Ant** 85.44 10 ⇑P P 22 44 33.7 +0.1
baz=86
222A **Williams Famil** 85.46 9 ⇑P P 22 44 34.1 +0.3
baz=86
329A **Wagon Wheel Ra** 85.48 14 ⇓P P 22 44 33.7 -0.1
baz=86
DVTC **Desert V Tower** 85.48 2 ⇓P P 22 44 33.9 +0.1
baz=86
330A **Mertzon** 85.52 15 ⇑P P 22 44 34.2 +0.1
baz=86
331A **San Angelo** 85.54 15 ⇓P P 22 44 34.1 0.0
baz=86
224A **Cornudas Mount** 85.60 11 ⇓P P 22 44 34.6 +0.1
baz=86,SNR=14
113A **Mohawk Valley,** 85.66 4 ⇑P P 22 44 35.0 +0.4
baz=86
109C **Camp Elliot, M** 85.70 1 ⇓P P 22 44 34.8 0.0
baz=86
MONP **Monument Peak** 85.71 2 ⇓P P 22 44 35.6 +0.4
baz=86
225A **Deer Hill, Car** 85.72 11 ⇓P P 22 44 34.5 -0.6
baz=86
332A **Millersview** 85.72 16 ⇑P P 22 44 34.5 -0.5
baz=86
226B **Tecolote Peak,** 85.77 12 ⇓P P 22 44 34.6 -0.7
baz=86
SWSC **Sam W. Stewart** 85.77 2 ⇓P P 22 44 36.0 +0.8
baz=86
SCI **San Clemente I** 85.78 360 ⇑P P 22 44 36.2 +1.0
baz=86
227A **Bennet, Jal** 85.81 13 ⇓P P 22 44 35.5 0.0
baz=86
121A **Cookes Peak, D** 85.82 9 ⇑P P 22 44 35.8 +0.2
baz=86
GLA **Glamis** 85.91 3 ⇓P P 22 44 36.2 +0.3
baz=86
229A **Bryant Ranch,** 85.98 14 ⇓P P 22 44 36.0 -0.3
baz=86
230A **Sterling City** 86.00 15 ⇓P P 22 44 36.8 +0.4
baz=86
228A **UT Block 9, Go** 86.01 13 ⇑P P 22 44 37.3 +0.8
baz=86
122A **Conniff Cattle** 86.06 10 ⇓P P 22 44 37.4 +0.5
baz=86
123A **Bell Site, Whi** 86.08 10 ⇑P P 22 44 37.3 +0.4
baz=86
231A **Bronte** 86.17 15 ⇓P P 22 44 37.0 -0.3
baz=87
CIS **Catalina Islan** 86.21 360 ⇑P P 22 44 37.0 -0.4
baz=87
124A **Stringfield Ra** 86.23 11 ⇑P P 22 44 37.2 -0.5
baz=87,SNR=6.4
232A **Coleman** 86.23 16 ⇑P P 22 44 37.4 -0.2
baz=87
125A **Gardner Draw,** 86.28 11 ⇓P P 22 44 37.1 -0.8
baz=87,SNR=6.1
Z14A **Wintersburg** 86.29 4 ⇓P P 22 44 38.2 +0.5
baz=87
Z20A **Nine Sixteen R** 86.33 8 ⇑P P 22 44 38.2 +0.1
baz=87,SNR=5.7
MURC **Murrieta** 86.40 1 ⇑P P 22 44 38.6 +0.2
baz=87
PFO **Pinyon Flat Ob** 86.42 2 ⇓P P 22 44 39.0 +0.4
baz=87
127A **Arkansas Junct** 86.46 13 ⇓P P 22 44 38.3 -0.5
baz=87
BC3 **Big Chuckawall** 86.49 2 ⇑P P 22 44 39.6 +0.7
baz=87
128A **Castleberry Fa** 86.52 13 ⇓P P 22 44 38.7 -0.3
baz=87
Z21A **St. Cloud Mine** 86.60 9 ⇓P P 22 44 39.7 +0.1
baz=87,SNR=8.6
Y12C **Blythe** 86.61 3 ⇑P P 22 44 39.8 +0.5
baz=87
Z22A **Elephant Butte** 86.62 9 ⇓P P 22 44 39.5 -0.1
baz=87,SNR=8.4
129A **Stewart Farms,** 86.62 14 ⇓P P 22 44 39.5 0.0
baz=87
Z23A **Rita Site, Whi** 86.70 10 ⇓P P 22 44 40.1 +0.2
baz=87
WHTX **Lake Whitney** 86.71 18 ⇑P P 22 44 39.3 -0.5
baz=87
130A **Snyder** 86.72 15 ⇑P P 22 44 39.6 -0.4
baz=87
BELC **Belle Mtn. Jos** 86.82 2 ⇑P P 22 44 40.6 +0.1
baz=87,SNR=5.7
Z24A **Sheeppen Canyo** 86.86 11 ⇑P P 22 44 40.6 -0.2
baz=87
131A **Roby** 86.88 15 ⇑P P 22 44 40.2 -0.5
baz=87
Z25A **Roswell** 86.89 11 ⇓P P 22 44 40.7 -0.2
baz=87,SNR=8.1
BLG **Laguna Peak** 86.91 359 ⇑P P 22 44 41.3 +0.5
baz=87
ABTX **Abilene, Hawle** 86.95 16 ⇓P P 22 44 41.3 +0.3
baz=87
Z26A **Caprock** 86.97 12 ⇓P P 22 44 40.2 -1.0
baz=87,SNR=6.4
IRM **Iron Mountain** 87.00 3 ⇓P P 22 44 41.8 +0.6
baz=87,SNR=7.4
BFSC **Mount Baldy Ra** 87.04 1 ⇑P P 22 44 42.4 +0.9
baz=87
BBRC **Big Bear Solar** 87.07 1 ⇑P P 22 44 42.0 +0.1
baz=87
Z27A **Tatum** 87.11 13 ⇓P P 22 44 41.5 -0.3
baz=88,SNR=7.0
Y20A **Horse Springs,** 87.13 8 ⇓P P 22 44 42.7 +0.5
baz=88,SNR=6.5
PDMCI **Parker Dam,Lak** 87.17 3 ⇑P P 22 44 42.6 +0.6
baz=88
Z28A **Tucker Farm, M** 87.19 13 ⇑P P 22 44 41.9 -0.3
baz=88
SBC **Santa Barbara** 87.25 359 ⇑P P 22 44 42.7 +0.3
baz=88
Z29A **Hungry Hill Ra** 87.26 14 ⇑P P 22 44 42.1 -0.5
baz=88
Y22A **Socorro** 87.29 9 ⇑P P 22 44 42.7 -0.1
baz=88
Y21A **Point of Rocks** 87.30 9 ⇓P P 22 44 43.2 +0.2
baz=88,SNR=5.2
Z30A **Sanderson Ranc** 87.37 14 ⇑P P 22 44 42.4 -0.7
baz=88
Y23A **Lovelace Mesa,** 87.38 10 ⇑P P 22 44 43.2 0.0
baz=88
OSI **Osito Adit** 87.41 360 ⇑P P 22 44 43.2 0.0
baz=88
X16A **Lo Mia Camp, P** 87.42 6 ⇓P P 22 44 43.3 -0.1
baz=88
Y22D **IRIS PASSCAL I** 87.43 9 ⇓P P 22 44 43.6 +0.1
baz=88
Y24A **Capitan** 87.44 11 ⇓P P 22 44 43.5 -0.1
baz=88,SNR=8.2
Y25A **Mesa, Roswell** 87.52 11 ⇓P P 22 44 43.5 -0.4
baz=88,SNR=8.7
Z31A **Sharp Cattle R** 87.55 15 ⇑P P 22 44 43.8 -0.1
baz=88
GMRC **Granite Mounta** 87.61 2 ⇑P P 22 44 45.0 +0.8
baz=88
NEE2 **Needles Airpor** 87.62 3 ⇓P P 22 44 44.2 +0.1
baz=88
X18A **Snowflake** 87.63 7 ⇑P P 22 44 44.4 -0.1
baz=88
Y26A **Elida** 87.63 12 ⇓P P 22 44 44.0 -0.5
baz=88
HEC **Hector,Ludlow** 87.64 2 ⇑P P 22 44 44.8 +0.5
baz=88
Z32A **Haskell** 87.65 16 ⇑P P 22 44 44.3 -0.1
baz=88
Y27A **Causey** 87.67 13 ⇓P P 22 44 44.2 -0.5
baz=88,SNR=6.4
EDW2 **Edwards Air Fo** 87.68 0 ⇓P P 22 44 44.6 +0.1
baz=88
RRX **Edison Barstow** 87.68 1 ⇑P P 22 44 44.5 0.0
baz=88
PKM **Peak Mountain** 87.70 359 ⇓P P 22 44 45.0 +0.2
baz=88
X21A **Alamocita Cree** 87.72 9 ⇑P P 22 44 44.9 0.0
baz=88,SNR=5.4
X20A **Quemado** 87.75 8 ⇓P P 22 44 45.4 +0.3
baz=88
MSTX **Muleshoe** 87.81 13 ⇑P P 22 44 45.0 -0.2
baz=88
Y28A **McKinney Farm,** 87.82 13 ⇑P P 22 44 45.2 -0.1
baz=88
X22A **Bernardo** 87.85 9 ⇑P P 22 44 45.3 -0.2
baz=88
Y29A **Porterfield Fa** 87.86 14 ⇓P P 22 44 45.6 +0.2
baz=88
ARVC **Arvin** 87.92 360 ⇑P P 22 44 45.7 +0.1
baz=88
W13A **Hualapai Mount** 87.98 4 ⇓P P 22 44 46.4 +0.3
baz=88
Y30A **Stafford Cattl** 87.98 14 ⇑P P 22 44 45.8 -0.2
baz=88
X23A **Hourglass Bar** 88.01 10 ⇓P P 22 44 46.4 +0.1
baz=88
SMMC **Simmler** 88.12 359 ⇑P P 22 44 47.1 +0.5
baz=88
X25A **Clemmons Ranch** 88.12 11 ⇑P P 22 44 46.7 -0.1
baz=88
Y31A **Rekieta Farm,** 88.17 15 ⇓P P 22 44 46.9 +0.1
baz=89
X26A **CR and CF Fran** 88.25 12 ⇑P P 22 44 47.3 -0.1
baz=89
TUQ **Turquoise Moun** 88.25 2 ⇑P P 22 44 47.8 +0.5
baz=89
LRMC **Laurel Mountai** 88.27 0 ⇑P P 22 44 47.3 -0.1
baz=89
W20A **Ramah** 88.33 8 ⇓P P 22 44 47.8 -0.1
baz=89
Y32A **R-V Farms, Ver** 88.34 16 ⇑P P 22 44 47.7 0.0
baz=89
ANMO **Albuquerque** 88.34 10 eP P 22 44 47.7 -0.2
38nm,2.1s
W22A **Albuquerque** 88.43 9 ⇑P P 22 44 48.4 +0.2
baz=89
X29A **Tulia** 88.43 14 ⇓P P 22 44 47.8 -0.3
baz=89
X28A **Dimmitt** 88.43 13 ⇑P P 22 44 48.1 -0.1
baz=89
X27A **F and S Farms,** 88.44 12 ⇑P P 22 44 48.1 -0.1
baz=89
ISA **Isabella** 88.46 360 ⇓P P 22 44 48.5 +0.3
baz=89
WUAZ **Wupatki** 88.52 6 eP P 22 44 48.4 -0.2
14nm,1.5s
WUAZ **Wupatki** 88.52 6 ⇓P P 22 44 48.5 -0.1
baz=89
X30A **Coker Ranch, T** 88.55 14 ⇓P P 22 44 47.1 -1.6
baz=89
W23A **Werner Place,** 88.59 10 ⇓P P 22 44 48.7 -0.3
baz=89
VES **Vestal, Richgr** 88.64 359 ⇑P P 22 44 49.8 +0.8
baz=89
SHOC **Shoshone** 88.71 2 ⇓P P 22 44 49.8 +0.4
baz=89
W24A **Lazy 6 Ranch,** 88.71 11 ⇓P P 22 44 49.4 -0.2
baz=89
W26A **Owens Ranch, T** 88.79 12 ⇑P P 22 44 49.8 0.0
baz=89
W25A **X Bar L Ranch,** 88.83 11 ⇑P P 22 44 49.7 -0.4
baz=89
W27A **Bowe Ranch, En** 88.85 12 ⇑P P 22 44 50.0 -0.2
baz=89
MPMC **Manual Prospec** 88.86 1 ⇓P P 22 44 50.5 +0.3
baz=89
X31A **McDonald Ranch** 88.86 15 ⇑P P 22 44 50.3 +0.2
baz=89
V20A **Brimhall** 89.00 8 ⇓P P 22 44 50.9 0.0
baz=89
V21A **Milan** 89.08 9 ⇑P P 22 44 51.3 -0.1
baz=90
W29A **Amarillo** 89.10 14 ⇓P P 22 44 51.1 -0.2
baz=90
V23A **Ortiz Mt. (NFS** 89.16 10 ⇑P P 22 44 51.7 0.0
baz=90
CWC **Cottonwood Cre** 89.23 0 ⇑P P 22 44 52.2 +0.2
baz=90
V24A **Rampart Ranch,** 89.24 11 ⇓P P 22 44 52.0 -0.1
baz=90
V22A **San Miguel Ran** 89.26 9 ⇓P P 22 44 52.3 +0.1
baz=90
FURC **Furnace Creek,** 89.27 1 ⇓P P 22 44 52.6 +0.7
baz=90
U15A **North Rim** 89.37 5 ⇑P P 22 44 53.1 +0.4
baz=90
W31A **Holland Ranch,** 89.42 15 ⇑P P 22 44 53.7 +1.0
baz=90
V25A **Rancho No Teng** 89.42 11 ⇑P P 22 44 52.9 -0.1
baz=90
V26A **Tequesquite Ra** 89.48 12 ⇑P P 22 44 52.7 -0.4
baz=90
TIGA **Tifton** 89.49 29 ⇓P P 22 44 53.0 -0.1
baz=90
V27A **Dan Oppiter Fa** 89.56 12 ⇑P P 22 44 53.3 -0.2
baz=90
U20A **Newcomb** 89.57 8 ⇑P P 22 44 53.6 0.0
baz=90
V28A **Channing** 89.64 13 ⇓P P 22 44 53.6 -0.2
baz=90
U21A **Nageezi** 89.70 9 ⇑P P 22 44 54.0 -0.2
baz=90
U22A **Llaves** 89.72 9 ⇓P P 22 44 54.6 +0.3
baz=90
U23A **El Rito** 89.74 10 ⇓P P 22 44 54.4 0.0
baz=90
TIN **Tinemaha** 89.85 0 P P 22 44 54.7 -0.1
baz=90
V29A **Stinnett** 89.86 14 ⇑P P 22 44 54.3 -0.5
baz=90
V30A **Spur Ranch, Mi** 89.87 14 ⇑P P 22 44 55.4 +0.6
baz=90
U24A **Moreno Valley** 89.91 10 ⇑P P 22 44 55.9 +0.6
baz=90
U25A **Circle Dot Ran** 90.00 11 ⇓P P 22 44 55.7 +0.1
baz=90
V31A **Spring Creek L** 90.01 15 ⇓P P 22 44 56.3 +0.9
baz=90
LRAL **Lakeview Retre** 90.05 26 eP P 22 44 55.0 -0.7
10.0nm,1.3s
U26A **Atchley Ranch,** 90.08 12 ⇑P P 22 44 55.9 -0.1
baz=90
U27A **Thompson Grove** 90.22 12 ⇑P P 22 44 56.6 +0.1
baz=91
U28A **Mallet** 90.26 13 ⇑P P 22 44 56.5 -0.2
baz=91
T21A **Navajo Lake** 90.27 9 ⇑P P 22 44 56.2 -0.7
baz=91
T22A **Edith** 90.35 9 ⇑P P 22 44 57.3 0.0
baz=91
MVCO **Mesa Verde** 90.40 8 ⇑P P 22 44 57.5 0.0
baz=91
MLAC **Mammoth Lakes** 90.42 360 ⇓P P 22 44 57.6 0.0
baz=91
CCUT **Cedar City** 90.44 4 eP P 22 44 59.1 +1.4
37nm,2.0s
T23A **Casias Ranch,** 90.45 10 ⇑P P 22 44 57.9 +0.1
baz=91
U31A **Nine Bar Ranch** 90.59 15 ⇑P P 22 44 58.7 +0.5
baz=91
U30A **WK&E Inc. Balk** 90.63 14 ⇓P P 22 44 58.0 -0.4
baz=91
T25A **Trinidad** 90.73 11 ⇑P P 22 44 59.2 +0.2
baz=91
TUL1 **Tulsa** 90.83 18 ⇑P P 22 44 59.3 +0.1
baz=91
T27A **Campo** 90.86 12 ⇑P P 22 44 59.3 -0.3
baz=91
T26A **Comanche Natio** 90.86 12 ⇑P P 22 44 59.3 -0.3
baz=91
S21A **Coal Bank Pass** 90.91 8 ⇑P P 22 44 59.8 -0.1
baz=91
S20A **Disappointment** 91.03 8 ⇑P P 22 45 00.4 0.0
baz=91
S22A **4UR Ranch, Cre** 91.08 9 ⇓P P 22 45 00.3 -0.4
baz=92
S24A **Houchin Ranch,** 91.14 10 ⇑P P 22 45 00.6 -0.4
baz=92
T30A **Plains** 91.16 14 ⇓P P 22 45 01.2 +0.4
baz=92
NVAR **Mina Array Bea** 91.22 360 P P 22 45 01.3 0.0
NVAR **Mina Array Bea** 91.22 360 P P 22 45 01.3 0.0
0.9nm,0.8s,baz=198,slow=9.3,SNR=6.6
NVAR LR LR 23 16 57.0
comp=Z,746nm,21.2s,baz=170,slow=30
S25A **Robets Cordova** 91.25 11 ⇓P P 22 45 01.3 0.0
baz=92
WAKR **Walker** 91.30 359 eP P 22 45 02.6 +1.0
S26A **Kim** 91.32 12 ⇑P P 22 45 01.7 +0.1
baz=92
T31A **Randall Ranch,** 91.33 15 ⇓P P 22 45 01.7 +0.2
baz=92
R20A **Redvale** 91.38 8 ⇓P P 22 45 01.9 -0.1
baz=92
MVU **Marysvale** 91.44 5 eP P 22 45 03.1 +0.8
10nm,1.3s
S27A **Las Animas** 91.45 12 ⇓P P 22 45 02.1 -0.2
baz=92
S28A **Manter** 91.49 13 ⇑P P 22 45 02.2 -0.1
baz=92
PV04 **Paradox Valley** 91.54 7 eP P 22 45 02.9 +0.2
R22A **Saguache, Gunn** 91.56 9 ⇓P P 22 45 02.8 -0.2
baz=92
R23A **Moffat** 91.62 10 ⇑P P 22 45 02.4 -0.8
baz=92
S29A **Ulysses** 91.63 14 ⇑P P 22 45 03.1 +0.1
baz=92
R21A **Cimarron** 91.63 8 ⇑P P 22 45 03.3 +0.1
baz=92
R24A **Sanders Place,** 91.73 10 ⇓P P 22 45 03.4 -0.2
baz=92
S30A **Montezuma** 91.74 14 ⇓P P 22 45 03.3 -0.2
baz=92
R25A **Fountain Ranch** 91.74 11 ⇑P P 22 45 03.7 +0.1
baz=92
S31A **Mullinville** 91.87 15 ⇓P P 22 45 04.1 0.0
baz=92
Q16A **Castle Valley** 91.91 6 ⇑P P 22 45 04.5 +0.1
baz=92
R26A **Arlington** 91.99 12 ⇑P P 22 45 04.7 -0.1
baz=92
R27A **Eads** 92.06 12 ⇓P P 22 45 04.7 -0.3
baz=92
Q21A **Lamborn Mesa,** 92.09 8 ⇓P P 22 45 05.1 -0.1
baz=92
SRU **San Rafael** 92.14 6 eP P 22 45 05.2 -0.3
6.2nm,1.0s
Q20A **Ridgley Place,** 92.15 8 ⇓P P 22 45 05.7 +0.2
baz=92
R30A **Dighton** 92.40 14 ⇑P P 22 45 07.9 +1.4
baz=93
Q24A **Divide** 92.45 10 ⇑P P 22 45 07.7 +0.6
baz=93
BOSA **Boshof** 92.60 148 LR LR 23 19 46.0
comp=Z,596nm,20.6s,baz=166,slow=31
BEKR **Beckworth** 92.67 358 eP P 22 45 08.0 +0.1
2.9nm,1.0s
P19A **Cripple Cowboy** 92.77 7 ⇓P P 22 45 08.0 -0.4
baz=93
P22A **Eagle** 92.92 9 ⇑P P 22 45 09.3 +0.2
baz=93
Q28A **Sharon Springs** 92.95 13 ⇑P P 22 45 09.3 +0.2
baz=93
DUG **Dugway** 93.10 4 ⇑P P 22 45 10.2 +0.4
baz=94
O22A **Kremmling** 93.50 9 ⇓P P 22 45 11.7 -0.1
baz=94
N21A **Black Mountain** 94.01 8 ⇓P P 22 45 13.9 -0.3
baz=94
L20A **Wamsutter** 95.18 7 ⇑P P 22 45 19.6 +0.2
baz=96
PDAR **Pinedale Array** 95.84 6 P P 22 45 20.6 -1.9
PDAR **Pinedale Array** 95.84 6 P P 22 45 20.6 -1.9
0.8nm,0.9s,baz=192,slow=2.7,SNR=5.2
PDAR LR LR 23 21 02.7
comp=Z,338nm,20.2s,baz=235,slow=31
HLID **Hailey** 96.40 3 eP P 22 45 25.9 +0.9
4.2nm,1.1s
HLID **Hailey** 96.40 3 ⇓P P 22 45 25.4 +0.4
baz=97

H12A	**Diamond D Ranc**	**97.38**	**2**	⇓P	**P**		**22 45 29.4**	**+0.1**
	baz=98								
ILAR	**Eielson Array**	**119.66**	**346**	PKP	**PKPdf**		**22 50 43.4**	**-1.4**
ILAR	**Eielson Array**	**119.66**	**346**	PKP	**PKPdf**		**22 50 43.4**	**-1.4**
	0.7nm,0.8s,baz=174,slow=2.8,SNR=6.8								
PETK	**Petropavlovsk-**	**126.81**	**311**	PKP	**PKPdf**		**22 50 58.1**	**-0.7**
PETK	**Petropavlovsk-**	**126.81**	**311**	PKP	**PKPdf**		**22 50 58.1**	**-0.7**
	3.1nm,0.8s,baz=159,slow=8.5,SNR=5.5								
TAM	**Tamanrasset**	**128.07**	**103**	*e*PKPdf	**PKPdf**		**22 51 02.1**	**-0.3**
ESDC	**Sonseca Array**	**134.34**	**80**	PKP	**PKPdf**		**22 51 13.8**	**+0.1**
ESDC	**Sonseca Array**	**134.34**	**80**	PKP	**PKPdf**		**22 51 13.8**	**+0.1**
	0.2nm,0.3s,baz=302,slow=1.3,SNR=5.4								
CMAR	**Chiang Mai Arr**	**134.95**	**234**	PKP	**PKPdf**		**22 51 15.3**	**0.0**
CMAR	**Chiang Mai Arr**	**134.95**	**234**	PKP	**PKPdf**		**22 51 15.3**	**0.0**
	2.6nm,0.8s,baz=183,slow=2.4,SNR=14								
MDJ	**Mudanjiang**	**136.13**	**287**	PKP	**PKPdf**		**22 51 18.5**	**+1.8**
GYA	**Guiyang**	**137.39**	**249**	Pdif	**Pdif**		**22 48 27.9**	**+0.2**
GYA				PKP	**PKPdf**		**22 51 21.0**	**+1.2**
GYA				PP	**PP**		**22 54 09.8**	**+4.3**
GYA				PKS	**PKSdf**		**22 54 55.3**	**-0.9**
GYA	**Guiyang**	**137.39**	**249**	PKP	**PKPdf**		**22 51 21.0**	**+1.2**
GYA				PP	**PP**		**22 54 09.8**	**+4.3**
GYA				PKS	**PKSdf**		**22 54 55.3**	**-0.9**
GYA				SKKS			23 00 59.8	
GYA				SS	**SS**		**23 12 14.4**	**+2.8**
GYA				AMB	AMB			
	comp=Z,120nm,7.8s								
GYA				LR	LR				
	comp=N,220nm,20.9s								
GYA				LR	LR				
	comp=E,150nm,21.9s								
GYA				LR	LR				
	comp=Z,250nm,20.5s								
CN2	**Changchun**	**138.05**	**284**	*e*PKP	**PKPdf**		**22 51 23.6**	**+3.3**
CN2				*e*PP	PP		22 54 15.8	+6.2
CN2				AMB	AMB				
	comp=Z,200nm,8.0s								
CN2				LR	LR				
	comp=N,500nm,20.0s								
CN2				LR	LR				
	comp=E,600nm,20.0s								
CN2				LR	LR				
	comp=Z,600nm,22.0s								
CD2	**Chengdu**	**142.42**	**251**	PKP	**PKPdf**		**22 51 29.1**	**+0.3**
CD2				PP	**PP**		**22 54 40.0**	**+3.6**
CD2				PKS	**PKSdf**		**22 55 03.4**	**-1.2**
CD2				SKS	**SKSdf**		**22 58 36.3**	**-0.8**
CD2				SKKS	**SKKSac**		**23 01 28.8**	**+1.0**
CD2				SS	**SS**		**23 13 12.9**	**+2.4**
CD2				AMB	AMB				
	comp=Z,120nm,5.6s								
MVIF	**Mont Vial**	**143.51**	**82**	*e*P	PKPbc		22 51 27.2	-0.6
TOUF	**Mont Tournerai**	**143.63**	**82**	*e*P	PKPab		22 51 25.3	-2.0
SAOF	**Saorge**	**143.80**	**82**	*e*P	PKPab		22 51 25.6	-2.1
SHL	**Shillong**	**144.39**	**231**	*e*P	**PKPdf**		**22 51 32.8**	**+0.3**
HHC	**Hu-ho-hao-te**	**144.57**	**270**	*e*PKP	PKPbc		22 51 31.3	+0.2
HHC				PP	**PP**		**22 54 51.5**	**+2.0**
HHC				PKS	**PKSdf**		**22 55 05.8**	**-2.1**
HHC				SKS	**SKSdf**		**22 58 38.8**	**-1.2**
HHC				SKKS	**SKKSac**		**23 01 41.3**	**+1.5**
HHC				SS	**SS**		**23 13 38.3**	**+2.7**
HHC				AMB	AMB				
	comp=Z,57nm,7.1s								
HHC				LR	LR				
	comp=N,95nm,17.8s								
HHC				LR	LR				
	comp=E,740nm,15.7s								
HHC				LR	LR				
	comp=Z,180nm,17.1s								
SENIN	**Lac Senin/Sane**	**144.94**	**79**	*e*PKPdf	**PKPdf**		**22 51 32.6**	**-0.3**
THEF	**They Montfort**	**145.11**	**75**	*e*P	**PKPbc**		**22 51 32.1**	**-0.3**
LOMF	**Lomont**	**145.17**	**77**	*e*P	**PKPbc**		**22 51 32.3**	**-0.4**
DOU	**Dourbes**	**145.20**	**71**	PKhKP	**PKPbc**		**22 51 32.4**	**-0.3**
DOU	**Dourbes**	**145.20**	**71**	PKP	**PKPdf**		**22 51 36.6**	**+3.7**
CEL	**Celeste**	**145.34**	**97**	*e*PKPdf	**PKPbc**		**22 51 33.0**	**-0.5**
BTO	**Baotou**	**145.35**	**269**	*e*PKPbc	**PKPbc**		**22 51 33.0**	**-0.6**
MOF	**Molkenrain**	**145.60**	**76**	*e*P	**PKPdf**		**22 51 33.6**	**-0.2**
ECH	**Echery**	**145.79**	**76**	*e*PKPdf	**PKPdf**		**22 51 33.9**	**-0.1**
WLF	**Walferdange**	**145.90**	**73**	PKP	**PKPab**		**22 51 35.4**	**0.0**
WLF	**Walferdange**	**145.90**	**73**	*e*PKPbc	**PKPab**		**22 51 35.0**	**-0.3**
WLF	**Walferdange**	**145.90**	**73**	*e*PKPdf	**PKPdf**		**22 51 34.3**	**+0.1**
LZH	**Lanzhou**	**146.10**	**257**	*e*PKPbc	**PKPbc**		**22 51 36.3**	**+0.2**
LZH				pPKP	**pPKPdf**		**22 51 42.3**	**-0.4**
LZH				PP	**PP**		**22 54 58.3**	**-0.3**
LZH				PKS	**PKSdf**		**22 55 09.3**	**-1.4**
LZH				SKS	**SKSdf**		**22 58 37.5**	**-5.1**
LZH				SS	**SS**		**23 13 52.3**	**-0.8**
LZH				AMB	AMB				
	comp=Z,200nm,4.9s								
LZH				LR	LR				
	comp=N,350nm,18.2s								
LZH				LR	LR				
	comp=E,320nm,17.0s								
LZH				LR	LR				
	comp=Z,430nm,19.5s								
TUE	**Stuetta**	**146.20**	**80**	*e*PKPdf	**PKPdf**		**22 51 35.4**	**+0.4**
MEM	**Membach**	**146.24**	**71**	PKP	**PKPbc**		**22 51 36.0**	**+0.1**
CUC	**Castrocucco**	**146.40**	**94**	*e*PKPdf	**PKPdf**		**22 51 35.6**	**+0.2**
TIP	**Timpagrande**	**146.45**	**96**	*e*PKPdf	**PKPdf**		**22 51 35.3**	**-0.2**
BFO	**Black Forest**	**146.53**	**76**	*e*PKPbc	**PKPbc**		**22 51 36.1**	**-0.7**
BFO	**Black Forest**	**146.53**	**76**	*e*PKPdf	**PKPbc**		**22 51 36.7**	**-0.1**
LANF	**Langenberg**	**146.53**	**75**	*e*P	**PKPbc**		**22 51 36.9**	**+0.1**
FUORN	**Ofenpass-Fuorn**	**146.82**	**80**	*e*PKPab	**PKPbc**		**22 51 38.0**	**0.0**
DAVA	**Damuels**	**146.93**	**79**	⇑*i*PKPbc	**PKPbc**		**22 51 37.7**	**-0.4**
	comp=Z,29nm,1.8s,SNR=7.4								
STU	**Stuttgart**	**147.25**	**76**	*e*PKPbc	**PKPbc**		**22 51 38.7**	**-0.1**
STU	**Stuttgart**	**147.25**	**76**	*e*PKPab	**PKPbc**		**22 51 39.2**	**+0.4**
FETA	**Feichten**	**147.30**	**80**	⇓*i*PKPbc	**PKPbc**		**22 51 38.6**	**-0.6**
	comp=Z,27nm,1.1s,SNR=8.6								
BUG	**Bochum--Univer**	**147.32**	**71**	*e*PKPbc	**PKPbc**		**22 51 38.8**	**-0.1**
TNS	**Taunus Mts**	**147.47**	**73**	*e*PKPbc	**PKPbc**		**22 51 39.4**	**0.0**
ODAN	**Odare**	**147.53**	**226**	*e*P	**PKPbc**		**22 51 40.3**	**-0.2**
	comp=Z,104nm,1.0s								
RETA	**Reutte**	**147.55**	**79**	⇑*i*PKPbc	**PKPbc**		**22 51 39.3**	**-0.5**
	comp=Z,28nm,1.6s,SNR=12								
TAPN	**Taplejung**	**147.81**	**227**	*e*P	**PKPbc**		**22 51 41.2**	**-0.2**
	comp=Z,121nm,1.3s								
RAYN	**Ar Rayn**	**147.94**	**151**	*e*PKPab	**PKPbc**		**22 51 42.3**	**+0.8**
RAMN	**Ramite**	**147.95**	**225**	*e*P	**PKPbc**		**22 51 41.4**	**-0.3**
	comp=Z,99nm,1.0s								
IBBN	**Ibbenburen**	**147.95**	**69**	*e*PKPbc	**PKPbc**		**22 51 40.6**	**0.0**
WATA	**Walderalm**	**147.96**	**80**	⇑*i*PKPbc	**PKPbc**		**22 51 40.4**	**-0.5**
	comp=Z,3.8nm,0.7s								
WTTA	**Wattenberg**	**147.96**	**80**	*i* PKPbc	**PKPbc**		**22 51 40.8**	**-0.3**
	comp=Z,39nm,1.9s,SNR=9.7								
FUR	**Furstenfeldbru**	**148.18**	**78**	*e*PKPbc	**PKPbc**		**22 51 41.0**	**-0.4**
LSA	**Lhasa**	**148.20**	**234**	PKPbc	**PKPdf**		**22 51 37.8**	**-1.5**
LSA	**Lhasa**	**148.20**	**234**	*e*PKPdf	**PKPdf**		**22 51 39.1**	**-0.2**
ABTA	**Abfaltersbach**	**148.22**	**81**	⇑*i*pPKPdf	**PKPbc**		**22 51 41.1**	**-0.5**
	comp=Z,39nm,1.9s,SNR=17								
TRI	**Trieste**	**148.44**	**84**	*e*PKPdf	**PKPbc**		**22 51 41.0**	**-1.1**
UBBA	**Unterbreizbach**	**148.62**	**73**	*e*PKPbc	**PKPbc**		**22 51 42.7**	**+0.5**
VOY	**Vojsko**	**148.69**	**84**	*e*PKPbc	**PKPbc**		**22 51 42.8**	**0.0**
VOY				*e*			22 51 47.9		
CADS	**Cadrg**	**148.69**	**83**	*e*PKPbc	**PKPbc**		**22 51 42.5**	**-0.3**
KNDS	**Knezji Dol**	**148.72**	**85**	*i* PKPbc	**PKPbc**		**22 51 42.6**	**-0.3**
JIRN	**Jiri**	**148.74**	**225**	*e*P	**PKPbc**		**22 51 43.4**	**-0.5**
	comp=Z,41nm,0.8s								
MYKA	**Terra Mystica**	**148.84**	**82**	⇑*i*pPKPdf	**PKPbc**		**22 51 42.9**	**-0.2**
	comp=Z,13nm,0.8s								
GRFO	**Grafenberg**	**148.85**	**76**	*e*PKPdf	**PKPdf**		**22 51 39.4**	**+0.4**
GRF	**Grafenberg Arr**	**148.85**	**76**	*e*PKPbc	**PKPbc**		**22 51 43.6**	**+0.6**
GRF				*e*L	L		23 55 51.3		
	comp=Z,73nm,19.3s								
RJOB	**Jochberg**	**148.88**	**80**	*e*PKPbc	**PKPbc**		**22 51 42.7**	**-0.5**
KBA	**Koelnbreinsper**	**148.88**	**81**	⇑*i*pPKPdf	**PKPbc**		**22 51 42.3**	**-1.1**
	comp=Z,23nm,1.6s,SNR=7.5								
PKI	**Pulchoki**	**149.00**	**224**	*e*P	**PKPbc**		**22 51 43.8**	**-0.7**
	comp=Z,309nm,1.7s								
PKIN	**Phulchoki**	**149.00**	**224**	*e*P	**PKPbc**		**22 51 44.1**	**-0.3**
	comp=Z,16nm,0.8s								
LJU	**Ljubljana**	**149.07**	**84**	*i* PKPbc	**PKPbc**		**22 51 43.6**	**-0.1**
GUN	**Gumba**	**149.09**	**225**	*e*P	**PKPbc**		**22 51 44.2**	**-0.6**
	comp=Z,106nm,1.0s								
DMN	**Daman**	**149.15**	**223**	*e*P	**PKPbc**		**22 51 44.3**	**-0.5**
	comp=Z,348nm,1.6s								
BOJS	**Bojanci**	**149.23**	**85**	*i* PKPbc	**PKPbc**		**22 51 44.1**	**+0.1**
KKN	**Kakani**	**149.24**	**224**	*e*P	**PKPbc**		**22 51 44.2**	**-0.8**
	comp=Z,277nm,1.6s								
CLZ	**Clausthal**	**149.25**	**71**	*e*PKPbc	**PKPbc**		**22 51 44.2**	**+0.2**
OBKA	**Obir**	**149.32**	**83**	⇑*i*pPKPdf	**PKPbc**		**22 51 44.2**	**-0.2**
	comp=Z,24nm,1.0s,SNR=20								
NRDL	**Niedersach Rie**	**149.35**	**70**	*e*PKPbc	**PKPbc**		**22 51 44.4**	**+0.4**
ROTZ	**Rotzenmuhle**	**149.46**	**76**	*e*PKPbc	**PKPbc**		**22 51 44.4**	**-0.1**
MOX	**Moxa**	**149.48**	**74**	*e*PKPbc	**PKPbc**		**22 51 44.6**	**0.0**
MOX				*e*L	L		23 51 52.0		
	comp=Z,150nm,20.5s								
WET	**Wettzell**	**149.57**	**78**	*e*PKPbc	**PKPbc**		**22 51 44.6**	**-0.3**
SOKA	**Soboth**	**149.69**	**83**	⇑*i*pPKPdf	**PKPbc**		**22 51 45.0**	**-0.3**
	comp=Z,23nm,1.6s								
PERS	**Pernice**	**149.72**	**83**	*i* PKPbc	**PKPbc**		**22 51 45.1**	**-0.3**
KBN	**Korca**	**149.77**	**98**	*e*PN	**PKPbc**		**22 51 46.8**	**+1.1**
MOA	**Molln**	**149.80**	**81**	⇑*i*pPKPdf	**PKPbc**		**22 51 45.0**	**-0.5**
	comp=Z,46nm,1.7s,SNR=18								
TANN	**Tannenbergstha**	**149.88**	**75**	*e*PKPbc	**PKPbc**		**22 51 45.7**	**+0.1**
KOLN	**Koldanda**	**149.91**	**221**	*e*P	**PKPbc**		**22 51 45.6**	**-1.0**
	comp=Z,131nm,1.5s								
GEC2	**GERESS Array S**	**149.93**	**79**	*e*PKPbc	**PKPbc**		**22 51 45.4**	**-0.5**
GEC2	**GERESS Array S**	**149.93**	**79**	*e*PKPdf	**PKPbc**		**22 51 45.9**	**+0.1**
GERES	**GERESS Array B**	**149.93**	**79**	PKPbc	**PKPbc**		**22 51 45.3**	**-0.5**
GERES	**GERESS Array B**	**149.93**	**79**	PKPbc	**PKPbc**		**22 51 45.3**	**-0.5**
	comp=Z,8.2nm,0.8s,baz=222,slow=1.8,SNR=68								
KHC	**Kasperske Hory**	**149.98**	**78**	⇑*i*PKP	**PKPbc**		**22 51 45.7**	**-0.2**
KHC				*ex*	x		22 51 59.1		
KHC				AMS	AMS		23 54 10.0		
	comp=Z,100nm,14.0s								
KHC	**Kasperske Hory**	**149.98**	**78**	*e*PKPdf	**PKPdf**		**22 51 42.0**	**+1.1**
KHC				*e*PKPbc	**PKPbc**		**22 51 46.0**	**+0.1**
BSEG	**Bad Segeberg**	**149.99**	**68**	*e*PKPbc	**PKPbc**		**22 51 45.7**	**+0.1**
PUK	**Puka**	**150.09**	**95**	*e*PN	**PKPbc**		**22 51 44.8**	**-1.6**
PHP	**Peshkopia**	**150.21**	**96**	*e*PN	**PKPbc**		**22 51 46.7**	**0.0**
ARSA	**Arzberg**	**150.27**	**83**	⇑*is*PKPdf	**PKPbc**		**22 51 46.4**	**-0.2**
	comp=Z,32nm,1.6s,SNR=12								
DANN	**Dangsing**	**150.36**	**222**	*e*P	**PKPbc**		**22 51 46.8**	**-1.0**
	comp=Z,175nm,1.1s								
BCI	**Bajram Curri**	**150.39**	**94**	*e*PN	**PKPbc**		**22 51 46.8**	**-0.3**
PYUN	**Piuthan**	**150.44**	**220**	*e*P	**PKPbc**		**22 51 46.8**	**-1.1**
	comp=Z,185nm,1.2s								
CLL	**Collm**	**150.55**	**74**	*e*PKPdf	**PKPdf**		**22 51 44.0**	**+2.3**
CLL				⇑*i*PKPbc	**PKiKP**		**22 51 47.4**	**-0.4**
	comp=Z,34nm,1.0s								
CLL				*i* PKiKP	PKPbc		**22 51 49.0**	**+1.9**
CLL				*i* PKPab	**PKPab**		**22 51 55.0**	**+1.0**
	comp=Z,28nm,1.2s								
CLL				*e*			22 52 01.0		
CLL				Lm	MLR		23 52 00.0		
	comp=Z,100nm,22.0s								
GTA	**Gaotai**	**150.69**	**257**	PKPbc	**PKPbc**		**22 51 47.6**	**-0.4**
GTA				AMB	AMB				
	comp=Z,51nm,4.5s								
GTA				LR	LR				
	comp=N,99nm,18.5s								
GTA				LR	LR				
	comp=E,160nm,19.9s								
GTA				LR	LR				
	comp=Z,140nm,20.4s								
CONA	**Conrad Observa**	**150.79**	**82**	⇑*is*PKPdf	**PKPbc**		**22 51 47.1**	**-0.8**
	comp=Z,33nm,1.7s,SNR=14								
PRA	**Prague**	**150.89**	**77**	⇑PKP	**PKPbc**		**22 51 48.0**	**+0.1**
PRA				AMS	AMS		23 58 00.0		
PRU	**Pruhonice**	**150.92**	**77**	⇑*i*PKP	**PKPbc**		**22 51 48.0**	**0.0**
PRU				*ex*	x		22 52 02.6		
PRU				AMS	AMS		23 57 50.0		
	comp=Z,100nm,17.6s								
BRG	**Berggiesshubel**	**150.93**	**75**	*e*PKP	**PKPbc**		**22 51 48.3**	**+0.3**
	comp=Z,66nm,1.7s								
ULN	**Ulaanbaatar**	**151.09**	**278**	*e*PKPbc	**PKPbc**		**22 51 48.0**	**-0.7**
PVCC	**Panska Ves**	**151.16**	**76**	⇑*i*PKP	**PKPbc**		**22 51 48.7**	**+0.2**
TREC	**Trest**	**151.18**	**79**	⇑*i*PKP	**PKPbc**		**22 51 48.6**	**-0.1**
TREC				*e*PKP	**PKPab**		**22 52 01.6**	**+4.9**
SONM	**Songino Array**	**151.47**	**278**	PKPbc	**PKPbc**		**22 51 48.7**	**-0.8**
SONM				PKPab	**PKPab**		**22 51 56.4**	**-1.7**
SONM	**Songino Array**	**151.47**	**278**	PKPbc	**PKPbc**		**22 51 48.7**	**-0.8**
	comp=Z,6.4nm,0.7s,baz=126,slow=2.3,SNR=50								
SONM				PKPab	**PKPab**		**22 51 56.4**	**-1.7**
	comp=Z,6.2nm,0.7s,baz=120,slow=2.2,SNR=13								
SMOL	**Smolenice**	**151.99**	**81**	*e*PKP	**PKPbc**		**22 51 50.8**	**+0.3**
UPC	**Upice**	**151.99**	**77**	⇑*i*PKP	**PKPbc**		**22 51 50.8**	**+0.3**
UPC				*e*PKPAB	**PKPab**		**22 51 59.9**	**-0.1**
NB2	**NORSAR Subarra**	**152.10**	**53**	PKPdf	**PKPbc**		**22 51 49.5**	**-0.9**
	comp=Z,7.4nm,1.1s,baz=270,slow=1.9								
NB2	**NORSAR Subarra**	**152.10**	**53**	PKPdf	**PKPbc**		**22 51 49.5**	**-0.9**
	baz=270,slow=1.9								
NOA	**NORSAR Array B**	**152.10**	**53**	PKPbc	**PKPbc**		**22 51 49.6**	**-0.8**
NOA	**NORSAR Array B**	**152.10**	**53**	PKPbc	**PKPbc**		**22 51 49.6**	**-0.8**
	comp=Z,4.4nm,0.8s,baz=267,slow=2.1,SNR=19								
DPC	**Dobruska-Polom**	**152.11**	**77**	⇑*i*PKP	**PKPbc**		**22 51 51.3**	**+0.5**
DPC				*e*PKPAB	**PKPab**		**22 51 59.0**	**-1.6**
KRLC	**Kraliky**	**152.27**	**78**	⇑*i*PKP	**PKPbc**		**22 51 51.4**	**+0.2**
KSP	**Ksiaz**	**152.29**	**76**	*e*PKP	**PKPbc**		**22 51 51.2**	**+0.1**
MORC	**Moravsky Berou**	**152.60**	**79**	*e*PKPdf	**PKPdf**		**22 51 45.5**	**+0.6**
MORC				*e*PKPbc	**PKPbc**		**22 51 51.8**	**-0.1**
VYHS	**Vyhne**	**152.82**	**82**	*e*PKP	**PKPdf**		**22 51 44.7**	**-0.5**
VYHS				*e*			22 51 52.3		
OKC	**Ostrava-Krasne**	**152.98**	**79**	⇑*i*PKP	**PKPbc**		**22 51 52.7**	**0.0**
GKP	**Gorka Klasztor**	**153.68**	**72**	*e*PKP	**PKPdf**		**22 51 47.1**	**+0.9**
KOLS	**Kolonicke sedl**	**155.06**	**82**	*e*PKP	PKPdf		22 51 59.6	+11
KWP	**Kalwaria Pacla**	**155.61**	**82**	*e*PKPdf	**PKPdf**		**22 51 49.2**	**+0.1**
KWP	**Kalwaria Pacla**	**155.61**	**82**	*e*PKP	**PKPdf**		**22 51 48.6**	**-0.5**
BR131	**Keskin Array S**	**156.62**	**114**	*e*PKPab	**PKPab**		**22 52 20.4**	**+0.2**
BRTR	**Keskin Array B**	**156.62**	**114**	PKP	**PKPdf**		**22 51 51.4**	**+0.4**
BRTR				PKPab	**PKPab**		**22 52 20.6**	**+0.4**
BRTR	**Keskin Array B**	**156.62**	**114**	PKP	**PKPdf**		**22 51 51.4**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=163,slow=1.3,SNR=6.9								
BRTR				PKPab	**PKPab**		**22 52 20.6**	**+0.4**
	comp=Z,4.5nm,0.8s,baz=188,slow=5.7,SNR=16								
SUW	**Suwalki**	**157.28**	**72**	*e*PKP	**PKPdf**		**22 51 50.5**	**-0.6**
KIEV	**Kiev**	**159.89**	**84**	*e*PKPdf	**PKPdf**		**22 51 53.3**	**-1.0**
WMQ	**Urumqi**	**160.52**	**252**	PKP	**PKPdf**		**22 51 55.6**	**+0.2**
WMQ				LR	LR				
	comp=N,130nm,22.4s								
WMQ				LR	LR				
	comp=E,120nm,26.0s								
WMQ				LR	LR				
	comp=Z,160nm,26.0s								
KBL	**Kabul**	**160.67**	**199**	*e*PKPab	**PKPab**		**22 52 37.8**	**-0.1**
KSH	**Kashi**	**163.23**	**221**	PKP	**PKPdf**		**22 51 58.0**	**-0.4**
KSH				PP	**PP**		**22 56 35.9**	**+1.9**
KSH				SKS	**SKSdf**		**22 59 00.5**	**-0.9**
KSH				SKKS	**SKKSac**		**23 03 20.4**	**0.0**
KSH				SS	**SS**		**23 16 57.1**	**-0.9**
KSH				LR	LR				
	comp=N,47nm,4.5s								
KSH				LR	LR				
	comp=E,82nm,5.6s								
KBZ	**Khabaz**	**164.38**	**120**	PKP	**PKPdf**		**22 52 00.8**	**+1.8**
KBZ	**Khabaz**	**164.38**	**120**	PKP	**PKPdf**		**22 52 00.8**	**+1.8**
	comp=E,2.0nm,0.8s,baz=301,slow=1.4,SNR=3.8								
MKAR	**Makanchi Array**	**165.35**	**252**	PKP	**PKPdf**		**22 52 00.7**	**+0.8**
MKAR				PKPab	**PKPab**		**22 52 56.8**	**-1.2**
MKAR				*e*PKPab	PKPab		22 52 57.1	-0.9
MKAR				PP	**PP**		**22 56 43.5**	**-1.9**
MKAR	**Makanchi Array**	**165.35**	**252**	PKP	**PKPdf**		**22 52 00.7**	**+0.8**
	comp=E,0.3nm,0.8s,baz=45,slow=0.8,SNR=2.4								
MKAR				PKPab	**PKPab**		**22 52 56.8**	**-1.2**
	comp=E,5.7nm,0.9s,baz=122,slow=5.9,SNR=33								
MKAR				PP	**PP**		**22 56 43.5**	**-1.9**
	comp=E,2.1nm,1.0s,baz=131,slow=5.9,SNR=10								
ZALV	**Zalesovo Beam**	**166.26**	**283**	PKPab	**PKPab**		**22 53 00.6**	**-1.2**
ZALV	**Zalesovo Beam**	**166.26**	**283**	PKPab	**PKPab**		**22 53 00.6**	**-1.2**
	comp=E,9.5nm,1.1s,baz=113,slow=3.8,SNR=20								
KKAR	**Karatay Array**	**168.36**	**214**	*e*PKPab	**PKPab**		**22 53 09.9**	**-1.4**
ABKAR	**Akbulak array**	**175.93**	**163**	*e*PKPdf	**PKPdf**		**22 52 04.2**	**-1.3**

IDC ***13*** *22:38:07.9±1.2,22.°72S×176.°15W, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.0/21, mbtmp4.1/7, ML4.2/1, Error ellipse: s-maj=36.3km s-min=26.7km az=178.0*

ISCJB ***13*** *22:38:14.2±0.7,22.°80S±0.°08×175.°98W±0.°09, h71km, mb4.1/8, Error ellipse: s-maj=14.1km s-min=8.7km az=138.1*

NEIC ***13*** *22:38:19.6±1.3,22.°92S×176.°25W, h91km±10km, mb4.3/5, Error ellipse: s-maj=15.6km s-min=9.2km az=65.0*

ISC 13 22:38:17.2±1.0, 22.°9S±0.°1×176.°2W±0.°1, h71km, n28, σ0s74/25, mb4.3/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**6.57**	**194**	Pn	**Pn**	**22 39 52.5**	**+1.3**
MSVF	**Nonsavu**	**7.46**	**312**	*e*Pn	Pn	22 40 05.8	+2.3
	22nm,0.8s						
MSVF				*e*Sn	**Sn**	**22 41 28.0**	**+1.4**
AFI	**Afiamalu**	**9.82**	**26**	Sn	Sn	22 42 06.3	-18
	1.6nm,0.3s,baz=60,slow=20,SNR=2.9						
RAR	**Rarotonga**	**15.28**	**87**	*e*Pn	Pn	22 41 44.0	-4.8
DZM	**Mont Dzumac**	**16.11**	**269**	*e*Pn	P	22 42 07.5	+5.9
URZ	**Urewera**	**16.41**	**199**	*e*P	**Pn**	**22 42 02.6**	**-0.4**
URZ				Sn	Sn	22 44 51.0	-13
URZ	**Urewera**	**16.41**	**199**	Pn	**Pn**	**22 42 02.5**	**-0.4**
	1.0nm,0.3s,baz=76,slow=8.3,SNR=3.3						
URZ				Sn	Sn	22 44 49.5	-15
	0.9nm,0.3s,baz=223,slow=18,SNR=3.0						
CTA	**Charters Tower**	**35.03**	**267**	P	**P**	**22 45 03.0**	**-0.4**
CTA	**Charters Tower**	**35.03**	**267**	P	**P**	**22 45 03.0**	**-0.4**
	4.1nm,0.4s,baz=99,slow=10,SNR=7.7						
CTAO	**Charters Tower**	**35.03**	**267**	*e*P	**P**	**22 45 02.6**	**-0.8**
	4.4nm,0.4s						
STKA	**Stephens Creek**	**38.39**	**247**	*e*P	**P**	**22 45 31.8**	**0.0**
	4.4nm,1.5s						
STKA	**Stephens Creek**	**38.39**	**247**	P	**P**	**22 45 31.9**	**+0.1**
	4.7nm,1.1s,baz=97,slow=8.1,SNR=4.7						
ASAR	**Alice Springs**	**45.70**	**259**	P	**P**	**22 46 31.1**	**-0.4**
ASAR	**Alice Springs**	**45.70**	**259**	P	**P**	**22 46 31.1**	**-0.4**
	1.0nm,0.4s,baz=96,slow=7.3,SNR=11						
WRAB	**Tennant Creek**	**46.01**	**264**	*e*P	**P**	**22 46 33.0**	**-0.9**
	3.4nm,0.7s						
WRA	**Warramunga Arr**	**46.02**	**264**	P	**P**	**22 46 32.9**	**-1.1**
WRA	**Warramunga Arr**	**46.02**	**264**	P	**P**	**22 46 32.9**	**-1.1**
	1.2nm,0.3s,baz=101,slow=8.3,SNR=48						
FITZ	**Fitzroy Crossi**	**54.45**	**264**	*e*P	**P**	**22 47 38.1**	**+0.4**
	3.4nm,0.8s						
VNDA	**Vanda**	**55.74**	**186**	P	**P**	**22 47 45.2**	**-0.9**
MBWA	**Marble Bar**	**59.04**	**258**	*e*P	**P**	**22 48 09.8**	**-0.4**
QSPA	**South Pole Qui**	**67.23**	**180**	*e*P	**P**	**22 49 04.8**	**+0.9**
	0.9nm,0.7s						
QSPA	**South Pole Qui**	**67.23**	**180**	P	**P**	**22 49 04.8**	**+0.9**
	1.1nm,0.8s,baz=346,slow=4.2,SNR=5.9						
NVAR	**Mina Array Bea**	**81.58**	**42**	P	**P**	**22 50 27.8**	**+0.2**

2.4nm,1.1s
CPUP Villa Florida 52.31 85 LR LR 23 46 02.4
comp=Z,90nm,18.6s,baz=80,slow=33
LPAZ La Paz 53.74 67 *e*P **P 23 27 01.3 -0.3**
4.2nm,1.1s
LPAZ La Paz 53.74 67 P **P 23 27 01.8 +0.1**
2.6nm,1.1s,baz=187,slow=5.6,SNR=5.3
LPAZ LR LR 23 44 06.3
comp=Z,72nm,18.1s,baz=130,slow=30
SIV San Ignacio 58.00 73 P **P 23 27 30.2 -1.3**
SIV San Ignacio 58.00 73 P **P 23 27 30.2 -1.3**
2.1nm,0.9s,baz=222,slow=8.5,SNR=6.7
CTAO Charters Tower 77.20 254 *e*P **P 23 29 32.3 -0.4**
ASAR Alice Springs 81.30 242 P **P 23 29 54.5 -0.6**
ASAR Alice Springs 81.30 242 P **P 23 29 54.5 -0.6**
2.2nm,0.9s,baz=136,slow=3.8,SNR=12
WRA Warramunga Arr 84.07 245 P **P 23 30 08.8 -0.8**
WRA Warramunga Arr 84.07 245 P **P 23 30 08.8 -0.8**
4.2nm,1.0s,baz=141,slow=4.9,SNR=15
WRAB Tennant Creek 84.07 245 *e*P **P 23 30 09.3 -0.3**
3.1nm,0.8s
PFO Pinyon Flat Ob 86.12 2 LR LR 23 59 22.5
comp=Z,68nm,19.2s,baz=6.9,slow=29
GERES GERESS Array B 150.13 78 PKPbc **PKPbc 23 37 28.2 -0.5**
GERES PKPab **PKPab 23 37 36.4 +1.6**
GERES GERESS Array B 150.13 78 PKPbc **PKPbc 23 37 28.2 -0.5**
1.2nm,0.7s,baz=215,slow=1.6,SNR=14
GERES PKPab **PKPab 23 37 36.4 +1.6**
2.3nm,1.2s,baz=208,slow=2.6,SNR=3.9
CLL Collm 150.73 73 *i* PKPbc **PKPbc 23 37 30.0 +0.1**
comp=Z,6.0nm,0.8s
SONM Songino Array 151.15 278 PKPbc **PKPbc 23 37 31.3 +0.1**
SONM Songino Array 151.15 278 PKPbc **PKPbc 23 37 31.3 +0.1**
comp=Z,1.2nm,0.7s,baz=113,slow=2.7,SNR=8.6
NOA NORSAR Array B 152.13 53 PKPbc **PKPbc 23 37 32.5 -0.4**
NOA NORSAR Array B 152.13 53 PKPbc **PKPbc 23 37 32.5 -0.4**
comp=Z,1.2nm,0.8s,baz=268,slow=2.0,SNR=4.7
MKAR Makanchi Array 165.18 254 PKPab **PKPab 23 38 40.0 +0.4**
MKAR Makanchi Array 165.18 254 PKPab **PKPab 23 38 40.0 +0.4**
comp=Z,1.4nm,0.9s,baz=126,slow=4.7,SNR=10
ZALV Zalesovo Beam 165.93 284 PKPab **PKPab 23 38 43.8 +1.2**
ZALV Zalesovo Beam 165.93 284 PKPab **PKPab 23 38 43.8 +1.2**
comp=Z,1.1nm,0.8s,baz=94,slow=4.5,SNR=5.9

JMA ***13*** *23:24:18.8±0.3, 32.51N×137.49E, h408km, M3.0*
IDC ***13*** *23:24:18.7±89.0, 32.46N×137.54E, h408km±341km, mb2.8/2, mb1 2.9/3, mb1mx2.6/26, mbtmp2.9/3, Error ellipse: s-maj=1145.0km s-min=280.7km az=106.0*
ISC 13 23:24:18.3±2.5, 32.5N±0.2×137.6E±0.1, h394km, n14, σ1§80/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**1.89**	**303**	P		**Pn**	**23 25 14.4**	**+1.4**
JKN2	**Miekihoku**	**2.05**	**327**	P		**Pn**	**23 25 16.0**	**+2.1**
JAI	**Aioi**	**2.94**	**297**	P		**Pn**	**23 25 21.8**	**+1.3**
JWT	**Wachi**	**3.32**	**327**	P		**Pn**	**23 25 25.1**	**+1.5**
JWT					*e*S	**S**	**23 26 16.6**	**0.0**
JMN	**Monobe**	**3.36**	**292**	P		**Pn**	**23 25 25.4**	**+1.3**
JRY	**Ryogami san**	**3.65**	**17**	P		**Pn**	**23 25 29.7**	**+3.0**
MAT	**Matsushiro**	**4.05**	**7**	P		**Pn**	**23 25 32.3**	**+1.9**
MAT	**Matsushiro**	**4.05**	**7**	P		**Pn**	**23 25 32.8**	**+2.4**
JTO	**Tosashimizu**	**4.07**	**276**	P		**Pn**	**23 25 31.6**	**+0.9**
JAG	**Ashikaga**	**4.19**	**21**	P		**Pn**	**23 25 33.0**	**+1.3**
JAG					*e*S	**S**	**23 26 29.7**	**-1.6**
JHO	**Hitachi**	**4.76**	**30**	P		**Pn**	**23 25 38.6**	**+1.2**
JHO					*e*S	**S**	**23 26 39.3**	**-2.4**
KSRS	**Korea Array**	**9.35**	**304**	P		**P**	**23 26 29.1**	**+0.4**
0.4nm,0.3s,baz=125,slow=11,SNR=6.8								
SONM	**Songino Array**	**28.10**	**312**	P		**P**	**23 29 34.7**	**-1.1**
0.8nm,0.8s,baz=110,slow=8.1,SNR=4.1								
MKAR	**Makanchi Array**	**44.03**	**306**	P		**P**	**23 31 47.9**	**-0.9**
0.8nm,0.7s,baz=94,slow=9.8,SNR=8.3								

CNRM ***14*** *00:56:54.7, 32.19N×4.24W, h0km, MD3.5*
MDD ***14*** *00:56:54.3±0.8, 32.20N×4.25W, h0km±7km, mb4.0/5, Error ellipse: s-maj=10.1km s-min=4.6km az=106.0, PRXIMO*
CSEM ***14*** *00:56:55.6±0.5, 32.35N×4.34W, h10km, ML3.2/6, Error ellipse: s-maj=10.3km s-min=5.8km az=128.0*
INMG ***14*** *00:56:57.4±1.1, 32.08N×4.74W, h31km, ML2.6, Error ellipse: s-maj=10.4km s-min=7.0km az=61.0*
LDG ***14*** *00:56:57.9±0.8, 32.61N×4.78W, h2km, Ml3.3/4, Error ellipse: s-maj=15.0km s-min=12.1km az=6.0*
ISC 14 00:56:53.9±1.2, 32.27N±0.04×4.30W±0.05, h11km±9km, n83, σ1§74/133, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZFT	**Errachidia**	**0.24**	**190**	P		Pg	00 56 57.0	-2.0
ZFT				S		**Sg**	**00 57 01.0**	**-1.5**
ZFT	**Errachidia**	**0.24**	**190**	*i* P		Pg	00 56 57.0	-2.0
ZFT				*i* S		**Sg**	**00 57 01.0**	**-1.5**
CZD	**Col de Zad**	**0.98**	**321**	P		**Pn**	**00 57 14.0**	**+0.2**
CZD				S		**Sn**	**00 57 29.0**	**+1.1**
CZD	**Col de Zad**	**0.98**	**321**	*i* P		**Pn**	**00 57 14.0**	**+0.2**
CZD				*i* S		**Sn**	**00 57 29.0**	**+1.1**
MIF	**Mishlifen**	**1.38**	**326**	P		**Pb**	**00 57 20.0**	**+0.2**
MIF				S		**Sg**	**00 57 39.0**	**+0.7**
MIF	**Mishlifen**	**1.38**	**326**	*i* P		**Pb**	**00 57 20.0**	**+0.2**
MIF				*i* S		**Sg**	**00 57 39.0**	**+0.7**
KIB	**El Ksiba**	**1.50**	**282**	P		**Pg**	**00 57 23.0**	**+0.3**
KIB				S		**Sg**	**00 57 43.0**	**+0.8**
KIB	**El Ksiba**	**1.50**	**282**	*i* P		**Pg**	**00 57 23.0**	**+0.3**
KIB				*i* S		**Sg**	**00 57 43.0**	**+0.8**
TZK	**Tazeka**	**1.81**	**3**	P		**Pb**	**00 57 27.5**	**+0.3**
TZK				S		**Sb**	**00 57 51.0**	**+0.9**
TZK	**Tazeka**	**1.81**	**3**	*i* P		**Pb**	**00 57 27.5**	**+0.3**
TZK				*i* S		**Sb**	**00 57 51.0**	**+0.9**
TZC	**Tazercounte**	**1.86**	**267**	P		**Pn**	**00 57 27.0**	**+1.2**
TZC				S		**Sb**	**00 57 51.0**	**-0.2**
TZC	**Tazercounte**	**1.86**	**267**	*e*P		**Pn**	**00 57 27.0**	**+1.2**
TZC				*i* S		**Sb**	**00 57 51.0**	**-0.2**
TGT	**Taghat**	**1.90**	**341**	P		**Pb**	**00 57 28.0**	**-0.6**
TGT				S		**Sb**	**00 57 52.5**	**+0.1**
TGT	**Taghat**	**1.90**	**341**	*e*P		**Pb**	**00 57 28.0**	**-0.6**
TGT				*i* S		**Sb**	**00 57 52.5**	**+0.1**
OUK	**Oukaimeden**	**3.22**	**252**	P		**Pn**	**00 57 46.0**	**+1.4**
OUK				S		**Sn**	**00 58 22.0**	**-1.1**
OUK	**Oukaimeden**	**3.22**	**252**	*e*P		**Pn**	**00 57 46.0**	**+1.4**
OUK				*i* S		**Sn**	**00 58 22.0**	**-1.1**
ECEU	**Ceuta**	**3.73**	**346**	P		**Pn**	**00 57 54.4**	**+3.1**
1.3nm,0.3s,SNR=4.0								
ECEU	**Ceuta**	**3.73**	**346**	P		**Pn**	**00 57 54.4**	**+3.1**
1.3nm,0.3s,SNR=4.0								
CIA	**Chichaoua**	**3.85**	**261**	P		**Pn**	**00 57 55.0**	**+1.9**
CIA				S		**Sn**	**00 58 39.0**	**+0.6**
CIA	**Chichaoua**	**3.85**	**261**	*e*P		**Pn**	**00 57 55.0**	**+1.9**
CIA				*i* S		**Sn**	**00 58 39.0**	**+0.6**
EBER	**Berja**	**4.76**	**14**	P		Pn	00 58 10.5	+4.8
3.6nm,0.6s,SNR=4.0								
EBER	**Berja**	**4.76**	**14**	P		Pn	00 58 10.5	+4.8
3.6nm,0.6s,SNR=4.0								
ESPR	**Espera**	**4.76**	**345**	P		**Pn**	**00 58 08.2**	**+2.7**
1.0nm,0.2s,SNR=7.9								
ESPR				S		**Sn**	**00 59 00.9**	**+0.2**
2.4nm,0.2s,SNR=7.9								
ESPR	**Espera**	**4.76**	**345**	P		**Pn**	**00 58 08.2**	**+2.7**
1.0nm,0.2s,SNR=7.9								
ESPR				S		**Sn**	**00 59 00.9**	**+0.2**
2.4nm,0.2s,SNR=7.9								
EQES	**Quesada**	**5.61**	**10**	P		Pn	00 58 21.0	+3.7
0.5nm,0.3s,SNR=7.9								
EQES				S		**Sn**	**00 59 25.8**	**+4.0**
0.3nm,0.2s,SNR=7.9								
PBDV	**Barranco-do-Ve**	**5.79**	**330**	*e*Pn		**Pn**	**00 58 20.3**	**+0.6**
PBDV				*e*Sn		**Sn**	**00 59 23.9**	**-2.1**
PBDV				A		A	00 59 29.6	
3.9nm,0.5s								
PBDV	**Barranco-do-Ve**	**5.79**	**330**	*e*Pn		**Pn**	**00 58 20.3**	**+0.6**
PBDV				*e*Sn		**Sn**	**00 59 23.9**	**-2.1**
3.9nm,0.5s								
EMIN	**Mina Concepcio**	**5.82**	**341**	P		**Pn**	**00 58 19.9**	**-0.1**
0.6nm,0.1s,SNR=6.8								
EMIN				S		**Sn**	**00 59 25.7**	**-1.0**
0.4nm,0.2s,SNR=7.9								
EMIN	**Mina Concepcio**	**5.82**	**341**	P		**Pn**	**00 58 19.9**	**-0.1**
0.6nm,0.1s,SNR=6.8								
EMIN				S		**Sn**	**00 59 25.7**	**-1.0**
0.4nm,0.2s,SNR=7.9								
PVAQ	**Vaqueiros**	**5.84**	**332**	*e*Pn		**Pn**	**00 58 20.9**	**+0.6**
PVAQ				*e*Sn		**Sn**	**00 59 24.3**	**-2.9**
PVAQ				A		A	00 59 26.5	
5.9nm,0.3s								
PVAQ	**Vaqueiros**	**5.84**	**332**	*e*Pn		**Pn**	**00 58 20.9**	**+0.6**
PVAQ				*e*Sn		**Sn**	**00 59 24.3**	**-2.9**
5.9nm,0.3s								
EGRO	**El Granado**	**5.86**	**334**	P		**Pn**	**00 58 21.1**	**+0.4**
5.1nm,0.3s,SNR=6.5								
EGRO				S		**Sn**	**00 59 24.4**	**-3.4**
1.6nm,0.2s,SNR=4.5								
EGRO	**El Granado**	**5.86**	**334**	P		**Pn**	**00 58 21.1**	**+0.4**
5.1nm,0.3s,SNR=6.5								
EGRO				S		**Sn**	**00 59 24.4**	**-3.4**
1.6nm,0.2s,SNR=4.5								
EADA	**Adamuz**	**5.89**	**358**	P		**Pn**	**00 58 22.6**	**+1.6**
0.9nm,0.3s,SNR=7.9								
EADA				S		**Sn**	**00 59 29.0**	**+0.5**
1.5nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**5.89**	**358**	P		**Pn**	**00 58 22.6**	**+1.6**
0.9nm,0.3s,SNR=7.9								
EADA				S		**Sn**	**00 59 29.0**	**+0.5**
1.5nm,0.2s,SNR=7.9								
PFVI	**Vila Bisbo**	**6.12**	**324**	*e*Pn		**Pn**	**00 58 25.1**	**+0.9**
PFVI				A		A	00 59 42.7	
7.5nm,0.6s								
PFVI	**Vila Bisbo**	**6.12**	**324**	P		**Pn**	**00 58 25.0**	**+0.9**
2.5nm,0.1s,SNR=6.0								
PFVI				S		**Sn**	**00 59 31.2**	**-2.8**
1.3nm,0.2s,SNR=7.9								
PFVI	**Vila Bisbo**	**6.12**	**324**	P		**Pn**	**00 58 25.0**	**+0.9**
2.5nm,0.1s,SNR=6.0								
PFVI				S		**Sn**	**00 59 31.2**	**-2.8**
1.3nm,0.2s,SNR=7.9								
PCVE	**Castro Verde**	**6.17**	**331**	*e*Pn		**Pn**	**00 58 25.6**	**+0.8**
PCVE				*e*Sn		**Sn**	**00 59 32.7**	**-2.6**
PCVE				A		A	00 59 42.9	
3.3nm,0.6s								
PCVE	**Castro Verde**	**6.17**	**331**	*e*Pn		**Pn**	**00 58 25.6**	**+0.8**
PCVE				*e*Sn		**Sn**	**00 59 32.7**	**-2.6**
3.3nm,0.6s								
PBAR	**Barrancos**	**6.30**	**340**	*e*Pn		**Pn**	**00 58 27.0**	**+0.3**
PBAR				*e*Sn		**Sn**	**00 59 36.7**	**-1.9**
PBAR				A		A	00 59 42.7	
3.0nm,0.3s								
PBAR	**Barrancos**	**6.30**	**340**	*e*Pn		**Pn**	**00 58 27.0**	**+0.3**
PBAR				*e*Sn		**Sn**	**00 59 36.7**	**-1.9**
3.0nm,0.3s								
PTEO	**Sao Teotonio**	**6.39**	**327**	*e*Pn		**Pn**	**00 58 28.8**	**+0.9**
PTEO				*e*Sn		**Sn**	**00 59 39.4**	**-1.5**
PTEO				A		A	00 59 48.5	
6.7nm,0.6s								
PTEO	**Sao Teotonio**	**6.39**	**327**	*e*Pn		**Pn**	**00 58 28.8**	**+0.9**
PTEO				*e*Sn		**Sn**	**00 59 39.4**	**-1.5**
6.7nm,0.6s								
PBEJ	**Beja**	**6.44**	**334**	*e*Pn		**Pn**	**00 58 30.1**	**+1.5**
PBEJ				*e*Sn		**Sn**	**00 59 40.0**	**-2.1**
PBEJ				A		A	00 59 50.8	
2.4nm,0.8s								
PBEJ	**Beja**	**6.44**	**334**	*e*Pn		**Pn**	**00 58 30.1**	**+1.5**
PBEJ				*e*Sn		**Sn**	**00 59 40.0**	**-2.1**
2.4nm,0.8s								
ETOB	**Tobarra**	**6.74**	**19**	P		Pn	00 58 37.4	+4.6
0.6nm,0.2s,SNR=7.9								
PNCL	**Nicolau / Gran**	**6.78**	**330**	*e*Pn		**Pn**	**00 58 34.5**	**+1.3**
PNCL				*e*Sn		**Sn**	**00 59 47.2**	**-3.1**
PNCL				A		A	00 59 50.1	
2.8nm,0.4s								
PNCL	**Nicolau / Gran**	**6.78**	**330**	*e*Pn		**Pn**	**00 58 34.5**	**+1.3**
PNCL				*e*Sn		**Sn**	**00 59 47.2**	**-3.1**
2.8nm,0.4s								
EBAD	**Badajoz**	**6.84**	**342**	P		**Pn**	**00 58 34.6**	**+0.6**
0.9nm,0.1s,SNR=9.7								
EBAD				S		**Sn**	**00 59 47.7**	**-4.1**
0.9nm,0.2s,SNR=6.6								
EBAD	**Badajoz**	**6.84**	**342**	P		**Pn**	**00 58 34.6**	**+0.6**
0.9nm,0.1s,SNR=9.7								
EBAD				S		**Sn**	**00 59 47.7**	**-4.1**
0.9nm,0.2s,SNR=6.6								
EVO	**Evora**	**6.94**	**335**	*e*Pn		**Pn**	**00 58 35.3**	**-0.2**
EVO				*e*Sn		Sn	00 59 42.7	-12
5.7nm,0.4s								
EVO	**Evora**	**6.94**	**335**	*e*Pn		**Pn**	**00 58 36.1**	**+0.6**
EVO				*e*Sn		**Sn**	**00 59 51.3**	**-3.1**
EVO				A		A	00 59 55.6	
3.5nm,0.1s								
EVO	**Evora**	**6.94**	**335**	*e*Pn		**Pn**	**00 58 36.1**	**+0.6**
EVO				*e*Sn		**Sn**	**00 59 51.3**	**-3.1**
3.5nm,0.1s								
EVOP	**Sao Brissos**	**6.98**	**335**	*e*Pn		**Pn**	**00 58 35.3**	**-0.6**
MOE	**Montemor**	**7.06**	**333**	*e*Sn		**Sn**	**00 59 55.3**	**-2.0**
MOE	**Montemor**	**7.06**	**333**	*e*Sn		**Sn**	**00 59 55.3**	**-2.0**
PESTR	**Estremoz**	**7.11**	**339**	*e*Pn		**Pn**	**00 58 38.6**	**+0.9**
PESTR				*e*Sn		**Sn**	**00 59 56.3**	**-2.1**
PESTR				A		A	00 59 57.2	
2.0nm,0.3s								
PESTR	**Estremoz**	**7.11**	**339**	*e*Pn		**Pn**	**00 58 38.6**	**+0.9**
PESTR				*e*Sn		**Sn**	**00 59 56.3**	**-2.1**
2.0nm,0.3s								
PMTG	**Montargil**	**7.50**	**336**	*e*Pn		**Pn**	**00 58 43.9**	**+0.8**
PMTG				*e*Sn		**Sn**	**01 00 05.5**	**-2.5**
PMTG	**Montargil**	**7.50**	**336**	*e*Pn		**Pn**	**00 58 43.9**	**+0.8**
PMTG				*e*Sn		**Sn**	**01 00 05.5**	**-2.5**
PMRV	**Marv??o**	**7.57**	**342**	*e*Pn		**Pn**	**00 58 45.0**	**+0.9**
PMRV				*e*Sn		**Sn**	**01 00 07.2**	**-2.6**
PMRV				A		A	01 00 12.3	
2.2nm,0.5s								
PMRV	**Marv??o**	**7.57**	**342**	*e*Pn		**Pn**	**00 58 45.0**	**+0.9**
PMRV				*e*Sn		**Sn**	**01 00 07.2**	**-2.6**
2.2nm,0.5s								
PMAFR	**Mafra**	**7.80**	**330**	*e*Pn		**Pn**	**00 58 49.1**	**+1.8**
PMAFR				A		A	01 00 31.4	
10nm,0.8s								
PMAFR	**Mafra**	**7.80**	**330**	*e*Pn		**Pn**	**00 58 49.1**	**+1.8**
10nm,0.8s								
PCBR	**Castelo Branco**	**7.98**	**342**	*e*Pn		**Pn**	**00 58 50.8**	**+1.1**
PCBR				*e*Sn		**Sn**	**01 00 16.6**	**-3.3**
PCBR				A		A	01 00 29.5	
1.7nm,0.7s								
PCBR	**Castelo Branco**	**7.98**	**342**	*e*Pn		**Pn**	**00 58 50.8**	**+1.1**
PCBR				*e*Sn		**Sn**	**01 00 16.6**	**-3.3**
1.7nm,0.7s								
PTOM	**Tomar**	**8.05**	**337**	*e*Pn		**Pn**	**00 58 51.3**	**+0.6**
PTOM	**Tomar**	**8.05**	**337**	*e*Pn		**Pn**	**00 58 51.3**	**+0.6**
PVIS	**Viseu**	**8.91**	**342**	*e*Pn		**Pn**	**00 59 03.3**	**+0.8**
PVIS	**Viseu**	**8.91**	**342**	*e*Pn		**Pn**	**00 59 03.3**	**+0.8**
MVO	**Moncorvo**	**9.14**	**347**	*e*Pn		**Pn**	**00 59 06.7**	**+1.0**
MVO	**Moncorvo**	**9.14**	**347**	P		**Pn**	**00 59 06.3**	**+0.6**
0.9nm,0.1s,SNR=7.8								
MVO				S		**Sn**	**01 00 43.1**	**-5.5**
0.4nm,0.2s,SNR=7.9								
MVO	**Moncorvo**	**9.14**	**347**	P		**Pn**	**00 59 06.3**	**+0.6**
0.9nm,0.1s,SNR=7.8								
MVO	**Moncorvo**	**9.14**	**347**	*e*Pn		**Pn**	**00 59 06.7**	**+1.0**
POLO	**Lamas de Olo**	**9.51**	**344**	*e*Pn		**Pn**	**00 59 11.7**	**+1.0**
POLO	**Lamas de Olo**	**9.51**	**344**	*e*Pn		**Pn**	**00 59 11.7**	**+1.0**
ETSF	**Etsaut**	**11.01**	**15**	*e*Pn		**Pn**	**00 59 31.2**	**-0.2**
ETSF				*e*Sn		Sn	01 01 24.9	-10
2.3nm,0.8s								
ETSF	**Etsaut**	**11.01**	**15**	*e*Pn		**Pn**	**00 59 31.2**	**-0.2**
SJPF	**Ste Jean**	**11.09**	**12**	*e*Pn		**Pn**	**00 59 31.9**	**-0.5**
SJPF				*e*Sn		Sn	01 01 25.9	-10
2.4nm,0.7s								
SJPF	**Ste Jean**	**11.09**	**12**	*e*Pn		**Pn**	**00 59 31.9**	**-0.5**
EPF	**Esparros**	**11.35**	**18**	*e*Pn		**Pn**	**00 59 35.5**	**-0.4**
EPF				*e*Sn		Sn	01 01 33.2	-10
0.3nm,0.3s								
EPF	**Esparros**	**11.35**	**18**	*e*Pn		**Pn**	**00 59 35.5**	**-0.4**

ISCJB ***14*** *01:00:45.5±0.3, 27.41N±0.07×126.44E±0.07, h199km±6km, mb3.7/9, Error ellipse: s-maj=14.4km s-min=4.3km az=136.3*
JMA ***14*** *01:00:46.4±0.3, 27.61N×126.26E, h182km, M4.3*
IDC ***14*** *01:00:50.7±3.1, 27.59N×126.53E, h237km±35km, mb3.5/9, mb1 3.5/12, mb1mx3.3/28, mbtmp3.5/12, Error ellipse: s-maj=40.1km s-min=13.8km az=69.0*
ISC 14 01:00:46.3±0.7, 27.45N±0.09×126.42E±0.08, h197km±10km, n30, σ1§45/44, mb3.7/9, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**1.13**	**139**	P		**Pn**	**01 01 17.5**	**+0.8**
JAGN				S		**S**	**01 01 39.9**	**-0.3**

JKE	**Kume jima 2**	**1.17**	**164**	P		**Pn**	**01 01 17.7**	**+0.7**
JKE					*e*S	**S**	**01 01 40.9**	**+0.1**
JIH	**Iheya**	**1.44**	**107**	P		**Pn**	**01 01 20.1**	**+0.9**
JIH					*e*S	**S**	**01 01 43.2**	**-1.4**
JOW	**Kunigami**	**1.76**	**110**	P		**Pn**	**01 01 23.0**	**+0.8**
JOW					*e*S	**S**	**01 01 48.4**	**-1.7**
JJT2	**Tamagusuku 2**	**1.77**	**138**	P		**Pn**	**01 01 24.2**	**+1.9**
JTK	**Tokunoshima**	**2.27**	**81**	P		**Pn**	**01 01 27.5**	**+0.1**
JTK					*e*S	**S**	**01 01 56.8**	**-2.6**
JAMN	**Amaminishikomi**	**2.56**	**71**	P		**Pn**	**01 01 30.6**	**-0.1**
JAMN					*e*S	**S**	**01 02 02.4**	**-2.9**
JMJ	**Miyako jima 2**	**2.82**	**201**	P		**Pn**	**01 01 34.3**	**+0.6**
JMJ					*e*S	**S**	**01 02 09.5**	**-1.1**
JOGS	**Gusukube**	**2.83**	**199**	P		**Pn**	**01 01 34.8**	**+0.9**
JOGS					*e*S	**S**	**01 02 10.6**	**-0.4**
JAM	**Amami Oshima**	**2.97**	**71**	P		**Pn**	**01 01 36.0**	**+0.6**
JAM					*e*S	**S**	**01 02 11.9**	**-1.9**
JTJ	**Tarama**	**3.20**	**209**	P		**Pn**	**01 01 38.3**	**+0.1**
JTJ					*e*S	**S**	**01 02 16.3**	**-2.5**
JZK	**Kikaishima**	**3.26**	**74**	P		**Pn**	**01 01 37.4**	**-1.4**
JZK					*e*S	**S**	**01 02 18.3**	**-1.6**
JIJ	**Ishigaki jima**	**3.70**	**214**	P		**Pn**	**01 01 43.6**	**-0.7**
JIJ					*e*S	**S**	**01 02 26.2**	**-3.5**
JKRS	**Kuro-shima**	**3.87**	**215**	P		**Pn**	**01 01 45.9**	**-0.5**
JKRS					*e*S	**S**	**01 02 30.9**	**-2.6**
IRIF	**Iriomote-Funau**	**3.94**	**219**	P		**Pn**	**01 01 46.7**	**-0.5**
IRIF					*e*S	**S**	**01 02 32.4**	**-2.6**
YOJ	**Yonaguni jima**	**4.28**	**227**	P		**Pn**	**01 01 51.9**	**+0.4**
JSJ	**Shimokoshiki**	**5.09**	**33**	P		**Pn**	**01 02 03.7**	**+1.9**
JTN	**Tanegashima 3**	**5.11**	**50**	P		**Pn**	**01 02 02.3**	**+0.3**
JNU	**Nakatsue**	**6.84**	**33**	P		**Pn**	**01 02 26.4**	**+2.0**
2.2nm,0.3s,baz=222,slow=6.7,SNR=5.2								
KSRS	**Korea Array**	**10.05**	**7**	P		**Pn**	**01 03 07.8**	**+1.7**
0.4nm,0.3s,baz=182,slow=13,SNR=11								
MJAR	**Matsushiro Arr**	**13.49**	**45**	P		**P**	**01 03 52.2**	**-0.3**
0.6nm,0.3s,baz=231,slow=8.7,SNR=4.3								
SONM	**Songino Array**	**25.66**	**328**	P		**P**	**01 05 58.8**	**+0.9**
8.0nm,0.6s,baz=142,slow=10.0,SNR=40								
MKAR	**Makanchi Array**	**39.52**	**311**	P		**P**	**01 07 58.1**	**+0.3**
5.5nm,0.5s,baz=98,slow=11,SNR=73								
MKAR				PcP		**PcP**	**01 10 01.1**	**-0.2**
0.3nm,0.5s,baz=94,slow=4.3,SNR=3.5								
ZALV	**Zalesovo Beam**	**40.30**	**323**	P		**P**	**01 08 04.5**	**+0.5**
6.9nm,0.4s,baz=114,slow=8.6,SNR=41								
FITZ	**Fitzroy Crossi**	**45.29**	**181**	P		P	01 08 46.2	+1.7
1.6nm,0.5s,baz=4.5,slow=13,SNR=5.6								
WRA	**Warramunga Arr**	**47.74**	**170**	P		**P**	**01 09 04.7**	**+1.2**
0.4nm,0.8s,baz=353,slow=9.3,SNR=2.9								
ARCES	**ARCESS Array B**	**68.28**	**338**	P		**P**	**01 11 24.9**	**-0.6**
0.9nm,0.9s,baz=37,slow=6.2,SNR=4.2								
FINES	**FINESS Array B**	**71.00**	**330**	P		**P**	**01 11 41.8**	**-0.4**
0.7nm,0.4s,baz=65,slow=6.2,SNR=9.6								
BRTR	**Keskin Array B**	**75.01**	**307**	P		**P**	**01 12 06.2**	**-0.2**
0.7nm,0.8s,baz=64,slow=6.6,SNR=3.6								
NOA	**NORSAR Array B**	**77.50**	**333**	P		**P**	**01 12 19.6**	**-0.3**
0.4nm,0.4s,baz=53,slow=5.9,SNR=4.4								

CSEM ***14*** *01:16:04.6±0.3, 36.53N×25.29E, h2km, ML2.1/1, Error ellipse: s-maj=13.5km s-min=3.4km az=100.0*
THE ***14*** *01:16:04.8, 36.54N×25.34E, h8km±5km, ML2.1/1, Error ellipse: s-maj=6.0km s-min=0.9km az=155.0*
ATH ***14*** *01:16:04.6, 36.54N×25.32E, h12km±9km, MD3.0/4*
ISC 14 01:16:04.7±1.1, 36.54N±0.02×25.29E±0.09, h7km±9km, n22, σ1§61/40, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
THR5	**Thira Island,**	**0.13**	**160**	P		**Pg**	**01 16 07.9**	**+0.4**
THR5				S		**Sg**	**01 16 09.4**	**0.0**
THR5	**Thira Island,**	**0.13**	**160**	P		**Pg**	**01 16 07.9**	**+0.4**
THR5				S		**Sg**	**01 16 09.4**	**0.0**
THR2	**Thira island,**	**0.15**	**129**	P		**Pg**	**01 16 07.9**	**+0.1**
THR2				S		**Sg**	**01 16 09.8**	**-0.1**
THR2	**Thira island,**	**0.15**	**129**	P		**Pg**	**01 16 07.9**	**+0.1**
THR2				S		**Sg**	**01 16 09.8**

2.1nm,0.8s,baz=225,slow=1.5,SNR=14
CLL Collm 150.68 73 i/P **PKPbc 01 40 55.0 +2.2**
comp=Z,10.0nm,1.0s
SONM Songino Array 151.04 279 PKPbc **PKPbc 01 40 54.9 +0.9**
comp=Z,0.7nm,0.3s,baz=117,slow=1.8,SNR=4.9
BRG Berggiesshubel 151.07 74 eP **PKPbc 01 40 55.8 +2.1**
comp=Z,7.2nm,1.2s
NB2 NORSAR Subarra151.96 52 PKPdf **PKPbc 01 40 57.2 +1.6**
comp=Z,2.4nm,1.1s,baz=270,slow=1.9
NOA NORSAR Array B151.96 52 PKPbc **PKPbc 01 40 57.6 +2.1**
comp=Z,0.5nm,0.6s,baz=272,slow=2.2,SNR=4.9
BRTR Keskin Array B 157.19 113 PKPab **PKPab 01 41 27.5 -0.5**
comp=Z,1.4nm,0.8s,baz=224,slow=5.8,SNR=8.1
MKAR Makanchi Array 165.21 256 PKPab **PKPab 01 42 01.5 -1.3**
comp=Z,0.5nm,0.8s,baz=141,slow=4.1,SNR=4.2

IDC 14 01:44:57.0±1.8, 15°28S×176°50W, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.9/19, mbtmp3.8/6, MS3.7/9, Ms1 3.7/9, ms1mx3.3/20, Error ellipse: s-maj=113.0km s-min=22.4km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.50**	**245**	eLR	LR	01 53 05.8	
	184nm,25.4s						
URZ	**Urewera**	**23.57**	**193**	LR	LR	01 58 09.9	
	comp=Z,281nm,19.1s,baz=298,slow=34						
PPT2	**Papeete2**	**25.92**	**99**	eLQ	LQ	01 55 46.2	
	338nm,28.0s						
PPT2				eLR	LR	01 56 59.4	
	49nm,24.5s						
TBI	**Tubuai**	**26.71**	**112**	eLQ	LQ	01 56 10.8	
	245nm,30.5s						
TBI				eLR	LR	01 57 20.3	
	89nm,25.5s						
WRA	**Warramunga Arr**	**46.96**	**257**	P	P	01 53 29.9	-0.2
	0.9nm,0.9s,baz=96,slow=6.8,SNR=4.2						
ASAR	**Alice Springs**	**47.30**	**252**	P	P	01 53 32.2	-0.5
	2.1nm,0.7s,baz=84,slow=8.3,SNR=14						
VNDA	**Vanda**	**63.20**	**185**	LR	LR	02 15 27.3	
	comp=Z,50nm,21.1s,baz=319,slow=29						
MJAR	**Matsushiro Arr**	**66.95**	**322**	LR	LR	02 18 44.2	
	comp=Z,48nm,21.6s,baz=145,slow=30						
PETK	**Petropavlovsk-**	**71.65**	**344**	LR	LR	02 26 27.8	
	comp=Z,46nm,18.0s,baz=329,slow=35						
KSRS	**Korea Array**	**74.01**	**317**	LR	LR	02 25 20.4	
	comp=Z,26nm,18.4s,baz=58,slow=33						
USRK	**Ussuriysk Arra**	**75.52**	**324**	LR	LR	02 25 44.5	
	comp=Z,66nm,21.8s,baz=43,slow=32						
NVAR	**Mina Array Bea**	**76.27**	**43**	P	P	01 56 46.1	-1.9
	0.3nm,0.4s,baz=238,slow=8.4,SNR=4.0						
DIB	**Dawson Inlet,**	**77.98**	**25**	T	T	03 22 17.6	
	SNR=9.0						
ILAR	**Eielson Array**	**82.94**	**12**	P	P	01 57 23.4	0.0
	1.1nm,1.0s,baz=227,slow=6.5,SNR=8.3						
TXAR	**Lajitas Array**	**83.05**	**57**	P	P	01 57 26.1	+1.2
	0.2nm,0.9s,baz=232,slow=10,SNR=2.6						
TXAR				LR	LR	02 26 23.5	
	comp=Z,33nm,18.6s,baz=180,slow=30						
PDAR	**Pinedale Array**	**84.19**	**43**	P	P	01 57 31.1	+0.4
	1.2nm,1.0s,baz=242,slow=3.2,SNR=7.0						
CMAR	**Chiang Mai Arr**	**89.75**	**289**	LR	LR	02 33 28.5	
	comp=Z,28nm,20.4s,baz=155,slow=32						
ULM	**Lac du Bonnet**	**95.73**	**40**	LR	LR	02 40 19.1	
	comp=Z,26nm,18.6s,baz=103,slow=35						
GERES	**GERESS Array B**	**145.50**	**348**	PKPbc	PKPab	02 04 38.1	+0.5
	0.4nm,0.7s,baz=38,slow=3.7,SNR=3.2						

NEIC 14 02:22:38.2, 35°73N×117°62W, h10km, ML3.8(PAS), **After PAS., Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	**Laurel Mountai**	**0.26**	**192**	P	Pg	02 22 43.1	-0.5
	baz=0.3						
LRMC				S	Sg	02 22 47.0	-0.3
	baz=0.3						
MPMC	**Manual Prospec**	**0.35**	**18**	P	Pg	02 22 44.5	-1.0
	baz=0.3						
MPMC				S	Sg	02 22 49.8	-0.6
	baz=0.3						
ISA	**Isabella**	**0.70**	**265**	ePg	Pg	02 22 51.0	-0.8
ISA				eSg	Sg	02 23 00.2	-0.9
ISA	**Isabella**	**0.70**	**265**	P	Pg	02 22 50.9	-0.9
	baz=0.7						
ISA				S	Sg	02 23 00.3	-0.7
	baz=0.7						
GSC	**Goldstone**	**0.79**	**122**	ePg	Pg	02 22 52.8	-0.8
GSC				eS	Sg	02 23 03.9	-0.1
GSC	**Goldstone**	**0.79**	**122**	P	Pg	02 22 52.8	-0.8
	baz=0.8						
GSC				S	Sg	02 23 03.4	-0.6
	baz=0.8						
CWC	**Cottonwood Cre**	**0.80**	**333**	P	Pg	02 22 53.2	-0.8
	baz=0.8						
CWC				S	Sg	02 23 03.6	-1.0
	baz=0.8						
EDW2	**Edwards Air Fo**	**0.90**	**200**	P	Pg	02 22 54.3	-1.3
	baz=0.9						
FURC	**Furnace Creek,**	**0.96**	**40**	P	Pg	02 22 56.3	-0.4
	baz=1.0						
FURC				S	Sg	02 23 08.7	-0.6
	baz=1.0						
RRX	**Edison Barstow**	**0.99**	**149**	P	Pg	02 22 56.7	-0.6
	baz=1.0						
RRX				S	Sg	02 23 09.8	-0.4
	baz=1.0						
SHOC	**Shoshone**	**1.10**	**81**	P	Pb	02 22 58.1	-1.4
	baz=1.1						
ARVC	**Arvin**	**1.15**	**239**	P	Pb	02 22 58.9	-1.4
	baz=1.2						
VES	**Vestal, Richgr**	**1.20**	**276**	Pg	Pb	02 23 00.1	-0.9
	baz=1.2						
VES				S	Sb	02 23 15.5	-1.0
	baz=1.2						
GRAC	**Grapevine Rang**	**1.29**	**9**	Pg	Pn	02 23 01.7	-0.6
	baz=1.3						
HEC	**Hector,Ludlow**	**1.39**	**130**	Pn	Pn	02 23 02.2	-1.5
	baz=1.4						
HEC				Sb	Sb	02 23 21.4	-0.7
	baz=1.4						
TIN	**Tinemaha**	**1.41**	**340**	Pb	Pn	02 23 03.7	-0.5
	baz=1.4						
TIN				Sb	Sn	02 23 22.2	-0.7
	baz=1.4						
TUQ	**Turquoise Moun**	**1.41**	**101**	Pn	Pn	02 23 02.4	-1.8
	baz=1.4						
OSI	**Osito Adit**	**1.43**	**219**	ePn	Pb	02 23 05.0	0.0
OSI				eS	Sg	02 23 24.3	-0.1
RCTC	**Rector, Farmer**	**1.44**	**294**	Pb	Pn	02 23 03.9	-0.4
	baz=1.4						
RCTC				Sb	Sn	02 23 22.8	-0.3
	baz=1.4						
MWC	**Mount Wilson**	**1.54**	**194**	ePn	Pn	02 23 05.7	-0.4
MWC				ePg	Pb	02 23 07.1	0.0
MWC				eS	Sg	02 23 27.7	-0.6
DECC	**Green Verdugo**	**1.58**	**202**	Pg	Pb	02 23 07.8	+0.2
	baz=1.6						
DECC				Sb	Sb	02 23 28.1	+0.4
	baz=1.6						
PASC	**Pasadena Art C**	**1.62**	**197**	ePn	Pn	02 23 07.2	+0.4
PASC				eS	Sb	02 23 29.3	+0.6
GMRC	**Granite Mounta**	**1.86**	**120**	Pn	Pn	02 23 08.1	-2.3
	baz=1.9						
GMRC				Sb	Sb	02 23 35.7	-0.3
	baz=1.9						
LDFC	**Landfair**	**2.15**	**107**	ePn	Pn	02 23 11.8	-2.5
LDFC				eS	Sb	02 23 45.2	+0.8
BELC	**Belle Mtn. Jos**	**2.18**	**142**	Pn	Pn	02 23 13.3	-1.4
	baz=2.2						
PFO	**Pinyon Flat Ob**	**2.32**	**155**	ePn	Pn	02 23 15.5	-1.2
PFO				ePg	Pb	02 23 21.0	+0.6
PFO				eS	Sg	02 23 52.2	-0.9
PFO	**Pinyon Flat Ob**	**2.32**	**155**	Pn	Pn	02 23 15.4	-1.3
	baz=2.3						
IRM	**Iron Mountain**	**2.56**	**127**	Pn	Pn	02 23 17.8	-2.0
	baz=2.6						
NEE2	**Needles Airpor**	**2.64**	**110**	Pn	Pn	02 23 19.0	-1.8
	baz=2.6						
BC3	**Big Chuckawall**	**2.73**	**139**	Pn	Pn	02 23 20.4	-1.9
	baz=2.7						
NV11	**Mina Array Sit**	**2.73**	**351**	ePn	Pn	02 23 22.1	-0.2
NV11				ePg	Pg	02 23 29.3	-1.5
W13A	**Hualapai Mount**	**3.12**	**101**	Pn	Pn	02 23 26.4	-1.3
	baz=3.1						
CMB	**Columbia Colle**	**3.20**	**317**	ePn	Pb	02 23 32.4	-2.8
CMB				eS	Sb	02 24 13.9	-0.4
Y12C	**Blythe**	**3.22**	**127**	Pn	Pn	02 23 26.8	-2.1
	baz=3.2						
SAO	**San Andreas Ge**	**3.26**	**290**	ePn	Pn	02 23 31.8	+2.4
GLA	**Glamis**	**3.53**	**138**	ePn	Pn	02 23 31.0	-2.2
GLA				ePg	Pg	02 23 44.3	-1.7
CCUT	**Cedar City**	**3.88**	**61**	ePn	Pn	02 23 38.5	+0.2
CCUT				ePg	Pb	02 23 49.8	+2.8
ARUT	**Antelope Range**	**3.94**	**57**	ePn	Pn	02 23 39.2	+0.3
ARUT				ePg	Pg	02 23 51.3	-2.7
ARUT				eS	Sg	02 24 43.9	-1.3
BEKR	**Beckworth**	**4.67**	**333**	ePn	Pn	02 23 50.1	+1.1
BEKR				ePg	Pb	02 24 02.8	+2.4
BEKR				eS	Sg	02 25 05.2	-3.3
BMN	**Battle Mountai**	**4.71**	**4**	ePn	Pn	02 23 50.1	+0.6
BMN				ePg	Pg	02 24 06.2	-2.5
BMN				eS	Sg	02 25 08.6	-1.2
WUAZ	**Wupatki**	**5.09**	**91**	ePn	Pn	02 23 55.0	+0.2
	35nm,0.6s						
WUAZ				ePg	Pg	02 24 12.4	-3.7
WUAZ				eS	Sg	02 25 17.8	-4.4
MVU	**Marysvale**	**5.13**	**56**	ePn	Pn	02 23 56.7	+1.2
	20nm,0.7s						
MVU				ePg	Pg	02 24 14.5	-2.5
MVU				eS	Sg	02 25 17.2	-6.5
MSU	**Marysvale**	**5.16**	**56**	ePn	Pn	02 23 55.9	+0.1
	13nm,0.6s						
MSU				ePg	Pg	02 24 15.7	-1.7
MSU				eS	Sg	02 25 18.6	-5.9
ELK	**Elko**	**5.35**	**20**	ePn	Pn	02 23 58.8	+0.3
	8.6nm,0.8s						
ELK				ePg	Pg	02 24 18.2	-2.8
ELK				eS	Sg	02 25 24.4	-6.2
DUG	**Dugway**	**5.86**	**39**	ePn	Pn	02 24 04.3	-1.0
	14nm,1.0s						
DUG				ePg	Pg	02 24 30.1	-0.6
DUG				eS	Sg	02 25 40.8	-5.9
TMUT	**Trail Mountain**	**6.22**	**53**	Pn	Pn	02 24 13.4	+3.0
TMUT				ePg	Pg	02 24 35.9	-1.9
TMUT				eS	Sb	02 25 48.0	+6.2
SRU	**San Rafael**	**6.58**	**57**	Pn	Pn	02 24 15.0	-0.3
	5.2nm,0.5s						
SRU				ePg	Pg	02 24 42.3	-2.2
TUC	**Tucson**	**6.62**	**119**	ePn	Pn	02 24 14.2	-1.6
	2.7nm,0.8s						
TUC				eS	Sg	02 26 03.6	-7.4
WVOR	**Wild Horse Val**	**6.74**	**354**	ePn	Pn	02 24 13.0	-4.4
	5.6nm,1.0s						
WVOR				ePg	Pg	02 24 45.4	-2.2
WVOR				eS	Sg	02 26 08.1	-6.9
MVCO	**Mesa Verde**	**7.50**	**76**	Pn	Pn	02 24 26.4	-1.6
	17nm,0.7s						
MVCO				ePg	Pg	02 24 58.2	-4.0

IDC 14 02:30:55.5±4.4, 16°26S×179°41W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/19, mbtmp4.2/3, Error ellipse: s-maj=188.6km s-min=45.3km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.62**	**239**	P	P	02 38 20.8	+0.1
	0.8nm,0.5s,baz=87,slow=9.1,SNR=3.9						
WRA	**Warramunga Arr**	**44.02**	**258**	P	P	02 39 05.0	-0.2
	0.5nm,0.3s,baz=86,slow=6.9,SNR=38						
ASAR	**Alice Springs**	**44.34**	**253**	P	P	02 39 07.6	-0.2
	6.1nm,0.5s,baz=86,slow=8.4,SNR=86						
GERES	**GERESS Array B**	**145.78**	**345**	PKPbc	PKPdf	02 50 35.9	-0.4
	0.1nm,0.4s,baz=51,slow=3.9,SNR=3.1						

*TAP **14** 02:35:45.6, 24°.55N×122°.62E, h97km, ML3.7, C*
*ISCJB **14** 02:35:46.2±0.6, 24°.47N±0°.04×122°.66E±0°.02, h80km±7km, Error ellipse: s-maj=6.5km s-min=3.2km az=175.8*
*JMA **14** 02:35:46.2±0.1, 24°.79N×122°.75E, h81km, M2.4*

ISC 14 02:35:46.8±1.6, 24°45N±0°.05×122°66E±0°.03, h79km±12km, n38, σ0s72/72, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.32**	**88**	P	**Pn**	**02 35 59.3**	**+0.3**
YOJ				eS	**Sn**	**02 36 09.1**	**+1.0**
TWC	**Suao**	**0.75**	**282**	P	**Pn**	**02 36 02.5**	**-0.4**
	baz=279						
TWC				S	**Sn**	**02 36 14.6**	**-0.2**
	baz=279						
ENA	**Nanau**	**0.83**	**268**	P	**Pn**	**02 36 03.8**	**0.0**
	baz=257						
ENA				eS	**Sn**	**02 36 17.1**	**+0.7**
	baz=257						
TWE	**Neicheng**	**0.94**	**287**	P	**Pn**	**02 36 04.8**	**-0.1**
	baz=281						
TWE				eS	**Sn**	**02 36 18.3**	**-0.3**
	baz=281						
IRIF	**Iriomote-Funau**	**0.99**	**97**	P	**Pn**	**02 36 05.4**	**-0.1**
IRIF				eS	**Sn**	**02 36 19.6**	**0.0**
NWF	**Wu-fen Shan**	**1.00**	**308**	P	**Pn**	**02 36 05.7**	**-0.2**
	baz=298						
NWF				S	**Sn**	**02 36 19.5**	**-0.7**
	baz=298						
ENTT	**Nioudou**	**1.01**	**281**	P	**Pn**	**02 36 05.9**	**0.0**
	baz=275						
ENTT				eS	**Sn**	**02 36 20.4**	**+0.2**
	baz=275						
TWD	**Chiawan**	**1.04**	**249**	P	**Pn**	**02 36 05.7**	**-0.4**
	baz=237						
TWD				eS	**Sn**	**02 36 19.7**	**-0.9**
	baz=237						
HWA	**Hwalien**	**1.07**	**244**	eP	**Pn**	**02 36 06.2**	**-0.4**
	baz=237						
TWA	**Mucha**	**1.11**	**299**	P	**Pn**	**02 36 06.5**	**-0.6**
	baz=287						
TWA				eS	**Sn**	**02 36 21.0**	**-1.2**
	baz=287						
HATJ	**Hateruma jima**	**1.12**	**110**	eS	**Sn**	**02 36 24.4**	**+1.9**
NNS	**Nan Shan**	**1.17**	**270**	P	**Pn**	**02 36 07.8**	**-0.1**
	baz=258						
NNS				S	**Sn**	**02 36 23.9**	**+0.1**
	baz=258						
NSK	**Sanguang**	**1.20**	**281**	P	**Pn**	**02 36 08.2**	**-0.1**
	baz=276						
NSK				S	**Sn**	**02 36 24.1**	**-0.3**
	baz=276						
JKRS	**Kuro-shima**	**1.25**	**100**	P	**Pn**	**02 36 09.1**	**+0.3**
JKRS				eS	**Sn**	**02 36 25.9**	**+0.5**
ESL	**Shilin**	**1.28**	**241**	eP	**Pn**	**02 36 08.9**	**-0.3**
	baz=235						
ESL				eS	**Sn**	**02 36 26.3**	**+0.1**
	baz=235						
WHF	**Hehuan Shan**	**1.30**	**257**	P	**Pn**	**02 36 09.8**	**-0.1**
	baz=257						
WHF				eS	**Sn**	**02 36 27.3**	**0.0**
	baz=257						
JIJ	**Ishigaki jima**	**1.36**	**93**	P	**Pn**	**02 36 09.7**	**-0.5**
JIJ				eS	**Sn**	**02 36 27.0**	**-0.9**
TWT	**Tachien**	**1.36**	**262**	eP	**Pn**	**02 36 10.9**	**+0.5**
	baz=257						
TWT				S	**Sn**	**02 36 28.8**	**+0.6**
	baz=257						
NSTT	**Nanjuang**	**1.52**	**277**	eP	**Pn**	**02 36 12.1**	**-0.2**
	baz=273						
NSTT				eS	**Sn**	**02 36 31.3**	**-0.2**
	baz=273						
EHY	**Hungye**	**1.54**	**233**	eP	**Pn**	**02 36 11.9**	**-0.7**
	baz=228						
EHY				eS	**Sn**	**02 36 30.6**	**-1.5**
	baz=228						
TWF1	**Yuli**	**1.66**	**229**	P	**Pn**	**02 36 13.7**	**-0.4**
	baz=232						
TWF1				eS	**Sn**	**02 36 34.5**	**-0.3**
	baz=232						
SMLT	**Sun Moon Lake**	**1.70**	**251**	eP	**Pn**	**02 36 14.8**	**+0.1**
	baz=241						
SMLT				eS	**Sn**	**02 36 36.8**	**+0.8**
	baz=241						
TWQ1	**Liyutan**	**1.72**	**267**	eP	**Pn**	**02 36 16.3**	**+1.4**
	baz=263						
TWQ1				eS	**Sn**	**02 36 36.1**	**-0.1**
	baz=263						
TYC	**Yuchr**	**1.73**	**252**	eP	**Pn**	**02 36 15.6**	**+0.6**
	baz=242						
TYC				eS	**Sn**	**02 36 37.1**	**+0.6**
	baz=242						
CHKT	**Chengkung**	**1.79**	**222**	eP	**Pn**	**02 36 14.7**	**-1.2**
	baz=213						
CHKT				eS	**Sn**	**02 36 37.2**	**-0.8**
	baz=213						
YUS	**Yu-Shan**	**1.83**	**239**	eP	**Pn**	**02 36 16.9**	**0.0**
	baz=229						
YUS				eS	**Sn**	**02 36 39.5**	**-0.1**
	baz=229						
JTJ	**Tarama**	**1.87**	**84**	eS	**Sn**	**02 36 39.1**	**-0.8**
WNT	**Mingjian**	**1.89**	**253**	eP	**Pn**	**02 36 17.8**	**+0.6**
	baz=259						
ALS	**Alishan**	**1.94**	**241**	eP	**Pn**	**02 36 18.5**	**+0.5**
	baz=232						
ALS				eS	**Sn**	**02 36 41.8**	**0.0**
	baz=232						
ELDTW	**Lidau**	**1.96**	**230**	eP	**Pn**	**02 36 17.8**	**-0.4**
	baz=226						
ELDTW				eS	**Sn**	**02 36 41.7**	**-0.4**
	baz=226						
CHN5	**Tsauling**	**2.00**	**245**	eP	**Pn**	**02 36 19.3**	**+0.6**
	baz=241						
CHN5				eS	**Sn**	**02 36 45.0**	**+2.0**
	baz=241						
STYT	**Tauyuan**	**2.16**	**234**	eP	**Pn**	**02 36 21.5**	**+0.7**
	baz=230						
STYT				eS	**Sn**	**02 36 47.7**	**+0.9**
	baz=230						
TWG	**Pinlang**	**2.18**	**222**	eP	**Pn**	**02 36 20.1**	**-1.0**
	baz=218						
TWG				eS	**Sn**	**02 36 46.9**	**-0.3**
	baz=218						
CHN4	**Tsaushan**	**2.18**	**240**	eP	**Pn**	**02 36 21.6**	**+0.5**
	baz=236						
CHN4				eS	**Sn**	**02 36 48.5**	**+1.2**
	baz=236						
WTP	**Ta-pu**	**2.22**	**238**	eP	**Pn**	**02 36 22.4**	**+0.8**
	baz=234						
WTP				eS	**Sn**	**02 36 49.3**	**+1.0**
	baz=234						
CHN1	**Nanshi**	**2.32**	**237**	eP	**Pn**	**02 36 23.7**	**+0.7**
	baz=243						
CHN1				eS	**Sn**	**02 36 51.0**	**+0.4**
	baz=243						
SGST	**Jiashian**	**2.34**	**235**	eP	**Pn**	**02 36 23.8**	**+0.6**
	baz=240						
SGST				eS	**Sn**	**02 36 51.9**	**+0.8**
	baz=240						
ECL	**Taimali**	**2.42**	**221**	eP	**Pn**	**02 36 23.6**	**-0.6**
	baz=217						
ECL				eS	**Sn**	**02 36 51.4**	**-1.6**
	baz=217						

*CRAAG **14** 02:37:46.5, 36°.68N×1°.75E, Ml3.2*
*ISCJB **14** 02:37:50.5±0.8, 36°.54N±0°.07×1°.88E±0°.06, h20km±15km, Error ellipse: s-maj=13.0km s-min=6.9km az=154.5*
*CSEM **14** 02:37:50.7±0.3, 36°.43N×1°.92E, h15km, ML3.2, Error ellipse: s-maj=8.3km s-min=6.6km az=159.0*
*MDD **14** 02:37:51.0±0.6, 36°.49N×1°.88E, h0km, mb3.5/3, Error ellipse: s-maj=6.8km s-min=5.8km az=162.0, PRXIMO*

ISC 14 02:37:50.0±1.5, 36°46N±0°.05×1°98E±0°.04, h23km±14km, n34, σ1s69/46, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.40**	**245**	P	**Pb**	**02 37 58.0**	**-0.4**
EBNR	**Beni Rached**	**0.40**	**245**	P	**Pb**	**02 37 58.0**	**-0.4**
ECHA	**Ech Chlef**	**0.58**	**238**	P	**Pb**	**02 38 01.0**	**-0.5**
ECHA	**Ech Chlef**	**0.58**	**238**	P	**Pb**	**02 38 01.0**	**-0.5**
ECHF	**Ech Chlef**	**0.59**	**240**	P	**Pb**	**02 38 01.0**	**-0.7**
ECHF	**Ech Chlef**	**0.59**	**240**	P	**Pb**	**02 38 01.0**	**-0.7**
EMHD	**Djebel Mahouad**	**0.83**	**108**	P	**Pn**	**02 38 08.0**	**+1.6**
EMHD	**Djebel Mahouad**	**0.83**	**108**	P	**Pn**	**02 38 08.0**	**+1.6**
EMHD	**Djebel Mahouad**	**0.83**	**108**	P	**Pn**	**02 38 08.0**	**+1.6**
EANR	**'Ain N'Sour**	**0.87**	**235**	P	**Pb**	**02 38 06.0**	**-0.5**
EANR	**'Ain N'Sour**	**0.87**	**235**	P	**Pb**	**02 38 06.0**	**-0.5**
EANR	**'Ain N'Sour**	**0.87**	**235**	P	**Pb**	**02 38 06.0**	**-0.5**
ABA	**Alger-Bouzarea**	**0.92**	**68**	P	**Pn**	**02 38 09.0**	**+1.5**
ABA	**Alger-Bouzarea**	**0.92**	**68**	P	**Pn**	**02 38 09.0**	**+1.5**
ABA	**Alger-Bouzarea**	**0.92**	**68**	P	**Pn**	**02 38 09.0**	**+1.5**
ETRT	**Tiaret**	**1.20**	**207**	P	**Pn**	**02 38 12.0**	**+0.5**
ETRT	**Tiaret**	**1.20**	**207**	P	**Pn**	**02 38 12.0**	**+0.5**
ETRT	**Tiaret**	**1.20**	**207**	P	**Pn**	**02 38 12.0**	**+0.5**
EBEN	**Beniarda**	**2.84**	**323**	P	**Pn**	**02 38 35.4**	**+1.3**
	0.4nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**02 39 06.2**	**-1.4**
	0.1nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**2.84**	**323**	P	**Pn**	**02 38 35.4**	**+1.3**
	0.4nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**02 39 06.2**	**-1.4**
	0.1nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**2.92**	**299**	P	**Pn**	**02 38 37.5**	**+2.4**
	1.4nm,0.3s,SNR=4.0						
EMUR				S	**Sn**	**02 39 05.4**	**-4.0**
	SNR=7.9						
EMUR	**La Murta**	**2.92**	**299**	P	**Pn**	**02 38 37.5**	**+2.4**
	1.4nm,0.3s,SNR=4.0						
EMUR				S	**Sn**	**02 39 05.4**	**-4.0**
	SNR=7.9						
ETOS	**Mallorca**	**3.37**	**11**	P	**Pn**	**02 38 42.1**	**+0.8**
	3.2nm,0.4s,SNR=6.7						
ETOS				S	**Sn**	**02 39 19.0**	**-1.6**
	1.7nm,0.2s,SNR=4.6						
ETOS	**Mallorca**	**3.37**	**11**	P	**Pn**	**02 38 42.1**	**+0.8**
	3.2nm,0.4s,SNR=6.7						
ETOS				S	**Sn**	**02 39 19.0**	**-1.6**
	1.7nm,0.2s,SNR=4.6						
ETOB	**Tobarra**	**3.55**	**309**	P	**Pn**	**02 38 45.4**	**+1.6**
	0.6nm,0.2s,SNR=6.6						
ETOB				S	**Sn**	**02 39 24.1**	**-1.0**
	0.1nm,0.1s,SNR=4.5						
ETOB	**Tobarra**	**3.55**	**309**	P	**Pn**	**02 38 45.4**	**+1.6**
	0.6nm,0.2s,SNR=6.6						
ETOB				S	**Sn**	**02 39 24.1**	**-1.0**
	0.1nm,0.1s,SNR=4.5						
EHUE	**Huescar**	**3.89**	**292**	P	Pn	02 38 51.7	+3.2
	0.3nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**02 39 34.4**	**+0.8**
	0.5nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**3.89**	**292**	P	Pn	02 38 51.7	+3.2
	0.3nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**02 39 34.4**	**+0.8**
	0.5nm,0.2s,SNR=7.9						
EBER	**Berja**	**3.94**	**278**	P	**Pn**	**02 38 49.5**	**+0.3**
	0.0nm,0.0s,SNR=6.1						
EBER	**Berja**	**3.94**	**278**	P	**Pn**	**02 38 49.5**	**+0.3**
	SNR=6.1						
EQES	**Quesada**	**4.25**	**290**	P	**Pn**	**02 38 56.3**	**+2.9**
	0.3nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**02 39 42.5**	**+0.1**
	0.1nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.25**	**290**	P	**Pn**	**02 38 56.3**	**+2.9**
	0.3nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**02 39 42.5**	**+0.1**
	0.1nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.35**	**335**	P	**Pn**	**02 38 56.0**	**+1.2**
	1.7nm,0.2s,SNR=19						
EMOS				S	**Sn**	**02 39 42.0**	**-2.9**
	1.2nm,0.1s,SNR=7.9						
EMOS	**

0.2nm,0.3s,baz=224,slow=14,SNR=3.4
FINES FINESS Array B 36.81 325 P **P** **02 58 14.1 -0.5**
1.5nm,0.9s,baz=123,slow=10,SNR=5.6
ARCES ARCESS Array B 40.31 337 P **P** **02 58 42.1 -1.9**
0.4nm,0.4s,baz=104,slow=8.9,SNR=5.8
NB2 NORSAR Subarra 43.75 322 P P 02 59 08.3 -3.9
comp=Z,0.5nm,0.5s,baz=98,slow=7.9

IDC 14 02:59:33.4±3.2, 33°42S×179°21W, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.4/18, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=71.6km s-min=43.4km az=49.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.68**	**211**	Pn	Pn	03 00 58.0	-1.1
	0.6nm,0.3s,baz=54,slow=14,SNR=4.6						
URZ				Sn	Sn	03 01 57.3	-7.7
	0.5nm,0.3s,baz=93,slow=19,SNR=2.9						
ASAR	**Alice Springs**	**42.02**	**271**	P	P	03 07 26.8	-0.1
	0.3nm,0.8s,baz=113,slow=7.1,SNR=3.2						
WRA	**Warramunga Arr**	**43.29**	**276**	P	P	03 07 37.1	0.0
	0.4nm,0.8s,baz=114,slow=8.2,SNR=5.3						
TORD	**Torodi Ar. Bea**	**159.81**	**183**	PKPab	PKPab	03 20 13.3	-0.3
	0.4nm,1.0s,baz=151,slow=3.3,SNR=2.4						

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*IDC **14** 03:05:41.0±1.8, 33°.90S×179°.49W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/18, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=44.1km s-min=41.3km az=63.0*
ISC 14 03:05:49.6±1.7, 34°.1S±0°.1×179°.8E±0°.2, h35km, n24, σ1s86/26, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**4.19**	**197**	PN	**Pn**	**03 06 52.7**	**+1.7**
CNGZ	**Carnagh Statio**	**4.60**	**196**	PN	**Pn**	**03 06 58.4**	**+1.9**
MWZ	**Matawai**	**4.64**	**203**	PN	**Pn**	**03 06 58.9**	**+1.7**
URZ	**Urewera**	**4.72**	**207**	Pn	**Pn**	**03 07 00.5**	**+2.3**
	4.2nm,0.3s,baz=63,slow=2.9,SNR=56						
URZ				Sn	**Sn**	**03 07 52.9**	**+1.2**
	3.4nm,0.3s,baz=38,slow=19,SNR=3.7						
URZ	**Urewera**	**4.72**	**207**	PN	**Pn**	**03 07 00.5**	**+2.3**
URZ				SN	**Sn**	**03 07 52.8**	**+1.2**
KNZ	**Kokohu**	**5.23**	**198**	PN	**Pn**	**03 07 06.1**	**+0.8**
NMHZ	**Naumai**	**5.57**	**205**	PN	**Pn**	**03 07 12.2**	**+2.2**
MCHZ	**McNeill Hill**	**5.92**	**204**	PN	**Pn**	**03 07 16.5**	**+1.8**
KAHZ	**Kahuranaki**	**6.18**	**201**	PN	**Pn**	**03 07 19.8**	**+1.4**
BHHZ	**Black Hill Sta**	**6.19**	**208**	PN	**Pn**	**03 07 20.6**	**+2.1**
FWVZ	**Far West T-bar**	**6.20**	**212**	PN	**Pn**	**03 07 21.3**	**+2.5**
PNHZ	**Pukenui**	**6.51**	**205**	PN	**Pn**	**03 07 23.0**	**+0.1**
PNHZ				SN	**Sn**	**03 08 33.0**	**-2.9**
TSZ	**Takapari Road**	**6.72**	**206**	PN	**Pn**	**03 07 25.6**	**-0.2**
ANWZ	**Angora Road**	**6.91**	**208**	PN	**Pn**	**03 07 29.2**	**+0.8**
MRZ	**Mangatainoka R**	**7.39**	**206**	PN	**Pn**	**03 07 33.3**	**-1.7**
KIW	**Kapiti Island**	**7.82**	**208**	PN	**Pn**	**03 07 39.5**	**-1.3**
MTW	**Mount Morrison**	**7.86**	**204**	PN	**Pn**	**03 07 39.0**	**-2.3**
TUWZ	**Tuamarina**	**8.69**	**210**	PN	Pn	03 07 50.0	-2.7
NNZ	**Nelson**	**8.77**	**214**	PN	**Pn**	**03 07 52.4**	**-1.3**
QRZ	**Quartz Range**	**8.88**	**218**	PN	**Pn**	**03 07 53.7**	**-1.6**
ASAR	**Alice Springs**	**41.20**	**272**	P	**P**	**03 13 31.6**	**+0.4**
	0.7nm,0.4s,baz=114,slow=7.1,SNR=12						
WRA	**Warramunga Arr**	**42.53**	**277**	P	**P**	**03 13 43.5**	**+1.5**
	0.3nm,0.3s,baz=118,slow=7.6,SNR=16						
FINES	**FINESS Array B**	**147.84**	**336**	PKPbc	**PKPdf**	**03 25 27.2**	**+0.2**
	0.7nm,0.4s,baz=41,slow=4.3,SNR=13						
TORD	**Torodi Ar. Bea**	**159.11**	**185**	PKPab	**PKPab**	**03 26 18.0**	**-3.1**
	0.2nm,0.5s,baz=170,slow=4.6,SNR=4.3						

MAN 14 03:07:18, 17°.53N×120°.72E, h32km, mb4.0, ML2.9, MS2.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**1.15**	**186**	⇑*iP*	Pn	03 07 37.3	-0.8
CAUP	**Cauayan**	**1.21**	**119**	*eP*	Pb	03 07 40.6	+0.3
PALP	**Palanan**	**1.70**	**106**	*eP*	Pn	03 07 46.9	+1.5
BALP	**Baler**	**1.96**	**155**	*eP*	Pn	03 07 49.5	+0.5

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*KRSC **14** 03:07:57.5±2.8, 47°.05N×156°.32E, h13km±12km, ML4.1*
*IDC **14** 03:07:58.7±1.9, 47°.11N×155°.76E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.5/26, mbtmp3.5/6, ML3.4/2, Error ellipse: s-maj=49.8km s-min=28.3km az=158.0*
*MOS **14** 03:07:59.6±0.9, 47°.26N×155°.65E, h16km, mb4.2/1, Error ellipse: s-maj=42.8km s-min=12.9km az=76.1*
ISC 14 03:08:00.9±1.1, 47°.1N±0°.1×156°.1E±0°.1, h18km, n24, σ1s25/32, mb3.5/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**4.38**	**6**	PN	**Pn**	**03 09 06.3**	**-0.1**
PAU				S	**Sn**	**03 09 56.5**	**-0.3**
PAU	**Pauzhetka**	**4.38**	**6**	P	**Pn**	**03 09 06.3**	**-0.1**
PAU				*i*S	**Sn**	**03 09 56.5**	**-0.3**
ASAK	**Asacha**	**5.40**	**12**	P	**Pn**	**03 09 19.9**	**-0.6**
ASAK				*i*S	**Sn**	**03 10 20.4**	**-1.7**
MTVR	**Mutnovka**	**5.54**	**13**	P	**Pn**	**03 09 22.6**	**+0.2**
MTVR				*i*S	**Sn**	**03 10 24.7**	**-0.9**
RUS	**Russkaya**	**5.54**	**16**	PN	**Pn**	**03 09 22.5**	**+0.1**
RUS	**Russkaya**	**5.54**	**16**	P	**Pn**	**03 09 22.5**	**+0.1**
RUS				*i*S	**Sn**	**03 10 24.5**	**-1.1**
APC	**Apacha**	**5.85**	**6**	P	**Pn**	**03 09 27.8**	**+1.2**
PETK	**Petropavlovsk-**	**6.08**	**9**	PN	**Pn**	**03 09 30.6**	**+0.7**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**6.08**	**9**	Pn	**Pn**	**03 09 30.6**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=195,slow=16,SNR=4.8						
UGLR	**Uglovaya**	**6.34**	**15**	P	**Pn**	**03 09 34.2**	**+0.7**
AVH	**Avacha**	**6.38**	**14**	P	**Pn**	**03 09 34.8**	**+0.8**
AVH				*i*S	**Sn**	**03 10 45.8**	**-0.6**
KOK	**Koryaka**	**6.39**	**14**	P	**Pn**	**03 09 35.6**	**+1.5**
KOK				*i*S	**Sn**	**03 10 47.7**	**+1.1**
SMAR	**Somma**	**6.39**	**15**	P	**Pn**	**03 09 35.0**	**+0.8**
KRER	**Koryakskii**	**6.42**	**14**	P	**Pn**	**03 09 35.8**	**+1.2**
SPN	**Mys Shipunski**	**6.50**	**21**	PN	**Pn**	**03 09 36.1**	**+0.6**
SPN	**Mys Shipunski**	**6.50**	**21**	P	**Pn**	**03 09 36.1**	**+0.6**
SPN				*i*S	**Sn**	**03 10 48.4**	**-0.6**
GNL	**Ganaly**	**6.69**	**9**	P	**Pn**	**03 09 39.9**	**+1.7**
FX1	**Attu Island--F**	**12.39**	**56**	Sn	**Sn**	**03 13 10.4**	**-3.3**
	comp=Z,0.9nm,0.3s,baz=186,slow=19,SNR=3.4						
MJAR	**Matsushiro Arr**	**16.97**	**238**	Pn	**Pn**	**03 11 55.9**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=27,slow=13,SNR=3.5						
ILAR	**Eielson Array**	**34.98**	**39**	P	**P**	**03 14 53.5**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=248,slow=7.1,SNR=4.9						
MKAR	**Makanchi Array**	**48.57**	**298**	P	**P**	**03 16 41.2**	**-1.8**
MKAR	**Makanchi Array**	**48.57**	**298**	P	**P**	**03 16 41.2**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=76,slow=6.1,SNR=2.5						
FINES	**FINESS Array B**	**64.56**	**336**	P	**P**	**03 18 37.2**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=54,slow=9.7,SNR=7.8						
TXAR	**Lajitas Array**	**75.52**	**63**	P	**P**	**03 19 46.0**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=304,slow=4.1,SNR=4.0						

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*JMA **14** 03:24:02.3±0.5, 23°.86N×121°.80E, h9km, M2.7*
*TAP **14** 03:24:04.0, 24°.24N×121°.75E, h13km, ML3.7, B*
ISC 14 03:24:03.4±0.9, 24°.19N±0°.02×121°.82E±0°.02, h9km±7km, n58, σ0s80/94, 7C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.14**	**329**	*i*P	**Pg**	**03 24 06.7**	**+0.2**
	baz=357						
EHP				*i*S	**Sg**	**03 24 08.9**	**+0.3**
	baz=357						
TWD	**Chiawan**	**0.23**	**242**	⇑*iP*	**Pg**	**03 24 08.8**	**+0.7**
	baz=221						
TWD				*i*S	**Sg**	**03 24 12.3**	**+1.0**
	baz=221						
ENA	**Nanau**	**0.25**	**343**	⇑*iP*	**Pg**	**03 24 08.4**	**0.0**
	baz=359						
ENA				*e*S	**Sg**	**03 24 11.6**	**-0.2**
	baz=359						
HWA	**Hwalien**	**0.29**	**223**	*e*P	**Pb**	**03 24 10.8**	**0.0**
	baz=215						
TWC	**Suao**	**0.42**	**4**	⇑*iP*	**Pg**	**03 24 11.8**	**+0.2**
	baz=7.0						
TWC				*i*S	**Sg**	**03 24 17.3**	**+0.2**
	baz=7.0						
ESF	**Shoufeng Towns**	**0.43**	**222**	*e*P	**Pb**	**03 24 12.1**	**-1.0**
	baz=222						
NNS	**Nan Shan**	**0.48**	**301**	⇑*iP*	**Pg**	**03 24 12.3**	**-0.4**
	baz=301						
NNS				*i*S	**Sg**	**03 24 17.9**	**-1.2**
	baz=301						
ENTT	**Nioudou**	**0.50**	**333**	⇑*iP*	**Pg**	**03 24 13.0**	**-0.2**
	baz=337						
ENTT				S	**Sg**	**03 24 19.1**	**-0.7**
	baz=337						
WHF	**Hehuan Shan**	**0.51**	**265**	⇑*iP*	**Pg**	**03 24 13.2**	**-0.2**
	baz=258						
WHF				S	**Sg**	**03 24 19.4**	**-0.7**
	baz=258						
ESL	**Shilin**	**0.52**	**223**	P	**Pb**	**03 24 14.0**	**-0.6**
	baz=220						
ESL				*e*S	**Sb**	**03 24 22.6**	**+0.4**
	baz=220						
TWE	**Neicheng**	**0.55**	**345**	⇑*iP*	**Pg**	**03 24 14.0**	**0.0**
	baz=352						
TWE				*i*S	**Sg**	**03 24 20.9**	**-0.3**
	baz=352						
ILA	**Ilan**	**0.58**	**353**	*e*P	**Pb**	**03 24 15.1**	**-0.6**
	baz=354						
ILA				S	**Sg**	**03 24 22.9**	**+0.8**
	baz=354						
TWT	**Tachien**	**0.59**	**276**	P	**Pg**	**03 24 15.0**	**+0.2**
	baz=272						
TWT				S	**Sg**	**03 24 22.2**	**-0.5**
	baz=272						
NSK	**Sanguang**	**0.64**	**319**	⇓*iP*	**Pg**	**03 24 15.4**	**-0.4**
	baz=321						
NSK				*i*S	**Sg**	**03 24 23.0**	**-1.2**
	baz=321						
TWA	**Mucha**	**0.82**	**345**	P	**Pb**	**03 24 19.4**	**-0.4**
	baz=348						
TWA				S	**Sg**	**03 24 29.3**	**-0.5**
	baz=348						
EHY	**Hungye**	**0.82**	**214**	*e*P	**Pg**	**03 24 18.8**	**-0.3**
	baz=221						
TWB1	**Santiao Chiao**	**0.83**	**11**	*e*P	**Pg**	**03 24 18.8**	**-0.6**
	baz=15						
TWB1				*e*S	**Sg**	**03 24 29.8**	**-0.4**
	baz=15						
NSTT	**Nanjuang**	**0.87**	**301**	P	**Pg**	**03 24 19.9**	**-0.2**
	baz=300						
NSTT				S	**Sg**	**03 24 30.1**	**-1.3**
	baz=300						
NWF	**Wu-fen Shan**	**0.88**	**358**	P	**Pb**	**03 24 20.6**	**-0.3**
	baz=354						
NWF				S	**Sg**	**03 24 30.9**	**-0.8**
	baz=354						
TAP1	**Taipei**	**0.89**	**342**	*e*P	**Pb**	**03 24 20.9**	**0.0**
	baz=333						
TAP	**Taipei**	**0.89**	**341**	*e*P	**Pb**	**03 24 20.8**	**-0.2**
	baz=333						
SMLT	**Sun Moon Lake**	**0.90**	**250**	*e*P	**Pb**	**03 24 20.8**	**-0.4**
	baz=239						
SMLT				*e*S	**Sg**	**03 24 31.6**	**-0.7**
	baz=239						
TYC	**Yuchr**	**0.93**	**252**	*e*P	**Pg**	**03 24 20.9**	**-0.3**
	baz=240						
TYC				*e*S	**Sg**	**03 24 32.1**	**-1.2**
	baz=240						
TWF1	**Yuli**	**0.96**	**210**	*e*P	**Pg**	**03 24 20.8**	**-1.1**
	baz=218						
NCU	**National Centr**	**0.97**	**324**	*e*P	**Pb**	**03 24 22.4**	**0.0**
	baz=325						
NCU				*e*S	**Sb**	**03 24 35.9**	**+0.7**
	baz=325						
TWQ1	**Liyutan**	**0.97**	**280**	*e*P	**Pb**	**03 24 22.3**	**0.0**
	baz=278						
TWQ1				*e*S	**Sb**	**03 24 34.9**	**-0.4**
	baz=278						
TWS1	**Kuangyinshan**	**0.98**	**338**	*e*P	**Pb**	**03 24 22.7**	**+0.2**
	baz=340						
TWS1				*e*S	**Sb**	**03 24 35.6**	**+0.1**
	baz=340						
HSN	**Hsinchu**	**0.99**	**308**	*e*P	**Pg**	**03 24 21.4**	**-0.9**
	baz=301						
NSY	**Sanyi**	**0.99**	**283**	*e*P	**Pn**	**03 24 23.0**	**-0.5**
	baz=282						
NSY				*e*S	**Sb**	**03 24 36.0**	**0.0**
	baz=282						
TCU	**Taichung**	**1.05**	**268**	*e*P	**Pn**	**03 24 25.0**	**+0.8**
	baz=265						
TCU				*e*S	**Sn**	**03 24 39.0**	**0.0**
	baz=265						
YUS	**Yu-Shan**	**1.06**	**229**	⇓*iP*	**Pb**	**03 24 24.1**	**-0.1**
	baz=226						
YUS				*e*S	**Sg**	**03 24 37.5**	**-0.1**
	baz=226						
WNT	**Mingjian**	**1.08**	**254**	*e*P	**Pn**	**03 24 24.7**	**-0.1**
	baz=247						
WNT				*e*S	**Sn**	**03 24 40.2**	**+0.2**
	baz=247						
TWY	**Chenhua**	**1.10**	**350**	*e*P	**Pn**	**03 24 25.4**	**+0.4**
	baz=352						
YOJ	**Yonaguni jima**	**1.12**	**76**	*e*P	**Pn**	**03 24 25.6**	**+0.3**
	baz=67						
YOJ	**Yonaguni jima**	**1.12**	**76**	P	**Pn**	**03 24 25.8**	**+0.6**
YOJ				*e*S	**Sn**	**03 24 42.6**	**+1.8**
ALS	**Alishan**	**1.15**	**234**	*e*P	**Pb**	**03 24 25.5**	**-0.1**
	baz=218						
ALS				*e*S	**Sb**	**03 24 41.1**	**+0.3**
	baz=218						
CHKT	**Chengkung**	**1.16**	**201**	*e*P	**Pg**	**03 24 24.1**	**-1.6**
	baz=185						
CHN5	**Tsauling**	**1.20**	**241**	*e*P	**Pn**	**03 24 26.6**	**+0.1**
	baz=239						
CHN5				S	**Sn**	**03 24 44.3**	**+1.3**
	baz=239						
ELDTW	**Lidau**	**1.24**	**217**	*e*P	**Pb**	**03 24 25.8**	**-1.2**
	baz=214						
WGK	**Gukeng**	**1.26**	**247**	*e*P	**Pg**	**03 24 27.3**	**-0.2**
	baz=246						
WGK				*e*S	**Sn**	**03 24 45.8**	**+1.6**
	baz=246						
CHN4	**Tsaushan**	**1.40**	**234**	*e*P	**Pg**	**03 24 30.1**	**-0.2**
	baz=233						
CHN4				S	**Sg**	**03 24 49.8**	**+1.3**
	baz=233						
STYT	**Tauyuan**	**1.41**	**224**	*e*P	**Pb**	**03 24 29.5**	**-0.5**
	baz=223						
WTCT	**Ta-ch'eng**	**1.44**	**257**	*e*P	**Pb**	**03 24 30.2**	**-0.2**
	baz=256						
WTCT				*e*S	**Sg**	**03 24 50.4**	**+0.5**
	baz=256						
WTP	**Ta-pu**	**1.45**	**230**	*e*P	**Pg**	**03 24 30.9**	**-0.3**
	baz=229						
WTP				*e*S	**Sg**	**03 24 52.5**	**+2.5**
	baz=229						
CHY	**Chiayi**	**1.45**	**242**	*e*P	**Pg**	**03 24 31.7**	**+0.4**
	baz=226						
TWG	**Pinlang**	**1.53**	**207**	*e*P	**Pn**	**03 24 29.4**	**-1.5**
	baz=206						
TWK	**Hsinying**	**1.53**	**233**	*e*P	**Pg**	**03 24 32.0**	**-0.7**
	baz=234						
TWK				*e*S	**Sg**	**03 24 52.9**	**+0.3**
	baz=234						
CHN1	**Nanshi**	**1.55**	**230**	*e*P	**Pg**	**03 24 33.1**	**-0.1**
	baz=231						
CHN1				*e*S	**Sg**	**03 24 55.1**	**+1.8**
	baz=231						
SGST	**Jiashian**	**1.58**	**226**	*e*P	**Pg**	**03 24 33.4**	**-0.4**
	baz=225						
SGST				*e*S	**Sg**	**03 24 55.8**	**+1.5**
	baz=225						
IRIF	**Iriomote-Funau**	**1.75**	**85**	P	**Pn**	**03 24 34.0**	**+0.1**
ECL	**Taimali**	**1.77**	**207**	*e*P	**Pb**	**03 24 36.1**	**0.0**
	baz=193						
HATJ	**Hateruma jima**	**1.82**	**94**	*e*S	**Sn**	**03 24 58.1**	**+0.1**
JKRS	**Kuro-shima**	**2.00**	**88**	P	**Pn**	**03 24 38.1**	**+0.7**
EAST	**Anshuo**	**2.01**	**207**	*e*P	**Pb**	**03 24 39.2**	**-1.0**
	baz=195						
SCZT	**Fangliau**	**2.12**	**212**	*e*P	**Pg**	**03 24 42.6**	**-1.4**
	baz=196						
JIJ	**Ishigaki jima**	**2.13**	**85**	P	**Pn**	**03 24 40.5**	**+1.4**
JIJ				*e*S	**Sn**	**03 25 06.9**	**+1.2**
PNG	**Penghu**	**2.16**	**254**	*e*P	**Pn**	**03 24 39.3**	**-0.3**
	baz=254						
JTJ	**Tarama**	**2.67**	**80**	*e*S	**Sb**	**03 25 22.3**	**-1.8**

IDC 14 03:37:45.2±1.9, 1°.73N×126°.44E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=115.4km s-min=24.3km az=69.0, Northern Molucca Sea

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

FITZ	**Fitzroy Crossi**	**19.72**	**182**	P	P	03 42 16.6	+0.1
	0.1nm,0.3s,baz=5.7,slow=18,SNR=2.8						
WRA	**Warramunga Arr**	**22.89**	**161**	P	P	03 42 49.8	-0.9
	0.8nm,0.4s,baz=339,slow=11,SNR=34						
ASAR	**Alice Springs**	**26.27**	**164**	P	P	03 43 23.3	+0.8
	0.4nm,0.3s,baz=346,slow=12,SNR=5.6						
MKAR	**Makanchi Array**	**59.03**	**326**	P	P	03 47 47.0	-0.1
	0.3nm,0.4s,baz=113,slow=7.0,SNR=5.7						

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*SZGRF **14** 03:43:49.5, 16°.83S×179°.57W, h33km, Fiji Islands region*
*IDC **14** 03:44:41.2±1.4, 17°.51S×179°.02W, h514km±16km, mb3.6/18, mb1 3.8/20, mb1mx3.7/26, mbtmp3.6/20, Error ellipse: s-maj=16.2km s-min=10.6km az=144.0*
*ISCJB **14** 03:44:42.1±0.4, 17°.51S±0°.09×179°.09W±0°.08, h539km, mb4.1/29, Error ellipse: s-maj=13.7km s-min=6.8km az=141.8*
*NEIC **14** 03:44:43.2±0.9, 17°.47S×178°.99W, h542km±10km, mb4.1/13, Error ellipse: s-maj=33.0km s-min=11.6km az=149.0*
*AUST **14** 03:44:57.9, 17°.70S×179°.41E, h600km*
ISC 14 03:44:42.9±0.5, 17°.6S±0°.1×178°.97W±0°.09, h539km, n82, σ1s20/80, mb4.1/29, 3C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.85**	**266**	*eP*	**P**	**03 45 58.6**	**+2.4**
MSVF				*eS*	**S**	**03 47 00.8**	**+5.0**
AFI	**Afiamalu**	**7.81**	**63**	*eP*	**P**	**03 46 36.5**	**-2.1**
AFI	**Afiamalu**	**7.81**	**63**	P	**P**	**03 46 36.2**	**-2.4**
	8.8nm,0.3s,baz=270,slow=20,SNR=18						
AFI				S	S	03 48 07.3	-6.1
	1.4nm,0.3s,baz=308,slow=19,SNR=2.2						
DZM	**Mont Dzumac**	**14.45**	**250**	P	**P**	**03 47 45.3**	**-1.6**
	0.5nm,0.3s,baz=90,slow=20,SNR=7.8						
URZ	**Urewera**	**20.91**	**189**	P	**P**	**03 48 45.9**	**-1.7**
	4.3nm,0.8s,baz=333,slow=2.3,SNR=4.0						
EIDS	**Eidsvold**	**28.89**	**249**	*eP*	**P**	**03 49 58.2**	**-0.3**
	4.6nm,0.6s						
EIDS	**Eidsvold**	**28.89**	**249**	P	**P**	**03 49 57.8**	**-0.7**
	baz=27,SNR=6.5						
ARMA	**Armidale**	**29.66**	**239**	*eP*	**P**	**03 50 05.6**	**+0.4**
	20nm,0.8s						
ARMA	**Armidale**	**29.66**	**239**	P	**P**	**03 50 05.8**	**+0.6**
	baz=28,SNR=15						
MGCD	**Mangrove Creek**	**31.07**	**234**	P	**P**	**03 50 17.9**	**+0.8**
	baz=30,SNR=11						
RMQ	**Roma**	**31.14**	**248**	P	**P**	**03 50 18.3**	**+0.4**
	baz=30,SNR=32						
CTA	**Charters Tower**	**32.98**	**260**	P	**P**	**03 50 33.1**	**-0.5**
	7.0nm,0.7s,baz=91,slow=11,SNR=16						
CTAO	**Charters Tower**	**32.98**	**260**	*eP*	**P**	**03 50 33.0**	**-0.6**
	8.6nm,0.8s						
CNB	**Canberra Magne**	**33.23**	**232**	P	**P**	**03 50 36.2**	**+0.6**
	baz=32,SNR=19						
PMG	**Port Moresby**	**33.88**	**279**	P	**P**	**03 50 41.4**	**+0.2**
	9.7nm,0.5s,baz=159,slow=6.4,SNR=3.8						
CMSA	**Cobar Meteorol**	**34.87**	**240**	P	**P**	**03 50 49.3**	**0.0**
	baz=34,SNR=49						
MTSU	**Mount Surprise**	**34.92**	**263**	P	**P**	**03 50 49.2**	**-0.7**
	baz=33,SNR=7.0						
COEN	**Coen**	**36.57**	**270**	*eP*	**P**	**03 51 03.9**	**+0.3**
	76nm,0.8s						
COEN	**Coen**	**36.57**	**270**	P	**P**	**03 51 03.7**	**+0.1**
	baz=35,SNR=16						
TOO	**Toolangi**	**36.98**	**230**	P	**P**	**03 51 07.3**	**+0.5**
	baz=36,SNR=9.6						
STKA	**Stephens Creek**	**38.34**	**241**	*eP*	**P**	**03 51 18.4**	**+0.5**
	3.8nm,0.6s						
STKA	**Stephens Creek**	**38.34**	**241**	P	**P**	**03 51 18.3**	**+0.5**
	14nm,0.4s,baz=90,slow=9.0,SNR=53						
STKA	**Stephens Creek**	**38.34**	**241**	P	**P**	**03 51 18.3**	**+0.5**
	baz=37,SNR=42						
ARPS	**Mount Arapiles**	**39.44**	**233**	P	**P**	**03 51 27.2**	**+0.6**
	baz=38,SNR=5.6						
BBOO	**Buckleboo**	**43.12**	**241**	P	**P**	**03 51 55.8**	**-0.1**
	baz=42,SNR=5.9						
WRAB	**Tennant Creek**	**44.17**	**259**	*eP*	**P**	**03 52 02.8**	**-1.5**
	4.9nm,0.7s						
WRA	**Warramunga Arr**	**44.17**	**259**	P	**P**	**03 52 02.8**	**-1.5**
	2.6nm,0.2s,baz=90,slow=8.1,SNR=103						
WRA				ScP	**ScP**	**03 56 39.7**	**+1.5**
	1.7nm,1.2s,baz=83,slow=4.7,SNR=3.4						
AS31	**Alice Springs**	**44.38**	**254**	*eP*	**P**	**03 52 05.3**	**-0.5**
ASAR	**Alice Springs**	**44.38**	**254**	P	**P**	**03 52 05.2**	**-0.6**
	48nm,0.8s,baz=88,slow=8.1,SNR=507						
ASAR				ScP	**ScP**	**03 56 41.0**	**+2.0**
	1.3nm,0.7s,baz=93,slow=4.3,SNR=6.5						
ASAR				S	**S**	**03 57 56.9**	**-4.5**
	3.6nm,1.3s,baz=83,slow=15,SNR=5.0						
KDU	**Kakadu**	**47.03**	**269**	P	**P**	**03 52 25.6**	**-0.5**
	baz=46,SNR=6.1						
MTN	**Manton Dam**	**48.28**	**268**	P	**P**	**03 52 34.7**	**-0.8**
	baz=47,SNR=13						
MTN				S	S	03 58 37.4	-18
	baz=47,SNR=4.0						
FORT	**Forrest**	**49.68**	**244**	P	**P**	**03 52 44.9**	**-0.7**
	baz=48,SNR=7.0						
KNRA	**Kununurra**	**50.00**	**264**	P	**P**	**03 52 47.6**	**-0.5**
	baz=48,SNR=5.3						
KNRA				S	S	03 58 57.4	-22
	baz=48,SNR=5.2						
FITZ	**Fitzroy Crossi**	**52.56**	**260**	P	**P**	**03 53 06.6**	**-0.1**
	4.4nm,0.5s,baz=103,slow=6.9,SNR=31						
FITZ	**Fitzroy Crossi**	**52.56**	**260**	P	**P**	**03 53 06.8**	**+0.1**
	baz=51,SNR=5.4						
MEEK	**Meekatharra**	**58.06**	**249**	P	**P**	**03 53 43.9**	**-1.0**
	baz=56,SNR=10						
KLBR	**Kellerberrin**	**58.51**	**243**	P	**P**	**03 53 47.1**	**-0.8**
	baz=57,SNR=11						
BLDU	**Ballidu**	**59.45**	**244**	P	**P**	**03 53 53.4**	**-0.8**
	baz=58,SNR=4.7						
MORW	**Morawa**	**60.14**	**246**	P	**P**	**03 53 58.1**	**-0.7**
	baz=59,SNR=4.2						
VNDA	**Vanda**	**60.75**	**185**	P	**P**	**03 54 03.0**	**+1.0**
	0.4nm,0.4s,

	comp=Z,9.0nm,0.7s								
CLL					*i* PKPab	**PKPab**	**04 03 20.6**	**+0.3**
	comp=Z,8.0nm,0.9s								
BRG	**Berggiesshubel**	**145.19**	**346**	*e*PKP		**PKPbc**	**04 03 20.2**	**+0.2**
	comp=Z,5.1nm,0.8s								
BRG	**Berggiesshubel**	**145.19**	**346**	*e*PKPbc		**PKPbc**	**04 03 20.2**	**+0.2**
FBE	**Freiberg**	**145.28**	**346**	*e*PKPbc		**PKPab**	**04 03 20.8**	**-0.6**
NEUB	**Neuenburg**	**145.35**	**348**	*e*PKPbc		**PKPbc**	**04 03 20.4**	**0.0**
PLN	**Plauen**	**145.96**	**347**	*e*PKPbc		**PKPbc**	**04 03 22.4**	**+0.2**
TANN	**Tannenbergstha**	**145.96**	**347**	*e*PKPbc		**PKPbc**	**04 03 22.5**	**+0.2**
GUNZ	**Gunzen**	**146.03**	**347**	*e*PKPbc		**PKPbc**	**04 03 22.9**	**+0.4**
ROTZ	**Rotzenmuhle**	**146.62**	**347**	*e*PKPbc		**PKPbc**	**04 03 24.7**	**+0.6**
GRF	**Grafenberg Arr**	**146.90**	**348**	*e*PKPbc		**PKPbc**	**04 03 25.4**	**+0.5**
GEC2	**GERESS Array S**	**147.13**	**345**	*e*PKPbc		**PKPbc**	**04 03 26.0**	**+0.4**
GERES	**GERESS Array B**	**147.13**	**345**	PKPbc		**PKPbc**	**04 03 25.6**	**0.0**
	comp=Z,1.3nm,0.6s,baz=29,slow=3.0,SNR=14								
CONA	**Conrad Observa**	**147.36**	**341**	⇑ *i* PKiKP		**PKPbc**	**04 03 26.7**	**+0.5**
	comp=Z,3.9nm,0.7s								
ABTA	**Abfaltersbach**	**149.38**	**344**	⇑ *i* PKPbc		**PKPbc**	**04 03 30.6**	**-0.7**
	comp=Z,5.2nm,1.0s								

FUNV 14 03:49:06.4,6.31N×73.47W,h64km,MW3.6,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.92**	**37**	*e*P	Pn	03 49 37.3	+0.1
CAPV				*i* S	Sn	03 49 58.4	-2.2
SOCV	**Socops**	**3.25**	**53**	*e*P	Pn	03 49 54.0	-1.0
SOCV				*i* S	Sn	03 50 29.0	-3.6
VIGV	**El Vigia**	**3.27**	**40**	*e*P	Pn	03 49 54.6	-0.7
VIGV				*i* S	Sn	03 50 30.1	-2.9
ELOV	**Elorza**	**4.02**	**80**	*e*P	Pn	03 50 04.0	-1.5
QARV	**Quebrada Arrib**	**4.84**	**37**	*e*P	Pn	03 50 15.4	-1.5
CURV	**Curarigua**	**5.06**	**43**	*e*P	Pn	03 50 18.3	-1.5
DABV	**Dabajuro**	**5.37**	**31**	*e*P	Pn	03 50 21.9	-2.1
TEPV	**Terepaima**	**5.58**	**49**	*e*P	Pn	03 50 24.9	-2.0
SIQV	**Siquisique**	**5.63**	**40**	*e*P	Pn	03 50 25.4	-2.2
BAUV	**El Baul**	**5.98**	**64**	*e*P	Pn	03 50 30.1	-2.3
MAPV	**Macapo**	**6.07**	**55**	*e*P	Pn	03 50 32.1	-1.6
MONV	**Montecano**	**6.58**	**31**	*e*P	Pn	03 50 38.2	-2.5
TURV	**Turiamo**	**6.92**	**53**	*e*P	Pn	03 50 43.1	-2.2
BIRV	**Birongo**	**8.24**	**59**	*e*P	Pn	03 51 01.1	-2.2
CUPV	**Cœpira**	**8.47**	**63**	*e*P	Pn	03 51 04.3	-2.2

WEL 14 03:54:54.7±1.0,47.50S×165.50E,h33km,ML3.6/6,Error ellipse: s-maj=11.0km s-min=6.5km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.56**	**32**	PN	Pn	03 55 18.6	-1.5
APZ	**The Paps**	**1.82**	**70**	PN	Pn	03 55 22.7	-1.1
DCZ	**Deep Cove**	**2.32**	**30**	PN	Pn	03 55 29.8	-0.7
DCZ				AML	AML	03 56 04.7	
DCZ				AML	AML	03 56 08.2	
WHZ	**Wether Hill Ro**	**2.33**	**47**	PN	Pn	03 55 29.9	-0.8
WHZ				SN	Sn	03 55 55.9	-2.2
SYZ	**Scrubby Hill**	**2.67**	**70**	PN	Pn	03 55 35.2	-0.1
MLZ	**Mavora Lakes**	**2.84**	**42**	PN	Pn	03 55 37.1	-0.6
MLZ				SN	Sn	03 56 09.2	-1.6
TUZ	**Tuapeka**	**3.23**	**63**	PN	Pn	03 55 42.7	-0.4
EAZ	**Earnscleugh**	**3.48**	**51**	PN	Pn	03 55 45.9	-0.6
JCZ	**Jackson Bay**	**4.11**	**35**	PN	Pn	03 55 56.5	+1.2
ODZ	**Otahua Downs**	**4.33**	**57**	PN	Pn	03 55 56.0	-2.2

*IDC **14** 03:55:08.3±2.1,2.66S×128.35E,h0km,mb3.1/2, mb1 3.6/4,mb1mx3.4/21,mbtmp3.4/4,ML3.5/2,Error ellipse: s-maj=120.1km s-min=25.3km az=71.0*
*ISCJB **14** 03:55:22.1±0.9,3.39S±0.07×127.73E±0.05,h42km, mb3.1/2,Error ellipse: s-maj=10.0km s-min=7.4km az=2.9*
*DJA **14** 03:55:25.1±0.4,3˚S±11˚×12˚8E±˚,h22km±18km,M3.5/6, MLv3.5/6*
ISC 14 03:55:22.8±1.0,3.44S±0.08×127.59E±0.05,h42km,n9, σ3.9 04/11,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.53**	**292**	P	**Pn**	**03 55 34.1**	**+0.1**
NLAI				S	**Sn**	**03 55 44.3**	**+2.4**
MSAI	**Masohi**	**1.34**	**86**	P	Pn	03 55 50.5	+5.5
MSAI				S	**Sn**	**03 56 05.7**	**+4.1**
LBMI	**Labuha**	**2.78**	**358**	P	**Pn**	**03 56 06.4**	**+1.5**
LBMI				S	**Sn**	**03 56 36.2**	**-1.0**
SWI	**Sorong**	**4.47**	**55**	P	**Pn**	**03 56 27.3**	**-0.7**
FAKI	**Fak Fak**	**4.68**	**84**	P	**Pn**	**03 56 34.1**	**+3.2**
FAKI				S	**Sn**	**03 57 21.7**	**-2.3**
FITZ	**Fitzroy Crossi**	**14.70**	**187**	Pn	**Pn**	**03 58 50.0**	**+1.9**
	0.1nm,0.3s,baz=9.5,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**17.68**	**159**	P	**Pn**	**03 59 21.5**	**-4.5**
	0.2nm,0.3s,baz=344,slow=13,SNR=14						
ASAR	**Alice Springs**	**21.02**	**164**	P	**P**	**04 00 00.1**	**-2.9**
	0.3nm,0.4s,baz=343,slow=9.2,SNR=4.3						
MKAR	**Makanchi Array**	**63.95**	**327**	P	P	04 05 41.7	-10
	0.1nm,0.5s,baz=134,slow=6.2,SNR=2.5						

IDC 14 04:01:04.3±2.3,6.63S×147.48E,h0km,mb3.4/3, mb1 3.5/5,mb1mx3.4/19,mbtmp3.4/5,ML3.0/2,Error ellipse: s-maj=63.9km s-min=22.3km az=97.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.78**	**187**	Pn	Pn	04 01 52.1	+2.0
	7.1nm,0.3s,baz=6.1,slow=10,SNR=12						
PMG				Sn	Sn	04 02 24.7	+0.3
	7.3nm,0.3s,baz=15,slow=20,SNR=3.7						
WRA	**Warramunga Arr**	**18.39**	**223**	P	Pn	04 05 20.6	-0.3
	0.1nm,0.3s,baz=51,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**21.39**	**216**	P	P	04 05 52.8	-0.9
	0.2nm,0.4s,baz=50,slow=8.5,SNR=4.2						
FITZ	**Fitzroy Crossi**	**24.16**	**240**	P	P	04 06 21.5	-0.9
	2.3nm,0.9s,baz=69,slow=14,SNR=3.3						
SONM	**Songino Array**	**65.18**	**331**	P	P	04 11 47.9	+0.4
	0.3nm,0.3s,baz=139,slow=7.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**145.71**	**284**	PKPbc	PKPdf	04 20 45.4	-0.5
	0.4nm,1.0s,baz=78,slow=4.1,SNR=4.1						

*CSEM **14** 04:14:35.0,39.13N×14.67E,h373km,After ROM*
*ROM **14** 04:14:35.0±0.3,39.13N×14.67E,h373km±4km,Ml3.1/14, Error ellipse: s-maj=6.4km s-min=3.7km az=125.0*
*ISCJB **14** 04:14:36.8±0.4,39.29N±0.07×14.66E±0.10,h365km±5km, mb3.2/6,Error ellipse: s-maj=12.9km s-min=9.2km az=36.7*
*IDC **14** 04:14:39.6±1.6,39.46N×14.24E,h379km±21km,mb2.8/6, mb1 2.8/11,mb1mx2.7/32,mbtmp2.7/11,Error ellipse: s-maj=23.2km s-min=15.2km az=85.0*
ISC 14 04:14:37.3±0.6,39.33N±0.08×14.51E±0.07,h354km±7km, n71,σ1.9 19/89,mb3.2/6,Tyrrhenian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IFIL	**Filicudi I Eol**	**0.76**	**177**	Pg	**Pn**	**04 15 23.9**	**+1.1**
IFIL	**Filicudi I Eol**	**0.76**	**177**	Pg	**Pn**	**04 15 23.9**	**+1.1**
IACL	**Alicudi**	**0.80**	**189**	Pg	**Pn**	**04 15 24.1**	**+1.2**
	30nm,0.6s						
IACL	**Alicudi**	**0.80**	**189**	Pg	**Pn**	**04 15 24.1**	**+1.2**
	30nm,0.6s						
LLI	**Lipari**	**0.94**	**159**	Pg	**Pn**	**04 15 25.0**	**+1.6**
	287nm,0.9s						
LLI	**Lipari**	**0.94**	**159**	Pg	**Pn**	**04 15 25.0**	**+1.6**
	287nm,0.9s						
VPL	**Vulcano Piano**	**1.01**	**159**	Pg	**Pn**	**04 15 24.8**	**+1.1**
VPL	**Vulcano Piano**	**1.01**	**159**	Pg	**Pn**	**04 15 24.8**	**+1.1**
MGR	**Morigerati**	**1.14**	**44**	Pg	**Pn**	**04 15 26.2**	**+2.1**
	16nm,0.6s						
MGR	**Morigerati**	**1.14**	**44**	Pg	**Pn**	**04 15 26.2**	**+2.1**
	16nm,0.6s						
CMPR	**Campora**	**1.16**	**31**	Pg	**Pn**	**04 15 26.4**	**+2.2**
	12nm,0.7s						
CMPR	**Campora**	**1.16**	**31**	Pg	**Pn**	**04 15 26.4**	**+2.2**
	12nm,0.7s						
CUC	**Castrocucco**	**1.21**	**56**	Pg	**Pn**	**04 15 26.1**	**+1.7**
	11nm,0.6s						
CUC	**Castrocucco**	**1.21**	**56**	Pg	**Pn**	**04 15 26.1**	**+1.7**
	11nm,0.6s						
JOPP	**Joppolo**	**1.29**	**123**	Pg	**Pn**	**04 15 25.3**	**+0.4**
JOPP				Sg	**S**	**04 16 02.2**	**-0.9**
	37nm,0.4s						
JOPP	**Joppolo**	**1.29**	**123**	Pg	**Pn**	**04 15 25.3**	**+0.4**
JOPP				Sg	**S**	**04 16 02.2**	**-0.9**
	37nm,0.4s						
MSRU	**Castanea**	**1.32**	**143**	Pg	**Pn**	**04 15 25.1**	**+0.1**
MSRU				Sg	**S**	**04 16 02.6**	**-0.7**
	53nm,0.4s						
MSRU	**Castanea**	**1.32**	**143**	Pg	**Pn**	**04 15 25.1**	**+0.1**
MSRU				Sg	**S**	**04 16 02.6**	**-0.7**
	53nm,0.4s						
CARO	**Carolei**	**1.33**	**93**	Pg	**Pn**	**04 15 25.7**	**+0.7**
CARO				Sg	**S**	**04 16 02.6**	**-0.8**
CARO	**Carolei**	**1.33**	**93**	Pg	**Pn**	**04 15 25.7**	**+0.7**
CARO				Sg	**S**	**04 16 02.6**	**-0.8**
PLLN	**Pollina**	**1.36**	**192**	Pg	**Pn**	**04 15 26.1**	**+0.7**
	48nm,0.4s						
PLLN	**Pollina**	**1.36**	**192**	Pg	**Pn**	**04 15 26.1**	**+0.7**
	48nm,0.4s						
SGO	**Sicignano**	**1.38**	**26**	Pg	**Pn**	**04 15 27.5**	**+2.3**
SGO	**Sicignano**	**1.38**	**26**	Pg	**Pn**	**04 15 27.5**	**+2.3**
GIB	**Gibilmanna**	**1.39**	**196**	Pg	**Pn**	**04 15 25.9**	**+0.4**
	64nm,0.5s						
GIB	**Gibilmanna**	**1.39**	**196**	Pg	**Pn**	**04 15 25.9**	**+0.4**
	64nm,0.5s						
MNO	**Monte Soro**	**1.40**	**174**	Pg	**Pn**	**04 15 26.6**	**+0.9**
	20nm,0.2s						
MNO	**Monte Soro**	**1.40**	**174**	Pg	**Pn**	**04 15 26.6**	**+0.9**
	20nm,0.2s						
MCEL	**Monticello**	**1.41**	**44**	Pg	**Pn**	**04 15 27.9**	**+2.4**
MCEL	**Monticello**	**1.41**	**44**	Pg	**Pn**	**04 15 27.9**	**+2.4**
CSLB	**Castelbuono**	**1.43**	**195**	Pg	**Pn**	**04 15 26.2**	**+0.5**
CSLB	**Castelbuono**	**1.43**	**195**	Pg	**Pn**	**04 15 26.2**	**+0.5**
MSCL	**Scilla**	**1.48**	**137**	Pg	**Pn**	**04 15 26.1**	**+0.1**
	59nm,0.4s						
MSCL	**Scilla**	**1.48**	**137**	Pg	**Pn**	**04 15 26.1**	**+0.1**
	59nm,0.4s						
MMME	**Mongiuffi-Meli**	**1.50**	**157**	Pg	**Pn**	**04 15 26.5**	**+0.4**
	28nm,0.5s						
MMME	**Mongiuffi-Meli**	**1.50**	**157**	Pg	**Pn**	**04 15 26.5**	**+0.4**
	28nm,0.5s						
CEL	**Celeste**	**1.52**	**134**	Pg	**Pn**	**04 15 26.1**	**0.0**
CEL				Sg	**S**	**04 16 03.5**	**-1.8**
	32nm,0.5s						
CEL	**Celeste**	**1.52**	**134**	Pg	**Pn**	**04 15 26.1**	**0.0**
CEL				Sg	**S**	**04 16 03.5**	**-1.8**
	32nm,0.5s						
MTTG	**Motta San Giov**	**1.61**	**145**	Pg	**Pn**	**04 15 27.0**	**+0.3**
MTTG				Sg	**S**	**04 16 05.5**	**-0.7**
	42nm,0.5s						
MTTG	**Motta San Giov**	**1.61**	**145**	Pg	**Pn**	**04 15 27.0**	**+0.3**
MTTG				Sg	**S**	**04 16 05.5**	**-0.7**
	42nm,0.5s						
ALJA	**Alia**	**1.68**	**201**	Pg	**Pn**	**04 15 28.0**	**+0.9**
	31nm,0.4s						
ALJA	**Alia**	**1.68**	**201**	Pg	**Pn**	**04 15 28.0**	**+0.9**
	31nm,0.4s						
CORL	**Corleone**	**1.71**	**214**	Pg	**Pn**	**04 15 28.1**	**+0.8**
CORL	**Corleone**	**1.71**	**214**	Pg	**Pn**	**04 15 28.1**	**+0.8**
SERS	**Sersale**	**1.72**	**99**	Pg	**Pn**	**04 15 28.3**	**+1.0**
SERS				Sg	**S**	**04 16 05.9**	**-1.6**
SERS	**Sersale**	**1.72**	**99**	Pg	**Pn**	**04 15 28.3**	**+1.0**
SERS				Sg	**S**	**04 16 05.9**	**-1.6**
PLAC	**Placanica**	**1.74**	**120**	Pg	**Pn**	**04 15 27.9**	**+0.5**
PLAC				Sg	**S**	**04 16 06.5**	**-1.1**
PLAC	**Placanica**	**1.74**	**120**	Pg	**Pn**	**04 15 27.9**	**+0.5**
PLAC				Sg	**S**	**04 16 06.5**	**-1.1**
TIP	**Timpagrande**	**1.75**	**94**	Pg	**Pn**	**04 15 28.4**	**+0.9**
TIP				Sg	**S**	**04 16 07.1**	**-0.6**
	36nm,0.9s						
TIP	**Timpagrande**	**1.75**	**94**	Pg	**Pn**	**04 15 28.4**	**+0.9**
TIP				Sg	**S**	**04 16 07.1**	**-0.6**
	36nm,0.9s						
MPAZ	**Palizzi**	**1.80**	**139**	Pg	**Pn**	**04 15 27.9**	**+0.1**
MPAZ				Sg	**S**	**04 16 07.8**	**-0.5**
MPAZ	**Palizzi**	**1.80**	**139**	Pg	**Pn**	**04 15 27.9**	**+0.1**
MPAZ				Sg	**S**	**04 16 07.8**	**-0.5**
CRJA	**Costa Raja**	**1.93**	**218**	Pg	**Pn**	**04 15 29.6**	**+0.9**
	21nm,0.5s						
CRJA	**Costa Raja**	**1.93**	**218**	Pg	**Pn**	**04 15 29.6**	**+0.9**
	21nm,0.5s						
MMGO	**Monte Magaggia**	**2.05**	**216**	Pg	**Pn**	**04 15 30.1**	**+0.6**
	10.0nm,0.2s						
MMGO	**Monte Magaggia**	**2.05**	**216**	Pg	**Pn**	**04 15 30.1**	**+0.6**
	10.0nm,0.2s						
KEST	**Kesra**	**5.45**	**230**	P	**Pn**	**04 16 04.3**	**+2.1**
	0.1nm,0.3s,baz=45,slow=7.1,SNR=3.5						
DAVOX	**Davos/Dischmat**	**8.19**	**337**	P	**Pn**	**04 16 34.9**	**+1.2**
	0.3nm,0.3s,baz=158,slow=19,SNR=3.2						
GERES	**GERESS Array B**	**9.54**	**357**	P	**Pn**	**04 16 50.0**	**+0.4**
	0.1nm,0.3s,baz=171,slow=13,SNR=2.9						
ESDC	**Sonseca Array**	**14.27**	**277**	P	**Pn**	**04 17 46.5**	**+0.9**
	0.3nm,0.3s,baz=80,slow=12,SNR=3.7						
BRTR	**Keskin Array B**	**14.77**	**82**	P	**Pn**	**04 17 52.4**	**+0.9**
	0.1nm,0.3s,baz=262,slow=10.0,SNR=4.7						
EIL	**Elat**	**19.37**	**114**	P	**P**	**04 18 42.0**	**+3.4**
	0.3nm,0.3s,baz=323,slow=15,SNR=3.0						
EKA	**Esdalemuir Ar**	**19.90**	**329**	P	**P**	**04 18 41.7**	**-2.0**
	baz=144,slow=11,SNR=3.9						
HFS	**Hagfors**	**20.84**	**359**	P	**P**	**04 18 51.0**	**-1.3**
	1.6nm,0.5s,baz=184,slow=13,SNR=17						
NB2	**NORSAR Subarra**	**21.84**	**356**	P	**P**	**04 19 01.2**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=169,slow=11						
NOA	**NORSAR Array B**	**21.84**	**356**	P	**P**	**04 19 01.3**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=171,slow=11,SNR=6.6						
FINES	**FINESS Array B**	**23.27**	**14**	P	**P**	**04 19 14.1**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=189,slow=9.5,SNR=8.5						
TORD	**Torodi Ar. Bea**	**28.43**	**207**	P	**P**	**04 20 01.5**	**+0.7**
	comp=Z,0.2nm,0.9s,baz=19,slow=8.1,SNR=2.6						
ARCES	**ARCESS Array B**	**30.84**	**8**	P	**P**	**04 20 20.5**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=191,slow=9.1,SNR=14						
YKA	**Yellowknife Ar**	**70.62**	**338**	P	**P**	**04 25 13.7**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=36,slow=5.4,SNR=3.6						
MJAR	**Matsushiro Arr**	**88.42**	**42**	P	**P**	**04 26 49.5**	**-0.5**
	comp=Z,1.0nm,0.2s,baz=320,slow=3.6,SNR=2.7						

*NEIC **14** 04:24:02.5,19.53N×64.29W,h9km,MD3.5(RSPR),After RSPR.*
RSPR 14 04:24:02.5,19.53N×64.29W,h9km±15km,MD3.5/6,22C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.15**	**196**	⇑ *e*P	Pb	04 24 21.3	-3.3
TBVI				*e*S	Sg	04 24 36.7	-2.9
TBVI	**Tortola**	**1.15**	**196**	⇑ *e*P	Pb	04 24 21.3	-3.3
TBVI				*e*S	Sg	04 24 36.7	-2.9
TBVI	**Tortola**	**1.15**	**196**	⇑ *e*P	Pb	04 24 21.3	-3.3
TBVI				*e*S	Sg	04 24 36.7	-2.9
STVI	**Saint Thomas**	**1.33**	**208**	⇑ *e*P	Pn	04 24 24.2	-3.1
STVI	**Saint Thomas**	**1.33**	**208**	*e*Pn	Pn	04 24 23.7	-3.5
STVI				*e*S	Sb	04 24 41.6	-3.3
STVI	**Saint Thomas**	**1.33**	**208**	⇑ *e*P	Pn	04 24 24.2	-3.1
STVI				*e*S	Sb	04 24 40.8	-4.0
CDVI	**St. Croix**	**1.83**	**194**	*e*Pn	Pn	04 24 30.8	-3.3
CDVI				*e*S	Sn	04 24 57.0	-0.3
MTP	**Monte Pirata**	**1.86**	**220**	⇑ *e*P	Pn	04 24 31.6	-3.0
MTP	**Monte Pirata**	**1.86**	**220**	*e*Pn	Pn	04 24 31.6	-3.0
MTP				*e*S	Sn	04 24 53.5	-4.8
MTP	**Monte Pirata**	**1.86**	**220**	⇑ *e*P	Pn	04 24 31.6	-3.0
MTP				*e*S	Sn	04 24 54.5	-3.7
CBYP	**Canovanas**	**1.94**	**230**	⇑ *e*P	Pn	04 24 31.9	-3.9
CBYP	**Canovanas**	**1.94**	**230**	*e*Pn	Pn	04 24 31.9	-3.9
CBYP				*e*S	Sn	04 24 57.1	-3.2
CBYP	**Canovanas**	**1.94**	**230**	⇑ *e*P	Pn	04 24 31.9	-3.9
HUMP	**Col San Antoni**	**2.02**	**227**	⇑ *e*P	Pn	04 24 33.2	-3.6
HUMP	**Col San Antoni**	**2.02**	**227**	*e*S	Sn	04 24 58.1	-4.1
HUMP	**Col San Antoni**	**2.02**	**227**	⇑ *e*P	Pn	04 24 33.2	-3.6
HUMP				*e*S	Sn	04 24 58.1	-4.1
HUMP	**Col San Antoni**	**2.02**	**227**	⇑ *e*P	Pn	04 24 33.2	-3.6
HUMP				*e*S	Sn	04 24 58.1	-4.1
SJG	**San Juan**	**2.26**	**232**	⇑ *e*P	Pn	04 24 37.2	-2.8
SJG	**San Juan**	**2.26**	**232**	*e*Pn	Pn	04 24 38.3	-1.7
SJG				*e*S	Sn	04 25 04.2	-3.8
SJG	**San Juan**	**2.26**	**232**	⇑ *e*P	Pn	04 24 37.2	-2.8
CELP	**Cerrillos**	**2.61**	**237**	⇑ *e*P	Pn	04 24 42.1	-2.7
CELP				*e*S	Sn	04 25 12.8	-3.9
CELP	**Cerrillos**	**2.61**	**237**	⇑ *e*P	Pn	04 24 42.1	-2.7
CELP				*e*S	Sn	04 25 12.8	-3.9
CELP	**Cerrillos**	**2.61**	**237**	⇑ *e*P	Pn	04 24 42.1	-2.7
CELP				*e*S	Sn	04 25 12.8	-3.9
AOPR	**Arecibo Observ**	**2.61**	**244**	⇑ *e*P	Pn	04 24 42.6	-2.4
AOPR	**Arecibo Observ**	**2.61**	**244**	⇑ *e*P	Pn	04 24 42.6	-2.4
AOPR	**Arecibo Observ**	**2.61**	**244**	⇑ *e*P	Pn	04 24 42.6	-2.4
CRPR	**Cabo Rojo, PR**	**3.07**	**241**	⇑ *e*P	Pn	04 24 49.0	-2.2
CRPR	**Cabo Rojo, PR**	**3.07**	**241**	*e*Pn	Pn	04 24 48.9	-2.3
CRPR	**Cabo Rojo, PR**	**3.07**	**241**	⇑ *e*P	Pn	04 24 49.4	-1.8
SDDR	**Presa de Saban**	**6.63**	**266**	*e*Pn	Pn	04 25 36.6	-3.7

*NIED **14** 05:11:00,38.20N×141.70E,h59km,Mw3.7 Best double couple: M0 3.89000×10^14 NP1:φs353.00000°,δ61.00000°, λ96.00000°. NP2:φs160.00000°,δ30.00000°,λ79.00000°.*
*ISCJB **14** 05:11:33.9±1.0,38.14N±0.05×141.7E±0.1,h56km±7km, mb3.5/4,Error ellipse: s-maj=15.4km s-min=5.4km az=23.2*
*JMA **14** 05:11:35.0±0.1,38.18N×141.67E,h51km±1km,M3.7*
JMA Felt II J1.
*IDC **14** 05:11:38.8±1.1,37.70N×140.92E,h67km±9km,mb3.3/4, mb1 3.6/6,mb1mx3.3/24,mbtmp3.4/6,Error ellipse: s-maj=20.6km s-min=12.2km az=136.0*
ISC 14 05:11:35.1±1.1,38.16N±0.05×141.71E±0.09,h56km±8km, n21,σ1.9 25/28,mb3.6/4,1C-10D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.41**	**317**	⇓ P	**Pn**	**05 11 45.1**	**-0.7**
JIO				S	**Sn**	**05 11 51.8**	**-1.8**
JMM	**Marumori**	**0.78**	**249**	⇓ P	**Pn**	**05 11 49.2**	**-0.9**
JMM				S	**Sn**	**05 11 59.4**	**-1.7**
JOU	**Okura**	**0.85**	**285**	⇓ P	**Pn**	**05 11 50.6**	**-0.5**
JOU				S	**Sn**	**05 12 01.9**	**-0.9**
JMK	**Ichinoseki**	**0.88**	**334**	⇓ P	**Pn**	**05 11 51.0**	**-0.5**
JMK				S	**Sn**	**05 12 02.3**	**-1.2**
OFUJ	**Ofunato**	**0.93**	**358**	⇓ P	**Pn**	**05 11 51.3**	**-0.7**
OFUJ				S	**Sn**	**05 12 02.8**	**-1.7**
JFK	**Kawauchi**	**1.03**	**220**	⇑ P	**Pn**	**05 11 53.0**	**-0.4**
JFK				S	**Sn**	**05 12 05.7**	**-1.2**
JFT	**Otama**	**1.26**	**240**	⇓ P	**Pn**	**05 11 56.4**	**-0.1**
JFT				S	**Sn**	**05 12 11.7**	**-0.7**
JYS	**Shirataka**	**1.30**	**273**	⇓ P	**Pn**	**05 11 56.7**	**-0.3**
JYK	**Kaneyama**	**1.30**	**306**	P	**Pn**	**05 11 56.7**	**-0.4**
JOM	**Ohasama**	**1.36**	**346**	⇓ P	**Pn**	**05 11 57.5**	**-0.3**
JOM				S	**Sn**	**05 12 14.0**	**-0.7**
JRG	**Rokugo**	**1.50**	**326**	⇓ P	**Pn**	**05 11 59.8**	**+0.1**
JYA	**Atsumi**	**1.63**	**286**	⇓ P	**Pn**	**05 12 01.3**	**-0.1**
MJAR	**Matsushiro Arr**	**3.22**	**241**	P	Pn	05 12 17.8	-5.5
	0.2nm,0.3s,baz=80,slow=8.8,SNR=2.7						
MJAR				S	Sn	05 12 45.3	-15
	1.6nm,0.3s,baz=39,slow=13,SNR=6.6						
MAT	**Matsushiro**	**3.22**	**241**	P	**Pn**	**05 12 23.9**	**+0.7**
MAT				S	**Sn**	**05 12 58.7**	**-1.7**
USRK	**Ussuriysk Arra**	**9.49**	**313**	P	Pn	05 13 52.9	+4.0
	0.3nm,0.3s,baz=135,slow=15,SNR=4.4						
JNU	**Nakatsue**	**10.14**	**244**	P	Pn	05 13 51.8	-6.3
	0.3nm,0.3s,baz=67,slow=7.7,SNR=2.5						
ZALV	**Zalesovo Beam**	**41.34**	**311**	P	**P**	**05 19 15.7**	**+0.6**
	0.6nm,0.3s,baz=90,slow=7.2,SNR=2.8						
ZALV				pP	**pP**	**05 19 31.7**	**+2.1**
	0.7nm,0.3s,baz=76,slow=6.1,SNR=2.6						
MKAR	**Makanchi Array**	**43.73**	**301**	P	**P**	**05 19 34.5**	**-0.2**
	0.2nm,0.5s,baz=73,slow=9.1,SNR=3.8						
MKAR				pP	**pP**	**05 19 52.8**	**+3.5**
	0.7nm,0.7s,baz=92,slow=9.7,SNR=6.4						
WRA	**Warramunga Arr**	**58.20**	**188**	P	**P**	**05 21 22.7**	**-0.7**
	0.5nm,0.5s,baz=5.4,slow=7.0,SNR=15						
WRA				pP	**pP**	**05 21 38.6**	**0.0**
	0.9nm,1.2s,baz=5.8,slow=7.3,SNR=2.2						
YKA	**Yellowknife Ar**	**62.72**	**31**	P	P	05 22 00.8	+7.0
	0.1nm,0.3s,baz=297,slow=6.9,SNR=4.0						
ARCES	**ARCESS Array B**	**63.03**	**339**	pP	pP	05 22 15.7	+4.6

mb1 3.7/5,mb1mx3.5/25,mbtmp3.5/5,ML4.0/1,Error ellipse: s-maj=43.1km s-min=25.9km az=137.0

ISC 14 05:35:46.4±1.3,33°93'N×0°08'×25°29'E×0°05,h17km,n27,σ1§03/34,mb3.4/4,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.15**	**340**	*e*PB	**Pb**	**05 36 07.4**	**-0.5**
SIVA				*e*SB	**Sg**	**05 36 25.1**	**+1.3**
SIVA	**Sivas**	**1.15**	**340**	*e*Pb	**Pb**	**05 36 07.4**	**-0.5**
SIVA				*e*Sb	**Sg**	**05 36 25.1**	**+1.3**
LAST	**Lasithi**	**1.24**	**7**	*e*PB	**Pg**	**05 36 09.6**	**-0.8**
LAST				*e*SB	**Sg**	**05 36 26.7**	**+0.1**
LAST	**Lasithi**	**1.24**	**7**	*e*Pb	**Pg**	**05 36 09.6**	**-0.8**
LAST				*e*Sb	**Sg**	**05 36 26.7**	**+0.1**
GVD	**Gavdhos**	**1.34**	**313**	*e*PB	**Pb**	**05 36 10.7**	**-0.4**
GVD	**Gavdhos**	**1.34**	**313**	*e*Pb	**Pb**	**05 36 10.7**	**-0.4**
NPS	**Neapolis**	**1.36**	**11**	*e*PG	**Pb**	**05 36 11.4**	**0.0**
NPS				*e*SB	**Sg**	**05 36 30.5**	**+0.2**
NPS	**Neapolis**	**1.36**	**11**	*e*Pg	**Pb**	**05 36 11.4**	**0.0**
NPS				*e*Sb	**Sg**	**05 36 30.5**	**+0.2**
IDI	**Anoyia**	**1.39**	**347**	*e*PG	**Pb**	**05 36 11.3**	**-0.7**
IDI	**Anoyia**	**1.39**	**347**	*e*Pg	**Pb**	**05 36 11.3**	**-0.7**
VAM	**Vamos**	**1.72**	**329**	*e*PN	**Pb**	**05 36 16.6**	**-1.0**
VAM				*e*SN	**Sg**	**05 36 42.9**	**+0.9**
VAM	**Vamos**	**1.72**	**329**	*e*Pn	**Pb**	**05 36 16.6**	**-1.0**
VAM				*e*Sn	**Sg**	**05 36 42.9**	**+0.9**
KARP	**Karpathos**	**2.23**	**43**	*e*PN	**Pb**	**05 36 25.4**	**-0.9**
KARP	**Karpathos**	**2.23**	**43**	*e*Pn	**Pb**	**05 36 25.4**	**-0.9**
ANKY	**Antikythira Is**	**2.53**	**320**	*e*PB	**Pn**	**05 36 27.8**	**+1.1**
ANKY	**Antikythira Is**	**2.53**	**320**	*e*Pb	**Pn**	**05 36 27.8**	**+1.1**
KYTH	**Kithira**	**2.98**	**322**	*e*PN	**Pn**	**05 36 34.1**	**+1.1**
KYTH	**Kithira**	**2.98**	**322**	*e*Pn	**Pn**	**05 36 34.1**	**+1.1**
ARG	**Arkhangelos**	**3.26**	**45**	*e*PN	**Pn**	**05 36 38.4**	**+1.7**
ARG	**Arkhangelos**	**3.26**	**45**	*e*Pn	**Pn**	**05 36 38.4**	**+1.7**
VLI	**Veliai**	**3.38**	**326**	*e*PN	**Pn**	**05 36 39.5**	**+1.1**
VLI	**Veliai**	**3.38**	**326**	*e*Pn	**Pn**	**05 36 39.5**	**+1.1**
GERES	**GERESS Array B**	**17.22**	**333**	Pn	**Pn**	**05 39 45.5**	**-0.6**
	0.2nm,0.3s,baz=146,slow=14,SNR=5.0						
TORD	**Torodi Ar. Bea**	**29.79**	**232**	P	P	05 41 55.9	+3.4
	0.2nm,0.5s,baz=28,slow=8.1,SNR=3.4						
ARCES	**ARCESS Array B**	**35.66**	**0**	P	**P**	**05 42 40.8**	**-2.3**
	0.4nm,0.7s,baz=187,slow=8.2,SNR=3.9						
MKAR	**Makanchi Array**	**44.38**	**55**	P	**P**	**05 43 57.2**	**+1.3**
	0.3nm,0.4s,baz=283,slow=7.1,SNR=5.3						
SONM	**Songino Array**	**60.19**	**50**	P	**P**	**05 45 53.8**	**+0.3**
	0.2nm,0.4s,baz=273,slow=10.0,SNR=3.9						

IDC 14 05:38:02.9±2.0,4°14N×95°63E,h0km,mb3.3/3,mb1 3.5/4,mb1mx3.3/26,mbtmp3.3/4,Error ellipse: s-maj=71.4km s-min=20.3km az=41.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.54**	**112**	Pn	Pn	05 39 00.7	+1.4
	3.8nm,0.3s,baz=290,slow=13,SNR=10						
PSI				Lg	Lg	05 39 56.4	
	3.1nm,0.3s,baz=218,slow=19,SNR=4.6						
MKAR	**Makanchi Array**	**44.03**	**347**	P	P	05 46 12.1	-0.2
	0.2nm,0.7s,baz=148,slow=8.5,SNR=2.1						
WRA	**Warramunga Arr**	**44.94**	**124**	P	P	05 46 19.6	-0.4
	0.4nm,0.8s,baz=302,slow=9.3,SNR=4.7						
ASAR	**Alice Springs**	**46.42**	**128**	P	P	05 46 31.8	0.0
	0.4nm,0.7s,baz=301,slow=7.2,SNR=3.2						

IDC 14 05:58:34.6±2.3,4°42S×129°91E,h0km,mb3.6/1,mb1 3.7/4,mb1mx3.5/20,mbtmp3.5/4,ML3.4/3,Error ellipse: s-maj=104.6km s-min=28.5km az=74.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.23**	**197**	Pn	Pn	06 01 56.6	-0.9
	0.1nm,0.3s,baz=24,slow=18,SNR=2.3						
WRA	**Warramunga Arr**	**16.02**	**165**	Pn	Pn	06 02 21.4	-0.1
	0.1nm,0.3s,baz=348,slow=14,SNR=6.6						
WRA				Sn	Sn	06 05 14.8	-5.2
	0.0nm,0.3s,baz=348,slow=20,SNR=2.3						
ASAR	**Alice Springs**	**19.52**	**169**	P	P	06 03 04.1	+0.3
	0.3nm,0.3s,baz=348,slow=11,SNR=15						
MKAR	**Makanchi Array**	**66.04**	**326**	P	P	06 09 23.3	0.0
	0.3nm,0.4s,baz=127,slow=7.9,SNR=4.3						

*NEIC **14** 06:07:09.1±1.5,12°43N×89°14W,h35km,mb4.4/16,MD4.6(SNET),Error ellipse: s-maj=26.7km s-min=13.9km az=202.0*

NEIC Felt [III] at San Salvador.

*ISCJB **14** 06:07:13.3±0.5,12°84N±0°05×88°98W±0°05,h67km±4km,mb4.2/28,Error ellipse: s-maj=10.8km s-min=5.0km az=43.9*

*CASC **14** 06:07:13.7±1.8,12°85N×89°01W,h27km±4km,MD4.1,ML4.6*

*IDC **14** 06:07:19.0±3.5,13°14N×88°57W,h100km±29km,mb3.6/13,mb1 3.8/14,mb1mx3.7/25,mbtmp3.6/14,MS3.1/5,Ms1 3.1/5,ms1mx2.8/27,Error ellipse: s-maj=30.0km s-min=14.4km az=52.0*

ISC 14 06:07:14.0±1.2,12°88N±0°08×88°97W±0°06,h60km±9km,n275,σ1§10/278,mb4.3/28,MS3.2/4,102C-118D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIES	**Las Flores**	**0.58**	**352**	⇓*e*P	**Pn**	**06 07 26.1**	**-0.8**
AIES				*e*S	**Sn**	**06 07 35.6**	**-0.6**
AIES				AML	AML	06 07 39.6	
	comp=Z,33μm,0.3s						
SNVI	**San Vicente**	**0.74**	**10**	*e*P	**Pn**	**06 07 28.2**	**-0.7**
LFRS	**El Faro**	**0.75**	**353**	*e*P	**Pn**	**06 07 28.2**	**-0.8**
SNET	**Serv Nac Est T**	**0.84**	**343**	i/P	**Pn**	**06 07 29.6**	**-0.5**
SNET				AML	AML	06 07 43.6	
	comp=Z,20μm,0.2s						
LBRS	**Las Brisas**	**0.86**	**355**	⇓*e*P	**Pn**	**06 07 30.1**	**-0.2**
LFU	**La Fuente**	**0.88**	**351**	⇓*e*P	**Pn**	**06 07 30.4**	**-0.2**
LFU				*e*S	**Sn**	**06 07 43.2**	**+0.5**
BOQS	**Boqueron**	**0.90**	**341**	⇑*e*P	**Pn**	**06 07 30.8**	**-0.3**
BLLM	**Bellamira**	**0.91**	**52**	⇑*e*P	**Pn**	**06 07 30.8**	**-0.2**
SBLS	**San Blas**	**1.15**	**327**	*e*P	**Pn**	**06 07 34.1**	**-0.1**
CAHU	**Cacacuatique**	**1.16**	**40**	⇓*e*P	**Pn**	**06 07 35.1**	**+0.8**
CAHU				*e*S	**Sn**	**06 07 51.6**	**+2.2**
SNJE	**San Jose**	**1.16**	**328**	*e*P	**Pn**	**06 07 34.2**	**-0.2**
CNCH	**Conchagua**	**1.18**	**70**	⇑*e*P	**Pn**	**06 07 34.1**	**-0.4**
RTR	**El Retiro**	**1.21**	**327**	*e*P	**Pn**	**06 07 35.0**	**0.0**
RBDL	**Robledal**	**1.41**	**331**	⇓*e*P	**Pn**	**06 07 38.2**	**+0.5**
TGUH	**Tegucigalpa,Un**	**2.03**	**54**	*e*Pn	**Pn**	**06 07 46.8**	**+1.0**
NBG	**Las Nubes**	**2.16**	**322**	*e*P	**Pn**	**06 07 49.5**	**+1.5**
MRL	**Marmol**	**2.29**	**342**	*e*P	**Pn**	**06 07 51.8**	**+2.3**
MRL				*e*S	**Sn**	**06 08 18.6**	**+2.0**
FUG	**Fuego 3**	**2.40**	**311**	*e*P	**Pn**	**06 07 51.7**	**+0.7**
JAT	**Jato**	**2.96**	**299**	*e*P	**Pn**	**06 07 58.6**	**0.0**
JCR	**Jicaral**	**4.84**	**128**	*e*P	**Pn**	**06 08 24.7**	**+0.3**
SJS	**Escuela Geolog**	**5.64**	**121**	*e*P	Pn	06 08 39.1	+3.7
QCR	**Quepos**	**5.83**	**126**	⇓*e*P	**Pn**	**06 08 39.1**	**+1.1**
URSC	**Urasca**	**5.92**	**120**	*e*P	**Pn**	**06 08 41.6**	**+2.2**
BUS	**Buena Vista**	**6.09**	**122**	*e*P	**Pn**	**06 08 43.7**	**+1.8**
ACR	**Cerro Adams**	**7.08**	**126**	*e*P	**Pn**	**06 08 56.4**	**+1.3**
TEIG	**Tepich**	**7.34**	**5**	*e*Pn	Pn	06 09 01.9	+3.4
TEIG	**Tepich**	**7.34**	**5**	P	**Pn**	**06 08 59.8**	**+1.3**
	comp=Z,2.6nm,0.3s,baz=129,slow=2.4,SNR=23						
TEIG				Lg	Lg	06 11 07.0	
	comp=Z,1.0nm,0.3s,baz=339,slow=20,SNR=2.4						
TEIG				LR	LR	06 12 18.3	
	comp=Z,167nm,20.6s,baz=26,slow=42						
SDV	**Santo Domingo**	**18.44**	**101**	*e*Pn	**P**	**06 11 24.0**	**-1.1**
	comp=Z,14nm,0.9s						
TIGA	**Tifton**	**19.13**	**14**	⇑P	**P**	**06 11 31.3**	**-1.0**
	baz=20						
632A	**Uvalde**	**19.36**	**330**	⇑P	**P**	**06 11 35.2**	**+0.4**
	baz=20						
631A	**Perdido Creek**	**19.67**	**329**	⇓P	**P**	**06 11 39.0**	**+0.8**
	baz=20						
532A	**Rocksprings**	**19.93**	**331**	⇓P	**P**	**06 11 41.6**	**+0.5**
	baz=20,SNR=10						
JCT	**Junction City**	**20.18**	**332**	*e*P	**P**	**06 11 44.7**	**+0.9**
	comp=Z,6.7nm,0.8s						
JCT	**Junction City**	**20.18**	**332**	⇓P	**P**	**06 11 45.2**	**+1.5**
	baz=21,SNR=6.0						
531A	**Rocksprings**	**20.27**	**330**	⇓P	**P**	**06 11 45.6**	**+0.8**
	baz=21						
432A	**Menard**	**20.51**	**333**	⇑P	**P**	**06 11 48.4**	**+1.0**
	baz=21						
WHTX	**Lake Whitney**	**20.56**	**339**	⇑P	**P**	**06 11 48.2**	**+0.4**
	baz=21						
530A	**J-C Ranch, Com**	**20.65**	**328**	⇑P	**P**	**06 11 49.6**	**+0.7**
	baz=21						
431A	**Sonora**	**20.72**	**331**	⇓P	**P**	**06 11 50.5**	**+0.7**
	baz=21,SNR=8.4						
332A	**Millersview**	**20.92**	**333**	⇓P	**P**	**06 11 52.3**	**+0.6**
	baz=21,SNR=9.5						
628A	**Black Gap, Mar**	**20.98**	**324**	⇓P	**P**	**06 11 54.1**	**+1.6**
	baz=21,SNR=5.4						
GOGA	**Godfrey**	**21.05**	**13**	*e*P	**P**	**06 11 54.5**	**+1.4**
	comp=Z,11nm,0.7s						
529A	**Stev Forest Ra**	**21.10**	**327**	⇑P	**P**	**06 11 54.9**	**+1.2**
	baz=21						
430A	**Baggett Ranch,**	**21.12**	**330**	⇓P	**P**	**06 11 54.8**	**+0.9**
	baz=22						
331A	**San Angelo**	**21.16**	**332**	⇓P	**P**	**06 11 54.9**	**+0.5**
	baz=22,SNR=7.6						
627A	**Terlingua Ranc**	**21.24**	**323**	⇓P	**P**	**06 11 56.9**	**+1.6**
	baz=22,SNR=6.5						
TXAR	**Lajitas Array**	**21.32**	**322**	P	**P**	**06 11 58.0**	**+1.8**
	comp=Z,1.9nm,0.5s,baz=142,slow=10,SNR=50						
TXAR				PcP	**PcP**	**06 15 59.8**	**+1.1**
	comp=Z,0.2nm,0.8s,baz=141,slow=4.6,SNR=3.1						
429A	**Davenport Ranc**	**21.32**	**328**	⇑P	**P**	**06 11 57.1**	**+1.0**
	baz=22,SNR=7.3						
528A	**Cox Ranch, San**	**21.43**	**326**	⇓P	**P**	**06 11 58.5**	**+1.1**
	baz=22						
330A	**Mertzon**	**21.59**	**331**	⇑P	**P**	**06 11 59.1**	**0.0**
	baz=22						
231A	**Bronte**	**21.64**	**333**	⇑P	**P**	**06 11 59.5**	**0.0**
	baz=22						
626A	**Big Bend Ranch**	**21.75**	**322**	⇑P	**P**	**06 12 02.7**	**+1.9**
	baz=22						
428A	**Kincaid Ranch,**	**21.82**	**327**	⇑P	**P**	**06 12 02.4**	**+1.0**
	baz=22						
MIAR	**Mount Ida**	**21.97**	**350**	*e*P	**P**	**06 12 03.9**	**+0.9**
	comp=Z,12nm,0.8s						
UALR	**University of**	**22.01**	**353**	*e*P	**P**	**06 12 06.3**	**+2.9**
	comp=Z,8.5nm,0.8s						
329A	**Wagon Wheel Ra**	**22.05**	**329**	⇓P	**P**	**06 12 05.0**	**+1.0**
	baz=22						
328A	**Wristen Ranch,**	**22.39**	**328**	⇑P	**P**	**06 12 08.2**	**+0.6**
	baz=23,SNR=7.2						
Z32A	**Haskell**	**22.48**	**336**	⇑P	**P**	**06 12 08.4**	**-0.2**
	baz=23,SNR=7.8						
130A	**Snyder**	**22.49**	**333**	⇓P	**P**	**06 12 09.2**	**+0.6**
	baz=23						
Z31A	**Sharp Cattle R**	**22.76**	**335**	⇓P	**P**	**06 12 10.7**	**-0.8**
	baz=23,SNR=5.5						
228A	**UT Block 9, Go**	**22.87**	**329**	⇑P	**P**	**06 12 13.0**	**+0.4**
	baz=23						
129A	**Stewart Farms,**	**22.93**	**331**	⇓P	**P**	**06 12 12.6**	**-0.7**
	baz=23						
Y32A	**R-V Farms, Ver**	**23.09**	**337**	⇑P	**P**	**06 12 14.3**	**-0.5**
	baz=24						
227A	**Bennet, Jal**	**23.14**	**328**	⇓P	**P**	**06 12 16.0**	**+0.6**
	baz=24						
Z30A	**Sanderson Ranc**	**23.15**	**333**	⇓P	**P**	**06 12 15.5**	**+0.1**
	baz=24,SNR=6.5						
425A	**Indio Mountain**	**23.16**	**323**	⇑P	**P**	**06 12 16.5**	**+0.9**
	baz=24						
TKL	**Tuckaleechee C**	**23.16**	**11**	*e*P	**P**	**06 12 15.7**	**+0.2**
TKL	**Tuckaleechee C**	**23.16**	**11**	P	**P**	**06 12 15.6**	**+0.2**
	comp=Z,5.1nm,0.6s,baz=184,slow=10,SNR=9.8						
TKL				LR	LR	06 21 41.9	
	comp=Z,25nm,18.5s,baz=204,slow=38						
KMSC	**Kings Mountain**	**23.22**	**16**	⇓P	**P**	**06 12 14.2**	**-1.8**
	baz=24						
128A	**Castleberry Fa**	**23.22**	**330**	⇓P	**P**	**06 12 16.0**	**-0.2**
	baz=24						
Y31A	**Rekieta Farm,**	**23.37**	**336**	⇓P	**P**	**06 12 17.4**	**-0.1**
	baz=24,SNR=6.9						
Z29A	**Hungry Hill Ra**	**23.39**	**332**	⇓P	**P**	**06 12 18.3**	**+0.6**
	baz=24						
WMOK	**Wichita Mounta**	**23.51**	**339**	*e*P	**P**	**06 12 18.6**	**-0.2**
	comp=Z,2.0nm,0.4s						
Y30A	**Stafford Cattl**	**23.56**	**335**	⇓P	**P**	**06 12 19.9**	**+0.6**
	baz=24						
325A	**Bean Ranch, Si**	**23.57**	**324**	⇑P	**P**	**06 12 20.1**	**+0.5**
	baz=24						
226B	**Tecolote Peak,**	**23.66**	**326**	⇑P	**P**	**06 12 20.8**	**+0.6**
	baz=24						
127A	**Arkansas Junct**	**23.70**	**329**	⇑P	**P**	**06 12 20.5**	**-0.2**
	baz=24						
Z28A	**Tucker Farm, M**	**23.72**	**331**	⇓P	**P**	**06 12 20.9**	**0.0**
	baz=24						
TUL1	**Tulsa**	**23.74**	**346**	⇑P	**P**	**06 12 20.7**	**-0.2**
	baz=24						
GDL2	**Guadalupe Moun**	**23.86**	**326**	*e*P	P	06 12 29.6	+7.5
Y29A	**Porterfield Fa**	**23.88**	**333**	⇓P	**P**	**06 12 22.4**	**+0.2**
	baz=24						
324A	**Moseley Ranch,**	**23.92**	**323**	⇓P	**P**	**06 12 23.4**	**+0.6**
	baz=24						
X30A	**Coker Ranch, T**	**24.04**	**335**	⇑P	**P**	**06 12 24.1**	**+0.5**
	baz=24,SNR=14						
W31A	**Holland Ranch,**	**24.33**	**338**	⇓P	**P**	**06 12 25.9**	**-0.3**
	baz=25						
125A	**Gardner Draw,**	**24.37**	**326**	⇓P	**P**	**06 12 27.9**	**+1.2**
	baz=25						
X29A	**Tulia**	**24.39**	**334**	⇑P	**P**	**06 12 26.9**	**+0.1**
	baz=25						
224A	**Cornudas Mount**	**24.41**	**324**	⇓P	**P**	**06 12 28.0**	**+0.8**
	baz=25						
MSTX	**Muleshoe**	**24.47**	**331**	⇑P	**P**	**06 12 28.0**	**+0.4**
	baz=25,SNR=5.3						
Z26A	**Caprock**	**24.49**	**328**	⇑P	**P**	**06 12 28.2**	**+0.3**
	baz=25						
Y27A	**Causey**	**24.58**	**331**	⇓P	**P**	**06 12 29.0**	**+0.3**
	baz=25,SNR=7.1						
X28A	**Dimmitt**	**24.66**	**333**	⇑P	**P**	**06 12 29.8**	**+0.4**
	baz=25						
SIUC	**Southern Illin**	**24.74**	**360**	*e*P	**P**	**06 12 29.9**	**0.0**
	comp=Z,6.8nm,0.6s						
V31A	**Spring Creek L**	**24.82**	**339**	⇑P	**P**	**06 12 31.2**	**+0.5**
	baz=25						
124A	**Stringfield Ra**	**24.84**	**325**	⇑P	**P**	**06 12 33.1**	**+1.9**
	baz=25						
Z25A	**Roswell**	**24.88**	**327**	⇑P	**P**	**06 12 32.5**	**+1.1**
	baz=25,SNR=5.4						
W29A	**Amraillo**	**24.94**	**335**	⇓P	**P**	**06 12 32.6**	**+0.7**
	baz=25						
Y25A	**Mesa, Roswell**	**25.37**	**328**	⇑P	**P**	**06 12 36.7**	**+0.8**
	baz=26,SNR=5.2						
X26A	**CR and CF Fran**	**25.43**	**331**	⇑P	**P**	**06 12 37.2**	**+0.7**
	baz=26						
W27A	**Bowe Ranch, En**	**25.51**	**332**	⇑P	**P**	**06 12 37.8**	**+0.7**
	baz=26,SNR=6.6						
V28A	**Channing**	**25.72**	**335**	⇑P	**P**	**06 12 39.4**	**+0.4**
	baz=26,SNR=6.4						
Y24A	**Capitan**	**25.76**	**327**	⇓P	**P**	**06 12 41.0**	**+1.5**
	baz=26						
U30A	**WK&E Inc. Balk**	**25.79**	**338**	⇓P	**P**	**06 12 40.8**	**+1.3**
	baz=26						
T31A	**Randall Ranch,**	**25.96**	**340**	⇓P	**P**	**06 12 41.0**	**0.0**
	baz=26						
V27A	**Dan Oppiter Fa**	**25.99**	**334**	⇑P	**P**	**06 12 42.3**	**+0.8**
	baz=26						
121A	**Cookes Peak, D**	**26.07**	**322**	⇑P	**P**	**06 12 44.2**	**+1.9**
	baz=26						
Y23A	**Lovelace Mesa,**	**26.09**	**326**	⇑P	**P**	**06 12 44.0**	**+1.5**
	baz=26,SNR=5.6						
W25A	**X Bar L Ranch,**	**26.29**	**330**	⇓P	**P**	**06 12 45.0**	**+0.9**
	baz=27,SNR=5.1						
V26A	**Tequesquite Ra**	**26.44**	**332**	⇑P	**P**	**06 12 46.1**	**+0.6**
	baz=27,SNR=6.9						
U27A	**Thompson Grove**	**26.55**	**334**	⇓P	**P**	**06 12 47.6**	**+1.1**
	baz=27						
T29A	**Hugoton**	**26.58**	**338**	⇑P	**P**	**06 12 47.6**	**+0.9**
	baz=27						
Y22A	**Socorro**	**26.60**	**325**	⇓P	**P**	**06 12 49.4**	**+2.4**
	baz=27						
W24A	**Lazy 6 Ranch,**	**26.75**	**329**	⇓P	**P**	**06 12 49.8**	**+1.4**
	baz=27						
V25A	**Rancho No Teng**	**26.86**	**331**	⇓P	**P**	**06 12 49.8**	**+0.4**
	baz=27,SNR=7.4						
U26A	**Atchley Ranch,**	**26.92**	**333**	⇑P	**P**	**06 12 50.7**	**+0.8**
	baz=27,SNR=6.0						
S29A	**Ulysses**	**26.92**	**338**	⇓P	**P**	**06 12 50.9**	**+1.1**
	baz=27						
R31A	**Burdett**	**27.00**	**341**	⇓P	**P**	**06 12 50.6**	**+0.2**
	baz=28						
T27A	**Campo**	**27.05**	**335**	⇓P	**P**	**06 12 51.3**	**+0.3**
	baz=28						
ANMO	**Albuquerque**	**27.08**	**327**	P	**P**	**06 12 53.4**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=105,slow=10,SNR=3.7						
ANMO				PcP	**PcP**	**06 16 12.2**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=207,slow=6.8,SNR=3.3						
V24A	**Rampart Ranch,**	**27.09**	**330**	⇑P	**P**	**06 12 53.3**	**+1.8**
	baz=28						
S28A	**Manter**	**27.18**	**337**	⇓P	**P**	**06 12 52.8**	**+0.6**
	baz=28						
U25A	**Circle Dot Ran**	**27.22**	**332**	⇑P	**P**	**06 12 54.2**	**+1.5**
	baz=28						
R30A	**Dighton**	**27.23**	**340**	⇑P	**P**	**06 12 53.2**	**+0.7**
	baz=28						
Y20A	**Horse Springs,**	**27.39**	**323**	⇓P	**P**	**06 12 56.4**	**+2.2**
	baz=28						
R28A	**Tribune**	**27.82**	**338**	⇓P	**P**	**06 12 58.2**	**+0.4**
	baz=28						
T25A	**Trinidad**	**27.84**	**333**	⇓P	**P**	**06 12 59.2**	**+1.1**
	baz=28,SNR=7.2						
S26A	**Kim**	**27.84**	**335**	⇑P	**P**	**06 12 58.4**	**+0.4**
	baz=28						
Q29A	**Oakley**	**28.01**	**340**	⇑P	**P**	**06 12 59.2**	**-0.3**
	baz=28						
U23A	**El Rito**	**28.02**	**329**	⇑P	**P**	**06 13 01.8**	**+2.0**
	baz=28						
V22A	**San Miguel Ran**	**28.06**	**328**	⇑P	**P**	**06 13 01.7**	**+1.6**
	baz=28						
R27A	**Eads**	**28.14**	**337**	⇑P	**P**	**06 13 01.3**	**+0.7**
	baz=29						
S25A	**Robets Cordova**	**28.28**	**333**	⇑P	**P**	**06 13 03.3**	**+1.2**
	baz=29						
U22A	**Llaves**	**28.39**	**329**	⇓P	**P**	**06 13 04.8**	**+1.7**
	baz=29						
R26A	**Arlington**	**28.41**	**336**	⇓P	**P**	**06 13 04.2**	**+1.1**
	baz=29						
T23A	**Casias Ranch,**	**28.50**	**331**	⇓P	**P**	**06 13 05.2**	**+1.0**
	baz=29						
S24A	**Houchin Ranch,**	**28.61**	**332**	⇓P	**P**	**06 13 06.8**	**+1.7**
	baz=29						
R25A	**Fountain Ranch**	**28.62**	**334**	⇓P	**P**	**06 13 06.6**	**+1.6**
	baz=29						
P29A	**Atwood**	**28.64**	**340**	⇑P	**P**	**06 13 06.0**	**+0.9**
	baz=29						
KSCO	**Kaye Shedlock'**	**28.71**	**337**	⇑P	**P**	**06 13 06.5**	**+0.7**
	baz=29						
U21A	**Nageezi**	**28.84**	**328**	⇓P	**P**	**06 13 09.1**	**+2.0**
	baz=29						
P28A	**Saint Francis**	**28.89**	**339**	⇓P	**P**	**06 13 08.1**	**+0.7**
	baz=29						
214A	**Organ Pipe Nat**	**28.97**	**315**	⇓P	P	06 13 11.4	+3.4
	baz=29						
Q26A	**Hugo**	**28.97**	**336**	⇑P	**P**	**06 13 08.9**	**+0.8**
	baz=29						
R23A	**Moffat**	**29.34**	**332**	⇑P	**P**	**06 13 12.9**	**+1.3**
	baz=30						
S22A	**4UR Ranch, Cre**	**29.45**	**330**	⇑P	**P**	**06 13 13.9**	**+1.4**
	baz=30						
O27A	**Beecher Island**	**29.69**	**339**	⇓P	**P**	**06 13 15.1**	**+0.7**
	baz=30						
MVCO	**Mesa Verde**	**29.87**	**328**	⇑P	**P**	**06 13 18.4**	**+2.1**
	baz=30						
P23A	**Jefferson**	**30.32**	**334**	⇓P	**P**	**06 13 21.9**	**+1.7**
	baz=31						
Q22A	**Crested Butte,**	**30.38**	**332**	⇑P	**P**	**06 13 22.3**	**+1.5**
	baz=31						
N26A	**Koester Ranch,**	**30.52**	**338**	⇑P	**P**	**06 13 22.7**	**+0.9**
	baz=31						
R20A	**Redvale**	**30.56**	**329**	⇓P	**P**	**06 13 23.8**	**+1.5**
	baz=31						
ISCO	**Idaho Springs**	**30.57**	**334**	*e*P	**P**	**06 13 23.4**	**+0.9**
	comp=Z,2.0nm,0.9s						
ISCO	**Idaho Springs**	**30.57**	**334**	⇑P	**P**	**06 13 23.4**	**+0.9**
	baz=31						
O24A	**Longmont**	**30.62**	**335**	⇑P	**P**	**06 13 23.7**	**+1.0**
	baz=31						
SMCO	**Snowmass**	**30.66**	**332**	P	**P**	**06 13 22.2**	**-1.2**
	comp=Z,8.2nm,0.8s						
P22A	**Eagle**	**30.90**	**333**	⇑P	**P**	**06 13 26.6**	**+1.3**
	baz=31						
GLA	**Glamis**	**30.99**	**315**	⇑P	**P**	**06 13 29.1**	**+3.1**
	baz=31						
O22A	**Kremmling**	**31.27**	**334**	⇑P	**P**	**06 13 29.5**	**+0.8**
	baz=32						
K29A	**Lazy Trails An**	**31.36**	**344**	⇑P	**P**	**06 13 29.6**	**+0.5**
	baz=32						
N23A	**Red Feather La**	**31.63**	**335**	⇑P	**P**	**06 13 32.7**	**+1.0**
	baz=32						
M24A	**Cheyenne**	**31.67**	**337**	⇓P	**P**	**06 13 33.1**	**+1.1**
	baz=32						
N22A	**Wattenberg Ran**	**31.76**	**334**	⇑P	**P**	**06 13 34.2**	**+1.3**
	baz=32						
O20A	**White River Ci**	**32.01**	**331**	⇓P	**P**	**06 13 36.8**	**+1.8**
	baz=32						
M23A	**Laramie**	**32.02**	**336**	⇑P	**P**	**06 13 36.0**	**+0.9**
	baz=32						
J28A	**

E24A	**Baker** baz=36	**35.98**	**342**	⇓P	**P**	**06 14 10.2 +1.1**
G20A	**Bridger** baz=37	**36.16**	**337**	⇓P	**P**	**06 14 11.6 +0.8**
E23A	**Ismay** baz=37	**36.24**	**341**	⇓P	**P**	**06 14 11.6 +0.3**
H18A	**Shoshone NF, C** baz=37	**36.29**	**335**	⇓P	**P**	**06 14 13.2 +1.1**
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.4s,baz=139,slow=6.0,SNR=4.6	**36.41**	**320**	P	**P**	**06 14 14.6 +1.5**
NVAR				PcP	**PcP**	**06 16 38.1 +1.7**
D24A	**Glendive** comp=Z,0.7nm,0.6s,baz=137,slow=3.8,SNR=5.8 baz=37	**36.49**	**342**	⇓P	**P**	**06 14 14.3 +0.8**
F20A	**Billings** baz=37	**36.62**	**337**	⇑P	**P**	**06 14 15.7 +1.0**
G18A	**Lazy EL Ranch,** baz=37	**36.77**	**336**	⇑P	**P**	**06 14 17.0 +0.9**
D23A	**Lindsay** baz=37	**36.80**	**341**	⇑P	**P**	**06 14 17.3 +1.1**
C24A	**Savage** baz=37,SNR=5.9	**36.89**	**342**	⇓P	**P**	**06 14 17.5 +0.6**
F19A	**Roth Farm, Mol** baz=37	**36.97**	**337**	⇓P	**P**	**06 14 18.6 +0.9**
D22A	**Cohagen** baz=38,SNR=9.7	**37.09**	**340**	⇑P	**P**	**06 14 19.5 +0.8**
E20A	**Meyer Farm, Mu** baz=38,SNR=7.0	**37.21**	**338**	⇓P	**P**	**06 14 20.1 +0.5**
F18A	**Big Timber** baz=38	**37.32**	**336**	⇓P	**P**	**06 14 21.7 +1.1**
C23A	**Lambert** baz=38	**37.36**	**342**	⇓P	**P**	**06 14 21.6 +0.7**
I14A	**Mackay** baz=38	**37.41**	**330**	⇑P	**P**	**06 14 23.1 +1.6**
E19A	**Rath Farm, Rou** baz=38	**37.42**	**337**	⇑P	**P**	**06 14 22.6 +1.1**
C22A	**Vida** baz=38,SNR=5.3	**37.52**	**341**	⇑P	**P**	**06 14 23.1 +0.8**
DGMT	**Dagmar** comp=Z,19nm,0.6s	**37.67**	**343**	*e*P	**P**	**06 14 24.3 +0.8**
DGMT	**Dagmar** baz=38,SNR=6.3	**37.67**	**343**	⇓P	**P**	**06 14 23.8 +0.3**
ULM	**Lac du Bonnet** comp=Z,1.8nm,0.3s,baz=172,slow=8.9,SNR=4.5	**37.69**	**353**	P	**P**	**06 14 22.1 -1.4**
ULM				LR	LR	06 31 50.9
F17A	**Fitzpatrick Pl** comp=Z,40nm,19.0s,baz=91,slow=39 baz=38	**37.70**	**335**	⇓P	**P**	**06 14 24.7 +0.8**
MCMT	**McKenzie Canyo** comp=Z,1.4nm,0.8s	**37.80**	**332**	*e*P	**P**	**06 14 26.0 +1.1**
B23A	**Brockton** baz=38	**37.90**	**343**	⇑P	**P**	**06 14 26.4 +1.0**
A24A	**Westby** baz=38	**38.03**	**344**	⇑P	**P**	**06 14 27.3 +0.8**
D19A	**Cripps Ranch,** baz=38,SNR=5.1	**38.05**	**338**	⇓P	**P**	**06 14 27.2 +0.5**
B22A	**Reddig Ranch S** baz=38	**38.05**	**342**	⇑P	**P**	**06 14 27.6 +0.9**
I12A	**Atlanta** baz=38	**38.14**	**329**	⇑P	**P**	**06 14 28.8 +1.2**
C20A	**Veseth Ranch,** baz=39,SNR=9.0	**38.20**	**339**	⇑P	**P**	**06 14 28.5 +0.6**
MFID	**Camas Ranch** baz=39	**38.22**	**328**	⇓P	**P**	**06 14 30.8 +2.5**
E17A	**Martinsdale** baz=39	**38.23**	**335**	⇑P	**P**	**06 14 29.3 +0.9**
D18A	**Linhart Farms,** baz=39	**38.42**	**337**	⇓P	**P**	**06 14 30.9 +1.0**
H12A	**Diamond D Ranc** baz=39	**38.55**	**330**	⇓P	**P**	**06 14 33.2 +2.1**
C19A	**Slack Wire Ran** baz=39,SNR=12	**38.59**	**338**	⇓P	**P**	**06 14 31.8 +0.6**
A22A	**Carney Farms,** baz=39	**38.64**	**342**	⇑P	**P**	**06 14 33.0 +1.4**
D17A	**Six Diamond Ra** baz=39	**38.72**	**336**	⇑P	**P**	**06 14 33.9 +1.4**
A21A	**Bergtoll Ranch** baz=39	**38.95**	**341**	⇓P	**P**	**06 14 35.2 +0.9**
EGMT	**Eagleton** comp=Z,12nm,0.9s	**39.09**	**338**	*e*P	**P**	**06 14 36.6 +1.1**
EGMT				*e*PcP	PcP	06 16 37.4 -6.9
EGMT	**Eagleton** baz=40	**39.09**	**338**	⇓P	**P**	**06 14 36.6 +1.1**
C17A	**Wharram Farm,** baz=40	**39.15**	**337**	⇓P	**P**	**06 14 36.9 +1.0**
B19A	**Brinkman Farms** baz=40,SNR=9.6	**39.16**	**339**	⇓P	**P**	**06 14 36.6 +0.6**
A20A	**Cobblestone Ra** baz=40,SNR=6.8	**39.18**	**340**	⇓P	**P**	**06 14 36.9 +0.8**
G12A	**Big Creek, Yel** baz=40	**39.20**	**330**	⇓P	**P**	**06 14 37.8 +1.3**
D15A	**Lincoln** baz=40	**39.38**	**334**	⇓P	**P**	**06 14 38.5 +0.5**
B18A	**Beardsley Farm** baz=40	**39.41**	**338**	⇑P	**P**	**06 14 38.5 +0.4**
A19A	**Klindworth Far** baz=40	**39.49**	**339**	⇓P	**P**	**06 14 39.5 +0.7**
C16A	**Fuhringer Ranc** baz=40	**39.67**	**336**	⇓P	**P**	**06 14 40.6 +0.2**
SIV	**San Ignacio** comp=Z,4.8nm,0.8s,baz=318,slow=7.7,SNR=15	**39.80**	**135**	P	**P**	**06 14 41.8 +0.2**
SIV				PcP	**PcP**	**06 16 47.5 +0.5**
D14A	**Greenough** comp=Z,1.2nm,0.5s,baz=295,slow=4.9,SNR=5.8 baz=40	**39.83**	**334**	⇑P	**P**	**06 14 42.2 +0.5**
A18A	**Metzger Ranch,** baz=40	**39.87**	**338**	⇑P	**P**	**06 14 42.4 +0.5**
C15A	**Salmond Ranch,** baz=40	**40.00**	**335**	⇑P	**P**	**06 14 44.5 +1.4**
A17A	**Triple J Farms** baz=41,SNR=7.1	**40.20**	**338**	⇑P	**P**	**06 14 45.0 +0.3**
E12A	**Beaver Dam Sad** baz=41	**40.26**	**331**	⇓P	**P**	**06 14 45.3 0.0**
D13A	**Huson** baz=41	**40.26**	**333**	⇑P	**P**	**06 14 45.7 +0.5**
B15A	**Bradely Ranch,** baz=41	**40.41**	**336**	⇓P	**P**	**06 14 46.9 +0.5**
A16A	**West Butte Ran** baz=41	**40.54**	**337**	⇓P	**P**	**06 14 48.3 +0.8**
A15A	**Johnson Ranch,** baz=41	**41.01**	**336**	⇑P	**P**	**06 14 52.6 +1.2**
B13A	**Whitefish** baz=42	**41.24**	**334**	⇑P	**P**	**06 14 54.6 +1.3**
A14A	**Double T Ranch** baz=42	**41.28**	**336**	⇓P	**P**	**06 14 54.9 +1.3**
A13A	**Flathead Natio** baz=42	**41.65**	**335**	⇓P	**P**	**06 14 57.9 +1.2**
FFC	**Flin Flon** comp=Z,5.8nm,0.7s	**42.98**	**349**	*e*P	**P**	**06 15 06.6 -0.6**
SCHQ	**Schefferville** comp=Z,1.9nm,0.4s,baz=229,slow=8.4,SNR=9.8	**45.31**	**18**	P	**P**	**06 15 23.6 -2.4**
SCHQ				PcP	**PcP**	**06 17 02.6 -2.1**
BDFB	**Brasilia** comp=Z,2.3nm,0.7s,baz=292,slow=5.4,SNR=3.5	**49.45**	**124**	P	**P**	**06 15 57.7 -0.9**
CPUP	**Villa Florida** comp=Z,27nm,19.4s,baz=295,slow=35	**49.66**	**142**	LR	LR	06 36 08.4
YKA	**Yellowknife Ar** comp=Z,3.0nm,0.6s,baz=139,slow=7.8,SNR=48	**52.82**	**345**	P	**P**	**06 16 22.3 -0.8**
YKA				PcP	**PcP**	**06 17 30.8 -0.9**
ILAR	**Eielson Array** comp=Z,0.4nm,0.6s,baz=152,slow=3.9,SNR=5.1	**65.03**	**336**	P	**P**	**06 17 46.6 -1.2**
SDPT	**Sand Point** comp=Z,379nm,0.3s	**68.99**	**325**	*e*P	P	06 18 18.9 +5.8
NOA	**NORSAR Array B** comp=Z,8.2nm,20.2s,baz=155,slow=34	**83.71**	**29**	LR	LR	06 54 15.2
ARCES	**ARCESS Array B** comp=Z,0.6nm,0.6s,baz=299,slow=4.0,SNR=6.4	**86.26**	**19**	P	**P**	**06 19 47.0 -2.0**
TORD	**Torodi Ar. Bea** comp=Z,1.0nm,1.1s,baz=294,slow=5.8,SNR=4.4	**87.77**	**77**	P	P	06 19 54.5 -2.8
MKAR	**Makanchi Array** comp=Z,0.2nm,0.4s,baz=312,slow=2.8,SNR=5.3	**120.09**	**7**	PKP	**PKPdf**	**06 25 56.8 -1.6**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.5s,baz=89,slow=2.7,SNR=11	**137.95**	**254**	PKP	**PKPdf**	**06 26 33.9 +1.1**
FITZ	**Fitzroy Crossi** comp=Z,1.6nm,0.9s,baz=90,slow=11,SNR=1.5	**146.28**	**257**	PKPbc	**PKPdf**	**06 26 48.4 +0.7**
CMAR	**Chiang Mai Arr** comp=Z,0.9nm,0.3s,baz=343,slow=3.3,SNR=6.5	**147.90**	**346**	PKPbc	**PKPdf**	**06 26 51.0 +0.5**

IDC 14 06:07:46.8±1.8,10.09S×153.93E,h0km,mb3.9/6, mb1 4.1/6,mb1mx3.9/17,mbtmp3.9/6,MS3.6/12, Ms1 3.6/12,ms1mx3.4/20,Error ellipse: s-maj=57.0km s-min=25.5km az=119.0,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara** comp=Z,858nm,18.6s,baz=281,slow=32	**5.96**	**84**	LR	LR	06 10 59.3	
DZM	**Mont Dzumac** 889nm,23.0s	**16.91**	**136**	*e*LR	LR	06 15 38.5	
WRA	**Warramunga Arr** 2.4nm,0.9s,baz=62,slow=10,SNR=7.8	**21.29**	**240**	P	P	06 12 35.8	+0.6
ASAR	**Alice Springs** 2.7nm,1.0s,baz=61,slow=9.6,SNR=8.2	**23.40**	**232**	P	P	06 12 57.3	-0.3
STKA	**Stephens Creek** 5.6nm,1.0s,baz=13,slow=14,SNR=3.8	**24.51**	**206**	P	P	06 13 07.7	-0.4
STKA	comp=Z,226nm,19.1s,baz=26,slow=37			LR	LR	06 22 50.0	
FITZ	**Fitzroy Crossi** comp=Z,227nm,19.6s,baz=77,slow=37	**28.55**	**251**	LR	LR	06 25 11.0	
KAPI	**Kappang** comp=Z,39nm,18.5s,baz=360,slow=39	**34.24**	**276**	LR	LR	06 29 52.7	
NWAO	**Narrogin (SRO)** comp=Z,118nm,20.8s,baz=13,slow=34	**40.70**	**230**	LR	LR	06 31 08.1	
MJAR	**Matsushiro Arr** comp=Z,34nm,20.8s,baz=90,slow=33	**48.68**	**343**	LR	LR	06 34 19.9	
KSRS	**Korea Array** comp=Z,35nm,19.4s,baz=165,slow=31	**53.21**	**334**	LR	LR	06 35 30.9	
PPT2	**Papeete2** 116nm,32.5s	**55.19**	**104**	*e*LR	LR	06 33 22.1	
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=125,slow=5.6,SNR=4.6	**61.22**	**297**	P	P	06 18 04.7	+0.6
PETK	**Petropavlovsk-** comp=Z,23nm,21.6s,baz=338,slow=31	**63.03**	**3**	LR	LR	06 40 13.4	
VNDA	**Vanda** comp=Z,29nm,19.2s,baz=341,slow=33	**67.54**	**178**	LR	LR	06 44 36.1	
SONM	**Songino Array** 0.2nm,0.3s,baz=154,slow=8.0,SNR=3.9	**71.38**	**328**	P	P	06 19 07.8	-1.1
SONM	comp=Z,59nm,19.0s,baz=189,slow=35			LR	LR	06 49 12.0	
MKAR	**Makanchi Array** comp=Z,36nm,19.2s,baz=175,slow=33	**85.03**	**319**	LR	LR	06 54 48.8	
ILAR	**Eielson Array** 0.5nm,0.7s,baz=210,slow=7.0,SNR=3.9	**86.62**	**22**	P	P	06 20 32.4	+0.5
ILAR	comp=Z,35nm,20.2s,baz=344,slow=32			LR	LR	06 53 35.8	

IDC 14 06:29:11.0±1.1,13.24N×57.33E,h0km,mb3.7/8, mb1 3.9/8,mb1mx3.6/26,mbtmp3.7/8,MS3.1/5,Ms1 3.1/5, ms1mx2.8/31,Error ellipse: s-maj=30.3km s-min=26.4km az=52.0,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo** comp=Z,36nm,20.6s,baz=98,slow=35	**24.49**	**236**	LR	LR	06 43 25.5	
EIL	**Elat** comp=Z,38nm,18.4s,baz=258,slow=36	**26.39**	**312**	LR	LR	06 45 07.5	
GNI	**Garni** comp=Z,24nm,20.8s,baz=288,slow=38	**29.00**	**340**	LR	LR	06 47 35.6	
AAK	**Ala-Archa** comp=Z,39nm,20.7s,baz=192,slow=38	**32.85**	**24**	LR	LR	06 49 56.3	
AKTO	**Aktyubinsk** comp=Z,32nm,18.1s,baz=351,slow=38	**37.10**	**1**	LR	LR	06 52 31.2	
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=212,slow=11,SNR=3.2	**39.48**	**27**	P	P	06 36 44.0	+0.8
KURBB	**Kurchatov Arra** 0.2nm,0.4s,baz=218,slow=8.2,SNR=5.5	**41.09**	**21**	P	P	06 36 57.0	+0.6
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=202,slow=6.2,SNR=2.8	**46.04**	**22**	P	P	06 37 36.9	+0.6
FINES	**FINESS Array B** 1.7nm,0.6s,baz=151,slow=12,SNR=6.4	**53.16**	**342**	P	P	06 38 29.3	-1.2
TORD	**Torodi Ar. Bea** 0.4nm,0.6s,baz=64,slow=7.3,SNR=3.2	**54.06**	**277**	P	P	06 38 38.9	+1.0
ARCES	**ARCESS Array B** 1.7nm,0.8s,baz=126,slow=6.3,SNR=7.7	**59.73**	**348**	P	P	06 39 15.8	-1.5
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=296,slow=4.6,SNR=4.3	**82.61**	**112**	P	P	06 41 36.1	-0.6
ASAR	**Alice Springs** 0.7nm,0.6s,baz=294,slow=4.9,SNR=7.0	**83.31**	**116**	P	P	06 41 40.4	0.0

IDC 14 07:27:08.9±2.7,9.62S×113.20E,h0km,mb3.3/4, mb1 3.4/4,mb1mx3.4/20,mbtmp3.3/4,Error ellipse: s-maj=117.0km s-min=23.2km az=51.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=292,slow=12,SNR=2.8	**22.84**	**119**	P	P	07 32 14.3	+0.4
ASAR	**Alice Springs** 0.2nm,0.5s,baz=301,slow=9.3,SNR=3.1	**24.21**	**128**	P	P	07 32 27.3	-0.3
SONM	**Songino Array** 0.3nm,0.5s,baz=176,slow=4.3,SNR=2.8	**57.52**	**355**	P	P	07 36 59.6	-0.5
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=139,slow=7.0,SNR=4.5	**62.57**	**337**	P	P	07 37 35.2	+0.4

IDC 14 07:37:09.9±2.0,7.91S×117.74E,h0km,mb3.0/3, mb1 3.4/4,mb1mx3.3/22,mbtmp3.2/4,ML3.4/2,Error ellipse: s-maj=44.3km s-min=24.4km az=72.0,Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang** 19nm,0.3s,baz=220,slow=4.6,SNR=93	**3.51**	**35**	Pn	Pn	07 38 06.2	+0.6
KAPI	7.3nm,0.3s,baz=248,slow=21,SNR=7.0			Sn	Sn	07 38 47.5	-0.5
KAPI	9.9nm,0.3s,baz=187,slow=19,SNR=5.3			Lg	Lg	07 39 01.9	
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=353,slow=19,SNR=1.6	**12.72**	**144**	Pn	Pn	07 40 14.0	+1.9
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=302,slow=12,SNR=3.7	**20.04**	**128**	P	P	07 41 45.2	+0.5
ASAR	**Alice Springs** 0.4nm,0.5s,baz=310,slow=8.6,SNR=5.1	**22.04**	**137**	P	P	07 42 05.1	-1.2
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=141,slow=6.4,SNR=2.5	**62.93**	**333**	P	P	07 47 38.2	0.0

*CSEM **14** 07:41:38.8,40.96N×16.65E,h6km,MD2.1/5,After ROM*
ROM 14 07:41:38.8±0.2,40.96N×16.65E,h6km±1km,Md2.1/5, Ml1.4/3,Error ellipse: s-maj=2.6km s-min=1.4km az=43.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMUR	**Altamura**	**0.07**	**213**	Pg	Pg	07 41 41.3	+0.8
AMUR				Sg	Sg	07 41 42.1	+0.4
AMUR	**Altamura**	**0.07**	**213**	Pg	Pg	07 41 41.3	+0.8
AMUR				Sg	Sg	07 41 42.1	+0.4
MATE	**Matera**	**0.32**	**173**	Pg	Pb	07 41 45.9	-0.9
MATE				Sg	Sb	07 41 50.9	-1.3
MATE	**Matera**	**0.32**	**173**	Pg	Pb	07 41 45.9	-0.9
MATE				Sg	Sb	07 41 50.9	-1.3
NOCI	**Noci** 24nm,0.3s	**0.36**	**119**	Pg	Pb	07 41 46.8	-0.8
NOCI	**Noci** 24nm,0.3s	**0.36**	**119**	Pg	Pb	07 41 46.8	-0.8
MRVN	**Minervino Murg** 28nm,0.6s	**0.36**	**286**	Pg	Pb	07 41 46.8	-0.9
MRVN				Sg	Sb	07 41 52.6	-1.1
MRVN	**Minervino Murg** 28nm,0.6s	**0.36**	**286**	Pg	Pb	07 41 46.8	-0.9
MRVN				Sg	Sb	07 41 52.6	-1.1
MIGL	**Miglionico** 72nm,0.3s	**0.39**	**204**	Pg	Pb	07 41 47.5	-0.7
MIGL				Sg	Sb	07 41 54.2	-0.4
MIGL	**Miglionico** 72nm,0.3s	**0.39**	**204**	Pg	Pb	07 41 47.5	-0.7
MIGL				Sg	Sb	07 41 54.2	-0.4

*MOS **14** 07:45:42.9±0.7,13.65N×120.62E,h33km,mb4.9/20,Error ellipse: s-maj=16.6km s-min=7.4km az=112.1*
*BJI **14** 07:45:43.3,13.71N×120.65E,h24km,mB4.8/16,mb4.7/20, Ms4.0/12,Ms7 3.7/11*
*MAN **14** 07:45:45,13.55N×120.16E,h29km,mb5.2,ML4.2,MS4.2 MAN INTENSITY IV - LUBANG OCC. MINDORO; INTENSITY II - MANILA CITY; ABRA DE ILOG.*
*ISCJB **14** 07:45:47.1±0.3,13.55N±0.04×120.42E±0.04,h70km, mb4.4/54,Error ellipse: s-maj=6.0km s-min=5.0km az=155.2*
*NEIC **14** 07:45:49.4±0.6,13.63N×120.64E,h76km±5km,mb4.7/11, Error ellipse: s-maj=8.3km s-min=5.2km az=70.0*
NEIC Felt [IV PIVS] at Lubang and [II PIVS] at Abra de Ilog. Also felt [II PIVS] at Manila, Luzon.

*IDC **14** 07:45:49.3±0.8,13.63N×120.67E,h78km±6km,mb3.9/19, mb1 4.1/19,mb1mx4.0/25,mbtmp3.9/19,MS3.5/16, Ms1 3.5/16,ms1mx3.3/36,Error ellipse: s-maj=21.5km s-min=9.6km az=69.0*
ISC 14 07:45:48.5±0.4,13.48N±0.04×120.48E±0.05,h70km,n134, σ1153/147,mb4.5/55,11C-7D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.47**	**87**	⇑*i*P	**Pn**	**07 46 00.2**	**-0.8**
TGY	**Tagaytay City**	**0.76**	**36**	P	**Pn**	**07 46 03.3**	**-0.9**
TGY				S	**Sn**	**07 46 15.6**	**-0.2**
TGY	**Tagaytay City**	**0.76**	**36**	⇑*i*P	**Pn**	**07 46 03.3**	**-0.9**
TGY	**Tagaytay City** 11μm,0.3s,baz=240,slow=2.7,SNR=626	**0.76**	**36**	P	**Pn**	**07 46 03.3**	**-0.9**
TGY	14μm,0.3s,baz=144,slow=19,SNR=25			S	**Sn**	**07 46 15.6**	**-0.2**
LQP	**Lukban**	**1.21**	**59**	⇓*i*P	**Pn**	**07 46 10.0**	**+0.2**
GQP	**Guinayangan**	**1.96**	**77**	⇓*e*P	**Pn**	**07 46 21.4**	**+1.8**
SCZP	**Santa Cruz**	**2.35**	**347**	*e*P	Pn	07 46 20.7	-4.2
BALP	**Baler**	**2.49**	**25**	*e*P	**Pn**	**07 46 26.7**	**-0.1**
BCPH	**Baguio City Da**	**2.89**	**2**	⇓*i*P	Pn	07 46 24.0	-8.3
RCP	**Roxas**	**2.92**	**130**	⇑*e*P	**Pn**	**07 46 34.9**	**+2.2**
CAUP	**Cauayan**	**3.68**	**21**	*e*P	**Pn**	**07 46 43.5**	**+0.5**
PALP	**Palanan**	**4.03**	**28**	*e*P	Pn	07 46 39.5	-8.3
PPR	**Puerto Princes**	**4.06**	**205**	⇓*i*P	**Pn**	**07 46 48.0**	**-0.2**
PPR				*i* S	**Sn**	**07 47 30.5**	**-4.0**
ABRA	**Dolores**	**4.15**	**3**	*e*P	**Pn**	**07 46 48.5**	**-0.9**
SIPP	**Brgy, Tapao**	**4.42**	**360**	⇑*i*P	Pn	07 46 56.3	+3.3
APYP	**Conner**	**4.42**	**10**	*e*P	**Pn**	**07 46 53.5**	**+0.4**
DAV	**Davao City (W)** comp=Z,367nm,19.1s,baz=201,slow=42	**8.11**	**141**	LR	LR	07 51 32.3	
QIZ	**Qiongzhong**	**11.60**	**300**	P	Pn	07 48 27.8	-3.5
QIZ				S	**Sn**	**07 50 39.4**	**+0.2**
QIZ	comp=Z,18nm,1.0s			pmax	pmax		
QIZ	**Qiongzhong** comp=Z,11nm,0.6s	**11.60**	**300**	*e*Pn	Pn	07 48 27.5	-3.8
WHN	**Wuhan**	**17.90**	**343**	*e*P	**P**	**07 49 49.4**	**-3.1**
GYA	**Guiyang**	**18.29**	**317**	*e*P	P	07 49 47.8	-9.1
GYA				sP	sP	07 50 11.0	-9.2
GYA				PP	pP	07 50 15.3	+4.0
GYA				S	**Sn**	**07 53 18.3**	**-3.1**
GYA				sS	S	07 53 31.8	+10
GYA				SS	**SnSn**	**07 53 41.9**	**+5.4**
GYA	comp=Z,10.0nm,0.8s			pmax	pmax		
GYA	comp=N,470nm,15.4s			LR	LR		
GYA	comp=E,350nm,16.9s			LR	LR		
GYA	comp=Z,450nm,15.5s			LR	LR		
KAPI	**Kappang** comp=Z,94nm,19.6s,baz=275,slow=37	**18.39**	**182**	LR	LR	07 57 10.9	
NJ2	**Nanjing**	**18.55**	**356**	*e*P	**P**	**07 49 58.4**	**-1.2**
NJ2	comp=Z,10.0nm,0.6s			pmax	pmax		
CMAR	**Chiang Mai Arr**	**21.28**	**286**	P	**P**	**07 50 30.7**	**+1.3**
CMAR	**Chiang Mai Arr** comp=Z,3.2nm,0.8s,baz=94,slow=8.9,SNR=19	**21.28**	**286**	P	**P**	**07 50 30.7**	**+1.3**
JNU	**Nakatsue** comp=Z,54nm,21.1s,baz=205,slow=36	**21.73**	**24**	LR	LR	07 58 50.1	
XAN	**Xi'an**	**23.00**	**335**	P	P	07 51 01.4	+14
XAN				pP	pP	07 51 09.3	+6.8
XAN	comp=Z,3.0nm,0.9s			pmax	pmax		
XAN	comp=N,87nm,18.3s			LR	LR		
XAN	comp=Z,40nm,16.3s			LR	LR		
CD2	**Chengdu**	**23.20**	**321**	P	**P**	**07 50 49.0**	**-0.5**
CD2				pP	pP	07 50 58.6	-6.0
CD2				sP	sP	07 51 02.9	-10
CD2				PP	**PnPn**	**07 51 20.4**	**+2.2**
CD2				PcP	**PcP**	**07 54 37.8**	**+2.2**
CD2				S	**S**	**07 54 54.8**	**-1.1**
CD2				sS	Sn	07 55 10.6	-8.3
CD2				SS	**SnSn**	**07 55 41.8**	**+5.4**
CD2	comp=Z,20nm,0.5s			pmax	pmax		
CD2	comp=Z,180nm,5.6s			pmax	pmax		
PSI	**Prapat** comp=Z,128nm,18.3s,baz=286,slow=36	**23.80**	**245**	LR	LR	08 00 19.3	
KSAR	**Wonju Array Be**	**24.76**	**14**	P	**P**	**07 51 01.3**	**-2.3**
KSRS	**Korea Array** comp=Z,0.8nm,0.5s,baz=199,slow=9.2,SNR=2.9	**24.78**	**14**	P	**P**	**07 51 01.3**	**-2.4**
KSRS				LR	LR	08 01 09.6	
BJI	**Beijing** comp=Z,70nm,19.7s,baz=355,slow=38	**26.73**	**353**	P	**P**	**07 51 19.6**	**-1.7**
BJI				S	**S**	**07 55 58.0**	**+6.1**
BJI	comp=Z,15nm,0.9s			pmax	pmax		
BJI	comp=Z,58nm,4.2s			pmax	pmax		
BJI	comp=N,100nm,14.1s			LR	LR		
BJI	comp=E,92nm,15.8s			LR	LR		
MJAR	**Matsushiro Arr**	**27.93**	**32**	P	**P**	**07 51 30.3**	**-1.9**
MJAR	**Matsushiro Arr** comp=E,0.6nm,0.6s,baz=256,slow=9.8,SNR=2.5	**27.93**	**32**	P	**P**	**07 51 30.3**	**-1.9**
MJAR	comp=E,39nm,20.1s,baz=185,slow=34			LR	LR	08 01 21.8	
HHC	**Hu-ho-hao-te**	**28.36**	**346**	*e*P	**P**	**07 51 37.3**	**+1.2**
HHC				pP	pP	07 51 46.5	-6.3
HHC				sP	sP	07 51 51.0	-10
HHC				PP	**PnPn**	**07 52 29.3**	**+0.7**
HHC				S	**S**	**07 56 20.3**	**+2.4**
HHC				sS	sS	07 56 36.9	-10
HHC				SS	**SnSn**	**07 57 45.4**	**+3.1**
HHC	comp=Z,19nm,1.0s			pmax	pmax		
HHC	comp=Z,97nm,3.9s			pmax	pmax		
HHC	comp=N,210nm,12.0s			LR	LR		
HHC	comp=E,270nm,12.0s			LR	LR		
HHC	comp=Z,90nm,12.0s			LR	LR		
CN2	**Changchun**	**30.52**	**7**	*e*P	**P**	**07 51 56.3**	**+1.3**
CN2				*e*S	**S**	**07 56 53.5**	**+2.0**
CN2	comp=Z,10.0nm,0.5s			pmax	pmax		
CN2	comp=N,120nm,13.0s			LR	LR		
CN2	comp=E,70nm,13.0s			LR	LR		
CN2	comp=Z,90nm,12.0s			LR	LR		
FITZ	**Fitzroy Crossi**	**31.79**	**171**	P	**P**	**07 52 07.8**	**+1.3**
FITZ	**Fitzroy Crossi** comp=Z,4.2nm,0.8s,baz=9.5,slow=12,SNR=4.4	**31.79**	**171**	P	**P**	**07 52 07.8**	**+1.3**
MDJ	**Mudanjiang**	**31.99**	**12**	P	**P**	**07 52 05.3**	**-2.7**
MDJ				sP	sP	07 52 17.8	-15
MDJ				PP	**PnPn**	**07 53 16.0**	**+0.3**
MDJ				S	**S**	**07 57 11.9**	**-2.6**
MDJ	comp=Z,6.0nm,1.0s			pmax	pmax		
MDJ	comp=Z,67nm,4.0s			pmax	pmax		
MDJ	comp=N,43nm,29.4s			LR	LR		
MDJ	comp=E,89nm,29.4s			LR	LR		
USRK	**Ussuriysk Arra** comp=E,65nm,18.3s,baz=59,slow=36	**32.17**	**16**	LR	LR	08 05 01.6	
WRAB	**Tennant Creek**	**35.90**	**157**	*e*P	**P**	**07 52 42.8**	**+0.7**
WRAB	comp=Z,9.0nm,0.8s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,8.6nm,0.8s	**35.90**	**157**	*e*P	**P**	**07 52 42.8**	**+0.7**
WRA	**Warramunga Arr**	**35.91**	**157**	P	**P**	**07 52 42.8**	**+0.6**
WRA				S	**S**	**07 58 15.4**	**-0.1**
WRA	**Warramunga Arr** comp=Z,3.5nm,0.5s,baz=334,slow=9.7,SNR=33	**35.91**	**157**	P	**P**	**07 52 42.8**	**+0.6**
WRA	comp=Z,1.1nm,0.8s,baz=346,slow=15,SNR=4.2			S	**S**	**07 58 15.4**	**-0.1**
ULN	**Ulaanbaatar** comp=Z,17nm,1.2s	**36.06**	**345**	*e*P	**P**	**07 52 43.2**	**-0.2**
SONM	**Songino Array**	**36.21**	**344**	P	**P**	**07 52 44.3**	**-0.3**
SONM	**Songino Array** comp=Z,14nm,0.7s,baz=163,slow=9.9,SNR=71	**36.21**	**344**	P	**P**	**07 52 44.3**	**-0.3**

SONM LR LR 08 08 14.4
comp=Z,88nm,19.7s,baz=195,slow=37
KLR Kul'dur 36.84 12 *eP* P 07 52 44.2 -5.6
ASAR Alice Springs 39.19 160 P **P** 07 53 11.4 +1.5
ASAR S **S** 07 59 05.5 +0.4
ASAR Alice Springs 39.19 160 P **P** 07 53 11.4 +1.5
comp=Z,2.7nm,0.4s,baz=336,slow=6.9,SNR=80
ASAR S **S** 07 59 05.5 +0.4
comp=Z,0.5nm,0.9s,baz=350,slow=25,SNR=3.2
ZAK Zakamensk 39.38 343 *eP* **P** 07 53 10.4 -0.9
ZAK *e* 07 53 28.0
ZAK pmax pmax
comp=Z,3.0nm,1.3s
ZAK pmax pmax
comp=Z,4.0nm,1.2s
TLY Talaya 40.45 344 *eP* P 07 53 32.8 +13
TLY *e* 07 59 14.6
TLY pmax pmax
comp=Z,9.0nm,0.9s
TLY MLR MLR
comp=Z,54nm,18.0s
WMQ Urumqi 41.25 324 P **P** **07 53 27.1 +0.3**
WMQ pP pP 07 53 36.9 -7.2
WMQ sP sP 07 53 40.9 -11
WMQ PP **PnPn** **07 55 05.9 -2.4**
WMQ PcP **PcP** **07 55 26.4 +1.9**
WMQ S **S** **07 59 38.3 +2.6**
WMQ pmax pmax
comp=Z,7.0nm,0.5s
WMQ pmax pmax
comp=Z,89nm,4.9s
WMQ LR LR
comp=N,64nm,23.9s
WMQ LR LR
comp=E,76nm,22.6s
WMQ LR LR
comp=Z,69nm,21.2s
HVS Khovu-Aksy 43.36 336 *eP* **P** **07 53 43.3 -0.6**
HVS pmax pmax
comp=Z,21nm,1.2s
MK31 Makanchi Array 46.08 324 *eP* **P** **07 54 05.8 +0.3**
MK31 Makanchi Array 46.08 324 *eP* **P** **07 54 05.8 +0.3**
MKAR Makanchi Array 46.08 324 *ceP* **P** **07 54 06.0 +0.5**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 46.08 324 *eP* **P** **07 54 06.3 +0.8**
MKAR PcP **PcP** **07 55 41.6 +0.8**
MKAR Makanchi Array 46.08 324 P **P** **07 54 06.0 +0.5**
comp=Z,1.3nm,0.6s,baz=133,slow=8.8,SNR=12
MKAR PcP **PcP** **07 55 41.6 +0.8**
comp=Z,0.5nm,0.6s,baz=106,slow=3.6,SNR=2.7
MKAR LR LR 08 14 50.8
comp=Z,66nm,18.9s,baz=179,slow=38
KSH Kashi 46.88 312 *eP* **P** **07 54 14.0 +1.9**
KSH PP **PP** **07 56 02.9 -0.1**
KSH S **S** **08 01 00.9 +3.0**
KSH sS sS 08 01 19.6 -8.2
KSH SS **SS** **08 04 21.0 -4.3**
KSH pmax pmax
comp=Z,47nm,4.7s
KSH LR LR
comp=N,290nm,14.6s
KSH LR LR
comp=E,140nm,12.7s
KSH LR LR
comp=Z,140nm,6.2s
AAK Ala-Archa 49.07 315 ⇑*iP* **P** **07 54 27.8 -1.1**
AAK pmax pmax
comp=Z,4.0nm,1.0s
ZALV Zalesovo Beam 49.15 333 P **P** **07 54 28.4 -0.7**
ZALV Zalesovo Beam 49.15 333 P **P** **07 54 28.4 -0.7**
ZALV Zalesovo Beam 49.15 333 P **P** **07 54 28.4 -0.7**
comp=Z,1.8nm,0.4s,baz=129,slow=6.3,SNR=7.9
ZALV LR LR 08 16 17.0
comp=Z,50nm,18.2s,baz=340,slow=37
PETK Petropavlovsk- 49.32 29 P **P** **07 54 29.7 -0.8**
PETK Petropavlovsk- 49.32 29 P **P** **07 54 29.6 -0.8**
PETK Petropavlovsk- 49.32 29 P **P** **07 54 29.6 -0.8**
comp=Z,2.6nm,0.8s,baz=236,slow=9.8,SNR=4.5
STKA Stephens Creek 49.44 156 P **P** **07 54 32.5 +0.9**
STKA Stephens Creek 49.44 156 P **P** **07 54 32.5 +0.9**
comp=Z,1.1nm,0.4s,baz=346,slow=8.7,SNR=7.1
NVS Novosibirsk 50.44 333 *eP* **P** **07 54 38.0 -0.9**
KKAR Karatay Array 51.97 315 *eP* **P** **07 54 51.2 +0.6**
KKAR pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 51.97 315 *eP* **P** **07 54 51.2 +0.6**
comp=Z,2.3nm,0.5s
BVAR Borovoye Array 55.83 326 LR LR 08 20 15.7
comp=Z,57nm,18.2s,baz=259,slow=37
BRVK Borovoye 55.90 326 *c iP* **P** **07 55 19.4 +0.4**
BRVK pmax pmax
comp=Z,24nm,1.2s
BRVK Borovoye 55.90 326 *eP* **P** **07 55 19.5 +0.4**
comp=Z,20nm,1.1s
ABKAR Akbulak array 60.76 319 *eP* **P** **07 55 53.1 +0.2**
comp=Z,1.8nm,0.5s
AKTO Aktyubinsk 62.24 320 LR LR 08 24 54.2
comp=Z,55nm,19.1s,baz=300,slow=38
ARU Arti 63.45 327 *d iP* **P** **07 56 10.0 -0.8**
ARU 07 58 26.4
ARU S **S** **08 04 41.5 +3.1**
ARU pmax pmax
comp=Z,12nm,1.7s
SOKR Solikamsk 65.23 330 *eP* **P** **07 56 22.0 -0.4**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
GNI Garni 70.58 308 LR LR 08 29 14.5
comp=Z,24nm,19.1s,baz=115,slow=37
OBN Obninsk 75.59 324 ⇓*iP* **P** **07 57 24.9 -0.7**
OBN *e* 08 00 15.2
OBN *i* S **S** **08 07 01.9 +0.9**
OBN pmax pmax
comp=Z,9.0nm,0.5s
OBN MLR MLR
comp=Z,100nm,20.0s
COLD Coldfoot 77.42 24 *eP* **P** **07 57 36.1 +0.3**
comp=Z,2.9nm,0.8s
JOF Joensuu 77.73 332 *ep* **P** **07 57 37.6 0.0**
comp=Z,8.5nm,0.4s
JOF Joensuu 77.73 332 *eP* **P** **07 57 37.6 0.0**
JOF pmax pmax
comp=Z,9.0nm,0.4s
MCK McKinley 78.29 27 *eP* **P** **07 57 40.2 -0.5**
MCK pmax pmax
comp=Z,9.0nm,0.8s
MCK McKinley 78.29 27 *eP* **P** **07 57 40.2 -0.5**
comp=Z,9.5nm,0.8s
PMR Palmer 78.45 29 *eP* **P** **07 57 40.1 -1.5**
PMR pmax pmax
comp=Z,4.0nm,0.6s
PMR Palmer 78.45 29 *eP* **P** **07 57 40.1 -1.5**
comp=Z,3.9nm,0.6s
COLA College 78.62 26 *eP* **P** **07 57 41.3 -1.1**
COLA pmax pmax
comp=Z,13nm,0.7s
COLA College 78.62 26 *eP* **P** **07 57 41.3 -1.1**
comp=Z,13nm,0.7s
KEV Kevo 78.66 339 *ep* **P** **07 57 42.0 -0.6**
comp=Z,2.7nm,0.6s
KEV Kevo 78.66 339 *eP* **P** **07 57 42.0 -0.6**
KEV pmax pmax
comp=Z,3.0nm,0.6s
ILAR Eielson Array 79.04 26 P **P** **07 57 43.0 -1.9**
ILAR Eielson Array 79.04 26 P **P** **07 57 43.0 -1.9**
comp=Z,1.0nm,0.7s,baz=274,slow=4.1,SNR=14
BRTR Keskin Array B 79.11 308 P **P** **07 57 46.2 +0.3**
BRTR Keskin Array B 79.11 308 P **P** **07 57 46.3 +0.3**
comp=Z,0.8nm,0.8s,baz=114,slow=7.1,SNR=3.0
ARCES ARCESS Array B 79.21 339 P **P** **07 57 45.2 -0.5**
ARCES ARCESS Array B 79.21 339 P **P** **07 57 45.2 -0.5**
comp=Z,2.3nm,0.6s,baz=80,slow=6.9,SNR=21
ARCES LR LR 08 34 59.5
comp=Z,38nm,18.4s,baz=268,slow=37
ARE0 ARCESS Array S 79.21 339 *eP* **P** **07 57 45.5 -0.2**
KAF Kangasniemi 80.14 332 *ep* **P** **07 57 50.0 -0.8**
comp=Z,3.5nm,0.5s,baz=76,slow=4.9
KAF Kangasniemi 80.14 332 *eP* **P** **07 57 50.0 -0.8**
KAF pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 80.37 331 P **P** **07 57 51.4 -0.6**
FINES FINESS Array B 80.37 331 P **P** **07 57 51.4 -0.6**
comp=Z,3.6nm,0.7s,baz=51,slow=6.4,SNR=19
FINES LR LR 08 36 34.3
comp=Z,42nm,20.2s,baz=61,slow=38

VSU Vasula 80.58 328 ⇓*iP* **P** **07 57 52.0 -1.2**
VSU pmax pmax
comp=Z,58nm,1.3s
EGAK Eagle 81.45 25 *eP* **P** **07 57 57.5 -0.2**
comp=Z,4.8nm,0.6s
BUR08 Bucovina Ar. S 83.67 317 *eP* **P** **07 58 09.7 -0.1**
KOLS Kolonicke sedl 85.26 319 *eP* **P** **07 58 17.4 -0.3**
KOLS pmax pmax
comp=Z,2.0nm,0.9s
KOLS Kolonicke sedl 85.26 319 *eP* **P** **07 58 17.4 -0.3**
UZH Uzhgorod 85.33 319 ⇑*iP* **P** **07 58 18.5 +0.5**
UZH *e* 07 58 25.9
UZH *i* 07 58 33.1
STHS Stebnicka Huta 85.79 320 *eP* **P** **07 58 21.4 +1.1**
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 85.79 320 *eP* **P** **07 58 21.4 +1.1**
KECS Kecovo 86.52 319 *eP* **P** **07 58 24.1 +0.2**
KECS pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 86.52 319 *eP* **P** **07 58 24.1 +0.2**
NB2 NORSAR Subarra 87.35 333 P **P** **07 58 26.2 -1.5**
comp=Z,4.9nm,0.8s,baz=68,slow=4.4
NB2 NORSAR Subarra 87.35 333 P **P** **07 58 26.2 -1.5**
baz=68,slow=4.4
NOA NORSAR Array B 87.35 333 P **P** **07 58 26.5 -1.2**
NOA NORSAR Array B 87.35 333 P **P** **07 58 26.5 -1.2**
comp=Z,4.1nm,0.8s,baz=68,slow=4.6,SNR=15
NOA LR LR 08 41 08.7
comp=Z,14nm,18.4s,baz=45,slow=38
VYHS Vyhne 87.57 319 *eP* **P** **07 58 28.6 -0.4**
VYHS pmax pmax
comp=Z,1.0nm,0.5s
VYHS Vyhne 87.57 319 *eP* **P** **07 58 28.6 -0.4**
CLL Collm 90.17 323 *eP* **P** **07 58 41.0 -0.1**
CLL Collm 90.17 323 *eP* **P** **07 58 41.0 -0.1**
GERES GERESS Array B 90.66 321 P **P** **07 58 43.5 -0.2**
GERES GERESS Array B 90.66 321 P **P** **07 58 43.5 -0.2**
comp=Z,1.4nm,0.7s,baz=80,slow=3.0,SNR=7.3
KBA Koelnbreinsper 91.53 319 ⇑*iP* **P** **07 58 45.8 -2.0**
comp=Z,3.6nm,1.1s
WTTA Wattenberg 92.54 320 ⇑*iPcP* **P** **07 58 51.9 -0.5**
comp=Z,5.6nm,0.6s
YKA Yellowknife Ar 93.06 22 P **P** **07 58 53.6 -0.7**
YKA Yellowknife Ar 93.06 22 P **P** **07 58 53.6 -0.7**
comp=Z,0.5nm,0.6s,baz=309,slow=4.5,SNR=6.4
FETA Feichten 93.21 320 ⇑*iP* **P** **07 58 54.4 -1.1**
comp=Z,5.4nm,0.9s
VNDA Vanda 93.86 172 P **P** **07 58 58.2 +0.7**
VNDA Vanda 93.86 172 P **P** **07 58 58.2 +0.7**
comp=Z,0.4nm,0.6s,baz=310,slow=4.4,SNR=5.4
LON Longmire 98.22 38 *eP* **P** **07 59 17.2 -1.0**
LON pmax pmax
comp=Z,3.0nm,0.7s
LON Longmire 98.22 38 *eP* **P** **07 59 17.2 -1.0**
comp=Z,2.8nm,0.7s
TXAR Lajitas Array 119.78 44 PKP **PKPdf** **08 04 31.1 -0.4**
TXAR Lajitas Array 119.78 44 PKP **PKPdf** **08 04 31.1 -0.4**
comp=Z,0.1nm,0.4s,baz=318,slow=1.6,SNR=4.1

MEX 14 08:45:06.2±0.5, 16.28N×99.31W, h13km±8km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**1.14**	**84**	*eP*	Pb	08 45 24.5	-3.4
PNIG				*eS*	Sb	08 45 38.0	-4.6
CAIG	**El Cayaco**	**1.20**	**310**	*eP*	Pn	08 45 24.6	-4.1
CAIG				*i* S	Sb	08 45 39.6	-4.6
PLIG	**Platanillo**	**2.11**	**355**	*i* P	Pn	08 45 38.1	-3.3
PLIG				*eS*	Sn	08 46 03.2	-4.4
ARIG	**Puente Sto Nin**	**2.23**	**334**	*eP*	Pn	08 45 39.2	-3.7
ARIG				*i* S	Sn	08 46 06.2	-4.1
YAIG	**Yautepec**	**2.58**	**5**	*i* P	Pn	08 45 45.6	-2.3
YAIG				*i* S	Sn	08 46 14.3	-5.1

IDC 14 08:48:36.5±2.2, 8.14S×147.62E, h104km±16km, mb3.2/5, mb1 3.2/6, mb1mx3.1/17, mbtmp3.1/6, Error ellipse: s-maj=52.0km s-min=23.6km az=102.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**1.33**	**200**	P	Pn	08 49 00.6	-0.3
	28nm,0.3s,baz=32,slow=9.5,SNR=77						
PMG				S	Sn	08 49 19.5	+0.1
	29nm,0.3s,baz=353,slow=16,SNR=7.7						
WRA	**Warramunga Arr**	**17.40**	**226**	P	P	08 52 32.5	-0.2
	0.2nm,0.3s,baz=52,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**20.27**	**219**	P	P	08 53 03.8	-0.2
	0.2nm,0.3s,baz=50,slow=9.0,SNR=6.1						
FITZ	**Fitzroy Crossi**	**23.55**	**243**	P	P	08 53 37.7	0.0
	1.8nm,0.9s,baz=55,slow=9.7,SNR=5.0						
STKA	**Stephens Creek**	**24.27**	**193**	P	P	08 53 44.1	0.0
	3.5nm,1.2s,baz=18,slow=13,SNR=3.1						
SONM	**Songino Array**	**66.56**	**331**	P	P	08 59 16.4	+0.8
	0.2nm,0.4s,baz=101,slow=4.6,SNR=1.9						
MKAR	**Makanchi Array**	**79.53**	**321**	P	P	09 00 31.2	-0.7
	0.3nm,0.6s,baz=99,slow=9.2,SNR=3.0						

CSEM ***14*** *08:50:21.2, 37.02N×4.21W, h12km, ML1.4, After MDD*
MDD 14 08:50:21.2±1.3, 37.02N×4.21W, h12km±3km, mbLg1.4/4, Error ellipse: s-maj=14.0km s-min=4.2km az=46.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELOJ	**Sierra Loja**	**0.14**	**18**	Pg	Pg	08 50 24.5	-0.2
	12nm,0.1s,SNR=14						
ELOJ				Lg	Lg	08 50 26.9	
	19nm,0.1s,SNR=7.9						
ELOJ	**Sierra Loja**	**0.14**	**18**	Pg	Pg	08 50 24.5	-0.2
	12nm,0.1s,SNR=14						
ELOJ				Lg	Lg	08 50 26.9	
	19nm,0.1s,SNR=7.9						
ERON	**Agron**	**0.32**	**89**	Pg	Pg	08 50 27.2	-0.7
	3.9nm,0.1s,SNR=7.9						
ERON				Lg	Lg	08 50 32.1	
	9.2nm,0.2s,SNR=7.9						
ERON	**Agron**	**0.32**	**89**	Pg	Pg	08 50 27.2	-0.7
	3.9nm,0.1s,SNR=7.9						
ERON				Lg	Lg	08 50 32.1	
	9.2nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**0.55**	**109**	Pg	Pg	08 50 31.1	-0.8
	2.2nm,0.1s,SNR=7.9						
EGUA				Lg	Lg	08 50 39.4	
	6.5nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**0.55**	**109**	Pg	Pg	08 50 31.1	-0.8
	2.2nm,0.1s,SNR=7.9						
EGUA				Lg	Lg	08 50 39.4	
	6.5nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**1.19**	**346**	Pg	Pn	08 50 42.5	-1.2
	0.6nm,0.1s,SNR=7.9						
EADA				Lg	Lg	08 50 58.3	
	1.9nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**1.19**	**346**	Pg	Pn	08 50 42.5	-1.2
	0.6nm,0.1s,SNR=7.9						
EADA				Lg	Lg	08 50 58.3	
	1.9nm,0.1s,SNR=7.9						

ISCJB ***14*** *08:50:59.3±0.7, 37.06N±0.06×4.29W±0.04, h9km±5km, Error ellipse: s-maj=10.9km s-min=4.5km az=17.3*
CSEM ***14*** *08:50:59.9±0.2, 37.01N×4.23W, h12km, ML2.6/6, Error ellipse: s-maj=5.3km s-min=2.3km az=11.0*
MDD ***14*** *08:51:00.6±0.5, 36.99N×4.22W, h10km±2km, mbLg2.0/16, Error ellipse: s-maj=5.3km s-min=2.6km az=35.0, PRXIMO*
INMG ***14*** *08:51:00.6±1.0, 36.98N×4.23W, h4km±4km, ML2.0, Error ellipse: s-maj=2.0km s-min=1.3km az=5.0*
ISC 14 08:51:00.2±1.0, 37.04N±0.04×4.16W±0.03, h16km±7km, n41, σ0.94/50, 2C-1D, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELOJ	**Sierra Loja**	**0.10**	**3**	⇓Pg	**Pg**	**08 51 04.1**	**+0.3**
	48nm,0.1s,SNR=18						
ELOJ				Lg	Lg	08 51 06.8	
	225nm,0.4s						
ELOJ	**Sierra Loja**	**0.10**	**3**	Pg	**Pg**	**08 51 04.1**	**+0.3**
	48nm,0.1s,SNR=18						
ELOJ				Lg	Lg	08 51 06.8	
	225nm,0.4s						

ERON Agron 0.28 95 ⇑Pg **Pg** **08 51 06.8 +0.4**
46nm,0.1s,SNR=18
ERON Lg Lg 08 51 11.6
100nm,0.2s,SNR=7.9
ERON Agron 0.28 95 Pg **Pg** **08 51 06.8 +0.4**
46nm,0.1s,SNR=18
ERON Lg Lg 08 51 11.6
100nm,0.2s,SNR=7.9
EGUA Guajares 0.52 114 Pg **Pg** **08 51 10.7 +0.2**
26nm,0.1s,SNR=7.9
EGUA Lg Lg 08 51 18.3
72nm,0.2s,SNR=7.9
EGUA Guajares 0.52 114 Pg **Pg** **08 51 10.7 +0.2**
26nm,0.1s,SNR=7.9
EGUA Lg Lg 08 51 18.3
72nm,0.2s,SNR=7.9
ELUQ Luque 0.52 351 ⇑Pg **Pb** **08 51 11.6 +0.5**
20nm,0.2s,SNR=18
ELUQ Lg Lg 08 51 19.6
52nm,0.2s,SNR=7.9
ELUQ Luque 0.52 351 Pg **Pb** **08 51 11.6 +0.5**
20nm,0.2s,SNR=18
ELUQ Lg Lg 08 51 19.6
52nm,0.2s,SNR=7.9
ECOG Cogollos-Vega 0.53 64 Pg **Pb** **08 51 11.9 +0.7**
23nm,0.3s,SNR=9.0
ECOG Lg Lg 08 51 19.9
9.8nm,0.1s,SNR=7.9
ECOG Cogollos-Vega 0.53 64 Pg **Pb** **08 51 11.9 +0.7**
23nm,0.3s,SNR=9.0
ECOG Lg Lg 08 51 19.9
9.8nm,0.1s,SNR=7.9
EQUE Quentar 0.60 74 Pg **Pb** **08 51 12.7 +0.3**
9.3nm,0.3s,SNR=8.6
EQUE Lg Lg 08 51 21.8
7.4nm,0.4s,SNR=7.5
EQUE Quentar 0.60 74 Pg **Pb** **08 51 12.7 +0.3**
9.3nm,0.3s,SNR=8.6
EQUE Lg Lg 08 51 21.8
7.4nm,0.4s,SNR=7.5
EBER Berja 1.03 98 Pg **Pg** **08 51 20.6 +0.5**
8.7nm,0.3s,SNR=14
EBER Lg Lg 08 51 36.6
5.7nm,0.2s,SNR=5.4
EBER Berja 1.03 98 Pg **Pg** **08 51 20.6 +0.5**
8.7nm,0.3s,SNR=14
EBER Lg Lg 08 51 36.6
5.7nm,0.2s,SNR=5.4
EQES Quesada 1.15 49 Pg **Pg** **08 51 23.9 +1.5**
9.8nm,0.3s,SNR=6.3
EQES Lg Lg 08 51 40.3
7.5nm,0.1s,SNR=7.9
EQES Quesada 1.15 49 Pg **Pg** **08 51 24.0 +1.6**
9.8nm,0.3s,SNR=6.3
EQES Lg Lg 08 51 40.3
7.5nm,0.1s,SNR=7.9
EBAN Banos Encina 1.16 15 Pg **Pg** **08 51 22.8 +0.3**
14nm,0.3s,SNR=16
EBAN Lg Lg 08 51 39.5
10.0nm,0.3s,SNR=7.1
EBAN Banos Encina 1.16 15 Pg **Pg** **08 51 22.8 +0.3**
14nm,0.3s,SNR=16
EBAN Lg Lg 08 51 39.5
10.0nm,0.3s,SNR=7.1
EADA Adamuz 1.17 344 Pg **Pb** **08 51 22.5 +0.4**
8.4nm,0.3s,SNR=41
EADA Lg Lg 08 51 37.9
11nm,0.3s,SNR=11
EADA Adamuz 1.17 344 Pg **Pb** **08 51 22.5 +0.4**
8.4nm,0.3s,SNR=41
EADA Lg Lg 08 51 37.9
11nm,0.3s,SNR=11
ESPR Espera 1.37 263 Pg **Pg** **08 51 27.8 +1.2**
0.9nm,0.1s,SNR=7.9
ESPR Lg Lg 08 51 42.4
5.2nm,0.3s,SNR=7.9
ESPR Espera 1.37 263 Pg **Pg** **08 51 27.8 +1.2**
0.9nm,0.1s,SNR=7.9
ESPR Lg Lg 08 51 42.4
5.2nm,0.3s,SNR=7.9
EMIN Mina Concepcio 2.13 291 Pn **Pn** **08 51 34.9 -0.2**
0.4nm,0.1s,SNR=7.9
EMIN Sn **Sn** **08 52 00.1 -1.1**
5.3nm,0.6s,SNR=6.3
EMIN Lg Lg 08 52 07.2
2.9nm,0.2s,SNR=7.9
EMIN Mina Concepcio 2.13 291 Pn **Pn** **08 51 34.9 -0.2**
0.4nm,0.1s,SNR=7.9
EMIN Sn **Sn** **08 52 00.1 -1.1**
5.3nm,0.6s,SNR=6.3
EMIN Lg Lg 08 52 07.2
2.9nm,0.2s,SNR=7.9
PBAR Barrancos 2.55 297 *eSg* **Sg** **08 52 21.3 -0.9**
PBAR A A 08 52 24.8
4.5nm,0.4s
PBAR Barrancos 2.55 297 Lg Lg 08 52 21.3
4.5nm,0.4s
PBAR Barrancos 2.55 297 Lg Lg 08 52 21.3
4.5nm,0.4s
EBAD Badajoz 2.83 308 Pn **Pn** **08 51 43.9 -0.9**
1.1nm,0.3s,SNR=4.6
EBAD Pg **Pb** **08 51 51.9 +1.5**
1.7nm,0.3s,SNR=7.9
EBAD Sn **Sn** **08 52 17.0 -1.6**
2.7nm,0.4s,SNR=5.7
EBAD Lg Lg 08 52 30.0
5.8nm,0.2s,SNR=7.9
EBAD Badajoz 2.83 308 Pn **Pn** **08 51 43.9 -0.9**
1.1nm,0.3s,SNR=4.6
EBAD Badajoz 2.83 308 Pg **Pb** **08 51 51.9 +1.5**
1.7nm,0.3s,SNR=7.9
EBAD Sn **Sn** **08 52 17.0 -1.6**
2.7nm,0.4s,SNR=5.7
EBAD Lg Lg 08 52 30.0
5.8nm,0.2s,SNR=7.9
PVAQ Vaqueiros 2.86 278 *ePn* **Pn** **08 51 45.0 -0.2**
PVAQ *eSn* **Sn** **08 52 18.6 -0.8**
PVAQ A A 08 52 34.5
4.5nm,0.7s
PVAQ Vaqueiros 2.86 278 Pn **Pn** **08 51 45.0 -0.2**
PVAQ Sn **Sn** **08 52 18.6 -0.8**
4.5nm,0.7s
PVAQ Vaqueiros 2.86 278 Pn **Pn** **08 51 45.0 -0.2**
PVAQ *eSn* **Sn** **08 52 18.6 -0.8**
4.5nm,0.7s
PCVE Castro Verde 3.15 282 *eSg* **Sg** **08 52 40.8 -0.5**
PCVE A A 08 52 49.8
2.4nm,0.5s
PCVE Castro Verde 3.15 282 Lg Lg 08 52 40.8
2.4nm,0.5s
PCVE Castro Verde 3.15 282 Lg Lg 08 52 40.8
2.4nm,0.5s
PMRV Marv??o 3.48 314 *ePn* **Pn** **08 51 54.8 +1.0**
PMRV *eSg* **Sg** **08 52 51.9 -0.2**
PMRV A A 08 52 57.3
4.5nm,0.4s
PMRV Marv??o 3.48 314 Pn **Pn** **08 51 54.8 +1.0**
PMRV Lg Lg 08 52 51.9
4.5nm,0.4s
PMRV Marv??o 3.48 314 Pn **Pn** **08 51 54.8 +1.0**
PMRV Lg Lg 08 52 51.9
4.5nm,0.4s
PMTG Montargil 3.79 303 *ePn* **Pn** **08 51 58.9 +0.9**
PMTG *eSn* **Sn** **08 52 41.6 -0.7**
PMTG *eSg* **Sg** **08 53 00.1 -1.9**
PMTG A A 08 53 08.2
3.2nm,0.5s
PMTG Montargil 3.79 303 *ePn* **Pn** **08 51 58.9 +0.9**
PMTG *eSn* **Sn** **08 52 41.6 -0.7**
PMTG *eSg* **Sg** **08 53 00.1 -1.9**
3.2nm,0.5s

AUST ***14*** *08:59:46.8±0.0, 3.22S×138.80E, h43km±1km, Error ellipse: s-maj=2.3km s-min=1.2km az=330.0*
IDC ***14*** *08:59:52.5±2.3, 4.11S×138.03E, h0km, mb3.4/1, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, ML3.9/3, Error ellipse: s-maj=52.7km s-min=19.8km az=115.0*
ISCJB ***14*** *08:59:53.6±1.3, 4.01S±0.08×138.51E±0.08, h33km, mb3.3/1, Error ellipse: s-maj=13.7km s-min=9.5km az=39.9*
ISC 14 08:59:56.4±1.5, 4.1S±0.1×138.5E±0.1, h35km, n11, σ2.38/14, Irian Jaya

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

FAKI	**Fak Fak**	**6.33**	**280**	S		**Sn**	**09 02 39.6**	**+1.1**
	baz=6.5,SNR=3.3							
KDU	**Kakadu**	**10.43**	**214**	P		**Pn**	**09 02 24.9**	**+1.4**
	baz=11,SNR=40							
COEN	**Coen**	**10.86**	**155**	P		**Pn**	**09 02 29.5**	**0.0**
	baz=12,SNR=6.6							
MTN	**Manton Dam**	**11.35**	**219**	P		**Pn**	**09 02 38.7**	**+2.5**
	baz=12,SNR=4.0							
KNRA	**Kununurra**	**14.99**	**219**	P		**Pn**	**09 03 25.8**	**0.0**
	baz=16,SNR=9.4							
MTSU	**Mount Surprise**	**15.10**	**158**	P		**Pn**	**09 03 28.3**	**+1.0**
	baz=16,SNR=8.6							
WRA	**Warramunga Arr**	**16.29**	**194**	Pn		**Pn**	**09 03 41.1**	**-1.5**
	0.5nm,0.3s,baz=14,slow=12,SNR=36							
WRA				Sn		**Sn**	**09 06 44.0**	**+1.5**
	0.2nm,0.3s,baz=13,slow=22,SNR=4.8							
FITZ	**Fitzroy Crossi**	**18.78**	**221**	P		**P**	**09 04 10.1**	**-2.7**
	0.2nm,0.3s,baz=39,slow=13,SNR=4.1							
FITZ				S		**Sn**	**09 07 37.9**	**-4.9**
	0.3nm,0.3s,baz=126,slow=19,SNR=3.8							
FITZ	**Fitzroy Crossi**	**18.78**	**221**	P		**P**	**09 04 12.4**	**-0.4**
	baz=20,SNR=4.1							
ASAR	**Alice Springs**	**19.98**	**192**	P		**P**	**09 04 24.9**	**-1.0**
	0.7nm,0.3s,baz=16,slow=11,SNR=34							
ASAR				S		**Sn**	**09 08 15.6**	**+3.8**
	0.1nm,0.3s,baz=18,slow=24,SNR=6.3							
MKAR	**Makanchi Array**	**70.72**	**323**	P		**P**	**09 11 09.1**	**+0.1**
	0.2nm,0.5s,baz=100,slow=7.9,SNR=2.8							

ISCJB ***14*** *09:10:16.7±0.7,38°.29N×0°.03×27°.26E±0°.04,h11km±4km, Error ellipse: s-maj=6.0km s-min=5.2km az=156.0*
CSEM ***14*** *09:10:17.3±0.4,38°.31N×27°.28E,h10km,MD2.6, Error ellipse: s-maj=7.0km s-min=6.7km az=128.0*
DDA ***14*** *09:10:17.6,38°.34N×27°.27E,h7km,MD2.4*
ISK ***14*** *09:10:18.0,38°.35N×27°.35E,h7km,MD2.6*

ISC 14 09:10:17.2±1.0,38°.32N±0°.03×27°.26E±0°.03,h15km±5km, n24,σ1°23/38,Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
IZM	**Izmir**	**0.08**	**360**	PG		**Pg**	**09 10 20.3**	**-0.1**
IZM				*e*SG		**Sg**	**09 10 22.3**	**-0.2**
IZM	**Izmir**	**0.08**	**360**	*i* Pg		**Pg**	**09 10 20.3**	**-0.1**
IZM				*e*Sg		**Sg**	**09 10 22.3**	**-0.2**
URLA	**Izmir**	**0.53**	**275**	*i* P		Pg	09 10 23.6	-4.0
URLA				*i* S		**Sg**	**09 10 33.1**	**-1.6**
URLA	**Izmir**	**0.53**	**275**	*i* P		Pg	09 10 23.6	-4.0
URLA				*i* S		**Sg**	**09 10 33.1**	**-1.6**
GCAM	**G?zelcaml?**	**0.62**	**182**	*i* P		**Pg**	**09 10 29.4**	**+0.1**
GCAM				*i* S		**Sg**	**09 10 36.5**	**-1.0**
GCAM	**G?zelcaml?**	**0.62**	**182**	*i* P		**Pg**	**09 10 29.4**	**+0.1**
GCAM				*i* S		**Sg**	**09 10 36.5**	**-1.0**
AKHS	**Akhisar**	**0.71**	**37**	*i* P		**Pg**	**09 10 30.5**	**-0.5**
AKHS				*i* S		**Sb**	**09 10 41.3**	**+0.6**
AKHS	**Akhisar**	**0.71**	**37**	*i* P		**Pg**	**09 10 30.5**	**-0.5**
AKHS				*i* S		**Sb**	**09 10 41.3**	**+0.6**
MANT	**Manisa**	**1.03**	**80**	*i* P		**Pg**	**09 10 35.5**	**-1.7**
MANT				*i* S		**Sg**	**09 10 48.7**	**-2.0**
MANT	**Manisa**	**1.03**	**80**	*i* P		**Pg**	**09 10 35.5**	**-1.7**
MANT				*i* S		**Sg**	**09 10 48.7**	**-2.0**
AYVA	**Ayvalik**	**1.08**	**336**	*i* P		**Pg**	**09 10 38.0**	**-0.2**
AYVA				*i* S		**Sg**	**09 10 50.6**	**-1.8**
AYVA	**Ayvalik**	**1.08**	**336**	*i* P		**Pg**	**09 10 38.0**	**-0.2**
AYVA				*i* S		**Sg**	**09 10 50.6**	**-1.8**
KULA	**Kula-Manisa**	**1.12**	**79**	*e*PG		**Pg**	**09 10 38.5**	**-0.2**
KULA				*e*SG		**Sg**	**09 10 53.2**	**-0.2**
KULA	**Kula-Manisa**	**1.12**	**79**	*e*Pg		**Pg**	**09 10 38.5**	**-0.2**
KULA				*e*Sg		**Sg**	**09 10 53.2**	**-0.2**
DEMI	**Demirci**	**1.35**	**57**	*i* P		**Pg**	**09 10 44.1**	**+0.9**
DEMI				*i* S		**Sb**	**09 10 59.8**	**+0.5**
DEMI	**Demirci**	**1.35**	**57**	*i* P		**Pg**	**09 10 44.1**	**+0.9**
DEMI				*i* S		**Sb**	**09 10 59.8**	**+0.5**
DURS	**Dursunbey**	**1.59**	**36**	*i* P		Pn	09 10 40.9	-4.0
DURS				*i* S		**Sn**	**09 11 03.7**	**-1.5**
DURS	**Dursunbey**	**1.59**	**36**	*i* P		Pn	09 10 40.9	-4.0
DURS				*i* S		**Sn**	**09 11 03.7**	**-1.5**
DST	**Dursunbey**	**1.66**	**39**	*e*PN		**Pn**	**09 10 47.4**	**+1.6**
DST	**Dursunbey**	**1.66**	**39**	*e*Pn		**Pn**	**09 10 47.4**	**+1.6**
GONE	**Gonen-Balikesi**	**1.76**	**11**	*e*PN		**Pn**	**09 10 48.9**	**+1.9**
GONE	**Gonen-Balikesi**	**1.76**	**11**	*e*Pn		**Pn**	**09 10 48.9**	**+1.9**
TVSB	**Tavsanli**	**2.06**	**56**	*e*PN		**Pn**	**09 10 52.7**	**+1.5**
TVSB	**Tavsanli**	**2.06**	**56**	*e*Pn		**Pn**	**09 10 52.7**	**+1.5**

ISCJB ***14*** *09:10:22.7±0.3,6°.75S±0°.03×130°.02E±0°.04,h146km, mb4.2/9, Error ellipse: s-maj=5.0km s-min=4.0km az=159.8*
AUST ***14*** *09:10:23.7,6°.48S×130°.03E,h200km*
IDC ***14*** *09:10:25.0±2.2,6°.63S×129°.86E,h181km±21km,mb4.0/8, mb1 4.1/12,mb1mx3.8/23,mbtmp4.0/12, Error ellipse: s-maj=26.5km s-min=11.7km az=52.0*
DJA ***14*** *09:10:24.4±0.4,7°.5S×13°.0E±°,h159km±11km,M5.0/11, mb4.9/9,mB5.4/7,MLv5.1/11,Mw(mB)4.9/7*

ISC 14 09:10:22.1±0.5,6.72S±0°.04×129°.97E±0°.05,h146km,n51, σ2°42/57,mb4.4/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BNDI	**Bandanaira**	**2.18**	**358**	P		Pn	09 11 02.5	+3.3
BNDI				S		**Sn**	**09 11 33.1**	**+5.4**
BNDI	**Bandanaira**	**2.18**	**358**	P		Pn	09 11 02.8	+3.6
	baz=2.0,SNR=3.8							
AAI	**Ambon**	**3.49**	**329**	P		**Pn**	**09 11 18.2**	**+2.5**
AAI	**Ambon**	**3.49**	**329**	P		**Pn**	**09 11 18.5**	**+2.8**
	baz=3.3,SNR=8.8							
MSAI	**Masohi**	**3.50**	**343**	P		**Pn**	**09 11 18.2**	**+2.3**
FAKI	**Fak Fak**	**4.40**	**31**	P		**Pn**	**09 11 28.0**	**+0.4**
FAKI				S		Sn	09 12 11.2	-7.4
FAKI	**Fak Fak**	**4.40**	**31**	P		**Pn**	**09 11 27.6**	**0.0**
	baz=4.2,SNR=134							
FAKI				S		**Sn**	**09 12 15.0**	**-3.6**
	baz=4.2,SNR=49							
NLAI	**Namlea**	**4.49**	**320**	P		Pn	09 11 32.2	+3.5
SWI	**Sorong**	**5.96**	**13**	P		**Pn**	**09 11 47.7**	**-0.5**
	47nm,0.7s,9µm1.9nm							
SWI	**Sorong**	**5.96**	**13**	P		**Pn**	**09 11 47.3**	**-0.9**
	baz=5.7,SNR=10.0							
SWI				S		Sn	09 12 39.9	-16
	baz=5.7,SNR=7.3							
MTN	**Manton Dam**	**6.20**	**169**	P		Pn	09 11 55.0	+3.6
	baz=6.5,SNR=33							
MTN				S		**Sn**	**09 13 02.5**	**+1.1**
	baz=6.5,SNR=16							
SOEI	**Soe**	**6.40**	**241**	P		**Pn**	**09 11 57.2**	**+2.9**
	154nm,0.9s,4µm1.4nm							
SOEI				S		**Sn**	**09 13 06.9**	**+0.4**
	154nm,0.9s,4µm1.4nm							
SOEI	**Soe**	**6.40**	**241**	P		**Pn**	**09 11 57.3**	**+3.0**
	baz=6.6,SNR=28							
SOEI				S		**Sn**	**09 13 08.7**	**+2.3**
	baz=6.6,SNR=11							
KDU	**Kakadu**	**6.42**	**158**	P		**Pn**	**09 11 57.7**	**+3.2**
	baz=6.7,SNR=231							
KDU				S		**Sn**	**09 13 07.1**	**+0.3**
	baz=6.7,SNR=9.0							
LBMI	**Labuha**	**6.52**	**338**	P		**Pn**	**09 11 57.3**	**+1.5**
	103nm,0.8s,0.4nm							
RKPI	**Ransiki, Papua**	**6.66**	**39**	P		**Pn**	**09 11 58.8**	**+1.1**
	1µm,0.6s,22µm6.1nm							
BATI	**Baumata**	**7.14**	**241**	P		**Pn**	**09 12 06.5**	**+2.4**
	95nm,0.8s,2µm							
BATI				S		**Sn**	**09 13 24.1**	**+0.1**
	95nm,0.8s,2µm							
MMRI	**Maumere**	**7.90**	**256**	P		**Pn**	**09 12 17.2**	**+2.9**
	64nm,0.8s							
BAKI	**Biak**	**8.22**	**48**	P		**Pn**	**09 12 21.7**	**+3.2**
	471nm,0.9s,4µm1.3nm							
KNRA	**Kununurra**	**8.98**	**187**	P		**Pn**	**09 12 30.9**	**+2.2**
	baz=9.3,SNR=17							
KNRA				S		**Sn**	**09 14 05.5**	**-2.9**
	baz=9.3,SNR=6.8							
KAPI	**Kappang**	**10.31**	**279**	P		**Pn**	**09 12 48.4**	**+2.1**
	0.2nm,0.3s,baz=117,slow=13,SNR=1.9							
MRSI	**Marisa**	**10.74**	**311**	P		**Pn**	**09 12 53.9**	**+1.8**
JAY	**Jayapura**	**11.48**	**69**	P		**P**	**09 13 08.2**	**-1.5**
	baz=11,SNR=4.4							
FITZ	**Fitzroy Crossi**	**12.08**	**200**	P		**Pn**	**09 13 10.0**	**+0.3**
	1.7nm,0.3s,baz=31,slow=12,SNR=18							
FITZ				S		Sn	09 15 16.7	-6.4
	2.5nm,0.3s,baz=234,slow=22,SNR=7.6							
FITZ	**Fitzroy Crossi**	**12.08**	**200**	S		Sn	09 15 07.1	-16
	baz=12,SNR=3.5							

WRA	**Warramunga Arr**	**13.81**	**163**	P		**Pn**	**09 13 31.4**	**-0.5**
	1.7nm,0.3s,baz=343,slow=13,SNR=52							
WRA				S		Sn	09 15 58.0	-6.9
	4.5nm,0.3s,baz=335,slow=22,SNR=11							
PALU	**Palau**	**14.67**	**18**	S		**S**	**09 16 32.2**	**-1.5**
	baz=14,SNR=4.1							
COEN	**Coen**	**14.84**	**120**	P		**P**	**09 13 47.1**	**+0.1**
	baz=15,SNR=74							
COEN				S		Sn	09 16 24.3	-5.4
	baz=15,SNR=5.6							
JAGI	**Jajag, Banyuwa**	**15.78**	**263**	P		**Pn**	**09 13 54.5**	**-2.0**
	baz=16,SNR=7.6							
PMG	**Port Moresby**	**17.23**	**100**	P		**Pn**	**09 14 15.1**	**+1.1**
	1.2nm,0.3s,baz=275,slow=6.3,SNR=5.7							
ASAR	**Alice Springs**	**17.27**	**168**	P		**Pn**	**09 14 16.5**	**+1.9**
	5.4nm,0.3s,baz=346,slow=9.8,SNR=231							
ASAR				S		**S**	**09 17 22.9**	**-3.6**
	1.0nm,0.3s,baz=354,slow=24,SNR=6.7							
ASAR				ScP		**ScP**	**09 22 05.1**	**-5.5**
	0.4nm,0.3s,baz=1.6,slow=1.6,SNR=7.2							
MANU	**Manus Island**	**17.95**	**76**	S		S	09 17 29.2	-11
	baz=18,SNR=4.3							
MTSU	**Mount Surprise**	**18.01**	**130**	P		**Pn**	**09 14 24.6**	**+1.2**
	baz=18,SNR=72							
CTA	**Charters Tower**	**20.65**	**132**	P		**P**	**09 14 51.8**	**+1.3**
	22nm,0.7s,baz=307,slow=11,SNR=24							
MEEK	**Meekatharra**	**22.57**	**207**	P		**P**	**09 15 12.0**	**+1.7**
	baz=23,SNR=6.1							
MEEK				S		Sn	09 19 32.2	-2.1
	baz=23,SNR=3.6							
BBOO	**Buckleboo**	**26.57**	**168**	P		**P**	**09 15 47.2**	**+0.6**
	baz=27,SNR=6.4							
STKA	**Stephens Creek**	**27.29**	**158**	P		**P**	**09 15 54.0**	**+1.0**
	5.8nm,0.3s,baz=332,slow=8.5,SNR=54							
STKA	**Stephens Creek**	**27.29**	**158**	P		**P**	**09 15 54.0**	**+1.0**
	baz=28,SNR=10							
CMSA	**Cobar Meteorol**	**28.74**	**151**	P		**P**	**09 16 07.5**	**+1.6**
	baz=29,SNR=41							
ARPS	**Mount Arapiles**	**31.82**	**162**	P		**P**	**09 16 34.8**	**+1.8**
	baz=32,SNR=26							
YNG	**Young**	**32.30**	**151**	P		**P**	**09 16 39.4**	**+2.1**
	baz=33,SNR=12							
PSI	**Prapat**	**32.40**	**286**	P		**P**	**09 16 36.2**	**-2.3**
	4.9nm,0.7s,baz=104,slow=5.7,SNR=4.9							
CMAR	**Chiang Mai Arr**	**39.53**	**310**	P		**P**	**09 17 37.0**	**-2.0**
	1.6nm,0.5s,baz=135,slow=7.3,SNR=7.1							
CD2	**Chengdu**	**45.05**	**328**	P		**P**	**09 18 26.3**	**+2.7**
CD2				pP		pP	09 18 36.1	-20
CD2				sP		sP	09 18 40.0	-33
CD2				PcP		PcP	09 19 56.8	-5.2
CD2				PP		**PP**	**09 20 16.9**	**+5.0**
CD2				ScP		**ScP**	**09 23 46.8**	**+5.8**
CD2				PcS		PcS	09 23 50.6	-5.5
CD2				S		S	09 25 17.4	+26
CD2				ScS		**SS**	**09 28 14.8**	**-2.0**
CD2	**Chengdu**	**45.05**	**328**	SS		SS	09 28 38.9	+22
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,120nm,5.6s							
GTA	**Gaotai**	**53.71**	**331**	*e*P		**P**	**09 19 27.8**	**-1.5**
GTA				pmax		pmax		
	comp=Z,4.0nm,0.7s							
SONM	**Songino Array**	**58.16**	**342**	P		**P**	**09 19 59.4**	**-1.4**
	comp=Z,1.0nm,0.4s,baz=145,slow=3.6,SNR=4.6							
MKAR	**Makanchi Array**	**67.97**	**327**	P		**P**	**09 21 03.9**	**-1.6**
	comp=Z,9.8nm,0.5s,baz=114,slow=8.8,SNR=147							
ZALV	**Zalesovo Beam**	**71.32**	**334**	P		**P**	**09 21 23.1**	**-2.6**
	comp=Z,1.3nm,0.6s,baz=123,slow=5.5,SNR=6.3							
VNDA	**Vanda**	**72.73**	**173**	P		**P**	**09 21 33.4**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=318,slow=6.2,SNR=4.9							
TORD	**Torodi Ar. Bea**	**128.73**	**281**	PKP		**PKPdf**	**09 29 11.6**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=46,slow=2.3,SNR=4.3							

MEX 14 09:18:18.0±0.5,19.87N×99.06W,h5km,MD3.5,Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PBIG	**Penon de los B**	**0.43**	**183**	*e*P		Pg	09 18 22.6	-3.7
PBIG				*i* S		Sg	09 18 28.8	-3.1
PBVM	**Pinon**	**0.43**	**183**	*e*P		Pg	09 18 25.7	-0.6
PBVM				*i* S		Sg	09 18 31.6	-0.3
UNM	**Universidad Na**	**0.55**	**192**	*e*P		Pg	09 18 27.4	-1.7
UNM				*i* S		Sg	09 18 36.3	-0.2
SZVM	**Salazar**	**0.62**	**209**	*e*P		Pg	09 18 29.8	-0.8
SZVM				*i* S		Sg	09 18 38.7	-0.4
MZVM		**0.70**	**193**	*e*P		Pg	09 18 30.8	-0.6
MZVM				*i* S		Sg	09 18 40.7	+0.2
PPM	**Popocatepetl**	**0.90**	**153**	*i* P		Pg	09 18 34.2	-1.7
PPM				*e*S		Sg	09 18 46.1	-2.0
YAIG	**Yautepec**	**1.00**	**180**	*e*P		Pg	09 18 35.0	-2.5
YAIG				*i* S		Sg	09 18 48.0	-2.8

NEIC ***14*** *09:21:03.5±0.3,11°.29N×142°.95E,h35km,mb4.4/7, Error ellipse: s-maj=13.2km s-min=8.2km az=89.0*
IDC ***14*** *09:21:09.9±0.6,11°.28N×142°.90E,h91km±5km,mb3.8/14, mb1 4.0/14,mb1mx3.8/24,mbtmp3.8/14,MS3.1/2, Ms1 3.2/2,ms1mx2.5/36, Error ellipse: s-maj=19.7km s-min=12.3km az=88.0*

ISC 14 09:21:10.0±0.5,11.28N±0°.08×143°.0E±0°.1,h100km,n44, σ1°24/54,mb4.1/20,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JNU	**Nakatsue**	**24.43**	**335**	LR		LR	09 35 30.9	
	comp=Z,20nm,19.4s,baz=229,slow=35							
MAJO	**Matsushiro**	**25.52**	**351**	*e*P		**P**	**09 26 29.9**	**+0.6**
	2.7nm,0.6s							
KAPI	**Kappang**	**28.26**	**236**	*e*P		**P**	**09 26 54.5**	**+0.5**
	9.0nm,1.0s							
WRAB	**Tennant Creek**	**32.17**	**195**	*e*P		**P**	**09 27 28.0**	**-0.5**
	5.0nm,1.0s							
WRA	**Warramunga Arr**	**32.19**	**195**	P		**P**	**09 27 27.4**	**-1.2**
WRA				pP		**pP**	**09 27 50.3**	**-0.8**
WRA				PcP		**PcP**	**09 30 17.4**	**+2.1**
WRA	**Warramunga Arr**	**32.19**	**195**	P		**P**	**09 27 27.4**	**-1.2**
	1.4nm,0.7s,baz=18,slow=9.6,SNR=14							
WRA				pP		**pP**	**09 27 50.3**	**-0.8**
	1.1nm,0.7s,baz=18,slow=9.6,SNR=4.5							
WRA				PcP		**PcP**	**09 30 17.4**	**+2.1**
	0.4nm,0.6s,baz=9.9,slow=3.5,SNR=4.6							
AS31	**Alice Springs**	**35.86**	**194**	*e*P		**P**	**09 28 00.4**	**0.0**
ASAR	**Alice Springs**	**35.86**	**194**	P		**P**	**09 28 00.7**	**+0.2**
ASAR				pP		**pP**	**09 28 23.3**	**+0.1**
ASAR				PcP		**PcP**	**09 30 28.9**	**+3.1**
ASAR	**Alice Springs**	**35.86**	**194**	P		**P**	**09 28 00.7**	**+0.2**
	0.9nm,0.7s,baz=18,slow=12,SNR=17							
ASAR				pP		**pP**	**09 28 23.3**	**+0.1**
	0.6nm,0.7s,baz=15,slow=13,SNR=2.7							
ASAR				PcP		**PcP**	**09 30 28.9**	**+3.1**
	0.5nm,0.6s,baz=45,slow=2.7,SNR=7.6							
DZM	**Mont Dzumac**	**40.33**	**145**	P		**P**	**09 28 37.7**	**-0.3**
DZM	**Mont Dzumac**	**40.33**	**145**	P		**P**	**09 28 37.7**	**-0.3**
	5.2nm,0.9s,baz=270,slow=24,SNR=6.0							
STKA	**Stephens Creek**	**42.94**	**182**	*e*P		**P**	**09 28 58.2**	**-0.8**
STKA	**Stephens Creek**	**42.94**	**182**	P		**P**	**09 28 58.2**	**-0.8**
	1.9nm,0.8s,baz=129,slow=22,SNR=2.9							
CMAR	**Chiang Mai Arr**	**43.12**	**285**	P		**P**	**09 29 01.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**43.12**	**285**	P		**P**	**09 29 01.2**	**+0.4**
	8.4nm,0.8s,baz=88,slow=6.4,SNR=41							
SONM	**Songino Array**	**47.62**	**327**	P		**P**	**09 29 35.5**	**-0.6**
SONM	**Songino Array**	**47.62**	**327**	P		**P**	**09 29 35.5**	**-0.6**
	0.8nm,0.6s,baz=169,slow=9.9,SNR=4.0							
MK31	**Makanchi Array**	**61.92**	**317**	*e*P		**P**	**09 31 19.3**	**+0.1**
MKAR	**Makanchi Array**	**61.92**	**317**	P		**P**	**09 31 19.6**	**+0.4**
MKAR				sP		**sP**	**09 31 52.6**	**-2.4**
MKAR	**Makanchi Array**	**61.92**	**317**	P		**P**	**09 31 19.6**	**+0.4**
	1.8nm,0.6s,baz=94,slow=8.9,SNR=15							
MKAR				sP		**sP**	**09 31 52.6**	**-2.4**
	1.5nm,0.7s,baz=91,slow=8.7,SNR=5.2							
ZALV	**Zalesovo Beam**	**62.47**	**325**	P		**P**	**09 31 22.2**	**-0.4**
ZALV	**Zalesovo Beam**	**62.47**	**325**	P		**P**	**09 31 22.2**	**-0.4**
	1.7nm,0.4s,baz=104,slow=8.8,SNR=4.4							
BRVK	**Borovoye**	**70.69**	**322**	*e*P		**P**	**09 32 15.5**	**+0.5**
	6.1nm,0.6s							
ILAR	**Eielson Array**	**71.41**	**25**	P		**P**	**09 32 19.2**	**+0.1**
ILAR				pP		**pP**	**09 32 44.2**	**-0.3**
ILAR				sP		**sP**	**09 32 53.4**	**-2.0**
ILAR	**Eielson Array**	**71.41**	**25**	P		**P**	**09 32 19.2**	**+0.1**
	0.7nm,0.6s,baz=249,slow=6.1,SNR=9.7							
ILAR				pP		**pP**	**09 32 44.2**	**-0.3**
	0.5nm,0.6s,baz=254,slow=6.1,SNR=3.2							

ILAR				sP		**sP**	**09 32 53.4**	**-2.0**
	0.8nm,0.7s,baz=252,slow=5.7,SNR=4.5							
ILAR				LR		LR	10 06 22.6	
	comp=Z,22nm,18.0s,baz=320,slow=38							
ABKAR	**Akbulak array**	**77.04**	**318**	*e*P		**P**	**09 32 52.1**	**-0.1**
	2.3nm,0.7s							
YKA	**Yellowknife Ar**	**85.72**	**27**	P		**P**	**09 33 38.4**	**+0.8**
YKA	**Yellowknife Ar**	**85.72**	**27**	P		**P**	**09 33 38.4**	**+0.8**
	0.4nm,0.5s,baz=321,slow=7.6,SNR=4.3							
ARCES	**ARCESS Array B**	**88.71**	**342**	P		**P**	**09 33 52.1**	**+0.2**
ARCES	**ARCESS Array B**	**88.71**	**342**	P		**P**	**09 33 52.1**	**+0.2**
	1.1nm,0.7s,baz=67,slow=6.8,SNR=14							
BMO	**Blue Mountains**	**88.88**	**45**	*e*P		**P**	**09 33 55.6**	**+2.2**
	1.2nm,0.9s							
NVAR	**Mina Array Bea**	**89.76**	**51**	P		P	09 34 01.1	+3.3
NVAR	**Mina Array Bea**	**89.76**	**51**	P		P	09 34 01.1	+3.3
	2.0nm,0.7s,baz=263,slow=5.6,SNR=20							
FINES	**FINESS Array B**	**92.47**	**335**	P		**P**	**09 34 09.0**	**-0.6**
FINES	**FINESS Array B**	**92.47**	**335**	P		**P**	**09 34 09.0**	**-0.6**
	1.0nm,0.6s,baz=65,slow=11,SNR=4.4							
PDAR	**Pinedale Array**	**94.86**	**45**	P		**P**	**09 34 22.4**	**+1.1**
PDAR	**Pinedale Array**	**94.86**	**45**	P		**P**	**09 34 22.4**	**+1.1**
	0.2nm,0.6s,baz=224,slow=4.7,SNR=2.3							
SMCO	**Snowmass**	**97.96**	**48**	*e*P		Pdif	09 34 37.9	+2.2
	9.0nm,1.1s							
TORD	**Torodi Ar. Bea**	**134.60**	**301**	PKP		**PKPdf**	**09 40 18.3**	**+0.6**
TORD	**Torodi Ar. Bea**	**134.60**	**301**	PKP		**PKPdf**	**09 40 18.3**	**+0.6**
	0.4nm,0.7s,baz=310,slow=0.6,SNR=2.6							
PLCA	**Paso Flores**	**138.36**	**141**	PKP		**PKPdf**	**09 40 25.3**	**+1.2**
PLCA	**Paso Flores**	**138.36**	**141**	PKP		**PKPdf**	**09 40 25.3**	**+1.2**
	2.2nm,0.9s,baz=102,slow=6.3,SNR=3.0							
LPAZ	**La Paz**	**149.35**	**103**	PKPbc		**PKPab**	**09 40 51.6**	**-2.4**
LPAZ	**La Paz**	**149.35**	**103**	PKPbc		**PKPab**	**09 40 51.6**	**-2.4**
	0.8nm,0.6s,baz=158,slow=5.4,SNR=4.5							

IDC 14 09:25:28.1±4.3,3.84S×101.58E,h0km,mb3.4/4, mb1 3.5/4,mb1mx3.4/22,mbtmp3.4/4,MS2.8/1,Ms1 2.8/1, ms1mx2.2/20,Error ellipse: s-maj=173.7km s-min=24.0km az=56.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**7.11**	**338**	LR		LR	09 30 25.2	
	comp=Z,78nm,20.2s,baz=199,slow=42							
WRA	**Warramunga Arr**	**35.72**	**119**	P		P	09 32 27.2	-1.6
	0.5nm,0.8s,baz=299,slow=9.0,SNR=3.0							
ASAR	**Alice Springs**	**36.91**	**125**	P		P	09 32 40.1	+1.1
	0.2nm,0.6s,baz=303,slow=8.1,SNR=3.6							
SONM	**Songino Array**	**51.63**	**4**	P		P	09 34 37.7	+1.1
	0.4nm,0.6s,baz=186,slow=12,SNR=2.4							
MKAR	**Makanchi Array**	**53.22**	**344**	P		P	09 34 47.0	-1.3
	0.4nm,0.6s,baz=147,slow=9.7,SNR=4.7							

MEX 14 09:39:00.7±0.7,18.04N×101.80W,h7km±56km,MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.54**	**143**	*e*P		Pg	09 39 10.9	-0.2
ZIIG				*e*S		Sg	09 39 18.3	+0.1
ARIG	**Puente Sto Nin**	**1.40**	**80**	*e*P		Pn	09 39 23.0	-3.8
ARIG				*i* S		Sb	09 39 40.1	-5.4
CAIG	**El Cayaco**	**1.77**	**124**	*e*P		Pn	09 39 27.3	-4.4
CAIG				*e*S		Sn	09 39 50.3	-4.2
PLIG	**Platanillo**	**2.21**	**81**	*e*P		Pn	09 39 34.9	-3.1
PLIG				*e*S		Sn	09 40 02.2	-3.5
YAIG	**Yautepec**	**2.72**	**72**	*e*P		Pn	09 39 41.4	-3.7
YAI

ILAR				sP	sP	10 00 09.2	+18	
ILAR	**Eielson Array**	**71.41**	**25**	P	**P**	**09 59 36.0**	**-1.5**	
	1.0nm,0.8s,baz=253,slow=5.2,SNR=8.3							
ILAR				sP	sP	10 00 09.2	+18	
	0.9nm,0.8s,baz=253,slow=4.8,SNR=4.1							
PPT2	**Papeete2**	**72.69**	**113**	*e*LR	LR	09 59 11.7		
	80nm,27.8s							
ABKAR	**Akbulak array**	**76.84**	**318**	*e*P	**P**	**10 00 09.1**	**-0.5**	
	1.2nm,0.7s							
YKA	**Yellowknife Ar**	**85.73**	**27**	P	**P**	**10 00 56.8**	**+0.4**	
YKA	**Yellowknife Ar**	**85.73**	**27**	P	**P**	**10 00 56.8**	**+0.4**	
	1.1nm,0.9s,baz=297,slow=4.8,SNR=4.9							
ARCES	**ARCESS Array B**	**88.56**	**342**	P	**P**	**10 01 10.2**	**+0.2**	
ARCES	**ARCESS Array B**	**88.56**	**342**	P	**P**	**10 01 10.2**	**+0.2**	
	0.8nm,0.8s,baz=46,slow=6.5,SNR=2.9							
NVAR	**Mina Array Bea**	**89.85**	**51**	P	**P**	**10 01 17.9**	**+0.8**	
NVAR	**Mina Array Bea**	**89.85**	**51**	P	**P**	**10 01 17.9**	**+0.8**	
	2.5nm,0.7s,baz=259,slow=6.1,SNR=24							
NVAR				pP	pP	10 01 40.6	+13	
	0.9nm,0.8s,baz=254,slow=5.6,SNR=3.4							
LPAZ	**La Paz**	**149.57**	**103**	PKPbc	**PKPbc**	**10 08 09.1**	**+0.4**	
LPAZ	**La Paz**	**149.57**	**103**	PKPbc	**PKPbc**	**10 08 09.1**	**+0.4**	
	0.6nm,0.5s,baz=46,slow=5.6,SNR=3.8							

JMA 14 09:51:56.6±0.4, 21°.65N×125°.33E, h42km, M4.0, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**2.78**	**330**	P	Pn	09 52 39.8	+1.2
HATJ				*e*S	Sn	09 53 12.5	+1.6
JKRS	**Kuro-shima**	**2.85**	**335**	P	Pn	09 52 41.4	+1.8
JKRS				S	Sn	09 53 14.6	+2.0
JIJ	**Ishigaki jima**	**2.91**	**338**	P	Pn	09 52 41.9	+1.4
JIJ				S	Sn	09 53 15.6	+1.3
JTJ	**Tarama**	**3.03**	**349**	P	Pn	09 52 43.4	+1.3
JTJ				*e*S	Sn	09 53 19.1	+1.9
IRIF	**Iriomote-Funau**	**3.05**	**331**	P	Pn	09 52 44.1	+1.7
IRIF				*e*S	Sn	09 53 19.0	+1.4
YOJ	**Yonaguni jima**	**3.52**	**323**	P	Pn	09 52 50.7	+1.9
YOJ				*e*S	Sn	09 53 29.6	+0.4
JKE	**Kume jima 2**	**4.84**	**16**	*e*S	Sn	09 54 00.2	-1.6

*ISCJB **14** 10:00:32.0±0.6, 30°.33N±0°.06×138°.6E±0°.2, h44km±8km, mb3.4/9, Error ellipse: s-maj=21.1km s-min=7.8km az=166.3*

*IDC **14** 10:00:32.1±2.2, 30°.32N×138°.49E, h421km±27km, mb3.2/9, mb1 3.3/11, mb1mx3.0/29, mbtmp3.2/11, Error ellipse: s-maj=22.3km s-min=12.3km az=87.0*

ISC 14 10:00:33.3±0.9, 30°.39N±0°.08×138°.6E±0°.1, h436km±11km, n22, σ1°61/32, mb3.6/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**2.88**	**21**	P	**P**	**10 01 40.0**	**+1.8**
JHCJ				S	**S**	**10 02 31.6**	**+0.6**
JHJ2	**Mitsune**	**2.92**	**21**	P	**P**	**10 01 40.2**	**+1.7**
CBIJ	**Chichi jima**	**4.58**	**135**	P	**P**	**10 01 52.0**	**-0.9**
CBIJ				*e*S	**S**	**10 02 54.6**	**-3.2**
BSO3	**Boso 3**	**4.70**	**20**	P	**P**	**10 01 53.9**	**+0.3**
BSO3				*e*S	**S**	**10 02 58.2**	**-1.0**
BSO1	**Boso 1**	**4.72**	**25**	P	**P**	**10 01 54.5**	**+1.0**
BSO1				S	**S**	**10 03 00.2**	**+1.1**
BSO4	**Boso 4**	**4.83**	**18**	P	**P**	**10 01 55.8**	**+0.8**
BSO4				*e*S	**S**	**10 03 01.7**	**-0.1**
JOD2	**Odawara 2**	**4.88**	**5**	P	**P**	**10 01 56.4**	**+0.7**
JOD2				*e*S	**S**	**10 03 03.2**	**+0.2**
JHU	**Hanno**	**5.48**	**6**	P	**P**	**10 02 02.0**	**+0.4**
JHU				*e*S	**S**	**10 03 09.1**	**-4.8**
JRY	**Ryogami san**	**5.62**	**3**	P	**P**	**10 02 04.0**	**+1.0**
JRY				*e*S	**S**	**10 03 16.0**	**-0.5**
MJAR	**Matsushiro Arr**	**6.14**	**357**	P	**P**	**10 02 06.9**	**-1.5**
	1.0nm,0.3s,baz=171,slow=11,SNR=11						
MAT	**Matsushiro**	**6.14**	**357**	P	**P**	**10 02 09.2**	**+0.8**
MAT				S	**S**	**10 03 24.8**	**-1.6**
JHO	**Hitachi**	**6.43**	**15**	P	**P**	**10 02 11.3**	**-0.1**
JHO				*e*S	**S**	**10 03 27.8**	**-4.0**
USRK	**Ussuriysk Arra**	**14.73**	**341**	P	**P**	**10 03 42.9**	**+1.3**
	0.4nm,0.3s,baz=152,slow=9.2,SNR=5.9						
CMAR	**Chiang Mai Arr**	**37.78**	**261**	P	**P**	**10 07 10.5**	**-0.3**
	1.3nm,0.3s,baz=55,slow=5.7,SNR=4.3						
KURBB	**Kurchatov Arra**	**48.47**	**313**	P	**P**	**10 08 33.8**	**-0.5**
	0.2nm,0.3s,baz=94,slow=7.2,SNR=4.1						
WRA	**Warramunga Arr**	**50.20**	**185**	P	**P**	**10 08 46.5**	**-1.1**
	1.3nm,0.4s,baz=0.6,slow=7.7,SNR=32						
BVAR	**Borovoye Array**	**53.47**	**316**	P	**P**	**10 09 11.0**	**+0.1**
	0.7nm,0.4s,baz=97,slow=6.6,SNR=4.5						
KDAK	**Kodiak Island**	**53.71**	**38**	P	**P**	**10 09 13.3**	**+0.8**
	3.4nm,0.8s,baz=288,slow=6.4,SNR=5.3						
ASAR	**Alice Springs**	**53.93**	**185**	P	**P**	**10 09 14.4**	**-0.2**
	0.5nm,0.3s,baz=356,slow=4.7,SNR=20						
INK	**Inuvik**	**61.39**	**25**	P	**P**	**10 10 05.7**	**+0.7**
	0.4nm,0.4s,baz=319,slow=8.8,SNR=3.6						
STKA	**Stephens Creek**	**61.99**	**177**	P	**P**	**10 10 08.8**	**-0.7**
	3.1nm,1.1s,baz=322,slow=12.2,SNR=2.8						
ARCES	**ARCESS Array B**	**69.38**	**340**	P	**P**	**10 10 55.6**	**+0.1**
	1.8nm,1.0s,baz=70,slow=7.9,SNR=6.4						

MAN 14 10:04:30, 9°.16N×122°.74E, h10km, mb4.3, ML3.1, MS2.9, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**0.84**	**133**	⇓*e*P	Pg	10 04 45.9	-0.4
DCPH				*e*S	Sg	10 04 56.6	-0.5
PAGZ	**Pagadian**	**1.46**	**154**	*e*P	Pg	10 04 57.8	-0.2
GUIM	**Jordan**	**1.46**	**354**	*e*P	Pg	10 04 57.8	-0.3
GUIM				*e*S	Sn	10 05 14.6	-1.1
BUKP	**Musuan**	**2.63**	**119**	*e*P	Pb	10 05 15.3	-2.1

*ISCJB **14** 10:06:17.2±0.5, 12°.68N±0°.05×88°.54W±0°.04, h67km±6km, mb3.7/9, Error ellipse: s-maj=10.3km s-min=4.4km az=36.7*

*CASC **14** 10:06:18.2±2.2, 12°.69N×88°.56W, h36km±997km, MD4.1, ML4.2*

*IDC **14** 10:06:36.0±3.7, 13°.83N×88°.35W, h170km±34km, mb3.3/9, mb1 3.6/10, mb1mx3.4/25, mbtmp3.3/10, Error ellipse: s-maj=44.5km s-min=19.8km az=56.0*

ISC 14 10:06:17.7±1.2, 12°.68N±0°.06×88°.52W±0°.05, h57km±12km, n34, σ1°41/42, mb3.8/9, 7C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLLM	**Bellamira**	**0.81**	**20**	⇑*e*P	**Pn**	**10 06 33.1**	**-0.1**
CNCH	**Conchagua**	**0.90**	**49**	*e*P	**Pn**	**10 06 34.4**	**-0.1**
CNCH				*e*S	**Sn**	**10 06 47.1**	**+0.4**
SNVI	**San Vicente**	**0.98**	**342**	⇑*e*P	**Pn**	**10 06 35.1**	**-0.4**
SNVI				*e*S	**Sn**	**10 06 48.4**	**-0.2**
LFRS	**El Faro**	**1.07**	**331**	⇑*i*P	**Pn**	**10 06 36.1**	**-0.7**
CAHU	**Cacacuatique**	**1.13**	**16**	⇑*e*P	**Pn**	**10 06 37.7**	**+0.1**
CAHU				*e*S	**Sn**	**10 06 53.6**	**+1.4**
LBRS	**Las Brisas**	**1.17**	**334**	⇑*i*P	**Pn**	**10 06 37.8**	**-0.2**
LFU	**La Fuente**	**1.21**	**332**	⇑*e*P	**Pn**	**10 06 38.2**	**-0.2**
LFU				*e*S	**Sn**	**10 06 53.9**	**-0.1**
SNET	**Serv Nac Est T**	**1.22**	**325**	*e*P	**Pn**	**10 06 38.0**	**-0.6**
SNET				*e*S	**Sn**	**10 06 53.9**	**-0.3**
SNET				AML	AML	10 06 59.1	
	comp=Z,3μm,0.4s						
BOQS	**Boqueron**	**1.28**	**325**	⇓*e*P	**Pn**	**10 06 39.4**	**-0.3**
BOQS				*e*S	**Sn**	**10 06 55.9**	**0.0**
SBLS	**San Blas**	**1.57**	**317**	*e*P	**Pn**	**10 06 43.4**	**-0.1**
SNJE	**San Jose**	**1.58**	**318**	*e*P	**Pn**	**10 06 43.5**	**-0.1**
RTR	**El Retiro**	**1.63**	**318**	*e*P	**Pn**	**10 06 44.3**	**0.0**
RBDL	**Robledal**	**1.82**	**322**	⇓*e*P	**Pn**	**10 06 47.1**	**+0.3**
COPN	**Copaltepe**	**1.95**	**105**	⇑*e*P	**Pn**	**10 06 48.0**	**-0.5**
MRL	**Marmol**	**2.63**	**335**	*e*P	**Pn**	**10 06 59.5**	**+1.6**
MRL				*e*S	**Sn**	**10 07 32.0**	**+3.3**
FUG	**Fuego 3**	**2.86**	**308**	*e*P	**Pn**	**10 07 00.8**	**-0.2**
FUG				*e*S	**Sn**	**10 07 34.7**	**+0.3**
JAT	**Jato**	**3.44**	**299**	*e*P	**Pn**	**10 07 09.9**	**+1.1**
JAT				*e*S	**Sn**	**10 07 48.5**	**+0.2**
JCR	**Jicaral**	**4.37**	**130**	*e*P	**Pn**	**10 07 23.0**	**+1.3**
JCR				*e*S	**Sn**	**10 08 11.4**	**0.0**
SJS	**Escuela Geolog**	**5.16**	**121**	*e*P	Pn	10 07 37.2	+4.6
QCR	**Quepos**	**5.36**	**127**	*e*P	**Pn**	**10 07 37.3**	**+2.1**
QCR				*e*S	**Sn**	**10 08 33.0**	**-2.7**
URSC	**Urasca**	**5.45**	**121**	*e*P	Pn	10 07 40.6	+4.1
BUS	**Buena Vista**	**5.61**	**123**	*e*P	**Pn**	**10 07 41.7**	**+2.6**
ACR	**Cerro Adams**	**6.61**	**127**	*e*P	**Pn**	**10 07 54.2**	**+1.8**
ACR				*e*S	Sn	10 09 03.4	-3.0
TEIG	**Tepich**	**7.51**	**2**	P	**Pn**	**10 08 06.7**	**+2.1**
	comp=Z,4.6nm,0.3s,baz=176,slow=6.2,SNR=36						
TXAR	**Lajitas Array**	**21.74**	**322**	P	**P**	**10 11 05.2**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=138,slow=11,SNR=42						
TKL	**Tuckaleechee C**	**23.28**	**10**	P	**P**	**10 11 19.2**	**-1.2**
	comp=Z,3.5nm,0.7s,baz=172,slow=9.3,SNR=6.0						
ANMO	**Albuquerque**	**27.48**	**327**	P	**P**	**10 12 00.7**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=151,slow=9.1,SNR=6.7						
PDAR	**Pinedale Array**	**35.08**	**333**	P	**P**	**10 13 05.2**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=127,slow=12,SNR=5.7						
LPAZ	**La Paz**	**35.14**	**144**	P	P	10 13 21.7	+15
	comp=Z,1.3nm,1.0s,baz=342,slow=2.4,SNR=3.9						
NVAR	**Mina Array Bea**	**36.84**	**319**	P	**P**	**10 13 22.3**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=141,slow=6.9,SNR=6.2						
YKA	**Yellowknife Ar**	**53.12**	**345**	P	**P**	**10 15 27.6**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=74,slow=7.3,SNR=6.1						
INK	**Inuvik**	**62.67**	**343**	P	**P**	**10 16 33.8**	**-2.4**
	comp=Z,1.3nm,0.8s,baz=145,slow=7.4,SNR=3.1						
ILAR	**Eielson Array**	**65.39**	**336**	P	**P**	**10 16 52.5**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=116,slow=5.8,SNR=4.9						
WRA	**Warramunga Arr**	**138.32**	**254**	PKP	**PKPdf**	**10 25 40.8**	**+3.3**
	comp=Z,0.3nm,0.5s,baz=87,slow=2.2,SNR=9.0						

IDC 14 10:56:31.0±32.0, 55°.00S×141°.63E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/13, mbtmp3.7/3, Error ellipse: s-maj=573.9km s-min=170.2km az=143.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**23.12**	**360**	P	P	11 01 38.2	-0.3
	2.6nm,0.8s,baz=162,slow=9.6,SNR=3.7						
ASAR	**Alice Springs**	**31.82**	**346**	P	P	11 02 57.5	+0.1
	0.6nm,0.6s,baz=165,slow=10,SNR=16						
WRA	**Warramunga Arr**	**35.44**	**348**	P	P	11 03 28.8	0.0
	0.9nm,0.8s,baz=174,slow=7.6,SNR=11						

IDC 14 10:58:57.5±1.8, 55°.99S×27°.04W, h0km, mb4.3/4, mb1 4.2/5, mb1mx3.9/18, mbtmp4.1/5, ML3.4/1, Error ellipse: s-maj=72.5km s-min=34.1km az=67.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**18.76**	**156**	P	P	11 03 17.7	-0.1
	0.1nm,0.3s,baz=311,slow=9.1,SNR=30						
QSPA	**South Pole Qui**	**34.26**	**180**	P	P	11 05 44.8	-0.2
	1.5nm,0.4s,baz=192,slow=4.3,SNR=33						
MAW	**Mawson**	**40.15**	**144**	P	P	11 06 34.3	-0.3
	0.9nm,0.3s,baz=270,slow=10,SNR=3.9						
VNDA	**Vanda**	**46.64**	**183**	P	P	11 07 26.7	-0.2
	1.9nm,0.5s,baz=191,slow=7.5,SNR=32						
ASAR	**Alice Springs**	**99.02**	**162**	P	Pdif	11 12 40.8	+0.6
	0.5nm,0.8s,baz=186,slow=4.5,SNR=5.7						
ILAR	**Eielson Array**	**150.14**	**312**	PKPbc	PKPbc	11 18 48.1	-0.5
	0.4nm,0.7s,baz=106,slow=2.9,SNR=8.7						

*IDC **14** 11:10:28.1±3.1, 2°.97S×101°.41E, h0km, mb3.8/6, mb1 3.8/6, mb1mx3.6/23, mbtmp3.8/6, Error ellipse: s-maj=142.3km s-min=19.2km az=54.0*

*ISCJB **14** 11:10:32.6±1.0, 3°.1S±0°.1×101°.1E±0°.1, h53km, mb3.8/6, Error ellipse: s-maj=21.8km s-min=8.0km az=36.6*

*DJA **14** 11:10:37.8±1.7, 3°S±9°×10°.1E±1°.1, h39km±13km, M3.6/4, MLv3.6/4*

ISC 14 11:10:35.2±1.3, 3°.2S±0°.1×101°.3E±0°.1, h53km, n11, σ2s38/14, mb3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**0.96**	**87**	P	**Pn**	**11 10 53.4**	**+0.8**
MASI				S	**Sn**	**11 11 06.5**	**+1.1**
KSI	**Kapahiang**	**1.39**	**109**	P	**Pn**	**11 11 00.2**	**+1.9**
KSI				S	**Sn**	**11 11 13.7**	**-2.0**
MNAI	**Manna**	**2.04**	**125**	P	**Pn**	**11 11 08.8**	**+1.7**
MNAI				S	**Sn**	**11 11 35.1**	**+3.7**
PPI	**Padang Panjang**	**2.86**	**342**	P	**Pn**	**11 11 18.8**	**+0.5**
PPI				S	**Sn**	**11 11 56.6**	**+5.1**
WRA	**Warramunga Arr**	**36.30**	**120**	P	**P**	**11 17 33.5**	**-0.5**
	0.4nm,0.3s,baz=302,slow=9.0,SNR=18						
ASAR	**Alice Springs**	**37.52**	**126**	P	**P**	**11 17 44.6**	**+0.2**
	0.2nm,0.3s,baz=306,slow=8.4,SNR=10.0						
SONM	**Songino Array**	**51.02**	**4**	P	**P**	**11 19 29.9**	**-2.1**
	0.3nm,0.5s,baz=186,slow=4.3,SNR=2.3						
MKAR	**Makanchi Array**	**52.52**	**344**	P	**P**	**11 19 42.3**	**-0.8**
	1.7nm,0.8s,baz=145,slow=8.6,SNR=12						
KURBB	**Kurchatov Arra**	**57.05**	**343**	P	**P**	**11 20 13.6**	**-2.1**
	0.5nm,0.5s,baz=165,slow=7.6,SNR=5.3						
ZALV	**Zalesovo Beam**	**58.58**	**349**	P	**P**	**11 20 25.4**	**-0.9**
	1.3nm,0.3s,baz=158,slow=4.7,SNR=8.8						
TXAR	**Lajitas Array**	**144.84**	**40**	PKP	PKPbc	11 30 06.3	0.0
	0.3nm,0.6s,baz=283,slow=2.0,SNR=5.2						

*IDC **14** 11:15:49.1±1.0, 27°.87N×52°.08E, h0km, mb3.9/12, mb1 3.9/13, mb1mx3.8/29, mbtmp3.9/13, ML3.7/1, MS2.8/3, Ms1 2.8/3, ms1mx2.4/46, Error ellipse: s-maj=25.3km s-min=19.7km az=152.0*

*ISCJB **14** 11:15:51.3±0.5, 27°.86N±0°.04×52°.00E±0°.06, h26km, mb3.8/12, MS2.8/1, Error ellipse: s-maj=8.2km s-min=3.9km az=150.4*

*TEH **14** 11:15:52.2, 27°.93N×51°.98E, h6km, ML3.5*

*CSEM **14** 11:15:53.0±0.3, 27°.96N×52°.15E, h10km, ML3.5, Error ellipse: s-maj=10.9km s-min=4.3km az=72.0*

*THR **14** 11:15:54.8±0.4, 28°.40N×52°.29E, h0km±5km, ML3.5*

*OMAN **14** 11:15:57.5±99.0, 27°.67N×52°.17E, h28km±83km, Error ellipse: s-maj=362.1km s-min=21.0km az=307.0*

ISC 14 11:15:53.2±0.6, 27°.91N±0°.04×52°.08E±0°.06, h26km, n56, σ1s09/61, mb3.8/12, 2C-4D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**0.89**	**65**	*e*Pg	**Pb**	**11 16 07.7**	**-2.4**
GHIR				AML	AML	11 16 25.9	
	comp=N,3μm,0.5s						
GHIR				AML	AML	11 16 30.5	
	comp=E,3μm,0.6s						
GHIR	**Ghir-Karzin**	**0.89**	**65**	*e*Pg	**Pb**	**11 16 07.7**	**-2.4**
ISRV	**Sarvestan**	**1.73**	**32**	*e*Pn	**Pn**	**11 16 22.7**	**+0.8**
ISRV				*e*Sg	**Sb**	**11 16 47.0**	**+1.1**
ISRV				*e*		11 16 59.1	
	comp=Z,7μm,0.3s						
ISRV	**Sarvestan**	**1.73**	**32**	*e*Pn	**Pn**	**11 16 22.7**	**+0.8**
ISRV				*e*Sg	**Sb**	**11 16 47.0**	**+1.1**
IPAR	**Pars**	**2.11**	**24**	*e*Pn	**Pn**	**11 16 27.6**	**+0.5**
IPAR				*e*Sg	**Sb**	**11 16 58.2**	**+1.4**
IPAR				*e*		11 17 11.0	
	comp=Z,2μm,0.4s						
IPAR	**Pars**	**2.11**	**24**	*e*Pn	**Pn**	**11 16 27.6**	**+0.5**
IPAR				*e*Sg	**Sb**	**11 16 58.2**	**+1.4**
BNDS	**Bandar-Abbas**	**3.67**	**97**	*e*PN5		11 16 53.8	
BNDS				AML	AML	11 18 22.3	
	comp=N,67nm,0.6s						
IMEH	**Mehriz**	**4.11**	**32**	*e*Pn	**Pn**	**11 16 55.7**	**+1.1**
IMEH				*e*		11 16 57.4	
	comp=Z,4μm,0.2s						
IMEH	**Mehriz**	**4.11**	**32**	*e*Pn	**Pn**	**11 16 55.7**	**+1.1**
ISAD	**Sadrabad**	**4.23**	**19**	*e*Pn	**Pn**	**11 16 57.0**	**+0.8**
ISAD				*e*		11 18 00.8	
	comp=Z,366nm,0.2s						
ISAD	**Sadrabad**	**4.23**	**19**	*e*Pn	**Pn**	**11 16 57.0**	**+0.8**
BANOM	**Banah**	**4.26**	**117**	⇓P	**Pn**	**11 16 57.5**	**+1.1**
	SNR=8.5						
BANOM				⇑S	**Sn**	**11 17 45.3**	**0.0**
BANOM	**Banah**	**4.26**	**117**	P	**Pn**	**11 16 57.5**	**+1.1**
	SNR=23						
BANOM				S	**Sn**	**11 17 45.3**	**0.0**
NAZ	**Nazwa, Dubai**	**4.33**	**131**	P	**Pn**	**11 16 59.5**	**+2.0**
	SNR=9.1						
ASUD	**Al Ashush, Dub**	**4.38**	**137**	P	**Pn**	**11 17 00.2**	**+2.1**
	SNR=24						
IGAR	**Gharneh**	**4.48**	**360**	*e*Pn	**Pn**	**11 17 00.5**	**+0.9**
IGAR				*e*		11 17 57.5	
	comp=Z,428nm,0.1s						
KRBR	**Kerman**	**4.60**	**62**	*e*Pn	**Pn**	**11 17 02.6**	**+1.3**
KRBR				AML	AML	11 18 00.7	
	comp=E,51nm,0.5s						
KRBR	**Kerman**	**4.60**	**62**	*e*Pn	**Pn**	**11 17 02.6**	**+1.3**
HATD	**Hatta, Dubai**	**4.76**	**129**	P	**Pn**	**11 17 04.8**	**+1.5**
	SNR=8.6						
IBAF	**Bafgh**	**4.76**	**39**	*e*	**Pn**	**11 17 05.1**	**+1.6**
	comp=Z,1μm,0.1s						
ICHK	**Chekchek**	**4.77**	**24**	*e*		11 17 07.8	
	comp=Z,816nm,0.2s						
ICHK				*e*Pn	**Pn**	**11 17 04.5**	**+0.9**
ASHO	**Ashiyiah**	**4.81**	**131**	P	**Pn**	**11 17 05.2**	**+1.2**
	SNR=13						
ASHO				⇓S	**Sn**	**11 17 59.8**	**+0.9**
ASHO	**Ashiyiah**	**4.81**	**131**	P	**Pn**	**11 17 05.2**	**+1.2**
	SNR=13						
ASHO				S	**Sn**	**11 17 59.8**	**+0.9**
IPIR	**Pirpir**	**4.87**	**348**	*e*Pn	**Pn**	**11 17 04.6**	**-0.4**
IPIR	**Pirpir**	**4.87**	**348**	*e*Pn	**Pn**	**11 17 04.6**	**-0.4**
NASN	**Na'in**	**4.91**	**7**	*e*PN5		11 17 05.3	
IZEF	**Zefreh**	**4.97**	**2**	*e*Pn	**Pn**	**11 17 06.7**	**+0.2**
IZEF				*e*		11 18 06.4	
	comp=Z,172nm,0.2s						
IZEF	**Zefreh**	**4.97**	**2**	*e*Pn	**Pn**	**11 17 06.7**	**+0.2**
IKLH	**Kolahrood**	**5.41**	**356**	*e*Pn	**Pn**	**11 17 12.4**	**0.0**
IKLH				*e*		11 18 17.0	
	comp=N,373nm,0.2s						
IKLH	**Kolahrood**	**5.41**	**356**	*e*Pn	**Pn**	**11 17 12.4**	**0.0**
ARQ	**Araqi**	**6.07**	**138**	P	**Pn**	**11 17 22.2**	**+0.9**
	SNR=7.4						
ARQ				⇓S	**Sn**	**11 18 29.6**	**-0.4**
ARQ	**Araqi**	**6.07**	**138**	P	**Pn**	**11 17 22.2**	**+0.9**
	SNR=7.4						
HOQ	**Hoqain**	**6.39**	**131**	P	**Pn**	**11 17 27.1**	**+1.4**
	SNR=8.2						
HOQ	**Hoqain**	**6.39**	**131**	P	**Pn**	**11 17 27.1**	**+1.4**
	SNR=8.2						
ASAO	**Ashtian**	**6.85**	**346**	*e*Pn	**Pn**	**11 17 33.3**	**+1.1**
ASAO	**Ashtian**	**6.85**	**346**	*e*Pn	**Pn**	**11 17 33.3**	**+1.1**
BSY	**Bisya**	**6.92**	**137**	⇓P	**Pn**	**11 17 34.1**	**+1.0**
	SNR=24						
BSY				⇑S	**Sn**	**11 18 49.4**	**-1.6**
BSYO	**Bisya**	**6.96**	**137**	P	**Pn**	**11 17 34.1**	**+0.6**
	SNR=24						
TABS	**Tabas**	**7.18**	**36**	*e*Pn	**Pn**	**11 17 36.7**	**+0.1**
TABS	**Tabas**	**7.18**	**36**	*e*Pn	**Pn**	**11 17 36.7**	**+0.1**
ASF	**Jabal al Asfar**	**13.81**	**292**	LR	LR	11 24 59.6	
	comp=N,16nm,19.3s,baz=280,slow=40						
EIL	**Elat**	**15.12**	**281**	LR	LR	11 26 25.5	
	comp=N,51nm,18.4s,baz=81,slow=42						
BRTR	**Keskin Array B**	**19.29**	**312**	P	**P**	**11 20 16.8**	**+0.6**
	comp=N,0.2nm,0.3s,baz=136,slow=12,SNR=8.7						
AKTO	**Aktyubinsk**	**22.95**	**10**	P	**P**	**11 20 56.8**	**+1.5**
	comp=N,1.5nm,0.4s,baz=187,slow=10,SNR=6.8						
AAK	**Ala-Archa**	**23.37**	**45**	LR	LR	11 31 18.9	
	comp=N,36nm,20.5s,baz=141,slow=40						
BVAR	**Borovoye Array**	**28.53**	**23**	P	**P**	**11 21 46.6**	**+0.1**
	comp=N,0.7nm,0.3s,baz=211,slow=8.1,SNR=4.7						
MKAR	**Makanchi Array**	**30.26**	**43**	P	**P**	**11 22 02.6**	**+0.6**
	comp=N,0.7nm,0.5s,baz=235,slow=9.4,SNR=11						
KURBB	**Kurchatov Arra**	**30.27**	**34**	P	**P**	**11 22 02.4**	**+0.4**
	comp=N,0.2nm,0.4s,baz=234,slow=8.8,SNR=5.0						
ZALV	**Zalesovo Beam**	**35.36**	**34**	P	**P**	**11 22 46.1**	**-0.3**
	comp=N,1.6nm,0.3s,baz=237,slow=10.0,SNR=5.9						
FINES	**FINESS Array B**	**37.76**	**340**	P	**P**	**11 23 06.0**	**-0.7**
	comp=N,0.6nm,0.5s,baz=144,slow=7.1,SNR=4.3						
NOA	**NORSAR Array B**	**42.90**	**332**	P	**P**	**11 23 48.3**	**-1.1**
	comp=N,0.3nm,0.4s,baz=133,slow=8.6,SNR=3.3						
ARCES	**ARCESS Array B**	**44.42**	**347**	P	**P**	**11 23 59.9**	**-1.5**
	comp=N,1.1nm,0.8s,baz=132,slow=7.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**49.08**	**263**	P	**P**	**11 24 38.9**	**+0.2**
	comp=N,0.8nm,0.6s,baz=62,slow=8.3,SNR=9.0						
DBIC	**Dimbokro**	**57.77**	**260**	P	**P**	**11 25 42.8**	**+0.3**
	comp=N,3.5nm,0.8s,baz=61,slow=14,SNR=3.6						
WRA	**Warramunga Arr**	**92.62**	**111**	P	**P**	**11 29 02.8**	**-0.3**
	comp=N,0.6nm,1.1s,baz=271,slow=5.2,SNR=3.6						
ASAR	**Alice Springs**	**94.04**	**115**	P	**P**	**11 29 08.9**	**-0.6**
	comp=N,0.3nm,0.9s,baz=308,slow=4.6,SNR=3.2						

*NIED **14** 11:27:00, 23°.30N×144°.30E, h59km, Mw5.3 Best double couple: M0 1.14000×10

JNU	**Nakatsue**	**15.24 315**	P	**Pn**	**11 31 05.5**	**-1.4**		
	2.0nm,0.3s,baz=104,slow=10,SNR=17							
JNU			LR	LR	11 36 20.5			
	comp=Z,849nm,19.4s,baz=137,slow=34							
JMK	**Ichinoseki**	**16.16 353**	P	**Pn**	**11 31 14.8**	**-3.4**		
JMK			*e*S	Sn	11 34 02.3	-15		
ERM	**Erimo**	**19.08 359**	P	**Pn**	**11 31 53.2**	**-0.4**		
	1μm,0.8s,SNR=16							
ERM	**Erimo**	**19.08 359**	*c* *i*P	**P**	**11 31 52.2**	**+0.3**		
ERM			pmax	pmax				
	comp=Z,271nm,1.0s							
ERM	**Erimo**	**19.08 359**	*e*Pn	**Pn**	**11 31 53.7**	**0.0**		
KSRS	**Korea Array**	**19.89 320**	P	**P**	**11 31 59.0**	**-1.8**		
	comp=Z,2.0nm,0.3s,baz=136,slow=11,SNR=60							
KSRS			LR	LR	11 38 54.0			
	comp=Z,980nm,21.3s,baz=141,slow=34							
KSRS			ScP	**ScP**	**11 39 44.9**	**+2.3**		
	comp=Z,0.1nm,0.3s,baz=116,slow=2.9,SNR=5.1							
KSAR	**Wonju Array Be**	**19.91 320**	P	**P**	**11 31 59.0**	**-2.0**		
KSAR			ScP	**ScP**	**11 39 44.9**	**+2.2**		
YHNB	**Yeheng**	**20.54 279**	*e*P	Pn	11 32 10.6	-0.3		
	comp=Z,146nm,1.0s							
YULB	**Yu-li**	**20.64 276**	*e*P	Pn	11 32 10.8	-1.3		
	comp=Z,87nm,1.1s							
INCN	**Inchon**	**20.69 319**	*e*P	**P**	**11 32 07.7**	**-1.7**		
	comp=Z,245nm,0.9s							
TWG	**Pinlang**	**20.88 274**	*e*P	Pn	11 32 13.8	-1.2		
	comp=Z,439nm,1.3s							
SSLB	**Suanglung**	**20.93 277**	*e*P	**P**	**11 32 13.7**	**+1.5**		
	comp=Z,161nm,0.8s							
YUK	**Yuzh-Kuril'sk**	**21.16**	**4***d* *i*P	**P**	**11 32 14.5**	**+0.1**		
YUK			*i*		11 32 37.2			
YUK			*i* S	Sn	11 36 12.0	-5.1		
YUK			*i* SS	**SnSn**	**11 36 35.7**	**+1.2**		
YUK			pmax	pmax				
	comp=Z,836nm,1.5s							
YUK			pmax	pmax				
	comp=N,60nm,0.7s							
YUK			pmax	pmax				
	comp=E,139nm,0.7s							
YUK			pmax	pmax				
	comp=Z,1μm,1.2s							
YUK			MLR	MLR				
	comp=Z,725nm,22.0s							
ASAJ	**Asahikawa**	**21.19 358**	*e*P	**P**	**11 32 15.9**	**+1.2**		
ASAJ			*e*S	**S**	**11 36 09.7**	**+4.4**		
ASAJ	**Asahikawa**	**21.19 358**	P	**P**	**11 32 14.8**	**+0.1**		
	comp=Z,102nm,0.7s,baz=217,slow=14,SNR=76							
ASAJ			LR	LR	11 39 58.6			
	comp=Z,670nm,19.7s,baz=204,slow=35							
TPUB	**Ta-pu**	**21.25 276**	*e*P	**P**	**11 32 16.5**	**+0.9**		
	comp=Z,154nm,1.1s							
SSE	**Sheshan**	**21.66 297**	⇓P	**P**	**11 32 19.4**	**-0.5**		
SSE			pP	**pP**	**11 32 38.8**	**+1.0**		
SSE			S	**S**	**11 36 13.4**	**-1.2**		
SSE			pmax	pmax				
	comp=Z,200nm,0.8s							
SSE			pmax	pmax				
	comp=Z,140nm,3.5s							
SSE			LR	LR				
	comp=N,740nm,23.6s							
SSE			LR	LR				
	comp=E,510nm,23.5s							
SSE			LR	LR				
	comp=Z,530nm,17.8s							
VLA	**Vladivostok**	**22.44 337**	*d* *i*P	**P**	**11 32 27.4**	**-0.6**		
VLA			pmax	pmax				
	comp=Z,296nm,1.0s							
VLA			MLR	MLR				
	comp=Z,2μm,22.0s							
KUR	**Kuril'sk**	**22.54**	**8***c* *i*P	**P**	**11 32 29.2**	**+0.2**		
KUR			*e*S	**S**	**11 36 25.1**	**-4.6**		
KUR			pmax	pmax				
	comp=E,48nm,1.3s							
KUR			pmax	pmax				
	comp=Z,539nm,1.3s							
KUR			pmax	pmax				
	comp=N,125nm,1.3s							
KUR			MLR	MLR				
	comp=Z,848nm,19.0s							
KUR			MLR	MLR				
	comp=N,558nm,19.0s							
KUR			MLR	MLR				
	comp=E,726nm,19.0s							
USRK	**Ussuriysk Arra**	**23.35 338**	P	**P**	**11 32 36.8**	**-0.2**		
	comp=E,123nm,0.7s,baz=158,slow=9.1,SNR=125							
USRK			pP	**pP**	**11 32 54.5**	**-1.3**		
	comp=E,53nm,0.8s,baz=154,slow=9.9,SNR=5.4							
USRK			ScP	**ScP**	**11 39 52.9**	**+1.8**		
	comp=E,1.4nm,0.7s,baz=246,slow=2.5,SNR=4.2							
USRK			LR	LR	11 41 18.5			
	comp=E,2μm,21.9s,baz=137,slow=35							
DAV	**Davao City (W)**	**23.51 231**	P	**P**	**11 32 39.7**	**+1.0**		
DAV	**Davao City (W)**	**23.51 231**	P	**P**	**11 32 39.7**	**+1.0**		
	comp=E,84nm,0.4s,baz=136,slow=0.7,SNR=6.9							
DAV			LR	LR	11 40 13.3			
	comp=E,1μm,19.4s,baz=25,slow=32							
NJ2	**Nanjing**	**23.84 298**	*e*P	**P**	**11 32 40.8**	**-0.7**		
NJ2			pP	**pP**	**11 33 00.9**	**-0.3**		
NJ2			sP	**sP**	**11 33 11.4**	**-0.9**		
NJ2			PcP	**PcP**	**11 36 23.0**	**+0.6**		
NJ2			S	**S**	**11 36 51.0**	**+0.1**		
NJ2			sS	**sS**	**11 37 25.0**	**-0.9**		
NJ2			pmax	pmax				
	comp=Z,20nm,0.9s							
NJ2			pmax	pmax				
	comp=Z,100nm,5.3s							
NJ2			LR	LR				
	comp=N,590nm,16.6s							
NJ2			LR	LR				
	comp=E,390nm,17.1s							
NJ2			LR	LR				
	comp=Z,260nm,18.8s							
YSS	**Yuzh-Sakhalins**	**24.02 358**	⇓*i*P	**P**	**11 32 44.0**	**+1.0**		
YSS			*e**SP	pP	11 32 53.0	-10		
YSS			*e*		11 32 59.0			
YSS			*e*		11 33 18.0			
YSS			pmax	pmax				
	comp=Z,120nm,1.0s							
YSS			MLR	MLR				
	comp=Z,700nm,16.0s							
YSS			MLR	MLR				
	comp=N,700nm,18.0s							
YSS			MLR	MLR				
	comp=E,600nm,14.0s							
CTBH	**Cotabato--PC H**	**24.38 233**	⇑*e*P	**P**	**11 32 46.8**	**+0.3**		
MDJ	**Mudanjiang**	**24.58 335**	P	**P**	**11 32 49.1**	**+1.0**		
MDJ			pP	**pP**	**11 33 06.8**	**-1.6**		
MDJ			PcP	**PcP**	**11 36 23.4**	**-0.4**		
MDJ			S	**S**	**11 37 05.3**	**+2.7**		
MDJ			ScP	**ScP**	**11 39 54.3**	**-0.2**		
MDJ			PcS	**PcS**	**11 40 03.3**	**-0.4**		
MDJ			pmax	pmax				
	comp=Z,250nm,1.1s							
MDJ			pmax	pmax				
	comp=Z,1μm,4.8s							
MDJ			LR	LR				
	comp=N,1μm,27.6s							
MDJ			LR	LR				
	comp=E,740nm,24.5s							
MDJ			LR	LR				
	comp=Z,2μm,29.5s							
MDJ	**Mudanjiang**	**24.58 335**	*e*P	**P**	**11 32 48.5**	**+0.3**		
	comp=Z,170nm,0.8s							
DL2	**Dalian**	**24.70 315**	P	**P**	**11 32 48.8**	**-0.4**		
DL2			S	**S**	**11 37 06.5**	**+2.0**		
DL2			pmax	pmax				
	comp=Z,210nm,1.0s							
DL2			pmax	pmax				
	comp=Z,980nm,3.4s							
DL2			LR	LR				
	comp=N,450nm,17.2s							
DL2			LR	LR				
	comp=E,380nm,15.7s							
DL2			LR	LR				
	comp=Z,380nm,19.0s							
SNY	**Shenyang**	**25.32 323**	⇓P	**P**	**11 32 53.5**	**-1.3**		
SNY			S	**S**	**11 37 19.3**	**+5.1**		
SNY			pmax	pmax				
	comp=Z,250nm,1.1s							
SNY			pmax	pmax				
	comp=Z,960nm,3.5s							
SNY			LR	LR				
	comp=N,660nm,25.0s							
SNY			LR	LR				
	comp=E,550nm,27.0s							
SNY			LR	LR				
	comp=Z,1μm,27.1s							
JAY	**Jayapura**	**25.42 187**	P	**P**	**11 32 55.7**	**-0.3**		
	comp=Z,53nm,1.4s							
CN2	**Changchun**	**25.74 328**	*e*P	**P**	**11 32 58.5**	**-0.2**		
CN2			*e*pP	**pP**	**11 33 18.5**	**-0.5**		
CN2			*e*S	**S**	**11 37 18.4**	**-2.6**		
CN2			pmax	pmax				
	comp=Z,90nm,1.0s							
CN2			pmax	pmax				
	comp=Z,460nm,3.0s							
CN2			LR	LR				
	comp=N,830nm,22.0s							
CN2			LR	LR				
	comp=E,500nm,22.0s							
CN2			LR	LR				
	comp=Z,1μm,23.0s							
HABR	**Khabarovsk**	**26.45 347**	*d* *i*P	**P**	**11 33 05.8**	**+0.9**		
HABR			*e**SP	pP	11 33 16.5	-8.8		
HABR			*e*		11 36 26.3			
HABR			*e*S	**S**	**11 37 36.8**	**+4.8**		
HABR			*e**SS	sS	11 37 51.7	-16		
HABR			*e*SS	**SnSn**	**11 38 40.2**	**-2.9**		
HABR			*e*		11 43 54.0			
HABR			pmax	pmax				
	comp=Z,268nm,1.6s							
HABR			pmax	pmax				
	comp=N,132nm,1.8s							
HABR			pmax	pmax				
	comp=E,64nm,1.2s							
HABR			MLR	MLR				
	comp=Z,706nm,18.0s							
TNTI	**Ternate**	**27.14 218**	P	**P**	**11 33 10.5**	**-1.0**		
	comp=Z,158nm,0.9s							
WHN	**Wuhan**	**27.27 293**	⇑P	**P**	**11 33 15.8**	**+3.2**		
WHN			pP	**pP**	**11 33 30.8**	**-2.2**		
WHN			*e*S	**S**	**11 37 44.5**	**-0.9**		
WHN			LR	LR				
	comp=Z,1μm,22.2s							
KLR	**Kul'dur**	**27.94 343**	⇑*i*P	**P**	**11 33 15.0**	**-3.3**		
KLR			pmax	pmax				
	comp=N,60nm,1.0s							
KLR			pmax	pmax				
	comp=E,140nm,1.0s							
KLR			pmax	pmax				
	comp=Z,340nm,1.0s							
KLR			MLR	MLR				
	comp=N,600nm,13.0s							
KLR			MLR	MLR				
	comp=Z,1μm,13.0s							
MNI	**Manado**	**28.13 223**	P	**P**	**11 33 20.0**	**-0.3**		
	comp=Z,273nm,1.1s,comp=Z,3μm							
BJT	**Baijiatuan**	**28.89 313**	*e*P	**P**	**11 33 27.2**	**+0.3**		
	comp=Z,40nm,0.8s							
BJI	**Beijing**	**28.90 313**	P	**P**	**11 33 25.5**	**-1.4**		
BJI			pP	**pP**	**11 33 48.3**	**+0.8**		
BJI			sP	**sP**	**11 34 00.5**	**+2.4**		
BJI			S	**S**	**11 38 09.6**	**-1.2**		
BJI			sS	**sS**	**11 38 45.8**	**-0.6**		
BJI			pmax	pmax				
	comp=Z,25nm,1.4s							
BJI			LR	LR				
	comp=N,570nm,21.5s							
BJI			LR	LR				
	comp=E,380nm,22.0s							
BJI			LR	LR				
	comp=Z,750nm,35.0s							
KMSI	**Cibinong**	**29.34 224**	P	**P**	**11 33 31.2**	**+0.1**		
	comp=Z,329nm,0.9s,comp=Z,3μm							
GTOI	**Gorontalo**	**29.92 225**	P	**P**	**11 33 35.9**	**-0.3**		
	comp=Z,209nm,1.1s,comp=Z,2μm							
MYLDM	**Lahad Datu**	**30.06 238**	P	**P**	**11 33 39.5**	**+2.0**		
MYLDM	**Lahad Datu**	**30.06 238**	P	**P**	**11 33 39.4**	**+2.0**		
	comp=Z,183nm,1.1s							
KDM	**Kudat**	**30.37 243**	P	**P**	**11 33 41.5**	**+1.3**		
MRSI	**Marisa**	**30.75 227**	P	**P**	**11 33 43.4**	**-0.1**		
	comp=Z,247nm,1.0s,comp=Z,2μm							
SDKM	**Sandakan**	**30.81 240**	P	**P**	**11 33 43.9**	**-0.3**		
TSM	**Tawau**	**31.10 237**	P	**P**	**11 33 46.6**	**0.0**		
LUWI	**Luwuk**	**31.35 223**	P	**P**	**11 33 48.4**	**-0.4**		
	comp=Z,192nm,1.0s							
KKM	**Kota Kinabalu**	**31.37 242**	*e*P	**P**	**11 33 49.8**	**+0.7**		
	comp=Z,36nm,0.9s							
KKM	**Kota Kinabalu**	**31.37 242**	P	**P**	**11 33 50.3**	**+1.1**		
KKM	**Kota Kinabalu**	**31.37 242**	P	**P**	**11 33 51.5**	**+2.4**		
	comp=Z,47nm,0.9s							
ENH	**Enshi**	**31.41 291**	*e*P	**P**	**11 33 48.7**	**-0.6**		
	comp=Z,76nm,1.3s							
QIZ	**Qiongzhong**	**31.84 269**	P	**P**	**11 33 52.0**	**-1.1**		
QIZ			S	**S**	**11 38 57.5**	**+0.2**		
QIZ			LR	LR				
	comp=N,470nm,27.6s							
QIZ			LR	LR				
	comp=Z,300nm,19.5s							
PETK	**Petropavlovsk-**	**32.00 16**	P	**P**	**11 33 54.2**	**+0.1**		
PETK	**Petropavlovsk-**	**32.00 16**	P	**P**	**11 33 54.2**	**+0.1**		
PETK	**Petropavlovsk-**	**32.00 16**	P	**P**	**11 33 54.2**	**+0.1**		
	comp=Z,5.6nm,0.8s,baz=179,slow=8.9,SNR=10							
PETK			LR	LR	11 45 26.5			
	comp=Z,583nm,21.7s,baz=206,slow=34							
PET	**Petropavlovsk**	**32.17 17**	⇓*i*P	**P**	**11 33 55.3**	**-0.3**		
PET			*e**PP	pP	11 34 07.6	-8.7		
PET			pmax	pmax				
	comp=Z,39nm,0.8s							
PET			MLR	MLR				
	comp=Z,400nm,20.0s							
PMG	**Port Moresby**	**32.27 174**	*e*P	**P**	**11 33 55.1**	**-1.7**		
	comp=Z,137nm,0.7s							
PMG			*e*PcP	**PcP**	**11 36 42.8**	**-0.5**		
PMG	**Port Moresby**	**32.27 174**	P	**P**	**11 33 55.2**	**-1.7**		
	comp=Z,228nm,0.8s,comp=Z,2μm							
PMG	**Port Moresby**	**32.27 174**	LR	LR	11 47 16.6			
	comp=Z,324nm,18.1s,baz=175,slow=37							
XAN	**Xi'an**	**32.41 298**	P	**P**	**11 33 57.3**	**-0.8**		
XAN			S	**S**	**11 39 02.3**	**-3.7**		
XAN			pmax	pmax				
	comp=Z,40nm,4.7s							
XAN			LR	LR				
	comp=N,360nm,19.3s							
XAN			LR	LR				
	comp=E,150nm,26.4s							
XAN			LR	LR				
	comp=Z,140nm,26.4s							
HHC	**Hu-ho-hao-te**	**32.42 311**	*e*P	**P**	**11 33 57.9**	**-0.2**		
HHC			pP	**pP**	**11 34 21.4**	**+2.6**		
HHC			sP	sP	11 34 35.3	+6.0		
HHC			PP	**PnPn**	**11 35 10.3**	**+2.0**		
HHC			S	**S**	**11 39 03.0**	**-3.1**		
HHC			PcS	**PcS**	**11 40 27.4**	**-1.3**		
HHC			SS	**SnSn**	**11 41 06.5**	**-1.7**		
HHC			pmax	pmax				
	comp=Z,160nm,1.0s							
HHC			pmax	pmax				
	comp=Z,560nm,3.9s							
HHC			LR	LR				
	comp=N,350nm,12.3s							
HHC			LR	LR				
	comp=E,870nm,13.7s							
HHC			LR	LR				
	comp=Z,1μm,21.8s							
HIA	**Hailar**	**32.42 330**	*e*P	**P**	**11 33 57.8**	**-0.1**		
	comp=Z,44nm,0.8s							
BTO	**Baotou**	**33.41 310**	*e*P	**P**	**11 34 06.1**	**-0.6**		
GYA	**Guiyang**	**33.80 284**	P	**P**	**11 34 11.0**	**+0.7**		
GYA			pP	**pP**	**11 34 32.6**	**+1.5**		
GYA			sP	**sP**	**11 34 44.0**	**+2.4**		
GYA			PP	**PP**	**11 35 27.3**	**-1.1**		
GYA			PcP	**PcP**	**11 36 47.8**	**+0.1**		
GYA			S	**S**	**11 39 26.4**	**-1.4**		
GYA			sS	**sS**	**11 40 02.4**	**-1.3**		
GYA			ScP	**ScP**	**11 40 24.0**	**-0.3**		
GYA			PcS	**PcS**	**11 40 33.3**	**-0.7**		
GYA			ScS	**ScS**	**11 44 23.8**	**-2.5**		
GYA			pmax	pmax				
	comp=Z,20nm,0.8s							
GYA			pmax	pmax				
	comp=Z,120nm,4.9s							
GYA			LR	LR				
	comp=N,770nm,17.8s							
GYA			LR	LR				
	comp=E,650nm,18.0s							
GYA			LR	LR				
	comp=Z,790nm,17.5s							
TTSI	**Tana Toraja**	**34.77 225**	P	**P**	**11 34 18.7**	**+0.1**		
	comp=Z,89nm,1.3s,comp=Z,966nm							
BBSI	**Bau Bau**	**34.98 219**	P	**P**	**11 34 23.5**	**+3.1**		
	comp=Z,178nm,1.0s,comp=Z,2μm							
BKB	**Balikpapan**	**35.49 231**	P	**P**	**11 34 26.2**	**+1.4**		
	comp=Z,558nm,0.8s,comp=Z,4μm							
BTM	**Bintulu**	**35.55 241**	P	**P**	**11 34 26.3**	**+0.9**		
KAPI	**Kappang**	**36.31 223**	P	**P**	**11 34 31.9**	**+0.1**		
	SNR=6.5							
KAPI	**Kappang**	**36.31 223**	*e*P	**P**	**11 34 31.2**	**-0.5**		
	comp=Z,109nm,0.9s							
KAPI	**Kappang**	**36.31 223**	P	**P**	**11 34 31.4**	**-0.4**		
	comp=Z,155nm,1.2s,comp=Z,1μm							
KAPI	**Kappang**	**36.31 223**	LR	LR	11 48 13.1			
	comp=Z,259nm,20.7s,baz=220,slow=34							
CD2	**Chengdu**	**36.38 291**	P	**P**	**11 34 32.8**	**+0.4**		
CD2			pP	**pP**	**11 34 56.6**	**+3.2**		
CD2			sP	sP	11 35 09.0	+5.2		
CD2			PP	**PnPn**	**11 35 59.3**	**+1.9**		
CD2			PcP	**PcP**	**11 36 55.5**	**+0.5**		
CD2			S	**S**	**11 40 05.5**	**-1.8**		
CD2			ScP	**ScP**	**11 40 31.1**	**-2.4**		
CD2			PcS	**PcS**	**11 40 42.1**	**-0.9**		
CD2			sS	**sS**	**11 40 46.9**	**+3.5**		
CD2			SS	**SnSn**	**11 42 36.3**	**-7.8**		
CD2			pmax	pmax				
	comp=Z,30nm,0.5s							
CD2			pmax	pmax				
	comp=Z,260nm,5.6s							
CD2			LR	LR				
	comp=E,430nm,18.6s							
CD2			LR	LR				
	comp=Z,460nm,18.6s							
CLNS	**Chul'man**	**36.60 343**	*e*P	**P**	**11 34 34.1**	**+0.2**		
CLNS			*e*		11 36 00.2			
CLNS			*e*		11 36 52.3			
CLNS			*e*S	**S**	**11 40 13.7**	**+3.7**		
CLNS			*e*		11 44 38.5			
CLNS			pmax	pmax				
	comp=Z,46nm,1.0s							
CLNS			pmax	pmax				
	comp=N,34nm,1.1s							
CLNS			pmax	pmax				
	comp=E,11nm,1.0s							
CLNS			pmax	pmax				
	comp=Z,7.0nm,1.0s							
CLNS			pmax	pmax				
	comp=E,13nm,1.1s							
CLNS			pmax	pmax				
	comp=N,16nm,1.1s							
CLNS			smax	smax				
	comp=N,98nm,10.4s							
CLNS			smax	smax				
	comp=E,172nm,12.2s							
COEN	**Coen**	**36.62 181**	*e*P	**P**	**11 34 33.7**	**-0.7**		
	comp=E,978nm,0.9s							
SBUM	**Sibu**	**36.69 241**	P	**P**	**11 34 35.3**	**+0.3**		
MTKI	**Muara Teweh, K**	**36.73 234**	P	**P**	**11 34 36.3**	**+0.9**		
	comp=E,120nm,0.8s							
LZH	**Lanzhou**	**36.88 300**	⇓P	**P**	**11 34 36.8**	**+0.2**		
LZH			pP	**pP**	**11 34 59.3**	**+1.6**		
LZH			sP	**sP**	**11 35 11.0**	**+2.9**		
LZH			PP	**PnPn**	**11 36 05.3**	**+1.9**		
LZH			PcP	**PcP**	**11 36 57.0**	**+0.4**		
LZH			S	**S**	**11 40 14.0**	**-0.9**		
LZH			sS	**sS**	**11 40 52.1**	**+1.0**		
LZH			SS	**SnSn**	**11 42 46.3**	**-10**		
LZH			ScS	**ScS**	**11 44 40.1**	**-2.8**		
LZH			pmax	pmax				
	comp=Z,78nm,1.5s							
LZH			pmax	pmax				
	comp=Z,200nm,4.7s							
LZH			LR	LR				
	comp=N,440nm,14.0s							
LZH			LR	LR				
	comp=E,520nm,14.1s							
LZH			LR	LR				
	comp=Z,980nm,17.0s							
PANO	**Nakornpanom**	**37.12 268**	P	P	11 34 47.1	+8.4		
	comp=Z,40nm,1.1s							
CIT	**Chita**	**37.19 329**	*e*P	**P**	**11 34 39.3**	**+0.4**		
FX1	**Attu Island--F**	**37.40 29**	*e*P	**P**	**11 34 42.0**	**+1.4**		
FX1	**Attu Island--F**	**37.40 29**	P	**P**	**11 34 41.0**	**+0.3**		
	comp=Z,59nm,0.6s,baz=188,slow=2.3,SNR=25							
KMI	**Kunming**	**37.41 282**	P	**P**	**11 34 42.9**	**+1.5**		
KMI			S	**S**	**11 40 24.5**	**+1.1**		
KMI			pmax	pmax				
	comp=Z,19nm,1.4s							
KMI			LR	LR				
	comp=N,180nm,13.6s							
KMI			LR	LR				
	comp=E,210nm,15.8s							
KMI			LR	LR				
	comp=Z,290nm,18.4s							
MMRI	**Maumere**	**37.74 216**	P	**P**	**11 34 45.4**	**+1.5**		
SKNT	**Sakolnakorn**	**37.75 268**	P	P	11 34 53.1	+9.1		
	comp=Z,29nm,1.2s							
ULN	**Ulaanbaatar**	**38.38 320**	P	**P**	**11 34 49.5**	**+0.3**		
	SNR=39							
ULN	**Ulaanbaatar**	**38.38 320**	*e*P	**P**	**11 34 49.1**	**-0.1**		
	comp=Z,148nm,1.6s							
SONM	**Songino Array**	**38.76 319**	P	**P**	**11 34 52.2**	**-0.1**		
SONM			ScP	**S**	**11 40 43.9**	**+0.9**		
SONM	**Songino Array**	**38.76 319**	P	**P**	**11 34 52.2**	**-0.1**		
	comp=Z,14nm,0.7s,baz=130,slow=9.3,SNR=58							
SONM			ScP	**S**	**11 40 43.9**	**+0.9**		
	comp=Z,3.0nm,1.1s,baz=128,slow=3.7,SNR=5.4							
SONM			LR	LR	11 50 54.5			
	comp=Z,373nm,18.4s,baz=114,slow=36							
KSM	**Kuching**	**38.80 241**	*e*P	**P**	**11 34 52.2**	**-0.7**		
KSM	**Kuching**	**38.80 241**	P	**P**	**11 34 52.6**	**-0.3**		
CHAI	**Chaiyaphum**	**39.88 268**	P	P	11 35 11.9	+10		
	comp=Z,5.2nm,1.0s							
YAK	**Yakutsk**	**40.29 350**	*d* *i*P	**P**	**11 35 04.2**	**-0.4**		
YAK			*e**PP	pP	11 35 09.8	-16		
YAK			*e*		11 36 40.1			
YAK			*e*		11 37 06.3			
YAK			*e*S	**S**	**11 41 08.8**	**+3.7**		
YAK			*e**SS	sS	11 41 21.3	-20		
YAK			*e*SS	**SS**	**11 44 03.7**	**-3.1**		
YAK			*e*SSS	SSS	11 44 35.9			
YAK			pmax	pmax				
	comp=Z,171nm,0.9s							
YAK			pmax	pmax				
	comp=E,24nm,1.1s							
YAK			pmax	pmax				
	comp=N,76nm,1.1s							
YAK			pmax	pmax				
	comp=N,180nm,4.4s							
YAK			pmax	pmax				
	comp=E,126nm,4.2s							
YAK			pmax	pmax				
	comp=Z,158nm,3.8s							
YAK			smax	smax				
	comp=E,37nm,1.5s							
YAK			smax	smax				
	comp=N,27nm,1.8s							
YAK			MLR	MLR				
	comp=N,329nm,17.0s							
YAK			MLR	MLR				
	comp=E,189nm,15.0s							
YAK			MLR	MLR				
	comp=Z,313nm,15.0s							
GTA	**Gaotai**	**40.61 304**	⇓P	**P**	**11 35 08.3**	**+0.5**		
GTA			ScP	**ScP**	**11 40 52.6**	**+3.0**		
GTA			S	**S**	**11 41 08.9**	**-2.0**		
GTA			ScS	**ScS**	**11 45 04.3**	**-0.1**		
GTA			pmax	pmax				
	comp=Z,57nm,1.1s							
GTA			pmax	pmax				
	comp=Z,320nm,7.1s							
GTA			LR	LR				
	comp=N,290nm,13.8s							
GTA			LR	LR				
	comp=E,370nm,19.5s							
GTA			LR	LR				
	comp=Z,470nm,28.0s							
LAMP	**Lampang**	**41.37 272**	P	P	11 35 21.5	+7.4		
	comp=Z,9.5nm,0.8s							
ZAK	**Zakamensk**	**41.72 321**	⇓*i*P	**P**	**11 35 16.9**	**+0.2**		
ZAK			pmax	pmax				
	comp=Z,73nm,1.3s							
CMMT	**Chiang Mai**	**41.93 273**	P	P	11 35 25.5	+6.8		
	comp=Z,24nm,0.8s,comp=Z,588nm							
CHTO	**Chiang Mai**	**41.93 273**	*e*P	**P**	**11 35 19.7**	**+1.0**		
CHTO			pmax	pmax				
	comp=Z,20nm,1.0s							
CHTO	**Chiang Mai**	**41.93 273**	*e*P	**P**	**11 35 19.7**	**+1.0**		

comp=Z,20nm,1.0s
CHTO Chiang Mai 41.93 273 P P 11 35 25.6 +6.9
comp=Z,24nm,1.0s
CMAR Chiang Mai Arr 42.02 273 P **P** **11 35 19.6 +0.1**
CMAR Chiang Mai Arr 42.02 273 P **P** **11 35 19.6 +0.1**
comp=Z,2.9nm,0.7s,baz=63,slow=7.5,SNR=14
CMAR LR LR 11 53 47.8
comp=Z,246nm,18.8s,baz=80,slow=37
IRK Irkutsk 42.03 324 *e*P **P** **11 35 18.4 -0.7**
IRK pmax pmax
comp=Z,134nm,1.2s
TLY Talaya 42.11 323 *e*P **P** **11 35 20.3 +0.6**
TLY *e* 11 37 03.5
TLY *e*S **S** **11 41 34.3 +1.8**
TLY *e* 11 45 28.3
TLY MLR MLR
comp=Z,352nm,19.0s
TLY Talaya 42.11 323 P P **11 35 20.4 +0.7**
comp=Z,247nm,1.1s,SNR=18
CTA Charters Tower 42.79 177 LR LR 11 50 23.0
comp=Z,622nm,21.6s,baz=265,slow=32
CTAO Charters Tower 42.79 177 *e*P **P** **11 35 24.8 -0.7**
CTAO Charters Tower 42.79 177 *e*P **P** **11 35 24.8 -0.7**
comp=Z,511nm,0.9s
KTGM Kuala Trenggan 42.87 252 P P 11 35 30.3 +4.0
WRAB Tennant Creek 43.54 193 P P **11 35 30.0 -1.5**
comp=Z,366nm,0.4s
WRAB Tennant Creek 43.54 193 *e*P **P** **11 35 30.8 -0.7**
WRAB pmax pmax
comp=Z,143nm,1.3s
WRAB Tennant Creek 43.54 193 *e*P **P** **11 35 30.8 -0.7**
comp=Z,143nm,1.3s
WRA Warramunga Arr 43.55 193 P P **11 35 30.1 -1.5**
WRA pP **pP** **11 35 49.5 -3.6**
WRA PcP **PcP** **11 37 18.2 +0.3**
WRA ScP **ScP** **11 41 03.5 +2.1**
WRA Warramunga Arr 43.55 193 P **P** **11 35 30.1 -1.5**
comp=Z,17nm,0.3s,baz=18,slow=9.0,SNR=303
WRA pP **pP** **11 35 49.5 -3.6**
comp=Z,37nm,0.9s,baz=13,slow=8.7,SNR=8.8
WRA PcP **PcP** **11 37 18.2 +0.3**
comp=Z,14nm,0.9s,baz=5.5,slow=3.6,SNR=6.1
WRA ScP **ScP** **11 41 03.5 +2.1**
comp=Z,9.0nm,1.0s,baz=12,slow=4.0,SNR=17
WRA LR LR 11 53 54.2
comp=Z,512nm,20.4s,baz=25,slow=36
MOY Mondy 43.58 322 *e*P **P** **11 35 31.9 +0.2**
MOY pmax pmax
comp=Z,72nm,3.2s
MYKOM Kota Tinggi 44.00 247 P **P** **11 35 36.5 +1.1**
KGM Kluang 44.34 248 P **P** **11 35 39.6 +1.5**
FITZ Fitzroy Crossi 44.41 205 P **P** **11 35 38.0 -0.5**
FITZ ScP **ScP** **11 41 07.2 +2.3**
FITZ Fitzroy Crossi 44.41 205 P **P** **11 35 38.0 -0.5**
comp=Z,22nm,0.7s,baz=27,slow=8.9,SNR=50
FITZ ScP **ScP** **11 41 07.2 +2.3**
comp=Z,8.4nm,1.1s,baz=127,slow=1.5,SNR=3.6
FITZ LR LR 11 52 04.4
comp=Z,214nm,19.6s,baz=51,slow=33
KULM Kulim 45.08 254 P P 11 35 52.4 +8.4
IPM Ipoh 45.12 253 *e*P **P** **11 35 45.3 +0.9**
comp=Z,14nm,0.8s
IPM Ipoh 45.12 253 P P 11 35 52.3 +7.9
FRIM Kepong 45.19 251 P P 11 35 40.4 -4.4
AS31 Alice Springs 47.25 192 *e*P **P** **11 35 59.9 -1.0**
AS31 *e*ScP **ScP** **11 41 19.6 +3.0**
ASAR Alice Springs 47.25 192 P **P** **11 35 59.8 -1.1**
ASAR PcP **PcP** **11 37 31.0 +0.2**
ASAR ScP **ScP** **11 41 18.7 +2.1**
ASAR S **S** **11 42 47.1 -0.3**
ASAR Alice Springs 47.25 192 P P **11 35 59.8 -1.1**
comp=Z,15nm,0.8s,baz=12,slow=6.7,SNR=279
ASAR PcP **PcP** **11 37 31.0 +0.2**
comp=Z,7.4nm,0.9s,baz=15,slow=4.4,SNR=5.0
ASAR ScP **ScP** **11 41 18.7 +2.1**
comp=Z,4.3nm,0.8s,baz=10,slow=4.2,SNR=12
ASAR S **S** **11 42 47.1 -0.3**
comp=Z,2.8nm,0.8s,baz=19,slow=17,SNR=10
ASAR LR LR 11 54 38.5
comp=Z,784nm,21.2s,baz=16,slow=34
BILL Bilibino 47.26 11*d i*P **P** **11 36 00.6 +0.3**
BILL *e* 11 37 52.8
BILL *e*S S 11 42 58.2 +12
BILL *e*SS **SS** **11 46 17.5 +2.9**
BILL pmax pmax
comp=Z,132nm,1.0s
LSA Lhasa 47.30 290 *e*P **P** **11 36 03.2 +1.4**
LSA pmax pmax
comp=Z,51nm,0.8s
LSA Lhasa 47.30 290 *e*P **P** **11 36 03.2 +1.4**
comp=Z,51nm,0.8s
HVS Khovu-Aksy 47.66 319*d i*P **P** **11 36 04.2 +0.4**
HVS pmax pmax
comp=Z,242nm,1.1s
PSI Prapat 47.76 252 P **P** **11 36 05.2 0.0**
PSI Prapat 47.76 252 P **P** **11 36 05.2 0.0**
comp=Z,35nm,0.9s,baz=50,slow=6.3,SNR=5.6
UNV Unalaska Valle 48.36 37 *e*P **P** **11 36 08.9 -0.1**
comp=Z,61nm,0.9s
EIDS Eidsvold 48.50 171 *e*P **P** **11 36 08.7 -1.8**
comp=Z,50nm,0.9s
AKUT Akutan 48.86 37 *e*P **P** **11 36 13.0 +0.2**
comp=Z,160nm,1.0s
TIXI Tiksi 49.52 354*d i*P **P** **11 36 17.5 -0.2**
TIXI pmax pmax
comp=Z,44nm,1.2s
MBWA Marble Bar 49.64 210 *e*P **P** **11 36 18.7 -0.5**
comp=Z,46nm,0.9s
KRAR Krasnoyarsk 49.69 325⇑*i*P **P** **11 36 19.0 -0.2**
KRAR pmax pmax
comp=Z,51nm,1.5s
NOUC Port Laguerre 49.83 152 *e*P **P** **11 36 19.6 -1.0**
DZM Mont Dzumac 49.86 152 *e*S S 11 43 33.4 +9.1
comp=Z,179nm,32.1s
DZM *e*LR LR 11 50 44.3
comp=Z,3μm,25.8s
DZM Mont Dzumac 49.86 152 *e*P **P** **11 36 19.6 -1.4**
DZM *e*S **PcP** **11 37 40.8 +0.5**
DZM Mont Dzumac 49.86 152 *e*P **P** **11 36 20.8 -0.2**
comp=Z,70nm,0.9s
DZM Mont Dzumac 49.86 152 LR LR 11 54 35.3
comp=Z,953nm,21.2s,baz=359,slow=32
WMQ Urumqi 50.23 309 P **P** **11 36 24.9 +1.3**
WMQ pP **pP** **11 36 48.3 +2.7**
WMQ sP **sP** **11 36 59.5 +3.7**
WMQ PcP **PcP** **11 37 42.9 +1.4**
WMQ PP **PP** **11 38 22.8 +3.2**
WMQ ScP **ScP** **11 41 28.3 -0.9**
WMQ PcS **PcS** **11 41 38.6 0.0**
WMQ S **S** **11 43 28.0 -1.1**
WMQ sS **sS** **11 44 08.8 +2.1**
WMQ ScS **ScS** **11 46 03.1 -2.9**
WMQ SS **SS** **11 46 59.4 -4.0**
WMQ pmax pmax
comp=Z,140nm,0.9s
WMQ LR LR
comp=N,300nm,19.8s
WMQ LR LR
comp=E,320nm,22.6s
WMQ LR LR
comp=Z,490nm,24.3s
TAPN Taplejung 50.57 287 *e*P **P** **11 36 27.4 +0.7**
comp=Z,135nm,0.8s
ODAN Odare 50.92 287 *e*P **P** **11 36 29.8 +0.5**
comp=Z,246nm,1.0s
RAMN Ramite 51.60 287 *e*P **P** **11 36 34.9 +0.5**
comp=Z,191nm,1.0s
JIRN Jiri 51.86 288 *e*P **P** **11 36 36.6 +0.2**
comp=Z,203nm,0.9s
GUN Gumba 52.10 288 *e*P **P** **11 36 39.1 +1.0**
comp=Z,155nm,0.8s
SDPT Sand Point 52.15 37 *e*P **P** **11 36 37.3 -0.3**
comp=Z,103nm,0.6s
MSVF Nonsavu 52.49 137 *e*P **P** **11 36 42.2 +1.5**
MSVF pmax pmax
comp=Z,35nm,0.9s
MSVF Nonsavu 52.49 137 *e*P **P** **11 36 42.2 +1.5**
comp=Z,35nm,0.9s
PKI Pulchoki 52.56 288 *e*P **P** **11 36 41.7 +0.2**
PKIN Phulchoki 52.57 288 *e*P **P** **11 36 41.7 +0.2**
comp=Z,82nm,1.1s
KKN Kakani 52.64 288 *e*P **P** **11 36 42.7 +0.7**
comp=Z,76nm,0.8s
DMN Daman 52.82 288 *e*P **P** **11 36 43.9 +0.5**
comp=Z,154nm,1.0s

CHGN Chignik 53.52 36 *e*P **P** **11 36 47.0 -0.7**
ARMA Armidale 53.54 172 *e*P **P** **11 36 47.8 -0.5**
comp=Z,261nm,1.6s
ZALV Zalesovo Beam 53.60 321 P **P** **11 36 47.8 -0.6**
ZALV Zalesovo Beam 53.60 321 P **P** **11 36 47.8 -0.6**
ZALV Zalesovo Beam 53.60 321 P **P** **11 36 47.8 -0.6**
comp=Z,22nm,0.6s,baz=104,slow=7.4,SNR=76
ZALV LR LR 11 59 56.4
comp=Z,358nm,22.0s,baz=69,slow=36
DANN Dangsing 53.88 289 *e*P **P** **11 36 52.2 +1.0**
comp=Z,556nm,0.7s
KOLN Koldanda 54.11 288 *e*P **P** **11 36 53.4 +0.6**
comp=Z,121nm,0.8s
MK31 Makanchi Array 54.27 312*ce*P **P** **11 36 53.3 -0.1**
MK31 pmax pmax
comp=Z,19nm,0.5s
MK31 Makanchi Array 54.27 312 *e*P **P** **11 36 54.1 +0.7**
MKAR Makanchi Array 54.27 312 P **P** **11 36 53.6 +0.2**
MKAR S **S** **11 44 25.7 +1.5**
MKAR Makanchi Array 54.27 312 P **P** **11 36 53.6 +0.2**
MKAR pP **pP** **11 37 12.8 -2.9**
MKAR S **S** **11 44 25.6 +1.5**
MKAR ⇑*e* 12 07 43.9
MKAR Makanchi Array 54.27 312 P **P** **11 36 53.6 +0.2**
comp=Z,2.9nm,0.4s,baz=87,slow=9.0,SNR=22
MKAR pP **pP** **11 37 12.8 -2.9**
comp=Z,23nm,0.8s,baz=95,slow=9.5,SNR=7.8
MKAR S **S** **11 44 25.6 +1.5**
comp=Z,2.0nm,1.1s,baz=92,slow=16,SNR=4.3
MKAR LR LR 12 01 09.8
comp=Z,311nm,21.5s,baz=94,slow=37
MKAR PKP2bc 12 07 43.9
comp=Z,1.5nm,1.1s,baz=289,slow=3.7,SNR=3.5
STKA Stephens Creek 54.49 182 P **P** **11 36 54.2 -0.8**
STKA Stephens Creek 54.49 182 P **P** **11 36 54.2 -0.8**
comp=Z,79nm,0.9s,baz=353,slow=7.6,SNR=120
STKA LR LR 12 00 36.9
comp=Z,700nm,20.8s,baz=15,slow=36
PYUN Piuthan 54.59 289 *e*P **P** **11 36 56.9 +0.6**
comp=Z,327nm,0.9s
NVS Novosibirsk 54.68 322⇓*i*P **P** **11 36 55.6 -0.5**
NVS *e*S **S** **11 44 29.9 +0.7**
NVS pmax pmax
comp=Z,31nm,1.1s
NVS pmax pmax
comp=N,5.0nm,0.8s
NVS pmax pmax
comp=E,17nm,0.8s
NVS smax smax
comp=N,2.0nm,0.7s
NVS smax smax
comp=E,9.0nm,1.2s
FORT Forrest 55.44 196 *e*P **P** **11 37 01.8 0.0**
comp=E,292nm,1.0s
OHAK Old Harbor 56.47 36 *e*P **P** **11 37 09.0 +0.1**
comp=E,24nm,0.8s
KDAK Kodiak Island 56.94 35 P **P** **11 37 12.3 +0.1**
comp=E,191nm,1.1s,SNR=7.8
KDAK Kodiak Island 56.94 35 *e*P **P** **11 37 12.2 -0.1**
comp=E,31nm,0.9s
KDAK Kodiak Island 56.94 35 LR LR 11 58 27.1
comp=E,759nm,21.9s,baz=255,slow=32
KURK Kurchatov 56.96 317 P **P** **11 37 11.3 -1.2**
comp=E,255nm,1.3s,SNR=21
KURK Kurchatov 56.96 317 P **P** **11 37 12.7 +0.2**
KURK S **S** **11 44 59.8 +0.2**
KURK Kurchatov 56.96 317 P **P** **11 37 12.7 +0.2**
KURK S **S** **11 44 59.8 +0.2**
KURBB Kurchatov Arra 57.01 316 P **P** **11 37 12.7 -0.2**
comp=E,37nm,0.8s,baz=92,slow=7.6,SNR=133
KURBB S **S** **11 44 59.8 -0.5**
comp=E,0.6nm,0.8s,baz=92,slow=9.7,SNR=9.4
RSO Redoubt South 57.34 32 *e*P **P** **11 37 15.3 +0.1**
comp=E,60nm,1.1s
CAN Canberra 58.11 175 *e*P **P** **11 37 20.4 -0.3**
CAN pmax pmax
comp=Z,100nm,1.1s
CAN Canberra 58.11 175 *e*P **P** **11 37 20.4 -0.3**
comp=Z,100nm,1.1s
ULHL Ulahol 58.59 307 *i* P **P** **11 37 25.6 +1.2**
ULHL Ulahol 58.59 307 P **P** **11 37 25.6 +1.2**
SNR=22
KSH Kashi 59.00 303 P P 11 37 30.9 +3.8
KSH pP pP 11 37 53.5 +3.8
KSH sP sP 11 38 03.9 +4.1
KSH PP PP 11 39 46.8 +8.5
KSH S **S** **11 45 27.8 +0.9**
KSH SS **SS** **11 49 25.9 +4.1**
KSH pmax pmax
comp=Z,130nm,2.0s
KSH LR LR
comp=N,240nm,10.7s
KSH LR LR
comp=E,150nm,8.1s
KSH LR LR
comp=Z,190nm,9.8s
TKM2 Tokmak 2 59.02 307 *i* P **P** **11 37 28.2 +0.8**
TKM2 pmax pmax
comp=Z,50nm,0.7s
TKM2 Tokmak 2 59.02 307 P **P** **11 37 28.5 +1.2**
SNR=55
TRF Thorofare Moun 59.06 29 *e*P **P** **11 37 26.5 -0.7**
comp=Z,51nm,1.0s
PMR Palmer 59.27 31 *e*P **P** **11 37 27.7 -0.7**
PMR pmax pmax
comp=Z,52nm,1.0s
PMR Palmer 59.27 31 *e*P **P** **11 37 27.7 -0.7**
comp=Z,52nm,1.0s
KZA Kyzart 59.34 306 *i* P **P** **11 37 31.6 +1.8**
KZA Kyzart 59.34 306 P **P** **11 37 31.6 +1.8**
SNR=44
NDI New Delhi 59.50 291 *e*P **P** **11 37 29.0 -1.6**
KBK Karagaybulak 59.52 307 *i* P **P** **11 37 31.7 +1.0**
KBK Karagaybulak 59.52 307 P **P** **11 37 31.7 +1.0**
SNR=33
CHMS Chumysh 59.64 307 *i* P **P** **11 37 32.2 +0.8**
CHMS Chumysh 59.64 307 P **P** **11 37 32.2 +0.8**
SNR=20
SML Sawmill 59.68 31 *e*P **P** **11 37 31.3 0.0**
SML pmax pmax
comp=Z,16nm,0.9s
SML Sawmill 59.68 31 *e*P **P** **11 37 31.3 0.0**
comp=Z,16nm,0.9s
MCK McKinley 59.70 28 *e*P **P** **11 37 30.9 -0.5**
MCK pmax pmax
comp=Z,86nm,1.4s
MCK McKinley 59.70 28 *e*P **P** **11 37 30.9 -0.5**
comp=Z,86nm,1.4s
FRU Bishkek 59.75 307 *i* P **P** **11 37 32.0 -0.1**
FRU *e* 11 37 46.0
FRU *e*S **S** **11 45 41.0 +4.7**
FRU pmax pmax
comp=Z,110nm,1.6s
USP Ospenovka 59.80 308 *i* P **P** **11 37 33.3 +0.8**
USP Ospenovka 59.80 308 P **P** **11 37 33.3 +0.8**
SNR=8.5
AAK Ala-Archa 59.85 307 P **P** **11 37 33.0 0.0**
comp=Z,193nm,0.9s,SNR=8.3
AAK Ala-Archa 59.85 307*d i*P **P** **11 37 33.8 +0.8**
AAK pmax pmax
comp=Z,77nm,1.3s
AAK Ala-Archa 59.85 307 P **P** **11 37 33.9 +0.8**
SNR=17
AAK Ala-Archa 59.85 307 P **P** **11 37 34.0 +0.9**
SNR=15
AAK Ala-Archa 59.85 307 *e*P **P** **11 37 33.8 +0.8**
comp=Z,76nm,1.4s
AAK Ala-Archa 59.85 307 P **P** **11 37 33.9 +0.8**
comp=Z,29nm,1.0s,baz=110,slow=5.1,SNR=35
UCH Uchtor 59.87 307 *i* P **P** **11 37 35.1 +1.6**
UCH Uchtor 59.87 307 P **P** **11 37 35.1 +1.6**
SNR=13
COLD Coldfoot 59.88 24 *e*P **P** **11 37 33.7 +1.1**
comp=Z,39nm,1.1s
COLA College 60.36 27 *e*P **P** **11 37 36.0 +0.2**
COLA pmax pmax
comp=Z,29nm,0.7s
COLA College 60.36 27 *e*P **P** **11 37 36.0 +0.2**
comp=Z,29nm,0.7s
EKS2 Erkin-Say 60.38 307 P **P** **11 37 37.3 +0.8**
SNR=29
AML Almayashu 60.48 307 *i* P **P** **11 37 39.1 +1.4**
AML Almayashu 60.48 307 P **P** **11 37 39.0 +1.4**
SNR=47
ILAR Eielson Array 60.75 27 P **P** **11 37 37.5 -1.1**
ILAR P'P' 12 06 56.0

ILAR Eielson Array 60.75 27 P **P** **11 37 37.5 -1.1**
comp=Z,14nm,0.7s,baz=256,slow=5.6,SNR=117
ILAR LR LR 12 01 47.3
comp=Z,298nm,20.9s,baz=92,slow=34
ILAR PKPPKP **P'P'df** **12 06 56.0 -2.9**
comp=Z,0.4nm,0.9s,baz=120,slow=3.3,SNR=4.4
DIV Divide 60.82 32 *e*P **P** **11 37 40.0 +0.8**
comp=Z,45nm,1.1s
NWAO Narrogin (SRO) 61.00 205 LR LR 12 04 55.6
comp=Z,397nm,21.1s,baz=28,slow=37
PAX Paxson 61.15 30 *e*P **P** **11 37 41.2 -0.2**
PAX pmax pmax
comp=Z,14nm,0.7s
PAX Paxson 61.15 30 *e*P **P** **11 37 41.2 -0.2**
comp=Z,14nm,0.7s
BMRM Bremner River 61.37 32 *e*P **P** **11 37 43.6 +0.7**
comp=Z,120nm,1.4s
MENT Mentasta 61.94 30 *e*P **P** **11 37 47.5 +0.8**
BVA0 Borovoye Array 62.10 319 *i* P **P** **11 37 47.3 -0.6**
BVA0 pmax pmax
comp=Z,151nm,0.8s
BVAR Borovoye Array 62.10 319 P **P** **11 37 48.0 +0.1**
BVAR S **S** **11 46 07.3 +1.5**
BVAR Borovoye Array 62.10 319 P **P** **11 37 48.0 +0.1**
BVAR pP **pP** **11 38 07.4 -3.2**
BVAR S **S** **11 46 07.3 +1.5**
BVAR Borovoye Array 62.10 319 P **P** **11 37 48.0 +0.1**
comp=Z,113nm,0.8s,baz=91,slow=7.9,SNR=334
BVAR pP **pP** **11 38 07.4 -3.2**
comp=Z,24nm,0.6s,baz=93,slow=7.4,SNR=4.2
BVAR S **S** **11 46 07.3 +1.5**
comp=Z,0.7nm,0.6s,baz=81,slow=9.2,SNR=4.7
BRVK Borovoye 62.17 319*d i*P **P** **11 37 48.3 +0.1**
BRVK pmax pmax
comp=Z,143nm,1.0s
BRVK Borovoye 62.17 319 P **P** **11 37 48.5 +0.3**
SNR=46
BRVK Borovoye 62.17 319 *e*P **P** **11 37 48.4 +0.1**
comp=Z,106nm,0.8s
KK31 Karatay Array 62.72 308*ce*P **P** **11 37 52.4 +0.2**
KK31 pmax pmax
comp=Z,31nm,0.5s
KKAR Karatay Array 62.72 308 *e*P **P** **11 37 52.7 +0.5**
KKAR pmax pmax
comp=Z,44nm,0.8s
KKAR Karatay Array 62.72 308 *e*P **P** **11 37 52.7 +0.5**
comp=Z,44nm,0.8s
EGAK Eagle 63.19 28 *e*P **P** **11 37 54.5 -0.4**
comp=Z,8.0nm,0.8s
PNL Peninsula 63.92 33 *e*P **P** **11 38 00.6 +0.7**
comp=Z,29nm,1.2s
KBL Kabul 65.21 299 *e*P **P** **11 38 09.5 +0.6**
KBL pmax pmax
comp=Z,61nm,0.9s
KBL Kabul 65.21 299 *e*P **P** **11 38 09.5 +0.6**
comp=Z,61nm,0.9s
SKAG Skagway 66.00 34 *e*P **P** **11 38 14.2 +1.0**
comp=Z,5.6nm,0.5s
INK Inuvik 66.28 24 PKPPKP **P'P'df** **12 06 49.2 -0.4**
comp=Z,3.1nm,1.1s,baz=21,slow=4.2,SNR=5.4
SVE Sverdlovsk 67.42 324*ce*P **P** **11 38 22.5 +0.2**
SVE *e* 11 38 44.0
SVE *e*S **S** **11 47 11.3 +0.4**
SVE pmax pmax
comp=Z,90nm,1.1s
URZ Urewera 68.42 152 *e*P **P** **11 38 27.6 -1.1**
comp=Z,87nm,1.2s
ARU Arti 68.61 324*d i*P **P** **11 38 29.2 -0.6**
ARU 11 38 50.6
ARU 11 41 01.4
ARU PPP PPP 11 42 34.4
ARU S **S** **11 47 28.6 +3.4**
ARU pmax pmax
comp=Z,109nm,1.2s
ARU MLR MLR
comp=Z,310nm,24.0s
ARU Arti 68.61 324 P **P** **11 38 29.9 +0.1**
comp=Z,443nm,1.0s,SNR=28
DLBC Dease Lake 68.86 34 LR LR 12 05 46.0
comp=Z,271nm,21.5s,baz=295,slow=33
SOKR Solikamsk 69.02 327*d i*P **P** **11 38 32.1 -0.1**
SOKR pmax pmax
comp=Z,50nm,1.0s
SOKR MLR MLR
comp=Z,260nm,17.0s
AB31 Akbulak array 69.05 316*ce*P **P** **11 38 32.1 -0.5**
AB31 pmax pmax
comp=Z,4.0nm,0.3s
ABKAR Akbulak array 69.05 316 *e*P **P** **11 38 32.3 -0.4**
comp=Z,30nm,0.8s
AKTO Aktyubinsk 70.04 317 P **P** **11 38 38.2 -0.6**
AKTO Aktyubinsk 70.04 317 P **P** **11 38 38.1 -0.6**
AKTO Aktyubinsk 70.04 317 P **P** **11 38 38.1 -0.6**
comp=Z,5.9nm,0.7s,baz=76,slow=12,SNR=14
AKTO LR LR 12 11 52.6
comp=Z,254nm,18.8s,baz=78,slow=38
KHZ Kahutara 70.57 157 *e*P **P** **11 38 40.1 -1.8**
comp=Z,36nm,0.8s
RPZ Rata Peaks 70.87 159 *e*P **P** **11 38 42.3 -1.4**
comp=Z,77nm,1.1s
BBB Bella Bella 71.15 41 LR LR 12 06 53.2
comp=Z,130nm,20.9s,baz=256,slow=33
IMYA Miami 71.89 302 *e*P **P** **11 38 50.8 +0.4**
ISRO Mashad 72.39 303 *e*P **P** **11 38 54.3 +1.0**
IMOG Moghan 72.55 302 *e*P **P** **11 38 53.2 -1.3**
IEMG Emamgholi 72.72 304 *e*P **P** **11 38 56.6 +1.1**
IAKL Akhelmad 72.87 303 *e*P **P** **11 38 57.3 +0.9**
ISFR Sfrayin 73.33 304 *e*P **P** **11 38 59.9 +0.8**
ISHV Shirvan 73.42 304 *e*P **P** **11 39 00.5 +1.0**
IKOO Kooshah 73.86 299 *e*P **P** **11 39 02.5 +0.3**
ALE Alert 74.06 3 P **P** **11 39 03.0 +0.8**
comp=Z,224nm,0.8s,SNR=15
SPITS Spitsbergen Ar 74.75 350 LR LR 12 14 34.5
comp=Z,233nm,20.0s,baz=35,slow=38
KBS Kingsbay 74.89 351*ce*P **P** **11 39 08.4 +1.4**
KBS pmax pmax
comp=Z,51nm,2.5s
NLWA Neilton Lookou 75.08 45 *e*P **P** **11 39 10.2 +1.5**
comp=Z,31nm,1.3s
YKW3 Yellowknife Ar 75.14 28 *e*P **P** **11 39 08.8 +0.1**
comp=Z,0.6nm,1.3s
YKA Yellowknife Ar 75.17 28 P **P** **11 39 08.8 -0.1**
YKA Yellowknife Ar 75.17 28 P **P** **11 39 08.8 -0.1**
comp=Z,7.5nm,0.5s,baz=293,slow=5.8,SNR=75
E03A Lebam 75.53 45 P **P** **11 39 12.4 +1.2**
RES Resolute Bay 75.80 14 LR LR 12 13 32.7
comp=Z,168nm,19.9s,baz=45,slow=36
CMW Cultus Mountai 75.88 43 P **P** **11 39 14.5 +1.2**
LVZ Lovozero 75.88 338*d i*P **P** **11 39 12.7 -0.2**
LVZ pmax pmax
comp=Z,70nm,1.7s
LVZ Lovozero 75.88 338 P **P** **11 39 13.6 +0.7**
comp=Z,204nm,0.9s,SNR=6.0
MBW Mount Baker 75.90 43 P **P** **11 39 14.3 +0.7**
JCW Jim Creek 76.07 43 P **P** **11 39 15.4 +1.0**
TMCR Tamitsa 76.21 334 *e*P **P** **11 39 14.1 -0.7**
TMCR pmax pmax
comp=Z,132nm,1.3s
FL2 Flat Top 2 76.44 45 P **P** **11 39 18.0 +1.4**
APA Apatity 76.46 338⇑*i*P **P** **11 39 16.6 +0.5**
APA *i* 11 39 31.0
APA *e*S **S** **11 48 54.0 -0.1**
APA pmax pmax
comp=Z,73nm,1.0s
TDL Tradedollar La 76.48 45 P **P** **11 39 18.0 +1.2**
F04A Amboy 76.48 46 P **P** **11 39 17.5 +0.8**
PPT Papeete 76.58 116 LR LR 12 09 02.2
comp=Z,238nm,19.4s,baz=321,slow=32
PPT2 Papeete2 76.59 116 *e*S S 11 49 07.4 +10
comp=Z,424nm,37.8s
PPT2 Papeete2 76.59 116 *e*LR LR 12 02 53.8
comp=Z,443nm,26.8s
IGLO Ghaloghah 76.68 304 *e*P **P** **11 39 19.0 +0.7**
IKIA Kiasar 76.89 304 *e*P **P** **11 39 20.4 +0.9**
IBAF Bafgh 76.89 299 *e*P **P** **11 39 19.7 +0.2**
IANJ Anjilo 76.95 303 *e*P **P** **11 39 20.0 +0.1**
H04A Detroit Lake 77.04 47 P **P** **11 39 20.5 +0.6**
ISHM Shahmirzad 77.32 304 *e*P **P** **11 39 24.8 +2.8**
KEV Kevo 77.40 341 *e*p **P** **11 39 21.4 +0.1**
comp=Z,93nm,1.1s
KEV Kevo 77.40 341 *e*P **P** **11 39 21.6 +0.3**
KEV pmax pmax
comp=Z,68nm,1.3s
KEV Kevo 77.40 341 *e*P **P** **11 39 21.6 +0.3**
comp=Z,68nm,1.3s

YBH Yreka Blue Hor 77.66 50 eP P 11 39 24.6 +1.1
comp=Z,23nm,1.1s
YBH Yreka Blue Hor 77.66 50 LR LR 12 05 51.7
comp=Z,193nm,22.0s,baz=306,slow=30
ARCES ARCESS Array B 77.96 342 P P 11 39 24.9 +0.3
ARCES ARCESS Array B 77.96 342 P P 11 39 24.9 +0.3
comp=Z,48nm,0.9s,baz=74,slow=8.2,SNR=112
ARCES LR LR 12 18 43.5
comp=Z,418nm,20.8s,baz=61,slow=39
ARE0 ARCESS Array S 77.96 342 eP P 11 39 24.9 +0.4
HOQ Hoqain 78.07 291 P P 11 39 26.2 +0.2
SNR=6.8
VIPM Ingram Point 78.16 47 P P 11 39 27.0 +0.7
VIPM Ingram Point 78.16 47 P P 11 39 27.0 +0.7
WDC Whiskeytown Da 78.17 51 eP P 11 39 27.2 +1.0
WDC pmax pmax
comp=Z,11nm,1.0s
WDC Whiskeytown Da 78.17 51 eP P 11 39 27.2 +1.0
comp=Z,11nm,1.0s
HAWA Hanford 78.21 45 eP P 11 39 27.1 +0.7
comp=Z,17nm,1.2s
IDMV Damavand 78.36 304 eP P 11 39 28.0 +0.2
OD2 Odessa Site #2 78.38 43 P P 11 39 27.6 +0.3
ISFB Sefidab 78.62 302 eP P 11 39 29.0 +0.1
ARQ Araqi 78.84 291 P P 11 39 37.9 +7.6
SNR=6.2
NEW Newport 79.06 42 eP P 11 39 31.5 +0.4
comp=Z,21nm,0.8s
NEW Newport 79.06 42 ⇓P P 11 39 31.5 +0.4
baz=79,SNR=26
MAK Makhachkala 79.09 312 eP P 11 39 34.7 +3.5
MAK e 11 42 35.5
MAK eS SKSac 11 49 39.9 +0.8
MAK e 11 50 05.0
MAK pmax pmax
comp=Z,40nm,0.4s
MAK MLR MLR
comp=Z,563nm,18.0s
JOF Joensuu 79.46 335 ep P 11 39 32.9 +0.1
comp=Z,80nm,0.9s
JOF Joensuu 79.46 335 eP P 11 39 32.9 +0.1
JOF pmax pmax
comp=Z,80nm,0.9s
IPAR Pars 79.52 298 eP P 11 39 33.8 -0.4
TBI Tubuai 79.55 121 eLR LR 12 04 20.9
comp=Z,486nm,31.2s,baz=306
ISRV Sarvestan 79.62 297 eP P 11 39 32.6 -2.2
A12A Yaak River Ran 79.70 41 ⇑P P 11 39 35.6 +1.0
baz=80,SNR=9.4
B12A Libby 79.92 42 ⇑P P 11 39 36.8 +1.1
baz=80,SNR=6.0
MOS Moscow 79.97 327 eP P 11 39 30.4 -5.3
MOS eS S 11 49 26.5 -5.6
MOS pmax pmax
comp=Z,76nm,1.3s
MOS pmax pmax
comp=Z,100nm,1.5s
DAG Danmarks Havn 79.98 356 i P P 11 39 35.1 -0.3
DAG pmax pmax
comp=Z,8.0nm,1.0s
DAG Danmarks Havn 79.98 356 i P P 11 39 35.1 -0.3
comp=Z,7.5nm,1.0s
DAG i 11 40 02.0
BEKR Beckworth 79.99 51 eP P 11 39 36.8 +0.4
comp=Z,19nm,0.9s
BMO Blue Mountains 80.23 45 eP P 11 39 37.7 +0.2
BMO pmax pmax
comp=Z,22nm,0.9s
BMO Blue Mountains 80.23 45 eP P 11 39 37.7 +0.2
comp=Z,22nm,0.9s
WVOR Wild Horse Val 80.25 48 eP P 11 39 38.3 +0.6
WVOR pmax pmax
comp=Z,18nm,1.0s
WVOR Wild Horse Val 80.25 48 eP P 11 39 38.3 +0.6
comp=Z,18nm,1.0s
C12B Naegeli Ranch, 80.29 42 ⇑P P 11 39 38.2 +0.4
baz=80,SNR=6.2
A13A Flathead Natio 80.45 41 ⇑P P 11 39 39.5 +0.8
baz=80,SNR=6.5
CMB Columbia Colle 80.64 53 eP P 11 39 40.1 +0.3
CMB pmax pmax
comp=Z,32nm,0.7s
CMB Columbia Colle 80.64 53 eP P 11 39 40.1 +0.3
comp=Z,32nm,0.7s
B13A Whitefish 80.65 41 ⇑P P 11 39 40.5 +0.9
baz=80,SNR=20
BSMT Bassoo Peak 80.66 42 P P 11 39 40.7 +0.8
WALA Waterton Lakes 80.71 41 eP P 11 39 40.7 +0.7
comp=Z,0.7nm,1.0s
E12A Beaver Dam Sad 80.75 44 ⇓P P 11 39 40.8 +0.5
baz=81,SNR=31
OBN Obninsk 80.78 326 ⇑iP P 11 39 39.7 -0.4
OBN i S S 11 49 37.6 -3.0
OBN pmax pmax
comp=Z,37nm,1.0s
OBN MLR MLR
comp=Z,400nm,23.0s
BLMT Blacktail Moun 80.86 42 eP P 11 39 42.2 +1.2
comp=Z,23nm,1.0s
C13A Hot Springs 80.86 42 ⇑P P 11 39 41.4 +0.6
baz=81,SNR=24
JTMT Jette 81.02 42 eP P 11 39 42.4 +0.6
comp=Z,22nm,1.2s
A14A Double T Ranch 81.04 41 ⇓P P 11 39 42.6 +0.9
baz=81,SNR=19
VSR Storozhevoye 81.09 322 eP P 11 39 41.4 -0.4
VSR pmax pmax
comp=Z,70nm,1.2s
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,50nm,1.1s
VORD Divnogorie 81.13 322 eP P 11 39 41.4 -0.6
VORD pmax pmax
comp=Z,50nm,1.4s
VORD pmax pmax
comp=N,40nm,0.6s
VORD pmax pmax
comp=E,50nm,0.8s
YBMT Yellow Bay 81.14 42 eP P 11 39 43.2 +0.9
comp=E,24nm,1.1s
D13A Huson 81.17 43 ⇓P P 11 39 42.5 +0.1
baz=81,SNR=15
SWMT Swartz Lake 81.29 42 eP P 11 39 43.8 +0.7
comp=E,13nm,1.0s
B14A Marquette Ranc 81.38 41 ⇑P P 11 39 44.4 +0.7
baz=81,SNR=21
G12A Big Creek, Yel 81.42 45 ⇓P P 11 39 43.8 -0.1
baz=81,SNR=19
A15A Johnson Ranch, 81.45 40 ⇓P P 11 39 44.3 +0.4
baz=81,SNR=26
ZEI Tsey 81.61 313 eP P 11 39 44.3 -0.8
ZEI pmax pmax
comp=Z,38nm,0.8s
SLMT Seeley Lake 81.71 42 eP P 11 39 45.8 +0.4
comp=Z,32nm,1.2s
D14A Greenough 81.77 42 ⇑P P 11 39 45.3 -0.4
baz=82,SNR=8.1
MFID Camas Ranch 81.77 46 eP P 11 39 46.4 +0.6
comp=Z,25nm,0.8s
MFID Camas Ranch 81.77 46 ⇓P P 11 39 46.4 +0.6
baz=82,SNR=35
B15A Bradely Ranch, 81.83 41 ⇓P P 11 39 46.4 +0.5
baz=82,SNR=21
KAF Kangasniemi 81.86 335 ep P 11 39 44.7 -1.0
comp=Z,6.5nm,0.6s,baz=54,slow=4.9
KAF Kangasniemi 81.86 335 eP P 11 39 44.7 -1.0
KAF pmax pmax
comp=Z,7.0nm,0.6s
KBZ Khabaz 81.91 314 P P 11 39 46.9 +0.6
KBZ Khabaz 81.91 314 P P 11 39 46.9 +0.6
KBZ Khabaz 81.91 314 P P 11 39 46.9 +0.6
comp=Z,22nm,0.8s,baz=96,slow=3.7,SNR=33
KBZ LR LR 12 20 18.2
comp=Z,321nm,18.7s,baz=257,slow=39
MLAC Mammoth Lakes 81.93 53 ⇑P P 11 39 47.8 +0.9
baz=82
SMMC Simmler 81.94 55 ⇓P P 11 39 47.3 +0.6
baz=82
IMRD Marand 81.94 309 eP P 11 39 57.4 +11
H12A Diamond D Ranc 81.96 45 ⇓P P 11 39 46.9 +0.1
baz=82,SNR=19
KIV Kislovodsk 81.96 314 eP P 11 39 46.7 0.0
KIV eS S 11 49 56.7 +3.2
KIV pmax pmax
comp=Z,31nm,1.0s
KIV pmax pmax
comp=Z,23nm,5.0s
KIV MLR MLR
comp=Z,300nm,19.0s
CHMT Chamberlain Mo 82.00 42 eP P 11 39 47.1 +0.1
comp=Z,5.8nm,1.1s
BMN Battle Mountai 82.00 50 eP P 11 39 48.2 +1.1
BMN pmax pmax
comp=Z,7.0nm,1.0s
BMN Battle Mountai 82.00 50 eP P 11 39 48.2 +1.1
comp=Z,7.4nm,1.0s
NVAR Mina Array Bea 82.01 52 P P 11 39 47.9 +0.7
NVAR Mina Array Bea 82.01 52 P P 11 39 47.9 +0.7
comp=Z,18nm,0.7s,baz=276,slow=5.4,SNR=165
NVAR LR LR 12 08 59.2
comp=Z,289nm,21.5s,baz=133,slow=30
C15A Salmond Ranch, 82.03 41 ⇓P P 11 39 47.4 +0.3
baz=82,SNR=26
GNI Garni 82.07 310 eP P 11 39 49.5 +2.0
GNI Garni 82.07 310 P P 11 39 48.7 +1.2
comp=Z,3.7nm,0.4s,baz=82,slow=15,SNR=3.4
NV11 Mina Array Sit 82.11 52 eP P 11 39 48.6 +0.9
RCTC Rector, Farmer 82.13 54 ⇓P P 11 39 47.9 +0.3
baz=82
PKM Peak Mountain 82.23 56 ⇓P P 11 39 49.4 +0.9
baz=82
B16A M & M Farms, S 82.30 41 ⇓P P 11 39 48.7 +0.3
baz=82,SNR=5.9
FIA1 FINESS Array S 82.33 335 eP P 11 39 47.4 -0.7
FINES FINESS Array B 82.33 335 P P 11 39 47.3 -0.8
FINES FINESS Array B 82.33 335 P P 11 39 47.3 -0.8
comp=Z,6.9nm,0.4s,baz=73,slow=4.9,SNR=86
FINES LR LR 12 19 44.1
comp=Z,170nm,18.1s,baz=39,slow=38
D15A Lincoln 82.40 42 ⇓P P 11 39 48.8 -0.2
baz=82,SNR=7.6
VES Vestal, Richgr 82.43 54 ⇓P P 11 39 49.1 -0.1
baz=82
SBC Santa Barbara 82.49 56 ⇑P P 11 39 49.3 -0.2
baz=82
C16A Fuhringer Ranc 82.55 41 ⇓P P 11 39 49.7 0.0
baz=82,SNR=6.0
TIN Tinemaha 82.60 53 ⇓P P 11 39 50.9 +0.7
baz=82
HLID Hailey 82.65 46 eP P 11 39 51.1 +0.6
comp=Z,8.4nm,1.0s
HLID Hailey 82.65 46 ⇑P P 11 39 50.9 +0.5
baz=82,SNR=16
A17A Triple J Farms 82.67 40 ⇑P P 11 39 50.7 +0.4
baz=82
ARVC Arvin 82.89 55 ⇓P P 11 39 52.1 +0.4
baz=83
B17A L&G Farms, Che 82.90 40 ⇓P P 11 39 52.0 +0.5
baz=83,SNR=14
CWC Cottonwood Cre 82.94 54 ⇓P P 11 39 52.3 +0.2
baz=83
ISA Isabella 82.95 54 eP P 11 39 52.0 0.0
ISA pmax pmax
comp=Z,19nm,1.2s
ISA Isabella 82.95 54 eP P 11 39 52.0 0.0
comp=Z,19nm,1.2s
ISA Isabella 82.95 54 ⇓P P 11 39 52.0 0.0
baz=83
LRM Limekiln Ridge 82.97 43 eP P 11 39 52.6 +0.5
comp=Z,176nm,0.7s
HRY Holter Researc 82.97 42 eP P 11 39 52.7 +0.8
comp=Z,19nm,0.5s
D16A Dana Ranch, Ca 83.00 42 ⇑P P 11 39 52.4 +0.3
baz=83,SNR=13
DLMT Dillon 83.07 44 eP P 11 39 52.9 +0.4
comp=Z,5.8nm,0.6s
BLG Laguna Peak 83.11 56 ⇓P P 11 39 52.7 -0.1
baz=83
I14A Mackay 83.13 45 ⇓P P 11 39 53.8 +0.9
baz=83,SNR=14
MCMT Mcenzie Canyo 83.14 44 eP P 11 39 53.5 +0.5
comp=Z,2.4nm,0.6s
OSI Osito Adit 83.17 55 ⇑P P 11 39 53.8 +0.7
baz=83
A18A Metzger Ranch, 83.18 40 ⇑P P 11 39 53.4 +0.5
baz=83,SNR=24
C17A Wharram Farm, 83.22 41 ⇓P P 11 39 53.0 -0.1
baz=83,SNR=6.9
GRAC Grapevine Rang 83.25 53 ⇑P P 11 39 54.2 +0.8
baz=83
ELK Elko 83.26 49 eP P 11 39 54.2 +0.5
comp=Z,17nm,1.1s
ELK Elko 83.26 49 LR LR 12 14 59.6
comp=Z,110nm,20.1s,baz=297,slow=34
B18A Beardsley Farm 83.46 40 ⇓P P 11 39 54.7 +0.3
baz=83,SNR=30
D17A Six Diamond Ra 83.48 41 ⇑P P 11 39 54.9 +0.4
baz=83,SNR=11
MPMC Manual Prospec 83.53 54 ⇓P P 11 39 55.8 +0.7
baz=83
BOZ Bozeman (W) 83.56 43 eP P 11 39 55.7 +0.7
BOZ pmax pmax
comp=Z,8.0nm,0.6s
BOZ Bozeman (W) 83.56 43 eP P 11 39 55.7 +0.7
comp=Z,7.9nm,0.6s
LRMC Laurel Mountai 83.62 54 ⇑P P 11 39 56.1 +0.6
baz=84
DECC Green Verdugo 83.62 56 ⇑P P 11 39 55.7 +0.3
baz=84
EDW2 Edwards Air Fo 83.63 55 ⇑P P 11 39 56.4 +0.9
baz=84
EGMT Eagleton 83.64 40 eP P 11 39 55.8 +0.5
comp=Z,6.5nm,0.7s
EGMT Eagleton 83.64 40 ⇓P P 11 39 55.5 +0.1
baz=84,SNR=6.6
E17A Martinsdale 83.68 42 ⇓P P 11 39 56.3 +0.7
baz=84,SNR=11
VSU Vasula 83.74 332 di P P 11 39 54.5 -1.0
VSU pmax pmax
comp=Z,105nm,1.3s
A19A Klindworth Far 83.82 39 ⇑P P 11 39 56.7 +0.5
baz=84,SNR=19
MWC Mount Wilson 83.83 56 eP P 11 39 57.0 +0.3
MWC pmax pmax
comp=Z,10.0nm,1.1s
MWC Mount Wilson 83.83 56 eP P 11 39 57.0 +0.3
comp=Z,9.7nm,1.1s
FURC Furnace Creek, 83.84 53 ⇑P P 11 39 57.3 +1.0
baz=84
FMP Fort Macarthur 83.86 56 ⇑P P 11 39 57.1 +0.5
baz=84
CIS Catalina Islan 83.89 56 ⇑P P 11 39 56.7 -0.1
baz=84
B19A Brinkman Farms 83.93 40 ⇑P P 11 39 57.3 +0.6
baz=84,SNR=31
SCI San Clemente I 83.95 57 ⇑P P 11 39 57.4 +0.3
baz=84
D18A Linhart Farms, 83.99 41 ⇑P P 11 39 58.0 +0.9
baz=84
QLMT Earthquake Lak 84.05 44 eP P 11 39 58.6 +1.0
comp=Z,1.1nm,0.6s
F17A Fitzpatrick Pl 84.05 43 ⇑P P 11 39 58.1 +0.5
baz=84,SNR=11
BFSC Mount Baldy Ra 84.13 55 ⇑P P 11 39 58.5 +0.3
baz=84
C19A Slack Wire Ran 84.20 40 ⇑P P 11 39 59.0 +0.9
baz=84
H16A Russell Place, 84.22 44 ⇑P P 11 39 59.6 +1.1
baz=84,SNR=14
G17A Pierce Place, 84.27 43 ⇓P P 11 39 59.6 +1.0
baz=84,SNR=6.9
A20A Cobblestone Ra 84.32 39 ⇑P P 11 39 59.2 +0.5
baz=84
GSC Goldstone 84.35 54 eP P 11 39 59.8 +0.6
GSC pmax pmax
comp=Z,41nm,1.4s
GSC Goldstone 84.35 54 eP P 11 39 59.8 +0.6
comp=Z,41nm,1.4s
GSC Goldstone 84.35 54 ⇑P P 11 39 59.7 +0.6
baz=84,SNR=15
RRX Edison Barstow 84.37 55 ⇓P P 11 40 00.2 +1.0
baz=84
JMIC Jan Mayen 84.38 351 LR LR 12 16 06.0
comp=Z,57nm,20.0s,baz=63,slow=34
YMR Madison River 84.42 44 eP P 11 40 01.1 +1.6
comp=Z,58nm,1.1s
I16A Newdale 84.44 45 ⇑P P 11 40 00.8 +1.2
baz=84,SNR=12
B20A Solberg Farm, 84.48 39 ⇑P P 11 39 59.9 +0.4
baz=84,SNR=14
SHOC Shoshone 84.50 53 ⇓P P 11 40 00.3 +0.5
baz=84,SNR=10
HVU Hansel Valley 84.50 47 eP P 11 40 01.1 +1.2
HVU pmax pmax
comp=Z,20nm,1.1s
HVU Hansel Valley 84.50 47 eP P 11 40 01.1 +1.2
comp=Z,20nm,1.1s
FFC Flin Flon 84.55 32 iP P 11 40 00.2 +0.6
FFC Flin Flon 84.55 32 eP P 11 40 00.3 +0.6
comp=Z,48nm,0.8s
D19A Cripps Ranch, 84.57 41 ⇓P P 11 40 00.7 +0.6
baz=84,SNR=20
YFT Old Faithful 84.60 44 eP P 11 40 03.1 +2.6
comp=Z,28nm,0.9s
F18A Big Timber 84.64 42 ⇑P P 11 40 01.3 +0.8
baz=84
BBRC Big Bear Solar 84.68 55 ⇑P P 11 40 01.3 +0.3
baz=85
MURC Murrieta 84.74 56 ⇓P P 11 40 01.1 0.0
baz=85,SNR=5.4
SUMG Summit 84.77 1 ⇓iP P 11 40 01.7 +0.8
SUMG pmax pmax
comp=Z,16nm,0.8s
SUMG Summit 84.77 1 eP P 11 40 01.5 +0.6
comp=Z,25nm,1.1s
SUMG Summit 84.77 1 ⇓iP P 11 40 01.7 +0.8
comp=Z,16nm,0.8s
RRI2 Red Ridge 84.78 45 eP P 11 40 02.0 +0.6
comp=Z,17nm,1.0s
IMW Indian Meadow 84.78 44 eP P 11 40 02.5 +1.1
comp=Z,18nm,0.8s
H17A Grant Village 84.79 44 ⇑P P 11 40 03.7 +2.2
baz=85,SNR=8.3
C20A Veseth Ranch, 84.83 40 ⇓P P 11 40 02.1 +0.8
baz=85,SNR=22
A21A Bergtoll Ranch 84.85 39 ⇓P P 11 40 01.8 +0.5
baz=85,SNR=7.0
HEC Hector,Ludlow 84.90 54 ⇑P P 11 40 02.4 +0.5
baz=85,SNR=9.2
TUQ Turquoise Moun 84.95 54 ⇓P P 11 40 03.0 +0.7
baz=85,SNR=17
E19A Rath Farm, Rou 84.95 41 ⇑P P 11 40 02.4 +0.5
baz=85,SNR=24
TPAW Teton Pass 84.95 45 eP P 11 40 03.4 +1.0
comp=Z,17nm,1.0s
MOOW Moose Ponds 84.97 45 eP P 11 40 03.2 +0.9
comp=Z,12nm,1.2s
ANN Anapa 84.99 317 eP P 11 40 00.4 -1.6
ANN e*PP pP 11 40 15.7 -10
ANN eS S 11 50 21.0 -2.7
ANN pmax pmax
comp=Z,49nm,1.2s
I17A Pilgrim Ck. 85.00 44 ⇓P P 11 40 03.7 +1.3
baz=85
G18A Lazy EL Ranch, 85.01 43 ⇓P P 11 40 02.9 +0.5
baz=85,SNR=6.1
B21A Ellsworth Farm 85.07 39 ⇓P P 11 40 02.9 +0.5
baz=85,SNR=15
SNOW Snow King Moun 85.09 45 eP P 11 40 03.7 +0.7
comp=Z,5.7nm,0.6s
109C Camp Elliot, M 85.10 56 ⇑P P 11 40 04.4 +1.5
baz=85
LOHW Long Hollow 85.12 45 eP P 11 40 03.8 +0.7
comp=Z,14nm,1.2s
F19A Roth Farm, Mol 85.14 42 ⇑P P 11 40 03.4 +0.5
baz=85
DUG Dugway 85.17 48 eP P 11 40 03.8 +0.5
DUG pmax pmax
comp=Z,19nm,0.6s
DUG Dugway 85.17 48 eP P 11 40 03.8 +0.5
comp=Z,19nm,0.6s
DUG Dugway 85.17 48 ⇑P P 11 40 03.8 +0.5
baz=85,SNR=32
AHID Auburn Hatcher 85.18 46 eP P 11 40 04.0 +0.6
comp=Z,26nm,1.3s
H18A Shoshone NF, C 85.24 43 ⇓P P 11 40 04.8 +1.1
baz=85,SNR=7.8
RLMT Red Lodge 85.28 43 eP P 11 40 05.0 +1.1
comp=Z,48nm,0.6s
PFO Pinyon Flat Ob 85.30 56 P P 11 40 04.0 0.0
comp=Z,108nm,0.7s,SNR=7.9
PFO Pinyon Flat Ob 85.30 56 eP P 11 40 04.5 +0.5
comp=Z,23nm,1.2s
PFO Pinyon Flat Ob 85.30 56 LR LR 12 12 51.3
comp=Z,167nm,20.3s,baz=314,slow=32
PFO Pinyon Flat Ob 85.30 56 ⇑P P 11 40 04.2 +0.2
baz=85,SNR=10.0
C21A Desert Coulee 85.31 40 ⇑P P 11 40 04.4 +0.7
baz=85,SNR=9.1
E20A Meyer Farm, Mu 85.33 41 ⇓P P 11 40 04.3 +0.4
baz=85,SNR=8.4
HWUT Hardware Ranch 85.39 47 eP P 11 40 05.0 +0.6
comp=Z,24nm,0.9s
GMRC Granite Mounta 85.42 54 ⇑P P 11 40 05.1 +0.5
baz=85,SNR=10
A22A Carney Farms, 85.43 38 ⇓P P 11 40 04.2 0.0
baz=85,SNR=8.0
BELC Belle Mtn. Jos 85.49 55 ⇑P P 11 40 05.1 +0.1
baz=85,SNR=11
I18A Diamond G Ranc 85.59 44 ⇑P P 11 40 06.1 +0.6
baz=86
MONP Monument Peak 85.62 56 ⇓P P 11 40 06.2 +0.4
baz=86,SNR=8.3
F20A Billings 85.66 42 ⇓P P 11 40 05.8 +0.3
baz=86
H19A Powell 85.67 43 ⇓P P 11 40 06.9 +1.2
baz=86,SNR=13
CTU Camp Tracy 85.67 48 eP P 11 40 06.3 +0.5
comp=Z,27nm,1.1s
B22A Reddig Ranch S 85.72 39 ⇓P P 11 40 06.0 +0.3
baz=86,SNR=8.9
NACGM Naroch 85.74 329 e P 11 40 01.0 -4.6
D21A La Casta Ranch 85.75 40 ⇑P P 11 40 06.4 +0.5
baz=86,SNR=20
ARUT Antelope Range 85.77 51 eP P 11 40 07.2 +0.9
ARUT pmax pmax
comp=Z,22nm,1.0s
ARUT Antelope Range 85.77 51 eP P 11 40 07.2 +0.9
comp=Z,22nm,1.0s
G20A Bridger 85.89 42 ⇑P P 11 40 07.0 +0.3
baz=86,SNR=25
JLU Jordanelle 85.92 48 eP P 11 40 07.6 +0.5
comp=Z,16nm,0.7s
CCUT Cedar City 85.93 51 eP P 11 40 07.9 +0.7
comp=Z,15nm,1.1s
E21A Keefer Ranch, 85.95 41 ⇓P P 11 40 07.5 +0.6
baz=86,SNR=5.6
I19A Meeteetse 85.96 44 ⇑P P 11 40 08.1 +0.8
baz=86,SNR=7.3
DVTC Desert V Tower 85.96 56 ⇓P P 11 40 07.9 +0.7
baz=86
A23A Redstone 86.03 38 ⇑P P 11 40 07.5 +0.2
baz=86
BC3 Big Chuckawall 86.04 55 ⇑P P 11 40 08.1 +0.4
baz=86,SNR=14
M17A Scullys Gap (B 86.06 47 ⇓P P 11 40 07.9 +0.1
baz=86,SNR=15
IRM Iron Mountain 86.06 55 ⇓P P 11 40 08.2 +0.5
baz=86,SNR=8.4
C22A Vida 86.07 39 ⇑P P 11 40 07.7 +0.2
baz=86,SNR=7.9
SWSC Sam W. Stewart 86.08 56 ⇓P P 11 40 08.0 +0.2
baz=86
DAU Daniels Canyon 86.14 48 eP P 11 40 08.9 +0.6
DAU pmax pmax
comp=Z,21nm,0.8s
DAU Daniels Canyon 86.14 48 eP P 11 40 08.8 +0.6
comp=Z,21nm,0.8s
D22A Cohagen 86.19 40 ⇓P P 11 40 08.7 +0.6
baz=86,SNR=15
BW06 Boulder Array 86.19 45 eP P 11 40 08.3 -0.1
comp=Z,5.9nm,0.8s
PDAR Pinedale Array 86.19 45 P P 11 40 08.3 -0.1
PDAR Pinedale Array 86.19 45 P P 11 40 08.3 -0.1
comp=Z,4.8nm,0.6s,baz=239,slow=1.9,SNR=44
PDAR LR LR 12 15 52.3
comp=Z,200nm,19.8s,baz=318,slow=34
NEE2 Needles Airpor 86.20 54 ⇑P P 11 40 08.9 +0.6
baz=86
B23A Brockton 86.22 38 ⇓P P 11 40 08.4 +0.2
baz=86,SNR=10
L18A Fontenelle, Gr 86.27 46 ⇓P P 11 40 09.2 +0.4
baz=86
F21A Absaloka Mine, 86.27 41 ⇑P P 11 40 08.6 +0.1
baz=86
J19A Crowheart 86.29 44 ⇑P P 11 40 09.4 +0.6
baz=86,SNR=21
MVU Marysvale 86.33 50 eP P 11 40 10.1 +1.0
comp=Z,13nm,0.9s
MSU Marysvale 86.35 50 eP P 11 40 10.1 +0.8
MSU pmax pmax

comp=Z,15nm,0.9s
MSU **Marysvale** 86.35 50 *e*P P 11 40 10.1 +0.8
comp=Z,15nm,0.9s
H20A **Greybull** 86.38 43 ⇓P P 11 40 09.7 +0.5
baz=86,SNR=10
C23A **Lambert** 86.44 39 ⇓P P 11 40 09.9 +0.6
baz=86,SNR=12
G21A **Lodge Grass** 86.51 42 ⇑P P 11 40 10.1 +0.3
baz=86,SNR=11
A24A **Westby** 86.55 38 ⇓P P 11 40 10.0 +0.3
baz=86
I20A **Worland** 86.55 43 ⇑P P 11 40 10.4 +0.4
baz=86,SNR=11
W13A **Hualapai Mount** 86.60 53 ⇑P P 11 40 11.1 +0.6
baz=86,SNR=12
K19A **Absolon Red Bu** 86.63 45 ⇓P P 11 40 10.2 -0.3
baz=86,SNR=26
L19A **Farson** 86.63 46 ⇑P P 11 40 10.9 +0.4
baz=86,SNR=11
DGMT **Dagmar** 86.67 38 ⇓P P 11 40 10.6 +0.2
baz=86
TMUT **Trail Mountain** 86.67 49 *e*P P 11 40 11.7 +0.8
comp=Z,14nm,0.9s
E22A **Miles City** 86.68 41 ⇑P P 11 40 10.8 +0.4
baz=86,SNR=15
Y12C **Blythe** 86.70 55 ⇓P P 11 40 11.5 +0.7
baz=87,SNR=5.1
D23A **Lindsay** 86.75 40 ⇓P P 11 40 11.8 +0.9
baz=87,SNR=15
PDMCI **Parker Dam,Lak** 86.76 54 ⇓P P 11 40 11.7 +0.6
baz=87,SNR=6.6
GLA **Glamis** 86.77 56 *e*P P 11 40 11.9 +0.7
GLA pmax pmax
comp=Z,22nm,0.9s
GLA **Glamis** 86.77 56 *e*P P 11 40 11.9 +0.7
comp=Z,22nm,0.9s
GLA **Glamis** 86.77 56 ⇑P P 11 40 12.0 +0.7
baz=87,SNR=8.7
F22A **Rosebud** 86.82 41 ⇑P P 11 40 11.3 +0.1
baz=87,SNR=8.0
KIEV **Kiev** 86.85 325 *e*P P 11 40 09.7 -1.4
KIEV pmax pmax
comp=Z,8.0nm,0.8s
KIEV **Kiev** 86.85 325 *e*P P 11 40 09.7 -1.4
comp=Z,7.6nm,0.8s
J20A **Shoshoni** 86.87 44 ⇓P P 11 40 11.8 +0.3
baz=87
Q16A **Castle Valley** 86.87 49 ⇑P P 11 40 12.6 +0.9
baz=87,SNR=14
C24A **Savage** 87.03 39 ⇓P P 11 40 12.7 +0.6
baz=87
K20A **Yellowstone Ra** 87.03 45 ⇑P P 11 40 12.3 -0.2
baz=87,SNR=14
E23A **Ismay** 87.03 40 ⇑P P 11 40 12.6 +0.4
baz=87,SNR=5.6
M19A **Rock Springs** 87.05 46 ⇑P P 11 40 12.6 0.0
baz=87
G22A **Birney** 87.08 42 ⇑P P 11 40 13.0 +0.5
baz=87
I21A **Big Trails, Te** 87.15 43 ⇓P P 11 40 13.2 +0.2
baz=87
U15A **North Rim** 87.19 52 ⇓P P 11 40 14.1 +0.6
baz=87,SNR=27
SRU **San Rafael** 87.23 49 *e*P P 11 40 13.9 +0.4
SRU pmax pmax
comp=Z,15nm,0.6s
SRU **San Rafael** 87.23 49 *e*P P 11 40 13.9 +0.4
comp=Z,16nm,0.6s
J21A **Lysite** 87.28 44 ⇑P P 11 40 14.1 +0.5
baz=87
MALT **Malatya** 87.29 311 ⇑*i*P pP 11 40 39.6 +1.9
D24A **Glendive** 87.30 39 ⇓P P 11 40 14.0 +0.5
baz=87,SNR=9.2
L20A **Wamsutter** 87.35 45 ⇓P P 11 40 14.3 +0.3
baz=87,SNR=6.1
F23A **Volborg** 87.37 41 ⇑P P 11 40 14.0 +0.1
baz=87,SNR=8.1
E24A **Baker** 87.59 40 ⇑P P 11 40 15.4 +0.5
baz=87
I22A **9 Mile Ranch,** 87.62 43 ⇓P P 11 40 15.6 +0.4
baz=88,SNR=6.4
O19A **Miners Draw (B** 87.64 47 ⇓P P 11 40 15.3 -0.1
baz=88,SNR=11
G23A **Biddle** 87.64 41 ⇓P P 11 40 15.2 0.0
baz=88,SNR=7.3
M20A **Sweetwater, Wa** 87.69 46 ⇑P P 11 40 16.2 +0.5
baz=88,SNR=9.2
113A **Mohawk Valley,** 87.70 55 ⇓P P 11 40 16.2 +0.6
baz=88,SNR=12
K21A **Alcova** 87.75 44 ⇑P P 11 40 16.0 +0.1
baz=88,SNR=11
Y14A **Wickenburg** 87.76 54 ⇓P P 11 40 16.8 +0.8
baz=88,SNR=32
J22A **Midwest** 87.86 43 ⇑P P 11 40 16.4 0.0
baz=88,SNR=6.2
F24A **Ekalaka** 87.88 40 ⇓P P 11 40 16.6 +0.3
baz=88
H23A **Clabaugh Cattl** 87.96 42 ⇑P P 11 40 16.6 -0.1
baz=88
N20A **Spence Gulch,** 87.96 46 ⇑P P 11 40 17.4 +0.4
baz=88,SNR=14
SUW **Suwalki** 87.96 329 *e*P P 11 40 15.2 -1.2
SUW **Suwalki** 87.96 329 *e*P P 11 40 15.1 -1.3
L21A **Rawlins** 88.00 45 ⇑P P 11 40 17.2 0.0
baz=88,SNR=13
NB2 **NORSAR Subarra** 88.02 339 P P 11 40 14.8 -1.8
comp=Z,26nm,1.2s,baz=55,slow=5.1
NB2 **NORSAR Subarra** 88.02 339 P P 11 40 14.8 -1.8
baz=55,slow=5.1
NOA **NORSAR Array B** 88.02 339 P P 11 40 15.5 -1.1
NOA PP PP 11 43 42.7 -0.8
NOA **NORSAR Array B** 88.02 339 P P 11 40 15.5 -1.1
comp=Z,10nm,0.9s,baz=46,slow=4.5,SNR=17
NOA PP PP 11 43 42.7 -0.8
comp=Z,6.3nm,0.9s,baz=44,slow=8.1,SNR=9.6
NOA LR LR 12 27 26.8
comp=Z,100nm,18.2s,baz=40,slow=41
P19A **Cripple Cowboy** 88.05 48 ⇑P P 11 40 17.8 +0.4
baz=88,SNR=36
Z14A **Wintersburg** 88.06 55 ⇑P P 11 40 18.1 +0.8
baz=88,SNR=6.1
E25A **Miller Ranch,** 88.16 40 ⇓P P 11 40 18.3 +0.7
baz=88
G24A **Alzada** 88.17 41 ⇑P P 11 40 17.7 0.0
baz=88
M21A **Separation Pea** 88.18 45 ⇓P P 11 40 18.1 0.0
baz=88,SNR=10
K22A **Casper** 88.21 44 ⇓P P 11 40 18.5 +0.4
baz=88
I23A **Meade Ranch, G** 88.22 42 ⇑P P 11 40 19.1 +1.1
baz=88
WUAZ **Wupatki** 88.26 52 *e*P P 11 40 19.2 +0.7
comp=Z,23nm,1.0s
WUAZ **Wupatki** 88.26 52 ⇓P P 11 40 19.3 +0.9
baz=88,SNR=22
O20A **White River Ci** 88.31 47 ⇑P P 11 40 18.7 +0.1
baz=88,SNR=13
H24A **Dirks Ranch, A** 88.38 41 ⇓P P 11 40 18.8 +0.1
baz=88
J23A **Dilts Ranch, B** 88.45 43 ⇓P P 11 40 19.4 +0.2
baz=88
N21A **Black Mountain** 88.49 46 ⇑P P 11 40 19.8 +0.4
baz=88,SNR=14
P20A **De Beque** 88.51 47 ⇑P P 11 40 20.0 +0.4
baz=88
L22A **Ellis Ranch, M** 88.58 45 ⇑P P 11 40 20.6 +0.8
baz=88
PV04 **Paradox Valley** 88.69 49 *e*P P 11 40 21.1 +0.7
X16A **Lo Mia Camp, P** 88.71 53 ⇓P P 11 40 21.6 +1.0
baz=89,SNR=16
K23A **Bowen Ranch, D** 88.73 44 ⇓P P 11 40 20.5 0.0
baz=89
214A **Organ Pipe Nat** 88.78 56 ⇓P P 11 40 21.6 +0.9
baz=89,SNR=18
M22A **Cedar Creek Ra** 88.78 45 ⇓P P 11 40 21.3 +0.4
baz=89
O21A **Pagoda** 88.79 46 ⇑P P 11 40 21.1 +0.2
baz=89
Q20A **Ridgley Place,** 88.84 48 ⇓P P 11 40 21.5 +0.4
baz=89,SNR=33
L23A **Garrett** 89.00 44 ⇓P P 11 40 21.7 -0.2
baz=89
RSSD **Black Hills** 89.02 42 *e*P P 11 40 22.2 +0.3
RSSD pmax pmax
comp=Z,6.0nm,0.8s
RSSD **Black Hills** 89.02 42 *e*P P 11 40 22.2 +0.3
comp=Z,5.9nm,0.8s
H25A **Fruitdale** 89.03 41 ⇑P P 11 40 22.2 +0.5
baz=89
PV01 **Paradox Valley** 89.04 49 *e*P P 11 40 22.3 +0.1
comp=Z,945nm,0.9s
J24A **Dixon Ranch, L** 89.05 43 ⇓P P 11 40 22.1 +0.2
baz=89
R20A **Redvale** 89.15 49 ⇑P P 11 40 22.9 +0.3
baz=89,SNR=11
N22A **Wattsberg Ran** 89.17 46 ⇓P P 11 40 23.5 +0.8
baz=89
K24A **Anderson Ranch** 89.26 43 ⇑P P 11 40 23.1 +0.1
baz=89
I25A **Rochford** 89.26 42 ⇓P P 11 40 23.1 +0.1
baz=89
M23A **Laramie** 89.32 45 ⇑P P 11 40 23.8 +0.5
baz=89
S20A **Disappointment** 89.33 49 ⇑P P 11 40 23.6 0.0
baz=89,SNR=5.7
Q21A **Lamborn Mesa,** 89.39 48 ⇑P P 11 40 24.5 +0.8
baz=89,SNR=6.0
O22A **Kremmling** 89.43 46 ⇑P P 11 40 24.0 0.0
baz=89,SNR=11
N23A **Red Feather La** 89.46 45 ⇑P P 11 40 25.1 +1.0
baz=89,SNR=9.0
MVCO **Mesa Verde** 89.53 49 *e*P P 11 40 25.0 +0.6
comp=Z,18nm,1.4s
MVCO **Mesa Verde** 89.53 49 ⇑P P 11 40 25.2 +0.7
baz=89
H26A **Fairpoint** 89.53 41 ⇓P P 11 40 24.3 +0.2
baz=89
L24A **Wheatland** 89.53 44 ⇑P P 11 40 25.0 +0.8
baz=89
P22A **Eagle** 89.57 47 ⇑P P 11 40 25.3 +0.8
baz=89,SNR=12
MDND **Maddock** 89.59 37 ⇑P P 11 40 24.7 +0.5
baz=89
G27A **Dupree** 89.63 40 ⇑P P 11 40 25.0 +0.5
baz=90
SMCO **Snowmass** 89.63 47 *e*P P 11 40 26.0 +0.9
comp=Z,11nm,0.9s
R21A **Cimarron** 89.63 48 ⇑P P 11 40 25.9 +0.9
baz=90,SNR=19
SFJD **Kangerlussuaq** 89.74 6 *i*P P 11 40 24.1 -0.4
comp=Z,14nm,0.9s
SFJD **Kangerlussuaq** 89.74 6 LR LR 12 22 18.2
comp=Z,174nm,19.7s,baz=342,slow=37
X18A **Snowflake** 89.75 52 ⇓P P 11 40 26.4 +1.0
baz=90
I26A **New Underwood** 89.79 41 ⇑P P 11 40 26.5 +1.1
baz=90
S21A **Coal Bank Pass** 89.81 49 ⇑P P 11 40 26.4 +0.5
baz=90,SNR=10
O23A **Lake Granby, G** 89.82 46 ⇑P P 11 40 26.7 +0.9
baz=90,SNR=7.0
Q22A **Crested Butte,** 89.83 47 ⇓P P 11 40 26.8 +0.9
baz=90,SNR=19
BR131 **Keskin Array S** 89.89 314 *e*P P 11 40 25.1 -0.9
comp=Z,12nm,0.8s
BRTR **Keskin Array B** 89.89 314 P P 11 40 24.4 -1.6
BRTR PP PP 11 44 00.7 +1.4
BRTR **Keskin Array B** 89.89 314 P P 11 40 24.4 -1.6
comp=Z,2.9nm,0.8s,baz=91,slow=4.9,SNR=11
BRTR PP PP 11 44 00.7 +1.4
comp=Z,2.4nm,1.0s,baz=103,slow=5.6,SNR=4.0
BRTR LR LR 12 25 38.8
comp=Z,131nm,20.6s,baz=230,slow=39
M24A **Cheyenne** 89.90 44 ⇑P P 11 40 26.8 +0.8
baz=90
U20A **Newcomb** 89.91 50 ⇓P P 11 40 26.8 +0.7
baz=90
K25A **Mack Ranch, Ha** 89.91 43 ⇑P P 11 40 26.9 +0.9
baz=90
H27A **Howes** 89.94 41 ⇑P P 11 40 26.7 +0.8
baz=90
L25A **Engebretsen Ra** 90.09 43 ⇑P P 11 40 27.7 +0.9
baz=90
TUC **Tucson** 90.16 55 *e*P P 11 40 28.6 +1.3
TUC pmax pmax
comp=Z,14nm,1.4s
TUC **Tucson** 90.16 55 *e*P P 11 40 28.6 +1.3
comp=Z,14nm,1.4s
ULM **Lac du Bonnet** 90.17 34 P P 11 40 26.6 -0.3
ULM **Lac du Bonnet** 90.17 34 P P 11 40 26.6 -0.3
comp=Z,5.1nm,0.7s,baz=258,slow=3.5,SNR=5.1
ULM LR LR 12 20 48.3
comp=Z,167nm,18.8s,baz=303,slow=35
N24A **Carr** 90.19 45 ⇑P P 11 40 28.4 +1.0
baz=90
V20A **Brimhall** 90.23 51 ⇓P P 11 40 28.3 +0.6
baz=90,SNR=10
ISCO **Idaho Springs** 90.23 46 *e*P P 11 40 28.8 +1.1
ISCO pmax pmax
comp=Z,8.0nm,1.0s
ISCO **Idaho Springs** 90.23 46 *e*P P 11 40 28.8 +1.1
comp=Z,8.0nm,1.0s
ISCO **Idaho Springs** 90.23 46 ⇑P P 11 40 28.5 +0.8
baz=90,SNR=8.6
R22A **Saguache, Gunn** 90.24 48 ⇑P P 11 40 29.0 +1.1
baz=90,SNR=11
I27A **Quinn** 90.26 41 ⇑P P 11 40 28.0 +0.5
baz=90
P23A **Jefferson** 90.29 47 ⇑P P 11 40 29.5 +1.3
baz=90,SNR=17
K26A **Motz Farm, Whi** 90.30 43 ⇓P P 11 40 27.9 +0.1
baz=90,SNR=6.2
T21A **Navajo Lake** 90.31 49 ⇓P P 11 40 28.6 +0.5
baz=90
G28A **Parade** 90.39 40 ⇑P P 11 40 28.8 +0.7
baz=90
O24A **Longmont** 90.42 46 ⇑P P 11 40 29.7 +1.3
baz=90
S22A **4UR Ranch, Cre** 90.43 48 ⇓P P 11 40 29.5 +0.8
baz=90,SNR=12
U21A **Nageezi** 90.50 50 ⇑P P 11 40 29.4 +0.5
baz=90,SNR=11
W20A **Ramah** 90.52 51 ⇓P P 11 40 29.6 +0.5
baz=90,SNR=8.7
H28A **Mission Ridge** 90.55 40 ⇓P P 11 40 28.8 0.0
baz=90
L26A **Underwood Farm** 90.72 43 ⇓P P 11 40 30.3 +0.6
baz=91
T22A **Edith** 90.74 49 ⇑P P 11 40 30.8 +0.7
baz=91,SNR=14
BUR08 **Bucovina Ar. S** 90.74 324 *e*P P 11 40 29.3 -0.4
BURAR **Bucovina Array** 90.75 324 ⇑P P 11 40 29.3 -0.4
BURAR **Bucovina Array** 90.75 324 ⇑*i*P P 11 40 29.3 -0.4
X20A **Quemado** 90.80 52 ⇑P P 11 40 31.7 +1.3
baz=91,SNR=11
V21A **Milan** 90.81 50 ⇑P P 11 40 31.2 +0.8
baz=91
I28A **Midland** 90.83 41 ⇑P P 11 40 30.7 +0.5
baz=91
P24A **Kohler Place,** 90.84 46 ⇑P P 11 40 31.8 +1.3
baz=91
KWP **Kalwaria Pacla** 90.87 326 ⇑P P 11 40 30.0 -0.1
KWP **Kalwaria Pacla** 90.87 326 *e*P P 11 40 29.7 -0.4
comp=Z,43nm,1.0s
KWP **Kalwaria Pacla** 90.87 326 ⇑*i*P P 11 40 30.0 -0.1
KWP **Kalwaria Pacla** 90.87 326 *e*P P 11 40 29.6 -0.5
R23A **Moffat** 90.90 48 ⇑P P 11 40 31.7 +0.9
baz=91,SNR=8.7
Q24A **Divide** 90.96 47 ⇓P P 11 40 31.8 +0.6
baz=91,SNR=7.7
M26A **McRoberts Ranc** 90.98 44 ⇑P P 11 40 31.5 +0.6
baz=91
O25A **Wiggins** 91.06 45 ⇓P P 11 40 32.1 +0.7
baz=91,SNR=11
U22A **Llaves** 91.09 50 ⇑P P 11 40 32.6 +0.9
baz=91,SNR=9.2
J28A **Allard Ranch,** 91.11 41 ⇑P P 11 40 32.0 +0.6
baz=91
L27A **T5 Ranch, Ells** 91.17 43 ⇓P P 11 40 32.4 +0.6
baz=91
Y20A **Horse Springs,** 91.19 52 ⇑P P 11 40 33.5 +1.2
baz=91,SNR=17
V22A **San Miguel Ran** 91.28 50 ⇑P P 11 40 33.3 +0.7
baz=91
RKT **Rikitea** 91.29 114 *e*LR LR 12 09 50.3
comp=Z,306nm,37.0s,baz=308
T23A **Casias Ranch,** 91.33 49 ⇓P P 11 40 33.8 +0.9
baz=91
P25A **Willow Gulch B** 91.33 46 ⇓P P 11 40 33.5 +0.7
baz=91
SDCO **Great Sand Dun** 91.34 48 *e*P P 11 40 33.8 +0.8
comp=Z,8.3nm,0.7s
AGMN **Agassiz Nation** 91.36 35 *e*P P 11 40 32.2 -0.2
comp=Z,15nm,0.9s
R24A **Sanders Place,** 91.36 47 ⇓P P 11 40 33.8 +0.9
baz=91,SNR=27
X21A **Alamocita Cree** 91.37 52 ⇑P P 11 40 34.1 +1.0
baz=91,SNR=6.6
Z20A **Nine Sixteen R** 91.42 53 ⇑P P 11 40 34.4 +1.2
baz=91,SNR=36
K28A **Ten Mile Ranch** 91.42 42 ⇑P P 11 40 33.4 +0.5
baz=91
O26A **Horse Wrangler** 91.52 45 ⇓P P 11 40 34.2 +0.7
baz=91
KOLS **Kolonicke sedl** 91.53 326 *e*P P 11 40 32.9 -0.3
KOLS pmax pmax
comp=Z,8.0nm,1.2s
KOLS **Kolonicke sedl** 91.53 326 *e*P P 11 40 32.9 -0.3
U23A **El Rito** 91.58 49 ⇓P P 11 40 34.6 +0.7
baz=91,SNR=24
Q25A **Bedland, Calha** 91.59 46 ⇑P P 11 40 34.6 +0.6
baz=91,SNR=9.9
S24A **Houchin Ranch,** 91.59 48 ⇓P P 11 40 35.1 +0.9
baz=92,SNR=14
120A **U Bar Ranch, L** 91.66 54 ⇑P P 11 40 35.5 +1.2
baz=92,SNR=12
Y21A **Point of Rocks** 91.66 52 ⇑P P 11 40 36.0 +1.6
baz=92,SNR=8.4
UZH **Uzhgorod** 91.70 326 *e*P P 11 40 22.5 -11
UZH *i* 11 40 35.1
L28A **Connealy Angus** 91.71 43 ⇓P P 11 40 34.7 +0.4
baz=92
N27A **Anderson Farm,** 91.72 44 ⇓P P 11 40 35.0 +0.6
baz=92
W22A **Albuquerque** 91.72 51 ⇓P P 11 40 35.8 +1.2
baz=92
319A **Douglas** 91.72 55 ⇓P P 11 40 35.6 +1.0
baz=92,SNR=6.9
STHS **Stebnicka Huta** 91.75 327 *e*P P 11 40 34.5 +0.3
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS **Stebnicka Huta** 91.75 327 *e*P P 11 40 34.5 +0.3
P26A **Davis Ranch, A** 91.85 45 ⇓P P 11 40 36.3 +1.2
baz=92
LAZ **Ladron** 91.85 51 *e*P P 11 40 36.6 +1.3
comp=Z,2.1nm,0.9s
V23A **Ortiz Mt. (NFS** 91.87 50 ⇓P P 11 40 36.6 +1.3
baz=92,SNR=6.7
BORG **Borgarnes** 91.88 354 LR LR 12 23 33.7
comp=Z,86nm,19.1s,baz=336,slow=37
X22A **Bernardo** 91.90 51 ⇑P P 11 40 36.6 +1.2
baz=92
BRSD **Miller** 91.90 40 ⇓P P 11 40 35.1 +0.1
baz=92
MMAI **Mount Meron Ar** 91.94 307 LR LR 12 26 55.6
comp=Z,74nm,21.8s,baz=10.0,slow=39
OGNE **Ogallala** 91.96 44 ⇑P P 11 40 35.8 +0.3
baz=92
R25A **Fountain Ranch** 91.97 47 ⇓P P 11 40 36.0 +0.4
baz=92,SNR=19
OJC **Ojcow** 91.97 328 *e*P P 11 40 34.2 -1.0
OJC **Ojcow** 91.97 328 *e*P P 11 40 34.2 -1.0
Z21A **St. Cloud Mine** 92.00 53 ⇓P P 11 40 37.4 +1.4
baz=92,SNR=17
K29A **Lazy Trails An** 92.04 42 ⇓P P 11 40 36.3 +0.6
baz=92
220A **Playas Peak, P** 92.04 54 ⇑P P 11 40 37.1 +1.0
baz=92,SNR=13
Q26A **Hugo** 92.07 46 ⇑P P 11 40 36.7 +0.6
baz=92
ANMO **Albuquerque** 92.08 51 *e*P P 11 40 37.0 +0.8
comp=Z,13nm,1.2s
ANMO **Albuquerque** 92.08 51 LR LR 12 14 59.9
comp=Z,146nm,20.9s,baz=114,slow=31
O27A **Beecher Island** 92.08 45 ⇓P P 11 40 36.5 +0.4
baz=92
S25A **Robets Cordova** 92.11 47 ⇑P P 11 40 36.6 +0.2
baz=92,SNR=11
VOIR 92.12 322 ⇑P P 11 40 35.5 -0.6
VOIR 92.12 322 ⇑*i*P P 11 40 35.5 -0.6
U24A **Moreno Valley** 92.17 49 ⇑P P 11 40 38.1 +1.3
baz=92,SNR=15
W23A **Werner Place,** 92.19 50 ⇓P P 11 40 37.6 +0.8
baz=92,SNR=5.3
Y22A **Socorro** 92.21 52 ⇑P P 11 40 37.5 +0.6
baz=92,SNR=6.1
NIE **Niedzica** 92.22 327 *e*P P 11 40 37.4 +1.0
NIE **Niedzica** 92.22 327 *e*P P 11 40 37.4 +1.0
121A **Cookes Peak, D** 92.29 53 ⇓P P 11 40 38.6 +1.3
baz=92,SNR=11
BNM **Barren Site** 92.35 51 *e*P P 11 40 38.6 +1.1
comp=Z,4.4nm,1.1s
P27A **Ficken Ranch,** 92.36 45 ⇑P P 11 40 38.0 +0.6
baz=92
T25A **Trinidad** 92.40 48 ⇑P P 11 40 38.3 +0.5
baz=92,SNR=16
R26A **Arlington** 92.45 47 ⇓P P 11 40 38.2 +0.4
baz=92,SNR=17
V24A **Rampart Ranch,** 92.52 49 ⇑P P 11 40 39.4 +1.0
baz=92,SNR=8.9
Z22A **Elephant Butte** 92.54 52 ⇑P P 11 40 39.5 +1.1
baz=92
O28A **Krutsinger Ran** 92.57 44 ⇑P P 11 40 39.0 +0.7
baz=92
KSCO **Kaye Shedlock'** 92.62 46 ⇑P P 11 40 38.9 +0.3
baz=92,SNR=5.3
W24A **Lazy 6 Ranch,** 92.69 50 ⇓P P 11 40 40.0 +0.9
baz=93,SNR=15
KECS **Kecovo** 92.73 326 *e*P P 11 40 37.8 -0.9
KECS pmax pmax
comp=Z,5.0nm,1.0s
KECS **Kecovo** 92.73 326 *e*P P 11 40 37.8 -0.9
U25A **Circle Dot Ran** 92.78 49 ⇑P P 11 40 40.2 +0.7
baz=93,SNR=19
122A **Conniff Cattle** 92.79 53 ⇑P P 11 40 41.0 +1.4
baz=93
S26A **Kim** 92.79 47 ⇑P P 11 40 39.7 +0.3
baz=93,SNR=10
Y23A **Lovelace Mesa,** 92.87 51 ⇓P P 11 40 40.6 +0.7
baz=93
P28A **Saint Francis** 92.88 45 ⇓P P 11 40 39.9 +0.1
baz=93
R27A **Eads** 92.89 46 ⇓P P 11 40 40.3 +0.5
baz=93,SNR=9.0
V25A **Rancho No Teng** 92.92 49 ⇓P P 11 40 40.9 +0.7
baz=93,SNR=9.5
T26A **Comanche Natio** 92.94 48 ⇑P P 11 40 40.6 +0.4
baz=93,SNR=32
OKC **Ostrava-Krasne** 93.02 328 AMS AMS 12 23 30.0
comp=Z,200nm,16.9s
Z23A **Rita Site, Whi** 93.07 52 ⇓P P 11 40 41.6 +0.8
baz=93
Q28A **Sharon Springs** 93.11 45 ⇑P P 11 40 41.2 +0.3
baz=93
KSP **Ksiaz** 93.23 330 *e*P P 11 40 40.3 -0.7
KSP **Ksiaz** 93.23 330 *e*P P 11 40 40.6 -0.4
U26A **Atchley Ranch,** 93.24 48 ⇓P P 11 40 42.2 +0.5
baz=93,SNR=10.0
Y24A **Capitan** 93.31 51 ⇓P P 11 40 42.3 +0.3
baz=93
W25A **X Bar L Ranch,** 93.35 50 ⇑P P 11 40 43.0 +0.9
baz=93,SNR=6.1
R28A **Tribune** 93.51 46 ⇓P P 11 40 43.3 +0.6
baz=93
V26A **Tequesquite Ra** 93.52 49 ⇑P P 11 40 43.6 +0.8
baz=93
DPC **Dobruska-Polom** 93.55 329 *e*P P 11 40 41.7 -0.8
DPC **Dobruska-Polom** 93.55 329 *e*P P 11 40 41.7 -0.8
DPC AMS AMS 12 19 10.0
X25A **Clemmons Ranch** 93.56 50 ⇑P P 11 40 43.6 +0.5
baz=93
VYHS **Vyhne** 93.56 327 *e*P P 11 40 42.0 -0.6
VYHS pmax pmax
comp=Z,12nm,1.7s
VYHS **Vyhne** 93.56 327 *e*P P 11 40 42.0 -0.6
T27A **Campo** 93.59 47 ⇑P P 11 40 43.5 +0.4
baz=93,SNR=6.6
UPC **Upice** 93.59 330 *e*P P 11 40 42.7 0.0
UPC **Upice** 93.59 330 *e*P P 11 40 42.7 0.0
BSEG **Bad Segeberg** 93.60 335 *e*P P 11 40 41.5 -1.1
BSEG **Bad Segeberg** 93.60 335 *e*P P 11 40 41.5 -1.1
Z24A **Sheeppen Canyo** 93.67 52 ⇑P P 11 40 44.2 +0.6
baz=94
ECSD **EROS Data Cent** 93.69 39 *e*P P 11 40 43.1 -0.1
comp=Z,20nm,1.3s
Q29A **Oakley** 93.76 45 ⇑P P 11 40 44.1 +0.3
baz=94
Y25A **Mesa, Roswell** 93.85 51 ⇓P P 11 40 44.6 +0.2
baz=94
U27A **Thompson Grove** 93.86 48 ⇓P P 11 40 45.3 +0.9
baz=94
S28A **Manter** 93.86 46 ⇑P P 11 40 44.7 +0.3
baz=94,SNR=7.0

P30A	**Selden**	**93.87**	**44**	⇑P		**P**	**11 40 44.4**	**+0.1**
	baz=94							
W26A	**Owens Ranch, T**	**93.91**	**49**	⇓P		**P**	**11 40 45.3**	**+0.7**
	baz=94							
R29A	**Marienthal**	**93.91**	**45**	⇑P		**P**	**11 40 44.8**	**+0.3**
	baz=94							
124A	**Stringfield Ra**	**93.92**	**52**	⇓P		**P**	**11 40 45.4**	**+0.5**
	baz=94,SNR=9.6							
X26A	**CR and CF Fran**	**94.15**	**50**	⇑P		**P**	**11 40 46.1**	**+0.3**
	baz=94							
Z25A	**Roswell**	**94.16**	**51**	⇓P		**P**	**11 40 46.1**	**+0.3**
	baz=94							
224A	**Cornudas Mount**	**94.18**	**53**	⇓P		**P**	**11 40 46.8**	**+0.8**
	baz=94,SNR=12							
Q30A	**Quinter**	**94.21**	**45**	⇓P		**P**	**11 40 46.1**	**+0.3**
	baz=94							
PVCC	**Panska Ves**	**94.24**	**330**	*e*P		**P**	**11 40 44.7**	**-0.9**
PVCC				MLR	MLR			
	comp=Z,500nm,28.0s							
PVCC	**Panska Ves**	**94.24**	**330**	*e*P		**P**	**11 40 44.7**	**-0.9**
PVCC				AMS	AMS		12 22 40.0	
	comp=Z,500nm,28.0s							
BRG	**Berggiesshubel**	**94.28**	**331**	*e*P		**P**	**11 40 45.0**	**-0.8**
	comp=Z,11nm,1.3s							
BRG				PP		**PP**	**11 44 30.0**	**-3.1**
BRG				*e*			11 44 34.0	
	comp=Z,22nm,1.6s							
BRG				SS		SS	11 58 16.0	+4.4
BRG								
	comp=N,292nm,22.1s							
BRG								
	comp=E,176nm,31.7s							
BRG								
	comp=Z,470nm,30.2s							
BRG	**Berggiesshubel**	**94.28**	**331**	*e*P		**P**	**11 40 44.9**	**-0.9**
	comp=Z,11nm,1.3s							
BRG	**Berggiesshubel**	**94.28**	**331**	*e*P		**P**	**11 40 45.0**	**-0.8**
BRG				*e*			11 44 34.0	
BRG				SS		SS	11 58 16.0	+4.4
BRG				pmax		pmax		
	comp=Z,5.0nm,1.3s							
BRG				pmax		pmax		
	comp=Z,11nm,1.6s							
U28A	**Mallet**	**94.29**	**48**	⇓P		**P**	**11 40 47.1**	**+0.8**
	baz=94							
S29A	**Ulysses**	**94.36**	**46**	⇑P		**P**	**11 40 47.4**	**+0.8**
	baz=94							
CLL	**Collm**	**94.39**	**332**	*e*P		**P**	**11 40 45.2**	**-1.1**
	comp=Z,14nm,1.4s							
CLL	**Collm**	**94.39**	**332**	⇓*i*P		**P**	**11 40 44.8**	**-1.5**
CLL				*e*			11 51 21.0	
CLL				pmax		pmax		
	comp=Z,9.0nm,1.4s							
CLL	**Collm**	**94.39**	**332**	⇓*i*P		**P**	**11 40 44.8**	**-1.5**
	comp=Z,15nm,1.4s							
CLL				*e*PP		**PP**	**11 44 31.0**	**-2.9**
CLL				*e*SKSac		SKSac	11 51 21.0	+7.7
CLL				*e*SP		**SP**	**11 53 01.0**	**-4.4**
CLL				*e*SS		**SS**	**11 58 18.0**	**+4.9**
CLL				L		L	12 26 00.0	
	comp=Z,200nm,21.5s							
W27A	**Bowe Ranch, En**	**94.41**	**49**	⇓P		**P**	**11 40 47.5**	**+0.6**
	baz=94							
P31A	**Stockton**	**94.44**	**44**	⇑P		**P**	**11 40 46.5**	**-0.3**
	baz=94							
MNTX	**Cornudas Mount**	**94.47**	**53**	*e*P		**P**	**11 40 48.0**	**+0.9**
	comp=Z,7.3nm,1.1s							
FBE	**Freiberg**	**94.52**	**331**	*e*P		**P**	**11 40 46.3**	**-0.6**
	comp=Z,15nm,1.1s							
125A	**Gardner Draw,**	**94.52**	**52**	⇑P		**P**	**11 40 47.5**	**+0.1**
	baz=94							
324A	**Moseley Ranch,**	**94.53**	**53**	⇓P		**P**	**11 40 48.2**	**+0.6**
	baz=94							
R30A	**Dighton**	**94.55**	**45**	⇓P		**P**	**11 40 47.7**	**+0.3**
	baz=94							
X27A	**F and S Farms,**	**94.60**	**50**	⇑P		**P**	**11 40 48.5**	**+0.7**
	baz=94							
PRA	**Prague**	**94.62**	**330**	P		**P**	**11 40 47.0**	**-0.4**
PRA				AMS	AMS		12 22 00.0	
V28A	**Channing**	**94.63**	**48**	⇓P		**P**	**11 40 48.7**	**+0.8**
	baz=94							
PRU	**Pruhonice**	**94.63**	**330**	*e*P		**P**	**11 40 46.3**	**-1.1**
PRU				MLR	MLR			
	comp=Z,400nm,24.1s							
PRU	**Pruhonice**	**94.63**	**330**	*e*P		**P**	**11 40 46.3**	**-1.1**
PRU				AMS	AMS		12 22 10.0	
	comp=Z,400nm,24.1s							
TREC	**Trest**	**94.67**	**329**	AMS	AMS		12 25 00.0	
	comp=Z,400nm,20.9s							
Z26A	**Caprock**	**94.69**	**51**	⇓P		**P**	**11 40 48.4**	**+0.1**
	baz=95,SNR=5.0							
S30A	**Montezuma**	**94.79**	**46**	⇓P		**P**	**11 40 49.0**	**+0.5**
	baz=95							
SPMN	**St. Paul**	**94.92**	**36**	⇑P		**P**	**11 40 49.2**	**+0.3**
	baz=95							
325A	**Bean Ranch, Si**	**94.94**	**53**	⇑P		**P**	**11 40 49.9**	**+0.4**
	baz=95,SNR=7.9							
Y27A	**Causey**	**94.96**	**50**	⇓P		**P**	**11 40 50.6**	**+1.1**
	baz=95							
CLZ	**Clausthal**	**95.13**	**333**	*e*P		**P**	**11 40 48.8**	**-1.0**
CLZ	**Clausthal**	**95.13**	**333**	*e*P		**P**	**11 40 48.8**	**-1.0**
226B	**Tecolote Peak,**	**95.17**	**52**	⇑P		**P**	**11 40 51.3**	**+0.9**
	baz=95							
MSTX	**Muleshoe**	**95.19**	**50**	⇓P		**P**	**11 40 51.3**	**+0.8**
	baz=95							
425A	**Indio Mountain**	**95.23**	**54**	⇑P		**P**	**11 40 51.3**	**+0.5**
	baz=95,SNR=7.2							
PLN	**Plauen**	**95.36**	**331**	*e*P		**P**	**11 40 50.0**	**-0.8**
	comp=Z,47nm,1.3s							
WERN	**Wernitzgruen**	**95.40**	**331**	*e*P		**P**	**11 40 50.5**	**-0.5**
	comp=Z,16nm,1.6s							
S31A	**Mullinville**	**95.44**	**45**	⇑P		**P**	**11 40 51.8**	**+0.3**
	baz=95							
ROHR	**Rohrbach**	**95.47**	**331**	*e*P		**P**	**11 40 50.3**	**-1.0**
	comp=Z,2.0nm,1.2s							
KHC	**Kasperske Hory**	**95.68**	**330**	*e*P		**P**	**11 40 51.5**	**-0.8**
KHC				MLR	MLR			
	comp=Z,500nm,23.5s							
KHC	**Kasperske Hory**	**95.68**	**330**	*e*P		**P**	**11 40 51.5**	**-0.8**
KHC				AMS	AMS		12 23 20.0	
	comp=Z,500nm,23.5s							
X29A	**Tulia**	**95.69**	**49**	⇓P		**P**	**11 40 52.9**	**+0.1**
	baz=96,SNR=6.4							
326A	**Caldwell Ranch**	**95.70**	**53**	⇑P		**P**	**11 40 53.2**	**+0.4**
	baz=96							
Z28A	**Tucker Farm, M**	**95.82**	**50**	⇑P		**P**	**11 40 53.7**	**+0.4**
	baz=96							
GEC2	**GERESS Array S**	**95.83**	**329**	*e*P		**P**	**11 40 51.7**	**-1.3**
	comp=Z,7.0nm,1.4s							
GEC2	**GERESS Array S**	**95.83**	**329**	*e*P		**P**	**11 40 51.7**	**-1.3**
GEC2				pmax		pmax		
	comp=Z,10.0nm,1.4s							
GERES	**GERESS Array B**	**95.83**	**329**	P		**P**	**11 40 51.5**	**-1.5**
GERES	**GERESS Array B**	**95.83**	**329**	P		**P**	**11 40 51.5**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=35,slow=4.9,SNR=6.7							
GERES				LR		LR	12 27 38.3	
	comp=Z,232nm,21.0s,baz=226,slow=38							
ROTZ	**Rotzenmuhle**	**95.86**	**331**	*e*P		**P**	**11 40 52.8**	**-0.2**
	comp=Z,16nm,1.6s							
426A	**McDonald Obser**	**95.99**	**53**	⇓P		**P**	**11 40 54.6**	**+0.2**
	baz=96,SNR=5.9							
Y29A	**Porterfield Fa**	**96.02**	**50**	⇓P		**P**	**11 40 54.7**	**+0.5**
	baz=96							
526A	**Mary Lane Ranc**	**96.26**	**54**	⇓P		**P**	**11 40 56.1**	**+0.6**
	baz=96							
Z29A	**Hungry Hill Ra**	**96.32**	**50**	⇓P		**P**	**11 40 56.2**	**+0.6**
	baz=96							
427A	**Hayter Ranch,**	**96.36**	**53**	⇑P		**P**	**11 40 56.3**	**+0.5**
	baz=96							
626A	**Big Bend Ranch**	**96.48**	**54**	⇓P		**P**	**11 40 56.6**	**+0.1**
	baz=96							
W31A	**Holland Ranch,**	**96.49**	**48**	⇓P		**P**	**11 40 56.9**	**+0.6**
	baz=96							
328A	**Wristen Ranch,**	**96.52**	**52**	⇓P		**P**	**11 40 57.1**	**+0.5**
	baz=96							
527A	**Woodward Ranch**	**96.57**	**54**	⇑P		**P**	**11 40 57.1**	**+0.2**
	baz=96							
SOKA	**Soboth**	**96.69**	**327**	⇑*i*P		**P**	**11 40 54.4**	**-2.6**
	comp=Z,2.8nm,1.0s							
Z30A	**Sanderson Ranc**	**96.71**	**50**	⇓P		**P**	**11 40 57.7**	**+0.3**
	baz=97							
X31A	**McDonald Ranch**	**96.78**	**48**	⇓P		**P**	**11 40 57.6**	**0.0**
	baz=97							
TXAR	**Lajitas Array**	**96.95**	**54**	P		**P**	**11 40 57.8**	**-0.7**
TXAR				PKKPbc		**PKKPdf**	**11 57 39.9**	**-0.2**
TXAR	**Lajitas Array**	**96.95**	**54**	P		**P**	**11 40 57.8**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=262,slow=4.1,SNR=14							
TXAR				PKKPbc		**PKKPdf**	**11 57 39.9**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=141,slow=5.4,SNR=9.9							
TXAR				LR		LR	12 16 22.5	
	comp=Z,104nm,21.0s,baz=5.0,slow=30							
Y31A	**Rekieta Farm,**	**96.95**	**49**	⇑P		**P**	**11 40 58.7**	**+0.3**
	baz=97							
428A	**Kincaid Ranch,**	**96.95**	**53**	⇓P		**P**	**11 40 59.2**	**+0.7**
	baz=97							
329A	**Wagon Wheel Ra**	**97.07**	**52**	⇑P		**P**	**11 40 58.9**	**-0.1**
	baz=97							
627A	**Terlingua Ranc**	**97.09**	**54**	⇓P		**P**	**11 40 59.3**	**0.0**
	baz=97							
528A	**Cox Ranch, San**	**97.17**	**53**	⇓P		Pdif	11 41 00.0	+0.3
	baz=97							
628A	**Black Gap, Mar**	**97.45**	**54**	⇑P		Pdif	11 41 01.1	+0.2
	baz=97							
429A	**Davenport Ranc**	**97.59**	**52**	⇑P		**P**	**11 41 01.3**	**-0.1**
	baz=98							
529A	**Stev Forest Ra**	**97.61**	**53**	⇑P		**P**	**11 41 01.2**	**-0.3**
	baz=98							
330A	**Mertzon**	**97.69**	**51**	⇑P		**P**	**11 41 01.5**	**-0.3**
	baz=98							
Z32A	**Haskell**	**97.86**	**49**	⇑P		Pdif	11 41 02.6	+0.1
	baz=98							
231A	**Bronte**	**98.02**	**51**	⇓P		Pdif	11 41 03.5	+0.3
	baz=98							
ABTX	**Abilene, Hawle**	**98.12**	**50**	⇓P		Pdif	11 41 04.0	+0.3
	baz=98							
530A	**J-C Ranch, Com**	**98.25**	**53**	⇑P		Pdif	11 41 04.6	+0.2
	baz=98							
SCHQ	**Schefferville**	**98.28**	**17**	LR		LR	12 27 03.6	
	comp=Z,167nm,22.0s,baz=164,slow=36							
331A	**San Angelo**	**98.28**	**51**	⇓Pdif		**P**	**11 41 04.1**	**-0.3**
	baz=98							
431A	**Sonora**	**98.49**	**52**	⇑Pdif		**P**	**11 41 04.5**	**-0.9**
	baz=98							
332A	**Millersview**	**98.73**	**51**	⇓Pdif		**P**	**11 41 06.3**	**-0.1**
	baz=99							
531A	**Rocksprings**	**98.81**	**52**	⇑Pdif		Pdif	11 41 07.3	+0.4
	baz=99							
JCT	**Junction City**	**99.18**	**52**	⇓Pdif		**Pdif**	**11 41 08.5**	**0.0**
	baz=99							
532A	**Rocksprings**	**99.30**	**52**	⇑Pdif		**Pdif**	**11 41 09.1**	**0.0**
	baz=99							
632A	**Uvalde**	**99.73**	**52**	⇓Pdif		**Pdif**	**11 41 10.4**	**-0.5**
	baz=100							
VNDA	**Vanda**	**100.77**	**176**	P		**Pdif**	**11 41 14.8**	**+0.6**
VNDA				PP		**PP**	**11 45 20.9**	**-2.2**
VNDA	**Vanda**	**100.77**	**176**	P		**Pdif**	**11 41 14.8**	**+0.6**
	comp=Z,1.4nm,0.9s,baz=329,slow=6.1,SNR=7.1							
VNDA				PP		**PP**	**11 45 20.9**	**-2.2**
	comp=Z,2.9nm,0.9s,baz=331,slow=5.8,SNR=9.5							
ESDC	**Sonseca Array**	**110.83**	**334**	PP		PP	11 46 31.2	-5.8
ESDC				PKKPbc		**PKKPab**	**11 57 08.5**	**-2.3**
ESDC	**Sonseca Array**	**110.83**	**334**	PP		PP	11 46 31.2	-5.8
	comp=Z,0.2nm,0.3s,baz=32,slow=6.9,SNR=4.4							
ESDC				PKKPbc		**PKKPab**	**11 57 08.5**	**-2.3**
	comp=Z,2.3nm,0.8s,baz=217,slow=4.7,SNR=8.1							
QSPA	**South Pole Qui**	**112.68**	**180**	*e*PKPdf		**PKiKP**	**11 46 01.7**	**-0.4**
SYO	**Syowa Base**	**116.23**	**203**	⇑*e*PKPdf		**PKPdf**	**11 46 07.2**	**-1.4**
LSZ	**Lusaka**	**119.02**	**265**	*e*PKPdf		**PKPdf**	**11 46 16.6**	**+0.8**
BOSA	**Boshof**	**124.81**	**250**	PKP		**PKPdf**	**11 46 26.7**	**+0.2**
BOSA	**Boshof**	**124.81**	**250**	PKP		**PKPdf**	**11 46 26.7**	**+0.2**
	comp=Z,5.5nm,1.0s,baz=180,slow=5.4,SNR=4.6							
SNAA	**Sanae**	**127.62**	**193**	*e*PKPdf		**PKPdf**	**11 46 31.0**	**+0.4**
TORD	**Torodi Ar. Bea**	**128.38**	**310**	PKP		**PKPdf**	**11 46 33.8**	**+0.1**
TORD				PP		**PP**	**11 48 38.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**128.38**	**310**	PKP		**PKPdf**	**11 46 33.8**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=37,slow=0.9,SNR=8.9							
TORD				PP		**PP**	**11 48 38.6**	**+0.2**
	comp=Z,2.4nm,1.0s,baz=42,slow=7.6,SNR=5.2							
DBIC	**Dimbokro**	**137.49**	**310**	PKP		**PKPdf**	**11 46 52.9**	**+2.1**
DBIC				SKPbc		**SKPbc**	**11 50 17.5**	**+1.2**
DBIC	**Dimbokro**	**137.49**	**310**	PKP		**PKPdf**	**11 46 52.9**	**+2.1**
	comp=Z,9.8nm,1.1s,baz=162,slow=5.7,SNR=3.8							
DBIC				SKPbc		**SKPbc**	**11 50 17.5**	**+1.2**
	comp=Z,4.7nm,0.8s,baz=154,slow=2.4,SNR=3.6							
PLCA	**Paso Flores**	**146.14**	**130**	*e*PKPbc		**PKPab**	**11 47 07.3**	**-0.2**
PLCA	**Paso Flores**	**146.14**	**130**	PKPbc		**PKPab**	**11 47 07.4**	**0.0**
	comp=Z,64nm,0.9s,baz=222,slow=4.3,SNR=94							
EFI	**East Falkland**	**146.70**	**155**	*e*PKP2		**PKPbc**	**11 47 08.1**	**+0.4**
EFI	**East Falkland**	**146.70**	**155**	*e*PKPbc		**PKPbc**	**11 47 08.1**	**+0.4**
LCO	**Las Campanas**	**148.52**	**108**	*e*PKPdf		**PKPdf**	**11 47 10.1**	**0.0**
LCO				*e*PKPbc		**PKPbc**	**11 47 14.6**	**+0.8**
LCO				*e*PKPab		**PKPab**	**11 47 18.9**	**+1.5**
LPAZ	**La Paz**	**149.31**	**83**	*e*PKPdf		**PKPdf**	**11 47 12.4**	**+0.3**
LPAZ				PKP		**PKPdf**	**11 47 13.5**	**+1.4**
LPAZ				PKPbc		**PKiKP**	**11 47 17.4**	**-0.3**
LPAZ				*e*PKPbc		**PKPab**	**11 47 17.8**	**-3.6**
LPAZ				*e*PKPab		PKPab	11 47 22.5	+1.0
LPAZ	**La Paz**	**149.31**	**83**	PKP		**PKPdf**	**11 47 13.5**	**+1.4**
	comp=Z,13nm,0.8s,baz=351,slow=4.4,SNR=13							
LPAZ				PKPbc		**PKiKP**	**11 47 17.4**	**-0.3**
	comp=Z,13nm,0.8s,baz=304,slow=2.0,SNR=37							
LVC	**Limon Verde**	**149.93**	**96**	*e*PKPdf		**PKPdf**	**11 47 12.6**	**+0.1**
LVC				*e*PKPbc		**PKiKP**	**11 47 18.8**	**+0.5**
LVC				*e*PKPab		**PKPab**	**11 47 22.6**	**-0.7**
TRQA	**Tornquist**	**153.29**	**130**	*e*PKPdf		**PKPdf**	**11 47 16.3**	**-0.6**
TRQA				*e*PKPbc		**PKiKP**	**11 47 26.5**	**+1.9**
TRQA				*e*PKPab		**PKPab**	**11 47 37.8**	**+1.1**

KRSC 14 12:05:53.1±2.1, 48.50N×156.31E, h5km±5km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.19**	**357**	S	Sn	12 06 58.6	+1.1
PAU	**Pauzhetka**	**2.99**	**6**	S	Sn	12 07 18.1	+0.8
ASAK	**Asacha**	**4.02**	**14**	P	Pn	12 06 57.0	+1.6
ASAK				S	Sn	12 07 43.2	+0.3
MTVR	**Mutnovka**	**4.16**	**16**	P	Pn	12 06 58.4	+0.9
MTVR				S	Sn	12 07 46.5	-0.1
RUS	**Russkaya**	**4.18**	**19**	P	Pn	12 06 58.8	+1.3
RUS				S	Sn	12 07 47.0	+0.3
UGLR	**Uglovaya**	**4.98**	**18**	P	Pn	12 07 09.6	+1.0
KOK	**Koryaka**	**5.02**	**16**	P	Pn	12 07 10.8	+1.7
SPN	**Mys Shipunski**	**5.17**	**26**	P	Pn	12 07 12.9	+1.8
SPN				S	Sn	12 08 10.3	-0.8

KRSC 14 12:24:58.4±0.8, 52.56N×170.80E, h5km±5km, ML3.9, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**3.90**	**315**	P	Pn	12 26 00.0	+1.2
BKI				S	Sn	12 26 43.7	-1.2
SPN	**Mys Shipunski**	**6.55**	**279**	P	Pn	12 26 39.3	+3.9
SMKR	**Semkarok**	**6.76**	**310**	P	Pn	12 26 42.3	+4.1
SMKR				S	Sn	12 27 58.2	+2.6
BZGR	**Bezymyannyi-Gr**	**6.82**	**304**	S	Sn	12 27 59.9	+2.7
BDR	**Baidarnaya**	**6.87**	**310**	P	Pn	12 26 43.7	+3.9
BDR				S	Sn	12 28 00.8	+2.4
SRKR	**Sorokina**	**6.94**	**310**	S	Sn	12 28 02.7	+2.7
NLC	**Nalytchevo**	**6.96**	**280**	P	Pn	12 26 43.3	+2.3
NLC				S	Sn	12 28 01.8	+1.3
KMNR	**Kamenistaya**	**6.98**	**301**	P	Pn	12 26 44.3	+3.0
KMNR				S	Sn	12 28 04.2	+3.1
KIRR	**Kirishev**	**7.00**	**303**	S	Sn	12 28 05.0	+3.1
KLY	**Klyuchi**	**7.01**	**306**	P	Pn	12 26 44.2	+2.6
KLY				S	Sn	12 28 01.3	-0.3
KPT	**Kopyto**	**7.07**	**303**	P	Pn	12 26 46.6	+4.0
KPT				S	Sn	12 28 06.6	+3.2
UGLR	**Uglovaya**	**7.28**	**280**	P	Pn	12 26 48.8	+3.4
SMAR	**Somma**	**7.29**	**280**	P	Pn	12 26 48.5	+2.7
KRER	**Koryakskii**	**7.32**	**281**	P	Pn	12 26 49.5	+3.3
AVH	**Avacha**	**7.33**	**280**	P	Pn	12 26 49.0	+2.9
PET	**Petropavlovsk**	**7.38**	**278**	S	Sn	12 28 13.1	+2.3
KOK	**Koryaka**	**7.39**	**281**	P	Pn	12 26 50.7	+3.7
SRDR	**Sredinnyy**	**7.48**	**305**	P	Pn	12 26 52.5	+4.4
RUS	**Russkaya**	**7.50**	**274**	P	Pn	12 26 52.4	+4.0
RUS				S	Sn	12 28 15.1	+1.3
MTVR	**Mutnovka**	**7.70**	**274**	P	Pn	12 26 54.7	+3.4
MTVR				S	Sn	12 28 21.7	+2.7
GNL	**Ganaly**	**7.82**	**283**	P	Pn	12 26 56.8	+3.9
ASAK	**Asacha**	**7.88**	**274**	P	Pn	12 26 57.8	+4.1
TILK	**Tilichiki**	**8.31**	**344**	P	Pn	12 27 02.6	+3.2

*IDC **14** 12:27:47.8±0.5, 52.84N×171.28E, h0km, mb4.4/26, mb1 4.7/27, mb1mx4.6/30, mbtmp4.5/27, ML4.9/1, MS3.7/15, Ms1 3.7/15, ms1mx3.5/48, Error ellipse: s-maj=16.6km s-min=7.3km az=175.0*

*KRSC **14** 12:27:48.0±2.3, 52.61N×170.76E, h5km±5km, ML5.1*

*ISCJB **14** 12:27:48.8±0.7, 52.83N±0.03×171.09E±0.02, h15km±4km, mb4.6/143, MS3.9/28, Error ellipse: s-maj=5.3km s-min=2.1km az=11.0*

*BJI **14** 12:27:51.5, 53.40N×170.82E, h15km, mB4.9/20, mb4.9/36, Ms4.4/21, Ms7 4.2/21*

*MOS **14** 12:27:51.3±1.1, 52.84N×171.09E, h33km, mb4.8/64, Error ellipse: s-maj=6.8km s-min=5.7km az=111.0*

*NEIC **14** 12:27:53.4±0.3, 52.83N×171.17E, h35km, mb4.6/64, ML4.4(AEIC), Error ellipse: s-maj=9.5km s-min=4.2km az=178.0*

ISC 14 12:27:52.9±0.4, 52.71N±0.05×171.15E±0.03, h35km±1km, h34km:pP-P, n470, σ1°37/545, mb4.7/143, MS3.8/29, 90C-70D, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**1.24**	**81**	*e*Pg	Pn	12 28 10.0	-3.7
FX1				Sn	**Sn**	**12 28 24.7**	**-4.4**
FX1	**Attu Island--F**	**1.24**	**81**	Pn	Pn	12 28 10.0	-3.7
	1μm,0.3s,baz=263,slow=4.8,SNR=72						
FX1				Sn	**Sn**	**12 28 24.7**	**-4.4**
	4μm,0.3s,baz=195,slow=20,SNR=38						
SMY	**Shemya**	**1.79**	**88**	*e*P	**Pn**	**12 28 18.9**	**-2.4**
SMY	**Shemya**	**1.79**	**88**	*e*Pn	**Pn**	**12 28 18.9**	**-2.4**
BKI	**Bering**	**3.95**	**311**	P	**Pn**	**12 28 50.5**	**-0.4**
BKI				S	**Sn**	**12 29 35.8**	**-0.2**
BKI	**Bering**	**3.95**	**311**	P	**Pn**	**12 28 50.5**	**-0.4**
BKI				*e*S	**Sn**	**12 29 35.8**	**-0.2**
LSNW	**Little Sitkin**	**4.58**	**96**	P	**Pn**	**12 28 59.0**	**-0.6**
LSSA	**Little Sitkin**	**4.58**	**97**	P	**Pn**	**12 28 58.3**	**-1.3**
LSPA	**Little Sitkin**	**4.62**	**96**	P	**Pn**	**12 28 58.8**	**-1.3**
LSPA				S	**Sn**	**12 29 53.8**	**+1.3**
AMKA	**Amchitka**	**5.21**	**102**	*e*Pn	**Pn**	**12 29 09.2**	**+1.0**
	155nm,0.7s						
AMKA				*e*Sn	Sn	12 30 13.6	+6.7
CESW	**Semis' Southwe**	**5.23**	**96**	P	**Pn**	**12 29 08.5**	**0.0**
KBG	**Krutoberegovo**	**6.07**	**309**	P	**Pn**	**12 29 20.3**	**+0.3**
KBG				S	**Sn**	**12 30 28.2**	**0.0**
KBG	**Krutoberegovo**	**6.07**	**309**	*e*P	**Pn**	**12 29 20.3**	**+0.3**
KBG				*e*S	**Sn**	**12 30 28.2**	**0.0**
SPN	**Mys Shipunski**	**6.74**	**278**	P	**Pn**	**12 29 28.1**	**-1.2**
SPN				S	**Sn**	**12 30 40.5**	**-4.3**
SPN	**Mys Shipunski**	**6.74**	**278**	*e*P	**Pn**	**12 29 28.1**	**-1.2**
SPN				*e*S	**Sn**	**12 30 40.5**	**-4.3**
SMKR	**Semkarok**	**6.83**	**308**	*e*P	**Pn**	**12 29 30.9**	**+0.4**
SMKR				*e*S	**Sn**	**12 30 47.4**	**+0.4**
ZLN	**Zelenaya**	**6.89**	**303**	*e*P	**Pn**	**12 29 31.1**	**-0.4**
ZLN				*e*S	**Sn**	**12 30 47.2**	**-1.5**
BZGR	**Bezymyannyi-Gr**	**6.92**	**302**	*e*P	**Pn**	**12 29 31.6**	**-0.2**
BZGR				*e*S	**Sn**	**12 30 48.2**	**-1.1**
BDR	**Baidarnaya**	**6.95**	**308**	*e*P	**Pn**	**12 29 33.1**	**+1.0**
BDR				*e*S	**Sn**	**12 30 49.5**	**-0.4**
CIRR	**Tsirk**	**6.96**	**303**	*e*P	**Pn**	**12 29 32.4**	**-0.1**
LGNR	**Loginova**	**6.98**	**303**	*e*P	**Pn**	**12 29 33.0**	**+0.2**
LGNR				*e*S	**Sn**	**12 30 50.7**	**-0.3**
TUMR	**Tumrok**	**6.98**	**296**	*e*P	**Pn**	**12 29 33.4**	**+0.7**
SRKR	**Sorokina**	**7.01**	**308**	*e*P	**Pn**	**12 29 33.2**	**+0.2**
SRKR				*e*S	**Sn**	**12 30 51.2**	**-0.2**
BZMR	**Bezymyannaya**	**7.02**	**302**	*e*P	**Pn**	**12 29 32.7**	**-0.6**
BZWR	**Bezymyannyi-We**	**7.03**	**302**	*e*P	**Pn**	**12 29 33.4**	**0.0**
KMNR	**Kamenistaya**	**7.09**	**300**	*e*P	**Pn**	**12 29 33.9**	**-0.2**
KMNR				*e*S	**Sn**	**12 30 52.6**	**-0.8**
KLY	**Klyuchi**	**7.10**	**305**	P	**Pn**	**12 29 33.1**	**-1.0**
KLY				S	**Sn**	**12 30 50.9**	**-2.6**
KLY	**Klyuchi**	**7.10**	**305**	*e*P	**Pn**	**12 29 33.1**	**-1.0**
KLY				*e*S	**Sn**	**12 30 50.9**	**-2.6**
KRSR	**Krestovskiy**	**7.10**	**304**	*e*P	**Pn**	**12 29 33.8**	**-0.5**
KRSR				*e*S	**Sn**	**12 30 52.1**	**-1.6**
KIRR	**Kirishev**	**7.11**	**302**	*e*P	**Pn**	**12 29 34.7**	**+0.3**
KIRR				*e*S	**Sn**	**12 30 52.9**	**-1.0**
NLC	**Nalytchevo**	**7.15**	**278**	P	**Pn**	**12 29 34.1**	**-0.8**
NLC				S	**Sn**	**12 30 50.7**	**-4.1**
NLC	**Nalytchev

comp=Z,8.3nm,0.7s,baz=127,slow=7.6,SNR=5.1
ASAJ LR LR 12 40 03.0
comp=Z,149nm,18.7s,baz=246,slow=35
OHAK Old Harbor 20.75 63 *e*Pn **P 12 32 27.8 -2.5**
comp=Z,123nm,0.9s
RSO Redoubt South 21.11 54 *e*P **P 12 32 35.8 +1.4**
KDAK Kodiak Island 21.11 62 *e*P **P 12 32 32.0 -2.1**
comp=Z,42nm,1.0s
KDAK Kodiak Island 21.11 62 P **P 12 32 32.4 -1.7**
comp=Z,13nm,0.4s,baz=272,slow=3.9,SNR=36
SPU Mount Spurr 21.52 52 *e*Pn **P 12 32 40.1 +1.5**
TRF Thorofare Moun 22.67 47 *e*P **P 12 32 49.4 -1.6**
comp=Z,55nm,1.1s
PMR Palmer 22.96 52 *e*P **P 12 32 53.8 -0.1**
PMR pmax pmax
comp=Z,10.0nm,0.9s
PMR Palmer 22.96 52 *e*P **P 12 32 53.8 -0.1**
comp=Z,9.6nm,0.9s
HABR Khabarovsk 23.14 274 *e*P **P 12 32 54.8 -1.0**
HABR *e*S **S 12 37 05.5 +0.9**
HABR *e**SS **sS 12 37 20.9 0.0**
HABR *e*SS **SnSn 12 37 40.8 +1.7**
HABR *e*SSS SSS 12 37 55.1
HABR *e* 12 44 02.9
HABR pmax pmax
comp=E,141nm,2.4s
HABR pmax pmax
comp=Z,147nm,1.8s
HABR pmax pmax
comp=N,49nm,1.8s
HABR MLR MLR
comp=Z,148nm,20.0s
MCK McKinley 23.32 46 *e*P **P 12 32 56.7 -0.8**
MCK pmax pmax
comp=Z,45nm,1.0s
MCK McKinley 23.32 46 *e*P **P 12 32 56.7 -0.8**
comp=Z,45nm,1.0s
SML Sawmill 23.36 51 *e*P **P 12 32 58.0 +0.1**
SML pmax pmax
comp=Z,13nm,0.8s
SML Sawmill 23.36 51 *e*P **P 12 32 58.0 +0.1**
comp=Z,13nm,0.8s
COLD Coldfoot 23.66 37 *e*P **P 12 33 00.6 -0.1**
comp=Z,12nm,0.8s
YAK Yakutsk 23.82 309 *e*P **P 12 33 00.3 -1.9**
YAK *e**PP **pP 12 33 08.8 -3.2**
YAK *e* 12 33 30.6
YAK *e*PPP PPP 12 33 37.9
YAK *e* 12 36 43.8
YAK *e*S **S 12 37 14.6 -0.8**
YAK *e**SS **sS 12 37 29.5 -2.1**
YAK *e*SS **SnSn 12 37 54.5 -1.0**
YAK *e*SSS SSS 12 38 12.7
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,117nm,3.2s
YAK pmax pmax
comp=Z,84nm,2.9s
YAK pmax pmax
comp=N,23nm,1.8s
YAK smax smax
comp=N,156nm,7.6s
YAK smax smax
comp=E,71nm,2.6s
YAK MLR MLR
comp=Z,260nm,17.0s
YAK MLR MLR
comp=E,207nm,19.0s
YAK MLR MLR
comp=N,95nm,12.0s
COLA College 23.98 44 *e*P **P 12 33 02.5 -1.2**
COLA College 23.98 44 *e*P **P 12 33 02.5 -1.2**
comp=N,219nm,0.6s
ILAR Eielson Array 24.37 44 P **P 12 33 05.2 -2.1**
ILAR Eielson Array 24.37 44 P **P 12 33 05.2 -2.1**
comp=N,14nm,0.5s,baz=248,slow=8.0,SNR=97
ILAR LR LR 12 42 51.7
comp=N,200nm,18.4s,baz=300,slow=37
DIV Divide 24.56 53 *e*P **P 12 33 10.4 +1.3**
comp=N,59nm,1.4s
PAX Paxson 24.78 48 *e*P **P 12 33 10.1 -1.0**
PAX pmax pmax
comp=Z,48nm,1.0s
PAX Paxson 24.78 48 *e*P **P 12 33 10.1 -1.0**
comp=Z,48nm,1.0s
KLR Kul'dur 24.84 278 *e*P **P 12 33 09.0 -2.7**
KLR pmax pmax
comp=E,34nm,1.6s
KLR pmax pmax
comp=Z,74nm,1.6s
BMRM Bremner River 25.13 53 *e*P **P 12 33 15.1 +0.8**
comp=Z,51nm,0.8s
MENT Mentasta 25.57 49 *e*P **P 12 33 17.0 -1.3**
TIXI Tiksi 26.45 331 *e*P **P 12 33 25.1 -1.0**
TIXI pmax pmax
comp=Z,14nm,1.2s
EGAK Eagle 26.81 45 *e*P **P 12 33 28.4 -0.9**
comp=Z,50nm,0.8s
USRK Ussuriysk Arra 27.04 268 P **P 12 33 32.5 +0.9**
comp=Z,6.2nm,0.8s,baz=61,slow=5.6,SNR=12
USRK LR LR 12 43 44.2
comp=Z,137nm,20.2s,baz=57,slow=35
VLA Vladivostok 27.70 266 *e*P **P 12 33 38.9 +1.4**
VLA pmax pmax
comp=Z,36nm,0.7s
PNL Peninsula 27.81 56 *e*P **P 12 33 38.9 +0.5**
comp=Z,9.2nm,0.7s
MAJO Matsushiro 28.15 248 *e*P **P 12 33 42.5 +0.8**
MAJO pmax pmax
comp=Z,7.0nm,0.8s
MAJO Matsushiro 28.15 248 *e*P **P 12 33 42.5 +0.8**
comp=Z,7.4nm,0.8s
MAT Matsushiro 28.15 248 P **P 12 33 43.5 +1.8**
MJAR Matsushiro Arr 28.15 248 P **P 12 33 42.9 +1.2**
MJAR Matsushiro Arr 28.15 248 P **P 12 33 42.9 +1.2**
comp=Z,2.3nm,0.8s,baz=37,slow=8.0,SNR=11
MDJ Mudanjiang 28.28 270 P **P 12 33 43.5 +0.8**
MDJ pP **pP 12 33 51.5 -1.1**
MDJ sP **sP 12 33 55.6 -1.2**
MDJ S **S 12 38 21.1 -5.3**
MDJ sS **sS 12 38 42.3 -0.5**
MDJ pmax pmax
comp=Z,9.0nm,1.0s
MDJ pmax pmax
comp=Z,82nm,4.6s
MDJ LR LR
comp=N,170nm,23.5s
MDJ LR LR
comp=E,84nm,29.0s
MDJ LR LR
comp=Z,98nm,19.3s
SKAG Skagway 29.89 55 *e*P **P 12 33 57.3 +0.5**
comp=Z,9.4nm,1.0s
INK Inuvik 30.07 38 P **P 12 33 57.7 -0.7**
INK Inuvik 30.07 38 P **P 12 33 57.7 -0.7**
comp=Z,9.0nm,0.6s,baz=277,slow=7.6,SNR=45
CN2 Changchun 31.23 272 *e*P **P 12 34 09.3 +0.4**
CN2 *e*S **S 12 39 10.5 -2.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,400nm,15.0s
CN2 LR LR
comp=E,200nm,15.0s
CN2 LR LR
comp=Z,200nm,19.0s
KSRS Korea Array 33.55 260 P **P 12 34 29.6 +0.4**
comp=Z,6.9nm,1.0s,baz=51,slow=7.6,SNR=7.8
KSRS LR LR 12 46 34.9
comp=Z,105nm,18.8s,baz=179,slow=34
KSAR Wonju Array Be 33.58 260 P **P 12 34 29.6 +0.1**
YKW3 Yellowknife Ar 38.75 45 *e*P **P 12 35 14.2 +0.8**
comp=Z,0.1nm,0.5s
YKA Yellowknife Ar 38.78 46 P **P 12 35 13.6 0.0**
YKA Yellowknife Ar 38.78 46 P **P 12 35 13.6 0.0**
comp=Z,4.6nm,0.6s,baz=290,slow=8.0,SNR=22
BJI Beijing 39.05 274 P **P 12 35 17.9 +1.8**
BJI S **S 12 41 08.5 -4.3**
BJI pmax pmax
comp=Z,18nm,0.4s
BJI LR LR
comp=N,260nm,23.4s
BJI LR LR
comp=E,160nm,23.4s
BJI LR LR
comp=Z,110nm,24.1s
TLY Talaya 40.01 297 *e*P **P 12 35 24.9 +0.9**
TLY *e*S S 12 41 18.8 -8.3
TLY pmax pmax
comp=Z,7.0nm,1.2s
TLY MLR MLR
comp=Z,231nm,21.0s
ULN Ulaanbaatar 40.03 290 *e*P **P 12 35 25.3 +0.9**
comp=Z,4.6nm,1.0s
SONM Songino Array 40.42 290 P **P 12 35 28.4 +0.8**
SONM Songino Array 40.42 290 P **P 12 35 28.4 +0.8**
comp=Z,3.7nm,0.6s,baz=60,slow=8.1,SNR=27
SONM LR LR 12 52 10.3
comp=Z,94nm,21.1s,baz=52,slow=36
HHC Hu-ho-hao-te 41.34 278 *e*P P 12 35 38.8 +3.5
HHC pP pP 12 35 48.4 +3.0
HHC PP **PnPn 12 37 17.8 +2.2**
HHC S **S 12 41 50.0 +2.6**
HHC SS **SS 12 44 49.5 -2.0**
HHC pmax pmax
comp=Z,75nm,0.8s
HHC pmax pmax
comp=Z,920nm,7.7s
HHC LR LR
comp=N,570nm,13.1s
HHC LR LR
comp=E,280nm,12.8s
HHC LR LR
comp=Z,350nm,17.8s
NJ2 Nanjing 42.68 262 *e*P **P 12 35 47.4 +1.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
HAWA Hanford 43.82 69 *e*P **P 12 35 55.0 -0.2**
comp=Z,6.4nm,0.8s
NEW Newport 44.12 66 *e*P **P 12 35 57.7 +0.1**
comp=Z,5.0nm,0.9s
NEW Newport 44.12 66 ⇓P **P 12 35 56.2 -1.4**
baz=44
YBH Yreka Blue Hor 44.73 77 *e*P **P 12 36 03.8 +1.3**
comp=Z,8.2nm,1.0s
C12B Naegeli Ranch, 45.35 65 ⇓P **P 12 36 06.3 -1.1**
baz=45
WALA Waterton Lakes 45.44 63 *e*P **P 12 36 07.5 -0.7**
comp=Z,0.4nm,0.8s
B13A Whitefish 45.52 64 ⇓P **P 12 36 07.0 -1.8**
baz=45
HVS Khovu-Aksy 45.61 301 *e*P **P 12 36 08.0 -1.4**
HVS pmax pmax
comp=Z,12nm,1.2s
BSMT Bassoo Peak 45.65 65 *e*P **P 12 36 09.4 -0.5**
A14A Double T Ranch 45.75 63 ⇑P **P 12 36 08.2 -2.4**
baz=46,SNR=9.2
BLMT Blacktail Moun 45.79 65 *e*P **P 12 36 10.6 -0.5**
C13A Hot Springs 45.86 65 ⇓P **P 12 36 09.5 -2.0**
baz=46
BMO Blue Mountains 45.99 70 *e*P **P 12 36 12.7 +0.1**
comp=Z,10nm,1.5s
E12A Beaver Dam Sad 46.05 67 ⇑P **P 12 36 11.1 -1.9**
baz=46,SNR=5.9
A15A Johnson Ranch, 46.12 63 ⇓P **P 12 36 11.4 -2.2**
baz=46
B14A Marquette Ranc 46.18 64 ⇓P **P 12 36 12.2 -1.9**
baz=46
D13A Huson 46.27 66 ⇑P **P 12 36 13.1 -1.6**
baz=46
WHN Wuhan 46.47 265 *e*P **P 12 36 17.6 +1.3**
B15A Bradely Ranch, 46.60 63 ⇑P **P 12 36 15.4 -1.9**
baz=46
WVOR Wild Horse Val 46.69 73 *e*P **P 12 36 19.1 +1.0**
WVOR pmax pmax
comp=Z,3.0nm,0.9s
WVOR Wild Horse Val 46.69 73 *e*P **P 12 36 19.1 +1.0**
comp=Z,2.7nm,0.9s
SLMT Seeley Lake 46.71 65 *e*P **P 12 36 16.9 -1.3**
D14A Greenough 46.80 65 ⇑P **P 12 36 17.0 -1.9**
baz=46
C15A Salmond Ranch, 46.89 64 ⇑P **P 12 36 18.1 -1.5**
baz=47,SNR=22
G12A Big Creek, Yel 46.95 68 ⇓P **P 12 36 19.0 -1.1**
baz=47,SNR=7.3
CHMT Chamberlain Mo 47.04 65 *e*P **P 12 36 19.8 -1.1**
comp=Z,2.4nm,0.9s
XAN Xi'an 47.34 272 P **P 12 36 24.3 +1.1**
XAN pP **pP 12 36 32.3 -1.2**
XAN pmax pmax
comp=Z,3.0nm,1.4s
XAN LR LR
comp=N,130nm,23.6s
XAN LR LR
comp=Z,61nm,16.4s
D15A Lincoln 47.37 65 ⇓P **P 12 36 21.8 -1.6**
baz=47
MFID Camas Ranch 47.71 70 *e*P **P 12 36 26.4 +0.4**
comp=Z,2.8nm,0.8s
MFID Camas Ranch 47.71 70 ⇑P **P 12 36 25.5 -0.5**
baz=48
D16A Dana Ranch, Ca 47.91 64 ⇓P **P 12 36 26.5 -1.1**
baz=48
PAHR Pah Rah Range 47.96 77 *e*P **P 12 36 30.1 +2.0**
comp=Z,5.7nm,0.9s
C17A Wharram Farm, 47.97 63 ⇑P **P 12 36 26.4 -1.6**
baz=48,SNR=8.6
A19A Klindworth Far 48.28 61 ⇓P **P 12 36 28.9 -1.5**
baz=48
EGMT Eagleton 48.28 62 *e*P **P 12 36 28.0 -2.4**
comp=Z,11nm,1.0s
EGMT Eagleton 48.28 62 ⇓P **P 12 36 28.0 -2.4**
baz=48
HLID Hailey 48.42 69 ⇓P **P 12 36 29.9 -1.8**
baz=48
B19A Brinkman Farms 48.46 61 ⇑P **P 12 36 29.7 -2.0**
baz=48
ZALV Zalesovo Beam 48.46 308 P **P 12 36 30.0 -1.6**
ZALV 12 37 58.0
ZALV pmax pmax
comp=Z,1.0nm,0.7s
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV MLR MLR
comp=Z,112nm,20.1s
ZALV Zalesovo Beam 48.46 308 P **P 12 36 29.9 -1.6**
ZALV PcP **PcP 12 37 58.0 +0.8**
ZALV Zalesovo Beam 48.46 308 P **P 12 36 29.9 -1.6**
comp=Z,1.2nm,0.7s,baz=46,slow=6.4,SNR=3.8
ZALV PcP **PcP 12 37 58.0 +0.8**
comp=Z,1.7nm,0.7s,baz=33,slow=3.5,SNR=3.7
ZALV LR LR 12 57 50.4
comp=Z,112nm,20.1s,baz=160,slow=37
MCMT McKenzie Canyo 48.52 67 *e*P **P 12 36 31.5 -1.0**
comp=Z,1.2nm,0.6s
E17A Martinsdale 48.63 64 ⇑P **P 12 36 32.2 -1.0**
baz=48,SNR=5.4
NVS Novosibirsk 48.69 310 *e*P **P 12 36 31.1 -2.2**
NVS pmax pmax
comp=Z,9.0nm,1.4s
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,3.0nm,0.9s
BOZ Bozeman (W) 48.70 66 *e*P **P 12 36 32.9 -0.8**
BOZ Bozeman (W) 48.70 66 *e*P **P 12 36 32.9 -0.8**
comp=E,22µm,0.7s
WAKR Walker 48.71 78 *e*P **P 12 36 34.9 +1.0**
I14A Mackay 48.74 68 ⇓P **P 12 36 33.4 -0.7**
baz=48,SNR=5.5
C19A Slack Wire Ran 48.84 62 ⇑P **P 12 36 33.6 -1.0**
baz=49,SNR=8.8
B20A Solberg Farm, 48.96 61 ⇑P **P 12 36 33.9 -1.7**
baz=49
LZH Lanzhou 49.04 278 *e*P **P 12 36 37.8 +1.4**
LZH pP **pP 12 36 48.3 +1.6**
LZH sP **sP 12 36 52.4 +1.6**
LZH *e*PP **PP 12 38 30.5 +0.6**
LZH *e*S **S 12 43 38.3 -0.4**
LZH sS **sS 12 43 54.5 -1.2**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,75nm,4.9s
LZH LR LR
comp=N,470nm,16.0s
LZH LR LR
comp=E,310nm,13.5s
LZH LR LR
comp=Z,500nm,17.0s
GTA Gaotai 49.26 284 *e*P **P 12 36 38.9 +0.9**
GTA pP **pP 12 36 45.5 -2.8**
GTA sP **sP 12 36 49.5 -2.9**
GTA pmax pmax
comp=Z,10.0nm,0.9s
GTA pmax pmax
comp=Z,85nm,4.8s
GTA LR LR
comp=N,200nm,17.6s
GTA LR LR
comp=E,140nm,15.7s
GTA LR LR
comp=Z,250nm,16.6s
D19A Cripps Ranch, 49.27 62 ⇑P **P 12 36 36.9 -1.1**
baz=49
QLMT Earthquake Lak 49.32 66 *e*P **P 12 36 38.0 -0.5**
C20A Veseth Ranch, 49.41 61 ⇑P **P 12 36 37.6 -1.4**
baz=49
NVAR Mina Array Bea 49.43 77 P **P 12 36 38.8 -0.7**
NVAR Mina Array Bea 49.43 77 P **P 12 36 38.8 -0.7**
comp=Z,2.9nm,0.8s,baz=294,slow=7.4,SNR=15
H16A Russell Place, 49.50 66 ⇓P **P 12 36 38.3 -1.6**
baz=49,SNR=5.5
F18A Big Timber 49.60 64 ⇓P **P 12 36 39.4 -1.1**
baz=49
A22A Carney Farms, 49.73 59 ⇑P **P 12 36 40.0 -1.4**
baz=49
ELK Elko 49.73 73 *e*P **P 12 36 42.3 +0.6**
comp=Z,2.7nm,0.8s
B22A Reddig Ranch S 50.11 60 ⇑P **P 12 36 42.7 -1.6**
baz=50
IMW Indian Meadow 50.18 67 *e*P **P 12 36 47.4 +2.2**
comp=Z,3.3nm,0.9s
FLWY Flagg Ranch 50.19 67 *e*P **P 12 36 45.4 +0.2**
comp=Z,6.0nm,0.8s
RLMT Red Lodge 50.33 65 *e*P **P 12 36 46.3 +0.1**
comp=Z,7.8nm,0.9s
HVU Hansel Valley 50.49 70 *e*P **P 12 36 49.3 +1.9**
HVU pmax pmax
comp=Z,4.0nm,0.9s
HVU Hansel Valley 50.49 70 *e*P **P 12 36 49.2 +1.9**
comp=Z,3.9nm,0.9s
B23A Brockton 50.54 59 ⇓P **P 12 36 45.7 -1.8**
baz=50
LOHW Long Hollow 50.54 67 *e*P **P 12 36 48.9 +1.1**
comp=Z,0.8nm,0.5s
DAG Danmarks Havn 50.64 3 *i*P **P 12 36 48.8 +1.0**
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 50.64 3 *i*P **P 12 36 48.8 +1.0**
comp=Z,3.9nm,0.8s
D22A Cohagen 50.73 61 ⇓P **P 12 36 47.7 -1.3**
baz=50
H19A Powell 50.77 65 ⇑P **P 12 36 48.5 -1.0**
baz=50
G20A Bridger 50.85 64 ⇑P **P 12 36 48.8 -1.3**
baz=51,SNR=7.7
HWUT Hardware Ranch 51.29 70 *e*P **P 12 36 53.5 0.0**
comp=Z,2.6nm,0.9s
DUG Dugway 51.49 72 *e*P **P 12 36 57.5 +2.6**
DUG pmax pmax
comp=Z,5.0nm,0.9s
DUG Dugway 51.49 72 *e*P **P 12 36 57.5 +2.6**
comp=Z,4.7nm,0.9s
DUG Dugway 51.49 72 ⇑P **P 12 36 54.6 -0.4**
baz=51
FURC Furnace Creek, 51.59 78 ⇓P **P 12 36 55.8 +0.4**
baz=51
J19A Crowheart 51.63 66 ⇓P **P 12 36 55.4 -0.6**
baz=51
BW06 Boulder Array 51.67 67 *e*P **P 12 36 56.1 -0.2**
comp=Z,7.4nm,1.1s
PDAR Pinedale Array 51.67 67 P **P 12 36 55.6 -0.8**
PDAR Pinedale Array 51.67 67 P **P 12 36 55.6 -0.8**
comp=Z,3.5nm,0.9s,baz=317,slow=2.9,SNR=19
I20A Worland 51.71 65 ⇑P **P 12 36 55.7 -0.8**
baz=51
G22A Birney 51.90 63 ⇓P **P 12 36 56.8 -1.0**
baz=52
K19A Absolon Red Bu 52.03 67 ⇓P **P 12 36 57.9 -1.1**
baz=52
F23A Volborg 52.05 62 ⇓P **P 12 36 57.6 -1.3**
baz=52
I21A Big Trails, Te 52.26 65 ⇑P **P 12 36 59.1 -1.4**
baz=52
SHOC Shoshone 52.32 78 ⇓P **P 12 37 01.6 +0.6**
baz=52
G23A Biddle 52.40 62 ⇓P **P 12 36 60.0 -1.5**
baz=52
GSC Goldstone 52.41 79 *e*P **P 12 37 03.1 +1.3**
GSC pmax pmax
comp=Z,12nm,1.5s
GSC Goldstone 52.41 79 *e*P **P 12 37 03.1 +1.3**
comp=Z,12nm,1.5s
GSC Goldstone 52.41 79 ⇑P **P 12 37 02.2 +0.4**
baz=52
K20A Yellowstone Ra 52.42 67 ⇓P **P 12 37 00.8 -1.1**
baz=52
J21A Lysite 52.48 65 ⇑P **P 12 37 02.1 -0.2**
baz=52
CD2 Chengdu 52.65 274 P **P 12 37 05.6 +2.1**
CD2 pP **pP 12 37 16.0 +2.1**
CD2 sP **sP 12 37 20.3 +2.3**
CD2 PcP **PcP 12 38 15.9 +2.8**
CD2 PP **PP 12 39 05.8 +3.2**
CD2 ScP **ScP 12 42 08.9 +1.4**
CD2 PcS **PcS 12 42 12.9 +1.1**
CD2 S **S 12 44 28.1 -0.5**
CD2 sS **sS 12 44 45.5 -0.1**
CD2 SS **SS 12 48 04.8 -2.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.2s
I22A 9 Mile Ranch, 52.65 64 ⇑P **P 12 37 02.9 -0.6**
baz=52
CCUT Cedar City 52.93 75 *e*P **P 12 37 06.7 +0.9**
comp=Z,2.4nm,0.8s
MVU Marysvale 52.96 73 *e*P **P 12 37 07.5 +1.5**
J22A Midwest 52.97 65 ⇓P **P 12 37 05.1 -0.7**
baz=53,SNR=14
MSU Marysvale 52.98 73 *e*P **P 12 37 07.7 +1.6**
MSU Marysvale 52.98 73 *e*P **P 12 37 07.7 +1.6**
TMUT Trail Mountain 53.01 72 *e*P **P 12 37 08.3 +1.8**
comp=Z,8.6nm,0.8s
K21A Alcova 53.05 66 ⇑P **P 12 37 05.6 -0.9**
baz=53
H24A Dirks Ranch, A 53.14 62 ⇑P **P 12 37 05.9 -1.1**
baz=53
Q16A Castle Valley 53.29 72 ⇓P **P 12 37 07.8 -0.5**
baz=53
WMQ Urumqi 53.29 296 P P 12 37 11.3 +3.2
WMQ pP pP 12 37 21.3 +2.8
WMQ PP **PP 12 39 12.8 +4.7**
WMQ S **S 12 44 38.3 +1.3**
WMQ pmax pmax
comp=Z,8.0nm,0.4s
WMQ LR LR
comp=N,330nm,24.0s
WMQ LR LR
comp=E,190nm,19.0s
WMQ LR LR
comp=Z,130nm,20.6s
SUMG Summit 53.32 11 *i*P **P 12 37 07.2 -1.1**
SUMG pmax pmax
comp=Z,18nm,0.9s
SUMG Summit 53.32 11 *e*P **P 12 37 06.7 -1.6**
comp=Z,20nm,0.9s
SUMG Summit 53.32 11 *i*P **P 12 37 07.2 -1.1**
comp=Z,18nm,0.9s
L21A Rawlins 53.42 67 ⇓P **P 12 37 08.7 -0.6**
baz=53
SRU San Rafael 53.53 71 *e*P **P 12 37 10.5 +0.4**
SRU pmax pmax
comp=Z,7.0nm,0.9s
SRU San Rafael 53.53 71 *e*P **P 12 37 10.5 +0.4**
comp=Z,7.4nm,0.9s
M21A Separation Pea 53.66 67 ⇓P **P 12 37 09.7 -1.4**
baz=53
MDND Maddock 53.71 57 ⇓P **P 12 37 09.7 -1.3**
baz=53
BELC Belle Mtn. Jos 53.79 80 ⇑P **P 12 37 11.9 -0.1**
baz=54
RSSD Black Hills 53.83 63 *e*P **P 12 37 11.1 -1.2**
RSSD pmax pmax

comp=Z,4.0nm,0.7s
RSSD Black Hills 53.83 63 *e*P P 12 37 11.1 -1.2
comp=Z,3.8nm,0.7s
K23A Bowen Ranch, D 53.87 65 ⇓P P 12 37 11.4 -1.0
baz=54
ULM Lac du Bonnet 53.97 52 P P 12 37 11.7 -1.2
ULM Lac du Bonnet 53.97 52 P P 12 37 11.7 -1.2
comp=Z,4.8nm,0.7s,baz=305,slow=7.9,SNR=4.9
ULM LR LR 13 02 06.3
comp=Z,124nm,18.3s,baz=324,slow=38
P19A Cripple Cowboy 54.07 70 ⇓P P 12 37 13.5 -0.5
baz=54,SNR=5.5
GYA Guiyang 54.08 267 *e*P P 12 37 16.0 +1.8
GYA pmax pmax
comp=Z,10.0nm,1.0s
G27A Dupree 54.13 60 ⇑P P 12 37 12.9 -1.3
baz=54
IRM Iron Mountain 54.19 79 ⇑P P 12 37 14.8 +0.1
baz=54
MK31 Makanchi Array 54.20 302 *e*P P 12 37 13.5 -1.2
MK31 Makanchi Array 54.20 302 *e*P P 12 37 13.5 -1.2
MKAR Makanchi Array 54.20 302 P P 12 37 13.3 -1.4
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR MLR MLR
comp=Z,226nm,19.1s
MKAR Makanchi Array 54.20 302 P P 12 37 13.3 -1.4
MKAR Makanchi Array 54.20 302 P P 12 37 13.3 -1.4
comp=Z,1.8nm,0.6s,baz=57,slow=6.5,SNR=17
MKAR LR LR 13 01 08.9
comp=Z,226nm,19.1s,baz=11,slow=37
L23A Garrett 54.25 66 ⇓P P 12 37 14.6 -0.8
baz=54
W13A Hualapai Mount 54.29 77 ⇓P P 12 37 15.6 -0.1
baz=54
U15A North Rim 54.32 75 ⇓P P 12 37 15.9 -0.1
baz=54
H27A Howes 54.54 61 ⇓P P 12 37 16.4 -0.9
baz=54
I27A Quinn 54.93 62 ⇓P P 12 37 19.2 -0.8
baz=55
PV04 Paradox Valley 54.95 71 *e*P P 12 37 21.8 +1.3
KEV Kevo 55.09 346 *ep* P 12 37 19.5 -1.2
comp=Z,2.0nm,0.7s
KEV Kevo 55.09 346 *e*P P 12 37 19.5 -1.2
KEV pmax pmax
comp=Z,2.0nm,0.7s
O22A Kremmling 55.09 68 ⇑P P 12 37 21.0 -0.6
baz=55
AGMN Agassiz Nation 55.28 54 *e*P P 12 37 21.4 -1.0
comp=Z,11nm,0.7s
PV01 Paradox Valley 55.32 71 *e*P P 12 37 23.4 +0.3
comp=Z,363nm,0.3s
O23A Lake Granby, G 55.41 67 ⇓P P 12 37 24.3 +0.4
baz=55,SNR=5.8
I28A Midland 55.45 61 ⇑P P 12 37 23.0 -0.8
baz=55
ARCES ARCESS Array B 55.51 346 P P 12 37 22.6 -1.2
ARCES ARCESS Array B 55.51 346 P P 12 37 22.6 -1.2
comp=Z,3.2nm,0.6s,baz=28,slow=8.7,SNR=21
S20A Disappointment 55.65 71 ⇓P P 12 37 25.7 +0.2
baz=55,SNR=6.3
BRVK Borovoye 55.70 314 *c iP* P 12 37 24.5 -0.9
BRVK pmax pmax
comp=Z,15nm,1.2s
BRVK Borovoye 55.70 314 *e*P P 12 37 24.6 -0.8
comp=Z,8.3nm,0.8s
R21A Cimarron 55.74 70 ⇑P P 12 37 26.1 -0.1
baz=56
J28A Allard Ranch, 55.80 62 ⇑P P 12 37 25.8 -0.5
baz=56
ISCO Idaho Springs 55.86 68 *e*P P 12 37 27.9 +0.7
ISCO pmax pmax
comp=Z,6.0nm,1.0s
ISCO Idaho Springs 55.86 68 *e*P P 12 37 27.9 +0.7
comp=Z,6.4nm,1.0s
ISCO Idaho Springs 55.86 68 ⇑P P 12 37 27.3 +0.1
baz=56,SNR=5.8
S21A Coal Bank Pass 56.09 71 ⇑P P 12 37 28.2 -0.6
baz=56
SOKR Solikamsk 56.25 326 *e*P P 12 37 28.8 -0.3
SOKR pmax pmax
comp=Z,9.0nm,0.8s
R22A Saguache, Gunn 56.29 70 ⇓P P 12 37 30.8 +0.5
baz=56,SNR=7.7
S22A 4UR Ranch, Cre 56.59 70 ⇑P P 12 37 31.9 -0.4
baz=56
N27A Anderson Farm, 56.89 65 ⇑P P 12 37 33.9 -0.3
baz=57
U21A Nageezi 57.02 72 ⇓P P 12 37 35.0 -0.3
baz=57
T22A Edith 57.05 71 ⇑P P 12 37 35.3 -0.3
baz=57
OGNE Ogallala 57.07 64 *e*P P 12 37 35.0 -0.5
comp=Z,14nm,0.6s
OGNE Ogallala 57.07 64 ⇑P P 12 37 34.9 -0.5
baz=57
214A Organ Pipe Nat 57.13 79 ⇓P P 12 37 36.0 +0.1
baz=57
R24A Sanders Place, 57.23 69 ⇓P P 12 37 36.1 -0.6
baz=57
Q25A Bedland, Calha 57.24 67 ⇑P P 12 37 36.1 -0.7
baz=57
SDCO Great Sand Dun 57.34 69 *e*P P 12 37 39.6 +2.0
comp=Z,3.6nm,1.0s
O27A Beecher Island 57.34 65 ⇑P P 12 37 37.1 -0.3
baz=57
S24A Houchin Ranch, 57.58 69 ⇓P P 12 37 39.0 -0.3
baz=57
EYMN Ely 57.65 52 *e*P P 12 37 38.6 -0.7
comp=Z,11nm,0.7s
TMCR Tamitsa 57.92 338 *e*P P 12 37 40.1 -0.8
TMCR pmax pmax
comp=Z,22nm,0.7s
ARU Arti 57.99 323 *c iP* P 12 37 40.6 -1.0
ARU 12 38 31.5
ARU S S 12 45 39.1 -0.1
ARU pmax pmax
comp=Z,14nm,1.0s
ARU MLR MLR
comp=Z,150nm,17.0s
ECSD EROS Data Cent 58.03 59 *e*P P 12 37 43.6 +1.5
comp=Z,18nm,1.7s
TUC Tucson 58.08 77 *e*P P 12 37 42.8 +0.2
TUC Tucson 58.08 77 *e*P P 12 37 42.8 +0.2
R26A Arlington 58.12 67 ⇑P P 12 37 42.6 -0.3
baz=58
X21A Alamocita Cree 58.34 74 ⇑P P 12 37 45.2 +0.6
baz=58
Y20A Horse Springs, 58.37 74 ⇓P P 12 37 45.4 +0.6
baz=58
T25A Trinidad 58.39 69 ⇑P P 12 37 44.5 -0.4
baz=58
S26A Kim 58.58 68 ⇑P P 12 37 46.5 +0.4
baz=58
LAZ Ladron 58.75 73 *e*P P 12 37 50.0 +2.7
comp=Z,2.9nm,1.0s
Z20A Nine Sixteen R 58.81 75 ⇓P P 12 37 48.3 +0.5
baz=59
U25A Circle Dot Ran 58.91 70 ⇑P P 12 37 48.7 +0.2
baz=59
SPMN St. Paul 58.92 55 ⇑P P 12 37 47.8 -0.5
baz=59
Q29A Oakley 59.08 65 ⇑P P 12 37 49.4 -0.1
baz=59
X23A Hourglass Bar 59.17 72 ⇑P P 12 37 50.6 +0.2
baz=59
W24A Lazy 6 Ranch, 59.18 71 ⇑P P 12 37 50.8 +0.4
baz=59
120A U Bar Ranch, L 59.19 76 ⇑P P 12 37 51.1 +0.7
baz=59
319A Douglas 59.64 77 ⇑P P 12 37 54.3 +0.7
baz=59
Z22A Elephant Butte 59.66 74 ⇓P P 12 37 54.0 +0.3
baz=59
Y23A Lovelace Mesa, 59.71 73 ⇓P P 12 37 54.4 +0.3
baz=60
220A Playas Peak, P 59.71 76 ⇑P P 12 37 54.5 +0.5
baz=60
W25A X Bar L Ranch, 59.72 71 ⇓P P 12 37 54.2 +0.2
baz=60
Y24A Capitan 60.07 72 ⇑P P 12 37 56.6 0.0
baz=60
U28A Mallet 60.16 68 ⇑P P 12 37 57.1 +0.1
baz=60
JOF Joensuu 60.48 340 *ep* P 12 37 58.5 -0.1
comp=Z,9.6nm,0.5s

JOF Joensuu 60.48 340 *e*P P 12 37 58.5 -0.1
JOF pmax pmax
comp=Z,10.0nm,0.5s
Y25A Mesa, Roswell 60.51 72 ⇑P P 12 37 59.3 -0.2
baz=60
123A Bell Site, Whi 60.52 74 ⇑P P 12 38 00.0 +0.5
baz=60
124A Stringfield Ra 60.94 73 ⇓P P 12 38 02.9 +0.3
baz=61
AAK Ala-Archa 61.09 303 *e*P P 12 38 02.2 -1.1
AAK pmax pmax
comp=Z,13nm,1.7s
224A Cornudas Mount 61.35 74 ⇑P P 12 38 05.7 +0.5
baz=61
Z26A Caprock 61.39 72 ⇓P P 12 38 05.7 +0.3
baz=61
Y27A Causey 61.42 71 ⇑P P 12 38 05.6 -0.1
baz=61
125A Gardner Draw, 61.44 73 ⇑P P 12 38 06.0 +0.2
baz=61
MNTX Cornudas Mount 61.71 74 *e*P P 12 38 07.9 +0.4
comp=Z,2.4nm,0.7s
JFWS Jewell Farm 61.87 55 *e*P P 12 38 07.2 -1.2
JFWS pmax pmax
comp=Z,9.0nm,0.7s
JFWS Jewell Farm 61.87 55 *e*P P 12 38 07.2 -1.2
comp=Z,9.4nm,0.7s
226B Tecolote Peak, 62.14 73 ⇑P P 12 38 10.4 -0.1
baz=62
325A Bean Ranch, Si 62.19 74 ⇓P P 12 38 11.0 +0.1
baz=62
KAF Kangasniemi 62.20 342 *ep* P 12 38 09.0 -1.2
comp=Z,3.5nm,0.5s,baz=26,slow=6.5
KAF Kangasniemi 62.20 342 *e*P P 12 38 09.0 -1.2
KAF pmax pmax
comp=Z,4.0nm,0.5s
Y29A Porterfield Fa 62.29 70 ⇑P P 12 38 11.6 +0.2
baz=62
SCHQ Schefferville 62.57 34 P P 12 38 12.1 -0.8
SCHQ Schefferville 62.57 34 P P 12 38 12.1 -0.8
comp=Z,4.3nm,0.6s,baz=306,slow=7.5,SNR=5.0
SCHQ LR LR 13 06 45.4
comp=Z,86nm,19.5s,baz=306,slow=38
KSH Kashi 62.58 300 P P 12 38 16.3 +2.9
KSH pP pP 12 38 28.3 +4.4
KSH PP **PP** **12 40 35.3 +4.5**
KSH S **S** **12 46 38.3 -0.5**
KSH SS **SS** **12 50 48.8 +6.2**
KSH pmax pmax
comp=Z,5.0nm,0.8s
KSH pmax pmax
comp=Z,88nm,4.9s
KSH LR LR
comp=N,550nm,15.0s
KSH LR LR
comp=E,140nm,7.5s
KSH LR LR
comp=Z,200nm,17.1s
425A Indio Mountain 62.60 75 ⇑P P 12 38 13.6 0.0
baz=62
128A Castleberry Fa 62.72 71 ⇑P P 12 38 14.2 -0.2
baz=62
KKAR Karatay Array 62.74 306 *e*P P 12 38 13.6 -0.6
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 62.74 306 *e*P P 12 38 13.6 -0.6
comp=Z,2.0nm,0.6s
326A Caldwell Ranch 62.81 73 ⇑P P 12 38 15.2 +0.2
baz=63
FIA1 FINESS Array S 62.85 342 *e*P P 12 38 14.0 -0.6
FINES FINESS Array B 62.85 342 P P 12 38 14.0 -0.6
FINES FINESS Array B 62.85 342 P P 12 38 14.0 -0.6
comp=Z,5.1nm,0.7s,baz=32,slow=7.6,SNR=20
FINES LR LR 13 07 09.8
comp=Z,47nm,18.7s,baz=13,slow=38
ABKAR Akbulak array 62.92 317 *e*P P 12 38 14.8 -0.5
comp=Z,3.2nm,0.5s
WMOK Wichita Mounta 63.29 67 *e*P P 12 38 19.5 +1.5
WMOK pmax pmax
comp=Z,2.0nm,0.6s
WMOK Wichita Mounta 63.29 67 *e*P P 12 38 19.5 +1.5
comp=Z,2.3nm,0.6s
328A Wristen Ranch, 63.44 73 ⇑P P 12 38 19.2 +0.1
baz=63
526A Mary Lane Ranc 63.66 74 ⇓P P 12 38 21.1 +0.4
baz=63
527A Woodward Ranch 63.88 74 ⇓P P 12 38 22.2 +0.1
baz=64
428A Kincaid Ranch, 63.99 73 ⇓P P 12 38 23.1 +0.4
baz=64
626A Big Bend Ranch 64.01 75 ⇓P P 12 38 22.9 0.0
baz=64
HDIL Hopedale 64.09 57 *e*P P 12 38 22.8 -0.4
comp=Z,66nm,1.4s
528A Cox Ranch, San 64.35 73 ⇑P P 12 38 25.4 +0.3
baz=64
TXAR Lajitas Array 64.44 75 P P 12 38 25.6 -0.2
TXAR Lajitas Array 64.44 75 P P 12 38 25.6 -0.2
comp=Z,3.0nm,0.7s,baz=306,slow=4.9,SNR=20
CHTO Chiang Mai 64.50 268 *e*P P 12 38 27.3 +1.2
CHTO pmax pmax
comp=Z,12nm,1.4s
CHTO Chiang Mai 64.50 268 *e*P P 12 38 27.3 +1.2
comp=Z,12nm,1.4s
627A Terlingua Ranc 64.52 74 ⇓P P 12 38 26.2 0.0
baz=64
429A Davenport Ranc 64.53 72 ⇓P P 12 38 26.3 0.0
baz=64
529A Stev Forest Ra 64.71 73 ⇑P P 12 38 27.7 +0.3
baz=64
CMAR Chiang Mai Arr 64.77 268 P P 12 38 29.1 +1.3
CMAR PcP **PcP** **12 39 02.2 +1.0**
CMAR Chiang Mai Arr 64.77 268 P P 12 38 29.1 +1.3
comp=Z,4.3nm,0.7s,baz=25,slow=7.3,SNR=23
CMAR PcP **PcP** **12 39 02.2 +1.0**
comp=Z,1.8nm,0.8s,baz=20,slow=3.1,SNR=5.7
CMAR LR LR 13 10 23.5
comp=Z,44nm,18.2s,baz=230,slow=39
430A Baggett Ranch, 64.79 72 ⇑P P 12 38 27.8 -0.1
baz=65
628A Black Gap, Mar 64.79 74 ⇑P P 12 38 28.0 0.0
baz=65
232A Coleman 64.89 70 ⇓P P 12 38 28.7 +0.1
baz=65
530A J-C Ranch, Com 65.20 72 ⇓P P 12 38 30.5 -0.1
baz=65
332A Milleview 65.21 70 ⇑P P 12 38 30.9 +0.3
baz=65
431A Sonora 65.23 72 ⇓P P 12 38 30.5 -0.3
baz=65
SFIN Scholer Farm 65.33 55 ⇑P P 12 38 30.5 -0.7
baz=65
NB2 NORSAR Subarra 65.48 349 P P 12 38 30.6 -1.3
comp=Z,4.7nm,0.7s,baz=14,slow=6.5
NOA NORSAR Array B 65.48 349 P P 12 38 31.2 -0.7
NOA NORSAR Array B 65.48 349 P P 12 38 31.2 -0.7
comp=Z,4.3nm,0.6s,baz=15,slow=6.5,SNR=21
NOA LR LR 13 06 54.7
comp=Z,22nm,20.3s,baz=345,slow=36
VSU Vasula 65.48 340 *e*P P 12 38 31.1 -0.8
VSU pmax pmax
comp=Z,13nm,0.9s
432A Menard 65.55 71 ⇓P P 12 38 32.5 -0.4
baz=65
531A Rocksprings 65.65 72 ⇑P P 12 38 33.5 0.0
baz=65
JCT Junction City 65.84 71 *e*P P 12 38 40.0 +5.3
JCT pmax pmax
comp=Z,7.0nm,0.8s
JCT Junction City 65.84 71 *e*P P 12 38 40.0 +5.3
comp=Z,7.3nm,0.8s
JCT Junction City 65.84 71 ⇑P P 12 38 34.9 +0.1
baz=66
532A Rocksprings 66.05 71 ⇓P P 12 38 36.0 -0.1
baz=66
OBN Obninsk 66.16 333 ⇑*e*P P 12 38 35.4 -0.9
OBN 12 40 58.1
OBN *i* S S 12 47 25.1 +3.0
OBN pmax pmax
comp=Z,7.0nm,0.4s
OBN MLR MLR
comp=Z,100nm,17.0s
631A Perdido Creek 66.19 72 ⇑P P 12 38 37.2 +0.3
baz=66
MIAR Mount Ida 66.31 64 *e*P P 12 38 38.8 +1.1
MIAR pmax pmax
comp=Z,2.0nm,0.5s

MIAR Mount Ida 66.31 64 *e*P P 12 38 38.8 +1.1
comp=Z,2.4nm,0.5s
632A Uvalde 66.58 72 ⇓P P 12 38 39.7 +0.2
baz=66
WVT Waverly 68.18 59 *e*P P 12 38 49.2 -0.3
WVT pmax pmax
comp=Z,11nm,1.0s
WVT Waverly 68.18 59 *e*P P 12 38 49.2 -0.3
comp=Z,11nm,1.0s
OXF Oxford 68.58 61 *e*P P 12 38 53.8 +1.8
OXF pmax pmax
comp=Z,36nm,1.1s
OXF Oxford 68.58 61 *e*P P 12 38 53.8 +1.8
comp=Z,36nm,1.1s
VSR Storozhevoye 68.84 330 *e*P P 12 38 52.9 -0.4
VSR pmax pmax
comp=Z,30nm,1.1s
VSR pmax pmax
comp=N,30nm,1.3s
VSR pmax pmax
comp=E,10.0nm,0.5s
VORD Divnogorie 69.02 330 *e*P P 12 38 54.2 -0.2
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD pmax pmax
comp=N,30nm,0.4s
VORD pmax pmax
comp=E,20nm,0.7s
KIEV Kiev 72.08 336 *e*P P 12 39 12.0 -1.1
KIEV pmax pmax
comp=Z,8.0nm,1.0s
KIEV Kiev 72.08 336 *e*P P 12 39 12.0 -1.1
comp=Z,7.9nm,1.0s
KIV Kislovodsk 74.00 324 *e*P P 12 39 25.4 +0.7
KIV pmax pmax
comp=Z,12nm,1.1s
KBZ Khabaz 74.13 324 P P 12 39 25.2 -0.1
KBZ pmax pmax
comp=Z,8.0nm,0.9s
KBZ MLR MLR
comp=Z,55nm,20.0s
KBZ Khabaz 74.13 324 P P 12 39 25.2 -0.1
KBZ Khabaz 74.13 324 P P 12 39 25.2 -0.1
comp=Z,7.8nm,0.9s,baz=284,slow=0.8,SNR=10
KBZ LR LR 13 16 26.5
comp=Z,54nm,20.0s,baz=279,slow=39
KWP Kalwaria Pacla 74.59 339 ⇑P P 12 39 28.7 +0.8
KWP Kalwaria Pacla 74.59 339 *e*P P 12 39 28.7 +0.8
comp=Z,11nm,0.9s
KWP Kalwaria Pacla 74.59 339 ⇑*iP* P 12 39 28.7 +0.8
OJC Ojcow 74.62 341 *e*P P 12 39 28.3 +0.2
OJC Ojcow 74.62 341 *e*P P 12 39 28.3 +0.2
CLL Collm 74.74 346 *i* P P 12 39 28.0 -0.7
CLL Collm 74.74 346 *i* P P 12 39 28.0 -0.7
BRG Berggiesshubel 75.02 345 *e*P P 12 39 29.8 -0.6
comp=Z,16nm,1.6s
BRG Berggiesshubel 75.02 345 *e*P P 12 39 29.8 -0.6
STHS Stebnicka Huta 75.10 340 *e*P P 12 39 32.0 +1.1
STHS pmax pmax
comp=Z,4.0nm,0.8s
STHS Stebnicka Huta 75.10 340 *e*P P 12 39 32.0 +1.1
KOLS Kolonicke sedl 75.34 339 *e*P P 12 39 32.8 +0.5
KOLS pmax pmax
comp=Z,11nm,1.6s
KOLS Kolonicke sedl 75.34 339 *e*P P 12 39 32.8 +0.5
BUR08 Bucovina Ar. S 75.89 337 *e*P P 12 39 36.1 +0.5
BURAR Bucovina Array 75.92 337 ⇑P P 12 39 35.8 +0.1
BURAR Bucovina Array 75.92 337 ⇑*iP* P 12 39 35.8 +0.1
PMOR Pomariorio Ree 76.12 139 *e*T T 14 02 58.7
comp=Z,5.3nm,0.2s
KECS Kecovo 76.14 340 *e*P P 12 39 37.8 +1.0
KECS pmax pmax
comp=Z,2.0nm,1.0s
KECS Kecovo 76.14 340 *e*P P 12 39 37.8 +1.0
VYHS Vyhne 76.46 341 *e*P P 12 39 39.3 +0.6
VYHS pmax pmax
comp=Z,3.0nm,1.0s
VYHS Vyhne 76.46 341 *e*P P 12 39 39.3 +0.6
KHC Kasperske Hory 76.77 345 *e*P P 12 39 40.8 +0.4
KHC pmax pmax
comp=Z,6.0nm,1.0s
KHC Kasperske Hory 76.77 345 *e*P P 12 39 40.8 +0.4
comp=Z,5.6nm,1.0s
GIVF Givet 76.91 351 *e*P P 12 39 40.5 -0.7
BAIF Baives 77.01 351 *e*P P 12 39 41.3 -0.4
GERES GERESS Array B 77.02 345 P P 12 39 41.7 -0.2
GERES GERESS Array B 77.02 345 P P 12 39 41.7 -0.2
comp=Z,2.8nm,0.6s,baz=7.6,slow=4.0,SNR=13
GERES LR LR 13 14 57.0
comp=Z,51nm,18.5s,baz=278,slow=37
DRGR 77.27 338 ⇑P P 12 39 43.6 +0.3
DRGR 77.27 338 ⇑*iP* P 12 39 43.6 +0.3
CONA Conrad Observa 77.55 343 ⇑*iP* P 12 39 45.7 +0.8
comp=Z,12nm,1.5s
MLR Muntele Rosu 77.73 336 ⇑*iP* P 12 39 47.4 +1.4
PPT Papeete 77.80 142 LR LR 13 09 11.8
comp=Z,20nm,20.9s,baz=334,slow=32
PPT2 Papeete2 77.82 142 *e*LR LR 13 04 03.5
comp=Z,161nm,25.0s
VOIR 78.00 336 ⇓P P 12 39 48.2 +0.8
VOIR 78.00 336 ⇓*iP* P 12 39 48.2 +0.8
ARR Arges 78.17 337 ⇑*iP* P 12 39 49.9 +1.6
CDF Champ du Feu 78.33 349 *e*P P 12 39 48.6 -0.6
PAGF Fort de Pagny 78.36 350 *e*P P 12 39 49.1 -0.2
comp=Z,2.8nm,0.7s
MEZF Maizieres J'vi 78.48 351 *e*P P 12 39 49.7 -0.2
GZR Gura Zlata 78.58 338 ⇓P P 12 39 50.9 +0.3
GZR Gura Zlata 78.58 338 ⇓*iP* P 12 39 50.9 +0.3
SFTF Sexfontaines 78.77 351 *e*P P 12 39 51.1 -0.5
comp=Z,12nm,0.8s
KBA Koelnbreinsper 78.80 345 ⇑*iP* P 12 39 52.8 +0.8
comp=Z,17nm,1.0s
HAU Haudompre 78.83 350 *e*P P 12 39 51.2 -0.7
HAU *e*R
comp=Z,50nm,17.5s
WTTA Wattenberg 78.88 346 ⇓*iP* P 12 39 52.9 +0.5
comp=Z,6.0nm,0.6s
PERS Pernice 78.93 343 *i* P P 12 39 52.9 +0.3
WRA Warramunga Arr 79.09 215 P P 12 39 54.1 +0.6
WRA Warramunga Arr 79.09 215 P P 12 39 54.1 +0.6
comp=Z,2.8nm,0.8s,baz=27,slow=6.2,SNR=28
OBKA Obir 79.15 344 ⇓*iP* P 12 39 54.5 +0.7
comp=Z,11nm,0.9s
FETA Feichten 79.25 347 ⇑*iP* P 12 39 54.3 -0.1
comp=Z,8.0nm,1.1s
GCIS Gornji Cirnik 79.59 343 *i* P P 12 39 56.5 +0.5
LOR Lormes 79.81 351 *e*P P 12 39 56.6 -0.7
LOR *e*R
comp=Z,46nm,18.2s
BOJS Bojanci 80.00 343 *i* P P 12 39 58.5 +0.2
SSF Saint Saulge 80.05 351 *e*P P 12 39 58.1 -0.4
CABF La Chapelle 80.24 350 *e*P P 12 39 59.4 -0.3
AVF Avril sur Loir 80.33 352 *e*P P 12 39 59.6 -0.4
comp=Z,19nm,1.1s
BR131 Keskin Array S 80.84 328 *e*P P 12 40 03.5 +0.4
comp=Z,3.3nm,0.7s
BRTR Keskin Array B 80.84 328 P P 12 40 03.5 +0.4
BRTR Keskin Array B 80.84 328 P P 12 40 03.5 +0.4
comp=Z,4.5nm,0.7s,baz=66,slow=2.8,SNR=19
LPL La Plagne 81.25 349 *e*P P 12 40 05.8 +0.6
LPG La Plagne 81.26 349 *e*P P 12 40 06.1 +0.7
ORIF Oris-en-Rattie 81.93 349 *e*P P 12 40 09.2 +0.5
comp=Z,19nm,1.0s
ORIF *e*R
comp=Z,48nm,21.8s
MBDF Montbardon 82.02 349 *e*P P 12 40 09.6 +0.3
comp=Z,11nm,0.8s
VIVF Saint-Julien-l 82.12 350 *e*P P 12 40 09.7 +0.1
CAF Calviac 82.29 352 *e*P P 12 40 09.8 -0.7
comp=Z,12nm,1.0s
LFF La Frestale 82.38 353 *e*P P 12 40 10.7 -0.2
comp=Z,11nm,0.8s
ASAR Alice Springs 82.68 214 P P 12 40 13.8 +1.2
ASAR Alice Springs 82.68 214 P P 12 40 13.8 +1.2
comp=Z,1.8nm,0.7s,baz=19,slow=5.2,SNR=26
LASF Ste Croix 82.98 351 *e*P P 12 40 14.2 +0.1
TBI Tubuai 83.14 144 *e*LR LR 13 06 35.2
comp=Z,99nm,24.8s
MTLF Montolieu 83.86 352 *e*P P 12 40 18.7 +0.1
comp=Z,5.4nm,0.7s
PGF Pioggiola 83.88 347 *e*P P 12 40 18.7 -0.2
comp=Z,54nm,1.2s
ETSF Etsaut 84.50 354 *e*P P 12 40 22.2 +0.2
comp=Z,8.2nm,0.7s
ESDC Sonseca Array 87.90 356 P P 12 40 37.7 -1.0

ESDC	**Sonseca Array**	**87.90**	**356**	P		**P**	**12 40 37.7**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=359,slow=4.0,SNR=5.7							
BOSA	**Boshof**	**145.19**	**300**	PKPbc		**PKPdf**	**12 47 26.2**	**-0.3**
BOSA	**Boshof**	**145.19**	**300**	PKPbc		**PKPdf**	**12 47 26.2**	**-0.3**
	comp=Z,6.5nm,0.7s,baz=20,slow=1.3,SNR=12							

ISCJB ***14*** *12:42:15.2±0.7, 22°.2S±0°.1×171°.61E±0°.06, h98km, mb4.1/9, Error ellipse: s-maj=15.0km s-min=8.2km az=0.6*
NOU ***14*** *12:42:15.3±0.6, 19°.87S×171°.18E, h30km, MD3.2, ML3.6*
AUST ***14*** *12:42:19.6, 22°.50S×171°.08E, h60km*
IDC ***14*** *12:42:19.1±5.0, 22°.12S×171°.47E, h114km±35km, mb3.9/9, mb1 4.1/10, mb1mx3.9/20, mbtmp3.9/10, MS2.9/1, Ms1 2.9/1, ms1mx2.2/21, Error ellipse: s-maj=46.9km s-min=25.2km az=140.0*

ISC 14 12:42:16.8±1.0, 22°.3S±0°.1×171°.64E±0°.09, h98km, n33, σ1.8 31/34, mb4.0/9, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.40**	**271**	*e*P	**Pn**	**12 43 22.0**	**+0.6**
BAYA				*e*S	**Sn**	**12 44 10.9**	**-0.7**
BAYA				AMP		12 44 18.2	
	comp=Z,31nm,2.8s						
LASL	**Noumea**	**4.72**	**270**	*e*P	**Pn**	**12 43 26.0**	**+0.3**
NORM	**Noumea**	**4.77**	**270**	*e*P	**Pn**	**12 43 26.5**	**+0.1**
DZM	**Mont Dzumac**	**4.82**	**272**	*e*P	**Pn**	**12 43 26.8**	**-0.3**
DZM				*e*S	**Sn**	**12 44 19.4**	**-2.4**
DZM				AMP		12 44 24.1	
	comp=Z,3µm,1.0s						
DZM	**Mont Dzumac**	**4.82**	**272**	P	**Pn**	**12 43 27.6**	**+0.5**
	comp=Z,15nm,0.3s,baz=270,slow=24,SNR=1543						
DZM				S	**Sn**	**12 44 21.0**	**-0.8**
	comp=Z,33nm,0.3s,baz=88,slow=23,SNR=27						
NOUC	**Port Laguerre**	**4.95**	**271**	*e*P	**Pn**	**12 43 29.0**	**+0.2**
NOUC				*e*S	**Sn**	**12 44 23.7**	**-1.0**
NOUC				AMP		12 44 28.9	
	comp=Z,115nm,4.8s						
NFK	**Norfolk Island**	**7.51**	**206**	P	**Pn**	**12 44 03.3**	**-0.4**
	baz=7.1,SNR=19						
NFK				S	Sn	12 45 21.4	-5.9
	baz=7.1,SNR=4.9						
LHI	**Lord Howe Isla**	**14.50**	**228**	S	Sn	12 48 02.9	-14
	baz=14,SNR=5.4						
HNR	**Honiara**	**17.00**	**317**	LR	LR	12 50 41.7	
	comp=Z,38nm,19.0s,baz=280,slow=30						
EIDS	**Eidsvold**	**19.05**	**257**	P	**Pn**	**12 46 37.1**	**+3.9**
	baz=18,SNR=3.4						
ARMA	**Armidale**	**19.66**	**241**	P	**Pn**	**12 46 40.6**	**+0.2**
	baz=19,SNR=4.2						
RMQ	**Roma**	**21.25**	**254**	P	**P**	**12 46 57.2**	**+2.1**
	baz=21,SNR=13						
YNG	**Young**	**23.65**	**235**	P	**P**	**12 47 20.2**	**+1.0**
	baz=23,SNR=6.1						
CTA	**Charters Tower**	**23.76**	**271**	P	**P**	**12 47 20.1**	**-0.4**
	comp=Z,2.1nm,0.4s,baz=66,slow=14,SNR=7.7						
CMSA	**Cobar Meteorol**	**24.85**	**243**	P	**P**	**12 47 30.6**	**+0.3**
	baz=24,SNR=13						
MTSU	**Mount Surprise**	**25.95**	**274**	P	**P**	**12 47 40.9**	**+0.6**
	baz=25,SNR=46						
RABL	**Rabaul**	**26.06**	**311**	P	P	12 47 51.7	+10
	baz=26,SNR=4.6						
STKA	**Stephens Creek**	**28.32**	**244**	P	**P**	**12 48 01.9**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=97,slow=14,SNR=6.2						
ASAR	**Alice Springs**	**34.70**	**260**	P	**P**	**12 48 56.5**	**-1.0**
	comp=Z,8.4nm,0.8s,baz=85,slow=8.9,SNR=64						
WRA	**Warramunga Arr**	**34.82**	**267**	P	**P**	**12 48 56.7**	**-1.8**
	comp=Z,1.3nm,0.4s,baz=97,slow=8.6,SNR=60						
MTN	**Manton Dam**	**39.63**	**277**	P	**P**	**12 49 38.3**	**-1.0**
	baz=39,SNR=6.1						
MTN				S	S	12 55 43.4	+8.0
	baz=39,SNR=6.8						
KNRA	**Kununurra**	**40.97**	**272**	P	**P**	**12 49 49.3**	**-0.9**
	baz=40,SNR=7.1						
FITZ	**Fitzroy Crossi**	**43.25**	**267**	P	**P**	**12 50 08.9**	**+0.2**
	comp=Z,17nm,0.7s,baz=137,slow=7.3,SNR=40						
FITZ	**Fitzroy Crossi**	**43.25**	**267**	P	**P**	**12 50 08.6**	**-0.1**
	baz=43,SNR=14						
MEEK	**Meekatharra**	**48.18**	**254**	P	**P**	**12 50 46.5**	**-1.1**
	baz=48,SNR=9.9						
KLBR	**Kellerberrin**	**48.51**	**247**	P	**P**	**12 50 49.0**	**-1.0**
	baz=48,SNR=14						
BLDU	**Ballidu**	**49.47**	**248**	P	**P**	**12 50 56.0**	**-1.3**
	baz=49,SNR=12						
MORW	**Morawa**	**50.18**	**250**	P	**P**	**12 51 01.6**	**-1.1**
	baz=50,SNR=6.4						
CISI	**Cisompet, Garu**	**62.98**	**273**	P	**P**	**12 52 36.9**	**+3.2**
	baz=62,SNR=7.0						
MJAR	**Matsushiro Arr**	**66.48**	**331**	P	**P**	**12 52 54.8**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=168,slow=8.0,SNR=4.8						
KSRS	**Korea Array**	**72.27**	**325**	P	**P**	**12 53 30.7**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=149,slow=4.8,SNR=4.2						
NVAR	**Mina Array Bea**	**89.16**	**48**	P	**P**	**12 55 01.9**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=226,slow=7.7,SNR=7.6						
SONM	**Songino Array**	**90.99**	**322**	P	**P**	**12 55 09.6**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=162,slow=3.9,SNR=5.3						

IDC 14 12:46:09.2±7.8, 6°.41S×149°.50E, h53km±63km, mb3.4/2, mb1 3.8/4, mb1mx3.3/19, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=104.3km s-min=49.0km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.77**	**218**	P	Pn	12 47 05.9	+1.0
	13nm,0.3s,baz=28,slow=6.3,SNR=45						
PMG				S	Sn	12 47 48.4	+0.3
	13nm,0.3s,baz=55,slow=17,SNR=15						
WRA	**Warramunga Arr**	**19.94**	**226**	P	P	12 50 36.8	-0.2
	0.3nm,0.3s,baz=52,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**22.79**	**220**	P	P	12 51 08.1	+0.5
	0.5nm,0.5s,baz=54,slow=9.3,SNR=6.2						
FITZ	**Fitzroy Crossi**	**26.01**	**241**	P	P	12 51 37.3	-0.1
	2.7nm,0.8s,baz=61,slow=13,SNR=6.5						
TORD	**Torodi Ar. Bea**	**147.59**	**284**	PKPbc	PKPbc	13 05 48.0	-0.8
	0.4nm,0.4s,baz=91,slow=4.0,SNR=9.3						

KRSC 14 12:50:28.4±1.6, 49°.55N×157°.14E, h5km±5km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.31**	**330**	*e*P	Pn	12 50 52.2	-1.1
SKR				*e*S	Sg	12 51 09.6	-0.9
PAU	**Pauzhetka**	**1.93**	**354**	*e*S	Sb	12 51 28.8	+0.4
ASAK	**Asacha**	**2.88**	**9**	*e*P	Pn	12 51 17.6	+2.6
ASAK				*e*S	Sb	12 51 53.6	-2.3
MTVR	**Mutnovka**	**3.01**	**12**	*e*P	Pn	12 51 18.0	+1.1
MTVR				*e*S	Sn	12 51 54.5	+1.0
RUS	**Russkaya**	**3.01**	**16**	*e*P	Pn	12 51 18.3	+1.6
RUS				*e*S	Sn	12 51 54.6	+1.4
UGLR	**Uglovaya**	**3.81**	**15**	*e*P	Pn	12 51 29.9	+2.0
KOK	**Koryaka**	**3.86**	**13**	*e*P	Pn	12 51 30.6	+2.0
SPN	**Mys Shipunski**	**3.99**	**26**	*e*P	Pn	12 51 31.3	+1.2
SPN				*e*S	Sn	12 52 17.5	+0.3

DJA 14 12:56:53.3±0.5, 0°S±5°×122°E±°, h52km±9km, M4.3/7, mb4.9/1, MLv4.0/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.74**	**191**	P	Pn	12 57 07.3	-0.4
LUWI				S	Sn	12 57 20.4	+2.3
GTOI	**Gorontalo**	**0.94**	**6**	P	Pn	12 57 11.3	+0.9
MRSI	**Marisa**	**1.25**	**309**	P	Pn	12 57 13.8	-0.6
KMSI	**Cibinong**	**1.39**	**51**	P	Pn	12 57 26.8	+11
MNI	**Manado**	**2.60**	**48**	P	Pn	12 57 32.3	-0.6
TTSI	**Tana Toraja**	**4.11**	**229**	P	Pn	12 57 54.1	+0.4
LBMI	**Labuha**	**4.60**	**94**	P	Pn	12 58 00.1	-0.3
BKB	**Balikpapan**	**6.09**	**261**	P	Pn	12 58 20.1	-0.7

IDC 14 13:04:28.9±1.1, 2°.23N×101°.31W, h0km, mb4.2/10, mb1 4.5/10, mb1mx4.3/21, mbtmp4.2/10, MS3.8/13, Ms1 3.7/13, ms1mx3.6/22, Error ellipse: s-maj=46.8km s-min=15.0km az=57.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEIG	**Tepich**	**21.96**	**35**	LR	LR	13 16 41.5	
	comp=Z,459nm,21.4s,baz=259,slow=33						

TXAR	**Lajitas Array**	**27.05**	**355**	P		P	13 10 13.8	+0.6
	3.5nm,0.9s,baz=173,slow=11,SNR=22							
TXAR				LR		LR	13 19 57.4	
	comp=Z,535nm,18.8s,baz=45,slow=34							
NNA	**Nana**	**28.12**	**121**	LR		LR	13 18 58.6	
	comp=Z,138nm,19.4s,baz=323,slow=31							
TKL	**Tuckaleechee C**	**37.03**	**24**	P		P	13 11 41.1	+0.5
	2.2nm,0.7s,baz=227,slow=7.5,SNR=4.4							
LPAZ	**La Paz**	**37.59**	**120**	P		P	13 11 46.5	+0.2
	3.0nm,0.9s,baz=308,slow=5.9,SNR=6.8							
LPAZ				LR		LR	13 25 18.1	
	comp=Z,114nm,20.8s,baz=87,slow=33							
NVAR	**Mina Array Bea**	**39.24**	**339**	P		P	13 12 00.1	+0.6
	1.6nm,0.8s,baz=162,slow=9.0,SNR=13							
LVC	**Limon Verde**	**40.11**	**130**	P		P	13 12 05.7	-1.2
	2.8nm,0.3s,baz=254,slow=17,SNR=23							
PDAR	**Pinedale Array**	**41.03**	**351**	P		P	13 12 14.2	0.0
	4.3nm,0.9s,baz=156,slow=7.9,SNR=32							
PDAR				LR		LR	13 29 13.9	
	comp=Z,73nm,18.6s,baz=188,slow=36							
RKT	**Rikitea**	**41.35**	**231**	*e*LQ		LQ	13 21 56.3	
	518nm,29.5s							
RKT	**Rikitea**	**41.35**	**231**	*e*T		T	13 55 59.7	
	2.1nm,0.3s							
SIV	**San Ignacio**	**43.69**	**116**	P		P	13 12 35.8	-0.3
	0.5nm,0.2s,baz=226,slow=16,SNR=4.1							
ULM	**Lac du Bonnet**	**48.07**	**5**	LR		LR	13 32 59.1	
	comp=Z,95nm,18.6s,baz=313,slow=36							
CPUP	**Villa Florida**	**51.08**	**127**	P		P	13 13 34.1	+0.7
	2.9nm,0.8s,baz=265,slow=10,SNR=5.2							
PLCA	**Paso Flores**	**51.14**	**150**	LR		LR	13 31 21.6	
	comp=Z,98nm,18.4s,baz=354,slow=32							
PPT2	**Papeete2**	**51.47**	**245**	*e*LR		LR	13 28 00.8	
	51nm,27.8s							
BDFB	**Brasilia**	**55.60**	**111**	LR		LR	13 36 49.3	
	comp=Z,122nm,20.4s,baz=321,slow=35							
SCHQ	**Schefferville**	**59.47**	**22**	LR		LR	13 40 34.7	
	comp=Z,98nm,21.8s,baz=96,slow=36							
YKA	**Yellowknife Ar**	**60.94**	**353**	P		P	13 14 42.3	-1.1
	1.9nm,0.9s,baz=162,slow=6.0,SNR=9.6							
YKA				LR		LR	13 40 35.6	
	comp=Z,7.2nm,18.8s,baz=185,slow=36							
ILAR	**Eielson Array**	**70.45**	**341**	P		P	13 15 43.6	-1.2
	1.3nm,0.9s,baz=157,slow=5.3,SNR=12							
SFJD	**Kangerlussuaq**	**73.48**	**18**	LR		LR	13 48 52.8	
	comp=Z,56nm,18.9s,baz=131,slow=36							
BORG	**Borgarnes**	**83.72**	**25**	LR		LR	13 51 32.7	
	comp=Z,46nm,19.8s,baz=265,slow=34							
NOA	**NORSAR Array B**	**98.78**	**27**	LR		LR	14 00 11.1	
	comp=Z,34nm,19.2s,baz=280,slow=34							
ASAR	**Alice Springs**	**122.55**	**243**	PKP		PKPdf	13 23 28.2	+0.9
	0.4nm,0.7s,baz=121,slow=2.2,SNR=4.5							
CMAR	**Chiang Mai Arr**	**151.36**	**317**	PKPbc		PKPbc	13 24 25.7	0.0
	0.4nm,0.3s,baz=35,slow=1.1,SNR=5.0							

IDC 14 13:06:52.1±38.0, 2°.88S×68°.35E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/25, mbtmp3.5/3, MS3.6/10, Ms1 3.7/10, ms1mx3.3/31, Error ellipse: s-maj=1142.0km s-min=48.3km az=73.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**31.07**	**80**	LR	LR	13 23 22.6	
	comp=Z,280nm,18.3s,baz=181,slow=32						
KMBO	**Kilima Mbogo**	**31.13**	**273**	LR	LR	13 23 25.8	
	comp=Z,65nm,18.3s,baz=95,slow=32						
CMAR	**Chiang Mai Arr**	**36.83**	**54**	LR	LR	13 25 49.0	
	comp=Z,70nm,21.7s,baz=250,slow=31						
BOSA	**Boshof**	**48.32**	**234**	LR	LR	13 31 37.3	
	comp=Z,104nm,21.9s,baz=12,slow=31						
MKAR	**Makanchi Array**	**50.97**	**12**	LR	LR	13 36 35.9	
	comp=Z,41nm,20.5s,baz=254,slow=35						
AKTO	**Aktyubinsk**	**53.84**	**352**	LR	LR	13 38 06.3	
	comp=Z,36nm,20.0s,baz=338,slow=35						
BVAR	**Borovoye Array**	**55.72**	**1**	LR	LR	13 38 55.0	
	comp=Z,40nm,18.5s,baz=18,slow=34						
SONM	**Songino Array**	**60.45**	**29**	P	P	13 17 03.8	-0.1
	0.2nm,0.4s,baz=235,slow=5.1,SNR=4.2						
SONM				LR	LR	13 43 08.1	
	comp=Z,144nm,19.2s,baz=226,slow=36						
WRA	**Warramunga Arr**	**66.47**	**110**	P	P	13 17 44.4	+0.3
	0.4nm,0.7s,baz=286,slow=5.9,SNR=3.9						
ASAR	**Alice Springs**	**66.49**	**114**	P	P	13 17 43.9	-0.3
	0.3nm,0.8s,baz=280,slow=5.5,SNR=2.6						
KSRS	**Korea Array**	**68.14**	**48**	LR	LR	13 47 48.2	
	comp=Z,48nm,20.7s,baz=226,slow=36						
MJAR	**Matsushiro Arr**	**75.67**	**51**	LR	LR	13 51 56.7	
	comp=Z,42nm,19.6s,baz=205,slow=36						

IDC 14 13:07:22.6±1.5, 16°.61S×178°.01W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/19, mbtmp3.8/6, Error ellipse: s-maj=107.5km s-min=21.5km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.60**	**240**	P	P	13 14 55.8	-0.2
	2.4nm,0.9s,baz=107,slow=17,SNR=2.5						
WRA	**Warramunga Arr**	**45.26**	**258**	P	P	13 15 42.4	+0.1
	0.6nm,0.5s,baz=94,slow=7.1,SNR=22						
ASAR	**Alice Springs**	**45.52**	**253**	P	P	13 15 44.0	-0.3
	3.0nm,0.5s,baz=87,slow=8.9,SNR=63						
ILAR	**Eielson Array**	**84.54**	**13**	P	P	13 19 57.4	+0.2
	0.2nm,0.4s,baz=220,slow=6.0,SNR=4.9						
TXAR	**Lajitas Array**	**84.98**	**58**	P	P	13 20 00.9	+0.5
	0.3nm,0.6s,baz=210,slow=5.2,SNR=2.7						
PDAR	**Pinedale Array**	**86.15**	**43**	P	P	13 20 05.3	-0.7
	0.3nm,0.7s,baz=220,slow=6.9,SNR=3.2						

MEX 14 13:15:23.8±0.5, 17°.05N×99°.84W, h31km±17km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.41**	**270**	*e*P	Pb	13 15 30.7	-2.2
CAIG				*e*S	Sb	13 15 37.8	-1.3
ARIG	**Puente Sto Nin**	**1.32**	**339**	*e*P	Pn	13 15 44.0	-2.2
ARIG				*e*S	Sn	13 15 59.6	-3.1
PLIG	**Platanillo**	**1.38**	**13**	*e*P	Pn	13 15 45.4	-1.6
PLIG				*e*S	Sn	13 16 01.8	-2.5
ZIIG	**Zihuatanejo**	**1.65**	**290**	*i* P	Pn	13 15 48.9	-1.8
ZIIG				*i* S	Sn	13 16 08.5	-2.3
YAIG	**Yautepec**	**1.95**	**22**	*i* P	Pn	13 15 53.6	-1.4
YAIG				*i* S	Sn	13 16 15.8	-2.8

KRSC 14 13:51:31.0±0.5, 52°.60N×170°.58E, h20km±20km, ML3.9, Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**3.77**	**316**	P	Pn	13 52 30.5	+2.6
BKI				S	Sn	13 53 12.4	+0.7
SPN	**Mys Shipunski**	**6.42**	**279**	*e*P	Pn	13 53 07.8	+3.5
SPN				*e*S	Sn	13 54 19.0	+2.2
SMKR	**Semkarok**	**6.63**	**311**	P	Pn	13 53 10.0	+2.7
SMKR				S	Sn	13 54 23.7	+1.5
ZLN	**Zelenaya**	**6.67**	**305**	P	Pn	13 53 11.4	+3.6
ZLN				S	Sn	13 54 26.3	+3.1
BZGR	**Bezymyannyi-Gr**	**6.69**	**304**	P	Pn	13 53 11.9	+3.8
BDR	**Baidarnaya**	**6.74**	**310**	P	Pn	13 53 12.9	+4.1
BDR				S	Sn	13 54 29.4	+4.4
BZMR	**Bezymyannaya**	**6.79**	**303**	P	Pn	13 53 13.3	+3.7
NLC	**Nalytchevo**	**6.83**	**279**	S	Sn	13 54 29.1	+2.2
KMNR	**Kamenistaya**	**6.84**	**302**	*e*P	Pn	13 53 12.9	+2.6
UGLR	**Uglovaya**	**7.14**	**280**	P	Pn	13 53 17.7	+3.4
UGLR				S	Sn	13 54 38.3	+3.4
SMAR	**Somma**	**7.15**	**280**	P	Pn	13 53 18.1	+3.4
KRER	**Koryakskii**	**7.18**	**280**	P	Pn	13 53 19.2	+4.1
AVH	**Avacha**	**7.19**	**280**	*e*P	Pn	13 53 18.6	+3.6
PET	**Petropavlovsk**	**7.24**	**278**	P	Pn	13 53 19.9	+4.3
KOK	**Koryaka**	**7.25**	**280**	P	Pn	13 53 19.4	+3.5
KOK				S	Sn	13 54 41.1	+3.4
SRDR	**Sredinnyy**	**7.34**	**305**	P	Pn	13 53 20.5	+3.4
RUS	**Russkaya**	**7.37**	**273**	S	Sn	13 54 43.3	+3.1
MTVR	**Mutnovka**	**7.56**	**274**	P	Pn	13 53 24.1	+3.9
MTVR				S	Sn	13 54 48.7	+3.3
GNL	**Ganaly**	**7.68**	**283**	P	Pn	13 53 25.9	+4.1
ASAK	**Asacha**	**7.75**	**273**	P	Pn	13 53 26.3	+3.7
ASAK				*e*S	Sn	13 54 52.9	+3.1

CSEM ***14*** *14:17:55.8, 42°.03N×13°.00E, h10km, MD1.8/4, After ROM*
ROM 14 14:17:55.8±0.3, 42°.03N×13°.00E, h10km, Md1.8/4, Ml1.3/2, Error ellipse: s-maj=4.6km s-min=3.5km az=67.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CERT	**Cerreto**	**0.08**	**189**	Pg	Pg	14 17 58.2	0.0
CERT				Sg	Sg	14 18 00.6	+0.6
	515nm,0.3s						
CERT	**Cerreto**	**0.08**	**189**	Pg	Pg	14 17 58.2	0.0
CERT				Sg	Sg	14 18 00.6	+0.6
	515nm,0.3s						
PTQR	**Pietraquaria**	**0.30**	**91**	Pg	Pg	14 18 02.0	0.0
	5.0nm,0.3s						
PTQR	**Pietraquaria**	**0.30**	**91**	Pg	Pg	14 18 02.0	0.0
	5.0nm,0.3s						
GUAR	**Guarcino**	**0.33**	**135**	Pg	Pb	14 18 03.6	-0.3
GUAR				Sg	Sb	14 18 08.7	-0.6
	34nm,0.4s						
GUAR	**Guarcino**	**0.33**	**135**	Pg	Pb	14 18 03.6	-0.3
GUAR				Sg	Sb	14 18 08.7	-0.6
	34nm,0.4s						
MNS	**Montasola**	**0.43**	**327**	Pg	Pb	14 18 05.1	-0.4
	15nm,0.3s						
MNS	**Montasola**	**0.43**	**327**	Pg	Pb	14 18 05.1	-0.4
	15nm,0.3s						

CSEM 14 14:19:54.8, 45°.95N×14°.31E, h0km, ML0.6, After LJU, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRNS	**Crni Vrh**	**0.14**	**345**	*i* Pg	Pg	14 19 57.3	-0.2
CRNS				*i* Sg	Sg	14 19 60.0	+0.6
CRNS							
	comp=Z,28nm,0.2s						
JAVS	**Javornik**	**0.18**	**252**	*i* Pg	Pg	14 19 57.8	-0.7
JAVS				*i* Sg	Sg	14 20 01.1	+0.3
JAVS							
	comp=Z,10.0nm,0.2s						
JAVS	**Javornik**	**0.18**	**252**	Pg	Pg	14 19 57.8	-0.6
JAVS				*i* Sg	Sg	14 20 01.1	+0.2
	comp=Z,10.0nm,0.2s						
CEY	**Cerknica**	**0.23**	**159**	*i* Sg	Sg	14 20 02.5	+0.3
CEY	**Cerknica**	**0.23**	**159**	*i* Sg	Sg	14 20 02.5	+0.3
VOY	**Vojsko**	**0.30**	**286**	*e*Pg	Pg	14 20 00.6	-0.2
VOJS	**Vojsko**	**0.31**	**286**	*i* Sg	Sg	14 20 05.7	+0.7
VOJS							
	comp=Z,6.0nm,0.2s						
VOJS	**Vojsko**	**0.31**	**286**	*i* Sg	Sg	14 20 05.7	+0.7
	comp=Z,6.0nm,0.2s						
MOZS	**Mozjanca**	**0.36**	**15**	*i* Pg	Pg	14 20 02.2	+0.5
MOZS	**Mozjanca**	**0.36**	**15**	*i* Pg	Pg	14 20 02.2	+0.4
VISS	**Visnje**	**0.40**	**111**	*i* Sg	Sg	14 20 08.1	+0.4
VISS							
	comp=Z,8.0nm,0.3s						
VISS	**Visnje**	**0.40**	**111**	*i* Sg	Sg	14 20 08.1	+0.4
	comp=Z,8.0nm,0.3s						

ISK ***14*** *14:21:41.8, 38°.24N×28°.79E, h5km, MD2.9*
DDA ***14*** *14:21:41.8, 38°.22N×28°.79E, h4km, ML3.7*
CSEM ***14*** *14:21:42.2±0.1, 38°.23N×28°.79E, h5km, MD2.9, Error ellipse: s-maj=2.9km s-min=2.5km az=98.0*
ISC 14 14:21:42.0±1.0, 38°.25N±0°.02×28°.75E±0°.02, h5km±9km, n54, σ1.9 09/76, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULA	**Kula-Manisa**	**0.27**	**345**	*e*PG	**Pg**	**14 21 48.2**	**+0.8**
KULA				*e*SG	**Sg**	**14 21 52.7**	**+1.6**
KULA	**Kula-Manisa**	**0.27**	**345**	*e*Pg	**Pg**	**14 21 48.2**	**+0.8**
KULA				*e*Sg	**Sg**	**14 21 52.7**	**+1.6**
MANT	**Manisa**	**0.29**	**328**	*i* P	**Pg**	**14 21 45.9**	**-1.8**
MANT				*i* S	**Sg**	**14 21 50.1**	**-1.4**
MANT	**Manisa**	**0.29**	**328**	*i* P	**Pg**	**14 21 45.9**	**-1.8**
MANT				*i* S	**Sg**	**14 21 50.1**	**-1.4**
KHAL	**Karahalli**	**0.59**	**78**	*i* P	**Pg**	**14 21 53.1**	**-0.3**
KHAL				*i* S	**Sg**	**14 22 00.4**	**-0.8**
KHAL	**Karahalli**	**0.59**	**78**	*i* P	**Pg**	**14 21 53.1**	**-0.3**
KHAL				*i* S	**Sg**	**14 22 00.4**	**-0.8**
DNZL	**Cakiroluk**	**0.60**	**157**	*i* P	**Pg**	**14 21 53.0**	**-0.7**
DNZL				*i* S	**Sg**	**14 22 00.7**	**-0.8**
DNZL	**Cakiroluk**	**0.60**	**157**	*i* P	**Pg**	**14 21 53.0**	**-0.7**
DNZL				*i* S	**Sg**	**14 22 00.7**	**-0.8**
KHL	**Karahalli**	**0.61**	**83**	*e*PG	**Pg**	**14 21 53.5**	**-0.3**
KHL	**Karahalli**	**0.61**	**83**	*e*Pg	**Pg**	**14 21 53.5**	**-0.3**
DEMI	**Demirci**	**0.79**	**358**	*i* P	**Pg**	**14 21 57.7**	**+0.4**
DEMI				*i* S	**Sg**	**14 22 07.8**	**+0.3**
DEMI	**Demirci**	**0.79**	**358**	*i* P	**Pg**	**14 21 57.7**	**+0.4**
DEMI				*i* S	**Sg**	**14 22 07.8**	**+0.3**
AYDN	**Tasoluk**	**0.91**	**230**	*i* P	**Pg**	**14 21 59.0**	**-0.4**
AYDN				*i* S	**Sb**	**14 22 12.2**	**-0.5**
AYDN	**Tasoluk**	**0.91**	**230**	*i* P	**Pg**	**14 21 59.0**	**-0.4**
AYDN				*i* S	**Sb**	**14 22 12.2**	**-0.5**
AKHS	**Akhisar**	**0.97**	**311**	*i* P	**Pn**	**

WEL 14 14:50:10.7±0.5, 39°26'S × 179°64'E, h33km, ML3.6/5, Error ellipse: s-maj=5.3km s-min=2.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**1.35**	**274**	PN	Pn	14 50 32.8	-0.4
CNGZ	**Carnagh Statio**	**1.36**	**304**	PN	Pn	14 50 32.8	-0.6
PRGZ	**Paritu Road**	**1.41**	**283**	PN	Pn	14 50 33.4	-0.6
KNZ	**Kokohu**	**1.54**	**278**	PN	Pn	14 50 35.3	-0.6
MWZ	**Matawai**	**1.89**	**299**	PN	Pn	14 50 39.8	-0.9
MWZ				SN	Sn	14 51 01.3	-2.2
MWZ				AML	AML	14 51 01.5	
MWZ				AML	AML	14 51 01.7	
MWZ				AML	AML	14 51 02.7	
RAHZ	**Arahi**	**2.01**	**279**	PN	Pn	14 50 42.4	0.0
RAHZ				SN	Sn	14 51 05.6	-0.9
NMHZ	**Naumai**	**2.21**	**273**	PN	Pn	14 50 45.1	0.0
URZ	**Urewera**	**2.21**	**296**	PN	Pn	14 50 44.7	-0.4
URZ				SN	Sn	14 51 08.9	-2.4
URZ				AML	AML	14 51 11.7	
PXZ	**Pawanui**	**2.27**	**249**	PN	Pn	14 50 45.1	-0.8
BKZ	**Black Stump Fm**	**2.44**	**271**	PN	Pn	14 50 48.2	-0.2
BKZ				SN	Sn	14 51 15.4	-1.8
BKZ				AML	AML	14 51 18.3	
PRHZ	**Porangahau**	**2.52**	**246**	PN	Pn	14 50 48.1	-1.3
WPHZ	**Waipukurau**	**2.59**	**251**	PN	Pn	14 50 50.2	-0.1
ANWZ	**Angora Road**	**2.71**	**243**	PN	Pn	14 50 50.6	-1.4
BHHZ	**Black Hill Sta**	**2.78**	**264**	PN	Pn	14 50 52.5	-0.5
TSZ	**Takapari Road**	**2.95**	**253**	PN	Pn	14 50 54.2	-1.0
BFZ	**Birch Farm**	**2.96**	**240**	PN	Pn	14 50 54.0	-1.4
MOVZ	**Moawhango**	**3.02**	**266**	PN	Pn	14 50 56.5	+0.2
PRWZ	**Pori Road**	**3.10**	**244**	PN	Pn	14 50 56.3	-1.0
KRVZ	**Karewarewa**	**3.11**	**272**	PN	Pn	14 50 57.9	+0.3
POWZ	**Post Office Ro**	**3.19**	**248**	PN	Pn	14 50 57.8	-0.7
TMWZ	**Te Maipa**	**3.41**	**236**	PN	Pn	14 51 00.1	-1.5
MRZ	**Mangatainoka R**	**3.42**	**245**	PN	Pn	14 51 00.4	-1.3
MRZ				AML	AML	14 51 42.9	
HOWZ	**Holdsworth Sta**	**3.56**	**241**	PN	Pn	14 51 01.7	-2.0
WAZ	**Wanganui**	**3.63**	**261**	PN	Pn	14 51 05.1	+0.5
MTW	**Mount Morrison**	**3.69**	**238**	PN	Pn	14 51 03.1	-2.3
OGWZ	**Otaki Gorge**	**3.76**	**244**	PN	Pn	14 51 04.9	-1.5
CAW	**Cannon Point**	**3.95**	**241**	PN	Pn	14 51 07.2	-1.8
MSWZ	**Moikau Station**	**3.98**	**236**	PN	Pn	14 51 07.3	-2.2
PLWZ	**Palliser**	**4.06**	**234**	PN	Pn	14 51 08.9	-1.7
TCW	**Tory Channel**	**4.54**	**243**	PN	Pn	14 51 15.1	-1.9
NNZ	**Nelson**	**5.17**	**246**	PN	Pn	14 51 24.4	-1.4
CTZ	**Chatham Island**	**5.28**	**149**	PN	Pn	14 51 30.4	+3.2
THZ	**Tophouse**	**5.71**	**242**	PN	Pn	14 51 30.3	-2.9
THZ				AML	AML	14 53 12.6	
OXZ	**Oxford**	**7.01**	**232**	PN	Pn	14 51 48.8	-2.3

*ISCJB **14** 15:19:16.9±0.5, 21°.35S±0°.05 × 33°.06E±0°.06, h15km, mb4.0/11, MS3.1/2, Error ellipse: s-maj=9.2km s-min=6.7km az=34.3*

*IDC **14** 15:19:16.5±0.6, 21°.31S × 33°.39E, h0km, mb4.0/11, mb1 4.2/15, mb1mx4.0/29, mbtmp4.1/15, ML4.8/3, MS3.5/6, Ms1 3.4/6, ms1mx3.1/35, Error ellipse: s-maj=22.4km s-min=16.8km az=83.0*

*PRE **14** 15:19:27.5±1.0, 22°.22S × 33°.00E, h5km, ML5.3*

ISC 14 15:19:18.7±0.6, 21°.40S±0°.07 × 33°.13E±0°.07, h15km, n32, σ1§72/33, mb4.1/11, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**6.11**	**193**	*e*P	**Pn**	**15 20 47.4**	**-1.0**
POGA				*e*S	Sn	15 21 45.5	-13
POGA				AML	AML	15 22 08.7	
	comp=Z,106nm,0.5s						
SLR	**Silverton**	**6.20**	**225**	*e*P	**Pn**	**15 20 52.7**	**+2.8**
SLR				*e*S	Sn	15 21 53.6	-7.0
SLR				AML	AML	15 22 49.7	
	comp=Z,597nm,0.6s						
ERPM	**east rand prop**	**6.65**	**221**	*e*P	**Pn**	**15 20 57.2**	**+1.1**
ERPM				*e*S	Sn	15 22 01.4	-11
ERPM				AML	AML	15 22 57.7	
	comp=Z,166nm,0.7s						
PRYS	**Parys**	**7.62**	**223**	*e*P	**Pn**	**15 21 10.8**	**+1.4**
PRYS				*e*S	Sn	15 22 26.1	-9.5
PRYS				AML	AML	15 22 56.5	
	comp=Z,52nm,0.5s						
LSZ	**Lusaka**	**7.69**	**322**	Pn	**Pn**	**15 21 09.8**	**-0.5**
	comp=Z,15nm,0.3s,baz=142,slow=13,SNR=106						
LSZ				Sn	Sn	15 22 30.0	-7.2
	comp=Z,22nm,0.3s,baz=84,slow=8.6,SNR=15						
LSZ				Lg	Lg	15 23 15.8	
	comp=Z,38nm,0.3s,baz=62,slow=20,SNR=17						
LBTB	**Lobatse**	**7.81**	**241**	*e*P	Pn	15 21 16.2	+4.3
LBTB				*e*S	**Sn**	**15 22 35.7**	**-4.5**
LBTB				AML	AML	15 23 42.9	
	comp=Z,233nm,0.7s						
LBTB	**Lobatse**	**7.81**	**241**	Pn	**Pn**	**15 21 14.7**	**+2.8**
	comp=Z,5.0nm,0.3s,baz=65,slow=13,SNR=66						
LBTB				Sn	**Sn**	**15 22 41.5**	**+1.3**
	comp=Z,6.9nm,0.3s,baz=162,slow=20,SNR=3.1						
LBTB				Lg	Lg	15 23 24.9	
	comp=Z,14nm,0.3s,baz=348,slow=4.2,SNR=5.7						
LBTB				LR	LR	15 24 35.2	
	comp=Z,404nm,21.8s,baz=98,slow=40						
SWZ	**Schweizer**	**9.15**	**229**	*e*P	**Pn**	**15 21 32.9**	**+2.5**
SWZ				*e*S	Sn	15 23 04.8	-8.4
SWZ				AML	AML	15 24 24.4	
	comp=Z,157nm,0.7s						
BOSA	**Boshof**	**10.13**	**223**	*e*P	**Pn**	**15 21 45.6**	**+1.8**
BOSA				*e*S	Sn	15 23 26.9	-10
BOSA				AML	AML	15 25 06.3	
	comp=Z,82nm,0.7s						
BOSA	**Boshof**	**10.13**	**223**	Pn	**Pn**	**15 21 45.0**	**+1.2**
	comp=Z,3.6nm,0.3s,baz=53,slow=13,SNR=55						
BOSA				Sn	**Sn**	**15 23 36.7**	**-0.5**
	comp=Z,4.6nm,0.3s,baz=115,slow=21,SNR=3.2						
BOSA				Lg	Lg	15 24 38.1	
	comp=Z,4.8nm,0.3s,baz=316,slow=20,SNR=5.3						
BOSA				LR	LR	15 26 05.7	
	comp=Z,281nm,20.0s,baz=173,slow=40						
HVD	**Gariep Dam**	**11.45**	**215**	*e*P	**Pn**	**15 22 02.7**	**+0.8**
HVD				*e*S	Sn	15 23 56.3	-14
HVD				AML	AML	15 25 51.8	
	comp=Z,61nm,0.7s						
OPO	**Ambohidratompo**	**13.51**	**80**	Pn	Pn	15 22 24.3	-5.9
	comp=Z,0.2nm,0.3s,baz=254,slow=15,SNR=1.9						
OPO				Sn	Sn	15 24 45.5	-15
	comp=Z,4.9nm,0.3s,baz=140,slow=13,SNR=8.5						
TSUM	**Tsumeb**	**14.75**	**276**	Pn	**Pn**	**15 22 45.8**	**-1.2**
	comp=Z,1.9nm,0.3s,baz=99,slow=16,SNR=13						
TSUM				Sn	**Sn**	**15 25 28.0**	**-2.3**
	comp=Z,1.0nm,0.3s,baz=107,slow=17,SNR=3.4						
TSUM				Lg	Lg	15 27 05.9	
	comp=Z,1.8nm,0.3s,baz=204,slow=18,SNR=3.3						
TSUM				LR	LR	15 28 50.0	
	comp=Z,133nm,18.6s,baz=167,slow=38						
SUR	**Sutherland**	**15.49**	**223**	*e*P	**P**	**15 22 59.9**	**-1.4**
SUR				*e*S	Sn	15 25 35.4	-13
SUR				AML	AML	15 28 02.3	
	comp=Z,53nm,0.8s						
SUR	**Sutherland**	**15.49**	**223**	Pn	**Pn**	**15 22 56.0**	**-1.0**
	comp=Z,2.5nm,0.3s,baz=55,slow=12,SNR=22						
SUR				Sn	**Sn**	**15 25 46.8**	**-1.6**
	comp=Z,1.5nm,0.3s,baz=338,slow=17,SNR=4.8						
SUR				Lg	Lg	15 27 30.4	
	comp=Z,2.2nm,0.3s,baz=340,slow=21,SNR=3.1						
SUR				LR	LR	15 29 12.4	
	comp=Z,333nm,20.4s,baz=96,slow=38						
CVNA	**Calvinia**	**15.61**	**227**	*e*P	**P**	**15 23 02.5**	**-0.1**
CVNA				*e*S	Sn	15 25 38.9	-12
CVNA				AML	AML	15 28 03.9	
	comp=Z,62nm,0.7s						
KOMG	**Komaggas**	**16.39**	**236**	*e*P	**P**	**15 23 13.6**	**+2.4**
KOMG				*e*S	Sn	15 26 00.1	-10
KOMG				AML	AML	15 28 16.5	
	comp=Z,44nm,0.7s						
KMBO	**Kilima Mbogo**	**20.54**	**12**	LR	LR	15 31 54.5	
	comp=Z,96nm,18.4s,baz=93,slow=37						
ATD	**Arta Tunnel**	**34.09**	**17**	LR	LR	15 40 35.6	
	comp=Z,36nm,20.5s,baz=65,slow=38						
TORD	**Torodi Ar. Bea**	**46.17**	**315**	P	**P**	**15 27 43.4**	**+0.3**
	comp=Z,2.2nm,1.0s,baz=119,slow=6.1,SNR=7.0						
MAW	**Mawson**	**49.83**	**166**	P	**P**	**15 28 10.9**	**+0.2**
	comp=Z,0.8nm,0.2s,baz=299,slow=10,SNR=2.9						
BRTR	**Keskin Array B**	**60.80**	**0**	P	**P**	**15 29 31.1**	**+0.8**
	comp=Z,1.8nm,1.0s,baz=354,slow=3.7,SNR=3.6						
QSPA	**South Pole Qui**	**68.76**	**180**	P	**P**	**15 30 21.5**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=235,slow=4.9,SNR=6.3						
ESDC	**Sonseca Array**	**69.94**	**330**	P	**P**	**15 30 29.6**	**+0.1**
	comp=Z,0.2nm,0.2s,baz=126,slow=6.5,SNR=4.0						
GERES	**GERESS Array B**	**72.05**	**347**	P	**P**	**15 30 40.6**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=181,slow=6.7,SNR=4.9						
AKTO	**Aktyubinsk**	**74.83**	**16**	P	**P**	**15 30 57.2**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=153,slow=4.3,SNR=5.8						
BDFB	**Brasilia**	**76.39**	**258**	P	**P**	**15 31 10.4**	**+2.2**
	comp=Z,1.4nm,0.4s,baz=180,slow=9.1,SNR=2.1						
VNDA	**Vanda**	**76.87**	**170**	P	**P**	**15 31 10.5**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=268,slow=7.9,SNR=5.8						
MKAR	**Makanchi Array**	**81.07**	**32**	P	**P**	**15 31 31.7**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=222,slow=4.0,SNR=5.6						
ASAR	**Alice Springs**	**90.86**	**116**	P	**P**	**15 32 22.8**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=240,slow=3.3,SNR=11						
ELK	**Elko**	**147.00**	**313**	PKPbc	**PKPab**	**15 39 02.9**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=82,slow=18,SNR=4.1						
NVAR	**Mina Array Bea**	**150.15**	**311**	PKPbc	**PKPbc**	**15 39 11.8**	**+2.3**
	comp=Z,1.2nm,0.7s,baz=56,slow=3.9,SNR=8.4						

*THE **14** 15:28:09.4, 33°.78N × 25°.38E, h8km±12km, ML3.9/1, Error ellipse: s-maj=16.1km s-min=1.6km az=181.0*

*ATH **14** 15:28:09.1, 33°.89N × 25°.45E, h5km±4km, MD3.4/10*

*CSEM **14** 15:28:11.2±0.3, 33°.97N × 25°.53E, h2km, mb4.2/6, Error ellipse: s-maj=10.1km s-min=5.1km az=36.0*

*IDC **14** 15:28:11.2±0.9, 34°.10N × 25°.63E, h0km, mb3.9/17, mb1 4.0/24, mb1mx4.0/34, mbtmp3.9/24, ML4.2/5, MS3.1/4, Ms1 3.1/4, ms1mx2.7/40, Error ellipse: s-maj=20.6km s-min=13.4km az=3.0*

ISC 14 15:28:12.6±1.9, 33°.95N±0°.05 × 25°.55E±0°.03, h14km±11km, n129, σ1§16/136, mb3.9/22, 3C, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.21**	**357**	P	**Pn**	**15 28 32.9**	**-2.1**
LAST				S	Sn	15 28 51.8	+0.5
LAST	**Lasithi**	**1.21**	**357**	*e*PG	**Pn**	**15 28 33.0**	**-2.1**
LAST	**Lasithi**	**1.21**	**357**	*e*Pg	**Pn**	**15 28 33.0**	**-2.1**
LAST				S	Sn	15 28 51.8	+0.5
SIVA	**Sivas**	**1.22**	**330**	P	**Pn**	**15 28 32.9**	**-2.3**
SIVA				S	Sb	15 28 50.4	-0.7
SIVA	**Sivas**	**1.22**	**330**	*e*PB	**Pn**	**15 28 33.2**	**-2.0**
SIVA	**Sivas**	**1.22**	**330**	P	**Pn**	**15 28 32.9**	**-2.3**
SIVA	**Sivas**	**1.22**	**330**	*e*Pb	**Pn**	**15 28 33.2**	**-2.0**
SIVA				S	Sb	15 28 50.4	-0.7
ZKR	**Zakros**	**1.28**	**25**	P	**Pn**	**15 28 35.3**	**-0.8**
ZKR				S	**Sg**	**15 28 55.2**	**+1.2**
ZKR	**Zakros**	**1.28**	**25**	*e*PB	**Pn**	**15 28 35.2**	**-0.8**
ZKR				*e*SB	**Sg**	**15 28 54.6**	**+0.6**
ZKR	**Zakros**	**1.28**	**25**	P	**Pn**	**15 28 35.3**	**-0.8**
ZKR				S	**Sg**	**15 28 55.2**	**+1.2**
NPS	**Neapolis**	**1.31**	**2**	P	**Pn**	**15 28 34.9**	**-1.5**
NPS				S	**Sg**	**15 28 55.2**	**+0.4**
NPS	**Neapolis**	**1.31**	**2**	*e*PB	**Pn**	**15 28 34.9**	**-1.5**
NPS	**Neapolis**	**1.31**	**2**	P	**Pn**	**15 28 34.9**	**-1.5**
NPS				S	**Sg**	**15 28 55.2**	**+0.4**
IDI	**Anoyia**	**1.44**	**338**	P	**Pn**	**15 28 36.4**	**-1.8**
IDI				S	**Sn**	**15 28 57.0**	**0.0**
IDI	**Anoyia**	**1.44**	**338**	*e*PG	**Pn**	**15 28 36.5**	**-1.8**
IDI				*e*SB	**Sb**	**15 28 57.7**	**+0.4**
IDI	**Anoyia**	**1.44**	**338**	P	**Pn**	**15 28 36.4**	**-1.8**
IDI				S	**Sn**	**15 28 57.0**	**0.0**
GVD	**Gavdhos**	**1.50**	**307**	*e*PB	**Pn**	**15 28 37.8**	**-1.2**
GVD				*e*SB	**Sn**	**15 28 56.6**	**-1.7**
GVD	**Gavdhos**	**1.50**	**307**	*e*Pb	**Pn**	**15 28 37.8**	**-1.2**
VAM	**Vamos**	**1.83**	**323**	*e*PN	**Pn**	**15 28 43.8**	**+0.3**
VAM				*e*SN	**Sg**	**15 29 09.7**	**-1.6**
VAM	**Vamos**	**1.83**	**323**	*e*Pn	**Pn**	**15 28 43.8**	**+0.3**
VAM				*e*Sn	**Sg**	**15 29 09.7**	**-1.6**
KARN	**Karanos**	**1.97**	**318**	P	Pn	15 28 42.1	-3.5
KARN	**Karanos**	**1.97**	**318**	*e*PG	**Pn**	**15 28 45.8**	**+0.2**
KARN	**Karanos**	**1.97**	**318**	P	Pn	15 28 42.1	-3.5
KARP	**Karpathos**	**2.07**	**39**	P	**Pb**	**15 28 49.6**	**-0.4**
KARP				S	**Sg**	**15 29 19.4**	**+0.1**
KARP	**Karpathos**	**2.07**	**39**	P	**Pb**	**15 28 49.6**	**-0.4**
ANKY	**Antikythira Is**	**2.66**	**317**	*e*PN	**Pn**	**15 28 55.8**	**+0.9**
ANKY	**Antikythira Is**	**2.66**	**317**	*e*Pn	**Pn**	**15 28 55.8**	**+0.9**
KYTH	**Kithira**	**3.10**	**319**	*e*PN	**Pn**	**15 29 02.2**	**+1.1**
KYTH	**Kithira**	**3.10**	**319**	*e*Pn	**Pn**	**15 29 02.2**	**+1.1**
APE	**Apeiranthos**	**3.11**	**360**	*e*PN	**Pn**	**15 29 01.2**	**0.0**
APE	**Apeiranthos**	**3.11**	**360**	*e*PN	**Pn**	**15 29 01.2**	**0.0**
DAT	**Datca**	**3.23**	**30**	*e*PN	**Pn**	**15 29 02.1**	**-0.8**
DAT	**Datca**	**3.23**	**30**	*e*PN	**Pn**	**15 29 02.1**	**-0.8**
MLSB	**Milas**	**3.80**	**28**	*e*PN	**Pn**	**15 29 10.5**	**-0.2**
MLSB	**Milas**	**3.80**	**28**	*e*PN	**Pn**	**15 29 10.5**	**-0.2**
DALY	**Dalyan (Mu¨la**	**3.82**	**41**	*e*PN	**Pn**	**15 29 10.2**	**-0.8**
DALY	**Dalyan (Mu¨la**	**3.82**	**41**	*e*PN	**Pn**	**15 29 10.2**	**-0.8**
YER	**Yerkesik**	**3.88**	**34**	*e*PN	**Pn**	**15 29 11.6**	**-0.3**
YER	**Yerkesik**	**3.88**	**34**	*e*PN	**Pn**	**15 29 11.6**	**-0.3**
FETY	**Fethiye**	**3.94**	**46**	*e*PN	**Pn**	**15 29 11.6**	**-1.1**
FETY	**Fethiye**	**3.94**	**46**	*e*PN	**Pn**	**15 29 11.6**	**-1.1**
DID	**Didima**	**4.01**	**333**	P	**Pn**	**15 29 13.7**	**+0.1**
DID	**Didima**	**4.01**	**333**	P	**Pn**	**15 29 13.7**	**+0.1**
ELL	**Elmali**	**4.53**	**51**	*e*PN	**Pn**	**15 29 19.6**	**-1.1**
ELL	**Elmali**	**4.53**	**51**	*e*PN	**Pn**	**15 29 19.6**	**-1.1**
BCK	**Bucak**	**5.39**	**48**	*e*PN	**Pn**	**15 29 32.2**	**-0.4**
BCK	**Bucak**	**5.39**	**48**	*e*PN	**Pn**	**15 29 32.2**	**-0.4**
SUTC	**Sutluce-Ispart**	**5.66**	**50**	*e*PN	**Pn**	**15 29 35.7**	**-0.6**
SUTC	**Sutluce-Ispart**	**5.66**	**50**	*e*PN	**Pn**	**15 29 35.7**	**-0.6**
GONE	**Gonen-Balikesi**	**6.32**	**15**	*e*PN	**Pn**	**15 29 45.2**	**-0.1**
GONE	**Gonen-Balikesi**	**6.32**	**15**	*e*PN	**Pn**	**15 29 45.2**	**-0.1**
TVSB	**Tavsanli**	**6.32**	**29**	*e*PN	**Pn**	**15 29 45.5**	**+0.1**
TVSB	**Tavsanli**	**6.32**	**29**	*e*PN	**Pn**	**15 29 45.5**	**+0.1**
CSS	**Prodhromos**	**6.51**	**79**	*e*PN	**Pn**	**15 29 45.0**	**-2.9**
CSS	**Prodhromos**	**6.51**	**79**	*e*PN	**Pn**	**15 29 45.0**	**-2.9**
LFK	**Lefkose**	**6.72**	**76**	*e*PN	Pn	15 29 47.3	-3.5
LFK	**Lefkose**	**6.72**	**76**	*e*PN	Pn	15 29 47.3	-3.5
LADK	**Ladik-KONYA**	**6.96**	**51**	*e*PN	**Pn**	**15 29 52.9**	**-1.3**
LADK	**Ladik-KONYA**	**6.96**	**51**	*e*PN	**Pn**	**15 29 52.9**	**-1.3**
IKL	**Isikli**	**7.05**	**69**	*e*PN	**Pn**	**15 29 52.5**	**-2.8**
IKL	**Isikli**	**7.05**	**69**	*e*PN	**Pn**	**15 29 52.5**	**-2.8**
MMAI	**Mount Meron Ar**	**8.29**	**94**	Pn	**Pn**	**15 30 12.1**	**-0.3**
	1.1nm,0.3s,baz=264,slow=13,SNR=3.3						
MMAI				Sn	**Sn**	**15 31 44.9**	**-0.9**
	2.4nm,0.3s,baz=243,slow=22,SNR=3.1						
BRTR	**Keskin Array B**	**8.67**	**46**	Pn	**Pn**	**15 30 17.2**	**-0.5**
	0.1nm,0.3s,baz=228,slow=14,SNR=10.0						
EIL	**Elat**	**9.07**	**116**	Pn	**Pn**	**15 30 23.2**	**+0.2**
	0.8nm,0.3s,baz=358,slow=23,SNR=11						
MLR	**Muntele Rosu**	**11.53**	**1**	LR	LR	15 35 48.7	
	comp=Z,25nm,20.9s,baz=290,slow=40						
KEST	**Kesra**	**13.43**	**282**	LR	LR	15 36 55.4	
	comp=Z,34nm,19.3s,baz=26,slow=39						
PGF	**Pioggiola**	**15.56**	**308**	*e*P	**Pn**	**15 31 48.0**	**-3.5**
	63nm,1.2s						
KBA	**Koelnbreinsper**	**16.03**	**328**	↑*i*P	**P**	**15 32 00.7**	**-0.4**
	4.0nm,0.5s						
KBA	**Koelnbreinsper**	**16.03**	**328**	P	**P**	**15 32 00.7**	**-0.4**
	4.0nm,0.5s						
ABTA	**Abfaltersbach**	**16.16**	**326**	↑*i*P	**P**	**15 32 03.4**	**+1.0**
	7.3nm,0.5s						
ABTA	**Abfaltersbach**	**16.16**	**326**	P	**P**	**15 32 03.4**	**+1.0**
	7.3nm,0.5s						
GNI	**Garni**	**16.51**	**62**	Pn	**Pn**	**15 32 04.2**	**+0.3**
	0.8nm,0.3s,baz=22,slow=18,SNR=3.2						
KBZ	**Khabaz**	**16.64**	**49**	Pn	**Pn**	**15 32 05.9**	**+0.6**
	0.2nm,0.3s,baz=253,slow=6.2,SNR=6.6						
VRAC	**Vranov**	**16.72**	**339**	Pn	**Pn**	**15 32 05.4**	**-0.8**
	0.6nm,0.3s,baz=159,slow=8.6,SNR=2.8						
FETA	**Feichten**	**17.21**	**324**	↑*i*P	**P**	**15 32 16.4**	**+2.3**
	3.7nm,0.6s						
FETA	**Feichten**	**17.21**	**324**	P	**P**	**15 32 16.4**	**+2.3**
	3.7nm,0.6s						
GERES	**GERESS Array B**	**17.30**	**333**	P	**P**	**15 32 14.0**	**-1.0**
	0.5nm,0.3s,baz=145,slow=12,SNR=15						
DGRG	**David-gareji**	**17.36**	**59**	P	**P**	**15 32 17.0**	**+1.3**
DGRG	**David-gareji**	**17.36**	**59**	P	**P**	**15 32 17.0**	**+1.3**
KHC	**Kasperske Hory**	**17.58**	**333**	*e*P	**P**	**15 32 18.7**	**+0.6**
KHC	**Kasperske Hory**	**17.58**	**333**	P	**P**	**15 32 18.7**	**+0.6**
DPC	**Dobruska-Polom**	**17.73**	**340**	*e*P	**P**	**15 32 19.7**	**0.0**
DPC	**Dobruska-Polom**	**17.73**	**340**	P	**P**	**15 32 19.7**	**0.0**
MBDF	**Montbardon**	**18.03**	**312**	*e*P	**Pn**	**15 32 22.0**	**-0.8**
MBDF	**Montbardon**	**18.03**	**312**	*e*P	**Pn**	**15 32 22.0**	**-0.8**
CABF	**La Chapelle**	**19.43**	**316**	*e*P	**Pn**	**15 32 39.3**	**-0.4**
CABF	**La Chapelle**	**19.43**	**316**	*e*P	**Pn**	**15 32 39.3**	**-0.4**
CLL	**Collm**	**19.60**	**336**	*e*(P)	**P**	**15 32 40.0**	**-0.2**
HINF	**Hinteralfeld**	**19.72**	**320**	*e*P	**Pn**	**15 32 42.6**	**-0.4**
HINF	**Hinteralfeld**	**19.72**	**320**	*e*P	**Pn**	**15 32 42.6**	**-0.4**
CDF	**Champ du Feu**	**19.87**	**322**	*e*P	**Pn**	**15 32 44.4**	**-0.5**
	8.9nm,0.8s						
CDF	**Champ du Feu**	**19.87**	**322**	*e*P	**Pn**	**15 32 44.4**	**-0.5**
	8.0nm,0.8s						
HAU	**Haudompre**	**20.10**	**320**	*e*P	**P**	**15 32 46.0**	**+0.3**
HAU	**Haudompre**	**20.10**	**320**	*e*P	**P**	**15 32 46.0**	**+0.3**
PAGF	**Fort de Pagny**	**20.77**	**321**	*e*P	Pn	15 32 54.3	-1.0
PAGF	**Fort de Pagny**	**20.77**	**321**	*e*P	Pn	15 32 54.3	-1.0
SMF	**Signal de Mont**	**20.77**	**314**	*e*P	**P**	**15 32 51.8**	**-1.2**
SMF	**Signal de Mont**	**20.77**	**314**	*e*P	**P**	**15 32 51.8**	**-1.2**
LOR	**Lormes**	**21.08**	**316**	*e*P	**P**	**15 32 57.5**	**+1.2**
	19nm,1.2s						
LOR	**Lormes**	**21.08**	**316**	*e*P	**P**	**15 32 57.5**	**+1.2**
	19nm,1.2s						
SSF	**Saint Saulge**	**21.18**	**315**	*e*P	**P**	**15 32 58.9**	**+1.5**
	20nm,1.2s						
SSF	**Saint Saulge**	**21.18**	**315**	*e*P	**P**	**15 32 58.9**	**+1.5**
	19nm,1.2s						
TCF	**Toulx Ste Croi**	**21.59**	**312**	*e*P	**P**	**15 33 02.8**	**+0.9**
	12nm,0.9s						
TCF	**Toulx Ste Croi**	**21.59**	**312**	*e*P	**P**	**15 33 02.8**	**+0.9**
	11nm,0.9s						
RJF	**Les Rejaudoux**	**21.62**	**309**	*e*P	**P**	**15 33 02.7**	**+0.6**
	49nm,1.4s						
RJF	**Les Rejaudoux**	**21.62**	**309**	*e*P	**P**	**15 33 02.7**	**+0.6**
	48nm,1.4s						
BAIF	**Baives**	**22.47**	**322**	*e*P	**P**	**15 33 11.3**	**+0.1**
	6.5nm,0.7s						
BAIF	**Baives**	**22.47**	**322**	*e*P	**P**	**15 33 11.3**	**+0.1**
	6.0nm,0.7s						
ESDC	**Sonseca Array**	**24.24**	**292**	P	**P**	**15 33 29.9**	**+0.8**
	0.5nm,0.4s,baz=77,slow=10,SNR=3.5						
MDT	**Midelt**	**25.17**	**276**	P	**P**	**15 33 39.7**	**+2.1**
	3.1nm,0.7s,baz=79,slow=10.0,SNR=5.7						
HFS	**Hagfors**	**27.32**	**347**	P	**P**	**15 33 56.5**	**-0.1**
	1.3nm,0.7s,baz=140,slow=7.2,SNR=4.4						
FINES	**FINESS Array B**	**27.51**	**1**	P	**P**	**15 33 57.5**	**-0.8**
	2.2nm,0.8s,baz=152,slow=17,SNR=5.6						
NB2	**NORAR Subarra**	**28.64**	**345**	P	**P**	**15 34 07.7**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=156,slow=9.3						
NB2	**NORSAR Subarra**	**28.64**	**345**	P	**P**	**15 34 07.7**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=156,slow=9.0,SNR=3.6						
NOA	**NORSAR Array B**	**28.64**	**345**	P	**P**	**15 34 08.4**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=172,slow=10.0,SNR=4.1						
AKTO	**Aktyubinsk**	**28.85**	**45**	P	**P**	**15 34 11.0**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=247,slow=12,SNR=4.8						
EKA	**Eskdalemuir Ar**	**29.21**	**326**	P	**P**	**15 34 13.8**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=115,slow=35,SNR=3.2						
TORD	**Torodi Ar. Bea**	**29.98**	**232**	P	**P**	**15 34 22.6**	**+1.9**
	comp=Z,0.3nm,0.4s,baz=36,slow=8.5,SNR=9.2						
ARCES	**ARCESS Array B**	**35.63**

KDU	**Kakadu**	**46.40 276**	P	**P**	**16 08 28.0**	**-0.5**
	baz=47,SNR=4.9					
MTN	**Manton Dam**	**47.55 275**	P	**P**	**16 08 36.7**	**-0.5**
	baz=48,SNR=4.7					
KNRA	**Kununurra**	**48.73 270**	P	**P**	**16 08 46.3**	**+0.4**
	baz=49,SNR=8.5					
FITZ	**Fitzroy Crossi**	**50.81 266**	P	**P**	**16 09 01.4**	**+0.1**
	9.8nm,0.6s,baz=130,slow=8.6,SNR=25					
FITZ	**Fitzroy Crossi**	**50.81 266**	P	**P**	**16 09 01.6**	**+0.3**
	baz=51,SNR=16					
VNDA	**Vanda**	**53.65 185**	P	**P**	**16 09 22.2**	**+1.5**
	1.7nm,0.6s,baz=348,slow=6.7,SNR=6.7					
KLBR	**Kellerberrin**	**54.74 248**	P	**P**	**16 09 29.3**	**0.0**
	baz=55,SNR=8.0					
MEEK	**Meekatharra**	**54.94 254**	P	**P**	**16 09 30.2**	**-0.5**
	baz=55,SNR=5.3					
BLDU	**Ballidu**	**55.79 249**	P	**P**	**16 09 36.5**	**-0.1**
	baz=56,SNR=12					
MORW	**Morawa**	**56.66 250**	P	**P**	**16 09 42.5**	**-0.2**
	baz=57,SNR=9.4					
MJAR	**Matsushiro Arr**	**72.53 326**	P	**P**	**16 11 21.4**	**-1.6**
	0.6nm,0.5s,baz=167,slow=6.7,SNR=4.8					
MAW	**Mawson**	**77.07 200**	P	**P**	**16 11 48.7**	**+0.8**
	7.6nm,0.6s,baz=132,slow=6.3,SNR=18					
CMAR	**Chiang Mai Arr**	**89.82 290**	P	**P**	**16 12 53.2**	**+0.7**
	0.5nm,0.4s,baz=143,slow=3.8,SNR=4.9					
TXAR	**Lajitas Array**	**90.79 58**	P	**P**	**16 12 56.0**	**-0.9**
	0.7nm,0.8s,baz=210,slow=7.2,SNR=5.1					
MKAR	**Makanchi Array**	**112.68 312**	PKiKP	**PKiKP**	**16 18 24.5**	**-1.9**
	0.1nm,0.5s,baz=116,slow=1.3,SNR=4.6					
ARCES	**ARCESS Array B**	**132.62 348**	PKP	**PKPdf**	**16 19 02.4**	**-1.4**
	1.2nm,0.9s,baz=28,slow=2.9,SNR=5.6					
FINES	**FINESS Array B**	**139.16 341**	PKP	**PKPdf**	**16 19 16.4**	**+0.3**
	0.9nm,0.6s,baz=104,slow=4.7,SNR=4.9					
NOA	**NORSAR Array B**	**142.82 351**	PKP	**PKPdf**	**16 19 19.4**	**-3.4**
	0.7nm,0.8s,baz=14,slow=4.2,SNR=3.6					
BRTR	**Keskin Array B**	**148.05 306**	PKPbc	**PKPbc**	**16 19 35.3**	**-1.1**
	1.4nm,0.6s,baz=145,slow=5.2,SNR=5.7					
TORD	**Torodi Ar. Bea**	**168.46 188**	PKP	**PKPdf**	**16 19 54.3**	**-2.6**
	1.5nm,1.2s,baz=140,slow=1.0,SNR=3.7					
TORD			PKPab	**PKPab**	**16 21 08.2**	**-1.2**
	1.9nm,0.7s,baz=170,slow=3.8,SNR=10					

IDC 14 16:37:33.9±2.8, 27.85S×137.42E, h0km, mb1 3.0/3, mb1mx3.0/16, mbtmp2.8/3, ML2.4/3, Error ellipse: s-maj=78.9km s-min=26.4km az=53.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**5.24**	**322**	Pn	Pn	16 38 53.8	+0.3
	0.1nm,0.3s,baz=145,slow=13,SNR=11						
ASAR				Sn	Sn	16 39 53.6	-1.1
	0.0nm,0.3s,baz=141,slow=22,SNR=2.9						
STKA	**Stephens Creek**	**5.41**	**139**	Pn	Pn	16 38 55.5	-0.3
	0.1nm,0.3s,baz=322,slow=9.7,SNR=2.1						
STKA				Sn	Sn	16 39 53.9	-4.9
	0.1nm,0.3s,baz=308,slow=17,SNR=2.7						
WRA	**Warramunga Arr**	**8.36**	**340**	Pn	Pn	16 39 37.0	+0.6
	0.1nm,0.3s,baz=166,slow=12,SNR=12						
WRA				Sn	Sn	16 41 08.2	-3.4
	0.0nm,0.3s,baz=182,slow=17,SNR=2.5						

IDC 14 17:01:26.1±0.8, 11.33N×142.92E, h0km, mb4.0/12, mb1 4.2/12, mb1mx4.1/23, mbtmp4.0/12, MS3.4/8, Ms1 3.4/8, ms1mx3.1/32, Error ellipse: s-maj=27.7km s-min=17.9km az=97.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**21.03 168**		LR	LR	17 12 47.7	
	comp=Z,214nm,19.4s,baz=99,slow=32						
JNU	**Nakatsue**	**24.34 335**		LR	LR	17 14 36.8	
	comp=Z,12nm,20.3s,baz=214,slow=32						
MJAR	**Matsushiro Arr**	**25.46 351**		LR	LR	17 15 54.0	
	comp=Z,77nm,18.6s,baz=220,slow=34						
HNR	**Honiara**	**26.69 140**		LR	LR	17 16 45.2	
	comp=Z,96nm,18.1s,baz=275,slow=34						
WRA	**Warramunga Arr**	**32.21 195**		P	P	17 07 56.2	0.0
	0.7nm,0.5s,baz=19,slow=9.6,SNR=9.1						
ASAR	**Alice Springs**	**35.89 194**		P	P	17 08 27.7	-0.4
	0.4nm,0.4s,baz=26,slow=12,SNR=20						
ASAR				PcP	PcP	17 10 55.1	-0.4
	0.3nm,0.6s,baz=28,slow=2.6,SNR=5.2						
CMAR	**Chiang Mai Arr**	**43.00 285**		P	P	17 09 28.7	+1.0
	7.1nm,0.8s,baz=88,slow=6.3,SNR=41						
PETK	**Petropavlovsk-**	**43.32 13**		P	P	17 09 30.6	+0.9
	0.7nm,0.8s,baz=202,slow=7.2,SNR=3.5						
SONM	**Songino Array**	**47.52 327**		P	P	17 10 03.3	0.0
	1.4nm,0.7s,baz=124,slow=7.7,SNR=3.3						
SONM				LR	LR	17 30 56.9	
	comp=Z,58nm,18.2s,baz=74,slow=37						
MKAR	**Makanchi Array**	**61.81 317**		P	P	17 11 46.7	-0.3
	1.8nm,0.6s,baz=96,slow=8.9,SNR=15						
MKAR				LR	LR	17 39 13.8	
	comp=Z,23nm,18.4s,baz=255,slow=37						
ZALV	**Zalesovo Beam**	**62.37 325**		P	P	17 11 49.5	-1.0
	2.1nm,0.5s,baz=108,slow=7.1,SNR=12						
ILAR	**Eielson Array**	**71.41 25**		P	P	17 12 46.5	-1.5
	0.7nm,0.7s,baz=253,slow=5.6,SNR=6.9						
YKA	**Yellowknife Ar**	**85.72 27**		P	P	17 14 08.1	+1.2
	1.2nm,0.9s,baz=285,slow=5.0,SNR=3.3						
ARCES	**ARCESS Array B**	**88.63 342**		P	P	17 14 20.5	-0.4
	1.0nm,0.6s,baz=66,slow=6.8,SNR=10						
NVAR	**Mina Array Bea**	**89.81 51**		P	P	17 14 28.1	+0.7
	0.6nm,0.6s,baz=271,slow=7.3,SNR=7.3						
FINES	**FINESS Array B**	**92.38 335**		P	P	17 14 38.2	-0.2
	1.5nm,0.7s,baz=72,slow=6.2,SNR=7.3						
FINES				LR	LR	18 00 19.9	
	comp=Z,24nm,18.1s,baz=5.5,slow=38						
NOA	**NORSAR Array B**	**98.45 338**		LR	LR	17 59 45.2	
	comp=Z,12nm,21.4s,baz=90,slow=36						

IDC 14 17:10:39.8±2.7, 5.62S×153.12E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.3/3, Error ellipse: s-maj=218.2km s-min=29.0km az=129.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.16**	**230**	P	P	17 15 49.1	+0.9
	0.8nm,0.9s,baz=53,slow=9.6,SNR=5.1						
ASAR	**Alice Springs**	**25.78**	**224**	P	P	17 16 11.6	-1.1
	0.4nm,1.0s,baz=56,slow=9.3,SNR=5.3						
ILAR	**Eielson Array**	**82.79**	**22**	P	P	17 23 05.8	+0.2
	0.3nm,0.5s,baz=243,slow=4.0,SNR=3.4						

IDC 14 17:18:59.0±3.9, 20.40S×167.20E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/17, mbtmp3.6/2, Error ellipse: s-maj=72.9km s-min=42.7km az=87.0

ISC 14 17:19:03.9±3.0, 20.65S±0.2×167.3E±0.4, h35km, n6, σ0.976/6, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**1.69**	**207**	*e*P	**Pn**	**17 19 30.1**	**-0.8**
DZM				*e*S	Sn	17 20 01.8	+10
DZM	**Mont Dzumac**	**1.69**	**207**	Pn	**Pn**	**17 19 31.0**	**0.0**
	6.1nm,0.3s,baz=68,slow=18,SNR=154						
DZM				Sn	Sn	17 20 02.7	+11
	30nm,0.3s,baz=108,slow=23,SNR=6.3						
NOUC	**Port Laguerre**	**1.78**	**210**	*e*P	**Pn**	**17 19 32.9**	**+0.8**
NOUC				*e*S	Sn	17 20 05.6	+12
WRA	**Warramunga Arr**	**30.87**	**265**	P	**P**	**17 25 16.6**	**-0.6**
	0.3nm,0.8s,baz=92,slow=8.5,SNR=4.7						
ASAR	**Alice Springs**	**31.03**	**258**	P	**P**	**17 25 18.9**	**+0.3**
	1.1nm,0.7s,baz=81,slow=9.2,SNR=21						
GERES	**GERESS Array B**	**144.73**	**329**	PKP	**PKPdf**	**17 38 37.2**	**+0.2**
	0.5nm,0.7s,baz=49,slow=4.1,SNR=4.8						

MEX 14 17:41:15.0±0.7, 16.37N×93.06W, h228km±10km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGIG		**0.41**	**351**	*e*P	Pn	17 41 43.9	-1.2
TGIG				*e*S	S	17 42 05.7	-3.2
PCIG		**0.68**	**193**	*e*P	Pn	17 41 43.8	-2.2
PCIG				*e*S	S	17 42 07.7	-2.7
CCIG	**Comitan**	**0.89**	**96**	*e*P	Pn	17 41 45.1	-2.2
CCIG				*e*S	S	17 42 09.4	-3.0
THIG		**1.65**	**152**	*i* P	Pn	17 41 50.9	-1.5
THIG				*i* S	S	17 42 19.6	-2.1
HUIG	**Huatulco**	**2.99**	**259**	*e*P	Pn	17 42 04.3	-1.8
HUIG				*e*S	S	17 42 44.8	-1.3

DJA 14 18:01:52.4±1.8, 17°S±13°×16°9E±2°, 1, h10km, M5.0/15, mb5.0/15

NOU 14 18:01:58.2±1.1, 17.09S×167.10E, h30km, MD3.4, MS1.7

ISCJB 14 18:02:00.9±2.0, 17.62S±0.03×167.68E±0.06, h21km±13km, mb4.8/56, MS4.2/22, Error ellipse: s-maj=9.5km s-min=5.5km az=1.8

BJI 14 18:02:00.0, 17.96S×168.02E, h30km, mB5.1/27, mb4.8/33, Ms4.9/24, Ms7 4.4/23

MOS 14 18:02:02.4±1.2, 17.53S×167.67E, h33km, mb5.2/20, Error ellipse: s-maj=11.2km s-min=9.3km az=18.8

GCMT 14 18:02:03.6±0.3, 17.50S×167.72E, h28km±1km, MW5.0, Moment Tensor Solution. s35,c45; s47,c70; Moment tensor: Scale 10^16Nm; Mrr3.04±.22; Mθθ0.56±.15; Mϕϕ-3.60±.17; Mrθ1.23±.29; Mθϕ-0.27±.12; Mϕr-2.94±.26; Best double couple: M0 4.60000×10^16 NP1:ϕs24.00000°, δ28.00000°, λ125.00000°. NP2:ϕs165.00000°, δ68.00000°, λ73.00000°. Principal axes: T 4.5400, Plg63.0000°, Azm48.0000°; N 0.1700, Plg15.0000°, Azm172.0000°; P -4.7200, Plg21.0000°, Azm268.0000°; Data Used: IU II IC G CN.

IDC 14 18:02:03.5±3.7, 17.55S×167.70E, h31km±25km, mb4.3/18, mb1 4.5/20, mb1mx4.4/25, mbtmp4.4/20, ML4.6/2, MS4.4/15, Ms1 4.3/15, ms1mx4.1/38 Error ellipse: s-maj=20.6km s-min=14.4km az=80.0

NEIC 14 18:02:04.9±1.2, 17.52S×167.75E, h45km±10km, mb5.2/22, Error ellipse: s-maj=9.2km s-min=8.8km az=199.0

NEIC Felt [II] at Lakatoro. Also felt at Port-Vila.

AUST 14 18:02:06.5±0.8, 17.35S×167.76E, h61km, Error ellipse: s-maj=1.3km s-min=1.2km az=354.0

BKK 14 18:02:18.9±0.8, 19°S±11°×16°6E±1°, 4, h10km, M5.0/13, mB6.0/1, mb5.0/13, Mw(mB)5.6/1

ISC 14 18:02:03.1±0.4, 17.59S±0.04×167.73E±0.06, h26km±1km, h26km:pP-P, n193, σ1.974/231, mb5.0/54, MS4.3/25, 6C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.61**	**190**	*e*P	**Pn**	**18 03 10.7**	**-0.4**
BAYA				*e*S	**Sn**	**18 04 04.6**	**+0.8**
DZM	**Mont Dzumac**	**4.62**	**195**	*e*Pn	**Pn**	**18 03 09.8**	**-1.5**
	73nm,0.3s						
DZM				*e*LR	LR	18 04 22.8	
	5μm,23.8s						
DZM	**Mont Dzumac**	**4.62**	**195**	*e*P	**Pn**	**18 03 09.6**	**-1.7**
DZM				*e*S	**Sn**	**18 04 02.3**	**-1.8**
DZM	**Mont Dzumac**	**4.62**	**195**	Pn	**Pn**	**18 03 10.5**	**-0.8**
DZM				Sn	**Sn**	**18 04 03.3**	**-0.9**
DZM	**Mont Dzumac**	**4.62**	**195**	Pn	**Pn**	**18 03 10.5**	**-0.8**
	7.2nm,0.3s,baz=270,slow=24,SNR=18						
DZM				Sn	**Sn**	**18 04 03.3**	**-0.9**
	20nm,0.3s,baz=271,slow=22,SNR=8.0						
DZM				LR	LR	18 04 50.8	
	comp=Z,3μm,21.5s,baz=0.9,slow=36						
NOUC	**Port Laguerre**	**4.68**	**196**	*e*P	**Pn**	**18 03 10.4**	**-1.8**
NOUC				*e*S	**Sn**	**18 04 04.4**	**-1.2**
NOUC				AMP		18 04 08.8	
	comp=Z,37nm,22.4s						
NORM	**Noumea**	**4.76**	**194**	*e*P	**Pn**	**18 03 12.2**	**-0.9**
NORM				*e*S	**Sn**	**18 04 06.4**	**-1.1**
MSVF	**Nonsavu**	**9.84**	**92**	*e*P	**Pn**	**18 04 25.4**	**+2.4**
MSVF	**Nonsavu**	**9.84**	**92**	*e*P	**Pn**	**18 04 25.4**	**+2.4**
HNR	**Honiara**	**11.09**	**316**	*e*Pn	**Pn**	**18 04 39.5**	**-0.7**
HNR				Sn	**Sn**	**18 06 41.2**	**-2.1**
HNR	**Honiara**	**11.09**	**316**	Pn	**Pn**	**18 04 39.6**	**-0.5**
	comp=Z,14nm,0.3s,baz=180,slow=10,SNR=19						
HNR				Sn	**Sn**	**18 06 41.2**	**-2.1**
	comp=Z,4.2nm,0.3s,baz=350,slow=20,SNR=3.0						
HNR				LR	LR	18 08 24.1	
	comp=Z,2μm,18.6s,baz=136,slow=34						
EIDS	**Eidsvold**	**17.31**	**241**	*e*P	**P**	**18 06 05.8**	**+1.6**
	comp=Z,119nm,1.5s						
EIDS	**Eidsvold**	**17.31**	**241**	P	**P**	**18 06 05.8**	**+1.6**
	baz=18,SNR=7.1						
RAO	**Raoul Island**	**17.53**	**134**	LR	LR	18 11 28.2	
	comp=Z,476nm,18.4s,baz=297,slow=32						
ARMA	**Armidale**	**19.45**	**226**	*e*Pn	**Pn**	**18 06 31.1**	**+1.9**
	comp=Z,170nm,1.7s						
ARMA	**Armidale**	**19.45**	**226**	P	**Pn**	**18 06 31.0**	**+1.8**
	baz=20,SNR=11						
RMQ	**Roma**	**19.67**	**240**	P	**Pn**	**18 06 33.3**	**+1.5**
	baz=20,SNR=13						
AFI	**Afiamalu**	**20.06**	**82**	LR	LR	18 12 22.0	
	comp=Z,1μm,21.6s,baz=354,slow=31						
CTA	**Charters Tower**	**20.48**	**260**	P	Pn	18 06 40.3	-1.0
CTA	**Charters Tower**	**20.48**	**260**	P	Pn	18 06 40.3	-1.0
	comp=Z,62nm,1.0s,baz=79,slow=15,SNR=18						
CTA				LR	LR	18 13 30.2	
	comp=Z,1μm,20.3s,baz=1.6,slow=34						
CTAO	**Charters Tower**	**20.48**	**260**	*e*P	**P**	**18 06 40.2**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,77nm,1.0s						
CTAO	**Charters Tower**	**20.48**	**260**	*e*P	Pn	18 06 40.2	-1.1
	comp=Z,77nm,1.0s						
PMG	**Port Moresby**	**21.58**	**289**	*e*P	**P**	**18 06 51.8**	**+0.9**
	comp=Z,38nm,1.0s						
PMG	**Port Moresby**	**21.58**	**289**	P	**P**	**18 06 51.9**	**+0.9**
	comp=Z,15nm,0.9s,baz=119,slow=9.0,SNR=6.0						
PMG				LR	LR	18 14 09.7	
	comp=Z,1μm,18.4s,baz=106,slow=34						
URZ	**Urewera**	**22.17**	**160**	P	**P**	**18 06 58.2**	**+1.1**
URZ	**Urewera**	**22.17**	**160**	P	**P**	**18 06 58.2**	**+1.1**
	comp=Z,18nm,1.0s,baz=346,slow=11,SNR=3.4						
URZ				LR	LR	18 13 27.3	
	comp=Z,428nm,18.5s,baz=137,slow=31						
MTSU	**Mount Surprise**	**22.29**	**265**	P	**P**	**18 06 59.5**	**+0.9**
	baz=22,SNR=25						
MTSU				S	S	18 10 43.1	-20
	baz=22,SNR=24						
COEN	**Coen**	**23.90**	**275**	*e*P	**P**	**18 07 15.3**	**+0.3**
	comp=Z,1μm,1.8s						
COEN	**Coen**	**23.90**	**275**	P	**P**	**18 07 15.3**	**+0.3**
	baz=24,SNR=5.9						
YNG	**Young**	**23.99**	**222**	P	**P**	**18 07 16.8**	**+1.1**
	baz=24,SNR=8.6						
CNB	**Canberra Magne**	**24.05**	**219**	P	**P**	**18 07 17.3**	**+1.0**
	baz=24,SNR=9.1						
CAN	**Canberra**	**24.28**	**220**	*e*P	**P**	**18 07 18.2**	**-0.2**
CAN				pmax	pmax		
	comp=Z,64nm,1.4s						
CAN	**Canberra**	**24.28**	**220**	*e*P	**P**	**18 07 18.2**	**-0.2**
	comp=Z,64nm,1.4s						
CMSA	**Cobar Meteorol**	**24.32**	**231**	P	**P**	**18 07 19.1**	**+0.4**
	baz=24,SNR=27						
RPZ	**Rata Peaks**	**26.19**	**175**	P	**P**	**18 07 36.4**	**+0.8**
RPZ	**Rata Peaks**	**26.19**	**175**	P	**P**	**18 07 36.4**	**+0.8**
	comp=Z,13nm,1.0s,baz=356,slow=15,SNR=1.9						
RPZ				LR	LR	18 15 36.4	
	comp=Z,299nm,19.2s,baz=178,slow=31						
STKA	**Stephens Creek**	**27.58**	**234**	*e*P	**P**	**18 07 49.0**	**+0.8**
	comp=Z,5.0nm,0.9s						
STKA	**Stephens Creek**	**27.58**	**234**	P	**P**	**18 07 48.4**	**+0.2**
	comp=Z,17nm,0.8s,baz=68,slow=8.3,SNR=21						
STKA				LR	LR	18 18 32.8	
	comp=Z,1μm,18.5s,baz=42,slow=36						
STKA	**Stephens Creek**	**27.58**	**234**	P	**P**	**18 07 48.7**	**+0.5**
	baz=28,SNR=16						
RAR	**Rarotonga**	**30.83**	**102**	LR	LR	18 17 38.8	
	comp=Z,768nm,20.2s,baz=289,slow=30						
WRAB	**Tennant Creek**	**31.66**	**260**	P	**P**	**18 08 23.0**	**-1.5**
	comp=Z,95nm,1.1s,SNR=5.0						
WRAB	**Tennant Creek**	**31.66**	**260**	*e*P	**P**	**18 08 23.1**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,41nm,1.4s						
WRAB	**Tennant Creek**	**31.66**	**260**	*e*P	**P**	**18 08 23.1**	**-1.5**
	comp=Z,41nm,1.4s						
WRA	**Warramunga Arr**	**31.67**	**260**	P	**P**	**18 08 23.1**	**-1.5**
WRA				PcP	**PcP**	**18 11 15.4**	**-0.9**
WRA	**Warramunga Arr**	**31.67**	**260**	P	**P**	**18 08 23.1**	**-1.5**
	comp=Z,8.8nm,0.9s,baz=88,slow=9.1,SNR=26						
WRA				PcP	**PcP**	**18 11 15.4**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=90,slow=3.0,SNR=2.8						
WRA				LR	LR	18 20 39.5	
	comp=Z,916nm,19.4s,baz=85,slow=35						
AS31	**Alice Springs**	**32.18**	**253**	*e*P	**P**	**18 08 27.7**	**-1.4**
ASAR	**Alice Springs**	**32.18**	**253**	P	**P**	**18 08 27.8**	**-1.3**
ASAR				PcP	**PcP**	**18 11 16.9**	**-0.7**
ASAR				ScP	**ScP**	**18 14 59.2**	**-0.5**
ASAR	**Alice Springs**	**32.18**	**253**	P	**P**	**18 08 27.8**	**-1.3**
	comp=Z,11nm,0.8s,baz=80,slow=8.7,SNR=134						
ASAR				PcP	**PcP**	**18 11 16.9**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=110,slow=2.5,SNR=3.5						
ASAR				ScP	**ScP**	**18 14 59.2**	**-0.5**
	comp=Z,2.3nm,1.1s,baz=80,slow=3.0,SNR=6.9						
ASAR				LR	LR	18 21 01.2	
	comp=Z,2μm,20.3s,baz=84,slow=35						
KNRA	**Kununurra**	**37.34**	**267**	P	**P**	**18 09 12.6**	**-1.1**
	baz=37,SNR=28						
FAKI	**Fak Fak**	**37.73**	**289**	P	P	18 09 27.3	+10
	baz=38,SNR=3.0						
FITZ	**Fitzroy Crossi**	**40.01**	**263**	*e*P	**P**	**18 09 35.9**	**-0.2**
	comp=Z,155nm,1.3s						
FITZ	**Fitzroy Crossi**	**40.01**	**263**	P	**P**	**18 09 35.8**	**-0.2**
	baz=40,SNR=34						
TBI	**Tubuai**	**40.40**	**106**	*e*S	S	18 16 02.0	+16
	comp=Z,175nm,26.5s						
TBI				*e*LQ	LQ	18 19 22.7	
	comp=Z,726nm,26.8s						
TBI				*e*LR	LR	18 20 59.8	
	comp=Z,761nm,27.2s,baz=274						
PPT2	**Papeete2**	**40.63**	**97**	*e*S	S	18 15 58.8	+8.9
	comp=Z,203nm,25.0s						
PPT2				*e*LQ	LQ	18 19 18.2	
	comp=Z,456nm,25.0s						
PPT2				*e*LR	LR	18 21 08.9	
	comp=Z,1μm,24.0s,baz=254						
PPT	**Papeete**	**40.63**	**97**	LR	LR	18 22 13.4	
	comp=Z,638nm,20.9s,baz=263,slow=30						
BATI	**Baumata**	**43.32**	**274**	P	P	18 09 58.2	-5.1
	comp=Z,71nm,1.0s						
MBWA	**Marble Bar**	**45.29**	**257**	*e*P	**P**	**18 10 19.1**	**+0.1**
	comp=Z,45nm,0.9s						
MEEK	**Meekatharra**	**46.15**	**250**	P	**P**	**18 10 25.3**	**-0.5**
	baz=46,SNR=15						
NWAO	**Narrogin (SRO)**	**47.72**	**241**	*e*P	**P**	**18 10 37.2**	**-0.6**
	comp=Z,38nm,1.0s						
MORW	**Morawa**	**48.48**	**247**	P	**P**	**18 10 43.2**	**-0.7**
	baz=49,SNR=6.3						
MYLDM	**Lahad Datu**	**53.60**	**290**	P	**P**	**18 11 23.1**	**+0.6**
RKT	**Rikitea**	**53.72**	**106**	*e*S	S	18 19 06.1	+10
	comp=Z,171nm,28.2s						
RKT				*e*LR	LR	18 27 09.5	
	comp=Z,612nm,28.0s						
TSM	**Tawau**	**53.78**	**289**	P	**P**	**18 11 23.9**	**+0.1**
SDKM	**Sandakan**	**54.97**	**290**	P	**P**	**18 11 32.5**	**0.0**
KDM	**Kudat**	**55.85**	**291**	P	**P**	**18 11 41.4**	**+2.6**
TGY	**Tagaytay City**	**55.89**	**301**	LR	LR	18 34 01.3	
	comp=Z,3.1nm,20.7s,baz=238,slow=34						
KKM	**Kota Kinabalu**	**56.02**	**290**	P	**P**	**18 11 40.5**	**+0.4**
KKM	**Kota Kinabalu**	**56.02**	**290**	P	**P**	**18 11 41.1**	**+1.0**
	baz=56,SNR=4.2						
BTM	**Bintulu**	**57.70**	**286**	P	**P**	**18 11 52.6**	**+0.6**
SBUM	**Sibu**	**58.21**	**284**	P	**P**	**18 11 56.1**	**+0.6**
KSM	**Kuching**	**59.62**	**282**	*e*P	**P**	**18 12 04.7**	**-0.6**
	comp=Z,35nm,1.1s						
KSM	**Kuching**	**59.62**	**282**	P	**P**	**18 12 05.5**	**+0.2**
KSM	**Kuching**	**59.62**	**282**	P	**P**	**18 12 05.3**	**-0.1**
	baz=60,SNR=14						
VNDA	**Vanda**	**60.03**	**181**	*e*P	**P**	**18 12 07.2**	**+0.1**
	comp=Z,17nm,1.4s						
VNDA	**Vanda**	**60.03**	**181**	P	**P**	**18 12 07.2**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=358,slow=5.6,SNR=4.5						
SBA	**Scott Base**	**60.29**	**180**	*e*P	**P**	**18 12 10.0**	**+1.1**
SBA				pmax	pmax		
	comp=Z,42nm,1.3s						
SBA	**Scott Base**	**60.29**	**180**	*e*P	**P**	**18 12 10.0**	**+1.1**
	comp=Z,42nm,1.3s						
MJAR	**Matsushiro Arr**	**60.64**	**333**	P	**P**	**18 12 09.1**	**-2.8**
MJAR	**Matsushiro Arr**	**60.64**	**333**	P	**P**	**18 12 09.1**	**-2.8**
	comp=Z,4.8nm,0.9s,baz=170,slow=7.8,SNR=13						
MAJO	**Matsushiro**	**60.64**	**333**	*e*P	**P**	**18 12 10.3**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,18nm,0.9s						
MAJO	**Matsushiro**	**60.64**	**333**	*e*P	**P**	**18 12 10.3**	**-1.6**
	comp=Z,18nm,0.9s						
MAT	**Matsushiro**	**60.64**	**333**	P	**P**	**18 12 09.6**	**-2.3**
JNU	**Nakatsue**	**61.50**	**325**	LR	LR	18 34 57.7	
	comp=Z,127nm,20.4s,baz=359,slow=32						
YUK	**Yuzh-Kuril'sk**	**64.51**	**343**	P	**P**	**18 12 39.3**	**+1.8**
YUK				S	**S**	**18 21 14.4**	**-0.6**
ASAJ	**Asahikawa**	**65.57**	**340**	*e*P	**P**	**18 12 43.5**	**-1.0**
	comp=Z,12nm,1.0s						
KSRS	**Korea Array**	**66.35**	**326**	P	**P**	**18 12 50.6**	**+1.1**
	comp=Z,2.2nm,0.9s,baz=130,slow=5.0,SNR=3.6						
KSAR	**Wonju Array Be**	**66.36**	**326**	P	**P**	**18 12 50.6**	**+1.0**
QIZ	**Qiongzhong**	**67.52**	**300**	P	**P**	**18 12 58.3**	**+0.9**
QIZ				S	S	18 22 00.8	+8.1
QIZ				LR	LR		
	comp=Z,180nm,22.5s						
NJ2	**Nanjing**	**68.03**	**316**	*e*P	**P**	**18 13 02.9**	**+2.5**
NJ2				pP	**pP**	**18 13 08.4**	**-0.4**
NJ2				sP	**sP**	**18 13 11.3**	**-0.6**
NJ2				PcP	**PcP**	**18 13 27.0**	**+0.5**
NJ2				S	**S**	**18 22 02.0**	**+3.7**
NJ2				sS	**sS**	**18 22 13.5**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,60nm,6.2s						
NJ2				LR	LR		
	comp=N,180nm,23.3s						
NJ2				LR	LR		
	comp=E,130nm,16.8s						
NJ2				LR	LR		
	comp=Z,190nm,17.0s						
YSS	**Yuzh-Sakhalins**	**68.07**	**342**	*e*P	P	18 13 04.0	+3.7
YSS				*e*		18 13 14.0	
YSS				pm

GYA				LR	LR			
	comp=N,570nm,19.8s							
GYA				LR	LR			
	comp=E,460nm,20.0s							
GYA				LR	LR			
	comp=Z,590nm,18.5s							
KLR	**Kul'dur**	**73.79**	**336**	*e*P	**P**		**18 13 33.8**	**-1.2**
KLR				pmax	pmax			
	comp=Z,38nm,1.4s							
PBKT	**Sadao Pong**	**73.99**	**294**	P	P		18 13 47.8	+11
	comp=Z,17nm,0.8s							
BJI	**Beijing**	**74.76**	**321**	P	**P**		**18 13 41.3**	**+0.5**
BJI				S	**S**		**18 23 17.8**	**+2.0**
BJI				SS	SS		18 28 11.9	+7.6
BJI				pmax	pmax			
	comp=Z,10.0nm,0.9s							
BJI				pmax	pmax			
	comp=Z,79nm,7.0s							
BJI				LR	LR			
	comp=N,130nm,21.8s							
BJI				LR	LR			
	comp=E,110nm,20.9s							
BJI				LR	LR			
	comp=Z,100nm,28.9s							
XAN	**Xi'an**	**75.95**	**313**	P	P		18 13 58.1	+10
XAN				pP	**PcP**		**18 14 04.9**	**+4.7**
XAN				pmax	pmax			
	comp=Z,2.0nm,0.9s							
XAN				pmax	pmax			
	comp=Z,18nm,5.1s							
XAN				LR	LR			
	comp=N,93nm,20.5s							
XAN				LR	LR			
	comp=Z,62nm,21.5s							
KMI	**Kunming**	**76.19**	**302**	P	P		18 13 58.0	+8.3
KMI				pmax	pmax			
	comp=Z,15nm,0.9s							
CMAR	**Chiang Mai Arr**	**76.52**	**295**	P	**P**		**18 13 52.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**76.52**	**295**	P	**P**		**18 13 52.0**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=129,slow=4.6,SNR=9.7							
CMMT	**Chiang Mai**	**76.66**	**295**	P	P		18 14 02.7	+10
	comp=Z,13nm,1.1s							
CHTO	**Chiang Mai**	**76.67**	**295**	*e*P	**P**		**18 13 52.5**	**+0.3**
CHTO				pmax	pmax			
	comp=Z,14nm,1.1s							
CHTO	**Chiang Mai**	**76.67**	**295**	*e*P	**P**		**18 13 52.5**	**+0.3**
	comp=Z,14nm,1.1s							
CHTO	**Chiang Mai**	**76.67**	**295**	P	P		18 14 02.8	+11
	comp=Z,20nm,1.3s							
HHC	**Hu-ho-hao-te**	**78.05**	**320**	*e*P	**P**		**18 14 00.1**	**+0.5**
HHC				pP	**pP**		**18 14 07.4**	**-0.7**
HHC				sP	**sP**		**18 14 11.3**	**+0.1**
HHC				PP	**PP**		**18 16 59.0**	**+2.6**
HHC				S	**S**		**18 23 51.1**	**-0.9**
HHC				SKS	**SKSac**		**18 24 07.5**	**-4.7**
HHC				SS	**SS**		**18 28 56.3**	**+2.1**
HHC				pmax	pmax			
	comp=Z,38nm,1.2s							
HHC				pmax	pmax			
	comp=Z,190nm,4.3s							
HHC				LR	LR			
	comp=N,180nm,17.8s							
HHC				LR	LR			
	comp=E,160nm,17.8s							
HHC				LR	LR			
	comp=Z,230nm,16.7s							
CD2	**Chengdu**	**78.10**	**308**	P	**P**		**18 14 00.4**	**+0.3**
CD2				pP	**pP**		**18 14 08.8**	**+0.2**
CD2				PcP	**PcP**		**18 14 10.1**	**+0.5**
CD2				sP	**sP**		**18 14 12.0**	**+0.3**
CD2				PP	**PP**		**18 16 59.5**	**+2.5**
CD2				S	**S**		**18 23 52.8**	**-0.1**
CD2				sS	**sS**		**18 24 06.5**	**-0.5**
CD2				SKS	**SKSac**		**18 24 08.0**	**-4.9**
CD2				ScS	**SKKSac**		**18 24 15.5**	**+1.7**
CD2				SS	**SS**		**18 28 58.3**	**+3.0**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,140nm,5.6s							
CD2				LR	LR			
	comp=E,570nm,30.0s							
CD2				LR	LR			
	comp=Z,220nm,21.6s							
MAW	**Mawson**	**79.41**	**202**	P	**P**		**18 14 06.8**	**+0.2**
MAW	**Mawson**	**79.41**	**202**	P	**P**		**18 14 06.8**	**+0.2**
	comp=Z,2.6nm,1.0s,baz=92,slow=5.6,SNR=2.9							
LZH	**Lanzhou**	**80.57**	**312**	*e*P	**P**		**18 14 14.9**	**+1.3**
LZH				pP	**pP**		**18 14 23.0**	**+0.9**
LZH				sP	**sP**		**18 14 26.1**	**+0.9**
LZH				*e*PP	**PP**		**18 17 20.8**	**+3.3**
LZH				*e*S	**S**		**18 24 19.8**	**+0.6**
LZH				sS	**sS**		**18 24 33.3**	**+0.1**
LZH				pmax	pmax			
	comp=Z,36nm,1.5s							
LZH				pmax	pmax			
	comp=Z,150nm,5.6s							
LZH				LR	LR			
	comp=N,340nm,17.0s							
LZH				LR	LR			
	comp=E,330nm,18.1s							
LZH				LR	LR			
	comp=Z,390nm,19.8s							
ULN	**Ulaanbaatar**	**84.70**	**324**	*e*P	**P**		**18 14 34.0**	**-0.8**
	comp=Z,55nm,1.7s							
YAK	**Yakutsk**	**84.88**	**343**	*e*P	**P**		**18 14 36.6**	**+1.5**
YAK				pmax	pmax			
	comp=E,6.0nm,1.4s							
YAK				pmax	pmax			
	comp=Z,30nm,1.2s							
YAK				pmax	pmax			
	comp=N,7.0nm,1.2s							
GTA	**Gaotai**	**84.96**	**314**	*e*P	**P**		**18 14 36.3**	**0.0**
GTA				pP	**pP**		**18 14 43.0**	**-1.9**
GTA				sP	**sP**		**18 14 46.6**	**-1.4**
GTA				SKS	**SKSac**		**18 24 54.5**	**-4.8**
GTA				S	**S**		**18 24 59.3**	**-4.5**
GTA				pmax	pmax			
	comp=Z,4.0nm,1.3s							
GTA				pmax	pmax			
	comp=Z,80nm,7.6s							
GTA				LR	LR			
	comp=N,64nm,14.7s							
GTA				LR	LR			
	comp=E,93nm,21.9s							
GTA				LR	LR			
	comp=Z,120nm,21.9s							
SONM	**Songino Array**	**85.05**	**324**	P	**P**		**18 14 35.9**	**-0.6**
SONM	**Songino Array**	**85.05**	**324**	P	**P**		**18 14 35.9**	**-0.6**
	comp=Z,5.6nm,0.9s,baz=141,slow=5.7,SNR=12							
SONM				LR	LR		18 49 29.6	
	comp=Z,105nm,20.4s,baz=254,slow=34							
SHL	**Shillong**	**85.31**	**299**	*e*P	P		18 14 45.0	+6.6
BILL	**Bilibino**	**85.39**	**359**‖	*e*P	**P**		**18 14 37.7**	**+0.1**
BILL				*e*			18 17 54.2	
BILL				*e*S	S		18 24 55.4	-11
BILL				pmax	pmax			
	comp=Z,11nm,1.3s							
SYO	**Syowa Base**	**86.10**	**197**⇑	*e*P	**P**		**18 14 41.5**	**+0.2**
SYO	**Syowa Base**	**86.10**	**197**⇑	*e*pP	pP		18 14 47.0	-2.9
ZAK	**Zakamensk**	**88.13**	**325**	*e*P	**P**		**18 14 50.1**	**-1.4**
ZAK				*e*			18 18 15.9	
ZAK				pmax	pmax			
	comp=Z,9.0nm,1.4s							
TLY	**Talaya**	**88.60**	**326**	*e*P	**P**		**18 14 53.8**	**+0.2**
TLY				*e*			18 15 03.5	
TLY				*e*S	S		18 25 29.7	-8.5
TLY				pmax	pmax			
	comp=Z,4.0nm,1.1s							
NVAR	**Mina Array Bea**	**88.80**	**49**	P	**P**		**18 14 55.8**	**+0.6**
NVAR	**Mina Array Bea**	**88.80**	**49**	P	**P**		**18 14 55.8**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=260,slow=8.9,SNR=5.0							
ILAR	**Eielson Array**	**89.10**	**18**	P	**P**		**18 14 54.2**	**-1.4**
ILAR	**Eielson Array**	**89.10**	**18**	P	**P**		**18 14 54.3**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=225,slow=5.8,SNR=6.1							
MAIT	**Maitri**	**90.30**	**188**	*e*P	P		18 14 50.9	-10
MAIT	**Maitri**	**90.30**	**188**	*e*P	P		18 14 50.6	-11
SNAA	**Sanae**	**90.73**	**183**	*e*P	**P**		**18 15 04.4**	**+1.0**
SNAA	**Sanae**	**90.73**	**183**	*e*pP	pP		18 15 11.7	-0.3
SNAA	**Sanae**	**90.73**	**183**	*e*P	**P**		**18 15 04.8**	**+1.4**
	comp=Z,27nm,1.2s							
TIXI	**Tiksi**	**92.85**	**349**	*ce*P	**P**		**18 15 12.4**	**-0.5**
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.9s							
WMQ	**Urumqi**	**95.04**	**314**	P	**P**		**18 15 24.1**	**+0.4**
WMQ				pP	**pP**		**18 15 32.1**	**-0.2**
WMQ				sP	**sP**		**18 15 35.3**	**-0.1**
WMQ				PP	**PP**		**18 19 16.0**	**+2.4**
WMQ				SKS	**SKSac**		**18 25 56.8**	**-1.0**
WMQ				S	**S**		**18 26 34.3**	**-2.5**
WMQ				sS	**sS**		**18 26 47.8**	**-3.4**
WMQ				SS	**SS**		**18 33 04.6**	**+1.5**
WMQ				pmax	pmax			
	comp=Z,6.0nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,200nm,5.0s							
WMQ				LR	LR			
	comp=N,68nm,19.0s							
WMQ				LR	LR			
	comp=E,46nm,34.8s							
WMQ				LR	LR			
	comp=Z,100nm,21.3s							
GDL2	**Guadalupe Moun**	**97.45**	**59**	*e*P	P		18 15 31.5	-3.5
MK31	**Makanchi Array**	**99.56**	**316**	*e*P	**Pdif**		**18 15 45.8**	**+1.8**
MK31	**Makanchi Array**	**99.56**	**316**	*e*P	**Pdif**		**18 15 45.8**	**+1.8**
MKAR	**Makanchi Array**	**99.56**	**316**	P	**Pdif**		**18 15 43.7**	**-0.4**
MKAR	**Makanchi Array**	**99.56**	**316**	P	**Pdif**		**18 15 43.7**	**-0.4**
MKAR	**Makanchi Array**	**99.56**	**316**	P	**Pdif**		**18 15 43.7**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=100,slow=5.0,SNR=4.1							
ZALV	**Zalesovo Beam**	**99.95**	**323**	P	**Pdif**		**18 15 44.5**	**-1.0**
ZALV	**Zalesovo Beam**	**99.95**	**323**	P	**Pdif**		**18 15 44.5**	**-1.0**
ZALV	**Zalesovo Beam**	**99.95**	**323**	P	**Pdif**		**18 15 44.5**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=134,slow=4.2,SNR=3.1							
KSH	**Kashi**	**102.30**	**308**	*e*P	**Pdif**		**18 16 02.3**	**+5.8**
KSH				PP	**PKiKP**		**18 20 16.5**	**-1.9**
KSH				SKS	**SKSac**		**18 26 38.0**	**+3.4**
KSH				S	**Sdif**		**18 27 41.3**	**+2.6**
KSH				LR	LR			
	comp=N,130nm,4.2s							
KSH				LR	LR			
	comp=E,140nm,5.0s							
KSH				LR	LR			
	comp=Z,250nm,6.7s							
WMOK	**Wichita Mounta**	**102.60**	**57**	*e*P	**Pdif**		**18 15 54.9**	**-2.9**
WMOK				pmax	pmax			
	comp=Z,10.0nm,1.1s							
WMOK	**Wichita Mounta**	**102.60**	**57**	*e*Pdif	**Pdif**		**18 15 54.9**	**-2.9**
	comp=Z,10nm,1.1s							
ARCES	**ARCESS Array B**	**123.12**	**345**	PKP	**PKPdf**		**18 20 54.7**	**-2.0**
ARCES	**ARCESS Array B**	**123.12**	**345**	PKP	**PKPdf**		**18 20 54.7**	**-2.0**
	comp=Z,1.0nm,0.6s,baz=38,slow=2.2,SNR=7.8							
OBN	**Obninsk**	**127.34**	**327**‖	*i*PKIKP	**PKPdf**		**18 21 04.0**	**-1.1**
OBN				*e*			18 23 02.1	
OBN				*e*S	**SKSac**		**18 28 05.3**	**-4.4**
OBN				*e*SS	**SS**		**18 40 17.7**	**+5.0**
OBN				pmax	pmax			
	comp=Z,6.0nm,0.8s							
FINES	**FINESS Array B**	**128.53**	**338**	PKP	**PKPdf**		**18 21 07.5**	**+0.3**
FINES	**FINESS Array B**	**128.53**	**338**	PKP	**PKPdf**		**18 21 07.5**	**+0.3**
	comp=Z,2.0nm,1.0s,baz=12,slow=7.1,SNR=3.7							
BRTR	**Keskin Array B**	**134.67**	**309**	PKP	**PKPdf**		**18 21 18.4**	**-1.3**
BRTR	**Keskin Array B**	**134.67**	**309**	PKP	**PKPdf**		**18 21 18.4**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=104,slow=6.1,SNR=2.3							
KOLS	**Kolonicke sedl**	**138.07**	**326**	*e*PKIKP	**PKPdf**		**18 21 25.0**	**-0.6**
KOLS	**Kolonicke sedl**	**138.07**	**326**	*e*PKP	**PKPdf**		**18 21 25.0**	**-0.6**
DPC	**Dobruska-Polom**	**140.10**	**331**	*e*PKIKP	**PKPdf**		**18 21 28.2**	**-1.1**
DPC				*e*			18 21 41.2	
DPC	**Dobruska-Polom**	**140.10**	**331**	*e*PKPdf	**PKPdf**		**18 21 28.2**	**-1.1**
DPC				*ep*PKP	**pPKPdf**		**18 21 41.2**	**+3.0**
UPC	**Upice**	**140.13**	**332**	*ep*PKP	pPKPdf		18 21 41.1	+2.9
CLL	**Collm**	**140.83**	**335**	*e*PKIKP	PKPdf		18 21 37.0	+6.5
CLL	**Collm**	**140.83**	**335**	*i* pPKPdf	**pPKPdf**		**18 21 43.1**	**+3.7**
CLL				*e*PP	PP		18 24 24.0	-6.4
CLL				*e*SS	SS		18 43 00.0	+5.1
KHC	**Kasperske Hory**	**142.22**	**332**	*e*PKIKP	**PKPdf**		**18 21 35.7**	**+2.5**
KHC	**Kasperske Hory**	**142.22**	**332**	*e*PKPdf	**PKPdf**		**18 21 35.7**	**+2.5**
GERES	**GERESS Array B**	**142.37**	**332**	PKPpre	PKPpre		18 21 27.5	
GERES				PKP	**PKPdf**		**18 21 34.8**	**+1.3**
GERES	**GERESS Array B**	**142.37**	**332**	PKhKP	PKPpre		18 21 27.5	
	comp=Z,0.3nm,0.3s,baz=336,slow=16,SNR=5.0							
GERES				PKP	**PKPdf**		**18 21 34.8**	**+1.3**
	comp=Z,1.5nm,0.8s,baz=48,slow=2.0,SNR=7.9							
BOJS	**Bojanci**	**143.94**	**326**	*i* PKPdf	PKPbc		18 21 34.1	0.0
LJU	**Ljubljana**	**143.96**	**328**	*e*PKPdf	PKPab		18 21 33.1	-0.4
JAVS	**Javornik**	**144.29**	**328**	*i* PKPdf	**PKPab**		**18 21 33.3**	**-1.7**
JAVS				*e*			18 21 44.9	
ABTA	**Abfaltersbach**	**144.45**	**330**⇑	*i*PKPdf	**PKPab**		**18 21 33.3**	**-2.2**
	comp=Z,12nm,0.9s,SNR=5.9							
WLF	**Walferdange**	**144.72**	**339**	PKP	**PKPab**		**18 21 35.4**	**-0.9**
WLF				APKP	**pPKPdf**		**18 21 47.2**	**+0.9**
WLF	**Walferdange**	**144.72**	**339**	*e*PKIKP	**PKPab**		**18 21 35.6**	**-0.6**
WLF	**Walferdange**	**144.72**	**339**	*e*P	**PKPab**		**18 21 35.6**	**-0.6**
BFO	**Black Forest**	**145.04**	**336**	*e*PKIKP	**PKPbc**		**18 21 35.2**	**-2.3**
BFO	**Black Forest**	**145.04**	**336**	*e*PKPdf	**PKPbc**		**18 21 35.2**	**-2.3**
FETA	**Feichten**	**145.06**	**332**⇑	*i*PKPdf	**PKPbc**		**18 21 36.1**	**-1.7**
	comp=Z,24nm,0.9s,SNR=17							
DAVA	**Damuels**	**145.23**	**333**⇑	*i*PKPdf	**PKPbc**		**18 21 36.6**	**-1.7**
	comp=Z,19nm,0.8s,SNR=13							
FUORN	**Ofenpass-Fuorn**	**145.58**	**332**	*e*PKPdf	**PKPdf**		**18 21 38.6**	**-0.7**
ECH	**Echery**	**145.58**	**337**	*e*PKIKP	**PKPdf**		**18 21 36.6**	**-2.5**
ECH	**Echery**	**145.58**	**337**	*e*PKPdf	**PKPdf**		**18 21 36.5**	**-2.5**
TUE	**Stuetta**	**146.09**	**333**	*e*PKPdf	**PKPdf**		**18 21 39.5**	**-0.7**
TIP	**Timpagrande**	**146.85**	**316**	*e*PKPbc	**PKPdf**		**18 21 42.4**	**+0.8**
CUC	**Castrocucco**	**147.01**	**315**	*e*PKPdf	**PKPdf**		**18 21 40.3**	**-1.5**
AQU	**L'Aquila**	**147.02**	**324**	*e*PKPdf	**PKPdf**		**18 21 41.6**	**-0.1**
SENIN	**Lac Senin/Sane**	**147.04**	**335**	*e*PKPdf	**PKPdf**		**18 21 42.9**	**+1.0**
CEL	**Celeste**	**147.91**	**316**	*e*PKPab	**PKPab**		**18 21 49.7**	**+0.8**
BNI	**Bardonecchia**	**148.36**	**334**	*e*PKP2	**PKPdf**		**18 21 45.5**	**+1.5**
BNI	**Bardonecchia**	**148.36**	**334**	*e*PKPbc	**PKPdf**		**18 21 45.5**	**+1.5**
TORD	**Torodi Ar. Bea**	**165.83**	**254**	PKP	**PKPdf**		**18 22 03.9**	**-2.6**
TORD				PKPab	**PKPab**		**18 23 04.7**	**-1.4**
TORD	**Torodi Ar. Bea**	**165.83**	**254**	PKP	**PKPdf**		**18 22 03.9**	**-2.6**
	comp=Z,1.7nm,0.9s,baz=65,slow=1.0,SNR=6.3							
TORD				PKPab	**PKPab**		**18 23 04.7**	**-1.4**
	comp=Z,1.6nm,1.0s,baz=92,slow=4.3,SNR=3.2							

DDA ***14*** *18:16:06.2, 39.°72N×38.°86E, h4km, ML3.7*
ISK ***14*** *18:16:06.3, 39.°79N×38.°87E, h2km, MD3.2*
CSEM ***14*** *18:16:07.1±0.2, 39.°76N×38.°85E, h2km, MD3.2, Error ellipse: s-maj=5.3km s-min=4.4km az=108.0*

ISC 14 18:16:06.9±1.0, 39.°76N±0.°02×38.°84E±0.°02, h9km±10km, n49, σ1°905/70, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIC	**ilic-Erzincan**	**0.37**	**215**	*e*PG	**Pg**	**18 16 14.5**	**+0.2**
ILIC	**ilic-Erzincan**	**0.37**	**215**	*e*Pg	**Pg**	**18 16 14.5**	**+0.2**
EZC	**Erzincan**	**0.39**	**91**	*e*PG	**Pg**	**18 16 14.7**	**+0.1**
EZC	**Erzincan**	**0.39**	**91**	*e*Pg	**Pg**	**18 16 14.7**	**+0.1**
KELT	**Kelkit**	**0.50**	**39**	*i* P	**Pg**	**18 16 17.1**	**+0.4**
KELT				*i* S	**Sb**	**18 16 24.5**	**-1.0**
KELT	**Kelkit**	**0.50**	**39**	*i* P	**Pg**	**18 16 17.1**	**+0.4**
KELT				*i* S	**Sb**	**18 16 24.5**	**-1.0**
KEMA	**Kemaliye**	**0.56**	**209**	*i* P	**Pg**	**18 16 16.7**	**-1.1**
KEMA				*i* S	**Sg**	**18 16 25.0**	**-0.1**
KEMA	**Kemaliye**	**0.56**	**209**	*i* P	**Pg**	**18 16 16.7**	**-1.1**
KEMA				*i* S	**Sg**	**18 16 25.0**	**-0.1**
SUSE	**Susehri**	**0.67**	**312**	*i* P	**Pg**	**18 16 20.1**	**+0.3**
SUSE				*i* S	**Sb**	**18 16 30.2**	**0.0**
SUSE	**Susehri**	**0.67**	**312**	*i* P	**Pg**	**18 16 20.1**	**+0.3**
SUSE				*i* S	**Sb**	**18 16 30.2**	**0.0**
ERZN	**Erzincan**	**0.70**	**104**	*e*PG	**Pg**	**18 16 20.0**	**-0.4**
ERZN				*e*SG	**Sb**	**18 16 30.9**	**-0.2**
GUMT	**Gumushane**	**0.85**	**35**	*e*PG	**Pg**	**18 16 23.4**	**+0.1**
GUMT				*e*SG	**Sb**	**18 16 34.9**	**-0.7**
GUMT	**Gumushane**	**0.85**	**35**	*e*Pg	**Pg**	**18 16 23.4**	**+0.1**
GUMT				*e*Sg	**Sb**	**18 16 34.9**	**-0.7**
PTK	**Pertek**	**0.96**	**154**	*e*PG	**Pb**	**18 16 25.9**	**0.0**
PTK	**Pertek**	**0.96**	**154**	*e*Pg	**Pb**	**18 16 26.0**	**0.0**
ESPY	**Espiye-Giresun**	**1.16**	**356**	*e*PN	**Pb**	**18 16 28.9**	**-0.2**
ESPY				*e*SN	**Sn**	**18 16 45.0**	**-0.3**
ESPY	**Espiye-Giresun**	**1.16**	**356**	*e*Pn	**Pb**	**18 16 28.9**	**-0.2**
ESPY				*e*Sn	**Sn**	**18 16 45.0**	**-0.3**
BAYT	**Ayd¨–ntepe-Bay**	**1.18**	**57**	*e*PN	**Pb**	**18 16 29.1**	**-0.5**
BAYT	**Ayd¨–ntepe-Bay**	**1.18**	**57**	*e*Pn	**Pb**	**18 16 29.1**	**-0.5**
GRSN	**GIRESUNGRSN**	**1.24**	**339**	*i* P	**Pn**	**18 16 30.2**	**-0.3**
GRSN				*i* S	**Sb**	**18 16 46.8**	**0.0**
GRSN	**GIRESUNGRSN**	**1.24**	**339**	*i* P	**Pn**	**18 16 30.2**	**-0.3**
GRSN				*i* S	**Sb**	**18 16 46.8**	**0.0**
ELZG	**Elazig**	**1.27**	**175**	*i* P	**Pn**	**18 16 29.6**	**-1.4**
ELZG				*i* S	**Sb**	**18 16 46.9**	**-0.6**
ELZG	**Elazig**	**1.27**	**175**	*i* P	**Pn**	**18 16 29.6**	**-1.4**
ELZG				*i* S	**Sb**	**18 16 46.9**	**-0.6**
RSDY	**Resadiye-TOKAT**	**1.33**	**299**	*e*PN	**Pg**	**18 16 32.3**	**0.0**
RSDY	**Resadiye-TOKAT**	**1.33**	**299**	*e*Pn	**Pg**	**18 16 32.3**	**0.0**
SVSK	**Karacayir**	**1.43**	**277**	*e*PN	**Pg**	**18 16 34.3**	**0.0**
SVSK	**Karacayir**	**1.43**	**277**	*e*Pn	**Pg**	**18 16 34.3**	**0.0**
BINT	**Bingol**	**1.55**	**124**	*e*Pn	**Pg**	**18 16 37.2**	**+0.5**
DARE	**Darende-Malaty**	**1.59**	**222**	*e*PN	**Pg**	**18 16 37.7**	**+0.3**
BNGB	**Bing¨l**	**1.62**	**118**	*e*PN	**Pb**	**18 16 37.2**	**+0.2**
AKCD	**Akcadag**	**1.63**	**206**	*i* P	**Pn**	**18 16 36.6**	**+0.7**
AKCD				*i* S	**Sg**	**18 16 59.7**	**+0.4**
AKCD	**Akcadag**	**1.63**	**206**	*i* P	**Pn**	**18 16 36.6**	**+0.7**
AKCD				*i* S	**Sg**	**18 16 59.7**	**+0.4**
TOKT	**Tokat**	**1.85**	**288**	*e*PN	**Pn**	**18 16 39.7**	**+0.8**
TOKT	**Tokat**	**1.85**	**288**	*e*Pn	**Pn**	**18 16 39.7**	**+0.8**
ERZM	**Erzurum**	**1.95**	**85**	*i* P	**Pb**	**18 16 43.4**	**+0.7**
ERZM	**Erzurum**	**1.95**	**85**	*i* P	**Pb**	**18 16 43.4**	**+0.7**
BNGL	**BINGOL**	**1.96**	**114**	*i* P	**Pg**	**18 16 44.0**	**-0.5**
BNGL				*i* S	**Sg**	**18 17 13.4**	**+3.5**
SARI	**SarD1z-Kayseri**	**2.32**	**235**	*e*PN	**Pb**	**18 16 47.6**	**-1.4**
DDEM	**Demirkent**	**2.49**	**62**	*e*P	**Pb**	**18 16 52.7**	**+0.8**
DDEM				*i* S	**Sg**	**18 17 25.4**	**-1.6**
DDEM	**Demirkent**	**2.49**	**62**	*e*P	**Pb**	**18 16 52.7**	**+0.8**
BNN	**Bunyan**	**2.50**	**250**	*e*PN	**Pb**	**18 16 50.3**	**-1.7**
BNN	**Bunyan**	**2.50**	**250**	*e*Pn	**Pb**	**18 16 50.3**	**-1.7**
DBAD	**Bademkaya**	**2.51**	**59**	*i* P	**Pb**	**18 16 52.6**	**+0.3**
DBAD				*i* S	**Sg**	**18 17 26.0**	**-1.6**
DBAD	**Bademkaya**	**2.51**	**59**	*i* P	**Pb**	**18 16 52.6**	**+0.3**
DAGI	**Agillar**	**2.69**	**60**	*i* P	**Pb**	**18 16 56.4**	**+1.1**
DAGI				*i* S	**Sg**	**18 17 31.3**	**-1.9**
CORM	**Corum**	**3.27**	**279**	*e*PN	**Pn**	**18 17 00.6**	**+2.2**
CORM	**Corum**	**3.27**	**279**	*e*Pn	**Pn**	**18 17 00.6**	**+2.2**
KOZT	**Kozan**	**3.28**	**227**	*e*PN	**Pn**	**18 17 01.3**	**+2.8**
KOZT	**Kozan**	**3.28**	**227**	*e*Pn	**Pn**	**18 17 01.3**	**+2.8**

IDC 14 18:30:36.2±2.7, 10.°62S×161.°49E, h82km±19km, mb3.5/7, mb1 3.8/8, mb1mx3.6/20, mbtmp3.6/8, MS3.6/2, Ms1 3.5/2, ms1mx3.1/20, Error ellipse: s-maj=28.3km s-min=19.1km az=70.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.92**	**308**	P	Pn	18 31 05.6	-1.6
	354nm,0.3s,baz=158,slow=7.2,SNR=71						
HNR				S	Sn	18 31 31.4	+0.7
	295nm,0.3s,baz=115,slow=19,SNR=7.8						
DZM	**Mont Dzumac**	**12.34**	**158**	*e*P	Pn	18 33 29.5	+0.5
DZM	**Mont Dzumac**	**12.34**	**158**	P	Pn	18 33 29.6	+0.6
	2.9nm,0.3s,baz=90,slow=24,SNR=30						
DZM				S	Sn	18 35 40.0	-4.8
	0.6nm,0.3s,baz=90,slow=24,SNR=9.2						
DZM				LR	LR	18 37 08.4	
	comp=Z,227nm,20.1s,baz=0.0,slow=32						
WRA	**Warramunga Arr**	**27.75**	**247**	P	P	18 36 17.6	+0.2
	1.3nm,0.5s,baz=77,slow=9.0,SNR=9.0						
STKA	**Stephens Creek**	**28.03**	**218**	LR	LR	18 45 44.7	
	comp=Z,123nm,19.7s,baz=23,slow=32						
ASAR	**Alice Springs**	**29.31**	**240**	P	P	18 36 30.9	-0.3
	0.7nm,0.6s,baz=62,slow=11,SNR=4.6						
MJAR	**Matsushiro Arr**	**51.77**	**336**	P	P	18 39 34.5	-1.1
	0.5nm,0.4s,baz=139,slow=2.7,SNR=4.2						
CMAR	**Chiang Mai Arr**	**68.12**	**295**	P	P	18 41 28.2	+0.2
	0.3nm,0.3s,baz=124,slow=5.6,SNR=3.9						
SONM	**Songino Array**	**75.89**	**325**	P	P	18 42 14.4	+0.5
	1.1nm,0.7s,baz=136,slow=5.4,SNR=4.6						
ILAR	**Eielson Array**	**84.48**	**20**	P	P	18 43 00.2	+0.6
	0.4nm,0.8s,baz=243,slow=6.0,SNR=3.6						
MKAR	**Makanchi Array**	**90.37**	**318**	P	P	18 43 27.6	-0.8
	0.2nm,0.4s,baz=94,slow=7.2,SNR=5.3						

WEL 14 18:34:02.2±0.6, 38.°42S×175.°83E, h136km±5km, ML3.5/13, 2C, Error ellipse: s-maj=5.4km s-min=3.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	**Black Stump Fm**	**0.91**	**145**	PN	Pn	18 34 25.1	+0.1
BKZ				SN	Sn	18 34 42.1	-0.2
MOVZ	**Moawhango**

-3.6100, Plg50.0000°, Azm281.0000°;
*DJA **14** 18:38:54.9-2.8,23˚S-24˚×6˚6W-2˚0,h570km-26km,*
M5.4/8,mB5.9/5,mb5.4/8,Mw(mB)5.5/5
ISC 14 18:38:08.3+0.4**,21°82S**+0.03**×67°13W**-0.04**,h176**km-3km**,**h175**km**:pP-P,n992,**c1308/1090,**mb5.3**/233**,265C-210D,**
Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
				Op				
SPCH	**San Pedro de A**	**1.47**	**222**	⇓*iP*		Pn	18 38 42.7	+2.7
SPCH				*i* S		**Sn**	**18 39 07.9**	**+3.4**
SPCH	**San Pedro de A**	**1.47**	**222**	⇓*iP*		Pn	18 38 42.7	+2.7
SPCH				*i* S		**Sn**	**18 39 07.9**	**+3.4**
LVC	**Limon Verde**	**1.83**	**244**	⇓*iP*		**Pn**	**18 38 44.4**	**+0.9**
LVC				*i* S		**Sn**	**18 39 11.1**	**+0.2**
LVC	**Limon Verde**	**1.83**	**244**	⇓*iP*		**Pn**	**18 38 44.4**	**+0.9**
LVC				*i* S		**Sn**	**18 39 11.1**	**+0.2**
LVC	**Limon Verde**	**1.83**	**244**	P		**Pn**	**18 38 44.6**	**+1.0**
	4μm,0.3s,baz=54,slow=8.1							
LVC				S		**Sn**	**18 39 10.9**	**+0.1**
	3μm,0.3s,baz=124,slow=5.1,SNR=27							
PB09	**Plate Boundary**	**1.96**	**270**	⇑*iP*		**Pn**	**18 38 46.1**	**+1.2**
PB09				*i* S		**Sn**	**18 39 12.8**	**-0.4**
PB09	**Plate Boundary**	**1.96**	**270**	⇑*iP*		**Pn**	**18 38 46.1**	**+1.2**
PB09				*i* S		**Sn**	**18 39 12.8**	**-0.4**
PB09				AML	AML		18 39 21.4	
	comp=N,83μm,0.3s							
PB04	**Plate Boundary**	**2.23**	**258**	⇑*iP*		Pn	18 38 54.7	+7.0
PB04				*i* S		Sn	18 39 28.2	+10
PB04	**Plate Boundary**	**2.23**	**258**	⇑*iP*		Pn	18 38 54.7	+7.0
PB04				*i* S		Sn	18 39 28.2	+10
PB04				AML	AML		18 39 30.1	
	comp=N,42μm,0.5s							
PB01	**Plate Boundary**	**2.33**	**289**	⇑*iP*		**Pn**	**18 38 49.5**	**+0.6**
PB01				*i* S		**Sn**	**18 39 19.9**	**-0.5**
PB01	**Plate Boundary**	**2.33**	**289**	⇑*iP*		**Pn**	**18 38 49.5**	**+0.6**
PB01				*i* S		**Sn**	**18 39 19.9**	**-0.5**
PB01				AML	AML		18 39 21.9	
	comp=N,87μm,0.2s							
PB07	**Plate Boundary**	**2.56**	**272**	⇑*iP*		**Pn**	**18 38 51.6**	**-0.1**
PB07				*i* S		**Sn**	**18 39 23.1**	**-2.4**
PB07	**Plate Boundary**	**2.56**	**272**	⇑*iP*		**Pn**	**18 38 51.6**	**-0.1**
PB07				*i* S		**Sn**	**18 39 23.1**	**-2.4**
PB07				AML	AML		18 39 24.7	
	comp=N,67μm,0.2s							
HMBC	**Humberstone**	**3.00**	**300**	⇑*iP*		**Pn**	**18 38 56.8**	**-0.1**
HMBC				*i* S		**Sn**	**18 39 33.0**	**-1.7**
HMBC	**Humberstone**	**3.00**	**300**	⇑*iP*		**Pn**	**18 38 56.8**	**-0.1**
HMBC				*i* S		**Sn**	**18 39 33.0**	**-1.7**
HMBC				AML	AML		18 39 34.3	
	comp=N,70μm,0.7s							
MNMC	**Minimini**	**3.54**	**319**	⇑*iP*		**Pn**	**18 39 04.9**	**+1.1**
MNMC				*i* S		**Sn**	**18 39 47.0**	**+0.1**
MNMC	**Minimini**	**3.54**	**319**	⇑*iP*		**Pn**	**18 39 04.9**	**+1.1**
MNMC				*i* S		**Sn**	**18 39 47.0**	**+0.1**
MNMC				AML	AML		18 39 48.7	
	comp=N,53μm,0.6s							
ANCH	**Antofagasta**	**3.55**	**238**	⇑*iP*		**Pn**	**18 39 02.9**	**-0.7**
ANCH				*i* S		**Sn**	**18 39 42.9**	**-3.9**
ANCH	**Antofagasta**	**3.55**	**238**	⇑*iP*		**Pn**	**18 39 02.9**	**-0.7**
ANCH				*i* S		**Sn**	**18 39 42.9**	**-3.9**
PSGC	**Pisagua**	**3.57**	**308**	⇑*iP*		**Pn**	**18 39 03.1**	**-0.9**
PSGC				*i* S		**Sn**	**18 39 44.7**	**-2.7**
PSGC	**Pisagua**	**3.57**	**308**	⇑*iP*		**Pn**	**18 39 03.1**	**-0.9**
PSGC				*i* S		**Sn**	**18 39 44.7**	**-2.7**
PSGC				AML	AML		18 39 48.3	
	comp=N,14μm,0.5s							
LPAZ	**La Paz**	**5.58**	**350**	*e*Pn		**Pn**	**18 39 33.1**	**+2.7**
LPAZ				S		**Sn**	**18 40 37.4**	**+2.5**
LPAZ	**La Paz**	**5.58**	**350**	P		**Pn**	**18 39 33.1**	**+2.7**
	comp=N,116nm,0.3s,baz=157,slow=5.9,SNR=2368							
LPAZ				S		**Sn**	**18 40 37.4**	**+2.5**
	comp=N,71nm,0.3s,baz=255,slow=22,SNR=6.1							
LCO	**Las Campanas**	**7.86**	**204**	*e*Pn		Pn	18 39 56.3	-3.7
SIV	**San Ignacio**	**8.15**	**46**	P		**Pn**	**18 40 04.3**	**+0.6**
SIV				S		Sn	18 41 27.0	-8.1
SIV	**San Ignacio**	**8.15**	**46**	P		**Pn**	**18 40 04.3**	**+0.6**
	comp=N,290nm,0.3s,baz=251,slow=11,SNR=1111							
SIV				S		Sn	18 41 27.0	-8.1
	comp=N,64nm,0.3s,baz=254,slow=12,SNR=3.0							
CFAA	**Coronel Fontan**	**9.80**	**186**	P		**Pn**	**18 40 23.8**	**-1.5**
CFAA				S		Sn	18 42 06.7	-7.7
CFAA	**Coronel Fontan**	**9.80**	**186**	P		**Pn**	**18 40 23.8**	**-1.5**
	comp=N,2.2nm,0.3s,baz=1.9,slow=12,SNR=107							
CFAA				S		Sn	18 42 06.7	-7.7
	comp=N,6.6nm,0.3s,baz=147,slow=16,SNR=11							
NNA	**Nana**	**13.48**	**315**	*e*Pn		**Pn**	**18 41 12.2**	**-0.7**
NNA				S		**Sn**	**18 43 40.0**	**-3.0**
NNA	**Nana**	**13.48**	**315**	P		**Pn**	**18 41 13.8**	**+0.9**
	comp=N,54nm,0.3s,baz=160,slow=11,SNR=31							
NNA				S		**Sn**	**18 43 40.0**	**-3.0**
	comp=N,17nm,0.3s,baz=205,slow=19,SNR=5.2							
LPA	**La Plata**	**15.34**	**150**	*c iP*		**P**	**18 41 39.0**	**+2.6**
LPA				S		**Sn**	**18 44 23.0**	**-3.9**
LPA				PCP		**PcP**	**18 46 26.0**	**-2.3**
TRQA	**Tornquist**	**16.78**	**166**	*e*P		**P**	**18 41 50.4**	**-2.1**
	comp=N,3μm,1.5s							
ATAH	**Atahualpa**	**18.20**	**322**	P		**Pn**	**18 42 10.9**	**+0.3**
ATAH				S		**S**	**18 45 32.0**	**+3.8**
ATAH	**Atahualpa**	**18.20**	**322**	P		**Pn**	**18 42 10.9**	**+0.3**
	comp=N,11nm,0.3s,baz=152,slow=5.2,SNR=42							
ATAH				S		**S**	**18 45 32.0**	**+3.8**
	comp=N,0.1nm,0.3s,baz=90,slow=20,SNR=3.0							
PLCA	**Paso Flores**	**19.08**	**188**	*e*P		**P**	**18 42 16.7**	**-0.7**
	comp=N,175nm,0.9s							
PLCA				S		**S**	**18 45 45.9**	**+1.4**
PLCA				ScP		**ScP**	**18 49 52.8**	**-0.9**
PLCA	**Paso Flores**	**19.08**	**188**	P		**P**	**18 42 16.8**	**-0.7**
	comp=N,6.0nm,0.3s,baz=12,slow=12,SNR=175							
PLCA				S		**S**	**18 45 45.9**	**+1.4**
	baz=216,slow=12,SNR=4.5							
PLCA				ScP		**ScP**	**18 49 52.8**	**-0.9**
	comp=N,0.1nm,0.3s,baz=342,slow=8.5,SNR=3.3							
BDFB	**Brasilia**	**19.11**	**75**	P		**P**	**18 42 19.1**	**+1.0**
BDFB	**Brasilia**	**19.11**	**75**	P		**P**	**18 42 19.1**	**+1.0**
	comp=N,39nm,0.3s,baz=248,slow=12,SNR=256							
CAM4	**Nova Friburgo**	**22.76**	**96**	⇑*iP*		**P**	**18 42 55.1**	**-0.9**
CAM4				*i*			18 42 56.4	
CAM4				*i*			18 42 57.4	
CAM4				*i*			18 42 59.8	
CAM4				*i*			18 43 02.9	
CAM4				*i*			18 43 11.0	
CAM4				*i*			18 43 34.2	
OTAV	**Otavalo**	**24.55**	**332**	*e*P		**P**	**18 43 13.9**	**+1.4**
	comp=N,52nm,0.7s							
ROSC	**El Rosal**	**27.43**	**344**	*e*P		**P**	**18 43 38.8**	**+0.5**
ROSC	**El Rosal**	**27.43**	**344**	P		**P**	**18 43 39.2**	**+0.8**
	comp=N,23nm,0.6s,baz=114,slow=4.2,SNR=9.3							
EFI	**East Falkland**	**30.62**	**169**	*e*P		**P**	**18 44 05.1**	**-0.6**
EFI				pmax		pmax		
	comp=Z,204nm,0.6s							
EFI	**East Falkland**	**30.62**	**169**	*e*P		**P**	**18 44 05.1**	**-0.6**
	comp=Z,204nm,0.6s							
SDV	**Santo Domingo**	**30.71**	**353**	*e*P		**P**	**18 44 06.1**	**-1.0**
	comp=Z,61nm,0.8s							
USHA	**Ushuaia**	**32.98**	**181**	P		**P**	**18 44 26.2**	**-0.1**
USHA	**Ushuaia**	**32.98**	**181**	P		**P**	**18 44 26.2**	**-0.1**
	comp=Z,19nm,0.8s,baz=324,slow=9.6,SNR=5.8							
BCIP	**Isla Barro Col**	**33.22**	**337**	*e*P		**P**	**18 44 30.3**	**+1.4**
	comp=Z,191nm,0.6s							
RCBR	**Riachuelo**	**34.12**	**67**	*e*P		**P**	**18 44 36.6**	**-0.2**
	comp=Z,127nm,0.8s							
RCBR	**Riachuelo**	**34.12**	**67**	P		**P**	**18 44 36.7**	**-0.1**
	comp=Z,128nm,0.8s,baz=230,slow=10,SNR=47							
GRGR	**Grenville**	**34.16**	**10**	*e*P		**P**	**18 44 37.3**	**+0.3**
	comp=Z,320nm,0.6s							
MVM	**Montagne Vaucl**	**36.66**	**10**	*e*P		**P**	**18 44 58.7**	**+0.4**
FDF	**Fort de France**	**36.80**	**10**	*e*P		**P**	**18 44 59.0**	**-0.4**
CRPR	**Cabo Rojo, PR**	**39.58**	**0**	*e*P		**P**	**18 45 21.2**	**-1.4**
	comp=Z,102nm,0.7s							
ANWB	**Willy Bob**	**39.59**	**8**	*e*P		P	18 45 19.6	-3.1
	comp=Z,225nm,0.7s							
OBIP	**Obispado Ponce**	**39.62**	**1**	*e*P		**P**	**18 45 21.9**	**-1.0**
	comp=Z,92nm,0.6s							
CELP	**Cerrillos**	**39.65**	**1**	*e*P		**P**	**18 45 21.7**	**-1.5**
SJG	**San Juan**	**39.70**	**1**	*e*P		**P**	**18 45 22.2**	**-1.4**
	comp=Z,109nm,0.8s							
HUMP	**Col San Antoni**	**39.73**	**2**	*e*P		**P**	**18 45 24.5**	**+0.6**
	comp=Z,38nm,0.6s							
LSP	**Las Mesas**	**39.75**	**0**	*e*P		**P**	**18 45 23.0**	**-1.0**
MPR	**Mayaguez**	**39.78**	**360**	*e*P		**P**	**18 45 23.6**	**-0.6**
	comp=Z,112nm,0.7s							
CBYP	**Canovanas**	**39.86**	**2**	*e*P		**P**	**18 45 22.6**	**-2.4**
	comp=Z,46nm,0.7s							
LRS	**Lares**	**39.86**	**0**	*e*P		**P**	**18 45 23.9**	**-1.1**
AOPR	**Arecibo Observ**	**39.92**	**1**	*e*P		**P**	**18 45 23.8**	**-1.6**
	comp=Z,92nm,0.6s							
STVI	**Saint Thomas**	**39.98**	**3**	*e*P		**P**	**18 45 26.8**	**+0.9**
	comp=Z,32nm,0.6s							
SDDR	**Presa de Saban**	**40.75**	**354**	*e*P		**P**	**18 45 30.9**	**-1.4**
	comp=Z,48nm,0.6s							
TGUH	**Tegucigalpa,Un**	**40.76**	**329**	*e*P		**P**	**18 45 33.2**	**+0.8**
	comp=Z,236nm,1.4s							
GTBY	**Guantanamo Bay**	**42.22**	**349**	*e*P		**P**	**18 45 42.7**	**-1.4**
	comp=Z,73nm,0.7s							
PMSA	**Palmer Station**	**42.99**	**178**	P		**P**	**18 45 50.5**	**+0.7**
PMSA				PP		**PcP**	**18 47 37.4**	**+0.6**
PMSA	**Palmer Station**	**42.99**	**178**	P		**P**	**18 45 50.5**	**+0.7**
	comp=Z,39nm,1.1s,baz=2.5,slow=7.9,SNR=8.1							
PMSA				PP		**PcP**	**18 47 37.4**	**+0.6**
	comp=Z,29nm,1.1s,baz=357,slow=8.2,SNR=3.8							
GRTK	**Grand Turk**	**43.24**	**355**	*e*P		**P**	**18 45 51.6**	**-0.8**
	comp=Z,279nm,0.8s							
TEIG	**Tepich**	**46.62**	**332**	*e*P		**P**	**18 46 18.3**	**-0.7**
	comp=Z,139nm,0.6s							
TIGA	**Tifton**	**55.26**	**343**	⇑P		**P**	**18 47 22.7**	**-0.6**
	baz=56							
BRAL	**Brewton**	**55.90**	**339**	*e*P		**P**	**18 47 29.0**	**+1.1**
	comp=Z,254nm,0.6s							
NHSC	**New Hope**	**56.02**	**347**	*e*P		**P**	**18 47 29.2**	**+0.5**
	comp=Z,338nm,1.2s							
GOGA	**Godfrey**	**57.09**	**344**	*e*P		**P**	**18 47 35.5**	**-0.8**
GOGA				pmax		pmax		
	comp=Z,47nm,0.7s							
GOGA	**Godfrey**	**57.09**	**344**	*e*P		**P**	**18 47 35.5**	**-0.8**
	comp=Z,47nm,0.7s							
LRAL	**Lakeview Retre**	**57.75**	**340**	*e*P		**P**	**18 47 39.9**	**-1.0**
	comp=Z,70nm,0.5s							
VBMS	**Vicksburg**	**58.21**	**337**	*e*P		**P**	**18 47 43.9**	**-0.2**
	comp=Z,45nm,0.6s							
KMSC	**Kings Mountain**	**58.23**	**346**	⇑P		**P**	**18 47 44.2**	**0.0**
	baz=58,SNR=30							
KMSC				⇓S		**S**	**18 55 29.8**	**-2.4**
	baz=58							
KMSC				⇓S		**S**	**18 55 29.8**	**-2.4**
	baz=58							
CPCT	**Cooper Cave**	**59.30**	**344**	*e*P		**P**	**18 47 51.1**	**-0.4**
TKL	**Tuckaleechee C**	**59.30**	**344**	*e*P		**P**	**18 47 51.1**	**-0.5**
732A	**Laxson Ranch,**	**59.41**	**326**	⇓P		**P**	**18 47 52.2**	**-0.3**
	baz=60,SNR=52							
OXF	**Oxford**	**59.89**	**339**	*e*P		**P**	**18 47 54.3**	**-1.3**
OXF				pmax		pmax		
	comp=Z,100nm,0.7s							
OXF	**Oxford**	**59.89**	**339**	*e*P		**P**	**18 47 54.3**	**-1.3**
	comp=Z,100nm,0.7s							
632A	**Uvalde**	**59.94**	**327**	⇓P		**P**	**18 47 56.1**	**-0.1**
	baz=60,SNR=37							
BLA	**Blacksburg**	**60.04**	**348**	*e*P		**P**	**18 47 57.0**	**+0.4**
BLA				pmax		pmax		
	comp=Z,46nm,0.6s							
BLA	**Blacksburg**	**60.04**	**348**	*e*P		**P**	**18 47 57.0**	**+0.4**
	comp=Z,46nm,0.6s							
JSRW	**J. Sargeant Re**	**60.05**	**350**	*e*P		**P**	**18 47 57.5**	**+0.8**
TZTN	**Tazewell**	**60.09**	**345**	*e*P		**P**	**18 47 56.4**	**-0.5**
	comp=Z,79nm,0.8s							
631A	**Perdido Creek**	**60.27**	**326**	⇑P		**P**	**18 47 57.7**	**-0.6**
	baz=60,SNR=32							
532A	**Rocksprings**	**60.51**	**327**	⇑P		**P**	**18 47 59.8**	**-0.2**
	baz=61,SNR=28							
JCT	**Junction City**	**60.74**	**328**	*e*P		**P**	**18 48 01.3**	**-0.3**
JCT				pmax		pmax		
	comp=Z,104nm,0.7s							
JCT	**Junction City**	**60.74**	**328**	*e*P		**P**	**18 48 01.3**	**-0.3**
	comp=Z,104nm,0.7s							
JCT	**Junction City**	**60.74**	**328**	⇑P		**P**	**18 48 01.2**	**-0.3**
	baz=61,SNR=58							
531A	**Rocksprings**	**60.86**	**327**	⇓P		**P**	**18 48 02.5**	**+0.2**
	baz=61							
WVT	**Waverly**	**60.87**	**341**	*e*P		**P**	**18 48 01.0**	**-1.2**
WVT				pmax		pmax		
	comp=Z,295nm,0.6s							
WVT	**Waverly**	**60.87**	**341**	*e*P		**P**	**18 48 01.0**	**-1.2**
	comp=Z,295nm,0.6s							
WHTX	**Lake Whitney**	**60.88**	**331**	⇑P		**P**	**18 48 02.2**	**-0.1**
	baz=61,SNR=22							
432A	**Menard**	**61.06**	**328**	⇓P		**P**	**18 48 03.3**	**-0.4**
	baz=61,SNR=59							
HALT	**Halls**	**61.15**	**339**	*e*P		**P**	**18 48 03.2**	**-0.9**
UALR	**University of**	**61.17**	**336**	*e*P		**P**	**18 48 03.9**	**-0.4**
	comp=Z,41nm,1.0s							
530A	**J-C Ranch, Com**	**61.25**	**326**	⇑P		**P**	**18 48 04.8**	**-0.2**
	baz=62,SNR=79							
431A	**Sonora**	**61.31**	**327**	⇓P		**P**	**18 48 04.8**	**-0.6**
	baz=62,SNR=37							
GNAR	**Gosnell**	**61.42**	**339**	*e*P		**P**	**18 48 05.9**	**0.0**
	comp=Z,2μm,0.6s							
MIAR	**Mount Ida**	**61.43**	**335**	*e*P		**P**	**18 48 05.6**	**-0.5**
MIAR				pmax		pmax		
	comp=Z,49nm,0.6s							
MIAR	**Mount Ida**	**61.43**	**335**	*e*P		**P**	**18 48 05.6**	**-0.5**
	comp=Z,49nm,0.6s							
SNAA	**Sanae**	**61.44**	**161**	*e*P		**P**	**18 48 05.9**	**+0.2**
SNAA	**Sanae**	**61.44**	**161**	*e*PP		PP	18 50 18.5	-4.4
SNAA	**Sanae**	**61.44**	**161**	⇑*iP*		**P**	**18 48 06.0**	**+0.2**
SNAA	**Sanae**	**61.44**	**161**	*e*P		**P**	**18 48 05.5**	**-0.3**
	comp=Z,95nm,0.8s							
SNAA	**Sanae**	**61.44**	**161**	P		**P**	**18 48 05.9**	**+0.2**
	comp=Z,23nm,0.6s,baz=288,slow=6.5,SNR=365							
BBTS	**Babate**	**61.45**	**58**	LR		LR	19 15 46.5	
	comp=Z,246nm,18.3s,baz=15,slow=37							
332A	**Millersview**	**61.45**	**328**	⇑P		**P**	**18 48 06.0**	**-0.3**
	baz=62,SNR=59							
628A	**Black Gap, Mar**	**61.55**	**325**	⇓P		**P**	**18 48 07.3**	**+0.3**
	baz=62,SNR=138							
SDMD	**Soldier's Deli**	**61.58**	**351**	*e*P		**P**	**18 48 07.2**	**+0.2**
	comp=Z,31nm,0.8s							
529A	**Stev Forest Ra**	**61.69**	**326**	⇑P		**P**	**18 48 08.0**	**0.0**
	baz=62,SNR=76							
430A	**Baggett Ranch,**	**61.71**	**327**	⇑P		**P**	**18 48 07.7**	**-0.4**
	baz=62,SNR=109							
331A	**San Angelo**	**61.73**	**328**	⇑P		**P**	**18 48 07.7**	**-0.4**
	baz=62,SNR=40							
627A	**Terlingua Ranc**	**61.79**	**324**	⇓P		**P**	**18 48 08.5**	**-0.2**
	baz=62							
232A	**Coleman**	**61.82**	**329**	⇑P		**P**	**18 48 08.5**	**-0.3**
	baz=62,SNR=65							
TXAR	**Lajitas Array**	**61.85**	**324**	P		**P**	**18 48 09.1**	**0.0**
TXAR	**Lajitas Array**	**61.85**	**324**	P		**P**	**18 48 09.1**	**0.0**
	comp=Z,13nm,0.6s,baz=149,slow=8.7,SNR=148							
429A	**Davenport Ranc**	**61.92**	**326**	⇓P		**P**	**18 48 09.4**	**-0.2**
	baz=62,SNR=95							
PARMO	**Parma**	**61.97**	**339**	*e*P		**P**	**18 48 09.5**	**0.0**
528A	**Cox Ranch, San**	**62.02**	**325**	⇓P		**P**	**18 48 09.8**	**-0.5**
	baz=62,SNR=8.1							
MVL	**Millersville**	**62.10**	**352**	*e*P		**P**	**18 48 10.9**	**+0.6**
	comp=Z,26nm,0.8s							
RKT	**Rikitea**	**62.17**	**255**	*e*P		**P**	**18 48 13.7**	**+2.4**
	comp=Z,38nm,0.8s							
RKT				*e*S		**S**	**18 56 23.6**	**+0.6**
	comp=Z,1μm,28.0s							
RKT	**Rikitea**	**62.17**	**255**	*e*LR		LR	19 06 55.7	
	comp=Z,1μm,27.0s							
330A	**Mertzon**	**62.18**	**327**	⇑P		**P**	**18 48 10.5**	**-0.7**
	baz=62,SNR=29							
231A	**Bronte**	**62.18**	**328**	⇑P		**P**	**18 48 10.5**	**-0.7**
	baz=62,SNR=14							
626A	**Big Bend Ranch**	**62.27**	**324**	⇑P		**P**	**18 48 12.2**	**+0.3**
	baz=62,SNR=92							
WCI	**Wyandotte Cave**	**62.38**	**343**	*e*P		**P**	**18 48 11.2**	**-1.2**
WCI				pmax		pmax		
	comp=Z,122nm,0.6s							
WCI	**Wyandotte Cave**	**62.38**	**343**	*e*P		**P**	**18 48 11.2**	**-1.2**
	comp=Z,122nm,0.6s							
428A	**Kincaid Ranch,**	**62.41**	**326**	⇑P		**P**	**18 48 12.9**	**0.0**
	baz=63,SNR=43							
ABTX	**Abilene, Hawle**	**62.42**	**329**	⇑P		**P**	**18 48 12.3**	**-0.5**
	baz=63,SNR=8.1							
527A	**Woodward Ranch**	**62.45**	**324**	⇓P		**P**	**18 48 12.8**	**-0.3**
	baz=63,SNR=34							
USIN	**University of**	**62.52**	**342**	*e*P		**P**	**18 48 12.4**	**-0.9**
	comp=Z,76nm,0.8s							
230A	**Sterling City**	**62.54**	**328**	⇑P		**P**	**18 48 12.8**	**-0.8**
	baz=63,SNR=20							
526A	**Mary Lane Ranc**	**62.64**	**324**	⇑P		**P**	**18 48 14.5**	**+0.1**
	baz=63,SNR=79							
329A	**Wagon Wheel Ra**	**62.65**	**327**	⇓P		**P**	**18 48 13.9**	**-0.4**
	baz=63,SNR=54							
SIUC	**Southern Illin**	**62.76**	**340**	*e*P		**P**	**18 48 14.3**	**-0.5**
	comp=Z,68nm,0.6s							
131A	**Roby**	**62.82**	**329**	⇓P		**P**	**18 48 15.2**	**-0.2**
	baz=63,SNR=24							
427A	**Hayter Ranch,**	**62.89**	**325**	⇑P		**P**	**18 48 15.8**	**-0.1**
	baz=63,SNR=45							
Z32A	**Haskell**	**62.91**	**330**	⇑P		**P**	**18 48 15.6**	**-0.3**
	baz=63,SNR=17							
229A	**Bryant Ranch,**	**62.95**	**327**	⇓P		**P**	**18 48 15.7**	**-0.6**
	baz=63,SNR=12							
328A	**Wristen Ranch,**	**63.00**	**326**	⇓P		**P**	**18 48 16.4**	**-0.2**
	baz=63,SNR=127							
130A	**Snyder**	**63.04**	**328**	⇓P		**P**	**18 48 16.5**	**-0.3**
	baz=63,SNR=42							
426A	**McDonald Obser**	**63.08**	**325**	⇑P		**P**	**18 48 17.5**	**+0.1**
	baz=63,SNR=63							
Z31A	**Sharp Cattle R**	**63.23**	**329**	⇑P		**P**	**18 48 17.7**	**-0.4**
	baz=64,SNR=46							
BLO	**Bloomington**	**63.33**	**343**	*e*P		**P**	**18 48 17.8**	**-0.8**
BLO				pmax		pmax		
	comp=Z,123nm,0.5s							
BLO	**Bloomington**	**63.33**	**343**	*e*P		**P**	**18 48 17.8**	**-0.8**
	comp=Z,123nm,0.5s							
OLIL	**Olney**	**63.36**	**342**	*e*P		**P**	**18 48 17.4**	**-1.4**
	comp=Z,51nm,1.0s							
228A	**UT Block 9, Go**	**63.47**	**327**	⇓P		**P**	**18 48 19.0**	**-0.7**
	baz=64,SNR=27							
Y32A	**R-V Farms, Ver**	**63.47**	**330**	⇓P		**P**	**18 48 19.3**	**-0.3**
	baz=64,SNR=9.3							
TUL1	**Tulsa**	**63.51**	**334**	⇑P		**P**	**18 48 19.4**	**-0.4**
	baz=64,SNR=9.1							
129A	**Stewart Farms,**	**63.51**	**328**	⇑P		**P**	**18 48 19.5**	**-0.5**
	baz=64,SNR=20							
BRYW	**Bryant College**	**63.54**	**356**	*e*P		**P**	**18 48 20.2**	**+0.3**
	comp=Z,48nm,0.7s							
326A	**Caldwell Ranch**	**63.56**	**325**	⇓P		**P**	**18 48 20.1**	**-0.2**
	baz=64,SNR=58							
Z30A	**Sanderson Ranc**	**63.68**	**328**	⇑P		**P**	**18 48 20.4**	**-0.7**
	baz=64,SNR=75							
425A	**Indio Mountain**	**63.69**	**324**	⇑P		**P**	**18 48 21.2**	**-0.1**
	baz=64,SNR=201							
227A	**Bennet, Jal**	**63.74**	**326**	⇑P		**P**	**18 48 21.2**	**-0.3**
	baz=64							
WMOK	**Wichita Mounta**	**63.78**	**331**	*e*P		**P**	**18 48 20.7**	**-0.9**
WMOK				pmax		pmax		
	comp=Z,13nm,0.6s							
WMOK	**Wichita Mounta**	**63.78**	**331**	*e*P		**P**	**18 48 20.7**	**-0.9**
	comp=Z,13nm,0.6s							
128A	**Castleberry Fa**	**63.81**	**327**	⇑P		**P**	**18 48 21.4**	**-0.6**
	baz=64,SNR=55							
Y31A	**Rekieta Farm,**	**63.82**	**330**	⇓P		**P**	**18 48 21.6**	**-0.3**
	baz=64							
SLM	**Saint Louis**	**63.92**	**340**	*e*P		**P**	**18 48 21.8**	**-0.7**
SLM				pmax		pmax		
	comp=Z,42nm,0.7s							
SLM	**Saint Louis**	**63.92**	**340**	*e*P		**P**	**18 48 21.8**	**-0.7**
	comp=Z,42nm,0.7s							
Z29A	**Hungry Hill Ra**	**63.94**	**328**	⇓P		**P**	**18 48 21.8**	**-1.0**
	baz=64,SNR=9.5							
Y30A	**Stafford Cattl**	**64.05**	**329**	⇓P		**P**	**18 48 22.7**	**-0.7**
	baz=64							
HRV	**Adam Dziewonsk**	**64.13**	**356**	*e*P		**P**	**18 48 24.6**	**+0.9**
HRV				pmax		pmax		
	comp=Z,17nm,0.7s							
HRV	**Adam Dziewonsk**	**64.13**	**356**	*e*P		**P**	**18 48 24.6**	**+0.9**
	comp=Z,17nm,0.7s							
325A	**Bean Ranch, Si**	**64.14**	**324**	⇓P		**P**	**18 48 24.1**	**-0.2**
	baz=64,SNR=160							
BINY	**Binghamton**	**64.22**	**353**	*e*P		**P**	**18 48 24.9**	**+0.5**
	comp=Z,50nm,0.8s							
X31A	**McDonald Ranch**	**64.24**	**330**

	baz=67								
Y24A	**Capitan**	66.36	326	⇓	P		P	18 48 38.1	-0.4
	baz=67,SNR=25								
W26A	**Owens Ranch, T**	66.42	328	⇑	P		P	18 48 38.9	+0.1
	baz=67,SNR=17								
X25A	**Clemmons Ranch**	66.43	327	⇓	P		P	18 48 38.4	-0.5
	baz=67,SNR=20								
LONY	**Lake Ozonia**	66.46	354	*e*	P		P	18 48 39.3	+0.6
	comp=Z,35nm,0.8s								
LONY				*e*	SP			18 49 33.5	
T30A	**Plains**	66.49	331	⇑	P		P	18 48 39.0	-0.1
	baz=67								
V27A	**Dan Oppiter Fa**	66.50	329	⇓	P		P	18 48 39.1	-0.2
	baz=67								
S31A	**Mullinville**	66.50	332	⇓	P		P	18 48 39.3	+0.1
	baz=67,SNR=6.9								
220A	**Playas Peak, P**	66.52	322	⇑	P		P	18 48 40.2	+0.7
	baz=67,SNR=87								
319A	**Douglas**	66.56	321	⇑	P		P	18 48 40.6	+0.8
	baz=67,SNR=55								
121A	**Cookes Peak, D**	66.57	323	⇓	P		P	18 48 41.0	+1.1
	baz=67,SNR=57								
KSU1	**Kansas State U**	66.59	335	*e*	P		P	18 48 38.9	-0.7
	comp=Z,66nm,0.7s								
FRNY	**Flat Rock**	66.59	355	*e*	P		P	18 48 40.0	+0.6
	comp=Z,25nm,0.8s								
Z22A	**Elephant Butte**	66.66	324	⇓	P		P	18 48 41.4	+1.0
	baz=67,SNR=82								
Y23A	**Lovelace Mesa,**	66.69	325	⇑	P		P	18 48 40.9	+0.3
	baz=67,SNR=69								
U28A	**Mallet**	66.71	330	⇑	P		P	18 48 40.4	-0.2
	baz=67,SNR=10.0								
X24A	**Lazy VL Ranch,**	66.86	326	⇑	P		P	18 48 41.7	+0.1
	baz=67,SNR=32								
MSNY	**Massena**	66.87	354	*e*	P		P	18 48 41.8	+0.6
	comp=Z,273nm,0.9s								
W25A	**X Bar L Ranch,**	66.87	327	⇑	P		P	18 48 41.6	-0.1
	baz=67,SNR=65								
LIC	**Lamto**	66.89	73	⇑	*i*P		P	18 48 41.5	-0.6
	comp=Z,82nm,0.6s,baz=255								
T29A	**Hugoton**	66.92	331	⇑	P		P	18 48 41.9	+0.1
	baz=67,SNR=11								
S30A	**Montezuma**	66.95	332	⇓	P		P	18 48 42.0	0.0
	baz=67,SNR=9.1								
V26A	**Tequesquite Ra**	66.99	328	⇑	P		P	18 48 42.5	0.0
	baz=67,SNR=21								
U27A	**Thompson Grove**	67.03	329	⇓	P		P	18 48 42.5	-0.1
	baz=67,SNR=13								
120A	**U Bar Ranch, L**	67.05	323	⇑	P		P	18 48 43.9	+1.0
	baz=67,SNR=55								
R31A	**Burdett**	67.08	333	⇓	P		P	18 48 42.8	0.0
	baz=67,SNR=10								
Z21A	**St. Cloud Mine**	67.09	324	⇑	P		P	18 48 44.2	+1.1
	baz=67,SNR=13								
Y22A	**Socorro**	67.18	325	⇑	P		P	18 48 44.3	+0.6
	baz=67,SNR=18								
S29A	**Ulysses**	67.22	331	⇓	P		P	18 48 44.0	+0.3
	baz=68,SNR=8.7								
DBIC	**Dimbokro**	67.24	72	⇑	*i*P		P	18 48 44.1	-0.1
DBIC	**Dimbokro**	67.24	72	*e*	P		P	18 48 44.0	-0.3
	comp=Z,162nm,0.8s								
DBIC				PcP			PcP	18 49 11.4	+0.5
DBIC	**Dimbokro**	67.24	72	P			P	18 48 43.8	-0.5
	comp=Z,140nm,0.8s,baz=216,slow=6.7,SNR=112								
DBIC				PcP			PcP	18 49 11.4	+0.5
	comp=Z,32nm,0.8s,baz=192,slow=6.8,SNR=3.0								
DBIC				LR			LR	19 19 19.1	
	comp=Z,504nm,18.1s,baz=197,slow=37								
X23A	**Hourglass Bar**	67.26	326	⇑	P		P	18 48 44.8	+0.5
	baz=68,SNR=17								
Y22D	**IRIS PASSCAL I**	67.26	325	⇑	P		P	18 48 45.4	+1.2
	baz=68								
T28A	**Walsh**	67.27	330	⇑	P		P	18 48 43.6	-0.4
	baz=68								
LPM	**Los Pinos Moun**	67.29	325	*e*	P		P	18 48 45.0	+0.6
W24A	**Lazy 6 Ranch,**	67.34	327	⇓	P		P	18 48 44.6	-0.1
	baz=68,SNR=22								
LENM	**Lemitar**	67.36	325	*e*	P		P	18 48 45.5	+0.7
R30A	**Dighton**	67.40	332	⇑	P		P	18 48 45.0	+0.2
	baz=68,SNR=6.8								
V25A	**Rancho No Teng**	67.44	328	⇓	P		P	18 48 45.4	+0.2
	baz=68,SNR=16								
U26A	**Atchley Ranch,**	67.45	329	⇓	P		P	18 48 45.5	+0.1
	baz=68,SNR=26								
Z20A	**Nine Sixteen R**	67.45	323	⇑	P		P	18 48 46.6	+1.2
	baz=68,SNR=105								
T27A	**Campo**	67.50	330	⇓	P		P	18 48 45.6	0.0
	baz=68,SNR=55								
S28A	**Manter**	67.55	331	⇓	P		P	18 48 45.8	0.0
	baz=68,SNR=53								
Y21A	**Point of Rocks**	67.61	324	⇓	P		P	18 48 47.8	+1.3
	baz=68,SNR=53								
LAZ	**Ladron**	67.62	325	*e*	P		P	18 48 47.4	+0.9
	comp=Z,19nm,1.1s								
Q31A	**Ellis**	67.63	333	⇑	P		P	18 48 46.4	+0.2
	baz=68,SNR=18								
X22A	**Bernardo**	67.64	325	⇓	P		P	18 48 47.8	+1.2
	baz=68,SNR=14								
V24A	**Rampart Ranch,**	67.68	327	⇓	P		P	18 48 47.0	+0.1
	baz=68,SNR=26								
ANMO	**Albuquerque**	67.68	326	*e*	P		P	18 48 47.3	+0.5
	comp=Z,343nm,2.3s								
ANMO				*e*	SP			18 49 34.4	
W23A	**Werner Place,**	67.69	326	⇓	P		P	18 48 47.4	+0.5
	baz=68,SNR=29								
U25A	**Circle Dot Ran**	67.78	328	⇑	P		P	18 48 47.8	+0.3
	baz=68,SNR=40								
JFWS	**Jewell Farm**	67.84	342	*e*	P		P	18 48 46.9	-0.5
JFWS				pmax			pmax		
	comp=Z,134nm,0.6s								
JFWS	**Jewell Farm**	67.84	342	*e*	P		P	18 48 46.9	-0.5
	comp=Z,134nm,0.6s								
SCIA	**State Center**	67.85	339	*e*	P		P	18 48 47.0	-0.5
	comp=Z,70nm,0.6s								
R29A	**Marienthal**	67.89	332	⇓	P		P	18 48 48.0	+0.1
	baz=68,SNR=8.8								
Y20A	**Horse Springs,**	67.92	324	⇓	P		P	18 48 49.5	+1.1
	baz=68,SNR=22								
Q30A	**Quinter**	67.96	333	⇓	P		P	18 48 48.8	+0.5
	baz=68,SNR=49								
W22A	**Albuquerque**	67.99	326	⇓	P		P	18 48 50.1	+1.3
	baz=68,SNR=21								
T26A	**Comanche Natio**	68.00	329	⇑	P		P	18 48 49.3	+0.5
	baz=68,SNR=60								
X21A	**Alamocita Cree**	68.01	324	⇑	P		P	18 48 50.2	+1.2
	baz=68,SNR=98								
P31A	**Stockton**	68.06	334	⇑	P		P	18 48 49.0	+0.1
	baz=68,SNR=21								
S27A	**Las Animas**	68.08	330	⇑	P		P	18 48 48.9	-0.3
	baz=68								
TUC	**Tucson**	68.12	321	*e*	P		P	18 48 49.4	-0.1
TUC				pmax			pmax		
	comp=Z,519nm,1.6s								
TUC	**Tucson**	68.12	321	*e*	P		P	18 48 49.4	-0.1
	comp=Z,519nm,1.6s								
R28A	**Tribune**	68.13	331	⇓	P		P	18 48 49.4	-0.1
	baz=68								
V23A	**Ortiz Mt. (NFS**	68.16	326	⇓	P		P	18 48 50.7	+0.9
	baz=68,SNR=24								
Q29A	**Oakley**	68.21	332	⇑	P		P	18 48 49.8	-0.1
	baz=68,SNR=28								
U24A	**Moreno Valley**	68.22	328	⇓	P		P	18 48 51.2	+0.9
	baz=68								
S26A	**Kim**	68.30	330	⇓	P		P	18 48 51.2	+0.6
	baz=69,SNR=58								
T25A	**Trinidad**	68.37	329	⇑	P		P	18 48 51.8	+0.7
	baz=69,SNR=32								
QSPA	**South Pole Qui**	68.38	180	*e*	P		P	18 48 50.9	+0.2
	comp=Z,266nm,0.6s								
W21A	**San Fidel**	68.44	325	⇑	P		P	18 48 52.7	+1.1
	baz=69,SNR=12								
P30A	**Selden**	68.44	333	⇓	P		P	18 48 51.5	+0.2
	baz=69,SNR=14								
X20A	**Quemado**	68.47	324	⇑	P		P	18 48 52.8	+1.1
	baz=69,SNR=38								
R27A	**Eads**	68.53	330	⇑	P		P	18 48 51.8	-0.2
	baz=69,SNR=13								
U23A	**El Rito**	68.61	327	⇓	P		P	18 48 53.5	+0.9
	baz=69								
V22A	**San Miguel Ran**	68.66	326	⇓	P		P	18 48 54.2	+1.2
	baz=69,SNR=56								
Q28A	**Sharon Springs**	68.73	332	⇓	P		P	18 48 53.4	+0.2
	baz=69,SNR=7.9								
S25A	**Robets Cordova**	68.79	329	⇓	P		P	18 48 54.4	+0.7
	baz=69,SNR=53								
R26A	**Arlington**	68.84	330	⇓	P		P	18 48 54.2	+0.4
	baz=69,SNR=67								
O30A	**MW Ranch, Wils**	68.89	333	⇓	P		P	18 48 54.3	+0.2
	baz=69,SNR=12								
W20A	**Ramah**	68.90	324	⇑	P		P	18 48 55.5	+1.0
	baz=69,SNR=28								
V21A	**Milan**	68.96	326	⇓	P		P	18 48 55.9	+1.1
	baz=69,SNR=8.9								
U22A	**Llaves**	68.99	326	⇓	P		P	18 48 55.9	+0.9
	baz=69,SNR=26								
KSCO	**Kaye Shedlock'**	69.04	331	⇑	P		P	18 48 55.7	+0.6
	baz=69,SNR=10.0								
214A	**Organ Pipe Nat**	69.07	319	⇑	P		P	18 48 56.6	+1.2
	baz=69,SNR=30								
T23A	**Casias Ranch,**	69.08	327	⇑	P		P	18 48 56.3	+0.7
	baz=69,SNR=7.7								
R25A	**Fountain Ranch**	69.11	329	⇑	P		P	18 48 56.0	+0.4
	baz=69,SNR=33								
P28A	**Saint Francis**	69.11	332	⇓	P		P	18 48 55.8	+0.3
	baz=69								
S24A	**Houchin Ranch,**	69.15	328	⇑	P		P	18 48 57.0	+1.0
	baz=69,SNR=58								
O29A	**4D Ranch, Culb**	69.16	333	⇑	P		P	18 48 56.0	+0.3
	baz=70								
BGNE	**Belgrade**	69.17	335	⇑	P		P	18 48 55.8	0.0
	baz=70,SNR=20								
X18A	**Snowflake**	69.26	323	⇑	P		P	18 48 57.7	+1.1
	baz=70,SNR=16								
Q26A	**Hugo**	69.37	330	⇓	P		P	18 48 57.9	+0.7
	baz=70,SNR=20								
SDCO	**Great Sand Dun**	69.38	328	*e*	P		P	18 48 57.9	+0.5
	comp=Z,39nm,0.7s								
V20A	**Brimhall**	69.39	325	⇓	P		P	18 48 58.2	+0.7
	baz=70,SNR=28								
N30A	**Hueftle Ranch,**	69.43	334	⇑	P		P	18 48 57.8	+0.5
	baz=70,SNR=6.6								
U21A	**Nageezi**	69.44	326	⇑	P		P	18 48 58.5	+0.8
	baz=70,SNR=30								
P27A	**Ficken Ranch,**	69.46	331	⇑	P		P	18 48 58.2	+0.5
	baz=70,SNR=7.6								
T22A	**Edith**	69.50	327	⇑	P		P	18 48 59.3	+1.1
	baz=70,SNR=18								
R24A	**Sanders Place,**	69.57	329	⇓	P		P	18 48 59.5	+1.0
	baz=70,SNR=38								
W18A	**Petrified Fore**	69.57	324	⇓	P		P	18 48 59.5	+0.9
	baz=70,SNR=16								
O28A	**Krutsinger Ran**	69.58	332	⇑	P		P	18 48 59.0	+0.6
	baz=70,SNR=16								
S23A	**Nye Farm, Mont**	69.59	328	⇑	P		P	18 48 59.4	+0.7
	baz=70								
N29A	**Votaw Ranch, W**	69.67	333	⇑	P		P	18 48 59.3	+0.4
	baz=70,SNR=13								
Q25A	**Bedland, Calha**	69.70	330	⇓	P		P	18 48 59.5	+0.2
	baz=70,SNR=12								
P26A	**Davis Ranch, A**	69.81	331	⇓	P		P	18 49 00.2	+0.3
	baz=70								
T21A	**Navajo Lake**	69.81	326	⇑	P		P	18 49 00.8	+0.8
	baz=70,SNR=13								
U20A	**Newcomb**	69.86	325	⇑	P		P	18 49 00.9	+0.7
	baz=70,SNR=22								
O27A	**Beecher Island**	69.94	332	⇑	P		P	18 49 01.3	+0.8
	baz=70,SNR=10								
M30A	**Dale-Ortello V**	69.96	334	⇑	P		P	18 49 00.9	+0.2
	baz=70,SNR=8.7								
X16A	**Lo Mia Camp, P**	70.02	322	⇑	P		P	18 49 02.5	+1.2
	baz=70,SNR=34								
S22A	**4UR Ranch, Cre**	70.03	327	⇑	P		P	18 49 02.0	+0.5
	baz=70,SNR=33								
Z14A	**Wintersburg**	70.14	320	⇓	P		P	18 49 02.7	+0.9
	baz=70								
P25A	**Willow Gulch B**	70.15	330	⇑	P		P	18 49 02.9	+0.9
	baz=70,SNR=14								
Q24A	**Divide**	70.17	329	⇓	P		P	18 49 02.9	+0.7
	baz=70,SNR=46								
113A	**Mohawk Valley,**	70.22	319	⇓	P		P	18 49 03.0	+0.8
	baz=70,SNR=15								
M29A	**Burnside Ranch**	70.22	334	⇑	P		P	18 49 02.5	+0.4
	baz=70								
O26A	**Horse Wrangler**	70.35	331	⇑	P		P	18 49 03.8	+0.7
	baz=71,SNR=5.4								
OGNE	**Ogallala**	70.36	333	⇑	P		P	18 49 03.4	+0.3
	baz=71								
R22A	**Saguache, Gunn**	70.37	328	⇑	P		P	18 49 04.3	+0.8
	baz=71,SNR=26								
Q23A	**Hartsel**	70.45	329	⇓	P		P	18 49 04.4	+0.4
	baz=71								
S21A	**Coal Bank Pass**	70.45	327	⇓	P		P	18 49 04.8	+0.8
	baz=71,SNR=34								
M28A	**Bar X Bar Ranc**	70.46	333	⇑	P		P	18 49 04.2	+0.5
	baz=71								
N27A	**Anderson Farm,**	70.47	332	⇓	P		P	18 49 04.2	+0.4
	baz=71,SNR=6.6								
MVCO	**Mesa Verde**	70.47	326	*e*	P		P	18 49 04.9	+0.8
	comp=Z,139nm,1.3s								
MVCO	**Mesa Verde**	70.47	326	⇓	P		P	18 49 04.9	+0.8
	baz=71,SNR=40								
COWI	**Conover**	70.48	344	*e*	P		P	18 49 03.1	-0.5
	comp=Z,17nm,0.6s								
P24A	**Kohler Place,**	70.49	330	⇑	P		P	18 49 05.0	+1.0
	baz=71								
Y14A	**Wickenburg**	70.58	321	⇑	P		P	18 49 05.5	+0.9
	baz=71,SNR=29								
O25A	**Wiggins**	70.61	331	⇓	P		P	18 49 05.7	+1.0
	baz=71,SNR=6.4								
ECSD	**EROS Data Cent**	70.62	338	*e*	P		P	18 49 03.8	-0.7
	comp=Z,33nm,0.7s								
L29A	**Maesberg Ranch**	70.65	334	⇓	P		P	18 49 05.1	+0.3
	baz=71								
SPMN	**St. Paul**	70.71	341	⇑	P		P	18 49 04.1	-0.8
	baz=71,SNR=9.5								
WUAZ	**Wupatki**	70.77	323	*e*	P		P	18 49 07.0	+1.3
	comp=Z,71nm,1.1s								
WUAZ	**Wupatki**	70.77	323	⇓	P		P	18 49 07.1	+1.3
	baz=71,SNR=24								
N26A	**Koester Ranch,**	70.78	332	⇓	P		P	18 49 06.4	+0.7
	baz=71								
P23A	**Jefferson**	70.82	329	⇑	P		P	18 49 07.1	+0.9
	baz=71,SNR=17								
R21A	**Cimarron**	70.87	327	⇑	P		P	18 49 07.5	+1.0
	baz=71,SNR=33								
S20A	**Disappointment**	70.87	326	⇑	P		P	18 49 07.7	+1.2
	baz=71,SNR=40								
Q22A	**Crested Butte,**	70.94	328	⇓	P		P	18 49 07.8	+0.9
	baz=71,SNR=15								
M27A	**Reverse DX Ran**	71.00	333	⇑	P		P	18 49 07.6	+0.7
	baz=71,SNR=7.0								
L28A	**Connealy Angus**	71.03	334	⇑	P		P	18 49 07.5	+0.4
	baz=71								
ISCO	**Idaho Springs**	71.05	330	*e*	P		P	18 49 08.2	+0.6
ISCO				pmax			pmax		
	comp=Z,49nm,1.1s								
ISCO	**Idaho Springs**	71.05	330	*e*	P		P	18 49 08.2	+0.6
	comp=Z,49nm,1.1s								
ISCO	**Idaho Springs**	71.05	330	⇑	P		P	18 49 08.3	+0.8
	baz=71,SNR=33								
O24A	**Longmont**	71.05	330	⇓	P		P	18 49 07.9	+0.6
	baz=71								
GLA	**Glamis**	71.06	319	*e*	P		P	18 49 08.5	+1.1
GLA				pmax			pmax		
	comp=Z,23nm,0.7s								
GLA	**Glamis**	71.06	319	*e*	P		P	18 49 08.5	+1.1
	comp=Z,23nm,0.7s								
GLA	**Glamis**	71.06	319	⇑	P		P	18 49 08.4	+1.1
	baz=71,SNR=8.1								
N25A	**Grover**	71.16	331	⇑	P		P	18 49 09.0	+1.0
	baz=71,SNR=5.7								
R20A	**Redvale**	71.16	327	⇑	P		P	18 49 09.5	+1.4
	baz=71,SNR=30								
K29A	**Lazy Trails An**	71.17	335	⇑	P		P	18 49 08.3	+0.4
	baz=72,SNR=32								
PV01	**Paradox Valley**	71.21	327	*e*	P		P	18 49 09.2	+0.7
	comp=Z,1μm,0.5s								
Q21A	**Lamborn Mesa,**	71.25	328	⇑	P		P	18 49 09.5	+0.9
	baz=72,SNR=14								
M26A	**McRoberts Ranc**	71.27	332	⇓	P		P	18 49 09.2	+0.6
	baz=72								
Y12C	**Blythe**	71.35	320	⇓	P		P	18 49 10.2	+1.1
	baz=72,SNR=11								
L27A	**T5 Ranch, Ells**	71.42	333	⇑	P		P	18 49 10.2	+0.7
	baz=72								
P22A	**Eagle**	71.44	329	⇓	P		P	18 49 10.6	+0.8
	baz=72,SNR=26								
PDMCI	**Parker Dam,Lak**	71.50	320	⇑	P		P	18 49 10.7	+0.8
	baz=72								
O23A	**Lake Granby, G**	71.52	330	⇑	P		P	18 49 11.1	+0.8
	baz=72,SNR=25								
N24A	**Carr**	71.53	331	⇑	P		P	18 49 11.2	+1.0
	baz=72,SNR=5.3								
K28A	**Ten Mile Ranch**	71.55	334	⇑	P		P	18 49 11.1	+0.9
	baz=72,SNR=21								
DVTC	**Desert V Tower**	71.58	318	⇓	P		P	18 49 11.7	+1.1
	baz=72,SNR=6.3								
SWSC	**Sam W. Stewart**	71.58	318	⇓	P		P	18 49 11.7	+1.2
	baz=72								
PV04	**Paradox Valley**	71.58	327	*e*	P		P	18 49 11.5	+0.8
M25A	**Palm-Egli Farm**	71.64	332	⇑	P		P	18 49 11.6	+0.7
	baz=72,SNR=6.8								
Q20A	**Ridgley Place,**	71.70	327	⇓	P		P	18 49 11.7	+0.5
	baz=72,SNR=11								
L26A	**Underwood Farm**	71.71	333	⇓	P		P	18 49 12.1	+0.9
	baz=72,SNR=7.5								
O22A	**Kremmling**	71.78	329	⇓	P		P	18 49 12.5	+0.6
	baz=72,SNR=35								
BC3	**Big Chuckawall**	71.85	319	⇑	P		P	18 49 13.3	+1.0
	baz=72,SNR=29								
K27A	**Flueckinger Fa**	71.90	334	⇓	P		P	18 49 13.2	+0.9
	baz=72,SNR=7.9								
W13A	**Hualapai Mount**	71.91	321	⇑	P		P	18 49 13.9	+1.2
	baz=72								
MONP	**Monument Peak**	71.93	318	⇓	P		P	18 49 13.8	+0.9
	baz=72,SNR=10								
U15A	**North Rim**	71.94	323	⇑	P		P	18 49 14.4	+1.5
	baz=72,SNR=51								
IRM	**Iron Mountain**	72.01	320	⇑	P		P	18 49 14.2	+1.1
	baz=72,SNR=24								
M24A	**Cheyenne**	72.01	331	⇓	P		P	18 49 14.3	+1.2
	baz=72,SNR=47								
N23A	**Red Feather La**	72.07	330	⇓	P		P	18 49 14.4	+0.8
	baz=72,SNR=38								
BRSD	**Miller**	72.08	337	⇑	P		P	18 49 12.8	-0.5
	baz=72,SNR=9.4								
J28A	**Allard Ranch,**	72.09	335	⇑	P		P	18 49 13.8	+0.4
	baz=72,SNR=32								
NEE2	**Needles Airpor**	72.11	320	⇑	P		P	18 49 14.3	+0.6
	baz=72								
P20A	**De Beque**	72.16	328	⇓	P		P	18 49 14.9	+0.9
	baz=72,SNR=16								
PHWY	**Pilot Hill**	72.17	331	*e*	P		P	18 49 14.8	+0.6
	comp=Z,28nm,0.6s								
L25A	**Engebretsen Ra**	72.19	332	⇓	P		P	18 49 15.0	+0.9
	baz=72								
N22A	**Wattenberg Ran**	72.23	330	⇑	P		P	18 49 15.7	+1.2
	baz=72,SNR=27								
O21A	**Pagoda**	72.26	329	⇑	P		P	18 49 15.9	+1.2
	baz=72,SNR=14								
PMOZ	**Porto Moniz, M**	72.28	43	*e*	P		P	18 49 15.1	+0.3
	comp=Z,165nm,1.5s								
PMOZ				*e*	S		S	18 58 25.2	+1.5
K26A	**Motz Farm, Whi**	72.30	333	⇓	P		P	18 49 15.4	+0.8
	baz=73								
109C	**Camp Elliot, M**	72.36	317	⇑	P		P	18 49 15.4	+0.3
	baz=73								
BELC	**Belle Mtn. Jos**	72.42	319	⇑	P		P	18 49 16.7	+1.0
	baz=73,SNR=13								
M23A	**Laramie**	72.42	331	⇓	P		P	18 49 16.4	+0.8
	baz=73,SNR=31								
PFO	**Pinyon Flat Ob**	72.43	318	*e*	P		P	18 49 16.4	+0.7
	comp=Z,81nm,1.7s								
PFO	**Pinyon Flat Ob**	72.43	318	⇓	P		P	18 49 16.9	+1.1
	baz=73,SNR=9.4								
K25A	**Mack Ranch, Ha**	72.52	332	⇓	P		P	18 49 16.9	+0.9
	baz=73								
L24A	**Wheatland**	72.52	331	⇓	P		P	18 49 16.8	+0.8
	baz=73								
P19A	**Cripple Cowboy**	72.56	327	⇓	P		P	18 49 17.7	+1.2
	baz=73,SNR=74								
O20A	**White River Ci**	72.57	328	⇓	P		P	18 49 17.5	+1.0
	baz=73,SNR=23								
LDFC	**Landfair**	72.62	320	*e*	P		P	18 49 17.9	+1.1
	comp=Z,86nm,1.0s								
N21A	**Black Mountain**	72.71	329	⇑	P		P	18 49 18.6	+1.2
	baz=73,SNR=41								
GMRC	**Granite Mounta**	72.74	320	⇓	P		P	18 49 18.7	+1.2
	baz=73,SNR=38								
M22A	**Cedar Creek Ra**	72.77	330	⇑	P		P	18 49 18.6	+0.9
	baz=73,SNR=25								
EYMN	**Ely**	72.81	343	*e*	P		P	18 49 17.1	-0.4
	comp=Z,28nm,0.8s								
MURC	**Murrieta**	72.89	318	⇑	P		P	18 49 19.3	+1.0
	baz=73								
L23A	**Garrett**	72.92	331	⇓	P		P	18 49 19.0	+0.5
	baz=73,SNR=14								
SRU	**San Rafael**	72.95	326	*e*	P		P	18 49 19.3	+0.6
SRU				pmax			pmax		
	comp=Z,94nm,0.6s								
SRU	**San Rafael**	72.95	326	*e*	P		P	18 49 19.3	+0.6
	comp=Z,94nm,0.6s								
I27A	**Quinn**	72.96	334	⇓	P		P	18 49

baz=74,SNR=11
SHOC **Shoshone** 73.88 320 ⇑P P 18 49 24.8 +0.8
baz=74
PASC **Pasadena Art C** 73.88 318 eP P 18 49 25.4 +1.3
comp=Z,57nm,1.3s
J23A **Dilts Ranch, B** 73.89 332 ⇑P P 18 49 24.9 +0.8
baz=74
G27A **Dupree** 74.00 335 ⇑P P 18 49 24.7 +0.1
baz=74
DECC **Green Verdugo** 74.02 318 ⇑P P 18 49 25.9 +1.0
baz=74
K21A **Alcova** 74.04 330 ⇑P P 18 49 26.2 +1.1
baz=74,SNR=206
H25A **Fruitdale** 74.04 334 ⇓P P 18 49 25.2 +0.4
baz=74
L20A **Wamsutter** 74.06 329 ⇓P P 18 49 25.9 +0.7
baz=74,SNR=23
M19A **Rock Springs** 74.07 328 ⇓P P 18 49 25.5 +0.3
baz=74
MPU **Maple Canyon** 74.20 326 eP P 18 49 27.4 +1.4
comp=Z,51nm,0.9s
EDW2 **Edwards Air Fo** 74.23 318 ⇓P P 18 49 26.7 +0.6
baz=74
I23A **Meade Ranch, G** 74.29 332 ⇓P P 18 49 26.6 +0.2
baz=75
DAU **Daniels Canyon** 74.30 326 eP P 18 49 27.8 +1.1
DAU **Daniels Canyon** 74.30 326 eP P 18 49 27.8 +1.1
J22A **Midwest** 74.30 331 ⇓P P 18 49 26.9 +0.4
baz=75
NLU **North Lily Min** 74.39 326 eP P 18 49 28.7 +1.6
comp=Z,75nm,1.6s
BLG **Laguna Peak** 74.39 317 ⇓P P 18 49 27.4 +0.4
baz=75
AGMN **Agassiz Nation** 74.39 341 eP P 18 49 25.6 -1.0
comp=Z,27nm,0.9s
LRMC **Laurel Mountai** 74.44 319 ⇓P P 18 49 28.2 +0.8
baz=75,SNR=11
OSI **Osito Adit** 74.51 318 ⇑P P 18 49 28.1 +0.4
baz=75
JLU **Jordanelle** 74.54 326 eP P 18 49 29.2 +1.2
comp=Z,175nm,1.5s
JLU eSP 18 50 15.6
H24A **Dirks Ranch, A** 74.54 333 ⇑P P 18 49 27.9 +0.2
baz=75,SNR=51
K20A **Yellowstone Ra** 74.56 330 ⇑P P 18 49 28.4 +0.3
baz=75
FURC **Furnace Creek,** 74.61 320 ⇑P P 18 49 29.4 +1.3
baz=75,SNR=16
L19A **Farson** 74.62 329 ⇑P P 18 49 29.3 +0.9
baz=75,SNR=36
I22A **9 Mile Ranch,** 74.68 332 ⇓P P 18 49 29.1 +0.5
baz=75,SNR=87
J21A **Lysite** 74.69 331 ⇓P P 18 49 29.5 +0.8
baz=75,SNR=48
MPMC **Manual Prospec** 74.71 320 ⇑P P 18 49 29.7 +0.6
baz=75
H23A **Clabaugh Cattl** 74.75 333 ⇑P P 18 49 29.3 +0.3
baz=75,SNR=5.3
CTU **Camp Tracy** 74.76 326 eP P 18 49 30.3 +1.1
comp=Z,19nm,0.6s
M17A **Scullys Gap (B** 74.79 328 ⇓P P 18 49 29.7 +0.3
baz=75,SNR=15
L18A **Fontenelle, Gr** 74.81 328 ⇑P P 18 49 30.3 +0.8
baz=75,SNR=64
ARVC **Arvin** 74.91 318 ⇓P P 18 49 30.8 +0.8
baz=75
K19A **Absolon Red Bu** 74.93 330 ⇓P P 18 49 30.4 +0.3
baz=75,SNR=51
DUG **Dugway** 74.95 325 eP P 18 49 31.3 +1.1
DUG eSP 18 50 17.8
DUG pmax pmax
comp=Z,163nm,1.7s
DUG **Dugway** 74.95 325 eP P 18 49 31.3 +1.1
comp=Z,163nm,1.7s
DUG eSP 18 50 17.8
DUG **Dugway** 74.95 325 ⇑P P 18 49 31.4 +1.1
baz=75
G24A **Alzada** 74.95 334 ⇓P P 18 49 30.4 +0.3
baz=75,SNR=9.2
TBI **Tubuai** 74.96 251 eS S 18 58 54.0 +0.1
comp=Z,441nm,27.8s
TBI **Tubuai** 74.96 251 eLR LR 19 12 52.4
comp=Z,559nm,24.2s
I21A **Big Trails, Te** 74.98 331 ⇑P P 18 49 30.8 +0.4
baz=75,SNR=152
J20A **Shoshoni** 74.98 330 ⇑P P 18 49 31.4 +1.1
baz=75,SNR=42
SBC **Santa Barbara** 75.02 317 ⇑P P 18 49 31.3 +0.8
baz=75
KOMG **Komaggas** 75.02 116 ⇑iP P 18 49 31.7 +0.8
KOMG AMB AMB 18 49 32.5
comp=Z,158nm,1.9s
ISA **Isabella** 75.04 319 eP P 18 49 31.6 +0.8
ISA eSP 18 50 21.9
ISA pmax pmax
comp=Z,76nm,1.4s
ISA **Isabella** 75.04 319 eP P 18 49 31.6 +0.8
comp=Z,76nm,1.4s
ISA eSP 18 50 21.9
ISA **Isabella** 75.04 319 ⇑P P 18 49 31.9 +1.1
baz=75
E26A **Carlson Angus** 75.12 336 ⇑P P 18 49 31.0 +0.1
baz=75
BW06 **Boulder Array** 75.22 329 eP P 18 49 31.6 -0.3
comp=Z,26nm,0.6s
PDAR **Pinedale Array** 75.22 329 P P 18 49 32.3 +0.4
PDAR **Pinedale Array** 75.22 329 P P 18 49 32.3 +0.4
comp=Z,29nm,0.6s,baz=126,slow=8.0,SNR=218
PDAR LR LR 19 24 41.4
comp=Z,163nm,20.4s,baz=283,slow=37
MDND **Maddock** 75.23 338 ⇑P P 18 49 31.9 +0.4
baz=76,SNR=25
G23A **Biddle** 75.26 333 ⇓P P 18 49 32.2 +0.4
baz=76,SNR=28
GRAC **Grapevine Rang** 75.27 320 ⇑P P 18 49 33.1 +1.1
baz=76
CWC **Cottonwood Cre** 75.31 320 ⇑P P 18 49 33.4 +1.0
baz=76
HWUT **Hardware Ranch** 75.34 327 eP P 18 49 32.8 +0.3
comp=Z,38nm,0.6s
J19A **Crowheart** 75.36 330 ⇑P P 18 49 33.2 +0.6
baz=76,SNR=33
PKM **Peak Mountain** 75.37 317 ⇓P P 18 49 33.8 +1.0
baz=76
F24A **Ekalaka** 75.39 334 ⇑P P 18 49 32.9 +0.3
baz=76,SNR=10.0
I20A **Worland** 75.47 331 ⇓P P 18 49 33.7 +0.6
baz=76,SNR=76
ELIM **Elim** 75.48 122 eP P 18 49 34.1 +0.6
ELIM AMB AMB 18 49 35.6
comp=Z,208nm,0.9s
E25A **Miller Ranch,** 75.50 335 ⇓P P 18 49 33.6 +0.5
baz=76,SNR=22
H21A **Big Horn, Sher** 75.51 332 ⇓P P 18 49 33.5 +0.2
baz=76,SNR=31
VES **Vestal, Richgr** 75.53 319 ⇑P P 18 49 34.4 +0.9
baz=76,SNR=9.3
BGU **Big Grassy Mou** 75.59 326 eP P 18 49 34.6 +0.7
comp=Z,99nm,1.5s
G22A **Birney** 75.65 333 ⇓P P 18 49 34.2 +0.1
baz=76,SNR=7.7
F23A **Volborg** 75.68 333 ⇑P P 18 49 34.4 +0.2
baz=76,SNR=14
SMMC **Simmler** 75.75 318 ⇑P P 18 49 36.2 +1.4
baz=76
SBA **Scott Base** 75.81 190 eP P 18 49 35.6 +1.1
SBA pmax pmax
comp=Z,40nm,1.4s
SBA **Scott Base** 75.81 190 eP P 18 49 35.6 +1.1
comp=Z,40nm,1.4s
TIN **Tinemaha** 75.81 320 ⇓P P 18 49 36.4 +1.2
baz=76
H20A **Greybull** 75.83 331 ⇑P P 18 49 35.2 +0.1
baz=76
TOA0 **Torodi Ar. Sit** 75.91 69 eP P 18 49 35.6 -0.4
TORD **Torodi Ar. Bea** 75.91 69 P P 18 49 36.3 +0.2
TORD S S 18 59 01.9 -2.7
TORD **Torodi Ar. Bea** 75.91 69 P P 18 49 36.3 +0.2
comp=Z,458nm,0.4s,baz=254,slow=5.6,SNR=7685
TORD S S 18 59 01.9 -2.7
comp=Z,8.5nm,1.0s,baz=245,slow=9.8,SNR=11
E24A **Baker** 75.91 335 ⇑P P 18 49 36.2 +0.7
baz=76,SNR=40
I19A **Meeteetse** 75.93 330 ⇑P P 18 49 36.6 +0.8
baz=76,SNR=60
RCTC **Rector, Farmer** 75.93 319 ⇓P P 18 49 35.6 -0.1
baz=76
AHID **Auburn Hatcher** 75.97 328 eP P 18 49 36.5 +0.4
comp=Z,78nm,0.6s
G21A **Lodge Grass** 76.05 332 ⇑P P 18 49 36.8 +0.4
baz=76,SNR=15
I18A **Diamond G Ranc** 76.06 330 ⇑P P 18 49 37.5 +0.9
baz=76,SNR=68
HVU **Hansel Valley** 76.08 327 eP P 18 49 37.3 +0.6
HVU eSP 18 50 28.2
HVU pmax pmax
comp=Z,73nm,1.2s
HVU **Hansel Valley** 76.08 327 eP P 18 49 37.3 +0.6
comp=Z,73nm,1.2s
HVU eSP 18 50 28.2
F22A **Rosebud** 76.08 333 ⇓P P 18 49 36.8 +0.3
baz=76
ULM **Lac du Bonnet** 76.13 341 P P 18 49 36.4 -0.1
ULM **Lac du Bonnet** 76.13 341 P P 18 49 36.4 -0.1
comp=Z,85nm,0.6s,baz=154,slow=6.0,SNR=87
MTUM **Tungsten Hills** 76.21 320 eP P 18 49 38.4 +0.9
E23A **Ismay** 76.27 334 ⇓P P 18 49 37.6 +0.1
baz=77,SNR=17
SNOW **Snow King Moun** 76.32 329 eP P 18 49 39.1 +1.0
comp=Z,61nm,0.7s
SCHQ **Schefferville** 76.34 0 eP P 18 49 37.7 +0.1
comp=Z,32nm,0.8s
SCHQ **Schefferville** 76.34 0 P P 18 49 37.9 +0.2
comp=Z,23nm,0.7s,baz=182,slow=4.2,SNR=29
LOHW **Long Hollow** 76.36 329 eP P 18 49 38.5 +0.2
comp=Z,51nm,0.6s
D24A **Glendive** 76.37 335 ⇓P P 18 49 38.9 +0.8
baz=77
CVNA **Calvinia** 76.40 119 ⇑iP P 18 49 39.7 +0.9
CVNA AMB AMB 18 49 40.5
comp=Z,302nm,1.9s
H19A **Powell** 76.41 331 ⇑P P 18 49 39.1 +0.7
baz=77,SNR=8.2
TPAW **Teton Pass** 76.44 329 eP P 18 49 39.5 +0.8
comp=Z,49nm,0.8s
TPAW eSP 18 50 27.9
E22A **Miles City** 76.48 334 ⇓P P 18 49 38.7 0.0
baz=77,SNR=8.6
F21A **Absaloka Mine,** 76.49 332 ⇑P P 18 49 39.3 +0.5
baz=77
G20A **Bridger** 76.49 331 ⇑P P 18 49 39.1 +0.2
baz=77,SNR=78
TVO **Taravao** 76.50 256 eP P 18 49 40.4 +0.9
comp=Z,52nm,1.1s
RRI2 **Red Ridge** 76.51 328 eP P 18 49 44.1 +4.9
comp=Z,57nm,0.8s
MOOW **Moose Ponds** 76.53 329 eP P 18 49 40.0 +0.7
comp=Z,26nm,0.8s
MLAC **Mammoth Lakes** 76.56 320 ⇓P P 18 49 40.6 +1.0
baz=77
I17A **Pilgrim Ck.** 76.58 329 ⇓P P 18 49 40.9 +1.4
baz=77,SNR=16
ELK **Elko** 76.64 324 eP P 18 49 40.6 +0.7
comp=Z,46nm,1.4s
NV11 **Mina Array Sit** 76.69 321 eP P 18 49 40.7 +0.6
H18A **Shoshone NF, C** 76.73 330 ⇓P P 18 49 40.9 +0.6
baz=77
IMW **Indian Meadow** 76.74 329 eP P 18 49 41.4 +1.0
comp=Z,46nm,0.6s
C24A **Savage** 76.75 335 ⇑P P 18 49 40.9 +0.8
baz=77,SNR=22
FLWY **Flagg Ranch** 76.76 329 eP P 18 49 41.6 +1.1
comp=Z,97nm,1.0s
D23A **Lindsay** 76.77 334 ⇓P P 18 49 41.2 +0.9
baz=77,SNR=30
NVAR **Mina Array Bea** 76.77 321 P P 18 49 41.6 +0.9
NVAR **Mina Array Bea** 76.77 321 P P 18 49 41.6 +0.9
comp=Z,12nm,0.7s,baz=148,slow=6.2,SNR=65
VNDA **Vanda** 76.82 190 eP P 18 49 41.1 +1.0
comp=Z,12nm,1.2s
VNDA **Vanda** 76.82 190 P P 18 49 41.1 +1.0
comp=Z,3.5nm,0.7s,baz=140,slow=4.4,SNR=26
PAE **Paea** 76.83 256 eP P 18 49 42.6 +1.3
comp=Z,10nm,0.9s
PPT2 **Papeete2** 76.85 256 eP P 18 49 42.6 +1.1
comp=Z,60nm,1.2s
PPT2 eS S 18 59 14.9 -0.1
comp=Z,867nm,31.5s
PPT2 **Papeete2** 76.85 256 eLR LR 19 13 43.2
comp=Z,558nm,23.0s
WIN **Windhoek** 76.86 109 eP P 18 49 41.4 -0.2
WIN AMB AMB 18 49 43.5
comp=Z,40nm,0.9s
PPT **Papeete** 76.86 256 P P 18 49 42.9 +1.4
PPT **Papeete** 76.86 256 P P 18 49 42.9 +1.4
comp=Z,39nm,0.9s,baz=121,slow=5.3,SNR=4.9
PPT LR LR 19 15 32.1
comp=Z,497nm,19.8s,baz=122,slow=29
RLMT **Red Lodge** 76.89 331 eP P 18 49 41.9 +0.7
comp=Z,56nm,0.6s
F20A **Billings** 76.92 332 ⇑P P 18 49 41.6 +0.4
baz=77
H17A **Grant Village** 76.94 330 ⇑P P 18 49 43.2 +1.6
baz=77
I16A **Newdale** 76.98 329 ⇓P P 18 49 42.7 +1.0
baz=77,SNR=23
LKWY **Lake** 76.98 330 eP P 18 49 43.9 +2.1
LKWY pmax pmax
comp=Z,42nm,0.8s
LKWY **Lake** 76.98 330 eP P 18 49 43.9 +2.1
comp=Z,42nm,0.8s
SUR **Sutherland** 76.98 120 ⇑iP P 18 49 43.2 +1.1
SUR AMB AMB 18 49 45.0
comp=Z,202nm,3.6s
SUR **Sutherland** 76.98 120 eP P 18 49 43.3 +1.1
comp=Z,216nm,0.8s
E21A **Keefer Ranch,** 77.03 333 ⇑P P 18 49 42.5 +0.7
baz=77
YFT **Old Faithful** 77.10 329 eP P 18 49 44.9 +2.4
comp=Z,26nm,0.7s
D22A **Cohagen** 77.15 334 ⇑P P 18 49 43.2 +0.8
baz=77
G18A **Lazy EL Ranch,** 77.17 331 ⇓P P 18 49 43.4 +0.7
baz=78,SNR=36
C23A **Lambert** 77.27 335 ⇑P P 18 49 43.6 +0.6
baz=78,SNR=11
F19A **Roth Farm, Mol** 77.31 331 ⇓P P 18 49 44.0 +0.6
baz=78,SNR=14
YMR **Madison River** 77.33 330 eP P 18 49 45.4 +1.7
comp=Z,43nm,0.5s
D21A **La Casta Ranch** 77.42 333 ⇑P P 18 49 44.6 +0.7
baz=78
DGMT **Dagmar** 77.43 336 eP P 18 49 44.8 +0.9
comp=Z,211nm,1.3s
DGMT **Dagmar** 77.43 336 ⇑P P 18 49 44.9 +1.0
baz=78
E20A **Meyer Farm, Mu** 77.46 332 ⇑P P 18 49 44.8 +0.7
baz=78,SNR=16
H16A **Russell Place,** 77.49 329 ⇑P P 18 49 45.9 +1.3
baz=78,SNR=27
WAKR **Walker** 77.49 321 eP P 18 49 46.0 +1.3
C22A **Vida** 77.50 334 ⇓P P 18 49 44.8 +0.4
baz=78
BMN **Battle Mountai** 77.51 323 eP P 18 49 45.1 +0.4
BMN pmax pmax
comp=Z,56nm,1.8s
BMN **Battle Mountai** 77.51 323 eP P 18 49 45.1 +0.4
comp=Z,56nm,1.8s
GCMT **Greycliff** 77.58 331 eP P 18 49 44.9 0.0
comp=Z,38nm,0.9s
QLMT **Earthquake Lak** 77.67 329 eP P 18 49 47.1 +1.5
F18A **Big Timber** 77.69 331 ⇑P P 18 49 46.3 +0.8
baz=78,SNR=74
E19A **Rath Farm, Rou** 77.71 332 ⇑P P 18 49 46.2 +0.7
baz=78
G17A **Pierce Place,** 77.71 330 ⇓P P 18 49 46.9 +1.2
baz=78,SNR=8.3
A24A **Westby** 77.73 336 ⇓P P 18 49 46.4 +0.9
baz=78
B23A **Brockton** 77.73 335 ⇓P P 18 49 46.5 +0.9
baz=78,SNR=32
CMB **Columbia Colle** 77.75 320 eP P 18 49 46.5 +0.6
CMB pmax pmax
comp=Z,261nm,2.8s
CMB **Columbia Colle** 77.75 320 eP P 18 49 46.5 +0.6
comp=Z,261nm,2.8s
I14A **Mackay** 77.98 328 ⇓P P 18 49 48.8 +1.5
baz=78
B22A **Reddig Ranch S** 78.00 335 ⇑P P 18 49 47.7 +0.6
baz=78
C21A **Desert Coulee** 78.06 334 ⇓P P 18 49 47.7 +0.3
baz=78
A23A **Redstone** 78.09 336 ⇓P P 18 49 47.9 +0.4
baz=78
F17A **Fitzpatrick Pl** 78.12 331 ⇓P P 18 49 49.0 +1.1
baz=78,SNR=39
HLID **Hailey** 78.20 327 eP P 18 49 49.8 +1.4
comp=Z,52nm,0.8s
HLID eSP 18 50 41.3
HLID **Hailey** 78.20 327 ⇑P P 18 49 49.9 +1.4
baz=78
PAHR **Pah Rah Range** 78.25 321 eP P 18 49 50.0 +1.3
comp=Z,67nm,0.7s
D19A **Cripps Ranch,** 78.29 332 ⇓P P 18 49 49.2 +0.4
baz=79
MCMT **McKenzie Canyo** 78.34 329 P P 18 49 50.5 +1.2
C20A **Veseth Ranch,** 78.35 333 ⇑P P 18 49 49.0 0.0
baz=79
TSUM **Tsumeb** 78.36 106 ⇑iP P 18 49 50.2 +0.3
TSUM **Tsumeb** 78.36 106 eP P 18 49 50.4 +0.5
comp=Z,250nm,0.7s
BOZ **Bozeman (W)** 78.37 330 eP P 18 49 49.4 +0.1
BOZ pmax pmax
comp=Z,22nm,1.3s
BOZ **Bozeman (W)** 78.37 330 eP P 18 49 49.4 +0.1
comp=Z,22nm,1.3s
B21A **Ellsworth Farm** 78.51 334 ⇑P P 18 49 50.3 +0.4
baz=79
A22A **Carney Farms,** 78.52 335 ⇑P P 18 49 50.5 +0.6
baz=79
DLMT **Dillon** 78.62 329 eP P 18 49 51.7 +1.0
comp=Z,57nm,1.4s
E17A **Martinsdale** 78.63 331 ⇑P P 18 49 51.4 +0.7
baz=79,SNR=49
D18A **Linhart Farms,** 78.72 332 ⇑P P 18 49 51.5 +0.4
baz=79
C19A **Slack Wire Ran** 78.81 333 ⇑P P 18 49 51.9 +0.4
baz=79
MFID **Camas Ranch** 78.82 326 eP P 18 49 53.0 +1.1
comp=Z,253nm,2.1s
MFID **Camas Ranch** 78.82 326 ⇑P P 18 49 53.0 +1.1
baz=79
LRM **Limekiln Ridge** 78.89 330 eP P 18 49 53.0 +0.8
A21A **Bergtoll Ranch** 78.92 335 ⇑P P 18 49 52.2 +0.1
baz=79
BEKR **Beckworth** 78.92 321 eP P 18 49 53.1 +0.6
comp=Z,9.8nm,0.7s
B20A **Solberg Farm,** 78.93 334 ⇑P P 18 49 52.6 +0.4
baz=79
D17A **Six Diamond Ra** 79.08 331 ⇓P P 18 49 53.7 +0.6
baz=79
H12A **Diamond D Ranc** 79.13 327 ⇑P P 18 49 54.7 +1.2
baz=79
A20A **Cobblestone Ra** 79.23 334 ⇑P P 18 49 54.1 +0.3
baz=80
OHCM **Honcut** 79.24 320 eP P 18 49 54.7 +0.7
HRY **Holter Researc** 79.26 330 eP P 18 49 54.8 +0.7
B19A **Brinkman Farms** 79.32 333 ⇑P P 18 49 54.5 +0.2
baz=80
EGMT **Eagleton** 79.33 332 ⇓P P 18 49 54.6 +0.2
baz=80
C17A **Wharram Farm,** 79.47 332 ⇑P P 18 49 55.3 +0.1
baz=80
BUFB **Buffelsbos** 79.55 123 eP P 18 49 56.8 +0.8
BUFB AMB AMB 18 49 58.3
comp=Z,79nm,1.0s
A19A **Klindworth Far** 79.61 334 ⇓P P 18 49 56.1 +0.2
baz=80
B18A **Beardsley Farm** 79.63 333 ⇑P P 18 49 56.5 +0.5
baz=80
WVOR **Wild Horse Val** 79.65 324 eP P 18 49 56.7 +0.4
WVOR pmax pmax
comp=Z,12nm,1.0s
WVOR **Wild Horse Val** 79.65 324 eP P 18 49 56.7 +0.4
comp=Z,12nm,1.0s
RTC **Rabat Centre** 79.79 47 eP P 18 49 57.9 +0.8
comp=Z,192nm,0.8s
D15A **Lincoln** 79.82 330 ⇑P P 18 49 58.2 +1.0
baz=80
B17A **L&G Farms, Che** 79.99 332 ⇑P P 18 49 57.9 -0.1
baz=80
C16A **Fuhringer Ranc** 80.04 331 ⇓P P 18 49 58.6 +0.3
baz=80
A18A **Metzger Ranch,** 80.06 333 ⇓P P 18 49 58.3 0.0
baz=80
CHMT **Chamberlain Mo** 80.07 330 eP P 18 49 59.2 +0.6
LBCM **Butte Creek Ri** 80.12 321 P P 18 49 59.1 +0.1
D14A **Greenough** 80.31 330 ⇑P P 18 50 00.5 +0.7
baz=81
PFVI **Vila Bisbo** 80.32 44 *i* P P 18 50 01.0 +1.1
comp=Z,76nm,1.1s
PFVI eS S 18 59 51.1 +0.2
C15A **Salmond Ranch,** 80.41 331 ⇑P P 18 50 01.2 +0.9
baz=81
SLMT **Seeley Lake** 80.42 330 eP P 18 50 00.9 +0.5
A17A **Triple J Farms** 80.44 333 ⇑P P 18 50 00.6 +0.3
baz=81
B16A **M & M Farms, S** 80.48 332 ⇑P P 18 50 00.5 -0.1
baz=81
MORF **Marmelete** 80.54 44 *i* P P 18 50 02.2 +1.1
comp=Z,95nm,2.4s
MORF eS S 18 59 56.3 +3.0
MORF **Marmelete** 80.54 44 eP P 18 50 02.1 +1.0
MORF eS S 18 59 55.2 +1.9
BMO **Blue Mountains** 80.59 326 eP P 18 50 01.6 +0.3
comp=Z,82nm,1.3s
PTEO **Sao Teotonio** 80.63 43 eP P 18 50 02.9 +1.4
comp=Z,158nm,0.8s
WDC **Whiskeytown Da** 80.66 321 eP P 18 50 00.9 -0.7
WDC pmax pmax
comp=Z,48nm,0.6s
WDC **Whiskeytown Da** 80.66 321 eP P 18 50 00.8 -0.7
comp=Z,48nm,0.6s
MDT **Midelt** 80.69 49 P P 18 50 03.3 +1.2
MDT **Midelt** 80.69 49 P P 18 50 03.3 +1.2
comp=Z,100nm,0.7s,baz=246,slow=4.5,SNR=157
KCPM **Cahto Peak** 80.72 319 eP P 18 50 02.9 +0.8
comp=Z,15nm,0.7s
KIPM **Iron Peak** 80.74 319 eP P 18 50 03.4 +1.2
comp=Z,68nm,1.2s
D13A **Huson** 80.77 329 ⇑P P 18 50 02.9 +0.8
baz=81
B15A **Bradely Ranch,** 80.78 331 ⇓P P 18 50 02.1 -0.1
baz=81
E12A **Beaver Dam Sad** 80.81 328 ⇑P P 18 50 03.0 +0.5
baz=81
A16A **West Butte Ran** 80.83 332 ⇓P P 18 50 02.9 +0.4
baz=81
SWMT **Swartz Lake** 80.85 330 eP P 18 50 03.2 +0.7
PBDV **Barranco-do-Ve** 80.96 44 *i* P P 18 50 04.8 +1.5
comp=Z,90nm,1.1s
PBDV eS S 18 59 59.4 +1.8
LIS **Lisbon** 81.07 42 eP P 18 50 06.2 +2.4
LIS AMb AMB 18 50 07.1
comp=Z,94nm,0.8s
LIS eS S 18 59 59.4 +0.9
LIS **Lisbon** 81.07 42 eP P 18 50 06.2 +2.4
comp=Z,94nm,0.8s
LIS eS S 18 59 59.4 +0.9
LIS **Lisbon** 81.07 42 eP P 18 50 06.2 +2.4
LIS eS S 18 59 59.4 +0.9
K05A **Summer Lake** 81.09 323 P P 18 50 05.1 +1.0
PNCL **Nicolau / Gran** 81.10 43 *i* P P 18 50 05.0 +1.1
comp=Z,56nm,0.8s
PNCL eS S 19 00 00.6 +1.8
YBMT **Yellow Bay** 81.11 330 eP P 18 50 04.8 +0.8
comp=Z,16nm,0.5s
PCVE **Castro Verde** 81.12 44 *i* P P 18 50 05.4 +1.3
comp=Z,78nm,0.8s
PCVE eS S 19 00 01.1 +1.9
PMAFR **Mafra** 81.13 42 eP P 18 50 05.2 +1.1
PMAFR eS S 19 00 00.6 +1.4
MESJ **Messejana** 81.13 43 eP P 18 50 05.3 +1.2
MESJ AMb AMB 18 50 06.5
comp=Z,78nm,0.7s
MESJ eS S 19 00 00.6 +1.4
MESJ **Messejana** 81.13 43 eP P 18 50 05.3 +1.2
comp=Z,78nm,0.7s
MESJ eS S 19 00 00.6 +1.4
MESJ **Messejana** 81.13 43 eP P 18 50 05.3 +1.2
MESJ eS S 19 00 00.6 +1.4
B14A **Marquette Ranc** 81.14 331 ⇓P P 18 50 04.1 0.0
baz=81
JTMT **Jette** 81.15 330 eP P 18 50 05.0 +0.8
PVAQ **Vaqueiros** 81.20 44 *i* P P 18 50 05.8 +1.3
comp=Z,51nm,1.6s
PVAQ eS S 19 00 01.6 +1.7
GRM **Grahamstown** 81.22 122 eP P 18 50 05.4 +0.4
GRM AMB AMB 18 50 07.4
comp=Z,296nm,1.9s
C13A **Hot Springs** 81.24 330 ⇑P P 18 50 05.5 +0.9
baz=82

F10A **Beach Ranch, E** 81.32 327 P P 18 50 05.7 +0.6
HVD **Gariep Dam** 81.34 119⇑*i*P P 18 50 06.5 +0.6
HVD AMB AMB 18 50 07.2
comp=Z,241nm,2.0s
A15A **Johnson Ranch,** 81.35 332 ⇓P P 18 50 04.9 -0.3
baz=82
BLMT **Blacktail Moun** 81.38 330 *e*P P 18 50 06.2 +0.7
BSMT **Bassoo Peak** 81.47 330 *e*P P 18 50 06.5 +0.6
PBEJ **Beja** 81.47 43 *e*P P 18 50 07.1 +1.2
comp=Z,64nm,0.9s
YBH **Yreka Blue Hor** 81.48 321 *e*P P 18 50 05.3 -0.7
comp=Z,10nm,0.7s
KHMM **Horse Mountain** 81.55 320 *e*P P 18 50 07.0 +0.5
comp=Z,312nm,2.4s
A14A **Double T Ranch** 81.66 331 ⇑P P 18 50 06.8 0.0
baz=82
EVO **Evora** 81.67 43⇑*i*P P 18 50 07.5 +0.5
comp=Z,70nm,0.7s
EVO **Evora** 81.67 43 *e*P P 18 50 08.1 +1.1
comp=Z,37nm,2.4s
C12B **Naegeli Ranch,** 81.69 329 ⇑P P 18 50 07.6 +0.7
baz=82
ALMR **Almeirim** 81.69 42 *e*P P 18 50 07.9 +0.8
ALMR **Almeirim** 81.69 42 *e*P P 18 50 07.9 +0.8
ALMR **Almeirim** 81.69 42 *e*P P 18 50 07.9 +0.8
B13A **Whitefish** 81.69 330 ⇓P P 18 50 07.4 +0.4
baz=82
BOSA **Boshof** 81.83 117⇑*i*P P 18 50 08.1 -0.3
BOSA AMB AMB 18 50 09.1
comp=Z,187nm,2.1s
BOSA **Boshof** 81.83 117 *e*P P 18 50 08.4 0.0
comp=Z,232nm,1.2s
BOSA **Boshof** 81.83 117 P P 18 50 08.4 0.0
comp=Z,121nm,0.9s,baz=258,slow=4.1,SNR=214
PMTG **Montargil** 81.86 42 *i* P P 18 50 08.9 +1.0
comp=Z,96nm,0.9s
PMTG *e*S S 19 00 08.1 +1.5
FFC **Flin Flon** 81.87 340 *i* P P 18 50 07.7 +0.1
FFC **Flin Flon** 81.87 340 *e*P P 18 50 07.3 -0.3
comp=Z,26nm,1.2s
WALA **Waterton Lakes** 81.94 331 *e*P P 18 50 08.3 0.0
comp=Z,0.7nm,0.7s
KRMB **Red Mountain** 82.06 321 *e*P P 18 50 09.9 +0.8
comp=Z,138nm,2.2s
PTOM **Tomar** 82.07 42 *e*P P 18 50 09.9 +0.9
comp=Z,140nm,0.7s
A13A **Flathead Natio** 82.07 331 ⇓P P 18 50 09.6 +0.7
baz=82
PBAR **Barrancos** 82.08 44 *i* P P 18 50 10.1 +1.0
comp=Z,56nm,0.8s
PBAR **Barrancos** 82.08 44 *e*S S 19 00 11.9 +2.9
VIPM **Ingram Point** 82.10 325 P P 18 50 10.7 +1.4
VIPM **Ingram Point** 82.10 325 P P 18 50 10.7 +1.4
PESTR **Estremoz** 82.14 43 *e*P P 18 50 10.4 +1.0
comp=Z,59nm,2.4s
PESTR **Estremoz** 82.14 43 *e*S S 19 00 11.4 +1.8
B12A **Libby** 82.28 330 ⇑P P 18 50 10.5 +0.5
baz=83
SWZ **Schweizer** 82.39 116⇑*i*P P 18 50 11.1 -0.3
SWZ AMB AMB 18 50 12.9
comp=Z,202nm,1.0s
PMRV **Marv??o** 82.59 42 *e*P P 18 50 12.2 +0.4
comp=Z,22nm,0.8s
PMRV **Marv??o** 82.59 42 *e*S S 19 00 13.6 -0.6
A12A **Yaak River Ran** 82.64 330 ⇑P P 18 50 12.4 +0.5
baz=83
PCBR **Castelo Branco** 82.78 42 *e*P P 18 50 13.2 +0.5
comp=Z,34nm,0.9s
HAWA **Hanford** 82.78 326 *e*P P 18 50 13.4 +0.9
comp=Z,32nm,0.7s
NEW **Newport** 82.86 329 *e*P P 18 50 13.0 -0.1
comp=Z,10nm,0.8s
NEW **Newport** 82.86 329 ⇓P P 18 50 12.6 -0.4
baz=83
D08A **Wollman Farm,** 82.92 327 P P 18 50 13.9 +0.6
BROR **Big Rock Looko** 82.95 323 P P 18 50 13.5 +0.1
OD2 **Odessa Site #2** 83.04 328 P P 18 50 14.4 +0.5
PVIS **Viseu** 83.04 41 *e*P P 18 50 15.1 +1.0
comp=Z,5.6nm,0.6s
MTE **Manteigas** 83.07 42 *i* P P 18 50 14.9 +0.6
comp=Z,69nm,1.2s
MTE **Manteigas** 83.07 42 *e*S S 19 00 19.8 +0.8
MTE **Manteigas** 83.07 42 *e*P P 18 50 14.8 +0.5
comp=Z,30nm,0.6s
TRW **Toppenish Ridg** 83.24 326 P P 18 50 16.1 +1.2
LBTB **Lobatse** 83.38 114⇑*i*P P 18 50 16.8 +0.4
LBTB AMB AMB 18 50 18.4
comp=Z,267nm,1.8s
LBTB **Lobatse** 83.38 114 *e*P P 18 50 16.8 +0.4
comp=Z,259nm,0.8s
PVRL **Vila Real** 83.48 41 *e*P P 18 50 17.5 +1.2
comp=Z,51nm,1.1s
POLO **Lamas de Olo** 83.49 41 *e*P P 18 50 16.9 +0.5
comp=Z,24nm,1.5s
POLO **Lamas de Olo** 83.49 41 *e*S S 19 00 23.6 +0.3
TAM **Tamanrasset** 83.49 62 *e*P P 18 50 17.5 +0.5
TAM pmax pmax
comp=Z,62nm,0.7s
TAM **Tamanrasset** 83.49 62 *e*P P 18 50 17.4 +0.5
comp=Z,62nm,0.7s
MAW **Mawson** 83.54 163 P P 18 50 16.7 +0.5
MAW **Mawson** 83.54 163 P P 18 50 16.7 +0.5
comp=Z,20nm,0.6s,baz=216,slow=6.3,SNR=81
MAW LR LR 19 26 53.6
comp=Z,205nm,19.0s,baz=217,slow=35
PGAV **Gavieira, Arco** 83.56 40 *e*P P 18 50 17.2 +0.4
comp=Z,77nm,1.2s
PGAV **Gavieira, Arco** 83.56 40 *e*S S 19 00 25.5 +1.5
MVO **Moncorvo** 83.83 41 *i* P P 18 50 18.9 +0.7
comp=Z,72nm,1.3s
MVO **Moncorvo** 83.83 41 *e*S S 19 00 28.0 +1.3
LTY **Liberty** 83.94 327 P P 18 50 18.7 +0.2
PRYS **Parys** 84.17 117⇑*i*P P 18 50 20.3 -0.2
PRYS AMB AMB 18 50 22.3
comp=Z,177nm,0.9s
KSR **Koster** 84.18 115 *e*P P 18 50 20.7 +0.2
KSR AMB AMB 18 50 21.5
comp=Z,35nm,2.2s
LON **Longmire** 84.20 326 *e*P P 18 50 19.7 -0.2
LON **Longmire** 84.20 326 *e*P P 18 50 19.7 -0.2
PBRG **Braganca** 84.38 41 *e*P P 18 50 21.6 +0.7
comp=Z,30nm,2.9s
RVC **Mount Rainier-** 84.41 326 P P 18 50 21.2 +0.3
PAB **San Pablo** 84.59 44 *e*P P 18 50 22.6 +0.6
PAB pmax pmax
comp=Z,65nm,0.8s
PAB **San Pablo** 84.59 44 *e*P P 18 50 22.6 +0.6
comp=Z,65nm,0.8s
KLOF **Kloof** 84.59 116 *e*P P 18 50 23.1 +0.5
KLOF AMB AMB 18 50 24.3
comp=Z,231nm,2.0s
ESDC **Sonseca Array** 84.91 44 P P 18 50 24.4 +0.8
ESDC **Sonseca Array** 84.91 44 P P 18 50 24.4 +0.8
comp=Z,24nm,0.8s,baz=244,slow=4.6,SNR=78
ESLA **Sonseca Array** 84.91 44 *e*P P 18 50 23.9 +0.3
comp=Z,3.9nm,0.8s
ERPM **east rand prop** 85.12 116⇑*i*P P 18 50 25.6 +0.4
ERPM AMB AMB 18 50 26.7
comp=Z,118nm,1.8s
SLR **Silverton** 85.38 116 *e*P P 18 50 26.4 -0.1
SLR AMB AMB 18 50 27.2
comp=Z,174nm,2.0s
NLWA **Neilton Lookou** 85.69 325 *e*P P 18 50 27.1 -0.1
comp=Z,38nm,1.4s
PGC **Sidney** 86.27 326 *e*P P 18 50 30.8 +0.9
comp=Z,2.5nm,0.9s
POGA **Pongola** 87.51 118 *e*P P 18 50 37.3 +0.6
POGA AMB AMB 18 50 38.0
comp=Z,110nm,4.0s
SJPF **Ste Jean** 88.50 42 *e*P P 18 50 41.3 +0.5
comp=Z,26nm,0.8s
ETSF **Etsaut** 88.80 42 *e*P P 18 50 43.2 +0.9
comp=Z,29nm,0.8s
REYF **Montagne du Re** 89.00 42 *e*P P 18 50 43.8 +0.5
LSZ **Lusaka** 89.22 106⇓*i*P P 18 50 47.1 +2.1
LSZ **Lusaka** 89.22 106 *e*P P 18 50 46.2 +1.2
comp=Z,120nm,1.1s
EPF **Esparros** 89.44 43 *e*P P 18 50 44.9 -0.4
comp=Z,18nm,0.7s
DRV **Dumont d'Urvil** 89.45 190 S SKSac 19 00 51.0 -7.2
DRV SP SPn 19 02 13.0 -12
DRV SS SS 19 07 09.0 -9.1
DRV L L 19 11 00.0
DRV R 19 21 00.0
SALF **Salau** 89.83 43 *e*P P 18 50 48.1 +0.9
MLS **Moulis** 89.88 43 *e*P P 18 50 47.7 +0.4

QUIF **Quistinic** 89.94 37 *e*P P 18 50 46.7 -0.7
comp=Z,54nm,0.9s
ROSF **Rostrenen** 90.12 37 *e*P P 18 50 48.4 +0.2
comp=Z,75nm,1.1s
CARF **Carcanieres** 90.40 44 *e*P P 18 50 50.2 +0.4
SGMF **Saint Gilles** 90.47 37 *e*P P 18 50 49.7 -0.2
comp=Z,37nm,1.1s
LFF **La Frestale** 90.66 41 *e*P P 18 50 50.7 -0.1
comp=Z,35nm,0.7s
MTLF **Montolieu** 90.78 43 *e*P P 18 50 51.3 -0.1
comp=Z,10.0nm,0.8s
MFF **Saint Martin d** 90.98 39 *e*P P 18 50 52.0 -0.3
comp=Z,18nm,0.6s
RJF **Les Rejaudoux** 91.32 41 *e*P P 18 50 53.4 -0.5
comp=Z,19nm,1.0s
CAF **Calviac** 91.47 42 *e*P P 18 50 54.4 -0.2
comp=Z,8.1nm,0.6s
GRR **Gorron** 91.50 38 *e*P P 18 50 53.9 -0.7
comp=Z,33nm,0.8s
FLN **La Foliniere** 91.91 37 *e*P P 18 50 56.6 +0.1
LDF **La Druitiere** 92.03 38 *e*P P 18 50 57.0 -0.1
comp=Z,26nm,0.8s
YKA **Yellowknife Ar** 92.05 340 P P 18 50 57.3 +0.5
YKA **Yellowknife Ar** 92.05 340 P P 18 50 57.3 +0.5
comp=Z,33nm,0.7s,baz=131,slow=4.6,SNR=83
YKA LR LR 19 37 32.4
comp=Z,24nm,18.8s,baz=15,slow=39
YKW3 **Yellowknife Ar** 92.10 340 *e*P P 18 50 57.4 +0.3
comp=Z,0.8nm,0.8s
CASY **Casey** 92.16 179 *e*P P 18 50 58.7 +1.2
comp=Z,46nm,1.3s
LASF **Ste Croix** 92.17 43 *e*P P 18 50 57.9 0.0
KEST **Kesra** 92.18 52 *e*P P 18 50 58.7 +0.5
KEST **Kesra** 92.18 52 P P 18 50 59.4 +1.2
comp=Z,3.3nm,0.7s,baz=236,slow=3.6,SNR=8.6
TCF **Toulx Ste Croi** 92.23 40 *e*P P 18 50 57.5 -0.6
BGF **Bois d'Agland** 92.74 40 *e*P P 18 51 00.1 -0.4
comp=Z,14nm,0.8s
VIVF **Saint-Julien-l** 93.06 43 *e*P P 18 51 02.3 +0.3
comp=Z,16nm,1.1s
AVF **Avril sur Loir** 93.16 40 *e*P P 18 51 02.7 +0.4
comp=Z,13nm,0.9s
SMRF **Simiane la Rot** 93.22 44 *e*P P 18 51 03.3 +0.5
SSF **Saint Saulge** 93.38 40 *e*P P 18 51 02.6 -0.8
comp=Z,10nm,0.8s
SMF **Signal de Mont** 93.39 41 *e*P P 18 51 03.1 -0.3
comp=Z,13nm,0.7s
LMR **La Mourre** 93.54 45 *e*P P 18 51 04.5 +0.3
comp=Z,26nm,0.7s
LOR **Lormes** 93.69 40 *e*P P 18 51 04.0 -0.8
comp=Z,7.8nm,0.8s
FRF **La Foret Royal** 93.73 44 *e*P P 18 51 05.2 +0.1
comp=Z,22nm,0.8s
ORIF **Oris-en-Rattie** 93.85 43 *e*P P 18 51 06.2 +0.5
comp=Z,15nm,0.7s
MBDF **Montbardon** 94.33 43 *e*P P 18 51 07.6 -0.4
LPL **La Plagne** 94.66 43 *e*P P 18 51 10.0 +0.5
comp=Z,13nm,0.6s
LPG **La Plagne** 94.66 43 *e*P P 18 51 10.2 +0.6
comp=Z,10nm,0.6s
CABF **La Chapelle** 94.74 41 *e*P P 18 51 09.6 -0.2
SFTF **Sexfontaines** 94.84 40 *e*P P 18 51 09.8 -0.2
MEZF **Maizieres J'vi** 94.98 39 *e*P P 18 51 10.0 -0.7
BAIF **Baives** 95.21 38 *e*P P 18 51 10.8 -0.9
GIVF **Givet** 95.58 38 *e*P P 18 51 12.8 -0.6
HINF **Hinteralfeld** 95.75 41 *e*P P 18 51 14.1 -0.1
SUMG **Summit** 96.13 8 *e*P P 18 51 16.3 +0.4
SUMG pmax pmax
comp=Z,18nm,1.1s
SUMG **Summit** 96.13 8 *e*P P 18 51 16.3 +0.4
comp=Z,18nm,1.1s
CDF **Champ du Feu** 96.26 40 *e*P P 18 51 15.9 -0.7
TUE **Stuetta** 96.71 43 *e*P P 18 51 18.5 -0.4
comp=Z,7.4nm,0.9s
DAVOX **Davos/Dischmat** 97.17 42 P P 18 51 21.1 +0.2
DAVOX **Davos/Dischmat** 97.17 42 P P 18 51 21.1 +0.2
comp=Z,7.7nm,0.8s,baz=185,slow=5.8,SNR=7.7
RETA **Reutte** 98.01 42⇓*i*Pdiff P 18 51 24.7 +0.2
comp=Z,5.9nm,0.9s
WATA **Walderalm** 98.46 42⇓*i*Pdiff P 18 51 26.8 +0.2
comp=Z,7.3nm,0.7s
WTTA **Wattenberg** 98.47 42⇑*i*Pdiff P 18 51 26.7 0.0
comp=Z,15nm,0.9s
ABTA **Abfaltersbach** 98.82 43⇑*i*Pdiff P 18 51 27.8 -0.4
comp=Z,5.0nm,0.8s
SKDS **Skadanscina** 99.34 45 *e*Pdiff **Pdif** 18 51 30.9 +0.5
CADS **Cadrg** 99.41 44 *e*Pdiff **Pdif** 18 51 31.4 +0.6
MYKA **Terra Mystica** 99.50 44⇑*i*Pdiff **Pdif** 18 51 31.0 -0.1
comp=Z,6.3nm,0.6s
OBKA **Obir** 100.04 44⇓*i*Pdiff **Pdif** 18 51 34.2 +0.6
comp=Z,6.3nm,0.7s
GERES **GERESS Array B** 100.34 42 P **Pdif** 18 51 34.8 -0.1
GERES **GERESS Array B** 100.34 42 P **Pdif** 18 51 34.8 -0.1
comp=Z,0.9nm,0.7s,baz=214,slow=4.0,SNR=5.6
GERES PP PP 18 55 31.0 -13
comp=Z,0.9nm,0.7s,baz=219,slow=8.3,SNR=3.6
CLL **Collm** 100.82 39 *e*P **Pdif** 18 51 36.0 -0.8
CLL *e* 19 02 00.0
CLL *e*SP SP 19 04 27.0 -3.5
CLL **Collm** 100.82 39 *e*Pdif **Pdif** 18 51 36.0 -0.8
CLL *e*pPdif **pPdif** 18 52 18.0 -2.9
CLL *e*PP **PP** 18 55 45.0 -2.1
CLL *e*SKSac **SKSac** 19 02 00.0 +1.2
CLL *e*Sdif **Sdif** 19 02 57.0 -2.0
CLL *e*SP **SP** 19 04 27.0 -3.5
CLL *e*SS SS 19 09 55.0 -6.4
CLL L L 19 34 00.0
comp=Z,200nm,21.4s
NOA **NORSAR Array B** 103.38 29 Pdif **Pdif** 18 51 48.4 +0.3
NOA **NORSAR Array B** 103.38 29 Pdiff **Pdif** 18 51 48.4 +0.3
comp=Z,1.3nm,1.0s,baz=248,slow=4.3,SNR=2.9
VYHS **Vyhne** 103.44 43 *e*P **Pdif** 18 51 49.5 +0.9
VYHS **Vyhne** 103.44 43 PDIF **Pdif** 18 51 49.5 +0.9
KECS **Kecovo** 104.48 43 *e*P **Pdif** 18 51 55.5 +2.3
KECS **Kecovo** 104.48 43 PDIF **Pdif** 18 51 55.5 +2.3
SML **Sawmill** 104.94 331 *e*P **Pdif** 18 51 54.8 -0.2
SML **Sawmill** 104.94 331 *e*Pdif **Pdif** 18 51 54.8 -0.2
STHS **Stebnicka Huta** 105.22 43 *e*P **Pdif** 18 52 00.6 +4.1
STHS **Stebnicka Huta** 105.22 43 PDIF **Pdif** 18 52 00.6 +4.1
ILAR **Eielson Array** 105.25 334 Pdif **Pdif** 18 51 56.2 -0.1
ILAR PKiKP **PKiKP** 18 56 11.9 +2.6
ILAR **Eielson Array** 105.25 334 Pdiff **Pdif** 18 51 56.2 -0.1
comp=Z,0.7nm,0.7s,baz=143,slow=2.6,SNR=7.9
ILAR PKiKP **PKiKP** 18 56 11.9 +2.6
comp=Z,1.6nm,0.9s,baz=111,slow=4.9,SNR=8.0
FINES **FINESS Array B** 110.43 31 PKKPbc PKKPbc 19 07 20.4 -1.4
FINES SKKPbc SKKPbc 19 10 45.4 -5.7
FINES **FINESS Array B** 110.43 31 PKKPbc PKKPbc 19 07 20.4 -1.4
comp=Z,0.5nm,0.5s,baz=77,slow=4.1,SNR=4.3
FINES SKKPbc SKKPbc 19 10 45.4 -5.7
comp=Z,0.9nm,0.9s,baz=80,slow=6.4,SNR=4.0
ARCES **ARCESS Array B** 111.16 22 PKKPbc PKKPbc 19 07 17.1 -2.4
ARCES PKKPab **PKKPab** 19 07 26.9 +0.9
ARCES PKKP **PKKPdf** 19 07 38.0 +0.5
ARCES **ARCESS Array B** 111.16 22 PKKPbc PKKPbc 19 07 17.1 -2.4
comp=Z,1.6nm,0.6s,baz=80,slow=3.2,SNR=8.5
ARCES PKKPab **PKKPab** 19 07 26.9 +0.9
comp=Z,1.9nm,0.7s,baz=86,slow=5.1,SNR=7.7
ARCES PKKP **PKKPdf** 19 07 38.0 +0.5
comp=Z,1.7nm,0.8s,baz=57,slow=4.5,SNR=4.2
BRTR **Keskin Array B** 111.66 55 PKiKP **PKiKP** 18 56 22.0 -0.3
BRTR PP **PP** 18 57 03.2 -4.0
BRTR **Keskin Array B** 111.66 55 PKiKP **PKiKP** 18 56 22.0 -0.3
comp=Z,2.1nm,0.8s,baz=198,slow=2.5,SNR=6.5
BRTR PP **PP** 18 57 03.2 -4.0
comp=Z,5.7nm,0.8s,baz=229,slow=6.5,SNR=9.4
DZM **Mont Dzumac** 111.95 234 *e*LR LR 19 30 01.2
comp=Z,252nm,26.3s
APA **Apatity** 113.98 24⇑*e*PKiKP PKiKP 18 56 34.0 +8.3
APA *e* 18 57 23.6
APA *e*SS SS 19 13 00.0 +1.8
APA MLR MLR
comp=Z,100nm,20.0s
OBN **Obninsk** 115.39 38⇓*e*PKiKP **PKPdf** 18 56 27.9 -0.8
OBN *e*S **SKSac** 19 03 03.7 +2.6
OBN *i* PS **SP** 19 06 54.2 +0.1
OBN pmax pmax
comp=Z,4.0nm,0.6s
RAYN **Ar Rayn** 118.35 74 *e*PKPdf **PKPdf** 18 56 35.3 -0.2
KBZ **Khabaz** 119.03 51 PKiKP **PKPdf** 18 56 36.2 +0.1
KBZ pmax pmax
comp=Z,9.0nm,0.8s
KBZ **Khabaz** 119.03 51 PKP **PKPdf** 18 56 36.2 +0.1
KBZ **Khabaz** 119.03 51 PKP **PKPdf** 18 56 36.2 +0.1
comp=Z,9.0nm,0.8s,baz=186,slow=3.9,SNR=10

STKA **Stephens Creek** 119.94 208 PKP **PKPdf** 18 56 38.1 -0.2
STKA PKKPbc **PKKPbc** 19 06 47.7 -0.6
STKA **Stephens Creek** 119.94 208 PKP **PKPdf** 18 56 38.1 -0.2
comp=Z,1.7nm,0.7s,baz=176,slow=1.6,SNR=3.9
STKA PKKPbc **PKKPbc** 19 06 47.7 -0.6
comp=Z,1.9nm,0.6s,baz=309,slow=6.2,SNR=6.5
GNI **Garni** 120.17 55 PKP **PKPdf** 18 56 39.3 +0.6
GNI **Garni** 120.17 55 PKP **PKPdf** 18 56 39.3 +0.6
comp=Z,7.5nm,0.6s,baz=291,slow=4.2,SNR=5.8
BILL **Bilibino** 123.42 339⇑*e*PKIKP **PKPdf** 18 56 44.1 +0.3
BILL *e* 18 58 29.4
BILL *e*S **SKSac** 19 03 23.9 -4.9
BILL *e*SS SS 19 14 50.9 -8.6
BILL pmax pmax
comp=Z,37nm,1.8s
FX1 **Attu Island--F** 124.96 320 PKP **PKPdf** 18 56 46.5 -0.7
FX1 **Attu Island--F** 124.96 320 PKP **PKPdf** 18 56 46.5 -0.7
comp=Z,2.3nm,0.3s,baz=69,slow=20,SNR=9.5
CTA **Charters Tower** 127.09 220 PKP **PKPdf** 18 56 52.5 +0.1
CTA **Charters Tower** 127.09 220 PKP **PKPdf** 18 56 52.5 +0.1
comp=Z,5.5nm,0.7s,baz=265,slow=5.1,SNR=4.2
ARU **Arti** 127.47 35 *i* PKIKP **PKPdf** 18 56 51.9 0.0
ARU 18 58 54.4
ARU 19 03 41.3
ARU SP SP 19 08 35.8 -5.5
TIXI **Tiksi** 129.30 354⇓*i*PKIKP **PKPdf** 18 56 54.2 -0.8
TIXI pmax pmax
comp=Z,4.0nm,1.0s
ABKAR **Akbulak array** 130.25 43 *e*PKPdf **PKPdf** 18 56 58.1 +0.7
ASAR **Alice Springs** 130.37 206 PKPpre PKPpre 18 56 41.9
ASAR PKP **PKPdf** 18 56 58.4 -0.2
ASAR SKPbc **SKPbc** 19 00 03.0 -2.6
ASAR SKKPbc **SKKPbc** 19 09 43.4 +1.0
ASAR **Alice Springs** 130.37 206 PKhKP PKPpre 18 56 41.9
comp=Z,0.4nm,0.6s,baz=154,slow=2.6,SNR=6.0
ASAR PKP **PKPdf** 18 56 58.4 -0.2
comp=Z,5.5nm,0.5s,baz=130,slow=1.8,SNR=46
ASAR SKPbc **SKPbc** 19 00 03.0 -2.6
comp=Z,11nm,0.5s,baz=147,slow=3.4,SNR=51
ASAR SKKPbc **SKKPbc** 19 09 43.4 +1.0
comp=Z,0.3nm,0.6s,baz=342,slow=3.2,SNR=4.3
WRA **Warramunga Arr** 133.49 208 PKPpre PKPpre 18 56 49.6
WRA PKP **PKPdf** 18 57 04.1 -0.4
WRA SKPbc **SKPbc** 19 00 14.4 -2.2
WRA **Warramunga Arr** 133.49 208 PKhKP PKPpre 18 56 49.6
comp=Z,0.5nm,0.6s,baz=183,slow=1.7,SNR=8.1
WRA PKP **PKPdf** 18 57 04.1 -0.4
comp=Z,6.6nm,0.5s,baz=163,slow=1.9,SNR=52
WRA SKPbc **SKPbc** 19 00 14.4 -2.2
comp=Z,13nm,0.6s,baz=153,slow=3.4,SNR=27
WRAB **Tennant Creek** 133.50 208 *e*PKIKP **PKPdf** 18 57 03.1 -1.5
WRAB **Tennant Creek** 133.50 208 *e*PKPdf **PKPdf** 18 57 03.1 -1.5
PETK **Petropavlovsk-** 133.80 324 PKHKP PKPpre 18 56 54.7
PETK 18 57 04.9
PETK pmax pmax
comp=Z,3.0nm,0.8s
PETK pmax pmax
comp=Z,3.0nm,0.5s
PETK pmax pmax
comp=N,5.0nm,0.8s
PETK **Petropavlovsk-** 133.80 324 PKPpre PKPpre 18 56 54.7
PETK PKP **PKPdf** 18 57 04.9 +0.9
PETK SKPbc **SKPbc** 19 00 15.4 -1.1
PETK **Petropavlovsk-** 133.80 324 PKhKP PKPpre 18 56 54.7
comp=N,2.8nm,0.8s,baz=108,slow=4.8,SNR=5.8
PETK PKP **PKPdf** 18 57 04.9 +0.9
comp=N,3.3nm,0.5s,baz=151,slow=2.5,SNR=11
PETK SKPbc **SKPbc** 19 00 15.4 -1.1
comp=N,5.2nm,0.8s,baz=77,slow=6.4,SNR=7.2
PMG **Port Moresby** 134.23 231 SKPbc **SKPbc** 19 00 18.2 -1.0
PMG **Port Moresby** 134.23 231 SKPbc **SKPbc** 19 00 18.2 -1.0
comp=N,14nm,0.9s,baz=65,slow=2.0,SNR=6.9
BRVK **Borovoye** 135.03 35⇑*i*PKIKP **PKPdf** 18 57 06.7 +0.4
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BRVK **Borovoye** 135.03 35 *e*PKPdf **PKPdf** 18 57 07.0 +0.7
BRVK *e*SKPbc **SKPbc** 19 00 21.2 +0.7
KKAR **Karatay Array** 138.98 49 *e*PKHKP PKPpre 18 57 05.1
KKAR **Karatay Array** 138.98 49 *e*PKPpre PKPpre 18 57 05.1
NVS **Novosibirsk** 140.23 27 *e*PKHKP PKPpre 18 57 10.1
ZALV **Zalesovo Beam** 141.52 27 PKHKP PKPpre 18 57 11.9
ZALV pmax pmax
comp=Z,9.0nm,0.7s
ZALV pmax pmax
comp=N,25nm,0.6s
ZALV **Zalesovo Beam** 141.52 27 PKPpre PKPpre 18 57 11.9
ZALV SKPbc **SKPbc** 19 00 38.2 -0.6
ZALV **Zalesovo Beam** 141.52 27 PKhKP PKPpre 18 57 11.9
comp=N,9.3nm,0.7s,baz=306,slow=3.6,SNR=22
ZALV SKPbc **SKPbc** 19 00 38.2 -0.6
comp=N,25nm,0.6s,baz=303,slow=2.3,SNR=22
AAK **Ala-Archa** 141.90 48 *e*PKIKP PKPpre 18 57 15.6
AAK **Ala-Archa** 141.90 48 *e*PKPpre PKPpre 18 57 15.6
KSH **Kashi** 144.00 52 PKP **PKPab** 18 57 21.1 +0.1
KSH pPKP **pPKPdf** 18 58 05.1 -4.2
KSH sPKP 18 58 22.8
KSH PP **PP** 19 00 40.6 +1.5
KSH SKS **SKSdf** 19 04 13.0 -3.3
KSH SKKS **SKKSac** 19 07 09.8 -4.6
KSH AMB AMB
comp=Z,220nm,5.6s
KSH LR LR
comp=N,150nm,5.0s
KSH LR LR
comp=E,110nm,4.9s
KSH LR LR
comp=Z,160nm,10.6s
YUK **Yuzh-Kuril'sk** 144.90 317 *i* PKHKP PKPpre 18 57 19.4
YUK *i* 19 00 39.8
AJM **Ajmer** 144.90 75 *e*P PKPbc 18 57 24.3 -0.3
AJM AMb AMB 18 57 27.4
comp=Z,72nm,1.2s
MK31 **Makanchi Array** 144.90 37 *e*PKIKP PKPbc 18 57 24.0 0.0
MK31 **Makanchi Array** 144.90 37 *e*PKPdf PKPbc 18 57 24.0 0.0
MKAR **Makanchi Array** 144.90 37 PKIKP **PKPdf** 18 57 25.0 +0.6
MKAR 19 00 46.5
MKAR pmax pmax
comp=Z,106nm,0.7s
MKAR pmax pmax
comp=N,1.0nm,0.6s
MKAR **Makanchi Array** 144.90 37 *e*PKPdf PKPbc 18 57 24.4 +0.4
MKAR PKP **PKPdf** 18 57 25.0 +0.6
MKAR SKPbc **SKPbc** 19 00 46.5 -0.8
MKAR SKKPab **SKKPab** 19 08 46.0 -1.9
MKAR **Makanchi Array** 144.90 37 PKP **PKPdf** 18 57 25.0 +0.6
comp=N,106nm,0.7s,baz=318,slow=3.6,SNR=776
MKAR SKPbc **SKPbc** 19 00 46.5 -0.8
comp=N,4.2nm,0.6s,baz=308,slow=3.0,SNR=3.9
MKAR SKKPab **SKKPab** 19 08 46.0 -1.9
comp=N,0.7nm,0.6s,baz=107,slow=4.3,SNR=7.3
YSS **Yuzh-Sakhalins** 145.20 323⇓*i*PKIKP **PKPab** 18 57 26.0 +0.9
YSS *e* 18 58 14.0
YSS *e* 19 00 46.0
YSS pmax pmax
comp=Z,700nm,4.0s
YSS pmax pmax
comp=Z,90nm,0.8s
THN **Thein Dam** 145.44 64 *e*P **PKPdf** 18 57 23.9 -1.8
DLH **Dalhousie** 145.63 64 *e*P **PKPbc** 18 57 27.5 +0.5
PALK **Pallekele** 145.77 110 *e*PKPab **PKPbc** 18 57 27.9 +0.3
LATR **Latur** 145.78 89 *ex* **PKPab** 18 57 30.0 +1.8
RTK **Rohtak** 146.40 70 *e*P **PKPdf** 18 57 27.4 0.0
RTK AMb AMB 18 57 30.1
comp=Z,270nm,0.6s
KKR **Kurukshetra** 146.68 68 *e*P **PKPdf** 18 57 26.8 -1.1
KKR AMb AMB 18 57 32.0
comp=Z,110nm,0.5s
BHGR **Bahadurgarh** 146.88 71 *e*P **PKPdf** 18 57 28.4 +0.1
ASAJ **Asahikawa** 146.88 319 *e*PKPdf **PKPdf** 18 57 29.0 +1.2
SONA **Sohna** 147.03 71 *e*P **PKPdf** 18 57 27.9 -0.7
SONA AMb AMB 18 57 31.4
comp=Z,74nm,0.6s
NDI **New Delhi** 147.12 71 *e*P **PKPdf** 18 57 28.0 -0.7
HYB **Hyderabad** 147.42 92 *i* PKP **PKPdf** 18 57 31.0 +1.5
HYB *e* 18 58 27.0
HYB *es*PKP 18 59 20.0
ERM **Erimo** 147.60 315 *e*PKP2 **PKPab** 18 57 34.0 -0.6
ERM **Erimo** 147.60 315 *e*PKPab **PKPab** 18 57 34.0 -0.6
DDI **Dehra Dun** 147.70 68 *ex* **PKPdf** 18 57 29.0 -0.7
AGRA **Agra** 147.84 73 *e*P **PKPdf** 18 57 28.8 -1.1
AGRA AMb AMB 18 57 33.6
comp=Z,114nm,0.4s
HABR **Khabarovsk** 148.04 332*de*PKP2 **PKPbc** 18 57 33.3 +0.4
HABR 19 01 06.4

HABR				PPP	PPP	19 04 26.1		
HABR				*e*		19 13 24.6		
HABR				pmax	pmax			
	comp=E,16nm,1.3s							
HABR				pmax	pmax			
	comp=Z,35nm,1.3s							
HABR				pmax	pmax			
	comp=N,7.0nm,0.9s							
KLR	**Kul'dur**	**148.81**	**336**	*e*PKIKP	**PKPdf**	**18 57 30.9**	**+0.1**	
KLR				*e*		18 57 31.0		
KLR				*e*		18 58 22.3		
KLR				pmax	pmax			
	comp=Z,80nm,2.0s							
MOY	**Mondy**	**148.81**	**14**	*e*PKIKP	**PKPdf**	**18 57 32.3**	**+1.4**	
MOY				pmax	pmax			
	comp=Z,46nm,2.2s							
IRK	**Irkutsk**	**148.91**	**10**	*e*PKIKP	**PKPbc**	**18 57 33.9**	**-1.2**	
IRK				*e*		18 58 30.4		
IRK				pmax	pmax			
	comp=Z,60nm,2.1s							
TLY	**Talaya**	**149.34**	**11**	*e*PKP2	**PKPbc**	**18 57 36.8**	**+0.6**	
TLY				pmax	pmax			
	comp=Z,154nm,0.8s							
JBP	**Jabalpur**	**149.62**	**81**	*e*P	**PKPdf**	**18 57 33.1**	**+0.2**	
JBP				*e*4		18 58 34.4		
WMQ	**Urumqi**	**149.73**	**38**	PKPbc	**PKPbc**	**18 57 35.5**	**-2.0**	
WMQ				PP	PP	19 01 17.6	+5.5	
WMQ				LR	LR			
	comp=N,130nm,35.4s							
WMQ				LR	LR			
	comp=E,150nm,31.0s							
WMQ				LR	LR			
	comp=Z,76nm,25.0s							
ZAK	**Zakamensk**	**150.51**	**13**	*e*PKIKP	**PKPdf**	**18 57 34.2**	**+0.6**	
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.1s							
VIS	**Vishakhapatnam**	**151.92**	**93**	*e*P	**PKPdf**	**18 57 37.3**	**+0.8**	
VIS				AMB	AMB	18 58 15.4		
	comp=Z,141nm,1.2s							
KAPI	**Kappang**	**152.50**	**195**	*e*PKPbc	**PKPbc**	**18 57 43.4**	**-1.3**	
USRK	**Ussuriysk Arra**	**152.65**	**329**	PKPbc	**PKPbc**	**18 57 44.1**	**0.0**	
	comp=Z,11nm,0.6s,baz=63,slow=0.6,SNR=30							
KOLN	**Koldanda**	**152.81**	**71**	*e*P	**PKPbc**	**18 57 44.0**	**-1.3**	
	comp=Z,21nm,0.5s							
DANN	**Dangsing**	**152.89**	**70**	*e*P	**PKPbc**	**18 57 45.7**	**+0.2**	
	comp=Z,83nm,0.6s							
MDJ	**Mudanjiang**	**153.41**	**333**	PKPbc	**PKPdf**	**18 57 37.1**	**-0.9**	
MDJ				pPKP	**pPKPdf**	**18 58 20.1**	**-4.1**	
MDJ				sPKP		18 58 36.0		
MDJ				SKS	**SKSdf**	**19 04 29.3**	**+0.9**	
MDJ				AMB	AMB			
	comp=Z,120nm,5.5s							
MDJ				LR	LR			
	comp=N,100nm,31.5s							
MDJ				LR	LR			
	comp=E,140nm,28.9s							
MDJ				LR	LR			
	comp=Z,100nm,47.1s							
SONM	**Songino Array**	**153.53**	**10**	PKP	**PKPdf**	**18 57 39.1**	**+0.9**	
SONM				PKPbc	**PKiKP**	**18 57 46.6**	**+0.4**	
SONM				PKPab	**PKPab**	**18 58 00.0**	**+0.9**	
SONM	**Songino Array**	**153.53**	**10**	PKP	**PKPdf**	**18 57 39.1**	**+0.9**	
	comp=Z,3.0nm,0.9s,baz=317,slow=1.6,SNR=10							
SONM				PKPbc	**PKiKP**	**18 57 46.6**	**+0.4**	
	comp=Z,6.5nm,0.9s,baz=295,slow=1.3,SNR=15							
SONM				PKPab	**PKPab**	**18 58 00.0**	**+0.9**	
	comp=Z,5.6nm,0.5s,baz=317,slow=2.1,SNR=15							
MJAR	**Matsushiro Arr**	**153.56**	**309**	PKPbc	**PKPbc**	**18 57 46.5**	**+0.1**	
MJAR	**Matsushiro Arr**	**153.56**	**309**	PKPbc	**PKPbc**	**18 57 46.5**	**+0.1**	
	comp=Z,3.9nm,0.7s,baz=95,slow=1.2,SNR=9.5							
MAJO	**Matsushiro**	**153.56**	**309**	*e*PKIKP	**PKPbc**	**18 57 46.3**	**-0.1**	
MAJO	**Matsushiro**	**153.56**	**309**	*e*PKPbc	**PKPbc**	**18 57 46.3**	**-0.1**	
MAT	**Matsushiro**	**153.56**	**309**	PKP	**PKPbc**	**18 57 45.7**	**-0.7**	
ULN	**Ulaanbaatar**	**153.59**	**9**	*e*PKPdf	**PKPdf**	**18 57 38.8**	**+0.4**	
DMN	**Daman**	**154.16**	**72**	*e*P	**PKPbc**	**18 57 48.2**	**0.0**	
	comp=Z,89nm,0.7s							
KKN	**Kakani**	**154.29**	**71**	*e*P	**PKPbc**	**18 57 47.8**	**-0.7**	
	comp=Z,82nm,0.6s							
PKIN	**Phulchoki**	**154.42**	**72**	*e*P	**PKPbc**	**18 57 48.1**	**-0.7**	
	comp=Z,40nm,0.7s							
PKI	**Pulchoki**	**154.43**	**72**	*e*P	**PKPbc**	**18 57 48.4**	**-0.5**	
	comp=Z,34nm,0.7s							
GUN	**Gumba**	**154.80**	**71**	*e*P	**PKPbc**	**18 57 49.7**	**0.0**	
	comp=Z,126nm,0.8s							
JIRN	**Jiri**	**155.10**	**71**	*e*P	PKPdf	18 57 49.4	+8.0	
	comp=Z,14nm,0.5s							
CN2	**Changchun**	**155.72**	**337**	*e*PKP	**PKPdf**	**18 57 41.0**	**-0.2**	
ODAN	**Odare**	**156.26**	**73**	*e*P	PKPdf	18 57 49.6	+6.8	
	comp=Z,39nm,0.6s							
TAPN	**Taplejung**	**156.49**	**71**	*e*P	PKPdf	18 57 53.3	+10	
	comp=Z,37nm,0.9s							
PSI	**Prapat**	**156.74**	**142**	PKPab	**PKPab**	**18 58 14.2**	**+0.5**	
PSI	**Prapat**	**156.74**	**142**	PKPab	**PKPab**	**18 58 14.2**	**+0.5**	
	baz=243,slow=2.3							
LSA	**Lhasa**	**158.94**	**64**	*e*PKIKP	**PKPdf**	**18 57 46.1**	**-0.2**	
LSA	**Lhasa**	**158.94**	**64**	*e*PKPdf	**PKPdf**	**18 57 46.1**	**-0.2**	
GTA	**Gaotai**	**159.21**	**30**	PKP	**PKPdf**	**18 57 46.3**	**+0.4**	
GTA				PKPab	**PKPab**	**18 58 24.3**	**+0.5**	
GTA				pPKP	**pPKPdf**	**18 58 29.4**	**-2.8**	
GTA				sPKP		18 58 45.9		
GTA				PP	**PP**	**19 02 07.9**	**+3.0**	
GTA				SKS	**SKSdf**	**19 04 33.8**	**-1.2**	
GTA				SKKS	**SKKSac**	**19 08 37.9**	**+0.7**	
GTA				SS	**SS**	**19 21 56.5**	**+1.4**	
GTA				AMB	AMB			
	comp=Z,140nm,11.4s							
GTA				LR	LR			
	comp=N,100nm,20.9s							
GTA				LR	LR			
	comp=E,100nm,24.7s							
GTA				LR	LR			
	comp=Z,210nm,21.4s							
KSM	**Kuching**	**159.62**	**173**	*e*PKPab	**PKPab**	**18 58 25.4**	**-0.6**	
KSRS	**Korea Array**	**159.70**	**323**	PKP	**PKPdf**	**18 57 46.8**	**+0.5**	
	comp=Z,3.2nm,0.8s,baz=22,slow=1.1,SNR=7.9							
KSRS				PKPab	**PKPab**	**18 58 26.1**	**+0.3**	
	comp=Z,2.7nm,0.6s,baz=55,slow=4.5,SNR=6.1							
KSAR	**Wonju Array Be**	**159.73**	**323**	PKP	**PKPdf**	**18 57 46.8**	**+0.4**	
KSAR				PKPab	**PKPab**	**18 58 26.1**	**+0.2**	
SHL	**Shillong**	**160.42**	**75**	*ex*	**PKPab**	**18 58 30.0**	**+0.2**	
HHC	**Hu-ho-hao-te**	**161.00**	**3**	*e*PKP	**PKPdf**	**18 57 47.8**	**0.0**	
HHC				pPKP	**PKPab**	**18 58 31.0**	**-0.5**	
HHC				sPKP		18 58 47.0		
HHC				PKS	**PKSdf**	**19 01 20.1**	**-1.1**	
HHC				SKS	**SKSdf**	**19 04 35.0**	**-1.5**	
HHC				SKKS	**SKKSac**	**19 08 47.1**	**+1.0**	
HHC				AMB	AMB			
	comp=Z,1μm,8.4s							
BJI	**Beijing**	**161.62**	**352**	PKP	**PKPdf**	**18 57 48.0**	**-0.3**	
BJI				pPKP	**PKPab**	**18 58 33.4**	**-0.6**	
BJI				sPKP		18 58 50.0		
LZH	**Lanzhou**	**163.75**	**27**	*e*PKP	PKPdf	18 57 43.4	-7.4	
LZH				pPKP	pPKPdf	18 58 26.5	-11	
LZH				PKP	PKPab	18 58 38.6	-5.2	
LZH				sPKP		18 58 43.0		
LZH				PP	**PP**	**19 02 25.0**	**-4.0**	
LZH				SKS		19 03 30.5		
CMAR	**Chiang Mai Arr**	**166.50**	**102**	PKP	**PKPdf**	**18 57 53.8**	**+0.4**	
CMAR				PKPab	**PKPab**	**18 58 56.6**	**+0.2**	
CMAR				PP	**PP**	**19 02 44.2**	**-0.5**	
CMAR	**Chiang Mai Arr**	**166.50**	**102**	PKP	**PKPdf**	**18 57 53.7**	**+0.4**	
	comp=Z,0.8nm,0.6s,baz=266,slow=2.4,SNR=6.1							
CMAR				PKPab	**PKPab**	**18 58 56.6**	**+0.2**	
	comp=Z,2.1nm,0.6s,baz=245,slow=4.1,SNR=4.3							
CMAR				PP	**PP**	**19 02 44.2**	**-0.5**	
	comp=Z,4.9nm,1.0s,baz=269,slow=5.5,SNR=10.0							
CHTO	**Chiang Mai**	**166.60**	**100**	*e*PKP2	**PKPab**	**18 58 57.0**	**+0.2**	
CHTO	**Chiang Mai**	**166.60**	**100**	*e*PKPab	**PKPab**	**18 58 57.0**	**+0.2**	
XAN	**Xi'an**	**167.34**	**15**	PKP	**PKPdf**	**18 57 53.9**	**+0.3**	
CD2	**Chengdu**	**167.81**	**40**	PKP	**PKPdf**	**18 57 53.3**	**-0.8**	
CD2				pPKP	**pPKPdf**	**18 58 36.5**	**-3.9**	
CD2				sPKP		18 58 53.3		
CD2				PKPab	**PKPab**	**18 59 02.6**	**+0.8**	
CD2				PKS	**PKSdf**	**19 01 24.5**	**-2.3**	
CD2				PP	**PP**	**19 02 52.3**	**+2.0**	
CD2				SKS	**SKSdf**	**19 04 39.3**	**-2.3**	
CD2				SKKS	**SKKSac**	**19 09 21.1**	**0.0**	
CD2				SS	**SS**	**19 23 23.6**	**-0.4**	
CD2				AMB	AMB			
	comp=Z,160nm,5.6s							
NJ2	**Nanjing**	**168.50**	**334**	*e*PKP	**PKPdf**	**18 57 54.9**	**+0.5**	
NJ2				pPKP	**pPKPdf**	**18 58 36.3**	**-4.5**	
NJ2				sPKP		18 58 53.0		
NJ2				PKPab	**PKPab**	**18 59 04.4**	**-0.2**	
NJ2				PKS	**PKSdf**	**19 01 27.5**	**+0.5**	
NJ2				PP	**PP**	**19 02 54.0**	**+0.8**	
NJ2				AMB	AMB			
	comp=Z,60nm,6.2s							
NJ2				LR	LR			
	comp=N,180nm,23.3s							
NJ2				LR	LR			
	comp=E,130nm,16.8s							
NJ2				LR	LR			
	comp=Z,190nm,17.0s							
WHN	**Wuhan**	**171.21**	**352**	*e*PKP	**PKPdf**	**18 57 56.3**	**+0.3**	
WHN				PKPab	**PKPab**	**18 59 16.8**	**+0.2**	
GYA	**Guiyang**	**172.69**	**50**	PKP	**PKPdf**	**18 57 55.8**	**-1.2**	
GYA				pPKP	**pPKPdf**	**18 58 38.8**	**-4.6**	
GYA				sPKP		18 58 55.0		
GYA				PKPab	**PKPab**	**18 59 24.3**	**+0.6**	
GYA				PKS	**PKSdf**	**19 01 25.6**	**-3.9**	
GYA				PP	**PP**	**19 03 15.0**	**-0.1**	
GYA				AMB	AMB			
	comp=Z,210nm,8.6s							
QIZ	**Qiongzhong**	**176.03**	**134**	PKP	**PKPdf**	**18 57 56.8**	**-1.3**	
QIZ				SKKS		19 09 59.0		
QIZ				SS	**SS**	**19 24 42.4**	**-2.1**	
QIZ				AMB	AMB			
	comp=Z,270nm,10.7s							

*ISCJB **14** 18:41:16.9±0.4,36°.17N±0°.02×36°.05E±0°.03,h12km±3km, Error ellipse: s-maj=4.5km s-min=3.2km az=163.9*
*DDA **14** 18:41:16.3,36°.19N×36°.03E,h7km,ML3.2*
*ISK **14** 18:41:16.0,36°.15N×36°.09E,h19km,MD3.1*
*CSEM **14** 18:41:17.0±0.2,36°.16N×36°.08E,h15km,MD3.1, Error ellipse: s-maj=4.6km s-min=3.5km az=72.0*
*NSSC **14** 18:41:17.7±1.3,36°.20N×36°.36E,h27km±7km, ML2.6*
ISC 14 18:41:16.8±0.8,36°.17N±0°.02×36°.08E±0°.02,h16km±5km, n50,σ0s85/74,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HTY	**Hatay**	**0.07**	**135**	PG		**Pg**	**Pg**	**18 41 19.6**	**-0.2**
HTY				*e*SG		**Sg**	**Sg**	**18 41 22.2**	**+0.4**
HTY	**Hatay**	**0.07**	**135**	*i* Pg		**Pg**	**Pg**	**18 41 19.6**	**-0.2**
HTY				*e*Sg		**Sg**	**Sg**	**18 41 22.2**	**+0.4**
YAYL	**Yayladag**	**0.14**	**170**	*i* P		**Pb**	**Pb**	**18 41 20.0**	**-1.1**
YAYL				*i* S		**Sb**	**Sb**	**18 41 22.8**	**-1.1**
YAYL	**Yayladag**	**0.14**	**170**	*i* P		**Pb**	**Pb**	**18 41 20.0**	**-1.1**
YAYL				*i* S		**Sb**	**Sb**	**18 41 22.8**	**-1.1**
SLNF	**Slenfeh**	**0.58**	**168**	*e*P		**Pn**	**Pn**	**18 41 30.5**	**-0.1**
SLNF				*e*S		**Sg**	**Sg**	**18 41 38.0**	**+1.8**
SLNF				AML	AML	18 41 43.3			
	comp=Z,421nm,0.4s								
SLNF				AML	AML	18 41 44.9			
	comp=E,618nm,0.2s								
SLNF				AML	AML	18 41 49.0			
	comp=N,134nm,0.2s								
SLNF	**Slenfeh** SNR=104	**0.58**	**168**	*e*P		**Pn**	**Pn**	**18 41 30.5**	**-0.1**
SLNF				*e*S		**Sg**	**Sg**	**18 41 38.0**	**+1.8**
	comp=N,134nm,0.2s,SNR=103								
KRTS	**Karatas**	**0.70**	**306**	*e*PG		**Pb**	**Pb**	**18 41 30.4**	**-0.2**
KRTS				*e*SG		**Sg**	**Sg**	**18 41 40.9**	**+1.3**
KRTS	**Karatas**	**0.70**	**306**	*e*Pg		**Pb**	**Pb**	**18 41 30.4**	**-0.2**
KRTS				*e*Sg		**Sg**	**Sg**	**18 41 40.9**	**+1.3**
WRDH	**Warideh**	**0.71**	**158**	*e*P		**Pb**	**Pb**	**18 41 30.5**	**-0.4**
WRDH				*e*S		**Sb**	**Sb**	**18 41 40.5**	**0.0**
WRDH				AML	AML	18 41 41.6			
	comp=Z,232nm,0.2s								
WRDH				AML	AML	18 41 42.2			
	comp=E,179nm,0.2s								
WRDH				AML	AML	18 41 43.1			
	comp=N,341nm,0.1s								
WRDH	**Warideh** SNR=102	**0.71**	**158**	*e*P		**Pb**	**Pb**	**18 41 30.5**	**-0.4**
WRDH				*e*S		**Sb**	**Sb**	**18 41 40.5**	**0.0**
	comp=N,341nm,0.1s,SNR=101								
YURE	**YUREGIR**	**0.75**	**331**	*e*P		**Pg**	**Pg**	**18 41 31.6**	**+0.2**
YURE	**YUREGIR**	**0.75**	**331**	*e*P		**Pg**	**Pg**	**18 41 31.6**	**+0.2**
CEYT	**Ceyhan**	**0.88**	**343**	*e*PG		**Pg**	**Pg**	**18 41 33.9**	**0.0**
CEYT				*e*SG		**Sn**	**Sn**	**18 41 46.9**	**-0.1**
CEYT	**Ceyhan**	**0.88**	**343**	*e*Pg		**Pg**	**Pg**	**18 41 33.9**	**0.0**
CEYT				*e*Sg		**Sn**	**Sn**	**18 41 46.9**	**-0.1**
KUZU	**Kuzuini**	**1.00**	**53**	*i* P		**Pg**	**Pg**	**18 41 36.6**	**+0.3**
KUZU				*i* S		**Sn**	**Sn**	**18 41 51.0**	**+0.8**
KUZU	**Kuzuini**	**1.00**	**53**	*i* P		**Pg**	**Pg**	**18 41 36.6**	**+0.3**
KUZU				*i* S		**Sn**	**Sn**	**18 41 51.0**	**+0.8**
BIDA	**Albida**	**1.17**	**170**	*e*P		**Pn**	**Pn**	**18 41 37.9**	**-0.7**
BIDA				*e*S		**Sb**	**Sb**	**18 41 53.7**	**+0.1**
BIDA				AML	AML	18 41 56.4			
	comp=E,320nm,0.3s								
BIDA				AML	AML	18 41 56.4			
	comp=N,303nm,0.2s								
BIDA				AML	AML	18 41 57.3			
	comp=Z,174nm,0.2s								
BIDA	**Albida** SNR=57	**1.17**	**170**	*e*P		**Pn**	**Pn**	**18 41 37.9**	**-0.7**
BIDA				*e*S		**Sb**	**Sb**	**18 41 53.7**	**+0.1**
	comp=Z,174nm,0.2s,SNR=58								
KOZT	**Kozan**	**1.32**	**351**	*e*PN		**Pn**	**Pn**	**18 41 40.3**	**-0.4**
KOZT	**Kozan**	**1.32**	**351**	*e*Pn		**Pn**	**Pn**	**18 41 40.3**	**-0.4**
AYKD	**Aykdinkavak**	**1.37**	**25**	*i* P		**Pb**	**Pb**	**18 41 41.8**	**-0.3**
AYKD				*i* S		**Sb**	**Sb**	**18 41 58.7**	**-0.8**
ANDN	**Andirin**	**1.42**	**9**	*i* P		**Pb**	**Pb**	**18 41 43.3**	**+0.3**
ANDN				*i* S		**Sg**	**Sg**	**18 42 02.0**	**-0.8**
ANDN	**Andirin**	**1.42**	**9**	*i* P		**Pb**	**Pb**	**18 41 43.3**	**+0.3**
ANDN				*i* S		**Sg**	**Sg**	**18 42 02.0**	**-0.8**
GULE	**Gulek**	**1.53**	**317**	*i* P		**Pb**	**Pb**	**18 41 44.3**	**-0.5**
GULE				*i* S		**Sb**	**Sb**	**18 42 03.7**	**-0.3**
GULE	**Gulek**	**1.53**	**317**	*i* P		**Pb**	**Pb**	**18 41 44.3**	**-0.5**
GULE				*i* S		**Sb**	**Sb**	**18 42 03.7**	**-0.3**
HAWK	**Haweek**	**1.67**	**171**	*e*P		**Pn**	**Pn**	**18 41 45.7**	**+0.3**
HAWK	**Haweek** SNR=57	**1.67**	**171**	*e*P		**Pn**	**Pn**	**18 41 45.7**	**+0.3**
EREN	**Erenkoy**	**1.68**	**248**	*e*PN		**Pn**	**Pn**	**18 41 45.1**	**-0.4**
EREN	**Erenkoy**	**1.68**	**248**	*e*Pn		**Pn**	**Pn**	**18 41 45.1**	**-0.4**
GZT	**Gaziantep**	**1.68**	**45**	*i* P		**Pg**	**Pg**	**18 41 49.0**	**-0.1**
GZT				*i* S		**Sg**	**Sg**	**18 42 10.5**	**-0.4**
IKL	**Isikli**	**1.94**	**273**	*e*PN		**Pn**	**Pn**	**18 41 49.3**	**+0.2**
IKL	**Isikli**	**1.94**	**273**	*e*Pn		**Pn**	**Pn**	**18 41 49.3**	**+0.2**
SARI	**SarD1z-Kayseri**	**2.25**	**7**	*e*PN		**Pn**	**Pn**	**18 41 53.4**	**-0.1**
LFK	**Lefkose**	**2.25**	**248**	*e*PN		**Pn**	**Pn**	**18 41 53.1**	**-0.4**
LFK	**Lefkose**	**2.25**	**248**	*e*Pn		**Pn**	**Pn**	**18 41 53.1**	**-0.4**
URFA	**Urfa**	**2.54**	**59**	*e*PN		**Pn**	**Pn**	**18 41 56.6**	**-0.8**
URFA	**Urfa**	**2.54**	**59**	*e*Pn		**Pn**	**Pn**	**18 41 56.6**	**-0.8**
CSS	**Prodhromos**	**2.54**	**243**	*e*PN		**Pn**	**Pn**	**18 41 57.6**	**+0.2**
CSS	**Prodhromos**	**2.54**	**243**	*e*Pn		**Pn**	**Pn**	**18 41 57.6**	**+0.2**
ERMK	**Ermenek**	**2.60**	**281**	*i* P		**Pn**	**Pn**	**18 42 00.7**	**+2.4**
ERMK				*i* S		**Sb**	**Sb**	**18 42 32.6**	**-2.3**
ERMK	**Ermenek**	**2.60**	**281**	*i* P		**Pn**	**Pn**	**18 42 00.7**	**+2.4**
ERMK				*i* S		**Sb**	**Sb**	**18 42 32.6**	**-2.3**
DARE	**Darende-Malaty**	**2.65**	**25**	*e*PN		**Pn**	**Pn**	**18 41 58.9**	**-0.1**
MALT	**Malatya**	**2.84**	**41**	*e*PN		**Pn**	**Pn**	**18 42 02.1**	**+0.4**
MALT	**Malatya**	**2.84**	**41**	*e*Pn		**Pn**	**Pn**	**18 42 02.1**	**+0.4**
MYA	**Malatya**	**2.85**	**40**	*e*PN		**Pn**	**Pn**	**18 42 02.1**	**+0.3**
MYA	**Malatya**	**2.85**	**40**	*e*Pn		**Pn**	**Pn**	**18 42 02.1**	**+0.3**
SULT	**Sultanhani-AKS**	**2.88**	**315**	*e*PN		**Pn**	**Pn**	**18 42 02.7**	**+0.6**
SULT	**Sultanhani-AKS**	**2.88**	**315**	*e*Pn		**Pn**	**Pn**	**18 42 02.7**	**+0.6**
MAZI	**Mazidag**	**3.73**	**69**	*e*PN		**Pn**	**Pn**	**18 42 15.2**	**+1.3**
MAZI	**Mazidag**	**3.73**	**69**	*e*Pn		**Pn**	**Pn**	**18 42 15.2**	**+1.3**

*TIF **14** 18:46:06.5,41°.30N×43°.92E,h12km±2km*
*ISCJB **14** 18:46:07.1±0.6,41°.30N±0°.03×43°.88E±0°.03,h1km±5km, Error ellipse: s-maj=5.1km s-min=3.0km az=160.4*
*CSEM **14** 18:46:07.4±0.2,41°.31N×43°.88E,h2km, ML3.5, Error ellipse: s-maj=5.7km s-min=3.4km az=154.0*
*ISK **14** 18:46:09.2,41°.31N×43°.74E,h54km, MD2.9*
*DDA **14** 18:46:15.3,40°.95N×43°.27E,h7km, ML3.5*
ISC 14 18:46:07.6±1.0,41°.30N±0°.02×43°.90E±0°.02,h8km±9km, n34,σ0s50/64,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.32**	**289**	P		**Pg**	**Pg**	**18 46 13.7**	**-0.2**
AKH				S		**Sg**	**Sg**	**18 46 18.3**	**0.0**
AKH	**Akhalkalaki**	**0.32**	**289**	P		**Pg**	**Pg**	**18 46 13.7**	**-0.2**
AKH				S		**Sg**	**Sg**	**18 46 18.3**	**0.0**
KZR	**Kazreti**	**0.40**	**79**	P		**Pg**	**Pg**	**18 46 15.3**	**-0.1**
KZR				S		**Sg**	**Sg**	**18 46 20.9**	**+0.2**
KZR	**Kazreti**	**0.40**	**79**	P		**Pg**	**Pg**	**18 46 15.3**	**-0.1**
KZR				S		**Sg**	**Sg**	**18 46 20.9**	**+0.2**
TBLG	**Delisi**	**0.76**	**56**	P		**Pg**	**Pg**	**18 46 21.6**	**-0.7**
TBLG				S		**Sg**	**Sg**	**18 46 32.5**	**+0.3**
TBLG	**Delisi**	**0.76**	**56**	P		**Pg**	**Pg**	**18 46 21.6**	**-0.7**
TBLG				S		**Sg**	**Sg**	**18 46 32.5**	**+0.3**
SEAG	**Tbilisi Sea**	**0.82**	**56**	P		**Pg**	**Pg**	**18 46 22.8**	**-0.6**
SEAG				S		**Sg**	**Sg**	**18 46 34.7**	**+0.6**
KARS	**Kars**	**0.92**	**223**	*e*PG		**Pb**	**Pb**	**18 46 25.6**	**-0.2**
KARS				*e*SG		**Sg**	**Sg**	**18 46 37.6**	**+0.5**
KARS	**Kars**	**0.92**	**223**	*e*Pg		**Pb**	**Pb**	**18 46 25.6**	**-0.2**
KARS				*e*Sg		**Sg**	**Sg**	**18 46 37.6**	**+0.5**
DIGO	**Kars**	**0.97**	**204**	*i* P		**Pg**	**Pg**	**18 46 26.0**	**-0.3**
DIGO				*i* S		**Sg**	**Sg**	**18 46 39.3**	**+0.4**
DIGO	**Kars**	**0.97**	**204**	*i* P		**Pg**	**Pg**	**18 46 26.0**	**-0.3**
DIGO				*i* S		**Sg**	**Sg**	**18 46 39.3**	**+0.4**
DUS	**Dusheti**	**0.99**	**37**	P		**Pg**	**Pg**	**18 46 26.9**	**+0.3**
DUS				S		**Sb**	**Sb**	**18 46 41.1**	**+0.8**
DUS	**Dusheti**	**0.99**	**37**	P		**Pg**	**Pg**	**18 46 26.9**	**+0.3**
DUS				S		**Sb**	**Sb**	**18 46 41.1**	**+0.8**
DGRG	**David-gareji**	**1.12**	**82**	P		**Pg**	**Pg**	**18 46 28.5**	**-0.6**
DGRG				S		**Sn**	**Sn**	**18 46 45.0**	**-0.3**
DGRG	**David-gareji**	**1.12**	**82**	P		**Pg**	**Pg**	**18 46 28.5**	**-0.6**
DGRG				S		**Sn**	**Sn**	**18 46 45.0**	**-0.3**
GNI	**Garni**	**1.32**	**151**	*e*PN		**Pg**	**Pg**	**18 46 32.9**	**0.0**
GNI				*e*SN		**Sn**	**Sn**	**18 46 50.7**	**+0.3**
GNI	**Garni**	**1.32**	**151**	*e*Pn		**Pg**	**Pg**	**18 46 32.9**	**0.0**
GNI				*e*Sn		**Sn**	**Sn**	**18 46 50.7**	**+0.3**
ARTV	**Artvin**	**1.49**	**266**	*i* P		**Pn**	**Pn**	**18 46 34.4**	**-0.5**
ARTV				*i* S		**Sn**	**Sn**	**18 46 54.0**	**-0.6**
ARTV	**Artvin**	**1.49**	**266**	*i* P		**Pn**	**Pn**	**18 46 34.4**	**-0.5**
ARTV				*i* S		**Sn**	**Sn**	**18 46 54.0**	**-0.6**
DAGI	**Agillar**	**1.51**	**262**	*i* P		**Pn**	**Pn**	**18 46 35.4**	**+0.4**
DAGI				*i* S		**Sn**	**Sn**	**18 46 55.0**	**0.0**
DDEM	**Demirkent**	**1.67**	**256**	*i* P		**Pn**	**Pn**	**18 46 37.8**	**+0.5**
DDEM				*i* S		**Sn**	**Sn**	**18 46 59.4**	**+0.4**
DDEM	**Demirkent**	**1.67**	**256**	*i* P		**Pn**	**Pn**	**18 46 37.8**	**+0.5**
DDEM				*i* S		**Sn**	**Sn**	**18 46 59.4**	**+0.4**
DBOC	**Borcka**	**1.68**	**272**	*i* P		**Pn**	**Pn**	**18 46 37.6**	**+0.3**
DBOC				*i* S		**Sn**	**Sn**	**18 46 59.2**	**+0.2**
DBOC	**Borcka**	**1.68**	**272**	*i* P		**Pn**	**Pn**	**18 46 37.6**	**+0.3**
DBOC				*i* S		**Sn**	**Sn**	**18 46 59.2**	**+0.2**
DBAD	**Bademkaya**	**1.69**	**261**	*i* P		**Pn**	**Pn**	**18 46 37.7**	**+0.2**
DBAD				*i* S		**Sn**	**Sn**	**18 46 59.4**	**+0.1**
DBAD	**Bademkaya**	**1.69**	**261**	*i* P		**Pn**	**Pn**	**18 46 37.7**	**+0.2**
DBAD				*i* S		**Sn**	**Sn**	**18 46 59.4**	**+0.1**
BCA	**Borcka**	**1.72**	**275**	*e*PN		**Pn**	**Pn**	**18 46 36.2**	**-1.6**
BCA	**Borcka**	**1.72**	**275**	*e*Pn		**Pn**	**Pn**	**18 46 36.2**	**-1.6**
AGRB	**Hanur-Agry**	**1.86**	**202**	*e*PN		**Pn**	**Pn**	**18 46 39.2**	**-0.7**
AGRB	**Hanur-Agry**	**1.86**	**202**	*e*Pn		**Pn**	**Pn**	**18 46 39.3**	**-0.7**
CHVG	**Ch'k'valeri**	**1.95**	**317**	P		**Pb**	**Pb**	**18 46 43.3**	**-0.1**
CHVG				S		**Sg**	**Sg**	**18 47 10.8**	**+0.5**
CHVG	**Ch'k'valeri**

FITZ				S	S	19 00 30.2	+21		
	baz=42,SNR=5.0								
MBWA	**Marble Bar**	**45.49**	**257**	*eP*	**P**	**18 54 47.0**	**+0.2**		
MEEK	**Meekatharra**	**46.35**	**250**	P	**P**	**18 54 53.7**	**+0.1**		
	baz=48,SNR=7.1								
NWAO	**Narrogin (SRO)**	**47.91**	**241**	*eP*	**P**	**18 55 05.0**	**-0.6**		
NWAO	**Narrogin (SRO)**	**47.91**	**241**	LR	LR	19 17 05.6			
	comp=Z,207nm,18.9s,baz=94,slow=38								
KSM	**Kuching**	**59.78**	**282**	*eP*	**P**	**18 56 33.2**	**+0.5**		
	comp=Z,7.2nm,0.9s								
KSM				*e*		18 56 45.4			
KSM	**Kuching**	**59.78**	**282**	P	**P**	**18 56 33.5**	**+0.8**		
	baz=62,SNR=4.3								
MJAR	**Matsushiro Arr**	**60.65**	**333**	P	**P**	**18 56 37.5**	**-0.6**		
MJAR	**Matsushiro Arr**	**60.65**	**333**	P	**P**	**18 56 37.5**	**-0.6**		
	comp=Z,3.8nm,0.9s,baz=166,slow=7.5,SNR=12								
MAT	**Matsushiro**	**60.65**	**333**	P	**P**	**18 56 37.4**	**-0.8**		
QSPA	**South Pole Qui**	**72.53**	**180**	*eP*	**P**	**18 57 54.4**	**+0.6**		
	comp=Z,22nm,1.2s								
CMAR	**Chiang Mai Arr**	**76.66**	**294**	P	**P**	**18 58 19.2**	**+0.8**		
CMAR	**Chiang Mai Arr**	**76.66**	**294**	P	**P**	**18 58 19.2**	**+0.8**		
	comp=Z,0.5nm,0.6s,baz=139,slow=5.6,SNR=5.8								
MAW	**Mawson**	**79.56**	**202**	P	**P**	**18 58 36.4**	**+2.9**		
MAW	**Mawson**	**79.56**	**202**	P	**P**	**18 58 36.4**	**+2.9**		
	comp=Z,1.7nm,0.8s,baz=146,slow=7.3,SNR=3.5								
NVAR	**Mina Array Bea**	**88.61**	**49**	P	**P**	**18 59 20.4**	**-0.1**		
NVAR	**Mina Array Bea**	**88.61**	**49**	P	**P**	**18 59 20.4**	**-0.1**		
	comp=Z,0.4nm,0.7s,baz=256,slow=3.6,SNR=3.0								
ILAR	**Eielson Array**	**88.97**	**18**	P	**P**	**18 59 19.4**	**-1.9**		
ILAR	**Eielson Array**	**88.97**	**18**	P	**P**	**18 59 19.4**	**-1.9**		
	comp=Z,0.5nm,0.8s,baz=230,slow=5.6,SNR=3.9								
SNAA	**Sanae**	**90.82**	**183**	*eP*	**P**	**18 59 29.9**	**-0.2**		
	comp=Z,14nm,1.3s								
SNAA	**Sanae**	**90.82**	**183**	P	**P**	**18 59 29.8**	**-0.3**		
	comp=Z,0.7nm,0.7s,baz=176,slow=4.7,SNR=7.7								
ARCES	**ARCESS Array B**	**123.09**	**345**	PKP	**PKPdf**	**19 05 21.9**	**-0.9**		
ARCES	**ARCESS Array B**	**123.09**	**345**	PKP	**PKPdf**	**19 05 21.9**	**-0.9**		
	comp=Z,1.3nm,0.8s,baz=29,slow=2.8,SNR=5.4								
GERES	**GERESS Array B**	**142.39**	**332**	PKPpre	PKPpre	19 05 54.9			
GERES	**GERESS Array B**	**142.39**	**332**	PKhKP	PKPpre	19 05 54.9			
	comp=Z,0.3nm,0.4s,baz=349,slow=27,SNR=4.3								
RJOB	**Jochberg**	**143.61**	**331**	*e*PKPbc	PKPbc	19 05 59.5	+0.2		
BOJS	**Bojanci**	**143.98**	**327**	*i* PKPdf	**PKPdf**	**19 06 01.6**	**-0.9**		
LJU	**Ljubljana**	**143.99**	**328**	*e*PKPdf	PKPbc	19 06 01.1	+0.6		
ABTA	**Abfaltersbach**	**144.47**	**331**	⇓*i* PKPdf	**PKPab**	**19 06 01.9**	**+0.1**		
	comp=Z,10nm,0.7s								
WLF	**Walferdange**	**144.71**	**339**	*e*PKPbc	**PKPdf**	**19 06 03.4**	**-0.3**		
WLF	**Walferdange**	**144.71**	**339**	*e*PKPdf	**PKPdf**	**19 06 03.3**	**-0.4**		
BFO	**Black Forest**	**145.04**	**336**	*e*PKPbc	**PKPab**	**19 06 03.9**	**+0.2**		
BFO	**Black Forest**	**145.04**	**336**	*e*PKPdf	**PKPdf**	**19 06 04.1**	**-0.3**		
FETA	**Feichten**	**145.08**	**332**	⇑*i* PKPdf	**PKPdf**	**19 06 04.5**	**-0.1**		
	comp=Z,24nm,1.0s								
DAVA	**Damuels**	**145.24**	**333**	*e*PKPbc	**PKPdf**	**19 06 04.9**	**0.0**		
DAVA				*ep*PKPbc	pPKPbc	19 06 16.7	+3.1		
DAVA	**Damuels**	**145.24**	**333**	⇑*i* PKPdf	**PKPdf**	**19 06 05.0**	**+0.1**		
	comp=Z,24nm,1.0s								
SLE	**Schleitheim**	**145.44**	**335**	*e*PKPbc	**PKPdf**	**19 06 05.1**	**+0.1**		
WILA	**Wila**	**145.55**	**335**	*e*PKPbc	**PKPbc**	**19 06 05.4**	**0.0**		
WILA				*ep*PKPbc	pPKPbc	19 06 17.4	+3.0		
DAVOX	**Davos/Dischmat**	**145.64**	**333**	PKPbc	**PKPab**	**19 06 06.5**	**+0.4**		
DAVOX	**Davos/Dischmat**	**145.64**	**333**	PKPbc	**PKPab**	**19 06 06.5**	**+0.4**		
	comp=Z,12nm,0.8s,baz=25,slow=4.4,SNR=14								
SULZ	**Cheisacher**	**145.78**	**335**	*e*PKPbc	**PKPbc**	**19 06 06.1**	**0.0**		
SULZ				*ep*PKPbc	pPKPbc	19 06 18.2	+3.1		
BALST	**Balsthal**	**146.10**	**336**	*e*PKPbc	**PKPbc**	**19 06 07.3**	**+0.2**		
TUE	**Stuetta**	**146.11**	**333**	*e*PKPbc	**PKPab**	**19 06 08.0**	**+0.1**		
TIP	**Timpagrande**	**146.98**	**317**	*e*PKPbc	**PKPbc**	**19 06 10.2**	**+0.4**		
BNI	**Bardonecchia**	**148.37**	**334**	*e*PKPbc	**PKPbc**	**19 06 14.3**	**+0.7**		
TORD	**Torodi Ar. Bea**	**166.03**	**254**	PKP	**PKPdf**	**19 06 32.3**	**-0.6**		
TORD				PKPab	**PKPab**	**19 07 33.3**	**+0.1**		
TORD	**Torodi Ar. Bea**	**166.03**	**254**	PKP	**PKPab**	**19 07 33.3**	**+0.1**		
	comp=Z,1.2nm,0.9s,baz=56,slow=0.5,SNR=5.3								
TORD				PKPab	**PKPab**	**19 07 33.3**	**+0.1**		
	comp=Z,0.5nm,0.8s,baz=159,slow=5.0,SNR=2.3								

CASC 14 18:49:27.2±1.7, 13°10N×88°94W, h35km±999km, MD3.5, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.52**	**10**	*eP*	Pn	18 49 38.4	0.0
LFRS	**El Faro**	**0.53**	**347**	*eP*	Pn	18 49 38.4	-0.1
LBRS	**Las Brisas**	**0.64**	**351**	*eP*	Pn	18 49 40.4	+0.4
LFU	**La Fuente**	**0.67**	**345**	*eP*	Pn	18 49 40.4	+0.1
BOQS	**Boqueron**	**0.71**	**332**	*eP*	Pn	18 49 40.7	-0.4
BOQS				*eS*	Sn	18 49 51.7	+0.7
VSM	**San Miguel**	**0.72**	**63**	*eP*	Pn	18 49 40.9	-0.3
SBLS	**San Blas**	**0.99**	**318**	*eP*	Pn	18 49 44.8	-0.2
SBLS				*eS*	Sn	18 49 59.4	+1.4
SNJE	**San Jose**	**1.00**	**319**	*eP*	Pn	18 49 44.6	-0.5
RBDL	**Robledal**	**1.24**	**324**	*eP*	Pn	18 49 47.9	-0.4
IXG	**Ixpaco**	**1.82**	**306**	*eP*	Pn	18 49 58.2	+1.9
IXG				*eS*	Sn	18 50 17.8	-0.5
FUG	**Fuego 3**	**2.29**	**306**	*eP*	Pn	18 50 03.4	+0.7
FUG				*eS*	Sn	18 50 30.9	+1.1

*MAN **14** 19:16:30.5°80N×126°40E, h9km, mb5.2, ML4.2, MS4.3*
*IDC **14** 19:16:31.5±3.3, 5°38N×125°51E, h66km±36km, mb3.5/8, mb1 3.6/8, mb1mx3.4/24, mbtmp3.5/8, Error ellipse: s-maj=96.2km s-min=14.5km az=71.0*
*ISCJB **14** 19:16:33.1±0.8, 5°7N±0°1×126°2E±0°2, h116km, mb3.7/8, Error ellipse: s-maj=31.1km s-min=9.5km az=157.0*

ISC 14 19:16:35.6±0.8, 5°7N±0°1×126°2E±0°2, h116km, n15, σ2°09/14, mb3.7/8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.27**	**4**	*eP*	Pn	19 16 50.8	-9.5
MATI				*eS*	Sn	19 17 06.9	-12
GSPH	**General Santos**	**1.28**	**289**	*eP*	Pn	19 16 52.4	-8.1
DAV	**Davao City (W)**	**1.51**	**337**	P	Pn	19 16 58.4	-4.6
	206nm,0.3s,baz=170,slow=11,SNR=14						
DAV				S	**Sn**	**19 17 26.2**	**+2.4**
	32nm,0.3s,baz=306,slow=22,SNR=8.3						
BUKP	**Musuan**	**2.46**	**333**	*eP*	**Pn**	**19 17 11.8**	**-3.0**
CTBH	**Cotabato--PC H**	**2.46**	**309**	⇓*i* P	**Pn**	**19 17 12.9**	**-1.9**
BUTP	**Butuan**	**3.33**	**351**	*eP*	**Pn**	**19 17 24.0**	**-2.1**
PAGZ	**Pagadian**	**3.52**	**308**	*eP*	**Pn**	**19 17 27.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**23.62**	**181**	P	**P**	**19 21 32.8**	**-3.5**
	6.8nm,1.2s,baz=4.1,slow=9.0,SNR=2.8						
WRA	**Warramunga Arr**	**69.63**	**163**	P	**P**	**19 22 02.7**	**-1.4**
	1.0nm,0.6s,baz=343,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**30.11**	**166**	P	**P**	**19 22 34.7**	**+0.2**
	0.3nm,0.6s,baz=354,slow=7.6,SNR=3.9						
ASAR				PcP	**PcP**	**19 25 33.4**	**-0.1**
	0.2nm,0.5s,baz=355,slow=2.7,SNR=4.2						
STKA	**Stephens Creek**	**40.13**	**159**	P	**P**	**19 24 02.4**	**+2.2**
	1.8nm,0.9s,baz=321,slow=13,SNR=2.6						
MKAR	**Makanchi Array**	**55.66**	**325**	P	**P**	**19 26 01.3**	**+1.5**
	0.5nm,0.5s,baz=118,slow=6.8,SNR=11						
ZALV	**Zalesovo Beam**	**58.62**	**333**	P	**P**	**19 26 21.3**	**+0.9**
	0.4nm,0.5s,baz=116,slow=6.7,SNR=3.4						
BVAR	**Borovoye Array**	**65.41**	**327**	P	**P**	**19 27 05.0**	**-0.8**
	0.5nm,0.5s,baz=111,slow=8.2,SNR=4.9						
ARCES	**ARCESS Array B**	**88.45**	**340**	P	**P**	**19 29 15.6**	**+1.1**
	2.2nm,0.9s,baz=52,slow=7.3,SNR=3.6						

*IDC **14** 20:00:33.3±1.5, 37°75N×21°44E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/25, mbtmp3.3/3, Error ellipse: s-maj=69.5km s-min=27.1km az=127.0*
*CSEM **14** 20:00:35.1±0.2, 37°77N×21°36E, h0km, ML2.9/5, Error ellipse: s-maj=3.1km s-min=2.0km az=67.0*
*ATH **14** 20:00:35.6, 37°79N×21°34E, h14km±3km, MD3.1/22, ML3.0*
*THE **14** 20:00:35.9, 37°79N×21°40E, h0km±2km, ML2.9/5, Error ellipse: s-maj=2.6km s-min=0.6km az=247.0*

ISC 14 20:00:35.6±0.9, 37°78N±0°01×21°36E±0°02, h13km±6km, n101, σ0°84/158, mb3.4/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.29**	**17**	P	**Pg**	**20 00 41.1**	**-0.5**
RLS				S	**Sg**	**20 00 46.2**	**+0.5**
RLS	**Riolos of Patr**	**0.29**	**17**	*e*PG	**Pg**	**20 00 41.2**	**-0.4**
RLS				*e*SG	**Sg**	**20 00 46.2**	**+0.5**
RLS	**Riolos of Patr**	**0.29**	**17**	*e*Pg	**Pg**	**20 00 41.2**	**-0.4**
RLS				S	**Sg**	**20 00 45.7**	**0.0**
RLS				*e*Sg	**Sg**	**20 00 46.2**	**+0.5**
AMT	**Artemida-Makis**	**0.37**	**132**	P	**Pg**	**20 00 42.9**	**-0.2**
AMT				S	**Sg**	**20 00 49.0**	**+0.9**
AMT	**Artemida-Makis**	**0.37**	**132**	*e*PG	**Pg**	**20 00 42.9**	**-0.2**
AMT				*e*SB	**Sb**	**20 00 49.4**	**-0.4**
AMT	**Artemida-Makis**	**0.37**	**132**	P	**Pg**	**20 00 42.8**	**-0.3**
AMT				S	**Sg**	**20 00 47.7**	**-0.4**
AMT				*e*Sb	**Sb**	**20 00 49.4**	**-0.4**
AXS	**Araxos**	**0.42**	**2**	P	**Pg**	**20 00 43.6**	**-0.3**
AXS				S	**Sg**	**20 00 50.2**	**+0.7**
AXS	**Araxos**	**0.42**	**2**	P	**Pg**	**20 00 43.3**	**-0.6**
AXS				S	**Sg**	**20 00 50.1**	**+0.6**
KFL	**Anninata**	**0.56**	**306**	P	**Pg**	**20 00 46.3**	**-0.3**
KFL				S	**Sb**	**20 00 56.8**	**+1.6**
KFL	**Anninata**	**0.56**	**306**	P	**Pg**	**20 00 46.3**	**-0.3**
UPR	**University Cam**	**0.60**	**34**	P	**Pg**	**20 00 47.6**	**+0.1**
UPR				S	**Sb**	**20 00 56.3**	**-0.3**
LAKA	**Lakka**	**0.67**	**47**	P	**Pg**	**20 00 47.5**	**-1.2**
LAKA	**Lakka**	**0.67**	**47**	*e*PB	**Pg**	**20 00 47.7**	**-1.0**
LAKA	**Lakka**	**0.67**	**47**	*e*Pb	**Pg**	**20 00 47.7**	**-1.0**
LAKA				S	**Sb**	**20 00 58.1**	**-0.4**
KLV	**Kalavryta, Ach**	**0.68**	**67**	P	**Pg**	**20 00 47.6**	**-1.3**
KLV				S	**Sg**	**20 00 57.8**	**0.0**
KLV	**Kalavryta, Ach**	**0.68**	**67**	*e*PB	**Pg**	**20 00 47.9**	**-1.0**
KLV				*e*SB	**Sb**	**20 00 58.8**	**0.0**
KLV	**Kalavryta, Ach**	**0.68**	**67**	P	**Pg**	**20 00 47.6**	**-1.3**
KLV	**Kalavryta, Ach**	**0.68**	**67**	*e*Pb	**Pg**	**20 00 47.9**	**-1.0**
KLV				S	**Sb**	**20 00 58.7**	**0.0**
VLS	**Valsamata**	**0.73**	**303**	P	**Pg**	**20 00 48.8**	**-0.9**
VLS	**Valsamata**	**0.73**	**303**	*e*PB	**Pg**	**20 00 48.6**	**-1.2**
VLS				*e*SB	**Sb**	**20 01 00.4**	**+0.3**
VLS	**Valsamata**	**0.73**	**303**	P	**Pg**	**20 00 48.5**	**-1.2**
VLS				*e*Sb	**Sb**	**20 01 00.4**	**+0.3**
ITM	**Ithomi**	**0.75**	**143**	P	**Pg**	**20 00 49.5**	**-0.7**
ITM				S	**Sb**	**20 01 00.9**	**+0.2**
ITM	**Ithomi**	**0.75**	**143**	*e*PG	**Pg**	**20 00 49.8**	**-0.4**
ITM				*e*SB	**Sb**	**20 01 01.7**	**+1.0**
ITM	**Ithomi**	**0.75**	**143**	P	**Pg**	**20 00 49.4**	**-0.7**
ITM	**Ithomi**	**0.75**	**143**	*e*Pg	**Pg**	**20 00 49.8**	**-0.4**
ITM				S	**Sg**	**20 00 59.8**	**-0.2**
ITM				*e*Sb	**Sb**	**20 01 01.7**	**+1.0**
EFP	**Efpalio**	**0.78**	**34**	P	**Pg**	**20 00 50.2**	**-0.5**
EFP				S	**Sb**	**20 01 01.9**	**+0.4**
EFP	**Efpalio**	**0.78**	**34**	*e*PG	**Pg**	**20 00 50.1**	**-0.6**
EFP				*e*SB	**Sb**	**20 01 02.2**	**+0.7**
EFP	**Efpalio**	**0.78**	**34**	P	**Pg**	**20 00 50.2**	**-0.5**
EFP				S	**Sb**	**20 01 01.8**	**+0.3**
EFP				*e*Sb	**Sb**	**20 01 02.2**	**+0.7**
GUR	**Goura**	**0.79**	**78**	P	**Pg**	**20 00 49.7**	**-1.3**
GUR				S	**Sg**	**20 01 01.3**	**-0.2**
GUR	**Goura**	**0.79**	**78**	*e*PB	**Pg**	**20 00 49.7**	**-1.3**
GUR				*e*SB	**Sb**	**20 01 02.5**	**+0.4**
GUR	**Goura**	**0.79**	**78**	P	**Pg**	**20 00 49.7**	**-1.3**
GUR				S	**Sg**	**20 01 01.3**	**-0.2**
GUR				*e*Sb	**Sb**	**20 01 02.5**	**+0.4**
TRIZ	**Trizonia**	**0.81**	**44**	P	**Pg**	**20 00 50.0**	**-1.3**
TRIZ	**Trizonia**	**0.81**	**44**	*e*PB	**Pg**	**20 00 50.1**	**-1.3**
TRIZ	**Trizonia**	**0.81**	**44**	*e*Pb	**Pg**	**20 00 50.1**	**-1.3**
TRIZ				S	**Sb**	**20 01 02.7**	**+0.2**
KALE	**Kalithea**	**0.87**	**45**	P	**Pg**	**20 00 51.4**	**-1.0**
KALE				S	**Sb**	**20 01 04.6**	**+0.4**
KALE	**Kalithea**	**0.87**	**45**	*e*PB	**Pg**	**20 00 51.3**	**-1.1**
KALE				*e*SB	**Sb**	**20 01 05.4**	**+1.2**
KALE	**Kalithea**	**0.87**	**45**	P	**Pg**	**20 00 51.4**	**-1.0**
KALE				S	**Sb**	**20 01 04.6**	**+0.4**
KALE				*e*Sb	**Sb**	**20 01 05.4**	**+1.2**
VLX	**Vlachokerasia**	**0.91**	**116**	P	**Pg**	**20 00 52.7**	**-0.5**
VLX				S	**Sg**	**20 01 06.3**	**+1.0**
VLX	**Vlachokerasia**	**0.91**	**116**	*e*PG	**Pg**	**20 00 52.6**	**-0.6**
VLX				*e*SB	**Sb**	**20 01 06.5**	**+1.2**
VLX	**Vlachokerasia**	**0.91**	**116**	P	**Pg**	**20 00 52.7**	**-0.5**
VLX				S	**Sg**	**20 01 04.8**	**-0.3**
VLX				*e*Sb	**Sb**	**20 01 06.5**	**+1.2**
PYL	**PYLOS**	**0.93**	**161**	P	**Pg**	**20 00 52.4**	**-1.3**
PYL				S	**Sn**	**20 01 07.9**	**+0.2**
PYL	**PYLOS**	**0.93**	**161**	*e*PB	**Pg**	**20 00 52.3**	**-1.4**
PYL				*e*SB	**Sn**	**20 01 07.7**	**0.0**
PYL	**PYLOS**	**0.93**	**161**	P	**Pg**	**20 00 52.4**	**-1.3**
PYL				S	**Sb**	**20 01 06.2**	**+0.2**
PYL				*e*Sb	**Sn**	**20 01 07.7**	**0.0**
THAL	**Thalero**	**1.06**	**76**	P	**Pb**	**20 00 54.6**	**-1.3**
THAL	**Thalero**	**1.06**	**76**	P	**Pb**	**20 00 54.6**	**-1.3**
DSF	**Desfina**	**1.12**	**55**	P	**Pb**	**20 00 55.4**	**-1.4**
DSF	**Desfina**	**1.12**	**55**	P	**Pb**	**20 00 55.5**	**-1.4**
LKD2	**Lefkada island**	**1.15**	**331**	P	**Pb**	**20 00 56.5**	**-0.9**
LKD2				S	**Sn**	**20 01 14.9**	**+1.8**
LKD2	**Lefkada island**	**1.15**	**331**	*e*PG	**Pb**	**20 00 56.4**	**-0.9**
LKD2				*e*SB	**Sn**	**20 01 14.4**	**+0.3**
LKD2	**Lefkada island**	**1.15**	**331**	P	**Pb**	**20 00 56.5**	**-0.9**
LKD2				*e*Sb	**Sn**	**20 01 13.4**	**+0.3**
EVR	**Evrytania**	**1.19**	**17**	P	**Pb**	**20 00 58.0**	**-0.1**
EVR				S	**Sn**	**20 01 14.4**	**+0.2**
EVR	**Evrytania**	**1.19**	**17**	*e*PB	**Pb**	**20 00 58.0**	**-0.1**
EVR	**Evrytania**	**1.19**	**17**	P	**Pb**	**20 00 58.0**	**-0.1**
EVR				S	**Sn**	**20 01 14.4**	**+0.2**
DYR	**Agios Nikonas**	**1.28**	**142**	P	**Pb**	**20 00 59.8**	**+0.2**
DYR				S	**Sg**	**20 01 18.1**	**+1.2**
DYR	**Agios Nikonas**	**1.28**	**142**	*e*PG	**Pb**	**20 00 59.8**	**+0.2**
DYR				*e*SB	**Sg**	**20 01 18.2**	**+1.3**
DYR	**Agios Nikonas**	**1.28**	**142**	P	**Pn**	**20 00 59.3**	**+0.1**
DYR	**Agios Nikonas**	**1.28**	**142**	*e*Pg	**Pb**	**20 00 59.8**	**+0.2**
DYR				S	**Sg**	**20 01 17.4**	**+0.5**
DYR				*e*Sb	**Sg**	**20 01 18.2**	**+1.3**
LTK	**Loutraki**	**1.29**	**79**	P	**Pn**	**20 00 59.1**	**-0.4**
LTK	**Loutraki**	**1.29**	**79**	*e*PB	**Pg**	**20 01 00.4**	**-0.1**
LTK				*e*SB	**Sg**	**20 01 18.5**	**+1.1**
LTK	**Loutraki**	**1.29**	**79**	P	**Pn**	**20 00 59.1**	**-0.4**
LTK	**Loutraki**	**1.29**	**79**	*e*Pb	**Pg**	**20 01 00.4**	**-0.1**
LTK				*e*Sb	**Sg**	**20 01 18.5**	**+1.1**
MAKR	**Makrakomi, Fth**	**1.37**	**26**	P	**Pg**	**20 01 01.8**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.37**	**26**	P	**Pg**	**20 01 01.8**	**-0.2**
AXAR	**Agios Charalam**	**1.42**	**46**	P	**Pb**	**20 01 02.2**	**+0.2**
AXAR	**Agios Charalam**	**1.42**	**46**	P	**Pb**	**20 01 02.2**	**+0.2**
AGG	**Agios Georgios**	**1.46**	**31**	P	**Pb**	**20 01 03.0**	**+0.3**
AGG	**Agios Georgios**	**1.46**	**31**	*e*PB	**Pb**	**20 01 02.9**	**+0.3**
AGG	**Agios Georgios**	**1.46**	**31**	P	**Pb**	**20 01 02.9**	**+0.3**
AGG				S	**Sg**	**20 01 24.7**	**+2.2**
DID	**Didima**	**1.52**	**100**	P	**Pn**	**20 01 03.2**	**+0.7**
DID	**Didima**	**1.52**	**100**	*e*PG	**Pb**	**20 01 04.0**	**+0.4**
DID	**Didima**	**1.52**	**100**	P	**Pn**	**20 01 03.2**	**+0.7**
DID	**Didima**	**1.52**	**100**	*e*Pg	**Pb**	**20 01 04.0**	**+0.4**
DID				S	**Sg**	**20 01 24.7**	**+0.3**
LKR	**Lokris**	**1.56**	**56**	*e*PB	**Pg**	**20 01 05.5**	**0.0**
LKR	**Lokris**	**1.56**	**56**	*e*Pb	**Pg**	**20 01 05.5**	**0.0**
VLI	**Veliai**	**1.65**	**130**	P	**Pb**	**20 01 05.9**	**+0.1**
VLI	**Veliai**	**1.65**	**130**	*e*PB	**Pb**	**20 01 06.1**	**+0.3**
VLI	**Veliai**	**1.65**	**130**	*e*Pb	**Pb**	**20 01 06.1**	**+0.3**
NAIG	**Nisos Aigina**	**1.69**	**90**	*e*PG	**Pb**	**20 01 07.2**	**+0.7**
NAIG	**Nisos Aigina**	**1.69**	**90**	*e*Pg	**Pb**	**20 01 07.2**	**+0.7**
SMIA	**Simia**	**1.82**	**52**	P	**Pn**	**20 01 07.1**	**+0.4**
SMIA	**Simia**	**1.82**	**52**	P	**Pn**	**20 01 07.1**	**+0.4**
ATH	**Athens Observa**	**1.88**	**83**	*e*PG	**Pb**	**20 01 10.6**	**+0.9**
ATH	**Athens Observa**	**1.88**	**83**	*e*Pg	**Pb**	**20 01 10.6**	**+0.9**
IGT	**Igoumenitsa**	**1.93**	**336**	P	**Pn**	**20 01 09.4**	**+1.3**
IGT	**Igoumenitsa**	**1.93**	**336**	P	**Pn**	**20 01 09.4**	**+1.3**
PTL	**Penteli**	**2.00**	**82**	*e*PN	**Pb**	**20 01 11.6**	**-0.3**
PTL	**Penteli**	**2.00**	**82**	*e*Pn	**Pb**	**20 01 11.6**	**-0.3**
KYTH	**Kithira**	**2.01**	**138**	*e*PG	**Pg**	**20 01 13.5**	**-0.7**
KYTH	**Kithira**	**2.01**	**138**	*e*Pg	**Pg**	**20 01 13.5**	**-0.7**
NEO	**Neokhori**	**2.11**	**43**	*e*PN	**Pb**	**20 01 13.3**	**-0.5**
NEO	**Neokhori**	**2.11**	**43**	*e*Pn	**Pb**	**20 01 13.3**	**-0.5**
XOR	**Xorichti**	**2.14**	**42**	P	**Pn**	**20 01 11.3**	**+0.2**
XOR	**Xorichti**	**2.14**	**42**	P	**Pn**	**20 01 11.3**	**+0.2**
KEK	**Kerkira**	**2.28**	**328**	P	**Pn**	**20 01 14.9**	**+1.9**
KEK	**Kerkira**	**2.28**	**328**	P	**Pn**	**20 01 14.9**	**+1.9**
AOS	**Alonnisos**	**2.42**	**54**	P	**Pn**	**20 01 16.0**	**+1.1**
AOS	**Alonnisos**	**2.42**	**54**	P	**Pn**	**20 01 16.0**	**+1.1**
STON	**Ston**	**5.80**	**332**	*e*Pn	**Pn**	**20 02 00.6**	**-0.8**
STON				S	**Sn**	**20 03 04.5**	**-3.2**
FINES	**FINESS Array B**	**23.87**	**6**	P	**P**	**20 05 48.4**	**-0.1**
	1.0nm,0.8s,baz=179,slow=11,SNR=4.3						
TORD	**Torodi Ar. Bea**	**30.15**	**221**	P	**P**	**20 06 45.2**	**-0.3**
	0.2nm,0.8s,baz=30,slow=9.0,SNR=3.5						
MKAR	**Makanchi Array**	**44.95**	**58**	P	**P**	**20 08 49.5**	**-0.7**
	0.3nm,0.5s,baz=278,slow=6.1,SNR=5.9						

IDC 14 20:07:58.2±4.8, 27°18N×111°85W, h0km, mb1 3.8/4, mb1mx3.5/25, mbtmp3.4/4, ML3.6/3, Error ellipse: s-maj=60.0km s-min=20.0km az=20.0, Gulf of California

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

TXAR	**Lajitas Array**	**7.53**	**71**	Pn		Pn	20 09 50.5	+1.1	
	1.5nm,0.3s,baz=259,slow=13,SNR=9.3								
TXAR				Pg		Pg	20 10 23.1	+0.4	
	0.3nm,0.3s,baz=237,slow=16,SNR=4.6								
TXAR				Lg		Lg	20 11 53.0		
	2.0nm,0.3s,baz=252,slow=32,SNR=4.6								
ANMO	**Albuquerque**	**9.02**	**29**	Lg		Lg	20 12 28.4		
	0.6nm,0.3s,baz=109,slow=20,SNR=8.6								
NVAR	**Mina Array Bea**	**12.46**	**336**	Pn		Pn	20 10 57.3	+0.1	
	0.1nm,0.3s,baz=158,slow=14,SNR=3.5								
ELK	**Elko**	**13.82**	**349**	Pn		Pn	20 11 19.5	+3.7	
	0.1nm,0.3s,baz=191,slow=10,SNR=4.5								
ELK				Lg		Lg	20 15 14.8		
	0.0nm,0.3s,baz=195,slow=19,SNR=4.3								
PDAR	**Pinedale Array**	**15.67**	**6**	Pn		P	20 11 45.5	+0.6	
	baz=171,slow=12,SNR=4.0								

GUC 14 21:07:24.6±0.3, 23°88S×67°46W, h218km±5km, ML4.1, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.84**	**313**	*eP*	Pn	21 08 04.7	+1.4
LVC				*i* S	S	21 08 35.2	+2.0
PB04	**Plate Boundary**	**2.46**	**310**	*eP*	Pn	21 08 16.4	+7.2
PB04				*eS*	S	21 08 55.8	+12
PB04				AML	AML	21 08 57.1	
	comp=N,148nm,0.3s						
PB09	**Plate Boundary**	**2.65**	**321**	*eP*	Pn	21 08 14.2	+2.7
PB09				*eS*	S	21 08 51.1	+3.2
PB09				AML	AML	21 08 54.3	
	comp=N,512nm,0.4s						
ANCH	**Antofagasta**	**2.71**	**274**	*eP*	Pn	21 08 13.4	+1.4
ANCH				*eS*	S	21 08 50.9	+2.1
PB10	**Plate Boundary**	**2.86**	**277**	*eP*	Pn	21 08 15.2	+1.6
PB10				*eS*	S	21 08 54.1	+2.3
PB10				AML	AML	21 08 57.9	
	comp=E,348nm,0.4s						
PB07	**Plate Boundary

YOJ	**Yonaguni jima**	**0.11**	**81**	P		**Pn**	**22 20 45.1**	**+0.3**
YOJ				S		**Sn**	**22 20 52.5**	**+0.6**
IRIF	**Iriomote-Funau**	**0.77**	**98**	P		**Pn**	**22 20 50.2**	**-0.3**
IRIF				*e*S		**Sn**	**22 21 02.3**	**+0.4**
HATJ	**Hateruma jima**	**0.92**	**115**	P		**Pn**	**22 20 52.6**	**+0.3**
HATJ				*e*S		**Sn**	**22 21 06.0**	**+0.9**
TWC	**Suao**	**0.97**	**280**	*i* P		**Pn**	**22 20 52.5**	**-0.4**
	baz=283							
TWC				S		**Sn**	**22 21 05.2**	**-1.0**
	baz=283							
TWB1	**Santiao Chiao**	**1.00**	**304**	*e*P		**Pn**	**22 20 53.0**	**-0.3**
	baz=296							
TWB1				*e*S		**Sn**	**22 21 05.4**	**-1.5**
	baz=296							
JKRS	**Kuro-shima**	**1.04**	**101**	P		**Pn**	**22 20 53.9**	**0.0**
JKRS				*e*S		**Sn**	**22 21 08.4**	**+0.6**
ENA	**Nanau**	**1.05**	**269**	*e*P		**Pn**	**22 20 54.3**	**+0.2**
	baz=270							
ENA				*e*S		**Sn**	**22 21 07.7**	**-0.4**
	baz=270							
JIJ	**Ishigaki jima**	**1.14**	**94**	P		**Pn**	**22 20 54.5**	**-0.7**
JIJ				S		**Sn**	**22 21 09.5**	**-0.7**
TWE	**Neicheng**	**1.15**	**284**	P		**Pn**	**22 20 55.2**	**-0.2**
	baz=285							
TWE				S		**Sn**	**22 21 10.1**	**-0.3**
	baz=285							
NWF	**Wu-fen Shan**	**1.19**	**302**	*e*P		**Pn**	**22 20 54.7**	**-1.2**
	baz=291							
ENTT	**Nioudou**	**1.23**	**279**	P		**Pn**	**22 20 56.7**	**+0.4**
	baz=276							
ENTT				*e*S		**Sn**	**22 21 12.6**	**+0.4**
	baz=276							
TWD	**Chiawan**	**1.24**	**253**	*e*P		**Pn**	**22 20 57.8**	**+1.3**
	baz=250							
TWD				*e*S		**Sn**	**22 21 11.9**	**-0.6**
	baz=250							
HWA	**Hwalien**	**1.27**	**249**	*e*P		**Pn**	**22 20 58.1**	**+1.3**
	baz=245							
HWA				*e*S		**Sn**	**22 21 13.4**	**+0.3**
	baz=245							
TWA	**Mucha**	**1.31**	**294**	*e*P		**Pn**	**22 20 57.3**	**-0.1**
	baz=283							
NNS	**Nan Shan**	**1.39**	**270**	*e*P		**Pn**	**22 20 58.7**	**+0.1**
	baz=257							
NNS				*e*S		**Sn**	**22 21 16.2**	**+0.1**
	baz=257							
PCYT	**Pengchaiyu**	**1.40**	**328**	*e*P		**Pn**	**22 20 58.6**	**+0.1**
	baz=319							
NSK	**Sanguang**	**1.42**	**280**	*e*P		**Pn**	**22 20 58.2**	**-0.8**
	baz=277							
NSK				S		**Sn**	**22 21 16.3**	**-0.5**
	baz=277							
TWY	**Chenhua**	**1.44**	**305**	*e*P		**Pn**	**22 20 59.6**	**+0.5**
	baz=296							
ESL	**Shilin**	**1.48**	**245**	*e*P		**Pn**	**22 20 57.1**	**-2.6**
	baz=234							
ESL				*e*S		**Sn**	**22 21 17.2**	**-0.9**
	baz=234							
TWS1	**Kuangyinshan**	**1.49**	**296**	*e*P		**Pn**	**22 20 59.8**	**-0.1**
	baz=285							
WHF	**Hehuan Shan**	**1.52**	**259**	*e*P		**Pn**	**22 21 00.6**	**0.0**
	baz=246							
WHF				*e*S		**Sn**	**22 21 19.2**	**-0.5**
	baz=246							
TWT	**Tachien**	**1.58**	**263**	*e*P		**Pn**	**22 21 02.1**	**+0.9**
	baz=260							
TWT				S		**Sn**	**22 21 21.0**	**+0.1**
	baz=260							
JTJ	**Tarama**	**1.66**	**83**	P		**Pn**	**22 21 01.9**	**-0.1**
JTJ				*e*S		**Sn**	**22 21 22.3**	**-0.1**
EHY	**Hungye**	**1.72**	**237**	*e*P		**Pn**	**22 21 02.8**	**-0.1**
	baz=243							
EHY				*e*S		**Sn**	**22 21 22.6**	**-1.3**
	baz=243							
NSTT	**Nanjuang**	**1.73**	**276**	*e*P		**Pn**	**22 21 04.2**	**+1.1**
	baz=274							
NSTT				*e*S		**Sn**	**22 21 24.8**	**+0.5**
	baz=274							
TWF1	**Yuli**	**1.82**	**234**	*i* P		**Pn**	**22 21 04.1**	**-0.2**
	baz=242							
TWF1				*e*S		**Sn**	**22 21 25.2**	**-1.3**
	baz=242							
SMLT	**Sun Moon Lake**	**1.91**	**253**	*e*P		**Pn**	**22 21 06.6**	**+1.1**
	baz=244							
SMLT				*e*S		**Sn**	**22 21 28.3**	**-0.3**
	baz=244							
TYC	**Yuchr**	**1.94**	**254**	P		**Pn**	**22 21 06.9**	**+1.1**
	baz=245							
TYC				S		**Sn**	**22 21 28.9**	**-0.3**
	baz=245							
CHKT	**Chengkung**	**1.94**	**227**	*e*P		**Pn**	**22 21 05.1**	**-0.8**
	baz=224							
CHKT				*e*S		**Sn**	**22 21 27.1**	**-2.1**
	baz=224							
YUS	**Yu-Shan**	**2.02**	**242**	*e*P		**Pn**	**22 21 07.8**	**+0.4**
	baz=232							
YUS				*e*S		**Sn**	**22 21 30.7**	**-1.1**
	baz=232							
ALS	**Alishan**	**2.13**	**244**	*e*P		**Pn**	**22 21 09.9**	**+1.2**
	baz=236							
ELDTW	**Lidau**	**2.13**	**234**	*e*P		**Pn**	**22 21 07.9**	**-0.7**
	baz=232							
ELDTW				*e*S		**Sn**	**22 21 32.8**	**-1.2**
	baz=232							
CHN5	**Tsauling**	**2.20**	**248**	P		**Pn**	**22 21 10.4**	**+1.0**
	baz=237							
CHN5				*e*S		**Sn**	**22 21 36.9**	**+1.3**
	baz=237							
TTN	**Taitung**	**2.33**	**224**	*e*P		Pn	22 21 08.1	-3.0
	baz=223							
TWG	**Pinlang**	**2.33**	**226**	*e*P		**Pn**	**22 21 10.5**	**-0.6**
	baz=232							
TWG				*e*S		**Sn**	**22 21 36.6**	**-2.1**
	baz=232							
STYT	**Tauyuan**	**2.34**	**237**	P		**Pn**	**22 21 12.2**	**+0.9**
	baz=235							
STYT				S		**Sn**	**22 21 40.0**	**+0.9**
	baz=235							
CHN4	**Tsaushan**	**2.37**	**243**	P		**Pn**	**22 21 13.6**	**+1.8**
	baz=235							
CHN4				S		**Sn**	**22 21 41.5**	**+1.8**
	baz=235							
WTP	**Ta-pu**	**2.41**	**241**	*e*P		**Pn**	**22 21 13.6**	**+1.3**
	baz=238							
WTP				*e*S		**Sn**	**22 21 41.4**	**+0.7**
	baz=238							
CHN1	**Nanshi**	**2.50**	**240**	P		**Pn**	**22 21 15.5**	**+1.9**
	baz=238							
CHN1				*e*S		**Sn**	**22 21 44.2**	**+1.2**
	baz=238							
SGST	**Jiashian**	**2.52**	**238**	P		**Pn**	**22 21 15.3**	**+1.5**
	baz=231							
SGST				*e*S		**Sn**	**22 21 44.7**	**+1.4**
	baz=231							
ECL	**Taimali**	**2.56**	**224**	*e*P		**Pn**	**22 21 12.3**	**-2.0**
	baz=230							
LAY	**Lan-yu**	**2.70**	**208**	*e*P		**Pn**	**22 21 16.4**	**+0.3**
	baz=207							

WEL 14 22:23:45.2±0.4, 38°.41S×175°.94E, h152km±3km, ML3.7/14, 5C-1D, Error ellipse: s-maj=2.7km s-min=2.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVZ	**Karewarewa**	**0.73**	**198**	PN	Pn	22 24 08.3	+0.1
TWVZ	**Taurewa**	**0.77**	**210**	⇑PN	Pn	22 24 08.5	+0.1
OTVZ	**Oturere**	**0.79**	**196**	PN	Pn	22 24 09.0	+0.3
WPVZ	**Whakapapa**	**0.85**	**201**	PN	Pn	22 24 09.1	+0.1
HIZ	**Hauiti**	**0.86**	**262**	PN	Pn	22 24 08.9	0.0
BKZ	**Black Stump Fm**	**0.88**	**150**	⇑PN	Pn	22 24 09.3	+0.1
BKZ				SN	Sn	22 24 27.3	-0.3
BKZ				AML	AML	22 24 29.9	
FWVZ	**Far West T-bar**	**0.90**	**199**	PN	Pn	22 24 09.2	-0.4
WHVZ	**Whangaehu Hut**	**0.92**	**197**	PN	Pn	22 24 09.7	-0.1
URZ	**Urewera**	**0.93**	**81**	PN	Pn	22 24 09.3	-0.2
URZ				SN	Sn	22 24 27.5	-0.6
URZ				AML	AML	22 24 28.4	
TRVZ	**Turoa**	**0.94**	**199**	PN	Pn	22 24 10.0	+0.1
WNVZ	**Wahianoa**	**0.96**	**196**	PN	Pn	22 24 09.9	-0.1
MOVZ	**Moawhango**	**1.01**	**188**	⇑PN	Pn	22 24 09.9	-0.3
BHHZ	**Black Hill Sta**	**1.09**	**175**	PN	Pn	22 24 10.6	-0.4
VRZ	**Vera Road**	**1.17**	**232**	PN	Pn	22 24 11.4	-0.1
MCHZ	**McNeill Hill**	**1.19**	**150**	PN	Pn	22 24 12.6	+0.8
MWZ	**Matawai**	**1.25**	**87**	PN	Pn	22 24 12.3	-0.1
MWZ				SN	Sn	22 24 32.6	-0.7
MWZ				AML	AML	22 24 33.5	
MWZ				AML	AML	22 24 33.5	
MWZ				AML	AML	22 24 33.9	
KNZ	**Kokohu**	**1.49**	**115**	PN	Pn	22 24 14.8	+0.1
PNHZ	**Pukenui**	**1.52**	**172**	PN	Pn	22 24 14.6	-0.6
WAZ	**Wanganui**	**1.54**	**208**	PN	Pn	22 24 14.6	-0.6
KAHZ	**Kahuranaki**	**1.57**	**153**	PN	Pn	22 24 15.7	+0.1
TSZ	**Takapari Road**	**1.65**	**179**	PN	Pn	22 24 15.7	-0.8
TSZ				AML	AML	22 24 42.9	
MHGZ	**Mahia Peninsul**	**1.71**	**117**	PN	Pn	22 24 17.3	+0.2
CNGZ	**Carnagh Statio**	**1.79**	**93**	⇑PN	Pn	22 24 18.2	+0.3
PUZ	**Puketiti**	**1.86**	**80**	PN	Pn	22 24 18.0	-0.8
PUZ				AML	AML	22 24 45.9	
PRHZ	**Porangahau**	**1.94**	**164**	PN	Pn	22 24 18.9	-0.8
PRWZ	**Pori Road**	**2.15**	**179**	PN	Pn	22 24 20.9	-1.2
MRZ	**Mangatainoka R**	**2.27**	**187**	⇑PN	Pn	22 24 21.6	-1.9
MRZ				AML	AML	22 24 52.4	
MRZ				AML	AML	22 24 52.4	
TIWZ	**Tintock**	**2.37**	**181**	PN	Pn	22 24 23.1	-1.7
OGWZ	**Otaki Gorge**	**2.48**	**194**	PN	Pn	22 24 24.0	-2.1
HOWZ	**Holdsworth Sta**	**2.51**	**187**	PN	Pn	22 24 24.2	-2.3
MTW	**Mount Morrison**	**2.77**	**187**	PN	Pn	22 24 26.9	-2.8
MTW				AML	AML	22 25 02.1	
MTW				AML	AML	22 25 02.1	
CAW	**Cannon Point**	**2.78**	**194**	PN	Pn	22 24 27.2	-2.6
CAW				AML	AML	22 25 02.4	
CAW				AML	AML	22 25 03.7	
DUWZ	**D'Urville Isla**	**2.86**	**212**	PN	Pn	22 24 28.0	-2.8
TRWZ	**Traveller**	**3.00**	**184**	⇓PN	Pn	22 24 30.0	-2.5
TRWZ				AML	AML	22 24 34.3	
MSWZ	**Moikau Station**	**3.05**	**190**	PN	Pn	22 24 30.1	-3.1
MSWZ				AML	AML	22 25 06.0	
MSWZ				AML	AML	22 25 08.3	
SNZO	**South Karori**	**3.05**	**198**	PN	Pn	22 24 30.0	-3.2
SNZO				AML	AML	22 25 07.7	
TCW	**Tory Channel**	**3.08**	**204**	PN	Pn	22 24 30.6	-2.9
TCW				AML	AML	22 25 08.1	
TCW				AML	AML	22 25 09.0	
PLWZ	**Palliser**	**3.20**	**189**	PN	Pn	22 24 31.7	-3.5
TUWZ	**Tuamarina**	**3.39**	**206**	PN	Pn	22 24 34.2	-3.3
TUWZ				AML	AML	22 25 16.1	
TUWZ				AML	AML	22 25 16.6	
NNZ	**Nelson**	**3.43**	**214**	PN	Pn	22 24 34.4	-3.6
QRZ	**Quartz Range**	**3.57**	**226**	PN	Pn	22 24 35.7	-4.2
THZ	**Tophouse**	**4.08**	**214**	PN	Pn	22 24 43.5	-3.1
KHZ	**Kahutara**	**4.41**	**204**	PN	Pn	22 24 46.8	-3.9
KHZ				AML	AML	22 25 37.9	
LTZ	**Lake Taylor**	**5.19**	**211**	PN	Pn	22 24 56.5	-4.5
OXZ	**Oxford**	**5.73**	**210**	PN	Pn	22 25 02.6	-5.7
WVZ	**Waitaha Valley**	**6.11**	**219**	PN	Pn	22 25 16.3	+3.0

IDC 14 22:23:46.4±28.0, 15°.98S×175°.70W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/20, mbtmp4.1/4, Error ellipse: s-maj=551.6km s-min=144.4km az=84.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.83**	**240**	P	P	22 31 38.7	+0.5
	2.0nm,0.7s,baz=107,slow=11,SNR=6.5						
WRA	**Warramunga Arr**	**47.55**	**257**	P	P	22 32 23.6	-0.6
	0.7nm,0.7s,baz=95,slow=7.5,SNR=22						
ASAR	**Alice Springs**	**47.83**	**252**	P	P	22 32 26.0	-0.2
	6.5nm,0.5s,baz=88,slow=8.1,SNR=96						
FITZ	**Fitzroy Crossi**	**55.92**	**259**	P	P	22 33 26.7	0.0
	0.9nm,0.8s,baz=74,slow=7.4,SNR=3.8						

*DDA **14** 22:23:52.9, 37°.07N×36°.12E, h19km, MD3.4*
*ISCJB **14** 22:23:53.1±0.5, 37°.04N±0°.02×36°.13E±0°.03, h2km±4km, Error ellipse: s-maj=3.8km s-min=3.0km az=37.6*
*CSEM **14** 22:23:53.6±0.2, 37°.03N×36°.13E, h2km, MD3.5, Error ellipse: s-maj=4.3km s-min=3.6km az=103.0*
*ISK **14** 22:23:53.5, 37°.06N×36°.12E, h11km, MD3.5*
*NSSC **14** 22:24:01.8±4.9, 36°.23N×35°.71E, h0km±30km, ML3.0*
ISC 14 22:23:53.3±1.0, 37°.04N±0°.02×36°.13E±0°.02, h12km±8km, n70, σ1°.31/91, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.31**	**265**	*e*PG	**Pg**	**22 23 59.6**	**0.0**
CEYT	**Ceyhan**	**0.31**	**265**	*e*Pg	**Pg**	**22 23 59.6**	**0.0**
YURE	**YUREGIR**	**0.45**	**242**	*i* P	**Pg**	**22 24 02.8**	**+0.6**
YURE	**YUREGIR**	**0.45**	**242**	*i* P	**Pg**	**22 24 02.8**	**+0.6**
KOZT	**Kozan**	**0.51**	**331**	*e*PG	**Pg**	**22 24 03.7**	**+0.5**
KOZT	**Kozan**	**0.51**	**331**	*e*Pg	**Pg**	**22 24 03.7**	**+0.5**
COBT	**Iskenderun**	**0.53**	**169**	*i* P	**Pg**	**22 24 03.8**	**+0.2**
COBT				*i* S	**Sg**	**22 24 10.1**	**-0.5**
COBT	**Iskenderun**	**0.53**	**169**	*i* P	**Pg**	**22 24 03.8**	**+0.2**
COBT				*i* S	**Sg**	**22 24 10.1**	**-0.5**
ANDN	**Andirin**	**0.57**	**17**	*i* P	**Pg**	**22 24 03.3**	**-1.2**
ANDN				*i* S	**Sg**	**22 24 12.0**	**-0.1**
ANDN	**Andirin**	**0.57**	**17**	*i* P	**Pg**	**22 24 03.3**	**-1.2**
ANDN				*i* S	**Sg**	**22 24 12.0**	**-0.1**
DRWC	**Darouich**	**0.60**	**134**	*e*P	Pn	22 24 21.4	+14
DRWC				*e*S	Sn	22 24 29.3	+12
DRWC				AML	AML	22 24 31.6	
	comp=E,1μm,0.5s						
DRWC				AML	AML	22 24 33.4	
	comp=N,632nm,0.3s						
DRWC				AML	AML	22 24 33.9	
	comp=Z,766nm,0.4s						
AYKD	**Aykdinkavak**	**0.66**	**55**	*i* P	**Pg**	**22 24 05.8**	**-0.4**
AYKD				*i* S	**Sg**	**22 24 14.8**	**0.0**
KRTS	**Karatas**	**0.76**	**233**	*e*PG	**Pb**	**22 24 09.3**	**+0.8**
KRTS				*e*SG	**Sn**	**22 24 21.0**	**-0.3**
KRTS	**Karatas**	**0.76**	**233**	*e*Pg	**Pb**	**22 24 09.3**	**+0.8**
KUZU	**Kuzuini**	**0.80**	**109**	*i* P	**Pb**	**22 24 09.2**	**0.0**
KUZU				*i* S	**Sb**	**22 24 20.4**	**+0.3**
KUZU	**Kuzuini**	**0.80**	**109**	*i* P	**Pb**	**22 24 09.2**	**0.0**
KUZU				*i* S	**Sb**	**22 24 20.4**	**+0.3**
HTY	**Hatay**	**0.91**	**180**	*e*PG	**Pb**	**22 24 11.3**	**+0.2**
HTY	**Hatay**	**0.91**	**180**	*e*Pg	**Pb**	**22 24 11.3**	**+0.2**
YAYL	**Yayladag**	**1.00**	**181**	*i* P	**Pg**	**22 24 12.6**	**0.0**
YAYL				*i* S	**Sn**	**22 24 26.9**	**-0.5**
YAYL	**Yayladag**	**1.00**	**181**	*i* P	**Pg**	**22 24 12.6**	**0.0**
YAYL				*i* S	**Sn**	**22 24 26.9**	**-0.5**
BTCH	**Batrach**	**1.03**	**165**	*e*P	**Pg**	**22 24 13.2**	**0.0**
BTCH				*e*S	**Sg**	**22 24 25.6**	**-1.0**
BTCH				AML	AML	22 24 31.6	
	comp=E,864nm,0.3s						
BTCH				AML	AML	22 24 32.2	
	comp=N,665nm,0.3s						
BTCH				AML	AML	22 24 36.4	
	comp=Z,736nm,0.5s						
BTCH	**Batrach** SNR=75	**1.03**	**165**	*e*P	**Pg**	**22 24 13.2**	**0.0**
BTCH				*e*S	**Sg**	**22 24 25.6**	**-1.0**
	comp=Z,736nm,0.5s,SNR=59						
GULE	**Gulek**	**1.11**	**283**	*e*P	**Pb**	**22 24 12.4**	**-2.2**
GULE	**Gulek**	**1.11**	**283**	*e*P	**Pb**	**22 24 12.4**	**-2.2**
GZT	**Gaziantep**	**1.19**	**74**	*e*P	**Pb**	**22 24 15.1**	**-0.8**
GZT				*i* S	**Sb**	**22 24 31.6**	**+0.3**
SARI	**SarD1z-Kayseri**	**1.39**	**9**	*e*PN	**Pn**	**22 24 18.6**	**-0.1**
NIG	**Nigde**	**1.61**	**312**	*e*PN	**Pn**	**22 24 22.1**	**+0.2**
NIG	**Nigde**	**1.61**	**312**	*e*Pn	**Pn**	**22 24 22.1**	**+0.2**
PINB	**Pinarbasi**	**1.65**	**7**	*i* P	**Pn**	**22 24 23.0**	**+0.6**
PINB				*i* S	**Sb**	**22 24 45.5**	**+0.7**
PINB	**Pinarbasi**	**1.65**	**7**	*i* P	**Pn**	**22 24 23.0**	**+0.6**
PINB				*i* S	**Sb**	**22 24 45.5**	**+0.7**
ATAB	**Bozova**	**1.78**	**75**	*e*P	**Pg**	**22 24 27.5**	**0.0**
ATAB				*i* S	**Sg**	**22 24 50.4**	**-0.2**
ATAB	**Bozova**	**1.78**	**75**	*e*P	**Pg**	**22 24 27.5**	**0.0**
ATAB				*i* S	**Sg**	**22 24 50.4**	**-0.2**
BNN	**Bunyan**	**1.83**	**353**	*e*PN	**Pn**	**22 24 25.3**	**+0.6**
BNN	**Bunyan**	**1.83**	**353**	*e*Pn	**Pn**	**22 24 25.3**	**+0.6**
DARE	**Darende-Malaty**	**1.87**	**35**	*e*PN	**Pn**	**22 24 26.5**	**+1.3**
AKCD	**Akcadag**	**1.90**	**48**	*i* P	**Pg**	**22 24 29.3**	**-0.4**
AKCD				*i* S	**Sb**	**22 24 52.3**	**+0.6**
AKCD	**Akcadag**	**1.90**	**48**	*i* P	**Pg**	**22 24 29.3**	**-0.4**
AKCD				*i* S	**Sb**	**22 24 52.3**	**+0.6**
KFRA	**Kufra**	**1.90**	**163**	*e*P	**Pn**	**22 24 25.5**	**-0.1**
KFRA				*e*S	Sn	22 24 43.5	-5.9
KFRA				AML	AML	22 24 58.2	
	comp=Z,397nm,0.3s						
KFRA				AML	AML	22 25 02.4	
	comp=N,277nm,0.6s						
KFRA				AML	AML	22 25 03.1	
	comp=E,434nm,0.4s						
KFRA	**Kufra** SNR=57	**1.90**	**163**	*e*P	**Pn**	**22 24 25.5**	**-0.1**
IKL	**Isikli**	**2.12**	**249**	*e*PN	**Pn**	**22 24 29.7**	**+1.1**
IKL	**Isikli**	**2.12**	**249**	*e*Pn	**Pn**	**22 24 29.7**	**+1.1**
URFA	**Urfa**	**2.19**	**79**	*e*PN	**Pn**	**22 24 31.3**	**+1.7**
URFA	**Urfa**	**2.19**	**79**	*e*Pn	**Pn**	**22 24 31.3**	**+1.7**
SULT	**Sultanhani-AKS**	**2.38**	**300**	*e*PN	**Pn**	**22 24 33.2**	**+1.0**
SULT	**Sultanhani-AKS**	**2.38**	**300**	*e*Pn	**Pn**	**22 24 33.2**	**+1.0**
HAWK	**Haweek**	**2.52**	**175**	*e*P	**Pn**	**22 24 33.4**	**-0.8**
HAWK				*e*S	**Sn**	**22 25 00.3**	**-4.6**
HAWK				AML	AML	22 25 14.7	
	comp=N,66nm,0.4s						
HAWK	**Haweek** SNR=45	**2.52**	**175**	*e*P	**Pn**	**22 24 33.4**	**-0.8**
ERMK	**Ermenek**	**2.61**	**262**	*e*P	**Pn**	**22 24 38.1**	**+2.6**
ERMK				*i* S	**Sb**	**22 25 11.6**	**-0.7**
ERMK	**Ermenek**	**2.61**	**262**	*e*P	**Pn**	**22 24 38.1**	**+2.6**
ERMK				*i* S	**Sb**	**22 25 11.6**	**-0.7**
YOZ	**Yozgat**	**2.68**	**346**	*e*PN	**Pn**	**22 24 37.7**	**+1.3**
YOZ	**Yozgat**	**2.68**	**346**	*e*Pn	**Pn**	**22 24 37.7**	**+1.3**
CSS	**Prodhromos**	**3.07**	**228**	*e*PN	**Pn**	**22 24 43.0**	**+1.3**
CSS	**Prodhromos**	**3.07**	**228**	*e*Pn	**Pn**	**22 24 43.0**	**+1.3**
ILIC	**ilic-Erzincan**	**3.08**	**38**	*e*PN	**Pn**	**22 24 42.8**	**+0.8**
ILIC	**ilic-Erzincan**	**3.08**	**38**	*e*Pn	**Pn**	**22 24 42.8**	**+0.8**
PTK	**Pertek**	**3.17**	**53**	*e*PN	**Pn**	**22 24 45.3**	**+2.0**
PTK	**Pertek**	**3.17**	**53**	*e*Pn	**Pn**	**22 24 45.3**	**+2.0**
LADK	**Ladik-KONYA**	**3.21**	**292**	*e*PN	**Pn**	**22 24 44.6**	**+1.0**
LADK	**Ladik-KONYA**	**3.21**	**292**	*e*Pn	**Pn**	**22 24 44.7**	**+1.0**
LEF	**Lefka**	**3.25**	**235**	*e*PN	**Pn**	**22 24 46.9**	**+2.8**
LEF	**Lefka**	**3.25**	**235**	*e*Pn	**Pn**	**22 24 46.9**	**+2.8**
CORM	**Corum**	**3.35**	**340**	*e*PN	**Pn**	**22 24 47.9**	**+2.3**
CORM	**Corum**	**3.35**	**340**	*e*Pn	**Pn**	**22 24 47.9**	**+2.3**
MAZI	**Mazidag**	**3.47**	**82**	*e*PN	**Pn**	**22 24 49.7**	**+2.5**
MAZI	**Mazidag**	**3.47**	**82**	*e*Pn	**Pn**	**22 24 49.7**	**+2.5**
RSDY	**Resadiye-TOKAT**	**3.48**	**15**	*e*PN	**Pn**	**22 24 49.4**	**+2.0**
RSDY	**Resadiye-TOKAT**	**3.48**	**15**	*e*Pn	**Pn**	**22 24 49.4**	**+2.0**
BNGB	**Bing¶‖**	**4.09**	**60**	*e*PN	**Pn**	**22 24 58.3**	**+2.6**
SUTC	**Sutluce-Ispart**	**4.12**	**278**	*e*PN	**Pn**	**22 24 58.0**	**+1.8**
SUTC	**Sutluce-Ispart**	**4.12**	**278**	*e*Pn	**Pn**	**22 24 58.0**	**+1.8**

*IDC **14** 22:38:44.9±0.6, 27°.66S×176°.98W, h0km, mb4.4/13, mb1 4.6/13, mb1mx4.5/18, mbtmp4.4/13, MS3.9/16, Ms1 3.9/16, ms1mx3.7/30, Error ellipse: s-maj=22.5km s-min=15.5km az=117.0*
*ISCJB **14** 22:38:51.3±0.5, 27°.78S±0°.07×177°.08W±0°.10, h55km, mb4.5/17, MS3.9/14, Error ellipse: s-maj=12.4km s-min=10.2km az=7.4*
*NEIC **14** 22:38:51.4±1.5, 27°.68S×176°.99W, h48km±12km, mb4.5/8, Error ellipse: s-maj=13.6km s-min=10.2km az=85.0*
*AUST **14** 22:39:55.2, 25°.84S×176°.67E, h200km*
ISC 14 22:38:52.4±0.5, 27°.72S±0°.07×177°.1W±0°.1, h55km, n106, σ0°.98/88, mb4.4/17, MS3.9/14, 1C-1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.67**	**204**	Pn	**Pn**	**22 39 19.1**	**-0.3**
RAO				Sn	**Sn**	**22 39 39.5**	**-0.2**
RAO	**Raoul Island**	**1.67**	**204**	Pn	**Pn**	**22 39 19.1**	**-0.3**
	4μm,0.3s,baz=72,slow=6.2,SNR=82						
RAO				Sn	**Sn**	**22 39 39.5**	**-0.2**
	2μm,0.3s,baz=73,slow=22,SNR=6.3						
RAO				LR	LR	22 39 58.4	
	comp=Z,2μm,19.8s,baz=10,slow=41						
MSVF	**Nonsavu**	**10.88**	**335**	*e*Pn	**Pn**	**22 41 23.5**	**-2.1**
	14nm,0.8s						
PUZ	**Puketiti**	**11.02**	**199**	PN	Pn	22 41 18.6	-8.7
PUZ				SN	Sn	22 43 20.4	-8.7
URZ	**Urewera**	**11.56**	**203**	Pn	Pn	22 41 25.2	-9.5
URZ	**Urewera**	**11.56**	**203**	Pn	Pn	22 41 25.2	-9.5
	0.6nm,0.3s,baz=203,slow=19,SNR=11						
URZ	**Urewera**	**11.56**	**203**	PN	Pn	22 41 26.0	-8.7
URZ				SN	Sn	22 43 32.7	-10
TCW	**Tory Channel**	**15.20**	**205**	SN	Sn	22 44 55.0	-16
DZM	**Mont Dzumac**	**15.92**	**287**	*e*LR	LR	22 46 18.2	
	1μm,24.9s						
DZM	**Mont Dzumac** 68nm,1.5s	**15.92**	**287**	*e*P	**P**	**22 42 36.0**	**+0.2**
DZM	**Mont Dzumac**	**15.92**	**287**	LR	LR	22 47 28.9	
	comp=Z,628nm,21.5s,baz=0.0,slow=33						
KHZ	**Kahutara**	**16.51**	**205**	*e*Pn	Pn	22 42 32.2	-8.0
KHZ				*e*Sn	Sn	22 45 25.0	-18
RAR	**Rarotonga**	**17.08**	**72**	Pn	Pn	22 42 40.3	-7.1
	3.0nm,0.3s,baz=230,slow=8.2,SNR=6.0						
RAR				LR	LR	22 47 29.0	
	comp=Z,397nm,19.1s,baz=107,slow=31						
LHI	**Lord Howe Isla**	**21.02**	**254**	P	**P**	**22 43 28.8**	**-2.7**
	baz=16,SNR=3.2						
TBI	**Tubuai**	**25.33**	**86**	*e*LR	LR

USRK				LR	LR	23 23 03.2			
	comp=Z,80nm,20.4s,baz=299,slow=31								
NVAR	**Mina Array Bea**	**85.76**	**42**	P	**P**	**22 51 26.8**	**+0.9**		
NVAR	**Mina Array Bea**	**85.76**	**42**	P	**P**	**22 51 26.8**	**+0.9**		
	2.0nm,0.8s,baz=224,slow=7.6,SNR=12								
TXAR	**Lajitas Array**	**90.30**	**57**	P	**P**	**22 51 46.9**	**-0.8**		
TXAR	**Lajitas Array**	**90.30**	**57**	P	**P**	**22 51 46.9**	**-0.8**		
	0.8nm,0.9s,baz=201,slow=6.6,SNR=5.8								
TXAR				LR	LR	23 23 26.9			
	comp=Z,44nm,19.6s,baz=175,slow=30								
BBB	**Bella Bella**	**90.38**	**28**	LR	LR	23 24 10.3			
	comp=Z,46nm,19.1s,baz=212,slow=30								
PDAR	**Pinedale Array**	**93.67**	**43**	P	**P**	**22 52 03.0**	**-0.1**		
PDAR	**Pinedale Array**	**93.67**	**43**	P	**P**	**22 52 03.0**	**-0.1**		
	0.6nm,0.9s,baz=243,slow=1.7,SNR=4.6								
DLBC	**Dease Lake**	**94.37**	**23**	LR	LR	23 27 24.9			
	comp=Z,31nm,18.8s,baz=255,slow=31								
ILAR	**Eielson Array**	**95.15**	**13**	LR	LR	23 31 53.6			
	comp=Z,25nm,18.0s,baz=306,slow=34								
LPAZ	**La Paz**	**98.53**	**113**	LR	LR	23 27 14.3			
	comp=Z,62nm,20.6s,baz=303,slow=30								
ZALV	**Zalesovo Beam**	**116.52**	**319**	PKP	**PKPdf**	**22 57 28.6**	**-1.1**		
ZALV	**Zalesovo Beam**	**116.52**	**319**	PKP	**PKPdf**	**22 57 28.6**	**-1.1**		
	0.5nm,0.4s,baz=204,slow=3.3,SNR=4.1								
MK31	**Makanchi Array**	**116.61**	**311**	*e*PKPdf	**PKPdf**	**22 57 28.7**	**-1.4**		
MKAR	**Makanchi Array**	**116.61**	**311**	PKP	**PKPdf**	**22 57 29.1**	**-1.0**		
MKAR	**Makanchi Array**	**116.61**	**311**	PKP	**PKPdf**	**22 57 29.1**	**-1.0**		
	1.8nm,0.9s,baz=72,slow=4.0,SNR=11								
KKAR	**Karatay Array**	**124.19**	**305**	*e*PKPdf	**PKPdf**	**22 57 44.4**	**-0.4**		
ARCES	**ARCESS Array B**	**136.13**	**349**	PKPpre	PKPpre	22 58 02.1			
ARCES	**ARCESS Array B**	**136.13**	**349**	PKhKP	PKPpre	22 58 02.1			
	0.9nm,0.7s,baz=151,slow=2.1,SNR=3.6								
KAF	**Kangasniemi**	**142.26**	**342**	*ep*	PKPpre	22 58 12.6			
	0.5nm,0.4s,baz=52,slow=1.6								
FINES	**FINESS Array B**	**142.87**	**342**	PKPpre	PKPpre	22 58 16.1			
FINES	**FINESS Array B**	**142.87**	**342**	PKhKP	PKPpre	22 58 16.1			
	1.0nm,0.5s,baz=175,slow=9.2,SNR=14								
NB2	**NORSAR Subarra**	**146.21**	**353**	PKP	**PKPbc**	**22 58 25.6**	**-0.5**		
	comp=Z,7.1nm,0.8s,baz=15,slow=3.3								
NOA	**NORSAR Array B**	**146.25**	**353**	PKPbc	**PKPbc**	**22 58 25.5**	**-0.5**		
NOA	**NORSAR Array B**	**146.21**	**353**	PKPbc	**PKPbc**	**22 58 25.5**	**-0.5**		
	comp=Z,6.1nm,0.9s,baz=15,slow=2.4,SNR=28								
NAO01	**NORSAR Array S**	**146.44**	**353**	*e*PKPdf	**PKPdf**	**22 58 24.9**	**-0.4**		
NACGM	**Naroch**	**147.75**	**334**	*e*	**PKPdf**	**22 58 27.0**	**-0.6**		
KIEV	**Kiev**	**149.58**	**326**	*e*PKPdf	**PKPdf**	**22 58 31.1**	**+0.4**		
KIEV				*e*PKPbc	**PKPbc**	**22 58 34.7**	**-0.7**		
SUW	**Suwalki**	**149.79**	**336**	*e*PKPdf	**PKPdf**	**22 58 30.8**	**-0.2**		
SUW				*e*PKPbc	**PKPbc**	**22 58 36.1**	**+0.3**		
BSD	**Bornholm Skovb**	**151.26**	**346**	*i* P	**PKPbc**	**22 58 39.3**	**+0.1**		
	comp=Z,8.3nm,1.0s								
LLD	**Lille Linde**	**151.59**	**349**	*i* P	PKPab	22 58 55.3	+6.7		
	comp=Z,25nm,0.7s								
BR131	**Keskin Array S**	**151.88**	**303**	*e*PKPdf	**PKPdf**	**22 58 35.4**	**+0.5**		
BR131				*e*PKPbc	**PKPbc**	**22 58 40.9**	**-0.4**		
BRTR	**Keskin Array B**	**151.88**	**303**	PKPbc	**PKPbc**	**22 58 41.2**	**-0.2**		
BRTR	**Keskin Array B**	**151.88**	**303**	PKPbc	**PKPbc**	**22 58 41.2**	**-0.2**		
	comp=Z,4.0nm,0.9s,baz=135,slow=3.1,SNR=14								
KWP	**Kalwaria Pacla**	**153.34**	**331**	*e*PKPbc	**PKPbc**	**22 58 44.4**	**+0.2**		
KWP				*e*PKPab	**PKPab**	**22 58 57.3**	**+1.0**		
KWP	**Kalwaria Pacla**	**153.34**	**331**	⇑*i*P	**PKPbc**	**22 58 44.6**	**+0.5**		
BUR08	**Bucovina Ar. S**	**153.55**	**325**	*e*PKPdf	**PKPdf**	**22 58 37.1**	**0.0**		
KOLS	**Kolonicke sedl**	**154.05**	**330**	*e*PKP	**PKPab**	**22 58 59.8**	**+0.5**		
STHS	**Stebnicka Huta**	**154.13**	**332**	*e*PKP	**PKPab**	**22 59 01.7**	**+2.0**		
OKC	**Ostrava-Krasne**	**155.00**	**336**	*e*PKPAB	**PKPab**	**22 59 03.9**	**+0.6**		
UPC	**Upice**	**155.13**	**340**	*e*PKPAB	**PKPab**	**22 59 04.9**	**+1.1**		
DPC	**Dobruska-Polom**	**155.18**	**339**	*e*PKPAB	**PKPab**	**22 59 04.9**	**+0.8**		
CLL	**Collm**	**155.22**	**345**	*i* PKPdiff	PKPdf	22 58 48.7	+10		
CLL				*i* PKPab	**PKPab**	**22 59 04.5**	**+0.3**		
	comp=Z,8.0nm,1.1s								
KRLC	**Kraliky**	**155.27**	**338**	*e*PKPAB	**PKPab**	**22 59 05.3**	**+0.8**		
ARR	**Arges**	**155.30**	**321**	⇓*i*P	PKPdf	22 58 50.0	+11		
BRG	**Berggiesshubel**	**155.39**	**343**	*e*(P)	**PKPab**	**22 59 05.2**	**+0.3**		
	comp=Z,6.6nm,1.2s								
PVCC	**Panska Ves**	**155.54**	**342**	*e*PKPAB	**PKPab**	**22 59 06.5**	**+1.0**		
VYHS	**Vyhne**	**155.84**	**333**	*e*PKP	**PKPab**	**22 59 07.6**	**+0.6**		
PRU	**Pruhonice**	**156.03**	**341**	*e*PKPAB	**PKPab**	**22 59 08.3**	**+0.6**		
TREC	**Trest**	**156.36**	**339**	*e*PKPAB	**PKPab**	**22 59 10.4**	**+1.2**		
KHC	**Kasperske Hory**	**157.08**	**342**	*e*PKPAB	**PKPab**	**22 59 12.6**	**+0.3**		
KHC				*ep*PKP	pPKPdf	22 59 29.0	+31		
GERES	**GERESS Array B**	**157.30**	**341**	PKPab	**PKPab**	**22 59 12.6**	**-0.7**		
GERES	**GERESS Array B**	**157.30**	**341**	PKPab	**PKPab**	**22 59 12.6**	**-0.7**		
	comp=Z,0.7nm,0.8s,baz=46,slow=5.8,SNR=7.7								
TORD	**Torodi Ar. Bea**	**165.46**	**175**	PKP	**PKPdf**	**22 58 50.7**	**-0.7**		
TORD				PKPab	**PKPab**	**22 59 49.0**	**-0.6**		
TORD	**Torodi Ar. Bea**	**165.46**	**175**	PKP	**PKPdf**	**22 58 50.7**	**-0.7**		
	comp=Z,1.4nm,1.1s,baz=323,slow=0.7,SNR=3.2								
TORD				PKPab	**PKPab**	**22 59 49.0**	**-0.6**		
	comp=Z,1.3nm,0.9s,baz=175,slow=2.1,SNR=4.9								

MEX 14 23:05:29.7±0.9, 18°.32N×101°.91W, h68km±18km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.83**	**149**	*e*P	Pn	23 05 43.8	-2.1
ZIIG				*e*S	Sn	23 05 56.6	-1.4
MMIG	**Aquila**	**1.36**	**269**	*e*P	Pn	23 05 51.7	-1.0
MMIG				*e*S	Sn	23 06 08.0	-2.1
ARIG	**Puente Sto Nin**	**1.49**	**91**	*e*P	Pn	23 05 52.4	-2.1
ARIG				*i* S	Sn	23 06 11.8	-1.4
CAIG	**El Cayaco**	**2.02**	**129**	*e*P	Pn	23 06 00.6	-0.9
CAIG				*i* S	Sn	23 06 23.8	-2.0
PLIG	**Platanillo**	**2.29**	**88**	*e*P	Pn	23 06 04.7	-0.6
PLIG				*i* S	Sn	23 06 30.0	-2.6
YAIG	**Yautepec**	**2.75**	**78**	*e*P	Pn	23 06 10.8	-0.9
YAIG				*i* S	Sn	23 06 41.7	-2.4
PPM	**Popocatepetl**	**3.20**	**76**	*i* P	Pn	23 06 16.3	-2.0
PPM				*i* S	Sn	23 06 54.0	-1.8

IDC 14 23:06:42.5±1.4, 2°.56N×95°.05E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.5/26, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=154.8km s-min=29.1km az=83.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.26**	**13**	Pn	Pn	23 10 32.5	+0.1
	0.3nm,0.3s,baz=202,slow=12,SNR=6.0						
MKAR	**Makanchi Array**	**45.44**	**348**	P	P	23 15 03.3	0.0
	0.6nm,0.7s,baz=154,slow=8.2,SNR=8.3						
ZALV	**Zalesovo Beam**	**51.91**	**352**	P	P	23 15 52.6	-0.3
	1.0nm,0.5s,baz=177,slow=8.5,SNR=6.2						
VNDA	**Vanda**	**87.57**	**168**	P	P	23 19 32.0	0.0
	0.5nm,0.4s,baz=316,slow=5.6,SNR=17						

MEX 14 23:19:17.3±0.4, 16°.28N×94°.87W, h50km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.30**	**247**	*e*P	Pn	23 19 37.2	-1.8
HUIG				*e*S	Sn	23 19 53.6	-1.8
PCIG		**1.69**	**110**	*e*P	Pn	23 19 42.3	-2.1
PCIG				*e*S	Sn	23 20 03.0	-1.9
TGIG		**1.75**	**73**	*e*P	Pn	23 19 43.6	-1.6
TGIG				*i* S	Sn	23 20 04.5	-1.9
CCIG	**Comitan**	**2.62**	**90**	*e*P	Pn	23 19 56.6	-0.9
CCIG				*i* S	Sn	23 20 26.7	-1.6
THIG		**2.86**	**118**	*i* P	Pn	23 19 59.8	-0.6
THIG				*i* S	Sn	23 20 32.1	-1.5
PNIG	**Pinotepa**	**3.13**	**272**	*e*P	Pn	23 20 03.8	-0.4
PNIG				*i* S	Sn	23 20 39.2	-1.2
YAIG	**Yautepec**	**4.75**	**303**	*i* P	Pn	23 20 25.9	-0.8
YAIG				*i* S	Sn	23 21 19.8	-0.9

MEX 14 23:49:06.4±0.7, 16°.43N×100°.92W, h15km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.88**	**45**	*e*P	Pb	23 49 20.6	-2.9
CAIG				*i* S	Sb	23 49 31.2	-3.9
ZIIG	**Zihuatanejo**	**1.28**	**336**	*e*P	Pn	23 49 26.1	-3.7
ZIIG				*i* S	Sb	23 49 40.8	-5.8
ARIG	**Puente Sto Nin**	**1.93**	**17**	*e*P	Pn	23 49 36.0	-2.7
ARIG				*i* S	Sn	23 49 58.0	-4.7
PLIG	**Platanillo**	**2.38**	**35**	*e*P	Pn	23 49 42.8	-2.2
PLIG				*i* S	Sn	23 50 10.3	-3.8
PNIG	**Pinotepa**	**2.69**	**90**	*e*P	Pn	23 49 46.1	-3.0
PNIG				*i* S	Sn	23 50 16.5	-4.9
YAIG	**Yautepec**	**3.00**	**36**	*i* P	Pn	23 49 50.4	-3.3
YAIG				*i* S	Sn	23 50 24.9	-4.6

*IDC **14** 23:52:49.4±4.3, 36°.19N×71°.13E, h210km±35km, mb3.1/6, mb1 3.1/11, mb1mx3.0/31, mbtmp3.0/11, Error ellipse: s-maj=39.9km s-min=23.8km az=151.0*
*ISCJB **14** 23:52:51.3±0.6, 36°.69N±0°.04×70°.7E±0°.1, h188km, mb3.5/5, Error ellipse: s-maj=12.2km s-min=4.8km az=167.1*
*NNC **14** 23:52:57.6±5.2, 37°.04N×71°.04E, h197km±95km, mb2.7, mpv3.4, Error ellipse: s-maj=157.4km s-min=38.7km az=72.0*

ISC 14 23:52:51.6±0.7, 36°.63N±0°.06×70°.80E±0°.09, h188km, n23, σ1°.86/27, mb3.6/5, 3C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.95**	**162**	⇓P	**Pn**	**23 53 43.0**	**+2.8**
CEP				S	**Sn**	**23 54 20.0**	**+2.0**
CHCP	**Chirah Chowk**	**3.59**	**145**	P	**Pn**	**23 53 50.0**	**+2.1**
THW	**Thamme Wali**	**3.91**	**168**	⇓P	**Pn**	**23 53 53.1**	**+1.2**
SARP	**Sargodha**	**4.95**	**161**	P	**Pn**	**23 54 05.5**	**+0.4**
THN	**Thein Dam**	**5.83**	**134**	*e*P	**Pn**	**23 54 15.0**	**-1.5**
THN				*e*S	Sn	23 55 15.5	-7.9
DLH	**Dalhousie**	**5.90**	**132**	*e*P	Pn	23 54 24.0	+6.4
DLH				*e*S	**Sn**	**23 55 28.0**	**+2.6**
KK31	**Karatay Array**	**6.46**	**358**	⇓P	**Pn**	**23 54 26.1**	**+1.5**
	1.8nm,0.5s,baz=178,slow=12,SNR=39						
KK31				S	**Sn**	**23 55 35.6**	**-2.7**
	11nm,0.6s,baz=188,slow=20,SNR=16						
AAK	**Ala-Archa**	**6.63**	**24**	P	**Pn**	**23 54 29.5**	**+2.5**
	0.8nm,0.3s,baz=185,slow=7.3,SNR=5.5						
AAK				S	**Sn**	**23 55 42.6**	**+0.1**
	0.9nm,0.3s,baz=312,slow=24,SNR=18						
RTK	**Rohtak**	**8.93**	**146**	*e*P	Pn	23 55 02.9	+5.8
RTK				*e*S	**Sn**	**23 56 32.9**	**-4.0**
SONA	**Sohna**	**9.90**	**146**	*ex*	x	23 55 44.5	
SONA				*e*S	Sn	23 56 44.7	-15
SONA				AML	AML	23 57 13.8	
	comp=N,8.0nm,0.1s						
SONA				AML	AML	23 57 13.8	
	comp=E,15nm,0.1s						
MKAR	**Makanchi Array**	**13.28**	**37**	P	**Pn**	**23 55 53.0**	**+0.2**
	comp=E,0.1nm,0.3s,baz=224,slow=12,SNR=5.1						
AB31	**Akbulak array**	**14.89**	**331**	⇑P	**P**	**23 56 15.7**	**+2.0**
	comp=E,0.7nm,0.4s,baz=140,slow=11,SNR=30						
AB31				⇓S	**Sn**	**23 58 58.9**	**0.0**
	comp=E,2.3nm,1.2s						
KURBB	**Kurchatov Arra**	**15.05**	**19**	P	**Pn**	**23 56 13.8**	**-0.9**
	comp=E,0.0nm,0.3s,baz=206,slow=11,SNR=5.4						
BVAR	**Borovoye Array**	**16.39**	**359**	P	**Pn**	**23 56 31.4**	**+0.5**
	comp=E,0.2nm,0.3s,baz=156,slow=10,SNR=4.1						
AKTO	**Aktyubinsk**	**16.58**	**330**	⇑P	**Pn**	**23 56 33.3**	**+0.1**
	comp=E,3.6nm,0.9s						
AKTO				⇑S	**S**	**23 59 37.0**	**+1.2**
	comp=E,1.7nm,1.0s						
AKTO	**Aktyubinsk**	**16.58**	**330**	P	**Pn**	**23 56 34.1**	**+0.9**
	comp=E,0.4nm,0.3s,baz=140,slow=12,SNR=12						
ZALV	**Zalesovo Beam**	**19.86**	**25**	P	**P**	**23 57 07.8**	**-0.2**
	comp=E,0.7nm,0.4s,baz=216,slow=12,SNR=4.0						
FINES	**FINESS Array B**	**37.28**	**326**	P	**P**	**23 59 45.3**	**+0.3**
	comp=E,0.7nm,0.5s,baz=116,slow=8.9,SNR=8.3						
ARCES	**ARCESS Array B**	**40.96**	**338**	P	**P**	**00 00 15.7**	**+0.3**
	comp=E,1.9nm,0.6s,baz=112,slow=7.9,SNR=17						
NB2	**NORSAR Subarra**	**44.18**	**323**	P	**P**	**00 00 40.5**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.18**	**323**	P	**P**	**00 00 40.5**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=98,slow=7.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**65.56**	**268**	P	**P**	**00 03 12.4**	**-2.9**
	comp=Z,0.6nm,0.5s,baz=50,slow=6.0,SNR=24						
ILAR	**Eielson Array**	**74.69**	**16**	P	**P**	**00 04 07.4**	**-2.7**
	comp=Z,0.2nm,0.5s,baz=333,slow=5.0,SNR=3.1						

IDC 15 00:18:43.1±2.4, 5°.51S×153°.86E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/20, mbtmp4.0/6, ML2.7/1, Error ellipse: s-maj=67.6km s-min=27.2km az=119.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.69**	**239**	Pn	Pn	00 20 36.9	+0.5
	0.6nm,0.3s,baz=37,slow=5.1,SNR=3.0						
PMG				Sn	Sn	00 22 04.0	-0.3
	2.9nm,0.3s,baz=61,slow=9.7,SNR=2.7						
WRA	**Warramunga Arr**	**23.80**	**231**	P	P	00 23 58.4	+0.6
	0.7nm,0.3s,baz=56,slow=9.8,SNR=6.4						
ASAR	**Alice Springs**	**26.37**	**225**	P	P	00 24 21.3	0.0
	1.0nm,0.8s,baz=61,slow=8.8,SNR=7.2						
FITZ	**Fitzroy Crossi**	**30.26**	**243**	P	P	00 24 55.8	-0.3
	4.3nm,0.7s,baz=90,slow=20						
CMAR	**Chiang Mai Arr**	**59.13**	**295**	P	P	00 28 45.7	-0.3
	1.3nm,0.5s,baz=120,slow=5.3,SNR=6.3						
MKAR	**Makanchi Array**	**81.55**	**319**	P	P	00 31 03.1	+0.3
	0.2nm,0.4s,baz=99,slow=5.0,SNR=4.2						
TORD	**Torodi Ar. Bea**	**151.52**	**287**	PKPbc	PKPbc	00 38 39.9	-0.4
	0.5nm,0.8s,baz=20,slow=2.2,SNR=7.0						

*IDC **15** 00:29:33.3±1.4, 63°.10N×149°.94W, h74km±20km, mb3.3/3, mb1 3.4/5, mb1mx3.1/25, mbtmp3.4/5, Error ellipse: s-maj=23.1km s-min=10.8km az=109.0*
*ISCJB **15** 00:29:35.0±0.3, 63°.20N±0°.02×149°.84W±0°.05, h109km±4km, mb3.7/3, Error ellipse: s-maj=4.0km s-min=3.6km az=35.8*
*NEIC **15** 00:29:36.4, 63°.20N×149°.87W, h98km, MG3.3(AEIC), After AEIC.*

ISC 15 00:29:36.0±0.9, 63°.17N±0°.03×149°.88W±0°.03, h102km±6km, n79, σ1°.24/94, mb3.7/3, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUR	**Hurricane**	**0.22**	**151**	P	**Pn**	**00 29 50.4**	**-0.1**
TRF	**Thorofare Moun**	**0.34**	**327**	P	**Pn**	**00 29 50.6**	**-0.5**
TRF				S	**Sn**	**00 30 02.0**	**-0.5**
RND	**Reindeer**	**0.52**	**63**	P	**Pn**	**00 29 52.1**	**-0.1**
MCK	**McKinley**	**0.70**	**37**	P	**Pn**	**00 29 53.4**	**-0.2**
MCK				S	**Sn**	**00 30 05.9**	**-1.0**
BWN	**Browne**	**1.02**	**10**	P	**Pn**	**00 29 56.8**	**+0.1**
CAST	**Castle Rocks**	**1.03**	**285**	P	**Pn**	**00 29 56.8**	**0.0**
CAST				S	**Sn**	**00 30 11.7**	**-0.9**
DHY	**Denali Highway**	**1.14**	**94**	P	**Pn**	**00 29 58.3**	**0.0**
DHY				S	**Sn**	**00 30 14.3**	**-0.8**
CHUM	**Lake Minchumin**	**1.30**	**304**	P	**Pn**	**00 30 00.3**	**+0.4**
CHUM				S	**Sn**	**00 30 17.9**	**-0.1**
SKT	**Skwentna**	**1.42**	**213**	P	**Pn**	**00 30 01.5**	**+0.2**
NEA	**Nenana**	**1.46**	**14**	P	**Pn**	**00 30 01.5**	**-0.3**
WRH	**Wood River Hil**	**1.53**	**30**	P	**Pn**	**00 30 02.2**	**-0.4**
SML	**Sawmill**	**1.54**	**152**	P	**Pn**	**00 30 03.1**	**+0.2**
PMR	**Palmer**	**1.62**	**167**	P	**Pn**	**00 30 04.2**	**+0.4**
PMR				S	**Sn**	**00 30 26.2**	**+1.2**
CCB	**Clear Creek Bu**	**1.74**	**31**	P	**Pn**	**00 30 04.8**	**-0.5**
SUA	**Susitna One**	**1.76**	**194**	P	**Pn**	**00 30 06.7**	**+1.0**
SCM	**Sheep Creek Mo**	**1.79**	**138**	P	**Pn**	**00 30 06.3**	**+0.3**
SCM				S	**Sn**	**00 30 29.9**	**+1.1**
HDA	**Harding Lake**	**1.79**	**45**	P	**Pn**	**00 30 05.6**	**-0.3**
DDM	**Donnelly Dome**	**1.90**	**69**	P	**Pn**	**00 30 07.8**	**+0.4**
MLY	**Manley**	**1.90**	**349**	P	**Pn**	**00 30 07.5**	**+0.1**
STLK	**Strandline Lak**	**1.91**	**209**	P	**Pn**	**00 30 08.0**	**+0.4**
COLA	**College**	**1.93**	**27**	P	**Pn**	**00 30 07.4**	**-0.2**
MDM	**Murphy Dome**	**1.94**	**21**	P	**Pn**	**00 30 07.7**	**-0.1**
PAX	**Paxson**	**2.02**	**94**	P	**Pn**	**00 30 09.7**	**+0.8**
PAX				S	**Sn**	**00 30 35.9**	**+1.9**
IL1	**Eielson Array**	**2.08**	**38**	P	**Pn**	**00 30 09.0**	**-0.6**
ILAR	**Eielson Array**	**2.08**	**38**	P	**Pn**	**00 30 08.7**	**-0.9**
ILAR				S	**Sn**	**00 30 33.0**	**-2.3**
ILAR	**Eielson Array**	**2.08**	**38**	P	**Pn**	**00 30 08.7**	**-0.9**
	16nm,0.3s,baz=220,slow=14,SNR=519						
ILAR				S	**Sn**	**00 30 33.0**	**-2.3**
	9.5nm,0.3s,baz=192,slow=29,SNR=4.6						
GLM	**Gilmore Dome**	**2.12**	**30**	P	**Pn**	**00 30 10.0**	**-0.2**
SPU	**Mount Spurr**	**2.24**	**208**	P	**Pn**	**00 30 12.4**	**+0.6**
BGL	**Barrier Glacie**	**2.25**	**213**	P	**Pn**	**00 30 12.8**	**+0.9**
CKL	**Chakachamna La**	**2.29**	**211**	P	**Pn**	**00 30 13.3**	**+0.8**
HARP	**HAARP**	**2.30**	**107**	P	**Pn**	**00 30 13.3**	**+0.8**
KLU	**Klutina**	**2.50**	**131**	P	**Pn**	**00 30 14.9**	**-0.2**
VLZ	**Valdez**	**2.64**	**139**	P	**Pn**	**00 30 16.1**	**-0.8**
SLKM	**Skilak Lake**	**2.68**	**184**	P	**Pn**	**00 30 18.9**	**+1.4**
SCRK	**Sand Creek**	**2.76**	**70**	P	**Pn**	**00 30 19.1**	**+0.6**
TT01	**Tatalina**	**2.81**	**267**	P	**Pn**	**00 30 19.6**	**+0.4**
DIV	**Divide**	**2.81**	**135**	P	**Pn**	**00 30 18.9**	**-0.4**
MENT	**Mentasta**	**2.81**	**92**	P	**Pn**	**00 30 19.6**	**+0.4**
DFR	**Drift River**	**2.91**	**208**	P	**Pn**	**00 30 22.2**	**+1.5**
WASW	**Wrangell South**	**2.92**	**113**	P	**Pn**	**00 30 21.4**	**+0.5**
NCT	**North Crescent**	**2.99**	**210**	P	**Pn**	**00 30 22.4**	**+0.7**
RDWB	**Redoubt West**	**3.04**	**209**	P	**Pn**	**00 30 23.5**	**+1.1**
RSO	**Redoubt South**	**3.04**	**208**	*e*Pn	**Pn**	**00 30 23.8**	**+1.3**
RSO				*e*Sn	**Sn**	**00 30 58.4**	**+0.1**
EYAK	**Cordova Ski Ar**	**3.28**	**142**	P	**Pn**	**00 30 26.1**	**+0.7**
IM3	**Indian Mountai**	**3.28**	**331**	P	**Pn**	**00 30 25.5**	**+0.1**
BMRM	**Bremner River**	**3.32**	**129**	*e*Pn	**Pn**	**00 30 25.1**	**-1.0**
BMRM				*e*S	Sn	00 31 21.1	+16
SVW2	**Sparrevohn**	**3.39**	**235**	P	**Pn**	**00 30 27.2**	**+0.3**
BRLK	**Bradley Lake**	**3.45**	**189**	P	**Pn**	**00 30 28.5**	**+0.6**
VRDI	**Verde Repeater**	**3.59**	**120**	P	**Pn**	**00 30 29.2**	**-0.6**
BCA3	**Beaver Creek A**	**3.68**	**88**	P	**Pn**	**00 30 30.4**	**-0.4**
CNPM	**China Poot**	**3.72**	**191**	P	**Pn**	**00 30 31.9**	**+0.5**
PTPK	**Patty Peak**	**4.00**	**116**	P	**Pn**	**00 30 35.6**	**+0.3**
BERG	**Berg Lake**	**4.05**	**131**	P	**Pn**	**00 30 35.5**	**-0.2**
NICHA	**Nichawak Mount**	**4.07**	**134**	P	**Pn**	**00 30 35.7**	**-0.4**
COLD	**Coldfoot**	**4.08**	**358**	P	**Pn**	**00 30 36.7**	**+0.6**
BALM	**Baldy**	**4.14**	**118**	P	**Pn**	**00 30 37.2**	**+0.1**
EGAK	**Eagle**	**4.17**	**63**	*e*P	**Pn**	**00 30 37.5**	**+0.2**
EGAK				*e*S	**Sn**	**00 31 25.4**	**+0.5**
KHIT	**Khitrov Hills**	**4.17**	**128**	P	**Pn**	**00 30 37.3**	**-0.2**
KIAG	**Kiagna River**	**4.20**	**119**	P	**Pn**	**00 30 37.0**	**-0.9**
GRIN	**Grindle Hills**	**4.26**	**130**	P	**Pn**	**00 30 38.7**	**+0.1**
ISLE	**Juniper Island**	**4.40**	**122**	P	**Pn**	**00 30 39.8**	**-0.9**
BARK	**Barkley Ridge**	**4.47**	**125**	P	**Pn**	**00 30 41.2**	**-0.4**
KULT	**Kultieth River**	**4.49**	**128**	P	**Pn**	**00 30 41.5**	**-0.3**
GRNC	**Granite Creek**	**4.55**	**119**	P	**Pn**	**00 30 42.7**	**-0.1**
DAWY	**Dawson**	**4.76**	**74**	P	**Pn**	**00 30 45.2**	**-0.3**
BM3	**Burnt Mountain**	**4.80**	**25**	P	**Pn**	**00 30 45.9**	**-0.1**
MESA	**MESA**	**4.82**	**125**	P	**Pn**	**00 30 46.0**	**-0.4**
SAMH	**Samovar Hills**	**5.30**	**121**	P	**Pn**	**00 30 52.8**	**0.0**
KAKN	**Katmai Knife C**	**5.51**	**210**	P	**Pn**	**00 30 56.4**	**+0.7**
KDAK	**Kodiak Island**	**5.57**	**195**	P	**Pn**	**00 30 56.5**	**+0.1**
KDAK				S	**Sn**	**00 31 53.0**	**-5.9**
KDAK	**Kodiak Island**	**5.57**	**195**	P	**Pn**	**00 30 54.2**	**-2.1**
	1.7nm,0.3s,baz=28,slow=12,SNR=28						
KDAK				S	**Sn**	**00 31 53.0**	**-5.9**
	1.4nm,0.3s,baz=315,slow=22,SNR=6.5						
PNL	**Peninsula**	**6.13**	**120**	P	**Pn**	**00 31 03.8**	**-0.2**
OHAK	**Old Harbor**	**6.21**	**197**	*e*Pn	**Pn**	**00 31 04.6**	**-0.3**
	6.1nm,0.4s						
OHAK				*e*Sn	**Sn**	**00 32 11.3**	**-3.1**
SONM	**Songino Array**	**54.13**	**306**	P	**P**	**00 38

CESI	**CESI - Serrava** 111nm,0.4s	**0.62**	**333**	Pg	**Pg**	**00 58 18.9**	**-0.8**
VVLD	**Villa Vallelon**	**0.63**	**157**	Pg	**Pg**	**00 58 19.1**	**-0.8**
VVLD	**Villa Vallelon**	**0.63**	**157**	Pg	**Pg**	**00 58 19.1**	**-0.8**
INTR	**Introdacqua**	**0.64**	**134**	Pg	**Pg**	**00 58 19.3**	**-0.7**
INTR	**Introdacqua**	**0.64**	**134**	Pg	**Pg**	**00 58 19.3**	**-0.7**
GUAR	**Guarcino**	**0.66**	**178**	Pg	**Pg**	**00 58 20.3**	**-0.1**
GUAR	**Guarcino**	**0.66**	**178**	Pg	**Pg**	**00 58 20.3**	**-0.1**
ASSB	**Assisi San Ben**	**0.75**	**322**	Pg	**Pg**	**00 58 21.1**	**-1.0**
ASSB	**Assisi San Ben**	**0.75**	**322**	Pg	**Pg**	**00 58 21.1**	**-1.0**
GUMA	**Gualdo di Mace** 1µm,0.5s	**0.77**	**38**	Pg	Pg	00 58 19.0	-3.6
LPEL	**Lama dei Pelig**	**0.78**	**121**	Pg	**Pg**	**00 58 21.9**	**-0.8**
LPEL	**Lama dei Pelig**	**0.78**	**121**	Pg	**Pg**	**00 58 21.9**	**-0.8**
POFI	**Posta Fibreno**	**0.80**	**157**	Pg	**Pg**	**00 58 22.1**	**-1.0**
POFI	**Posta Fibreno**	**0.80**	**157**	Pg	**Pg**	**00 58 22.1**	**-1.0**
CAFR	**Castel Frentan**	**0.82**	**106**	Pg	**Pg**	**00 58 22.9**	**-0.5**
CAFR	**Castel Frentan**	**0.82**	**106**	Pg	**Pg**	**00 58 22.9**	**-0.5**
SDI	**San Donato**	**0.84**	**152**	Pg	**Pg**	**00 58 22.7**	**-1.1**
SDI	**San Donato**	**0.84**	**152**	Pg	**Pg**	**00 58 22.7**	**-1.1**
GIUL	**Giuliano Di Ro**	**0.89**	**182**	Pg	**Pg**	**00 58 23.8**	**-1.1**
GIUL	**Giuliano Di Ro**	**0.89**	**182**	Pg	**Pg**	**00 58 23.8**	**-1.1**
CING	**Cingoli**	**0.92**	**356**	Pg	**Pg**	**00 58 24.1**	**-1.4**
CING	**Cingoli**	**0.92**	**356**	Pg	**Pg**	**00 58 24.1**	**-1.4**
MGAB	**Montegabbione**	**0.98**	**298**	Pg	**Pg**	**00 58 25.7**	**-0.8**
MGAB	**Montegabbione**	**0.98**	**298**	Pg	**Pg**	**00 58 25.7**	**-0.8**
MURB	**Monte Urbino**	**0.98**	**326**	Pg	**Pg**	**00 58 25.7**	**-0.9**
MURB	**Monte Urbino**	**0.98**	**326**	Pg	**Pg**	**00 58 25.7**	**-0.9**
ARVD	**Arcevia**	**1.07**	**346**	Pg	**Pg**	**00 58 26.8**	**-1.4**
ARVD	**Arcevia**	**1.07**	**346**	Pg	**Pb**	**00 58 26.8**	**-1.4**
MIDA	**Miranda**	**1.08**	**138**	Pg	**Pb**	**00 58 26.7**	**-1.6**
MIDA	**Miranda**	**1.08**	**138**	Pg	**Pb**	**00 58 26.7**	**-1.6**
NVLJ	**Novalja**	**2.40**	**28**	*e*Pn	**Pn**	**00 58 47.3**	**+0.6**
NVLJ				Sn	**Sn**	**00 59 17.1**	**+1.0**
UDBI	**Udbina**	**2.75**	**40**	*e*Pn	**Pn**	**00 58 53.4**	**+1.8**
UDBI				Sn	**Sn**	**00 59 27.2**	**+2.5**
UDBI	**Udbina**	**2.75**	**40**	*e*Pn	**Pn**	**00 58 53.4**	**+1.8**
UDBI				Sn	**Sn**	**00 59 27.2**	**+2.5**
STON	**Ston**	**3.28**	**81**	*e*Pn	**Pn**	**00 59 00.3**	**+1.4**
STON				Sn	**Sn**	**00 59 37.2**	**-0.6**
STON	**Ston**	**3.28**	**81**	*e*Pn	**Pn**	**00 59 00.2**	**+1.4**
STON				Sn	**Sn**	**00 59 37.1**	**-0.6**
ABTA	**Abfaltersbach**	**4.33**	**353**	*i*Pn	**Pn**	**00 59 14.3**	**+1.0**
ABTA	**Abfaltersbach**	**4.33**	**353**	Pn	**Pn**	**00 59 14.3**	**+1.0**

*ISK **15** 00:59:51.4,38.°69N×41.°80E,h5km,MD3.6*
*DDA **15** 00:59:53.0,38.°74N×41.°84E,h22km,MD3.3*
*CSEM **15** 00:59:53.2±0.2,38.°68N×41.°85E,h2km,MD3.3,Error ellipse: s-maj=4.6km s-min=3.7km az=167.0*
ISC 15 00:59:53.4±1.1,**38.°69N**±0.°02×**41.°80E**±0.°02,**h5**km±10km,
n81,σ1§**19**/105,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TATV	**Tatvan**	**0.41**	**116**	*i*P	**Pg**	**01 00 00.6**	**-0.8**
TATV				*i*S	**Sg**	**01 00 07.0**	**+0.2**
TATV	**Tatvan**	**0.41**	**116**	*i*P	**Pg**	**01 00 00.6**	**-0.8**
TATV				*i*S	**Sg**	**01 00 07.0**	**+0.2**
BTMT	**Batman**	**0.55**	**206**	*e*PG	**Pb**	**01 00 05.2**	**-0.4**
BTMT	**Batman**	**0.55**	**206**	*e*Pg	**Pb**	**01 00 05.2**	**-0.4**
BNGL	**BINGOL**	**0.57**	**298**	*i*P	**Pg**	**01 00 09.3**	**-0.6**
BNGL				*i*S	**Sb**	**01 00 13.7**	**-0.9**
BEST	**Besiri**	**0.90**	**208**	*i*P	**Pb**	**01 00 11.5**	**0.0**
BEST				*i*S	**Sn**	**01 00 25.7**	**-0.5**
BNGB	**Bingˆ¶l**	**0.92**	**289**	*e*PG	**Pg**	**01 00 09.7**	**-1.5**
BNGB				*e*SG	**Sb**	**01 00 24.1**	**-0.5**
BINT	**Bingol**	**1.04**	**281**	*e*Pg	Pg	01 00 09.7	-3.7
BINT				*e*Sg	**Sg**	**01 00 24.1**	**-2.7**
GEVA	**Gevas**	**1.06**	**110**	*i*P	**Pg**	**01 00 12.6**	**-1.1**
GEVA				*i*S	**Sb**	**01 00 28.1**	**-0.5**
GEVA	**Gevas**	**1.06**	**110**	*i*P	**Pg**	**01 00 12.6**	**-1.1**
GEVA				*i*S	**Sb**	**01 00 28.1**	**-0.5**
TUTA	**Tutak**	**1.06**	**48**	*i*P	**Pg**	**01 00 12.1**	**-1.8**
TUTA				*i*S	**Sg**	**01 00 26.4**	**-1.3**
TUTA	**Tutak**	**1.06**	**48**	*i*P	**Pg**	**01 00 12.1**	**-1.8**
TUTA				*i*S	**Sg**	**01 00 26.4**	**-1.3**
ERZM	**Erzurum**	**1.26**	**345**	*i*P	**Pn**	**01 00 16.0**	**-1.9**
ERZM				*i*S	**Sn**	**01 00 34.8**	**-0.7**
EZM	**Erzurum**	**1.26**	**345**	*e*PN	**Pn**	**01 00 16.0**	**-2.1**
TVAN	**Van**	**1.27**	**97**	*i*P	**Pn**	**01 00 16.3**	**-1.8**
TVAN				*i*S	**Sn**	**01 00 35.9**	**+0.2**
TVAN	**Van**	**1.27**	**97**	*i*P	**Pn**	**01 00 16.3**	**-1.8**
AGRB	**Hanur-Agry**	**1.28**	**46**	*e*PN	**Pn**	**01 00 16.1**	**-2.2**
AGRB				*e*SN	**Sg**	**01 00 36.2**	**+1.5**
AGRB	**Hanur-Agry**	**1.28**	**46**	*e*Pn	**Pn**	**01 00 16.1**	**-2.2**
AGRB				*e*Sn	**Sg**	**01 00 36.2**	**+1.5**
SIRN	**Sˆ¨rnak**	**1.29**	**158**	*i*P	**Pg**	**01 00 18.2**	**+0.1**
SIRN				*i*S	**Sg**	**01 00 37.4**	**+2.6**
SIRN	**Sˆ¨rnak**	**1.29**	**158**	*i*P	**Pg**	**01 00 18.2**	**+0.1**
HOMI	**Horasan**	**1.36**	**4**	*i*P	**Pn**	**01 00 17.9**	**-1.4**
HOMI				*i*S	**Sg**	**01 00 38.3**	**+1.2**
DIY	**Diyarbakir**	**1.47**	**238**	*e*PN	**Pn**	**01 00 19.9**	**-0.8**
DIY	**Diyarbakir**	**1.47**	**238**	*e*Pn	**Pn**	**01 00 19.9**	**-0.8**
DIYA	**Diyarbakir**	**1.52**	**240**	*i*P	**Pb**	**01 00 21.8**	**-0.4**
DIYA				*i*S	**Sg**	**01 00 43.7**	**+1.3**
DIYA	**Diyarbakir**	**1.52**	**240**	*i*P	**Pb**	**01 00 21.8**	**-0.4**
DIYA				*i*S	**Sg**	**01 00 43.7**	**+1.3**
MARD	**Mardin**	**1.59**	**211**	*i*P	**Pb**	**01 00 23.1**	**-0.3**
MARD				*i*S	**Sg**	**01 00 44.9**	**+0.4**
MAZI	**Mazidag**	**1.62**	**221**	*e*PN	**Pn**	**01 00 21.4**	**-1.5**
MAZI	**Mazidag**	**1.62**	**221**	*e*Pn	**Pn**	**01 00 21.4**	**-1.5**
CLDR	**Caldiran**	**1.72**	**74**	*e*PN	**Pn**	**01 00 23.4**	**-0.8**
CLDR	**Caldiran**	**1.72**	**74**	*e*Pn	**Pn**	**01 00 23.4**	**-0.8**
HAKT	**HAKKARI**	**1.88**	**126**	*i*P	**Pg**	**01 00 29.3**	**-0.2**
HAKT				*i*S	**Sg**	**01 00 57.6**	**+3.6**
PTK	**Pertek**	**1.89**	**277**	*e*PN	**Pn**	**01 00 26.1**	**-0.4**
PTK	**Pertek**	**1.89**	**277**	*e*Pn	**Pn**	**01 00 26.1**	**-0.4**
CUKT	**Cukurca**	**2.03**	**135**	*e*PN	**Pn**	**01 00 27.7**	**-0.8**
CUKT	**Cukurca**	**2.03**	**135**	*e*Pn	**Pn**	**01 00 27.7**	**-0.8**
DIGO	**Kars**	**2.11**	**35**	*i*P	**Pn**	**01 00 30.1**	**+0.4**
DIGO				*i*S	**Sg**	**01 01 04.5**	**+3.2**
DIGO	**Kars**	**2.11**	**35**	*i*P	**Pn**	**01 00 30.1**	**+0.4**
BAYT	**Aydˆ¨ntepe-Bay**	**2.13**	**324**	*e*PN	**Pn**	**01 00 30.3**	**+0.4**
BAYT	**Aydˆ¨ntepe-Bay**	**2.13**	**324**	*e*Pn	**Pn**	**01 00 30.3**	**+0.4**
EZC	**Erzincan**	**2.17**	**300**	*e*PN	**Pn**	**01 00 30.9**	**+0.5**
EZC	**Erzincan**	**2.17**	**300**	*e*Pn	**Pn**	**01 00 30.9**	**+0.5**
KARS	**Kars**	**2.17**	**27**	*e*PN	**Pn**	**01 00 30.7**	**+0.2**
KARS	**Kars**	**2.17**	**27**	*e*Pn	**Pn**	**01 00 30.7**	**+0.2**
DDEM	**Demirkent**	**2.20**	**359**	*i*P	**Pb**	**01 00 32.5**	**-1.3**
DDEM	**Demirkent**	**2.20**	**359**	*i*P	**Pb**	**01 00 32.5**	**-1.3**
ELZG	**Elazig**	**2.21**	**266**	*i*P	**Pb**	**01 00 33.2**	**-0.8**
ELZG				*i*S	**Sg**	**01 01 04.8**	**+0.3**
ELZG	**Elazig**	**2.21**	**266**	*i*P	**Pb**	**01 00 33.2**	**-0.8**
DAGI	**Agillar**	**2.39**	**2**	*i*P	**Pn**	**01 00 33.8**	**+0.5**
KELT	**Kelkit**	**2.45**	**307**	*i*P	**Pb**	**01 00 38.3**	**+0.2**
KELT				*i*S	**Sg**	**01 01 13.0**	**+0.9**
ARTV	**Artvin**	**2.50**	**2**	*i*P	**Pn**	**01 00 35.6**	**+0.8**
ARTV	**Artvin**	**2.50**	**2**	*i*P	**Pn**	**01 00 35.7**	**+0.8**
GUMT	**Gumushane**	**2.52**	**315**	*e*PN	**Pn**	**01 00 34.6**	**-0.5**
GUMT	**Gumushane**	**2.52**	**315**	*e*Pn	**Pn**	**01 00 34.6**	**-0.5**
ILIC	**ilic-Erzincan**	**2.63**	**288**	*e*PN	**Pn**	**01 00 36.7**	**+0.1**
ILIC	**ilic-Erzincan**	**2.63**	**288**	*e*Pn	**Pn**	**01 00 36.7**	**+0.1**
KEMA	**Kemaliye**	**2.64**	**284**	*i*P	**Pb**	**01 00 42.3**	**+1.1**
DBOC	**Borcka**	**2.66**	**358**	*i*P	**Pn**	**01 00 37.6**	**+0.7**
DBOC	**Borcka**	**2.66**	**358**	*i*P	**Pn**	**01 00 37.6**	**+0.7**
URFA	**Urfa**	**2.66**	**243**	*e*PN	**Pn**	**01 00 36.9**	**-0.1**
URFA	**Urfa**	**2.66**	**243**	*e*Pn	**Pn**	**01 00 36.9**	**-0.1**
MYA	**Malataya**	**2.67**	**263**	*e*PN	**Pn**	**01 00 37.4**	**+0.2**
MYA	**Malataya**	**2.67**	**263**	*e*Pn	**Pn**	**01 00 37.4**	**+0.2**
GNI	**Garni**	**2.71**	**56**	*e*PN	**Pn**	**01 00 38.2**	**+0.4**
GNI	**Garni**	**2.71**	**56**	*e*Pn	**Pn**	**01 00 38.2**	**+0.4**
BCA	**Borcka**	**2.76**	**357**	*e*PN	**Pn**	**01 00 39.1**	**+0.8**
BCA	**Borcka**	**2.76**	**357**	*e*Pn	**Pn**	**01 00 39.1**	**+0.8**
ESPY	**Espiye-Giresun**	**3.25**	**314**	*e*PN	**Pn**	**01 00 46.1**	**+1.1**
ESPY	**Espiye-Giresun**	**3.25**	**314**	*e*Pn	**Pn**	**01 00 46.1**	**+1.1**
DARE	**Darende-Malaty**	**3.38**	**269**	*e*PN	**Pn**	**01 00 47.2**	**+0.3**
TBLG	**Delisi**	**3.78**	**36**	P	**Pn**	**01 00 53.1**	**+0.7**
TBLG				S	**Pg**	**01 01 07.2**	**+1.3**
TBLG	**Delisi**	**3.78**	**36**	P	**Pn**	**01 00 53.1**	**+0.7**
RSDY	**Resadiye-TOKAT**	**3.85**	**298**	*e*PN	**Pn**	**01 00 54.7**	**+1.3**
RSDY	**Resadiye-TOKAT**	**3.85**	**298**	*e*Pn	**Pn**	**01 00 54.7**	**+1.3**
DGRG	**David-gareji**	**3.89**	**44**	P	**Pn**	**01 00 55.4**	**+1.5**
DGRG				S	**Pg**	**01 01 10.6**	**+2.6**
DGRG	**David-gareji**	**3.89**	**44**	P	**Pn**	**01 00 55.4**	**+1.5**
SVSK	**Karacayir**	**3.92**	**290**	*e*PN	**Pn**	**01 00 55.4**	**+1.2**
SVSK	**Karacayir**	**3.92**	**290**	*e*Pn	**Pn**	**01 00 55.4**	**+1.2**
KMRS	**Kahramanmaras**	**4.04**	**255**	*e*PN	**Pn**	**01 00 57.1**	**+1.1**
KMRS	**Kahramanmaras**	**4.04**	**255**	*e*Pn	**Pn**	**01 00 57.1**	**+1.1**
BNN	**Bunyan**	**4.65**	**274**	*e*PN	**Pn**	**01 01 06.1**	**+1.6**
BNN	**Bunyan**	**4.65**	**274**	*e*Pn	**Pn**	**01 01 06.1**	**+1.6**

*CSEM **15** 01:14:47.8,33.°56N×26.°31E,h166km,After ATH*
*ATH **15** 01:14:47.8,33.°56N×26.°31E,h166km±21km*
*ISCJB **15** 01:14:59.5±0.8,33.°93N±0.°08×25.°68E±0.°07,h17km,mb3.3/4,Error ellipse: s-maj=12.8km s-min=7.2km az=29.2*
*IDC **15** 01:15:00.2±1.2,33.°91N×25.°82E,h0km,mb3.5/4,mb1 3.7/9,mb1mx3.6/28,mbtmp3.6/9,ML3.3/4,Error ellipse: s-maj=30.0km s-min=18.5km az=164.0*
ISC 15 01:15:00.2±1.0,**33.°91N**±0.°08×**25.°55E**±0.°05,**h17**km,**n27**,
σ1§**01**/26,**mb3.5/4**,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**1.25**	**357**	*e*P	**Pn**	**01 15 21.8**	**-1.3**
LAST	**Lasithi**	**1.25**	**357**	*e*P	**Pn**	**01 15 21.8**	**-1.3**
SIVA	**Sivas**	**1.27**	**331**	*e*P	**Pn**	**01 15 22.2**	**-0.9**
SIVA	**Sivas**	**1.27**	**331**	*e*P	**Pn**	**01 15 22.2**	**-0.9**
ZKR	**Zakros**	**1.33**	**24**	*e*P	Pn	01 15 20.0	-4.0
ZKR				*e*S	**Sg**	**01 15 43.4**	**+0.3**
ZKR	**Zakros**	**1.33**	**24**	*e*P	Pn	01 15 20.0	-4.0
ZKR				*e*S	**Sg**	**01 15 43.4**	**+0.3**
NPS	**Neapolis**	**1.35**	**2**	*e*P	**Pn**	**01 15 23.6**	**-0.8**
NPS	**Neapolis**	**1.35**	**2**	*e*P	**Pn**	**01 15 23.6**	**-0.8**
GVD	**Gavdhos**	**1.53**	**308**	*e*P	**Pb**	**01 15 27.6**	**-0.4**
GVD	**Gavdhos**	**1.53**	**308**	*e*P	**Pb**	**01 15 27.6**	**-0.4**
VAM	**Vamos**	**1.87**	**324**	*e*P	**Pb**	**01 15 32.3**	**-1.5**
VAM	**Vamos**	**1.87**	**324**	*e*P	**Pb**	**01 15 32.3**	**-1.5**
KARN	**Karanos**	**2.01**	**318**	*e*P	**Pn**	**01 15 33.1**	**-0.3**
KARN				*e*S	**Sg**	**01 16 05.4**	**+0.5**
KARN	**Karanos**	**2.01**	**318**	*e*P	**Pn**	**01 15 33.1**	**-0.3**
KARN				*e*S	**Sg**	**01 16 05.4**	**+0.5**
KARP	**Karpathos**	**2.11**	**39**	*e*P	Pn	01 15 25.5	-9.3
KARP	**Karpathos**	**2.11**	**39**	*e*P	Pn	01 15 25.5	-9.3
KYTH	**Kithira**	**3.14**	**320**	*e*P	**Pn**	**01 15 48.5**	**-0.4**
KYTH	**Kithira**	**3.14**	**320**	*e*P	**Pn**	**01 15 48.5**	**-0.4**
BRTR	**Keskin Array B** 0.0nm,0.3s,baz=246,slow=9.2,SNR=4.2	**8.71**	**46**	Pn	**Pn**	**01 17 07.0**	**+1.5**
EIL	**Elat** 0.2nm,0.3s,baz=356,slow=13,SNR=4.8	**9.05**	**115**	Pn	**Pn**	**01 17 09.8**	**-0.2**
EIL				Sn	**Sn**	**01 18 49.5**	**-2.0**
GNI	**Garni** 0.4nm,0.3s,baz=180,slow=20,SNR=2.7	**16.53**	**62**	Pn	**Pn**	**01 18 52.1**	**+0.7**
KBZ	**Khabaz** 0.1nm,0.3s,baz=282,slow=9.0,SNR=3.7	**16.67**	**49**	Pn	**P**	**01 18 56.0**	**+0.8**
GERES	**GERESS Array B** 0.1nm,0.3s,baz=155,slow=9.7,SNR=7.4	**17.34**	**333**	P	**P**	**01 19 03.2**	**+0.4**
ESDC	**Sonseca Array** 0.1nm,0.3s,baz=66,slow=8.6,SNR=3.4	**24.26**	**292**	P	P	01 20 21.4	+4.9
TORD	**Torodi Ar. Bea** 0.4nm,0.9s,baz=29,slow=9.1,SNR=3.9	**29.95**	**232**	P	P	01 21 11.7	+4.0
MKAR	**Makanchi Array** 0.9nm,0.6s,baz=266,slow=6.6,SNR=12	**44.21**	**55**	P	**P**	**01 23 09.8**	**+1.5**
ZALV	**Zalesovo Beam** 0.6nm,0.5s,baz=262,slow=11,SNR=3.3	**45.65**	**45**	P	**P**	**01 23 20.8**	**+1.1**

*IDC **15** 01:43:26.8±0.9,34.°74N×72.°83E,h0km,mb4.0/12,mb1 4.1/17,mb1mx3.9/31,mbtmp4.0/17,ML3.8/4,MS2.8/3,Ms1 2.8/3,ms1mx2.4/31,Error ellipse: s-maj=21.5km s-min=17.1km az=36.0*
*NDI **15** 01:43:28.9±2.1,34.°75N×72.°61E,h10km,ML3.7*
*NNC **15** 01:43:40.6±1.9,35.°24N×72.°61E,h79km±18km,mb3.7,mpv4.0,Error ellipse: s-maj=14.6km s-min=11.7km az=30.0*
ISC 15 01:43:30.3±0.5,**34.°77N**±0.°05×**72.°76E**±0.°07,**h24**km,**n50**,
σ1§**96**/48,**mb4.1**/12,**7C-3D**,**Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**1.18**	**217**	P	**Pb**	**01 43 53.7**	**+1.6**
CEP				S	Sb	01 44 14.0	+7.1
CHCP	**Chirah Chowk**	**1.18**	**159**	P	**Pn**	**01 43 50.6**	**-0.8**
THW	**Thamme Wali**	**2.14**	**204**	P	**Pb**	**01 44 08.4**	**-0.1**
SARP	**Sargodha**	**2.84**	**182**	P	**Pb**	**01 44 18.8**	**-1.5**
THN	**Thein Dam**	**3.39**	**133**	*e*P	**Pn**	**01 44 24.0**	**+2.3**
THN				*e*S	**Sn**	**01 45 01.5**	**+0.3**
DLH	**Dalhousie**	**3.48**	**129**	*e*P	Pn	01 44 26.0	+2.9
DLH				*e*4	x	01 45 23.0	
SDNR	**Sundarnagar**	**4.80**	**132**	*e*P	**Pn**	**01 44 42.1**	**+0.9**
SDNR				*e*4	**Sb**	**01 45 55.1**	**+3.9**
SMLA	**Simla**	**5.18**	**133**	*i*P	**Pn**	**01 44 47.4**	**+1.0**
SMLA				*i*S	**Sn**	**01 45 45.0**	**-0.4**
SMLA				*i*S	**Sn**	**01 45 47.8**	**+2.4**
DDI	**Dehra Dun**	**6.29**	**133**	*ex*	x	01 45 09.0	
NDI	**New Delhi**	**7.16**	**147**	*e*P	**Pn**	**01 45 14.0**	**+0.5**
NDI				*e*S	**Sn**	**01 46 30.0**	**-4.0**
SONA	**Sohna**	**7.47**	**149**	*e*P	**Pn**	**01 45 17.1**	**-0.7**
SONA				*e*S	**Sn**	**01 46 38.8**	**-3.0**
SONA	comp=N,22nm,0.2s			AML	AML	01 47 34.2	
SONA	comp=E,34nm,0.7s			AML	AML	01 47 35.0	
AAK	**Ala-Archa** comp=E,0.8nm,0.3s,baz=186,slow=13,SNR=5.2	**7.97**	**9**	Pn	Pn	01 45 28.6	+3.8
AAK	comp=E,0.5nm,0.3s,baz=142,slow=7.7,SNR=2.7			Sn	**Sn**	**01 46 53.5**	**-0.7**
TKM2	**Tokmak 2** comp=E,3.2nm,0.8s	**8.44**	**14**	⇓P	**Pn**	**01 45 34.2**	**+3.1**
TKM2	comp=E,9.4nm,0.8s			⇑S	**Sn**	**01 47 04.0**	**-1.7**
KK31	**Karatay Array** comp=E,8.9nm,0.6s,baz=163,slow=12,SNR=143	**8.51**	**349**	⇑P	**Pn**	**01 45 34.5**	**+2.5**
KK31	comp=E,15nm,0.7s,baz=246,slow=51,SNR=5.8			⇑S	**Sn**	**01 47 05.0**	**-2.2**
AGRA	**Agra**	**8.73**	**148**	*e*P	**Pn**	**01 45 33.9**	**-1.1**
AGRA				*e*S	**Sn**	**01 47 08.1**	**-4.6**
AGRA	comp=N,70nm,0.4s			AML	AML	01 47 35.7	
AGRA	comp=E,86nm,0.3s			AML	AML	01 47 38.0	
PYUN	**Piuthan**	**10.97**	**124**	*e*Pn	**Pn**	**01 46 03.2**	**-2.8**
DANN	**Dangsing** comp=E,30nm,0.7s	**11.35**	**121**	*e*P	**Pn**	**01 46 08.8**	**-2.5**
KOLN	**Koldanda** comp=E,12nm,0.4s	**11.60**	**124**	*e*P	**Pn**	**01 46 11.5**	**-3.1**
KKN	**Kakani** comp=E,12nm,0.4s	**12.76**	**120**	*e*P	Pn	01 46 25.3	-5.2
PKIN	**Phulchoki** comp=E,16nm,0.5s	**12.97**	**120**	*e*P	Pn	01 46 28.4	-5.0
PKIN	**Phulchoki**	**12.97**	**120**	*e*P	Pn	01 46 28.6	-4.8
PKI	**Pulchoki** comp=E,17nm,0.5s	**12.98**	**120**	*e*P	Pn	01 46 28.8	-4.8
GUN	**Gumba**	**13.12**	**118**	*e*P	Pn	01 46 31.2	-4.4
JIRN	**Jiri** comp=E,30nm,0.4s	**13.49**	**118**	*e*P	Pn	01 46 36.0	-4.6
MK31	**Makanchi Array** comp=E,1.5nm,0.7s,baz=206,slow=13,SNR=6.0	**14.00**	**28**	⇓P	Pn	01 46 50.3	+3.2
MKAR	**Makanchi Array** comp=E,0.0nm,0.3s,baz=210,slow=14,SNR=7.4	**14.00**	**28**	Pn	**Pn**	**01 46 45.8**	**-1.3**
RAMN	**Ramite**	**14.20**	**120**	*e*P	Pn	01 46 45.0	-5.2
TAPN	**Taplejung** comp=E,13nm,0.5s	**14.78**	**116**	*e*P	Pn	01 46 53.4	-4.8
KURBB	**Kurchatov Arra** comp=E,2.0nm,0.7s	**16.39**	**13**	⇑P	**P**	**01 47 20.8**	**-0.6**
KURBB	**Kurchatov Arra** comp=E,0.0nm,0.3s,baz=202,slow=11,SNR=6.5	**16.39**	**13**	Pn	**Pn**	**01 47 16.2**	**-2.5**
AB31	**Akbulak array** comp=E,1.6nm,0.7s,baz=144,slow=13,SNR=17	**17.29**	**331**	⇓P	**Pn**	**01 47 30.9**	**+0.9**
AB31	comp=E,1.4nm,0.7s,baz=146,slow=23,SNR=4.3			⇑S	**Sn**	**01 50 36.4**	**-5.2**
BVA0	**Borovoye Array** comp=E,3.5nm,0.6s,baz=163,slow=9.6,SNR=42	**18.33**	**355**	P	**Pn**	**01 47 42.9**	**+0.1**
BVAR	**Borovoye Array** comp=E,1.4nm,0.3s,baz=162,slow=10,SNR=43	**18.33**	**355**	P	**Pn**	**01 47 43.0**	**+0.2**
BVAR	comp=E,22nm,19.1s,baz=94,slow=39			LR	LR	01 55 26.8	
BRVK	**Borovoye** comp=E,8.2nm,0.8s	**18.37**	**355**	⇑P	**Pn**	**01 47 43.6**	**+0.3**
AKTO	**Aktyubinsk** comp=E,6.7nm,0.8s	**18.99**	**330**	⇑P	**Pn**	**01 47 51.2**	**+0.3**
AKTO	**Aktyubinsk** comp=E,0.7nm,0.3s,baz=145,slow=8.9,SNR=24	**18.99**	**330**	P	**Pn**	**01 47 51.5**	**+0.6**
ZALV	**Zalesovo Beam** comp=E,8.6nm,0.6s,baz=215,slow=10,SNR=25	**20.97**	**20**	P	**P**	**01 48 10.4**	**-1.0**
ZALV	comp=E,13nm,19.2s,baz=70,slow=40			LR	LR	01 57 15.5	
GNI	**Garni** comp=E,5.3nm,0.8s,baz=344,slow=3.5,SNR=4.3	**22.83**	**292**	P	P	01 48 37.6	+5.8
SONM	**Songino Array** comp=E,0.2nm,0.4s,baz=191,slow=30,SNR=2.4	**28.20**	**52**	P	**P**	**01 49 22.3**	**+1.2**
SONM	comp=E,43nm,19.1s,baz=45,slow=40			LR	LR	02 02 15.8	
CMAR	**Chiang Mai Arr** comp=E,1.8nm,0.3s,baz=306,slow=10.0,SNR=12	**28.37**	**118**	P	**P**	**01 49 23.8**	**+1.1**
FINES	**FINESS Array B** comp=E,1.2nm,0.7s,baz=114,slow=9.4,SNR=5.8	**39.72**	**327**	P	**P**	**01 51 01.1**	**+0.7**
ARCES	**ARCESS Array B** comp=E,3.2nm,0.5s,baz=115,slow=8.4,SNR=38	**43.29**	**338**	P	**P**	**01 51 30.7**	**+1.0**
HFS	**Hagfors** comp=E,1.8nm,0.6s,baz=94,slow=9.7,SNR=16	**45.31**	**323**	P	**P**	**01 51 46.9**	**+1.0**
NB2	**NORSAR Subarra** comp=Z,0.7nm,0.6s,baz=96,slow=7.9	**46.62**	**324**	P	**P**	**01 51 56.6**	**+0.3**
NOA	**NORSAR Array B** comp=Z,0.7nm,0.6s,baz=97,slow=7.7,SNR=7.5	**46.62**	**324**	P	**P**	**01 51 55.8**	**-0.6**
MJAR	**Matsushiro Arr** comp=Z,1.9nm,0.7s,baz=295,slow=9.6,SNR=5.9	**52.27**	**68**	P	**P**	**01 52 38.9**	**-0.8**
TORD	**Torodi Ar. Bea** comp=Z,1.2nm,0.7s,baz=47,slow=6.1,SNR=22	**67.14**	**270**	P	**P**	**01 54 23.0**	**+0.6**
ILAR	**Eielson Array** comp=Z,0.6nm,0.7s,baz=314,slow=4.5,SNR=5.7	**76.04**	**16**	P	**P**	**01 55 15.1**	**-0.2**
WRA	**Warramunga Arr** comp=Z,0.5nm,0.7s,baz=324,slow=4.8,SNR=3.3	**79.85**	**123**	P	**P**	**01 55 36.1**	**-1.0**
YKA	**Yellowknife Ar** comp=Z,0.7nm,0.4s,baz=346,slow=5.7,SNR=3.4	**82.89**	**3**	P	**P**	**01 55 52.4**	**-0.1**

IDC 15 02:09:35.8±2.5,**18.°76S×178.°55W**,**h0**km,**mb3.7**/4,
mb1 4.1/4,**mb1mx3.7**/19,**mbtmp3.7**/4,**MS3.5**/2,**Ms1 3.5**/2,
ms1mx2.7/34,**Error ellipse: s-maj=218.1km s-min=24.4km az=157.0**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara** 2,110nm,18.4s,baz=119,slow=31	**22.80**	**291**	LR	LR	02 21 30.1	
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=96,slow=7.2,SNR=31	**44.35**	**260**	P	P	02 17 48.6	+0.4
ASAR	**Alice Springs** 1.8nm,0.6s,baz=94,slow=7.9,SNR=20	**44.44**	**255**	P	P	02 17 48.2	-0.7
KDAK	**Kodiak Island** comp=Z,29nm,18.4s,baz=292,slow=32	**79.25**	**14**	LR	LR	02 51 48.9	
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=220,slow=8.3,SNR=3.3	**80.13**	**44**	P	P	02 21 47.5	-0.6
TXAR	**Laj

CSS	**Prodhromos**	**3.89**	**95**	*e*Pn	**Pn**	**02 30 26.6**	**-0.9**
KONT	**Konya--Tatoy**	**3.94**	**49**	*e*PN	**Pn**	**02 30 27.4**	**-0.9**
KONT	**Konya--Tatoy**	**3.94**	**49**	*e*Pn	**Pn**	**02 30 27.4**	**-0.9**
IKL	**Isikli**	**4.21**	**77**	*e*PN	**Pn**	**02 30 31.2**	**-0.6**
IKL	**Isikli**	**4.21**	**77**	*e*Pn	**Pn**	**02 30 31.2**	**-0.6**
HMAT	**Matruh**	**4.47**	**197**	P	Pn	02 30 32.7	-2.8
SLUM		**4.82**	**217**	P	**Pn**	**02 30 39.6**	**-0.6**
AMAG	**Maghara**	**6.11**	**140**	P	**Pn**	**02 30 56.3**	**-1.7**
SWA2		**6.69**	**204**	P	Pn	02 31 03.0	-2.9
AWBH		**7.05**	**178**	P	Pn	02 31 07.8	-3.2
HNKL	**Nakhl**	**7.08**	**139**	P	**Pn**	**02 31 10.1**	**-1.3**
HFRF	**Wahat Farafira**	**8.22**	**182**	P	Pn	02 31 23.7	-3.3
HKAT	**Jabal Katrina**	**8.23**	**145**	P	**Pn**	**02 31 25.6**	**-1.7**

IDC 15 02:40:34.5±5.5, 4°.04N×150°.33E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/21, mbtmp3.8/5, MS3.6/2, Ms1 3.6/2, ms1mx2.7/31, Error ellipse: s-maj=198.2km s-min=25.8km az=93.0, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**13.72**	**193**	LR	LR	02 47 52.9	
	comp=Z,76nm,18.6s,baz=220,slow=32						
WRA	**Warramunga Arr**	**28.55**	**213**	P	P	02 46 32.1	-0.2
	0.7nm,0.4s,baz=36,slow=9.1,SNR=5.2						
ASAR	**Alice Springs**	**31.86**	**209**	P	P	02 47 01.7	+0.2
	0.7nm,0.6s,baz=36,slow=7.4,SNR=8.5						
ASAJ	**Asahikawa**	**40.49**	**351**	LR	LR	03 02 20.0	
	comp=Z,253nm,21.8s,baz=154,slow=32						
SONM	**Songino Array**	**57.61**	**326**	P	P	02 50 27.1	+0.6
	0.2nm,0.3s,baz=134,slow=8.3,SNR=3.8						
MKAR	**Makanchi Array**	**72.11**	**318**	P	P	02 52 01.2	+0.2
	0.4nm,0.6s,baz=92,slow=8.7,SNR=5.4						
KURBB	**Kurchatov Arra**	**75.38**	**321**	P	P	02 52 19.4	-0.6
	0.7nm,0.6s,baz=108,slow=5.1,SNR=5.9						
TORD	**Torodi Ar. Bea**	**144.48**	**299**	PKP	PKPdf	03 00 13.3	-0.7
	0.4nm,0.7s,baz=68,slow=2.5,SNR=5.4						

IDC 15 02:45:51.8±0.7, 35°.46N×28°.42E, h0km, mb4.2/18, mb1 4.3/23, mb1mx4.2/32, mbtmp4.2/23, ML3.9/4, MS3.2/7, Ms1 3.2/7, ms1mx2.8/40, Error ellipse: s-maj=18.2km s-min=13.7km az=8.0
ISK 15 02:45:53.8, 35°.23N×28°.47E, h34km, ML3.9
MOS 15 02:45:55.5±1.1, 35°.48N×28°.55E, h33km, mb4.4/21, Error ellipse: s-maj=8.4km s-min=5.3km az=98.1
CSEM 15 02:45:56.9±0.1, 35°.32N×28°.57E, h40km, mb4.2/27, Ms2.9, Mw3.6, Error ellipse: s-maj=2.4km s-min=1.6km az=30.0
NEIC 15 02:45:56.6±1.4, 35°.39N×28°.51E, h34km±11km, mb4.4/12, Error ellipse: s-maj=6.5km s-min=4.2km az=187.0
ATH 15 02:45:56.2, 35°.46N×28°.53E, h78km±1km, ML3.9
HLW 15 02:45:57.9, 35°.18N×28°.71E, h33km±36km, Md3.9, Ml3.8
THE 15 02:45:57.7, 35°.42N×28°.63E, h23km±3km, ML3.8/3, Error ellipse: s-maj=3.2km s-min=0.8km az=123.0
NIC 15 02:46:00.5±0.0, 35°.39N×28°.94E, h56km, mb4.2, ML3.8, MW3.6

ISC 15 02:45:54.3±1.2, 35°.37N±0°.03×28°.58E±0°.02, h17km±8km, n550, σ1°37/605, mb4.2/38, MS3.2/6, 11C-4D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.92**	**337**	P	**Pn**	**02 46 13.4**	**+1.0**
ARG				S	**Sn**	**02 46 25.8**	**+0.5**
ARG	**Arkhangelos**	**0.92**	**337**	*e*P	**Pn**	**02 46 13.5**	**+1.0**
ARG				*e*S	**Sn**	**02 46 26.8**	**+1.5**
ARG	**Arkhangelos**	**0.92**	**337**	*e*P	**Pn**	**02 46 13.5**	**+1.0**
ARG				*e*S	**Sn**	**02 46 26.8**	**+1.5**
KSL	**Kastellorizon**	**1.13**	**46**	*e*P	**Pb**	**02 46 17.2**	**+1.8**
KARP	**Karpathos**	**1.17**	**279**	P	**Pb**	**02 46 17.4**	**+1.3**
KARP				S	**Sn**	**02 46 31.7**	**+0.1**
KARP	**Karpathos**	**1.17**	**279**	*e*P	**Pb**	**02 46 17.5**	**+1.3**
KARP				*e*S	**Sn**	**02 46 32.8**	**+1.2**
KARP	**Karpathos**	**1.17**	**279**	P	**Pb**	**02 46 17.4**	**+1.3**
KARP				S	**Sn**	**02 46 31.7**	**+0.1**
AKAS	**Kas**	**1.20**	**44**	*i* P	**Pb**	**02 46 18.3**	**+1.6**
AKAS	**Kas**	**1.20**	**44**	*i* P	**Pb**	**02 46 18.3**	**+1.6**
DALY	**Dalyan (Mu¨la**	**1.45**	**2**	*e*PN	**Pb**	**02 46 20.6**	**-0.2**
DALY	**Dalyan (Mu¨la**	**1.45**	**2**	*e*Pn	**Pb**	**02 46 20.6**	**-0.2**
TURN	**Turunc**	**1.50**	**1**	*i* P	**Pn**	**02 46 20.7**	**+0.3**
TURN	**Turunc**	**1.50**	**1**	*i* P	**Pn**	**02 46 20.7**	**+0.3**
DAT	**Datca**	**1.58**	**329**	*e*PN	**Pn**	**02 46 21.4**	**-0.3**
DAT				*e*SN	**Sn**	**02 46 41.7**	**-0.1**
DAT	**Datca**	**1.58**	**329**	*e*Pn	**Pn**	**02 46 21.4**	**-0.3**
DAT				*e*Sn	**Sn**	**02 46 41.7**	**-0.1**
NIS1	**Nisyros Isl.**	**1.67**	**318**	P	**Pn**	**02 46 23.6**	**+0.7**
NIS1	**Nisyros Isl.**	**1.67**	**318**	P	**Pn**	**02 46 23.6**	**+0.7**
ELL	**Elmali**	**1.75**	**38**	*e*PN	**Pb**	**02 46 25.6**	**-0.4**
ELL	**Elmali**	**1.75**	**38**	*e*Pn	**Pb**	**02 46 25.6**	**-0.4**
YER	**Yerkesik**	**1.78**	**352**	*e*PN	**Pn**	**02 46 25.2**	**+0.8**
YER				*e*SN	**Sb**	**02 46 48.5**	**0.0**
YER	**Yerkesik**	**1.78**	**352**	*e*Pn	**Pn**	**02 46 25.2**	**+0.8**
ZKR	**Zakros**	**1.95**	**263**	P	**Pn**	**02 46 28.1**	**+1.5**
ZKR				S	**Sb**	**02 46 52.8**	**-0.6**
ZKR	**Zakros**	**1.95**	**263**	*e*P	**Pb**	**02 46 29.0**	**-0.4**
ZKR	**Zakros**	**1.95**	**263**	P	**Pn**	**02 46 28.1**	**+1.5**
ZKR				S	**Sb**	**02 46 52.8**	**-0.6**
BODT	**Bodrum**	**1.98**	**329**	*e*PN	**Pn**	**02 46 27.3**	**+0.3**
BODT	**Bodrum**	**1.98**	**329**	*e*Pn	**Pn**	**02 46 27.3**	**+0.3**
GOLH	**Golhisar**	**2.02**	**23**	*i* P	**Pb**	**02 46 30.5**	**-0.2**
GOLH	**Golhisar**	**2.02**	**23**	*i* P	**Pb**	**02 46 30.5**	**-0.2**
MLSB	**Milas**	**2.03**	**342**	*e*PN	**Pn**	**02 46 28.2**	**+0.5**
MLSB	**Milas**	**2.03**	**342**	*e*Pn	**Pn**	**02 46 28.3**	**+0.5**
KORT	**Korkueli**	**2.17**	**41**	*i* P	**Pb**	**02 46 32.7**	**-0.5**
KORT	**Korkueli**	**2.17**	**41**	*i* P	**Pb**	**02 46 32.7**	**-0.5**
DNZL	**Cakiroluk**	**2.34**	**9**	*i* P	**Pn**	**02 46 33.9**	**+1.7**
DNZL	**Cakiroluk**	**2.34**	**9**	*i* P	**Pn**	**02 46 33.9**	**+1.7**
AYDN	**Tasoluk**	**2.35**	**346**	*i* P	**Pn**	**02 46 33.8**	**+1.5**
AYDN	**Tasoluk**	**2.35**	**346**	*i* P	**Pn**	**02 46 33.8**	**+1.5**
NPS	**Neapolis**	**2.43**	**268**	P	**Pn**	**02 46 35.5**	**+2.3**
NPS				S	**Sb**	**02 47 05.1**	**-2.1**
NPS	**Neapolis**	**2.43**	**268**	*e*P	**Pb**	**02 46 35.7**	**-1.8**
NPS	**Neapolis**	**2.43**	**268**	P	**Pn**	**02 46 35.5**	**+2.3**
NPS				S	**Sb**	**02 47 05.1**	**-2.1**
LAST	**Lasithi**	**2.54**	**266**	P	**Pn**	**02 46 37.1**	**+2.2**
LAST				S	**Sn**	**02 47 06.5**	**+0.9**
LAST	**Lasithi**	**2.54**	**266**	*e*P	**Pn**	**02 46 37.1**	**+2.2**
LAST	**Lasithi**	**2.54**	**266**	*e*P	**Pn**	**02 46 37.1**	**+2.2**
LAST				S	**Sn**	**02 47 06.5**	**+0.9**
GCAM	**G?zelcaml?**	**2.56**	**335**	*i* P	**Pn**	**02 46 35.5**	**+0.4**
GCAM	**G?zelcaml?**	**2.56**	**335**	*i* P	**Pn**	**02 46 35.5**	**+0.4**
BCK	**Bucak**	**2.64**	**37**	*e*PN	**Pn**	**02 46 37.8**	**+1.6**
BCK	**Bucak**	**2.64**	**37**	*e*Pn	**Pn**	**02 46 37.8**	**+1.6**
SANT	**Santorini**	**2.72**	**292**	*e*P	**Pn**	**02 46 37.3**	**0.0**
SANT	**Santorini**	**2.72**	**292**	*e*Pn	**Pn**	**02 46 36.3**	**-1.0**
SANT	**Santorini**	**2.72**	**292**	*e*Pn	**Pn**	**02 46 36.3**	**-1.0**
SANT	**Santorini**	**2.72**	**292**	*e*P	**Pn**	**02 46 37.3**	**0.0**
SMG	**Samos**	**2.72**	**330**	P	**Pn**	**02 46 37.7**	**+0.4**
SMG				S	**Sn**	**02 47 09.1**	**-0.7**
SMG	**Samos**	**2.72**	**330**	*e*P	**Pn**	**02 46 38.1**	**+0.8**
SMG	**Samos**	**2.72**	**330**	*e*P	**Pn**	**02 46 38.1**	**+0.8**
SUTC	**Sutluce-Ispart**	**2.87**	**42**	*e*PN	**Pn**	**02 46 42.4**	**+3.0**
SUTC	**Sutluce-Ispart**	**2.87**	**42**	*e*Pn	**Pn**	**02 46 42.4**	**+3.0**
APE	**Apeiranthos**	**2.99**	**305**	*e*PN	**Pn**	**02 46 42.8**	**+1.8**
APE	**Apeiranthos**	**2.99**	**305**	P	**Pn**	**02 46 41.9**	**+0.9**
APE				S	**Sn**	**02 47 17.5**	**+1.0**
APE	**Apeiranthos**	**2.99**	**305**	*e*P	**Pn**	**02 46 41.9**	**+0.9**
APE	**Apeiranthos**	**2.99**	**305**	*e*P	**Pn**	**02 46 41.9**	**+0.9**
APE	**Apeiranthos**	**2.99**	**305**	*e*Pn	**Pn**	**02 46 42.8**	**+1.8**
APE				S	**Sn**	**02 47 17.5**	**+1.0**
IDI	**Anoyia**	**3.02**	**270**	P	**Pn**	**02 46 43.0**	**+1.6**
IDI				S	**Sn**	**02 47 18.9**	**+1.7**
IDI	**Anoyia**	**3.02**	**270**	*e*P	**Pn**	**02 46 42.6**	**+1.2**
IDI				*e*S	**Sn**	**02 47 17.2**	**0.0**
IDI	**Anoyia**	**3.02**	**270**	*e*PN	**Pn**	**02 46 43.2**	**+1.8**
IDI	**Anoyia**	**3.02**	**270**	*e*P	**Pn**	**02 46 42.6**	**+1.2**
IDI	**Anoyia**	**3.02**	**270**	*e*Pn	**Pn**	**02 46 43.2**	**+1.8**
IDI				*e*S	**Sn**	**02 47 17.2**	**0.0**
KHAL	**Karahalli**	**3.08**	**13**	*i* P	**Pn**	**02 46 43.5**	**+1.2**
KHAL	**Karahalli**	**3.08**	**13**	*i* P	**Pn**	**02 46 43.5**	**+1.2**
AKMC	**Akamas**	**3.09**	**95**	P	**Pn**	**02 46 43.5**	**+1.1**
AKMC	**Akamas**	**3.09**	**95**	P	**Pn**	**02 46 43.5**	**+1.1**
SIVA	**Sivas**	**3.11**	**265**	P	**Pn**	**02 46 44.6**	**+2.1**
SIVA				S	**Sn**	**02 47 21.6**	**+2.3**
SIVA	**Sivas**	**3.11**	**265**	*e*P	**Pn**	**02 46 43.3**	**+0.8**
SIVA	**Sivas**	**3.11**	**265**	*e*P	**Pn**	**02 46 43.3**	**+0.8**
SIVA				S	**Sn**	**02 47 21.6**	**+2.3**
MANT	**Manisa**	**3.12**	**360**	*i* P	**Pn**	**02 46 40.7**	**-2.2**
MANT	**Manisa**	**3.12**	**360**	*i* P	**Pn**	**02 46 40.7**	**-2.2**
PPCY	**Paphos**	**3.12**	**98**	P	**Pn**	**02 46 43.8**	**+1.0**
PPCY	**Paphos**	**3.12**	**98**	P	**Pn**	**02 46 43.8**	**+1.0**
KULA	**Kula-Manisa**	**3.14**	**1**	*e*PN	**Pn**	**02 46 44.0**	**+0.9**
KULA	**Kula-Manisa**	**3.14**	**1**	P	**Pn**	**02 46 44.0**	**+0.9**
KULA	**Kula-Manisa**	**3.14**	**1**	P	**Pn**	**02 46 44.0**	**+0.9**
GAZI	**Gazipasa**	**3.16**	**73**	*i* P	**Pn**	**02 46 44.4**	**+1.1**
GAZI				*i* S	**Sn**	**02 47 19.3**	**-1.3**
GAZI	**Gazipasa**	**3.16**	**73**	*i* P	**Pn**	**02 46 44.4**	**+1.1**
GAZI				*i* S	**Sn**	**02 47 19.3**	**-1.3**
IZM	**Izmir**	**3.20**	**341**	*e*PN	**Pn**	**02 46 44.4**	**+0.5**
IZM	**Izmir**	**3.20**	**341**	*e*Pn	**Pn**	**02 46 44.4**	**+0.5**
ALFC	**Alevga**	**3.30**	**93**	P	**Pn**	**02 46 46.3**	**+1.1**
	11nm,0.1s						
ALFC				S	**Sn**	**02 47 22.2**	**-1.8**
ALFC	**Alevga**	**3.30**	**93**	P	**Pn**	**02 46 46.3**	**+1.1**
	11nm,0.1s						
ALFC				S	**Sn**	**02 47 22.2**	**-1.8**
URLA	**Izmir**	**3.38**	**333**	*i* P	**Pn**	**02 46 46.8**	**+0.5**
URLA	**Izmir**	**3.38**	**333**	*i* P	**Pn**	**02 46 46.8**	**+0.5**
LEF	**Lefka**	**3.54**	**93**	*e*PN	**Pn**	**02 46 49.1**	**+0.6**
LEF	**Lefka**	**3.54**	**93**	*e*Pn	**Pn**	**02 46 49.1**	**+0.6**
SHUT	**Suhut-Afyon**	**3.55**	**26**	*e*PN	**Pn**	**02 46 50.3**	**+1.6**
SHUT	**Suhut-Afyon**	**3.55**	**26**	*e*Pn	**Pn**	**02 46 50.3**	**+1.6**
AKHS	**Akhisar**	**3.56**	**350**	*i* P	**Pn**	**02 46 49.0**	**+0.3**
AKHS	**Akhisar**	**3.56**	**350**	*i* P	**Pn**	**02 46 49.0**	**+0.3**
VAM	**Vamos**	**3.58**	**272**	P	**Pn**	**02 46 51.6**	**+2.6**
VAM	**Vamos**	**3.58**	**272**	*e*P	**Pn**	**02 46 50.5**	**+1.5**
VAM	**Vamos**	**3.58**	**272**	*e*P	**Pn**	**02 46 50.5**	**+1.5**
CHOS	**Chios island**	**3.63**	**327**	P	**Pn**	**02 46 51.0**	**+1.2**
CHOS				S	**Sn**	**02 47 32.7**	**+0.5**
CHOS	**Chios island**	**3.63**	**327**	*e*P	**Pn**	**02 46 51.2**	**+1.4**
CHOS	**Chios island**	**3.63**	**327**	*e*P	**Pn**	**02 46 51.2**	**+1.4**
CHOS				S	**Sn**	**02 47 32.7**	**+0.5**
DEMI	**Demirci**	**3.67**	**2**	*i* P	**Pn**	**02 46 50.9**	**+0.6**
DEMI	**Demirci**	**3.67**	**2**	*i* P	**Pn**	**02 46 50.9**	**+0.6**
GVD	**Gavdhos**	**3.72**	**263**	*e*P	**Pn**	**02 46 52.0**	**+1.0**
GVD	**Gavdhos**	**3.72**	**263**	*e*Pn	**Pn**	**02 46 52.1**	**+1.1**
GVD	**Gavdhos**	**3.72**	**263**	*e*P	**Pn**	**02 46 52.0**	**+1.0**
ERMK	**Ermenek**	**3.74**	**69**	*i* P	Pn	02 46 54.9	+3.5
ERMK				*i* S	**Sn**	**02 47 38.2**	**+3.1**
ERMK	**Ermenek**	**3.74**	**69**	*i* P	Pn	02 46 54.9	+3.5
ERMK				*i* S	**Sn**	**02 47 38.2**	**+3.1**
GDZ	**Gediz**	**3.78**	**11**	*i* P	**Pn**	**02 46 52.8**	**+0.8**
GDZ	**Gediz**	**3.78**	**11**	*i* P	**Pn**	**02 46 52.8**	**+0.8**
MAMC	**Mammari**	**3.80**	**92**	P	**Pn**	**02 46 53.3**	**+1.2**
MAMC	**Mammari**	**3.80**	**92**	P	**Pn**	**02 46 53.3**	**+1.2**
KARN	**Karanos**	**3.81**	**272**	P	**Pn**	**02 46 54.4**	**+2.2**
KARN	**Karanos**	**3.81**	**272**	*e*P	**Pn**	**02 46 54.2**	**+2.0**
KARN	**Karanos**	**3.81**	**272**	*e*P	**Pn**	**02 46 54.2**	**+2.0**
ALT	**Altintas**	**3.88**	**18**	P	**Pn**	**02 46 53.8**	**+0.6**
ALT	**Altintas**	**3.88**	**18**	P	**Pn**	**02 46 53.8**	**+0.6**
CSS	**Prodhromos**	**3.91**	**95**	P	**Pn**	**02 46 54.9**	**+1.2**
	4.9nm,0.3s						
CSS				S	**Sn**	**02 47 37.5**	**-1.7**
CSS	**Prodhromos**	**3.91**	**95**	*e*PN	**Pn**	**02 46 55.2**	**+1.5**
CSS	**Prodhromos**	**3.91**	**95**	P	**Pn**	**02 46 53.9**	**+0.2**
CSS				S	**Sn**	**02 47 39.0**	**-0.2**
CSS	**Prodhromos**	**3.91**	**95**	*e*Pn	**Pn**	**02 46 54.1**	**+0.5**
CSS				*e*Sn	**Sn**	**02 47 38.2**	**-1.1**
CSS	**Prodhromos**	**3.91**	**95**	Pn	**Pn**	**02 46 54.8**	**+1.1**
CSS				*e*Sn	**Sn**	**02 47 38.2**	**-1.1**
CSS				S	**Sn**	**02 47 39.0**	**-0.2**
KONT	**Konya--Tatoy**	**3.98**	**49**	*e*PN	**Pn**	**02 46 56.7**	**+2.1**
KONT	**Konya--Tatoy**	**3.98**	**49**	*e*Pn	**Pn**	**02 46 56.7**	**+2.1**
LFK	**Lefkose**	**4.05**	**90**	*e*PN	**Pn**	**02 46 57.1**	**+1.5**
LFK	**Lefkose**	**4.05**	**90**	*e*Pn	**Pn**	**02 46 57.1**	**+1.5**
TVSB	**Tavsanli**	**4.13**	**10**	*e*PN	**Pn**	**02 46 58.0**	**+1.2**
TVSB	**Tavsanli**	**4.13**	**10**	*e*Pn	**Pn**	**02 46 58.0**	**+1.2**
DURS	**Dursunbey**	**4.22**	**359**	*i* P	**Pn**	**02 46 58.9**	**+0.9**
DURS	**Dursunbey**	**4.22**	**359**	*i* P	**Pn**	**02 46 58.9**	**+0.9**
KDHN	**Kadinhani**	**4.23**	**41**	*i* P	**Pn**	**02 47 00.3**	**+2.2**
KDHN				*i* S	**Sn**	**02 47 51.0**	**+3.8**
KDHN	**Kadinhani**	**4.23**	**41**	*i* P	**Pn**	**02 47 00.3**	**+2.2**
KDHN				*i* S	**Sn**	**02 47 51.0**	**+3.8**
IKL	**Isikli**	**4.24**	**77**	*e*PN	**Pn**	**02 46 59.8**	**+1.7**
IKL	**Isikli**	**4.24**	**77**	*e*Pn	**Pn**	**02 46 59.8**	**+1.7**
PRK	**Paraskevi**	**4.28**	**335**	P	**Pn**	**02 46 59.9**	**+1.2**
PRK				S	**Sn**	**02 47 47.9**	**-0.4**
PRK	**Paraskevi**	**4.28**	**335**	*e*P	**Pn**	**02 46 59.2**	**+0.5**
PRK	**Paraskevi**	**4.28**	**335**	P	**Pn**	**02 46 59.9**	**+1.2**
PRK				S	**Sn**	**02 47 47.9**	**-0.4**
BALB	**Balikesir**	**4.30**	**353**	*e*PN	**Pn**	**02 47 00.5**	**+1.6**
BALB	**Balikesir**	**4.30**	**353**	*e*Pn	**Pn**	**02 47 00.5**	**+1.6**
ANKY	**Antikythira Is**	**4.33**	**278**	*e*P	**Pn**	**02 47 01.3**	**+2.0**
ANKY	**Antikythira Is**	**4.33**	**278**	*e*P	**Pn**	**02 47 01.3**	**+2.0**
KIZT	**Kizilcal**	**4.38**	**36**	*e*PN	**Pn**	**02 47 01.9**	**+1.7**
KIZT	**Kizilcal**	**4.38**	**36**	*e*Pn	**Pn**	**02 47 01.9**	**+1.7**
HMAT	**Matruh**	**4.44**	**197**	P	**Pn**	**02 47 01.6**	**+0.6**
	baz=199						
HMAT	**Matruh**	**4.44**	**197**	P	**Pn**	**02 47 01.6**	**+0.6**
SEYT	**Eskypehyr**	**4.52**	**23**	*i* P	**Pn**	**02 47 03.6**	**+1.5**
SEYT	**Eskypehyr**	**4.52**	**23**	*i* P	**Pn**	**02 47 03.6**	**+1.5**
KYTH	**Kithira**	**4.59**	**283**	P	**Pn**	**02 47 04.4**	**+1.4**
KYTH	**Kithira**	**4.59**	**283**	*e*P	**Pn**	**02 47 04.1**	**+1.1**
KYTH	**Kithira**	**4.59**	**283**	P	**Pn**	**02 47 04.4**	**+1.4**
PTL	**Penteli**	**4.63**	**307**	P	**Pn**	**02 47 05.3**	**+1.7**
PTL	**Penteli**	**4.63**	**307**	*e*P	**Pn**	**02 47 04.8**	**+1.2**
PTL	**Penteli**	**4.63**	**307**	P	**Pn**	**02 47 05.3**	**+1.7**
ATH	**Athens Observa**	**4.69**	**305**	*e*P	**Pn**	**02 47 05.4**	**+1.1**
ATH	**Athens Observa**	**4.69**	**305**	*e*P	**Pn**	**02 47 05.4**	**+1.1**
SVRH	**Sivrihisar-ESK**	**4.70**	**29**	*e*PN	**Pn**	**02 47 06.4**	**+1.9**
SVRH	**Sivrihisar-ESK**	**4.70**	**29**	*e*Pn	**Pn**	**02 47 06.4**	**+1.9**
GONE	**Gonen-Balikesi**	**4.72**	**352**	*e*PN	**Pn**	**02 47 05.5**	**+0.8**
GONE	**Gonen-Balikesi**	**4.72**	**352**	*e*Pn	**Pn**	**02 47 05.5**	**+0.8**
BORA	**Eskisehir**	**4.74**	**18**	*i* P	**Pn**	**02 47 06.4**	**+1.3**
BORA	**Eskisehir**	**4.74**	**18**	*i* P	**Pn**	**02 47 06.4**	**+1.3**
VLI	**Veliai**	**4.76**	**288**	P	**Pn**	**02 47 06.5**	**+1.1**
VLI	**Veliai**	**4.76**	**288**	*e*P	**Pn**	**02 47 06.4**	**+1.1**
VLI				*e*S	**Sn**	**02 47 57.6**	**-2.6**
VLI	**Veliai**	**4.76**	**288**	P	**Pn**	**02 47 06.5**	**+1.1**
SLUM		**4.78**	**217**	P	**Pn**	**02 47 06.6**	**+1.0**
	baz=220						
SLUM		**4.78**	**217**	P	Pn	**02 47 06.6**	**+1.0**
ULDT	**Uludag**	**4.78**	**5**	*i* P	**Pn**	**02 47 06.9**	**+1.1**
ULDT	**Uludag**	**4.78**	**5**	*i* P	**Pn**	**02 47 06.9**	**+1.1**
DID	**Didima**	**4.80**	**298**	P	**Pn**	**02 47 07.6**	**+1.7**
DID	**Didima**	**4.80**	**298**	*e*P	**Pn**	**02 47 07.4**	**+1.5**
DID	**Didima**	**4.80**	**298**	*e*P	**Pn**	**02 47 07.4**	**+1.5**
SULT	**Sultanhani-AKS**	**4.87**	**53**	*e*PN	**Pn**	**02 47 08.4**	**+1.6**
SULT	**Sultanhani-AKS**	**4.87**	**53**	*e*Pn	**Pn**	**02 47 08.4**	**+1.6**
KCTX	**Karacabey (Bur**	**4.89**	**358**	*e*PN	**Pn**	**02 47 08.2**	**+1.1**
KCTX	**Karacabey (Bur**	**4.89**	**358**	*e*Pn	**Pn**	**02 47 08.2**	**+1.1**
BOZC	**Bozcaada**	**4.89**	**337**	*i* P	**Pn**	**02 47 07.9**	**+0.8**
HBRG	**Burj al 'Arab**	**4.90**	**167**	P	**Pn**	**02 47 07.4**	**+0.2**
	baz=168						
HBRG	**Burj al 'Arab**	**4.90**	**167**	P	**Pn**	**02 47 07.4**	**+0.2**
KRBG	**Karabiga-Canak**	**5.12**	**349**	*e*PN	**Pn**	**02 47 10.8**	**+0.6**
KRBG	**Karabiga-Canak**	**5.12**	**349**	*e*Pn	**Pn**	**02 47 10.8**	**+0.6**
ARMT	**Armutlu**	**5.19**	**2**	*e*PN	**Pn**	**02 47 12.6**	**+1.4**
ARMT	**Armutlu**	**5.19**	**2**	*e*Pn	**Pn**	**02 47 12.6**	**+1.4**
LPK	**Lapseki**	**5.20**	**344**	*e*PN	**Pn**	**02 47 13.2**	**+1.9**
LPK	**Lapseki**	**5.20**	**344**	*e*Pn	**Pn**	**02 47 13.2**	**+1.9**
YLV	**Yalova**	**5.22**	**7**	*e*PN	**Pn**	**02 47 13.7**	**+2.0**
YLV	**Yalova**	**5.22**	**7**	*e*Pn	**Pn**	**02 47 13.7**	**+2.0**
LTK	**Loutraki**	**5.23**	**302**	P	**Pn**	**02 47 13.7**	**+2.0**
LTK	**Loutraki**	**5.23**	**302**	*e*P	**Pn**	**02 47 13.6**	**+1.9**
LTK	**Loutraki**	**5.23**	**302**	*e*P	**Pn**	**02 47 13.6**	**+1.9**
DYR	**Agios Nikonas**	**5.25**	**287**	P	**Pn**	**02 47 14.5**	**+2.5**
DYR	**Agios Nikonas**	**5.25**	**287**	*e*P	**Pn**	**02 47 14.5**	**+2.5**
DYR	**Agios Nikonas**	**5.25**	**287**	*e*P	**Pn**	**02 47 14.5**	**+2.5**
LIA	**Limnos Island**	**5.26**	**330**	*e*P	**Pn**	**02 47 13.1**	**+1.0**
LIA	**Limnos Island**	**5.26**	**330**	*e*P	**Pn**	**02 47 13.1**	**+1.0**
GULT	**Gulveren**	**5.28**	**16**	*e*PN	**Pn**	**02 47 14.5**	**+2.0**
GULT	**Gulveren**	**5.28**	**16**	*e*Pn	**Pn**	**02 47 14.5**	**+2.0**
GULE	**Gulek**	**5.36**	**67**	*i* P	Pn	02 47 17.5	+3.9
GULE				*i* S	**Sn**	**02 48 16.9**	**+1.9**
GULE	**Gulek**	**5.36**	**67**	*i* P	Pn	02 47 17.5	+3.9
GULE				*i* S	**Sn**	**02 48 16.9**	**+1.9**
VLX	**Vlachokerasia**	**5.38**	**294**	P	**Pn**	**02 47 16.4**	**+2.4**
VLX	**Vlachokerasia**	**5.38**	**294**	*e*P	**Pn**	**02 47 15.5**	**+1.5**
VLX	**Vlachokerasia**	**5.38**	**294**	*e*P	**Pn**	**02 47 15.5**	**+1.5**
AFSR	**Af'ar-Bala (A**	**5.42**	**40**	*e*PN	**Pn**	**02 47 16.8**	**+2.4**
AFSR	**Af'ar-Bala (A**	**5.42**	**40**	*e*Pn	**Pn**	**02 47 16.8**	**+2.4**
BBAL	**Bala**	**5.51**	**40**	*i* P	**Pn**	**02 47 18.0**	**+2.2**
BBAL	**Bala**	**5.51**	**40**	*i* P	**Pn**	**02 47 18.0**	**+2.2**
LKR	**Lokris**	**5.54**	**308**	*e*P	**Pn**	**02 47 17.3**	**+1.4**
LKR	**Lokris**	**5.54**	**308**	*e*P	**Pn**	**02 47 17.3**	**+1.4**
ANTO	**Ankara**	**5.60**	**35**	*e*PN	**Pn**	**02 47 19.8**	**+2.9**
ANTO	**Ankara**	**5.60**	**35**	*e*P	**Pn**	**02 47 19.3**	**+2.4**
ANTO				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ANTO	**Ankara**	**5.60**	**35**	*e*Pn	**Pn**	**02 47 19.3**	**+2.4**
	comp=Z,10nm,0.6s						
ANTO	**Ankara**	**5.60**	**35**	*e*P	**Pn**	**02 47 19.3**	**+2.4**
	comp=Z,10.0nm,0.6s						
GUR	**Goura**	**5.63**	**299**	P	**Pn**	**02 47 19.8**	**+2.5**
GUR	**Goura**	**5.63**	**299**	*e*P	**Pn**	**02 47 19.1**	**+1.8**
GUR	**Goura**	**5.63**	**299**	*e*P	**Pn**	**02 47 19.1**	**+1.8**
SMTH	**Samothraki Isl**	**5.63**	**336**	*e*P	**Pn**	**02 47 18.0**	**+0.7**
SMTH	**Samothraki Isl**	**5.63**	**336**	*e*P	**Pn**	**02 47 18.0**	**+0.7**
ITM	**Ithomi**	**5.67**	**291**	*e*P	**Pn**	**02 47 19.6**	**+1.8**
ITM	**Ithomi**	**5.67**	**291**	*e*P	**Pn**	**02 47 19.

TR1			**8.65**	**147**	P		**Pn**	**02 47 58.4**	**-0.3**
	baz=146								
TR1			**8.65**	**147**	P		**Pn**	**02 47 58.4**	**-0.3**
BARS	**Barje**		**9.10**	**327**	*e*Pn		**Pn**	**02 48 07.0**	**+2.1**
TIP	**Timpagrande**		**10.16**	**295**	*e*Pn		**Pn**	**02 48 18.1**	**-1.3**
TIP					*e*Sn		Sn	02 50 03.0	-10
MLR	**Muntele Rosu**		**10.31**	**350**	Pn		**Pn**	**02 48 24.5**	**+3.1**
MLR	**Muntele Rosu**		**10.31**	**350**	⇑*i*P		Pn	02 48 24.7	+3.2
MLR	**Muntele Rosu**		**10.31**	**350**	Pn		**Pn**	**02 48 24.5**	**+3.1**
	comp=N,0.0nm,0.3s,baz=210,slow=13,SNR=3.1								
MLR	**Muntele Rosu**		**10.31**	**350**	Pn		**Pn**	**02 48 24.5**	**+3.1**
GRUS	**Gruza**		**10.44**	**327**	*e*Pn		**Pn**	**02 48 25.8**	**+2.6**
CEL	**Celeste**		**10.57**	**290**	*e*Pn		**Pn**	**02 48 23.6**	**-1.5**
CEL					*e*Sn		Sn	02 50 11.4	-12
LOT	**Lotru**		**10.71**	**341**	⇓*i*P		**Pn**	**02 48 28.5**	**+1.5**
LOT	**Lotru**		**10.71**	**341**	⇓*i*P		**Pn**	**02 48 28.5**	**+1.5**
DIVS	**Divibare**		**10.93**	**325**	*e*Pn		**Pn**	**02 48 30.9**	**+0.9**
GZR	**Gura Zlata**		**10.94**	**338**	⇑P		**Pn**	**02 48 32.8**	**+2.7**
GZR	**Gura Zlata**		**10.94**	**338**	⇑*i*P		**Pn**	**02 48 32.8**	**+2.7**
GZR	**Gura Zlata**		**10.94**	**338**	P		**Pn**	**02 48 32.8**	**+2.7**
CUC	**Castrocucco**		**11.11**	**298**	*e*Pn		**Pn**	**02 48 31.3**	**-1.2**
DRGR			**12.23**	**341**	⇑P		**P**	**02 48 58.7**	**-1.5**
DRGR			**12.23**	**341**	⇑*i*P		**P**	**02 48 58.7**	**-1.5**
BURAR	**Bucovina Array**		**12.49**	**349**	⇑*i*P		**P**	**02 49 05.6**	**+2.6**
PKSM	**Moragy**		**13.18**	**328**	⇓P		**P**	**02 49 08.2**	**-2.3**
PKSM	**Moragy**		**13.18**	**328**	⇓*i*P		**P**	**02 49 08.2**	**-2.3**
GNI	**Garni**		**13.64**	**65**	*e*Pn		**Pn**	**02 49 08.7**	**+1.5**
GNI	**Garni**		**13.64**	**65**	*e*P		**Pn**	**02 49 08.7**	**+1.5**
KIV	**Kislovodsk**		**13.83**	**47**	*e*P		**Pn**	**02 49 07.6**	**-2.0**
KIV					pmax		pmax		
	comp=Z,10.0nm,1.1s								
KIV					MLR		MLR		
	comp=Z,14nm,11.0s								
KBZ	**Khabaz**		**13.83**	**49**	P		**P**	**02 49 17.5**	**-0.3**
KBZ	**Khabaz**		**13.83**	**49**	Pn		**P**	**02 49 17.5**	**-0.3**
KBZ	**Khabaz**		**13.83**	**49**	Pn		**P**	**02 49 17.5**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=270,slow=10,SNR=3.7								
KBZ	**Khabaz**		**13.83**	**49**	P		**P**	**02 49 17.5**	**-0.3**
PSZ	**Piszkesteto**		**14.11**	**335**	*e*P		**Pn**	**02 49 12.5**	**-0.8**
PSZ	**Piszkesteto**		**14.11**	**335**	*e*Pn		**Pn**	**02 49 12.5**	**-0.8**
KOLS	**Kolonicke sedl**		**14.33**	**343**	*e*P		**P**	**02 49 24.1**	**+0.7**
KOLS	**Kolonicke sedl**		**14.33**	**343**	*e*P		**P**	**02 49 24.1**	**+0.7**
	comp=Z,1.9nm,1.0s								
VYHS	**Vyhne**		**14.97**	**334**	*e*P		**P**	**02 49 29.7**	**-0.7**
VYHS					pmax		pmax		
	comp=Z,3.0nm,1.0s								
VYHS	**Vyhne**		**14.97**	**334**	*e*P		**P**	**02 49 29.7**	**-0.7**
VYHS	**Vyhne**		**14.97**	**334**	*e*P		**P**	**02 49 29.7**	**-0.7**
	comp=Z,3.0nm,1.0s								
KIEV	**Kiev**		**15.32**	**2**	*e*P		**Pn**	**02 49 29.6**	**-0.1**
KIEV	**Kiev**		**15.32**	**2**	*e*Pn		**Pn**	**02 49 29.6**	**-0.1**
KIEV	**Kiev**		**15.32**	**2**	*e*Pn		**Pn**	**02 49 29.6**	**-0.1**
VOY	**Vojsko**		**15.38**	**318**	*e*Pn		**Pn**	**02 49 30.7**	**+0.1**
KEST	**Kesra**		**15.66**	**277**	*e*P		**P**	**02 49 38.1**	**-0.2**
KEST	**Kesra**		**15.66**	**277**	Pn		**P**	**02 49 38.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=51,slow=14,SNR=10.0								
KEST	**Kesra**		**15.66**	**277**	*e*P		**P**	**02 49 38.1**	**-0.2**
VRAC	**Vranov**		**16.48**	**331**	Pn		Pn	02 49 34.3	-10
VRAC	**Vranov**		**16.48**	**331**	Pn		Pn	02 49 34.3	-10
	comp=Z,0.3nm,0.3s,baz=120,slow=16,SNR=4.4								
MORC	**Moravsky Berou**		**16.50**	**334**	*e*P		**Pn**	**02 49 43.9**	**-1.1**
MORC	**Moravsky Berou**		**16.50**	**334**	*e*Pn		**Pn**	**02 49 43.9**	**-1.1**
ABTA	**Abfaltersbach**		**16.58**	**318**	⇑*i*Pn		**Pn**	**02 49 44.3**	**-1.7**
	comp=Z,4.6nm,0.7s								
PGF	**Pioggiola**		**16.81**	**301**	*e*P		**Pn**	**02 49 47.3**	**-1.7**
TREC	**Trest**		**16.91**	**329**	*e*P		**P**	**02 49 51.3**	**-0.7**
TREC	**Trest**		**16.91**	**329**	*e*P		**P**	**02 49 51.3**	**-0.7**
TREC	**Trest**		**16.91**	**329**	*e*P		**P**	**02 49 51.3**	**-0.7**
GEC2	**GERESS Array S**		**17.37**	**325**	*e*P		**P**	**02 49 56.7**	**-0.5**
GEC2	**GERESS Array S**		**17.37**	**325**	*e*Pn		**P**	**02 49 56.6**	**-0.5**
GEC2	**GERESS Array S**		**17.37**	**325**	*e*P		**P**	**02 49 56.7**	**-0.5**
GERES	**GERESS Array B**		**17.37**	**325**	Pn		**Pn**	**02 49 56.1**	**+0.3**
GERES	**GERESS Array B**		**17.37**	**325**	Pn		**Pn**	**02 49 56.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=139,slow=12,SNR=25								
GERES	**GERESS Array B**		**17.37**	**325**	P		**Pn**	**02 49 56.1**	**+0.3**
DPC	**Dobruska-Polom**		**17.42**	**333**	*e*P		**P**	**02 49 57.6**	**-0.1**
DPC	**Dobruska-Polom**		**17.42**	**333**	*e*P		**P**	**02 49 57.6**	**-0.1**
DPC					*e*pP		**pP**	**02 50 01.8**	**-0.7**
DPC	**Dobruska-Polom**		**17.42**	**333**	*e*P		**P**	**02 49 57.6**	**-0.1**
KHC	**Kasperske Hory**		**17.63**	**326**	*e*P		**Pn**	**02 49 59.3**	**+0.3**
KHC	**Kasperske Hory**		**17.63**	**326**	*e*P		**Pn**	**02 49 59.3**	**+0.3**
KHC					*ex*		x	02 50 03.7	
KHC	**Kasperske Hory**		**17.63**	**326**	*e*Pn		**Pn**	**02 49 59.4**	**+0.4**
	comp=Z,9.8nm,1.2s								
KHC	**Kasperske Hory**		**17.63**	**326**	*e*Pn		**Pn**	**02 49 59.4**	**+0.4**
	comp=Z,9.8nm,1.2s								
UPC	**Upice**		**17.67**	**333**	*e*P		**P**	**02 50 00.5**	**+0.2**
UPC	**Upice**		**17.67**	**333**	*e*P		**P**	**02 50 00.5**	**+0.2**
UPC					*ex*		x	02 50 04.6	
UPC	**Upice**		**17.67**	**333**	*e*P		**P**	**02 50 00.5**	**+0.2**
FETA	**Feichten**		**17.73**	**316**	⇑*i*Pn		**P**	**02 50 02.0**	**+0.8**
	comp=Z,8.3nm,0.8s								
FETA	**Feichten**		**17.73**	**316**	P		**P**	**02 50 02.0**	**+0.8**
	comp=Z,8.3nm,0.8s								
PRU	**Pruhonice**		**17.84**	**329**	*e*P		**Pn**	**02 50 01.3**	**-0.3**
PRU	**Pruhonice**		**17.84**	**329**	*e*P		**Pn**	**02 50 01.3**	**-0.3**
PRU					*ex*		x	02 50 05.9	
PRU	**Pruhonice**		**17.84**	**329**	*e*P		**Pn**	**02 50 01.3**	**-0.3**
SBF	**Sospel**		**18.33**	**304**	*e*P		**Pn**	**02 50 07.4**	**-0.3**
SBF	**Sospel**		**18.33**	**304**	*e*P		**Pn**	**02 50 07.4**	**-0.3**
BRG	**Berggiesshubel**		**18.77**	**330**	*e*P		**P**	**02 50 12.5**	**+0.1**
	comp=Z,7.2nm,1.3s								
BRG	**Berggiesshubel**		**18.77**	**330**	*e*P		**P**	**02 50 12.5**	**+0.1**
BRG					pmax		pmax		
	comp=Z,11nm,1.3s								
BRG	**Berggiesshubel**		**18.77**	**330**	*e*P		**P**	**02 50 12.5**	**+0.1**
	comp=Z,11nm,1.3s								
FRF	**La Foret Royal**		**18.77**	**302**	*e*P		**P**	**02 50 12.7**	**+0.2**
FRF	**La Foret Royal**		**18.77**	**302**	*e*P		**P**	**02 50 12.7**	**+0.2**
MBDF	**Montbardon**		**19.08**	**306**	*e*P		**Pn**	**02 50 17.6**	**+0.6**
	comp=Z,14nm,0.8s								
MBDF	**Montbardon**		**19.08**	**306**	*e*P		**Pn**	**02 50 17.6**	**+0.6**
	comp=Z,7.0nm,0.8s								
BNI	**Bardonecchia**		**19.27**	**307**	*e*P		**P**	**02 50 18.2**	**0.0**
BNI					pmax		pmax		
	comp=Z,13nm,1.2s								
BNI	**Bardonecchia**		**19.27**	**307**	*e*P		**P**	**02 50 18.2**	**0.0**
	comp=Z,13nm,1.2s								
BNI	**Bardonecchia**		**19.27**	**307**	*e*P		**P**	**02 50 18.2**	**0.0**
	comp=Z,13nm,1.2s								
LPL	**La Plagne**		**19.42**	**308**	*e*P		**Pn**	**02 50 20.9**	**-0.1**
	comp=Z,13nm,0.7s								
LPL	**La Plagne**		**19.42**	**308**	*e*P		**Pn**	**02 50 20.9**	**-0.1**
	comp=Z,6.5nm,0.7s								
SENIN	**Lac Senin/Sane**		**19.42**	**311**	*e*Pn		**Pn**	**02 50 21.0**	**-0.1**
	comp=Z,8.6nm,0.7s								
SENIN	**Lac Senin/Sane**		**19.42**	**311**	*e*Pn		**Pn**	**02 50 21.0**	**-0.1**
	comp=Z,8.6nm,0.7s								
CLL	**Collm**		**19.48**	**330**	*e*P		**P**	**02 50 19.0**	**-1.2**
CLL					pmax		pmax		
	comp=Z,8.0nm,1.0s								
CLL	**Collm**		**19.48**	**330**	*e*P		**P**	**02 50 19.0**	**-1.2**
	comp=Z,8.0nm,1.0s								
CLL					LmV			02 59 00.0	
	comp=Z,100nm,21.0s								
CLL	**Collm**		**19.48**	**330**	*e*P		**P**	**02 50 19.0**	**-1.2**
	comp=Z,8.0nm,1.0s								
STU	**Stuttgart**		**19.58**	**319**	*e*P		**P**	**02 50 21.0**	**-0.4**
STU	**Stuttgart**		**19.58**	**319**	*e*P		**P**	**02 50 21.0**	**-0.4**
STU	**Stuttgart**		**19.58**	**319**	*e*P		**P**	**02 50 21.0**	**-0.4**
ORIF	**Oris-en-Rattie**		**19.75**	**306**	*e*P		**P**	**02 50 23.6**	**+0.3**
ORIF					*e*R				
	comp=Z,67nm,20.0s								
ORIF	**Oris-en-Rattie**		**19.75**	**306**	*e*P		**P**	**02 50 23.6**	**+0.3**
BFO	**Black Forest**		**19.80**	**317**	*e*P		**P**	**02 50 23.3**	**-0.6**
BFO					pmax		pmax		
	comp=Z,13nm,1.2s								
BFO	**Black Forest**		**19.80**	**317**	*e*P		**P**	**02 50 23.3**	**-0.6**
	comp=Z,13nm,1.2s								
BFO	**Black Forest**		**19.80**	**317**	*e*P		**P**	**02 50 23.3**	**-0.6**
	comp=Z,13nm,1.2s								
CABF	**La Chapelle**		**20.28**	**310**	*e*P		**P**	**02 50 28.0**	**-1.1**
	comp=Z,36nm,1.0s								
CABF	**La Chapelle**		**20.28**	**310**	*e*P		**P**	**02 50 28.0**	**-1.1**
	comp=Z,18nm,1.0s								
HINF	**Hinteralfeld**		**20.38**	**314**	*e*P		**P**	**02 50 29.4**	**-0.7**
HINF	**Hinteralfeld**		**20.38**	**314**	*e*P		**P**	**02 50 29.4**	**-0.7**
CDF	**Champ du Feu**		**20.44**	**316**	*e*P		**P**	**02 50 29.7**	**-1.1**
	comp=Z,16nm,0.9s								
CDF	**Champ du Feu**		**20.44**	**316**	*e*P		**P**	**02 50 29.7**	**-1.1**
	comp=Z,8.1nm,0.9s								
OBN	**Obninsk**		**20.50**	**13**	*e*P		**P**	**02 50 30.2**	**-1.1**
OBN					pmax		pmax		
	comp=Z,13nm,1.0s								
OBN	**Obninsk**		**20.50**	**13**	*e*P		**P**	**02 50 30.2**	**-1.1**
	comp=Z,13nm,1.0s								
VIVF	**Saint-Julien-l**		**20.53**	**305**	*e*P		**P**	**02 50 32.4**	**+0.6**
	comp=Z,33nm,1.3s								
VIVF	**Saint-Julien-l**		**20.53**	**305**	*e*P		**P**	**02 50 32.4**	**+0.6**
	comp=Z,16nm,1.3s								
HAU	**Haudompre**		**20.77**	**314**	*e*P		**P**	**02 50 34.4**	**+0.1**
	comp=Z,11nm,0.7s								
HAU					*e*R				
	comp=Z,81nm,19.8s								
HAU	**Haudompre**		**20.77**	**314**	*e*P		**P**	**02 50 34.4**	**+0.1**
	comp=Z,5.6nm,0.7s								
LASF	**Ste Croix**		**20.85**	**302**	*e*P		**P**	**02 50 36.2**	**+1.0**
LASF	**Ste Croix**		**20.85**	**302**	*e*P		**P**	**02 50 36.2**	**+1.0**
MOS	**Moscow**		**21.30**	**14**	*e*P		**P**	**02 50 38.3**	**-1.6**
PAGF	**Fort de Pagny**		**21.40**	**315**	*e*P		**P**	**02 50 40.7**	**-0.4**
PAGF	**Fort de Pagny**		**21.40**	**315**	*e*P		**P**	**02 50 40.7**	**-0.4**
SFTF	**Sexfontaines**		**21.63**	**314**	*e*P		**P**	**02 50 44.3**	**+0.7**
	comp=Z,78nm,1.4s								
SFTF	**Sexfontaines**		**21.63**	**314**	*e*P		**P**	**02 50 44.3**	**+0.7**
	comp=Z,39nm,1.4s								
SMF	**Signal de Mont**		**21.71**	**309**	*e*P		**P**	**02 50 43.8**	**-0.7**
	comp=Z,16nm,0.8s								
SMF	**Signal de Mont**		**21.71**	**309**	*e*P		**P**	**02 50 43.8**	**-0.7**
	comp=Z,7.9nm,0.8s								
LOR	**Lormes**		**21.94**	**310**	*e*P		**P**	**02 50 46.7**	**-0.3**
	comp=Z,12nm,1.0s								
LOR					*e*R				
	comp=Z,112nm,22.5s								
LOR	**Lormes**		**21.94**	**310**	*e*P		**P**	**02 50 46.7**	**-0.3**
	comp=Z,5.8nm,1.0s								
AVF	**Avril sur Loir**		**22.08**	**309**	*e*P		**P**	**02 50 49.2**	**+0.8**
	comp=Z,18nm,1.0s								
AVF	**Avril sur Loir**		**22.08**	**309**	*e*P		**P**	**02 50 49.2**	**+0.8**
	comp=Z,9.0nm,1.0s								
SSF	**Saint Saulge**		**22.08**	**310**	*e*P		**P**	**02 50 49.1**	**+0.7**
	comp=Z,18nm,0.8s								
SSF	**Saint Saulge**		**22.08**	**310**	*e*P		**P**	**02 50 49.1**	**+0.7**
	comp=Z,9.9nm,0.8s								
BGF	**Bois d'Agland**		**22.32**	**308**	*e*P		**P**	**02 50 50.9**	**-0.1**
	comp=Z,24nm,1.0s								
BGF	**Bois d'Agland**		**22.32**	**308**	*e*P		**P**	**02 50 50.9**	**-0.1**
	comp=Z,12nm,1.0s								
RJF	**Les Rejaudoux**		**22.80**	**304**	*e*P		**P**	**02 50 54.8**	**-1.3**
RJF	**Les Rejaudoux**		**22.80**	**304**	*e*P		**P**	**02 50 54.8**	**-1.3**
VSU	**Vasula**		**23.13**	**358**	*e*P		**P**	**02 50 57.3**	**-2.1**
VSU					pmax		pmax		
	comp=Z,20nm,1.4s								
TAM	**Tamanrasset**		**23.66**	**244**	*e*P		**P**	**02 51 06.8**	**+1.6**
TAM					pmax		pmax		
	comp=Z,7.0nm,1.3s								
TAM	**Tamanrasset**		**23.66**	**244**	*e*P		**P**	**02 51 06.8**	**+1.6**
	comp=Z,6.6nm,1.3s								
TAM	**Tamanrasset**		**23.66**	**244**	*e*P		**P**	**02 51 06.8**	**+1.6**
	comp=Z,6.6nm,1.3s								
LDF	**La Druitiere**		**24.92**	**311**	*e*P		**P**	**02 51 14.1**	**-2.3**
FLN	**La Foliniere**		**25.21**	**311**	*e*P		**P**	**02 51 16.4**	**-2.6**
FLN					*e*R				
	comp=Z,78nm,18.5s								
GRR	**Gorron**		**25.31**	**310**	*e*P		**P**	**02 51 17.8**	**-2.1**
GRR	**Gorron**		**25.31**	**310**	*e*P		**P**	**02 51 17.8**	**-2.1**
AKTK	**Aktyubinsk**		**26.08**	**46**	P		**P**	**02 51 27.5**	**+0.6**
	comp=Z,9.0nm,0.7s								
AKTO	**Aktyubinsk**		**26.08**	**46**	P		**P**	**02 51 27.5**	**+0.6**
AKTO					pmax		pmax		
	comp=Z,9.0nm,0.7s								
AKTO	**Aktyubinsk**		**26.08**	**46**	P		**P**	**02 51 27.5**	**+0.6**
AKTO	**Aktyubinsk**		**26.08**	**46**	P		**P**	**02 51 27.5**	**+0.6**
	comp=Z,8.6nm,0.7s,baz=250,slow=8.3,SNR=36								
AKTO	**Aktyubinsk**		**26.08**	**46**	P		**P**	**02 51 27.5**	**+0.6**
ESDC	**Sonseca Array**		**26.08**	**289**	P		**P**	**02 51 26.7**	**-0.4**
ESDC	**Sonseca Array**		**26.08**	**289**	P		**P**	**02 51 26.7**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=80,slow=9.6,SNR=18								
ESDC	**Sonseca Array**		**26.08**	**289**	P		**P**	**02 51 26.7**	**-0.4**
FINES	**FINESS Array B**		**26.14**	**357**	P		**P**	**02 51 26.3**	**-1.0**
FINES	**FINESS Array B**		**26.14**	**357**	P		**P**	**02 51 26.3**	**-1.0**
	comp=Z,5.9nm,0.8s,baz=153,slow=13,SNR=19								
FINES	**FINESS Array B**		**26.14**	**357**	P		**P**	**02 51 26.3**	**-1.0**
	comp=Z,6.0nm,0.8s								
PAB	**San Pablo**		**26.38**	**289**	*e*P		**P**	**02 51 30.9**	**+1.1**
PAB					pmax		pmax		
	comp=Z,8.0nm,1.0s								
PAB	**San Pablo**		**26.38**	**289**	*e*P		**P**	**02 51 30.9**	**+1.1**
	comp=Z,7.8nm,1.0s								
PAB	**San Pablo**		**26.38**	**289**	*e*P		**P**	**02 51 30.9**	**+1.1**
	comp=Z,7.8nm,1.0s								
HFS	**Hagfors**		**26.59**	**343**	P		**P**	**02 51 29.8**	**-1.6**
HFS	**Hagfors**		**26.59**	**343**	P		**P**	**02 51 29.8**	**-1.6**
	comp=Z,3.5nm,0.8s,baz=159,slow=9.2,SNR=12								
HFS					LR		LR	03 03 47.9	
	comp=Z,52nm,18.6s,baz=327,slow=41								
HFS	**Hagfors**		**26.59**	**343**	P		**P**	**02 51 29.8**	**-1.6**
	comp=Z,52nm,18.6s								
ABKAR	**Akbulak array**		**26.80**	**49**	*e*P		**P**	**02 51 33.7**	**+0.3**
	comp=Z,7.2nm,0.9s								
ABKAR	**Akbulak array**		**26.80**	**49**	*e*P		**P**	**02 51 33.7**	**+0.3**
	comp=Z,7.2nm,0.9s								
NAO01	**NORSAR Array S**		**27.91**	**341**	*e*P		**P**	**02 51 41.6**	**-1.6**
	comp=Z,20nm,1.1s								
NAO01	**NORSAR Array S**		**27.91**	**341**	*e*P		**P**	**02 51 41.6**	**-1.6**
	comp=Z,20nm,1.1s								
NB2	**NORSAR Subarra**		**27.99**	**342**	P		**P**	**02 51 41.2**	**-2.8**
	comp=Z,1.7nm,0.9s,baz=148,slow=9.3								
NOA	**NORSAR Array B**		**27.99**	**342**	P		**P**	**02 51 42.1**	**-1.8**
NOA	**NORSAR Array B**		**27.99**	**342**	P		**P**	**02 51 42.1**	**-1.8**
	comp=Z,1.3nm,0.8s,baz=148,slow=8.0,SNR=6.4								
NOA					LR		LR	03 04 52.5	
	comp=Z,43nm,18.4s,baz=150,slow=41								
TOA0	**Torodi Ar. Sit**		**32.83**	**234**	*e*P		**P**	**02 52 26.7**	**-0.4**
TOA0	**Torodi Ar. Sit**		**32.83**	**234**	*e*P		**P**	**02 52 26.7**	**-0.4**
TORD	**Torodi Ar. Bea**		**32.83**	**234**	P		**P**	**02 52 27.0**	**-0.1**
TORD					PcP		**PcP**	**02 55 12.0**	**+0.1**
TORD	**Torodi Ar. Bea**		**32.83**	**234**	P		**P**	**02 52 27.0**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=32,slow=9.2,SNR=11								
TORD					PcP		**PcP**	**02 55 12.0**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=4.6,slow=2.7,SNR=6.3								
TORD					LR		LR	03 07 53.3	
	comp=Z,55nm,19.7s,baz=115,slow=40								
TORD	**Torodi Ar. Bea**		**32.83**	**234**	P		**P**	**02 52 27.0**	**-0.1**
TORD	**Torodi Ar. Bea**		**32.83**	**234**	PcP		**PcP**	**02 55 12.0**	**+0.1**
KKAR	**Karatay Array**		**33.11**	**64**	*e*P		**P**	**02 52 29.9**	**+0.6**
KKAR					pmax		pmax		
	comp=Z,6.0nm,1.0s								
KKAR	**Karatay Array**		**33.11**	**64**	*e*P		**P**	**02 52 29.9**	**+0.6**
	comp=Z,6.4nm,1.0s								
KKAR	**Karatay Array**		**33.11**	**64**	*e*P		**P**	**02 52 29.9**	**+0.6**
	comp=Z,6.4nm,1.0s								
BRVK	**Borovoye**		**34.13**	**46**	*e*P		**P**	**02 52 38.6**	**+0.5**
BRVK					pmax		pmax		
	comp=Z,7.0nm,1.1s								
BRVK	**Borovoye**		**34.13**	**46**	*e*P		**P**	**02 52 38.6**	**+0.5**
	comp=Z,6.6nm,1.1s								
BRVK	**Borovoye**		**34.13**	**46**	*e*P		**P**	**02 52 38.6**	**+0.5**
	comp=Z,6.6nm,1.1s								
BVAR	**Borovoye Array**		**34.19**	**46**	P		**P**	**02 52 38.7**	**+0.1**
BVAR					pmax		pmax		
	comp=Z,3.0nm,1.0s								
BVAR					MLR		MLR		
	comp=Z,54nm,20.8s								
BVAR	**Borovoye Array**		**34.19**	**46**	P		**P**	**02 52 38.7**	**+0.1**
BVAR	**Borovoye Array**		**34.19**	**46**	P		**P**	**02 52 38.7**	**+0.1**
	comp=Z,2.8nm,1.0s,baz=235,slow=5.2,SNR=5.6								
BVAR					LR		LR	03 10 11.6	
	comp=Z,54nm,20.8s,baz=89,slow=43								
BVAR	**Borovoye Array**		**34.19**	**46**	P		**P**	**02 52 38.7**	**+0.1**
	comp=Z,54nm,20.8s								
ARCES	**ARCESS Array B**		**34.26**	**358**	P		**P**	**02 52 37.2**	**-1.9**
ARCES	**ARCESS Array B**		**34.26**	**358**	P		**P**	**02 52 37.2**	**-1.9**
	comp=Z,2.0nm,0.7s,baz=173,slow=8.4,SNR=12								
ARCES					LR		LR	03 07 42.2	
	comp=Z,54nm,18.2s,baz=188,slow=38								
EKS2	**Erkin-Say**		**35.52**	**64**	*e*P		**P**	**02 52 51.7**	**+1.3**
EKS2					pmax		pmax		
	comp=Z,7.0nm,1.1s								
EKS2	**Erkin-Say**		**35.52**	**64**	*e*P		**P**	**02 52 51.7**	**+1.3**
	comp=Z,7.0nm,1.1s								
EKS2	**Erkin-Say**		**35.52**	**64**	*e*P		**P**	**02 52 51.7**	**+1.3**
	comp=Z,7.0nm,1.1s								
AAK	**Ala-Archa**		**36.05**	**64**	*e*P		**P**	**02 52 55.9**	**+0.9**
AAK					pmax		pmax		
	comp=Z,6.0nm,0.9s								
AAK	**Ala-Archa**		**36.05**	**64**	*e*P		**P**	**02 52 55.9**	**+0.9**
	comp=Z,5.7nm,0.9s								
AAK	**Ala-Archa**		**36.05**	**64**	*e*P		**P**	**02 52 55.9**	**+0.9**
	comp=Z,5.7nm,0.9s								
TKM2	**Tokmak 2**		**36.84**	**64**	*e*P		**P**	**02 53 02.1**	**+0.3**
TKM2					pmax		pmax		
	comp=Z,3.0nm,0.9s								
TKM2	**Tokmak 2**		**36.84**	**64**	*e*P		**P**	**02 53 02.1**	**+0.3**
	comp=Z,3.5nm,0.9s								
TKM2	**Tokmak 2**		**36.84**	**64**	*e*P		**P**	**02 53 02.1**	**+0.3**
	comp=Z,3.5nm,0.9s								
KURBB	**Kurchatov Arra**		**38.81**	**51**	P		**P**	**02 53 19.0**	**+0.9**
	comp=Z,4.0nm,0.7s,baz=275,slow=8.8,SNR=30								
KURBB					PcP		**PcP**	**02 55 30.1**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=263,slow=3.9,SNR=4.2								
KURK	**Kurchatov**		**38.88**	**51**	P		**P**	**02 53 19.0**	**+0.4**
KURK								02 55 30.1	
KURK					pmax		pmax		
	comp=Z,4.0nm,0.7s								
KURK					pmax		pmax		
	comp=Z,1.0nm,0.3s								
KURK	**Kurchatov**		**38.88**	**51**	P		**P**	**02 53 19.0**	**+0.4**
KURK					PcP		**PcP**	**02 55 30.1**	**+0.8**
KURK	**Kurchatov**		**38.88**	**51**	P		**P**	**02 53 19.0**	**+0.4**
	comp=Z,4.0nm,0.7s								
KURK	**Kurchatov**		**38.88**	**51**	PcP		**PcP**	**02 55 30.1**	**+0.8**
	comp=Z,1.0nm,0.3s								
MK31	**Makanchi Array**		**41.32**	**57**	*e*P		**P**	**02 53 39.5**	**+0.5**
MK31	**Makanchi Array**		**41.32**	**57**	*e*P		**P**	**02 53 39.5**	**+0.5**
MK31	**Makanchi Array**		**41.32**	**57**	*e*P		**P**	**02 53 39.5**	**+0.5**
MKAR	**Makanchi Array**		**41.32**	**57**	P		**P**	**02 53 39.7**	**+0.7**
MKAR								02 55 37.9	
MKAR					pmax		pmax		
	comp=Z,2.0nm,0.7s								
MKAR	**Makanchi Array**		**41.32**	**57**	P		**P**	**02 53 39.7**	**+0.7**
MKAR					PcP		**PcP**	**02 55 37.9**	**+0.6**
MKAR	**Makanchi Array**		**41.32**	**57**	P		**P**	**02 53 39.7**	**+0.7**
	comp=Z,1.8nm,0

DZM			AMP			02 50 35.5	
	comp=Z,499nm,2.1s						
DZM	**Mont Dzumac**	**3.52 283**	Pn	**Pn**		**02 49 47.6**	**-1.4**
DZM			Sn	**Sn**		**02 50 30.6**	**+0.6**
DZM	**Mont Dzumac**	**3.52 283**	Pn	**Pn**		**02 49 47.6**	**-1.4**
	comp=Z,8.9nm,0.3s,baz=90,slow=24,SNR=352						
DZM			Sn	**Sn**		**02 50 30.6**	**+0.6**
	comp=Z,9.5nm,0.3s,baz=89,slow=24,SNR=9.3						
DZM			LR	LR		02 50 36.2	
	comp=Z,299nm,21.4s,baz=0.1,slow=28						
NOUC	**Port Laguerre**	**3.64 282**	*e*P	**Pn**		**02 49 48.7**	**-1.9**
NOUC			*e*S	**Sn**		**02 50 32.2**	**-0.6**
NOUC			AMP			02 50 38.3	
	comp=Z,24nm,7.2s						
URZ	**Urewera**	**16.40 160**	LR	LR		02 57 53.7	
	comp=Z,131nm,18.6s,baz=115,slow=32						
CTA	**Charters Tower**	**22.39 273**	P	**P**		**02 53 53.9**	**+1.3**
CTA	**Charters Tower**	**22.39 273**	P	**P**		**02 53 53.9**	**+1.3**
	comp=Z,1.8nm,0.5s,baz=94,slow=16,SNR=2.5						
PMG	**Port Moresby**	**25.79 298**	LR	LR		03 01 33.6	
	comp=Z,124nm,19.0s,baz=100,slow=30						
STKA	**Stephens Creek**	**26.80 244**	P	**P**		**02 54 36.4**	**+2.4**
STKA	**Stephens Creek**	**26.80 244**	P	**P**		**02 54 36.4**	**+2.4**
	comp=Z,2.9nm,0.9s,baz=90,slow=16,SNR=2.9						
ASAR	**Alice Springs**	**33.23 261**	P	**P**		**02 55 31.6**	**+0.5**
ASAR	**Alice Springs**	**33.23 261**	P	**P**		**02 55 31.6**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=87,slow=8.5,SNR=5.3						
WRAB	**Tennant Creek**	**33.40 268**	*e*P	**P**		**02 55 32.7**	**+0.2**
	comp=Z,9.6nm,1.2s						
WRA	**Warramunga Arr**	**33.40 268**	P	**P**		**02 55 30.6**	**-2.0**
WRA	**Warramunga Arr**	**33.40 268**	P	**P**		**02 55 30.7**	**-2.0**
	comp=Z,0.8nm,0.8s,baz=100,slow=8.5,SNR=3.3						
QSPA	**South Pole Qui**	**67.14 180**	*e*P	**P**		**02 59 47.2**	**0.0**
	comp=Z,5.9nm,1.2s						
CMAR	**Chiang Mai Arr**	**80.78 294**	pP	pP		03 01 12.8	-3.0
CMAR	**Chiang Mai Arr**	**80.78 294**	pP	pP		03 01 12.8	-3.0
	comp=Z,0.8nm,0.4s,baz=142,slow=4.5,SNR=4.6						
SNAA	**Sanae**	**85.52 182**	*e*P	**P**		**03 01 29.6**	**-1.7**
	comp=Z,4.1nm,1.2s						
SONM	**Songino Array**	**90.66 323**	P	P		03 01 53.5	-2.8
SONM			pP	**PcP**		**03 01 59.6**	**+2.3**
SONM	**Songino Array**	**90.66 323**	P	P		03 01 53.5	-2.8
	comp=Z,0.4nm,0.6s,baz=150,slow=3.2,SNR=2.7						
SONM			pP	**PcP**		**03 01 59.6**	**+2.3**
	comp=Z,0.3nm,0.5s,baz=135,slow=6.5,SNR=5.8						
OKC	**Ostrava-Krasne**	**145.31 328**	*e*PKP	**PKPdf**		**03 08 33.8**	**+2.6**
DPC	**Dobruska-Polom**	**145.84 330**	*e*PKP	**PKPab**		**03 08 35.7**	**+2.5**
UPC	**Upice**	**145.88 330**	*e*PKP	**PKPab**		**03 08 36.1**	**+2.8**
PVCC	**Panska Ves**	**146.51 331**	*e*PKP	**PKPab**		**03 08 38.3**	**+2.6**
PRU	**Pruhonice**	**146.91 331**	*e*PKP	**PKPab**		**03 08 39.1**	**+1.8**
TREC	**Trest**	**146.96 329**	*e*PKP	**PKPab**		**03 08 39.4**	**+1.9**
EKA	**Eskdalemuir Ar**	**147.26 353**	PKPbc	**PKPdf**		**03 08 30.5**	**-3.9**
EKA			pPKPbc	**PKPab**		**03 08 38.5**	**0.0**
EKA	**Eskdalemuir Ar**	**147.26 353**	PKPbc	**PKPdf**		**03 08 30.5**	**-3.9**
	comp=Z,0.4nm,0.4s,baz=357,slow=2.2,SNR=7.3						
EKA			pPKPbc	**PKPab**		**03 08 38.5**	**0.0**
	comp=Z,2.0nm,0.6s,baz=357,slow=2.5,SNR=12						
KHC	**Kasperske Hory**	**147.97 330**	*e*PKP	**PKPab**		**03 08 42.1**	**+0.6**
GERES	**GERESS Array B**	**148.11 330**	PKPbc	**PKPdf**		**03 08 35.0**	**-1.2**
GERES			pPKPbc	**PKPab**		**03 08 42.5**	**+0.3**
GERES	**GERESS Array B**	**148.11 330**	PKPbc	**PKPdf**		**03 08 35.0**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=45,slow=2.1,SNR=4.1						
GERES			pPKPbc	**PKPab**		**03 08 42.5**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=38,slow=2.4,SNR=12						

IDC* 15 02:58:44.3±2.3, 2°74S×150°68E, *h*0km, *mb*3.3/3, mb1 3.6/3, *mb*1*mx*3.4/18, *mbtmp*3.3/3, *Error ellipse:* s-maj=230.1km s-min=31.6km az=124.0, *New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.39 222**		P		P	03 03 53.8	-1.2
	0.4nm,0.6s,baz=50,slow=11,SNR=2.5							
ASAR	**Alice Springs**	**26.38 217**		P		P	03 04 24.3	+1.6
	0.4nm,0.8s,baz=54,slow=9.3,SNR=3.4							
ILAR	**Eielson Array**	**81.07 23**		P		P	03 11 00.6	-0.5
	0.2nm,0.7s,baz=246,slow=5.0,SNR=3.3							

IDC* 15 03:07:31.1±7.2, 19°63S×178°14W, *h*0km, *mb*3.5/3, mb1 3.8/3, *mb*1*mx*3.5/18, *mbtmp*3.5/3, *Error ellipse:* s-maj=308.8km s-min=41.7km az=144.0, *Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.60 256**		P		P	03 15 45.2	-0.3
	0.6nm,0.5s,baz=96,slow=7.8,SNR=9.7							
WRA	**Warramunga Arr**	**44.60 261**		P		P	03 15 45.6	0.0
	0.3nm,0.3s,baz=97,slow=7.6,SNR=14							
ILAR	**Eielson Array**	**87.50 13**		P		P	03 20 20.3	0.0
	0.1nm,0.6s,baz=216,slow=5.6,SNR=2.0							

WEL 15 03:09:47.9±0.4, 36°91S×177°44E, *h*157km±4km, *ML*3.5/5, 1C, *Error ellipse:* s-maj=6.1km s-min=4.5km az=90.0, *Off east coast of North Island*

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**1.33 151**		SN		Sn	03 10 36.8	-1.4
URZ	**Urewera**	**1.37 191**		PN		Pn	03 10 17.2	+0.6
URZ				SN		Sn	03 10 39.7	+0.7
MWZ	**Matawai**	**1.43 177**		PN		Pn	03 10 17.3	+0.1
MWZ				SN		Sn	03 10 39.9	-0.1
CNGZ	**Carnagh Statio**	**1.69 159**		PN		Pn	03 10 20.1	+0.1
KNZ	**Kokohu**	**2.12 175**		PN		Pn	03 10 24.7	0.0
KNZ				SN		Sn	03 10 52.7	-0.6
NMHZ	**Naumai**	**2.24 193**		PN		Pn	03 10 27.4	+1.0
MHGZ	**Mahia Peninsul**	**2.27 171**		PN		Pn	03 10 26.9	+0.3
BKZ	**Black Stump Fm**	**2.38 198**		PN		Pn	03 10 28.2	+0.3
KAHZ	**Kahuranaki**	**2.92 189**		PN		Pn	03 10 34.3	-0.2
PXZ	**Pawanui**	**3.15 188**		PN		Pn	03 10 36.7	-0.7
PXZ				SN		Sn	03 11 14.4	-1.4
PNHZ	**Pukenui**	**3.16 198**		PN		Pn	03 10 35.6	-1.9
WPHZ	**Waipukurau**	**3.25 194**		SN		Sn	03 11 17.7	-0.4
PRHZ	**Porangahau**	**3.41 190**		PN		Pn	03 10 39.9	-0.8
PRHZ				SN		Sn	03 11 20.9	-0.9
BFZ	**Birch Farm**	**3.88 194**		PN		Pn	03 10 45.6	-1.2
MRZ	**Mangatainoka R**	**4.02 201**		PN		Pn	03 10 46.9	-1.6
MRZ				SN		Sn	03 11 33.9	-1.9
HOWZ	**Holdsworth Sta**	**4.26 200**		PN		Pn	03 10 49.8	-1.9
HOWZ				SN		Sn	03 11 38.8	-2.6
OGWZ	**Otaki Gorge**	**4.29 204**		PN		Pn	03 10 50.5	-1.5
OGWZ				SN		Sn	03 11 41.3	-0.7
MTW	**Mount Morrison**	**4.50 199**		PN		Pn	03 10 52.5	-2.4
TCW	**Tory Channel**	**4.95 209**		SN		Sn	03 11 55.1	-2.5
NNZ	**Nelson**	**5.34 215**		SN		Sn	03 12 05.0	-1.8
THZ	**Tophouse**	**5.99 215**		*e*PN		Pn	03 11 13.5	-1.0
MQZ	**McQueen's Vall**	**7.71 207**		SN		Sn	03 12 56.3	-7.1

IDC* 15 03:10:23.8±2.5, 17°28S×175°10W, *h*196km±31km, mb3.9/5, *mb*1 4.1/6, *mb*1*mx*3.6/21, *mbtmp*3.9/6, *Error ellipse:* s-maj=47.6km s-min=21.3km az=129.0, *Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.63 44**		P		Pn	03 11 33.7	+0.1
	15nm,0.3s,baz=214,slow=1.9,SNR=7.4							
AFI				S		Sn	03 12 24.0	-4.5
	29nm,0.3s,baz=135,slow=22,SNR=6.6							
URZ	**Urewera**	**21.99 197**		P		P	03 15 01.9	-0.3
	6.9nm,0.8s,baz=23,slow=7.7,SNR=3.8							
STKA	**Stephens Creek**	**41.70 241**		P		P	03 17 54.2	+0.6
	3.9nm,0.7s,baz=100,slow=10,SNR=7.5							
WRA	**Warramunga Arr**	**47.85 259**		P		P	03 18 41.8	-0.6
	1.0nm,0.6s,baz=96,slow=6.8,SNR=17							
ASAR	**Alice Springs**	**48.00 254**		P		P	03 18 43.2	-0.3
	7.1nm,0.7s,baz=88,slow=8.5,SNR=58							
ILAR	**Eielson Array**	**84.60 12**		P		P	03 22 34.2	-0.6
	0.5nm,1.1s,baz=202,slow=6.6,SNR=3.8							
BRTR	**Keskin Array B**	**146.52 318**		PKPbc		PKPbc	03 29 42.7	+0.2
	0.6nm,0.8s,baz=54,slow=7.3,SNR=3.1							

CSEM ***15*** *03:16:23.5±0.2, 35°32N×28°54E, h2km, ML4.0, Error ellipse: s-maj=8.2km s-min=4.5km az=102.0*
ISCJB ***15*** *03:16:25.3±0.5, 35°27N±0°04×28°55E±0°07, h36km, Error ellipse: s-maj=8.1km s-min=4.7km az=16.5*
ISC 15 03:16:26.6±1.3, 35°31N±0°05×28°48E±0°07, h36km, n30, σ1§35/37, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AKAS	**Kas**	**1.30**	**44**	*i* P		**Pn**	**03 16 47.9**	**-0.5**
AKAS	**Kas**	**1.30**	**44**	*i* P		**Pn**	03 16 47.9	-0.5
TURN	**Turunc**	**1.57**	**4**	*i* P		**Pn**	03 16 50.4	-1.5
TURN	**Turunc**	**1.57**	**4**	*i* P		**Pn**	03 16 50.4	-1.5
GOLH	**Golhisar**	**2.12**	**24**	*i* P		**Pn**	03 17 00.8	+1.2
GOLH	**Golhisar**	**2.12**	**24**	*i* P		**Pn**	03 17 00.8	+1.2
KORT	**Korkueli**	**2.27**	**41**	*i* P		**Pn**	03 17 02.7	+1.0
KORT	**Korkueli**	**2.27**	**41**	*i* P		**Pn**	03 17 02.7	+1.0
AYDN	**Tasoluk**	**2.40**	**349**	*i* P		**Pn**	03 17 04.3	+0.9
AYDN	**Tasoluk**	**2.40**	**349**	*i* P		**Pn**	03 17 04.3	+0.9
DNZL	**Cakiroluk**	**2.42**	**11**	*i* P		**Pn**	03 17 03.8	0.0
DNZL	**Cakiroluk**	**2.42**	**11**	*i* P		**Pn**	03 17 03.8	0.0
KHAL	**Karahalli**	**3.17**	**15**	*i* P		**Pn**	03 17 13.6	-0.4
KHAL				*i* S		**Sn**	03 17 48.6	-1.9
KHAL	**Karahalli**	**3.17**	**15**	*i* P		**Pn**	03 17 13.6	-0.4
GAZI	**Gazipasa**	**3.25**	**72**	*i* P		**Pn**	03 17 14.1	-1.0
GAZI				*i* S		**Sn**	03 17 49.2	-3.4
GAZI	**Gazipasa**	**3.25**	**72**	*i* P		**Pn**	03 17 14.1	-1.0
GAZI				*i* S		**Sn**	03 17 49.2	-3.4
ERMK	**Ermenek**	**3.84**	**68**	*i* P		**Pn**	03 17 24.1	+0.8
ERMK				*i* S		**Sn**	03 18 09.3	+2.1
ERMK	**Ermenek**	**3.84**	**68**	*i* P		**Pn**	03 17 24.1	+0.8
ERMK				*i* S		**Sn**	03 18 09.3	+2.1
DURS	**Dursunbey**	**4.29**	**360**	*i* P		**Pn**	03 17 28.7	-0.7
DURS	**Dursunbey**	**4.29**	**360**	*i* P		**Pn**	03 17 28.7	-0.7
KDHN	**Kadinhani**	**4.34**	**41**	*i* P		**Pn**	03 17 30.6	+0.6
KDHN				*i* S		**Sn**	03 18 20.2	+0.8
KDHN	**Kadinhani**	**4.34**	**41**	*i* P		**Pn**	03 17 30.6	+0.6
KDHN				*i* S		**Sn**	03 18 20.2	+0.8
HMAT	**Matruh**	**4.36**	**196**	P		**Pn**	03 17 31.0	+0.8
SLUM		**4.68**	**217**	P		**Pn**	03 17 37.0	+2.3
AMAG	**Maghara**	**6.12**	**138**	P		**Pn**	03 17 54.0	-0.5
RSH		**6.17**	**133**	P		**Pn**	03 17 54.7	-0.5
HSAF	**As Saff**	**6.24**	**155**	P		**Pn**	03 17 56.3	+0.2
SWA2		**6.56**	**204**	P		**Pn**	03 18 01.4	+0.9
HNKL	**Nakhl**	**7.09**	**138**	P		**Pn**	03 18 07.6	-0.2
HFRF	**Wahat Farafira**	**8.13**	**181**	P		**Pn**	03 18 22.8	+0.7

IDC ***15*** *03:28:34.1±0.9, 36°74N×76°92E, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.6/27, mbtmp3.7/10, ML3.7/2, Error ellipse: s-maj=26.2km s-min=15.2km az=60.0*
NNC ***15*** *03:28:41.2±5.2, 37°12N×77°39E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=45.4km s-min=28.8km az=179.0*
ISC 15 03:28:36.2±0.9, 36°76N±0°09×77°0E±0°1, h10km, n15, σ1§43/15, mb3.7/8, 5C-2D, *Kashmir-Xinjiang border region*

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.18**	**342**	Pn		Pn	03 30 11.7	+4.1
	0.6nm,0.3s,baz=129,slow=6.5,SNR=2.1							
AAK				Lg		Lg	03 31 49.7	
	1.4nm,0.3s,baz=319,slow=14,SNR=7.8							
TKM2	**Tokmak 2**	**6.25**	**350**	⇑Pn		**Pn**	**03 30 10.9**	**+2.3**
	2.8nm,0.9s							
TKM2				⇑Pg		Pg	03 30 30.1	-5.7
	4.7nm,0.8s							
TKM2				⇑Lg		Lg	03 31 49.6	
	10nm,0.6s							
KK31	**Karatay Array**	**8.07**	**324**	⇓Pn		Pn	03 30 38.3	+4.9
	0.2nm,0.2s,baz=134,slow=12,SNR=6.9							
KK31				⇑Sn		Sn	03 32 09.4	+4.6
	0.7nm,0.3s,baz=162,slow=25,SNR=6.9							
MK31	**Makanchi Array**	**10.76**	**20**	⇑Pn		**Pn**	**03 31 10.9**	**+0.7**
	0.6nm,0.3s,baz=202,slow=12,SNR=79							
MK31				⇓Sn		**Sn**	**03 33 08.7**	**-2.0**
	2.0nm,0.9s,baz=198,slow=23							
MKAR	**Makanchi Array**	**10.76**	**20**	Pn		**Pn**	**03 31 11.0**	**+0.8**
	1.5nm,0.3s,baz=203,slow=13,SNR=81							
MKAR				Sn		**Sn**	**03 33 09.1**	**-1.6**
	0.2nm,0.3s,baz=191,slow=25,SNR=2.8							
BVAR	**Borovoye Array**	**16.91**	**346**	Pn		**P**	**03 32 36.5**	**+1.7**
	0.5nm,0.3s,baz=144,slow=13,SNR=6.9							
SONM	**Songino Array**	**24.23**	**54**	P		**P**	**03 33 54.5**	**+1.4**
	0.6nm,0.6s,baz=251,slow=9.2,SNR=4.0							
CMAR	**Chiang Mai Arr**	**26.53**	**128**	P		**P**	**03 34 15.7**	**+1.6**
	1.0nm,0.3s,baz=306,slow=11,SNR=6.0							
FINES	**FINESS Array B**	**40.03**	**325**	P		**P**	**03 36 10.9**	**-0.1**
	1.1nm,0.7s,baz=109,slow=10,SNR=7.8							
ARCES	**ARCESS Array B**	**42.81**	**336**	P		**P**	**03 36 33.1**	**-0.7**
	2.0nm,0.9s,baz=116,slow=12,SNR=2.6							
NB2	**NORSAR Subarra**	**47.10**	**323**	P		**P**	**03 37 07.4**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=91,slow=7.9							
NOA	**NORSAR Array B**	**47.10**	**323**	P		**P**	**03 37 07.6**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=92,slow=7.6,SNR=3.9							
TORD	**Torodi Ar. Bea**	**70.57**	**272**	P		**P**	**03 39 50.4**	**-1.4**
	comp=Z,0.4nm,1.0s,baz=48,slow=6.2,SNR=5.1							
WRA	**Warramunga Arr**	**78.11**	**126**	P		**P**	**03 40 34.9**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=324,slow=6.4,SNR=10							
ASAR	**Alice Springs**	**80.53**	**129**	P		**P**	**03 40 47.8**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=322,slow=5.7,SNR=4.7							

MOS ***15*** *04:04:30.6±1.0, 51°32N×178°11W, h33km, mb5.0/51, MS4.3/10, Error ellipse: s-maj=7.9km s-min=6.1km az=82.7*
ISCJB ***15*** *04:04:32.6±0.5, 51°22N±0°05×178°21W±0°02, h54km±3km, mb4.8/192, MS4.5/51, Error ellipse: s-maj=8.2km s-min=2.6km az=179.4*
BJI ***15*** *04:04:33.0, 51°36N×178°65W, h48km, mB5.2/31, mb4.9/45, Ms4.8/39, Ms7 4.6/38*
NEIC ***15*** *04:04:34.7±0.4, 51°32N×178°28W, h59km±3km, mb4.8/112, ML4.8(AEIC), Error ellipse: s-maj=7.5km s-min=2.5km az=177.0*
GCMT ***15*** *04:04:34.3±0.2, 51°18N×178°06W, h31km, MW5.1, Moment Tensor Solution. s61,c92; s84,c133; Moment tensor: Scale 10^{16}Nm; M_{rr}4.07±.16; $M_{\theta\theta}$-4.92±.12; $M_{\phi\phi}$0.86±.12; $M_{r\theta}$3.18±.18; $M_{r\phi}$-1.92±.09; $M_{\theta\phi}$3.13±.19; Best double couple: $M_0$6.60000×10^{16} NP1:ω_s278.00000°, δ30.00000°, λ131.00000°. NP2:ω_s53.00000°, δ68.00000°, λ69.00000°. Principal axes: T 6.2800, Plg61.0000°, Azm291.0000°; N 0.7000, Plg19.0000°, Azm61.0000°; P -6.9800, Plg20.0000°, Azm158.0000°; Data Used: II IU IC G CN.*
IDC ***15*** *04:04:34.0±2.9, 51°41N×178°18W, h50km±25km, mb4.2/24, mb1 4.4/26, mb1mx4.4/31, mbtmp4.2/26, ML3.7/2, MS4.3/26, Ms1 4.3/26, ms1mx4.2/39 Error ellipse: s-maj=17.0km s-min=10.4km az=166.0*
ISC 15 04:04:34.5±0.4, 51°15N±0°07×178°16W±0°03, h59km±2km, n784, σ1§14/855, mb4.8/203, MS4.4/53, 196C-179D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CERAA	**Semis' Rag'd T**	**1.54**	**300**	P		**Pn**	**04 04 57.2**	**-2.5**
CESW	**Semis' Southwe**	**1.61**	**299**	P		**Pn**	**04 04 57.9**	**-2.7**
AMKA	**Amchitka**	**1.61**	**279**	*e*Pn		Pn	04 04 56.9	-3.7
AMKA				*e*S		**Sn**	**04 05 20.9**	**+0.7**
CEAP	**Semis' Anvil P**	**1.65**	**302**	P		**Pn**	**04 04 59.0**	**-2.2**
CETU	**Semis' Tuman**	**1.68**	**300**	P		**Pn**	**04 04 59.2**	**-2.3**
LSSE	**Little Sitkin**	**2.19**	**292**	P		**Pn**	**04 05 06.3**	**-2.2**
LSSA	**Little Sitkin**	**2.22**	**292**	P		**Pn**	**04 05 06.8**	**-2.2**
LSNW	**Little Sitkin**	**2.23**	**293**	P		**Pn**	**04 05 06.5**	**-2.5**
SMY	**Shemya**	**5.04**	**291**	P		**Pn**	**04 05 46.5**	**-1.0**
SMY				S		**Sn**	**04 06 47.2**	**+2.9**
SMY	**Shemya**	**5.04**	**291**	P		**Pn**	**04 05 46.5**	**-1.0**
SMY				S		**Sn**	**04 06 47.2**	**+2.9**
FX1	**Attu Island--F**	**5.63**	**291**	*e*Pn		**Pn**	**04 05 54.6**	**-0.7**
FX1				*e*S		Sn	04 07 04.8	+4.0
FX1	**Attu Island--F**	**5.63**	**291**	P		**Pn**	**04 05 54.0**	**-1.5**
	8.3nm,0.3s,baz=130,slow=11,SNR=28							
FX1				S		**Sn**	**04 07 02.2**	**+3.4**
	10nm,0.3s,baz=72,slow=20,SNR=3.3							
NIKH	**Nikolski High**	**6.03**	**69**	P		**Pn**	**04 06 00.1**	**-0.9**
NIKH				S		**Sn**	**04 07 13.7**	**+5.2**
OKSP	**Okmok Steeple**	**6.42**	**67**	P		**Pn**	**04 06 06.8**	**+0.4**
OKSO	**Okmok South**	**6.53**	**66**	P		**Pn**	**04 06 09.0**	**+1.2**
OKSO				S		**Sn**	**04 07 24.6**	**+3.7**
OKTU	**Okmok Mt. Tuli**	**6.61**	**66**	P		**Pn**	**04 06 09.9**	**+1.0**
OKFG	**Magazine Ridge**	**6.69**	**66**	P		**Pn**	**04 06 11.1**	**+1.1**
MREP	**Makushin Rep't**	**7.46**	**65**	P		**Pn**	**04 06 21.0**	**+0.3**
MTBL	**Makushin Table**	**7.55**	**64**	P		**Pn**	**04 06 23.6**	**+1.8**
SPIA	**Saint Paul Isl**	**7.62**	**34**	P		**Pn**	**04 06 23.9**	**+1.2**
LVA	**Lava Point**	**7.97**	**63**	P		**Pn**	**04 06 28.5**	**+1.0**
ZRO	**Akutan Zero**	**7.98**	**64**	P		**Pn**	**04 06 28.2**	**+0.5**

AKGG	**Akutan Green G**	**8.00**	**63**	P		**Pn**	**04 06 28.3**	**+0.3**
AKUT	**Akutan**	**8.11**	**64**	*e*Pn		**Pn**	**04 06 30.0**	**+0.6**
AKUT				*e*S		Sn	04 08 21.4	+22
SSBA	**Shishaldin**	**9.22**	**61**	P		**Pn**	**04 06 45.5**	**+0.9**
FALS	**False Pass**	**9.63**	**62**	*e*Pn		**Pn**	**04 06 50.1**	**-0.1**
SDPT	**Sand Point**	**11.39**	**61**	*e*Pn		**Pn**	**04 07 12.5**	**-1.7**
CHGN	**Chignik**	**12.76**	**58**	*e*Pn		**Pn**	**04 07 30.2**	**-2.7**
PET	**Petropavlovsk**	**14.36**	**287**	*e*P		Pn	04 07 49.6	-4.8
PET				pmax		pmax		
	comp=Z,300nm,17.6s							
PET				MLR		MLR		
	comp=Z,3μm,21.0s							
PETK	**Petropavlovsk-**	**14.94**	**287**	P		**Pn**	**04 08 01.7**	**-0.2**
PETK				S		**Sn**	**04 10 49.2**	**+3.2**
PETK	**Petropavlovsk-**	**14.94**	**287**	P		**Pn**	**04 08 01.7**	**-0.2**
PETK				S		**Sn**	**04 10 49.2**	**+3.2**
PETK	**Petropavlovsk-**	**14.94**	**287**	P		**Pn**	**04 08 01.7**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=94,slow=16,SNR=11							
PETK				S		**Sn**	**04 10 49.2**	**+3.2**
	comp=Z,0.1nm,0.3s,baz=83,slow=23,SNR=2.2							
PETK				LR		LR	04 13 31.9	
	comp=Z,2μm,21.8s,baz=90,slow=36							
OHAK	**Old Harbor**	**15.72**	**58**	*e*Pn		**Pn**	**04 08 07.8**	**-4.2**
	comp=Z,44nm,0.9s							
OHAK				*e*S		**Sn**	**04 10 59.2**	**-5.8**
SVW2	**Sparrevohn**	**15.97**	**43**	*e*Pn		**Pn**	**04 08 15.2**	**+0.2**
	comp=Z,38nm,1.0s							
SKR	**Severo-Kuril's**	**16.20**	**278**	*e*P		Pn	04 08 10.0	-8.1
SKR				*e*			04 11 18.0	
SKR				MLR		MLR		
	comp=Z,1μm,20.0s							
KDAK	**Kodiak Island**	**16.22**	**56**	*e*Pn		Pn	04 08 13.4	-4.8
	comp=Z,33nm,0.4s							
KDAK				*e*S		**Sn**	**04 11 17.0**	**+0.1**
KDAK	**Kodiak Island**	**16.22**	**56**	P		**Pn**	**04 08 13.8**	**-4.4**
	comp=Z,4.8nm,0.3s,baz=256,slow=5.4,SNR=16							
KDAK				S		**Sn**	**04 11 14.1**	**-2.9**
	comp=Z,0.6nm,0.3s,baz=288,slow=20,SNR=5.4							
RSO	**Redoubt South**	**16.95**	**47**	*e*Pn		**P**	**04 08 28.2**	**-0.5**
	comp=Z,130nm,0.9s							
SPU	**Mount Spurr**	**17.54**	**45**	*e*P		**P**	**04 08 35.5**	**+0.4**
PMR	**Palmer**	**19.00**	**45**	*e*P		**Pn**	**04 08 52.2**	**0.0**
PMR				pmax		pmax		
	comp=Z,12nm,0.7s							
PMR	**Palmer**	**19.00**	**45**	*e*Pn		**Pn**	**04 08 52.2**	**0.0**
	comp=Z,12nm,0.7s							
TRF	**Thorofare Moun**	**19.25**	**40**	*e*P		**P**	**04 08 52.6**	**-1.3**
	comp=Z,86nm,0.8s							
SML	**Sawmill**	**19.43**	**45**	*e*P		**Pn**	**04 08 57.6**	**+0.2**
SML				pmax		pmax		
	comp=Z,8.0nm,0.8s							
SML	**Sawmill**	**19.43**	**45**	*e*P		**Pn**	**04 08 57.6**	**+0.2**
	comp=Z,7.9nm,0.8s							
MID	**Middleton Isla**	**19.76**	**53**	*e*P		**Pn**	**04 09 01.7**	**+0.5**
MID	**Middleton Isla**	**19.76**	**53**	*e*Pn		**Pn**	**04 09 01.6**	**+0.5**
MCK	**McKinley**	**19.92**	**40**	*e*P		**P**	**04 08 59.4**	**-1.6**
MCK				pmax		pmax		
	comp=Z,32nm,0.8s							
MCK	**McKinley**	**19.92**	**40**	*e*P		**P**	**04 08 59.4**	**-1.6**
	comp=Z,32nm,0.8s							
DIV	**Divide**	**20.41**	**48**	*e*Pn		**P**	**04 09 07.0**	**+0.6**
	comp=Z,24nm,0.8s							
COLA	**College**	**20.85**	**37**	*e*P		**P**	**04 09 11.9**	**+0.9**
COLA				pmax		pmax		
	comp=Z,181nm,0.8s							
COLA	**College**	**20.85**	**37**	*e*Pn		**P**	**04 09 11.9**	**+0.9**

comp=Z,21nm,1.0s
MAJO Matsushiro 34.15 262 *eP* **P 04 11 14.8 +1.1**
comp=Z,21nm,1.0s
MAT Matsushiro 34.15 262 P **P 04 11 14.2 +0.5**
MAT S S 04 16 47.8 +12
NLWA Neilton Lookou 34.95 74 *eP* **P 04 11 22.5 +2.0**
comp=Z,19nm,1.1s
MDJ Mudanjiang 35.01 280 P **P 04 11 19.5 -1.5**
MDJ pP **pP 04 11 34.3 -1.5**
MDJ sP **sP 04 11 41.8 -1.0**
MDJ PP **PP 04 12 40.3 -0.8**
MDJ PcP **PcP 04 13 49.6 -2.2**
MDJ S **S 04 16 45.9 -2.6**
MDJ ScP **ScP 04 17 29.6 -2.4**
MDJ PcS **PcS 04 17 36.8 -1.7**
MDJ ScS **ScS 04 21 34.3 -1.4**
MDJ pmax pmax
comp=Z,18nm,1.1s
MDJ pmax pmax
comp=Z,200nm,3.9s
MDJ LR LR
comp=N,250nm,9.9s
MDJ LR LR
comp=E,500nm,15.9s
MDJ LR LR
comp=Z,680nm,20.9s
YKA Yellowknife Ar 35.10 46 P **P 04 11 19.7 -1.8**
YKA Yellowknife Ar 35.10 46 P **P 04 11 19.7 -1.8**
comp=Z,4.8nm,0.7s,baz=274,slow=9.2,SNR=9.2
YKA LR LR 04 27 37.1
comp=Z,86nm,18.2s,baz=115,slow=40
WPW White Pass 36.68 74 P **P 04 11 36.7 +1.3**
EBG Ellensburg 37.17 73 P **P 04 11 40.8 +1.3**
BROR Big Rock Looko 37.33 78 P **P 04 11 42.1 +1.3**
VFP Flag Point 37.40 76 P **P 04 11 42.7 +1.1**
MDW Midway 37.80 73 P **P 04 11 46.4 +1.6**
MDW Midway 37.80 73 P **P 04 11 46.4 +1.6**
HUMO Hull Mountain 37.89 81 *eP* **P 04 11 46.5 +1.0**
comp=Z,4.6nm,1.0s
CN2 Changchun 37.98 282 *eP* **P 04 11 45.8 -0.5**
CN2 *eS* **S 04 17 31.3 -2.7**
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,200nm,15.0s
CN2 LR LR
comp=E,300nm,15.0s
CN2 LR LR
comp=Z,300nm,16.0s
HAWA Hanford 38.04 74 *eP* **P 04 11 47.5 +0.7**
comp=Z,21nm,0.8s
OD2 Odessa Site #2 38.06 72 P **P 04 11 48.1 +1.2**
YBH Yreka Blue Hor 38.52 82 *eP* **P 04 11 51.7 +0.7**
comp=Z,8.7nm,1.0s
YBH Yreka Blue Hor 38.52 82 P **P 04 11 51.4 +0.4**
comp=Z,4.2nm,0.9s,baz=284,slow=8.3,SNR=3.2
NEW Newport 38.59 70 *eP* **P 04 11 51.4 0.0**
comp=Z,17nm,0.9s
NEW Newport 38.59 70 ⇓P **P 04 11 51.2 -0.2**
baz=38,SNR=16
A12A Yaak River Ran 39.14 68 ⇓P **P 04 11 55.5 -0.6**
baz=39
C11A Tepee Creek (N 39.30 70 ⇓P **P 04 11 57.5 +0.1**
baz=39
B12A Libby 39.39 69 ⇑P **P 04 11 58.1 0.0**
baz=39
LTIM Timbered Crate 39.59 82 P **P 04 12 01.6 +1.6**
C12B Naegeli Ranch, 39.83 70 ⇑P **P 04 12 01.5 -0.3**
baz=40,SNR=7.0
A13A Flathead Natio 39.86 67 ⇑P **P 04 12 01.8 -0.3**
baz=40
LBCM Butte Creek Ri 39.87 82 P **P 04 12 03.5 +1.2**
MOD Modoc 39.92 80 *eP* **P 04 12 03.6 +0.9**
comp=Z,9.3nm,0.8s
KSRS Korea Array 40.04 272 P **P 04 12 04.3 +0.8**
comp=Z,6.5nm,0.7s,baz=51,slow=8.1,SNR=13
KSRS LR LR 04 26 22.7
comp=Z,272nm,20.4s,baz=58,slow=33
KSAR Wonju Array Be 40.07 272 P **P 04 12 04.3 +0.5**
WALA Waterton Lakes 40.09 67 *eP* **P 04 12 03.8 -0.2**
comp=Z,0.4nm,1.0s
B13A Whitefish 40.10 68 ⇑P **P 04 12 03.9 -0.1**
baz=40
BSMT Bassoo Peak 40.16 69 *eP* **P 04 12 04.9 +0.2**
comp=Z,10nm,0.7s
BMO Blue Mountains 40.17 74 *eP* **P 04 12 05.1 +0.4**
comp=Z,3.4nm,0.6s
BLMT Blacktail Moun 40.33 69 *eP* **P 04 12 06.3 +0.2**
comp=Z,13nm,0.6s
C13A Hot Springs 40.37 69 ⇑P **P 04 12 06.1 -0.2**
baz=40,SNR=8.8
E12A Beaver Dam Sad 40.41 71 ⇑P **P 04 12 06.2 -0.6**
baz=40,SNR=17
A14A Double T Ranch 40.42 67 ⇑P **P 04 12 06.2 -0.6**
baz=40,SNR=26
JTMT Jette 40.51 69 *eP* **P 04 12 07.4 -0.1**
YBMT Yellow Bay 40.61 69 *eP* **P 04 12 08.8 +0.4**
comp=Z,3.5nm,0.6s
WVOR Wild Horse Val 40.66 78 *eP* **P 04 12 09.7 +0.9**
WVOR pmax pmax
comp=Z,14nm,0.9s
WVOR Wild Horse Val 40.66 78 *eP* **P 04 12 09.7 +0.9**
comp=Z,14nm,0.9s
D13A Huson 40.73 70 ⇑P **P 04 12 09.1 -0.2**
baz=41
SWMT Swartz Lake 40.79 69 *eP* **P 04 12 09.7 -0.1**
B14A Marquette Ranc 40.80 68 ⇓P **P 04 12 09.2 -0.7**
baz=41,SNR=15
A15A Johnson Ranch, 40.81 66 ⇓P **P 04 12 09.0 -0.9**
baz=41,SNR=8.6
C14A Swan Lake 40.81 69 ⇓P **P 04 12 09.7 -0.2**
baz=41
JNU Nakatsue 40.94 264 LR LR 04 28 05.2
comp=Z,621nm,21.9s,baz=260,slow=34
BEKR Beckworth 41.05 83 *eP* **P 04 12 12.2 +0.1**
comp=Z,7.8nm,1.4s
G12A Big Creek, Yel 41.22 73 ⇑P **P 04 12 13.3 -0.2**
baz=41
SLMT Seeley Lake 41.23 69 *eP* **P 04 12 13.4 -0.1**
comp=Z,21nm,1.1s
B15A Bradely Ranch, 41.24 67 ⇓P **P 04 12 12.7 -0.8**
baz=41,SNR=15
D14A Greenough 41.30 69 ⇓P **P 04 12 13.5 -0.5**
baz=41,SNR=11
C15A Salmond Ranch, 41.48 68 ⇑P **P 04 12 15.0 -0.5**
baz=41,SNR=23
A16A West Butte Ran 41.48 66 ⇑P **P 04 12 14.2 -1.2**
baz=41
CHMT Chamberlain Mo 41.53 69 *eP* **P 04 12 14.8 -1.3**
B16A M & M Farms, S 41.68 67 ⇑P **P 04 12 16.3 -0.8**
baz=42
PAHR Pah Rah Range 41.75 82 *eP* **P 04 12 19.8 +2.0**
comp=Z,11nm,0.9s
H12A Diamond D Ranc 41.81 73 ⇓P **P 04 12 17.4 -0.9**
baz=42,SNR=8.7
MFID Camas Ranch 41.84 75 *eP* **P 04 12 18.3 -0.2**
comp=Z,5.1nm,0.7s
MFID Camas Ranch 41.84 75 ⇑P **P 04 12 18.3 -0.2**
baz=42
D15A Lincoln 41.90 69 ⇑P **P 04 12 18.1 -0.8**
baz=42,SNR=8.8
C16A Fuhringer Ranc 41.97 68 ⇑P **P 04 12 18.6 -0.8**
baz=42,SNR=13
A17A Triple J Farms 42.00 66 ⇑P **P 04 12 18.7 -0.9**
baz=42,SNR=21
I12A Atlanta 42.05 74 ⇓P **P 04 12 19.7 -0.6**
baz=42
CMB Columbia Colle 42.12 85 *eP* P 04 12 24.2 +3.5
CMB pmax pmax
comp=Z,9.0nm,1.1s
CMB Columbia Colle 42.12 85 *eP* P 04 12 24.2 +3.5
comp=Z,9.0nm,1.1s
B17A L&G Farms, Che 42.27 66 ⇑P **P 04 12 21.1 -0.7**
baz=42,SNR=11
WAKR Walker 42.43 84 *eP* **P 04 12 25.0 +1.6**
HRY Holter Researc 42.48 69 *eP* **P 04 12 23.2 -0.3**
comp=Z,10nm,0.5s
A18A Metzger Ranch, 42.50 65 ⇓P **P 04 12 22.4 -1.3**
baz=42
LRM Limekiln Ridge 42.58 70 *eP* **P 04 12 24.6 +0.1**
HLID Hailey 42.62 74 *eP* **P 04 12 25.3 +0.4**
comp=Z,10nm,0.9s
HLID Hailey 42.62 74 ⇑P **P 04 12 24.9 +0.1**
baz=42,SNR=15
C17A Wharram Farm, 42.62 67 ⇑P **P 04 12 23.9 -0.8**
baz=42,SNR=9.3
DLMT Dillon 42.73 71 *eP* **P 04 12 26.7 +0.9**
comp=Z,5.1nm,0.8s
B18A Beardsley Farm 42.80 66 ⇓P **P 04 12 25.3 -0.8**
baz=43
MCMT McKenzie Canyo 42.87 72 P **P 04 12 26.9 -0.1**
D17A Six Diamond Ra 42.92 68 ⇑P **P 04 12 26.6 -0.6**
baz=43,SNR=7.5
I14A Mackay 43.00 73 ⇓P **P 04 12 28.1 +0.1**
baz=43,SNR=14
EGMT Eagleton 43.01 66 *eP* **P 04 12 27.1 -0.7**
comp=Z,14nm,0.8s
EGMT Eagleton 43.01 66 ⇑P **P 04 12 27.1 -0.7**
baz=43,SNR=5.5
A19A Klindworth Far 43.12 65 ⇓P **P 04 12 27.9 -0.9**
baz=43,SNR=7.5
BOZ Bozeman (W) 43.16 70 *eP* **P 04 12 29.3 +0.1**
BOZ pmax pmax
comp=Z,6.0nm,0.6s
BOZ Bozeman (W) 43.16 70 *eP* **P 04 12 29.3 +0.1**
comp=Z,6.0nm,0.6s
E17A Martinsdale 43.18 69 ⇑P **P 04 12 29.2 -0.1**
baz=43,SNR=9.0
NVAR Mina Array Bea 43.18 83 P **P 04 12 30.2 +0.7**
NVAR Mina Array Bea 43.18 83 P **P 04 12 30.2 +0.7**
comp=Z,1.8nm,0.9s,baz=292,slow=8.2,SNR=7.2
NVAR LR LR 04 27 04.7
comp=Z,208nm,21.1s,baz=256,slow=31
B19A Brinkman Farms 43.25 65 ⇑P **P 04 12 29.0 -0.7**
baz=43
NV11 Mina Array Sit 43.27 83 *eP* **P 04 12 31.2 +1.1**
D18A Linhart Farms, 43.41 67 ⇓P **P 04 12 31.0 -0.1**
baz=43,SNR=7.8
C19A Slack Wire Ran 43.56 66 ⇓P **P 04 12 32.0 -0.3**
baz=43,SNR=21
F17A Fitzpatrick Pl 43.59 69 ⇑P **P 04 12 32.7 0.0**
baz=43,SNR=6.5
A20A Cobblestone Ra 43.61 64 ⇓P **P 04 12 32.0 -0.6**
baz=43,SNR=9.5
E18A Harlowton 43.67 68 ⇓P **P 04 12 33.2 -0.1**
baz=44,SNR=14
MTUM Tungsten Hills 43.68 84 *eP* **P 04 12 32.5 -1.0**
ELK Elko 43.71 78 *eP* **P 04 12 34.4 +0.6**
comp=Z,5.8nm,0.8s
QLMT Earthquake Lak 43.72 71 *eP* **P 04 12 34.1 +0.4**
B20A Solberg Farm, 43.79 65 ⇑P **P 04 12 33.3 -0.7**
baz=44
G17A Pierce Place, 43.86 70 ⇑P **P 04 12 34.2 -0.6**
baz=44
H16A Russell Place, 43.89 71 ⇓P **P 04 12 34.9 -0.2**
baz=44,SNR=13
D19A Cripps Ranch, 43.96 67 ⇑P **P 04 12 35.2 -0.3**
baz=44,SNR=9.9
A21A Bergtoll Ranch 44.12 64 ⇑P **P 04 12 36.1 -0.6**
baz=44
F18A Big Timber 44.15 69 ⇓P **P 04 12 36.9 -0.2**
baz=44
C20A Veseth Ranch, 44.17 66 ⇑P **P 04 12 36.7 -0.5**
baz=44,SNR=10
I16A Newdale 44.21 72 ⇑P **P 04 12 38.1 +0.5**
baz=44,SNR=6.8
YFT Old Faithful 44.28 71 *eP* **P 04 12 40.5 +2.2**
comp=Z,34nm,1.3s
VES Vestal, Richgr 44.30 86 ⇑P **P 04 12 39.1 +0.9**
baz=44
B21A Ellsworth Farm 44.36 64 ⇑P **P 04 12 37.7 -1.0**
baz=44
E19A Rath Farm, Rou 44.39 68 ⇓P **P 04 12 38.6 -0.3**
baz=44,SNR=7.4
PKM Peak Mountain 44.44 88 ⇑P **P 04 12 40.2 +0.6**
baz=44
H17A Grant Village 44.47 71 ⇓P **P 04 12 40.7 +1.0**
baz=44,SNR=11
IMW Indian Meadow 44.53 72 *eP* **P 04 12 40.5 +0.2**
comp=Z,13nm,1.1s
G18A Lazy EL Ranch, 44.56 69 ⇑P **P 04 12 40.5 +0.1**
baz=44
RRI2 Red Ridge 44.61 73 P **P 04 12 42.8 +1.8**
comp=Z,25nm,1.1s
HVU Hansel Valley 44.62 75 *eP* **P 04 12 41.7 +0.8**
HVU pmax pmax
comp=Z,9.0nm,0.6s
HVU Hansel Valley 44.62 75 *eP* **P 04 12 41.7 +0.8**
comp=Z,17nm,0.6s
F19A Roth Farm, Mol 44.63 68 ⇑P **P 04 12 40.6 -0.3**
baz=44,SNR=5.6
C21A Desert Coulee 44.63 65 ⇑P **P 04 12 40.4 -0.5**
baz=44,SNR=5.8
A22A Carney Farms, 44.69 63 ⇓P **P 04 12 40.5 -0.8**
baz=44
MOOW Moose Ponds 44.73 72 *eP* **P 04 12 42.3 +0.5**
comp=Z,4.3nm,1.0s
I17A Pigrim Ck. 44.73 72 ⇑P **P 04 12 42.0 +0.1**
baz=45
E20A Meyer Farm, Mu 44.75 67 ⇓P **P 04 12 41.6 -0.2**
baz=45,SNR=6.1
TPAW Teton Pass 44.75 72 *eP* **P 04 12 42.4 +0.4**
comp=Z,26nm,1.6s
ISA Isabella 44.79 86 *eP* **P 04 12 42.3 0.0**
ISA pmax pmax
comp=Z,19nm,1.4s
ISA Isabella 44.79 86 *eP* **P 04 12 42.2 0.0**
comp=Z,19nm,1.4s
ISA Isabella 44.79 86 ⇓P **P 04 12 42.3 0.0**
baz=45
SBC Santa Barbara 44.79 88 ⇑P **P 04 12 42.3 +0.1**
baz=45
RLMT Red Lodge 44.84 70 *eP* **P 04 12 42.9 +0.2**
comp=Z,31nm,1.1s
H18A Shoshone NF, C 44.85 70 ⇓P **P 04 12 42.4 -0.4**
baz=45
LOHW Long Hollow 44.89 72 *eP* **P 04 12 44.0 +0.9**
comp=Z,3.5nm,0.8s
R11A Troy Canyon, C 44.93 81 ⇓P **P 04 12 43.4 -0.1**
baz=45
BGU Big Grassy Mou 44.97 77 *eP* **P 04 12 44.5 +0.9**
comp=Z,9.1nm,0.9s
B22A Reddig Ranch S 45.01 64 ⇑P **P 04 12 43.0 -0.8**
baz=45,SNR=8.0
D21A La Casta Ranch 45.10 66 ⇓P **P 04 12 44.2 -0.4**
baz=45
F20A Billings 45.12 68 ⇑P **P 04 12 44.6 -0.2**
baz=45
MPMC Manual Prospec 45.16 85 ⇑P **P 04 12 45.5 +0.2**
baz=45
H19A Powell 45.26 70 ⇑P **P 04 12 46.2 +0.3**
baz=45,SNR=7.3
A23A Redstone 45.29 63 ⇑P **P 04 12 45.5 -0.5**
baz=45
FURC Furnace Creek, 45.30 84 ⇓P **P 04 12 45.9 -0.2**
baz=45
I18A Diamond G Ranc 45.31 71 ⇓P **P 04 12 46.5 0.0**
baz=45
E21A Keefer Ranch, 45.34 67 ⇑P **P 04 12 46.4 -0.1**
baz=45
C22A Vida 45.37 65 ⇓P **P 04 12 45.8 -0.9**
baz=45
G20A Bridger 45.40 69 ⇑P **P 04 12 46.9 -0.2**
baz=45,SNR=14
B23A Brockton 45.49 63 ⇑P **P 04 12 46.7 -0.9**
baz=45,SNR=8.7
D22A Cohagen 45.52 65 ⇓P **P 04 12 47.9 0.0**
baz=45,SNR=16
DUG Dugway 45.53 77 *eP* **P 04 12 48.9 +0.7**
DUG pmax pmax
comp=Z,23nm,1.0s
DUG Dugway 45.53 77 *eP* **P 04 12 48.9 +0.7**
comp=Z,23nm,1.0s
DUG Dugway 45.53 77 ⇑P **P 04 12 48.6 +0.4**
baz=45,SNR=14
EDW2 Edwards Air Fo 45.60 87 ⇑P **P 04 12 48.9 +0.3**
baz=46
I19A Meeteetse 45.61 71 ⇓P **P 04 12 48.5 -0.3**
baz=45
F21A Absaloka Mine, 45.71 68 ⇑P **P 04 12 48.9 -0.5**
baz=46,SNR=5.8
C23A Lambert 45.74 64 ⇑P **P 04 12 49.0 -0.5**
baz=46,SNR=9.9
A24A Westby 45.80 62 ⇓P **P 04 12 49.2 -0.8**
baz=46
BJI Beijing 45.81 283 P **P 04 12 49.8 -0.4**
BJI pP **pP 04 13 05.3 -0.2**
BJI sP **sP 04 13 11.6 -0.7**
BJI PP **PP 04 14 36.4 -1.8**
BJI S **S 04 19 27.4 -2.1**
BJI sS sS 04 19 48.9 -6.5
BJI pmax pmax
comp=Z,8.0nm,1.4s
BJI LR LR
comp=N,370nm,17.4s
BJI LR LR
comp=E,310nm,20.0s
BJI LR LR
comp=Z,390nm,27.8s
CTU Camp Tracy 45.88 76 *eP* **P 04 12 51.4 +0.4**
comp=Z,8.9nm,0.7s
DGMT Dagmar 45.93 63 ⇓P **P 04 12 50.3 -0.8**
baz=46
H20A Greybull 45.94 70 ⇑P **P 04 12 51.0 -0.3**
baz=46
BW06 Boulder Array 46.00 72 *eP* **P 04 12 52.0 +0.1**
comp=Z,14nm,0.8s
PDAR Pinedale Array 46.00 72 P **P 04 12 51.9 -0.1**
PDAR Pinedale Array 46.00 72 P **P 04 12 51.9 -0.1**
comp=Z,13nm,0.6s,baz=302,slow=3.5,SNR=83
PDAR LR LR 04 29 36.1
comp=Z,362nm,21.2s,baz=309,slow=33
J19A Crowheart 46.01 72 ⇑P **P 04 12 52.1 +0.2**
baz=46
E22A Miles City 46.05 66 ⇑P **P 04 12 52.1 0.0**
baz=46
D23A Lindsay 46.07 65 ⇓P **P 04 12 52.0 -0.1**
baz=46
GSC Goldstone 46.07 85 *eP* **P 04 12 53.1 +0.7**
GSC pmax pmax
comp=Z,7.0nm,0.6s
GSC Goldstone 46.07 85 *eP* **P 04 12 53.1 +0.7**
comp=Z,7.5nm,0.6s
GSC Goldstone 46.07 85 ⇓P **P 04 12 52.5 +0.1**
baz=46
M17A Scullys Gap (B 46.08 75 ⇑P **P 04 12 52.1 -0.5**
baz=46
JLU Jordanelle 46.12 76 *eP* **P 04 12 53.7 +0.7**
comp=Z,85nm,2.2s
NLU North Lily Min 46.13 77 *eP* **P 04 12 53.5 +0.5**
comp=Z,10nm,1.0s
I20A Worland 46.17 70 ⇓P **P 04 12 53.0 -0.2**
baz=46
L18A Fontenelle, Gr 46.20 74 ⇓P **P 04 12 53.0 -0.5**
baz=46,SNR=7.5
BFSC Mount Baldy Ra 46.22 87 ⇓P **P 04 12 53.8 +0.2**
baz=46
F22A Rosebud 46.23 67 ⇓P **P 04 12 53.0 -0.6**
baz=46
C24A Savage 46.31 64 ⇑P **P 04 12 54.0 -0.1**
baz=46
DAU Daniels Canyon 46.35 76 *eP* **P 04 12 55.6 +0.8**
DAU pmax pmax
comp=Z,17nm,0.9s
DAU Daniels Canyon 46.35 76 *eP* **P 04 12 55.6 +0.8**
comp=Z,17nm,0.9s
MPU Maple Canyon 46.36 77 *eP* **P 04 12 55.1 +0.4**
comp=Z,9.4nm,0.8s
E23A Ismay 46.38 66 ⇓P **P 04 12 54.4 -0.2**
baz=46
K19A Absolon Red Bu 46.39 72 ⇑P **P 04 12 54.4 -0.6**
baz=46,SNR=20
H21A Big Horn, Sher 46.42 69 ⇑P **P 04 12 54.5 -0.6**
baz=46
SCI San Clemente I 46.48 89 ⇑P **P 04 12 56.1 +0.6**
baz=46
L19A Farson 46.51 73 ⇑P **P 04 12 55.8 -0.1**
baz=46,SNR=7.4
TLY Talaya 46.52 303 *eP* P 04 12 44.7 -11
TLY *eS* **S 04 19 41.2 +1.7**
TLY pmax pmax
comp=Z,6.0nm,0.6s
TLY MLR MLR
comp=Z,417nm,20.0s
G22A Birney 46.53 68 ⇓P **P 04 12 55.2 -0.7**
baz=46,SNR=5.2
TUQ Turquoise Moun 46.54 85 ⇑P **P 04 12 56.3 +0.2**
baz=46
J20A Shoshoni 46.54 71 ⇓P **P 04 12 55.7 -0.3**
baz=46
D24A Glendive 46.60 65 ⇑P **P 04 12 56.1 -0.3**
baz=46
ARUT Antelope Range 46.61 80 *eP* **P 04 12 57.5 +0.8**
ARUT pmax pmax
comp=Z,11nm,1.1s
ARUT Antelope Range 46.61 80 *eP* **P 04 12 57.5 +0.8**
comp=Z,11nm,1.1s
ULN Ulaanbaatar 46.72 297 *eP* **P 04 12 57.9 +0.5**
comp=Z,19nm,1.3s
I21A Big Trails, Te 46.74 70 ⇑P **P 04 12 56.8 -0.9**
baz=47,SNR=6.9
F23A Volborg 46.76 67 ⇑P **P 04 12 57.2 -0.5**
baz=47,SNR=11
K20A Yellowstone Ra 46.79 72 ⇑P **P 04 12 57.1 -0.9**
baz=47
CCUT Cedar City 46.80 81 *eP* **P 04 12 58.8 +0.5**
comp=Z,9.7nm,1.2s
H22A Clearmont 46.85 68 ⇑P **P 04 12 57.8 -0.6**
baz=47
E24A Baker 46.92 65 ⇑P **P 04 12 58.2 -0.7**
baz=47,SNR=5.3
MVU Marysvale 46.92 79 *eP* **P 04 13 00.1 +0.9**
comp=Z,6.6nm,0.9s
MSU Marysvale 46.94 79 *eP* **P 04 13 00.1 +0.8**
MSU Marysvale 46.94 79 *eP* **P 04 13 00.1 +0.8**
M19A Rock Springs 46.98 74 ⇑P **P 04 12 59.3 -0.3**
baz=47
TMUT Trail Mountain 47.06 77 *eP* **P 04 13 00.9 +0.6**
comp=Z,12nm,0.9s
G23A Biddle 47.06 67 ⇑P **P 04 12 59.3 -0.7**
baz=47
SONM Songino Array 47.11 297 P **P 04 13 00.5 +0.1**
SONM Songino Array 47.11 297 P **P 04 13 00.5 +0.1**
comp=Z,4.5nm,0.7s,baz=59,slow=9.5,SNR=33
SONM LR LR 04 33 41.5
comp=Z,1μm,20.0s,baz=64,slow=37
L20A Wamsutter 47.17 73 ⇓P **P 04 13 00.4 -0.7**
baz=47
I22A 9 Mile Ranch, 47.18 69 ⇑P **P 04 13 00.9 -0.1**
baz=47,SNR=8.1
F24A Ekalaka 47.24 66 ⇓P **P 04 13 01.0 -0.4**
baz=47,SNR=8.4
LDFC Landfair 47.28 84 *eP* **P 04 13 02.3 +0.4**
comp=Z,10nm,0.8s
Q16A Castle Valley 47.31 78 ⇓P **P 04 13 02.3 +0.1**
baz=47,SNR=7.3
ZAK Zakamensk 47.41 302 *eP* **P 04 13 03.0 +0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
BELC Belle Mtn. Jos 47.42 86 ⇑P **P 04 13 03.0 0.0**
baz=47
K21A Alcova 47.46 71 ⇓P **P 04 13 02.5 -0.7**
baz=47
J22A Midwest 47.46 70 ⇑P **P 04 13 02.9 -0.4**
baz=47,SNR=13
E25A Miller Ranch, 47.47 65 ⇑P **P 04 13 02.6 -0.5**
baz=47
G24A Alzada 47.56 67 ⇑P **P 04 13 03.1 -0.8**
baz=47,SNR=6.1
M20A Sweetwater, Wa 47.57 73 ⇓P **P 04 13 04.0 -0.2**
baz=47,SNR=5.9
SRU San Rafael 47.59 77 *eP* **P 04 13 04.2 -0.1**
SRU pmax pmax
comp=Z,45nm,1.5s
SRU San Rafael 47.59 77 *eP* **P 04 13 04.2 -0.1**
comp=Z,45nm,1.5s
O19A Miners Draw (B 47.72 75 ⇓P **P 04 13 05.0 -0.3**
baz=48,SNR=45
L21A Rawlins 47.78 72 ⇓P **P 04 13 05.2 -0.6**
baz=48,SNR=10
H24A Dirks Ranch, A 47.81 67 ⇑P **P 04 13 05.1 -0.8**
baz=48
IRM Iron Mountain 47.85 85 ⇓P **P 04 13 06.2 0.0**
baz=48
K22A Casper 47.88 71 ⇓P **P 04 13 06.3 -0.2**
baz=48
N20A Spence Gulch, 47.92 74 ⇑P **P 04 13 06.7 -0.2**
baz=48,SNR=11
M21A Separation Pea 48.00 72 ⇓P **P 04 13 07.0 -0.5**
baz=48,SNR=11
J23A Dilts Ranch, B 48.01 69 ⇓P **P 04 13 06.9 -0.6**
baz=48
E26A Carlson Angus 48.02 64 ⇑P **P 04 13 06.7 -0.7**
baz=48,SNR=8.2
W13A Hualapai Mount 48.03 84 ⇓P **P 04 13 07.7 -0.2**
baz=48
RWWY Rawlins 48.04 72 *eP* **P 04 13 07.3 -0.5**
comp=Z,16nm,1.0s
HHC Hu-ho-hao-te 48.14 286 *eP* **P 04 13 09.1 +0.7**
HHC pP **pP 04 13 24.1 +0.2**
HHC PP **PP 04 15 01.3 +0.5**

HHC S **S** 04 20 00.9 -2.0
HHC ScS **ScS** 04 22 53.1 -2.7
HHC SS **SS** 04 23 25.8 -6.3
HHC pmax pmax
comp=Z,86nm,1.1s
HHC pmax pmax
comp=Z,230nm,6.2s
HHC LR LR
comp=N,980nm,19.0s
HHC LR LR
comp=E,1µm,17.8s
HHC LR LR
comp=Z,2µm,20.2s
U15A North Rim 48.17 81 ⇓P **P** 04 13 09.3 +0.3
baz=48,SNR=10
P19A Cripple Cowboy 48.22 75 ⇓P **P** 04 13 09.1 -0.1
baz=48,SNR=20
L22A Ellis Ranch, M 48.30 71 ⇑P **P** 04 13 09.4 -0.4
baz=48
K23A Bowen Ranch, D 48.35 70 ⇓P **P** 04 13 09.9 -0.2
baz=48
O20A White River Ci 48.36 74 ⇑P **P** 04 13 10.1 -0.1
baz=48,SNR=18
N21A Black Mountain 48.41 73 ⇓P **P** 04 13 09.4 -1.3
baz=48
RSSD Black Hills 48.48 68 *e*P **P** 04 13 10.6 -0.5
RSSD pmax pmax
comp=Z,7.0nm,1.0s
RSSD Black Hills 48.48 68 *e*P **P** 04 13 10.6 -0.5
comp=Z,7.1nm,1.0s
J24A Dixon Ranch, L 48.58 69 ⇑P **P** 04 13 11.1 -0.7
baz=48
P20A De Beque 48.66 75 ⇓P **P** 04 13 12.0 -0.6
baz=48,SNR=13
L23A Garrett 48.69 71 ⇑P **P** 04 13 12.4 -0.4
baz=48,SNR=15
I25A Rochford 48.71 68 ⇑P **P** 04 13 12.0 -1.0
baz=48
O21A Pagoda 48.78 74 ⇑P **P** 04 13 13.0 -0.6
baz=49,SNR=7.0
K24A Anderson Ranch 48.85 70 ⇑P **P** 04 13 13.1 -0.9
baz=49
H26A Fairpoint 48.92 66 ⇑P **P** 04 13 13.5 -0.9
baz=49
G27A Dupree 48.95 65 ⇑P **P** 04 13 13.8 -0.8
baz=49
PV04 Paradox Valley 49.03 77 *e*P **P** 04 13 15.4 0.0
N22A Wattenberg Ran 49.03 73 ⇓P **P** 04 13 15.2 -0.3
baz=49,SNR=6.5
J25A Sunshine Ranch 49.05 68 ⇓P **P** 04 13 14.4 -1.0
baz=49
Q20A Ridgley Place, 49.05 76 ⇓P **P** 04 13 15.2 -0.4
baz=49,SNR=10.0
M23A Laramie 49.06 72 ⇓P **P** 04 13 15.3 -0.4
baz=49
L24A Wheatland 49.19 70 ⇑P **P** 04 13 16.1 -0.5
baz=49
BTO Baotou 49.22 287 *e*P **P** 04 13 16.6 -0.1
I26A New Underwood 49.22 67 ⇑P **P** 04 13 15.6 -1.0
baz=49
NJ2 Nanjing 49.22 272 *e*P **P** 04 13 15.3 -1.4
NJ2 S **S** 04 20 16.0 -2.0
NJ2 pmax pmax
comp=Z,30nm,1.0s
NJ2 LR LR
comp=N,470nm,22.0s
NJ2 LR LR
comp=E,1µm,23.8s
NJ2 LR LR
comp=Z,1µm,26.3s
N23A Red Feather La 49.28 72 ⇑P **P** 04 13 17.0 -0.4
baz=49
H27A Howes 49.31 66 ⇑P **P** 04 13 16.7 -0.6
baz=49
WUAZ Wupatki 49.33 81 *e*P **P** 04 13 17.6 -0.1
comp=Z,17nm,1.1s
WUAZ Wupatki 49.33 81 ⇓P **P** 04 13 18.4 +0.7
baz=49
Y14A Wickenburg 49.34 84 ⇓P **P** 04 13 17.6 -0.1
baz=49
O22A Kremmling 49.37 73 ⇑P **P** 04 13 17.5 -0.7
baz=49
PV01 Paradox Valley 49.40 77 *e*P **P** 04 13 18.2 -0.1
comp=Z,2µm,1.0s
K25A Mack Ranch, Ha 49.47 69 ⇓P **P** 04 13 18.6 -0.1
baz=49
Q21A Lamborn Mesa, 49.57 75 ⇑P **P** 04 13 19.2 -0.3
baz=49
P22A Eagle 49.59 74 ⇓P **P** 04 13 19.1 -0.7
baz=49
M24A Cheyenne 49.60 71 ⇑P **P** 04 13 19.6 -0.1
baz=49
I27A Quinn 49.66 67 ⇓P **P** 04 13 19.4 -0.6
baz=50
L25A Engebretsen Ra 49.69 70 ⇓P **P** 04 13 20.3 -0.1
baz=50
G28A Parade 49.71 65 ⇑P **P** 04 13 19.9 -0.5
baz=50
O23A Lake Granby, G 49.72 73 ⇓P **P** 04 13 20.5 -0.3
baz=50,SNR=16
S20A Disappointment 49.72 77 ⇓P **P** 04 13 20.3 -0.5
baz=50,SNR=18
SMCO Snowmass 49.72 75 *e*P **P** 04 13 19.7 -1.2
comp=Z,4.6nm,0.6s
K26A Motz Farm, Whi 49.83 69 ⇑P **P** 04 13 20.7 -0.6
baz=50
R21A Cimarron 49.87 76 ⇓P **P** 04 13 21.9 0.0
baz=50,SNR=8.6
H28A Mission Ridge 49.89 65 ⇓P **P** 04 13 21.3 -0.4
baz=50
Q22A Crested Butte, 49.95 75 ⇑P **P** 04 13 22.6 0.0
baz=50,SNR=12
X16A Lo Mia Camp, P 50.00 82 ⇓P **P** 04 13 22.7 -0.2
baz=50
MVCO Mesa Verde 50.02 78 *e*P **P** 04 13 22.9 -0.2
comp=Z,11nm,1.0s
MVCO Mesa Verde 50.02 78 ⇓P **P** 04 13 22.6 -0.4
baz=50
ISCO Idaho Springs 50.16 73 *e*P **P** 04 13 24.4 +0.3
ISCO pmax pmax
comp=Z,16nm,1.3s
ISCO Idaho Springs 50.16 73 *e*P **P** 04 13 24.4 +0.3
comp=Z,16nm,1.3s
ISCO Idaho Springs 50.16 73 ⇑P **P** 04 13 24.0 -0.1
baz=50
S21A Coal Bank Pass 50.17 77 ⇑P **P** 04 13 24.2 -0.1
baz=50,SNR=12
I28A Midland 50.21 66 ⇓P **P** 04 13 23.4 -0.7
baz=50
O24A Longmont 50.28 73 ⇓P **P** 04 13 25.1 +0.2
baz=50
P23A Jefferson 50.28 74 ⇓P **P** 04 13 24.3 -0.8
baz=50
L26A Underwood Farm 50.29 69 ⇑P **P** 04 13 24.3 -0.6
baz=50
R22A Saguache, Gunn 50.45 75 ⇑P **P** 04 13 26.5 +0.1
baz=50,SNR=9.3
J28A Allard Ranch, 50.52 67 ⇓P **P** 04 13 26.2 -0.4
baz=50,SNR=6.5
M26A McRoberts Ranc 50.60 70 ⇓P **P** 04 13 27.3 0.0
baz=50
W18A Petrified Fore 50.61 81 ⇓P **P** 04 13 27.4 0.0
baz=50
AGMN Agassiz Nation 50.62 59 *e*P **P** 04 13 25.5 -1.6
comp=Z,14nm,1.1s
S22A 4UR Ranch, Cre 50.71 76 ⇑P **P** 04 13 28.7 +0.4
baz=51,SNR=13
T21A Navajo Lake 50.76 77 ⇓P **P** 04 13 28.3 -0.3
baz=51
214A Organ Pipe Nat 50.77 86 ⇑P **P** 04 13 28.3 -0.2
baz=51
X18A Snowflake 50.86 81 ⇑P **P** 04 13 29.7 +0.4
baz=51
K28A Ten Mile Ranch 50.88 68 ⇑P **P** 04 13 28.6 -0.6
baz=51
N26A Koester Ranch, 50.95 71 ⇓P **P** 04 13 29.7 -0.2
baz=51
V20A Brimhall 50.95 79 ⇓P **P** 04 13 29.7 -0.3
baz=51
R23A Moffat 51.04 75 ⇑P **P** 04 13 30.2 -0.6
baz=51
U21A Nageezi 51.04 78 ⇓P **P** 04 13 31.0 +0.2
baz=51,SNR=12
T22A Edith 51.13 77 ⇓P **P** 04 13 32.1 +0.6
baz=51,SNR=9.4
P25A Willow Gulch B 51.20 73 ⇑P **P** 04 13 32.2 +0.3
baz=51,SNR=11
BRSD Miller 51.21 65 ⇓P **P** 04 13 31.1 -0.5
baz=51
O26A Horse Wrangler 51.26 71 ⇑P **P** 04 13 32.2 -0.1
baz=51
N27A Anderson Farm, 51.37 70 ⇓P **P** 04 13 32.9 -0.1
baz=51
R24A Sanders Place, 51.45 74 ⇓P **P** 04 13 33.5 -0.3
baz=51
K29A Lazy Trails An 51.46 67 ⇑P **P** 04 13 33.1 -0.5
baz=51
V21A Milan 51.46 78 ⇓P **P** 04 13 33.9 0.0
baz=51
SDCO Great Sand Dun 51.52 75 *e*P **P** 04 13 34.6 +0.2
comp=Z,16nm,1.3s
Q25A Bedland, Calha 51.53 73 ⇓P **P** 04 13 34.3 -0.1
baz=51
U22A Llaves 51.57 77 ⇓P **P** 04 13 34.8 +0.1
baz=51,SNR=8.1
OGNE Ogallala 51.58 70 ⇓P **P** 04 13 34.2 -0.3
baz=51
T23A Casias Ranch, 51.65 76 ⇑P **P** 04 13 35.5 +0.2
baz=52
P26A Davis Ranch, A 51.67 72 ⇓P **P** 04 13 35.5 +0.2
baz=52,SNR=10.0
M28A Bar X Bar Ranc 51.69 69 ⇓P **P** 04 13 35.1 -0.2
baz=52
X20A Quemado 51.75 80 ⇓P **P** 04 13 35.9 -0.2
baz=52
S24A Houchin Ranch, 51.76 75 ⇑P **P** 04 13 36.5 +0.3
baz=52,SNR=6.9
O27A Beecher Island 51.79 71 ⇓P **P** 04 13 35.8 -0.3
baz=52
TUC Tucson 51.81 84 *e*P **P** 04 13 37.3 +1.0
TUC pmax pmax
comp=Z,121nm,1.8s
TUC Tucson 51.81 84 *e*P **P** 04 13 37.3 +1.0
comp=Z,121nm,1.8s
V22A San Miguel Ran 51.84 78 ⇓P **P** 04 13 36.2 -0.5
baz=52
W21A San Fidel 51.90 79 ⇓P **P** 04 13 36.7 -0.5
baz=52
HVS Khovu-Aksy 51.97 307 *e*P **P** 04 13 36.9 -0.4
HVS pmax pmax
comp=Z,32nm,1.0s
U23A El Rito 52.01 77 ⇑P **P** 04 13 38.5 +0.5
baz=52,SNR=18
N28A Pribbeno Ranch 52.03 70 ⇑P **P** 04 13 37.4 -0.5
baz=52
M29A Burnside Ranch 52.06 69 ⇑P **P** 04 13 38.0 -0.1
baz=52
P27A Ficken Ranch, 52.13 72 ⇓P **P** 04 13 38.7 0.0
baz=52
S25A Robets Cordova 52.22 75 ⇑P **P** 04 13 39.6 +0.1
baz=52
Y20A Horse Springs, 52.24 81 ⇓P **P** 04 13 39.6 -0.2
baz=52
X21A Alamocita Cree 52.26 80 ⇑P **P** 04 13 40.6 +0.8
baz=52,SNR=8.5
V23A Ortiz Mt. (NFS 52.39 78 ⇓P **P** 04 13 41.4 +0.6
baz=52,SNR=8.8
R26A Arlington 52.41 73 ⇑P **P** 04 13 40.7 -0.1
baz=52
KSCO Kaye Shedlock' 52.45 72 ⇑P **P** 04 13 41.0 0.0
baz=52
U24A Moreno Valley 52.52 76 ⇓P **P** 04 13 42.4 +0.6
baz=52
T25A Trinidad 52.57 75 ⇑P **P** 04 13 41.9 -0.3
baz=52,SNR=10
P28A Saint Francis 52.61 71 ⇑P **P** 04 13 42.4 +0.2
baz=52
Y21A Point of Rocks 52.62 80 ⇓P **P** 04 13 43.0 +0.5
baz=52
Z20A Nine Sixteen R 52.64 82 ⇑P **P** 04 13 42.9 +0.3
baz=52
LAZ Ladron 52.69 79 *e*P **P** 04 13 43.9 +0.9
comp=Z,1.9nm,0.8s
ANMO Albuquerque 52.75 78 *e*P **P** 04 13 43.0 -0.4
comp=Z,5.0nm,1.1s
W23A Werner Place, 52.80 78 ⇓P **P** 04 13 43.8 0.0
baz=53
R27A Eads 52.81 73 ⇓P **P** 04 13 43.5 -0.2
baz=53,SNR=5.6
O29A 4D Ranch, Culb 52.83 70 ⇓P **P** 04 13 43.9 +0.1
baz=53
S26A Kim 52.83 74 ⇑P **P** 04 13 43.5 -0.4
baz=53,SNR=6.6
V24A Rampart Ranch, 52.97 77 ⇓P **P** 04 13 45.0 -0.1
baz=53,SNR=12
ECSD EROS Data Cent 52.98 64 *e*P **P** 04 13 43.0 -1.7
comp=Z,7.4nm,1.0s
120A U Bar Ranch, L 52.99 82 ⇑P **P** 04 13 45.6 +0.4
baz=53
T26A Comanche Natio 53.05 74 ⇑P **P** 04 13 44.8 -0.7
baz=53
U25A Circle Dot Ran 53.05 76 ⇑P **P** 04 13 45.3 -0.3
baz=53,SNR=11
LPM Los Pinos Moun 53.06 79 *e*P **P** 04 13 45.9 +0.2
WHN Wuhan 53.07 274 ⇑P **P** 04 13 45.3 -0.3
WHN S **S** 04 21 14.9 +3.7
WHN LR LR
comp=N,510nm,27.3s
WHN LR LR
comp=E,800nm,23.9s
WHN LR LR
comp=Z,850nm,18.8s
Z21A St. Cloud Mine 53.08 81 ⇓P **P** 04 13 45.6 -0.3
baz=53
Y22A Socorro 53.10 80 ⇑P **P** 04 13 46.2 +0.2
baz=53,SNR=8.0
X23A Hourglass Bar 53.16 79 ⇑P **P** 04 13 46.2 -0.2
baz=53
BNM Barrn Site 53.17 79 *e*P **P** 04 13 47.0 +0.5
comp=Z,11nm,1.4s
W24A Lazy 6 Ranch, 53.22 78 ⇓P **P** 04 13 47.0 +0.1
baz=53,SNR=7.8
O30A MW Ranch, Wils 53.23 69 ⇑P **P** 04 13 46.2 -0.5
baz=53
V25A Rancho No Teng 53.29 76 ⇑P **P** 04 13 47.5 +0.1
baz=53,SNR=8.9
R28A Tribune 53.37 72 ⇓P **P** 04 13 47.8 0.0
baz=53
319A Douglas 53.38 84 ⇓P **P** 04 13 48.0 0.0
baz=53
SUMG Summit 53.42 14 *e*P **P** 04 13 48.4 +0.3
SUMG Summit 53.42 14 *i* P **P** 04 13 48.4 +0.3
U26A Atchley Ranch, 53.46 75 ⇑P **P** 04 13 48.4 -0.2
baz=53,SNR=12
220A Playas Peak, P 53.49 83 ⇑P **P** 04 13 48.9 0.0
baz=53
Q29A Oakley 53.51 71 ⇑P **P** 04 13 49.1 +0.3
baz=53
P30A Selden 53.52 70 ⇓P **P** 04 13 49.1 +0.3
baz=53
121A Cookes Peak, D 53.53 82 ⇓P **P** 04 13 49.6 +0.4
baz=53
Z22A Elephant Butte 53.56 80 ⇓P **P** 04 13 49.9 +0.5
baz=54
BGNE Belgrade 53.56 67 ⇑P **P** 04 13 48.8 -0.3
baz=53
T27A Campo 53.65 74 ⇓P **P** 04 13 50.0 +0.1
baz=54
Y23A Lovelace Mesa, 53.67 79 ⇓P **P** 04 13 50.5 +0.3
baz=54,SNR=8.1
SSLB Suanglung 53.68 263 *e*P **P** 04 13 49.7 -0.5
comp=Z,35nm,1.4s
R29A Marienthal 53.72 72 ⇑P **P** 04 13 50.9 +0.5
baz=54
W25A X Bar L Ranch, 53.80 77 ⇑P **P** 04 13 51.1 0.0
baz=54,SNR=9.1
S28A Manter 53.80 73 ⇓P **P** 04 13 50.8 -0.2
baz=54,SNR=14
V26A Tequesquite Ra 53.83 76 ⇑P **P** 04 13 51.1 -0.1
baz=54,SNR=10
Q30A Quinter 53.91 71 ⇓P **P** 04 13 51.4 -0.2
baz=54,SNR=5.5
T28A Walsh 53.98 74 ⇑P **P** 04 13 51.7 -0.5
baz=54
U27A Thompson Grove 54.00 75 ⇑P **P** 04 13 52.2 -0.3
baz=54,SNR=8.8
P31A Stockton 54.05 70 ⇓P **P** 04 13 52.6 -0.1
baz=54
Y24A Capitan 54.06 79 ⇑P **P** 04 13 52.9 -0.1
baz=54,SNR=23
XAN Xi'an 54.10 281 P **P** 04 13 52.6 -0.5
XAN pP **pP** 04 14 05.5 -3.3
XAN S S 04 21 14.3 -11
XAN ScS **ScS** 04 23 31.1 -5.8
XAN pmax pmax
comp=Z,3.0nm,1.0s
XAN pmax pmax
comp=Z,51nm,7.4s
XAN LR LR
comp=N,200nm,24.5s
XAN LR LR
comp=E,110nm,27.6s
XAN LR LR
comp=Z,94nm,27.6s
W26A Owens Ranch, T 54.31 77 ⇓P **P** 04 13 54.4 -0.3
baz=54
R30A Dighton 54.32 71 ⇓P **P** 04 13 54.4 -0.3
baz=54,SNR=6.1
Q31A Ellis 54.38 70 ⇓P **P** 04 13 54.7 -0.4
baz=54
U28A Mallet 54.40 74 ⇑P **P** 04 13 55.1 -0.3
baz=54
V27A Dan Oppiter Fa 54.44 75 ⇑P **P** 04 13 55.3 -0.4
baz=54
T29A Hugoton 54.45 73 ⇑P **P** 04 13 55.5 -0.2
baz=54
ZALV Zalesovo Beam 54.48 314 P **P** 04 13 55.1 -0.4
ZALV 04 14 59.0
ZALV Zalesovo Beam 54.48 314 P **P** 04 13 55.1 -0.4
ZALV PcP **PcP** 04 14 59.0 +0.7
ZALV Zalesovo Beam 54.48 314 P **P** 04 13 55.1 -0.4
comp=Z,0.9nm,0.4s,baz=52,slow=9.7,SNR=3.6
ZALV PcP **PcP** 04 14 59.0 +0.7
comp=Z,10nm,0.8s,baz=34,slow=3.8,SNR=22
ZALV LR LR 04 38 04.0
comp=Z,416nm,20.0s,baz=70,slow=37
Z24A Sheppen Canyo 54.50 79 ⇓P **P** 04 13 56.3 +0.1
baz=54
Y25A Mesa, Roswell 54.52 78 ⇓P **P** 04 13 56.5 +0.2
baz=54
NVS Novosibirsk 54.61 315 *e*P **P** 04 13 55.8 -0.7
S30A Montezuma 54.63 72 ⇓P **P** 04 13 56.8 -0.2
baz=54
X26A CR and CF Fran 54.64 77 ⇑P **P** 04 13 56.4 -0.8
baz=54
R31A Burdett 54.77 71 ⇓P **P** 04 13 57.3 -0.6
baz=55
V28A Channing 54.81 75 ⇓P **P** 04 13 57.9 -0.5
baz=55
124A Stringfield Ra 54.87 80 ⇑P **P** 04 13 58.3 -0.7
baz=55
U29A Oasis Ranch, S 54.93 74 ⇑P **P** 04 13 59.0 -0.1
baz=55
Z25A Roswell 54.93 79 ⇓P **P** 04 13 59.1 -0.2
baz=55
Y26A Elida 55.05 78 ⇑P **P** 04 13 59.7 -0.4
baz=55,SNR=7.1
S31A Mullinville 55.23 71 ⇑P **P** 04 14 01.1 -0.2
baz=55
U30A WK&E Inc. Balk 55.25 73 ⇑P **P** 04 14 01.2 -0.3
baz=55
224A Cornudas Mount 55.25 80 ⇑P **P** 04 14 01.2 -0.4
baz=55
125A Gardner Draw, 55.39 79 ⇑P **P** 04 14 02.5 -0.1
baz=55,SNR=7.4
Z26A Caprock 55.39 78 ⇑P **P** 04 14 02.2 -0.4
baz=55,SNR=8.8
T31A Randall Ranch, 55.46 72 ⇓P **P** 04 14 02.1 -0.8
baz=55
Y27A Causey 55.48 77 ⇓P **P** 04 14 03.0 -0.3
baz=55,SNR=12
MNTX Cornudas Mount 55.59 81 *e*P **P** 04 14 04.3 +0.4
comp=Z,4.3nm,0.8s
X28A Dimmitt 55.65 76 ⇑P **P** 04 14 03.8 -0.6
baz=56
225A Deer Hill, Car 55.66 80 ⇓P **P** 04 14 04.6 0.0
baz=56
MSTX Muleshoe 55.67 77 ⇑P **P** 04 14 04.4 -0.2
baz=56
324A Moseley Ranch, 55.70 81 ⇑P **P** 04 14 04.7 -0.2
baz=56
AMTX Amarillo 55.72 75 *e*P **P** 04 14 05.1 +0.2
comp=Z,9.7nm,1.0s
LZH Lanzhou 55.83 287 ⇑P **P** 04 14 06.4 +0.6
LZH pP **pP** 04 14 22.5 +1.0
LZH sP **sP** 04 14 29.3 +1.1
LZH PP **PP** 04 16 12.6 +2.1
LZH S **S** 04 21 45.0 -3.6
LZH sS **sS** 04 22 12.3 -2.8
LZH SS **SS** 04 25 30.3 -4.1
LZH pmax pmax
comp=Z,35nm,1.1s
LZH pmax pmax
comp=Z,320nm,7.6s
LZH LR LR
comp=N,1µm,18.0s
LZH LR LR
comp=E,940nm,17.6s
LZH LR LR
comp=Z,1µm,19.7s
KSU1 Kansas State U 55.95 68 *e*P **P** 04 14 05.5 -0.9
comp=Z,26nm,1.1s
GTA Gaotai 56.02 292 ⇑P **P** 04 14 07.5 +0.5
GTA pP **pP** 04 14 22.5 -0.3
GTA sP **sP** 04 14 30.3 +0.8
GTA S **S** 04 21 51.4 +0.4
GTA pmax pmax
comp=Z,30nm,0.9s
GTA pmax pmax
comp=Z,220nm,4.3s
GTA LR LR
comp=N,560nm,17.6s
GTA LR LR
comp=E,510nm,17.6s
GTA LR LR
comp=Z,810nm,19.5s
Y28A McKinney Farm, 56.03 77 ⇓P **P** 04 14 06.6 -0.5
baz=56
325A Bean Ranch, Si 56.07 81 ⇓P **P** 04 14 07.1 -0.5
baz=56
226B Tecolote Peak, 56.09 80 ⇑P **P** 04 14 07.2 -0.4
baz=56,SNR=8.3
V31A Spring Creek L 56.24 73 ⇑P **P** 04 14 08.3 -0.2
baz=56
ENH Enshi 56.30 278 *e*P **P** 04 14 07.6 -1.4
comp=Z,8.3nm,0.7s
Z28A Tucker Farm, M 56.36 77 ⇓P **P** 04 14 08.9 -0.6
baz=56
Y29A Porterfield Fa 56.41 76 ⇓P **P** 04 14 09.4 -0.4
baz=56
425A Indio Mountain 56.47 81 ⇓P **P** 04 14 09.9 -0.4
baz=56
X30A Coker Ranch, T 56.51 75 ⇑P **P** 04 14 10.2 -0.3
baz=56
W31A Holland Ranch, 56.57 74 ⇓P **P** 04 14 10.8 -0.1
baz=56
227A Bennet, Jal 56.67 79 ⇑P **P** 04 14 11.7 0.0
baz=57
326A Caldwell Ranch 56.73 80 ⇑P **P** 04 14 12.3 +0.2
baz=57
128A Castleberry Fa 56.76 78 ⇑P **P** 04 14 12.2 -0.1
baz=57
Z29A Hungry Hill Ra 56.80 77 ⇓P **P** 04 14 12.6 0.0
baz=57
Y30A Stafford Cattl 56.88 76 ⇑P **P** 04 14 13.1 0.0
baz=57
JFWS Jewell Farm 57.06 61 *e*P **P** 04 14 13.4 -0.8
JFWS pmax pmax
comp=Z,12nm,0.9s
JFWS Jewell Farm 57.06 61 *e*P **P** 04 14 13.4 -0.8
comp=Z,12nm,0.9s
129A Stewart Farms, 57.13 77 ⇓P **P** 04 14 14.3 -0.6
baz=57
Z30A Sanderson Ranc 57.14 76 ⇑P **P** 04 14 15.0 0.0
baz=57
426A McDonald Obser 57.14 81 ⇑P **P** 04 14 14.8 -0.4
baz=57
328A Wristen Ranch, 57.41 79 ⇓P **P** 04 14 16.7 -0.1
baz=57
526A Mary Lane Ranc 57.52 81 ⇓P **P** 04 14 18.0 +0.2
baz=57
WMOK Wichita Mounta 57.58 74 *e*P **P** 04 14 17.7 -0.3
WMOK pmax pmax
comp=Z,6.0nm,0.8s
WMOK Wichita Mounta 57.58 74 *e*P **P** 04 14 17.7 -0.3
comp=Z,6.1nm,0.8s
Y32A R-V Farms, Ver 57.68 75 ⇓P **P** 04 14 18.2 -0.5
baz=58,SNR=7.0
130A Snyder 57.71 77 ⇑P **P** 04 14 18.3 -0.7
baz=58
Z31A Sharp Cattle R 57.72 76 ⇓P **P** 04 14 18.6 -0.3
baz=58
527A Woodward Ranch 57.76 81 ⇓P **P** 04 14 19.3 -0.2

baz=58
329A Wagon Wheel Ra 57.84 78 ⇑P P 04 14 19.9 0.0
baz=58
626A Big Bend Ranch 57.85 82 ⇓P P 04 14 20.1 +0.1
baz=58
428A Kincaid Ranch, 57.94 80 ⇑P P 04 14 20.6 0.0
baz=58
131A Roby 58.01 76 ⇑P P 04 14 21.0 -0.1
baz=58
KEV Kevo 58.01 350 *eP* P 04 14 18.8 -1.6
KEV Kevo 58.01 350 *eP* P 04 14 18.8 -1.6
230A Sterling City 58.10 78 ⇓P P 04 14 21.2 -0.5
baz=58,SNR=6.0
Z32A Haskell 58.13 75 ⇑P P 04 14 21.4 -0.5
baz=58,SNR=10.0
528A Cox Ranch, San 58.26 80 ⇑P P 04 14 22.6 -0.4
baz=58
TXAR Lajitas Array 58.29 82 P P 04 14 23.2 +0.1
TXAR Lajitas Array 58.29 82 P P 04 14 23.2 +0.1
comp=Z,1.0nm,0.7s,baz=303,slow=5.5,SNR=14
TXAR LR LR 04 38 47.9
comp=Z,136nm,18.1s,baz=0.0,slow=35
627A Terlingua Ranc 58.38 81 ⇓P P 04 14 23.2 -0.6
baz=58
ARCES ARCESS Array B 58.38 350 P P 04 14 21.4 -1.6
ARCES PcP **PcP** 04 15 13.1 -0.2
ARCES ARCESS Array B 58.38 350 P P 04 14 21.4 -1.6
comp=Z,2.1nm,0.5s,baz=26,slow=7.9,SNR=20
ARCES PcP **PcP** 04 15 13.1 -0.2
comp=Z,4.5nm,0.8s,baz=20,slow=3.9,SNR=6.0
ARCES LR LR 04 42 09.3
comp=Z,195nm,19.6s,baz=172,slow=39
330A Mertzon 58.40 78 ⇑P P 04 14 23.3 -0.5
baz=58
429A Davenport Ranc 58.49 79 ⇓P P 04 14 23.9 -0.6
baz=58
TUL1 Tulsa 58.57 71 ⇓P P 04 14 24.1 -0.7
baz=58,SNR=6.7
529A Stev Forest Ra 58.64 80 ⇑P P 04 14 25.2 -0.3
baz=58
628A Black Gap, Mar 58.67 81 ⇓P P 04 14 25.4 -0.3
baz=59
430A Baggett Ranch, 58.79 79 ⇓P P 04 14 26.0 -0.5
baz=59
331A San Angelo 58.93 78 ⇑P P 04 14 26.8 -0.6
baz=59
232A Coleman 59.00 77 ⇑P P 04 14 26.9 -1.1
baz=59
HDIL Hopedale 59.17 63 *eP* P 04 14 28.1 -0.9
comp=Z,53nm,1.3s
530A J-C Ranch, Com 59.17 79 ⇑P P 04 14 28.5 -0.7
baz=59,SNR=8.5
431A Sonora 59.25 78 ⇑P P 04 14 29.0 -0.8
baz=59,SNR=5.8
332A Millersview 59.30 77 ⇓P P 04 14 29.1 -0.9
baz=59,SNR=7.5
CD2 Chengdu 59.41 282 P P 04 14 31.6 +0.8
CD2 pP **pP** 04 14 48.1 +1.4
CD2 PcP **PcP** 04 15 19.3 +1.2
CD2 PP **PP** 04 16 44.6 +2.3
CD2 ScP **ScP** 04 19 13.0 -0.4
CD2 S **S** 04 22 32.5 -2.8
CD2 sS **sS** 04 23 00.8 -1.3
CD2 SS **SS** 04 26 29.3 -1.3
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.2s
CD2 LR LR
comp=E,660nm,20.1s
CD2 LR LR
comp=Z,490nm,19.1s
432A Menard 59.62 77 ⇑P P 04 14 31.7 -0.5
baz=60
531A Rocksprings 59.65 79 ⇑P P 04 14 32.0 -0.5
baz=60
WMQ Urumqi 59.80 303 P P 04 14 34.8 +1.4
WMQ pP **pP** 04 14 50.8 +1.6
WMQ sP **sP** 04 14 57.6 +1.6
WMQ PcP **PcP** 04 15 20.9 +1.4
WMQ PP **PP** 04 16 48.9 +3.5
WMQ ScP **ScP** 04 19 15.0 0.0
WMQ S **S** 04 22 39.3 -0.8
WMQ pmax pmax
comp=Z,11nm,0.6s
WMQ pmax pmax
comp=Z,200nm,7.0s
WMQ LR LR
comp=N,500nm,11.4s
WMQ LR LR
comp=E,460nm,17.6s
WMQ LR LR
comp=Z,670nm,23.0s
JCT Junction City 59.89 78 *eP* P 04 14 34.1 0.0
JCT Junction City 59.89 78 *eP* P 04 14 34.0 0.0
532A Rocksprings 60.07 78 ⇑P P 04 14 35.2 -0.1
baz=60
631A Perdido Creek 60.16 79 ⇓P P 04 14 35.8 -0.1
baz=60
WHTX Lake Whitney 60.27 75 ⇓P P 04 14 36.5 -0.2
baz=60
MK31 Makanchi Array 60.49 309 *eP* P 04 14 37.2 -0.8
MK31 Makanchi Array 60.49 309 *eP* P 04 14 37.2 -0.8
MKAR Makanchi Array 60.49 309 *eP* P 04 14 36.8 -1.2
MKAR Makanchi Array 60.49 309 *eP* P 04 14 36.8 -1.2
MKAR Makanchi Array 60.49 309 P P 04 14 36.6 -1.3
comp=Z,4.2nm,0.8s,baz=51,slow=6.1,SNR=30
MKAR LR LR 04 42 57.3
comp=Z,205nm,20.1s,baz=37,slow=38
SFIN Scholer Farm 60.51 61 ⇓P P 04 14 37.6 -0.5
baz=60,SNR=12
632A Uvalde 60.58 79 ⇓P P 04 14 38.7 -0.1
baz=60
GYA Guiyang 60.74 277 *eP* P 04 14 40.5 +0.4
GYA pP **pP** 04 14 57.6 +1.6
GYA PP **PP** 04 16 57.0 +2.8
GYA ScP **ScP** 04 19 18.3 -1.2
GYA S **S** 04 22 49.5 -3.2
GYA sS sS 04 23 12.3 -7.2
GYA SS **SS** 04 26 49.8 -2.0
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.2s
GYA LR LR
comp=N,470nm,20.8s
GYA LR LR
comp=E,360nm,21.0s
GYA LR LR
comp=Z,490nm,20.5s
MIAR Mount Ida 60.83 70 *eP* P 04 14 40.0 -0.4
MIAR pmax pmax
comp=Z,12nm,0.8s
MIAR Mount Ida 60.83 70 *eP* P 04 14 40.0 -0.4
comp=Z,12nm,0.8s
732A Laxson Ranch, 61.01 79 ⇓P P 04 14 41.7 0.0
baz=61
OLIL Olney 61.09 63 *eP* P 04 14 41.4 -0.7
comp=Z,18nm,0.8s
PARMO Parma 61.59 66 *eP* P 04 14 45.0 -0.4
BLO Bloomington 61.67 62 *eP* P 04 14 45.3 -0.7
BLO pmax pmax
comp=Z,29nm,1.2s
BLO Bloomington 61.67 62 *eP* P 04 14 45.3 -0.7
comp=Z,29nm,1.2s
USIN University of 61.87 64 *eP* P 04 14 47.2 -0.1
comp=Z,26nm,0.8s
WCI Wyandotte Cave 62.45 63 *eP* P 04 14 50.6 -0.7
WCI pmax pmax
comp=Z,20nm,0.8s
WCI Wyandotte Cave 62.45 63 *eP* P 04 14 50.6 -0.7
comp=Z,20nm,0.8s
ARU Arti 63.01 329 *d iP* P 04 14 54.7 0.0
ARU 04 17 08.8
ARU S S 04 23 28.3 +8.1
ARU SS **SS** 04 27 26.4 +0.9
ARU pmax pmax
comp=Z,9.0nm,0.7s
ARU MLR MLR
comp=Z,423nm,19.0s
WVT Waverly 63.06 65 *eP* P 04 14 55.1 -0.3
WVT pmax pmax
comp=Z,29nm,1.5s
WVT Waverly 63.06 65 *eP* P 04 14 55.1 -0.3
comp=Z,29nm,1.5s
OXF Oxford 63.30 68 *eP* P 04 14 55.8 -1.1
OXF pmax pmax
comp=Z,38nm,0.8s
OXF Oxford 63.30 68 *eP* P 04 14 55.8 -1.1
comp=Z,38nm,0.8s
ALLY Alegheny Colle 63.36 56 *eP* P 04 14 58.5 +1.2
comp=Z,36nm,0.9s
DAV Davao City (W) 63.76 247 LR LR 04 38 12.2
comp=Z,267nm,21.9s,baz=279,slow=32
KMI Kunming 64.15 278 P P 04 15 03.5 +0.5
KMI pP **pP** 04 15 19.9 +0.9
KMI PP **PP** 04 17 26.8 +2.4
KMI S **S** 04 23 32.8 -2.9
KMI SS **SS** 04 27 43.8 -1.5
KMI pmax pmax
comp=Z,7.0nm,0.7s
KMI pmax pmax
comp=Z,140nm,4.5s
KMI LR LR
comp=N,220nm,17.4s
KMI LR LR
comp=E,230nm,13.4s
KMI LR LR
comp=Z,220nm,23.4s
QIZ Qiongzhong 64.16 269 P P 04 15 02.3 -0.5
QIZ pP **pP** 04 15 18.4 -0.4
QIZ PP **PP** 04 17 23.3 -0.9
QIZ S **S** 04 23 34.5 -0.9
QIZ SS **SS** 04 27 44.9 -0.2
QIZ pmax pmax
comp=Z,170nm,10.1s
QIZ LR LR
comp=N,260nm,21.6s
QIZ LR LR
comp=Z,210nm,20.8s
BINY Binghamton 65.10 53 *eP* P 04 15 08.3 -0.3
comp=Z,29nm,1.1s
TZTN Tazewell 65.19 62 *eP* P 04 15 09.2 0.0
comp=Z,21nm,1.0s
KAF Kangasniemi 65.42 348 *ep* P 04 15 10.6 +0.3
comp=Z,4.2nm,0.6s
KAF Kangasniemi 65.42 348 *eP* P 04 15 10.6 +0.3
KAF pmax pmax
comp=Z,4.0nm,0.6s
CPCT Cooper Cave 65.43 64 *eP* P 04 15 10.3 -0.5
TKL Tuckaleechee C 65.70 63 *eP* P 04 15 12.3 -0.3
LRAL Lakeview Retre 65.75 67 *eP* P 04 15 11.9 -1.0
comp=Z,6.8nm,0.7s
FINES FINESS Array B 66.10 348 P P 04 15 13.0 -1.7
FINES FINESS Array B 66.10 348 P P 04 15 13.0 -1.7
comp=Z,10.0nm,0.9s,baz=18,slow=6.6,SNR=17
FINES LR LR 04 49 47.4
comp=Z,190nm,18.3s,baz=21,slow=41
TKM2 Tokmak 2 66.57 310 *eP* P 04 15 18.6 +0.2
TKM2 pmax pmax
comp=Z,3.0nm,0.8s
TKM2 Tokmak 2 66.57 310 *eP* P 04 15 18.6 +0.2
comp=Z,2.9nm,0.8s
EMMW East Machias 67.31 46 *eP* P 04 15 22.0 -0.7
comp=Z,9.1nm,0.9s
AAK Ala-Archa 67.32 310⇑ *eP* P 04 15 22.4 -0.6
AAK pmax pmax
comp=Z,12nm,0.7s
AAK Ala-Archa 67.32 310 *eP* P 04 15 23.5 +0.4
comp=Z,5.1nm,0.7s
PMG Port Moresby 67.36 217 LR LR 04 43 31.7
comp=Z,337nm,19.1s,baz=248,slow=35
JSRW J. Sargeant Re 67.44 58 *eP* P 04 15 23.7 +0.1
KMSC Kings Mountain 67.44 62 ⇓P P 04 15 23.4 -0.3
baz=67
GOGA Godfrey 67.51 64 *eP* P 04 15 23.7 -0.5
GOGA pmax pmax
comp=Z,12nm,0.8s
GOGA Godfrey 67.51 64 *eP* P 04 15 23.7 -0.5
comp=Z,12nm,0.8s
EKS2 Erkin-Say 67.64 311 *eP* P 04 15 24.6 -0.4
EKS2 pmax pmax
comp=Z,5.0nm,0.7s
EKS2 Erkin-Say 67.64 311 *eP* P 04 15 24.6 -0.4
comp=Z,4.9nm,0.7s
LSA Lhasa 67.89 290 *eP* P 04 15 28.7 +1.5
LSA pmax pmax
comp=Z,21nm,0.6s
LSA Lhasa 67.89 290 *eP* P 04 15 28.7 +1.5
comp=Z,20nm,0.6s
NB2 NORSAR Subarra 67.91 355 P P 04 15 25.2 -1.1
comp=Z,6.7nm,1.1s,baz=6.5,slow=6.5
NOA NORSAR Array B 67.91 355 P P 04 15 24.6 -1.7
NOA NORSAR Array B 67.91 355 P P 04 15 24.6 -1.7
comp=Z,3.1nm,0.8s,baz=5.8,slow=6.3,SNR=16
NOA LR LR 04 43 47.2
comp=Z,142nm,20.7s,baz=0.0,slow=35
ABKAR Akbulak array 68.36 323 *eP* P 04 15 29.1 -0.2
comp=Z,0.9nm,0.5s
VSU Vasula 68.87 346 *eP* P 04 15 31.4 -0.8
VSU pmax pmax
comp=Z,19nm,0.8s
KSH Kashi 68.96 307 P P 04 15 37.0 +3.7
KSH pP pP 04 15 51.8 +2.3
KSH sP sP 04 15 59.8 +3.6
KSH PP **PP** 04 18 09.8 +4.1
KSH ScP 04 19 58.6
KSH S **S** 04 24 35.8 +2.5
KSH SS **SS** 04 29 03.8 +5.0
KSH pmax pmax
comp=Z,5.0nm,0.6s
KSH pmax pmax
comp=Z,220nm,4.2s
KSH LR LR
comp=N,150nm,5.5s
KSH LR LR
comp=E,180nm,5.8s
KSH LR LR
comp=Z,450nm,16.7s
OBN Obninsk 70.22 340 *eP* P 04 15 40.5 -0.1
OBN *e* 04 16 01.1
OBN *i* 04 18 23.3
OBN *i* S S 04 24 53.6 +6.3
OBN *e*SS **SS** 04 29 13.9 -3.2
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,200nm,16.0s
SHL Shillong 70.50 287 *eP* P 04 15 43.0 0.0
CMAR Chiang Mai Arr 71.43 276 P P 04 15 49.1 +0.6
CMAR Chiang Mai Arr 71.43 276 P P 04 15 49.1 +0.6
comp=Z,2.8nm,0.4s,baz=30,slow=6.7,SNR=12
CMAR LR LR 04 51 10.8
comp=Z,198nm,18.3s,baz=50,slow=39
TAPN Taplejung 71.66 291 *eP* P 04 15 51.0 +0.8
comp=Z,136nm,0.8s
ODAN Odare 72.22 291 *eP* P 04 15 54.0 +0.6
comp=Z,43nm,0.8s
GUN Gumba 72.31 293 *eP* P 04 15 55.0 +0.8
comp=Z,390nm,0.8s
JIRN Jiri 72.32 292 *eP* P 04 15 55.1 +0.9
comp=Z,184nm,0.7s
RAMN Ramite 72.61 291 *eP* P 04 15 56.1 +0.3
KKN Kakani 72.75 293 *eP* P 04 15 57.3 +0.7
comp=Z,102nm,0.8s
PKI Pulchoki 72.84 293 *eP* P 04 15 57.7 +0.4
comp=Z,84nm,0.9s
PKIN Phulchoki 72.84 293 *eP* P 04 15 57.5 +0.3
comp=Z,46nm,0.8s
PPT Papeete 72.87 151 LR LR 04 40 15.3
comp=Z,262nm,20.0s,baz=329,slow=29
PPT2 Papeete2 72.89 151 *eS* SKiKP 04 25 25.3 +0.7
comp=Z,643nm,27.5s
PPT2 Papeete2 72.89 151 *e*LR LR 04 38 21.6
comp=Z,675nm,28.5s,baz=352
DMN Daman 72.99 293 *eP* P 04 15 58.9 +0.8
comp=Z,73nm,0.8s
DANN Dangsing 73.21 294 *eP* P 04 16 00.1 +0.7
comp=Z,164nm,0.8s
VSR Storozhevoye 73.21 337 *eP* P 04 15 58.2 -0.4
VSR pmax pmax
comp=Z,5.0nm,0.5s
VSR pmax pmax
comp=N,10.0nm,1.4s
VSR pmax pmax
comp=E,7.0nm,1.2s
VORD Divnogorie 73.41 336 *eP* P 04 15 58.7 -1.1
VORD pmax pmax
comp=Z,10.0nm,0.7s
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,20nm,0.6s
KOLN Koldanda 73.74 294 *eP* P 04 16 02.8 +0.4
comp=E,47nm,0.8s
PYUN Piuthan 73.84 295 *eP* P 04 16 03.5 +0.5
comp=E,197nm,1.0s
DZM Mont Dzumac 74.15 195 *e*LR LR 04 39 02.9
comp=E,480nm,23.8s
KIEV Kiev 75.90 342 *eP* P 04 16 13.5 -0.7
KIEV pmax pmax
comp=Z,11nm,0.8s
KIEV Kiev 75.90 342 *eP* P 04 16 13.5 -0.7
comp=Z,10nm,0.8s
KBL Kabul 76.29 308 *eP* P 04 16 17.0 0.0
KBL pmax pmax
comp=Z,10.0nm,0.9s
KBL Kabul 76.29 308 *eP* P 04 16 17.0 0.0
comp=Z,9.7nm,0.9s
CLL Collm 77.48 353 *i* P P 04 16 21.9 -1.2
CLL pmax pmax
comp=Z,5.0nm,1.3s
CLL Collm 77.48 353 *i* P P 04 16 21.9 -1.2
comp=Z,8.0nm,1.3s
CLL *e*S S 04 26 12.0 +3.0
CLL *e*SS SS 04 31 18.0 +11
CLL L L 04 58 00.0
comp=Z,200nm,18.8s
BRG Berggiesshubel 77.83 352 *eP* P 04 16 23.9 -1.2
comp=Z,3.6nm,1.0s
BRG S **SKSac** 04 26 33.0 -0.5
BRG SS SS 04 31 39.0 +26
BRG
comp=N,206nm,20.1s
BRG
comp=E,142nm,15.9s
BRG
comp=Z,255nm,21.2s
BRG Berggiesshubel 77.83 352 *eP* P 04 16 23.9 -1.2
BRG S **SKSac** 04 26 33.0 -0.5
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG MLR MLR
comp=N,4μm,20.1s
BRG MLR MLR
comp=E,206nm,15.9s
BRG MLR MLR
comp=Z,142nm,21.2s
UPC Upice 78.00 351 *eP* P 04 16 30.2 +4.1
UPC Upice 78.00 351 *eP* P 04 16 30.2 +4.1
KWP Kalwaria Pacla 78.03 346 ⇓P P 04 16 26.4 +0.2
KWP Kalwaria Pacla 78.03 346 *eP* P 04 16 26.2 -0.1
comp=Z,18nm,0.7s
KWP Kalwaria Pacla 78.03 346 ⇓*i*P P 04 16 26.4 +0.2
KWP Kalwaria Pacla 78.03 346 *eP* P 04 16 26.2 -0.1
DPC Dobruska-Polom 78.13 351 *eP* P 04 16 26.5 -0.3
DPC *e* 04 16 32.4
DPC Dobruska-Polom 78.13 351 *eP* P 04 16 26.5 -0.3
DPC *e*PCP **PcP** 04 16 32.4 -3.8
DPC AMS AMS 04 53 10.0
MAK Makhachkala 78.21 328 *eP* P 04 16 35.0 +7.7
TBI Tubuai 78.37 153 *e*LR LR 04 40 59.6
comp=Z,709nm,28.0s,baz=336
OKC Ostrava-Krasne 78.43 349 AMS AMS 04 54 30.0
comp=Z,300nm,17.6s
STHS Stebnicka Huta 78.45 347 *eP* P 04 16 29.5 +0.9
STHS pmax pmax
comp=Z,3.0nm,1.1s
STHS Stebnicka Huta 78.45 347 *eP* P 04 16 29.5 +0.9
STHS *e*PCP **PcP** 04 16 37.6 0.0
PRU Pruhonice 78.66 352 AMS AMS 04 53 20.0
comp=Z,200nm,21.3s
KOLS Kolonicke sedl 78.77 346 *eP* P 04 16 30.4 0.0
KOLS pmax pmax
comp=Z,7.0nm,1.1s
KOLS Kolonicke sedl 78.77 346 *eP* P 04 16 30.4 0.0
KIV Kislovodsk 78.86 331 *eP* P 04 16 30.3 -0.7
KIV *e*S S 04 26 29.4 +5.0
KIV *e*SS SS 04 31 38.9 +10
KIV pmax pmax
comp=Z,11nm,0.8s
KIV MLR MLR
comp=Z,346nm,18.0s
KBZ Khabaz 79.00 331 P P 04 16 31.6 -0.1
KBZ Khabaz 79.00 331 P P 04 16 31.6 -0.1
KBZ Khabaz 79.00 331 P P 04 16 31.6 -0.1
comp=Z,10.0nm,0.8s,baz=90,slow=2.6,SNR=15
KBZ LR LR 04 56 33.0
comp=Z,558nm,19.9s,baz=36,slow=40
GIVF Givet 79.09 358 *eP* P 04 16 31.5 -0.6
BAIF Baives 79.15 358 *eP* P 04 16 32.0 -0.4
TREC Trest 79.26 351 AMS AMS 04 54 00.0
comp=Z,200nm,15.9s
KECS Kecovo 79.47 348 *eP* P 04 16 34.6 +0.5
KECS pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 79.47 348 *eP* P 04 16 34.6 +0.5
KECS *e*PCP **PcP** 04 16 42.1 +0.1
KIS Kishinev 79.51 342 *eP* P 04 16 34.0 -0.4
KIS *e*S S 04 26 34.0 +3.1
KIS LRM MLR 04 56 32.0
comp=Z,400nm,20.0s
KIS Kishinev 79.51 342 *eP* P 04 16 34.0 -0.4
KIS *e*S S 04 26 34.0 +3.1
KIS MLR MLR
comp=Z,600nm,20.0s
KIS MLR MLR
comp=N,500nm,22.0s
KIS MLR MLR
comp=Z,400nm,20.0s
TRPA Tarpa 79.52 346 ⇓*i*P P 04 16 34.8 +0.4
ZEI Tsey 79.54 330 *eP* P 04 16 34.2 -0.7
ZEI pmax pmax
comp=Z,24nm,0.9s
BUR08 Bucovina Ar. S 79.56 344 *eP* P 04 16 34.2 -0.6
ANN Anapa 79.58 335 *eP* P 04 16 33.6 -1.2
ANN pmax pmax
comp=Z,87nm,1.6s
BURAR Bucovina Array 79.58 344 ⇓P P 04 16 34.9 0.0
BURAR Bucovina Array 79.58 344 ⇓*i*P P 04 16 34.9 0.0
KHC Kasperske Hory 79.59 352 *eP* P 04 16 34.6 -0.3
KHC *e* 04 16 39.1
KHC Kasperske Hory 79.59 352 *eP* P 04 16 34.6 -0.3
KHC *e*PCP **PcP** 04 16 39.1 -3.5
KHC Kasperske Hory 79.59 352 *eP* P 04 16 33.9 -1.0
comp=Z,5.6nm,0.9s
VYHS Vyhne 79.67 349 *eP* P 04 16 35.6 +0.3
VYHS pmax pmax
comp=Z,3.0nm,1.0s
VYHS Vyhne 79.67 349 *eP* P 04 16 35.6 +0.3
VYHS *e*PCP **PcP** 04 16 43.6 +0.7
GERES GERESS Array B 79.87 352 P P 04 16 36.0 -0.5
GERES GERESS Array B 79.87 352 P P 04 16 36.0 -0.5
comp=Z,2.2nm,0.8s,baz=20,slow=4.4,SNR=15
GERES LR LR 04 56 28.7
comp=Z,231nm,20.6s,baz=8.5,slow=39
PSZ Piszkesteto 80.10 348 ⇑P P 04 16 37.0 -0.7
PSZ Piszkesteto 80.10 348 ⇑*i*P P 04 16 37.0 -0.7
SIM Simferopol' 80.28 337 P P 04 16 43.0 +4.4
TESR Tescani 80.39 343 ⇓*i*P P 04 16 40.1 +0.9
FLN La Foliniere 80.45 2 *eP* P 04 16 39.3 -0.1
FLN *e*R
comp=Z,226nm,21.5s
CONA Conrad Observa 80.57 350 ⇓*i*P P 04 16 39.3 -0.9
comp=Z,3.9nm,0.9s
PAGF Fort de Pagny 80.62 357 *eP* P 04 16 40.2 -0.2
comp=Z,11nm,1.0s
LDF La Druitiere 80.62 1 *eP* P 04 16 39.3 -1.1
MEZF Maizieres J'vi 80.69 358 *eP* P 04 16 40.6 -0.1
DRGR 80.79 346 ⇑P P 04 16 42.5 +1.1
DRGR 80.79 346 ⇑*i*P P 04 16 42.5 +1.1
GRR Gorron 80.81 2 *eP* P 04 16 40.8 -0.6
SGMF Saint Gilles 80.91 3 *eP* P 04 16 41.4 -0.5
SFTF Sexfontaines 80.99 358 *eP* P 04 16 41.7 -0.6
VRI Vrincioaia 81.00 343 ⇑P P 04 16 43.8 +1.3
VRI Vrincioaia 81.00 343 ⇑*i*P P 04 16 43.8 +1.3
PLOR Plostina 81.03 343 ⇑P P 04 16 43.4 +0.8
PLOR Plostina 81.03 343 ⇑*i*P P 04 16 43.4 +0.8
HAU Haudompre 81.15 357 *eP* P 04 16 42.6 -0.6
HAU *e*R
comp=Z,241nm,22.5s
CFR Carcaliu 81.39 342 ⇓P P 04 16 45.3 +0.8
CFR Carcaliu 81.39 342 ⇓*i*P P 04 16 45.3 +0.8
MLR Muntele Rosu 81.51 343 ⇑*i*P P 04 16 45.6 +0.3
KBA Koelnbreinsper 81.65 352 ⇓*i*P P 04 16 46.4 +0.3
comp=Z,15nm,0.6s

VOIR		81.72 344	⇑P	P	04 16 47.4	+1.0		
VOIR		81.72 344	⇑*i*P	P	04 16 47.4	+1.0		
SOKA	Soboth	81.89 351	⇓*i*P	P	04 16 47.4	+0.1		
	comp=Z,17nm,1.1s							
FETA	Feichten	81.91 354	⇑*i*P	P	04 16 46.6	-0.8		
	comp=Z,10nm,0.9s							
PERS	Pernice	81.92 351	*e*P	P	04 16 46.8	-0.6		
LOT	Lotru	81.93 345	⇓*i*P	P	04 16 53.4	+5.9		
LOR	Lormes	81.95 359	*e*P	P	04 16 46.7	-0.7		
LOR			*e*R					
	comp=Z,253nm,20.8s							
OBKA	Obir	82.11 351	⇓*i*P	P	04 16 48.3	-0.1		
	comp=Z,10.0nm,0.7s							
BZS	Buzias	82.11 346	⇑P	P	04 16 47.8	-0.5		
BZS	Buzias	82.11 346	⇑*i*P	P	04 16 47.8	-0.5		
WRA	Warramunga Arr	82.13 224	P	P	04 16 48.9	+0.3		
WRA	Warramunga Arr	82.13 224	P	P	04 16 48.9	+0.3		
	comp=Z,1.4nm,0.5s,baz=31,slow=5.8,SNR=22							
WRA			LR	LR	04 50 48.8			
	comp=Z,118nm,21.0s,baz=30,slow=34							
GZR	Gura Zlata	82.15 345	⇓P	P	04 16 48.7	+0.1		
GZR	Gura Zlata	82.15 345	⇓*i*P	P	04 16 48.7	+0.1		
SSF	Saint Saulge	82.16 359	*e*P	P	04 16 48.0	-0.5		
	comp=Z,18nm,0.9s							
AVF	Avril sur Loir	82.43 359	*e*P	P	04 16 49.4	-0.5		
	comp=Z,14nm,0.9s							
CABF	La Chapelle	82.55 357	*e*P	P	04 16 50.4	-0.3		
	comp=Z,34nm,1.1s							
SMF	Signal de Mont	82.57 359	*e*P	P	04 16 50.1	-0.6		
	comp=Z,23nm,0.9s							
MFF	Saint Martin d	82.61 1	*e*P	P	04 16 50.6	-0.3		
	comp=Z,54nm,1.1s							
VISS	Visnje	82.78 351	*e*P	P	04 16 52.0	+0.2		
TCF	Toulx Ste Croi	82.94 360	*e*P	P	04 16 52.8	+0.1		
	comp=Z,16nm,1.0s							
BOJS	Bojanci	83.03 351	*i* P	P	04 16 52.3	-0.8		
RKT	Rikitea	83.14 141	*e*LR	LR	04 43 09.2			
	comp=Z,658nm,28.8s,baz=333							
LPL	La Plagne	83.62 357	*e*P	P	04 16 56.6	+0.2		
RJF	Les Rejaudoux	83.93 0	*e*P	P	04 16 57.2	-0.5		
BNI	Bardonecchia	84.09 357	*e*P	P	04 17 00.2	+1.5		
BNI			pmax	pmax				
	comp=Z,6.0nm,0.8s							
BNI	Bardonecchia	84.09 357	*e*P	P	04 17 00.2	+1.5		
	comp=Z,5.8nm,0.8s							
ORIF	Oris-en-Rattie	84.25 357	*e*P	P	04 16 59.8	+0.3		
	comp=Z,22nm,1.1s							
ORIF			*e*R					
	comp=Z,195nm,20.2s							
LFF	La Frestale	84.29 1	*e*P	P	04 16 59.3	-0.2		
	comp=Z,21nm,0.7s							
CAF	Calviac	84.31 360	*e*P	P	04 16 59.5	-0.2		
	comp=Z,9.3nm,0.7s							
VIVF	Saint-Julien-l	84.34 358	*e*P	P	04 16 59.6	-0.3		
MBDF	Montbardon	84.41 356	*e*P	P	04 17 00.7	+0.4		
	comp=Z,14nm,0.7s							
VTS	Vitosha	84.80 344	⇓P	P	04 17 02.0	-0.4		
VTS	Vitosha	84.80 344	⇓*i*P	P	04 17 02.0	-0.4		
LASF	Ste Croix	85.14 359	*e*P	P	04 17 03.8	-0.1		
	comp=Z,19nm,1.0s							
SMRF	Simiane la Rot	85.20 357	*e*P	P	04 17 03.9	-0.3		
	comp=Z,26nm,1.1s							
SBF	Sospel	85.24 356	*e*P	P	04 17 04.7	+0.3		
	comp=Z,104nm,1.2s							
BR131	Keskin Array S	85.32 336	*e*P	P	04 17 04.3	-0.7		
	comp=Z,9.5nm,0.8s							
BRTR	Keskin Array B	85.32 336	P	P	04 17 04.3	-0.7		
BRTR	Keskin Array B	85.32 336	P	P	04 17 04.3	-0.7		
	comp=Z,11nm,0.8s,baz=46,slow=2.4,SNR=41							
BRTR			LR	LR	05 00 46.7			
	comp=Z,122nm,18.7s,baz=42,slow=40							
FRF	La Foret Royal	85.58 356	*e*P	P	04 17 05.5	-0.5		
	comp=Z,37nm,1.1s							
ASAR	Alice Springs	85.59 223	P	P	04 17 06.8	+0.6		
ASAR	Alice Springs	85.59 223	P	P	04 17 06.8	+0.6		
	comp=Z,3.2nm,0.6s,baz=24,slow=5.4,SNR=41							
LMR	La Mourre	85.81 357	*e*P	P	04 17 06.8	-0.3		
	comp=Z,29nm,1.0s							
MTLF	Montolieu	85.89 360	*e*P	P	04 17 07.4	-0.2		
	comp=Z,7.0nm,0.6s							
SJPF	Ste Jean	86.08 2	*e*P	P	04 17 08.1	-0.4		
	comp=Z,12nm,0.8s							
EPF	Esparros	86.19 1	*e*P	P	04 17 08.1	-1.0		
	comp=Z,6.5nm,0.7s							
ETSF	Etsaut	86.31 2	*e*P	P	04 17 09.7	0.0		
	comp=Z,8.1nm,0.6s							
AQU	L'Aquila	86.33 351	*e*P	P	04 17 10.8	+1.0		
PGF	Pioggiola	86.47 355	*e*P	P	04 17 10.0	-0.6		
	comp=Z,62nm,1.0s							
POLO	Lamas de Olo	87.47 7	*e*P	P	04 17 15.6	+0.1		
	comp=Z,17nm,1.4s							
PVRL	Vila Real	87.58 7	*e*P	P	04 17 15.9	0.0		
MVO	Moncorvo	87.74 7	*e*P	P	04 17 16.2	-0.5		
PVIS	Viseu	88.12 7	*e*P	P	04 17 18.6	+0.1		
	comp=Z,34nm,1.9s							
CUC	Castrocuco	88.41 349	*e*P	P	04 17 18.6	-1.3		
	comp=Z,6.1nm,0.8s							
MTE	Manteigas	88.46 7	*e*P	P	04 17 20.0	-0.1		
	comp=Z,41nm,2.3s							
PCBR	Castelo Branco	89.02 7	*e*P	P	04 17 22.5	-0.2		
	comp=Z,29nm,1.7s							
TIP	Timpagnande	89.10 348	*e*P	P	04 17 22.4	-0.8		
	comp=Z,7.9nm,0.7s							
ESDC	Sonseca Array	89.41 4	P	P	04 17 23.3	-1.3		
ESDC	Sonseca Array	89.41 4	P	P	04 17 23.3	-1.3		
	comp=Z,1.9nm,0.6s,baz=350,slow=4.4,SNR=11							
STKA	Stephens Creek	89.95 213	P	P	04 17 28.6	+1.8		
STKA	Stephens Creek	89.95 213	P	P	04 17 28.6	+1.8		
	comp=Z,5.0nm,0.7s,baz=6.1,slow=7.2,SNR=11							
STKA			LR	LR	04 54 16.1			
	comp=Z,319nm,18.1s,baz=25,slow=33							
PESTR	Estremoz	89.98 7	*e*P	P	04 17 27.0	-0.2		
CEL	Celeste	90.12 349	*e*P	P	04 17 26.3	-1.6		
	comp=Z,13nm,0.8s							
TORD	Torodi Ar. Bea	115.98 0	PKP	PKPdf	04 23 10.0	-0.8		
TORD	Torodi Ar. Bea	115.98 0	PKP	PKPdf	04 23 10.0	-0.8		
	comp=Z,0.6nm,0.6s,baz=347,slow=2.5,SNR=17							
DBIC	Dimbokro	122.12 8	PKP	PKPdf	04 23 22.4	-0.2		
DBIC			PP	PP	04 24 50.5	-6.3		
DBIC	Dimbokro	122.12 8	PKP	PKPdf	04 23 22.4	-0.2		
	comp=Z,2.4nm,0.4s,baz=359,slow=3.6,SNR=11							
DBIC			PP	PP	04 24 50.5	-6.3		
	comp=Z,13nm,1.2s,baz=344,slow=1.7,SNR=3.6							
PLCA	Paso Flores	130.52 108	PKP	PKPdf	04 23 40.4	+2.6		
PLCA	Paso Flores	130.52 108	PKP	PKPdf	04 23 40.4	+2.6		
	comp=Z,0.9nm,0.5s,baz=297,slow=4.5,SNR=2.9							
QSPA	South Pole Qui	140.90 180	PKPpre	PKPpre	04 23 50.1			
QSPA			*e*PKPdf	PKPdf	04 23 50.5	-5.8		
QSPA			PKP	PKPdf	04 23 56.6	+0.3		
QSPA	South Pole Qui	140.90 180	PKhKP	PKPpre	04 23 50.1			
	comp=Z,1.7nm,0.9s,baz=91,slow=2.5,SNR=6.7							
QSPA			PKP	PKPdf	04 23 56.6	+0.3		
	comp=Z,1.6nm,0.8s,baz=326,slow=0.4,SNR=7.7							
TSUM	Tsumeb	145.78 333	*e*PKPdf	PKPbc	04 24 06.9	0.0		
MAW	Mawson	146.54 217	PKPbc	PKPab	04 24 08.2	-0.6		
MAW	Mawson	146.54 217	PKPbc	PKPab	04 24 08.2	-0.6		
	comp=Z,3.8nm,0.7s,baz=84,slow=5.0,SNR=8.9							
LBTB	Lobatse	148.17 316	*e*PKPbc	PKPbc	04 24 13.8	+0.2		
BOSA	Boshof	151.43 313	*e*PKPbc	PKPbc	04 24 21.4	0.0		
BOSA			PKPab	PKPab	04 24 29.8	-0.1		
BOSA	Boshof	151.43 313	PKPbc	PKPbc	04 24 22.2	+0.8		
	comp=Z,7.9nm,0.6s,baz=35,slow=3.1,SNR=28							
BOSA			PKPab	PKPab	04 24 29.8	-0.1		
	comp=Z,8.6nm,0.7s,baz=348,slow=4.5,SNR=9.8							

CSEM ***15*** *04:14:29.1,42°.26N×13°.47E,h10km,MD1.6/4,After ROM*
ROM 15 04:14:29.1±0.1,42°.26N×13°.47E,h10km,Md1.6/4,MI0.9/2,
Error ellipse: s-maj=1.7km s-min=1.1km az=96.0,
Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	L'Aquila	0.11	331	Pg	Pg	04 14 32.5	+0.5
AQU				Sg	Sg	04 14 34.6	+0.6
AQU	L'Aquila	0.11	331	Pg	Pg	04 14 32.5	+0.5
AQU				Sg	Sg	04 14 34.6	+0.6
PTQR	Pietraquaria	0.24	193	Pg	Pg	04 14 35.0	+0.8
PTQR				Sg	Sg	04 14 38.7	+1.1
PTQR	Pietraquaria	0.24	193	Pg	Pg	04 14 35.0	+0.8
PTQR				Sg	Sg	04 14 38.7	+1.1
VCEL	Villa Celiera	0.30	63	Pg	Pb	04 14 36.3	-0.6
VCEL				Sg	Sg	04 14 40.6	+0.9
	17nm,0.4s						
VCEL	Villa Celiera	0.30	63	Pg	Pb	04 14 36.3	-0.6
VCEL				Sg	Sg	04 14 40.6	+0.9
	17nm,0.4s						
TERO	Teramo	0.38	15	Pg	Pg	04 14 36.9	+0.2
TERO				Sg	Sb	04 14 43.0	-1.0
	7.0nm,0.3s						
TERO	Teramo	0.38	15	Pg	Pg	04 14 36.9	+0.2
TERO				Sg	Sb	04 14 43.0	-1.0
	7.0nm,0.3s						

ISCJB ***15*** *04:21:07.7±0.6,55°.69S±0°.08×27°.2W±0°.2,h25km, mb4.5/12,MS3.6/3,Error ellipse: s-maj=16.3km s-min=7.8km az=145.8*
NEIC ***15*** *04:21:12.2±2.6,55°.66S×27°.38W,h48km±23km,mb4.7/7, Error ellipse: s-maj=15.3km s-min=7.8km az=51.0*
IDC ***15*** *04:21:13.2±2.5,55°.66S×27°.38W,h55km±21km,mb4.2/8, mb1 4.2/9,mb1mx4.0/18,mbtmp4.2/9,ML4.4/1,MS3.5/4, Ms1 3.4/4,ms1mx3.3/18,Error ellipse: s-maj=23.2km s-min=15.0km az=77.0*
ISC 15 04:21:08.9±0.6,55°.72S±0°.10×27°.2W±0°.1,h25km,n44,
σ1§82/42,mb4.5/12,MS3.6/3,1C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	17.11	158	*e*Pn	P	04 25 11.0	+3.5
EFI	East Falkland	18.62	270	*e*Pn	Pn	04 25 24.5	-0.2
SNAA	Sanae	19.05	156	*e*Pn	Pn	04 25 30.4	+0.6
SNAA	Sanae	19.05	156	P	Pn	04 25 30.6	+0.8
SNAA				S	Sn	04 28 57.6	-4.5
SNAA				ScP	ScP	04 33 24.1	-2.3
SNAA	Sanae	19.05	156	P	Pn	04 25 30.6	+0.8
	1.2nm,0.3s,baz=304,slow=10,SNR=104						
SNAA				S	Sn	04 28 57.6	-4.5
	0.0nm,0.3s,baz=313,slow=19,SNR=2.7						
SNAA				LR	LR	04 31 42.3	
	comp=Z,55nm,18.5s,baz=157,slow=33						
SNAA				ScP	ScP	04 33 24.1	-2.3
	0.1nm,0.3s,baz=164,slow=1.5,SNR=14						
MAIT	Maitri	22.52	147	*e*P	P	04 25 58.3	-8.1
USHA	Ushuaia	23.26	255	P	P	04 26 13.2	-0.9
USHA	Ushuaia	23.26	255	P	P	04 26 13.2	-0.9
	11nm,0.9s,baz=90,slow=9.1,SNR=2.8						
TRQA	Tornquist	29.18	293	*e*P	P	04 27 07.9	-0.2
	24nm,1.1s						
SYO	Syowa Base	31.85	141⇑	*e*P	P	04 27 31.8	+0.6
PLCA	Paso Flores	31.93	280	LR	LR	04 40 18.3	
	comp=Z,98nm,19.6s,baz=359,slow=36						
QSPA	South Pole Qui	34.53	180	*e*P	P	04 27 56.3	+1.4
	11nm,0.7s						
QSPA				ScP	ScP	04 34 07.9	-4.5
QSPA	South Pole Qui	34.53	180	P	P	04 27 56.8	+1.9
	5.9nm,0.4s,baz=187,slow=3.4,SNR=50						
QSPA				ScP	ScP	04 34 07.9	-4.5
	1.3nm,0.6s,baz=216,slow=1.4,SNR=8.4						
MAW	Mawson	40.42	144	P	P	04 28 46.4	+1.9
MAW	Mawson	40.42	144	P	P	04 28 46.4	+1.9
	2.7nm,0.5s,baz=237,slow=8.6,SNR=10.0						
MAW				LR	LR	04 42 35.0	
	comp=Z,97nm,21.9s,baz=244,slow=32						
BDFB	Brasilia	43.07	330	P	P	04 29 07.5	+0.7
BDFB	Brasilia	43.07	330	P	P	04 29 07.5	+0.7
	1.8nm,0.6s,baz=153,slow=4.5,SNR=5.1						
LVC	Limon Verde	45.12	300	*e*P	P	04 29 24.2	+0.8
	26nm,0.6s						
BOSA	Boshof	45.90	76	LR	LR	04 45 33.7	
	comp=Z,67nm,18.7s,baz=339,slow=32						
SBA	Scott Base	46.41	184	*e*P	P	04 29 34.9	+2.3
	3.8nm,0.7s						
VNDA	Vanda	46.90	183	*e*P	P	04 29 37.8	+1.3
	5.4nm,0.7s						
VNDA	Vanda	46.90	183	P	P	04 29 38.1	+1.7
	5.4nm,0.6s,baz=189,slow=6.0,SNR=52						
LPAZ	La Paz	50.18	305	*e*P	P	04 30 03.4	+0.3
	16nm,0.8s						
LPAZ	La Paz	50.18	305	P	P	04 30 03.4	+0.3
	12nm,0.6s,baz=157,slow=6.3,SNR=53						
DBIC	Dimbokro	64.87	25	P	P	04 31 45.5	-0.2
DBIC	Dimbokro	64.87	25	P	P	04 31 45.5	-0.2
	1.3nm,0.5s,baz=175,slow=7.1,SNR=3.6						
OTAV	Otavalo	69.46	304	*e*P	P	04 32 15.5	-0.1
	3.1nm,0.7s						
TORD	Torodi Ar. Bea	72.77	30	P	P	04 32 35.6	+0.7
TORD	Torodi Ar. Bea	72.77	30	P	P	04 32 35.6	+0.7
	3.7nm,0.7s,baz=199,slow=6.6,SNR=54						
NOA	NORSAR Array B	120.30	21	PKP	PKPdf	04 39 55.2	-1.2
NOA	NORSAR Array B	120.30	21	PKP	PKPdf	04 39 55.2	-1.2
	0.4nm,0.8s,baz=211,slow=2.3,SNR=3.3						
FINES	FINESS Array B	124.09	28	PKP	PKPdf	04 40 03.2	-0.3
FINES	FINESS Array B	124.09	28	PKP	PKPdf	04 40 03.2	-0.3
	1.9nm,0.5s,baz=163,slow=1.5,SNR=11						
ARCES	ARCESS Array B	130.64	22	PKP	PKPdf	04 40 15.9	0.0
ARCES	ARCESS Array B	130.64	22	PKP	PKPdf	04 40 15.9	0.0
	1.5nm,0.5s,baz=201,slow=1.7,SNR=21						
MKAR	Makanchi Array	136.79	71	PKP	PKPdf	04 40 28.6	+0.5
MKAR	Makanchi Array	136.79	71	PKP	PKPdf	04 40 28.6	+0.5
	0.1nm,0.3s,baz=237,slow=4.5,SNR=5.9						
PAX	Paxson	148.85	309	*e*PKPbc	PKPbc	04 40 52.6	-0.3
ILAR	Eielson Array	149.89	312	PKPbc	PKPbc	04 40 55.1	-0.1
ILAR	Eielson Array	149.89	312	PKPbc	PKPbc	04 40 55.1	-0.1
	6.5nm,0.9s,baz=120,slow=1.5,SNR=58						
MCK	McKinley	150.55	310	*e*PKPbc	PKPbc	04 40 56.9	0.0
SONM	Songino Array	150.72	86	PKPbc	PKPbc	04 40 57.9	0.0
SONM	Songino Array	150.72	86	PKPbc	PKPbc	04 40 57.9	0.0
	3.2nm,0.6s,baz=218,slow=3.2,SNR=14						
TRF	Thorofare Moun	151.09	309	*e*PKPbc	PKPbc	04 40 57.7	-0.7

IDC 15 04:23:15.1±20.0,19°.01N×145°.40E,h223km±205km, mb3.2/6,mb1 3.5/6,mb1mx3.2/24,mbtmp3.2/6,Error ellipse: s-maj=39.4km s-min=30.5km az=85.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.20	196	P	P	04 30 29.9	-0.2
	2.2nm,0.7s,baz=14,slow=8.8,SNR=45						
ASAR	Alice Springs	43.87	195	P	P	04 30 59.6	-0.2
	0.4nm,0.4s,baz=15,slow=6.8,SNR=10						
MKAR	Makanchi Array	58.04	314	P	P	04 32 45.5	+0.6
	0.2nm,0.7s,baz=102,slow=5.8,SNR=4.1						
ILAR	Eielson Array	63.49	26	P	P	04 33 20.8	-0.5
	0.4nm,0.6s,baz=269,slow=4.8,SNR=6.6						
NVAR	Mina Array Bea	83.17	52	P	P	04 35 17.8	+1.0
	0.8nm,0.7s,baz=273,slow=4.8,SNR=6.8						
FINES	FINESS Array B	86.48	335	P	P	04 35 31.6	-0.9
	0.4nm,0.4s,baz=65,slow=6.9,SNR=6.4						

DDA ***15*** *04:46:56.8,36°.37N×40°.84E,h12km,MD3.3*
ISCJB ***15*** *04:46:57.2±2.3,36°.35N±0°.09×40°.9E±0°.1,h4km±23km, Error ellipse: s-maj=18.8km s-min=9.0km az=137.4*
CSEM ***15*** *04:46:57.2±0.9,36°.35N×40°.95E,h2km,MD3.4,Error ellipse: s-maj=23.3km s-min=12.2km az=170.0*
ISK ***15*** *04:46:57.9,36°.43N×40°.92E,h5km,MD3.4*
ISC 15 04:46:57.5±2.0,36°.43N±0°.08×40°.81E±0°.05,h9km±12km, n17,σ1§40/26,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARD	Mardin	0.89	358	*e*P	Pn	04 47 15.1	-1.2
MARD				*e*S	Sn	04 47 29.2	-0.1
MAZI	Mazidag	1.07	344	*e*Pn	Pg	04 47 19.2	+1.1
MAZI				*e*Sn	Sn	04 47 34.9	+1.0
MAZI	Mazidag	1.07	344	*e*Pn	Pg	04 47 19.2	+1.1
BEST	Besiri	1.51	14	*e*P	Pg	04 47 25.8	-0.7
BEST				*e*S	Sg	04 47 47.9	+1.9
DIYA	Diyarbakir	1.59	340	*e*P	Pg	04 47 27.8	-0.3
DIYA				*e*S	Sg	04 47 50.6	+1.9
DIYA	Diyarbakir	1.59	340	*e*P	Pg	04 47 27.8	-0.3
DIYA				*e*S	Sg	04 47 50.6	+1.9
SIRT	Sirnak	1.69	50	*e*PN	Pb	04 47 27.8	-1.0
SIRT	Sirnak	1.69	50	*e*Pn	Pb	04 47 27.8	-1.0
URFA	Urfa	1.89	303	*e*PN	Pg	04 47 32.4	-1.3
URFA				*e*SN	Sg	04 47 58.1	-0.1
URFA	Urfa	1.89	303	*e*Pn	Pg	04 47 32.4	-1.3
URFA				*e*Sn	Sg	04 47 58.1	-0.1
ATAB	Bozova	2.27	298	*e*P	Pb	04 47 38.4	-0.2
ATAB				*e*S	Sg	04 48 08.7	-1.7
ATAB	Bozova	2.27	298	*e*P	Pb	04 47 38.4	-0.2
ATAB				*e*S	Sg	04 48 08.7	-1.7
PTK	Pertek	2.71	336	*e*PN	Pb	04 47 44.5	-1.7
PTK	Pertek	2.71	336	*e*Pn	Pb	04 47 44.5	-1.7
KUZU	Kuzuini	3.03	278	*e*P	Pn	04 47 47.3	+1.7
KUZU				*e*S	Sg	04 48 36.8	+2.1
KUZU	Kuzuini	3.03	278	*e*P	Pn	04 47 47.3	+1.7
SARI	SarD1z-Kayseri	4.02	301	*e*PN	Pb	04 48 03.7	-4.8

IDC ***15*** *05:02:23.3±1.8,63°.09N×28°.57E,h0km,mb1 2.9/4, mb1mx2.8/29,mbtmp2.9/4,ML2.5/4,Error ellipse: s-maj=24.8km s-min=6.7km az=109.0*
NAO ***15*** *05:02:24.4±1.3,63°.16N×28°.09E,ML2.0*
BER ***15*** *05:02:25.3±5.3,63°.18N×28°.09E,h0km±26km, ML2.0(NAO)*
CSEM ***15*** *05:02:26.9±0.2,63°.22N×27°.64E,h1km,ML1.8,Error ellipse: s-maj=9.1km s-min=3.3km az=107.0,Mining explosion.*
ISCJB ***15*** *05:02:26.0±0.6,63°.16N±0°.03×27°.9E±0°.1,h0km,Error ellipse: s-maj=7.5km s-min=3.3km az=15.9*
HEL ***15*** *05:02:27.4±0.2,63°.15N×27°.95E,h0km,ML1.8,Explosion*
ISC 15 05:02:26.1±0.9,63°.24N±0°.03×27°.57E±0°.06,h0km,n30,
σ1§20/50,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUF	Sumiainen	0.84	232	*e*P	Pb	05 02 43.7	+0.3
SUF				*e*S	Sb	05 02 55.7	+0.4
SUF	Sumiainen	0.84	232	P	Pb	05 02 43.7	+0.3
SUF				S	Sb	05 02 55.6	+0.4
KJN	Kajaani	0.85	4	*e*P	Pb	05 02 43.9	+0.2
KJN				*e*S	Sb	05 02 56.4	+0.7
KJN	Kajaani	0.85	4	P	Pb	05 02 43.8	+0.2
KJN				S	Sb	05 02 56.3	+0.7
KAF	Kangasniemi	1.28	208	*e*P	Pg	05 02 50.1	-0.5
KAF				*e*S	Sg	05 03 06.8	-0.2
KAF				MSG		05 03 08.8	
	comp=Z,7.3nm,0.2s						
KAF	Kangasniemi	1.28	208	P	Pg	05 02 50.0	-0.5
KAF				S	Sg	05 03 06.8	-0.2
KEF	Keuruu	1.65	230	*e*P	Pb	05 02 57.7	+0.4
KEF				*e*S	Sg	05 03 20.6	+1.6
KEF				MSG		05 03 22.8	
	comp=Z,6.3nm,0.3s						
KEF	Keuruu	1.65	230	P	Pb	05 02 57.7	+0.4
FIA0	FINESS Array S	1.94	202	Pn	Pn	05 03 00.9	+0.8
	baz=35,slow=18						
FIA0				Lg	Lg	05 03 26.3	
	baz=25,slow=37						
FIA0				Rg	Rg	05 03 36.0	
	baz=32,slow=37						
FIA0	FINESS Array S	1.94	202	Pn	Pn	05 03 00.9	+0.8
	baz=35,slow=18						
FIA0				Lg	Lg	05 03 26.3	
	baz=25,slow=37						
FIA0				Rg	Rg	05 03 36.0	
	baz=32,slow=37						
FIA0	FINESS Array S	1.94	202	*e*P	Pn	05 03 01.1	+0.9
FIA0				*e*S	Sb	05 03 26.4	-0.4
FIA0				MSG		05 03 28.1	
	comp=Z,5.3nm,0.2s						
FIA0	FINESS Array S	1.94	202	P	Pn	05 03 01.0	+0.8
FIA0				Lg	Lg	05 03 26.3	
	baz=25,slow=29,SNR=6.2						
FINES	FINESS Array B	1.94	202	Pn	Pn	05 03 01.1	+0.9
	comp=Z,1.3nm,0.3s,baz=35,slow=16,SNR=42						
FINES				Lg	Lg	05 03 26.4	
	comp=Z,2.5nm,0.3s,baz=27,slow=31,SNR=28						
OUL	Oulu	1.99	339	*e*P	Pb	05 03 04.6	+1.5
OUL				*e*S	Sg	05 03 31.4	+1.4
VAF	Ylistaro	2.23	267	*e*P	Pb	05 03 08.8	+1.6
VAF				*e*S	Sg	05 03 38.2	+0.5
VJF	Virojoki	2.71	180	*e*P	Pn	05 03 10.9	0.0
VJF				*e*S	Sn	05 03 43.6	-0.7
VJF	Virojoki	2.71	180	P	Pn	05 03 10.9	0.0
VJF				S	Sn	05 03 43.6	-0.7
PVF	Pernaja	2.83	197	*e*P	Pn	05 03 13.8	+1.4
PVF				*e*S	Sn	05 03 47.1	-0.1
PVF	Pernaja	2.83	197	P	Pn	05 03 13.8	+1.4
PVF				S	Sn	05 03 47.0	-0.1
KU6	Riekki	2.97	19	*e*P	Pn	05 03 15.8	+1.4
KU6				*e*S	Sn	05 03 52.9	+2.2
KU6	Riekki	2.97	19	P	Pn	05 03 15.8	+1.4
ARA0	ARCESS Array S	6.37	353	Pn	Pn	05 04 00.9	-0.2
	baz=165,slow=16						
ARA0				Sn	Sn	05 05 12.6	-1.9
	baz=159,slow=28						
ARA0				Lg	Lg	05 05 40.2	
	baz=168,slow=37						
ARA0	ARCESS Array S	6.37	353	Pn	Pn	05 04 00.9	-0.2
	baz=165,slow=16						
ARA0				Sn	Sn	05 05 12.6	-1.9
	baz=159,slow=28						
ARA0				Lg	Lg	05 05 40.2	
	baz=168,slow=37						
ARA0	ARCESS Array S	6.37	353	Pn	Pn	05 04 00.9	-0.2
	baz=165,slow=14,SNR=50						
ARA0				Sn	Sn	05 05 12.6	-1.9
	baz=159,slow=25,SNR=50						
ARA0				Lg	Lg	05 05 40.2	
	baz=168,slow=29,SNR=90						
ARCES	ARCESS Array B	6.37

FETY				*e*Sn		**Sn**	05 07 51.4	-0.2	
DALY	**Dalyan (Mu˙la**	**1.45**	**1**	*e*PN		**Pn**	05 07 36.9	+0.3	
DALY	**Dalyan (Mu˙la**	**1.45**	**1**	*e*Pn		**Pn**	05 07 36.9	+0.3	
TURN	**Turunc**	**1.51**	**359**	*e*P		**Pn**	05 07 36.9	-0.4	
TURN	**Turunc**	**1.51**	**359**	*e*P		**Pn**	05 07 36.9	-0.4	
DAT	**Datca**	**1.61**	**328**	*e*PN		**Pn**	05 07 38.7	-0.2	
DAT	**Datca**	**1.61**	**328**	*e*Pn		**Pn**	05 07 38.7	-0.2	
NIS1	**Nisyros Isl.**	**1.71**	**317**	P		**Pn**	05 07 40.2	+0.1	
NIS1				S		**Sn**	05 08 00.2	-0.9	
NIS1	**Nisyros Isl.**	**1.71**	**317**	P		**Pn**	05 07 40.2	+0.1	
NIS1				S		**Sn**	05 08 00.2	-0.9	
YER	**Yerkesik**	**1.79**	**351**	*e*PN		**Pn**	05 07 41.9	+0.6	
YER	**Yerkesik**	**1.79**	**351**	*e*Pn		**Pn**	05 07 41.9	+0.6	
ZKR	**Zakros**	**1.99**	**264**	P		**Pn**	05 07 44.9	+0.9	
ZKR				S		**Sn**	05 08 08.0	0.0	
ZKR	**Zakros**	**1.99**	**264**	*e*PN		**Pn**	05 07 45.2	+1.2	
ZKR	**Zakros**	**1.99**	**264**	P		**Pn**	05 07 44.9	+0.9	
ZKR	**Zakros**	**1.99**	**264**	*e*Pn		**Pn**	05 07 45.2	+1.2	
ZKR				S		**Sn**	05 08 08.0	0.0	
BODT	**Bodrum**	**2.01**	**328**	*e*PN		**Pn**	05 07 43.9	-0.3	
BODT				*e*SN		**Sn**	05 08 06.4	-2.0	
BODT	**Bodrum**	**2.01**	**328**	*e*Pn		**Pn**	05 07 43.9	-0.3	
BODT				*e*Sn		**Sn**	05 08 06.4	-2.0	
GOLH	**Golhisar**	**2.02**	**22**	*i* P		**Pb**	05 07 47.0	-1.1	
GOLH				*e*S		**Sn**	05 08 06.4	-2.4	
GOLH	**Golhisar**	**2.02**	**22**	*i* P		**Pb**	05 07 47.0	-1.1	
GOLH				*e*S		**Sn**	05 08 06.4	-2.4	
MLSB	**Milas**	**2.05**	**341**	*e*PN		**Pn**	05 07 45.3	+0.5	
MLSB	**Milas**	**2.05**	**341**	*e*Pn		**Pn**	05 07 45.3	+0.5	
KORT	**Korkueli**	**2.15**	**40**	*e*P		**Pn**	05 07 46.5	+0.3	
KORT				*e*S		Sn	05 08 05.5	-6.6	
KORT	**Korkueli**	**2.15**	**40**	*e*P		**Pn**	05 07 46.5	+0.3	
DNZL	**Cakiroluk**	**2.35**	**8**	*i* P		**Pn**	05 07 50.1	+1.0	
DNZL				*e*S		Sn	05 08 07.1	-10	
DNZL	**Cakiroluk**	**2.35**	**8**	*i* P		**Pn**	05 07 50.1	+1.0	
AYDN	**Tasoluk**	**2.38**	**345**	*e*P		**Pn**	05 07 50.0	+0.7	
AYDN				*e*S		Sn	05 08 11.7	-5.9	
AYDN	**Tasoluk**	**2.38**	**345**	*e*P		**Pn**	05 07 50.0	+0.7	
NPS	**Neapolis**	**2.47**	**269**	P		**Pn**	05 07 51.7	+1.1	
NPS				S		**Sn**	05 08 19.8	-0.1	
NPS	**Neapolis**	**2.47**	**269**	*e*PN		**Pn**	05 07 51.7	+1.1	
NPS	**Neapolis**	**2.47**	**269**	P		**Pn**	05 07 51.7	+1.1	
NPS				S		**Sn**	05 08 19.8	-0.1	
LAST	**Lasithi**	**2.59**	**267**	P		**Pn**	05 07 53.3	+1.1	
LAST				S		**Sn**	05 08 22.9	0.0	
LAST	**Lasithi**	**2.59**	**267**	*e*PN		**Pn**	05 07 52.9	+0.7	
LAST	**Lasithi**	**2.59**	**267**	*e*Pn		**Pn**	05 07 52.9	+0.7	
LAST	**Lasithi**	**2.59**	**267**	P		**Pn**	05 07 53.3	+1.1	
LAST				S		**Sn**	05 08 22.9	0.0	
BCK	**Bucak**	**2.62**	**36**	*e*PN		**Pn**	05 07 55.2	+2.5	
SMG	**Samos**	**2.75**	**329**	P		**Pn**	05 07 54.4	-0.1	
SMG				S		**Sn**	05 08 25.9	-0.9	
SMG	**Samos**	**2.75**	**329**	*e*PN		**Pn**	05 07 54.7	+0.2	
SUTC	**Sutluce-Ispart**	**2.85**	**41**	*e*PN		**Pn**	05 07 58.8	+2.9	
APE	**Apeiranthos**	**3.03**	**305**	*e*PN		**Pn**	05 07 59.6	+1.3	
APE	**Apeiranthos**	**3.03**	**305**	P		**Pn**	05 07 58.1	-0.2	
APE				S		**Sn**	05 08 33.6	-0.2	
APE	**Apeiranthos**	**3.03**	**305**	*e*PN		**Pn**	05 07 59.4	+1.1	
APE	**Apeiranthos**	**3.03**	**305**	P		**Pn**	05 07 58.1	-0.2	
APE	**Apeiranthos**	**3.03**	**305**	*e*Pn		**Pn**	05 07 59.6	+1.3	
APE				S		**Sn**	05 08 33.6	-0.2	
KHL	**Karahalli**	**3.04**	**13**	*e*PN		**Pn**	05 07 59.5	+1.0	
KHL	**Karahalli**	**3.04**	**13**	*e*Pn		**Pn**	05 07 59.5	+1.0	
AKMC	**Akamas**	**3.05**	**95**	⇑P		**Pn**	05 07 59.9	+1.4	
AKMC	**Akamas**	**3.05**	**95**	⇑*i*P		**Pn**	05 07 59.9	+1.4	
IDI	**Anoyia**	**3.06**	**270**	P		**Pn**	05 07 59.4	+0.7	
IDI	**Anoyia**	**3.06**	**270**	P		**Pn**	05 07 59.4	+0.7	
PPCY	**Paphos**	**3.08**	**98**	⇑P		**Pn**	05 08 00.3	+1.4	
PPCY	**Paphos**	**3.08**	**98**	⇑*i*P		**Pn**	05 08 00.3	+1.4	
GAZI	**Gazipasa**	**3.12**	**73**	*e*Pn		**Pn**	05 08 00.6	+1.1	
IZM	**Izmir**	**3.23**	**340**	*e*PN		**Pn**	05 08 01.2	+0.3	
IZM	**Izmir**	**3.23**	**340**	*e*Pn		**Pn**	05 08 01.2	+0.3	
ALFC	**Alevga** 13nm,0.2s	**3.25**	**92**	⇑P		**Pn**	05 08 02.6	+1.3	
ALFC				S		**Sn**	05 08 37.5	-1.7	
ALFC	**Alevga** 13nm,0.2s	**3.25**	**92**	⇑*i*P		**Pn**	05 08 02.6	+1.3	
ALFC				S		**Sn**	05 08 37.5	-1.7	
SHUT	**Suhut-Afyon**	**3.54**	**25**	*e*PN		**Pn**	05 08 07.0	+1.6	
SHUT	**Suhut-Afyon**	**3.54**	**25**	*e*Pn		**Pn**	05 08 07.0	+1.6	
VAM	**Vamos**	**3.62**	**272**	P		**Pn**	05 08 07.8	+1.4	
VAM	**Vamos**	**3.62**	**272**	*e*PN		**Pn**	05 08 07.8	+1.4	
VAM	**Vamos**	**3.62**	**272**	P		**Pn**	05 08 07.8	+1.4	
CHOS	**Chios island**	**3.66**	**326**	P		**Pn**	05 08 07.6	+0.6	
CHOS				S		**Sn**	05 08 48.8	-0.5	
CHOS	**Chios island**	**3.66**	**326**	P		**Pn**	05 08 07.6	+0.6	
CHOS				S		**Sn**	05 08 48.8	-0.5	
ERMK	**Ermenek**	**3.70**	**69**	*e*Pn		Pn	05 08 11.2	+3.6	
KARN	**Karanos**	**3.85**	**272**	P		**Pn**	05 08 10.6	+1.0	
KARN	**Karanos**	**3.85**	**272**	P		**Pn**	05 08 10.6	+1.0	
CSS	**Prodhromos** 0.4nm,0.3s	**3.87**	**95**	P		**Pn**	05 08 11.2	+1.4	
CSS				S		**Sn**	05 08 52.9	-1.5	
CSS	**Prodhromos**	**3.87**	**95**	P		**Pn**	05 08 11.0	+1.2	
CSS				S		**Sn**	05 08 53.9	-0.5	
CSS	**Prodhromos**	**3.87**	**95**	P		**Pn**	05 08 11.0	+1.2	
CSS				S		**Sn**	05 08 52.9	-1.5	
CSS				Sn		**Sn**	05 08 53.5	-0.9	
ALT	**Altintas**	**3.87**	**17**	*e*PN		**Pn**	05 08 10.9	+1.0	
ALT	**Altintas**	**3.87**	**17**	P		**Pn**	05 08 10.9	+1.0	
ALT				S		**Sn**	05 08 54.1	-0.5	
ALT	**Altintas**	**3.87**	**17**	P		**Pn**	05 08 10.9	+1.0	
ALT				S		**Sn**	05 08 54.1	-0.5	
LADK	**Ladik-KONYA**	**4.12**	**45**	*e*PN		Pn	05 08 16.6	+3.2	
LADK	**Ladik-KONYA**	**4.12**	**45**	*e*Pn		Pn	05 08 16.6	+3.2	
TVSB	**Tavsanli**	**4.13**	**9**	*e*PN		**Pn**	05 08 14.0	+0.5	
TVSB	**Tavsanli**	**4.13**	**9**	*e*Pn		**Pn**	05 08 14.0	+0.5	
KIZT	**Kizilcal**	**4.37**	**35**	*e*PN		**Pn**	05 08 18.4	+1.7	
KIZT	**Kizilcal**	**4.37**	**35**	*e*Pn		**Pn**	05 08 18.5	+1.7	
ANKY	**Antikythira Is**	**4.37**	**278**	*e*PN		**Pn**	05 08 18.2	+1.5	
ANKY	**Antikythira Is**	**4.37**	**278**	*e*Pn		**Pn**	05 08 18.2	+1.5	
HMAT	**Matruh**	**4.45**	**197**	P		**Pn**	05 08 17.5	-0.2	
KYTH	**Kithira**	**4.64**	**283**	*e*PN		**Pn**	05 08 22.0	+1.6	
KYTH	**Kithira**	**4.64**	**283**	*e*Pn		**Pn**	05 08 22.0	+1.6	
GONE	**Gonen-Balikesi**	**4.74**	**351**	*e*PN		**Pn**	05 08 21.7	0.0	
GONE	**Gonen-Balikesi**	**4.74**	**351**	*e*Pn		**Pn**	05 08 21.7	0.0	
SLUM	baz=221	**4.80**	**218**	P		**Pn**	05 08 23.3	+0.7	
SLUM		**4.80**	**218**	P		**Pn**	05 08 23.3	+0.7	
VLI	**Veliai**	**4.81**	**288**	P		**Pn**	05 08 22.8	+0.1	
VLI	**Veliai**	**4.81**	**288**	*e*PN		**Pn**	05 08 24.7	+2.0	
VLI	**Veliai**	**4.81**	**288**	P		**Pn**	05 08 22.8	+0.1	
VLI	**Veliai**	**4.81**	**288**	*e*Pn		**Pn**	05 08 24.7	+2.0	
DID	**Didima**	**4.85**	**298**	P		**Pn**	05 08 23.8	+0.5	
DID	**Didima**	**4.85**	**298**	P		**Pn**	05 08 23.8	+0.5	
LPK	**Lapseki**	**5.22**	**344**	*e*PN		**Pn**	05 08 29.0	+0.7	
LPK	**Lapseki**	**5.22**	**344**	*e*Pn		**Pn**	05 08 29.0	+0.7	
LTK	**Loutraki**	**5.27**	**302**	P		**Pn**	05 08 30.2	+1.1	
LTK	**Loutraki**	**5.27**	**302**	P		**Pn**	05 08 30.2	+1.1	
DYR	**Agios Nikonas**	**5.29**	**287**	P		**Pn**	05 08 30.8	+1.5	
DYR	**Agios Nikonas**	**5.29**	**287**	P		**Pn**	05 08 30.8	+1.5	
ITM	**Ithomi**	**5.71**	**290**	P		**Pn**	05 08 36.2	+1.1	
ITM	**Ithomi**	**5.71**	**290**	P		**Pn**	05 08 36.2	+1.1	
PYL	**PYLOS**	**5.78**	**287**	P		**Pn**	05 08 36.6	+0.5	
PYL	**PYLOS**	**5.78**	**287**	P		**Pn**	05 08 36.6	+0.5	
KLV	**Kalavryta, Ach**	**5.86**	**299**	P		**Pn**	05 08 38.6	+1.5	
KLV	**Kalavryta, Ach**	**5.86**	**299**	P		**Pn**	05 08 38.6	+1.5	
BRTR	**Keskin Array B** 0.3nm,0.3s,baz=220,slow=14,SNR=10.0	**5.90**	**41**	Pn		**Pn**	05 08 40.0	+2.2	
BRTR	0.6nm,0.3s,baz=212,slow=23,SNR=10			Sn		**Sn**	05 09 46.8	+2.2	
FYM	**Al Fayyum** baz=159	**6.01**	**160**	P		**Pn**	05 08 39.2	0.0	
FYM	**Al Fayyum**	**6.01**	**160**	P		**Pn**	05 08 39.2	0.0	
KOT	**Kottamia** baz=152	**6.05**	**153**	P		**Pn**	05 08 39.1	-0.7	
KOT	comp=E,40μm,0.3s,logA/T=5.1,baz=152			AMP			05 09 00.0		
KOT	baz=152			S		**Sn**	05 09 43.2	-5.0	
KOT	**Kottamia**	**6.05**	**153**	P		**Pn**	05 08 39.1	-0.7	
AMAG	**Maghara** baz=138	**6.07**	**139**	P		**Pn**	05 08 40.1	0.0	
AMAG	**Maghara**	**6.07**	**139**	P		**Pn**	05 08 40.1	0.0	
MMA0	**Mount Meron ar**	**6.08**	**111**	Sn		**Sn**	05 09 46.5	-2.4	
MMAI	**Mount Meron Ar** comp=E,8.5nm,0.3s,baz=304,slow=10,SNR=17	**6.08**	**111**	Pn		**Pn**	05 08 40.7	+0.5	
MMAI	comp=E,14nm,0.3s,baz=304,slow=26,SNR=7.8			Sn		**Sn**	05 09 49.8	+0.9	
HWQ	**Hawqa**	**6.11**	**98**	*e*P		**Pn**	05 08 42.3	+1.6	
HWQ	**Hawqa**	**6.11**	**98**	*e*P		**Pn**	05 08 42.3	+1.6	
HHAG	**Hagoal** baz=149	**6.13**	**151**	P		**Pn**	05 08 40.8	-0.1	
HHAG	**Hagoal**	**6.13**	**151**	P		**Pn**	05 08 40.8	-0.1	
SLTI	**Sal˙it**	**6.17**	**118**	Sn		**Sn**	05 09 48.5	-2.7	
KSDI	**Kefar Szold**	**6.21**	**108**	Pn		**Pn**	05 08 42.2	+0.3	
KSDI				Sn		**Sn**	05 09 50.6	-1.3	
HSAF	**As Saff** baz=155	**6.23**	**156**	P		**Pn**	05 08 42.2	-0.1	
HSAF	**As Saff**	**6.23**	**156**	P		**Pn**	05 08 42.2	-0.1	
MMLI	**Mount Malkishu**	**6.35**	**115**	Sn		**Sn**	05 09 53.2	-2.4	
KSHT	**Keshet**	**6.41**	**110**	Pn		**Pn**	05 08 45.9	+1.2	
HMDT	**Nahal Hemdat**	**6.52**	**116**	Sn		**Sn**	05 09 58.1	-1.6	
SUZ	baz=145	**6.54**	**146**	P		**Pn**	05 08 46.9	+0.3	
SUZ		**6.54**	**146**	P		**Pn**	05 08 46.9	+0.3	
RTMI	**Retamim**	**6.65**	**129**	Pn		**Pn**	05 08 48.0	0.0	
YTIR	**Yattir**	**6.73**	**124**	Pn		**Pn**	05 08 49.9	+0.7	
ZAF	baz=149	**6.91**	**150**	P		**Pn**	05 08 50.8	-0.7	
ZAF		**6.91**	**150**	P		**Pn**	05 08 50.8	-0.7	
MZDA	**Masada**	**6.93**	**124**	Sn		**Sn**	05 10 06.7	-3.0	
RMNI	**Mount Ramon**	**7.00**	**131**	Pn		**Pn**	05 08 53.0	0.0	
HNKL	**Nakhl** baz=137	**7.05**	**139**	P		**Pn**	05 08 53.4	-0.1	
HNKL	baz=137			S		**Sn**	05 10 08.0	-4.7	
HNKL	**Nakhl**	**7.05**	**139**	P		**Pn**	05 08 53.4	-0.1	
KRMI	**Paran Flat**	**7.33**	**134**	Pn		**Pn**	05 08 57.1	-0.2	
PRNI	**Paran**	**7.33**	**131**	Pn		**Pn**	05 08 57.0	-0.3	
MBRI	**Mt Berech**	**7.67**	**135**	Pn		**Pn**	05 09 02.0	-0.1	
EIL	**Elat** comp=E,2.0nm,0.3s,baz=341,slow=3.3,SNR=17	**7.79**	**135**	Pn		**Pn**	05 09 04.1	+0.5	
EIL	comp=E,6.4nm,0.3s,baz=335,slow=18,SNR=11			Sn		**Sn**	05 10 29.6	-1.3	
EIL	**Elat**	**7.79**	**135**	Pn		**Pn**	05 09 03.5	-0.1	
HFRF	**Wahat Farafira** baz=183	**8.19**	**182**	P		**Pn**	05 09 08.6	-0.5	
HFRF	**Wahat Farafira**	**8.19**	**182**	P		**Pn**	05 09 08.6	-0.5	
DIVS	**Divibare**	**10.97**	**325**	*e*Pn		**Pn**	05 09 48.0	+0.8	
BBLS	**Lazići**	**11.07**	**323**	*e*Pn		**Pn**	05 09 50.6	+1.9	
KEST	**Kesra** comp=E,0.2nm,0.3s,baz=60,slow=5.6,SNR=10	**15.71**	**277**	Pn		**Pn**	05 10 50.9	-0.6	
GERES	**GERESS Array B** comp=E,0.3nm,0.3s,baz=134,slow=13,SNR=5.5	**17.40**	**325**	P		**Pn**	05 11 12.7	-0.2	
CLL	**Collm** comp=Z,5.0nm,1.0s	**19.51**	**330**	*i* (P)		**Pn**	05 11 38.7	+0.3	
AKTO	**Aktyubinsk** comp=Z,2.6nm,0.5s,baz=245,slow=8.7,SNR=13	**26.05**	**46**	P		**P**	05 12 43.9	+0.9	
ESDC	**Sonseca Array** comp=Z,1.6nm,0.5s,baz=82,slow=10.0,SNR=13	**26.13**	**289**	P		**P**	05 12 43.0	-0.9	
FINES	**FINESS Array B** comp=Z,2.5nm,0.6s,baz=156,slow=10,SNR=11	**26.15**	**357**	P		**P**	05 12 42.8	-1.0	
HFS	**Hagfors** comp=Z,1.1nm,0.5s,baz=143,slow=10,SNR=8.4	**26.61**	**343**	P		**P**	05 12 46.5	-1.5	
NB2	**NORSAR Subarra** comp=Z,0.9nm,0.8s,baz=148,slow=9.3	**28.01**	**342**	P		**P**	05 12 58.1	-2.4	
NB2	**NORSAR Subarra** comp=Z,0.9nm,0.8s,baz=148,slow=8.9,SNR=4.3	**28.01**	**342**	P		**P**	05 12 58.1	-2.4	
NOA	**NORSAR Array B** comp=Z,0.4nm,0.6s,baz=158,slow=9.5,SNR=4.3	**28.01**	**342**	P		**P**	05 12 59.7	-0.8	
TORD	**Torodi Ar. Bea** comp=Z,1.4nm,0.8s,baz=32,slow=9.1,SNR=8.2	**32.86**	**234**	P		**P**	05 13 43.3	-0.4	
ARCES	**ARCESS Array B** comp=Z,2.2nm,0.7s,baz=172,slow=8.2,SNR=6.9	**34.27**	**358**	P		**P**	05 13 54.7	-0.8	
KURBB	**Kurbb Array** comp=Z,1.8nm,0.6s,baz=275,slow=8.8,SNR=19	**38.79**	**51**	P		**P**	05 14 35.2	+1.1	
MKAR	**Makanchi Array** comp=Z,0.5nm,0.6s,baz=277,slow=7.2,SNR=6.8	**41.29**	**57**	P		**P**	05 14 56.3	+1.2	
MKAR	comp=Z,0.2nm,0.6s,baz=284,slow=5.8,SNR=2.4			PcP		**PcP**	05 16 54.9	+1.5	
SONM	**Songino Array** comp=Z,0.3nm,0.3s,baz=290,slow=9.1,SNR=3.1	**57.15**	**52**	P		**P**	05 16 57.9	+1.5	
ILAR	**Eielson Array** comp=Z,0.3nm,0.6s,baz=356,slow=2.8,SNR=4.8	**80.14**	**358**	P		**P**	05 19 18.9	-0.3	

IDC 15 05:27:42.3±11.0, 7.40S×129.39E, h170km±142km, mb3.8/1, mb1 3.3/4, mb1mx3.0/20, mbtmp3.2/4, ML2.8/3, Error ellipse: s-maj=76.6km s-min=52.1km az=20.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 0.0nm,0.3s,baz=8.4,slow=19,SNR=3.1	**11.25**	**199**	P		Pn	05 30 19.6	+1.3
FITZ	0.1nm,0.3s,baz=252,slow=19,SNR=3.4			S		Sn	05 32 21.7	-1.5
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=336,slow=13,SNR=5.1	**13.36**	**159**	P		Pn	05 30 44.7	-0.8
WRA	0.2nm,0.3s,baz=342,slow=22,SNR=7.3			S		Sn	05 33 11.4	-2.5
ASAR	**Alice Springs** 0.1nm,0.3s,baz=348,slow=10,SNR=6.3	**16.74**	**166**	P		Pn	05 31 28.4	+1.2
PETK	**Petropavlovsk-** 1.1nm,0.3s,baz=202,slow=7.5,SNR=5.2	**64.89**	**18**	P		P	05 38 03.0	-0.3

IDC 15 05:32:08.0±1.0, 7.21N×135.26E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/23, mbtmp3.9/7, MS3.0/1, Ms1 3.2/1, ms1mx2.3/31, Error ellipse: s-maj=41.4km s-min=19.3km az=79.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr** 0.0nm,47.3s,baz=0.6,slow=10,SNR=14	**26.99**	**182**	P		P	05 37 51.4	-0.4
ASAR	**Alice Springs** 0.4nm,0.8s,baz=15,slow=11,SNR=2.9	**30.71**	**182**	P		P	05 38 25.9	+1.0
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=109,slow=8.0,SNR=5.0	**37.05**	**291**	P		P	05 39 19.5	-0.7
CMAR	comp=Z,22nm,20.6s,baz=195,slow=37			LR		LR	05 55 04.2	
SONM	**Songino Array** 2.4nm,0.7s,baz=152,slow=8.7,SNR=12	**47.35**	**334**	P		P	05 40 45.1	+1.2
MKAR	**Makanchi Array** 2.5nm,0.7s,baz=109,slow=8.4,SNR=27	**59.93**	**321**	P		P	05 42 16.2	+0.1
ZALV	**Zalesovo Beam** 1.4nm,0.5s,baz=107,slow=4.8,SNR=5.2	**61.70**	**329**	P		P	05 42 27.3	-0.7
ILAR	**Eielson Array** 0.8nm,0.8s,baz=251,slow=5.4,SNR=11	**78.34**	**25**	P		P	05 44 09.8	-0.2
TORD	**Torodi Ar. Bea** 0.2nm,0.5s,baz=33,slow=2.5,SNR=2.5	**129.64**	**294**	PKP		PKPdf	05 51 19.0	-1.3

IDC 15 05:36:48.8±2.0, 0.70N×125.48E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/21, mbtmp3.6/4, Error ellipse: s-maj=176.7km s-min=26.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=10,slow=11,SNR=5.1	**18.68**	**180**	P		Pn	05 41 16.0	+7.0
WRA	**Warramunga Arr** 0.9nm,0.3s,baz=336,slow=10,SNR=21	**22.27**	**158**	P		P	05 41 47.5	-0.3
ASAR	**Alice Springs** 0.8nm,0.3s,baz=343,slow=11,SNR=11	**25.56**	**162**	P		P	05 42 20.0	+0.3
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=118,slow=8.3,SNR=4.3	**59.36**	**327**	P		P	05 46 53.0	0.0
VNDA	**Vanda** 0.3nm,0.4s,baz=306,slow=7.1,SNR=4.2	**80.60**	**172**	P		P	05 49 02.7	-0.1

AUST ***15*** *05:44:18.0, 4.50N×128.51E, h200km*
ISCJB ***15*** *05:44:30.9±0.3, 2.60N±0.03×128.48E±0.04, h150km, mb4.2/25, Error ellipse: s-maj=6.3km s-min=4.6km az=9.9*
NEIC ***15*** *05:44:34.5±1.6, 2.55N×128.39E, h172km±15km, mb4.3/8, Error ellipse: s-maj=11.3km s-min=5.6km az=79.0*
IDC ***15*** *05:44:35.0±1.7, 2.52N×128.41E, h173km±15km, mb3.9/20, mb1 4.0/21, mb1mx3.9/26, mbtmp3.9/21, Error ellipse: s-maj=19.2km s-min=7.1km az=82.0*
DJA ***15*** *05:44:41.7±1.0, 2.1N±10.1×12.8E±0.9, h111km±9km, M4.8/7, mB5.2/5, mb4.8/7, MLv4.9/5, Mw(mB)4.5/5*

ISC 15 05:44:32.6±0.4, 2.52N±0.05×128.41E±0.07, h150km, n87, σ1s05/90, mb4.2/25, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GAMI	**Galela, Maluku**	**0.92**	**223**	P		**Pn**	**05 44 58.9**	**+2.2**
TNTI	**Ternate**	**2.02**	**211**	P		**Pn**	**05 45 10.8**	**+2.8**
MNI	**Manado**	**3.73**	**253**	P		**Pn**	**05 45 29.7**	**+0.4**
SWI	**Sorong** 0.2nm,0.5nm,0.3s,baz=4.3	**4.40**	**140**	P		Pn	05 45 43.0	+4.9
GTOI	**Gorontalo** 192nm,0.7s,2μm0.8nm	**5.71**	**251**	P		**Pn**	**05 45 56.5**	**+1.0**
CTBH	**Cotabato--PC H**	**6.25**	**319**	⇑*i*P		**Pn**	**05 46 03.5**	**+0.9**
FAKI	**Fak Fak** 131nm,0.8s,0.5nm	**6.62**	**145**	P		Pn	05 46 20.5	+13
LUWI	**Luwuk** baz=8.0,SNR=4.3	**6.66**	**238**	S		**Sn**	**05 47 25.0**	**+2.1**
MRSI	**Marisa** 154nm,0.5s,2μm0.6nm	**6.78**	**253**	P		**Pn**	**05 46 10.6**	**+0.9**
SKSI	**Soroako, Sulaw** 92nm,0.7s,4μm	**8.67**	**235**	P		**Pn**	**05 46 34.1**	**-0.9**
TTSI	**Tana Toraja** 44nm,0.8s,2μm	**10.21**	**237**	P		**Pn**	**05 46 55.0**	**-0.5**
MYLDM	**Lahad Datu** 36nm,1.9s	**10.24**	**285**	P		**Pn**	**05 46 56.3**	**+0.5**
SPSI	**Sidrap Palu**	**10.77**	**233**	P		**Pn**	**05 47 03.9**	**+1.0**
KAPI	**Kappang**	**11.44**	**229**	P		**Pn**	**05 47 13.4**	**+1.9**
KAPI				S		**Sn**	**05 49 16.5**	**-1.6**
KAPI	**Kappang** 1.5nm,0.3s,baz=45,slow=11,SNR=4.3	**11.44**	**229**	P		**Pn**	**05 47 13.4**	**+1.9**
KAPI	5.1nm,0.3s,baz=187,slow=16,SNR=5.7			S		**Sn**	**05 49 16.5**	**-1.6**
SOEI	**Soe** baz=15,SNR=3.7	**12.87**	**199**	S		S	05 50 28.7	+22
MTKI	**Muara Teweh, K**	**13.94**	**256**	P		Pn	05 47 40.1	-3.8
MTN	**Manton Dam** baz=18,SNR=7.4	**15.50**	**170**	P		**Pn**	**05 48 04.1**	**+0.9**
KDU	**Kakadu** baz=18,SNR=6.7	**15.63**	**165**	P		**Pn**	**05 48 06.2**	**+1.3**
KNRA	**Kununurra** baz=20,SNR=4.6	**18.08**	**179**	P		**P**	**05 48 35.3**	**+2.5**
FITZ	**Fitzroy Crossi**	**20.67**	**187**	P		**P**	**05 49 00.8**	**+0.1**
FITZ	**Fitzroy Crossi** 2.5nm,0.7s,baz=6.8,slow=12,SNR=8.2	**20.67**	**187**	P		**P**	**05 49 00.8**	**+0.1**
FITZ	**Fitzroy Crossi** baz=23,SNR=3.5	**20.67**	**187**	P		**P**	**05 49 00.5**	**-0.3**
WRAB	**Tennant Creek** 3.9nm,0.6s	**23.06**	**166**	*e*P		**P**	**05 49 25.4**	**+0.4**
WRA	**Warramunga Arr**	**23.07**	**166**	P		**P**	**05 49 25.4**	**+0.4**
WRA				PcP		**PcP**	**05 53 10.2**	**+0.4**
WRA				S		**S**	**05 53 22.8**	**-2.0**
WRA				ScP		**ScP**	**05 56 31.2**	**-2.7**
WRA	**Warramunga Arr** 7.0nm,0.6s,baz=343,slow=10.0,SNR=84	**23.07**	**166**	P		**P**	**05 49 25.4**	**+0.4**
WRA	0.9nm,1.1s,baz=339,slow=2.5,SNR=4.5			PcP		**PcP**	**05 53 10.2**	**+0.4**
WRA	1.0nm,0.8s,baz=340,slow=14,SNR=4.6			S		**S**	**05 53 22.8**	**-2.0**
WRA	0.6nm,0.8s,baz=344,slow=3.3,SNR=4.8			ScP		**ScP**	**05 56 31.2**	**-2.7**
ASAR	**Alice Springs**	**26.57**	**169**	P		**P**	**05 49 57.1**	**+0.3**
ASAR				PcP		**PcP**	**05 53 17.8**	**+0.3**
ASAR				S		**S**	**05 54 18.1**	**-2.3**
ASAR				ScP		**ScP**	**05 56 41.8**	**-1.9**
**AS

TRN 15 05:46:40.5, 15°38N×60°91W, h87km, MD3.6, M2.5(FDF), 3C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGG	**Marie-Galante**	**0.66**	**324**	↑*eP**	Pn	05 46 58.0	+0.7
FDF	**Fort de France**	**0.68**	**200**	↓*iP**	Pn	05 46 57.6	+0.9
FDF	**Fort de France**	**0.68**	**200**	↓*eP**	Pn	05 46 57.6	+0.9
FDF				↓*eS*	Sn	05 47 10.8	+2.1
FDF				↓*eS*		05 47 11.7	
MVM	**Montagne Vaucl**	**0.82**	**179**	*eP*	Pn	05 46 59.0	+0.9
MVM				*eS*	Sn	05 47 13.2	+2.0
DEG	**La Desirade**	**0.94**	**351**	*eP*	Pn	05 47 00.6	+1.2
DEG				*eS*	Sn	05 47 16.1	+2.6
DOG	**Dongo Capester**	**0.94**	**314**	↑*iP*	Pn	05 47 00.5	+1.1
PHG	**Guadaloupe-2**	**0.95**	**312**	*eP*	Pn	05 47 00.6	+1.1
HMG	**Houelmont**	**0.97**	**308**	*eP*	Pn	05 47 00.8	+1.1
BCG	**Bois Riant Cap**	**0.98**	**316**	*eP*	Pn	05 47 00.8	+1.0
SCG	**Saint Claude**	**0.98**	**311**	*eP*	Pn	05 47 00.9	+1.0
SCG				*eS*	Sn	05 47 16.7	+2.2
LZG	**Guadaloupe-1**	**1.13**	**312**	*eP*	Pn	05 47 02.5	+1.0
SEG	**Port Louis**	**1.17**	**331**	↑*iP*	Pn	05 47 03.2	+1.3
SLB	**Belfond**	**1.55**	**185**	*eP*	Pn	05 47 09.3	+2.4
SLB				*eS*	Sn	05 47 28.9	+2.1
MCLT	**Moule a Chique**	**1.66**	**181**	*eP*	Pn	05 47 10.1	+1.9
MCLT				*eS*	Sn	05 47 29.7	+0.5

TAP 15 06:11:22.0, 24°66N×121°77E, h71km, ML3.6, 9D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao** baz=121	**0.09**	**123**	↓*iP*	Pn	06 11 33.1	+0.7
TWC				*S*	Sn	06 11 41.2	+1.2
ILA	**Ilan** baz=345	**0.11**	**351**	*eP*	Pn	06 11 33.4	+0.9
ILA				*eS*	Sn	06 11 42.3	+2.2
TWE	**Neicheng** baz=298	**0.11**	**305**	↓*iP*	Pn	06 11 33.2	+0.8
TWE				*S*	Sn	06 11 41.3	+1.2
ENTT	**Nioudou** baz=263	**0.18**	**265**	↓*iP*	Pn	06 11 33.4	+0.6
ENTT				*eS*	Sn	06 11 41.2	+0.6
ENA	**Nanau** baz=190	**0.23**	**186**	*eP*	Pn	06 11 33.3	+0.4
ENA				*eS*	Sn	06 11 42.2	+1.3
TWA	**Mucha** baz=326	**0.36**	**333**	*P*	Pn	06 11 34.1	+0.3
TWA				*S*	Sn	06 11 42.7	+0.2
NSK	**Sanguang** baz=272	**0.37**	**273**	↓*iP*	Pn	06 11 34.0	+0.1
NSK				*S*	Sn	06 11 42.4	-0.3
TWB1	**Santiao Chiao** baz=38	**0.40**	**30**	↓*iP*	Pn	06 11 34.6	+0.5
TWB1				*S*	Sn	06 11 42.9	-0.1
NWF	**Wu-fen Shan** baz=355	**0.41**	**2**	*i P*	Pn	06 11 34.8	+0.4
NWF				*S*	Sn	06 11 43.8	+0.5
NNS	**Nan Shan** baz=241	**0.42**	**239**	↓*iP*	Pn	06 11 35.0	+0.5
NNS				*eS*	Sn	06 11 44.2	+0.7
TAP1	**Taipei** baz=322	**0.44**	**330**	*eP*	Pn	06 11 34.6	+0.2
TAP1				*S*	Sn	06 11 43.5	0.0
TAP	**Taipei** baz=322	**0.45**	**328**	*eP*	Pn	06 11 34.2	-0.3
TAP				*eS*	Sn	06 11 43.8	+0.1
TWS1	**Kuangyinshan** baz=313	**0.54**	**324**	*i P*	Pn	06 11 35.9	+0.5
TWS1				*S*	Sn	06 11 46.1	+0.8
TWD	**Chiawan** baz=202	**0.59**	**195**	*eP*	Pn	06 11 35.5	-0.5
TWD				*eS*	Sn	06 11 45.2	-0.9
NCU	**National Centr** baz=299	**0.61**	**301**	↓*iP*	Pn	06 11 36.5	+0.4
NCU				*S*	Sn	06 11 47.1	+0.7
TWY	**Chenhua** baz=338	**0.64**	**346**	*P*	Pn	06 11 36.5	+0.2
TWY				*eS*	Sn	06 11 47.6	+0.7
TWT	**Tachien** baz=227	**0.67**	**233**	*eP*	Pn	06 11 38.2	+1.2
TWT				*eS*	Sn	06 11 49.0	+1.0
WHF	**Hehuan Shan** baz=215	**0.69**	**222**	↓*P*	Pn	06 11 37.9	+0.4
WHF				*eS*	Sn	06 11 49.0	+0.2
HWA	**Hwalien** baz=201	**0.69**	**192**	*eP*	Pn	06 11 37.5	+0.5
NSTT	**Nanjuang** baz=267	**0.70**	**268**	↓*iP*	Pn	06 11 37.4	+0.3
NSTT				*S*	Sn	06 11 48.2	+0.1
HSN	**Hsinchu** baz=283	**0.74**	**281**	*eP*	Pn	06 11 37.5	+0.1
HSN				*eS*	Sn	06 11 48.8	-0.1
ESL	**Shilin** baz=193	**0.89**	**200**	*eP*	Pn	06 11 38.3	-1.0
NSY	**Sanyi** baz=254	**0.95**	**256**	*P*	Pn	06 11 40.9	+0.9
NSY				*S*	Sn	06 11 54.6	+1.3
TWQ1	**Liyutan** baz=250	**0.96**	**251**	*eP*	Pn	06 11 40.3	+0.2
TWQ1				*eS*	Sn	06 11 54.5	+0.9
PCYT	**Pengchaiyu** baz=16	**1.01**	**16**	*eP*	Pn	06 11 41.0	+0.3
SMLT	**Sun Moon Lake** baz=233	**1.10**	**226**	*eP*	Pn	06 11 43.0	+1.0
SMLT				*S*	Sn	06 11 59.5	+2.5
TYC	**Yuchr** baz=235	**1.12**	**228**	*P*	Pn	06 11 43.1	+1.0
TYC				*eS*	Sn	06 11 59.4	+2.3
YOJ	**Yonaguni jima** baz=101	**1.15**	**99**	*eP*	Pn	06 11 42.2	-0.3
YOJ				*eS*	Sn	06 11 56.9	-0.8
EHY	**Hungye** baz=199	**1.22**	**200**	*eP*	Pn	06 11 43.0	-0.4
EHY				*eS*	Sn	06 11 58.9	-0.5
TWF1	**Yuli** baz=198	**1.37**	**198**	*eP*	Pn	06 11 43.6	-1.7
YUS	**Yu-Shan** baz=204	**1.38**	**213**	*eP*	Pn	06 11 47.0	+0.9
YUS				*eS*	Sn	06 12 06.0	+1.8
ALS	**Alishan** baz=227	**1.44**	**218**	*eP*	Pn	06 11 47.9	+1.2
ALS				*eS*	Sn	06 12 07.9	+2.7
CHN5	**Tsauling** baz=232	**1.45**	**224**	*eP*	Pn	06 11 47.2	+0.7
CHN5				*eS*	Sn	06 12 07.3	+2.3
CHKT	**Chengkung** baz=193	**1.59**	**193**	*eP*	Pn	06 11 48.6	+0.3
ELDTW	**Lidau** baz=199	**1.61**	**205**	*eP*	Pn	06 11 49.0	+0.3
CHN4	**Tsaushan** baz=218	**1.69**	**220**	*eP*	Pn	06 11 50.4	+0.9
CHN4				*eS*	Sn	06 12 12.6	+2.2
STYT	**Tauyuan** baz=222	**1.75**	**212**	*eP*	Pn	06 11 51.8	+1.3
STYT				*eS*	Sn	06 12 15.2	+3.2
TWK	**Hsinying** baz=219	**1.81**	**220**	*eP*	Pn	06 11 53.8	+2.5
TWK				*eS*	Sn	06 12 17.1	+3.6
CHN1	**Nanshi** baz=229	**1.85**	**218**	*eP*	Pn	06 11 54.1	+2.3
TWG	**Pinlang** baz=189	**1.94**	**199**	*eP*	Pn	06 11 53.3	+0.4
TWG				*eS*	Sn	06 12 15.2	-1.2

NNC 15 06:35:29.7±3.1, 54°49N×86°08E, h0km, mb3.6, mpv3.4, 4C-4D, Error ellipse: s-maj=24.2km s-min=17.7km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra** 2.0nm,0.4s	**6.01**	**233**	↓*Pn*	Pn	06 36 60.0	+0.2
KURBB				↓*Sn*	Sn	06 38 11.0	+1.7
KURBB	5.1nm,0.8s			↑*Lg*	Lg	06 38 41.8	
MK31	**Makanchi Array** 8.6nm,0.8s	**8.07**	**199**	↓*Pn*	Pn	06 37 28.4	+0.3
MK31	1.0nm,0.8s,baz=26,slow=14,SNR=2.8			↓*Sn*	Sn	06 39 00.2	+0.2
MK31	0.7nm,0.6s,baz=26,slow=24,SNR=6.4			↑*Lg*	Lg	06 39 46.6	
VOSK	**Vostochnaya** 0.5nm,0.5s	**9.15**	**265**	↑*Pn*	Pn	06 37 43.2	+0.3
VOSK	3.4nm,1.1s,baz=29,slow=31,SNR=4.2			↑*Sn*	Sn	06 39 26.2	-0.3
	2.8nm,0.9s						

IDC 15 06:39:27.6±1.1, 17°35N×46°40W, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.7/24, mbtmpb3.7/6, MS3.3/4, Ms1 3.3/4, ms1mx2.9/23, Error ellipse: s-maj=31.8km s-min=26.4km az=154.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal** comp=Z,31nm,19.9s,baz=135,slow=35	**30.03**	**249**	*LR*	LR	06 56 57.1	
LPAZ	**La Paz** 1.5nm,0.4s,baz=59,slow=9.6,SNR=16	**39.69**	**214**	*P*	P	06 47 02.5	-0.1
ESDC	**Sonseca Array** 0.2nm,0.3s,baz=262,slow=8.3,SNR=2.2	**42.91**	**50**	*P*	P	06 47 27.4	-0.8
TORD	**Torodi Ar. Bea** 0.4nm,0.7s,baz=291,slow=7.1,SNR=2.4	**46.50**	**88**	*P*	P	06 47 57.0	-0.1
TORD				*LR*	LR	07 03 35.3	
	comp=Z,56nm,21.2s,baz=180,slow=31						
TXAR	**Lajitas Array** 0.2nm,0.7s,baz=106,slow=6.7,SNR=3.0	**53.46**	**294**	*P*	P	06 48 48.6	-1.4
TXAR				*LR*	LR	07 09 28.8	
	comp=Z,27nm,20.1s,baz=10.0,slow=34						
PDAR	**Pinedale Array** 1.1nm,0.9s,baz=114,slow=9.0,SNR=7.1	**58.80**	**310**	*P*	P	06 49 28.1	-0.1
PDAR				*LR*	LR	07 11 21.7	
	comp=Z,30nm,19.1s,baz=239,slow=33						
ILAR	**Eielson Array** 1.5nm,0.9s,baz=72,slow=4.5,SNR=11	**78.86**	**335**	*P*	P	06 51 33.3	+0.9

IDC 15 07:02:00.9±1.3, 18°03S×177°47W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/20, mbtmpb3.7/5, Error ellipse: s-maj=47.3km s-min=26.6km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 2.9nm,0.3s,baz=271,slow=13,SNR=6.9	**20.71**	**192**	*P*	P	07 06 42.4	-0.4
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=97,slow=7.7,SNR=17	**45.49**	**260**	*P*	P	07 10 22.6	+0.3
ASAR	**Alice Springs** 0.6nm,0.4s,baz=87,slow=8.0,SNR=12	**45.62**	**254**	*P*	P	07 10 23.2	-0.2
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=203,slow=5.9,SNR=4.3	**85.31**	**57**	*P*	P	07 14 41.1	+0.8
ILAR	**Eielson Array** 0.3nm,0.7s,baz=216,slow=5.6,SNR=3.9	**85.81**	**13**	*P*	P	07 14 41.0	-0.8

NNC 15 07:13:04.9±4.0, 39°98N×74°28E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=31.8km s-min=16.9km az=168.0

ISC 15 07:13:01.3±4.0, 39°3N±0°3×73°7E±0°1, h10km, n11, σ1§26/13, 2C-7D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=12	**2.87**	**0**	*P*	**Pn**	**07 13 46.9**	**-0.7**
KZA	**Kyzart** SNR=11	**3.06**	**22**	*P*	**Pn**	**07 13 50.8**	**+0.7**
EKS2	**Erkin-Say** SNR=7.6	**3.41**	**1**	*P*	**Pn**	**07 13 57.6**	**+3.0**
AAK	**Ala-Archa** SNR=19	**3.43**	**10**	*P*	**Pn**	**07 13 54.0**	**-0.9**
KBK	**Karagaybulak** SNR=8.7	**3.53**	**15**	*P*	**Pn**	**07 13 56.6**	**+0.2**
ULHL	**Ulahol** SNR=5.2	**3.56**	**32**	*P*	**Pn**	**07 13 56.9**	**+0.1**
TKM2	**Tokmak 2** 4.4nm,0.5s	**3.94**	**21**	↓*Pg*	**Pn**	**07 14 02.3**	**+0.3**
TKM2	12nm,0.8s			↓*Lg*	Lg	07 14 43.3	
USP	**Ospenovka** SNR=9.4	**4.06**	**8**	*P*	Pn	07 14 08.8	+5.3
KK31	**Karatay Array** 0.9nm,0.2s,baz=128,slow=12,SNR=3.7	**4.53**	**329**	↓*Pn*	**Pn**	**07 14 10.6**	**+0.6**
KK31	1.8nm,0.4s,baz=127,slow=16,SNR=2.9			↑*Pg*	**Pb**	**07 14 21.4**	**+0.5**
KK31	2.8nm,0.3s,baz=142,slow=24,SNR=5.6			↓*Sn*	**Sn**	**07 15 01.8**	**-0.9**
KK31	6.9nm,0.5s,baz=132,slow=28,SNR=3.8			↑*Lg*	Lg	07 15 18.9	
AB31	**Akbulak array** 0.4nm,0.5s,baz=128,slow=14,SNR=11	**14.01**	**320**	↓*Pn*	**Pn**	**07 16 18.1**	**-1.6**
AB31	0.1nm,0.2s			↓*Sn*	**Sn**	**07 18 55.5**	**+0.2**
AKTO	**Aktyubinsk** 0.6nm,0.5s	**15.73**	**320**	↓*Pn*	**Pn**	**07 16 43.7**	**+0.9**

PGC 15 07:44:49.5±0.7, 50°62N×129°63W, h10km, ML3.4/12, Mw3.8, 156km west of Pt. Hardy, Bc Vancouver Island Region

IDC 15 07:44:55.9±2.8, 50°76N×129°12W, h35km±39km, mb3.3/1, mb1 3.7/7, mb1mx3.4/28, mbtmpb3.4/7, ML3.5/6, MS2.8/1, Ms1 2.8/1, ms1mx1.9/20, Error ellipse: s-maj=28.2km s-min=9.9km az=77.0

ISC 15 07:44:50.1±1.9, 50.70N±0°05×129°45W±0°06, h11km±12km, n193, σ1§33/190, 82C-95D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**0.84**	**93**	↑*P*	**Pg**	**07 45 06.6**	**+0.4**
BPBC	**Brooks Peninsu**	**1.20**	**116**	↑*P*	**Pb**	**07 45 11.0**	**-1.9**
BPBC				↓*S*	**Sb**	**07 45 25.6**	**-2.8**
PHC	**Port Hardy**	**1.28**	**89**	↑*Pn*	**Pn**	**07 45 13.0**	**-1.0**
PHC				↓*Sn*	**Sb**	**07 45 29.2**	**-1.5**
MAYB	**Maynard**	**1.48**	**101**	↓*Pn*	**Pn**	**07 45 15.8**	**-1.1**
TLCB	**Telegraph Cove**	**1.67**	**94**	↓*Pn*	**Pn**	**07 45 18.7**	**-0.6**
TLCB				↑*Sn*	**Sn**	**07 45 38.9**	**-1.8**
EDB	**Eliza Dome**	**1.70**	**118**	↑*Pn*	**Pn**	**07 45 17.9**	**-1.9**
BBB	**Bella Bella**	**1.71**	**29**	↓*Pn*	**Pn**	**07 45 19.5**	**-0.4**
BBB				↓*Sn*	**Sn**	**07 45 39.7**	**-2.0**
BBB	**Bella Bella** 88nm,0.3s,baz=222,slow=15,SNR=6893	**1.71**	**29**	*Pn*	**Pn**	**07 45 19.4**	**-0.4**
BBB				*Sn*	**Sn**	**07 45 38.9**	**-2.8**
ETB	**Estevan Point**	**2.29**	**124**	↑*Pn*	**Pn**	**07 45 26.4**	**-1.4**
ETB				↑*Sn*	**Sn**	**07 45 53.1**	**-3.0**
BCBC	**Bella Coola**	**2.38**	**44**	↑*Pn*	**Pn**	**07 45 29.0**	**+0.1**
BCBC				↑*Sn*	**Sn**	**07 45 57.5**	**-0.6**
TOFB	**Tofino**	**2.76**	**123**	↑*Pn*	**Pn**	**07 45 32.7**	**-1.5**
MOBC	**Moresby Island**	**2.91**	**329**	↑*Pn*	**Pn**	**07 45 33.8**	**-2.6**
OZB	**Mount Ozzard**	**3.09**	**123**	↑*Pn*	**Pn**	**07 45 37.2**	**-1.7**
DIB	**Dawson Inlet,**	**3.13**	**324**	↑*Pn*	**Pn**	**07 45 37.2**	**-2.2**
VIB	**Van Inlet**	**3.20**	**324**	↑*Pn*	Pn	07 45 37.7	-2.7
BMSB	**Bamfield Mari**	**3.36**	**122**	↑*Pn*	**Pn**	**07 45 41.6**	**-0.9**
DLBC	**Dease Lake**	**7.77**	**358**	*Pn*	**Pn**	**07 46 45.5**	**+2.4**
DLBC	0.3nm,0.3s,baz=190,slow=15,SNR=11			*LR*	LR	07 50 00.7	
	comp=Z,59nm,18.6s,baz=288,slow=40						
C11A	**Tepee Creek (N** baz=9.2	**9.09**	**103**	↓*P*	**Pn**	**07 47 01.9**	**+0.7**
C11A	**Tepee Creek (N** baz=9.2	**9.09**	**103**	↓*P*	**Pn**	**07 47 01.9**	**+0.7**
YBH	**Yreka Blue Hor** 0.1nm,0.3s,baz=350,slow=12,SNR=3.0	**10.10**	**150**	*Pn*	Pn	07 47 20.2	+5.0
E12A	**Beaver Dam Sad** baz=10,SNR=8.9	**10.14**	**110**	↑*P*	**Pn**	**07 47 16.3**	**+0.5**
E12A	**Beaver Dam Sad** baz=10,SNR=8.9	**10.14**	**110**	↑*P*	**Pn**	**07 47 16.3**	**+0.5**
A14A	**Double T Ranch** baz=11	**10.50**	**93**	↓*P*	**Pn**	**07 47 22.4**	**+1.9**
A14A	**Double T Ranch** baz=11	**10.50**	**93**	↓*P*	**Pn**	**07 47 22.4**	**+1.9**
D13A	**Huson** baz=11	**10.51**	**104**	↓*P*	**Pn**	**07 47 21.9**	**+1.3**
D13A	**Huson** baz=11	**10.51**	**104**	↓*P*	**Pn**	**07 47 21.9**	**+1.3**
C14A	**Swan Lake** baz=11	**10.68**	**100**	↑*P*	**Pn**	**07 47 24.7**	**+1.6**
C14A	**Swan Lake** baz=11	**10.68**	**100**	↑*P*	**Pn**	**07 47 24.7**	**+1.6**
A15A	**Johnson Ranch,** baz=11	**10.93**	**93**	↑*P*	**Pn**	**07 47 27.3**	**+0.8**
A15A	**Johnson Ranch,** baz=11	**10.93**	**93**	↑*P*	**Pn**	**07 47 27.3**	**+0.8**
G12A	**Big Creek, Yel** baz=11	**10.99**	**115**	↑*P*	**Pn**	**07 47 28.1**	**+0.8**
G12A	**Big Creek, Yel** baz=11	**10.99**	**115**	↑*P*	**Pn**	**07 47 28.1**	**+0.8**
D14A	**Greenough** baz=11,SNR=6.5	**11.10**	**103**	↑*P*	**Pn**	**07 47 29.7**	**+0.9**
D14A	**Greenough** baz=11,SNR=6.5	**11.10**	**103**	↑*P*	**Pn**	**07 47 29.7**	**+0.9**
I12A	**Atlanta** baz=12	**11.92**	**120**	↓*P*	**Pn**	**07 47 40.7**	**+0.6**
I12A	**Atlanta** baz=12	**11.92**	**120**	↓*P*	**Pn**	**07 47 40.7**	**+0.6**
A17A	**Triple J Farms** baz=12	**12.23**	**91**	↓*P*	**Pn**	**07 47 44.6**	**+0.3**
A17A	**Triple J Farms** baz=12	**12.23**	**91**	↓*P*	**Pn**	**07 47 44.6**	**+0.3**
HLID	**Hailey** baz=12	**12.46**	**119**	↑*P*	**Pn**	**07 47 49.8**	**+2.3**
HLID	**Hailey** baz=12	**12.46**	**119**	↑*P*	**Pn**	**07 47 49.8**	**+2.3**
C17A	**Wharram Farm,** baz=13	**12.61**	**97**	↑*P*	**Pn**	**07 47 49.8**	**+0.4**
C17A	**Wharram Farm,** baz=13	**12.61**	**97**	↑*P*	**Pn**	**07 47 49.8**	**+0.4**
I14A	**Mackay** baz=13	**12.78**	**116**	↓*P*	**Pn**	**07 47 53.1**	**+1.3**
I14A	**Mackay** baz=13	**12.78**	**116**	↓*P*	**Pn**	**07 47 53.1**	**+1.3**
D17A	**Six Diamond Ra** baz=13	**12.83**	**99**	↓*P*	**Pn**	**07 47 53.4**	**+0.9**
D17A	**Six Diamond Ra** baz=13	**12.83**	**99**	↓*P*	**Pn**	**07 47 53.4**	**+0.9**
E18A	**Harlowton** baz=14	**13.55**	**100**	↑*P*	**Pn**	**07 48 03.9**	**+1.5**
E18A	**Harlowton** baz=14	**13.55**	**100**	↑*P*	**Pn**	**07 48 03.9**	**+1.5**
H16A	**Russell Place,** baz=14	**13.63**	**109**	↑*P*	**Pn**	**07 48 05.2**	**+1.7**
H16A	**Russell Place,** baz=14	**13.63**	**109**	↑*P*	**Pn**	**07 48 05.2**	**+1.7**
ELK	**Elko** 0.1nm,0.3s,baz=326,slow=7.3,SNR=5.7	**14.03**	**130**	*Pn*	Pn	07 48 13.9	+4.9
E19A	**Rath Farm, Rou** baz=14	**14.31**	**99**	↓*P*	**Pn**	**07 48 15.0**	**+2.4**
E19A	**Rath Farm, Rou** baz=14	**14.31**	**99**	↓*P*	**Pn**	**07 48 15.0**	**+2.4**
NVAR	**Mina Array Bea** 0.0nm,0.3s,baz=324,slow=12,SNR=10	**14.59**	**143**	*Pn*	Pn	07 48 19.7	+3.1
C21A	**Desert Coulee** baz=15	**14.86**	**92**	↑*P*	**Pn**	**07 48 22.6**	**+2.5**
C21A	**Desert Coulee** baz=15	**14.86**	**92**	↑*P*	**Pn**	**07 48 22.6**	**+2.5**
DUG	**Dugway** baz=16	**15.66**	**126**	↓*P*	**Pn**	**07 48 32.3**	**+1.4**
DUG	**Dugway** baz=16	**15.66**	**126**	↓*P*	**Pn**	**07 48 32.3**	**+1.4**
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=312,slow=11,SNR=16	**15.74**	**113**	*Pn*	**P**	**07 48 36.0**	**0.0**
I20A	**Worland** baz=16,SNR=5.2	**15.92**	**107**	↑*P*	**Pn**	**07 48 36.2**	**+2.0**
I20A	**Worland** baz=16,SNR=5.2	**15.92**	**107**	↑*P*	**Pn**	**07 48 36.2**	**+2.0**
L19A	**Farson** baz=16	**16.27**	**114**	↑*P*	**Pn**	**07 48 40.0**	**+1.4**
L19A	**Farson** baz=16	**16.27**	**114**	↑*P*	**Pn**	**07 48 40.0**	**+1.4**
I21A	**Big Trails, Te** baz=16	**16.51**	**106**	↓*P*	**Pn**	**07 48 42.4**	**+0.7**
I21A	**Big Trails, Te** baz=16	**16.51**	**106**	↓*P*	**Pn**	**07 48 42.4**	**+0.7**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=144,slow=12,SNR=4.1	**16.81**	**334**	*Pn*	**P**	**07 48 50.0**	**+2.6**
FURC	**Furnace Creek,** baz=17	**16.86**	**143**	↑*P*	**Pn**	**07 48 46.5**	**+0.6**
FURC	**Furnace Creek,** baz=17	**16.86**	**143**	↑*P*	**Pn**	**07 48 46.5**	**+0.6**
I22A	**9 Mile Ranch,** baz=17	**16.96**	**105**	↓*P*	**Pn**	**07 48 48.5**	**+1.1**
I22A	**9 Mile Ranch,** baz=17	**16.96**	**105**	↓*P*	**Pn**	**07 48 48.5**	**+1.1**
MPMC	**Manual Prospec** baz=17	**16.98**	**145**	↑*P*	**Pn**	**07 48 49.7**	**+2.0**
MPMC	**Manual Prospec** baz=17	**16.98**	**145**	↑*P*	**Pn**	**07 48 49.7**	**+2.0**
G23A	**Biddle** baz=17	**16.99**	**100**	↓*P*	**P**	**07 48 49.4**	**-0.2**
G23A	**Biddle** baz=17	**16.99**	**100**	↓*P*	**P**	**07 48 49.4**	**-0.2**
ISA	**Isabella** baz=17	**16.99**	**148**	↓*P*	**Pn**	**07 48 49.7**	**+1.9**
ISA	**Isabella** baz=17	**16.99**	**148**	↓*P*	**Pn**	**07 48 49.7**	**+1.9**
K21A	**Alcova** baz=17	**17.19**	**109**	↓*P*	**P**	**07 48 52.3**	**+0.3**
K21A	**Alcova** baz=17	**17.19**	**109**	↓*P*	**P**	**07 48 52.3**	**+0.3**
G24A	**Alzada** baz=18	**17.55**	**98**	↑*P*	**P**	**07 48 55.9**	**+0.2**
G24A	**Alzada** baz=18	**17.55**	**98**	↑*P*	**P**	**07 48 55.9**	**+0.2**
O19A	**Miners Draw (B** baz=18	**17.58**	**118**	↑*P*	**P**	**07 48 57.4**	**+1.2**
O19A	**Miners Draw (B** baz=18	**17.58**	**118**	↑*P*	**P**	**07 48 57.4**	**+1.2**
K22A	**Casper** baz=18	**17.62**	**108**	↑*P*	**P**	**07 48 57.7**	**+1.1**
K22A	**Casper** baz=18	**17.62**	**108**	↑*P*	**P**	**07 48 57.7**	**+1.1**
N20A	**Spence Gulch,** baz=18,SNR=6.6	**17.71**	**116**	↑*P*	**Pn**	**07 48 57.6**	**+0.7**
N20A	**Spence Gulch,** baz=18,SNR=6.6	**17.71**	**116**	↑*P*	**Pn**	**07 48 57.6**	**+0.7**
GSC	**Goldstone** baz=18	**17.91**	**144**	↓*P*	**Pn**	**07 49 00.6**	**+1.5**
GSC	**Goldstone** baz=18	**17.91**	**144**	↓*P*	**Pn**	**07 49 00.6**	**+1.5**
BLG	**Laguna Peak** baz=18	**18.23**	**151**	↑*P*	**Pn**	**07 49 02.4**	**-0.6**
BLG	**Laguna Peak** baz=18	**18.23**	**151**	↑*P*	**Pn**	**07 49 02.4**	**-0.6**
E26A	**Carlson Angus** baz=18	**18.30**	**93**	↓*P*	**Pn**	**07 49 02.3**	**-1.6**
E26A	**Carlson Angus** baz=18	**18.30**	**93**	↓*P*	**Pn**	**07 49 02.3**	**-1.6**
M22A	**Cedar Creek Ra** baz=18	**18.32**	**112**	↑*P*	**Pn**	**07 49 03.4**	**-1.0**
M22A	**Cedar Creek Ra** baz=18	**18.32**	**112**	↑*P*	**Pn**	**07 49 03.4**	**-1.0**
J24A	**Dixon Ranch, L** baz=18	**18.38**	**104**	↓*P*	**P**	**07 49 06.7**	**+1.8**
J24A	**Dixon Ranch, L** baz=18	**18.38**	**104**	↓*P*	**P**	**07 49 06.7**	**+1.8**
H25A	**Fruitdale** baz=18	**18.39**	**99**	↓*P*	**P**	**07 49 05.7**	**+0.7**
H25A	**Fruitdale** baz=18	**18.39**	**99**	↓*P*	**P**	**07 49 05.7**	**+0.7**
L23A	**Garrett** baz=18	**18.43**	**109**	↓*P*	**P**	**07 49 06.2**	**+0.7**
L23A	**Garrett** baz=18	**18.43**	**109**	↓*P*	**P**	**07 49 06.2**	**+0.7**

I25A	Rochford baz=19	18.60	101	⇓P	Pn	07 49 09.8 +2.2
I25A	Rochford baz=19	18.60	101	⇓P	Pn	07 49 09.8 +2.2
M23A	Laramie baz=19	18.80	110	⇑P	P	07 49 09.7 +0.1
M23A	Laramie baz=19	18.80	110	⇑P	P	07 49 09.7 +0.1
U15A	North Rim baz=19	18.85	133	⇑P	P	07 49 10.0 -0.3
U15A	North Rim baz=19	18.85	133	⇑P	P	07 49 10.0 -0.3
H26A	Fairpoint baz=19	18.91	98	⇑P	Pn	07 49 12.0 +0.7
H26A	Fairpoint baz=19	18.91	98	⇑P	Pn	07 49 12.0 +0.7
N23A	Red Feather La baz=19	19.02	112	⇑P	P	07 49 12.8 +0.6
N23A	Red Feather La baz=19	19.02	112	⇑P	P	07 49 12.8 +0.6
O22A	Kremmling baz=19	19.14	115	⇓P	P	07 49 13.7 +0.2
O22A	Kremmling baz=19	19.14	115	⇓P	P	07 49 13.7 +0.2
W13A	Hualapai Mount baz=19	19.25	138	⇓P	Pn	07 49 17.3 +1.7
W13A	Hualapai Mount baz=19	19.25	138	⇓P	Pn	07 49 17.3 +1.7
M24A	Cheyenne baz=19	19.34	109	⇓P	P	07 49 16.2 +0.7
M24A	Cheyenne baz=19	19.34	109	⇓P	P	07 49 16.2 +0.7
H27A	Howes baz=19	19.34	98	⇑P	Pn	07 49 16.5 +0.1
H27A	Howes baz=19	19.34	98	⇑P	Pn	07 49 16.5 +0.1
O23A	Lake Granby, G baz=20	19.47	113	⇑P	P	07 49 18.2 +1.0
O23A	Lake Granby, G baz=20	19.47	113	⇑P	P	07 49 18.2 +1.0
R20A	Redvale baz=20	19.48	122	⇓P	P	07 49 18.0 +0.8
R20A	Redvale baz=20	19.48	122	⇓P	P	07 49 18.0 +0.8
I27A	Quinn baz=20	19.63	99	⇑P	Pn	07 49 20.7 +0.8
I27A	Quinn baz=20	19.63	99	⇑P	Pn	07 49 20.7 +0.8
S20A	Disappointment baz=20	19.75	123	⇓P	Pn	07 49 22.6 +1.0
S20A	Disappointment baz=20	19.75	123	⇓P	Pn	07 49 22.6 +1.0
ISCO	Idaho Springs baz=20	19.92	114	⇓P	P	07 49 23.0 +1.0
ISCO	Idaho Springs baz=20	19.92	114	⇓P	P	07 49 23.0 +1.0
WUAZ	Wupatki baz=20	20.02	132	⇓P	Pn	07 49 25.8 +1.0
WUAZ	Wupatki baz=20	20.02	132	⇓P	Pn	07 49 25.8 +1.0
P23A	Jefferson baz=20	20.07	115	⇑P	P	07 49 24.9 +1.2
P23A	Jefferson baz=20	20.07	115	⇑P	P	07 49 24.9 +1.2
MVCO	Mesa Verde baz=20	20.14	124	⇓P	P	07 49 26.2 +1.9
MVCO	Mesa Verde baz=20	20.14	124	⇓P	P	07 49 26.2 +1.9
I28A	Midland baz=20	20.22	98	⇓P	Pn	07 49 26.6 -0.3
I28A	Midland baz=20	20.22	98	⇓P	Pn	07 49 26.6 -0.3
R22A	Saguache, Gunn baz=20	20.34	119	⇓P	Pn	07 49 29.2 +0.5
R22A	Saguache, Gunn baz=20	20.34	119	⇓P	Pn	07 49 29.2 +0.5
J28A	Allard Ranch, baz=20,SNR=6.5	20.46	100	⇓P	P	07 49 28.6 +0.9
J28A	Allard Ranch, baz=20,SNR=6.5	20.46	100	⇓P	P	07 49 28.6 +0.9
S22A	4UR Ranch, Cre baz=21	20.64	120	⇓P	P	07 49 30.8 +0.9
S22A	4UR Ranch, Cre baz=21	20.64	120	⇓P	P	07 49 30.8 +0.9
K28A	Ten Mile Ranch baz=21	20.75	102	⇑P	P	07 49 32.1 +1.3
K28A	Ten Mile Ranch baz=21	20.75	102	⇑P	P	07 49 32.1 +1.3
R23A	Moffat baz=21	20.89	118	⇑P	P	07 49 34.2 +1.7
R23A	Moffat baz=21	20.89	118	⇑P	P	07 49 34.2 +1.7
X16A	Lo Mia Camp, P baz=21	20.90	134	⇓P	P	07 49 32.8 +0.2
X16A	Lo Mia Camp, P baz=21	20.90	134	⇓P	P	07 49 32.8 +0.2
T22A	Edith baz=21	21.13	122	⇑P	P	07 49 35.8 +0.6
T22A	Edith baz=21	21.13	122	⇑P	P	07 49 35.8 +0.6
X18A	Snowflake baz=22	21.50	131	⇑P	P	07 49 40.5 +1.4
X18A	Snowflake baz=22	21.50	131	⇑P	P	07 49 40.5 +1.4
S24A	Houchin Ranch, baz=22	21.62	118	⇑P	P	07 49 41.3 +0.9
S24A	Houchin Ranch, baz=22	21.62	118	⇑P	P	07 49 41.3 +0.9
W20A	Ramah baz=22	21.74	128	⇑P	P	07 49 42.8 +1.1
W20A	Ramah baz=22	21.74	128	⇑P	P	07 49 42.8 +1.1
R25A	Fountain Ranch baz=22	21.79	115	⇑P	P	07 49 42.7 +0.6
R25A	Fountain Ranch baz=22	21.79	115	⇑P	P	07 49 42.7 +0.6
U23A	El Rito baz=22	22.02	122	⇓P	P	07 49 45.3 +0.6
U23A	El Rito baz=22	22.02	122	⇓P	P	07 49 45.3 +0.6
S25A	Robets Cordova baz=22	22.04	117	⇓P	P	07 49 45.4 +0.6
S25A	Robets Cordova baz=22	22.04	117	⇓P	P	07 49 45.4 +0.6
X20A	Quemado baz=22	22.20	129	⇓P	P	07 49 47.7 +1.1
X20A	Quemado baz=22	22.20	129	⇓P	P	07 49 47.7 +1.1
R27A	Eads baz=23	22.56	113	⇓P	P	07 49 49.9 -0.5
R27A	Eads baz=23	22.56	113	⇓P	P	07 49 49.9 -0.5
X21A	Alamocita Cree baz=23	22.63	128	⇑P	P	07 49 53.0 +1.7
X21A	Alamocita Cree baz=23	22.63	128	⇑P	P	07 49 53.0 +1.7
V24A	Rampart Ranch, baz=23	22.97	121	⇓P	P	07 49 56.0 +1.2
V24A	Rampart Ranch, baz=23	22.97	121	⇓P	P	07 49 56.0 +1.2
W24A	Lazy 6 Ranch, baz=23	23.28	122	⇑P	P	07 49 59.2 +1.2
W24A	Lazy 6 Ranch, baz=23	23.28	122	⇑P	P	07 49 59.2 +1.2
S28A	Manter baz=24	23.55	113	⇓P	P	07 50 00.8 +0.2
S28A	Manter baz=24	23.55	113	⇓P	P	07 50 00.8 +0.2
V26A	Tequesquite Ra baz=24,SNR=6.2	23.73	119	⇑P	P	07 50 03.7 +1.4
V26A	Tequesquite Ra baz=24,SNR=6.2	23.73	119	⇑P	P	07 50 03.7 +1.4
T28A	Walsh baz=24	23.75	114	⇑P	P	07 50 03.4 +1.0
T28A	Walsh baz=24	23.75	114	⇑P	P	07 50 03.4 +1.0
X24A	Lazy VL Ranch, baz=24	23.76	124	⇓P	P	07 50 04.3 +1.6
X24A	Lazy VL Ranch, baz=24	23.76	124	⇓P	P	07 50 04.3 +1.6
W25A	X Bar L Ranch, baz=24,SNR=5.5	23.79	121	⇑P	P	07 50 03.9 +1.0
W25A	X Bar L Ranch, baz=24,SNR=5.5	23.79	121	⇑P	P	07 50 03.9 +1.0
P31A	Stockton baz=24	23.82	106	⇓P	P	07 50 03.3 +0.3
P31A	Stockton baz=24	23.82	106	⇓P	P	07 50 03.3 +0.3
Y24A	Capitan baz=24	24.25	125	⇓P	P	07 50 09.0 +1.8
Y24A	Capitan baz=24	24.25	125	⇓P	P	07 50 09.0 +1.8
Y25A	Mesa, Roswell baz=25	24.64	123	⇑P	P	07 50 12.9 +2.1
Y25A	Mesa, Roswell baz=25	24.64	123	⇑P	P	07 50 12.9 +2.1
124A	Stringfield Ra baz=25	25.20	126	⇓P	P	07 50 17.4 +1.5
124A	Stringfield Ra baz=25	25.20	126	⇓P	P	07 50 17.4 +1.5
324A	Moseley Ranch, baz=26	26.19	128	⇓P	P	07 50 26.4 +1.6
324A	Moseley Ranch, baz=26	26.19	128	⇓P	P	07 50 26.4 +1.6
TXAR	Lajitas Array 0.4nm,0.7s,baz=320,slow=4.9,SNR=6.9	28.81	128	P	P	07 50 49.2 +0.9

*CRAAG **15** 08:03:16.5,36˚.63N×3˚.52E,MI3.5*

CSEM 15 08:03:16.5,36˚.63N×3˚.52E,h0km,ML3.5,After ALG, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABA	**Alger-Bouzarea**	**0.43**	**294**	P	Pg	08 03 23.4	-1.3
ABA	**Alger-Bouzarea**	**0.43**	**294**	P	Pg	08 03 23.4	-1.3
ADJB	**Djebel Djouab**	**0.48**	**188**	P	Pb	08 03 27.4	-0.6
ADJB	**Djebel Djouab**	**0.48**	**188**	P	Pb	08 03 27.4	-0.6
EMHD	**Djebel Mahouad**	**0.63**	**227**	P	Pg	08 03 29.0	+0.2
EMHD	**Djebel Mahouad**	**0.63**	**227**	P	Pg	08 03 29.0	+0.2
ATAF	**Djebel Tarf**	**0.97**	**141**	P	Pg	08 03 31.0	-4.3
ATAF	**Djebel Tarf**	**0.97**	**141**	P	Pg	08 03 31.0	-4.3

*MOS **15** 08:05:27.3±1.9,55˚.98N×110˚.94E,h10km,mb4.2/1,Error ellipse: s-maj=21.6km s-min=13.0km az=52.3*

BYKL 15 08:05:27.1±0.3,56˚.02N×110˚.88E,h13km±5km,4C-7D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMO	**Kumora**	**0.22**	**126**	⇑*i*	Pg	08 05 31.5	-0.5
KMO				*i*	Sg	08 05 34.8	-0.5
KMO					Pmax		
	706nm,0.3s						
KMO					Smax		
	14μm,0.9s						
KMO	**Kumora**	**0.22**	**126**	⇑*i*	PG	Pg	08 05 31.5 -0.5
KMO				*e*			08 05 34.7
KMO					pmax	pmax	
	comp=Z,518nm,0.2s						
KMO					smax	smax	
	comp=N,4μm,0.9s						
YOA	**Uoyan**	**0.49**	**76**	*e*	Pg	08 05 36.3	-0.4
YOA				*i*	Sg	08 05 44.0	-0.7
YOA					Pmax		
	comp=N,860nm,0.4s						
YOA					Smax		
	comp=N,5μm,0.6s						
YOA	**Uoyan**	**0.49**	**76**	*e*	PG	Pg	08 05 36.3 -0.4
YOA				*i*			08 05 43.9
YOA					pmax	pmax	
	comp=Z,832nm,0.3s						
YOA					smax	smax	
	comp=E,5μm,0.5s						
NIZ	**Nizh Angarsk**	**0.79**	**253**	⇓*i*	Pg	Pg	08 05 42.3 -0.2
NIZ				*i*	Sg	Sb	08 05 53.5 0.0
NIZ					Pmax		
	comp=E,46nm,0.5s						
NIZ					Smax		
	comp=E,741nm,0.4s						
NIZ	**Nizh Angarsk**	**0.79**	**253**	*e*	PG	Pg	08 05 42.5 0.0
NIZ				*e*			08 05 54.1
NIZ					pmax	pmax	
	comp=Z,43nm,0.6s						
NIZ					smax	smax	
	comp=N,677nm,0.5s						
SYVR	**Suvo**	**2.42**	**193**	*e*	Pn	Pn	08 06 06.2 -0.2
SYVR				⇓*i*	Pg	Pb	08 06 09.7 -0.8
SYVR				*i*	Sg	Sb	08 06 42.2 +1.9
SYVR					Pmax		
	comp=N,45nm,0.9s						
SYVR					Smax		
	comp=N,210nm,0.7s						
SYVR	**Suvo**	**2.42**	**193**	*e*	PN	Pn	08 06 07.1 +0.7
SYVR				*e*			08 06 09.4
SYVR				*e*			08 06 42.2
SYVR					pmax	pmax	
	comp=Z,45nm,0.6s						
SYVR					smax	smax	
	comp=E,214nm,0.6s						
BOD	**Bodaibo**	**2.49**	**42**	*e*		Pn	08 06 08.0 +0.7
BOD				*e*	Pg	Pb	08 06 10.3 -1.3
BOD				*e*	Sn	Sn	08 06 38.2 +0.8
BOD				*e*	Sg	Sb	08 06 43.3 +1.2
BOD					Pmax		
	comp=E,23nm,0.4s						
BOD					Smax		
	comp=E,282nm,0.5s						
NLYR	**Nelyaty**	**2.73**	**78**	⇓*i*	Pn	Pn	08 06 11.2 +0.5
NLYR				⇓*i*	Pg	Pb	08 06 16.3 +0.5
NLYR				*e*			08 06 32.3
NLYR				*i*	Sg	Sb	08 06 51.8 +2.5
NLYR				*e*			08 06 58.7
NLYR					Pmax		
	comp=E,46nm,0.6s						
NLYR					max		
	comp=E,245nm,0.8s						
NLYR	**Nelyaty**	**2.73**	**78**	*e*	PN	Pn	08 06 11.0 +0.3
NLYR				*e*			08 06 15.9
NLYR				*e*			08 06 50.0
NLYR					pmax	pmax	
	comp=Z,45nm,0.6s						
NLYR					smax	smax	
	comp=N,244nm,0.9s						
MXMB	**Maximikha**	**3.03**	**205**	*e*	Pg	Pb	08 06 20.5 -0.4
MXMB				*e*			08 06 47.8
MXMB				*e*			08 06 57.9
MXMB				*i*	Sg	Sg	08 07 02.2 -2.2
MXMB					Pmax		
	comp=N,26nm,0.2s						
MXMB					Smax		
	comp=N,368nm,0.9s						
OGRR	**Ongureny**	**3.05**	**220**	⇑*i*	Pn	Pn	08 06 15.9 +0.9
OGRR				*e*	Pg	Pb	08 06 21.8 +0.6
OGRR				⇑*i*	PgPg	PbPb	08 06 24.8 +0.5
OGRR				*e*	Sn	Sn	08 06 52.8 +1.5
OGRR				*i*	Sg	Sb	08 07 01.4 +3.1
OGRR				*e*			08 07 04.4
OGRR					max		
	comp=N,18nm,0.7s						
OGRR					max		
	comp=N,121nm,0.5s						
OGRR	**Ongureny**	**3.05**	**220**	*e*	PN	Pn	08 06 16.2 +1.2
OGRR				*e*			08 06 22.3
OGRR				*e*			08 07 01.7
OGRR					pmax	pmax	
	comp=Z,18nm,0.8s						
OGRR					smax	smax	
	comp=E,120nm,0.7s						
VTMR	**Vitim**	**3.54**	**14**	*e*		Pg	08 06 50.6 +16
VTMR				*e*	Sg	Sg	08 07 17.8 -3.1
ZRHB	**Zarechye**	**4.10**	**214**	*e*	Pg	Pb	08 06 41.2 +2.0
ZRHB				*e*	Sg	Sg	08 07 34.5 -4.3
ZRHB					Pmax		
	comp=E,42nm,0.4s						
ZRHB					Smax		
	comp=E,335nm,1.1s						
CRS	**Chara**	**4.19**	**75**	*e*		Pb	08 06 36.3 -4.4
CRS				*e*	Pg	Pg	08 06 42.5 -5.0
CRS				*e*			08 06 45.3
CRS				*e*			08 07 13.2
CRS				*i*	Sg	Sg	08 07 37.4 -4.4
CRS					max		
	comp=E,18nm,0.9s						
CRS					Smax		
	comp=E,114nm,1.3s						
CRS	**Chara**	**4.19**	**75**	*e*	PN	Pb	08 06 42.5 +1.8
CRS				*e*			08 07 36.8
CRS					pmax	pmax	
	comp=Z,19nm,0.8s						
CRS					smax	smax	
	comp=E,114nm,1.4s						
TRG	**Tyrgan**	**4.21**	**221**	*e*		Pn	08 06 31.6 +0.7
TRG				*e*	Pg	Pb	08 06 41.7 +0.7
TRG				*e*			08 07 19.8
TRG				*e*	Sg	Sb	08 07 35.6 +3.9
TRG					Pmax		
	comp=E,5.0nm,0.5s						
TRG					Smax		
	comp=E,82nm,1.3s						
UUDB	**Ulan-Yde**	**4.57**	**206**	*e*	Pg	Pb	08 06 49.0 +1.8
UUDB				*e*			08 06 56.0
UUDB				*e*			08 07 01.8
UUDB				*e*	Sg	Sg	08 07 48.3 -5.7
UUDB				*e*			08 07 50.3
UUDB					max		
	comp=E,20nm,0.8s						
UUDB					max		
	comp=E,71nm,1.2s						
FFNB	**Fofonovo**	**4.66**	**213**	*e*	Sg	Sg	08 07 51.1 -5.7
FFNB					Smax		
	comp=E,40nm,0.6s						
IRK	**Irkutsk**	**5.42**	**228**	*e*		Pg	08 07 27.7 +17
IRK				*e*	Sg	Sg	08 08 14.1 -7.0
IRK					Smax		
	comp=E,269nm,0.3s						
IRK	**Irkutsk**	**5.42**	**228**	*e*	PN	Pb	08 07 05.5 +3.9
TUP	**Tupik**	**5.43**	**103**	⇓*i*	Pn	Pn	08 06 47.4 -0.4
TUP				*e*			08 06 51.5
TUP				*e*	Pg	Pb	08 07 04.5 +2.6
TUP				*e*			08 07 54.1
TUP				*i*	Sg	Sg	08 08 15.2 -6.4
TUP					Pmax		
	comp=E,4.0nm,0.6s						
TUP					Smax		
	comp=E,63nm,1.1s						
TUP	**Tupik**	**5.43**	**103**	*e*	PN	Pn	08 06 47.2 -0.6
TUP				*e*			08 07 03.3
TUP				*e*			08 08 14.7
TUP					pmax	pmax	
	comp=Z,3.0nm,0.4s						
TUP					smax	smax	
	comp=N,33nm,0.5s						
LSTR	**Listvyanka**	**5.48**	**223**	*e*		Sn	08 08 01.9 +11
LSTR				*e*	Sg	Sb	08 08 13.9 +5.6
LSTR					Smax		
	comp=N,104nm,1.6s						
YKLR	**Yuktali**	**6.03**	**80**	*i*	Sg	Sg	08 08 32.8 -7.6
TLY	**Talaya**	**6.10**	**228**	*e*		Pb	08 07 08.8 -4.4
TLY				*e*	Pg	Pg	08 07 15.2 -8.7
TLY				*e*			08 08 07.3
TLY				*i*	Sg	Sb	08 08 34.1 +8.0
TLY					Pmax		
	comp=N,3.0nm,0.4s						
TLY					Smax		
	comp=N,60nm,1.6s						
TLY	**Talaya**	**6.10**	**228**	*e*	PN	Pn	08 06 55.8 -1.1
TLY				*e*			08 07 15.0
TLY				*e*			08 08 35.0
TLY					pmax	pmax	
	comp=Z,13nm,1.0s						
TLY					smax	smax	
	comp=E,56nm,1.0s						
KPC	**Khapcheranga**	**6.39**	**171**	*e*	Pg	Pb	08 07 21.4 +3.2
KPC				*e*			08 07 26.0
KPC				*e*			08 07 34.2
KPC				*e*			08 08 20.8
KPC				*i*	Sg	Sg	08 08 44.4 -8.0
KPC				*e*			08 08 51.3
KPC					max		
	comp=E,3.0nm,0.9s						
KPC					max		
	comp=E,31nm,1.4s						
ARS	**Arshan**	**6.46**	**234**	*e*			08 08 33.2
ARS				*e*	Sg	Sg	08 08 46.7 -7.8
ARS					Smax		
	comp=E,164nm,0.8s						
ZAK	**Zakamensk**	**7.26**	**222**	*e*	Sg	Sg	08 09 14.6 -5.6
ZAK				*e*			08 09 24.1
ZAK					Smax		
	comp=E,24nm,1.3s						
MOY	**Mondy**	**7.29**	**237**	⇓*i*	Pn	Pn	08 07 14.7 +1.3
MOY				*e*			08 07 21.7
MOY				*e*	Pg	Pb	08 07 37.3 +3.7
MOY				*e*			08 08 22.0
MOY				*i*	Sg	Sg	08 09 12.8 -8.5
MOY				*e*			08 09 25.2
MOY					Pmax		
	comp=E,5.0nm,0.8s						
MOY					max		
	comp=E,54nm,1.8s						
MOY	**Mondy**	**7.29**	**237**	*e*	PN	Pn	08 07 15.1 +1.7
MOY				*e*			08 07 39.5
MOY				*e*			08 09 12.9
MOY					pmax	pmax	
	comp=Z,6.0nm,0.5s						
MOY					smax	smax	
	comp=E,54nm,1.8s						
ORL	**Orlik**	**7.36**	**246**	⇓*i*	Pn	Pn	08 07 16.4 +2.1
ORL				*e*			08 07 26.2
ORL				*e*	Pg	Pb	08 07 38.9 +4.2
ORL				*i*	Sn	Sn	08 08 37.1 -0.6
ORL				*i*	Sg	Sg	08 09 15.3 -8.1
ORL					Pmax		
	comp=E,4.0nm,0.7s						
ORL					Smax		
	comp=E,25nm,1.1s						
IENR	**Iengra**	**7.82**	**83**	*e*		Sn	08 08 45.4 -3.4
IENR				*e*	Sg	Sg	08 09 28.2 -10
IENR				*e*			08 09 43.1

NNC 15 08:28:43.5±10.0,53˚.65N×90˚.37E,h0km,mb4.0,mpv3.9, 4C-3D,Error ellipse: s-maj=84.8km s-min=62.6km az=53.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra** 9.2nm,0.5s	**7.89**	**252**	⇓P	Pn	08 30 39.3	0.0
KURBB				⇓Sn	Sn	08 32 11.0	+1.7
	61nm,0.8s						
KURBB				⇑Lg	Lg	08 32 53.8	
	34nm,0.7s						
MK31	**Makanchi Array** 1.3nm,0.7s,baz=39,slow=14,SNR=19	**8.59**	**220**	Pn	Pn	08 30 49.3	+0.2
MK31				⇑Sn	Sn	08 32 27.5	+0.8
	4.4nm,0.8s,baz=41,slow=23,SNR=2.7						
MK31				⇓Lg	Lg	08 33 15.8	
	34nm,1.1s,baz=28,slow=29,SNR=5.5						
VOSK	**Vostochnaya** 0.6nm,0.5s	**11.67**	**273**	⇑Pn	Pn	08 31 30.7	-0.4
VOSK				⇑Sn	Sn	08 33 43.5	+1.4
	3.4nm,0.8s						

*DDA **15** 08:55:52.6,39˚.94N×33˚.59E,h6km,MD2.8*

ISC 15 08:55:51.7±1.8,40˚.00N±0˚.10×33˚.56E±0˚.03,h6km±13km, n9,ₛσ0°81/15,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBAL	**Bala**	**0.57**	**217**	*i* P	**Pg**	**08 56 02.3**	**-0.3**
BBAL				*i* S	**Sg**	**08 56 10.7**	**+0.6**
BBAL	**Bala**	**0.57**	**217**	*i* P	**Pg**	**08 56 02.4**	**-0.2**
BBAL				*i* S	**Sb**	**08 56 11.9**	**-0.5**
ANTO	**Ankara**	**0.60**	**258**	*e* PG	**Pg**	**08 56 03.9**	**+0.6**
ANTO				*e* SG	**Sb**	**08 56 15.0**	**+1.6**
LOD	**Lodumlu**	**0.62**	**260**	*e* PG	**Pg**	**08 56 02.0**	**-1.6**
AFSR	**Afˇar-Bala (A**	**0.67**	**215**	*e* PG	Pg	08 55 56.8	-7.7
CDAG	**Cicekdag**	**0.73**	**121**	*i* P	**Pg**	**08 56 05.7**	**+0.1**
CDAG				*i* S	**Sg**	**08 56 15.6**	**+0.4**
CDAG	**Cicekdag**	**0.73**	**121**	*i* P	**Pg**	**08 56 05.8**	**+0.1**
CDAG				*i* S	**Sb**	**08 56 16.4**	**-0.6**
AVNT	**Avonos**	**1.58**	**140**	*i* P	**Pb**	**08 56 21.3**	**0.0**
AVNT				*i* S	**Sn**	**08 56 40.9**	**-0.2**
AVNT	**Avonos**	**1.58**	**140**	*i* P	**Pg**	**08 56 22.2**	**+0.2**
AVNT				*i* S	**Sg**	**08 56 42.1**	**-0.3**

*IDC **15** 08:57:21.5±0.8,52˚.76N×171˚.27E,h0km,mb3.8/12, mb1 4.1/13,mb1mx3.9/29,mbtmp3.9/13,ML4.4/1,MS2.9/5, Ms1 3.0/5,ms1mx2.8/36,Error ellipse: s-maj=25.3km s-min=9.9km az=176.0*

*MOS **15** 08:57:23.7±1.1,52˚.71N×171˚.20E,h33km,mb4.1/7,Error*

ellipse: s-maj=17.0km s-min=12.7km az=38.0
*ISCJB **15** 08:57:25.7±0.5,52.83N±0.05×170.92E±0.05,h33km, mb3.8/12,MS2.9/4, Error ellipse: s-maj=7.1km s-min=4.1km az=23.9*
*KRSC **15** 08:57:25.3±1.4,52.75N×170.75E,h33km±32km,ML4.4*

ISC 15 08:57:25.8±0.7,52.67N±0.08×171.12E±0.05,h35km,n56, σ1§89/71,mb3.9/12,MS2.8/4,Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**1.26**	**79**	Pn		**Pn**	**08 57 44.0**	**-2.8**
	635nm,0.3s,baz=284,slow=4.6,SNR=2627							
FX1				Sn		**Sn**	**08 57 58.5**	**-4.0**
	baz=170,slow=17							
BKI	**Bering**	**3.96**	**312**	P		**Pn**	**08 58 24.4**	**+0.4**
BKI				S		**Sn**	**08 59 06.7**	**-2.5**
BKI	**Bering**	**3.96**	**312**	*eP*		**Pn**	**08 58 24.4**	**+0.4**
BKI				*eS*		**Sn**	**08 59 06.7**	**-2.5**
KBG	**Krutoberegovo**	**6.08**	**310**	S		**Sn**	**09 00 01.8**	**+0.5**
SMKR	**Semkarok**	**6.84**	**309**	*eP*		**Pn**	**08 59 03.9**	**+0.4**
SMKR				*eS*		**Sn**	**09 00 17.2**	**-2.9**
ZLN	**Zelenaya**	**6.90**	**303**	P		Pn	08 59 06.0	+1.6
ZLN				S		**Sn**	**09 00 20.5**	**-1.2**
BZGR	**Bezymyannyi-Gr**	**6.92**	**302**	*eP*		**Pn**	**08 59 05.7**	**+1.0**
BZGR				*eS*		**Sn**	**09 00 19.8**	**-2.4**
BDR	**Baidarnaya**	**6.95**	**308**	*eP*		**Pn**	**08 59 05.6**	**+0.5**
BDR				S		**Sn**	**09 00 19.7**	**-3.3**
TUMR	**Tumrok**	**6.98**	**296**	*eP*		Pn	08 59 07.5	+1.9
SRKR	**Sorokina**	**7.02**	**309**	*eP*		Pn	08 59 07.9	+1.9
SRKR				S		**Sn**	**09 00 23.1**	**-1.4**
BZMR	**Bezymyannaya**	**7.03**	**302**	*eP*		Pn	08 59 07.8	+1.6
BZWR	**Bezymyannyi-We**	**7.04**	**302**	*eP*		**Pn**	**08 59 07.4**	**+1.1**
BZWR				*eS*		**Sn**	**09 00 22.7**	**-2.4**
KMNR	**Kamenistaya**	**7.09**	**300**	*eP*		**Pn**	**08 59 08.4**	**+1.4**
KMNR				*eS*		**Sn**	**09 00 25.6**	**-0.8**
KLY	**Klyuchi**	**7.11**	**305**	P		**Pn**	**08 59 07.3**	**+0.2**
KLY				S		**Sn**	**09 00 23.3**	**-3.2**
KLY	**Klyuchi**	**7.11**	**305**	*eP*		**Pn**	**08 59 07.3**	**+0.2**
KLY				*eS*		**Sn**	**09 00 23.3**	**-3.2**
KRSR	**Krestovskiy**	**7.11**	**304**	*eP*		**Pn**	**08 59 08.7**	**+1.5**
KRSR				*eS*		**Sn**	**09 00 24.7**	**-2.0**
KIRR	**Kirishev**	**7.11**	**302**	*eP*		Pn	08 59 09.3	+1.9
KIRR				*eS*		**Sn**	**09 00 25.9**	**-1.0**
KPT	**Kopyto**	**7.18**	**302**	*eP*		**Pn**	**08 59 09.7**	**+1.5**
KPT				*eS*		**Sn**	**09 00 27.3**	**-1.2**
KOZR	**Kozyr**	**7.39**	**302**	P		Pn	08 59 12.6	+1.6
KOZR				S		**Sn**	**09 00 32.2**	**-1.3**
KOZ	**Kozyrevsk**	**7.39**	**302**	*eP*		**Pn**	**08 59 12.6**	**+1.5**
KOZ				S		**Sn**	**09 00 32.2**	**-1.5**
UGLR	**Uglovaya**	**7.45**	**279**	*eP*		**Pn**	**08 59 13.2**	**+1.2**
UGLR				S		**Sn**	**09 00 32.4**	**-2.9**
SMAR	**Somma**	**7.47**	**279**	*eP*		**Pn**	**08 59 13.3**	**+1.0**
KRER	**Koryakskii**	**7.50**	**280**	*eP*		**Pn**	**08 59 13.5**	**+0.8**
KRER				*eS*		**Sn**	**09 00 33.1**	**-3.4**
AVH	**Avacha**	**7.50**	**279**	*eP*		**Pn**	**08 59 13.8**	**+1.1**
AVH				*eS*		**Sn**	**09 00 33.9**	**-2.6**
KOK	**Koryaka**	**7.56**	**280**	*eP*		**Pn**	**08 59 14.3**	**+0.8**
KOK				*eS*		**Sn**	**09 00 35.2**	**-2.8**
SRDR	**Sredinnyy**	**7.58**	**303**	*eP*		Pn	08 59 15.5	+1.8
SRDR				*eS*		**Sn**	**09 00 37.3**	**-1.0**
RUS	**Russkaya**	**7.69**	**273**	P		**Pn**	**08 59 16.0**	**+0.8**
RUS				S		**Sn**	**09 00 37.3**	**-3.7**
RUS	**Russkaya**	**7.69**	**273**	*eP*		**Pn**	**08 59 16.0**	**+0.8**
RUS				*eS*		**Sn**	**09 00 37.3**	**-3.7**
MTVR	**Mutnovka**	**7.89**	**274**	*eP*		**Pn**	**08 59 19.4**	**+1.4**
MTVR				*eS*		**Sn**	**09 00 42.1**	**-3.9**
ESO	**Esso**	**7.96**	**299**	P		**Pn**	**08 59 19.2**	**+0.3**
ESO	**Esso**	**7.96**	**299**	P		**Pn**	**08 59 19.2**	**+0.3**
GNL	**Ganaly**	**7.99**	**283**	*eP*		**Pn**	**08 59 20.7**	**+1.4**
GNL				*eS*		**Sn**	**09 00 46.5**	**-1.9**
ASAK	**Asacha**	**8.07**	**273**	*eP*		**Pn**	**08 59 21.7**	**+1.2**
ASAK				*eS*		**Sn**	**09 00 47.3**	**-3.2**
PETK	**Petropavlovsk-**	**8.13**	**278**	P		**Pn**	**08 59 22.7**	**+1.4**
PETK							09 00 49.6	
PETK				pmax	pmax			
	comp=Z,5.0nm,0.3s							
PETK				smax	smax			
	comp=N,1.0nm,0.3s							
PETK				MLR	MLR			
	comp=Z,61nm,21.8s							
PETK	**Petropavlovsk-**	**8.13**	**278**	Pn		**Pn**	**08 59 22.7**	**+1.4**
	comp=Z,4.7nm,0.3s,baz=94,slow=20,SNR=60							
PETK				Sn		**Sn**	**09 00 49.6**	**-2.3**
	comp=Z,0.8nm,0.3s,baz=76,slow=18,SNR=3.6							
PETK				LR	LR		09 02 17.8	
	comp=Z,61nm,21.8s,baz=260,slow=36							
TILK	**Tilichiki**	**8.26**	**343**	*eP*		Pn	08 59 25.4	+2.4
TILK				*eS*		**Sn**	**09 00 54.0**	**-0.9**
APC	**Apacha**	**8.47**	**277**	*eP*		Pn	08 59 28.4	+2.6
APC				*eS*		**Sn**	**09 00 58.7**	**-1.4**
PAU	**Pauzhetka**	**8.90**	**268**	P		Pn	08 59 33.7	+2.0
PAU	**Pauzhetka**	**8.90**	**268**	*eP*		Pn	08 59 33.7	+2.0
ASAJ	**Asahikawa**	**20.67**	**257**	LR		LR	09 09 48.7	
	comp=Z,28nm,20.2s,baz=9.4,slow=36							
KDAK	**Kodiak Island**	**21.14**	**62**	P		**P**	**09 02 05.4**	**-1.9**
	comp=Z,5.2nm,0.5s,baz=297,slow=5.1,SNR=20							
ILAR	**Eielson Array**	**24.41**	**44**	P		**P**	**09 02 38.6**	**-1.9**
	comp=Z,4.4nm,0.9s,baz=250,slow=7.7,SNR=34							
ILAR				LR		LR	09 11 52.4	
	comp=Z,46nm,19.5s,baz=269,slow=36							
USRK	**Ussuriysk Arra**	**27.02**	**268**	P		**P**	**09 03 05.3**	**+1.0**
	comp=Z,3.3nm,1.0s,baz=95,slow=12,SNR=4.2							
KSRS	**Korea Array**	**33.53**	**260**	LR		LR	09 15 24.0	
	comp=Z,11nm,20.4s,baz=190,slow=32							
YKA	**Yellowknife Ar**	**38.82**	**45**	P		**P**	**09 04 47.6**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=269,slow=7.7,SNR=7.9							
SONM	**Songino Array**	**40.42**	**290**	LR		LR	09 22 09.9	
	comp=Z,43nm,19.1s,baz=228,slow=37							
SPITS	**Spitsbergen Ar**	**48.50**	**353**	P		**P**	**09 06 05.8**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=73,slow=8.8,SNR=5.3							
NVAR	**Mina Array Bea**	**49.45**	**77**	P		**P**	**09 06 12.7**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=284,slow=6.3,SNR=5.6							
PDAR	**Pinedale Array**	**51.70**	**67**	P		**P**	**09 06 29.6**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=346,slow=1.8,SNR=7.5							
MKAR	**Makanchi Array**	**54.21**	**302**	P		**P**	**09 06 46.8**	**-0.8**
MKAR	**Makanchi Array**	**54.21**	**302**	P		**P**	**09 06 46.8**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=48,slow=6.5,SNR=7.5							
TXAR	**Lajitas Array**	**64.47**	**75**	P		**P**	**09 07 59.6**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=305,slow=5.2,SNR=24							
NB2	**NORSAR Subarra**	**65.51**	**349**	P		**P**	**09 08 05.4**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=15,slow=6.5							
NOA	**NORSAR Array B**	**65.51**	**349**	P		**P**	**09 08 05.8**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=14,slow=6.6,SNR=5.1							
WRA	**Warramunga Arr**	**79.05**	**215**	P		**P**	**09 09 27.4**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=27,slow=6.2,SNR=5.3							
ASAR	**Alice Springs**	**82.64**	**214**	P			09 09 47.8	+2.5
	comp=Z,0.4nm,0.6s,baz=18,slow=5.4,SNR=5.8							

*IDC **15** 08:58:59.9±3.4,64.68N×32.65E,h0km,mb1 2.9/3, mb1mx2.8/27,mbtmp2.8/3,ML2.7/3,Error ellipse: s-maj=45.4km s-min=10.3km az=101.0*
*ISCJB **15** 08:59:02.1±0.8,64.67N±0.03×30.4E±0.1,h0km,Error ellipse: s-maj=7.6km s-min=4.4km az=20.0*
*HEL **15** 08:59:02.5±0.9,64.64N×30.89E,h0km,ML1.8,Explosion*
*CSEM **15** 08:59:05.1±0.3,64.78N×30.47E,h2km,ML1.8,Error ellipse: s-maj=7.3km s-min=4.4km az=109.0,Mining explosion.*
*NAO **15** 08:59:05.5±1.4,64.73N×30.31E,ML2.3*
*BER **15** 08:59:07.1±2.9,64.74N×30.37E,h0km,ML2.3(NAO), Suspected explosion*

ISC 15 08:59:05.2±1.1,64.79N±0.04×30.54E±0.06,h0km,n30, σ1§24/41,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.27**	**348**	PG		**Pg**	**08 59 28.7**	**-0.9**
KU6				SG		**Sn**	**08 59 48.4**	**+0.5**
KU6				MSG			08 59 48.4	
	comp=Z,8.5nm,0.4s							
KU6				RG	Rg		08 59 53.4	
KU6	**Riekki**	**1.27**	**348**	Pg		**Pg**	**08 59 28.6**	**-0.9**
KU6				Sg		**Sn**	**08 59 48.4**	**+0.5**
MSF	**Maaselka**	**1.29**	**331**	PG		**Pg**	**08 59 29.2**	**-0.7**
MSF				SG		**Sn**	**08 59 50.0**	**+1.6**
MSF				MSG			08 59 50.0	
	comp=Z,5.2nm,0.4s							
MSF	**Maaselka**	**1.29**	**331**	Pg		**Pg**	**08 59 29.2**	**-0.7**
OUL	**Oulu**	**2.00**	**281**	PN		**Pn**	**08 59 40.7**	**+0.6**
OUL				SG		**Sn**	**09 00 07.8**	**+2.0**
OUL				MSG			09 00 07.8	
	comp=Z,5.3nm,0.4s							
OUL	**Oulu**	**2.00**	**281**	Pn		**Pn**	**08 59 40.7**	**+0.6**
OUL				Sg		**Sn**	**09 00 07.8**	**+2.0**
RNF	**Rovaniemi**	**2.62**	**316**	SG		**Sg**	**09 00 29.6**	**+0.4**
RNF				MSG			09 00 29.6	
	comp=Z,3.9nm,0.4s							
RNF	**Rovaniemi**	**2.62**	**316**	Sg		**Sg**	**09 00 29.6**	**+0.4**
SUF	**Sumiainen**	**2.85**	**225**	SG		**Sb**	**09 00 31.4**	**-0.8**
SUF				MSG			09 00 31.4	
	comp=Z,3.7nm,0.2s							
VRF	**Varrio**	**3.00**	**353**	PN		**Pn**	**08 59 54.7**	**+0.8**
	baz=170							
VRF	**Varrio**	**3.00**	**353**	Pn		**Pn**	**08 59 54.6**	**+0.8**
APA0	**Apatity Array**	**3.00**	**18**	Pn		**Pn**	**08 59 53.7**	**-0.2**
	baz=193,slow=16							
APA0				Sn		**Sn**	**09 00 32.8**	**+2.3**
	baz=207,slow=28							
APA0	**Apatity Array**	**3.00**	**18**	Pn		**Pn**	**08 59 53.7**	**-0.2**
	baz=193,slow=16							
APA0				Sn		**Sn**	**09 00 32.8**	**+2.3**
	baz=207,slow=28							
APA0	**Apatity Array**	**3.00**	**18**	Pn		**Pn**	**08 59 53.7**	**-0.2**
	baz=193,slow=14,SNR=50							
APA0				Sn		**Sn**	**09 00 32.8**	**+2.3**
	baz=207,slow=26,SNR=50							
KAF	**Kangasniemi**	**3.29**	**217**	SG		**Sn**	**09 00 39.8**	**+2.2**
KAF				MSG			09 00 39.8	
	comp=Z,1.6nm,0.4s							
FIA0	**FINESS Array S**	**3.92**	**213**	Pn		**Pn**	**09 00 05.5**	**-0.9**
	baz=35,slow=14							
FIA0				Lg	Lg		09 01 05.5	
	baz=35,slow=28							
FIA0	**FINESS Array S**	**3.92**	**213**	Pn		**Pn**	**09 00 05.5**	**-0.9**
	baz=35,slow=14							
FIA0				Lg	Lg		09 01 05.5	
	baz=35,slow=28							
FIA0	**FINESS Array S**	**3.92**	**213**	Pn		**Pn**	**09 00 05.6**	**-0.9**
	baz=35,slow=13,SNR=50							
FIA0				Lg	Lg		09 01 05.6	
	baz=35,slow=27,SNR=2.2							
FINES	**FINESS Array B**	**3.92**	**213**	Pn		**Pn**	**09 00 05.9**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=40,slow=14,SNR=5.2							
FINES				Pg		**Pb**	**09 00 15.9**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=38,slow=15,SNR=8.3							
FINES				Sn		**Sb**	**09 01 00.8**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=38,slow=25,SNR=4.2							
ARA0	**ARCESS Array S**	**5.16**	**340**	Pn		**Pn**	**09 00 22.8**	**-0.7**
	baz=154,slow=14							
ARA0				Sn		**Sn**	**09 01 21.9**	**-1.7**
	baz=152,slow=22							
ARA0				Lg	Lg		09 01 45.0	
	baz=148,slow=28							
ARA0	**ARCESS Array S**	**5.16**	**340**	Pn		**Pn**	**09 00 22.8**	**-0.7**
	baz=154,slow=14							
ARA0				Sn		**Sn**	**09 01 21.9**	**-1.7**
	baz=152,slow=22							
ARA0				Lg	Lg		09 01 45.0	
	baz=148,slow=28							
ARA0	**ARCESS Array S**	**5.16**	**340**	Pn		**Pn**	**09 00 22.8**	**-0.7**
	baz=154,slow=13,SNR=50							
ARA0				Sn		**Sn**	**09 01 21.9**	**-1.7**
	baz=152,slow=21,SNR=50							
ARA0				Lg	Lg		09 01 45.0	
	baz=148,slow=24							
ARCES	**ARCESS Array B**	**5.16**	**340**	Pn		**Pn**	**09 00 22.8**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=154,slow=14,SNR=18							
ARCES				Sn		**Sn**	**09 01 23.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=153,slow=20,SNR=2.9							
HFS	**Hagfors**	**9.08**	**247**	Lg		Lg	09 03 44.9	
	baz=45,slow=28							
HFS	**Hagfors**	**9.08**	**247**	Lg		Lg	09 03 44.9	
	baz=45,slow=28							
HFS	**Hagfors**	**9.08**	**247**	Lg		Lg	09 03 44.9	
	baz=45,slow=28							
NB2	**NORSAR Subarra**	**9.57**	**256**	Pn		**Pn**	**09 01 23.6**	**-0.4**
NB2	**NORSAR Subarra**	**9.57**	**256**	Pn		**Pn**	**09 01 23.6**	**-0.4**
NB2	**NORSAR Subarra**	**9.57**	**256**	Pn		**Pn**	**09 01 23.6**	**-0.4**
	SNR=50							
NOA	**NORSAR Array B**	**9.57**	**256**	Pn		**Pn**	**09 01 25.6**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=65,slow=14,SNR=3.3							

*BGS **15** 09:22:24.9±1.8,44.88S×164.39E,h10km,MS7.9*
*PDG **15** 09:22:25.5,45.70S×166.60E,h2km,Ms7.8*
*BJI **15** 09:22:27.9,45.74S×166.41E,h4km,mB7.5/25,mb6.2/27, Ms7.7/55,Ms7 7.4/57*
*ISCJB **15** 09:22:27.9±0.1,45.73S±0.02×166.71E±0.02,h10km, mb6.3/130,MS7.6/195,Error ellipse: s-maj=3.5km s-min=2.0km az=157.7*
*IDC **15** 09:22:28.1±0.4,45.75S×166.46E,h0km,mb5.4/27, mb1 5.3/28,mb1mx5.3/28,mbtmp5.3/28,ML5.1/1,MS7.6/27, Ms1 7.6/27,ms1mx7.5/31,Error ellipse: s-maj=12.6km s-min=12.1km az=76.0*
*AUST **15** 09:22:28.4,45.96S×166.47E,h0km*
*NEIC **15** 09:22:29.0,45.76S×166.56E,h12km,mb6.5/68,ME7.5, MS7.7/138,MW7.6,ML7.3(WEL),MW7.7(USGS),Complex event observed on broadband displacement seismograms. Energy computed from CMT mechanism. After WEL.*
NEIC A water main was broken at Winton, walls of buildings were cracked at Invercargill and items fell from shelves throughout Southland. Power outages occurred in several parts of the South Island. Several small landslides were also reported. Geodetic measurements indicate the southern tip of the South Island shifted as much as 35 cm to the west-southwest. Felt [VI] at Te Anau and Tuatapere; [V] at Arrowtown, Edendale, Lumsden and Winton; [IV] at Bluff, Gore, Invercargill, Outram, Queenstown and Wanaka. Felt throughout the South Island, the southern part of the North Island and as far away as southeast Australia. A tsunami with wave heights in centimeters [peak-to-trough] was recorded at the following stations: 100 at Jackson Bay; 25 at Charleston; 12 at Dog Island, New Zealand; 14 at Port Kembla and 6 at Spring Bay, Australia.
*WEL **15** 09:22:29.3±0.4,45.77S×166.59E,h12km,Mw7.8,Error ellipse: s-maj=4.4km s-min=1.2km az=90.0,Name: "Dusky Sound"*
WEL Felt from Auckland to Southland, maximum reported intensity MM 7.
*DJA **15** 09:22:30.7±0.3,46.75S×166.71E,h10km,M7.6/36, mb6.4/36,mB7.5/35,Mw(mB)7.6/35,Mwp7.2/35*
*MOS **15** 09:22:30.8±1.4,45.71S×166.65E,h33km,mb6.9/47, MS7.5/51,Error ellipse: s-maj=11.8km s-min=7.2km az=93.2*
*SZGRF **15** 09:22:31.4,46.15S×166.53E,h32km,mb7.9,Off west coast of South Island, New Zealand*
*NEIC **15** 09:22:32.0±0.0,45.72S×166.64E,h25km*
*BKK **15** 09:22:32.6±0.3,46.5S×166E,h10km,M7.8/38, mb6.5/38,mB7.4/37,Mw(mB)7.5/37,Mwp8.0/26*
*TEH **15** 09:22:33.0,45.72S×166.64E,h35km,ML7.8*
*GCMT **15** 09:22:49.6±0.1,45.85S×166.26E,h24km,MW7.8, Moment Tensor Solution. s119,c291; s99,c295; Moment tensor: Scale 10^20^Nm; Mrr3.14±.02; Mθθ0.76±.01; Mφφ-3.90±.01; Mrθ2.59±.10; Mrφ-0.03±.01; Mθφ-3.75±.10; Best double couple: M0 5.80000×10^20^ NP1:φ25.00000°, δ26.00000°,λ.138.00000°. NP2:φ154.00000°,δ73.00000°, λ.70.00000°. Principal axes: T 5.8900, Plg58.0000°, Azm37.0000°; N -0.2000, Plg19.0000°, Azm160.0000°; P -5.6900, Plg25.0000°, Azm259.0000°; Data Used: II IU CN IC G. LP body wave period 50 sec. Mantle wave period 150 sec. Mantle waves from 109 sta. Surface waves: sta=112, comp=235, per= 50.*
*NEIC **15** 09:23:09.5±0.0,45.80S×165.93E,h19km,Moment Tensor Solution. s138 Moment tensor: Scale 10^20^Nm; Mrr2.25; Mθθ0.49; Mφφ-2.74; Mrθ0.81; Mrφ-0.32; Mθφ-1.63; Best double couple: M0 3.10000×10^20^ NP1:φ27.00000°, δ33.00000°,λ.126.00000°. NP2:φ166.00000°,δ64.00000°, λ.69.00000°. Principal axes: T 3.0300, Plg64.0000°, Azm40.0000°; N 0.1900, Plg18.0000°, Azm175.0000°; P -3.2300, Plg16.0000°, Azm271.0000°;*

ISC 15 09:22:32.0±0.2,45.83S±0.02×166.64E±0.03,h21km±1km, h21km:pP-P,n2148,σ2§41/2126,mb6.5/130,MS7.6/198, 297C-252D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.34**	**175**	P*		**Pb**	**09 22 37.6**	**-1.6**
PYZ								
PYZ								
PYZ				S*		**Sb**	**09 22 43.0**	**-1.1**
PYZ				S*		**Sn**	**09 22 43.1**	**-4.7**
PYZ	**Puysegur Point**	**0.34**	**175**	⇑P*		**Pb**	**09 22 37.6**	**-1.6**
PYZ				S*		**Sb**	**09 22 43.0**	**-1.1**
PYZ				S*		**Sb**	**09 22 43.1**	**-1.1**
DCZ	**Deep Cove**	**0.51**	**46**	P*		Pb	09 22 38.6	-3.5
DCZ				⇓P*		Pn	09 22 38.8	-5.2
DCZ				S*		**Sb**	**09 22 48.1**	**-0.9**
DCZ	**Deep Cove**	**0.51**	**46**	⇓P*		Pb	09 22 38.8	-3.4
DCZ				S*		**Sb**	**09 22 48.0**	**-1.1**
WHZ	**Wether Hill Ro**	**0.92**	**94**	P*		**Pb**	**09 22 46.8**	**-2.3**
WHZ				S*		**Sn**	**09 23 06.5**	**+4.3**
WHZ	**Wether Hill Ro**	**0.92**	**94**	⇑P*		**Pb**	**09 22 46.8**	**-2.3**
WHZ				S*		**Sn**	**09 23 03.3**	**+1.1**
MLZ	**Mavora Lakes**	**1.18**	**66**	P*		Pn	09 22 49.9	-3.4
MLZ				S*		**Sb**	**09 23 06.7**	**-1.9**
MLZ	**Mavora Lakes**	**1.18**	**66**	P*		Pn	09 22 49.9	-3.4
MLZ				S*		**Sb**	**09 23 06.7**	**-1.9**
APZ	**The Paps**	**1.37**	**137**	⇑Pn		**Pn**	**09 22 53.6**	**-2.3**
APZ				Sn		**Sb**	**09 23 16.5**	**+2.5**
APZ	**The Paps**	**1.37**	**137**	⇑PN		**Pn**	**09 22 53.6**	**-2.3**
APZ				SN		**Sb**	**09 23 16.5**	**+2.5**
MSZ	**Milford Sound**	**1.48**	**39**	P		Pn	09 22 52.7	-4.6
MSZ							09 23 15.3	
MSZ	**Milford Sound**	**1.48**	**39**	Pn		Pn	09 22 52.6	-4.6
MSZ				Sn		**Sn**	**09 23 15.3**	**-0.6**
MSZ	**Milford Sound**	**1.48**	**39**	PN		Pn	09 22 52.6	-4.6
MSZ				SN		**Sn**	**09 23 15.3**	**-0.6**
SYZ	**Scrubby Hill**	**1.88**	**113**	Pn		**Pn**	**09 23 01.4**	**-1.4**
SYZ	**Scrubby Hill**	**1.88**	**113**	PN		**Pn**	**09 23 01.3**	**-1.4**
WKZ	**Wanaka**	**1.96**	**60**	Pn		**Pn**	**09 23 02.0**	**-2.0**
WKZ	**Wanaka**	**1.96**	**60**	PN		**Pn**	**09 23 02.0**	**-2.0**
EAZ	**Earnscleugh**	**1.97**	**73**	Pn		**Pn**	**09 23 03.0**	**-1.1**
EAZ	**Earnscleugh**	**1.97**	**73**	PN		**Pn**	**09 23 03.1**	**-1.1**
TUZ	**Tuapeka**	**2.10**	**94**	Pn		**Pn**	**09 23 05.1**	**-0.7**
TUZ				Sn		**Sb**	**09 23 34.8**	**0.0**
TUZ				Sn		**Sn**	**09 23 34.9**	**+3.7**
TUZ	**Tuapeka**	**2.10**	**94**	⇓PN		**Pn**	**09 23 05.1**	**-0.7**
TUZ				SN		**Sb**	**09 23 34.8**	**0.0**
TUZ				SN		**Sn**	**09 23 34.9**	**+3.7**
JCZ	**Jackson Bay**	**2.32**	**41**	Pn		**Pn**	**09 23 06.8**	**-2.1**
JCZ				Sn		**Sn**	**09 23 34.4**	**-2.5**
JCZ	**Jackson Bay**	**2.32**	**41**	PN		**Pn**	**09 23 06.8**	**-2.1**
JCZ				SN		**Sn**	**09 23 34.4**	**-2.5**
HHSZ	**Highcliff Hill**	**2.77**	**92**	PN		**Pn**	**09 23 14.1**	**-1.0**
LBZ	**Lake Benmore**	**2.90**	**61**	Pn		**Pn**	**09 23 14.1**	**-2.8**
LBZ	**Lake Benmore**	**2.90**	**61**	PN		**Pn**	**09 23 14.1**	**-2.8**
ODZ	**Otahua Downs**	**2.93**	**76**	*eP*n		Pn	**09 23 15.4**	**-1.9**
ODZ				*eS*n		**Sn**	**09 23 49.1**	**-2.7**
ODZ				Sn		**Sn**	**09 23 50.5**	**-1.3**
ODZ	**Otahua Downs**	**2.93**	**76**	PN		**Pn**	**09 23 15.1**	**-2.2**
ODZ				SN		**Sn**	**09 23 50.5**	**-1.3**
FOZ	**Fox Glacier**	**3.14**	**45**	Pn		**Pn**	**09 23 18.9**	**-1.2**
FOZ	**Fox Glacier**	**3.14**	**45**	PN		**Pn**	**09 23 18.8**	**-1.3**
RPZ	**Rata Peaks**	**3.79**	**58**	Pn		Pn	09 23 25.4	-3.7
RPZ				*eS*n		**Sn**	**09 24 13.1**	**0.0**
RPZ	**Rata Peaks**	**3.79**	**58**	Pn		Pn	09 23 25.4	-3.7
	166nm,0.3s,baz=226,slow=8.2,SNR=532							
RPZ	**Rata Peaks**	**3.79**	**58**	PN		Pn	09 23 25.6	-3.6
WVZ	**Waitaha Valley**	**4.03**	**48**	Pn		**Pn**	**09 23 30.0**	**-2.3**
WVZ	**Waitaha Valley**	**4.03**	**48**	PN		**Pn**	**09 23 30.0**	**-2.3**
OXZ	**Oxford**	**4.60**	**59**	PN		Pn	09 23 36.0	-4.2
MQZ	**McQueen's Vall**	**4.78**	**66**	Pn		Pn	09 23 38.9	-3.8
MQZ	**McQueen's Vall**	**4.78**	**66**	PN		Pn	09 23 38.9	-3.8
CRLZ	**Canterbury Las**	**4.83**	**64**	Pn		**Pn**	**09 23 40.7**	**-2.6**
CRLZ	**Canterbury Las**	**4.83**	**64**	PN		**Pn**	**09 23 40.8**	**-2.6**
LTZ	**Lake Taylor**	**5.06**	**55**	Pn		Pn	09 23 43.0	-3.6
LTZ	**Lake Taylor**	**5.06**	**55**	PN		Pn	09 23 43.1	-3.6
DSZ	**Denniston Nort**	**5.54**	**44**	Pn		Pn	09 23 49.8	-3.3
DSZ	**Denniston Nort**	**5.54**	**44**	PN		Pn	09 23 49.8	-3.3
KHZ	**Kahutara**	**6.03**	**58**	*eP*n		**Pn**	**09 23 57.1**	**-2.7**
KHZ				*eS*n		**Sn**	**09 25 09.7**	**+1.5**
KHZ	**Kahutara**	**6.03**	**58**	PN		**Pn**	**09 23 57.0**	**-2.9**
THZ	**Tophouse**	**6.09**	**50**	Pn		Pn	09 23 57.7	-3.1
THZ	**Tophouse**	**6.09**	**50**	PN		Pn	09 23 57.1	-3.7
QRZ	**Quartz Range**	**6.59**	**43**	Pn		Pn	09 24 04.1	-3.5
QRZ	**Quartz Range**	**6.59**	**43**	PN		Pn	09 24 04.1	-3.5
CMWZ	**Cape Campbell**	**6.83**	**56**	Pn		**Pn**	**09 24 11.5**	**+0.6**
CMWZ	**Cape Campbell**	**6.83**	**56**	PN		**Pn**	**09 24 11.2**	**+0.3**
TCW	**Tory Channel**	**7.22**	**53**	Pn		**Pn**	**09 24 15.6**	**-0.6**
TCW	**Tory Channel**	**7.22**	**53**	PN		**Pn**	**09 24 15.5**	**-0.7**
DUWZ	**D'Urville Isla**	**7.31**	**49**	Pn		**Pn**	**09 24 15.0**

KRVZ **Karewarewa** 9.46 48 Pn **Pn** 09 24 47.1 0.0
KRVZ **Karewarewa** 9.46 48 *e*PN **Pn** 09 24 46.9 -0.2
PXZ **Pawanui** 9.47 56 Pn **Pn** 09 24 44.1 -3.0
PXZ **Pawanui** 9.47 56 *e*PN Pn 09 24 43.8 -3.3
HIZ **Hauiti** 9.52 43 Pn **Pn** 09 24 45.3 -2.5
HIZ **Hauiti** 9.52 43 PN **Pn** 09 24 44.9 -2.9
KATZ **Kakaramea** 9.58 48 *e*PN **Pn** 09 24 50.3 +1.6
KAHZ **Kahuranaki** 9.64 55 Pn **Pn** 09 24 47.0 -2.4
KAHZ **Kahuranaki** 9.64 55 *e*PN **Pn** 09 24 46.5 -2.9
RATZ **Rangitukua** 9.70 47 Pn **Pn** 09 24 50.0 -0.2
RATZ **Rangitukua** 9.70 47 *e*PN **Pn** 09 24 49.7 -0.5
MCHZ **McNeill Hill** 9.78 53 *e*Pn **Pn** 09 24 51.6 +0.3
MCHZ **McNeill Hill** 9.78 53 *e*PN **Pn** 09 24 51.6 +0.3
WATZ **Wairara** 9.80 47 *e*Pn **Pn** 09 24 53.0 +1.4
WATZ **Wairara** 9.80 47 *e*PN **Pn** 09 24 53.0 +1.4
BKZ **Black Stump Fm** 9.86 51 Pn **Pn** 09 24 51.2 -1.3
BKZ **Black Stump Fm** 9.86 51 *e*PN **Pn** 09 24 50.6 -1.9
MCQ **Macquarie Isla** 9.97 207 *e*P **Pn** 09 24 53.9 +0.1
MCQ **Macquarie Isla** 9.97 207 *e*Pn **Pn** 09 24 53.9 +0.1
MCQ **Macquarie Isla** 9.97 207 P **Pn** 09 24 51.8 -2.0
baz=9.8,SNR=54
MCQ S Sn 09 27 12.0 +27
baz=9.8,SNR=7.9
TLZ **Tolley Road** 9.99 45 *e*PN **Pn** 09 24 51.8 -2.5
NMHZ **Naumai** 10.08 52 Pn **Pn** 09 24 53.4 -2.1
NMHZ **Naumai** 10.08 52 *e*PN **Pn** 09 24 53.1 -2.4
HRRZ **Handcock Road** 10.32 47 Pn **Pn** 09 24 59.4 +0.6
HRRZ **Handcock Road** 10.32 47 *e*PN **Pn** 09 24 58.0 -0.8
TOZ **Tahuroa Road** 10.45 42 Pn **Pn** 09 24 59.4 -1.1
OMRZ **Omania** 10.58 47 *e*PN **Pn** 09 25 00.6 -1.7
KNZ **Kokohu** 10.62 54 Pn **Pn** 09 25 01.4 -1.4
MHGZ **Mahia Peninsul** 10.66 55 Pn Pn 09 24 59.5 -3.9
WTAZ **Waiatarua** 10.70 37 Pn **Pn** 09 25 01.5 -2.4
PRGZ **Paritu Road** 10.80 54 Pn Pn 09 25 01.5 -3.8
PRGZ **Paritu Road** 10.80 54 PN Pn 09 25 01.5 -3.8
MKAZ **Moumakai** 10.80 39 *e*Pn **Pn** 09 25 03.3 -2.0
MKAZ Sn **Sn** 09 27 06.7 +1.1
MKAZ **Moumakai** 10.80 39 *e*PN **Pn** 09 25 03.3 -2.0
MKAZ SN Sn 09 26 59.5 -6.1
KAAZ **Kauri Point** 10.85 37 *e*PN **Pn** 09 25 02.9 -3.0
URZ **Urewera** 10.85 49 *e*Pn **Pn** 09 25 03.9 -2.1
URZ Sn **Sn** 09 27 07.6 +0.9
URZ *e*Sn Sn 09 27 10.6 +3.9
URZ **Urewera** 10.85 49 Pn **Pn** 09 25 03.7 -2.3
15nn,0.3s,baz=228,slow=7.2,SNR=26
URZ Sn **Sn** 09 27 07.6 +0.9
64nn,0.3s,baz=8.7,slow=13,SNR=2.5
URZ **Urewera** 10.85 49 *e*PN Pn 09 25 00.9 -5.1
MTAZ **Motutapu** 10.96 37 *e*Pn **Pn** 09 25 04.8 -2.7
MTAZ **Motutapu** 10.96 37 *e*PN **Pn** 09 25 04.8 -2.7
MWZ **Matawai** 11.02 51 Pn Pn 09 25 04.9 -3.4
MWZ **Matawai** 11.02 51 *e*PN Pn 09 25 04.7 -3.6
ABAZ **Army Bay** 11.09 37 *e*PN **Pn** 09 25 06.5 -2.7
WCZ **Waipu Caves** 11.47 33 PN Pn 09 25 11.2 -3.2
PUZ **Puketiti** 11.61 52 PN **Pn** 09 25 14.2 -2.1
OUZ **Omahuta** 11.84 29 *e*Pn **Pn** 09 25 16.7 -2.8
OUZ *e*Sn **Sn** 09 27 26.9 -4.1
OUZ **Omahuta** 11.84 29 PN **Pn** 09 25 16.8 -2.8
TAU **Tasmania Unive** 14.12 275 *e*P Pn 09 25 46.1 -4.5
TAU *e* 09 28 33.3
TAU **Tasmania Unive** 14.12 275 *e*Pn Pn 09 25 46.1 -4.5
TAU *e*Sn Sn 09 28 33.3 +6.8
MOO **Moorlands** 14.37 277 P Pn 09 25 48.7 -5.3
baz=14,SNR=94
LHI **Lord Howe Isla** 15.46 335 P **P** 09 26 12.6 -0.4
baz=16,SNR=8.5
MILA **Mila** 15.75 298 P Pn 09 26 07.4 -5.1
baz=16,SNR=383
CNB **Canberra Magne** 16.78 303 P **Pn** 09 26 23.0 -2.6
baz=17,SNR=55
NFK **Norfolk Island** 16.79 4 P P 09 26 32.8 +4.9
baz=17,SNR=6.3
CAN **Canberra** 16.99 302 *e*P **Pn** 09 26 25.9 -2.3
CAN *e* 09 29 35.1
CAN **Canberra** 16.99 302 *e*Pn **Pn** 09 26 25.9 -2.3
17µm,2.1s
CAN *e*Sn **Sn** 09 29 35.1 -1.3
MGCD **Mangrove Creek** 17.35 311 P **Pn** 09 26 30.0 -2.7
baz=17,SNR=28
TOO **Toolangi** 17.78 290 P **Pn** 09 26 35.7 -2.4
baz=18,SNR=103
YNG **Young** 18.05 303 P **Pn** 09 26 39.9 -1.6
baz=18,SNR=160
ARMA **Armidale** 19.34 318 *e*P **P** 09 26 55.4 -0.7
517nm,0.7s
ARMA *e*Pn **Pn** 09 26 55.6 -1.6
ARMA *e*S **S** 09 30 34.2 +0.2
ARMA **Armidale** 19.34 318 P **P** 09 26 55.9 -0.2
baz=19,SNR=6.2
RAO **Raoul Island** 20.53 42 P **P** 09 27 07.5 -1.3
290nm,0.8s
RAO *e*ScP **ScP** 09 34 57.6 +2.7
RAO LR LR
comp=Z,3415µm,21.0s
RAO **Raoul Island** 20.53 42 P **P** 09 27 07.5 -1.3
comp=Z,129nm,0.3s,baz=43,slow=19,SNR=3.8
CMSA **Cobar Meteorol** 21.61 304 P **P** 09 27 21.0 +0.5
baz=22,SNR=24
PLUM **Mont Dore** 23.50 0 *e*P **P** 09 27 42.8 +2.4
NORM **Noumea** 23.55 360 *e*P **P** 09 27 39.6 -1.2
NOUC **Port Laguerre** 23.68 359 *e*P **P** 09 27 41.0 -1.0
DZM **Mont Dzumac** 23.70 360 *e*P **P** 09 27 41.1 -1.3
comp=Z,4µm,1.1s
DZM *e*LR LR 09 33 30.3
comp=Z,1095µm,35.5s
DZM **Mont Dzumac** 23.70 360 *e*P **P** 09 27 40.9 -1.6
comp=Z,3µm,1.3s
DZM **Mont Dzumac** 23.70 360 P **P** 09 27 41.3 -1.2
comp=Z,422nm,1.1s,baz=90,slow=24,SNR=44
STKA **Stephens Creek** 23.84 297 P **P** 09 27 42.1 -1.5
STKA S **S** 09 32 03.0 +4.7
STKA **Stephens Creek** 23.84 297 P **P** 09 27 42.1 -1.5
comp=Z,44nm,0.8s,baz=128,slow=11,SNR=22
STKA S **S** 09 32 03.0 +4.7
comp=Z,28nm,0.7s,baz=43,slow=19,SNR=1.7
STKA LR LR 09 35 22.2
comp=Z,1194µm,20.2s,baz=144,slow=33
STKA **Stephens Creek** 23.84 297 P **P** 09 27 43.6 0.0
baz=24,SNR=18
EIDS **Eidsvold** 23.94 323 *e*P **P** 09 27 42.9 -1.6
EIDS *e*S **S** 09 32 05.4 +5.5
EIDS **Eidsvold** 23.94 323 P **P** 09 27 42.6 -2.0
baz=24,SNR=16
RMQ **Roma** 24.01 317 P **P** 09 27 43.8 -1.4
baz=24,SNR=16
DRV **Dumont d'Urvil** 25.21 205 P P 09 27 48.0 -7.7
DRV S **S** 09 32 24.0 +4.4
DRV L L 09 33 00.0
DRV R 09 34 00.0
BBOO **Buckleboo** 26.81 288 *e*P **P** 09 28 09.5 -1.1
comp=Z,32µm,1.1s
BBOO *e*S **S** 09 32 47.9 +2.2
BBOO **Buckleboo** 26.81 288 P **P** 09 28 09.2 -1.4
baz=27,SNR=20
MSVF **Nonsavu** 29.59 22 *e*P **P** 09 28 32.9 -2.6
MSVF pmax pmax
comp=Z,496nm,1.1s
MSVF MLR MLR
comp=Z,2369µm,20.0s
MSVF **Nonsavu** 29.59 22 *e*P **P** 09 28 32.9 -2.6
comp=Z,496nm,1.1s
MSVF *e*S S 09 33 40.9 +11
MSVF LR LR
comp=Z,2369µm,20.0s
CTA **Charters Tower** 30.67 320 P **P** 09 28 43.4 -1.6
CTA S S 09 33 53.5 +7.1
CTA **Charters Tower** 30.67 320 P **P** 09 28 43.4 -1.6
comp=Z,8.4nm,1.0s,baz=151,slow=6.8,SNR=6.5
CTA S S 09 33 53.5 +7.1
comp=Z,22nm,1.1s,baz=258,slow=19,SNR=2.2
CTA LR LR 09 40 27.6
comp=Z,969µm,18.1s,baz=150,slow=35
CTAO **Charters Tower** 30.67 320 *e*P **P** 09 28 42.3 -2.7
CTAO *e*S **S** 09 33 49.4 +2.9
CTAO pmax pmax
comp=Z,768nm,1.5s
CTAO MLR MLR
comp=Z,1031µm,20.0s
CTAO **Charters Tower** 30.67 320 *e*P **P** 09 28 42.3 -2.7
comp=Z,768nm,1.5s
CTAO *e*S **S** 09 33 49.4 +2.9
CTAO LR LR
comp=Z,1031µm,20.0s
VNDA **Vanda** 31.85 182 P **P** 09 28 54.6 -0.3
VNDA S S 09 34 14.1 +10
VNDA **Vanda** 31.85 182 P **P** 09 28 54.6 -0.3
comp=Z,37nm,1.1s,baz=360,slow=9.3,SNR=22
VNDA S S 09 34 14.1 +10
comp=Z,15nm,1.0s,baz=353,slow=8.1,SNR=1.9
VNDA LR LR 09 39 35.2
comp=Z,1754µm,19.6s,baz=16,slow=32
SBA **Scott Base** 32.13 180 P **P** 09 28 58.9 +1.6
SBA pmax pmax
comp=Z,4µm,2.5s
SBA MLR MLR
comp=Z,1624µm,21.0s
SBA **Scott Base** 32.13 180 P **P** 09 28 58.9 +1.6
comp=Z,4µm,2.5s
SBA *e*S S 09 34 18.2 +10
SBA LR LR
comp=Z,1624µm,21.0s
MTSU **Mount Surprise** 33.26 319 P **P** 09 29 07.0 -0.8
baz=33,SNR=35
FORT **Forrest** 33.44 283 *e*P **P** 09 29 10.1 +0.9
comp=Z,892nm,1.2s
FORT **Forrest** 33.44 283 P **P** 09 29 10.2 +0.9
baz=33,SNR=15
AS31 **Alice Springs** 34.45 299 *e*P **P** 09 29 15.8 -2.3
AS31 *e*S S 09 34 52.4 +7.0
ASAR **Alice Springs** 34.45 299 P **P** 09 29 17.1 -1.1
ASAR S S 09 34 52.0 +6.7
ASAR PKiKP **PKiKP** 09 39 17.1 +0.7
ASAR P'P' 10 02 34.4
ASAR **Alice Springs** 34.45 299 P **P** 09 29 17.1 -1.1
comp=Z,29nm,1.1s,baz=135,slow=7.9,SNR=51
ASAR S S 09 34 52.0 +6.7
comp=Z,3.1nm,0.8s,baz=167,slow=30,SNR=2.7
ASAR PKiKP **PKiKP** 09 39 17.1 +0.7
comp=Z,1.4nm,0.8s,baz=118,slow=1.5,SNR=2.7
ASAR LR LR 09 41 53.7
comp=Z,2262µm,19.8s,baz=139,slow=34
ASAR PKPPKP **P'P'df** 10 02 34.4 +1.3
comp=Z,3.1nm,0.8s,baz=254,slow=0.1,SNR=4.3
CASY **Casey** 35.75 215 *e*P **P** 09 29 26.0 -2.8
comp=Z,1µm,1.4s
CASY LR LR
comp=Z,2024µm,19.0s
AFI **Afiamalu** 36.67 37 *e*P P 09 29 33.9 -3.4
comp=Z,2µm,1.0s
AFI LR LR
comp=Z,354µm,20.0s
AFI **Afiamalu** 36.67 37 P **P** 09 29 37.8 +0.5
comp=Z,160nm,1.0s,baz=225,slow=1.7,SNR=6.8
HNR **Honiara** 36.72 349 *e*P **P** 09 29 35.7 -1.9
HNR **Honiara** 36.72 349 P **P** 09 29 37.2 -0.5
comp=Z,340nm,0.9s,baz=100,slow=1.4,SNR=9.8
HNR LR LR 09 43 10.0
comp=Z,631µm,18.1s,baz=176,slow=34
RAR **Rarotonga** 36.81 59 P **P** 09 29 38.9 +0.5
RAR *e*S S 09 35 27.9 +6.5
RAR LR LR
comp=Z,630µm,22.0s
RAR **Rarotonga** 36.81 59 P **P** 09 29 38.9 +0.5
comp=Z,103nm,0.9s,baz=211,slow=9.4,SNR=3.6
WRA **Warramunga Arr** 37.02 303 P **P** 09 29 37.3 -2.9
WRA S S 09 35 31.4 +6.7
WRA **Warramunga Arr** 37.02 303 P **P** 09 29 37.3 -2.9
comp=Z,41nm,1.0s,baz=140,slow=8.3,SNR=44
WRA S S 09 35 31.4 +6.7
comp=Z,13nm,1.2s,baz=141,slow=12,SNR=4.0
WRA LR LR 09 44 07.5
comp=Z,1193µm,18.9s,baz=165,slow=35
WRAB **Tennant Creek** 37.02 303 *e*P P 09 29 36.8 -3.4
WRAB pmax pmax
comp=Z,943nm,1.3s
WRAB MLR MLR
comp=Z,1852µm,19.0s
WRAB **Tennant Creek** 37.02 303 *e*P P 09 29 36.8 -3.4
comp=Z,944nm,1.3s
WRAB *e*S S 09 35 06.3 -18
WRAB LR LR
comp=Z,1852µm,19.0s
COEN **Coen** 37.44 321 *e*P **P** 09 29 40.8 -2.9
comp=Z,14nm,0.8s
COEN **Coen** 37.44 321 P **P** 09 29 40.8 -2.9
baz=38,SNR=17
FUNA **Funafuti** 38.71 20 *e*P P 09 29 49.8 -4.6
comp=Z,1µm,2.0s
FUNA LR LR
comp=Z,762µm,21.0s
RKGY **Rocky Gully** 38.96 269 P P 09 30 02.5 +6.0
baz=39,SNR=9.9
NWAO **Narrogin (SRO)** 39.70 271 P **P** 09 30 02.4 -0.2
NWAO *e*S S 09 35 56.0 -8.9
NWAO S ScP 09 36 14.9 +18
NWAO **Narrogin (SRO)** 39.70 271 P **P** 09 30 02.4 -0.2
comp=Z,73nm,1.0s,baz=131,slow=8.0,SNR=8.9
NWAO S S 09 36 14.9 +10
comp=Z,23nm,1.0s,baz=131,slow=19,SNR=2.9
NWAO LR LR 09 43 44.2
comp=Z,1109µm,19.4s,baz=302,slow=32
PMG **Port Moresby** 39.96 329 *e*P **P** 09 30 02.7 -2.2
PMG **Port Moresby** 39.96 329 P **P** 09 30 04.1 -0.8
comp=Z,784nm,1.5s,comp=Z,59µmcomp=Z,795µm
PMG **Port Moresby** 39.96 329 P **P** 09 30 02.8 -2.1
comp=Z,37nm,0.9s,baz=207,slow=5.6,SNR=11
PMG LR LR 09 43 47.8
comp=Z,460µm,18.2s,baz=335,slow=32
KLBR **Kellerberrin** 40.09 273 P **P** 09 30 03.3 -2.6
baz=40,SNR=47
BLDU **Ballidu** 41.38 274 P P 09 30 13.0 -3.6
baz=41,SNR=10
TBI **Tubuai** 41.86 73 *e*P **P** 09 30 20.9 +0.4
comp=Z,4µm,1.3s
TBI *e*S **S** 09 36 35.5 -1.8
TBI *e*LQ LQ 09 40 09.2
comp=Z,1211µm,35.2s
TBI *e*LR LR 09 41 53.3
comp=Z,2378µm,34.8s,baz=218
MEEK **Meekatharra** 42.49 280 P **P** 09 30 23.5 -2.2
baz=42,SNR=29
MIR **Mirnyy** 42.77 214 *i*P **P** 09 30 28.0 +0.6
MIR *i* 09 30 38.0
MIR *e*PPP PPP 09 32 20.0
MIR *e*SSS SSS 09 39 51.0
MIR pmax pmax
comp=Z,239nm,1.5s
MORW **Morawa** 42.77 275 P **P** 09 30 28.7 +0.8
baz=43,SNR=18
RABL **Rabaul** 43.36 339 P P 09 30 40.3 +7.6
baz=44,SNR=5.1
KNRA **Kununurra** 43.65 301 P **P** 09 30 32.8 -2.3
baz=44,SNR=7.7
FITZ **Fitzroy Crossi** 43.72 295 P **P** 09 30 35.4 -0.2
FITZ S S 09 37 14.3 +10
FITZ **Fitzroy Crossi** 43.72 295 P **P** 09 30 35.4 -0.2
comp=Z,43nm,0.7s,baz=154,slow=9.5,SNR=12
FITZ S S 09 37 14.3 +10
comp=Z,9.6nm,1.0s,baz=233,slow=13,SNR=1.7
FITZ **Fitzroy Crossi** 43.72 295 P **P** 09 30 33.2 -2.4
baz=44,SNR=7.5
KDU **Kakadu** 43.90 308 P **P** 09 30 34.7 -2.3
baz=44,SNR=9.7
QSPA **South Pole Qui** 44.29 180 *e*P **P** 09 30 39.0 -1.0
comp=Z,865nm,1.3s
QSPA **South Pole Qui** 44.29 180 P **P** 09 30 41.5 +1.6
comp=Z,134nm,1.1s,baz=32,slow=2.1,SNR=22
QSPA LR LR 09 46 47.8
comp=Z,958µm,19.9s,baz=216,slow=33
MTN **Manton Dam** 44.52 306 P **P** 09 30 39.5 -2.5
baz=44,SNR=8.7
MBWA **Marble Bar** 45.38 287 *e*P **P** 09 30 49.2 +0.3
comp=Z,920nm,1.2s
MBWA *e*S **S** 09 37 30.0 +1.2
MBWA LR LR
comp=Z,2383µm,20.0s
PAE **Paea** 45.82 67 *e*P **P** 09 30 52.9 +0.5
comp=Z,125nm,1.2s
PPT2 **Papeete2** 45.88 67 *e*P **P** 09 30 53.6 +0.7
comp=Z,719nm,1.2s
PPT2 *e*S **S** 09 37 33.7 -2.5
PPT2 *e*LQ LQ 09 41 34.1
comp=Z,2539µm,35.2s
PPT2 *e*LR LR 09 43 40.1
comp=Z,3981µm,34.5s,baz=213
PPT **Papeete** 45.90 67 P **P** 09 30 53.9 +0.9
PPT **Papeete** 45.90 67 P **P** 09 30 53.9 +0.9
comp=Z,75nm,0.9s,baz=127,slow=14,SNR=4.9
TVO **Taravao** 45.95 67 *e*P **P** 09 30 54.3 +0.8
comp=Z,898nm,1.2s
TIAR **Tiarei** 46.05 67 *e*P **P** 09 30 54.9 +0.7
comp=Z,894nm,1.0s
MEH **Mehetia** 46.65 69 *e*P **P** 09 30 59.9 +1.0
comp=Z,1µm,1.3s
MANU **Manus Island** 46.77 333 P P 09 31 12.7 +13
baz=47,SNR=4.0
TARA **Tarawa** 47.32 9 *e*P **P** 09 31 04.6 +0.5
comp=Z,9µm,2.5s
TARA *e*S S 09 38 09.9 +13
TARA LR LR
comp=Z,412µm,21.0s
JAY **Jayapura** 48.75 324 P P 09 31 19.2 +3.9
JAY **Jayapura** 48.75 324 P **P** 09 31 13.2 -2.1
baz=49,SNR=5.4
PMOR **Pomariorio Ree** 48.87 66 *e*P **P** 09 31 16.6 +0.4
comp=Z,1µm,1.2s
SOEI **Soe** 50.98 301 P P 09 31 37.8 +5.5
baz=51,SNR=4.7
SRPI **Serui, Papua** 51.25 320 P P 09 31 43.3 +9.1
BAKI **Biak** 51.91 320 P P 09 31 43.8 +4.7
RKT **Rikitea** 51.94 85 *e*P **P** 09 31 40.2 +0.9
comp=Z,762nm,1.1s
RKT *e*S **S** 09 38 58.6 -2.6
comp=Z,1192µm,33.2s
RKT *e*LQ LQ 09 44 25.7
comp=Z,623µm,35.0s
RKT *e*LR LR 09 46 38.7
comp=Z,1871µm,34.2s,baz=226
BNDI **Bandanaira** 52.08 311 P P 09 31 52.1 +12
FAKI **Fak Fak** 52.24 314 P **P** 09 31 44.6 +3.0
comp=Z,1µm,1.6s,comp=Z,32µmcomp=Z,889µm
FAKI **Fak Fak** 52.24 314 P **P** 09 31 44.6 +3.0
comp=Z,1µm,1.6s,comp=Z,32µmcomp=Z,889µm
FAKI **Fak Fak** 52.24 314 P **P** 09 31 38.7 -2.9
baz=52,SNR=4.1
BASI **Baing, Sumba** 52.87 297 P P 09 31 51.7 +5.4
PATS **Pohnpei** 52.96 350 P **P** 09 31 48.5 +1.7
baz=53,SNR=3.8
MAW **Mawson** 53.37 208 P **P** 09 31 48.1 -1.1
MAW S S 09 39 30.5 +11
MAW **Mawson** 53.37 208 P **P** 09 31 48.1 -1.1
comp=Z,1.1nm,0.8s,baz=122,slow=7.2,SNR=17
MAW S S 09 39 30.5 +11
comp=Z,5.9nm,1.0s,baz=268,slow=18,SNR=1.7
MAW LR LR 09 53 16.7
comp=Z,2150µm,18.2s,baz=113,slow=35
MAW **Mawson** 53.37 208 P **P** 09 31 48.3 -1.0
baz=53,SNR=28
AAI **Ambon** 53.69 310 P P 09 32 07.8 +15
baz=54,SNR=3.5
KWAJ **Kwajalein Atol** 54.39 1 *e*P **P** 09 31 57.3 0.0
KWAJ *e*S **S** 09 39 37.0 +2.5
KWAJ pmax pmax
comp=Z,1µm,1.4s
KWAJ **Kwajalein Atol** 54.39 1 *e*P **P** 09 31 57.3 0.0
comp=Z,1µm,1.4s
KWAJ *e*S **S** 09 39 37.0 +2.5
SWI **Sorong** 54.50 315 P P 09 32 01.8 +3.6
comp=Z,591nm,1.6s,comp=Z,35µmcomp=Z,926µm
SWI **Sorong** 54.50 315 P P 09 32 10.6 +12
baz=55,SNR=6.7
XMAS **Kiritimati** 57.28 44 *e*P **P** 09 32 15.3 -2.8
comp=Z,2µm,1.5s
XMAS LR LR
comp=Z,358µm,20.0s
IGBI **Denpasar** 57.38 293 P P 09 32 29.8 +11
comp=Z,2µm,1.5s,comp=Z,94µm
KHKI **Kahang-Kahang** 57.42 294 P P 09 32 23.8 +4.7
comp=Z,307nm,0.8s,comp=Z,52µm
DNP **Denpasar** 57.44 293 P P 09 32 31.4 +12
comp=Z,3µm,1.8s,comp=Z,121µm
KAPI **Kappang** 57.45 300 P P 09 32 23.1 +3.8
SNR=32
KAPI **Kappang** 57.45 300 *e*P **P** 09 32 16.2 -3.0
comp=Z,2µm,1.4s
KAPI *e*S S 09 40 22.4 +7.0
KAPI S S 09 40 24.1 +8.8
KAPI **Kappang** 57.45 300 P **P** 09 32 16.8 -2.5
KAPI **Kappang** 57.45 300 P **P** 09 32 16.3 -3.0
comp=Z,122nm,1.1s,baz=116,slow=6.9,SNR=9.4
KAPI S S 09 40 24.1 +8.8
comp=Z,5.1nm,0.3s,baz=85,slow=13,SNR=3.6
KAPI LR LR 09 56 03.8
comp=Z,456µm,21.5s,baz=154,slow=35
SRBI **Singaraja** 57.89 294 P P 09 32 28.1 +5.7
NBBI **Negara** 58.05 293 P P 09 32 32.6 +9.0
comp=Z,935nm,2.2s,comp=Z,69µm
GAMI **Galela, Maluku** 58.57 313 P P 09 32 35.7 +8.5
LUWI **Luwuk** 58.88 306 P P 09 32 18.9 -10
baz=59,SNR=3.2
GMJI **Gumukmas** 58.88 292 P P 09 32 34.3 +4.9
comp=Z,806nm,1.5s,comp=Z,59µmcomp=Z,802µm
SYO **Syowa Base** 58.99 200 *e*P P 09 32 26.0 -3.4
SYO **Syowa Base** 58.99 200 *i*P **P** 09 32 29.4 0.0
BLJI **Banyuglugur** 59.18 293 P **P** 09 32 33.7 +2.2
comp=Z,871nm,1.5s,comp=Z,69µmcomp=Z,756µm
KMMI **Kalianget** 59.47 294 P P 09 32 39.9 +6.5
KRKI **Karangkates** 59.6 291 P P 09 32 42.7 +8.3
PWJI **Pangerwojo** 60.14 291 P P 09 32 43.1 +5.1
comp=Z,769nm,1.8s,comp=Z,49µm
PALU **Palau** 60.25 323 P P 09 32 44.2 +5.5
baz=60,SNR=6.9
SJI **Sawahan** 60.38 291 P P 09 32 45.3 +5.5
comp=Z,875nm,2.7s,comp=Z,48µmcomp=Z,798µm
PCJI **Pacitan** 60.42 290 P P 09 32 45.4 +5.4
PCJI **Pacitan** 60.42 290 P P 09 32 50.9 +11
MRSI **Marisa** 60.59 306 P **P** 09 32 43.7 +2.6
comp=Z,312nm,1.7s,comp=Z,27µmcomp=Z,555µm
PAF **Port-aux-Franc** 60.67 228 P **P** 09 32 43.4 +2.1
PAF MLR MLR
comp=Z,3031µm,19.0s
PAF **Port-aux-Franc** 60.67 228 P **P** 09 32 43.4 +2.1
comp=Z,719nm,1.4s
PAF LR LR
comp=Z,3031µm,19.0s
WOJI **Wonogiri, Jawa** 60.85 290 P P 09 32 48.6 +5.7
comp=Z,1µm,2.0s,comp=Z,67µmcomp=Z,773µm
UGM **Wanagama** 61.06 290 P P 09 32 56.2 +12
comp=Z,4µm,1.5s,comp=Z,70µm
UGM **Wanagama** 61.06 290 P P 09 32 55.6 +11
UGM **Wanagama** 61.06 290 P P 09 32 55.6 +11
baz=61,SNR=5.9
YOGI **Yogyakarta** 61.28 290 P P 09 32 59.1 +13
comp=Z,2µm,1.6s,comp=Z,96µm
BBKI **Banjar Baru** 61.67 297 P **P** 09 32 47.3 -1.2
comp=Z,975nm,1.9s,comp=Z,74µmcomp=Z,740µm
BJII **Banjamegara** 62.02 290 P P 09 32 58.9 +8.0
comp=Z,2µm,1.5s,comp=Z,59µm
BKB **Balikpapan** 62.14 300 P P 09 32 59.9 +8.3
MAIT **Maitri** 62.30 189 *e*P P 09 32 39.5 -12
GUMO **Guam** 62.33 336 *e*P **P** 09 32 50.7 -2.0
comp=Z,9µm,2.4s
GUMO LR LR
comp=Z,147µm,21.0s
XMI **Christmas Isla** 62.43 284 P P 09 33 03.0 +9.4
baz=62,SNR=4.7
XMIS **Christmas Isla** 62.44 284 *e*P **P** 09 32 51.3 -2.3
comp=Z,4µm,1.4s
XMIS *e*S **S** 09 41 24.4 +4.8
XMIS **Christmas Isla** 62.44 284 P P 09 33 02.4 +8.7
baz=62,SNR=6.2
SNAA **Sanae** 62.56 184 *e*S **S** 09 41 18.6 -1.3
SNAA **Sanae** 62.56 184 *e*sS sS 09 41 36.6 +5.6
SNAA **Sanae** 62.56 184 *e*P **P** 09 32 51.8 -2.0
SNAA **Sanae** 62.56 184 *e*pP pP 09 33 03.4 +2.9
SNAA **Sanae** 62.56 184 *e*PcP **PcP** 09 33 32.0 -0.7
SNAA **Sanae** 62.56 184 *e*PP PP 09 35 11.3 +0.4
SNAA **Sanae** 62.56 184 *e*ScP **ScP** 09 37 31.4 -2.0
SNAA **Sanae** 62.56 184 *e*PKiKP **PKiKP** 09 39 41.3 -2.7
SNAA **Sanae** 62.56 184 *e*P **P** 09 32 51.5 -2.2
comp=Z,574nm,1.1s
SNAA *e*S **S** 09 41 21.6 +1.7
SNAA P'P' 10 01 58.9
SNAA **Sanae** 62.56 184 LR LR 09 57 53.2
comp=Z,330µm,20.5s,baz=182,slow=34
SNAA PKPPKP P'P'df 10 01 58.9 -6.6
comp=Z,5.4nm,1.1s,baz=266,slow=6.3,SNR=4.7
PMSA **Palmer Station** 62.86 158 P **P** 09 32 53.6 -2.1
comp=Z,1µm,1.7s
PMSA **Palmer Station** 62.86 158 LR LR 09 57 25.6
comp=Z,510µm,18.4s,baz=219,slow=33
CISI **Cisompet, Garu** 63.11 288 P P 09 33 03.0 +4.8
CISI **Cisompet, Garu** 63.11 288 P P 09 33 04.7 +6.5
baz=63,SNR=6.6
MTKI **Muara Teweh, K** 63.61 299 P **P** 09 33 04.4 +3.0

comp=Z,1μm,1.6s,comp=Z,57μmcomp=Z,615μm
VNA1 Neumayer--Stat 63.77 182 *e*S S 09 41 27.6 -7.2
VNA1 Neumayer--Stat 63.77 182 *e*sS sS 09 42 09.1 +23
VNA1 Neumayer--Stat 63.77 182 *e*P **P** **09 33 00.0 -1.7**
VNA1 Neumayer--Stat 63.77 182 *e*pP pP 09 33 11.6 +3.2
VNA1 Neumayer--Stat 63.77 182 *e*PcP **PcP** **09 33 34.8 -2.7**
VNA1 Neumayer--Stat 63.77 182 *e*PP PP 09 35 20.6 -0.7
VNA1 Neumayer--Stat 63.77 182 *e*PKiKP **PKiKP** **09 39 43.2 -2.2**
LEM Lembang 63.78 288 P P 09 33 06.1 +3.4
LEM Lembang 63.78 288 P P 09 33 09.2 +6.5
baz=64,SNR=8.8
DAV Davao City (W) 64.16 314 P P 09 33 09.3 +4.3
SNR=21
DAV Davao City (W) 64.16 314 *e*P **P** **09 33 07.0 +2.0**
DAV Davao City (W) 64.16 314 P P 09 33 18.0 +13
DAV Davao City (W) 64.16 314 LR LR 10 01 44.1
comp=Z,275μm,21.2s,baz=152,slow=37
PBKI Pangkalan Bun 64.25 295 P P 09 33 09.6 +4.0
SKJI Sukabumi 64.36 287 P P 09 33 16.9 +11
DBJI Dramaga 64.56 288 P **P** **09 33 08.3 +0.6**
comp=Z,2μm,1.5s,comp=Z,86μmcomp=Z,799μm
WAKE Wake Island 64.81 0 P P 09 33 05.0 -4.0
comp=Z,6μm,1.7s
WAKE LR LR
comp=Z,378μm,22.0s
CTBH Cotabato--PC H 64.97 312⇑ *e*P **P** **09 33 11.9 +1.6**
BUKP Musuan 65.12 314 *e*P P 09 33 14.7 +3.4
SBJI Serang 65.29 288 P P 09 33 21.5 +9.1
comp=Z,1μm,1.5s,comp=Z,49μmcomp=Z,943μm
CGP Cagayan de Oro 65.79 314‖ *e*P P 09 33 25.5 +10
PAGZ Pagadian 65.95 312 *e*P P 09 33 20.0 +3.4
TSM Tawau 66.02 305 P **P** **09 33 17.8 +0.7**
MYLDM Lahad Datu 66.39 306 P **P** **09 33 21.4 +2.0**
MYLDM Lahad Datu 66.39 306 P P 09 33 23.3 +3.9
BLSI Bandar Lampung 66.44 288 P P 09 33 29.3 +9.5
comp=Z,842nm,1.5s,comp=Z,39μmcomp=Z,603μm
STKI Sintang 66.51 297 P **P** **09 33 21.1 +0.9**
comp=Z,627nm,1.3s,comp=Z,41μmcomp=Z,524μm
TPI Tanjungpandan 66.80 291 P P 09 33 30.3 +8.2
RPN Rapa Nui 67.10 106 P **P** **09 33 21.1 -2.9**
comp=Z,6μm,1.8s
RPN LR LR
comp=Z,202μm,22.0s
MSLP Maasin 67.15 315 *e*P P 09 33 35.6 +11
KLSI 67.28 288 P **P** **09 33 26.2 +1.0**
comp=Z,733nm,0.9s,comp=Z,33μmcomp=Z,511μm
COCO West Island 67.29 276 *e*P **P** **09 33 23.2 -2.0**
COCO MLR MLR
comp=Z,519μm,20.0s
COCO West Island 67.29 276 *e*P **P** **09 33 23.2 -2.0**
COCO LR LR
comp=Z,519μm,20.0s
LWLI Liwa 67.49 287 P P 09 33 35.1 +8.5
comp=Z,1μm,1.0s,comp=Z,50μmcomp=Z,618μm
SDKM Sandakan 67.50 305 P **P** **09 33 27.4 +0.8**
LLP Lapu-Lapu 67.75 314 *e*P **P** **09 33 29.7 +1.7**
SBUM Sibu 67.91 299 P **P** **09 33 30.9 +1.8**
SBUM Sibu 67.91 299 P **P** **09 33 29.3 +0.2**
comp=Z,460nm,0.8s,comp=Z,29μmcomp=Z,843μm
BTM Bintulu 67.97 300 P **P** **09 33 31.5 +2.0**
PLP Palo 67.97 315‖ *e*P **P** **09 33 29.6 +0.2**
PPBI Pangkal Pinang 68.23 291 P **P** **09 33 32.5 +1.3**
comp=Z,658nm,1.8s,comp=Z,38μmcomp=Z,524μm
KSM Kuching 68.33 296 *e*P **P** **09 33 29.5 -2.2**
comp=Z,658nm,1.1s
KSM *e*S S 09 41 54.4 -37
KSM LR LR
comp=Z,922μm,21.0s
KSM Kuching 68.33 296 P **P** **09 33 33.9 +2.1**
KSM Kuching 68.33 296 P **P** **09 33 29.5 -2.2**
KSM Kuching 68.33 296 P **P** **09 33 29.9 -1.8**
baz=68,SNR=5.9
KKM Kota Kinabalu 68.39 304 *e*P **P** **09 33 30.4 -1.8**
comp=Z,3μm,2.0s
KKM *e*S **S** **09 42 34.6 +1.9**
KKM LR LR
comp=Z,277μm,19.0s
KKM Kota Kinabalu 68.39 304 P **P** **09 33 34.5 +2.3**
KKM Kota Kinabalu 68.39 304 P P 09 33 35.6 +3.3
comp=Z,437nm,0.8s,comp=Z,35μmcomp=Z,888μm
KKM Kota Kinabalu 68.39 304 P P 09 33 35.5 +3.3
baz=68,SNR=5.1
PMBI Palembang 68.56 289 P P 09 33 44.9 +12
MNAI Manna 68.71 286 P P 09 33 45.2 +11
comp=Z,1μm,2.3s,comp=Z,63μm
GUIM Jordan 68.71 313 *e*P P 09 33 43.6 +10
KDM Kudat 68.75 306 P P 09 33 43.8 +10
USHA Ushuaia 69.42 150 LR LR 09 59 25.5
comp=Z,350μm,18.2s,baz=202,slow=32
RCP Roxas 69.43 313⇑ *e*P P 09 33 44.3 +5.8
KSI Kapahiang 69.47 287 P P 09 33 42.6 +3.6
comp=Z,980nm,1.4s,comp=Z,55μm
MBSI MBSI 69.61 286 P P 09 33 49.4 +10
PPR Puerto Princes 70.04 309‖ *e*P P 09 33 56.9 +15
MASI Maura Aman, Be 70.09 287 P **P** **09 33 44.2 +1.5**
comp=Z,3μm,1.5s,comp=Z,58μmcomp=Z,562μm
TGY Tagaytay City 72.50 313 LR LR 10 02 28.4
comp=Z,806nm,21.2s,baz=274,slow=33
MYKOM Kota Tinggi 72.70 291 P **P** **09 33 59.1 +0.7**
MYKOM Kota Tinggi 72.70 291 P **P** **09 34 00.5 +2.1**
comp=Z,280nm,1.6s,comp=Z,41μmcomp=Z,838μm
KGM Kluang 73.22 291 P **P** **09 34 03.6 +2.1**
PPI Padang Panjang 73.30 287 P **P** **09 34 01.2 -0.8**
PPI Padang Panjang 73.30 287 P **P** **09 34 01.4 -0.6**
baz=73,SNR=3.5
BKNI Bangkinang 73.45 288 P **P** **09 34 04.8 +1.9**
PUH Pauahi 73.54 37 *e*P **P** **09 34 00.3 -3.0**
STCH Steam Cracks 73.59 38 *e*P **P** **09 34 02.8 -0.8**
POHA Pohakuloa 73.75 37 *e*P **P** **09 34 05.5 +0.8**
comp=Z,1μm,1.4s
HON Honolulu 74.15 34 *e*P **P** **09 34 04.7 -2.0**
HON *e*S **SKiKP** **09 43 35.6 +2.5**
HON Honolulu 74.15 34 *e*P P **09 34 04.7 -2.0**
HON *e*S **SKiKP** **09 43 35.6 +2.5**
KIP Kipapa 74.23 34⇑ *e*P P 09 34 03.3 -3.9
KIP pmax pmax
comp=Z,1μm,1.7s
KIP MLR MLR
comp=Z,135μm,16.0s
KIP Kipapa 74.23 34 *e*P **P** **09 34 05.3 -1.9**
comp=Z,460nm,1.0s
KIP *e*S S 09 44 13.5 +34
KIP LR LR
comp=Z,227μm,22.0s
MIDW Midway 75.12 15 *e*P **P** **09 34 11.6 -0.6**
comp=Z,447nm,1.3s
MIDW LR LR
comp=Z,387μm,22.0s
CVP Callao Caves 75.13 316⇑ *e*P P 09 34 19.3 +6.9
FRIM Kepong 75.24 291 P **P** **09 34 16.1 +2.9**
COYC Coyhaique 75.29 142 *e*P **P** **09 34 15.1 +1.9**
COYC Coyhaique 75.29 142 *e*P **P** **09 34 15.1 +1.9**
EFI East Falkland 75.52 153 P **P** **09 34 13.4 -1.0**
EFI pmax pmax
comp=Z,2μm,1.5s
EFI MLR MLR
comp=Z,127μm,20.0s
EFI East Falkland 75.52 153 P **P** **09 34 13.4 -1.0**
comp=Z,2μm,1.5s
EFI LR LR
comp=Z,127μm,20.0s
KTGM Kuala Trenggan 75.84 293 P P 09 34 24.4 +7.7
PIP Pasuquin 76.25 315⇑ *e*P P 09 34 27.9 +9.1
IPM Ipoh 76.56 291 *e*P **P** **09 34 18.7 -2.2**
IPM *e*S **S** **09 44 09.6 +3.6**
IPM Ipoh 76.56 291 P P 09 34 26.1 +5.2
IPM Ipoh 76.56 291 P P 09 34 24.0 +3.1
comp=Z,580nm,0.8s,comp=Z,27μmcomp=Z,693μm
PSI Prapat 76.69 288 P **P** **09 34 20.3 -1.4**
PSI PKKPbc PKKPbc 09 53 39.2 +8.9
PSI Prapat 76.69 288 P **P** **09 34 20.3 -1.4**
comp=Z,31nm,0.9s,baz=205,slow=1.6,SNR=8.5
PSI PKKPbc PKKPbc 09 53 39.2 +8.9
comp=Z,25nm,1.0s,baz=185,slow=7.1,SNR=7.5
PSI LR LR 10 06 51.2
comp=Z,1061μm,21.6s,baz=141,slow=35
PSI Prapat 76.69 288 P **P** **09 34 21.6 -0.1**
baz=77,SNR=6.0
KULM Kulim 77.42 291 *e*P **P** **09 34 23.2 -2.4**
comp=Z,851nm,1.5s
KULM *e*PP PP 09 37 30.4 +10
KULM *e*S S 09 44 09.0 -6.3
KULM LR LR
comp=Z,834μm,21.0s
KULM Kulim 77.42 291 P P 09 34 28.8 +3.2
KULM Kulim 77.42 291 P P 09 34 29.3 +3.7
KULM Kulim 77.42 291 P **P** **09 34 28.6 +3.0**
comp=Z,1μm,1.1s,comp=Z,29μmcomp=Z,727μm
PLCA Paso Flores 79.81 140 P **P** **09 34 38.5 -0.1**
comp=Z,155nm,1.2s
PLCA P'P' 10 01 29.6
PLCA Paso Flores 79.81 140 P **P** **09 34 38.5 -0.1**
comp=Z,32nm,1.1s,baz=205,slow=7.5,SNR=17
PLCA PKPPKP **P'P'df** **10 01 29.6 -4.6**
comp=Z,11nm,1.1s,baz=25,slow=1.5,SNR=7.3
PLCA LR LR 10 05 46.0
comp=Z,168μm,18.2s,baz=212,slow=32
TWG Pinlang 79.87 318 *e*P **P** **09 34 36.2 -2.7**
comp=Z,3μm,1.4s
TWG *e*S **S** **09 44 46.2 +5.2**
YULB Yu-li 80.25 318 *e*P P 09 34 36.5 -4.5
comp=Z,149nm,0.8s
YULB *e*PP PP 09 37 53.7 +10
JOW Kunigami 80.28 326 *e*P **P** **09 34 39.8 -1.2**
comp=Z,399nm,1.6s
JOW *e*S **S** **09 44 42.7 -2.5**
TPUB Ta-pu 80.49 318 *e*P **P** **09 34 39.7 -2.5**
comp=Z,423nm,1.3s
SSLB Suanglung 80.75 318 *e*P **P** **09 34 40.7 -3.0**
comp=Z,166nm,1.2s
SSLB *e*S **S** **09 44 53.4 +3.0**
NACB Ninganchiao 80.79 319 *e*P **P** **09 34 41.2 -2.6**
comp=Z,126nm,1.0s
NACB *e*PP PP 09 37 56.0 +7.5
NACB *e*S **S** **09 44 56.2 +5.6**
PKDT Phuket 80.88 291 P P 09 34 49.5 +5.0
comp=Z,622nm,1.3s,comp=Z,43μm
YHNB Yeheng 81.32 319 *e*P **P** **09 34 45.0 -1.7**
comp=Z,254nm,1.1s
YHNB *e*PP PP 09 38 07.0 +14
YHNB *e*S S 09 45 28.6 +32
YHNB LR LR
comp=Z,172μm,21.0s
TATO Taipei 81.53 319 P **P** **09 34 50.4 +2.7**
SNR=6.7
TATO Taipei 81.53 319 *e*P **P** **09 34 45.1 -2.6**
comp=Z,358nm,1.0s
TATO LR LR
comp=Z,159μm,22.0s
CCHI Chillan 82.40 136 *e*P P 09 34 58.5 +6.1
QIZ Qiongzhong 82.50 307 P **P** **09 34 51.5 -1.5**
QIZ pP **PcP** **09 34 55.3 -2.7**
QIZ PP **PP** **09 38 00.1 -2.5**
QIZ S **S** **09 45 10.8 +2.3**
QIZ SS **SS** **09 50 29.5 -1.0**
QIZ LR LR
comp=N,169μm,20.9s
QIZ LR LR
comp=Z,271μm,19.8s
QIZ Qiongzhong 82.50 307 *e*P **P** **09 34 50.3 -2.6**
comp=Z,576nm,1.4s
QIZ LR LR
comp=Z,284μm,20.0s
HKC Hong Kong Obse 82.83 312 *i* P **P** **09 34 52.0 -2.6**
QZH Quanzhou 82.85 317‖ *i* P **P** **09 34 57.3 +2.7**
QZH S **S** **09 45 17.3 +5.5**
QZH pmax pmax
comp=Z,460nm,1.0s
QZH LR LR
comp=N,82μm,16.2s
QZH LR LR
comp=E,214μm,19.0s
QZH LR LR
comp=Z,370μm,24.5s
CMBY CAMPBELL BAY 83.13 287 *e*P **P** **09 34 54.3 -2.1**
PHET Kaeng Krachan 83.83 295 P **P** **09 35 02.5 +2.6**
comp=Z,579nm,0.9s,comp=Z,7μm
NAYO Nakonayok 83.84 298 P **P** **09 34 58.6 -1.3**
comp=Z,393nm,1.0s,comp=Z,24μm
GZH Guangzhou 83.91 312 P P 09 35 04.3 +4.2
GZH S S 09 45 30.0 +7.4
GZH SS **SS** **09 50 53.0 +1.7**
GZH LR LR
comp=Z,311μm,22.4s
PANO Nakornpanom 84.03 302 P **P** **09 34 58.6 -2.3**
comp=Z,421nm,1.4s,comp=Z,25μm
JNU Nakatsue 84.99 331 P **P** **09 35 03.9 -1.6**
comp=Z,53nm,1.3s
JNU *e*S S 09 45 25.1 -8.1
JNU Nakatsue 84.99 331 P **P** **09 35 03.9 -1.6**
comp=Z,229nm,1.1s,baz=95,slow=1.2,SNR=9.8
LMEL Las Melosas 85.52 136 *e*P **P** **09 35 06.8 -1.8**
LMEL Las Melosas 85.52 136 *e*P **P** **09 35 06.8 -1.8**
CLCH Cerro Calan 85.72 135 *e*P **P** **09 35 09.8 +0.4**
TRQA Tornquist 85.75 144 *e*P **P** **09 35 06.6 -2.9**
comp=Z,282nm,1.2s
TRQA *e*S S 09 45 32.2 -8.8
TRQA LR LR
comp=Z,150μm,19.0s
PBKT Sadao Pong 85.78 299 P **P** **09 35 08.1 -1.6**
PEL Peldehue 85.85 135 *e*P **P** **09 35 08.0 -2.1**
MJAR Matsushiro Arr 85.91 337 P **P** **09 35 08.3 -1.6**
MJAR Matsushiro Arr 85.91 337 P **P** **09 35 08.3 -1.6**
comp=Z,41nm,1.0s,baz=174,slow=5.9,SNR=12
MJAR LR LR 10 09 11.5
comp=Z,39μm,19.4s,baz=170,slow=33
MAJO Matsushiro 85.91 337 *e*P **P** **09 35 09.0 -0.9**
MAJO *e*S S 09 45 35.8 -6.2
MAJO pmax pmax
comp=Z,917nm,1.5s
MAJO MLR MLR
comp=Z,111μm,21.0s
MAJO Matsushiro 85.91 337 *e*P **P** **09 35 09.0 -0.9**
comp=Z,917nm,1.5s
MAJO *e*S S 09 45 35.8 -6.2
MAJO LR LR
comp=Z,111μm,21.0s
MAT Matsushiro 85.91 337 P **P** **09 35 07.6 -2.3**
MAT S **S** **09 45 41.4 -0.6**
LOEI Loei 86.32 300 P **P** **09 35 09.4 -3.0**
comp=Z,214nm,1.3s,comp=Z,20μm
SSE Sheshan 86.94 322⇑ P **P** **09 35 14.4 -0.7**
SSE S **S** **09 45 52.1 -0.1**
SSE sS **ScS** **09 45 58.3 -1.5**
SSE LR LR
comp=N,116μm,22.2s
SSE LR LR
comp=E,42μm,22.2s
SSE LR LR
comp=Z,139μm,23.4s
PBA Port Blair 87.33 290 *e*P P 09 35 16.5 -0.9
DGAR Diego Garcia 87.65 262‖ *e*P **P** **09 35 16.4 -2.6**
DGAR Diego Garcia 87.65 262 PFAKE 09 35 30.0 +11
DGAR LR LR
comp=Z,565μm,19.0s
MRIV Mauritius Mete 88.20 243 *e*P **P** **09 35 20.4 -1.3**
MRIV *e*PP PP 09 38 59.7 +11
CFAA Coronel Fontan 88.30 136 PKKPbc PKKPbc 09 53 08.0 +4.8
CFAA P'P' 10 01 15.1
CFAA Coronel Fontan 88.30 136 PKKPbc PKKPbc 09 53 08.0 +4.8
comp=Z,0.3nm,0.7s,baz=23,slow=2.5,SNR=4.3
CFAA PKPPKP **P'P'df** **10 01 15.1 -3.0**
comp=Z,0.6nm,0.9s,baz=202,slow=1.8,SNR=3.9
CFAA LR LR 10 07 04.4
comp=Z,10μm,19.4s,baz=216,slow=30
DGPR DIGLIPUR 88.33 291 *e*P **P** **09 35 20.6 -1.6**
CMAR Chiang Mai Arr 88.46 299 P **P** **09 35 21.1 -1.6**
CMAR PKKPbc **PKKPbc** **09 53 05.5 +2.0**
CMAR P'P' 10 01 19.2
CMAR Chiang Mai Arr 88.46 299 P **P** **09 35 21.1 -1.6**
comp=Z,45nm,0.9s,baz=159,slow=3.4,SNR=75
CMAR PKKPbc **PKKPbc** **09 53 05.5 +2.0**
comp=Z,1.2nm,0.3s,baz=321,slow=5.8,SNR=4.3
CMAR PKPPKP P'P'df 10 01 19.2 +8.6
comp=Z,1.8nm,0.4s,baz=209,slow=1.5,SNR=7.3
CMAR LR LR 10 17 53.0
comp=Z,249μm,19.4s,baz=140,slow=38
CMMT Chiang Mai 88.73 299 P **P** **09 35 21.9 -2.0**
CMMT Chiang Mai 88.73 299 P **P** **09 35 21.9 -2.0**
comp=Z,201nm,1.6s,comp=Z,16μm
CHTO Chiang Mai 88.73 299 *e*P **P** **09 35 21.6 -2.4**
CHTO pmax pmax
comp=Z,1μm,1.8s
CHTO MLR MLR
comp=Z,294μm,20.0s
CHTO Chiang Mai 88.73 299 P **P** **09 35 22.9 -1.1**
SNR=66
CHTO Chiang Mai 88.73 299 *e*P **P** **09 35 21.6 -2.4**
comp=Z,1μm,1.8s
CHTO LR LR
comp=Z,294μm,20.0s
CHTO Chiang Mai 88.73 299 P **P** **09 35 22.1 -1.8**
CHTO Chiang Mai 88.73 299 P **P** **09 35 22.1 -1.8**
comp=Z,387nm,0.8s,comp=Z,18μm
NJ2 Nanjing 88.78 321 *e*P **P** **09 35 24.8 +1.0**
NJ2 pP **PcP** **09 35 27.0 +1.6**
NJ2 sP **sP** **09 35 29.0 -4.2**
NJ2 S **ScS** **09 46 16.0 +1.0**
NJ2 sS **sS** **09 46 22.0 +0.8**
NJ2 pmax pmax
comp=Z,20μm,3.9s
NJ2 LR LR
comp=Z,154μm,23.3s
LCO Las Campanas 89.17 132 *e*P **P** **09 35 23.8 -2.6**
comp=Z,310nm,1.3s
LCO LR LR
comp=Z,91μm,20.0s
CMAI Chiengmai2 89.52 300 P **P** **09 35 26.4 -1.4**
comp=Z,284nm,1.1s,comp=Z,19μm
WHN Wuhan 89.57 317‖ *i*P **P** **09 35 26.3 -1.3**
WHN sP **sP** **09 35 40.3 +3.3**
WHN PP **PP** **09 38 56.1 -3.7**
WHN S **SKKSac** **09 46 09.5 +0.4**
WHN LR LR
comp=N,944μm,32.9s
WHN LR LR
comp=E,384μm,25.0s
WHN LR LR
comp=Z,180μm,20.0s
KSRS Korea Array 89.93 330 P **P** **09 35 27.6 -1.5**
comp=Z,43nm,1.1s,baz=148,slow=5.9,SNR=14
KSRS S S 09 46 31.1 +11
comp=Z,0.5nm,0.4s,baz=243,slow=25,SNR=2.7
KSRS LR LR 10 11 04.3
comp=Z,56μm,21.5s,baz=346,slow=32
KSAR Wonju Array Be 89.94 330 P **P** **09 35 27.6 -1.6**
KSAR S S 09 46 31.1 +11
ERM Erimo 89.94 343⇑ *e*P **P** **09 35 27.9 -1.1**
ERM pmax pmax
comp=Z,133nm,1.6s
ERM Erimo 89.94 343 *e*P **P** **09 35 28.1 -0.9**
comp=Z,413nm,1.4s
ERM *e*S S 09 46 07.3 -13
ERM LR LR
comp=Z,179μm,22.0s
LPA La Plata 90.12 145 *ce*P **P** **09 35 28.0 -2.4**
LPA pPP 09 39 05.0
LPA S **S** **09 46 23.0 +0.4**
LPA PS **PnS** **09 47 28.0 -2.2**
GYA Guiyang 90.18 309⇑ *i*P **P** **09 35 31.3 +0.6**
GYA SKS **SKSac** **09 46 01.0 +0.4**
GYA S **S** **09 46 23.9 +0.6**
GYA SS **SS** **09 52 26.0 +2.6**
GYA pmax pmax
comp=Z,110nm,1.0s
GYA LR LR
comp=N,226μm,21.8s
GYA LR LR
comp=E,155μm,20.2s
GYA LR LR
comp=Z,289μm,18.9s
INCN Inchon 90.41 329 *e*P **P** **09 35 29.1 -2.3**
comp=Z,344nm,1.3s
INCN LR LR
comp=Z,164μm,20.0s
KMI Kunming 91.32 305 P **P** **09 35 35.3 -0.9**
KMI pP **PcP** **09 35 39.9 +2.8**
KMI sP **sP** **09 35 42.0 -3.6**
KMI PP **PP** **09 39 15.3 +1.2**
KMI SKS **SKSac** **09 46 06.1 -1.3**
KMI S **S** **09 46 32.6 -1.4**
KMI sS **ScS** **09 46 39.6 +2.7**
KMI SS **SS** **09 52 38.0 -2.1**
KMI LR LR
comp=Z,429μm,22.6s
YUK Yuzh-Kuril'sk 91.36 345 *c i*P **P** **09 35 33.6 -1.9**
YUK *i* PPP PPP 09 41 19.0
YUK *i* S **SKSac** **09 46 03.1 -3.0**
YUK *i* 09 46 30.1
YUK *i* SS **SS** **09 52 39.9 +0.2**
YUK *i* SSS SSS 09 56 12.7
YUK pmax pmax
comp=Z,29μm,8.1s
YUK pmax pmax
comp=Z,2μm,1.5s
YUK pmax pmax
comp=E,852nm,1.5s
YUK pmax pmax
comp=N,540nm,1.5s
YUK MLR MLR
comp=Z,79μm,20.0s
YUK MLR MLR
comp=N,4μm,20.0s
YUK MLR MLR
comp=E,24μm,20.0s
ENH Enshi 91.75 313 *e*P **P** **09 35 36.3 -1.5**
comp=E,1μm,1.8s
ENH *e*PP PP 09 39 28.6 +11
ENH LR LR
comp=Z,211μm,19.0s
ASAJ Asahikawa 92.07 343 P **P** **09 35 38.1 -0.7**
ASAJ Asahikawa 92.07 343 P **P** **09 35 38.1 -0.7**
comp=Z,12nm,1.0s,baz=191,slow=19,SNR=2.3
ASAJ LR LR 10 13 57.6
comp=Z,160μm,20.0s,baz=278,slow=34
PALK Pallekele 92.33 278 *e*P **P** **09 35 38.5 -2.4**
comp=Z,453nm,1.7s
PALK Pallekele 92.33 278 ⇑P P 09 35 51.8 +11
TIA Tai'an 93.06 322 ⇑P P 09 35 50.6 +6.9
TIA PP PP 09 39 40.4 +13
TIA Tai'an 93.06 322 SKS S 09 46 41.5 -7.2
TIA Tai'an 93.06 322 S S 09 47 07.0 +18
TIA Tai'an 93.06 322 SS SS 09 52 31.1 -33
TIA pmax pmax
comp=Z,20nm,1.1s
TIA pmax pmax
comp=Z,52μm,19.6s
TIA LR LR
comp=N,406μm,46.4s
TIA LR LR
comp=E,894μm,35.7s
TIA LR LR
comp=Z,132μm,32.4s
DL2 Dalian 93.53 326⇑ *i*P **P** **09 35 46.8 +1.1**
DL2 S **S** **09 46 56.3 +3.7**
DL2 pmax pmax
comp=Z,200nm,1.2s
DL2 LR LR
comp=N,70μm,17.9s
DL2 LR LR
comp=E,46μm,18.7s
DL2 LR LR
comp=Z,75μm,19.3s
VLA Vladivostok 93.80 335⇑ *e*P **P** **09 35 44.9 -2.0**
VLA pmax pmax
comp=Z,87nm,1.4s
VLA MLR MLR
comp=Z,70μm,19.0s
YSS Yuzh-Sakhalins 94.76 344 *c i*P P 09 35 58.0 +6.9
YSS pmax pmax
comp=Z,460nm,1.7s
YSS pmax pmax
comp=N,10μm,18.0s
YSS pmax pmax
comp=Z,30μm,18.0s
YSS MLR MLR
comp=E,68μm,20.0s
YSS MLR MLR
comp=Z,95μm,20.0s
YSS MLR MLR
comp=N,65μm,18.0s
USRK Ussuriysk Arra 94.76 336 P **P** **09 35 50.2 -1.0**
comp=N,16nm,0.9s,baz=221,slow=3.9,SNR=8.4
USRK PKKPbc PKKPdf 09 53 02.3 +13
comp=N,3.1nm,0.7s,baz=288,slow=2.9,SNR=4.8
XAN Xi'an 95.06 315 P **P** **09 35 53.8 +0.8**
XAN LR LR
comp=N,149μm,25.5s
XAN LR LR
comp=Z,82μm,25.5s
CD2 Chengdu 95.25 310 P **P** **09 35 54.1 +0.2**
CD2 pP **pP** **09 36 05.3 +4.4**
CD2 PP **PP** **09 39 47.3 +2.7**
CD2 SKS **SKSac** **09 46 25.9 -2.5**
CD2 S **S** **09 47 04.6 -3.6**

CD2 SS **SS** **09 53 36.8 +0.9**
CD2 pmax pmax
comp=Z,110nm,1.4s
CD2 LR LR
comp=Z,236µm,20.9s
LVC Limon Verde 95.29 130 *e*P **P** **09 35 56.9 +2.1**
comp=Z,102nm,1.4s
LVC P'P' 10 01 06.0
LVC LR LR
comp=Z,74µm,20.0s
LVC Limon Verde 95.29 130 PKPPKP **P'P'df** **10 01 06.0 +1.2**
comp=Z,3.0nm,0.8s,baz=113,slow=3.3,SNR=5.5
ABPO Ambohimpanom 95.35 236 *e*P **P** **09 35 53.3 -1.7**
ABPO pmax pmax
comp=Z,280nm,1.4s
ABPO MLR MLR
comp=Z,769µm,19.0s
ABPO Ambohimpanom 95.35 236 *e*P **P** **09 35 53.3 -1.7**
comp=Z,280nm,1.4s
ABPO LR LR
comp=Z,769µm,19.0s
SNY Shenyang 95.35 329 ⇑P **P** **09 35 52.3 -1.7**
SNY SKS **SKSac** **09 46 28.4 +0.2**
SNY S **S** **09 47 02.8 -5.5**
SNY pmax pmax
comp=Z,27µm,12.0s
SNY LR LR
comp=N,75µm,21.4s
SNY LR LR
comp=E,84µm,29.7s
SNY LR LR
comp=Z,53µm,23.5s
OPO Ambohidratompo 95.72 236 PP PP 09 39 54.6 +6.8
OPO Ambohidratompo 95.72 236 PP PP 09 39 54.6 +6.8
comp=Z,1.4nm,0.3s,baz=142,slow=8.5,SNR=5.5
OPO LR LR 10 11 56.2
comp=Z,823µm,18.2s,baz=135,slow=31
TRD Trivandrum 95.81 276 *e*P **P** **09 35 54.8 -2.1**
MDJ Mudanjiang 95.85 334 P **P** **09 35 56.8 +0.6**
MDJ pP **pP** **09 36 00.0 -3.2**
MDJ S **S** **09 47 15.6 +3.0**
MDJ pmax pmax
comp=Z,16µm,11.1s
MDJ LR LR
comp=N,210µm,44.3s
MDJ LR LR
comp=E,345µm,44.3s
MDJ LR LR
comp=Z,86µm,29.5s
MDJ Mudanjiang 95.85 334 *e*P P 09 35 51.0 -5.2
comp=Z,156nm,1.5s
MDJ LR LR
comp=Z,74µm,22.0s
SUR Sutherland 96.22 209 P P 09 36 02.7 +3.9
comp=Z,155nm,1.1s
SUR *e*PP PP 09 39 58.7 +7.7
SUR *e*S SKSac 09 46 45.1 +11
SUR P'P' 10 01 04.4
SUR Sutherland 96.22 209 PKPPKP **P'P'df** **10 01 04.4 +0.6**
comp=Z,14nm,1.1s,baz=114,slow=2.7,SNR=3.0
SUR LR LR 10 17 48.6
comp=Z,343µm,18.6s,baz=165,slow=34
IMP Imphal 96.26 299 *e*P **P** **09 35 58.0 -0.7**
IMP *ex* x 09 40 52.0
TIY Taiyuan 96.38 320 *e*P **P** **09 35 58.8 -0.2**
TIY SKS **SKSac** **09 46 32.3 -1.8**
TIY S **S** **09 47 20.3 +2.6**
TIY LR LR
comp=N,96µm,15.2s
TIY LR LR
comp=E,20µm,14.9s
TIY LR LR
comp=Z,123µm,18.6s
CN2 Changchun 96.44 331 *e*P **P** **09 36 00.8 +1.9**
CN2 *e*PP **PP** **09 39 58.3 +4.7**
CN2 *e*S **S** **09 47 16.4 -1.3**
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,3µm,5.0s
CN2 LR LR
comp=N,11µm,22.0s
CN2 LR LR
comp=E,12µm,22.0s
CN2 LR LR
comp=Z,65µm,23.0s
SKR Severo-Kuril's 96.57 353 *e*P P 09 35 54.0 -5.3
SKR *e*PPP PPP 09 42 05.0
SKR *e*PS **PS** **09 48 48.0 +6.2**
SKR pmax pmax
comp=Z,320nm,1.5s
SKR pmax pmax
comp=N,11µm,18.0s
SKR pmax pmax
comp=Z,29µm,18.0s
SKR pmax pmax
comp=E,4µm,8.0s
SKR MLR MLR
comp=N,56µm,20.0s
SKR MLR MLR
comp=E,146µm,20.0s
SKR MLR MLR
comp=Z,71µm,20.0s
BJT Baijiatuau 96.67 323 *e*P **P** **09 35 58.4 -1.7**
BJT LR LR
comp=Z,138µm,19.0s
BJI Beijing 96.69 323 P P 09 36 03.8 +3.7
BJI PP **PP** **09 39 55.3 -0.2**
BJI S **S** **09 47 24.8 +4.8**
BJI pmax pmax
comp=Z,1µm,6.0s
BJI LR LR
comp=N,201µm,27.6s
BJI LR LR
comp=E,273µm,29.2s
BJI LR LR
comp=Z,196µm,39.5s
TRIS Tristan da Cun 97.47 181 PFAKE 09 36 10.0 +5.8
TRIS LR LR
comp=Z,276µm,20.0s
HABR Khabarovsk 97.89 339 *c*e P **P** **09 36 03.4 -2.0**
HABR *e**PP **pP** **09 36 13.9 +1.6**
HABR *e**SP **sP** **09 36 18.4 +3.6**
HABR *e* 09 40 01.2
HABR *e*PPP PPP 09 42 06.2
HABR *e*S **SKSac** **09 46 38.2 -2.9**
HABR *e* 09 47 26.5
HABR *e*PS **PS** **09 48 54.3 -2.1**
HABR *e*SS **SS** **09 54 08.6 -4.0**
HABR *e*SSS SSS 09 57 54.8
HABR MLR MLR
comp=E,88µm,18.0s
HABR MLR MLR
comp=Z,51µm,18.0s
HABR MLR MLR
comp=N,45µm,18.0s
VIS Vishakhapatnam 97.97 287 *e*P **P** **09 36 05.0 -1.5**
VIS *i* x x 09 40 15.9
BOSA Boshof 98.03 214 P **P** **09 36 06.8 -0.1**
BOSA PP PP 09 40 14.2 +9.3
BOSA PKKPbc **PKKPdf** **09 52 40.9 +1.4**
BOSA Boshof 98.03 214 P **P** **09 36 06.8 -0.1**
comp=N,5.5nm,0.6s,baz=151,slow=6.1,SNR=8.4
BOSA PP PP 09 40 14.2 +9.3
comp=N,17nm,1.1s,baz=130,slow=4.2,SNR=2.7
BOSA PKKPbc **PKKPdf** **09 52 40.9 +1.4**
comp=N,6.1nm,0.8s,baz=29,slow=6.4,SNR=4.2
BOSA LR LR 10 15 56.4
comp=N,442µm,18.3s,baz=156,slow=33
SHL Shillong 98.09 298 *e*P **P** **09 36 05.0 -2.1**
SHL *ex* x 09 39 55.0
PAYG Puerto Ayora 98.62 100 PFAKE 09 36 20.0 +10
PAYG LR LR
comp=Z,96µm,22.0s
PET Petropavlovsk 98.72 355 *d* i P **P** **09 36 08.5 -0.4**
PET *e*SS SS 09 54 33.6 +10
PET pmax pmax
comp=Z,8µm,9.6s
PET MLR MLR
comp=Z,120µm,19.0s
PET MLR MLR
comp=Z,103µm,19.0s
PETK Petropavlovsk- 98.86 355 P **P** **09 36 09.3 -0.3**
PETK Petropavlovsk- 98.86 355 P **P** **09 36 09.3 -0.3**
PETK PP PP 09 40 20.6 +8.6
comp=Z,0.3nm,0.3s,baz=90,slow=7.2,SNR=4.4
PETK PP PP 09 40 20.6 +8.6
comp=Z,14nm,1.0s,baz=144,slow=8.6,SNR=5.1
PETK LR LR 10 15 57.3
comp=Z,106µm,21.4s,baz=170,slow=32
NNA Nana 99.09 118 *e*P **Pdif** **09 36 09.4 -2.4**
NNA Nana 99.09 118 LR LR 10 13 25.9
comp=Z,72µm,20.5s,baz=218,slow=31
LZH Lanzhou 99.23 313 ⇑P **Pdif** **09 36 15.8 +3.9**
LZH SKS **SKSac** **09 46 50.3 +1.4**
LZH S **S** **09 47 41.5 -0.7**
LZH pmax pmax
comp=Z,20µm,9.6s
LZH LR LR
comp=Z,307µm,20.5s
HHC Hu-ho-hao-te 99.33 321 *e*P **Pdif** **09 36 12.8 +0.6**
HHC pP **pP** **09 36 23.0 +3.8**
HHC PP **PP** **09 40 17.3 +1.3**
HHC SKS **SKSac** **09 46 47.1 -2.0**
HHC S **S** **09 47 38.8 -4.0**
HHC sS **sS** **09 47 55.8 +1.4**
HHC SS **SS** **09 54 33.3 -0.1**
HHC pmax pmax
comp=Z,69nm,1.1s
HHC pmax pmax
comp=Z,16µm,6.1s
HHC LR LR
comp=N,147µm,19.6s
HHC LR LR
comp=E,115µm,19.6s
HHC LR LR
comp=Z,262µm,20.0s
KLR Kul'dur 99.44 338 *e*P **Pdif** **09 36 08.7 -3.6**
KLR *e*S **PP** **09 40 15.0 -1.5**
KLR pmax pmax
comp=N,4µm,12.5s
KLR pmax pmax
comp=E,3µm,12.5s
KLR pmax pmax
comp=Z,12µm,12.5s
BTO Baotou 99.83 320 *e*P **Pdif** **09 36 24.6 +10**
BOK Bokaro 100.60 293 *ex* **Pdif** **09 36 11.1 -7.0**
LPAZ La Paz 100.84 127 *e*Pdif **Pdif** **09 36 18.7 -1.5**
comp=Z,174nm,1.7s
LPAZ PP PKiKP 09 40 37.9 -8.0
LPAZ La Paz 100.84 127 P **Pdif** **09 36 22.2 +1.9**
comp=Z,2.2nm,0.8s,baz=196,slow=3.8,SNR=7.5
LPAZ PP PKiKP 09 40 37.9 -8.0
comp=Z,12nm,1.1s,baz=236,slow=12,SNR=4.5
HYB Hyderabad 100.97 284 *i* P **Pdif** **09 36 16.0 -4.0**
HYB *e*PP **PP** **09 40 32.0 +3.4**
HYB *e*SKS 09 48 04.0
HYB Hyderabad 100.97 284 *e*P **Pdif** **09 36 18.2 -1.8**
LBTB Lobatse 101.10 216 *e*Pdif **Pdif** **09 36 25.5 +4.8**
comp=Z,30nm,1.2s
MSEY Mahe Island 101.17 251 PFAKE 09 36 30.0 +9.0
MSEY LR LR
comp=Z,658µm,20.0s
LSA Lhasa 101.54 301 P **Pdif** **09 36 27.9 +5.2**
LSA PP **PP** **09 40 38.1 +4.8**
LSA sS sS 09 48 07.5 -6.7
LSA LR LR
comp=N,100µm,40.0s
LSA LR LR
comp=E,200µm,40.0s
LSA LR LR
comp=Z,300µm,41.0s
LSA Lhasa 101.54 301 *e*P **Pdif** **09 36 21.6 -1.2**
LSA pmax pmax
comp=Z,62nm,1.4s
LSA MLR MLR
comp=Z,166µm,21.0s
LSA Lhasa 101.54 301 *e*Pdif **Pdif** **09 36 21.6 -1.2**
comp=Z,62nm,1.4s
LSA LR LR
comp=Z,166µm,21.0s
GOA Goa 102.88 279 *e*P **Pdif** **09 36 25.7 -2.7**
HIA Hailar 103.14 331 *e*Pdif **Pdif** **09 36 26.4 -2.3**
HIA LR LR
comp=Z,125µm,19.0s
FALS False Pass 103.48 17 Pdif **Pdif** **09 36 38.8 +8.7**
SCI San Clemente I 103.50 57 ⇑Pdiff **Pdif** **09 36 29.9 -0.9**
baz=104
SBC Santa Barbara 103.88 55 ⇓Pdiff **Pdif** **09 36 33.6 +1.2**
baz=104
CIS Catalina Islan 103.89 56 ⇑Pdiff **Pdif** **09 36 32.5 0.0**
baz=104
BLG Laguna Peak 104.01 55 ⇑Pdiff **Pdif** **09 36 34.1 +1.1**
baz=104
PKM Peak Mountain 104.15 54 ⇓Pdiff **Pdif** **09 36 34.7 +0.9**
baz=104
FMP Fort Macarthur 104.17 56 ⇑Pdiff **Pdif** **09 36 34.8 +1.1**
baz=104
109C Camp Elliot, M 104.28 57 ⇑Pdiff **Pdif** **09 36 36.3 +2.1**
baz=104
SMMC Simmler 104.34 54 ⇓Pdiff **Pdif** **09 36 36.1 +1.6**
baz=105
BAR Barrett 104.39 58 *e*Pdif **Pdif** **09 36 36.2 +1.4**
comp=Z,46nm,1.4s
DECC Green Verdugo 104.54 56 ⇑Pdiff **Pdif** **09 36 37.0 +1.6**
baz=105
OSI Osito Adit 104.57 55 ⇓Pdiff **Pdif** **09 36 37.6 +2.0**
baz=105
MONP Monument Peak 104.69 58 ⇑Pdiff **Pdif** **09 36 37.1 +0.8**
baz=105
DVTC Desert V Tower 104.71 58 ⇓Pdiff **Pdif** **09 36 37.7 +1.4**
baz=105
DVTC ⇑SKSac **SKSac** **09 47 16.2 +1.2**
baz=105
DVTC ⇑SKSac **SKSac** **09 47 16.2 +1.2**
baz=105
DVTC ⇑SKSac **SKSac** **09 47 16.2 +1.2**
baz=105
MURC Murrieta 104.73 57 ⇓Pdiff **Pdif** **09 36 37.8 +1.5**
baz=105
ARVC Arvin 104.88 55 ⇑Pdiff **Pdif** **09 36 38.7 +1.8**
baz=105
SIV San Ignacio 104.88 133 PKKPbc PKKPbc 09 52 20.9 +2.5
SIV P'P' 10 00 50.8
SIV San Ignacio 104.88 133 PKKPbc PKKPbc 09 52 20.9 +2.5
comp=Z,2.8nm,0.9s,baz=70,slow=5.7,SNR=4.1
SIV PKPPKP **P'P'df** **10 00 50.8 +4.6**
comp=Z,2.8nm,1.1s,baz=16,slow=0.1,SNR=3.7
BFSC Mount Baldy Ra 104.92 56 ⇓Pdiff **Pdif** **09 36 39.2 +2.0**
baz=105
POO Poona 104.96 281 ⇑ *i* x x 09 36 48.0
comp=Z,111nm,1.8s
SWSC Sam W. Stewart 105.09 58 ⇓Pdiff **Pdif** **09 36 38.5 +0.7**
baz=105
PFO Pinyon Flat Ob 105.17 57 *e*Pdif **Pdif** **09 36 37.5 -0.9**
comp=Z,154nm,1.9s
PFO PP PP 09 41 07.1 +7.1
PFO *e*PP PKiKP 09 41 08.4 +16
PFO LR LR
comp=Z,204µm,20.0s
PFO Pinyon Flat Ob 105.17 57 Pdiff **Pdif** **09 36 46.5 +8.1**
comp=Z,3.2nm,1.0s,baz=129,slow=5.2,SNR=4.0
PFO PP PP 09 41 07.1 +7.1
comp=Z,10nm,1.1s,baz=244,slow=6.8,SNR=4.0
PFO Pinyon Flat Ob 105.17 57 ⇓Pdiff **Pdif** **09 36 39.7 +1.3**
baz=105
EDW2 Edwards Air Fo 105.18 56 ⇑Pdiff **Pdif** **09 36 40.7 +2.4**
baz=105
VES Vestal, Richgr 105.24 54 ⇓Pdiff **Pdif** **09 36 40.8 +2.4**
baz=106
HOPS Hopland 105.33 50 *e*Pdif **Pdif** **09 36 40.3 +1.5**
BBRC Big Bear Solar 105.36 57 ⇓Pdiff **Pdif** **09 36 40.6 +1.2**
baz=106
ISA Isabella 105.46 55 *e*P **Pdif** **09 36 40.9 +1.3**
ISA pmax pmax
comp=Z,193nm,1.7s
ISA Isabella 105.46 55 *e*Pdif **Pdif** **09 36 40.9 +1.3**
comp=Z,193nm,1.7s
ISA *e*PP PP 09 41 11.8 +10
ISA Isabella 105.46 55 ⇓Pdiff **Pdif** **09 36 40.8 +1.2**
baz=106
RCTC Rector, Farmer 105.49 54 ⇑Pdiff **Pdif** **09 36 42.3 +2.8**
baz=106
KCPM Cahto Peak 105.56 49 *e*Pdif **Pdif** **09 36 39.8 -0.2**
comp=Z,342nm,2.1s
KCPM *e*PKPdf **PKiKP** **09 40 48.6 -4.5**
KCPM *e*PP PP 09 41 09.3 +6.5
BELC Belle Mtn. Jos 105.72 57 ⇓Pdiff **Pdif** **09 36 42.7 +1.9**
baz=106
GLA Glamis 105.75 59 *e*P **Pdif** **09 36 40.7 -0.2**
GLA pmax pmax
comp=Z,25nm,1.0s
GLA Glamis 105.75 59 *e*Pdif **Pdif** **09 36 40.7 -0.2**
comp=Z,25nm,1.0s
GLA *e*PP PP 09 41 13.4 +9.3
GLA Glamis 105.75 59 ⇓Pdiff **Pdif** **09 36 41.8 +0.9**
baz=106
RRX Edison Barstow 105.75 56 ⇓Pdiff **Pdif** **09 36 42.3 +1.5**
baz=106
BHPL Bhopal 105.77 287 *ex* **Pdif** **09 36 45.0 +3.8**
LRMC Laurel Mountai 105.78 55 ⇑Pdiff **Pdif** **09 36 42.3 +1.3**
baz=106
BC3 Big Chuckawall 105.80 58 ⇑Pdiff **Pdif** **09 36 42.4 +1.2**
baz=106
CMB Columbia Colle 106.08 52 *e*P **Pdif** **09 36 44.0 +1.8**
CMB pmax pmax
comp=Z,32nm,1.3s
CMB Columbia Colle 106.08 52 *e*Pdif **Pdif** **09 36 44.0 +1.8**
comp=Z,32nm,1.3s
CMB *e*PP PP 09 41 18.1 +12
HEC Hector,Ludlow 106.11 57 ⇑Pdiff **Pdif** **09 36 43.9 +1.5**
baz=106
GSC Goldstone 106.16 56 ⇑Pdiff **Pdif** **09 36 43.0 +0.3**
baz=106
113A Mohawk Valley, 106.19 60 ⇓Pdiff **Pdif** **09 36 42.6 -0.2**
baz=106
214A Organ Pipe Nat 106.20 61 ⇓Pdiff **Pdif** **09 36 43.6 +0.7**
baz=106
CWC Cottonwood Cre 106.24 54 ⇓Pdiff **Pdif** **09 36 43.7 +0.6**
baz=106
MPMC Manual Prospec 106.31 55 ⇓Pdiff **Pdif** **09 36 43.8 +0.4**
baz=106
IRM Iron Mountain 106.33 58 ⇓Pdiff **Pdif** **09 36 44.8 +1.4**
baz=107
KHMM Horse Mountain 106.35 48 *e*Pdif **Pdif** **09 36 52.5 +9.1**
KHMM *e*PKPdf **PKiKP** **09 40 50.3 -4.3**
KHMM *e*PP **PP** **09 41 12.4 +3.8**
Y12C Blythe 106.42 58 ⇑Pdiff **Pdif** **09 36 45.5 +1.8**
baz=107
GMRC Granite Mounta 106.47 57 ⇑Pdiff **Pdif** **09 36 44.6 +0.5**
baz=107
TIN Tinemaha 106.59 54 ⇓Pdiff **Pdif** **09 36 45.8 +1.3**
baz=107
MLAC Mammoth Lakes 106.66 53 ⇑Pdiff **Pdif** **09 36 45.5 +0.5**
baz=107
KRMB Red Mountain 106.74 47 *e*Pdif **Pdif** **09 36 41.1 -4.0**
KRMB *e*PKPdf **PKiKP** **09 40 52.5 -2.8**
WDC Whiskeytown Da 106.76 49 *e*P **Pdif** **09 36 48.7 +3.6**
WDC pmax pmax
comp=Z,25nm,1.4s
WDC Whiskeytown Da 106.76 49 *e*Pdif **Pdif** **09 36 48.7 +3.6**
comp=Z,25nm,1.4s
WDC *e*PP PP 09 41 21.1 +10
TUQ Turquoise Moun 106.77 56 ⇓Pdiff **Pdif** **09 36 46.2 +0.7**
baz=107
ULN Ulaanbaatar 106.87 323 *e*Pdif **Pdif** **09 36 45.2 -0.4**
comp=Z,26nm,1.3s
ULN *e*PKPdf PKiKP 09 40 24.9 -30
ULN LR LR
comp=Z,117µm,21.0s
ULN Ulaanbaatar 106.87 323 P **Pdif** **09 36 55.3 +10**
SHOC Shoshone 106.89 56 ⇑Pdiff **Pdif** **09 36 47.4 +1.6**
baz=107
FURC Furnace Creek, 106.95 55 ⇓Pdiff **Pdif** **09 36 46.5 +0.5**
baz=107
LDFC Landfair 107.00 57 *e*Pdif **Pdif** **09 36 50.4 +4.0**
LDFC *e*PP PP 09 41 20.1 +6.6
PDMCI Parker Dam,Lak 107.03 58 ⇓Pdiff **Pdif** **09 36 47.1 +0.7**
baz=107
GRAC Grapevine Rang 107.04 54 ⇓Pdiff **Pdif** **09 36 48.2 +1.7**
baz=107
NEE2 Needles Airpor 107.07 58 ⇓Pdiff **Pdif** **09 36 49.2 +2.6**
baz=107
KBO Bosley Butte 107.08 47 *e*Pdif Pdif 09 36 58.4 +12
KBO *e*PKPdf **PKiKP** **09 40 51.9 -4.0**
Z14A Wintersburg 107.09 60 ⇑Pdiff **Pdif** **09 36 48.8 +2.0**
baz=107
SONM Songino Array 107.13 322 Pdif **Pdif** **09 36 53.5 +6.7**
SONM PP **PKiKP** **09 40 57.4 +1.6**
SONM PKKPbc **PKKPbc** **09 52 15.5 +2.9**
SONM PKKP PKKPdf 09 52 31.3 +5.2
SONM P'P' 10 00 40.7
SONM Songino Array 107.13 322 Pdif **Pdif** **09 36 53.5 +6.7**
comp=Z,1.8nm,0.7s,baz=165,slow=6.2,SNR=6.4
SONM PP **PKiKP** **09 40 57.4 +1.6**
comp=Z,13nm,1.1s,baz=143,slow=6.9,SNR=4.7
SONM PKKPbc **PKKPbc** **09 52 15.5 +2.9**
comp=Z,3.0nm,0.8s,baz=274,slow=2.8,SNR=3.9
SONM PKKP PKKPdf 09 52 31.3 +5.2
comp=Z,8.6nm,0.8s,baz=297,slow=2.6,SNR=7.9
SONM PKPPKP P'P'df 10 00 40.7 +7.5
comp=Z,1.6nm,1.1s,baz=248,slow=3.9,SNR=3.8
OTAV Otavalo 107.30 108 PFAKE 09 41 10.0
OTAV LR LR
comp=Z,80µm,20.0s
BEKR Beckworth 107.41 50 *e*Pdif **Pdif** **09 36 47.7 -0.5**
BEKR *e*PKPdf PKiKP 09 40 31.6 -25
Y14A Wickenburg 107.46 59 ⇑Pdiff **Pdif** **09 36 50.4 +2.0**
baz=108
KEBM Edson Butte 107.50 46 *e*PKPdf PKiKP 09 40 49.3 -7.3
KEBM *e*PP **PP** **09 41 20.8 +3.8**
YBH Yreka Blue Hor 107.50 48 Pdif **Pdif** **09 36 55.4 +6.9**
YBH PP PP 09 41 08.5 -8.5
YBH Yreka Blue Hor 107.50 48 Pdiff **Pdif** **09 36 55.4 +6.9**
comp=Z,2.3nm,1.0s,baz=187,slow=16,SNR=2.6
YBH PP PP 09 41 08.5 -8.5
comp=Z,7.8nm,1.1s,baz=104,slow=4.3,SNR=3.2
NVAR Mina Array Bea 107.52 53 Pdif **Pdif** **09 36 53.6 +4.8**
NVAR PP PP 09 41 08.9 -8.5
NVAR S SKSac 09 47 41.4 +14
NVAR PKKPbc **PKKPbc** **09 52 14.2 +2.9**
NVAR PKKPab **PKKPab** **09 52 22.9 -0.7**
NVAR Mina Array Bea 107.52 53 Pdiff **Pdif** **09 36 53.6 +4.8**
comp=Z,0.6nm,0.9s,baz=218,slow=6.8,SNR=4.2
NVAR PP PP 09 41 08.9 -8.5
comp=Z,9.3nm,1.0s,baz=202,slow=4.6,SNR=18
NVAR S SKSac 09 47 41.4 +14
comp=Z,1.7nm,1.1s,baz=266,slow=12,SNR=2.0
NVAR PKKPbc **PKKPbc** **09 52 14.2 +2.9**
comp=Z,1.4nm,0.8s,baz=4.3,slow=1.7,SNR=3.8
NVAR PKKPab **PKKPab** **09 52 22.9 -0.7**
comp=Z,4.4nm,0.8s,baz=63,slow=4.0,SNR=8.6
NV11 Mina Array Sit 107.60 53 *e*Pdif **Pdif** **09 36 45.4 -3.7**
NV11 *e*PP **PP** **09 41 22.8 +4.9**
TUC Tucson 107.69 62 *e*P **Pdif** **09 36 48.4 -1.2**
TUC pmax pmax
comp=Z,28nm,1.4s
TUC MLR MLR
comp=Z,158nm,20.0s
TUC Tucson 107.69 62 *e*Pdif **Pdif** **09 36 48.4 -1.2**
comp=Z,28nm,1.4s
TUC LR LR
comp=Z,158µm,20.0s
W13A Hualapai Mount 107.73 58 ⇑Pdiff **Pdif** **09 36 52.0 +2.1**
baz=108
319A Douglas 107.99 63 ⇓Pdiff **Pdif** **09 36 54.4 +3.5**
baz=108
HUMO Hull Mountain 108.01 47 *e*Pdif **Pdif** **09 36 53.0 +2.4**
comp=Z,39nm,1.7s
HUMO *e*PKPdf **PKiKP** **09 40 55.5 -2.0**
CLNS Chul'man 108.10 337 *e*P Pdif 09 37 03.6 +13
CLNS pmax pmax
comp=Z,15nm,1.4s
CLNS pmax pmax
comp=N,12nm,1.5s
CLNS pmax pmax
comp=E,5.0nm,1.5s
LSZ Lusaka 108.53 222 *e*Pdif **Pdif** **09 36 59.6 +5.8**
comp=E,28nm,1.6s
LSZ *e*PP **PP** **09 41 28.7 +5.0**
LSZ LR LR
comp=Z,772µm,19.0s
KDAK Kodiak Island 108.67 22 PFAKE 09 41 10.0
KDAK LR LR
comp=Z,421µm,22.0s
X16A Lo Mia Camp, P 108.73 60 ⇓Pdiff **Pdif** **09 36 55.8 +1.5**
baz=109
220A Playas Peak, P 108.82 63 ⇓Pdiff **Pdif** **09 36 56.5 +1.8**
baz=109
MOD Modoc 108.89 49 *e*Pdif **Pdif** **09 36 54.3 -0.4**
comp=Z,17nm,2.0s
MOD *e*PP PP 09 41 37.2 +10
R11A Troy Canyon, C 108.99 54 ⇑Pdiff **Pdif** **09 36 57.3 +2.0**
baz=109
120A U Bar Ranch, L 109.18 63 ⇑Pdiff **Pdif** **09 36 58.1 +1.9**
baz=109

COR	Corvallis	109.26	45	ePP	Pdif	09 36 59.3	+3.2	
COR				e		09 41 29.3		
COR	Corvallis	109.26	45	ePdif	Pdif	09 36 59.3	+3.2	
COR				ePP	PP	09 41 29.3	-0.3	
221A	Mesquite Ranch	109.36	64	⇑Pdiff	Pdif	09 36 58.5	+1.4	
	baz=110							
TSUM	Tsumeb	109.44	211	PFAKE				
TSUM				LR	LR	09 41 10.0		
	comp=Z,445µm,20.0s							
WUAZ	Wupatki	109.51	59	ePdif	Pdif	09 36 58.1	+0.4	
WUAZ				ePP	PP	09 41 39.1	+7.2	
WUAZ				LR	LR			
	comp=Z,225µm,22.0s							
WUAZ	Wupatki	109.51	59	⇓Pdiff	Pdif	09 36 59.8	+2.1	
	baz=110							
BMN	Battle Mountai	109.52	52	PFAKE				
BMN				LR	LR	09 41 10.0		
	comp=Z,153µm,19.0s							
NDI	New Delhi	109.58	291	e4	x	09 37 07.0		
NDI				ex	SKSac	09 47 40.0	+3.7	
U15A	North Rim	109.58	58	⇑Pdiff	Pdif	09 36 59.4	+1.3	
	baz=110							
Z20A	Nine Sixteen R	109.59	63	⇓Pdiff	Pdif	09 36 58.4	+0.3	
	baz=110							
121A	Cookes Peak, D	109.70	63	⇓Pdiff	Pdif	09 37 00.6	+2.0	
	baz=110							
X18A	Snowflake	109.71	61	⇑Pdiff	Pdif	09 37 01.1	+2.5	
	baz=110							
CCUT	Cedar City	109.72	56	ePdif	Pdif	09 37 01.6	+3.0	
CCUT				ePP	PP	09 41 41.1	+7.7	
AJM	Ajmer	109.81	288	ex	Pdif	09 37 03.0	+3.9	
222A	Williams Famil	109.84	64	⇑Pdiff	Pdif	09 37 02.4	+3.2	
	baz=110							
626A	Big Bend Ranch	110.04	68	⇑Pdiff	Pdif	09 37 00.7	+0.6	
	baz=110							
WVOR	Wild Horse Val	110.14	50	eP	Pdif	09 37 01.6	+1.3	
WVOR				MLR	MLR			
	comp=Z,244µm,21.0s							
WVOR	Wild Horse Val	110.14	50	ePdif	Pdif	09 37 01.6	+1.3	
WVOR				ePP	PP	09 41 45.4	+9.2	
WVOR				LR	LR			
	comp=Z,244µm,21.0s							
TXAR	Lajitas Array	110.20	68	Pdif	Pdif	09 36 57.4	-3.4	
TXAR				PKiKP	PKiKP	09 41 03.7	+1.6	
TXAR				PP	PP	09 41 41.2	+4.4	
TXAR				PKKPbc	PKKPbc	09 52 05.5	+3.3	
TXAR	Lajitas Array	110.20	68	Pdiff	Pdif	09 36 57.4	-3.4	
	comp=Z,2.2nm,1.0s,baz=184,slow=10.0,SNR=11							
TXAR				PKiKP	PKiKP	09 41 03.7	+1.6	
	comp=Z,1.5nm,0.9s,baz=195,slow=2.8,SNR=3.9							
TXAR				PP	PP	09 41 41.2	+4.4	
	comp=Z,8.4nm,1.0s,baz=199,slow=3.4,SNR=5.3							
TXAR				PKKPbc	PKKPbc	09 52 05.5	+3.3	
	comp=Z,3.0nm,0.9s,baz=71,slow=4.0,SNR=5.7							
223A	Chaparral, Ant	110.20	65	⇓Pdiff	Pdif	09 37 01.6	+0.8	
	baz=110							
W18A	Petrified Fore	110.23	60	⇓Pdiff	Pdif	09 37 01.6	+0.7	
	baz=110							
Y20A	Horse Springs,	110.26	62	⇓Pdiff	Pdif	09 37 02.2	+1.0	
	baz=110							
Z21A	St. Cloud Mine	110.29	63	⇑Pdiff	Pdif	09 37 03.2	+2.0	
	baz=110							
122A	Conniff Cattle	110.31	64	⇑Pdiff	Pdif	09 37 03.3	+2.0	
	baz=110							
425A	Indio Mountain	110.31	67	⇑Pdiff	Pdif	09 37 02.3	+0.9	
	baz=110							
ZAK	Zakamensk	110.40	322	eP	Pdif	09 37 16.7	+16	
ZAK				pmax	pmax			
	comp=Z,11nm,1.3s							
526A	Mary Lane Ranc	110.41	68	⇑Pdiff	Pdif	09 37 02.9	+1.1	
	baz=111							
324A	Moseley Ranch,	110.43	66	⇑Pdiff	Pdif	09 37 03.5	+1.6	
	baz=111							
627A	Terlingua Ranc	110.46	69	⇑Pdiff	Pdif	09 37 02.5	+0.5	
	baz=111							
X20A	Quemado	110.60	61	⇑Pdiff	Pdif	09 37 03.8	+1.2	
	baz=111							
MNTX	Cornudas Mount	110.66	66	ePdif	Pdif	09 37 03.0	+0.3	
MNTX				ePP	PP	09 41 47.8	+7.7	
MNTX				LR	LR			
	comp=Z,170µm,22.0s							
Z22A	Elephant Butte	110.70	63	⇓Pdiff	Pdif	09 37 04.0	+1.0	
	baz=111							
325A	Bean Ranch, Si	110.71	66	⇓Pdiff	Pdif	09 37 04.0	+0.9	
	baz=111							
123A	Bell Site, Whi	110.73	64	⇑Pdiff	Pdif	09 37 04.1	+0.9	
	baz=111							
Y21A	Point of Rocks	110.76	62	⇓Pdiff	Pdif	09 37 03.6	+0.3	
	baz=111							
527A	Woodward Ranch	110.77	68	⇑Pdiff	Pdif	09 37 03.6	+0.2	
	baz=111							
628A	Black Gap, Mar	110.81	69	⇓Pdiff	Pdif	09 37 02.2	-1.3	
	baz=111							
224A	Cornudas Mount	110.82	65	⇑Pdiff	Pdif	09 37 02.2	-1.4	
	baz=111							
ELK	Elko	110.83	53	ePdif	Pdif	09 37 05.8	+2.3	
ELK				ePKPdf	PKiKP	09 41 00.8	-2.4	
ELK				ePP	PP	09 41 49.6	+8.2	
426A	McDonald Obser	110.85	67	⇑Pdiff	Pdif	09 37 02.3	-1.6	
	baz=111							
X21A	Alamocita Cree	110.98	62	⇑Pdiff	Pdif	09 37 06.0	+1.7	
	baz=111							
NLWA	Neilton Lookou	110.99	43	PFAKE				
NLWA				LR	LR	09 41 10.0		
	comp=Z,253µm,20.0s							
W20A	Ramah	110.99	61	⇓Pdiff	Pdif	09 37 06.1	+1.7	
	baz=111							
MVU	Marysvale	111.03	56	ePdif	Pdif	09 37 07.3	+2.9	
MVU				LR	LR			
	comp=Z,171µm,20.0s							
MSU	Marysvale	111.06	56	ePKIKP	PKiKP	09 40 57.1	-6.5	
MSU	Marysvale	111.06	56	ePKPdf	PKiKP	09 40 57.1	-6.5	
TGUH	Tegucigalpa,Un	111.14	91	PFAKE		09 41 10.0		
TGUH				LR	LR			
	comp=Z,81µm,20.0s							
Y22A	Socorro	111.15	63	⇑Pdiff	Pdif	09 37 06.9	+1.8	
	baz=111							
Z23A	Rita Site, Whi	111.16	64	⇓Pdiff	Pdif	09 37 06.9	+1.8	
	baz=111							
TLY	Talaya	111.21	323	eP	Pdif	09 37 08.3	+3.7	
TLY				eSS	SS	09 57 27.4	+12	
TLY				pmax	pmax			
	comp=Z,13nm,1.7s							
TLY				MLR	MLR			
	comp=Z,114µm,19.0s							
SMLA	Simla	111.24	293	eP	PKiKP	09 41 03.3	-0.6	
BDFB	Brasilia	111.26	144	Pdif	Pdif	09 37 09.0	+3.0	
BDFB				PKKP	PKKPab	09 52 12.1	-0.3	
BDFB	Brasilia	111.26	144	Pdiff	Pdif	09 37 09.0	+3.0	
	comp=Z,0.8nm,0.3s,baz=352,slow=12,SNR=1.8							
BDFB				PKKP	PKKPab	09 52 12.1	-0.3	
	comp=Z,5.1nm,0.8s,baz=32,slow=12,SNR=3.3							
Y22D	IRIS PASSCAL I	111.27	63	⇓Pdiff	Pdif	09 37 07.1	+1.6	
	baz=112							
124A	Stringfield Ra	111.28	65	⇓Pdiff	Pdif	09 37 08.6	+2.9	
	baz=112							
225A	Deer Hill, Car	111.29	66	⇓Pdiff	Pdif	09 37 07.6	+1.9	
	baz=112							
326A	Caldwell Ranch	111.31	67	⇑Pdiff	Pdif	09 37 07.6	+2.0	
	baz=112							
528A	Cox Ranch, San	111.32	68	⇓Pdiff	Pdif	09 37 07.7	+1.9	
	baz=112							
427A	Hayter Ranch,	111.37	67	⇓Pdiff	Pdif	09 37 07.8	+1.8	
	baz=112							
IRK	Irkutsk	111.37	324	ePKIKP	PKiKP	09 40 53.8	-10	
V20A	Brimhall	111.46	60	⇓Pdiff	Pdif	09 37 08.0	+1.6	
	baz=112							
X22A	Bernardo	111.50	62	⇓Pdiff	Pdif	09 37 07.5	+1.0	
	baz=112							
W21A	San Fidel	111.51	61	⇑Pdiff	Pdif	09 37 08.5	+1.9	
	baz=112							
529A	Stev Forest Ra	111.66	69	⇑Pdiff	Pdif	09 37 07.8	+0.6	
	baz=112							
226B	Tecolote Peak,	111.69	66	⇓Pdiff	Pdif	09 37 08.4	+1.0	
	baz=112							
Y23A	Lovelace Mesa,	111.71	63	⇓Pdiff	Pdif	09 37 08.4	+0.9	
	baz=112							
Z24A	Sheeppen Canyo	111.75	64	⇓Pdiff	Pdif	09 37 09.0	+1.2	
	baz=112							
428A	Kincaid Ranch,	111.75	68	⇓Pdiff	Pdif	09 37 08.5	+0.8	
	baz=112							
125A	Gardner Draw,	111.76	65	⇑Pdiff	Pdif	09 37 08.5	+0.8	
	baz=112							
U20A	Newcomb	111.81	60	⇓Pdiff	Pdif	09 37 08.6	+0.7	
	baz=112							
DUG	Dugway	111.82	54	eP	Pdif	09 37 07.3	-0.5	
DUG				MLR	MLR			
	comp=Z,171µm,22.0s							
DUG	Dugway	111.82	54	ePdif	Pdif	09 37 07.3	-0.5	
DUG				ePKPdf	PKiKP	09 40 50.3	-15	
DUG				ePP	PP	09 41 57.6	+9.2	
DUG				eSKPdf	SKPdf	09 44 25.0	-14	
DUG				LR	LR			
	comp=Z,171µm,22.0s							
DUG	Dugway	111.82	54	⇓Pdiff	Pdif	09 37 07.7	-0.1	
	baz=112							
Q16A	Castle Valley	111.92	56	⇓Pdiff	Pdif	09 37 08.8	+0.5	
	baz=112							
W22A	Albuquerque	111.96	62	⇓Pdiff	Pdif	09 37 09.9	+1.3	
	baz=112							
V21A	Milan	111.97	61	⇑Pdiff	Pdif	09 37 08.9	+0.2	
	baz=112							
X23A	Hourglass Bar	112.06	63	⇑Pdiff	Pdif	09 37 09.6	+0.5	
	baz=112							
Y24A	Capitan	112.10	64	⇓Pdiff	Pdif	09 37 10.7	+1.4	
	baz=112							
328A	Wristen Ranch,	112.10	67	⇑Pdiff	Pdif	09 37 11.2	+2.0	
	baz=112							
Z25A	Roswell	112.13	65	⇑Pdiff	Pdif	09 37 11.2	+1.9	
	baz=112							
ANMO	Albuquerque	112.13	62	ePdif	Pdif	09 37 07.7	-1.7	
ANMO				ePKPdf	PKiKP	09 41 05.4	-0.3	
ANMO				ePP	PP	09 41 58.0	+7.2	
ANMO				PKKP	PKKPdf	09 52 12.9	-3.1	
ANMO				LR	LR			
	comp=Z,201µm,19.0s							
ANMO	Albuquerque	112.13	62	Pdiff	Pdif	09 37 16.2	+6.8	
	comp=Z,0.5nm,0.7s,baz=251,slow=5.3,SNR=3.8							
ANMO				PKKP	PKKPdf	09 52 12.9	-3.1	
	comp=Z,3.5nm,1.0s,baz=39,slow=1.6,SNR=5.0							
126A	Clayton Basin,	112.15	66	⇑Pdiff	Pdif	09 37 10.3	+0.8	
	baz=112							
429A	Davenport Ranc	112.20	69	⇓Pdiff	Pdif	09 37 11.3	+1.7	
	baz=112							
227A	Bennet, Jal	112.20	67	⇓Pdiff	Pdif	09 37 11.3	+1.7	
	baz=112							
732A	Laxson Ranch,	112.22	71	⇑Pdiff	Pdif	09 37 11.4	+1.7	
	baz=112							
530A	J-C Ranch, Com	112.25	69	⇓Pdiff	Pdif	09 37 11.4	+1.6	
	baz=112							
631A	Perdido Creek	112.27	70	⇓Pdiff	Pdif	09 37 11.0	+1.0	
	baz=112							
MFID	Camas Ranch	112.31	50	ePdif	Pdif	09 37 10.1	+0.2	
MFID				ePKPdf	PKiKP	09 40 55.9	-10	
MFID				ePP	PP	09 41 56.7	+4.8	
MFID				eSKPdf	SKPdf	09 44 29.7	-10	
MFID	Camas Ranch	112.31	50	⇓Pdiff	Pdif	09 37 11.1	+1.2	
	baz=113							
MOY	Mondy	112.32	322	ePKIKP	PKiKP	09 41 10.4	+5.0	
U21A	Nageezi	112.36	60	⇓Pdiff	Pdif	09 37 10.2	-0.3	
	baz=113							
MVCO	Mesa Verde	112.37	59	ePdif	Pdif	09 37 10.5	0.0	
MVCO				ePKPdf	PKiKP	09 40 60.0	-6.2	
MVCO				ePP	PP	09 41 58.0	+5.5	
MVCO				LR	LR			
	comp=Z,146µm,21.0s							
MVCO	Mesa Verde	112.37	59	⇑Pdiff	Pdif	09 37 11.2	+0.7	
	baz=113							
MPU	Maple Canyon	112.38	55	ePdif	Pdif	09 37 09.9	-0.5	
MPU				ePKPdf	PKiKP	09 40 48.7	-17	
MPU				ePP	PP	09 41 57.9	+5.4	
HAWA	Hanford	112.41	46	ePdif	Pdif	09 37 08.8	-1.3	
HAWA				ePP	PP	09 41 59.1	+6.7	
HAWA				LR	LR			
	comp=Z,217µm,20.0s							
SRU	San Rafael	112.42	57	eP	Pdif	09 37 11.2	+0.6	
SRU	San Rafael	112.42	57	ePdif	Pdif	09 37 11.2	+0.6	
SRU				ePKPdf	PKiKP	09 40 50.5	-16	
SRU				ePP	PP	09 42 01.2	+8.4	
W23A	Werner Place,	112.46	62	⇓Pdiff	Pdif	09 37 12.9	+2.0	
	baz=113							
V22A	San Miguel Ran	112.48	61	⇑Pdiff	Pdif	09 37 12.4	+1.4	
	baz=113							
BMO	Blue Mountains	112.50	48	ePdif	Pdif	09 37 11.0	+0.3	
BMO				ePP	PP	09 42 01.3	+8.1	
BMO				LR	LR			
	comp=Z,205µm,19.0s							
X24A	Lazy VL Ranch,	112.52	63	⇓Pdiff	Pdif	09 37 13.0	+1.8	
	baz=113							
DHRM	DHARAMSHALA	112.53	293	eP	PKiKP	09 41 05.5	-1.1	
BBB	Bella Bella	112.53	37	Pdif	Pdif	09 37 14.9	+4.5	
BBB				PKKP	PKKPdf	09 52 13.4	-2.3	
BBB	Bella Bella	112.53	37	Pdiff	Pdif	09 37 14.9	+4.5	
	comp=Z,0.7nm,0.8s,baz=205,slow=14,SNR=1.8							
BBB				PKKP	PKKPdf	09 52 13.4	-2.3	
	comp=Z,6.4nm,1.1s,baz=100,slow=3.7,SNR=3.2							
Y25A	Mesa, Roswell	112.56	64	⇑Pdiff	Pdif	09 37 13.0	+1.8	
	baz=113							
Z26A	Caprock	112.59	65	⇑Pdiff	Pdif	09 37 13.1	+1.7	
	baz=113							
127A	Arkansas Junct	112.60	66	⇑Pdiff	Pdif	09 37 13.1	+1.7	
	baz=113							
329A	Wagon Wheel Ra	112.71	68	⇓Pdiff	Pdif	09 37 12.8	+0.9	
	baz=113							
228A	UT Block 9, Go	112.72	67	⇓Pdiff	Pdif	09 37 12.8	+0.9	
	baz=113							
430A	Baggett Ranch,	112.74	69	⇑Pdiff	Pdif	09 37 14.4	+2.3	
	baz=113							
CTU	Camp Tracy	112.76	55	ePdif	Pdif	09 37 20.5	+8.5	
CTU				ePKPdf	PKiKP	09 40 57.0	-10	
CTU				ePP	PP	09 42 01.6	+6.4	
531A	Rocksprings	112.78	70	⇑Pdiff	Pdif	09 37 13.9	+1.7	
	baz=113							
TNA	Tin City	112.80	11	PKPdf	PKiKP	09 40 55.1	-11	
T21A	Navajo Lake	112.81	60	⇓Pdiff	Pdif	09 37 14.5	+2.2	
	baz=113							
PV10	Paradox Valley	112.81	58	PKPdf	PKiKP	09 41 05.0	-2.0	
U22A	Llaves	112.82	61	⇑Pdiff	Pdif	09 37 14.6	+2.1	
	baz=113							
V23A	Ortiz Mt. (NFS	112.82	62	⇑Pdiff	Pdif	09 37 14.0	+1.6	
	baz=113							
KVTX	Kingsville	112.84	74	PFAKE				
KVTX				LR	LR	09 41 20.0		
	comp=Z,164µm,19.0s							
PMR	Palmer	112.85	21	eP	Pdif	09 37 11.9	+0.3	
PMR				e		09 41 04.2		
PMR				e		09 41 52.5		
PMR	Palmer	112.85	21	ePdif	Pdif	09 37 11.9	+0.3	
PMR				ePKPdf	PKiKP	09 41 04.2	-1.8	
PMR				ePP	PP	09 41 52.5	-2.6	
632A	Uvalde	112.85	71	⇓Pdiff	Pdif	09 37 14.1	+1.6	
	baz=113							
S20A	Disappointment	112.86	59	⇑Pdiff	Pdif	09 37 14.1	+1.5	
	baz=113							
JLU	Jordanelle	112.87	55	ePdif	Pdif	09 37 14.9	+2.3	
JLU				ePKPdf	PKiKP	09 41 03.1	-3.9	
BCIP	Isla Barro Col	112.88	101	ePKPdf	PKiKP	09 41 01.9	-5.5	
BCIP				LR	LR			
	comp=Z,170µm,22.0s							
HVU	Hansel Valley	112.90	53	eP	Pdif	09 37 21.5	+8.9	
HVU				e		09 42 03.4		
HVU	Hansel Valley	112.90	53	ePdif	Pdif	09 37 21.5	+8.9	
HVU				ePP	PP	09 42 03.4	+7.3	
PV04	Paradox Valley	112.90	58	ePdif	Pdif	09 37 19.9	+7.2	
PV04				ePKPdf	PKiKP	09 41 05.0	-2.1	
PV04				ePP	PP	09 42 01.8	+5.6	
PV01	Paradox Valley	112.93	59	ePKPdf	PKiKP	09 40 59.2	-8.0	
I12A	Atlanta	112.94	50	⇑Pdiff	Pdif	09 37 15.3	+2.6	
	baz=113							
W24A	Lazy 6 Ranch,	112.95	63	⇑Pdiff	Pdif	09 37 14.3	+1.2	
	baz=113							
CRAG	Craig	112.96	32	ePdif	Pdif	09 37 13.3	+1.1	
CRAG				ePKPdf	PKiKP	09 40 59.5	-6.8	
CRAG				ePP	PP	09 42 04.8	+8.7	
CRAG				e		09 51 56.2		
X25A	Clemmons Ranch	112.97	64	⇓Pdiff	Pdif	09 37 15.3	+2.2	
	baz=113							
431A	Sonora	113.08	69	⇑Pdiff	Pdif	09 37 15.0	+1.5	
	baz=113							
R20A	Redvale	113.08	59	⇑Pdiff	Pdif	09 37 15.6	+2.0	
	baz=113							
S21A	Coal Bank Pass	113.09	59	⇑Pdiff	Pdif	09 37 15.1	+1.3	
	baz=113							
Y26A	Elida	113.11	65	⇓Pdiff	Pdif	09 37 15.1	+1.4	
	baz=113							
128A	Castleberry Fa	113.12	67	⇑Pdiff	Pdif	09 37 14.1	+0.4	
	baz=113							
229A	Bryant Ranch,	113.13	68	⇓Pdiff	Pdif	09 37 15.1	+1.4	
	baz=113							
HLID	Hailey	113.18	51	PFAKE				
HLID				LR	LR	09 41 20.0		
	comp=Z,122µm,21.0s							
HLID	Hailey	113.18	51	⇓Pdiff	Pdif	09 37 14.8	+1.0	
	baz=113							
330A	Mertzon	113.18	68	⇓Pdiff	Pdif	09 37 16.2	+2.2	
	baz=113							
532A	Rocksprings	113.18	70	⇑Pdiff	Pdif	09 37 16.2	+2.2	
	baz=113							
U23A	El Rito	113.19	61	⇓Pdiff	Pdif	09 37 15.3	+1.1	
	baz=113							
T22A	Edith	113.21	60	⇑Pdiff	Pdif	09 37 15.8	+1.6	
	baz=113							
SML	Sawmill	113.24	21	eP	Pdif	09 37 13.0	-0.4	
SML	Sawmill	113.24	21	ePdif	Pdif	09 37 13.0	-0.4	
SML				ePKPdf	PKiKP	09 40 59.6	-7.2	
WMQ	Urumqi	113.34	309	Pdif	Pdif	09 37 19.5	+5.1	
WMQ				PP	PP	09 42 07.3	+8.2	
WMQ	Urumqi	113.34	309	SKS	SKSdf	09 48 19.8	+1.6	
WMQ	Urumqi	113.34	309	SS	SS	09 57 45.9	+1.8	
WMQ				AMB	AMB			
	comp=Z,17µm,26.0s							
WMQ				LR	LR			
	comp=N,111µm,24.0s							
WMQ				LR	LR			
	comp=E,84µm,25.0s							
WMQ				LR	LR			
	comp=Z,237µm,28.0s							
WMQ	Urumqi	113.34	309	P	PKiKP	09 41 13.0	+5.4	
DIV	Divide	113.35	23	ePdif	Pdif	09 37 15.1	+1.2	
DIV				ePKPdf	PKiKP	09 41 04.7	-2.3	
DIV				ePP	PP	09 42 03.9	+5.1	
V24A	Rampart Ranch,	113.37	62	⇓Pdiff	Pdif	09 37 16.1	+1.1	
	baz=114							
HWUT	Hardware Ranch	113.46	54	ePdif	Pdif	09 37 13.4	-1.7	
HWUT				ePKPdf	PKiKP	09 40 45.4	-23	
HWUT				ePP	PP	09 42 09.3	+9.1	
HWUT				LR	LR			
	comp=Z,191µm,20.0s							
ROSC	El Rosal	113.47	108	ePdif	Pdif	09 37 20.5	+4.4	
ROSC				ePKPdf	PKiKP	09 41 06.8	-2.4	
ROSC				PKKPbc	PKKPab	09 52 00.5	-0.5	
ROSC	El Rosal	113.47	108	Pdiff	Pdif	09 37 21.0	+4.9	
	comp=Z,2.8nm,0.4s,baz=285,slow=23,SNR=1.8							
ROSC				PKKPbc	PKKPab	09 52 00.5	-0.5	
	comp=Z,5.5nm,0.4s,baz=283,slow=21,SNR=4.6							
JCT	Junction City	113.47	70	eP	Pdif	09 37 18.0	+2.7	
JCT				e		09 42 05.5		
JCT				MLR	MLR			
	comp=Z,279µm,19.0s							
JCT	Junction City	113.47	70	ePdif	Pdif	09 37 18.0	+2.7	
JCT				ePKPdf	PKiKP	09 40 58.2	-10	
JCT				ePP	PP	09 42 05.5	+5.3	
JCT				LR	LR			
	comp=Z,279µm,19.0s							
JCT	Junction City	113.47	70	⇑Pdiff	Pdif	09 37 16.8	+1.5	
	baz=114							
Y27A	Causey	113.50	65	⇓Pdiff	Pdif	09 37 16.3	+0.9	
	baz=114							
129A	Stewart Farms,	113.52	67	⇑Pdiff	Pdif	09 37 16.9	+1.4	
	baz=114							
X26A	CR and CF Fran	113.53	64	⇑Pdiff	Pdif	09 37 17.4	+1.9	
	baz=114							
230A	Sterling City	113.53	68	⇓Pdiff	Pdif	09 37 17.4	+1.9	
	baz=114							
BMRM	Bremner River	113.54	24	ePdif	Pdif	09 37 12.9	-1.9	
BMRM				ePKPdf	PKiKP	09 41 01.8	-5.6	
BMRM				ePP	PP	09 42 05.5	+5.4	
W25A	X Bar L Ranch,	113.55	63	⇑Pdiff	Pdif	09 37 16.9	+1.3	
	baz=114							
H12A	Diamond D Ranc	113.59	50	⇑Pdiff	Pdif	09 37 17.1	+1.4	
	baz=114							
331A	San Angelo	113.60	69	⇑Pdiff	Pdif	09 37 17.0	+1.2	
	baz=114							
Z28A	Tucker Farm, M	113.61	66	⇓Pdiff	Pdif	09 37 16.0	+0.1	
	baz=114							
P19A	Cripple Cowboy	113.67	57	⇑Pdiff	Pdif	09 37 18.2	+2.0	
	baz=114							
R21A	Cimarron	113.69	59	⇓Pdiff	Pdif	09 37 15.7	-0.6	
	baz=114							
S22A	4UR Ranch, Cre	113.72	60	⇑Pdiff	Pdif	09 37 16.8	+0.2	
	baz=114							
G12A	Big Creek, Yel	113.73	49	⇓Pdiff	Pdif	09 37 17.3	+1.1	
	baz=114							
432A	Menard	113.74	70	⇑Pdiff	Pdif	09 37 17.3	+0.8	
	baz=114							
T23A	Casias Ranch,	113.75	61	⇓Pdiff	Pdif	09 37 17.8	+1.2	
	baz=114							
MSTX	Muleshoe	113.81	65	⇑Pdiff	Pdif	09 37 17.9	+1.2	
	baz=114							
U24A	Moreno Valley	113.81	62	⇓Pdiff	Pdif	09 37 17.9	+1.0	
	baz=114							
V25A	Rancho No Teng	113.85	63	⇑Pdiff	Pdif	09 37 18.0	+1.0	
	baz=114							
M17A	Scullys Gap (B	113.89	55	⇑Pdiff	Pdif	09 37 18.1	+1.0	
	baz=114							
W26A	Owens Ranch, T	113.90	64	⇑Pdiff	Pdif	09 37 18.6	+1.4	
	baz=114							
P20A	De Beque	113.93	57	⇓Pdiff	Pdif	09 37 18.7	+1.4	
	baz=114							
I14A	Mackay	113.94	51	⇑Pdiff	Pdif	09 37 18.7	+1.5	
	baz=114							
WRAK	Wrangell Islan	113.97	32	ePdif	Pdif	09 37 16.4	-0.3	
WRAK				ePKPdf	PKiKP	09 40 58.4	-10	
WRAK				LR	LR			
	comp=Z,172µm,19.0s							
Q21A	Lamborn Mesa,	113.98	58	⇓Pdiff	Pdif	09 37 18.

baz=115
TEIG Tepich 114.62 86 PFAKE 09 41 20.0 +9.4
TEIG LR LR
comp=Z,159μm,20.0s
S24A Houchin Ranch, 114.64 61 ⇓Pdiff **Pdif 09 37 20.0 -0.6**
baz=115
MCK McKinley 114.72 20 *e*P **Pdif 09 37 20.2 +0.3**
MCK *e* 09 42 12.7
MCK McKinley 114.72 20 *e*Pdif **Pdif 09 37 20.2 +0.3**
MCK *e*PKPdf PKPdf 09 40 59.6 -10
MCK *e*PP **PP 09 42 12.7 +4.3**
RRI2 Red Ridge 114.74 53 *e*Pdif **Pdif 09 37 22.6 +1.7**
RRI2 *e*PKPdf PKiKP 09 41 16.6 +6.1
RRI2 *e*PP PP 09 42 22.1 +13
U26A Atchley Ranch, 114.75 63 ⇑Pdiff **Pdif 09 37 20.2 -0.8**
baz=115
M19A Rock Springs 114.77 55 ⇑Pdiff **Pdif 09 37 20.8 -0.2**
baz=115
X29A Tulia 114.79 65 ⇑Pdiff **Pdif 09 37 21.8 +0.7**
baz=115
T25A Trinidad 114.81 62 ⇑Pdiff **Pdif 09 37 22.4 +1.1**
baz=115
MCMT McKenzie Canyo 114.86 51 *e*PKPdf PKPdf 09 41 12.0 +1.3
N20A Spence Gulch, 114.86 56 ⇓Pdiff **Pdif 09 37 23.0 +1.5**
baz=115
NEW Newport 114.89 46 *e*Pdif **Pdif 09 37 19.4 -1.7**
NEW *e*PKPdf PKPdf 09 41 03.4 -7.0
NEW *e*PP **PP 09 42 14.3 +4.4**
NEW LR LR
comp=Z,258μm,19.0s
NEW Newport 114.89 46 ⇓Pdiff **Pdif 09 37 23.1 +2.0**
baz=115
V27A Dan Oppiter Fa 114.91 64 ⇑Pdiff **Pdif 09 37 22.5 +0.9**
baz=115
O21A Pagoda 114.93 57 ⇓Pdiff **Pdif 09 37 23.6 +1.8**
baz=115
Y30A Stafford Cattl 114.94 66 ⇓Pdiff **Pdif 09 37 23.6 +1.8**
baz=115
P22A Eagle 114.95 58 ⇓Pdiff **Pdif 09 37 23.1 +1.3**
baz=115
ABTX Abilene, Hawle 114.95 68 ⇑Pdiff **Pdif 09 37 23.1 +1.3**
baz=115
I16A Newdale 114.98 52 ⇑Pdiff **Pdif 09 37 24.2 +2.4**
baz=115
W28A Vega 114.99 65 ⇓Pdiff **Pdif 09 37 24.2 +2.2**
baz=115
TPAW Teton Pass 115.03 53 *e*Pdif **Pdif 09 37 15.9 -6.3**
TPAW *e*PKPdf **PKiKP 09 41 12.8 +1.7**
TPAW *e*PP PP 09 42 17.3 +5.9
L19A Farson 115.04 55 ⇑Pdiff **Pdif 09 37 24.3 +2.2**
baz=115
Q23A Hartsel 115.07 59 ⇑Pdiff **Pdif 09 37 23.4 +0.9**
baz=115
Z31A Sharp Cattle R 115.07 67 ⇑Pdiff **Pdif 09 37 24.8 +2.5**
baz=115
R24A Sanders Place, 115.08 60 ⇑Pdiff **Pdif 09 37 23.9 +1.4**
baz=115
AMTX Amarillo 115.08 65 *e*Pdif **Pdif 09 37 23.4 +1.0**
AMTX *e*PKPdf **PKPdf 09 41 10.1 -1.1**
AMTX *e*PP **PP 09 42 16.5 +4.8**
AMTX *e*SKPdf **SKiKP 09 44 50.4 +5.0**
AMTX LR LR
comp=Z,145μm,20.0s
SNOW Snow King Moun 115.12 53 *e*Pdif **Pdif 09 37 31.3 +8.7**
SNOW *e*PKPdf **PKiKP 09 41 16.2 +4.9**
SNOW *e*PP PP 09 42 18.8 +6.8
S25A Robets Cordova 115.13 61 ⇓Pdiff **Pdif 09 37 25.0 +2.3**
baz=115
SKAG Skagway 115.19 29 *e*Pdif **Pdif 09 37 26.3 +4.2**
SKAG *e*PKPdf **PKPdf 09 41 06.0 -4.5**
SKAG *e*PP PP 09 42 18.2 +6.4
SKAG *e* 09 52 20.2
N21A Black Mountain 115.25 57 ⇑Pdiff **Pdif 09 37 23.2 0.0**
baz=116
W29A Amraillo 115.25 65 ⇑Pdiff **Pdif 09 37 24.7 +1.5**
baz=116
V28A Channing 115.29 64 ⇓Pdiff **Pdif 09 37 24.8 +1.5**
baz=116
IMW Indian Meadow 115.30 52 *e*Pdif **Pdif 09 37 23.1 -0.3**
IMW *e*PKPdf **PKPdf 09 41 08.9 -2.7**
IMW *e*PP **PP 09 42 17.1 +3.8**
LOHW Long Hollow 115.31 53 *e*Pdif **Pdif 09 37 21.0 -2.4**
LOHW *e*PKPdf PKPdf 09 41 05.8 -5.7
LOHW *e*PP PP 09 42 19.6 +6.3
MOOW Moose Ponds 115.31 53 *e*PKPdf **PKPdf 09 41 06.5 -5.1**
MOOW *e*PP PP 09 42 19.3 +6.0
X30A Coker Ranch, T 115.32 66 ⇑Pdiff **Pdif 09 37 25.3 +1.9**
baz=116
M20A Sweetwater, Wa 115.32 56 ⇓Pdiff **Pdif 09 37 25.4 +1.9**
baz=116
T26A Comanche Natio 115.34 62 ⇑Pdiff **Pdif 09 37 26.4 +2.8**
baz=116
U27A Thompson Grove 115.34 63 ⇓Pdiff **Pdif 09 37 25.4 +1.8**
baz=116
DLMT Dillon 115.34 50 *e*Pdif **Pdif 09 37 26.5 +3.2**
DLMT *e*PKPdf **PKPdf 09 41 07.7 -3.8**
DLMT *e*PP **PP 09 42 16.8 +3.5**
BW06 Boulder Array 115.35 54 *e*Pdif **Pdif 09 37 21.8 -1.8**
BW06 *e*PKPdf **PKPdf 09 41 08.6 -3.1**
BW06 *e*PP **PP 09 42 16.4 +2.8**
BW06 LR LR
comp=Z,169μm,21.0s
PDAR Pinedale Array 115.35 54 Pdif **Pdif 09 37 28.9 +5.4**
PDAR PKP **PKiKP 09 41 12.3 +0.6**
PDAR PP PP 09 42 24.0 +10
PDAR PKKP PKKPdf 09 52 01.5 -8.8
PDAR Pinedale Array 115.35 54 Pdiff **Pdif 09 37 28.9 +5.4**
comp=Z,0.1nm,0.3s,baz=93,slow=3.7,SNR=2.2
PDAR PKP **PKiKP 09 41 12.3 +0.6**
comp=Z,5.0nm,1.1s,baz=235,slow=5.2,SNR=4.1
PDAR PP PP 09 42 24.0 +10
comp=Z,8.9nm,1.0s,baz=223,slow=5.4,SNR=5.4
PDAR PKKP PKKPdf 09 52 01.5 -8.8
comp=Z,5.7nm,1.0s,baz=75,slow=5.5,SNR=6.7
C12B Naegeli Ranch, 115.36 47 ⇑Pdiff **Pdif 09 37 24.9 +1.7**
baz=116
P23A Jefferson 115.36 59 ⇑Pdiff **Pdif 09 37 25.9 +2.1**
baz=116
Y31A Rekieta Farm, 115.41 67 ⇑Pdiff **Pdif 09 37 25.0 +1.2**
baz=116
KMBO Kilima Mbogo 115.44 239 *e*Pdif **Pdif 09 37 33.5 +8.7**
KMBO *e*PKPdf **PKiKP 09 41 09.1 -3.7**
KMBO PKP **PKPdf 09 41 11.5 -1.3**
KMBO *e*PP PP 09 42 22.8 +9.0
KMBO PKKP PKKPdf 09 52 02.8 -5.6
KMBO LR LR
comp=Z,553μm,22.0s
KMBO Kilima Mbogo 115.44 239 PKP **PKPdf 09 41 11.5 -1.3**
comp=Z,4.9nm,0.9s,baz=98,slow=1.5,SNR=4.9
KMBO PKKP PKKPdf 09 52 02.8 -5.6
comp=Z,4.5nm,0.9s,baz=35,slow=10,SNR=4.9
O22A Kremmling 115.44 58 ⇑Pdiff **Pdif 09 37 24.6 +0.5**
baz=116
D13A Huson 115.48 48 ⇓Pdiff **Pdif 09 37 25.7 +1.9**
baz=116
Z32A Haskell 115.50 68 ⇑Pdiff **Pdif 09 37 25.1 +1.0**
baz=116
I17A Pilgrim Ck. 115.52 53 ⇓Pdiff **Pdif 09 37 26.2 +2.0**
baz=116
Q24A Divide 115.52 60 ⇑Pdiff **Pdif 09 37 24.7 +0.2**
baz=116
R25A Fountain Ranch 115.53 61 ⇑Pdiff **Pdif 09 37 24.7 +0.4**
baz=116
FLWY Flagg Ranch 115.55 52 *e*Pdif **Pdif 09 37 25.8 +1.4**
FLWY *e*PKPdf **PKPdf 09 41 10.7 -1.3**
FLWY *e*PP **PP 09 42 18.9 +3.9**
L20A Wamsutter 115.56 55 ⇑Pdiff **Pdif 09 37 26.3 +1.8**
baz=116
QLMT Earthquake Lak 115.63 51 *e*PKPdf **PKPdf 09 41 08.6 -3.6**
H16A Russell Place, 115.65 52 ⇓Pdiff **Pdif 09 37 27.0 +2.2**
baz=116
U28A Mallet 115.69 64 ⇑Pdiff **Pdif 09 37 27.0 +2.0**
baz=116
S26A Kim 115.69 62 ⇑Pdiff **Pdif 09 37 26.0 +0.9**
baz=116
YFT Old Faithful 115.71 52 *e*PKPdf **PKPdf 09 41 11.9 -0.4**
YFT *e*PP PP 09 42 27.2 +11
LRM Limekiln Ridge 115.71 50 *e*PKPdf **PKPdf 09 41 11.2 -1.1**
ISCO Idaho Springs 115.77 59 *e*P **Pdif 09 37 23.1 -2.5**
ISCO *e* 09 42 19.8
ISCO MLR MLR
comp=Z,175μm,19.0s
ISCO Idaho Springs 115.77 59 *e*Pdif **Pdif 09 37 23.1 -2.5**
ISCO *e*PKPdf PKPdf 09 41 03.5 -9.2
ISCO *e*PP **PP 09 42 19.8 +3.2**
ISCO LR LR
comp=Z,175μm,19.0s
ISCO Idaho Springs 115.77 59 ⇑Pdiff **Pdif 09 37 26.7 +1.1**
baz=116
YMR Madison River 115.78 52 *e*Pdif **Pdif 09 37 35.2 +10**
YMR *e*PKPdf PKPdf 09 40 58.7 -14
YMR *e*PP PP 09 42 25.5 +8.9
K19A Absolon Red Bu 115.79 54 ⇑Pdiff **Pdif 09 37 26.8 +1.3**
baz=116
B12A Libby 115.79 46 ⇑Pdiff **Pdif 09 37 26.8 +1.7**
baz=116
C13A Hot Springs 115.80 47 ⇓Pdiff **Pdif 09 37 26.8 +1.6**
baz=116
BSMT Bassoo Peak 115.80 47 *e*PKPdf **PKPdf 09 41 11.9 -0.4**
I18A Diamond G Ranc 115.80 53 ⇓Pdiff **Pdif 09 37 26.8 +1.2**
baz=116
T27A Campo 115.81 63 ⇑Pdiff **Pdif 09 37 26.3 +0.7**
baz=116
V29A Stinnett 115.81 64 ⇓Pdiff **Pdif 09 37 27.3 +1.7**
baz=116
H17A Grant Village 115.82 52 ⇓Pdiff **Pdif 09 37 26.8 +1.2**
baz=116
O23A Lake Granby, G 115.84 58 ⇑Pdiff **Pdif 09 37 27.3 +1.4**
baz=116
M21A Separation Pea 115.87 56 ⇓Pdiff **Pdif 09 37 27.9 +2.0**
baz=116
N22A Wattenberg Ran 115.90 57 ⇓Pdiff **Pdif 09 37 27.5 +1.4**
baz=116
COLA College 115.94 20 *e*P **Pdif 09 37 23.7 -1.5**
COLA *e* 09 42 21.8
COLA MLR MLR
comp=Z,334μm,22.0s
COLA College 115.94 20 *e*Pdif **Pdif 09 37 23.7 -1.5**
COLA *e*PKPdf PKPdf 09 41 04.2 -7.5
COLA *e*PP **PP 09 42 21.8 +4.9**
COLA LR LR
comp=Z,334μm,22.0s
J19A Crowheart 115.95 54 ⇓Pdiff **Pdif 09 37 28.1 +1.9**
baz=116
Y32A R-V Farms, Ver 115.96 67 ⇓Pdiff **Pdif 09 37 27.0 +0.8**
baz=116
D14A Greenough 115.97 48 ⇑Pdiff **Pdif 09 37 28.6 +2.6**
baz=116
YNR Norris Junctio 115.97 52 *e*PKPdf PKPdf 09 41 19.1 +6.3
YNR *e*PKPdf PKiKP 09 41 21.2 +8.3
W30A Crocket Farms 115.97 66 ⇓Pdiff **Pdif 09 37 28.1 +1.8**
baz=116
K20A Yellowstone Ra 115.97 55 ⇓Pdiff **Pdif 09 37 28.1 +1.8**
baz=116
WHTX Lake Whitney 115.98 70 ⇓Pdiff **Pdif 09 37 28.1 +1.7**
baz=116
SWMT Swartz Lake 115.98 48 *e*PKPdf **PKPdf 09 41 11.3 -1.3**
CHMT Chamberlain Mo 115.99 49 *e*PKPdf **PKPdf 09 41 13.9 +1.2**
JTMT Jette 115.99 47 PKPdf **PKPdf 09 41 12.3 -0.4**
X31A McDonald Ranch 116.01 66 ⇑Pdiff **Pdif 09 37 29.1 +2.7**
baz=116
P24A Kohler Place, 116.01 59 ⇓Pdiff **Pdif 09 37 30.2 +3.6**
baz=116
LKWY Lake 116.03 52 *e*P **Pdif 09 37 25.7 -0.8**
LKWY *e* 09 42 23.4
LKWY MLR MLR
comp=Z,187μm,21.0s
LKWY Lake 116.03 52 *e*Pdif **Pdif 09 37 25.7 -0.8**
LKWY *e*PKPdf **PKiKP 09 41 13.4 +0.4**
LKWY *e*PP **PP 09 42 23.4 +5.1**
LKWY LR LR
comp=Z,187μm,21.0s
Q25A Bedland, Calha 116.03 60 ⇑Pdiff **Pdif 09 37 28.7 +2.0**
baz=116
BOZ Bozeman (W) 116.04 51 *e*P **Pdif 09 37 29.6 +3.1**
BOZ *e* 09 41 08.9
BOZ *e* 09 42 24.5
BOZ MLR MLR
comp=Z,140μm,19.0s
BOZ Bozeman (W) 116.04 51 *e*Pdif **Pdif 09 37 29.6 +3.1**
BOZ *e*PKPdf **PKPdf 09 41 08.9 -3.9**
BOZ *e*PP PP 09 42 24.5 +6.2
BOZ LR LR
comp=Z,140μm,19.0s
A12A Yaak River Ran 116.06 46 ⇓Pdiff **Pdif 09 37 27.8 +1.5**
baz=116
SLMT Seeley Lake 116.08 48 *e*PKPdf **PKPdf 09 41 07.8 -5.1**
ILAR Eielson Array 116.08 20 Pdif **Pdif 09 37 33.5 +7.6**
ILAR PKP **PKPdf 09 41 10.9 -1.2**
ILAR PKKPbc **PKKPab 09 51 46.4 +2.3**
ILAR SKKP 09 55 51.4
ILAR Eielson Array 116.08 20 Pdiff **Pdif 09 37 33.5 +7.6**
comp=Z,1.4nm,1.1s,baz=233,slow=6.6,SNR=6.0
ILAR PKP **PKPdf 09 41 10.9 -1.2**
comp=Z,11nm,1.0s,baz=256,slow=3.6,SNR=8.8
ILAR PKKPbc **PKKPab 09 51 46.4 +2.3**
comp=Z,3.8nm,0.7s,baz=2.2,slow=3.1,SNR=11
ILAR SKKP 09 55 51.4
comp=Z,10nm,1.1s,baz=24,slow=2.6,SNR=5.6
S27A Las Animas 116.09 62 ⇓Pdiff **Pdif 09 37 28.3 +1.4**
baz=116
L21A Rawlins 116.10 56 ⇑Pdiff **Pdif 09 37 27.3 +0.5**
baz=116
BLMT Blacktail Moun 116.12 47 *e*PKPdf **PKPdf 09 41 11.7 -1.3**
R26A Arlington 116.14 61 ⇓Pdiff **Pdif 09 37 27.9 +0.9**
baz=116
M22A Cedar Creek Ra 116.19 57 ⇑Pdiff **Pdif 09 37 28.0 +0.6**
baz=116
YBMT Yellow Bay 116.21 48 *e*PKPdf **PKPdf 09 41 09.6 -3.4**
T28A Walsh 116.22 63 ⇓Pdiff **Pdif 09 37 29.0 +1.6**
baz=116
N23A Red Feather La 116.26 58 ⇓Pdiff **Pdif 09 37 29.6 +1.9**
baz=116
V30A Spur Ranch, Mi 116.27 65 ⇓Pdiff **Pdif 09 37 28.6 +1.0**
baz=116
C14A Swan Lake 116.28 48 ⇑Pdiff **Pdif 09 37 28.2 +0.8**
baz=116
O24A Longmont 116.29 59 ⇓Pdiff **Pdif 09 37 29.2 +1.5**
baz=116
DLBC Dease Lake 116.30 32 PKP **PKPdf 09 41 12.9 +0.1**
DLBC PKKPab **PKKPab 09 51 46.1 +2.5**
DLBC Dease Lake 116.30 32 PKP **PKPdf 09 41 12.9 +0.1**
comp=Z,14nm,1.2s,baz=228,slow=2.8,SNR=6.3
DLBC PKKPab **PKKPab 09 51 46.1 +2.5**
comp=Z,4.7nm,1.0s,baz=204,slow=3.6,SNR=3.6
B13A Whitefish 116.30 47 ⇓Pdiff **Pdif 09 37 28.8 +1.3**
baz=116
G17A Pierce Place, 116.32 51 ⇑Pdiff **Pdif 09 37 29.8 +2.1**
baz=117
U29A Oasis Ranch, S 116.33 64 ⇑Pdiff **Pdif 09 37 29.3 +1.4**
baz=116
W31A Holland Ranch, 116.38 66 ⇓Pdiff **Pdif 09 37 29.8 +1.8**
baz=117
P25A Willow Gulch B 116.45 60 ⇓Pdiff **Pdif 09 37 29.5 +1.0**
baz=117
D15A Lincoln 116.46 49 ⇑Pdiff **Pdif 09 37 29.5 +1.3**
baz=117
I19A Meeteetse 116.47 53 ⇓Pdiff **Pdif 09 37 30.6 +2.1**
baz=117
Q26A Hugo 116.48 61 ⇑Pdiff **Pdif 09 37 30.6 +2.0**
baz=117
H18A Shoshone NF, C 116.50 52 ⇑Pdiff **Pdif 09 37 29.6 +1.0**
baz=117
R27A Eads 116.53 62 ⇑Pdiff **Pdif 09 37 29.1 +0.4**
baz=117
J20A Shoshoni 116.56 54 ⇓Pdiff **Pdif 09 37 31.7 +2.9**
baz=117
K21A Alcova 116.58 55 ⇓Pdiff **Pdif 09 37 33.3 +4.3**
baz=117
HRY Holter Researc 116.61 50 PKPdf **PKPdf 09 41 14.4 +0.6**
S28A Manter 116.65 63 ⇓Pdiff **Pdif 09 37 32.4 +3.1**
baz=117
L22A Ellis Ranch, M 116.68 56 ⇑Pdiff **Pdif 09 37 34.5 +5.0**
baz=117
A13A Flathead Natio 116.69 46 ⇑Pdiff **Pdif 09 37 33.0 +3.8**
baz=117
F17A Fitzpatrick Pl 116.73 51 ⇓Pdiff **Pdif 09 37 33.6 +4.1**
baz=117
M23A Laramie 116.75 57 ⇑Pdiff **Pdif 09 37 32.6 +2.8**
baz=117
T29A Hugoton 116.75 63 ⇓Pdiff **Pdif 09 37 32.1 +2.3**
baz=117
U30A WK&E Inc. Balk 116.77 64 ⇓Pdiff **Pdif 09 37 33.1 +3.3**
baz=117
PHWY Pilot Hill 116.80 58 *e*Pdif **Pdif 09 37 29.4 -0.7**
PHWY *e*PKPdf **PKPdf 09 41 11.5 -3.1**
PHWY *e*PP PP 09 42 31.6 +7.8
V31A Spring Creek L 116.81 65 ⇓Pdiff **Pdif 09 37 32.7 +2.7**
baz=117
WMOK Wichita Mounta 116.84 67 *e*P **Pdif 09 37 26.6 -3.5**
WMOK *e* 09 42 29.8
WMOK MLR MLR
comp=Z,248μm,19.0s
WMOK Wichita Mounta 116.84 67 *e*Pdif **Pdif 09 37 26.6 -3.5**
WMOK *e*PKPdf PKPdf 09 41 06.0 -8.6
WMOK *e*PP PP 09 42 29.8 +5.9
WMOK LR LR
comp=Z,248μm,19.0s
N24A Carr 116.84 58 ⇓Pdiff **Pdif 09 37 33.3 +3.1**
baz=117
O25A Wiggins 116.86 59 ⇑Pdiff **Pdif 09 37 35.3 +5.1**
baz=117
H19A Powell 116.88 53 ⇓Pdiff **Pdif 09 37 32.8 +2.7**
baz=117
C15A Salmond Ranch, 116.88 48 ⇓Pdiff **Pdif 09 37 33.4 +3.3**
baz=117
B14A Marquette Ranc 116.91 47 ⇓Pdiff **Pdif 09 37 34.4 +4.2**
baz=117
I20A Worland 116.91 54 ⇓Pdiff **Pdif 09 37 32.4 +2.1**
baz=117
J21A Lysite 116.92 55 ⇓Pdiff **Pdif 09 37 32.9 +2.4**
baz=117
G18A Lazy EL Ranch, 116.96 52 ⇑Pdiff **Pdif 09 37 33.0 +2.4**
baz=117
E17A Martinsdale 116.98 50 ⇑Pdiff **Pdif 09 37 33.0 +2.4**
baz=117
P26A Davis Ranch, A 116.98 60 ⇑Pdiff **Pdif 09 37 33.0 +2.2**
baz=117
RLMT Red Lodge 117.00 52 *e*Pdif **Pdif 09 37 31.1 +0.2**
RLMT *e*PKPdf PKPdf 09 41 04.9 -10
RLMT *e*PP PP 09 42 31.5 +6.4
RLMT LR LR
comp=Z,141μm,19.0s
K22A Casper 117.02 56 ⇑Pdiff **Pdif 09 37 33.6 +2.7**
baz=117
WALA Waterton Lakes 117.02 47 *e*Pdif **Pdif 09 37 34.4 +3.7**
WALA *e*PKPdf PKPdf 09 41 09.2 -5.4
WALA *e*PP **PP 09 42 29.3 +4.3**
KSCO Kaye Shedlock' 117.08 61 ⇑Pdiff **Pdif 09 37 34.2 +3.0**
baz=117
S29A Ulysses 117.15 63 ⇓Pdiff **Pdif 09 37 34.3 +2.8**
baz=117
L23A Garrett 117.16 57 ⇑Pdiff **Pdif 09 37 34.4 +2.7**
baz=117
R28A Tribune 117.17 62 ⇑Pdiff **Pdif 09 37 34.9 +3.3**
baz=117
T30A Plains 117.17 64 ⇓Pdiff **Pdif 09 37 35.4 +3.8**
baz=117
U31A Nine Bar Ranch 117.17 65 ⇓Pdiff **Pdif 09 37 34.4 +2.8**
baz=117
GCMT Greycliff 117.20 51 *e*PKPdf **PKPdf 09 41 13.9 -1.1**
A14A Double T Ranch 117.22 47 ⇓Pdiff **Pdif 09 37 35.0 +3.4**
baz=118
B15A Bradely Ranch, 117.24 48 ⇓Pdiff **Pdif 09 37 35.0 +3.4**
baz=118
F18A Big Timber 117.25 51 ⇑Pdiff **Pdif 09 37 34.5 +2.8**
baz=118
M24A Cheyenne 117.28 58 ⇑Pdiff **Pdif 09 37 35.1 +3.0**
baz=118
I21A Big Trails, Te 117.30 54 ⇑Pdiff **Pdif 09 37 34.1 +2.0**
baz=118
N25A Grover 117.31 59 ⇓Pdiff **Pdif 09 37 35.1 +2.9**
baz=118
H20A Greybull 117.31 53 ⇓Pdiff **Pdif 09 37 33.7 +1.6**
baz=118
C16A Fuhringer Ranc 117.34 49 ⇓Pdiff **Pdif 09 37 34.7 +2.6**
baz=118
KSH Kashi 117.35 299 Pdif **Pdif 09 37 41.6 +9.2**
KSH PKPbc PKiKP 09 41 21.8 +6.3
KSH sPKP 09 41 34.4
KSH PP PP 09 42 37.5 +10
KSH Kashi 117.35 299 SKS **SKSdf 09 48 29.8 +3.6**
KSH Kashi 117.35 299 SS SS 09 58 47.3 +10
KSH AMB AMB
comp=Z,12μm,10.3s
KSH LR LR
comp=N,142μm,18.2s
KSH LR LR
comp=E,123μm,16.5s
KSH LR LR
comp=Z,234μm,21.8s
COLD Coldfoot 117.39 17 *e*Pdif **Pdif 09 37 33.9 +2.2**
COLD *e*PKPdf **PKiKP 09 41 15.1 +0.6**
O26A Horse Wrangler 117.42 60 ⇑Pdiff **Pdif 09 37 35.4 +2.6**
baz=118
P27A Ficken Ranch, 117.45 61 ⇓Pdiff **Pdif 09 37 35.9 +3.1**
baz=118
D17A Six Diamond Ra 117.50 50 ⇑Pdiff **Pdif 09 37 34.5 +1.7**
baz=118
J22A Midwest 117.51 55 ⇑Pdiff **Pdif 09 37 35.5 +2.5**
baz=118
EGAK Eagle 117.54 22 *e*Pdif **Pdif 09 37 35.8 +3.4**
EGAK *e*PKPdf PKPdf 09 41 00.4 -14
EGAK *e*PP PP 09 42 34.4 +6.3
EGAK LR LR
comp=Z,205μm,20.0s
E18A Harlowton 117.55 51 ⇓Pdiff **Pdif 09 37 36.1 +3.0**
baz=118
L24A Wheatland 117.57 57 ⇓Pdiff **Pdif 09 37 36.6 +3.3**
baz=118
A15A Johnson Ranch, 117.57 47 ⇑Pdiff **Pdif 09 37 36.7 +3.6**
baz=118
S30A Montezuma 117.57 63 ⇑Pdiff **Pdif 09 37 36.1 +2.8**
baz=118
K23A Bowen Ranch, D 117.60 56 ⇑Pdiff **Pdif 09 37 35.2 +1.7**
baz=118
Q28A Sharon Springs 117.60 61 ⇑Pdiff **Pdif 09 37 37.2 +3.7**
baz=118
R29A Marienthal 117.64 62 ⇓Pdiff **Pdif 09 37 36.8 +3.1**
baz=118
G20A Bridger 117.65 53 ⇑Pdiff **Pdif 09 37 36.8 +3.2**
baz=118
M25A Palm-Egli Farm 117.71 58 ⇓Pdiff **Pdif 09 37 37.4 +3.4**
baz=118
T31A Randall Ranch, 117.73 64 ⇑Pdiff **Pdif 09 37 36.9 +2.9**
baz=118
B16A M & M Farms, S 117.75 48 ⇓Pdiff **Pdif 09 37 36.5 +2.6**
baz=118
I22A 9 Mile Ranch, 117.80 55 ⇑Pdiff **Pdif 09 37 37.6 +3.3**
baz=118
N26A Koester Ranch, 117.84 59 ⇓Pdiff **Pdif 09 37 37.7 +3.1**
baz=118
O27A Beecher Island 117.89 60 ⇑Pdiff **Pdif 09 37 37.8 +3.0**
baz=118
H21A Big Horn, Sher 117.94 54 ⇓Pdiff **Pdif 09 37 37.9 +3.0**
baz=118
P28A Saint Francis 117.96 61 ⇓Pdiff **Pdif 09 37 37.9 +2.8**
baz=118
D18A Linhart Farms, 118.00 50 ⇓Pdiff **Pdif 09 37 37.0 +1.9**
baz=118
Q29A Oakley 118.02 62 ⇓Pdiff **Pdif 09 37 38.5 +3.2**
baz=118
J23A Dilts Ranch, B 118.04 56 ⇑Pdiff **Pdif 09 37 37.5 +2.2**
baz=118
F20A Billings 118.04 52 ⇑Pdiff **Pdif 09 37 38.1 +2.8**
baz=118
K24A Anderson Ranch 118.05 57 ⇑Pdiff **Pdif 09 37 38.1 +2.6**
baz=118
R30A Dighton 118.08 63 ⇑Pdiff **Pdif 09 37 39.1 +3.5**
baz=118
E19A Rath Farm, Rou 118.10 51 ⇓Pdiff **Pdif 09 37 37.7 +2.2**
baz=118
SHEL Horse Pasture 118.11 188 PFAKE 09 41 30.0 +12
SHEL LR LR
comp=Z,932μm,20.0s
B17A L&G Farms, Che 118.15 49 ⇓Pdiff **Pdif 09 37 37.8 +2.1**
baz=118
S31A Mullinville 118.17 64 ⇓Pdiff **Pdif 09 37 38.8 +2.8**
baz=118
MK31 Makanchi Array 118.18 309*c* iPKIKP **PKPdf 09 41 13.2 -3.5**
MK31 Makanchi Array 118.18 309 *e*PKPdf **PKPdf 09 41 13.1 -3.6**
MKAR Makanchi Array 118.18 309*c* iPKIKP **PKPdf 09 41 13.1 -3.6**
MKAR Makanchi Array 118.18 309 Pdif **Pdif 09 37 41.4 +5.7**
MKAR PKPpre PKPpre 09 41 13.2
MKAR PKP **PKiKP 09 41 17.0 +0.3**
MKAR PKKPbc **PKKPab 09 51 38.1 +1.9**
MKAR SKKPbc SKKPbc 09 55 31.7 +9.1
MKAR Makanchi Array 118.18 309 Pdiff **Pdif 09 37 41.4 +5.7**
comp=Z,0.5nm,0.7s,baz=149,slow=5.0,SNR=4.4
MKAR PKhKP PKPpre 09 41 13.2
comp=Z,13nm,0.9s,baz=114,slow=2.9,SNR=9.3
MKAR PKP **PKiKP 09 41 17.0 +0.3**
comp=Z,11nm,0.9s,baz=229,slow=3.6,SNR=16
MKAR PKKPbc **PKKPab 09 51 38.1 +1.9**
comp=Z,2.6nm,0.8s,baz=316,slow=3.3,SNR=3.5
MKAR SKKPbc SKKPbc 09 55 31.7 +9.1
comp=Z,6.0nm,1.0s,baz=298,slow=2.6,SNR=3.7
L25A Engebretsen Ra 118.20 58 ⇓Pdiff **Pdif 09 37 39.4 +3.2**

baz=118
N27A Anderson Farm, 118.24 59 ⇓Pdiff Pdif 09 37 39.9 +3.6
baz=118
M26A McRoberts Ranc 118.27 59 ⇑Pdiff Pdif 09 37 40.0 +3.5
baz=118
H22A Clearmont 118.31 54 ⇑Pdiff Pdif 09 37 39.6 +3.1
baz=118
I23A Meade Ranch, G 118.43 55 ⇓Pdiff Pdif 09 37 39.8 +2.7
baz=119
D19A Cripps Ranch, 118.48 51 ⇓Pdiff Pdif 09 37 39.4 +2.2
baz=119
E20A Meyer Farm, Mu 118.48 52 ⇓Pdiff Pdif 09 37 38.4 +1.2
baz=119
J24A Dixon Ranch, L 118.51 56 ⇓Pdiff Pdif 09 37 39.4 +2.0
baz=119
EGMT Eagleton 118.53 49 ePdif Pdif 09 37 38.8 +1.4
EGMT ePKPdf PKPdf 09 41 14.4 -3.0
EGMT ePP PP 09 42 44.7 +9.2
EGMT LR LR
comp=Z,180µm,20.0s
EGMT Eagleton 118.53 49 ⇑Pdiff Pdif 09 37 40.5 +3.1
baz=119
K25A Mack Ranch, Ha 118.54 57 ⇑Pdiff Pdif 09 37 38.5 +0.9
baz=119
Q30A Quinter 118.54 62 ⇓Pdiff Pdif 09 37 39.5 +1.9
baz=119
R31A Burdett 118.56 63 ⇓Pdiff Pdif 09 37 39.0 +1.3
baz=119
A17A Triple J Farms 118.60 48 ⇑Pdiff Pdif 09 37 39.1 +1.5
baz=119
F21A Absaloka Mine, 118.62 53 ⇑Pdiff Pdif 09 37 39.7 +1.8
baz=119
OGNE Ogallala 118.62 60 ePdif Pdif 09 37 40.1 +2.1
OGNE ePKPdf PKPdf 09 41 15.8 -2.1
OGNE ePP PP 09 42 43.3 +7.0
OGNE LR LR
comp=Z,158µm,19.0s
OGNE Ogallala 118.62 60 ⇑Pdiff Pdif 09 37 41.7 +3.7
baz=119
L26A Underwood Farm 118.66 58 ⇓Pdiff Pdif 09 37 38.7 +0.6
baz=119
KBL Kabul 118.67 291 eP Pdif 09 37 36.6 -1.9
KBL e 09 41 17.7
KBL Kabul 118.67 291 ePdif Pdif 09 37 36.5 -1.9
KBL ePKPdf PKPdf 09 41 17.7 -0.6
KBL ePP PP 09 42 29.6 -7.2
G22A Birney 118.72 54 ⇓Pdiff Pdif 09 37 40.4 +2.0
baz=119
C19A Slack Wire Ran 118.73 50 ⇓Pdiff Pdif 09 37 40.4 +2.1
baz=119
B18A Beardsley Farm 118.75 49 ⇓Pdiff Pdif 09 37 41.9 +3.6
baz=119
M27A Reverse DX Ran 118.76 59 ⇑Pdiff Pdif 09 37 40.4 +1.8
baz=119
N28A Pribbeno Ranch 118.77 60 ⇓Pdiff Pdif 09 37 41.4 +2.8
baz=119
KRAR Krasnoyarsk 118.80 322 ⇓iPKIKP PKPdf 09 41 16.8 -0.7
KRAR MLR MLR
comp=Z,74µm,21.0s
H23A Clabaugh Cattl 118.83 55 ⇓Pdiff Pdif 09 37 41.1 +2.2
baz=119
I24A Kuemmerle Ranc 118.85 56 ⇓Pdiff Pdif 09 37 40.6 +1.6
baz=119
P30A Selden 118.87 62 ⇑Pdiff Pdif 09 37 39.6 +0.6
baz=119
O29A 4D Ranch, Culb 118.88 61 ⇑Pdiff Pdif 09 37 40.6 +1.5
baz=119
K26A Motz Farm, Whi 119.00 57 ⇓Pdiff Pdif 09 37 40.9 +1.3
baz=119
A18A Metzger Ranch, 119.03 49 ⇑Pdiff Pdif 09 37 41.5 +1.9
baz=119
Q31A Ellis 119.07 63 ⇑Pdiff Pdif 09 37 42.0 +2.0
baz=119
F22A Rosebud 119.08 53 ⇓Pdiff Pdif 09 37 42.0 +2.2
baz=119
E21A Keefer Ranch, 119.08 52 ⇓Pdiff Pdif 09 37 41.6 +1.7
baz=119
L27A T5 Ranch, Ells 119.14 58 ⇑Pdiff Pdif 09 37 42.1 +1.9
baz=119
G23A Biddle 119.22 54 ⇑Pdiff Pdif 09 37 41.3 +0.8
baz=119
C20A Veseth Ranch, 119.28 51 ⇓Pdiff Pdif 09 37 42.4 +1.8
baz=120
M28A Bar X Bar Ranc 119.29 60 ⇑Pdiff Pdif 09 37 42.9 +2.0
baz=120
RSSD Black Hills 119.35 56 eP Pdif 09 37 40.6 -0.7
RSSD e 09 41 14.1
RSSD e 09 42 47.8
RSSD Black Hills 119.35 56 ePdif Pdif 09 37 40.6 -0.7
RSSD ePKPdf PKPdf 09 41 14.1 -5.2
RSSD ePP PP 09 42 47.8 +6.4
O30A MW Ranch, Wils 119.36 61 ⇓Pdiff Pdif 09 37 43.6 +2.3
baz=120
P31A Stockton 119.39 62 ⇑Pdiff Pdif 09 37 43.6 +2.3
baz=120
N29A Votaw Ranch, W 119.40 60 ⇓Pdiff Pdif 09 37 43.6 +2.2
baz=120
H24A Dirks Ranch, A 119.42 55 ⇓Pdiff Pdif 09 37 43.2 +1.7
baz=120
D21A La Casta Ranch 119.44 52 ⇑Pdiff Pdif 09 37 44.2 +2.8
baz=120
I25A Rochford 119.46 56 ⇑Pdiff Pdif 09 37 43.3 +1.5
baz=120
TUL1 Tulsa 119.49 68 ⇑Pdiff Pdif 09 37 44.3 +2.5
baz=120
F23A Volborg 119.52 54 ⇓Pdiff Pdif 09 37 44.9 +3.1
baz=120
K27A Flueckinger Fa 119.56 58 ⇓Pdiff Pdif 09 37 42.4 +0.4
baz=120
L28A Connealy Angus 119.57 59 ⇓Pdiff Pdif 09 37 43.5 +1.3
baz=120
A19A Klindworth Far 119.62 49 ⇑Pdiff Pdif 09 37 43.1 +0.9
baz=120
MBAR Mbarara 119.64 233 PFAKE 09 41 30.0 +9.2
MBAR LR LR
comp=Z,1µm,21.0s
E22A Miles City 119.65 53 ⇓Pdiff Pdif 09 37 44.6 +2.3
baz=120
N30A Hueftle Ranch, 119.71 61 ⇓Pdiff Pdif 09 37 43.7 +1.0
baz=120
B20A Solberg Farm, 119.71 50 ⇑Pdiff Pdif 09 37 43.2 +0.7
baz=120
M29A Burnside Ranch 119.73 60 ⇑Pdiff Pdif 09 37 45.3 +2.4
baz=120
C21A Desert Coulee 119.84 51 ⇓Pdiff Pdif 09 37 44.5 +1.3
baz=120
G24A Alzada 119.85 54 ⇑Pdiff Pdif 09 37 44.5 +1.2
baz=120
H25A Fruitdale 119.90 55 ⇑Pdiff Pdif 09 37 46.6 +3.1
baz=120
D22A Cohagen 119.94 52 ⇑Pdiff Pdif 09 37 47.2 +3.6
baz=120
I26A New Underwood 119.98 56 ⇑Pdiff Pdif 09 37 46.7 +2.9
baz=120
A20A Cobblestone Ra 120.02 49 ⇑Pdiff Pdif 09 37 46.3 +2.4
baz=120
E23A Ismay 120.04 53 ⇑Pdiff Pdif 09 37 46.4 +2.3
baz=120
MIAR Mount Ida 120.11 70 eP Pdif 09 37 46.7 +2.1
MIAR e 09 42 54.5
MIAR MLR MLR
comp=Z,137µm,19.0s
MIAR Mount Ida 120.11 70 ePdif Pdif 09 37 46.7 +2.1
MIAR ePKPdf PKPdf 09 41 08.5 -12
MIAR ePP PP 09 42 54.5 +8.0
MIAR LR LR
comp=Z,137µm,19.0s
AAK Ala-Archa 120.12 302 ⇓iPKIKP PKPdf 09 41 17.7 -3.1
AAK Ala-Archa 120.12 302 PKPdf PKPdf 09 41 21.8 +1.0
SNR=31
AAK Ala-Archa 120.12 302 ePdif Pdif 09 37 43.4 -1.3
AAK ePKPdf PKPdf 09 41 15.4 -5.4
AAK PKP PKPdf 09 41 18.6 -2.1
AAK ePP PP 09 42 56.8 +10
AAK LR LR
comp=Z,230µm,21.0s
AAK Ala-Archa 120.12 302 PKP PKPdf 09 41 18.6 -2.1
comp=Z,9.2nm,1.0s,baz=218,slow=12,SNR=6.7
F24A Ekalaka 120.14 54 ⇓Pdiff Pdif 09 37 46.6 +2.0
baz=120
FRU Bishkek 120.16 302 eP Pdif 09 37 56.0 +11
FRU i 09 41 18.0
FRU i 09 41 28.0
FRU pmax pmax
comp=Z,4µm,22.0s
FRU MLR MLR
comp=Z,190µm,21.0s
TIXI Tiksi 120.21 347 ⇓iPKIKP PKPdf 09 41 18.9 -0.9
TIXI MLR MLR
comp=Z,179µm,23.0s
L29A Maesberg Ranch 120.23 59 ⇑Pdiff Pdif 09 37 47.7 +2.7
baz=120
B21A Ellsworth Farm 120.24 50 ⇓Pdiff Pdif 09 37 47.8 +2.9
baz=120
M30A Dale-Ortello V 120.28 60 ⇓Pdiff Pdif 09 37 47.8 +2.5
baz=120
H26A Fairpoint 120.37 56 ⇑Pdiff Pdif 09 37 47.0 +1.4
baz=121
C22A Vida 120.45 51 ⇑Pdiff Pdif 09 37 48.2 +2.3
baz=121
I27A Quinn 120.47 57 ⇑Pdiff Pdif 09 37 48.7 +2.6
baz=121
D23A Lindsay 120.49 52 ⇑Pdiff Pdif 09 37 48.2 +2.2
baz=121
J28A Allard Ranch, 120.57 58 ⇓Pdiff Pdif 09 37 49.4 +2.8
baz=121
A21A Bergtoll Ranch 120.62 50 ⇑Pdiff Pdif 09 37 49.0 +2.4
baz=121
E24A Baker 120.63 53 ⇑Pdiff Pdif 09 37 50.0 +3.3
baz=121
B22A Reddig Ranch S 120.72 51 ⇑Pdiff Pdif 09 37 50.7 +3.6
baz=121
VBMS Vicksburg 120.74 74 ePdif PKPdf 09 41 23.1 +1.0
VBMS ePP PP 09 43 00.8 +10
VBMS LR LR
comp=Z,80µm,19.0s
MTDJ Mount Denham 120.78 95 PFAKE 09 41 30.0 +7.3
MTDJ LR LR
comp=Z,180µm,19.0s
H27A Howes 120.78 56 ⇑Pdiff Pdif 09 37 49.8 +2.4
baz=121
C23A Lambert 120.87 52 ⇑Pdiff Pdif 09 37 51.0 +3.2
baz=121
KSU1 Kansas State U 120.87 64 ePdif Pdif 09 37 48.4 +0.5
KSU1 ePKPdf PKPdf 09 41 15.7 -6.4
KSU1 ePP PP 09 42 59.9 +8.2
KSU1 LR LR
comp=Z,115µm,20.0s
D24A Glendive 120.94 53 ⇓Pdiff Pdif 09 37 50.1 +2.0
baz=121
UALR University of 121.06 71 ePdif Pdif 09 37 54.0 +5.2
UALR ePKPdf PKPdf 09 41 19.3 -3.3
E25A Miller Ranch, 121.11 54 ⇓Pdiff Pdif 09 37 50.9 +2.1
baz=121
C24A Savage 121.13 52 ⇓Pdiff Pdif 09 37 51.0 +2.1
baz=121
A22A Carney Farms, 121.16 50 ⇓Pdiff Pdif 09 37 51.5 +2.5
baz=121
ZALV Zalesovo Beam 121.19 317 PKIKP PKPdf 09 41 18.2 -4.0
ZALV 09 41 22.8
ZALV Zalesovo Beam 121.19 317 PKPpre PKPpre 09 41 18.2
ZALV PKP PKiKP 09 41 22.8 +0.5
ZALV SKKPbc SKKPbc 09 55 24.8 +11
ZALV Zalesovo Beam 121.19 317 PKhKP PKPpre 09 41 18.2
comp=Z,4.9nm,0.8s,baz=116,slow=3.4,SNR=4.2
ZALV PKP PKiKP 09 41 22.8 +0.5
comp=Z,6.6nm,0.9s,baz=291,slow=2.1,SNR=6.4
ZALV SKKPbc SKKPbc 09 55 24.8 +11
comp=Z,6.9nm,1.0s,baz=316,slow=6.2,SNR=3.7
BGNE Belgrade 121.26 61 ⇓Pdiff Pdif 09 37 51.2 +1.6
baz=122
G27A Dupree 121.30 56 ⇓Pdiff Pdif 09 37 52.3 +2.6
baz=122
B23A Brockton 121.36 51 ⇑Pdiff Pdif 09 37 52.4 +2.5
baz=122
H28A Mission Ridge 121.42 57 ⇑Pdiff Pdif 09 37 52.0 +1.7
baz=122
E26A Carlson Angus 121.62 54 ⇑Pdiff Pdif 09 37 52.9 +1.8
baz=122
A23A Redstone 121.70 51 ⇑Pdiff Pdif 09 37 54.5 +3.2
baz=122
G28A Parade 121.71 56 ⇓Pdiff Pdif 09 37 55.1 +3.5
baz=122
DGMT Dagmar 121.80 52 ePKPdf PKPdf 09 41 21.4 -2.2
DGMT ePP PP 09 43 03.9 +6.1
DGMT LR LR
comp=Z,156µm,21.0s
DGMT Dagmar 121.80 52 ⇑Pdiff Pdif 09 37 55.2 +3.4
baz=122
A24A Westby 122.16 51 ⇑Pdiff Pdif 09 37 54.9 +1.5
baz=122
INK Inuvik 122.22 22 PKP PKPdf 09 41 22.9 -0.9
INK PKKPbc PKKPbc 09 51 24.9 +4.4
INK Inuvik 122.22 22 PKP PKPdf 09 41 22.9 -0.9
comp=Z,35nm,0.9s,baz=314,slow=3.2,SNR=9.5
INK PKKPbc PKKPbc 09 51 24.9 +4.4
comp=Z,11nm,1.0s,baz=338,slow=4.3,SNR=4.4
BRAL Brewton 122.35 77 ePKPdf PKPdf 09 41 23.3 -1.8
BRAL ePP PP 09 43 11.8 +10
BRAL LR LR
comp=Z,73µm,21.0s
KURBB Kurchatov Arra 122.44 311 PKhKP PKPpre 09 41 18.1
comp=Z,27nm,0.9s,baz=123,slow=1.7,SNR=25
KURBB PKKPbc PKKPbc 09 51 33.8 +14
comp=Z,3.4nm,0.9s,baz=300,slow=4.0,SNR=5.5
KURBB SKKPbc SKKPbc 09 55 14.9 +6.1
comp=Z,4.9nm,1.0s,baz=116,slow=1.5,SNR=6.0
KURK Kurchatov 122.45 311 PKIKP PKPpre 09 41 18.1
KURK Kurchatov 122.45 311 PKPpre PKPpre 09 41 18.1
KURK PKKPbc PKKPbc 09 51 33.8 +14
KURK SKKPbc SKKPbc 09 55 14.9 +6.1
NVS Novosibirsk 122.46 317 ⇓iPKIKP PKPdf 09 41 23.7 -0.9
NVS e 09 42 56.3
NVS e 09 48 34.9
NVS pmax pmax
comp=N,108nm,2.7s
NVS pmax pmax
comp=Z,366nm,2.7s
NVS pmax pmax
comp=E,120nm,2.0s
BRSD Miller 122.51 58 ⇓Pdiff Pdif 09 37 55.6 +0.5
baz=123
CCCC Cccc 122.61 93 e PP 09 42 54.6 -8.9
HBAR Harrisburg 122.64 71 ePKPdf PKPdf 09 41 31.0 +5.5
HBAR ePP PP 09 43 09.6 +5.9
HBAR eSKPdf SKPdf 09 44 59.1 -0.5
KK31 Karatay Array 122.78 300 i PKIKP PKPdf 09 41 22.0 -3.7
KKAR Karatay Array 122.78 300 ePKIKP PKPdf 09 41 22.7 -3.0
KKAR Karatay Array 122.78 300 ePKPdf PKPdf 09 41 22.7 -3.0
OXF Oxford 122.85 73 eP Pdif 09 37 58.7 +1.9
OXF e 09 41 23.3
OXF e 09 43 13.0
OXF MLR MLR
comp=Z,114µm,20.0s
OXF Oxford 122.85 73 ePdif Pdif 09 37 58.7 +1.9
OXF ePKPdf PKPdf 09 41 23.3 -2.8
OXF ePP PP 09 43 13.0 +7.8
OXF LR LR
comp=Z,114µm,20.0s
RCC Rio Carpintero 123.25 95 e PP 09 43 16.3 +8.4
GNAR Gosnell 123.30 71 ePKPdf PKPdf 09 41 26.3 -0.6
GNAR ePP PP 09 43 15.1 +7.0
GNAR eSKPdf SKPdf 09 45 00.3 -0.5
ECSD EROS Data Cent 123.51 60 ePdif Pdif 09 38 02.2 +2.6
ECSD ePKPdf PKPdf 09 41 21.2 -5.8
ECSD ePP PP 09 43 15.5 +6.0
ECSD LR LR
comp=Z,107µm,20.0s
HLGC Holguin 123.60 94 e PKPdf 09 41 32.5 +4.6
LRAL Lakeview Retre 123.60 75 ePKPdf PKPdf 09 41 26.8 -0.7
LRAL ePP PP 09 43 12.8 +2.5
LRAL eSKPdf SKiKP 09 45 02.4 +0.2
LRAL LR LR
comp=Z,94µm,21.0s
IDAH Dahanechah 123.70 284 eP PKPdf 09 41 28.6 +0.5
HALT Halls 123.71 71 ePKPdf PKPdf 09 41 29.2 +1.5
HALT ePP PP 09 43 20.6 +10
PARMO Parma 123.88 70 ePKPdf PKPdf 09 41 29.4 +1.4
PARMO ePP PP 09 43 20.2 +8.2
PARMO eSKPdf SKiKP 09 45 05.4 +2.8
GLAT Glass 123.95 71 ePKPdf PKPdf 09 41 28.7 +0.6
GLAT ePP PP 09 43 20.1 +7.5
MDND Maddock 124.01 54 ⇑Pdiff Pdif 09 38 01.4 -0.2
baz=124
IKOO Kooshah 124.10 283 eP PKPdf 09 41 25.2 -3.7
UTMT University of 124.28 71 ePKPdf PKPdf 09 41 34.1 +5.4
UTMT ePP PP 09 43 23.2 +8.5
UTMT eSKPdf SKiKP 09 45 04.8 +1.4
SCIA State Center 124.59 63 ePdif Pdif 09 38 09.7 +5.3
SCIA ePKPdf PKPdf 09 41 26.9 -2.3
SCIA ePP PP 09 43 23.9 +7.1
SCIA eSKPdf SKPdf 09 44 52.4 -11
SCIA LR LR
comp=Z,133µm,21.0s
SLM Saint Louis 124.68 68 ePKIKP PKPdf 09 41 33.0 +3.6
SLM e 09 43 24.3
SLM Saint Louis 124.68 68 ePKPdf PKPdf 09 41 33.0 +3.6
SLM ePP PP 09 43 24.2 +6.9
YKA Yellowknife Ar 124.75 34 PKPpre PKPpre 09 41 23.6
YKA PKP PKPdf 09 41 28.8 0.0
YKA PP PP 09 43 29.6 +12
YKA PKKPbc PKKPbc 09 51 17.0 +6.5
YKA SKKPbc SKKPbc 09 55 06.8 +4.9
YKA Yellowknife Ar 124.75 34 PKhKP PKPpre 09 41 23.5
comp=Z,2.5nm,0.7s,baz=260,slow=1.6,SNR=5.7
YKA PKP PKPdf 09 41 28.8 0.0
comp=Z,11nm,0.9s,baz=252,slow=1.9,SNR=7.0
YKA PP PP 09 43 29.5 +12
comp=Z,10nm,1.0s,baz=241,slow=7.6,SNR=4.8
YKA PKKPbc PKKPbc 09 51 17.0 +6.5
comp=Z,2.5nm,0.6s,baz=52,slow=4.2,SNR=5.5
YKA SKKPbc SKKPbc 09 55 06.8 +4.9
comp=Z,2.3nm,0.9s,baz=49,slow=4.7,SNR=3.7
RCBR Riachuelo 124.77 152 ePKPdf PKPdf 09 41 30.2 -0.3
RCBR ePP PP 09 43 23.4 +6.4
RCBR LR LR
comp=Z,146µm,19.0s
YKW3 Yellowknife Ar 124.78 34 ePKPdf PKPdf 09 41 26.1 -2.8
YKW3 ePP PP 09 43 24.9 +7.4
SIUC Southern Illin 124.82 70 ePKPdf PKPdf 09 41 24.7 -5.0
WVT Waverly 124.84 72 ePKIKP PKPpre 09 41 18.0
WVT e 09 43 20.1
WVT Waverly 124.84 72 ePKPdf PKPpre 09 41 18.0
WVT ePP PP 09 43 20.1 +1.6
TIGA Tifton 124.98 79 ⇓Pdiff Pdif 09 38 05.7 -0.6
baz=125
IMYA Miami 125.63 288 eP PKPdf 09 41 28.8 -2.8
SDDR Presa de Saban 125.63 99 ePKPdf PKPdf 09 41 28.3 -3.6
SDDR ePP PP 09 43 34.6 +11
SDDR eSKPdf SKiKP 09 45 10.3 +3.5
SDDR LR LR
comp=Z,76µm,21.0s
TPP Pointe-a-Pierr 125.93 115 e PKPdf 09 41 36.6 +4.1
IBAF Bafgh 125.96 280 eP PKPdf 09 41 29.6 -2.7
USIN University of 125.98 70 ePKPdf PKPdf 09 41 34.1 +2.1
USIN ePP PP 09 43 34.5 +8.4
IMOG Moghan 126.00 287 eP PKPdf 09 41 31.9 -0.6
ISRO Mashad 126.03 287 eP PKPdf 09 41 30.4 -1.9
OLIL Olney 126.12 69 ePKPdf PKPdf 09 41 28.2 -3.9
OLIL ePP PP 09 43 34.5 +7.5
TRN Trinidad (W) 126.21 115 e PKPdf 09 41 44.0 +11
TBH Brigand Hill 126.30 115 e PKPdf 09 41 46.5 +13
FFC Flin Flon 126.31 46 ePKIKP PKPdf 09 41 30.2 -1.8
FFC e 09 43 35.1
FFC MLR MLR
comp=Z,178µm,20.0s
FFC Flin Flon 126.31 46 ePKPdf PKPdf 09 41 30.2 -1.8
FFC ePP PP 09 43 35.1 +7.1
FFC eSKPdf SKPdf 09 44 59.0 -6.9
FFC LR LR
comp=Z,178µm,20.0s
ISRV Sarvestan 126.34 277 eP PKPdf 09 41 29.6 -3.7
AGMN Agassiz Nation 126.38 55 ePKPdf PKPdf 09 41 24.6 -7.7
AGMN ePP PP 09 43 35.5 +6.9
AGMN eSKPdf SKPdf 09 44 59.4 -7.0
AGMN LR LR
comp=Z,142µm,20.0s
IPAY Payeh 126.42 287 eP PKPdf 09 41 35.2 +2.0
ASCN Ascension 126.47 179 PFAKE 09 41 40.0 +6.3
ASCN LR LR
comp=Z,91µm,19.0s
IMEH Mehriz 126.50 280 eP PKPdf 09 41 33.0 -0.5
SPMN St. Paul 126.61 60 ⇑Pdiff Pdif 09 38 15.4 +2.1
baz=127
CPCT Cooper Cave 126.67 74 ePKPdf PKPdf 09 41 29.5 -3.9
CPCT ePP PP 09 43 37.7 +7.0
CPCT eSKPdf SKiKP 09 45 12.2 +3.9
IAKL Akhelmad 126.67 287 eP PKPdf 09 41 33.8 +0.1
IKRD Kardeh 126.93 287 eP PKPdf 09 41 34.0 -0.1
WCI Wyandotte Cave 127.03 71 ePKIKP PKPdf 09 41 29.9 -4.1
WCI Wyandotte Cave 127.03 71 ePKPdf PKPdf 09 41 29.9 -4.1
ICHK Chekchek 127.14 280 eP PKPdf 09 41 35.4 +0.7
GRGR Grenville 127.17 114 PKPdf PKPdf 09 41 37.6 +2.7
GRGR LR LR
comp=Z,87µm,22.0s
IEMG Emamgholi 127.19 288 eP PKPdf 09 41 34.0 -0.7
TKL Tuckaleechee C 127.29 75 ePKPdf PKPdf 09 41 23.8 -11
TKL ePP PP 09 43 43.9 +9.0
TKL eSKPdf SKPdf 09 45 05.9 -2.6
ULM Lac du Bonnet 127.35 53 PKP PKPdf 09 41 32.9 -1.2
ULM Lac du Bonnet 127.35 53 PKP PKPdf 09 41 32.9 -1.2
comp=Z,6.9nm,0.6s,baz=205,slow=2.6,SNR=5.6
BLO Bloomington 127.39 69 ePKIKP PKPdf 09 41 30.0 -4.6
BLO e 09 43 43.6
BLO Bloomington 127.39 69 ePKPdf PKPdf 09 41 30.0 -4.6
BLO ePP PP 09 43 43.6 +8.1
BLO eSKPdf SKiKP 09 45 14.9 +5.2
ISFR Sfrayin 127.42 287 eP PKPdf 09 41 27.9 -7.2
GRTK Grand Turk 127.44 97 ePKPdf PKPdf 09 41 41.0 +5.8
GRTK ePP PP 09 43 44.1 +8.3
GRTK LR LR
comp=Z,108µm,19.0s
ISAD Sadrabad 127.44 279 eP PKPdf 09 41 39.7 +4.4
SFIN Scholer Farm 127.66 68 ⇓Pdiff Pdif 09 38 21.3 +3.3
baz=128
CRPR Cabo Rojo, PR 127.82 104 ePKPdf PKPdf 09 41 32.8 -3.2
CRPR ePP PP 09 43 46.0 +7.8
TZTN Tazewell 127.93 74 ePKPdf PKPdf 09 41 29.9 -5.8
TZTN ePP PP 09 43 47.2 +8.2
TZTN eSKPdf SKPdf 09 45 07.4 -2.3
BVA0 Borovoye Array 128.01 310 i PKIKP PKPdf 09 41 32.0 -3.3
BVAR Borovoye Array 128.01 310 PKIKP PKPdf 09 41 33.0 -2.3
BVAR Borovoye Array 128.01 310 PKP PKPdf 09 41 33.0 -2.3
BVAR Borovoye Array 128.01 310 PKP PKPdf 09 41 33.0 -2.3
comp=Z,20nm,1.0s,baz=108,slow=3.3,SNR=11
BRVK Borovoye 128.08 310 c iPKIKP PKPdf 09 41 35.0 -0.4
BRVK MLR MLR
comp=Z,207µm,25.0s
BRVK Borovoye 128.08 310 PKPdf PKPdf 09 41 33.2 -2.2
SNR=37
BRVK Borovoye 128.08 310 ePKPdf PKPdf 09 41 31.5 -3.9
BRVK ePP PP 09 43 42.7 +3.0
BRVK LR LR
comp=Z,171µm,19.0s
OBIP Obispado Ponce 128.18 104 ePKPdf PKPdf 09 41 40.7 +4.0
OBIP ePP PP 09 43 50.7 +10
LRS Lares 128.19 104 ePKPdf PKPdf 09 41 32.2 -4.6
CELP Cerrillos 128.22 104 ePKPdf PKPdf 09 41 36.1 -0.7
NHSC New Hope 128.30 79 ePKPdf PKPdf 09 41 42.7 +6.2
NHSC ePP PP 09 43 51.2 +10
NHSC eSKPdf SKPdf 09 45 08.3 -2.1
NHSC LR LR
comp=Z,88µm,21.0s
SJG San Juan 128.54 104 ePKPdf PKPdf 09 41 37.2 -0.2
SJG LR LR
comp=Z,85µm,20.0s
KMSC Kings Mountain 128.65 77 ⇑Pdiff Pdif 09 38 25.2 +2.6
baz=129
EYMN Ely 128.75 58 ePKPdf PKPdf 09 41 28.0 -9.0
EYMN ePP PP 09 43 50.8 +6.6
EYMN eSKPdf SKPdf 09 45 11.0 +0.2
EYMN LR LR
comp=Z,136µm,20.0s
MTP Monte Pirata 128.93 105 ePKPdf PKPdf 09 41 44.6 +6.5
MTP ePP PP 09 43 54.6 +9.1
CDVI St. Croix 129.22 106 ePKPdf PKPdf 09 41 44.4 +5.7
CDVI ePP PP 09 43 56.2 +8.9
BBGH Gun Hill 129.27 115 PFAKE 09 41 50.0 +11
BBGH LR LR
comp=Z,132µm,21.0s
IANJ Anjilo 129.31 283 eP PKPdf 09 41 36.1 -2.6
STVI Saint Thomas 129.52 105 ePKPdf PKPdf 09 41 39.7 +0.5
STVI ePP PP 09 43 56.1 +6.8
ISFB Sefidab 129.83 281 eP PKPdf 09 41 40.1 +0.6
ISHM Shahmirzad 129.91 283 eP PKPdf 09 41 38.4 -1.5
KBD Kabd 129.99 273 eP PKPdf 09 41 39.4 -0.5
KBD AMb AMB 09 41 59.6
comp=Z,184nm,1.8s
IFIR Firoozkooh 130.19 283 eP PKPdf 09 41 42.6 +2.2
UMR Umm Al-Rimmam 130.20 273 eP PKPdf 09 41 39.8 -0.4
UMR AMb AMB 09 41 58.7
comp=Z,220nm,1.5s
NAY Al-Naaiem 130.35 272 eP PKPdf 09 41 40.5 -0.1
NAY AMb AMB 09 42 08.4

comp=Z,107nm,1.6s
BLA Blacksburg 130.40 75 *e*PKIKP PKPdf 09 41 35.2 -5.2
BLA MLR MLR
comp=Z,150µm,19.0s
BLA Blacksburg 130.40 75 *e*PKPdf PKPdf 09 41 35.2 -5.2
BLA *e*PP PP 09 44 04.5 +9.3
BLA LR LR
comp=Z,150µm,19.0s
IVRN Varamin 130.54 282 *e*P **PKPdf 09 41 41.8 +1.0**
IDMV Damavand 130.65 282 *e*P **PKPdf 09 41 40.3 -1.0**
BPA Boggy Peak 130.66 109 *e*P PKPdf 09 41 48.5 +7.1
BPA Boggy Peak 130.66 109 *e* **PP 09 44 01.1 +4.4**
CNNC Cliffs of the 131.06 79 *e*PKPdf **PKPdf 09 41 43.2 +1.5**
CNNC *e*PP PP 09 44 07.8 +8.4
CNNC LR LR
comp=Z,120µm,21.0s
ANWB Willy Bob 131.15 109 *e*PKPdf **PKPdf 09 41 38.5 -3.9**
ANWB *e*PP PP 09 44 07.8 +7.9
ANWB LR LR
comp=Z,52µm,20.0s
IR3 Iran Long-Peri 131.28 282 *e*P **PKPdf 09 41 41.1 -1.2**
IR5 Iran Long-Peri 131.44 281 *e*P **PKPdf 09 41 41.7 -0.9**
GLMI Grayling 131.47 64 *e*PKPdf **PKPdf 09 41 38.2 -4.0**
GLMI *e*PP PP 09 44 09.8 +7.8
GLMI LR LR
comp=Z,145µm,20.0s
IRAZ Razeghan 132.00 281 *e*P **PKPdf 09 41 44.2 +0.4**
AB31 Akbulak array 132.20 302*c i*PKIKP **PKPdf 09 41 41.5 -1.9**
ABKAR Akbulak array 132.20 302 *e*PKPdf **PKPdf 09 41 40.8 -2.6**
IGZV Ghazvin 132.32 282 *e*P **PKPdf 09 41 45.9 +1.5**
JSRW J. Sargeant Re 132.37 76 *e*PKPdf PKPdf 09 41 36.9 -7.2
ALLY Alegheny Colle 132.84 70 *e*PKPdf PKPdf 09 41 37.6 -7.3
ALLY *e*PP PP 09 44 17.0 +6.2
CBN Corbin 132.98 75 PFAKE 09 42 00.0 +15
CBN LR LR
comp=Z,170µm,22.0s
ERPA Erie 133.16 69 *e*PKPdf PKPdf 09 41 39.9 -5.6
ERPA LR LR
comp=Z,171µm,20.0s
IBDR Badra 133.50 276 *i* PKP **PP 09 44 13.0 -2.1**
IBDR *i* SKS 10 02 06.0
IGHG Ghaleghazi 133.73 278 *e*P **PKPdf 09 41 52.2 +5.1**
AKTO Aktyubinsk 133.82 303 PKIKP PKPpre 09 41 37.7
AKTO 09 41 43.2
AKTO Aktyubinsk 133.82 303 PKPpre PKPpre 09 41 37.7
AKTO PKP **PKPdf 09 41 43.2 -3.2**
AKTO PP PP 09 44 30.5 +14
AKTO Aktyubinsk 133.82 303 PKhKP PKPpre 09 41 37.7
comp=Z,2.3nm,0.6s,baz=96,slow=3.4,SNR=7.0
AKTO PKP **PKPdf 09 41 43.2 -3.2**
comp=Z,6.3nm,0.8s,baz=169,slow=10,SNR=12
AKTO PP PP 09 44 30.5 +14
comp=Z,36nm,1.3s,baz=109,slow=7.8,SNR=3.8
SDMD Soldier's Deli 133.94 74 *e*PKPdf **PKPdf 09 41 44.0 -3.0**
SDMD *e*PP PP 09 44 29.0 +11
IDHR Dehrash 134.06 278 *e*P **PKPdf 09 41 48.7 +1.0**
BHD Baghdad 134.67 275 *i* PKP **PP 09 44 24.0 +1.5**
BHD *i* SKS 10 02 14.0
SVE Sverdlovsk 134.68 312 *i* PKIKP **PKPdf 09 41 45.7 -2.1**
SVE *e* 09 44 27.2
SVE *e*SS SS 10 02 08.0 -5.0
SVE MLR MLR
comp=E,96µm,25.0s
ISRB Sarab 134.81 282 *e*P **PKPdf 09 41 47.3 -1.7**
IHRS Heris 135.49 283 *e*P **PKPdf 09 41 53.8 +3.5**
ARU Arti 135.64 311 P **Pdif 09 39 01.1 +8.0**
ARU *i* 09 41 48.3
ARU 09 44 23.1
ARU PPP PPP 09 47 20.4
ARU 09 48 54.6
BINY Binghamton 135.84 71 *e*PKPdf PKPpre 09 41 39.3
BINY *e*PP PP 09 44 39.0 +9.1
BINY LR LR
comp=Z,238µm,19.0s
ISHB Shabestar 136.44 282 *e*P **PKPdf 09 41 52.4 +0.4**
CPNY Central Park 136.54 74 *e*PKPdf **PKPdf 09 41 50.5 -1.3**
CPNY *e*PP PP 09 44 43.3 +9.0
IMRD Marand 136.59 282 *e*P **PKPdf 09 41 48.1 -4.1**
CUKT Cukurca 137.31 279 *e*P PKPdf 09 41 47.8 -5.7
MAK Makhachkala 137.34 289 *e*P **Pdif 09 39 04.1 +3.1**
MAK *e* 09 44 39.6
MAK *e*PPP PPP 09 47 34.4
MAK *e*SS SS 10 02 41.2 -4.1
MAK *e*SSS SSS 10 07 54.3
HAKT HAKKARI 137.39 280 *i* P **PKPdf 09 41 49.7 -4.1**
YLE Yale 137.47 74 *e*PKPdf PKPdf 09 41 47.5 -6.0
YLE *e*PP PP 09 44 47.2 +7.1
TRY Troy 137.61 72 *e*PKPdf PKPdf 09 41 46.5 -7.3
TRY *e*PP PP 09 44 50.8 +10
NCB Newcomb 137.77 70 *e*PKPdf **PKPdf 09 41 49.9 -4.1**
NCB *e*PP PP 09 44 50.5 +8.5
NCB LR LR
comp=Z,249µm,21.0s
MSNY Massena 137.78 68 *e*PKPdf PKPdf 09 41 48.1 -5.8
LONY Lake Ozonia 137.81 69 *e*PKPdf PKPpre 09 41 42.2
LONY *e*PP PP 09 44 49.3 +7.1
LONY LR LR
comp=Z,208µm,21.0s
ACCN Adirondack Com 137.89 71 *e*PKPdf **PKPdf 09 41 50.9 -3.4**
ACCN *e*PP PP 09 44 51.5 +8.8
GNI Garni 137.93 284 *e*P **PKPdf 09 41 51.6 -3.0**
GNI Garni 137.93 284 *e*PKPdf **PKPdf 09 41 51.1 -3.6**
GNI PKP **PKPdf 09 41 53.6 -1.1**
GNI *e*PP PP 09 44 56.9 +14
GNI LR LR
comp=Z,164µm,19.0s
GNI Garni 137.93 284 PKP **PKPdf 09 41 53.6 -1.1**
comp=Z,4.1nm,0.3s,baz=333,slow=18,SNR=3.0
QUA2 Belchertown 138.29 73 *e*PKPdf **PKPdf 09 41 50.1 -4.8**
QUA2 *e*PP PP 09 44 54.0 +8.8
MDV Middlebury 138.47 70 PKPdf **PKPdf 09 41 54.5 -0.7**
FRNY Flat Rock 138.54 69 *e*PKPdf PKPdf 09 41 50.0 -5.4
FRNY *e*PP PP 09 44 53.4 +6.6
MZRK Al-Mazaregh 138.63 276 *e*P PKPdf 09 42 02.1 +6.2
MZRK Al-Mazaregh 138.63 276 *e*P PKPdf 09 42 02.1 +6.2
SNR=46
BBSR BB Station 138.64 90 PFAKE 09 42 10.0 +14
BBSR LR LR
comp=Z,81µm,20.0s
BRYW Bryant College 138.68 74 *e*PKPdf **PKPdf 09 41 52.7 -3.0**
BRYW *e*PP **PP 09 44 50.1 +2.5**
TATV Tatvan 138.85 280 *i* P PKPdf 09 42 03.0 +6.5
AGRB Hanur-Agry 138.86 282 *e*P **PKPdf 09 41 53.4 -3.0**
TUTA Tutak 138.90 282 *i* P **PKPdf 09 41 59.1 +2.5**
HRV Adam Dziewonsk 138.92 73 *e*PKIKP PKPdf 09 41 48.2 -8.0
HRV *e* 09 44 52.5
HRV Adam Dziewonsk 138.92 73 *e*PKPdf PKPdf 09 41 48.2 -8.0
HRV *e*PP **PP 09 44 52.5 +3.4**
HNH Hanover 138.94 71 *e*PKPdf PKPdf 09 41 49.5 -6.6
HNH *e*PP **PP 09 44 51.1 +1.9**
DIGO Kars 138.98 283 *i* P **PKPdf 09 41 53.8 -2.9**
WES Weston 139.03 73 *e*PKIKP **PKPdf 09 41 51.3 -5.0**
WES *e* 09 44 52.8
WES Weston 139.03 73 *e*PKPdf **PKPdf 09 41 51.2 -5.0**
WES *e*PP **PP 09 44 52.8 +3.1**
FFD Franklin Falls 139.26 72 *e*PKPdf **PKPdf 09 41 55.2 -1.5**
FFD *e*PP **PP 09 44 55.2 +4.0**
KARS Kars 139.28 284 *e*P **PKPdf 09 41 55.0 -2.1**
MARD Mardin 139.30 278 *i* P **PKPdf 09 41 55.2 -2.0**
SFNV Sufian 139.31 276 *e*P **PKPdf 09 41 57.4 +0.2**
SFNV Sufian 139.31 276 *e*P **PKPdf 09 41 57.3 +0.2**
SNR=46
LBNH Lisbon 139.39 70 *e*PKIKP **PKPdf 09 41 52.5 -4.5**
LBNH MLR MLR
comp=Z,195µm,19.0s
LBNH Lisbon 139.39 70 *e*PKPdf **PKPdf 09 41 52.5 -4.5**
LBNH *e*PP PP 09 45 01.5 +9.4
LBNH LR LR
comp=Z,195µm,19.0s
ZALF Zalf 139.40 270 *e*P **PKPdf 09 41 58.9 +1.5**
ZALF Zalf 139.40 270 *e*P **PKPdf 09 41 58.9 +1.5**
SNR=46
MAZI Mazidag 139.60 278 *e*P PKPdf 09 41 42.8 -15
ZEI Tsey 139.66 287 *i* PKIKP **PKPdf 09 41 59.5 +1.7**
SALA Sala 139.70 269 *e*P **PKPdf 09 41 59.6 +1.5**
SALA Sala 139.70 269 *e*P **PKPdf 09 41 59.7 +1.5**
SNR=46
HOMI Horasan 139.82 282 *i* P **PKPdf 09 41 58.4 +0.2**
BNGL BINGOL 139.83 280 *i* P **PKPdf 09 41 57.4 -0.9**
LIC Lamto 139.88 193 ⇑*i*PKIKP PKPdf 09 41 51.3 -7.5
comp=Z,152nm,0.7s
LIC *e*R

comp=Z,421µm,19.0s
DIYA Diyarbakir 140.05 278 *i* P **PKPdf 09 41 57.0 -1.5**
EZM Erzurum 140.12 282 *e*P **PKPdf 09 41 58.9 +0.1**
BNGB Bing¶l 140.17 280 *e*P **PKPdf 09 41 56.0 -2.7**
TCHB Talchebab 140.21 268 *e*P PKPdf 09 42 10.2 +11
TCHB Talchebab 140.21 268 *e*P PKPdf 09 42 10.2 +11
SNR=46
DAGI Agillar 140.27 284 *i* P PKPdf 09 41 47.2 -12
TOTH TOTAH 140.27 270 *e*P **PKPdf 09 41 55.4 -3.6**
TOTH TOTAH 140.27 270 *e*P **PKPdf 09 41 55.4 -3.6**
SNR=46
DBIC Dimbokro 140.29 193 PKPpre PKPpre 09 41 49.2
DBIC *e*PKPdf **PKPdf 09 41 55.5 -4.0**
DBIC PKP **PKPdf 09 42 00.1 +0.5**
DBIC *e*PP **PP 09 44 59.9 +3.6**
DBIC Dimbokro 140.29 193 PKhKP PKPpre 09 41 49.2
comp=Z,7.2nm,0.9s,baz=65,slow=2.4,SNR=3.6
DBIC PKP **PKPdf 09 42 00.1 +0.5**
comp=Z,40nm,0.8s,baz=176,slow=2.8,SNR=11
DDEM Demirkent 140.30 283 *i* P **PKPdf 09 41 56.6 -2.3**
ARTV Artvin 140.31 284 *i* P **PKPdf 09 41 57.0 -2.0**
BCA Borcka 140.63 284 *e*P **PKPdf 09 41 58.5 -0.8**
BRBR Barbar 140.63 269 *e*P PKPdf 09 42 06.4 +6.6
BRBR Barbar 140.63 269 *e*P PKPdf 09 42 06.4 +6.6
SNR=46
KBZ Khabaz 140.71 288 PKIKP PKPdf 09 41 53.6 -5.7
KBZ Khabaz 140.71 288 PKPpre PKPpre 09 41 53.6
KBZ Khabaz 140.71 288 PKhKP PKPpre 09 41 53.6
comp=Z,6.5nm,0.7s,baz=136,slow=3.3,SNR=7.3
URFA Urfa 140.72 277 *e*P PKPdf 09 41 46.9 -13
SLMH Al Salmeh 140.73 274 *e*P **PKPdf 09 42 01.7 +2.0**
SLMH Al Salmeh 140.73 274 *e*P **PKPdf 09 42 01.7 +2.0**
SNR=46
KIV Kislovodsk 140.94 288 *e*PKIKP **PKPdf 09 41 55.9 -4.0**
KIV *e* 09 44 58.6
KIV *e*PPP PPP 09 48 04.8
KIV *e* 09 49 04.1
KIV *e*SS SS 10 03 22.5 -5.6
KIV *e*SSS SSS 10 08 37.5
PTK Pertek 141.01 279 *e*P PKPdf 09 41 50.7 -10
WVL Waterville 141.02 71 *e*PKPdf PKPdf 09 41 54.0 -5.8
ATAB Bozova 141.09 276 *i* P **PKPdf 09 42 02.2 +1.8**
HWQ Hawqa 141.10 271 *e*P **PKPdf 09 41 57.9 -2.7**
ERZN Erzincan 141.10 280 *e*P **PKPdf 09 42 01.2 +0.8**
EUZM Uzumlu 141.18 280 *i* P PKPdf 09 42 05.7 +5.2
BAYT Ayd¯ntepe-Bay 141.18 282 *e*P PKPdf 09 41 52.1 -8.5
MALT Malatya 141.41 278 *e*PKIKP PKPdf 09 42 08.7 +7.7
MALT MLR MLR
comp=Z,337µm,19.0s
MALT Malatya 141.41 278 *e*PKPdf PKPdf 09 42 08.7 +7.7
MALT *e*PP PP 09 45 29.9 +25
MALT LR LR
comp=Z,337µm,19.0s
MALT Malatya 141.41 278 ||*i*P PKPdf 09 42 13.9 +13
GZT Gaziantep 141.55 276 *i* P **PKPdf 09 42 03.5 +2.2**
KUZU Kuzuini 141.60 275 *i* P **PKPdf 09 41 58.4 -2.9**
BTCH Batrach 141.66 273 *e*P PKPdf 09 42 11.6 +10
BTCH Batrach 141.66 273 *e*P PKPdf 09 42 11.6 +10
SNR=46
KELT Kelkit 141.68 281 *i* P PKPdf 09 41 53.4 -8.1
AKCD Akcadag 141.75 277 *i* P **PKPdf 09 42 04.3 +2.7**
KEMA Kemaliye 141.81 279 *i* P PKPdf 09 41 51.4 -10
ILIC Ilic-Erzincan 141.84 279 *e*P PKPdf 09 41 52.1 -10
YAYL Yayladag 141.91 273 *i* P **PKPdf 09 41 58.8 -3.1**
KMRS Kahramanmaras 142.08 276 *e*P PKPdf 09 41 55.0 -7.1
AYKD Aykdinkavak 142.10 275 *i* P PKPdf 09 41 55.3 -6.8
DARE Darende-Malaty 142.18 278 *e*P **PKPdf 09 41 57.4 -4.9**
ESPY Espiye-Giresun 142.38 282 *e*P PKPdf 09 41 56.7 -5.8
SUSE Susehri 142.43 280 *i* P **PKPdf 09 41 58.7 -4.1**
ANDN Andirin 142.50 275 *i* P PKPdf 09 41 55.8 -7.1
EMMW East Machias 142.53 72 *e*PKPdf **PKPdf 09 41 59.7 -2.9**
CEYT Ceyhan 142.64 274 *e*P PKPdf 09 41 57.4 -5.6
KRTS Karatas 142.69 273 *e*P **PKPdf 09 42 05.0 +1.9**
KOZT Kozan 142.82 275 *e*P PKPdf 09 41 58.1 -5.3
PHNC Paralimni 142.83 270 P PKPdf 09 42 10.4 +7.0
comp=Z,8.2nm,1.1s
PQI Presque Isle 142.84 68 *e*PKPdf **PKPdf 09 41 58.3 -4.8**
SARI SarD1z-Kayseri 142.85 277 *e*P **PKPdf 09 42 02.2 -1.5**
PINB Pinarbasi 142.98 277 *i* P PKPdf 09 41 58.2 -5.8
EREN Erenkoy 143.00 271 *e*P PKPbc 09 42 01.6 +1.0
SCER Sogukcermik 143.01 279 *i* P PKPab 09 41 58.7 -0.4
RSDY Resadiye-TOKAT 143.11 280 *e*P PKPab 09 41 57.6 -1.7
SVSK Karacayir 143.13 279 *e*P PKPbc 09 42 02.2 +1.5
CSS Prodhromos 143.29 270 P PKPdf 09 42 10.8 +6.5
comp=Z,3.0nm,1.1s
CSS Prodhromos 143.29 270 *e*P **PKPdf 09 42 04.5 +0.2**
CSS Prodhromos 143.29 270 P PKPbc 09 42 00.9 -0.5
CSS Prodhromos 143.29 270 *e*PKPdf PKPab 09 42 00.6 +0.4
CSS *e* 09 45 25.7
CSS LR LR
comp=Z,398µm,20.0s
LFK Lefkose 143.32 270 *e*P **PKPdf 09 42 04.6 +0.2**
BNN Bunyan 143.45 277 *e*P PKPab 09 42 00.8 -0.1
GULE Gulek 143.45 *i* P PKPab 09 41 59.7 -1.3
TOKT Tokat 143.62 280 *e*P PKPab 09 42 00.1 -1.3
ERBA Erbaa 143.63 280 *i* P PKPab 09 42 00.4 -1.0
LEF Lefka 143.69 270 *e*P PKPab 09 42 00.5 -1.2
IKL Isikli 143.70 272 *e*P PKPbc 09 42 02.5 0.0
ALFC Alevga 143.91 269 P PKPdf 09 42 10.9 +5.5
comp=Z,5.2nm,0.7s
PPCY Paphos 143.94 269 P PKPdf 09 42 11.2 +5.8
NIG Nigde 143.96 275 *e*P PKPab 09 41 59.2 -3.8
AKMC Akamas 144.03 269 P PKPdf 09 42 11.1 +5.5
KVT Kavak 144.28 280 *e*P **PKPab 09 42 02.1 -1.8**
ERMK Ermenek 144.44 272 *i* P **PKPab 09 42 02.0 -2.8**
HAVZ Havza 144.51 280 *i* P **PKPab 09 42 04.4 -0.2**
GAZI Gazipasa 144.66 271 *i* P **PKPab 09 42 01.6 -3.8**
ANN Anapa 144.76 287 *i* PKIKP **PKPab 09 42 05.0 -0.4**
ANN *e*SSS SSS 10 09 31.5
ANN MLR MLR
comp=N,66µm,25.0s
ANN MLR MLR
comp=E,30µm,25.0s
ANN MLR MLR
comp=Z,135µm,25.0s
SULT Sultanhani-AKS 144.77 275 *e*P **PKPab 09 42 04.1 -1.7**
CDAG Cicekdag 144.82 277 *i* P **PKPab 09 42 03.0 -3.0**
CORM Corum 144.88 278 *e*P **PKPab 09 42 04.1 -2.1**
CTKT Corum 144.96 279 *i* P **PKPab 09 42 04.3 -2.3**
TOA0 Torodi Ar. Sit 145.01 206 *e*PKPdf **PKPbc 09 42 03.6 -3.6**
TOA0 *e*PP PP 09 45 31.4 +6.3
TORD Torodi Ar. Bea 145.01 206 PKPbc **PKPbc 09 42 04.7 -2.5**
TORD Torodi Ar. Bea 145.01 206 PKPbc **PKPbc 09 42 04.7 -2.5**
comp=Z,110nm,0.8s,baz=148,slow=2.7,SNR=264
DIKM Dikmen 145.06 281 *e*P **PKPbc 09 42 06.3 -0.3**
VORD Divnogorie 145.29 298 *e*PKIKP **PKPbc 09 42 06.4 -0.6**
VORD *e* 09 42 21.9
BRTR Keskin Array B 145.37 277 PKPbc **PKPbc 09 42 04.9 -3.0**
BRTR Keskin Array B 145.37 277 PKPbc **PKPbc 09 42 04.9 -3.0**
comp=Z,52nm,0.9s,baz=146,slow=4.1,SNR=60
BR131 Keskin Array S 145.37 277 *e*PKPdf **PKPbc 09 42 05.0 -2.9**
VSR Storozhevoye 145.42 298 *e*PKIKP **PKPdf 09 42 06.9 -0.5**
KBS Kingsbay 145.46 352 *e*P **PKPdf 09 42 03.9 -2.9**
KBS *e*SS SS 10 04 26.1 +8.1
KBS Kingsbay 145.46 352 *e*PKIKP **PKPdf 09 42 03.8 -2.9**
KBS MLR MLR
comp=Z,180µm,21.0s
KBS Kingsbay 145.46 352 *e*PKPdf **PKPdf 09 42 03.8 -2.9**
KBS LR LR
comp=Z,180µm,21.0s
KONT Konya--Tatoy 145.46 273 *e*P **PKPdf 09 42 07.2 -0.8**
SCHQ Schefferville 145.48 55 PKPbc **PKPdf 09 42 05.8 -1.6**
SCHQ Schefferville 145.48 55 PKPbc **PKPdf 09 42 05.8 -1.6**
comp=Z,166nm,1.2s,baz=310,slow=2.6,SNR=21
VOR Voronezh 145.51 299 PKIKP **PKPdf 09 42 06.0 -1.5**
SPA0 Spitsbergen Ar 145.57 350 *e*P **PKPdf 09 42 03.9 -3.1**
SPA0 *e* 10 04 46.5
SPITS Spitsbergen Ar 145.57 350 PKPbc **PKPdf 09 42 03.9 -3.1**
SPITS Spitsbergen Ar 145.57 350 PKPbc **PKPdf 09 42 03.9 -3.1**
comp=Z,274nm,0.9s,baz=102,slow=7.0,SNR=82
LADK Ladik-KONYA 145.57 274 *e*P **PKPdf 09 42 06.4 -1.9**
AFSR Af¯ar-Bala (A 145.64 276 *e*P **PKPdf 09 42 06.2 -2.1**
BBAL Bala 145.65 276 *i* P **PKPdf 09 42 06.4 -2.0**
TOS Tosya 145.66 279 *e*P **PKPdf 09 42 04.1 -4.2**
CANT Cankiri 145.76 278 *e*P **PKPdf 09 42 03.5 -4.9**
KAST KASTAMONU 145.91 280 *i* P **PKPdf 09 42 07.5 -1.2**
ANTO Ankara 146.02 277 *e*P **PKPab 09 42 11.2 +0.9**
ANTO Ankara 146.02 277 *e*PKP2 **PKPdf 09 42 06.9 -2.1**
ANTO Ankara 146.02 277 PKPdf **PKPab 09 42 11.3 +0.9**
SNR=134
ANTO Ankara 146.02 277 *e*PKPdf **PKPdf 09 42 06.9 -2.1**
ANTO LR LR

comp=Z,198µm,21.0s
ANTO Ankara 146.02 277 ⇑*i*P **PKPdf 09 42 07.9 -1.0**
LOD Lodumlu 146.05 277 *e*P **PKPab 09 42 10.5 0.0**
SUTC Sutluce-Ispart 146.18 272 *e*P **PKPdf 09 42 06.2 -3.2**
KIZT Kizilcal 146.22 275 *e*P **PKPdf 09 42 07.4 -2.0**
KORT Korkueli 146.41 271 *i* P **PKPdf 09 42 08.2 -1.5**
BCK Bucak 146.46 271 *e*P **PKPdf 09 42 08.1 -1.6**
TMCR Tamitsa 146.49 322 *e*PKP2 **PKPdf 09 42 07.3 -1.5**
TMCR *e* 09 45 30.4
TMCR pmax pmax
comp=Z,442nm,1.1s
KSL Kastellorizon 146.52 269 *e*PN **PKPdf 09 42 07.8 -2.0**
AKAS Kas 146.55 269 *i* P **PKPdf 09 42 07.8 -2.2**
ISP Isparta 146.68 272 PFAKE 09 42 20.0 +6.9
ISP LR LR
comp=Z,186µm,21.0s
SVRH Sivrihisar-ESK 146.72 275 *e*P **PKPdf 09 42 09.4 -0.8**
BOLV Bolvadin 146.80 274 *i* P **PKPdf 09 42 10.2 -0.2**
MOS Moscow 146.99 306 *e*PKP2 **PKPdf 09 42 09.0 -0.9**
MOS *i* SS SS 10 04 35.2 -1.5
MOS pmax pmax
comp=Z,877nm,1.8s
MOS pmax pmax
comp=E,15µm,6.3s
MOS pmax pmax
comp=Z,50µm,6.3s
MOS pmax pmax
comp=N,8µm,5.3s
SHUT Suhut-Afyon 147.00 273 *e*P **PKPdf 09 42 09.5 -1.2**
LVZ Lovozero 147.01 329*ce*PKP2 **PKPdf 09 42 08.3 -1.4**
SIM Simferopol' 147.03 286*ce*PKP2 **PKPdf 09 42 09.0 -1.4**
SIM pmax pmax
comp=Z,321nm,0.8s
GOLH Golhisar 147.07 270 *i* P **PKPdf 09 42 10.4 -0.4**
FETY Fethiye 147.12 269 *e*P **PKPdf 09 42 10.2 -0.6**
MDUB Mudurnu 147.38 277 *e*P **PKPdf 09 42 09.3 -2.0**
DALY Dalyan (Mu¯la 147.50 269 *e*P **PKPbc 09 42 14.0 0.0**
ALT Altintas 147.53 274 *e*P **PKPbc 09 42 14.0 -0.2**
ALT Altintas 147.53 274 *i* P **PKPab 09 42 20.6 +4.3**
OBN Obninsk 147.54 305 *i* PKP2 **PKPdf 09 42 11.2 +0.4**
OBN *e* 09 48 56.8
OBN *i* SS SS 10 04 42.3 -0.6
OBN pmax pmax
comp=Z,76nm,1.3s
KDZE Karadeniz Ereo 147.55 278 *e*P **PKPbc 09 42 14.1 +0.1**
TURN Turunc 147.57 269 *i* P **PKPdf 09 42 11.1 -0.4**
ARG Arkhangelos 147.58 268 P **PKPab 09 42 16.8 +0.3**
ARG Arkhangelos 147.58 268 *e*PB **PKPab 09 42 18.6 +2.1**
KHL Karahalli 147.61 272 *e*P **PKPdf 09 42 10.7 -1.0**
DNZL Cakiroluk 147.65 271 *i* P **PKPdf 09 42 11.8 -0.1**
BORA Eskisehir 147.65 275 *i* P **PKPdf 09 42 10.5 -1.2**
KHAL Karahalli 147.66 272 *i* P **PKPdf 09 42 12.6 +0.8**
GULT Gulveren 147.84 276 *e*P **PKPdf 09 42 12.4 +0.4**
BJO Bjornoya 147.90 344 *e*P **PKPdf 09 42 10.7 -0.2**
BJO *e*SS SS 10 04 53.0 +7.4
KARP Karpathos 147.91 266 P **PKPbc 09 42 14.5 -0.7**
KARP Karpathos 147.91 266 *e*PN **PKPdf 09 42 12.8 +0.6**
SACV Santiago Islan 148.05 161 *e*PKPbc **PKPbc 09 42 16.7 +0.6**
SACV LR LR
comp=Z,134µm,22.0s
SPNC Sapanca-Adapaz 148.09 277 *e*P **PKPdf 09 42 12.2 0.0**
TVSB Tavsanli 148.16 274 *e*P **PKPdf 09 42 12.6 0.0**
CAVI Cavuskoy 148.21 275 *e*P **PKPbc 09 42 14.9 -1.0**
DAT Datca 148.21 268 *e*P **PKPbc 09 42 14.9 -1.2**
KULA Kula-Manisa 148.30 272 *e*P **PKPbc 09 42 16.7 +0.5**
ZKR Zakros 148.34 264 P **PKPdf 09 42 12.1 -0.8**
MLSB Milas 148.35 269 *e*P **PKPbc 09 42 15.6 -0.8**
ADVT Abdulvahap 148.38 276 *e*P **PKPbc 09 42 14.7 -1.6**
NIS1 Nisyros Isl. 148.43 268 P **PKPbc 09 42 17.6 +1.1**
NIS1 Nisyros Isl. 148.43 268 *e*PB **PKPbc 09 42 17.6 +1.1**
AYDN Tasoluk 148.45 270 *i* P **PKPdf 09 42 13.2 +0.1**
DEMI Demirci 148.50 273 *i* P **PKPdf 09 42 13.8 +0.7**
BODT Bodrum 148.56 268 *e*P **PKPdf 09 42 14.0 +0.8**
HRT Hereke 148.59 276 *e*P **PKPdf 09 42 14.3 +1.1**
ULDT Uludag 148.68 275 *i* P **PKPdf 09 42 13.3 -0.2**
YLV Yalova 148.69 276 *e*P **PKPdf 09 42 15.1 +1.8**
SILT Sile 148.74 277 *e*P **PKPdf 09 42 09.3 -4.0**
KEV Kevo 148.84 334 *e*p **PKPdf 09 42 13.6 +1.1**
comp=Z,207nm,0.7s
KEV Kevo 148.84 334 *e*PKIKP **PKPdf 09 42 11.1 -1.5**
KEV MLR MLR
comp=Z,133µm,19.0s
KEV Kevo 148.84 334 *e*PKPdf **PKPdf 09 42 11.1 -1.5**
KEV LR LR
comp=Z,133µm,19.0s
NPS Neapolis 148.84 264 P **PKPdf 09 42 12.1 -1.6**
NPS Neapolis 148.84 264 *e*PN **PKPab 09 42 20.5 -1.1**
LAST Lasithi 148.88 264 P **PKPdf 09 42 13.7 -0.2**
DAG Danmarks Havn 148.88 2 *e*PKP2 **PKPdf 09 42 13.3 +0.8**
DAG *i* 09 45 54.5
DAG Danmarks Havn 148.88 2 *i* P **PKPdf 09 42 13.3 +0.8**
DAG *i* 09 45 54.5
DAG
comp=Z,136µm,20.0s
DURS Dursunbey 148.91 274 *i* P **PKPdf 09 42 14.9 +1.1**
GCAM G?zelcami? 148.92 269 *i* P **PKPdf 09 42 12.8 -0.9**
MDNY Mudanya-Bursa 148.95 275 *e*P **PKPbc 09 42 16.6 -1.1**
BUY Buyukada 148.98 276 *e*P **PKPdf 09 42 12.9 -0.8**
BUY Buyukada 148.98 276 *i* P **PKPdf 09 42 12.5 -1.1**
ARMT Armutlu 149.04 276 *e*P **PKPbc 09 42 16.7 -1.3**
AKHS Akhisar 149.06 272 *i* P **PKPdf 09 42 11.3 -2.6**
ISK Istanbul-Kandi 149.11 277 *e*P **PKPdf 09 42 12.1 -1.8**
ISK Istanbul-Kandi 149.11 277 P **PKPdf 09 42 15.2 +1.3**
KLYT Kilyos 149.19 277 *e*P **PKPdf 09 42 14.8 +0.8**
SMG Samos 149.20 269 P **PKPdf 09 42 15.3 +1.1**
IZM Izmir 149.23 271 *e*P **PKPbc 09 42 16.9 -1.7**
SIVA Sivas 149.27 263 P **PKPdf 09 42 12.1 -2.3**
KCTX Karacabey (Bur 149.27 275 *e*P **PKPdf 09 42 16.3 +2.1**
BALB Balikesir 149.34 273 *e*P **PKPdf 09 42 13.8 -0.5**
BGKT Bogazkoy 149.35 277 *e*P **PKPdf 09 42 15.1 +0.8**
IDI Anoyia 149.35 264 P **PKPdf 09 42 16.8 +2.2**
IDI Anoyia 149.35 264 *e*PKPdf **PKPdf 09 42 12.5 -2.1**
IDI *e*PKPab **PKiKP 09 42 21.6 +1.5**
ARCES ARCESS Array B 149.40 334 PKPbc **PKPdf 09 42 15.0 +1.5**
ARCES ARCESS Array B 149.40 334 PKPbc **PKPdf 09 42 15.0 +1.5**
comp=Z,136nm,0.8s,baz=74,slow=3.3,SNR=142
ARE0 ARCESS Array S 149.40 334 *e*P **PKPdf 09 42 14.9 +1.4**
ARE0 *e* 09 56 18.8
ARE0 *e*SS SS 10 05 05.4 +2.6
ARE0 ARCESS Array S 149.40 334 *e*PKPdf **PKPdf 09 42 11.4 -2.1**
SANT Santorini 149.51 266 P **PKPbc 09 42 19.5 +0.2**
SANT Santorini 149.51 266 *e*PKPdf **PKPdf 09 42 13.1 -1.6**
SANT LR LR
comp=Z,110µm,20.0s
CTKS Kestanelik-??a 149.56 277 *e*P **PKPbc 09 42 18.8 -0.3**
ELBA Cataca 149.58 276 *i* P **PKPdf 09 42 16.9 +2.2**
BNT Bandirma 149.62 275 *e*P **PKPdf 09 42 14.8 0.0**
GONE Gonen-Balikesi 149.65 274 *e*P **PKPdf 09 42 16.0 +1.2**
GVD Gavdhos 149.67 262 P **PKPdf 09 42 15.2 +0.2**
URLA Izmir 149.68 270 *i* P **PKPdf 09 42 14.0 -1.0**
SLVT Silivri 149.76 276 *e*P **PKPbc 09 42 19.3 -0.4**
CTYL Yal??k??y-??at 149.80 277 *e*P **PKPdf 09 42 16.2 +1.2**
APE Apeiranthos 149.81 267 *e*P **PKPbc 09 42 17.7 -2.3**
APE Apeiranthos 149.81 267 P **PKPdf 09 42 14.5 -0.7**
APE Apeiranthos 149.81 267 ⇑*i*P **PKPdf 09 42 17.2 +2.0**
VAM Vamos 149.90 263 P **PKPdf 09 42 16.8 +1.4**
VAM Vamos 149.90 263 *e*PN **PKPbc 09 42 22.1 +1.9**
AYVA Ayvalik 150.03 272 *i* P **PKPdf 09 42 17.4 +2.0**
KRBG Karabiga-Canak 150.06 274 *e*P **PKPdf 09 42 14.2 -1.3**
CHOS Chios island 150.06 270 P **PKPdf 09 42 14.5 -1.1**
CHOS Chios island 150.06 270 *e*PB **PKPdf 09 42 18.0 +2.4**
KARN Karanos 150.09 263 P **PKPdf 09 42 17.6 +1.9**
TKR Tekirdag 150.14 276 *e*P **PKPbc 09 42 21.7 +1.1**
MFT Murefte 150.23 275 *e*P **PKPdf 09 42 17.5 +1.7**
SART Tekirdag 150.26 275 *i* P **PKPdf 09 42 15.5 -0.3**
RKY Sarkoy-Tekirda 150.27 275 *e*P **PKPdf 09 42 18.0 +2.1**
PRK Paraskevi 150.30 272 P **PKPbc 09 42 18.5 -2.5**
PRK Paraskevi 150.30 272 *e*PB **PKPdf 09 42 12.1 -3.7**
KTK1 Kautokeino 150.36 334 *e*P **PKPdf 09 42 15.8 +0.7**
KTK1 *e*SS SS 10 05 18.6 +5.0
PHSR Pinarhisar 150.39 277 *e*P **PKPdf 09 42 16.9 +1.0**
MANR Mangalia 150.42 281 ||*i*P **PKPbc 09 42 23.7 +2.5**
LPK Lapseki 150.43 274 *e*P **PKPdf 09 42 16.7 +0.6**
EFOR EFORIE 150.47 282 ⇑*i*P **PKPbc 09 42 23.7 +2.4**
EZN Ezine 150.51 273 *e*P **PKPdf 09 42 15.5 -0.7**
GELI Tayfur-Gelibol 150.64 274 *e*P **PKPdf 09 42 18.3 +1.9**
PSN Preselentsi 150.66 281 *e*P **PKPb

TIRR Tirgusor 150.74 283 ePKPdf PKPdf 09 42 17.1 +0.7
SUMG Summit 150.75 15 i PKIKP PKPdf 09 42 15.2 -0.9
SUMG e 09 46 00.0
SUMG Summit 150.75 15 ePKPdf PKPdf 09 42 12.8 -3.2
SUMG Summit 150.75 15 i P PKPdf 09 42 15.2 -0.9
comp=Z,348nm,1.0s
SUMG e 09 46 00.0
SUMG
comp=Z,155µm,20.0s
ANKY Antikythira Is 150.76 263 P PKPdf 09 42 18.4 +1.7
ENEZ Enez 151.00 274 eP PKPdf 09 42 14.3 -2.6
EDRB Edirne 151.01 277 eP PKPbc 09 42 22.8 +0.1
PRD Provadia 151.03 280 eP PKPdf 09 42 15.5 -1.3
ALN Alexandroupoli 151.14 274 P PKPbc 09 42 24.0 +1.0
CFR Carcaliu 151.14 284 ⇓PKIKP PKPbc 09 42 20.5 -2.3
CFR Carcaliu 151.14 284 ⇓iP PKPbc 09 42 20.5 -2.3
HARR Harsova 151.14 283 ⇑PKIKP PKPbc 09 42 25.2 +2.4
HARR Harsova 151.14 283 ⇑iP PKPbc 09 42 25.2 +2.4
KIS Kishinev 151.15 288 ⇓iPKIKP PKPdf 09 42 16.0 -0.9
KIS M 09 42 27.0
comp=Z,3µm,3.5s
KIS eSKKS 09 55 10.0
KIS Kishinev 151.15 288 ⇓iPKIKP PKPdf 09 42 16.0 -0.9
KIS e 09 49 28.0
SFJD
comp=Z,120µm,19.0s
SFJD Kangerlussuaq 151.18 30 PKP PKPdf 09 42 16.9 +0.6
comp=Z,31nm,0.9s,baz=210,slow=1.7,SNR=11
SFJD PKPbc PKPbc 09 42 22.1 -0.1
comp=Z,40nm,0.7s,baz=290,slow=1.9,SNR=11
TRO Tromso 151.24 337 eP PKPdf 09 42 16.0 -0.3
TRO AMB AMB 09 42 58.6
comp=Z,1µm,1.6s
TRO ePP PP 09 45 58.5 -3.0
TRO eSS SS 10 05 24.2 +1.1
SMTH Samothraki Isl 151.33 273 P PKPdf 09 42 18.4 +1.0
LIA Limnos Island 151.34 272 P PKPdf 09 42 16.1 -1.3
LIA Limnos Island 151.34 272 ePB PKPbc 09 42 20.5 -3.0
JMB Yambol 151.35 278 P PKPdf 09 42 20.0 +2.6
JMB Yambol 151.35 278 eP PKPbc 09 42 24.0 +0.6
LEOM Leova 151.40 286 ⇑PKIKP PKPbc 09 42 21.5 -1.9
LEOM Leova 151.40 286 ⇑iP PKPbc 09 42 21.5 -1.9
PTL Penteli 151.44 268 P PKPdf 09 42 19.5 +1.8
VLI Veliai 151.45 264 P PKPdf 09 42 17.4 -0.3
ATHU Athens Univers 151.46 267 P PKPdf 09 42 20.0 +2.3
ATH Athens Observa 151.51 267 P PKPdf 09 42 20.0 +2.2
AMRR Amara 151.52 282 ⇑PKIKP PKPbc 09 42 24.8 +1.1
AMRR Amara 151.52 282 ⇑iP PKPbc 09 42 24.8 +1.1
KIEV Kiev 151.55 295 ePKIKP PKPdf 09 42 15.1 -2.3
KIEV e 09 42 25.1
KIEV Kiev 151.55 295 ePKPdf PKPdf 09 42 15.1 -2.3
KIEV ePKPbc PKiKP 09 42 25.1 +1.1
KIEV LR LR
comp=Z,161µm,22.0s
NAIG Nisos Aigina 151.57 267 ePN PKPbc 09 42 22.6 -1.5
RDO Rodhopi 151.59 275 P PKPbc 09 42 21.7 -2.3
RDO Rodhopi 151.59 275 ePB PKPdf 09 42 20.6 +2.8
DID Didima 151.62 266 P PKPdf 09 42 16.1 -1.9
DID Didima 151.62 266 ePN PKPdf 09 42 20.5 +2.5
DIDY Didyma 151.63 266 P PKPdf 09 42 15.2 -2.9
KDZ Kurdzhali 151.86 275 eP PKPdf 09 42 17.0 -1.2
DYR Agios Nikonas 151.89 264 P PKPdf 09 42 18.4 0.0
DYR Agios Nikonas 151.89 264 ePB PKPbc 09 42 21.7 -3.2
MRKA Markates 151.94 269 P PKPdf 09 42 19.2 +0.8
AOS Alonnisos 151.94 270 P PKPdf 09 42 16.8 -1.6
AOS Alonnisos 151.94 270 ePN PKPdf 09 42 21.5 +3.1
GRER 151.98 284 ⇑iP PKPab 09 42 34.8 +0.5
IAS Iasi 152.03 288 ⇓PKIKP PKPbc 09 42 27.2 +2.4
IAS Iasi 152.03 288 ⇓iP PKPbc 09 42 27.2 +2.4
LTK Loutraki 152.06 267 P PKPdf 09 42 16.1 -2.5
LTK Loutraki 152.06 267 ePN PKPdf 09 42 21.9 +3.3
SZH Strazhica 152.07 279 eP PKPdf 09 42 20.0 +1.5
KAF Kangasniemi 152.13 320 ep PKPdf 09 42 18.2 +0.3
comp=Z,244nm,0.8s
KAF Kangasniemi 152.13 320 ePKIKP PKPdf 09 42 18.2 +0.3
VLX Vlachokerasia 152.16 265 P PKPdf 09 42 13.1 -5.8
VLX Vlachokerasia 152.16 265 ePN PKPbc 09 42 23.8 -1.8
ISR Istrita 152.21 283 ⇑PKIKP PKPbc 09 42 29.1 +3.7
ISR Istrita 152.21 283 ⇑iP PKPbc 09 42 29.1 +3.7
SKIA Skiathos 152.22 269 P PKPdf 09 42 20.6 +1.8
KAVA Kavala 152.25 274 P PKPdf 09 42 17.6 -1.2
THAL Thalero 152.27 267 P PKPdf 09 42 20.0 +1.1
SMIA Simia 152.28 269 P PKPdf 09 42 16.8 -2.1
VRI Vrincioaia 152.28 285 ⇑PKIKP PKPbc 09 42 25.9 +0.4
VRI Vrincioaia 152.28 285 ⇑iP PKPbc 09 42 25.9 +0.4
LKR Lokris 152.32 268 ePN PKPab 09 42 31.7 -4.2
PLOR Plostina 152.33 285 ⇓iP PKPab 09 42 33.2 -2.6
OUR Ouranopolis 152.35 272 P PKPdf 09 42 18.5 -0.4
TAM Tamanrasset 152.36 220 ePKIKP PKPdf 09 42 17.7 -2.0
TAM Tamanrasset 152.36 220 ePKPdf PKPdf 09 42 17.7 -2.0
TAM LR LR
comp=Z,338µm,19.0s
PYL PYLOS 152.37 264 ePB PKPdf 09 42 21.1 +2.0
RZN Rozhen 152.37 275 eP PKPdf 09 42 17.5 -1.7
ITM Ithomi 152.38 264 P PKPdf 09 42 18.4 -0.7
ITM Ithomi 152.38 264 ePN PKPab 09 42 32.5 -3.7
FIA1 FINESS Array S 152.43 319 ePKPdf PKPdf 09 42 15.7 -2.7
FIA1 ePKPbc PKPbc 09 42 24.6 -0.6
FIA1 ePKPab PKPab 09 42 34.4 -1.3
FINES FINESS Array B 152.43 319 PKP PKPdf 09 42 18.1 -0.3
FINES PKPbc PKPbc 09 42 22.5 -2.8
FINES FINESS Array B 152.43 319 PKP PKPdf 09 42 18.1 -0.3
comp=Z,22nm,0.7s,baz=41,slow=3.5,SNR=56
FINES PKPbc PKPbc 09 42 22.5 -2.8
comp=Z,56nm,0.8s,baz=92,slow=4.2,SNR=57
GUR Goura 152.45 266 P PKPdf 09 42 16.8 -2.5
GUR Goura 152.45 266 ePN PKPbc 09 42 23.8 -2.4
NEO Neokhori 152.45 269 ePN PKPbc 09 42 25.9 -0.2
PVL Pavlikeni 152.47 279 eP PKPdf 09 42 22.0 +3.0
TESR Tescani 152.49 286 ⇑iP PKPbc 09 42 23.9 -2.0
XOR Xorichti 152.50 270 P PKPdf 09 42 16.3 -3.0
DSF Desfina 152.54 267 P PKPdf 09 42 16.1 -3.3
MICGM Minsk 152.55 303 ⇑ePKP PKPdf 09 42 20.0 +1.2
MNK Minsk 152.57 303 cePKIKP PKPdf 09 42 20.0 +1.2
MNK e 09 42 20.0
KLV Kalavryta, Ach 152.63 266 P PKPdf 09 42 17.6 -1.9
AMT Artemida-Makis 152.70 265 ePN PKPbc 09 42 29.3 +2.6
MLR Muntele Rosu 152.71 284 ⇑iP PKPbc 09 42 23.2 -3.4
PLG Polygyros 152.75 272 ePN PKPab 09 42 32.5 -5.2
KALE Kalithea 152.80 267 P PKPdf 09 42 20.0 +0.2
KALE Kalithea 152.80 267 ePN PKPbc 09 42 25.6 -1.4
NVR Nevrokopi 152.84 274 P PKPdf 09 42 21.6 +1.9
NVR Nevrokopi 152.84 274 ePN PKPbc 09 42 27.4 +0.5
TRIZ Trizonia 152.84 267 ePN PKPbc 09 42 24.6 -2.3
LAKA Lakka 152.85 266 ePN PKPbc 09 42 25.8 -1.2
SRS Serrai 152.94 273 P PKPdf 09 42 18.4 -1.4
PRAR RASCA 152.95 288 ⇓iP PKPbc 09 42 31.0 +4.1
AGG Agios Georgios 152.95 268 P PKPdf 09 42 18.4 -1.5
AGG Agios Georgios 152.95 268 ePN PKPdf 09 42 19.4 -0.5
EFP Efpalio 152.98 267 ePN PKPab 09 42 33.2 -5.5
MMB Musomiste 153.02 274 eP PKPdf 09 42 18.4 -1.6
PGB Panagyurishte 153.05 277 eP PKPdf 09 42 19.0 -1.0
HORT Hortiatis 153.08 272 P PKPdf 09 42 20.0 -0.1
MAKR Makrakomi, Fth 153.09 268 P PKPdf 09 42 19.2 -0.9
RLS Riolos of Patr 153.12 266 P PKPdf 09 42 17.4 -2.7
RLS Riolos of Patr 153.12 266 ePN PKPbc 09 42 31.7 +4.2
IDID Didziasalis 153.17 305 eP PKPbc 09 42 27.7 +0.6
IDID AMB AMB 09 42 46.0
comp=Z,225nm,1.3s
NACGM Naroch 153.17 304 ePKP PKPdf 09 42 16.0 -3.7
THE Thessaloniki 153.18 272 P PKPdf 09 42 16.8 -3.3
DOPR Dopca 153.21 284 ⇑iP PKPab 09 42 36.2 -3.3
MTUR Matau 153.24 283 ⇓iP PKPbc 09 42 31.1 +3.4
AXS Araxos 153.25 266 P PKPdf 09 42 18.4 -1.9
EVR Evrytania 153.27 268 P PKPdf 09 42 19.2 -1.3
EVR Evrytania 153.27 268 ePN PKPbc 09 42 30.2 +2.2
VOIR 153.31 283 ⇓PKIKP PKPbc 09 42 27.9 0.0
VOIR 153.31 283 ⇓iP PKPbc 09 42 27.9 0.0
STEI Steigen 153.37 336 e PKPbc 09 42 23.6 -3.5
STEI AMB AMB 09 43 07.3
comp=Z,773nm,2.4s
THL Klokotos Trika 153.41 269 ePN PKPbc 09 42 30.1 +2.0
IZAR Zarasai 153.41 306 eP PKPbc 09 42 26.1 -1.5
IZAR AMB AMB 09 42 44.5
comp=Z,181nm,1.5s
KNT Kendrikon 153.44 273 P PKPdf 09 42 18.4 -2.1
IIGN Ignalina 153.46 305 eP PKPbc 09 42 26.3 -1.5
IIGN AMB AMB 09 42 44.6
comp=Z,224nm,1.2s
ISAL Salakas 153.50 306 eP PKPbc 09 42 26.2 -1.6
ISAL AMB AMB 09 42 44.6
comp=Z,201nm,1.2s
KKB Krupnik 153.57 275 eP PKPdf 09 42 17.0 -3.7
ARR Arges 153.57 283 ⇓iP PKPbc 09 42 30.6 +2.2
MPEP Malo Peshtene 153.61 278 eP PKPdf 09 42 19.5 -1.2
BURAR Bucovina Array 153.67 288 ⇑PKIKP PKPbc 09 42 30.5 +1.9
BURAR Bucovina Array 153.67 288 ⇑iP PKPbc 09 42 30.5 +1.9
BUR08 Bucovina Ar. S 153.69 288 ePKPdf PKPdf 09 42 20.2 -0.6
VAY Valandovo 153.73 273 P PKPdf 09 42 19.2 -1.7
VAY Valandovo 153.73 273 ePKP PKPab 09 42 36.2 -5.6
VTS Vitosha 153.73 276 P PKPdf 09 42 21.7 +0.6
VTS Vitosha 153.73 276 ⇑PKIKP PKPbc 09 42 30.1 +1.1
VTS Vitosha 153.73 276 eP PKPdf 09 42 19.7 -1.4
VTS Vitosha 153.73 276 ⇑iP PKPbc 09 42 30.1 +1.1
VLS Valsamata 153.78 265 P PKPdf 09 42 19.5 -1.6
VLS Valsamata 153.78 265 ePB PKPbc 09 42 35.1 +6.1
KZN Kozani 153.89 270 ePN PKPab 09 42 38.9 -3.7
LKD2 Lefkada island 154.02 266 P PKPdf 09 42 20.8 -0.7
LKD2 Lefkada island 154.02 266 ePB PKPbc 09 42 33.5 +4.0
LOT Lotru 154.18 283 ⇑iP PKPbc 09 42 31.8 +2.0
JAN Janina 154.26 268 ePB PKPbc 09 42 30.9 +0.9
FNA Florina 154.35 271 P PKPdf 09 42 20.0 -1.9
FNA Florina 154.35 271 ePN PKPbc 09 42 31.8 +1.6
BIA Bitola 154.48 272 ePKP PKPbc 09 42 33.5 +3.0
CJR Cluj-Napoca 154.58 285 ⇓iP PKPbc 09 42 29.1 -1.4
JMIC Jan Mayen 154.66 356 eP PKPdf 09 42 20.1 -1.3
JMIC ePP PP 09 46 20.2 -0.5
JMIC eSS SS 10 06 03.5 +3.3
SKO Skopje 154.75 274 ePKP PKPbc 09 42 37.5 +6.6
LVV L'vov 154.76 293 i PKIKP PKPbc 09 42 30.0 -0.7
MOR8 Moi Rana 154.76 334 e PKPbc 09 42 26.6 -3.6
DEV Deva 154.88 283 ⇑iP PKPbc 09 42 35.2 +4.1
SCO Scoresbysund 154.92 7 i PKIKP PKPdf 09 42 20.4 -1.3
SCO Scoresbysund 154.92 7 i P PKPdf 09 42 20.4 -1.3
comp=Z,91nm,0.9s
SCO
comp=Z,139µm,21.0s
KEK Kerkira 155.02 268 P PKPdf 09 42 20.0 -2.8
KEK Kerkira 155.02 268 ePB PKPab 09 42 42.0 -5.3
STOK Stokkvaagen 155.09 335 e PKPdf 09 42 28.6 +6.6
STOK eSS SS 10 06 09.5 +4.2
DRGR 155.20 285 ⇑PKIKP PKPdf 09 42 24.1 +1.2
DRGR 155.20 285 ⇑iP PKPdf 09 42 24.1 +1.2
SUW Suwalki 155.32 303 ePKIKP PKPdf 09 42 21.5 -1.2
SUW e 09 42 28.1
SUW e 09 42 40.9
SUW Suwalki 155.32 303 ePKPdf PKPdf 09 42 19.7 -3.0
SUW ePP PP 09 46 37.2 +12
SUW Suwalki 155.32 303 ePKPdf PKPdf 09 42 21.4 -1.2
SUW epPKPdf pPKPdf 09 42 28.0 -1.9
SUW ePKPab PKPab 09 42 40.8 -7.3
SUW ePP PP 09 46 42.5 +17
SUW eSKKSac SKKSac 09 53 10.7 -2.1
SUW e 09 57 04.4
SUW eSS SS 10 06 19.1 +10
SUW eSSS SSS 10 12 19.6
SUW LMZ LR 10 54 33.1
TRPA Tarpa 155.53 288 ⇓iP PKPdf 09 42 30.2 +7.0
TRPA Tarpa 155.53 288 ⇓ePKPdf PKPdf 09 42 23.7 +0.5
KWP Kalwaria Pacla 155.59 292 ePKIKP PKPdf 09 42 22.4 -0.9
KWP e 09 42 29.1
KWP Kalwaria Pacla 155.59 292 ePKPdf PKPpre 09 42 15.9
KWP LR LR
comp=Z,231µm,21.0s
KWP Kalwaria Pacla 155.59 292 ⇓iP PKPdf 09 42 22.4 -0.9
KWP Kalwaria Pacla 155.59 292 ePKPdf PKPdf 09 42 22.3 -1.0
KWP epPKPdf pPKPdf 09 42 29.0 -1.4
KWP ePP PP 09 46 41.5 +14
KWP eSKKSac SKKSac 09 53 28.9 +14
KWP e 09 56 55.0
KWP eSS SS 10 06 22.3 +10
KWP eSSS SSS 10 12 28.5
KWP LMZ LR 10 55 50.7
TIR Tirane 155.63 271 PFAKE 09 42 30.0 +6.4
TIR LR LR
comp=Z,228µm,20.0s
BZS Buzias 155.69 282 ⇑PKIKP PKPdf 09 42 26.3 +2.8
BZS Buzias 155.69 282 ⇑iP PKPdf 09 42 26.3 +2.8
UZH Uzhgorod 155.76 290 i PKIKP PKPdf 09 42 25.8 +2.3
UZH i 09 46 30.0
KOLS Kolonicke sedl 155.81 290 ⇑ePKIKP PKPdf 09 42 22.7 -0.9
KOLS e 09 42 48.7
KOLS e 09 46 35.4
KOLS e 09 49 59.5
KOLS eSS SS 10 06 16.3 +1.5
KOLS Kolonicke sedl 155.81 290 ePKP PKPdf 09 42 22.6 -1.0
KOLS e 09 42 48.7
KOLS ePP PP 09 46 35.4 +7.2
KOLS e 09 49 59.5
PVY Plav 156.00 274 ⇑iPKP PKPdf 09 42 21.8 -2.4
IVA Berane 156.13 275 ⇑iPKP PKPdf 09 42 22.0 -2.3
ULC Ulcinj 156.28 272 ePKP PKPdf 09 42 22.3 -2.1
DIVS Divibare 156.43 278 P PKPdf 09 42 20.8 -3.9
TTG Podgorica 156.43 273 ePKP PKPdf 09 42 22.9 -1.7
STHS Stebnicka Huta 156.53 291 ePKIKP PKPdf 09 42 26.5 +2.0
STHS Stebnicka Huta 156.53 291 ePKP PKPdf 09 42 26.5 +2.0
STHS e 09 42 53.5
NSS Namsos 156.62 332 ePKPdf PKPdf 09 42 22.3 -1.8
NSS eSS SS 10 06 24.9 +3.0
BUM Brajici-Budva 156.64 273 ⇑iPKP PKPdf 09 42 22.5 -2.5
NKY Niksic 156.74 274 ⇑iPKP PKPdf 09 42 22.6 -2.5
WDD Wield Dalam 156.78 254 PFAKE 09 42 30.0 +4.8
WDD LR LR
comp=Z,381µm,20.0s
BEL Belsk 156.88 297 ePKIKP PKPdf 09 42 23.4 -1.4
BEL e 09 42 30.7
BEL Belsk 156.88 297 ePKPdf PKPdf 09 42 23.3 -1.5
BEL epPKPdf pPKPdf 09 42 30.6 -1.4
BEL ePP PP 09 46 50.4 +16
BEL e 09 57 14.2
BEL eSS SS 10 06 33.6 +7.6
BEL eSSS SSS 10 12 37.6
BEL LMZ LR 10 54 23.9
TIP Timpagrande 156.91 264 ePKPdf PKPdf 09 42 23.3 -2.2
TIP ePP PP 09 46 44.0 +9.5
TIP LR LR
comp=Z,388µm,19.0s
UPM Unac-Piva 156.92 275 ⇑iPKP PKPdf 09 42 22.6 -2.9
KECS Kecovo 156.94 289 ePKIKP PKPdf 09 42 25.9 +0.9
KECS Kecovo 156.94 289 ePKP PKPdf 09 42 25.9 +0.9
KECS e 09 42 58.9
HCY Herceg Novi 156.97 273 ⇑iPKP PKPdf 09 42 23.2 -2.1
CEL Celeste 157.08 261 ePKPdf PKPdf 09 42 22.8 -2.8
CEL ePP PP 09 46 39.8 +4.3
CEL LR LR
comp=Z,295µm,20.0s
BRY Bratogost 157.09 274 ⇑iPKP PKPdf 09 42 22.9 -2.7
NIE Niedzica 157.13 291 ePKIKP PKPdf 09 42 26.2 +0.9
NIE e 09 42 53.4
NIE e 09 46 35.6
NIE Niedzica 157.13 291 ePKPdf PKPdf 09 42 26.2 +0.9
NIE ePKPab PKPab 09 42 53.4 -2.8
NIE ePP PP 09 46 35.6 0.0
NIE eSKKSac SKKSac 09 53 34.3 +12
NIE eSS SS 10 06 36.4 +7.4
PSZ Piszkesteto 157.27 287 ePKIKP PKPdf 09 42 22.7 -2.9
PSZ e 09 46 41.8
PSZ MLR MLR
comp=Z,190µm,22.0s
PSZ Piszkesteto 157.27 287 ePKPdf PKPdf 09 42 22.7 -2.9
PSZ ePP PP 09 46 41.8 +5.4
PSZ LR LR
comp=Z,190µm,22.0s
PSZ Piszkesteto 157.27 287 ⇑iP PKPdf 09 42 38.5 +13
PSZ Piszkesteto 157.27 287 ⇑ePKPdf PKPdf 09 42 26.6 +1.0
OJC Ojcow 157.51 293 ePKIKP PKPdf 09 42 24.0 -1.7
OJC e 09 42 51.2
OJC e 09 46 33.7
OJC Ojcow 157.51 293 ePKPdf PKPdf 09 42 24.0 -1.7
OJC ePKPab PKPab 09 42 51.2 -6.5
OJC ePP PP 09 46 33.7 -3.9
OJC eSKKSac SKKSac 09 53 35.1 +10
OJC eSS SS 10 06 35.5 +2.6
OJC L L 10 55 24.1
comp=Z,259µm,23.3s
PKS2 Kecel 157.51 283 ePKPdf PKPdf 09 42 28.5 +2.7
PKS7 Kunszentmiklos 157.64 285 e PKPdf 09 42 26.0 +0.1
BUD Budapest 157.79 286 ⇑ePKPdf PKPdf 09 42 27.3 +1.2
PKSM Moragy 157.85 283 ⇑PKIKP PKPdf 09 42 31.2 +5.0
PKSM Moragy 157.85 283 ⇑iP PKPdf 09 42 31.2 +5.0
PKSM Moragy 157.85 283 ⇑ePKPdf PKPdf 09 42 27.2 +1.0
CUC Castrocucco 157.92 265 ePKPdf PKPdf 09 42 25.4 -1.2
CUC ePP PP 09 46 51.3 +11
CUC LR LR
comp=Z,247µm,21.0s
VYHS Vyhne 158.03 289 ⇑ePKIKP PKPdf 09 42 27.2 +0.8
VYHS eSS SS 10 06 30.7 -7.9
VYHS Vyhne 158.03 289 ePKP PKPdf 09 42 27.2 +0.8
VYHS ePP PP 09 46 32.0 -8.5
VYHS e 09 50 10.9
TBLU Trondheim 158.04 331 eP PKPdf 09 42 24.1 -1.8
TBLU eSS SS 10 06 41.7 +4.6
PKS9 Tamasi 158.16 283 ePKPdf PKPdf 09 42 26.3 -0.3
PKSG 158.21 286 ePKPdf PKPdf 09 42 26.4 -0.2
PKSG ePKPdf PKPdf 09 42 27.0 +0.4
CSKK Cs˘tkako 158.29 286 ePKPdf PKPdf 09 42 29.3 +2.5
PKST T˘'s 158.43 285 ePKPdf PKPdf 09 42 25.7 -1.3
RAC Raciborz 158.53 293 ePKIKP PKPdf 09 42 26.7 -0.2
RAC e 09 46 38.4
RAC eSS SS 10 06 42.5 -1.3
OKC Ostrava-Krasne 158.56 292 ePKPdf PKPdf 09 42 26.7 -0.3
OKC ePKPab PKPab 09 43 00.3 -2.0
OKC esPKPab sPKPab 09 43 14.2 +2.5
OKC ePP PP 09 46 44.2 +0.9
OKC eSS SS 10 06 44.6 +0.5
OKC Ostrava-Krasne 158.56 292 ePKIKP PKPdf 09 42 28.1 +1.1
OKC e 09 42 40.9
OKC MLR MLR
comp=Z,140µm,20.0s
OKC Ostrava-Krasne 158.56 292 ePKPDF PKPdf 09 42 28.1 +1.1
OKC ex x 09 42 40.9
OKC ex x 09 43 13.4
OKC ex x 09 46 58.8
OKC ex x 09 57 26.7
OKC eSS SS 10 06 48.8 +4.7
OKC AMS AMS 10 59 30.0
comp=Z,140µm,20.0s
GKP Gorka Klasztor 158.92 302 ePKIKP PKPdf 09 42 25.7 -1.6
GKP e 09 42 33.0
GKP Gorka Klasztor 158.92 302 ePKPdf PKPdf 09 42 25.7 -1.6
GKP epPKPdf pPKPdf 09 42 33.0 -1.5
GKP ePP PP 09 46 54.1 +9.0
GKP eSKKSac SKKSac 09 53 45.5 +14
GKP e 09 57 25.8
GKP eSS SS 10 06 53.8 +6.2
GKP eSSS SSS 10 13 00.9
GKP LMZ LR 10 53 55.3
MORC Moravsky Berou 158.95 292 ePKPdf PKPdf 09 42 28.0 +0.5
MORC ePKPab PKPab 09 42 59.9 -4.1
MORC esPKPab sPKPab 09 43 15.7 +2.2
MORC ePP PP 09 46 48.4 +2.8
MORC eSS SS 10 06 53.6 +5.2
MORC Moravsky Berou 158.95 292 ePKIKP PKPdf 09 42 23.6 -3.9
MORC Moravsky Berou 158.95 292 ePKPdf PKPdf 09 42 23.6 -3.9
MORC ePP PP 09 46 56.2 +11
NB2 NORSAR Subarra 159.07 325 PKPdf PKPdf 09 42 23.4 -3.9
comp=Z,1µm,2.5s,baz=55,slow=1.2
NB2 NORSAR Subarra 159.07 325 PKP PKPdf 09 42 23.2 -4.1
baz=55,slow=4.4
NOA NORSAR Array B 159.07 325 PKP PKPdf 09 42 24.0 -3.3
NOA NORSAR Array B 159.07 325 PKP PKPdf 09 42 24.0 -3.3
comp=Z,5.2nm,1.0s,baz=51,slow=1.3,SNR=9.7
NC602 NORSAR Array S 159.12 325 eP PKPdf 09 42 26.8 -0.5
NC602 eSS SS 10 06 49.4 +0.6
ZST Bratislava 159.16 288 ePKIKP PKPdf 09 42 29.6 +1.8
ZST Bratislava 159.16 288 ePKP PKPdf 09 42 29.6 +1.8
ZST ePP PP 09 46 56.9 +10
BEHE Becsehely 159.16 283 ⇑ePKPdf PKPdf 09 42 25.6 -2.2
NA001 NORSAR Array S 159.32 325 ePKPdf PKPdf 09 42 24.5 -3.1
MOL Molde 159.41 332 ePKPdf PKPdf 09 42 24.9 -2.6
MOL AMB AMB 09 43 36.0
comp=Z,475nm,1.9s
MOL ePP PP 09 46 45.6 -1.5
MOL eSS SS 10 06 53.5 +1.9
KOGS Kog 159.52 282 ePKPdf PKPdf 09 42 26.3 -1.9
DPC Dobruska-Polom 159.74 294 ePKPdf PKPdf 09 42 28.9 +0.5
DPC ePKPab PKPab 09 43 06.5 -0.9
DPC ePP PP 09 46 52.8 +3.0
DPC eSS SS 10 07 04.8 +8.2
DPC Dobruska-Polom 159.74 294 ePKIKP PKPdf 09 42 26.0 -2.4
DPC e 09 46 53.4
DPC Dobruska-Polom 159.74 294 ePKPDF PKPdf 09 42 26.0 -2.4
DPC ex x 09 42 43.6
DPC ex x 09 43 17.5
DPC ePP PP 09 46 53.4 +3.6
DPC ex x 09 53 50.1
DPC eSS SS 10 07 06.1 +9.5
DPC AMS AMS 10 56 50.0
KSP Ksiaz 159.74 295 ePKIKP PKPdf 09 42 27.1 -1.2
KSP e 09 46 51.5
KSP eSS SS 10 06 58.0 +1.5
KSP Ksiaz 159.74 295 ePKPdf PKPdf 09 42 27.1 -1.2
KSP epPKPdf pPKPdf 09 42 34.7 -0.8
KSP ePP PP 09 46 57.6 +7.9
KSP eSKKSac SKKSac 09 53 50.0 +14
KSP e 09 57 31.0
KSP eSS SS 10 07 06.5 +10
KSP eSSS SSS 10 13 09.5
KSP LMZ LR 10 55 48.8
BSD Bornholm Skovb 159.88 308 i PKIKP PKPdf 09 42 27.2 -1.1
BSD Bornholm Skovb 159.88 308 i P PKPdf 09 42 27.2 -1.1
comp=Z,17nm,1.1s
BSD e 09 47 01.4
BSD i 10 07 05.5
BSD
comp=Z,116µm,20.0s
UPC Upice 159.93 294 ePKIKP PKPdf 09 42 28.6 0.0
UPC e 09 42 43.5
UPC Upice 159.93 294 ePKPDF PKPdf 09 42 28.6 0.0
UPC ex x 09 42 43.5
UPC ex x 09 43 19.8
CONA Conrad Observa 159.96 287 ⇑iPKPdf PKPdf 09 42 27.2 -1.7
comp=Z,14µm,9.0s
BOJS Bojanci 160.04 279 ePKPdf PKPdf 09 42 27.4 -1.5
BOJS e 09 46 27.7
KEST Kesra 160.12 247 ePKPdf PKPdf 09 42 26.3 -3.1
KEST PKP PKPdf 09 42 30.1 +0.7
KEST PKPab PKPab 09 43 08.7 -0.9
KEST ePKPab PKPab 09 43 22.6 +13
KEST ePP PP 09 47 00.0 +8.1
KEST Kesra 160.12 247 PKP PKPdf 09 42 30.1 +0.7
comp=Z,1.5nm,0.7s,baz=96,slow=1.8,SNR=4.4
KEST PKPab PKPab 09 43 08.7 -0.9
comp=Z,26nm,1.0s,baz=248,slow=2.2,SNR=8.2
ARSA Arzberg 160.12 285 ePKPdf PKPdf 09 42 29.4 +0.5
ARSA ePKPab PKPab 09 43 08.5 -0.7
ARSA esPKPab sPKPab 09 43 19.9 +1.2
ARSA ePP PP 09 46 53.7 +1.7
ARSA eSS SS 10 07 07.6 +6.7
ARSA Arzberg 160.12 285 ⇓iPKPdf PKPdf 09 42 26.6 -2.4
comp=Z,12µm,9.6s
TREC Trest 160.28 291 ePKIKP PKPdf 09 42 28.3 -0.7
TREC e 09 46 54.5
TREC MLR MLR
comp=Z,174µm,21.0s
TREC Trest 160.28 291 ePKPDF PKPdf 09 42 28.3 -0.7
TREC ex x 09 43 21.4
TREC ePP PP 09 46 54.5 +1.7
TREC ex x 09 53 52.2
TREC eSS SS 10 07 08.4 +6.0
TREC AMS AMS 10 56 50.0
comp=Z,174µm,21.0s
PERS Pernice 160.32 283 ePKPdf PKPdf 09 42 27.4 -1.8
PERS ePKPab PKPab 09 43 18.5 +8.3
VISS Visnje 160.38 280 i PKPdf PKPdf 09 42 27.7 -1.6
VISS e 09 46 26.1
VISS ePP PP 09 46 52.1 -1.3
VISS eSKKSac SKKSac 09 53 50.9 +11
VISS e 09 57 29.1
VISS eSS SS 10 06 59.0 -4.6
SOKA Soboth 160.38 283 ⇓iPKPdf PKPdf 09 42 27.3 -2.0
comp=Z,10µm,5.7s
AQU L'Aquila 160.50 269 ePKPdf PKPdf 09 42 28.7 -0.8
AQU LR LR
comp=Z,229µm,19.0s
KONO Kongsberg 160.53 324 eP PKPdf 09 42 27.3 -1.6

KONO *e*PP **PP** **09 46 52.9 -0.5**
KONO *e*SS SS 10 07 04.4 +0.6
KONO Kongsberg 160.53 324 *e*PKIKP PKPpre 09 42 23.3
KONO *e* 09 46 56.1
KONO MLR MLR
comp=Z,201µm,20.0s
KONO Kongsberg 160.53 324 *e*PKPdf PKPpre 09 42 23.3
KONO *e*PP **PP** **09 46 56.1 +2.7**
KONO LR LR
comp=Z,201µm,20.0s
BORG Borgarnes 160.54 10 *e*PKPdf **PKPdf** **09 42 30.2 +1.4**
BORG *e*PP PP 09 46 59.9 +6.9
BORG LR LR
comp=Z,200µm,21.0s
LJU Ljubljana 160.63 281 *e*PKPdf **PKPdf** **09 42 28.3 -1.2**
LJU *e* 09 42 36.3
LJU *e*PKPab PKPab 09 43 16.8 +5.3
LJU *e* 09 43 40.3
LJU *e*PP **PP** **09 46 53.1 -1.6**
LJU *e*PPP PPP 09 49 50.9
LJU *e* 09 52 46.3
LJU *e*SKKSac SKKSac 09 53 51.0 +10
LJU *e* 09 54 55.7
LJU *e* 09 57 31.2
LJU *e* 09 59 24.0
LJU *e* 10 00 30.9
LJU *e*SS **SS** **10 07 03.2 -3.1**
LJU *e* 10 13 33.0
LJU *e* 10 22 50.9
LJU *e* 10 26 13.4
LJU *e* 10 28 06.7
LJU *e* 10 32 50.2
LJU *e* 10 36 29.1
LJU *e* 10 38 36.3
OBKA Obir 160.69 282 *e*PKPdf **PKPdf** **09 42 29.9 +0.2**
OBKA *es*PKPab **sPKPab** **09 43 22.2 +0.9**
OBKA *e*PP **PP** **09 46 56.7 +1.5**
OBKA *e*SS **SS** **10 07 10.2 +3.1**
OBKA Obir 160.69 282⇑ *i*PKPdf **PKPdf** **09 42 27.1 -2.6**
comp=Z,13µm,8.2s
CRNS Crni Vrh 160.82 281 *e*PKPdf **PKPdf** **09 42 28.2 -1.6**
PVCC Panska Ves 160.85 294 *e*PKIKP **PKPdf** **09 42 29.5 -0.1**
PVCC *e* 09 46 56.6
PVCC MLR MLR
comp=Z,250µm,22.0s
PVCC Panska Ves 160.85 294 *e*PKPDF **PKPdf** **09 42 29.5 -0.1**
PVCC *e*PP **PP** **09 46 56.6 +0.9**
PVCC *e*SS SS 10 07 16.4 +8.2
PVCC AMS AMS 10 55 50.0
comp=Z,250µm,22.0s
HYA Hoyanger 160.86 330 *e*PKPdf **PKPdf** **09 42 28.4 -0.8**
HYA *e*SS SS 10 07 06.4 -0.5
PRU Pruhonice 160.89 293 *e*PKPdf **PKPdf** **09 42 30.4 +0.8**
PRU *es*PKPab **sPKPab** **09 43 23.6 +1.7**
PRU *e*PP **PP** **09 46 58.8 +2.8**
PRU *e*SS SS 10 07 16.6 +7.9
PRU Pruhonice 160.89 293 *e*PKIKP **PKPdf** **09 42 26.0 -3.6**
PRU *e* 09 46 56.7
PRU MLR MLR
comp=Z,222µm,21.7s
PRU Pruhonice 160.89 293 *e*PKPDF **PKPdf** **09 42 26.0 -3.6**
PRU *ex* x 09 42 43.3
PRU *ex* x 09 43 23.0
PRU *e*PP **PP** **09 46 56.7 +0.7**
PRU *ex* x 09 53 56.7
PRU *ex* x 09 57 42.3
PRU *e*SS SS 10 07 12.1 +3.4
PRU AMS AMS 10 55 50.0
comp=Z,222µm,21.7s
SKDS Skadanscina 160.90 279 *i*PKPdf **PKPdf** **09 42 27.9 -1.9**
RGN Rugen 160.92 307 *e*PKPdf **PKPdf** **09 42 29.7 +0.2**
RGN *e*PKPab **PKPab** **09 43 11.3 -1.0**
RGN *es*PKPab **sPKPab** **09 43 25.7 +3.9**
RGN *e*PP **PP** **09 47 00.5 +4.7**
RGN *e*SS SS 10 07 21.3 +13
PRA Prague 160.96 293 PKPDF **PKPdf** **09 42 26.0 -3.7**
PRA PP **PP** **09 46 57.0 +0.7**
PRA AMS AMS 10 56 00.0
comp=Z,222µm,21.7s
SKDS Skadanscina 160.90 279 *i*PKPdf **PKPdf** **09 42 27.9 -1.9**
RGN Rugen 160.92 307 *e*PKPdf **PKPdf** **09 42 29.7 +0.2**
RGN *e*PKPab **PKPab** **09 43 11.3 -1.0**
RGN *es*PKPab **sPKPab** **09 43 25.7 +3.9**
RGN *e*PP **PP** **09 47 00.5 +4.7**
RGN *e*SS SS 10 07 21.3 +13
PRA Prague 160.96 293 PKPDF **PKPdf** **09 42 26.0 -3.7**
PRA PP **PP** **09 46 57.0 +0.7**
PRA AMS AMS 10 56 00.0
comp=Z,222µm,21.7s
MOA Molln 161.03 286 *e*PKPdf **PKPdf** **09 42 29.6 -0.3**
MOA *e*PKPab **PKPab** **09 43 10.1 -3.0**
MOA *es*PKPab **sPKPab** **09 43 24.1 +1.5**
MOA *e*PP **PP** **09 46 58.2 +1.4**
MOA *e*SS **SS** **10 07 15.0 +4.6**
MOA Molln 161.03 286⇑ *i*PKPdf **PKPdf** **09 42 27.5 -2.4**
comp=Z,16µm,11.3s
COP Copenhagen 161.04 311 *e*PKIKP **PKPdf** **09 42 27.8 -1.8**
COP MLR MLR
comp=Z,52µm,19.0s
COP Copenhagen 161.04 311 *i* P **PKPdf** **09 42 27.8 -1.8**
COP *e* 09 47 05.0
COP *i* 10 02 51.8
COP *i* 10 07 13.9
COP
comp=Z,52µm,18.0s
TRI Trieste 161.10 279 *e*PKIKP **PKPdf** **09 42 25.2 -4.8**
TRI Trieste 161.10 279 *e*PKPdf **PKPdf** **09 42 25.2 -4.8**
TRI *e*PP PP 09 47 09.6 +12
RUE Ruedersdorf 161.12 300 *e*PKPdf **PKPdf** **09 42 29.5 -0.2**
RUE *e*PKPab **PKPab** **09 43 12.7 -0.6**
RUE *e*PP **PP** **09 46 59.6 +2.6**
RUE *e*SS SS 10 07 18.5 +7.8
CADS Cadrg 161.21 281 *i*PKPdf **PKPdf** **09 42 28.3 -1.9**
BRG Berggiesshubel 161.22 295 *i*PKP **PKPdf** **09 42 26.4 -3.6**
comp=Z,22nm,1.9s
BRG *i* 09 42 41.2
comp=Z,286nm,1.5s
BRG *i* 09 43 17.3
comp=Z,433nm,1.7s
BRG PP PP 09 46 47.0 -11
BRG *e* 09 57 27.0
BRG SS SS 10 07 21.0 +8.9
BRG
comp=N,149µm,18.4s
BRG
comp=E,95µm,19.5s
BRG
comp=Z,22µm,20.3s
BRG Berggiesshubel 161.22 295 *e*PKPdf **PKPdf** **09 42 30.0 0.0**
BRG *es*PKPab **sPKPab** **09 43 25.3 +2.0**
BRG *e*PP **PP** **09 47 00.6 +2.9**
BRG *e*SS SS 10 07 21.0 +8.9
BRG Berggiesshubel 161.22 295 *i*PKIKP **PKPdf** **09 42 26.4 -3.6**
BRG *i* 09 42 41.2
LLD Lille Linde 161.28 310 *e*PKIKP **PKPdf** **09 42 34.4 +4.6**
LLD Lille Linde 161.28 310 *i* P **PKPdf** **09 42 34.4 +4.6**
MYKA Terra Mystica 161.33 282⇓ *i*PKPdf **PKPdf** **09 42 28.2 -2.2**
comp=Z,14µm,9.3s
GERES GERESS Array B 161.45 289 PKP **PKPdf** **09 42 28.8 -1.6**
GERES PKPab **PKPab** **09 43 13.8 -1.2**
GERES PP PP 09 47 15.2 +16
GERES GERESS Array B 161.45 289 PKP **PKPdf** **09 42 28.8 -1.6**
comp=Z,0.5nm,0.2s,baz=54,slow=2.3,SNR=9.2
GERES PKPab **PKPab** **09 43 13.8 -1.2**
comp=Z,10nm,0.8s,baz=93,slow=2.0,SNR=4.0
GERES PP PP 09 47 15.2 +16
comp=Z,9.8nm,1.0s,baz=64,slow=3.1,SNR=3.9
KHC Kasperske Hory 161.53 290 *e*PKPdf **PKPdf** **09 42 30.2 -0.2**
KHC *e*PP **PP** **09 47 01.5 +2.0**
KHC *e*SS SS 10 07 21.9 +6.3
KHC Kasperske Hory 161.53 290 *e*PKIKP **PKPdf** **09 42 29.4 -1.0**
KHC *e* 09 42 44.9
KHC *e* 09 46 56.6
KHC *e*SS SS 10 07 12.0 -3.6
KHC MLR MLR
comp=Z,234µm,19.4s
KHC Kasperske Hory 161.53 290 *e*PKPDF **PKPdf** **09 42 29.4 -1.0**
KHC *ex* x 09 42 44.9
KHC *ex* x 09 43 26.3
KHC *e*PP **PP** **09 46 56.6 -2.9**
KHC *ex* x 09 53 57.7
KHC *e*SS SS 10 07 12.0 -3.6
KHC AMS AMS 11 04 10.0
comp=Z,234µm,19.4s
KHC Kasperske Hory 161.53 290 *e*PKPdf **PKPdf** **09 42 26.5 -3.9**
KHC *e*PP PP 09 47 12.9 +13
ODD1 Odda 161.56 327 *e*P **PKPdf** **09 42 29.2 -0.9**
KBA Koelnbreinsper 161.58 284 *e*PKPdf **PKPdf** **09 42 31.0 +0.3**
KBA *e*PP **PP** **09 47 01.0 +1.0**
KBA *e*SS SS 10 07 20.6 +4.0
KBA Koelnbreinsper 161.58 284⇓ *i*PKPdf **PKPdf** **09 42 28.0 -2.8**
comp=Z,19µm,12.1s
ABSA Djebel Ababsia 161.65 246 P PKPdf 09 42 43.7 +13

BER Bergen 161.71 330 *e*P **PKPdf** **09 42 27.8 -2.4**
BER *e*PP **PP** **09 46 58.6 -0.9**
BER *e*SS SS 10 07 16.3 +0.5
CLL Collm 161.76 297 *e*PKPdf **PKPdf** **09 42 30.4 -0.1**
CLL *e*PP **PP** **09 47 03.3 +2.7**
CLL *e*SS SS 10 07 25.8 +8.1
CLL Collm 161.76 297 *i* PKIKP **PKPdf** **09 42 29.0 -1.5**
CLL *i* 09 43 14.1
CLL pmax pmax
comp=Z,38nm,1.6s
CLL Collm 161.76 297 *i* PKPdf **PKPdf** **09 42 29.0 -1.5**
comp=Z,38nm,1.7s
CLL *e*PSS(2) 09 08 35.0
CLL *e*SSS SSS 09 13 24.0
CLL *e*(SSSrev) 09 21 38.0
CLL *e* 09 31 24.0
CLL *i* PKPdf(2) 09 42 44.2
comp=Z,220nm,1.6s
CLL *e*PKPlp 09 42 51.0
comp=Z,26µm,14.3s
CLL *e*PKPdf(3) 09 42 53.0
comp=Z,924nm,2.5s
CLL *i* PKPab **PKPab** **09 43 14.1 -2.1**
comp=Z,155nm,1.6s
CLL *i* PKPab(2) 09 43 27.8
comp=Z,331nm,1.8s
CLL *i* pPKPab3 09 43 41.1
comp=Z,494nm,1.9s
CLL *e*PP **PP** **09 47 03.0 +2.4**
comp=Z,783nm,3.3s
CLL *e*PP(2) 09 47 17.0
comp=Z,2µm,3.6s
CLL *e*PPlp 09 47 18.0
comp=Z,30µm,15.2s
CLL *i* PP(3) 09 47 27.8
comp=Z,4µm,4.4s
CLL *e*PPP(2) 09 51 01.0
CLL *e*PPPP 09 52 58.0
CLL *e*PPPrev 09 54 47.0
CLL *e*SKSP(2) 09 57 42.0
CLL Lmax 09 58 00.0
CLL L L 09 59 00.0
comp=Z,198µm,22.0s
CLL *e*SS **SS** **10 07 19.0 +1.3**
HOMB Homborsund 161.78 321 *e*P **PKPdf** **09 42 28.2 -2.1**
HOMB *e*SS SS 10 07 17.1 +0.3
CMAH Djebel Manchou 161.90 247 P PKPdf 09 42 43.7 +12
WET Wettzell 161.99 290 *e*PKPdf **PKPdf** **09 42 30.9 0.0**
WET *e*PKPab **PKPab** **09 43 16.6 -0.7**
WET *es*PKPab **sPKPab** **09 43 28.7 +1.9**
WET *e*PP **PP** **09 47 03.7 +1.8**
WET *e*SS **SS** **10 07 27.1 +6.7**
WET Wettzell 161.99 290 *e*PKP2 **PKPab** **09 43 16.6 -0.7**
WET *e* 09 47 03.7
RJOB Jochberg 162.01 286 *e*PKPdf **PKPdf** **09 42 30.7 -0.3**
RJOB *es*PKPab **sPKPab** **09 43 28.0 +1.1**
RJOB *e*PP **PP** **09 47 02.6 +0.5**
RJOB *e*SS **SS** **10 07 23.9 +3.2**
ABTA Abfaltersbach 162.11 282⇓ *i*PKPdf **PKPdf** **09 42 28.0 -3.2**
comp=Z,22µm,12.7s
ABTA Abfaltersbach 162.11 282 P **SKPdf** **09 46 07.7 +6.0**
comp=Z,15µm,10.0s
VSL Villasalto 162.15 257 *e*PKPdf **PKPdf** **09 42 29.2 -2.1**
VSL *e*PP PP 09 47 12.2 +9.4
VSL LR LR
comp=Z,284µm,20.0s
TANN Tannenbergstha 162.20 294 *e*PKPdf **PKPdf** **09 42 31.2 +0.1**
TANN *e*PKPab **PKPab** **09 43 17.5 -0.7**
TANN *es*PKPab **sPKPab** **09 43 29.9 +2.2**
TANN *e*PP **PP** **09 47 04.8 +1.8**
TANN *e*SS SS 10 07 30.2 +7.7
CTEI Djebel Teioual 162.20 244 P PKPdf 09 42 47.8 +16
CKFL Kef-Lekhel 162.21 245 P PKPdf 09 42 46.8 +15
CASM Ain Smara 162.27 244 P PKPdf 09 42 47.8 +16
MUD Monsted U'grnd 162.40 315 *e*PKIKP **PKPdf** **09 42 27.3 -3.6**
MUD MLR MLR
comp=Z,150µm,25.0s
MUD Monsted U'grnd 162.40 315 *i* P **PKPdf** **09 42 27.3 -3.6**
MUD
comp=Z,147µm,25.0s
MANZ Manzenberg 162.46 293 *e*PKPdf **PKPdf** **09 42 31.4 +0.1**
MANZ *es*PKPdf **sPKPdf** **09 42 45.3 +4.4**
MANZ *e*PP **PP** **09 47 06.0 +1.6**
MANZ *e*SS **SS** **10 07 31.9 +6.7**
NEUB Neuenburg 162.54 297 *e*PKPdf **PKPdf** **09 42 31.2 -0.1**
NEUB *es*PKPdf **sPKPdf** **09 42 45.6 +4.7**
NEUB *e*PP **PP** **09 47 06.6 +1.9**
NEUB *e*SS SS 10 07 33.5 +7.7
MOX Moxa 162.71 295 *e*PKPdf **PKPdf** **09 42 31.6 +0.1**
MOX *es*PKPdf **sPKPdf** **09 42 45.6 +4.5**
MOX *e*PKPab **PKPab** **09 43 19.3 -1.1**
MOX *es*PKPab **sPKPab** **09 43 32.0 +2.1**
MOX *e*PP **PP** **09 47 07.6 +1.9**
MOX *e*SS SS 10 07 34.9 +7.2
MOX *e*L L 11 02 39.9
comp=Z,215µm,19.5s
MOX Moxa 162.71 295 *e*PKP2 **PKPab** **09 43 19.3 -1.1**
MOX *e* 09 47 07.6
WTTA Wattenberg 162.76 284 *e*PKPdf **PKPdf** **09 42 32.0 +0.1**
WTTA *e*PP **PP** **09 47 06.5 +0.2**
WTTA *e*SS SS 10 07 33.5 +4.7
WTTA Wattenberg 162.76 284⇑ *i*PKPdf **PKPdf** **09 42 29.5 -2.4**
comp=Z,14µm,8.6s
WTTA Wattenberg 162.76 284 P **SKPdf** **09 46 08.3 +5.9**
comp=Z,13µm,9.2s
BSEG Bad Segeberg 162.78 307 *e*PKPdf **PKPdf** **09 42 31.6 +0.2**
BSEG *e*PP **PP** **09 47 10.3 +4.6**
BSEG *e*SS SS 10 07 40.4 +13
BSEG Bad Segeberg 162.78 307 *e*PKIKP **PKPdf** **09 42 31.6 +0.2**
BSEG *e* 09 47 10.3
WATA Walderalm 162.81 284⇑ *i*PKPdf **PKPdf** **09 42 29.8 -2.1**
comp=Z,433nm,1.9s
DFRA Djebel Bou Aff 162.84 244 P PKPdf 09 42 48.6 +16
SET Setif 162.91 242 P PKPdf 09 42 39.0 +6.7
FUR Furstenfeldbru 163.05 287 *e*PKPdf **PKPdf** **09 42 31.7 -0.3**
FUR *es*PKPdf **sPKPdf** **09 42 46.2 +4.6**
FUR *es*PKPab **sPKPab** **09 43 32.9 +1.5**
FUR *e*PP **PP** **09 47 07.4 -0.2**
FUR *e*SS **SS** **10 07 37.5 +6.1**
FUR Furstenfeldbru 163.05 287 *e*PKIKP **PKPdf** **09 42 31.7 -0.3**
FUR *e* 09 42 46.2
FUR *e* 09 47 07.4
GRF Grafenberg Arr 163.05 292 *e*PKPdf **PKPdf** **09 42 32.0 +0.1**
GRF *es*PKPab **sPKPab** **09 43 33.9 +2.5**
GRF *e*PP **PP** **09 47 08.9 +1.4**
GRF *e*SS SS **10 07 36.7 +5.4**
GRF *e*L L 11 01 17.1
comp=Z,126µm,20.9s
GRF Grafenberg Arr 163.05 292 *e*PKIKP **PKPdf** **09 42 32.0 +0.1**
GRF *e* 09 47 08.9
GRFO Grafenberg 163.05 292 *e*PKIKP PKPdf 09 42 26.4 -5.5
GRFO Grafenberg 163.05 292 *e*PKPdf PKPdf 09 42 26.4 -5.5
GRFO *e*PKPab PKPab 09 43 30.2 +8.3
GRFO *e*PP PP 09 47 21.3 +14
VLC Villacollemand 163.13 273 *e*PKPdf **PKPdf** **09 42 28.5 -3.7**
VLC *e*PKPab PKPab 09 43 33.8 +11
VLC *e*PP PP 09 47 18.8 +11
VLC LR LR
comp=Z,209µm,20.0s
CLZ Clausthal 163.30 300 *e*PKPdf **PKPdf** **09 42 32.6 +0.5**
CLZ *es*PKPdf **sPKPdf** **09 42 46.2 +4.5**
CLZ *e*PP **PP** **09 47 12.1 +3.4**
CLZ *e*SS SS 10 07 42.6 +9.0
CLZ Clausthal 163.30 300 *e*PKIKP **PKPdf** **09 42 32.6 +0.5**
CLZ *e* 09 42 46.2
CLZ *e* 09 47 12.1
SOFL Sornfelli, Far 163.32 349 *e*P PKPdf 09 42 25.6 -6.2
SOFL *e* 09 47 12.3
FETA Feichten 163.36 283⇑ *i*PKPdf **PKPdf** **09 42 29.3 -3.1**
comp=Z,13µm,9.4s
FETA Feichten 163.36 283 P SKPdf 09 46 11.2 +8.3
comp=Z,20µm,10.1s
RETA Reutte 163.37 284⇓ *i*PKPdf **PKPdf** **09 42 30.1 -2.3**
comp=Z,13µm,8.8s
RETA Reutte 163.37 284 P SKPdf 09 46 12.0 +9.2
comp=Z,16µm,10.4s
PGF Pioggiola 163.64 266 *e*PKIKP **PKPdf** **09 42 31.6 -1.2**
comp=Z,608nm,1.9s
AKET Djebel Ketaf 163.74 239 P **PKPdf** **09 42 34.3 +1.1**
LRW Lerwick 163.95 338 *e*P PKPdf 09 42 26.2 -6.2
DAVA Damuels 163.96 284 *e*PKPdf **PKPdf** **09 42 33.3 +0.3**
DAVA *e*PKPab **PKPab** **09 43 25.2 -1.0**
DAVA *es*PKPab **sPKPab** **09 43 36.6 +1.0**
DAVA *e*PP **PP** **09 47 12.9 +0.3**
DAVA *e*SS **SS** **10 07 43.3 +2.2**
DAVA Damuels 163.96 284⇓ *i*PKPdf **PKPdf** **09 42 30.0 -3.0**
comp=Z,14µm,9.0s
ADJB Djebel Djouab 164.08 239 P **PKPdf** **09 42 35.7 +2.3**
TUE Stuetta 164.25 280 *e*PKPdf **PKPdf** **09 42 30.1 -3.2**
TUE *e*PKPab PKPab 09 43 43.9 +16
TUE *e*PP PP 09 47 23.5 +9.3
TUE LR LR
comp=Z,295µm,22.0s
EMHD Djebel Mahouad 164.40 238 P **PKPdf** **09 42 35.0 +1.3**
STU Stuttgart 164.43 289 *e*PKPdf **PKPdf** **09 42 33.3 0.0**
STU *es*PKPab **sPKPab** **09 43 38.7 +1.2**
STU *e*PP **PP** **09 47 15.5 +0.7**
STU *e*SS **SS** **10 07 49.8 +4.3**
STU Stuttgart 164.43 289 *e*PKIKP **PKPdf** **09 42 33.2 0.0**
STU Stuttgart 164.43 289 *e*PKPdf **PKPdf** **09 42 33.2 0.0**
STU *e*PP PP 09 47 26.2 +11
IBBN Ibbenburen 164.75 303 *e*PKPdf **PKPdf** **09 42 33.8 +0.5**
IBBN *es*PKPdf **sPKPdf** **09 42 47.5 +4.6**
IBBN *es*PKPab **sPKPab** **09 43 41.6 +2.9**
IBBN *e*PP **PP** **09 47 20.3 +4.1**
IBBN *e*SS SS 10 08 02.1 +14
ETRT Tiaret 164.77 232 P **PKPdf** **09 42 38.2 +4.1**
TNS Taunus Mts 164.78 295 *e*PKPdf **PKPdf** **09 42 34.1 +0.6**
TNS *e*PKPab **PKPab** **09 43 28.7 -0.9**
TNS *es*PKPab **sPKPab** **09 43 40.2 +1.2**
TNS *e*PP **PP** **09 47 19.0 +2.4**
TNS *e*SS **SS** **10 07 52.3 +3.2**
TNS Taunus Mts 164.78 295 *e*PKP2 **PKPab** **09 43 28.7 -0.9**
TNS *e* 09 47 19.0
BFO Black Forest 165.02 287 *e*PKPdf **PKPdf** **09 42 34.0 +0.3**
BFO *es*PKPab **sPKPab** **09 43 41.4 +1.3**
BFO *e*PP **PP** **09 47 18.0 +0.1**
BFO *e*SS **SS** **10 07 51.8 +0.1**
BFO Black Forest 165.02 287 *e*PKIKP **PKPdf** **09 42 34.0 +0.3**
BFO *e* 09 47 18.0
BFO Black Forest 165.02 287 *e*PKPdf **PKPdf** **09 42 30.6 -3.2**
BFO LR LR
comp=Z,138µm,19.0s
SBF Sospel 165.12 270 *e*PKIKP **PKPdf** **09 42 32.2 -1.8**
comp=Z,676nm,1.7s
BUG Bochum--Univer 165.27 300 *e*PKPdf **PKPdf** **09 42 34.3 +0.5**
BUG *es*PKPdf **sPKPdf** **09 42 47.8 +4.4**
BUG *e*PP **PP** **09 47 22.1 +3.1**
BUG *e*SS SS 10 08 08.3 +15
EANR 'Ain N'Sour 165.29 233 P **PKPdf** **09 42 38.8 +4.4**
WTSB Winterswijk 165.41 302 *e*PKP **PKPdf** **09 42 32.9 -1.0**
WTSB *e*PP PP 09 47 36.1 +16
FRF La Foret Royal 165.59 268 *e*PKIKP **PKPdf** **09 42 33.3 -1.0**
comp=Z,419nm,1.5s
LMR La Mourre 165.62 267 *e*PKIKP **PKPdf** **09 42 33.7 -0.7**
comp=Z,455nm,1.7s
CDF Champ du Feu 165.72 288 *e*PKIKP **PKPdf** **09 42 32.4 -2.0**
comp=Z,351nm,1.8s
MBDF Montbardon 165.78 273 *e*PKIKP **PKPdf** **09 42 33.2 -1.5**
comp=Z,317nm,1.4s
ECH Echery 165.80 287 *e*PKIKP **PKPdf** **09 42 31.8 -2.6**
ECH Echery 165.80 287 *e*PKPdf **PKPdf** **09 42 31.8 -2.6**
ECH *e*PKPab PKPab 09 43 41.2 +7.1
ECH *e*PP PP 09 47 31.6 +10
ECH LR LR
comp=Z,279µm,20.0s
BNI Bardonecchia 165.91 274 *e*PKIKP **PKPdf** **09 42 33.2 -1.5**
BNI MLR MLR
comp=Z,301µm,19.0s
BNI Bardonecchia 165.91 274 *e*PKPdf **PKPdf** **09 42 33.2 -1.5**
BNI *e*PKPab PKPab 09 43 48.5 +14
BNI *e*PP PP 09 47 35.0 +12
BNI LR LR
comp=Z,301µm,19.0s
LPG La Plagne 165.93 276 *e*PKIKP **PKPdf** **09 42 33.8 -1.1**
comp=Z,270nm,1.5s
LPL La Plagne 165.94 276 *e*PKIKP **PKPdf** **09 42 33.6 -1.3**
comp=Z,299nm,1.6s
HINF Hinteralfeld 166.02 285 *e*PKIKP **PKPdf** **09 42 32.9 -1.7**
comp=Z,239nm,1.5s
MEM Membach 166.24 297 PKP **PKPdf** **09 42 33.4 -1.3**
HGN Heimansgroeve 166.25 298 *e*PKP **PKPdf** **09 42 35.5 +0.9**
comp=Z,5µm,5.7s
HGN *e*PP PP 09 47 36.9 +13
HGN *eX* 09 54 35.6
HGN *e*SKSP 09 58 00.5
WLF Walferdange 166.33 293 APKP **PKPdf** **09 42 37.1 +2.4**
WLF E 09 42 49.9
WLF Walferdange 166.33 293 *e*PKPdf **PKPdf** **09 42 35.9 +1.2**
WLF *e*PKPab **PKPab** **09 43 35.6 -0.7**
WLF *e*PP **PP** **09 47 26.9 +2.3**
WLF *e*SS SS 10 08 04.5 -0.3
WLF Walferdange 166.33 293 *e*PKIKP **PKPdf** **09 42 36.7 +2.0**
WLF MLR MLR
comp=Z,258µm,20.0s
WLF Walferdange 166.33 293 *e*PKPdf **PKPdf** **09 42 36.7 +2.0**
WLF *e*PP PP 09 47 35.3 +11
WLF LR LR
comp=Z,258µm,20.0s
HAU Haudompre 166.35 286 *e*PKIKP **PKPdf** **09 42 33.3 -1.5**
comp=Z,383nm,1.7s
HAU *eR*
comp=Z,262µm,21.5s
BEBN Eben Emael 166.40 298 APKP **PKPdf** **09 42 38.2 +3.5**
BEBN E 09 42 41.4
ORIF Oris-en-Rattie 166.44 273 *e*PKIKP **PKPdf** **09 42 34.0 -1.1**
comp=Z,382nm,1.8s
ORIF *eR*
comp=Z,530µm,22.2s
SMRF Simiane la Rot 166.45 269 *e*PKIKP **PKPdf** **09 42 34.0 -1.1**
comp=Z,390nm,1.7s
CABF La Chapelle 166.51 280 *e*PKIKP **PKPdf** **09 42 33.6 -1.5**
comp=Z,390nm,1.7s
HOR Horta 166.54 117 *e*PKP PKPdf 09 42 45.7 +10
PCED Cedros 166.56 117 *e*PKP PKPdf 09 42 45.1 +10
PCAN Candelaria 166.59 118 *e*PKP PKPdf 09 42 42.9 +7.6
PICO Pico 166.65 118 *e*PKP PKPdf 09 42 57.7 +22
PMOZ Porto Moniz, M 166.68 166 PKP **PKPdf** **09 42 39.0 +3.3**
PMOZ Porto Moniz, M 166.68 166 *e*PP PP 09 47 32.9 +7.4
PMOZ Porto Moniz, M 166.68 166 *e*SS SS 10 08 17.8 +11
PMOZ Porto Moniz, M 166.68 166 *e*LR LR 10 40 14.2
comp=Z,235µm,16.0s
PAGF Fort de Pagny 166.74 289 *e*PKIKP **PKPdf** **09 42 33.7 -1.4**
comp=Z,48nm,1.4s
ROSA Rosais 166.90 118 *e*PKP PKPdf 09 42 44.3 +8.8
PMAN Manadas 166.94 118 *e*PKP PKPdf 09 42 43.8 +8.2
DRUM Mains of Drumt 167.01 333 *e*P PKPdf 09 42 29.0 -6.0
PMPS Porto Santo 167.04 169 *e*PKP PKPdf 09 42 43.9 +8.1
PMPST Porto Santo, M 167.06 169 *e*PKP **PKPdf** **09 42 39.0 +3.2**
PMPST Porto Santo, M 167.06 169 *e*PP PP 09 47 33.6 +6.3
PMPST Porto Santo, M 167.06 169 *e*SS SS 10 08 25.9 +16
GIVF Givet 167.09 296 *e*PKIKP **PKPdf** **09 42 34.0 -1.3**
comp=Z,234nm,1.4s
RTC Rabat Centre 167.16 205 PFAKE 09 42 50.0 +14
RTC LR LR
comp=Z,594µm,20.0s
MEZF Maizieres J'vi 167.19 289 *e*PKIKP **PKPdf** **09 42 34.4 -1.0**
comp=Z,673nm,1.8s
SFTF Sexfontaines 167.22 287 *e*PKIKP **PKPdf** **09 42 34.1 -1.4**
comp=Z,550nm,1.8s
DOU Dourbes 167.24 296 PKP **PKPdf** **09 42 33.6 -1.7**
DOU PKPab **pPKPdf** **09 42 39.1 -3.5**
DOU E 09 42 49.5
PGRA Graciosa 167.25 117 *e*PKP PKPdf 09 42 47.3 +12
VIVF Saint-Julien-l 167.27 272 *e*PKIKP **PKPdf** **09 42 34.7 -1.0**
comp=Z,356nm,1.7s
SSB Saint Sauveur 167.43 274 *e*PKIKP **PKPdf** **09 42 33.3 -2.5**
SSB MLR MLR
comp=Z,213µm,20.0s
SSB Saint Sauveur 167.43 274 *e*PKPdf **PKPdf** **09 42 33.3 -2.5**
SSB *e*PKPab PKPab 09 43 57.1 +16
SSB *e*PP PP 09 47 38.1 +7.5
SSB LR LR
comp=Z,213µm,20.0s
BAIF Baives 167.49 296 *e*PKIKP **PKPdf** **09 42 34.2 -1.4**
comp=Z,420nm,1.9s
PSMA Santa Maria 167.52 131 *e*PKP PKPdf 09 42 45.1 +9.1
KPL Plockton 167.53 340 *e*P **PKPdf** **09 42 30.6 -4.7**
KPL AMS AMS 10 45 46.9
comp=Z,132µm,35.5s
PSMN Pico do Norte, 167.56 131 *e*PKP PKPdf 09 42 46.8 +11
LASF Ste Croix 167.67 268 *e*PKIKP **PKPdf** **09 42 34.6 -1.4**
comp=Z,511nm,1.8s
PDA Ponta Delgada 167.78 127 *e*PKP PKPdf 09 42 42.1 +5.9
PSET Sete Cidades 167.80 127 *e*PKP PKPdf 09 42 47.8 +12

CMLA	**Cha da Macela**	**167.87 127**	*e*PKP	PKPdf	09 42 44.3	+8.0		
CMLA	**Cha da Macela**	**167.87 127**	*e*PKIKP	**PKPdf**	**09 42 35.8**	**-0.5**		
CMLA			MLR	MLR				
	comp=Z,262μm,21.0s							
CMLA	**Cha da Macela**	**167.87 127**	*e*PKPdf	**PKPdf**	**09 42 35.8**	**-0.5**		
CMLA			*e*PP	PP	09 47 40.1	+7.8		
CMLA			LR	LR				
	comp=Z,262μm,21.0s							
EDI	**Edinburgh**	**168.04 331**	*e*P	PKPdf	09 42 29.2	-6.5		
EDI			AMS	AMS	10 49 53.4			
	comp=Z,156μm,30.6s							
LOR	**Lormes**	**168.05 283**	*e*PKIKP	**PKPdf**	**09 42 34.9**	**-1.2**		
	comp=Z,435nm,1.8s							
LOR			*e*R					
	comp=Z,344μm,21.2s							
SMF	**Signal de Mont**	**168.06 280**	*e*PKIKP	**PKPdf**	**09 42 34.6**	**-1.5**		
	comp=Z,301nm,1.9s							
BART	**Pico Bartolome**	**168.08 128**	*e*PKP	PKPdf	09 42 45.0	+8.5		
EAB	**Aberfoyle**	**168.19 335**	*e*P	**PKPdf**	**09 42 31.1**	**-4.8**		
SSF	**Saint Sauige**	**168.29 282**	*e*PKIKP	**PKPdf**	**09 42 34.9**	**-1.3**		
	comp=Z,260nm,1.5s							
AVF	**Avril sur Loir**	**168.40 281**	*e*PKIKP	**PKPdf**	**09 42 34.7**	**-1.6**		
	comp=Z,153nm,1.6s							
ESK	**Eskdalemuir**	**168.53 330**	*e*P	PKPdf	09 42 29.9	-6.2		
ESK	**Eskdalemuir**	**168.53 330**	*e*PKIKP	PKPdf	09 42 30.7	-5.4		
ESK			*e*		09 47 39.1			
ESK			MLR	MLR				
	comp=Z,230μm,20.0s							
ESK	**Eskdalemuir**	**168.53 330**	*e*PKPdf	PKPdf	09 42 30.7	-5.4		
ESK			*e*PP	**PP**	**09 47 39.1**	**+4.0**		
ESK			LR	LR				
	comp=Z,230μm,20.0s							
PGBU	**Glenifferbraes**	**168.55 334**	*e*P	PKPdf	09 42 29.9	-6.2		
PGBU			*e*		09 47 36.6			
MTLF	**Montolieu**	**168.61 263**	*e*PKIKP	**PKPdf**	**09 42 35.4**	**-1.2**		
	comp=Z,277nm,1.8s							
BGF	**Bois d'Agland**	**168.74 280**	*e*PKIKP	**PKPdf**	**09 42 35.6**	**-1.0**		
	comp=Z,545nm,1.5s							
HYF	**Humbligny**	**168.88 283**	*e*PKIKP	**PKPdf**	**09 42 35.4**	**-1.2**		
HPK	**Haverah Park**	**168.90 321**	*e*P	PKPdf	09 42 30.0	-6.4		
HPK			AMS	AMS	11 04 38.5			
	comp=Z,244μm,21.1s							
ELSH	**Elham, Standar**	**169.01 304**	*e*P	PKPdf	09 42 30.7	-5.9		
ELSH			AMS	AMS	11 02 18.6			
	comp=Z,246μm,21.1s							
KESW	**Keswick, Cumbr**	**169.06 327**	*e*P	PKPdf	09 42 30.6	-5.9		
KESW			AMS	AMS	10 56 55.6			
	comp=Z,165μm,26.3s							
CAF	**Calviac**	**169.11 271**	*e*PKIKP	**PKPdf**	**09 42 36.3**	**-0.6**		
	comp=Z,380nm,1.7s							
TCF	**Toulx Ste Croi**	**169.16 278**	*e*PKIKP	**PKPdf**	**09 42 35.8**	**-1.1**		
	comp=Z,346nm,1.7s							
GAL1	**Galloway**	**169.41 332**	*e*P	PKPdf	09 42 30.4	-6.2		
GAL1			AMS	AMS	11 06 53.6			
	comp=Z,203μm,19.0s							
RJF	**Les Rejaudoux**	**169.55 272**	*e*PKIKP	**PKPdf**	**09 42 36.2**	**-0.9**		
	comp=Z,503nm,1.9s							
HMNX	**Herstmonceux**	**169.59 304**	*e*P	PKPdf	09 42 31.0	-5.9		
STNC	**Stoke**	**169.74 319**	*e*P	PKPdf	09 42 31.0	-5.9		
STNC			*e*		09 47 49.6			
STNC			AMS	AMS	11 07 58.8			
	comp=Z,201μm,18.3s							
EPF	**Esparros**	**169.81 259**	*e*PKIKP	**PKPdf**	**09 42 36.7**	**-0.7**		
	comp=Z,521nm,1.6s							
LFF	**La Frestale**	**170.03 270**	*e*PKIKP	**PKPdf**	**09 42 36.8**	**-0.6**		
	comp=Z,482nm,1.6s							
WOL	**Wolverton**	**170.27 309**	AMS	AMS	11 02 27.1			
	comp=Z,236μm,20.6s							
FOEL	**Foel Wylfa**	**170.32 321**	*e*P	PKPdf	09 42 31.2	-6.1		
FOEL			AMS	AMS	11 04 50.9			
	comp=Z,236μm,20.0s							
ETSF	**Etsaut**	**170.37 257**	*e*PKIKP	**PKPdf**	**09 42 37.2**	**-0.6**		
	comp=Z,481nm,1.7s							
HLM1	**Long Mynd**	**170.42 318**	*e*P	PKPdf	09 42 31.2	-6.2		
WME	**Mynydd Eilian**	**170.42 325**	*e*P	PKPdf	09 42 31.9	-5.3		
SWN1	**Swindon**	**170.48 311**	*e*P	PKPdf	09 42 32.0	-5.4		
SWN1			AMS	AMS	11 00 55.9			
	comp=Z,220μm,22.4s							
PBDV	**Barranco-do-Ve**	**170.50 207**	PKP	**PKPdf**	**09 42 40.6**	**+2.6**		
PBDV	**Barranco-do-Ve**	**170.50 207**	*e*PP	PP	09 47 58.6	+14		
PBDV	**Barranco-do-Ve**	**170.50 207**	*e*SS	SS	10 09 03.6	+18		
WLF1	**Llynfaes**	**170.54 325**	*e*P	**PKPdf**	**09 42 32.2**	**-5.1**		
LDF	**La Druitiere**	**170.57 292**	*e*PKIKP	**PKPdf**	**09 42 35.7**	**-1.9**		
	comp=Z,498nm,1.7s							
PVAQ	**Vaqueiros**	**170.58 209**	*e*PKP	**PKPdf**	**09 42 40.6**	**+2.7**		
PVAQ	**Vaqueiros**	**170.58 209**	*e*PP	PP	09 48 00.5	+15		
PVAQ	**Vaqueiros**	**170.58 209**	*e*SS	SS	10 09 08.4	+23		
PVAQ	**Vaqueiros**	**170.58 209**	*e*LQ	LQ	10 34 14.4			
PVAQ			*e*LR	LR	10 42 56.6			
	comp=Z,319μm,18.0s							
PFVI	**Vila Bisbo**	**170.67 203**	PKP	**PKPdf**	**09 42 40.2**	**+2.2**		
PFVI	**Vila Bisbo**	**170.67 203**	*e*PP	PP	09 47 58.5	+13		
PFVI	**Vila Bisbo**	**170.67 203**	*e*SS	SS	10 09 02.7	+16		
ESDC	**Sonseca Array**	**170.75 232**	PKP	**PKPdf**	**09 42 36.8**	**-1.3**		
ESDC			PKPab	**PKPab**	**09 43 56.6**	**+0.5**		
ESDC			PP	PP	09 47 56.6	+10		
ESDC	**Sonseca Array**	**170.75 232**	PKP	**PKPdf**	**09 42 36.8**	**-1.3**		
	comp=Z,4.9nm,0.9s,baz=358,slow=1.2,SNR=11							
ESDC			PKPab	**PKPab**	**09 43 56.6**	**+0.5**		
	comp=Z,12nm,1.0s,baz=354,slow=1.3,SNR=2.5							
ESDC			PP	PP	09 47 56.6	+10		
	comp=Z,7.6nm,1.1s,baz=146,slow=6.3,SNR=4.2							
ESLA	**Sonseca Array**	**170.75 232**	*e*PKPdf	**PKPdf**	**09 42 36.6**	**-1.5**		
ESLA			*e*PKPab	PKPab	09 44 04.2	+8.0		
FLN	**La Foliniere**	**170.77 293**	*e*PKIKP	**PKPdf**	**09 42 36.4**	**-1.3**		
	comp=Z,523nm,1.7s							
FLN			*e*R					
	comp=Z,403μm,20.5s							
MORF	**Marmelete**	**170.78 204**	*e*PKP	**PKPdf**	**09 42 38.1**	**0.0**		
MORF	**Marmelete**	**170.78 204**	*e*PP	PP	09 47 58.2	+12		
MORF	**Marmelete**	**170.78 204**	*e*SS	SS	10 09 06.3	+19		
MORF	**Marmelete**	**170.78 204**	*e*PKIKP	**PKPdf**	**09 42 36.7**	**-1.4**		
MORF			*e*		09 47 45.9			
MORF			*e*S	**SKSdf**	**09 49 37.6**	**-2.6**		
MORF			*e*SS	**SS**	**10 08 50.2**	**+2.4**		
MFF	**Saint Martin d**	**170.80 280**	*e*PKIKP	**PKPdf**	**09 42 36.7**	**-1.1**		
	comp=Z,691nm,1.8s							
MCH1	**Michaelchurch**	**170.81 316**	*e*P	PKPdf	09 42 30.8	-6.7		
MCH1			*e*		09 47 53.7			
PAB	**San Pablo**	**170.86 230**	*e*PKIKP	**PKPdf**	**09 42 36.2**	**-1.9**		
PAB			*e*		09 43 57.3			
PAB	**San Pablo**	**170.86 230**	*e*PKPdf	**PKPdf**	**09 42 36.2**	**-1.9**		
PAB			*e*PKPab	**PKPab**	**09 43 57.3**	**+0.6**		
PAB			LR	LR				
	comp=Z,441μm,19.0s							
PCVE	**Castro Verde**	**170.89 208**	*e*PKP	**PKPdf**	**09 42 41.1**	**+3.0**		
PCVE	**Castro Verde**	**170.89 208**	*e*PP	PP	09 48 01.1	+14		
PCVE	**Castro Verde**	**170.89 208**	*e*SS	SS	10 09 01.7	+13		
SJPF	**Ste Jean**	**170.91 257**	*e*PKIKP	**PKPdf**	**09 42 37.6**	**-0.4**		
	comp=Z,795nm,1.8s							
PBAR	**Barrancos**	**171.02 214**	PKP	**PKPdf**	**09 42 40.4**	**+2.2**		
PBAR	**Barrancos**	**171.02 214**	*e*PP	PP	09 47 59.6	+12		
PBAR	**Barrancos**	**171.02 214**	*e*SS	SS	10 08 50.6	+0.2		
PTEO	**Sao Teotonio**	**171.02 204**	PKP	PKPdf	09 42 44.4	+6.2		
GRR	**Gorron**	**171.10 291**	*e*PKIKP	**PKPdf**	**09 42 36.7**	**-1.1**		
	comp=Z,621nm,1.8s							
MESJ	**Messejana**	**171.14 207**	*e*P	**PKPdf**	**09 42 37.0**	**-1.2**		
MESJ			*e*PP	**PP**	**09 47 47.9**	**-0.2**		
MESJ			*e*SS	SS	10 08 53.6	+2.3		
MESJ			AMS	AMS	11 00 36.1			
	comp=N,419μm,20.9s							
MESJ	**Messejana**	**171.14 207**	*e*P	**PKPdf**	**09 42 37.0**	**-1.2**		
MESJ	**Messejana**	**171.14 207**	*e*PKIKP	**PKPdf**	**09 42 37.1**	**-1.2**		
MESJ			*e*		09 47 47.9			
MESJ			*e*SS	SS	10 08 53.6	+2.3		
PNCL	**Nicolau / Gran**	**171.49 207**	*e*PKP	**PKPdf**	**09 42 41.1**	**+2.7**		
PNCL	**Nicolau / Gran**	**171.49 207**	*e*PP	PP	09 47 55.3	+5.5		
PNCL	**Nicolau / Gran**	**171.49 207**	*e*SS	SS	10 08 57.4	+2.7		
EVO	**Evora**	**171.69 210**	*e*PKIKP	**PKPdf**	**09 42 35.9**	**-2.6**		
	comp=N,438nm,1.3s							
EVO			*e*R					
	comp=N,611μm,18.8s							
EVO	**Evora**	**171.69 210**	PKP	**PKPdf**	**09 42 37.9**	**-0.6**		
EVO	**Evora**	**171.69 210**	*e*PP	PP	09 48 05.1	+14		
JSA	**Saint Aubin**	**171.71 298**	*e*P	PKPdf	09 42 32.5	-5.6		
PESTR	**Estremoz**	**171.83 214**	*e*PKP	**PKPdf**	**09 42 40.8**	**+2.2**		
PESTR	**Estremoz**	**171.83 214**	*e*PP	PP	09 48 05.2	+13		
PESTR	**Estremoz**	**171.83 214**	*e*SS	SS	10 09 00.2	+1.8		
HTL	**Hartland**	**172.16 314**	*e*P	PKPdf	09 42 32.4	-5.8		
HTL			AMS	AMS	11 01 38.2			
	comp=Z,170μm,22.4s							
PACT	**Alcochete**	**172.18 207**	PKP	**PKPdf**	**09 42 41.2**	**+2.5**		
PACT	**Alcochete**	**172.18 207**	*e*PP	PP	09 48 07.1	+14		
DYA	**Yadsworthy**	**172.19 310**	*e*P	PKPdf	09 42 32.0	-6.3		
SGMF	**Saint Gilles**	**172.23 292**	*e*PKIKP	**PKPdf**	**09 42 36.7**	**-1.7**		
	comp=Z,461nm,1.6s							
LIS	**Lisbon**	**172.23 205**	*e*P	**PKPdf**	**09 42 38.0**	**-0.7**		
LIS			*e*PP	**PP**	**09 47 53.2**	**-0.3**		
LIS			*e*SS	SS	10 09 05.2	+3.3		
LIS			AMS	AMS	10 59 28.1			
	comp=Z,397μm,18.1s							
LIS	**Lisbon**	**172.23 205**	*e*P	**PKPdf**	**09 42 38.0**	**-0.7**		
LIS	**Lisbon**	**172.23 205**	A	A	10 59 28.1			
	comp=Z,397μm,18.1s							
LIS	**Lisbon**	**172.23 205**	*e*PKIKP	**PKPdf**	**09 42 38.0**	**-0.7**		
LIS			*e*		09 47 53.2			
LIS			*e*SS	SS	10 09 05.2	+3.3		
PMRV	**Marv??o**	**172.23 217**	PKP	**PKPdf**	**09 42 41.1**	**+2.4**		
PMRV	**Marv??o**	**172.23 217**	*e*PP	PP	09 48 08.1	+14		
PMRV	**Marv??o**	**172.23 217**	*e*SS	SS	10 09 01.0	-1.4		
PMRV	**Marv??o**	**172.23 217**	*e*LQ	LQ	10 35 51.0			
PMRV	**Marv??o**	**172.23 217**	*e*LR	LR	10 46 26.8			
	comp=Z,349μm,20.0s							
PMTG	**Montargil**	**172.25 211**	*e*PKP	**PKPdf**	**09 42 40.8**	**+2.1**		
PMTG	**Montargil**	**172.25 211**	*e*PP	PP	09 47 59.2	+5.5		
PMTG	**Montargil**	**172.25 211**	*e*SS	SS	10 09 10.4	+8.1		
PMST	**Lisbon--Monsan**	**172.26 205**	PKP	**PKPdf**	**09 42 41.2**	**+2.5**		
PMST	**Lisbon--Monsan**	**172.26 205**	*e*PP	PP	09 48 00.1	+6.4		
PMAFR	**Mafra**	**172.49 205**	PKP	**PKPdf**	**09 42 41.0**	**+2.2**		
PMAFR	**Mafra**	**172.49 205**	*e*PP	PP	09 48 09.8	+15		
PMAFR	**Mafra**	**172.49 205**	*e*SS	SS	10 09 00.4	-4.1		
PCBR	**Castelo Branco**	**172.61 218**	PKP	**PKPdf**	**09 42 37.7**	**-1.1**		
PCBR	**Castelo Branco**	**172.61 218**	*e*PP	PP	09 48 08.9	+13		
ROSF	**Rostrenen**	**172.67 294**	*e*PKIKP	**PKPdf**	**09 42 37.0**	**-1.6**		
	comp=Z,274nm,1.6s							
QUIF	**Quistinic**	**172.71 290**	*e*PKIKP	**PKPdf**	**09 42 37.4**	**-1.2**		
	comp=Z,506nm,1.6s							
PTOM	**Tomar**	**172.80 212**	PKP	**PKPdf**	**09 42 38.8**	**-0.1**		
PTOM	**Tomar**	**172.80 212**	*e*PP	PP	09 48 11.4	+15		
MTE	**Manteigas**	**173.10 220**	PKP	**PKPdf**	**09 42 41.6**	**+2.5**		
MTE	**Manteigas**	**173.10 220**	*e*PP	PP	09 48 11.9	+14		
MTE	**Manteigas**	**173.10 220**	*e*SS	SS	10 09 16.6	+5.4		
MTE	**Manteigas**	**173.10 220**	*e*LQ	LQ	10 33 40.8			
MTE	**Manteigas**	**173.10 220**	*e*LR	LR	10 44 45.3			
	comp=Z,373μm,18.0s							
MTE	**Manteigas**	**173.10 220**	*e*PKPdf	**PKPdf**	**09 42 38.6**	**-0.5**		
MTE			*e*PP	PP	09 48 09.2	+11		
MTE			LR	LR				
	comp=Z,322μm,19.0s							
MVO	**Moncorvo**	**173.44 227**	PKP	**PKPdf**	**09 42 41.5**	**+2.3**		
MVO	**Moncorvo**	**173.44 227**	*e*PP	PP	09 48 14.3	+14		
MVO	**Moncorvo**	**173.44 227**	*e*SS	SS	10 09 20.8	+6.0		
MVO	**Moncorvo**	**173.44 227**	*e*LQ	LQ	10 34 11.1			
MVO	**Moncorvo**	**173.44 227**	*e*LR	LR	10 47 25.8			
	comp=Z,334μm,18.0s							
PVIS	**Viseu**	**173.51 220**	*e*PKP	**PKPdf**	**09 42 38.5**	**-0.8**		
PVIS	**Viseu**	**173.51 220**	*e*PP	PP	09 48 13.7	+13		
VAL	**Valentia**	**173.55 343**	*e*P	**PKPdf**	**09 42 36.5**	**-2.3**		
VAL			*e*PP	**PP**	**09 47 59.7**	**-0.2**		
VAL			*e*SS	SS	10 09 21.8	+7.3		
PBRG	**Braganca**	**173.74 232**	PKP	**PKPdf**	**09 42 41.0**	**+1.7**		
PBRG	**Braganca**	**173.74 232**	*e*PP	PP	09 48 16.3	+15		
PBRG	**Braganca**	**173.74 232**	*e*SS	SS	10 09 30.2	+12		
PVRL	**Vila Real**	**173.87 224**	PKP	PKPdf	09 42 46.5	+7.1		
PVRL	**Vila Real**	**173.87 224**	*e*PP	PP	09 48 17.4	+15		
POLO	**Lamas de Olo**	**173.98 224**	*e*PKP	**PKPdf**	**09 42 41.8**	**+2.3**		
POLO	**Lamas de Olo**	**173.98 224**	*e*PP	PP	09 48 17.0	+14		
POLO	**Lamas de Olo**	**173.98 224**	*e*SS	SS	10 09 37.8	+18		
PCAB	**Cabril**	**174.35 225**	PKP	PKPdf	09 42 46.3	+6.8		
PCAB	**Cabril**	**174.35 225**	*e*PP	PP	09 48 20.9	+17		
PGAV	**Gavieira, Arco**	**174.66 225**	*e*PKP	**PKPdf**	**09 42 42.2**	**+2.5**		
PGAV	**Gavieira, Arco**	**174.66 225**	*e*PP	PP	09 48 20.3	+14		
PGAV	**Gavieira, Arco**	**174.66 225**	*e*SS	SS	10 09 59.5	-27		
PGAV	**Gavieira, Arco**	**174.66 225**	*e*LQ	LQ	10 34 10.5			
PGAV	**Gavieira, Arco**	**174.66 225**	*e*LR	LR	10 47 00.2			
	comp=Z,297μm,24.0s							

WEL 15 09:25:20.2±1.0, 46°02S×166°19E, h12km, ML5.7/6, Error ellipse: s-maj=8.4km s-min=3.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.38**	**114**	P*	Pg	09 25 27.9	+0.1
PYZ				S*	Sg	09 25 33.5	+0.7
PYZ				S*	Sb	09 25 33.7	-1.0
DCZ	**Deep Cove**	**0.87**	**52**	P*	Pg	09 25 36.1	-0.9
DCZ				S*	Sg	09 25 47.3	-0.9
DCZ				S*	Sb	09 25 48.1	-0.6
WHZ	**Wether Hill Ro**	**1.23**	**85**	S*	Sb	09 25 57.5	-1.9
WHZ				AML	AML	09 25 59.8	
APZ	**The Paps**	**1.49**	**124**	SN	Sn	09 26 03.1	-3.2
MLZ	**Mavora Lakes**	**1.54**	**65**	PN	Pn	09 25 47.6	-0.1
MLZ				SN	Sn	09 26 07.0	-0.7
MLZ				SN	Sb	09 26 07.9	-0.5
MSZ	**Milford Sound**	**1.82**	**43**	SN	Sg	09 26 20.3	+1.5
MSZ				AML	AML	09 26 29.2	
SYZ	**Scrubby Hill**	**2.11**	**105**	SN	Sn	09 26 19.6	-1.9
TUZ	**Tuapeka**	**2.40**	**90**	SN	Sn	09 26 28.2	-0.5
TUZ				AML	AML	09 26 31.5	
ODZ	**Otahua Downs**	**3.28**	**74**	AML	AML	09 27 09.0	

WEL 15 09:26:17.0±1.2, 45°80S×166°37E, h12km, ML5.4/6, Error ellipse: s-maj=11.4km s-min=3.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.43**	**150**	*e*P*	Pg	09 26 23.8	-1.7
PYZ				S*	Sg	09 26 31.1	-0.2
PYZ				S*	Sb	09 26 31.5	-1.5
DCZ	**Deep Cove**	**0.64**	**60**	P*	Pg	09 26 29.2	-0.2
DCZ				S*	Sg	09 26 35.9	-1.8
DCZ				AML	AML	09 26 37.4	
WHZ	**Wether Hill Ro**	**1.10**	**96**	P*	Pn	09 26 38.8	+0.5
WHZ				S*	Sb	09 26 52.4	-0.1
WHZ				AML	AML	09 26 56.1	
MLZ	**Mavora Lakes**	**1.34**	**71**	*e*PN	Pn	09 26 40.6	-1.1
MLZ				SN	Sb	09 26 55.9	-3.5
MLZ				AML	AML	09 26 58.2	
APZ	**The Paps**	**1.53**	**133**	*e*PN	Pn	09 26 44.0	-0.2
APZ				SN	Sn	09 27 04.2	+0.2
APZ				SN	Sb	09 27 04.4	-0.2
MSZ	**Milford Sound**	**1.57**	**45**	*e*PN	Pb	09 26 45.6	-0.4
MSZ				SN	Sb	09 27 56.7	+0.8
MSZ				AML	AML	09 27 10.8	
EAZ	**Earnscleugh**	**2.14**	**76**	AML	AML	09 27 23.9	
EAZ				AML	AML	09 27 25.3	
TUZ	**Tuapeka**	**2.28**	**95**	SN	Sn	09 27 23.4	+0.9
TUZ				AML	AML	09 27 26.1	

WEL 15 09:26:50.6±1.2, 45°80S×166°37E, h12km, ML5.3/5, Error ellipse: s-maj=11.2km s-min=2.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.43**	**150**	P*	Pb	09 26 59.9	-0.3
PYZ				S*	Sg	09 27 04.6	-0.3
PYZ				S*	Sb	09 27 04.7	-1.9
DCZ	**Deep Cove**	**0.63**	**60**	P*	Pg	09 27 02.0	-0.9
DCZ				S*	Sb	09 27 12.6	+0.2
DCZ				S*	Sg	09 27 12.9	+1.6
MLZ	**Mavora Lakes**	**1.34**	**71**	*e*PN	Pn	09 27 13.7	-1.5
MLZ				SN	Sb	09 27 29.3	-3.7
MLZ				AML	AML	09 27 33.4	
APZ	**The Paps**	**1.53**	**133**	*e*PN	Pg	09 27 21.4	+1.3
APZ				SN	Sn	09 27 35.4	-2.2
MSZ	**Milford Sound**	**1.57**	**45**	AML	AML	09 27 50.1	
MSZ				AML	AML	09 27 50.5	
SYZ	**Scrubby Hill**	**2.06**	**112**	SN	Sn	09 27 51.1	+0.4
EAZ	**Earnscleugh**	**2.14**	**76**	SN	Sn	09 27 53.2	+0.5
EAZ				AML	AML	09 27 57.1	
TUZ	**Tuapeka**	**2.28**	**95**	SN	Sb	09 27 58.5	-1.4
TUZ				AML	AML	09 28 02.1	

WEL 15 09:27:45.7±0.4, 46°01S×166°76E, h12km, ML5.3/6, Error ellipse: s-maj=6.7km s-min=2.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.17**	**198**	*e*PG	Pg	09 27 49.1	-0.6
PYZ				SG	Sg	09 27 53.2	+0.8
PYZ				SG		09 27 53.6	
DCZ	**Deep Cove**	**0.60**	**28**	*e*P*	Pg	09 27 57.0	-0.3
DCZ				S*	Sg	09 28 04.9	-0.3
DCZ				S*	Sb	09 28 05.5	-0.9
APZ	**The Paps**	**1.19**	**135**	S*	Sb	09 28 22.0	-1.7
MLZ	**Mavora Lakes**	**1.19**	**57**	P*	Pn	09 28 07.7	-0.5
MLZ				S*	Sb	09 28 21.9	-1.8
MLZ				AML	AML	09 28 31.0	
MSZ	**Milford Sound**	**1.57**	**32**	*e*PN	Pn	09 28 14.0	+0.6
MSZ				AML	AML	09 28 51.3	
MSZ				AML	AML	09 28 53.1	
EAZ	**Earnscleugh**	**1.95**	**68**	AML	AML	09 28 50.6	
EAZ				AML	AML	09 28 51.3	
TUZ	**Tuapeka**	**2.01**	**90**	AML	AML	09 28 50.3	
TUZ				AML	AML	09 28 52.5	
ODZ	**Otahua Downs**	**2.90**	**72**	AML	AML	09 29 28.2	
ODZ				AML	AML	09 29 32.7	

WEL 15 09:29:07.0±0.6, 45°82S×166°80E, h12km, ML5.3/10, 1D, Error ellipse: s-maj=8.5km s-min=3.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.36**	**194**	P*	Pg	09 29 13.0	-1.3
PYZ				S*	Sg	09 29 18.6	-0.5
PYZ				S*	Sb	09 29 19.0	-2.0
DCZ	**Deep Cove**	**0.42**	**36**	↓P*	Pb	09 29 16.1	-0.3
DCZ				S*	Sg	09 29 20.0	-1.0
DCZ				S*	Sb	09 29 20.0	-2.7
WHZ	**Wether Hill Ro**	**0.80**	**96**	S*	Sn	09 29 38.4	+2.2
WHZ				S*	Sb	09 29 38.8	+5.0
MLZ	**Mavora Lakes**	**1.07**	**64**	*e*P*	Pb	09 29 26.8	-0.8
MLZ				S*	Sb	09 29 39.2	-2.4
MLZ				S*	Sg	09 29 39.5	-2.3
MSZ	**Milford Sound**	**1.40**	**35**	*e*PN	Pn	09 29 32.5	+0.1
MSZ				SN	Sn	09 29 47.4	-3.3
MSZ				SN	Sb	09 29 47.6	-3.1
SYZ	**Scrubby Hill**	**1.78**	**115**	*e*PN	Pn	09 29 33.6	-3.9
EAZ	**Earnscleugh**	**1.86**	**72**	*e*PN	Pb	09 29 40.6	-0.3
EAZ				SN	Sn	09 30 00.6	-1.4
EAZ				AML	AML	09 30 08.6	
TUZ	**Tuapeka**	**1.98**	**95**	PN	Pb	09 29 43.9	+0.9
TUZ				SN	Sg	09 30 09.5	-1.2
TUZ				AML	AML	09 30 12.8	
LBZ	**Lake Benmore**	**2.79**	**60**	AML	AML	09 30 27.5	
LBZ				AML	AML	09 30 30.3	
ODZ	**Otahua Downs**	**2.81**	**75**	*e*PN	Pn	09 29 53.1	+1.2
ODZ				SN	Sn	09 30 27.4	+1.7
ODZ				AML	AML	09 30 30.0	
FOZ	**Fox Glacier**	**3.05**	**43**	*e*PN	Pg	09 30 04.3	-1.2
FOZ				AML	AML	09 30 44.1	
FOZ				AML	AML	09 30 45.6	
RPZ	**Rata Peaks**	**3.69**	**57**	AML	AML	09 30 48.9	
RPZ				AML	AML	09 30 50.5	

WEL 15 09:29:53.7±0.8, 45°76S×166°60E, h12km, ML4.8/3, 1C, Error ellipse: s-maj=8.6km s-min=3.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.41**	**172**	↑P*	Pg	09 30 01.4	-0.4
PYZ				S*	Sg	09 30 08.1	+0.8
PYZ				S*	Sb	09 30 08.2	-1.0
DCZ	**Deep Cove**	**0.48**	**54**	P*	Pb	09 30 04.5	+0.4
DCZ				S*	Sg	09 30 09.8	+0.2
DCZ				S*	Sb	09 30 09.9	-1.2
MLZ	**Mavora Lakes**	**1.18**	**70**	*e*P*	Pn	09 30 13.4	-2.7
MLZ				S*	Sb	09 30 28.9	-2.6
MLZ				AML	AML	09 30 32.6	
MSZ	**Milford Sound**

LVA	**Lava Point**	**1.23**	**290**	P		Pb	09 36 54.7	-2.2
AKRB	**Akutan Reef Bi**	**1.24**	**288**	P		Pn	09 36 54.8	-2.3
AKRB				S		Sb	09 37 12.6	-0.6
MTBL	**Makushin Table**	**1.56**	**279**	P		Pn	09 36 59.4	-2.2
MREP	**Makushin Rep't**	**1.59**	**273**	P		Pn	09 36 59.9	-2.0
MCIR	**Makushin Cirqu**	**1.68**	**278**	P		Pn	09 37 01.1	-2.1
MSOM	**Makushin Julie**	**1.71**	**273**	P		Pn	09 37 01.2	-2.2
OKTU	**Okmok Mt. Tuli**	**2.40**	**263**	P		Pn	09 37 11.4	-1.5
OKSP	**Okmok Steeple**	**2.57**	**260**	P		Pn	09 37 14.4	-1.0
SDPT	**Sand Point**	**2.63**	**51**	P		Pn	09 37 14.9	-1.2
NIKH	**Nikolski High**	**2.97**	**257**	P		Pn	09 37 18.6	-2.2

*IDC **15** 09:37:09.6±1.1,53.38N×164.08W,h0km,mb4.2/9, mb1 4.4/12,mb1mx4.3/31,mbtmp4.3/12,ML3.8/3,Error ellipse: s-maj=31.8km s-min=15.0km az=170.0*

*ISCJB **15** 09:37:12.6±0.6,53.52N±0.06×163.97W±0.05,h26km, mb4.2/9,Error ellipse: s-maj=9.6km s-min=4.0km az=164.6*

*NEIC **15** 09:37:15.7,53.69N×164.08W,h12km,ML4.0(AEIC),After AEIC.*

ISC 15 09:37:14.5±0.8,53.62N±0.09×164.08W±0.05,h26km,n37, σ1§25/40,mb4.2/9,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.91**	**341**	P	**Pn**	**09 37 30.9**	**-0.7**
AKSA	**Akutan Strait**	**1.09**	**299**	P	**Pb**	**09 37 34.1**	**-0.6**
AKUT	**Akutan**	**1.13**	**298**	P	**Pb**	**09 37 34.6**	**-0.7**
AKUT				S	**Sb**	**09 37 50.2**	**+0.7**
ZRO	**Akutan Zero**	**1.22**	**294**	P	**Pb**	**09 37 36.2**	**-0.7**
HSB	**Akutan Spr's B**	**1.23**	**299**	P	**Pb**	**09 37 35.9**	**-1.1**
AKLV	**Akutan Long Va**	**1.24**	**297**	P	**Pb**	**09 37 36.3**	**-0.9**
AKLV				S	**Sb**	**09 37 52.1**	**-0.7**
LVA	**Lava Point**	**1.28**	**296**	P	**Pb**	**09 37 36.7**	**-1.2**
AKRB	**Akutan Reef Bi**	**1.29**	**294**	P	**Pb**	**09 37 36.7**	**-1.3**
FALS	**False Pass**	**1.30**	**17**	P	**Pn**	**09 37 36.5**	**-0.4**
FALS				S	**Sn**	**09 37 53.2**	**-0.2**
MGOD	**Makushin Gods**	**1.67**	**277**	P	**Pb**	**09 37 43.3**	**-1.3**
MSOM	**Makushin Julie**	**1.72**	**278**	P	**Pb**	**09 37 44.2**	**-1.1**
OKFG	**Magazine Ridge**	**2.30**	**266**	P	**Pn**	**09 37 51.4**	**+0.7**
SDPT	**Sand Point**	**2.73**	**49**	P	**Pn**	**09 37 57.3**	**+0.8**
SDPT				S	**Sn**	**09 38 29.5**	**+0.9**
VNWF	**Veniaminof 8**	**3.64**	**44**	P	**Pn**	**09 38 10.2**	**+1.0**
VNHG	**Veniaminof 1**	**3.85**	**45**	P	**Pn**	**09 38 13.4**	**+1.3**
CHGN	**Chignik**	**4.23**	**48**	*e*Pn	**Pn**	**09 38 17.6**	**+0.4**
ANPB	**Aniakchak Plen**	**4.61**	**44**	P	**Pn**	**09 38 24.0**	**+1.6**
SPIA	**Saint Paul Isl**	**5.01**	**318**	P	**Pn**	**09 38 29.1**	**+1.3**
OHAK	**Old Harbor** 48nm,0.9s	**7.12**	**55**	*e*Pn	**Pn**	**09 38 57.4**	**+0.5**
OHAK				Sn	Sn	09 40 25.8	+9.0
KDAK	**Kodiak Island**	**7.72**	**53**	Pn	**Pn**	**09 39 03.6**	**-1.4**
KDAK				Sn	Sn	09 40 25.0	-6.5
KDAK	**Kodiak Island** 2.2nm,0.3s,baz=233,slow=8.4,SNR=13	**7.72**	**53**	Pn	**Pn**	**09 39 03.6**	**-1.4**
KDAK				Sn	Sn	09 40 25.0	-6.5
RSO	**Redoubt South** 59nm,0.8s	**9.22**	**37**	*e*Pn	Pn	09 39 34.4	+8.6
RSO				*e*Sn	Sn	09 41 21.1	+13
AMKA	**Amchitka**	**10.38**	**264**	*e*Pn	Pn	09 39 43.7	+2.2
AMKA				*e*Sn	**Sn**	**09 41 41.4**	**+4.6**
FX1	**Attu Island--F**	**13.64**	**276**	Pn	P	09 40 29.9	-4.6
FX1	**Attu Island--F** 1.1nm,0.3s,baz=84,slow=9.2,SNR=5.1	**13.64**	**276**	Pn	P	09 40 29.9	-4.6
ILAR	**Eielson Array**	**14.17**	**31**	Pn	**Pn**	**09 40 34.1**	**+1.0**
ILAR	**Eielson Array** 0.2nm,0.3s,baz=212,slow=13,SNR=4.7	**14.17**	**31**	Pn	**Pn**	**09 40 34.1**	**+1.0**
PETK	**Petropavlovsk-** 4.8nm,0.4s,baz=91,slow=12,SNR=14	**22.64**	**284**	P	**P**	**09 42 13.1**	**-0.1**
MJAR	**Matsushiro Arr** 4.3nm,1.0s,baz=42,slow=7.5,SNR=4.8	**42.91**	**271**	P	**P**	**09 45 08.6**	**-2.1**
KSRS	**Korea Array** 1.9nm,0.7s,baz=50,slow=6.5,SNR=4.7	**48.40**	**279**	P	**P**	**09 45 52.5**	**-1.4**
TXAR	**Lajitas Array** 1.6nm,0.7s,baz=320,slow=4.0,SNR=6.9	**49.59**	**94**	P	**P**	**09 46 01.9**	**-1.5**
TXAR				PcP	**PcP**	**09 47 24.9**	**+0.2**
SONM	**Songino Array** 0.8nm,0.5s,baz=28,slow=7.5,SNR=3.4	**53.36**	**303**	P	**P**	**09 46 31.3**	**-0.1**
SONM				PcP	**PcP**	**09 47 39.5**	**+0.9**
ZALV	**Zalesovo Beam** 3.0nm,0.8s,baz=78,slow=1.1,SNR=3.7	**58.60**	**320**	P	**P**	**09 47 08.6**	**0.0**
BVAR	**Borovoye Array** 5.9nm,0.8s,baz=40,slow=4.7,SNR=3.9	**64.47**	**327**	P	**P**	**09 47 48.3**	**0.0**
MKAR	**Makanchi Array** 1.3nm,0.6s,baz=45,slow=7.3,SNR=6.1	**65.20**	**316**	P	**P**	**09 47 52.5**	**-0.7**
BRTR	**Keskin Array B** 1.7nm,0.5s,baz=1.3,slow=3.6,SNR=4.6	**85.78**	**346**	P	**P**	**09 49 51.9**	**+0.5**
LBTB	**Lobatse** 5.2nm,0.8s,baz=143,slow=1.6,SNR=5.2	**150.53**	**342**	PKPbc	**PKPbc**	**09 57 03.8**	**+0.1**

*IDC **15** 09:38:18.3±1.1,40.14S×173.44E,h140km±11km,mb4.2/5, mb1 4.3/7,mb1mx4.0/17,mbtmp4.2/7,Error ellipse: s-maj=20.5km s-min=9.2km az=127.0*

*ISCJB **15** 09:38:20.5±0.3,40.19S±0.03×173.54E±0.06,h176km±4km, mb4.3/5, Error ellipse: s-maj=7.5km s-min=4.2km az=23.2*

*NEIC **15** 09:38:22.9,40.18S×173.60E,h163km,MG5.4(WEL), After WEL.*

NEIC Felt throughout the southern part of the North Island.

*WEL **15** 09:38:22.2±0.3,40.18S×173.55E,h167km±2km,ML5.5/19, Error ellipse: s-maj=1.7km s-min=0.8km az=90.0,MM 5.*

WEL Felt between Taranaki, West Coast and Wairarapa, maximum reported intensity.

ISC 15 09:38:21.3±0.7,40.22S±0.04×173.53E±0.05,h175km±5km, n127,σ1§53/139,mb4.1/5,8C-23D,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.66**	**153**	Pn	**Pn**	**09 38 46.5**	**+0.2**
DUWZ				Sn	**Sn**	**09 39 04.4**	**-1.2**
DUWZ	**D'Urville Isla**	**0.66**	**153**	PN	**Pn**	**09 38 46.5**	**+0.2**
DUWZ				SN	**Sn**	**09 39 04.4**	**-1.2**
NMEZ	**Namu Road**	**0.85**	**18**	PN	**Pn**	**09 38 47.3**	**-0.1**
QRZ	**Quartz Range**	**0.98**	**231**	⇓PN	**Pn**	**09 38 48.0**	**-0.3**
KHEZ	**Kahui Hut**	**0.99**	**22**	⇓PN	**Pn**	**09 38 48.3**	**-0.3**
NNZ	**Nelson**	**1.01**	**187**	PN	**Pn**	**09 38 48.4**	**-0.1**
TCW	**Tory Channel**	**1.14**	**151**	PN	**Pn**	**09 38 50.3**	**+0.7**
TCW				AML	AML	09 39 11.2	
TCW				AML	AML	09 39 12.6	
DREZ	**Durham Road**	**1.15**	**27**	Pn	**Pn**	**09 38 49.5**	**-0.2**
DREZ				Sn	Sn	**09 39 10.5**	**-1.0**
DREZ	**Durham Road**	**1.15**	**27**	PN	**Pn**	**09 38 49.5**	**-0.2**
DREZ				SN	**Sn**	**09 39 10.5**	**-1.0**
WAZ	**Wanganui**	**1.21**	**68**	Pn	**Pn**	**09 38 50.6**	**+0.5**
WAZ	**Wanganui**	**1.21**	**68**	⇓PN	**Pn**	**09 38 50.6**	**+0.5**
KIW	**Kapiti Island**	**1.23**	**122**	Pn	**Pn**	**09 38 50.7**	**+0.4**
KIW				Sn	**Sn**	**09 39 10.7**	**-2.1**
KIW	**Kapiti Island**	**1.23**	**122**	PN	**Pn**	**09 38 50.7**	**+0.4**
KIW				SN	**Sn**	**09 39 10.7**	**-2.1**
KIW				AML	AML	09 39 11.9	
TUWZ	**Tuamarina**	**1.25**	**166**	Pn	**Pn**	**09 38 51.0**	**+0.6**
TUWZ	**Tuamarina**	**1.25**	**166**	PN	**Pn**	**09 38 51.0**	**+0.6**
TUWZ				AML	AML	09 38 52.1	
TUWZ				AML	AML	09 39 14.5	
MHEZ	**Mangahewa**	**1.29**	**28**	Pn	**Pn**	**09 38 50.8**	**-0.1**
MHEZ	**Mangahewa**	**1.29**	**28**	PN	**Pn**	**09 38 50.8**	**-0.1**
OGWZ	**Otaki Gorge**	**1.39**	**116**	Pn	**Pn**	**09 38 52.1**	**+0.5**
OGWZ	**Otaki Gorge**	**1.39**	**116**	PN	**Pn**	**09 38 52.1**	**+0.5**
SNZO	**South Karori**	**1.41**	**141**	Pn	**Pn**	**09 38 52.5**	**+0.6**
SNZO				*e*Sn	**Sn**	**09 39 13.4**	**-2.2**
SNZO	**South Karori**	**1.41**	**141**	PN	**Pn**	**09 38 52.5**	**+0.6**
SNZO				AML	AML	09 39 15.1	
SNZO				AML	AML	09 39 16.5	
SNZO				AML	AML	09 39 16.5	
SNZO				AML	AML	09 39 16.9	
WEL	**Wellington**	**1.42**	**139**	⇓PN	**Pn**	**09 38 52.5**	**+0.5**
VRZ	**Vera Road**	**1.44**	**41**	Pn	**Pn**	**09 38 51.6**	**-0.6**
VRZ	**Vera Road**	**1.44**	**41**	⇑PN	**Pn**	**09 38 51.6**	**-0.6**
CAW	**Cannon Point**	**1.47**	**128**	PN	**Pn**	**09 38 52.9**	**+0.5**
CAW				AML	AML	09 39 17.3	
CAW				AML	AML	09 39 17.3	
BSWZ	**Blackbirch Sta**	**1.52**	**170**	⇑PN	**Pn**	**09 38 53.7**	**+0.7**
BSWZ				AML	AML	09 39 19.8	
BSWZ				AML	AML	09 39 20.9	
BHW	**Baring Head**	**1.56**	**140**	PN	**Pn**	**09 38 53.7**	**+0.4**
BHW				AML	AML	09 39 18.2	
CMWZ	**Cape Campbell**	**1.61**	**162**	PN	**Pn**	**09 38 55.0**	**+1.1**
CMWZ				AML	AML	09 39 21.4	
CMWZ				AML	AML	09 39 25.8	
THZ	**Tophouse**	**1.62**	**197**	PN	**Pn**	**09 38 54.1**	**+0.1**
MRZ	**Mangatainoka R**	**1.62**	**107**	⇑PN	**Pn**	**09 38 54.3**	**+0.3**
MRZ				AML	AML	09 39 19.6	
HOWZ	**Holdsworth Sta**	**1.66**	**115**	PN	**Pn**	**09 38 54.6**	**+0.3**
PKVZ	**Pokaka**	**1.68**	**57**	PN	**Pn**	**09 38 54.2**	**-0.4**
MTVZ	**Mangateitei**	**1.71**	**62**	PN	**Pn**	**09 38 54.5**	**-0.4**
POWZ	**Post Office Ro**	**1.72**	**97**	PN	**Pn**	**09 38 55.1**	**+0.2**
MTW	**Mount Morrison**	**1.77**	**123**	⇑PN	**Pn**	**09 38 55.8**	**+0.4**
MTW				AML	AML	09 39 20.6	
MTW				AML	AML	09 39 21.5	
MSWZ	**Moikau Station**	**1.77**	**133**	⇑PN	**Pn**	**09 38 55.9**	**+0.4**
MSWZ				AML	AML	09 39 21.4	
MSWZ				AML	AML	09 39 24.0	
TRVZ	**Turoa**	**1.80**	**60**	PN	**Pn**	**09 38 55.6**	**-0.6**
WNVZ	**Wahianoa**	**1.82**	**62**	PN	**Pn**	**09 38 55.8**	**-0.4**
DRZ	**Dome Shelter**	**1.83**	**60**	PN	**Pn**	**09 38 56.1**	**-0.4**
FWVZ	**Far West T-bar**	**1.83**	**59**	⇑PN	**Pn**	**09 38 55.7**	**-0.7**
WHVZ	**Whangaehu Hut**	**1.84**	**60**	PN	**Pn**	**09 38 55.8**	**-0.7**
WPVZ	**Whakapapa**	**1.85**	**58**	PN	**Pn**	**09 38 55.9**	**-0.6**
TWVZ	**Taurewa**	**1.86**	**53**	⇓PN	**Pn**	**09 38 55.7**	**-0.9**
TSZ	**Takapari Road**	**1.87**	**86**	PN	**Pn**	**09 38 56.3**	**-0.3**
TSZ				AML	AML	09 39 24.8	
TSZ				AML	AML	09 39 25.3	
PLWZ	**Palliser**	**1.88**	**137**	PN	**Pn**	**09 38 56.9**	**+0.2**
TIWZ	**Tintock**	**1.88**	**108**	PN	**Pn**	**09 38 57.0**	**+0.3**
TUVZ	**Tukino**	**1.89**	**61**	PN	**Pn**	**09 38 56.5**	**-0.4**
MOVZ	**Moawhango**	**1.89**	**65**	⇓PN	**Pn**	**09 38 56.0**	**-0.8**
PRWZ	**Pori Road**	**1.89**	**101**	⇓PN	**Pn**	**09 38 57.3**	**+0.5**
NGZ	**Ngauruhoe**	**1.90**	**58**	⇓PN	**Pn**	**09 38 56.4**	**-0.7**
WTVZ	**West Tongariro**	**1.93**	**56**	⇓PN	**Pn**	**09 38 56.7**	**-0.7**
OTVZ	**Oturere**	**1.95**	**58**	⇓PN	**Pn**	**09 38 57.1**	**-0.5**
KRVZ	**Karewarewa**	**1.98**	**56**	⇓PN	**Pn**	**09 38 57.1**	**-0.7**
TMWZ	**Te Maipa**	**2.00**	**117**	PN	**Pn**	**09 38 58.3**	**+0.3**
DSZ	**Dennistoun Nort**	**2.01**	**220**	PN	**Pn**	**09 38 57.8**	**-0.3**
DVHZ	**Dannevirke**	**2.02**	**93**	⇓PN	**Pn**	**09 38 58.1**	**-0.1**
TRWZ	**Traveller**	**2.02**	**127**	PN	**Pn**	**09 38 58.6**	**+0.4**
TRWZ				AML	AML	09 39 25.7	
TRWZ				AML	AML	09 39 27.6	
PNHZ	**Pukenui**	**2.07**	**82**	⇓PN	**Pn**	**09 38 58.6**	**-0.2**
BHHZ	**Black Hill Sta**	**2.08**	**70**	PN	**Pn**	**09 38 57.8**	**-1.1**
KATZ	**Kakaramea**	**2.08**	**54**	PN	**Pn**	**09 38 58.4**	**-0.6**
BFZ	**Birch Farm**	**2.12**	**104**	⇑PN	**Pn**	**09 38 59.5**	**+0.2**
BFZ				AML	AML	09 39 27.1	
BFZ				AML	AML	09 39 30.3	
BFZ				AML	AML	09 39 30.3	
RITZ	**Rihia Road**	**2.18**	**56**	PN	**Pn**	**09 38 59.6**	**-0.4**
RATZ	**Rangitukua**	**2.19**	**53**	PN	**Pn**	**09 38 59.6**	**-0.6**
KHZ	**Kahutara**	**2.20**	**180**	*e*Pn	**Pn**	**09 39 00.5**	**+0.4**
KHZ				*e*Sn	**Sn**	**09 39 27.0**	**-3.4**
KHZ	**Kahutara**	**2.20**	**180**	AML	AML	09 39 00.3	
KHZ				⇓PN	**Pn**	**09 39 00.4**	**+0.3**
WPHZ	**Waipukurau**	**2.23**	**87**	PN	**Pn**	**09 39 00.3**	**-0.3**
ANWZ	**Angora Road**	**2.26**	**97**	⇓PN	**Pn**	**09 39 01.1**	**+0.3**
PRHZ	**Porangahau**	**2.38**	**92**	⇓PN	**Pn**	**09 39 02.2**	**0.0**
HATZ	**Hinemaiaia**	**2.38**	**57**	PN	**Pn**	**09 39 01.1**	**-1.2**
WHTZ	**Whakaora**	**2.43**	**51**	PN	**Pn**	**09 39 02.5**	**-0.4**
TLZ	**Tolley Road**	**2.44**	**40**	⇓PN	**Pn**	**09 39 02.0**	**-1.1**
BKZ	**Black Stump Fm**	**2.51**	**66**	⇓PN	**Pn**	**09 39 02.8**	**-1.1**
BKZ				AML	AML	09 39 57.3	
BKZ				AML	AML	09 42 40.9	
MCHZ	**McNeill Hill**	**2.56**	**73**	⇓PN	**Pn**	**09 39 04.1**	**-0.2**
PXZ	**Pawanui**	**2.56**	**87**	⇓PN	**Pn**	**09 39 04.0**	**-0.3**
PXZ				AML	AML	09 41 34.4	
PXZ				AML	AML	09 41 34.4	
KAHZ	**Kahuranaki**	**2.60**	**82**	⇓PN	**Pn**	**09 39 04.7**	**-0.3**
LTZ	**Lake Taylor**	**2.73**	**200**	PN	**Pn**	**09 39 06.0**	**-0.4**
NMHZ	**Naumai**	**2.76**	**67**	PN	**Pn**	**09 39 06.5**	**-0.4**
CKHZ	**Cape Kidnapper**	**2.78**	**80**	PN	**Pn**	**09 39 06.4**	**-0.6**
TOZ	**Tahuroa Road**	**2.92**	**32**	PN	**Pn**	**09 39 07.4**	**-1.3**
RAHZ	**Arahi**	**3.04**	**66**	PN	**Pn**	**09 39 09.1**	**-1.0**
OXZ	**Oxford**	**3.30**	**199**	PN	**Pn**	**09 39 11.8**	**-1.6**
MKAZ	**Moumakai**	**3.35**	**23**	⇑PN	**Pn**	**09 39 13.8**	**-0.2**
WTAZ	**Waiatarua**	**3.38**	**14**	PN	**Pn**	**09 39 13.5**	**-0.9**
URZ	**Urewera**	**3.40**	**56**	P	**Pn**	**09 39 12.5**	**-2.1**
URZ				S	**Sn**	**09 39 51.1**	**-5.0**
URZ	**Urewera** 75nm,0.3s,baz=247,slow=7.1,SNR=619	**3.40**	**56**	P	**Pn**	**09 39 12.5**	**-2.1**
URZ				S	**Sn**	**09 39 51.1**	**-5.0**
KNZ	**Kokohu** 111nm,0.3s,baz=44,slow=16,SNR=12	**3.41**	**71**	⇓PN	**Pn**	**09 39 13.3**	**-1.4**
KNZ				AML	AML	09 41 44.1	
CRLZ	**Canterbury Las**	**3.43**	**191**	PN	**Pn**	**09 39 13.5**	**-1.3**
KAAZ	**Kauri Point**	**3.51**	**16**	PN	**Pn**	**09 39 15.9**	**-0.2**
MQZ	**McQueen's Vall**	**3.55**	**190**	PN	**Pn**	**09 39 14.8**	**-1.6**
MTAZ	**Motutapu**	**3.59**	**18**	PN	**Pn**	**09 39 16.7**	**-0.3**
PRGZ	**Paritu Road**	**3.60**	**70**	PN	**Pn**	**09 39 15.8**	**-1.4**
MWZ	**Matawai**	**3.62**	**60**	PN	**Pn**	**09 39 15.2**	**-2.3**
MWZ				AML	AML	09 40 01.2	
MWZ				AML	AML	09 40 04.4	
ABAZ	**Army Bay**	**3.75**	**16**	PN	**Pn**	**09 39 18.9**	**-0.2**
KUZ	**Kuaotunu**	**3.87**	**27**	⇓PN	**Pn**	**09 39 20.0**	**-0.5**
RPZ	**Rata Peaks**	**3.96**	**207**	P	**Pn**	**09 39 19.9**	**-1.7**
RPZ				S	**Sn**	**09 40 03.5**	**-5.4**
RPZ	**Rata Peaks** 5.1nm,0.3s,baz=144,slow=8.7,SNR=2.9	**3.96**	**207**	P	**Pn**	**09 39 19.9**	**-1.7**
RPZ	100nm,0.3s,baz=20,slow=15,SNR=8.6			S	**Sn**	**09 40 03.5**	**-5.4**
RPZ	**Rata Peaks**	**3.96**	**207**	SN	**Sn**	**09 40 03.1**	**-5.7**
CNGZ	**Carnagh Station**	**4.01**	**66**	PN	**Pn**	**09 39 20.7**	**-1.7**
MXZ	**Matakaoa Point**	**4.57**	**56**	PN	**Pn**	**09 39 27.0**	**-2.5**
OUZ	**Omahuta**	**4.99**	**1**	*e*Pn	**Pn**	**09 39 35.9**	**+0.9**
ASAR	**Alice Springs**	**37.11**	**284**	P	**P**	**09 45 14.9**	**-0.1**
ASAR	**Alice Springs** 3.2nm,0.6s,baz=128,slow=7.2,SNR=9.7	**37.11**	**284**	P	**P**	**09 45 14.9**	**-0.1**
VNDA	**Vanda**	**37.73**	**184**	P	**P**	**09 45 21.0**	**+1.5**
VNDA	**Vanda** 2.1nm,0.7s,baz=41,slow=7.7,SNR=3.6	**37.73**	**184**	P	**P**	**09 45 21.0**	**+1.5**
FITZ	**Fitzroy Crossi**	**46.61**	**284**	P	**P**	**09 46 31.8**	**-0.1**
FITZ	**Fitzroy Crossi** 3.7nm,0.6s,baz=239,slow=20,SNR=4.5	**46.61**	**284**	P	**P**	**09 46 31.8**	**-0.1**
QSPA	**South Pole Qui**	**49.91**	**180**	P	**P**	**09 46 58.5**	**+1.8**
QSPA	**South Pole Qui** 36nm,0.8s,baz=38,slow=2.0,SNR=65	**49.91**	**180**	P	**P**	**09 46 58.5**	**+1.8**
KSRS	**Korea Array** 1.8nm,0.7s,baz=149,slow=5.1,SNR=4.9	**87.89**	**325**	P	**P**	**09 50 51.6**	**+1.0**
KSAR	**Wonju Array Be**	**87.90**	**325**	P	**P**	**09 50 51.6**	**+0.9**
TMUT	**Trail Mountain** 52nm,1.5s	**104.74**	**51**	*e*Pdif	**Pdif**	**09 52 03.4**	**-4.2**
MFID	**Camas Ranch** 34nm,1.1s	**104.80**	**45**	*e*Pdif	**Pdif**	**09 52 01.7**	**-5.8**
EIL	**Elat**	**144.74**	**266**	PKP	**PKPab**	**09 57 37.0**	**+0.5**
EIL	**Elat** 11nm,0.8s,baz=352,slow=2.4,SNR=9.0	**144.74**	**266**	PKP	**PKPab**	**09 57 37.0**	**+0.5**
ARCES	**ARCESS Array B**	**146.15**	**340**	PKPbc	**PKPdf**	**09 57 38.9**	**+0.5**
ARCES	**ARCESS Array B** 2.4nm,0.4s,baz=53,slow=2.2,SNR=12	**146.15**	**340**	PKPbc	**PKPdf**	**09 57 38.9**	**+0.5**
DBIC	**Dimbokro**	**146.57**	**183**	PKPbc	**PKPdf**	**09 57 42.1**	**+1.4**
DBIC	**Dimbokro** 7.9nm,1.0s,baz=168,slow=6.1,SNR=4.2	**146.57**	**183**	PKPbc	**PKPdf**	**09 57 42.1**	**+1.4**
BRTR	**Keskin Array B**	**149.44**	**282**	PKPbc	**PKPbc**	**09 57 51.5**	**+2.0**
BRTR	**Keskin Array B** 2.1nm,0.7s,baz=140,slow=6.0,SNR=3.9	**149.44**	**282**	PKPbc	**PKPbc**	**09 57 51.5**	**+2.0**
FINES	**FINESS Array B**	**150.95**	**328**	PKPbc	**PKPbc**	**09 57 51.1**	**-1.0**
FINES	**FINESS Array B** 1.2nm,0.4s,baz=57,slow=5.1,SNR=5.6	**150.95**	**328**	PKPbc	**PKPbc**	**09 57 51.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**152.10**	**197**	PKPbc	**PKPbc**	**09 57 57.2**	**+1.0**
TORD	**Torodi Ar. Bea** 0.9nm,0.7s,baz=167,slow=1.7,SNR=2.8	**152.10**	**197**	PKPbc	**PKPbc**	**09 57 57.2**	**+1.0**
NB2	**NORSAR Subarra** comp=Z,0.9nm,0.7s,baz=55,slow=1.2	**156.48**	**338**	PKPdf	**PKPab**	**09 58 23.1**	**-0.8**
NOA	**NORSAR Array B**	**156.48**	**338**	PKPab	**PKPab**	**09 58 23.5**	**-0.4**
NOA	**NORSAR Array B** 3.7nm,0.8s,baz=136,slow=4.0,SNR=7.0	**156.48**	**338**	PKPab	**PKPab**	**09 58 23.5**	**-0.4**
SCHQ	**Schefferville** 6.5nm,0.9s,baz=270,slow=3.0,SNR=5.4	**145.24**	**54**	PKPbc	PKPbc	09 59 33.8	-0.7
TORD	**Torodi Ar. Bea** 7.2nm,0.7s,baz=145,slow=2.3,SNR=11	**145.87**	**208**	PKPbc	PKPdf	09 59 37.2	+0.1
ARCES	**ARCESS Array B** 3.7nm,0.6s,baz=74,slow=1.8,SNR=5.8	**147.97**	**335**	PKPbc	PKPbc	09 59 42.7	+0.7
FINES	**FINESS Array B** 1.1nm,0.5s,baz=66,slow=4.7,SNR=3.3	**151.05**	**320**	PKPbc	PKPbc	09 59 48.6	-1.2

*IDC **15** 09:41:51.5±0.4,46.13S×166.25E,h0km,mb5.4/20, mb1 5.4/22,mb1mx5.3/26,mbtmp5.4/22,ML5.2/2,Error ellipse: s-maj=16.6km s-min=11.9km az=74.0*

*SZGRF **15** 09:41:52.7,46.96S×167.19E,h33km,Off west coast of South Island, New Zealand*

*WEL **15** 09:41:52.6±0.7,46.07S×165.75E,h33km,ML6.1/34,Error ellipse: s-maj=7.3km s-min=3.7km az=90.0*

WEL Felt from West Coast to Southland, maximum reported intensity MM 6.

*NEIC **15** 09:41:53.8,46.04S×165.94E,h12km,mb5.7/28, ML6.1(WEL),After WEL.*

NEIC Felt [III] at Timaru. Also felt at Ashburton, Christchurch, Dunedin, Gore, Invercargill, Queenstown and Tuatapere.

*BJI **15** 09:41:54.4,46.42S×164.99E,h16km,mB6.0/3,mb5.7/19*

*BKK **15** 09:41:55.5±0.8,46.5S±0.8°×16.6E±1.1°9,h10km,M7.1/24, mB7.8/4,mb6.7/24,Mw(mB)7.9/4*

*ISCJB **15** 09:41:55.6±0.7,46.08S±0.03×166.21E±0.04,h33km±5km, mb5.9/77,Error ellipse: s-maj=5.7km s-min=4.4km az=152.6*

*MOS **15** 09:41:56.1±1.3,46.12S×166.05E,h33km,mb5.8/17,Error ellipse: s-maj=19.5km s-min=9.6km az=92.2*

*AUST **15** 09:41:59.8,45.96S×166.47E,h60km*

*DJA **15** 09:42:01.0±2.7,46.5S±0.8°×16.6E±1.1°9,h54km±23km, M6.8/15,mB7.5/1,mb6.8/15,Mw(mB)7.6/1*

ISC 15 09:41:57.2±0.6,46.16S±0.04×166.17E±0.04,h34km±2km, n644,σ1§10/630,mb5.8/77,MS7.7/4,27C-20D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.36**	**92**	P*	**Pb**	**09 42 05.1**	**-0.7**
PYZ				S*	**Sb**	**09 42 10.6**	**-1.1**
PYZ	**Puysegur Point**	**0.36**	**92**	PN	**Pb**	**09 42 05.1**	**-0.7**
PYZ				SN	**Sn**	**09 42 13.5**	**+1.9**
DCZ	**Deep Cove**	**0.97**	**46**	P*	**Pn**	**09 42 12.5**	**-1.9**
DCZ				P*	Pb	09 42 12.6	-2.9
DCZ				S*	**Sn**	**09 42 26.1**	**-0.9**
DCZ				S*		09 42 27.8	
DCZ	**Deep Cove**	**0.97**	**46**	PN	**Pn**	**09 42 12.5**	**-1.9**
DCZ				SN	**Sn**	**09 42 26.1**	**-0.9**
DCZ				AML	AML	09 42 31.8	
DCZ				AML	AML	09 42 32.7	
DCZ				AML	AML	09 42 32.7	
APZ	**The Paps**	**1.43**	**119**	Pn	**Pn**	**09 42 20.4**	**-0.4**
APZ	**The Paps**	**1.43**	**119**	PN	**Pn**	**09 42 18.5**	**-2.3**
APZ				SN	**Sb**	**09 42 41.2**	**+0.1**
MLZ	**Mavora Lakes**	**1.62**	**61**	Pn	**Pn**	**09 42 22.9**	**-0.5**
MLZ				Sn	**Sb**	**09 42 47.7**	**+1.0**
MLZ				Sn	Sn	09 42 48.6	+5.4
MLZ	**Mavora Lakes**	**1.62**	**61**	*e*PN	Pn	09 42 19.7	-3.8
MLZ				SN	**Sb**	**09 42 47.7**	**+1.0**
MLZ				AML	AML	09 42 52.5	
MSZ	**Milford Sound**	**1.94**	**41**	P	**Pn**	**09 42 26.9**	**-0.8**
MSZ						09 42 57.4	
MSZ	**Milford Sound**	**1.94**	**41**	Pn	**Pn**	**09 42 26.9**	**-0.8**
MSZ				Sn	**Sb**	**09 42 57.4**	**+1.9**
MSZ	**Milford Sound**	**1.94**	**41**	PN	**Pn**	**09 42 26.9**	**-0.8**
MSZ				SN	**Sb**	**09 42 57.4**	**+1.9**
MSZ				AML	AML	09 43 06.3	
MSZ				AML	AML	09 43 09.8	
MSZ				AML	AML	09 43 09.8	
SYZ	**Scrubby Hill**	**2.09**	**102**	Pn	**Pn**	**09 42 28.7**	**-1.1**
SYZ				Sn	**Sn**	**09 42 57.4**	**+2.7**

DUWZ D'Urville Isla 7.77 49 *e*PN **Pn** **09 43 47.0 -0.9**
DUWZ AML AML 09 45 40.5
DUWZ AML AML 09 45 48.3
SNZO South Karori 7.85 55 *e*Pn **Pn** **09 43 48.7 -0.3**
SNZO South Karori 7.85 55 AML AML 09 47 02.9
SNZO AML AML 09 47 02.9
PLWZ Palliser 8.01 58 *e*PN **Pn** **09 43 51.5 +0.3**
PLWZ Palliser 8.01 58 *e*PN **Pn** **09 43 51.5 +0.3**
CAW Cannon Point 8.19 55 *e*PN **Pn** **09 43 52.9 -0.8**
CAW Cannon Point 8.19 55 *e*PN **Pn** **09 43 52.9 -0.8**
KIW Kapiti Island 8.27 53 *e*PN Pn 09 43 50.5 -4.2
KIW Kapiti Island 8.27 53 *e*PN Pn 09 43 50.5 -4.2
MTW Mount Morrison 8.41 57 *e*PN Pn 09 43 53.4 -3.3
MTW Mount Morrison 8.41 57 *e*PN Pn 09 43 53.3 -3.3
OGWZ Otaki Gorge 8.44 54 *e*PN **Pn** **09 43 56.8 -0.3**
OGWZ Otaki Gorge 8.44 54 *e*PN **Pn** **09 43 56.8 -0.3**
TMWZ Te Maipa 8.67 58 *e*PN **Pn** **09 43 59.3 -0.9**
TMWZ Te Maipa 8.67 58 *e*PN **Pn** **09 43 59.3 -0.9**
MRZ Mangatainoka R 8.78 55 *e*PN **Pn** **09 44 00.4 -1.3**
MRZ Mangatainoka R 8.78 55 *e*PN Pn 09 43 57.3 -4.4
MRZ AML AML 09 46 33.2
MRZ AML AML 09 46 33.2
NEZ North Egmont 9.02 43 *e*Pn Pn 09 44 01.4 -3.7
NEZ North Egmont 9.02 43 *e*PN Pn 09 44 01.4 -3.7
WAZ Wanganui 9.09 48 Pn **Pn** **09 44 08.8 +2.8**
WAZ Wanganui 9.09 48 AML AML 09 46 40.1
WAZ AML AML 09 46 40.2
BFZ Birch Farm 9.15 57 Pn **Pn** **09 44 05.0 -1.8**
BFZ Birch Farm 9.15 57 AML AML 09 46 43.0
BFZ AML AML 09 49 26.6
VRZ Vera Road 9.45 45 Pn **Pn** **09 44 11.4 +0.4**
VRZ Vera Road 9.45 45 AML AML 09 46 43.5
VRZ AML AML 09 49 27.2
MCQ Macquarie Isla 9.53 206 *e*P Pn 09 44 15.9 +4.0
MCQ Macquarie Isla 9.53 206 *e*PN Pn 09 44 15.9 +4.0
MCQ Macquarie Isla 9.53 206 P **Pn** **09 44 10.3 -1.6**
baz=9.8,SNR=7.5
PKVZ Pokaka 9.62 48 *e*Pn **Pn** **09 44 13.0 -0.4**
PKVZ Pokaka 9.62 48 *e*PN **Pn** **09 44 13.0 -0.4**
WNVZ Wahianoa 9.73 49 Pn Pn 09 44 18.7 +3.9
WNVZ Wahianoa 9.73 49 *e*PN Pn 09 44 18.7 +3.9
WPVZ Whakapapa 9.79 48 Pn **Pn** **09 44 18.0 +2.3**
WPVZ Whakapapa 9.79 48 *e*PN **Pn** **09 44 17.3 +1.6**
TUVZ Tukino 9.80 49 AML AML 09 47 33.8
NGZ Ngauruhoe 9.84 48 AML AML 09 46 50.7
NGZ AML AML 09 47 08.3
WTVZ West Tongariro 9.88 48 AML AML 09 47 26.0
OTVZ Oturere 9.88 48 AML AML 09 46 56.5
OTVZ AML AML 09 47 07.1
HIZ Hauiti 9.98 43 Pn **Pn** **09 44 18.3 +0.2**
HIZ Hauiti 9.98 43 *e*PN Pn 09 44 13.5 -4.6
HIZ AML AML 09 49 35.8
HIZ AML AML 09 49 35.8
RATZ Rangitukua 10.16 48 *e*PN **Pn** **09 44 21.0 +0.3**
RATZ Rangitukua 10.16 48 *e*PN **Pn** **09 44 21.0 +0.3**
BKZ Black Stump Fm 10.32 51 AML AML 09 47 02.4
BKZ AML AML 09 52 29.7
TLZ Tolley Road 10.46 45 *e*PN Pn 09 44 21.6 -3.2
KBAZ Karaka Road Bo 11.15 39 *e*PN **Pn** **09 44 33.6 -0.6**
WTAZ Waiatarua 11.16 37 *e*Pn **Pn** **09 44 33.6 -0.7**
WTAZ Waiatarua 11.16 37 *e*PN **Pn** **09 44 33.6 -0.7**
MKAZ Moumakai 11.26 40 *e*Pn Pn 09 44 32.8 -2.9
MKAZ Moumakai 11.26 40 *e*PN Pn 09 44 32.8 -2.9
MKAZ AML AML 09 46 50.3
MKAZ AML AML 09 52 29.9
URZ Urewera 11.31 50 *e*Pn **Pn** **09 44 35.6 -0.7**
URZ Sn Sn 09 46 35.0 -6.5
URZ Urewera 11.31 50 Pn **Pn** **09 44 34.2 -2.1**
7.9nm,0.3s,baz=344,slow=7.8,SNR=7.1
URZ Sn Sn 09 46 35.0 -6.5
2.6nm,0.3s,baz=165,slow=22,SNR=2.6
MTAZ Motutapu 11.42 38 *e*Pn Pn 09 44 34.4 -3.5
MTAZ Motutapu 11.42 38 *e*PN Pn 09 44 34.3 -3.5
ABAZ Army Bay 11.55 37 *e*PN Pn 09 44 35.7 -3.9
KUZ Kuaotunu 11.81 41 *e*Pn **Pn** **09 44 43.5 +0.2**
KUZ Kuaotunu 11.81 41 *e*PN **Pn** **09 44 40.7 -2.5**
KUZ AML AML 09 47 00.7
KUZ AML AML 09 47 13.9
WCZ Waipu Caves 11.92 34 Pn Pn 09 44 40.1 -4.6
WCZ Waipu Caves 11.92 34 *e*PN Pn 09 44 39.4 -5.3
OUZ Omahuta 12.29 30 *e*Pn Pn 09 44 45.2 -4.5
TAU Tasmania Unive 13.83 277 *e*P Pn 09 45 06.6 -4.1
TAU Tasmania Unive 13.83 277 *e*Pn Pn 09 45 06.6 -4.1
MILA Mila 15.62 300 S Sn 09 48 11.7 -15
baz=16,SNR=5.2
CNB Canberra Magne 16.68 305 P **P** **09 45 52.9 +2.5**
baz=17,SNR=4.8
TOO Toolangi 17.59 292 P **P** **09 46 01.4 +0.9**
baz=18,SNR=3.6
STKA Stephens Creek 23.70 298 P **P** **09 47 07.3 +1.4**
baz=24,SNR=3.5
NOUC Port Laguerre 24.00 0 *e*P **P** **09 47 10.1 +1.4**
EIDS Eidsvold 24.01 325 *e*P **P** **09 47 07.1 -1.7**
94nm,1.6s
EIDS Eidsvold 24.01 325 P **P** **09 47 09.5 +0.7**
baz=24,SNR=9.4
DZM Mont Dzumac 24.03 1 P **P** **09 47 09.0 -0.1**
DZM Mont Dzumac 24.03 1 P **P** **09 47 09.0 -0.1**
190nm,1.1s,baz=268,slow=23,SNR=16
RMQ Roma 24.03 319 P **P** **09 47 09.4 +0.4**
baz=24,SNR=4.2
CTA Charters Tower 30.71 321 P **P** **09 48 08.6 -0.4**
CTA Charters Tower 30.71 321 P **P** **09 48 08.6 -0.4**
21nm,0.9s,baz=158,slow=11,SNR=6.3
CTAO Charters Tower 30.71 321 *e*P **P** **09 48 08.8 -0.2**
CTAO Charters Tower 30.71 321 *e*P **P** **09 48 08.8 -0.2**
VNDA Vanda 31.52 182 *e*P **P** **09 48 16.3 +0.8**
12nm,1.0s
SBA Scott Base 31.81 180 *e*P **P** **09 48 19.8 +1.8**
SBA pmax pmax
comp=Z,19nm,0.7s
SBA Scott Base 31.81 180 *e*P **P** **09 48 19.8 +1.8**
comp=Z,19nm,0.7s
MTSU Mount Surprise 33.29 320 P **P** **09 48 32.6 +1.0**
baz=33,SNR=8.9
AS31 Alice Springs 34.32 300 *e*P **P** **09 48 38.5 -2.1**
AS31 *e*PcP **PcP** **09 51 15.7 -0.5**
ASAR Alice Springs 34.32 300 P **P** **09 48 39.4 -1.3**
ASAR PcP **PcP** **09 51 15.2 -1.0**
ASAR Alice Springs 34.32 300 P **P** **09 48 39.4 -1.3**
comp=Z,20nm,0.9s,baz=139,slow=8.9,SNR=31
ASAR PcP **PcP** **09 51 15.2 -1.0**
comp=Z,9.1nm,0.8s,baz=128,slow=3.3,SNR=7.2
CASY Casey 35.29 215 *e*P **P** **09 48 48.2 -0.3**
comp=Z,129nm,1.4s
WRA Warramunga Arr 36.93 304 P **P** **09 49 01.5 -1.5**
WRA PcP **PcP** **09 51 23.6 -0.4**
WRA Warramunga Arr 36.93 304 P **P** **09 49 01.5 -1.5**
comp=Z,40nm,0.9s,baz=143,slow=8.5,SNR=0.4
WRA PcP **PcP** **09 51 23.6 -0.4**
comp=Z,11nm,1.0s,baz=139,slow=2.8,SNR=6.0
WRAB Tennant Creek 36.93 304 P **P** **09 49 01.0 -2.0**
comp=Z,415nm,0.8s,SNR=5.5
WRAB Tennant Creek 36.93 304 *e*P **P** **09 49 01.3 -1.7**
WRAB pmax pmax
comp=Z,52nm,0.8s
WRAB Tennant Creek 36.93 304 *e*P **P** **09 49 01.2 -1.7**
comp=Z,52nm,0.8s
HNR Honiara 36.98 350 *e*P **P** **09 49 03.9 +0.5**
comp=Z,565nm,1.1s
HNR Honiara 36.98 350 P **P** **09 49 03.9 +0.5**
comp=Z,362nm,1.0s,baz=172,slow=5.5,SNR=7.5
AFI Afiamalu 37.13 37 *e*P **P** **09 49 04.3 -0.5**
comp=Z,219nm,1.4s
COEN Coen 37.48 321 *e*P **P** **09 49 07.3 -0.4**
comp=Z,1μm,1.8s
COEN Coen 37.48 321 P **P** **09 49 07.7 0.0**
baz=38,SNR=20
KLBR Kellerberrin 39.78 274 P **P** **09 49 26.1 -0.7**
baz=40,SNR=11
PMG Port Moresby 40.08 330 P **P** **09 49 28.8 -0.5**
PMG Port Moresby 40.08 330 P **P** **09 49 30.8 +1.4**
comp=Z,7μm,1.0s
PMG Port Moresby 40.08 330 P **P** **09 49 28.8 -0.5**
comp=Z,237nm,0.9s,baz=156,slow=4.8,SNR=47
MEEK Meekatharra 42.23 281 P **P** **09 49 45.5 -1.6**
baz=42,SNR=7.5
MORW Morawa 42.47 276 P **P** **09 49 48.7 -0.3**
baz=43,SNR=4.7
KNRA Kununurra 43.54 302 P **P** **09 49 56.6 -1.1**
baz=44,SNR=14
FITZ Fitzroy Crossi 43.57 296 P **P** **09 49 57.0 -0.9**
FITZ PcP **PcP** **09 51 44.9 -0.3**
comp=Z,34nm,0.9s,baz=171,slow=5.5,SNR=7.0
FITZ Fitzroy Crossi 43.57 296 P **P** **09 49 56.9 -1.1**
baz=44,SNR=17
KDU Kakadu 43.84 309 P **P** **09 49 59.5 -0.7**
baz=44,SNR=14
QSPA South Pole Qui 43.97 180 P **P** **09 49 59.9 -0.9**
comp=Z,117nm,1.2s
QSPA South Pole Qui 43.97 180 P **P** **09 49 59.9 -0.9**
comp=Z,120nm,0.8s,baz=21,slow=3.0,SNR=73
MTN Manton Dam 44.45 307 P **P** **09 50 04.4 -0.6**
baz=44,SNR=13
MBWA Marble Bar 45.16 287 *e*P **P** **09 50 10.1 -0.6**
JAY Jayapura 48.83 325 P **P** **09 50 39.8 +0.5**
baz=49,SNR=13
SOEI Soe 50.88 302 P **P** **09 50 56.2 +1.2**
baz=51,SNR=4.3
SRPI Serui, Papua 51.29 320 P **P** 09 51 09.0 +11
comp=Z,11μm,5.0s
BAKI Biak 51.95 321 P **P** **09 51 04.0 +1.1**
comp=Z,17μm,1.2s
FAKI Fak Fak 52.23 315 P **P** **09 51 04.3 -0.7**
baz=52,SNR=8.9
MAW Mawson 52.93 208 P **P** **09 51 08.4 -1.1**
MAW PcP **PcP** **09 52 19.8 +1.7**
MAW Mawson 52.93 208 P **P** **09 51 08.4 -1.1**
comp=Z,22nm,1.0s,baz=117,slow=9.0,SNR=23
MAW PcP **PcP** **09 52 19.8 +1.7**
comp=Z,33nm,1.1s,baz=116,slow=8.6,SNR=6.3
NLAI Namlea 54.61 309 P **P** **09 51 22.5 0.0**
BBSI Bau Bau 55.29 303 P **P** **09 51 29.5 +2.1**
BBSI Bau Bau 55.29 303 P **P** **09 51 29.5 +2.1**
comp=Z,1μm,0.9s
BKSI Bulukumba 56.86 301 P **P** **09 51 38.5 -0.1**
comp=Z,9μm,2.7s
KHKI Kahang-Kahang 57.26 295 P **P** **09 51 42.4 +0.9**
comp=Z,8μm,0.8s
KHKI Kahang-Kahang 57.26 295 P **P** **09 51 42.4 +0.9**
KAPI Kappang 57.33 301 P **P** **09 51 42.3 +0.4**
comp=Z,725nm,1.1s,SNR=8.4
KAPI Kappang 57.33 301 *e*P **P** **09 51 41.6 -0.4**
comp=Z,173nm,1.1s
KAPI Kappang 57.33 301 P **P** **09 51 41.8 -0.1**
comp=Z,7μm,1.6s
SRBI Singaraja 57.72 295 P **P** **09 51 46.0 +1.3**
SRBI Singaraja 57.72 295 P **P** **09 51 46.0 +1.3**
SPSI Sidrap Palu 58.16 302 P **P** **09 51 47.5 -0.3**
BYJI Banyuwangi 58.17 294 P **P** **09 51 45.9 -1.9**
comp=Z,2μm,1.2s
SKSI Soroako, Sulaw 58.40 304 P **P** **09 51 50.0 +0.4**
GMJI Gumukmas 58.70 293 P **P** 09 52 04.1 +13
LUWI Luwuk 58.80 307 P **P** **09 51 54.2 +1.9**
BLJI Banyuglugur 59.01 293 P **P** **09 51 54.5 +0.8**
BLJI Banyuglugur 59.01 293 P **P** **09 51 54.5 +0.8**
comp=Z,3μm,0.9s
KMMI Kalianget 59.30 294 P **P** **09 51 57.7 +2.0**
comp=Z,2μm,0.9s
KMSI Cibinong 59.48 309 P **P** **09 51 57.5 +0.6**
PWJI Pagerwojo 59.95 292 P **P** **09 52 01.0 +0.8**
comp=Z,6μm,2.0s
PWJI Pagerwojo 59.95 292 P **P** **09 52 01.0 +0.8**
GTOI Gorontalo 60.06 308 P **P** **09 52 01.8 +0.9**
comp=Z,8μm,1.1s,comp=Z,427μmcomp=Z,33nm
SJI Sawahan 60.19 292 P **P** **09 52 02.9 +0.9**
comp=Z,5μm,0.8s
PCJI Pacitan 60.23 291 P **P** **09 52 03.6 +1.5**
MRSI Marisa 60.52 307 P **P** **09 52 03.1 -1.0**
WOJI Wonogiri, Jawa 60.66 291 P **P** **09 52 06.9 +1.8**
comp=Z,4μm,2.5s
BJII Banjamegara 61.83 290 P P 09 52 17.1 +4.0
comp=Z,6μm,0.9s
MAIT Maitri 61.92 189 *e*P P 09 52 02.0 -11
MAIT Maitri 61.92 189 *e*P P 09 52 01.5 -11
SNAA Sanae 62.22 184 *e*P **P** **09 52 15.0 +0.1**
SNAA Sanae 62.22 184 P **P** **09 52 14.8 -0.1**
comp=Z,7.7nm,1.4s
SNAA Sanae 62.22 184 P **P** **09 52 14.8 -0.1**
comp=Z,32nm,0.9s,baz=161,slow=6.6,SNR=95
TGJI Tegal 62.56 290 P **P** **09 52 19.7 +1.8**
comp=Z,2μm,1.1s,comp=Z,196μm
PMSA Palmer Station 62.68 158 *e*P **P** **09 52 18.8 +0.9**
comp=Z,130nm,1.5s
PMSA LR LR
comp=Z,515μm,19.0s
VNA1 Neumayer--Stat 63.43 182 *e*P **P** **09 52 23.2 +0.3**
LEM Lembang 63.58 289 P **P** **09 52 26.4 +1.6**
comp=Z,4μm,2.2s,comp=Z,278μm
LEM Lembang 63.58 289 P **P** **09 52 26.8 +2.0**
baz=64,SNR=3.7
DAV Davao City (W) 64.15 314 *e*P **P** **09 52 28.4 +0.1**
comp=Z,105nm,0.4s
DAV LR LR
comp=Z,275μm,20.0s
DBJI Dramaga 64.35 288 P **P** **09 52 30.3 +0.6**
comp=Z,324nm,0.9s,comp=Z,221μm
TSM Tawau 65.94 305 P **P** **09 52 40.8 +0.8**
MYLDM Lahad Datu 66.31 306 P **P** **09 52 44.5 +2.2**
MYLDM Lahad Datu 66.31 306 P **P** **09 52 44.3 +1.9**
comp=Z,5μm,4.4s
KLSI 67.07 288 P **P** **09 52 47.0 -0.3**
SDKM Sandakan 67.42 306 P **P** **09 52 49.5 0.0**
SBUM Sibu 67.78 299 P **P** **09 52 52.4 +0.7**
SBUM Sibu 67.78 299 P **P** **09 52 51.6 -0.1**
comp=Z,3μm,1.4s
KSM Kuching 68.18 297 *e*P **P** **09 52 53.8 -0.5**
comp=Z,97nm,1.1s
KSM Kuching 68.18 297 P **P** **09 52 54.7 +0.4**
KSM Kuching 68.18 297 P **P** **09 52 53.8 -0.5**
comp=Z,261nm,0.7s
KSM Kuching 68.18 297 P **P** **09 52 54.4 +0.1**
baz=68,SNR=18
KKM Kota Kinabalu 68.31 305 *e*P **P** **09 52 53.4 -1.7**
comp=Z,91nm,1.0s
KKM Kota Kinabalu 68.31 305 P **P** **09 52 55.6 +0.5**
comp=Z,4μm,2.9s
KKM Kota Kinabalu 68.31 305 P **P** **09 52 55.1 -0.1**
baz=68,SNR=6.1
PMBI Palembang 68.36 289 P P 09 52 48.0 -7.3
baz=68,SNR=4.9
KSI Sanahiang 69.25 287 P **P** **09 53 03.2 +2.1**
USHA Ushuaia 69.30 150 P **P** **09 53 00.6 0.0**
USHA Ushuaia 69.30 150 P **P** **09 53 00.6 0.0**
comp=Z,25nm,1.1s,baz=190,slow=7.6,SNR=4.5
MASI Maura Aman, Be 69.87 287 P **P** **09 53 05.8 +1.0**
TGY Tagaytay City 72.49 314 P **P** **09 53 20.0 -0.6**
TGY Tagaytay City 72.49 314 P **P** **09 53 20.0 -0.6**
comp=Z,136nm,0.3s,baz=211,slow=12,SNR=3.1
MYKOM Kota Tinggi 72.52 292 P **P** **09 53 21.0 +0.2**
MYKOM Kota Tinggi 72.52 292 P **P** **09 53 21.0 +0.2**
comp=Z,3μm,3.5s
KGM Kluang 73.03 292 P **P** **09 53 24.6 +0.8**
KIP Kipapa 74.69 34⇓ *e*P **P** **09 53 34.0 +0.8**
KIP pmax pmax
comp=Z,215nm,1.5s
EFI East Falkland 75.38 153 *e*P **P** **09 53 36.3 -0.7**
EFI pmax pmax
comp=Z,105nm,0.9s
EFI East Falkland 75.38 153 *e*P **P** **09 53 36.2 -0.7**
comp=Z,104nm,0.9s
IPM Ipoh 76.38 291 *e*P **P** **09 53 43.0 -0.3**
comp=Z,88nm,1.7s
IPM Ipoh 76.38 291 P **P** **09 53 43.9 +0.7**
comp=Z,2μm,4.2s
KULM Kulim 77.23 292 *e*P **P** **09 53 46.6 -1.4**
comp=Z,53nm,1.1s
KULM Kulim 77.23 292 P **P** **09 53 47.9 -0.1**
comp=Z,1μm,2.4s
PLCA Paso Flores 79.78 140 *e*P **P** **09 54 02.8 +0.9**
PLCA Paso Flores 79.78 140 P **P** **09 54 02.4 +0.5**
comp=Z,24nm,1.0s,baz=207,slow=4.7,SNR=12
TWG Pinlang 79.89 318 *e*P **P** **09 54 02.3 -0.1**
comp=Z,100nm,0.9s
YULB Yu-li 80.28 319 *e*P **P** **09 54 02.9 -1.6**
comp=Z,23nm,1.1s
SSLB Suanglung 80.78 319 *e*P **P** **09 54 06.0 -1.2**
comp=Z,18nm,0.8s
TATO Taipei 81.56 320 *e*P **P** **09 54 11.9 +0.6**
comp=Z,46nm,0.7s
UBPT Khong Chiam 81.95 302 P **P** **09 54 14.5 +1.0**
comp=Z,86nm,1.4s,comp=Z,48μm
UBPT Khong Chiam 81.95 302 P **P** **09 54 14.5 +1.0**
comp=Z,86nm,1.4s,comp=Z,48μm
QIZ Qiongzhong 82.44 307 P **P** **09 54 15.3 -0.7**
QIZ pmax pmax
comp=Z,51nm,1.2s
QIZ Qiongzhong 82.44 307 *e*P **P** **09 54 17.0 +1.0**
comp=Z,34nm,0.9s
QZH Quanzhou 82.87 318 P **P** **09 54 17.9 -0.2**
PHET Kaeng Krachan 83.67 296 P **P** **09 54 23.8 +1.3**
comp=Z,99nm,1.0s
PANO Nakornpanom 83.92 302 P **P** **09 54 24.4 +0.7**
comp=Z,584nm,1.9s,comp=Z,51μm
JNU Nakatsue 85.12 331 P **P** **09 54 29.8 +0.4**
JNU Nakatsue 85.12 331 P **P** **09 54 29.8 +0.4**
comp=Z,56nm,1.0s,baz=139,slow=3.0,SNR=13
TRQA Tornquist 85.69 144 *e*P **P** **09 54 33.1 +0.5**
comp=Z,60nm,1.4s
MJAR Matsushiro Arr 86.09 338 P **P** **09 54 34.1 -0.1**
MJAR Matsushiro Arr 86.09 338 P **P** **09 54 34.1 -0.1**
comp=Z,32nm,1.0s,baz=173,slow=6.0,SNR=31
MAJO Matsushiro 86.09 338 *e*P **P** **09 54 35.3 +1.2**
MAJO pmax pmax
comp=Z,125nm,1.3s
MAJO Matsushiro 86.09 338 *e*P **P** **09 54 35.3 +1.2**
comp=Z,125nm,1.3s
MAT Matsushiro 86.09 338 P **P** **09 54 34.5 +0.3**
CFAA Coronel Fontan 88.30 136 P **P** **09 54 45.2 -0.1**
CFAA Coronel Fontan 88.30 136 P **P** **09 54 45.2 -0.1**
comp=Z,1.8nm,0.9s,baz=234,slow=3.6,SNR=8.6
CMAR Chiang Mai Arr 88.33 299 P **P** **09 54 45.6 +0.2**
CMAR Chiang Mai Arr 88.33 299 P **P** **09 54 45.6 +0.2**
comp=Z,35nm,1.0s,baz=160,slow=3.5,SNR=35
CHTO Chiang Mai 88.60 299 *e*P **P** **09 54 47.1 +0.4**
CHTO pmax pmax
comp=Z,42nm,1.0s
CHTO Chiang Mai 88.60 299 *e*P **P** **09 54 47.1 +0.4**
comp=Z,42nm,1.0s
CHTO Chiang Mai 88.60 299 P **P** **09 54 47.4 +0.7**
CHTO Chiang Mai 88.60 299 P **P** **09 54 47.4 +0.7**
comp=Z,1μm,0.9s
NJ2 Nanjing 88.83 321 *e*P **P** **09 54 48.3 +0.9**
NJ2 pmax pmax
comp=Z,60nm,1.0s
WHN Wuhan 89.59 317⇓ *i*P **P** **09 54 52.4 +1.4**
WHN pmax pmax
comp=Z,210nm,1.0s
KSRS Korea Array 90.05 330 P **P** **09 54 54.2 +1.3**
comp=Z,13nm,1.1s,baz=145,slow=5.2,SNR=18
KSAR Wonju Array Be 90.05 330 P **P** **09 54 54.2 +1.2**
GYA Guiyang 90.14 309⇑ *i*P **P** **09 54 53.3 -0.6**
GYA PP **PP** **09 58 29.0 +1.0**
GYA SKS **SKSac** **10 05 22.3 0.0**
GYA S **S** **10 05 45.0 0.0**
GYA pmax pmax
comp=Z,40nm,1.0s
ERM Erimo 90.15 343⇑ *i*P **P** **09 54 55.4 +2.1**
ERM pmax pmax
comp=Z,119nm,1.7s
KMI Kunming 91.24 306 P **P** **09 54 58.8 -0.4**
KMI S **S** **10 05 56.6 +1.2**
KMI pmax pmax
comp=Z,53nm,0.7s
ENH Enshi 91.73 314 *e*P **P** **09 55 00.5 -0.6**
comp=Z,43nm,1.3s
ABPO Ambohimpanom 94.90 236 *e*P **P** **09 55 17.9 +1.6**
ABPO pmax pmax
comp=Z,68nm,1.6s
ABPO Ambohimpanom 94.90 236 *e*P **P** **09 55 17.9 +1.6**
comp=Z,68nm,1.6s
USRK Ussuriysk Arra 94.93 336 P **P** **09 55 15.5 +0.1**
comp=Z,1.8nm,0.7s,baz=318,slow=2.6,SNR=2.6
YSS Yuzh-Sakhalins 94.98 344 *e*P P 09 55 24.0 +8.5
XAN Xi'an 95.06 315 P **P** **09 55 17.0 +0.6**
XAN pP **pP** **09 55 26.3 -0.8**
CD2 Chengdu 95.21 310 P **P** **09 55 18.9 +1.8**
CD2 pP **pP** **09 55 30.0 +2.2**
CD2 PP **PP** **09 59 11.9 +4.1**
CD2 SKS **SKSac** **10 05 50.8 +0.6**
CD2 S **S** **10 06 29.3 -0.6**
CD2 pmax pmax
comp=Z,80nm,1.5s
OPO Ambohidratompo 95.27 236 P **P** **09 55 18.5 +0.5**
OPO Ambohidratompo 95.27 236 P **P** **09 55 18.5 +0.5**
comp=Z,2.7nm,0.8s,baz=143,slow=11,SNR=3.4
SUR Sutherland 95.78 209 P **P** **09 55 20.2 0.0**
SUR Sutherland 95.78 209 P **P** **09 55 20.2 0.0**
comp=Z,28nm,0.9s,baz=104,slow=2.1,SNR=7.4
MDJ Mudanjiang 96.00 335 P **P** **09 55 20.9 +0.6**
CN2 Changchun 96.57 332 *e*P P 09 55 26.6 +3.7
CN2 *e*pP pP 09 55 37.0 +3.4
CN2 *e*S **S** **10 06 42.6 +1.7**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
BJI Beijing 96.75 324 P **P** **09 55 22.0 -1.8**
BJI pmax pmax
comp=Z,10.0nm,0.8s
BOSA Boshof 97.58 214 P **P** **09 55 27.7 -0.6**
BOSA Boshof 97.58 214 P **P** **09 55 27.7 -0.6**
comp=Z,4.7nm,0.7s,baz=188,slow=7.1,SNR=5.5
LZH Lanzhou 99.21 313 *e*P **Pdif** **09 55 32.5 -2.7**
LZH PP **PP** **09 59 39.3 +0.6**
LZH SKS **SKSac** **10 06 09.1 -1.7**
LZH S **S** **10 07 00.8 -3.4**
LZH SS **SS** **10 13 54.6 +0.3**
LZH pmax pmax
comp=Z,36nm,1.3s
LZH pmax pmax
comp=Z,270nm,9.2s
HHC Hu-ho-hao-te 99.38 321 *e*P **Pdif** **09 55 37.8 +2.0**
HHC pP **pP** **09 55 47.1 +0.6**
HHC PP PP 09 59 45.1 +5.2
HHC S **S** **10 07 04.9 -0.4**
HHC pmax pmax
comp=Z,48nm,1.1s
MSEY Mahe Island 100.75 252 *e*PKKPbc PKKPbc 10 11 55.4 +1.7
LSA Lhasa 101.42 301 *e*P Pdif 09 55 33.5 -12
LSA Lhasa 101.42 301 *e*Pdif Pdif 09 55 33.5 -12
SONM Songino Array 107.19 322 PKKPbc PKKPbc 10 11 36.3 +0.4
SONM Songino Array 107.19 322 PKKPbc PKKPbc 10 11 36.3 +0.4
comp=Z,0.7nm,0.7s,baz=354,slow=4.5,SNR=4.1
NVAR Mina Array Bea 107.97 53 PKiKP **PKiKP** **10 00 21.4 +0.3**
NVAR PKKPbc **PKKPbc** **10 11 35.2 +2.1**
NVAR Mina Array Bea 107.97 53 PKiKP **PKiKP** **10 00 21.4 +0.3**
comp=Z,0.7nm,0.8s,baz=175,slow=3.1,SNR=4.4
NVAR PKKPbc **PKKPbc** **10 11 35.2 +2.1**
comp=Z,2.0nm,0.8s,baz=66,slow=3.7,SNR=12
ZAK Zakamensk 110.45 323 *e*PKiKP PKiKP 10 00 31.1 +5.9
ZAK pmax pmax
comp=Z,7.0nm,1.7s
TXAR Lajitas Array 110.62 69 PKiKP **PKiKP** **10 00 25.9 -0.3**
TXAR PKKPbc **PKKPbc** **10 11 26.2 +2.1**
TXAR Lajitas Array 110.62 69 PKiKP **PKiKP** **10 00 25.9 -0.3**
comp=Z,1.7nm,1.1s,baz=197,slow=3.9,SNR=4.2
TXAR PKKPbc **PKKPbc** **10 11 26.2 +2.1**
comp=Z,1.4nm,0.8s,baz=83,slow=4.0,SNR=14
MVU Marysvale 111.48 57 *e*PKiKP **PKiKP** **10 00 28.1 +0.3**
MVU *e*PKKPbc **PKKPbc** **10 11 23.9 +2.1**
BGU Big Grassy Mou 112.64 54 *e*PKKPbc PKKPbc 10 11 20.3 +2.4
MFID Camas Ranch 112.77 51 *e*PKiKP **PKiKP** **10 00 31.2 +1.4**
SRU San Rafael 112.87 57 *e*PKKPbc PKKPbc 10 11 18.6 +1.5
PV10 Paradox Valley 113.26 58 *e*PKPdf **PKiKP** **10 00 31.6 +0.5**
PMR Palmer 113.27 21 *e*PKiKP **PKiKP** **10 00 30.9 +0.9**
PMR Palmer 113.27 21 *e*PKiKP **PKiKP** **10 00 30.9 +0.9**
WMQ Urumqi 113.30 309 Pdif **Pdif** **09 56 37.3 -0.2**
WMQ PP **PP** **10 01 24.8 +2.5**
S20A Disappointment **113.31 59** P 10 00 31.5
baz=114
PV04 Paradox Valley 113.35 58 *e*PKKPbc PKKPbc 10 11 18.4 +2.9
PV01 Paradox Valley 113.38 59 *e*PKPdf **PKiKP** **10 00 27.5 -3.8**
ROSC El Rosal 113.67 109 *e*PKPdf **PKiKP** **10 00 29.3 -3.5**
H12A Diamond D Ranc 114.05 50 P PKPdf 10 00 32.8 +0.4
baz=114
Q20A Ridgley Place, baz=114 **114.08 58** P PKPdf 10 00 33.3 +0.7
P19A Cripple Cowboy baz=114 **114.12 57** P PKPdf 10 00 33.6 +0.9
MSTX Muleshoe baz=114 **114.24 66** P PKPdf 10 00 32.6 -0.4
I14A Mackay baz=115 **114.40 51** P PKPdf 10 00 33.8 +0.7
Y28A McKinney Farm, baz=115 **114.53 66** P PKPdf 10 00 33.2 -0.3
TRF Thorofare Moun 114.57 20 *e*PKiKP PKPdf 10 00 31.8 -1.0
V26A Tequesquite Ra baz=115 **114.78 64** P PKPdf 10 00 34.0 0.0
131A Roby baz=115 **114.93 68** P PKPdf 10 00 34.3 +0.1
SDCO Great Sand Dun 114.97 61 *e*PKPdf PKPdf 10 00 33.2 -1.2

KMBO **Kilima Mbogo** 114.99 239 PKP PKPdf 10 00 35.4 +0.1
KMBO **Kilima Mbogo** 114.99 239 PKP PKPdf 10 00 35.4 +0.1
comp=Z,1.6nm,0.3s,baz=59,slow=2.3,SNR=3.8
SMCO **Snowmass** 115.01 59 *e*PKKPab PKKPab 10 11 17.5 +3.0
MCK **McKinley** 115.14 20 *e*PKIKP **PKPdf** **10 00 33.9 +0.3**
MCK **McKinley** 115.14 20 *e*PKiKP **PKPdf** **10 00 33.9 +0.3**
MCK *e*PKKPbc PKKPbc 10 10 58.0 -12
N20A **Spence Gulch,** 115.31 57 P **PKPdf** **10 00 35.7 +0.7**
baz=116
NEW **Newport** 115.35 46 *e*PKPdf **PKPdf** **10 00 35.5 +0.9**
TPAW **Teton Pass** 115.49 53 *e*PKKPab PKKPab 10 11 15.8 +4.0
DLMT **Dillon** 115.80 51 *e*PKKPab PKKPab 10 11 09.7 -0.5
PDAR **Pinedale Array** 115.81 54 PKP **PKPdf** **10 00 35.5 -0.3**
PDAR **Pinedale Array** 115.81 54 PKP **PKPdf** **10 00 35.5 -0.3**
comp=Z,1.4nm,0.9s,baz=188,slow=3.0,SNR=4.6
K19A **Absolon Red Bu** 116.25 55 P **PKPdf** **10 00 37.0 +0.4**
baz=116
C13A **Hot Springs** 116.26 48 P **PKPdf** **10 00 37.3 +1.0**
baz=116
COLA **College** 116.35 20 *e*PKIKP **PKPdf** **10 00 35.6 -0.3**
COLA **College** 116.35 20 *e*PKPdf **PKPdf** **10 00 35.6 -0.3**
Y32A **R-V Farms, Ver** 116.39 68 P **PKPdf** **10 00 37.0 0.0**
baz=117
J19A **Crowheart** 116.41 54 P **PKPdf** **10 00 37.5 +0.5**
baz=117
K20A **Yellowstone Ra** 116.43 55 P **PKPdf** **10 00 36.9 0.0**
baz=117
ILAR **Eielson Array** 116.50 20 PKP **PKPdf** **10 00 35.3 -0.9**
ILAR **Eielson Array** 116.50 20 PKP **PKPdf** **10 00 35.3 -0.9**
comp=Z,6.1nm,1.1s,baz=258,slow=4.0,SNR=15
DLBC **Dease Lake** 116.75 32 PKP **PKPdf** **10 00 36.4 -0.5**
DLBC **Dease Lake** 116.75 32 PKP **PKPdf** **10 00 36.4 -0.5**
comp=Z,6.6nm,1.1s,baz=240,slow=3.4,SNR=4.5
B13A **Whitefish** 116.76 47 P **PKPdf** **10 00 37.8 +0.5**
baz=117
Q26A **Hugo** 116.92 61 P **PKPdf** **10 00 38.5 +0.4**
baz=117
R27A **Eads** 116.97 62 P **PKPdf** **10 00 38.0 0.0**
baz=117
J20A **Shoshoni** 117.01 55 P **PKPdf** **10 00 37.7 -0.3**
baz=117
K21A **Alcova** 117.04 56 P **PKPdf** **10 00 38.2 0.0**
baz=117
KSH **Kashi** 117.22 300 PKP **PKPdf** **10 00 41.8 +3.2**
KSH SKS **SKSdf** **10 07 48.6 +0.7**
PHWY **Pilot Hill** 117.25 58 *e*PKKPab PKKPab 10 11 07.5 +3.1
B14A **Marquette Ranc** 117.36 48 P **PKPdf** **10 00 39.3 +0.7**
baz=118
J21A **Lysite** 117.37 55 P **PKPdf** **10 00 39.3 +0.5**
baz=118
R28A **Tribune** 117.61 62 P **PKPdf** **10 00 39.7 +0.4**
baz=118
L23A **Garrett** 117.61 57 P **PKPdf** **10 00 39.8 +0.4**
baz=118
B15A **Bradely Ranch,** 117.70 48 P **PKPdf** **10 00 40.1 +0.9**
baz=118
I21A **Big Trails, Te** 117.75 55 P **PKPdf** **10 00 40.0 +0.6**
baz=118
COLD **Coldfoot** 117.80 18 *e*PKKPab PKKPab 10 11 04.0 +4.2
C16A **Fuhringer Ranc** 117.81 49 P **PKPdf** **10 00 40.5 +1.1**
baz=118
O26A **Horse Wrangler** 117.87 60 P **PKPdf** **10 00 39.2 -0.5**
baz=118
D17A **Six Diamond Ra** 117.96 50 P **PKPdf** **10 00 41.0 +1.3**
baz=118
E18A **Harlowton** 118.01 51 P **PKPdf** **10 00 41.3 +1.5**
baz=118
A15A **Johnson Ranch,** 118.03 48 P **PKPdf** **10 00 39.8 0.0**
baz=118
F19A **Roth Farm, Mol** 118.09 52 P **PKPdf** **10 00 41.0 +1.0**
baz=118
G20A **Bridger** 118.10 53 P **PKPdf** **10 00 40.6 +0.5**
baz=118
MK31 **Makanchi Array** 118.13 309 *e*PKIKP **PKPdf** **10 00 38.8 -1.1**
MK31 **Makanchi Array** 118.13 309 *e*PKPdf **PKPdf** **10 00 38.8 -1.1**
MKAR **Makanchi Array** 118.13 309 *c i*PKIKP **PKPdf** **10 00 39.7 -0.2**
MKAR pmax pmax
comp=Z,7.0nm,0.9s
MKAR **Makanchi Array** 118.13 309 PKP **PKPdf** **10 00 38.8 -1.1**
MKAR **Makanchi Array** 118.13 309 PKP **PKPdf** **10 00 38.8 -1.1**
comp=Z,7.2nm,0.9s,baz=97,slow=2.8,SNR=20
T31A **Randall Ranch,** 118.17 65 P **PKPdf** **10 00 40.7 +0.4**
baz=118
B16A **M & M Farms, S** 118.21 48 P **PKPdf** **10 00 40.3 +0.2**
baz=118
O27A **Beecher Island** 118.34 60 P **PKPdf** **10 00 40.9 +0.2**
baz=119
P28A **Saint Francis** 118.40 61 P **PKPdf** **10 00 41.3 +0.5**
baz=119
D18A **Linhart Farms,** 118.46 50 P **PKPdf** **10 00 41.3 +0.6**
baz=119
Q29A **Oakley** 118.46 62 P **PKPdf** **10 00 41.1 +0.2**
baz=119
KBL **Kabul** 118.48 291 *e*PKIKP **PKPdf** **10 00 41.7 +0.4**
KBL **Kabul** 118.48 291 *e*PKPdf **PKPdf** **10 00 41.7 +0.4**
E19A **Rath Farm, Rou** 118.56 52 P **PKPdf** **10 00 41.5 +0.7**
baz=119
A16A **West Butte Ran** 118.60 48 P **PKPdf** **10 00 41.5 +0.6**
baz=119
B17A **L&G Farms, Che** 118.61 49 P **PKPdf** **10 00 40.8 -0.1**
baz=119
P29A **Atwood** 118.92 62 P **PKPdf** **10 00 42.3 +0.5**
baz=119
D19A **Cripps Ranch,** 118.94 51 P **PKPdf** **10 00 42.0 +0.5**
baz=119
E20A **Meyer Farm, Mu** 118.94 52 P **PKPdf** **10 00 42.3 +0.8**
baz=119
Q30A **Quinter** 118.98 63 P **PKPdf** **10 00 42.0 +0.1**
baz=119
A17A **Triple J Farms** 119.06 48 P **PKPdf** **10 00 42.0 +0.3**
baz=119
C19A **Slack Wire Ran** 119.19 50 P **PKPdf** **10 00 42.0 0.0**
baz=120
B18A **Beardsley Farm** 119.21 49 P **PKPdf** **10 00 42.1 0.0**
baz=120
P30A **Selden** 119.31 62 P **PKPdf** **10 00 42.1 -0.4**
baz=120
A18A **Metzger Ranch,** 119.49 49 P **PKPdf** **10 00 42.3 -0.2**
baz=120
F22A **Rosebud** 119.54 53 P **PKPdf** **10 00 43.1 +0.4**
baz=120
G23A **Biddle** 119.67 54 P **PKPdf** **10 00 42.8 -0.2**
baz=120
B19A **Brinkman Farms** 119.69 50 P **PKPdf** **10 00 43.3 +0.4**
baz=120
C20A **Veseth Ranch,** 119.74 51 P **PKPdf** **10 00 43.5 +0.5**
baz=120
D21A **La Casta Ranch** 119.90 52 P **PKPdf** **10 00 43.8 +0.4**
baz=120
TUL1 **Tulsa** 119.92 68 P **PKPdf** **10 00 44.0 +0.4**
baz=120
F23A **Volborg** 119.98 54 P **PKPdf** **10 00 44.3 +0.7**
baz=120
K27A **Flueckinger Fa** 120.01 58 P **PKPdf** **10 00 44.4 +0.6**
baz=120
AAK **Ala-Archa** 120.01 302 ⇓ *i*PKIKP **PKPdf** **10 00 44.6 +0.7**
AAK **Ala-Archa** 120.01 302 PKP **PKPdf** **10 00 43.7 -0.1**
AAK *e*PKPdf **PKiKP** **10 00 45.0 +1.0**
AAK **Ala-Archa** 120.01 302 PKP **PKPdf** **10 00 43.7 -0.1**
comp=Z,4.6nm,0.7s,baz=177,slow=6.2,SNR=5.8
A19A **Klindworth Far** 120.08 49 P **PKPdf** **10 00 44.0 +0.3**
baz=120
B20A **Solberg Farm,** 120.17 50 P **PKPdf** **10 00 44.3 +0.4**
baz=120
C21A **Desert Coulee** 120.30 51 P **PKPdf** **10 00 44.5 +0.4**
baz=121
D22A **Cohagen** 120.40 52 P **PKPdf** **10 00 45.2 +0.8**
baz=121
I26A **New Underwood** 120.43 57 P **PKPdf** **10 00 45.2 +0.7**
baz=121
TIXI **Tiksi** 120.45 347 ⇓ *i*PKIKP **PKPdf** **10 00 43.2 -0.4**
TIXI pmax pmax
comp=Z,24nm,1.7s
A20A **Cobblestone Ra** 120.48 50 P **PKPdf** **10 00 44.7 +0.3**
baz=121
E23A **Ismay** 120.50 53 P **PKPdf** **10 00 44.9 +0.4**
baz=121
G25A **Newell** 120.79 55 P **PKPdf** **10 00 45.7 +0.6**
baz=121
H26A **Fairpoint** 120.82 56 P **PKPdf** **10 00 45.2 0.0**
baz=121
C22A **Vida** 120.91 52 P **PKPdf** **10 00 45.7 +0.4**
baz=121
I27A **Quinn** 120.92 57 P **PKPdf** **10 00 45.5 0.0**
baz=121
D23A **Lindsay** 120.95 53 P **PKPdf** **10 00 45.6 +0.2**
baz=121

J28A **Allard Ranch,** 121.02 58 P **PKPdf** **10 00 45.8 +0.2**
baz=121
A21A **Bergtoll Ranch** 121.08 50 P **PKPdf** **10 00 45.9 +0.4**
baz=121
E24A **Baker** 121.09 54 P **PKPdf** **10 00 46.0 +0.3**
baz=121
B22A **Reddig Ranch S** 121.18 51 P **PKPdf** **10 00 45.4 -0.4**
baz=122
F25A **Bowman** 121.20 55 P **PKPdf** **10 00 46.2 +0.3**
baz=122
ZALV **Zalesovo Beam** 121.20 317 PKIKP **PKPdf** **10 00 44.5 -1.0**
ZALV **Zalesovo Beam** 121.20 317 PKP **PKPdf** **10 00 44.5 -1.0**
ZALV **Zalesovo Beam** 121.20 317 PKP **PKPdf** **10 00 44.5 -1.0**
comp=Z,0.8nm,0.4s,baz=132,slow=2.2,SNR=4.9
G26A **Maurine** 121.32 56 P **PKPdf** **10 00 46.3 +0.2**
baz=122
C23A **Lambert** 121.33 52 P **PKPdf** **10 00 46.2 +0.1**
baz=122
D24A **Glendive** 121.40 53 P **PKPdf** **10 00 46.0 -0.2**
baz=122
E25A **Miller Ranch,** 121.56 54 P **PKPdf** **10 00 46.4 -0.2**
baz=122
C24A **Savage** 121.59 53 P **PKPdf** **10 00 46.1 -0.5**
baz=122
F26A **Lodgepole** 121.60 55 P **PKPdf** **10 00 46.2 -0.5**
baz=122
A22A **Carney Farms,** 121.62 51 P **PKPdf** **10 00 46.5 -0.1**
baz=122
G27A **Dupree** 121.75 56 P **PKPdf** **10 00 46.1 -0.9**
baz=122
B23A **Brockton** 121.82 52 P **PKPdf** **10 00 46.8 -0.1**
baz=122
E26A **Carlson Angus** 122.08 55 P **PKPdf** **10 00 47.3 -0.3**
baz=122
G28A **Parade** 122.17 57 P **PKPdf** **10 00 47.5 -0.3**
baz=122
DGMT **Dagmar** 122.25 52 *e*PKPdf **PKPdf** **10 00 48.7 +0.9**
DGMT **Dagmar** 122.25 52 P **PKPdf** **10 00 47.5 -0.3**
baz=122
KURBB **Kurchatov Arra** 122.41 311 PKP **PKPdf** **10 00 46.8 -1.1**
comp=Z,14nm,0.9s,baz=123,slow=1.7,SNR=42
KURK **Kurchatov** 122.41 311 PKIKP **PKPdf** **10 00 46.8 -1.1**
KURK **Kurchatov** 122.41 311 PKP **PKPdf** **10 00 46.8 -1.1**
A24A **Westby** 122.62 52 P **PKPdf** **10 00 48.0 -0.5**
baz=123
INK **Inuvik** 122.64 23 PKP **PKPdf** **10 00 47.6 -0.2**
INK **Inuvik** 122.64 23 PKP **PKPdf** **10 00 47.6 -0.2**
comp=Z,10nm,1.0s,baz=273,slow=1.8,SNR=4.5
KKAR **Karatay Array** 122.66 300 *e*PKIKP **PKPdf** **10 00 48.4 -0.3**
KKAR **Karatay Array** 122.66 300 *e*PKPdf **PKPdf** **10 00 48.4 -0.3**
BRAL **Brewton** 122.74 78 *e*PKPdf **PKPdf** **10 00 50.2 +0.9**
BRSD **Miller** 122.96 58 P **PKPdf** **10 00 49.1 -0.2**
baz=123
ECSD **EROS Data Cent** 123.96 60 *e*PKPdf **PKPdf** **10 00 50.3 -0.9**
MDND **Maddock** 124.47 55 P **PKPdf** **10 00 51.6 -0.4**
baz=125
SCIA **State Center** 125.03 64 *e*PKPdf **PKPdf** **10 00 52.9 -0.4**
YKA **Yellowknife Ar** 125.20 34 PKP **PKPdf** **10 00 51.6 -1.3**
YKA **Yellowknife Ar** 125.20 34 PKP **PKPdf** **10 00 51.6 -1.3**
comp=Z,7.0nm,1.0s,baz=227,slow=2.0,SNR=8.0
SIUC **Southern Illin** 125.24 70 *e*PKPdf **PKPdf** **10 00 52.8 -1.0**
AGMN **Agassiz Nation** 126.84 56 *e*PKPdf **PKPdf** **10 00 55.7 -0.8**
SPMN **St. Paul** 127.06 60 P **PKPdf** **10 00 56.2 -0.8**
baz=127
CPCT **Cooper Cave** 127.07 75 *e*PKPdf **PKPdf** **10 00 57.6 +0.1**
WCI **Wyandotte Cave** 127.44 71 *e*PKIKP **PKPdf** **10 00 57.3 -0.8**
WCI **Wyandotte Cave** 127.44 71 *e*PKPdf **PKPdf** **10 00 57.3 -0.8**
RAYN **Ar Rayn** 127.64 266 *e*PKPdf **PKPdf** **10 01 00.3 +1.4**
TKL **Tuckaleechee C** 127.69 75 *e*PKPdf **PKPdf** **10 00 59.2 +0.6**
ULM **Lac du Bonnet** 127.81 54 PKP **PKPdf** **10 00 57.0 -1.3**
ULM **Lac du Bonnet** 127.81 54 PKP **PKPdf** **10 00 57.0 -1.3**
comp=Z,13nm,1.1s,baz=203,slow=3.1,SNR=4.1
BLO **Bloomington** 127.87 70 *e*PKIKP **PKPdf** **10 00 57.9 -0.8**
BLO **Bloomington** 127.87 70 *e*PKPdf **PKPdf** **10 00 57.9 -0.8**
BVAR **Borovoye Array** 127.97 310 PKIKP **PKPdf** **10 00 56.9 -1.6**
BVAR **Borovoye Array** 127.97 310 PKP **PKPdf** **10 00 56.9 -1.6**
BVAR **Borovoye Array** 127.97 310 PKP **PKPdf** **10 00 56.9 -1.6**
comp=Z,12nm,0.9s,baz=129,slow=4.2,SNR=30
BRVK **Borovoye** 128.04 310 ⇑ *i*PKIKP **PKPdf** **10 00 59.6 +0.9**
BRVK pmax pmax
comp=Z,41nm,1.7s
BRVK **Borovoye** 128.04 310 *e*PKPdf **PKPdf** **10 00 59.7 +1.0**
SFIN **Scholer Farm** 128.09 68 P **PKPdf** **10 00 58.4 -0.8**
baz=128
TZTN **Tazewell** 128.34 74 *e*PKPdf **PKPdf** **10 00 59.6 -0.2**
LRS **Lares** 128.43 104 *e*PKPdf **PKPdf** **10 01 00.3 -0.2**
HUMP **Col San Antoni** 129.00 105 *e*PKPdf **PKPdf** **10 01 01.8 +0.2**
KMSC **Kings Mountain** 129.05 77 P **PKPdf** **10 01 00.2 -1.0**
baz=129
EYMN **Ely** 129.20 58 *e*PKPdf **PKPdf** **10 01 01.9 +0.8**
BLA **Blacksburg** 130.80 75 *e*PKIKP **PKPdf** **10 01 04.3 -0.2**
BLA **Blacksburg** 130.80 75 *e*PKPdf **PKPdf** **10 01 04.3 -0.2**
CNNC **Cliffs of the** 131.44 79 *e*PKPdf **PKPdf** **10 01 05.6 -0.1**
ABKAR **Akbulak array** 132.09 302 *e*PKPdf **PKPdf** **10 01 07.0 +0.5**
JSRW **J. Sargeant Re** 132.77 76 *e*PKPdf **PKPdf** **10 01 08.4 +0.2**
ALLY **Alegheny Colle** 133.26 70 *e*PKPdf **PKPdf** **10 01 10.2 +1.2**
AKTO **Aktyubinsk** 133.72 303 PKIKP **PKPdf** **10 01 08.7 -0.9**
AKTO **Aktyubinsk** 133.72 303 PKP **PKPdf** **10 01 08.7 -0.9**
AKTO **Aktyubinsk** 133.72 303 PKP **PKPdf** **10 01 08.7 -0.9**
comp=Z,9.6nm,0.8s,baz=178,slow=0.4,SNR=24
SVE **Sverdlovsk** 134.66 312 *e*PKIKP **PKPdf** **10 01 12.0 +0.9**
SVE pmax pmax
comp=Z,35nm,1.1s
MVL **Millersville** 134.97 74 *e*PKPdf **PKPdf** **10 01 12.9 +0.7**
ARU **Arti** 135.61 311 *i* PKIKP **PKPdf** **10 01 13.8 +0.9**
ARU 10 03 49.9
ARU SS SS 10 21 40.9 -5.5
BINY **Binghamton** 136.25 72 *e*PKPdf **PKPdf** **10 01 13.3 -1.3**
LONY **Lake Ozonia** 138.23 69 *e*PKPdf PKPdf 10 01 12.0 -6.1
EIL **Elat** 138.82 264 PKP **PKPdf** **10 01 19.9 +0.3**
EIL **Elat** 138.82 264 PKP **PKPdf** **10 01 19.9 +0.3**
comp=Z,9.0nm,0.9s,baz=301,slow=6.2,SNR=6.6
DBIC **Dimbokro** 139.90 194 PKPpre PKPpre 10 01 12.6
DBIC **Dimbokro** 139.90 194 PKhKP PKPpre 10 01 12.6
comp=Z,6.6nm,0.9s,baz=147,slow=11,SNR=3.5
KBZ **Khabaz** 140.50 288 PKIKP PKPpre 10 01 17.6
KBZ **Khabaz** 140.50 288 PKPpre PKPpre 10 01 17.6
KBZ **Khabaz** 140.50 288 PKhKP PKPpre 10 01 17.6
comp=Z,9.3nm,0.9s,baz=155,slow=1.0,SNR=5.1
KIV **Kislovodsk** 140.73 288 *e*PKIKP **PKPdf** **10 01 22.8 0.0**
KIV pmax pmax
comp=Z,37nm,1.1s
ANN **Anapa** 144.54 287 *i* PKIKP **PKPab** **10 01 26.2 -1.7**
ANN pmax pmax
comp=Z,156nm,1.4s
TOA0 **Torodi Ar. Sit** 144.57 207 *e*PKPdf **PKPab** **10 01 26.1 -2.7**
TORD **Torodi Ar. Bea** 144.57 207 PKP **PKPab** **10 01 28.2 -0.6**
TORD **Torodi Ar. Bea** 144.57 207 PKP **PKPab** **10 01 28.2 -0.6**
comp=Z,41nm,0.8s,baz=162,slow=2.1,SNR=45
BR131 **Keskin Array S** 145.08 277 *e*PKPdf **PKPbc** **10 01 27.3 -2.9**
BRTR **Keskin Array B** 145.08 277 PKPbc **PKPbc** **10 01 29.9 -0.4**
BRTR **Keskin Array B** 145.08 277 PKPbc **PKPbc** **10 01 29.9 -0.4**
comp=Z,104nm,0.9s,baz=142,slow=4.6,SNR=118
VORD **Divnogorie** 145.15 298 *e*PKIKP **PKPbc** **10 01 29.0 -0.9**
VORD pmax pmax
comp=Z,190nm,1.0s
VORD pmax pmax
comp=N,40nm,0.6s
VORD pmax pmax
comp=E,110nm,0.9s
VSR **Storozhevoye** 145.29 298 *e*PKP2 **PKPbc** **10 01 28.5 -1.8**
VSR pmax pmax
comp=Z,250nm,1.0s
VSR pmax pmax
comp=N,40nm,1.7s
VSR pmax pmax
comp=E,140nm,1.0s
VOR **Voronezh** 145.38 299 *e*PKHKP PKPpre 10 01 26.5
VOR pmax pmax
comp=Z,375nm,1.6s
KBS **Kingsbay** 145.73 351 *e*P **PKPab** **10 01 31.8 +0.4**
KBS AMB AMB 10 01 35.8
comp=Z,260nm,2.2s
KBS **Kingsbay** 145.73 351 *e*PKIKP **PKPdf** **10 01 29.4 -1.1**
KBS **Kingsbay** 145.73 351 *e*PKPdf **PKPdf** **10 01 29.4 -1.1**
ANTO **Ankara** 145.73 277 ⇑ PKP2 **PKPab** **10 01 32.7 +0.1**
ANTO **Ankara** 145.73 277 *e*PKPdf **PKPdf** **10 01 31.7 -0.1**
ANTO **Ankara** 145.73 277 ⇑ *i*P **PKPab** **10 01 32.7 +0.1**
SPA0 **Spitsbergen Ar** 145.83 349 *e*P **PKPdf** **10 01 28.5 -2.3**
SCHQ **Schefferville** 145.94 56 PKPbc **PKPdf** **10 01 28.8 -2.7**
SCHQ *e*PKPdf **PKPbc** **10 01 28.9 -3.4**
SCHQ **Schefferville** 145.94 56 PKPbc **PKPdf** **10 01 28.8 -2.7**
comp=Z,74nm,0.9s,baz=278,slow=3.1,SNR=32
TMCR **Tamitsa** 146.54 321 *e*PKIKP **PKPdf** **10 01 31.9 -0.3**

TMCR pmax pmax
comp=Z,109nm,0.9s
SIM **Simferopol'** 146.80 286 *e*PKP2 **PKPbc** **10 01 35.0 -0.1**
SIM pmax pmax
comp=Z,78nm,0.9s
MOS **Moscow** 146.91 306 *e*PKHKP PKPpre 10 01 29.9
MOS *e* 10 05 07.9
MOS pmax pmax
comp=Z,375nm,1.9s
OBN **Obninsk** 147.46 305 ⇑ *i*PKIKP **PKPdf** **10 01 34.5 +0.5**
OBN pmax pmax
comp=Z,141nm,1.6s
APA **Apatity** 147.67 328 ⇑ *i*PKP2 **PKPbc** **10 01 36.6 -0.2**
APA *i* SS SS 10 24 09.0 +3.2
APA pmax pmax
comp=Z,18nm,1.2s
APA MLR MLR
comp=Z,117μm,19.0s
SACV **Santiago Islan** 147.84 162 *e*PKPbc **PKPbc** **10 01 39.1 +0.2**
KEV **Kevo** 148.98 334 *ep* **PKPbc** **10 01 40.8 +0.6**
comp=Z,144nm,1.0s
KEV **Kevo** 148.98 334 *e*PKP2 **PKPbc** **10 01 40.8 +0.6**
KEV pmax pmax
comp=Z,144nm,1.0s
KEV **Kevo** 148.98 334 *e*PKPbc **PKPbc** **10 01 40.8 +0.6**
IDI **Anoyia** 148.99 263 *e*PKPdf **PKPbc** **10 01 41.5 +0.1**
DAG **Danmarks Havn** 149.22 2 *i* PKP2 **PKPbc** **10 01 40.1 -0.5**
DAG pmax pmax
comp=Z,15nm,0.9s
DAG **Danmarks Havn** 149.22 2 *i* P **PKPbc** **10 01 40.1 -0.5**
comp=Z,18nm,0.9s
APE **Apeiranthos** 149.47 267 ⇑ PKP2 **PKPbc** **10 01 42.0 -0.5**
APE **Apeiranthos** 149.47 267 ⇑ *i*P **PKPbc** **10 01 42.0 -0.5**
ARCES **ARCESS Array B** 149.55 334 PKPbc **PKPdf** **10 01 39.3 +2.2**
ARCES **ARCESS Array B** 149.55 334 PKPbc **PKPdf** **10 01 39.3 +2.2**
comp=Z,139nm,0.9s,baz=54,slow=2.1,SNR=59
ARE0 **ARCESS Array S** 149.55 334 *e*P **PKPdf** **10 01 39.0 +1.9**
TLCR 150.44 284 ⇓ PKIKP **PKPbc** **10 01 44.8 +0.3**
TLCR 150.44 284 ⇓ *i*P **PKPbc** **10 01 44.8 +0.3**
TIRR **Tirgusor** 150.49 282 *e*PKIKP **PKPbc** **10 01 44.7 0.0**
TIRR *e* 10 01 50.9
TIRR **Tirgusor** 150.49 282 *e*PKPbc **PKPbc** **10 01 44.6 0.0**
TIRR *e*PKPab **PKPab** **10 01 50.9 -0.5**
KTK1 **Kautokeino** 150.51 334 *e*P **PKPdf** **10 01 41.1 +2.5**
HARR **Harsova** 150.89 282 ⇓ PKIKP **PKPbc** **10 01 46.2 +0.6**
HARR **Harsova** 150.89 282 ⇓ *i*P **PKPbc** **10 01 46.2 +0.6**
CFR **Carcaliu** 150.90 283 ⇑ PKIKP **PKPbc** **10 01 45.9 +0.3**
CFR **Carcaliu** 150.90 283 ⇑ *i*P **PKPbc** **10 01 45.9 +0.3**
KIS **Kishinev** 150.93 287 ⇓ *i*PKP **PKPbc** **10 01 45.0 -0.6**
KIS M 10 01 46.0
comp=Z,400nm,1.5s
KIS **Kishinev** 150.93 287 ⇓ *i*PKIKP **PKPbc** **10 01 45.0 -0.6**
KIS *i* 10 01 52.0
KIS pmax pmax
comp=Z,400nm,1.5s
SUMG **Summit** 151.15 15 *e*PKIKP **PKPdf** **10 01 39.5 -0.5**
SUMG **Summit** 151.15 15 *e*PKPdf **PKPdf** **10 01 39.5 -0.5**
SUMG **Summit** 151.15 15 *i* P **PKPbc** **10 01 47.7 +1.8**
comp=Z,35nm,1.0s
KIEV **Kiev** 151.39 295 *e*PKIKP **PKPbc** **10 01 46.1 -0.4**
KIEV *e* 10 01 52.5
KIEV **Kiev** 151.39 295 *e*PKPbc **PKPbc** **10 01 46.1 -0.4**
KIEV *e*PKPab **PKPab** **10 01 52.5 -2.4**
TRO **Tromso** 151.41 337 *e*P **PKPbc** **10 01 43.2 -2.8**
TRO AMB AMB 10 01 47.7
comp=Z,297nm,1.0s
SFJD **Kangerlussuaq** 151.62 30 *i* P **PKPbc** **10 01 45.5 -1.1**
comp=Z,23nm,1.0s
TAM **Tamanrasset** 151.90 220 *e*PKIKP **PKPdf** **10 01 41.9 -0.4**
TAM *e* 10 01 50.3
TAM *e* 10 01 56.7
TAM **Tamanrasset** 151.90 220 *e*PKPdf **PKPdf** **10 01 41.9 -0.4**
TAM *e*PKPbc **PKiKP** **10 01 50.9 +1.1**
TAM *e*PKPab **PKPab** **10 01 56.7 -1.3**
ISR **Istrita** 151.96 283 ⇑ PKIKP **PKPbc** **10 01 47.3 -0.8**
ISR **Istrita** 151.96 283 ⇑ *i*P **PKPbc** **10 01 47.3 -0.8**
VRI **Vrincioaia** 152.04 284 ⇑ PKIKP **PKPbc** **10 01 48.2 0.0**
VRI **Vrincioaia** 152.04 284 ⇑ *i*P **PKPbc** **10 01 48.2 0.0**
PLOR **Plostina** 152.09 284 ⇑ PKIKP **PKPbc** **10 01 48.2 -0.2**
PLOR **Plostina** 152.09 284 ⇑ *i*P **PKPbc** **10 01 48.2 -0.2**
TESR **Tescani** 152.26 286 ⇑ *i*P **PKPbc** **10 01 48.9 +0.2**
MICGM **Minsk** 152.45 303 *e* **PKPdf** **10 01 40.0 -1.9**
FIA1 **FINESS Array S** 152.46 318 *e*PKPdf **PKPdf** **10 01 41.3 -0.4**
FIA1 *e*PKPbc **PKPbc** **10 01 48.7 +0.1**
FINES **FINESS Array B** 152.46 318 PKPbc **PKPbc** **10 01 48.0 -0.6**
FINES **FINESS Array B** 152.46 318 PKPbc **PKPbc** **10 01 48.0 -0.6**
comp=Z,35nm,0.8s,baz=101,slow=9.9,SNR=45
MLR **Muntele Rosu** 152.47 283 ⇑ *i*P **PKPbc** **10 01 49.5 +0.1**
MNK **Minsk** 152.48 303 *e*PKIKP **PKPdf** **10 01 48.0 -1.9**
HUMR **Humele** 152.85 281 ⇓ *i*P **PKPbc** **10 01 51.0 +0.9**
DOPR **Dopca** 152.97 284 ⇓ *i*P **PKPbc** **10 01 51.3 +1.0**
VOIR 153.06 283 ⇓ PKIKP **PKPbc** **10 01 49.8 -0.8**
VOIR 153.06 283 ⇓ *i*P **PKPbc** **10 01 49.8 -0.8**
NACGM **Naroch** 153.08 304 *e* **PKPdf** **10 01 45.0 +2.2**
IDID **Didziasalis** 153.09 305 *e*P **PKPbc** **10 01 51.2 +1.0**
IDID AMB AMB 10 01 52.9
comp=Z,33nm,1.1s
ARR **Arges** 153.32 282 ⇑ *i*P **PKPbc** **10 01 51.5 +0.3**
IIGN **Ignalina** 153.38 305 *e*P **PKPbc** **10 01 51.9 +1.1**
IIGN AMB AMB 10 01 53.5
comp=Z,32nm,1.2s
ISAL **Salakas** 153.42 305 *e*P **PKPbc** **10 01 52.0 +1.1**
ISAL AMB AMB 10 01 53.5
comp=Z,31nm,1.2s
VTS **Vitosha** 153.44 276 ⇓ PKIKP **PKPbc** **10 01 50.9 -0.7**
VTS **Vitosha** 153.44 276 ⇓ *i*P **PKPbc** **10 01 50.9 -0.7**
BURAR **Bucovina Array** 153.46 287 ⇓ PKIKP **PKPbc** **10 01 52.0 +0.6**
BURAR **Bucovina Array** 153.46 287 ⇓ *i*P **PKPbc** **10 01 52.0 +0.6**
BUR08 **Bucovina Ar. S** 153.48 288 *e*PKPdf **PKPdf** **10 01 41.9 -1.9**
STEI **Steigen** 153.53 336 *e* **PKPbc** **10 01 50.3 -0.5**
LVV **L'vov** 154.58 292 *e*PKIKP **PKPbc** **10 01 53.7 +0.1**
LVV *e* 10 01 59.5
SUW **Suwalki** 155.22 302 *e*PKIKP PKPdf 10 01 55.8 +10
SUW *e* 10 02 01.8
SUW *e* 10 02 11.7
SUW **Suwalki** 155.22 302 *e*PKP PKPdf 10 01 55.7 +10
SUW *e* 10 02 01.7
SUW *e* 10 02 11.7
UZH **Uzhgorod** 155.56 289 *e*PKIKP **PKPdf** **10 01 50.2 +3.7**
KOLS **Kolonicke sedl** 155.61 290 *e*PKIKP **PKPdf** **10 01 47.0 +0.4**
KOLS *e* 10 02 13.9
KOLS **Kolonicke sedl** 155.61 290 *e*PKP **PKPdf** **10 01 47.0 +0.4**
KOLS *e* 10 02 13.9
STHS **Stebnicka Huta** 156.34 291 *e*PKIKP **PKPdf** **10 01 49.4 +1.8**
STHS *e* 10 02 16.9
STHS **Stebnicka Huta** 156.34 291 *e*PKP **PKPdf** **10 01 49.4 +1.8**
STHS *e* 10 02 16.9
TIP **Timpagrande** 156.55 264 *e*PKPdf PKPdf 10 01 41.2 -7.0
CEL **Celeste** 156.71 261 *e*PKPdf **PKPdf** **10 01 47.4 -1.1**
CEL *e*PKPab **PKPab** **10 02 18.6 +0.5**
KECS **Kecovo** 156.73 288 *e*PKIKP **PKPdf** **10 01 50.1 +2.0**
KECS **Kecovo** 156.73 288 *e*PKP **PKPdf** **10 01 50.1 +2.0**
VYHS **Vyhne** 157.82 288 *e*PKIKP **PKPdf** **10 01 50.1 +0.6**
VYHS *e* 10 02 22.0
VYHS **Vyhne** 157.82 288 *e*PKP **PKPdf** **10 01 50.0 +0.6**
VYHS *e* 10 02 21.9
NB2 **NORSAR Subarra** 159.15 325 PKP **PKPab** **10 02 25.9 -2.0**
baz=55,slow=4.4
NOA **NORSAR Array B** 159.15 325 PKPab **PKPab** **10 02 26.3 -1.6**
NOA **NORSAR Array B** 159.15 325 PKPab **PKPab** **10 02 26.3 -1.6**
comp=Z,5.4nm,0.8s,baz=59,slow=4.3,SNR=14
KSP **Ksiaz** 159.57 294 *e*PKIKP **PKPdf** **10 01 51.4 -0.1**
KSP **Ksiaz** 159.57 294 *e*PKP **PKPab** **10 02 31.2 +1.2**
KEST **Kesra** 159.70 247 PKPab **PKPab** **10 02 32.6 +1.6**
KEST **Kesra** 159.70 247 PKPab **PKPab** **10 02 32.6 +1.6**
comp=Z,11nm,1.0s,baz=157,slow=1.0,SNR=12
BOJS **Bojanci** 159.77 279 *e*PKPdf **PKPdf** **10 01 51.2 -0.6**
BOJS *e*PKPab **PKPab** **10 02 30.7 -0.3**
BSD **Bornholm Skovb** 159.81 307 *i* PKP2 **PKPab** **10 02 31.1 +0.3**
BSD pmax pmax
comp=Z,42nm,1.1s
BSD MLR MLR
comp=Z,120μm,20.0s
BSD **Bornholm Skovb** 159.81 307 *i* P **PKPab** **10 02 31.1 +0.3**
comp=Z,42nm,1.0s
ARSA **Arzberg** 159.89 284 ⇓ *i*PKPab **PKPab** **10 02 31.8 +0.3**
comp=Z,37nm,1.9s
LJU **Ljubljana** 160.37 280 *e*PKPdf **PKPdf** **10 01 52.0 -0.5**
LJU *e*PKPab **PKPab** **10 02 33.6 0.0**
BRG **Berggiesshubel** 161.06 295 *e*PKPdf **PKPdf** **10 01 51.8 -1.3**
BRG *e*PKPab **PKPab** **10 02 37.2 +0.7**
MYKA **Terra Mystica** 161.07 281 ⇑ *i*PKPdf **PKPdf** **10 01 51.9 -1.5**

	comp=Z,7.6nm,1.3s							
MYKA				⇑*i*PKPab	**PKPab**	**10 02 36.8**	**+0.1**
	comp=Z,23nm,1.6s							
GEC2	**GERESS Array S**	**161.24**	**288**	*e*PKPdf	**PKPdf**	**10 01 52.0**	**-1.5**
GEC2				*e*PKPab	**PKPab**	**10 02 37.6**	**+0.1**
GEC2	**GERESS Array S**	**161.24**	**288**	*e*PKIKP	**PKPdf**	**10 01 52.0**	**-1.5**
GEC2	**GERESS Array S**	**161.24**	**288**	*e*PKPab	**PKPab**	**10 02 38.0**	**+0.5**
GERES	**GERESS Array B**	**161.24**	**288**	PKP	**PKPdf**	**10 01 54.7**	**+1.2**
GERES				PKPab	**PKPab**	**10 02 37.4**	**-0.1**
GERES	**GERESS Array B**	**161.24**	**288**	PKP	**PKPdf**	**10 01 54.7**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=286,slow=0.7,SNR=3.1							
GERES				PKPab	**PKPab**	**10 02 37.4**	**-0.1**
	comp=Z,12nm,1.1s,baz=104,slow=4.3,SNR=23							
CLL	**Collm**	**161.62**	**296**	*e*PKPdf	**PKPdf**	**10 01 53.3**	**-0.3**
CLL				*e*PKPab	**PKPab**	**10 02 39.3**	**+0.4**
CLL	**Collm**	**161.62**	**296**	*e*PKIKP	PKPdf	10 01 59.0	+5.4
CLL				*i*		10 02 39.3	
CLL				pmax	pmax			
	comp=Z,155nm,1.3s							
CLL				pmax	pmax			
	comp=Z,17nm,1.6s							
CLL	**Collm**	**161.62**	**296**	*e*PKPdf	**PKPdf**	**10 01 53.0**	**-0.6**
	comp=Z,67nm,2.2s							
CLL				*ep*PKPdf	PKPdf	10 01 59.0	+5.4
	comp=Z,17nm,1.3s							
CLL				*e*PKPlp		10 02 33.0		
	comp=Z,51μm,16.1s							
CLL				*i* PKPab	**PKPab**	**10 02 39.3**	**+0.4**
	comp=Z,44nm,1.6s							
CLL				*e*PP	**PP**	**10 06 22.0**	**-1.2**
CLL				*e*PPlp		10 06 51.0		
	comp=Z,26μm,13.7s							
WET	**Wettzell**	**161.79**	**289**	*e*PKPab	**PKPab**	**10 02 40.2**	**+0.4**
WET	**Wettzell**	**161.79**	**289**	*e*PKP2	**PKPab**	**10 02 40.2**	**+0.4**
TANN	**Tannenbergstha**	**162.03**	**293**	*e*PKPab	**PKPab**	**10 02 41.5**	**+0.7**
WTTA	**Wattenberg**	**162.52**	**283**	⇑*i*PKPdf	**PKPdf**	**10 01 54.5**	**-0.4**
	comp=Z,18nm,1.1s							
WTTA				⇑*i*PKPab	**PKPab**	**10 02 42.8**	**-0.5**
	comp=Z,19nm,1.1s							
MOX	**Moxa**	**162.55**	**294**	*e*PKPdf	**PKPdf**	**10 01 54.2**	**-0.5**
MOX				*e*PKPab	**PKPab**	**10 02 43.5**	**+0.4**
MOX	**Moxa**	**162.55**	**294**	*e*PKIKP	**PKPdf**	**10 01 54.2**	**-0.5**
BSEG	**Bad Segeberg**	**162.71**	**306**	*e*PKPdf	**PKPdf**	**10 01 55.1**	**+0.5**
BSEG				*e*PKPab	**PKPab**	**10 02 44.9**	**+1.4**
BSEG	**Bad Segeberg**	**162.71**	**306**	*e*PKIKP	**PKPdf**	**10 01 55.1**	**+0.5**
GRF	**Grafenberg Arr**	**162.87**	**291**	*e*PKPab	**PKPab**	**10 02 45.0**	**+0.5**
GRF	**Grafenberg Arr**	**162.87**	**291**	*e*PKP2	**PKPab**	**10 02 45.0**	**+0.5**
FETA	**Feichten**	**163.11**	**282**	⇑*i*PKPdf	**PKPdf**	**10 01 53.6**	**-1.9**
	comp=Z,12nm,1.2s							
FETA				⇓*i*PKPab	**PKPab**	**10 02 45.6**	**-0.2**
	comp=Z,19nm,1.2s							
CLZ	**Clausthal**	**163.17**	**299**	*e*PKPdf	**PKPdf**	**10 01 54.2**	**-1.1**
CLZ				*e*PKPab	**PKPab**	**10 02 46.4**	**+0.6**
CLZ	**Clausthal**	**163.17**	**299**	*e*PKIKP	**PKPdf**	**10 01 54.2**	**-1.1**
NRDL	**Niedersach Rie**	**163.20**	**301**	*e*PKPdf	**PKPdf**	**10 01 54.1**	**-1.0**
NRDL				*e*PKPab	**PKPab**	**10 02 46.6**	**+0.9**
FUORN	**Ofenpass-Fuorn**	**163.38**	**280**	*e*PKPab	**PKPab**	**10 02 47.6**	**+0.5**
UBBA	**Unterbreizbach**	**163.55**	**295**	*e*PKPdf	**PKPdf**	**10 01 54.4**	**-1.0**
DAVA	**Damuels**	**163.71**	**283**	⇑*i*PKPab	**PKPab**	**10 02 48.7**	**+0.2**
	comp=Z,19nm,1.0s							
TUE	**Stuetta**	**163.99**	**280**	*e*PKPdf	**PKPdf**	**10 01 54.4**	**-2.0**
TUE				*e*PKPab	**PKPab**	**10 02 50.0**	**+0.2**
STU	**Stuttgart**	**164.22**	**288**	*e*PKPab	**PKPab**	**10 02 50.6**	**+0.2**
TNS	**Taunus Mts**	**164.61**	**293**	*e*PKPab	**PKPab**	**10 02 52.5**	**+0.3**
TNS	**Taunus Mts**	**164.61**	**293**	*e*PKP2	**PKPab**	**10 02 52.5**	**+0.3**
IBBN	**Ibbenburen**	**164.64**	**301**	*e*PKPdf	**PKPdf**	**10 01 56.2**	**-0.3**
IBBN				*e*PKPab	**PKPab**	**10 02 53.0**	**+0.9**
BFO	**Black Forest**	**164.80**	**286**	*e*PKPab	**PKPab**	**10 02 52.7**	**-0.3**
BFO	**Black Forest**	**164.80**	**286**	*e*PKP2	**PKPab**	**10 02 52.7**	**-0.3**
SENIN	**Lac Senin/Sane**	**165.38**	**278**	*e*PKPab	**PKPab**	**10 02 56.2**	**+0.3**
WLF	**Walferdange**	**166.15**	**292**	*e*PKPab	**PKPab**	**10 02 59.4**	**+0.5**
ESDC	**Sonseca Array**	**170.29**	**232**	PKP	**PKPdf**	**10 02 01.3**	**+0.2**
ESDC				PKPab	**PKPab**	**10 03 17.1**	**-0.5**
ESDC	**Sonseca Array**	**170.29**	**232**	PKP	**PKPdf**	**10 02 01.3**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=14,slow=1.5,SNR=11							
ESDC				PKPab	**PKPab**	**10 03 17.1**	**-0.5**
	comp=Z,12nm,1.1s,baz=141,slow=3.8,SNR=21							

WEL 15 09:44:15.2±0.7, 45°.65S×166°.59E, h12km, ML4.9/9, Error ellipse: s-maj=7.5km s-min=3.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.43**	**67**	P*	Pg	09 44 23.0	-0.8
DCZ				AML	AML	09 44 30.1	
DCZ				S*	Sg	09 44 30.1	+0.6
DCZ				AML	AML	09 44 31.6	
PYZ	**Puysegur Point**	**0.52**	**173**	*e*P*	Pg	09 44 25.6	+0.1
MLZ	**Mavora Lakes**	**1.15**	**75**	P*	Pb	09 44 35.0	-2.2
MLZ				S*	Sb	09 44 50.7	-1.5
MLZ				AML	AML	09 44 51.4	
MSZ	**Milford Sound**	**1.36**	**45**	*e*PN	Pg	09 44 41.3	0.0
MSZ				SN	Sg	09 44 58.7	-0.4
MSZ				AML	AML	09 45 00.6	
MSZ				AML	AML	09 45 03.9	
MSZ				AML	AML	09 45 05.2	
APZ	**The Paps**	**1.53**	**141**	*e*PN	Pb	09 44 44.1	+0.5
APZ				SN	Sn	09 45 01.1	-1.3
WKZ	**Wanaka**	**1.90**	**65**	*e*PN	Pn	09 44 48.6	+1.1
WKZ				SN	Sn	09 45 12.5	+1.0
WKZ				AML	AML	09 45 19.1	
EAZ	**Earnscleugh**	**1.96**	**79**	PN	Pn	09 44 48.7	+0.4
EAZ				SN	Sb	09 45 14.3	-0.9
EAZ				AML	AML	09 45 17.3	
SYZ	**Scrubby Hill**	**1.98**	**117**	*e*PN	Pn	09 44 49.6	+1.0
TUZ	**Tuapeka**	**2.15**	**99**	*e*PN	Pn	09 44 48.5	-2.3
TUZ				SN	Sb	09 45 20.7	0.0
TUZ				AML	AML	09 45 26.6	
HHSZ	**Highcliff Hill**	**2.81**	**96**	*e*PN	Pn	09 45 02.7	+2.7
LBZ	**Lake Benmore**	**2.84**	**65**	AML	AML	09 45 38.2	
LBZ				AML	AML	09 45 40.3	
ODZ	**Otahua Downs**	**2.92**	**79**	PN	Pn	09 45 01.9	+0.4
ODZ				AML	AML	09 45 39.4	
ODZ				AML	AML	09 45 41.6	
FOZ	**Fox Glacier**	**3.04**	**48**	AML	AML	09 46 00.2	
FOZ				AML	AML	09 46 01.5	

*IDC **15** 09:46:12.4±1.6, 46°.05S×166°.09E, h0km, mb4.4/3, mb1 4.7/4, mb1mx4.3/14, mbtmp4.5/4, ML4.6/1, Error ellipse: s-maj=59.6km s-min=26.1km az=174.0*
*ISCJB **15** 09:46:14.2±1.1, 46°.07S±0°.06×166°.01E±0°.07, h22km±7km, mb4.5/3, Error ellipse: s-maj=9.8km s-min=7.7km az=174.4*
*WEL **15** 09:46:15.4±0.6, 46°.03S×166°.09E, h12km, ML5.2/16, Error ellipse: s-maj=5.2km s-min=2.3km az=90.0*

ISC 15 09:46:13.5±2.7, 46°.06S±0°.06×166°.07E±0°.06, h8km±16km, n28, σ1§34/28, mb4.4/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.44**	**105**	P*	**Pb**	**09 46 23.8**	**+0.4**
PYZ				S*	**Sb**	**09 46 30.3**	**+0.1**
DCZ	**Deep Cove**	**0.96**	**53**	P*	**Pb**	**09 46 32.2**	**0.0**
DCZ				S*	**Sb**	**09 46 44.7**	**-0.3**
DCZ				AML	AML	09 46 46.1	
APZ	**The Paps**	**1.54**	**121**	PN	**Pn**	**09 46 40.0**	**-1.1**
APZ				SN	**Sn**	**09 47 00.1**	**-1.2**
MLZ	**Mavora Lakes**	**1.64**	**65**	*e*PN	**Pb**	**09 46 43.4**	**-0.5**
MLZ				SN	**Sb**	**09 47 04.9**	**+0.3**
MLZ				SN	**Sg**	**09 47 05.3**	**-0.8**
MSZ	**Milford Sound**	**1.91**	**44**	SN	**Sn**	**09 47 06.1**	**-4.2**
MSZ				AML	AML	09 47 06.9	
MSZ				AML	AML	09 47 07.0	
MSZ				AML	AML	09 47 21.4	
SYZ	**Scrubby Hill**	**2.18**	**104**	*e*PN	**Pn**	**09 46 50.5**	**+0.6**
WKZ	**Wanaka**	**2.41**	**60**	*e*PN	**Pb**	**09 46 55.6**	**-1.5**
WKZ				SN	**Sn**	**09 47 23.8**	**+0.8**
WKZ				AML	AML	09 47 31.0	
EAZ	**Earnscleugh**	**2.42**	**71**	*e*PN	**Pn**	**09 46 54.7**	**+1.4**
EAZ				SN	**Sn**	**09 47 21.6**	**-1.4**
EAZ				AML	AML	09 47 27.5	
TUZ	**Tuapeka**	**2.49**	**89**	PN	**Pn**	**09 46 56.2**	**+2.1**
TUZ				SN	**Sn**	**09 47 26.1**	**+1.4**
TUZ				AML	AML	09 47 26.5	
JCZ	**Jackson Bay**	**2.75**	**45**	*e*PN	**Pb**	**09 47 03.8**	**+0.9**
JCZ				AML	AML	09 47 41.8	
JCZ				AML	AML	09 47 46.6	
HHSZ	**Highcliff Hill**	**3.16**	**88**	*e*PN	**Pn**	**09 47 05.0**	**+1.5**
LBZ	**Lake Benmore**	**3.35**	**62**	AML	AML	09 47 48.1	
LBZ				AML	AML	09 47 48.7	
ODZ	**Otahua Downs**	**3.37**	**74**	AML	AML	09 47 49.2	
ODZ				AML	AML	09 48 05.1	
FOZ	**Fox Glacier**	**3.59**	**47**	AML	AML	09 48 01.4	
FOZ				AML	AML	09 48 03.6	
RPZ	**Rata Peaks**	**4.25**	**58**	Pn	**Pn**	**09 47 18.6**	**+0.2**
	33nm,0.3s,baz=219,slow=14,SNR=2.5						
RPZ				Sn	**Sn**	**09 48 08.2**	**+0.1**
	113nm,0.3s,baz=158,slow=23,SNR=8.4						
WVZ	**Waitaha Valley**	**4.47**	**50**	AML	AML	09 48 25.6	
WVZ				AML	AML	09 48 26.5	
CRLZ	**Canterbury Las**	**5.28**	**64**	AML	AML	09 48 35.0	
CRLZ				AML	AML	09 48 35.0	
LTZ	**Lake Taylor**	**5.52**	**56**	*e*PN	**Pn**	**09 47 37.8**	**+1.9**
LTZ				AML	AML	09 48 39.8	
LTZ				AML	AML	09 48 43.1	
KHZ	**Kahutara**	**6.48**	**59**	AML	AML	09 49 04.3	
KHZ				AML	AML	09 49 06.9	
THZ	**Tophouse**	**6.54**	**51**	AML	AML	09 49 03.6	
THZ				AML	AML	09 49 05.8	
QRZ	**Quartz Range**	**7.03**	**44**	AML	AML	09 49 17.7	
QRZ				AML	AML	09 49 18.8	
ASAR	**Alice Springs**	**34.21**	**300**	P	**P**	**09 52 59.8**	**+0.3**
	5.0nm,1.1s,baz=130,slow=8.1,SNR=4.4						
WRA	**Warramunga Arr**	**36.82**	**304**	P	**P**	**09 53 21.8**	**-0.1**
	6.7nm,1.0s,baz=138,slow=8.0,SNR=3.9						
CMAR	**Chiang Mai Arr**	**88.22**	**299**	P	**P**	**09 59 04.8**	**-0.4**
	1.4nm,0.4s,baz=103,slow=3.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**144.63**	**207**	PKP	PKPbc	10 05 49.9	+0.3
	1.5nm,0.7s,baz=157,slow=2.2,SNR=5.8						
BRTR	**Keskin Array B**	**145.00**	**277**	PKPbc	**PKPab**	**10 05 50.6**	**+0.3**
	6.9nm,1.0s,baz=120,slow=4.9,SNR=5.4						
SCHQ	**Schefferville**	**145.94**	**55**	PKPbc	**PKPdf**	**10 05 51.5**	**-0.4**
	5.3nm,0.8s,baz=76,slow=6.5,SNR=4.4						
ARCES	**ARCESS Array B**	**149.43**	**334**	PKPbc	**PKPbc**	**10 06 02.3**	**+0.6**
	1.6nm,0.5s,baz=82,slow=3.8,SNR=5.2						

*IDC **15** 09:47:45.7±1.3, 45°.43S×166°.42E, h0km, mb3.8/1, mb1 4.3/2, mb1mx3.9/14, mbtmp4.2/2, ML4.7/1, Error ellipse: s-maj=58.9km s-min=27.6km az=170.0*
*WEL **15** 09:47:48.0±0.8, 45°.66S×166°.60E, h12km, ML4.9/12, Error ellipse: s-maj=9.1km s-min=3.8km az=90.0*

ISC 15 09:47:45.8±2.1, 45°.58S±0°.07×166°.50E±0°.08, h5km±13km, n21, σ0§92/21, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.47**	**78**	P*	**Pb**	**09 47 56.4**	**-0.1**
DCZ				S*	**Sb**	**09 48 02.2**	**-1.6**
DCZ				S*	**Sg**	**09 48 02.3**	**+1.4**
DCZ				AML	AML	09 48 02.6	
DCZ				AML	AML	09 48 04.1	
PYZ	**Puysegur Point**	**0.60**	**168**	*e*P*	**Pg**	**09 47 57.4**	**0.0**
PYZ				S*	**Sg**	**09 48 04.8**	**-0.4**
MLZ	**Mavora Lakes**	**1.20**	**80**	P*	**Pg**	**09 48 08.1**	**-0.6**
MLZ				S*	**Sg**	**09 48 23.5**	**-0.7**
MLZ				AML	AML	09 48 24.5	
MSZ	**Milford Sound**	**1.35**	**49**	PN	**Pb**	**09 48 11.5**	**-0.1**
MSZ				SN	**Sn**	**09 48 30.8**	**+1.0**
MSZ				AML	AML	09 48 33.2	
APZ	**The Paps**	**1.62**	**141**	*e*PN	**Pg**	**09 48 17.8**	**+0.8**
EAZ	**Earnscleugh**	**2.01**	**81**	PN	**Pb**	**09 48 21.8**	**-1.0**
EAZ				AML	AML	09 48 49.6	
EAZ				AML	AML	09 48 54.1	
SYZ	**Scrubby Hill**	**2.07**	**119**	*e*PN	**Pg**	**09 48 25.3**	**-0.2**
TUZ	**Tuapeka**	**2.22**	**101**	*e*PN	**Pb**	**09 48 26.0**	**-0.4**
TUZ				AML	AML	09 48 57.8	
TUZ				AML	AML	09 48 58.8	
LBZ	**Lake Benmore**	**2.87**	**67**	AML	AML	09 49 13.2	
LBZ				AML	AML	09 49 15.7	
ODZ	**Otahua Downs**	**2.97**	**81**	PN	**Pn**	**09 48 34.7**	**+1.1**
ODZ				AML	AML	09 49 14.0	
ODZ				AML	AML	09 49 18.6	
FOZ	**Fox Glacier**	**3.04**	**50**	AML	AML	09 49 28.1	
FOZ				AML	AML	09 49 31.5	
RPZ	**Rata Peaks**	**3.74**	**62**	Pn	**Pn**	**09 48 45.6**	**+1.3**
	55nm,0.3s,baz=234,slow=19,SNR=2.4						
RPZ				Sn	**Sn**	**09 49 29.6**	**+0.9**
	24nm,0.3s,baz=345,slow=20,SNR=3.2						
WVZ	**Waitaha Valley**	**3.93**	**52**	AML	AML	09 49 57.9	
WVZ				AML	AML	09 50 00.9	
CRLZ	**Canterbury Las**	**4.81**	**68**	AML	AML	09 50 06.3	
CRLZ				AML	AML	09 50 08.4	
LTZ	**Lake Taylor**	**5.00**	**58**	AML	AML	09 50 02.9	
THZ	**Tophouse**	**6.01**	**53**	AML	AML	09 50 32.9	
THZ				AML	AML	09 50 38.4	
ASAR	**Alice Springs**	**34.24**	**299**	P	**P**	**09 54 32.2**	**-0.5**
	1.0nm,0.8s,baz=135,slow=9.2,SNR=2.5						
TORD	**Torodi Ar. Bea**	**145.20**	**207**	PKPbc	**PKPbc**	**10 07 24.7**	**+0.3**
	2.5nm,0.6s,baz=151,slow=2.5,SNR=8.5						
SCHQ	**Schefferville**	**145.41**	**55**	PKPbc	**PKPbc**	**10 07 22.7**	**-1.3**
	baz=243,slow=6.8						
ARCES	**ARCESS Array B**	**149.13**	**334**	PKPbc	**PKPbc**	**10 07 33.8**	**-0.1**
	2.9nm,0.7s,baz=67,slow=4.1,SNR=4.4						
FINES	**FINESS Array B**	**152.18**	**319**	PKPbc	**PKPbc**	**10 07 41.6**	**+0.3**
	2.4nm,0.8s,baz=67,slow=4.7,SNR=6.3						

*IDC **15** 09:48:52.8±1.3, 45°.59S×166°.67E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.9/14, mbtmp4.0/3, ML4.4/1, Error ellipse: s-maj=50.2km s-min=25.1km az=174.0*
*ISCJB **15** 09:48:54.3±0.8, 45°.52S±0°.05×166°.52E±0°.07, h15km, mb3.8/2, Error ellipse: s-maj=8.3km s-min=6.0km az=39.6*
*WEL **15** 09:48:56.6±0.9, 45°.57S×166°.73E, h12km, ML4.6/9, Error ellipse: s-maj=9.4km s-min=4.6km az=90.0*

ISC 15 09:48:55.1±0.8, 45°.64S±0°.06×166°.69E±0°.06, h15km, n21, σ1§22/23, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.36**	**64**	P*	**Pb**	**09 49 02.8**	**-0.4**
DCZ				S*	**Sb**	**09 49 07.7**	**-0.9**
DCZ				S*	**Sg**	**09 49 07.9**	**+0.4**
DCZ				AML	AML	09 49 09.8	
DCZ				AML	AML	09 49 10.3	
PYZ	**Puysegur Point**	**0.53**	**181**	S*	**Sb**	**09 49 15.1**	**+1.5**
MLZ	**Mavora Lakes**	**1.08**	**75**	*e*P*	**Pb**	**09 49 14.9**	**-0.6**
MLZ				AML	AML	09 49 28.2	
MLZ				AML	AML	09 49 32.6	
MSZ	**Milford Sound**	**1.30**	**43**	S*	**Sn**	**09 49 35.2**	**-0.6**
MSZ				AML	AML	09 49 37.2	
MSZ				AML	AML	09 49 38.2	
MSZ				AML	AML	09 49 38.2	
EAZ	**Earnscleugh**	**1.89**	**79**	*e*PN	**Pb**	**09 49 29.6**	**+0.4**
EAZ				SN	**Sg**	**09 49 53.9**	**-1.9**
EAZ				AML	AML	09 49 55.6	
SYZ	**Scrubby Hill**	**1.93**	**119**	*e*PN	**Pb**	**09 49 29.2**	**-0.7**
TUZ	**Tuapeka**	**2.08**	**100**	*e*PN	**Pb**	**09 49 32.1**	**-0.4**
TUZ				AML	AML	09 50 06.4	
TUZ				AML	AML	09 50 06.4	
LBZ	**Lake Benmore**	**2.77**	**64**	AML	AML	09 50 16.4	
LBZ				AML	AML	09 50 18.1	
ODZ	**Otahua Downs**	**2.85**	**79**	*e*PN	**Pn**	**09 49 41.7**	**+1.7**
ODZ				AML	AML	09 50 17.0	
ODZ				AML	AML	09 50 17.5	
FOZ	**Fox Glacier**	**2.98**	**47**	*e*PN	**Pb**	**09 49 48.7**	**+0.9**
FOZ				AML	AML	09 50 31.6	
FOZ				AML	AML	09 50 31.8	
RPZ	**Rata Peaks**	**3.66**	**60**	Pn	**Pn**	**09 49 51.3**	**+0.2**
	31nm,0.3s,baz=318,slow=19,SNR=2.8						
RPZ				Sn	**Sn**	**09 50 36.3**	**+2.3**
	26nm,0.3s,baz=156,slow=20,SNR=3.4						
OXZ	**Oxford**	**4.47**	**51**	*e*PN	**Pn**	**09 50 04.9**	**+2.6**
CRLZ	**Canterbury Las**	**4.71**	**66**	AML	AML	09 50 59.4	
CRLZ				AML	AML	09 51 00.5	
DSZ	**Denniston Nort**	**5.37**	**45**	SN	**Sn**	**09 51 17.1**	**+0.8**
ASAR	**Alice Springs**	**34.39**	**298**	P	**P**	**09 55 41.0**	**-0.6**
	0.5nm,0.5s,baz=127,slow=8.2,SNR=2.7						
WRA	**Warramunga Arr**	**36.95**	**303**	P	**P**	**09 56 03.4**	**-0.2**
	2.8nm,1.2s,baz=136,slow=8.1,SNR=2.6						
TORD	**Torodi Ar. Bea**	**145.21**	**206**	PKPbc	**PKPbc**	**10 08 31.8**	**-0.1**
	1.8nm,0.8s,baz=166,slow=2.1,SNR=5.0						
SCHQ	**Schefferville**	**145.34**	**55**	PKPbc	**PKPbc**	**10 08 29.3**	**-1.9**
	4.4nm,0.9s,baz=42,slow=4.8,SNR=2.4						
SPITS	**Spitsbergen Ar**	**145.38**	**350**	PKPbc	**PKPbc**	**10 08 30.0**	**-0.8**
	1.4nm,0.5s,baz=39,slow=6.7,SNR=2.9						
BRTR	**Keskin Array B**	**145.38**	**277**	PKPbc	**PKPdf**	**10 08 31.9**	**-0.1**
	0.6nm,0.6s,baz=134,slow=4.2,SNR=2.6						
ARCES	**ARCESS Array B**	**149.24**	**334**	PKPbc	**PKPbc**	**10 08 41.5**	**-0.2**
	1.0nm,0.7s,baz=54,slow=4.6,SNR=2.4						

WEL 15 09:49:00.1±1.4, 44°.90S×166°.38E, h33km, ML4.7/9, Error ellipse: s-maj=11.3km s-min=4.8km az=90.0, Poorly recorded. Doubtful solution., Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.80**	**137**	PN	Pn	09 49 14.6	-0.4
DCZ				SN	Sn	09 49 25.1	-0.6
DCZ				SN	Sb	09 49 25.2	-0.8
DCZ				SN		09 49 25.3	
DCZ				AML	AML	09 49 26.2	
MSZ	**Milford Sound**	**1.13**	**79**	*e*PN	Pn	09 49 18.2	-1.3
MSZ				SN	Sn	09 49 34.1	+0.3
MSZ				SN	Sb	09 49 34.2	-1.2
MSZ				SN		09 49 34.6	
PYZ	**Puysegur Point**	**1.29**	**171**	SN	Sb	09 49 41.5	+1.5
MLZ	**Mavora Lakes**	**1.35**	**110**	*e*PN	Pn	09 49 18.8	-3.8
MLZ				SN	Sn	09 49 34.9	-4.5
MLZ				AML	AML	09 49 39.7	

IDC 15 09:49:30.6±1.6, 45°.94S×166°.45E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.8/13, mbtmp3.8/2, Error ellipse: s-maj=109.0km s-min=39.4km az=24.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**34.38**	**299**	P	P	09 56 19.2	-0.2
	1.0nm,0.9s,baz=132,slow=8.5,SNR=2.8						
WRA	**Warramunga Arr**	**36.97**	**304**	P	P	09 56 41.6	-0.1
	2.1nm,1.1s,baz=139,slow=7.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**144.86**	**206**	PKP	PKPab	10 09 08.2	-0.6
	1.3nm,0.6s,baz=158,slow=2.0,SNR=3.4						
BRTR	**Keskin Array B**	**145.25**	**277**	PKPbc	PKPab	10 09 09.8	0.0
	1.3nm,0.8s,baz=94,slow=4.3,SNR=2.9						
SCHQ	**Schefferville**	**145.65**	**55**	PKPbc	PKPdf	10 09 10.0	0.0
	2.0nm,0.6s,baz=7.8,slow=6.7,SNR=3.5						
ARCES	**ARCESS Array B**	**149.44**	**334**	PKPbc	PKPbc	10 09 19.1	-1.2
	1.8nm,0.6s,baz=64,slow=2.8,SNR=5.3						

WEL 15 09:50:54.2±0.4, 45°.73S×167°.29E, h12km, ML4.1/4, Error ellipse: s-maj=5.7km s-min=1.8km az=90.0, Poorly recorded. Doubtful solution., South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.27**	**339**	P*	Pg	09 51 00.0	+0.3
DCZ				S*	Sb	09 51 04.5	-1.0
DCZ				AML	AML	09 51 04.6	
DCZ				AML	AML	09 51 04.7	
DCZ				AML	AML	09 51 05.3	
PYZ	**Puysegur Point**	**0.61**	**224**	*e*P*	Pb	09 51 06.5	-0.4
PYZ				S*	Sg	09 51 13.3	-1.0
PYZ				S*	Sb	09 51 14.0	-1.5
MLZ	**Mavora Lakes**	**0.73**	**59**	S*	Sn	09 51 22.8	+1.3
MLZ				AML	AML	09 51 24.6	
MSZ	**Milford Sound**	**1.15**	**23**	*e*P*	Pb	09 51 14.8	-1.1
MSZ				AML	AML	09 51 32.4	
MSZ				AML	AML	09 51 32.4	
MSZ				AML	AML	09 51 33.2	
MSZ				AML	AML	09 51 33.4	
EAZ	**Earnscleugh**	**1.50**	**71**	AML	AML	09 51 35.0	
EAZ				AML	AML	09 51 36.1	
ODZ	**Otahua Downs**	**2.46**	**75**	*e*PN	Pb	09 51 37.4	-0.9

WEL 15 09:50:59.3±0.6, 45°.80S×166°.80E, h12km, ML4.5/5, Error ellipse: s-maj=10.2km s-min=3.7km az=90.0, Poorly recorded. Doubtful solution., Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.37**	**193**	S*	Sg	09 51 12.1	+0.3
PYZ				S*	Sb	09 51 12.6	-1.2
DCZ	**Deep Cove**	**0.41**	**37**	P*	Pg	09 51 07.2	-0.2
DCZ				S*	Sg	09 51 13.2	+0.3
DCZ				S*	Sb	09 51 13.2	-1.4
DCZ				S*		09 51 13.5	
DCZ				AML	AML	09 51 13.8	
MLZ	**Mavora Lakes**	**1.07**	**65**	*e*P*	Pb	09 51 17.6	-2.2
MLZ				S*	Sb	09 51 32.1	-1.7
MLZ				AML	AML	09 51 34.4	
APZ	**The Paps**	**1.32**	**142**	*e*PN	Pn	09 51 23.2	-0.4
MSZ	**Milford Sound**	**1.38**	**36**	*e*PN	Pn	09 51 24.7	+0.3
MSZ				SN	Sg	09 51 44.7	+0.8
MSZ				AML	AML	09 51 46.3	
MSZ				AML	AML

TUZ	Tuapeka	2.57	88	PN	Pn	09 52 59.1	+0.2
TUZ				AML	AML	09 53 38.4	
TUZ				AML	AML	09 53 39.9	
JCZ	Jackson Bay	2.83	46	Pn	Pn	09 53 05.2	+2.5
JCZ	Jackson Bay	2.83	46	*e*PN	Pn	09 53 04.7	+2.0
JCZ				AML	AML	09 53 57.2	
JCZ				AML	AML	09 53 58.1	
HHSZ	Highcliff Hill	3.25	88	*e*PN	Pn	09 53 07.8	-0.4
LBZ	Lake Benmore	3.44	62	*e*PN	Pn	09 53 10.0	-0.9
LBZ				AML	AML	09 53 55.5	
LBZ				AML	AML	09 54 02.7	
LBZ				AML	AML	09 54 15.1	
LBZ				AML	AML	09 54 23.4	
ODZ	Otahua Downs	3.46	74	*e*PN	Pn	09 53 10.3	-0.9
ODZ				AML	AML	09 54 10.1	
ODZ				AML	AML	09 54 11.1	
ODZ				AML	AML	09 54 11.1	
ODZ				AML	AML	09 54 11.9	
FOZ	Fox Glacier	3.67	48	*e*PN	Pn	09 53 16.4	+2.4
FOZ				AML	AML	09 54 10.6	
FOZ				AML	AML	09 54 11.9	
FOZ				AML	AML	09 54 19.7	
FOZ				AML	AML	09 54 23.7	
RPZ	Rata Peaks	4.34	59	Pn	Pn	09 53 22.4	-0.8
RPZ				*e*Sn	Sn	09 54 14.0	+0.7
RPZ	Rata Peaks 137nm,0.3s,baz=202,slow=3.5,SNR=7.2	4.34	59	Pn	Pn	09 53 21.8	-1.4
RPZ	69nm,0.3s,baz=68,slow=19,SNR=4.1			Sn	Sn	09 54 14.0	+0.7
RPZ	Rata Peaks	4.34	59	PN	Pn	09 53 21.8	-1.4
RPZ				AML	AML	09 54 48.2	
RPZ				AML	AML	09 55 13.9	
WVZ	Waitaha Valley	4.56	50	*e*PN	Pn	09 53 25.1	-1.2
WVZ				AML	AML	09 54 32.5	
WVZ				AML	AML	09 54 34.6	
OXZ	Oxford	5.15	60	*e*PN	Pn	09 53 32.4	-1.9
LTZ	Lake Taylor	5.61	56	Pn	Pn	09 53 41.0	+0.3
LTZ	Lake Taylor	5.61	56	*e*PN	Pn	09 53 39.0	-1.7
LTZ				AML	AML	09 54 53.1	
LTZ				AML	AML	09 54 54.5	
DSZ	Denniston Nort	6.06	46	*e*PN	Pn	09 53 45.9	-1.0
KHZ	Kahutara	6.57	59	*e*PN	Pn	09 53 51.2	-2.7
KHZ				AML	AML	09 55 10.1	
KHZ				AML	AML	09 55 10.2	
THZ	Tophouse	6.63	52	*e*PN	Pn	09 53 53.6	-1.2
THZ				AML	AML	09 55 21.3	
THZ				AML	AML	09 55 29.6	
QRZ	Quartz Range	7.11	45	*e*PN	Pn	09 54 00.6	-0.8
QRZ				AML	AML	09 55 36.5	
QRZ				AML	AML	09 55 36.8	
NNZ	Nelson	7.26	50	Pn	Pn	09 54 05.3	+1.9
NNZ	Nelson	7.26	50	AML	AML	09 55 35.9	
NNZ				AML	AML	09 55 42.1	
TCW	Tory Channel	7.76	54	*e*PN	Pn	09 54 13.0	+2.8
TCW				AML	AML	09 55 46.6	
TCW				AML	AML	09 55 56.9	
DUWZ	D'Urville Isla	7.85	50	*e*PN	Pn	09 54 11.7	+0.3
DUWZ				AML	AML	09 55 53.5	
DUWZ				AML	AML	09 56 02.5	
SNZO	South Karori	7.94	56	Pn	Pn	09 54 15.3	+2.7
SNZO				*e*Sn	Sn	09 55 43.4	+1.4
SNZO	South Karori	7.94	56	*e*PN	Pn	09 54 12.9	+0.3
CAW	Cannon Point	8.28	56	*e*PN	Pn	09 54 15.2	-2.1
CAW				AML	AML	09 56 06.1	
CAW				AML	AML	09 56 13.9	
KIW	Kapiti Island	8.35	54	*e*PN	Pn	09 54 16.6	-1.7
KIW				AML	AML	09 56 05.0	
NMEZ	Namu Road	8.86	44	*e*PN	Pn	09 54 25.5	+0.2
MRZ	Mangatainoka R	8.87	56	Pn	Pn	09 54 23.6	-1.8
MRZ	Mangatainoka R	8.87	56	*e*PN	Pn	09 54 22.8	-2.6
MRZ				AML	AML	09 56 09.8	
MRZ				AML	AML	09 56 10.7	
NWEZ	Newall Road	8.96	43	*e*PN	Pn	09 54 25.6	-1.1
KHEZ	Kahui Hut	9.02	44	*e*PN	Pn	09 54 26.5	-1.0
DFE	Dawson Falls	9.04	44	*e*PN	Pn	09 54 27.4	-0.4
NEZ	North Egmont	9.08	44	*e*PN	Pn	09 54 27.9	-0.5
WAZ	Wanganui	9.16	49	Pn	Pn	09 54 31.9	+2.4
WAZ	Wanganui	9.16	49	*e*PN	Pn	09 54 30.1	+0.7
WAZ				AML	AML	09 56 19.6	
WAZ				AML	AML	09 56 25.9	
DRZ	Durham Road	9.19	44	*e*PN	Pn	09 54 29.1	-0.4
RAEZ	Rainy Point	9.21	45	*e*PN	Pn	09 54 30.4	+0.3
VRZ	Vera Road	9.52	46	Pn	Pn	09 54 33.1	-1.1
WNVZ	Wahianoa	9.80	50	*e*PN	Pn	09 54 41.5	+3.2
WPVZ	Whakapapa	9.86	49	AML	AML	09 55 09.4	
WPVZ				AML	AML	09 55 36.6	
TWVZ	Taurewa	9.90	48	*e*PN	Pn	09 54 40.2	+0.5
NGZ	Ngauruhoe	9.91	49	*e*PN	Pn	09 54 41.1	+1.3
KRVZ	Karewarewa	9.99	49	*e*PN	Pn	09 54 42.1	+1.2
HIZ	Hauiti	10.04	44	Pn	Pn	09 54 41.4	-0.1
HIZ	Hauiti	10.04	44	*e*PN	Pn	09 54 40.2	-1.3
HIZ				AML	AML	09 56 36.5	
HIZ				AML	AML	09 56 46.5	
BKZ	Black Stump Fm	10.40	52	*e*PN	Pn	09 54 46.8	+0.4
TOZ	Tahuroa Road	10.97	44	Pn	Pn	09 54 54.7	+0.6
TOZ	Tahuroa Road	10.97	44	*e*PN	Pn	09 54 54.6	+0.5
WTAZ	Waiatarua	11.20	38	*e*PN	Pn	09 54 56.0	-1.3
KBAZ	Karaka Road Bo	11.20	40	*e*PN	Pn	09 54 56.7	-0.6
MKAZ	Moumakai	11.31	41	*e*PN	Pn	09 54 57.6	-1.2
RIVZ	Riverhead Bore	11.34	38	*e*PN	Pn	09 54 57.3	-1.9
KAAZ	Kauri Point	11.35	38	*e*PN	Pn	09 54 59.0	-0.3
URZ	Urewera	11.39	51	Pn	Pn	09 54 57.3	-2.6
URZ	Urewera 4.1nm,0.3s,baz=197,slow=6.5,SNR=8.3	11.39	51	Pn	Pn	09 54 57.3	-2.6
MTAZ	Motutapu	11.47	39	*e*PN	Pn	09 55 00.1	-0.8
ABAZ	Army Bay	11.59	38	*e*PN	Pn	09 55 01.3	-1.3
KUZ	Kuaotunu	11.87	42	*e*Pn	Pn	09 55 06.0	-0.4
KUZ	Kuaotunu	11.87	42	*e*PN	Pn	09 55 05.7	-0.7
WCZ	Waipu Caves	11.95	35	Pn	Pn	09 55 06.6	-1.0
WCZ	Waipu Caves	11.95	35	*e*PN	Pn	09 55 05.9	-1.7
WCZ				AML	AML	09 57 18.3	
WCZ				AML	AML	09 57 19.3	
OUZ	Omahuta	12.31	31	*e*Pn	Pn	09 55 10.3	-2.1
TAU	Tasmania Unive	13.67	277	*e*P	Pn	09 55 23.7	-7.3
TAU	Tasmania Unive	13.67	277	*e*Pn	Pn	09 55 23.7	-7.3
CAN	Canberra	16.73	304	P	Pn	09 56 07.6	-4.0
CAN	comp=Z,46nm,0.8s			pmax	pmax		
CAN	Canberra comp=Z,46nm,0.8s	16.73	304	Pn	Pn	09 56 07.6	-4.0
ARMA	Armidale comp=Z,33nm,1.1s	19.22	320	P	P	09 56 40.5	-0.9
STKA	Stephens Creek comp=Z,20nm,1.4s	23.54	299	*e*P	P	09 57 27.7	+0.3
STKA	Stephens Creek comp=Z,18nm,0.9s,baz=127,slow=12,SNR=6.3	23.54	299	P	P	09 57 26.9	-0.5
EIDS	Eidsvold comp=Z,56nm,1.0s	23.87	325	*e*P	P	09 57 31.6	+1.0
DZM	Mont Dzumac	23.97	1	P	P	09 57 31.7	0.0
DZM	Mont Dzumac comp=Z,26nm,1.0s,baz=268,slow=24,SNR=5.9	23.97	1	P	P	09 57 31.7	0.0
VNDA	Vanda	31.57	182	P	P	09 58 39.2	+0.1
VNDA	Vanda comp=Z,2.6nm,1.1s,baz=360,slow=3.2,SNR=1.4	31.57	182	P	P	09 58 39.2	+0.1
SBA	Scott Base	31.87	180	P	P	09 58 43.2	+1.5
SBA	comp=Z,10.0nm,0.8s			pmax	pmax		
SBA	Scott Base comp=Z,10nm,0.8s	31.87	180	P	P	09 58 43.2	+1.5
AS31	Alice Springs	34.16	300	*e*P	P	09 59 00.3	-2.1
ASAR	Alice Springs	34.16	300	P	P	09 59 00.7	-1.6
ASAR	Alice Springs comp=Z,9.2nm,0.9s,baz=138,slow=9.5,SNR=21	34.16	300	P	P	09 59 00.7	-1.6
CASY	Casey comp=Z,38nm,1.1s	35.26	215	P	P	09 59 08.4	-2.9
WRA	Warramunga Arr	36.77	305	P	P	09 59 22.9	-1.9
WRA	Warramunga Arr comp=Z,15nm,0.9s,baz=143,slow=8.6,SNR=8.9	36.77	305	P	P	09 59 22.9	-1.9
WRAB	Tennant Creek	36.77	305	*e*P	P	09 59 23.2	-1.6
WRAB	comp=Z,51nm,1.4s			pmax	pmax		
WRAB	Tennant Creek comp=Z,51nm,1.4s	36.77	305	*e*P	P	09 59 23.2	-1.6
PMG	Port Moresby comp=Z,35nm,1.0s	39.95	330	*e*P	P	09 59 51.4	0.0
PMG	Port Moresby comp=Z,26nm,1.0s,baz=183,slow=3.9,SNR=5.3	39.95	330	P	P	09 59 51.1	-0.4
QSPA	South Pole Qui comp=Z,56nm,1.2s	44.03	180	*e*P	P	10 00 23.5	-1.1
QSPA	South Pole Qui comp=Z,15nm,1.0s,baz=38,slow=10,SNR=8.0	44.03	180	P	P	10 00 24.0	-0.5
MBWA	Marble Bar	45.00	288	*e*P	P	10 00 31.1	-1.5

	comp=Z,16nm,1.0s						
MAW	Mawson	52.91	208	P	P	10 01 34.5	+1.8
MAW	Mawson comp=Z,20nm,0.9s,baz=38,slow=6.9,SNR=8.2	52.91	208	P	P	10 01 34.5	+1.8
KKM	Kota Kinabalu comp=Z,17nm,0.8s	68.15	305	*e*P	P	10 03 15.9	-1.5
PLCA	Paso Flores comp=Z,13nm,1.1s	79.92	140	*e*P	P	10 04 25.6	-0.4
PLCA	Paso Flores comp=Z,9.5nm,1.1s,baz=175,slow=6.0,SNR=4.4	79.92	140	P	P	10 04 25.8	-0.2
TRQA	Tornquist comp=Z,22nm,1.6s	85.83	144	*e*P	P	10 04 55.6	-1.0
MJAR	Matsushiro Arr	85.97	338	P	P	10 04 57.6	+0.7
MJAR	Matsushiro Arr comp=Z,4.7nm,1.1s,baz=171,slow=5.4,SNR=4.5	85.97	338	P	P	10 04 57.6	+0.7
MAJO	Matsushiro	85.97	338	*e*P	P	10 04 55.5	-1.5
MAJO	comp=Z,81nm,2.0s			pmax	pmax		
MAJO	Matsushiro comp=Z,81nm,2.0s	85.97	338	*e*P	P	10 04 55.5	-1.5
CMAR	Chiang Mai Arr	88.17	299	P	P	10 05 08.9	+0.9
CMAR	Chiang Mai Arr comp=Z,4.3nm,0.9s,baz=156,slow=3.6,SNR=9.2	88.17	299	P	P	10 05 08.9	+0.9
CHTO	Chiang Mai	88.44	299	*e*P	P	10 05 04.9	-4.4
CHTO	comp=Z,11nm,1.3s			pmax	pmax		
CHTO	Chiang Mai comp=Z,11nm,1.3s	88.44	299	*e*P	P	10 05 04.9	-4.4
CFAA	Coronel Fontan	88.45	136	P	P	10 05 09.2	-0.2
CFAA	Coronel Fontan comp=Z,0.9nm,1.2s,baz=190,slow=3.6,SNR=3.7	88.45	136	P	P	10 05 09.2	-0.2
NJ2	Nanjing	88.68	322	*e*P	P	10 05 11.3	+1.2
NJ2	comp=Z,40nm,1.2s			pmax	pmax		
GYA	Guiyang	89.98	310	⇑*i*P	P	10 05 17.6	+1.1
GYA				PP	PP	10 08 53.3	+3.3
GYA				SKS	SKSac	10 15 46.0	-0.5
GYA				S	S	10 16 07.4	-1.2
GYA				SS	SS	10 22 11.0	+3.5
GYA	comp=Z,20nm,1.0s			pmax	pmax		
GYA	comp=Z,140nm,5.8s			pmax	pmax		
GYA	comp=N,660nm,21.2s			LR	LR		
GYA	comp=E,560nm,20.0s			LR	LR		
GYA	comp=Z,630nm,19.8s			LR	LR		
KMI	Kunming	91.08	306	P	P	10 05 22.6	+0.8
KMI	comp=Z,7.0nm,0.5s			pmax	pmax		
BJI	Beijing	96.61	324	P	P	10 05 46.6	0.0
BJI	comp=Z,10.0nm,0.5s			pmax	pmax		
LZH	Lanzhou	99.06	314	*e*P	Pdif	10 05 59.9	+2.0
LZH				pP	pP	10 06 04.8	+1.1
LZH				sP	sP	10 06 07.1	+1.4
LZH				*e*PP	PP	10 10 05.6	+4.9
LZH				SKS	SKSac	10 16 36.1	+0.9
LZH				*e*S	S	10 17 27.5	-0.5
LZH				sS	sS	10 17 36.0	-1.5
LZH	comp=Z,16nm,1.5s			pmax	pmax		
LZH	comp=Z,93nm,9.0s			pmax	pmax		
LZH	comp=N,360nm,18.1s			LR	LR		
LZH	comp=E,300nm,18.5s			LR	LR		
LZH	comp=Z,400nm,19.9s			LR	LR		
HHC	Hu-ho-hao-te	99.24	321	*e*P	Pdif	10 05 59.8	+1.3
HHC				pP	pP	10 06 10.3	+6.0
HHC				sP	sP	10 06 14.6	+8.3
HHC				PP	PP	10 10 06.0	+4.0
HHC				S	S	10 17 26.8	-2.3
HHC	comp=Z,29nm,0.9s			pmax	pmax		
WCN	Washoe City	107.87	52	*e*PKPdf	PKiKP	10 10 58.3	+14
NVAR	Mina Array Bea	108.06	53	PKKPbc	PKKPbc	10 21 59.6	+3.3
NVAR	Mina Array Bea comp=Z,0.9nm,1.0s,baz=120,slow=3.6,SNR=3.9	108.06	53	PKKPbc	PKKPbc	10 21 59.6	+3.3
DUG	Dugway baz=113	112.36	55	P		10 10 52.6	
U21A	Nageezi baz=113	112.91	61	P		10 10 54.5	
PMR	Palmer	113.27	22	*e*PKIKP	PKiKP	10 10 52.6	-0.9
PMR	Palmer	113.27	22	*e*PKPdf	PKiKP	10 10 52.6	-0.9
Q20A	Ridgley Place, baz=114	114.17	58	P	PKPdf	10 10 57.1	+0.9
P19A	Cripple Cowboy baz=115	114.21	58	P	PKPdf	10 10 57.4	+1.0
U25A	Circle Dot Ran baz=115	114.89	63	P	PKPdf	10 10 58.0	+0.3
E12A	Beaver Dam Sad baz=115	114.98	48	P	PKPdf	10 10 59.4	+1.9
MCK	McKinley	115.13	20	*e*PKIKP	PKPdf	10 10 56.2	-0.9
MCK	McKinley	115.13	20	*e*PKPdf	PKPdf	10 10 56.2	-0.9
N20A	Spence Gulch, baz=116	115.40	57	P	PKPdf	10 10 59.3	+0.6
Z31A	Sharp Cattle R baz=116	115.61	68	P	PKPdf	10 10 59.2	+0.2
PDAR	Pinedale Array	115.89	55	PKP	PKPdf	10 10 59.1	-0.4
PDAR	Pinedale Array comp=Z,0.2nm,0.6s,baz=102,slow=4.2,SNR=2.4	115.89	55	PKP	PKPdf	10 10 59.1	-0.4
P23A	Jefferson baz=116	115.91	59	P	PKPdf	10 10 59.9	+0.1
L20A	Wamsutter baz=116	116.11	56	P	PKPdf	10 11 00.4	+0.5
ISCO	Idaho Springs baz=117	116.31	59	P	PKPdf	10 11 01.6	+1.1
K19A	Absolon Red Bu baz=117	116.33	55	P	PKPdf	10 10 60.0	-0.3
ILAR	Eielson Array	116.49	21	PKP	PKPdf	10 10 58.4	-1.2
ILAR				PKKPbc	PKKPab	10 21 34.8	+5.7
ILAR	Eielson Array comp=Z,1.2nm,0.7s,baz=260,slow=2.1,SNR=12	116.49	21	PKP	PKPdf	10 10 58.4	-1.2
ILAR	comp=Z,1.4nm,0.7s,baz=5.9,slow=3.5,SNR=6.3			PKKPbc	PKKPab	10 21 34.8	+5.7
SLMT	Seeley Lake	116.61	49	PKPdf	PKPdf	10 11 04.0	+3.4
C14A	Swan Lake baz=117	116.81	48	P	PKPdf	10 11 00.7	-0.2
B13A	Whitefish baz=117	116.83	47	P	PKPdf	10 11 00.7	-0.2
D15A	Lincoln baz=117	116.99	49	P	PKPdf	10 11 02.6	+1.2
KSH	Kashi	117.06	300	PKP	PKPdf	10 11 06.6	+4.9
KSH	comp=Z,15μm,12.8s			AMB	AMB		
R27A	Eads baz=117	117.07	62	P	PKPdf	10 11 02.5	+0.7
J20A	Shoshoni baz=118	117.10	55	P	PKPdf	10 11 02.8	+1.1
K21A	Alcova baz=118	117.13	56	P	PKPdf	10 11 02.2	+0.4
L22A	Ellis Ranch, M baz=118	117.22	57	P	PKPdf	10 11 02.8	+0.8
F17A	Fitzpatrick Pl baz=118	117.27	51	P	PKPdf	10 11 03.1	+1.2
M23A	Laramie baz=118	117.29	58	P	PKPdf	10 11 02.9	+0.6
B14A	Marquette Ranc baz=118	117.44	48	P	PKPdf	10 11 02.2	0.0
E17A	Martinsdale baz=118	117.51	51	P	PKPdf	10 11 02.3	-0.2
MK31	Makanchi Array	117.97	309	*e*PKIKP	PKPdf	10 11 00.6	-2.5
MK31	Makanchi Array	117.97	309	*e*PKPdf	PKPdf	10 11 00.6	-2.5
MKAR	Makanchi Array	117.97	309	PKIKP	PKPpre	10 10 59.4	
MKAR	Makanchi Array	117.97	309	PKPpre	PKPpre	10 10 59.4	
MKAR	Makanchi Array comp=Z,1.7nm,0.8s,baz=318,slow=1.6,SNR=8.6	117.97	309	PKhKP	PKPpre	10 10 59.4	
A17A	Triple J Farms baz=120	119.13	49	P	PKPdf	10 11 04.9	-0.4
C19A	Slack Wire Ran baz=120	119.27	50	P	PKPdf	10 11 05.2	-0.4
I24A	Kuemmerle Ranc baz=120	119.39	56	P	PKPdf	10 11 05.6	-0.5
Q31A	Ellis baz=120	119.61	63	P	PKPdf	10 11 06.1	-0.4
F22A	Rosebud baz=120	119.62	54	P	PKPdf	10 11 06.7	+0.3
B19A	Brinkman Farms baz=120	119.76	50	P	PKPdf	10 11 06.3	-0.2
AAK	Ala-Archa	119.85	302	⇑*i*PKIKP	PKPdf	10 11 07.0	0.0
TIXI	Tiksi	120.35	347	⇓*i*PKIKP	PKPdf	10 11 06.6	-0.2

D22A	Cohagen baz=121	120.48	52	P	PKPdf	10 11 08.5	+0.6
K28A	Ten Mile Ranch baz=121	120.62	59	P	PKPdf	10 11 08.9	+0.5
H26A	Fairpoint baz=121	120.92	56	P	PKPdf	10 11 08.7	-0.1
A21A	Bergtoll Ranch baz=122	121.16	50	P	PKPdf	10 11 09.3	+0.1
F25A	Bowman baz=122	121.28	55	P	PKPdf	10 11 09.6	+0.1
H27A	Howes baz=122	121.33	57	P	PKPdf	10 11 09.0	-0.6
C23A	Lambert baz=122	121.41	52	P	PKPdf	10 11 09.7	0.0
C24A	Savage baz=122	121.67	53	P	PKPdf	10 11 10.0	-0.2
A22A	Carney Farms, baz=122	121.70	51	P	PKPdf	10 11 10.2	-0.1
BGNE	Belgrade baz=122	121.80	62	P	PKPdf	10 11 10.5	-0.1
G27A	Dupree baz=122	121.84	56	P	PKPdf	10 11 10.4	-0.2
B23A	Brockton baz=122	121.90	52	P	PKPdf	10 11 10.7	+0.1
KURBB	Kurchatov Arra comp=Z,2.3nm,0.9s,baz=123,slow=1.8,SNR=12	122.25	311	PKP	PKPdf	10 11 09.5	-1.6
KURK	Kurchatov	122.26	311	PKIKP	PKPdf	10 11 09.5	-1.6
KURK	Kurchatov	122.26	311	PKP	PKPdf	10 11 09.5	-1.6
SPMN	St. Paul baz=128	127.16	60	P	PKPdf	10 11 20.6	-0.1
WCI	Wyandotte Cave	127.57	71	*e*PKIKP	PKPdf	10 11 19.2	-2.6
WCI	Wyandotte Cave	127.57	71	*e*PKPdf	PKPdf	10 11 19.2	-2.6
BVAR	Borovoye Array	127.81	310	PKIKP	PKPdf	10 11 19.8	-1.9
BVAR	Borovoye Array	127.81	310	PKP	PKPdf	10 11 19.8	-1.9
BVAR	Borovoye Array comp=Z,2.2nm,0.8s,baz=129,slow=4.0,SNR=8.4	127.81	310	PKP	PKPdf	10 11 19.8	-1.9
BRVK	Borovoye	127.88	310	⇓*i*PKIKP	PKPdf	10 11 20.6	-1.2
SFIN	Scholer Farm baz=128	128.20	68	P	PKPdf	10 11 22.2	-0.6
AKTO	Aktyubinsk	133.56	303	PKIKP	PKPdf	10 11 32.1	-0.6
AKTO	Aktyubinsk	133.56	303	PKP	PKPdf	10 11 32.1	-0.6
AKTO	Aktyubinsk comp=Z,1.8nm,0.8s,baz=288,slow=8.5,SNR=5.5	133.56	303	PKP	PKPdf	10 11 32.1	-0.6
ARU	Arti	135.45	311	PKIKP	PKPdf	10 11 37.7	+1.7
GOF	Gofitskoye	140.77	290	*e*P	Pdif	10 09 03.7	+0.7
TOA0	Torodi Ar. Sit	144.56	207	*e*PKPdf	PKPab	10 11 52.0	-0.3
TORD	Torodi Ar. Bea	144.56	207	PKP	PKPab	10 11 51.4	-0.8
TORD	Torodi Ar. Bea comp=Z,9.9nm,0.9s,baz=166,slow=2.2,SNR=13	144.56	207	PKP	PKPab	10 11 51.4	-0.8
BRTR	Keskin Array B	144.93	277	PKP	PKPab	10 11 52.8	-0.4
BRTR	Keskin Array B comp=Z,15nm,0.9s,baz=140,slow=3.1,SNR=28	144.93	277	PKP	PKPab	10 11 52.8	-0.4
ANTO	Ankara	145.57	277	*e*PKIKP	PKPab	10 12 00.5	+5.0
ANTO	Ankara	145.57	277	*e*PKPbc	PKPab	10 12 00.5	+5.0
SPITS	Spitsbergen Ar	145.74	349	PKPbc	PKPdf	10 11 53.9	-0.2
SPITS	Spitsbergen Ar comp=Z,34nm,0.8s,baz=83,slow=6.8,SNR=14	145.74	349	PKPbc	PKPdf	10 11 53.9	-0.2
SCHQ	Schefferville	146.02	56	PKPbc	PKPdf	10 11 54.4	-0.7
SCHQ	Schefferville comp=Z,31nm,1.1s,baz=331,slow=0.7,SNR=11	146.02	56	PKPbc	PKPdf	10 11 54.4	-0.7
SIM	Simferopol'	146.64	286	*e*PKP2	PKPbc	10 11 58.0	-0.1
SIM	comp=Z,14nm,0.8s			pmax	pmax		
LVZ	Lovozero	146.99	329	⇑*i*PKP2	PKPbc	10 11 57.7	-0.8
OBN	Obninsk	147.29	305	*i*PKP2	PKPbc	10 12 00.2	+0.6
OBN	comp=Z,13nm,1.0s			pmax	pmax		
DAG	Danmarks Havn	149.16	2	*i*PKIKP	PKPbc	10 12 02.3	-1.6
DAG	comp=Z,9.0nm,1.0s			pmax	pmax		
DAG	Danmarks Havn comp=Z,8.6nm,1.0s	149.16	2	*i*P	PKPbc	10 12 02.3	-1.6
ARCES	ARCESS Array B	149.43	334	PKPbc	PKPbc	10 12 04.6	-0.2
ARCES	ARCESS Array B comp=Z,18nm,0.9s,baz=64,slow=2.8,SNR=17	149.43	334	PKPbc	PKPbc	10 12 04.6	-0.2
SUMG	Summit	151.13	15	*i*PKIKP	PKPbc	10 12 09.3	0.0
SUMG	comp=Z,13nm,1.1s			pmax	pmax		
SUMG	Summit comp=Z,13nm,1.1s	151.13	15	*i*P	PKPbc	10 12 09.3	0.0
KIEV	Kiev	151.22	295	*e*PKIKP	PKPbc	10 12 08.7	-0.9
KIEV				*e*		10 12 17.0	
KIEV	Kiev	151.22	295	*e*PKPbc	PKPab	10 12 08.7	-0.9
KIEV				*e*PKPab	PKPab	10 12 17.0	-0.7
TAM	Tamanrasset	151.85	221	*e*PKIKP	PKPbc	10 12 13.8	+1.6
TAM	Tamanrasset	151.85	221	*e*PKPbc	PKPab	10 12 13.8	+1.6
MICGM	Minsk	152.29	303	*e*	PKPab	10 12 24.0	+2.0
FIA1	FINESS Array S	152.31	318	*e*PKPbc	PKPbc	10 12 11.8	+0.1
FINES	FINESS Array B	152.31	318	PKPbc	PKPbc	10 12 11.1	-0.7
FINES	FINESS Array B comp=Z,7.7nm,1.1s,baz=35,slow=4.7,SNR=7.6	152.31	318	PKPbc	PKPbc	10 12 11.1	-0.7
MNK	Minsk	152.32	303	*e*PKP2	PKPab	10 12 24.0	+1.9
KOLS	Kolonicke sedl	155.45	290	*e*PKP2	PKPab	10 12 40.3	+4.6
KOLS	Kolonicke sedl	155.45	290	*e*PKP	PKPab	10 12 40.3	+4.6
STHS	Stebnicka Huta	156.18	291	*e*PKIKP	PKPdf	10 12 18.1	+7.3
STHS	Stebnicka Huta	156.18	291	*e*PKP	PKPdf	10 12 18.1	+7.3
STHS				*e*		10 12 45.0	
KECS	Kecovo	156.57	288	*e*PKP2	PKPab	10 12 43.4	+2.9
KECS	Kecovo	156.57	288	*e*PKP	PKPab	10 12 43.4	+2.9
NOA	NORSAR Array B	159.01	325	PKPab	PKPab	10 12 49.2	-1.4
NOA	NORSAR Array B comp=Z,1.7nm,1.0s,baz=59,slow=4.3,SNR=3.5	159.01	325	PKPab	PKPab	10 12 49.2	-1.4
KEST	Kesra	159.58	248	PKPab	PKPab	10 12 55.5	+1.6
KEST	Kesra comp=Z,2.1nm,1.0s,baz=129,slow=6.5,SNR=2.8	159.58	248	PKPab	PKPab	10 12 55.5	+1.6
BRG	Berggiesshubel comp=Z,14nm,1.4s	160.90	295	*e*PKP	PKPab	10 13 02.8	+3.6
BRG	Berggiesshubel comp=Z,23nm,1.4s	160.90	295	*e*PKP2	PKPab	10 13 02.8	+3.6
BRG				pmax

MSZ	**Milford Sound**	**1.95**	**44**	*e*PN	**Pn**	**09 54 17.2**	**-1.9**
MSZ				AML	AML	09 54 53.9	
MSZ				AML	AML	09 54 53.9	
MSZ				AML	AML	09 54 57.0	
MSZ				AML	AML	09 54 57.0	
SYZ	**Scrubby Hill**	**2.20**	**103**	*e*PN	**Pb**	**09 54 25.9**	**+0.2**
SYZ				SN	**Sn**	**09 54 48.7**	**-1.1**
WKZ	**Wanaka**	**2.45**	**60**	*e*PN	**Pb**	**09 54 30.2**	**+0.1**
WKZ				AML	AML	09 55 00.8	
WKZ				AML	AML	09 55 00.8	
WKZ				AML	AML	09 55 03.1	
WKZ				AML	AML	09 55 03.1	
EAZ	**Earnscleugh**	**2.46**	**71**	*e*PN	**Pb**	**09 54 28.5**	**-1.6**
EAZ				AML	AML	09 55 01.3	
EAZ				AML	AML	09 55 01.3	
EAZ				AML	AML	09 55 03.9	
EAZ				AML	AML	09 55 04.9	
TUZ	**Tuapeka**	**2.52**	**88**	*e*PN	**Pn**	**09 54 28.4**	**+1.6**
TUZ				SN	**Sn**	**09 54 58.6**	**+1.0**
TUZ				AML	AML	09 55 02.8	
JCZ	**Jackson Bay**	**2.79**	**45**	AML	AML	09 55 14.6	
JCZ				AML	AML	09 55 15.4	
HHSZ	**Highcliff Hill**	**3.19**	**88**	*e*PN	**Pn**	**09 54 38.4**	**+2.3**
LBZ	**Lake Benmore**	**3.40**	**61**	AML	AML	09 55 21.7	
LBZ				AML	AML	09 55 24.3	
ODZ	**Otahua Downs**	**3.41**	**74**	PN	**Pn**	**09 54 40.2**	**+1.1**
ODZ				AML	AML	09 55 28.9	
ODZ				AML	AML	09 55 32.7	
FOZ	**Fox Glacier**	**3.63**	**47**	AML	AML	09 55 48.6	
FOZ				AML	AML	09 55 50.7	
RPZ	**Rata Peaks**	**4.29**	**58**	Pn	**Pn**	**09 54 52.6**	**+1.3**
	45nm,0.3s,baz=146,slow=22,SNR=6.6						
RPZ				Sn	**Sn**	**09 55 41.1**	**-0.3**
	94nm,0.3s,baz=343,slow=19,SNR=3.7						
ASAR	**Alice Springs**	**34.21**	**300**	P	**P**	**10 00 32.3**	**+0.6**
	3.8nm,0.6s,baz=135,slow=8.5,SNR=3.3						
WRA	**Warramunga Arr**	**36.82**	**304**	P	**P**	**10 00 54.0**	**-0.1**
	6.0nm,0.9s,baz=136,slow=8.0,SNR=5.0						
FITZ	**Fitzroy Crossi**	**43.45**	**296**	P	**P**	**10 01 49.6**	**+0.4**
	6.0nm,0.7s,baz=167,slow=7.4,SNR=5.6						
TORD	**Torodi Ar. Bea**	**144.59**	**207**	PKP	**PKPab**	**10 13 20.2**	**-1.2**
	2.2nm,0.6s,baz=156,slow=1.6,SNR=4.4						
BRTR	**Keskin Array B**	**144.98**	**277**	PKP	**PKPab**	**10 13 22.6**	**+0.1**
	5.8nm,0.8s,baz=141,slow=5.4,SNR=2.7						
SCHQ	**Schefferville**	**145.98**	**56**	PKPbc	**PKPdf**	**10 13 24.4**	**+0.3**
	8.0nm,0.6s,baz=283,slow=4.0,SNR=10						
ARCES	**ARCESS Array B**	**149.45**	**334**	PKPbc	**PKPbc**	**10 13 34.4**	**+0.4**
	5.8nm,0.6s,baz=79,slow=3.4,SNR=6.5						

BJI 15 09:53:49.2,26˚.18N×105˚.20E,h8km,ML3.8/5, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**1.34**	**78**	Pg	Pn	09 54 13.6	-0.8
GYA				Sg	Sg	09 54 33.6	+0.8
GYA	comp=N,2μm,1.0s			smax	smax		
GYA	comp=E,1μm,0.8s			smax	smax		
KMI	**Kunming**	**2.46**	**245**	Pn	Pn	09 54 29.9	0.0
KMI				Sg	Sg	09 55 06.8	-1.9
KMI	comp=N,190nm,1.0s			smax	smax		
KMI	comp=E,110nm,1.1s			smax	smax		

*IDC **15** 09:55:05.7±1.2,45˚.64S×166˚.27E,h0km,mb4.6/2, mb1 4.9/4,mb1mx4.4/15,mbtmp4.8/4,ML4.6/2,Error ellipse: s-maj=46.9km s-min=23.4km az=168.0*
*ISCJB **15** 09:55:06.0±0.8,45˚.68S±0˚.04×166˚.29E±0˚.09,h15km, mb4.6/2,Error ellipse: s-maj=8.8km s-min=5.7km az=176.6*
*WEL **15** 09:55:07.4±0.2,45˚.68S×166˚.54E,h5km,ML5.4/21,Error ellipse: s-maj=2.2km s-min=0.8km az=90.0*

ISC 15 09:55:07.2±0.7,45˚.68S±0˚.04×166˚.48E±0˚.06,h15km,n40, σ1§43/38,1D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.51**	**164**	PG	**Pg**	**09 55 17.6**	**+0.2**
PYZ				SG	**Sg**	**09 55 24.4**	**+0.3**
PYZ				SG	**Sb**	**09 55 24.5**	**-0.6**
DCZ	**Deep Cove**	**0.51**	**67**	PG	**Pg**	**09 55 17.2**	**-0.1**
DCZ				SG	**Sg**	**09 55 23.2**	**-1.0**
DCZ				AML	AML	09 55 24.9	
DCZ				AML	AML	09 55 25.5	
DCZ				AML	AML	09 55 25.6	
MLZ	**Mavora Lakes**	**1.23**	**75**	↓P*	**Pn**	**09 55 29.0**	**-0.9**
MLZ				AML	AML	09 55 45.2	
MLZ				AML	AML	09 55 45.3	
MSZ	**Milford Sound**	**1.43**	**46**	*e*PN	**Pb**	**09 55 33.4**	**-0.2**
MSZ				AML	AML	09 56 01.1	
MSZ				AML	AML	09 56 01.2	
MSZ				AML	AML	09 56 06.5	
MSZ				AML	AML	09 56 06.5	
APZ	**The Paps**	**1.56**	**138**	*e*PN	**Pn**	**09 55 34.2**	**-0.2**
WKZ	**Wanaka**	**1.98**	**66**	PN	**Pb**	**09 55 42.6**	**-0.4**
WKZ				AML	AML	09 56 10.2	
WKZ				AML	AML	09 56 10.2	
EAZ	**Earnscleugh**	**2.04**	**78**	PN	**Pb**	**09 55 43.1**	**-0.8**
SYZ	**Scrubby Hill**	**2.04**	**116**	PN	**Pb**	**09 55 43.3**	**-0.6**
TUZ	**Tuapeka**	**2.22**	**98**	PN	**Pb**	**09 55 46.0**	**-1.0**
TUZ				AML	AML	09 56 16.6	
JCZ	**Jackson Bay**	**2.28**	**46**	*e*PN	**Pb**	**09 55 48.0**	**-0.1**
JCZ				AML	AML	09 56 25.6	
JCZ				AML	AML	09 56 25.8	
HHSZ	**Highcliff Hill**	**2.89**	**96**	PN	**Pn**	**09 55 54.9**	**+2.3**
LBZ	**Lake Benmore**	**2.92**	**65**	*e*PN	**Pn**	**09 55 55.8**	**+2.7**
LBZ				AML	AML	09 56 34.1	
LBZ				AML	AML	09 56 34.1	
LBZ				AML	AML	10 00 38.7	
ODZ	**Otahua Downs**	**3.00**	**79**	PN	**Pn**	**09 55 55.8**	**+1.6**
ODZ				AML	AML	09 56 33.3	
ODZ				AML	AML	09 56 38.3	
ODZ				AML	AML	10 00 39.6	
FOZ	**Fox Glacier**	**3.11**	**48**	*e*PN	**Pb**	**09 56 00.6**	**-1.6**
FOZ				AML	AML	09 56 50.9	
FOZ				AML	AML	09 56 51.0	
FOZ				AML	AML	09 56 52.4	
FOZ				AML	AML	09 56 52.4	
RPZ	**Rata Peaks**	**3.80**	**61**	Pn	**Pn**	**09 56 07.2**	**+2.0**
	127nm,0.3s,baz=113,slow=14,SNR=8.8						
RPZ				Sn	**Sn**	**09 56 52.9**	**+3.2**
	208nm,0.3s,baz=84,slow=19,SNR=4.5						
OXZ	**Oxford**	**4.62**	**61**	*e*PN	**Pn**	**09 56 17.3**	**+0.8**
LTZ	**Lake Taylor**	**5.07**	**57**	*e*PN	**Pn**	**09 56 24.0**	**+1.4**
DSZ	**Denniston Nort**	**5.50**	**46**	*e*PN	**Pn**	**09 56 29.9**	**+1.2**
KHZ	**Kahutara**	**6.04**	**60**	*e*PN	**Pn**	**09 56 34.7**	**-1.2**
KHZ				AML	AML	09 58 37.9	
THZ	**Tophouse**	**6.08**	**52**	*e*PN	Pn	09 56 41.8	+5.2
THZ				AML	AML	10 01 22.2	
QRZ	**Quartz Range**	**6.55**	**44**	*e*PN	**Pn**	**09 56 43.7**	**+0.7**
QRZ				AML	AML	09 58 45.4	
NNZ	**Nelson**	**6.71**	**51**	*e*PN	Pn	09 56 49.1	+4.0
NNZ				AML	AML	10 01 31.8	
TUWZ	**Tuamarina**	**6.88**	**55**	*e*PN	Pn	09 56 51.5	+4.0
TCW	**Tory Channel**	**7.21**	**55**	*e*PN	Pn	09 56 58.0	+5.9
TCW				AML	AML	09 58 23.2	
TCW				AML	AML	09 58 24.1	
DUWZ	**D'Urville Isla**	**7.29**	**51**	*e*PN	Pn	09 56 57.9	+4.7
DUWZ				AML	AML	09 58 26.2	
DUWZ				AML	AML	09 58 27.2	
MRZ	**Mangatainoka R**	**8.32**	**56**	AML	AML	09 59 39.4	
NWEZ	**Newall Road**	**8.40**	**43**	*e*PN	**Pn**	**09 57 09.2**	**+0.8**
KHEZ	**Kahui Hut**	**8.46**	**44**	*e*PN	**Pn**	**09 57 10.5**	**+1.3**
PKE	**Pukeiti**	**8.53**	**43**	*e*PN	**Pn**	**09 57 12.1**	**+2.0**
PKE				AML	AML	09 58 54.8	
PKE				AML	AML	09 58 56.3	
HIZ	**Hauiti**	**9.48**	**44**	*e*PN	Pn	09 57 29.1	+5.9
HIZ				AML	AML	09 59 21.3	
HIZ				AML	AML	09 59 22.6	
URZ	**Urewera**	**10.83**	**51**	Pn	**Pn**	**09 57 44.8**	**+3.2**
	1.5nm,0.3s,baz=128,slow=19,SNR=2.8						
URZ				Sn	**Sn**	**09 59 39.2**	**-3.4**
	1.4nm,0.3s,baz=72,slow=18,SNR=2.3						
ASAR	**Alice Springs**	**34.28**	**299**	P	**P**	**10 01 52.1**	**-0.7**
	8.9nm,1.1s,baz=133,slow=8.5,SNR=4.6						
WRA	**Warramunga Arr**	**36.85**	**303**	P	**P**	**10 02 14.5**	**-0.4**
	9.3nm,1.0s,baz=138,slow=7.7,SNR=4.1						
KURBB	**Kurchatov Arra**	**122.26**	**311**	PKP	**PKPdf**	**10 14 00.4**	**-0.2**
	0.9nm,0.8s,baz=114,slow=1.8,SNR=4.6						
TORD	**Torodi Ar. Bea**	**145.10**	**207**	PKPbc	**PKPab**	**10 14 44.0**	**+0.2**
	10nm,0.9s,baz=160,slow=2.4,SNR=7.4						
BRTR	**Keskin Array B**	**145.24**	**277**	PKPbc	**PKPdf**	**10 14 44.4**	**+0.4**
	4.2nm,0.8s,baz=144,slow=5.0,SNR=4.6						
SPITS	**Spitsbergen Ar**	**145.39**	**350**	PKPbc	**PKPab**	**10 14 43.1**	**0.0**
	3.9nm,0.5s,baz=83,slow=6.8,SNR=9.3						
ARCES	**ARCESS Array B**	**149.21**	**334**	PKPbc	**PKPbc**	**10 14 53.5**	**-0.3**
	6.5nm,0.7s,baz=57,slow=4.5,SNR=4.2						
FINES	**FINESS Array B**	**152.24**	**319**	PKPbc	**PKPbc**	**10 15 01.3**	**+0.2**
	1.9nm,0.5s,baz=92,slow=4.2,SNR=6.0						
GERES	**GERESS Array B**	**161.29**	**290**	PKPab	**PKPab**	**10 15 50.4**	**-0.2**
	0.3nm,0.5s,baz=103,slow=4.2,SNR=3.6						

*CSEM **15** 09:55:42.9,43˚.91N×20˚.09E,h4km,ML1.5,After BEO*

BEO 15 09:55:42.9±0.5,43˚.91N×20˚.09E,h4km±4km,ML1.5/3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIVS	**Divibare**	**0.20**	**339**	*e*Pg	Pg	09 55 46.3	-0.7
DIVS				*e*Sg	Sg	09 55 50.0	+0.2
DIVS	**Divibare**	**0.20**	**339**	*e*Pg	Pg	09 55 46.3	-0.7
DIVS				*e*Sg	Sg	09 55 50.0	+0.2
GRUS	**Gruza**	**0.45**	**92**	*e*Pg	Pg	09 55 50.7	-0.9
GRUS	**Gruza**	**0.45**	**92**	*e*Pg	Pg	09 55 50.7	-0.9
BBLS	**Lazići**	**0.50**	**265**	*e*Pg	Pg	09 55 51.9	-0.7
BBLS				*e*Sg	Sg	09 55 59.2	+0.1
BBLS	**Lazići**	**0.50**	**265**	*e*Pg	Pg	09 55 51.9	-0.7
BBLS				*e*Sg	Sg	09 55 59.2	+0.1
TEKS	**Tekeris**	**0.76**	**328**	*e*Pg	Pg	09 55 57.0	-0.5
TEKS				*e*Sg	Sg	09 56 07.0	-0.4
TEKS	**Tekeris**	**0.76**	**328**	*e*Pg	Pg	09 55 57.0	-0.5
TEKS				*e*Sg	Sg	09 56 07.0	-0.4

*IDC **15** 09:56:51.1±1.6,46˚.25S×166˚.03E,h0km,mb4.0/3, mb1 4.4/4,mb1mx4.2/14,mbtmp4.2/4,Error ellipse: s-maj=68.2km s-min=29.8km az=3.0*
*ISCJB **15** 09:56:53.3±1.3,46˚.10S±0˚.07×165˚.94E±0˚.07,h23km±8km, mb4.0/3,Error ellipse: s-maj=12.4km s-min=8.0km az=18.4*
*WEL **15** 09:56:54.3±0.8,46˚.10S×165˚.99E,h12km,ML4.8/7,Error ellipse: s-maj=7.7km s-min=3.1km az=90.0*

ISC 15 09:56:51.9±2.1,46˚.17S±0˚.07×166˚.01E±0˚.07,h5km±12km, n19,σ0§56/21,mb3.9/3,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.47**	**90**	P*	**Pn**	**09 57 04.2**	**-1.0**
PYZ				S*	**Sb**	**09 57 10.8**	**+1.1**
DCZ	**Deep Cove**	**1.06**	**49**	P*	**Pb**	**09 57 12.9**	**+0.2**
DCZ				S*	**Sg**	**09 57 25.9**	**0.0**
DCZ				S*	**Sb**	**09 57 26.2**	**-0.6**
DCZ				AML	AML	09 57 30.0	
DCZ				AML	AML	09 57 30.4	
APZ	**The Paps**	**1.52**	**117**	*e*PN	**Pg**	**09 57 21.0**	**0.0**
APZ				SN	**Sn**	**09 57 39.8**	**-0.1**
MLZ	**Mavora Lakes**	**1.72**	**62**	*e*PN	**Pn**	**09 57 22.9**	**+0.4**
MLZ				SN	**Sn**	**09 57 45.0**	**0.0**
MLZ				AML	AML	09 57 50.0	
MSZ	**Milford Sound**	**2.02**	**43**	AML	AML	09 58 02.5	
MSZ				AML	AML	09 58 04.2	
MSZ				AML	AML	09 58 04.4	
MSZ				AML	AML	09 58 04.4	
SYZ	**Scrubby Hill**	**2.20**	**101**	*e*PN	**Pn**	**09 57 29.8**	**+0.8**
SYZ				SN	**Sb**	**09 57 58.5**	**-1.1**
EAZ	**Earnscleugh**	**2.49**	**69**	AML	AML	09 58 09.1	
EAZ				AML	AML	09 58 11.4	
EAZ				AML	AML	09 58 11.5	
EAZ				AML	AML	09 58 11.6	
WKZ	**Wanaka**	**2.50**	**59**	AML	AML	09 58 13.4	
WKZ				AML	AML	09 58 13.6	
TUZ	**Tuapeka**	**2.53**	**86**	SN	**Sn**	**09 58 05.5**	**+0.7**
TUZ				AML	AML	09 58 09.3	
ODZ	**Otahua Downs**	**3.44**	**73**	*e*PN	**Pn**	**09 57 45.8**	**-0.4**
ODZ				AML	AML	09 58 43.5	
ODZ				AML	AML	09 58 45.2	
RPZ	**Rata Peaks**	**4.34**	**57**	Pn	**Pn**	**09 57 58.5**	**-0.1**
	baz=102,slow=20,SNR=0.9						
ASAR	**Alice Springs**	**34.24**	**300**	P	**P**	**10 03 38.7**	**0.0**
	0.8nm,0.7s,baz=139,slow=5.8,SNR=2.8						
WRA	**Warramunga Arr**	**36.85**	**305**	P	**P**	**10 04 01.3**	**+0.1**
	1.9nm,0.8s,baz=140,slow=8.0,SNR=2.0						
CMAR	**Chiang Mai Arr**	**88.24**	**299**	P	**P**	**10 09 44.4**	**+0.1**
	0.7nm,0.3s,baz=143,slow=3.2,SNR=3.4						
TORD	**Torodi Ar. Bea**	**144.51**	**207**	PKP	PKPbc	10 16 28.1	-0.1
	2.4nm,0.6s,baz=157,slow=1.9,SNR=4.9						
BRTR	**Keskin Array B**	**144.98**	**277**	PKP	**PKPdf**	**10 16 29.9**	**-0.1**
	4.1nm,0.9s,baz=145,slow=5.2,SNR=4.1						
SPITS	**Spitsbergen Ar**	**145.82**	**349**	PKPbc	**PKPbc**	**10 16 30.4**	**-0.2**
	6.8nm,0.8s,baz=93,slow=7.5,SNR=3.4						
SCHQ	**Schefferville**	**146.03**	**56**	PKPbc	**PKPdf**	**10 16 30.7**	**-0.4**
	5.0nm,0.6s,baz=275,slow=4.0,SNR=5.4						
ARCES	**ARCESS Array B**	**149.51**	**334**	PKPbc	**PKPbc**	**10 16 41.2**	**+0.3**
	4.5nm,0.6s,baz=64,slow=2.8,SNR=5.4						

IDC 15 09:57:06.9±1.7,46˚.27S×166˚.01E,h0km,mb4.2/2, mb1 4.5/2,mb1mx4.0/13,mbtmp4.2/2,Error ellipse: s-maj=123.8km s-min=45.1km az=23.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.91**	**305**	P	P	10 04 16.7	-0.8
	2.2nm,0.9s,baz=142,slow=8.0,SNR=2.2						
CMAR	**Chiang Mai Arr**	**88.29**	**299**	P	P	10 10 01.2	+0.9
	0.5nm,0.4s,baz=145,slow=3.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**144.42**	**207**	PKP	PKPab	10 16 43.4	-0.1
	1.6nm,0.8s,baz=149,slow=1.7,SNR=2.5						
BRTR	**Keskin Array B**	**144.99**	**277**	PKP	PKPdf	10 16 45.8	0.0
	3.5nm,0.8s,baz=143,slow=4.2,SNR=3.6						
SCHQ	**Schefferville**	**146.09**	**56**	PKPbc	PKPdf	10 16 46.8	-0.2
	2.6nm,0.8s,baz=252,slow=20,SNR=2.2						
ARCES	**ARCESS Array B**	**149.60**	**334**	PKPbc	PKPbc	10 16 56.8	-0.2
	7.1nm,0.9s,baz=31,slow=3.7,SNR=3.7						

*IDC **15** 09:58:43.3±1.7,45˚.81S×166˚.83E,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.9/14,mbtmp3.9/3,Error ellipse: s-maj=79.6km s-min=28.6km az=59.0*
*ISCJB **15** 09:58:46.0±0.8,46˚.11S±0˚.07×166˚.01E±0˚.07,h14km, mb4.0/3,Error ellipse: s-maj=9.9km s-min=6.8km az=174.7*
*WEL **15** 09:58:49.4±0.9,46˚.02S×166˚.21E,h20km,ML4.6/6,Error ellipse: s-maj=8.1km s-min=2.5km az=90.0*

ISC 15 09:58:46.9±0.9,46˚.12S±0˚.07×166˚.30E±0˚.06,h14km,n17, σ1§36/20,mb4.0/3,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.27**	**100**	P*	**Pn**	**09 58 56.9**	**+0.4**
PYZ				S*	**Sn**	**09 59 02.7**	**+0.3**
DCZ	**Deep Cove**	**0.88**	**43**	P*	**Pn**	**09 59 05.0**	**+0.2**
DCZ				S*	**Sn**	**09 59 16.8**	**-0.6**
DCZ				S*	**Sb**	**09 59 17.1**	**+1.6**
DCZ				S*	**Sb**	**09 59 17.2**	**+1.6**
DCZ				AML	AML	09 59 18.0	
APZ	**The Paps**	**1.37**	**122**	SN	**Sg**	**09 59 31.8**	**+0.8**
MLZ	**Mavora Lakes**	**1.52**	**60**	*e*PN	**Pg**	**09 59 16.5**	**+0.3**
MLZ				AML	AML	09 59 40.0	
MLZ				AML	AML	09 59 40.2	
MSZ	**Milford Sound**	**1.85**	**39**	*e*PN	Pg	09 59 25.1	+2.7
MSZ				AML	AML	09 59 53.9	
MSZ				AML	AML	09 59 54.2	
MSZ				AML	AML	09 59 54.6	
MSZ				AML	AML	09 59 55.3	
EAZ	**Earnscleugh**	**2.29**	**68**	*e*PN	**Pb**	**09 59 27.2**	**-0.8**
EAZ				SN	**Sg**	**09 59 58.2**	**-2.3**
EAZ				AML	AML	10 00 00.1	
TUZ	**Tuapeka**	**2.33**	**87**	*e*PN	**Pb**	**09 59 27.8**	**-0.8**
TUZ				AML	AML	10 00 01.0	
TUZ				AML	AML	10 00 01.5	
HHSZ	**Highcliff Hill**	**3.00**	**87**	*e*PN	**Pb**	**09 59 37.4**	**-2.8**
ODZ	**Otahua Downs**	**3.23**	**72**	*e*PN	**Pn**	**09 59 36.9**	**-0.3**
ODZ				AML	AML	10 00 20.7	
ODZ				AML	AML	10 00 22.9	
LBZ	**Lake Benmore**	**3.25**	**59**	SN	**Sn**	**10 00 18.7**	**+2.8**
ASAR	**Alice Springs**	**34.38**	**300**	P	**P**	**10 05 33.5**	**-0.1**
	1.1nm,0.6s,baz=133,slow=6.6,SNR=5.2						
WRA	**Warramunga Arr**	**36.99**	**304**	P	**P**	**10 05 55.1**	**-0.8**
	2.1nm,0.8s,baz=143,slow=8.1,SNR=4.8						
SNAA	**Sanae**	**62.26**	**184**	P	**P**	**10 09 08.4**	**+0.6**
	1.1nm,1.0s,baz=169,slow=5.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**144.65**	**207**	PKPbc	PKPbc	10 18 21.5	-0.6
	1.5nm,0.7s,baz=156,slow=2.5,SNR=3.4						
BRTR	**Keskin Array B**	**145.17**	**277**	PKPbc	**PKPdf**	**10 18 23.1**	**-0.6**
	1.8nm,0.8s,baz=149,slow=5.0,SNR=4.1						
ARCES	**ARCESS Array B**	**149.56**	**334**	PKPbc	**PKPdf**	**10 18 30.6**	**+0.7**
	1.5nm,0.6s,baz=60,slow=5.8,SNR=5.0						
FINES	**FINESS Array B**	**152.50**	**318**	PKPbc	**PKPbc**	**10 18 41.8**	**+0.2**
	0.6nm,0.5s,baz=109,slow=7.5,SNR=3.2						

WEL 15 10:00:25.4±0.8,46˚.01S×166˚.22E,h20km,ML4.4/6,1C, Error ellipse: s-maj=8.9km s-min=2.7km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.36**	**117**	P*	Pb	10 00 32.8	-0.3
PYZ				S*	Sb	10 00 38.2	0.0
PYZ				S*	Sn	10 00 38.3	-3.7
DCZ	**Deep Cove**	**0.84**	**51**	↑P*	Pb	10 00 40.7	-0.5
DCZ				S*	Sb	10 00 52.7	+0.6
DCZ				AML	AML	10 00 54.0	
DCZ				AML	AML	10 00 54.0	
DCZ				AML	AML	10 00 56.7	
APZ	**The Paps**	**1.48**	**125**	*e*PN	Pn	10 00 50.7	-0.1
APZ				SN	Sn	10 01 07.8	-1.8
MLZ	**Mavora Lakes**	**1.52**	**65**	*e*PN	Pn	10 00 52.0	+0.5
MLZ				SN	Sn	10 01 09.7	-1.0
MLZ				AML	AML	10 01 13.7	
MSZ	**Milford Sound**	**1.80**	**43**	AML	AML	10 01 28.4	
MSZ				AML	AML	10 01 29.2	
SYZ	**Scrubby Hill**	**2.09**	**106**	*e*PN	Pb	10 01 02.3	-0.3
SYZ				SN	Sn	10 01 24.0	-0.6
EAZ	**Earnscleugh**	**2.30**	**71**	*e*PN	Pb	10 01 04.3	-1.9
EAZ				AML	AML	10 01 37.3	
EAZ				AML	AML	10 01 37.7	
TUZ	**Tuapeka**	**2.38**	**90**	*e*PN	Pn	10 01 04.6	+1.4
TUZ				AML	AML	10 01 36.3	
TUZ				AML	AML	10 01 38.4	

*IDC **15** 10:01:47.7±0.5,45˚.91S×166˚.37E,h0km,mb4.8/17, mb1 4.9/19,mb1mx4.8/23,mbtmp4.8/19,ML4.6/2,Error ellipse: s-maj=17.5km s-min=13.1km az=67.0*
*AUST **15** 10:01:48.9±0.8,45˚.92S×166˚.41E,h0km,Error ellipse: s-maj=1.2km s-min=0.7km az=15.0*
*ISCJB **15** 10:01:49.1±0.2,45˚.86S±0˚.03×166˚.31E±0˚.03,h14km, mb5.0/35,MS7.8/1,Error ellipse: s-maj=4.7km s-min=3.2km az=174.5*
*NEIC **15** 10:01:49.7,45˚.76S×166˚.46E,h5km,mb5.3/11, ML5.6(WEL),After WEL.*
*WEL **15** 10:01:50.8±0.5,45˚.84S×166˚.44E,h5km,ML5.5/23,Error ellipse: s-maj=4.7km s-min=1.0km az=90.0*
WEL Felt in the Otago region, maximum reported intensity MM 4.
*MOS **15** 10:01:52.2±1.7,45˚.91S×166˚.16E,h33km,mb5.4/6,Error ellipse: s-maj=20.3km s-min=11.2km az=108.3*
*BJI **15** 10:01:53.3,45˚.71S×166˚.58E,h31km,mB5.5/5,mb5.6/15*
*BKK **15** 10:02:03.6±1.4,45˚.S±10˚×16˚.4E±3˚0,h10km,M7.4/2, mb7.4/2*

ISC 15 10:01:50.1±0.3,45˚.87S±0˚.03×166˚.40E±0˚.04,h14km,n240, σ1§25/238,mb5.1/35,17C-6D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.36**	**147**	Pg	**Pb**	**10 01 58.2**	**-0.1**
PYZ				Sg	**Sg**	**10 02 03.5**	**+1.2**
PYZ	**Puysegur Point**	**0.36**	**147**	PG	**Pb**	**10 01 58.2**	**-0.1**
PYZ				SG	**Sg**	**10 02 03.5**	**+1.2**
PYZ				SG	**Sb**	**10 02 03.7**	**0.0**
DCZ	**Deep Cove**	**0.66**	**54**	Pg	Pg	10 01 59.7	-3.3
DCZ				Sg	**Sg**	**10 02 11.6**	**-0.1**
DCZ	**Deep Cove**	**0.66**	**54**	P*	**Pg**	**10 02 03.0**	**0.0**
DCZ				SG	**Sg**	**10 02 11.6**	**-0.1**
DCZ				AML	AML	10 02 20.9	
MLZ	**Mavora Lakes**	**1.35**	**68**	P*	**Pn**	**10 02 14.7**	**+0.1**
MLZ	**Mavora Lakes**	**1.35**	**68**	P*	**Pn**	**10 02 14.6**	**0.0**
MLZ				AML	AML	10 02 41.1	
MLZ				AML	AML	10 02 41.2	
APZ	**The Paps**	**1.46**	**132**	Pn	**Pn**	**10 02 16.5**	**+0.3**
APZ	**The Paps**	**1.46**	**132**	PN	**Pn**	**10 02 15.9**	**-0.2**
MSZ	**Milford Sound**	**1.61**	**43**	P	**Pg**	**10 02 21.4**	**+0.3**
MSZ	**Milford Sound**	**1.61**	**43**	Pn	**Pg**	**10 02 21.4**	**+0.3**
MSZ	**Milford Sound**	**1.61**	**43**	*e*PN	**Pb**	**10 02 20.1**	**+0.4**
MSZ				AML	AML	10 02 49.0	
MSZ				AML	AML	10 02 49.0	
MSZ				AML	AML	10 02 49.7	
MSZ				AML	AML	10 02 53.5	
SYZ	**Scrubby Hill**	**2.02**	**110**	Pn	**Pn**	**10 02 25.2**	**+1.5**
SYZ	**Scrubby Hill**	**2.02**	**110**	PN	**Pn**	**10 02 24.9**	**+1.2**
WKZ	**Wanaka**	**2.12**	**61**	Pn	**Pb**	**10 02 28.9**	**+0.5**
WKZ	**Wanaka**	**2.12**	**61**	PN	**Pb**	**10 02 28.8**	**+0.5**
WKZ				AML	AML	10 03 02.2	
WKZ				AML	AML	10 03 02.2	
WKZ				AML	AML	10 03 04.3	
WKZ				AML

QRZ	**Quartz Range**	**6.74**	**44**	Pn	**Pn**	**10 03 30.4**	**+1.9**
QRZ	**Quartz Range**	**6.74**	**44**	*e*PN	**Pn**	**10 03 29.9**	**+1.4**
QRZ				AML	AML	10 05 50.6	
QRZ				AML	AML	10 08 34.3	
NNZ	**Nelson**	**6.88**	**50**	AML	AML	10 06 06.1	
NNZ				AML	AML	10 06 06.1	
DUWZ	**D'Urville Isla**	**7.46**	**50**	*e*PN	**Pn**	**10 03 40.7**	**+2.2**
DUWZ				AML	AML	10 05 20.3	
DUWZ				AML	AML	10 05 23.7	
SNZO	**South Karori**	**7.56**	**56**	Pn	**Pn**	**10 03 41.6**	**+1.8**
	163nm,0.9s						
KIW	**Kapiti Island**	**7.97**	**54**	*e*PN	**Pn**	**10 03 46.7**	**+1.2**
KIW				AML	AML	10 05 25.3	
KIW				AML	AML	10 05 33.5	
DFE	**Dawson Falls**	**8.66**	**44**	PN	**Pn**	**10 03 57.7**	**+2.7**
NEZ	**North Egmont**	**8.70**	**43**	PN	**Pn**	**10 03 57.0**	**+1.5**
PKE	**Pukeiti**	**8.71**	**43**	AML	AML	10 05 47.9	
PKE				AML	AML	10 05 48.0	
WAZ	**Wanganui**	**8.78**	**49**	Pn	Pn	10 04 02.0	+5.3
WAZ	**Wanganui**	**8.78**	**49**	*e*PN	Pn	10 04 00.7	+4.1
WAZ				AML	AML	10 06 35.7	
WAZ				AML	AML	10 09 19.4	
VRZ	**Vera Road**	**9.14**	**45**	Pn	Pn	10 04 07.0	+5.6
VRZ	**Vera Road**	**9.14**	**45**	AML	AML	10 06 38.0	
VRZ				AML	AML	10 06 38.1	
HIZ	**Hauiti**	**9.66**	**43**	Pn	**Pn**	**10 04 10.3**	**+1.6**
HIZ	**Hauiti**	**9.66**	**43**	*e*PN	**Pn**	**10 04 09.3**	**+0.6**
HIZ				AML	AML	10 09 28.6	
HIZ				AML	AML	10 09 28.6	
URZ	**Urewera**	**11.00**	**50**	Pn	**Pn**	**10 04 28.8**	**+1.8**
URZ				Sn	Sn	10 06 25.9	+5.3
URZ	**Urewera**	**11.00**	**50**	Pn	**Pn**	**10 04 28.8**	**+1.8**
	1.7nm,0.3s,baz=320,slow=4.9,SNR=6.3						
URZ				Sn	**Sn**	**10 06 25.9**	**-4.0**
	2.0nm,0.3s,baz=112,slow=19,SNR=4.5						
OUZ	**Omahuta**	**11.96**	**30**	*e*Pn	**Pn**	**10 04 40.8**	**+0.7**
	43nm,0.6s						
MILA	**Mila**	**15.62**	**298**	P	**Pn**	**10 05 27.1**	**-2.7**
	baz=16,SNR=12						
CNB	**Canberra Magne**	**16.66**	**303**	P	**P**	**10 05 45.5**	**0.0**
	baz=17,SNR=15						
CAN	**Canberra**	**16.87**	**303**	*e*P	**P**	**10 05 47.6**	**-0.2**
CAN	**Canberra**	**16.87**	**303**	*e*P	**P**	**10 05 47.6**	**-0.2**
MGCD	**Mangrove Creek**	**17.25**	**312**	P	**P**	**10 05 52.0**	**0.0**
	baz=17,SNR=11						
TOO	**Toolangi**	**17.64**	**291**	P	**Pn**	**10 05 55.2**	**-0.2**
	baz=18,SNR=12						
TOO				S	Sn	10 09 01.5	-10
	baz=18,SNR=3.5						
ARPS	**Mount Arapiles**	**20.50**	**288**	P	Pn	10 06 29.1	-0.7
	baz=20,SNR=10.0						
CMSA	**Cobar Meteorol**	**21.50**	**305**	P	**P**	**10 06 39.9**	**+1.5**
	baz=22,SNR=12						
STKA	**Stephens Creek**	**23.71**	**297**	*e*P	**P**	**10 07 02.6**	**+1.0**
STKA	**Stephens Creek**	**23.71**	**297**	P	**P**	**10 07 02.8**	**+1.2**
	18nm,0.8s,baz=126,slow=11,SNR=3.7						
STKA	**Stephens Creek**	**23.71**	**297**	P	**P**	**10 07 02.8**	**+1.2**
	baz=24,SNR=8.2						
DZM	**Mont Dzumac**	**23.74**	**0**	P	**P**	**10 07 03.4**	**+1.4**
DZM	**Mont Dzumac**	**23.74**	**0**	P	**P**	**10 07 03.4**	**+1.4**
	14nm,0.4s,baz=271,slow=24,SNR=3.7						
EIDS	**Eidsvold**	**23.87**	**324**	*e*P	**P**	**10 07 03.9**	**+0.8**
	173nm,1.2s						
EIDS	**Eidsvold**	**23.87**	**324**	P	**P**	**10 07 03.8**	**+0.7**
	baz=24,SNR=14						
RMQ	**Roma**	**23.92**	**318**	P	**P**	**10 07 04.2**	**+0.6**
	baz=24,SNR=17						
CTA	**Charters Tower**	**30.59**	**321**	P	**P**	**10 08 03.3**	**-0.3**
CTA	**Charters Tower**	**30.59**	**321**	P	**P**	**10 08 03.3**	**-0.3**
	3.5nm,0.5s,baz=168,slow=9.7,SNR=4.0						
CTAO	**Charters Tower**	**30.59**	**321**	*e*P	**P**	**10 08 04.2**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,33nm,1.4s						
CTAO	**Charters Tower**	**30.59**	**321**	*e*P	**P**	**10 08 04.2**	**+0.6**
	comp=Z,33nm,1.4s						
VNDA	**Vanda**	**31.81**	**182**	*e*P	**P**	**10 08 14.4**	**+0.7**
VNDA	**Vanda**	**31.81**	**182**	P	**P**	**10 08 13.4**	**-0.3**
	comp=Z,3.0nm,0.9s,baz=160,slow=2.3,SNR=3.4						
SBA	**Scott Base**	**32.09**	**180**	*e*P	**P**	**10 08 18.2**	**+2.0**
SBA				pmax	pmax		
	comp=Z,101nm,2.1s						
SBA	**Scott Base**	**32.09**	**180**	*e*P	**P**	**10 08 18.2**	**+2.0**
	comp=Z,101nm,2.1s						
MTSU	**Mount Surprise**	**33.17**	**319**	P	**P**	**10 08 26.8**	**+0.5**
	baz=33,SNR=8.9						
AS31	**Alice Springs**	**34.32**	**299**	*e*P	**P**	**10 08 35.1**	**-1.2**
AS31				*e*PcP	**PcP**	**10 11 11.2**	**-1.1**
ASAR	**Alice Springs**	**34.32**	**299**	P	**P**	**10 08 35.2**	**-1.0**
ASAR	**Alice Springs**	**34.32**	**299**	P	**P**	**10 08 35.2**	**-1.0**
	comp=Z,12nm,0.6s,baz=129,slow=9.1,SNR=57						
CASY	**Casey**	**35.62**	**215**	*e*P	**P**	**10 08 47.6**	**+0.6**
	comp=Z,9.9nm,0.7s						
HNR	**Honiara**	**36.73**	**349**	*e*P	**P**	**10 08 56.8**	**-0.1**
	comp=Z,78nm,0.8s						
WRA	**Warramunga Arr**	**36.91**	**304**	P	**P**	**10 08 56.6**	**-1.9**
WRA				PcP	**PcP**	**10 11 19.5**	**-0.4**
WRA	**Warramunga Arr**	**36.91**	**304**	P	**P**	**10 08 56.6**	**-1.9**
	comp=Z,22nm,0.8s,baz=137,slow=7.6,SNR=41						
WRA				PcP	**PcP**	**10 11 19.5**	**-0.4**
	comp=Z,3.8nm,0.7s,baz=137,slow=2.8,SNR=4.8						
WRAB	**Tennant Creek**	**36.91**	**304**	P	**P**	**10 08 57.9**	**-0.6**
	comp=Z,220nm,1.5s,SNR=24						
WRAB	**Tennant Creek**	**36.91**	**304**	*e*P	**P**	**10 08 57.2**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,97nm,1.5s						
WRAB	**Tennant Creek**	**36.91**	**304**	*e*P	**P**	**10 08 57.2**	**-1.3**
	comp=Z,97nm,1.5s						
COEN	**Coen**	**37.36**	**321**	P	**P**	**10 09 02.6**	**+0.3**
	baz=38,SNR=11						
PMG	**Port Moresby**	**39.91**	**330**	P	**P**	**10 09 24.0**	**+0.3**
PMG	**Port Moresby**	**39.91**	**330**	P	**P**	**10 09 24.0**	**+0.3**
	comp=Z,20nm,0.8s,baz=147,slow=7.2,SNR=8.2						
KLBR	**Kellerberrin**	**39.92**	**273**	P	**P**	**10 09 23.4**	**-0.3**
	baz=40,SNR=9.2						
MEEK	**Meekatharra**	**42.33**	**280**	P	**P**	**10 09 43.2**	**-0.5**
	baz=42,SNR=7.6						
MORW	**Morawa**	**42.61**	**275**	P	**P**	**10 09 46.1**	**+0.3**
	baz=42,SNR=3.2						
KNRA	**Kununurra**	**43.52**	**301**	P	**P**	**10 09 52.5**	**-0.8**
	baz=44,SNR=19						
FITZ	**Fitzroy Crossi**	**43.59**	**296**	P	**P**	**10 09 52.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**43.59**	**296**	P	**P**	**10 09 52.8**	**-1.1**
	comp=Z,23nm,0.6s,baz=170,slow=8.6,SNR=54						
FITZ	**Fitzroy Crossi**	**43.59**	**296**	P	**P**	**10 09 53.1**	**-0.7**
	baz=44,SNR=29						
KDU	**Kakadu**	**43.79**	**308**	P	**P**	**10 09 55.2**	**-0.3**
	baz=44,SNR=4.2						
QSPA	**South Pole Qui**	**44.25**	**180**	*e*P	**P**	**10 09 59.2**	**+0.3**
QSPA	**South Pole Qui**	**44.25**	**180**	P	**P**	**10 09 58.5**	**-0.3**
	comp=Z,20nm,1.0s,baz=0.8,slow=3.9,SNR=15						
MBWA	**Marble Bar**	**45.23**	**287**	*e*P	**P**	**10 10 06.2**	**-0.8**
	comp=Z,27nm,0.8s						
SOEI	**Soe**	**50.86**	**302**	P	P	10 10 56.5	+5.8
	baz=51,SNR=3.5						
MAW	**Mawson**	**53.26**	**208**	P	**P**	**10 11 07.8**	**+0.1**
MAW	**Mawson**	**53.26**	**208**	P	**P**	**10 11 07.8**	**+0.1**
	comp=Z,13nm,1.0s,baz=294,slow=6.0,SNR=13						
KAPI	**Kappang**	**57.32**	**301**	P	**P**	**10 11 37.9**	**+0.2**
KAPI	**Kappang**	**57.32**	**301**	P	**P**	**10 11 37.9**	**+0.2**
	comp=Z,15nm,0.9s,baz=155,slow=6.4,SNR=3.9						
SNAA	**Sanae**	**62.52**	**184**	*e*P	**P**	**10 12 12.6**	**-0.2**
SNAA	**Sanae**	**62.52**	**184**	P	**P**	**10 12 11.9**	**-0.8**
	comp=Z,2.6nm,0.9s,baz=175,slow=3.7,SNR=7.3						
KSM	**Kuching**	**68.20**	**297**	*e*P	**P**	**10 12 50.2**	**0.0**
	comp=Z,13nm,0.9s						
KKM	**Kota Kinabalu**	**68.28**	**305**	*e*P	**P**	**10 12 51.2**	**+0.4**
	comp=Z,66nm,1.3s						
PLCA	**Paso Flores**	**79.89**	**140**	*e*P	**P**	**10 13 59.1**	**+0.7**
PLCA	**Paso Flores**	**79.89**	**140**	P	**P**	**10 13 58.5**	**+0.1**
	comp=Z,7.1nm,1.1s,baz=205,slow=4.8,SNR=5.5						
JNU	**Nakatsue**	**84.94**	**331**	P	**P**	**10 14 25.0**	**+0.5**
JNU	**Nakatsue**	**84.94**	**331**	P	**P**	**10 14 25.0**	**+0.5**
	comp=Z,8.7nm,0.7s,baz=146,slow=2.7,SNR=6.7						
MJAR	**Matsushiro Arr**	**85.88**	**338**	P	**P**	**10 14 30.2**	**+1.1**
MJAR	**Matsushiro Arr**	**85.88**	**338**	P	**P**	**10 14 30.2**	**+1.1**
	comp=Z,2.7nm,0.7s,baz=169,slow=6.1,SNR=7.5						
DGAR	**Diego Garcia**	**87.48**	**262**	*e*P	P	10 14 29.9	-7.6
CMAR	**Chiang Mai Arr**	**88.33**	**299**	P	**P**	**10 14 42.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**88.33**	**299**	P	**P**	**10 14 42.2**	**+0.8**
	comp=Z,8.6nm,0.8s,baz=158,slow=3.4,SNR=32						
CFAA	**Coronel Fontan**	**88.39**	**136**	P	**P**	**10 14 41.1**	**-0.6**
CFAA	**Coronel Fontan**	**88.39**	**136**	P	**P**	**10 14 41.1**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=240,slow=6.3,SNR=4.4						
CHTO	**Chiang Mai**	**88.60**	**299**	*e*P	**P**	**10 14 43.0**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,13nm,1.5s						
CHTO	**Chiang Mai**	**88.60**	**299**	*e*P	**P**	**10 14 43.0**	**+0.3**
	comp=Z,13nm,1.5s						
NJ2	**Nanjing**	**88.70**	**321**	*e*P	P	10 14 46.3	+3.5
NJ2				pmax	pmax		
	comp=Z,80nm,1.2s						
WHN	**Wuhan**	**89.49**	**317**	P	**P**	**10 14 47.4**	**+0.9**
KSRS	**Korea Array**	**89.88**	**330**	P	**P**	**10 14 47.8**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=160,slow=5.4,SNR=4.1						
KSAR	**Wonju Array Be**	**89.89**	**330**	P	**P**	**10 14 47.8**	**-0.4**
GYA	**Guiyang**	**90.08**	**309**	⇑*i*P	P	10 14 53.0	+3.4
GYA				PP	PP	10 18 29.6	+6.3
GYA				SKS	**SKSac**	**10 25 22.8**	**+2.7**
GYA				S	**S**	**10 25 44.8**	**+2.4**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,160nm,5.6s						
KMI	**Kunming**	**91.21**	**306**	P	P	10 15 00.0	+5.0
KMI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ENH	**Enshi**	**91.65**	**314**	*e*P	**P**	**10 14 56.9**	**+0.2**
	comp=Z,5.7nm,0.3s						
MDJ	**Mudanjiang**	**95.81**	**335**	P	P	10 15 19.1	+3.7
MDJ				pmax	pmax		
	comp=Z,12nm,1.6s						
BJI	**Beijing**	**96.62**	**324**	P	P	10 15 22.8	+3.7
BJI				pmax	pmax		
	comp=Z,11nm,0.4s						
LZH	**Lanzhou**	**99.13**	**313**	*e*P	**Pdif**	**10 15 32.6**	**+1.8**
LZH				*e*PP	**PP**	**10 19 36.5**	**+2.7**
LZH				SKS	**SKSac**	**10 26 09.3**	**+0.8**
LZH				*e*S	**S**	**10 27 00.8**	**-0.7**
LZH				pmax	pmax		
	comp=Z,17nm,1.5s						
LZH				pmax	pmax		
	comp=Z,95nm,9.3s						
HHC	**Hu-ho-hao-te**	**99.26**	**321**	*e*P	**Pdif**	**10 15 32.6**	**+1.4**
HHC				pP	pP	10 15 43.1	+7.2
HHC				sP	sP	10 15 46.8	+9.3
HHC				PP	**PP**	**10 19 36.5**	**+1.8**
HHC				S	**S**	**10 27 00.6**	**-1.6**
HHC				sS	**sS**	**10 27 14.3**	**+4.3**
HHC				pmax	pmax		
	comp=Z,39nm,0.9s						
TXAR	**Lajitas Array**	**110.36**	**69**	PKKPbc	PKKPbc	10 31 23.6	+2.6
TXAR	**Lajitas Array**	**110.36**	**69**	PKKPbc	PKKPbc	10 31 23.6	+2.6
	comp=Z,0.4nm,0.7s,baz=84,slow=4.3,SNR=5.5						
T22A	**Edith**	**113.37**	**61**	P		10 20 28.4	
	baz=114						
U25A	**Circle Dot Ran**	**114.50**	**62**	P	PKPdf	10 20 29.6	+0.1
	baz=115						
N20A	**Spence Gulch,**	**115.02**	**57**	P	**PKPdf**	**10 20 31.3**	**+0.8**
	baz=115						
U27A	**Thompson Grove**	**115.50**	**63**	P	**PKPdf**	**10 20 32.3**	**+0.9**
	baz=116						
ILAR	**Eielson Array**	**116.17**	**20**	PKP	**PKPdf**	**10 20 28.9**	**-2.6**
ILAR				PKKPbc	**PKKPab**	**10 31 04.5**	**+1.4**
ILAR	**Eielson Array**	**116.17**	**20**	PKP	**PKPdf**	**10 20 28.9**	**-2.6**
	comp=Z,2.8nm,0.6s,baz=282,slow=3.6,SNR=27						
ILAR				PKKPbc	**PKKPab**	**10 31 04.5**	**+1.4**
	comp=Z,0.9nm,1.0s,baz=9.9,slow=4.4,SNR=7.7						
L21A	**Rawlins**	**116.25**	**56**	P	**PKPdf**	**10 20 33.5**	**+0.8**
	baz=116						
Q26A	**Hugo**	**116.64**	**61**	P	**PKPdf**	**10 20 35.0**	**+1.4**
	baz=117						
R27A	**Eads**	**116.69**	**62**	P	**PKPdf**	**10 20 34.3**	**+0.7**
	baz=117						
KSH	**Kashi**	**117.22**	**300**	*e*PKP	PKPdf	10 20 41.3	+6.7
B15A	**Bradely Ranch,**	**117.39**	**48**	P	**PKPdf**	**10 20 34.2**	**-0.4**
	baz=118						
C16A	**Fuhringer Ranc**	**117.50**	**49**	P	**PKPdf**	**10 20 35.3**	**+0.5**
	baz=118						
E18A	**Harlowton**	**117.70**	**51**	P	**PKPdf**	**10 20 36.4**	**+1.1**
	baz=118						
F19A	**Roth Farm, Mol**	**117.79**	**52**	P	**PKPdf**	**10 20 36.7**	**+1.2**
	baz=118						
C17A	**Wharram Farm,**	**117.91**	**49**	P	**PKPdf**	**10 20 36.1**	**+0.5**
	baz=118						
MK31	**Makanchi Array**	**118.07**	**309**	*e*PKIKP	**PKPdf**	**10 20 34.8**	**-1.1**
MK31	**Makanchi Array**	**118.07**	**309**	*e*PKPdf	**PKPdf**	**10 20 34.8**	**-1.1**
MKAR	**Makanchi Array**	**118.07**	**309**	PKIKP	**PKPdf**	**10 20 33.4**	**-2.5**
MKAR	**Makanchi Array**	**118.07**	**309**	PKP	**PKPdf**	**10 20 33.4**	**-2.5**
MKAR	**Makanchi Array**	**118.07**	**309**	PKP	**PKPdf**	**10 20 33.4**	**-2.5**
	comp=Z,1.1nm,0.7s,baz=184,slow=1.9,SNR=7.3						
A17A	**Triple J Farms**	**118.75**	**48**	P	**PKPdf**	**10 20 37.5**	**+0.3**
	baz=119						
A18A	**Metzger Ranch,**	**119.18**	**49**	P	**PKPdf**	**10 20 37.8**	**-0.1**
	baz=119						
C20A	**Veseth Ranch,**	**119.44**	**51**	P	**PKPdf**	**10 20 39.6**	**+1.2**
	baz=120						
AAK	**Ala-Archa**	**120.00**	**302**	⇑*i*PKIKP	PKPdf	10 20 33.1	-6.8
TIXI	**Tiksi**	**120.20**	**347**	⇑*i*PKIKP	**PKPdf**	**10 20 34.7**	**-4.4**
C22A	**Vida**	**120.61**	**52**	P	**PKPdf**	**10 20 40.5**	**-0.2**
	baz=121						
A21A	**Bergtoll Ranch**	**120.77**	**50**	P	**PKPdf**	**10 20 41.0**	**0.0**
	baz=121						
A22A	**Carney Farms,**	**121.31**	**50**	P	**PKPdf**	**10 20 42.2**	**+0.2**
	baz=121						
B23A	**Brockton**	**121.51**	**51**	P	**PKPdf**	**10 20 42.5**	**+0.1**
	baz=122						
DGMT	**Dagmar**	**121.95**	**52**	P	**PKPdf**	**10 20 44.3**	**+1.1**
	baz=122						
KURBB	**Kurchatov Arra**	**122.34**	**311**	PKP	**PKPdf**	**10 20 43.4**	**-0.5**
	comp=Z,2.8nm,0.6s,baz=113,slow=1.6,SNR=23						
KURK	**Kurchatov**	**122.35**	**311**	PKIKP	**PKPdf**	**10 20 43.4**	**-0.5**
KURK	**Kurchatov**	**122.35**	**311**	PKP	**PKPdf**	**10 20 43.4**	**-0.5**
ECSD	**EROS Data Cent**	**123.67**	**60**	*e*PKPdf	**PKPdf**	**10 20 45.8**	**-0.9**
BRVK	**Borovoye**	**127.98**	**310**	⇑*i*PKIKP	**PKPdf**	**10 20 49.9**	**-4.7**
TOA0	**Torodi Ar. Sit**	**144.90**	**207**	*e*PKPdf	**PKPab**	**10 21 25.3**	**-0.8**
TORD	**Torodi Ar. Bea**	**144.90**	**207**	PKP	**PKPab**	**10 21 25.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**144.90**	**207**	PKP	**PKPab**	**10 21 25.1**	**-1.0**
	comp=Z,37nm,0.8s,baz=164,slow=2.0,SNR=88						
BR131	**Keskin Array S**	**145.21**	**277**	*e*PKPdf	**PKPbc**	**10 21 26.3**	**-0.3**
BRTR	**Keskin Array B**	**145.21**	**277**	PKPbc	**PKPbc**	**10 21 26.4**	**-0.4**
BRTR	**Keskin Array B**	**145.21**	**277**	PKPbc	**PKPbc**	**10 21 26.4**	**-0.4**
	comp=Z,17nm,0.8s,baz=146,slow=4.9,SNR=42						
SPITS	**Spitsbergen Ar**	**145.57**	**350**	PKPbc	**PKPdf**	**10 21 25.4**	**-1.0**
SPITS	**Spitsbergen Ar**	**145.57**	**350**	PKPbc	**PKPdf**	**10 21 25.4**	**-1.0**
	comp=Z,16nm,0.8s,baz=83,slow=6.8,SNR=22						
SCHQ	**Schefferville**	**145.64**	**55**	PKPbc	**PKPdf**	**10 21 26.0**	**-1.1**
SCHQ	**Schefferville**	**145.64**	**55**	PKPbc	**PKPdf**	**10 21 26.0**	**-1.1**
	comp=Z,8.5nm,0.8s,baz=52,slow=0.9,SNR=5.8						
ANTO	**Ankara**	**145.86**	**277**	⇓PKP2	**PKPab**	**10 21 29.0**	**-0.1**
ANTO	**Ankara**	**145.86**	**277**	⇓*i*P	**PKPab**	**10 21 29.0**	**-0.1**
MOS	**Moscow**	**146.88**	**306**	*e*PKIKP	**PKPdf**	**10 21 28.3**	**-0.8**
MOS				pmax	pmax		
	comp=Z,56nm,1.1s						
OBN	**Obninsk**	**147.42**	**305**	*i* PKP2	**PKPbc**	**10 21 32.7**	**+0.2**
OBN				pmax	pmax		
	comp=Z,20nm,1.0s						
DAG	**Danmarks Havn**	**148.92**	**2**	*i* PKIKP	**PKPbc**	**10 21 34.5**	**-1.4**
DAG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
DAG				MLR	MLR		
	comp=Z,140μm,20.0s						
DAG	**Danmarks Havn**	**148.92**	**2**	*i* P	**PKPbc**	**10 21 34.5**	**-1.4**
	comp=Z,6.0nm,0.8s						
DAG				*i*		10 21 58.6	
IDI	**Anoyia**	**149.19**	**264**	*e*PKPbc	**PKPbc**	**10 21 38.9**	**+1.0**
ARCES	**ARCESS Array B**	**149.36**	**334**	PKPbc	**PKPbc**	**10 21 36.2**	**-1.0**
ARCES	**ARCESS Array B**	**149.36**	**334**	PKPbc	**PKPbc**	**10 21 36.2**	**-1.0**
	comp=Z,8.0nm,0.6s,baz=80,slow=3.1,SNR=29						
APE	**Apeiranthos**	**149.64**	**267**	⇑PKP2	**PKPbc**	**10 21 38.4**	**-0.6**
APE	**Apeiranthos**	**149.64**	**267**	⇑*i*P	**PKPbc**	**10 21 38.4**	**-0.6**
SUMG	**Summit**	**150.83**	**15**	*e*PKIKP	**PKPbc**	**10 21 41.7**	**+0.5**
SUMG	**Summit**	**150.83**	**15**	*e*PKPbc	**PKPbc**	**10 21 41.7**	**+0.5**
SUMG	**Summit**	**150.83**	**15**	*i* P	**PKPbc**	**10 21 40.8**	**-0.4**
	comp=Z,8.5nm,1.0s						
HARR	**Harsova**	**150.99**	**283**	⇑PKIKP	**PKPbc**	**10 21 42.3**	**+0.5**
HARR	**Harsova**	**150.99**	**283**	⇑*i*P	**PKPbc**	**10 21 42.3**	**+0.5**
CFR	**Carcaliu**	**150.99**	**284**	⇑PKIKP	**PKPbc**	**10 21 42.3**	**+0.5**
CFR	**Carcaliu**	**150.99**	**284**	⇑*i*P	**PKPbc**	**10 21 42.3**	**+0.5**
SFJD	**Kangerlussuaq**	**151.29**	**30**	PKPbc	**PKPbc**	**10 21 41.7**	**-0.2**
SFJD	**Kangerlussuaq**	**151.29**	**30**	PKPbc	**PKPbc**	**10 21 41.7**	**-0.2**
	comp=Z,11nm,0.9s,baz=172,slow=22,SNR=4.8						
KIEV	**Kiev**	**151.41**	**295**	*e*PKIKP	**PKPbc**	**10 21 41.9**	**-0.7**
KIEV	**Kiev**	**151.41**	**295**	*e*PKPbc	**PKPbc**	**10 21 41.9**	**-0.7**
VRI	**Vrincioaia**	**152.13**	**285**	⇓PKIKP	**PKPbc**	**10 21 44.1**	**-0.4**
VRI	**Vrincioaia**	**152.13**	**285**	⇓*i*P	**PKPbc**	**10 21 44.1**	**-0.4**
PLOR	**Plostina**	**152.17**	**285**	⇑PKIKP	**PKPbc**	**10 21 44.6**	**-0.1**
PLOR	**Plostina**	**152.17**	**285**	⇑*i*P	**PKPbc**	**10 21 44.5**	**-0.1**
TAM	**Tamanrasset**	**152.22**	**220**	*e*PKPbc	**PKPbc**	**10 21 46.3**	**+0.7**
FINES	**FINESS Array B**	**152.35**	**319**	PKPbc	**PKPbc**	**10 21 44.5**	**+0.1**
FINES	**FINESS Array B**	**152.35**	**319**	PKPbc	**PKPbc**	**10 21 44.5**	**+0.1**
	comp=Z,8.3nm,0.6s,baz=90,slow=3.8,SNR=25						
MLR	**Muntele Rosu**	**152.56**	**284**	PKPbc	**PKPbc**	**10 21 45.4**	**-0.2**
MLR	**Muntele Rosu**	**152.56**	**284**	⇓*i*P	**PKPbc**	**10 21 45.4**	**-0.2**
MLR	**Muntele Rosu**	**152.56**	**284**	PKPbc	**PKPbc**	**10 21 45.4**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=241,slow=3.0,SNR=10						
VOIR		**153.15**	**283**	⇑PKIKP	**PKPbc**	**10 21 47.2**	**+0.3**
VOIR		**153.15**	**283**	⇑*i*P	**PKPbc**	**10 21 47.2**	**+0.3**
BURAR	**Bucovina Array**	**153.53**	**288**	⇑*i*P	**PKPab**	**10 22 00.5**	**+0.3**
BUR08	**Bucovina Ar. S**	**153.54**	**288**	*e*PKPab	**PKPab**	**10 22 00.5**	**+0.3**
VTS	**Vitosha**	**153.57**	**276**	⇑*i*P	**PKPab**	**10 22 00.5**	**-0.1**
KOLS	**Kolonicke sedl**	**155.67**	**290**	*e*PKP	**PKPab**	**10 22 10.2**	**+1.0**
STHS	**Stebnicka Huta**	**156.39**	**291**	*e*PKP	**PKPab**	**10 22 13.0**	**+0.8**
KECS	**Kecovo**	**156.79**	**289**	*e*PKP	**PKPab**	**10 22 16.4**	**+2.4**
PSZ	**Piszkesteto**	**157.12**	**287**	⇓*i*P	**PKPdf**	**10 21 45.8**	**+1.1**
HFS	**Hagfors**	**158.46**	**321**	PKPab	**PKPab**	**10 22 20.1**	**-0.6**
HFS	**Hagfors**	**158.46**	**321**	PKPab	**PKPab**	**10 22 20.1**	**-0.6**
	comp=Z,4.8nm,0.7s,baz=63,slow=7.0,SNR=11						
NOA	**NORSAR Array B**	**159.01**	**325**	PKPab	**PKPab**	**10 22 22.0**	**-1.2**
NOA	**NORSAR Array B**	**159.01**	**325**	PKPab	**PKPab**	**10 22 22.0**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=57,slow=4.4,SNR=8.8						
KEST	**Kesra**	**159.96**	**248**	PKPab	**PKPab**	**10 22 29.4**	**+1.3**
KEST	**Kesra**	**159.96**	**248**	PKPab	**PKPab**	**10 22 29.4**	**+1.3**
	comp=Z,5.5nm,1.0s,baz=111,slow=2.3,SNR=9.3						
GERES	**GERESS Array B**	**161.30**	**289**	PKPab	**PKPab**	**10 22 33.5**	**-0.2**
GERES	**GERESS Array B**	**161.30**	**289**	PKPab	**PKPab**	**10 22 33.5**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=92,slow=4.7,SNR=14						
DAVOX	**Davos/Dischmat**	**163.76**	**282**	PKPab	**PKPab**	**10 22 44.3**	**-0.4**
DAVOX	**Davos/Dischmat**	**163.76**	**282**	PKPab	**PKPab**	**10 22 44.3**	**-0.4**
	comp=Z,3.7nm,1.0s,baz=85,slow=6.5,SNR=5.7						
ESDC	**Sonseca Array**	**170.59**	**232**	PKPab	**PKPab**	**10 23 14.1**	**-0.8**
ESDC	**Sonseca Array**	**170.59**	**232**	PKPab	**PKPab**	**10 23 14.1**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=137,slow=3.6,SNR=7.4						

ISCJB ***15*** *10:04:01.9±0.7, 46°.22S×0°.06×165°.89E×0°.06, h10km, mb4.5/5, Error ellipse: s-maj=8.1km s-min=5.5km az=164.4*

IDC ***15*** *10:04:01.4±1.1, 46°.20S×165°.80E, h0km, mb4.5/5, mb1 4.7/5, mb1mx4.4/15, mbtmp4.5/5, MS6.5/1, Ms1 6.4/1, ms1mx5.2/27, Error ellip

MLZ				SN	Sn	10 07 59.6	-0.1	
MLZ				SN	Sb	10 07 59.7	-1.4	
MSZ	**Milford Sound**	**1.94**	**46**	AML	AML	10 08 14.5		
MSZ				AML	AML	10 08 16.5		
MSZ				AML	AML	10 08 16.6		
MSZ				AML	AML	10 08 21.3		
SYZ	**Scrubby Hill**	**2.25**	**104**	SN	Sn	10 08 10.5	-2.9	
EAZ	**Earnscleugh**	**2.48**	**72**	AML	AML	10 08 25.8		
EAZ				AML	AML	10 08 26.0		
TUZ	**Tuapeka**	**2.56**	**89**	SN	Sn	10 08 20.7	-0.2	
TUZ				AML	AML	10 08 23.1		

IDC ***15*** *10:08:16.1±0.9, 45.°90S×166.°18E, h0km, mb4.1/4, mb1 4.3/5, mb1mx4.0/16, mbtmp4.1/5, ML4.2/1, Error ellipse: s-maj=28.2km s-min=23.9km az=67.0*

ISCJB ***15*** *10:08:18.1±1.3, 45.°99S±0.°06×166.°03E±0.°08, h19km±9km, mb4.1/4, Error ellipse: s-maj=11.1km s-min=8.8km az=152.4*

WEL ***15*** *10:08:19.9±1.2, 46.°00S×166.°13E, h12km, ML4.6/8, Error ellipse: s-maj=11.3km s-min=4.3km az=90.0*

ISC 15 10:08:17.5±2.2, 45.°94S±0.°07×166.°12E±0.°07, h7km±13km, n20,σ1§02/23, mb4.0/4, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.45**	**120**	P*	**Pb**	**10 08 27.9**	**+0.1**
PYZ				S*	**Sb**	**10 08 33.9**	**-0.9**
DCZ	**Deep Cove**	**0.86**	**58**	P*	**Pb**	**10 08 35.6**	**+0.8**
DCZ				S*	**Sn**	**10 08 47.6**	**-1.3**
DCZ				AML	AML	10 08 50.4	
MLZ	**Mavora Lakes**	**1.56**	**68**	*e*PN	**Pb**	**10 08 47.0**	**+0.3**
MLZ				SN	**Sg**	**10 09 07.5**	**-0.1**
MLZ				AML	AML	10 09 11.9	
APZ	**The Paps**	**1.57**	**125**	PN	**Pn**	**10 08 45.3**	**-0.6**
MSZ	**Milford Sound**	**1.80**	**46**	*e*PN	**Pg**	**10 08 52.0**	**0.0**
MSZ				AML	AML	10 09 24.2	
MSZ				AML	AML	10 09 25.6	
SYZ	**Scrubby Hill**	**2.18**	**107**	*e*PN	**Pn**	**10 08 55.4**	**+1.2**
EAZ	**Earnscleugh**	**2.35**	**74**	*e*PN	**Pb**	**10 08 59.1**	**-1.1**
EAZ				AML	AML	10 09 30.0	
EAZ				AML	AML	10 09 30.2	
TUZ	**Tuapeka**	**2.45**	**92**	*e*PN	**Pn**	**10 08 59.7**	**+1.8**
TUZ				SN	**Sn**	**10 09 29.5**	**+1.4**
TUZ				AML	AML	10 09 33.1	
LBZ	**Lake Benmore**	**3.27**	**63**	AML	AML	10 09 50.7	
LBZ				AML	AML	10 09 50.8	
ODZ	**Otahua Downs**	**3.31**	**76**	*e*PN	**Pn**	**10 09 09.1**	**-0.6**
ODZ				AML	AML	10 09 51.8	
ODZ				AML	AML	10 10 04.6	
FOZ	**Fox Glacier**	**3.48**	**48**	AML	AML	10 10 15.4	
FOZ				AML	AML	10 10 16.3	
RPZ	**Rata Peaks**	**4.16**	**59**	Pn	**Pn**	**10 09 21.7**	**+0.3**
	14nm,0.3s,baz=45,slow=16,SNR=2.2						
RPZ				Sn	**Sn**	**10 10 10.2**	**-0.1**
	17nm,0.3s,baz=104,slow=19,SNR=4.9						
ASAR	**Alice Springs**	**34.19**	**300**	P	**P**	**10 15 03.3**	**-0.3**
	1.1nm,0.7s,baz=135,slow=8.0,SNR=4.1						
WRA	**Warramunga Arr**	**36.78**	**304**	P	**P**	**10 15 26.4**	**+0.5**
	2.9nm,0.9s,baz=137,slow=8.2,SNR=3.7						
QSPA	**South Pole Qui**	**44.18**	**180**	P	**P**	**10 16 27.7**	**+0.9**
	4.8nm,0.8s,baz=146,slow=21,SNR=12						
SNAA	**Sanae**	**52.43**	**184**	P	**P**	**10 18 39.7**	**-1.0**
	0.8nm,0.8s,baz=213,slow=19,SNR=5.6						
TORD	**Torodi Ar. Bea**	**144.75**	**207**	PKP	**PKPab**	**10 27 53.8**	**-0.3**
	0.7nm,0.5s,baz=164,slow=1.9,SNR=6.0						
BRTR	**Keskin Array B**	**145.02**	**277**	PKPbc	**PKPdf**	**10 27 55.3**	**0.0**
	1.6nm,0.8s,baz=121,slow=4.8,SNR=4.0						
ARCES	**ARCESS Array B**	**149.34**	**334**	PKPbc	**PKPdf**	**10 28 03.1**	**+1.8**
	1.7nm,0.7s,baz=81,slow=1.6,SNR=4.9						
FINES	**FINESS Array B**	**152.28**	**318**	PKPbc	**PKPbc**	**10 28 11.2**	**-1.6**
	0.7nm,0.5s,baz=90,slow=1.9,SNR=3.9						

IDC 15 10:09:19.1±2.0, 1°.12N×97°.04E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.6/26, mbtmp3.7/6, ML3.0/1, Error ellipse: s-maj=52.1km s-min=26.4km az=51.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.52**	**48**	Pn	Pn	10 10 01.6	+0.1
	3.2nm,0.3s,baz=237,slow=5.8,SNR=9.3						
WRA	**Warramunga Arr**	**42.13**	**122**	P	P	10 17 13.4	-0.3
	0.6nm,0.6s,baz=302,slow=8.9,SNR=3.6						
SONM	**Songino Array**	**47.24**	**9**	P	P	10 17 52.7	-1.4
	0.6nm,0.6s,baz=183,slow=7.4,SNR=3.7						
MKAR	**Makanchi Array**	**47.28**	**346**	P	P	10 17 54.9	+0.5
	0.8nm,0.5s,baz=162,slow=8.9,SNR=10						
KURBB	**Kurchatov Arra**	**51.77**	**345**	P	P	10 18 28.9	+0.4
	0.5nm,0.5s,baz=170,slow=6.9,SNR=4.8						
ZALV	**Zalesovo Beam**	**53.61**	**351**	P	P	10 18 41.5	-0.6
	1.3nm,0.5s,baz=159,slow=4.6,SNR=4.7						

IDC ***15*** *10:10:46.2±1.1, 45.°99S×166.°19E, h0km, mb3.8/3, mb1 4.2/5, mb1mx4.0/15, mbtmp4.1/5, ML4.2/2, Error ellipse: s-maj=29.4km s-min=28.0km az=4.0*

ISCJB ***15*** *10:10:47.0±1.2, 45.°86S±0.°05×166.°19E±0.°08, h20km±8km, mb3.8/3, Error ellipse: s-maj=9.8km s-min=8.7km az=141.6*

WEL ***15*** *10:10:49.7±0.9, 45.°84S×166.°42E, h12km, ML4.6/8, Error ellipse: s-maj=9.2km s-min=2.0km az=90.0*

ISC 15 10:10:47.6±1.8, 45.°85S±0.°04×166.°30E±0.°07, h12km±11km, n19,σ1§20/25, mb3.8/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.41**	**140**	P*	**Pb**	**10 10 56.9**	**0.0**
PYZ				S*	**Sb**	**10 11 02.5**	**-0.6**
PYZ				S*	**Sb**	**10 11 02.6**	**-0.6**
DCZ	**Deep Cove**	**0.70**	**58**	P*	**Pg**	**10 11 01.5**	**+0.2**
DCZ				S*	**Sg**	**10 11 09.8**	**-0.7**
DCZ				S*	**Sb**	**10 11 10.4**	**-1.0**
MLZ	**Mavora Lakes**	**1.41**	**70**	*e*PN	**Pn**	**10 11 13.0**	**-0.1**
MLZ				AML	AML	10 11 37.3	
MLZ				AML	AML	10 11 38.7	
APZ	**The Paps**	**1.53**	**131**	PN	**Pg**	**10 11 17.3**	**+0.4**
APZ				SN	**Sn**	**10 11 33.1**	**-1.4**
MSZ	**Milford Sound**	**1.64**	**45**	PN	Pg	10 11 23.6	+4.4
MSZ				SN	**Sg**	**10 11 42.0**	**+1.5**
MSZ				AML	AML	10 11 47.9	
SYZ	**Scrubby Hill**	**2.09**	**110**	PN	**Pb**	**10 11 24.6**	**-0.8**
SYZ				SN	**Sn**	**10 11 48.4**	**+0.1**
EAZ	**Earnscleugh**	**2.20**	**75**	PN	**Pb**	**10 11 26.4**	**-0.9**
EAZ				AML	AML	10 11 52.0	
EAZ				SN	**Sn**	**10 11 52.7**	**+1.6**
TUZ	**Tuapeka**	**2.33**	**94**	PN	**Pn**	**10 11 27.0**	**+1.4**
TUZ				AML	AML	10 11 60.0	
TUZ				AML	AML	10 12 00.7	
HHSZ	**Highcliff Hill**	**3.00**	**92**	*e*PN	**Pn**	**10 11 34.9**	**-0.1**
ODZ	**Otahua Downs**	**3.16**	**77**	PN	**Pn**	**10 11 38.5**	**+1.3**
ODZ				AML	AML	10 11 50.7	
FOZ	**Fox Glacier**	**3.32**	**48**	*e*PN	**Pb**	**10 11 44.5**	**-2.0**
FOZ				AML	AML	10 12 17.7	
FOZ				AML	AML	10 12 19.8	
RPZ	**Rata Peaks**	**4.00**	**59**	Pn	**Pn**	**10 11 49.8**	**+1.1**
	27nm,0.3s,baz=214,slow=5.1,SNR=7.7						
URZ	**Urewera**	**11.04**	**50**	Pn	**Pn**	**10 13 26.0**	**+0.7**
	1.0nm,0.3s,baz=236,slow=3.6,SNR=4.8						
VNDA	**Vanda**	**31.83**	**182**	P	**P**	**10 17 10.1**	**-1.6**
	0.6nm,0.4s,baz=27,slow=5.1,SNR=6.6						
ASAR	**Alice Springs**	**34.25**	**299**	P	**P**	**10 17 33.9**	**+0.4**
	1.0nm,0.6s,baz=134,slow=8.3,SNR=7.8						
WRA	**Warramunga Arr**	**36.84**	**304**	P	**P**	**10 17 54.6**	**-1.0**
	1.0nm,0.6s,baz=137,slow=7.7,SNR=5.6						
TORD	**Torodi Ar. Bea**	**144.89**	**207**	PKP	PKPbc	10 30 24.3	+0.4
	1.7nm,0.7s,baz=161,slow=2.3,SNR=7.4						
ARCES	**ARCESS Array B**	**149.31**	**334**	PKPbc	**PKPbc**	**10 30 36.4**	**+1.5**
	3.3nm,0.9s,baz=59,slow=3.7,SNR=4.3						
FINES	**FINESS Array B**	**152.29**	**319**	PKPbc	**PKPbc**	**10 30 44.1**	**+2.0**
	0.9nm,0.5s,baz=114,slow=4.8,SNR=5.1						

IDC ***15*** *10:11:14.3±0.7, 45.°93S×166.°77E, h0km, mb4.3/8, mb1 4.5/9, mb1mx4.3/16, mbtmp4.3/9, ML4.6/1, Error ellipse: s-maj=27.0km s-min=19.3km az=57.0*

WEL ***15*** *10:11:15.8±0.8, 46.°07S×165.°39E, h12km, ML5.3/9, Error ellipse: s-maj=5.8km s-min=3.5km az=90.0, Poorly recorded. Solution doubtful.*

ISC 15 10:11:17.6±0.6, 45.°99S±0.°08×166.°02E±0.°08, h12km, n29, σ1§82/21, mb4.3/8, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.50**	**112**	*e*P*	**Pn**	**10 11 32.7**	**+2.1**
PYZ				S*	Sb	10 11 44.3	+8.8
PYZ				S*	Sg	10 11 44.4	+10
DCZ	**Deep Cove**	**0.94**	**58**	SN	Sn	10 11 58.6	+8.5
DCZ				SN	Sb	10 11 58.6	+10
DCZ				SN	Sg	10 11 59.0	+11
DCZ				AML	AML	10 12 01.6	
APZ	**The Paps**	**1.61**	**123**	SN	**Sg**	**10 12 11.3**	**+2.0**
MLZ	**Mavora Lakes**	**1.64**	**68**	AML	AML	10 12 07.5	
MLZ				SN	Sg	10 12 19.9	+10
MSZ	**Milford Sound**	**1.88**	**46**	SN	**Sg**	**10 12 18.1**	**-0.1**
MSZ				AML	AML	10 12 20.6	
MSZ				AML	AML	10 12 25.8	
MSZ				AML	AML	10 12 26.0	
WKZ	**Wanaka**	**2.41**	**62**	AML	AML	10 12 41.1	
WKZ				AML	AML	10 12 41.3	
WKZ				AML	AML	10 12 49.8	
TUZ	**Tuapeka**	**2.52**	**91**	AML	AML	10 12 35.1	
TUZ				AML	AML	10 12 40.9	
JCZ	**Jackson Bay**	**2.73**	**46**	AML	AML	10 12 45.9	
JCZ				AML	AML	10 12 51.0	
LBZ	**Lake Benmore**	**3.35**	**63**	AML	AML	10 13 00.8	
LBZ				AML	AML	10 13 01.1	
ODZ	**Otahua Downs**	**3.39**	**76**	AML	AML	10 13 05.5	
ODZ				AML	AML	10 13 07.8	
RPZ	**Rata Peaks**	**4.24**	**59**	Pn	Pn	10 12 13.7	-8.3
	41nm,0.3s,baz=111,slow=2.6,SNR=4.2						
STKA	**Stephens Creek**	**23.53**	**298**	P	**P**	**10 16 31.9**	**+4.4**
	7.3nm,0.8s,baz=117,slow=14,SNR=4.1						
ASAR	**Alice Springs**	**34.15**	**300**	P	**P**	**10 18 04.8**	**+2.3**
	3.5nm,0.6s,baz=132,slow=8.1,SNR=17						
WRA	**Warramunga Arr**	**36.75**	**304**	P	**P**	**10 18 26.4**	**+1.5**
	4.0nm,0.7s,baz=138,slow=8.0,SNR=7.1						
QSPA	**South Pole Qui**	**44.14**	**180**	P	**P**	**10 19 24.2**	**-1.5**
	4.7nm,0.9s,baz=28,slow=20,SNR=13						
MAW	**Mawson**	**53.03**	**208**	P	**P**	**10 20 34.2**	**+0.4**
	2.9nm,0.9s,baz=46,slow=3.7,SNR=4.4						
SNAA	**Sanae**	**52.38**	**184**	P	**P**	**10 21 39.1**	**-0.5**
	0.6nm,0.8s,baz=320,slow=10,SNR=3.2						
PLCA	**Paso Flores**	**79.98**	**140**	P	**P**	**10 23 25.4**	**-1.3**
	1.3nm,0.7s,baz=346,slow=15,SNR=3.2						
CMAR	**Chiang Mai Arr**	**88.15**	**299**	P	**P**	**10 24 09.3**	**+1.0**
	1.6nm,0.3s,baz=160,slow=3.6,SNR=6.7						
MKAR	**Makanchi Array**	**117.94**	**309**	PKhKP	PKPpre	10 29 57.0	
	0.2nm,0.5s,baz=172,slow=2.9,SNR=3.1						
MKAR				PKP	**PKPdf**	**10 30 02.2**	**-1.2**
	0.3nm,0.4s,baz=183,slow=4.6,SNR=4.2						
KURBB	**Kurchatov Arra**	**122.22**	**311**	PKP	**PKPdf**	**10 30 10.3**	**-1.2**
	1.3nm,0.8s,baz=124,slow=1.8,SNR=8.4						
TORD	**Torodi Ar. Bea**	**144.68**	**207**	PKP	**PKPab**	**10 30 52.4**	**-0.7**
	8.2nm,0.7s,baz=157,slow=2.1,SNR=24						
BRTR	**Keskin Array B**	**144.96**	**277**	PKPbc	**PKPdf**	**10 30 54.1**	**-0.3**
	5.7nm,0.9s,baz=150,slow=5.1,SNR=12						
SPITS	**Spitsbergen Ar**	**145.64**	**349**	PKPbc	**PKPdf**	**10 30 52.6**	**-1.7**
	3.6nm,0.7s,baz=83,slow=6.8,SNR=6.8						
SCHQ	**Schefferville**	**145.92**	**55**	PKPbc	**PKPdf**	**10 30 52.6**	**-2.7**
	3.6nm,0.8s,baz=25,slow=16,SNR=5.6						
ARCES	**ARCESS Array B**	**149.35**	**334**	PKPbc	**PKPbc**	**10 31 03.2**	**-1.8**
	4.0nm,0.7s,baz=90,slow=3.6,SNR=13						
FINES	**FINESS Array B**	**152.26**	**318**	PKPbc	**PKPbc**	**10 31 10.8**	**-1.2**
	2.8nm,0.7s,baz=106,slow=6.9,SNR=6.2						
MLR	**Muntele Rosu**	**152.33**	**284**	PKPbc	**PKPbc**	**10 31 12.3**	**-0.6**
	0.8nm,0.6s,baz=148,slow=5.6,SNR=5.3						
GERES	**GERESS Array B**	**161.09**	**289**	PKPab	**PKPab**	**10 32 00.5**	**-0.1**
	0.3nm,0.3s,baz=101,slow=6.9,SNR=4.2						

ISCJB ***15*** *10:11:19.2±1.2, 45.°95S±0.°04×166.°5E±0.°1, h10km, mb4.4/3, Error ellipse: s-maj=10.6km s-min=6.1km az=1.7*

WEL ***15*** *10:11:20.4±0.7, 45.°94S×166.°51E, h12km, ML5.1/10, Error ellipse: s-maj=7.4km s-min=2.0km az=90.0*

IDC ***15*** *10:11:23.1±0.8, 45.°80S×166.°81E, h0km, mb4.5/2, mb1 4.7/3, mb1mx4.2/15, mbtmp4.6/3, ML4.4/1, Error ellipse: s-maj=40.8km s-min=31.1km az=114.0*

ISC 15 10:11:22.5±0.7, 46.°00S±0.°04×166.°83E±0.°06, h10km, n21, σ1§61/25, mb4.5/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.20**	**211**	P*	**Pg**	**10 11 25.8**	**-0.9**
PYZ				S*	**Sg**	**10 11 29.9**	**+0.4**
DCZ	**Deep Cove**	**0.57**	**24**	P*	**Pg**	**10 11 32.8**	**-0.8**
DCZ				S*	**Sg**	**10 11 40.2**	**-0.7**
DCZ				S*	**Sg**	**10 11 40.3**	**-0.7**
DCZ				AML	AML	10 11 43.1	
DCZ				AML	AML	10 11 45.0	
MLZ	**Mavora Lakes**	**1.15**	**56**	P*	**Pb**	**10 11 44.4**	**0.0**
MLZ				S*	**Sn**	**10 12 02.3**	**+1.9**
MLZ				AML	AML	10 12 04.8	
APZ	**The Paps**	**1.16**	**137**	*e*PN	**Pn**	**10 11 43.3**	**-1.6**
APZ				SN	**Sb**	**10 11 57.1**	**-2.6**
SYZ	**Scrubby Hill**	**1.69**	**109**	SN	**Sn**	**10 12 15.7**	**+1.9**
EAZ	**Earnscleugh**	**1.90**	**67**	*e*PN	**Pb**	**10 11 56.6**	**-0.6**
EAZ				AML	AML	10 12 26.9	
EAZ				AML	AML	10 12 27.1	
WKZ	**Wanaka**	**1.94**	**54**	*e*PN	**Pb**	**10 11 58.5**	**+0.6**
TUZ	**Tuapeka**	**1.96**	**90**	PN	**Pn**	**10 11 56.5**	**+0.8**
TUZ				SN	**Sb**	**10 12 22.8**	**+0.2**
TUZ				AML	AML	10 12 27.7	
RPZ	**Rata Peaks**	**3.77**	**54**	Pn	**Pn**	**10 12 19.7**	**-1.0**
	29nm,0.3s,baz=233,slow=5.1,SNR=3.4						
MKAZ	**Moumakai**	**10.85**	**38**	*e*PN	**Pn**	**10 13 58.5**	**+0.7**
MKAZ				AML	AML	10 14 10.0	
MKAZ				AML	AML	10 14 10.7	
WCZ	**Waipu Caves**	**11.54**	**32**	*e*PN	**Pn**	**10 14 04.2**	**-3.0**
DZM	**Mont Dzumac**	**23.87**	**359**	P	**P**	**10 16 33.0**	**-3.2**
	7.7nm,0.7s,baz=270,slow=24,SNR=4.0						
QSPA	**South Pole Qui**	**44.13**	**180**	P	P	10 19 34.4	+3.5
	8.0nm,1.0s,baz=326,slow=2.8,SNR=6.9						
CMAR	**Chiang Mai Arr**	**88.66**	**298**	P	P	10 24 18.9	+3.0
	2.0nm,0.6s,baz=132,slow=2.1,SNR=7.2						
TORD	**Torodi Ar. Bea**	**144.92**	**206**	PKPbc	**PKPdf**	**10 31 02.5**	**+2.4**
	3.2nm,0.8s,baz=148,slow=2.0,SNR=4.2						
SCHQ	**Schefferville**	**145.47**	**55**	PKPbc	**PKPab**	**10 31 02.4**	**+2.3**
	4.9nm,0.5s,baz=280,slow=5.4,SNR=10						
BRTR	**Keskin Array B**	**145.52**	**277**	PKPbc	**PKPab**	**10 31 01.3**	**+0.3**
	5.1nm,0.8s,baz=152,slow=5.6,SNR=11						
SPITS	**Spitsbergen Ar**	**145.75**	**350**	PKPbc	**PKPab**	**10 31 01.9**	**+1.2**
	14nm,0.8s,baz=119,slow=8.7,SNR=7.6						
ARCES	**ARCESS Array B**	**149.61**	**334**	PKPbc	**PKPbc**	**10 31 12.2**	**+1.4**
	4.3nm,0.6s,baz=64,slow=2.8,SNR=14						
FINES	**FINESS Array B**	**152.65**	**319**	PKPbc	**PKPbc**	**10 31 19.0**	**+0.9**
	3.2nm,0.7s,baz=95,slow=4.8,SNR=6.9						
MLR	**Muntele Rosu**	**152.88**	**283**	PKPbc	**PKPbc**	**10 31 19.4**	**0.0**
	1.2nm,0.7s,baz=293,slow=4.6,SNR=4.5						

WEL ***15*** *10:12:30.5±0.7, 46.°03S×166.°09E, h12km, ML5.2/11, Error ellipse: s-maj=5.8km s-min=2.6km az=90.0*

IDC ***15*** *10:12:31.9±1.6, 46.°39S×166.°82E, h0km, mb4.6/6, mb1 4.8/6, mb1mx4.5/15, mbtmp4.6/6, Error ellipse: s-maj=71.4km s-min=25.4km az=51.0*

ISCJB ***15*** *10:12:34.6±0.7, 46.°11S±0.°05×166.°47E±0.°07, h14km, mb4.6/6, Error ellipse: s-maj=7.4km s-min=7.2km az=162.7*

ISC 15 10:12:35.8±0.7, 46.°06S±0.°04×166.°53E±0.°06, h14km, n24, σ1§72/21, mb4.7/6, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.16**	**136**	P*	**Pg**	**10 12 38.8**	**-0.9**
PYZ				S*	**Sb**	**10 12 45.5**	**+1.9**
PYZ				S*	**Sb**	**10 12 45.6**	**+1.9**
DCZ	**Deep Cove**	**0.73**	**38**	P*	**Pg**	**10 12 47.5**	**-2.3**
DCZ				S*	**Sg**	**10 12 59.3**	**-0.1**
DCZ				S*	**Sb**	**10 12 59.7**	**-0.3**
DCZ				AML	AML	10 13 02.2	
DCZ				AML	AML	10 13 06.3	
APZ	**The Paps**	**1.28**	**128**	*e*PN	**Pn**	**10 12 57.4**	**-1.9**
APZ				SN	**Sn**	**10 13 14.6**	**-1.6**
MLZ	**Mavora Lakes**	**1.35**	**59**	*e*PN	**Pg**	**10 13 01.1**	**-0.7**
MLZ				SN	**Sg**	**10 13 21.5**	**+2.1**
MLZ				SN	**Sb**	**10 13 21.6**	**+3.5**
MSZ	**Milford Sound**	**1.70**	**36**	SN	**Sn**	**10 13 27.0**	**+0.5**
MSZ				AML	AML	10 13 34.7	
MSZ				AML	AML	10 13 34.7	
MSZ				AML	AML	10 13 37.6	
EAZ	**Earnscleugh**	**2.12**	**68**	AML	AML	10 13 45.5	
EAZ				AML	AML	10 13 47.1	
EAZ				AML	AML	10 13 47.1	
EAZ				AML	AML	10 13 49.4	
WKZ	**Wanaka**	**2.14**	**56**	AML	AML	10 13 48.2	
WKZ				AML	AML	10 13 48.9	
WKZ				AML	AML	10 13 48.9	
WKZ				AML	AML	10 13 50.1	
TUZ	**Tuapeka**	**2.17**	**88**	AML	AML	10 13 42.8	
TUZ				AML	AML	10 13 50.2	
JCZ	**Jackson Bay**	**2.54**	**39**	AML	AML	10 14 02.2	
JCZ				AML	AML	10 14 03.1	
ODZ	**Otahua Downs**	**3.06**	**72**	AML	AML	10 14 18.0	
ODZ				AML	AML	10 14 19.7	
LBZ	**Lake Benmore**	**3.08**	**58**	AML	AML	10 14 08.3	
LBZ				AML	AML	10 14 08.8	
FOZ	**Fox Glacier**	**3.36**	**43**	AML	AML	10 14 31.1	
FOZ				AML	AML	10 14 31.4	
WVZ	**Waitaha Valley**	**4.23**	**47**	AML	AML	10 14 53.5	
WVZ				AML	AML	10 14 55.9	
STKA	**Stephens Creek**	**23.88**	**298**	P	**P**	**10 17 51.3**	**+2.5**
	11nm,0.9s,baz=111,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**34.49**	**299**	P	**P**	**10 19 24.2**	**+0.8**
	8.7nm,0.9s,baz=141,slow=9.4,SNR=9.4						
WRA	**Warramunga Arr**	**37.08**	**304**	P	**P**	**10 19 45.7**	**+0.1**
	12nm,0.9s,baz=142,slow=8.4,SNR=8.1						
FITZ	**Fitzroy Crossi**	**43.75**	**296**	P	**P**	**10 20 40.9**	**+0.1**
	7.8nm,0.6s,baz=163,slow=9.5,SNR=11						
QSPA	**South Pole Qui**	**44.07**	**180**	P	P	10 20 37.6	-5.4
	11nm,1.1s,baz=353,slow=3.5,SNR=6.0						
CMAR	**Chiang Mai Arr**	**88.50**	**299**	P	**P**	**10 25 27.9**	**+0.1**
	3.4nm,0.8s,baz=154,slow=4.0,SNR=5.2						
PDAR	**Pinedale Array**	**115.54**	**54**	PKP	**PKPdf**	**10 31 14.2**	**-2.8**
	0.7nm,1.1s,baz=238,slow=2.8,SNR=3.5						
MKAR	**Makanchi Array**	**118.25**	**309**	PKhKP	PKPpre	10 31 15.1	
	0.7nm,1.0s,baz=177,slow=2.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**144.78**	**206**	PKP	**PKPdf**	**10 32 11.9**	**-0.5**
	5.3nm,0.9s,baz=164,slow=1.5,SNR=3.9						
BRTR	**Keskin Array B**	**145.32**	**277**	PKPbc	**PKPab**	**10 32 13.2**	**+0.4**
	6.6nm,0.9s,baz=153,slow=5.7,SNR=6.2						
GERES	**GERESS Array B**	**161.45**	**289**	PKPab	**PKPab**	**10 33 20.7**	**+0.7**
	0.4nm,0.3s,baz=129,slow=4.3,SNR=4.8						

WEL 15 10:13:43.1±0.6, 45.°65S×166.°54E, h12km, ML4.6/7, Error ellipse: s-maj=5.8km s-min=2.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.46**	**69**	P*	Pg	10 13 51.7	-0.5
DCZ				S*	Sg	10 13 58.0	-0.4
DCZ				S*	Sb	10 13 58.5	-1.5
DCZ				AML	AML	10 13 59.7	
DCZ				AML	AML	10 14 00.2	
PYZ	**Puysegur Point**	**0.53**	**169**	P*	Pg	10 13 53.7	+0.2
PYZ				S*	Sg	10 14 00.3	-0.3
MLZ	**Mavora Lakes**	**1.19**	**76**	P*	Pn	10 14 04.1	-1.5
MLZ				S*	Sb	10 14 19.7	-1.3
MLZ				AML	AML	10 14 21.0	
MSZ	**Milford Sound**	**1.38**	**46**	SN	Sn	10 14 26.2	-0.1
MSZ				AML	AML	10 14 29.1	
MSZ				AML	AML	10 14 32.1	
MSZ				AML	AML	10 14 35.1	
APZ	**The Paps**	**1.56**	**140**	SN	Sn	10 14 30.0	-0.9
WKZ	**Wanaka**	**1.93**	**66**	AML	AML	10 14 48.7	
WKZ				AML	AML	10 14 49.9	
WKZ				AML	AML	10 14 50.5	
WKZ				AML	AML	10 14 51.3	
EAZ	**Earnscleugh**	**1.99**	**79**	SN	Sb	10 14 44.3	+0.3
EAZ				AML	AML	10 14 48.2	
EAZ				AML	AML	10 14 49.3	
EAZ				AML	AML	10 14 49.8	
SYZ	**Scrubby Hill**	**2.02**	**117**	*e*PN	Pb	10 14 18.9	-0.7
TUZ	**Tuapeka**	**2.19**	**99**	*e*PN	Pb	10 14 21.7	-0.8
TUZ				AML	AML	10 14 53.4	
TUZ				AML	AML	10 14 53.7	
JCZ	**Jackson Bay**	**2.23**	**46**	SN	Sg	10 14 54.3	-0.6
JCZ				AML	AML	10 15 00.7	

WEL 15 10:15:01.9±1.0, 46.°09S×166.°15E, h33km, ML4.5/5, Error ellipse: s-maj=10.1km s-min=4.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.38**	**102**	PN	Pb	10 15 10.5	-0.2
PYZ				SN	Sb	10 15 16.0	-0.7
PYZ				SN	Sn	10 15 16.5	-0.7
DCZ	**Deep Cove**	**0.93**	**49**	*e*PN	Pn	10 15 18.2	-0.4
DCZ		

SYZ	**Scrubby Hill**	**1.99**	**123**	*e*PN	**Pg**	**10 16 53.1**	**-1.0**
SYZ				SN	**Sb**	**10 17 16.7**	**0.0**
JCZ	**Jackson Bay**	**2.04**	**47**	*e*PN	**Pg**	**10 16 53.9**	**-1.1**
JCZ				AML	AML	10 17 23.7	
JCZ				AML	AML	10 17 25.7	
TUZ	**Tuapeka**	**2.10**	**104**	*e*PN	**Pb**	**10 16 53.0**	**-0.8**
TUZ				AML	AML	10 17 22.8	
TUZ				AML	AML	10 17 22.9	
LBZ	**Lake Benmore**	**2.71**	**67**	*e*PN	**Pb**	**10 17 01.9**	**-2.3**
LBZ				AML	AML	10 17 39.6	
LBZ				AML	AML	10 17 39.9	
LBZ				AML	AML	10 17 40.2	
LBZ				AML	AML	10 17 41.3	
HHSZ	**Highcliff Hill**	**2.75**	**100**	*e*PN	**Pn**	**10 17 01.4**	**+1.6**
ODZ	**Otahua Downs**	**2.81**	**82**	*e*PN	**Pn**	**10 17 00.6**	**-0.1**
ODZ				AML	AML	10 17 39.7	
ODZ				AML	AML	10 17 40.8	
FOZ	**Fox Glacier**	**2.87**	**49**	*e*PN	**Pb**	**10 17 07.8**	**+0.7**
FOZ				AML	AML	10 17 52.9	
FOZ				AML	AML	10 17 53.1	
RPZ	**Rata Peaks**	**3.58**	**62**	Pn	**Pn**	**10 17 10.7**	**-0.4**
	189nm,0.3s,baz=224,slow=4.9,SNR=14						
RPZ				Sn	**Sn**	**10 17 55.9**	**+2.7**
	119nm,0.3s,baz=349,slow=21,SNR=8.4						
WVZ	**Waitaha Valley**	**3.77**	**52**	AML	AML	10 18 08.7	
MQZ	**McQueen's Vall**	**4.60**	**69**	AML	AML	10 18 20.0	
MQZ				AML	AML	10 18 20.4	
CRLZ	**Canterbury Las**	**4.64**	**68**	AML	AML	10 18 32.9	
CRLZ				AML	AML	10 18 50.5	
LTZ	**Lake Taylor**	**4.83**	**58**	AML	AML	10 18 32.9	
LTZ				AML	AML	10 18 33.6	
KHZ	**Kahutara**	**5.81**	**60**	AML	AML	10 18 51.3	
KHZ				AML	AML	10 18 52.2	
THZ	**Tophouse**	**5.84**	**53**	AML	AML	10 18 59.0	
THZ				AML	AML	10 18 59.8	
QRZ	**Quartz Range**	**6.31**	**44**	AML	AML	10 19 07.1	
QRZ				AML	AML	10 19 07.7	
NNZ	**Nelson**	**6.47**	**51**	AML	AML	10 19 10.9	
NNZ				AML	AML	10 19 12.3	
WTAZ	**Waiatarua**	**10.40**	**37**	*e*PN	**Pn**	**10 18 44.3**	**-0.4**
MKAZ	**Moumakai**	**10.51**	**40**	*e*PN	**Pn**	**10 18 46.7**	**+0.4**
WCZ	**Waipu Caves**	**11.16**	**34**	*e*PN	**Pn**	**10 18 54.4**	**-0.7**
DZM	**Mont Dzumac**	**23.36**	**359**	P	**P**	**10 21 26.2**	**+1.9**
	15nm,0.9s,baz=90,slow=20,SNR=5.8						
STKA	**Stephens Creek**	**23.74**	**286**	P	**P**	**10 21 29.2**	**+1.4**
	5.9nm,0.7s,baz=141,slow=9.6,SNR=5.8						
ASAR	**Alice Springs**	**34.33**	**298**	P	**P**	**10 23 03.0**	**+0.7**
	4.8nm,1.1s,baz=141,slow=9.1,SNR=7.0						
WRA	**Warramunga Arr**	**36.88**	**303**	P	**P**	**10 23 24.4**	**+0.1**
	3.5nm,0.8s,baz=137,slow=7.9,SNR=3.6						
QSPA	**South Pole Qui**	**44.63**	**180**	P	**P**	**10 24 27.5**	**-0.3**
	6.3nm,0.8s,baz=9.6,slow=3.3,SNR=6.6						
MAW	**Mawson**	**53.70**	**207**	P	**P**	**10 25 37.2**	**+0.3**
	4.2nm,0.9s,baz=250,slow=7.2,SNR=5.5						
PLCA	**Paso Flores**	**80.04**	**140**	P	**P**	**10 28 26.6**	**+1.4**
	3.7nm,0.7s,baz=209,slow=8.8,SNR=7.6						
CMAR	**Chiang Mai Arr**	**88.34**	**298**	P	**P**	**10 29 09.2**	**+1.8**
	5.6nm,0.9s,baz=152,slow=3.4,SNR=16						
ILAR	**Eielson Array**	**115.74**	**20**	PKP	**PKPdf**	**10 34 55.6**	**-1.2**
	0.4nm,0.9s,baz=231,slow=4.5,SNR=4.8						
MKAR	**Makanchi Array**	**118.00**	**309**	PKP	**PKPdf**	**10 35 01.1**	**-0.7**
	1.8nm,0.9s,baz=119,slow=1.5,SNR=12						
KURBB	**Kurchatov Arra**	**122.26**	**311**	PKP	**PKPdf**	**10 35 08.6**	**-1.1**
	3.7nm,0.7s,baz=117,slow=1.9,SNR=8.8						
BVAR	**Borovoye Array**	**127.83**	**311**	PKP	**PKPdf**	**10 35 18.8**	**-1.5**
	1.9nm,0.8s,baz=143,slow=5.2,SNR=7.5						
AKTO	**Aktyubinsk**	**133.68**	**303**	PKP	**PKPdf**	**10 35 31.2**	**-0.3**
	0.8nm,0.4s,baz=152,slow=2.7,SNR=3.9						
SPITS	**Spitsbergen Ar**	**145.24**	**350**	PKPbc	**PKPbc**	**10 35 51.1**	**-0.5**
	7.5nm,0.7s,baz=123,slow=6.1,SNR=5.5						
SCHQ	**Schefferville**	**145.24**	**55**	PKPbc	**PKPbc**	**10 35 50.7**	**-1.5**
	7.6nm,0.8s,baz=51,slow=7.1,SNR=6.5						
TORD	**Torodi Ar. Bea**	**145.34**	**206**	PKPbc	**PKPbc**	**10 35 53.4**	**-0.2**
	57nm,0.8s,baz=146,slow=2.4,SNR=89						
BRTR	**Keskin Array B**	**145.38**	**277**	PKPbc	**PKPbc**	**10 35 53.7**	**+0.5**
	16nm,0.8s,baz=145,slow=4.6,SNR=29						
ARCES	**ARCESS Array B**	**149.12**	**335**	PKPbc	**PKPbc**	**10 36 02.8**	**+0.2**
	8.5nm,0.7s,baz=66,slow=3.9,SNR=12						
FINES	**FINESS Array B**	**152.21**	**319**	PKPbc	**PKPbc**	**10 36 10.4**	**+0.3**
	11nm,0.7s,baz=93,slow=4.0,SNR=26						
MLR	**Muntele Rosu**	**152.68**	**284**	PKPbc	**PKPbc**	**10 36 10.2**	**-1.7**
	1.5nm,0.9s,baz=319,slow=3.0,SNR=4.1						
JMIC	**Jan Mayen**	**154.33**	**356**	PKPab	**PKPab**	**10 36 27.5**	**-1.2**
	57nm,0.8s,baz=123,slow=6.9,SNR=3.7						
HFS	**Hagfors**	**158.29**	**322**	PKPab	**PKPab**	**10 36 45.9**	**-0.2**
	3.5nm,0.9s,baz=91,slow=7.6,SNR=5.6						
NOA	**NORSAR Array B**	**158.82**	**326**	PKPab	**PKPab**	**10 36 47.7**	**-0.7**
	1.2nm,0.8s,baz=59,slow=4.3,SNR=3.7						
KEST	**Kesra**	**160.30**	**248**	PKPab	**PKPab**	**10 36 55.9**	**+0.3**
	2.2nm,0.7s,baz=214,slow=0.7,SNR=6.5						
GERES	**GERESS Array B**	**161.39**	**299**	PKPab	**PKPab**	**10 36 57.7**	**-2.3**
	1.8nm,0.9s,baz=108,slow=4.3,SNR=7.1						

WEL 15 10:17:19.6±0.5, 46°03'S×165°95'E, h12km, ML4.8/5, Error ellipse: s-maj=3.3km s-min=1.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.53**	**105**	P*	Pg	10 17 29.8	-0.2
PYZ				S*	Sg	10 17 36.7	-0.3
PYZ				S*	Sb	10 17 37.3	-1.1
DCZ	**Deep Cove**	**1.01**	**57**	S*	Sg	10 17 51.4	-0.8
DCZ				S*	Sb	10 17 51.5	-0.8
DCZ				S*	Sn	10 17 51.8	-1.9
DCZ				S*		10 17 51.8	
APZ	**The Paps**	**1.62**	**120**	SN	Sn	10 18 05.3	-3.7
MLZ	**Mavora Lakes**	**1.70**	**67**	PN	Pn	10 17 47.9	-1.3
MLZ				SN	Sn	10 18 10.6	-0.4
MLZ				AML	AML	10 18 13.2	
MSZ	**Milford Sound**	**1.95**	**47**	*e*PN	Pn	10 17 50.5	-2.0
MSZ				SN	Sb	10 18 18.6	-0.6
MSZ				AML	AML	10 18 21.2	
EAZ	**Earnscleugh**	**2.49**	**73**	SN	Sn	10 18 30.3	0.0
EAZ				AML	AML	10 18 32.2	
TUZ	**Tuapeka**	**2.57**	**90**	SN	Sb	10 18 36.8	-0.3

WEL 15 10:18:42.8±0.6, 45°89S×166°67E, h12km, ML4.5/8, Error ellipse: s-maj=9.9km s-min=2.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.28**	**179**	P*	Pg	10 18 48.2	-0.4
PYZ				S*	Sg	10 18 52.9	+0.4
PYZ				S*	Sb	10 18 53.0	-1.5
DCZ	**Deep Cove**	**0.53**	**40**	P*	Pg	10 18 52.9	-0.3
DCZ				S*	Sg	10 18 59.0	-1.2
DCZ				S*	Sb	10 18 59.2	-2.4
DCZ				AML	AML	10 18 59.7	
DCZ				AML	AML	10 18 59.7	
MLZ	**Mavora Lakes**	**1.18**	**63**	P*	Pn	10 19 04.4	-0.9
MLZ				S*	Sb	10 19 18.3	-2.3
MLZ				AML	AML	10 19 20.6	
APZ	**The Paps**	**1.31**	**136**	*e*PN	Pn	10 19 06.4	-0.7
APZ				SN	Sg	10 19 26.3	+1.1
MSZ	**Milford Sound**	**1.50**	**37**	*e*PN	Pb	10 19 10.8	+0.1
MSZ				SN	Sn	10 19 28.4	-0.7
MSZ				AML	AML	10 19 32.6	
MSZ				AML	AML	10 19 34.7	
MSZ				AML	AML	10 19 37.1	
EAZ	**Earnscleugh**	**1.96**	**71**	SN	Sn	10 19 41.5	+1.0
EAZ				AML	AML	10 19 52.1	
TUZ	**Tuapeka**	**2.07**	**93**	*e*PN	Pb	10 19 19.4	-0.9
TUZ				SN	Sg	10 19 49.0	-0.2
TUZ				AML	AML	10 19 51.1	
HHSZ	**Highcliff Hill**	**2.74**	**91**	*e*PN	Pb	10 19 30.4	-1.4
HHSZ				SN	Sn	10 20 01.7	+2.0
LBZ	**Lake Benmore**	**2.90**	**60**	AML	AML	10 20 07.5	
LBZ				AML	AML	10 20 08.9	
ODZ	**Otahua Downs**	**2.92**	**75**	*e*PN	Pn	10 19 27.1	-1.9
ODZ				SN	Sn	10 20 06.2	+2.1
ODZ				AML	AML	10 20 12.8	
FOZ	**Fox Glacier**	**3.17**	**44**	AML	AML	10 20 28.2	
FOZ				AML	AML	10 20 29.2	

WEL 15 10:19:17.3±0.6, 45°55S×166°73E, h12km, ML4.5/8, Error ellipse: s-maj=5.7km s-min=2.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.30**	**77**	P*	Pg	10 19 23.9	+0.4
DCZ				S*	Sg	10 19 27.9	+0.3
DCZ				S*	Sb	10 19 28.0	-1.6
DCZ				AML	AML	10 19 28.3	
DCZ				AML	AML	10 19 29.4	
PYZ	**Puysegur Point**	**0.62**	**183**	P*	Pg	10 19 28.4	-1.0
PYZ				S*	Sb	10 19 38.3	-0.5
MLZ	**Mavora Lakes**	**1.03**	**79**	*e*P*	Pb	10 19 35.4	-1.8
MLZ				S*	Sb	10 19 47.5	-3.3
MLZ				AML	AML	10 19 48.5	
MSZ	**Milford Sound**	**1.22**	**44**	*e*P*	Pg	10 19 43.2	+2.5
MSZ				S*	Sb	10 19 55.2	-0.7
MSZ				S*	Sn	10 19 55.4	-1.2
MSZ				S*	Sg	10 19 55.7	-0.8
MSZ				AML	AML	10 19 55.9	
APZ	**The Paps**	**1.55**	**146**	*e*PN	Pg	10 19 49.2	+2.0
EAZ	**Earnscleugh**	**1.84**	**81**	SN	Sn	10 20 09.1	-2.9
EAZ				AML	AML	10 20 16.4	
EAZ				AML	AML	10 20 18.2	
EAZ				AML	AML	10 20 19.0	
TUZ	**Tuapeka**	**2.07**	**102**	SN	Sn	10 20 16.1	-1.4
TUZ				AML	AML	10 20 24.4	
TUZ				AML	AML	10 20 25.1	
LBZ	**Lake Benmore**	**2.71**	**66**	AML	AML	10 20 38.2	
LBZ				AML	AML	10 20 40.4	
ODZ	**Otahua Downs**	**2.81**	**81**	*e*PN	Pn	10 20 01.7	-0.2
ODZ				AML	AML	10 20 38.4	
ODZ				AML	AML	10 20 39.2	
FOZ	**Fox Glacier**	**2.90**	**48**	AML	AML	10 20 51.5	
FOZ				AML	AML	10 20 52.1	

NNC 15 10:19:18.6±1.7, 53°97N×61°33E, h0km, mb3.5, mpv3.1, 9C-4D, Error ellipse: s-maj=17.0km s-min=4.9km az=144.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AB31	**Akbulak array**	**4.80**	**191**	⇑Pn	Pn	10 20 33.0	+0.9
	0.4nm,0.6s						
AB31				⇓Pg	Pb	10 20 46.1	+2.6
	0.4nm,0.6s,baz=33,slow=15,SNR=2.6						
AB31				Sn	Sn	10 21 29.3	+1.0
	0.3nm,0.3s,baz=38,slow=25,SNR=4.4						
AB31				⇑Lg	Lg	10 21 47.8	
	1.4nm,0.6s,baz=27,slow=27,SNR=5.7						
BRVK	**Borovoye**	**5.42**	**96**	⇑Pn	Pn	10 20 39.8	-0.8
	1.4nm,0.5s						
BRVK				⇓Pg	Pb	10 20 57.7	+3.6
	6.1nm,0.7s						
BRVK				⇓Sn	Sn	10 21 45.0	+1.4
	3.5nm,0.5s						
BRVK				⇑Lg	Lg	10 22 10.9	
	12nm,1.3s						
BVA0	**Borovoye Array**	**5.49**	**96**	⇑Pn	Pn	10 20 40.9	-0.7
	2.1nm,0.8s,baz=288,slow=13,SNR=9.3						
BVA0				⇑Pg	Pb	10 20 58.9	+3.6
	5.3nm,0.9s,baz=288,slow=13,SNR=4.5						
BVA0				⇓Sn	Sn	10 21 46.1	+0.7
	3.5nm,0.7s,baz=284,slow=23						
BVA0				⇑Lg	Lg	10 22 11.8	
	2.6nm,0.6s,baz=274,slow=29						
VOSK	**Vostochnaya**	**5.91**	**98**	Pn	Pn	10 20 48.2	+0.8
	2.9nm,0.7s						
VOSK				⇑Sn	Sn	10 21 57.6	+1.8
	4.0nm,1.1s						
VOSK				⇑Lg	Lg	10 22 26.1	
	0.7nm,0.5s						

*IDC **15** 10:19:33.4±1.9, 46°01S×166°02E, h0km, mb4.3/4, mb1 4.6/6, mb1mx4.3/16, mbtmp4.5/6, ML4.6/2, Error ellipse: s-maj=59.7km s-min=23.2km az=170.0*
*ISCJB **15** 10:19:36.3±3.1, 46°06S±0°08×166°00E±0°07, h33km±25km, mb4.3/4, Error ellipse: s-maj=13.8km s-min=7.8km az=164.5*
*WEL **15** 10:19:38.0±1.0, 46°10S×166°11E, h33km, ML4.9/8, Error ellipse: s-maj=9.3km s-min=4.2km az=90.0*
ISC 15 10:19:37.2±1.7, 46°05S±0°07×166°08E±0°08, h27km±12km, n19, σ1°35/22, mb4.3/4, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.43**	**106**	*e*PN	**Pb**	**10 19 46.2**	**-0.3**
PYZ				SN	**Sn**	**10 19 53.6**	**-1.1**
PYZ				SN	**Sb**	**10 19 53.7**	**+0.9**
DCZ	**Deep Cove**	**0.94**	**53**	PN	**Pn**	**10 19 54.5**	**-0.1**
DCZ				SN	**Sb**	**10 20 06.6**	**-0.3**
DCZ				SN	**Sb**	**10 20 06.7**	**-0.3**
DCZ				SN	**Sn**	**10 20 07.0**	**-0.2**
DCZ				AML	AML	10 20 07.9	
APZ	**The Paps**	**1.54**	**121**	*e*PN	**Pn**	**10 20 03.0**	**+0.1**
MLZ	**Mavora Lakes**	**1.62**	**65**	*e*PN	**Pb**	**10 20 05.5**	**-1.0**
MLZ				SN	**Sn**	**10 20 20.5**	**-3.7**
MLZ				AML	AML	10 20 29.0	
MSZ	**Milford Sound**	**1.89**	**44**	*e*PN	Pb	10 20 14.8	+3.7
MSZ				SN	**Sn**	**10 20 31.8**	**+1.2**
MSZ				AML	AML	10 20 42.2	
MSZ				AML	AML	10 20 43.0	
MSZ				AML	AML	10 20 43.0	
EAZ	**Earnscleugh**	**2.41**	**71**	*e*PN	**Pb**	**10 20 21.9**	**+2.1**
EAZ				SN	**Sn**	**10 20 45.5**	**+2.2**
EAZ				AML	AML	10 20 50.6	
EAZ				AML	AML	10 20 53.1	
EAZ				AML	AML	10 20 53.6	
TUZ	**Tuapeka**	**2.48**	**89**	AML	AML	10 20 43.3	
TUZ				AML	AML	10 20 51.5	
LBZ	**Lake Benmore**	**3.34**	**62**	AML	AML	10 21 09.3	
LBZ				AML	AML	10 21 09.6	
ODZ	**Otahua Downs**	**3.36**	**74**	AML	AML	10 21 08.7	
ODZ				AML	AML	10 21 11.6	
RPZ	**Rata Peaks**	**4.23**	**58**	Pn	**Pn**	**10 20 39.9**	**0.0**
	91nm,0.3s,baz=15,slow=18,SNR=4.0						
RPZ				Sn	**Sn**	**10 21 29.8**	**+1.3**
	59nm,0.3s,baz=346,slow=21,SNR=8.2						
WVZ	**Waitaha Valley**	**4.46**	**50**	AML	AML	10 21 36.4	
WVZ				AML	AML	10 21 37.9	
URZ	**Urewera**	**11.29**	**50**	Pn	**Pn**	**10 22 15.6**	**-1.0**
	1.5nm,0.3s,baz=234,slow=19,SNR=2.8						
URZ				Sn	Sn	10 24 15.2	-6.5
	0.9nm,0.3s,baz=95,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**34.22**	**300**	P	**P**	**10 26 20.5**	**-0.1**
	2.3nm,0.5s,baz=135,slow=7.8,SNR=14						
WRA	**Warramunga Arr**	**36.82**	**304**	P	**P**	**10 26 42.4**	**-0.6**
	3.4nm,0.8s,baz=137,slow=8.0,SNR=9.5						
FITZ	**Fitzroy Crossi**	**43.47**	**296**	P	**P**	**10 27 37.5**	**-0.5**
	2.9nm,0.6s,baz=338,slow=9.6,SNR=3.3						
CMAR	**Chiang Mai Arr**	**88.22**	**299**	P	**P**	**10 32 25.9**	**+0.1**
	0.7nm,0.3s,baz=163,slow=3.1,SNR=6.4						
TORD	**Torodi Ar. Bea**	**144.65**	**207**	PKP	PKPbc	10 39 10.9	+0.6
	2.6nm,0.8s,baz=153,slow=1.6,SNR=4.1						
BRTR	**Keskin Array B**	**145.01**	**277**	PKP	**PKPab**	**10 39 11.5**	**+0.5**
	5.3nm,0.8s,baz=149,slow=5.3,SNR=9.3						
ARCES	**ARCESS Array B**	**149.42**	**334**	PKPbc	**PKPbc**	**10 39 23.5**	**+1.2**
	3.2nm,0.7s,baz=52,slow=6.3,SNR=4.1						

WEL 15 10:20:55.2±0.2, 45°60S×166°72E, h19km±1km, ML4.3/5, Error ellipse: s-maj=2.6km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.33**	**68**	P*	Pg	10 21 02.4	0.0
DCZ				S*	Sg	10 21 07.2	0.0
DCZ				AML	AML	10 21 07.5	
DCZ				AML	AML	10 21 07.6	
DCZ				AML	AML	10 21 07.7	
PYZ	**Puysegur Point**	**0.56**	**182**	P*	Pb	10 21 06.1	-0.3
PYZ				S*	Sb	10 21 13.7	-0.3
PYZ				S*	Sg	10 21 14.1	-0.1
MLZ	**Mavora Lakes**	**1.06**	**76**	P*	Pb	10 21 14.0	-1.0
MLZ				S*	Sb	10 21 27.4	-1.1
MLZ				AML	AML	10 21 28.6	
MSZ	**Milford Sound**	**1.27**	**43**	*e*PN	Pn	10 21 17.0	-0.8
MSZ				AML	AML	10 21 37.0	
MSZ				AML	AML	10 21 40.3	
MSZ				AML	AML	10 21 41.7	
MSZ				AML	AML	10 21 41.7	
APZ	**The Paps**	**1.51**	**145**	*e*PN	Pn	10 21 20.8	-0.6
EAZ	**Earnscleugh**	**1.86**	**79**	AML	AML	10 21 55.6	
EAZ				AML	AML	10 21 56.1	
SYZ	**Scrubby Hill**	**1.93**	**120**	*e*PN	Pb	10 21 30.4	+0.7
SYZ				SN	Sg	10 21 56.5	-0.8
TUZ	**Tuapeka**	**2.07**	**101**	*e*PN	Pb	10 21 33.6	+1.4
TUZ				AML	AML	10 22 02.2	
TUZ				AML	AML	10 22 02.7	

*IDC **15** 10:21:29.7±0.7, 46°13S×166°03E, h0km, mb4.4/6, mb1 4.6/7, mb1mx4.3/16, mbtmp4.4/7, ML4.2/1, Error ellipse: s-maj=24.3km s-min=23.5km az=70.0*
*WEL **15** 10:21:32.6±1.2, 46°20S×165°84E, h33km, ML5.0/9, Error ellipse: s-maj=11.9km s-min=5.9km az=90.0*
*ISCJB **15** 10:21:33.4±1.3, 46°20S±0°05×165°96E±0°09, h36km±14km, mb4.5/9, Error ellipse: s-maj=10.7km s-min=8.8km az=173.5*
*NEIC **15** 10:21:33.8, 46°17S×166°00E, h19km, mb4.6/3, ML5.1(WEL), After WEL.*
ISC 15 10:21:33.1±1.4, 46°17S±0°05×166°09E±0°07, h22km±10km, n60, σ1°18/71, mb4.5/9, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.41**	**90**	P*	**Pn**	**10 21 43.1**	**-0.6**
PYZ				S*	**Sn**	**10 21 50.9**	**+0.1**
PYZ	**Puysegur Point**	**0.41**	**90**	*e*PN	**Pb**	**10 21 42.7**	**+1.0**
PYZ				SN	**Sn**	**10 21 50.7**	**-0.1**
PYZ				SN	**Sn**	**10 21 50.8**	**+0.1**
DCZ	**Deep Cove**	**1.02**	**48**	Pn	**Pb**	**10 21 52.5**	**+0.5**
DCZ				S*	**Sn**	**10 22 07.0**	**+1.4**
DCZ	**Deep Cove**	**1.02**	**48**	PN	**Pb**	**10 21 52.2**	**+0.2**
DCZ				SN	**Sn**	**10 22 06.9**	**+1.3**
DCZ				AML	AML	10 22 20.6	
APZ	**The Paps**	**1.47**	**117**	Pn	**Pn**	**10 21 59.0**	**+0.7**
APZ				Sn	**Sn**	**10 22 17.3**	**+0.3**
APZ	**The Paps**	**1.47**	**117**	PN	**Pn**	**10 21 58.5**	**+0.2**
APZ				SN	**Sn**	**10 22 16.3**	**-0.7**
MLZ	**Mavora Lakes**	**1.68**	**61**	Pn	**Pb**	**10 22 04.2**	**+0.9**
MLZ	**Mavora Lakes**	**1.68**	**61**	*e*PN	**Pn**	**10 22 01.8**	**+0.7**
MLZ				SN	**Sb**	**10 22 25.1**	**+1.2**
MSZ	**Milford Sound**	**1.98**	**42**	*e*PN	**Pb**	**10 22 08.1**	**-0.4**
MSZ				AML	AML	10 22 36.9	
MSZ				AML	AML	10 22 39.7	
MSZ				AML	AML	10 22 43.8	
MSZ				AML	AML	10 22 46.0	
SYZ	**Scrubby Hill**	**2.15**	**101**	SN	**Sn**	**10 22 33.0**	**-0.4**
SYZ				SN	**Sb**	**10 22 35.4**	**-2.0**
EAZ	**Earnscleugh**	**2.44**	**69**	*e*PN	**Pb**	**10 22 14.8**	**-1.5**
EAZ				AML	AML	10 22 48.7	
EAZ				AML	AML	10 22 51.3	
EAZ				AML	AML	10 22 51.3	
EAZ				AML	AML	10 23 01.1	
TUZ	**Tuapeka**	**2.48**	**86**	*e*PN	**Pb**	**10 22 16.2**	**-0.7**
TUZ				SN	**Sn**	**10 22 44.0**	**+2.3**
TUZ				AML	AML	10 22 52.5	
ODZ	**Otahua Downs**	**3.39**	**72**	*e*PN	**Pn**	**10 22 23.2**	**-1.5**
ODZ				AML	AML	10 23 23.9	
ODZ				AML	AML	10 23 26.1	
ODZ				AML	AML	10 23 27.6	
ODZ				AML	AML	10 23 28.8	
LBZ	**Lake Benmore**	**3.40**	**60**	SN	**Sn**	**10 23 06.8**	**+2.5**
LBZ				AML	AML	10 23 10.5	
FOZ	**Fox Glacier**	**3.65**	**46**	AML	AML	10 23 26.8	
FOZ				AML	AML	10 23 39.3	
RPZ	**Rata Peaks**	**4.30**	**57**	Pn	**Pn**	**10 22 35.3**	**-1.8**
RPZ				Sn	**Sn**	**10 23 29.4**	**+2.9**
RPZ	**Rata Peaks**	**4.30**	**57**	Pn	**Pn**	**10 22 35.3**	**-1.8**
	14nm,0.3s,baz=131,slow=20,SNR=2.0						
RPZ				Sn	**Sn**	**10 23 29.4**	**+2.9**
	48nm,0.3s,baz=357,slow=17,SNR=5.3						
WVZ	**Waitaha Valley**	**4.54**	**49**	AML	AML	10 23 47.4	
WVZ				AML	AML	10 23 48.0	
DSZ	**Denniston Nort**	**6.05**	**45**	SN	**Sn**	**10 24 09.0**	**-0.7**
QRZ	**Quartz Range**	**7.10**	**44**	SN	**Sn**	**10 24 31.9**	**-3.7**
QRZ				AML	AML	10 24 52.9	
OUZ	**Omahuta**	**12.32**	**30**	*e*Pn	**Pn**	**10 24 27.7**	**+0.6**
SBA	**Scott Base**	**31.80**	**180**	*e*P	**P**	**10 27 56.4**	**+1.1**
ASAR	**Alice Springs**	**34.28**	**300**	P	**P**	**10 28 16.6**	**-1.1**
ASAR				PcP	**PcP**	**10 30 53.5**	**-0.1**
ASAR	**Alice Springs**	**34.28**	**300**	P	**P**	**10 28 16.6**	**-1.1**
	2.5nm,0.8s,baz=140,slow=8.9,SNR=6.3						
ASAR				PcP	**PcP**	**10 30 53.5**	**-0.1**
	1.1nm,0.8s,baz=135,slow=3.7,SNR=4.1						
CASY	**Casey**	**35.25**	**215**	*e*P	**P**	**10 28 25.9**	**+0.4**
	4.8nm,0.8s						
WRA	**Warramunga Arr**	**36.89**	**304**	P	**P**	**10 28 39.7**	**-0.4**
WRA	**Warramunga Arr**	**36.89**	**304**	P	**P**	**10 28 39.7**	**-0.4**
	3.9nm,0.8s,baz=144,slow=8.4,SNR=5.6						
WRAB	**Tennant Creek**	**36.89**	**304**	*e*P	**P**	**10 28 39.5**	**-0.6**
	3.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**43.52**	**296**	P	**P**	**10 29 33.6**	**-1.4**
FITZ	**Fitzroy Crossi**	**43.52**	**296**	P	**P**	**10 29 33.6**	**-1.4**
	4.3nm,0.8s,baz=199,slow=9.2,SNR=3.7						
QSPA	**South Pole Qui**	**43.96**	**180**	P	**P**	**10 29 38.6**	**+0.4**
QSPA	**South Pole Qui**	**43.96**	**180**	P	**P**	**10 29 38.6**	**+0.4**
	11nm,1.1s,baz=325,slow=1.3,SNR=10						
MAW	**Mawson**	**52.89**	**208**	P	**P**	**10 30 47.0**	**+0.3**
MAW	**Mawson**	**52.89**	**208**	P	**P**	**10 30 47.0**	**+0.3**
	4.5nm,1.0s,baz=122,slow=

APZ				SN	Sn	10 24 37.5	-2.1		
MLZ	**Mavora Lakes**	**1.62**	**65**	*e*PN	**Pn**	**10 24 21.1**	**-0.1**		
MLZ				SN	Sn	10 24 41.2	-0.8		
MLZ				AML	AML	10 24 47.8			
MSZ	**Milford Sound**	**1.90**	**44**	*e*PN	**Pg**	**10 24 29.1**	**0.0**		
MSZ				AML	AML	10 24 57.0			
MSZ				AML	AML	10 24 58.1			
MSZ				AML	AML	10 24 58.3			
MSZ				AML	AML	10 24 58.3			
SYZ	**Scrubby Hill**	**2.16**	**104**	*e*PN	**Pn**	**10 24 29.5**	**+0.9**		
EAZ	**Earnscleugh**	**2.40**	**71**	*e*PN	**Pn**	**10 24 34.3**	**+2.4**		
EAZ				AML	AML	10 25 07.0			
EAZ				AML	AML	10 25 09.8			
EAZ				AML	AML	10 25 10.0			
EAZ				AML	AML	10 25 12.2			
TUZ	**Tuapeka**	**2.47**	**89**	*e*PN	**Pn**	**10 24 34.5**	**+1.7**		
TUZ				AML	AML	10 25 09.0			
TUZ				AML	AML	10 25 19.8			
HHSZ	**Highcliff Hill**	**3.14**	**88**	*e*PN	**Pn**	**10 24 43.6**	**+1.5**		
LBZ	**Lake Benmore**	**3.34**	**61**	AML	AML	10 25 29.9			
LBZ				AML	AML	10 25 31.7			
ODZ	**Otahua Downs**	**3.35**	**74**	*e*PN	**Pn**	**10 24 44.3**	**-0.7**		
ODZ				AML	AML	10 25 40.3			
ODZ				AML	AML	10 25 41.5			
FOZ	**Fox Glacier**	**3.57**	**47**	AML	AML	10 25 51.2			
FOZ				AML	AML	10 25 51.3			
RPZ	**Rata Peaks**	**4.23**	**58**	Pn	**Pn**	**10 24 58.2**	**+1.1**		
	1.7nm,0.3s,baz=312,slow=18,SNR=3.1								
WVZ	**Waitaha Valley**	**4.46**	**50**	AML	AML	10 26 01.0			
WVZ				AML	AML	10 26 03.5			
ASAR	**Alice Springs**	**34.23**	**300**	P	**P**	**10 30 38.1**	**-0.4**		
	0.6nm,0.7s,baz=138,slow=10.0,SNR=3.5								
WRA	**Warramunga Arr**	**36.84**	**304**	P	**P**	**10 31 00.8**	**-0.1**		
	1.6nm,0.9s,baz=140,slow=8.1,SNR=5.5								
TORD	**Torodi Ar. Bea**	**144.64**	**207**	PKP	**PKPab**	**10 43 27.9**	**-0.3**		
	0.6nm,0.6s,baz=163,slow=2.3,SNR=5.1								
BRTR	**Keskin Array B**	**145.02**	**277**	PKP	**PKPab**	**10 43 29.4**	**+0.3**		
	2.2nm,0.9s,baz=134,slow=8.2,SNR=3.5								
ARCES	**ARCESS Array B**	**149.44**	**334**	PKPbc	**PKPbc**	**10 43 40.3**	**-0.1**		
	2.6nm,0.8s,baz=72,slow=3.9,SNR=3.7								

*IDC **15** 10:24:46.2±0.9,45°.91S×166°.32E,h0km,mb3.9/3, mb1 4.1/4,mb1mx3.9/15,mbtmp4.0/4,ML4.2/1,Error ellipse: s-maj=33.0km s-min=28.1km az=41.0*

*WEL **15** 10:24:47.6±0.9,46°.10S×165°.81E,h12km,ML4.7/10,Error ellipse: s-maj=7.7km s-min=4.3km az=90.0*

*ISCJB **15** 10:24:48.6±1.3,46°.11S±0°.06×165°.87E±0°.07,h20km±8km, mb3.9/3,Error ellipse: s-maj=10.0km s-min=8.3km az=168.6*

ISC 15 10:24:49.2±2.4,46°.08S±0°.06×166°.02E±0°.07,h17km±14km, n24,σ1§10/27,mb3.7/3,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.47**	**101**	P*	**Pb**	**10 24 59.5**	**+0.6**
PYZ				S*	**Sn**	**10 25 07.6**	**-1.3**
PYZ				S*	**Sb**	**10 25 07.8**	**+2.3**
DCZ	**Deep Cove**	**0.99**	**53**	P*	**Pn**	**10 25 07.9**	**-0.4**
DCZ				S*	**Sn**	**10 25 22.0**	**+0.2**
DCZ				AML	AML	10 25 22.3	
DCZ				S*	**Sg**	**10 25 22.4**	**+1.0**
DCZ				AML	AML	10 25 23.3	
APZ	**The Paps**	**1.56**	**120**	*e*PN	**Pn**	**10 25 15.6**	**-0.5**
APZ				SN	**Sn**	**10 25 36.1**	**+0.3**
MLZ	**Mavora Lakes**	**1.67**	**65**	*e*PN	**Pb**	**10 25 20.0**	**+0.5**
MLZ				SN	**Sg**	**10 25 42.3**	**-0.8**
MLZ				AML	AML	10 25 47.2	
MSZ	**Milford Sound**	**1.94**	**44**	SN	**Sb**	**10 25 48.3**	**+0.3**
MSZ				AML	AML	10 25 56.8	
MSZ				AML	AML	10 26 01.3	
MSZ				AML	AML	10 26 01.3	
SYZ	**Scrubby Hill**	**2.21**	**103**	*e*PN	**Pb**	**10 25 27.6**	**-1.0**
EAZ	**Earnscleugh**	**2.45**	**71**	*e*PN	**Pb**	**10 25 31.3**	**-1.5**
EAZ				SN	**Sb**	**10 26 00.2**	**-2.4**
EAZ				AML	AML	10 26 04.3	
EAZ				AML	AML	10 26 05.5	
EAZ				AML	AML	10 26 07.1	
TUZ	**Tuapeka**	**2.52**	**89**	*e*PN	**Pb**	**10 25 32.2**	**-1.6**
TUZ				SN	**Sn**	**10 26 00.6**	**+1.1**
TUZ				AML	AML	10 26 06.6	
LBZ	**Lake Benmore**	**3.39**	**62**	AML	AML	10 26 23.8	
LBZ				AML	AML	10 26 25.5	
ODZ	**Otahua Downs**	**3.41**	**74**	*e*PN	**Pn**	**10 25 43.1**	**+1.7**
ODZ				AML	AML	10 26 39.7	
ODZ				AML	AML	10 26 39.9	
FOZ	**Fox Glacier**	**3.62**	**47**	AML	AML	10 26 50.7	
FOZ				AML	AML	10 26 52.2	
RPZ	**Rata Peaks**	**4.28**	**58**	Pn	Pn	10 25 47.4	-6.1
	14nm,0.3s,baz=0.0,slow=20,SNR=5.6						
WVZ	**Waitaha Valley**	**4.51**	**50**	AML	AML	10 26 54.1	
WVZ				AML	AML	10 26 56.1	
QRZ	**Quartz Range**	**7.07**	**44**	*e*PN	**Pn**	**10 26 32.8**	**+1.1**
QRZ				AML	AML	10 27 49.7	
QRZ				AML	AML	10 27 52.0	
ASAR	**Alice Springs**	**34.20**	**300**	P	**P**	**10 31 33.5**	**-0.2**
	0.5nm,0.8s,baz=135,slow=7.7,SNR=5.5						
WRA	**Warramunga Arr**	**36.80**	**304**	P	**P**	**10 31 56.1**	**0.0**
	0.6nm,0.5s,baz=136,slow=8.0,SNR=5.4						
QSPA	**South Pole Qui**	**44.05**	**180**	P	**P**	**10 32 56.6**	**+0.9**
	7.5nm,1.0s,baz=23,slow=2.7,SNR=7.4						
KURBB	**Kurchatov Arra**	**122.28**	**311**	PKP	**PKPdf**	**10 43 41.8**	**-0.4**
	0.6nm,0.5s,baz=110,slow=2.0,SNR=5.5						
TORD	**Torodi Ar. Bea**	**144.60**	**207**	PKP	PKPbc	10 44 23.6	0.0
	3.0nm,0.7s,baz=162,slow=1.9,SNR=5.0						
BRTR	**Keskin Array B**	**144.97**	**277**	PKPbc	**PKPdf**	**10 44 24.9**	**-0.2**
	3.9nm,0.8s,baz=148,slow=4.5,SNR=9.2						
SPITS	**Spitsbergen Ar**	**145.73**	**349**	PKPbc	**PKPdf**	**10 44 24.7**	**-0.3**
	6.5nm,0.7s,baz=60,slow=4.9,SNR=5.7						
SCHQ	**Schefferville**	**145.97**	**56**	PKPbc	**PKPdf**	**10 44 26.0**	**-0.1**
	3.8nm,0.8s,baz=348,slow=0.9,SNR=5.4						
ARCES	**ARCESS Array B**	**149.43**	**334**	PKPbc	**PKPbc**	**10 44 35.8**	**0.0**
	3.8nm,0.7s,baz=45,slow=1.9,SNR=7.7						
MLR	**Muntele Rosu**	**152.35**	**283**	PKPbc	**PKPbc**	**10 44 43.1**	**-0.5**
	1.0nm,0.9s,baz=228,slow=4.7,SNR=3.5						

*IDC **15** 10:25:43.2±1.9,45°.95S×166°.40E,h0km,mb4.2/3, mb1 4.5/4,mb1mx4.1/15,mbtmp4.3/4,ML4.6/1,Error ellipse: s-maj=60.9km s-min=27.3km az=173.0*

*ISCJB **15** 10:25:45.1±0.8,46°.06S±0°.08×166°.04E±0°.07,h14km, mb4.2/3,Error ellipse: s-maj=11.1km s-min=6.5km az=7.8*

*WEL **15** 10:25:47.2±0.8,46°.02S×166°.17E,h12km,ML4.6/10,Error ellipse: s-maj=7.0km s-min=2.9km az=90.0*

ISC 15 10:25:45.3±1.0,46°.02S±0°.06×166°.25E±0°.06,h14km,n20, σ1§16/20,mb4.2/3,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.33**	**116**	P*	**Pn**	**10 25 55.0**	**-0.7**
PYZ				S*	**Sn**	**10 26 00.3**	**-2.0**
PYZ				S*	**Sb**	**10 26 00.6**	**+2.5**
DCZ	**Deep Cove**	**0.83**	**49**	P*	**Pn**	**10 26 03.1**	**+0.6**
DCZ				AML	AML	10 26 14.6	
DCZ				S*	**Sn**	**10 26 15.0**	**+0.4**
DCZ				AML	AML	10 26 15.6	
DCZ				AML	AML	10 26 16.1	
APZ	**The Paps**	**1.45**	**125**	*e*PN	**Pb**	**10 26 11.7**	**-0.3**
MLZ	**Mavora Lakes**	**1.50**	**64**	PN	**Pg**	**10 26 14.5**	**+0.3**
MLZ				AML	AML	10 26 37.8	
MLZ				AML	AML	10 26 38.2	
MSZ	**Milford Sound**	**1.79**	**42**	*e*PN	**Pg**	**10 26 19.1**	**-0.6**
MSZ				AML	AML	10 26 39.8	
MSZ				AML	AML	10 26 40.9	
MSZ				AML	AML	10 26 55.7	
MSZ				AML	AML	10 26 58.1	
SYZ	**Scrubby Hill**	**2.07**	**105**	*e*PN	**Pb**	**10 26 22.8**	**+0.2**
EAZ	**Earnscleugh**	**2.28**	**71**	*e*PN	**Pb**	**10 26 26.3**	**0.0**
EAZ				AML	AML	10 26 58.7	
EAZ				AML	AML	10 26 59.0	
EAZ				AML	AML	10 27 00.8	
EAZ				AML	AML	10 27 00.8	
TUZ	**Tuapeka**	**2.36**	**90**	*e*PN	**Pb**	**10 26 27.6**	**+0.1**
TUZ				SN	**Sb**	**10 26 56.1**	**-0.3**
TUZ				AML	AML	10 26 59.0	
LBZ	**Lake Benmore**	**3.22**	**61**	AML	AML	10 27 19.4	
LBZ				AML	AML	10 27 22.7	
ODZ	**Otahua Downs**	**3.24**	**74**	*e*PN	**Pn**	**10 26 37.1**	**+1.5**
ODZ				AML	AML	10 27 31.1	
ODZ				AML	AML	10 27 33.5	
ODZ				AML	AML	10 27 34.4	
ODZ				AML	AML	10 27 35.0	
FOZ	**Fox Glacier**	**3.47**	**46**	AML	AML	10 27 35.2	
FOZ				AML	AML	10 27 35.6	
RPZ	**Rata Peaks**	**4.12**	**58**	Pn	**Pn**	**10 26 45.0**	**-2.8**
	39nm,0.3s,baz=57,slow=20,SNR=3.4						
RPZ				Sn	**Sn**	**10 27 35.2**	**-0.5**
	baz=24,slow=20,SNR=2.7						
WVZ	**Waitaha Valley**	**4.35**	**49**	AML	AML	10 27 48.3	
WVZ				AML	AML	10 27 53.2	
QRZ	**Quartz Range**	**6.92**	**44**	AML	AML	10 28 49.2	
QRZ				AML	AML	10 28 51.8	
ASAR	**Alice Springs**	**34.31**	**299**	P	**P**	**10 32 31.6**	**+0.3**
	2.8nm,0.9s,baz=138,slow=9.2,SNR=4.8						
WRA	**Warramunga Arr**	**36.91**	**304**	P	**P**	**10 32 54.1**	**+0.5**
	3.9nm,0.8s,baz=136,slow=8.0,SNR=6.5						
FITZ	**Fitzroy Crossi**	**43.57**	**296**	P	**P**	**10 33 49.1**	**+0.3**
	2.8nm,0.7s,baz=168,slow=9.3,SNR=4.6						
TORD	**Torodi Ar. Bea**	**144.72**	**207**	PKP	PKPbc	10 45 21.0	+0.3
	1.2nm,0.8s,baz=161,slow=1.1,SNR=1.8						
BRTR	**Keskin Array B**	**145.13**	**277**	PKPbc	**PKPdf**	**10 45 21.9**	**-0.1**
	2.3nm,0.9s,baz=152,slow=6.3,SNR=3.7						
ARCES	**ARCESS Array B**	**149.46**	**334**	PKPbc	**PKPbc**	**10 45 32.7**	**+0.1**
	4.1nm,0.9s,baz=69,slow=4.9,SNR=2.8						

WEL 15 10:30:31.9±0.8,46°.11S×166°.25E,h33km,ML3.9/5,Error ellipse: s-maj=9.0km s-min=3.0km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.31**	**102**	P*	Pb	10 30 39.3	-0.5
PYZ				S*	Sn	10 30 45.3	+0.2
DCZ	**Deep Cove**	**0.89**	**45**	PN	Pn	10 30 47.7	-0.4
DCZ				SN	Sn	10 30 59.6	-0.2
DCZ				AML	AML	10 31 01.5	
DCZ				AML	AML	10 31 02.3	
DCZ				AML	AML	10 31 02.3	
APZ	**The Paps**	**1.41**	**122**	*e*PN	Pn	10 30 55.3	+0.1
APZ				SN	Sn	10 31 11.6	-1.0
MLZ	**Mavora Lakes**	**1.55**	**61**	*e*PN	Pn	10 30 56.4	-0.7
MLZ				SN	Sb	10 31 18.9	-0.4
MLZ				AML	AML	10 31 22.5	
MSZ	**Milford Sound**	**1.86**	**40**	AML	AML	10 31 27.7	
MSZ				AML	AML	10 31 31.2	
EAZ	**Earnscleugh**	**2.32**	**69**	*e*PN	Pn	10 31 08.4	+0.7
EAZ				AML	AML	10 31 42.6	
TUZ	**Tuapeka**	**2.36**	**88**	AML	AML	10 31 43.6	
TUZ				AML	AML	10 31 45.3	

*IDC **15** 10:32:41.7±0.8,45°.45S×166°.51E,h0km,mb3.9/5, mb1 4.2/6,mb1mx4.0/15,mbtmp4.0/6,ML4.6/1,Error ellipse: s-maj=29.2km s-min=23.0km az=31.0*

*WEL **15** 10:32:44.6±0.4,45°.57S×166°.66E,h12km,ML4.5/10,Error ellipse: s-maj=4.1km s-min=2.1km az=90.0*

*NEIC **15** 10:32:46.4,45°.59S×166°.75E,h12km,ML4.8(WEL),After WEL.*

ISC 15 10:32:43.7±1.3,45°.55S±0°.04×166°.60E±0°.05,h15km±8km, n45,σ1§14/55,mb4.0/5,1D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.40**	**80**	P*	**Pb**	**10 32 52.1**	**-0.3**
DCZ				S*	**Sg**	**10 32 57.0**	**-0.1**
DCZ	**Deep Cove**	**0.40**	**80**	||P*	**Pb**	**10 32 52.1**	**-0.3**
DCZ				S*	**Sg**	**10 32 57.0**	**-0.1**
DCZ				AML	AML	10 32 57.2	
DCZ				AML	AML	10 32 57.2	
DCZ				AML	AML	10 32 58.8	
PYZ	**Puysegur Point**	**0.62**	**175**	P*	**Pg**	**10 32 56.3**	**+0.4**
PYZ				S*	**Sg**	**10 33 04.3**	**+0.2**
PYZ	**Puysegur Point**	**0.62**	**175**	P*	**Pg**	**10 32 56.3**	**+0.4**
PYZ				S*	**Sg**	**10 33 04.3**	**+0.2**
MLZ	**Mavora Lakes**	**1.13**	**80**	P*	**Pb**	**10 33 03.6**	**-1.3**
MLZ				S*	**Sb**	**10 33 17.6**	**-1.8**
MLZ	**Mavora Lakes**	**1.13**	**80**	P*	**Pb**	**10 33 03.6**	**-1.3**
MLZ				S*	**Sb**	**10 33 17.6**	**-1.8**
MLZ				AML	AML	10 33 21.6	
MSZ	**Milford Sound**	**1.28**	**48**	P*	**Pg**	**10 33 08.9**	**+0.5**
MSZ	**Milford Sound**	**1.28**	**48**	*e*P*	**Pn**	**10 33 05.7**	**-1.4**
MSZ				S*	**Sg**	**10 33 24.9**	**-0.2**
MSZ				AML	AML	10 33 26.4	
MSZ				AML	AML	10 33 26.5	
MSZ				AML	AML	10 33 29.4	
APZ	**The Paps**	**1.61**	**144**	Pn	**Pg**	**10 33 14.6**	**+0.1**
APZ	**The Paps**	**1.61**	**144**	*e*PN	**Pn**	**10 33 11.0**	**-0.6**
EAZ	**Earnscleugh**	**1.94**	**82**	Pn	**Pb**	**10 33 17.4**	**-1.2**
EAZ	**Earnscleugh**	**1.94**	**82**	PN	**Pn**	**10 33 17.2**	**+1.2**
EAZ				AML	AML	10 33 45.6	
EAZ				AML	AML	10 33 47.4	
SYZ	**Scrubby Hill**	**2.03**	**120**	*e*PN	**Pb**	**10 33 19.9**	**-0.3**
TUZ	**Tuapeka**	**2.16**	**102**	Pn	**Pb**	**10 33 21.2**	**-1.3**
TUZ	**Tuapeka**	**2.16**	**102**	PN	**Pb**	**10 33 21.2**	**-1.3**
TUZ				AML	AML	10 33 52.4	
TUZ				AML	AML	10 33 52.6	
LBZ	**Lake Benmore**	**2.80**	**67**	Pn	**Pn**	**10 33 30.4**	**+2.5**
LBZ	**Lake Benmore**	**2.80**	**67**	*e*PN	**Pn**	**10 33 27.8**	**-0.1**
LBZ				AML	AML	10 34 04.4	
LBZ				AML	AML	10 34 08.5	
ODZ	**Otahua Downs**	**2.90**	**81**	*e*Pn	**Pn**	**10 33 30.3**	**+1.0**
ODZ				*e*Sn	**Sn**	**10 34 05.3**	**+1.4**
ODZ	**Otahua Downs**	**2.90**	**81**	PN	**Pn**	**10 33 29.4**	**+0.1**
ODZ				AML	AML	10 34 07.5	
ODZ				AML	AML	10 34 11.1	
FOZ	**Fox Glacier**	**2.97**	**49**	*e*PN	**Pb**	**10 33 36.2**	**0.0**
FOZ				AML	AML	10 34 20.9	
FOZ				AML	AML	10 34 21.7	
RPZ	**Rata Peaks**	**3.67**	**62**	Pn	**Pn**	**10 33 41.4**	**+1.5**
RPZ				Sn	**Sn**	**10 34 25.3**	**+2.4**
RPZ	**Rata Peaks**	**3.67**	**62**	Pn	**Pn**	**10 33 41.4**	**+1.5**
	54nm,0.3s,baz=238,slow=5.4,SNR=10.0						
RPZ				Sn	**Sn**	**10 34 25.3**	**+2.4**
	15nm,0.3s,baz=311,slow=22,SNR=8.4						
WVZ	**Waitaha Valley**	**3.86**	**52**	*e*PN	**Pn**	**10 33 43.1**	**+0.6**
WVZ				AML	AML	10 34 33.1	
WVZ				AML	AML	10 34 38.4	
OXZ	**Oxford**	**4.49**	**62**	*e*PN	**Pn**	**10 33 51.1**	**+0.1**
QRZ	**Quartz Range**	**6.41**	**45**	AML	AML	10 35 36.5	
QRZ				AML	AML	10 35 38.4	
SNZO	**South Karori**	**7.26**	**57**	Pn	**Pn**	**10 34 30.8**	**+1.6**
SNZO				*e*Sn	**Sn**	**10 35 50.0**	**-1.4**
ASAR	**Alice Springs**	**34.29**	**298**	P	**P**	**10 39 29.4**	**0.0**
ASAR	**Alice Springs**	**34.29**	**298**	P	**P**	**10 39 29.4**	**0.0**
	0.8nm,1.0s,baz=137,slow=9.9,SNR=4.7						
WRA	**Warramunga Arr**	**36.84**	**303**	P	**P**	**10 39 51.2**	**-0.1**
WRA	**Warramunga Arr**	**36.84**	**303**	P	**P**	**10 39 51.2**	**-0.1**
	0.5nm,0.9s,baz=138,slow=7.9,SNR=2.4						
QSPA	**South Pole Qui**	**44.58**	**180**	P	**P**	**10 40 56.5**	**+1.6**
QSPA	**South Pole Qui**	**44.58**	**180**	P	**P**	**10 40 56.5**	**+1.6**
	1.4nm,0.6s,baz=126,slow=2.3,SNR=8.3						
PLCA	**Paso Flores**	**80.05**	**140**	P	**P**	**10 44 53.2**	**+0.5**
PLCA	**Paso Flores**	**80.05**	**140**	P	**P**	**10 44 53.2**	**+0.5**
	2.1nm,0.8s,baz=330,slow=5.7,SNR=3.7						
CMAR	**Chiang Mai Arr**	**88.30**	**299**	P	**P**	**10 45 33.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**88.30**	**299**	P	**P**	**10 45 33.5**	**-1.2**
	0.6nm,0.3s,baz=134,slow=4.1,SNR=4.1						
KURBB	**Kurchatov Arra**	**122.23**	**311**	PKP	**PKPdf**	**10 51 35.0**	**-2.0**
	0.4nm,0.3s,baz=114,slow=1.9,SNR=5.4						
KURK	**Kurchatov**	**122.24**	**311**	PKP	**PKPdf**	**10 51 35.0**	**-2.0**
TOA0	**Torodi Ar. Sit**	**145.26**	**206**	*e*PKPbc	**PKPab**	**10 52 21.2**	**+0.4**
TORD	**Torodi Ar. Bea**	**145.26**	**206**	PKPbc	**PKPdf**	**10 52 21.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**145.26**	**206**	PKPbc	**PKPdf**	**10 52 21.2**	**+0.2**
	8.7nm,0.6s,baz=147,slow=2.4,SNR=57						
BRTR	**Keskin Array B**	**145.31**	**277**	PKPbc	**PKPab**	**10 52 21.1**	**+0.6**
BRTR	**Keskin Array B**	**145.31**	**277**	PKPbc	**PKPab**	**10 52 21.1**	**+0.6**
	1.6nm,0.8s,baz=116,slow=2.9,SNR=4.0						
ARCES	**ARCESS Array B**	**149.13**	**334**	PKPbc	**PKPbc**	**10 52 29.7**	**-0.3**
ARCES	**ARCESS Array B**	**149.13**	**334**	PKPbc	**PKPbc**	**10 52 29.7**	**-0.3**
	3.0nm,0.8s,baz=180,slow=0.8,SNR=5.2						

*IDC **15** 10:35:06.2±0.7,45°.96S×166°.14E,h0km,mb4.4/7, mb1 4.5/9,mb1mx4.3/18,mbtmp4.4/9,ML4.3/2,Error ellipse: s-maj=21.0km s-min=19.4km az=120.0*

*WEL **15** 10:35:07.3±0.4,46°.06S×166°.00E,h20km,ML5.0/15,Error ellipse: s-maj=3.4km s-min=1.9km az=90.0*

*ISCJB **15** 10:35:08.4±0.9,45°.98S±0°.04×166°.13E±0°.06,h26km±7km, mb4.3/7,Error ellipse: s-maj=7.5km s-min=6.5km az=165.9*

*AUST **15** 10:35:12.5±1.5,45°.93S×166°.41E,h53km,Error ellipse: s-maj=1.6km s-min=1.1km az=289.0*

ISC 15 10:35:07.8±2.6,46°.05S±0°.06×166°.14E±0°.06,h12km±16km, n51,σ0§93/57,mb4.2/7,1C,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.39**	**107**	P*	**Pb**	**10 35 17.3**	**+0.5**
PYZ				S*	**Sb**	**10 35 23.6**	**+0.9**
PYZ				S*	**Sb**	**10 35 23.7**	**+0.9**
DCZ	**Deep Cove**	**0.91**	**51**	P*	**Pb**	**10 35 25.2**	**-0.4**
DCZ				S*	**Sn**	**10 35 39.3**	**-0.2**
DCZ				AML	AML	10 35 39.4	
DCZ				AML	AML	10 35 39.4	
DCZ				AML	AML	10 35 39.7	
WHZ	**Wether Hill Ro**	**1.27**	**84**	PN	**Pn**	**10 35 31.1**	**-0.3**
WHZ				SN	**Sg**	**10 35 48.6**	**-0.1**
WHZ				AML	AML	10 35 53.0	
APZ	**The Paps**	**1.50**	**122**	PN	**Pn**	**10 35 33.3**	**-1.3**
APZ				SN	**Sn**	**10 35 53.1**	**-1.0**
MLZ	**Mavora Lakes**	**1.59**	**64**	PN	**Pb**	**10 35 37.0**	**-0.2**
MLZ				AML	AML	10 36 02.1	
MLZ				AML	AML	10 36 03.4	
MSZ	**Milford Sound**	**1.87**	**43**	*e*PN	**Pn**	**10 35 39.9**	**+0.3**
MSZ				AML	AML	10 36 14.7	
MSZ				AML	AML	10 36 14.7	
MSZ				AML	AML	10 36 16.2	
MSZ				AML	AML	10 36 16.2	
SYZ	**Scrubby Hill**	**2.13**	**104**	PN	**Pn**	**10 35 43.7**	**+0.4**
EAZ	**Earnscleugh**	**2.37**	**71**	PN	**Pb**	**10 35 48.8**	**-1.6**
EAZ				AML	AML	10 36 22.1	
EAZ				AML	AML	10 36 23.0	
TUZ	**Tuapeka**	**2.44**	**89**	PN	**Pn**	**10 35 48.7**	**+1.3**
TUZ				AML	AML	10 36 22.1	
TUZ				AML	AML	10 36 22.1	
LBZ	**Lake Benmore**	**3.31**	**61**	PN	**Pn**	**10 36 00.1**	**+0.7**
LBZ				AML	AML	10 36 41.9	
LBZ				AML	AML	10 36 44.3	
ODZ	**Otahua Downs**	**3.32**	**74**	PN	**Pn**	**10 35 59.9**	**+0.3**
ODZ				AML	AML	10 36 43.6	
ODZ				AML	AML	10 36 44.9	
FOZ	**Fox Glacier**	**3.54**	**47**	*e*PN	**Pn**	**10 36 02.2**	**-0.4**
FOZ				AML	AML	10 36 52.2	
FOZ				AML	AML	10 36 54.4	
RPZ	**Rata Peaks**	**4.20**	**58**	Pn	**Pn**	**10 36 11.8**	**0.0**
	39nm,0.3s,baz=161,slow=3.4,SNR=8.7						
RPZ				Sn	**Sn**	**10 37 01.5**	**+0.8**
	78nm,0.3s,baz=331,slow=12,SNR=7.9						
WVZ	**Waitaha Valley**	**4.43**	**49**	*e*PN	**Pn**	**10 36 15.9**	**+1.1**
WVZ				AML	AML	10 37 13.2	
WVZ				AML	AML	10 37 17.9	
OXZ	**Oxford**	**5.01**	**59**	PN	**Pn**	**10 36 21.7**	**-1.1**
MQZ	**McQueen's Vall**	**5.19**	**65**	*e*PN	**Pn**	**10 36 24.9**	**-0.3**
MQZ				AML	AML	10 38 06.0	
MQZ				AML	AML	10 38 14.9	
LTZ	**Lake Taylor**	**5.47**	**56**	*e*PN	**Pn**	**10 36 28.6**	**-0.6**
DSZ	**Denniston Nort**	**5.94**	**46**	*e*PN	**Pn**	**10 36 35.7**	**-0.4**
THZ	**Tophouse**	**6.50**	**51**	*e*PN	**Pn**	**10 36 45.0**	**+1.7**
THZ				AML	AML	10 38 07.2	
THZ				AML	AML	10 38 15.2	
QRZ	**Quartz Range**	**6.99**	**44**	*e*PN	**Pn**	**10 36 50.5**	**+0.5**
QRZ				AML	AML	10 38 31.3	
QRZ				AML	AML	10 38 33.8	
NNZ	**Nelson**	**7.13**	**50**	*e*PN	**Pn**	**10 36 54.2**	**+2.2**
NNZ				AML	AML	10 38 24.6	
NNZ				AML	AML	10 38 38.5	
MRZ	**Mangatainoka R**	**8.73**	**55**	*e*PN	**Pn**	**10 37 12.7**	**-1.2**
NWEZ	**Newall Road**	**8.84**	**43**	*e*PN	**Pn**	**10 37 15.6**	**+0.2**
NEZ	**North Egmont**	**8.95**	**44**	*e*PN	**Pn**	**10 37 17.6**	**+0.6**
PKE	**Pukeiti**	**8.96**	**43**	*e*PN	**Pn**	**10 37 18.2**	**+1.1**
MCQ	**Macquarie Isla**	**9.62**	**206**	P	Pn	10 37 32.4	+6.4
	baz=9.8,SNR=3.8						
HIZ	**Hauiti**	**9.91**	**44**	*e*PN	**Pn**	**10 37 30.1**	**0.0**
URZ	**Urewera**	**11.26**	**50**	Pn	**Pn**	**10 37 47.4**	**-1.1**
	1.1nm,0.3s,baz=153,slow=5.1,SNR=7.5						
TOO	**Toolangi**	**17.54**	**292**	P	**Pn**	**10 39 12.3**	**+0.2**
	baz=18,SNR=10						
DZM	**Mont Dzumac**	**23.92**	**1**	P	**P**	**10 40 22.7**	**+0.9**
	17nm,1.0s,baz=90,slow=24,SNR=6.9						
ASAR	**Alice Springs**	**34.25**	**300**	P	**P**	**10 41 53.7**	**0.0**
	1.1nm,0.5s,baz=132,slow=7.2,SNR=21						
WRA	**Warramunga Arr**	**36.86**	**304**	P	**P**	**10 42 14.9**	**-1.1**
	1.7nm,0.5s,baz=136,slow=7.9,SN

MLZ SN **Sn** **10 37 30.5 +0.5**
MLZ AML AML 10 37 35.1
MSZ **Milford Sound** **1.91 42** *e*PN **Pb** **10 37 15.8 -0.4**
MSZ AML AML 10 37 42.6
MSZ AML AML 10 37 42.8
MSZ AML AML 10 37 50.0
MSZ AML AML 10 37 51.3
SYZ **Scrubby Hill** **2.12 103** *e*PN **Pn** **10 37 17.0 +0.5**
EAZ **Earnscleugh** **2.39 70** *e*PN **Pn** **10 37 22.1 +1.9**
EAZ AML AML 10 37 59.4
EAZ AML AML 10 38 01.0
WKZ **Wanaka** **2.40 59** *e*PN **Pb** **10 37 24.3 -0.2**
WKZ AML AML 10 37 58.2
WKZ AML AML 10 37 58.2
WKZ AML AML 10 38 01.8
WKZ AML AML 10 38 01.8
TUZ **Tuapeka** **2.44 88** PN **Pn** **10 37 22.4 +1.5**
TUZ AML AML 10 37 54.7
TUZ AML AML 10 37 56.3
JCZ **Jackson Bay** **2.75 43** AML AML 10 38 17.5
JCZ AML AML 10 38 19.6
HHSZ **Highcliff Hill** **3.12 88** *e*PN **Pn** **10 37 31.2 +1.0**
LBZ **Lake Benmore** **3.33 60** AML AML 10 38 18.1
LBZ AML AML 10 38 18.6
LBZ AML AML 10 38 32.2
LBZ AML AML 10 38 36.0
ODZ **Otahua Downs** **3.34 73** *e*PN **Pn** **10 37 32.9 -0.3**
ODZ AML AML 10 38 30.0
ODZ AML AML 10 38 30.0
ODZ AML AML 10 38 30.7
ODZ AML AML 10 38 33.4
FOZ **Fox Glacier** **3.58 46** *e*PN **Pb** **10 37 42.9 -1.9**
FOZ AML AML 10 38 44.0
FOZ AML AML 10 38 44.0
FOZ AML AML 10 38 45.7
FOZ AML AML 10 38 46.8
RPZ **Rata Peaks** **4.23 57** Pn **Pn** **10 37 45.6 +0.1**
RPZ Sn **Sn** **10 38 35.3 +0.8**
RPZ **Rata Peaks** **4.23 57** Pn **Pn** **10 37 45.6 +0.1**
20nm,0.3s,baz=37,slow=21,SNR=3.6
RPZ Sn **Sn** **10 38 35.3 +0.8**
114nm,0.3s,baz=12,slow=20,SNR=8.0
WVZ **Waitaha Valley** **4.47 49** AML AML 10 38 49.2
WVZ AML AML 10 38 52.6
LTZ **Lake Taylor** **5.50 55** *e*PN **Pn** **10 38 05.0 +2.0**
LTZ AML AML 10 39 00.9
LTZ AML AML 10 40 01.4
DSZ **Denniston Nort** **5.98 45** *e*PN **Pn** **10 38 12.3 +2.8**
THZ **Tophouse** **6.53 51** AML AML 10 39 17.2
THZ AML AML 10 39 17.2
QRZ **Quartz Range** **7.03 44** AML AML 10 39 48.4
QRZ AML AML 10 39 51.6
NNZ **Nelson** **7.17 50** AML AML 10 39 25.4
NNZ AML AML 10 39 25.4
MRZ **Mangatainoka R** **8.76 55** *e*PN **Pn** **10 38 46.8 -1.0**
MRZ SN **Sn** **10 40 22.8 -3.2**
MCQ **Macquarie Isla** **9.57 206** P **Pn** **10 38 57.5 -1.2**
baz=9.4,SNR=3.3
HIZ **Hauiti** **9.96 43** PN **Pn** **10 39 04.2 +0.1**
HIZ AML AML 10 40 04.3
HIZ AML AML 10 40 04.3
MKAZ **Moumakai** **11.24 40** *e*PN **Pn** **10 39 23.5 +1.9**
URZ **Urewera** **11.29 50** Pn **Pn** **10 39 21.6 -0.7**
URZ *e*Sn **Sn** **10 41 25.4 -2.6**
URZ **Urewera** **11.29 50** Pn **Pn** **10 39 21.6 -0.7**
2.1nm,0.3s,baz=176,slow=19,SNR=3.7
WCZ **Waipu Caves** **11.89 34** *e*PN **Pn** **10 39 31.9 +1.4**
MILA **Mila** **15.57 299** P **Pn** **10 40 19.5 -1.1**
baz=16,SNR=6.9
CNB **Canberra Magne** **16.64 304** P **P** **10 40 39.5 +2.9**
baz=17,SNR=7.4
MGCD **Mangrove Creek** **17.28 313** P **P** **10 40 47.9 +4.3**
baz=17,SNR=4.3
TOO **Toolangi** **17.55 292** P **Pn** **10 40 46.0 +0.3**
baz=18,SNR=6.8
ARPS **Mount Arapiles** **20.40 289** P Pn 10 41 19.5 -0.5
baz=20,SNR=6.0
CMSA **Cobar Meteorol** **21.49 305** P **P** **10 41 30.5 +0.9**
baz=22,SNR=12
STKA **Stephens Creek** **23.66 298** P **P** **10 41 52.0 -0.4**
STKA **Stephens Creek** **23.66 298** P **P** **10 41 52.0 -0.4**
12nm,1.1s,baz=152,slow=12,SNR=2.6
EIDS **Eidsvold** **23.95 325** *e*P **P** **10 41 56.5 +1.3**
26nm,0.8s
EIDS **Eidsvold** **23.95 325** P **P** **10 41 56.9 +1.8**
baz=24,SNR=8.8
DZM **Mont Dzumac** **23.98 1** P **P** **10 41 55.4 -0.1**
DZM **Mont Dzumac** **23.98 1** P **P** **10 41 55.4 -0.1**
16nm,1.1s,baz=90,slow=24,SNR=4.5
RMQ **Roma** **23.98 319** P **P** **10 41 57.3 +1.9**
baz=24,SNR=4.5
BBOO **Buckleboo** **26.57 289** P **P** **10 42 19.8 +0.8**
baz=27,SNR=5.1
CTA **Charters Tower** **30.66 321** P **P** **10 42 56.0 +0.6**
CTA **Charters Tower** **30.66 321** P **P** **10 42 56.0 +0.6**
4.0nm,0.9s,baz=144,slow=11,SNR=4.0
VNDA **Vanda** **31.57 182** *e*P **P** **10 43 02.4 -0.5**
12nm,1.5s
AS31 **Alice Springs** **34.28 300** *e*P **P** **10 43 26.6 -0.6**
ASAR **Alice Springs** **34.28 300** P **P** **10 43 26.9 -0.3**
ASAR **Alice Springs** **34.28 300** P **P** **10 43 26.9 -0.3**
12nm,1.1s,baz=141,slow=8.3,SNR=12
CASY **Casey** **35.32 215** *e*P **P** **10 43 35.6 -0.1**
17nm,0.9s
WRA **Warramunga Arr** **36.89 304** P **P** **10 43 48.5 -1.1**
WRA **Warramunga Arr** **36.89 304** P **P** **10 43 48.5 -1.1**
4.4nm,0.7s,baz=143,slow=8.2,SNR=14
WRAB **Tennant Creek** **36.89 304** *e*P **P** **10 43 49.0 -0.5**
16nm,0.8s
COEN **Coen** **37.43 321** *e*P **P** **10 43 54.5 +0.3**
83nm,0.9s
COEN **Coen** **37.43 321** P **P** **10 43 55.4 +1.3**
baz=38,SNR=4.2
KLBR **Kellerberrin** **39.76 274** P **P** **10 44 13.9 +0.4**
baz=40,SNR=6.1
PMG **Port Moresby** **40.02 330** P **P** **10 44 15.6 -0.2**
PMG **Port Moresby** **40.02 330** P **P** **10 44 18.0 +2.2**
PMG **Port Moresby** **40.02 330** P **P** **10 44 15.6 -0.2**
36nm,0.9s,baz=178,slow=4.5,SNR=9.0
MEEK **Meekatharra** **42.20 281** P **P** **10 44 33.5 -0.3**
baz=42,SNR=5.6
KNRA **Kununurra** **43.49 302** P **P** **10 44 44.2 0.0**
baz=44,SNR=6.5
FITZ **Fitzroy Crossi** **43.53 296** P **P** **10 44 43.4 -1.1**
FITZ **Fitzroy Crossi** **43.53 296** P **P** **10 44 43.4 -1.1**
8.8nm,0.8s,baz=170,slow=9.2,SNR=8.3
KDU **Kakadu** **43.79 309** P P 10 44 37.1 -10
baz=44,SNR=5.0
QSPA **South Pole Qui** **44.02 180** P **P** **10 44 48.5 +0.3**
QSPA **South Pole Qui** **44.02 180** P **P** **10 44 48.5 +0.3**
22nm,1.0s,baz=22,slow=4.0,SNR=15
MTN **Manton Dam** **44.40 307** P **P** **10 44 51.7 +0.1**
baz=44,SNR=6.7
MBWA **Marble Bar** **45.13 287** *e*P **P** **10 44 57.0 -0.3**
28nm,1.0s
MAW **Mawson** **52.97 208** P **P** **10 45 56.0 -0.8**
MAW **Mawson** **52.97 208** P **P** **10 45 56.0 -0.8**
4.7nm,1.0s,baz=108,slow=11,SNR=5.3
KAPI **Kappang** **57.28 301** *e*P **P** **10 46 28.8 +0.2**
60nm,1.4s
KAPI **Kappang** **57.28 301** P **P** **10 46 28.1 -0.5**
59nm,1.2s
KAPI **Kappang** **57.28 301** P **P** **10 46 27.5 -1.2**
32nm,1.1s,baz=173,slow=6.8,SNR=6.3
SNAA **Sanae** **62.27 184** *e*P **P** **10 47 02.2 -0.1**
SNAA **Sanae** **62.27 184** *e* P 10 47 09.4 +7.1
SNAA **Sanae** **62.27 184** *e*P **P** **10 47 01.8 -0.5**
24nm,1.0s
VNA1 **Neumayer--Stat** **63.48 182** *e*P **P** **10 47 10.5 +0.2**
VNA1 **Neumayer--Stat** **63.48 182** *e* P 10 47 18.1 +7.8
KSM **Kuching** **68.14 297** *e*P **P** **10 47 41.1 +0.1**
3.2nm,0.3s
KSM **Kuching** **68.14 297** P **P** **10 47 41.6 +0.5**
KSM **Kuching** **68.14 297** P **P** **10 47 41.9 +0.9**
baz=68,SNR=3.6
PLCA **Paso Flores** **79.83 140** P **P** **10 48 50.0 +0.7**
PLCA **Paso Flores** **79.83 140** P **P** **10 48 50.0 +0.7**
2.9nm,0.9s,baz=227,slow=6.2,SNR=4.0
MJAR **Matsushiro Arr** **86.03 338** P **P** **10 49 20.9 -0.1**
MJAR **Matsushiro Arr** **86.03 338** P **P** **10 49 20.9 -0.1**
5.2nm,1.1s,baz=176,slow=6.5,SNR=5.3
CMAR **Chiang Mai Arr** **88.29 299** P **P** **10 49 32.2 -0.1**
CMAR **Chiang Mai Arr** **88.29 299** P **P** **10 49 32.2 -0.1**
6.2nm,0.9s,baz=160,slow=3.5,SNR=18

CHTO **Chiang Mai** **88.56 299** P **P** **10 49 35.0 +1.4**
156nm,2.8s
MKAR **Makanchi Array** **118.08 309** PKP **PKPdf** **10 55 25.9 -1.1**
MKAR **Makanchi Array** **118.08 309** PKP **PKPdf** **10 55 25.9 -1.1**
0.2nm,0.6s,baz=134,slow=3.5,SNR=3.7
KURBB **Kurchatov Arra** **122.36 311** PKP **PKPdf** **10 55 34.9 -0.2**
0.7nm,0.6s,baz=93,slow=1.9,SNR=4.0
KURK **Kurchatov** **122.37 311** PKP **PKPdf** **10 55 34.9 -0.2**
TOAO **Torodi Ar. Sit** **144.61 207** *e*PKPdf **PKPab** **10 56 15.7 -0.5**
TORD **Torodi Ar. Bea** **144.61 207** PKP **PKPab** **10 56 14.6 -1.5**
TORD **Torodi Ar. Bea** **144.61 207** PKP **PKPab** **10 56 14.6 -1.5**
6.5nm,0.9s,baz=167,slow=1.9,SNR=8.1
BRTR **Keskin Array B** **145.06 277** PKPbc **PKPbc** **10 56 16.4 -1.0**
BRTR **Keskin Array B** **145.06 277** PKPbc **PKPbc** **10 56 16.4 -1.0**
23nm,1.0s,baz=144,slow=4.4,SNR=23
SPITS **Spitsbergen Ar** **145.77 349** PKPbc **PKPdf** **10 56 17.9 0.0**
SPITS **Spitsbergen Ar** **145.77 349** PKPbc **PKPdf** **10 56 17.9 0.0**
8.8nm,0.9s,baz=148,slow=9.8,SNR=3.8
SCHQ **Schefferville** **145.92 56** PKPbc **PKPdf** **10 56 18.6 -0.1**
SCHQ **Schefferville** **145.92 56** PKPbc **PKPdf** **10 56 18.6 -0.1**
5.5nm,0.8s,baz=194,slow=0.9,SNR=6.3
ARCES **ARCESS Array B** **149.49 334** PKPbc **PKPbc** **10 56 27.1 -1.5**
ARCES **ARCESS Array B** **149.49 334** PKPbc **PKPbc** **10 56 27.1 -1.5**
7.7nm,0.9s,baz=96,slow=2.0,SNR=10
FINES **FINESS Array B** **152.41 318** PKPbc **PKPbc** **10 56 35.4 -0.3**
FINES **FINESS Array B** **152.41 318** PKPbc **PKPbc** **10 56 35.4 -0.3**
4.7nm,1.1s,baz=144,slow=3.5,SNR=4.7
MLR **Muntele Rosu** **152.44 283** PKPbc **PKPbc** **10 56 35.2 -1.3**
MLR **Muntele Rosu** **152.44 283** PKPbc **PKPbc** **10 56 35.2 -1.3**
1.4nm,0.9s,baz=234,slow=2.5,SNR=3.7
KOLS **Kolonicke sedl** **155.58 290** *e*PKP **PKPdf** **10 56 37.0 +3.2**
KOLS *e* 10 56 58.6
KEST **Kesra** **159.70 248** PKPab **PKPab** **10 57 18.8 +0.6**
KEST **Kesra** **159.70 248** PKPab **PKPab** **10 57 18.8 +0.6**
4.8nm,1.1s,baz=100,slow=4.5,SNR=5.9
BRG **Berggiesshubel** **161.02 295** *e*P **PKPab** **10 57 23.9 +0.4**
12nm,1.5s
GERES **GERESS Array B** **161.21 288** PKPab **PKPab** **10 57 23.2 -1.3**
GERES **GERESS Array B** **161.21 288** PKPab **PKPab** **10 57 23.2 -1.3**
0.4nm,0.3s,baz=108,slow=4.3,SNR=10
HGN **Heimansgroeve** **166.07 297** *e*L L 11 01 40.3
147µm,20.1s
ESDC **Sonseca Array** **170.31 232** PKPab **PKPab** **10 58 05.1 +0.4**
ESDC **Sonseca Array** **170.31 232** PKPab **PKPab** **10 58 05.1 +0.4**
0.3nm,0.3s,baz=131,slow=8.1,SNR=8.9

*IDC **15** 10:37:31.8±0.6,23°.71N×121°.48E,h0km,mb4.3/18, mb1 4.4/21,mb1mx4.3/30,mbtmp4.3/21,ML3.8/3,Error ellipse: s-maj=20.9km s-min=14.1km az=64.0*
*NEIC **15** 10:37:33.9±0.4,23°.76N×121°.57E,h10km,mb4.6/4,Error ellipse: s-maj=8.7km s-min=5.6km az=120.0*
NEIC Recorded [5 TAP] in Hua-lien; [3 TAP] in Nan-t'ou; [2 TAP] in I-lan, T'ai-tung and Yun-lin; [1 TAP] in Chang-hua, Chia-i, Kao-hsiung, T'ai-chung and T'ai-nan.
*BJI **15** 10:37:35.4,23°.89N×121°.48E,h11km,mB4.9/1,mb4.4/10, ML4.4/5*
*ISCJB **15** 10:37:35.2±0.2,23°.82N±0°.01×121°.57E±0°.02,h24km±1km, mb4.2/28,Error ellipse: s-maj=3.3km s-min=1.7km az=27.6*
*MOS **15** 10:37:35.1±1.3,23°.73N×121°.59E,h33km,mb4.8/7,Error ellipse: s-maj=14.0km s-min=8.9km az=108.4*
*TAP **15** 10:37:35.4,23°.83N×121°.47E,h19km,ML4.8,B*
ISC 15 10:37:35.9±0.4,23°.83N±0°.02×121°.52E±0°.02,h20km±1km, n145,σ1s07/200,mb4.3/28,27C-12D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESF	**Shoufeng Towns**	**0.04**	**341**	*i* P	**Pg**	**10 37 38.9**	**-0.6**
ESF	baz=42			*i* S	**Sg**	**10 37 41.1**	**-0.8**
ESL	baz=42 **Shilin**	**0.08**	**258**	⇓*i*P	**Pg**	**10 37 38.8**	**-1.0**
TEGC	baz=231 **Jichi Village**	**0.12**	**172**	*e*P	**Pg**	**10 37 40.3**	**+0.2**
TEGC	baz=158			S	**Sg**	**10 37 43.7**	**+0.8**
HWA	**Hwalien**	**0.16**	**28**	⇑*i*P	**Pg**	**10 37 40.9**	**+0.3**
TWD	baz=36 **Chiawan**	**0.26**	**15**	⇓*i*P	**Pb**	**10 37 41.7**	**-0.2**
TWD	baz=22			*i* S	**Sb**	**10 37 45.3**	**-0.5**
NACB	**Ninganchiao**	**0.35**	**11**	*e*Pg	**Pg**	**10 37 42.6**	**-0.9**
NACB				*e*Sg	**Sg**	**10 37 47.2**	**-1.3**
EHY	**Hungye**	**0.37**	**210**	⇑*i*P	**Pg**	**10 37 42.6**	**-1.2**
YULB	baz=194 **Yu-li**	**0.48**	**205**	*e*Pg	**Pb**	**10 37 44.8**	**-1.0**
YULB				*e*Sg	**Sg**	**10 37 52.3**	**-0.2**
EHP	**Heping Village**	**0.52**	**23**	P	**Pb**	**10 37 45.8**	**-0.6**
EHP	baz=20			S	**Sg**	**10 37 53.6**	**+0.1**
TWF1	baz=20 **Yuli**	**0.52**	**203**	⇑*i*P	**Pb**	**10 37 44.8**	**-1.6**
TWF1	baz=202			*e*S	**Sb**	**10 37 52.7**	**-0.8**
SSLB	**Suanglung**	**0.52**	**265**	*e*Pg	**Pb**	**10 37 44.9**	**-1.6**
SSLB				*e*Sg	**Sb**	**10 37 51.0**	**-2.7**
TWT	**Tachien**	**0.53**	**323**	⇑*i*P	**Pb**	**10 37 45.9**	**-0.7**
TWT	baz=321			*e*S	**Sb**	**10 37 52.0**	**-1.8**
SMLT	baz=321 **Sun Moon Lake**	**0.57**	**275**	⇑*i*P	**Pb**	**10 37 46.2**	**-1.2**
SMLT	baz=275			S	**Sb**	**10 37 53.2**	**-1.9**
TYC	baz=275 **Yuchr**	**0.61**	**277**	⇑*i*P	**Pb**	**10 37 46.7**	**-1.3**
NNS	baz=277 **Nan Shan**	**0.62**	**347**	⇑*i*P	**Pb**	**10 37 47.7**	**-0.5**
NNS	baz=2.0			S	**Sb**	**10 37 55.5**	**-1.0**
YUS	baz=2.0 **Yu-Shan**	**0.62**	**237**	⇓*i*P	**Pb**	**10 37 47.9**	**-0.6**
YUS	baz=233			*e*S	**Sb**	**10 37 55.3**	**-1.7**
ENA	baz=233 **Nanau**	**0.63**	**19**	⇓*i*P	**Pb**	**10 37 47.5**	**-0.7**
ENA	baz=24			*e*S	**Sb**	**10 37 56.2**	**-0.4**
ALS	baz=24 **Alishan**	**0.73**	**244**	⇓*i*P	**Pb**	**10 37 49.6**	**-0.6**
ALS	baz=241			S	**Sb**	**10 37 58.5**	**-1.4**
CHKT	baz=241 **Chengkung**	**0.74**	**191**	⇑P	**Pb**	**10 37 49.3**	**-0.9**
CHKT	baz=186			*e*S	**Sg**	**10 38 00.3**	**-0.2**
WNT	baz=186 **Mingjian**	**0.77**	**274**	⇑*i*P	**Pb**	**10 37 50.8**	**+0.1**
WNT	baz=276			*i* S	**Sg**	**10 38 01.2**	**-0.1**
ELDTW	baz=276 **Lidau**	**0.79**	**216**	⇑P	**Pb**	**10 37 49.1**	**-1.9**
ELDTW	baz=204			S	**Sb**	**10 38 00.4**	**-1.0**
ENTT	baz=204 **Nioudou**	**0.81**	**3**	*e*P	**Pb**	**10 37 50.5**	**-0.8**
ENTT	baz=8.0			S	**Sb**	**10 38 01.4**	**-0.4**
CHN5	baz=8.0 **Tsauling**	**0.81**	**253**	⇑*i*P	**Pb**	**10 37 51.2**	**-0.1**
TWC	baz=251 **Suao**	**0.83**	**21**	⇓*i*P	**Pb**	**10 37 50.9**	**-0.8**
TWC	baz=19			S	**Sb**	**10 38 02.5**	**+0.1**
TCU	baz=19 **Taichung**	**0.83**	**292**	⇑*i*P	**Pg**	**10 37 52.1**	**-0.3**
TCU	baz=291			S	**Sg**	**10 38 03.5**	**+0.1**
YHNB	baz=291 **Yeheng**	**0.84**	**351**	*e*Pg	**Pb**	**10 37 51.3**	**-0.7**
YHNB				*e*Sg	**Sb**	**10 38 03.2**	**+0.2**
NSK	**Sanguang**	**0.85**	**350**	⇓*i*P	**Pb**	**10 37 51.7**	**-0.5**
NSK	baz=355			*i* S	**Sb**	**10 38 02.4**	**-0.8**
TWQ1	baz=355 **Liyutan**	**0.86**	**307**	⇑*i*P	**Pb**	**10 37 52.1**	**-0.1**
TWQ1	baz=310			S	**Sn**	**10 38 04.7**	**-0.2**
TWE	baz=310 **Neicheng**	**0.90**	**8**	⇓*i*P	**Pb**	**10 37 51.9**	**-0.9**
TWE	baz=22			S	**Sb**	**10 38 04.5**	**+0.1**
NSY	**Sanyi**	**0.91**	**310**	⇑*i*P	**Pn**	**10 37 53.5**	**-0.2**
NSY	baz=313			*e*S	**Sn**	**10 38 06.2**	**+0.1**
NSTT	baz=313 **Nanjuang**	**0.93**	**329**	⇑*i*P	**Pb**	**10 37 53.3**	**-0.1**
NSTT	baz=333			*e*S	**Sb**	**10 38 04.6**	**-0.6**
ILA	baz=333 **Ilan**	**0.95**	**12**	*e*P	**Pb**	**10 37 53.6**	**-0.2**
STYT	baz=16 **Tauyuan**	**0.97**	**227**	⇑*e*P	**Pb**	**10 37 53.4**	**-0.7**
STYT	baz=223			S	**Sb**	**10 38 06.4**	**0.0**
TPUB	baz=223 **Ta-pu**	**0.97**	**237**	*e*Pg	**Pb**	**10 37 54.2**	**0.0**
TPUB				*e*Sg	**Sb**	**10 38 06.3**	**-0.3**
CHN4	**Tsaushan**	**0.98**	**241**	⇑*e*P	**Pb**	**10 37 54.4**	**+0.1**
CHN4	baz=229			*e*S	**Sn**	**10 38 07.3**	**-0.5**
CHN2	baz=229 **Minshiung**	**1.00**	**253**	*e*P	**Pb**	**10 37 54.7**	**0.0**
CHN2	baz=251			S	**Sn**	**10 38 08.7**	**+0.1**
WTP	baz=251 **Ta-pu**	**1.02**	**235**	⇑*i*P	**Pb**	**10 37 54.8**	**-0.1**
WTP	baz=232			*e*S	**Sb**	**10 38 07.9**	**0.0**
CHY	baz=232 **Chiayi**	**1.06**	**252**	⇑P	**Pb**	**10 37 55.5**	**-0.1**
CHY	baz=250			S	**Sn**	**10 38 09.8**	**-0.1**
TWG	**Pinlang**	**1.09**	**202**	*e*P	**Pn**	**10 37 53.0**	**-3.1**
TWG	baz=185			*e*S	**Sn**	**10 38 10.6**	**0.0**
TWG	baz=185 **Pinlang**	**1.09**	**202**	Pg	Pn	10 37 52.7	-3.4
TWG				Sg	**Sb**	**10 38 09.9**	**0.0**
HSN	**Hsinchu**	**1.09**	**333**	*e*P	**Pg**	**10 37 57.0**	**-0.2**
HSN	baz=321			*e*S	**Sg**	**10 38 11.1**	**-0.4**
TWK	baz=321 **Hsinying**	**1.10**	**240**	⇑*e*P	**Pn**	**10 37 56.4**	**0.0**
TWK	baz=237			*e*S	**Sn**	**10 38 11.1**	**+0.1**
CHN1	baz=237 **Nanshi**	**1.12**	**235**	*e*P	**Pn**	**10 37 56.5**	**0.0**
CHN1	baz=233			*e*S	**Sg**	**10 38 12.1**	**-0.3**
TTN	baz=233 **Taitung**	**1.13**	**198**	*e*P	**Pn**	**10 37 55.5**	**-1.1**
WTCT	baz=194 **Ta-ch'eng**	**1.14**	**272**	P	**Pn**	**10 37 56.4**	**-0.4**
WTCT	baz=271			S	**Sn**	**10 38 11.6**	**-0.2**
TATO	baz=271 **Taipei**	**1.14**	**358**	*e*Pg	**Pn**	**10 37 56.4**	**-0.4**
TATO				*e*Sg	**Sg**	**10 38 14.5**	**+1.4**
SGST	**Jiashian**	**1.14**	**229**	⇑P	**Pn**	**10 37 56.9**	**+0.1**
SGST	baz=226			*e*S	**Sg**	**10 38 12.8**	**-0.3**
TWA	baz=226 **Mucha**	**1.15**	**3**	⇓*e*P	**Pn**	**10 37 56.4**	**-0.5**
NCU	baz=16 **National Centr**	**1.17**	**345**	⇓P	**Pb**	**10 37 58.0**	**+0.4**
NCU	baz=349			*e*S	**Sg**	**10 38 14.6**	**+0.4**
TAP	baz=349 **Taipei**	**1.20**	**359**	*e*P	**Pn**	**10 37 57.9**	**+0.2**
TAP	baz=20			*e*S	**Sg**	**10 38 14.3**	**-0.8**
TAP1	baz=20 **Taipei**	**1.20**	**0**	*e*P	**Pn**	**10 37 57.0**	**-0.6**
TAP1	baz=20			*e*S	**Sn**	**10 38 14.1**	**+0.7**
WSF	baz=20 **Szhu**	**1.21**	**261**	*e*P	**Pn**	**10 37 57.4**	**-0.3**
WSF	baz=260			*e*S	**Sn**	**10 38 13.7**	**+0.2**
TWB1	baz=260 **Santiao Chiao**	**1.25**	**20**	P	**Pn**	**10 37 57.9**	**-0.4**
TWB1	baz=24			*e*S	**Sn**	**10 38 15.1**	**+0.6**
NWF	baz=24 **Wu-fen Shan**	**1.26**	**11**	*e*P	**Pn**	**10 37 58.0**	**-0.5**
NWF	baz=15			S	**Sb**	**10 38 15.6**	**+0.8**
TWS1	baz=15 **Kuangyinshan**	**1.27**	**356**	*e*P	**Pb**	**10 37 58.9**	**-0.3**
TWS1	baz=14			*e*S	**Sg**	**10 38 17.3**	**+0.2**
CHN8	baz=14 **Yiju**	**1.30**	**248**	*e*P	**Pb**	**10 37 59.3**	**-0.3**
CHN8	baz=246			*e*S	**Sb**	**10 38 16.7**	**+0.8**
CHN3	baz=246 **Shinhua**	**1.30**	**235**	*e*P	**Pb**	**10 38 00.3**	**+0.5**
CHN3	baz=233			*e*S	**Sg**	**10 38 18.7**	**+0.5**
ECL	baz=233 **Taimali**	**1.34**	**203**	*e*P	**Pn**	**10 37 57.0**	**-2.4**
SCLT	baz=187 **Jiali**	**1.38**	**242**	*e*P	**Pb**	**10 38 00.9**	**-0.3**
SCLT	baz=240			*e*S	**Sb**	**10 38 19.6**	**+1.2**
TWM1	baz=240 **Shoushan**	**1.42**	**225**	*e*P	**Pg**	**10 38 03.0**	**-0.5**
TAI1	baz=221 **Yung-k'ang**	**1.43**	**237**	*e*P	**Pb**	**10 38 02.2**	**+0.4**
TAI1	baz=234			*e*S	**Sg**	**10 38 21.6**	**-0.6**
TWY	baz=234 **Chenhua**	**1.44**	**3**	*e*P	**Pn**	**10 38 00.6**	**-0.3**
SGLT	baz=7.0 **Jiouru**	**1.45**	**221**	*e*P	**Pb**	**10 38 02.2**	**-0.2**
YOJ	baz=206 **Yonaguni jima**	**1.50**	**65**	⇑*i*P	**Pn**	**10 38 01.9**	**+0.2**
YOJ	baz=63			*e*S	**Sn**	**10 38 20.9**	**+0.2**
TAW	baz=63 **Tawu**	**1.58**	**202**	*e*P	**Pn**	**10 38 02.6**	**-0.2**
SCZT	baz=187 **Fangliau**	**1.67**	**210**	*e*P	**Pn**	**10 38 04.3**	**+0.2**
KAU	baz=200 **Kaohsiung**	**1.68**	**222**	*e*P	**Pg**	**10 38 07.5**	**-0.9**
LAY	baz=237 **Lan-yu**	**1.79**	**179**	⇑P	**Pn**	**10 38 03.6**	**-2.1**
PNG	baz=169 **Penghu**	**1.82**	**262**	⇑*e*P	**Pn**	**10 38 06.0**	**-0.1**
PNG	baz=261			*e*S	**Sn**	**10 38 29.1**	**+0.4**
TWP	baz=261 **Hsiaoliuchiu**	**1.82**	**216**	*e*P	**Pg**	**10 38 09.9**	**-1.1**
PCYT	baz=229 **Pengchaiyu**	**1.86**	**15**	*e*P	**Pn**	**10 38 06.5**	**-0.2**
HEN	baz=19 **Hengchun**	**1.96**	**202**	*e*P	**Pb**	**10 38 10.9**	**0.0**
TWK1	baz=190 **Hengchun**	**1.99**	**200**	*e*P	**Pn**	**10 38 08.9**	**+0.4**
TSEB	baz=188 **Hengchuen, Pin**	**2.01**	**197**	*e*P	**Pn**	**10 38 10.1**	**+1.3**
KNM	baz=183 **Kinmen**	**2.88**	**282**	*e*P	**Pn**	**10 38 21.3**	**+0.5**
QZH	baz=281 **Quanzhou**	**2.89**	**293**	Pn	**Pn**	**10 38 19.9**	**-1.0**
QZH				Sn	**Sn**	**10 38 53.8**	**-1.3**
QZH	comp=N,2µm,0.9s			smax	smax		
QZH	comp=E,1µm,0.7s			smax	smax		
JOW	**Kunigami**	**6.80**	**63**	*e*Pn	**Pn**	**10 39 12.7**	**-2.0**
NJ2	comp=E,14nm,0.4s **Nanjing**	**8.52**	**345**	*e*P	**Pn**	**10 39 37.1**	**-1.1**
NJ2				S	**Sn**	**10 41 10.9**	**-2.9**
NJ2	comp=Z,30nm,0.6s			pmax	pmax		
NJ2	comp=N,40nm,0.6s			smax	smax		
NJ2	comp=E,50nm,0.5s			smax	smax		
WHN	**Wuhan**	**9.24**	**318**	*e*P	Pn	10 39 53.3	+5.2
WHN				S	**Sn**	**10 41 27.3**	**-4.2**
JNU	**Nakatsue**	**12.38**	**40**	Pn	**Pn**	**10 40 33.0**	**+1.8**
JNU	**Nakatsue**	**12.38**	**40**	Pn	**Pn**	**10 40 33.0**	**+1.8**
	comp=E,0.7nm,0.3s,baz=218,slow=20,SNR=6.7						
KSAR	**Wonju Array Be**	**14.62**	**20**	Pn	**Pn**	**10 41 03.3**	**+1.6**

KSRS	**Korea Array**	**14.65**	**21**	Pn	**Pn**	**10 41 03.3**	**+1.3**
	comp=E,0.2nm,0.3s,baz=201,slow=12,SNR=3.5						
XAN	**Xi'an**	**14.99**	**316**	P	**P**	**10 41 13.5**	**+1.4**
XAN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MJAR	**Matsushiro Arr**	**19.16**	**45**	P	**Pn**	**10 41 59.8**	**+0.7**
MJAR	**Matsushiro Ar**	**19.16**	**45**	P	**Pn**	**10 41 59.8**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=229,slow=9.0,SNR=4.6						
CHTO	**Chiang Mai**	**21.61**	**261**	*e*P	**P**	**10 42 27.1**	**+2.2**
CHTO	**Chiang Mai**	**21.61**	**261**	*e*P	**P**	**10 42 27.1**	**+2.2**
	comp=Z,0.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**21.72**	**260**	P	**P**	**10 42 25.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**21.72**	**260**	P	**P**	**10 42 25.8**	**-0.3**
	comp=Z,4.4nm,0.8s,baz=62,slow=8.8,SNR=20						
GTA	**Gaotai**	**24.05**	**315**	↓P	**P**	**10 42 51.0**	**+1.0**
GTA				pP	**pP**	**10 42 59.8**	**+3.8**
GTA				sP	sP	10 43 03.8	+5.3
GTA				pmax	pmax		
	comp=Z,10.0nm,1.4s						
ULN	**Ulaanbaatar**	**26.61**	**338**	*e*P	**P**	**10 43 14.9**	**+1.8**
	comp=Z,23nm,1.5s						
SONM	**Songino Array**	**26.81**	**337**	P	**P**	**10 43 14.2**	**-0.7**
SONM	**Songino Array**	**26.81**	**337**	P	**P**	**10 43 14.2**	**-0.7**
	comp=Z,4.3nm,0.7s,baz=158,slow=10.0,SNR=21						
MK31	**Makanchi Array**	**38.80**	**316**	*e*P	**P**	**10 44 59.2**	**-0.2**
MK31	**Makanchi Array**	**38.80**	**316**	*e*P	**P**	**10 44 59.2**	**-0.2**
MKAR	**Makanchi Array**	**38.80**	**316**	P	**P**	**10 44 59.7**	**+0.3**
MKAR	**Makanchi Array**	**38.80**	**316**	P	**P**	**10 44 59.7**	**+0.3**
MKAR	**Makanchi Array**	**38.80**	**316**	P	**P**	**10 44 59.7**	**+0.3**
	comp=Z,9.6nm,0.8s,baz=107,slow=9.2,SNR=65						
ZALV	**Zalesovo Beam**	**40.71**	**327**	P	**P**	**10 45 13.7**	**-1.4**
ZALV	**Zalesovo Beam**	**40.71**	**327**	P	**P**	**10 45 13.7**	**-1.4**
ZALV	**Zalesovo Beam**	**40.71**	**327**	P	**P**	**10 45 13.7**	**-1.4**
	comp=Z,5.5nm,0.6s,baz=113,slow=7.9,SNR=21						
KURK	**Kurchatov**	**42.56**	**320**	P	**P**	**10 45 29.3**	**-1.0**
KURK	**Kurchatov**	**42.56**	**320**	P	**P**	**10 45 29.3**	**-1.0**
KURBB	**Kurchatov Arra**	**42.58**	**320**	P	**P**	**10 45 29.3**	**-1.1**
	comp=Z,3.1nm,0.6s,baz=109,slow=9.0,SNR=16						
AAK	**Ala-Archa**	**42.96**	**308**	*e*P	**P**	**10 45 36.0**	**+2.1**
AAK				pmax	pmax		
	comp=Z,26nm,2.3s						
SEY	**Seymchan**	**44.20**	**20**	*e*P	**P**	**10 45 42.1**	**-1.3**
WRA	**Warramunga Arr**	**45.27**	**163**	P	**P**	**10 45 49.6**	**-2.8**
WRA	**Warramunga Ar**	**45.27**	**163**	P	**P**	**10 45 49.6**	**-2.8**
	comp=Z,1.4nm,0.5s,baz=346,slow=8.7,SNR=12						
TIXI	**Tiksi**	**48.03**		↓*e*P	**P**	**10 46 12.4**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BVAR	**Borovoye Array**	**48.14**	**321**	P	**P**	**10 46 15.0**	**+0.5**
BVAR	**Borovoye Array**	**48.14**	**321**	P	**P**	**10 46 15.0**	**+0.5**
BVAR	**Borovoye Array**	**48.14**	**321**	P	**P**	**10 46 15.0**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=86,slow=9.1,SNR=8.9						
BRVK	**Borovoye**	**48.21**	**321**	*e*P	**P**	**10 46 14.7**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,18nm,1.7s						
ASAR	**Alice Springs**	**48.72**	**165**	P	**P**	**10 46 17.9**	**-1.4**
ASAR	**Alice Springs**	**48.72**	**165**	P	**P**	**10 46 17.9**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=340,slow=6.8,SNR=11						
ABKAR	**Akbulak array**	**53.91**	**315**	*e*P	**P**	**10 46 57.5**	**-0.4**
	comp=Z,4.1nm,0.6s						
AKTO	**Aktyubinsk**	**55.24**	**316**	P	**P**	**10 47 08.1**	**+0.5**
AKTO	**Aktyubinsk**	**55.24**	**316**	P	**P**	**10 47 08.1**	**+0.5**
AKTO	**Aktyubinsk**	**55.24**	**316**	P	**P**	**10 47 08.1**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=96,slow=11,SNR=3.6						
ARU	**Arti**	**55.57**	**323**	*e*P	**P**	**10 47 09.7**	**-0.2**
ARU				S	**S**	**10 54 55.1**	**+0.7**
ARU				SS	**SS**	**10 58 38.9**	**-0.3**
STKA	**Stephens Creek**	**58.63**	**160**	P	**P**	**10 47 30.1**	**-1.6**
STKA	**Stephens Creek**	**58.63**	**160**	P	**P**	**10 47 30.1**	**-1.6**
	comp=Z,2.8nm,0.7s,baz=252,slow=6.4,SNR=3.3						
KBZ	**Khabaz**	**65.94**	**309**	P	**P**	**10 48 20.0**	**-0.7**
KBZ	**Khabaz**	**65.94**	**309**	P	**P**	**10 48 20.0**	**-0.7**
KBZ	**Khabaz**	**65.94**	**309**	P	**P**	**10 48 20.0**	**-0.7**
	comp=Z,3.5nm,0.8s,baz=105,slow=6.2,SNR=5.2						
KIV	**Kislovodsk**	**66.05**	**309**	*e*P	P	10 48 17.0	-4.6
KIV				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ILAR	**Eielson Array**	**69.38**	**27**	P	**P**	**10 48 42.0**	**-0.1**
ILAR	**Eielson Array**	**69.38**	**27**	P	**P**	**10 48 42.0**	**-0.1**
	comp=Z,2.0nm,0.5s,baz=252,slow=6.3,SNR=7.3						
MENT	**Mentasta**	**71.18**	**29**	*e*P	**P**	**10 48 53.1**	**-0.1**
EGAK	**Eagle**	**71.76**	**27**	*e*P	**P**	**10 48 55.8**	**-0.8**
	comp=Z,4.1nm,0.8s						
FINES	**FINESS Array B**	**71.90**	**330**	P	**P**	**10 48 56.0**	**-1.5**
FINES	**FINESS Array B**	**71.90**	**330**	P	**P**	**10 48 56.0**	**-1.5**
	comp=Z,1.2nm,0.6s,baz=46,slow=5.5,SNR=4.8						
BRTR	**Keskin Array B**	**73.63**	**307**	P	**P**	**10 49 07.7**	**-0.7**
BRTR	**Keskin Array B**	**73.63**	**307**	P	**P**	**10 49 07.7**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=92,slow=6.2,SNR=5.7						
NB2	**NORSAR Subarra**	**78.68**	**332**	PKPdif	P	10 49 32.6	-3.9
	comp=Z,1.4nm,0.9s,baz=56,slow=1.2						
NOA	**NORSAR Array B**	**78.68**	**332**	P	**P**	**10 49 34.6**	**-1.9**
NOA	**NORSAR Array B**	**78.68**	**332**	P	**P**	**10 49 34.6**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=58,slow=5.6,SNR=3.5						
YKA	**Yellowknife Ar**	**83.17**	**23**	P	**P**	**10 49 59.5**	**-0.9**
YKA	**Yellowknife Ar**	**83.17**	**23**	P	**P**	**10 49 59.5**	**-0.9**
	comp=Z,2.4nm,0.8s,baz=316,slow=5.6,SNR=5.4						
GERES	**GERESS Array B**	**83.31**	**321**	P	**P**	**10 50 01.6**	**+0.1**
GERES	**GERESS Array B**	**83.31**	**321**	P	**P**	**10 50 01.6**	**+0.1**
	comp=Z,0.4nm,0.2s,baz=31,slow=5.9,SNR=3.2						
NEW	**Newport**	**91.11**	**35**	*e*P	**P**	**10 50 40.1**	**+0.7**
	comp=Z,2.4nm,1.0s						
NVAR	**Mina Array Bea**	**96.48**	**43**	P	**P**	**10 51 04.8**	**+0.3**
NVAR	**Mina Array Bea**	**96.48**	**43**	P	**P**	**10 51 04.8**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=241,slow=3.0,SNR=2.8						

WEL 15 10:38:36.9±1.1, 46°07'S×166°08'E, h20km, ML4.7/10, Error ellipse: s-maj=10.1km s-min=4.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.43**	**104**	P*	Pb	10 38 45.1	-0.8
PYZ				S*	Sb	10 38 52.0	+0.1
DCZ	**Deep Cove**	**0.96**	**52**	*e*P*	Pb	10 38 53.7	-1.1
DCZ				S*	Sb	10 39 06.8	-0.1
DCZ				S*	Sn	10 39 08.0	-0.1
DCZ				AML	AML	10 39 10.8	
DCZ				AML	AML	10 39 10.9	
APZ	**The Paps**	**1.53**	**121**	PN	Pn	10 39 02.3	-0.9
MLZ	**Mavora Lakes**	**1.64**	**65**	*e*PN	Pn	10 39 04.8	+0.2
MLZ				AML	AML	10 39 30.3	
MLZ				AML	AML	10 39 30.9	
MSZ	**Milford Sound**	**1.91**	**44**	*e*PN	Pb	10 39 10.6	-0.4
MSZ				AML	AML	10 39 43.6	
MSZ				AML	AML	10 39 43.6	
MSZ				AML	AML	10 39 43.7	
MSZ				AML	AML	10 39 45.3	
SYZ	**Scrubby Hill**	**2.17**	**104**	*e*PN	Pn	10 39 12.5	+0.6
EAZ	**Earnscleugh**	**2.42**	**71**	*e*PN	Pn	10 39 17.2	+1.9
EAZ				AML	AML	10 39 51.5	
EAZ				AML	AML	10 39 51.7	
TUZ	**Tuapeka**	**2.48**	**89**	*e*PN	Pn	10 39 17.5	+1.4
TUZ				AML	AML	10 39 50.7	
TUZ				AML	AML	10 39 52.3	
LBZ	**Lake Benmore**	**3.35**	**61**	*e*PN	Pn	10 39 28.9	+0.7
LBZ				AML	AML	10 40 09.6	
LBZ				AML	AML	10 40 10.4	
ODZ	**Otahua Downs**	**3.37**	**74**	*e*PN	Pn	10 39 28.4	+0.1
ODZ				AML	AML	10 40 24.0	
ODZ				AML	AML	10 40 25.0	
FOZ	**Fox Glacier**	**3.59**	**47**	AML	AML	10 40 35.6	
FOZ				AML	AML	10 40 38.2	
WVZ	**Waitaha Valley**	**4.47**	**50**	AML	AML	10 40 47.7	
WVZ				AML	AML	10 40 57.1	
QRZ	**Quartz Range**	**7.03**	**44**	AML	AML	10 41 37.7	
QRZ				AML	AML	10 41 39.5	
MKAZ	**Moumakai**	**11.23**	**40**	*e*PN	Pn	10 41 17.3	+1.0
WCZ	**Waipu Caves**	**11.88**	**35**	*e*PN	Pn	10 41 24.6	-0.5

*IDC **15** 10:39:29.2±0.9, 45°.97S×166°.31E, h0km, mb4.3/4, mb1 4.6/5, mb1mx4.1/16, mbtmp4.4/5, ML4.8/1, Error ellipse: s-maj=32.1km s-min=27.3km az=43.0*
*ISCJB **15** 10:39:30.3±0.7, 46°.02S±0°.07×165°.91E±0°.08, h12km, mb4.2/4, Error ellipse: s-maj=11.4km s-min=6.8km az=23.7*
*WEL **15** 10:39:32.6±1.1, 46°.00S×165°.99E, h20km, ML4.8/7, Error ellipse: s-maj=12.0km s-min=6.0km az=90.0*
ISC 15 10:39:31.2±0.7, 46°.06S±0°.08×166°.06E±0°.07, h12km, n23, σ1§00/20, mb4.2/4, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.45**	**104**	P*	**Pn**	**10 39 42.5**	**-1.0**
PYZ				S*	**Sb**	**10 39 50.0**	**+2.4**
DCZ	**Deep Cove**	**0.96**	**53**	*e*P*	**Pn**	**10 39 50.2**	**-0.3**
DCZ				AML	AML	10 40 04.7	
DCZ				AML	AML	10 40 04.8	
DCZ				AML	AML	10 40 07.9	
DCZ				AML	AML	10 40 07.9	
APZ	**The Paps**	**1.54**	**121**	*e*PN	**Pb**	**10 39 59.3**	**-0.4**
APZ				SN	**Sb**	**10 40 19.2**	**0.0**
MLZ	**Mavora Lakes**	**1.64**	**65**	*e*PN	**Pn**	**10 39 59.2**	**-0.7**
MLZ				AML	AML	10 40 27.4	
MLZ				AML	AML	10 40 28.8	
MSZ	**Milford Sound**	**1.91**	**44**	AML	AML	10 40 40.4	
MSZ				AML	AML	10 40 40.7	
MSZ				AML	AML	10 40 40.7	
MSZ				AML	AML	10 40 45.4	
SYZ	**Scrubby Hill**	**2.19**	**104**	*e*PN	**Pn**	**10 40 07.8**	**+0.5**
EAZ	**Earnscleugh**	**2.42**	**71**	*e*PN	**Pb**	**10 40 14.8**	**+0.1**
EAZ				AML	AML	10 40 51.1	
EAZ				AML	AML	10 40 51.2	
TUZ	**Tuapeka**	**2.49**	**89**	*e*PN	**Pb**	**10 40 13.5**	**-2.4**
TUZ				AML	AML	10 40 45.6	
TUZ				AML	AML	10 40 50.0	
LBZ	**Lake Benmore**	**3.36**	**62**	AML	AML	10 41 11.2	
LBZ				AML	AML	10 41 11.7	
ODZ	**Otahua Downs**	**3.38**	**74**	*e*PN	Pn	10 40 26.2	+2.5
ODZ				AML	AML	10 41 21.7	
ODZ				AML	AML	10 41 23.3	
RPZ	**Rata Peaks**	**4.25**	**58**	Pn	Pn	10 40 30.7	-5.1
	61nm,0.3s,baz=8.1,slow=14,SNR=4.4						
MKAZ	**Moumakai**	**11.24**	**40**	*e*PN	Pn	10 42 13.8	+2.3
WCZ	**Waipu Caves**	**11.88**	**35**	*e*PN	**Pn**	**10 42 21.0**	**+0.6**
WRA	**Warramunga Arr**	**36.81**	**304**	P	**P**	**10 46 38.9**	**-0.2**
	1.2nm,0.5s,baz=136,slow=8.0,SNR=4.7						
FITZ	**Fitzroy Crossi**	**43.46**	**296**	P	**P**	**10 47 34.4**	**+0.3**
	2.8nm,0.8s,baz=175,slow=12,SNR=3.6						
QSPA	**South Pole Qui**	**44.06**	**180**	P	**P**	**10 47 39.3**	**+0.6**
	9.7nm,0.8s,baz=6.1,slow=3.1,SNR=11						
CMAR	**Chiang Mai Arr**	**88.22**	**299**	P	**P**	**10 52 22.6**	**+0.3**
	1.1nm,0.7s,baz=163,slow=3.7,SNR=4.5						
MKAR	**Makanchi Array**	**118.01**	**309**	PKP	**PKPdf**	**10 58 16.8**	**-0.3**
	1.2nm,1.0s,baz=224,slow=3.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**144.63**	**207**	PKP	**PKPab**	**10 59 05.2**	**-1.3**
	2.9nm,0.5s,baz=148,slow=2.1,SNR=12						
BRTR	**Keskin Array B**	**145.00**	**277**	PKPbc	**PKPbc**	**10 59 07.4**	**0.0**
	5.4nm,0.8s,baz=142,slow=5.0,SNR=7.5						
SPITS	**Spitsbergen Ar**	**145.72**	**349**	PKPbc	**PKPbc**	**10 59 08.3**	**-0.1**
	5.1nm,0.6s,baz=69,slow=4.6,SNR=5.1						
SCHQ	**Schefferville**	**145.94**	**55**	PKPbc	**PKPdf**	**10 59 08.6**	**-0.4**
	4.7nm,0.6s,baz=316,slow=5.2,SNR=7.4						
ARCES	**ARCESS Array B**	**149.43**	**334**	PKPbc	**PKPbc**	**10 59 19.7**	**+1.0**
	5.6nm,0.6s,baz=70,slow=2.9,SNR=12						

CASC 15 10:39:32.6±1.9, 8°.94N×83°.11W, h56km±19km, MD3.8, 1C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.29**	**192**	↓*i*P	Pn	10 39 41.5	-0.9
BRU2	**Volcan**	**0.43**	**109**	*e*P	Pn	10 39 44.6	+0.8
BRU	**Baru**	**0.55**	**104**	*e*P	Pn	10 39 46.0	+0.5
BUS	**Buena Vista**	**0.89**	**314**	↓*e*P	Pn	10 39 49.3	-0.4
BUS				*e*S	Sn	10 40 02.1	-0.1
URSC	**Urasca**	**1.11**	**323**	↓*e*P	Pn	10 39 52.8	+0.5
QCR	**Quepos**	**1.15**	**295**	↓*e*P	Pn	10 39 52.5	-0.1
QCR				*e*S	Sn	10 40 07.3	-0.1
SJS	**Escuela Geolog**	**1.37**	**317**	*e*P	Pn	10 39 56.5	+0.8
SJS				*e*S	Sn	10 40 14.7	+1.8
PTP	**Ponta Puerca**	**19.33**	**60**	*e*P	x	10 39 47.5	
PTP				*e*S	x	10 39 58.5	

IDC 15 10:44:24.9±2.5, 46°.49S×166°.00E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.6/13, mbtmp3.6/2, Error ellipse: s-maj=199.2km s-min=53.8km az=31.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**34.39**	**300**	P	P	10 51 14.2	+0.4
	0.5nm,0.5s,baz=133,slow=8.1,SNR=5.3						
WRA	**Warramunga Arr**	**37.03**	**305**	P	P	10 51 35.9	-0.5
	0.5nm,0.6s,baz=137,slow=7.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**144.23**	**207**	PKP	PKPbc	11 04 02.0	+0.9
	0.6nm,0.5s,baz=157,slow=2.4,SNR=4.6						
ARCES	**ARCESS Array B**	**149.79**	**334**	PKPbc	PKPbc	11 04 15.2	-0.2
	2.6nm,0.8s,baz=42,slow=1.5,SNR=2.7						

*IDC **15** 10:45:57.2±1.0, 46°.02S×166°.07E, h0km, mb4.1/4, mb1 4.4/5, mb1mx4.0/15, mbtmp4.2/5, ML4.2/1, MS5.3/1, Ms1 5.3/1, ms1mx5.1/23, Error ellipse: s-maj=34.8km s-min=27.4km az=48.0*
*ISCJB **15** 10:45:58.8±1.2, 46°.08S±0°.06×166°.05E±0°.07, h23km±7km, mb4.2/4, Error ellipse: s-maj=10.6km s-min=8.1km az=12.4*
*WEL **15** 10:46:01.0±1.0, 46°.04S×166°.20E, h20km, ML5.2/8, Error ellipse: s-maj=8.8km s-min=3.1km az=90.0*
ISC 15 10:45:58.9±2.1, 46°.07S±0°.06×166°.13E±0°.06, h15km±12km, n21, σ0§96/27, mb4.2/4, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.39**	**105**	P*	**Pb**	**10 46 08.5**	**+0.9**
PYZ				S*	**Sb**	**10 46 14.2**	**+0.7**
DCZ	**Deep Cove**	**0.93**	**51**	P*	**Pn**	**10 46 17.1**	**-0.3**
DCZ				S*	**Sb**	**10 46 28.3**	**-0.5**
DCZ				S*	**Sg**	**10 46 28.7**	**-0.2**
WHZ	**Wether Hill Ro**	**1.28**	**83**	PN	**Pb**	**10 46 22.9**	**+0.2**
WHZ				SN	**Sn**	**10 46 39.5**	**+0.4**
WHZ				AML	AML	10 46 49.9	
APZ	**The Paps**	**1.49**	**122**	*e*PN	**Pn**	**10 46 25.1**	**-0.1**
APZ				SN	**Sn**	**10 46 42.8**	**-1.7**
MLZ	**Mavora Lakes**	**1.60**	**64**	*e*PN	**Pb**	**10 46 28.3**	**+0.1**
MLZ				SN	**Sn**	**10 46 47.1**	**-0.1**
MLZ				AML	AML	10 46 56.8	
MSZ	**Milford Sound**	**1.88**	**43**	*e*PN	**Pg**	**10 46 35.1**	**+0.1**
MSZ				AML	AML	10 47 05.4	
MSZ				AML	AML	10 47 07.7	
SYZ	**Scrubby Hill**	**2.14**	**104**	*e*PN	**Pn**	**10 46 34.3**	**+0.3**
SYZ				SN	**Sb**	**10 47 02.1**	**-1.4**
EAZ	**Earnscleugh**	**2.38**	**71**	*e*PN	**Pb**	**10 46 40.3**	**-1.2**
EAZ				AML	AML	10 47 16.9	
EAZ				AML	AML	10 47 21.7	
TUZ	**Tuapeka**	**2.44**	**89**	*e*PN	**Pn**	**10 46 40.4**	**+2.2**
TUZ				AML	AML	10 47 17.9	
TUZ				AML	AML	10 47 20.4	
ODZ	**Otahua Downs**	**3.33**	**74**	*e*PN	**Pn**	**10 46 51.4**	**+1.0**
ODZ				AML	AML	10 47 49.7	
ODZ				AML	AML	10 47 52.5	
RPZ	**Rata Peaks**	**4.21**	**58**	Pn	**Pn**	**10 47 03.1**	**+0.5**
	15nm,0.3s,baz=65,slow=19,SNR=2.3						
RPZ				LR	LR	10 48 46.7	
	comp=Z,35μm,20.6s,baz=151,slow=40						
QRZ	**Quartz Range**	**7.00**	**44**	AML	AML	10 45 05.8	
QRZ				AML	AML	10 45 05.8	
ASAR	**Alice Springs**	**34.26**	**300**	P	**P**	**10 52 44.6**	**+0.2**
	1.4nm,0.7s,baz=131,slow=8.3,SNR=9.6						
WRA	**Warramunga Arr**	**36.86**	**304**	P	**P**	**10 53 04.9**	**-1.8**
	2.6nm,0.9s,baz=137,slow=7.9,SNR=9.8						
QSPA	**South Pole Qui**	**44.06**	**180**	P	**P**	**10 54 05.2**	**-0.7**
	4.4nm,1.0s,baz=310,slow=2.8,SNR=7.3						
CMAR	**Chiang Mai Arr**	**88.26**	**299**	P	**P**	**10 58 51.1**	**+1.4**
	0.8nm,0.4s,baz=161,slow=3.6,SNR=7.3						
TORD	**Torodi Ar. Bea**	**144.65**	**207**	PKP	**PKPab**	**11 05 33.3**	**-0.5**
	1.1nm,0.6s,baz=149,slow=1.9,SNR=5.8						
BRTR	**Keskin Array B**	**145.05**	**277**	PKPbc	**PKPab**	**11 05 35.1**	**+0.2**
	3.4nm,0.8s,baz=144,slow=4.1,SNR=9.4						
SPITS	**Spitsbergen Ar**	**145.73**	**349**	PKPbc	**PKPbc**	**11 05 35.7**	**0.0**
	4.6nm,0.8s,baz=142,slow=37,SNR=2.5						
ARCES	**ARCESS Array B**	**149.46**	**334**	PKPbc	**PKPbc**	**11 05 46.8**	**+0.7**
	3.6nm,0.8s,baz=57,slow=4.5,SNR=6.1						
FINES	**FINESS Array B**	**152.38**	**318**	PKPbc	**PKPbc**	**11 05 53.7**	**+0.6**
	0.9nm,0.6s,baz=95,slow=3.3,SNR=2.5						

IDC 15 10:46:06.8±1.6, 45°.78S×166°.20E, h0km, mb4.2/4, mb1 4.5/6, mb1mx4.2/16, mbtmp4.4/6, ML4.4/2, Error ellipse: s-maj=58.3km s-min=25.5km az=175.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**4.03**	**61**	Pn	Pn	10 47 09.8	0.0
	68nm,0.3s,baz=216,slow=5.3,SNR=8.0						
RPZ				Sn	Sn	10 47 53.3	-4.3
	62nm,0.3s,baz=357,slow=19,SNR=5.1						
URZ	**Urewera**	**11.05**	**51**	Pn	Pn	10 48 45.9	-0.2
	1.0nm,0.3s,baz=94,slow=14,SNR=3.9						
ASAR	**Alice Springs**	**34.16**	**299**	P	P	10 52 53.7	-0.1
	2.3nm,0.8s,baz=132,slow=8.8,SNR=5.4						
WRA	**Warramunga Arr**	**36.74**	**304**	P	P	10 53 15.0	-0.9
	2.9nm,1.0s,baz=140,slow=8.4,SNR=8.8						
FITZ	**Fitzroy Crossi**	**43.43**	**296**	P	P	10 54 11.6	+0.2
	4.0nm,0.8s,baz=173,slow=8.3,SNR=6.3						
CMAR	**Chiang Mai Arr**	**88.17**	**299**	P	P	10 59 00.1	+0.5
	1.5nm,0.7s,baz=173,slow=3.3,SNR=6.6						
TORD	**Torodi Ar. Bea**	**144.92**	**207**	PKP	PKPab	11 05 44.4	-0.9
	3.4nm,0.6s,baz=151,slow=2.6,SNR=9.6						
BRTR	**Keskin Array B**	**145.06**	**277**	PKPbc	PKPbc	11 05 45.0	-0.3
	2.3nm,0.9s,baz=140,slow=6.5,SNR=4.4						
SPITS	**Spitsbergen Ar**	**145.46**	**349**	PKPbc	PKPdf	11 05 44.8	-0.5
	2.7nm,0.5s,baz=88,slow=8.4,SNR=7.4						
ARCES	**ARCESS Array B**	**149.22**	**334**	PKPbc	PKPbc	11 05 55.5	-0.5
	4.5nm,0.9s,baz=56,slow=3.1,SNR=5.1						
FINES	**FINESS Array B**	**152.19**	**319**	PKPbc	PKPbc	11 06 03.0	-0.1
	4.1nm,0.5s,baz=83,slow=4.3,SNR=81						

WEL 15 10:46:44.1±0.7, 46°.04S×166°.10E, h12km, ML4.5/7, 1C, Error ellipse: s-maj=6.0km s-min=2.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.43**	**108**	↑P*	Pg	10 46 52.5	-0.2
PYZ				S*	Sg	10 46 58.7	+0.4
DCZ	**Deep Cove**	**0.93**	**53**	P*	Pg	10 47 01.2	-0.8
DCZ				S*	Sg	10 47 13.6	-0.5
DCZ				AML	AML	10 47 15.4	
APZ	**The Paps**	**1.53**	**122**	*e*PN	Pn	10 47 10.9	-0.4
MLZ	**Mavora Lakes**	**1.61**	**65**	*e*PN	Pb	10 47 13.3	-0.6
MLZ				AML	AML	10 47 39.2	
MLZ				AML	AML	10 47 40.8	
MSZ	**Milford Sound**	**1.88**	**44**	AML	AML	10 47 51.2	
MSZ				AML	AML	10 47 55.1	
SYZ	**Scrubby Hill**	**2.17**	**105**	SN	Sn	10 47 44.2	-2.6
EAZ	**Earnscleugh**	**2.39**	**72**	AML	AML	10 47 56.2	
EAZ				AML	AML	10 47 56.4	
TUZ	**Tuapeka**	**2.46**	**89**	SN	Sn	10 47 54.1	-0.1
TUZ				AML	AML	10 47 56.5	
ODZ	**Otahua Downs**	**3.34**	**74**	AML	AML	10 48 17.6	
ODZ				AML	AML	10 48 19.8	
QRZ	**Quartz Range**	**7.00**	**44**	AML	AML	10 49 06.5	
QRZ				AML	AML	10 49 11.6	

WEL 15 10:49:20.1±0.4, 45°.47S×166°.86E, h20km, ML3.6/5, Error ellipse: s-maj=4.1km s-min=2.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.21**	**93**	P*	Pb	10 49 24.8	-0.7
DCZ				S*	Sb	10 49 29.1	+0.1
DCZ				S*		10 49 29.2	
PYZ	**Puysegur Point**	**0.71**	**190**	P*	Pb	10 49 33.7	-0.2
PYZ				S*	Sb	10 49 42.6	-0.7
MLZ	**Mavora Lakes**	**0.93**	**83**	*e*P*	Pb	10 49 36.0	-1.7
MLZ				S*	Sb	10 49 49.4	-0.3
MLZ				AML	AML	10 49 50.8	
MSZ	**Milford Sound**	**1.10**	**44**	*e*PN	Pn	10 49 40.1	-0.2
MSZ				AML	AML	10 49 58.4	
MSZ				AML	AML	10 49 58.6	
APZ	**The Paps**	**1.58**	**150**	*e*PN	Pn	10 49 46.9	-0.1
EAZ	**Earnscleugh**	**1.74**	**83**	*e*PN	Pn	10 49 49.7	+0.5
EAZ				AML	AML	10 50 14.0	
EAZ				AML	AML	10 50 14.3	
SYZ	**Scrubby Hill**	**1.92**	**125**	*e*PN	Pn	10 49 52.5	+0.9
TUZ	**Tuapeka**	**2.00**	**105**

WHZ	**Wether Hill Ro**	**1.26**	**89**	*e*P*	Pn	10 52 13.4	-0.2
WHZ				S*	Sb	10 52 28.6	-1.4
WHZ				S*	Sn	10 52 29.1	-1.2
MLZ	**Mavora Lakes**	**1.54**	**68**	*e*PN	Pn	10 52 16.3	-1.2
MLZ				SN	Sn	10 52 37.2	-0.2
MLZ				AML	AML	10 52 40.2	
MSZ	**Milford Sound**	**1.78**	**46**	AML	AML	10 52 59.4	
MSZ				AML	AML	10 52 59.5	
SYZ	**Scrubby Hill**	**2.16**	**107**	SN	Sn	10 52 52.4	-0.3
EAZ	**Earnscleugh**	**2.33**	**74**	AML	AML	10 53 17.9	
EAZ				AML	AML	10 53 18.5	
TUZ	**Tuapeka**	**2.43**	**92**	*e*PN	Pn	10 52 30.2	+0.6
TUZ				AML	AML	10 53 01.8	
TUZ				AML	AML	10 53 06.2	
LBZ	**Lake Benmore**	**3.25**	**63**	AML	AML	10 53 21.8	
LBZ				AML	AML	10 53 23.1	
ODZ	**Otahua Downs**	**3.28**	**76**	PN	Pn	10 52 41.5	0.0
ODZ				AML	AML	10 53 41.1	
ODZ				AML	AML	10 53 41.3	

WEL 15 10:53:53.2±1.2, 45°87S×166°47E, h12km, ML4.0/9, 1C, Error ellipse: s-maj=14.5km s-min=2.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.33**	**154**	⇑P*	Pg	10 54 00.1	+0.2
PYZ				S*	Sg	10 54 04.7	+0.2
PYZ				S*	Sb	10 54 04.8	-1.7
DCZ	**Deep Cove**	**0.62**	**51**	P*	Pg	10 54 04.7	-0.5
DCZ				S*	Sg	10 54 13.0	-0.4
DCZ				AML	AML	10 54 15.1	
DCZ				AML	AML	10 54 15.8	
MLZ	**Mavora Lakes**	**1.30**	**67**	P*	Pn	10 54 15.9	-1.4
MLZ				AML	AML	10 54 38.9	
MLZ				AML	AML	10 54 39.8	
APZ	**The Paps**	**1.43**	**133**	PN	Pn	10 54 16.7	-2.3
MSZ	**Milford Sound**	**1.58**	**41**	*e*PN	Pn	10 54 20.2	-0.8
MSZ				AML	AML	10 54 49.6	
MSZ				AML	AML	10 54 52.3	
SYZ	**Scrubby Hill**	**1.97**	**111**	*e*PN	Pn	10 54 26.3	0.0
EAZ	**Earnscleugh**	**2.09**	**73**	*e*PN	Pn	10 54 29.2	+1.1
EAZ				AML	AML	10 54 58.3	
EAZ				AML	AML	10 54 58.8	
TUZ	**Tuapeka**	**2.21**	**93**	PN	Pn	10 54 30.0	+0.3
TUZ				AML	AML	10 54 59.9	
TUZ				AML	AML	10 55 00.1	
LBZ	**Lake Benmore**	**3.02**	**62**	*e*PN	Pn	10 54 41.7	+0.9
LBZ				AML	AML	10 55 17.8	
LBZ				AML	AML	10 55 20.6	
ODZ	**Otahua Downs**	**3.05**	**76**	PN	Pn	10 54 40.5	-0.7
ODZ				AML	AML	10 55 19.3	
ODZ				AML	AML	10 55 20.3	
FOZ	**Fox Glacier**	**3.25**	**46**	AML	AML	10 55 43.5	
FOZ				AML	AML	10 55 45.4	
WVZ	**Waitaha Valley**	**4.14**	**49**	AML	AML	10 56 12.4	
WVZ				AML	AML	10 56 14.5	

*ISCJB **15** 10:53:57.0±0.2, 23°82N±0°.01×121°.54E±0°.02, h17km±3km, Error ellipse: s-maj=3.0km s-min=1.9km az=37.2*
*JMA **15** 10:53:56.0±0.4, 23°.86N×121°.39E, h72km, M2.7*
*TAP **15** 10:53:56.8, 23°.84N×121°.45E, h17km, ML3.6, B*
ISC 15 10:53:56.8±0.9, 23°83N±0°.02×121°50E±0°.02, h17km±3km, n60, σ0°96/106, 12C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESF	**Shoufeng Towns**	**0.04**	**14**	⇓*i*P	**Pb**	**10 54 00.0**	**0.0**
ESF	baz=62			*i* S	**Sb**	**10 54 02.2**	**+0.2**
ESL	**Shilin**	**0.06**	**254**	⇓*i*P	**Pb**	**10 53 59.9**	**-0.2**
ESL	baz=197			S	**Sb**	**10 54 01.3**	**-0.9**
TEGC	**Jichi Village**	**0.13**	**162**	P	**Pb**	**10 54 01.4**	**+0.6**
TEGC	baz=153			S	**Sb**	**10 54 05.2**	**+1.8**
HWA	**Hwalien**	**0.18**	**34**	⇑*i*P	**Pb**	**10 54 02.0**	**+0.3**
HWA	baz=44			S	**Sb**	**10 54 05.5**	**+0.7**
TWD	**Chiawan**	**0.26**	**20**	⇑*i*P	**Pb**	**10 54 03.0**	**-0.2**
TWD	baz=31			*i* S	**Sb**	**10 54 06.7**	**-0.6**
EHY	**Hungye**	**0.36**	**206**	*e*P	**Pb**	**10 54 03.6**	**-1.2**
EHY	baz=198			*e*S	**Sb**	**10 54 09.4**	**-0.7**
WHF	**Hehuan Shan**	**0.38**	**326**	⇑*i*P	**Pb**	**10 54 04.3**	**-1.1**
WHF	baz=332			*e*S	**Sb**	**10 54 09.1**	**-2.0**
TWF1	**Yuli**	**0.51**	**201**	⇑*i*P	**Pb**	**10 54 05.9**	**-1.5**
TWF1	baz=194			*e*S	**Sb**	**10 54 14.0**	**-0.5**
TWT	**Tachien**	**0.51**	**325**	⇑*i*P	**Pb**	**10 54 07.1**	**-0.4**
TWT	baz=327			*e*S	**Sb**	**10 54 12.8**	**-2.0**
SMLT	**Sun Moon Lake**	**0.55**	**276**	⇑*i*P	**Pb**	**10 54 07.3**	**-0.8**
SMLT	baz=274			*i* S	**Sb**	**10 54 14.2**	**-1.5**
TYC	**Yuchr**	**0.59**	**277**	⇑*i*P	**Pb**	**10 54 07.8**	**-0.9**
TYC	baz=276			S	**Sb**	**10 54 15.2**	**-1.5**
YUS	**Yu-Shan**	**0.60**	**236**	⇓*i*P	**Pb**	**10 54 08.9**	**-0.3**
YUS	baz=231			*i* S	**Sb**	**10 54 16.6**	**-1.1**
NNS	**Nan Shan**	**0.62**	**350**	⇑*i*P	**Pb**	**10 54 08.9**	**-0.3**
NNS	baz=4.0			S	**Sb**	**10 54 16.8**	**-0.9**
ENA	**Nanau**	**0.64**	**21**	⇓*e*P	**Pb**	**10 54 08.7**	**-0.8**
ENA	baz=26			*e*S	**Sb**	**10 54 17.5**	**-0.6**
ALS	**Alishan**	**0.71**	**243**	*e*P	**Pb**	**10 54 10.1**	**-0.8**
ALS	baz=240			S	**Sb**	**10 54 19.4**	**-1.1**
CHKT	**Chengkung**	**0.74**	**189**	*e*P	**Pb**	**10 54 10.3**	**-0.9**
CHKT	baz=173			*e*S	**Sb**	**10 54 21.1**	**+0.1**
WNT	**Mingjian**	**0.74**	**274**	*i* P	**Pb**	**10 54 11.8**	**+0.5**
WNT	baz=275			*e*S	**Sn**	**10 54 22.5**	**-0.9**
ELDTW	**Lidau**	**0.78**	**215**	⇓*e*P	**Pb**	**10 54 10.3**	**-1.6**
ELDTW	baz=218			*e*S	**Sb**	**10 54 21.3**	**-0.9**
CHN5	**Tsauling**	**0.79**	**253**	⇑P	**Pb**	**10 54 12.3**	**+0.2**
CHN5	baz=242			S	**Sb**	**10 54 23.3**	**+0.8**
ENTT	**Nioudou**	**0.81**	**5**	⇑P	**Pb**	**10 54 11.9**	**-0.5**
ENTT	baz=9.0			*e*S	**Sb**	**10 54 22.9**	**-0.2**
TCU	**Taichung**	**0.81**	**293**	P	**Pn**	**10 54 13.2**	**-0.3**
TCU	baz=291			*e*S	**Sn**	**10 54 24.9**	**-0.3**
TWQ1	**Liyutan**	**0.84**	**308**	⇓*i*P	**Pb**	**10 54 13.5**	**+0.6**
TWQ1	baz=315			*e*S	**Sn**	**10 54 26.3**	**+0.5**
TWC	**Suao**	**0.84**	**23**	*e*P	**Pb**	**10 54 12.0**	**-0.9**
TWC	baz=20			S	**Sb**	**10 54 23.5**	**-0.5**
NSK	**Sanguang**	**0.85**	**351**	⇑*e*P	**Pb**	**10 54 13.1**	**-0.1**
NSK	baz=356			S	**Sb**	**10 54 23.5**	**-0.9**
NSY	**Sanyi**	**0.89**	**311**	P	**Pn**	**10 54 14.7**	**+0.1**
NSY	baz=313			*e*S	**Sn**	**10 54 26.7**	**-0.4**
TWE	**Neicheng**	**0.90**	**10**	*e*P	**Pb**	**10 54 13.0**	**-1.0**
TWE	baz=15			*e*S	**Sb**	**10 54 25.7**	**0.0**
NSTT	**Nanjuang**	**0.92**	**331**	⇑*i*P	**Pb**	**10 54 14.4**	**+0.1**
NSTT	baz=333			*i* S	**Sb**	**10 54 26.1**	**-0.1**
STYT	**Tauyuan**	**0.95**	**226**	P	**Pb**	**10 54 15.0**	**+0.1**
STYT	baz=222			S	**Sb**	**10 54 27.6**	**+0.4**
CHN4	**Tsaushan**	**0.96**	**240**	P	**Pn**	**10 54 15.6**	**+0.1**
CHN4	baz=226			*e*S	**Sn**	**10 54 29.1**	**+0.3**
CHN2	**Minshiung**	**0.98**	**253**	*e*P	**Pn**	**10 54 17.0**	**+1.2**
WTP	**Ta-pu**	**1.00**	**234**	*e*P	**Pn**	**10 54 16.1**	**0.0**
WTP	baz=231			*e*S	**Sb**	**10 54 29.0**	**+0.5**
CHY	**Chiayi**	**1.04**	**252**	*e*P	**Pn**	**10 54 16.7**	**+0.1**
CHY	baz=249			*e*S	**Sn**	**10 54 30.7**	**+0.1**
TWG	**Pinlang**	**1.08**	**201**	*e*P	**Pn**	**10 54 14.6**	**-2.5**
HSN	**Hsinchu**	**1.08**	**334**	P	**Pb**	**10 54 18.5**	**+1.5**
HSN	baz=322			*e*S	**Sn**	**10 54 33.6**	**+1.8**
TWK	**Hsinying**	**1.08**	**239**	*e*P	**Pb**	**10 54 17.6**	**+0.4**
TWK	baz=225			*e*S	**Sn**	**10 54 32.1**	**+0.2**
CHN1	**Nanshi**	**1.10**	**234**	*e*P	**Pb**	**10 54 18.2**	**+0.8**
CHN1	baz=231			*e*S	**Sn**	**10 54 33.5**	**+1.3**
WTCT	**Ta-ch'eng**	**1.11**	**272**	*e*P	**Pn**	**10 54 17.7**	**+0.1**
WTCT	baz=270			*e*S	**Sn**	**10 54 32.5**	**0.0**
SGST	**Jiashian**	**1.12**	**229**	*e*P	**Pb**	**10 54 18.5**	**+0.7**
SGST	baz=225			S	**Sn**	**10 54 34.3**	**+1.5**
TWA	**Mucha**	**1.15**	**4**	*e*P	**Pn**	**10 54 18.1**	**0.0**
TWA	baz=8.0			*e*S	**Sb**	**10 54 33.1**	**+0.3**
NCU	**National Centr**	**1.17**	**346**	*e*P	**Pb**	**10 54 19.7**	**+1.1**
NCU	baz=350			*e*S	**Sn**	**10 54 36.2**	**+2.3**
TAP1	**Taipei**	**1.20**	**1**	*e*P	**Pn**	**10 54 18.8**	**-0.1**
TWB1	**Santiao Chiao**	**1.25**	**21**	*e*P	**Pn**	**10 54 19.8**	**+0.2**
NWF	**Wu-fen Shan**	**1.26**	**12**	*e*P	**Pn**	**10 54 18.0**	**-1.7**
TWS1	**Kuangyinshan**	**1.27**	**357**	*e*P	**Pb**	**10 54 21.0**	**+0.7**
CHN8	**Yiju**	**1.27**	**248**	*e*P	**Pb**	**10 54 20.5**	**+0.1**
CHN8	baz=245			*e*S	**Sb**	**10 54 37.7**	**+1.3**
CHN3	**Shinhua**	**1.28**	**234**	*e*P	**Pb**	**10 54 22.9**	**+2.3**
ECL	**Taimali**	**1.33**	**202**	*e*P	**Pb**	**10 54 21.0**	**+0.4**
SCLT	**Jiali**	**1.36**	**242**	*e*P	**Pb**	**10 54 22.4**	**+0.5**
SCLT	baz=238			*e*S	**Sb**	**10 54 41.1**	**+2.1**
TWM1	**Shoushan**	**1.41**	**225**	*e*P	**Pb**	**10 54 24.0**	**+1.4**
TWY	**Chenhua**	**1.44**	**4**	*e*P	**Pb**	**10 54 24.5**	**+1.3**
YOJ	**Yonaguni jima**	**1.52**	**65**	*e*P	**Pn**	**10 54 23.2**	**0.0**
YOJ	baz=66			*e*S	**Sb**	**10 54 43.0**	**-0.5**
YOJ	**Yonaguni jima**	**1.52**	**65**	P	**Pn**	**10 54 22.8**	**-0.4**
YOJ				*e*S	**Sb**	**10 54 43.0**	**-0.5**
LAY	**Lan-yu**	**1.79**	**178**	*e*P	**Pn**	**10 54 25.1**	**-1.8**
PNG	**Penghu**	**1.80**	**262**	*e*P	**Pn**	**10 54 26.9**	**-0.2**
PNG	baz=258			*e*S	**Sn**	**10 54 48.8**	**-0.7**
PCYT	**Pengchaiyu**	**1.86**	**16**	*e*P	**Pb**	**10 54 30.6**	**+0.1**
IRIF	**Iriomote-Funau**	**2.10**	**76**	P	**Pn**	**10 54 30.8**	**-0.4**
IRIF				*e*S	**Sn**	**10 54 57.4**	**+0.4**
HATJ	**Hateruma jima**	**2.12**	**83**	*e*S	**Sn**	**10 54 57.7**	**+0.2**
JKRS	**Kuro-shima**	**2.33**	**80**	P	**Pn**	**10 54 34.7**	**+0.3**
JKRS				*e*S	**Sn**	**10 55 03.3**	**+0.6**
JIJ	**Ishigaki jima**	**2.48**	**77**	P	**Pn**	**10 54 36.2**	**-0.2**
JIJ				*e*S	**Sn**	**10 55 05.1**	**-1.1**
JTJ	**Tarama**	**3.04**	**74**	*e*S	**Sn**	**10 55 21.4**	**+1.4**

WEL 15 10:56:21.8±0.7, 45°70S×166°45E, h12km, ML4.0/10, Error ellipse: s-maj=7.7km s-min=2.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.49**	**161**	P*	Pg	10 56 31.2	-0.3
PYZ				S*	Sg	10 56 38.4	+0.2
DCZ	**Deep Cove**	**0.54**	**66**	P*	Pg	10 56 32.2	-0.2
DCZ				S*	Sg	10 56 38.4	-1.1
DCZ				AML	AML	10 56 38.7	
DCZ				AML	AML	10 56 41.0	
DCZ				AML	AML	10 56 43.2	
MLZ	**Mavora Lakes**	**1.26**	**74**	P*	Pn	10 56 43.7	-1.6
MLZ				S*	Sb	10 57 01.1	-0.7
MLZ				AML	AML	10 57 02.5	
MSZ	**Milford Sound**	**1.46**	**46**	*e*PN	Pb	10 56 48.5	-0.4
MSZ				AML	AML	10 57 10.7	
MSZ				AML	AML	10 57 10.9	
APZ	**The Paps**	**1.56**	**137**	*e*PN	Pn	10 56 48.2	-1.2
SYZ	**Scrubby Hill**	**2.05**	**115**	*e*PN	Pb	10 56 57.7	-1.1
EAZ	**Earnscleugh**	**2.06**	**78**	*e*PN	Pb	10 56 58.7	-0.4
EAZ				AML	AML	10 57 28.0	
EAZ				AML	AML	10 57 29.4	
TUZ	**Tuapeka**	**2.24**	**98**	PN	Pn	10 57 00.2	+1.6
TUZ				AML	AML	10 57 30.7	
TUZ				AML	AML	10 57 32.8	
LBZ	**Lake Benmore**	**2.95**	**65**	*e*PN	Pn	10 57 10.1	+1.6
LBZ				AML	AML	10 57 48.2	
LBZ				AML	AML	10 57 53.1	
ODZ	**Otahua Downs**	**3.02**	**79**	*e*PN	Pn	10 57 09.8	+0.4
ODZ				AML	AML	10 57 49.7	
ODZ				AML	AML	10 57 51.0	
FOZ	**Fox Glacier**	**3.15**	**48**	AML	AML	10 58 06.1	
FOZ				AML	AML	10 58 07.2	
WVZ	**Waitaha Valley**	**4.04**	**51**	AML	AML	10 58 20.3	
QRZ	**Quartz Range**	**6.58**	**44**	AML	AML	10 59 19.8	

*ISCJB **15** 10:59:43.5±1.1, 45°.96S±0°.05×166°.11E±0°.07, h21km±8km, mb3.7/4, Error ellipse: s-maj=8.7km s-min=7.8km az=2.3*
*IDC **15** 10:59:43.2±1.1, 45°.86S×166°.12E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.8/16, mbtmp3.9/6, ML3.6/2, Error ellipse: s-maj=27.7km s-min=22.9km az=1.0*
*WEL **15** 10:59:44.9±0.6, 45°.99S×166°.17E, h12km, ML4.4/11, Error ellipse: s-maj=6.0km s-min=2.5km az=90.0*
ISC 15 10:59:44.3±1.7, 45°99S±0°.06×166°16E±0°.07, h11km±10km, n25, σ1°01/29, mb3.7/4, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.40**	**117**	P*	**Pg**	**10 59 52.5**	**+0.2**
PYZ				S*	**Sg**	**10 59 58.7**	**+1.1**
DCZ	**Deep Cove**	**0.86**	**54**	P*	**Pg**	**11 00 00.4**	**-0.6**
DCZ				S*	**Sb**	**11 00 12.0**	**-0.8**
DCZ				AML	AML	11 00 13.3	
DCZ				AML	AML	11 00 13.8	
DCZ				AML	AML	11 00 16.0	
APZ	**The Paps**	**1.52**	**124**	*e*PN	**Pn**	**11 00 09.5**	**-2.0**
MLZ	**Mavora Lakes**	**1.55**	**66**	*e*PN	**Pn**	**11 00 11.7**	**-0.2**
MLZ				AML	AML	11 00 36.8	
MLZ				AML	AML	11 00 37.1	
MSZ	**Milford Sound**	**1.81**	**44**	*e*PN	**Pn**	**11 00 14.9**	**-0.5**
MSZ				AML	AML	11 00 48.6	
MSZ				AML	AML	11 00 49.9	
SYZ	**Scrubby Hill**	**2.14**	**106**	*e*PN	**Pn**	**11 00 19.7**	**-0.2**
SYZ				SN	**Sn**	**11 00 45.3**	**-1.1**
EAZ	**Earnscleugh**	**2.33**	**72**	*e*PN	**Pn**	**11 00 22.2**	**-0.4**
EAZ				AML	AML	11 00 56.4	
EAZ				AML	AML	11 00 56.6	
TUZ	**Tuapeka**	**2.42**	**90**	*e*PN	**Pn**	**11 00 24.0**	**+0.2**
TUZ				SN	**Sn**	**11 00 52.7**	**-0.6**
TUZ				AML	AML	11 00 57.9	
LBZ	**Lake Benmore**	**3.26**	**62**	*e*PN	**Pn**	**11 00 36.2**	**+0.8**
LBZ				SN	**Sn**	**11 01 16.1**	**+1.9**
LBZ				AML	AML	11 01 19.8	
ODZ	**Otahua Downs**	**3.29**	**75**	*e*PN	**Pn**	**11 00 34.9**	**-0.8**
ODZ				AML	AML	11 01 33.1	
ODZ				AML	AML	11 01 34.9	
FOZ	**Fox Glacier**	**3.49**	**47**	AML	AML	11 01 40.4	
FOZ				AML	AML	11 01 45.3	
RPZ	**Rata Peaks** 9.9nm,0.3s,baz=270,slow=10,SNR=2.8	**4.16**	**59**	Pn	**Pn**	**11 00 47.0**	**-0.6**
RPZ	24nm,0.3s,baz=26,slow=19,SNR=3.1			Sn	**Sn**	**11 01 36.3**	**+0.1**
WVZ	**Waitaha Valley**	**4.38**	**50**	AML	AML	11 01 59.9	
WVZ				AML	AML	11 02 08.7	
DSZ	**Denniston Nort**	**5.88**	**46**	*e*PN	**Pn**	**11 01 10.7**	**-0.7**
QRZ	**Quartz Range**	**6.94**	**44**	*e*PN	**Pn**	**11 01 25.0**	**-0.8**
QRZ				AML	AML	11 03 07.0	
MKAZ	**Moumakai**	**11.14**	**40**	PN	**Pn**	**11 02 24.0**	**+0.6**
MKAZ				AML	AML	11 02 24.2	
URZ	**Urewera** 0.2nm,0.3s,baz=87,slow=19,SNR=2.6	**11.21**	**50**	Pn	**Pn**	**11 02 22.9**	**-1.4**
WCZ	**Waipu Caves**	**11.78**	**34**	PN	**Pn**	**11 02 31.4**	**-0.8**
STKA	**Stephens Creek** 4.2nm,1.1s,baz=128,slow=17,SNR=4.3	**23.62**	**298**	P	**P**	**11 04 55.3**	**0.0**
ASAR	**Alice Springs** 0.4nm,0.6s,baz=132,slow=7.6,SNR=6.4	**34.23**	**300**	P	**P**	**11 06 29.4**	**-0.7**
WRA	**Warramunga Arr** 0.8nm,0.9s,baz=137,slow=7.9,SNR=3.0	**36.83**	**304**	P	**P**	**11 06 50.9**	**-1.6**
QSPA	**South Pole Qui** 1.8nm,0.9s,baz=289,slow=12,SNR=4.7	**44.14**	**180**	P	**P**	**11 07 53.2**	**+0.6**
TORD	**Torodi Ar. Bea** 1.2nm,0.9s,baz=147,slow=2.6,SNR=4.2	**144.72**	**207**	PKP	**PKPdf**	**11 19 22.8**	**+1.4**
BRTR	**Keskin Array B** 1.2nm,0.8s,baz=18,slow=1.6,SNR=4.6	**145.06**	**277**	PKPbc	**PKPdf**	**11 19 22.6**	**+1.2**
ARCES	**ARCESS Array B** 2.4nm,0.7s,baz=32,slow=5.3,SNR=2.9	**149.40**	**334**	PKPbc	**PKPbc**	**11 19 32.9**	**+0.9**

WEL 15 11:00:41.1±0.5, 45°86S×166°48E, h12km, ML3.8/6, 1C, Error ellipse: s-maj=5.2km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.34**	**155**	⇑P*	Pg	11 00 47.9	-0.1
PYZ				S*	Sg	11 00 52.9	+0.3
PYZ				S*	Sb	11 00 53.0	-1.5
DCZ	**Deep Cove**	**0.61**	**51**	P*	Pg	11 00 52.7	-0.3
DCZ				S*	Sg	11 01 00.9	-0.1
DCZ				S*	Sb	11 01 01.5	-0.7
DCZ				AML	AML	11 01 01.8	
DCZ				AML	AML	11 01 03.3	
WHZ	**Wether Hill Ro**	**1.03**	**92**	P*	Pb	11 01 00.4	-0.4
WHZ				S*	Sb	11 01 13.5	-0.8
WHZ				AML	AML	11 01 17.5	
MLZ	**Mavora Lakes**	**1.30**	**67**	*e*P*	Pn	11 01 04.3	-0.9
MLZ				AML	AML	11 01 25.8	
MLZ				AML	AML	11 01 27.3	
APZ	**The Paps**	**1.43**	**133**	*e*PN	Pn	11 01 07.3	+0.3
APZ				SN	Sn	11 01 23.6	-2.2
MSZ	**Milford Sound**	**1.57**	**41**	AML	AML	11 01 34.9	
MSZ				AML	AML	11 01 36.9	
SYZ	**Scrubby Hill**	**1.97**	**111**	*e*PN	Pb	11 01 16.2	-0.6
SYZ				SN	Sn	11 01 38.8	-0.1
TUZ	**Tuapeka**	**2.21**	**94**	SN	Sn	11 01 44.4	-0.3
TUZ				AML	AML	11 01 49.0	

WEL 15 11:01:15.7±0.4, 45°70S×166°97E, h12km, ML3.9/8, Error ellipse: s-maj=3.7km s-min=1.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.26**	**30**	P*	Pg	11 01 21.5	+0.4
DCZ				S*	Sg	11 01 25.3	+0.7
DCZ				S*	Sb	11 01 25.4	-1.3
DCZ				AML	AML	11 01 25.8	
DCZ				AML	AML	11 01 25.8	
PYZ	**Puysegur Point**	**0.51**	**204**	S*	Sg	11 01 32.2	-0.2
WHZ	**Wether Hill Ro**	**0.71**	**106**	S*	Sg	11 01 37.8	-1.0
WHZ				S*	Sb	11 01 38.4	-1.3
MLZ	**Mavora Lakes**	**0.92**	**68**	*e*P*	Pg	11 01 32.6	-0.9
MLZ				S*	Sg	11 01 44.1	-1.4
MLZ				AML	AML	11 01 50.7	
MSZ	**Milford Sound**	**1.23**	**34**	S*	Sb	11 01 52.8	-2.0
MSZ				AML	AML	11 01 55.2	
WKZ	**Wanaka**	**1.69**	**60**	AML	AML	11 02 12.7	
WKZ				AML	AML	11 02 14.5	
EAZ	**Earnscleugh**	**1.71**	**75**	*e*PN	Pn	11 01 46.1	+0.8
EAZ				AML	AML	11 02 13.6	
EAZ				AML	AML	11 02 14.3	
TUZ	**Tuapeka**	**1.88**	**99**	*e*PN	Pn	11 01 46.4	-1.2
TUZ				SN	Sn	11 02 09.1	-2.1
TUZ				AML	AML	11 02 10.2	
ODZ	**Otahua Downs**	**2.67**	**77**	*e*PN	Pn	11 01 59.9	+1.4
ODZ				AML	AML	11 02 47.2	
ODZ				AML	AML	11 02 48.0	

*ISCJB **15** 11:03:07.5±0.8, 46°.14S±0°.06×165°.96E±0°.07, h12km, mb3.9/3, Error ellipse: s-maj=8.6km s-min=6.9km az=165.6*
*IDC **15** 11:03:07.3±1.1, 46°.07S×166°.06E, h0km, mb3.8/3, mb1 4.1/5, mb1mx3.9/16, mbtmp4.0/5, ML3.9/2, Error ellipse: s-maj=29.2km s-min=27.1km az=25.0*
*WEL **15** 11:03:10.5±0.8, 46°.07S×166°.11E, h20km, ML4.5/6, Error ellipse: s-maj=7.5km s-min=3.1km az=90.0*
ISC 15 11:03:08.9±0.9, 46°09S±0°.06×166°09E±0°.06, h12km, n17, σ0°59/21, mb3.8/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.42**	**100**	P*	**Pb**	**11 03 18.8**	**+0.6**
PYZ				S*	**Sb**	**11 03 25.2**	**+0.6**
PYZ				S*	**Sb**	**11 03 25.3**	**+0.6**
DCZ	**Deep Cove**	**0.97**	**51**	P*	**Pb**	**11 03 27.7**	**+0.1**
DCZ				S*	**Sg**	**11 03 40.0**	**-0.2**
DCZ				S*	**Sg**	**11 03 40.0**	**-0.2**
DCZ				AML	AML	11 03 43.0	
DCZ				AML	AML	11 03 43.2	
APZ	**The Paps**	**1.51**	**120**	PN	**Pn**	**11 03 35.3**	**-0.5**
APZ				SN	**Sn**	**11 03 54.2**	**-1.2**
MLZ	**Mavora Lakes**	**1.64**	**64**	*e*PN	**Pb**	**11 03 38.4**	**-0.7**
MLZ				SN	**Sg**	**11 04 00.8**	**-0.9**
MLZ				AML	AML	11 04 05.6	
MSZ	**Milford Sound**	**1.92**	**43**	SN	**Sb**	**11 04 08.2**	**+0.4**
MSZ				AML	AML	11 04 13.0	
EAZ	**Earnscleugh**	**2.42**	**70**	AML	AML	11 04 26.3	
EAZ				AML	AML	11 04 30.5	
WKZ	**Wanaka**	**2.42**	**60**	AML	AML	11 04 27.7	
WKZ				AML	AML	11 04 33.1	
TUZ	**Tuapeka**	**2.47**	**88**	*e*PN	**Pn**	**11 03 50.0**	**+1.0**
TUZ				AML	AML	11 04 23.0	
TUZ				AML	AML	11 04 24.4	
ODZ	**Otahua Downs**	**3.37**	**73**	*e*PN	**Pn**	**11 04 01.7**	**+0.4**
RPZ	**Rata Peaks** 9.6nm,0.3s,baz=198,slow=13,SNR=4.1	**4.25**	**58**	Pn	**Pn**	**11 04 14.0**	**+0.5**
URZ	**Urewera** 0.7nm,0.3s,baz=156,slow=20,SNR=3.6	**11.31**	**50**	Pn	**Pn**	**11 05 50.5**	**+0.2**
ASAR	**Alice Springs** 0.9nm,0.6s,baz=130,slow=8.0,SNR=7.6	**34.24**	**300**	P	**P**	**11 09 54.8**	**+0.1**
WRA	**Warramunga Arr** 2.8nm,0.8s,baz=138,slow=7.9,SNR=12	**36.85**	**304**	P	**P**	**11 10 16.8**	**-0.3**
QSPA	**South Pole Qui**	**44.03**	**180**	P	**P**	**11 11 16.5**	**+0.4**

1.2nm,0.8s,baz=346,slow=3.1,SNR=5.0
TORD Torodi Ar. Bea 144.61 207 PKP **PKPab 11 22 43.9 -0.2**
1.2nm,0.6s,baz=155,slow=1.2,SNR=6.8
BRTR Keskin Array B 145.02 277 PKPbc **PKPab 11 22 45.4 +0.1**
3.8nm,1.0s,baz=130,slow=3.7,SNR=7.1
ARCES ARCESS Array B 149.47 334 PKPbc **PKPbc 11 22 56.3 -0.3**
1.1nm,0.6s,baz=46,slow=5.2,SNR=4.3

IDC ***15*** *11:03:47.9±1.6, 46.°03S×166.°30E, h0km, mb4.1/3, mb1 4.3/5, mb1mx4.0/16, mbtmp4.2/5, ML4.2/2, Error ellipse: s-maj=56.1km s-min=23.2km az=169.0*
WEL ***15*** *11:03:52.3±0.4, 45.°77S×166.°51E, h12km, ML4.5/9, Error ellipse: s-maj=4.3km s-min=1.4km az=90.0*
ISC 15 11:03:51.2±1.6, 45.°80S±0.°06×166.°42E±0.°06, h18km±7km, n22, σ1§70/25, mb4.0/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.41**	**154**	P*	**Pb**	**11 04 00.3**	**+0.4**
PYZ				S*	**Sb**	**11 04 06.2**	**+0.3**
DCZ	**Deep Cove**	**0.61**	**58**	P*	**Pg**	**11 04 02.7**	**-0.5**
DCZ				S*	**Sg**	**11 04 10.2**	**-1.1**
DCZ				S*	**Sg**	**11 04 10.2**	**-1.1**
DCZ				S*	**Sn**	**11 04 10.3**	**-3.9**
DCZ				AML	AML	11 04 10.8	
MLZ	**Mavora Lakes**	**1.31**	**70**	P*	**Pn**	**11 04 14.4**	**-0.3**
MLZ				S*	**Sb**	**11 04 30.1**	**-1.7**
MLZ				AML	AML	11 04 32.6	
APZ	**The Paps**	**1.50**	**134**	PN	**Pb**	**11 04 18.6**	**+0.1**
APZ				SN	**Sb**	**11 04 37.2**	**0.0**
MSZ	**Milford Sound**	**1.55**	**44**	SN	**Sg**	**11 04 43.0**	**+1.8**
MSZ				AML	AML	11 04 46.8	
EAZ	**Earnscleugh**	**2.11**	**75**	*e*PN	**Pb**	**11 04 29.9**	**+1.1**
EAZ				AML	AML	11 04 58.2	
EAZ				AML	AML	11 04 58.3	
TUZ	**Tuapeka**	**2.25**	**95**	SN	**Sb**	**11 04 58.0**	**-0.7**
TUZ				AML	AML	11 04 59.8	
LBZ	**Lake Benmore**	**3.02**	**63**	AML	AML	11 05 18.1	
LBZ				AML	AML	11 05 18.9	
ODZ	**Otahua Downs**	**3.07**	**77**	PN	**Pn**	**11 04 40.9**	**+2.2**
ODZ				AML	AML	11 05 19.7	
ODZ				AML	AML	11 05 20.4	
FOZ	**Fox Glacier**	**3.23**	**47**	AML	AML	11 05 39.5	
FOZ				AML	AML	11 05 42.4	
RPZ	**Rata Peaks**	**3.90**	**59**	Pn	**Pn**	**11 04 52.8**	**+2.5**
	28nm,0.3s,baz=27,slow=2.3,SNR=3.4						
RPZ				Sn	**Sn**	**11 05 39.2**	**+3.6**
	25nm,0.3s,baz=322,slow=20,SNR=5.9						
WVZ	**Waitaha Valley**	**4.12**	**50**	AML	AML	11 05 52.1	
WVZ				AML	AML	11 05 53.2	
OXZ	**Oxford**	**4.72**	**60**	SN	**Sn**	**11 05 55.1**	**-0.5**
URZ	**Urewera**	**10.95**	**50**	Pn	**Pn**	**11 06 29.5**	**+2.7**
	0.7nm,0.3s,baz=180,slow=9.1,SNR=2.6						
ASAR	**Alice Springs**	**34.30**	**299**	P	**P**	**11 10 36.9**	**+0.4**
	1.3nm,0.7s,baz=135,slow=9.7,SNR=6.7						
WRA	**Warramunga Arr**	**36.88**	**304**	P	**P**	**11 10 58.2**	**-0.4**
	2.4nm,1.0s,baz=138,slow=8.2,SNR=6.7						
FITZ	**Fitzroy Crossi**	**43.57**	**296**	P	**P**	**11 11 53.7**	**-0.4**
	3.3nm,0.9s,baz=295,slow=18,SNR=5.3						
TORD	**Torodi Ar. Bea**	**144.97**	**207**	PKP	PKPbc	11 23 27.0	+0.3
	3.5nm,0.7s,baz=154,slow=2.8,SNR=12						
BRTR	**Keskin Array B**	**145.22**	**277**	PKPbc	**PKPbc**	**11 23 26.0**	**-1.1**
	1.2nm,1.0s,baz=134,slow=5.3,SNR=3.6						
SPITS	**Spitsbergen Ar**	**145.51**	**350**	PKPbc	**PKPdf**	**11 23 26.0**	**-0.6**
	2.7nm,0.6s,baz=93,slow=9.3,SNR=5.0						
ARCES	**ARCESS Array B**	**149.30**	**334**	PKPbc	**PKPbc**	**11 23 37.0**	**-0.4**
	4.4nm,1.0s,baz=1.4,slow=3.7,SNR=2.5						
FINES	**FINESS Array B**	**152.31**	**319**	PKPbc	**PKPbc**	**11 23 43.7**	**-1.0**
	0.6nm,0.5s,baz=48,slow=2.8,SNR=4.1						

ISCJB ***15*** *11:05:07.9±0.8, 46.°03S±0.°07×165.°94E±0.°07, h12km, mb3.8/3, Error ellipse: s-maj=10.0km s-min=6.8km az=166.6*
IDC ***15*** *11:05:07.1±1.0, 46.°11S×166.°03E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/15, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=34.3km s-min=27.3km az=47.0*
WEL ***15*** *11:05:10.5±1.1, 46.°02S×166.°08E, h20km, ML4.3/10, Error ellipse: s-maj=10.8km s-min=5.2km az=90.0*
ISC 15 11:05:09.0±0.9, 46.°02S±0.°07×166.°04E±0.°06, h12km, n22, σ1§00/22, mb3.7/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.47**	**109**	P*	**Pb**	**11 05 19.3**	**+0.1**
PYZ				S*	**Sb**	**11 05 25.8**	**-0.3**
PYZ				S*	**Sg**	**11 05 26.1**	**+1.6**
DCZ	**Deep Cove**	**0.95**	**56**	*e*P*	**Pg**	**11 05 26.8**	**-0.5**
DCZ				S*	**Sg**	**11 05 38.7**	**-1.0**
DCZ				AML	AML	11 05 42.8	
DCZ				AML	AML	11 05 43.0	
DCZ				AML	AML	11 05 43.0	
APZ	**The Paps**	**1.58**	**122**	PN	**Pn**	**11 05 35.4**	**-1.4**
MLZ	**Mavora Lakes**	**1.64**	**67**	*e*PN	**Pn**	**11 05 37.6**	**-0.1**
MLZ				SN	**Sg**	**11 06 00.5**	**-1.3**
MLZ				AML	AML	11 06 03.7	
MSZ	**Milford Sound**	**1.90**	**45**	*e*PN	**Pg**	**11 05 46.4**	**+1.1**
MSZ				AML	AML	11 06 16.5	
MSZ				AML	AML	11 06 18.0	
SYZ	**Scrubby Hill**	**2.21**	**105**	*e*PN	**Pn**	**11 05 45.8**	**+0.4**
EAZ	**Earnscleugh**	**2.43**	**72**	*e*PN	**Pb**	**11 05 50.7**	**-1.8**
EAZ				AML	AML	11 06 28.0	
EAZ				AML	AML	11 06 28.5	
TUZ	**Tuapeka**	**2.51**	**90**	*e*PN	**Pn**	**11 05 50.8**	**+1.3**
TUZ				AML	AML	11 06 23.9	
TUZ				AML	AML	11 06 27.7	
LBZ	**Lake Benmore**	**3.35**	**62**	SN	**Sn**	**11 06 42.9**	**+1.9**
LBZ				AML	AML	11 06 49.1	
ODZ	**Otahua Downs**	**3.38**	**75**	PN	**Pn**	**11 06 01.8**	**+0.3**
ODZ				AML	AML	11 06 58.0	
ODZ				AML	AML	11 07 06.0	
FOZ	**Fox Glacier**	**3.58**	**48**	AML	AML	11 07 11.3	
RPZ	**Rata Peaks**	**4.25**	**59**	Pn	**Pn**	**11 06 14.2**	**+0.8**
	6.6nm,0.3s,baz=9.4,slow=15,SNR=3.3						
WVZ	**Waitaha Valley**	**4.46**	**50**	AML	AML	11 07 31.3	
QRZ	**Quartz Range**	**7.02**	**45**	AML	AML	11 08 22.3	
QRZ				AML	AML	11 08 23.6	
ASAR	**Alice Springs**	**34.17**	**300**	P	**P**	**11 11 54.7**	**+0.6**
	1.1nm,1.1s,baz=133,slow=8.7,SNR=3.4						
WRA	**Warramunga Arr**	**36.78**	**304**	P	**P**	**11 12 17.1**	**+0.6**
	0.5nm,0.8s,baz=139,slow=7.7,SNR=3.5						
QSPA	**South Pole Qui**	**44.11**	**180**	P	**P**	**11 13 16.3**	**-0.5**
	5.1nm,1.1s,baz=14,slow=4.1,SNR=8.6						
TORD	**Torodi Ar. Bea**	**144.66**	**207**	PKP	**PKPab**	**11 24 44.3**	**-0.1**
	1.1nm,0.5s,baz=154,slow=2.0,SNR=6.9						
BRTR	**Keskin Array B**	**144.98**	**277**	PKP	PKPbc	11 24 44.1	-1.0
	1.8nm,0.7s,baz=126,slow=6.3,SNR=4.9						
SPITS	**Spitsbergen Ar**	**145.67**	**349**	PKPbc	**PKPdf**	**11 24 45.6**	**0.0**
	5.5nm,0.8s,baz=164,slow=9.5,SNR=5.0						
SCHQ	**Schefferville**	**145.93**	**55**	PKPbc	**PKPbc**	**11 24 47.2**	**-0.3**
	3.5nm,0.7s,baz=143,slow=0.2,SNR=4.3						
ARCES	**ARCESS Array B**	**149.38**	**334**	PKPbc	**PKPbc**	**11 24 56.0**	**-0.4**
	3.2nm,0.8s,baz=119,slow=1.5,SNR=5.0						

WEL 15 11:05:57.6±1.1, 46.°14S×166.°23E, h33km, ML4.0/6, Error ellipse: s-maj=12.4km s-min=5.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.32**	**96**	P*	Pb	11 06 05.0	-0.6
PYZ				S*	Sn	11 06 11.3	+0.2
PYZ				S*	Sb	11 06 11.4	+0.4
DCZ	**Deep Cove**	**0.92**	**45**	PN	Pn	11 06 13.8	-0.5
DCZ				AML	AML	11 06 21.5	
DCZ				SN	Sn	11 06 25.5	-0.9
DCZ				SN	Sb	11 06 25.7	-1.4
DCZ				SN		11 06 26.0	
APZ	**The Paps**	**1.40**	**120**	*e*PN	Pn	11 06 21.3	+0.3
MLZ	**Mavora Lakes**	**1.57**	**61**	*e*PN	Pn	11 06 24.4	+1.1
MLZ				AML	AML	11 06 49.5	
MLZ				AML	AML	11 06 49.8	
MSZ	**Milford Sound**	**1.89**	**40**	*e*PN	Pb	11 06 33.1	+1.6
MSZ				AML	AML	11 07 02.7	
MSZ				AML	AML	11 07 03.1	
SYZ	**Scrubby Hill**	**2.06**	**102**	*e*PN	Pb	11 06 34.0	-0.3
EAZ	**Earnscleugh**	**2.34**	**68**	*e*PN	Pb	11 06 39.1	-0.1
EAZ				AML	AML	11 07 09.1	
EAZ				AML	AML	11 07 12.9	
TUZ	**Tuapeka**	**2.38**	**87**	*e*PN	Pb	11 06 42.5	+2.7
TUZ				SN	Sb	11 07 09.5	+0.8
TUZ				AML	AML	11 07 10.6	
ODZ	**Otahua Downs**	**3.29**	**72**	*e*PN	Pn	11 06 45.6	-1.2
LBZ	**Lake Benmore**	**3.30**	**59**	AML	AML	11 07 30.6	
LBZ				AML	AML	11 07 31.0	

WEL 15 11:07:28.0±0.8, 46.°03S×166.°07E, h12km, ML4.1/6, Error ellipse: s-maj=8.2km s-min=3.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.45**	**108**	P*	Pg	11 07 36.5	-0.3
PYZ				S*	Sg	11 07 43.3	+0.6
DCZ	**Deep Cove**	**0.94**	**54**	P*	Pg	11 07 45.1	-1.0
DCZ				S*	Sg	11 07 57.5	-0.8
DCZ				S*	Sb	11 07 57.9	-0.7
DCZ				AML	AML	11 08 00.6	
DCZ				AML	AML	11 08 00.6	
APZ	**The Paps**	**1.55**	**122**	*e*PN	Pn	11 07 53.7	-1.8
MLZ	**Mavora Lakes**	**1.62**	**66**	*e*PN	Pn	11 07 55.5	-1.0
MLZ				SN	Sn	11 08 17.6	+0.2
MLZ				AML	AML	11 08 24.1	
MSZ	**Milford Sound**	**1.89**	**45**	*e*PN	Pn	11 07 58.2	-1.1
MSZ				AML	AML	11 08 33.1	
MSZ				AML	AML	11 08 34.7	
SYZ	**Scrubby Hill**	**2.19**	**104**	*e*PN	Pn	11 08 03.8	-0.3
EAZ	**Earnscleugh**	**2.41**	**72**	*e*PN	Pn	11 08 07.6	+0.4
EAZ				AML	AML	11 08 42.6	
EAZ				AML	AML	11 08 43.8	
TUZ	**Tuapeka**	**2.48**	**90**	*e*PN	Pn	11 08 08.5	+0.3
TUZ				AML	AML	11 08 40.5	
TUZ				AML	AML	11 08 42.7	
LBZ	**Lake Benmore**	**3.34**	**62**	AML	AML	11 09 03.4	
LBZ				AML	AML	11 09 03.6	
ODZ	**Otahua Downs**	**3.36**	**75**	*e*PN	Pn	11 08 19.1	-1.2

IDC 15 11:08:15.9±1.0, 45.°19S×166.°73E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.8/16, mbtmp3.8/5, ML4.4/1, Error ellipse: s-maj=30.1km s-min=23.6km az=20.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**3.43**	**66**	Pn	Pn	11 09 10.1	-0.5
	32nm,0.3s,baz=233,slow=5.4,SNR=6.3						
RPZ				Sn	Sn	11 09 54.9	+2.9
	29nm,0.3s,baz=156,slow=20,SNR=3.4						
ASAR	**Alice Springs**	**34.20**	**298**	P		11 15 02.2	-1.0
	0.3nm,0.6s,baz=135,slow=7.6,SNR=2.9						
WRA	**Warramunga Arr**	**36.73**	**303**	P	P	11 15 24.9	0.0
	1.6nm,1.0s,baz=136,slow=7.6,SNR=5.1						
FITZ	**Fitzroy Crossi**	**43.51**	**295**	P	P	11 16 21.8	+0.6
	2.9nm,0.9s,baz=186,slow=9.2,SNR=3.0						
QSPA	**South Pole Qui**	**44.94**	**180**	P	P	11 16 31.9	-0.4
	1.5nm,0.9s,baz=342,slow=1.6,SNR=5.6						
BRTR	**Keskin Array B**	**145.35**	**278**	PKPbc	PKPbc	11 27 55.2	-0.1
	0.5nm,0.7s,baz=77,slow=19,SNR=3.5						
TORD	**Torodi Ar. Bea**	**145.62**	**206**	PKPbc	PKPdf	11 27 56.3	-0.2
	1.7nm,0.7s,baz=153,slow=3.3,SNR=6.9						
ARCES	**ARCESS Array B**	**148.85**	**335**	PKPbc	PKPbc	11 28 03.4	-0.8
	2.6nm,0.8s,baz=57,slow=4.5,SNR=3.9						
FINES	**FINESS Array B**	**151.99**	**320**	PKPbc	PKPbc	11 28 10.9	-0.8
	1.2nm,0.7s,baz=87,slow=8.9,SNR=3.3						

WEL 15 11:09:54.5±1.1, 46.°19S×165.°93E, h28km±5km, ML3.9/6, Error ellipse: s-maj=9.4km s-min=4.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.52**	**88**	P*	Pb	11 10 04.9	-0.3
PYZ				S*	Sb	11 10 12.7	+0.2
PYZ				S*	Sn	11 10 12.7	-1.5
DCZ	**Deep Cove**	**1.12**	**51**	PN	Pn	11 10 13.8	-0.4
DCZ				SN	Sn	11 10 27.8	-0.9
DCZ				AML	AML	11 10 32.3	
DCZ				AML	AML	11 10 32.3	
DCZ				AML	AML	11 10 34.1	
APZ	**The Paps**	**1.56**	**115**	*e*PN	Pn	11 10 19.3	-1.2
MLZ	**Mavora Lakes**	**1.78**	**63**	*e*PN	Pn	11 10 22.5	-1.0
MLZ				AML	AML	11 10 53.5	
MLZ				AML	AML	11 10 55.4	
MSZ	**Milford Sound**	**2.07**	**44**	*e*PN	Pb	11 10 30.4	-1.0
MSZ				AML	AML	11 11 00.3	
MSZ				AML	AML	11 11 03.4	
SYZ	**Scrubby Hill**	**2.25**	**100**	*e*PN	Pn	11 10 30.7	+0.8
EAZ	**Earnscleugh**	**2.56**	**69**	*e*PN	Pn	11 10 36.2	+2.1
EAZ				AML	AML	11 11 20.1	
EAZ				AML	AML	11 11 22.3	
TUZ	**Tuapeka**	**2.59**	**86**	*e*PN	Pn	11 10 36.3	+1.7
TUZ				AML	AML	11 11 08.8	
TUZ				AML	AML	11 11 12.9	
ODZ	**Otahua Downs**	**3.50**	**73**	*e*PN	Pn	11 10 47.5	+0.4
ODZ				AML	AML	11 11 18.3	
ODZ				AML	AML	11 11 26.7	

WEL 15 11:11:18.4±1.1, 45.°89S×166.°47E, h12km, ML4.1/12, Error ellipse: s-maj=10.2km s-min=2.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.32**	**152**	P*	Pg	11 11 23.8	-1.1
PYZ				S*	Sb	11 11 30.2	-0.9
PYZ				S*	Sg	11 11 30.7	+1.4
DCZ	**Deep Cove**	**0.63**	**50**	P*	Pb	11 11 31.1	-0.2
DCZ				S*	Sg	11 11 39.0	0.0
DCZ				S*	Sb	11 11 39.1	-1.0
WHZ	**Wether Hill Ro**	**1.03**	**91**	*e*P*	Pb	11 11 37.4	-0.8
WHZ				S*	Sb	11 11 50.9	-0.9
WHZ				AML	AML	11 11 52.8	
MLZ	**Mavora Lakes**	**1.31**	**66**	PN	Pn	11 11 39.3	-3.3
MLZ				S*	Sb	11 11 57.4	-2.5
MLZ				AML	AML	11 11 59.3	
APZ	**The Paps**	**1.42**	**133**	*e*PN	Pn	11 11 41.0	-3.0
APZ				SN	Sn	11 12 00.4	-2.2
MSZ	**Milford Sound**	**1.59**	**41**	*e*PN	Pn	11 11 43.1	-3.3
MSZ				AML	AML	11 12 08.5	
MSZ				AML	AML	11 12 08.8	
SYZ	**Scrubby Hill**	**1.97**	**110**	*e*PN	Pn	11 11 49.9	-1.6
SYZ				SN	Sn	11 12 14.1	-2.0
WKZ	**Wanaka**	**2.09**	**60**	*e*PN	Pn	11 11 50.0	-3.2
WKZ				AML	AML	11 12 17.5	
WKZ				AML	AML	11 12 21.3	
EAZ	**Earnscleugh**	**2.10**	**73**	*e*PN	Pn	11 11 50.5	-2.9
EAZ				AML	AML	11 12 18.1	
EAZ				AML	AML	11 12 20.7	
TUZ	**Tuapeka**	**2.21**	**93**	PN	Pn	11 11 52.8	-2.0
TUZ				SN	Sn	11 12 20.4	-1.7
TUZ				AML	AML	11 12 24.6	
JCZ	**Jackson Bay**	**2.43**	**43**	*e*PN	Pn	11 11 56.3	-1.8
JCZ				SN	Sn	11 12 28.4	+0.5
JCZ				AML	AML	11 12 32.8	
LBZ	**Lake Benmore**	**3.03**	**62**	*e*PN	Pn	11 12 02.7	-3.4
LBZ				AML	AML	11 12 38.9	
LBZ				AML	AML	11 12 40.6	
ODZ	**Otahua Downs**	**3.06**	**76**	*e*PN	Pn	11 12 03.8	-2.7
ODZ				SN	Sn	11 12 39.2	-3.8
ODZ				AML	AML	11 12 41.5	
FOZ	**Fox Glacier**	**3.26**	**46**	*e*PN	Pb	11 12 15.2	-1.0
FOZ				AML	AML	11 13 00.6	
FOZ				AML	AML	11 13 02.0	
RPZ	**Rata Peaks**	**3.92**	**58**	*e*PN	Pn	11 12 14.1	-4.3
RPZ				AML	AML	11 12 60.0	
RPZ				AML	AML	11 13 00.3	

IDC ***15*** *11:12:08.9±2.0, 45.°95S×166.°29E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/14, mbtmp3.8/3, Error ellipse: s-maj=87.0km s-min=28.0km az=59.0*
ISCJB ***15*** *11:12:10.6±0.8, 46.°18S±0.°08×165.°87E±0.°07, h10km, mb3.7/3, Error ellipse: s-maj=12.1km s-min=6.8km az=170.6*
WEL ***15*** *11:12:14.2±1.0, 46.°18S×166.°06E, h12km, ML4.6/6, Error ellipse: s-maj=9.6km s-min=4.4km az=90.0*
ISC 15 11:12:12.3±1.0, 46.°20S±0.°08×165.°99E±0.°06, h10km, n15, σ1§06/19, mb3.7/3, 1C, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.48**	**86**	P*	**Pb**	**11 12 23.2**	**+0.4**
PYZ				S*	**Sg**	**11 12 28.2**	**+0.2**
PYZ				S*	**Sb**	**11 12 28.5**	**-1.5**
DCZ	**Deep Cove**	**1.09**	**49**	P*	**Pg**	**11 12 32.5**	**-0.6**
DCZ				S*	**Sg**	**11 12 46.2**	**-1.1**
DCZ				S*	**Sb**	**11 12 46.5**	**-0.8**
DCZ				AML	AML	11 12 47.1	
DCZ				AML	AML	11 12 48.3	
WHZ	**Wether Hill Ro**	**1.40**	**78**	⇑PN	**Pn**	**11 12 38.2**	**+0.4**
WHZ				SN	**Sb**	**11 12 55.9**	**-0.4**
WHZ				AML	AML	11 12 60.0	
APZ	**The Paps**	**1.52**	**115**	PN	**Pn**	**11 12 38.7**	**-0.7**
MLZ	**Mavora Lakes**	**1.75**	**62**	*e*PN	**Pn**	**11 12 43.9**	**+1.3**
MLZ				AML	AML	11 13 10.9	
MLZ				AML	AML	11 13 11.3	
MSZ	**Milford Sound**	**2.05**	**42**	AML	AML	11 13 20.0	
MSZ				AML	AML	11 13 23.3	
SYZ	**Scrubby Hill**	**2.21**	**100**	*e*PN	**Pn**	**11 12 49.0**	**+0.1**
EAZ	**Earnscleugh**	**2.52**	**69**	*e*PN	**Pn**	**11 12 54.3**	**+1.1**
EAZ				AML	AML	11 13 27.6	
EAZ				AML	AML	11 13 27.9	
TUZ	**Tuapeka**	**2.55**	**86**	*e*PN	**Pn**	**11 12 54.3**	**+0.7**
TUZ				SN	**Sn**	**11 13 26.0**	**+1.4**
TUZ				AML	AML	11 13 27.7	
ODZ	**Otahua Downs**	**3.46**	**72**	*e*PN	**Pn**	**11 13 05.7**	**-0.6**
ASAR	**Alice Springs**	**34.24**	**300**	P	**P**	**11 18 57.1**	**-1.2**
	0.9nm,0.8s,baz=133,slow=8.5,SNR=8.8						
WRA	**Warramunga Arr**	**36.86**	**305**	P	P	11 19 19.0	-1.7
	1.3nm,0.9s,baz=138,slow=8.0,SNR=4.9						
QSPA	**South Pole Qui**	**43.92**	**180**	P	**P**	**11 20 19.2**	**+0.2**
	1.6nm,1.0s,baz=76,slow=3.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**144.48**	**207**	PKP	**PKPab**	**11 31 46.9**	**-0.4**
	0.5nm,0.7s,baz=157,slow=2.6,SNR=3.3						
ARCES	**ARCESS Array B**	**149.53**	**334**	PKPbc	**PKPdf**	**11 31 58.2**	**+2.3**
	2.5nm,0.9s,baz=80,slow=5.0,SNR=2.7						

IDC ***15*** *11:12:48.3±1.2, 45.°72S×166.°77E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.9/14, mbtmp4.0/5, ML4.7/1, Error ellipse: s-maj=45.3km s-min=25.3km az=175.0*
WEL ***15*** *11:12:50.4±0.7, 45.°50S×166.°59E, h12km, ML4.6/9, Error ellipse: s-maj=5.4km s-min=3.4km az=90.0*
ISC 15 11:12:48.9±2.1, 45.°58S±0.°06×166.°63E±0.°07, h0km±13km, n24, σ1§23/29, mb3.9/4, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.38**	**75**	P*	**Pb**	**11 12 58.4**	**-0.1**
DCZ				S*	**Sb**	**11 13 03.9**	**-0.9**
DCZ				S*	**Sb**	**11 13 03.9**	**-0.9**
PYZ	**Puysegur Point**	**0.59**	**177**	P*	**Pn**	**11 13 03.5**	**-1.0**
PYZ				S*	**Sb**	**11 13 11.6**	**+0.5**
MLZ	**Mavora Lakes**	**1.11**	**79**	*e*P*	**Pg**	**11 13 09.1**	**-0.9**
MLZ				S*	**Sg**	**11 13 23.9**	**-0.5**
MLZ				S*	**Sb**	**11 13 24.3**	**-1.5**
MSZ	**Milford Sound**	**1.29**	**46**	*e*P*	**Pn**	**11 13 12.0**	**-2.0**
MSZ				S*	**Sn**	**11 13 32.2**	**+0.2**
MSZ				AML	AML	11 13 35.2	
APZ	**The Paps**	**1.57**	**144**	*e*PN	Pg	11 13 23.0	+4.0
EAZ	**Earnscleugh**	**1.92**	**81**	*e*PN	**Pg**	**11 13 25.2**	**-0.3**
EAZ				AML	AML	11 13 57.2	
EAZ				AML	AML	11 13 57.2	
SYZ	**Scrubby Hill**	**1.99**	**120**	*e*PN	Pg	11 13 33.5	+6.4
TUZ	**Tuapeka**	**2.13**	**101**	*e*PN	**Pg**	**11 13 30.5**	**+0.7**
TUZ				SN	**Sg**	**11 13 58.6**	**+1.2**
TUZ				AML	AML	11 14 00.4	
LBZ	**Lake Benmore**	**2.79**	**66**	*e*PN	**Pn**	**11 13 36.7**	**+2.1**
LBZ				AML	AML	11 14 15.6	
LBZ				AML	AML	11 14 15.7	
ODZ	**Otahua Downs**	**2.88**	**81**	*e*PN	**Pn**	**11 13 35.8**	**-0.2**
ODZ				AML	AML	11 14 13.8	
ODZ				AML	AML	11 14 17.4	
FOZ	**Fox Glacier**	**2.97**	**48**	*e*PN	**Pb**	**11 13 42.6**	**+0.1**
FOZ				AML	AML	11 14 32.2	
FOZ				AML	AML	11 14 32.8	
RPZ	**Rata Peaks**	**3.66**	**61**	Pn	**Pn**	**11 13 46.9**	**+0.2**
	60nm,0.3s,baz=247,slow=4.5,SNR=9.6						
RPZ				Sn	**Sn**	**11 14 33.0**	**+2.4**
	38nm,0.3s,baz=337,slow=23,SNR=4.5						
WVZ	**Waitaha Valley**	**3.86**	**51**	AML	AML	11 14 56.0	
WVZ				AML	AML	11 14 58.6	
OXZ	**Oxford**	**4.48**	**62**	*e*PN	**Pn**	**11 13 58.6**	**+0.7**
DSZ	**Denniston Nort**	**5.36**	**46**	*e*PN	**Pn**	**11 14 11.5**	**+1.5**
STKA	**Stephens Creek**	**23.72**	**297**	P	**P**	**11 18 03.9**	**+1.4**
	3.5nm,1.0s,baz=166,slow=14,SNR=3.3						
ASAR	**Alice Springs**	**34.32**	**298**	P	**P**	**11 19 39.0**	**+1.9**
	0.7nm,0.8s,baz=148,slow=8.8,SNR=3.5						
WRA	**Warramunga Arr**	**36.88**	**303**	P	**P**	**11 19 59.3**	**+0.2**
	1.7nm,0.8s,baz=142,slow=8.4,SNR=5.9						
CMAR	**Chiang Mai Arr**	**88.33**	**299**	P	**P**	**11 25 42.8**	**+0.4**
	0.4nm,0.3s,baz=130,slow=3.6,SNR=3.2						
TORD	**Torodi Ar. Bea**	**145.24**	**206**	PKPbc	**PKPbc**	**11 32 27.4**	**-0.8**
	2.8nm,0.5s,baz=149,slow=2.3,SNR=13						
SPITS	**Spitsbergen Ar**	**145.31**	**350**	PKPbc	**PKPbc**	**11 32 25.4**	**-1.4**
	2.1nm,0.5s,baz=84,slow=7.7,SNR=4.6						
BRTR	**Keskin Array B**	**145.

TUZ				SN	**Sn**	**11 16 07.6**	**+0.4**	
TUZ				AML	AML	11 16 13.0		
LBZ	**Lake Benmore**	**3.41**	**62**	AML	AML	11 16 29.6		
LBZ				AML	AML	11 16 30.4		
ODZ	**Otahua Downs**	**3.43**	**75**	*e*PN	**Pn**	**11 15 49.8**	**+1.5**	
ODZ				AML	AML	11 16 29.8		
ODZ				AML	AML	11 16 30.9		
FOZ	**Fox Glacier**	**3.63**	**48**	AML	AML	11 16 41.7		
FOZ				AML	AML	11 16 43.7		
RPZ	**Rata Peaks**	**4.30**	**59**	Pn	**Pn**	**11 16 01.0**	**+0.6**	
	baz=342,slow=20,SNR=1.3							
RPZ				Sn	**Sn**	**11 16 49.5**	**-0.9**	
	12nm,0.3s,baz=342,slow=19,SNR=3.3							
RPZ				LR	LR	11 17 46.7		
	comp=Z,24µm,18.4s,baz=95,slow=40							
WVZ	**Waitaha Valley**	**4.52**	**50**	AML	AML	11 16 56.1		
ASAR	**Alice Springs**	**34.16**	**300**	P	**P**	**11 21 40.9**	**+0.8**	
	0.4nm,0.8s,baz=134,slow=6.9,SNR=2.6							
WRA	**Warramunga Arr**	**36.77**	**304**	P	**P**	**11 22 02.6**	**+0.1**	
	1.5nm,1.0s,baz=139,slow=7.8,SNR=3.2							
QSPA	**South Pole Qui**	**44.07**	**180**	P	**P**	**11 23 02.8**	**+0.1**	
	4.3nm,0.8s,baz=11,slow=3.0,SNR=12							
TORD	**Torodi Ar. Bea**	**144.61**	**207**	PKP	**PKPab**	**11 34 30.1**	**-0.2**	
	2.2nm,0.7s,baz=148,slow=1.6,SNR=7.4							
BRTR	**Keskin Array B**	**144.94**	**277**	PKP	**PKPab**	**11 34 31.0**	**-0.1**	
	3.6nm,0.9s,baz=159,slow=6.3,SNR=7.7							
SCHQ	**Schefferville**	**145.99**	**55**	PKPbc	**PKPdf**	**11 34 33.1**	**+0.1**	
	3.0nm,0.7s,baz=217,slow=5.8,SNR=3.5							
ARCES	**ARCESS Array B**	**149.40**	**334**	PKPbc	**PKPbc**	**11 34 43.5**	**+0.8**	
	3.1nm,0.7s,baz=76,slow=5.1,SNR=5.9							

WEL 15 11:15:30.2±0.4, 45°.98S×166°.21E, h12km, ML4.0/5, Error ellipse: s-maj=3.5km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.37**	**120**	P*	Pg	11 15 37.6	-0.1
PYZ				S*	Sg	11 15 43.1	+0.3
PYZ				S*	Sb	11 15 43.2	-1.4
DCZ	**Deep Cove**	**0.83**	**53**	P*	Pg	11 15 45.7	-0.6
DCZ				S*	Sg	11 15 56.7	-0.4
DCZ				AML	AML	11 15 58.3	
APZ	**The Paps**	**1.49**	**125**	*e*PN	Pn	11 15 56.5	-0.4
MLZ	**Mavora Lakes**	**1.51**	**66**	SN	Sn	11 16 15.7	-1.3
MLZ				AML	AML	11 16 22.1	
MSZ	**Milford Sound**	**1.78**	**43**	AML	AML	11 16 33.9	
MSZ				AML	AML	11 16 37.8	
EAZ	**Earnscleugh**	**2.30**	**72**	*e*PN	Pn	11 16 04.8	-3.1
EAZ				AML	AML	11 16 40.8	
EAZ				AML	AML	11 16 41.6	
TUZ	**Tuapeka**	**2.38**	**91**	AML	AML	11 16 42.1	
TUZ				AML	AML	11 16 43.9	

WEL 15 11:16:30.6±0.8, 46°.15S×165°.68E, h12km, ML4.0/5, Error ellipse: s-maj=7.1km s-min=4.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.70**	**92**	P*	Pg	11 16 43.7	-0.4
PYZ				S*	Sg	11 16 52.7	-0.6
DCZ	**Deep Cove**	**1.23**	**57**	P*	Pn	11 16 52.7	-0.9
DCZ				AML	AML	11 17 08.8	
DCZ				AML	AML	11 17 09.8	
APZ	**The Paps**	**1.74**	**114**	*e*PN	Pn	11 16 59.5	-1.1
MLZ	**Mavora Lakes**	**1.92**	**66**	*e*PN	Pn	11 17 03.4	+0.3
MLZ				AML	AML	11 17 30.1	
MLZ				AML	AML	11 17 31.9	
MSZ	**Milford Sound**	**2.17**	**48**	*e*PN	Pb	11 17 08.9	-0.8
MSZ				AML	AML	11 17 34.1	
MSZ				AML	AML	11 17 34.5	
SYZ	**Scrubby Hill**	**2.43**	**100**	*e*PN	Pn	11 17 10.9	+0.9
EAZ	**Earnscleugh**	**2.71**	**71**	*e*PN	Pn	11 17 14.4	+0.6
EAZ				AML	AML	11 17 47.5	
EAZ				AML	AML	11 17 50.6	
TUZ	**Tuapeka**	**2.76**	**87**	SN	Sn	11 17 47.3	-0.5
TUZ				AML	AML	11 17 48.9	
ODZ	**Otahua Downs**	**3.66**	**74**	PN	Pn	11 17 26.7	-0.3

*IDC **15** 11:17:15.3±0.7, 45°.53S×166°.47E, h0km, mb4.2/7, mb1 4.4/9, mb1mx4.2/16, mbtmp4.3/9, ML4.3/2, Error ellipse: s-maj=22.5km s-min=19.8km az=26.0*
*NEIC **15** 11:17:16.4±0.4, 45°.54S×166°.49E, h10km, mb4.5/1, Error ellipse: s-maj=14.3km s-min=9.4km az=170.0*
*WEL **15** 11:17:17.1±0.5, 45°.55S×166°.63E, h12km, ML4.8/22, Error ellipse: s-maj=3.7km s-min=2.4km az=90.0*
*AUST **15** 11:17:18.9, 45°.46S×166°.50E, h0km*
ISC 15 11:17:16.0±1.4, 45°.53S±0°.05×166°.59E±0°.05, h6km±9km, n69,σ1°28/72, mb4.2/8, 1C, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.40**	**83**	⇑P*	**Pg**	**11 17 24.9**	**+1.2**
DCZ				S*	**Sg**	**11 17 29.9**	**+1.0**
DCZ				AML	AML	11 17 30.3	
PYZ	**Puysegur Point**	**0.64**	**174**	P*	**Pg**	**11 17 29.0**	**+0.6**
PYZ				S*	**Sg**	**11 17 36.7**	**+0.1**
WHZ	**Wether Hill Ro**	**1.02**	**111**	P*	**Pg**	**11 17 35.6**	**+0.1**
WHZ				S*	**Sg**	**11 17 48.7**	**0.0**
WHZ				AML	AML	11 17 57.4	
MLZ	**Mavora Lakes**	**1.13**	**81**	P*	**Pg**	**11 17 36.3**	**-1.3**
MLZ				S*	**Sg**	**11 17 50.0**	**-2.3**
MLZ				AML	AML	11 17 52.1	
MSZ	**Milford Sound**	**1.28**	**48**	P*	**Pn**	**11 17 38.7**	**-1.6**
MSZ				AML	AML	11 17 60.0	
MSZ				AML	AML	11 18 03.0	
APZ	**The Paps**	**1.62**	**144**	PN	**Pn**	**11 17 45.2**	**0.0**
WKZ	**Wanaka**	**1.85**	**69**	PN	**Pn**	**11 17 49.0**	**+0.7**
WKZ				AML	AML	11 18 18.1	
WKZ				AML	AML	11 18 18.6	
WKZ				AML	AML	11 18 19.4	
WKZ				AML	AML	11 18 21.6	
EAZ	**Earnscleugh**	**1.94**	**82**	*e*PN	**Pn**	**11 17 49.2**	**-0.2**
EAZ				AML	AML	11 18 14.8	
EAZ				AML	AML	11 18 18.7	
SYZ	**Scrubby Hill**	**2.04**	**120**	*e*PN	**Pb**	**11 17 52.4**	**-1.0**
JCZ	**Jackson Bay**	**2.12**	**47**	*e*PN	**Pb**	**11 17 54.2**	**-0.7**
JCZ				AML	AML	11 18 29.5	
JCZ				AML	AML	11 18 30.7	
TUZ	**Tuapeka**	**2.17**	**102**	*e*PN	**Pb**	**11 17 54.5**	**-1.1**
TUZ				AML	AML	11 18 25.0	
TUZ				AML	AML	11 18 25.4	
LBZ	**Lake Benmore**	**2.79**	**67**	*e*PN	**Pn**	**11 18 02.1**	**+0.8**
LBZ				AML	AML	11 18 39.2	
LBZ				AML	AML	11 18 39.3	
LBZ				AML	AML	11 19 04.5	
HHSZ	**Highcliff Hill**	**2.83**	**99**	PN	**Pn**	**11 18 03.4**	**+1.7**
ODZ	**Otahua Downs**	**2.90**	**82**	*e*Pn	**Pn**	**11 18 02.1**	**-0.6**
ODZ				*e*Sn	**Sn**	**11 18 37.5**	**-0.4**
ODZ	**Otahua Downs**	**2.90**	**82**	PN	**Pn**	**11 18 01.9**	**-0.8**
ODZ				AML	AML	11 18 40.0	
ODZ				AML	AML	11 18 42.4	
ODZ				AML	AML	11 18 42.4	
ODZ				AML	AML	11 18 50.9	
FOZ	**Fox Glacier**	**2.96**	**49**	*e*PN	**Pn**	**11 18 05.5**	**+2.1**
FOZ				AML	AML	11 18 56.6	
FOZ				AML	AML	11 18 56.6	
FOZ				AML	AML	11 18 57.6	
FOZ				AML	AML	11 18 57.9	
RPZ	**Rata Peaks**	**3.67**	**62**	Pn	**Pn**	**11 18 14.1**	**+0.8**
RPZ				Sn	**Sn**	**11 18 58.5**	**+1.8**
RPZ				*e*Sn	Sb	11 18 58.8	-7.1
RPZ	**Rata Peaks**	**3.67**	**62**	Pn	**Pn**	**11 18 14.1**	**+0.8**
	74nm,0.3s,baz=210,slow=6.4,SNR=24						
RPZ				Sn	**Sn**	**11 18 58.5**	**+1.8**
	82nm,0.3s,baz=240,slow=15,SNR=3.1						
RPZ	**Rata Peaks**	**3.67**	**62**	*e*PN	**Pn**	**11 18 13.1**	**-0.2**
RPZ				AML	AML	11 18 59.4	
RPZ				AML	AML	11 19 35.0	
WVZ	**Waitaha Valley**	**3.86**	**52**	*e*PN	**Pn**	**11 18 17.1**	**+1.3**
WVZ				AML	AML	11 19 18.1	
WVZ				AML	AML	11 19 20.7	
OXZ	**Oxford**	**4.48**	**62**	*e*PN	**Pn**	**11 18 23.1**	**-1.3**
MQZ	**McQueen's Vall**	**4.70**	**69**	*e*PN	**Pn**	**11 18 27.5**	**+0.2**
MQZ				AML	AML	11 19 28.8	
MQZ				AML	AML	11 20 00.6	
CRLZ	**Canterbury Las**	**4.73**	**68**	*e*PN	**Pn**	**11 18 27.2**	**-0.6**
CRLZ				AML	AML	11 19 37.3	
CRLZ				AML	AML	11 19 53.9	
LTZ	**Lake Taylor**	**4.92**	**58**	*e*PN	**Pn**	**11 18 31.1**	**+0.6**
LTZ				AML	AML	11 19 29.9	
LTZ				AML	AML	11 19 37.2	
DSZ	**Denniston Nort**	**5.35**	**47**	*e*PN	**Pn**	**11 18 36.5**	**+0.1**
KHZ	**Kahutara**	**5.90**	**61**	*e*PN	**Pn**	**11 18 44.2**	**+0.4**
THZ	**Tophouse**	**5.93**	**53**	*e*PN	**Pn**	**11 18 44.5**	**+0.2**
THZ				AML	AML	11 20 01.0	
THZ				AML	AML	11 20 04.2	
NNZ	**Nelson**	**6.56**	**51**	*e*PN	**Pn**	**11 18 55.2**	**+2.3**
NNZ				AML	AML	11 20 13.3	
NNZ				AML	AML	11 20 52.4	
TUWZ	**Tuamarina**	**6.74**	**55**	PN	Pn	11 18 58.8	+3.4
TUWZ				AML	AML	11 20 21.3	
TUWZ				AML	AML	11 20 55.8	
TCW	**Tory Channel**	**7.07**	**55**	*e*PN	**Pn**	**11 19 02.9**	**+3.0**
TCW				AML	AML	11 20 25.3	
TCW				AML	AML	11 20 26.4	
DUWZ	**D'Urville Isla**	**7.14**	**51**	*e*PN	**Pn**	**11 19 04.1**	**+3.1**
CAW	**Cannon Point**	**7.60**	**57**	AML	AML	11 20 33.5	
CAW				AML	AML	11 20 45.2	
WAZ	**Wanganui**	**8.46**	**50**	*e*PN	Pn	11 19 23.3	+4.3
WAZ				AML	AML	11 21 05.8	
WAZ				AML	AML	11 21 38.7	
HIZ	**Hauiti**	**9.32**	**44**	*e*PN	**Pn**	**11 19 33.1**	**+2.2**
MKAZ	**Moumakai**	**10.59**	**40**	*e*PN	**Pn**	**11 19 50.2**	**+2.0**
URZ	**Urewera**	**10.68**	**51**	Pn	**Pn**	**11 19 51.8**	**+2.3**
URZ	**Urewera**	**10.68**	**51**	Pn	**Pn**	**11 19 51.8**	**+2.3**
	0.8nm,0.3s,baz=359,slow=15,SNR=4.4						
WCZ	**Waipu Caves**	**11.23**	**34**	*e*PN	**Pn**	**11 19 57.1**	**+0.1**
MILA	**Mila**	**15.58**	**297**	P	**Pn**	**11 20 55.1**	**-1.1**
	baz=16,SNR=8.0						
TOO	**Toolangi**	**17.65**	**289**	P	**P**	**11 21 23.8**	**+0.3**
	baz=18,SNR=6.8						
CMSA	**Cobar Meteorol**	**21.42**	**303**	P	P	11 22 10.0	+5.4
	baz=21,SNR=6.8						
STKA	**Stephens Creek**	**23.68**	**296**	P	**P**	**11 22 29.4**	**+1.1**
STKA	**Stephens Creek**	**23.68**	**296**	P	**P**	**11 22 29.4**	**+1.1**
	3.9nm,0.7s,baz=128,slow=7.0,SNR=10						
STKA	**Stephens Creek**	**23.68**	**296**	P	**P**	**11 22 30.2**	**+1.9**
	baz=24,SNR=7.5						
RMQ	**Roma**	**23.76**	**317**	P	**P**	**11 22 31.4**	**+2.2**
	baz=24,SNR=5.8						
ASAR	**Alice Springs**	**34.28**	**298**	P	**P**	**11 24 01.8**	**-1.2**
ASAR	**Alice Springs**	**34.28**	**298**	P	**P**	**11 24 01.8**	**-1.2**
	3.8nm,1.1s,baz=147,slow=8.7,SNR=12						
WRA	**Warramunga Arr**	**36.83**	**303**	P	**P**	**11 24 23.7**	**-1.2**
WRA	**Warramunga Arr**	**36.83**	**303**	P	**P**	**11 24 23.7**	**-1.2**
	5.5nm,1.1s,baz=139,slow=8.8,SNR=8.6						
WRAB	**Tennant Creek**	**36.83**	**303**	*e*P	**P**	**11 24 22.6**	**-2.3**
	9.1nm,1.1s						
QSPA	**South Pole Qui**	**44.59**	**180**	P	**P**	**11 25 29.1**	**+0.4**
QSPA	**South Pole Qui**	**44.59**	**180**	P	**P**	**11 25 29.1**	**+0.4**
	2.3nm,0.8s,baz=27,slow=2.4,SNR=9.7						
MAW	**Mawson**	**53.62**	**208**	P	**P**	**11 26 37.0**	**-0.5**
MAW	**Mawson**	**53.62**	**208**	P	**P**	**11 26 37.0**	**-0.5**
	0.8nm,0.6s,baz=102,slow=8.1,SNR=3.6						
PLCA	**Paso Flores**	**80.06**	**140**	P	**P**	**11 29 27.3**	**+0.8**
PLCA	**Paso Flores**	**80.06**	**140**	P	**P**	**11 29 27.3**	**+0.8**
	1.5nm,0.5s,baz=182,slow=2.7,SNR=3.1						
CMAR	**Chiang Mai Arr**	**88.29**	**299**	P	**P**	**11 30 08.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**88.29**	**299**	P	**P**	**11 30 08.2**	**-0.1**
	1.5nm,0.8s,baz=159,slow=3.4,SNR=7.2						
SPITS	**Spitsbergen Ar**	**145.26**	**350**	PKPbc	**PKPdf**	**11 36 53.3**	**+0.3**
SPITS	**Spitsbergen Ar**	**145.26**	**350**	PKPbc	**PKPdf**	**11 36 53.3**	**+0.3**
	6.1nm,0.9s,baz=75,slow=1.0,SNR=3.0						
TOA0	**Torodi Ar. Sit**	**145.27**	**206**	*e*PKPbc	**PKPbc**	**11 36 53.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**145.27**	**206**	PKPbc	**PKPbc**	**11 36 54.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**145.27**	**206**	PKPbc	**PKPbc**	**11 36 54.1**	**-0.4**
	6.3nm,0.6s,baz=151,slow=2.5,SNR=48						
BRTR	**Keskin Array B**	**145.30**	**277**	PKPbc	**PKPbc**	**11 36 54.2**	**0.0**
BRTR	**Keskin Array B**	**145.30**	**277**	PKPbc	**PKPbc**	**11 36 54.2**	**0.0**
	1.7nm,0.8s,baz=147,slow=2.5,SNR=5.2						
ARCES	**ARCESS Array B**	**149.11**	**335**	PKPbc	**PKPbc**	**11 37 02.2**	**-1.6**
ARCES	**ARCESS Array B**	**149.11**	**335**	PKPbc	**PKPbc**	**11 37 02.2**	**-1.6**
	5.9nm,1.0s,baz=92,slow=3.6,SNR=5.2						
FINES	**FINESS Array B**	**152.19**	**319**	PKPbc	**PKPbc**	**11 37 11.2**	**-0.1**
FINES	**FINESS Array B**	**152.19**	**319**	PKPbc	**PKPbc**	**11 37 11.2**	**-0.1**
	1.4nm,0.5s,baz=90,slow=4.4,SNR=10						

WEL 15 11:17:52.6±0.6, 45°.58S×166°.70E, h5km, ML4.8/22, Error ellipse: s-maj=5.1km s-min=2.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.34**	**73**	PG	Pg	11 17 59.7	+0.6
DCZ				SG	Sg	11 18 03.8	+0.2
DCZ				AML	AML	11 18 05.1	
PYZ	**Puysegur Point**	**0.59**	**181**	P*	Pg	11 18 04.5	+0.4
PYZ				SG	Sg	11 18 12.0	+0.2
WHZ	**Wether Hill Ro**	**0.93**	**110**	P*	Pb	11 18 11.9	-0.4
WHZ				S*	Sb	11 18 23.4	-0.6
WHZ				AML	AML	11 18 28.4	
MLZ	**Mavora Lakes**	**1.06**	**78**	P*	Pg	11 18 11.3	-1.9
MLZ				S*	Sg	11 18 24.6	-2.4
MLZ				AML	AML	11 18 27.4	
MSZ	**Milford Sound**	**1.25**	**44**	*e*P*	Pn	11 18 19.8	+3.0
MSZ				S*	Sg	11 18 33.1	+0.1
MSZ				AML	AML	11 18 34.4	
APZ	**The Paps**	**1.55**	**145**	SN	Sg	11 18 43.5	+1.0
WKZ	**Wanaka**	**1.80**	**66**	SN	Sn	11 18 48.0	+0.2
WKZ				AML	AML	11 18 52.4	
WKZ				AML	AML	11 18 53.1	
WKZ				AML	AML	11 18 53.5	
EAZ	**Earnscleugh**	**1.87**	**80**	*e*PN	Pg	11 18 29.2	+0.6
EAZ				AML	AML	11 18 53.9	
EAZ				AML	AML	11 18 54.5	
TUZ	**Tuapeka**	**2.09**	**102**	AML	AML	11 19 00.7	
TUZ				AML	AML	11 19 01.3	
JCZ	**Jackson Bay**	**2.10**	**45**	AML	AML	11 19 01.9	
JCZ				AML	AML	11 19 03.3	
LBZ	**Lake Benmore**	**2.75**	**66**	AML	AML	11 19 12.2	
LBZ				AML	AML	11 19 14.0	
LBZ				AML	AML	11 19 14.5	
LBZ				AML	AML	11 19 18.5	
ODZ	**Otahua Downs**	**2.84**	**81**	*e*PN	Pn	11 18 38.6	0.0
ODZ				AML	AML	11 19 16.0	
ODZ				AML	AML	11 19 16.9	
FOZ	**Fox Glacier**	**2.94**	**48**	AML	AML	11 19 29.0	
FOZ				AML	AML	11 19 32.2	
RPZ	**Rata Peaks**	**3.62**	**61**	AML	AML	11 19 34.3	
RPZ				AML	AML	11 19 34.5	
WVZ	**Waitaha Valley**	**3.83**	**51**	AML	AML	11 19 55.4	
WVZ				AML	AML	11 19 56.3	
MQZ	**McQueen's Vall**	**4.64**	**68**	AML	AML	11 19 57.0	
MQZ				AML	AML	11 19 57.2	
CRLZ	**Canterbury Las**	**4.68**	**67**	AML	AML	11 19 59.4	
CRLZ				AML	AML	11 20 05.3	
LTZ	**Lake Taylor**	**4.88**	**57**	AML	AML	11 20 06.8	
LTZ				AML	AML	11 20 08.4	
KHZ	**Kahutara**	**5.86**	**60**	AML	AML	11 20 28.4	
KHZ				AML	AML	11 20 29.1	
THZ	**Tophouse**	**5.90**	**52**	AML	AML	11 20 33.3	
THZ				AML	AML	11 20 38.3	
NNZ	**Nelson**	**6.53**	**51**	AML	AML	11 20 49.1	
NNZ				AML	AML	11 20 51.2	
TCW	**Tory Channel**	**7.03**	**54**	AML	AML	11 21 00.3	
TCW				AML	AML	11 21 04.5	
HIZ	**Hauiti**	**9.30**	**44**	AML	AML	11 21 54.6	
HIZ				AML	AML	11 21 55.4	
WCZ	**Waipu Caves**	**11.23**	**34**	*e*PN	Pn	11 20 32.5	-1.3
WCZ				AML	AML	11 20 35.0	

WEL 15 11:18:56.5±0.7, 45°.92S×166°.16E, h12km, ML4.1/7, Error ellipse: s-maj=7.0km s-min=1.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.44**	**124**	P*	Pg	11 19 05.4	+0.1
PYZ				S*	Sg	11 19 10.9	-0.3
PYZ				S*	Sb	11 19 11.4	-1.5
DCZ	**Deep Cove**	**0.83**	**58**	P*	Pg	11 19 11.6	-0.9
DCZ				S*	Sb	11 19 24.0	+0.1
DCZ				AML	AML	11 19 25.8	
WHZ	**Wether Hill Ro**	**1.25**	**89**	*e*P*	Pn	11 19 19.7	-0.2
WHZ				AML	AML	11 19 35.4	
WHZ				AML	AML	11 19 40.0	
MLZ	**Mavora Lakes**	**1.53**	**69**	*e*PN	Pn	11 19 23.3	-0.4
MLZ				AML	AML	11 19 46.9	
MLZ				AML	AML	11 19 48.9	
APZ	**The Paps**	**1.56**	**126**	*e*PN	Pn	11 19 23.7	-0.5
APZ				SN	Sn	11 19 43.0	-1.4
MSZ	**Milford Sound**	**1.77**	**46**	AML	AML	11 20 02.5	
MSZ				AML	AML	11 20 04.1	
EAZ	**Earnscleugh**	**2.32**	**74**	AML	AML	11 20 08.7	
EAZ				AML	AML	11 20 10.0	
TUZ	**Tuapeka**	**2.43**	**92**	SN	Sn	11 20 05.9	+0.3
TUZ				AML	AML	11 20 11.2	
JCZ	**Jackson Bay**	**2.61**	**46**	AML	AML	11 20 26.5	
JCZ				AML	AML	11 20 27.0	

WEL 15 11:19:37.9±1.2, 45°.78S×166°.07E, h12km, ML3.9/7, Error ellipse: s-maj=9.3km s-min=3.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.58**	**132**	P*	Pb	11 19 49.8	-0.2
PYZ				S*	Sg	11 19 56.0	-0.9
PYZ				S*	Sb	11 19 56.1	-2.1
DCZ	**Deep Cove**	**0.82**	**69**	P*	Pg	11 19 52.8	-1.0
DCZ				S*	Sb	11 20 05.0	0.0
DCZ				S*	Sg	11 20 05.2	+0.8
WHZ	**Wether Hill Ro**	**1.32**	**96**	*e*PN	Pn	11 20 00.2	-2.0
WHZ				SN	Sb	11 20 18.0	-1.5
WHZ				SN	Sn	11 20 18.2	-1.5
MLZ	**Mavora Lakes**	**1.54**	**75**	*e*PN	Pn	11 20 04.8	-0.4
MLZ				SN	Sn	11 20 24.7	-0.5
MLZ				AML	AML	11 20 33.1	
APZ	**The Paps**	**1.70**	**129**	SN	Sn	11 20 27.4	-1.7
MSZ	**Milford Sound**	**1.72**	**51**	SN	Sg	11 20 36.0	+2.9
MSZ				AML	AML	11 20 44.7	
SYZ	**Scrubby Hill**	**2.27**	**111**	SN	Sn	11 20 40.1	-2.9
WKZ	**Wanaka**	**2.29**	**67**	SN	Sb	11 20 46.4	-1.1
WKZ				AML	AML	11 20 54.4	
EAZ	**Earnscleugh**	**2.34**	**78**	AML	AML	11 20 50.8	
EAZ				AML	AML	11 20 51.3	
TUZ	**Tuapeka**	**2.50**	**95**	SN	Sn	11 20 49.0	+0.3
TUZ				AML	AML	11 20 52.7	

*WEL **15** 11:21:50.3±0.7, 45°.59S×166°.52E, h12km, ML4.1/16, Error ellipse: s-maj=5.3km s-min=3.1km az=90.0*
*ISCJB **15** 11:21:52.2±2.1, 45°.47S±0°.05×166°.7E±0°.1, h9km±16km, Error ellipse: s-maj=15.6km s-min=7.9km az=7.0*
*NEIC **15** 11:21:55.6, 45°.48S×166°.83E, h14km, ML4.8(WEL), After WEL.*
ISC 15 11:21:50.3±1.8, 45°.59S±0°.04×166°.57E±0°.08, h11km±11km, n28,σ1°00/31, 1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.43**	**75**	P*	**Pb**	**11 22 00.3**	**+0.4**
DCZ				S*	**Sg**	**11 22 04.6**	**+0.2**
DCZ	**Deep Cove**	**0.43**	**75**	⇓P*	**Pb**	**11 22 00.3**	**+0.4**
DCZ				S*	**Sg**	**11 22 04.6**	**+0.2**
DCZ				S*	**Sb**	**11 22 04.8**	**-1.5**
DCZ				AML	AML	11 22 05.4	
PYZ	**Puysegur Point**	**0.58**	**172**	P*	Pn	11 22 09.8	+5.2
PYZ				S*	**Sn**	**11 22 15.5**	**+1.4**
PYZ	**Puysegur Point**	**0.58**	**172**	P*	**Pg**	**11 22 01.1**	**-0.6**
PYZ				S*	**Sg**	**11 22 09.7**	**+0.3**
WHZ	**Wether Hill Ro**	**1.01**	**108**	P*	**Pb**	**11 22 09.8**	**0.0**
WHZ				S*	**Sg**	**11 22 24.3**	**+1.3**
WHZ				AML	AML	11 22 25.6	
MLZ	**Mavora Lakes**	**1.16**	**78**	P*	**Pn**	**11 22 11.8**	**-0.8**
MLZ	**Mavora Lakes**	**1.16**	**78**	P*	**Pn**	**11 22 11.7**	**-0.8**
MLZ				AML	AML	11 22 25.2	
MLZ				AML	AML	11 22 27.3	
MSZ	**Milford Sound**	**1.33**	**47**	P*	**Pg**	**11 22 16.4**	**+0.5**
MSZ	**Milford Sound**	**1.33**	**47**	*e*PN	**Pn**	**11 22 14.5**	**-0.4**
MSZ				SN	**Sb**	**11 22 31.4**	**-0.9**
MSZ				AML	AML	11 22 33.3	
MSZ				AML	AML	11 22 33.4	
MSZ				AML	AML	11 22 33.5	
APZ	**The Paps**	**1.59**	**142**	*e*PN	**Pn**	**11 22 17.6**	**-0.8**
APZ				SN	**Sg**	**11 22 43.0**	**+1.7**
APZ				SN	**Sg**	**11 22 43.1**	**+1.7**
WKZ	**Wanaka**	**1.89**	**67**	*e*PN	**Pb**	**11 22 24.5**	**-0.4**
WKZ				AML	AML	11 22 52.0	
WKZ				AML	AML	11 22 52.0	
WKZ				AML	AML	11 22 53.7	
WKZ				AML	AML	11 22 53.7	
EAZ	**Earnscleugh**	**1.96**	**80**	Pn	**Pb**	**11 22 25.3**	**-0.8**
EAZ	**Earnscleugh**	**1.96**	**80**	PN	**Pb**	**11 22 25.0**	**-1.0**
EAZ				AML	AML	11 22 53.5	
EAZ				AML	AML	11 22 53.9	
EAZ				AML	AML	11 22 53.9	
EAZ				AML	AML	11 22 55.0	
SYZ	**Scrubby Hill**	**2.02**	**119**	Pn	**Pg**	**11 22 28.6**	**-0.5**
SYZ	**Scrubby Hill**	**2.02**	**119**	*e*PN	**Pg**	**11 22 28.8**	**-0.3**
JCZ	**Jackson Bay**	**2.17**	**47**	*e*PN	**Pg**	**11 22 31.0**	**-0.5**
JCZ				AML	AML	11 22 59.5	
JCZ				AML	AML	11 23 01.5	
TUZ	**Tuapeka**	**2.17**	**101**	*e*PN	**Pb**	**11 22 29.1**	**-0.6**
TUZ				AML	AML	11 22 58.0	
TUZ				AML	AML	11 22 59.5	
LBZ

Error ellipse: s-maj=3.9km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.40**	**165**	P*	Pg	11 22 49.8	-0.1
PYZ				S*	Sg	11 22 55.1	-0.2
DCZ	**Deep Cove**	**0.53**	**56**	P*	Pg	11 22 52.2	0.0
DCZ				S*	Sg	11 22 58.7	-0.5
DCZ				AML	AML	11 22 59.3	
DCZ				AML	AML	11 22 59.4	
DCZ				AML	AML	11 22 59.6	
WHZ	**Wether Hill Ro**	**1.00**	**97**	P*	Pb	11 23 00.3	-0.8
WHZ				S*	Sg	11 23 13.5	-0.6
WHZ				AML	AML	11 23 16.8	
MLZ	**Mavora Lakes**	**1.23**	**70**	*e*P*	Pn	11 23 03.0	-1.9
MLZ				AML	AML	11 23 19.6	
APZ	**The Paps**	**1.46**	**137**	*e*PN	Pn	11 23 07.1	-1.0
SYZ	**Scrubby Hill**	**1.97**	**114**	*e*PN	Pn	11 23 15.4	+0.5
SYZ				SN	Sn	11 23 40.3	+0.8
WKZ	**Wanaka**	**2.00**	**62**	AML	AML	11 23 33.7	
WKZ				AML	AML	11 23 33.7	
WKZ				AML	AML	11 23 34.8	
WKZ				AML	AML	11 23 34.9	
EAZ	**Earnscleugh**	**2.03**	**75**	PN	Pb	11 23 17.9	-0.7
EAZ				SN	Sb	11 23 42.7	-1.1
EAZ				AML	AML	11 23 57.8	
EAZ				AML	AML	11 23 57.9	
EAZ				AML	AML	11 24 01.9	
TUZ	**Tuapeka**	**2.17**	**96**	PN	Pb	11 23 19.5	-1.6
TUZ				SN	Sn	11 23 46.1	+1.5
TUZ				AML	AML	11 23 51.0	
LBZ	**Lake Benmore**	**2.94**	**63**	AML	AML	11 23 53.3	
LBZ				AML	AML	11 23 57.7	
ODZ	**Otahua Downs**	**2.99**	**77**	PN	Pn	11 23 29.8	+0.7
ODZ				AML	AML	11 24 07.7	
ODZ				AML	AML	11 24 10.1	
ODZ				AML	AML	11 24 13.2	
ODZ				AML	AML	11 24 19.0	
FOZ	**Fox Glacier**	**3.16**	**47**	AML	AML	11 24 12.8	
FOZ				AML	AML	11 24 13.3	
RPZ	**Rata Peaks**	**3.83**	**59**	AML	AML	11 24 14.0	
RPZ				AML	AML	11 24 17.5	
WVZ	**Waitaha Valley**	**4.05**	**50**	AML	AML	11 24 37.7	
LTZ	**Lake Taylor**	**5.09**	**56**	AML	AML	11 24 47.6	
LTZ				AML	AML	11 24 47.8	
THZ	**Tophouse**	**6.12**	**51**	AML	AML	11 25 14.5	
THZ				AML	AML	11 25 14.5	

WEL 15 11:23:01.9±0.3, 45°.49S×166°.68E, h12km, ML4.0/7, Error ellipse: s-maj=2.2km s-min=1.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.33**	**88**	P*	Pg	11 23 08.6	+0.1
DCZ				S*	Sg	11 23 13.5	+0.5
DCZ				S*	Sb	11 23 13.5	-1.4
DCZ				AML	AML	11 23 13.8	
DCZ				AML	AML	11 23 13.8	
PYZ	**Puysegur Point**	**0.68**	**180**	*e*P*	Pg	11 23 15.2	+0.1
PYZ				S*	Sg	11 23 23.2	-0.8
WHZ	**Wether Hill Ro**	**0.97**	**115**	S*	Sg	11 23 33.0	-0.4
WHZ				AML	AML	11 23 36.9	
MLZ	**Mavora Lakes**	**1.06**	**83**	P*	Pb	11 23 20.4	-1.8
MLZ				S*	Sb	11 23 33.7	-2.4
MLZ				S*	Sb	11 23 33.7	-2.4
MSZ	**Milford Sound**	**1.20**	**48**	*e*P*	Pn	11 23 23.7	-0.8
MSZ				S*	Sb	11 23 39.4	-0.6
MSZ				AML	AML	11 23 45.3	
WKZ	**Wanaka**	**1.78**	**69**	AML	AML	11 24 01.0	
WKZ				AML	AML	11 24 02.1	
EAZ	**Earnscleugh**	**1.87**	**83**	SN	Sn	11 23 56.4	-0.8
TUZ	**Tuapeka**	**2.12**	**104**	AML	AML	11 24 08.3	
TUZ				AML	AML	11 24 09.0	

WEL 15 11:23:17.6±0.3, 45°.52S×166°.68E, h12km, ML3.9/5, Error ellipse: s-maj=2.5km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.34**	**83**	P*	Pg	11 23 24.5	+0.1
DCZ				S*	Sg	11 23 29.3	+0.4
DCZ				S*	Sb	11 23 29.5	-1.3
DCZ				S*		11 23 29.5	
DCZ				AML	AML	11 23 29.7	
PYZ	**Puysegur Point**	**0.65**	**180**	*e*P*	Pg	11 23 30.0	-0.2
PYZ				S*	Sg	11 23 38.0	-0.8
PYZ				S*	Sb	11 23 38.5	-1.3
WHZ	**Wether Hill Ro**	**0.96**	**113**	*e*P*	Pg	11 23 34.9	-1.3
WHZ				S*	Sg	11 23 48.8	0.0
WHZ				AML	AML	11 23 49.3	
MLZ	**Mavora Lakes**	**1.07**	**81**	S*	Sb	11 23 49.6	-2.4
MLZ				AML	AML	11 23 50.1	
MSZ	**Milford Sound**	**1.23**	**47**	S*	Sb	11 23 55.7	-0.7
MSZ				S*	Sn	11 23 56.6	-0.4
MSZ				AML	AML	11 23 56.8	
MSZ				AML	AML	11 23 58.9	
APZ	**The Paps**	**1.60**	**146**	SN	Sn	11 24 06.2	-0.1
EAZ	**Earnscleugh**	**1.88**	**82**	AML	AML	11 24 14.1	
EAZ				AML	AML	11 24 17.3	

*CSEM **15** 11:25:32.7, 33°.78N×25°.24E, h5km, MD3.3, After ATH*
*ATH **15** 11:25:32.7, 33°.78N×25°.24E, h5km, MD3.3/4*
*IDC **15** 11:25:39.8±23.0, 34°.33N×25°.43E, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.5/24, mbtmp3.8/3, ML4.0/1, Error ellipse: s-maj=474.9km s-min=47.9km az=27.0*

ISC 15 11:25:38.0±2.5, 33°.9N±0°.2×25°.1E±0°.1, h20km, n13, σ1§62/15, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.14**	**347**	*e*PB	**Pn**	**11 25 57.0**	**-1.8**
SIVA				*e*SB	**Sn**	**11 26 15.5**	**+1.6**
SIVA	**Sivas**	**1.14**	**347**	*e*Pb	**Pn**	**11 25 57.0**	**-1.8**
SIVA				*e*Sb	**Sn**	**11 26 15.5**	**+1.6**
LAST	**Lasithi**	**1.29**	**13**	*e*PG	**Pn**	**11 25 58.7**	**-2.3**
LAST	**Lasithi**	**1.29**	**13**	*e*Pg	**Pn**	**11 25 58.7**	**-2.3**
IDI	**Anoyia**	**1.39**	**352**	*e*PG	**Pn**	**11 26 01.5**	**-0.9**
IDI	**Anoyia**	**1.39**	**352**	*e*Pg	**Pn**	**11 26 01.5**	**-0.9**
ZKR	**Zakros**	**1.51**	**36**	*e*PB	**Pn**	**11 26 02.6**	**-1.3**
ZKR	**Zakros**	**1.51**	**36**	*e*Pb	**Pn**	**11 26 02.6**	**-1.3**
KARN	**Karanos**	**1.79**	**327**	*e*PN	**Pb**	**11 26 09.7**	**-0.5**
KARN	**Karanos**	**1.79**	**327**	*e*Pn	**Pb**	**11 26 09.7**	**-0.5**
GERES	**GERESS Array B** 0.2nm,0.3s,baz=148,slow=13,SNR=8.8	**17.18**	**334**	Pn	**P**	**11 29 38.9**	**+0.5**
MKAR	**Makanchi Array** 0.6nm,0.6s,baz=269,slow=7.6,SNR=6.5	**44.50**	**55**	P	**P**	**11 33 48.4**	**+0.4**
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=281,slow=8.7,SNR=2.3	**45.90**	**45**	P	**P**	**11 34 00.8**	**+1.9**

WEL 15 11:26:27.3±0.6, 45°.52S×167°.01E, h23km±2km, ML3.6/9, Error ellipse: s-maj=6.8km s-min=3.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.11**	**71**	P*	Pb	11 26 30.4	-1.3
DCZ				S*	Sb	11 26 34.5	-0.2
DCZ				S*		11 26 34.6	
DCZ				AML	AML	11 26 36.0	
DCZ				AML	AML	11 26 38.2	
PYZ	**Puysegur Point**	**0.69**	**199**	S*	Sn	11 26 50.8	-1.0
MLZ	**Mavora Lakes**	**0.84**	**79**	P*	Pb	11 26 42.1	-1.1
MLZ				S*	Sn	11 26 54.9	-0.6
MLZ				AML	AML	11 26 59.9	
MSZ	**Milford Sound**	**1.07**	**38**	*e*PN	Pn	11 26 46.8	0.0
MSZ				SN	Sn	11 27 03.5	+2.6
MSZ				AML	AML	11 27 07.3	
MSZ				AML	AML	11 27 07.3	
MSZ				AML	AML	11 27 08.0	
APZ	**The Paps**	**1.49**	**153**	*e*PN	Pn	11 26 51.8	-0.9
APZ				SN	Sn	11 27 10.3	-1.1
APZ				SN	Sb	11 27 10.8	-1.9
WKZ	**Wanaka**	**1.58**	**65**	AML	AML	11 27 24.6	
WKZ				AML	AML	11 27 25.5	
EAZ	**Earnscleugh**	**1.65**	**81**	PN	Pn	11 26 55.7	+0.8
EAZ				AML	AML	11 27 25.6	
EAZ				AML	AML	11 27 25.6	
EAZ				AML	AML	11 27 26.5	
EAZ				AML	AML	11 27 27.0	
SYZ	**Scrubby Hill**	**1.81**	**125**	*e*PN	Pb	11 26 59.6	0.0
SYZ				SN	Sb	11 27 22.6	+0.8
TUZ	**Tuapeka**	**1.89**	**104**	AML	AML	11 27 29.0	
TUZ				AML	AML	11 27 32.0	
LBZ	**Lake Benmore**	**2.52**	**65**	AML	AML	11 27 45.1	
LBZ				AML	AML	11 27 45.6	
ODZ	**Otahua Downs**	**2.61**	**81**	*e*PN	Pn	11 27 08.2	+0.1
ODZ				SN	Sb	11 27 44.8	-0.3
ODZ				AML	AML	11 27 46.7	
FOZ	**Fox Glacier**	**2.73**	**45**	*e*PN	Pb	11 27 15.9	+0.4
FOZ				AML	AML	11 28 03.1	

WEL 15 11:27:11.6±1.1, 45°.64S×166°.65E, h12km±11km, ML3.7/6, Error ellipse: s-maj=9.8km s-min=4.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.39**	**65**	P*	Pb	11 27 20.5	+0.2
DCZ				S*	Sg	11 27 24.9	+0.4
DCZ				S*	Sb	11 27 25.0	-1.3
DCZ				AML	AML	11 27 25.3	
DCZ				AML	AML	11 27 25.7	
PYZ	**Puysegur Point**	**0.53**	**178**	*e*P*	Pg	11 27 21.4	-0.5
PYZ				S*	Sg	11 27 28.9	-0.1
PYZ				S*	Sb	11 27 28.9	-1.4
MLZ	**Mavora Lakes**	**1.11**	**75**	P*	Pb	11 27 30.7	-2.0
MLZ				S*	Sb	11 27 44.3	-2.8
MLZ				AML	AML	11 27 46.4	
MSZ	**Milford Sound**	**1.32**	**43**	*e*PN	Pn	11 27 34.2	-1.6
MSZ				SN	Sb	11 27 52.7	-0.4
MSZ				SN	Sn	11 27 53.0	-0.3
MSZ				AML	AML	11 27 54.9	
MSZ				AML	AML	11 27 55.3	
APZ	**The Paps**	**1.51**	**143**	*e*PN	Pn	11 27 35.8	-2.7
EAZ	**Earnscleugh**	**1.91**	**79**	*e*PN	Pb	11 27 45.5	-0.9
EAZ				SN	Sn	11 28 07.5	-0.4
EAZ				AML	AML	11 28 09.8	
EAZ				AML	AML	11 28 10.8	
EAZ				AML	AML	11 28 10.8	
SYZ	**Scrubby Hill**	**1.95**	**118**	*e*PN	Pg	11 27 49.1	+0.2
TUZ	**Tuapeka**	**2.11**	**100**	*e*PN	Pb	11 27 50.6	+1.0
TUZ				AML	AML	11 28 20.3	
TUZ				AML	AML	11 28 20.9	
ODZ	**Otahua Downs**	**2.88**	**79**	*e*PN	Pn	11 27 57.8	+0.7
ODZ				AML	AML	11 28 35.8	
ODZ				AML	AML	11 28 36.9	

*IDC **15** 11:27:47.8±0.9, 45°.88S×166°.20E, h0km, mb4.2/6, mb1 4.4/8, mb1mx4.2/17, mbtmp4.3/8, ML4.3/2, Error ellipse: s-maj=26.9km s-min=20.7km az=6.0*
*ISCJB **15** 11:27:48.4±0.4, 45°.79S±0°.04×166°.27E±0°.04, h14km, mb4.2/8, Error ellipse: s-maj=5.4km s-min=4.3km az=11.7*
*NEIC **15** 11:27:49.0±0.5, 45°.90S×166°.21E, h10km, mb4.5/2, Error ellipse: s-maj=14.6km s-min=8.0km az=173.0*
*WEL **15** 11:27:50.2±0.5, 45°.82S×166°.37E, h12km, ML4.9/20, Error ellipse: s-maj=4.8km s-min=1.2km az=90.0*
*AUST **15** 11:27:53.3±2.7, 45°.82S×166°.35E, h39km, Error ellipse: s-maj=1.8km s-min=1.3km az=258.0*

ISC 15 11:27:49.6±0.5, 45°.86S±0°.04×166°.36E±0°.05, h14km, n65, σ1§04/72, mb4.3/8, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.38**	**145**	P*	**Pb**	**11 27 58.1**	**-0.1**
PYZ				S*	**Sb**	**11 28 04.2**	**+0.3**
DCZ	**Deep Cove**	**0.67**	**56**	P*	**Pg**	**11 28 02.2**	**-0.4**
DCZ				S*	**Sg**	**11 28 11.1**	**-0.3**
DCZ				S*	**Sg**	**11 28 11.2**	**-0.3**
DCZ				AML	AML	11 28 11.6	
DCZ				AML	AML	11 28 11.6	
WHZ	**Wether Hill Ro**	**1.11**	**93**	*e*P*	**Pb**	**11 28 10.4**	**-0.1**
WHZ				AML	AML	11 28 30.0	
WHZ				AML	AML	11 28 30.5	
MLZ	**Mavora Lakes**	**1.37**	**69**	PN	**Pn**	**11 28 13.9**	**-0.3**
MLZ				AML	AML	11 28 33.7	
MLZ				AML	AML	11 28 34.2	
APZ	**The Paps**	**1.49**	**132**	*e*PN	**Pn**	**11 28 16.1**	**+0.1**
APZ				SN	**Sb**	**11 28 35.7**	**-0.2**
MSZ	**Milford Sound**	**1.62**	**44**	*e*PN	**Pn**	**11 28 18.3**	**+0.6**
MSZ				AML	AML	11 28 45.5	
MSZ				AML	AML	11 28 47.2	
MSZ				AML	AML	11 28 47.4	
MSZ				AML	AML	11 28 49.2	
SYZ	**Scrubby Hill**	**2.05**	**111**	*e*PN	**Pn**	**11 28 24.9**	**+1.3**
WKZ	**Wanaka**	**2.13**	**62**	*e*PN	**Pb**	**11 28 26.6**	**-1.4**
WKZ				AML	AML	11 28 58.1	
WKZ				AML	AML	11 28 58.1	
WKZ				AML	AML	11 28 58.5	
WKZ				AML	AML	11 29 01.3	
EAZ	**Earnscleugh**	**2.16**	**74**	PN	**Pb**	**11 28 27.9**	**-0.5**
EAZ				AML	AML	11 28 57.4	
EAZ				AML	AML	11 28 57.4	
EAZ				AML	AML	11 28 58.6	
EAZ				AML	AML	11 28 58.6	
TUZ	**Tuapeka**	**2.29**	**94**	*e*PN	**Pb**	**11 28 29.2**	**-1.4**
TUZ				AML	AML	11 29 00.6	
TUZ				AML	AML	11 29 01.6	
JCZ	**Jackson Bay**	**2.46**	**45**	*e*PN	**Pb**	**11 28 33.8**	**+0.1**
JCZ				AML	AML	11 29 12.4	
JCZ				AML	AML	11 29 12.4	
LBZ	**Lake Benmore**	**3.08**	**63**	*e*PN	**Pn**	**11 28 39.2**	**+1.4**
LBZ				AML	AML	11 29 20.6	
LBZ				AML	AML	11 29 20.7	
ODZ	**Otahua Downs**	**3.12**	**76**	*e*Pn	**Pn**	**11 28 40.0**	**+1.7**
ODZ	**Otahua Downs**	**3.12**	**76**	*e*PN	**Pn**	**11 28 38.4**	**0.0**
ODZ				AML	AML	11 29 18.5	
ODZ				AML	AML	11 29 19.4	
ODZ				AML	AML	11 29 19.4	
ODZ				AML	AML	11 29 29.5	
FOZ	**Fox Glacier**	**3.30**	**47**	*e*PN	**Pb**	**11 28 46.4**	**-1.4**
FOZ				AML	AML	11 37 23.4	
FOZ				AML	AML	11 37 27.1	
RPZ	**Rata Peaks**	**3.97**	**59**	Pn	**Pn**	**11 28 50.7**	**+0.8**
RPZ				Sn	**Sn**	**11 29 34.9**	**-1.4**
RPZ				Sn	**Sn**	**11 29 38.3**	**+2.0**
RPZ	**Rata Peaks** 43nm,0.3s,baz=215,slow=8.7,SNR=12	**3.97**	**59**	Pn	**Pn**	**11 28 50.7**	**+0.8**
RPZ	50nm,0.3s,baz=43,slow=12,SNR=3.6			Sn	**Sn**	**11 29 38.3**	**+2.0**
WVZ	**Waitaha Valley**	**4.18**	**50**	*e*PN	**Pn**	**11 28 55.5**	**+2.5**
WVZ				AML	AML	11 37 49.6	
WVZ				AML	AML	11 37 51.6	
OXZ	**Oxford**	**4.78**	**60**	*e*PN	**Pn**	**11 29 00.4**	**-0.7**
DSZ	**Denniston Nort**	**5.69**	**46**	*e*PN	**Pn**	**11 29 13.1**	**-0.6**
QRZ	**Quartz Range**	**6.74**	**44**	*e*PN	**Pn**	**11 29 28.2**	**+0.1**
QRZ				AML	AML	11 30 56.8	
QRZ				AML	AML	11 31 06.7	
NNZ	**Nelson**	**6.89**	**50**	*e*PN	**Pn**	**11 29 31.7**	**+1.6**
NNZ				AML	AML	11 30 59.7	
NNZ				AML	AML	11 30 59.7	
KHEZ	**Kahui Hut**	**8.65**	**43**	*e*PN	**Pn**	**11 29 55.1**	**+0.8**
NEZ	**North Egmont**	**8.71**	**44**	*e*PN	**Pn**	**11 29 57.0**	**+1.9**
PKE	**Pukeiti**	**8.71**	**43**	*e*PN	**Pn**	**11 29 56.9**	**+1.7**
PKE				AML	AML	11 31 44.4	
MKAZ	**Moumakai**	**10.94**	**40**	*e*PN	**Pn**	**11 30 27.4**	**+1.7**
MKAZ				AML	AML	11 32 32.6	
URZ	**Urewera**	**11.01**	**50**	Pn	**Pn**	**11 30 27.6**	**+1.1**
URZ	**Urewera** 0.9nm,0.3s,baz=29,slow=13,SNR=6.1	**11.01**	**50**	Pn	**Pn**	**11 30 27.6**	**+1.1**
URZ	**Urewera**	**11.01**	**50**	*e*PN	**Pn**	**11 30 26.6**	**0.0**
URZ				AML	AML	11 32 30.9	
URZ				AML	AML	11 32 31.4	
MWZ	**Matawai**	**11.18**	**52**	*e*PN	**Pn**	**11 30 28.1**	**-0.9**
MWZ				AML	AML	11 32 39.2	
WCZ	**Waipu Caves**	**11.59**	**34**	*e*PN	**Pn**	**11 30 34.3**	**-0.2**
WCZ				AML	AML	11 32 51.9	
PUZ	**Puketiti**	**11.77**	**53**	*e*PN	**Pn**	**11 30 37.6**	**+0.6**
PUZ				AML	AML	11 32 51.4	
TOO	**Toolangi** baz=18,SNR=3.8	**17.61**	**291**	P	**Pn**	**11 31 54.1**	**-0.3**
CMSA	**Cobar Meteorol** baz=21,SNR=5.9	**21.47**	**305**	P	**P**	**11 32 38.5**	**+0.9**
STKA	**Stephens Creek**	**23.68**	**297**	P	**P**	**11 33 00.3**	**-0.4**
STKA	**Stephens Creek** 3.1nm,0.8s,baz=128,slow=18,SNR=4.2	**23.68**	**297**	P	**P**	**11 33 00.3**	**-0.4**
EIDS	**Eidsvold** 12nm,0.9s	**23.84**	**324**	*e*P	**P**	**11 33 02.9**	**+0.6**
EIDS	**Eidsvold** baz=24,SNR=6.0	**23.84**	**324**	P	**P**	**11 33 03.3**	**+1.0**
RMQ	**Roma** baz=24,SNR=4.4	**23.89**	**318**	P	**P**	**11 33 03.9**	**+1.1**
ASAR	**Alice Springs**	**34.29**	**299**	P	**P**	**11 34 34.8**	**-0.7**
ASAR	**Alice Springs** 2.9nm,0.8s,baz=133,slow=8.4,SNR=25	**34.29**	**299**	P	**P**	**11 34 34.8**	**-0.7**
WRA	**Warramunga Arr**	**36.88**	**304**	P	**P**	**11 34 56.6**	**-1.0**
WRA	**Warramunga Arr** 4.6nm,0.9s,baz=141,slow=8.7,SNR=17	**36.88**	**304**	P	**P**	**11 34 56.6**	**-1.0**
WRAB	**Tennant Creek** 7.3nm,1.0s	**36.88**	**304**	*e*P	**P**	**11 34 56.3**	**-1.3**
KNRA	**Kununurra** baz=44,SNR=3.4	**43.49**	**301**	P	**P**	**11 35 51.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**43.56**	**296**	P	**P**	**11 35 52.2**	**-0.8**
FITZ	**Fitzroy Crossi** 4.4nm,0.7s,baz=165,slow=4.3,SNR=13	**43.56**	**296**	P	**P**	**11 35 52.2**	**-0.8**
QSPA	**South Pole Qui**	**44.27**	**180**	P	**P**	**11 35 58.1**	**-0.4**
QSPA	**South Pole Qui** 2.0nm,0.8s,baz=56,slow=2.3,SNR=8.1	**44.27**	**180**	P	**P**	**11 35 58.1**	**-0.4**
MTN	**Manton Dam** baz=44,SNR=5.2	**44.38**	**306**	P	**P**	**11 35 59.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**88.30**	**299**	P	**P**	**11 40 41.0**	**+0.3**
CMAR	**Chiang Mai Arr** 1.1nm,0.6s,baz=164,slow=4.1,SNR=6.6	**88.30**	**299**	P	**P**	**11 40 41.0**	**+0.3**
ILAR	**Eielson Array**	**116.17**	**20**	PKP	**PKPdf**	**11 46 33.5**	**+2.5**
ILAR	**Eielson Array** 0.4nm,1.0s,baz=218,slow=5.2,SNR=4.1	**116.17**	**20**	PKP	**PKPdf**	**11 46 33.5**	**+2.5**
TORD	**Torodi Ar. Bea**	**144.91**	**207**	PKP	**PKPab**	**11 47 25.3**	**-0.2**
TORD	**Torodi Ar. Bea** 6.9nm,0.7s,baz=161,slow=2.9,SNR=15	**144.91**	**207**	PKP	**PKPab**	**11 47 25.3**	**-0.2**
BR131	**Keskin Array S**	**145.18**	**277**	*e*PKPbc	**PKPbc**	**11 47 25.3**	**-0.7**
BRTR	**Keskin Array B**	**145.18**	**277**	PKPbc	**PKPbc**	**11 47 26.0**	**0.0**
BRTR	**Keskin Array B** 3.6nm,0.9s,baz=145,slow=5.8,SNR=1.1	**145.18**	**277**	PKPbc	**PKPbc**	**11 47 26.0**	**0.0**
SPITS	**Spitsbergen Ar**	**145.55**	**349**	PKPbc	**PKPab**	**11 47 26.2**	**-0.1**
SPITS	**Spitsbergen Ar** 15nm,0.8s,baz=94,slow=8.4,SNR=7.4	**145.55**	**349**	PKPbc	**PKPab**	**11 47 26.2**	**-0.1**
ARCES	**ARCESS Array B**	**149.34**	**334**	PKPbc	**PKPbc**	**11 47 37.3**	**+0.7**
ARCES	**ARCESS Array B** 1.6nm,0.6s,baz=59,slow=3.5,SNR=7.7	**149.34**	**334**	PKPbc	**PKPbc**	**11 47 37.3**	**+0.7**
FINES	**FINESS Array B**	**152.32**	**319**	PKPbc	**PKPbc**	**11 47 43.1**	**-0.6**
FINES	**FINESS Array B** 1.5nm,0.7s,baz=108,slow=6.2,SNR=4.8	**152.32**	**319**	PKPbc	**PKPbc**	**11 47 43.1**	**-0.6**

WEL 15 11:30:43.4±0.4, 46°.01S×166°.17E, h12km, ML4.0/6, Error ellipse: s-maj=3.9km s-min=2.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.87**	**53**	P*	Pg	11 30 59.5	-0.6
DCZ				S*	Sg	11 31 11.3	-0.1
DCZ				S*	Sb	11 31 11.5	-0.4
WHZ	**Wether Hill Ro**	**1.24**	**85**	P*	Pn	11 31 05.4	-1.2
WHZ				S*	Sb	11 31 22.2	-0.5
WHZ				S*	Sn	11 31 22.5	-0.8
MSZ	**Milford Sound**	**1.82**	**43**	*e*PN	Pn	11 31 14.1	-0.4
MSZ				AML	AML	11 31 50.9	
MSZ				AML	AML	11 31 51.1	
SYZ	**Scrubby Hill**	**2.12**	**105**	*e*PN	Pn	11 31 18.5	-0.2
SYZ				SN	Sn	11 31 44.2	-0.7
WKZ	**Wanaka**	**2.32**	**60**	*e*PN	Pn	11 31 23.1	+1.6
WKZ				AML	AML	11 31 54.4	
WKZ				AML	AML	11 31 57.7	
WKZ				AML	AML	11 31 59.5	
WKZ				AML	AML	11 32 08.8	
EAZ	**Earnscleugh**	**2.33**	**72**	*e*PN	Pn	11 31 21.4	-0.2
EAZ				SN	Sn	11 31 51.1	+1.0
EAZ				AML	AML	11 31 53.3	
JCZ	**Jackson Bay**	**2.66**	**44**	*e*PN	Pn	11 31 27.1	+0.8
JCZ				AML	AML	11 32 07.3	
JCZ				AML	AML	11 32 08.8	
FOZ	**Fox Glacier**	**3.50**	**47**	*e*PN	Pn	11 31 39.6	+2.0
WVZ	**Waitaha Valley**	**4.38**	**50**	*e*PN	Pn	11 31 49.9	+0.1
OXZ	**Oxford**	**4.97**	**59**	*e*PN	Pn	11 31 55.9	-1.9
DSZ	**Denniston Nort**	**5.89**	**46**	*e*PN	Pn	11 32 13.7	+3.1
QRZ	**Quartz Range**	**6.94**	**44**	*e*PN	Pn	11 32 24.4	-0.5

*IDC **15** 11:31:21.6±1.1, 46°.11S×166°.10E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.8/15, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=30.2km s-min=27.6km az=14.0*
*ISCJB **15** 11:31:23.7±1.1, 46°.09S±0°.06×166°.01E±0°.07, h18km±7km, mb3.7/3, Error ellipse: s-maj=10.2km s-min=7.8km az=152.8*
*WEL **15** 11:31:26.7±1.0, 46°.01S×166°.21E, h12km, ML4.2/8, Error ellipse: s-maj=9.9km s-min=4.3km az=90.0*
*NEIC **15** 11:31:29.7, 46°.16S×166°.98E, h12km, ML4.8(WEL), After WEL.*

ISC 15 11:31:24.9±1.7, 46°.05S±0°.05×166°.10E±0°.06, h17km±10km, n25, σ1§44/33, mb3.7/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.42**	**107**	P*	**Pg**	**11 31 33.8**	**+0.4**
PYZ				Sg	**Sb**	**11 31 40.2**	**+0.3**
DCZ	**Deep Cove**	**0.93**	**53**	P*	**Pg**	**11 31 42.2**	**-0.7**
DCZ				S*	**Sb**	**11 31 54.4**	**-0.1**
DCZ	**Deep Cove**	**0.93**	**53**	P*	**Pg**	**11 31 42.0**	**-0.9**
DCZ				S*	**Sb**	**11 31 54.3**	**-0.2**
DCZ				S*	**Sb**	**11 31 54.4**	**-0.1**
WHZ	**Wether Hill Ro**	**1.29**	**84**	*e*P*	**Pn**	**11 31 47.8**	**-0.4**
WHZ				S*	**Sb**	**11 32 04.0**	**-1.1**
WHZ				S*	**Sn**	**11 32 04.2**	**-0.9**
APZ	**The Paps**	**1.52**	**122**	P*	**Pn**	**11 31 51.1**	**-0.2**
MLZ	**Mavora Lakes**	**1.61**	**65**	P*	**Pb**	**11 31 54.7**	**+0.6**
MSZ	**Milford Sound**	**1.88**	**44**	SN	**Sn**	**11 32 20.3**	**+0.8**
MSZ				AML	AML	11 32 31.1	
SYZ	**Scrubby Hill**	**2.16**	**104**	PN	**Pn**	**11 32 01.3**	**+1.2**
SYZ				SN	**Sn**	**11 32 26.7**	**+0.3**
WKZ	**Wanaka**	**2.39**	**60**	SN

CBIJ	**Chichi jima**	**2.81**	**128**	P		Pn		11 35 20.8	+0.1
CBIJ				S		S		11 36 08.6	-1.3
JHHJ	**Haha-jima-NKT**	**3.12**	**135**	P		Pn		11 35 23.4	+0.1
JHHJ				S		S		11 36 13.8	-0.8
BSO1	**Boso 1**	**5.89**	**10**	*e*S		S		11 37 03.9	+0.4
BSO3	**Boso 3**	**5.97**	**6**	P		Pn		11 35 52.5	+1.3
BSO3				*e*S		S		11 37 05.6	-0.3
JHU	**Hanno**	**6.99**	**357**	P		Pn		11 36 03.1	+0.2
JHU				*e*S		S		11 37 24.6	-2.6
JYT	**Yasato**	**7.37**	**3**	P		P		11 36 07.7	-0.1
JAG	**Ashikaga**	**7.56**	**358**	P		Pn		11 36 09.2	-0.1
JAG				*e*S		S		11 37 36.2	-2.8
JHO	**Hitachi**	**7.77**	**5**	P		P		11 36 12.7	+0.3
JHO				*e*S		S		11 37 41.6	-2.0
WRA	**Warramunga Arr**	**48.78**	**187**	P		P		11 42 24.1	-3.0
	1.3nm,0.7s,baz=5.1,slow=7.6,SNR=15								
ASAR	**Alice Springs**	**52.51**	**187**	P		P		11 42 51.8	-2.8
	0.9nm,0.8s,baz=3.4,slow=6.5,SNR=10.0								
PDAR	**Pinedale Array**	**84.49**	**44**	P		P		11 45 09.8	-60
	0.4nm,0.7s,baz=282,slow=4.3,SNR=4.2								

IDC 15 11:35:35.3±1.6, 45°.64S×166°.58E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.7/14, mbtmp3.7/3, ML4.1/1, Error ellipse: s-maj=52.4km s-min=32.6km az=6.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**3.72**	**61**	Pn	Pn	11 36 34.2	+0.1
	16nm,0.3s,baz=208,slow=7.4,SNR=16						
ASAR	**Alice Springs**	**34.32**	**299**	P	P	11 42 23.4	-0.1
	0.8nm,1.1s,baz=140,slow=7.3,SNR=2.8						
WRA	**Warramunga Arr**	**36.88**	**303**	P	P	11 42 45.6	0.0
	1.4nm,0.9s,baz=137,slow=7.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**145.17**	**206**	PKPbc	PKPbc	11 55 13.8	-0.7
	1.1nm,0.5s,baz=147,slow=2.5,SNR=23						
FINES	**FINESS Array B**	**152.26**	**319**	PKPbc	PKPbc	11 55 31.4	-0.4
	2.6nm,0.8s,baz=132,slow=5.8,SNR=3.8						

IDC ***15*** *11:35:41.0±0.7, 45°.51S×166°.59E, h0km, mb4.2/9, mb1 4.4/11, mb1mx4.3/17, mbtmp4.3/11, ML3.9/2, Error ellipse: s-maj=20.2km s-min=17.0km az=46.0*
ISCJB ***15*** *11:35:41.4±0.5, 45°.54S±0.07°×166°.56E±0.06, h15km, mb4.2/11, Error ellipse: s-maj=11.0km s-min=5.2km az=160.9*
NEIC ***15*** *11:35:42.4±0.3, 45°.52S×166°.58E, h10km, mb4.6/2, Error ellipse: s-maj=9.0km s-min=6.3km az=164.0*
WEL ***15*** *11:35:44.6±0.5, 45°.66S×166°.81E, h12km, ML5.1/13, Error ellipse: s-maj=5.1km s-min=3.3km az=90.0*

ISC 15 11:35:43.2±0.5, 45°.56S±0.08°×166°.64E±0.06°, h15km, n52, σ1°00/50, mb4.3/11, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.37**	**78**	S*	**Sg**	**11 35 55.1**	**-0.6**
DCZ				AML	AML	11 35 55.8	
MSZ	**Milford Sound**	**1.27**	**46**	S*	**Sg**	**11 36 24.5**	**+0.5**
MSZ				AML	AML	11 36 25.5	
WKZ	**Wanaka**	**1.83**	**67**	AML	AML	11 36 39.3	
WKZ				AML	AML	11 36 39.9	
EAZ	**Earnscleugh**	**1.91**	**81**	AML	AML	11 36 40.2	
EAZ				AML	AML	11 36 41.2	
JCZ	**Jackson Bay**	**2.11**	**46**	AML	AML	11 36 52.6	
JCZ				AML	AML	11 36 54.9	
ODZ	**Otahua Downs**	**2.87**	**81**	*e*Pn	**Pn**	**11 36 28.1**	**-0.2**
ODZ				*e*Sn	**Sb**	**11 37 06.6**	**-2.3**
ODZ	**Otahua Downs**	**2.87**	**81**	AML	AML	11 37 12.6	
ODZ				AML	AML	11 37 13.3	
FOZ	**Fox Glacier**	**2.95**	**49**	*e*PN	**Pb**	**11 36 34.6**	**-0.8**
FOZ				AML	AML	11 37 20.4	
FOZ				AML	AML	11 37 21.0	
RPZ	**Rata Peaks**	**3.65**	**61**	Pn	**Pn**	**11 36 39.3**	**+0.3**
RPZ				Sn	**Sn**	**11 37 25.1**	**+3.3**
RPZ	**Rata Peaks**	**3.65**	**61**	Pn	**Pn**	**11 36 39.3**	**+0.3**
	16nm,0.3s,baz=203,slow=6.2,SNR=22						
RPZ				Sn	**Sn**	**11 37 25.1**	**+3.3**
	123nm,0.3s,baz=136,slow=17,SNR=8.1						
WVZ	**Waitaha Valley**	**3.84**	**51**	*e*PN	**Pn**	**11 36 42.0**	**+0.3**
WVZ				AML	AML	11 37 47.4	
WVZ				AML	AML	11 37 47.5	
OXZ	**Oxford**	**4.46**	**62**	PN	**Pn**	**11 36 50.6**	**+0.4**
MQZ	**McQueen's Vall**	**4.67**	**69**	PN	**Pn**	**11 36 53.1**	**+0.1**
MQZ				AML	AML	11 37 48.5	
MQZ				AML	AML	11 38 24.8	
CRLZ	**Canterbury Las**	**4.71**	**67**	PN	**Pn**	**11 36 54.0**	**+0.4**
CRLZ				AML	AML	11 38 26.7	
CRLZ				AML	AML	11 38 26.9	
QRZ	**Quartz Range**	**6.39**	**44**	*e*PN	**Pn**	**11 37 17.4**	**+0.7**
QRZ				AML	AML	11 38 33.9	
QRZ				AML	AML	11 38 36.8	
NNZ	**Nelson**	**6.55**	**51**	AML	AML	11 38 37.6	
NNZ				AML	AML	11 38 40.2	
SNZO	**South Karori**	**7.24**	**57**	*e*Pn	**Pn**	**11 37 29.4**	**+1.0**
	124nm,1.1s						
SNZO				*e*Sn	**Sn**	**11 38 49.6**	**-0.6**
PKE	**Pukeiti**	**8.36**	**43**	AML	AML	11 39 24.4	
URZ	**Urewera**	**10.67**	**51**	Pn	**Pn**	**11 38 15.5**	**+0.1**
URZ	**Urewera**	**10.67**	**51**	Pn	**Pn**	**11 38 15.5**	**+0.1**
	0.6nm,0.3s,baz=215,slow=9.9,SNR=4.8						
STKA	**Stephens Creek**	**23.72**	**296**	P	**P**	**11 40 55.1**	**+0.5**
STKA	**Stephens Creek**	**23.72**	**296**	P	**P**	**11 40 55.1**	**+0.5**
	11nm,1.0s,baz=132,slow=10,SNR=12						
VNDA	**Vanda**	**32.13**	**182**	P	**P**	**11 42 10.5**	**+1.1**
VNDA	**Vanda**	**32.13**	**182**	P	**P**	**11 42 10.5**	**+1.1**
	0.4nm,0.8s,baz=248,slow=5.4,SNR=1.9						
ASAR	**Alice Springs**	**34.32**	**298**	P	**P**	**11 42 28.7**	**-0.4**
ASAR	**Alice Springs**	**34.32**	**298**	P	**P**	**11 42 28.7**	**-0.4**
	4.1nm,1.0s,baz=138,slow=7.6,SNR=20						
WRA	**Warramunga Arr**	**36.88**	**303**	P	**P**	**11 42 49.8**	**-1.3**
WRA	**Warramunga Arr**	**36.88**	**303**	P	**P**	**11 42 49.8**	**-1.3**
	5.0nm,1.1s,baz=142,slow=8.5,SNR=12						
WRAB	**Tennant Creek**	**36.88**	**303**	*e*P	**P**	**11 42 50.5**	**-0.6**
	11nm,1.6s						
FITZ	**Fitzroy Crossi**	**43.61**	**295**	P	**P**	**11 43 46.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**43.61**	**295**	P	**P**	**11 43 46.0**	**-0.8**
	4.0nm,0.9s,baz=311,slow=3.0,SNR=4.0						
QSPA	**South Pole Qui**	**44.57**	**180**	P	**P**	**11 43 54.1**	**-0.2**
QSPA	**South Pole Qui**	**44.57**	**180**	P	**P**	**11 43 54.1**	**-0.2**
	3.4nm,0.8s,baz=30,slow=3.4,SNR=15						
MAW	**Mawson**	**53.62**	**208**	P	**P**	**11 45 03.7**	**+0.5**
MAW	**Mawson**	**53.62**	**208**	P	**P**	**11 45 03.7**	**+0.5**
	2.3nm,0.8s,baz=144,slow=9.9,SNR=5.9						
SNAA	**Sanae**	**62.84**	**184**	*e*P	**P**	**11 46 07.9**	**+0.1**
	11nm,1.4s						
PLCA	**Paso Flores**	**80.02**	**140**	P	**P**	**11 47 52.5**	**+0.5**
PLCA	**Paso Flores**	**80.02**	**140**	P	**P**	**11 47 52.5**	**+0.5**
	2.3nm,0.9s,baz=228,slow=21,SNR=4.3						
CMAR	**Chiang Mai Arr**	**88.33**	**299**	P	**P**	**11 48 34.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**88.33**	**299**	P	**P**	**11 48 34.0**	**-0.2**
	2.6nm,0.8s,baz=158,slow=3.3,SNR=13						
TORD	**Torodi Ar. Bea**	**145.26**	**206**	PKPbc	**PKPbc**	**11 55 19.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**145.26**	**206**	PKPbc	**PKPbc**	**11 55 19.8**	**-0.4**
	16nm,0.8s,baz=161,slow=2.3,SNR=56						
SCHQ	**Schefferville**	**145.32**	**55**	PKPbc	**PKPbc**	**11 55 17.5**	**-1.8**
SCHQ	**Schefferville**	**145.32**	**55**	PKPbc	**PKPbc**	**11 55 17.5**	**-1.8**
	1.7nm,0.6s,baz=178,slow=7.1,SNR=3.4						
BRTR	**Keskin Array B**	**145.34**	**277**	PKPbc	**PKPab**	**11 55 20.2**	**+0.1**
BRTR	**Keskin Array B**	**145.34**	**277**	PKPbc	**PKPab**	**11 55 20.2**	**+0.1**
	6.8nm,1.0s,baz=146,slow=5.5,SNR=19						
ARCES	**ARCESS Array B**	**149.15**	**335**	PKPbc	**PKPbc**	**11 55 29.5**	**-0.1**
ARCES	**ARCESS Array B**	**149.15**	**335**	PKPbc	**PKPbc**	**11 55 29.5**	**-0.1**
	5.0nm,0.7s,baz=57,slow=4.6,SNR=8.8						
FINES	**FINESS Array B**	**152.23**	**319**	PKPbc	**PKPbc**	**11 55 37.1**	**+0.1**
FINES	**FINESS Array B**	**152.23**	**319**	PKPbc	**PKPbc**	**11 55 37.1**	**+0.1**
	5.1nm,0.7s,baz=67,slow=5.0,SNR=16						
GERES	**GERESS Array B**	**161.36**	**290**	PKPab	**PKPab**	**11 56 27.2**	**+0.4**
GERES	**GERESS Array B**	**161.36**	**290**	PKPab	**PKPab**	**11 56 27.2**	**+0.4**
	0.3nm,0.2s,baz=100,slow=5.5,SNR=5.3						

IDC 15 11:37:10.2±1.6, 45°.52S×166°.52E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/13, mbtmp3.8/2, ML4.5/1, Error ellipse: s-maj=50.8km s-min=26.8km az=175.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**3.71**	**63**	Pn	Pn	11 38 09.5	+0.7
	36nm,0.3s,baz=338,slow=19,SNR=3.3						
RPZ				Sn	Sn	11 38 52.4	-0.8
	30nm,0.3s,baz=45,slow=16,SNR=2.2						

ASAR	**Alice Springs**	**34.22**	**299**	P		P		11 43 56.9	-0.8
	2.8nm,1.2s,baz=132,slow=7.9,SNR=4.0								
WRA	**Warramunga Arr**	**36.78**	**303**	P		P		11 44 20.1	+0.5
	0.8nm,0.8s,baz=135,slow=7.8,SNR=2.9								
TORD	**Torodi Ar. Bea**	**145.26**	**207**	PKPbc	PKPbc			11 56 48.8	-1.0
	4.9nm,0.5s,baz=147,slow=2.4,SNR=10								
ARCES	**ARCESS Array B**	**149.08**	**334**	PKPbc	PKPbc			11 56 58.5	-0.5
	2.3nm,0.8s,baz=69,slow=4.9,SNR=2.3								

AUST ***15*** *11:40:54.4, 45°.96S×166°.47E, h15km*
IDC 15 11:40:47.9±0.9, 46°.06S×166°.04E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.8/18, mbtmp3.9/7, ML3.8/2, Error ellipse: s-maj=24.3km s-min=20.7km az=97.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**4.26**	**58**	Pn	Pn	11 41 53.9	-0.2
	11nm,0.3s,baz=130,slow=13,SNR=4.8						
RPZ				Sn	Sn	11 42 44.1	-0.5
	10.0nm,0.3s,baz=94,slow=18,SNR=5.8						
URZ	**Urewera**	**11.31**	**50**	Pn	Pn	11 43 30.9	+0.1
	0.3nm,0.3s,baz=311,slow=19,SNR=2.5						
TOO	**Toolangi**	**17.47**	**292**	P	P	11 44 55.1	+0.8
	baz=18,SNR=5.5						
DZM	**Mont Dzumac**	**23.93**	**1**	P	P	11 46 05.3	+1.6
	6.2nm,0.8s,baz=90,slow=24,SNR=4.2						
ASAR	**Alice Springs**	**34.20**	**300**	P	P	11 47 35.4	+0.2
	0.2nm,0.4s,baz=139,slow=5.2,SNR=8.3						
WRA	**Warramunga Arr**	**36.80**	**304**	P	P	11 47 57.1	-0.4
	0.6nm,0.5s,baz=137,slow=7.8,SNR=12						
QSPA	**South Pole Qui**	**44.07**	**180**	P	P	11 48 58.5	+1.1
	1.2nm,0.7s,baz=93,slow=2.9,SNR=6.5						
SNAA	**Sanae**	**62.31**	**184**	P	P	11 51 11.2	-0.3
	0.5nm,0.9s,baz=199,slow=12,SNR=4.6						
TORD	**Torodi Ar. Bea**	**144.63**	**207**	PKP	PKPab	12 00 24.7	-0.5
	0.6nm,0.5s,baz=152,slow=1.6,SNR=6.4						
BRTR	**Keskin Array B**	**144.99**	**277**	PKP	PKPab	12 00 24.8	-1.3
	1.5nm,0.8s,baz=143,slow=4.7,SNR=5.3						
ARCES	**ARCESS Array B**	**149.42**	**334**	PKPbc	PKPbc	12 00 36.5	-1.0
	2.1nm,0.6s,baz=75,slow=5.1,SNR=7.8						

ISCJB ***15*** *11:44:12.2±1.8, 45°.51S±0.04°×166°.55E±0.05, h3km±12km, mb4.1/12, Error ellipse: s-maj=6.7km s-min=5.0km az=25.4*
IDC ***15*** *11:44:12.7±0.6, 45°.51S×166°.64E, h0km, mb4.1/12, mb1 4.3/14, mb1mx4.3/20, mbtmp4.2/14, ML4.3/2, Error ellipse: s-maj=18.5km s-min=14.3km az=68.0*
NEIC ***15*** *11:44:13.6, 45°.44S×166°.52E, h12km, ML5.2(WEL), After WEL.*
AUST ***15*** *11:44:14.3±0.8, 45°.49S×166°.52E, h0km, Error ellipse: s-maj=1.1km s-min=0.7km az=18.0*

ISC 15 11:44:13.9±1.3, 45°.50S±0.04°×166°.59E±0°.05, h8km±8km, n71, σ1°23/80, mb4.3/12, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.40**	**87**	P*	**Pg**	**11 44 22.4**	**+0.7**
DCZ				S*	**Sg**	**11 44 27.5**	**+0.5**
PYZ	**Puysegur Point**	**0.67**	**174**	P*	**Pg**	**11 44 26.7**	**-0.2**
PYZ				S*	**Sg**	**11 44 34.8**	**-0.9**
MLZ	**Mavora Lakes**	**1.13**	**83**	P*	**Pg**	**11 44 33.8**	**-1.7**
MSZ	**Milford Sound**	**1.26**	**50**	P*	**Pn**	**11 44 35.6**	**-2.2**
APZ	**The Paps**	**1.65**	**144**	Pn	**Pb**	**11 44 44.6**	**0.0**
APZ				Sn	**Sn**	**11 45 03.6**	**-1.0**
SYZ	**Scrubby Hill**	**2.06**	**121**	Pn	**Pn**	**11 44 50.1**	**+1.3**
SYZ				Sn	**Sb**	**11 45 17.4**	**+0.2**
TUZ	**Tuapeka**	**2.18**	**103**	Pn	**Pn**	**11 44 51.3**	**+0.8**
RPZ	**Rata Peaks**	**3.65**	**62**	*e*Pn	**Pn**	**11 45 09.9**	**-0.8**
RPZ				*e*Sn	**Sn**	**11 45 51.4**	**-2.6**
RPZ				Sn	**Sn**	**11 45 56.0**	**+2.0**
RPZ	**Rata Peaks**	**3.65**	**62**	Pn	**Pn**	**11 45 10.7**	**0.0**
	87nm,0.3s,baz=216,slow=5.9,SNR=50						
RPZ				Sn	**Sn**	**11 45 56.0**	**+2.0**
	144nm,0.3s,baz=52,slow=18,SNR=14						
URZ	**Urewera**	**10.66**	**51**	Pn	**Pn**	**11 46 47.4**	**+0.6**
URZ	**Urewera**	**10.66**	**51**	Pn	**Pn**	**11 46 47.4**	**+0.6**
	0.6nm,0.3s,baz=323,slow=18,SNR=4.2						
TAU	**Tasmania Unive**	**14.06**	**274**	*e*Pn	**Pn**	**11 47 30.9**	**-2.4**
	31nm,0.6s						
TAU				*e*Sn	Sn	11 49 59.0	-10
MOO	**Moorlands**	**14.30**	**275**	P	**Pn**	**11 47 35.3**	**-1.2**
	baz=14,SNR=4.4						
MILA	**Mila**	**15.56**	**297**	P	**Pn**	**11 47 52.5**	**-1.1**
	baz=16,SNR=4.8						
CNB	**Canberra Magne**	**16.57**	**302**	P	**P**	**11 48 09.7**	**+0.6**
	baz=16,SNR=6.1						
TOO	**Toolangi**	**17.64**	**289**	P	**P**	**11 48 20.9**	**0.0**
	baz=18,SNR=5.1						
TOO	**Toolangi**	**17.64**	**289**	S	**P**	**11 48 21.1**	**+0.2**
	baz=18,SNR=5.2						
ARMA	**Armidale**	**19.07**	**317**	P	**Pn**	**11 48 40.6**	**+3.0**
	baz=19,SNR=4.7						
ARPS	**Mount Arapiles**	**20.52**	**286**	P	Pn	11 49 01.4	+6.8
	baz=20,SNR=8.5						
CMSA	**Cobar Meteorol**	**21.40**	**303**	P	P	11 49 07.6	+5.6
	baz=21,SNR=8.0						
DZM	**Mont Dzumac**	**23.37**	**360**	P	**P**	**11 49 23.5**	**+0.6**
DZM	**Mont Dzumac**	**23.37**	**360**	P	**P**	**11 49 23.5**	**+0.6**
	3.3nm,0.9s,baz=270,slow=24,SNR=12						
EIDS	**Eidsvold**	**23.65**	**323**	P	**P**	**11 49 27.7**	**+2.1**
	baz=24,SNR=3.6						
STKA	**Stephens Creek**	**23.66**	**296**	P	**P**	**11 49 26.7**	**+0.9**
STKA	**Stephens Creek**	**23.66**	**296**	P	**P**	**11 49 26.7**	**+0.9**
	6.0nm,0.6s,baz=115,slow=10,SNR=23						
STKA	**Stephens Creek**	**23.66**	**296**	P	**P**	**11 49 27.5**	**+1.8**
	baz=24,SNR=15						
RMQ	**Roma**	**23.74**	**317**	P	**P**	**11 49 29.1**	**+2.6**
	baz=24,SNR=11						
CTA	**Charters Tower**	**30.39**	**320**	P	**P**	**11 50 27.8**	**+1.3**
CTA	**Charters Tower**	**30.39**	**320**	P	**P**	**11 50 27.8**	**+1.3**
	1.9nm,0.9s,baz=222,slow=8.8,SNR=3.1						
VNDA	**Vanda**	**32.19**	**182**	P	**P**	**11 50 42.6**	**+0.9**
VNDA	**Vanda**	**32.19**	**182**	P	**P**	**11 50 42.6**	**+0.9**
	0.3nm,0.8s,baz=207,slow=4.5,SNR=2.8						
ASAR	**Alice Springs**	**34.26**	**298**	P	**P**	**11 51 00.6**	**+0.2**
ASAR				PcP	**PcP**	**11 53 37.0**	**+0.1**
ASAR	**Alice Springs**	**34.26**	**298**	P	**P**	**11 51 00.6**	**+0.2**
	4.6nm,0.9s,baz=147,slow=8.5,SNR=26						
ASAR				PcP	**PcP**	**11 53 37.0**	**+0.1**
	0.6nm,0.6s,baz=139,slow=3.9,SNR=4.4						
WRA	**Warramunga Arr**	**36.81**	**303**	P	**P**	**11 51 21.7**	**-0.6**
WRA				PcP	**PcP**	**11 53 44.0**	**-0.4**
WRA	**Warramunga Arr**	**36.81**	**303**	P	**P**	**11 51 21.7**	**-0.6**
	6.7nm,1.1s,baz=138,slow=7.8,SNR=21						
WRA				PcP	**PcP**	**11 53 44.0**	**-0.4**
	0.5nm,0.6s,baz=130,slow=3.0,SNR=4.3						
FITZ	**Fitzroy Crossi**	**43.55**	**295**	P	**P**	**11 52 18.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**43.55**	**295**	P	**P**	**11 52 18.4**	**+0.2**
	2.0nm,0.6s,baz=167,slow=5.3,SNR=5.0						
QSPA	**South Pole Qui**	**44.63**	**180**	P	**P**	**11 52 27.4**	**+0.9**
QSPA	**South Pole Qui**	**44.63**	**180**	P	**P**	**11 52 27.4**	**+0.9**
	3.7nm,0.7s,baz=5.3,slow=2.5,SNR=19						
MAW	**Mawson**	**53.65**	**208**	P	**P**	**11 53 34.9**	**-0.4**
MAW	**Mawson**	**53.65**	**208**	P	**P**	**11 53 34.9**	**-0.4**
	3.0nm,0.9s,baz=100,slow=8.4,SNR=6.3						
SNAA	**Sanae**	**62.90**	**184**	P	**P**	**11 54 39.5**	**-0.5**
SNAA	**Sanae**	**62.90**	**184**	P	**P**	**11 54 39.5**	**-0.5**
	1.1nm,0.8s,baz=176,slow=6.8,SNR=15						
PLCA	**Paso Flores**	**80.09**	**140**	P	**P**	**11 56 24.2**	**-0.1**
PLCA	**Paso Flores**	**80.09**	**140**	P	**P**	**11 56 24.2**	**-0.1**
	2.2nm,0.7s,baz=235,slow=6.3,SNR=4.9						
CMAR	**Chiang Mai Arr**	**88.27**	**299**	P	**P**	**11 57 07.3**	**+1.5**
CMAR	**Chiang Mai Arr**	**88.27**	**299**	P	**P**	**11 57 07.3**	**+1.5**
	2.4nm,0.7s,baz=157,slow=3.1,SNR=14						
ILAR	**Eielson Array**	**115.78**	**20**	PKP	**PKPdf**	**12 02 54.4**	**-1.2**
ILAR	**Eielson Array**	**115.78**	**20**	PKP	**PKPdf**	**12 02 54.4**	**-1.2**
	0.3nm,0.6s,baz=278,slow=3.0,SNR=5.0						
MKAR	**Makanchi Array**	**117.94**	**309**	PKP	**PKPdf**	**12 02 59.8**	**-0.6**
MKAR	**Makanchi Array**	**117.94**	**309**	PKP	**PKPdf**	**12 02 59.8**	**-0.6**
	0.5nm,0.6s,baz=125,slow=1.9,SNR=4.2						
BR131	**Keskin Array S**	**145.29**	**277**	*e*PKPbc	**PKPdf**	**12 03 52.6**	**+0.7**
BRTR	**Keskin Array B**	**145.29**	**277**	PKPbc	**PKPdf**	**12 03 52.2**	**+0.3**
BRTR	**Keskin Array B**	**145.29**	**277**	PKPbc	**PKPdf**	**12 03 52.2**	**+0.3**
	4.8nm,0.9s,baz=134,slow=3.6,SNR=13						
TORD	**Torodi Ar. Bea**	**145.30**	**206**	PKPbc	**PKPbc**	**12 03 51.1**	**-1.1**
TORD	**Torodi Ar. Bea**	**145.30**	**206**	PKPbc	**PKPbc**	**12 03 51.1**	**-1.1**
	20nm,0.6s,baz=148,slow=2.4,SNR=182						
SCHQ	**Schefferville**	**145.32**	**55**	PKPbc	**PKPbc**	**12 03 49.0**	**-2.1**
SCHQ	**Schefferville**	**145.32**	**55**	PKPbc	**PKPbc**	**12 03 49.0**	**-2.1**
	3.2nm,0.7s,baz=248,slow=7.2,SNR=4.3						
KEV	**Kevo**	**148.52**	**334**	*e*p	**PKPbc**	**12 03 59.4**	**-0.4**

	8.2nm,0.8s								
ARCES	**ARCESS Array B**	**149.08**	**335**	PKPbc	**PKPbc**			**12 04 01.0**	**-0.3**
ARCES	**ARCESS Array B**	**149.08**	**335**	PKPbc	**PKPbc**			**12 04 01.0**	**-0.3**
	6.1nm,0.7s,baz=57,slow=4.5,SNR=18								
KIEV	**Kiev**	**151.37**	**296**	*e*PKPbc	**PKPbc**			**12 04 07.3**	**0.0**
FINES	**FINESS Array B**	**152.16**	**319**	PKPbc	**PKPbc**			**12 04 08.8**	**0.0**
FINES	**FINESS Array B**	**152.16**	**319**	PKPbc	**PKPbc**			**12 04 08.8**	**0.0**
	6.9nm,0.6s,baz=90,slow=3.9,SNR=30								
KOLS	**Kolonicke sedl**	**155.66**	**291**	*e*PKP	**PKPab**			**12 04 34.9**	**+1.0**
STHS	**Stebnicka Huta**	**156.37**	**292**	*e*PKP	**PKPab**			**12 04 36.8**	**-0.1**
KECS	**Kecovo**	**156.79**	**290**	*e*PKP	**PKPab**			**12 04 40.9**	**+2.1**
VYHS	**Vyhne**	**157.89**	**289**	*e*PKP	**PKPab**			**12 04 45.5**	**+2.0**
GERES	**GERESS Array B**	**161.30**	**290**	PKPab	**PKPab**			**12 04 58.6**	**+0.1**
GERES	**GERESS Array B**	**161.30**	**290**	PKPab	**PKPab**			**12 04 58.6**	**+0.1**
	0.3nm,0.4s,baz=64,slow=6.7,SNR=4.7								
KHC	**Kasperske Hory**	**161.38**	**291**	*e*PKPdf	**PKPdf**			**12 04 10.7**	**-3.7**

IDC 15 11:48:57.3±2.0, 46°.03S×166°.25E, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.8/14, mbtmp3.9/3, ML3.8/1, MS4.5/1, Ms1 4.5/1, ms1mx4.0/28, Error ellipse: s-maj=65.5km s-min=34.7km az=179.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**4.12**	**58**	Pn	Pn	11 50 01.7	+0.1
	6.3nm,0.3s,baz=214,slow=3.6,SNR=3.8						
RPZ				LR	LR	11 51 07.0	
	comp=Z,6μm,18.3s,baz=87,slow=32						
ASAR	**Alice Springs**	**34.31**	**300**	P	P	11 55 45.7	+0.2
	0.8nm,0.8s,baz=129,slow=8.2,SNR=5.6						
WRA	**Warramunga Arr**	**36.91**	**304**	P	P	11 56 07.4	-0.5
	0.6nm,0.5s,baz=137,slow=7.8,SNR=9.4						
TORD	**Torodi Ar. Bea**	**144.72**	**207**	PKP	PKPab	12 08 34.9	-0.1
	2.8nm,0.7s,baz=153,slow=2.8,SNR=19						
BRTR	**Keskin Array B**	**145.13**	**277**	PKPbc	PKPbc	12 08 35.7	-0.3
	0.8nm,0.8s,baz=102,slow=6.2,SNR=3.0						

ISCJB ***15*** *11:49:40.6±0.9, 45°.53S±0.04°×166°.50E±0°.04, h6km±6km, mb4.3/9, Error ellipse: s-maj=6.2km s-min=4.5km az=169.2*
IDC ***15*** *11:49:40.5±0.6, 45°.53S×166°.61E, h0km, mb4.4/9, mb1 4.5/11, mb1mx4.4/18, mbtmp4.4/11, ML4.2/2, Error ellipse: s-maj=20.4km s-min=17.3km az=47.0*
WEL ***15*** *11:49:42.7±0.5, 45°.60S×166°.62E, h5km, ML5.0/18, Error ellipse: s-maj=4.6km s-min=2.5km az=90.0*
NEIC ***15*** *11:49:42.0, 45°.90S×167°.00E, h5km, ML4.9(WEL), After WEL.*
AUST ***15*** *11:49:47.8±1.9, 45°.61S×166°.56E, h40km, Error ellipse: s-maj=1.3km s-min=1.3km az=226.0*

ISC 15 11:49:42.9±1.2, 45°.61S±0.03°×166°.66E±0°.04, h16km±7km, n79, σ1°32/87, mb4.3/9, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.37**	**69**	Pg	**Pb**	**11 49 50.7**	**-0.5**
DCZ				Sg	**

baz=24,SNR=4.0
RMQ Roma 23.86 317 P P 11 54 56.6 +1.1
baz=24,SNR=7.3
ASAR Alice Springs 34.36 298 P P 11 56 28.4 -0.7
ASAR Alice Springs 34.36 298 P P 11 56 28.4 -0.7
5.3nm,1.0s,baz=144,slow=8.5,SNR=16
WRA Warramunga Arr 36.91 303 P P 11 56 50.1 -0.9
WRA Warramunga Arr 36.91 303 P P 11 56 50.1 -0.9
5.7nm,1.1s,baz=142,slow=8.8,SNR=10
QSPA South Pole Qui 44.51 180 P P 11 57 54.5 +1.1
QSPA South Pole Qui 44.51 180 P P 11 57 54.5 +1.1
2.6nm,0.7s,baz=9.3,slow=3.4,SNR=13
MAW Mawson 53.57 208 P P 11 59 03.1 +0.6
MAW Mawson 53.57 208 P P 11 59 03.1 +0.6
2.8nm,0.9s,baz=99,slow=7.0,SNR=4.4
KAPI Kappang 57.35 300 P P 11 59 29.8 -0.6
KAPI Kappang 57.35 300 P P 11 59 29.8 -0.6
6.5nm,0.2s,baz=162,slow=20,SNR=6.3
SNAA Sanae 62.79 184 P P 12 00 07.4 +0.4
SNAA Sanae 62.79 184 P P 12 00 07.4 +0.4
1.0nm,0.9s,baz=188,slow=6.6,SNR=12
PPI Padang Panjang 73.25 287 P P 12 01 06.0 -7.5
baz=73,SNR=9.0
PLCA Paso Flores 79.97 140 P P 12 01 52.5 +1.1
PLCA Paso Flores 79.97 140 P P 12 01 52.5 +1.1
3.2nm,1.0s,baz=218,slow=7.2,SNR=5.8
CMAR Chiang Mai Arr 88.37 299 P P 12 02 34.5 +0.4
CMAR Chiang Mai Arr 88.37 299 P P 12 02 34.5 +0.4
1.2nm,0.3s,baz=148,slow=4.0,SNR=10
ILAR Eielson Array 115.87 20 PKP PKPdf 12 08 22.1 -1.4
ILAR Eielson Array 115.87 20 PKP PKPdf 12 08 22.1 -1.4
0.3nm,0.6s,baz=298,slow=3.3,SNR=4.3
MKAR Makanchi Array 118.05 309 PKP PKPdf 12 08 27.2 -1.1
MKAR Makanchi Array 118.05 309 PKP PKPdf 12 08 27.3 -1.1
0.3nm,0.6s,baz=84,slow=0.6,SNR=3.8
TORD Torodi Ar. Bea 145.22 206 PKPbc PKPbc 12 09 19.4 -0.3
TORD Torodi Ar. Bea 145.22 206 PKPbc PKPbc 12 09 19.4 -0.3
17nm,0.6s,baz=148,slow=2.3,SNR=99
SCHQ Schefferville 145.34 55 PKPbc PKPbc 12 09 17.1 -1.9
SCHQ Schefferville 145.34 55 PKPbc PKPbc 12 09 17.1 -1.9
4.1nm,0.9s,baz=274,slow=9.0,SNR=2.9
BRTR Keskin Array B 145.36 277 PKPbc PKPbc 12 09 19.4 -0.3
BRTR Keskin Array B 145.36 277 PKPbc PKPbc 12 09 19.4 -0.3
3.2nm,0.8s,baz=142,slow=4.2,SNR=11
KEV Kevo 148.64 334 *ep* **PKPbc 12 09 27.7 -0.2**
5.9nm,0.6s
ARCES ARCESS Array B 149.21 334 PKPbc PKPbc 12 09 29.1 -0.3
ARCES ARCESS Array B 149.21 334 PKPbc PKPbc 12 09 29.1 -0.3
3.6nm,0.6s,baz=77,slow=2.6,SNR=17
FINES FINESS Array B 152.28 319 PKPbc PKPbc 12 09 36.6 -0.1
FINES FINESS Array B 152.28 319 PKPbc PKPbc 12 09 36.6 -0.1
4.3nm,0.5s,baz=82,slow=4.0,SNR=25

WEL 15 11:50:58.4±0.7, 45.64S×166.64E, h5km, ML4.0/7, Error ellipse: s-maj=6.2km s-min=3.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.39**	**66**	PG	Pg	11 51 06.3	+0.4
DCZ				SG	Sg	11 51 11.5	+0.5
DCZ				SG	Sb	11 51 11.6	-2.5
DCZ				SG		11 51 11.9	
PYZ	**Puysegur Point**	**0.53**	**177**	*e*PG	Pg	11 51 08.1	-0.6
PYZ				SG	Sb	11 51 17.7	-0.5
WHZ	**Wether Hill Ro**	**0.95**	**106**	*e*P*	Pb	11 51 17.0	-0.3
WHZ				S*	Sb	11 51 30.9	+0.6
WHZ				AML	AML	11 51 36.0	
MLZ	**Mavora Lakes**	**1.11**	**76**	*e*P*	Pg	11 51 18.1	-1.8
MLZ				S*	Sg	11 51 32.4	-2.0
MLZ				AML	AML	11 51 33.4	
MSZ	**Milford Sound**	**1.32**	**44**	*e*P*	Pg	11 51 24.5	+0.7
MSZ				S*	Sg	11 51 40.3	-0.7
MSZ				AML	AML	11 51 42.8	
WKZ	**Wanaka**	**1.86**	**65**	AML	AML	11 52 02.1	
WKZ				AML	AML	11 52 02.5	
EAZ	**Earnscleugh**	**1.92**	**79**	*e*PN	Pn	11 51 32.4	+0.7
EAZ				SN	Sb	11 51 58.8	+0.6
EAZ				AML	AML	11 52 03.6	
TUZ	**Tuapeka**	**2.11**	**100**	SN	Sg	11 52 05.2	-1.1
TUZ				AML	AML	11 52 08.2	

*IDC **15** 11:51:34.8±1.4, 45.44S×166.70E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.9/14, mbtmp4.0/4, ML4.5/1, Error ellipse: s-maj=52.6km s-min=28.9km az=9.0*
*ISCJB **15** 11:51:36.2±0.7, 45.54S±0.05×166.55E±0.07, h15km, mb3.8/3, Error ellipse: s-maj=7.3km s-min=6.0km az=40.8*
*WEL **15** 11:51:37.8±0.9, 45.59S×166.67E, h12km, ML4.5/14, Error ellipse: s-maj=9.3km s-min=5.0km az=90.0*
ISC 15 11:51:36.8±0.8, 45.59S±0.05×166.67E±0.07, h15km, n25, σ1°29/22, mb3.8/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.35**	**72**	P*	**Pb**	**11 51 44.8**	**0.0**
DCZ				S*	**Sb**	**11 51 49.7**	**-0.5**
DCZ				AML	AML	11 51 50.0	
DCZ				AML	AML	11 51 50.3	
DCZ				AML	AML	11 51 50.9	
PYZ	**Puysegur Point**	**0.58**	**180**	P*	**Pg**	**11 51 48.6**	**+0.4**
PYZ				S*	**Sg**	**11 51 56.1**	**+0.2**
WHZ	**Wether Hill Ro**	**0.94**	**109**	P*	**Pn**	**11 51 55.2**	**-0.3**
WHZ				AML	AML	11 52 18.5	
WHZ				AML	AML	11 52 18.6	
MLZ	**Mavora Lakes**	**1.08**	**78**	P*	**Pb**	**11 51 56.4**	**-0.8**
MLZ				AML	AML	11 52 14.3	
MLZ				AML	AML	11 52 18.6	
MSZ	**Milford Sound**	**1.27**	**45**	*e*PN	**Pg**	**11 52 01.1**	**-0.3**
MSZ				AML	AML	11 52 21.2	
MSZ				AML	AML	11 52 24.5	
APZ	**The Paps**	**1.54**	**144**	PN	**Pn**	**11 52 04.5**	**+0.7**
WKZ	**Wanaka**	**1.82**	**66**	AML	AML	11 52 37.3	
WKZ				AML	AML	11 52 38.1	
WKZ				AML	AML	11 52 38.1	
WKZ				AML	AML	11 52 39.5	
EAZ	**Earnscleugh**	**1.89**	**80**	*e*PN	**Pb**	**11 52 09.7**	**-1.2**
EAZ				AML	AML	11 52 38.2	
EAZ				AML	AML	11 52 38.3	
SYZ	**Scrubby Hill**	**1.96**	**120**	PN	**Pb**	**11 52 11.9**	**-0.3**
TUZ	**Tuapeka**	**2.10**	**101**	*e*PN	**Pb**	**11 52 13.8**	**-0.8**
TUZ				AML	AML	11 52 44.7	
TUZ				AML	AML	11 52 45.2	
HHSZ	**Highcliff Hill**	**2.76**	**98**	PN	**Pb**	**11 52 23.0**	**-2.9**
ODZ	**Otahua Downs**	**2.85**	**80**	*e*PN	**Pn**	**11 52 22.9**	**+1.1**
ODZ				AML	AML	11 53 01.8	
ODZ				AML	AML	11 53 02.5	
ODZ				AML	AML	11 53 04.8	
ODZ				AML	AML	11 53 04.8	
FOZ	**Fox Glacier**	**2.96**	**48**	AML	AML	11 53 12.4	
FOZ				AML	AML	11 53 14.0	
RPZ	**Rata Peaks**	**3.64**	**61**	Pn	**Pn**	**11 52 31.5**	**-1.2**
42nm,0.3s,baz=22,slow=16,SNR=3.8							
RPZ	**Rata Peaks**	**3.64**	**61**	*e*PN	**Pn**	**11 52 34.0**	**+1.4**
RPZ				AML	AML	11 53 20.2	
RPZ				AML	AML	11 53 21.9	
WVZ	**Waitaha Valley**	**3.85**	**51**	AML	AML	11 53 39.6	
WVZ				AML	AML	11 53 40.8	
MQZ	**McQueen's Vall**	**4.66**	**68**	AML	AML	11 53 40.9	
MQZ				AML	AML	11 53 41.9	
THZ	**Tophouse**	**5.92**	**52**	SN	**Sn**	**11 54 15.2**	**+3.7**
THZ				AML	AML	11 54 21.4	
QRZ	**Quartz Range**	**6.40**	**44**	AML	AML	11 54 32.5	
QRZ				AML	AML	11 54 36.0	
STKA	**Stephens Creek**	**23.76**	**296**	P	**P**	**11 56 48.8**	**+0.2**
1.2nm,0.5s,baz=132,slow=21,SNR=3.6							
ASAR	**Alice Springs**	**34.35**	**298**	P		**11 58 23.0**	**-0.1**
1.3nm,0.9s,baz=138,slow=8.7,SNR=3.3							
WRA	**Warramunga Arr**	**36.91**	**303**	P	**P**	**11 58 44.1**	**-0.9**
2.0nm,1.1s,baz=141,slow=8.3,SNR=2.9							
TORD	**Torodi Ar. Bea**	**145.24**	**206**	PKPbc	**PKPdf**	**12 11 13.8**	**-0.3**
5.5nm,0.5s,baz=151,slow=2.4,SNR=281							
ARCES	**ARCESS Array B**	**149.19**	**334**	PKPbc	**PKPbc**	**12 11 22.9**	**-0.4**
2.8nm,0.7s,baz=92,slow=2.9,SNR=4.7							
FINES	**FINESS Array B**	**152.26**	**319**	PKPbc	**PKPbc**	**12 11 30.8**	**+0.1**
1.7nm,0.5s,baz=88,slow=3.9,SNR=10							

*IDC **15** 11:51:53.7±1.7, 45.45S×166.69E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.9/13, mbtmp4.0/3, Error ellipse: s-maj=98.9km s-min=38.0km az=36.0*

*ISCJB **15** 11:51:55.3±0.7, 45.56S±0.05×166.49E±0.06, h15km, mb3.9/3, Error ellipse: s-maj=6.7km s-min=5.8km az=13.4*
*WEL **15** 11:51:56.8±0.5, 45.58S×166.67E, h12km, ML4.6/10, Error ellipse: s-maj=4.2km s-min=2.7km az=90.0*
ISC 15 11:51:55.8±0.8, 45.58S±0.05×166.68E±0.05, h15km, n20, σ0°91/23, mb4.0/3, 1C, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.34**	**74**	⇑P*	**Pb**	**11 52 04.0**	**+0.4**
DCZ				S*	**Sb**	**11 52 09.0**	**+0.1**
DCZ				S*	**Sb**	**11 52 09.0**	**+0.1**
DCZ				AML	AML	11 52 09.3	
DCZ				AML	AML	11 52 09.3	
PYZ	**Puysegur Point**	**0.59**	**180**	P*	**Pb**	**11 52 07.9**	**+0.1**
PYZ				S*	**Sg**	**11 52 15.2**	**-0.1**
WHZ	**Wether Hill Ro**	**0.94**	**110**	S*	**Sn**	**11 52 27.4**	**-0.2**
WHZ				AML	AML	11 52 36.6	
MLZ	**Mavora Lakes**	**1.07**	**78**	*e*P*	**Pb**	**11 52 16.1**	**+0.1**
MLZ				AML	AML	11 52 37.1	
MLZ				AML	AML	11 52 37.6	
MSZ	**Milford Sound**	**1.26**	**45**	AML	AML	11 52 48.9	
MSZ				AML	AML	11 52 51.9	
APZ	**The Paps**	**1.55**	**145**	*e*PN	**Pb**	**11 52 24.2**	**0.0**
APZ				SN	**Sb**	**11 52 44.4**	**+0.7**
WKZ	**Wanaka**	**1.81**	**66**	*e*PN	**Pg**	**11 52 30.2**	**-0.4**
WKZ				AML	AML	11 52 57.8	
WKZ				AML	AML	11 52 58.2	
WKZ				AML	AML	11 53 00.2	
WKZ				AML	AML	11 53 00.6	
EAZ	**Earnscleugh**	**1.88**	**80**	SN	**Sg**	**11 52 55.9**	**-0.4**
EAZ				AML	AML	11 53 01.5	
SYZ	**Scrubby Hill**	**1.96**	**120**	*e*PN	**Pn**	**11 52 28.7**	**+0.2**
SYZ				SN	**Sb**	**11 52 55.9**	**+0.4**
SYZ				SN	**Sg**	**11 52 58.1**	**-0.8**
TUZ	**Tuapeka**	**2.10**	**101**	SN	**Sb**	**11 53 01.1**	**+1.8**
TUZ				AML	AML	11 53 04.8	
HHSZ	**Highcliff Hill**	**2.76**	**98**	PN	**Pb**	**11 52 42.6**	**-2.2**
ODZ	**Otahua Downs**	**2.84**	**81**	*e*PN	**Pn**	**11 52 43.0**	**+2.4**
ODZ				AML	AML	11 53 13.0	
ODZ				AML	AML	11 53 18.6	
ODZ				AML	AML	11 53 21.5	
ODZ				AML	AML	11 53 21.8	
FOZ	**Fox Glacier**	**2.94**	**48**	AML	AML	11 53 39.2	
FOZ				AML	AML	11 53 39.7	
RPZ	**Rata Peaks**	**3.63**	**61**	AML	AML	11 53 40.0	
RPZ				AML	AML	11 53 40.7	
STKA	**Stephens Creek**	**23.76**	**296**	P	**P**	**11 57 07.2**	**-0.3**
3.4nm,0.7s,baz=133,slow=13,SNR=5.9							
ASAR	**Alice Springs**	**34.35**	**298**	P	**P**	**11 58 42.2**	**+0.1**
2.0nm,1.0s,baz=153,slow=8.4,SNR=4.2							
WRA	**Warramunga Arr**	**36.91**	**303**	P	**P**	**11 59 03.1**	**-0.9**
1.8nm,0.9s,baz=137,slow=8.4,SNR=3.2							
TORD	**Torodi Ar. Bea**	**145.26**	**206**	PKPbc	**PKPbc**	**12 11 32.7**	**-0.1**
3.0nm,0.5s,baz=148,slow=2.3,SNR=7.6							
ARCES	**ARCESS Array B**	**149.18**	**335**	PKPbc	**PKPbc**	**12 11 42.0**	**-0.3**
1.5nm,0.5s,baz=60,slow=3.2,SNR=6.3							
FINES	**FINESS Array B**	**152.26**	**319**	PKPbc	**PKPbc**	**12 11 49.8**	**+0.1**
2.2nm,0.5s,baz=108,slow=2.8,SNR=8.3							

WEL 15 11:53:26.6±0.8, 46.06S×166.03E, h12km, ML3.9/7, Error ellipse: s-maj=7.2km s-min=3.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.46**	**104**	P*	Pg	11 53 35.9	0.0
PYZ				S*	Sg	11 53 42.2	+0.2
DCZ	**Deep Cove**	**0.98**	**54**	P*	Pg	11 53 44.5	-0.9
DCZ				S*	Sg	11 53 56.5	-1.7
DCZ				AML	AML	11 53 59.5	
DCZ				AML	AML	11 53 59.5	
DCZ				AML	AML	11 53 59.5	
APZ	**The Paps**	**1.56**	**120**	*e*PN	Pn	11 53 52.1	-2.2
MLZ	**Mavora Lakes**	**1.66**	**65**	*e*PN	Pn	11 53 55.2	-0.5
MLZ				AML	AML	11 54 20.9	
MLZ				AML	AML	11 54 25.4	
MSZ	**Milford Sound**	**1.93**	**45**	AML	AML	11 54 36.4	
MSZ				AML	AML	11 54 38.7	
SYZ	**Scrubby Hill**	**2.21**	**104**	*e*PN	Pn	11 54 02.8	-0.2
WKZ	**Wanaka**	**2.44**	**61**	AML	AML	11 54 45.3	
WKZ				AML	AML	11 54 45.3	
WKZ				AML	AML	11 54 45.6	
WKZ				AML	AML	11 54 45.9	
EAZ	**Earnscleugh**	**2.44**	**71**	*e*PN	Pn	11 54 07.4	+1.0
EAZ				SN	Sn	11 54 37.1	+1.0
EAZ				AML	AML	11 54 42.6	
TUZ	**Tuapeka**	**2.51**	**89**	*e*PN	Pn	11 54 07.4	+0.2
TUZ				SN	Sn	11 54 36.8	-1.0
TUZ				AML	AML	11 54 40.6	
HHSZ	**Highcliff Hill**	**3.19**	**89**	*e*PN	Pn	11 54 17.4	+0.8
ODZ	**Otahua Downs**	**3.40**	**74**	*e*PN	Pn	11 54 18.5	-0.9
ODZ				AML	AML	11 55 13.4	

WEL 15 11:58:44.5±1.2, 46.15S×165.80E, h20km, ML4.1/7, Error ellipse: s-maj=10.7km s-min=6.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.61**	**92**	P*	Pb	11 58 56.3	-0.3
PYZ				S*	Sb	11 59 03.9	-0.8
DCZ	**Deep Cove**	**1.16**	**55**	PN	Pn	11 59 05.4	-0.1
WHZ	**Wether Hill Ro**	**1.52**	**81**	*e*PN	Pn	11 59 10.1	-0.4
WHZ				SN	Sn	11 59 28.5	-1.2
APZ	**The Paps**	**1.66**	**115**	*e*PN	Pn	11 59 10.7	-1.8
APZ				SN	Sn	11 59 34.1	+0.8
APZ				SN	Sb	11 59 34.3	-0.7
MLZ	**Mavora Lakes**	**1.84**	**65**	*e*PN	Pn	11 59 15.4	+0.4
MLZ				AML	AML	11 59 40.6	
MLZ				AML	AML	11 59 42.5	
MSZ	**Milford Sound**	**2.10**	**46**	AML	AML	11 59 51.4	
MSZ				AML	AML	11 59 54.2	
EAZ	**Earnscleugh**	**2.62**	**71**	*e*PN	Pn	11 59 28.2	+2.5
EAZ				AML	AML	12 00 01.7	
EAZ				AML	AML	12 00 02.1	
TUZ	**Tuapeka**	**2.68**	**87**	*e*PN	Pn	11 59 28.9	+2.5
TUZ				AML	AML	12 00 02.4	
TUZ				AML	AML	12 00 03.5	
LBZ	**Lake Benmore**	**3.56**	**62**	AML	AML	12 00 22.9	
LBZ				AML	AML	12 00 25.9	
ODZ	**Otahua Downs**	**3.57**	**74**	AML	AML	12 00 34.3	
ODZ				AML	AML	12 00 34.2	
RPZ	**Rata Peaks**	**4.45**	**59**	AML	AML	12 00 40.6	
RPZ				AML	AML	12 00 42.6	

WEL 15 12:01:44.3±0.7, 46.04S×166.09E, h20km, ML3.6/5, Error ellipse: s-maj=6.6km s-min=3.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.43**	**107**	P*	Pb	12 01 53.2	-0.1
PYZ				S*	Sb	12 01 59.0	-0.4
PYZ				S*	Sn	12 01 59.3	-3.5
DCZ	**Deep Cove**	**0.94**	**53**	P*	Pb	12 02 01.4	-0.5
WHZ	**Wether Hill Ro**	**1.31**	**84**	PN	Pn	12 02 07.1	-0.3
WHZ				SN	Sn	12 02 23.7	-0.6
WHZ				SN	Sb	12 02 23.9	-0.6
APZ	**The Paps**	**1.54**	**122**	PN	Pn	12 02 09.7	-0.9
APZ				SN	Sn	12 02 27.3	-2.8
MLZ	**Mavora Lakes**	**1.62**	**65**	*e*PN	Pb	12 02 13.4	-0.2
SYZ	**Scrubby Hill**	**2.17**	**104**	*e*PN	Pn	12 02 19.5	+0.1
SYZ				SN	Sn	12 02 42.6	-3.0
WKZ	**Wanaka**	**2.40**	**61**	*e*PN	Pb	12 02 26.6	-0.2
EAZ	**Earnscleugh**	**2.40**	**71**	*e*PN	Pn	12 02 24.3	+1.9
TUZ	**Tuapeka**	**2.47**	**89**	*e*PN	Pn	12 02 24.5	+1.0
ODZ	**Otahua Downs**	**3.35**	**74**	*e*PN	Pn	12 02 33.9	-1.7

WEL 15 12:02:06.5±0.4, 45.51S×166.57E, h12km, ML4.2/13, Error ellipse: s-maj=3.1km s-min=1.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.41**	**86**	P*	Pg	12 02 14.7	+0.1
DCZ				S*	Sg	12 02 20.1	0.0
DCZ				AML	AML	12 02 24.6	
PYZ	**Puysegur Point**	**0.66**	**174**	P*	Pg	12 02 19.1	-0.3
PYZ				S*	Sg	12 02 27.9	-0.3
WHZ	**Wether Hill Ro**	**1.04**	**112**	*e*P*	Pb	12 02 25.2	-1.2
WHZ				S*	Sb	12 02 39.6	-0.4
WHZ				AML	AML	12 02 48.5	
MLZ	**Mavora Lakes**	**1.14**	**82**	*e*P*	Pb	12 02 26.2	-2.0
MLZ				S*	Sb	12 02 40.7	-2.3
MLZ				AML	AML	12 02 43.5	
MSZ	**Milford Sound**	**1.27**	**49**	*e*PN	Pn	12 02 28.9	-1.2
MSZ				S*	Sg	12 02 47.9	+0.3
MSZ				AML	AML	12 02 54.7	
MSZ				AML	AML	12 10 06.6	
MSZ				AML	AML	12 10 10.6	
APZ	**The Paps**	**1.65**	**144**	*e*PN	Pb	12 02 36.6	-0.3
WKZ	**Wanaka**	**1.86**	**69**	PN	Pb	12 02 39.9	-0.5
WKZ				AML	AML	12 03 08.7	
WKZ				AML	AML	12 03 08.7	
WKZ				AML	AML	12 03 09.5	
WKZ				AML	AML	12 03 09.5	
EAZ	**Earnscleugh**	**1.95**	**83**	*e*PN	Pn	12 02 39.5	+0.1
EAZ				SN	Sg	12 03 08.4	-0.8
EAZ				AML	AML	12 03 10.8	
EAZ				AML	AML	12 03 11.4	
SYZ	**Scrubby Hill**	**2.06**	**121**	*e*PN	Pb	12 02 44.1	+0.3
SYZ				SN	Sb	12 03 08.8	-0.6
JCZ	**Jackson Bay**	**2.12**	**48**	*e*PN	Pg	12 02 46.6	-0.6
JCZ				AML	AML	12 03 18.4	
JCZ				AML	AML	12 03 18.5	
TUZ	**Tuapeka**	**2.19**	**103**	*e*PN	Pb	12 02 44.5	-1.6
TUZ				SN	Sb	12 03 13.8	+0.7
TUZ				AML	AML	12 03 19.3	
LBZ	**Lake Benmore**	**2.80**	**68**	*e*PN	Pn	12 02 52.8	+1.6
LBZ				AML	AML	12 03 28.0	
LBZ				AML	AML	12 03 31.2	
ODZ	**Otahua Downs**	**2.91**	**82**	*e*PN	Pn	12 02 51.7	-1.0
ODZ				SN	Sn	12 03 29.0	+1.4
ODZ				AML	AML	12 03 30.5	
ODZ				AML	AML	12 03 32.3	
ODZ				AML	AML	12 03 32.5	
FOZ	**Fox Glacier**	**2.96**	**50**	AML	AML	12 03 44.7	
FOZ				AML	AML	12 03 44.7	
FOZ				AML	AML	12 03 45.3	
FOZ				AML	AML	12 03 45.3	
RPZ	**Rata Peaks**	**3.67**	**62**	*e*PN	Pn	12 03 03.3	+0.2
RPZ				AML	AML	12 03 50.4	
RPZ				AML	AML	12 03 52.8	
WVZ	**Waitaha Valley**	**3.85**	**52**	AML	AML	12 04 11.3	
WVZ				AML	AML	12 04 11.8	
OXZ	**Oxford**	**4.48**	**63**	*e*PN	Pn	12 03 14.3	0.0

*ISCJB **15** 12:07:43.4±0.9, 45.64N±0.05×26.46E±0.05, h141km±6km, Error ellipse: s-maj=7.7km s-min=5.4km az=163.6*
*CSEM **15** 12:07:43.2, 45.64N×26.47E, h147km, MD3.9/2, After BUC*
*BUC **15** 12:07:43.2±1.3, 45.64N×26.47E, h147km±12km, MD3.9/2, Error ellipse: s-maj=10.1km s-min=8.3km az=109.0*
ISC 15 12:07:42.7±1.6, 45.66N±0.04×26.47E±0.03, h151km±9km, n64, σ0°73/96, 33C-24D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.23**	**34**	⇑*i*P	**Pn**	**12 08 02.7**	**-0.5**
PLOR				*i* S	**Sn**	**12 08 18.8**	**0.0**
PLOR	**Plostina**	**0.23**	**34**	⇑*i*P	**Pn**	**12 08 02.7**	**-0.5**
PLOR	**Plostina**	**0.23**	**34**	⇑*i*P	**Pn**	**12 08 02.7**	**-0.5**
PLOR				*i* S	**Sn**	**12 08 18.8**	**0.0**
VRI	**Vrincioaia**	**0.28**	**41**	⇑*i*P	**Pn**	**12 08 03.6**	**+0.3**
VRI				*i* S	**Sn**	**12 08 18.8**	**-0.2**
VRI	**Vrincioaia**	**0.28**	**41**	⇑*i*P	**Pn**	**12 08 03.6**	**+0.3**
VRI	**Vrincioaia**	**0.28**	**41**	⇑*i*P	**Pn**	**12 08 03.6**	**+0.3**
VRI				*i* S	**Sn**	**12 08 18.8**	**-0.2**
MLR	**Muntele Rosu**	**0.40**	**246**	⇑*i*P	**Pn**	**12 08 04.1**	**+0.2**
MLR				*i* S	**Sn**	**12 08 19.9**	**0.0**
MLR	**Muntele Rosu**	**0.40**	**246**	⇑*i*P	**Pn**	**12 08 04.1**	**+0.2**
MLR	**Muntele Rosu**	**0.40**	**246**	⇑*i*P	**Pn**	**12 08 04.1**	**+0.2**
MLR				*i* S	**Sn**	**12 08 19.9**	**0.0**
GRER		**0.45**	**128**	*i* S	**Sn**	**12 08 19.3**	**-0.7**
GRER		**0.45**	**128**	S	**Sn**	**12 08 19.3**	**-0.7**
GRER		**0.45**	**128**	*i* S	**Sn**	**12 08 19.3**	**-0.7**
PETR	**Petresti**	**0.54**	**83**	⇑*i*P	**Pn**	**12 08 05.2**	**+0.9**
PETR				*i* S	**Sn**	**12 08 21.5**	**+0.8**
PETR	**Petresti**	**0.54**	**83**	⇑*i*P	**Pn**	**12 08 05.2**	**+0.9**
PETR	**Petresti**	**0.54**	**83**	⇑*i*P	**Pn**	**12 08 05.2**	**+0.9**
PETR				*i* S	**Sn**	**12 08 21.5**	**+0.8**
ISR	**Istrita**	**0.54**	**174**	⇑*i*P	**Pn**	**12 08 04.9**	**+0.5**
ISR				*i* S	**Sn**	**12 08 21.0**	**+0.1**
ISR	**Istrita**	**0.54**	**174**	⇑*i*P	**Pn**	**12 08 04.9**	**+0.5**
ISR	**Istrita**	**0.54**	**174**	⇑*i*P	**Pn**	**12 08 04.9**	**+0.5**
ISR				*i* S	**Sn**	**12 08 21.0**	**+0.1**
SECR		**0.68**	**204**	⇑*i*P	**Pn**	**12 08 05.9**	**+0.7**
SECR				*i* S	**Sn**	**12 08 22.8**	**+0.5**
SECR		**0.68**	**204**	⇑*i*P	**Pn**	**12 08 05.9**	**+0.7**
SECR		**0.68**	**204**	⇑*i*P	**Pn**	**12 08 05.9**	**+0.7**
SECR				*i* S	**Sn**	**12 08 22.8**	**+0.5**
DOPR	**Dopca**	**0.81**	**293**	⇓*i*P	**Pn**	**12 08 06.2**	**+0.1**
DOPR				*i* S	**Sn**	**12 08 23.1**	**-0.8**
DOPR	**Dopca**	**0.81**	**293**	⇓*i*P	**Pn**	**12 08 06.2**	**+0.1**
DOPR	**Dopca**	**0.81**	**293**	⇓*i*P	**Pn**	**12 08 06.2**	**+0.1**
DOPR				*i* S	**Sn**	**12 08 23.1**	**-0.8**
TESR	**Tescani**	**0.86**	**8**	⇓*i*P	**Pn**	**12 08 06.4**	**0.0**
TESR				*i* S	**Sn**	**12 08 23.9**	**-0.7**
TESR	**Tescani**	**0.86**	**8**	⇓*i*P	**Pn**	**12 08 06.4**	**0.0**
TESR	**Tescani**	**0.86**	**8**	⇓*i*P	**Pn**	**12 08 06.4**	**0.0**
TESR				*i* S	**Sn**	**12 08 23.9**	**-0.7**
SULR		**0.99**	**189**	⇑*i*P	**Pn**	**12 08 08.0**	**+0.6**
SULR				*i* S	**Sn**	**12 08 25.6**	**-0.7**
SULR		**0.99**	**189**	⇑*i*P	**Pn**	**12 08 08.0**	**+0.6**
SULR		**0.99**	**189**	⇑*i*P	**Pn**	**12 08 08.0**	**+0.6**
SULR				*i* S	**Sn**	**12 08 25.6**	**-0.7**
VOIR		**1.02**	**258**	⇑*i*P	**Pn**	**12 08 07.5**	**-0

WEL 15 12:08:56.7±0.8, 46°03S×166°08E, h12km, ML3.6/5, Error ellipse: s-maj=7.3km s-min=2.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.44**	**109**	P*	Pg	12 09 05.5	0.0
PYZ				S*	Sg	12 09 12.1	+0.7
DCZ	**Deep Cove**	**0.93**	**54**	P*	Pg	12 09 13.6	-1.0
DCZ				S*	Sg	12 09 25.6	-1.1
DCZ				S*	Sb	12 09 26.1	-0.9
DCZ				AML	AML	12 09 26.2	
DCZ				AML	AML	12 09 27.5	
APZ	**The Paps**	**1.55**	**122**	*e*PN	Pn	12 09 22.3	-1.8
APZ				SN	Sn	12 09 41.7	-2.5
MLZ	**Mavora Lakes**	**1.62**	**66**	PN	Pn	12 09 24.8	-0.3
MLZ				AML	AML	12 09 27.9	
MLZ				AML	AML	12 09 29.7	
MSZ	**Milford Sound**	**1.88**	**45**	AML	AML	12 09 40.6	
MSZ				AML	AML	12 09 42.4	
SYZ	**Scrubby Hill**	**2.18**	**105**	*e*PN	Pn	12 09 31.8	-1.0
WKZ	**Wanaka**	**2.39**	**61**	AML	AML	12 09 40.7	
WKZ				AML	AML	12 09 42.2	
EAZ	**Earnscleugh**	**2.40**	**72**	PN	Pn	12 09 36.8	+1.0
EAZ				AML	AML	12 09 40.8	
EAZ				AML	AML	12 09 41.6	
TUZ	**Tuapeka**	**2.48**	**90**	*e*PN	Pn	12 09 36.5	-0.3
ODZ	**Otahua Downs**	**3.35**	**75**	*e*PN	Pn	12 09 47.8	-1.1

*IDC **15** 12:09:23.7±1.0, 45°.33S×166°.61E, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.9/16, mbtmp4.0/6, ML4.0/2, Error ellipse: s-maj=28.7km s-min=23.3km az=25.0*
*ISCJB **15** 12:09:24.3±0.6, 45°.48S±0°.05×166°.60E±0°.06, h15km, mb3.9/4, Error ellipse: s-maj=7.5km s-min=6.0km az=147.6*
*NEIC **15** 12:09:25.1, 45°.54S×166°.62E, h4km, ML4.7(WEL), After WEL.*

ISC 15 12:09:25.5±0.7, 45°.53S±0°.06×166°.70E±0°.06, h15km, n28, σ1§06/32, mb3.9/4, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.32**	**82**	**Pg**	**Pg**	**12 09 32.4**	**+0.2**
DCZ				Sg	**Sb**	**12 09 38.1**	**+0.1**
PYZ	**Puysegur Point**	**0.64**	**181**	P*	**Pg**	**12 09 38.1**	**+0.1**
PYZ				Sg	**Sg**	**12 09 45.5**	**-1.1**
WHZ	**Wether Hill Ro**	**0.95**	**113**	P*	**Pn**	**12 09 44.2**	**-0.1**
MLZ	**Mavora Lakes**	**1.05**	**81**	P*	**Pb**	**12 09 44.1**	**-1.3**
MSZ	**Milford Sound**	**1.22**	**46**	P*	**Pn**	**12 09 47.8**	**-0.1**
WKZ	**Wanaka**	**1.78**	**68**	Pn	**Pb**	**12 09 56.8**	**-1.0**
EAZ	**Earnscleugh**	**1.86**	**82**	Pn	**Pn**	**12 09 57.5**	**+0.7**
TUZ	**Tuapeka**	**2.10**	**103**	Pn	**Pb**	**12 10 01.8**	**-1.4**
LBZ	**Lake Benmore**	**2.72**	**67**	Pn	**Pn**	**12 10 10.5**	**+1.8**
ODZ	**Otahua Downs**	**2.83**	**82**	Pn	**Pn**	**12 10 09.8**	**-0.3**
RPZ	**Rata Peaks**	**3.60**	**61**	Pn	**Pn**	**12 10 20.2**	**-0.5**
RPZ				Sn	**Sn**	**12 11 03.3**	**+0.4**
RPZ	**Rata Peaks** 44nm,0.3s,baz=222,slow=5.4,SNR=20	**3.60**	**61**	Pn	**Pn**	**12 10 20.2**	**-0.5**
RPZ	29nm,0.3s,baz=352,slow=21,SNR=3.1			Sn	**Sn**	**12 11 03.3**	**+0.4**
URZ	**Urewera**	**10.62**	**51**	Pn	**Pn**	**12 11 57.4**	**+0.4**
URZ				Sn	Sn	12 13 48.4	-7.2
URZ	**Urewera** 0.3nm,0.3s,baz=230,slow=16,SNR=2.4	**10.62**	**51**	Pn	**Pn**	**12 11 57.4**	**+0.4**
URZ	0.5nm,0.3s,baz=0.0,slow=20,SNR=2.3			Sn	Sn	12 13 48.4	-7.2
STKA	**Stephens Creek**	**23.75**	**296**	P	**P**	**12 14 37.7**	**+0.6**
STKA	**Stephens Creek** 2.0nm,0.6s,baz=130,slow=12,SNR=5.3	**23.75**	**296**	P	**P**	**12 14 37.7**	**+0.6**
ASAR	**Alice Springs**	**34.34**	**298**	P	**P**	**12 16 10.1**	**-1.6**
ASAR	**Alice Springs** 1.4nm,1.0s,baz=140,slow=9.2,SNR=11	**34.34**	**298**	P	**P**	**12 16 10.1**	**-1.6**
WRA	**Warramunga Arr**	**36.89**	**303**	P	**P**	**12 16 32.4**	**-1.1**
WRA	**Warramunga Arr** 1.8nm,0.9s,baz=138,slow=7.8,SNR=11	**36.89**	**303**	P	**P**	**12 16 32.4**	**-1.1**
QSPA	**South Pole Qui**	**44.60**	**180**	P	**P**	**12 17 39.1**	**+2.3**
QSPA	**South Pole Qui** 2.2nm,0.9s,baz=106,slow=0.8,SNR=8.4	**44.60**	**180**	P	**P**	**12 17 39.1**	**+2.3**
TORD	**Torodi Ar. Bea**	**145.31**	**206**	PKPbc	**PKPbc**	**12 29 02.6**	**0.0**
TORD	**Torodi Ar. Bea** 7.5nm,0.8s,baz=157,slow=2.4,SNR=29	**145.31**	**206**	PKPbc	**PKPbc**	**12 29 02.6**	**0.0**
BRTR	**Keskin Array B**	**145.38**	**277**	PKPbc	**PKPab**	**12 29 03.5**	**+0.9**
BRTR	**Keskin Array B** 1.3nm,0.9s,baz=186,slow=1.2,SNR=3.7	**145.38**	**277**	PKPbc	**PKPab**	**12 29 03.5**	**+0.9**
FINES	**FINESS Array B**	**152.23**	**319**	PKPbc	**PKPbc**	**12 29 18.6**	**-0.8**
FINES	**FINESS Array B** 0.5nm,0.6s,baz=90,slow=4.2,SNR=2.1	**152.23**	**319**	PKPbc	**PKPbc**	**12 29 18.6**	**-0.8**

WEL 15 12:13:33.2±0.6, 45°.58S×166°.65E, h12km, ML3.6/11, Error ellipse: s-maj=6.0km s-min=3.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.37**	**74**	P*	Pg	12 13 40.5	0.0
DCZ				S*	Sg	12 13 46.2	+0.8
DCZ				AML	AML	12 13 47.0	
DCZ				AML	AML	12 13 47.0	
DCZ				AML	AML	12 13 47.0	
PYZ	**Puysegur Point**	**0.59**	**178**	P*	Pg	12 13 44.7	0.0
PYZ				S*	Sg	12 13 51.6	-0.9
WHZ	**Wether Hill Ro**	**0.96**	**110**	P*	Pg	12 13 51.0	-0.8
WHZ				AML	AML	12 14 15.5	
WHZ				AML	AML	12 14 16.5	
MLZ	**Mavora Lakes**	**1.09**	**78**	P*	Pb	12 13 52.5	-1.7
MLZ				AML	AML	12 14 08.0	
MLZ				AML	AML	12 14 15.8	
MSZ	**Milford Sound**	**1.28**	**45**	*e*PN	Pn	12 13 56.3	-0.6
MSZ				S*	Sg	12 14 15.5	+1.1
MSZ				AML	AML	12 14 16.4	
MSZ				AML	AML	12 14 16.5	
MSZ				AML	AML	12 14 19.6	
APZ	**The Paps**	**1.56**	**144**	PN	Pn	12 13 59.5	-1.3
APZ				SN	Sn	12 14 20.9	-0.1
WKZ	**Wanaka**	**1.83**	**67**	*e*PN	Pn	12 14 04.7	+0.2
WKZ				AML	AML	12 14 34.2	
WKZ				AML	AML	12 14 36.5	
EAZ	**Earnscleugh**	**1.90**	**80**	PN	Pn	12 14 05.6	+0.1
EAZ				AML	AML	12 14 34.9	
EAZ				AML	AML	12 14 37.4	
SYZ	**Scrubby Hill**	**1.98**	**120**	*e*PN	Pn	12 14 05.6	-0.9
TUZ	**Tuapeka**	**2.12**	**101**	PN	Pn	12 14 09.6	+1.2
TUZ				AML	AML	12 14 40.8	
TUZ				AML	AML	12 14 41.8	
JCZ	**Jackson Bay**	**2.12**	**46**	*e*PN	Pb	12 14 11.0	-0.8
JCZ				AML	AML	12 14 42.5	
JCZ				AML	AML	12 14 44.3	
LBZ	**Lake Benmore**	**2.78**	**66**	*e*PN	Pn	12 14 17.6	+0.1
LBZ				AML	AML	12 14 59.1	
LBZ				AML	AML	12 14 59.5	
ODZ	**Otahua Downs**	**2.87**	**81**	PN	Pn	12 14 18.5	-0.2
ODZ				SN	Sn	12 14 55.4	+2.2
ODZ				AML	AML	12 15 00.3	
FOZ	**Fox Glacier**	**2.96**	**48**	*e*PN	Pn	12 14 22.7	+2.7
FOZ				AML	AML	12 15 12.4	

WEL 15 12:14:16.5±0.9, 45°.39S×166°.88E, h12km, ML3.7/13, 1D, Error ellipse: s-maj=6.5km s-min=3.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.21**	**116**	‖P*	Pg	12 14 21.1	+0.1
DCZ				SG	Sg	12 14 25.2	+1.1
DCZ				AML	AML	12 14 25.2	
DCZ				AML	AML	12 14 25.7	
DCZ				AML	AML	12 14 26.1	
PYZ	**Puysegur Point**	**0.79**	**190**	P*	Pg	12 14 31.0	-0.9
PYZ				S*	Sb	12 14 43.2	+0.2
WHZ	**Wether Hill Ro**	**0.90**	**125**	P*	Pg	12 14 32.2	-1.7
WHZ				S*	Sg	12 14 44.6	-1.1
WHZ				AML	AML	12 14 48.0	
MLZ	**Mavora Lakes**	**0.91**	**88**	P*	Pg	12 14 32.2	-1.9
MLZ				S*	Sg	12 14 44.7	-1.3
MLZ				AML	AML	12 14 47.2	
MSZ	**Milford Sound**	**1.03**	**46**	*e*P*	Pb	12 14 33.3	-2.9
MSZ				S*	Sn	12 14 51.5	+0.5
MSZ					AML	AML	12 14 53.5	
MSZ					AML	AML	12 14 53.5	
MSZ					AML	AML	12 14 53.6	
WKZ	**Wanaka**	**1.61**	**70**	*e*PN	Pn	12 14 45.0	+0.2
WKZ					AML	AML	12 15 07.6	
WKZ					AML	AML	12 15 07.8	
APZ	**The Paps**	**1.64**	**152**	SN	Sb	12 15 06.9	-0.5
EAZ	**Earnscleugh**	**1.72**	**86**	*e*PN	Pn	12 14 45.7	-0.5
EAZ				SN	Sn	12 15 07.0	-1.1
EAZ				AML	AML	12 15 08.7	
JCZ	**Jackson Bay**	**1.87**	**46**	AML	AML	12 15 18.5	
JCZ				AML	AML	12 15 19.8	
SYZ	**Scrubby Hill**	**1.95**	**127**	*e*PN	Pn	12 14 49.6	+0.3
TUZ	**Tuapeka**	**2.01**	**107**	*e*PN	Pn	12 14 51.4	+1.2
TUZ				AML	AML	12 15 17.4	
TUZ				AML	AML	12 15 19.0	
LBZ	**Lake Benmore**	**2.55**	**68**	*e*PN	Pn	12 14 58.1	+0.4
LBZ				AML	AML	12 15 33.6	
LBZ				AML	AML	12 15 34.1	
ODZ	**Otahua Downs**	**2.68**	**84**	*e*PN	Pn	12 14 57.8	-1.6
ODZ				SN	Sn	12 15 33.0	+1.2
ODZ				AML	AML	12 15 35.4	
FOZ	**Fox Glacier**	**2.71**	**49**	AML	AML	12 15 46.5	
FOZ				AML	AML	12 15 48.8	
RPZ	**Rata Peaks**	**3.42**	**62**	*e*PN	Pn	12 15 08.9	-0.7
RPZ				SN	Sn	12 15 51.5	+1.4
WVZ	**Waitaha Valley**	**3.60**	**52**	AML	AML	12 16 00.9	
OXZ	**Oxford**	**4.23**	**63**	*e*PN	Pn	12 15 18.9	-1.8
OXZ				SN	Sn	12 16 09.1	-1.0

*IDC **15** 12:15:16.6±1.0, 45°.45S×166°.48E, h0km, mb3.8/4, mb1 4.1/6, mb1mx3.9/16, mbtmp4.0/6, ML3.2/1, Error ellipse: s-maj=29.0km s-min=24.4km az=25.0*
*WEL **15** 12:15:17.6±0.4, 45°.53S×166°.59E, h12km, ML4.5/16, Error ellipse: s-maj=3.3km s-min=2.1km az=90.0*
*AUST **15** 12:15:18.5±0.9, 45°.51S×166°.53E, h5km, Error ellipse: s-maj=1.4km s-min=0.8km az=15.0*

ISC 15 12:15:18.0±1.4, 45°.54S±0°.05×166°.66E±0°.05, h11km±10km, n32, σ1§09/33, mb3.8/4, 1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.35**	**80**	‖P*	**Pb**	**12 15 26.3**	**+0.1**
DCZ				S*	**Sg**	**12 15 30.7**	**+0.9**
DCZ				AML	AML	12 15 31.2	
DCZ				AML	AML	12 15 31.7	
DCZ				AML	AML	12 15 32.5	
PYZ	**Puysegur Point**	**0.63**	**178**	P*	**Pg**	**12 15 29.3**	**-0.8**
PYZ				S*	**Sg**	**12 15 38.6**	**+0.1**
WHZ	**Wether Hill Ro**	**0.97**	**112**	P*	**Pb**	**12 15 36.6**	**-0.2**
WHZ				S*	**Sg**	**12 15 49.8**	**+0.5**
WHZ				AML	AML	12 16 02.5	
MLZ	**Mavora Lakes**	**1.08**	**80**	P*	**Pb**	**12 15 37.6**	**-1.1**
MLZ				S*	**Sb**	**12 15 51.1**	**-1.8**
MLZ				AML	AML	12 15 53.0	
MSZ	**Milford Sound**	**1.25**	**47**	*e*PN	**Pn**	**12 15 40.2**	**-1.1**
MSZ				AML	AML	12 16 01.5	
MSZ				AML	AML	12 16 04.6	
MSZ				AML	AML	12 16 04.6	
MSZ				AML	AML	12 16 13.2	
APZ	**The Paps**	**1.59**	**145**	*e*PN	**Pb**	**12 15 47.2**	**-0.2**
APZ				SN	**Sn**	**12 16 06.8**	**+0.2**
WKZ	**Wanaka**	**1.81**	**68**	PN	**Pn**	**12 15 49.9**	**+0.8**
WKZ				AML	AML	12 16 19.6	
WKZ				AML	AML	12 16 19.7	
WKZ				AML	AML	12 16 19.9	
WKZ				AML	AML	12 16 24.2	
EAZ	**Earnscleugh**	**1.89**	**82**	PN	**Pn**	**12 15 51.1**	**+1.0**
EAZ				AML	AML	12 16 15.7	
EAZ				AML	AML	12 16 15.7	
EAZ				AML	AML	12 16 17.1	
EAZ				AML	AML	12 16 18.7	
SYZ	**Scrubby Hill**	**2.00**	**121**	*e*PN	**Pb**	**12 15 54.1**	**-0.1**
JCZ	**Jackson Bay**	**2.09**	**46**	*e*PN	**Pn**	**12 15 54.5**	**+1.5**
JCZ				AML	AML	12 16 32.6	
JCZ				AML	AML	12 16 38.6	
TUZ	**Tuapeka**	**2.12**	**102**	PN	**Pn**	**12 15 53.9**	**+0.5**
TUZ				AML	AML	12 16 25.9	
TUZ				AML	AML	12 16 26.2	
LBZ	**Lake Benmore**	**2.76**	**67**	*e*PN	**Pn**	**12 16 02.2**	**+0.1**
LBZ				AML	AML	12 16 38.6	
LBZ				AML	AML	12 16 40.1	
HHSZ	**Highcliff Hill**	**2.78**	**99**	*e*PN	**Pn**	**12 16 03.0**	**+0.6**
ODZ	**Otahua Downs**	**2.86**	**81**	*e*PN	**Pn**	**12 16 03.6**	**+0.2**
ODZ				AML	AML	12 16 42.5	
ODZ				AML	AML	12 16 47.3	
ODZ				AML	AML	12 16 50.3	
ODZ				AML	AML	12 16 52.6	
FOZ	**Fox Glacier**	**2.93**	**49**	*e*PN	**Pn**	**12 16 07.2**	**+2.8**
FOZ				AML	AML	12 16 57.8	
FOZ				AML	AML	12 16 58.2	
RPZ	**Rata Peaks** baz=238,slow=6.2	**3.63**	**61**	Pn	**Pn**	**12 16 15.5**	**+1.4**
RPZ	**Rata Peaks**	**3.63**	**61**	PN	**Pn**	**12 16 15.4**	**+1.4**
RPZ				AML	AML	12 17 01.5	
RPZ				AML	AML	12 17 06.4	
WVZ	**Waitaha Valley**	**3.83**	**51**	AML	AML	12 17 09.5	
WVZ				AML	AML	12 17 14.3	
OXZ	**Oxford**	**4.44**	**62**	*e*PN	**Pn**	**12 16 25.9**	**+0.6**
CRLZ	**Canterbury Las**	**4.69**	**67**	AML	AML	12 17 26.9	
THZ	**Tophouse**	**5.90**	**52**	AML	AML	12 18 01.4	
THZ				AML	AML	12 18 03.7	
QRZ	**Quartz Range**	**6.37**	**44**	AML	AML	12 18 09.8	
QRZ				AML	AML	12 18 12.0	
URZ	**Urewera** 0.2nm,0.3s,baz=215,slow=12,SNR=2.7	**10.65**	**51**	Pn	**Pn**	**12 17 51.5**	**+1.1**
URZ	0.4nm,0.3s,baz=90,slow=20,SNR=2.8			Sn	Sn	12 19 43.6	-6.0
MOO	**Moorlands** baz=14,SNR=4.5	**14.35**	**276**	P	**Pn**	**12 18 42.0**	**+1.1**
TOO	**Toolangi** baz=18,SNR=7.2	**17.69**	**289**	P	**P**	**12 19 25.0**	**-0.2**
STKA	**Stephens Creek** 2.1nm,0.7s,baz=125,slow=14,SNR=4.7	**23.72**	**296**	P	**P**	**12 20 30.6**	**+0.7**
ASAR	**Alice Springs** 0.9nm,0.9s,baz=125,slow=8.0,SNR=5.6	**34.32**	**298**	P	**P**	**12 22 02.7**	**-1.8**
WRA	**Warramunga Arr** 1.0nm,1.0s,baz=139,slow=8.0,SNR=4.6	**36.87**	**303**	P	**P**	**12 22 25.3**	**-1.1**
QSPA	**South Pole Qui** 2.0nm,1.0s,baz=41,slow=5.2,SNR=8.1	**44.59**	**180**	P	**P**	**12 23 31.1**	**+1.4**
TORD	**Torodi Ar. Bea** 2.0nm,0.5s,baz=148,slow=2.5,SNR=31	**145.28**	**206**	PKPbc	**PKPbc**	**12 34 55.3**	**-0.3**
BRTR	**Keskin Array B** 1.2nm,0.9s,baz=151,slow=2.8,SNR=3.7	**145.35**	**277**	PKPbc	**PKPbc**	**12 34 55.0**	**-0.4**
FINES	**FINESS Array B** 0.9nm,0.5s,baz=84,slow=5.9,SNR=4.5	**152.22**	**319**	PKPbc	**PKPbc**	**12 35 11.7**	**-0.7**

WEL 15 12:18:10.0±0.7, 46°.05S×166°.01E, h20km, ML4.1/9, Error ellipse: s-maj=6.3km s-min=2.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.48**	**104**	P*	Pb	12 18 19.7	-0.2
PYZ				S*	Sb	12 18 26.6	+0.1
DCZ	**Deep Cove**	**0.99**	**55**	P*	Pb	12 18 28.1	-0.3
DCZ				S*	Sb	12 18 40.5	-0.4
DCZ				AML	AML	12 18 43.1	
DCZ				AML	AML	12 18 43.7	
DCZ				AML	AML	12 23 39.2	
WHZ	**Wether Hill Ro**	**1.36**	**84**	PN	Pn	12 18 33.6	-0.3
WHZ				SN	Sn	12 18 51.4	0.0
WHZ				AML	AML	12 18 53.7	
APZ	**The Paps**	**1.58**	**120**	*e*PN	Pn	12 18 35.3	-1.6
APZ				SN	Sn	12 18 55.4	-1.4
MLZ	**Mavora Lakes**	**1.67**	**66**	PN	Pb	12 19 39.5	-0.7
MLZ				AML	AML	12 19 04.0	
MLZ				AML	AML	12 19 04.4	
MSZ	**Milford Sound**	**1.93**	**45**	*e*PN	Pb	12 18 45.0	+0.5
MSZ				AML	AML	12 19 11.2	
MSZ				AML	AML	12 19 12.0	
MSZ				AML	AML	12 19 16.1	
MSZ				AML	AML	12 19 17.6	
SYZ	**Scrubby Hill**	**2.23**	**104**	*e*PN	Pn	12 18 45.7	0.0
WKZ	**Wanaka**	**2.45**	**61**	*e*PN	Pn	12 18 49.3	+0.4
WKZ				SN	Sb	12 19 21.3	-1.8
WKZ				AML	AML	12 19 26.8	
EAZ	**Earnscleugh**	**2.46**	**72**	*e*PN	Pn	12 18 50.0	+1.1
EAZ				AML	AML	12 19 22.9	
EAZ				AML	AML	12 19 24.3	
EAZ				AML	AML	12 19 24.7	
EAZ				AML	AML	12 19 24.8	
TUZ	**Tuapeka**	**2.53**	**89**	*e*PN	Pn	12 18 47.6	-2.3
TUZ				SN	Sn	12 19 20.8	+0.7
TUZ				AML	AML	12 19 27.0	
LBZ	**Lake Benmore**	**3.39**	**62**	PN	Pn	12 19 03.2	+1.4
LBZ				AML	AML	12 19 43.1	
LBZ				AML	AML	12 19 43.8	
ODZ	**Otahua Downs**	**3.41**	**74**	PN	Pn	12 19 01.7	-0.4
ODZ				AML	AML	12 19 45.2	
OXZ	**Oxford**	**5.09**	**60**	SN	Sn	12 20 22.3	-1.1

WEL 15 12:21:57.6±0.7, 46°.08S×166°.07E, h28km±2km, ML3.5/7, Error ellipse: s-maj=6.9km s-min=3.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.43**	**102**	P*	Pb	12 22 06.8	-0.1
PYZ				S*	Sb	12 22 13.2	0.0
DCZ	**Deep Cove**	**0.97**	**52**	PN	Pn	12 22 14.8	-0.4
DCZ				SN	Sn	12 22 27.0	-1.0
DCZ				AML	AML	12 22 27.1	
DCZ				SN	Sn	12 22 27.1	-0.9
DCZ				AML	AML	12 22 27.5	
WHZ	**Wether Hill Ro**	**1.32**	**83**	PN	Pn	12 22 20.2	0.0
WHZ				SN	Sn	12 22 36.1	-0.7
WHZ				AML	AML	12 22 43.2	
APZ	**The Paps**	**1.53**	**120**	PN	Pn	12 22 21.7	-1.3
APZ				SN	Sn	12 22 41.0	-1.0
MLZ	**Mavora Lakes**	**1.64**	**64**	*e*PN	Pn	12 22 25.6	+1.0
MLZ				AML	AML	12 22 51.7	
MLZ				AML	AML	12 22 52.0	
MSZ	**Milford Sound**	**1.92**	**44**	*e*PN	Pb	12 22 32.4	+0.5
MSZ				AML	AML	12 23 09.1	
MSZ				AML	AML	12 23 15.1	
SYZ	**Scrubby Hill**	**2.18**	**103**	*e*PN	Pn	12 22 33.1	+1.3
SYZ				SN	Sn	12 22 58.5	+0.6
EAZ	**Earnscleugh**	**2.42**	**71**	*e*PN	Pn	12 22 37.8	+2.5
EAZ				AML	AML	12 23 10.3	
EAZ				AML	AML	12 23 12.2	
TUZ	**Tuapeka**	**2.49**	**88**	PN	Pn	12 22 37.6	+1.5
TUZ				AML	AML	12 23 11.7	
TUZ				AML	AML	12 23 12.6	
LBZ	**Lake Benmore**	**3.36**	**61**	*e*PN	Pn	12 22 49.4	+1.2
ODZ	**Otahua Downs**	**3.38**	**74**	PN	Pn	12 22 49.0	+0.6
ODZ				AML	AML	12 23 31.9	

*IDC **15** 12:22:57.5±2.2, 46°.01S×165°.89E, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.7/15, mbtmp3.9/4, ML3.8/2, Error ellipse: s-maj=66.9km s-min=28.0km az=172.0*
*AUST **15** 12:23:05.5±1.2, 46°.06S×166°.50E, h7km, Error ellipse: s-maj=1.4km s-min=0.8km az=6.0*

ISC 15 12:22:59.9±1.5, 45°.8S±0°.3×166°.1E±0°.1, h12km, n8, σ1§94/10, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks** 10nm,0.3s,baz=240,slow=6.6,SNR=13	**4.12**	**61**	Pn	**Pn**	**12 24 05.4**	**+2.7**
RPZ	9.3nm,0.3s,baz=61,slow=21,SNR=5.9			Sn	**Sb**	**12 24 58.6**	**-3.4**
URZ	**Urewera** 0.3nm,0.3s,baz=188,slow=19,SNR=2.5	**11.13**	**51**	Pn	**Pn**	**12 25 40.0**	**+1.1**
URZ	0.2nm,0.3s,baz=125,slow=14,SNR=2.7			Sn	**Sn**	**12 27 44.4**	**+1.1**
MOO	**Moorlands** baz=14,SNR=4.8	**13.97**	**277**	P	**P**	**12 26 26.6**	**+0.9**
TOO	**Toolangi** baz=18,SNR=5.2	**17.40**	**291**	P	**Pn**	**12 27 02.1**	**-0.4**
ASAR	**Alice Springs** 0.4nm,0.9s,baz=141,slow=10,SNR=3.1	**34.09**	**299**	P	**P**	**12 29 43.5**	**-0.9**
WRA	**Warramunga Arr** 1.0nm,0.8s,baz=140,slow=8.8,SNR=4.8	**36.68**	**304**	P	**P**	**12 30 06.0**	**-0.6**
TORD	**Torodi Ar. Bea** 1.0nm,0.7s,baz=153,slow=2.4,SNR=4.7	**144.86**	**207**	PKP	**PKPab**	**12 42 34.5**	**-1.6**
BRTR	**Keskin Array B** 1.2nm,1.0s,baz=93,slow=3.2,SNR=2.8	**144.97**	**277**	PKP	**PKPdf**	**12 42 36.6**	**-0.1**

WEL 15 12:27:06.7±0.4, 45°.53S×166°.66E, h12km, ML3.5/4, Error ellipse: s-maj=3.4km s-min=2.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.35**	**81**	P*	Pg	12 27 13.9	+0.1
DCZ				S*	Sg	12 27 19.1	+0.5
DCZ				S*	Sb	12 27 19.1	-1.4
DCZ				AML	AML	12 27 19.6	
DCZ				AML	AML	12 27 19.6	
PYZ	**Puysegur Point**	**0.64**	**179**	P*	Pg	12 27 18.6	-0.5
PYZ				S*	Sg	12 27 27.4	-0.2
WHZ	**Wether Hill Ro**	**0.97**	**112**	*e*P*	Pg	12 27 24.1	-1.4
WHZ				AML	AML	12 27 38.7	
WHZ				AML	AML	12 27 40.3	
MLZ	**Mavora Lakes**	**1.08**	**81**	P*	Pb	12 27 25.6	-1.8
MLZ				AML	AML	12 27 40.8	
MLZ				AML	AML	12 27 41.1	
MSZ	**Milford Sound**	**1.25**	**47**	S*	Sg	12 27 48.0	+1.2
MSZ				AML	AML	12 27 49.9	
APZ	**The Paps**	**1.60**	**145**	*e*PN	Pn	12 27 34.6	-0.2

*IDC **15** 12:29:38.4±1.1, 46°.20S×165°.87E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.7/16, mbtmp3.8/5, ML3.5/2, Error ellipse: s-maj=28.9km s-min=28.1km az=46.0*
*ISCJB **15** 12:29:39.1±1.9, 46°.25S±0°.06×165°.85E±0°.07, h17km±17km, mb3.5/3, Error ellipse: s-maj=9.9km s-min=7.7km az=0.4*
*WEL **15** 12:29:40.5±1.1, 46°.26S×165°.74E, h33km, ML4.4/11, Error ellipse: s-maj=10.6km s-min=6.0km az=90.0*

ISC 15 12:29:37.9±3.7, 46°.30S±0°.07×165°.84E±0°.08, h5km±22km, n30, σ1§00/32, mb3.4/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.60**	**78**	PN	**Pb**	**12 29 52.0**	**+1.1**
PYZ				SN	**Sb**	**12 30 00.7**	**+1.0**
DCZ	**Deep Cove**	**1.23**	**49**	PN	**Pn**	**12 30 01.2**	**-0.6**
DCZ				SN	**Sb**	**12 30 17.1**	**-0.7**
DCZ				AML	AML	12 30 18.1	
WHZ	**Wether Hill Ro**	**1.52**	**75**	P

WVZ	**Waitaha Valley**	**4.75**	**49**	*e*PN	**Pn**	**12 30 52.2**	**+2.1**
WVZ				AML	AML	12 31 53.2	
OXZ	**Oxford**	**5.32**	**58**	*e*PN	**Pn**	**12 30 56.5**	**-1.4**
DSZ	**Denniston Nort**	**6.26**	**46**	*e*PN	**Pn**	**12 31 10.1**	**-0.9**
THZ	**Tophouse**	**6.82**	**51**	*e*PN	**Pn**	**12 31 20.0**	**+1.4**
THZ				AML	AML	12 32 23.5	
QRZ	**Quartz Range**	**7.31**	**44**	*e*PN	**Pn**	**12 31 26.2**	**+0.9**
QRZ				AML	AML	12 32 27.1	
NNZ	**Nelson**	**7.45**	**50**	*e*PN	Pn	12 31 29.6	+2.3
URZ	**Urewera**	**11.58**	**50**	Pn	**Pn**	**12 32 23.4**	**-0.4**
	0.2nm,0.3s,baz=203,slow=7.7,SNR=2.2						
ASAR	**Alice Springs**	**34.19**	**300**	P	P	12 36 25.4	+1.0
	0.2nm,0.4s,baz=139,slow=7.7,SNR=5.1						
WRA	**Warramunga Arr**	**36.82**	**305**	P	P	12 36 47.6	+0.7
	0.6nm,0.8s,baz=138,slow=8.1,SNR=5.0						
QSPA	**South Pole Qui**	**43.83**	**180**	P	P	12 37 46.9	+2.2
	1.6nm,0.8s,baz=341,slow=1.2,SNR=10						
TORD	**Torodi Ar. Bea**	**144.35**	**207**	PKP	**PKPdf**	**12 49 14.5**	**-0.9**
	1.3nm,0.7s,baz=157,slow=2.6,SNR=10						
BRTR	**Keskin Array B**	**144.87**	**277**	PKP	**PKPdf**	**12 49 16.2**	**+0.4**
	1.5nm,0.7s,baz=99,slow=6.0,SNR=6.0						
ARCES	**ARCESS Array B**	**149.57**	**334**	PKPbc	**PKPbc**	**12 49 28.2**	**+1.1**
	2.9nm,0.8s,baz=46,slow=3.5,SNR=4.9						

IDC ***15*** *12:30:42.3±1.1,45°.65S×166°.24E,h0km,mb3.8/3, mb1 4.1/5,mb1mx3.8/16,mbtmp4.0/5,ML3.8/2,Error ellipse: s-maj=29.3km s-min=26.9km az=22.0*

ISCJB ***15*** *12:30:43.2±1.2,45°.66S±0°.05×166°.23E±0°.07,h17km±8km, mb3.8/3,Error ellipse: s-maj=8.4km s-min=7.9km az=6.7*

WEL ***15*** *12:30:44.0±0.9,45°.65S×166°.31E,h12km,ML4.5/16,Error ellipse: s-maj=8.6km s-min=3.1km az=90.0*

ISC 15 12:30:43.7±1.5,45°.65S±0°.04×166°.33E±0°.06,h13km±9km, n26,σ1§32/29,mb3.9/3,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.57**	**154**	P*	**Pg**	**12 30 54.8**	**-0.1**
PYZ				S*	**Sg**	**12 31 02.7**	**+0.2**
DCZ	**Deep Cove**	**0.61**	**74**	P*	**Pg**	**12 30 55.3**	**-0.2**
DCZ				AML	AML	12 31 12.7	
DCZ				AML	AML	12 31 12.8	
WHZ	**Wether Hill Ro**	**1.16**	**103**	*e*P*	**Pn**	**12 31 05.6**	**+0.1**
WHZ				S*	**Sb**	**12 31 20.8**	**+0.3**
WHZ				AML	AML	12 31 27.2	
MLZ	**Mavora Lakes**	**1.33**	**78**	PN	**Pn**	**12 31 06.9**	**-1.0**
MLZ				AML	AML	12 31 26.1	
MLZ				AML	AML	12 31 30.2	
MSZ	**Milford Sound**	**1.50**	**50**	*e*PN	**Pg**	**12 31 13.6**	**+1.2**
MSZ				AML	AML	12 31 39.1	
MSZ				AML	AML	12 31 39.1	
MSZ				AML	AML	12 31 39.2	
MSZ				AML	AML	12 31 40.8	
APZ	**The Paps**	**1.65**	**136**	*e*PN	**Pn**	**12 31 13.1**	**+0.8**
APZ				SN	**Sn**	**12 31 32.3**	**-1.1**
WKZ	**Wanaka**	**2.07**	**68**	*e*PN	**Pb**	**12 31 21.3**	**+0.2**
WKZ				AML	AML	12 31 52.2	
WKZ				AML	AML	12 31 55.3	
WKZ				AML	AML	12 31 59.4	
WKZ				AML	AML	12 31 59.4	
EAZ	**Earnscleugh**	**2.14**	**80**	*e*PN	**Pn**	**12 31 19.4**	**+0.3**
EAZ				SN	**Sn**	**12 31 47.3**	**+1.9**
EAZ				AML	AML	12 31 50.7	
EAZ				AML	AML	12 31 50.7	
EAZ				AML	AML	12 31 51.4	
SYZ	**Scrubby Hill**	**2.15**	**115**	*e*PN	**Pb**	**12 31 21.3**	**-1.1**
SYZ				SN	**Sn**	**12 31 46.4**	**+0.8**
TUZ	**Tuapeka**	**2.33**	**99**	*e*PN	**Pn**	**12 31 23.1**	**+1.5**
TUZ				SN	**Sn**	**12 31 52.3**	**+2.2**
TUZ				AML	AML	12 31 54.9	
JCZ	**Jackson Bay**	**2.34**	**49**	SN	**Sg**	**12 31 58.0**	**-0.8**
JCZ				AML	AML	12 32 10.3	
LBZ	**Lake Benmore**	**3.01**	**67**	AML	AML	12 32 19.0	
LBZ				AML	AML	12 32 24.8	
ODZ	**Otahua Downs**	**3.10**	**80**	*e*PN	**Pn**	**12 31 33.5**	**+1.2**
ODZ				AML	AML	12 32 22.8	
ODZ				AML	AML	12 32 26.3	
FOZ	**Fox Glacier**	**3.18**	**50**	*e*PN	**Pb**	**12 31 39.2**	**-0.7**
FOZ				AML	AML	12 32 34.1	
FOZ				AML	AML	12 32 34.5	
RPZ	**Rata Peaks**	**3.89**	**62**	Pn	**Pn**	**12 31 45.0**	**+2.0**
	26nm,0.3s,baz=14,slow=14,SNR=9.8						
RPZ				Sn	**Sn**	**12 32 30.3**	**+1.7**
	23nm,0.3s,baz=21,slow=19,SNR=3.1						
RPZ	**Rata Peaks**	**3.89**	**62**	*e*PN	**Pn**	**12 31 41.9**	**-1.1**
RPZ				AML	AML	12 32 40.6	
RPZ				AML	AML	12 32 58.2	
WVZ	**Waitaha Valley**	**4.08**	**52**	AML	AML	12 32 46.0	
WVZ				AML	AML	12 32 47.2	
THZ	**Tophouse**	**6.15**	**53**	AML	AML	12 33 39.3	
THZ				AML	AML	12 33 53.7	
QRZ	**Quartz Range**	**6.61**	**45**	AML	AML	12 33 48.1	
QRZ				AML	AML	12 33 48.2	
NNZ	**Nelson**	**6.78**	**52**	AML	AML	12 34 02.8	
URZ	**Urewera**	**10.90**	**51**	Pn	**Pn**	**12 33 18.9**	**-0.3**
	0.1nm,0.3s,baz=270,slow=6.1,SNR=1.9						
URZ				Sn	**Sn**	**12 35 17.1**	**-3.9**
	0.2nm,0.3s,baz=348,slow=9.3,SNR=2.2						
ASAR	**Alice Springs**	**34.17**	**299**	P	**P**	**12 37 29.0**	**+0.4**
	0.7nm,0.9s,baz=139,slow=8.6,SNR=2.8						
WRA	**Warramunga Arr**	**36.74**	**304**	P	**P**	**12 37 50.3**	**-0.3**
	1.5nm,0.8s,baz=137,slow=7.7,SNR=6.0						
QSPA	**South Pole Qui**	**44.47**	**180**	P	**P**	**12 38 54.7**	**+0.4**
	2.3nm,1.1s,baz=6.6,slow=2.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**145.08**	**207**	PKPbc	**PKPab**	**12 50 20.2**	**-0.2**
	1.0nm,0.6s,baz=156,slow=2.6,SNR=7.1						
BRTR	**Keskin Array B**	**145.13**	**277**	PKPbc	**PKPdf**	**12 50 20.8**	**+0.3**
	0.6nm,0.7s,baz=135,slow=3.9,SNR=3.8						

IDC ***15*** *12:33:04.7±0.8,46°.24S×165°.82E,h0km,mb3.9/4, mb1 4.1/6,mb1mx3.9/17,mbtmp4.0/6,ML3.8/2,Error ellipse: s-maj=26.4km s-min=24.8km az=100.0*

ISCJB ***15*** *12:33:05.1±0.8,46°.18S±0°.08×165°.83E±0°.07,h12km, mb3.8/4,Error ellipse: s-maj=11.1km s-min=7.0km az=168.1*

WEL ***15*** *12:33:06.9±1.1,46°.21S×165°.75E,h33km,ML4.5/13,Error ellipse: s-maj=11.8km s-min=6.2km az=90.0*

ISC 15 12:33:06.5±0.8,46°.16S±0°.07×165°.89E±0°.06,h12km,n31, σ1§02/32,mb3.8/4,1D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.55**	**92**	⇓PN	**Pb**	**12 33 18.8**	**+0.7**
PYZ				SN	**Sb**	**12 33 27.1**	**+1.1**
PYZ				SN	**Sn**	**12 33 27.6**	**-1.8**
DCZ	**Deep Cove**	**1.11**	**53**	PN	**Pb**	**12 33 26.7**	**-1.0**
DCZ				SN	**Sb**	**12 33 42.8**	**+0.7**
DCZ				SN	**Sg**	**12 33 43.1**	**+0.6**
DCZ				AML	AML	12 33 44.3	
DCZ				AML	AML	12 33 44.7	
WHZ	**Wether Hill Ro**	**1.46**	**80**	PN	**Pn**	**12 33 32.9**	**+0.3**
WHZ				SN	**Sb**	**12 33 53.0**	**+0.9**
WHZ				AML	AML	12 33 55.7	
APZ	**The Paps**	**1.60**	**116**	PN	**Pn**	**12 33 33.3**	**-1.4**
MLZ	**Mavora Lakes**	**1.79**	**64**	*e*PN	**Pb**	**12 33 39.0**	**-0.3**
MLZ				AML	AML	12 34 07.5	
MLZ				AML	AML	12 34 09.1	
MSZ	**Milford Sound**	**2.06**	**45**	*e*PN	**Pb**	**12 33 43.1**	**-0.8**
MSZ				AML	AML	12 34 21.3	
MSZ				AML	AML	12 34 21.3	
MSZ				AML	AML	12 34 21.3	
MSZ				AML	AML	12 34 24.7	
SYZ	**Scrubby Hill**	**2.29**	**101**	*e*PN	**Pn**	**12 33 43.7**	**-0.3**
EAZ	**Earnscleugh**	**2.57**	**70**	*e*PN	**Pn**	**12 33 46.9**	**-1.0**
EAZ				AML	AML	12 34 24.8	
EAZ				AML	AML	12 34 24.8	
EAZ				AML	AML	12 34 25.4	
EAZ				AML	AML	12 34 29.8	
TUZ	**Tuapeka**	**2.62**	**87**	PN	**Pn**	**12 33 49.3**	**+0.8**
TUZ				AML	AML	12 34 22.9	
TUZ				AML	AML	12 34 25.8	
LBZ	**Lake Benmore**	**3.51**	**61**	*e*PN	**Pn**	**12 34 01.4**	**+1.0**
LBZ				AML	AML	12 34 50.9	
LBZ				AML	AML	12 35 00.4	
ODZ	**Otahua Downs**	**3.52**	**73**	PN	**Pn**	**12 34 00.5**	**-0.5**
ODZ				AML	AML	12 35 02.7	
ODZ				AML	AML	12 35 04.2	
FOZ	**Fox Glacier**	**3.74**	**48**	AML	AML	12 35 17.1	
FOZ				AML	AML	12 35 17.4	
RPZ	**Rata Peaks**	**4.41**	**58**	Pn	**Pn**	**12 34 13.6**	**+0.4**
	4.2nm,0.3s,baz=239,slow=12,SNR=2.6						
RPZ				Sn	**Sn**	**12 35 05.3**	**+0.9**
	14nm,0.3s,baz=0.0,slow=20,SNR=3.8						
RPZ	**Rata Peaks**	**4.41**	**58**	AML	AML	12 35 11.0	
RPZ				AML	AML	12 35 12.4	
WVZ	**Waitaha Valley**	**4.63**	**50**	AML	AML	12 35 18.3	
WVZ				AML	AML	12 35 21.1	
THZ	**Tophouse**	**6.70**	**52**	AML	AML	12 36 10.4	
QRZ	**Quartz Range**	**7.19**	**45**	AML	AML	12 36 20.8	
QRZ				AML	AML	12 36 23.9	
URZ	**Urewera**	**11.46**	**50**	Pn	**Pn**	**12 35 49.4**	**-0.5**
	0.6nm,0.3s,baz=264,slow=8.7,SNR=2.9						
URZ				Sn	**Sn**	**12 37 55.0**	**-2.8**
	0.4nm,0.3s,baz=3.8,slow=15,SNR=2.8						
DZM	**Mont Dzumac**	**24.03**	**1**	P	**P**	**12 38 24.0**	**+2.6**
	4.9nm,0.9s,baz=90,slow=24,SNR=4.2						
ASAR	**Alice Springs**	**34.15**	**300**	P	**P**	**12 39 51.1**	**-0.4**
	0.9nm,0.7s,baz=132,slow=7.8,SNR=7.1						
WRA	**Warramunga Arr**	**36.77**	**305**	P	**P**	**12 40 13.7**	**-0.3**
	1.1nm,0.8s,baz=137,slow=7.8,SNR=7.1						
QSPA	**South Pole Qui**	**43.97**	**180**	P	**P**	**12 41 13.4**	**+0.2**
	1.7nm,0.9s,baz=298,slow=3.3,SNR=7.5						
ILAR	**Eielson Array**	**116.56**	**21**	PKP	**PKPdf**	**12 51 48.7**	**-0.3**
	0.5nm,1.0s,baz=230,slow=5.6,SNR=3.5						
MKAR	**Makanchi Array**	**117.97**	**309**	PKP	**PKPdf**	**12 51 52.0**	**-0.4**
	0.2nm,0.6s,baz=149,slow=3.0,SNR=3.0						
KURBB	**Kurchatov Arra**	**122.26**	**311**	PKP	**PKPdf**	**12 52 00.1**	**-0.4**
	0.3nm,0.3s,baz=118,slow=1.9,SNR=6.3						
TORD	**Torodi Ar. Bea**	**144.49**	**207**	PKP	PKPbc	12 52 41.1	-0.4
	1.3nm,0.8s,baz=151,slow=1.8,SNR=6.0						
BRTR	**Keskin Array B**	**144.89**	**277**	PKP	PKPbc	12 52 42.1	-0.2
	2.9nm,0.9s,baz=129,slow=4.0,SNR=8.0						
SPITS	**Spitsbergen Ar**	**145.79**	**349**	PKPbc	**PKPab**	**12 52 44.2**	**-0.2**
	14nm,0.8s,baz=96,slow=7.6,SNR=7.9						
SCHQ	**Schefferville**	**146.09**	**56**	PKPbc	**PKPdf**	**12 52 44.8**	**+0.2**
	2.1nm,0.5s,baz=113,slow=3.6,SNR=5.7						
ARCES	**ARCESS Array B**	**149.46**	**334**	PKPbc	**PKPbc**	**12 52 54.8**	**+0.6**
	4.8nm,0.9s,baz=52,slow=6.5,SNR=4.9						
ARCES				PKPab	**PKPab**	**12 52 59.0**	**-0.1**
	4.7nm,1.0s,baz=69,slow=4.0,SNR=4.8						
FINES	**FINESS Array B**	**152.33**	**318**	PKPbc	**PKPbc**	**12 53 01.3**	**+0.2**
	1.3nm,0.6s,baz=116,slow=4.4,SNR=4.6						

WEL 15 12:34:15.3±0.8,45°.60S×166°.52E,h5km,ML3.9/6,Error ellipse: s-maj=7.1km s-min=3.7km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.47**	**75**	PG	Pg	12 34 24.9	+0.6
DCZ				SG	Sg	12 34 30.8	+0.4
DCZ				AML	AML	12 34 31.2	
DCZ				AML	AML	12 34 31.3	
DCZ				AML	AML	12 34 31.3	
PYZ	**Puysegur Point**	**0.58**	**169**	PG	Pg	12 34 26.9	+0.5
WHZ	**Wether Hill Ro**	**1.04**	**107**	*e*P*	Pb	12 34 35.8	-0.1
WHZ				S*	Sb	12 34 50.2	+0.3
MLZ	**Mavora Lakes**	**1.19**	**78**	P*	Pg	12 34 36.6	-1.7
MLZ				S*	Sg	12 34 50.8	-3.0
MLZ				AML	AML	12 34 53.2	
MSZ	**Milford Sound**	**1.36**	**48**	S*	Sn	12 34 59.8	+0.4
MSZ				AML	AML	12 35 05.0	
APZ	**The Paps**	**1.60**	**141**	*e*PN	Pn	12 34 44.6	+0.3
EAZ	**Earnscleugh**	**2.00**	**80**	*e*PN	Pb	12 34 51.2	-1.0
EAZ				AML	AML	12 35 20.7	
EAZ				AML	AML	12 35 22.5	
TUZ	**Tuapeka**	**2.21**	**100**	AML	AML	12 35 26.2	
TUZ				AML	AML	12 35 26.7	

ISCJB ***15*** *12:34:24.9±0.8,46°.09S±0°.08×165°.87E±0°.07,h12km, mb3.7/3,Error ellipse: s-maj=11.1km s-min=6.8km az=171.9*

IDC ***15*** *12:34:24.1±0.9,46°.10S×166°.07E,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.7/15,mbtmp3.9/4,ML3.3/1,Error ellipse: s-maj=34.3km s-min=27.3km az=55.0*

WEL ***15*** *12:34:26.0±1.0,46°.11S×165°.88E,h12km,ML4.4/12,Error ellipse: s-maj=8.9km s-min=5.8km az=90.0*

ISC 15 12:34:25.8±0.8,46°.10S±0°.08×165°.98E±0°.06,h12km,n26, σ0§96/24,mb3.5/3,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.49**	**99**	P*	**Pb**	**12 34 36.9**	**+0.4**
PYZ				S*	**Sb**	**12 34 44.4**	**+0.8**
DCZ	**Deep Cove**	**1.03**	**54**	*e*P*	**Pb**	**12 34 45.4**	**-0.2**
DCZ				S*	**Sg**	**12 34 59.6**	**+0.5**
DCZ				AML	AML	12 35 01.9	
DCZ				AML	AML	12 35 01.9	
DCZ				AML	AML	12 35 04.1	
WHZ	**Wether Hill Ro**	**1.39**	**82**	PN	**Pg**	**12 34 52.3**	**-0.2**
WHZ				SN	**Sg**	**12 35 10.8**	**+0.3**
WHZ				AML	AML	12 35 13.2	
APZ	**The Paps**	**1.57**	**119**	*e*PN	**Pn**	**12 34 52.6**	**-1.0**
MLZ	**Mavora Lakes**	**1.71**	**65**	*e*PN	**Pn**	**12 34 55.3**	**-0.2**
MLZ				AML	AML	12 35 25.1	
MLZ				AML	AML	12 35 25.1	
MSZ	**Milford Sound**	**1.98**	**45**	AML	AML	12 35 36.6	
MSZ				AML	AML	12 35 40.4	
MSZ				AML	AML	12 35 40.7	
MSZ				AML	AML	12 35 41.7	
SYZ	**Scrubby Hill**	**2.23**	**103**	*e*PN	**Pn**	**12 35 02.6**	**0.0**
EAZ	**Earnscleugh**	**2.49**	**71**	*e*PN	**Pn**	**12 35 08.2**	**+2.0**
EAZ				AML	AML	12 35 43.0	
EAZ				AML	AML	12 35 43.0	
EAZ				AML	AML	12 35 45.0	
EAZ				AML	AML	12 35 45.0	
TUZ	**Tuapeka**	**2.55**	**88**	*e*PN	**Pn**	**12 35 08.1**	**+1.1**
TUZ				AML	AML	12 35 42.3	
TUZ				AML	AML	12 35 45.0	
LBZ	**Lake Benmore**	**3.43**	**62**	AML	AML	12 36 06.0	
LBZ				AML	AML	12 36 07.3	
ODZ	**Otahua Downs**	**3.44**	**74**	*e*PN	**Pn**	**12 35 19.9**	**+0.6**
ODZ				AML	AML	12 36 16.5	
ODZ				AML	AML	12 36 18.3	
FOZ	**Fox Glacier**	**3.66**	**48**	AML	AML	12 36 36.6	
FOZ				AML	AML	12 36 37.5	
RPZ	**Rata Peaks**	**4.32**	**58**	Sn	**Sn**	**12 36 21.6**	**-0.1**
	9.5nm,0.3s,baz=165,slow=20,SNR=2.6						
RPZ	**Rata Peaks**	**4.32**	**58**	AML	AML	12 36 24.1	
RPZ				AML	AML	12 36 24.7	
WVZ	**Waitaha Valley**	**4.54**	**50**	AML	AML	12 36 39.2	
WVZ				AML	AML	12 36 39.2	
THZ	**Tophouse**	**6.61**	**52**	AML	AML	12 37 23.7	
THZ				AML	AML	12 37 25.9	
URZ	**Urewera**	**11.37**	**50**	Pn	**Pn**	**12 37 06.5**	**-1.5**
	0.2nm,0.3s,baz=191,slow=16,SNR=2.9						
URZ				Sn	**Sn**	**12 39 12.3**	**-2.6**
	0.2nm,0.3s,baz=315,slow=17,SNR=2.6						
ASAR	**Alice Springs**	**34.18**	**300**	P	**P**	**12 41 11.2**	**+0.2**
	0.4nm,0.6s,baz=132,slow=7.8,SNR=3.2						
WRA	**Warramunga Arr**	**36.79**	**305**	P	**P**	**12 41 34.2**	**+0.7**
	0.7nm,0.8s,baz=138,slow=7.6,SNR=3.6						
QSPA	**South Pole Qui**	**44.03**	**180**	P	**P**	**12 42 33.4**	**+0.3**
	2.5nm,0.8s,baz=36,slow=3.4,SNR=9.5						
KURBB	**Kurchatov Arra**	**122.27**	**311**	PKP	**PKPdf**	**12 53 19.0**	**-0.7**
	0.3nm,0.4s,baz=122,slow=1.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**144.57**	**207**	PKP	**PKPab**	**12 54 00.4**	**-0.5**
	2.1nm,0.7s,baz=172,slow=1.9,SNR=8.1						
BRTR	**Keskin Array B**	**144.95**	**277**	PKPbc	**PKPab**	**12 54 01.8**	**-0.1**
	2.3nm,0.8s,baz=129,slow=3.5,SNR=7.1						
SPITS	**Spitsbergen Ar**	**145.74**	**349**	PKPbc	**PKPbc**	**12 54 03.4**	**+0.2**
	8.3nm,0.8s,baz=84,slow=7.6,SNR=4.1						
SCHQ	**Schefferville**	**146.01**	**56**	PKPbc	**PKPdf**	**12 54 03.9**	**+0.1**
	3.8nm,0.8s,baz=58,slow=12,SNR=5.2						
ARCES	**ARCESS Array B**	**149.44**	**334**	PKPbc	**PKPbc**	**12 54 14.3**	**+0.8**
	5.5nm,0.8s,baz=54,slow=6.2,SNR=5.9						

WEL 15 12:38:19.4±0.4,45°.99S×166°.18E,h20km,ML3.7/7,Error ellipse: s-maj=3.3km s-min=1.2km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.40**	**117**	P*	Pb	12 38 27.5	-0.2
PYZ				S*	Sb	12 38 33.2	-0.2
PYZ				S*	Sn	12 38 33.5	-3.5
DCZ	**Deep Cove**	**0.85**	**54**	P*	Pb	12 38 35.4	-0.1
DCZ				S*	Sb	12 38 46.6	+0.1
DCZ				S*	Sn	12 38 46.7	-1.4
DCZ				AML	AML	12 38 47.9	
DCZ				AML	AML	12 38 49.7	
WHZ	**Wether Hill Ro**	**1.24**	**86**	PN	Pn	12 38 41.3	-0.3
WHZ				SN	Sb	12 38 57.2	-0.5
WHZ				AML	AML	12 39 00.9	
APZ	**The Paps**	**1.51**	**125**	*e*PN	Pn	12 38 44.1	-1.4
MLZ	**Mavora Lakes**	**1.54**	**66**	*e*PN	Pn	12 38 46.3	+0.6
MLZ				AML	AML	12 39 08.5	
MLZ				AML	AML	12 39 10.2	
MSZ	**Milford Sound**	**1.80**	**44**	AML	AML	12 39 21.3	
MSZ				AML	AML	12 39 21.3	
MSZ				AML	AML	12 39 21.6	
MSZ				AML	AML	12 39 26.8	
SYZ	**Scrubby Hill**	**2.13**	**106**	*e*PN	Pn	12 39 53.9	+0.2
SYZ				SN	Sn	12 39 20.1	+0.5
EAZ	**Earnscleugh**	**2.32**	**72**	*e*PN	Pn	12 38 58.1	+1.6
EAZ				SN	Sn	12 39 26.5	+2.0
EAZ				AML	AML	12 39 29.5	
TUZ	**Tuapeka**	**2.41**	**91**	SN	Sn	12 39 27.9	+1.3
TUZ				AML	AML	12 39 31.7	
LBZ	**Lake Benmore**	**3.25**	**62**	SN	Sn	12 39 49.9	+2.5
ODZ	**Otahua Downs**	**3.28**	**75**	SN	Sn	12 39 49.1	+1.0

IDC ***15*** *12:41:19.9±1.3,46°.06S×166°.03E,h0km,mb3.6/3, mb1 3.9/5,mb1mx3.7/16,mbtmp3.8/5,ML3.5/2,Error ellipse: s-maj=29.9km s-min=27.6km az=30.0*

ISCJB ***15*** *12:41:20.5±0.8,46°.11S±0°.07×165°.95E±0°.07,h12km, mb3.6/3,Error ellipse: s-maj=10.1km s-min=7.4km az=173.7*

WEL ***15*** *12:41:22.8±0.8,46°.05S×166°.07E,h12km,ML4.1/9,Error ellipse: s-maj=6.9km s-min=3.7km az=90.0*

ISC 15 12:41:21.5±1.0,46°.06S±0°.06×166°.05E±0°.07,h12km,n20, σ0§93/23,mb3.6/3,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.45**	**104**	P*	**Pb**	**12 41 31.6**	**+0.2**
PYZ				S*	**Sb**	**12 41 37.8**	**-0.3**
PYZ				S*	**Sb**	**12 41 37.8**	**-0.3**
DCZ	**Deep Cove**	**0.97**	**54**	P*	**Pg**	**12 41 40.1**	**-0.1**
DCZ				S*	**Sb**	**12 41 53.3**	**+0.3**
DCZ				AML	AML	12 41 54.3	
DCZ				AML	AML	12 41 54.9	
DCZ				AML	AML	12 41 54.9	
WHZ	**Wether Hill Ro**	**1.34**	**84**	PN	**Pn**	**12 41 45.6**	**-0.3**
WHZ				AML	AML	12 42 06.1	
WHZ				AML	AML	12 42 06.5	
APZ	**The Paps**	**1.55**	**121**	PN	**Pn**	**12 41 47.7**	**-1.2**
MLZ	**Mavora Lakes**	**1.65**	**65**	PN	**Pn**	**12 41 51.2**	**+0.9**
MLZ				AML	AML	12 42 16.5	
MLZ				AML	AML	12 42 16.8	
MSZ	**Milford Sound**	**1.92**	**44**	*e*PN	**Pn**	**12 41 54.4**	**+0.5**
MSZ				AML	AML	12 42 22.2	
MSZ				AML	AML	12 42 22.5	
SYZ	**Scrubby Hill**	**2.20**	**104**	PN	**Pn**	**12 41 58.3**	**+0.6**
WKZ	**Wanaka**	**2.43**	**61**	*e*PN	**Pb**	**12 42 04.6**	**-0.4**
WKZ				AML	AML	12 42 36.6	
WKZ				AML	AML	12 42 39.0	
EAZ	**Earnscleugh**	**2.43**	**71**	PN	**Pn**	**12 42 02.9**	**+1.9**
EAZ				AML	AML	12 42 35.3	
EAZ				AML	AML	12 42 37.4	
TUZ	**Tuapeka**	**2.50**	**89**	*e*PN	**Pn**	**12 42 03.3**	**+1.3**
TUZ				AML	AML	12 42 34.6	
TUZ				AML	AML	12 42 35.8	
JCZ	**Jackson Bay**	**2.76**	**45**	*e*PN	**Pb**	**12 42 08.5**	**-2.3**
JCZ				AML	AML	12 42 36.0	
JCZ				AML	AML	12 42 36.7	
HHSZ	**Highcliff Hill**	**3.18**	**89**	*e*PN	**Pn**	**12 42 12.2**	**+0.9**
LBZ	**Lake Benmore**	**3.37**	**62**	*e*PN	**Pn**	**12 42 15.1**	**+1.2**
ODZ	**Otahua Downs**	**3.39**	**74**	*e*PN	**Pn**	**12 42 14.3**	**+0.2**
ODZ				AML	AML	12 42 41.2	
RPZ	**Rata Peaks**	**4.26**	**58**	Pn	**Pn**	**12 42 26.7**	**+0.6**
	5.2nm,0.3s,baz=197,slow=20,SNR=3.7						
URZ	**Urewera**	**11.31**	**50**	Pn	**Pn**	**12 44 02.5**	**-0.4**
	0.1nm,0.3s,baz=182,slow=17,SNR=3.5						
ASAR	**Alice Springs**	**34.20**	**300**	P	**P**	**12 48 07.0**	**+0.2**
	0.6nm,0.7s,baz=132,slow=8.3,SNR=7.2						
WRA	**Warramunga Arr**	**36.81**	**304**	P	**P**	**12 48 29.5**	**+0.2**
	0.9nm,0.8s,baz=137,slow=8.0,SNR=7.8						
QSPA	**South Pole Qui**	**44.06**	**180**	P	**P**	**12 49 29.5**	**+0.5**
	0.8nm,0.9s,baz=27,slow=4.8,SNR=2.9						
TORD	**Torodi Ar. Bea**	**144.62**	**207**	PKP	**PKPab**	**13 00 56.8**	**+0.1**
	0.5nm,0.7s,baz=170,slow=1.0,SNR=3.0						

IDC ***15*** *12:42:06.2±1.1,45°.57S×166°.49E,h0km,mb3.8/3, mb1 4.0/4,mb1mx3.8/15,mbtmp3.9/4,ML4.5/1,Error ellipse: s-maj=36.3km s-min=27.6km az=45.0*

ISCJB ***15*** *12:42:07.0±0.7,45°.55S±0°.04×166°.57E±0°.07,h15km, mb3.8/3,Error ellipse: s-maj=7.5km s-min=5.2km az=37.3*

THZ					AML	AML	12 44 52.1	
QRZ	**Quartz Range**	**6.41**	**44**		AML	AML	12 45 01.5	
QRZ					AML	AML	12 45 01.9	
URZ	**Urewera**	**10.69**	**51**	Pn	Pn		12 44 45.4	+5.2
	0.5nm,0.3s,baz=258,slow=8.3,SNR=2.8							
URZ				Sn	Sn		12 46 31.2	-8.4
	0.4nm,0.3s,baz=342,slow=20,SNR=1.9							
ASAR	**Alice Springs**	**34.33**	**298**	P	**P**		**12 48 53.0**	**-0.8**
	0.7nm,1.0s,baz=130,slow=8.6,SNR=3.1							
WRA	**Warramunga Arr**	**36.88**	**303**	P	**P**		**12 49 15.8**	**0.0**
	1.2nm,0.9s,baz=136,slow=8.0,SNR=3.6							
QSPA	**South Pole Qui**	**44.55**	**180**	P	**P**		**12 50 19.3**	**+0.7**
	3.5nm,1.1s,baz=62,slow=6.1,SNR=5.6							
TORD	**Torodi Ar. Bea**	**145.24**	**206**	PKPbc	**PKPbc**		**13 01 44.2**	**-0.5**
	1.7nm,0.6s,baz=143,slow=2.3,SNR=11							
BRTR	**Keskin Array B**	**145.34**	**277**	PKPbc	**PKPab**		**13 01 46.0**	**+1.2**
	2.5nm,1.0s,baz=142,slow=4.7,SNR=6.5							
FINES	**FINESS Array B**	**152.24**	**319**	PKPbc	**PKPbc**		**13 02 01.6**	**-0.1**
	0.7nm,0.5s,baz=52,slow=3.9,SNR=4.2							

WEL 15 12:44:33.1±0.6, 45°.78S×166°.50E, h5km, ML3.6/7, Error ellipse: s-maj=6.1km s-min=1.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.41**	**162**	*e*PG	Pg	12 44 41.4	+0.4
PYZ				SG	Sg	12 44 47.0	+0.6
DCZ	**Deep Cove**	**0.55**	**57**	PG	Pg	12 44 44.4	+0.7
DCZ				SG	Sg	12 44 51.6	+0.7
DCZ				SG	Sb	12 44 51.8	-1.6
DCZ				AML	AML	12 44 52.7	
DCZ				AML	AML	12 44 52.8	
WHZ	**Wether Hill Ro**	**1.02**	**97**	P*	Pg	12 44 52.5	-0.2
WHZ				AML	AML	12 45 07.3	
WHZ				AML	AML	12 45 13.2	
MLZ	**Mavora Lakes**	**1.25**	**70**	P*	Pg	12 44 55.8	-1.4
MLZ				S*	Sg	12 45 11.9	-1.7
MLZ				AML	AML	12 45 14.3	
APZ	**The Paps**	**1.48**	**136**	*e*PN	Pn	12 44 58.5	-1.9
APZ				SN	Sn	12 45 17.7	-2.4
MSZ	**Milford Sound**	**1.50**	**43**	*e*PN	Pn	12 44 57.7	-2.9
MSZ				AML	AML	12 45 18.7	
MSZ				AML	AML	12 45 22.8	
MSZ				AML	AML	12 45 24.8	
MSZ				AML	AML	12 45 26.9	
SYZ	**Scrubby Hill**	**1.99**	**113**	*e*PN	Pn	12 45 07.1	-0.2
WKZ	**Wanaka**	**2.02**	**63**	AML	AML	12 45 41.6	
WKZ				AML	AML	12 45 42.7	
EAZ	**Earnscleugh**	**2.05**	**75**	*e*PN	Pb	12 45 09.9	-0.9
EAZ				AML	AML	12 45 37.8	
EAZ				AML	AML	12 45 37.9	
EAZ				AML	AML	12 45 38.1	
EAZ				AML	AML	12 45 39.8	
TUZ	**Tuapeka**	**2.20**	**96**	*e*PN	Pn	12 45 11.0	+0.8
TUZ				SN	Sb	12 45 39.3	-1.5
TUZ				AML	AML	12 45 41.3	
ODZ	**Otahua Downs**	**3.01**	**77**	PN	Pn	12 45 21.1	-0.4
RPZ	**Rata Peaks**	**3.85**	**59**	*e*PN	Pn	12 45 33.7	+0.8

*IDC **15** 12:45:12.0±0.7, 46°.10S×166°.03E, h0km, mb4.5/7, mb1 4.6/9, mb1mx4.3/18, mbtmp4.5/9, ML4.4/2, Error ellipse: s-maj=24.7km s-min=19.8km az=32.0*
*ISCJB **15** 12:45:12.7±0.6, 46°.01S±0°.06×166°.03E±0°.05, h12km, mb4.4/7, Error ellipse: s-maj=8.1km s-min=5.2km az=0.2*
*WEL **15** 12:45:14.6±0.7, 46°.04S×166°.09E, h12km, ML4.9/16, Error ellipse: s-maj=6.4km s-min=2.8km az=90.0*
ISC 15 12:45:13.7±0.6, 46°.06S±0°.07×166°.11E±0°.05, h12km, n45, σ0§84/45, mb4.4/7, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.41**	**105**	P*	**Pb**	**12 45 23.3**	**+0.4**
PYZ				S*	**Sb**	**12 45 29.7**	**+0.6**
DCZ	**Deep Cove**	**0.94**	**52**	P*	**Pg**	**12 45 31.6**	**-0.2**
DCZ				S*	**Sg**	**12 45 44.3**	**+0.3**
DCZ				S*	**Sg**	**12 45 44.3**	**+0.3**
DCZ				AML	AML	12 45 45.3	
DCZ				AML	AML	12 45 45.3	
WHZ	**Wether Hill Ro**	**1.29**	**83**	PN	**Pn**	**12 45 37.4**	**-0.2**
WHZ				SN	**Sb**	**12 45 53.9**	**-0.6**
WHZ				AML	AML	12 45 58.9	
APZ	**The Paps**	**1.51**	**121**	*e*PN	**Pn**	**12 45 40.3**	**-0.3**
MLZ	**Mavora Lakes**	**1.61**	**65**	*e*PN	**Pn**	**12 45 42.8**	**+0.8**
MLZ				AML	AML	12 46 08.1	
MLZ				AML	AML	12 46 09.1	
MSZ	**Milford Sound**	**1.89**	**43**	AML	AML	12 46 21.4	
MSZ				AML	AML	12 46 21.5	
SYZ	**Scrubby Hill**	**2.15**	**104**	*e*PN	**Pn**	**12 45 46.7**	**-2.7**
WKZ	**Wanaka**	**2.39**	**60**	*e*PN	**Pb**	**12 45 55.8**	**-0.9**
WKZ				AML	AML	12 46 26.7	
WKZ				AML	AML	12 46 29.0	
WKZ				AML	AML	12 46 29.3	
WKZ				AML	AML	12 46 30.2	
EAZ	**Earnscleugh**	**2.39**	**71**	*e*PN	**Pb**	**12 45 55.1**	**-1.6**
EAZ				AML	AML	12 46 26.7	
EAZ				AML	AML	12 46 26.7	
EAZ				AML	AML	12 46 28.6	
EAZ				AML	AML	12 46 31.8	
TUZ	**Tuapeka**	**2.46**	**89**	*e*PN	**Pn**	**12 45 53.9**	**+0.3**
TUZ				AML	AML	12 46 27.6	
TUZ				AML	AML	12 46 29.8	
HHSZ	**Highcliff Hill**	**3.14**	**88**	*e*PN	**Pn**	**12 46 03.2**	**+0.3**
LBZ	**Lake Benmore**	**3.33**	**61**	*e*PN	**Pn**	**12 46 06.2**	**+0.6**
LBZ				AML	AML	12 46 46.8	
LBZ				AML	AML	12 46 46.8	
LBZ				AML	AML	12 46 46.8	
LBZ				AML	AML	12 46 46.8	
ODZ	**Otahua Downs**	**3.34**	**74**	PN	**Pn**	**12 46 06.4**	**+0.6**
ODZ				AML	AML	12 47 02.0	
ODZ				AML	AML	12 47 02.0	
ODZ				AML	AML	12 47 02.4	
ODZ				AML	AML	12 47 02.4	
FOZ	**Fox Glacier**	**3.57**	**47**	*e*PN	Pn	12 46 12.7	+3.9
FOZ				AML	AML	12 47 16.7	
FOZ				AML	AML	12 47 17.9	
RPZ	**Rata Peaks**	**4.22**	**58**	Pn	**Pn**	**12 46 18.3**	**+0.3**
	34nm,0.3s,baz=186,slow=7.4,SNR=6.1						
RPZ				Sn	**Sn**	**12 47 07.9**	**+0.7**
	78nm,0.3s,baz=28,slow=22,SNR=5.9						
RPZ	**Rata Peaks**	**4.22**	**58**	PN	**Pn**	**12 46 18.2**	**+0.3**
RPZ				AML	AML	12 47 09.1	
RPZ				AML	AML	12 47 09.8	
WVZ	**Waitaha Valley**	**4.45**	**50**	*e*PN	**Pn**	**12 46 22.0**	**+1.0**
WVZ				AML	AML	12 47 16.5	
WVZ				AML	AML	12 47 17.6	
OXZ	**Oxford**	**5.04**	**59**	*e*PN	**Pn**	**12 46 28.2**	**-0.8**
LTZ	**Lake Taylor**	**5.50**	**56**	AML	AML	12 47 39.4	
LTZ				AML	AML	12 47 41.1	
THZ	**Tophouse**	**6.52**	**51**	AML	AML	12 48 05.9	
THZ				AML	AML	12 48 07.5	
QRZ	**Quartz Range**	**7.01**	**44**	*e*PN	**Pn**	**12 46 56.5**	**+0.3**
QRZ				AML	AML	12 48 19.4	
QRZ				AML	AML	12 48 20.7	
DUWZ	**D'Urville Isla**	**7.74**	**50**	AML	AML	12 48 41.9	
KHEZ	**Kahui Hut**	**8.92**	**44**	*e*PN	Pn	12 47 26.4	+4.0
PKE	**Pukeiti**	**8.98**	**43**	*e*PN	**Pn**	**12 47 24.3**	**+1.0**
HIZ	**Hauiti**	**9.94**	**44**	*e*PN	**Pn**	**12 47 37.2**	**+0.9**
URZ	**Urewera**	**11.28**	**50**	Pn	**Pn**	**12 47 54.7**	**+0.1**
	1.9nm,0.3s,baz=246,slow=8.8,SNR=6.5						
URZ				Sn	Sn	12 49 52.0	-8.5
	0.9nm,0.3s,baz=102,slow=20,SNR=2.9						
STKA	**Stephens Creek**	**23.62**	**298**	P	**P**	**12 50 23.9**	**-0.7**
	2.6nm,0.7s,baz=138,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**34.24**	**300**	P	**P**	**12 51 59.1**	**-0.3**
	2.7nm,0.7s,baz=129,slow=8.1,SNR=29						
WRA	**Warramunga Arr**	**36.84**	**304**	P	**P**	**12 52 21.3**	**-0.5**
	4.3nm,0.6s,baz=136,slow=8.0,SNR=51						
PMG	**Port Moresby**	**39.97**	**330**	P	**P**	**12 52 50.0**	**+2.0**
	20nm,0.8s,baz=197,slow=4.9,SNR=7.6						
FITZ	**Fitzroy Crossi**	**43.49**	**296**	P	**P**	**12 53 16.5**	**-0.4**
	4.4nm,0.6s,baz=173,slow=7.7,SNR=15						
QSPA	**South Pole Qui**	**44.06**	**180**	P	**P**	**12 53 21.9**	**+0.7**
	6.6nm,0.8s,baz=15,slow=2.6,SNR=37						
CMAR	**Chiang Mai Arr**	**88.25**	**299**	P	**P**	**12 58 05.8**	**+1.0**
	2.7nm,0.8s,baz=157,slow=3.2,SNR=14						
ILAR	**Eielson Array**	**116.42**	**20**	PKP	**PKPdf**	**13 03 57.3**	**+1.3**
	0.3nm,0.9s,baz=193,slow=3.7,SNR=3.2						
MKAR	**Makanchi Array**	**118.03**	**309**	PKP	**PKPdf**	**13 03 59.0**	**-0.7**
	0.5nm,0.8s,baz=46,slow=6.2,SNR=3.5						
KURBB	**Kurchatov Arra**	**122.31**	**311**	PKP	**PKPdf**	**13 04 07.1**	**-0.6**
	0.8nm,0.6s,baz=112,slow=2.0,SNR=7.9						
BVAR	**Borovoye Array**	**127.87**	**310**	PKP	**PKPdf**	**13 04 18.5**	**+0.2**
	0.8nm,0.7s,baz=164,slow=1.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**144.64**	**207**	PKP	**PKPab**	**13 04 48.2**	**-0.8**
	3.8nm,0.7s,baz=160,slow=1.5,SNR=27						
BRTR	**Keskin Array B**	**145.03**	**277**	PKP	**PKPab**	**13 04 49.9**	**-0.2**
	8.7nm,0.9s,baz=144,slow=5.2,SNR=26						
SPITS	**Spitsbergen Ar**	**145.72**	**349**	PKPbc	**PKPbc**	**13 04 50.9**	**0.0**
	5.0nm,0.6s,baz=72,slow=6.3,SNR=7.4						
SCHQ	**Schefferville**	**145.91**	**55**	PKPbc	**PKPdf**	**13 04 51.3**	**-0.1**
	6.2nm,0.7s,baz=234,slow=4.5,SNR=11						
ARCES	**ARCESS Array B**	**149.44**	**334**	PKPbc	**PKPbc**	**13 05 01.4**	**0.0**
	9.2nm,0.6s,baz=67,slow=3.2,SNR=24						
FINES	**FINESS Array B**	**152.36**	**318**	PKPbc	**PKPbc**	**13 05 07.9**	**-0.4**
	2.0nm,0.6s,baz=82,slow=4.0,SNR=7.8						
FINES				PKPab	**PKPab**	**13 05 17.7**	**-0.9**
	3.4nm,0.8s,baz=101,slow=4.9,SNR=6.6						
GERES	**GERESS Array B**	**161.17**	**289**	PKPab	**PKPab**	**13 05 56.0**	**-1.0**
	0.3nm,0.3s,baz=85,slow=2.1,SNR=5.0						
ESDC	**Sonseca Array**	**170.32**	**232**	PKPab	**PKPab**	**13 06 37.0**	**-0.5**
	0.2nm,0.4s,baz=144,slow=5.3,SNR=4.9						

*IDC **15** 12:46:49.8±0.8, 46°.13S×166°.04E, h0km, mb4.3/6, mb1 4.4/8, mb1mx4.2/18, mbtmp4.3/8, Error ellipse: s-maj=26.9km s-min=23.0km az=28.0*
*ISCJB **15** 12:46:52.5±1.1, 46°.06S±0°.07×165°.99E±0°.07, h26km±7km, mb4.2/6, Error ellipse: s-maj=11.6km s-min=7.8km az=177.5*
*WEL **15** 12:46:52.8±0.6, 46°.06S×166°.00E, h12km, ML4.7/8, Error ellipse: s-maj=5.5km s-min=2.4km az=90.0*
ISC 15 12:46:53.8±1.6, 46°.09S±0°.06×166°.08E±0°.07, h26km±11km, n28, σ1§03/36, mb4.2/6, 1C-1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.42**	**100**	⇑P*	**Pb**	**12 47 02.4**	**-0.4**
PYZ				S*	**Sb**	**12 47 09.3**	**+0.4**
DCZ	**Deep Cove**	**0.97**	**51**	P*	**Pn**	**12 47 11.0**	**-0.7**
DCZ				S*	**Sb**	**12 47 24.3**	**0.0**
DCZ				S*	**Sb**	**12 47 24.4**	**0.0**
DCZ				AML	AML	12 47 27.5	
DCZ				AML	AML	12 47 27.7	
WHZ	**Wether Hill Ro**	**1.31**	**82**	⇓PN	**Pn**	**12 47 16.7**	**+0.3**
WHZ				SN	**Sb**	**12 47 34.5**	**+0.2**
WHZ				AML	AML	12 47 39.2	
APZ	**The Paps**	**1.51**	**120**	PN	**Pn**	**12 47 18.4**	**-0.8**
MLZ	**Mavora Lakes**	**1.64**	**64**	*e*PN	**Pn**	**12 47 22.2**	**+1.2**
MLZ				AML	AML	12 47 48.9	
MLZ				AML	AML	12 47 49.6	
MSZ	**Milford Sound**	**1.93**	**43**	*e*PN	**Pb**	**12 47 28.5**	**+0.3**
MSZ				AML	AML	12 48 00.8	
MSZ				AML	AML	12 48 04.2	
SYZ	**Scrubby Hill**	**2.17**	**103**	*e*PN	**Pn**	**12 47 28.2**	**+0.1**
EAZ	**Earnscleugh**	**2.42**	**70**	*e*PN	**Pn**	**12 47 33.7**	**+2.0**
EAZ				AML	AML	12 48 07.5	
EAZ				AML	AML	12 48 07.5	
EAZ				AML	AML	12 48 09.8	
EAZ				AML	AML	12 48 09.9	
TUZ	**Tuapeka**	**2.48**	**88**	*e*PN	**Pn**	**12 47 33.8**	**+1.4**
TUZ				SN	**Sn**	**12 48 03.6**	**+1.8**
TUZ				AML	AML	12 48 07.8	
LBZ	**Lake Benmore**	**3.36**	**61**	AML	AML	12 48 26.4	
LBZ				AML	AML	12 48 30.3	
ODZ	**Otahua Downs**	**3.37**	**74**	PN	**Pn**	**12 47 45.1**	**+0.4**
ODZ				AML	AML	12 48 41.5	
ODZ				AML	AML	12 48 42.0	
RPZ	**Rata Peaks**	**4.26**	**58**	Pn	**Pn**	**12 47 57.3**	**+0.4**
	baz=270,slow=3.0,SNR=2.0						
RPZ				Sn	**Sn**	**12 48 45.6**	**-0.1**
	20nm,0.3s,baz=225,slow=19,SNR=4.7						
URZ	**Urewera**	**11.31**	**50**	Pn	**Pn**	**12 49 32.6**	**-1.0**
	baz=247,slow=13,SNR=2.0						
URZ				Sn	**Sn**	**12 51 35.3**	**-3.8**
	0.1nm,0.3s,baz=70,slow=16,SNR=2.2						
ASAR	**Alice Springs**	**34.24**	**300**	P	**P**	**12 53 36.9**	**-0.5**
	1.7nm,0.8s,baz=143,slow=10,SNR=4.7						
ASAR				PcP	**PcP**	**12 56 13.3**	**-0.3**
	0.8nm,0.7s,baz=135,slow=3.9,SNR=5.5						
WRA	**Warramunga Arr**	**36.85**	**304**	P	**P**	**12 53 59.0**	**-0.9**
	1.7nm,0.8s,baz=147,slow=9.5,SNR=4.4						
PMG	**Port Moresby**	**39.99**	**330**	P	**P**	**12 54 27.6**	**+1.4**
	14nm,0.8s,baz=217,slow=3.6,SNR=3.9						
FITZ	**Fitzroy Crossi**	**43.49**	**296**	P	**P**	**12 54 54.6**	**-0.3**
	1.3nm,0.5s,baz=142,slow=6.4,SNR=3.7						
QSPA	**South Pole Qui**	**44.03**	**180**	P	**P**	**12 54 59.3**	**+0.4**
	5.9nm,0.8s,baz=18,slow=4.3,SNR=8.9						
CMAR	**Chiang Mai Arr**	**88.25**	**299**	P	**P**	**12 59 43.8**	**+1.1**
	2.0nm,0.9s,baz=165,slow=3.7,SNR=6.7						
KURBB	**Kurchatov Arra**	**122.32**	**311**	PKP	**PKPdf**	**13 05 45.0**	**-0.4**
	0.7nm,0.9s,baz=118,slow=1.8,SNR=5.9						
BVAR	**Borovoye Array**	**127.88**	**310**	PKP	**PKPdf**	**13 05 56.3**	**+0.2**
	0.4nm,0.4s,baz=64,slow=3.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**144.61**	**207**	PKP	**PKPab**	**13 06 26.6**	**-0.1**
	3.4nm,0.6s,baz=154,slow=1.8,SNR=15						
BRTR	**Keskin Array B**	**145.02**	**277**	PKP	**PKPbc**	**13 06 27.5**	**-0.2**
	8.0nm,0.8s,baz=144,slow=4.8,SNR=14						
SPITS	**Spitsbergen Ar**	**145.75**	**349**	PKPbc	**PKPbc**	**13 06 29.0**	**+0.2**
	10nm,1.0s,baz=70,slow=11,SNR=4.9						
SCHQ	**Schefferville**	**145.95**	**56**	PKPbc	**PKPdf**	**13 06 29.1**	**-0.1**
	5.5nm,0.7s,baz=279,slow=5.4,SNR=6.6						
ARCES	**ARCESS Array B**	**149.47**	**334**	PKPbc	**PKPbc**	**13 06 38.8**	**-0.3**
	6.9nm,0.8s,baz=56,slow=3.1,SNR=7.3						
FINES	**FINESS Array B**	**152.37**	**318**	PKPbc	**PKPbc**	**13 06 45.3**	**-0.8**
	1.4nm,0.8s,baz=134,slow=5.5,SNR=3.8						
FINES				PKPab	**PKPab**	**13 06 56.3**	**0.0**
	1.3nm,0.8s,baz=56,slow=12,SNR=4.1						
GERES	**GERESS Array B**	**161.17**	**288**	PKPab	**PKPab**	**13 07 35.0**	**+0.2**
	0.3nm,0.3s,baz=79,slow=5.1,SNR=3.9						

WEL 15 12:49:30.4±1.1, 45°.98S×166°.16E, h12km, ML4.0/9, Error ellipse: s-maj=9.3km s-min=4.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.41**	**118**	P*	Pg	12 49 37.9	-0.6
PYZ				S*	Sg	12 49 44.4	+0.4
DCZ	**Deep Cove**	**0.86**	**55**	P*	Pg	12 49 46.1	-0.8
DCZ				S*	Sb	12 49 59.5	+0.9
DCZ				AML	AML	12 50 00.1	
WHZ	**Wether Hill Ro**	**1.25**	**87**	*e*P*	Pn	12 49 51.8	-1.8
WHZ				S*	Sb	12 50 09.0	-1.0
WHZ				S*	Sn	12 50 09.9	-0.6
APZ	**The Paps**	**1.53**	**125**	PN	Pb	12 49 58.3	-0.3
MLZ	**Mavora Lakes**	**1.55**	**67**	*e*PN	Pn	12 49 57.9	+0.1
MLZ				AML	AML	12 50 22.1	
MLZ				AML	AML	12 50 25.5	
MSZ	**Milford Sound**	**1.81**	**44**	*e*PN	Pb	12 50 03.5	+0.1
MSZ				AML	AML	12 50 34.8	
MSZ				AML	AML	12 50 37.5	
SYZ	**Scrubby Hill**	**2.14**	**106**	*e*PN	Pn	12 50 04.4	-1.4
WKZ	**Wanaka**	**2.32**	**61**	AML	AML	12 50 45.0	
WKZ				AML	AML	12 50 47.6	
EAZ	**Earnscleugh**	**2.33**	**72**	*e*PN	Pn	12 50 07.2	-1.3
EAZ				AML	AML	12 50 43.6	
EAZ				AML	AML	12 50 45.1	
EAZ				AML	AML	12 50 45.2	
EAZ				AML	AML	12 50 45.6	
TUZ	**Tuapeka**	**2.42**	**91**	*e*PN	Pn	12 50 05.7	-4.0
TUZ				AML	AML	12 50 41.9	
TUZ				AML	AML	12 50 43.9	
LBZ	**Lake Benmore**	**3.26**	**62**	AML	AML	12 51 05.2	
LBZ				AML	AML	12 51 06.7	
ODZ	**Otahua Downs**	**3.29**	**75**	*e*PN	Pn	12 50 19.7	-2.0
ODZ				AML	AML	12 51 03.4	
ODZ				AML	AML	12 51 04.0	

*IDC **15** 12:51:52.6±1.5, 45°.55S×166°.49E, h0km, mb3.3/2, mb1 3.8/4, mb1mx3.7/15, mbtmp3.7/4, ML3.9/2, MS4.3/1, Ms1 4.3/1, ms1mx4.2/16, Error ellipse: s-maj=48.0km s-min=27.0km az=173.0*
*ISCJB **15** 12:51:53.4±0.7, 45°.54S±0°.04×166°.51E±0°.07, h15km, mb3.4/2, Error ellipse: s-maj=7.5km s-min=5.1km az=21.3*
*WEL **15** 12:51:54.7±0.7, 45°.59S×166°.63E, h5km, ML4.3/16, Error ellipse: s-maj=5.8km s-min=3.4km az=90.0*
ISC 15 12:51:54.4±0.9, 45°.57S±0°.04×166°.60E±0°.06, h15km, n31, σ1§13/35, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.40**	**77**	PG	**Pg**	**12 52 02.7**	**+0.2**
DCZ				SG	**Sg**	**12 52 07.5**	**-0.6**
DCZ				SG	**Sb**	**12 52 07.8**	**-1.4**
DCZ				AML	AML	12 52 08.0	
PYZ	**Puysegur Point**	**0.60**	**174**	P*	**Pg**	**12 52 06.2**	**-0.1**
PYZ				SG	**Sg**	**12 52 14.2**	**-0.2**
WHZ	**Wether Hill Ro**	**1.00**	**110**	P*	**Pb**	**12 52 13.1**	**-0.3**
WHZ				AML	AML	12 52 27.9	
WHZ				AML	AML	12 52 28.0	
MLZ	**Mavora Lakes**	**1.13**	**79**	P*	**Pb**	**12 52 14.4**	**-1.3**
MLZ				AML	AML	12 52 29.6	
MLZ				AML	AML	12 52 30.0	
MSZ	**Milford Sound**	**1.30**	**47**	*e*P*	**Pn**	**12 52 17.2**	**-0.7**
MSZ				S*	**Sg**	**12 52 36.7**	**+0.4**
MSZ				AML	AML	12 52 37.3	
MSZ				AML	AML	12 52 43.5	
MSZ				AML	AML	12 52 47.0	
APZ	**The Paps**	**1.59**	**143**	PN	**Pn**	**12 52 22.5**	**+0.4**
WKZ	**Wanaka**	**1.86**	**68**	*e*PN	**Pb**	**12 52 27.2**	**-1.0**
WKZ				AML	AML	12 52 54.6	
WKZ				AML	AML	12 52 54.6	
WKZ				AML	AML	12 52 59.0	
WKZ				AML	AML	12 52 59.0	
EAZ	**Earnscleugh**	**1.94**	**81**	*e*PN	**Pn**	**12 52 27.9**	**+1.1**
EAZ				AML	AML	12 52 54.9	
EAZ				AML	AML	12 52 55.9	
EAZ				AML	AML	12 52 56.1	
EAZ				AML	AML	12 52 56.4	
SYZ	**Scrubby Hill**	**2.02**	**120**	*e*PN	**Pb**	**12 52 29.7**	**-1.1**
JCZ	**Jackson Bay**	**2.14**	**47**	*e*PN	**Pb**	**12 52 32.4**	**-0.6**
JCZ				AML	AML	12 53 09.3	
JCZ				AML	AML	12 53 10.2	
TUZ	**Tuapeka**	**2.16**	**101**	PN	**Pb**	**12 52 31.8**	**-1.4**
TUZ				AML	AML	12 53 02.3	
TUZ				AML	AML	12 53 02.8	
LBZ	**Lake Benmore**	**2.81**	**66**	*e*PN	**Pn**	**12 52 40.4**	**+1.6**
LBZ				AML	AML	12 53 16.4	
LBZ				AML	AML	12 53 16.6	
LBZ				AML	AML	12 53 16.6	
LBZ				AML	AML	12 53 25.3	
HHSZ	**Highcliff Hill**	**2.82**	**98**	PN	**Pn**	**12 52 40.9**	**+2.0**
ODZ	**Otahua Downs**	**2.90**	**81**	PN	**Pn**	**12 52 41.1**	**+1.0**
ODZ				AML	AML	12 53 18.3	
ODZ				AML	AML	12 53 18.7	
ODZ				AML	AML	12 53 19.2	
ODZ				AML	AML	12 53 19.9	
FOZ	**Fox Glacier**	**2.98**	**49**	*e*PN	**Pb**	**12 52 45.2**	**-2.0**
FOZ				AML	AML	12 53 31.7	
FOZ				AML	AML	12 53 35.8	
RPZ	**Rata Peaks**	**3.68**	**61**	Pn	**Pn**	**12 52 51.9**	**+1.1**
	31nm,0.3s,baz=196,slow=5.9,SNR=29						
RPZ				Sn	**Sn**	**12 53 35.5**	**+1.6**
	25nm,0.3s,baz=40,slow=20,SNR=8.5						
RPZ				LR	LR	12 53 38.1	
	comp=Z,4μm,18.4s,baz=346,slow=28						
RPZ	**Rata Peaks**	**3.68**	**61**	*e*PN	**Pn**	**12 52 51.4**	**+0.6**
RPZ				AML	AML	12 53 36.8	
RPZ				AML	AML	12 53 40.6	
WVZ	**Waitaha Valley**	**3.88**	**52**	*e*PN	**Pn**	**12 52 55.2**	**+1.8**
WVZ				AML	AML	12 53 48.3	
OXZ	**Oxford**	**4.50**	**62**	*e*PN	**Pn**	**12 53 01.7**	**-0.2**
MQZ	**McQueen's Vall**	**4.71**	**69**	*e*PN	**Pn**	**12 53 04.8**	**0.0**
CRLZ	**Canterbury Las**	**4.74**	**67**	*e*PN	**Pn**	**12 53 05.4**	**+0.1**
LTZ	**Lake Taylor**	**4.94**	**58**	AML	AML	12 54 08.7	
LTZ				AML	AML	12 54 10.7	
KHZ	**Kahutara**	**5.92**	**60**	*e*PN	**Pn**	**12 53 22.6**	**+1.2**
THZ	**Tophouse**	**5.95**	**52**	*e*PN	**Pn**	**12 53 23.9**	**+1.9**
THZ				AML	AML	12 54 39.0	
THZ				AML	AML	12 54 41.9	
QRZ	**Quartz Range**	**6.42**	**45**	*e*PN	**Pn**	**12 53 29.2**	**+0.8**
QRZ				AML	AML	12 54 45.3	
QRZ				AML	AML	12 54 49.7	
NNZ	**Nelson**	**6.58**	**51**	*e*PN	**Pn**	**12 53 32.7**	**+2.2**
URZ	**Urewera**	**10.70**	**51**	Pn	**Pn**	**12 54 27.8**	**+0.8**
	0.2nm,0.3s,baz=270,slow=20,SNR=2.9						
URZ				Sn	Sn	12 56 18.9	-7.7
	0.1nm,0.3s,baz=249,slow=17,SNR=2.3						
ASAR	**Alice Springs**	**34.30**	**298**	P	**P**	**12 58 40.5**	**+0.3**
	0.3nm,0.8s,baz=129,slow=7.3,SNR=3.4						
WRA	**Warramunga Arr**	**36.85**	**303**	P	**P**	**12 59 01.6**	**-0.5**
	0.7nm,0.9s,baz=137,slow=8.2,SNR=4.4						
TORD	**Torodi Ar. Bea**	**145.24**	**206**	PKPbc	**PKPbc**	**13 11 31.2**	**-0.1**
	2.0nm,0.5s,baz=150,slow=2.0,SNR=25

baz=16,SNR=6.9
LHI Lord Howe Isla 15.54 337 P Pn 12 58 33.7 -12
baz=15,SNR=3.4
TOO Toolangi 17.49 292 P **Pn** **12 59 10.0 -0.4**
baz=18,SNR=11
STKA Stephens Creek 23.61 298 P **P** **13 00 20.4 +3.3**
3.7nm,1.1s,baz=156,slow=12,SNR=3.0
QSPA South Pole Qui 44.02 180 P **P** **13 03 13.3 -0.1**
5.7nm,1.0s,baz=18,slow=4.3,SNR=19
SNAA Sanae 62.26 184 *e*P **P** **13 05 27.1 -0.3**
VNA1 Neumayer--Stat 63.48 182 *e*P **P** **13 05 35.4 0.0**
ILAR Eielson Array 116.48 21 PKP **PKPdf** **13 13 47.9 -0.5**
0.2nm,0.5s,baz=223,slow=3.6,SNR=4.1
KURBB Kurchatov Arra 122.31 311 PKP **PKPdf** **13 13 59.1 -0.9**
1.0nm,0.7s,baz=112,slow=1.9,SNR=6.1
TORD Torodi Ar. Bea 144.58 207 PKP **PKPab** **13 14 40.8 -0.3**
2.7nm,0.6s,baz=167,slow=1.8,SNR=14
BRTR Keskin Array B 144.99 277 PKP PKPbc 13 14 42.1 -0.1
4.9nm,0.8s,baz=145,slow=4.8,SNR=16
SCHQ Schefferville 145.98 56 PKPbc **PKPdf** **13 14 44.1 +0.2**
4.9nm,0.6s,baz=311,slow=3.8,SNR=9.5
ARCES ARCESS Array B 149.47 334 PKPbc **PKPbc** **13 14 54.1 +0.4**
4.5nm,0.6s,baz=66,slow=2.9,SNR=10
FINES FINESS Array B 152.36 318 PKPbc **PKPbc** **13 15 00.6 -0.1**
2.6nm,0.7s,baz=91,slow=5.7,SNR=5.6
FINES PKPab **PKPab** **13 15 10.8 -0.2**
2.2nm,0.8s,baz=64,slow=6.3,SNR=3.8

IDC ***15*** *12:55:35.1±0.5,3.2°9S×150.2°8E,h0km,mb4.5/23, mb1 4.7/24,mb1mx4.6/26,mbtmp4.5/24,ML3.8/1,MS5.3/9, Ms1 5.4/9,ms1mx5.0/32,Error ellipse: s-maj=18.2km s-min=12.4km az=97.0*
BJI ***15*** *12:55:37.2,3.4°0S×150.7°0E,h13km,mB5.8/23,mb5.0/44, Ms5.6/27,Ms7 5.4/29*
MOS ***15*** *12:55:39.6±2.2,3.3°7S×150.7°4E,h33km,mb5.5/32,Error ellipse: s-maj=10.6km s-min=6.6km az=92.8*
BKK ***15*** *12:55:39.0±0.9,4.4°S±4.1°×15.2°E±1.1°4,h10km,M5.8/26, mB6.3/6,mb5.5/26,MLv5.7/1,Mw(mB)6.0/6*
ISCJB ***15*** *12:55:41.3±0.2,3.2°9S±0.0°5×150.7°3E±0.0°4,h33km, mb5.1/120,MS5.2/21,Error ellipse: s-maj=6.8km s-min=5.3km az=8.2*
NEIC ***15*** *12:55:41.1±0.3,3.3°4S×150.3°6E,h35km,mb5.4/47,Error ellipse: s-maj=8.9km s-min=6.2km az=109.0*
DJA ***15*** *12:55:55.5±2.1,4.4°S±11.1°×15.0°E±1.1°4,h75km±12km, M5.5/21,mB6.0/8,mb5.3/21,MLv5.4/1,Mw(mB)5.6/8*
ISC 15 12:55:41.3±0.3,3.4°8S±0.0°3×150.7°5E±0.0°4,h29km±1km, h29km:pP-P,n272,σ2s00/214,mb5.3/127,MS5.2/23,5C-6D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.88**	**211**	Pn		**Pn**	**12 57 19.5**	**-0.8**
PMG				*e*Sn		**Sn**	**12 58 35.7**	**-1.9**
PMG				Sn		Sn	12 58 49.6	+12
PMG	**Port Moresby**	**6.88**	**211**	P		**Pn**	**12 57 22.1**	**+1.8**
584nm,0.9s,10µm2.1nm								
PMG	**Port Moresby**	**6.88**	**211**	Pn		**Pn**	**12 57 19.5**	**-0.8**
4.7nm,0.3s,baz=21,slow=8.6,SNR=21								
PMG				Sn		Sn	12 58 49.6	+12
baz=18,slow=19,SNR=1.8								
JAY	**Jayapura**	**10.07**	**275**	P		**Pn**	**12 58 04.1**	**-0.1**
104nm,1.3s								
HNR	**Honiara**	**10.88**	**123**	*e*Pn		Pn	12 58 20.5	+5.3
228nm,0.9s								
HNR	**Honiara**	**10.88**	**123**	Pn		Pn	12 58 22.9	+7.6
3.0nm,0.3s,baz=254,slow=15,SNR=3.7								
COEN	**Coen**	**12.81**	**215**	*e*Pn		**Pn**	**12 58 42.3**	**+0.7**
430nm,0.9s								
RKPI	**Ransiki, Papua**	**16.67**	**276**	P		P	12 59 54.2	+19
CTA	**Charters Tower**	**17.08**	**195**	P		**Pn**	**12 59 38.1**	**0.0**
CTA	**Charters Tower**	**17.08**	**195**	P		**Pn**	**12 59 38.1**	**0.0**
0.2nm,0.3s,baz=20,slow=16,SNR=8.5								
CTAO	**Charters Tower**	**17.08**	**195**	*e*P		**Pn**	**12 59 38.3**	**+0.2**
CTAO					pmax	pmax		
comp=Z,587nm,1.7s								
CTAO	**Charters Tower**	**17.08**	**195**	*e*Pn		**Pn**	**12 59 38.3**	**+0.2**
comp=Z,587nm,1.7s								
GUMO	**Guam**	**17.93**	**341**	*e*Pn		**Pn**	**12 59 44.8**	**-3.9**
comp=Z,1µm,1.5s								
FAKI	**Fak Fak**	**18.48**	**271**	P		**P**	**12 59 51.5**	**-3.6**
comp=Z,298nm,2.1s,comp=Z,6µm								
SWI	**Sorong**	**19.64**	**277**	P		**Pn**	**13 00 08.4**	**-1.0**
comp=Z,208nm,1.1s								
BNDI	**Bandanaira**	**20.82**	**266**	P		**P**	**13 00 20.9**	**+0.2**
comp=Z,1µm,1.6s,comp=Z,20µm								
EIDS	**Eidsvold**	**21.76**	**179**	*e*P		**P**	**13 00 30.2**	**-0.5**
comp=Z,324nm,1.6s								
MSAI	**Masohi**	**21.78**	**270**	P		P	13 00 50.1	+19
WRAB	**Tennant Creek**	**22.87**	**223**	P		**P**	**13 00 39.0**	**-3.7**
comp=Z,640nm,0.7s,SNR=17								
WRAB	**Tennant Creek**	**22.87**	**223**	*e*P		**P**	**13 00 38.8**	**-3.9**
WRAB					pmax	pmax		
comp=Z,236nm,0.8s								
WRAB	**Tennant Creek**	**22.87**	**223**	*e*P		**P**	**13 00 38.8**	**-3.9**
comp=Z,236nm,0.8s								
WRA	**Warramunga Arr**	**22.89**	**223**	P		P	13 00 38.9	-3.9
WRA				S		Sn	13 05 05.1	-2.2
WRA	**Warramunga Arr**	**22.89**	**223**	P		P	13 00 38.9	-3.9
comp=Z,28nm,0.9s,baz=47,slow=9.6,SNR=64								
WRA				S		Sn	13 05 05.1	-2.2
comp=Z,2.7nm,0.8s,baz=48,slow=19,SNR=4.7								
WRA				LR		LR	13 08 58.2	
comp=Z,10µm,21.9s,baz=45,slow=35								
LBMI	**Labuha**	**23.40**	**276**	P		P	13 00 55.8	+7.8
TNTI	**Ternate**	**23.75**	**280**	P		**P**	**13 00 53.2**	**+1.8**
comp=Z,261nm,1.9s,comp=Z,5µm								
DZM	**Mont Dzumac**	**23.95**	**142**	*e*LR		LR	13 07 07.5	
comp=Z,30µm,25.3s								
DZM	**Mont Dzumac**	**23.95**	**142**	*e*P		**P**	**13 00 51.4**	**-1.9**
DZM	**Mont Dzumac**	**23.95**	**142**	LR		LR	13 07 40.5	
comp=Z,8µm,19.2s,baz=173,slow=30								
AS31	**Alice Springs**	**25.84**	**218**	*e*P		**P**	**13 01 09.5**	**-0.9**
ASAR	**Alice Springs**	**25.84**	**218**	P		**P**	**13 01 07.2**	**-3.2**
ASAR	**Alice Springs**	**25.84**	**218**	P		**P**	**13 01 07.2**	**-3.2**
comp=Z,7.6nm,0.7s,baz=54,slow=7.0,SNR=33								
ASAR				LR		LR	13 12 08.2	
comp=Z,10µm,18.1s,baz=42,slow=39								
MNI	**Manado**	**26.35**	**280**	P		pP	13 01 26.5	+2.8
ARMA	**Armidale**	**26.80**	**178**	*e*P		**P**	**13 01 23.1**	**+3.9**
comp=Z,39nm,1.2s								
SOEI	**Soe**	**27.02**	**255**	P		**P**	**13 01 22.3**	**+1.0**
comp=Z,226nm,1.0s								
KMSI	**Cibinong**	**27.05**	**278**	P		**P**	**13 01 23.7**	**+2.2**
comp=Z,375nm,0.9s								
DAV	**Davao City (W)**	**27.22**	**293**	LR		LR	13 10 01.3	
comp=Z,5µm,20.8s,baz=277,slow=32								
BATI	**Baumata**	**27.69**	**255**	P		**P**	**13 01 28.5**	**+1.3**
comp=Z,200nm,1.3s,comp=Z,3µm								
GTOI	**Gorontalo**	**28.02**	**278**	P		**P**	**13 01 31.7**	**+1.5**
comp=Z,180nm,1.1s,comp=Z,4µm								
LUWI	**Luwuk**	**28.05**	**274**	P		**P**	**13 01 33.3**	**+2.8**
comp=Z,223nm,1.3s								
FITZ	**Fitzroy Crossi**	**28.56**	**238**	P		P	13 01 30.5	-4.4
FITZ	**Fitzroy Crossi**	**28.56**	**238**	P		P	13 01 30.5	-4.4
comp=Z,11nm,0.7s,baz=78,slow=11,SNR=7.1								
FITZ				LR		LR	13 13 53.9	
comp=Z,6µm,18.9s,baz=75,slow=39								
STKA	**Stephens Creek**	**29.53**	**196**	P		**P**	**13 01 41.5**	**-1.8**
STKA	**Stephens Creek**	**29.53**	**196**	P		**P**	**13 01 41.5**	**-1.8**
comp=Z,4.7nm,1.0s,baz=17,slow=11,SNR=3.1								
KAPI	**Kappang**	**30.94**	**266**	P		**P**	**13 01 53.7**	**-2.4**
comp=Z,123nm,1.6s								
KAPI				*e*PcP		**PcP**	**13 04 48.9**	**-3.4**
MYLDM	**Lahad Datu**	**33.34**	**285**	P		P	13 02 24.5	+7.4
TSM	**Tawau**	**33.74**	**283**	P		P	13 02 26.1	+5.5
TGY	**Tagaytay City**	**34.34**	**301**	LR		LR	13 13 41.7	
comp=Z,16nm,20.9s,baz=318,slow=32								
FORT	**Forrest**	**34.58**	**216**	*e*P		P	13 02 32.1	+4.4
comp=Z,101nm,0.9s								
SDKM	**Sandakan**	**34.71**	**285**	P		P	13 02 33.7	+4.6
MBWA	**Marble Bar**	**34.90**	**237**	*e*P		P	13 02 26.4	-4.2
comp=Z,238nm,1.5s								
KKM	**Kota Kinabalu**	**35.76**	**285**	P		**P**	**13 02 37.0**	**-1.2**
comp=Z,53nm,0.9s								
KKM	**Kota Kinabalu**	**35.76**	**285**	P		**P**	**13 02 39.6**	**+1.4**
BTM	**Bintulu**	**38.22**	**280**	P		**P**	**13 03 01.3**	**+2.2**
SBUM	**Sibu**	**38.95**	**278**	P		P	13 03 08.2	+3.0
YULB	**Yu-li**	**39.21**	**314**	*e*P		P	13 03 03.8	-3.4
comp=Z,28nm,0.9s								
NACB	**Ninganchiao**	**39.50**	**316**	*e*P		P	13 03 06.7	-2.9
comp=Z,47nm,1.0s								
YHNB	**Yeheng**	**39.97**	**316**	*e*P		**P**	**13 03 12.3**	**-1.3**
comp=Z,128nm,1.2s								
KSM	**Kuching**	**40.72**	**276**	*e*P		**P**	**13 03 18.1**	**-1.7**
comp=Z,251nm,1.8s								
KSM	**Kuching**	**40.72**	**276**	P		**P**	**13 03 20.2**	**+0.3**
JNU	**Nakatsue**	**40.98**	**334**	*e*P		P	13 03 15.7	-6.0
comp=Z,46nm,1.1s								
QZH	**Quanzhou**	**42.11**	**314**	P		**P**	**13 03 30.8**	**-0.3**
QZH					pmax	pmax		
comp=Z,80nm,0.9s								
URZ	**Urewera**	**42.16**	**149**	P		**P**	**13 03 33.1**	**+1.7**
comp=Z,363nm,2.6s								
URZ	**Urewera**	**42.16**	**149**	P		**P**	**13 03 33.1**	**+1.7**
comp=Z,7.4nm,0.8s,baz=243,slow=6.8,SNR=2.7								
RPZ	**Rata Peaks**	**43.92**	**159**	LR		LR	13 19 18.7	
comp=Z,6µm,21.6s,baz=296,slow=32								
KSRS	**Korea Array**	**45.92**	**335**	P		P	13 03 58.0	-3.5
comp=Z,3.7nm,0.8s,baz=157,slow=8.5,SNR=5.6								
KSAR	**Wonju Array Be**	**45.93**	**335**	P		P	13 03 58.0	-3.6
QIZ	**Qiongzhong**	**46.04**	**301**	P		**P**	**13 04 01.4**	**-1.3**
QIZ				sP		**sP**	**13 04 14.3**	**-0.8**
QIZ				S		**S**	**13 10 43.6**	**-3.0**
QIZ				pmax		pmax		
comp=Z,29nm,2.1s								
QIZ				LR		LR		
comp=Z,5µm,26.7s								
NJ2	**Nanjing**	**46.54**	**322**	*e*P		P	13 04 11.1	+4.6
NJ2					pmax	pmax		
comp=Z,20nm,0.7s								
MYKOM	**Kota Tinggi**	**47.16**	**276**	P		**P**	**13 04 14.3**	**+2.7**
KGM	**Kluang**	**47.72**	**276**	P		P	13 04 19.1	+3.1
ASAJ	**Asahikawa**	**47.95**	**352**	P		P	13 04 13.3	-3.9
ASAJ	**Asahikawa**	**47.95**	**352**	P		P	13 04 13.3	-3.9
comp=Z,11nm,0.9s,baz=203,slow=15,SNR=2.8								
KTGM	**Kuala Trenggan**	**48.36**	**280**	P		P	13 04 24.9	+4.0
WHN	**Wuhan**	**48.49**	**317**	P		P	13 04 26.5	+4.8
VLA	**Vladivostok**	**49.42**	**342**	*d*P		**P**	**13 04 29.2**	**+0.7**
VLA					pmax	pmax		
comp=Z,112nm,1.7s								
FRIM	**Kepong**	**49.54**	**277**	P		pP	13 04 41.4	+2.5
PANO	**Nakornpanom**	**49.93**	**296**	P		P	13 04 37.4	+4.5
comp=Z,115nm,1.6s								
DL2	**Dalian**	**50.01**	**330**	P		P	13 04 28.5	-4.6
DL2					pmax	pmax		
comp=Z,77nm,0.8s								
IPM	**Ipoh**	**50.30**	**279**	*e*P		**P**	**13 04 37.7**	**+1.8**
comp=Z,154nm,2.2s								
IPM	**Ipoh**	**50.30**	**279**	P		P	13 04 41.8	+5.9
USRK	**Ussuriysk Arra**	**50.37**	**343**	P		P	13 04 31.1	-4.6
comp=Z,4.3nm,0.9s,baz=167,slow=7.3,SNR=7.9								
USRK				LR		LR	13 24 07.8	
comp=Z,3µm,21.2s,baz=290,slow=34								
SKNT	**Sakolnakorn**	**50.44**	**295**	P		P	13 04 39.7	+2.9
comp=Z,54nm,1.1s								
SNY	**Shenyang**	**51.42**	**334**	↓P		P	13 04 48.3	+4.6
SNY				S		**S**	**13 12 06.3**	**+4.7**
SNY				pmax		pmax		
comp=Z,23nm,2.5s								
SNY				pmax		pmax		
comp=Z,790nm,4.6s								
SNY				LR		LR		
comp=N,2µm,16.2s								
SNY				LR		LR		
comp=E,3µm,21.6s								
SNY				LR		LR		
comp=Z,4µm,24.7s								
MDJ	**Mudanjiang**	**51.49**	**341**	P		**P**	**13 04 44.8**	**+0.6**
MDJ				pP		**pP**	**13 04 53.8**	**+0.7**
MDJ				sP		**sP**	**13 04 57.3**	**+0.7**
MDJ				PcP		**PcP**	**13 05 58.1**	**-0.1**
MDJ				PP		**PP**	**13 06 41.3**	**-0.5**
MDJ				ScP		**ScP**	**13 09 52.9**	**-0.1**
MDJ				PcS		**PcS**	**13 09 57.1**	**+1.2**
MDJ				S		**S**	**13 12 02.8**	**+0.2**
MDJ				ScS		**ScS**	**13 14 33.4**	**+0.9**
MDJ				pmax		pmax		
comp=Z,13nm,1.4s								
MDJ				LR		LR		
comp=Z,3µm,35.7s								
MDJ	**Mudanjiang**	**51.49**	**341**	P		P	13 04 40.3	-3.9
comp=Z,25nm,0.9s								
ENH	**Enshi**	**51.76**	**313**	*e*P		P	13 04 42.4	-4.2
comp=Z,66nm,1.0s								
CHAI	**Chaiyaphum**	**51.92**	**293**	P		P	13 04 52.0	+4.1
comp=Z,6.0nm,1.0s								
GYA	**Guiyang**	**51.97**	**308**	↑*i*P		P	13 04 52.9	+4.6
GYA				pP		pP	13 04 58.3	+1.1
GYA				PcP		**PcP**	**13 04 59.1**	**+0.4**
GYA				PP		**PP**	**13 06 47.8**	**+1.2**
GYA				ScP		**ScP**	**13 09 53.8**	**-1.9**
GYA				S		**S**	**13 12 07.5**	**-2.6**
GYA				sS		sS	13 12 24.8	+0.1
GYA				SS		**SS**	**13 15 41.5**	**-6.0**
GYA				pmax		pmax		
comp=Z,20nm,0.8s								
GYA				pmax		pmax		
comp=Z,150nm,5.0s								
GYA				LR		LR		
comp=N,730nm,19.2s								
GYA				LR		LR		
comp=E,640nm,20.0s								
GYA				LR		LR		
comp=Z,750nm,18.8s								
NAYO	**Nakonayok**	**52.08**	**291**	P		P	13 04 53.3	+4.2
comp=Z,55nm,1.0s								
CN2	**Changchun**	**52.28**	**337**	*e*P		P	13 04 55.3	+5.2
CN2				*e*sP		sP	13 05 04.0	+1.5
CN2				*e*S		**S**	**13 12 18.0**	**+4.6**
CN2				pmax		pmax		
comp=Z,20nm,0.7s								
CN2				pmax		pmax		
comp=Z,300nm,4.0s								
CN2				LR		LR		
comp=N,1µm,15.0s								
CN2				LR		LR		
comp=E,1µm,15.0s								
CN2				LR		LR		
comp=Z,2µm,16.0s								
PBKT	**Sadao Pong**	**53.05**	**294**	P		P	13 05 03.1	+6.8
comp=Z,40nm,0.8s								
PHET	**Kaeng Krachan**	**53.30**	**289**	P		P	13 05 05.2	+7.0
comp=Z,118nm,0.9s								
HABR	**Khabarovsk**	**53.53**	**347**	*e*P		**P**	**13 04 57.8**	**-1.4**
HABR				*e**SP		sP	13 05 06.6	-5.0
HABR				*e*			13 06 04.3	
HABR							13 06 58.8	
HABR				*e*S		**S**	**13 12 30.1**	**-0.1**
HABR				*e**SS		**sS**	**13 12 40.9**	**-4.0**
HABR				*e*			13 14 46.3	
HABR				*e*SS		**SKiKP**	**13 16 11.9**	**-1.2**
HABR				pmax		pmax		
comp=Z,72nm,1.7s								
HABR				MLR		MLR		
comp=Z,3µm,18.0s								
BJI	**Beijing**	**53.68**	**327**	P		**P**	**13 04 59.4**	**-1.0**
BJI				pmax		pmax		
comp=Z,13nm,1.7s								
BJI				pmax		pmax		
comp=Z,270nm,4.8s								
NANT	**Nan**	**53.99**	**296**	P		P	13 05 07.7	+4.5
comp=Z,80nm,1.1s								
SKR	**Severo-Kuril's**	**54.15**	**4**	P		**P**	**13 05 01.2**	**-2.5**
SKR				*e*S		**pP**	**13 05 09.0**	**-3.6**
XAN	**Xi'an**	**54.26**	**317**	P		P	13 04 59.3	-5.6
XAN				pP		pP	13 05 06.3	-7.6
XAN				pmax		pmax		
comp=Z,3.0nm,0.9s								
XAN	**Xi'an**	**54.26**	**317**	P		P	13 05 08.8	+3.9
XAN				pP		pP	13 05 16.5	+2.6
XAN				pmax		pmax		
comp=Z,13nm,1.3s								
KMI	**Kunming**	**54.55**	**304**	P		**P**	**13 05 09.6**	**+2.2**
KMI				pP		**pP**	**13 05 18.4**	**+2.0**
KMI				S		**S**	**13 12 42.3**	**-3.2**
KMI				pmax		pmax		
comp=Z,9.0nm,1.2s								
KMI				pmax		pmax		
comp=Z,920nm,8.6s								
KMI				LR		LR		
comp=N,2µm,16.0s								
KMI				LR		LR		
comp=E,1µm,16.0s								
KMI				LR		LR		
comp=Z,2µm,21.9s								
LAMP	**Lampang**	**54.86**	**295**	P		P	13 05 13.3	+3.8
comp=Z,11nm,0.9s								
KLR	**Kul'dur**	**55.03**	**345**	*e*P		P	13 05 06.3	-3.8
KLR					pmax	pmax		
comp=Z,100nm,1.8s								
CMAR	**Chiang Mai Arr**	**55.47**	**295**	P		P	13 05 10.2	-3.6
CMAR	**Chiang Mai Arr**	**55.47**	**295**	P		P	13 05 10.2	-3.6
comp=Z,3.9nm,0.8s,baz=117,slow=5.6,SNR=21								
CMAR					LR	LR	13 27 56.8	
comp=Z,1µm,21.4s,baz=185,slow=35								
CMMT	**Chiang Mai**	**55.57**	**296**	P		P	13 05 20.0	+5.4
comp=Z,35nm,1.2s								
CHTO	**Chiang Mai**	**55.57**	**296**	*e*P		P	13 05 11.5	-3.1
CHTO					pmax	pmax		
comp=Z,34nm,1.3s								
CHTO	**Chiang Mai**	**55.57**	**296**	*e*P		P	13 05 11.5	-3.1
comp=Z,34nm,1.3s								
CHTO	**Chiang Mai**	**55.57**	**296**	P		P	13 05 20.2	+5.6
comp=Z,104nm,1.6s								
CD2	**Chengdu**	**56.33**	**311**	P		P	13 05 23.3	+3.4
CD2				pP		pP	13 05 29.6	+0.7
CD2				sP		sP	13 05 32.5	+0.1
CD2				PcP		**PcP**	**13 06 20.6**	**+3.5**
CD2				PP		**PP**	**13 07 30.3**	**+4.6**
CD2				ScP		**ScP**	**13 10 17.1**	**+2.5**
CD2				PcS		**PcS**	**13 10 19.6**	**+1.8**
CD2				S		**S**	**13 13 10.4**	**+1.7**
CD2				sS		sS	13 13 20.9	-2.5
CD2				SS		**SS**	**13 16 57.4**	**+1.4**
CD2				pmax		pmax		
comp=Z,30nm,0.5s								
CD2				pmax		pmax		
comp=Z,320nm,6.5s								
CD2				LR		LR		
comp=N,5µm,20.1s								
CD2				LR		LR		
comp=E,4µm,21.1s								
CD2				LR		LR		
comp=Z,5µm,25.0s								
PETK	**Petropavlovsk-**	**56.69**	**5**	P		**P**	**13 05 19.5**	**-2.5**
PETK	**Petropavlovsk-**	**56.69**	**5**	P		**P**	**13 05 19.4**	**-2.5**
PETK	**Petropavlovsk-**	**56.69**	**5**	P		**P**	**13 05 19.4**	**-2.5**
comp=Z,8.8nm,0.8s,baz=173,slow=8.2,SNR=11								
PET	**Petropavlovsk**	**56.69**	**6**	*e*P		P	13 05 17.8	-4.1
PET					pmax	pmax		
comp=Z,38nm,1.6s								
HHC	**Hu-ho-hao-te**	**56.79**	**325**	*e*P		P	13 05 26.8	+3.7
HHC				pP		pP	13 05 32.8	+0.7
HHC				sP		sP	13 05 36.1	+0.5
HHC				S		**S**	**13 13 15.5**	**+0.9**
HHC				sS		sS	13 13 26.6	-2.8
HHC				SS		**SS**	**13 17 03.8**	**+0.7**
HHC				pmax		pmax		
comp=Z,43nm,0.9s								
HHC				pmax		pmax		
comp=Z,2µm,4.1s								
HHC				LR		LR		
comp=N,870nm,19.0s								
HHC				LR		LR		
comp=E,2µm,15.5s								
HHC				LR		LR		
comp=Z,3µm,21.4s								
BTO	**Baotou**	**57.53**	**324**	*e*P		**P**	**13 05 28.6**	**+0.3**
LZH	**Lanzhou**	**58.87**	**316**	↓P		**P**	**13 05 39.3**	**+1.5**
LZH				pP		**pP**	**13 05 49.8**	**+3.0**
LZH				PP		**PP**	**13 07 51.5**	**+3.3**
LZH				S		**S**	**13 13 41.0**	**-1.0**
LZH				sS		**sS**	**13 13 58.0**	**+1.1**
LZH				SS		**SS**	**13 17 35.3**	**-0.7**
LZH				pmax		pmax		
comp=Z,140nm,1.4s								
LZH				pmax		pmax		
comp=Z,750nm,8.5s								
LZH				LR		LR		
comp=N,2µm,13.6s								
LZH				LR		LR		
comp=E,2µm,17.3s								
LZH				LR		LR		
comp=Z,3µm,19.7s								
HIA	**Hailar**	**59.01**	**337**	*e*P		**P**	**13 05 36.0**	**-2.4**
comp=Z,93nm,1.4s								
FX1	**Attu Island--F**	**59.26**	**16**	P		**P**	**13 05 39.3**	**-0.6**
FX1	**Attu Island--F**	**59.26**	**16**	P		**P**	**13 05 39.3**	**-0.6**
comp=Z,16nm,0.6s,baz=162,slow=5.1,SNR=8.8								
PPT	**Papeete**	**60.08**	**108**	P		**P**	**13 05 48.1**	**+1.8**
PPT	**Papeete**	**60.08**	**108**	P		**P**	**13 05 48.1**	**+1.8**
comp=Z,21nm,0.9s,baz=296,slow=13,SNR=2.3								
PPT2	**Papeete2**	**60.08**	**108**	*e*P		P	13 05 50.6	+4.2
comp=Z,59nm,1.3s								
PAE	**Paea**	**60.09**	**108**	*e*P		P	13 05 50.1	+3.8
comp=Z,14nm,1.3s								
TIAR	**Tiarei**	**60.30**	**108**	*e*P		P	13 05 51.8	+4.0
comp=Z,112nm,1.0s								
TVO	**Taravao**	**60.41**	**108**	*e*P		P	13 05 52.7	+4.0
comp=Z,122nm,1.1s								
PMOR	**Pomariorio Ree**	**61.46**	**105**	*e*P		P	13 05 59.3	+3.6
comp=Z,166nm,1.3s								
MEH	**Mehetia**	**61.54**	**108**	*e*P		P	13 05 59.9	+3.6
comp=Z,80nm,1.2s								
GTA	**Gaotai**	**63.31**	**318**	P		P	13 06 03.6	-4.3
GTA				pP		pP	13 06 15.6	-1.3
GTA				sP		sP	13 06 18.8	-1.6
GTA				S		S	13 14 30.3	-8.1
GTA				pmax		pmax		
comp=Z,8.0nm,2.1s								
GTA				pmax		pmax		
comp=Z,790nm,7.6s								
GTA				LR		LR		
comp=N,1µm,18.0s								
GTA				LR		LR		
comp=E,2µm,18.0s								
GTA				LR		LR		
comp=Z,3µm,19.5s								
CLNS	**Chul'man**	**63.69**	**344**	*e*P		P	13 06 06.4	-3.5
CLNS					pmax	pmax		
comp=Z,24nm,1.2s								
CLNS					pmax	pmax		
comp=N,17nm,1.2s								
CLNS					pmax	pmax		
comp=E,10.0nm,1.1s								
ULN	**Ulaanbaatar**	**63.81**	**329**	*e*P		**P**	**13 06 13.1**	**+2.1**
comp=E,67nm,1.4s								
SHL	**Shillong**	**63.88**	**301**	*e*P		P	13 06 16.0	+4.1
SONM	**Songino Array**	**64.13**	**328**	P		P	13 06 09.1	-4.0
SONM	**Songino Array**	**64.13**	**328**	P		P	13 06 09.1	-4.0
comp=E,1.4nm,0.7s,baz=149,slow=7.0,SNR=7.0								
LSA	**Lhasa**	**65.81**	**305**	*e*P		**P**	**13 06 25.0**	**+0

MOY	**Mondy**	**69.24**	**329**	*e*P		**P**		**13 06 47.1**	**+1.5**
JIRN	**Jiri**	**69.36**	**301**	*e*P		**P**		**13 06 46.1**	**-1.1**
	comp=Z,100nm,1.3s								
GUN	**Gumba**	**69.69**	**301**	*e*P		**P**		**13 06 47.7**	**-1.5**
	comp=Z,516nm,1.9s								
PKI	**Pulchoki**	**70.00**	**301**	*e*P		**P**		**13 06 52.3**	**+1.2**
	comp=Z,236nm,1.6s								
PKIN	**Phulchoki**	**70.01**	**301**	*e*P		**P**		**13 06 52.4**	**+1.3**
	comp=Z,174nm,1.7s								
KKN	**Kakani**	**70.17**	**301**	*e*P		**P**		**13 06 52.9**	**+0.9**
DMN	**Daman**	**70.27**	**301**	*e*P		**P**		**13 06 55.0**	**+2.3**
	comp=Z,150nm,1.2s								
DANN	**Dangsing**	**71.61**	**301**	*e*P		**P**		**13 07 03.0**	**+2.2**
	comp=Z,281nm,1.6s								
HVS	**Khovu-Aksy**	**72.83**	**326**	*ce*P		**P**		**13 07 07.7**	**+0.3**
HVS					pmax	pmax			
	comp=Z,137nm,1.7s								
WMQ	**Urumqi**	**73.39**	**318**	P		P		13 07 14.5	+3.7
WMQ					pmax	pmax			
	comp=Z,21nm,1.4s								
WMQ					pmax	pmax			
	comp=Z,1μm,8.8s								
WMQ					LR	LR			
	comp=N,820nm,21.7s								
WMQ					LR	LR			
	comp=E,890nm,16.3s								
WMQ					LR	LR			
	comp=Z,2μm,43.0s								
WMQ	**Urumqi**	**73.39**	**318**	P		**P**		**13 07 10.4**	**-0.4**
WMQ				pP		**pP**		**13 07 20.8**	**+0.7**
WMQ				sP		**sP**		**13 07 24.8**	**+1.3**
WMQ				PcP		**PcP**		**13 07 27.1**	**+0.1**
WMQ				PP		**PP**		**13 09 55.6**	**+0.9**
WMQ				S		**S**		**13 16 34.9**	**-3.4**
WMQ				sS		**sS**		**13 16 52.0**	**-1.5**
WMQ				SKS		**SKSac**		**13 17 09.0**	**-6.3**
WMQ				ScS		**SKKSac**		**13 17 12.6**	**-2.9**
WMQ				SS		**SS**		**13 21 19.0**	**-2.0**
WMQ					pmax	pmax			
	comp=Z,21nm,1.4s								
WMQ					pmax	pmax			
	comp=Z,2μm,10.0s								
WMQ					LR	LR			
	comp=N,1μm,19.8s								
WMQ					LR	LR			
	comp=E,1μm,12.2s								
WMQ					LR	LR			
	comp=Z,4μm,28.0s								
VNDA	**Vanda**	**74.22**	**178**	*e*P		**P**		**13 07 14.9**	**-0.1**
VNDA	**Vanda**	**74.22**	**178**	P		**P**		**13 07 14.7**	**-0.3**
	comp=Z,4.1nm,0.9s,baz=326,slow=5.2,SNR=5.5								
MIR	**Mirnyy**	**74.42**	**201**	*e*P		P		13 07 25.0	+8.7
MIR					pmax	pmax			
	comp=Z,65nm,1.7s								
SBA	**Scott Base**	**74.80**	**177**	*e*P		P		13 07 23.9	+5.5
SBA					pmax	pmax			
	comp=Z,137nm,2.1s								
SBA	**Scott Base**	**74.80**	**177**	*e*P		P		13 07 23.9	+5.5
	comp=Z,137nm,2.1s								
OHAK	**Old Harbor**	**75.33**	**28**	P		**P**		**13 07 19.5**	**-2.2**
	comp=Z,12nm,0.7s								
KDAK	**Kodiak Island**	**75.94**	**27**	*e*P		**P**		**13 07 24.5**	**-0.7**
KDAK	**Kodiak Island**	**75.94**	**27**	P		**P**		**13 07 24.2**	**-1.0**
	comp=Z,6.5nm,1.1s,baz=225,slow=4.3,SNR=3.8								
TIXI	**Tiksi**	**76.34**	**353**	⇑*e*P		**P**		**13 07 27.0**	**-0.2**
TIXI					pmax	pmax			
	comp=Z,14nm,1.8s								
SVW2	**Sparrevohn**	**76.44**	**24**	*e*P		**P**		**13 07 28.5**	**+0.6**
	comp=Z,24nm,1.0s								
NDI	**New Delhi**	**77.30**	**300**	*e*P		**P**		**13 07 34.0**	**+0.5**
MK31	**Makanchi Array**	**77.99**	**319**	*e*P		P		13 07 32.6	-4.4
MK31	**Makanchi Array**	**77.99**	**319**	*e*P		P		13 07 32.6	-4.4
MKAR	**Makanchi Array**	**77.99**	**319**	*ce*P		P		13 07 40.2	+3.1
MKAR					pmax	pmax			
	comp=Z,10.0nm,1.1s								
MKAR	**Makanchi Array**	**77.99**	**319**	*e*P		P		13 07 33.9	-3.2
MKAR	**Makanchi Array**	**77.99**	**319**	P		P		13 07 32.4	-4.7
	comp=Z,1.4nm,0.8s,baz=99,slow=7.5,SNR=9.8								
ZALV	**Zalesovo Beam**	**78.93**	**327**	P		P		13 07 36.8	-5.2
ZALV	**Zalesovo Beam**	**78.93**	**327**	P		P		13 07 36.8	-5.2
ZALV	**Zalesovo Beam**	**78.93**	**327**	P		P		13 07 36.8	-5.2
	comp=Z,1.0nm,0.3s,baz=94,slow=5.1,SNR=5.5								
PMR	**Palmer**	**79.35**	**25**	*e*P		**P**		**13 07 44.1**	**0.0**
PMR					pmax	pmax			
	comp=Z,58nm,1.4s								
PMR	**Palmer**	**79.35**	**25**	*e*P		**P**		**13 07 44.0**	**0.0**
	comp=Z,58nm,1.4s								
TRF	**Thorofare Moun**	**79.78**	**23**	*e*P		**P**		**13 07 44.7**	**-2.0**
	comp=Z,17nm,0.8s								
SML	**Sawmill**	**79.79**	**25**	*e*P		**P**		**13 07 46.3**	**-0.3**
SML					pmax	pmax			
	comp=Z,16nm,1.1s								
SML	**Sawmill**	**79.79**	**25**	*e*P		**P**		**13 07 46.2**	**-0.3**
	comp=Z,16nm,1.1s								
NVS	**Novosibirsk**	**80.12**	**327**	*e*P		P		13 07 40.8	-7.6
NVS				*e*PPP		PPP		13 12 37.5	
NVS				*e*S		S		13 17 58.9	+7.8
NVS					pmax	pmax			
	comp=N,28nm,2.1s								
NVS					pmax	pmax			
	comp=E,47nm,2.1s								
NVS					pmax	pmax			
	comp=Z,80nm,2.1s								
NVS					pmax	pmax			
	comp=Z,25nm,2.4s								
NVS					pmax	pmax			
	comp=N,6.0nm,1.8s								
NVS					smax	smax			
	comp=N,53nm,3.4s								
NVS					smax	smax			
	comp=E,41nm,3.4s								
MCK	**McKinley**	**80.45**	**23**	*e*P		**P**		**13 07 49.2**	**-0.9**
MCK					pmax	pmax			
	comp=Z,56nm,1.0s								
MCK	**McKinley**	**80.45**	**23**	*e*P		**P**		**13 07 49.2**	**-0.9**
	comp=Z,56nm,1.0s								
KSH	**Kashi**	**80.53**	**311**	*e*P		P		13 07 55.5	+4.3
KSH				pP		pP		13 08 03.1	+2.6
KSH				PP		**PP**		**13 10 59.4**	**+4.5**
KSH				S		**S**		**13 17 59.0**	**+2.6**
KSH				SS		**SS**		**13 23 11.5**	**+2.4**
KSH					pmax	pmax			
	comp=Z,33nm,2.0s								
KSH					pmax	pmax			
	comp=Z,700nm,6.4s								
KSH					LR	LR			
	comp=N,2μm,18.5s								
KSH					LR	LR			
	comp=E,1μm,14.5s								
KSH					LR	LR			
	comp=Z,2μm,19.6s								
BMRM	**Bremner River**	**81.04**	**27**	*e*P		**P**		**13 07 52.7**	**-0.6**
	comp=Z,105nm,1.6s								
COLA	**College**	**81.41**	**22**	*e*P		**P**		**13 07 53.8**	**-1.3**
COLA					pmax	pmax			
	comp=Z,6.0nm,1.0s								
COLA	**College**	**81.41**	**22**	*e*P		**P**		**13 07 53.8**	**-1.3**
	comp=Z,5.8nm,1.0s								
KURK	**Kurchatov**	**81.48**	**322**	P		P		13 07 51.2	-4.6
KURK	**Kurchatov**	**81.48**	**322**	P		P		13 07 51.1	-4.6
KURBB	**Kurchatov Arra**	**81.51**	**322**	P		P		13 07 51.1	-4.8
	comp=Z,1.2nm,0.8s,baz=110,slow=4.6,SNR=10.0								
COLD	**Coldfoot**	**81.71**	**20**	*e*P		**P**		**13 07 56.5**	**-0.2**
	comp=Z,26nm,1.2s								
ILAR	**Eielson Array**	**81.73**	**23**	P		**P**		**13 07 54.8**	**-2.1**
ILAR	**Eielson Array**	**81.73**	**23**	P		**P**		**13 07 54.8**	**-2.1**
	comp=Z,4.8nm,1.0s,baz=250,slow=5.3,SNR=29								
MENT	**Mentasta**	**82.22**	**25**	*e*P		**P**		**13 07 57.9**	**-1.6**
AAK	**Ala-Archa**	**82.28**	**314**	⇓*e*P		**P**		**13 08 03.4**	**+2.9**
AAK					pmax	pmax			
	comp=Z,26nm,1.2s								
PNL	**Peninsula**	**82.97**	**29**	*e*P		**P**		**13 08 03.4**	**-0.1**
	comp=Z,71nm,1.4s								
EGAK	**Eagle**	**83.97**	**24**	*e*P		**P**		**13 08 07.6**	**-0.9**
	comp=Z,44nm,1.4s								
SIT	**Sitka**	**84.23**	**32**	*e*P		P		13 08 13.6	+3.7
SIT					pmax	pmax			
	comp=Z,31nm,1.3s								
SIT	**Sitka**	**84.23**	**32**	*e*P		P		13 08 13.6	+3.7
	comp=Z,31nm,1.3s								
VIB	**Van Inlet**	**84.86**	**36**	T		T		14 41 32.2	
	SNR=28								
SKAG	**Skagway**	**84.88**	**30**	*e*P		**P**		**13 08 11.9**	**-1.3**
	comp=Z,34nm,1.4s								
DIB	**Dawson Inlet,**	**84.89**	**36**	T		T		14 41 30.4	
CRAG	**Craig**	**85.03**	**34**	*e*P		**P**		**13 08 14.7**	**+0.7**
	comp=Z,67nm,1.6s								
KBL	**Kabul**	**85.13**	**305**	*e*P		P		13 08 11.2	-4.1
KBL					pmax	pmax			
	comp=Z,8.0nm,0.7s								
KBL	**Kabul**	**85.13**	**305**	*e*P		P		13 08 11.2	-4.1
	comp=Z,8.4nm,0.7s								
KKAR	**Karatay Array**	**85.24**	**314**	*e*P		**P**		**13 08 12.6**	**-2.8**
KKAR					pmax	pmax			
	comp=Z,21nm,0.9s								
KKAR	**Karatay Array**	**85.24**	**314**	*e*P		**P**		**13 08 12.6**	**-2.8**
	comp=Z,21nm,0.9s								
WRAK	**Wrangell Islan**	**85.67**	**33**	*e*P		**P**		**13 08 18.4**	**+1.2**
	comp=Z,138nm,1.8s								
BVAR	**Borovoye Array**	**86.97**	**323**	P		P		13 08 19.1	-4.6
BVAR	**Borovoye Array**	**86.97**	**323**	P		P		13 08 19.1	-4.6
BVAR	**Borovoye Array**	**86.97**	**323**	P		P		13 08 19.1	-4.6
	comp=Z,2.4nm,0.7s,baz=101,slow=6.2,SNR=7.8								
BRVK	**Borovoye**	**87.03**	**323**	⇓*e*P		**P**		**13 08 24.9**	**+0.9**
BRVK					pmax	pmax			
	comp=Z,20nm,1.5s								
BRVK	**Borovoye**	**87.03**	**323**	*e*P		P		13 08 20.8	-3.3
	comp=Z,24nm,1.2s								
OHCM	**Honcut**	**90.46**	**51**	*e*P		P		13 08 44.0	+3.5
MOD	**Modoc**	**91.52**	**48**	*e*P		**P**		**13 08 48.0**	**+2.4**
	comp=Z,18nm,1.2s								
WVOR	**Wild Horse Val**	**92.78**	**48**	*e*P		**P**		**13 08 52.1**	**+0.7**
WVOR					pmax	pmax			
	comp=Z,46nm,1.7s								
WVOR	**Wild Horse Val**	**92.78**	**48**	*e*P		**P**		**13 08 52.1**	**+0.7**
	comp=Z,46nm,1.7s								
NVAR	**Mina Array Bea**	**92.89**	**52**	P		**P**		**13 08 50.6**	**-1.4**
NVAR	**Mina Array Bea**	**92.89**	**52**	P		**P**		**13 08 50.6**	**-1.4**
	comp=Z,1.6nm,0.9s,baz=265,slow=5.5,SNR=10								
MWC	**Mount Wilson**	**92.93**	**56**	*e*P		**P**		**13 08 51.0**	**-1.4**
MWC					pmax	pmax			
	comp=Z,43nm,1.4s								
MWC	**Mount Wilson**	**92.93**	**56**	*e*P		**P**		**13 08 51.0**	**-1.4**
	comp=Z,43nm,1.4s								
EDW2	**Edwards Air Fo**	**93.01**	**55**	P		**P**		**13 08 52.5**	**0.0**
	baz=93								
BFSC	**Mount Baldy Ra**	**93.26**	**56**	P		**P**		**13 08 53.9**	**+0.1**
	baz=94								
LRMC	**Laurel Mountai**	**93.27**	**55**	P		**P**		**13 08 54.1**	**+0.3**
	baz=94								
MPMC	**Manual Prospec**	**93.45**	**54**	P		**P**		**13 08 54.8**	**0.0**
	baz=94								
FURC	**Furnace Creek,**	**93.97**	**54**	P		**P**		**13 08 56.7**	**-0.1**
	baz=94								
GSC	**Goldstone**	**93.99**	**55**	*e*P		P		13 09 00.8	+3.7
GSC					pmax	pmax			
	comp=Z,11nm,1.3s								
GSC	**Goldstone**	**93.99**	**55**	*e*P		P		13 09 00.8	+3.7
	comp=Z,11nm,1.3s								
NEW	**Newport**	**94.00**	**42**	*e*P		**P**		**13 08 55.7**	**-1.1**
	comp=Z,11nm,1.1s								
NEW	**Newport**	**94.00**	**42**	P		**P**		**13 08 56.4**	**-0.3**
	baz=94								
ARU	**Arti**	**94.09**	**326**	*c i*P		**P**		**13 08 59.7**	**+2.8**
ARU								13 12 48.2	
ARU					SS	SS		13 26 25.6	-0.5
ARU					pmax	pmax			
	comp=Z,14nm,1.7s								
PFO	**Pinyon Flat Ob**	**94.24**	**57**	*e*P		**P**		**13 08 56.5**	**-1.8**
	comp=Z,9.6nm,1.0s								
PFO	**Pinyon Flat Ob**	**94.24**	**57**	P		**P**		**13 08 57.0**	**-1.3**
	baz=94								
MONP	**Monument Peak**	**94.25**	**57**	P		**P**		**13 08 58.8**	**+0.3**
	baz=94								
HEC	**Hector,Ludlow**	**94.37**	**55**	P		**P**		**13 08 59.1**	**+0.3**
	baz=95								
TUQ	**Turquoise Moun**	**94.71**	**55**	P		**P**		**13 08 60.0**	**-0.5**
	baz=95								
GMRC	**Granite Mounta**	**94.92**	**56**	P		**P**		**13 09 01.0**	**-0.4**
	baz=95								
R11A	**Troy Canyon, C**	**95.02**	**52**	P		**P**		**13 09 02.3**	**+0.4**
	baz=95								
YKA	**Yellowknife Ar**	**95.22**	**28**	P		**P**		**13 09 02.1**	**+0.2**
YKA	**Yellowknife Ar**	**95.22**	**28**	P		**P**		**13 09 02.1**	**+0.2**
	comp=Z,2.4nm,0.9s,baz=270,slow=4.3,SNR=3.3								
G12A	**Big Creek, Yel**	**95.22**	**45**	P		**P**		**13 09 03.1**	**+0.5**
	baz=95								
SHPR	**Sheep Range**	**95.34**	**54**	*e*P		P		13 09 07.4	+4.0
BSMT	**Bassoo Peak**	**95.56**	**42**	*e*P		**P**		**13 09 05.7**	**+1.6**
B13A	**Whitefish**	**95.77**	**42**	P		**P**		**13 09 04.8**	**-0.1**
	baz=96								
SWMT	**Swartz Lake**	**96.10**	**43**	*e*P		**P**		**13 09 07.0**	**+0.5**
WALA	**Waterton Lakes**	**96.12**	**41**	*e*P		**P**		**13 09 07.3**	**+0.8**
	comp=Z,0.6nm,1.1s								
A14A	**Double T Ranch**	**96.44**	**41**	P		**P**		**13 09 08.5**	**+0.5**
	baz=97								
B14A	**Marquette Ranc**	**96.56**	**42**	P		**P**		**13 09 08.4**	**-0.2**
	baz=97								
CHMT	**Chamberlain Mo**	**96.63**	**43**	*e*P		**P**		**13 09 10.8**	**+1.7**
A15A	**Johnson Ranch,**	**96.90**	**41**	P		**P**		**13 09 09.8**	**-0.2**
	baz=97								
C15A	**Salmond Ranch,**	**97.03**	**42**	P		**P**		**13 09 10.6**	**-0.1**
	baz=97								
B15A	**Bradely Ranch,**	**97.04**	**42**	P		**P**		**13 09 11.1**	**+0.4**
	baz=97								
B17A	**L&G Farms, Che**	**98.22**	**42**	P		**P**		**13 09 16.0**	**0.0**
	baz=98								
A17A	**Triple J Farms**	**98.24**	**41**	P		**P**		**13 09 15.9**	**-0.1**
	baz=98								
D17A	**Six Diamond Ra**	**98.37**	**43**	P		Pdif		13 09 17.3	+0.4
	baz=98								
B19A	**Brinkman Farms**	**99.44**	**42**	P		**Pdif**		**13 09 21.5**	**+0.1**
	baz=100								
PDAR	**Pinedale Array**	**99.47**	**47**	P		**Pdif**		**13 09 21.1**	**-0.9**
PDAR	**Pinedale Array**	**99.47**	**47**	P		**Pdif**		**13 09 21.1**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=228,slow=1.8,SNR=6.6								
PDAR					LR	LR		13 53 39.9	
	comp=Z,2μm,18.1s,baz=342,slow=35								
O19A	**Miners Draw (B**	**99.97**	**50**	P		**Pdif**		**13 09 23.5**	**-0.6**
	baz=100								
SNAA	**Sanae**	**103.04**	**188**	*e*PKiKP		**PKiKP**		**13 13 56.6**	**-0.1**
SNAA	**Sanae**	**103.04**	**188**	*ep*PKiKP		pPKiKP		13 14 06.8	+0.4
SNAA	**Sanae**	**103.04**	**188**	*es*PKiKP		sPKiKP		13 14 10.9	+1.2
TXAR	**Lajitas Array**	**105.28**	**61**	Pdif		**Pdif**		**13 09 53.7**	**+5.8**
TXAR				PP		**PP**		**13 14 14.4**	**+4.9**
TXAR	**Lajitas Array**	**105.28**	**61**	Pdiff		**Pdif**		**13 09 53.7**	**+5.8**
	comp=Z,0.3nm,0.9s,baz=236,slow=1.6,SNR=2.4								
TXAR					PP	**PP**		**13 14 14.4**	**+4.9**
	comp=Z,0.2nm,0.6s,baz=216,slow=5.5,SNR=2.7								
KOLS	**Kolonicke sedl**	**117.06**	**325**	*e*		PKKPbc		13 24 44.2	-6.1
VYHS	**Vyhne**	**119.25**	**325**	*e*		**PKKPbc**		**13 24 39.2**	**-3.2**
BRG	**Berggiesshubel**	**120.51**	**330**	*e*P		pPKPdf		13 14 43.2	+3.4
	comp=Z,4.4nm,0.9s								
CLL	**Collm**	**120.71**	**331**	*ep*PKPdf		**pPKPdf**		**13 14 38.0**	**-2.2**
	comp=Z,3.0nm,0.7s								
CLL				*es*PKPdf		sPKPdf		13 14 43.0	-0.5
GERES	**GERESS Array B**	**121.86**	**328**	PKP		**PKPdf**		**13 14 34.0**	**+1.0**
GERES	**GERESS Array B**	**121.86**	**328**	PKP		**PKPdf**		**13 14 34.0**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=204,slow=2.2,SNR=4.7								
FETA	**Feichten**	**124.56**	**328**	⇓*i*sPKPdf		sPKPdf		13 14 51.4	+0.1
	comp=Z,7.6nm,1.1s								
LPAZ	**La Paz**	**136.84**	**118**	PKP		**PKPdf**		**13 15 03.5**	**+0.5**
LPAZ	**La Paz**	**136.84**	**118**	PKP		**PKPdf**		**13 15 03.5**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=348,slow=5.3,SNR=4.9								
TOA0	**Torodi Ar. Sit**	**147.94**	**289**	PKPdf		**PKPbc**		**13 15 24.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**147.94**	**289**	PKPbc		**PKPdf**		**13 15 20.9**	**-1.0**
TORD	**Torodi Ar. Bea**	**147.94**	**289**	PKPbc		**PKPdf**		**13 15 20.9**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=115,slow=1.8,SNR=6.6								

WEL 15 12:58:49.4±0.7, 46°.11S×165°.80E, h12km, ML3.9/10, Error ellipse: s-maj=6.3km s-min=3.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.61**	**95**	P*	Pg	12 59 01.7	+0.3
PYZ				S*	Sg	12 59 09.2	-0.3
DCZ	**Deep Cove**	**1.14**	**57**	P*	Pb	12 59 10.2	-0.9
DCZ				S*	Sb	12 59 24.5	-1.3
DCZ				S*	Sg	12 59 25.4	-0.8
DCZ				AML	AML	12 59 27.3	
WHZ	**Wether Hill Ro**	**1.51**	**82**	PN	Pn	12 59 15.8	-0.5
WHZ				SN	Sn	12 59 34.9	-1.0
WHZ				AML	AML	12 59 39.1	
APZ	**The Paps**	**1.67**	**116**	PN	Pn	12 59 17.0	-1.7
MLZ	**Mavora Lakes**	**1.83**	**66**	*e*PN	Pn	12 59 19.0	-1.7
MLZ				AML	AML	12 59 47.5	
MLZ				AML	AML	12 59 49.4	
MSZ	**Milford Sound**	**2.08**	**47**	*e*PN	Pn	12 59 25.3	+1.2
MSZ				AML	AML	12 59 55.0	
MSZ				AML	AML	12 59 55.1	
MSZ				AML	AML	12 59 55.1	
SYZ	**Scrubby Hill**	**2.35**	**102**	*e*PN	Pn	12 59 27.8	-0.1
SYZ				SN	Sn	12 59 55.6	-0.9
WKZ	**Wanaka**	**2.60**	**62**	PN	Pn	12 59 33.4	+2.1
WKZ				AML	AML	13 00 09.9	
WKZ				AML	AML	13 00 10.4	
WKZ				AML	AML	13 00 10.4	
WKZ				AML	AML	13 00 13.6	
EAZ	**Earnscleugh**	**2.61**	**72**	PN	Pn	12 59 32.8	+1.3
EAZ				SN	Sn	13 00 04.5	+1.5
EAZ				AML	AML	13 00 06.8	
EAZ				AML	AML	13 00 06.8	
EAZ				AML	AML	13 00 07.8	
TUZ	**Tuapeka**	**2.67**	**88**	*e*PN	Pn	12 59 32.8	+0.5
TUZ				AML	AML	13 00 06.8	
TUZ				AML	AML	13 00 06.9	
LBZ	**Lake Benmore**	**3.54**	**62**	*e*PN	Pn	12 59 44.6	+0.3
LBZ				AML	AML	13 00 31.2	
ODZ	**Otahua Downs**	**3.56**	**74**	*e*PN	Pn	12 59 43.1	-1.4
ODZ				AML	AML	13 00 29.9	
FOZ	**Fox Glacier**	**3.76**	**49**	*e*PN	Pn	12 59 47.8	+0.6
RPZ	**Rata Peaks**	**4.43**	**59**	*e*PN	Pn	12 59 55.9	-0.7
RPZ				AML	AML	13 00 48.1	
RPZ				AML	AML	13 00 49.4	
WVZ	**Waitaha Valley**	**4.65**	**51**	*e*PN	Pn	12 59 58.8	-0.7
OXZ	**Oxford**	**5.25**	**60**	*e*PN	Pn	13 00 06.9	-0.7
DSZ	**Denniston Nort**	**6.15**	**47**	*e*PN	Pn	13 00 19.7	-0.4
THZ	**Tophouse**	**6.72**	**52**	*e*PN	Pn	13 00 28.6	+0.6
QRZ	**Quartz Range**	**7.20**	**45**	*e*PN	Pn	13 00 33.7	-0.8
NNZ	**Nelson**	**7.36**	**51**	*e*PN	Pn	13 00 39.0	+2.4

WEL 15 13:00:06.5±0.8, 45°.79S×166°.40E, h12km, ML3.7/10, Error ellipse: s-maj=8.9km s-min=2.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.43**	**153**	P*	Pg	13 00 14.7	-0.3
PYZ				S*	Sg	13 00 21.3	+0.5
DCZ	**Deep Cove**	**0.61**	**60**	P*	Pg	13 00 18.4	0.0
DCZ				S*	Sg	13 00 24.8	-1.7
DCZ				S*	Sb	13 00 24.8	-2.8
DCZ				AML	AML	13 00 25.3	
WHZ	**Wether Hill Ro**	**1.09**	**96**	P*	Pb	13 00 27.0	-0.2
WHZ				S*	Sb	13 00 40.7	-0.7
WHZ				S*	Sg	13 00 41.5	-0.2
MLZ	**Mavora Lakes**	**1.32**	**71**	PN	Pn	13 00 29.6	-1.2
MLZ				AML	AML	13 00 54.1	
MLZ				AML	AML	13 00 57.3	
APZ	**The Paps**	**1.52**	**134**	*e*PN	Pn	13 00 31.2	-2.3
APZ				SN	Sn	13 00 51.9	-1.4
MSZ	**Milford Sound**	**1.55**	**45**	*e*PN	Pn	13 00 33.3	-0.5
MSZ				AML	AML	13 01 01.3	
MSZ				AML	AML	13 01 01.7	
SYZ	**Scrubby Hill**	**2.05**	**113**	*e*PN	Pn	13 00 39.9	-0.8
WKZ	**Wanaka**	**2.08**	**64**	*e*PN	Pb	13 00 44.2	0.0
WKZ				AML	AML	13 01 21.1	
WKZ				AML	AML	13 01 23.3	
EAZ	**Earnscleugh**	**2.12**	**76**	*e*PN	Pb	13 00 43.9	-0.9
EAZ				AML	AML	13 01 11.8	
EAZ				AML	AML	13 01 12.2	
EAZ				AML	AML	13 01 12.7	
EAZ				AML	AML	13 01 13.2	
TUZ	**Tuapeka**	**2.27**	**95**	*e*PN	Pb	13 00 46.0	-1.2
TUZ				SN	Sn	13 01 12.8	+1.2
TUZ				AML	AML	13 01 17.0	
LBZ	**Lake Benmore**	**3.02**	**64**	AML	AML	13 01 45.0	
LBZ				AML	AML	13 01 46.4	
ODZ	**Otahua Downs**	**3.08**	**78**	*e*PN	Pn	13 00 54.7	-0.2
ODZ				AML	AML	13 01 34.4	
RPZ	**Rata Peaks**	**3.91**	**60**	*e*PN	Pn	13 01 07.2	+0.9
RPZ				AML	AML	13 02 00.0	
RPZ				AML	AML	13 02 03.6	

WEL 15 13:00:26.9±0.8, 46°.04S×166°.08E, h12km, ML3.9/8, Error ellipse: s-maj=6.2km s-min=2.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.44**	**108**	P*	Pg	13 00 35.7	+0.1
PYZ				S*	Sg	13 00 42.2	+0.6
DCZ	**Deep Cove**	**0.94**	**54**	P*	Pg	13 00 44.4	-0.5
DCZ				S*	Sg	13 00 56.5	-0.7
DCZ				S*	Sb	13 00 56.7	-0.7
DCZ				AML	AML	13 00 59.8	
WHZ	**Wether Hill Ro**	**1.31**	**85**	SN	Sb	13 01 06.4	-1.9
WHZ				SN	Sn	13 01 06.8	-1.8
APZ	**The Paps**	**1.55**	**122**	*e*PN	Pn	13 00 52.6	-1.7
APZ				SN	Sn	13

JJS	**Sakaide**	**1.04**	**310**	⇓P	Pn	13 01 52.7	0.0
JJS				S	Sn	13 02 05.3	-0.7
JHE	**Heguri**	**1.15**	**35**	⇓P	Pn	13 01 54.3	0.0
JHE				S	Sn	13 02 08.6	-0.2
JKS	**Kasai**	**1.27**	**358**	⇓P	Pn	13 01 55.9	0.0
JAD	**Aida**	**1.36**	**334**	⇓P	Pn	13 01 56.9	-0.3
MAT	**Matsushiro**	**3.92**	**43**	P	Pn	13 02 33.9	+1.5
MAT				S	Sn	13 03 18.2	+1.0

WEL 15 13:02:34.7±0.6, 45°.98S×166°.11E, h12km, ML4.0/9 Error ellipse: s-maj=5.4km s-min=2.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.44**	**115**	P*	Pg	13 02 43.3	0.0
PYZ				S*	Sg	13 02 49.8	+0.6
DCZ	**Deep Cove**	**0.89**	**56**	P*	Pg	13 02 51.1	-0.7
DCZ				S*	Sg	13 03 03.3	-0.1
DCZ				AML	AML	13 03 04.7	
DCZ				AML	AML	13 03 04.7	
DCZ				AML	AML	13 03 05.5	
WHZ	**Wether Hill Ro**	**1.28**	**87**	PN	Pn	13 02 57.4	-1.0
WHZ				S*	Sb	13 03 14.0	-1.3
WHZ				AML	AML	13 03 16.6	
APZ	**The Paps**	**1.55**	**124**	ePN	Pn	13 03 01.1	-1.0
MLZ	**Mavora Lakes**	**1.58**	**67**	ePN	Pn	13 03 02.1	-0.4
MLZ				AML	AML	13 03 27.8	
MLZ				AML	AML	13 03 29.9	
MSZ	**Milford Sound**	**1.83**	**45**	ePN	Pn	13 03 05.2	-0.7
MSZ				AML	AML	13 03 40.3	
MSZ				AML	AML	13 03 42.5	
SYZ	**Scrubby Hill**	**2.17**	**106**	ePN	Pn	13 03 07.9	-2.7
SYZ				SN	Sn	13 03 37.5	0.0
WKZ	**Wanaka**	**2.35**	**62**	ePN	Pn	13 03 13.7	+0.6
WKZ				AML	AML	13 03 48.4	
WKZ				AML	AML	13 03 48.7	
EAZ	**Earnscleugh**	**2.37**	**73**	ePN	Pn	13 03 14.4	+1.1
EAZ				AML	AML	13 03 44.8	
EAZ				AML	AML	13 03 50.5	
TUZ	**Tuapeka**	**2.46**	**91**	ePN	Pn	13 03 14.7	+0.2
TUZ				AML	AML	13 03 47.6	
TUZ				AML	AML	13 03 49.7	
LBZ	**Lake Benmore**	**3.29**	**62**	ePN	Pn	13 03 26.1	0.0
LBZ				AML	AML	13 04 07.2	
LBZ				AML	AML	13 04 09.2	
ODZ	**Otahua Downs**	**3.32**	**75**	ePN	Pn	13 03 24.4	-2.0
ODZ				AML	AML	13 04 06.6	

KRSC 15 13:04:51.9±1.3, 50°.41N×156°.99E, h5km±5km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.62**	**296**	eP	Pb	13 05 04.9	-0.3
SKR				*i* S	Sb	13 05 14.4	+0.2
PAU	**Pauzhetka**	**1.06**	**354**	eP	Pb	13 05 13.0	+0.2
PAU				*i* S	Sn	13 05 28.7	+0.1
MIPR	**Malaya Ipel'ka**	**1.87**	**356**	P	Pn	13 05 24.9	+0.3
ASAK	**Asacha**	**2.06**	**16**	eP	Pn	13 05 28.2	+1.0
ASAK				*i* S	Sb	13 05 54.9	-0.9
MTVR	**Mutnovka**	**2.21**	**19**	eP	Pn	13 05 30.2	+0.8
MTVR				*i* S	Sn	13 05 57.9	+0.7
RUS	**Russkaya**	**2.24**	**25**	eP	Pn	13 05 29.9	+0.3
RUS				*i* S	Sn	13 05 57.7	+0.1
PET	**Petropavlovsk**	**2.81**	**21**	eP	Pn	13 05 40.0	+2.5
PET				*i* S	Sb	13 06 14.6	-2.7
UGLR	**Uglovaya**	**3.02**	**21**	eP	Pn	13 05 43.2	+2.6
AVH	**Avacha**	**3.06**	**20**	eP	Pn	13 05 43.7	+2.7
KOK	**Koryaka**	**3.06**	**19**	eP	Pn	13 05 43.5	+2.4
SMAR	**Somma**	**3.07**	**21**	P	Pn	13 05 42.3	+1.0
GNL	**Ganaly**	**3.34**	**10**	P	Pn	13 05 46.3	+1.4

WEL 15 13:06:41.7±0.3, 45°.57S×166°.59E, h12km, ML4.3/17, 1C-1D, Error ellipse: s-maj=2.3km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.41**	**77**	⇓P*	Pg	13 06 50.0	+0.2
DCZ				S*	Sg	13 06 55.4	+0.1
DCZ				AML	AML	13 06 55.5	
DCZ				AML	AML	13 06 55.7	
DCZ				AML	AML	13 06 56.0	
PYZ	**Puysegur Point**	**0.60**	**174**	⇑P*	Pg	13 06 52.8	-0.6
PYZ				S*	Sg	13 07 00.9	-0.5
WHZ	**Wether Hill Ro**	**1.00**	**109**	P*	Pb	13 06 60.0	-1.1
WHZ				S*	Sg	13 07 14.0	-0.3
WHZ				AML	AML	13 07 15.3	
MLZ	**Mavora Lakes**	**1.14**	**79**	P*	Pb	13 07 01.5	-1.9
MLZ				AML	AML	13 07 18.3	
MLZ				AML	AML	13 07 19.5	
MSZ	**Milford Sound**	**1.31**	**47**	ePN	Pn	13 07 04.5	-1.3
MSZ				AML	AML	13 07 25.6	
MSZ				AML	AML	13 07 25.6	
MSZ				AML	AML	13 07 25.6	
MSZ				AML	AML	13 07 25.7	
APZ	**The Paps**	**1.59**	**143**	PN	Pn	13 07 09.3	-0.5
APZ				SN	Sn	13 07 29.2	-1.1
WKZ	**Wanaka**	**1.87**	**67**	PN	Pn	13 07 14.4	+0.8
WKZ				SN	Sg	13 07 41.8	-0.2
WKZ				AML	AML	13 07 44.2	
WKZ				AML	AML	13 07 44.8	
WKZ				AML	AML	13 07 44.9	
EAZ	**Earnscleugh**	**1.95**	**81**	PN	Pn	13 07 15.1	+0.5
EAZ				AML	AML	13 07 44.9	
EAZ				AML	AML	13 07 45.1	
SYZ	**Scrubby Hill**	**2.02**	**119**	PN	Pn	13 07 16.7	+1.1
JCZ	**Jackson Bay**	**2.15**	**47**	ePN	Pb	13 07 19.6	-1.2
JCZ				AML	AML	13 07 52.8	
JCZ				AML	AML	13 07 53.6	
TUZ	**Tuapeka**	**2.17**	**101**	PN	Pn	13 07 18.4	+0.8
TUZ				AML	AML	13 07 50.3	
TUZ				AML	AML	13 07 51.6	
LBZ	**Lake Benmore**	**2.81**	**66**	ePN	Pn	13 07 27.6	+1.1
LBZ				AML	AML	13 08 04.8	
LBZ				AML	AML	13 08 10.1	
HHSZ	**Highcliff Hill**	**2.83**	**98**	PN	Pn	13 07 27.6	+0.9
ODZ	**Otahua Downs**	**2.91**	**81**	PN	Pn	13 07 27.4	-0.4
ODZ				AML	AML	13 08 06.7	
ODZ				AML	AML	13 08 06.8	
ODZ				AML	AML	13 08 07.1	
ODZ				AML	AML	13 08 08.3	
FOZ	**Fox Glacier**	**2.99**	**49**	ePN	Pn	13 07 30.5	+1.6
FOZ				AML	AML	13 08 22.9	
FOZ				AML	AML	13 08 23.6	
RPZ	**Rata Peaks**	**3.69**	**61**	AML	AML	13 08 26.0	
RPZ				AML	AML	13 08 26.9	
WVZ	**Waitaha Valley**	**3.88**	**51**	ePN	Pn	13 07 41.4	+0.2
WVZ				AML	AML	13 08 47.4	
WVZ				AML	AML	13 08 48.6	
OXZ	**Oxford**	**4.50**	**62**	ePN	Pn	13 07 48.7	-1.0
MQZ	**McQueen's Vall**	**4.71**	**69**	ePN	Pn	13 07 52.4	-0.2
MQZ				AML	AML	13 08 50.2	
LTZ	**Lake Taylor**	**4.95**	**58**	AML	AML	13 08 56.9	
LTZ				AML	AML	13 08 57.7	
DSZ	**Denniston Nort**	**5.38**	**47**	ePN	Pn	13 08 00.4	-1.4
THZ	**Tophouse**	**5.96**	**52**	ePN	Pn	13 08 08.4	-1.4
THZ				AML	AML	13 09 24.4	
QRZ	**Quartz Range**	**6.43**	**45**	ePN	Pn	13 08 13.8	-2.4
QRZ				AML	AML	13 13 30.6	
NNZ	**Nelson**	**6.59**	**51**	ePN	Pn	13 08 18.5	+0.2
WCZ	**Waipu Caves**	**11.27**	**34**	PN	Pn	13 09 21.2	-1.4

WEL 15 13:08:42.4±0.6, 46°.02S×166°.24E, h24km±2km, ML3.7/10, 1C, Error ellipse: s-maj=6.1km s-min=2.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.34**	**116**	⇑P*	Pb	13 08 49.9	-0.1
PYZ				S*	Sb	13 08 55.1	+0.1
DCZ	**Deep Cove**	**0.84**	**50**	P*	Pb	13 08 57.9	-0.3
DCZ				S*	Sb	13 09 09.1	0.0
DCZ				S*	Sn	13 09 09.5	-0.7
DCZ				AML	AML	13 09 10.6	
DCZ				AML	AML	13 09 10.6	
WHZ	**Wether Hill Ro**	**1.20**	**85**	PN	Pn	13 09 03.5	-0.1
WHZ				SN	Sn	13 09 18.7	-0.5
WHZ				AML	AML	13 09 20.7	
APZ	**The Paps**	**1.46**	**125**	PN	Pn	13 09 06.2	-1.1
APZ				SN	Sn	13 09 23.8	-1.8
MLZ	**Mavora Lakes**	**1.51**	**64**	ePN	Pn	13 09 08.8	+0.8
MLZ				AML	AML	13 09 33.0	
MLZ				AML	AML	13 09 35.2	
MSZ	**Milford Sound**	**1.80**	**42**	ePN	Pn	13 09 11.6	-0.3
MSZ				AML	AML	13 09 45.3	
MSZ				AML	AML	13 09 45.3	
MSZ				AML	AML	13 09 47.1	
MSZ				AML	AML	13 09 49.2	
SYZ	**Scrubby Hill**	**2.08**	**105**	ePN	Pn	13 09 16.1	+0.4
WKZ	**Wanaka**	**2.29**	**60**	ePN	Pb	13 09 22.1	-1.0
WKZ				AML	AML	13 10 03.0	
WKZ				AML	AML	13 10 03.0	
EAZ	**Earnscleugh**	**2.29**	**71**	ePN	Pn	13 09 18.5	-0.2
EAZ				AML	AML	13 09 51.9	
EAZ				AML	AML	13 09 53.5	
TUZ	**Tuapeka**	**2.37**	**90**	PN	Pn	13 09 20.9	+1.3
TUZ				AML	AML	13 09 52.8	
TUZ				AML	AML	13 09 54.3	
JCZ	**Jackson Bay**	**2.64**	**43**	AML	AML	13 10 11.6	
JCZ				AML	AML	13 10 15.8	
LBZ	**Lake Benmore**	**3.23**	**61**	AML	AML	13 10 22.3	
LBZ				AML	AML	13 10 32.9	
ODZ	**Otahua Downs**	**3.25**	**74**	ePN	Pn	13 09 31.8	0.0
ODZ				AML	AML	13 10 22.0	
ODZ				AML	AML	13 10 24.5	

WEL 15 13:09:23.0±0.7, 46°.20S×165°.84E, h20km, ML4.0/10, Error ellipse: s-maj=6.6km s-min=4.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.58**	**88**	P*	Pb	13 09 34.3	-0.3
PYZ				S*	Sb	13 09 42.8	+0.4
DCZ	**Deep Cove**	**1.17**	**52**	PN	Pn	13 09 43.6	-0.5
DCZ				SN	Sb	13 09 58.4	-0.6
DCZ				AML	AML	13 12 07.5	
DCZ				AML	AML	13 12 08.2	
DCZ				AML	AML	13 12 08.3	
WHZ	**Wether Hill Ro**	**1.50**	**79**	ePN	Pn	13 09 49.1	+0.3
WHZ				SN	Sn	13 10 07.1	-0.6
WHZ				AML	AML	13 10 11.9	
APZ	**The Paps**	**1.61**	**114**	ePN	Pn	13 09 49.7	-0.7
APZ				SN	Sn	13 10 08.5	-2.1
MLZ	**Mavora Lakes**	**1.84**	**63**	ePN	Pb	13 09 55.4	-0.6
MLZ				AML	AML	13 10 23.3	
MLZ				AML	AML	13 10 23.5	
MSZ	**Milford Sound**	**2.12**	**45**	AML	AML	13 10 35.6	
MSZ				AML	AML	13 10 36.0	
EAZ	**Earnscleugh**	**2.61**	**70**	AML	AML	13 10 40.6	
EAZ				AML	AML	13 10 41.0	
WKZ	**Wanaka**	**2.62**	**60**	ePN	Pn	13 10 06.7	+2.5
WKZ				AML	AML	13 10 51.2	
WKZ				AML	AML	13 10 53.3	
TUZ	**Tuapeka**	**2.65**	**86**	AML	AML	13 10 41.1	
TUZ				AML	AML	13 10 42.1	
JCZ	**Jackson Bay**	**2.96**	**45**	AML	AML	13 11 02.5	
JCZ				AML	AML	13 11 02.6	
LBZ	**Lake Benmore**	**3.56**	**61**	AML	AML	13 11 06.6	
ODZ	**Otahua Downs**	**3.56**	**73**	AML	AML	13 11 11.5	

WEL 15 13:11:33.0±0.8, 46°.39S×166°.29E, h12km, ML4.2/11, Error ellipse: s-maj=7.7km s-min=3.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.35**	**51**	P*	Pg	13 11 40.5	+0.4
PYZ				S*	Sg	13 11 45.5	+0.6
PYZ				S*	Sb	13 11 45.6	-1.1
DCZ	**Deep Cove**	**1.09**	**34**	P*	Pb	13 11 51.8	-2.0
DCZ				S*	Sb	13 12 06.8	-1.2
APZ	**The Paps**	**1.25**	**111**	P*	Pn	13 11 55.4	-1.0
APZ				S*	Sn	13 12 13.1	-0.2
WHZ	**Wether Hill Ro**	**1.26**	**67**	P*	Pn	13 11 54.9	-1.5
WHZ				S*	Sb	13 12 11.7	-1.1
WHZ				AML	AML	13 12 13.6	
MLZ	**Mavora Lakes**	**1.68**	**52**	PN	Pn	13 12 01.7	-0.6
MLZ				AML	AML	13 12 28.6	
MLZ				AML	AML	13 12 28.9	
SYZ	**Scrubby Hill**	**1.98**	**95**	ePN	Pn	13 12 06.4	+0.2
MSZ	**Milford Sound**	**2.07**	**34**	AML	AML	13 12 41.5	
MSZ				AML	AML	13 12 42.1	
TUZ	**Tuapeka**	**2.36**	**81**	ePN	Pn	13 12 10.1	-1.5
TUZ				AML	AML	13 12 43.8	
TUZ				AML	AML	13 12 46.8	
EAZ	**Earnscleugh**	**2.41**	**62**	ePN	Pn	13 12 10.8	-1.4
EAZ				AML	AML	13 12 45.3	
EAZ				AML	AML	13 12 46.1	
WKZ	**Wanaka**	**2.47**	**52**	ePN	Pn	13 12 12.6	-0.6
WKZ				AML	AML	13 12 49.8	
WKZ				AML	AML	13 12 49.8	
WKZ				AML	AML	13 12 49.9	
WKZ				AML	AML	13 12 56.0	
JCZ	**Jackson Bay**	**2.90**	**38**	AML	AML	13 13 08.7	
JCZ				AML	AML	13 13 09.5	
ODZ	**Otahua Downs**	**3.33**	**68**	ePN	Pn	13 12 23.0	-1.9
ODZ				AML	AML	13 13 03.4	
ODZ				AML	AML	13 13 05.4	
LBZ	**Lake Benmore**	**3.40**	**55**	ePN	Pn	13 12 22.5	-3.4
LBZ				AML	AML	13 13 05.1	
LBZ				AML	AML	13 13 07.7	
FOZ	**Fox Glacier**	**3.72**	**42**	ePN	Pn	13 12 29.8	-0.3
FOZ				AML	AML	13 13 34.8	

WEL 15 13:15:12.9±0.5, 45°.75S×166°.70E, h5km, ML3.8/9, 1D, Error ellipse: s-maj=6.0km s-min=2.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.42**	**49**	PG	Pg	13 15 21.4	+0.5
DCZ				SG	Sg	13 15 27.3	+0.9
DCZ				AML	AML	13 15 28.0	
PYZ	**Puysegur Point**	**0.42**	**182**	PG	Pg	13 15 21.2	+0.2
PYZ				SG	Sg	13 15 27.8	+1.3
MLZ	**Mavora Lakes**	**1.11**	**69**	⇓P*	Pg	13 15 33.1	-1.1
MLZ				S*	Sg	13 15 47.3	-1.3
MLZ				AML	AML	13 15 49.3	
MSZ	**Milford Sound**	**1.38**	**39**	ePN	Pg	13 15 39.8	+0.5
MSZ				AML	AML	13 15 60.0	
MSZ				AML	AML	13 16 02.2	
APZ	**The Paps**	**1.40**	**141**	ePN	Pn	13 15 37.5	-1.7
APZ				SN	Sb	13 15 57.6	-0.3
SYZ	**Scrubby Hill**	**1.87**	**116**	ePN	Pn	13 15 45.9	+0.4
WKZ	**Wanaka**	**1.88**	**61**	AML	AML	13 16 12.1	
WKZ				AML	AML	13 16 12.3	
EAZ	**Earnscleugh**	**1.90**	**75**	ePN	Pb	13 15 48.1	+0.1
EAZ				AML	AML	13 16 15.3	
EAZ				AML	AML	13 16 15.4	
TUZ	**Tuapeka**	**2.06**	**97**	PN	Pb	13 15 50.2	-0.5
TUZ				AML	AML	13 16 18.8	
TUZ				AML	AML	13 16 19.4	
LBZ	**Lake Benmore**	**2.82**	**62**	AML	AML	13 16 37.0	
LBZ				AML	AML	13 16 38.0	
ODZ	**Otahua Downs**	**2.86**	**77**	PN	Pn	13 15 59.8	+0.7
ODZ				AML	AML	13 16 36.1	
ODZ				AML	AML	13 16 36.3	
FOZ	**Fox Glacier**	**3.05**	**45**	AML	AML	13 16 56.6	

WEL 15 13:18:51.9±0.5, 46°.05S×165°.99E, h12km, ML4.0/7, Error ellipse: s-maj=5.2km s-min=2.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.50**	**105**	P*	Pg	13 19 01.9	+0.3
PYZ				S*	Sg	13 19 08.7	+0.5
DCZ	**Deep Cove**	**0.99**	**56**	P*	Pb	13 19 09.9	-1.0
DCZ				AML	AML	13 19 23.5	
DCZ				S*	Sg	13 19 23.8	-0.1
WHZ	**Wether Hill Ro**	**1.37**	**84**	PN	Pn	13 19 15.9	-0.9
WHZ				SN	Sn	13 19 33.4	-1.6
WHZ				AML	AML	13 19 37.9	
APZ	**The Paps**	**1.59**	**120**	PN	Pn	13 19 18.9	-1.0
MLZ	**Mavora Lakes**	**1.68**	**66**	PN	Pn	13 19 21.2	+0.1
MLZ				AML	AML	13 19 47.6	
MLZ				AML	AML	13 19 48.0	
MSZ	**Milford Sound**	**1.94**	**46**	ePN	Pb	13 19 27.9	+0.8
MSZ				AML	AML	13 19 58.3	
MSZ				AML	AML	13 19 59.3	
SYZ	**Scrubby Hill**	**2.24**	**104**	ePN	Pn	13 19 28.9	+0.2
EAZ	**Earnscleugh**	**2.47**	**72**	ePN	Pn	13 19 33.1	+1.2
EAZ				AML	AML	13 20 07.5	
EAZ				AML	AML	13 20 08.4	
TUZ	**Tuapeka**	**2.54**	**89**	ePN	Pn	13 19 33.4	+0.6
TUZ				AML	AML	13 20 06.5	
TUZ				AML	AML	13 20 07.0	
LBZ	**Lake Benmore**	**3.40**	**62**	AML	AML	13 20 26.8	
ODZ	**Otahua Downs**	**3.42**	**75**	ePN	Pn	13 19 44.4	-0.5
WVZ	**Waitaha Valley**	**4.51**	**50**	ePN	Pn	13 20 00.5	+0.6

DJA 15 13:19:05.4±1.9, 6°S±17°×12°2E±1°0, h30km, M3.6/6, MLv3.6/6, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBSI	**Bau Bau**	**0.94**	**26**	P	Pn	13 19 21.0	-1.6
BSSI	**Bau Bau, Buton**	**1.67**	**277**	P	Pb	13 19 35.8	+0.2
BKSI	**Bulukumba**	**2.27**	**296**	P	Pn	13 19 39.2	-1.6
KAPI	**Kappang**	**2.73**	**299**	P	Pn	13 19 45.0	-2.3
SPSI	**Sidrap Palu**	**3.35**	**315**	P	Pn	13 19 54.2	-1.6
SKSI	**Soroako, Sulaw**	**3.88**	**348**	P	Pn	13 20 06.6	+3.5
TTSI	**Tana Toraja**	**4.02**	**324**	P	Pn	13 20 05.8	+0.8

WEL 15 13:20:23.2±0.9, 46°.03S×166°.17E, h12km, ML3.5/6, Error ellipse: s-maj=7.9km s-min=3.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.38**	**111**	P*	Pg	13 20 31.1	+0.3
PYZ				S*	Sg	13 20 36.7	+0.7
PYZ				S*	Sb	13 20 36.9	-1.0
DCZ	**Deep Cove**	**0.89**	**52**	P*	Pg	13 20 39.7	-0.6
DCZ				AML	AML	13 20 52.5	
DCZ				AML	AML	13 20 52.5	
WHZ	**Wether Hill Ro**	**1.25**	**84**	P*	Pn	13 20 45.1	-1.4
WHZ				S*	Sb	13 21 01.5	-1.3
WHZ				AML	AML	13 21 02.7	
APZ	**The Paps**	**1.49**	**123**	PN	Pn	13 20 47.8	-2.1
MLZ	**Mavora Lakes**	**1.56**	**65**	ePN	Pn	13 20 50.6	-0.2
MLZ				SN	Sn	13 21 09.5	-1.6
MLZ				AML	AML	13 21 13.4	
MSZ	**Milford Sound**	**1.84**	**43**	AML	AML	13 21 21.2	
MSZ				AML	AML	13 21 21.8	
SYZ	**Scrubby Hill**	**2.12**	**105**	ePN	Pn	13 20 58.4	-0.1
SYZ				SN	Sn	13 21 23.2	-1.5
EAZ	**Earnscleugh**	**2.34**	**71**	ePN	Pn	13 21 01.3	-0.2
EAZ				SN	Sb	13 21 32.5	-1.8
EAZ				AML	AML	13 21 37.2	
TUZ	**Tuapeka**	**2.42**	**89**	ePN	Pn	13 21 03.5	+1.0
TUZ				SN	Sn	13 21 32.3	+0.3
TUZ				AML	AML	13 21 36.3	

*ISCJB **15** 13:22:05.9±0.8, 45°.94S±0°.06×165°.89E±0°.07, h12km, mb3.4/2, Error ellipse: s-maj=9.1km s-min=6.8km az=24.7*
*IDC **15** 13:22:05.0±2.1, 46°.07S×166°.06E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.6/15, mbtmp3.7/4, ML3.4/2, Error ellipse: s-maj=63.1km s-min=28.5km az=169.0*
*WEL **15** 13:22:06.5±0.7, 46°.02S×165°.87E, h12km, ML4.0/11, Error ellipse: s-maj=6.1km s-min=3.2km az=90.0*

ISC 15 13:22:07.0±1.4, 46°.06S±0°.07×165°.98E±0°.07, h12km, n30, σ0°92/32, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.50**	**103**	P*	**Pb**	**13 22 18.2**	**+0.4**
PYZ				S*	**Sb**	**13 22 26.3**	**+1.3**
DCZ	**Deep Cove**	**1.00**	**55**	P*	**Pb**	**13 22 25.9**	**-0.4**
DCZ				S*	**Sg**	**13 22 39.3**	**-0.2**
DCZ				S*	**Sg**	**13 22 39.3**	**-0.2**
DCZ				AML	AML	13 22 41.8	
DCZ				AML	AML	13 22 41.8	
WHZ	**Wether Hill Ro**	**1.38**	**84**	PN	**Pn**	**13 22 32.1**	**-0.1**
WHZ				SN	**Sn**	**13 22 49.6**	**-0.7**
WHZ				AML	AML	13 22 51.6	
APZ	**The Paps**	**1.59**	**120**	PN	**Pn**	**13 22 34.4**	**-0.7**
MLZ	**Mavora Lakes**	**1.69**	**66**	PN	**Pb**	**13 22 37.5**	**-0.6**
MLZ				AML	AML	13 23 04.0	
MLZ				AML	AML	13 23 04.9	
MSZ	**Milford Sound**	**1.95**	**45**	ePN	**Pn**	**13 22 40.5**	**+0.6**
MSZ				AML	AML	13 23 12.7	
MSZ				AML	AML	13 23 14.6	
SYZ	**Scrubby Hill**	**2.24**	**104**	ePN	**Pn**	**13 22 44.6**	**+0.6**
WKZ	**Wanaka**	**2.47**	**61**	ePN	**Pn**	**13 22 48.7**	**+1.6**
WKZ				AML	AML	13 23 29.3	
WKZ				AML	AML	13 23 29.5	
EAZ	**Earnscleugh**	**2.48**	**72**	ePN	**Pn**	**13 22 49.0**	**+1.8**
EAZ				AML	AML	13 23 23.0	
EAZ				AML	AML	13 23 25.5	
EAZ				AML	AML	13 23 26.5	
EAZ				AML	AML	13 23 29.4	
TUZ	**Tuapeka**	**2.55**	**89**	ePN	**Pn**	**13 22 49.2**	**+1.1**
TUZ				AML	AML	13 23 23.7	
TUZ				AML	AML	13 23 24.1	
JCZ	**Jackson Bay**	**2.79**	**46**	AML	AML	13 23 49.5	
JCZ				AML	AML	13 23 50.9	
LBZ	**Lake Benmore**	**3.41**	**62**	ePN	**Pn**	**13 23 00.1**	**+0.1**
LBZ				AML	AML	13 23 42.8	
LBZ				AML	AML	13 23 45.1	
ODZ	**Otahua Downs**	**3.43**	**75**	ePN	**Pn**	**13 23 00.0**	**-0.3**
ODZ				AML	AML	13 23 54.9	
FOZ	**Fox Glacier**	**3.63**	**48**	ePN	**Pn**	**13 23 04.7**	**+1.7**
RPZ	**Rata Peaks**	**4.30**	**59**	Pn	**Pn**	**13 23 12.3**	**0.0**
	3.5nm,0.3s,baz=254,slow=7.4,SNR=2.6						
RPZ				Sn	**Sn**	**13 24 01.2**	**-1.1**
	6.7nm,0.3s,baz=52,slow=19,SNR=6.3						
RPZ	**Rata Peaks**	**4.30**	**59**	ePN	**Pn**	**13 23 11.9**	**-0.3**
RPZ				AML	AML	13 24 04.2	
RPZ				AML	AML	13 24 09.2	
WVZ	**Waitaha Valley**	**4.52**	**50**	ePN	**Pn**	**13 23 15.7**	**+0.5**
OXZ	**Oxford**	**5.11**	**60**	ePN	**Pn**	**13 23 22.2**	**-1.2**
DSZ	**Denniston Nort**	**6.02**	**46**	ePN	**Pn**	**13 23 35.4**	**-0.5**
THZ	**Tophouse**	**6.59**	**52**	ePN	**Pn**	**13 23 45.0**	**+1.3**
QRZ	**Quartz Range**	**7.07**	**45**	ePN	**Pn**	**13 23 50.3**	**0.0**
NNZ	**Nelson**	**7.22**	**51**	ePN	**Pn**	**13 23 53.7**	**+1.4**
NWEZ	**Newall Road**	**8.92**	**43**	ePN	**Pn**	**13 24 15.7**	**0.0**
KHEZ	**Kahui Hut**	**8.98**	**44**	ePN	**Pn**	**13 24 17.2**	**+0.6**
NEZ	**North Egmont**	**9

MLZ					AML	AML	13 28 23.0	
MSZ	**Milford Sound**	**1.21**	**48**	*e*P*	Pn	Pn	13 28 08.8	-2.5
MSZ					AML	AML	13 28 30.3	
MSZ					AML	AML	13 28 30.3	
MSZ					AML	AML	13 28 30.8	
MSZ					AML	AML	13 28 32.4	
APZ	**The Paps**	**1.63**	**146**	*e*PN	Pb	Pb	13 28 18.4	-0.2
WKZ	**Wanaka**	**1.79**	**69**	*e*PN	Pn	Pn	13 28 19.4	+0.1
WKZ					AML	AML	13 28 48.1	
WKZ					AML	AML	13 28 48.1	
WKZ					AML	AML	13 28 50.4	
WKZ					AML	AML	13 28 50.4	
EAZ	**Earnscleugh**	**1.88**	**83**	PN	Pn	Pn	13 28 20.6	+0.1
EAZ					AML	AML	13 28 44.7	
EAZ					AML	AML	13 28 45.2	
SYZ	**Scrubby Hill**	**2.01**	**122**	*e*PN	Pb	Pb	13 28 24.4	-0.8
JCZ	**Jackson Bay**	**2.05**	**47**	*e*PN	Pn	Pn	13 28 23.9	+0.8
JCZ					AML	AML	13 28 55.9	
JCZ					AML	AML	13 28 59.8	
TUZ	**Tuapeka**	**2.13**	**104**	*e*PN	Pn	Pn	13 28 24.5	+0.5
TUZ					AML	AML	13 28 53.6	
TUZ					AML	AML	13 28 55.0	
LBZ	**Lake Benmore**	**2.73**	**67**		AML	AML	13 29 08.0	
LBZ					AML	AML	13 29 09.5	
HHSZ	**Highcliff Hill**	**2.78**	**100**	*e*PN	Pn	Pn	13 28 33.3	+0.4
ODZ	**Otahua Downs**	**2.84**	**82**	PN	Pn	Pn	13 28 32.7	-1.0
ODZ					AML	AML	13 29 11.2	
ODZ					AML	AML	13 29 11.2	
ODZ					AML	AML	13 29 11.6	
ODZ					AML	AML	13 29 19.4	
FOZ	**Fox Glacier**	**2.89**	**49**		AML	AML	13 29 21.8	
RPZ	**Rata Peaks**	**3.60**	**62**	*e*PN	Pn	Pn	13 28 43.5	-0.7
RPZ					AML	AML	13 29 34.2	
RPZ					AML	AML	13 29 48.7	
WVZ	**Waitaha Valley**	**3.79**	**52**	PN	Pn	Pn	13 28 46.7	0.0
OXZ	**Oxford**	**4.41**	**63**	*e*PN	Pn	Pn	13 28 54.7	-0.7
MQZ	**McQueen's Vall**	**4.63**	**69**	PN	Pn	Pn	13 28 58.1	-0.3
DSZ	**Denniston Nort**	**5.28**	**47**	*e*PN	Pn	Pn	13 29 06.2	-1.1
THZ	**Tophouse**	**5.86**	**53**	*e*PN	Pn	Sn	13 29 16.0	+0.6
QRZ	**Quartz Range**	**6.33**	**45**	*e*PN	Pn	Pn	13 29 20.8	-0.9

*IDC **15** 13:29:49.3±2.9, 46°.22S×166°.18E, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.7/15, mbtmp3.8/4, ML3.7/2, MS4.1/1, Ms1 4.1/1, ms1mx3.4/22, Error ellipse: s-maj=76.5km s-min=28.5km az=170.0*

*ISCJB **15** 13:29:51.7±0.6, 45°.98S±0°.06×166°.06E±0°.05, h12km, mb3.5/2, Error ellipse: s-maj=8.7km s-min=5.2km az=8.7*

*WEL **15** 13:29:54.1±0.8, 45°.98S×166°.15E, h20km, ML4.3/12, Error ellipse: s-maj=7.8km s-min=3.2km az=90.0*

ISC 15 13:29:52.4±0.9, 46°.00S±0°.06×166°.10E±0°.05, h12km, n26, σ0s86/29, 1C, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.44**	**113**	⇑P*	**Pb**	**13 30 02.4**	**+0.3**
PYZ				S*	**Sb**	**13 30 08.2**	**-0.4**
PYZ				S*	**Sg**	**13 30 08.5**	**+1.6**
DCZ	**Deep Cove**	**0.90**	**55**	P*	**Pg**	**13 30 09.8**	**0.0**
DCZ				S*	**Sg**	**13 30 22.2**	**+0.6**
DCZ				AML	AML	13 30 22.4	
DCZ				AML	AML	13 30 23.0	
DCZ				AML	AML	13 30 23.0	
WHZ	**Wether Hill Ro**	**1.29**	**86**	PN	**Pn**	**13 30 16.0**	**-0.3**
WHZ				AML	AML	13 30 33.4	
WHZ				AML	AML	13 30 34.0	
APZ	**The Paps**	**1.55**	**123**	PN	**Pn**	**13 30 18.9**	**-1.0**
MLZ	**Mavora Lakes**	**1.59**	**67**	PN	**Pn**	**13 30 20.0**	**-0.4**
MLZ				AML	AML	13 30 43.1	
MLZ				AML	AML	13 30 46.3	
MSZ	**Milford Sound**	**1.85**	**45**	*e*PN	**Pn**	**13 30 24.4**	**+0.5**
MSZ				AML	AML	13 30 52.6	
MSZ				AML	AML	13 30 56.1	
MSZ				AML	AML	13 30 58.0	
MSZ				AML	AML	13 30 58.5	
SYZ	**Scrubby Hill**	**2.18**	**105**	PN	**Pn**	**13 30 29.0**	**+0.6**
WKZ	**Wanaka**	**2.37**	**61**	PN	**Pb**	**13 30 33.6**	**-1.4**
WKZ				AML	AML	13 31 08.0	
WKZ				AML	AML	13 31 08.1	
WKZ				AML	AML	13 31 08.2	
WKZ				AML	AML	13 31 08.8	
EAZ	**Earnscleugh**	**2.38**	**72**	AML	AML	13 31 06.4	
EAZ				AML	AML	13 31 06.4	
EAZ				AML	AML	13 31 07.5	
EAZ				AML	AML	13 31 10.1	
TUZ	**Tuapeka**	**2.46**	**90**	*e*PN	**Pn**	**13 30 33.3**	**+1.0**
TUZ				AML	AML	13 31 05.3	
TUZ				AML	AML	13 31 07.7	
JCZ	**Jackson Bay**	**2.69**	**45**	*e*PN	**Pn**	**13 30 37.9**	**+2.3**
JCZ				AML	AML	13 31 25.3	
JCZ				AML	AML	13 31 26.0	
HHSZ	**Highcliff Hill**	**3.14**	**90**	*e*PN	**Pn**	**13 30 42.3**	**+0.7**
LBZ	**Lake Benmore**	**3.31**	**62**	*e*PN	**Pn**	**13 30 44.2**	**+0.2**
LBZ				AML	AML	13 31 25.2	
LBZ				AML	AML	13 31 27.5	
ODZ	**Otahua Downs**	**3.33**	**75**	PN	**Pn**	**13 30 44.4**	**0.0**
ODZ				AML	AML	13 31 38.5	
ODZ				AML	AML	13 31 39.1	
FOZ	**Fox Glacier**	**3.53**	**48**	*e*PN	**Pn**	**13 30 48.4**	**+1.4**
FOZ				AML	AML	13 31 36.4	
RPZ	**Rata Peaks**	**4.20**	**59**	Pn	**Pn**	**13 30 56.2**	**0.0**
	8.5nm,0.3s,baz=203,slow=5.3,SNR=5.5						
RPZ				Sn	**Sn**	**13 31 44.8**	**-0.4**
	23nm,0.3s,baz=310,slow=23,SNR=11						
RPZ				LR	LR	13 32 25.8	
	comp=Z,2µm,20.0s,baz=178,slow=37						
RPZ	**Rata Peaks**	**4.20**	**59**	PN	**Pn**	**13 30 56.0**	**-0.2**
RPZ				AML	AML	13 31 46.9	
RPZ				AML	AML	13 31 47.7	
WVZ	**Waitaha Valley**	**4.42**	**50**	*e*PN	**Pn**	**13 30 59.4**	**+0.2**
OXZ	**Oxford**	**5.01**	**60**	*e*PN	**Pn**	**13 31 06.4**	**-0.9**
URZ	**Urewera**	**11.24**	**50**	Pn	**Pn**	**13 32 32.2**	**-0.7**
	0.2nm,0.3s,baz=181,slow=15,SNR=1.8						
URZ				Sn	Sn	13 34 28.1	-10
	0.2nm,0.3s,baz=32,slow=17,SNR=1.8						
MILA	**Mila**	**15.49**	**299**	P	**Pn**	**13 33 30.0**	**-0.8**
	baz=6.6,SNR=5.9						
TOO	**Toolangi**	**17.49**	**291**	P	**P**	**13 33 57.7**	**+0.5**
	baz=8.7,SNR=10						
YNG	**Young**	**17.84**	**305**	P	**P**	**13 34 01.9**	**+0.9**
	baz=9.0,SNR=5.8						
ASAR	**Alice Springs**	**34.20**	**300**	P	**P**	**13 36 38.0**	**+0.1**
	0.3nm,0.6s,baz=131,slow=7.7,SNR=6.8						
WRA	**Warramunga Arr**	**36.80**	**304**	P	**P**	**13 37 00.3**	**+0.2**
	0.8nm,0.8s,baz=137,slow=7.8,SNR=6.4						
TORD	**Torodi Ar. Bea**	**144.70**	**207**	PKP	**PKPab**	**13 49 27.2**	**-0.8**
	0.3nm,0.6s,baz=159,slow=2.8,SNR=3.1						

WEL 15 13:31:06.0±0.8, 45°.98S×166°.08E, h20km, ML3.6/7, Error ellipse: s-maj=7.2km s-min=3.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.46**	**115**	P*	Pb	13 31 15.3	-0.1
PYZ				S*	Sb	13 31 21.5	-0.4
PYZ				S*	Sn	13 31 21.5	-3.5
DCZ	**Deep Cove**	**0.90**	**57**	*e*P*	Pb	13 31 22.4	-0.6
DCZ				S*	Sb	13 31 35.2	+0.7
DCZ				AML	AML	13 31 36.3	
DCZ				S*	Sn	13 31 36.7	+0.7
DCZ				AML	AML	13 31 38.0	
WHZ	**Wether Hill Ro**	**1.30**	**87**	*e*PN	Pn	13 31 27.3	-1.9
WHZ				SN	Sn	13 31 45.7	-0.3
WHZ				AML	AML	13 31 47.3	
APZ	**The Paps**	**1.57**	**124**	*e*PN	Pn	13 31 33.1	+0.2
MLZ	**Mavora Lakes**	**1.60**	**67**	*e*PN	Pb	13 31 35.4	+0.6
MLZ				AML	AML	13 32 01.1	
MLZ				AML	AML	13 32 03.8	
MSZ	**Milford Sound**	**1.84**	**46**	AML	AML	13 32 14.2	
MSZ				AML	AML	13 32 15.5	
EAZ	**Earnscleugh**	**2.38**	**73**	AML	AML	13 32 24.9	
EAZ				AML	AML	13 32 25.3	
TUZ	**Tuapeka**	**2.48**	**91**	AML	AML	13 32 20.2	
TUZ				AML	AML	13 32 22.3	
JCZ	**Jackson Bay**	**2.69**	**46**	AML	AML	13 32 40.3	
JCZ				AML	AML	13 32 42.8	

*ISCJB **15** 13:33:53.9±0.8, 45°.34S±0°.06×166°.21E±0°.07, h15km, mb3.4/2, Error ellipse: s-maj=9.2km s-min=7.2km az=172.4*

*WEL **15** 13:33:54.2±0.6, 45°.34S×166°.22E, h12km, ML4.0/6, Error ellipse: s-maj=5.1km s-min=3.7km az=90.0*

*IDC **15** 13:33:54.2±1.9, 45°.23S×166°.18E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.5/14, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=62.3km s-min=32.2km az=7.0*

ISC 15 13:33:55.0±1.1, 45°.41S±0°.07×166°.31E±0°.07, h15km, n16, σ0s94/20, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.60**	**97**	P*	**Pg**	**13 34 06.3**	**-0.5**
DCZ				S*	**Sb**	**13 34 16.1**	**+0.7**
DCZ				S*	**Sb**	**13 34 16.2**	**+0.7**
DCZ				AML	AML	13 34 19.0	
DCZ				AML	AML	13 34 19.1	
PYZ	**Puysegur Point**	**0.80**	**161**	P*	**Pg**	**13 34 10.2**	**-0.3**
WHZ	**Wether Hill Ro**	**1.25**	**113**	*e*PN	**Pn**	**13 34 17.5**	**-0.4**
WHZ				AML	AML	13 34 40.7	
MLZ	**Mavora Lakes**	**1.32**	**88**	PN	**Pn**	**13 34 17.7**	**-1.2**
MLZ				SN	**Sn**	**13 34 36.7**	**+0.5**
MSZ	**Milford Sound**	**1.37**	**58**	*e*PN	**Pn**	**13 34 18.8**	**-0.7**
MSZ				SN	**Sn**	**13 34 37.1**	**-0.2**
MSZ				AML	AML	13 34 38.4	
APZ	**The Paps**	**1.84**	**141**	*e*PN	**Pb**	**13 34 27.5**	**-0.9**
WKZ	**Wanaka**	**2.00**	**74**	AML	AML	13 34 56.0	
WKZ				AML	AML	13 35 00.4	
EAZ	**Earnscleugh**	**2.12**	**86**	PN	**Pn**	**13 34 31.2**	**+1.2**
EAZ				AML	AML	13 35 01.4	
EAZ				AML	AML	13 35 03.5	
SYZ	**Scrubby Hill**	**2.27**	**121**	*e*PN	**Pn**	**13 34 33.3**	**+1.3**
TUZ	**Tuapeka**	**2.39**	**104**	*e*PN	**Pn**	**13 34 36.2**	**-1.6**
LBZ	**Lake Benmore**	**2.94**	**71**	*e*PN	**Pn**	**13 34 41.4**	**+0.2**
ODZ	**Otahua Downs**	**3.09**	**85**	*e*PN	**Pn**	**13 34 43.3**	**+0.2**
RPZ	**Rata Peaks**	**3.79**	**65**	Pn	**Pn**	**13 34 54.1**	**+1.2**
	5.3nm,0.3s,baz=220,slow=5.5,SNR=7.7						
RPZ				Sn	**Sn**	**13 35 38.8**	**+1.6**
	9.6nm,0.3s,baz=164,slow=18,SNR=3.2						
ASAR	**Alice Springs**	**34.04**	**299**	P	**P**	**13 40 38.4**	**-0.2**
	0.1nm,0.2s,baz=127,slow=7.5,SNR=2.8						
WRA	**Warramunga Arr**	**36.60**	**303**	P	**P**	**13 41 00.7**	**+0.1**
	0.6nm,0.9s,baz=138,slow=7.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**145.28**	**207**	PKPbc	**PKPdf**	**13 53 33.3**	**+0.9**
	0.8nm,0.7s,baz=168,slow=2.9,SNR=4.4						

WEL 15 13:34:12.5±1.0, 45°.92S×166°.22E, h12km, ML3.9/4, Error ellipse: s-maj=9.0km s-min=2.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.40**	**128**	P*	Pg	13 34 20.1	-0.4
PYZ				S*	Sg	13 34 26.5	+0.7
DCZ	**Deep Cove**	**0.79**	**56**	P*	Pg	13 34 27.0	-0.8
DCZ				S*	Sg	13 34 37.4	-0.7
DCZ				S*	Sb	13 34 37.8	-0.9
DCZ				S*	Sn	13 34 38.1	-3.0
DCZ				AML	AML	13 34 39.8	
WHZ	**Wether Hill Ro**	**1.20**	**89**	P*	Pb	13 34 35.2	0.0
WHZ				S*	Sb	13 34 48.9	-1.8
WHZ				AML	AML	13 34 53.6	
WHZ	**Wether Hill Ro**	**1.20**	**89**	SN	Pg	13 34 35.4	-0.2
MLZ	**Mavora Lakes**	**1.48**	**68**	*e*PN	Pn	13 34 39.1	+0.1
MLZ				AML	AML	13 35 00.7	
MLZ				AML	AML	13 35 02.9	
MSZ	**Milford Sound**	**1.74**	**45**	AML	AML	13 35 09.5	
MSZ				AML	AML	13 35 09.9	

*AUST **15** 13:35:53.8±1.6, 46°.24S×165°.95E, h0km, Error ellipse: s-maj=2.0km s-min=0.8km az=13.0*

*IDC **15** 13:35:54.1±1.0, 46°.01S×166°.08E, h0km, mb3.9/5, mb1 4.2/7, mb1mx4.0/16, mbtmp4.1/7, ML4.3/2, Error ellipse: s-maj=29.4km s-min=23.4km az=18.0*

*NEIC **15** 13:35:55.3, 45°.855S×165°.69E, h5km, mb4.2/2, After WEL.*

*ISCJB **15** 13:35:56.4±0.9, 45°.96S±0°.05×166°.07E±0°.05, h27km±7km, mb3.9/7, Error ellipse: s-maj=8.6km s-min=5.8km az=169.8*

*WEL **15** 13:35:56.1±0.9, 46°.05S×166°.03E, h12km, ML4.9/15, Error ellipse: s-maj=8.5km s-min=4.2km az=90.0*

ISC 15 13:35:57.4±0.9, 46°.04S±0°.06×166°.14E±0°.07, h22km±8km, n78, σ1s91/84, mb3.9/7, 1C, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.40**	**109**	⇑P*	**Pb**	**13 36 05.8**	**+0.1**
PYZ				S*	**Sb**	**13 36 12.4**	**+1.1**
DCZ	**Deep Cove**	**0.91**	**52**	P*	**Pb**	**13 36 13.8**	**-0.6**
DCZ				S*	**Sb**	**13 36 26.3**	**+0.3**
DCZ				S*	**Sn**	**13 36 26.7**	**-0.4**
DCZ				AML	AML	13 36 28.5	
DCZ				AML	AML	13 36 28.6	
WHZ	**Wether Hill Ro**	**1.27**	**84**	PN	**Pn**	**13 36 19.9**	**+0.2**
WHZ				SN	**Sn**	**13 36 36.1**	**+0.1**
WHZ				AML	AML	13 36 39.7	
APZ	**The Paps**	**1.50**	**122**	PN	**Pn**	**13 36 21.3**	**-1.5**
MLZ	**Mavora Lakes**	**1.58**	**65**	PN	**Pb**	**13 36 23.5**	**-0.6**
MLZ				AML	AML	13 36 52.9	
MLZ				AML	AML	13 36 53.6	
MSZ	**Milford Sound**	**1.86**	**43**	Pn	**Pn**	**13 36 28.8**	**+0.9**
MSZ	**Milford Sound**	**1.86**	**43**	*e*PN	**Pb**	**13 36 30.6**	**0.0**
MSZ				AML	AML	13 37 03.2	
MSZ				AML	AML	13 37 04.8	
MSZ				AML	AML	13 37 08.0	
MSZ				AML	AML	13 37 13.6	
SYZ	**Scrubby Hill**	**2.14**	**104**	PN	**Pn**	**13 36 32.2**	**+0.6**
WKZ	**Wanaka**	**2.36**	**60**	Pn	**Pb**	**13 36 37.7**	**-1.5**
WKZ				Sn	**Sb**	**13 37 07.7**	**-0.2**
WKZ	**Wanaka**	**2.36**	**60**	AML	AML	13 37 14.1	
WKZ				AML	AML	13 37 29.2	
EAZ	**Earnscleugh**	**2.36**	**71**	Pn	**Pb**	**13 36 37.2**	**-2.0**
EAZ	**Earnscleugh**	**2.36**	**71**	PN	**Pn**	**13 36 36.6**	**+1.8**
EAZ				AML	AML	13 37 13.5	
EAZ				AML	AML	13 37 13.5	
EAZ				AML	AML	13 37 14.5	
EAZ				AML	AML	13 37 18.3	
TUZ	**Tuapeka**	**2.43**	**89**	PN	**Pn**	**13 36 37.1**	**+1.4**
TUZ				AML	AML	13 37 10.6	
TUZ				AML	AML	13 37 12.2	
LBZ	**Lake Benmore**	**3.30**	**61**	PN	**Pn**	**13 36 48.4**	**+0.7**
LBZ				AML	AML	13 37 31.9	
LBZ				AML	AML	13 37 33.8	
LBZ				AML	AML	13 37 51.4	
LBZ				AML	AML	13 37 52.9	
ODZ	**Otahua Downs**	**3.32**	**74**	PN	**Pn**	**13 36 48.0**	**+0.1**
ODZ				AML	AML	13 36 59.8	
ODZ				AML	AML	13 37 33.1	
ODZ				AML	AML	13 37 50.9	
ODZ				AML	AML	13 37 57.0	
FOZ	**Fox Glacier**	**3.54**	**47**	*e*PN	**Pn**	**13 36 53.1**	**+2.2**
FOZ				AML	AML	13 37 58.0	
FOZ				AML	AML	13 37 59.9	
FOZ				AML	AML	13 38 01.3	
FOZ				AML	AML	13 38 04.8	
RPZ	**Rata Peaks**	**4.20**	**58**	*e*P	**Pn**	**13 37 00.0**	**0.0**
RPZ				Sn	**Sn**	**13 37 49.1**	**+0.8**
RPZ	**Rata Peaks**	**4.20**	**58**	Pn	**Pn**	**13 37 00.3**	**+0.3**
	37nm,0.3s,baz=200,slow=5.3,SNR=14						
RPZ				Sn	**Sn**	**13 37 49.1**	**+0.8**
	45nm,0.3s,baz=324,slow=22,SNR=6.8						
WVZ	**Waitaha Valley**	**4.42**	**50**	*e*PN	**Pn**	**13 37 03.6**	**+0.5**
CRLZ	**Canterbury Las**	**5.23**	**64**	*e*PN	**Pn**	**13 37 13.8**	**-0.3**
CRLZ				AML	AML	13 38 58.5	
CRLZ				AML	AML	13 39 11.6	
LTZ	**Lake Taylor**	**5.47**	**56**	Pn	**Pn**	**13 37 17.2**	**-0.3**
LTZ	**Lake Taylor**	**5.47**	**56**	PN	**Pn**	**13 37 16.3**	**-1.2**
LTZ				AML	AML	13 38 22.8	
LTZ				AML	AML	13 38 24.4	
DSZ	**Denniston Nort**	**5.93**	**46**	Pn	**Pn**	**13 37 24.6**	**+0.7**
DSZ	**Denniston Nort**	**5.93**	**46**	PN	**Pn**	**13 37 24.3**	**+0.5**
THZ	**Tophouse**	**6.49**	**51**	Pn	**Pn**	**13 37 32.6**	**+1.1**
THZ	**Tophouse**	**6.49**	**51**	*e*PN	**Pn**	**13 37 33.4**	**+1.8**
THZ				AML	AML	13 38 59.3	
THZ				AML	AML	13 39 06.9	
QRZ	**Quartz Range**	**6.98**	**44**	Pn	**Pn**	**13 37 39.6**	**+1.3**
QRZ	**Quartz Range**	**6.98**	**44**	*e*PN	**Pn**	**13 37 39.2**	**+0.9**
QRZ				AML	AML	13 39 00.6	
QRZ				AML	AML	13 39 15.2	
NNZ	**Nelson**	**7.13**	**50**	Pn	**Pn**	**13 37 42.6**	**+2.4**
NNZ	**Nelson**	**7.13**	**50**	*e*PN	**Pn**	**13 37 41.7**	**+1.5**
NNZ				AML	AML	13 39 15.8	
NNZ				AML	AML	13 39 22.2	
TUWZ	**Tuamarina**	**7.29**	**54**	*e*PN	Pn	13 37 46.4	+4.0
CAW	**Cannon Point**	**8.14**	**56**	*e*PN	**Pn**	**13 37 53.3**	**-0.8**
NWEZ	**Newall Road**	**8.84**	**43**	*e*PN	**Pn**	**13 38 02.9**	**-0.8**
KHEZ	**Kahui Hut**	**8.89**	**43**	*e*PN	**Pn**	**13 38 04.9**	**+0.4**
DFE	**Dawson Falls**	**8.91**	**44**	*e*PN	**Pn**	**13 38 06.3**	**+1.6**
NEZ	**North Egmont**	**8.95**	**44**	*e*PN	**Pn**	**13 38 06.3**	**+1.1**
PKE	**Pukeiti**	**8.96**	**43**	*e*PN	**Pn**	**13 38 05.7**	**+0.3**
WAZ	**Wanganui**	**9.03**	**49**	*e*PN	**Pn**	**13 38 07.6**	**+1.3**
HIZ	**Hauiti**	**9.91**	**44**	Pn	**Pn**	**13 38 19.2**	**+0.8**
HIZ	**Hauiti**	**9.91**	**44**	*e*PN	**Pn**	**13 38 18.7**	**+0.4**
UTU	**Utuhina**	**10.83**	**47**	*e*PN	**Pn**	**13 38 30.6**	**-0.4**
MKAZ	**Moumakai**	**11.19**	**40**	*e*PN	**Pn**	**13 38 36.7**	**+0.8**
URZ	**Urewera**	**11.25**	**50**	*e*P	**Pn**	**13 38 36.5**	**-0.2**
URZ				Sn	Sn	13 40 34.2	-7.5
URZ	**Urewera**	**11.25**	**50**	Pn	**Pn**	**13 38 36.5**	**-0.2**
	1.0nm,0.3s,baz=232,slow=7.9,SNR=7.3						
URZ				Sn	Sn	13 40 34.2	-7.5
	0.4nm,0.3s,baz=338,slow=11,SNR=2.3						
WCZ	**Waipu Caves**	**11.83**	**34**	Pn	**Pn**	**13 38 44.9**	**+0.1**
WCZ	**Waipu Caves**	**11.83**	**34**	*e*PN	**Pn**	**13 38 44.4**	**-0.4**
OUZ	**Omahuta**	**12.20**	**30**	*e*P	**Pn**	**13 38 50.2**	**+0.5**
	28nm,0.6s						
TAU	**Tasmania Unive**	**13.80**	**276**	*e*P	Pn	13 39 07.0	-4.5
MILA	**Mila**	**15.54**	**299**	P	**Pn**	**13 39 33.4**	**-1.7**
	baz=16,SNR=13						
MILA				S	Sn	13 42 14.3	-12
	baz=16,SNR=5.8						
CAN	**Canberra**	**16.81**	**304**	*e*P	**Pn**	**13 39 49.1**	**-2.2**
	14nm,0.8s						
TOO	**Toolangi**	**17.53**	**292**	P	**Pn**	**13 39 59.9**	**-0.4**
	baz=17,SNR=31						
YNG	**Young**	**17.89**	**305**	P	**P**	**13 40 06.4**	**+1.2**
	baz=18,SNR=9.0						
STKA	**Stephens Creek**	**23.64**	**298**	P	**P**	**13 41 07.8**	**+1.0**
STKA	**Stephens Creek**	**23.64**	**298**	P	**P**	**13 41 07.8**	**+1.0**
	2.5nm,0.9s,baz=135,slow=16,SNR=3.0						
AS31	**Alice Springs**	**34.25**	**300**	P	**P**	**13 42 41.1**	**-0.6**
ASAR	**Alice Springs**	**34.25**	**300**	P	**P**	**13 42 41.2**	**-0.5**
ASAR	**Alice Springs**	**34.25**	**300**	P	**P**	**13 42 41.2**	**-0.5**
	0.7nm,0.6s,baz=130,slow=8.0,SNR=11						
WRA	**Warramunga Arr**	**36.85**	**304**	P	**P**	**13 43 03.2**	**-0.8**
WRA	**Warramunga Arr**	**36.85**	**304**	P	**P**	**13 43 03.2**	**-0.8**
	1.1nm,0.5s,baz=137,slow=7.9,SNR=22						
WRAB	**Tennant Creek**	**36.85**	**304**	*e*P	**P**	**13 43 03.3**	**-0.7**
	5.4nm,1.0s						
FITZ	**Fitzroy Crossi**	**43.51**	**296**	P	**P**	**13 43 58.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**43.51**	**296**	P	**P**	**13 43 58.8**	**-0.4**
	3.4nm,0.8s,baz=159,slow=11,SNR=6.7						
FITZ	**Fitzroy Crossi**	**43.51**	**296**	P	**P**	**13 43 59.1**	**0.0**
	baz=44,SNR=3.5						
QSPA	**South Pole Qui**	**44.08**	**180**	P	**P**	**13 44 04.2**	**+0.7**
QSPA	**South Pole Qui**	**44.08**	**180**	P	**P**	**13 44 04.1**	**+0.7**
	3.3nm,1.1s,baz=155,slow=2.7,SNR=5.5						
MTN	**Manton Dam**	**44.37**	**307**	P	**P**	**13 44 06.5**	**+0.4**
	baz=44,SNR=3.5						
CMAR	**Chiang Mai Arr**	**88.26**	**299**	P	**P**	**13 48 49.2**	**+2.3**
CMAR	**Chiang Mai Arr**	**88.26**	**299**	P	**P**	**13 48 49.2**	**+2.3**
	0.4nm,0.6s,baz=145,slow=4.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**144.67**	**207**	PKP	**PKPab**	**13 55 30.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**144.67**	**207**	PKP	**PKPab**	**13 55 30.9**	**-0.2**
	1.8nm,0.7s,baz=152,slow=2.2,SNR=9.1						
BRTR	**Keskin Array B**	**145.05**	**277**	PKPbc	**PKPdf**	**13 55 32.5**	**-0.1**
BRTR	**Keskin Array B**	**145.05**	**277**	PKPbc	**PKPdf**	**13 55 32.5**	**-0.1**
	1.1nm,0.9s,baz=176,slow=4.3,SNR=3.2						
SPITS	**Spitsbergen Ar**	**145.71**	**349**	PKPbc	**PKPab**	**13 55 33.2**	**-0.1**
SPITS	**Spitsbergen Ar**	**145.71**	**349**	PKPbc	**PKPab**	**13 55 33.2**	**-0.1**
	5.3nm,0.7s,baz=122,slow=12,SNR=2.8						
ARCES	**ARCESS Array B**	**149.44**	**334**	PKPbc	**PKPbc**	**13 55 42.6**	**-0.7**
ARCES	**ARCESS Array B**	**149.44**	**334**	PKPbc	**PKPbc**	**13 55 42.6**	**-0.7**
	4.0nm,0.9s,baz=54,slow=2.1,SNR=4.6						
FINES	**FINESS Array B**	**152.36**	**318**	PKPbc	**PKPbc**	**13 55 50.2**	**-0.1**
FINES				PKPab	**PKPab**	**13 55 59.1**	**-1.5**
FINES	**FINESS Array B**	**152.36**	**318**	PKPbc	**PKPbc**	**13 55 50.2**	**-0.1**
	0.5nm,0.5s,baz=98,slow=2.7,SNR=4.1						
FINES				PKPab	**PKPab**	**13 55 59.1**	**-1.5**
	1.6nm,0.8s,baz=108,slow=4.2,SNR=4.2						

WEL 15 13:37:07.8±0.7, 46°.06S×165°.99E, h12km, ML4.0/3, Error ellipse: s-maj=5.8km s-min=2.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.49**	**102**	P*	Pg	13 37 17.7	+0.2
PYZ

DCZ				S*	Sn	13 42 41.5	-0.5	
DCZ				AML	AML	13 42 42.6		
DCZ				AML	AML	13 42 42.6		
DCZ				AML	AML	13 42 42.7		
WHZ	**Wether Hill Ro**	**1.33**	**99**	PN	Pb	13 42 41.4	+2.3	
WHZ				SN	Sn	13 42 53.0	-2.4	
APZ	**The Paps**	**1.75**	**131**	*e*PN	Pn	13 42 44.0	-0.1	
APZ				SN	Sn	13 43 04.0	-1.9	
SYZ	**Scrubby Hill**	**2.30**	**113**	*e*PN	Pb	13 42 54.6	-0.9	
EAZ	**Earnscleugh**	**2.33**	**80**	AML	AML	13 43 01.4		
TUZ	**Tuapeka**	**2.50**	**97**	AML	AML	13 43 09.2		

*ISCJB **15** 13:42:43.7±1.6,45°.36S±0°.03×166°.59E±0°.06,h9km±12km, mb3.5/3,Error ellipse: s-maj=6.9km s-min=5.6km az=3.6*
*IDC **15** 13:42:44.1±1.2,45°.36S×166°.60E,h0km,mb3.7/3, mb1 3.9/5,mb1mx3.8/15,mbtmp3.8/5,ML3.8/2,Error ellipse: s-maj=45.5km s-min=25.0km az=177.0*
*WEL **15** 13:42:46.0±0.3,45°.42S×166°.65E,h12km,ML4.3/16,Error ellipse: s-maj=2.6km s-min=1.6km az=90.0*
*AUST **15** 13:42:53.6±0.7,45°.63S×167°.27E,h0km,Error ellipse: s-maj=1.3km s-min=0.9km az=231.0*

ISC 15 13:42:44.9±1.5,45°.41S±0°.05×166°.62E±0°.05,h9km±10km, n38,σ0^{s}80/44,mb3.6/3,1D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.38**	**101**	⇓P*	**Pb**	**13 42 53.5**	**-0.4**
DCZ				S*	**Sg**	**13 42 58.2**	**+0.7**
DCZ				S*	**Sg**	**13 42 58.3**	**+0.7**
DCZ				AML	AML	13 42 58.4	
DCZ				AML	AML	13 42 58.8	
PYZ	**Puysegur Point**	**0.76**	**177**	P*	**Pg**	**13 43 00.0**	**+0.4**
PYZ				S*	**Sg**	**13 43 09.4**	**-0.2**
PYZ				S*	**Sb**	**13 43 09.5**	**-1.3**
WHZ	**Wether Hill Ro**	**1.05**	**118**	P*	**Pb**	**13 43 04.6**	**-0.7**
WHZ				S*	**Sb**	**13 43 18.0**	**-1.1**
WHZ				AML	AML	13 43 19.5	
MLZ	**Mavora Lakes**	**1.10**	**87**	P*	**Pb**	**13 43 04.7**	**-1.4**
MLZ				AML	AML	13 43 18.6	
MLZ				AML	AML	13 43 19.5	
MSZ	**Milford Sound**	**1.18**	**52**	P*	**Pb**	**13 43 06.3**	**-1.2**
MSZ				S*	**Sn**	**13 43 24.0**	**+0.2**
MSZ				AML	AML	13 43 24.8	
MSZ				AML	AML	13 43 25.1	
MSZ				AML	AML	13 43 25.2	
APZ	**The Paps**	**1.71**	**147**	PN	**Pn**	**13 43 15.6**	**+0.6**
APZ				SN	**Sn**	**13 43 37.2**	**+0.2**
WKZ	**Wanaka**	**1.79**	**72**	PN	**Pn**	**13 43 17.1**	**+1.1**
WKZ				AML	AML	13 43 45.0	
WKZ				AML	AML	13 43 46.5	
WKZ				AML	AML	13 43 47.7	
WKZ				AML	AML	13 43 47.7	
EAZ	**Earnscleugh**	**1.91**	**86**	PN	**Pn**	**13 43 17.6**	**+0.1**
EAZ				SN	**Sn**	**13 43 42.0**	**+0.4**
EAZ				AML	AML	13 43 44.1	
EAZ				AML	AML	13 43 46.6	
EAZ				AML	AML	13 43 46.9	
JCZ	**Jackson Bay**	**2.03**	**50**	*e*PN	**Pn**	**13 43 19.0**	**-0.3**
JCZ				AML	AML	13 43 51.5	
JCZ				AML	AML	13 43 52.7	
SYZ	**Scrubby Hill**	**2.09**	**124**	*e*PN	**Pn**	**13 43 20.3**	**+0.2**
TUZ	**Tuapeka**	**2.18**	**106**	PN	**Pn**	**13 43 22.1**	**+0.7**
TUZ				AML	AML	13 43 54.3	
TUZ				AML	AML	13 43 55.0	
LBZ	**Lake Benmore**	**2.73**	**69**	*e*PN	**Pn**	**13 43 27.8**	**-1.1**
LBZ				AML	AML	13 44 05.1	
LBZ				AML	AML	13 44 08.3	
LBZ				AML	AML	13 44 08.8	
LBZ				AML	AML	13 44 11.6	
HHSZ	**Highcliff Hill**	**2.83**	**101**	*e*PN	**Pn**	**13 43 30.9**	**+0.6**
FOZ	**Fox Glacier**	**2.87**	**51**	*e*PN	**Pn**	**13 43 31.6**	**+0.8**
FOZ				AML	AML	13 44 19.3	
FOZ				AML	AML	13 44 19.4	
ODZ	**Otahua Downs**	**2.87**	**84**	*e*PN	**Pn**	**13 43 29.9**	**-0.8**
ODZ				AML	AML	13 44 05.8	
ODZ				AML	AML	13 44 06.8	
ODZ				AML	AML	13 44 08.6	
ODZ				AML	AML	13 44 09.5	
RPZ	**Rata Peaks**	**3.59**	**63**	Pn	**Pn**	**13 43 41.3**	**+0.5**
	31nm,0.3s,baz=228,slow=8.4,SNR=27						
RPZ				Sn	**Sn**	**13 44 24.5**	**+1.1**
	22nm,0.3s,baz=34,slow=19,SNR=6.5						
RPZ	**Rata Peaks**	**3.59**	**63**	PN	**Pn**	**13 43 41.0**	**+0.2**
RPZ				AML	AML	13 44 29.4	
RPZ				AML	AML	13 44 46.2	
WVZ	**Waitaha Valley**	**3.77**	**53**	*e*PN	**Pn**	**13 43 42.4**	**-0.7**
WVZ				AML	AML	13 44 46.8	
WVZ				AML	AML	13 44 48.9	
OXZ	**Oxford**	**4.41**	**64**	*e*PN	**Pn**	**13 43 51.4**	**-0.5**
MQZ	**McQueen's Vall**	**4.63**	**71**	PN	**Pn**	**13 43 55.2**	**+0.2**
CRLZ	**Canterbury Las**	**4.67**	**69**	PN	**Pn**	**13 43 55.4**	**-0.1**
LTZ	**Lake Taylor**	**4.84**	**59**	AML	AML	13 44 59.2	
LTZ				AML	AML	13 45 01.4	
DSZ	**Denniston Nort**	**5.25**	**48**	*e*PN	**Pn**	**13 44 02.4**	**-1.2**
THZ	**Tophouse**	**5.84**	**54**	*e*PN	**Pn**	**13 44 11.2**	**-0.5**
THZ				AML	AML	13 45 25.3	
THZ				AML	AML	13 45 27.8	
QRZ	**Quartz Range**	**6.30**	**45**	*e*PN	**Pn**	**13 44 16.7**	**-1.2**
QRZ				AML	AML	13 45 32.7	
QRZ				AML	AML	13 45 37.3	
NNZ	**Nelson**	**6.47**	**52**	*e*PN	**Pn**	**13 44 21.5**	**+1.3**
TUWZ	**Tuamarina**	**6.65**	**56**	*e*PN	**Pn**	**13 44 24.0**	**+1.2**
URZ	**Urewera**	**10.59**	**51**	Pn	**Pn**	**13 45 17.0**	**+0.2**
	0.2nm,0.3s,baz=244,slow=6.8,SNR=2.6						
URZ				Sn	Sn	13 47 08.8	-6.6
	0.2nm,0.3s,baz=279,slow=19,SNR=2.3						
MOO	**Moorlands**	**14.31**	**275**	P	P	13 46 24.1	+9.3
	baz=15,SNR=4.6						
NFK	**Norfolk Island**	**16.37**	**4**	P	P	13 46 49.4	+12
	baz=17,SNR=6.0						
STKA	**Stephens Creek**	**23.64**	**296**	P	**P**	**13 47 57.2**	**+0.8**
	1.7nm,0.9s,baz=143,slow=15,SNR=3.3						
ASAR	**Alice Springs**	**34.23**	**298**	P	**P**	**13 49 31.0**	**0.0**
	0.4nm,0.8s,baz=166,slow=8.2,SNR=4.7						
WRA	**Warramunga Arr**	**36.78**	**303**	P	**P**	**13 49 52.9**	**-0.1**
	1.2nm,1.0s,baz=137,slow=8.0,SNR=7.1						
KURBB	**Kurchatov Arra**	**122.15**	**311**	PKP	**PKPdf**	**14 01 38.4**	**-0.7**
	0.3nm,0.4s,baz=127,slow=1.9,SNR=5.3						
BRTR	**Keskin Array B**	**145.30**	**278**	PKPbc	**PKPdf**	**14 02 23.9**	**+1.2**
	3.3nm,0.9s,baz=114,slow=5.5,SNR=8.3						
TORD	**Torodi Ar. Bea**	**145.39**	**206**	PKPbc	**PKPbc**	**14 02 23.2**	**-0.1**
	1.7nm,0.4s,baz=144,slow=2.4,SNR=33						
ARCES	**ARCESS Array B**	**149.01**	**335**	PKPbc	**PKPbc**	**14 02 32.5**	**+0.6**
	2.2nm,0.7s,baz=70,slow=5.3,SNR=4.3						
FINES	**FINESS Array B**	**152.10**	**319**	PKPbc	**PKPbc**	**14 02 39.3**	**-0.2**
	1.1nm,0.5s,baz=125,slow=3.0,SNR=8.2						

*IDC **15** 13:45:19.6±0.9,46°.06S×166°.12E,h0km,mb4.2/6, mb1 4.4/8,mb1mx4.2/17,mbtmp4.3/8,ML4.2/2,Error ellipse: s-maj=28.8km s-min=21.6km az=19.0*
*NEIC **15** 13:45:21.0±0.5,46°.13S×166°.04E,h10km,mb4.6/3,Error ellipse: s-maj=13.6km s-min=7.9km az=161.0*
*ISCJB **15** 13:45:22.4±0.8,46°.03S±0°.04×166°.11E±0°.05,h29km±6km, mb4.3/8,Error ellipse: s-maj=7.2km s-min=5.3km az=172.9*
*WEL **15** 13:45:23.8±0.8,46°.02S×166°.18E,h20km,ML4.7/20,Error ellipse: s-maj=7.2km s-min=2.5km az=90.0*
*AUST **15** 13:45:26.5,45°.96S×166°.47E,h60km*

ISC 15 13:45:21.7±2.3,46°.09S±0°.06×166°.09E±0°.05,h14km±14km, n75,σ1^{s}22/82,mb4.3/8,1D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.42**	**101**	⇓P*	**Pb**	**13 45 31.5**	**+0.7**
PYZ				S*	**Sb**	**13 45 37.9**	**+0.8**
DCZ	**Deep Cove**	**0.96**	**51**	P*	**Pb**	**13 45 39.9**	**-0.1**
DCZ				S*	**Sb**	**13 45 51.1**	**-1.5**
DCZ				S*	**Sg**	**13 45 51.8**	**-1.0**
DCZ				AML	AML	13 45 54.5	
DCZ				AML	AML	13 45 54.8	
WHZ	**Wether Hill Ro**	**1.31**	**82**	PN	**Pn**	**13 45 45.5**	**-0.1**
WHZ				SN	**Sb**	**13 46 02.9**	**+0.2**
WHZ				AML	AML	13 46 04.9	
APZ	**The Paps**	**1.51**	**120**	PN	**Pn**	**13 45 47.2**	**-1.1**
APZ				SN	**Sn**	**13 46 06.7**	**-1.1**
MLZ	**Mavora Lakes**	**1.64**	**64**	*e*PN	**Pn**	**13 45 50.6**	**+0.6**
MLZ				AML	AML	13 46 15.4	
MLZ				AML	AML	13 46 17.0	
MSZ	**Milford Sound**	**1.92**	**43**	PN	**Pn**	**13 45 54.8**	**+1.0**
MSZ				AML	AML	13 46 20.2	
MSZ				AML	AML	13 46 27.2	
MSZ				AML	AML	13 46 29.0	
MSZ				AML	AML	13 46 30.3	
SYZ	**Scrubby Hill**	**2.16**	**103**	*e*PN	**Pn**	**13 45 57.1**	**-0.1**
EAZ	**Earnscleugh**	**2.41**	**70**	*e*PN	**Pn**	**13 46 02.1**	**+1.4**
EAZ				AML	AML	13 46 35.0	
EAZ				AML	AML	13 46 35.7	
EAZ				AML	AML	13 46 37.3	
EAZ				AML	AML	13 46 37.4	
WKZ	**Wanaka**	**2.42**	**60**	PN	**Pb**	**13 46 03.1**	**-1.8**
WKZ				AML	AML	13 46 35.3	
WKZ				AML	AML	13 46 40.1	
WKZ				AML	AML	13 46 42.1	
WKZ				AML	AML	13 46 43.8	
TUZ	**Tuapeka**	**2.47**	**88**	*e*PN	**Pn**	**13 46 01.7**	**+0.2**
TUZ				AML	AML	13 46 35.5	
TUZ				AML	AML	13 46 35.9	
JCZ	**Jackson Bay**	**2.76**	**44**	*e*PN	**Pn**	**13 46 07.8**	**+2.2**
JCZ				AML	AML	13 46 59.6	
JCZ				AML	AML	13 46 59.8	
HHSZ	**Highcliff Hill**	**3.15**	**88**	*e*PN	**Pn**	**13 46 11.0**	**+0.2**
LBZ	**Lake Benmore**	**3.35**	**61**	PN	**Pn**	**13 46 14.2**	**+0.6**
LBZ				AML	AML	13 46 55.0	
LBZ				AML	AML	13 46 57.5	
LBZ				AML	AML	13 46 57.5	
LBZ				AML	AML	13 46 58.9	
ODZ	**Otahua Downs**	**3.36**	**74**	*e*Pn	**Pn**	**13 46 13.9**	**+0.1**
ODZ	**Otahua Downs**	**3.36**	**74**	PN	**Pn**	**13 46 14.1**	**+0.3**
ODZ				AML	AML	13 47 08.8	
ODZ				AML	AML	13 47 09.1	
ODZ				AML	AML	13 47 10.4	
ODZ				AML	AML	13 47 11.1	
FOZ	**Fox Glacier**	**3.59**	**47**	*e*PN	**Pn**	**13 46 19.0**	**+2.1**
FOZ				AML	AML	13 47 07.9	
FOZ				AML	AML	13 47 08.3	
FOZ				AML	AML	13 47 22.6	
FOZ				AML	AML	13 47 27.8	
RPZ	**Rata Peaks**	**4.25**	**58**	Pn	**Pn**	**13 46 26.3**	**+0.3**
RPZ				Sn	**Sn**	**13 47 14.9**	**-0.5**
RPZ	**Rata Peaks**	**4.25**	**58**	Pn	**Pn**	**13 46 26.3**	**+0.3**
	22nm,0.3s,baz=226,slow=5.1,SNR=23						
RPZ				Sn	**Sn**	**13 47 14.9**	**-0.5**
	43nm,0.3s,baz=356,slow=21,SNR=10						
RPZ	**Rata Peaks**	**4.25**	**58**	PN	**Pn**	**13 46 26.0**	**0.0**
RPZ				AML	AML	13 47 17.2	
RPZ				AML	AML	13 47 18.2	
WVZ	**Waitaha Valley**	**4.48**	**49**	*e*PN	**Pn**	**13 46 29.4**	**+0.3**
WVZ				AML	AML	13 47 26.9	
WVZ				AML	AML	13 47 28.5	
OXZ	**Oxford**	**5.06**	**59**	PN	**Pn**	**13 46 36.2**	**-0.9**
MQZ	**McQueen's Vall**	**5.23**	**65**	*e*PN	**Pn**	**13 46 39.6**	**+0.2**
MQZ				AML	AML	13 47 40.7	
CRLZ	**Canterbury Las**	**5.28**	**64**	*e*PN	**Pn**	**13 46 40.4**	**+0.3**
CRLZ				AML	AML	13 47 45.0	
CRLZ				AML	AML	13 47 45.9	
LTZ	**Lake Taylor**	**5.52**	**55**	*e*PN	**Pn**	**13 46 42.9**	**-0.5**
LTZ				AML	AML	13 47 47.4	
LTZ				AML	AML	13 47 47.5	
DSZ	**Denniston Nort**	**5.99**	**46**	*e*PN	**Pn**	**13 46 49.6**	**-0.2**
THZ	**Tophouse**	**6.55**	**51**	*e*PN	**Pn**	**13 46 56.3**	**-1.3**
THZ				AML	AML	13 48 15.8	
THZ				AML	AML	13 48 16.9	
QRZ	**Quartz Range**	**7.04**	**44**	*e*PN	**Pn**	**13 47 04.6**	**+0.4**
QRZ				AML	AML	13 48 23.0	
QRZ				AML	AML	13 48 25.8	
NNZ	**Nelson**	**7.18**	**50**	*e*PN	**Pn**	**13 47 08.5**	**+2.3**
NNZ				AML	AML	13 48 32.2	
TUWZ	**Tuamarina**	**7.35**	**53**	*e*PN	**Pn**	**13 47 11.0**	**+2.6**
DUWZ	**D'Urville Isla**	**7.77**	**50**	SN	**Sn**	**13 48 42.9**	**+0.9**
SNZO	**South Karori**	**7.86**	**56**	*e*Pn	Pn	13 47 18.5	+3.0
CAW	**Cannon Point**	**8.20**	**56**	*e*PN	**Pn**	**13 47 20.0**	**-0.2**
KHEZ	**Kahui Hut**	**8.95**	**43**	*e*PN	**Pn**	**13 47 31.5**	**+1.0**
PKE	**Pukeiti**	**9.01**	**43**	*e*PN	**Pn**	**13 47 32.5**	**+1.2**
HIZ	**Hauiti**	**9.97**	**44**	*e*PN	**Pn**	**13 47 44.5**	**+0.2**
WTAZ	**Waiatarua**	**11.13**	**38**	*e*PN	**Pn**	**13 48 01.4**	**+1.0**
MKAZ	**Moumakai**	**11.24**	**40**	*e*PN	**Pn**	**13 48 03.8**	**+1.9**
URZ	**Urewera**	**11.31**	**50**	Pn	**Pn**	**13 48 02.0**	**-0.7**
URZ				Sn	Sn	13 49 59.5	-9.3
URZ	**Urewera**	**11.31**	**50**	Pn	**Pn**	**13 48 02.0**	**-0.7**
	0.9nm,0.3s,baz=240,slow=8.1,SNR=4.1						
URZ				Sn	Sn	13 49 59.5	-9.3
	0.5nm,0.3s,baz=53,slow=20,SNR=3.4						
OUZ	**Omahuta**	**12.25**	**30**	P	**Pn**	**13 48 16.8**	**+1.1**
	28nm,0.8s						
MILA	**Mila**	**15.53**	**300**	P	**Pn**	**13 49 00.1**	**-0.2**
	baz=16,SNR=11						
CNB	**Canberra Magne**	**16.60**	**305**	P	**P**	**13 49 19.2**	**+2.9**
	baz=17,SNR=5.0						
TOO	**Toolangi**	**17.52**	**292**	P	**P**	**13 49 26.3**	**-0.2**
	baz=18,SNR=19						
TOO				S	**Sn**	**13 52 33.8**	**-6.4**
	baz=18,SNR=3.9						
CMSA	**Cobar Meteorol**	**21.45**	**306**	P	**P**	**13 50 11.7**	**+2.4**
	baz=22,SNR=10						
STKA	**Stephens Creek**	**23.62**	**298**	*e*P	**P**	**13 50 32.2**	**-0.1**
	0.5nm,0.8s						
STKA	**Stephens Creek**	**23.62**	**298**	P	**P**	**13 50 32.6**	**+0.4**
	3.0nm,0.9s,baz=108,slow=3.2,SNR=2.7						
ASAR	**Alice Springs**	**34.24**	**300**	P	**P**	**13 52 07.1**	**0.0**
ASAR	**Alice Springs**	**34.24**	**300**	P	**P**	**13 52 07.1**	**0.0**
	3.2nm,0.7s,baz=131,slow=8.5,SNR=35						
AS31	**Alice Springs**	**34.24**	**300**	*e*P	**P**	**13 52 07.2**	**+0.1**
WRA	**Warramunga Arr**	**36.85**	**304**	P	**P**	**13 52 29.1**	**-0.3**
WRA	**Warramunga Arr**	**36.85**	**304**	P	**P**	**13 52 29.1**	**-0.3**
	4.5nm,0.8s,baz=137,slow=7.9,SNR=25						
WRAB	**Tennant Creek**	**36.85**	**304**	*e*P	**P**	**13 52 29.4**	**-0.1**
	9.2nm,1.0s						
KNRA	**Kununurra**	**43.45**	**302**	P	**P**	**13 53 24.9**	**+0.7**
	baz=44,SNR=3.3						
FITZ	**Fitzroy Crossi**	**43.49**	**296**	P	**P**	**13 53 24.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**43.49**	**296**	P	**P**	**13 53 24.9**	**+0.3**
	5.8nm,0.9s,baz=174,slow=8.8,SNR=7.5						
FITZ	**Fitzroy Crossi**	**43.49**	**296**	P	**P**	**13 53 25.1**	**+0.6**
	baz=44,SNR=3.9						
QSPA	**South Pole Qui**	**44.04**	**180**	*e*P	**P**	**13 53 29.4**	**+0.8**
	10nm,1.1s						
QSPA	**South Pole Qui**	**44.04**	**180**	P	**P**	**13 53 29.3**	**+0.7**
	2.2nm,0.9s,baz=359,slow=3.1,SNR=7.1						
MTN	**Manton Dam**	**44.36**	**307**	P	**P**	**13 53 32.4**	**+0.9**
	baz=44,SNR=6.9						
SNAA	**Sanae**	**62.28**	**184**	*e*P	**P**	**13 55 42.7**	**0.0**
	9.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**88.25**	**299**	P	**P**	**13 58 13.8**	**+1.3**
CMAR	**Chiang Mai Arr**	**88.25**	**299**	P	**P**	**13 58 13.8**	**+1.3**
	1.3nm,0.8s,baz=155,slow=3.3,SNR=8.1						
KURBB	**Kurchatov Arra**	**122.32**	**311**	PKP	**PKPdf**	**14 04 15.4**	**+0.1**
	0.2nm,0.4s,baz=110,slow=2.4,SNR=3.8						
KURK	**Kurchatov**	**122.33**	**311**	PKP	**PKPdf**	**14 04 15.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**144.61**	**207**	PKP	**PKPab**	**14 04 56.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**144.61**	**207**	PKP	**PKPab**	**14 04 56.2**	**-0.3**
	1.7nm,0.6s,baz=158,slow=2.1,SNR=14						
BRTR	**Keskin Array B**	**145.02**	**277**	PKPbc	**PKPab**	**14 04 57.5**	**-0.1**
BRTR	**Keskin Array B**	**145.02**	**277**	PKPbc	**PKPab**	**14 04 57.5**	**-0.1**
	4.9nm,0.9s,baz=140,slow=6.4,SNR=15						
BR131	**Keskin Array S**	**145.02**	**277**	*e*PKP	**PKPab**	**14 04 57.8**	**+0.2**
SCHQ	**Schefferville**	**145.94**	**56**	PKPbc	**PKPdf**	**14 04 59.0**	**-0.1**
SCHQ	**Schefferville**	**145.94**	**56**	PKPbc	**PKPdf**	**14 04 59.0**	**-0.1**
	2.1nm,0.5s,baz=232,slow=7.7,SNR=5.0						
ARCES	**ARCESS Array B**	**149.46**	**334**	PKPbc	**PKPbc**	**14 05 09.4**	**+0.4**
ARCES	**ARCESS Array B**	**149.46**	**334**	PKPbc	**PKPbc**	**14 05 09.4**	**+0.4**
	4.3nm,0.9s,baz=83,slow=3.8,SNR=5.1						
FINES	**FINESS Array B**	**152.37**	**318**	PKPbc	**PKPbc**	**14 05 14.4**	**-1.6**
FINES	**FINESS Array B**	**152.37**	**318**	PKPbc	**PKPbc**	**14 05 14.4**	**-1.6**
	1.4nm,0.8s,baz=98,slow=5.8,SNR=3.2						

WEL 15 13:48:30.2±0.5,45°.97S×166°.14E,h12km,ML4.2/15, Error ellipse: s-maj=4.8km s-min=1.9km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.43**	**118**	P*	Pg	13 48 38.7	0.0
PYZ				S*	Sg	13 48 45.1	+0.6
PYZ				S*	Sb	13 48 45.2	-1.0
DCZ	**Deep Cove**	**0.86**	**56**	P*	Pg	13 48 46.4	-0.5
WHZ	**Wether Hill Ro**	**1.27**	**87**	P*	Pn	13 48 52.6	-1.1
WHZ				S*	Sb	13 49 09.4	-0.8
WHZ				AML	AML	13 49 11.1	
APZ	**The Paps**	**1.55**	**125**	PN	Pn	13 48 55.5	-2.2
MLZ	**Mavora Lakes**	**1.56**	**67**	*e*PN	Pn	13 48 57.1	-0.7
MLZ				AML	AML	13 49 23.5	
MLZ				AML	AML	13 49 23.7	
MSZ	**Milford Sound**	**1.81**	**45**	AML	AML	13 49 31.5	
MSZ				AML	AML	13 49 32.3	
SYZ	**Scrubby Hill**	**2.16**	**106**	PN	Pn	13 49 05.2	-0.7
SYZ				SN	Sn	13 49 32.2	-0.4
WKZ	**Wanaka**	**2.33**	**62**	*e*PN	Pn	13 49 10.0	+1.7
WKZ				AML	AML	13 49 46.9	
WKZ				AML	AML	13 49 47.9	
WKZ				AML	AML	13 49 47.9	
WKZ				AML	AML	13 49 49.2	
EAZ	**Earnscleugh**	**2.34**	**73**	*e*PN	Pn	13 49 09.6	+1.1
EAZ				AML	AML	13 49 45.2	
EAZ				AML	AML	13 49 46.5	
EAZ				AML	AML	13 49 47.0	
EAZ				AML	AML	13 49 48.7	
TUZ	**Tuapeka**	**2.44**	**91**	PN	Pn	13 49 10.3	+0.6
TUZ				AML	AML	13 49 43.0	
TUZ				AML	AML	13 49 44.4	
JCZ	**Jackson Bay**	**2.65**	**45**	*e*PN	Pb	13 49 15.5	-2.2
JCZ				AML	AML	13 49 58.0	
JCZ				AML	AML	13 49 58.8	
LBZ	**Lake Benmore**	**3.27**	**63**	AML	AML	13 50 02.7	
LBZ				AML	AML	13 50 04.2	
ODZ	**Otahua Downs**	**3.30**	**75**	*e*PN	Pn	13 49 21.1	-0.5
ODZ				AML	AML	13 50 12.5	
ODZ				AML	AML	13 50 13.8	
FOZ	**Fox Glacier**	**3.49**	**48**	AML	AML	13 50 30.7	
RPZ	**Rata Peaks**	**4.16**	**59**	*e*PN	Pn	13 49 32.4	-1.1
RPZ				AML	AML	13 50 23.9	
RPZ				AML	AML	13 50 24.3	
WVZ	**Waitaha Valley**	**4.38**	**50**	*e*PN	Pn	13 49 36.4	0.0
WVZ				AML	AML	13 50 36.4	
LTZ	**Lake Taylor**	**5.42**	**56**	AML	AML	13 50 52.3	
THZ	**Tophouse**	**6.45**	**52**	AML	AML	13 51 24.5	

*IDC **15** 13:50:38.6±0.4,45°.41S×166°.78E,h0km,mb4.9/21, mb1 4.9/22,mb1mx4.9/24,mbtmp4.9/22,ML5.0/2,MS5.1/11, Ms1 5.1/11,ms1mx4.7/28,Error ellipse: s-maj=15.5km s-min=12.6km az=77.0*
*ISCJB **15** 13:50:38.5±0.9,45°.35S±0°.02×166°.66E±0°.03,h6km±6km, mb5.2/53,MS5.0/16,Error ellipse: s-maj=4.1km s-min=3.4km az=171.7*
*NEIC **15** 13:50:38.1,45°.41S×166°.50E,h5km,mb5.4/18, ML5.9(WEL),After WEL.*
NEIC Felt at Christchurch, Fox Glacier and Queenstown.
*WEL **15** 13:50:39.2±0.4,45°.44S×166°.55E,h12km,ML5.6/56,Error ellipse: s-maj=3.5km s-min=1.8km az=90.0*
*AUST **15** 13:50:41.3±0.4,45°.46S×166°.59E,h7km,Error ellipse: s-maj=0.8km s-min=0.6km az=28.0*
*MOS **15** 13:50:43.2±1.2,45°.32S×166°.68E,h33km,mb5.4/17,Error ellipse: s-maj=15.9km s-min=9.6km az=104.3*
*BKK **15** 13:50:44.7±0.8,46°S±8°×16°6E±2°0,h10km,M5.3/15, mb5.3/15*
*DJA **15** 13:50:51.6±1.8,46°S±5°×16°6E±1°2,h90km±13km, M5.4/31,mB5.9/7,mb5.2/31,Mw(mB)5.5/7*

ISC 15 13:50:42.2±0.2,45°.44S±0°.03×166°.77E±0°.04,h21km±1km, n497,σ1^{s}19/489,mb5.2/53,MS5.1/17,22C-15D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.28**	**98**	⇓Pg	**Pb**	**13 50 48.0**	**-0.6**
DCZ				Sg	**Sb**	**13 50 53.6**	**+0.6**
DCZ	**Deep Cove**	**0.28**	**98**	⇑P*	**Pb**	**13 50 47.9**	**-0.6**
DCZ				S*	**Sb**	**13 50 53.5**	**+0.6**
DCZ				AML	AML	13 50 53.8	
DCZ				AML	AML	13 50 53.9	
DCZ				AML	AML	13 50 54.8	
PYZ	**Puysegur Point**	**0.73**	**185**	P*	Pb	13 50 52.6	-3.7
PYZ				S*	**Sb**	**13 51 03.5**	**-2.3**
PYZ	**Puysegur Point**	**0.73**	**185**	P*	Pb	13 50 52.5	-3.7
PYZ				S*	**Sb**	**13 51 03.0**	**-2.7**
WHZ	**Wether Hill Ro**	**0.94**	**119**	P*	**Pb**	**13 50 59.0**	**-0.9**
WHZ				S*	**Sn**	**13 51 12.6**	**-0.4**
WHZ	**Wether Hill Ro**	**0.94**	**119**	P*	**Pb**	**13 50 58.9**	**-0.9**
WHZ				S*	**Sb**	**13 51 12.1**	**+0.2**
WHZ				AML	AML	13 51 13.6	
WHZ				AML	AML	13 51 14.1	
WHZ				AML	AML	13 51 22.9	
MLZ	**Mavora Lakes**	**0.99**	**85**	P*	**Pb**	**13 50 59.4**	**-1.3**
MLZ				S*	**Sb**	**13 51 14.0**	**+0.7**
MLZ				S*	**Sb**	**13 51 14.3**	**+0.9**
MLZ	**Mavora Lakes**	**0.99**	**85**	P*	**Pb**	**13 50 59.4**	**-1.3**
MLZ				S*	**Sb**	**13 51 14.3**	**+0.9**
MLZ				AML	AML	13 51 15.9	
MLZ				AML	AML	13 51 16.4	
MLZ				AML	AML	13 51 17.5	
MSZ	**Milford Sound**	**1.12**	**47**	P	**Pn**	**13 51

MOZ AML AML 13 53 23.2
CRLZ Canterbury Las 4.58 68 Pn **Pn 13 51 50.1 -0.1**
CRLZ Canterbury Las 4.58 68 *e*PN **Pn 13 51 49.5 -0.7**
CRLZ AML AML 13 53 19.1
CRLZ AML AML 13 53 24.7
LTZ Lake Taylor 4.77 58 Pn **Pn 13 51 52.1 -0.8**
LTZ Lake Taylor 4.77 58 PN **Pn 13 51 52.1 -0.8**
LTZ AML AML 13 53 04.1
LTZ AML AML 13 53 27.9
DSZ Denniston Nort 5.20 47 Pn **Pn 13 51 58.2 -0.5**
DSZ Denniston Nort 5.20 47 *e*PN **Pn 13 51 57.4 -1.3**
KHZ Kahutara 5.75 61 *e*Pn **Pn 13 52 06.2 0.0**
KHZ Kahutara 5.75 61 *e*PN **Pn 13 52 05.7 -0.5**
KHZ AML AML 13 54 05.2
KHZ AML AML 13 54 15.7
THZ Tophouse 5.78 53 *e*PN **Pn 13 52 06.2 -0.5**
THZ AML AML 13 53 17.4
THZ AML AML 13 53 18.5
QRZ Quartz Range 6.25 44 Pn **Pn 13 52 12.4 -0.7**
QRZ Quartz Range 6.25 44 PN **Pn 13 52 12.4 -0.7**
QRZ AML AML 13 53 28.8
QRZ AML AML 13 53 32.7
BSWZ Blackbirch Sta 6.36 57 *e*PN **Pn 13 52 17.1 +2.4**
BSWZ AML AML 13 53 33.2
BSWZ AML AML 13 53 41.7
NNZ Nelson 6.41 51 Pn **Pn 13 52 15.8 +0.5**
NNZ Nelson 6.41 51 *e*PN **Pn 13 52 14.9 -0.4**
NNZ AML AML 13 54 24.9
NNZ AML AML 13 54 30.7
CMWZ Cape Campbell 6.54 58 *e*PN Pn 13 52 22.7 +5.5
CMWZ AML AML 13 53 48.1
CMWZ AML AML 13 53 49.0
TUWZ Tuamarina 6.58 55 *e*PN **Pn 13 52 19.2 +1.6**
TUWZ AML AML 13 53 44.1
TUWZ AML AML 13 53 45.8
TCW Tory Channel 6.91 55 *e*PN **Pn 13 52 24.1 +1.9**
TCW AML AML 13 53 53.0
TCW AML AML 13 53 56.2
DUWZ D'Urville Isla 6.99 51 *e*PN **Pn 13 52 23.9 +0.6**
DUWZ AML AML 13 53 51.6
DUWZ AML AML 13 53 52.4
SNZO South Karori 7.10 57 *e*Pn **Pn 13 52 26.8 +2.0**
SNZO South Karori 7.10 57 AML AML 13 54 05.8
SNZO AML AML 13 55 04.8
PLWZ Palliser 7.28 61 *e*PN **Pn 13 52 27.4 +0.1**
MSWZ Moikau Station 7.37 60 *e*PN **Pn 13 52 28.1 -0.4**
MSWZ AML AML 13 53 53.2
MSWZ AML AML 13 55 24.8
CAW Cannon Point 7.44 57 *e*PN **Pn 13 52 28.0 -1.5**
CAW AML AML 13 54 19.6
CAW AML AML 13 55 23.2
KIW Kapiti Island 7.51 55 *e*PN **Pn 13 52 30.1 -0.3**
KIW AML AML 13 54 08.3
KIW AML AML 13 54 15.4
MTW Mount Morrison 7.67 59 *e*PN **Pn 13 52 32.6 0.0**
MTW AML AML 13 54 28.6
MTW AML AML 13 54 31.1
OGWZ Otaki Gorge 7.69 56 *e*PN **Pn 13 52 33.2 +0.3**
HOWZ Holdsworth Sta 7.84 58 *e*PN **Pn 13 52 35.4 +0.5**
NMEZ Namu Road 7.99 44 *e*PN **Pn 13 52 37.5 +0.5**
MRZ Mangatainoka R 8.03 57 Pn **Pn 13 52 37.4 -0.1**
MRZ Mangatainoka R 8.03 57 *e*PN **Pn 13 52 36.3 -1.2**
MRZ AML AML 13 54 34.2
MRZ AML AML 13 54 38.5
NWEZ Newall Road 8.10 43 *e*PN **Pn 13 52 37.4 -1.0**
KHEZ Kahui Hut 8.15 44 *e*PN **Pn 13 52 38.8 -0.5**
DFE Dawson Falls 8.17 44 *e*PN **Pn 13 52 40.0 +0.5**
PKE Pukeiti 8.22 43 AML AML 13 54 23.9
PKE AML AML 13 54 24.9
WAZ Wanganui 8.30 50 Pn **Pn 13 52 43.3 +1.9**
WAZ Wanganui 8.30 50 *e*PN **Pn 13 52 42.1 +0.7**
WAZ AML AML 13 54 52.5
WAZ AML AML 13 55 03.2
RAEZ Rainy Point 8.34 45 *e*PN **Pn 13 52 42.4 +0.6**
BFZ Birch Farm 8.41 59 Pn **Pn 13 52 43.2 +0.4**
BFZ Birch Farm 8.41 59 PN **Pn 13 52 43.0 +0.2**
BFZ AML AML 13 54 56.3
BFZ AML AML 13 55 00.2
TSZ Takapari Road 8.64 55 AML AML 13 53 25.8
TSZ AML AML 13 54 04.8
VRZ Vera Road 8.65 46 Pn **Pn 13 52 47.1 +1.1**
VRZ Vera Road 8.65 46 PN **Pn 13 52 46.7 +0.7**
VRZ AML AML 13 54 30.0
VRZ AML AML 13 55 36.6
PKVZ Pokaka 8.83 49 PN **Pn 13 52 49.0 +1.2**
PKVZ AML AML 13 54 54.3
PKVZ AML AML 13 54 58.6
WNVZ Wahianoa 8.94 50 PN Pn 13 52 53.8 +3.7
WNVZ AML AML 13 55 05.3
WNVZ AML AML 13 55 07.1
MOVZ Moawhango 8.97 51 *e*PN Pn 13 52 55.7 +5.2
MOVZ AML AML 13 54 34.8
MOVZ AML AML 13 54 37.4
FWVZ Far West T-bar 8.97 50 *e*PN **Pn 13 52 51.9 +1.3**
FWVZ AML AML 13 54 59.9
FWVZ AML AML 13 55 22.3
WHVZ Whangaehu Hut 8.97 50 *e*PN Pn 13 52 53.9 +3.3
WPVZ Whakapapa 9.00 49 *e*PN **Pn 13 52 52.5 +1.5**
WPVZ AML AML 13 55 12.6
WPVZ AML AML 13 55 24.0
TUVZ Tukino 9.01 50 *e*PN Pn 13 52 55.3 +4.2
TUVZ AML AML 13 55 02.3
TUVZ AML AML 13 55 36.1
TWVZ Taurewa 9.04 48 *e*PN **Pn 13 52 52.7 +1.2**
NGZ Ngauruhoe 9.05 49 PN **Pn 13 52 53.3 +1.6**
NGZ AML AML 13 55 12.2
NGZ AML AML 13 55 24.9
WTVZ West Tongariro 9.09 49 *e*PN **Pn 13 52 54.0 +1.8**
WTVZ AML AML 13 55 03.5
WTVZ AML AML 13 55 17.6
OTVZ Oturere 9.09 50 *e*PN **Pn 13 52 55.1 +2.8**
OTVZ AML AML 13 55 20.8
OTVZ AML AML 13 56 00.5
KRVZ Karewarewa 9.13 49 *e*PN **Pn 13 52 54.4 +1.7**
KRVZ AML AML 13 55 03.2
KRVZ AML AML 13 55 03.7
HIZ Hauiti 9.17 44 Pn **Pn 13 52 53.3 +0.2**
HIZ Hauiti 9.17 44 *e*PN **Pn 13 52 51.9 -1.3**
HIZ AML AML 13 54 42.7
HIZ AML AML 13 54 59.7
PXZ Pawanui 9.18 58 Pn **Pn 13 52 54.8 +1.5**
PXZ Pawanui 9.18 58 *e*PN **Pn 13 52 54.4 +1.1**
PXZ AML AML 13 56 01.7
PXZ AML AML 13 56 13.7
KATZ Kakaramea 9.25 49 *e*PN **Pn 13 52 57.1 +2.8**
RATZ Rangitukua 9.37 49 PN **Pn 13 52 57.7 +1.8**
RATZ AML AML 13 54 54.3
RATZ AML AML 13 54 55.6
BKZ Black Stump Fm 9.54 52 Pn **Pn 13 52 59.2 +0.8**
BKZ Black Stump Fm 9.54 52 *e*PN **Pn 13 52 59.3 +0.9**
BKZ AML AML 13 55 51.3
BKZ AML AML 13 56 19.0
TLZ Tolley Road 9.65 46 *e*PN **Pn 13 52 59.0 -0.8**
TOZ Tahuroa Road 10.10 43 Pn **Pn 13 53 06.0 +0.1**
TOZ Tahuroa Road 10.10 43 *e*PN **Pn 13 53 05.1 -0.8**
TOZ AML AML 13 55 53.5
TOZ AML AML 13 56 31.5
WTAZ Waiatarua 10.33 37 PN **Pn 13 53 08.5 -0.6**
KBAZ Karaka Road Bo 10.33 39 PN **Pn 13 53 08.5 -0.5**
MCQ Macquarie Isla 10.36 206 P **Pn 13 53 09.1 -0.3**
baz=10,SNR=5.9
MKAZ Moumakai 10.44 40 PN **Pn 13 53 10.5 -0.1**
MKAZ AML AML 13 55 21.6
MKAZ AML AML 13 56 26.1
RVAZ Riverhead Bore 10.47 37 PN **Pn 13 53 10.3 -0.7**
KAAZ Kauri Point 10.48 38 *e*PN **Pn 13 53 10.2 -0.8**
URZ Urewera 10.53 51 *e*PN **Pn 13 53 11.8 +0.1**
URZ Sn **Sn 13 55 04.4 -4.6**
URZ Urewera 10.53 51 Pn **Pn 13 53 10.1 -1.7**
3.2nm,0.3s,baz=225,slow=7.5,SNR=14
URZ Sn **Sn 13 55 04.4 -4.6**
3.9nm,0.3s,baz=211,slow=19,SNR=3.4
URZ Urewera 10.53 51 *e*PN **Pn 13 53 10.3 -1.5**
URZ AML AML 13 56 04.5
URZ AML AML 13 56 22.4
MTAZ Motutapu 10.60 38 *e*PN **Pn 13 53 12.1 -0.6**
MWZ Matawai 10.70 52 Pn **Pn 13 53 14.3 0.0**
MWZ Matawai 10.70 52 *e*PN **Pn 13 53 13.0 -1.3**
MWZ AML AML 13 56 34.2
MWZ AML AML 13 57 01.8
ABAZ Army Bay 10.72 37 *e*PN **Pn 13 53 14.6 +0.2**
KUZ Kuaotunu 10.99 41 Pn **Pn 13 53 18.1 0.0**
KUZ Kuaotunu 10.99 41 *e*PN **Pn 13 53 17.6 -0.5**
KUZ AML AML 13 55 37.4
KUZ AML AML 13 55 55.2
WCZ Waipu Caves 11.09 34 Pn **Pn 13 53 18.6 -0.8**
WCZ Waipu Caves 11.09 34 *e*PN **Pn 13 53 18.3 -1.2**
WCZ AML AML 13 55 29.7
WCZ AML AML 13 55 29.8
OUZ Omahuta 11.45 29 *e*Pn **Pn 13 53 23.6 -0.8**
TAU Tasmania Unive 14.18 273 Pn Pn 13 53 57.0 -4.7
1µm,1.2s,SNR=7.7
TAU Tasmania Unive 14.18 273 *e*P Pn 13 53 56.7 -5.0
TAU Tasmania Unive 14.18 273 *e*Pn Pn 13 53 56.7 -5.0
MOO Moorlands 14.42 275 P **Pn 13 54 01.8 -3.1**
baz=14,SNR=10
MILA Mila 15.65 296 P **Pn 13 54 18.5 -2.9**
baz=16,SNR=14
CNB Canberra Magne 16.64 301 P **Pn 13 54 33.0 -1.2**
baz=16,SNR=14
CAN Canberra 16.86 301 *e*P **Pn 13 54 35.3 -1.6**
CAN pmax pmax
comp=Z,673nm,1.8s
CAN Canberra 16.86 301 *e*P **Pn 13 54 35.3 -1.6**
comp=Z,673nm,1.8s
MGCD Mangrove Creek 17.16 310 P **Pn 13 54 41.0 +0.4**
baz=17,SNR=8.1
TOO Toolangi 17.73 289 P **Pn 13 54 47.0 -0.7**
baz=18,SNR=48
YNG Young 17.92 302 P **Pn 13 54 49.1 -0.9**
baz=18,SNR=9.2
ARMA Armidale 19.12 316 *e*Pn **Pn 13 55 05.9 +1.2**
comp=Z,303nm,2.0s
ARMA Armidale 19.12 316 P **Pn 13 55 05.9 +1.2**
baz=19,SNR=6.6
RAO Raoul Island 20.18 42 LR LR 14 02 08.8
comp=Z,3µm,21.6s,baz=182,slow=34
ARPS Mount Arapiles 20.62 286 P Pn 13 55 21.2 -1.1
baz=20,SNR=10
CMSA Cobar Meteorol 21.47 303 P **P 13 55 29.2 0.0**
baz=21,SNR=56
DZM Mont Dzumac 23.31 359 *e*P **P 13 55 51.2 +2.4**
DZM Mont Dzumac 23.31 359 *e*P **P 13 55 48.0 -0.8**
comp=Z,73nm,1.0s
DZM Mont Dzumac 23.31 359 P **P 13 55 49.6 +0.8**
comp=Z,41nm,0.9s,baz=266,slow=23,SNR=18
EIDS Eidsvold 23.68 322 *e*P **P 13 55 53.4 +1.1**
comp=Z,308nm,1.4s
EIDS Eidsvold 23.68 322 P **P 13 55 53.2 +0.9**
baz=24,SNR=15
STKA Stephens Creek 23.75 296 *e*P **P 13 55 54.0 +1.0**
STKA Stephens Creek 23.75 296 P **P 13 55 53.3 +0.4**
comp=Z,31nm,0.8s,baz=121,slow=11,SNR=46
STKA LR LR 14 04 12.1
comp=Z,8µm,19.2s,baz=102,slow=34
STKA Stephens Creek 23.75 296 P **P 13 55 53.9 +1.0**
baz=24,SNR=32
RMQ Roma 23.78 317 P **P 13 55 54.1 +0.9**
baz=24,SNR=28
BBOO Buckleboo 26.78 287 *e*P **P 13 56 20.7 +0.2**
comp=Z,839nm,0.8s
BBOO Buckleboo 26.78 287 P **P 13 56 20.8 +0.2**
baz=27,SNR=21
CTA Charters Tower 30.43 319 P **P 13 56 53.6 +0.5**
CTA Charters Tower 30.43 319 P **P 13 56 53.6 +0.5**
comp=Z,5.4nm,0.8s,baz=125,slow=5.3,SNR=4.3
CTA LR LR 14 08 23.9
comp=Z,4µm,18.5s,baz=158,slow=35
CTAO Charters Tower 30.43 319 *e*P **P 13 56 53.0 -0.1**
CTAO pmax pmax
comp=Z,23nm,1.1s
CTAO Charters Tower 30.43 319 *e*P **P 13 56 53.0 -0.1**
comp=Z,23nm,1.1s
VNDA Vanda 32.25 182 *e*P **P 13 57 10.1 +1.5**
VNDA Vanda 32.25 182 P **P 13 57 09.3 +0.7**
comp=Z,4.7nm,1.2s,baz=353,slow=8.8,SNR=8.7
SBA Scott Base 32.52 180 *e*P P 13 57 13.6 +2.6
SBA pmax pmax
comp=Z,96nm,2.0s
SBA Scott Base 32.52 180 *e*P P 13 57 13.6 +2.6
comp=Z,96nm,2.0s
MTSU Mount Surprise 33.02 318 P **P 13 57 17.4 +1.4**
baz=33,SNR=4.4
FORT Forrest 33.44 282 *e*P **P 13 57 16.9 -2.6**
comp=Z,52nm,0.9s
AS31 Alice Springs 34.34 298 *e*P **P 13 57 25.9 -1.5**
ASAR Alice Springs 34.34 298 P **P 13 57 26.4 -1.0**
ASAR PcP **PcP 14 00 02.5 -0.6**
ASAR PKiKP **PKiKP 14 07 25.4 -1.2**
ASAR Alice Springs 34.34 298 P **P 13 57 26.4 -1.0**
comp=Z,17nm,0.9s,baz=142,slow=8.9,SNR=53
ASAR PcP **PcP 14 00 02.5 -0.6**
comp=Z,3.5nm,0.9s,baz=112,slow=1.8,SNR=4.3
ASAR PKiKP **PKiKP 14 07 25.4 -1.2**
comp=Z,0.4nm,0.8s,baz=133,slow=1.0,SNR=5.6
ASAR LR LR 14 12 05.3
comp=Z,5µm,18.4s,baz=55,slow=38
CASY Casey 36.12 215 *e*P **P 13 57 42.9 +0.7**
comp=Z,63nm,1.5s
AFI Afiamalu 36.30 37 P **P 13 57 44.4 +0.1**
AFI Afiamalu 36.30 37 P **P 13 57 44.4 +0.1**
comp=Z,72nm,1.1s,baz=215,slow=24,SNR=18
AFI LR LR 14 10 19.0
comp=Z,983nm,21.4s,baz=240,slow=32
HNR Honiara 36.35 349 *e*P **P 13 57 45.6 +0.9**
comp=Z,238nm,1.2s
HNR Honiara 36.35 349 P **P 13 57 46.0 +1.3**
comp=Z,81nm,1.0s,baz=266,slow=6.6,SNR=4.1
WRA Warramunga Arr 36.88 303 P **P 13 57 47.9 -1.4**
WRA PcP **PcP 14 00 09.9 -0.8**
WRA Warramunga Arr 36.88 303 P **P 13 57 47.9 -1.4**
comp=Z,15nm,0.9s,baz=141,slow=8.8,SNR=47
WRA PcP **PcP 14 00 09.9 -0.8**
comp=Z,5.5nm,0.9s,baz=151,slow=3.1,SNR=4.8
WRA LR LR 14 12 01.3
comp=Z,4µm,18.7s,baz=155,slow=35
WRAB Tennant Creek 36.88 303 P **P 13 57 48.0 -1.3**
comp=Z,203nm,1.0s,SNR=8.0
WRAB Tennant Creek 36.88 303 *e*P **P 13 57 47.9 -1.3**
WRAB pmax pmax
comp=Z,52nm,1.2s
WRAB Tennant Creek 36.88 303 *e*P **P 13 57 47.9 -1.3**
comp=Z,52nm,1.2s
COEN Coen 37.19 320 P **P 13 57 53.0 +1.1**
baz=37,SNR=3.8
PMG Port Moresby 39.67 329 *e*P **P 13 58 13.2 +0.5**
comp=Z,41nm,1.0s
PMG Port Moresby 39.67 329 P **P 13 58 13.6 +0.9**
comp=Z,44nm,1.0s
PMG Port Moresby 39.67 329 P **P 13 58 13.4 +0.7**
comp=Z,28nm,0.9s,baz=127,slow=15,SNR=4.3
PMG LR LR 14 12 35.9
comp=Z,2µm,20.3s,baz=252,slow=33
NWAO Narrogin (SRO) 39.78 271 LR LR 14 10 49.5
comp=Z,1µm,19.0s,baz=42,slow=30
KLBR Kellerberrin 40.16 273 P **P 13 58 16.2 -0.5**
baz=40,SNR=16
TBI Tubuai 41.66 73 *e*LR LR 14 09 59.8
comp=Z,3µm,35.2s
MEEK Meekatharra 42.52 279 P **P 13 58 35.8 -0.3**
baz=42,SNR=12
MORW Morawa 42.83 274 P **P 13 58 39.1 +0.5**
baz=43,SNR=6.3
MIR Mirnyy 43.14 214 *e*P **P 13 58 43.0 +2.4**
MIR *e* 13 59 00.0
MIR pmax pmax
comp=Z,63nm,1.5s
KNRA Kununurra 43.52 301 P **P 13 58 43.6 -0.7**
baz=43,SNR=9.5
FITZ Fitzroy Crossi 43.64 295 P **P 13 58 44.0 -1.2**
FITZ Fitzroy Crossi 43.64 295 P **P 13 58 44.0 -1.2**
comp=Z,8.7nm,0.8s,baz=144,slow=9.3,SNR=30
FITZ LR LR 14 18 16.3
comp=Z,2µm,18.7s,baz=323,slow=38
FITZ Fitzroy Crossi 43.64 295 P **P 13 58 44.3 -0.9**
baz=44,SNR=14
KDU Kakadu 43.73 307 P **P 13 58 46.1 +0.1**
baz=44,SNR=3.6
MTN Manton Dam 44.36 306 P **P 13 58 50.3 -0.7**
baz=44,SNR=14
QSPA South Pole Qui 44.69 180 P **P 13 58 54.0 +0.7**
QSPA South Pole Qui 44.69 180 P **P 13 58 53.9 +0.7**
comp=Z,19nm,0.9s,baz=26,slow=3.2,SNR=39
MBWA Marble Bar 45.35 286 *e*P **P 13 58 58.7 -0.2**
comp=Z,76nm,1.4s
PPT2 Papeete2 45.64 67 *e*LR LR 14 11 54.8
comp=Z,3µm,22.8s
PPT Papeete 45.66 67 LR LR 14 14 45.9
comp=Z,2µm,18.1s,baz=28,slow=32
JAY Jayapura 48.48 324 P **P 13 59 23.6 +0.2**
comp=Z,29nm,3.0s
JAY Jayapura 48.48 324 P **P 13 59 25.5 +2.0**
baz=49,SNR=5.8
SOEI Soe 50.86 301 P **P 13 59 41.7 +0.1**
comp=Z,74nm,1.1s
RKT Rikitea 51.81 85 *e*LR LR 14 14 46.8
comp=Z,5µm,31.5s
MAW Mawson 53.76 207 *e*P **P 14 00 02.5 +0.1**
comp=Z,5.1nm,1.1s
MAW PcP **PcP 14 01 09.1 +1.0**
MAW Mawson 53.76 207 P **P 14 00 02.6 +0.2**
comp=Z,13nm,1.0s,baz=112,slow=9.0,SNR=20
MAW PcP **PcP 14 01 09.1 +1.0**
comp=Z,20nm,1.0s,baz=111,slow=6.3,SNR=6.9
MAW Mawson 53.76 207 P **P 14 00 03.5 +1.1**
baz=53,SNR=11
SWI Sorong 54.29 314 P **P 14 00 06.2 -0.7**
comp=Z,48nm,0.9s
KAPI Kappang 57.33 300 *e*P **P 14 00 28.3 -0.3**
KAPI Kappang 57.33 300 P **P 14 00 27.9 -0.7**
comp=Z,12nm,0.8s,baz=131,slow=9.4,SNR=5.0
TTSI Tana Toraja 58.84 301 P **P 14 00 37.9 -1.4**
comp=Z,24nm,1.1s
SYO Syowa Base 59.39 199 ⇓ *e*P **P 14 00 40.4 -2.0**
SYO Syowa Base 59.39 199 ⇓ *i*PP **P 14 00 41.8 -0.6**
BBKI Banjar Baru 61.58 297 P **P 14 00 56.3 -1.7**
comp=Z,74nm,0.9s,comp=Z,5µm
MAIT Maitri 62.70 189 *e*P P 14 00 55.3 -10
SNAA Sanae 62.96 184 *e*P **P 14 01 06.7 0.0**
SNAA Sanae 62.96 184 *e*pP pP 14 01 15.9 +2.5
SNAA Sanae 62.96 184 *e*PcP **PcP 14 01 44.5 0.0**
SNAA Sanae 62.96 184 *e*P **P 14 01 06.9 +0.2**
comp=Z,42nm,1.1s
VNA1 Neumayer--Stat 64.17 182 *e*P **P 14 01 15.0 +0.5**
VNA1 Neumayer--Stat 64.17 182 *e*pP pP 14 01 23.1 +1.9
DBJI Dramaga 64.53 288 P **P 14 01 16.8 -0.9**
comp=Z,129nm,0.9s
STKI Sintang 66.42 296 P **P 14 01 29.3 -0.6**
comp=Z,30nm,1.3s,comp=Z,7µm
KSM Kuching 68.24 296 *e*P **P 14 01 41.0 -0.4**
comp=Z,16nm,0.9s
KSM Kuching 68.24 296 P **P 14 01 40.5 -0.9**
comp=Z,22nm,1.0s
MASI Maura Aman, Be 70.06 286 P **P 14 01 50.9 -1.9**
KIP Kipapa 73.86 34 ⇓ *e*P **P 14 02 14.8 -0.4**
KIP pmax pmax
comp=Z,210nm,2.7s
PLCA Paso Flores 80.06 140 *e*P **P 14 02 51.4 +1.2**
PLCA Paso Flores 80.06 140 P **P 14 02 50.8 +0.6**
comp=Z,17nm,0.9s,baz=216,slow=5.9,SNR=29
PLCA LR LR 14 34 44.5
comp=Z,800nm,18.2s,baz=244,slow=33
QIZ Qiongzhong 82.34 307 P **P 14 03 04.9 +2.6**
QIZ Qiongzhong 82.34 307 S **S 14 13 20.1 +3.0**
JNU Nakatsue 84.69 330 P **P 14 03 14.4 +0.3**
JNU Nakatsue 84.69 330 P **P 14 03 14.4 +0.3**
comp=Z,22nm,1.0s,baz=170,slow=1.6,SNR=4.4
MJAR Matsushiro Arr 85.58 337 P **P 14 03 18.4 -0.1**
MJAR Matsushiro Arr 85.58 337 P **P 14 03 18.4 -0.1**
comp=Z,3.7nm,0.9s,baz=173,slow=5.9,SNR=7.0
TRQA Tornquist 86.02 143 *e*P **P 14 03 21.1 0.0**
comp=Z,48nm,1.5s
LOEI Loei 86.20 300 P **P 14 03 22.3 +0.3**
comp=Z,22nm,1.7s
CMAR Chiang Mai Arr 88.35 298 P **P 14 03 33.4 +1.0**
CMAR Chiang Mai Arr 88.35 298 P **P 14 03 33.4 +1.0**
comp=Z,8.9nm,0.8s,baz=156,slow=3.3,SNR=33
CMMT Chiang Mai 88.62 299 P **P 14 03 34.8 +1.2**
comp=Z,16nm,2.3s
CHTO Chiang Mai 88.62 299 *e*P **P 14 03 34.1 +0.4**
CHTO pmax pmax
comp=Z,34nm,1.5s
CHTO Chiang Mai 88.62 299 *e*P **P 14 03 34.0 +0.4**
comp=Z,34nm,1.5s
CHTO Chiang Mai 88.62 299 P **P 14 03 34.9 +1.2**
comp=Z,22nm,2.7s
WHN Wuhan 89.35 317 ⇓ P **P 14 03 38.0 +1.2**
WHN pmax pmax
comp=Z,140nm,1.3s
KSRS Korea Array 89.64 330 P **P 14 03 38.2 +0.3**
comp=Z,5.5nm,1.0s,baz=150,slow=6.4,SNR=5.4
KSAR Wonju Array Be 89.64 330 P **P 14 03 38.2 +0.3**
GYA Guiyang 90.01 309 ⇑ *i*P P 14 03 43.6 +3.5
GYA pP pP 14 03 53.0 +5.9
GYA PP PP 14 07 19.5 +5.8
GYA Guiyang 90.01 309 SKS **SKSac 14 14 09.8 0.0**
GYA Guiyang 90.01 309 S **S 14 14 32.0 +0.1**
GYA Guiyang 90.01 309 sS sS 14 14 50.9 +7.5
GYA Guiyang 90.01 309 SS SS 14 20 35.3 +4.2
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,160nm,5.8s
GYA LR LR
comp=N,590nm,20.0s
GYA LR LR
comp=E,510nm,19.5s
GYA LR LR
comp=Z,620nm,20.4s
KMI Kunming 91.17 305 P **P 14 03 48.4 +2.7**
KMI pP pP 14 03 59.9 +7.2
KMI Kunming 91.17 305 S **S 14 14 42.5 -0.3**
KMI Kunming 91.17 305 SS SS 14 20 52.0 +3.9
KMI pmax pmax
comp=Z,14nm,1.2s
KMI LR LR
comp=N,620nm,21.4s
KMI LR LR
comp=E,510nm,14.9s
KMI LR LR
comp=Z,2µm,0.3s
ENH Enshi 91.55 313 *e*P **P 14 03 47.5 +0.4**
comp=Z,93nm,1.8s
CD2 Chengdu 95.07 310 P **P 14 04 05.5 +2.2**
CD2 pP pP 14 04 16.6 +6.3
CD2 sP sP 14 04 20.8 +8.0
CD2 PP **PP 14 07 58.3 +4.9**
CD2 Chengdu 95.07 310 SKS **SKSac 14 14 37.3 -0.4**
CD2 Chengdu 95.07 310 S **S 14 15 15.4 -1.4**
CD2 Chengdu 95.07 310 sS sS 14 15 34.1 +5.7
CD2 Chengdu 95.07 310 SS SS 14 21 46.9 +3.3
CD2 pmax pmax
comp=Z,20nm,1.1s
CD2 pmax pmax
comp=Z,230nm,8.6s
MDJ Mudanjiang 95.53 334 P P 14 04 08.3 +3.3
MDJ pmax pmax
comp=Z,9.0nm,1.9s
MDJ pmax pmax
comp=Z,380nm,6.2s
CN2 Changchun 96.14 331 *e*P P 14 04 11.3 +3.5
CN2 *e*sP sP 14 04 26.5 +9.3
CN2 Changchun 96.14 331 *e*S **S 14 15 25.8 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=N,200nm,22.0s
CN2 LR LR
comp=E,300nm,22.0s
CN2 LR LR
comp=Z,500nm,23.0s
BJI Beijing 96.43 323 P **P 14 04 11.6 +2.4**
BJI pmax pmax
comp=Z,11nm,0.6s
SUR Sutherland 96.61 208 P **P 14 04 10.4 -0.4**
SUR Sutherland 96.61 208 P **P 14 04 10.4 -0.4**
comp=Z,15nm,0.9s,baz=344,slow=1.9,SNR=4.1
BOSA Boshof 98.41 214 P **P 14 04 18.5 -0.4**
BOSA Boshof 98.41 214 P **P 14 04 18.5 -0.4**
comp=Z,2.8nm,0.7s,baz=89,slow=1.1,SNR=5.4
PETK Petropavlovsk- 98.48 354 P **P 14 04 17.6 -0.6**
PETK Petropavlovsk- 98.48 354 P **P 14 04 17.6 -0.6**
PETK Petropavlovsk- 98.48 354 P **P 14 04 17.6 -0.6**
comp=Z,2.1nm,1.1s,baz=177,slow=8.5,SNR=3.1
LZH Lanzhou 99.03 313 *e*P **Pdif 14 04 24.9 +3.6**
LZH pP pP 14 04 36.0 +7.8
LZH sP sP 14 04 40.1 +9.4
LZH *e*PP PP 14 08 31.0 +7.0
LZH Lanzhou 99.03 313 SKS S 14 15 00.1 -51

LZH	Lanzhou	99.03	313	*e*S		**S**		14 15 50.4	-0.4
LZH	Lanzhou	99.03	313	sS		S		14 16 09.0	+18
LZH	Lanzhou	99.03	313	SS		SS		14 22 45.1	+5.5
LZH				pmax		pmax			
	comp=Z,15nm,1.5s								
LZH				pmax		pmax			
	comp=Z,91nm,9.1s								
LZH				LR		LR			
	comp=N,430nm,15.0s								
LZH				LR		LR			
	comp=E,560nm,17.1s								
LZH				LR		LR			
	comp=Z,1µm,19.2s								
HHC	**Hu-ho-hao-te**	**99.09**	**321**	*e*P		**Pdif**		**14 04 22.1**	**+0.8**
HHC				pP		**pP**		**14 04 32.3**	**+4.0**
HHC				sP		sP		14 04 36.4	+5.6
HHC				PP		PP		14 08 29.8	+5.5
HHC	**Hu-ho-hao-te**	**99.09**	**321**	S		**S**		**14 15 49.5**	**-1.4**
HHC	**Hu-ho-hao-te**	**99.09**	**321**	sS		sS		14 16 07.5	+5.0
HHC	**Hu-ho-hao-te**	**99.09**	**321**	SS		SS		14 22 46.5	+6.3
HHC				pmax		pmax			
	comp=Z,31nm,0.9s								
HHC				pmax		pmax			
	comp=Z,1µm,9.9s								
HHC				LR		LR			
	comp=N,660nm,21.4s								
HHC				LR		LR			
	comp=E,440nm,15.5s								
HHC				LR		LR			
	comp=Z,580nm,19.0s								
SONM	**Songino Array**	**106.87**	**322**	PKKPbc		PKKPbc		14 20 24.2	+0.5
SONM	**Songino Array**	**106.87**	**322**	PKKPbc		PKKPbc		14 20 24.2	+0.5
	comp=Z,0.5nm,0.6s,baz=316,slow=4.1,SNR=4.0								
NVAR	**Mina Array Bea**	**107.21**	**53**	PKiKP		**PKiKP**		**14 09 08.0**	**+1.4**
NVAR				PP		**PP**		**14 09 27.7**	**+2.4**
NVAR				PKKPbc		**PKKPbc**		**14 20 23.9**	**+1.4**
NVAR	**Mina Array Bea**	**107.21**	**53**	PKiKP		**PKiKP**		**14 09 08.0**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=191,slow=3.3,SNR=3.6								
NVAR				PP		**PP**		**14 09 27.7**	**+2.4**
	comp=Z,0.7nm,0.7s,baz=239,slow=7.0,SNR=4.1								
NVAR				PKKPbc		**PKKPbc**		**14 20 23.9**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=333,slow=0.4,SNR=4.9								
TXAR	**Lajitas Array**	**109.97**	**68**	PKiKP		**PKiKP**		**14 09 11.5**	**-0.4**
TXAR	**Lajitas Array**	**109.97**	**68**	PKiKP		**PKiKP**		**14 09 11.5**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=143,slow=3.2,SNR=2.5								
S21A	**Coal Bank Pass**	**112.81**	**59**	P				14 09 17.2	
	baz=113								
H12A	**Diamond D Ranc**	**113.27**	**50**	P				14 09 17.9	
	baz=114								
W25A	**X Bar L Ranch,**	**113.29**	**63**	P				14 09 17.9	
	baz=114								
V25A	**Rancho No Teng**	**113.59**	**62**	P				14 09 18.7	
	baz=114								
TRF	**Thorofare Moun**	**113.75**	**20**	*e*PKiKP		**PKiKP**		**14 09 16.9**	**-1.2**
V26A	**Tequesquite Ra**	**114.08**	**63**	P		PKPdf		14 09 19.2	-0.4
	baz=114								
MCK	**McKinley**	**114.32**	**20**	*e*PKIKP		PKPdf		14 09 18.3	-0.7
MCK	**McKinley**	**114.32**	**20**	*e*PKiKP		PKPdf		14 09 18.3	-0.6
N20A	**Spence Gulch,**	**114.56**	**56**	P		PKPdf		14 09 20.5	+0.1
	baz=115								
S25A	**Robets Cordova**	**114.86**	**61**	P		PKPdf		14 09 21.1	0.0
	baz=115								
N21A	**Black Mountain**	**114.95**	**57**	P		PKPdf		14 09 21.8	+0.5
	baz=115								
PDAR	**Pinedale Array**	**115.05**	**54**	PKP		**PKPdf**		**14 09 21.1**	**-0.3**
PDAR	**Pinedale Array**	**115.05**	**54**	PKP		**PKPdf**		**14 09 21.1**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=209,slow=2.7,SNR=5.7								
Z32A	**Haskell**	**115.26**	**68**	P		**PKPdf**		**14 09 21.1**	**-0.7**
	baz=116								
K19A	**Absolon Red Bu**	**115.49**	**54**	P		**PKPdf**		**14 09 21.6**	**-0.5**
	baz=116								
COLA	**College**	**115.53**	**20**	*e*PKIKP		**PKPdf**		**14 09 20.1**	**-1.1**
COLA	**College**	**115.53**	**20**	*e*PKPdf		**PKPdf**		**14 09 20.1**	**-1.1**
M21A	**Separation Pea**	**115.58**	**56**	P		**PKPdf**		**14 09 22.7**	**+0.3**
	baz=116								
J19A	**Crowheart**	**115.65**	**54**	P		**PKPdf**		**14 09 22.4**	**0.0**
	baz=116								
K20A	**Yellowstone Ra**	**115.67**	**55**	P		**PKPdf**		**14 09 22.1**	**-0.3**
	baz=116								
ILAR	**Eielson Array**	**115.68**	**20**	PKP		**PKPdf**		**14 09 20.2**	**-1.3**
ILAR				PKKPbc		**PKKPbc**		**14 19 53.4**	**-1.4**
ILAR	**Eielson Array**	**115.68**	**20**	PKP		**PKPdf**		**14 09 20.2**	**-1.3**
	comp=Z,4.4nm,0.9s,baz=280,slow=3.6,SNR=38								
ILAR				PKKPbc		**PKKPbc**		**14 19 53.4**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=358,slow=2.7,SNR=18								
L21A	**Rawlins**	**115.80**	**56**	P		**PKPdf**		**14 09 22.9**	**+0.1**
	baz=116								
R26A	**Arlington**	**115.86**	**61**	P		**PKPdf**		**14 09 23.0**	**+0.1**
	baz=116								
B13A	**Whitefish**	**115.96**	**47**	P		**PKPdf**		**14 09 22.7**	**0.0**
	baz=116								
J20A	**Shoshoni**	**116.25**	**54**	P		**PKPdf**		**14 09 23.9**	**+0.4**
	baz=117								
K21A	**Alcova**	**116.28**	**55**	P		**PKPdf**		**14 09 24.0**	**+0.4**
	baz=117								
C15A	**Salmond Ranch,**	**116.55**	**48**	P		**PKPdf**		**14 09 24.0**	**+0.1**
	baz=117								
B14A	**Marquette Ranc**	**116.57**	**47**	P		**PKPdf**		**14 09 23.7**	**-0.2**
	baz=117								
I20A	**Worland**	**116.60**	**54**	P		**PKPdf**		**14 09 23.4**	**-0.7**
	baz=117								
J21A	**Lysite**	**116.61**	**54**	P		**PKPdf**		**14 09 23.7**	**-0.6**
	baz=117								
B15A	**Bradely Ranch,**	**116.91**	**48**	P		**PKPdf**		**14 09 24.1**	**-0.5**
	baz=117								
I21A	**Big Trails, Te**	**116.99**	**54**	P		**PKPdf**		**14 09 24.8**	**-0.1**
	baz=117								
D17A	**Six Diamond Ra**	**117.17**	**50**	P		**PKPdf**		**14 09 25.2**	**0.0**
	baz=118								
J22A	**Midwest**	**117.21**	**55**	P		**PKPdf**		**14 09 24.5**	**-0.8**
	baz=118								
E18A	**Harlowton**	**117.23**	**50**	P		**PKPdf**		**14 09 26.3**	**+1.0**
	baz=118								
KSH	**Kashi**	**117.23**	**300**	PKPbc		PKPdf		14 09 31.9	+6.4
KSH				sPKP				14 09 42.3	
KSH				PP		PP		14 10 50.8	+14
KSH				PKS		PKSdf		14 13 08.0	+5.8
KSH				SKS		**SKSdf**		**14 16 39.5**	**+3.3**
KSH				AMB		AMB			
	comp=Z,400nm,11.4s								
KSH				LR		LR			
	comp=N,130nm,12.0s								
KSH				LR		LR			
	comp=E,180nm,10.5s								
KSH				LR		LR			
	comp=Z,680nm,21.4s								
A15A	**Johnson Ranch,**	**117.24**	**47**	P		**PKPdf**		**14 09 24.6**	**-0.6**
	baz=118								
B16A	**M & M Farms, S**	**117.42**	**48**	P		**PKPdf**		**14 09 25.0**	**-0.5**
	baz=118								
C17A	**Wharram Farm,**	**117.43**	**49**	P		**PKPdf**		**14 09 25.4**	**-0.2**
	baz=118								
E19A	**Rath Farm, Rou**	**117.78**	**51**	P		**PKPdf**		**14 09 26.4**	**+0.1**
	baz=118								
A16A	**West Butte Ran**	**117.81**	**48**	P		**PKPdf**		**14 09 25.8**	**-0.5**
	baz=118								
B17A	**L&G Farms, Che**	**117.82**	**48**	P		**PKPdf**		**14 09 25.8**	**-0.5**
	baz=118								
MKAR	**Makanchi Array**	**118.00**	**309**	PKIKP		**PKPdf**		**14 09 25.6**	**-1.0**
MKAR	**Makanchi Array**	**118.00**	**309**	PKP		**PKPdf**		**14 09 25.6**	**-1.0**
MKAR				PKKPab		**PKKPab**		**14 19 49.8**	**+2.6**
MKAR	**Makanchi Array**	**118.00**	**309**	PKP		**PKPdf**		**14 09 25.6**	**-1.0**
	comp=Z,4.4nm,1.0s,baz=159,slow=2.1,SNR=14								
MKAR				PKKPab		**PKKPab**		**14 19 49.8**	**+2.6**
	comp=Z,1.1nm,0.8s,baz=253,slow=1.3,SNR=5.1								
D19A	**Cripps Ranch,**	**118.16**	**50**	P		**PKPdf**		**14 09 27.0**	**0.0**
	baz=118								
E20A	**Meyer Farm, Mu**	**118.16**	**51**	P		**PKPdf**		**14 09 27.5**	**+0.5**
	baz=118								
A17A	**Triple J Farms**	**118.27**	**48**	P		**PKPdf**		**14 09 26.8**	**-0.3**
	baz=119								
C19A	**Slack Wire Ran**	**118.41**	**50**	P		**PKPdf**		**14 09 27.3**	**-0.2**
	baz=119								
A18A	**Metzger Ranch,**	**118.70**	**48**	P		**PKPdf**		**14 09 27.0**	**-0.9**
	baz=119								
C20A	**Veseth Ranch,**	**118.96**	**50**	P		**PKPdf**		**14 09 28.4**	**-0.1**
	baz=119								
H24A	**Dirks Ranch, A**	**119.12**	**55**	P		**PKPdf**		**14 09 28.1**	**-0.9**
	baz=120								
P31A	**Stockton**	**119.12**	**62**	P		**PKPdf**		**14 09 28.9**	**-0.1**
	baz=120								
D21A	**La Casta Ranch**	**119.13**	**51**	P		**PKPdf**		**14 09 29.2**	**+0.4**
	baz=120								
I25A	**Rochford**	**119.17**	**56**	P		**PKPdf**		**14 09 28.4**	**-0.8**
	baz=120								
A20A	**Cobblestone Ra**	**119.70**	**49**	P		**PKPdf**		**14 09 30.1**	**+0.3**
	baz=120								
TIXI	**Tiksi**	**119.84**	**347**	⇓*i*PKIKP		**PKPdf**		**14 09 27.8**	**-1.5**
TIXI				pmax		pmax			
	comp=Z,5.0nm,1.0s								
B21A	**Ellsworth Farm**	**119.92**	**50**	P		**PKPdf**		**14 09 30.5**	**+0.2**
	baz=120								
AAK	**Ala-Archa**	**119.99**	**302**	⇑*i*PKIKP		**PKPdf**		**14 09 31.2**	**+0.4**
AAK				pmax		pmax			
	comp=Z,13nm,1.0s								
AAK	**Ala-Archa**	**119.99**	**302**	PKP		**PKPdf**		**14 09 30.7**	**-0.1**
AAK				*e*PKPdf		**PKPbc**		**14 09 31.2**	**+0.4**
AAK	**Ala-Archa**	**119.99**	**302**	PKP		**PKPdf**		**14 09 30.7**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=234,slow=4.1,SNR=6.7								
C22A	**Vida**	**120.14**	**51**	P		**PKPdf**		**14 09 30.9**	**+0.2**
	baz=120								
A21A	**Bergtoll Ranch**	**120.30**	**50**	P		**PKPdf**		**14 09 31.1**	**+0.2**
	baz=121								
E25A	**Miller Ranch,**	**120.80**	**54**	P		**PKPdf**		**14 09 32.0**	**-0.1**
	baz=121								
C24A	**Savage**	**120.82**	**52**	P		**PKPdf**		**14 09 32.1**	**+0.1**
	baz=121								
A22A	**Carney Farms,**	**120.84**	**50**	P		**PKPdf**		**14 09 32.2**	**+0.1**
	baz=121								
F26A	**Lodgepole**	**120.85**	**54**	P		**PKPdf**		**14 09 31.8**	**-0.4**
	baz=121								
ZALV	**Zalesovo Beam**	**120.97**	**317**	PKIKP		**PKPdf**		**14 09 30.9**	**-1.1**
ZALV	**Zalesovo Beam**	**120.97**	**317**	PKP		**PKPdf**		**14 09 30.9**	**-1.1**
ZALV				PKKPbc		PKKPbc		14 19 40.6	+5.3
ZALV	**Zalesovo Beam**	**120.97**	**317**	PKP		**PKPdf**		**14 09 30.9**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=132,slow=2.1,SNR=5.5								
ZALV				PKKPbc		PKKPbc		14 19 40.6	+5.3
	comp=Z,0.6nm,0.5s,baz=273,slow=5.6,SNR=3.6								
G27A	**Dupree**	**121.00**	**55**	P		**PKPdf**		**14 09 31.9**	**-0.6**
	baz=121								
B23A	**Brockton**	**121.04**	**51**	P		**PKPdf**		**14 09 32.2**	**-0.2**
	baz=121								
E26A	**Carlson Angus**	**121.32**	**54**	P		**PKPdf**		**14 09 32.4**	**-0.6**
	baz=122								
G28A	**Parade**	**121.42**	**56**	P		**PKPdf**		**14 09 33.4**	**+0.2**
	baz=122								
DGMT	**Dagmar**	**121.48**	**51**	P		**PKPdf**		**14 09 32.9**	**-0.4**
	baz=122								
A24A	**Westby**	**121.84**	**51**	P		**PKPdf**		**14 09 34.0**	**+0.1**
	baz=122								
KURBB	**Kurchatov Arra**	**122.25**	**311**	PKP		**PKPdf**		**14 09 33.6**	**-1.0**
	comp=Z,6.9nm,0.8s,baz=119,slow=1.9,SNR=41								
KURK	**Kurchatov**	**122.26**	**311**	PKIKP		**PKPdf**		**14 09 33.6**	**-1.0**
KURK	**Kurchatov**	**122.26**	**311**	PKP		**PKPdf**		**14 09 33.6**	**-1.0**
KKAR	**Karatay Array**	**122.66**	**300**	*e*PKIKP		**PKPdf**		**14 09 35.7**	**0.0**
KKAR	**Karatay Array**	**122.66**	**300**	*e*PKPdf		**PKPdf**		**14 09 35.7**	**0.0**
ECSD	**EROS Data Cent**	**123.23**	**59**	*e*PKPdf		**PKPdf**		**14 09 35.3**	**-1.5**
MDND	**Maddock**	**123.70**	**54**	P		**PKPdf**		**14 09 37.2**	**-0.3**
	baz=124								
YKA	**Yellowknife Ar**	**124.37**	**33**	PKP		**PKPdf**		**14 09 35.7**	**-2.6**
YKA				PKKPbc		**PKKPbc**		**14 19 21.1**	**-1.1**
YKA	**Yellowknife Ar**	**124.37**	**33**	PKP		**PKPdf**		**14 09 35.7**	**-2.6**
	comp=Z,5.6nm,0.8s,baz=245,slow=1.4,SNR=7.2								
YKA				PKKPbc		**PKKPbc**		**14 19 21.1**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=39,slow=5.4,SNR=3.6								
SPMN	**St. Paul**	**126.33**	**60**	P		**PKPdf**		**14 09 41.9**	**-0.7**
	baz=127								
ULM	**Lac du Bonnet**	**127.04**	**53**	PKP		**PKPdf**		**14 09 41.7**	**-2.1**
ULM	**Lac du Bonnet**	**127.04**	**53**	PKP		**PKPdf**		**14 09 41.7**	**-2.1**
	comp=Z,2.9nm,0.4s,baz=199,slow=4.8,SNR=3.5								
TZTN	**Tazewell**	**127.73**	**73**	*e*PKPdf		**PKPdf**		**14 09 44.5**	**-1.1**
BVAR	**Borovoye Array**	**127.82**	**311**	PKIKP		**PKPdf**		**14 09 44.8**	**-0.4**
BVAR	**Borovoye Array**	**127.82**	**311**	PKP		**PKPdf**		**14 09 44.8**	**-0.4**
BVAR	**Borovoye Array**	**127.82**	**311**	PKP		**PKPdf**		**14 09 44.8**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=148,slow=3.3,SNR=22								
BRVK	**Borovoye**	**127.89**	**311**	*d*iPKIKP		**PKPdf**		**14 09 45.3**	**0.0**
BRVK				pmax		pmax			
	comp=Z,24nm,2.5s								
BRVK	**Borovoye**	**127.89**	**311**	*e*PKPdf		**PKPdf**		**14 09 45.0**	**-0.3**
ABKAR	**Akbulak array**	**132.07**	**302**	*e*PKPdf		**PKPdf**		**14 09 53.3**	**-0.1**
AKTO	**Aktyubinsk**	**133.68**	**303**	PKIKP		**PKPdf**		**14 09 55.5**	**-0.9**
AKTO	**Aktyubinsk**	**133.68**	**303**	PKP		**PKPdf**		**14 09 55.5**	**-0.9**
AKTO	**Aktyubinsk**	**133.68**	**303**	PKP		**PKPdf**		**14 09 55.5**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=252,slow=2.1,SNR=7.8								
SVE	**Sverdlovsk**	**134.49**	**312**	*e*PKIKP		**PKPdf**		**14 09 58.2**	**+0.5**
SVE				pmax		pmax			
	comp=Z,19nm,1.1s								
ARU	**Arti**	**135.45**	**311**	*i* PKIKP		**PKPdf**		**14 09 59.6**	**+0.1**
ARU								14 12 35.5	
SOKR	**Solikamsk**	**137.20**	**315**	*e*PKIKP		**PKPdf**		**14 10 01.7**	**-0.9**
SOKR				pmax		pmax			
	comp=Z,10.0nm,1.3s								
KBZ	**Khabaz**	**140.68**	**288**	PKIKP		PKPpre		14 10 05.8	
KBZ	**Khabaz**	**140.68**	**288**	PKPpre		PKPpre		14 10 05.8	
KBZ	**Khabaz**	**140.68**	**288**	PKhKP		PKPpre		14 10 05.8	
	comp=Z,3.4nm,1.0s,baz=25,slow=4.1,SNR=2.9								
DBIC	**Dimbokro**	**140.70**	**193**	PKPpre		PKPpre		14 10 02.5	
DBIC	**Dimbokro**	**140.70**	**193**	PKhKP		PKPpre		14 10 02.5	
	comp=Z,22nm,1.0s,baz=145,slow=5.2,SNR=7.3								
KIV	**Kislovodsk**	**140.91**	**288**	*e*PKIKP		**PKPdf**		**14 10 09.9**	**-0.2**
KIV				pmax		pmax			
	comp=Z,18nm,1.1s								
PQI	**Presque Isle**	**142.61**	**68**	*e*PKPpre		PKPpre		14 10 07.3	
ANN	**Anapa**	**144.73**	**288**	*i* PKIKP		**PKPdf**		**14 10 19.8**	**+3.2**
ANN				pmax		pmax			
	comp=Z,109nm,1.1s								
KBS	**Kingsbay**	**145.08**	**352**	*e*PKIKP		**PKPbc**		**14 10 15.4**	**-0.4**
KBS	**Kingsbay**	**145.08**	**352**	*e*PKP		**PKPbc**		**14 10 15.4**	**-0.4**
SCHQ	**Schefferville**	**145.18**	**55**	PKPbc		**PKPbc**		**14 10 15.3**	**-1.5**
SCHQ	**Schefferville**	**145.18**	**55**	PKPbc		**PKPbc**		**14 10 15.3**	**-1.5**
	comp=Z,40nm,0.9s,baz=277,slow=3.0,SNR=33								
VORD	**Divnogorie**	**145.19**	**298**	*e*PKIKP		**PKPbc**		**14 10 16.4**	**-0.5**
VORD				pmax		pmax			
	comp=Z,90nm,1.8s								
VORD				pmax		pmax			
	comp=N,10.0nm,0.7s								
VORD				pmax		pmax			
	comp=E,40nm,1.5s								
SPITS	**Spitsbergen Ar**	**145.20**	**350**	PKPbc		**PKPbc**		**14 10 15.8**	**-0.5**
SPITS	**Spitsbergen Ar**	**145.20**	**350**	PKPbc		**PKPbc**		**14 10 15.8**	**-0.5**
	comp=E,60nm,1.0s,baz=131,slow=18,SNR=16								
VSR	**Storozhevoye**	**145.31**	**299**	*e*PKIKP		**PKPbc**		**14 10 16.9**	**-0.4**
VSR				pmax		pmax			
	comp=Z,80nm,1.4s								
VSR				pmax		pmax			
	comp=N,10.0nm,1.0s								
VSR				pmax		pmax			
	comp=E,60nm,1.4s								
VOR	**Voronezh**	**145.39**	**300**	PKHKP		PKPpre		14 10 14.0	
VOR				pmax		pmax			
	comp=Z,150nm,1.4s								
TOA0	**Torodi Ar. Sit**	**145.41**	**206**	*e*PKP		**PKPbc**		**14 10 17.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**145.41**	**206**	PKPbc		**PKPbc**		**14 10 17.4**	**-1.2**
TORD	**Torodi Ar. Bea**	**145.41**	**206**	PKPbc		**PKPbc**		**14 10 17.4**	**-1.2**
	comp=Z,143nm,0.8s,baz=155,slow=1.9,SNR=332								
BR131	**Keskin Array S**	**145.41**	**277**	*e*PKP		**PKPbc**		**14 10 17.7**	**-0.5**
BRTR	**Keskin Array B**	**145.41**	**277**	PKPbc		**PKPbc**		**14 10 17.9**	**-0.3**
BRTR	**Keskin Array B**	**145.41**	**277**	PKPbc		**PKPbc**		**14 10 17.9**	**-0.3**
	comp=Z,27nm,0.9s,baz=145,slow=4.5,SNR=73								
ANTO	**Ankara**	**146.06**	**277**	⇑PKP2		**PKPbc**		**14 10 20.4**	**+0.3**
ANTO	**Ankara**	**146.06**	**277**	*e*PKPbc		**PKPbc**		**14 10 20.5**	**+0.3**
ANTO	**Ankara**	**146.06**	**277**	⇑*i*P		**PKPbc**		**14 10 20.4**	**+0.3**
TMCR	**Tamitsa**	**146.24**	**322**	*e*PKP2		**PKPdf**		**14 10 19.0**	**+0.4**
TMCR				pmax		pmax			
	comp=Z,128nm,1.5s								
LVZ	**Lovozero**	**146.72**	**329**	*c*e*e*PKP2		**PKPbc**		**14 10 21.0**	**-0.2**
LVZ				pmax		pmax			
	comp=Z,58nm,2.5s								
MOS	**Moscow**	**146.83**	**307**	*e*PKIKP		**PKPdf**		**14 10 18.4**	**-1.5**
MOS				*e*				14 10 33.9	
MOS				pmax		pmax			
	comp=Z,147nm,2.0s								
SIM	**Simferopol'**	**147.01**	**286**	*e*PKIKP		**PKPdf**		**14 10 21.0**	**+0.4**
SIM				pmax		pmax			
	comp=Z,30nm,1.1s								
APA	**Apatity**	**147.28**	**329**	⇑*i*PKP2		**PKPbc**		**14 10 22.2**	**-0.5**
APA				pmax		pmax			
	comp=Z,39nm,1.0s								
OBN	**Obninsk**	**147.39**	**305**	*i* PKIKP		**PKPdf**		**14 10 21.1**	**+0.3**
OBN				pmax		pmax			
	comp=Z,90nm,1.3s								
DAG	**Danmarks Havn**	**148.48**	**2**	⇑*i*PKIKP		**PKPdf**		**14 10 23.7**	**+1.6**
DAG				pmax		pmax			
	comp=Z,12nm,0.8s								
DAG	**Danmarks Havn**	**148.48**	**2**	⇑*i*P		**PKPdf**		**14 10 23.7**	**+1.6**
	comp=Z,16nm,0.8s								
KEV	**Kevo**	**148.52**	**334**	*e*p		**PKPbc**		**14 10 25.6**	**-0.4**
	comp=Z,19nm,0.8s								
KEV	**Kevo**	**148.52**	**334**	*e*PKP2		**PKPbc**		**14 10 25.5**	**-0.4**
KEV	**Kevo**	**148.52**	**334**	*e*PKPbc		**PKPbc**		**14 10 25.5**	**-0.4**
ARCES	**ARCESS Array B**	**149.08**	**335**	PKPbc		**PKPbc**		**14 10 26.7**	**-0.7**
ARCES	**ARCESS Array B**	**149.08**	**335**	PKPbc		**PKPbc**		**14 10 26.7**	**-0.7**
	comp=Z,27nm,1.0s,baz=63,slow=11,SNR=4.4								
ARE0	**ARCESS Array S**	**149.08**	**335**	*e*PKPbc		**PKPbc**		**14 10 26.8**	**-0.7**
IDI	**Anoyia**	**149.49**	**264**	*e*PKPbc		**PKPbc**		**14 10 30.4**	**+0.9**
APE	**Apeiranthos**	**149.92**	**268**	⇑PKP2		**PKPbc**		**14 10 30.2**	**-0.3**
APE	**Apeiranthos**	**149.92**	**268**	⇑*i*P		**PKPbc**		**14 10 30.2**	**-0.3**
SUMG	**Summit**	**150.35**	**15**	*e*PKIKP		**PKPdf**		**14 10 25.0**	**-0.7**
SUMG				*e*				14 10 30.5	
SUMG	**Summit**	**150.35**	**15**	*e*PKPdf		**PKPdf**		**14 10 24.9**	**-0.7**
SUMG				*e*PKPbc		**PKPbc**		**14 10 30.5**	**-0.5**
SUMG	**Summit**	**150.35**	**15**	*i* P		**PKPbc**		**14 10 31.5**	**+0.6**
	comp=Z,53nm,0.9s								
TIRR	**Tirgusor**	**150.74**	**283**	*e*PKIKP		**PKPbc**		**14 10 31.6**	**-0.5**
TIRR	**Tirgusor**	**150.74**	**283**	*e*PKPbc		**PKPbc**		**14 10 31.6**	**-0.5**
SFJD	**Kangerlussuaq**	**150.79**	**29**	*i* P		**PKPbc**		**14 10 31.0**	**-0.6**
	comp=Z,20nm,0.9s								
CFR	**Carcaliu**	**151.13**	**284**	⇓*i*P		**PKPbc**		**14 10 34.4**	**+1.4**
HARR	**Harsova**	**151.14**	**283**	⇑*i*P		**PKPbc**		**14 10 34.1**	**+1.0**
KIEV	**Kiev**	**151.46**	**296**	*e*PKIKP		**PKPbc**		**14 10 33.7**	**+0.1**
KIEV	**Kiev**	**151.46**	**296**	*e*PKPbc		**PKPbc**		**14 10 33.7**	**+0.1**
KAF	**Kangasniemi**	**151.89**	**321**	*e*p		**PKPbc**		**14 10 33.4**	**-0.8**
	comp=Z,25nm,0.8s								
FIA1	**FINESS Array S**	**152.19**	**319**	*e*PKPbc		**PKPbc**		**14 10 34.6**	**-0.3**
FINES	**FINESS Array B**	**152.20**	**319**	PKP		**PKPdf**		**14 10 28.0**	**-0.2**
FINES				PKPbc		**PKPbc**		**14 10 34.4**	**-0.6**
FINES	**FINESS Array B**	**152.20**	**319**	PKP		**PKPdf**		**14 10 28.0**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=54,slow=3.3,SNR=5.6								
FINES				PKPbc		**PKPbc**		**14 10 34.4**	**-0.6**
	comp=Z,16nm,0.7s,baz=90,slow=3.1,SNR=43								
ISR	**Istrita**	**152.20**	**284**	⇓PKIKP		**PKPbc**		**14 10 37.1**	**+1.5**
ISR	**Istrita**	**152.20**	**284**	⇓*i*P		**PKPbc**		**14 10 37.1**	**+1.5**
VRI	**Vrincioaia**	**152.26**	**285**	⇓PKIKP		**PKPbc**		**14 10 36.2**	**+0.5**
VRI	**Vrincioaia**	**152.26**	**285**	⇓*i*P		**PKPbc**		**14 10 36.2**	**+0.5**
PLOR	**Plostina**	**152.31**	**285**	⇑PKIKP		**PKPbc**		**14 10 37.3**	**+1.5**
PLOR	**Plostina**	**152.31**	**285**	⇑*i*P		**PKPbc**		**14 10 37.3**	**+1.5**
MICGM	**Minsk**	**152.40**	**304**	*e*		**PKPbc**		**14 10 34.0**	**-1.6**
MNK	**Minsk**	**152.43**	**304**	*e*PKIKP		**PKPbc**		**14 10 34.0**	**-1.7**
TESR	**Tescani**	**152.46**	**287**	⇑*i*P		**PKPbc**		**14 10 36.8**	**+0.7**
VSU	**Vasula**	**152.59**	**313**	*c*iPKIKP		**PKPbc**		**14 10 35.5**	**-0.4**
TAM	**Tamanrasset**	**152.72**	**220**	*e*P

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.66**	**174**	*e*P*	Pb	13 53 09.9	-0.2
PYZ				S*	Sb	13 53 18.8	0.0
PYZ				S*	Sn	13 53 19.0	-1.7
WHZ	**Wether Hill Ro**	**1.03**	**112**	PN	Pn	13 53 15.4	-0.8
WHZ				SN	Sn	13 53 30.7	+0.7
WHZ				AML	AML	13 53 37.2	
MLZ	**Mavora Lakes**	**1.14**	**82**	*e*PN	Pn	13 53 16.2	-1.5
MLZ				AML	AML	13 53 32.9	
MLZ				AML	AML	13 53 35.1	
MSZ	**Milford Sound**	**1.27**	**49**	*e*PN	Pb	13 53 20.2	-0.2
MSZ				AML	AML	13 53 40.2	
MSZ				AML	AML	13 53 42.9	
MSZ				AML	AML	13 53 42.9	
MSZ				AML	AML	13 53 44.8	
WKZ	**Wanaka**	**1.86**	**69**	AML	AML	13 53 59.0	
WKZ				AML	AML	13 54 01.4	
EAZ	**Earnscleugh**	**1.95**	**83**	*e*PN	Pb	13 53 30.8	-1.0
EAZ				AML	AML	13 54 00.9	
EAZ				AML	AML	13 54 01.0	
EAZ				AML	AML	13 54 01.0	
EAZ				AML	AML	13 54 01.0	
JCZ	**Jackson Bay**	**2.12**	**48**	AML	AML	13 54 10.5	
JCZ				AML	AML	13 54 12.7	
TUZ	**Tuapeka**	**2.19**	**103**	SN	Sb	13 54 01.2	-1.4
TUZ				AML	AML	13 54 08.6	
LBZ	**Lake Benmore**	**2.80**	**68**	AML	AML	13 54 21.7	
LBZ				AML	AML	13 54 24.0	

WEL 15 13:53:39.2±0.8, 45°.50S×166°.77E, h12km, ML4.2/6, 1C, Error ellipse: s-maj=5.9km s-min=4.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.27**	**85**	P*	Pg	13 53 44.6	-0.1
DCZ				S*	Sg	13 53 49.2	+0.7
DCZ				S*	Sb	13 53 49.2	-1.3
PYZ	**Puysegur Point**	**0.67**	**185**	⇑P*	Pg	13 53 52.2	0.0
PYZ				S*	Sg	13 53 59.3	-1.8
WHZ	**Wether Hill Ro**	**0.91**	**116**	*e*P*	Pg	13 53 55.9	-0.9
WHZ				S*	Sg	13 54 08.6	-0.1
WHZ				AML	AML	13 54 12.7	
MLZ	**Mavora Lakes**	**1.00**	**82**	*e*P*	Pb	13 53 56.1	-2.4
MLZ				AML	AML	13 54 11.4	
MLZ				AML	AML	13 54 12.2	
MSZ	**Milford Sound**	**1.16**	**45**	*e*P*	Pb	13 54 00.0	-1.2
MSZ				AML	AML	13 54 18.0	
MSZ				AML	AML	13 54 18.8	
EAZ	**Earnscleugh**	**1.81**	**82**	SN	Sn	13 54 32.3	-0.7
EAZ				AML	AML	13 54 33.9	
TUZ	**Tuapeka**	**2.05**	**104**	SN	Sn	13 54 39.5	+0.5
TUZ				AML	AML	13 54 44.3	

WEL 15 13:55:43.6±0.8, 46°.03S×165°.65E, h12km, ML4.3/8, 1C, Error ellipse: s-maj=6.7km s-min=5.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.73**	**102**	⇑P*	Pg	13 55 57.2	-0.7
PYZ				S*	Sg	13 56 07.1	-0.4
PYZ				S*	Sb	13 56 07.2	-1.2
DCZ	**Deep Cove**	**1.19**	**63**	P*	Pn	13 56 04.7	-1.4
DCZ				S*	Sb	13 56 21.0	-0.4
DCZ				AML	AML	13 56 24.7	
WHZ	**Wether Hill Ro**	**1.61**	**86**	PN	Pn	13 56 12.2	+0.3
WHZ				SN	Sn	13 56 32.3	-0.3
WHZ				AML	AML	13 56 35.6	
APZ	**The Paps**	**1.81**	**117**	*e*PN	Pb	13 56 16.6	-0.2
APZ				SN	Sn	13 56 34.2	-3.4
MLZ	**Mavora Lakes**	**1.90**	**70**	*e*PN	Pb	13 56 17.8	-0.4
MLZ				SN	Sn	13 56 40.2	+0.5
MLZ				AML	AML	13 56 48.3	
MSZ	**Milford Sound**	**2.10**	**51**	AML	AML	13 57 18.3	
MSZ				AML	AML	13 57 18.9	
SYZ	**Scrubby Hill**	**2.48**	**103**	*e*PN	Pn	13 56 22.0	-1.8
SYZ				SN	Sn	13 56 54.2	+0.4
EAZ	**Earnscleugh**	**2.69**	**74**	*e*PN	Pn	13 56 28.1	+1.4
EAZ				AML	AML	13 57 04.4	
EAZ				AML	AML	13 57 09.9	
TUZ	**Tuapeka**	**2.78**	**90**	*e*PN	Pn	13 56 27.1	-0.8
TUZ				SN	Sn	13 57 01.3	-0.1
TUZ				AML	AML	13 57 07.9	
LBZ	**Lake Benmore**	**3.60**	**65**	AML	AML	13 57 29.6	
LBZ				AML	AML	13 57 32.8	
ODZ	**Otahua Downs**	**3.65**	**76**	AML	AML	13 57 36.8	
ODZ				AML	AML	13 57 37.9	

WEL 15 13:59:51.5±0.4, 46°.06S×166°.03E, h20km, ML3.8/8, Error ellipse: s-maj=3.8km s-min=2.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.47**	**103**	P*	Pb	14 00 01.0	0.0
PYZ				S*	Sb	14 00 07.1	-0.4
PYZ				S*	Sn	14 00 07.5	-3.3
DCZ	**Deep Cove**	**0.98**	**54**	P*	Pb	14 00 09.2	-0.6
DCZ				S*	Sn	14 00 22.8	-0.5
DCZ				AML	AML	14 00 23.1	
WHZ	**Wether Hill Ro**	**1.35**	**84**	PN	Pn	14 00 14.9	-0.3
WHZ				SN	Sn	14 00 32.1	-0.4
WHZ				AML	AML	14 00 33.4	
APZ	**The Paps**	**1.56**	**120**	PN	Pn	14 00 17.4	-0.7
APZ				SN	Sn	14 00 36.1	-1.7
MLZ	**Mavora Lakes**	**1.66**	**65**	*e*PN	Pb	14 00 20.7	-0.8
MLZ				AML	AML	14 00 46.4	
MLZ				AML	AML	14 00 48.7	
MSZ	**Milford Sound**	**1.93**	**45**	AML	AML	14 00 51.5	
MSZ				AML	AML	14 00 52.3	
SYZ	**Scrubby Hill**	**2.21**	**104**	*e*PN	Pn	14 00 26.0	-1.0
SYZ				SN	Sn	14 00 53.5	-0.2
EAZ	**Earnscleugh**	**2.44**	**71**	*e*PN	Pn	14 00 29.1	-1.2
EAZ				AML	AML	14 01 08.2	
EAZ				AML	AML	14 01 08.3	
TUZ	**Tuapeka**	**2.51**	**89**	*e*PN	Pn	14 00 30.3	-0.9
TUZ				AML	AML	14 01 04.7	
TUZ				AML	AML	14 01 06.8	
LBZ	**Lake Benmore**	**3.38**	**62**	AML	AML	14 01 25.3	
ODZ	**Otahua Downs**	**3.40**	**74**	AML	AML	14 01 36.2	
ODZ				AML	AML	14 01 38.8	

WEL 15 14:02:20.6±0.7, 45°.46S×166°.69E, h12km, ML3.9/11, Error ellipse: s-maj=5.3km s-min=3.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.33**	**93**	P*	Pg	14 02 27.6	+0.4
DCZ				S*	Sg	14 02 32.3	+0.6
DCZ				AML	AML	14 02 32.5	
PYZ	**Puysegur Point**	**0.71**	**180**	P*	Pb	14 02 34.6	-0.2
PYZ				S*	Sg	14 02 41.5	-2.1
WHZ	**Wether Hill Ro**	**0.98**	**117**	P*	Pg	14 02 38.5	-1.0
WHZ				S*	Sg	14 02 51.7	-0.7
WHZ				AML	AML	14 02 55.6	
MLZ	**Mavora Lakes**	**1.05**	**84**	P*	Pb	14 02 38.9	-2.0
MLZ				S*	Sb	14 02 52.3	-2.4
MLZ				AML	AML	14 02 54.0	
MSZ	**Milford Sound**	**1.18**	**49**	*e*P*	Pb	14 02 40.9	-2.0
MSZ				S*	Sn	14 02 59.9	+1.0
MSZ				AML	AML	14 03 02.3	
APZ	**The Paps**	**1.64**	**147**	PN	Pb	14 02 51.3	+0.4
WKZ	**Wanaka**	**1.77**	**70**	PN	Pn	14 02 51.8	+0.7
WKZ				AML	AML	14 03 19.2	
WKZ				AML	AML	14 03 19.2	
WKZ				AML	AML	14 03 21.8	
WKZ				AML	AML	14 03 21.8	
EAZ	**Earnscleugh**	**1.86**	**84**	*e*PN	Pn	14 02 51.6	-0.7
EAZ				AML	AML	14 03 16.9	
EAZ				AML	AML	14 03 17.1	
SYZ	**Scrubby Hill**	**2.02**	**123**	*e*PN	Pn	14 02 52.5	-2.0
TUZ	**Tuapeka**	**2.12**	**105**	*e*PN	Pn	14 02 56.9	+1.1
TUZ				AML	AML	14 03 24.7	
TUZ				AML	AML	14 03 26.4	
LBZ	**Lake Benmore**	**2.71**	**68**	*e*PN	Pn	14 03 02.8	-1.1
LBZ				AML	AML	14 03 40.7	
LBZ				AML	AML	14 03 41.4	
ODZ	**Otahua Downs**	**2.83**	**83**	*e*PN	Pn	14 03 02.0	-3.5
ODZ				AML	AML	14 03 38.2	
ODZ				AML	AML	14 03 49.9	
FOZ	**Fox Glacier**	**2.87**	**50**	AML	AML	14 03 58.7	
FOZ				AML	AML	14 03 59.6	
WVZ	**Waitaha Valley**	**3.76**	**52**	AML	AML	14 04 22.2	

WEL 15 14:04:05.1±0.5, 45°.51S×166°.68E, h12km, ML3.5/9, Error ellipse: s-maj=3.9km s-min=2.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.33**	**85**	P*	Pg	14 04 11.9	+0.1
DCZ				S*	Sg	14 04 16.7	+0.4
DCZ				AML	AML	14 04 19.5	
PYZ	**Puysegur Point**	**0.66**	**180**	P*	Pg	14 04 17.4	-0.5
PYZ				S*	Sg	14 04 26.3	-0.3
WHZ	**Wether Hill Ro**	**0.97**	**114**	P*	Pg	14 04 23.1	-0.7
WHZ				S*	Sg	14 04 36.3	-0.1
WHZ				AML	AML	14 04 40.3	
MLZ	**Mavora Lakes**	**1.06**	**82**	P*	Pb	14 04 23.4	-2.1
MLZ				S*	Sb	14 04 37.0	-2.4
MLZ				AML	AML	14 04 38.0	
MSZ	**Milford Sound**	**1.22**	**47**	*e*P*	Pb	14 04 28.1	+0.1
MSZ				S*	Sn	14 04 44.0	-0.3
MSZ				AML	AML	14 04 46.6	
APZ	**The Paps**	**1.60**	**146**	*e*PN	Pn	14 04 33.6	+0.2
WKZ	**Wanaka**	**1.79**	**68**	*e*PN	Pn	14 04 35.9	+0.1
WKZ				SN	Sb	14 04 59.4	-0.9
WKZ				AML	AML	14 05 04.5	
EAZ	**Earnscleugh**	**1.87**	**82**	*e*PN	Pn	14 04 35.7	-1.3
EAZ				AML	AML	14 05 06.8	
EAZ				AML	AML	14 05 07.5	
SYZ	**Scrubby Hill**	**2.00**	**122**	*e*PN	Pn	14 04 39.4	+0.7
TUZ	**Tuapeka**	**2.11**	**103**	*e*PN	Pn	14 04 40.9	+0.7
TUZ				AML	AML	14 05 10.4	
TUZ				AML	AML	14 05 10.7	
LBZ	**Lake Benmore**	**2.73**	**67**	*e*PN	Pn	14 04 49.4	+0.6
ODZ	**Otahua Downs**	**2.84**	**82**	*e*PN	Pn	14 04 48.8	-1.4
ODZ				AML	AML	14 05 27.5	
ODZ				AML	AML	14 05 28.2	
FOZ	**Fox Glacier**	**2.90**	**49**	*e*PN	Pn	14 04 51.6	+0.6
FOZ				AML	AML	14 05 41.3	

WEL 15 14:05:16.2±0.7, 45°.79S×166°.69E, h5km, ML3.1/7, Error ellipse: s-maj=8.9km s-min=3.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.38**	**181**	PG	Pg	14 05 23.5	0.0
PYZ				SG	Sg	14 05 28.7	+0.3
PYZ				SG	Sb	14 05 29.3	-2.2
DCZ	**Deep Cove**	**0.45**	**46**	PG	Pb	14 05 26.0	-0.6
DCZ				SG	Sg	14 05 30.4	-0.3
DCZ				SG	Sb	14 05 30.9	-2.7
WHZ	**Wether Hill Ro**	**0.88**	**97**	*e*P*	Pb	14 05 33.8	-0.2
WHZ				S*	Sn	14 05 47.5	-1.0
WHZ				AML	AML	14 05 57.6	
MLZ	**Mavora Lakes**	**1.13**	**67**	P*	Pg	14 05 37.1	-0.8
MLZ				S*	Sg	14 05 51.0	-1.6
APZ	**The Paps**	**1.38**	**140**	*e*PN	Pn	14 05 39.5	-2.6
MSZ	**Milford Sound**	**1.42**	**38**	SN	Sb	14 05 59.5	-2.0
MSZ				AML	AML	14 06 03.9	
WKZ	**Wanaka**	**1.90**	**60**	AML	AML	14 06 17.5	
EAZ	**Earnscleugh**	**1.92**	**74**	AML	AML	14 06 18.6	
TUZ	**Tuapeka**	**2.06**	**96**	*e*PN	Pg	14 05 55.7	0.0
TUZ				SN	Sg	14 06 23.8	+1.4
ODZ	**Otahua Downs**	**2.88**	**76**	*e*PN	Pn	14 06 04.5	+1.7

WEL 15 14:07:28.8±0.3, 45°.87S×166°.49E, h12km, ML3.8/10, 1C-1D, Error ellipse: s-maj=3.1km s-min=0.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.32**	**156**	P*	Pg	14 07 35.4	0.0
PYZ				S*	Sg	14 07 40.4	+0.5
PYZ				S*	Sb	14 07 40.4	-1.4
DCZ	**Deep Cove**	**0.61**	**50**	⇓P*	Pg	14 07 40.4	-0.2
DCZ				S*	Sg	14 07 48.5	-0.1
DCZ				AML	AML	14 07 49.0	
WHZ	**Wether Hill Ro**	**1.02**	**92**	⇑P*	Pb	14 07 47.4	-0.9
WHZ				S*	Sb	14 08 01.4	-0.3
WHZ				AML	AML	14 08 05.1	
MLZ	**Mavora Lakes**	**1.29**	**67**	P*	Pn	14 07 51.5	-1.2
MLZ				AML	AML	14 08 13.9	
MLZ				AML	AML	14 08 14.3	
APZ	**The Paps**	**1.41**	**133**	*e*PN	Pn	14 07 52.4	-2.0
APZ				SN	Sn	14 08 11.0	-2.0
MSZ	**Milford Sound**	**1.57**	**41**	*e*PN	Pb	14 07 57.4	-0.4
MSZ				AML	AML	14 08 25.6	
MSZ				AML	AML	14 08 25.6	
SYZ	**Scrubby Hill**	**1.96**	**111**	PN	Pn	14 08 00.9	-0.9
SYZ				SN	Sn	14 08 25.0	-1.2
WKZ	**Wanaka**	**2.06**	**61**	*e*PN	Pb	14 08 05.6	-0.7
WKZ				AML	AML	14 08 34.0	
WKZ				AML	AML	14 08 36.7	
EAZ	**Earnscleugh**	**2.08**	**73**	PN	Pb	14 08 05.1	-1.3
EAZ				AML	AML	14 08 33.3	
EAZ				AML	AML	14 08 34.7	
TUZ	**Tuapeka**	**2.19**	**93**	PN	Pn	14 08 05.3	+0.2
TUZ				SN	Sn	14 08 32.2	+0.1
TUZ				AML	AML	14 08 35.0	
JCZ	**Jackson Bay**	**2.41**	**43**	*e*PN	Pn	14 08 08.1	0.0
JCZ				AML	AML	14 08 53.0	
JCZ				AML	AML	14 08 53.3	
LBZ	**Lake Benmore**	**3.00**	**62**	PN	Pn	14 08 16.4	+0.2
ODZ	**Otahua Downs**	**3.04**	**76**	PN	Pn	14 08 16.3	-0.4
ODZ				AML	AML	14 08 53.7	
ODZ				AML	AML	14 08 57.4	
RPZ	**Rata Peaks**	**3.90**	**58**	*e*PN	Pn	14 08 27.6	-0.9
RPZ				AML	AML	14 09 15.6	
RPZ				AML	AML	14 09 16.2	

WEL 15 14:10:15.1±0.8, 46°.01S×165°.80E, h12km, ML3.7/9, Error ellipse: s-maj=7.1km s-min=3.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.63**	**105**	P*	Pg	14 10 26.8	-0.6
PYZ				S*	Sb	14 10 36.5	-0.4
DCZ	**Deep Cove**	**1.08**	**61**	P*	Pb	14 10 34.9	-0.8
DCZ				S*	Sb	14 10 48.6	-1.2
DCZ				AML	AML	14 10 51.4	
WHZ	**Wether Hill Ro**	**1.50**	**87**	PN	Pn	14 10 41.0	-0.8
WHZ				SN	Sn	14 11 00.6	-0.8
WHZ				AML	AML	14 11 04.0	
APZ	**The Paps**	**1.73**	**119**	PN	Pn	14 10 42.7	-2.3
MLZ	**Mavora Lakes**	**1.79**	**69**	*e*PN	Pn	14 10 45.6	-0.2
MLZ				AML	AML	14 11 11.0	
MLZ				AML	AML	14 11 12.4	
MSZ	**Milford Sound**	**2.01**	**49**	AML	AML	14 11 24.5	
MSZ				AML	AML	14 11 24.6	
SYZ	**Scrubby Hill**	**2.38**	**104**	*e*PN	Pn	14 10 53.2	-0.6
WKZ	**Wanaka**	**2.55**	**64**	*e*PN	Pn	14 10 57.3	+0.9
WKZ				AML	AML	14 11 34.9	
WKZ				AML	AML	14 11 38.9	
EAZ	**Earnscleugh**	**2.58**	**74**	*e*PN	Pn	14 10 57.4	+0.8
EAZ				AML	AML	14 11 33.1	
EAZ				AML	AML	14 11 35.5	
EAZ				AML	AML	14 11 35.8	
TUZ	**Tuapeka**	**2.67**	**90**	*e*PN	Pn	14 10 57.3	-0.6
TUZ				AML	AML	14 11 33.9	
TUZ				AML	AML	14 11 35.2	
JCZ	**Jackson Bay**	**2.85**	**48**	AML	AML	14 11 48.8	
JCZ				AML	AML	14 11 56.9	
ODZ	**Otahua Downs**	**3.54**	**76**	AML	AML	14 12 09.4	

WEL 15 14:11:41.4±1.1, 46°.05S×165°.93E, h12km, ML3.8/10, 1C, Error ellipse: s-maj=10.1km s-min=4.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.54**	**103**	⇑P*	Pg	14 11 51.7	-0.2
PYZ				S*	Sb	14 11 59.9	-0.6
DCZ	**Deep Cove**	**1.03**	**57**	P*	Pb	14 11 60.0	-1.2
DCZ				S*	Sb	14 12 13.2	-1.4
DCZ				AML	AML	14 12 16.3	
WHZ	**Wether Hill Ro**	**1.42**	**84**	PN	Pn	14 12 05.8	-1.2
WHZ				SN	Sn	14 12 24.2	-1.3
WHZ				AML	AML	14 12 26.8	
APZ	**The Paps**	**1.63**	**120**	PN	Pn	14 12 07.8	-2.2
MLZ	**Mavora Lakes**	**1.72**	**67**	*e*PN	Pn	14 12 11.6	+0.3
MLZ				AML	AML	14 12 35.4	
MLZ				AML	AML	14 12 36.3	
MSZ	**Milford Sound**	**1.97**	**46**	SN	Sn	14 12 38.5	-0.6
MSZ				AML	AML	14 12 39.2	
SYZ	**Scrubby Hill**	**2.28**	**104**	PN	Pn	14 12 18.7	-0.1
WKZ	**Wanaka**	**2.49**	**62**	PN	Pb	14 12 25.9	-0.3
WKZ				AML	AML	14 12 55.8	
WKZ				AML	AML	14 13 00.5	
EAZ	**Earnscleugh**	**2.51**	**72**	*e*PN	Pn	14 12 22.4	+0.4
EAZ				AML	AML	14 12 54.8	
EAZ				AML	AML	14 12 55.8	
EAZ				AML	AML	14 12 57.6	
EAZ				AML	AML	14 12 59.5	
TUZ	**Tuapeka**	**2.58**	**89**	*e*PN	Pn	14 12 22.9	0.0
TUZ				SN	Sn	14 12 52.5	-1.8
TUZ				AML	AML	14 12 57.4	
JCZ	**Jackson Bay**	**2.81**	**46**	AML	AML	14 13 01.1	
JCZ				AML	AML	14 13 03.8	
HHSZ	**Highcliff Hill**	**3.26**	**89**	*e*PN	Pn	14 12 31.6	-0.7
ODZ	**Otahua Downs**	**3.46**	**75**	*e*PN	Pn	14 12 33.7	-1.4
ODZ				AML	AML	14 13 15.1	
ODZ				AML	AML	14 13 16.7	
RPZ	**Rata Peaks**	**4.33**	**59**	*e*PN	Pn	14 12 45.4	-1.6
RPZ				AML	AML	14 13 37.9	
RPZ				AML	AML	14 13 38.0	
OXZ	**Oxford**	**5.14**	**60**	*e*PN	Pn	14 12 55.6	-2.5

WEL 15 14:13:42.2±0.8, 45°.65S×166°.54E, h12km, ML3.6/7, 1C, Error ellipse: s-maj=7.6km s-min=3.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.46**	**69**	⇑P*	Pg	14 13 51.5	+0.3
DCZ				S*	Sg	14 13 57.1	-0.4
DCZ				AML	AML	14 13 57.7	
PYZ	**Puysegur Point**	**0.53**	**170**	P*	Pg	14 13 52.4	-0.2
PYZ				S*	Sg	14 13 59.2	-0.5
WHZ	**Wether Hill Ro**	**1.01**	**105**	*e*P*	Pn	14 14 03.2	+0.9
WHZ				S*	Sn	14 14 16.1	-0.4
WHZ				AML	AML	14 14 22.1	
MLZ	**Mavora Lakes**	**1.19**	**76**	P*	Pn	14 14 02.9	-1.8
MLZ				S*	Sb	14 14 17.1	-2.9
MLZ				AML	AML	14 14 18.3	
MSZ	**Milford Sound**	**1.38**	**46**	AML	AML	14 14 26.7	
MSZ				AML	AML	14 14 31.5	
APZ	**The Paps**	**1.56**	**140**	*e*PN	Pn	14 14 09.0	-0.5
APZ				SN	Sb	14 14 30.3	-0.4
WKZ	**Wanaka**	**1.93**	**66**	*e*PN	Pb	14 14 18.0	+0.6
WKZ				AML	AML	14 14 45.1	
WKZ				AML	AML	14 14 47.3	
EAZ	**Earnscleugh**	**1.99**	**79**	*e*PN	Pb	14 14 17.4	-1.0
EAZ				AML	AML	14 14 44.2	
EAZ				AML	AML	14 14 44.2	
SYZ	**Scrubby Hill**	**2.02**	**117**	*e*PN	Pb	14 14 17.8	-0.9
TUZ	**Tuapeka**	**2.18**	**99**	*e*PN	Pn	14 14 19.4	+1.1
TUZ				SN	Sb	14 14 48.9	+0.2
TUZ				AML	AML	14 14 50.8	
HHSZ	**Highcliff Hill**	**2.85**	**96**	*e*PN	Pn	14 14 29.4	+1.9
LBZ	**Lake Benmore**	**2.87**	**65**	*e*PN	Pn	14 14 28.2	+0.3
ODZ	**Otahua Downs**	**2.95**	**80**	*e*PN	Pn	14 14 29.9	+1.0

WEL 15 14:14:25.5±1.0, 46°.01S×166°.14E, h12km, ML3.7/8, Error ellipse: s-maj=8.9km s-min=3.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.41**	**113**	P*	Pg	14 14 33.9	+0.1
PYZ				S*	Sg	14 14 40.1	+0.8
DCZ	**Deep Cove**	**0.89**	**54**	P*	Pg	14 14 41.8	-0.8
DCZ				S*	Sg	14 14 53.6	-0.7
DCZ				S*	Sb	14 14 53.6	-1.0
WHZ	**Wether Hill Ro**	**1.27**	**86**	PN	Pn	14 14 47.7	-1.4
WHZ				S*	Sb	14 15 04.7	-0.9
WHZ				AML	AML	14 15 09.4	
APZ	**The Paps**	**1.52**	**123**	*e*PN	Pn	14 14 50.6	-2.1
MLZ	**Mavora Lakes**	**1.57**	**66**	PN	Pn	14 14 53.3	0.0
MLZ				SN	Sn	14 15 13.8	+0.1
MLZ				AML	AML	14 15 19.3	
MSZ	**Milford Sound**	**1.84**	**44**	AML	AML	14 15 39.5	
MSZ				AML	AML	14 15 39.6	
WKZ	**Wanaka**	**2.35**	**61**	AML	AML	14 15 42.1	
WKZ				AML	AML	14 15 42.8	
EAZ	**Earnscleugh**	**2.36**	**72**	AML	AML	14 15 36.9	
EAZ				AML	AML	14 15 37.0	
TUZ	**Tuapeka**	**2.44**	**90**	*e*PN	Pn	14 15 06.0	+0.8
TUZ				SN	Sn	14 15 35.1	+0.3
TUZ				AML	AML	14 15 38.7	
LBZ	**Lake Benmore**	**3.29**	**62**	AML	AML	14 15 59.2	
RPZ	**Rata Peaks**	**4.18**	**59**	SN	Sn	14 16 17.0	-0.9

*IDC **15** 14:15:24.8±0.6, 46°.03S×166°.14E, h0km, mb4.4/9, mb1 4.5/11, mb1mx4.5/16, mbtmp4.4/11, ML4.5/2, Error ellipse: s-maj=21.4km s-min=16.4km az=66.0*
*ISCJB **15** 14:15:25.3±0.3, 45°.99S±0°.04×166°.02E±0°.04, h12km, mb4.4/11, Error ellipse: s-maj=5.7km s-min=3.7km az=169.2*
*WEL **15** 14:15:25.9±0.4, 46°.10S×165°.94E, h12km, ML5.1/24, Error ellipse: s-maj=3.5km s-min=2.6km az=90.0*
*AUST **15** 14:15:25.3, 46°.46S×166°.44E, h25km*
*NEIC **15** 14:15:26.6±0.4, 46°.09S×166°.04E, h10km, mb4.9/1, ML5.2(WEL), Error ellipse: s-maj=11.4km s-min=5.4km az=145.0*

ISC 15 14:15:27.0±0.4, 46°.09S±0°.06×166°.07E±0°.04, h12km, n121, σ1s07/128, mb4.3/11, 1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.43**	**101**	P*	**Pg**	**14 15 36.4**	**+0.9**
PYZ				S*	**Sb**	**14 15 42.7**	**-0.3**
PYZ				S*	**Sg**	**14 15 43.0**	**+1.7**
DCZ	**Deep Cove**	**0.97**	**52**	P*	**Pg**	**14 15 44.7**	**-1.0**
WHZ	**Wether Hill Ro**	**1.32**	**82**	PN	**Pn**	**14 15 50.7**	**-0.6**
WHZ				SN	**Sn**	**14 16 09.3**	**+0.5**
APZ	**The Paps**	**1.52**	**120**	PN	**Pn**	**14 15 52.9**	**-1.2**
MLZ	**Mavora Lakes**	**1.65**	**64**	PN	**Pn**	**14 15 56.3**	**+0.5**
MSZ	**Milford Sound**	**1.93**	**43**	*e*PN	**Pn**	**14 15 59.5**	**-0.1**
SYZ	**Scrubby Hill**	**2.17**	**103**	PN	**Pn**	**14 16 03.0**	**+0.1**
EAZ

353nm,0.3s,baz=274,slow=2.8,SNR=4.7
RPZ Rata Peaks 4.26 58 PN **Pn** 14 16 30.6 -1.1
RPZ SN **Sn** 14 17 19.9 -1.4
RPZ AML AML 14 17 25.9
WVZ Waitaha Valley 4.49 50 PN **Pn** 14 16 35.9 +1.1
WVZ Waitaha Valley 4.49 50 *e*PN **Pn** 14 16 34.5 -0.3
WVZ AML AML 14 17 58.0
WVZ AML AML 14 18 01.0
OXZ Oxford 5.07 59 *e*PN **Pn** 14 16 41.2 -1.6
MQZ McQueen's Vall 5.25 65 Pn **Pn** 14 16 44.5 -0.6
MQZ McQueen's Vall 5.25 65 PN **Pn** 14 16 44.4 -0.7
MQZ AML AML 14 18 24.9
MQZ AML AML 14 18 29.4
CRLZ Canterbury Las 5.29 64 Pn **Pn** 14 16 45.5 -0.3
CRLZ Canterbury Las 5.29 64 *e*PN **Pn** 14 16 45.5 -0.3
CRLZ AML AML 14 18 30.3
CRLZ AML AML 14 18 34.7
LTZ Lake Taylor 5.53 56 Pn **Pn** 14 16 48.1 -1.1
LTZ Lake Taylor 5.53 56 PN **Pn** 14 16 48.0 -1.1
LTZ AML AML 14 17 55.0
LTZ AML AML 14 17 57.8
DSZ Denniston Nort 6.00 46 Pn **Pn** 14 16 56.0 +0.5
DSZ Denniston Nort 6.00 46 *e*PN **Pn** 14 16 55.1 -0.4
KHZ Kahutara 6.50 58 *e*Pn **Pn** 14 17 01.4 -1.0
113nm,0.8s
KHZ Kahutara 6.50 58 *e*PN **Pn** 14 17 01.2 -1.2
KHZ AML AML 14 18 18.6
KHZ AML AML 14 18 21.5
THZ Tophouse 6.56 51 PN **Pn** 14 17 02.0 -1.3
THZ Tophouse 6.56 51 *e*PN Pn 14 17 01.3 -2.0
THZ AML AML 14 18 25.1
THZ AML AML 14 18 38.2
QRZ Quartz Range 7.05 44 Pn **Pn** 14 17 10.5 +0.5
QRZ Quartz Range 7.05 44 *e*PN **Pn** 14 17 09.0 -1.0
QRZ AML AML 14 18 43.7
QRZ AML AML 14 18 59.3
NNZ Nelson 7.19 50 Pn **Pn** 14 17 12.8 +0.8
NNZ Nelson 7.19 50 *e*PN **Pn** 14 17 11.2 -0.8
NNZ AML AML 14 18 47.4
NNZ AML AML 14 18 53.7
TUWZ Tuamarina 7.36 54 AML AML 14 18 48.3
TUWZ AML AML 14 18 50.4
TCW Tory Channel 7.69 54 AML AML 14 18 54.7
TCW AML AML 14 19 08.9
DUWZ D'Urville Isla 7.78 50 *e*PN **Pn** 14 17 21.4 +1.4
DUWZ AML AML 14 18 57.1
DUWZ AML AML 14 19 07.9
SNZO South Karori 7.87 56 P **Pn** 14 17 20.9 -0.2
59nm,0.6s
SNZO South Karori 7.87 56 AML AML 14 18 49.8
SNZO AML AML 14 18 49.9
CAW Cannon Point 8.21 56 AML AML 14 18 57.1
CAW AML AML 14 18 57.8
KIW Kapiti Island 8.28 54 AML AML 14 19 05.3
MTW Mount Morrison 8.43 58 *e*PN **Pn** 14 17 28.5 -0.4
MRZ Mangatainoka R 8.79 55 Pn **Pn** 14 17 32.9 -1.0
MRZ Mangatainoka R 8.79 55 *e*PN Pn 14 17 30.9 -3.0
MRZ AML AML 14 19 11.3
MRZ AML AML 14 19 12.1
PKE Pukeiti 9.02 43 *e*PN **Pn** 14 17 37.0 -0.1
PKE AML AML 14 19 34.2
PKE AML AML 14 19 36.2
WAZ Wanganui 9.10 49 Pn **Pn** 14 17 40.9 +2.9
WAZ Wanganui 9.10 49 AML AML 14 19 49.1
WAZ AML AML 14 19 51.4
VRZ Vera Road 9.45 46 Pn **Pn** 14 17 44.1 +1.2
VRZ Vera Road 9.45 46 AML AML 14 19 50.0
VRZ AML AML 14 20 02.8
HIZ Hauiti 9.97 44 Pn **Pn** 14 17 50.4 +0.3
HIZ Hauiti 9.97 44 *e*PN **Pn** 14 17 49.3 -0.8
HIZ AML AML 14 19 53.8
HIZ AML AML 14 20 27.9
KBAZ Karaka Road Bo 11.14 39 *e*PN **Pn** 14 18 06.5 +0.5
WTAZ Waiatarua 11.14 38 *e*PN **Pn** 14 18 05.5 -0.6
MKAZ Moumakai 11.25 40 *e*PN **Pn** 14 18 07.2 -0.4
MKAZ AML AML 14 20 24.2
MKAZ AML AML 14 21 02.8
URZ Urewera 11.32 50 *e*P Pn 14 18 06.5 -1.9
22nm,0.6s
URZ Sn Sn 14 20 03.9 -11
URZ Urewera 11.32 50 Pn **Pn** 14 18 06.9 -1.5
2.0nm,0.3s,baz=236,slow=6.9,SNR=14
URZ Sn Sn 14 20 03.9 -11
1.7nm,0.3s,baz=122,slow=13,SNR=5.3
WCZ Waipu Caves 11.90 34 Pn **Pn** 14 18 15.9 -0.5
WCZ Waipu Caves 11.90 34 PN **Pn** 14 18 15.7 -0.7
OUZ Omahuta 12.26 30 *e*P **Pn** 14 18 20.5 -0.9
36nm,0.6s
MOO Moorlands 14.01 278 P **Pn** 14 18 44.5 -0.7
baz=14,SNR=5.2
MILA Mila 15.52 300 P **Pn** 14 19 04.3 -1.4
baz=16,SNR=4.8
CNB Canberra Magne 16.59 305 P **P** 14 19 25.3 +3.4
baz=17,SNR=4.2
TOO Toolangi 17.50 292 P **Pn** 14 19 31.0 +0.2
baz=18,SNR=30
YNG Young 17.87 305 P **Pn** 14 19 36.0 +0.6
baz=18,SNR=8.9
STKA Stephens Creek 23.61 298 P **P** 14 20 39.0 +1.2
STKA Stephens Creek 23.61 298 P **P** 14 20 39.0 +1.2
3.2nm,0.7s,baz=131,slow=14,SNR=5.2
STKA Stephens Creek 23.61 298 P **P** 14 20 41.8 +4.0
baz=24,SNR=4.5
EIDS Eidsvold 23.91 325 P **P** 14 20 42.2 +1.5
baz=24,SNR=3.3
RMQ Roma 23.93 319 P **P** 14 20 42.5 +1.6
baz=24,SNR=5.2
DZM Mont Dzumac 23.96 1 P **P** 14 20 44.0 +2.7
DZM Mont Dzumac 23.96 1 P **P** 14 20 44.0 +2.7
14nm,0.7s,baz=90,slow=24,SNR=12
VNDA Vanda 31.58 182 P **P** 14 21 49.4 +0.5
VNDA Vanda 31.58 182 P **P** 14 21 49.4 +0.5
1.7nm,0.9s,baz=349,slow=9.6,SNR=6.6
SBA Scott Base 31.88 180 *e*P **P** 14 21 53.1 +1.6
32nm,1.9s
ASAR Alice Springs 34.23 300 P **P** 14 22 11.8 -0.9
ASAR PcP **PcP** 14 24 48.1 -1.1
ASAR Alice Springs 34.23 300 P **P** 14 22 11.8 -0.9
2.6nm,0.9s,baz=133,slow=8.7,SNR=17
ASAR PcP **PcP** 14 24 48.1 -1.1
2.0nm,0.8s,baz=130,slow=3.6,SNR=7.3
WRA Warramunga Arr 36.84 304 P **P** 14 22 34.0 -1.0
WRA PcP **PcP** 14 24 56.1 -0.8
WRA Warramunga Arr 36.84 304 P **P** 14 22 34.0 -1.0
2.8nm,0.8s,baz=137,slow=7.9,SNR=23
WRA PcP **PcP** 14 24 56.1 -0.8
1.9nm,0.9s,baz=143,slow=2.8,SNR=6.1
KNRA Kununurra 43.44 302 P **P** 14 23 29.5 -0.3
baz=44,SNR=3.2
FITZ Fitzroy Crossi 43.48 296 P **P** 14 23 29.8 -0.3
baz=44,SNR=3.9
QSPA South Pole Qui 44.04 180 P **P** 14 23 35.0 +0.8
QSPA PcP **PcP** 14 25 19.4 -0.1
QSPA South Pole Qui 44.04 180 P **P** 14 23 35.0 +0.8
33nm,0.8s,baz=14,slow=2.5,SNR=132
QSPA PcP **PcP** 14 25 19.4 -0.1
4.9nm,0.9s,baz=199,slow=1.8,SNR=3.1
MTN Manton Dam 44.35 307 P **P** 14 23 37.2 +0.1
baz=45,SNR=5.0
MTN S S 14 29 49.4 -22
baz=45,SNR=4.9
MAW Mawson 52.96 208 P **P** 14 24 42.8 +0.1
MAW PcP **PcP** 14 25 51.1 -0.2
MAW Mawson 52.96 208 P **P** 14 24 42.8 +0.1
4.1nm,1.0s,baz=101,slow=5.5,SNR=7.2
MAW PcP **PcP** 14 25 51.1 -0.2
3.2nm,0.8s,baz=114,slow=5.4,SNR=8.5
SYO Syowa Base 58.62 200 *e*P P 14 25 21.4 -1.8
SNAA Sanae 62.28 184 *e*P **P** 14 25 48.0 -0.4
VNA1 Neumayer--Stat 63.50 182 *e*P **P** 14 25 56.2 -0.2
PLCA Paso Flores 79.88 140 P **P** 14 27 34.9 -0.6
PLCA Paso Flores 79.88 140 P **P** 14 27 34.9 -0.6
2.6nm,0.9s,baz=214,slow=8.8,SNR=5.6
MJAR Matsushiro Arr 86.00 338 P **P** 14 28 07.2 +0.4
MJAR Matsushiro Arr 86.00 338 P **P** 14 28 07.2 +0.4
3.6nm,0.9s,baz=168,slow=6.3,SNR=6.0
CMAR Chiang Mai Arr 88.24 299 P **P** 14 28 18.7 +0.6
CMAR Chiang Mai Arr 88.24 299 P **P** 14 28 18.7 +0.6
3.8nm,0.8s,baz=158,slow=3.5,SNR=21
ILAR Eielson Array 116.46 21 PKP **PKPdf** 14 34 08.6 -0.8
ILAR Eielson Array 116.46 21 PKP **PKPdf** 14 34 08.6 -0.8
0.5nm,0.9s,baz=281,slow=5.2,SNR=5.3
MKAR Makanchi Array 118.03 309 PKP **PKPdf** 14 34 11.6 -1.4
0.8nm,0.8s,baz=148,slow=1.1,SNR=4.2
TORD Torodi Ar. Bea 144.61 207 PKP **PKPab** 14 35 01.4 -0.8
TORD Torodi Ar. Bea 144.61 207 PKP **PKPab** 14 35 01.4 -0.8
8.5nm,0.7s,baz=158,slow=1.4,SNR=53
BRTR Keskin Array B 145.01 277 PKPbc **PKPbc** 14 35 02.9 -0.4
BRTR Keskin Array B 145.01 277 PKPbc **PKPbc** 14 35 02.9 -0.4
15nm,0.8s,baz=138,slow=4.8,SNR=48
SCHQ Schefferville 145.95 56 PKPbc **PKPdf** 14 35 04.2 -0.7
SCHQ Schefferville 145.95 56 PKPbc **PKPdf** 14 35 04.2 -0.7
17nm,0.7s,baz=292,slow=2.4,SNR=23
ARCES ARCESS Array B 149.46 334 PKPbc **PKPbc** 14 35 14.6 0.0
ARCES ARCESS Array B 149.46 334 PKPbc **PKPbc** 14 35 14.6 0.0
16nm,0.7s,baz=71,slow=3.0,SNR=38
FINES FINESS Array B 152.36 318 PKPbc **PKPbc** 14 35 21.4 -0.3
FINES PKPab **PKPab** 14 35 31.2 -0.7
FINES FINESS Array B 152.36 318 PKPbc **PKPbc** 14 35 21.4 -0.3
5.9nm,0.8s,baz=120,slow=7.5,SNR=18
FINES PKPab **PKPab** 14 35 31.2 -0.7
4.5nm,0.8s,baz=68,slow=6.6,SNR=7.0
NOA NORSAR Array B 159.05 325 PKPab **PKPab** 14 35 59.1 -1.5
NOA NORSAR Array B 159.05 325 PKPab **PKPab** 14 35 59.1 -1.5
0.8nm,0.7s,baz=57,slow=4.7,SNR=3.5
KEST Kesra 159.66 248 PKPab **PKPab** 14 36 04.5 +0.4
KEST Kesra 159.66 248 PKPab **PKPab** 14 36 04.5 +0.4
1.7nm,0.8s,baz=222,slow=3.4,SNR=4.0
GERES GERESS Array B 161.16 288 PKPab **PKPab** 14 36 09.7 -0.6
GERES GERESS Array B 161.16 288 PKPab **PKPab** 14 36 09.7 -0.6
0.5nm,0.4s,baz=94,slow=4.0,SNR=7.7
ESDC Sonseca Array 170.28 232 PKPab **PKPab** 14 36 50.0 -0.7
ESDC Sonseca Array 170.28 232 PKPab **PKPab** 14 36 50.0 -0.7
0.2nm,0.3s,baz=126,slow=6.5,SNR=6.5

*IDC **15** 14:18:10.5±1.1, 46°.07S×165°.94E, h0km, mb4.1/4, mb1 4.3/5, mb1mx4.0/15, mbtmp4.2/5, MS3.4/1, Ms1 3.4/1, ms1mx3.4/13, Error ellipse: s-maj=36.9km s-min=28.1km az=49.0*

*ISCJB **15** 14:18:12.2±1.2, 46°.05S±0°.05×165°.98E±0°.07, h22km±8km, mb4.1/4, Error ellipse: s-maj=8.9km s-min=7.9km az=160.2*

*WEL **15** 14:18:13.2±0.9, 46°.03S×166°.04E, h12km, ML4.4/14, Error ellipse: s-maj=7.9km s-min=3.3km az=90.0*

ISC 15 14:18:13.7±2.0, 46°.03S±0°.05×166°.08E±0°.09, h23km±14km, n29,σ1s20/32, mb4.2/4, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.44**	**109**	P*	**Pb**	**14 18 22.5**	**-0.2**
PYZ				S*	**Sb**	**14 18 29.1**	**+0.2**
DCZ	**Deep Cove**	**0.93**	**54**	P*	**Pn**	**14 18 30.4**	**-0.9**
DCZ				S*	**Sb**	**14 18 42.9**	**0.0**
DCZ				AML	AML	14 18 45.8	
WHZ	**Wether Hill Ro**	**1.31**	**85**	PN	**Pn**	**14 18 36.6**	**+0.1**
WHZ				SN	**Sb**	**14 18 54.3**	**+0.5**
WHZ				AML	AML	14 18 57.6	
APZ	**The Paps**	**1.55**	**122**	PN	**Pn**	**14 18 39.3**	**-0.5**
APZ				SN	**Sn**	**14 18 58.5**	**-0.7**
MLZ	**Mavora Lakes**	**1.61**	**66**	PN	**Pb**	**14 18 41.7**	**-1.1**
MLZ				SN	**Sb**	**14 19 03.3**	**+0.6**
MLZ				AML	AML	14 19 07.4	
MSZ	**Milford Sound**	**1.88**	**45**	*e*PN	**Pn**	**14 18 45.0**	**+0.7**
MSZ				AML	AML	14 19 11.7	
MSZ				AML	AML	14 19 13.1	
MSZ				AML	AML	14 19 18.0	
MSZ				AML	AML	14 19 18.0	
SYZ	**Scrubby Hill**	**2.18**	**105**	PN	**Pn**	**14 18 49.2**	**+0.7**
WKZ	**Wanaka**	**2.39**	**61**	*e*PN	**Pn**	**14 18 53.6**	**+2.1**
WKZ				AML	AML	14 19 28.9	
WKZ				AML	AML	14 19 28.9	
WKZ				AML	AML	14 19 29.8	
WKZ				AML	AML	14 19 31.1	
EAZ	**Earnscleugh**	**2.40**	**72**	*e*PN	**Pn**	**14 18 53.5**	**+1.9**
EAZ				AML	AML	14 19 27.2	
EAZ				AML	AML	14 19 28.0	
TUZ	**Tuapeka**	**2.48**	**90**	*e*PN	**Pn**	**14 18 53.9**	**+1.3**
TUZ				AML	AML	14 19 27.3	
TUZ				AML	AML	14 19 30.0	
HHSZ	**Highcliff Hill**	**3.15**	**89**	*e*PN	**Pn**	**14 19 02.7**	**+0.8**
LBZ	**Lake Benmore**	**3.33**	**62**	AML	AML	14 19 46.0	
LBZ				AML	AML	14 19 47.7	
ODZ	**Otahua Downs**	**3.35**	**75**	*e*PN	**Pn**	**14 19 04.8**	**+0.1**
ODZ				AML	AML	14 20 00.9	
ODZ				AML	AML	14 20 04.0	
FOZ	**Fox Glacier**	**3.56**	**47**	AML	AML	14 19 53.9	
FOZ				AML	AML	14 19 57.5	
RPZ	**Rata Peaks**	**4.22**	**59**	Pn	**Pn**	**14 19 17.5**	**+0.9**
RPZ	baz=196,slow=7.4,SNR=3.1			Sn	**Sn**	**14 20 05.6**	**+0.4**
RPZ	6.5nm,0.3s,baz=49,slow=19,SNR=5.9			LR	LR	14 20 56.5	
RPZ	comp=Z,537nm,21.2s,baz=332,slow=38 **Rata Peaks**	**4.22**	**59**	AML	AML	14 20 08.0	
RPZ				AML	AML	14 20 08.4	
WVZ	**Waitaha Valley**	**4.45**	**50**	*e*PN	**Pn**	**14 19 21.4**	**+1.7**
WVZ				AML	AML	14 20 13.3	
LTZ	**Lake Taylor**	**5.49**	**56**	*e*PN	**Pn**	**14 19 36.8**	**+2.7**
LTZ				AML	AML	14 20 37.2	
LTZ				AML	AML	14 20 37.6	
DSZ	**Denniston Nort**	**5.95**	**46**	*e*PN	**Pn**	**14 19 40.7**	**+0.3**
QRZ	**Quartz Range**	**7.00**	**44**	SN	**Sn**	**14 21 10.2**	**-3.4**
ASAR	**Alice Springs**	**34.21**	**300**	P	**P**	**14 24 57.1**	**-0.4**
	0.4nm,0.3s,baz=140,slow=4.5,SNR=6.7						
WRA	**Warramunga Arr**	**36.81**	**304**	P	**P**	**14 25 19.2**	**-0.7**
	1.2nm,0.5s,baz=137,slow=7.9,SNR=5.9						
QSPA	**South Pole Qui**	**44.10**	**180**	P	**P**	**14 26 19.9**	**+0.1**
	5.5nm,1.0s,baz=71,slow=1.1,SNR=6.9						
SNAA	**Sanae**	**62.34**	**184**	*e*	**P**	**14 28 33.8**	**0.0**
VNA1	**Neumayer--Stat**	**63.56**	**182**	*e*	**P**	**14 28 42.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**88.21**	**299**	P	**P**	**14 31 03.9**	**+0.9**
	1.3nm,0.8s,baz=159,slow=2.7,SNR=6.2						
TORD	**Torodi Ar. Bea**	**144.67**	**207**	PKP	**PKPab**	**14 37 47.0**	**-0.4**
	1.2nm,0.5s,baz=164,slow=1.9,SNR=8.0						
BRTR	**Keskin Array B**	**145.01**	**277**	PKP	**PKPdf**	**14 37 48.5**	**-0.3**
	3.6nm,0.9s,baz=137,slow=4.2,SNR=6.2						
ARCES	**ARCESS Array B**	**149.41**	**334**	PKPbc	**PKPbc**	**14 37 59.8**	**+0.3**
	4.1nm,0.7s,baz=72,slow=4.0,SNR=6.5						

*IDC **15** 14:22:56.0±1.1, 46°.05S×166°.07E, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.8/16, mbtmp3.9/5, ML3.7/2, Error ellipse: s-maj=29.2km s-min=26.7km az=26.0*

*AUST **15** 14:22:56.7±1.7, 46°.20S×166°.15E, h0km, Error ellipse: s-maj=1.8km s-min=0.9km az=14.0*

*WEL **15** 14:22:58.9±0.7, 46°.05S×166°.00E, h33km, ML4.2/12, Error ellipse: s-maj=7.8km s-min=3.2km az=90.0*

*ISCJB **15** 14:22:60.0±0.7, 46°.08S±0°.06×166°.14E±0°.08, h46km±9km, mb3.7/3, Error ellipse: s-maj=10.0km s-min=8.8km az=153.9*

ISC 15 14:23:00.7±1.2, 46°.10S±0°.07×166°.12E±0°.06, h35km±5km, n28,σ1s03/31, mb3.8/3, 1C, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.39**	**100**	PN	**Pb**	**14 23 09.1**	**-0.8**
PYZ				SN	**Sb**	**14 23 16.8**	**+0.7**
DCZ	**Deep Cove**	**0.95**	**50**	PN	**Pn**	**14 23 16.0**	**-1.6**
DCZ				SN	**Sn**	**14 23 28.9**	**-1.0**
DCZ				AML	AML	14 23 29.9	
WHZ	**Wether Hill Ro**	**1.29**	**81**	⇑PN	**Pn**	**14 23 21.5**	**-0.7**
WHZ				SN	**Sn**	**14 23 38.3**	**0.0**
WHZ				AML	AML	14 23 42.5	
APZ	**The Paps**	**1.48**	**120**	PN	**Pn**	**14 23 24.2**	**-0.7**
APZ				SN	**Sn**	**14 23 41.7**	**-1.4**
MLZ	**Mavora Lakes**	**1.62**	**63**	*e*PN	Pn	14 23 23.3	-3.6
MLZ				SN	**Sn**	**14 23 48.3**	**+1.7**
MLZ				AML	AML	14 23 53.6	
MSZ	**Milford Sound**	**1.91**	**42**	*e*PN	**Pn**	**14 23 31.7**	**+1.0**
MSZ				AML	AML	14 23 56.4	
MSZ				AML	AML	14 23 59.4	
MSZ				AML	AML	14 24 00.8	
MSZ				AML	AML	14 24 03.4	
SYZ	**Scrubby Hill**	**2.13**	**103**	PN	**Pn**	**14 23 34.6**	**+0.8**
EAZ	**Earnscleugh**	**2.40**	**70**	*e*PN	**Pn**	**14 23 39.0**	**+1.6**
EAZ				AML	AML	14 24 12.5	
EAZ				AML	AML	14 24 13.7	
WKZ	**Wanaka**	**2.40**	**59**	*e*PN	**Pn**	**14 23 39.0**	**+1.5**
WKZ				AML	AML	14 24 11.9	
WKZ				AML	AML	14 24 12.1	
WKZ				AML	AML	14 24 12.1	
WKZ				AML	AML	14 24 13.7	
TUZ	**Tuapeka**	**2.45**	**88**	*e*PN	**Pn**	**14 23 38.8**	**+0.7**
TUZ				AML	AML	14 24 13.0	
TUZ				AML	AML	14 24 13.1	
HHSZ	**Highcliff Hill**	**3.13**	**88**	PN	**Pn**	**14 23 48.0**	**+0.5**
LBZ	**Lake Benmore**	**3.34**	**61**	*e*PN	**Pn**	**14 23 51.9**	**+1.5**
LBZ				AML	AML	14 24 31.8	
LBZ				AML	AML	14 24 32.4	
ODZ	**Otahua Downs**	**3.35**	**73**	PN	**Pn**	**14 23 49.5**	**-1.0**
ODZ				AML	AML	14 24 31.5	
RPZ	**Rata Peaks**	**4.24**	**58**	Pn	**Pn**	**14 24 02.6**	**-0.1**
RPZ	10nm,0.3s,baz=224,slow=10.0,SNR=6.9			Sn	**Sn**	**14 24 51.1**	**0.0**
RPZ	24nm,0.3s,baz=40,slow=19,SNR=9.1 **Rata Peaks**	**4.24**	**58**	PN	**Pn**	**14 24 02.9**	**+0.2**
RPZ				AML	AML	14 24 54.3	
RPZ				AML	AML	14 24 54.6	
WVZ	**Waitaha Valley**	**4.47**	**49**	*e*PN	**Pn**	**14 24 04.7**	**-1.3**
LTZ	**Lake Taylor**	**5.51**	**55**	AML	AML	14 25 22.5	
THZ	**Tophouse**	**6.54**	**51**	AML	AML	14 25 54.3	
URZ	**Urewera**	**11.30**	**50**	Pn	**Pn**	**14 25 37.8**	**-1.7**
URZ	0.2nm,0.3s,baz=249,slow=14,SNR=2.3			Sn	Sn	14 27 36.8	-7.7
LHI	0.2nm,0.3s,baz=354,slow=18,SNR=2.5 **Lord Howe Isla**	**15.55**	**337**	S	**S**	**14 29 42.0**	**-1.1**
TOO	baz=16,SNR=3.6 **Toolangi**	**17.54**	**292**	P	**Pn**	**14 27 02.6**	**+0.2**
YNG	baz=18,SNR=5.0 **Young**	**17.91**	**305**	P	**P**	**14 27 07.7**	**+0.4**
ASAR	baz=18,SNR=5.8 **Alice Springs**	**34.27**	**300**	P	**P**	**14 29 43.5**	**0.0**
	0.8nm,0.6s,baz=132,slow=7.9,SNR=11						
WRA	**Warramunga Arr**	**36.88**	**304**	P	**P**	**14 30 05.3**	**-0.6**
	0.9nm,0.6s,baz=138,slow=7.9,SNR=15						
QSPA	**South Pole Qui**	**44.02**	**180**	P	**P**	**14 31 05.5**	**+0.9**
	0.7nm,0.9s,baz=337,slow=4.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**144.61**	**207**	PKP	**PKPab**	**14 42 32.0**	**-0.4**
	0.4nm,0.6s,baz=156,slow=1.1,SNR=4.8						
BRTR	**Keskin Array B**	**145.05**	**277**	PKPbc	**PKPbc**	**14 42 34.0**	**+0.6**
	2.0nm,0.9s,baz=107,slow=4.3,SNR=4.7						
ARCES	**ARCESS Array B**	**149.49**	**334**	PKPbc	**PKPbc**	**14 42 45.6**	**+0.8**
	3.8nm,1.0s,baz=64,slow=4.1,SNR=4.4						

WEL 15 14:21:47.9±1.2, 46°.02S×165°.87E, h12km, ML3.8/9, Error ellipse: s-maj=11.9km s-min=5.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.58**	**105**	P*	Pg	14 21 59.2	-0.1
PYZ				S*	Sg	14 22 06.8	-0.2
DCZ	**Deep Cove**	**1.05**	**59**	P*	Pb	14 22 07.0	-1.0
DCZ				S*	Sb	14 22 20.8	-0.9
DCZ				AML	AML	14 22 23.0	
WHZ	**Wether Hill Ro**	**1.45**	**86**	PN	Pn	14 22 13.2	-0.8
WHZ				AML	AML	14 22 32.6	
WHZ				AML	AML	14 22 33.2	
APZ	**The Paps**	**1.67**	**120**	*e*PN	Pn	14 22 15.0	-2.1
MLZ	**Mavora Lakes**	**1.75**	**68**	*e*PN	Pb	14 22 19.4	-0.6
MLZ				AML	AML	14 22 45.4	
MLZ				AML	AML	14 22 45.7	
MSZ	**Milford Sound**	**1.98**	**48**	PN	Pn	14 22 21.7	+0.5
MSZ				AML	AML	14 22 59.0	
MSZ				AML	AML	14 23 00.8	
SYZ	**Scrubby Hill**	**2.32**	**104**	*e*PN	Pn	14 22 25.9	0.0
WKZ	**Wanaka**	**2.52**	**63**	*e*PN	Pn	14 22 26.9	-1.7
WKZ				AML	AML	14 23 08.1	
WKZ				AML	AML	14 23 08.4	
WKZ				AML	AML	14 23 09.2	
WKZ				AML	AML	14 23 09.2	
EAZ	**Earnscleugh**	**2.54**	**73**	*e*PN	Pn	14 22 30.6	+1.7
EAZ				AML	AML	14 23 07.4	
EAZ				AML	AML	14 23 08.1	
TUZ	**Tuapeka**	**2.62**	**90**	*e*PN	Pn	14 22 30.6	+0.6
TUZ				AML	AML	14 23 03.9	
TUZ				AML	AML	14 23 05.4	
HHSZ	**Highcliff Hill**	**3.30**	**89**	*e*PN	Pn	14 22 39.3	0.0
LBZ	**Lake Benmore**	**3.46**	**63**	AML	AML	14 23 27.0	
ODZ	**Otahua Downs**	**3.49**	**75**	*e*PN	Pn	14 22 41.2	-0.8
RPZ	**Rata Peaks**	**4.35**	**60**	AML	AML	14 23 48.6	

WEL 15 14:26:50.4±0.8, 46°.00S×165°.88E, h12km, ML3.8/10, 1C, Error ellipse: s-maj=6.9km s-min=3.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.58**	**107**	⇑P*	Pg	14 27 01.5	-0.3
PYZ				S*	Sg	14 27 10.0	+0.5
DCZ	**Deep Cove**	**1.04**	**60**	P*	Pb	14 27 09.0	-1.2
DCZ				S*	Sb	14 27 22.2	-1.5
DCZ				AML	AML	14 27 24.6	
WHZ	**Wether Hill Ro**	**1.45**	**86**	PN	Pn	14 27 15.5	-0.9
WHZ				SN	Sn	14 27 34.1	-1.2
WHZ				AML	AML	14 27 38.3	
APZ	**The Paps**	**1.68**	**120**	PN	Pn	14 27 18.4	-1.3
APZ				SN	Sn	14 27 38.3	-2.8
MLZ	**Mavora Lakes**	**1.74**	**69**	PN	Pn	14 27 20.4	0.0
MLZ				SN	Sn	14 27 42.5	0.0
MLZ				AML	AML	14 27 45.9	
MSZ	**Milford Sound**	**1.96**	**48**	*e*PN	Pn	14 27 22.8	-0.7
MSZ				AML	AML	14 27 57.4	
MSZ				AML	AML	14 27 58.4	
SYZ	**Scrubby Hill**	**2.33**	**104**	*e*PN	Pn	14 27 27.8	-0.6
SYZ				SN	Sn	14 27 57.1	+0.2
WKZ	**Wanaka**	**2.50**	**63**	*e*PN	Pn	14 27 31.8	+0.9
WKZ				AML	AML	14 28 05.1	
EAZ	**Earnscleugh**	**2.53**	**73**	*e*PN	Pn	14 27 32.4	+1.2
EAZ				AML	AML	14 28 04.4	
EAZ				AML	AML	14 28 05.2	
EAZ				AML	AML	14 28 12.3	
EAZ				AML	AML	14 29 08.8	
TUZ	**Tuapeka**	**2.62**	**90**	*e*PN	Pn	14 27 32.4	-0.1
TUZ				AML	AML	14 28 05.4	
TUZ				AML	AML	14 28 07.9	
LBZ	**Lake Benmore**	**3.45**	**64**	*e*PN	Pn	14 27 43.3	-0.5
LBZ				AML	AML	14 29 26.8	
LBZ				AML	AML	14 29 42.1	
ODZ	**Otahua Downs**	**3.48**	**76**	*e*PN	Pn	14 27 41.4	-3.0
ODZ				AML	AML	14 28 25.9	
RPZ	**Rata Peaks**	**4.33**	**60**	PN	Pn	14 27 54.9	-1.2
RPZ				AML	AML	14 29 47.9	
RPZ				AML	AML	14 29 59.3	
OXZ	**Oxford**	**5.14**	**61**	*e*PN	Pn	14 28 05.4	-1.8
LTZ	**Lake Taylor**	**5.60**	**57**	*e*PN	Pn	14 28 14.5	+1.1
DSZ	**Denniston Nort**	**6.04**	**47**	*e*PN	Pn	14 28 19.2	-0.3
THZ	**Tophouse**	**6.61**	**53**	*e*PN	Pn	14 28 25.0	-2.4
QRZ	**Quartz Range**	**7.08**	**45**	*e*PN	Pn	14 28 32.9	-0.9
NNZ	**Nelson**	**7.25**	**51**	*e*PN	Pn	14 28 38.6	+2.6

WEL 15 14:27:50.7±1.1, 46°.03S×166°.00E, h12km, ML3.8/9, 1C, Error ellipse: s-maj=9.2km s-min=3.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.49**	**106**	⇑P*	Pg	14 28 00.4	0.0
PYZ				S*	Sg	14 28 07.5	+0.5
DCZ	**Deep Cove**	**0.98**	**56**	P*	Pg	14 28 08.2	-1.3
DCZ				S*	Sg	14 28 21.0	-1.4
DCZ				A

TUZ	**Tuapeka**	**2.53**	**90**	*e*PN	Pn	14 28 30.5	-1.1
TUZ				SN	Sn	14 29 02.0	-0.4
TUZ				AML	AML	14 29 06.7	
RPZ	**Rata Peaks**	**4.28**	**59**	AML	AML	14 29 44.9	

*IDC **15** 14:32:03.2±1.2, 46°03S×166°06E, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.7/16, mbtmp3.7/5, ML3.6/2, Error ellipse: s-maj=29.5km s-min=27.6km az=22.0*
*ISCJB **15** 14:32:05.4±1.1, 46°03S±0°06×166°06E±0°07, h25km±7km, mb3.5/3, Error ellipse: s-maj=9.5km s-min=8.5km az=12.7*
*WEL **15** 14:32:06.2±0.5, 46°06S×166°12E, h20km, ML4.1/12, Error ellipse: s-maj=4.5km s-min=1.9km az=90.0*
ISC 15 14:32:04.6±2.0, 46°03S±0°06×166°11E±0°07, h11km±12km, n24, σ1°00/27, mb3.6/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.42**	**109**	P*	**Pb**	**14 32 14.7**	**+0.6**
PYZ				S*	**Sb**	**14 32 20.6**	**+0.2**
DCZ	**Deep Cove**	**0.92**	**53**	P*	**Pg**	**14 32 22.9**	**+0.7**
DCZ				S*	**Sn**	**14 32 35.9**	**-0.7**
DCZ				AML	AML	14 32 37.0	
WHZ	**Wether Hill Ro**	**1.29**	**85**	PN	**Pn**	**14 32 28.7**	**+0.1**
WHZ				SN	**Sb**	**14 32 45.6**	**+0.2**
WHZ				AML	AML	14 32 46.3	
APZ	**The Paps**	**1.52**	**122**	*e*PN	**Pn**	**14 32 31.6**	**-0.3**
APZ				SN	**Sn**	**14 32 49.8**	**-2.0**
MLZ	**Mavora Lakes**	**1.60**	**65**	*e*PN	**Pn**	**14 32 33.5**	**+0.7**
MLZ				AML	AML	14 32 59.4	
MLZ				AML	AML	14 32 59.5	
MSZ	**Milford Sound**	**1.87**	**44**	*e*PN	**Pg**	**14 32 40.0**	**-0.4**
MSZ				AML	AML	14 33 14.6	
MSZ				AML	AML	14 33 16.5	
SYZ	**Scrubby Hill**	**2.16**	**105**	*e*PN	**Pn**	**14 32 41.3**	**+0.7**
WKZ	**Wanaka**	**2.37**	**61**	*e*PN	**Pb**	**14 32 46.8**	**-0.6**
WKZ				AML	AML	14 33 18.3	
WKZ				AML	AML	14 33 21.5	
EAZ	**Earnscleugh**	**2.38**	**72**	*e*PN	**Pb**	**14 32 46.1**	**-1.4**
EAZ				AML	AML	14 33 19.9	
EAZ				AML	AML	14 33 21.2	
EAZ				AML	AML	14 33 21.3	
EAZ				AML	AML	14 33 21.3	
TUZ	**Tuapeka**	**2.45**	**90**	PN	**Pb**	**14 32 47.2**	**-1.5**
TUZ				SN	**Sn**	**14 33 16.4**	**+1.8**
TUZ				AML	AML	14 33 19.2	
LBZ	**Lake Benmore**	**3.31**	**62**	AML	AML	14 33 39.0	
LBZ				AML	AML	14 33 40.0	
ODZ	**Otahua Downs**	**3.33**	**74**	*e*PN	**Pn**	**14 32 57.4**	**+0.7**
ODZ				AML	AML	14 33 39.8	
ODZ				AML	AML	14 33 40.9	
FOZ	**Fox Glacier**	**3.54**	**47**	AML	AML	14 34 07.8	
RPZ	**Rata Peaks**	**4.21**	**58**	PN	**Pn**	**14 33 09.7**	**+1.0**
	6.3nm,0.3s,baz=233,slow=6.7,SNR=10						
RPZ				SN	**Sn**	**14 33 58.5**	**+0.6**
	14nm,0.3s,baz=8.4,slow=21,SNR=12						
RPZ	**Rata Peaks**	**4.21**	**58**	*e*PN	**Pn**	**14 33 06.6**	**-2.1**
RPZ				AML	AML	14 34 01.1	
RPZ				AML	AML	14 34 01.8	
OXZ	**Oxford**	**5.02**	**59**	*e*PN	**Pn**	**14 33 19.7**	**-0.2**
LTZ	**Lake Taylor**	**5.48**	**56**	AML	AML	14 34 30.7	
LTZ				AML	AML	14 34 32.7	
QRZ	**Quartz Range**	**6.99**	**44**	*e*PN	**Pn**	**14 33 47.7**	**+0.8**
URZ	**Urewera**	**11.26**	**50**	Pn	**Pn**	**14 34 45.8**	**+0.3**
	0.3nm,0.3s,baz=284,slow=4.2,SNR=2.6						
URZ				Sn	Sn	14 36 45.1	-6.1
	0.2nm,0.3s,baz=49,slow=19,SNR=2.0						
ASAR	**Alice Springs**	**34.23**	**300**	P	**P**	**14 38 50.7**	**+0.2**
	0.6nm,0.8s,baz=130,slow=8.7,SNR=6.5						
WRA	**Warramunga Arr**	**36.83**	**304**	P	**P**	**14 39 13.0**	**+0.1**
	0.6nm,1.1s,baz=138,slow=7.8,SNR=6.8						
QSPA	**South Pole Qui**	**44.09**	**180**	P	**P**	**14 40 13.3**	**+0.7**
	1.3nm,1.0s,baz=28,slow=1.0,SNR=3.9						
TORD	**Torodi Ar. Bea**	**144.67**	**207**	PKP	**PKPab**	**14 51 39.8**	**-0.5**
	0.7nm,0.7s,baz=182,slow=2.2,SNR=3.5						
BRTR	**Keskin Array B**	**145.03**	**277**	PKP	**PKPbc**	**14 51 40.7**	**-0.5**
	0.9nm,0.9s,baz=2.9,slow=2.9,SNR=3.9						

*ISCJB **15** 14:32:27.9±0.8, 38°06N±0°04×141°73E±0°08, h55km±6km, mb3.9/14, Error ellipse: s-maj=11.3km s-min=5.2km az=26.7*
*JMA **15** 14:32:28.6±0.1, 38°03N×141°69E, h49km±1km, M3.9*
JMA Felt I J1.
*IDC **15** 14:32:29.2±0.6, 38°04N×141°61E, h50km±5km, mb3.7/13, mb1 3.9/17, mb1mx3.8/26, mbtmp3.7/17, Error ellipse: s-maj=17.4km s-min=13.6km az=94.0*
ISC 15 14:32:29.1±0.7, 38°05N±0°05×141°70E±0°06, h48km±5km, n33, σ0°79/48, mb3.9/14, 12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.49**	**326**	⇓P	**Pn**	**14 32 39.8**	**-0.4**
JIO				S	**Sn**	**14 32 47.6**	**-0.5**
JMM	**Marumori**	**0.74**	**256**	⇓P	**Pn**	**14 32 42.6**	**-0.7**
JMM				S	**Sn**	**14 32 53.0**	**-0.6**
JOU	**Okura**	**0.88**	**291**	⇓P	**Pn**	**14 32 44.9**	**-0.3**
JOU				S	**Sn**	**14 32 57.0**	**+0.1**
JFK	**Kawauchi**	**0.95**	**224**	⇓P	**Pn**	**14 32 45.1**	**-1.0**
JFK				S	**Sn**	**14 32 57.4**	**-1.2**
JMK	**Ichinoseki**	**0.98**	**337**	⇓P	**Pn**	**14 32 46.3**	**-0.2**
JMK				S	**Sn**	**14 32 59.1**	**-0.2**
JFT	**Otama**	**1.21**	**244**	⇓P	**Pn**	**14 32 49.5**	**-0.1**
JFT				*e*S	**Sn**	**14 33 05.1**	**+0.3**
JYS	**Shirataka**	**1.30**	**278**	⇓P	**Pn**	**14 32 50.7**	**-0.2**
JYS				*e*S	**Sn**	**14 33 07.2**	**0.0**
JYK	**Kaneyama**	**1.37**	**310**	⇓P	**Pn**	**14 32 51.7**	**-0.1**
JYK				*e*S	**Sn**	**14 33 09.4**	**+0.7**
JOM	**Ohasama**	**1.46**	**347**	⇓P	**Pn**	**14 32 53.0**	**0.0**
JRG	**Rokugo**	**1.58**	**328**	⇓P	**Pn**	**14 32 55.2**	**+0.4**
JYA	**Atsumi**	**1.66**	**290**	⇓P	**Pn**	**14 32 55.7**	**0.0**
JFY	**Yanaizu**	**1.71**	**249**	⇓P	**Pn**	**14 32 56.6**	**+0.1**
JFY				*e*S	**Sn**	**14 33 17.2**	**0.0**
MJAR	**Matsushiro Arr**	**3.17**	**243**	P	**Pn**	**14 33 17.2**	**+0.7**
	4.7nm,0.3s,baz=66,slow=11,SNR=58						
MJAR				S	**Sn**	**14 33 55.5**	**+2.5**
	6.3nm,0.3s,baz=70,slow=15,SNR=4.4						
ASAJ	**Asahikawa**	**6.10**	**6**	P	**Pn**	**14 33 55.8**	**-0.9**
	2.5nm,0.3s,baz=119,slow=26,SNR=26						
ASAJ				S	**Sn**	**14 35 04.1**	**-1.0**
	0.7nm,0.3s,baz=73,slow=19,SNR=2.6						
USRK	**Ussuriysk Arra**	**9.55**	**313**	P	**Pn**	**14 34 43.9**	**0.0**
	0.5nm,0.3s,baz=122,slow=15,SNR=5.4						
KSRS	**Korea Array**	**10.93**	**271**	P	Pn	14 35 05.8	+3.0
	0.2nm,0.3s,baz=85,slow=15,SNR=5.0						
PETK	**Petropavlovsk-**	**18.70**	**31**	P	**Pn**	**14 36 45.2**	**+1.1**
	0.0nm,0.3s,baz=206,slow=12,SNR=2.7						
SONM	**Songino Array**	**27.42**	**302**	P	**P**	**14 38 10.5**	**+0.2**
	2.1nm,0.7s,baz=98,slow=9.4,SNR=12						
ZALV	**Zalesovo Beam**	**41.41**	**312**	P	**P**	**14 40 10.0**	**-0.5**
	3.8nm,0.5s,baz=84,slow=7.2,SNR=15						
CMAR	**Chiang Mai Arr**	**41.98**	**254**	P	**P**	**14 40 15.1**	**-0.6**
	0.3nm,0.4s,baz=41,slow=9.0,SNR=4.3						
MKAR	**Makanchi Array**	**43.78**	**301**	P	**P**	**14 40 29.2**	**-0.7**
	2.0nm,0.7s,baz=84,slow=10,SNR=15						
ILAR	**Eielson Array**	**48.52**	**33**	P	**P**	**14 41 09.4**	**+2.6**
	0.3nm,0.7s,baz=265,slow=6.2,SNR=2.8						
ILAR				sP	**sP**	**14 41 26.1**	**+0.5**
	0.9nm,0.8s,baz=268,slow=7.2,SNR=5.4						
WRA	**Warramunga Arr**	**58.10**	**188**	P	**P**	**14 42 16.7**	**-0.9**
	1.7nm,0.6s,baz=7.8,slow=7.7,SNR=26						
WRA				pP	**pP**	**14 42 30.4**	**-0.7**
	2.9nm,0.7s,baz=6.1,slow=7.2,SNR=9.9						
ASAR	**Alice Springs**	**61.82**	**188**	P	**P**	**14 42 43.0**	**-0.2**
	0.2nm,0.6s,baz=17,slow=13,SNR=5.0						
ASAR				pP	**pP**	**14 42 56.7**	**0.0**
	1.0nm,0.7s,baz=13,slow=5.7,SNR=8.7						
ARCES	**ARCESS Array B**	**63.13**	**339**	P	**P**	**14 42 50.7**	**-0.6**
	1.1nm,0.5s,baz=50,slow=8.4,SNR=8.0						
FINES	**FINESS Array B**	**68.03**	**332**	P	**P**	**14 43 21.9**	**-1.1**
	2.0nm,0.6s,baz=37,slow=9.8,SNR=13						
KBZ	**Khabaz**	**70.42**	**311**	P	**P**	**14 43 37.5**	**-0.6**
	2.1nm,0.8s,baz=72,slow=9.6,SNR=3.6						
NB2	**NORSAR Subarra**	**73.34**	**337**	P	**P**	**14 43 54.8**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**73.34**	**337**	P	**P**	**14 43 54.8**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=38,slow=6.0,SNR=7.2						
NOA				pP	**pP**	**14 44 09.6**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=39,slow=6.1,SNR=3.3						
PDAR	**Pinedale Array**	**76.79**	**46**	P	**P**	**14 44 16.1**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=280,slow=3.2,SNR=6.0						
PDAR				pP	**pP**	**14 44 30.4**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=348,slow=0.7,SNR=3.9						
BRTR	**Keskin Array B**	**78.35**	**312**	P	**P**	**14 44 24.3**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=31,slow=45,SNR=3.6						
TXAR	**Lajitas Array**	**89.32**	**53**	P	**P**	**14 45 20.9**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=235,slow=3.2,SNR=2.3						
LPAZ	**La Paz**	**145.98**	**59**	PKPbc	**PKPab**	**14 52 05.7**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=346,slow=8.3,SNR=2.3						
LPAZ				pPKPbc	pPKPbc	14 52 19.5	+0.3
	comp=Z,1.3nm,0.8s,baz=30,slow=6.4,SNR=3.0						

WEL 15 14:35:56.6±0.2, 45°57S×166°60E, h5km, ML3.9/12, Error ellipse: s-maj=2.1km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.40**	**76**	PG	Pg	14 36 05.0	+0.7
DCZ				SG	Sg	14 36 10.4	+0.8
DCZ				AML	AML	14 36 10.8	
PYZ	**Puysegur Point**	**0.60**	**174**	P*	Pg	14 36 08.8	+0.7
PYZ				SG	Sg	14 36 16.4	+0.5
WHZ	**Wether Hill Ro**	**1.00**	**109**	P*	Pg	14 36 15.5	-0.3
WHZ				AML	AML	14 36 32.6	
WHZ				AML	AML	14 36 33.4	
MLZ	**Mavora Lakes**	**1.13**	**79**	P*	Pg	14 36 16.7	-1.6
MLZ				S*	Sg	14 36 30.7	-2.4
MLZ				AML	AML	14 36 32.5	
MSZ	**Milford Sound**	**1.30**	**47**	*e*P*	Pn	14 36 20.4	-1.0
MSZ				AML	AML	14 36 40.9	
MSZ				AML	AML	14 36 42.2	
MSZ				AML	AML	14 36 42.2	
MSZ				AML	AML	14 36 42.6	
APZ	**The Paps**	**1.59**	**143**	*e*PN	Pn	14 36 25.0	-0.4
WKZ	**Wanaka**	**1.87**	**67**	PN	Pn	14 36 28.0	-1.2
WKZ				SN	Sn	14 36 52.0	-1.2
WKZ				AML	AML	14 36 55.2	
EAZ	**Earnscleugh**	**1.94**	**81**	PN	Pn	14 36 30.3	+0.1
EAZ				SN	Sn	14 36 53.4	-1.5
EAZ				AML	AML	14 36 57.6	
SYZ	**Scrubby Hill**	**2.02**	**120**	*e*PN	Pb	14 36 32.6	-1.0
TUZ	**Tuapeka**	**2.16**	**101**	*e*PN	Pn	14 36 34.4	+1.2
TUZ				AML	AML	14 37 05.6	
TUZ				AML	AML	14 37 06.0	
LBZ	**Lake Benmore**	**2.81**	**66**	*e*PN	Pn	14 36 42.9	+0.7
LBZ				AML	AML	14 37 19.3	
LBZ				AML	AML	14 37 21.8	
ODZ	**Otahua Downs**	**2.90**	**81**	*e*PN	Pn	14 36 42.4	-1.1
ODZ				AML	AML	14 37 21.5	
ODZ				AML	AML	14 37 22.8	
FOZ	**Fox Glacier**	**2.99**	**49**	*e*PN	Pb	14 36 48.5	-1.6
FOZ				AML	AML	14 37 39.5	
FOZ				AML	AML	14 37 39.8	
RPZ	**Rata Peaks**	**3.68**	**61**	*e*PN	Pn	14 36 51.8	-2.4
RPZ				AML	AML	14 37 39.9	
WVZ	**Waitaha Valley**	**3.88**	**51**	*e*PN	Pn	14 36 56.1	-0.8
OXZ	**Oxford**	**4.50**	**62**	*e*PN	Pn	14 37 02.7	-2.6
DSZ	**Denniston Nort**	**5.38**	**46**	*e*PN	Pn	14 37 13.8	-3.7
THZ	**Tophouse**	**5.95**	**52**	*e*PN	Pn	14 37 26.6	+1.2
THZ				AML	AML	14 38 43.8	
QRZ	**Quartz Range**	**6.42**	**44**	*e*PN	Pn	14 37 30.7	-1.1
NNZ	**Nelson**	**6.58**	**51**	*e*PN	Pn	14 37 34.2	+0.3

*IDC **15** 14:37:23.9±1.6, 45°63S×166°22E, h0km, mb3.8/2, mb1 4.1/4, mb1mx3.8/15, mbtmp4.0/4, ML4.0/2, MS3.4/1, Ms1 3.4/1, ms1mx3.2/15, Error ellipse: s-maj=50.0km s-min=27.8km az=172.0*
*ISCJB **15** 14:37:24.3±1.0, 45°69S±0°05×166°25E±0°07, h14km±7km, mb3.8/2, Error ellipse: s-maj=8.6km s-min=7.4km az=150.1*
*WEL **15** 14:37:25.3±0.3, 45°67S×166°41E, h5km, ML4.2/16, Error ellipse: s-maj=3.4km s-min=1.1km az=90.0*
ISC 15 14:37:25.7±1.4, 45°69S±0°04×166°39E±0°07, h19km±4km, n27, σ1°63/29, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.52**	**157**	PG	**Pg**	**14 37 36.0**	**-0.1**
PYZ				SG	**Sb**	**14 37 43.7**	**+0.4**
DCZ	**Deep Cove**	**0.57**	**69**	PG	**Pg**	**14 37 36.7**	**-0.4**
DCZ				AML	AML	14 37 49.1	
DCZ				AML	AML	14 37 50.4	
WHZ	**Wether Hill Ro**	**1.11**	**101**	P*	**Pb**	**14 37 46.1**	**-0.1**
WHZ				S*	**Sn**	**14 38 01.6**	**+0.7**
WHZ				AML	AML	14 38 09.6	
MLZ	**Mavora Lakes**	**1.30**	**75**	P*	**Pn**	**14 37 48.2**	**-0.6**
MLZ				S*	**Sn**	**14 38 04.9**	**-0.8**
MLZ				AML	AML	14 38 06.9	
MSZ	**Milford Sound**	**1.49**	**47**	PN	**Pn**	**14 37 52.2**	**+0.8**
MSZ				AML	AML	14 38 15.0	
MSZ				AML	AML	14 38 15.0	
MSZ				AML	AML	14 38 15.8	
MSZ				AML	AML	14 38 18.9	
APZ	**The Paps**	**1.59**	**137**	PN	**Pn**	**14 37 53.3**	**+0.5**
APZ				SN	**Sn**	**14 38 13.3**	**+0.3**
WKZ	**Wanaka**	**2.04**	**66**	*e*PN	**Pb**	**14 38 01.6**	**-0.6**
WKZ				SN	**Sb**	**14 38 29.0**	**+1.8**
WKZ				AML	AML	14 38 32.2	
WKZ				AML	AML	14 38 33.7	
WKZ				AML	AML	14 38 40.4	
SYZ	**Scrubby Hill**	**2.09**	**115**	*e*PN	**Pb**	**14 38 01.8**	**-1.1**
EAZ	**Earnscleugh**	**2.10**	**79**	*e*PN	**Pn**	**14 38 01.3**	**+1.5**
EAZ				AML	AML	14 38 32.1	
EAZ				AML	AML	14 38 32.3	
EAZ				AML	AML	14 38 32.9	
EAZ				AML	AML	14 38 33.1	
TUZ	**Tuapeka**	**2.28**	**98**	PN	**Pb**	**14 38 05.4**	**-0.8**
TUZ				AML	AML	14 38 37.0	
TUZ				AML	AML	14 38 37.2	
JCZ	**Jackson Bay**	**2.33**	**47**	*e*PN	**Pb**	**14 38 06.0**	**-1.1**
JCZ				AML	AML	14 38 42.5	
JCZ				AML	AML	14 38 42.7	
LBZ	**Lake Benmore**	**2.99**	**66**	AML	AML	14 38 52.2	
LBZ				AML	AML	14 38 54.4	
ODZ	**Otahua Downs**	**3.06**	**79**	PN	**Pn**	**14 38 14.4**	**+1.4**
ODZ				AML	AML	14 38 53.9	
ODZ				AML	AML	14 38 55.0	
ODZ				AML	AML	14 39 04.2	
ODZ				AML	AML	14 39 06.9	
FOZ	**Fox Glacier**	**3.17**	**49**	AML	AML	14 39 13.8	
FOZ				AML	AML	14 39 19.7	
RPZ	**Rata Peaks**	**3.86**	**61**	Pn	**Pn**	**14 38 26.1**	**+2.0**
	16nm,0.3s,baz=208,slow=4.6,SNR=7.9						
RPZ				Sn	**Sn**	**14 39 11.4**	**+2.5**
	14nm,0.3s,baz=342,slow=20,SNR=4.7						
RPZ				LR	LR	14 39 22.8	
	comp=Z,464nm,19.4s,baz=326,slow=30						
RPZ	**Rata Peaks**	**3.86**	**61**	*e*PN	**Pn**	**14 38 26.0**	**+1.9**
RPZ				AML	AML	14 39 17.0	
RPZ				AML	AML	14 39 17.1	
WVZ	**Waitaha Valley**	**4.06**	**52**	AML	AML	14 39 40.1	
WVZ				AML	AML	14 39 49.2	
OXZ	**Oxford**	**4.68**	**62**	*e*PN	**Pn**	**14 38 37.8**	**+2.5**
LTZ	**Lake Taylor**	**5.12**	**58**	*e*PN	**Pn**	**14 38 44.1**	**+2.7**
LTZ				AML	AML	14 39 47.5	
DSZ	**Denniston Nort**	**5.56**	**47**	*e*PN	**Pn**	**14 38 48.3**	**+0.9**
THZ	**Tophouse**	**6.13**	**53**	*e*PN	Pn	14 38 59.3	+4.0
THZ				AML	AML	14 40 20.4	
THZ				AML	AML	14 40 20.7	
QRZ	**Quartz Range**	**6.61**	**45**	AML	AML	14 40 24.9	
URZ	**Urewera**	**10.89**	**51**	Pn	**Pn**	**14 40 01.3**	**+0.9**
	0.6nm,0.3s,baz=120,slow=22,SNR=6.1						
URZ				Sn	**Sn**	**14 41 56.9**	**-4.8**
	0.2nm,0.3s,baz=18,slow=20,SNR=2.3						
ASAR	**Alice Springs**	**34.23**	**299**	P	**P**	**14 44 10.2**	**-0.1**
	0.7nm,0.9s,baz=131,slow=7.8,SNR=6.7						
WRA	**Warramunga Arr**	**36.80**	**304**	P	**P**	**14 44 32.0**	**-0.4**
	1.9nm,0.9s,baz=138,slow=8.0,SNR=6.6						
TORD	**Torodi Ar. Bea**	**145.06**	**207**	PKPbc	**PKPbc**	**14 57 01.4**	**+0.1**
	0.9nm,0.7s,baz=163,slow=2.2,SNR=6.7						
BRTR	**Keskin Array B**	**145.18**	**277**	PKPbc	**PKPdf**	**14 57 02.2**	**+0.5**
	0.7nm,0.6s,baz=124,slow=6.1,SNR=4.2						

WEL 15 14:40:17.8±0.8, 45°98S×166°03E, h12km, ML3.8/9, Error ellipse: s-maj=7.0km s-min=3.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.49**	**112**	P*	Pg	14 40 27.3	-0.2
PYZ				S*	Sg	14 40 34.5	+0.4
PYZ				S*	Sb	14 40 34.7	-1.0
DCZ	**Deep Cove**	**0.94**	**58**	P*	Pg	14 40 35.2	-0.7
DCZ				S*	Sg	14 40 47.3	-0.8
DCZ				AML	AML	14 40 48.4	
WHZ	**Wether Hill Ro**	**1.34**	**87**	*e*PN	Pn	14 40 40.6	-1.8
WHZ				SN	Sb	14 40 59.1	-1.1
WHZ				AML	AML	14 41 03.6	
APZ	**The Paps**	**1.60**	**123**	*e*PN	Pn	14 40 45.0	-1.0
MLZ	**Mavora Lakes**	**1.63**	**68**	*e*PN	Pn	14 40 46.0	-0.5
MLZ				AML	AML	14 41 11.8	
MLZ				AML	AML	14 41 12.2	
MSZ	**Milford Sound**	**1.88**	**46**	*e*PN	Pg	14 40 53.7	-0.1
MSZ				AML	AML	14 41 24.4	
MSZ				AML	AML	14 41 27.6	
SYZ	**Scrubby Hill**	**2.23**	**106**	*e*PN	Pb	14 40 56.5	-1.5
WKZ	**Wanaka**	**2.40**	**62**	*e*PN	Pb	14 41 00.6	-0.5
WKZ				AML	AML	14 41 32.5	
WKZ				AML	AML	14 41 37.2	
EAZ	**Earnscleugh**	**2.42**	**73**	*e*PN	Pn	14 40 58.5	+1.3
EAZ				AML	AML	14 41 29.1	
EAZ				AML	AML	14 41 30.2	
TUZ	**Tuapeka**	**2.52**	**91**	*e*PN	Pn	14 40 58.6	+0.1
TUZ				AML	AML	14 41 30.8	
TUZ				AML	AML	14 41 34.4	
JCZ	**Jackson Bay**	**2.72**	**46**	AML	AML	14 41 50.5	
JCZ				AML	AML	14 41 51.5	
LBZ	**Lake Benmore**	**3.35**	**63**	AML	AML	14 41 53.6	
ODZ	**Otahua Downs**	**3.38**	**76**	*e*PN	Pn	14 41 10.7	+0.4

WEL 15 14:51:39.9±0.5, 46°00S×166°22E, h20km, ML3.5/8, 1C, Error ellipse: s-maj=5.5km s-min=1.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.36**	**118**	⇑P*	Pb	14 51 47.4	-0.2
PYZ				S*	Sb	14 51 53.0	+0.1
DCZ	**Deep Cove**	**0.83**	**52**	P*	Pb	14 51 55.6	0.0
DCZ				S*	Sb	14 52 06.6	+0.1
DCZ				AML	AML	14 52 08.5	
WHZ	**Wether Hill Ro**	**1.21**	**86**	PN	Pn	14 52 01.3	-0.4
WHZ				AML	AML	14 52 24.0	
WHZ				AML	AML	14 52 25.8	
APZ	**The Paps**	**1.48**	**125**	PN	Pn	14 52 03.7	-1.8
MLZ	**Mavora Lakes**	**1.51**	**65**	*e*PN	Pb	14 52 07.0	-0.4
MLZ				SN	Sb	14 52 27.2	+1.1
MLZ				AML	AML	14 52 31.1	
MSZ	**Milford Sound**	**1.79**	**43**	PN	Pb	14 52 15.0	+3.0
MSZ				AML	AML	14 52 47.1	
MSZ				AML	AML	14 52 48.8	
MSZ				AML	AML	14 52 49.3	
MSZ				AML	AML	14 52 51.7	
SYZ	**Scrubby Hill**	**2.09**	**106**	*e*PN	Pn	14 52 13.3	-0.4
WKZ	**Wanaka**	**2.29**	**60**	*e*PN	Pb	14 52 19.4	-1.2
WKZ				AML	AML	14 52 56.0	
WKZ				AML	AML	14 52 58.8	
EAZ	**Earnscleugh**	**2.30**	**72**	*e*PN	Pn	14 52 18.4	+1.8
EAZ				AML	AML	14 52 49.5	
EAZ				AML	AML	14 52 54.6	
TUZ	**Tuapeka**	**2.38**	**90**	*e*PN	Pn	14 52 18.6	+0.9
TUZ				AML	AML	14 52 50.9	
TUZ				AML	AML	14 52 52.5	
JCZ	**Jackson Bay**	**2.63**	**44**	AML	AML	14 53 10.8	
JCZ				AML	AML	14 53 12.5	
LBZ	**Lake Benmore**	**3.23**	**61**	*e*PN	Pb	14 52 36.2	-0.4
ODZ	**Otahua Downs**	**3.25**	**75**	*e*PN	Pn	14 52 30.0	+0.2
RPZ	**Rata Peaks**	**4.12**	**58**	*e*PN	Pn	14 52 44.9	+3.1

*WEL **15** 15:00:05.3±0.8, 46°10S×165°87E, h20km, ML4.2/13, Error ellipse: s-maj=7.4km s-min=6.2km az=90.0*
*ISCJB **15** 14:59:07.0±0.9, 45°86S±0°06×166°15E±0°09, h14km, mb3.2/2, Error ellipse: s-maj=10.1km s-min=7.2km az=44.6*
*IDC **15** 15:00:09.4±1.8, 45°39S×166°21E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.5/14, mbtmp3.4/3, ML4.1/1, MS3.5/1, Ms1 3.5/1, ms1mx3.4/8, Error ellipse: s-maj=57.2km s-min=32.1km az=7.0*
ISC 15 15:00:08.8±1.1, 45°89S±0°07×166°29E±0°07, h14km, n24, σ1°51/25, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.39**	**136**	P*	**Pg**	**15 00 15.7**	**-0.9**
PYZ				S*	**Sb**	**15 00 24.9**	**+1.5**
DCZ	**Deep Cove**	**0.73**	**56**	SN	**Sn**	**15 00 38.5**	**+2.9**
DCZ				AML	AML	15 00 38.7	
DCZ				AML	AML	15 00 38.8	
DCZ				AML	AML	15 00 40.6	
WHZ	**Wether Hill Ro**	**1.16**	**91**	*e*PN	**Pn**	**15 00 29.8**	**-0.7**
WHZ				SN	**Sg**	**15 00 48.0**	**+1.9**
WHZ				AML	AML	15 00 54.1	
MLZ	**Mavora Lakes**	**1.43**	**68**	PN	**Pb**	**15 00 34.2**	**-1.0**
MLZ				AML	A

coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.57**	**96**	P*	Pg	15 02 30.6	-0.3
PYZ				S*	Sg	15 02 38.8	+0.3
DCZ	**Deep Cove**	**1.10**	**56**	P*	Pb	15 02 39.6	-1.1
DCZ				S*	Sb	15 02 54.2	-0.8
DCZ				AML	AML	15 02 58.7	
WHZ	**Wether Hill Ro**	**1.47**	**82**	PN	Pn	15 02 45.1	-0.9
WHZ				SN	Sn	15 03 04.0	-1.2
WHZ				AML	AML	15 03 05.2	
APZ	**The Paps**	**1.64**	**117**	PN	Pn	15 02 45.9	-2.5
APZ				SN	Sn	15 03 05.6	-3.8
MLZ	**Mavora Lakes**	**1.79**	**66**	*e*PN	Pn	15 02 50.8	+0.4
MLZ				SN	Sn	15 03 13.8	+0.7
MLZ				AML	AML	15 03 17.1	
MSZ	**Milford Sound**	**2.04**	**46**	*e*PN	Pb	15 02 55.9	-0.8
MSZ				AML	AML	15 03 33.5	
MSZ				AML	AML	15 03 36.8	
SYZ	**Scrubby Hill**	**2.31**	**102**	*e*PN	Pn	15 02 58.0	+0.5
EAZ	**Earnscleugh**	**2.57**	**71**	*e*PN	Pn	15 03 01.8	+0.7
EAZ				AML	AML	15 03 34.5	
EAZ				AML	AML	15 03 35.0	
TUZ	**Tuapeka**	**2.63**	**88**	*e*PN	Pn	15 03 01.8	-0.1
TUZ				AML	AML	15 03 36.0	
TUZ				AML	AML	15 03 36.4	
ODZ	**Otahua Downs**	**3.52**	**74**	*e*PN	Pn	15 03 13.2	-1.0
ODZ				AML	AML	15 04 08.7	

ROM 15 15:03:32.7±0.1, 42°.46N×13°.28E, h8km±1km, Md1.4/4, Ml1.4/3, Error ellipse: s-maj=0.8km s-min=0.5km az=98.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.12**	**52**	Pg	Pg	15 03 35.9	+0.3
CAMP				Sg	Sg	15 03 38.1	+0.5
	79nm,0.4s						
AQU	**L'Aquila**	**0.14**	**140**	Pg	Pg	15 03 36.1	+0.3
AQU				Sg	Sg	15 03 39.0	+1.0
	75nm,0.5s						
FIAM	**Fiamignano**	**0.23**	**212**	Pg	Pg	15 03 38.3	+0.8
FIAM				Sg	Sg	15 03 41.8	+1.1

WEL 15 15:07:34.4±0.7, 45°.66S×165°.92E, h33km, ML3.8/7, Error ellipse: s-maj=6.4km s-min=2.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.74**	**134**	*e*PN	Pn	15 07 48.0	-0.5
PYZ				SN	Sn	15 07 58.2	-0.5
DCZ	**Deep Cove**	**0.89**	**79**	SN	Sn	15 08 01.7	-0.5
DCZ				SN	Sb	15 08 01.8	-1.0
WHZ	**Wether Hill Ro**	**1.44**	**100**	PN	Pn	15 07 58.0	-0.2
WHZ				AML	AML	15 08 21.3	
WHZ				AML	AML	15 08 27.7	
MLZ	**Mavora Lakes**	**1.61**	**80**	PN	Pn	15 07 58.8	-1.8
MLZ				AML	AML	15 08 23.3	
MLZ				AML	AML	15 08 24.4	
MSZ	**Milford Sound**	**1.73**	**56**	*e*PN	Pn	15 08 02.3	+0.2
MSZ				SN	Sn	15 08 22.0	-0.9
MSZ				AML	AML	15 08 22.8	
MSZ				AML	AML	15 08 24.5	
MSZ				AML	AML	15 08 24.5	
APZ	**The Paps**	**1.86**	**130**	PN	Pn	15 08 06.5	-1.3
WKZ	**Wanaka**	**2.34**	**70**	*e*PN	Pn	15 08 11.1	+0.6
WKZ				AML	AML	15 08 42.6	
WKZ				AML	AML	15 08 43.0	
SYZ	**Scrubby Hill**	**2.41**	**113**	*e*PN	Pb	15 08 15.0	-2.0
EAZ	**Earnscleugh**	**2.42**	**81**	PN	Pn	15 08 12.1	+0.5
EAZ				AML	AML	15 08 42.1	
EAZ				AML	AML	15 08 44.9	
TUZ	**Tuapeka**	**2.61**	**98**	*e*PN	Pn	15 08 16.5	+2.3
TUZ				AML	AML	15 08 48.8	
TUZ				AML	AML	15 08 48.9	
ODZ	**Otahua Downs**	**3.39**	**81**	PN	Pn	15 08 24.2	-0.7

*IDC **15** 15:10:47.7±3.2, 46°.47S×166°.06E, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.7/16, mbtmp3.9/5, ML3.8/2, Error ellipse: s-maj=84.2km s-min=28.1km az=169.0*
*WEL **15** 15:10:52.4±0.7, 46°.18S×166°.02E, h26km±2km, ML4.2/13, Error ellipse: s-maj=6.3km s-min=3.3km az=90.0*
ISC 15 15:10:49.3±2.9, 46°.25S±0°.08×166°.02E±0°.06, h4km±18km, n28, σ0°.91/33, mb3.5/3, 1C, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.47**	**81**	⇑P*	**Pn**	**15 11 01.8**	**-0.9**
PYZ				S*	**Sb**	**15 11 08.6**	**+1.3**
PYZ				S*	**Sb**	**15 11 08.6**	**+1.3**
DCZ	**Deep Cove**	**1.10**	**46**	PN	**Pb**	**15 11 10.6**	**-0.2**
DCZ				SN	**Sb**	**15 11 24.2**	**-1.4**
DCZ				SN	**Sg**	**15 11 24.4**	**-0.3**
DCZ				AML	AML	15 11 25.7	
DCZ				AML	AML	15 11 27.5	
WHZ	**Wether Hill Ro**	**1.39**	**76**	PN	**Pb**	**15 11 15.9**	**+0.2**
WHZ				SN	**Sn**	**15 11 33.1**	**-1.0**
WHZ				AML	AML	15 11 35.5	
APZ	**The Paps**	**1.48**	**114**	PN	**Pn**	**15 11 16.8**	**+0.1**
APZ				SN	**Sn**	**15 11 35.1**	**-1.4**
MLZ	**Mavora Lakes**	**1.75**	**60**	PN	**Pb**	**15 11 21.9**	**-0.1**
MLZ				AML	AML	15 11 46.9	
MLZ				AML	AML	15 11 48.8	
MSZ	**Milford Sound**	**2.07**	**41**	*e*PN	**Pb**	**15 11 26.8**	**-0.5**
MSZ				AML	AML	15 11 56.7	
MSZ				AML	AML	15 12 00.0	
MSZ				AML	AML	15 12 02.8	
MSZ				AML	AML	15 12 04.1	
SYZ	**Scrubby Hill**	**2.18**	**99**	*e*PN	**Pn**	**15 11 26.9**	**+0.7**
EAZ	**Earnscleugh**	**2.52**	**67**	*e*PN	**Pn**	**15 11 32.9**	**+2.0**
EAZ				SN	**Sn**	**15 12 02.5**	**+0.5**
EAZ				AML	AML	15 12 07.7	
EAZ				AML	AML	15 12 07.8	
EAZ				AML	AML	15 12 07.9	
TUZ	**Tuapeka**	**2.53**	**85**	*e*PN	**Pn**	**15 11 31.9**	**+0.8**
TUZ				AML	AML	15 12 07.3	
TUZ				AML	AML	15 12 09.0	
WKZ	**Wanaka**	**2.54**	**57**	*e*PN	**Pb**	**15 11 34.3**	**-1.1**
WKZ				AML	AML	15 12 09.3	
WKZ				AML	AML	15 12 11.7	
WKZ				AML	AML	15 13 29.0	
JCZ	**Jackson Bay**	**2.91**	**43**	AML	AML	15 12 19.3	
JCZ				AML	AML	15 12 19.9	
HHSZ	**Highcliff Hill**	**3.21**	**85**	*e*PN	**Pn**	**15 11 41.3**	**+0.9**
ODZ	**Otahua Downs**	**3.46**	**71**	*e*PN	**Pn**	**15 11 43.8**	**0.0**
ODZ				AML	AML	15 12 27.7	
ODZ				AML	AML	15 12 28.0	
ODZ				AML	AML	15 12 33.6	
ODZ				AML	AML	15 12 38.2	
LBZ	**Lake Benmore**	**3.48**	**59**	*e*PN	**Pn**	**15 11 45.8**	**+1.7**
LBZ				AML	AML	15 12 31.5	
LBZ				AML	AML	15 12 31.5	
FOZ	**Fox Glacier**	**3.74**	**46**	AML	AML	15 12 41.6	
RPZ	**Rata Peaks**	**4.38**	**56**	Pn	**Pn**	**15 11 56.8**	**+0.3**
	5.9nm,0.3s,baz=168,slow=3.5,SNR=3.6						
RPZ				Sn	**Sn**	**15 12 47.1**	**-0.8**
	20nm,0.3s,baz=39,slow=20,SNR=3.0						
RPZ	**Rata Peaks**	**4.38**	**56**	*e*PN	**Pn**	**15 11 56.8**	**+0.3**
RPZ				AML	AML	15 12 53.9	
RPZ				AML	AML	15 12 55.3	
OXZ	**Oxford**	**5.18**	**58**	*e*PN	**Pn**	**15 12 08.5**	**+1.0**
LTZ	**Lake Taylor**	**5.65**	**54**	AML	AML	15 13 38.7	
LTZ				AML	AML	15 13 44.0	
DSZ	**Denniston Nort**	**6.13**	**45**	*e*PN	**Pn**	**15 12 20.3**	**-0.3**
QRZ	**Quartz Range**	**7.19**	**43**	*e*PN	**Pn**	**15 12 35.6**	**+0.5**
MKAZ	**Moumakai**	**11.40**	**40**	*e*PN	**Pn**	**15 13 33.8**	**+1.0**
URZ	**Urewera**	**11.45**	**50**	Pn	**Pn**	**15 13 34.3**	**+0.9**
	0.4nm,0.3s,baz=233,slow=5.1,SNR=3.1						
WCZ	**Waipu Caves**	**12.05**	**34**	PN	**Pn**	**15 13 42.0**	**+0.3**
ASAR	**Alice Springs**	**34.28**	**300**	P	**P**	**15 17 36.8**	**+0.3**
	0.4nm,0.6s,baz=131,slow=8.9,SNR=8.2						
WRA	**Warramunga Arr**	**36.90**	**305**	P	**P**	**15 17 58.8**	**-0.2**
	0.7nm,0.8s,baz=137,slow=7.9,SNR=6.3						
FITZ	**Fitzroy Crossi**	**43.52**	**297**	P	**P**	**15 18 54.2**	**+0.3**
	1.8nm,0.9s,baz=153,slow=9.0,SNR=2.9						
TORD	**Torodi Ar. Bea**	**144.45**	**207**	PKP	**PKPab**	**15 30 25.0**	**-0.2**

3.4nm,1.3s,baz=158,slow=1.1,SNR=3.8

WEL 15 15:12:22.8±1.2, 45°.58S×166°.63E, h5km, ML4.2/13, Error ellipse: s-maj=9.5km s-min=5.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.39**	**74**	PG	Pg	15 12 30.5	+0.2
DCZ				SG	Sg	15 12 36.1	+0.8
DCZ				SG	Sb	15 12 36.3	-2.1
DCZ				AML	AML	15 12 36.6	
DCZ				AML	AML	15 12 36.7	
PYZ	**Puysegur Point**	**0.59**	**176**	P*	Pg	15 12 34.4	+0.3
PYZ				SG	Sg	15 12 42.7	+0.9
WHZ	**Wether Hill Ro**	**0.98**	**109**	P*	Pg	15 12 41.3	-0.3
WHZ				AML	AML	15 13 03.3	
WHZ				AML	AML	15 13 04.1	
MLZ	**Mavora Lakes**	**1.11**	**78**	*e*P*	Pg	15 12 41.5	-2.7
MLZ				S*	Sg	15 12 56.7	-2.0
MLZ				AML	AML	15 12 57.6	
MSZ	**Milford Sound**	**1.30**	**46**	*e*P*	Pn	15 12 44.8	-2.7
MSZ				S*	Sn	15 13 05.0	-0.2
MSZ				AML	AML	15 13 06.1	
MSZ				AML	AML	15 13 06.6	
MSZ				AML	AML	15 13 06.6	
APZ	**The Paps**	**1.57**	**143**	*e*PN	Pn	15 12 50.2	-1.2
WKZ	**Wanaka**	**1.85**	**67**	*e*PN	Pn	15 12 55.0	-0.2
WKZ				AML	AML	15 13 23.7	
WKZ				AML	AML	15 13 23.8	
WKZ				AML	AML	15 13 23.9	
WKZ				AML	AML	15 13 24.6	
EAZ	**Earnscleugh**	**1.92**	**80**	*e*PN	Pn	15 12 55.7	-0.5
EAZ				AML	AML	15 13 26.4	
EAZ				AML	AML	15 13 26.5	
EAZ				AML	AML	15 13 26.9	
EAZ				AML	AML	15 13 27.2	
SYZ	**Scrubby Hill**	**1.99**	**120**	*e*PN	Pn	15 12 58.2	+1.1
TUZ	**Tuapeka**	**2.14**	**101**	PN	Pn	15 13 01.8	+1.2
TUZ				AML	AML	15 13 32.7	
TUZ				AML	AML	15 13 32.8	
JCZ	**Jackson Bay**	**2.14**	**46**	*e*PN	Pb	15 13 02.1	-0.1
JCZ				AML	AML	15 13 32.4	
JCZ				AML	AML	15 13 33.8	
LBZ	**Lake Benmore**	**2.79**	**66**	AML	AML	15 13 46.1	
LBZ				AML	AML	15 13 46.8	
ODZ	**Otahua Downs**	**2.89**	**81**	*e*PN	Pn	15 13 07.8	-1.7
ODZ				AML	AML	15 13 47.7	
ODZ				AML	AML	15 13 47.9	
ODZ				AML	AML	15 13 48.6	
ODZ				AML	AML	15 13 48.7	
FOZ	**Fox Glacier**	**2.98**	**48**	AML	AML	15 14 01.1	
FOZ				AML	AML	15 14 01.7	
RPZ	**Rata Peaks**	**3.67**	**61**	PN	Pn	15 13 19.3	-0.9
RPZ				AML	AML	15 14 07.5	
RPZ				AML	AML	15 14 08.5	
WVZ	**Waitaha Valley**	**3.87**	**51**	AML	AML	15 14 19.6	
WVZ				AML	AML	15 14 26.5	
DSZ	**Denniston Nort**	**5.37**	**46**	*e*PN	Pn	15 13 43.5	-0.1

WEL 15 15:13:59.0±0.6, 45°.99S×165°.88E, h20km, ML3.6/10, Error ellipse: s-maj=5.1km s-min=2.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.59**	**108**	P*	Pb	15 14 10.5	-0.2
PYZ				S*	Sb	15 14 17.9	-0.7
PYZ				S*	Sn	15 14 18.4	-2.9
DCZ	**Deep Cove**	**1.03**	**61**	PN	Pb	15 14 17.9	-0.3
DCZ				S*	Sn	15 14 31.7	-0.4
DCZ				AML	AML	15 14 32.6	
DCZ				AML	AML	15 14 32.6	
DCZ				AML	AML	15 14 34.0	
WHZ	**Wether Hill Ro**	**1.45**	**87**	*e*PN	Pn	15 14 22.8	-1.2
WHZ				SN	Sb	15 14 43.0	-0.4
WHZ				AML	AML	15 14 43.6	
APZ	**The Paps**	**1.69**	**121**	*e*PN	Pn	15 14 27.1	-0.4
APZ				SN	Sn	15 14 47.0	-1.6
MLZ	**Mavora Lakes**	**1.73**	**69**	*e*PN	Pn	15 14 29.1	+1.0
MLZ				AML	AML	15 14 53.7	
MLZ				AML	AML	15 14 55.0	
MSZ	**Milford Sound**	**1.96**	**48**	*e*PN	Pn	15 14 32.0	+0.9
MSZ				AML	AML	15 15 01.3	
MSZ				AML	AML	15 15 04.9	
MSZ				AML	AML	15 15 05.6	
MSZ				AML	AML	15 15 07.8	
SYZ	**Scrubby Hill**	**2.33**	**105**	*e*PN	Pn	15 14 37.3	+1.1
WKZ	**Wanaka**	**2.50**	**63**	*e*PN	Pb	15 14 43.0	-0.2
WKZ				AML	AML	15 15 13.6	
WKZ				AML	AML	15 15 14.2	
EAZ	**Earnscleugh**	**2.52**	**74**	*e*PN	Pb	15 14 41.4	-2.2
EAZ				AML	AML	15 15 14.0	
EAZ				AML	AML	15 15 14.0	
EAZ				AML	AML	15 15 15.8	
EAZ				AML	AML	15 15 15.8	
TUZ	**Tuapeka**	**2.62**	**91**	*e*PN	Pb	15 14 42.7	-2.5
TUZ				AML	AML	15 15 15.0	
TUZ				AML	AML	15 15 15.8	
JCZ	**Jackson Bay**	**2.80**	**48**	AML	AML	15 15 25.3	
JCZ				AML	AML	15 15 27.4	
LBZ	**Lake Benmore**	**3.44**	**64**	AML	AML	15 15 36.2	
ODZ	**Otahua Downs**	**3.48**	**76**	*e*PN	Pn	15 14 52.6	+0.6
RPZ	**Rata Peaks**	**4.33**	**60**	AML	AML	15 15 56.5	

WEL 15 15:16:28.0±0.7, 45°.66S×166°.72E, h5km, ML4.1/13, 1D, Error ellipse: s-maj=7.8km s-min=3.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.36**	**59**	PG	Pg	15 16 35.6	+0.6
DCZ				SG	Sg	15 16 40.1	+0.4
DCZ				SG	Sb	15 16 40.2	-2.6
DCZ				AML	AML	15 16 40.4	
PYZ	**Puysegur Point**	**0.51**	**183**	⇓PG	Pg	15 16 38.4	+0.6
PYZ				SG	Sg	15 16 44.7	+0.3
PYZ				SG	Sb	15 16 44.9	-2.3
WHZ	**Wether Hill Ro**	**0.89**	**105**	P*	Pb	15 16 46.6	+0.6
WHZ				AML	AML	15 17 11.7	
WHZ				AML	AML	15 17 11.7	
MLZ	**Mavora Lakes**	**1.07**	**73**	P*	Pg	15 16 46.8	-1.9
MLZ				S*	Sg	15 17 00.1	-2.6
MLZ				AML	AML	15 17 01.7	
MSZ	**Milford Sound**	**1.31**	**41**	P*	Pn	15 16 48.3	-4.7
MSZ				S*	Sg	15 17 06.5	-3.6
MSZ				AML	AML	15 17 06.6	
MSZ				AML	AML	15 17 06.6	
APZ	**The Paps**	**1.47**	**143**	PN	Pn	15 16 54.4	-0.8
WKZ	**Wanaka**	**1.83**	**64**	PN	Pn	15 16 59.0	-1.2
WKZ				AML	AML	15 17 26.9	
WKZ				AML	AML	15 17 27.1	
WKZ				AML	AML	15 17 27.1	
WKZ				AML	AML	15 17 27.7	
EAZ	**Earnscleugh**	**1.88**	**78**	PN	Pn	15 17 00.4	-0.3
EAZ				AML	AML	15 17 28.9	
EAZ				AML	AML	15 17 29.9	
EAZ				AML	AML	15 17 30.0	
EAZ				AML	AML	15 22 30.7	
SYZ	**Scrubby Hill**	**1.90**	**118**	*e*PN	Pb	15 17 03.3	+0.2
TUZ	**Tuapeka**	**2.06**	**99**	*e*PN	Pb	15 17 04.8	-1.1
TUZ				AML	AML	15 17 41.4	
TUZ				AML	AML	15 17 42.5	
JCZ	**Jackson Bay**	**2.15**	**43**	*e*PN	Pn	15 17 01.5	-3.2
HHSZ	**Highcliff Hill**	**2.73**	**96**	*e*PN	Pn	15 17 14.7	+2.2
LBZ	**Lake Benmore**	**2.77**	**64**	*e*PN	Pn	15 17 19.7	-2.5
LBZ				AML	AML	15 17 49.2	
LBZ				AML	AML	15 18 02.1	
ODZ	**Otahua Downs**	**2.84**	**79**	*e*PN	Pn	15 17 12.6	-1.4
ODZ				AML	AML	15 17 50.9	
ODZ				AML	AML	15 17 50.9	
ODZ				AML	AML	15 17 51.0	
ODZ				AML	AML	15 22 55.3	
FOZ	**Fox Glacier**	**2.98**	**46**	AML	AML	15 18 02.6	
FOZ				AML	AML	15 18 04.1	
RPZ	**Rata Peaks**	**3.66**	**59**	*e*PN	Pn	15 17 23.1	-2.2
RPZ				AML	AML	15 18 10.0	
RPZ				AML	AML	15 18 13.1	
WVZ	**Waitaha Valley**	**3.87**	**50**	AML	AML	15 18 27.6	
WVZ				AML	AML	15 18 28.5	
OXZ	**Oxford**	**4.47**	**60**	*e*PN	Pn	15 17 33.4	-3.0
LTZ	**Lake Taylor**	**4.92**	**56**	PN	Pn	15 17 40.6	-2.1
DSZ	**Denniston Nort**	**5.38**	**45**	PN	Pn	15 17 45.1	-3.9
THZ	**Tophouse**	**5.94**	**51**	AML	AML	15 19 07.3	
PKE	**Pukeiti**	**8.40**	**42**	*e*PN	Pn	15 18 27.2	-3.3

WEL 15 15:17:40.6±0.6, 45°.50S×166°.65E, h5km, ML3.5/10, 1C, Error ellipse: s-maj=4.8km s-min=2.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.35**	**87**	⇑PG	Pg	15 17 48.0	+0.6
DCZ				SG	Sg	15 17 52.6	+0.6
DCZ				AML	AML	15 17 52.9	
DCZ				AML	AML	15 17 53.3	
DCZ				AML	AML	15 17 53.3	
PYZ	**Puysegur Point**	**0.67**	**178**	P*	Pg	15 17 54.0	+0.5
PYZ				SG	Sg	15 18 02.9	+0.7
PYZ				SG	Sb	15 18 03.2	-1.2
WHZ	**Wether Hill Ro**	**0.99**	**114**	*e*P*	Pg	15 17 59.2	-0.4
WHZ				AML	AML	15 18 12.8	
WHZ				AML	AML	15 18 14.5	
MLZ	**Mavora Lakes**	**1.08**	**82**	*e*P*	Pg	15 17 59.2	-2.2
MLZ				AML	AML	15 18 14.8	
MLZ				AML	AML	15 18 16.0	
MSZ	**Milford Sound**	**1.22**	**48**	*e*P*	Pg	15 18 03.4	-0.7
MSZ				S*	Sg	15 18 20.0	0.0
MSZ				AML	AML	15 18 21.9	
MSZ				AML	AML	15 18 22.0	
MSZ				AML	AML	15 18 22.2	
APZ	**The Paps**	**1.62**	**146**	*e*PN	Pn	15 18 10.3	+0.3
WKZ	**Wanaka**	**1.80**	**69**	AML	AML	15 18 38.2	
WKZ				AML	AML	15 18 39.3	
WKZ				AML	AML	15 18 40.1	
WKZ				AML	AML	15 18 40.9	
EAZ	**Earnscleugh**	**1.89**	**83**	*e*PN	Pn	15 18 13.1	-0.5
EAZ				AML	AML	15 18 40.4	
EAZ				AML	AML	15 18 41.3	
EAZ				AML	AML	15 18 41.6	
EAZ				AML	AML	15 18 42.0	
JCZ	**Jackson Bay**	**2.07**	**47**	*e*PN	Pb	15 18 18.9	+0.1
JCZ				AML	AML	15 18 47.8	
JCZ				AML	AML	15 18 48.6	
TUZ	**Tuapeka**	**2.13**	**103**	*e*PN	Pn	15 18 16.5	-0.4
TUZ				SN	Sn	15 18 44.0	+0.2
TUZ				AML	AML	15 18 47.0	
ODZ	**Otahua Downs**	**2.85**	**82**	AML	AML	15 19 03.3	
RPZ	**Rata Peaks**	**3.61**	**62**	AML	AML	15 19 20.7	

MEX 15 15:19:12.3±0.3, 17°.81N×100°.40W, h61km±4km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.47**	**6**	*e*P	Pn	15 19 22.6	-1.5
ARIG				*i* S	Sn	15 19 30.8	-1.9
CAIG	**El Cayaco**	**0.77**	**171**	*e*P	Pn	15 19 25.9	-1.5
CAIG				*i* S	Sn	15 19 36.7	-1.8
PLIG	**Platanillo**	**1.03**	**55**	*e*P	Pn	15 19 29.4	-1.5
PLIG				*i* S	Sn	15 19 42.8	-2.0
ZIIG	**Zihuatanejo**	**1.04**	**259**	*e*P	Pn	15 19 29.5	-1.3
ZIIG				eS	Sn	15 19 42.7	-1.9
ACX	**Acapulco**	**1.06**	**151**	*e*P	Pn	15 19 29.3	-2.0
ACX				eS	Sn	15 19 42.2	-3.1
YAIG	**Yautepec**	**1.64**	**50**	*e*P	Pn	15 19 37.3	-1.8
YAIG				*i* S	Sn	15 19 57.8	-1.6

WEL 15 15:19:54.0±0.6, 45°.57S×166°.60E, h12km, ML3.9/11, Error ellipse: s-maj=5.0km s-min=2.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.40**	**77**	P*	Pg	15 20 02.4	+0.5
DCZ				S*	Sg	15 20 07.3	0.0
DCZ				S*	Sb	15 20 08.1	-0.9
DCZ				AML	AML	15 20 08.3	
DCZ				AML	AML	15 20 08.5	
PYZ	**Puysegur Point**	**0.60**	**175**	P*	Pg	15 20 05.4	-0.3
PYZ				*S**	Sg	15 20 13.2	-0.4
WHZ	**Wether Hill Ro**	**1.00**	**109**	*e*P*	Pg	15 20 13.3	0.0
WHZ				AML	AML	15 20 33.8	
WHZ				AML	AML	15 20 35.0	
MLZ	**Mavora Lakes**	**1.13**	**79**	P*	Pb	15 20 14.1	-1.4
MLZ				S*	Sb	15 20 27.8	-2.4
MLZ				AML	AML	15 20 30.1	
MSZ	**Milford Sound**	**1.30**	**47**	*e*PN	Pn	15 20 16.5	-1.4
MSZ				SN	Sn	15 20 35.3	+0.1
MSZ				AML	AML	15 20 39.4	
MSZ				AML	AML	15 20 40.3	
MSZ				AML	AML	15 20 40.3	
APZ	**The Paps**	**1.59**	**143**	*e*PN	Pn	15 20 21.9	-0.1
WKZ	**Wanaka**	**1.86**	**67**	*e*PN	Pb	15 20 27.2	-0.8
WKZ				AML	AML	15 20 55.6	
WKZ				AML	AML	15 20 55.6	
WKZ				AML	AML	15 20 56.1	
WKZ				AML	AML	15 20 56.2	
EAZ	**Earnscleugh**	**1.94**	**81**	*e*PN	Pn	15 20 26.9	+0.2
EAZ				AML	AML	15 20 58.6	
EAZ				AML	AML	15 20 58.7	
EAZ				AML	AML	15 20 58.8	
EAZ				AML	AML	15 20 58.8	
SYZ	**Scrubby Hill**	**2.01**	**120**	*e*PN	Pb	15 20 30.4	-0.1
JCZ	**Jackson Bay**	**2.15**	**46**	AML	AML	15 21 05.4	
JCZ				AML	AML	15 21 08.3	
TUZ	**Tuapeka**	**2.16**	**101**	*e*PN	Pb	15 20 32.5	-0.4
TUZ				AML	AML	15 21 03.2	
TUZ				AML	AML	15 21 03.5	
ODZ	**Otahua Downs**	**2.90**	**81**	*e*PN	Pn	15 20 39.2	-0.8
ODZ				AML	AML	15 21 18.5	
ODZ				AML	AML	15 21 19.7	
FOZ	**Fox Glacier**	**2.98**	**49**	AML	AML	15 21 33.8	
FOZ				AML	AML	15 21 36.4	
RPZ	**Rata Peaks**	**3.68**	**61**	*e*PN	Pn	15 20 50.9	+0.2
RPZ				AML	AML	15 21 37.6	
RPZ				AML	AML	15 21 41.9	

*IDC **15** 15:21:00.8±1.8, 46°.21S×166°.06E, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.8/16, mbtmp3.9/5, ML3.8/2, Error ellipse: s-maj=58.9km s-min=26.8km az=174.0*
*ISCJB **15** 15:21:02.3±0.6, 46°.06S±0°.06×166°.00E±0°.05, h12km, mb3.6/3, Error ellipse: s-maj=9.3km s-min=5.4km az=179.6*
*AUST **15** 15:21:03.7±1.3, 46°.18S×166°.22E, h0km, Error ellipse: s-maj=1.4km s-min=1.1km az=260.0*
*WEL **15** 15:21:04.7±0.6, 46°.00S×166°.12E, h12km, ML4.3/14, Error ellipse: s-maj=5.3km s-min=2.4km az=90.0*
ISC 15 15:21:03.2±0.8, 46°.03S±0°.06×166°.07E±0°.05, h12km, n29, σ0°.88/30, mb3.6/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.45**	**109**	P*	**Pb**	**15 21 13.2**	**+0.1**
P

WKZ	**Wanaka**	**2.39**	**61**	*e*PN	**Pb**	**15 21 45.0**	**-1.3**
WKZ				AML	AML	15 22 17.5	
WKZ				AML	AML	15 22 25.7	
WKZ				AML	AML	15 22 25.8	
WKZ				AML	AML	15 22 34.2	
EAZ	**Earnscleugh**	**2.40**	**72**	PN	**Pb**	**15 21 44.8**	**-1.6**
EAZ				AML	AML	15 22 14.9	
EAZ				AML	AML	15 22 16.1	
EAZ				AML	AML	15 22 18.8	
TUZ	**Tuapeka**	**2.48**	**90**	*e*PN	**Pn**	**15 21 44.5**	**+1.1**
TUZ				AML	AML	15 22 16.5	
TUZ				AML	AML	15 22 17.3	
JCZ	**Jackson Bay**	**2.72**	**45**	*e*PN	**Pb**	**15 21 50.3**	**-1.6**
JCZ				AML	AML	15 22 29.6	
JCZ				AML	AML	15 22 36.5	
LBZ	**Lake Benmore**	**3.33**	**62**	AML	AML	15 22 36.4	
LBZ				AML	AML	15 22 38.0	
ODZ	**Otahua Downs**	**3.36**	**75**	*e*PN	**Pn**	**15 21 55.6**	**+0.1**
ODZ				AML	AML	15 22 36.7	
ODZ				AML	AML	15 22 37.3	
ODZ				AML	AML	15 22 40.4	
ODZ				AML	AML	15 22 40.4	
FOZ	**Fox Glacier**	**3.56**	**48**	AML	AML	15 23 06.7	
FOZ				AML	AML	15 23 07.2	
RPZ	**Rata Peaks**	**4.23**	**59**	Pn	**Pn**	**15 22 08.0**	**+0.6**
	8.4nm,0.3s,baz=145,slow=23,SNR=3.2						
RPZ				Sn	**Sn**	**15 22 56.8**	**+0.1**
	27nm,0.3s,baz=18,slow=21,SNR=9.1						
RPZ	**Rata Peaks**	**4.23**	**59**	PN	**Pn**	**15 22 08.0**	**+0.6**
RPZ				AML	AML	15 22 58.6	
RPZ				AML	AML	15 22 59.4	
WVZ	**Waitaha Valley**	**4.45**	**50**	AML	AML	15 23 09.4	
WVZ				AML	AML	15 23 26.2	
LTZ	**Lake Taylor**	**5.50**	**56**	*e*PN	**Pn**	**15 22 26.0**	**+1.1**
LTZ				AML	AML	15 23 29.0	
LTZ				AML	AML	15 23 31.0	
URZ	**Urewera**	**11.28**	**50**	Pn	**Pn**	**15 23 45.0**	**+0.9**
	0.3nm,0.3s,baz=240,slow=9.5,SNR=2.7						
URZ				Sn	Sn	15 25 42.5	-7.5
	0.4nm,0.3s,baz=94,slow=15,SNR=3.3						
LHI	**Lord Howe Isla**	**15.47**	**337**	P	**P**	**15 24 47.4**	**+1.8**
	baz=16,SNR=4.7						
TOO	**Toolangi**	**17.48**	**292**	P	**P**	**15 25 08.7**	**+0.7**
	baz=18,SNR=7.9						
ASAR	**Alice Springs**	**34.20**	**300**	P	**P**	**15 27 48.9**	**+0.2**
	0.5nm,0.6s,baz=129,slow=7.6,SNR=9.4						
WRA	**Warramunga Arr**	**36.80**	**304**	P	**P**	**15 28 10.8**	**-0.2**
	0.3nm,0.5s,baz=137,slow=8.0,SNR=12						
FITZ	**Fitzroy Crossi**	**43.45**	**296**	P	**P**	**15 29 06.1**	**-0.1**
	0.7nm,0.5s,baz=126,slow=14,SNR=5.0						
VNA1	**Neumayer--Stat**	**63.56**	**182**	*e*P	**P**	**15 31 31.9**	**-1.1**
TORD	**Torodi Ar. Bea**	**144.66**	**207**	PKP	**PKPab**	**15 40 38.2**	**-0.4**
	0.9nm,0.6s,baz=177,slow=1.6,SNR=4.8						
BRTR	**Keskin Array B**	**145.00**	**277**	PKPbc	PKPbc	15 40 38.9	-0.6
	1.5nm,0.8s,baz=129,slow=4.8,SNR=4.3						
ARCES	**ARCESS Array B**	**149.40**	**334**	PKPbc	**PKPbc**	**15 40 50.6**	**-0.1**
	1.5nm,0.6s,baz=58,slow=3.5,SNR=5.3						
FINES	**FINESS Array B**	**152.32**	**318**	PKPbc	**PKPbc**	**15 40 56.9**	**-0.8**
	1.5nm,0.8s,baz=60,slow=5.6,SNR=4.8						

BGS ***15*** *15:21:24.6±2.1,20.˝35S×68.˚93W,h0km,mb5.5*
ISCJB ***15*** *15:21:24.9±0.3,20.˝25S±0.˝03×68.˚93W±0.˝04,h101km±3km, mb5.2/173, Error ellipse: s-maj=6.5km s-min=4.4km az=157.6*
GUC ***15*** *15:21:26.3±0.5,20.˝44S×69.˚34W,h120km±3km,ML5.6*
NEIC ***15*** *15:21:27.1±0.1,20.˝35S×68.˚93W, mb5.3/146, Error ellipse: s-maj=4.5km s-min=3.3km az=72.0*
NEIC Felt [V] at Huara; [IV] at Alto Hospicio, Iquique, La Tirana, Pica and Pozo Almonte; [III] at Camina, Mamina and Pisagua.
IDC ***15*** *15:21:27.4±0.4,20.˝33S×68.˚99W,h113km±3km, mb4.8/23, mb1 4.9/27,mb1mx4.9/28, mbtmp4.8/27,MS4.5/2, Ms1 4.5/2,ms1mx3.8/20,Error ellipse: s-maj=13.2km s-min=8.8km az=69.0*
BJI ***15*** *15:21:28.8,20.˝30S×68.˚90W,h92km,mB5.4/6*
LDG ***15*** *15:21:28.5±0.3,19.˚58S×68.˚80W,h110km,Mb5.0/15, Ms3.9/1,Error ellipse: s-maj=26.6km s-min=10.7km az=171.0*
MOS ***15*** *15:21:29.1±1.0,20.˝06S×68.˚89W,h130km,mb5.3/41, Error ellipse: s-maj=10.7km s-min=7.5km az=98.7*

ISC 15 15:21:27.1±0.3,20.˝38S±0.˝03×69.˚15W±0.˝05,h111km±2km, h111km:pP-P,n925,σ1907/979,mb5.2/173,212C-232D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HMBC	**Humberstone**	**0.70**	**278**	⇑	*i*	P	**Pn**	**15 21 45.1**	**-0.7**
HMBC					*i*	S	**Sn**	**15 21 59.2**	**-0.7**
HMBC	**Humberstone**	**0.70**	**278**	⇑	*i*	P	**Pn**	**15 21 45.1**	**-0.7**
HMBC					*i*	S	**Sn**	**15 21 59.2**	**-0.7**
HMBC						AML	AML	15 22 00.7	
	comp=E,157μm,0.3s								
PB01	**Plate Boundary**	**0.73**	**206**	⇓	*i*	P	**Pn**	**15 21 45.4**	**-0.6**
PB01					*i*	S	**Sn**	**15 21 59.7**	**-0.5**
PB01	**Plate Boundary**	**0.73**	**206**	⇓	*i*	P	**Pn**	**15 21 45.4**	**-0.6**
PB01					*i*	S	**Sn**	**15 21 59.7**	**-0.5**
PB01						AML	AML	15 22 01.5	
	comp=E,189μm,0.3s								
PSGC	**Pisagua**	**1.21**	**310**	⇑	*i*	P	**Pn**	**15 21 50.0**	**-0.8**
PSGC					*i*	S	**Sn**	**15 22 08.3**	**-0.3**
PSGC	**Pisagua**	**1.21**	**310**	⇑	*i*	P	**Pn**	**15 21 50.0**	**-0.8**
PSGC					*i*	S	**Sn**	**15 22 08.3**	**-0.3**
PSGC						AML	AML	15 22 11.2	
	comp=N,38μm,0.2s								
MNMC	**Minimini**	**1.31**	**341**	⇑	*i*	P	**Pn**	**15 21 52.6**	**+0.4**
MNMC					*i*	S	**Sn**	**15 22 12.7**	**+1.6**
MNMC	**Minimini**	**1.31**	**341**	⇑	*i*	P	**Pn**	**15 21 52.6**	**+0.4**
MNMC					*i*	S	**Sn**	**15 22 12.7**	**+1.6**
MNMC						AML	AML	15 22 14.2	
	comp=E,178μm,0.7s								
PB09	**Plate Boundary**	**1.41**	**184**	⇓	*i*	P	**Pn**	**15 21 52.8**	**-0.3**
PB09					*i*	S	**Sn**	**15 22 13.2**	**+0.3**
PB09	**Plate Boundary**	**1.41**	**184**	⇓	*i*	P	**Pn**	**15 21 52.8**	**-0.3**
PB09					*i*	S	**Sn**	**15 22 13.2**	**+0.3**
PB09						AML	AML	15 22 16.7	
	comp=E,367μm,0.5s								
PB07	**Plate Boundary**	**1.51**	**207**	⇑	*i*	P	**Pn**	**15 21 53.3**	**-1.0**
PB07					*i*	S	**Sn**	**15 22 13.4**	**-1.5**
PB07	**Plate Boundary**	**1.51**	**207**	⇑	*i*	P	**Pn**	**15 21 53.3**	**-1.0**
PB07					*i*	S	**Sn**	**15 22 13.4**	**-1.5**
PB07						AML	AML	15 22 15.8	
	comp=E,94μm,0.4s								
PB04	**Plate Boundary**	**1.90**	**190**	⇑	*i*	P	**Pn**	**15 22 01.0**	**+2.1**
PB04						S	**Sn**	**15 22 26.5**	**+3.3**
PB04	**Plate Boundary**	**1.90**	**190**	⇑	*i*	P	**Pn**	**15 22 01.0**	**+2.1**
PB04					*i*	S	**Sn**	**15 22 26.5**	**+3.3**
PB04						AML	AML	15 22 34.5	
	comp=N,31μm,0.6s								
LVC	**Limon Verde**	**2.23**	**174**			P	**Pn**	**15 22 03.5**	**+0.1**
LVC						S	**Sn**	**15 22 30.7**	**-0.4**
LVC	**Limon Verde**	**2.23**	**174**			P	**Pn**	**15 22 03.5**	**+0.1**
	comp=N,453nm,0.3s,baz=2.1,slow=8.3,SNR=1322								
LVC						S	**Sn**	**15 22 30.7**	**-0.4**
	comp=N,1μm,0.3s,baz=9.8,slow=15,SNR=9.3								
LPAZ	**La Paz**	**4.18**	**13**	*e*Pn			**Pn**	**15 22 31.9**	**+2.3**
LPAZ						S	Sn	15 23 10.0	-7.9
LPAZ	**La Paz**	**4.18**	**13**	P			**Pn**	**15 22 31.8**	**+2.2**
	comp=N,83nm,0.3s,baz=185,slow=8.2,SNR=1814								
LPAZ						S	Sn	15 23 10.0	-7.9
	comp=N,30nm,0.3s,baz=214,slow=22,SNR=4.0								
LCO	**Las Campanas**	**8.71**	**189**	*e*Pn			Pn	15 23 23.4	-7.0
SIV	**San Ignacio**	**8.83**	**62**	P			**Pn**	**15 23 29.5**	**-2.4**
SIV	**San Ignacio**	**8.83**	**62**	P			**Pn**	**15 23 29.5**	**-2.4**
	comp=N,68nm,0.3s,baz=260,slow=12,SNR=1593								
NNA	**Nana**	**11.15**	**317**	*e*Pn			Pn	15 23 59.0	-4.3
NNA						S	Sn	15 25 58.3	-7.8
NNA	**Nana**	**11.15**	**317**	P			**Pn**	**15 24 02.8**	**-0.6**
	comp=N,3.9nm,0.3s,baz=154,slow=14,SNR=4.8								
NNA						S	Sn	15 25 58.3	-7.8
	comp=N,8.8nm,0.3s,baz=246,slow=16,SNR=3.2								
CFAA	**Coronel Fontan**	**11.21**	**176**	P			Pn	15 23 59.1	-4.9
CFAA						S	Sn	15 25 56.1	-11
CFAA	**Coronel Fontan**	**11.21**	**176**	P			Pn	15 23 59.1	-4.9
	comp=N,1.4nm,0.3s,baz=351,slow=12,SNR=123								
CFAA						S	Sn	15 25 56.1	-11
	comp=N,2.0nm,0.3s,baz=233,slow=16,SNR=8.4								
SAML	**Samuel**	**12.74**	**28**	*e*P			Pn	15 24 20.8	-3.6
	comp=N,83nm,0.9s								
ATAH	**Atahualpa**	**15.93**	**324**	P			**P**	**15 25 07.5**	**+0.6**
ATAH	**Atahualpa**	**15.93**	**324**	P			**P**	**15 25 07.5**	**+0.6**
	comp=N,0.6nm,0.3s,baz=166,slow=14,SNR=14								
TRQA	**Tornquist**	**18.68**	**162**	*e*Pn			**P**	**15 25 36.3**	**-0.3**
	comp=N,2μm,1.7s								
PLCA	**Paso Flores**	**20.32**	**183**	*e*P			**P**	**15 25 54.6**	**+0.2**
PLCA						PcP	**PcP**	**15 30 03.4**	**+0.1**
PLCA	**Paso Flores**	**20.32**	**183**	P			**P**	**15 25 54.5**	**0.0**
	comp=N,92nm,1.0s,baz=2.7,slow=12,SNR=97								
PLCA						PcP	**PcP**	**15 30 03.4**	**+0.1**
	comp=N,3.6nm,0.7s,baz=8.4,slow=7.9,SNR=3.3								
BDFB	**Brasilia**	**20.64**	**80**	P			**P**	**15 25 56.2**	**-1.8**
BDFB	**Brasilia**	**20.64**	**80**	P			**P**	**15 25 56.2**	**-1.8**
	comp=N,27nm,0.4s,baz=253,slow=12,SNR=55								
BDFB						LR	LR	15 35 14.1	
	comp=N,1μm,19.4s,baz=202,slow=40								
OTAV	**Otavalo**	**22.43**	**335**	*e*P			**P**	**15 26 19.7**	**+2.3**
	comp=N,457nm,2.1s								
ROSC	**El Rosal**	**25.59**	**348**	P			**P**	**15 26 46.3**	**-0.2**
ROSC	**El Rosal**	**25.59**	**348**	P			**P**	**15 26 46.3**	**-0.2**
	comp=N,18nm,0.5s,baz=0.0,slow=1.0,SNR=12								
SDV	**Santo Domingo**	**29.12**	**357**	*e*P			**P**	**15 27 16.3**	**-1.6**
	comp=N,68nm,0.8s								
BCIP	**Isla Barro Col**	**31.19**	**339**	*e*P			**P**	**15 27 37.3**	**+1.4**
EFI	**East Falkland**	**32.41**	**167**	P			**P**	**15 27 46.0**	**-0.2**
	comp=N,690nm,1.0s,SNR=6.8								
EFI	**East Falkland**	**32.41**	**167**	*e*P			**P**	**15 27 46.2**	**-0.1**
EFI						pmax	pmax		
	comp=Z,150nm,0.8s								
EFI	**East Falkland**	**32.41**	**167**	*e*P			**P**	**15 27 46.2**	**-0.1**
	comp=Z,150nm,0.8s								
GRGR	**Grenville**	**33.14**	**13**	*e*P			**P**	**15 27 51.8**	**-1.2**
USHA	**Ushuaia**	**34.40**	**179**	P			**P**	**15 28 03.9**	**+0.5**
USHA						pP	**pP**	**15 28 28.7**	**+0.5**
USHA	**Ushuaia**	**34.40**	**179**	P			**P**	**15 28 03.9**	**+0.5**
	comp=Z,28nm,0.9s,baz=347,slow=5.0,SNR=11								
USHA						pP	**pP**	**15 28 28.7**	**+0.5**
	comp=Z,26nm,0.7s,baz=358,slow=7.4,SNR=4.8								
RCBR	**Riachuelo**	**35.36**	**70**	*e*P			**P**	**15 28 12.0**	**-0.3**
	comp=Z,125nm,0.8s								
CRPR	**Cabo Rojo, PR**	**38.20**	**3**	*e*P			**P**	**15 28 35.0**	**-1.1**
OBIP	**Obispado Ponce**	**38.27**	**4**	*e*P			**P**	**15 28 35.0**	**-1.7**
CELP	**Cerrillos**	**38.30**	**4**	*e*P			**P**	**15 28 35.2**	**-1.8**
LSP	**Las Mesas**	**38.37**	**3**	*e*P			**P**	**15 28 35.5**	**-2.1**
MPR	**Mayaguez**	**38.41**	**3**	*e*P			**P**	**15 28 36.5**	**-1.3**
HUMP	**Col San Antoni**	**38.42**	**5**	*e*P			**P**	**15 28 36.8**	**-1.2**
LRS	**Lares**	**38.50**	**4**	*e*P			**P**	**15 28 37.1**	**-1.6**
AOPR	**Arecibo Observ**	**38.56**	**4**	*e*P			**P**	**15 28 37.5**	**-1.7**
TGUH	**Tegucigalpa,Un**	**38.59**	**331**	*e*P			**P**	**15 28 40.4**	**+1.0**
SDDR	**Presa de Saban**	**39.18**	**357**	*e*P			**P**	**15 28 44.7**	**+0.3**
TEIG	**Tepich**	**44.49**	**334**	*e*P			**P**	**15 29 27.2**	**-0.4**
	comp=Z,42nm,0.7s								
TEIG	**Tepich**	**44.49**	**334**	P			**P**	**15 29 28.3**	**+0.7**
	comp=Z,51nm,0.6s,baz=128,slow=2.2,SNR=16								
TIGA	**Tifton**	**53.36**	**345**	⇓	P		**P**	**15 30 34.7**	**-0.4**
	baz=54								
BRAL	**Brewton**	**53.92**	**341**	*e*P			**P**	**15 30 39.2**	**+0.1**
	comp=Z,159nm,0.8s								
NHSC	**New Hope**	**54.22**	**349**	*e*P			**P**	**15 30 41.8**	**+0.5**
	comp=Z,345nm,0.9s								
LRAL	**Lakeview Retre**	**55.79**	**342**	*e*P			**P**	**15 30 50.9**	**-1.8**
	comp=Z,30nm,1.0s								
KMSC	**Kings Mountain**	**56.42**	**348**	⇓	P		**P**	**15 30 57.0**	**-0.1**
	baz=57,SNR=12								
732A	**Lason Ranch,**	**57.18**	**328**	⇓	P		**P**	**15 31 02.5**	**-0.1**
	baz=58,SNR=6.7								
CPCT	**Cooper Cave**	**57.41**	**345**	*e*P			**P**	**15 31 03.1**	**-1.0**
TKL	**Tuckaleechee C**	**57.43**	**346**	*e*P			**P**	**15 31 03.4**	**-0.8**
TKL						pP	**pP**	**15 31 31.0**	**-0.1**
TKL	**Tuckaleechee C**	**57.43**	**346**	P			**P**	**15 31 03.2**	**-1.0**
	comp=Z,25nm,0.7s,baz=160,slow=9.1,SNR=16								
TKL						pP	**pP**	**15 31 31.0**	**-0.1**
	comp=Z,17nm,0.9s,baz=164,slow=9.5,SNR=3.0								
632A	**Uvalde**	**57.73**	**328**	⇓	P		**P**	**15 31 06.5**	**+0.1**
	baz=58,SNR=19								
OXF	**Oxford**	**57.89**	**340**	*e*P			**P**	**15 31 05.7**	**-1.8**
OXF						pmax	pmax		
	comp=Z,91nm,0.9s								
OXF	**Oxford**	**57.89**	**340**	*e*P			**P**	**15 31 05.7**	**-1.8**
	comp=Z,91nm,0.9s								
631A	**Perdido Creek**	**58.04**	**328**	⇓	P		**P**	**15 31 08.1**	**-0.6**
	baz=58,SNR=23								
TZTN	**Tazewell**	**58.23**	**346**	*e*P			**P**	**15 31 09.2**	**-0.6**
	comp=Z,51nm,1.3s								
BLA	**Blacksburg**	**58.26**	**349**	*e*P			**P**	**15 31 10.0**	**0.0**
BLA						pmax	pmax		
	comp=Z,35nm,0.7s								
BLA	**Blacksburg**	**58.26**	**349**	*e*P			**P**	**15 31 10.0**	**0.0**
	comp=Z,35nm,0.7s								
532A	**Rocksprings**	**58.30**	**329**	⇑	P		**P**	**15 31 10.4**	**0.0**
	baz=59,SNR=19								
JCT	**Junction City**	**58.54**	**329**	*e*P			**P**	**15 31 12.1**	**0.0**
JCT						pmax	pmax		
	comp=Z,25nm,0.8s								
JCT	**Junction City**	**58.54**	**329**	*e*P			**P**	**15 31 12.1**	**0.0**
	comp=Z,25nm,0.8s								
JCT	**Junction City**	**58.54**	**329**	⇑	P		**P**	**15 31 11.8**	**-0.3**
	baz=59,SNR=8.9								
531A	**Rocksprings**	**58.64**	**328**	⇑	P		**P**	**15 31 12.8**	**0.0**
	baz=59,SNR=30								
WHTX	**Lake Whitney**	**58.72**	**332**	⇑	P		**P**	**15 31 13.0**	**-0.3**
	baz=59								
432A	**Menard**	**58.86**	**329**	⇓	P		**P**	**15 31 14.1**	**-0.3**
	baz=59,SNR=17								
530A	**J-C Ranch, Com**	**59.02**	**327**	⇓	P		**P**	**15 31 15.6**	**+0.1**
	baz=59,SNR=42								
431A	**Sonora**	**59.10**	**328**	⇓	P		**P**	**15 31 15.6**	**-0.4**
	baz=59,SNR=27								
UALR	**University of**	**59.12**	**338**	*e*P			**P**	**15 31 15.6**	**-0.4**
	comp=Z,35nm,0.8s								
HALT	**Halls**	**59.16**	**341**	*e*P			**P**	**15 31 15.9**	**-0.3**
332A	**Millersview**	**59.25**	**330**	⇑	P		**P**	**15 31 16.8**	**-0.3**
	baz=60,SNR=19								
628A	**Black Gap, Mar**	**59.30**	**326**	⇑	P		**P**	**15 31 17.9**	**+0.5**
	baz=60,SNR=68								
MIAR	**Mount Ida**	**59.36**	**337**	*e*P			**P**	**15 31 17.4**	**-0.3**
MIAR						pmax	pmax		
	comp=Z,50nm,0.9s								
MIAR	**Mount Ida**	**59.36**	**337**	*e*P			**P**	**15 31 17.4**	**-0.3**
	comp=Z,50nm,0.9s								
GNAR	**Gosnell**	**59.42**	**340**	*e*P			**P**	**15 31 17.8**	**-0.2**
529A	**Stev Forest Ra**	**59.46**	**327**	⇑	P		**P**	**15 31 18.7**	**+0.2**
	baz=60,SNR=75								
430A	**Baggett Ranch,**	**59.49**	**328**	⇑	P		**P**	**15 31 18.5**	**-0.3**
	baz=60,SNR=47								
331A	**San Angelo**	**59.52**	**329**	⇑	P		**P**	**15 31 18.6**	**-0.3**
	baz=60,SNR=15								
627A	**Terlingua Ranc**	**59.53**	**325**	⇑	P		**P**	**15 31 19.1**	**0.0**
	baz=60,SNR=25								
TXAR	**Lajitas Array**	**59.59**	**325**	P			**P**	**15 31 19.4**	**-0.1**
TXAR				⇑	*e*			16 00 57.7	
TXAR	**Lajitas Array**	**59.59**	**325**	P			**P**	**15 31 19.4**	**-0.1**
	comp=Z,6.1nm,0.6s,baz=152,slow=8.5,SNR=46								
TXAR						PKP2bc		16 00 57.7	
	comp=Z,0.2nm,0.4s,baz=194,slow=2.1,SNR=5.8								
232A	**Coleman**	**59.63**	**330**	⇓	P		**P**	**15 31 19.4**	**-0.2**
	baz=60,SNR=18								
429A	**Davenport Ranc**	**59.69**	**327**	⇑	P		**P**	**15 31 20.1**	**0.0**
	baz=60,SNR=41								
528A	**Cox Ranch, San**	**59.78**	**326**	⇑	P		**P**	**15 31 20.6**	**-0.2**
	baz=60,SNR=24								
SDMD	**Soldier's Deli**	**59.91**	**353**	*e*P			**P**	**15 31 21.3**	**-0.1**
	comp=Z,15nm,0.8s								
330A	**Mertzon**	**59.97**	**328**	⇑	P		**P**	**15 31 21.4**	**-0.6**
	baz=60,SNR=15								
231A	**Bronte**	**59.98**	**329**	⇑	P		**P**	**15 31 21.3**	**-0.7**
	baz=60,SNR=7.8								
PARMO	**Parma**	**59.98**	**341**	*e*P			**P**	**15 31 21.7**	**-0.2**
626A	**Big Bend Ranch**	**60.02**	**325**	⇓	P		**P**	**15 31 22.9**	**+0.6**
	baz=60,SNR=58								
428A	**Kincaid Ranch,**	**60.18**	**327**	⇓	P		**P**	**15 31 23.5**	**+0.1**
	baz=60,SNR=24								
527A	**Woodward Ranch**	**60.20**	**326**	⇑	P		**P**	**15 31 23.6**	**-0.1**
	baz=60,SNR=39								
ABTX	**Abilene, Hawle**	**60.24**	**330**	⇓	P		**P**	**15 31 23.6**	**-0.2**
	baz=61,SNR=10								
230A	**Sterling City**	**60.33**	**329**	⇓	P		**P**	**15 31 23.7**	**-0.8**
	baz=61								
526A	**Mary Lane Ranc**	**60.39**	**325**	⇑	P		**P**	**15 31 25.3**	**+0.3**
	baz=61,SNR=52								
329A	**Wagon Wheel Ra**	**60.43**	**328**	⇓	P		**P**	**15 31 24.8**	**-0.3**
	baz=61,SNR=30								
USIN	**University of**	**60.59**	**343**	*e*P			**P**	**15 31 24.7**	**-1.3**
	comp=Z,87nm,1.1s								
131A	**Roby**	**60.63**	**330**	⇑	P		**P**	**15 31 26.2**	**-0.2**
	baz=61,SNR=5.6								
427A	**Hayter Ranch,**	**60.65**	**326**	⇓	P		**P**	**15 31 26.6**	**0.0**
	baz=61,SNR=27								
Z32A	**Haskell**	**60.73**	**331**	⇑	P		**P**	**15 31 26.8**	**-0.3**
	baz=61								
229A	**Bryant Ranch,**	**60.74**	**328**	⇓	P		**P**	**15 31 26.6**	**-0.6**
	baz=61,SNR=12								
328A	**Wristen Ranch,**	**60.77**	**327**	⇑	P		**P**	**15 31 27.3**	**-0.1**
	baz=61,SNR=32								
SIUC	**Southern Illin**	**60.80**	**342**	*e*P			**P**	**15 31 26.4**	**-1.0**
	comp=Z,160nm,1.2s								
426A	**McDonald Obser**	**60.83**	**326**	⇓	P		**P**	**15 31 28.2**	**+0.1**
	baz=61,SNR=33								
130A	**Snyder**	**60.84**	**329**	⇓	P		**P**	**15 31 27.5**	**-0.3**
	baz=61,SNR=8.1								
Z31A	**Sharp Cattle R**	**61.05**	**330**	⇓	P		**P**	**15 31 29.0**	**-0.3**
	baz=61,SNR=7.8								
228A	**UT Block 9, Go**	**61.25**	**328**	⇑	P		**P**	**15 31 30.0**	**-0.7**
	baz=62,SNR=11								
129A	**Stewart Farms,**	**61.30**	**329**	⇓	P		**P**	**15 31 30.5**	**-0.6**
	baz=62,SNR=6.7								
Y32A	**R-V Farms, Ver**	**61.30**	**331**	⇓	P		**P**	**15 31 30.5**	**-0.4**
	baz=62,SNR=8.8								
326A	**Caldwell Ranch**	**61.32**	**326**	⇓	P		**P**	**15 31 31.1**	**-0.1**
	baz=62,SNR=50								
VNA1	**Neumayer--Stat**	**61.41**	**161**	*e*pP			pP	15 32 00.7	+2.4
TUL1	**Tulsa**	**61.41**	**336**	⇑	P		**P**	**15 31 31.1**	**-0.5**
	baz=62,SNR=6.9								
425A	**Indio Mountain**	**61.44**	**325**	⇑	P		**P**	**15 31 32.0**	**-0.1**
	baz=62,SNR=74								
BLO	**Bloomington**	**61.44**	**345**	*e*P			**P**	**15 31 30.5**	**-1.2**
BLO						pmax	pmax		
	comp=Z,74nm,0.7s								
BLO	**Bloomington**	**61.44**	**345**	*e*P			**P**	**15 31 30.5**	**-1.2**
	comp=Z,74nm,0.7s								
Z30A	**Sanderson Ranc**	**61.48**	**330**	⇑	P		**P**	**15 31 31.6**	**-0.6**
	baz=62,SNR=24								
227A	**Bennet, Jal**	**61.51**	**327**	⇑	P		**P**	**15 31 32.6**	**+0.1**
	baz=62								
128A	**Castleberry Fa**	**61.60**	**328**	⇑	P		**P**	**15 31 32.4**	**-0.6**
	baz=62								
WMOK	**Wichita Mounta**	**61.63**	**332**	*e*P			**P**	**15 31 31.6**	**-1.5**
WMOK						pmax	pmax		
	comp=Z,19nm,1.4s								
WMOK	**Wichita Mounta**	**61.63**	**332**	*e*P			**P**	**15 31 31.6**	**-1.5**
	comp=Z,20nm,1.4s								
Y31A	**Rekieta Farm,**	**61.64**	**331**	⇓	P		**P**	**15 31 32.7**	**-0.5**
	baz=62,SNR=7.9								
Z29A	**Hungry Hill Ra**	**61.74**	**329**	⇓	P		**P**	**15 31 33.0**	**-0.9**
	baz=62,SNR=9.4								
Y30A	**Stafford Cattl**	**61.86**	**330**	⇓	P		**P**	**15 31 34.2**	**-0.5**
	baz=62								
325A	**Bean Ranch, Si**	**61.88**	**325**	⇑	P		**P**	**15 31 35.1**	**0.0**
	baz=62,SNR=74								
226B	**Tecolote Peak,**	**62.02**	**327**	⇑	P		**P**	**15 31 36.2**	**+0.3**
	baz=62,SNR=35								
BRYW	**Bryant College**	**62.02**	**358**	*e*P			**P**	**15 31 35.2**	**-0.4**
	comp=Z,101nm,0.9s								
X31A	**McDonald Ranch**	**62.07**	**331**	⇑	P		**P**	**15 31 35.6**	**-0.5**
	baz=62,SNR=11								
127A	**Arkansas Junct**	**62.08**	**328**	⇓	P		**P**	**15 31 35.8**	**-0.4**
	baz=62								
Z28A	**Tucker Farm, M**	**62.09**	**329**	⇓	P		**P**	**15 31 35

baz=64
MDV Middlebury 64.17 357 eP P 15 31 49.8 +0.1
NCB Newcomb 64.20 356 eP P 15 31 49.5 -0.4
comp=Z,54nm,1.2s
X25A Clemmons Ranch 64.21 328 ⇑P P 15 31 49.8 -0.6
baz=64,SNR=11
W26A Owens Ranch, T 64.22 329 ⇑P P 15 31 50.2 -0.2
baz=64,SNR=6.0
220A Playas Peak, P 64.24 323 ⇓P P 15 31 51.3 +0.7
baz=65,SNR=34
319A Douglas 64.27 322 ⇓P P 15 31 51.6 +0.8
baz=65,SNR=33
121A Cookes Peak, D 64.30 324 ⇓P P 15 31 52.0 +1.0
baz=65,SNR=30
V27A Dan Oppiter Fa 64.31 330 ⇓P P 15 31 50.7 -0.3
baz=65
T30A Plains 64.34 332 ⇑P P 15 31 50.8 -0.2
baz=65
LBNH Lisbon 64.36 358 eP P 15 31 51.0 +0.1
LBNH pmax pmax
comp=Z,16nm,0.8s
LBNH Lisbon 64.36 358 eP P 15 31 51.0 +0.1
comp=Z,16nm,0.8s
S31A Mullinville 64.38 334 ⇓P P 15 31 51.0 -0.3
baz=65
Z22A Elephant Butte 64.41 325 ⇑P P 15 31 52.7 +1.0
baz=65,SNR=54
Y23A Lovelace Mesa, 64.45 326 ⇑P P 15 31 52.1 0.0
baz=65,SNR=12
KSU1 Kansas State U 64.52 337 eP P 15 31 51.1 -1.0
comp=Z,28nm,0.7s
U28A Mallet 64.54 331 ⇑P P 15 31 52.0 -0.4
baz=65,SNR=8.0
X24A Lazy VL Ranch, 64.63 327 ⇑P P 15 31 52.8 -0.3
baz=65
W25A X Bar L Ranch, 64.66 328 ⇑P P 15 31 53.1 -0.2
baz=65,SNR=26
T29A Hugoton 64.76 332 ⇓P P 15 31 53.5 -0.3
baz=65
120A U Bar Ranch, L 64.78 324 ⇑P P 15 31 55.1 +1.0
baz=65,SNR=23
V26A Tequesquite Ra 64.80 329 ⇑P P 15 31 54.0 -0.1
baz=65,SNR=24
S30A Montezuma 64.81 333 ⇑P P 15 31 54.2 +0.1
baz=65
Z21A St. Cloud Mine 64.83 325 ⇓P P 15 31 55.4 +0.9
baz=65,SNR=12
U27A Thompson Grove 64.85 330 ⇑P P 15 31 54.2 -0.3
baz=65
LONY Lake Ozonia 64.88 356 eP P 15 31 54.2 -0.1
comp=Z,54nm,1.0s
BNM Barren Site 64.92 326 eP P 15 31 55.8 +0.7
comp=Z,28nm,1.3s
Y22A Socorro 64.93 326 ⇑P P 15 31 55.6 +0.5
baz=65,SNR=6.5
R31A Burdett 64.96 334 ⇑P P 15 31 54.8 -0.3
baz=65
Y22D IRIS PASSCAL I 65.01 326 ⇑P P 15 31 56.8 +1.2
baz=65
X23A Hourglass Bar 65.02 327 ⇓P P 15 31 56.2 +0.4
baz=65,SNR=11
FRNY Flat Rock 65.03 357 eP P 15 31 55.1 -0.2
comp=Z,56nm,1.2s
LPM Los Pinos Moun 65.05 326 eP P 15 31 56.2 +0.3
comp=Z,12nm,0.6s
S29A Ulysses 65.07 332 ⇑P P 15 31 56.0 +0.2
baz=65
T28A Walsh 65.10 331 ⇓P P 15 31 55.5 -0.6
baz=65
W24A Lazy 6 Ranch, 65.12 328 ⇑P P 15 31 56.3 -0.1
baz=66,SNR=14
Z20A Nine Sixteen R 65.18 324 ⇓P P 15 31 58.0 +1.2
baz=66,SNR=33
V25A Rancho No Teng 65.23 329 ⇑P P 15 31 57.1 +0.1
baz=66,SNR=33
U26A Atchley Ranch, 65.26 330 ⇓P P 15 31 57.2 0.0
baz=66,SNR=23
R30A Dighton 65.27 333 ⇑P P 15 31 56.9 -0.2
baz=66,SNR=5.5
MSNY Massena 65.27 356 eP P 15 31 57.0 +0.2
comp=Z,634nm,0.9s
T27A Campo 65.33 331 ⇑P P 15 31 57.3 -0.3
baz=66,SNR=9.5
Y21A Point of Rocks 65.36 325 ⇓P P 15 31 59.3 +1.3
baz=66,SNR=38
LAZ Ladron 65.38 326 eP P 15 31 59.1 +1.1
comp=Z,33nm,1.5s
S28A Manter 65.39 332 ⇑P P 15 31 57.7 -0.2
baz=66,SNR=16
X22A Bernardo 65.39 326 ⇓P P 15 31 59.2 +1.2
baz=66,SNR=6.8
ANMO Albuquerque 65.45 327 eP P 15 31 59.0 +0.5
comp=Z,10nm,0.8s
ANMO Albuquerque 65.45 327 P P 15 31 58.8 +0.3
comp=Z,12nm,0.9s,baz=132,slow=7.9,SNR=24
W23A Werner Place, 65.46 327 ⇑P P 15 31 59.0 +0.5
baz=66,SNR=8.3
V24A Rampart Ranch, 65.46 328 ⇓P P 15 31 58.5 -0.1
baz=66,SNR=18
SADO Sadowa 65.47 352 P P 15 31 57.5 -0.7
SADO Sadowa 65.47 352 P P 15 31 57.5 -0.7
comp=Z,26nm,0.8s,baz=218,slow=2.2,SNR=18
Q31A Ellis 65.52 334 ⇓P P 15 31 58.8 +0.1
baz=66,SNR=7.2
Y20A Horse Springs, 65.66 325 ⇓P P 15 32 01.0 +1.1
baz=66,SNR=30
R29A Marienthal 65.75 333 ⇓P P 15 32 00.3 0.0
baz=66,SNR=5.7
X21A Alamocita Cree 65.75 326 ⇓P P 15 32 01.7 +1.2
baz=66,SNR=30
W22A Albuquerque 65.76 327 ⇓P P 15 32 01.4 +1.0
baz=66
T26A Comanche Natio 65.82 330 ⇓P P 15 32 01.0 +0.2
baz=66,SNR=29
TUC Tucson 65.83 322 eP P 15 32 01.5 +0.7
TUC pmax pmax
comp=Z,41nm,1.3s
TUC Tucson 65.83 322 eP P 15 32 01.5 +0.7
comp=Z,41nm,1.3s
Q30A Quinter 65.83 334 ⇓P P 15 32 00.9 +0.3
baz=66,SNR=11
SCIA State Center 65.86 341 eP P 15 32 00.0 -0.7
comp=Z,98nm,0.9s
S27A Las Animas 65.92 331 ⇓P P 15 32 01.0 -0.3
baz=66
V23A Ortiz Mt. (NFS 65.93 328 ⇓P P 15 32 02.2 +0.6
baz=66,SNR=16
P31A Stockton 65.95 335 ⇓P P 15 32 01.2 -0.2
baz=66,SNR=11
R28A Tribune 65.97 332 ⇓P P 15 32 01.4 -0.3
baz=66
U24A Moreno Valley 66.01 329 ⇓P P 15 32 02.9 +0.8
baz=66
Q29A Oakley 66.08 333 ⇓P P 15 32 02.2 0.0
baz=66,SNR=14
S26A Kim 66.13 331 ⇓P P 15 32 03.1 +0.5
baz=66,SNR=48
T25A Trinidad 66.17 330 ⇓P P 15 32 03.7 +0.6
baz=66,SNR=15
W21A San Fidel 66.20 326 ⇑P P 15 32 04.2 +0.9
baz=66
X20A Quemado 66.21 325 ⇑P P 15 32 04.5 +1.1
baz=66,SNR=29
P30A Selden 66.32 334 ⇓P P 15 32 03.6 -0.2
baz=67,SNR=5.3
R27A Eads 66.36 332 ⇑P P 15 32 03.9 -0.2
baz=67,SNR=8.4
U23A El Rito 66.39 328 ⇓P P 15 32 05.2 +0.6
baz=67
V22A San Miguel Ran 66.43 327 ⇓P P 15 32 05.9 +1.1
baz=67,SNR=32
Q28A Sharon Springs 66.58 333 ⇓P P 15 32 05.4 -0.1
baz=67,SNR=6.2
S25A Robets Cordova 66.60 330 ⇓P P 15 32 06.2 +0.4
baz=67,SNR=16
W20A Ramah 66.65 326 ⇑P P 15 32 07.0 +0.8
baz=67,SNR=22
R26A Arlington 66.67 331 ⇑P P 15 32 06.1 0.0
baz=67,SNR=8.6
V21A Milan 66.72 327 ⇑P P 15 32 07.6 +0.9
baz=67,SNR=6.9
PQI Presque Isle 66.74 1 eP P 15 32 06.0 -0.2
comp=Z,38nm,0.9s
U22A Llaves 66.76 328 ⇓P P 15 32 07.9 +1.0
baz=67,SNR=11
214A Organ Pipe Nat 66.77 320 ⇑P P 15 32 08.2 +1.4
baz=67,SNR=22
O30A MW Ranch, Wils 66.78 335 ⇓P P 15 32 06.8 +0.1
baz=67
T23A Casias Ranch, 66.88 329 ⇓P P 15 32 08.2 +0.6
baz=67
KSCO Kaye Shedlock' 66.89 332 ⇓P P 15 32 07.9 +0.4
baz=67,SNR=9.0
R25A Fountain Ranch 66.93 330 ⇑P P 15 32 08.1 +0.3
baz=67,SNR=6.0
S24A Houchin Ranch, 66.96 329 ⇓P P 15 32 09.1 +0.9
baz=67,SNR=25
P28A Saint Francis 66.98 333 ⇓P P 15 32 07.9 -0.1
baz=67
X18A Snowflake 66.99 324 ⇓P P 15 32 09.3 +1.0
baz=67,SNR=9.2
O29A 4D Ranch, Culb 67.04 334 ⇓P P 15 32 08.3 -0.1
baz=67
BGNE Belgrade 67.11 337 ⇑P P 15 32 08.6 -0.1
baz=67,SNR=9.9
V20A Brimhall 67.15 326 ⇓P P 15 32 10.0 +0.7
baz=68,SNR=22
SDCO Great Sand Dun 67.18 329 eP P 15 32 09.7 +0.1
comp=Z,54nm,1.1s
Q26A Hugo 67.21 331 ⇑P P 15 32 10.1 +0.5
baz=68,SNR=8.4
U21A Nageezi 67.21 327 ⇑P P 15 32 10.4 +0.7
baz=68,SNR=18
T22A Edith 67.28 328 ⇑P P 15 32 11.1 +0.9
baz=68,SNR=13
W18A Petrified Fore 67.31 325 ⇓P P 15 32 11.0 +0.7
baz=68,SNR=13
P27A Ficken Ranch, 67.31 333 ⇑P P 15 32 10.4 +0.2
baz=68
N30A Hueftle Ranch, 67.33 335 ⇑P P 15 32 10.2 0.0
baz=68
R24A Sanders Place, 67.38 330 ⇓P P 15 32 11.6 +0.9
baz=68,SNR=23
S23A Nye Farm, Mont 67.39 329 ⇓P P 15 32 11.5 +0.7
baz=68
Q25A Bedland, Calha 67.53 331 ⇓P P 15 32 11.8 +0.1
baz=68
N29A Votaw Ranch, W 67.56 335 ⇑P P 15 32 11.5 -0.1
baz=68
T21A Navajo Lake 67.58 327 ⇑P P 15 32 12.9 +0.8
baz=68,SNR=5.5
U20A Newcomb 67.61 326 ⇑P P 15 32 12.9 +0.7
baz=68,SNR=6.2
P26A Davis Ranch, A 67.65 332 ⇑P P 15 32 12.7 +0.3
baz=68,SNR=6.2
R23A Moffat 67.69 329 ⇓P P 15 32 13.6 +0.9
baz=68,SNR=13
X16A Lo Mia Camp, P 67.74 323 ⇓P P 15 32 14.4 +1.3
baz=68,SNR=19
O27A Beecher Island 67.80 333 ⇓P P 15 32 13.9 +0.7
baz=68,SNR=15
N28A Pribbeno Ranch 67.82 334 ⇑P P 15 32 13.6 +0.4
baz=68
S22A 4UR Ranch, Cre 67.82 328 ⇑P P 15 32 14.2 +0.6
baz=68,SNR=16
Z14A Wintersburg 67.84 321 ⇑P P 15 32 14.7 +1.3
baz=68,SNR=5.5
M30A Dale-Ortello V 67.87 336 ⇓P P 15 32 13.5 -0.1
baz=68
113A Mohawk Valley, 67.91 320 ⇓P P 15 32 14.8 +0.9
baz=68,SNR=11
MAIT Maitri 67.92 159 eP P 15 32 04.5 -8.9
MAIT Maitri 67.92 159 eP P 15 32 03.6 -10
P25A Willow Gulch B 67.98 331 ⇑P P 15 32 15.0 +0.5
baz=68,SNR=20
Q24A Divide 67.99 330 ⇑P P 15 32 15.0 +0.4
baz=68,SNR=16
M29A Burnside Ranch 68.11 335 ⇑P P 15 32 15.3 +0.2
baz=68
R22A Saguache, Gunn 68.17 329 ⇓P P 15 32 16.5 +0.7
baz=68,SNR=33
O26A Horse Wrangler 68.20 332 ⇑P P 15 32 16.4 +0.6
baz=68
S21A Coal Bank Pass 68.23 328 ⇑P P 15 32 16.8 +0.6
baz=69,SNR=18
OGNE Ogallala 68.24 334 eP P 15 32 15.9 +0.1
comp=Z,38nm,0.8s
OGNE Ogallala 68.24 334 ⇓P P 15 32 16.0 +0.1
baz=69,SNR=6.9
MVCO Mesa Verde 68.24 327 eP P 15 32 16.8 +0.6
comp=Z,41nm,0.9s
MVCO Mesa Verde 68.24 327 ⇓P P 15 32 16.8 +0.6
baz=69,SNR=24
Q23A Hartsel 68.26 330 ⇑P P 15 32 16.9 +0.5
baz=69
Y14A Wickenburg 68.29 322 ⇓P P 15 32 17.5 +1.2
baz=69
LIC Lamto 68.29 74 eP P 15 32 15.8 -0.9
comp=Z,17nm,0.4s,baz=248
LIC Lamto 68.29 74 eP P 15 32 15.8 -0.9
comp=Z,17nm,0.4s
P24A Kohler Place, 68.32 331 ⇓P P 15 32 17.2 +0.6
baz=69
N27A Anderson Farm, 68.33 333 ⇑P P 15 32 16.9 +0.4
baz=69
M28A Bar X Bar Ranc 68.34 334 ⇑P P 15 32 17.0 +0.5
baz=69
O25A Wiggins 68.45 332 ⇑P P 15 32 17.9 +0.7
baz=69
WUAZ Wupatki 68.50 324 eP P 15 32 19.1 +1.4
comp=Z,53nm,0.9s
WUAZ Wupatki 68.50 324 ⇓P P 15 32 19.0 +1.2
baz=69,SNR=35
L29A Maesberg Ranch 68.56 335 ⇓P P 15 32 18.0 +0.1
baz=69
ECSD EROS Data Cent 68.60 339 eP P 15 32 17.2 -0.8
comp=Z,56nm,1.2s
COWI Conover 68.61 345 eP P 15 32 17.4 -0.6
comp=Z,21nm,0.9s
DBIC Dimbokro 68.63 74 eP P 15 32 18.1 -0.8
comp=Z,110nm,1.5s
DBIC Dimbokro 68.63 74 P P 15 32 17.9 -1.0
comp=Z,27nm,0.7s,baz=227,slow=6.6,SNR=23
P23A Jefferson 68.64 330 ⇑P P 15 32 19.7 +0.9
baz=69
N26A Koester Ranch, 68.64 333 ⇑P P 15 32 19.1 +0.6
baz=69,SNR=8.7
S20A Disappointment 68.65 327 ⇑P P 15 32 19.8 +1.0
baz=69,SNR=36
R21A Cimarron 68.66 328 ⇓P P 15 32 19.8 +1.0
baz=69,SNR=13
Q22A Crested Butte, 68.74 329 ⇓P P 15 32 20.0 +0.6
baz=69,SNR=7.9
GLA Glamis 68.75 320 eP P 15 32 20.3 +1.1
GLA pmax pmax
comp=Z,53nm,1.2s
GLA Glamis 68.75 320 eP P 15 32 20.3 +1.1
comp=Z,53nm,1.2s
GLA Glamis 68.75 320 ⇓P P 15 32 20.4 +1.3
baz=69,SNR=5.9
SPMN St. Paul 68.76 342 ⇓P P 15 32 18.0 -0.9
baz=69,SNR=8.7
ISCO Idaho Springs 68.87 331 eP P 15 32 20.6 +0.5
ISCO pmax pmax
comp=Z,62nm,1.5s
ISCO Idaho Springs 68.87 331 eP P 15 32 20.6 +0.5
comp=Z,62nm,1.5s
ISCO Idaho Springs 68.87 331 ⇓P P 15 32 20.7 +0.6
baz=69,SNR=12
M27A Reverse DX Ran 68.87 334 ⇓P P 15 32 20.5 +0.6
baz=69
O24A Longmont 68.88 331 ⇑P P 15 32 20.7 +0.7
baz=69
L28A Connealy Angus 68.92 335 ⇑P P 15 32 20.5 +0.4
baz=69
R20A Redvale 68.93 328 ⇑P P 15 32 21.5 +1.1
baz=69,SNR=19
PV01 Paradox Valley 68.99 328 eP P 15 32 21.8 +1.0
comp=Z,1μm,0.9s
N25A Grover 69.00 332 ⇑P P 15 32 21.4 +0.7
baz=69
SMCO Snowmass 69.02 329 eP P 15 32 22.1 +0.9
comp=Z,22nm,1.0s
Q21A Lamborn Mesa, 69.04 329 ⇓P P 15 32 21.8 +0.8
baz=69,SNR=5.0
Y12C Blythe 69.05 321 ⇓P P 15 32 22.5 +1.5
baz=69,SNR=12
M26A McRoberts Ranc 69.14 333 ⇑P P 15 32 22.2 +0.6
baz=70
PDMCI Parker Dam,Lak 69.21 321 ⇓P P 15 32 23.0 +1.1
baz=70,SNR=5.5
P22A Eagle 69.24 330 ⇑P P 15 32 22.9 +0.5
baz=70
DVTC Desert V Tower 69.25 319 ⇑P P 15 32 23.9 +1.5
baz=70,SNR=16
SWSC Sam W. Stewart 69.26 319 ⇑P P 15 32 23.5 +1.3
baz=70,SNR=5.3
L27A T5 Ranch, Ells 69.31 334 ⇑P P 15 32 22.9 +0.4
baz=70
O23A Lake Granby, G 69.34 331 ⇓P P 15 32 23.7 +0.7
baz=70,SNR=10
N24A Carr 69.37 332 ⇑P P 15 32 23.8 +0.8
baz=70,SNR=5.8
M25A Palm-Egli Farm 69.50 333 ⇑P P 15 32 24.6 +0.8
baz=70
BC3 Big Chuckawall 69.54 320 ⇑P P 15 32 25.5 +1.4
baz=70,SNR=35
L26A Underwood Farm 69.58 334 ⇑P P 15 32 24.8 +0.6
baz=70
O22A Kremmling 69.59 330 ⇑P P 15 32 24.9 +0.3
baz=70,SNR=29
MONP Monument Peak 69.61 319 ⇑P P 15 32 26.1 +1.3
baz=70,SNR=15
W13A Hualapai Mount 69.62 322 ⇓P P 15 32 26.4 +1.7
baz=70
BAR Barrett 69.62 318 eP P 15 32 25.9 +1.3
comp=Z,42nm,0.9s
U15A North Rim 69.67 324 ⇓P P 15 32 27.0 +1.9
baz=70,SNR=86
IRM Iron Mountain 69.71 321 ⇓P P 15 32 26.4 +1.3
baz=70,SNR=59
K27A Flueckinger Fa 69.79 335 ⇑P P 15 32 26.2 +0.7
baz=70
QSPA South Pole Qui 69.80 180 eP P 15 32 25.9 +0.5
comp=Z,15nm,0.7s
QSPA epP pP 15 32 54.3 +1.2
NEE2 Needles Airpor 69.81 321 ⇓P P 15 32 26.9 +1.2
baz=70
M24A Cheyenne 69.86 332 ⇑P P 15 32 27.1 +1.0
baz=70,SNR=19
N23A Red Feather La 69.90 331 ⇑P P 15 32 27.0 +0.6
baz=70,SNR=28
P20A De Beque 69.95 329 ⇓P P 15 32 27.4 +0.7
baz=70,SNR=7.6
J28A Allard Ranch, 70.00 336 ⇓P P 15 32 27.3 +0.5
baz=70
PHWY Pilot Hill 70.01 332 eP P 15 32 27.5 +0.4
comp=Z,40nm,1.3s
109C Camp Elliot, M 70.03 318 ⇓P P 15 32 28.0 +1.0
baz=70
BRSD Miller 70.03 338 ⇓P P 15 32 26.3 -0.5
baz=70
L25A Engebretsen Ra 70.05 333 ⇓P P 15 32 28.0 +0.9
baz=70
N22A Wattenberg Ran 70.06 331 ⇑P P 15 32 28.3 +0.9
baz=70,SNR=21
O21A Pagoda 70.07 330 ⇓P P 15 32 28.6 +1.2
baz=70,SNR=7.5
BELC Belle Mtn. Jos 70.11 320 ⇑P P 15 32 28.9 +1.3
baz=70,SNR=28
PFO Pinyon Flat Ob 70.12 319 P P 15 32 29.0 +1.3
comp=Z,226nm,0.8s,SNR=18
PFO Pinyon Flat Ob 70.12 319 eP P 15 32 29.3 +1.6
comp=Z,63nm,1.2s
PFO Pinyon Flat Ob 70.12 319 P P 15 32 29.0 +1.3
comp=Z,27nm,0.8s,baz=121,slow=4.9,SNR=29
PFO Pinyon Flat Ob 70.12 319 ⇓P P 15 32 29.1 +1.4
baz=70,SNR=27
K26A Motz Farm, Whi 70.17 334 ⇑P P 15 32 28.6 +0.8
baz=70
M23A Laramie 70.26 332 ⇓P P 15 32 29.2 +0.7
baz=71,SNR=25
P19A Cripple Cowboy 70.35 328 ⇑P P 15 32 30.1 +1.0
baz=71,SNR=69
O20A White River Ci 70.37 329 ⇑P P 15 32 30.1 +0.9
baz=71,SNR=9.7
L24A Wheatland 70.38 332 ⇑P P 15 32 30.0 +0.9
baz=71
K25A Mack Ranch, Ha 70.39 333 ⇓P P 15 32 30.0 +0.8
baz=71
GMRC Granite Mounta 70.44 321 ⇓P P 15 32 31.3 +1.7
baz=71,SNR=64
I28A Midland 70.47 336 ⇓P P 15 32 29.3 -0.2
baz=71
N21A Black Mountain 70.52 330 ⇑P P 15 32 31.2 +1.0
baz=71
MURC Murrieta 70.57 319 ⇑P P 15 32 31.6 +1.3
baz=71,SNR=6.8
M22A Cedar Creek Ra 70.60 331 ⇑P P 15 32 31.3 +0.6
baz=71,SNR=9.4
SRU San Rafael 70.72 327 eP P 15 32 32.3 +0.9
SRU pmax pmax
comp=Z,49nm,0.7s
SRU San Rafael 70.72 327 eP P 15 32 32.3 +0.9
comp=Z,49nm,0.7s
L23A Garrett 70.77 332 ⇑P P 15 32 32.0 +0.3
baz=72,SNR=7.1
BBRC Big Bear Solar 70.84 320 ⇑P P 15 32 34.1 +1.9
baz=71
I27A Quinn 70.87 336 ⇓P P 15 32 32.4 +0.4
baz=71
HEC Hector,Ludlow 70.87 320 ⇑P P 15 32 34.0 +1.7
baz=71,SNR=44
K24A Anderson Ranch 70.88 333 ⇓P P 15 32 32.8 +0.6
baz=71
EYMN Ely 70.91 344 eP P 15 32 31.4 -0.7
comp=Z,42nm,1.0s
Q16A Castle Valley 70.91 326 ⇑P P 15 32 33.7 +1.2
baz=71,SNR=20
N20A Spence Gulch, 70.93 330 ⇑P P 15 32 33.2 +0.6
baz=71,SNR=28
O19A Miners Draw (B 70.93 329 ⇓P P 15 32 33.4 +0.8
baz=71,SNR=13
H28A Mission Ridge 70.99 337 ⇓P P 15 32 32.6 0.0
baz=71
SCI San Clemente I 71.00 318 ⇑P P 15 32 34.2 +1.3
baz=71
L22A Ellis Ranch, M 71.03 331 ⇓P P 15 32 34.3 +1.1
baz=71,SNR=7.2
TUQ Turquoise Moun 71.05 321 ⇑P P 15 32 34.8 +1.5
baz=71,SNR=31
CCUT Cedar City 71.08 324 eP P 15 32 35.5 +1.9
comp=Z,72nm,0.9s
M21A Separation Pea 71.11 331 ⇑P P 15 32 34.3 +0.6
baz=71,SNR=8.4
MSU Marysvale 71.14 326 eP P 15 32 35.4 +1.5
MSU pmax pmax
comp=Z,56nm,0.8s
MSU Marysvale 71.14 326 eP P 15 32 35.4 +1.5
comp=Z,56nm,0.8s
I26A New Underwood 71.15 335 ⇓P P 15 32 34.2 +0.5
baz=72
MVU Marysvale 71.15 326 eP P 15 32 35.3 +1.3
comp=Z,63nm,0.9s
CIS Catalina Islan 71.19 318 ⇓P P 15 32 35.4 +1.3
baz=72,SNR=5.6
TMUT Trail Mountain 71.21 327 eP P 15 32 35.3 +0.8
comp=Z,17nm,0.6s
K23A Bowen Ranch, D 71.25 332 ⇑P P 15 32 34.8 +0.4
baz=72
BFSC Mount Baldy Ra 71.28 319 ⇓P P 15 32 35.9 +1.1
baz=72,SNR=16
G28A Parade 71.29 337 ⇑P P 15 32 34.5 +0.1
baz=72
ARUT Antelope Range 71.29 324 eP P 15 32 36.5 +1.7
ARUT pmax pmax
comp=Z,80nm,0.8s
ARUT Antelope Range 71.29 324 eP P 15 32 36.5 +1.7
comp=Z,80nm,0.8s
J24A Dixon Ranch, L 71.31 333 ⇓P P 15 32 35.7 +1.0
baz=72,SNR=8.6
RRX Edison Barstow 71.31 320 ⇑P P 15 32 36.4 +1.6
baz=72
FMP Fort Macarthur 71.32 318 ⇓P P 15 32 36.2 +1.4
baz=72
H27A Howes 71.35 336 ⇑P P 15 32 34.9 +0.1
baz=72
L21A Rawlins 71.40 331 ⇓P P 15 32 35.9 +0.5
baz=72,SNR=19
M20A Sweetwater, Wa 71.40 330 ⇓P P 15 32 36.1 +0.7
baz=72,SNR=11
GSC Goldstone 71.48 320 eP P 15 32 37.5 +1.6
GSC pmax pmax
comp=Z,44nm,0.9s
GSC Goldstone 71.48 320 eP P 15 32 37.5 +1.6
comp=Z,44nm,0.9s
GSC Goldstone 71.48 320 ⇑P P 15 32 37.2 +1.3
baz=72,SNR=30
I25A Rochford 71.49 334 ⇓P P 15 32 36.8 +1.0
baz=72
MWC Mount Wilson 71.52 319 eP P 15 32 37.4 +1.2
MWC pmax pmax
comp=Z,48nm,0.8s
MWC Mount Wilson 71.52 319 eP P 15 32 37.4 +1.2

comp=Z,48nm,0.8s
PASC **Pasadena Art C** 71.56 319 *e*P P 15 32 37.5 +1.3
comp=Z,92nm,1.3s
K22A **Casper** 71.56 332 ⇓P P 15 32 36.9 +0.6
baz=72,SNR=6.3
SHOC **Shoshone** 71.58 321 ⇑P P 15 32 37.6 +1.3
baz=72,SNR=18
H26A **Fairpoint** 71.61 335 ⇑P P 15 32 36.3 -0.1
baz=72
DECC **Green Verdugo** 71.70 319 ⇓P P 15 32 38.3 +1.2
baz=72
I24A **Kuemmerle Ranc** 71.73 334 ⇓P P 15 32 37.9 +0.7
baz=72,SNR=7.5
J23A **Dilts Ranch, B** 71.75 333 ⇓P P 15 32 38.0 +0.6
baz=72
K21A **Alcova** 71.87 331 ⇓P P 15 32 39.1 +0.9
baz=72,SNR=39
M19A **Rock Springs** 71.87 329 ⇓P P 15 32 38.7 +0.4
baz=72
L20A **Wamsutter** 71.88 330 ⇑P P 15 32 38.9 +0.6
baz=72,SNR=12
EDW2 **Edwards Air Fo** 71.91 319 ⇑P P 15 32 39.5 +1.1
baz=72,SNR=35
G27A **Dupree** 71.92 336 ⇓P P 15 32 38.5 +0.2
baz=72
H25A **Fruitdale** 71.94 335 ⇓P P 15 32 38.7 +0.3
baz=72
MPU **Maple Canyon** 71.97 327 *e*P P 15 32 39.9 +1.0
comp=Z,54nm,1.1s
BLG **Laguna Peak** 72.07 318 ⇓P P 15 32 40.4 +1.0
baz=72,SNR=8.5
DAU **Daniels Canyon** 72.07 327 *e*P P 15 32 41.0 +1.4
DAU pmax pmax
comp=Z,37nm,0.8s
DAU **Daniels Canyon** 72.07 327 *e*P P 15 32 41.0 +1.4
comp=Z,37nm,0.8s
LRMC **Laurel Mountai** 72.13 320 ⇓P P 15 32 40.9 +1.1
baz=72,SNR=17
J22A **Midwest** 72.15 332 ⇓P P 15 32 40.2 +0.4
baz=72,SNR=26
I23A **Meade Ranch, G** 72.16 333 ⇓P P 15 32 40.2 +0.4
baz=72
OSI **Osito Adit** 72.19 319 *e*P P 15 32 41.4 +1.4
comp=Z,37nm,0.8s
OSI **Osito Adit** 72.19 319 ⇓P P 15 32 41.3 +1.2
baz=72,SNR=5.1
FURC **Furnace Creek,** 72.31 321 ⇑P P 15 32 42.3 +1.6
baz=73,SNR=12
JLU **Jordanelle** 72.31 327 *e*P P 15 32 42.0 +1.1
comp=Z,44nm,0.9s
K20A **Yellowstone Ra** 72.39 331 ⇑P P 15 32 41.4 +0.1
baz=73,SNR=26
MPMC **Manual Prospec** 72.40 321 ⇓P P 15 32 42.6 +1.1
baz=73,SNR=40
H24A **Dirks Ranch, A** 72.42 334 ⇑P P 15 32 41.5 +0.2
baz=73,SNR=15
L19A **Farson** 72.43 330 ⇑P P 15 32 42.3 +0.7
baz=73,SNR=13
AGMN **Agassiz Nation** 72.43 342 *e*P P 15 32 40.6 -0.6
comp=Z,47nm,0.8s
J21A **Lysite** 72.53 332 ⇓P P 15 32 42.7 +0.6
baz=73,SNR=23
CTU **Camp Tracy** 72.53 327 *e*P P 15 32 43.2 +1.0
comp=Z,18nm,0.9s
I22A **9 Mile Ranch,** 72.54 333 ⇓P P 15 32 42.4 +0.3
baz=73,SNR=20
M17A **Scullys Gap (B** 72.58 329 ⇓P P 15 32 42.6 +0.1
baz=73,SNR=13
ARVC **Arvin** 72.59 319 ⇓P P 15 32 43.6 +1.2
baz=73
L18A **Fontenelle, Gr** 72.62 329 ⇓P P 15 32 43.2 +0.5
baz=73,SNR=37
H23A **Clabaugh Cattl** 72.62 334 ⇓P P 15 32 42.5 0.0
baz=73
SBC **Santa Barbara** 72.69 318 ⇑P P 15 32 44.1 +1.2
baz=73
DUG **Dugway** 72.71 326 *e*P P 15 32 44.3 +1.1
DUG pmax pmax
comp=Z,94nm,1.3s
DUG **Dugway** 72.71 326 *e*P P 15 32 44.3 +1.1
comp=Z,94nm,1.3s
DUG **Dugway** 72.71 326 ⇑P P 15 32 44.4 +1.2
baz=73,SNR=29
ISA **Isabella** 72.73 320 *e*P P 15 32 44.6 +1.3
ISA pmax pmax
comp=Z,45nm,0.8s
ISA **Isabella** 72.73 320 *e*P P 15 32 44.6 +1.3
comp=Z,45nm,0.8s
ISA **Isabella** 72.73 320 ⇑P P 15 32 44.9 +1.6
baz=73,SNR=60
K19A **Absolon Red Bu** 72.75 331 ⇓P P 15 32 43.5 +0.1
baz=73,SNR=15
J20A **Shoshoni** 72.82 331 ⇓P P 15 32 44.4 +0.7
baz=73,SNR=7.1
I21A **Big Trails, Te** 72.83 332 ⇓P P 15 32 44.0 +0.2
baz=73,SNR=47
G24A **Alzada** 72.85 335 ⇓P P 15 32 44.1 +0.3
baz=73,SNR=5.0
R11A **Troy Canyon, C** 72.88 323 ⇓P P 15 32 46.1 +1.8
baz=73,SNR=72
GRAC **Grapevine Rang** 72.97 321 ⇑P P 15 32 46.3 +1.6
baz=73,SNR=26
CWC **Cottonwood Cre** 73.01 321 ⇓P P 15 32 46.5 +1.4
baz=73,SNR=22
BW06 **Boulder Array** 73.04 330 *e*P P 15 32 45.1 0.0
comp=Z,25nm,1.3s
PDAR **Pinedale Array** 73.04 330 P P 15 32 45.1 0.0
PDAR **Pinedale Array** 73.04 330 P P 15 32 45.1 0.0
comp=Z,5.6nm,0.8s,baz=137,slow=5.5,SNR=39
E26A **Carlson Angus** 73.05 337 ⇓P P 15 32 45.0 +0.1
baz=73,SNR=8.9
H22A **Clearmont** 73.05 333 ⇓P P 15 32 45.2 +0.2
baz=73
PKM **Peak Mountain** 73.05 318 ⇑P P 15 32 46.7 +1.4
baz=73,SNR=53
HWUT **Hardware Ranch** 73.12 328 *e*P P 15 32 46.1 +0.5
comp=Z,40nm,0.7s
G23A **Biddle** 73.14 334 ⇓P P 15 32 45.7 +0.2
baz=74,SNR=26
J19A **Crowheart** 73.19 331 ⇓P P 15 32 46.4 +0.4
baz=74,SNR=30
MDND **Maddock** 73.21 339 ⇓P P 15 32 46.2 +0.4
baz=74,SNR=15
VES **Vestal, Richgr** 73.22 319 ⇓P P 15 32 47.5 +1.5
baz=74,SNR=5.4
F24A **Ekalaka** 73.28 335 ⇓P P 15 32 46.5 +0.1
baz=74
I20A **Worland** 73.31 332 ⇓P P 15 32 46.9 +0.3
baz=74,SNR=12
H21A **Big Horn, Sher** 73.37 333 ⇑P P 15 32 47.1 +0.1
baz=74
E25A **Miller Ranch,** 73.42 336 ⇑P P 15 32 47.6 +0.5
baz=74,SNR=13
SMMC **Simmler** 73.43 319 ⇓P P 15 32 49.2 +1.8
baz=74,SNR=23
TIN **Tinemaha** 73.51 321 ⇑P P 15 32 49.5 +1.6
baz=74,SNR=6.3
G22A **Birney** 73.53 334 ⇑P P 15 32 47.8 0.0
baz=74,SNR=9.4
F23A **Volborg** 73.57 334 ⇓P P 15 32 48.1 +0.1
baz=74,SNR=16
RCTC **Rector, Farmer** 73.62 320 ⇓P P 15 32 49.1 +0.7
baz=74
H20A **Greybull** 73.67 332 ⇓P P 15 32 48.8 +0.1
baz=74,SNR=17
I19A **Meeteetse** 73.76 331 ⇓P P 15 32 49.8 +0.5
baz=74,SNR=12
AHID **Auburn Hatcher** 73.77 329 *e*P P 15 32 50.1 +0.7
comp=Z,41nm,0.9s
E24A **Baker** 73.82 336 ⇑P P 15 32 50.1 +0.7
baz=74,SNR=22
HVU **Hansel Valley** 73.86 328 *e*P P 15 32 50.5 +0.6
HVU pmax pmax
comp=Z,22nm,0.8s
HVU **Hansel Valley** 73.86 328 *e*P P 15 32 50.5 +0.6
comp=Z,22nm,0.8s
I18A **Diamond G Ranc** 73.88 331 ⇓P P 15 32 50.6 +0.5
baz=74,SNR=16
F22A **Rosebud** 73.96 334 ⇓P P 15 32 50.4 +0.1
baz=74,SNR=16
SNOW **Snow King Moun** 74.13 330 *e*P P 15 32 52.8 +1.2
comp=Z,26nm,0.8s
E23A **Ismay** 74.16 335 ⇓P P 15 32 51.5 +0.1
baz=74,SNR=16
LOHW **Long Hollow** 74.17 330 *e*P P 15 32 52.3 +0.5
comp=Z,45nm,1.3s
ULM **Lac du Bonnet** 74.19 343 P P 15 32 50.6 -0.8
ULM **Lac du Bonnet** 74.19 343 P P 15 32 50.6 -0.8
comp=Z,37nm,0.6s,baz=156,slow=6.8
TPAW **Teton Pass** 74.25 330 *e*P P 15 32 52.8 +0.5
comp=Z,39nm,1.0s
H19A **Powell** 74.25 332 ⇑P P 15 32 52.6 +0.5
baz=75
MLAC **Mammoth Lakes** 74.26 321 ⇑P P 15 32 53.7 +1.3
baz=75
D24A **Glendive** 74.29 336 ⇑P P 15 32 53.0 +0.8
baz=75
G20A **Bridger** 74.34 332 ⇓P P 15 32 52.7 0.0
baz=75,SNR=23
MOOW **Moose Ponds** 74.34 330 *e*P P 15 32 53.1 +0.3
comp=Z,40nm,1.4s
F21A **Absaloka Mine,** 74.36 333 ⇑P P 15 32 53.2 +0.5
baz=75,SNR=5.6
E22A **Miles City** 74.37 335 ⇓P P 15 32 52.6 0.0
baz=75
ELK **Elko** 74.38 325 *e*P P 15 32 54.0 +0.9
comp=Z,36nm,1.3s
ELK **Elko** 74.38 325 P P 15 32 54.0 +0.9
comp=Z,15nm,0.8s,baz=128,slow=4.7,SNR=37
I17A **Pilgrim Ck.** 74.40 330 ⇑P P 15 32 54.5 +1.4
baz=75,SNR=8.2
NV11 **Mina Array Sit** 74.40 322 *e*P P 15 32 53.9 +0.8
NVAR **Mina Array Bea** 74.48 322 P P 15 32 54.8 +1.1
NVAR **Mina Array Bea** 74.48 322 P P 15 32 54.8 +1.1
comp=Z,14nm,0.7s,baz=133,slow=4.9,SNR=65
IMW **Indian Meadow** 74.55 330 *e*P P 15 32 54.8 +0.8
comp=Z,83nm,1.3s
H18A **Shoshone NF, C** 74.56 331 ⇑P P 15 32 54.6 +0.6
baz=75,SNR=42
FLWY **Flagg Ranch** 74.58 330 *e*P P 15 32 55.6 +1.5
comp=Z,65nm,1.0s
C24A **Savage** 74.67 336 ⇑P P 15 32 55.1 +0.8
baz=75,SNR=12
D23A **Lindsay** 74.68 335 ⇑P P 15 32 55.3 +0.9
baz=75,SNR=14
RLMT **Red Lodge** 74.73 332 *e*P P 15 32 55.5 +0.5
comp=Z,82nm,1.3s
H17A **Grant Village** 74.76 331 ⇓P P 15 32 57.0 +1.8
baz=75
F20A **Billings** 74.78 333 ⇑P P 15 32 55.6 +0.6
baz=75
I16A **Newdale** 74.79 330 ⇓P P 15 32 56.2 +0.9
baz=75,SNR=13
LKWY **Lake** 74.81 331 *e*P P 15 32 57.2 +1.7
LKWY pmax pmax
comp=Z,30nm,0.8s
LKWY **Lake** 74.81 331 *e*P P 15 32 57.2 +1.7
comp=Z,30nm,0.8s
E21A **Keefer Ranch,** 74.91 334 ⇓P P 15 32 56.5 +0.7
baz=75,SNR=11
YFT **Old Faithful** 74.92 330 P P 15 32 58.1 +2.0
comp=Z,15nm,0.4s
SCHQ **Schefferville** 74.93 1 P P 15 32 55.3 -0.4
SCHQ **Schefferville** 74.93 1 P P 15 32 55.3 -0.4
comp=Z,40nm,0.8s,baz=180,slow=6.5,SNR=36
G18A **Lazy EL Ranch,** 75.01 332 ⇑P P 15 32 57.4 +0.9
baz=75,SNR=41
D22A **Cohagen** 75.04 335 ⇓P P 15 32 57.4 +0.9
baz=75,SNR=32
YMR **Madison River** 75.15 331 *e*P P 15 32 59.4 +2.0
comp=Z,126nm,1.3s
C23A **Lambert** 75.19 336 ⇑P P 15 32 58.0 +0.7
baz=76,SNR=11
BMN **Battle Mountai** 75.24 324 P P 15 32 59.6 +1.6
BMN pmax pmax
comp=Z,5.0nm,0.8s
BMN **Battle Mountai** 75.24 324 P P 15 32 59.5 +1.6
comp=Z,5.5nm,0.8s
D21A **La Casta Ranch** 75.30 334 ⇓P P 15 32 58.9 +0.9
baz=76,SNR=33
H16A **Russell Place,** 75.31 330 ⇑P P 15 32 59.7 +1.4
baz=76,SNR=37
E20A **Meyer Farm, Mu** 75.32 333 ⇓P P 15 32 59.0 +0.9
baz=76,SNR=17
DGMT **Dagmar** 75.36 337 *e*P P 15 32 59.2 +0.9
comp=Z,67nm,0.8s
DGMT **Dagmar** 75.36 337 ⇓P P 15 32 59.1 +0.9
baz=76,SNR=14
PPT **Papeete** 75.37 256 LR LR 15 57 23.7
comp=Z,400nm,21.0s,baz=315,slow=29
C22A **Vida** 75.41 335 ⇓P P 15 32 59.1 +0.6
baz=76,SNR=16
GCMT **Greycliff** 75.43 332 *e*P P 15 32 59.5 +0.6
comp=Z,79nm,1.3s
CMB **Columbia Colle** 75.44 320 *e*P P 15 32 59.8 +0.8
CMB pmax pmax
comp=Z,9.0nm,0.8s
CMB **Columbia Colle** 75.44 320 *e*P P 15 32 59.8 +0.8
comp=Z,9.2nm,0.8s
QLMT **Earthquake Lak** 75.49 330 *e*P P 15 33 01.0 +1.7
comp=Z,1.9nm,0.7s
F18A **Big Timber** 75.54 332 ⇓P P 15 33 00.3 +0.8
baz=76,SNR=92
G17A **Pierce Place,** 75.55 331 ⇑P P 15 33 00.9 +1.3
baz=76
E19A **Rath Farm, Rou** 75.57 333 ⇑P P 15 33 00.3 +0.8
baz=76,SNR=95
B23A **Brockton** 75.66 336 ⇑P P 15 33 00.8 +0.8
baz=76,SNR=30
A24A **Westby** 75.67 337 ⇓P P 15 33 01.0 +1.0
baz=76,SNR=9.9
I14A **Mackay** 75.78 329 ⇑P P 15 33 02.5 +1.5
baz=76,SNR=30
B22A **Reddig Ranch S** 75.91 336 ⇑P P 15 33 02.0 +0.6
baz=76
C21A **Desert Coulee** 75.95 335 ⇓P P 15 33 02.2 +0.5
baz=76,SNR=35
F17A **Fitzpatrick Pl** 75.96 332 ⇓P P 15 33 02.9 +1.1
baz=76,SNR=41
HLID **Hailey** 75.98 328 *e*P P 15 33 03.5 +1.4
comp=Z,39nm,1.0s
HLID **Hailey** 75.98 328 ⇓P P 15 33 03.5 +1.4
baz=76,SNR=64
A23A **Redstone** 76.02 337 ⇓P P 15 32 02.7 +0.7
baz=76,SNR=5.9
E18A **Harlowton** 76.14 332 ⇓P P 15 33 03.6 +0.7
baz=76,SNR=48
MCMT **McKenzie Canyo** 76.15 330 *e*P P 15 33 04.6 +1.4
D19A **Cripps Ranch,** 76.16 333 ⇑P P 15 33 03.4 +0.5
baz=76,SNR=38
BOZ **Bozeman (W)** 76.20 331 *e*P P 15 33 03.6 +0.4
BOZ pmax pmax
comp=Z,30nm,1.3s
BOZ **Bozeman (W)** 76.20 331 *e*P P 15 33 03.6 +0.4
comp=Z,30nm,1.3s
C20A **Veseth Ranch,** 76.23 334 ⇑P P 15 33 03.5 +0.2
baz=77,SNR=5.8
B21A **Ellsworth Farm** 76.41 335 ⇑P P 15 33 05.0 +0.8
baz=77,SNR=8.7
DLMT **Dillon** 76.43 330 *e*P P 15 33 05.4 +0.8
comp=Z,49nm,1.1s
A22A **Carney Farms,** 76.44 336 ⇓P P 15 33 05.2 +0.7
baz=77,SNR=26
E17A **Martinsdale** 76.47 332 ⇑P P 15 33 05.7 +0.9
baz=77,SNR=59
I12A **Atlanta** 76.51 328 ⇓P P 15 33 06.5 +1.4
baz=77
D18A **Linhart Farms,** 76.58 333 ⇑P P 15 33 06.1 +0.8
baz=77,SNR=24
MFID **Camas Ranch** 76.59 327 *e*P P 15 33 06.8 +1.3
comp=Z,56nm,1.3s
MFID **Camas Ranch** 76.59 327 ⇑P P 15 33 06.8 +1.3
baz=77,SNR=32
BEKR **Beckworth** 76.63 322 *e*P P 15 33 06.9 +1.0
comp=Z,31nm,1.3s
C19A **Slack Wire Ran** 76.68 334 ⇑P P 15 33 06.5 +0.7
baz=77,SNR=30
LRM **Limekiln Ridge** 76.71 330 *e*P P 15 33 07.2 +0.9
comp=Z,114nm,0.8s
B20A **Solberg Farm,** 76.82 335 ⇓P P 15 33 07.0 +0.4
baz=77,SNR=21
A21A **Bergtoll Ranch** 76.83 336 ⇓P P 15 33 06.8 +0.2
baz=77,SNR=5.2
SBA **Scott Base** 76.88 190 *e*P P 15 33 08.4 +1.9
SBA pmax pmax
comp=Z,16nm,1.0s
SBA **Scott Base** 76.88 190 *e*P P 15 33 08.3 +1.9
comp=Z,16nm,1.0s
H12A **Diamond D Ranc** 76.92 328 ⇑P P 15 33 08.6 +1.2
baz=77,SNR=34
D17A **Six Diamond Ra** 76.93 332 ⇑P P 15 33 08.2 +0.9
baz=77
HRY **Holter Researc** 77.10 331 *e*P P 15 33 09.4 +1.1
comp=Z,22nm,0.8s
A20A **Cobblestone Ra** 77.13 335 ⇑P P 15 33 08.9 +0.6
baz=78
TOA0 **Torodi Ar. Sit** 77.19 71 *e*P P 15 33 07.6 -1.7
TOA0 *e*pP pP 15 33 37.9 +0.3
TORD **Torodi Ar. Bea** 77.19 71 P P 15 33 08.1 -1.3
TORD pP pP 15 33 37.8 +0.2
TORD S S 15 42 47.2 -2.9
TORD **Torodi Ar. Bea** 77.19 71 P P 15 33 08.1 -1.3
comp=Z,39nm,0.7s,baz=256,slow=5.4,SNR=127
TORD pP pP 15 33 37.8 +0.2
comp=Z,55nm,0.8s,baz=253,slow=5.6,SNR=7.4
TORD S S 15 42 47.2 -2.9
comp=Z,6.2nm,1.1s,baz=243,slow=9.5,SNR=7.8
EGMT **Eagleton** 77.20 333 *e*P P 15 33 09.1 +0.3
comp=Z,100nm,1.3s
EGMT **Eagleton** 77.20 333 ⇓P P 15 33 09.1 +0.3
baz=78,SNR=29
WVOR **Wild Horse Val** 77.39 325 *e*P P 15 33 10.5 +0.5
WVOR pmax pmax
comp=Z,8.0nm,1.0s
WVOR **Wild Horse Val** 77.39 325 *e*P P 15 33 10.5 +0.5
comp=Z,7.8nm,1.0s
A19A **Klindworth Far** 77.50 334 ⇓P P 15 33 10.8 +0.4
baz=78,SNR=10
B18A **Beardsley Farm** 77.50 334 ⇑P P 15 33 11.0 +0.6
baz=78,SNR=58
SYO **Syowa Base** 77.62 160 ⇑*i*P P 15 33 09.6 -1.2
SYO **Syowa Base** 77.62 160 ⇑*e*X PcP 15 33 15.5 -5.0
D15A **Lincoln** 77.66 331 ⇑P P 15 33 12.5 +1.1
baz=78,SNR=41
B17A **L&G Farms, Che** 77.85 333 ⇓P P 15 33 12.6 +0.3
baz=78,SNR=20
C16A **Fuhringer Ranc** 77.89 332 ⇓P P 15 33 13.3 +0.7
baz=78,SNR=44
CHMT **Chamberlain Mo** 77.89 331 *e*P P 15 33 13.8 +1.0
comp=Z,18nm,1.3s
VNDA **Vanda** 77.91 190 *e*P P 15 33 13.5 +1.3
comp=Z,14nm,1.2s
VNDA **Vanda** 77.91 190 P P 15 33 13.6 +1.3
comp=Z,7.9nm,1.0s,baz=132,slow=5.2,SNR=34
A18A **Metzger Ranch,** 77.94 334 ⇓P P 15 33 13.2 +0.4
baz=78
MOD **Modoc** 77.94 324 *e*P P 15 33 14.2 +1.0
comp=Z,26nm,0.9s
D14A **Greenough** 78.13 331 ⇑P P 15 33 14.9 +0.9
baz=78,SNR=13
C15A **Salmond Ranch,** 78.25 332 ⇑P P 15 33 15.7 +1.1
baz=79,SNR=115
SLMT **Seeley Lake** 78.25 331 *e*P P 15 33 15.5 +0.8
comp=Z,24nm,0.9s
A17A **Triple J Farms** 78.31 333 ⇓P P 15 33 15.5 +0.6
baz=79,SNR=53
B16A **M & M Farms, S** 78.33 333 ⇑P P 15 33 15.3 +0.2
baz=79,SNR=13
BMO **Blue Mountains** 78.36 327 *e*P P 15 33 16.1 +0.8
comp=Z,31nm,0.9s
WDC **Whiskeytown Da** 78.36 321 *e*P P 15 33 14.4 -0.8
WDC pmax pmax
comp=Z,22nm,0.8s
WDC **Whiskeytown Da** 78.36 321 *e*P P 15 33 14.4 -0.8
comp=Z,22nm,0.8s
D13A **Huson** 78.58 330 ⇑P P 15 33 17.5 +1.1
baz=79,SNR=67
E12A **Beaver Dam Sad** 78.61 329 ⇓P P 15 33 17.4 +0.7
baz=79,SNR=31
B15A **Bradely Ranch,** 78.63 332 ⇓P P 15 33 16.8 +0.1
baz=79,SNR=37
SWMT **Swartz Lake** 78.68 331 *e*P P 15 33 18.0 +1.0
comp=Z,20nm,1.0s
YBMT **Yellow Bay** 78.94 331 *e*P P 15 33 19.4 +1.0
comp=Z,14nm,0.8s
JTMT **Jette** 78.98 331 *e*P P 15 33 19.7 +1.0
comp=Z,17nm,1.0s
B14A **Marquette Ranc** 78.98 332 ⇓P P 15 33 19.0 +0.4
baz=79,SNR=24
C13A **Hot Springs** 79.06 331 ⇓P P 15 33 20.1 +1.1
baz=79,SNR=40
A15A **Johnson Ranch,** 79.21 332 ⇑P P 15 33 19.8 0.0
baz=80,SNR=19
BLMT **Blacktail Moun** 79.21 331 *e*P P 15 33 20.9 +0.9
comp=Z,22nm,0.7s
BSMT **Bassoo Peak** 79.29 331 *e*P P 15 33 21.2 +0.8
comp=Z,48nm,1.3s
A14A **Double T Ranch** 79.50 332 ⇓P P 15 33 21.6 +0.2
baz=80,SNR=30
C12B **Naegeli Ranch,** 79.50 330 ⇑P P 15 33 22.5 +1.1
baz=80,SNR=9.8
B13A **Whitefish** 79.53 331 ⇑P P 15 33 22.4 +0.8
baz=80,SNR=30
KRMB **Red Mountain** 79.76 321 *e*P P 15 33 23.9 +0.9
comp=Z,62nm,1.4s
VIPM **Ingram Point** 79.85 325 P P 15 33 25.0 +1.5
VIPM **Ingram Point** 79.85 325 P P 15 33 25.0 +1.5
HUMO **Hull Mountain** 79.90 323 *e*P P 15 33 23.6 -0.1
comp=Z,9.1nm,0.6s
FFC **Flin Flon** 79.91 341 P P 15 33 23.1 -0.2
comp=Z,151nm,1.5s,SNR=6.1
FFC **Flin Flon** 79.91 341 *i*P P 15 33 23.5 +0.2
FFC **Flin Flon** 79.91 341 *e*P P 15 33 23.1 -0.2
comp=Z,52nm,1.3s
A13A **Flathead Natio** 79.91 332 ⇑P P 15 33 24.9 +1.2
baz=80,SNR=54
C11A **Tepee Creek (N** 79.96 330 ⇓P P 15 33 24.6 +0.7
baz=80,SNR=70
B12A **Libby** 80.11 331 ⇓P P 15 33 25.7 +1.1
baz=80,SNR=7.6
A12A **Yaak River Ran** 80.47 331 ⇓P P 15 33 27.5 +0.9
baz=81,SNR=15
HAWA **Hanford** 80.55 327 *e*P P 15 33 27.4 +0.4
comp=Z,106nm,1.3s
BLTW **Bickleton** 80.56 327 P P 15 33 28.7 +1.6
TSUM **Tsumeb** 80.57 107 *e*P P 15 33 28.0 0.0
comp=Z,25nm,0.8s
NEW **Newport** 80.67 330 *e*P P 15 33 27.1 -0.6
comp=Z,24nm,1.2s
NEW **Newport** 80.67 330 ⇑P P 15 33 27.7 0.0
baz=81,SNR=7.0
H04A **Detroit Lake** 80.81 325 P P 15 33 28.9 +0.4
MORF **Marmelete** 80.82 45 *e*P P 15 33 30.3 +1.6
comp=Z,34nm,1.2s
MORF *e*pP pP 15 33 59.7 +2.5
MORF **Marmelete** 80.82 45 *e*P P 15 33 28.3 -0.4
VFP **Flag Point** 80.84 326 P P 15 33 30.1 +1.3
TRW **Toppenish Ridg** 81.00 327 P P 15 33 30.9 +1.5
PBDV **Barranco-do-Ve** 81.27 45 *e*P P 15 33 32.3 +1.3
PBDV *e*P PcP 15 33 40.7 +3.8
PBDV *e*pP pP 15 34 01.9 +2.3
COR **Corvallis** 81.35 324 *e*P P 15 33 32.8 +1.5
COR pmax pmax
comp=Z,57nm,0.9s
COR **Corvallis** 81.35 324 *e*P P 15 33 32.8 +1.5
comp=Z,57nm,0.9s
PNCL **Nicolau / Gran** 81.36 44 *e*P P 15 33 31.8 +0.4
comp=Z,19nm,1.4s
PNCL *e*P PcP 15 33 40.7 +3.5
PNCL *e*pP pP 15 34 01.6 +1.6
MESJ **Messejana** 81.41 44 *e*P P 15 33 31.1 -0.6
MESJ AMb AMB 15 33 35.8
comp=Z,21nm,1.4s
MESJ **Messejana** 81.41 44 *e*P P 15 33 31.1 -0.6
comp=Z,21nm,1.4s
MESJ **Messejana** 81.41 44 *e*P P 15 33 31.1 -0.6
PCVE **Castro Verde** 81.41 45 *e*P P 15 33 32.1 +0.3
PCVE *e*P PcP 15 33 40.7 +3.2
PCVE *e*pP pP 15 34 02.4 +2.1
EBG **Ellensburg** 81.43 327 P P 15 33 33.3 +1.6
PVAQ **Vaqueiros** 81.50 45 *e*P P 15 33 41.6 +9.4
WTV **Waterville** 81.65 328 P P 15 33 33.9 +1.0
LTY **Liberty** 81.72 327 P P 15 33 33.8 +0.6
PBEJ **Beja** 81.74 44 *e*P P 15 33 33.7 +0.2
PBEJ *e*P PcP 15 33 42.2 +3.2
PBEJ *e*pP pP 15 34 04.0 +1.9
EVOP **Sao Brissos** 81.85 44 *e*P P 15 33 34.0 -0.1
EVOP pmax pmax
comp=Z,18nm,0.5s
EVOP **Sao Brissos** 81.85 44 *e*P P 15 33 34.0 -0.1
comp=Z,18nm,0.5s
EVO **Evora** 81.93 44 *e*P P 15 33 34.0 -0.5
comp=Z,18nm,0.5s
LON **Longmire** 81.96 326 *e*P P 15 33 34.8 +0.3
LON pmax pmax
comp=Z,8.0nm,0.8s
LON **Longmire** 81.96 326 *e*P P 15 33 34.8 +0.3
comp=Z,8.0nm,0.8s
PMTG **Montargil** 82.09 43 *e*P P 15 33 35.5 +0.2
comp=Z,32nm,1.3s
PMTG *e*pP pP 15 34 06.3 +2.4
PBAR **Barrancos** 82.37 45 *e*P P 15 33 37.2 +0.4

PBAR eP PcP 15 33 46.4 +4.7
PBAR epP pP 15 34 06.0 +0.6
BMW Boistfort Moun 82.53 326 P P 15 33 38.4 +0.9
BMW Boistfort Moun 82.53 326 P P 15 33 38.4 +0.9
PMRV Marv??o 82.83 43 eP P 15 33 46.4 +7.2
JCW Jim Creek 82.97 328 P P 15 33 39.6 -0.1
MTE Manteigas 83.27 43 eP P 15 33 41.6 +0.1
comp=Z,29nm,2.5s
MTE Manteigas 83.27 43 eP P 15 33 40.7 -0.8
comp=Z,12nm,0.9s
NLWA Neilton Lookou 83.45 326 eP P 15 33 42.9 +0.7
comp=Z,18nm,1.1s
PVRL Vila Real 83.65 42 eP P 15 33 43.7 +0.3
comp=Z,33nm,1.5s
PVRL eP PcP 15 33 53.2 +5.9
POLO Lamas de Olo 83.65 42 eP P 15 33 43.8 +0.3
POLO eP PcP 15 33 51.6 +4.2
POLO epP pP 15 34 13.6 +1.5
PGAV Gavieira, Arco 83.69 41 eP P 15 33 52.9 +9.3
PCAB Cabril 83.70 41 eP P 15 33 44.4 +0.8
PCAB eP PcP 15 33 53.3 +5.8
MVO Moncorvo 84.02 42 eP P 15 33 44.9 -0.4
comp=Z,42nm,2.0s
MVO eP PcP 15 33 55.0 +6.0
BOSA Boshof 84.17 118 eP P 15 33 45.9 -0.7
comp=Z,16nm,1.0s
BOSA Boshof 84.17 118 P P 15 33 46.1 -0.5
comp=Z,14nm,1.0s,baz=271,slow=4.8,SNR=11
TAM Tamanrasset 84.52 63 eP P 15 33 48.3 0.0
TAM pmax pmax
comp=Z,11nm,1.0s
TAM Tamanrasset 84.52 63 eP P 15 33 48.3 0.0
comp=Z,11nm,1.0s
PBRG Braganca 84.55 42 eP P 15 33 48.0 +0.1
PBRG eP PcP 15 33 57.9 +6.6
PAB San Pablo 84.88 45 eP P 15 33 49.7 0.0
PAB pmax pmax
comp=Z,13nm,0.6s
PAB San Pablo 84.88 45 eP P 15 33 49.7 0.0
comp=Z,13nm,0.6s
ESDC Sonseca Array 85.20 45 P P 15 33 50.9 -0.3
ESDC pP pP 15 34 20.3 +0.3
ESDC Sonseca Array 85.20 45 P P 15 33 50.9 -0.3
comp=Z,9.1nm,0.9s,baz=242,slow=5.3,SNR=25
ESDC pP pP 15 34 20.3 +0.3
comp=Z,6.1nm,0.9s,baz=242,slow=5.2,SNR=3.0
ESLA Sonseca Array 85.20 45 eP P 15 33 51.3 0.0
comp=Z,7.0nm,1.3s
MAW Mawson 85.46 163 P P 15 33 52.2 +0.2
MAW Mawson 85.46 163 P P 15 33 52.2 +0.2
comp=Z,13nm,0.5s,baz=213,slow=5.7,SNR=83
LBTB Lobatse 85.69 115 eP P 15 33 53.8 -0.4
comp=Z,12nm,0.9s
SJPF Ste Jean 88.71 43 eP P 15 34 06.2 -1.9
SJPF Ste Jean 88.71 43 eP P 15 34 06.2 -1.9
SJPF Ste Jean 88.71 43 eP P 15 34 06.2 -1.9
ETSF Etsaut 89.03 43 eP P 15 34 08.4 -1.3
ETSF Etsaut 89.03 43 eP P 15 34 08.4 -1.3
ETSF Etsaut 89.03 43 eP P 15 34 08.4 -1.3
EPF Esparros 89.68 43 eP P 15 34 11.0 -1.7
EPF Esparros 89.68 43 eP P 15 34 11.0 -1.7
EPF Esparros 89.68 43 eP P 15 34 11.0 -1.7
YKA Yellowknife Ar 90.06 341 P P 15 34 13.8 -0.1
YKA pP pP 15 34 43.3 +0.4
YKA Yellowknife Ar 90.06 341 P P 15 34 13.8 -0.1
comp=Z,38nm,0.9s,baz=135,slow=4.7,SNR=38
YKA pP pP 15 34 43.3 +0.4
comp=Z,28nm,0.9s,baz=136,slow=4.7,SNR=4.5
ROSF Rostrenen 90.11 38 eP P 15 34 13.5 -1.0
ROSF Rostrenen 90.11 38 eP P 15 34 13.5 -1.0
ROSF Rostrenen 90.11 38 eP P 15 34 13.5 -1.0
YKW3 Yellowknife Ar 90.12 341 eP P 15 34 13.9 -0.2
YKW3 epP pP 15 34 43.2 +0.1
LFF La Frestale 90.84 42 eP P 15 34 16.8 -1.1
LFF La Frestale 90.84 42 eP P 15 34 16.8 -1.1
LFF La Frestale 90.84 42 eP P 15 34 16.8 -1.1
MTLF Montolieu 91.03 44 eP P 15 34 17.8 -1.1
MTLF Montolieu 91.03 44 eP P 15 34 17.8 -1.1
MTLF Montolieu 91.03 44 eP P 15 34 17.8 -1.1
MFF Saint Martin d 91.09 40 eP P 15 34 18.1 -1.0
comp=Z,22nm,0.7s
MFF Saint Martin d 91.09 40 eP P 15 34 18.1 -1.0
MFF pmax pmax
comp=Z,22nm,0.7s
MFF Saint Martin d 91.09 40 eP P 15 34 18.1 -1.0
comp=Z,22nm,0.7s
RJF Les Rejaudoux 91.49 42 eP P 15 34 19.8 -1.2
RJF Les Rejaudoux 91.49 42 eP P 15 34 19.8 -1.2
RJF Les Rejaudoux 91.49 42 eP P 15 34 19.8 -1.2
GRR Gorron 91.53 38 eP P 15 34 19.8 -1.3
comp=Z,22nm,0.7s
GRR Gorron 91.53 38 eP P 15 34 19.8 -1.3
GRR pmax pmax
comp=Z,22nm,0.7s
GRR Gorron 91.53 38 eP P 15 34 19.8 -1.3
comp=Z,22nm,0.7s
CAF Calviac 91.66 42 eP P 15 34 20.8 -1.0
CAF Calviac 91.66 42 eP P 15 34 20.8 -1.0
CAF Calviac 91.66 42 eP P 15 34 20.8 -1.0
LDF La Druitiere 92.06 38 eP P 15 34 22.3 -1.2
comp=Z,26nm,0.8s
LDF La Druitiere 92.06 38 eP P 15 34 22.3 -1.2
LDF pmax pmax
comp=Z,26nm,0.8s
LDF La Druitiere 92.06 38 eP P 15 34 22.3 -1.2
comp=Z,26nm,0.8s
MCH1 Michaelchurch 92.15 34 eP P 15 34 33.8 +10
MCH1 AMB AMB 15 34 34.4
comp=Z,44nm,2.4s
WME Myndd Eilian 92.20 33 eP P 15 34 35.1 +11
TCF Toulx Ste Croi 92.38 41 eP P 15 34 23.7 -1.4
comp=Z,7.0nm,0.6s
TCF Toulx Ste Croi 92.38 41 eP P 15 34 23.7 -1.4
TCF pmax pmax
comp=Z,7.0nm,0.6s
TCF Toulx Ste Croi 92.38 41 eP P 15 34 23.7 -1.4
comp=Z,7.0nm,0.6s
LASF Ste Croix 92.43 44 eP P 15 34 24.5 -0.9
LASF Ste Croix 92.43 44 eP P 15 34 24.5 -0.9
HLM1 Long Mynd 92.48 34 eP P 15 34 36.3 +11
HLM1 AMB AMB 15 34 37.2
comp=Z,23nm,1.1s
GAL1 Galloway 92.78 31 eP P 15 34 37.7 +11
GAL1 AMB AMB 15 34 43.1
comp=Z,36nm,3.5s
KEST Kesra 92.81 53 P P 15 34 26.8 -0.6
KEST Kesra 92.81 53 P P 15 34 26.8 -0.6
comp=Z,2.4nm,1.1s,baz=109,slow=2.1,SNR=4.1
BGF Bois d'Agland 92.89 41 eP P 15 34 26.3 -1.1
BGF Bois d'Agland 92.89 41 eP P 15 34 26.3 -1.1
BGF Bois d'Agland 92.89 41 eP P 15 34 26.3 -1.1
AVF Avril sur Loir 93.31 41 eP P 15 34 28.0 -1.3
comp=Z,11nm,0.8s
AVF Avril sur Loir 93.31 41 eP P 15 34 28.0 -1.3
AVF pmax pmax
comp=Z,11nm,0.8s
AVF Avril sur Loir 93.31 41 eP P 15 34 28.0 -1.3
comp=Z,11nm,0.8s
SSF Saint Saulge 93.52 41 eP P 15 34 28.8 -1.5
comp=Z,12nm,0.7s
SSF epP pP 15 34 57.7 -1.6
SSF Saint Saulge 93.52 41 eP P 15 34 28.8 -1.5
SSF pmax pmax
comp=Z,12nm,0.7s
SSF Saint Saulge 93.52 41 eP P 15 34 28.8 -1.5
comp=Z,12nm,0.7s
SSF epP pP 15 34 57.7 -1.6
SMF Signal de Mont 93.55 41 eP P 15 34 29.4 -1.0
comp=Z,15nm,0.8s
SMF epP pP 15 34 58.3 -1.2
SMF Signal de Mont 93.55 41 eP P 15 34 29.4 -1.0
SMF pmax pmax
comp=Z,15nm,0.8s
SMF Signal de Mont 93.55 41 eP P 15 34 29.4 -1.0
comp=Z,15nm,0.8s
SMF epP pP 15 34 58.3 -1.2
CASY Casey 93.61 180 eP P 15 34 31.0 +0.5
comp=Z,15nm,0.9s
EAB Aberfoyle 93.66 30 eP P 15 34 42.5 +12
KPL Plockton 93.66 29 eP P 15 34 42.1 +11
KPL AMB AMB 15 34 43.7
comp=Z,22nm,0.8s
ECK Cauldkaine Hil 93.72 32 eP P 15 34 42.4 +11

LOR Lormes 93.83 41 eP P 15 34 30.3 -1.4
comp=Z,13nm,0.7s
LOR epP pP 15 34 59.0 -1.8
LOR Lormes 93.83 41 eP P 15 34 30.3 -1.4
comp=Z,13nm,0.7s
LOR epP pP 15 34 59.0 -1.8
KAC Achnashellach 93.91 29 eP P 15 34 43.3 +12
ORIF Oris-en-Rattie 94.10 43 eP P 15 34 32.7 -0.4
comp=Z,18nm,1.0s
ORIF Oris-en-Rattie 94.10 43 eP P 15 34 32.7 -0.4
ORIF pmax pmax
comp=Z,18nm,1.0s
ORIF Oris-en-Rattie 94.10 43 eP P 15 34 32.7 -0.4
comp=Z,18nm,1.0s
ELO Logie Almond 94.11 30 eP P 15 34 44.8 +12
MDO Dochfour 94.31 29 eP P 15 34 45.8 +12
MVH1 Achvaich 94.64 29 eP P 15 34 47.0 +12
LPL La Plagne 94.89 43 eP P 15 34 35.4 -1.5
LPL La Plagne 94.89 43 eP P 15 34 35.4 -1.5
LPL La Plagne 94.89 43 eP P 15 34 35.4 -1.5
MME1 Meikle Cairn 94.89 30 eP P 15 34 48.0 +12
LPG La Plagne 94.90 43 eP P 15 34 35.7 -1.3
LPG La Plagne 94.90 43 eP P 15 34 35.7 -1.3
LPG La Plagne 94.90 43 eP P 15 34 35.7 -1.3
CABF La Chapelle 94.93 42 eP P 15 34 35.8 -1.1
comp=Z,11nm,0.8s
CABF La Chapelle 94.93 42 eP P 15 34 35.8 -1.1
CABF pmax pmax
comp=Z,11nm,0.8s
CABF La Chapelle 94.93 42 eP P 15 34 35.8 -1.1
comp=Z,11nm,0.8s
SFTF Sexfontaines 94.95 40 eP P 15 34 35.6 -1.2
SFTF Sexfontaines 94.95 40 eP P 15 34 35.6 -1.2
SUMG Summit 95.00 9 i P P 15 34 38.7 +1.7
SUMG pmax pmax
comp=Z,36nm,1.0s
SUMG Summit 95.00 9 eP P 15 34 37.1 +0.1
comp=Z,42nm,0.9s
SUMG Summit 95.00 9 i P P 15 34 38.7 +1.7
comp=Z,36nm,1.0s
MEZF Maizieres J'vi 95.08 40 eP P 15 34 36.4 -1.0
comp=Z,16nm,0.4s
MEZF Maizieres J'vi 95.08 40 eP P 15 34 36.4 -1.0
comp=Z,16nm,0.4s
PAGF Fort de Pagny 95.51 40 eP P 15 34 38.7 -0.7
comp=Z,5.2nm,0.8s
PAGF epP pP 15 35 07.4 -1.1
PAGF Fort de Pagny 95.51 40 eP P 15 34 38.7 -0.7
comp=Z,5.2nm,0.8s
PAGF epP pP 15 35 07.4 -1.1
GIVF Givet 95.63 38 eP P 15 34 38.9 -1.0
GIVF Givet 95.63 38 eP P 15 34 38.9 -1.0
GIVF Givet 95.63 38 eP P 15 34 38.9 -1.0
HINF Hinteralfeld 95.90 41 eP P 15 34 39.8 -1.4
HINF Hinteralfeld 95.90 41 eP P 15 34 39.8 -1.4
HINF Hinteralfeld 95.90 41 eP P 15 34 39.8 -1.4
CDF Champ du Feu 96.40 41 eP P 15 34 42.3 -1.2
CDF Champ du Feu 96.40 41 eP P 15 34 42.3 -1.2
CDF Champ du Feu 96.40 41 eP P 15 34 42.3 -1.2
GERES GERESS Array B 100.53 42 P Pdif 15 35 01.8 -0.2
GERES GERESS Array B 100.53 42 P Pdif 15 35 01.8 -0.2
comp=Z,0.4nm,0.6s,baz=214,slow=3.3,SNR=2.3
CLL Collm 100.90 39 eP Pdif 15 35 03.0 -0.5
CLL Collm 100.90 39 ePdif Pdif 15 35 03.0 -0.5
CLL ePP PP 15 39 13.0 -0.1
CLL eSS SS 15 53 38.0 +4.9
NB2 NORSAR Subarra103.06 30 P Pdif 15 35 26.5 +14
comp=Z,1.1nm,0.8s,baz=234,slow=5.3
NOA NORSAR Array B 103.06 30 P Pdif 15 35 12.7 -0.3
NOA NORSAR Array B 103.06 30 P Pdif 15 35 12.6 -0.3
comp=Z,0.3nm,0.8s,baz=30,slow=10,SNR=2.3
ILAR Eielson Array 103.15 335 PKiKP **PKiKP** 15 39 32.2 +0.1
ILAR Eielson Array 103.15 335 PKiKP **PKiKP** 15 39 32.3 +0.1
comp=Z,1.5nm,0.8s,baz=110,slow=4.9,SNR=7.8
VYHS Vyhne 103.68 43 eP **Pdif** 15 35 18.0 +2.0
VYHS Vyhne 103.68 43 PDIF **Pdif** 15 35 18.0 +2.0
KECS Kecovo 104.74 43 eP **Pdif** 15 35 23.8 +3.1
KECS Kecovo 104.74 43 PDIF **Pdif** 15 35 23.8 +3.1
KOLS Kolonicke sedl 106.00 43 eP **Pdif** 15 35 26.0 -0.3
KOLS Kolonicke sedl 106.00 43 PDIF **Pdif** 15 35 26.0 -0.3
FINES FINESS Array B 110.16 31 PKKPbc PKKPbc 15 50 46.7 -2.5
FINES FINESS Array B 110.16 31 PKKPbc PKKPbc 15 50 46.7 -2.5
comp=Z,0.5nm,0.6s,baz=85,slow=4.0,SNR=4.0
ARCES ARCESS Array B 110.54 22 PKKPbc PKKPbc 15 50 46.1 -2.1
ARCES ARCESS Array B 110.54 22 PKKPbc PKKPbc 15 50 46.1 -2.1
comp=Z,4.9nm,1.0s,baz=90,slow=3.6,SNR=4.3
BRTR Keskin Array B 112.36 54 PKiKP **PKiKP** 15 39 49.4 -1.0
BRTR Keskin Array B 112.36 54 PKiKP **PKiKP** 15 39 49.4 -1.0
comp=Z,0.8nm,0.7s,baz=222,slow=1.7,SNR=4.3
OBN Obninsk 115.43 38 i PKIKP **PKPdf** 15 39 55.4 -0.1
OBN e 15 41 00.9
OBN pmax pmax
comp=Z,9.0nm,1.3s
KBZ Khabaz 119.59 51 PKIKP **PKPdf** 15 40 05.4 +1.6
KBZ Khabaz 119.59 51 PKP **PKPdf** 15 40 05.4 +1.6
KBZ Khabaz 119.59 51 PKP **PKPdf** 15 40 05.4 +1.6
comp=Z,8.6nm,0.9s,baz=210,slow=5.1,SNR=9.8
STKA Stephens Creek 120.27 210 PKP **PKPdf** 15 40 05.0 -0.8
STKA Stephens Creek 120.27 210 PKP **PKPdf** 15 40 05.0 -0.8
comp=Z,1.8nm,0.6s,baz=41,slow=1.7,SNR=7.8
SOKR Solikamsk 125.32 30 ePKIKP **PKPdf** 15 40 15.1 +0.8
SOKR pmax pmax
comp=Z,8.0nm,0.6s
CTA Charters Tower 126.91 223 PKP **PKPdf** 15 40 18.4 -0.4
CTA Charters Tower 126.91 223 PKP **PKPdf** 15 40 18.4 -0.4
comp=Z,5.9nm,0.6s,baz=134,slow=2.9,SNR=11
ARU Arti 127.35 34 i PKIKP **PKPdf** 15 40 19.0 +0.6
ARU 15 42 21.2
ARU 15 47 15.4
ARU SS SS 15 59 08.5 -12
TIXI Tiksi 127.66 353 i PKIKP **PKPdf** 15 40 18.3 -0.2
TIXI pmax pmax
comp=Z,5.0nm,0.8s
AB31 Akbulak array 130.48 42 i PKIKP **PKPdf** 15 40 24.9 +0.4
AB31 pmax pmax
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 130.48 42 ePKPdf **PKPdf** 15 40 25.2 +0.7
ASAR Alice Springs 130.79 208 PKPpre PKPpre 15 40 11.1
ASAR PKP **PKPdf** 15 40 25.1 -0.9
ASAR pPKP pPKPdf 15 40 57.0 +0.6
ASAR PKKP **PKKPdf** 15 50 24.4 -0.7
ASAR Alice Springs 130.79 208 PKhKP PKPpre 15 40 11.0
comp=Z,0.3nm,0.6s,baz=136,slow=2.4,SNR=4.9
ASAR PKP **PKPdf** 15 40 25.1 -0.9
comp=Z,6.0nm,0.8s,baz=140,slow=2.0,SNR=44
ASAR pPKP pPKPdf 15 40 57.0 +0.6
comp=Z,2.7nm,0.8s,baz=144,slow=1.9,SNR=3.1
ASAR PKKP **PKKPdf** 15 50 24.4 -0.7
comp=Z,0.5nm,0.7s,baz=343,slow=1.5,SNR=7.2
AS31 Alice Springs 130.79 208 ePKPdf **PKPdf** 15 40 25.2 -0.9
PETK Petropavlovsk- 131.54 324 PKHKP PKPpre 15 40 12.1
PETK 15 40 26.4
PETK 15 40 57.2
PETK Petropavlovsk- 131.54 324 PKPpre PKPpre 15 40 12.1
PETK PKP **PKPdf** 15 40 26.4 -0.1
PETK pPKP pPKPdf 15 40 57.2 +0.5
PETK Petropavlovsk- 131.54 324 PKhKP PKPpre 15 40 12.1
comp=Z,2.0nm,1.0s,baz=49,slow=6.8,SNR=4.7
PETK PKP **PKPdf** 15 40 26.4 -0.1
comp=Z,9.7nm,1.0s,baz=140,slow=2.9,SNR=19
PETK pPKP pPKPdf 15 40 57.2 +0.5
comp=Z,5.5nm,0.9s,baz=129,slow=4.0,SNR=4.4
WRA Warramunga Arr 133.79 211 PKPpre PKPpre 15 40 18.6
WRA PKP **PKPdf** 15 40 31.4 -0.5
WRA Warramunga Arr 133.79 211 PKhKP PKPpre 15 40 18.6
comp=Z,0.5nm,0.7s,baz=139,slow=3.3,SNR=8.3
WRA PKP **PKPdf** 15 40 31.4 -0.5
comp=Z,5.9nm,0.6s,baz=152,slow=1.7,SNR=40
BRVK Borovoye 134.92 34 i PKIKP **PKPdf** 15 40 33.1 +0.3
BRVK Borovoye 134.92 34 ePKPdf **PKPdf** 15 40 33.3 +0.5
BVA0 Borovoye Array 135.00 34 i PKIKP **PKPdf** 15 40 33.3 +0.3
BVA0 pmax pmax
comp=Z,12nm,1.0s
VOSK Vostochnaya 135.46 34 PKIKP **PKPdf** 15 40 32.9 -1.0
VOSK pmax pmax
comp=Z,4.0nm,0.5s
FITZ Fitzroy Crossi 139.10 202 PKPpre PKPpre 15 40 31.5
FITZ PKP **PKiKP** 15 40 43.5 -0.4
FITZ Fitzroy Crossi 139.10 202 PKhKP PKPpre 15 40 31.5
comp=Z,3.2nm,0.6s,baz=168,slow=4.4,SNR=9.2
FITZ PKP **PKiKP** 15 40 43.5 -0.4
comp=Z,5.2nm,0.6s,baz=197,slow=6.9,SNR=13
KKAR Karatay Array 139.41 47 ePKIKP **PKPdf** 15 40 41.8 +0.3
KKAR Karatay Array 139.41 47 ePKPdf **PKPdf** 15 40 41.8 +0.3

NVS Novosibirsk 139.75 25 ePKIKP **PKPdf** 15 40 37.9 -3.7
NVS e 15 41 10.5
NVS pmax pmax
comp=Z,16nm,1.2s
NVS pmax pmax
comp=N,1.0nm,0.8s
NVS pmax pmax
comp=E,4.0nm,1.2s
ZALV Zalesovo Beam 141.04 24 PKHKP PKPpre 15 40 36.7
ZALV 15 40 44.2
ZALV Zalesovo Beam 141.04 24 PKPpre PKPpre 15 40 36.7
ZALV PKP **PKPdf** 15 40 44.2 +0.2
ZALV Zalesovo Beam 141.04 24 PKhKP PKPpre 15 40 36.7
comp=E,3.6nm,0.7s,baz=312,slow=3.8,SNR=5.3
ZALV PKP **PKPdf** 15 40 44.2 +0.2
comp=E,16nm,0.7s,baz=291,slow=2.5,SNR=28
AAK Ala-Archa 142.30 46 ePKIKP PKPpre 15 40 43.6
AAK Ala-Archa 142.30 46 ePKPpre PKPpre 15 40 43.6
KSH Kashi 144.56 50 PKPbc **PKPab** 15 40 49.6 -0.1
KSH pPKP **pPKPdf** 15 41 17.8 -3.4
KSH sPKP 15 41 27.5
KSH PP **PP** 15 44 12.0 +3.7
KSH SKKS **SKSdf** 15 47 48.3 -2.0
KSH Kashi 144.56 50 SS SS 16 02 43.3 -3.7
KSH AMB AMB
comp=Z,91nm,4.8s
KSH LR LR
comp=N,80nm,5.4s
KSH LR LR
comp=E,110nm,5.5s
KSH LR LR
comp=Z,190nm,5.3s
ASAJ Asahikawa 144.57 319 ePKPdf **PKPdf** 15 40 50.2 -0.3
MK31 Makanchi Array 144.85 35 ePKIKP **PKPab** 15 40 50.3 -0.1
MK31 e 15 41 21.1
MK31 Makanchi Array 144.85 35 ePKPdf **PKPab** 15 40 50.3 -0.1
MK31 epPKPdf **pPKPdf** 15 41 21.1 -0.3
MKAR Makanchi Array 144.85 35 PKIKP PKPbc 15 40 50.4 0.0
MKAR Makanchi Array 144.85 35 PKP PKPbc 15 40 50.4 0.0
MKAR Makanchi Array 144.85 35 PKP PKPbc 15 40 50.4 0.0
comp=Z,43nm,0.9s,baz=328,slow=3.0,SNR=167
ERM Erimo 145.26 316 ePKIKP **PKPab** 15 40 52.9 +0.9
ERM Erimo 145.26 316 ePKPdf **PKPab** 15 40 52.9 +0.9
HABR Khabarovsk 145.88 331 dePKIKP **PKPdf** 15 40 51.2 -1.5
HABR e 15 41 23.4
HABR 15 44 14.8
HABR ePPP PPP 15 47 29.1
HABR 15 47 51.4
HABR e 15 56 57.2
HABR pmax pmax
comp=E,92nm,2.8s
HABR pmax pmax
comp=Z,92nm,2.8s
HABR pmax pmax
comp=N,34nm,1.4s
HVS Khovu-Aksy 146.47 20 c i PKP2 **PKPdf** 15 40 54.1 +0.3
KLR Kul'dur 146.72 335 ePKHKP PKPpre 15 40 51.8
KLR pmax pmax
comp=Z,96nm,1.6s
IRK Irkutsk 147.79 8 ePKIKP **PKPdf** 15 40 56.1 +0.3
IRK pmax pmax
comp=Z,79nm,1.2s
MOY Mondy 147.84 12 ePKHKP PKPpre 15 40 51.8
MOY pmax pmax
comp=Z,70nm,2.7s
TLY Talaya 148.26 9 ePKIKP **PKPdf** 15 40 58.3 +1.7
TLY pmax pmax
comp=Z,39nm,1.3s
HYB Hyderabad 149.32 90 i PKP **PKPbc** 15 41 03.0 -0.8
ZAK Zakamensk 149.47 10 ePKHKP PKPpre 15 40 59.3
ZAK e 15 44 34.6
ZAK pmax pmax
comp=Z,21nm,1.3s
WMQ Urumqi 149.68 34 P **PKPdf** 15 40 59.9 +0.7
HIA Hailar 150.31 348 ePKPbc **PKPbc** 15 41 05.2 -0.1
USRK Ussuriysk Arra 150.45 328 PKP **PKPdf** 15 41 00.7 +0.4
comp=Z,3.3nm,0.9s,baz=50,slow=3.0,SNR=4.9
USRK PKPbc **PKPbc** 15 41 05.8 +0.1
comp=Z,30nm,0.8s,baz=60,slow=4.6,SNR=20
USRK pPKPbc **pPKPbc** 15 41 36.0 +0.2
comp=Z,27nm,0.8s,baz=360,slow=1.2,SNR=7.3
MJAR Matsushiro Arr 151.20 310 PKPbc **PKPbc** 15 41 07.7 0.0
MJAR PKPab **PKPab** 15 41 15.2 -0.8
MJAR pPKPbc **pPKPbc** 15 41 38.1 +0.2
MJAR Matsushiro Arr 151.20 310 PKPbc **PKPbc** 15 41 07.7 0.0
comp=Z,16nm,0.7s,baz=95,slow=1.6,SNR=31
MJAR PKPab **PKPab** 15 41 15.2 -0.8
comp=Z,8.2nm,0.8s,baz=90,slow=2.5,SNR=7.5
MJAR pPKPbc **pPKPbc** 15 41 38.1 +0.2
comp=Z,16nm,0.9s,baz=92,slow=0.9,SNR=6.4
MAJO Matsushiro 151.20 310 ePKIKP **PKPbc** 15 41 07.7 -0.1
MAJO Matsushiro 151.20 310 ePKPbc **PKPbc** 15 41 07.7 -0.1
JBP Jabalpur 151.22 79 i P **PKPbc** 15 41 08.2 0.0
JBP i x x 15 41 09.7
comp=Z,92nm,0.8s
JBP eS x 15 41 40.1
MDJ Mudanjiang 151.26 331 ePKPbc **PKPbc** 15 41 07.6 0.0
SONM Songino Array 152.38 6 PKP **PKPdf** 15 41 03.8 +0.5
SONM PKPbc **PKPbc** 15 41 10.1 -0.1
SONM PKPab **PKPab** 15 41 20.5 -0.1
SONM Songino Array 152.38 6 PKP **PKPdf** 15 41 03.8 +0.5
comp=Z,5.3nm,1.0s,baz=312,slow=1.0,SNR=19
SONM PKPbc **PKPbc** 15 41 10.1 -0.1
comp=Z,15nm,0.5s,baz=303,slow=1.2,SNR=78
SONM PKPab **PKPab** 15 41 20.5 -0.1
comp=Z,9.3nm,0.7s,baz=327,slow=3.5,SNR=9.3
ULN Ulaanbaatar 152.41 6 ePKPdf **PKPdf** 15 41 03.6 +0.2
ULN ePKPbc **PKiKP** 15 41 10.6 0.0
ULN ePKPab **PKPab** 15 41 21.2 +0.4
KAPI Kappang 153.29 200 PKPbc **PKPbc** 15 41 11.9 -1.1
KAPI PKPab **PKPab** 15 41 25.2 0.0
KAPI Kappang 153.29 200 PKPbc **PKPbc** 15 41 11.9 -1.1
comp=Z,29nm,1.0s,baz=190,slow=2.6,SNR=7.4
KAPI PKPab **PKPab** 15 41 25.2 0.0
comp=Z,27nm,1.0s,baz=214,slow=2.5,SNR=5.2
KSRS Korea Array 157.42 323 PKP **PKPdf** 15 41 10.9 +0.6
comp=Z,5.0nm,0.8s,baz=55,slow=0.5,SNR=9.4
KSRS PKPab **PKPab** 15 41 43.0 +0.8
comp=Z,7.2nm,0.7s,baz=56,slow=4.6,SNR=16
KSAR Wonju Array Be 157.45 323 PKP **PKPdf** 15 41 10.9 +0.5
KSAR PKPab **PKPab** 15 41 43.0 +0.6
GTA Gaotai 158.79 24 PKPbc **PKPdf** 15 41 12.5 +0.3
GTA pPKP **pPKPdf** 15 41 45.3 +2.7
GTA sPKP 15 42 02.1
GTA PP **PP** 15 45 32.3 +3.8
HHC Hu-ho-hao-te 159.59 358 ePKP **PKPdf** 15 41 13.6 +0.6
HHC pPKP **pPKPdf** 15 41 40.8 -2.6
HHC sPKP 15 41 51.0
HHC PKS **PKSdf** 15 44 45.9 -0.6
HHC PP **PP** 15 45 36.6 +4.2
HHC SKS **SKSdf** 15 48 06.4 -2.0
HHC Hu-ho-hao-te 159.59 358 SKKS **SKKSac** 15 52 12.8 +1.1
LSA Lhasa 159.91 59 ePKIKP **PKPdf** 15 41 15.0 +0.8
LSA Lhasa 159.91 59 ePKPdf **PKPdf** 15 41 15.0 +0.8
KSM Kuching 161.20 178 ePKPdf **PKPdf** 15 41 15.3 -0.1
LZH Lanzhou 163.19 20 ePKP **PKPdf** 15 41 16.8 -0.2
LZH pPKP **pPKPdf** 15 41 44.0 -3.5
LZH sPKP 15 41 54.5
LZH PKP **PKPab** 15 42 09.3 +1.7
LZH PKS **PKSdf** 15 44 49.0 -1.2
LZH PP **PP** 15 45 55.3 +3.4
LZH Lanzhou 163.19 20 SKKS **SKKSac** 15 52 31.5 +0.9
XAN Xi'an 166.29 7 PKP **PKPdf** 15 41 19.8 +0.2
XAN pPKP **pPKPdf** 15 41 46.6 -3.5
CD2 Chengdu 167.72 30 PKPbc **PKPdf** 15 41 19.3 -1.5
CD2 pPKP **pPKPdf** 15 41 50.1 -1.1
CD2 sPKP 15 42 02.3
CD2 PKPab **PKPab** 15 42 27.4 -0.2
CD2 PKS **PKSdf** 15 44 50.5 -3.0
CD2 PP **PP** 15 46 16.8 +1.2
CD2 SKS **SKSdf** 15 48 09.9 -4.8
CD2 Chengdu 167.72 30 SKKS **SKKSac** 15 52 50.8 -2.5
CMAR Chiang Mai Arr 168.60 98 PKP **PKPdf** 15 41 21.6 0.0
CMAR PKPab **PKPab** 15 42 31.7 -0.3
CMAR Chiang Mai Arr 168.60 98 PKP **PKPdf** 15 41 21.6 0.0
comp=Z,3.8nm,1.0s,baz=270,slow=1.7,SNR=19
CMAR PKPab **PKPab** 15 42 31.7 -0.3
comp=Z,3.0nm,0.8s,baz=252,slow=6.8,SNR=12
CHTO Chiang Mai 168.67 96 ePKIKP **PKPdf** 15 41 21.3 -0.4
CHTO Chiang Mai 168.67 96 ePKPdf **PKPdf** 15 41 21.2 -0.4
GYA Guiyang 172.83 32 SS SS 16 07 41.0 -4.0
GYA AMB AMB
comp=Z,130nm,8.2s

GYA			LR	LR
	comp=N,140nm,23.0s			
GYA			LR	LR
	comp=E,120nm,22.5s			
GYA			LR	LR
	comp=Z,150nm,24.4s			

WEL 15 15:23:22.7±1.1,**46°.02S**×**165°.82E**,**h12**km,**ML3.8**/11,
Error ellipse: s-maj=10.6km s-min=6.9km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.61**	**104**	P*	Pg	15 23 34.2	-0.5
PYZ				S*	Sg	15 23 43.2	+0.3
PYZ				S*	Sb	15 23 43.6	-0.4
DCZ	**Deep Cove**	**1.08**	**60**	P*	Pb	15 23 42.1	-1.1
DCZ				AML	AML	15 23 59.5	
DCZ				AML	AML	15 24 00.2	
DCZ				AML	AML	15 24 00.2	
DCZ				AML	AML	15 24 00.3	
WHZ	**Wether Hill Ro**	**1.49**	**86**	PN	Pn	15 23 48.4	-0.9
WHZ				SN	Sn	15 24 07.2	-1.4
WHZ				AML	AML	15 24 10.1	
MLZ	**Mavora Lakes**	**1.78**	**69**	*e*PN	Pn	15 23 53.3	0.0
MLZ				AML	AML	15 24 18.9	
MLZ				AML	AML	15 24 19.4	
MSZ	**Milford Sound**	**2.00**	**48**	AML	AML	15 24 31.8	
MSZ				AML	AML	15 24 33.9	
SYZ	**Scrubby Hill**	**2.36**	**104**	*e*PN	Pn	15 24 01.1	0.0
WKZ	**Wanaka**	**2.54**	**63**	*e*PN	Pn	15 24 05.9	+2.0
WKZ				AML	AML	15 24 46.2	
WKZ				AML	AML	15 24 51.3	
EAZ	**Earnscleugh**	**2.57**	**73**	*e*PN	Pn	15 24 04.8	+0.7
EAZ				AML	AML	15 24 41.4	
EAZ				AML	AML	15 24 42.9	
TUZ	**Tuapeka**	**2.66**	**90**	*e*PN	Pn	15 24 04.6	-0.7
TUZ				AML	AML	15 24 39.3	
TUZ				AML	AML	15 24 40.4	
LBZ	**Lake Benmore**	**3.49**	**64**	AML	AML	15 24 59.6	
LBZ				AML	AML	15 25 05.3	
ODZ	**Otahua Downs**	**3.52**	**76**	AML	AML	15 25 09.5	
ODZ				AML	AML	15 25 12.3	
FOZ	**Fox Glacier**	**3.69**	**50**	AML	AML	15 25 28.5	
FOZ				AML	AML	15 25 31.9	
RPZ	**Rata Peaks**	**4.37**	**60**	AML	AML	15 25 31.4	

*IDC **15** 15:24:53.5±2.7,46°.00S×166°.27E,h0*km*,mb3.4/2,*
mb1 3.7/3,mb1mx3.6/14,mbtmp3.5/3,ML3.9/1,Error ellipse: s-maj=80.0km s-min=36.4km az=178.0
*ISCJB **15** 15:24:55.4±0.8,45°.82S±0°.05×166°.31E±0°.07,h14*km*, mb3.3/2,Error ellipse: s-maj=7.2km s-min=6.7km az=5.4*
*WEL **15** 15:24:57.4±0.6,45°.83S×166°.48E,h5*km*,ML3.8/11,Error ellipse: s-maj=6.9km s-min=1.7km az=90.0*

ISC 15 15:24:56.1±1.1,**45°.87S**±0°.05×**166°.38E**±0°.07,**h14**km,**n18,**
σ**0.75**/20,**Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.36**	**145**	PG	**Pb**	**15 25 04.6**	**+0.2**
PYZ				SG	**Sb**	**15 25 10.2**	**+0.3**
DCZ	**Deep Cove**	**0.67**	**55**	P*	**Pg**	**15 25 09.1**	**0.0**
DCZ				SG	**Sg**	**15 25 16.7**	**-1.2**
DCZ				AML	AML	15 25 18.0	
DCZ				AML	AML	15 25 18.4	
DCZ				AML	AML	15 25 20.7	
WHZ	**Wether Hill Ro**	**1.09**	**92**	P*	**Pb**	**15 25 16.5**	**-0.3**
WHZ				S*	**Sg**	**15 25 30.8**	**-0.7**
WHZ				AML	AML	15 25 35.8	
MLZ	**Mavora Lakes**	**1.36**	**68**	P*	**Pn**	**15 25 20.8**	**0.0**
MLZ				AML	AML	15 25 45.0	
MLZ				AML	AML	15 25 46.2	
APZ	**The Paps**	**1.47**	**131**	*e*PN	**Pb**	**15 25 23.0**	**-0.3**
MSZ	**Milford Sound**	**1.62**	**43**	*e*PN	**Pb**	**15 25 25.6**	**-0.1**
MSZ				AML	AML	15 25 50.7	
MSZ				AML	AML	15 25 52.3	
SYZ	**Scrubby Hill**	**2.03**	**110**	*e*PN	**Pn**	**15 25 29.5**	**-0.3**
WKZ	**Wanaka**	**2.13**	**62**	*e*PN	**Pb**	**15 25 34.9**	**+0.4**
WKZ				AML	AML	15 26 04.5	
WKZ				AML	AML	15 26 05.6	
EAZ	**Earnscleugh**	**2.15**	**74**	*e*PN	**Pb**	**15 25 33.9**	**-0.9**
EAZ				AML	AML	15 26 04.3	
EAZ				AML	AML	15 26 05.1	
TUZ	**Tuapeka**	**2.27**	**93**	*e*PN	**Pn**	**15 25 34.4**	**+1.2**
TUZ				AML	AML	15 26 07.5	
TUZ				AML	AML	15 26 08.4	
LBZ	**Lake Benmore**	**3.07**	**63**	AML	AML	15 26 25.3	
LBZ				AML	AML	15 26 25.6	
ODZ	**Otahua Downs**	**3.11**	**76**	PN	**Pn**	**15 25 45.5**	**+0.8**
ODZ				AML	AML	15 26 24.9	
FOZ	**Fox Glacier**	**3.30**	**47**	AML	AML	15 26 46.9	
FOZ				AML	AML	15 26 48.8	
RPZ	**Rata Peaks**	**3.96**	**59**	Pn	**Pn**	**15 25 57.6**	**+1.1**
	7.5nm,0.3s,baz=105,slow=18,SNR=3.6						
RPZ				Sn	**Sn**	**15 26 43.9**	**+1.2**
	12nm,0.3s,baz=85,slow=20,SNR=7.9						
RPZ	**Rata Peaks**	**3.96**	**59**	*e*PN	**Pn**	**15 25 57.1**	**+0.7**
RPZ				AML	AML	15 26 44.9	
RPZ				AML	AML	15 26 45.5	
ASAR	**Alice Springs**	**34.31**	**299**	P	**P**	**15 31 42.1**	**0.0**
	0.2nm,0.5s,baz=133,slow=8.3,SNR=4.5						
WRA	**Warramunga Arr**	**36.89**	**304**	P	**P**	**15 32 03.5**	**-0.8**
	0.5nm,0.9s,baz=138,slow=7.6,SNR=5.0						
TORD	**Torodi Ar. Bea**	**144.90**	**207**	PKP	**PKPab**	**15 44 31.9**	**-0.2**
	0.5nm,0.7s,baz=140,slow=1.4,SNR=2.9						

MEX 15 15:26:34.0±0.5,**16°.08N**×**93°.55W**,**h122**km±5km,**MD3.9,**
Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.49**	**139**	*e*P	Pn	15 26 50.8	-1.3
PCIG				*i* S	Sn	15 27 03.7	-2.0
TGIG		**0.81**	**31**	*e*P	Pn	15 26 53.5	-1.0
TGIG				*i* S	Sn	15 27 08.1	-2.0
CCIG	**Comitan**	**1.38**	**81**	*e*P	Pn	15 26 58.9	-1.5
CCIG				*i* S	Sn	15 27 18.0	-2.4
THIG		**1.70**	**133**	*e*P	Pn	15 27 02.5	-1.4
THIG				*e*S	Sn	15 27 25.2	-1.4
HUIG	**Huatulco**	**2.48**	**263**	*i* P	Pn	15 27 11.9	-1.6
HUIG				*e*S	Sn	15 27 41.4	-2.5

WEL 15 15:27:20.9±0.6,**45°.52S**×**166°.71E**,**h12**km,**ML4.0**/10,
Error ellipse: s-maj=4.6km s-min=3.0km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.32**	**82**	P*	Pg	15 27 27.7	+0.4
DCZ				S*	Sg	15 27 31.7	+0.1
DCZ				S*	Sb	15 27 31.8	-1.8
PYZ	**Puysegur Point**	**0.65**	**182**	P*	Pg	15 27 32.1	-1.4
PYZ				S*	Sg	15 27 41.8	-0.2
WHZ	**Wether Hill Ro**	**0.94**	**114**	P*	Pg	15 27 38.6	-0.6
WHZ				S*	Sg	15 27 51.0	-0.5
WHZ				AML	AML	15 27 55.1	
MLZ	**Mavora Lakes**	**1.05**	**81**	P*	Pb	15 27 38.8	-2.2
MLZ				S*	Sb	15 27 51.4	-3.4
MLZ				AML	AML	15 27 53.3	
MSZ	**Milford Sound**	**1.21**	**46**	P*	Pn	15 27 40.2	-3.5
MSZ				AML	AML	15 28 00.7	
MSZ				AML	AML	15 28 02.2	
APZ	**The Paps**	**1.58**	**146**	*e*PN	Pb	15 27 49.8	-0.4
WKZ	**Wanaka**	**1.77**	**68**	*e*PN	Pn	15 27 51.0	-0.4
WKZ				AML	AML	15 28 18.4	
WKZ				AML	AML	15 28 18.4	
WKZ				AML	AML	15 28 18.8	
WKZ				AML	AML	15 28 18.8	
EAZ	**Earnscleugh**	**1.85**	**82**	PN	Pn	15 27 52.3	-0.2
EAZ				AML	AML	15 28 16.1	
EAZ				AML	AML	15 28 17.3	
SYZ	**Scrubby Hill**	**1.97**	**122**	*e*PN	Pn	15 27 54.6	+0.5
TUZ	**Tuapeka**	**2.09**	**103**	*e*PN	Pn	15 27 56.1	+0.3
TUZ				AML	AML	15 28 24.7	
TUZ				AML	AML	15 28 24.9	
LBZ	**Lake Benmore**	**2.72**	**67**	*e*PN	Pn	15 28 03.0	-1.4
LBZ				AML	AML	15 28 40.9	
LBZ				AML	AML	15 28 41.8	
ODZ	**Otahua Downs**	**2.82**	**82**	PN	Pn	15 28 04.5	-1.3
ODZ				AML	AML	15 28 42.2	
ODZ				AML	AML	15 28 42.6	
FOZ	**Fox Glacier**	**2.89**	**48**	*e*PN	Pn	15 28 07.4	+0.7
FOZ				AML	AML	15 28 55.8	
FOZ				AML	AML	15 28 56.6	

WEL 15 15:29:34.6±0.4,**46°.07S**×**166°.00E**,**h20**km,**ML4.2**/12,
Error ellipse: s-maj=3.4km s-min=1.8km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.49**	**101**	P*	Pb	15 29 44.2	-0.3
PYZ				S*	Sb	15 29 51.2	0.0
DCZ	**Deep Cove**	**1.01**	**54**	P*	Pb	15 29 53.2	-0.1
DCZ				S*	Sb	15 30 06.5	+0.4
DCZ				S*	Sb	15 30 06.5	+0.4
DCZ				AML	AML	15 30 07.9	
WHZ	**Wether Hill Ro**	**1.37**	**83**	PN	Pn	15 29 58.3	-0.3
WHZ				SN	Sn	15 30 15.8	-0.4
WHZ				AML	AML	15 30 18.9	
APZ	**The Paps**	**1.57**	**120**	PN	Pn	15 29 59.6	-1.9
APZ				SN	Sn	15 30 18.3	-2.9
MLZ	**Mavora Lakes**	**1.69**	**65**	*e*PN	Pn	15 30 03.7	+0.7
MLZ				AML	AML	15 30 31.2	
MLZ				AML	AML	15 30 32.8	
MSZ	**Milford Sound**	**1.95**	**45**	*e*PN	Pb	15 30 10.4	+0.9
MSZ				AML	AML	15 30 43.5	
MSZ				AML	AML	15 30 44.2	
MSZ				AML	AML	15 30 44.7	
MSZ				AML	AML	15 30 47.2	
SYZ	**Scrubby Hill**	**2.23**	**103**	*e*PN	Pn	15 30 09.9	-0.5
SYZ				SN	Sn	15 30 36.7	-0.6
WKZ	**Wanaka**	**2.46**	**61**	*e*PN	Pb	15 30 16.3	-1.9
WKZ				AML	AML	15 30 52.0	
WKZ				AML	AML	15 30 52.7	
WKZ				AML	AML	15 30 55.6	
WKZ				AML	AML	15 30 56.3	
EAZ	**Earnscleugh**	**2.47**	**71**	*e*PN	Pn	15 30 15.5	+1.8
EAZ				AML	AML	15 30 50.2	
EAZ				AML	AML	15 30 50.3	
EAZ				AML	AML	15 30 51.6	
EAZ				AML	AML	15 30 51.6	
TUZ	**Tuapeka**	**2.54**	**89**	PN	Pn	15 30 14.9	+0.3
TUZ				AML	AML	15 30 48.7	
TUZ				AML	AML	15 30 50.1	
JCZ	**Jackson Bay**	**2.80**	**45**	*e*PN	Pb	15 30 23.6	-0.4
JCZ				AML	AML	15 31 02.9	
JCZ				AML	AML	15 31 03.7	
HHSZ	**Highcliff Hill**	**3.21**	**88**	*e*PN	Pn	15 30 24.9	+0.9
LBZ	**Lake Benmore**	**3.41**	**62**	*e*PN	Pn	15 30 27.6	+1.0
LBZ				AML	AML	15 31 13.9	
LBZ				AML	AML	15 31 14.0	
ODZ	**Otahua Downs**	**3.42**	**74**	AML	AML	15 31 22.3	
ODZ				AML	AML	15 31 24.0	
FOZ	**Fox Glacier**	**3.63**	**48**	*e*PN	Pb	15 30 35.3	-2.8
FOZ				AML	AML	15 31 24.9	
RPZ	**Rata Peaks**	**4.30**	**59**	*e*PN	Pn	15 30 39.6	+0.7
RPZ				AML	AML	15 31 32.7	
RPZ				AML	AML	15 31 33.2	
WVZ	**Waitaha Valley**	**4.52**	**50**	*e*PN	Pn	15 30 43.7	+1.8

*ISCJB **15** 15:30:11.9±0.7,34°.36N±0°.03×8°.65W±0°.05,h10*km*,Error ellipse: s-maj=6.2km s-min=3.4km az=149.1*
*MDD **15** 15:30:11.5±1.6,34°.08N×9°.04W,h26*km*±15*km*,mb4.3/16,Error ellipse: s-maj=11.0km s-min=5.6km az=82.0,PRXIMO*
*LDG **15** 15:30:12.4±0.3,34°.18N×8°.84W,h2*km*,Ml3.6/4,Error ellipse: s-maj=5.7km s-min=4.3km az=41.0*
*INMG **15** 15:30:12.4±1.1,34°.03N×9°.06W,h31*km*±12*km*,ML2.8,Error ellipse: s-maj=5.6km s-min=5.1km az=163.0*
*IGIL **15** 15:30:13.1,34°.08N×8°.86W,h31*km*,ML2.8*
*CSEM **15** 15:30:13.3±0.3,34°.20N×8°.85W,h30*km*,ML3.5/25,Error ellipse: s-maj=7.7km s-min=4.2km az=66.0*
*CNRM **15** 15:30:14.4,33°.92N×9°.03W,h30*km*,MD3.3*

ISC 15 15:30:09.9±1.2,**34°.22N**±0°.04×**8°.83W**±0°.05,**h10**km,**n112,**
σ**1.72**/176,**1C,West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CIA	**Chichaoua**	**2.65**	**179**	P	**Pn**	**15 30 51.0**	**-1.7**
CIA				S	Sn	15 31 16.0	-8.9
CIA	**Chichaoua**	**2.65**	**179**	P	**Pn**	**15 30 51.0**	**-1.7**
CIA				S	Sn	15 31 16.0	-8.9
TZC	**Tazercounte**	**2.85**	**136**	P	**Pn**	**15 30 55.0**	**-0.6**
TZC				S	**Sn**	**15 31 26.0**	**-4.1**
TZC	**Tazercounte**	**2.85**	**136**	P	**Pn**	**15 30 55.0**	**-0.6**
TZC				S	**Sn**	**15 31 26.0**	**-4.1**
PFVI	**Vila Bisbo**	**2.90**	**0**	*e*Pn	**Pn**	**15 30 57.6**	**+1.4**
PFVI				*e*Sn	**Sn**	**15 31 30.8**	**-0.3**
PFVI				A	A	15 31 36.8	
	12nm,0.4s						
PFVI	**Vila Bisbo**	**2.90**	**0**	Pn	**Pn**	**15 30 57.5**	**+1.4**
	1.1nm,0.1s,SNR=7.9						
PFVI				Sn	**Sn**	**15 31 30.8**	**-0.3**
	25nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.90**	**0**	Pn	**Pn**	**15 30 57.5**	**+1.4**
	1.1nm,0.1s,SNR=7.9						
PFVI				Sn	**Sn**	**15 31 30.8**	**-0.3**
	25nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**3.08**	**3**	*e*Pn	**Pn**	**15 31 00.0**	**+1.4**
MORF				*e*Sn	**Sn**	**15 31 35.5**	**0.0**
MORF				A	A	15 31 41.4	
	32nm,0.1s						
MORF	**Marmelete**	**3.08**	**3**	*e*Pn	**Pn**	**15 31 00.0**	**+1.4**
MORF				*e*Sn	**Sn**	**15 31 35.5**	**0.0**
	32nm,0.1s						
PBDV	**Barranco-do-Ve**	**3.10**	**13**	*e*Pn	**Pn**	**15 31 00.8**	**+1.9**
PBDV				*e*Sn	**Sn**	**15 31 36.9**	**+0.9**
PBDV				A	A	15 31 43.3	
	16nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.10**	**13**	*e*Pn	**Pn**	**15 31 00.8**	**+1.9**
PBDV				*e*Sn	**Sn**	**15 31 36.9**	**+0.9**
	16nm,0.3s						
MIF	**Mishlifen**	**3.11**	**104**	P	Pn	15 31 03.0	+3.8
MIF				S	**Sn**	**15 31 38.0**	**+1.5**
MIF	**Mishlifen**	**3.11**	**104**	*e*P	Pn	15 31 03.0	+3.8
MIF				*i* S	**Sn**	**15 31 38.0**	**+1.5**
OUK	**Oukaimeden**	**3.11**	**165**	P	Pn	15 30 56.0	-3.3
OUK				S	Sn	15 31 30.0	-6.8
OUK	**Oukaimeden**	**3.11**	**165**	P	Pn	15 30 56.0	-3.3
OUK				S	Sn	15 31 30.0	-6.8
TGT	**Taghat**	**3.14**	**92**	P	**Pb**	**15 31 05.0**	**-0.7**
TGT				S	**Sn**	**15 31 40.0**	**+3.0**
TGT	**Taghat**	**3.14**	**92**	*e*P	**Pb**	**15 31 05.0**	**-0.7**
TGT				*e*S	**Sn**	**15 31 40.0**	**+3.0**
ECEU	**Ceuta**	**3.29**	**59**	Pn	**Pn**	**15 31 03.3**	**+1.8**
	1.3nm,0.1s,SNR=7.9						
ECEU	**Ceuta**	**3.29**	**59**	Pn	**Pn**	**15 31 03.3**	**+1.8**
	1.3nm,0.1s,SNR=7.9						
PVAQ	**Vaqueiros**	**3.30**	**16**	*e*Pn	**Pn**	**15 31 03.5**	**+1.9**
PVAQ				*e*Sn	**Sn**	**15 31 40.9**	**0.0**
PVAQ				A	A	15 31 46.3	
	24nm,0.2s						
PVAQ	**Vaqueiros**	**3.30**	**16**	*e*Pn	**Pn**	**15 31 03.5**	**+1.9**
PVAQ				*e*Sn	**Sn**	**15 31 40.9**	**0.0**
	24nm,0.2s						
PCVE	**Castro Verde**	**3.46**	**10**	*e*Pn	**Pn**	**15 31 05.7**	**+1.9**
PCVE				*e*Sn	**Sn**	**15 31 45.2**	**+0.3**
PCVE				A	A	15 31 46.8	
	12nm,0.4s						
PCVE	**Castro Verde**	**3.46**	**10**	*e*Pn	**Pn**	**15 31 05.7**	**+1.9**
PCVE				*e*Sn	**Sn**	**15 31 45.2**	**+0.3**
	12nm,0.4s						
EGRO	**El Granado**	**3.48**	**18**	⇑Pn	**Pn**	**15 31 06.1**	**+2.0**
	3.8nm,0.1s,SNR=18						
EGRO				Sn	**Sn**	**15 31 46.0**	**+0.7**
	7.1nm,0.3s,SNR=6.6						
EGRO	**El Granado**	**3.48**	**18**	Pn	**Pn**	**15 31 06.1**	**+2.0**
	3.8nm,0.1s,SNR=18						
EGRO				Sn	**Sn**	**15 31 46.0**	**+0.7**
	7.1nm,0.3s,SNR=6.6						
ESPR	**Espera**	**3.58**	**42**	Pn	**Pn**	**15 31 07.7**	**+2.2**
	3.4nm,0.3s,SNR=13						
ESPR				Sn	**Sn**	**15 31 48.8**	**+0.9**
	3.8nm,0.2s						
ESPR	**Espera**	**3.58**	**42**	Pn	**Pn**	**15 31 07.7**	**+2.2**
	3.4nm,0.3s,SNR=13						
ESPR				Sn	**Sn**	**15 31 48.8**	**+0.9**
	3.8nm,0.2s						
MESJ	**Messejana**	**3.64**	**8**	*e*P	**Pn**	**15 31 08.2**	**+1.9**
MESJ				*e*S	**Sn**	**15 31 48.4**	**-0.9**
MESJ					AML	AML	15 31 50.3
	comp=N,18nm,0.3s						
MESJ	**Messejana**	**3.64**	**8**	*e*P	**Pn**	**15 31 08.2**	**+1.9**
MESJ				*e*S	**Sn**	**15 31 48.4**	**-0.9**
MESJ	**Messejana**	**3.64**	**8**	*e*P	**Pn**	**15 31 08.2**	**+1.9**
MESJ				*e*S	**Sn**	**15 31 48.4**	**-0.9**
TZK	**Tazeka**	**3.86**	**91**	P	Pn	15 31 13.0	+3.5
TZK				S	**Sn**	**15 31 54.0**	**-0.9**
TZK	**Tazeka**	**3.86**	**91**	*e*P	Pn	15 31 13.0	+3.5
TZK				*i* S	**Sn**	**15 31 54.0**	**-0.9**
PBEJ	**Beja**	**3.88**	**11**	*e*Pn	**Pn**	**15 31 12.3**	**+2.8**
PBEJ				*e*Sn	**Sn**	**15 31 54.9**	**-0.2**
PBEJ				A	A	15 31 58.6	
	comp=N,14nm,0.2s						
PBEJ	**Beja**	**3.88**	**11**	*e*Pn	**Pn**	**15 31 12.3**	**+2.8**
PBEJ				*e*Sn	**Sn**	**15 31 54.9**	**-0.2**
	comp=N,14nm,0.2s						
PNCL	**Nicolau / Gran**	**3.89**	**4**	*e*Pn	**Pn**	**15 31 11.3**	**+1.6**
PNCL				*e*Sn	**Sn**	**15 31 55.0**	**-0.4**
PNCL				A	A	15 31 57.3	
	comp=N,10nm,0.4s						
PNCL	**Nicolau / Gran**	**3.89**	**4**	*e*Pn	**Pn**	**15 31 11.3**	**+1.6**
PNCL				*e*Sn	**Sn**	**15 31 55.0**	**-0.4**
	comp=N,10nm,0.4s						
EMIN	**Mina Concepcio**	**3.95**	**26**	Pn	**Pn**	**15 31 12.2**	**+1.7**
	comp=N,1.0nm,0.3s,SNR=21						
EMIN				Sn	**Sn**	**15 31 56.2**	**-0.6**
	comp=N,3.6nm,0.3s,SNR=10						
EMIN	**Mina Concepcio**	**3.95**	**26**	Pn	**Pn**	**15 31 12.2**	**+1.7**
	comp=N,1.0nm,0.3s,SNR=21						
EMIN				Sn	**Sn**	**15 31 56.2**	**-0.6**
	comp=N,3.6nm,0.3s,SNR=10						
PBAR	**Barrancos**	**4.20**	**20**	*e*Pn	**Pn**	**15 31 15.8**	**+1.8**
PBAR				*e*Sn	**Sn**	**15 32 03.1**	**0.0**
PBAR				A	A	15 32 07.7	
	comp=N,8.5nm,0.2s						
PBAR	**Barrancos**	**4.20**	**20**	*e*Pn	**Pn**	**15 31 15.8**	**+1.8**
PBAR				*e*Sn	**Sn**	**15 32 03.1**	**0.0**
	comp=N,8.5nm,0.2s						
MOE	**Montemor**	**4.31**	**5**	*e*Pn	**Pn**	**15 31 18.3**	**+2.8**
MOE				*e*Sn	**Sn**	**15 32 06.3**	**+0.5**
MOE	**Montemor**	**4.31**	**5**	*e*Pn	**Pn**	**15 31 18.3**	**+2.8**
MOE				*e*Sn	**Sn**	**15 32 06.3**	**+0.5**
EVOP	**Sao Brissos**	**4.33**	**7**	*e*Pn	**Pn**	**15 31 18.3**	**+2.5**
EVOP				*e*Sn	**Sn**	**15 32 05.3**	**-1.1**
	comp=N,12nm,0.2s						
ZFT	**Errachidia**	**4.35**	**119**	P	**Pn**	**15 31 16.0**	**-0.2**
ZFT				S	**Sn**	**15 32 06.0**	**-1.0**
ZFT	**Errachidia**	**4.35**	**119**	P	**Pn**	**15 31 16.0**	**-0.2**
ZFT				S	**Sn**	**15 32 06.0**	**-1.0**
EVO	**Evora**	**4.35**	**8**	*e*Pn	**Pn**	**15 31 18.3**	**+2.3**
EVO				*e*Sn	**Sn**	**15 32 05.3**	**-1.5**
	comp=N,24nm,0.2s						
PACT	**Alcochete**	**4.54**	**360**	*e*Pn	Pn	15 31 21.5	+3.0
PACT				*e*Sn	**Sn**	**15 32 12.3**	**+1.0**
PACT				A	A	15 32 17.7	
	comp=N,23nm,0.2s						
PACT	**Alcochete**	**4.54**	**360**	*e*Pn	Pn	15 31 21.5	+3.0
PACT				*e*Sn	**Sn**	**15 32 12.3**	**+1.0**
	comp=N,23nm,0.2s						
ECAB	**El Cabril**	**4.73**	**35**	Pn	**Pn**	**15 31 22.9**	**+1.6**
	comp=N,2.7nm,0.3s,SNR=25						
ECAB				Sn	**Sn**	**15 32 14.8**	**-1.5**
	comp=N,1.9nm,0.4s						
ECAB	**El Cabril**	**4.73**	**35**	Pn	**Pn**	**15 31 22.9**	**+1.6**
	comp=N,2.7nm,0.3s,SNR=25						
ECAB				Sn	**Sn**	**15 32 14.8**	**-1.5**
	comp=N,1.9nm,0.4s						
PMAFR	**Mafra**	**4.74**	**356**	*e*Pn	**Pn**	**15 31 23.3**	**+1.9**
PMAFR				*e*Sn	**Sn**	**15 32 14.9**	**-1.4**
PMAFR				A	A	15 32 18.2	
	comp=N,30nm,0.6s						
PMAFR	**Mafra**	**4.74**	**356**	Pn	**Pn**	**15 31 23.3**	**+1.9**
	comp=N,8.8nm,0.2s,SNR=7.9						
PMAFR				Sn	**Sn**	**15 32 14.7**	**-1.6**
	comp=N,59nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**4.74**	**356**	Pn	**Pn**	**15 31 23.3**	**+1.9**
	comp=N,8.8nm,0.2s,SNR=7.9						
PMAFR				Sn	**Sn**	**15 32 14.7**	**-1.6**
	comp=N,59nm,0.3s,SNR=7.9						
PESTR	**Estremoz**	**4.74**	**12**	*e*Pn	**Pn**	**15 31 23.5**	**+2.1**
PESTR				*e*Sn	**Sn**	**15 32 15.6**	**-0.9**
PESTR				A	A	15 32 17.6	
	comp=N,5.2nm,0.3s						
PESTR	**Estremoz**	**4.74**	**12**	Pn	**Pn**	**15 31 23.5**	**+2.1**
PESTR				Sn	**Sn**	**15 32 15.6**	**-0.9**
	comp=N,5.2nm,0.3s						
PESTR	**Estremoz**	**4.74**	**12**	*e*Pn	**Pn**	**15 31 23.5**	**+2.1**
PESTR				Sn	**Sn**	**15 32 15.6**	**-0.9**
	comp=N,5.2nm,0.3s						
EBAD	**Badajoz**	**4.75**	**17**	Pn	**Pn**	**15 31 23.6**	**+2.0**
	comp=N,1.2nm,0.3s,SNR=7.3						
EBAD				Sn	**Sn**	**15 32 16.7**	**-0.1**
	comp=N,3.1nm,0.3s,SNR=21						
EBAD	**Badajoz**	**4.75**	**17**	Pn	**Pn**	**15 31 23.6**	**+2.0**
	comp=N,1.2nm,0.3s,SNR=7.3						
EBAD				Sn	**Sn**	**15 32 16.7**	**-0.1**
	comp=N,3.1nm,0.3s,SNR=21						
PMTG	**Montargil**	**4.86**	**6**	*e*Pn	**Pn**	**15 31 25.0**	**+2.0**
PMTG				*e*Sn	**Sn**	**15 32 17.8**	**-1.6**
PMTG				A	A	15 32 20.2	
	comp=N,9.8nm,0.2s						
PMTG	**Montargil**	**4.86**	**6**	*e*Pn	**Pn**	**15 31 25.0**	**+2.0**
PMTG				*e*Sn	**Sn**	**15 32 17.8**	**-1.6**
	comp=N,9.8nm,0.2s						
ERON	**Agron**	**4.95**	**54**	Pn	**Pn**	**15 31 26.6**	**+2.2**
	comp=N,0.4nm,0.1s,SNR=7.9						
ERON	**Agron**	**4.95**	**54**	Pn	**Pn**	**15 31 26.6**	**+2.2**
	comp=N,0.4nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**4.98**	**47**	Pn	**Pn**	**15 31 25.8**	**

	comp=N,0.7nm,0.1s,SNR=7.9								
EQES	**Quesada**	**5.88**	**51**	Pn	**Pn**	**15 31 39.8**	**+2.7**		
	comp=N,2.1nm,0.7s,SNR=4.1								
EQES				Sn	**Sn**	**15 32 43.7**	**-0.9**		
	comp=N,0.7nm,0.1s,SNR=7.9								
EHUE	**Huescar**	**6.20**	**53**	Pn	**Pn**	**15 31 43.7**	**+2.2**		
	comp=N,1.1nm,0.1s,SNR=7.9								
EHUE	**Huescar**	**6.20**	**53**	Pn	**Pn**	**15 31 43.7**	**+2.2**		
	comp=N,1.1nm,0.1s,SNR=7.9								
EPLA	**Plasencia**	**6.23**	**20**	Pn	**Pn**	**15 31 43.4**	**+1.5**		
	comp=N,0.5nm,0.1s,SNR=7.9								
EPLA				Sn	**Sn**	**15 32 50.8**	**-2.4**		
	comp=N,5.6nm,0.2s,SNR=7.9								
EPLA	**Plasencia**	**6.23**	**20**	Pn	**Pn**	**15 31 43.4**	**+1.5**		
	comp=N,0.5nm,0.1s,SNR=7.9								
EPLA				Sn	**Sn**	**15 32 50.8**	**-2.4**		
	comp=N,5.6nm,0.2s,SNR=7.9								
MTE	**Manteigas**	**6.25**	**9**	*e*Sn	**Sn**	**15 32 51.5**	**-2.2**		
MTE				A	A	15 32 54.1			
	comp=N,4.6nm,0.3s								
MTE	**Manteigas**	**6.25**	**9**	Sn	**Sn**	**15 32 51.5**	**-2.2**		
	comp=N,2.3nm,0.3s								
MTE	**Manteigas**	**6.25**	**9**	Sn	**Sn**	**15 32 51.5**	**-2.2**		
	comp=N,2.3nm,0.3s								
PMPST	**Porto Santo, M**	**6.36**	**262**	*e*Sn	Sn	15 32 42.9	-13		
PMPST				A	A	15 32 48.1			
	comp=N,11nm,0.2s								
PMPS	**Porto Santo**	**6.36**	**262**	Sn	Sn	15 32 42.9	-13		
	comp=N,5.3nm,0.2s								
PMPS	**Porto Santo**	**6.36**	**262**	Sn	Sn	15 32 42.9	-13		
	comp=N,5.3nm,0.2s								
MVO	**Moncorvo**	**7.08**	**11**	*e*Pn	**Pn**	**15 31 56.0**	**+2.5**		
MVO				*e*Sn	Sn	15 33 11.1	-2.9		
MVO				A	A	15 33 13.8			
	comp=N,2.1nm,0.3s								
MVO	**Moncorvo**	**7.08**	**11**	*e*Pn	**Pn**	**15 31 56.0**	**+2.5**		
MVO				*e*Sn	Sn	15 33 11.1	-2.9		
	comp=N,2.1nm,0.3s								
POLO	**Lamas de Olo**	**7.19**	**6**	*e*Pn	**Pn**	**15 31 56.6**	**+1.5**		
POLO				*e*Sn	**Sn**	**15 33 13.9**	**-2.9**		
POLO				A	A	15 33 15.6			
	comp=N,1.2nm,0.3s								
POLO	**Lamas de Olo**	**7.19**	**6**	*e*Pn	**Pn**	**15 31 56.6**	**+1.5**		
POLO				*e*Sn	**Sn**	**15 33 13.9**	**-2.9**		
	comp=N,1.2nm,0.3s								
ETOB	**Tobarra**	**7.34**	**51**	Pn	**Pn**	**15 31 57.9**	**+0.7**		
	comp=N,1.9nm,0.1s,SNR=9.8								
ETOB				Sn	Sn	15 33 17.0	-3.6		
	comp=N,0.5nm,0.1s,SNR=7.9								
ETOB	**Tobarra**	**7.34**	**51**	Pn	**Pn**	**15 31 57.9**	**+0.7**		
	comp=N,1.9nm,0.1s,SNR=9.8								
ETOB				Sn	Sn	15 33 17.0	-3.6		
	comp=N,0.5nm,0.1s,SNR=7.9								
GUD	**Guadarrama**	**7.41**	**29**	Pn	**Pn**	**15 32 00.6**	**+2.4**		
	comp=N,0.8nm,0.1s,SNR=7.9								
GUD	**Guadarrama**	**7.41**	**29**	Pn	**Pn**	**15 32 00.6**	**+2.4**		
	comp=N,0.8nm,0.1s,SNR=7.9								
ELOB	**Lobios**	**7.66**	**4**	Pn	**Pn**	**15 32 03.0**	**+1.5**		
	comp=N,0.2nm,0.1s,SNR=7.9								
ELOB				Sn	**Sn**	**15 33 25.5**	**-2.8**		
	comp=N,0.9nm,0.2s,SNR=7.9								
ELOB	**Lobios**	**7.66**	**4**	Pn	**Pn**	**15 32 03.0**	**+1.5**		
	comp=N,0.2nm,0.1s,SNR=7.9								
ELOB				Sn	**Sn**	**15 33 25.5**	**-2.8**		
	comp=N,0.9nm,0.2s,SNR=7.9								
PGAV	**Gavieira, Arco**	**7.74**	**3**	*e*Pn	**Pn**	**15 32 05.1**	**+2.4**		
PGAV				*e*Sn	Sn	15 33 26.8	-3.7		
PGAV				A	A	15 33 31.4			
	comp=N,1.3nm,0.2s								
PGAV	**Gavieira, Arco**	**7.74**	**3**	*e*Pn	**Pn**	**15 32 05.1**	**+2.4**		
PGAV				*e*Sn	Sn	15 33 26.8	-3.7		
	comp=N,1.3nm,0.2s								
ECAL	**Calabor**	**7.88**	**11**	Pn	**Pn**	**15 32 06.1**	**+1.5**		
	comp=N,0.4nm,0.1s,SNR=7.9								
ECAL				Sn	**Sn**	**15 33 31.2**	**-2.7**		
	comp=N,3.3nm,0.2s,SNR=7.9								
ECAL	**Calabor**	**7.88**	**11**	Pn	**Pn**	**15 32 06.1**	**+1.5**		
	comp=N,0.4nm,0.1s,SNR=7.9								
ECAL				Sn	**Sn**	**15 33 31.2**	**-2.7**		
	comp=N,3.3nm,0.2s,SNR=7.9								
ERUA	**La Rua**	**8.26**	**9**	Pn	**Pn**	**15 32 10.6**	**+0.8**		
	comp=N,5.2nm,0.1s,SNR=4.0								
ERUA	**La Rua**	**8.26**	**9**	Pn	**Pn**	**15 32 10.6**	**+0.8**		
	comp=N,5.2nm,0.1s,SNR=4.0								
ETOR	**Torete**	**8.50**	**37**	Pn	**Pn**	**15 32 15.5**	**+2.4**		
	comp=N,5.3nm,0.1s,SNR=7.9								
ETOR				Sn	Sn	15 33 44.6	-4.6		
	comp=N,7.2nm,0.2s,SNR=7.9								
ETOR	**Torete**	**8.50**	**37**	Pn	**Pn**	**15 32 15.5**	**+2.4**		
	comp=N,5.3nm,0.1s,SNR=7.9								
ETOR				Sn	Sn	15 33 44.6	-4.6		
	comp=N,7.2nm,0.2s,SNR=7.9								
SJPF	**Ste Jean**	**10.68**	**32**	*e*Pn	**Pn**	**15 32 44.6**	**+1.7**		
SJPF				*e*Sn	Sn	15 34 37.9	-4.6		
	comp=N,1.5nm,0.3s								
SJPF	**Ste Jean**	**10.68**	**32**	*e*Pn	**Pn**	**15 32 44.6**	**+1.7**		
SJPF				Sn	Sn	15 34 37.9	-4.6		
	comp=N,0.4nm,0.3s								
ETSF	**Etsaut**	**10.81**	**34**	*e*Pn	**Pn**	**15 32 45.9**	**+1.2**		
ETSF				*e*Sn	Sn	15 34 41.2	-4.6		
	comp=N,1.3nm,0.4s								
ETSF	**Etsaut**	**10.81**	**34**	*e*Pn	**Pn**	**15 32 45.9**	**+1.2**		
ETSF				Sn	Sn	15 34 41.2	-4.6		
	comp=N,0.3nm,0.4s								
EPF	**Esparros**	**11.34**	**36**	*e*Pn	**Pn**	**15 32 52.9**	**+0.9**		
EPF				*e*Sn	Sn	15 34 53.5	-5.3		
	comp=N,1.2nm,0.3s								
EPF	**Esparros**	**11.34**	**36**	*e*Pn	**Pn**	**15 32 52.9**	**+0.9**		
EPF				Sn	Sn	15 34 53.5	-5.3		
	comp=N,0.3nm,0.3s								

WEL 15 15:34:33.4±0.4, 45°.93S×166°.72E, h20km, ML3.6/6, Error ellipse: s-maj=7.5km s-min=2.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.24**	**186**	P*	Pb	15 34 38.6	-0.5
PYZ				S*	Sb	15 34 43.4	+0.4
PYZ				S*		15 34 43.5	
DCZ	**Deep Cove**	**0.55**	**34**	P*	Pb	15 34 44.5	+0.3
DCZ				S*	Sb	15 34 51.1	-0.5
DCZ				S*	Sn	15 34 51.2	-3.3
DCZ				AML	AML	15 34 52.9	
DCZ				AML	AML	15 34 53.3	
WHZ	**Wether Hill Ro**	**0.86**	**88**	*e*P*	Pb	15 34 49.4	-0.2
WHZ				AML	AML	15 35 18.4	
WHZ				AML	AML	15 35 19.8	
MLZ	**Mavora Lakes**	**1.18**	**61**	*e*Pn	Pb	15 34 55.4	+0.3
MLZ				AML	AML	15 35 14.4	
MLZ				AML	AML	15 35 14.6	
APZ	**The Paps**	**1.26**	**136**	*e*Pn	Pn	15 34 55.1	-0.9
APZ				SN	Sb	15 35 14.3	+1.9
MSZ	**Milford Sound**	**1.52**	**35**	AML	AML	15 35 27.7	
MSZ				AML	AML	15 35 27.9	
SYZ	**Scrubby Hill**	**1.79**	**111**	*e*PN	Pb	15 35 04.8	-0.6
EAZ	**Earnscleugh**	**1.95**	**70**	*e*PN	Pn	15 35 04.7	-0.6
EAZ				AML	AML	15 35 40.1	
EAZ				AML	AML	15 35 42.0	
TUZ	**Tuapeka**	**2.03**	**92**	*e*PN	Pn	15 35 06.8	+0.4
TUZ				AML	AML	15 35 48.7	
TUZ				AML	AML	15 35 49.1	

WEL 15 15:37:51.2±0.8, 45°.96S×165°.98E, h5km, ML3.5/7, Error ellipse: s-maj=7.0km s-min=3.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.53**	**114**	PG	Pg	15 38 01.9	+0.5
PYZ				SG	Sg	15 38 09.2	+0.9
PYZ				SG	Sb	15 38 09.3	-1.6
DCZ	**Deep Cove**	**0.95**	**60**	P*	Pg	15 38 09.3	-0.1
DCZ				S*	Sb	15 38 22.4	-0.5
DCZ				AML	AML	15 38 24.1	
WHZ	**Wether Hill Ro**	**1.37**	**88**	PN	Pn	15 38 15.9	-1.1
WHZ				AML	AML	15 38 36.1	
WHZ				AML	AML	15 38 36.1	
APZ	**The Paps**	**1.64**	**123**	*e*PN	Pn	15 38 18.4	-2.4
MLZ	**Mavora Lakes**	**1.65**	**69**	PN	Pn	15 38 20.6	-0.4
MLZ				AML	AML	15 38 46.4	
MLZ				AML	AML	15 38 46.4	
MSZ	**Milford Sound**	**1.88**	**48**	*e*PN	Pb	15 38 25.1	-0.8
MSZ				AML	AML	15 38 49.2	
MSZ				AML	AML	15 38 51.3	
MSZ				AML	AML	15 38 57.8	
MSZ				AML	AML	15 38 57.8	
SYZ	**Scrubby Hill**	**2.27**	**106**	*e*PN	Pn	15 38 28.8	-0.4
WKZ	**Wanaka**	**2.42**	**63**	*e*PN	Pn	15 38 33.1	+1.7
WKZ				AML	AML	15 39 04.7	
EAZ	**Earnscleugh**	**2.44**	**74**	*e*PN	Pn	15 38 32.3	+0.6
EAZ				AML	AML	15 39 06.3	
EAZ				AML	AML	15 39 07.9	
TUZ	**Tuapeka**	**2.55**	**91**	*e*PN	Pn	15 38 32.8	-0.3
TUZ				AML	AML	15 39 06.1	
TUZ				AML	AML	15 39 07.1	
LBZ	**Lake Benmore**	**3.36**	**64**	*e*PN	Pn	15 38 44.4	0.0
ODZ	**Otahua Downs**	**3.40**	**76**	PN	Pn	15 38 43.2	-1.7
OXZ	**Oxford**	**5.06**	**61**	*e*PN	Pn	15 39 05.8	-1.8

WEL 15 15:41:00.3±0.3, 45°.47S×166°.60E, h12km, ML3.6/10, Error ellipse: s-maj=2.6km s-min=1.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.39**	**92**	P*	Pg	15 41 08.2	+0.2
DCZ				S*	Sg	15 41 12.9	-0.3
DCZ				S*	Sb	15 41 13.8	-1.2
PYZ	**Puysegur Point**	**0.70**	**176**	P*	Pg	15 41 13.4	-0.6
PYZ				S*	Sg	15 41 23.1	-0.1
WHZ	**Wether Hill Ro**	**1.04**	**115**	*e*P*	Pb	15 41 19.2	-1.0
WHZ				AML	AML	15 41 34.8	
WHZ				AML	AML	15 41 40.6	
MLZ	**Mavora Lakes**	**1.11**	**84**	P*	Pb	15 41 19.7	-1.8
MLZ				AML	AML	15 41 35.6	
MLZ				AML	AML	15 41 36.2	
MSZ	**Milford Sound**	**1.23**	**50**	*e*P*	Pn	15 41 20.5	-2.7
MSZ				AML	AML	15 41 41.0	
MSZ				AML	AML	15 41 41.5	
MSZ				AML	AML	15 41 42.4	
MSZ				AML	AML	15 41 44.2	
APZ	**The Paps**	**1.67**	**145**	*e*PN	Pb	15 41 30.4	-0.7
WKZ	**Wanaka**	**1.82**	**70**	*e*PN	Pn	15 41 31.9	+0.4
WKZ				AML	AML	15 41 58.6	
WKZ				AML	AML	15 41 59.0	
EAZ	**Earnscleugh**	**1.92**	**84**	PN	Pn	15 41 32.9	+0.1
EAZ				AML	AML	15 42 02.6	
EAZ				AML	AML	15 42 02.9	
SYZ	**Scrubby Hill**	**2.07**	**122**	*e*PN	Pn	15 41 35.7	+0.9
TUZ	**Tuapeka**	**2.18**	**104**	*e*PN	Pn	15 41 37.2	+0.9
TUZ				AML	AML	15 42 11.3	
TUZ				AML	AML	15 42 11.5	
LBZ	**Lake Benmore**	**2.76**	**68**	*e*PN	Pn	15 41 43.8	-0.6
LBZ				AML	AML	15 42 22.8	
ODZ	**Otahua Downs**	**2.89**	**83**	*e*PN	Pn	15 41 44.8	-1.2
ODZ				AML	AML	15 42 23.9	
ODZ				AML	AML	15 42 24.3	
FOZ	**Fox Glacier**	**2.91**	**50**	*e*PN	Pn	15 41 47.6	+1.3
FOZ				AML	AML	15 42 37.4	
OXZ	**Oxford**	**4.45**	**63**	*e*PN	Pn	15 42 05.9	-1.6

WEL 15 15:50:11.9±0.6, 46°.17S×165°.88E, h20km, ML4.0/9, 1C, Error ellipse: s-maj=6.0km s-min=3.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.56**	**90**	⇑P*	Pb	15 50 23.1	0.0
PYZ				S*	Sb	15 50 30.2	-0.5
PYZ				S*	Sn	15 50 31.6	-2.9
DCZ	**Deep Cove**	**1.13**	**53**	PN	Pn	15 50 32.0	-0.6
DCZ				SN	Sb	15 50 46.6	-0.5
DCZ				AML	AML	15 50 48.0	
DCZ				AML	AML	15 50 48.0	
DCZ				AML	AML	15 50 49.2	
WHZ	**Wether Hill Ro**	**1.47**	**80**	PN	Pn	15 50 37.4	+0.1
WHZ				SN	Sn	15 50 55.7	-0.2
WHZ				AML	AML	15 51 06.4	
APZ	**The Paps**	**1.60**	**115**	PN	Pn	15 50 38.3	-0.9
APZ				SN	Sn	15 50 56.9	-2.4
MLZ	**Mavora Lakes**	**1.81**	**64**	PN	Pn	15 50 42.9	+0.9
MLZ				AML	AML	15 51 12.9	
MLZ				AML	AML	15 51 13.9	
MSZ	**Milford Sound**	**2.08**	**45**	*e*PN	Pb	15 50 48.3	-0.7
MSZ				AML	AML	15 51 24.7	
MSZ				AML	AML	15 51 25.8	
SYZ	**Scrubby Hill**	**2.29**	**100**	*e*PN	Pn	15 50 48.6	+0.1
EAZ	**Earnscleugh**	**2.58**	**70**	*e*PN	Pn	15 50 54.7	+1.6
EAZ				AML	AML	15 51 29.3	
WKZ	**Wanaka**	**2.58**	**60**	*e*PN	Pn	15 50 55.1	+2.4
WKZ				AML	AML	15 51 34.1	
WKZ				AML	AML	15 51 34.2	
TUZ	**Tuapeka**	**2.62**	**87**	PN	Pn	15 50 54.7	+1.6
TUZ				AML	AML	15 51 29.2	
TUZ				AML	AML	15 51 31.9	
JCZ	**Jackson Bay**	**2.92**	**45**	AML	AML	15 51 52.3	
JCZ				AML	AML	15 51 53.9	
ODZ	**Otahua Downs**	**3.53**	**73**	*e*PN	Pn	15 51 05.1	-0.5
ODZ				AML	AML	15 52 03.4	

*IDC **15** 15:53:45.4±3.2, 46°.52S×165°.94E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.5/14, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=85.9km s-min=36.6km az=174.0*
*ISCJB **15** 15:53:49.5±1.2, 46°.23S±0°.07×166°.03E±0°.08, h32km±7km, mb3.4/2, Error ellipse: s-maj=11.0km s-min=9.4km az=173.0*
*WEL **15** 15:53:49.8±0.7, 46°.18S×166°.03E, h26km±2km, ML3.9/9, Error ellipse: s-maj=6.8km s-min=3.6km az=90.0*

ISC 15 15:53:49.8±1.8, 46°.21S±0°.07×166°.08E±0°.09, h28km±11km, n17, σ1°.34/22, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.42**	**84**	P*	**Pb**	**15 53 59.1**	**+0.3**
PYZ				S*	**Sb**	**15 54 05.5**	**+0.5**
PYZ				S*	**Sn**	**15 54 05.8**	**-0.9**
DCZ	**Deep Cove**	**1.05**	**46**	PN	**Pn**	**15 54 08.0**	**-0.6**
DCZ				SN	**Sn**	**15 54 21.5**	**-0.8**
DCZ				AML	AML	15 54 22.5	
DCZ				AML	AML	15 54 23.7	
DCZ				AML	AML	15 54 25.7	
WHZ	**Wether Hill Ro**	**1.34**	**77**	PN	**Pb**	**15 54 13.3**	**-1.0**
WHZ				SN	**Sb**	**15 54 30.6**	**-0.3**
WHZ				AML	AML	15 54 33.6	
APZ	**The Paps**	**1.46**	**116**	PN	**Pn**	**15 54 14.3**	**+0.1**
APZ				SN	**Sn**	**15 54 32.4**	**0.0**
MLZ	**Mavora Lakes**	**1.70**	**60**	PN	**Pb**	**15 54 19.1**	**-1.3**
MLZ				AML	AML	15 54 43.7	
MLZ				AML	AML	15 54 43.9	
MSZ	**Milford Sound**	**2.01**	**41**	AML	AML	15 54 48.2	
MSZ				AML	AML	15 54 55.6	
MSZ				AML	AML	15 54 55.6	
MSZ				AML	AML	15 54 57.8	
SYZ	**Scrubby Hill**	**2.14**	**100**	*e*PN	**Pn**	**15 54 24.7**	**+1.1**
EAZ	**Earnscleugh**	**2.46**	**68**	*e*PN	**Pn**	**15 54 29.7**	**+1.7**
EAZ				AML	AML	15 55 04.9	
EAZ				AML	AML	15 55 05.0	
EAZ				AML	AML	15 55 05.0	
EAZ				AML	AML	15 55 06.4	
TUZ	**Tuapeka**	**2.48**	**85**	*e*PN	**Pn**	**15 54 29.5**	**+1.2**
TUZ				AML	AML	15 55 05.1	
TUZ				AML	AML	15 55 10.2	
WKZ	**Wanaka**	**2.48**	**57**	*e*PN	**Pb**	**15 54 31.4**	**-2.4**
WKZ				AML	AML	15 55 04.9	
WKZ				AML	AML	15 55 06.8	
WKZ				AML	AML	15 55 09.1	
WKZ				AML	AML	15 55 11.1	
JCZ	**Jackson Bay**	**2.85**	**42**	*e*PN	Pb	15 54 36.3	-3.8
JCZ				SN	**Sn**	**15 55 10.0**	**+3.0**
JCZ				AML	AML	15 55 25.3	
ODZ	**Otahua Downs**	**3.41**	**72**	*e*PN	**Pn**	**15 54 41.1**	**+0.1**
RPZ	**Rata Peaks**	**4.32**	**57**	Pn	**Pn**	**15 54 56.0**	**+2.3**
	2.7nm,0.3s,baz=356,slow=4.2,SNR=6.1						
RPZ				Sn	**Sn**	**15 55 43.9**	**+0.8**
	6.1nm,0.3s,baz=351,slow=18,SNR=6.6						
RPZ	**Rata Peaks**	**4.32**	**57**	*e*PN	**Pn**	**15 54 53.8**	**+0.2**
RPZ				AML	AML	15 55 53.1	
RPZ				AML	AML	15 56 14.6	
ASAR	**Alice Springs**	**34.30**	**300**	P	**P**	**16 00 34.3**	**+0.6**
	0.3nm,0.6s,baz=133,slow=8.5,SNR=5.9						
WRA	**Warramunga Arr**	**36.91**	**305**	P	**P**	**16 00 56.4**	**+0.2**
	0.3nm,0.6s,baz=138,slow=7.8,SNR=5.6						
TORD	**Torodi Ar. Bea**	**144.50**	**207**	PKP	**PKPdf**	**16 13 22.7**	**-1.0**
	0.6nm,0.9s,baz=187,slow=2.5,SNR=2.0						

*IDC **15** 15:59:19.8±3.0, 46°.24S×165°.99E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.7/15, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=78.8km s-min=28.7km az=170.0*
*ISCJB **15** 15:59:22.6±1.2, 46°.12S±0°.06×165°.99E±0°.08, h28km±7km, mb3.4/2, Error ellipse: s-maj=10.5km s-min=9.1km az=10.0*
*WEL **15** 15:59:22.8±0.8, 46°.09S×165°.98E, h20km, ML4.0/10, Error ellipse: s-maj=6.9km s-min=4.3km az=90.0*

ISC 15 15:59:22.0±3.6, 46°.14S±0°.07×166°.03E±0°.07, h14km±24km, n18, σ0°.98/24, 1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.46**	**94**	P*	**Pb**	**15 59 32.5**	**+0.7**
PYZ				S*	**Sb**	**15 59 39.2**	**+0.8**
DCZ	**Deep Cove**	**1.03**	**50**	PN	**Pb**	**15 59 41.2**	**-0.3**
DCZ				AML	AML	15 59 54.5	
DCZ				AML	AML	15 59 54.5	
DCZ				S*	**Sb**	**15 59 54.7**	**-0.2**
DCZ				AML	AML	15 59 55.5	
WHZ	**Wether Hill Ro**	**1.36**	**80**	⇓PN	**Pb**	**15 59 46.9**	**-0.3**
WHZ				SN	**Sb**	**16 00 04.3**	**-0.2**
WHZ				AML	AML	16 00 08.3	
APZ	**The Paps**	**1.52**	**118**	PN	**Pn**	**15 59 48.3**	**-0.5**
APZ				SN	**Sn**	**16 00 07.9**	**-0.6**
MLZ	**Mavora Lakes**	**1.70**	**63**	*e*PN	**Pn**	**15 59 51.5**	**+0.3**
MLZ				SN	**Sn**	**16 00 12.9**	**+0.1**
MLZ				AML	AML	16 00 16.4	
MSZ	**Milford Sound**	**1.99**	**43**	*e*PN	**Pn**	**15 59 54.7**	**-0.4**
MSZ				AML	AML	16 00 31.7	
MSZ				AML	AML	16 00 31.7	
SYZ	**Scrubby Hill**	**2.19**	**102**	*e*PN	**Pn**	**15 59 59.0**	**+1.0**
EAZ	**Earnscleugh**	**2.47**	**70**	*e*PN	**Pn**	**16 00 03.8**	**+1.9**
EAZ				AML	AML	16 00 36.1	
EAZ				AML	AML	16 00 38.6	
WKZ	**Wanaka**	**2.48**	**59**	*e*PN	**Pb**	**16 00 04.5**	**-1.8**
WKZ				AML	AML	16 00 37.3	
WKZ				AML	AML	16 00 43.4	
TUZ	**Tuapeka**	**2.52**	**87**	*e*PN	**Pn**	**16 00 02.9**	**+0.5**
TUZ				AML	AML	16 00 36.2	
TUZ				AML	AML	16 00 38.7	
JCZ	**Jackson Bay**	**2.83**	**44**	*e*PN	**Pn**	**16 00 09.1**	**+2.3**
JCZ				AML	AML	16 00 55.7	
JCZ				AML	AML	16 00 58.4	
LBZ	**Lake Benmore**	**3.42**	**61**	*e*PN	**Pn**	**16 00 15.1**	**+0.2**
LBZ				AML	AML	16 01 04.4	
ODZ	**Otahua Downs**	**3.42**	**73**	*e*PN	**Pn**	**16 00 13.6**	**-1.3**
ODZ				AML	AML	16 01 11.1	
ODZ				AML	AML	16 01 13.7	
RPZ	**Rata Peaks**	**4.32**	**58**	Pn	**Pn**	**16 00 27.8**	**+0.6**
	baz=202,slow=5.4						
RPZ				Sn	**Sn**	**16 01 16.9**	**-0.4**
	8.9nm,0.3s,baz=5.3,slow=18,SNR=5.0						
URZ	**Urewera**	**11.37**	**50**	Pn	**Pn**	**16 02 04.8**	**+0.9**
	0.3nm,0.3s,baz=256,slow=8.3,SNR=2.2						
ASAR	**Alice Springs**	**34.23**	**300**	P	**P**	**16 06 07.4**	**+0.1**
	0.3nm,0.7s,baz=126,slow=8.4,SNR=6.1						
WRA	**Warramunga Arr**	**36.84**	**304**	P	**P**	**16 06 30.0**	**+0.3**
	0.8nm,1.0s,baz=138,slow=7.8,SNR=5.2						
TORD	**Torodi Ar. Bea**	**144.55**	**207**	PKP	**PKPdf**	**16 18 57.6**	**-0.6**
	0.2nm,0.5s,baz=160,slow=1.7,SNR=3.2						

WEL 15 16:01:35.7±0.8, 46°.23S×165°.78E, h20km, ML3.9/9, Error ellipse: s-maj=8.1km s-min=4.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.63**	**85**	P*	Pb	16 01 47.8	-0.2
PYZ				S*	Sb	16 01 56.1	-0.3
DCZ	**Deep Cove**	**1.22**	**53**	PN	Pn	16 01 56.9	-0.6
DCZ				SN	Sb	16 02 13.2	0.0
DCZ				AML	AML	16 02 13.7	
DCZ				AML	AML	16 02 14.8	
DCZ				AML	AML	16 02 15.3	
WHZ	**Wether Hill Ro**	**1.55**	**78**	PN	Pn	16 02 02.3	+0.2
WHZ				AML	AML	16 02 24.2	
WHZ				AML	AML	16 02 24.9	
APZ	**The Paps**	**1.64**	**113**	PN	Pn	16 02 02.5	-1.0
MLZ	**Mavora Lakes**	**1.89**	**63**	*e*PN	Pn	16 02 07.7	+0.8
MLZ				SN	Sb	16 02 32.0	-0.9
MLZ				AML	AML	16 02 36.9	
MSZ	**Milford Sound**	**2.17**	**45**	*e*PN	Pb	16 02 13.2	-1.0
MSZ				AML	AML	16 02 48.8	
MSZ				AML	AML	16 02 54.1	
SYZ	**Scrubby Hill**	**2.35**	**99**	*e*PN	Pn	16 02 14.2	+1.1
EAZ	**Earnscleugh**	**2.67**	**69**	*e*PN	Pn	16 02 17.9	+0.4
EAZ				AML	AML	16 02 58.0	
EAZ				AML	AML	16 02 59.2	
WKZ	**Wanaka**	**2.67**	**60**	*e*PN	Pb	16 02 21.2	-1.7
WKZ				AML	AML	16 02 58.6	
WKZ				AML	AML	16 03 06.7	
TUZ	**Tuapeka**	**2.70**	**86**	*e*PN	Pn	16 02 18.4	+0.6
TUZ				AML	AML	16 02 60.0	
TUZ				AML	AML	16 03 01.4	
JCZ	**Jackson Bay**	**3.01**	**46**	*e*PN	Pn	16 02 25.2	+2.9
JCZ				AML	AML	16 03 16.1	
JCZ				AML	AML	16 03 16.8	
LBZ	**Lake Benmore**	**3.61**	**61**	AML	AML	16 03 18.9	
LBZ				AML	AML	16 03 21.1	
ODZ	**Otahua Downs**	**3.61**	**73**	*e*PN	Pn	16 02 29.1

WVZ	**Waitaha Valley**	**4.66**	**49**	*e*PN	**Pn**	**16 04 08.1**	**+0.6**
WVZ				AML	AML	16 05 11.1	
WVZ				AML	AML	16 05 12.6	
OXZ	**Oxford**	**5.23**	**59**	*e*PN	**Pn**	**16 04 15.8**	**+0.4**
LTZ	**Lake Taylor**	**5.70**	**55**	*e*PN	**Pn**	**16 04 21.4**	**-0.4**
LTZ				AML	AML	16 05 36.2	
LTZ				AML	AML	16 05 36.6	
DSZ	**Denniston Nort**	**6.17**	**46**	*e*PN	**Pn**	**16 04 28.4**	**+0.1**
DSZ				SN	**Sn**	**16 05 34.8**	**-3.9**
THZ	**Tophouse**	**6.73**	**51**	PN	**Pn**	**16 04 38.1**	**+2.1**
THZ				AML	AML	16 06 03.4	
QRZ	**Quartz Range**	**7.22**	**44**	*e*PN	**Pn**	**16 04 43.2**	**+0.5**
QRZ				AML	AML	16 06 15.6	
NNZ	**Nelson**	**7.37**	**50**	*e*PN	**Pn**	**16 04 46.9**	**+2.2**
WAZ	**Wanganui**	**9.27**	**49**	*e*PN	**Pn**	**16 05 12.9**	**+2.2**
URZ	**Urewera**	**11.49**	**50**	Pn	**Pn**	**16 05 41.2**	**+0.1**
	0.4nm,0.3s,baz=239,slow=9.8,SNR=4.0						
MILA	**Mila**	**15.50**	**300**	P	**Pn**	**16 06 35.8**	**0.0**
	baz=16,SNR=13						
TOO	**Toolangi**	**17.46**	**292**	P	**P**	**16 07 02.4**	**+0.6**
	baz=17,SNR=7.2						
ASAR	**Alice Springs**	**34.21**	**300**	P	**P**	**16 09 42.5**	**-0.3**
	0.2nm,0.4s,baz=134,slow=8.2,SNR=8.0						
WRA	**Warramunga Arr**	**36.83**	**305**	P	**P**	**16 10 04.9**	**-0.4**
	0.6nm,1.0s,baz=137,slow=7.8,SNR=6.3						
TORD	**Torodi Ar. Bea**	**144.44**	**207**	PKP	PKPbc	16 22 32.3	+0.1
	1.4nm,1.1s,baz=145,slow=2.7,SNR=6.0						
BRTR	**Keskin Array B**	**144.92**	**277**	PKP	PKPbc	16 22 33.6	+0.3
	1.9nm,0.9s,baz=110,slow=3.4,SNR=6.2						
SPITS	**Spitsbergen Ar**	**145.86**	**349**	PKPbc	**PKPab**	**16 22 35.3**	**-0.2**
	1.6nm,0.5s,baz=174,slow=3.9,SNR=9.2						
SCHQ	**Schefferville**	**146.12**	**56**	PKPbc	**PKPbc**	**16 22 36.5**	**+0.1**
	2.1nm,0.6s,baz=268,slow=17,SNR=3.9						
ARCES	**ARCESS Array B**	**149.54**	**334**	PKPbc	**PKPbc**	**16 22 45.1**	**-0.1**
	1.9nm,0.8s,baz=82,slow=1.7,SNR=3.7						
FINES	**FINESS Array B**	**152.40**	**318**	PKPbc	**PKPbc**	**16 22 52.2**	**+0.2**
	0.4nm,0.5s,baz=349,slow=2.8,SNR=4.4						

*IDC **15** 16:04:24.6±1.1,45.81S×166.55E,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.7/15,mbtmp3.7/4,ML3.9/1,Error ellipse: s-maj=34.9km s-min=28.5km az=58.0*
*ISCJB **15** 16:04:26.5±0.8,46.10S±0.07×165.93E±0.07,h14km, mb3.5/3,Error ellipse: s-maj=10.1km s-min=6.9km az=2.2*
*WEL **15** 16:04:28.1±0.7,46.06S×166.00E,h12km,ML4.3/7,Error ellipse: s-maj=5.1km s-min=2.6km az=90.0*

ISC 15 16:04:26.9±0.9,46.14S±0.06×166.10E±0.05,h14km,n18, σ1§14/22,mb3.4/3,1C,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.41**	**94**	⇑P*	**Pn**	**16 04 37.8**	**-0.6**
PYZ				S*	**Sb**	**16 04 44.0**	**+2.0**
PYZ				S*	**Sn**	**16 04 44.3**	**-1.5**
DCZ	**Deep Cove**	**1.00**	**48**	*e*P*	**Pn**	**16 04 45.9**	**-0.5**
DCZ				S*	**Sg**	**16 04 59.0**	**-0.1**
DCZ				S*	**Sb**	**16 04 59.1**	**+0.3**
DCZ				AML	AML	16 05 03.6	
DCZ				AML	AML	16 05 03.7	
WHZ	**Wether Hill Ro**	**1.31**	**80**	PN	**Pg**	**16 04 52.5**	**+0.3**
WHZ				SN	**Sg**	**16 05 10.6**	**+1.3**
WHZ				SN	**Sg**	**16 05 10.6**	**+1.3**
APZ	**The Paps**	**1.48**	**118**	PN	**Pb**	**16 04 54.0**	**-0.1**
APZ				SN	**Sg**	**16 05 14.3**	**-0.2**
APZ				SN	**Sg**	**16 05 14.3**	**-0.2**
MLZ	**Mavora Lakes**	**1.66**	**62**	*e*PN	**Pb**	**16 04 57.6**	**+0.3**
MLZ				AML	AML	16 05 21.3	
MLZ				AML	AML	16 05 23.8	
MSZ	**Milford Sound**	**1.96**	**42**	AML	AML	16 05 28.4	
MSZ				AML	AML	16 05 31.9	
SYZ	**Scrubby Hill**	**2.15**	**102**	*e*PN	**Pb**	**16 05 04.0**	**-1.4**
EAZ	**Earnscleugh**	**2.43**	**69**	AML	AML	16 05 45.0	
EAZ				AML	AML	16 05 46.2	
TUZ	**Tuapeka**	**2.47**	**87**	*e*PN	**Pb**	**16 05 08.9**	**-2.2**
TUZ				AML	AML	16 05 41.9	
TUZ				AML	AML	16 05 45.0	
JCZ	**Jackson Bay**	**2.80**	**43**	AML	AML	16 05 37.1	
JCZ				AML	AML	16 05 40.3	
RPZ	**Rata Peaks**	**4.28**	**57**	Pn	Pn	16 05 23.5	-8.0
	8.6nm,0.3s,baz=6.0,slow=19,SNR=4.3						
ASAR	**Alice Springs**	**34.27**	**300**	P	**P**	**16 11 12.8**	**+0.2**
	0.3nm,0.6s,baz=135,slow=9.1,SNR=4.1						
WRA	**Warramunga Arr**	**36.88**	**304**	P	**P**	**16 11 34.7**	**-0.4**
	0.2nm,0.4s,baz=136,slow=8.1,SNR=4.9						
QSPA	**South Pole Qui**	**43.98**	**180**	P	**P**	**16 12 35.4**	**+2.0**
	1.9nm,0.7s,baz=20,slow=0.7,SNR=7.3						
TORD	**Torodi Ar. Bea**	**144.56**	**207**	PKPbc	**PKPdf**	**16 24 02.5**	**-0.7**
	1.1nm,0.5s,baz=152,slow=1.9,SNR=9.6						
BRTR	**Keskin Array B**	**145.03**	**277**	PKPbc	**PKPdf**	**16 24 03.9**	**+0.4**
	1.8nm,0.9s,baz=145,slow=5.1,SNR=4.3						
SPITS	**Spitsbergen Ar**	**145.80**	**349**	PKPbc	**PKPab**	**16 24 04.7**	**+0.2**
	3.8nm,0.8s,baz=91,slow=9.9,SNR=6.8						
ARCES	**ARCESS Array B**	**149.51**	**334**	PKPbc	**PKPbc**	**16 24 12.9**	**-1.4**
	3.4nm,0.8s,baz=49,slow=2.9,SNR=4.6						

WEL 15 16:04:43.4±0.9,46.07S×165.91E,h12km,ML4.5/9,Error ellipse: s-maj=5.9km s-min=3.3km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.54**	**101**	P*	Pg	16 04 54.3	+0.3
PYZ				S*	Sg	16 05 01.3	0.0
PYZ				S*	Sb	16 05 01.7	-1.0
DCZ	**Deep Cove**	**1.05**	**56**	*e*P*	Pb	16 05 02.3	-1.1
DCZ				S*	Sb	16 05 16.9	-0.2
DCZ				S*	Sg	16 05 17.7	+0.5
DCZ				S*	Sn	16 05 17.9	-0.5
DCZ				AML	AML	16 05 18.0	
WHZ	**Wether Hill Ro**	**1.43**	**84**	SN	Sn	16 05 26.0	-1.9
WHZ				SN	Sb	16 05 26.1	-2.1
MLZ	**Mavora Lakes**	**1.74**	**66**	AML	AML	16 05 41.1	
MLZ				AML	AML	16 05 44.6	
MSZ	**Milford Sound**	**1.99**	**46**	AML	AML	16 05 57.1	
MSZ				AML	AML	16 05 57.4	
EAZ	**Earnscleugh**	**2.52**	**72**	AML	AML	16 06 00.6	
EAZ				AML	AML	16 06 02.0	
TUZ	**Tuapeka**	**2.59**	**89**	*e*PN	Pb	16 05 28.2	-1.7
TUZ				SN	Sn	16 05 56.8	+0.3
TUZ				AML	AML	16 06 03.3	
JCZ	**Jackson Bay**	**2.83**	**46**	AML	AML	16 06 23.7	
JCZ				AML	AML	16 06 25.2	
LBZ	**Lake Benmore**	**3.45**	**62**	AML	AML	16 04 58.6	
LBZ				AML	AML	16 06 28.6	
ODZ	**Otahua Downs**	**3.48**	**75**	AML	AML	16 06 18.5	
ODZ				AML	AML	16 06 20.3	

WEL 15 16:06:00.4±0.7,45.98S×165.64E,h12km,ML3.9/7,Error ellipse: s-maj=6.0km s-min=3.8km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.75**	**105**	P*	Pg	16 06 14.5	-0.4
PYZ				S*	Sg	16 06 24.7	0.0
PYZ				S*	Sb	16 06 24.7	-0.8
DCZ	**Deep Cove**	**1.17**	**65**	P*	Pb	16 06 21.7	-0.9
DCZ				S*	Sb	16 06 36.0	-1.6
DCZ				AML	AML	16 06 39.0	
DCZ				AML	AML	16 06 40.0	
DCZ				AML	AML	16 06 41.1	
WHZ	**Wether Hill Ro**	**1.61**	**88**	PN	Pn	16 06 28.4	-0.2
WHZ				SN	Sn	16 06 47.4	-2.0
WHZ				AML	AML	16 06 53.0	
APZ	**The Paps**	**1.83**	**119**	PN	Pn	16 06 30.3	-1.5
MLZ	**Mavora Lakes**	**1.88**	**71**	*e*PN	Pb	16 06 33.8	-1.0
MLZ				AML	AML	16 07 02.5	
MLZ				AML	AML	16 07 06.5	
MSZ	**Milford Sound**	**2.08**	**52**	AML	AML	16 07 06.1	
MSZ				AML	AML	16 07 13.6	
MSZ				AML	AML	16 07 14.0	
MSZ				AML	AML	16 07 15.1	
SYZ	**Scrubby Hill**	**2.49**	**104**	*e*PN	Pb	16 06 43.3	-1.7
SYZ				SN	Sn	16 07 08.7	-2.3
WKZ	**Wanaka**	**2.64**	**65**	AML	AML	16 07 26.3	
WKZ				AML	AML	16 07 28.3	
EAZ	**Earnscleugh**	**2.68**	**75**	*e*PN	Pn	16 06 44.2	+0.8
EAZ				AML	AML	16 07 22.1	
EAZ				AML	AML	16 07 22.5	
EAZ				AML	AML	16 07 25.9	
EAZ				AML	AML	16 07 25.9	
TUZ	**Tuapeka**	**2.78**	**91**	*e*PN	Pn	16 06 45.6	+0.9
TUZ				SN	Sn	16 07 17.7	-0.5
TUZ				AML	AML	16 07 22.9	

*IDC **15** 16:07:13.2±1.1,45.72S×166.43E,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.7/15,mbtmp3.9/4,ML4.5/1,Error ellipse: s-maj=30.4km s-min=27.1km az=9.0*
*WEL **15** 16:07:16.2±1.2,45.55S×166.55E,h5km,ML4.4/16,Error ellipse: s-maj=10.3km s-min=7.0km az=90.0*

ISC 15 16:07:15.3±0.9,45.70S±0.05×166.54E±0.06,h15km,n26, σ1§17/24,mb3.7/3,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.48**	**169**	P*	**Pn**	**16 07 28.5**	**+0.8**
DCZ	**Deep Cove**	**0.48**	**63**	PG	**Pg**	**16 07 24.9**	**+0.1**
DCZ				SG	**Sg**	**16 07 30.8**	**-0.5**
DCZ				AML	AML	16 07 31.3	
DCZ				AML	AML	16 07 31.3	
DCZ				AML	AML	16 07 31.3	
WHZ	**Wether Hill Ro**	**1.00**	**102**	*e*P*	**Pg**	**16 07 35.5**	**+0.9**
WHZ				AML	AML	16 07 58.3	
WHZ				AML	AML	16 07 59.6	
MLZ	**Mavora Lakes**	**1.20**	**74**	P*	**Pn**	**16 07 36.6**	**-0.9**
MLZ				AML	AML	16 08 00.3	
MLZ				AML	AML	16 08 00.8	
MSZ	**Milford Sound**	**1.42**	**44**	P*	**Pn**	**16 07 39.5**	**-1.0**
MSZ				AML	AML	16 08 00.6	
MSZ				AML	AML	16 08 01.1	
MSZ				AML	AML	16 08 01.2	
MSZ				AML	AML	16 08 02.6	
APZ	**The Paps**	**1.52**	**139**	*e*PN	**Pg**	**16 07 44.8**	**+0.4**
WKZ	**Wanaka**	**1.95**	**64**	*e*PN	**Pn**	**16 07 48.5**	**+0.6**
WKZ				AML	AML	16 08 18.6	
WKZ				AML	AML	16 08 20.5	
SYZ	**Scrubby Hill**	**1.99**	**116**	*e*PN	**Pg**	**16 07 52.7**	**-0.8**
EAZ	**Earnscleugh**	**2.00**	**78**	PN	**Pn**	**16 07 49.9**	**+1.3**
EAZ				AML	AML	16 08 20.7	
EAZ				AML	AML	16 08 22.3	
TUZ	**Tuapeka**	**2.17**	**98**	PN	**Pb**	**16 07 54.0**	**-0.3**
TUZ				SN	**Sg**	**16 08 24.2**	**-1.0**
TUZ				AML	AML	16 08 26.6	
JCZ	**Jackson Bay**	**2.26**	**45**	*e*PN	**Pb**	**16 07 55.7**	**-0.2**
JCZ				AML	AML	16 08 27.7	
JCZ				AML	AML	16 08 28.3	
HHSZ	**Highcliff Hill**	**2.84**	**95**	*e*PN	**Pb**	**16 08 03.3**	**-2.4**
LBZ	**Lake Benmore**	**2.89**	**64**	AML	AML	16 08 39.7	
LBZ				AML	AML	16 08 41.8	
ODZ	**Otahua Downs**	**2.96**	**79**	*e*PN	**Pn**	**16 08 02.3**	**+0.5**
ODZ				AML	AML	16 08 41.9	
ODZ				AML	AML	16 08 43.3	
FOZ	**Fox Glacier**	**3.10**	**48**	*e*PN	**Pb**	**16 08 08.8**	**-1.2**
FOZ				AML	AML	16 08 56.7	
FOZ				AML	AML	16 08 58.8	
RPZ	**Rata Peaks**	**3.78**	**60**	Pn	**Pn**	**16 08 13.8**	**+0.9**
	35nm,0.3s,baz=319,slow=18,SNR=15						
RPZ				Sn	**Sn**	**16 09 00.1**	**+3.0**
	46nm,0.3s,baz=343,slow=20,SNR=9.2						
RPZ	**Rata Peaks**	**3.78**	**60**	*e*PN	**Pn**	**16 08 14.7**	**+1.8**
RPZ				AML	AML	16 09 00.0	
RPZ				AML	AML	16 09 01.6	
WVZ	**Waitaha Valley**	**3.99**	**50**	AML	AML	16 09 21.1	
WVZ				AML	AML	16 09 22.9	
LTZ	**Lake Taylor**	**5.04**	**57**	AML	AML	16 09 31.0	
LTZ				AML	AML	16 09 35.0	
THZ	**Tophouse**	**6.06**	**52**	AML	AML	16 09 59.4	
THZ				AML	AML	16 10 01.5	
QRZ	**Quartz Range**	**6.54**	**44**	AML	AML	16 10 06.2	
QRZ				AML	AML	16 10 10.9	
ASAR	**Alice Springs**	**34.33**	**299**	P	**P**	**16 14 00.9**	**-0.4**
	0.6nm,0.6s,baz=133,slow=8.1,SNR=5.4						
WRA	**Warramunga Arr**	**36.89**	**303**	P	**P**	**16 14 22.8**	**-0.5**
	1.7nm,0.9s,baz=133,slow=8.6,SNR=6.7						
QSPA	**South Pole Qui**	**44.43**	**180**	P	**P**	**16 15 25.0**	**-0.2**
	1.1nm,0.9s,baz=157,slow=4.2,SNR=2.3						
ARCES	**ARCESS Array B**	**149.25**	**334**	PKPbc	**PKPbc**	**16 27 02.1**	**+0.1**
	3.6nm,0.9s,baz=46,slow=3.5,SNR=3.6						
FINES	**FINESS Array B**	**152.29**	**319**	PKPbc	**PKPbc**	**16 27 09.9**	**+0.6**
	0.8nm,0.7s,baz=72,slow=4.5,SNR=5.0						

WEL 15 16:08:06.4±0.6,45.72S×166.77E,h5km,ML3.7/4,Error ellipse: s-maj=7.1km s-min=3.0km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.36**	**48**	PG	Pg	16 08 14.1	+0.7
DCZ				SG	Sg	16 08 18.9	+0.7
DCZ				SG	Sb	16 08 18.9	-2.3
DCZ				AML	AML	16 08 19.3	
DCZ				AML	AML	16 08 19.6	
PYZ	**Puysegur Point**	**0.45**	**188**	PG	Pg	16 08 15.1	0.0
PYZ				SG	Sb	16 08 23.9	-0.1
PYZ				SG	Sg	16 08 23.9	+2.8
WHZ	**Wether Hill Ro**	**0.84**	**102**	*e*P*	Pn	16 08 24.7	-0.3
WHZ				AML	AML	16 08 49.6	
WHZ				AML	AML	16 08 53.0	
MLZ	**Mavora Lakes**	**1.05**	**70**	P*	Pg	16 08 25.6	-1.1
MLZ				S*	Sg	16 08 39.6	-0.8
MLZ				AML	AML	16 08 40.5	
MSZ	**Milford Sound**	**1.33**	**39**	AML	AML	16 08 50.1	
MSZ				AML	AML	16 08 51.4	
APZ	**The Paps**	**1.40**	**143**	*e*PN	Pn	16 08 32.4	-0.3
APZ				SN	Sb	16 08 50.1	-1.2

*ISCJB **15** 16:09:34.8±0.4,46.12S±0.05×165.98E±0.04,h12km, mb4.1/6,MS4.0/3,Error ellipse: s-maj=7.0km s-min=4.4km az=178.4*
*IDC **15** 16:09:34.1±1.0,46.15S×166.08E,h0km,mb4.2/6, mb1 4.4/7,mb1mx4.1/17,mbtmp4.2/7,ML4.5/1,MS3.9/4, Ms1 3.9/4,ms1mx3.4/27,Error ellipse: s-maj=28.1km s-min=24.4km az=44.0*
*WEL **15** 16:09:35.9±0.8,46.04S×165.94E,h12km,ML4.9/13,Error ellipse: s-maj=6.4km s-min=3.4km az=90.0*
*AUST **15** 16:09:35.4±1.1,46.03S×165.85E,h0km,Error ellipse: s-maj=1.6km s-min=0.8km az=9.0*

ISC 15 16:09:36.1±0.6,46.16S±0.06×166.04E±0.05,h12km,n41, σ1§00/41,mb4.0/6,MS4.0/3,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.45**	**91**	P*	**Pb**	**16 09 46.4**	**+0.4**
PYZ				S*	**Sb**	**16 09 53.5**	**+0.9**
PYZ				S*	**Sb**	**16 09 53.5**	**+0.9**
DCZ	**Deep Cove**	**1.04**	**49**	P*	**Pb**	**16 09 54.6**	**-1.4**
DCZ				S*	**Sb**	**16 10 08.1**	**-1.4**
DCZ				AML	AML	16 10 09.7	
DCZ				AML	AML	16 10 10.0	
DCZ				AML	AML	16 10 11.5	
WHZ	**Wether Hill Ro**	**1.36**	**79**	PN	**Pn**	**16 10 00.2**	**-0.7**
WHZ				AML	AML	16 10 20.3	
WHZ				AML	AML	16 10 22.1	
APZ	**The Paps**	**1.50**	**117**	PN	**Pn**	**16 10 01.9**	**-1.1**
APZ				SN	**Sn**	**16 10 21.7**	**-0.8**
MLZ	**Mavora Lakes**	**1.70**	**62**	PN	**Pn**	**16 10 06.0**	**+0.4**
MLZ				AML	AML	16 10 33.5	
MLZ				AML	AML	16 10 33.9	
MSZ	**Milford Sound**	**2.00**	**42**	*e*PN	**Pn**	**16 10 09.1**	**-0.6**
MSZ				AML	AML	16 10 51.4	
MSZ				AML	AML	16 10 51.4	
MSZ				AML	AML	16 10 51.9	
MSZ				AML	AML	16 10 52.0	
SYZ	**Scrubby Hill**	**2.18**	**101**	*e*PN	**Pn**	**16 10 12.1**	**0.0**
EAZ	**Earnscleugh**	**2.47**	**69**	PN	**Pn**	**16 10 17.6**	**+1.4**
EAZ				AML	AML	16 10 52.2	
EAZ				AML	AML	16 10 54.6	
EAZ				AML	AML	16 10 56.0	
EAZ				AML	AML	16 10 59.3	
WKZ	**Wanaka**	**2.48**	**59**	PN	**Pn**	**16 10 18.3**	**+1.9**
WKZ				AML	AML	16 10 56.5	
WKZ				AML	AML	16 10 56.6	
WKZ				AML	AML	16 10 57.0	
WKZ				AML	AML	16 10 58.8	
TUZ	**Tuapeka**	**2.51**	**87**	PN	**Pn**	**16 10 17.7**	**+1.0**
TUZ				AML	AML	16 10 50.3	
TUZ				AML	AML	16 10 50.7	
JCZ	**Jackson Bay**	**2.84**	**44**	*e*PN	**Pn**	**16 10 23.2**	**+1.8**
JCZ				AML	AML	16 11 13.1	
JCZ				AML	AML	16 11 15.7	
ODZ	**Otahua Downs**	**3.42**	**73**	PN	**Pn**	**16 10 28.7**	**-0.5**
ODZ				AML	AML	16 11 22.4	
ODZ				AML	AML	16 11 29.2	
ODZ				AML	AML	16 11 29.6	
ODZ				AML	AML	16 11 32.3	
LBZ	**Lake Benmore**	**3.42**	**60**	*e*PN	**Pn**	**16 10 29.6**	**+0.3**
LBZ				AML	AML	16 11 31.3	
LBZ				AML	AML	16 11 38.3	
FOZ	**Fox Glacier**	**3.67**	**46**	AML	AML	16 11 40.8	
FOZ				AML	AML	16 11 52.2	
RPZ	**Rata Peaks**	**4.32**	**57**	Pn	**Pn**	**16 10 40.3**	**-1.3**
	24nm,0.3s,baz=247,slow=13,SNR=6.4						
RPZ				Sn	**Sn**	**16 11 31.8**	**-0.1**
	44nm,0.3s,baz=345,slow=22,SNR=8.4						
RPZ				LR	LR	16 12 03.6	
	comp=Z,506nm,20.5s,baz=352,slow=35						
RPZ	**Rata Peaks**	**4.32**	**57**	*e*PN	**Pn**	**16 10 40.3**	**-1.3**
RPZ				AML	AML	16 12 02.3	
RPZ				AML	AML	16 12 07.6	
WVZ	**Waitaha Valley**	**4.56**	**49**	*e*PN	**Pn**	**16 10 44.6**	**-0.2**
WVZ				AML	AML	16 12 14.8	
WVZ				AML	AML	16 12 15.5	
CRLZ	**Canterbury Las**	**5.34**	**63**	*e*PN	**Pn**	**16 10 54.8**	**-0.8**
DSZ	**Denniston Nort**	**6.07**	**45**	*e*PN	**Pn**	**16 11 04.9**	**-0.7**
NNZ	**Nelson**	**7.26**	**50**	*e*PN	**Pn**	**16 11 23.4**	**+1.4**
MCQ	**Macquarie Isla**	**9.49**	**206**	S	Sn	16 14 13.5	+35
	baz=9.5,SNR=4.2						
MKAZ	**Moumakai**	**11.32**	**40**	*e*PN	**Pn**	**16 12 18.6**	**+0.9**
WCZ	**Waipu Caves**	**11.97**	**34**	*e*PN	**Pn**	**16 12 25.6**	**-1.0**
MILA	**Mila**	**15.54**	**300**	P	**Pn**	**16 13 13.4**	**-1.6**
	baz=15,SNR=6.9						
TOO	**Toolangi**	**17.51**	**292**	P	**Pn**	**16 13 40.1**	**0.0**
	baz=17,SNR=11						
YNG	**Young**	**17.89**	**305**	P	**P**	**16 13 45.5**	**+0.1**
	baz=18,SNR=5.1						
EIDS	**Eidsvold**	**23.96**	**325**	P	**P**	**16 14 51.6**	**+1.4**
	baz=24,SNR=3.9						
VNDA	**Vanda**	**31.51**	**182**	LR	LR	16 26 12.6	
	comp=Z,257nm,20.5s,baz=285,slow=32						
ASAR	**Alice Springs**	**34.25**	**300**	P	**P**	**16 16 21.4**	**-0.5**
	1.2nm,0.7s,baz=139,slow=8.6,SNR=12						
WRA	**Warramunga Arr**	**36.86**	**305**	P	**P**	**16 16 43.6**	**-0.8**
	1.8nm,0.8s,baz=140,slow=7.8,SNR=7.4						
HNR	**Honiara**	**36.97**	**350**	LR	LR	16 30 10.2	
	comp=Z,354nm,18.9s,baz=184,slow=33						
PMG	**Port Moresby**	**40.04**	**330**	P	**P**	**16 17 12.7**	**+1.7**
	15nm,0.8s,baz=130,slow=10,SNR=4.8						
FITZ	**Fitzroy Crossi**	**43.49**	**296**	P	**P**	**16 17 39.0**	**-0.3**
	1.5nm,0.7s,baz=129,slow=13,SNR=3.5						
QSPA	**South Pole Qui**	**43.96**	**180**	P	**P**	**16 17 43.3**	**+0.5**
	3.5nm,1.0s,baz=20,slow=4.8,SNR=8.3						
QSPA				LR	LR	16 33 13.4	
	comp=Z,182nm,21.2s,baz=273,slow=32						
SNAA	**Sanae**	**62.21**	**184**	*e*P	**P**	**16 19 56.9**	**-0.1**
VNA1	**Neumayer--Stat**	**63.43**	**182**	*e*P	**P**	**16 20 06.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**88.25**	**299**	P	**P**	**16 22 27.6**	**+0.3**
	1.6nm,0.9s,baz=142,slow=3.1,SNR=9.0						
TORD	**Torodi Ar. Bea**	**144.53**	**207**	PKP	**PKPab**	**16 29 10.3**	**-0.8**
	1.9nm,0.8s,baz=155,slow=1.9,SNR=6.4						
BRTR	**Keskin Array B**	**145.00**	**277**	PKPbc	PKPbc	16 29 11.9	-0.5
	6.1nm,0.9s,baz=135,slow=4.3,SNR=17						
ARCES	**ARCESS Array B**	**149.51**	**334**	PKPbc	**PKPbc**	**16 29 23.2**	**-0.7**
	8.6nm,1.0s,baz=96,slow=2.4,SNR=6.9						
FINES	**FINESS Array B**	**152.40**	**318**	PKPbc	**PKPbc**	**16 29 30.5**	**-0.4**
	3.3nm,0.9s,baz=76,slow=5.9,SNR=4.7						

WEL 15 16:10:38.2±0.7,46.04S×166.04E,h12km,ML3.9/3,Error ellipse: s-maj=5.7km s-min=2.6km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.47**	**107**	P*	Pg	16 10 47.7	+0.3
PYZ				S*	Sg	16 10 53.9	+0.3
PYZ				S*	Sb	16 10 54.2	-1.0
DCZ	**Deep Cove**	**0.96**	**55**	P*	Pg	16 10 56.0	-0.7
DCZ				S*	Sg	16 11 08.4	-0.9
DCZ				S*	Sb	16 11 08.7	-0.7
DCZ				AML	AML	16 11 10.0	
DCZ				AML	AML	16 11 12.4	
WHZ	**Wether Hill Ro**	**1.34**	**85**	PN	Pn	16 11 01.9	-0.8
WHZ				SN	Sb	16 11 20.1	-0.3
WHZ				AML	AML	16 11 21.8	
APZ	**The Paps**	**1.57**	**121**	*e*PN	Pn	16 11 04.1	-1.8
APZ				SN	Sn	16 11 23.5	-2.8
MLZ	**Mavora Lakes**	**1.65**	**66**	AML	AML	16 11 31.7	
MLZ				AML	AML	16 11 31.9	

WEL 15 16:12:38.9±1.2,45.64S×166.73E,h5km,ML3.6/10,Error ellipse: s-maj=13.1km s-min=7.1km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.34**	**61**	PG	Pg	16 12 45.5	0.0
DCZ				SG	Sg	16 12 51.3	+1.2
DCZ				AML	AML	16 12 51.3	
DCZ				AML	AML	16 12 51.3	
DCZ				AML	AML	16 12 51.5	
PYZ	**Puysegur Point**	**0.53**	**184**	*e*PG	Pg	16 12 49.3	+0.3
PYZ				SG	Sg	16 12 56.7	+0.7
WHZ	**Wether Hill Ro**	**0.89**	**107**	*e*P*	Pb	16 12 56.7	-0.2
WHZ				AML	AML	16 13 10.4	
WHZ				AML	AML	16 13 18.6	
MLZ	**Mavora

MSZ					AML	AML	16 14 45.2		
APZ	**The Paps**	**1.54**	**143**		SN	Sn	16 14 48.7	-1.1	
WKZ	**Wanaka**	**1.85**	**66**		PN	Pn	16 14 33.2	-0.4	
WKZ					AML	AML	16 15 02.5		
WKZ					AML	AML	16 15 06.1		
EAZ	**Earnscleugh**	**1.92**	**80**	*e*PN	Pn		16 14 34.0	-0.4	
EAZ					AML	AML	16 15 04.3		
EAZ					AML	AML	16 15 04.3		
EAZ					AML	AML	16 15 05.7		
EAZ					AML	AML	16 15 05.8		
SYZ	**Scrubby Hill**	**1.98**	**119**	*e*PN	Pb		16 14 37.8	+0.3	
TUZ	**Tuapeka**	**2.12**	**100**	*e*PN	Pn		16 14 36.6	-0.7	
TUZ					AML	AML	16 15 10.2		
TUZ					AML	AML	16 15 10.6		
JCZ	**Jackson Bay**	**2.15**	**45**	*e*PN	Pb		16 14 39.9	-0.8	
JCZ					AML	AML	16 15 12.1		
JCZ					AML	AML	16 15 12.8		
ODZ	**Otahua Downs**	**2.88**	**80**	*e*PN	Pn		16 14 46.4	-1.3	
ODZ					AML	AML	16 15 25.9		
ODZ					AML	AML	16 15 26.1		

*ISCJB **15** 16:15:04.7±1.3, 18°.64S±0°.09×69°.9W±0°.2, h114km, mb3.9/3, Error ellipse: s-maj=31.1km s-min=6.2km az=20.6*

*NEIC **15** 16:15:04.6±3.1, 18°.58S×70°.10W, h116km±22km, mb4.1/1, Error ellipse: s-maj=80.4km s-min=12.0km az=105.0*

NEIC Felt [II] at Arica.

*GUC **15** 16:15:07.0±0.3, 18°.77S×69°.79W, h100km±2km, ML4.1*

*IDC **15** 16:15:10.9±2.9, 18°.29S×69°.70W, h137km±27km, mb3.7/3, mb1 3.7/4, mb1mx3.5/20, mbtmp3.7/4, Error ellipse: s-maj=60.8km s-min=30.7km az=134.0*

ISC 15 16:15:06.5±1.2, **18°.66S**±0°.08×**69°.9W**±0°.2, **h114**km, **n21**, σ1§**90**/27, **mb3.8**/3, **8C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNMC	**Minimini**	**0.53**	**152**	⇑*i*P	**Pn**	**16 15 22.7**	**-1.6**
MNMC				*i*S	**Sn**	**16 15 34.8**	**-2.9**
MNMC	**Minimini**	**0.53**	**152**	⇑*i*P	**Pn**	**16 15 22.7**	**-1.6**
MNMC				*i*S	**Sn**	**16 15 34.8**	**-2.9**
MNMC				AML	AML	16 15 36.5	
	comp=E,21μm,0.2s						
PSGC	**Pisagua**	**0.96**	**195**	⇑*i*P	**Pn**	**16 15 26.6**	**-1.2**
PSGC				*i*S	**Sn**	**16 15 41.5**	**-2.3**
PSGC	**Pisagua**	**0.96**	**195**	⇑*i*P	**Pn**	**16 15 26.6**	**-1.2**
PSGC				*i*S	**Sn**	**16 15 41.5**	**-2.3**
PSGC				AML	AML	16 15 42.1	
	comp=N,6μm,0.4s						
HMBC	**Humberstone**	**1.61**	**181**	⇑*i*P	**Pn**	**16 15 34.0**	**-0.9**
HMBC				*i*S	**Sn**	**16 15 54.5**	**-2.1**
HMBC	**Humberstone**	**1.61**	**181**	⇑*i*P	**Pn**	**16 15 34.0**	**-0.9**
HMBC				*i*S	**Sn**	**16 15 54.5**	**-2.1**
HMBC				AML	AML	16 16 01.2	
	comp=N,2μm,0.7s						
LPAZ	**La Paz**	**2.88**	**35**	*e*P	**Pn**	**16 15 53.1**	**+1.6**
LPAZ	**La Paz**	**2.88**	**35**	P	**Pn**	**16 15 53.2**	**+1.7**
	comp=N,6.6nm,0.3s,baz=218,slow=9.8,SNR=167						
LPAZ				S	**Sn**	**16 16 23.5**	**-2.7**
	comp=N,2.8nm,0.3s,baz=197,slow=11,SNR=2.7						
PB07	**Plate Boundary**	**3.05**	**181**	⇑*i*P	**Pn**	**16 15 53.4**	**0.0**
PB07	**Plate Boundary**	**3.05**	**181**	⇑*i*P	**Pn**	**16 15 53.4**	**0.0**
PB07				AML	AML	16 16 29.8	
	comp=E,312nm,0.3s						
PB09	**Plate Boundary**	**3.17**	**170**	*e*P	**Pn**	**16 15 55.3**	**+0.3**
PB09	**Plate Boundary**	**3.17**	**170**	*e*P	**Pn**	**16 15 55.3**	**+0.3**
PB09				AML	AML	16 17 04.9	
	comp=N,1μm,0.8s						
LVC	**Limon Verde**	**4.03**	**167**	*e*P	**Pn**	**16 16 07.0**	**+0.5**
PB06	**Plate Boundary**	**4.03**	**176**	P	**Pn**	**16 16 05.8**	**-0.7**
PB06	**Plate Boundary**	**4.03**	**176**	⇓*i*P	**Pn**	**16 16 05.8**	**-0.7**
SAML	**Samuel**	**11.62**	**35**	*e*P	**Pn**	**16 17 46.0**	**-2.9**
	comp=N,2.8nm,0.6s						
BDFB	**Brasilia**	**21.09**	**85**	P	**P**	**16 19 43.8**	**+1.8**
	comp=N,2.3nm,0.5s,baz=265,slow=10.0,SNR=3.0						
QSPA	**South Pole Qui**	**71.52**	**180**	P	P	16 26 18.3	+3.5
	comp=N,1.2nm,0.8s,baz=42,slow=7.8,SNR=7.0						
TORD	**Torodi Ar. Bea**	**77.27**	**71**	P	**P**	**16 26 49.0**	**+0.2**
	comp=N,2.2nm,0.5s,baz=254,slow=5.1,SNR=24						
ASAR	**Alice Springs**	**131.96**	**210**	PKP	**PKPdf**	**16 34 09.6**	**+2.2**
	comp=N,0.4nm,0.9s,baz=134,slow=1.9,SNR=3.0						
WRA	**Warramunga Arr**	**134.89**	**213**	PKP	**PKPdf**	**16 34 16.1**	**+3.2**
	comp=N,0.8nm,1.1s,baz=150,slow=1.7,SNR=4.2						

NNC 15 16:15:40.5±0.3, **53°.18N**×**71°.21E**, **h0**km, **mb3.6, mpv2.4, 5C-5D, Error ellipse: s-maj=1.8km s-min=0.9km az=43.0, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VOSK	**Vostochnaya**	**0.48**	**197**	⇓P	Pg	16 15 49.9	+0.2
	9.9nm,0.6s						
VOSK				⇓S	Sg	16 15 56.7	+0.7
	9.1nm,0.3s						
VOSK				⇑Rg	Rg	16 15 58.0	
	191nm,0.8s						
BVB8	**Borovoye Array**	**0.51**	**252**	P	Pg	16 15 50.7	+0.4
BVB8				S	Sg	16 15 57.9	+1.0
BVB7	**Borovoye Array**	**0.51**	**254**	P	Pg	16 15 50.6	+0.2
BVB7				S	Sg	16 15 58.1	+1.0
BVA4	**Borovoye Array**	**0.51**	**253**	P	Pg	16 15 50.5	+0.1
BVA4				S	Sg	16 15 58.1	+0.9
BVA1	**Borovoye Array**	**0.52**	**253**	P	Pg	16 15 50.7	+0.2
BVA1				S	Sg	16 15 58.1	+0.8
BVA0	**Borovoye Array**	**0.52**	**253**	P	Pg	16 15 50.9	+0.4
	2.5nm,0.5s,baz=60,slow=18,SNR=262						
BVA0				S	Sg	16 15 58.2	+0.9
	9.5nm,0.4s,baz=66,slow=30,SNR=150						
BVA0				⇓Rg	Rg	16 15 59.9	
	97nm,0.7s,baz=72,slow=36,SNR=18						
BVA2	**Borovoye Array**	**0.52**	**252**	P	Pg	16 15 50.7	+0.1
BVA2				S	Sg	16 15 58.1	+0.7
BVB6	**Borovoye Array**	**0.52**	**254**	P	Pg	16 15 50.5	-0.1
BVB6				S	Sg	16 15 57.9	+0.5
BVA3	**Borovoye Array**	**0.53**	**253**	P	Pg	16 15 50.7	+0.1
BVA3				S	Sg	16 15 57.8	+0.4
BVB9	**Borovoye Array**	**0.53**	**252**	P	Pg	16 15 50.5	-0.1
BVB9				S	Sg	16 15 58.0	+0.5
BVB5	**Borovoye Array**	**0.53**	**253**	P	Pg	16 15 50.5	-0.3
BVB5				S	Sg	16 15 57.9	+0.2
BRVK	**Borovoye**	**0.57**	**258**	⇑P	Pg	16 15 52.0	+0.5
	2.4nm,0.5s						
BRVK				⇓S	Sg	16 15 59.5	+0.5
	20nm,0.4s						
BRVK				⇑Rg	Rg	16 16 02.0	
	208nm,0.8s						
KURBB	**Kurchatov Arra**	**5.21**	**117**	⇑Pn	Pn	16 16 59.3	-0.3
	4.1nm,1.4s						
KURBB				⇓Sn	Sn	16 18 00.5	+0.2
	1.6nm,0.7s						
KURBB				⇑Lg	Lg	16 18 25.4	
	3.4nm,0.6s						

*WEL **15** 16:17:25.6±0.9, 45°.61S×166°.41E, h5km, ML4.7/18, Error ellipse: s-maj=9.1km s-min=3.6km az=90.0*

*ISCJB **15** 16:17:26.5±1.1, 45°.52S±0°.05×166°.50E±0°.05, h9km±7km, mb3.7/5, Error ellipse: s-maj=8.7km s-min=6.2km az=166.9*

*IDC **15** 16:17:26.6±0.9, 45°.59S×166°.61E, h0km, mb3.7/5, mb1 4.0/7, mb1mx3.8/16, mbtmp3.8/7, ML4.0/2, Error ellipse: s-maj=26.4km s-min=21.9km az=5.0*

*NEIC **15** 16:17:29.9, 45°.46S×166°.64E, h5km, ML4.6(WEL), After WEL.*

ISC 15 16:17:26.7±1.7, **45°.68S**±0°.04×**166°.62E**±0°.05, **h4**km±11km, **n63**, σ0§**99**/71, **mb3.8**/5, **Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.42**	**62**	PG	**Pb**	**16 17 36.9**	**+0.3**
DCZ				SG	**Sb**	**16 17 42.2**	**-1.1**
DCZ				SG	**Sg**	**16 17 42.5**	**+2.3**
PYZ	**Puysegur Point**	**0.49**	**175**	P*	**Pb**	**16 17 37.6**	**-0.3**
WHZ	**Wether Hill Ro**	**0.95**	**104**	P*	**Pn**	**16 17 47.4**	**+0.6**
WHZ				AML	AML	16 18 05.2	
WHZ				AML	AML	16 18 09.4	
MLZ	**Mavora Lakes**	**1.14**	**74**	P*	**Pg**	**16 17 48.5**	**0.0**
MLZ				S*	**Sg**	**16 18 03.1**	**-0.1**
MLZ				AML	AML	16 18 04.5	
MSZ	**Milford Sound**	**1.36**	**43**	P*	**Pn**	**16 17 50.3**	**-2.1**
MSZ	**Milford Sound**	**1.36**	**43**	PN	**Pn**	**16 17 50.0**	**-2.4**
MSZ				SN	**Sn**	**16 18 11.1**	**+0.2**
MSZ				AML	AML	16 18 12.8	
MSZ				AML	AML	16 18 13.1	
MSZ				AML	AML	16 18 13.2	
APZ	**The Paps**	**1.50**	**141**	PN	**Pn**	**16 17 52.6**	**-1.7**
WKZ	**Wanaka**	**1.89**	**64**	Pn	**Pb**	**16 18 01.2**	**-0.5**
WKZ	**Wanaka**	**1.89**	**64**	PN	**Pb**	**16 18 01.2**	**-0.5**
WKZ				SN	**Sn**	**16 18 24.3**	**+0.3**
WKZ				AML	AML	16 18 31.2	
WKZ				AML	AML	16 18 31.4	
EAZ	**Earnscleugh**	**1.94**	**78**	Pn	**Pb**	**16 18 02.0**	**-0.5**
EAZ				Sn	**Sb**	**16 18 26.6**	**-0.5**
EAZ	**Earnscleugh**	**1.94**	**78**	PN	**Pb**	**16 18 01.9**	**-0.6**
EAZ				SN	**Sn**	**16 18 25.4**	**+0.2**
EAZ				AML	AML	16 18 27.3	
EAZ				AML	AML	16 18 28.1	
EAZ				AML	AML	16 18 28.1	
SYZ	**Scrubby Hill**	**1.95**	**117**	*e*PN	**Pg**	**16 18 03.7**	**-0.3**
TUZ	**Tuapeka**	**2.12**	**99**	PN	**Pb**	**16 18 05.6**	**0.0**
TUZ				AML	AML	16 18 36.0	
TUZ				AML	AML	16 18 37.5	
JCZ	**Jackson Bay**	**2.21**	**44**	Pn	**Pb**	**16 18 06.1**	**-1.0**
JCZ	**Jackson Bay**	**2.21**	**44**	*e*PN	**Pb**	**16 18 05.9**	**-1.2**
JCZ				AML	AML	16 18 39.1	
JCZ				AML	AML	16 18 39.8	
HHSZ	**Highcliff Hill**	**2.79**	**96**	*e*PN	**Pb**	**16 18 15.0**	**-2.0**
LBZ	**Lake Benmore**	**2.83**	**64**	Pn	**Pn**	**16 18 13.2**	**+0.5**
LBZ	**Lake Benmore**	**2.83**	**64**	*e*PN	**Pn**	**16 18 12.5**	**-0.2**
LBZ				AML	AML	16 18 51.5	
LBZ				AML	AML	16 18 52.1	
LBZ				AML	AML	16 18 52.1	
LBZ				AML	AML	16 18 54.4	
ODZ	**Otahua Downs**	**2.90**	**79**	*e*Pn	**Pn**	**16 18 14.1**	**+0.4**
ODZ	**Otahua Downs**	**2.90**	**79**	PN	**Pn**	**16 18 13.9**	**+0.2**
ODZ				AML	AML	16 18 52.7	
ODZ				AML	AML	16 18 52.7	
ODZ				AML	AML	16 18 54.4	
ODZ				AML	AML	16 19 04.3	
FOZ	**Fox Glacier**	**3.04**	**47**	Pn	**Pn**	**16 18 17.5**	**+2.0**
FOZ	**Fox Glacier**	**3.04**	**47**	*e*PN	**Pn**	**16 18 17.1**	**+1.7**
FOZ				AML	AML	16 19 07.2	
FOZ				AML	AML	16 19 09.7	
FOZ				AML	AML	16 19 10.7	
FOZ				AML	AML	16 19 13.3	
RPZ	**Rata Peaks**	**3.72**	**60**	*e*Pn	**Pn**	**16 18 24.0**	**-0.9**
RPZ				Sn	**Sn**	**16 19 09.8**	**+0.7**
RPZ	**Rata Peaks**	**3.72**	**60**	Pn	**Pn**	**16 18 24.2**	**-0.7**
	38nm,0.3s,baz=229,slow=5.1,SNR=50						
RPZ				Sn	**Sn**	**16 19 09.8**	**+0.7**
	76nm,0.3s,baz=349,slow=22,SNR=15						
RPZ	**Rata Peaks**	**3.72**	**60**	*e*PN	**Pn**	**16 18 25.5**	**+0.6**
RPZ				AML	AML	16 19 12.3	
RPZ				AML	AML	16 19 14.0	
WVZ	**Waitaha Valley**	**3.93**	**50**	Pn	**Pn**	**16 18 28.2**	**+0.4**
WVZ	**Waitaha Valley**	**3.93**	**50**	*e*PN	**Pn**	**16 18 27.9**	**+0.2**
WVZ				AML	AML	16 19 33.5	
WVZ				AML	AML	16 19 35.4	
OXZ	**Oxford**	**4.53**	**61**	*e*PN	**Pn**	**16 18 34.6**	**-1.4**
MQZ	**McQueen's Vall**	**4.73**	**68**	PN	**Pn**	**16 18 39.3**	**+0.7**
MQZ				AML	AML	16 19 35.1	
MQZ				AML	AML	16 19 36.2	
CRLZ	**Canterbury Las**	**4.77**	**66**	*e*PN	**Pn**	**16 18 39.2**	**0.0**
CRLZ				AML	AML	16 19 36.0	
LTZ	**Lake Taylor**	**4.98**	**57**	Pn	**Pn**	**16 18 43.1**	**+0.9**
LTZ	**Lake Taylor**	**4.98**	**57**	*e*PN	**Pn**	**16 18 42.8**	**+0.5**
LTZ				AML	AML	16 19 43.0	
LTZ				AML	AML	16 19 44.8	
DSZ	**Denniston Nort**	**5.43**	**46**	Pn	**Pn**	**16 18 49.5**	**+1.1**
DSZ	**Denniston Nort**	**5.43**	**46**	*e*PN	**Pn**	**16 18 48.2**	**-0.2**
THZ	**Tophouse**	**6.00**	**52**	*e*PN	**Pn**	**16 18 56.8**	**+0.6**
THZ				AML	AML	16 20 09.1	
THZ				AML	AML	16 20 11.0	
QRZ	**Quartz Range**	**6.49**	**44**	*e*PN	**Pn**	**16 19 03.3**	**+0.5**
QRZ				AML	AML	16 20 20.1	
QRZ				AML	AML	16 20 22.0	
NNZ	**Nelson**	**6.63**	**50**	*e*PN	**Pn**	**16 19 07.0**	**+2.1**
KHEZ	**Kahui Hut**	**8.39**	**43**	*e*PN	**Pn**	**16 19 30.1**	**+1.0**
NEZ	**North Egmont**	**8.45**	**43**	*e*PN	**Pn**	**16 19 30.7**	**+0.8**
WAZ	**Wanganui**	**8.53**	**49**	*e*PN	Pn	16 19 34.3	+3.3
MKAZ	**Moumakai**	**10.69**	**40**	*e*PN	**Pn**	**16 20 01.8**	**+1.4**
URZ	**Urewera**	**10.76**	**50**	*e*P	**Pn**	**16 20 03.1**	**+1.7**
URZ	**Urewera**	**10.76**	**50**	Pn	**Pn**	**16 20 02.7**	**+1.4**
	0.3nm,0.3s,baz=249,slow=9.4,SNR=2.9						
WCZ	**Waipu Caves**	**11.34**	**34**	*e*PN	**Pn**	**16 20 08.5**	**-0.9**
OUZ	**Omahuta**	**11.71**	**29**	*e*P	**Pn**	**16 20 14.1**	**-0.3**
STKA	**Stephens Creek**	**23.76**	**297**	P	**P**	**16 22 41.2**	**+1.2**
STKA	**Stephens Creek**	**23.76**	**297**	P	**P**	**16 22 41.2**	**+1.2**
	2.0nm,0.9s,baz=137,slow=9.5,SNR=6.1						
ASAR	**Alice Springs**	**34.37**	**299**	P	**P**	**16 24 14.5**	**-0.2**
ASAR	**Alice Springs**	**34.37**	**299**	P	**P**	**16 24 14.5**	**-0.2**
	1.1nm,0.8s,baz=139,slow=7.3,SNR=17						
WRA	**Warramunga Arr**	**36.93**	**303**	P	**P**	**16 24 36.1**	**-0.6**
WRA	**Warramunga Arr**	**36.93**	**303**	P	**P**	**16 24 36.1**	**-0.6**
	1.7nm,0.9s,baz=138,slow=7.8,SNR=9.5						
QSPA	**South Pole Qui**	**44.45**	**180**	P	**P**	**16 25 39.6**	**+1.1**
QSPA	**South Pole Qui**	**44.45**	**180**	P	**P**	**16 25 39.6**	**+1.1**
	0.5nm,0.8s,baz=188,slow=8.5,SNR=3.2						
CMAR	**Chiang Mai Arr**	**88.38**	**299**	P	**P**	**16 30 20.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**88.38**	**299**	P	**P**	**16 30 20.2**	**+0.5**
	0.4nm,0.7s,baz=165,slow=3.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**145.15**	**206**	PKPbc	**PKPdf**	**16 37 05.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**145.15**	**206**	PKPbc	**PKPdf**	**16 37 05.6**	**-0.1**
	2.2nm,0.6s,baz=172,slow=2.9,SNR=26						
BRTR	**Keskin Array B**	**145.34**	**277**	PKPbc	**PKPbc**	**16 37 04.7**	**-0.7**
BRTR	**Keskin Array B**	**145.34**	**277**	PKPbc	**PKPbc**	**16 37 04.7**	**-0.7**
	1.7nm,0.9s,baz=122,slow=4.5,SNR=5.0						
ARCES	**ARCESS Array B**	**149.25**	**334**	PKPbc	**PKPbc**	**16 37 14.8**	**-0.4**
ARCES	**ARCESS Array B**	**149.25**	**334**	PKPbc	**PKPbc**	**16 37 14.8**	**-0.4**
	1.5nm,0.6s,baz=41,slow=2.2,SNR=7.8						
FINES	**FINESS Array B**	**152.31**	**319**	PKPbc	**PKPbc**	**16 37 22.6**	**0.0**
FINES	**FINESS Array B**	**152.31**	**319**	PKPbc	**PKPbc**	**16 37 22.6**	**0.0**
	0.9nm,0.6s,baz=106,slow=4.5,SNR=7.9						

*ISCJB **15** 16:19:19.9±1.4, 45°.60S±0°.04×166°.35E±0°.05, h3km±10km, mb4.1/6, MS4.0/2, Error ellipse: s-maj=6.1km s-min=5.5km az=162.3*

*IDC **15** 16:19:20.6±0.9, 45°.60S×166°.35E, h0km, mb4.2/6, mb1 4.4/8, mb1mx4.2/18, mbtmp4.3/8, ML4.2/2, MS4.1/2, Ms1 4.0/2, ms1mx3.6/15, Error ellipse: s-maj=24.4km s-min=20.8km az=175.0*

*NEIC **15** 16:19:22.1±0.4, 45°.60S×166°.25E, h10km, ML4.9(WEL), Error ellipse: s-maj=9.8km s-min=6.0km az=172.0*

*WEL **15** 16:19:23.1±0.4, 45°.64S×166°.50E, h12km, ML4.8/19, Error ellipse: s-maj=3.4km s-min=1.5km az=90.0*

ISC 15 16:19:22.3±1.3, **45°.62S**±0°.04×**166°.44E**±0°.04, **h14**km±8km, **n63**, σ1§**16**/81, **mb4.2**/6, **1D, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.52**	**75**	P*	**Pg**	**16 19 32.3**	**-0.3**
DCZ				S*	**Sg**	**16 19 39.1**	**-0.4**
DCZ				S*	**Sb**	**16 19 39.5**	**-1.1**
PYZ	**Puysegur Point**	**0.57**	**163**	P*	**Pg**	**16 19 33.1**	**-0.5**
PYZ				S*	**Sg**	**16 19 41.2**	**0.0**
WHZ	**Wether Hill Ro**	**1.09**	**105**	P*	**Pg**	**16 19 45.9**	**+2.6**
WHZ				S*	**Sb**	**16 19 56.7**	**-0.3**
WHZ	**Wether Hill Ro**	**1.09**	**105**	*e*P*	**Pb**	**16 19 42.7**	**-0.2**
WHZ				S*	**Sb**	**16 19 56.7**	**-0.3**
WHZ				AML	AML	16 20 04.2	
MLZ	**Mavora Lakes**	**1.25**	**78**	⇓P*	**Pn**	**16 19 44.0**	**-1.3**
MLZ				S*	**Sb**	**16 19 59.4**	**-2.2**
MLZ				AML	AML	16 20 00.2	
MSZ	**Milford Sound**	**1.41**	**49**	Pn	**Pb**	**16 19 48.3**	**-0.2**
MSZ				Sn	**Sb**	**16 20 07.1**	**+0.8**
MSZ	**Milford Sound**	**1.41**	**49**	PN	**Pb**	**16 19 48.3**	**-0.2**
MSZ				SN	**Sb**	**16 20 07.1**	**+0.8**
MSZ				AML	AML	16 20 09.3	
MSZ				AML	AML	16 20 13.2	
MSZ				AML	AML	16 20 13.7	
APZ	**The Paps**	**1.62**	**139**	PN	**Pn**	**16 19 50.3**	**-0.2**
WKZ	**Wanaka**	**1.98**	**67**	Pn	**Pb**	**16 19 57.7**	**-0.5**
WKZ	**Wanaka**	**1.98**	**67**	PN	**Pb**	**16 19 57.7**	**-0.5**
WKZ				AML	AML	16 20 27.9	
WKZ				AML	AML	16 20 29.3	
WKZ				AML	AML	16 20 29.3	
EAZ	**Earnscleugh**	**2.06**	**80**	Pn	**Pb**	**16 19 58.1**	**-1.3**
EAZ				Sn	**Sn**	**16 20 23.2**	**+1.4**
EAZ	**Earnscleugh**	**2.06**	**80**	*e*PN	**Pn**	**16 19 56.8**	**+0.3**
EAZ				SN	**Sn**	**16 20 23.3**	**+1.4**
EAZ				AML	AML	16 20 26.6	
EAZ				AML	AML	16 20 26.8	
EAZ				AML	AML	16 20 31.4	
SYZ	**Scrubby Hill**	**2.09**	**117**	PN	**Pn**	**16 19 58.4**	**+1.5**
JCZ	**Jackson Bay**	**2.26**	**48**	Pn	**Pb**	**16 20 03.1**	**+0.1**
JCZ	**Jackson Bay**	**2.26**	**48**	*e*PN	**Pb**	**16 20 02.0**	**-0.9**
JCZ				AML	AML	16 20 40.7	
JCZ				AML	AML	16 20 42.8	
TUZ	**Tuapeka**	**2.26**	**100**	Pn	**Pb**	**16 20 02.0**	**-0.9**
TUZ				Sn	**Sb**	**16 20 30.4**	**-0.2**
TUZ	**Tuapeka**	**2.26**	**100**	*e*PN	**Pn**	**16 20 00.6**	**+1.4**
TUZ				SN	**Sn**	**16 20 27.1**	**+0.2**
HHSZ	**Highcliff Hill**	**2.92**	**97**	PN	**Pn**	**16 20 10.2**	**+1.9**
LBZ	**Lake Benmore**	**2.93**	**66**	*e*PN	**Pn**	**16 20 09.6**	**+1.1**
LBZ				SN	**Sb**	**16 20 47.2**	**-2.7**
LBZ				AML	AML	16 20 48.1	
LBZ				AML	AML	16 20 48.8	
LBZ				AML	AML	16 20 51.7	
ODZ	**Otahua Downs**	**3.02**	**81**	*e*PN	**Pn**	**16 20 11.3**	**+1.6**
ODZ				AML	AML	16 21 03.3	
ODZ				AML	AML	16 21 09.3	
FOZ	**Fox Glacier**	**3.10**	**50**	*e*PN	**Pn**	**16 20 12.6**	**+1.8**
FOZ				AML	AML	16 20 45.7	
FOZ				AML	AML	16 21 08.9	
RPZ	**Rata Peaks**	**3.80**	**62**	Pn	**Pn**	**16 20 21.4**	**+0.9**
RPZ				Sn	**Sn**	**16 21 08.6**	**+3.7**
RPZ	**Rata Peaks**	**3.80**	**62**	Pn	**Pn**	**16 20 21.4**	**+0.9**
	60nm,0.3s,baz=236,slow=7.3,SNR=6.2						
RPZ				Sn	**Sn**	**16 21 08.6**	**+3.7**
	100nm,0.3s,baz=131,slow=20,SNR=7.4						
RPZ	**Rata Peaks**	**3.80**	**62**	PN	**Pn**	**16 20 21.0**	**+0.5**
RPZ				AML	AML	16 21 14.5	
RPZ				AML	AML	16 21 16.0	
WVZ	**Waitaha Valley**	**3.99**	**52**	*e*PN	**Pn**	**16 20 23.7**	**+0.7**
WVZ				AML	AML	16 21 23.5	
WVZ				AML	AML	16 21 33.2	
OXZ	**Oxford**	**4.62**	**62**	*e*PN	**Pn**	**16 20 32.8**	**+1.2**
MQZ	**McQueen's Vall**	**4.83**	**69**	PN	**Pn**	**16 20 34.7**	**+0.2**
MQZ				AML	AML	16 21 30.5	
MQZ				AML	AML	16 21 47.6	
CRLZ	**Canterbury Las**	**4.86**	**67**	*e*PN	**Pn**	**16 20 35.8**	**+0.8**
CRLZ				AML	AML	16 22 13.4	
CRLZ				AML	AML	16 22 17.2	
LTZ	**Lake Taylor**	**5.06**	**58**	*e*PN	**Pn**	**16 20 37.2**	**0.0**
LTZ				AML	AML	16 21 38.2	
LTZ				AML	AML	16 21 55.6	
THZ	**Tophouse**	**6.07**	**53**	*e*PN	Pn	16 20 55.0	+3.4
THZ				AML	AML	16 22 13.1	
THZ				AML	AML	16 22 14.0	
QRZ	**Quartz Range**	**6.53**	**45**	*e*PN	**Pn**	**16 20 58.3**	**+0.3**
QRZ				AML	AML	16 22 33.0	
QRZ				AML	AML	16 22 35.2	
NNZ	**Nelson**	**6.70**	**51**	AML	AML	16 22 27.0	
NNZ				AML	AML	16 22 33.2	
KHEZ	**Kahui Hut**	**8.44**	**44**	*e*PN	**Pn**	**16 21 24.2**	**0.0**
NEZ	**North Egmont**	**8.50**	**44**	*e*PN	**Pn**	**16 21 24.7**	**-0.2**
URZ	**Urewera**	**10.82**	**51**	*e*P	**Pn**	**16 21 58.0**	**+1.3**
URZ				Sn	**Sn**	**16 23 54.9**	**-2.6**
URZ	**Urewera**	**10.82**	**51**	Pn	**Pn**	**16 21 55.5**	**-1.2**
	0.6nm,0.3s,baz=225,slow=11,SNR=3.6						
URZ				Sn	**Sn**	**16 23 54.9**	**-2.6**
	1.0nm,0.3s,baz=70,slow=18,SNR=3.9						
OUZ	**Omahuta**	**11.72**	**30**	*e*Pn	**Pn**	**16 22 08.9**	**-0.2**
DZM	**Mont Dzumac**	**23.49**	**0**	P	**P**	**16 24 32.9**	**+1.2**
DZM	**Mont Dzumac**	**23.49**	**0**	P	**P**	**16 24 32.9**	**+1.2**
	6.5nm,0.8s,baz=270,slow=24,SNR=39						
STKA	**Stephens Creek**	**23.62**	**297**	P	**P**	**16 24 32.9**	**0.0**
STKA	**Stephens Creek**	**23.62**	**297**	P	**P**	**16 24 32.9**	**0.0**
	4.2nm,0.8s,baz=124,slow=11,SNR=6.0						
STKA				LR	LR	16 33 24.3	
	comp=Z,318nm,18.4s,baz=230,slow=36						
ASAR	**Alice Springs**	**34.23**	**299**	P	**P**	**16 26 07.3**	**-0.3**
ASAR				PcP	**PcP**	**16 28 44.2**	**+0.1**
ASAR	**Alice Springs**	**34.23**	**299**	P	**P**	**16 26 07.3**	**-0.3**
	2.4nm,0.8s,baz=132,slow=8.6,SNR=28						
ASAR				PcP	**PcP**	**16 28 44.2**	**+0.1**
	0.6nm,0.7s,baz=142,slow=3.8,SNR=4.5						
AFI	**Afiamalu**	**36.

732A	Laxson Ranch, baz=11,SNR=6.1	10.59	16	⇑P	Pn	16 22 52.3	+3.4
TXAR	Lajitas Array	10.78	358	Pn	Pn	16 22 55.6	+4.1
TXAR				Lg	Lg	16 25 56.1	
TXAR	Lajitas Array 0.6nm,0.3s,baz=173,slow=16,SNR=29	10.78	358	Pn	Pn	16 22 55.6	+4.1
TXAR	0.2nm,0.3s,baz=185,slow=19,SNR=4.5			Lg	Lg	16 25 56.1	
TXAR	comp=Z,1µm,18.2s,baz=175,slow=41			LR	LR	16 27 33.1	
627A	Terlingua Ranc baz=11,SNR=31	10.89	359	⇓P	Pn	16 22 56.8	+3.7
628A	Black Gap, Mar baz=11	10.92	2	⇓P	Pn	16 22 56.8	+3.3
626A	Big Bend Ranch baz=11,SNR=17	11.02	356	⇑P	Pn	16 22 58.6	+3.7
631A	Perdido Creek baz=11	11.11	12	⇑P	Pn	16 22 59.4	+3.3
632A	Uvalde baz=11	11.38	15	⇓P	**Pn**	**16 23 02.6**	**+2.9**
526A	Mary Lane Ranc baz=12,SNR=31	11.52	356	⇑P	Pn	16 23 05.3	+3.6
527A	Woodward Ranch baz=12,SNR=17	11.58	358	⇓P	Pn	16 23 06.2	+3.6
529A	Stev Forest Ra baz=12,SNR=5.4	11.59	4	⇑P	Pn	16 23 06.6	+4.0
528A	Cox Ranch, San baz=12,SNR=9.0	11.60	2	⇓P	Pn	16 23 07.1	+4.3
530A	J-C Ranch, Com baz=12,SNR=16	11.71	8	⇓P	Pn	16 23 08.2	+4.0
531A	Rocksprings baz=12	11.85	11	⇑P	Pn	16 23 09.5	+3.3
532A	Rocksprings baz=12	11.95	14	⇓P	Pn	16 23 10.7	+3.2
429A	Davenport Ranc baz=12,SNR=6.3	12.11	5	⇑P	Pn	16 23 13.5	+3.7
426A	McDonald Obser baz=12,SNR=6.1	12.12	357	⇓P	Pn	16 23 14.5	+4.5
428A	Kincaid Ranch, baz=12	12.16	2	⇑P	Pn	16 23 14.3	+3.8
427A	Hayter Ranch, baz=12	12.28	359	⇓P	Pn	16 23 16.0	+3.9
JCT	Junction City baz=12	12.31	14	⇓P	**Pn**	**16 23 15.4**	**+3.0**
425A	Indio Mountain baz=12,SNR=5.9	12.32	353	⇓P	Pn	16 23 16.2	+3.5
431A	Sonora baz=12,SNR=16	12.34	11	⇑P	Pn	16 23 16.5	+3.6
430A	Baggett Ranch, baz=12,SNR=13	12.35	8	⇓P	Pn	16 23 16.5	+3.5
432A	Menard baz=13,SNR=6.9	12.69	14	⇓P	Pn	16 23 21.0	+3.4
326A	Caldwell Ranch baz=13,SNR=6.4	12.76	357	⇑P	Pn	16 23 22.6	+3.9
328A	Wristen Ranch, baz=13	12.81	2	⇓P	Pn	16 23 22.9	+3.6
325A	Bean Ranch, Si baz=13,SNR=8.2	12.89	353	⇓P	Pn	16 23 23.7	+3.1
329A	Wagon Wheel Ra baz=13	12.96	5	⇑P	Pn	16 23 24.4	+3.1
330A	Mertzon baz=13	12.96	8	⇓P	Pn	16 23 24.8	+3.4
331A	San Angelo baz=13,SNR=7.0	12.98	11	⇓P	Pn	16 23 25.9	+4.2
324A	Moseley Ranch, baz=13	13.03	351	⇑P	**Pn**	**16 23 25.2**	**+2.8**
332A	Millersview baz=13	13.19	13	⇓P	**Pn**	**16 23 26.6**	**+2.1**
MNTX	Cornudas Mount	13.27	352	*e*Pn	**Pn**	**16 23 25.1**	**-0.4**
230A	Sterling City baz=14,SNR=15	13.45	8	⇑P	Pn	16 23 31.5	+3.5
229A	Bryant Ranch, baz=14	13.45	5	⇓P	**Pn**	**16 23 30.8**	**+2.7**
226B	Tecolote Peak, baz=14	13.53	357	⇑P	**Pn**	**16 23 32.1**	**+3.0**
228A	UT Block 9, Go baz=14	13.55	2	⇑P	**Pn**	**16 23 32.4**	**+2.9**
225A	Deer Hill, Car baz=14	13.61	354	⇓P	**Pn**	**16 23 32.9**	**+2.6**
231A	Bronte baz=14,SNR=6.1	13.62	11	⇑P	**Pn**	**16 23 32.2**	**+1.9**
224A	Cornudas Mount baz=14	13.66	352	⇑P	**Pn**	**16 23 33.7**	**+2.7**
232A	Coleman baz=14,SNR=15	13.70	13	⇓P	Pn	16 23 35.2	+3.7
319A	Douglas baz=14	13.93	338	⇓P	**Pn**	**16 23 37.0**	**+2.5**
222A	Williams Famil baz=14	13.97	346	⇓P	Pn	16 23 38.6	+3.4
128A	Castleberry Fa baz=14,SNR=8.2	14.06	3	⇑P	**P**	**16 23 40.4**	**-2.4**
127A	Arkansas Junct baz=14	14.10	360	⇓P	Pn	16 23 40.4	+3.5
125A	Gardner Draw, baz=14	14.14	355	⇑P	Pn	16 23 40.7	+3.2
220A	Playas Peak, P baz=14	14.16	341	⇑P	**Pn**	**16 23 40.1**	**+2.4**
130A	Snyder baz=14,SNR=23	14.16	8	⇓P	**P**	**16 23 42.1**	**-1.8**
TEIG	Tepich	14.21	81	Pn	**Pn**	**16 23 40.5**	**+2.2**
TEIG	Tepich 1.4nm,0.3s,baz=273,slow=12,SNR=2.2	14.21	81	Pn	**Pn**	**16 23 40.5**	**+2.2**
TEIG	comp=Z,388nm,21.4s,baz=260,slow=40			LR	LR	16 29 42.8	
124A	Stringfield Ra baz=14,SNR=5.8	14.27	352	⇑P	**P**	**16 23 42.7**	**-2.5**
123A	Bell Site, Whi baz=14	14.32	350	⇓P	**P**	**16 23 43.2**	**-2.5**
131A	Roby baz=14,SNR=7.4	14.32	10	⇓P	**P**	**16 23 44.0**	**-1.8**
WHTX	Lake Whitney baz=14	14.39	20	⇓P	**Pn**	**16 23 43.5**	**+2.8**
ABTX	Abilene, Hawle baz=14,SNR=5.1	14.41	12	⇑P	**P**	**16 23 44.4**	**-2.2**
122A	Conniff Cattle baz=15	14.53	347	⇓P	**P**	**16 23 45.6**	**-2.4**
121A	Cookes Peak, D baz=15	14.55	344	⇓P	**Pn**	**16 23 45.4**	**+2.5**
Z26A	Caprock baz=15	14.71	357	⇑P	**P**	**16 23 48.0**	**-2.0**
Z28A	Tucker Farm, M baz=15	14.73	3	⇓P	**Pn**	**16 23 48.0**	**+2.8**
Z29A	Hungry Hill Ra baz=15,SNR=10	14.74	5	⇑P	**Pn**	**16 23 48.3**	**+2.9**
Z25A	Roswell baz=15	14.76	355	⇓P	**Pn**	**16 23 48.2**	**+2.5**
120A	U Bar Ranch, L baz=15	14.79	342	⇓P	**Pn**	**16 23 48.5**	**+2.4**
Z30A	Sanderson Ranc baz=15,SNR=31	14.83	7	⇑P	**P**	**16 23 49.4**	**-1.9**
Z24A	Sheeppen Canyo baz=15	14.88	353	⇑P	**Pn**	**16 23 49.7**	**+2.5**
Z23A	Rita Site, Whi baz=15	14.93	350	⇓P	**Pn**	**16 23 50.3**	**+2.4**
Z31A	Sharp Cattle R baz=15,SNR=21	14.99	10	⇓P	**P**	**16 23 51.8**	**-1.4**
Z22A	Elephant Butte baz=15,SNR=7.1	15.05	348	⇓P	**P**	**16 23 52.7**	**-1.3**
Z32A	Haskell baz=15,SNR=16	15.11	12	⇓P	**P**	**16 23 53.4**	**-1.0**
Z21A	St. Cloud Mine baz=15	15.26	346	⇓P	**P**	**16 23 54.7**	**-1.6**
Y27A	Causey baz=15,SNR=7.3	15.30	0	⇑P	**P**	**16 23 55.9**	**-0.8**
Z20A	Nine Sixteen R baz=15	15.31	343	⇓P	**Pn**	**16 23 55.0**	**+2.1**
Y26A	Elida baz=15	15.35	358	⇑P	**P**	**16 23 56.5**	**-0.7**
Y28A	McKinney Farm, baz=15	15.35	3	⇑P	**P**	**16 23 56.3**	**-0.9**
MSTX	Muleshoe baz=15,SNR=7.1	15.39	1	⇑P	**P**	**16 23 57.4**	**-0.2**
Y25A	Mesa, Roswell baz=15	15.40	355	⇑P	**Pn**	**16 23 55.9**	**+1.9**
Y30A	Stafford Cattl baz=16,SNR=6.5	15.44	7	⇑P	**P**	**16 23 57.2**	**-0.9**
Y24A	Capitan baz=16	15.47	353	⇓P	**P**	**16 23 57.4**	**-1.3**
Y23A	Lovelace Mesa, baz=16	15.56	351	⇑P	**P**	**16 23 58.4**	**-1.2**
Y31A	Rekieta Farm, baz=16,SNR=11	15.61	9	⇓P	**P**	**16 23 59.4**	**-0.5**
Y22A	Socorro baz=16	15.72	348	⇑P	**P**	**16 24 00.3**	**-1.1**
Y32A	R-V Farms, Ver baz=16	15.79	12	⇑P	**P**	**16 24 01.2**	**-0.8**
X29A	Tulia baz=16	15.92	5	⇓P	**P**	**16 24 02.5**	**-1.0**
Y21A	Point of Rocks baz=16,SNR=8.7	15.93	346	⇑P	**P**	**16 24 03.0**	**-0.8**
214A	Organ Pipe Nat baz=16	15.93	329	⇑P	**Pn**	**16 24 01.4**	**+0.7**
TGUH	Tegucigalpa,Un 139nm,1.3s	15.94	104	P	**Pn**	**16 23 59.8**	**-1.0**
LENM	Lemitar 18nm,1.1s	15.94	349	*e*P	**P**	**16 24 02.8**	**-1.0**
X26A	CR and CF Fran baz=16	15.98	358	⇓P	**Pn**	**16 24 02.6**	**+1.2**
X25A	Clemmons Ranch baz=16	16.00	356	⇑P	**Pn**	**16 24 02.8**	**+1.2**
X30A	Coker Ranch, T baz=16	16.00	7	⇑P	**Pn**	**16 24 02.4**	**+0.8**
Y20A	Horse Springs, baz=16	16.01	344	⇓P	**Pn**	**16 24 03.3**	**+1.4**
X31A	McDonald Ranch baz=16	16.31	10	⇓P	**Pn**	**16 24 06.1**	**+0.7**
AMTX	Amarillo 30nm,1.0s	16.36	4	*e*P	**Pn**	**16 24 07.1**	**+1.0**
X21A	Alamocita Cree baz=16	16.38	347	⇓P	**Pn**	**16 24 07.3**	**+0.7**
W27A	Bowe Ranch, En baz=16	16.48	0	⇑P	**Pn**	**16 24 08.8**	**+1.1**
ANMO	Albuquerque	16.61	351	Pn	P	16 24 18.6	+7.3
ANMO				Lg	Lg	16 28 53.1	
ANMO	Albuquerque 0.1nm,0.3s,baz=158,slow=14,SNR=3.8	16.61	351	Pn	P	16 24 18.6	+7.3
ANMO	0.2nm,0.3s,baz=95,slow=4.8,SNR=2.4			Lg	Lg	16 28 53.1	
ANMO	comp=Z,694nm,18.5s,baz=170,slow=39			LR	LR	16 31 04.9	
X20A	Quemado baz=17	16.64	345	⇑P	**Pn**	**16 24 10.9**	**+1.1**
W25A	X Bar L Ranch, baz=17	16.67	356	⇓P	**P**	**16 24 11.9**	**+0.1**
W28A	Vega baz=17	16.70	3	⇓P	**Pn**	**16 24 11.6**	**+1.2**
W23A	Werner Place, baz=17	16.78	352	⇓P	**P**	**16 24 13.4**	**+0.3**
W31A	Holland Ranch, baz=17,SNR=7.3	16.86	9	⇓P	**P**	**16 24 13.7**	**-0.1**
V26A	Tequesquite Ra baz=17	17.22	358	⇓P	**P**	**16 24 18.5**	**+0.6**
V24A	Rampart Ranch, baz=17	17.24	354	⇓P	**P**	**16 24 19.1**	**+0.9**
V25A	Rancho No Teng baz=17	17.30	356	⇑P	**P**	**16 24 19.1**	**+0.3**
V23A	Ortiz Mt. (NFS baz=17	17.36	352	⇑P	**P**	**16 24 19.8**	**+0.2**
V31A	Spring Creek L baz=18	17.45	9	⇓P	**P**	**16 24 20.5**	**+0.2**
V22A	San Miguel Ran baz=18	17.63	350	⇑P	**P**	**16 24 23.5**	**+0.9**
U26A	Atchley Ranch, baz=18	17.81	359	⇑P	**P**	**16 24 25.3**	**+0.8**
U28A	Mallet baz=18	17.82	3	⇑P	**Pn**	**16 24 24.6**	**+0.3**
U27A	Thompson Grove baz=18	17.84	1	⇑P	**Pn**	**16 24 24.8**	**+0.3**
U25A	Circle Dot Ran baz=18,SNR=9.0	17.84	357	⇓P	**P**	**16 24 26.4**	**+1.5**
U23A	El Rito baz=18	17.93	352	⇑P	**P**	**16 24 27.1**	**+1.2**
U22A	Llaves baz=18	18.08	351	⇑P	**Pn**	**16 24 28.7**	**+1.2**
U30A	WK&E Inc. Balk baz=18	18.09	7	⇓P	**Pn**	**16 24 28.1**	**+0.6**
U21A	Nageezi baz=18,SNR=7.2	18.27	349	⇑P	**Pn**	**16 24 31.6**	**+1.8**
WUAZ	Wupatki baz=18,SNR=5.5	18.41	339	⇓P	**Pn**	**16 24 32.7**	**+1.1**
T27A	Campo baz=18	18.48	1	⇑P	**Pn**	**16 24 32.6**	**+0.3**
TUL1	Tulsa baz=19	18.53	19	⇓P	**P**	**16 24 32.0**	**-0.2**
T28A	Walsh baz=19	18.56	3	⇓P	**Pn**	**16 24 33.6**	**+0.3**
T25A	Trinidad baz=19	18.58	357	⇑P	**Pn**	**16 24 34.1**	**+0.4**
MONP	Monument Peak baz=19	18.58	323	⇓P	**P**	**16 24 32.2**	**-0.8**
T26A	Comanche Natio baz=19,SNR=6.1	18.59	359	⇓P	**Pn**	**16 24 34.1**	**+0.3**
T23A	Casias Ranch, baz=19	18.61	353	⇑P	**Pn**	**16 24 34.0**	**-0.1**
T30A	Plains baz=19	18.62	7	⇑P	**Pn**	**16 24 34.0**	**+0.1**
T22A	Edith baz=19	18.71	351	⇓P	**Pn**	**16 24 35.4**	**+0.1**
T31A	Randall Ranch, baz=19	18.77	9	⇓P	**Pn**	**16 24 36.0**	**+0.2**
IRM	Iron Mountain baz=19	18.87	328	⇓P	**P**	**16 24 35.9**	**-0.1**
S26A	Kim baz=19,SNR=9.8	19.03	359	⇑P	**Pn**	**16 24 38.8**	**-0.3**
S28A	Manter baz=19	19.04	3	⇑P	**Pn**	**16 24 38.8**	**-0.2**
S27A	Las Animas baz=19	19.10	1	⇓P	**Pn**	**16 24 40.0**	**+0.2**
S25A	Robles Cordova baz=19,SNR=5.9	19.10	357	⇑P	**Pn**	**16 24 40.0**	**+0.1**
S24A	Houchin Ranch, baz=19,SNR=8.3	19.13	355	⇓P	**Pn**	**16 24 40.9**	**+0.6**
PFO	Pinyon Flat Ob	19.13	324	P	**Pn**	**16 24 41.9**	**+1.7**
PFO	Pinyon Flat Ob 0.1nm,0.3s,baz=121,slow=19,SNR=4.5	19.13	324	P	**Pn**	**16 24 41.9**	**+1.7**
BELC	Belle Mtn. Jos baz=19	19.18	326	⇓P	**P**	**16 24 38.5**	**-1.0**
MVCO	Mesa Verde baz=19	19.19	347	⇓P	**Pn**	**16 24 40.7**	**-0.3**
S30A	Montezuma baz=19	19.20	7	⇑P	**P**	**16 24 40.1**	**+0.5**
S31A	Mullinville baz=19	19.31	9	⇑P	**P**	**16 24 41.7**	**+0.9**
S22A	4UR Ranch, Cre baz=20	19.42	351	⇓P	**Pn**	**16 24 43.2**	**-0.5**
S21A	Coal Bank Pass baz=20,SNR=5.3	19.49	349	⇓P	**Pn**	**16 24 44.7**	**+0.1**
R25A	Fountain Ranch baz=20	19.58	357	⇑P	**Pn**	**16 24 45.1**	**-0.4**
GMRC	Granite Mounta baz=20	19.61	328	⇓P	**P**	**16 24 44.2**	**0.0**
R27A	Eads baz=20	19.70	1	⇑P	**P**	**16 24 45.9**	**+0.8**
R24A	Sanders Place, baz=20	19.71	356	⇓P	**P**	**16 24 46.5**	**+1.1**
R23A	Moffat baz=20	19.73	354	⇓P	**Pn**	**16 24 46.8**	**-0.7**
S20A	Disappointment baz=20	19.76	348	⇓P	**P**	**16 24 46.9**	**+1.0**
R28A	Tribune baz=20	19.79	3	⇓P	**P**	**16 24 47.1**	**+1.0**
R30A	Dighton baz=20	19.86	7	⇑P	**P**	**16 24 46.5**	**-0.3**
R31A	Burdett baz=20	19.96	9	⇑P	**P**	**16 24 47.4**	**-0.5**
HEC	Hector,Ludlow baz=20	20.00	327	⇑P	**P**	**16 24 46.7**	**-1.7**
OXF	Oxford 16nm,0.6s	20.12	35	P	**P**	**16 24 48.0**	**-1.7**
R21A	Cimarron baz=20	20.14	350	⇓P	**P**	**16 24 50.4**	**+0.4**
Q26A	Hugo baz=20	20.33	359	⇓P	**P**	**16 24 52.7**	**+0.7**
Q25A	Bedland, Calha baz=20	20.34	358	⇓P	**P**	**16 24 52.7**	**+0.5**
Q29A	Oakley baz=20	20.39	5	⇓P	**P**	**16 24 53.0**	**+0.4**
Q24A	Divide baz=20	20.44	356	⇓P	**P**	**16 24 54.0**	**+0.6**
Q28A	Sharon Springs baz=21	20.51	3	⇓P	**P**	**16 24 53.8**	**-0.1**
LRAL	Lakeview Retre 45nm,1.2s	20.51	42	*e*P	**P**	**16 24 52.4**	**-1.4**
Q22A	Crested Butte, baz=21	20.52	352	⇑P	**P**	**16 24 53.9**	**-0.4**
Q30A	Quinter baz=21	20.55	7	⇓P	**P**	**16 24 54.2**	**-0.1**
GSC	Goldstone baz=21	20.61	327	⇓P	**P**	**16 24 54.3**	**-0.6**
Q31A	Ellis baz=21	20.68	8	⇓P	**P**	**16 24 56.3**	**+0.6**
P23A	Jefferson baz=21	20.91	354	⇑P	**P**	**16 24 59.2**	**+0.7**
EDW2	Edwards Air Fo baz=21	20.93	324	⇓P	**P**	**16 24 56.8**	**-1.6**
BLG	Laguna Peak baz=21	21.00	321	⇑P	**P**	**16 24 57.4**	**-1.7**
P31A	Stockton baz=21	21.19	8	⇑P	**P**	**16 25 01.8**	**+0.7**
KSU1	Kansas State U 13nm,0.7s	21.30	14	*e*P	**P**	**16 25 01.3**	**-0.9**
ISCO	Idaho Springs baz=21	21.31	355	⇓P	**P**	**16 25 02.9**	**+0.2**
MPMC	Manual Prospec baz=22	21.55	327	⇓P	**P**	**16 25 04.3**	**-0.8**
O22A	Kremmling baz=22	21.76	353	⇓P	**P**	**16 25 07.3**	**-0.2**
WVT	Waverly 13nm,0.9s	22.19	35	*e*P	**P**	**16 25 08.4**	**-3.4**
N23A	Red Feather La baz=22	22.42	355	⇑P	**P**	**16 25 14.9**	**+0.3**
R11A	Troy Canyon, C baz=23	22.51	334	⇓P	**P**	**16 25 14.7**	**-0.8**
M23A	Laramie baz=23	22.97	355	⇓P	**P**	**16 25 19.6**	**-0.7**
DUG	Dugway baz=23	23.13	341	⇓P	**P**	**16 25 20.9**	**-0.9**
L22A	Ellis Ranch, M baz=24	23.60	354	⇑P	**P**	**16 25 25.1**	**-1.2**
NV11	Mina Array Sit	23.73	330	*e*P	**P**	**16 25 28.8**	**+1.3**
NVAR	Mina Array Bea	23.80	330	P	**P**	**16 25 29.5**	**+1.2**
NVAR	Mina Array Bea 0.8nm,0.5s,baz=146,slow=12,SNR=10	23.80	330	P	**P**	**16 25 29.5**	**+1.2**
TKL	Tuckaleechee C	24.24	41	P	**P**	**16 25 30.7**	**-1.4**
TKL	Tuckaleechee C 15nm,0.6s,baz=211,slow=9.8,SNR=26	24.24	41	P	**P**	**16 25 30.7**	**-1.4**
K21A	Alcova baz=24	24.28	353	⇑P	**P**	**16 25 31.5**	**-1.2**
BW06	Boulder Array 3.1nm,0.9s	24.76	349	P	**P**	**16 25 37.2**	**+0.1**
PDAR	Pinedale Array	24.76	349	P	**P**	**16 25 37.2**	**+0.1**
PDAR				PcP	**PcP**	**16 29 13.3**	**+0.5**
PDAR	Pinedale Array 1.1nm,0.8s,baz=156,slow=8.9,SNR=9.8	24.76	349	P	**P**	**16 25 37.2**	**+0.1**
PDAR	0.3nm,0.6s,baz=158,slow=5.7,SNR=2.5			PcP	**PcP**	**16 29 13.3**	**+0.5**
J22A	Midwest baz=25	24.97	354	⇓P	**P**	**16 25 38.3**	**-0.5**
I22A	9 Mile Ranch, baz=26	25.45	355	⇓P	**P**	**16 25 42.5**	**-0.6**
I21A	Big Trails, Te baz=26	25.45	353	⇓P	**P**	**16 25 42.6**	**-0.5**
I28A	Midland baz=26	25.46	3	⇓P	**P**	**16 25 43.0**	**-0.1**
I20A	Worland baz=26	25.69	352	⇓P	**P**	**16 25 44.4**	**-0.9**
SFIN	Scholer Farm baz=26	25.83	29	⇑P	**P**	**16 25 44.6**	**-1.9**
G22A	Birney baz=27	26.75	355	⇓P	**P**	**16 25 54.4**	**-0.4**
D22A	Cohagen baz=29	28.66	356	⇓P	**P**	**16 26 10.5**	**-1.3**
D17A	Six Diamond Ra baz=29	29.21	350	⇑P	**P**	**16 26 15.0**	**-1.8**
D15A	Lincoln baz=30	29.46	347	⇓P	**P**	**16 26 18.0**	**-1.0**
E12A	Beaver Dam Sad baz=30	29.63	343	⇓P	**P**	**16 26 19.1**	**-1.5**
D14A	Greenough baz=30	29.71	346	⇓P	**P**	**16 26 20.2**	**-1.1**
EGMT	Eagleton baz=30	29.91	351	⇑P	**P**	**16 26 22.0**	**-1.0**
A16A	West Butte Ran baz=31	31.10	349	⇑P	**P**	**16 26 31.4**	**-2.1**
B13A	Whitefish baz=31	31.15	345	⇓P	**P**	**16 26 32.1**	**-1.8**
A15A	Johnson Ranch, baz=31	31.34	348	⇓P	**P**	**16 26 34.1**	**-1.5**
A14A	Double T Ranch baz=32	31.48	347	⇓P	**P**	**16 26 35.0**	**-1.8**
ULM	Lac du Bonnet	32.20	9	LR	LR	16 40 54.2	
SCHQ	comp=Z,217nm,21.8s,baz=197,slow=39 Schefferville	45.62	29	P	**P**	**16 28 32.8**	**-2.3**
SCHQ	Schefferville 3.7nm,0.8s,baz=231,slow=11,SNR=3.0	45.62	29	P	**P**	**16 28 32.8**	**-2.3**
SAML	Samuel 12nm,1.3s	48.01	121	*e*P	**P**	**16 28 53.1**	**-1.2**
LPAZ	La Paz	48.88	133	P	**P**	**16 29 02.4**	**+0.8**
LPAZ	La Paz 1.7nm,0.9s,baz=338,slow=7.5,SNR=4.7	48.88	133	P	**P**	**16 29 02.4**	**+0.8**
EGAK	Eagle 1.4nm,0.4s	52.71	341	*e*P	**P**	**16 29 29.5**	**+0.4**
LVC	Limon Verde	52.88	139	P	**P**	**16 29 33.0**	**+1.8**
LVC	Limon Verde 5.0nm,0.9s,baz=299,slow=8.3,SNR=3.3	52.88	139	P	**P**	**16 29 33.0**	**+1.8**
PAX	Paxson 3.3nm,0.8s	53.01	337	*e*P	**P**	**16 29 31.9**	**+0.4**
KDAK	Kodiak Island	53.30	330	P	**P**	**16 29 34.6**	**+1.1**
KDAK	Kodiak Island 4.8nm,0.6s,baz=154,slow=7.9,SNR=11	53.30	330	P	**P**	**16 29 34.6**	**+1.1**
ILAR	Eielson Array	54.59	339	P	**P**	**16 29 43.4**	**+0.5**
ILAR				PcP	**PcP**	**16 30 45.8**	**+0.3**
ILAR	Eielson Array 1.6nm,0.9s,baz=146,slow=5.7,SNR=14	54.59	339	P	**P**	**16 29 43.4**	**+0.5**
ILAR	0.8nm,0.6s,baz=153,slow=2.5,SNR=6.0			PcP	**PcP**	**16 30 45.7**	**+0.3**
TRF	Thorofare Moun 12nm,0.7s	55.08	336	*e*P	**P**	**16 29 46.5**	**-0.2**
PPT	Papeete comp=Z,302nm,18.6s,baz=308,slow=30	57.99	234	LR	LR	16 49 45.6	
RAR	Rarotonga comp=Z,351nm,19.1s,baz=287,slow=31	68.01	237	LR	LR	16 55 44.1	
SPITS	Spitsbergen Ar	77.74	11	P	**P**	**16 32 11.4**	**+0.4**
SPITS	Spitsbergen Ar 1.2nm,0.4s,baz=131,slow=5.4,SNR=7.2	77.74	11	P	**P**	**16 32 11.4**	**+0.4**
PETK	Petropavlovsk-	80.70	323	P	**P**	**16 32 28.8**	**+1.2**
PETK				pP	**pP**	**16 32 40.7**	**-1.3**
PETK	Petropavlovsk- 2.3nm,0.8s,baz=97,slow=6.7,SNR=5.0	80.70	323	P	**P**	**16 32 28.8**	**+1.2**
PETK	2.5nm,0.8s,baz=93,slow=8.9,SNR=4.7			pP	**pP**	**16 32 40.7**	**-1.3**
EVOP	Sao Brissos 11nm,0.8s	82.55	52	*e*P	**P**	**16 32 37.7**	**+0.1**
EVO	Evora 11nm,0.8s	82.63	52	*e*P	**P**	**16 32 37.7**	**-0.4**
GRR	Gorron 15nm,0.7s	84.27	41	*e*P	**P**	**16 32 46.3**	**0.0**
GRR	Gorron 15nm,0.7s	84.27	41	*e*P	**P**	**16 32 46.3**	**0.0**
FLN	La Foliniere 49nm,1.1s	84.36	40	*e*P	**P**	**16 32 46.9**	**+0.2**
FLN	La Foliniere 49nm,1.1s	84.36	40	*e*P	**P**	**16 32 46.9**	**+0.2**
LDF	La Druitiere	84.64	41	*e*P	**P**	**16 32 48.1**	**-0.1**
LDF	La Druitiere	84.64	41	*e*P	**P**	**16 32 48.1**	**-0.1**
ARCES	ARCESS Array B	85.02	16	P	**P**	**16 32 49.0**	**-0.7**
ARCES	ARCESS Array B 5.5nm,0.9s,baz=339,slow=4.8,SNR=7.2	85.02	16	P	**P**	**16 32 49.0**	**-0.7**
NB2	NORSAR Subarra comp=Z,0.7nm,0.6s,baz=302,slow=4.8	85.14	26	P	**P**	**16 32 50.6**	**+0.1**
NOA	NORSAR Array B	85.14	26	P	**P**	**16 32 50.2**	**-0.3**
NOA	NORSAR Array B comp=Z,1.0nm,0.7s,baz=301,slow=4.8,SNR=5.7	85.14	26	P	**P**	**16 32 50.2**	**-0.3**
ESDC	Sonseca Array	85.24	50	P	**P**	**16 32 51.5**	**0.0**
ESDC	Sonseca Array comp=Z,0.5nm,0.4s,baz=306,slow=3.9,SNR=4.9	85.24	50	P	**P**	**16 32 51.5**	**0.0**
ETSF	Etsaut comp=Z,10nm,0.6s	86.49	46	*e*P	**P**	**16 32 57.8**	**+0.2**
ETSF	Etsaut comp=Z,10nm,0.6s	86.49	46	*e*P	**P**	**16 32 57.8**	**+0.2**
LFF	La Frestale comp=Z,7.2nm,0.5s	86.58	44	*e*P	**P**	**16 32 58.0**	**+0.1**
LFF	La Frestale comp=Z,7.2nm,0.5s	86.58	44	*e*P	**P**	**16 32 58.0**	**+0.1**
BAIF	Baives	86.66	38	*e*P	**P**	**16 32 58.4**	**+0.2**
BAIF	Baives	86.66	38	*e*P	**P**	**16 32 58.4**	**+0.2**
RJF	Les Rejaudoux comp=Z,12nm,0.7s	86.94	43	*e*P	**P**	**16 32 59.4**	**-0.3**
RJF	Les Rejaudoux comp=Z,12nm,0.7s	86.94	43	*e*P	**P**	**16 32 59.4**	**-0.3**
TCF	Toulx Ste Croi comp=Z,3.7nm,0.4s	87.00	42	*e*P	**P**	**16 33 00.5**	**+0.6**
TCF	Toulx Ste Croi comp=Z,3.7nm,0.4s	87.00	42	*e*P	**P**	**16 33 00.5**	**+0.6**
EPF	Esparros comp=Z,6.8nm,0.6s	87.05	46	*e*P	**P**	**16 33 00.7**	**+0.4**
EPF	Esparros comp=Z,6.8nm,0.6s	87.05	46	*e*P	**P**	**16 33 00.7**	**+0.4**
SSF	Saint Saulge comp=Z,2.3nm,0.5s	87.50	41	*e*P	**P**	**16 33 02.5**	**+0.2**
SSF	Saint Saulge comp=Z,2.3nm,0.5s	87.50	41	*e*P	**P**	**16 33 02.5**	**+0.2**
AVF	Avril sur Loir	87.51	41	*e*P	**P**	**16 33 02.5**	**+0.1**

	comp=Z,2.0nm,0.4s							
AVF	**Avril sur Loir**	**87.51**	**41**	*e*P	**P**	**16 33 02.5**	**+0.1**	
	comp=Z,2.0nm,0.4s							
LOR	**Lormes**	**87.63**	**41**	*e*P	**P**	**16 33 03.0**	**+0.1**	
	comp=Z,8.2nm,0.8s							
LOR	**Lormes**	**87.63**	**41**	*e*P	**P**	**16 33 03.0**	**+0.1**	
	comp=Z,8.2nm,0.8s							
PAGF	**Fort de Pagny**	**88.21**	**39**	*e*P	**P**	**16 33 05.6**	**-0.1**	
PAGF	**Fort de Pagny**	**88.21**	**39**	*e*P	**P**	**16 33 05.6**	**-0.1**	
LASF	**Ste Croix**	**88.97**	**44**	*e*P	**P**	**16 33 09.2**	**-0.2**	
LASF	**Ste Croix**	**88.97**	**44**	*e*P	**P**	**16 33 09.2**	**-0.2**	
CDF	**Champ du Feu**	**89.19**	**39**	*e*P	**P**	**16 33 11.5**	**+1.1**	
CDF	**Champ du Feu**	**89.19**	**39**	*e*P	**P**	**16 33 11.5**	**+1.1**	
HINF	**Hinteralfeld**	**89.21**	**39**	*e*P	**P**	**16 33 11.7**	**+1.2**	
HINF	**Hinteralfeld**	**89.21**	**39**	*e*P	**P**	**16 33 11.7**	**+1.2**	
CABF	**La Chapelle**	**89.29**	**41**	*e*P	**P**	**16 33 10.9**	**0.0**	
CABF	**La Chapelle**	**89.29**	**41**	*e*P	**P**	**16 33 10.9**	**0.0**	
LIC	**Lamto**	**95.76**	**82**	*e*P	**P**	**16 33 43.6**	**+2.3**	
LIC	**Lamto**	**95.76**	**82**	*e*P	**P**	**16 33 43.6**	**+2.3**	
WRA	**Warramunga Arr**	**125.87**	**258**	PKP	**PKPdf**	**16 39 17.4**	**+0.4**	
WRA				pPKP	**pPKPdf**	**16 39 30.1**	**-1.9**	
WRA	**Warramunga Arr**	**125.87**	**258**	PKP	**PKPdf**	**16 39 17.4**	**+0.4**	
	comp=Z,0.7nm,0.7s,baz=80,slow=2.4,SNR=13							
WRA				pPKP	**pPKPdf**	**16 39 30.1**	**-1.9**	
	comp=Z,0.6nm,0.6s,baz=79,slow=2.9,SNR=3.2							
ASAR	**Alice Springs**	**126.75**	**254**	PKP	**PKPdf**	**16 39 19.1**	**+0.5**	
ASAR				pPKP	**pPKPdf**	**16 39 31.1**	**-2.5**	
ASAR	**Alice Springs**	**126.75**	**254**	PKP	**PKPdf**	**16 39 19.1**	**+0.5**	
	comp=Z,0.6nm,1.0s,baz=77,slow=2.2,SNR=10							
ASAR				pPKP	**pPKPdf**	**16 39 31.1**	**-2.5**	
	comp=Z,0.5nm,0.8s,baz=86,slow=2.5,SNR=3.2							
CMAR	**Chiang Mai Arr**	**137.29**	**328**	PKP	**PKPdf**	**16 39 39.6**	**+1.0**	
CMAR	**Chiang Mai Arr**	**137.29**	**328**	PKP	**PKPdf**	**16 39 39.6**	**+1.0**	
	comp=Z,0.4nm,0.6s,baz=8.5,slow=1.8,SNR=3.1							

WEL 15 16:21:13.0±0.7, 46.09S×165.68E, h12km, ML3.9/10, Error ellipse: s-maj=6.5km s-min=3.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.70**	**97**	P*	Pg	16 21 26.4	-0.2
PYZ				S*	Sg	16 21 35.7	-0.1
DCZ	**Deep Cove**	**1.20**	**60**	P*	Pn	16 21 34.9	-0.6
DCZ				S*	Sb	16 21 50.0	-1.0
DCZ				S*	Sg	16 21 50.0	-1.6
WHZ	**Wether Hill Ro**	**1.59**	**84**	*e*PN	Pn	16 21 40.6	-0.4
WHZ				AML	AML	16 22 01.9	
WHZ				AML	AML	16 22 03.8	
APZ	**The Paps**	**1.76**	**116**	PN	Pn	16 21 42.0	-1.4
MLZ	**Mavora Lakes**	**1.90**	**68**	PN	Pb	16 21 47.2	-0.4
MLZ				AML	AML	16 22 11.1	
MLZ				AML	AML	16 22 13.8	
MSZ	**Milford Sound**	**2.12**	**49**	AML	AML	16 22 23.9	
MSZ				AML	AML	16 22 25.7	
SYZ	**Scrubby Hill**	**2.44**	**102**	*e*PN	Pn	16 21 54.0	+1.5
WKZ	**Wanaka**	**2.67**	**63**	AML	AML	16 22 33.2	
WKZ				AML	AML	16 22 33.4	
EAZ	**Earnscleugh**	**2.68**	**73**	AML	AML	16 22 32.3	
EAZ				AML	AML	16 22 36.4	
TUZ	**Tuapeka**	**2.76**	**89**	AML	AML	16 22 32.7	
TUZ				AML	AML	16 22 33.3	
JCZ	**Jackson Bay**	**2.97**	**48**	AML	AML	16 22 42.9	
JCZ				AML	AML	16 22 45.4	
LBZ	**Lake Benmore**	**3.61**	**63**	SN	Sn	16 22 50.1	-1.2
LBZ				AML	AML	16 22 52.7	
ODZ	**Otahua Downs**	**3.64**	**75**	SN	Sn	16 22 49.0	-2.9
RPZ	**Rata Peaks**	**4.50**	**60**	SN	Sn	16 23 12.5	-0.6
RPZ				AML	AML	16 23 13.8	
OXZ	**Oxford**	**5.31**	**61**	SN	Sn	16 23 29.3	-3.8

WEL 15 16:22:59.9±0.9, 46.01S×166.02E, h12km, ML3.8/6, Error ellipse: s-maj=7.2km s-min=4.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.49**	**109**	P*	Pg	16 23 09.4	-0.1
PYZ				S*	Sg	16 23 16.2	+0.2
PYZ				S*	Sb	16 23 16.4	-1.2
DCZ	**Deep Cove**	**0.96**	**57**	P*	Pg	16 23 17.1	-1.2
DCZ				S*	Sb	16 23 31.0	0.0
WHZ	**Wether Hill Ro**	**1.35**	**86**	PN	Pn	16 23 23.4	-1.1
WHZ				SN	Sb	16 23 41.4	-1.0
WHZ				AML	AML	16 23 44.0	
APZ	**The Paps**	**1.60**	**122**	*e*PN	Pn	16 23 24.3	-3.7
APZ				SN	Sn	16 23 44.1	-4.4
MLZ	**Mavora Lakes**	**1.65**	**67**	PN	Pb	16 23 28.7	0.0
MSZ	**Milford Sound**	**1.90**	**46**	*e*PN	Pn	16 23 32.3	+0.3
MSZ				AML	AML	16 24 07.2	
MSZ				AML	AML	16 24 08.8	
SYZ	**Scrubby Hill**	**2.23**	**105**	*e*PN	Pn	16 23 35.7	-0.9
EAZ	**Earnscleugh**	**2.44**	**73**	*e*PN	Pn	16 23 40.1	+0.6
TUZ	**Tuapeka**	**2.52**	**90**	*e*PN	Pn	16 23 38.4	-2.2
TUZ				AML	AML	16 24 12.8	
TUZ				AML	AML	16 24 15.1	
ODZ	**Otahua Downs**	**3.39**	**75**	*e*PN	Pn	16 23 51.2	-1.4

WEL 15 16:23:56.1±1.2, 46.19S×166.00E, h12km, ML3.8/5, Error ellipse: s-maj=9.5km s-min=4.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.47**	**88**	P*	Pg	16 24 05.0	-0.5
PYZ				S*	Sg	16 24 12.3	+0.5
PYZ				S*	Sb	16 24 12.9	-0.5
DCZ	**Deep Cove**	**1.07**	**49**	P*	Pb	16 24 14.9	-1.7
DCZ				S*	Sb	16 24 29.4	-1.2
DCZ				AML	AML	16 24 31.2	
WHZ	**Wether Hill Ro**	**1.39**	**79**	PN	Pn	16 24 21.5	+0.2
WHZ				SN	Sb	16 24 39.7	0.0
WHZ				AML	AML	16 24 43.2	
APZ	**The Paps**	**1.52**	**116**	SN	Sn	16 24 40.8	-2.2
APZ				SN	Sb	16 24 41.9	-1.7
MLZ	**Mavora Lakes**	**1.74**	**62**	*e*PN	Pn	16 24 25.1	-1.1
MLZ				SN	Sb	16 24 49.8	-0.1
MLZ				AML	AML	16 24 57.1	
MSZ	**Milford Sound**	**2.03**	**43**	AML	AML	16 25 00.4	
MSZ				AML	AML	16 25 07.4	
SYZ	**Scrubby Hill**	**2.20**	**100**	SN	Sb	16 25 01.8	-1.3
EAZ	**Earnscleugh**	**2.51**	**69**	SN	Sb	16 25 10.3	-1.6
TUZ	**Tuapeka**	**2.54**	**86**	SN	Sn	16 25 08.2	+0.3
TUZ				AML	AML	16 25 11.3	

WEL 15 16:24:59.6±0.9, 46.09S×165.63E, h12km, ML3.5/3, Error ellipse: s-maj=6.9km s-min=4.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.74**	**97**	P*	Pg	16 25 13.3	-0.5
PYZ				S*	Sg	16 25 23.1	-0.4
PYZ				S*	Sb	16 25 23.5	-0.9
DCZ	**Deep Cove**	**1.23**	**61**	S*	Sb	16 25 37.9	-0.6
DCZ				AML	AML	16 25 38.7	
DCZ				AML	AML	16 25 40.9	
WHZ	**Wether Hill Ro**	**1.63**	**84**	SN	Sn	16 25 49.3	+0.3
WHZ				AML	AML	16 25 52.7	
WHZ				AML	AML	16 25 53.9	
APZ	**The Paps**	**1.79**	**115**	SN	Sn	16 25 51.5	-1.6
MLZ	**Mavora Lakes**	**1.93**	**68**	SN	Sb	16 25 59.4	+0.6
MLZ				AML	AML	16 26 02.4	
MLZ				AML	AML	16 26 04.6	

WEL 15 16:32:00.4±0.5, 46.02S×165.83E, h12km, ML3.8/8, Error ellipse: s-maj=4.5km s-min=2.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.61**	**104**	P*	Pg	16 32 12.6	+0.2
PYZ				S*	Sg	16 32 20.7	+0.2
PYZ				S*	Sb	16 32 20.8	-0.9
DCZ	**Deep Cove**	**1.08**	**60**	P*	Pb	16 32 20.3	-0.7
DCZ				S*	Sb	16 32 32.8	-2.2
DCZ				AML	AML	16 32 35.7	
DCZ				AML	AML	16 32 37.4	
DCZ				AML	AML	16 32 37.4	
WHZ	**Wether Hill Ro**	**1.49**	**86**	PN	Pn	16 32 26.5	-0.5
WHZ				SN	Sn	16 32 45.4	-0.9
WHZ				AML	AML	16 32 47.5	
APZ	**The Paps**	**1.70**	**119**	PN	Pn	16 32 28.8	-1.2
APZ				SN	Sn	16 32 49.6	-2.1
MLZ	**Mavora Lakes**	**1.78**	**69**	*e*PN	Pn	16 32 30.8	-0.2
MLZ				AML	AML	16 32 58.9	
MLZ				AML	AML	16 33 00.2	
MSZ	**Milford Sound**	**2.00**	**48**	*e*PN	Pn	16 32 35.3	+1.2
MSZ				AML	AML	16 33 08.8	
MSZ				AML	AML	16 33 11.9	
SYZ	**Scrubby Hill**	**2.36**	**104**	PN	Pn	16 32 39.2	+0.3
WKZ	**Wanaka**	**2.54**	**63**	*e*PN	Pn	16 32 43.5	+2.0
WKZ				AML	AML	16 33 16.0	
WKZ				AML	AML	16 33 27.6	
EAZ	**Earnscleugh**	**2.57**	**73**	*e*PN	Pn	16 32 42.7	+0.9
EAZ				AML	AML	16 33 15.8	
EAZ				AML	AML	16 33 20.0	
EAZ				AML	AML	16 33 20.1	
EAZ				AML	AML	16 33 21.1	
TUZ	**Tuapeka**	**2.66**	**90**	PN	Pn	16 32 43.4	+0.4
TUZ				SN	Sn	16 33 15.5	+0.4
TUZ				AML	AML	16 33 19.3	
JCZ	**Jackson Bay**	**2.85**	**48**	AML	AML	16 33 36.8	
JCZ				AML	AML	16 33 38.1	
LBZ	**Lake Benmore**	**3.49**	**64**	PN	Pn	16 32 54.6	+0.1
ODZ	**Otahua Downs**	**3.52**	**76**	PN	Pn	16 32 54.8	-0.2
FOZ	**Fox Glacier**	**3.69**	**50**	*e*PN	Pn	16 32 59.8	+2.6
RPZ	**Rata Peaks**	**4.37**	**60**	PN	Pn	16 33 06.2	-0.5
WVZ	**Waitaha Valley**	**4.58**	**52**	*e*PN	Pn	16 33 10.7	+1.2
OXZ	**Oxford**	**5.19**	**61**	*e*PN	Pn	16 33 16.3	-1.5

WEL 15 16:32:56.2±0.7, 46.02S×165.95E, h12km, ML4.4/15, Error ellipse: s-maj=6.8km s-min=3.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.53**	**107**	P*	Pg	16 33 06.7	+0.1
PYZ				S*	Sg	16 33 13.9	+0.2
PYZ				S*	Sb	16 33 14.1	-1.1
DCZ	**Deep Cove**	**1.00**	**58**	P*	Pb	16 33 14.1	-1.3
DCZ				S*	Sg	16 33 27.3	-1.2
DCZ				AML	AML	16 33 29.1	
DCZ				AML	AML	16 33 32.2	
DCZ				AML	AML	16 33 36.4	
WHZ	**Wether Hill Ro**	**1.40**	**86**	PN	Pn	16 33 20.7	-0.9
WHZ				SN	Sn	16 33 38.7	-1.3
WHZ				AML	AML	16 33 43.2	
APZ	**The Paps**	**1.63**	**121**	PN	Pn	16 33 23.2	-1.6
MLZ	**Mavora Lakes**	**1.70**	**68**	PN	Pn	16 33 25.4	-0.3
MLZ				AML	AML	16 33 52.7	
MLZ				AML	AML	16 33 55.6	
MSZ	**Milford Sound**	**1.94**	**47**	*e*PN	Pb	16 33 31.9	+0.5
MSZ				AML	AML	16 33 55.1	
MSZ				AML	AML	16 34 07.4	
MSZ				AML	AML	16 34 07.4	
MSZ				AML	AML	16 34 09.1	
SYZ	**Scrubby Hill**	**2.27**	**104**	*e*PN	Pn	16 33 33.7	+0.2
WKZ	**Wanaka**	**2.47**	**62**	*e*PN	Pb	16 33 39.8	-0.7
WKZ				AML	AML	16 34 17.3	
WKZ				AML	AML	16 34 17.3	
WKZ				AML	AML	16 34 22.0	
WKZ				AML	AML	16 34 23.3	
EAZ	**Earnscleugh**	**2.48**	**73**	*e*PN	Pn	16 33 37.6	+1.2
EAZ				AML	AML	16 34 11.6	
EAZ				AML	AML	16 34 11.6	
EAZ				AML	AML	16 34 17.1	
EAZ				AML	AML	16 34 17.1	
TUZ	**Tuapeka**	**2.57**	**90**	*e*PN	Pn	16 33 38.0	+0.5
TUZ				AML	AML	16 34 10.9	
TUZ				AML	AML	16 34 11.3	
JCZ	**Jackson Bay**	**2.78**	**47**	AML	AML	16 34 31.4	
JCZ				AML	AML	16 34 32.5	
LBZ	**Lake Benmore**	**3.41**	**63**	AML	AML	16 34 33.9	
LBZ				AML	AML	16 34 35.2	
ODZ	**Otahua Downs**	**3.44**	**75**	PN	Pn	16 33 48.4	-1.2
ODZ				AML	AML	16 34 46.8	
ODZ				AML	AML	16 34 46.9	
FOZ	**Fox Glacier**	**3.62**	**49**	*e*PN	Pn	16 33 53.1	+1.1
RPZ	**Rata Peaks**	**4.30**	**59**	*e*PN	Pn	16 34 00.3	-1.1
RPZ				AML	AML	16 34 56.6	
RPZ				AML	AML	16 35 26.7	
WVZ	**Waitaha Valley**	**4.51**	**51**	*e*PN	Pn	16 34 03.6	-0.6
WVZ				AML	AML	16 35 16.8	
WVZ				AML	AML	16 35 27.8	
OXZ	**Oxford**	**5.11**	**60**	*e*PN	Pn	16 34 10.5	-2.1
LTZ	**Lake Taylor**	**5.56**	**57**	*e*PN	Pn	16 34 16.6	-2.3
LTZ				AML	AML	16 35 33.9	
LTZ				AML	AML	16 35 39.7	
DSZ	**Denniston Nort**	**6.01**	**47**	*e*PN	Pn	16 34 23.8	-1.1
THZ	**Tophouse**	**6.58**	**52**	*e*PN	Pn	16 34 39.1	-2.7
THZ				AML	AML	16 36 06.5	
QRZ	**Quartz Range**	**7.06**	**45**	*e*PN	Pn	16 34 38.2	-1.1
QRZ				AML	AML	16 36 19.9	
QRZ				AML	AML	16 37 10.1	
NNZ	**Nelson**	**7.21**	**51**	*e*PN	Pn	16 34 41.7	+0.3

WEL 15 16:36:08.2±0.5, 45.96S×166.39E, h12km, ML3.3/7, 1C, Error ellipse: s-maj=5.0km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.29**	**135**	⇑P*	Pg	16 36 14.2	+0.1
PYZ				S*	Sg	16 36 18.7	+0.5
PYZ				S*	Sb	16 36 18.7	-1.5
DCZ	**Deep Cove**	**0.72**	**48**	P*	Pg	16 36 21.7	-0.4
DCZ				AML	AML	16 36 22.0	
DCZ				AML	AML	16 36 22.0	
DCZ				AML	AML	16 36 22.0	
DCZ				AML	AML	16 36 22.0	
WHZ	**Wether Hill Ro**	**1.09**	**87**	P*	Pb	16 36 28.3	-0.7
WHZ				S*	Sb	16 36 42.1	-1.1
WHZ				AML	AML	16 36 43.4	
MLZ	**Mavora Lakes**	**1.39**	**65**	PN	Pg	16 36 35.0	0.0
MLZ				AML	AML	16 36 54.9	
MLZ				AML	AML	16 36 54.9	
APZ	**The Paps**	**1.41**	**129**	*e*PN	Pn	16 36 31.0	-2.7
MSZ	**Milford Sound**	**1.69**	**41**	PN	Pb	16 36 38.5	-0.6
MSZ				AML	AML	16 37 07.2	
MSZ				AML	AML	16 37 10.7	
SYZ	**Scrubby Hill**	**2.00**	**108**	*e*PN	Pn	16 36 40.0	-1.7
WKZ	**Wanaka**	**2.17**	**60**	PN	Pn	16 36 44.8	+0.6
EAZ	**Earnscleugh**	**2.18**	**71**	*e*PN	Pn	16 36 45.5	+1.3
EAZ				AML	AML	16 37 16.5	
EAZ				AML	AML	16 37 17.1	
TUZ	**Tuapeka**	**2.26**	**91**	*e*PN	Pn	16 36 45.5	+0.2
TUZ				AML	AML	16 37 15.8	
JCZ	**Jackson Bay**	**2.53**	**43**	AML	AML	16 37 33.2	
JCZ				AML	AML	16 37 33.8	
ODZ	**Otahua Downs**	**3.13**	**75**	PN	Pn	16 36 56.9	-0.4

IDC 15 16:36:12.8±0.7, 33.14S×15.86W, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.1/19, mbtmp4.1/12, 1C, Error ellipse: s-maj=21.6km s-min=18.7km az=140.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**33.89**	**293**	P	P	16 42 57.7	0.0
	4.0nm,0.7s,baz=138,slow=6.2,SNR=5.4						
BOSA	**Boshof**	**35.41**	**94**	P	P	16 43 09.9	-0.9
	4.1nm,1.0s,baz=178,slow=6.8,SNR=4.9						
DBIC	**Dimbokro**	**40.95**	**17**	P	P	16 43 56.0	-1.3
	9.5nm,1.0s,baz=254,slow=4.9,SNR=3.1						
PLCA	**Paso Flores**	**43.76**	**244**	P	P	16 44 20.1	-0.1
	2.7nm,1.0s,baz=148,slow=5.5,SNR=3.5						
CFAA	**Coronel Fontan**	**43.88**	**257**	P	P	16 44 19.2	-2.0
	0.3nm,0.4s,baz=117,slow=9.0,SNR=4.4						
SIV	**San Ignacio**	**44.16**	**282**	P	P	16 44 24.4	+0.8
	2.2nm,0.8s,baz=141,slow=9.5,SNR=7.2						
SYO	**Syowa Base**	**47.23**	**156**	*e*P	P	16 44 46.4	-0.7
TORD	**Torodi Ar. Bea**	**48.99**	**23**	P	P	16 45 01.2	-0.1
	8.9nm,1.1s,baz=203,slow=7.4,SNR=16						
MAW	**Mawson**	**55.57**	**153**	P	P	16 45 49.5	-0.1
	3.3nm,0.9s,baz=235,slow=11,SNR=7.3						
VNDA	**Vanda**	**69.59**	**179**	P	P	16 47 24.1	+0.9
	3.0nm,1.2s,baz=175,slow=4.5,SNR=5.0						
KEST	**Kesra**	**72.47**	**21**	P	P	16 47 42.8	+1.6
	1.2nm,0.8s,baz=207,slow=9.0,SNR=3.9						
ESDC	**Sonseca Array**	**73.28**	**10**	P	P	16 47 46.1	+0.1
	0.2nm,0.3s,baz=191,slow=7.2,SNR=5.9						
GERES	**GERESS Array B**	**85.78**	**19**	P	P	16 48 53.4	-0.3
	0.3nm,0.2s,baz=186,slow=3.0,SNR=4.4						
ILAR	**Eielson Array**	**136.69**	**332**	PKP	PKPdf	16 55 35.0	-1.3
	0.7nm,0.8s,baz=39,slow=3.5,SNR=4.1						

*AUST **15** 16:36:43.9±19.0, 13.11S×168.15E, h241km±2km, Error ellipse: s-maj=4.5km s-min=1.7km az=233.0*
*ISCJB **15** 16:36:50.2±0.7, 14.09S±0.06×167.2E±0.1, h200km, mb3.9/14, Error ellipse: s-maj=15.5km s-min=8.7km az=0.1*
*IDC **15** 16:36:53.2±2.5, 14.25S×167.17E, h216km±22km, mb3.7/15, mb1 3.8/17, mb1mx3.7/25, mbtmp3.7/17, Error ellipse: s-maj=19.8km s-min=15.1km az=100.0*

ISC 15 16:36:52.5±1.0, 14.17S±0.08×167.1E±0.2, h200km, n29, σ1°45/25, mb4.0/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.89**	**185**	P	**Pn**	**16 38 44.1**	**-0.3**
	0.3nm,0.3s,baz=270,slow=20,SNR=5.1						
DZM				S	**Sn**	**16 40 14.5**	**+1.0**
	0.6nm,0.3s,baz=270,slow=20,SNR=5.6						
HNR	**Honiara**	**8.45**	**303**	P	**Pn**	**16 38 52.2**	**+0.6**
	1.4nm,0.3s,baz=129,slow=14,SNR=2.4						
EIDS	**Eidsvold**	**18.73**	**231**	P	**P**	**16 40 58.3**	**+1.9**
	baz=20,SNR=3.4						
CTA	**Charters Tower**	**20.78**	**251**	P	**P**	**16 41 18.7**	**+0.4**
	5.7nm,0.8s,baz=70,slow=10,SNR=7.5						
RMQ	**Roma**	**21.10**	**232**	P	**P**	**16 41 22.9**	**+1.2**
	baz=23,SNR=13						
MTSU	**Mount Surprise**	**22.24**	**257**	P	**P**	**16 41 34.3**	**+1.1**
	baz=24,SNR=9.2						
MANU	**Manus Island**	**22.93**	**300**	P	P	16 41 31.2	-8.3
	baz=23,SNR=3.6						
STKA	**Stephens Creek**	**29.25**	**229**	P	**P**	**16 42 35.9**	**0.0**
	5.5nm,0.5s,baz=28,slow=8.2,SNR=17						
STKA	**Stephens Creek**	**29.25**	**229**	P	**P**	**16 42 36.4**	**+0.5**
	baz=31,SNR=6.2						
WRA	**Warramunga Arr**	**31.82**	**255**	P	**P**	**16 42 57.5**	**-1.2**
	3.5nm,0.5s,baz=86,slow=9.5,SNR=29						
ASAR	**Alice Springs**	**32.73**	**248**	P	**P**	**16 43 05.4**	**-1.3**
	3.5nm,0.4s,baz=76,slow=9.6,SNR=172						
BBOO	**Buckleboo**	**33.81**	**231**	P	**P**	**16 43 15.5**	**-0.3**
	baz=35,SNR=9.2						
KNRA	**Kununurra**	**37.05**	**263**	P	**P**	**16 43 43.3**	**-0.3**
	baz=38,SNR=4.6						
FITZ	**Fitzroy Crossi**	**39.97**	**259**	P	**P**	**16 44 07.0**	**-0.9**
	3.6nm,0.8s,baz=66,slow=9.9,SNR=5.5						
MEEK	**Meekatharra**	**46.86**	**247**	P	**P**	**16 45 02.2**	**-0.7**
	baz=48,SNR=17						
KLBR	**Kellerberrin**	**48.25**	**240**	P	**P**	**16 45 12.0**	**-1.5**
	baz=50,SNR=6.8						
NWAO	**Narrogin (SRO)**	**48.91**	**239**	P	**P**	**16 45 17.1**	**-1.3**
	21nm,1.0s,baz=96,slow=8.2,SNR=7.1						
MJAR	**Matsushiro Arr**	**57.34**	**332**	P	P	16 46 19.0	-0.8
	1.0nm,0.5s,baz=170,slow=6.3,SNR=4.2						
PETK	**Petropavlovsk-**	**67.49**	**354**	P	**P**	**16 47 26.3**	**-0.3**
	1.1nm,0.6s,baz=148,slow=6.1,SNR=8.8						
CMAR	**Chiang Mai Arr**	**74.58**	**294**	P	**P**	**16 48 10.8**	**+0.7**
	1.1nm,0.9s,baz=117,slow=4.4,SNR=5.0						
SONM	**Songino Array**	**81.96**	**324**	P	**P**	**16 48 50.1**	**+0.1**
	0.5nm,0.4s,baz=143,slow=5.5,SNR=5.7						
MAW	**Mawson**	**82.35**	**202**	P	**P**	**16 48 50.6**	**-1.0**
	1.6nm,0.9s,baz=143,slow=5.1,SNR=5.1						
SNAA	**Sanae**	**94.10**	**183**	P	P	16 49 44.9	-3.0
	0.3nm,0.7s,baz=196,slow=7.4,SNR=4.1						
TXAR	**Lajitas Array**	**96.14**	**61**	P	P	16 49 56.4	-1.7
	0.4nm,0.5s,baz=264,slow=2.7,SNR=5.9						
MKAR	**Makanchi Array**	**96.69**	**316**	P	**P**	**16 49 59.5**	**-0.6**
	0.6nm,0.6s,baz=84,slow=6.5,SNR=6.7						
ZALV	**Zalesovo Beam**	**96.85**	**324**	P	P	16 49 59.3	-1.2
	0.6nm,0.6s,baz=103,slow=6.5,SNR=2.9						
ARCES	**ARCESS Array B**	**119.67**	**345**	PKP	**PKPdf**	**16 55 16.3**	**-1.7**
	2.4nm,1.1s,baz=62,slow=1.8,SNR=8.5						
FINES	**FINESS Array B**	**125.15**	**338**	PKP	**PKPdf**	**16 55 27.6**	**-1.1**
	2.4nm,1.1s,baz=329,slow=2.2,SNR=5.5						
KEST	**Kesra**	**150.68**	**321**	PKPbc	**PKPdf**	**16 56 20.6**	**+4.9**
	1.5nm,0.7s,baz=157,slow=2.0,SNR=5.4						

IDC 15 16:38:17.5±1.1, 3.64N×126.64E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/23, mbtmp3.6/5, 1D, Error ellipse: s-maj=63.0km s-min=22.5km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.28**	**326**	⇓*i*P	Pb	16 39 30.4	-3.3
WRA	**Warramunga Arr**	**24.63**	**162**	P	P	16 43 39.0	-0.9
	1.9nm,0.7s,baz=343,slow=9.7,SNR=6.7						
ASAR	**Alice Springs**	**28.05**	**166**	P	P	16 44 11.8	+1.1
	0.4nm,0.7s,baz=343,slow=12,SNR=3.0						
PETK	**Petropavlovsk-**	**55.55**	**22**	P	P	16 47 54.6	+0.1
	1.2nm,0.8s,baz=180,slow=5.2,SNR=4.6						
MKAR	**Makanchi Array**	**57.58**	**325**	P	P	16 48 08.3	-0.9
	0.1nm,0.4s,baz=122,slow=7.9,SNR=4.1						
KURBB	**Kurchatov Arra**	**61.77**	**327**	P	P	16 48 38.4	+0.5
	0.3nm,0.6s,baz=126,slow=6.7,SNR=4.9						

WEL 15 16:38:49.6±0.7, 46.00S×165.89E, h12km, ML3.8/8, Error ellipse: s-maj=6.0km s-min=3.2km az=90.0, Off west coast of South Island

APZ	**The Paps**	**1.75**	**121**	PN	Pn	16 41 52.6	-1.6
MLZ	**Mavora Lakes**	**1.77**	**71**	*e*PN	Pn	16 41 53.6	-0.9
MSZ	**Milford Sound**	**1.97**	**50**	AML	AML	16 42 35.3	
SYZ	**Scrubby Hill**	**2.39**	**105**	*e*PN	Pn	16 42 02.2	-0.6
WKZ	**Wanaka**	**2.53**	**65**	*e*PN	Pb	16 42 09.6	+0.3
EAZ	**Earnscleugh**	**2.57**	**75**	*e*PN	Pn	16 42 07.1	+1.8
TUZ	**Tuapeka**	**2.67**	**92**	*e*PN	Pn	16 42 07.5	+0.8
JCZ	**Jackson Bay**	**2.81**	**49**	AML	AML	16 42 46.3	
LBZ	**Lake Benmore**	**3.47**	**65**	AML	AML	16 43 03.8	
ODZ	**Otahua Downs**	**3.52**	**77**	*e*PN	Pn	16 42 18.3	-0.2

JMA ***15*** *16:45:41.1±0.4,24.°94N×122.°63E, h35km, M2.4*
ISCJB ***15*** *16:45:43.2±0.9,24.°87N±0.°04×122.°73E±0.°03, h15km±8km, Error ellipse: s-maj=7.1km s-min=3.6km az=13.8*
TAP ***15*** *16:45:43.7,24.°83N×122.°55E, h3km±1km, ML3.1, C*

ISC 15 16:45:42.9±1.2,24.°82N±0.°04×122.°62E±0.°05, h8km±12km, n37, σ0.°90/47, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.50**	**135**	P	**Pg**	**16 45 52.7**	**+0.1**
YOJ				S	**Sg**	**16 46 01.0**	**+1.9**
TWB1	**Santiao Chiao** baz=290	**0.61**	**288**	P	**Pb**	**16 45 55.7**	**0.0**
TWB1				*e*S	**Sb**	**16 46 04.5**	**+0.1**
TWC	**Suao** baz=251	**0.73**	**254**	P	**Pb**	**16 45 57.8**	**-0.1**
TWC				S	**Sb**	**16 46 08.2**	**+0.1**
NWF	**Wu-fen Shan** baz=289	**0.81**	**288**	*e*P	**Pb**	**16 45 58.9**	**-0.3**
TWE	**Neicheng** baz=262	**0.88**	**264**	*e*P	**Pb**	**16 46 00.2**	**-0.1**
TWE				*e*S	**Sn**	**16 46 13.1**	**-1.2**
ENA	**Nanau** baz=241	**0.89**	**244**	*e*P	**Pb**	**16 46 00.7**	**+0.1**
ENA				S	**Sb**	**16 46 12.8**	**+0.2**
PCYT	**Pengchaiyu** baz=332	**0.95**	**328**	*e*P	**Pg**	**16 46 00.5**	**-0.7**
TWA	**Mucha** baz=280	**0.96**	**280**	*e*P	**Pn**	**16 46 02.6**	**-0.1**
TWA				*e*S	**Sn**	**16 46 16.0**	**-0.5**
ENTT	**Nioudou** baz=258	**0.98**	**260**	P	**Pn**	**16 46 02.6**	**-0.3**
ENTT				S	**Sn**	**16 46 16.2**	**-0.7**
TWY	**Chenhua** baz=298	**1.03**	**296**	*e*P	**Pn**	**16 46 04.0**	**+0.4**
IRIF	**Iriomote-Funau**	**1.12**	**115**	P	Pg	16 46 01.2	-3.1
IRIF				S	**Sg**	**16 46 17.5**	**-1.3**
TWS1	**Kuangyinshan** baz=285	**1.13**	**285**	*e*P	**Pn**	**16 46 07.3**	**+2.3**
NSK	**Sanguang** baz=262	**1.16**	**263**	P	**Pn**	**16 46 05.0**	**-0.4**
NSK				*e*S	**Sn**	**16 46 21.2**	**-0.2**
TWD	**Chiawan** baz=240	**1.19**	**232**	P	**Pn**	**16 46 06.3**	**+0.5**
TWD				*e*S	**Sn**	**16 46 21.6**	**-0.5**
NNS	**Nan Shan** baz=250	**1.20**	**252**	*e*P	**Pn**	**16 46 06.6**	**+0.6**
NNS				*e*S	**Sn**	**16 46 22.2**	**-0.3**
HATJ	**Hateruma jima**	**1.32**	**125**	P	Pn	16 46 05.1	-2.4
HATJ				S	Sg	16 46 21.2	-4.1
JKRS	**Kuro-shima**	**1.39**	**114**	P	Pn	16 46 05.6	-2.9
WHF	**Hehuan Shan** baz=239	**1.41**	**242**	P	**Pb**	**16 46 10.0**	**+0.4**
WHF				*e*S	**Sn**	**16 46 28.4**	**+0.3**
TWT	**Tachien** baz=245	**1.43**	**247**	*e*P	**Pg**	**16 46 11.0**	**+0.6**
TWT				*e*S	**Sn**	**16 46 30.5**	**+2.1**
JIJ	**Ishigaki jima**	**1.46**	**108**	P	Pn	16 46 05.7	-3.7
ESL	**Shilin** baz=225	**1.48**	**228**	*e*P	**Pg**	**16 46 10.8**	**-0.5**
ESL				*e*S	**Sn**	**16 46 29.9**	**+0.8**
NSTT	**Nanjuang** baz=262	**1.49**	**263**	*e*P	**Pg**	**16 46 11.7**	**+0.3**
TWQ1	**Liyutan** baz=253	**1.75**	**255**	*e*P	**Pg**	**16 46 16.9**	**+0.5**
EHY	**Hungye** baz=220	**1.77**	**223**	*e*P	**Pb**	**16 46 15.1**	**-0.4**
SMLT	**Sun Moon Lake** baz=237	**1.83**	**240**	*e*P	**Pg**	**16 46 17.0**	**-1.0**
TYC	**Yuchr** baz=238	**1.85**	**241**	*e*P	**Pg**	**16 46 17.1**	**-1.3**
TWF1	**Yuli** baz=203	**1.90**	**220**	*e*P	**Pn**	**16 46 16.1**	**+0.6**
JTJ	**Tarama**	**1.90**	**95**	P	Pn	16 46 13.7	-1.8
YUS	**Yu-Shan** baz=227	**2.02**	**229**	*e*P	**Pb**	**16 46 20.4**	**+0.2**
ALS	**Alishan** baz=213	**2.11**	**232**	*e*P	**Pb**	**16 46 21.3**	**-0.3**
CHN5	**Tsauling** baz=214	**2.15**	**236**	*e*P	**Pb**	**16 46 22.0**	**-0.1**
ELDTW	**Lidau** baz=220	**2.19**	**223**	*e*P	**Pn**	**16 46 18.4**	**-1.2**
CHN4	**Tsaushan** baz=212	**2.36**	**232**	*e*P	**Pb**	**16 46 23.9**	**-1.7**
CHN4				*e*S	**Sb**	**16 46 55.2**	**+0.2**
STYT	**Tauyuan** baz=210	**2.37**	**226**	*e*P	**Pb**	**16 46 24.5**	**-1.4**
WTP	**Ta-pu** baz=228	**2.41**	**230**	*e*P	**Pn**	**16 46 24.0**	**+1.3**
CHN1	**Nanshi** baz=228	**2.51**	**230**	*e*P	**Pb**	**16 46 26.8**	**-1.5**
SGST	**Jiashian** baz=209	**2.54**	**228**	*e*P	**Pn**	**16 46 25.0**	**+0.6**

NEIC 15 16:51:21.0, 45.°81S×166.°32E, h12km, ML4.7(WEL), After WEL., Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**1.14**	**95**	P*	Pb	16 51 41.4	-1.4
MSZ	**Milford Sound**	**1.61**	**46**	Pn	Pn	16 51 44.9	-4.3
MSZ				Sn	Sn	16 52 06.1	-3.8
SYZ	**Scrubby Hill**	**2.09**	**111**	Pn	Pb	16 51 58.4	-0.5
WKZ	**Wanaka**	**2.14**	**64**	Pn	Pn	16 51 54.9	-1.7
EAZ	**Earnscleugh**	**2.18**	**76**	Pn	Pn	16 51 56.0	-1.1
TUZ	**Tuapeka**	**2.32**	**95**	Pn	Pn	16 51 60.0	+1.0
JCZ	**Jackson Bay**	**2.45**	**46**	Pn	Pn	16 51 59.9	-1.1
JCZ				Sn	Sn	16 52 32.4	+1.5
LBZ	**Lake Benmore**	**3.08**	**64**	Pn	Pn	16 52 07.7	-1.9
ODZ	**Otahua Downs**	**3.14**	**77**	Pn	Pn	16 52 08.3	-2.1
FOZ	**Fox Glacier**	**3.29**	**48**	Pn	Pn	16 52 11.0	-1.3
RPZ	**Rata Peaks**	**3.97**	**60**	Pn	Pn	16 52 18.1	-3.6
MQZ	**McQueen's Vall**	**4.97**	**67**	Pn	Pn	16 52 33.0	-2.5
CRLZ	**Canterbury Las**	**5.02**	**66**	Pn	Pn	16 52 33.4	-2.6
LTZ	**Lake Taylor**	**5.23**	**57**	Pn	Pn	16 52 36.1	-3.1
DSZ	**Denniston Nort**	**5.68**	**46**	Pn	Pn	16 52 41.6	-3.7
THZ	**Tophouse**	**6.25**	**52**	Pn	Pn	16 52 49.4	-3.8
QRZ	**Quartz Range**	**6.73**	**44**	Pn	Pn	16 52 55.7	-3.9
NNZ	**Nelson**	**6.88**	**51**	Pn	Pn	16 53 00.5	-1.2

ISCJB ***15*** *16:55:11.8±0.6, 45.°37S±0.°06×166.°51E±0.°06, h15km, mb3.7/2, Error ellipse: s-maj=8.4km s-min=5.8km az=2.3*
AUST ***15*** *16:55:11.6±0.8, 45.°59S×166.°45E, h1km, Error ellipse: s-maj=1.3km s-min=0.7km az=3.0*
IDC ***15*** *16:55:11.2±1.6, 45.°41S×166.°49E, h0km, mb3.7/2, mb1 1.4/4, mb1mx3.8/15, mbtmp4.0/4, ML4.0/2, Error ellipse: s-maj=51.0km s-min=22.4km az=165.0*
NEIC ***15*** *16:55:12.0±2.0, 45.°47S×166.°53E, h7km±12km, ML4.5(WEL), Error ellipse: s-maj=11.9km s-min=9.0km az=123.0*

ISC 15 16:55:12.9±0.7, 45.°54S±0.°07×166.°53E±0.°05, h15km, n35, σ1.°15/40, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.45**	**82**	P*	**Pg**	**16 55 21.1**	**-0.7**
DCZ				S*	**Sg**	**16 55 27.1**	**-0.7**
WHZ	**Wether Hill Ro**	**1.06**	**110**	P*	**Pb**	**16 55 32.0**	**-0.9**
MSZ	**Milford Sound**	**1.32**	**49**	P*	**Pn**	**16 55 34.5**	**-2.3**
MSZ				S*	**Sg**	**16 55 56.1**	**+0.6**
WKZ	**Wanaka**	**1.90**	**69**	Pn	**Pn**	**16 55 45.2**	**+0.4**
EAZ	**Earnscleugh**	**1.98**	**82**	Pn	**Pn**	**16 55 46.3**	**+0.4**
SYZ	**Scrubby Hill**	**2.07**	**120**	Pn	**Pb**	**16 55 48.5**	**-1.7**
JCZ	**Jackson Bay**	**2.16**	**48**	Pn	**Pn**	**16 55 49.5**	**+1.1**
TUZ	**Tuapeka**	**2.21**	**102**	Pn	**Pn**	**16 55 50.1**	**+1.1**
LBZ	**Lake Benmore**	**2.84**	**67**	Pn	**Pn**	**16 55 57.0**	**-0.8**
ODZ	**Otahua Downs**	**2.95**	**82**	*e*P	**Pn**	**16 55 58.5**	**-0.7**
FOZ	**Fox Glacier**	**3.00**	**50**	Pn	**Pn**	**16 56 01.0**	**+1.1**
RPZ	**Rata Peaks**	**3.71**	**62**	*e*Pn	**Pn**	**16 56 08.4**	**-1.4**
RPZ				Sn	**Sn**	**16 56 55.8**	**+2.7**
RPZ	**Rata Peaks** 35nm,0.3s,baz=177,slow=1.9,SNR=28	**3.71**	**62**	Pn	**Pn**	**16 56 09.0**	**-0.7**
RPZ				Sn	**Sn**	**16 56 55.8**	**+2.7**
WVZ	**Waitaha Valley**	**3.90**	**52**	Pn	**Pn**	**16 56 11.6**	**-0.6**
MQZ	**McQueen's Vall**	**4.74**	**69**	Pn	**Pn**	**16 56 22.4**	**-1.4**
CRLZ	**Canterbury Las**	**4.78**	**68**	Pn	**Pn**	**16 56 23.1**	**-1.2**
LTZ	**Lake Taylor**	**4.97**	**58**	Pn	**Pn**	**16 56 25.9**	**-1.1**
DSZ	**Denniston Nort**	**5.39**	**47**	Pn	**Pn**	**16 56 31.7**	**-1.1**
QRZ	**Quartz Range**	**6.44**	**45**	Pn	**Pn**	**16 56 46.7**	**-0.5**
PKE	**Pukeiti**	**8.41**	**44**	Pn	**Pn**	**16 57 14.8**	**+0.6**
URZ	**Urewera**	**10.72**	**51**	Pn	**Pn**	**16 57 44.6**	**-1.3**
URZ				Sn	**Sn**	**16 59 46.5**	**+0.9**
URZ	**Urewera** 0.3nm,0.3s,baz=220,slow=7.9,SNR=2.6	**10.72**	**51**	Pn	**Pn**	**16 57 44.6**	**-1.3**
URZ				Sn	**Sn**	**16 59 46.5**	**+0.9**
WCZ	**Waipu Caves**	**11.27**	**34**	Pn	**Pn**	**16 57 52.5**	**-0.9**
MOO	**Moorlands** baz=14,SNR=4.0	**14.26**	**276**	P	**Pn**	**16 58 33.4**	**-0.8**
LHI	**Lord Howe Isla** baz=15,SNR=4.6	**15.16**	**335**	P	Pn	16 58 35.9	-11
TOO	**Toolangi** baz=18,SNR=13	**17.61**	**289**	P	**P**	**16 59 19.3**	**+0.7**
ASAR	**Alice Springs**	**34.24**	**299**	P	**P**	**17 01 58.0**	**-0.2**
ASAR	**Alice Springs** 0.9nm,1.0s,baz=137,slow=8.5,SNR=4.7	**34.24**	**299**	P	**P**	**17 01 58.0**	**-0.2**
WRA	**Warramunga Arr**	**36.80**	**303**	P	**P**	**17 02 20.0**	**-0.2**
WRA	**Warramunga Arr** 1.2nm,1.0s,baz=139,slow=7.7,SNR=3.5	**36.80**	**303**	P	**P**	**17 02 20.0**	**-0.2**
QSPA	**South Pole Qui**	**44.58**	**180**	*e*P	**P**	**17 03 25.9**	**+1.8**
TORD	**Torodi Ar. Bea**	**145.24**	**207**	PKPbc	**PKPdf**	**17 14 50.2**	**0.0**
TORD	**Torodi Ar. Bea** 1.2nm,0.6s,baz=160,slow=2.9,SNR=5.9	**145.24**	**207**	PKPbc	**PKPdf**	**17 14 50.2**	**0.0**
FINES	**FINESS Array B**	**152.16**	**319**	PKPbc	**PKPbc**	**17 15 06.8**	**+0.1**
FINES	**FINESS Array B** 0.9nm,0.9s,baz=114,slow=3.4,SNR=2.7	**152.16**	**319**	PKPbc	**PKPbc**	**17 15 06.7**	**+0.1**

IDC ***15*** *16:56:10.2±2.0, 38.°89N×71.°04E, h0km, mb3.7/3, mb1 3.8/8, mb1mx3.6/32, mbtmp3.8/8, ML3.7/5, Error ellipse: s-maj=41.8km s-min=13.1km az=143.0*
ISCJB ***15*** *16:56:13.0±1.0, 39.°11N±0.°07×70.°52E±0.°06, h17km, mb3.6/3, Error ellipse: s-maj=10.1km s-min=6.5km az=1.6*
NNC ***15*** *16:56:15.3±1.8, 38.°86N×70.°79E, h165km±17km, mb3.4, mpv4.3, Error ellipse: s-maj=16.2km s-min=8.3km az=18.0*

ISC 15 16:56:15.2±1.4, 39.°14N±0.°09×70.°61E±0.°08, h17km, n28, σ1.°75/34, mb3.8/3, 8C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=58	**3.80**	**37**	P	**Pn**	**16 57 13.5**	**+0.2**
KK31	**Karatay Array** 31nm,0.7s,baz=171,slow=12,SNR=263	**3.96**	**359**	P	Pn	16 57 18.6	+3.4
KK31				⇓S	**Sb**	**16 58 09.7**	**-2.5**
EKS2	**Erkin-Say** SNR=52	**4.26**	**33**	P	**Pn**	**16 57 20.2**	**+0.8**
UCH	**Uchtor** SNR=10	**4.28**	**43**	P	**Pn**	**16 57 20.9**	**+0.9**
AAK	**Ala-Archa** SNR=46	**4.57**	**39**	P	**Pn**	**16 57 24.1**	**+0.5**
AAK	**Ala-Archa** 12nm,0.3s,baz=208,slow=12,SNR=77	**4.57**	**39**	Pn	**Pn**	**16 57 24.1**	**+0.5**
AAK				Sn	**Sn**	**16 58 18.4**	**+2.0**
KZA	**Kyzart** SNR=75	**4.59**	**49**	P	**Pn**	**16 57 24.7**	**+0.5**
KBK	**Karagaybulak** SNR=90	**4.81**	**42**	P	**Pn**	**16 57 28.3**	**+1.3**
CHMS	**Chumysh** SNR=49	**4.97**	**38**	P	**Pn**	**16 57 29.7**	**+0.7**
USP	**Ospenovka** SNR=29	**5.06**	**34**	P	**Pn**	**16 57 30.7**	**+0.4**
ULHL	**Ulahol** SNR=12	**5.29**	**52**	P	**Pn**	**16 57 34.0**	**+0.4**
TKM2	**Tokmak 2** 26nm,0.5s	**5.34**	**43**	⇑P	**Pn**	**16 57 34.5**	**+0.2**
TKM2				⇑S	**Sn**	**16 58 38.5**	**+3.0**
TKM2	**Tokmak 2** SNR=12 24nm,0.8s	**5.34**	**43**	P	**Pn**	**16 57 35.6**	**+1.3**
MK31	**Makanchi Array** 2.5nm,0.8s,baz=234,slow=11,SNR=13	**11.47**	**44**	⇓P	**Pn**	**16 58 55.8**	**-2.3**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=233,slow=12,SNR=15	**11.47**	**44**	Pn	**Pn**	**16 58 56.2**	**-2.0**
MKAR				Lg		17 02 12.8	
AB31	**Akbulak array** 3.0nm,0.6s,baz=139,slow=12,SNR=60	**12.67**	**326**	P	**Pn**	**16 59 14.7**	**+0.2**
AB31				S	**Sn**	**17 01 37.8**	**+2.7**
KURBB	**Kurchatov Arra** 6.0nm,1.4s	**12.77**	**23**	⇑P	**Pn**	**16 59 12.9**	**-3.0**
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=214,slow=12,SNR=13	**12.77**	**23**	Pn	Pn	16 59 12.2	-3.7
VOSK	**Vostochnaya** 1.5nm,0.6s	**13.59**	**1**	⇑P	**Pn**	**16 59 25.3**	**-1.7**
VOSK				⇑S	**Sn**	**17 01 55.5**	**-2.0**
BVA0	**Borovoye Array** 3.6nm,0.8s,baz=159,slow=10,SNR=5.4 2.0nm,1.0s	**13.89**	**359**	⇑P	**Pn**	**16 59 28.9**	**-2.2**
BVA0				⇓S	**Sn**	**17 02 06.3**	**+1.4**
BVAR	**Borovoye Array** 0.3nm,0.3s,baz=172,slow=12,SNR=6.3 2.6nm,1.1s	**13.89**	**359**	Pn	**Pn**	**16 59 29.8**	**-1.4**
BVAR				Sn	**Sn**	**17 02 06.8**	**+1.9**
BRVK	**Borovoye** 5.9nm,1.0s	**13.93**	**359**	⇑P	**Pn**	**16 59 29.4**	**-2.3**
AKTO	**Aktyubinsk** 4.6nm,0.8s	**14.38**	**326**	⇓P	**Pn**	**16 59 35.7**	**-2.2**
AKTO				⇑S	**Sn**	**17 02 18.9**	**+2.1**
AKTO	**Aktyubinsk** 0.4nm,0.3s,baz=8.6,slow=22,SNR=2.9 8.2nm,0.9s	**14.38**	**326**	Sn	**Sn**	**17 02 18.1**	**+1.2**
ZALV	**Zalesovo Beam** 0.8nm,0.3s,baz=217,slow=12,SNR=18	**17.70**	**29**	P	**Pn**	**17 00 17.8**	**-2.8**
HFS	**Hagfors** 1.8nm,0.6s,baz=106,slow=11,SNR=8.1	**40.83**	**320**	P	**P**	**17 03 56.0**	**+0.5**
NOA	**NORSAR Array B** 0.6nm,0.9s,baz=97,slow=7.6,SNR=4.2	**42.11**	**321**	P	**P**	**17 04 06.6**	**+0.5**
TORD	**Torodi Ar. Bea** 0.5nm,0.7s,baz=52,slow=5.4,SNR=3.5	**65.50**	**267**	P	**P**	**17 06 57.8**	**0.0**

AUST ***15*** *17:00:42.7,25.°07S×178.°95W, h100km*
ISCJB ***15*** *17:01:20.2±0.7,25.°29S±0.°08×180.°0W±0.°1, h464km, mb3.8/12, Error ellipse: s-maj=12.7km s-min=10.5km az=7.3*
IDC ***15*** *17:01:25.8±4.4,25.°26S×179.°88E, h513km±47km, mb3.4/12, mb1 3.6/13, mb1mx3.5/20, mbtmp3.4/13, Error ellipse: s-maj=23.6km s-min=18.1km az=83.0*

ISC 15 17:01:21.0±0.7, 25.°34S±0.°09×179.°9W±0.°1, h464km, n36, σ1.°08/37, mb3.9/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.7nm,0.3s,baz=99,slow=19,SNR=9.9	**12.94**	**282**	P	**P**	**17 04 12.2**	**+2.2**
URZ	**Urewera** 0.4nm,0.3s,baz=270,slow=3.0,SNR=3.3	**13.13**	**190**	P	**P**	**17 04 10.4**	**-1.3**
URZ				S	**S**	**17 06 32.6**	**+0.1**
ARMA	**Armidale** baz=26,SNR=6.9 0.3nm,0.3s,baz=41,slow=20,SNR=4.5	**25.65**	**252**	P	**P**	**17 06 14.3**	**+1.8**
EIDS	**Eidsvold** baz=27,SNR=5.1	**26.22**	**264**	P	**P**	**17 06 18.1**	**+0.6**
MGCD	**Mangrove Creek**	**26.43**	**246**	P	**P**	**17 06 21.0**	**+1.8**
	baz=27,SNR=5.7						
RMQ	**Roma** baz=29,SNR=8.9	**28.19**	**261**	P	**P**	**17 06 36.5**	**+1.6**
CMSA	**Cobar Meteorol** baz=32,SNR=12	**30.81**	**250**	P	**P**	**17 06 57.9**	**+0.4**
CTA	**Charters Tower** 20nm,0.4s,baz=100,slow=11,SNR=46	**31.62**	**273**	P	**P**	**17 07 05.0**	**+0.3**
TOO	**Toolangi** baz=33,SNR=5.9	**31.77**	**239**	P	**P**	**17 07 07.4**	**+1.5**
MOO	**Moorlands** baz=33,SNR=4.1	**31.96**	**229**	S	S	17 12 14.9	+30
MTSU	**Mount Surprise** baz=35,SNR=46	**33.94**	**275**	P	**P**	**17 07 24.9**	**+0.4**
STKA	**Stephens Creek** 1.7nm,0.4s,baz=96,slow=12,SNR=10	**34.31**	**250**	P	**P**	**17 07 27.6**	**+0.2**
STKA	**Stephens Creek** baz=35,SNR=7.4	**34.31**	**250**	P	**P**	**17 07 27.9**	**+0.5**
COEN	**Coen** baz=37,SNR=5.1	**36.47**	**281**	P	**P**	**17 07 46.1**	**+0.4**
BBOO	**Buckleboo** baz=40,SNR=5.9	**38.99**	**249**	P	**P**	**17 08 05.5**	**-0.8**
ASAR	**Alice Springs** 3.9nm,0.4s,baz=93,slow=7.1,SNR=277	**41.92**	**262**	P	**P**	**17 08 29.4**	**-0.6**
ASAR	1.5nm,1.0s,baz=96,slow=8.4,SNR=4.4			pP	pP	17 10 03.9	+7.4
WRA	**Warramunga Arr** 4.2nm,0.3s,baz=100,slow=7.2,SNR=260	**42.43**	**268**	P	**P**	**17 08 32.9**	**-1.2**
KDU	**Kakadu** baz=47,SNR=6.7	**46.54**	**277**	P	**P**	**17 09 04.4**	**-1.4**
MTN	**Manton Dam** baz=48,SNR=3.3	**47.69**	**276**	P	**P**	**17 09 13.0**	**-1.5**
KNRA	**Kununurra** baz=50,SNR=36	**48.80**	**271**	P	**P**	**17 09 22.3**	**-0.6**
FITZ	**Fitzroy Crossi** 5.9nm,0.5s,baz=128,slow=6.8,SNR=36	**50.84**	**267**	P	**P**	**17 09 37.4**	**-0.6**
FITZ	**Fitzroy Crossi** baz=52,SNR=17	**50.84**	**267**	P	**P**	**17 09 37.5**	**-0.5**
VNDA	**Vanda** 0.5nm,0.5s,baz=354,slow=7.6,SNR=7.0	**52.95**	**185**	P	**P**	**17 09 54.0**	**+1.6**
MEEK	**Meekatharra** baz=56,SNR=4.5	**54.81**	**254**	P	**P**	**17 10 04.9**	**-1.5**
MORW	**Morawa** baz=57,SNR=4.0	**56.49**	**251**	P	**P**	**17 10 17.2**	**-0.9**
MAW	**Mawson** 1.8nm,0.5s,baz=131,slow=8.6,SNR=14	**76.44**	**201**	P	**P**	**17 12 22.0**	**+0.6**
MAW	**Mawson** baz=77,SNR=14	**76.44**	**201**	P	**P**	**17 12 22.4**	**+0.9**
PETK	**Petropavlovsk-** 0.7nm,0.6s,baz=149,slow=6.7,SNR=7.3	**80.52**	**347**	P	**P**	**17 12 43.0**	**-0.5**
NVAR	**Mina Array Bea** 0.4nm,0.8s,baz=234,slow=7.7,SNR=3.0	**85.72**	**44**	P	**P**	**17 13 10.0**	**-0.3**
CMAR	**Chiang Mai Arr** 0.9nm,0.7s,baz=154,slow=3.2,SNR=6.6	**90.12**	**290**	P	**P**	**17 13 30.5**	**-0.6**
TXAR	**Lajitas Array** 0.2nm,0.8s,baz=204,slow=4.0,SNR=4.8	**91.10**	**58**	P	**P**	**17 13 36.4**	**+0.8**
ILAR	**Eielson Array** 0.3nm,0.7s,baz=224,slow=6.2,SNR=2.9	**93.41**	**14**	P	**P**	**17 13 46.4**	**+1.2**
ARCES	**ARCESS Array B** 2.7nm,0.7s,baz=38,slow=4.6,SNR=5.5	**133.31**	**348**	SKPbc	**SKPbc**	**17 22 26.4**	**-0.6**
FINES	**FINESS Array B** 2.2nm,0.8s,baz=40,slow=6.2,SNR=8.1	**139.84**	**341**	SKPbc	**SKPbc**	**17 22 45.9**	**-0.6**
BRTR	**Keskin Array B** 0.4nm,0.3s,baz=135,slow=3.1,SNR=4.2	**148.51**	**305**	PKPbc	**PKPbc**	**17 20 13.9**	**-1.1**
BRTR	1.1nm,0.7s,baz=82,slow=2.6,SNR=4.3			PKPab	**PKPab**	**17 20 19.1**	**-1.0**
TORD	**Torodi Ar. Bea** 0.3nm,0.6s,baz=172,slow=5.6,SNR=2.7	**167.78**	**187**	PKPab	**PKPab**	**17 21 43.0**	**-0.6**

ISCJB ***15*** *17:17:00.8±0.8, 46.°0S±0.°1×166.°12E±0.°08, h12km, mb3.7/4, Error ellipse: s-maj=16.0km s-min=7.5km az=164.7*
AUST ***15*** *17:17:00.3±1.5, 46.°22S×165.°98E, h0km, Error ellipse: s-maj=1.8km s-min=0.7km az=8.0*
IDC ***15*** *17:17:00.3±1.8, 46.°11S×166.°05E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.9/16, mbtmp3.9/6, ML4.2/2, Error ellipse: s-maj=55.2km s-min=22.5km az=171.0*

ISC 15 17:17:02.5±0.9, 46.°0S±0.°1×166.°05E±0.°09, h12km, n14, σ0.°83/16, mb3.7/4, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks** 31nm,0.3s,baz=206,slow=4.4,SNR=57	**4.23**	**59**	Pn	**Pn**	**17 18 06.9**	**+0.1**
RPZ	46nm,0.3s,baz=349,slow=20,SNR=7.6			Sn	**Sn**	**17 18 57.3**	**+1.3**
URZ	**Urewera** 0.7nm,0.3s,baz=247,slow=7.9,SNR=5.1	**11.27**	**51**	Pn	**Pn**	**17 19 43.1**	**-0.3**
URZ	0.5nm,0.3s,baz=225,slow=20,SNR=3.2			Sn	**Sn**	**17 21 47.9**	**-1.2**
MILA	**Mila** baz=16,SNR=12	**15.47**	**299**	P	**Pn**	**17 20 40.5**	**0.0**
MILA	baz=16,SNR=5.2			S	Sn	17 23 20.0	-12
TOO	**Toolangi** baz=18,SNR=19	**17.46**	**292**	P	**P**	**17 21 07.2**	**+0.2**
YNG	**Young** baz=18,SNR=5.1	**17.81**	**305**	P	**P**	**17 21 12.7**	**+1.8**
STKA	**Stephens Creek** 1.3nm,0.8s,baz=132,slow=12,SNR=2.0	**23.56**	**298**	P	**P**	**17 22 12.2**	**-0.6**
ASAR	**Alice Springs** 0.6nm,0.6s,baz=132,slow=8.9,SNR=15	**34.17**	**300**	P	**P**	**17 23 47.9**	**+0.2**
WRA	**Warramunga Arr** 0.8nm,0.6s,baz=137,slow=8.0,SNR=10.0	**36.78**	**304**	P	**P**	**17 24 09.8**	**-0.3**
FITZ	**Fitzroy Crossi** 3.5nm,1.0s,baz=162,slow=9.6,SNR=4.3	**43.43**	**296**	P	**P**	**17 25 05.3**	**+0.1**
SNAA	**Sanae**	**62.37**	**184**	*e*P	**P**	**17 27 24.6**	**+0.1**
VNA1	**Neumayer--Stat**	**63.59**	**182**	*e*P	**P**	**17 27 33.0**	**+0.5**
TORD	**Torodi Ar. Bea** 1.1nm,0.6s,baz=168,slow=1.3,SNR=8.8	**144.68**	**207**	PKP	**PKPab**	**17 36 37.4**	**-0.6**
BRTR	**Keskin Array B** 3.4nm,1.1s,baz=184,slow=4.3,SNR=8.8	**144.99**	**277**	PKPbc	**PKPab**	**17 36 37.6**	**-1.1**
ARCES	**ARCESS Array B** 4.4nm,0.8s,baz=93,slow=2.9,SNR=7.2	**149.37**	**334**	PKPbc	**PKPbc**	**17 36 50.3**	**+0.3**

ISCJB ***15*** *17:20:23.5±0.2, 44.°63N±0.°01×6.°89E±0.°02, h13km±2km, Error ellipse: s-maj=2.5km s-min=1.7km az=143.9*
CSEM ***15*** *17:20:24.2±0.1, 44.°63N×6.°92E, h10km, ML3.0/35, Error ellipse: s-maj=1.9km s-min=1.2km az=53.0*
GEN ***15*** *17:20:24.5, 44.°62N×6.°90E, h1km, ML2.4*
ROM ***15*** *17:20:24.0±0.2, 44.°61N×6.°90E, h10km±1km, Md2.6/13, Ml2.4/13, Error ellipse: s-maj=3.0km s-min=1.3km az=60.0*
LDG ***15*** *17:20:24.8±0.1, 44.°63N×6.°96E, h2km, Md2.6/3, Ml2.8/28, Error ellipse: s-maj=2.0km s-min=1.2km az=68.0*

ISC 15 17:20:24.4±0.8, 44.°64N±0.°01×6.°93E±0.°01, h14km±5km, n109, σ1.°18/200, 2D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.14**	**308**	*e*Pg	**Pg**	**17 20 27.6**	**-0.8**
MBDF	1µm,0.2s			*e*Sg	**Sg**	**17 20 29.9**	**-1.1**
MBDF	**Montbardon**	**0.14**	**308**	*e*Pg	**P

RSP			Sg	Sb	17 20 44.4	+0.3	
	161nm,0.3s						
TOUF	**Mont Tournerai**	0.66	160	Pg	Pg	17 20 37.2	-0.3
TOUF				Sg	Sg	17 20 45.5	-0.8
AUTN	**L'Aution**	0.73	151	Pg	Pb	17 20 38.9	-0.2
AUTN				Sg	Sg	17 20 48.9	+0.4
MVIF	**Mont Vial**	0.76	168	Pg	Pg	17 20 39.0	-0.2
MVIF				Sg	Sb	17 20 49.8	+0.1
SAOF	**Saorge**	0.79	145	Pg	Pb	17 20 39.7	-0.2
SAOF				Sg	Sg	17 20 50.1	-0.1
ORIF	**Oris-en-Rattie**	0.80	291	*e*Pg	Pg	17 20 39.2	-0.8
ORIF				*e*Sg	Sg	17 20 49.1	-1.4
	92nm,0.2s						
ORIF	**Oris-en-Rattie**	0.80	291	*e*Pg	Pg	17 20 39.2	-0.8
ORIF				*e*Sg	Sg	17 20 49.1	-1.4
	46nm,0.2s						
GDM	**Grand'Maison**	0.81	315	Pg	Pg	17 20 39.8	-0.4
GDM				Sg	Sg	17 20 49.8	-1.1
MONC	**Moncucco Torin**	0.83	58	Pg	Pb	17 20 40.8	+0.2
	140nm,0.3s						
MONC	**Moncucco Torin**	0.83	58	Pg	Pb	17 20 40.8	+0.2
	140nm,0.3s						
SBF	**Sospel**	0.85	155	*e*Pg	Pg	17 20 40.4	-0.6
SBF	**Sospel**	0.85	155	*e*Pn	Pb	17 20 41.5	+0.4
SBF				*e*Sg	Sg	17 20 51.7	-0.5
	120nm,0.2s						
SBF	**Sospel**	0.85	155	*e*Pg	Pg	17 20 40.4	-0.6
SBF	**Sospel**	0.85	155	*e*Pn	Pb	17 20 41.5	+0.4
SBF				*e*Sg	Sg	17 20 51.7	-0.5
	60nm,0.2s						
LPG	**La Plagne**	0.87	352	*e*Pg	Pg	17 20 41.2	-0.1
LPG				*e*Sg	Sg	17 20 52.6	-0.2
	106nm,0.4s						
LPG	**La Plagne**	0.87	352	*e*Pg	Pg	17 20 41.2	-0.1
LPG				*e*Sg	Sg	17 20 52.6	-0.2
	53nm,0.4s						
CALN	**Calern**	0.89	182	Pg	Pg	17 20 41.5	-0.1
CALN				Sg	Sg	17 20 53.1	-0.2
LPL	**La Plagne**	0.89	351	*e*Pg	Pg	17 20 41.5	-0.2
LPL				*e*Sg	Sg	17 20 53.3	-0.1
	48nm,0.3s						
LPL	**La Plagne**	0.89	351	*e*Pg	Pg	17 20 41.5	-0.2
LPL				*e*Sg	Sg	17 20 53.3	-0.1
	24nm,0.3s						
REVF	**Revere**	0.95	161	Pg	Pb	17 20 43.1	+0.4
REVF				Sg	Sb	17 20 56.2	+1.1
NEGI	**Seborga**	0.97	145	P	Pb	17 20 42.9	0.0
NEGI				S	Sb	17 20 55.6	+0.1
RORO	**Rocca Rossa**	0.97	122	Pg	Pg	17 20 42.3	-0.9
RORO				Sg	Sb	17 20 55.6	0.0
	94nm,0.2s						
RORO	**Rocca Rossa**	0.97	122	Pg	Pg	17 20 42.3	-0.9
RORO	**Rocca Rossa**	0.97	122	P	Pg	17 20 42.6	-0.6
RORO				S	Sb	17 20 55.4	-0.2
ROTM	**Rocchetta Tana**	1.03	78	P	Pn	17 20 45.1	+0.6
ROTM				S	Sn	17 20 59.7	+1.0
GRN	**Grenoble**	1.04	306	Pg	Pg	17 20 44.4	-0.1
GRN				Sg	Sg	17 20 57.9	-0.1
TRAV	**Traversella**	1.05	33	Pg	Pg	17 20 44.1	-0.6
TRAV				Sg	Sb	17 20 58.5	+0.5
	54nm,0.3s						
TRAV	**Traversella**	1.05	33	Pg	Pg	17 20 44.1	-0.6
TRAV	**Traversella**	1.05	33	P	Pb	17 20 44.7	+0.3
TRAV				Sg	Sb	17 20 58.5	+0.5
	54nm,0.3s						
QLNO	**Quiliano**	1.06	107	Pg	Pb	17 20 44.5	0.0
QLNO				Sg	Sb	17 20 58.3	+0.1
	58nm,0.2s						
QLNO	**Quiliano**	1.06	107	Pg	Pb	17 20 44.5	0.0
QLNO				Sg	Sb	17 20 58.3	+0.1
	58nm,0.2s						
RSL	**Roselend**	1.07	348	Pg	Pb	17 20 45.4	+0.6
FRF	**La Foret Royal**	1.10	191	*e*Pg	Pg	17 20 44.6	-1.0
FRF				*e*Sg	Sg	17 20 58.2	-1.7
	97nm,0.2s						
FRF	**La Foret Royal**	1.10	191	*e*Pg	Pg	17 20 44.6	-1.0
FRF				*e*Sg	Sg	17 20 58.2	-1.7
	48nm,0.2s						
FINB	**Finale Ligure**	1.10	114	Pg	Pb	17 20 45.1	-0.1
FINB				Sg	Sb	17 20 59.8	+0.5
	174nm,0.4s						
FINB	**Finale Ligure**	1.10	114	Pg	Pb	17 20 45.1	-0.1
FINB				Sg	Sb	17 20 59.8	+0.5
	174nm,0.4s						
MRGE	**Morge**	1.14	5	Pg	Pg	17 20 46.2	-0.2
	34nm,0.5s						
MRGE	**Morge**	1.14	5	Pg	Pg	17 20 46.2	-0.2
	34nm,0.5s						
PCP	**Piancastagn**	1.16	94⇓	*i*Pg	Pg	17 20 46.0	-0.7
PCP				Sg	Sb	17 21 01.7	+0.6
	42nm,0.3s						
PCP	**Piancastagn**	1.16	94⇓	*i*Pg	Pg	17 20 46.0	-0.7
PCP				Sg	Sb	17 21 01.7	+0.6
	42nm,0.3s						
OG26	**St.-Nazaire-De**	1.17	268	Pg	Pn	17 20 47.9	+1.6
SMRF	**Simiane la Rot**	1.18	236	*e*Pg	Pg	17 20 46.9	-0.2
SMRF				*e*Sg	Sg	17 21 02.7	+0.2
	51nm,0.3s						
SMRF	**Simiane la Rot**	1.18	236	*e*Pg	Pg	17 20 46.9	-0.2
SMRF				*e*Sg	Sg	17 21 02.7	+0.2
	26nm,0.3s						
LMR	**La Mourre**	1.34	193	*e*Pg	Pg	17 20 49.0	-1.2
LMR				*e*Sg	Sg	17 21 05.3	-2.3
	54nm,0.2s						
LMR	**La Mourre**	1.34	193	*e*Pg	Pg	17 20 49.0	-1.2
LMR				*e*Sg	Sg	17 21 05.3	-2.3
	27nm,0.2s						
VIVF	**Saint-Julien-l**	1.62	279	*e*Pn	Pn	17 20 53.2	+0.6
VIVF	**Saint-Julien-l**	1.62	279	*e*Pg	Pb	17 20 55.1	+1.0
VIVF				*e*Sg	Sb	17 21 16.5	+2.0
	24nm,0.3s						
VIVF	**Saint-Julien-l**	1.62	279	*e*Pn	Pn	17 20 53.2	+0.6
VIVF	**Saint-Julien-l**	1.62	279	*e*Pg	Pb	17 20 55.1	+1.0
VIVF				*e*Sg	Sb	17 21 16.5	+2.0
	12nm,0.3s						
SSB	**Saint Sauveur**	1.81	292	Pn	Pn	17 20 55.9	+0.7
CABF	**La Chapelle**	2.06	344	*e*Pn	Pn	17 20 59.0	+0.3
CABF	**La Chapelle**	2.06	344	*e*P	Pn	17 21 01.1	+2.4
CABF				*e*Sg	Sb	17 21 29.7	+2.6
	19nm,0.5s						
CABF	**La Chapelle**	2.06	344	*e*Pn	Pn	17 20 59.0	+0.3
CABF	**La Chapelle**	2.06	344	*e*P	Pn	17 21 01.1	+2.4
CABF				*e*Sg	Sb	17 21 29.7	+2.6
	9.7nm,0.5s						
LASF	**Ste Croix**	2.28	257	*e*Pn	Pn	17 21 01.9	+0.4
LASF				*e*Sn	Sn	17 21 28.5	-0.9
	5.6nm,0.2s						
LASF	**Ste Croix**	2.28	257	*e*Pn	Pn	17 21 01.9	+0.4
LASF				*e*Sn	Sn	17 21 28.5	-0.9
	2.8nm,0.2s						
PGF	**Pioggiola**	2.57	144	*e*Pn	Pn	17 21 05.8	+0.1
PGF				*e*Sn	Sn	17 21 35.3	-1.5
	30nm,0.3s						
PGF	**Pioggiola**	2.57	144	*e*Pn	Pn	17 21 05.8	+0.1
PGF				*e*Sn	Sn	17 21 35.3	-1.5
	15nm,0.3s						
LBL	**Lubilhac**	2.68	284	Pn	Pn	17 21 08.6	+1.4
PLDF	**La Plantade**	2.69	301	Pn	Pn	17 21 08.9	+1.6
SMF	**Signal de Mont**	2.95	314	*e*Pn	Pn	17 21 11.9	+1.0
SMF				*e*Sg	Sg	17 21 57.7	-1.6
	22nm,0.5s						
SMF	**Signal de Mont**	2.95	314	*e*Pn	Pn	17 21 11.9	+1.0
SMF				*e*Sg	Sg	17 21 57.7	-1.6
	11nm,0.5s						
PYM	**Petit Puy Mans**	2.99	293	Pn	Pn	17 21 13.1	+1.7
AGO	**Saint Agoulin**	3.03	299	Pn	Pn	17 21 13.7	+1.8
HINF	**Hinteralfeld**	3.18	359	*e*Pn	Pn	17 21 13.8	-0.2
HINF				*e*Sg	Sg	17 22 04.5	-2.0
	4.7nm,0.5s						
HINF	**Hinteralfeld**	3.18	359	*e*Pn	Pn	17 21 13.8	-0.2
HINF				*e*Sg	Sg	17 22 04.5	-2.0
	2.3nm,0.5s						
AVF	**Avril sur Loir**	3.30	312	*e*Pn	Pn	17 21 16.9	+1.3
AVF				*e*Sg	Sg	17 22 08.9	-1.6
	16nm,0.7s						
AVF	**Avril sur Loir**	3.30	312	*e*Pn	Pn	17 21 16.9	+1.3
AVF				*e*Sg	Sg	17 22 08.9	-1.6
	8.1nm,0.7s						
HAU	**Haudompre**	3.39	353	*e*Pn	Pn	17 21 16.9	0.0
HAU				*e*Sg	Sg	17 22 11.1	-2.2
	8.7nm,0.5s						
HAU	**Haudompre**	3.39	353	*e*Pn	Pn	17 21 16.9	0.0
HAU				*e*Sg	Sg	17 22 11.1	-2.2
	4.3nm,0.5s						
LOR	**Lormes**	3.39	322	*e*Pn	Pn	17 21 17.6	+0.7
LOR				*e*Sn	Sn	17 21 55.6	-1.3
LOR				*e*Sg	Sg	17 22 11.6	-1.8
	4.7nm,0.3s						
LOR	**Lormes**	3.39	322	*e*Pn	Pn	17 21 17.6	+0.7
LOR				*e*Sn	Sn	17 21 55.6	-1.3
LOR				*e*Sg	Sg	17 22 11.6	-1.8
	2.3nm,0.3s						
SSF	**Saint Saulge**	3.41	317	*e*Pn	Pn	17 21 17.9	+0.8
SSF				*e*Sn	Sn	17 21 55.9	-1.3
SSF				*e*Sg	Sg	17 22 12.0	-1.8
	5.7nm,0.3s						
SSF	**Saint Saulge**	3.41	317	*e*Pn	Pn	17 21 17.9	+0.8
SSF				*e*Sn	Sn	17 21 55.9	-1.3
SSF				*e*Sg	Sg	17 22 12.0	-1.8
	2.8nm,0.3s						
BGF	**Bois d'Agland**	3.45	305	*e*Pn	Pn	17 21 19.1	+1.4
BGF	**Bois d'Agland**	3.45	305	*e*Pg	Pg	17 21 29.2	-1.3
BGF				*e*Sg	Sg	17 22 13.4	-1.8
	12nm,0.4s						
BGF	**Bois d'Agland**	3.45	305	*e*Pn	Pn	17 21 19.1	+1.4
BGF	**Bois d'Agland**	3.45	305	*e*Pg	Pg	17 21 29.2	-1.3
BGF				*e*Sg	Sg	17 22 13.4	-1.8
	6.2nm,0.4s						
CAF	**Calviac**	3.48	276	*e*Pn	Pn	17 21 18.2	+0.1
CAF				*e*Sn	Sn	17 21 57.8	-1.2
	1.0nm,0.2s						
CAF	**Calviac**	3.48	276	*e*Pn	Pn	17 21 18.2	+0.1
CAF				*e*Sn	Sn	17 21 57.8	-1.2
	0.5nm,0.2s						
MTLF	**Montolieu**	3.64	251	*e*Pn	Pn	17 21 20.6	+0.3
MTLF				*e*Sn	Sn	17 22 01.6	-1.4
	4.9nm,0.4s						
MTLF	**Montolieu**	3.64	251	*e*Pn	Pn	17 21 20.6	+0.3
MTLF				*e*Sn	Sn	17 22 01.6	-1.4
	2.5nm,0.4s						
TCF	**Toulx Ste Croi**	3.71	298	*e*Pn	Pn	17 21 22.3	+1.0
TCF				*e*Sg	Sg	17 22 21.6	-1.9
	4.0nm,0.4s						
TCF	**Toulx Ste Croi**	3.71	298	*e*Pn	Pn	17 21 22.3	+1.0
TCF				*e*Sg	Sg	17 22 21.6	-1.9
	2.0nm,0.4s						
CDF	**Champ du Feu**	3.78	3	*e*Pn	Pn	17 21 22.8	+0.5
CDF				*e*Sg	Sg	17 22 23.1	-2.8
	1.7nm,0.3s						
CDF	**Champ du Feu**	3.78	3	*e*Pn	Pn	17 21 22.8	+0.5
CDF				*e*Sg	Sg	17 22 23.1	-2.8
	0.9nm,0.3s						
SFTF	**Sexfontaines**	3.80	341	*e*Pn	Pn	17 21 22.5	0.0
SFTF				*e*Sg	Sg	17 22 24.0	-2.4
	4.9nm,0.3s						
SFTF	**Sexfontaines**	3.80	341	*e*Pn	Pn	17 21 22.5	0.0
SFTF				*e*Sg	Sg	17 22 24.0	-2.4
	2.5nm,0.3s						
RJF	**Les Rejaudoux**	3.90	282	*e*Pn	Pn	17 21 24.0	+0.1
RJF				*e*Sn	Sn	17 22 07.8	-1.6
	1.6nm,0.2s						
RJF	**Les Rejaudoux**	3.90	282	*e*Pn	Pn	17 21 24.0	+0.1
RJF				*e*Sn	Sn	17 22 07.8	-1.6
	0.8nm,0.2s						
PAGF	**Fort de Pagny**	4.01	348	*e*Pn	Pn	17 21 26.0	+0.7
PAGF				*e*Sg	Sg	17 22 30.2	-2.8
	1.9nm,0.6s						
PAGF	**Fort de Pagny**	4.01	348	*e*Pn	Pn	17 21 26.0	+0.7
PAGF				*e*Sg	Sg	17 22 30.2	-2.8
	0.9nm,0.6s						
MEZF	**Maizieres J'vi**	4.08	342	*e*Pn	Pn	17 21 26.0	-0.3
MEZF				*e*Sg	Sg	17 22 32.6	-2.7
	8.7nm,0.4s						
MEZF	**Maizieres J'vi**	4.08	342	*e*Pn	Pn	17 21 26.0	-0.3
MEZF				*e*Sg	Sg	17 22 32.6	-2.7
	4.3nm,0.4s						
MFF	**Saint Martin d**	5.34	294	*e*Pn	Pn	17 21 44.5	+0.9
MFF				*e*Sn	Sn	17 22 42.0	-2.8
	1.9nm,0.4s						
MFF	**Saint Martin d**	5.34	294	*e*Pn	Pn	17 21 44.5	+0.9
MFF				*e*Sn	Sn	17 22 42.0	-2.8
	0.9nm,0.4s						
BAIF	**Baives**	5.73	342	*e*Pn	Pn	17 21 48.5	-0.5
BAIF				*e*Sn	Sn	17 22 51.0	-3.4
	1.8nm,0.2s						
BAIF	**Baives**	5.73	342	*e*Pn	Pn	17 21 48.5	-0.5

ISCJB ***15*** *17:32:01.4±0.9, 32°.44N±0°.05×141°.12E±0°.08, h53km±8km, mb3.9/12, Error ellipse: s-maj=10.7km s-min=7.6km az=176.3*

JMA ***15*** *17:32:02.0±0.2, 32°.52N×141°.14E, h41km, M4.0*

IDC ***15*** *17:32:03.7±3.5, 32°.35N×140°.91E, h59km±31km, mb3.7/12, mb1 3.9/13, mb1mx3.7/25, mbtmp3.7/13, ML3.8/1, Error ellipse: s-maj=24.6km s-min=16.3km az=89.0*

ISC 15 17:32:01.6±1.7, 32.41N±0.08×141.17E±0.08, h40km±15km, n34, σ1s19/42, mb3.9/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	1.33	300	P	Pn	17 32 23.7	0.0
JHCJ				S	Sn	17 32 39.1	-1.1
JHJ2	**Mitsune**	1.34	302	P	Pn	17 32 24.0	+0.2
JHJ2				S	Sn	17 32 39.7	-0.7
JMY	**Miyakejima3**	2.17	321	P	Pn	17 32 35.4	+0.2
BSO1	**Boso 1**	2.25	356	P	Pn	17 32 36.2	+0.4
BSO1				S	Sn	17 33 02.8	+0.8
BSO3	**Boso 3**	2.45	347	P	Pn	17 32 38.8	-0.1
BSO3				*e*S	Sn	17 33 06.3	-1.2
JKO	**Kozu shima**	2.46	317	P	Pn	17 32 39.9	+0.7
JKO				S	Sn	17 33 08.1	+0.1
JOD2	**Odawara 2**	3.33	329	P	Pn	17 32 51.6	+0.4
JOD2				S	Sn	17 33 28.2	-1.4
JYN	**Shimodi**	3.78	325	P	Pn	17 32 59.1	+1.7
JRY	**Ryogami san**	4.06	333	P	Pn	17 33 02.6	+1.4
JIE	**Ise**	4.22	299	P	Pn	17 33 04.5	+1.1
JAG	**Asahikaga**	4.25	341	P	Pn	17 33 04.2	+0.4
JWZ	**Kozaga**	4.72	285	P	Pn	17 33 11.2	+1.0
MJAR	**Matsushiro Arr**	4.80	330	P	Pn	17 33 12.4	+1.1
	4.1nm,0.3s,baz=151,slow=11,SNR=28						
MJAR				S	Sn	17 34 05.9	+0.3
	0.9nm,0.3s,baz=189,slow=19,SNR=3.2						
MAT	**Matsushiro**	4.80	330	P	Pn	17 33 12.5	+1.2
MAT				S	Sn	17 34 06.7	+1.0
JGM	**Miyama**	4.94	313	P	Pn	17 33 15.6	+2.3
JWY	**Kouya**	5.00	293	P	Pn	17 33 15.8	+1.6
CBIJ	**Chichi jima**	5.36	170	P	Pn	17 33 20.1	+1.0
JNU	**Nakatsue**	8.70	277	P	Pn	17 34 07.3	+2.5
	0.3nm,0.3s,baz=90,slow=13,SNR=3.5						
ASAJ	**Asahikawa**	11.75	5	P	Pn	17 34 44.8	-1.7
	0.6nm,0.3s,baz=218,slow=13,SNR=8.6						
SONM	**Songino Array**	30.43	311	P	P	17 38 09.8	-0.4
	1.7nm,0.8s,baz=115,slow=7.2,SNR=9.3						
ZALV	**Zalesovo Beam**	44.99	316	P	P	17 40 12.7	0.0
	0.5nm,0.4s,baz=95,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	46.53	306	P	P	17 40 24.3	-0.8
	1.4nm,0.5s,baz=85,slow=9.7,SNR=13						
WRA	**Warramunga Arr**	52.46	188	P	P	17 41 09.6	-0.8
	1.2nm,0.4s,baz=5.6,slow=7.6,SNR=37						
ILAR	**Eielson Array**	53.54	30	P	P	17 41 18.6	+0.7
	0.9nm,0.6s,baz=261,slow=6.0,SNR=2.8						
ASAR	**Alice Springs**	56.19	188	P	P	17 41 36.8	-0.6
	0.3nm,0.5s,baz=6.5,slow=7.9,SNR=19						
INK	**Inuvik**	58.61	26	P	P	17 41 55.2	+1.2
	6.2nm,0.8s,baz=250,slow=6.7,SNR=2.5						
FINES	**FINESS Array B**	72.82	333	P	P	17 43 24.9	-0.8
	1.2nm,0.6s,baz=58,slow=5.2,SNR=9.5						
NVAR	**Mina Array Bea**	77.95	52	P	P	17 43 57.1	+1.3
	0.9nm,0.7s,baz=290,slow=5.8,SNR=4.3						
NB2	**NORSAR Subarra**	78.37	338	P	P	17 43 55.3	-2.3
	comp=Z,0.7nm,0.6s,baz=43,slow=5.9						
NOA	**NORSAR Array B**	78.37	338	P	P	17 43 56.9	-0.6
	comp=Z,0.6nm,0.8s,baz=45,slow=5.0,SNR=3.9						
PDAR	**Pinedale Array**	81.07	45	P	P	17 44 13.8	+1.0
	comp=Z,0.3nm,0.5s,baz=270,slow=2.7,SNR=3.2						
TXAR	**Lajitas Array**	93.10	52	P	P	17 45 12.5	+0.8
	comp=Z,0.9nm,0.7s,baz=298,slow=3.7,SNR=6.3						
TORD	**Torodi Ar. Bea**	120.38	313	PKP	PKPdf	17 50 47.2	-2.0
	comp=Z,0.2nm,0.4s,baz=5.8,slow=2.6,SNR=3.4						
LPAZ	**La Paz**	149.00	66	PKPbc	PKPbc	17 51 47.9	+1.4
	comp=Z,1.0nm,0.7s,baz=11,slow=5.2,SNR=5.2						

IDC 15 17:33:00.4±2.9, 45.81S×165.63E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/14, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=84.0km s-min=27.9km az=174.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	4.39	63	Pn	Pn	17 34 08.8	+0.4
	4.1nm,0.3s,baz=201,slow=4.8,SNR=13						
RPZ				Sn	Sn	17 35 00.4	+0.2
	4.2nm,0.3s,baz=267,slow=23,SNR=7.4						
ASAR	**Alice Springs**	33.83	300	P	P	17 39 44.1	-0.3
	0.2nm,0.6s,baz=136,slow=8.3,SNR=6.6						
WRA	**Warramunga Arr**	36.43	305	P	P	17 40 07.0	+0.2
	0.4nm,0.8s,baz=130,slow=7.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	144.71	208	PKP	PKPbc	17 52 38.5	+0.4
	0.4nm,0.6s,baz=158,slow=2.3,SNR=2.7						

IDC ***15*** *17:35:28.9±0.6, 61°.71N×151°.94W, h68km±4km, mb3.7/15, mb1 3.9/18, mb1mx3.8/27, mbtmp3.7/18, Error ellipse: s-maj=12.3km s-min=8.9km az=100.0*

MOS ***15*** *17:35:29.2±0.8, 61°.71N×151°.95W, h87km, mb4.5/8, Error ellipse: s-maj=14.7km s-min=7.2km az=88.4*

ISCJB ***15*** *17:35:30.4±0.2, 61°.67N±0°.02×151°.58W±0°.04, h107km±2km, mb4.1/26, Error ellipse: s-maj=3.8km s-min=2.7km az=44.4*

NEIC ***15*** *17:35:32.9, 61°.66N×151°.56W, h91km, mb4.6/1, After AEIC.*

NEIC Felt at Talkeetna.

ISC 15 17:35:31.5±0.6, 61°.66N±0°.03×151°.61W±0°.03, h98km±5km, n160, σ0s95/183, mb4.2/26, 2C-5D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STLK	**Strandline Lak**	0.19	214	P	Pn	17 35 45.7	+0.2
SKT	**Skwentna**	0.33	6	P	Pn	17 35 46.2	+0.3
SUA	**Susitna One**	0.46	115	P	Pn	17 35 47.9	+1.0
SPU	**Mount Spurr**	0.53	204	P	Pn	17 35 47.5	+0.2
BGL	**Barrier Glacie**	0.55	224	P	Pn	17 35 47.8	+0.3
CKL	**Chakachamna La**	0.58	218	P	Pn	17 35 48.0	+0.2
BGRM	**Barrier Glacie**	0.99	204	P	Pn	17 35 51.8	+0.2
PMR	**Palmer**	1.18	92	P	Pn	17 35 53.6	-0.1
PMR				S	Sn	17 36 10.4	-0.2
PMR	**Palmer**	1.18	92	P	Pn	17 35 53.6	-0.1
PMR				S	Sn	17 36 10.4	-0.2
DFR	**Drift River**	1.19	207	P	Pn	17 35 54.5	+0.5
RDJH	**Redoubt Jeurge**	1.22	209	P	Pn	17 35 55.2	+0.9
RDJH				S	Sn	17 36 12.7	+1.1
NCT	**North Crescent**	1.27	211	P	Pn	17 35 55.7	+0.8
RDWB	**Redoubt West**	1.32	208	P	Pn	17 35 56.1	+0.5
RDWB				S	Sn	17 36 14.2	+0.5
RSO	**Redoubt South**	1.32	205	*e*P	Pn	17 35 56.0	+0.3
SLKM	**Skilak Lake**	1.34	149	P	Pn	17 35 55.8	+0.2
SLKM	**Skilak Lake**	1.34	149	P	Pn	17 35 55.8	+0.2
SML	**Sawmill**	1.56	83	P	Pn	17 35 58.3	-0.2
SML				S	Sn	17 36 19.0	+0.3
SML	**Sawmill**	1.56	83	P	Pn	17 35 58.3	-0.2
SML				S	Sn	17 36 19.1	+0.3
HUR	**Hurricane**	1.61	34	P	Pn	17 35 59.5	+0.5
ILIM	**Iliamna**	1.72	203	P	Pn	17 36 00.7	+0.3
ILW	**Iliamna West**	1.77	206	P	Pn	17 36 01.4	+0.3
CAST	**Castle Rocks**	1.78	353	P	Pn	17 36 01.5	+0.3
CAST				S	Sn	17 36 23.0	-0.7
TRF	**Thorofare Moun**	1.90	18	P	Pn	17 36 02.8	0.0
TRF				S	Sn	17 36 26.7	0.0
BRLK	**Bradley Lake**	1.93	169	P	Pn	17 36 03.1	0.0
SVW2	**Sparrevohn**	2.00	255	P	Pn	17 36 04.1	+0.3
SVW2				S	Sn	17 36 28.4	-0.2
SCM	**Sheep Creek Mo**	2.04	83	P	Pn	17 36 04.4	-0.2
SCM	**Sheep Creek Mo**	2.04	83	P	Pn	17 36 04.4	-0.2
RND	**Reindeer**	2.17	35	P	Pn	17 36 06.7	+0.5
RND	**Reindeer**	2.17	35	P	Pn	17 36 06.7	+0.5
CHUM	**Lake Minchumin**	2.26	352	P	Pn	17 36 07.5	+0.3
CHUM				S	Sn	17 36 34.1	-0.5
TT01	**Tatalina**	2.41	303	P	Pn	17 36 09.4	+0.1
MCK	**McKinley**	2.42	29	P	Pn	17 36 09.7	+0.3
MCK	**McKinley**	2.42	29	P	Pn	17 36 09.7	+0.3
DHY	**Denali Highway**	2.43	52	P	Pn	17 36 10.1	+0.4
DHY				S	Sn	17 36 39.1	+0.1
VLZ	**Valdez**	2.59	99	P	Pn	17 36 10.8	-0.9
BWN	**Browne**	2.71	20	P	Pn	17 36 13.8	+0.6
KLU	**Klutina**	2.73	91	P	Pn	17 36 12.9	-0.6
DIV	**Divide**	2.86	98	P	Pn	17 36 14.3	-0.9
EYAK	**Cordova Ski Ar**	3.05	109	P	Pn	17 36 17.7	-0.1
HARP	**HAARP**	3.13	73	P	Pn	17 36 19.8	+0.9
NEA	**Nenana**	3.15	20	P	Pn	17 36 18.8	-0.2
PAX	**Paxson**	3.15	63	P	Pn	17 36 19.9	+0.7
PAX	**Paxson**	3.15	63	P	Pn	17 36 19.9	+0.7
WRH	**Wood River Hil**	3.25	28	P	Pn	17 36 20.3	-0.1
KAPH	**Katmai Pasha**	3.36	205	P	Pn	17 36 22.9	+0.8
M

PETK	Petropavlovsk-	27.95	276	P		P	17 41 11.6	-0.7
PETK	Petropavlovsk-	27.95	276	P		P	17 41 11.6	-0.7
PETK	Petropavlovsk-	27.95	276	P		P	17 41 11.6	-0.7
	0.6nm,0.6s,baz=68,slow=12,SNR=5.7							
TIXI	Tiksi	30.57	322	⇓ *eP*		P	17 41 34.8	-0.4
TIXI				pmax	pmax			
	comp=Z,6.0nm,2.5s							
NVAR	Mina Array Bea	31.00	123	P		P	17 41 42.3	+2.7
NVAR				PcP		PcP	17 44 34.4	+1.2
NVAR	Mina Array Bea	31.00	123	P		P	17 41 42.3	+2.7
	comp=Z,0.4nm,0.5s,baz=327,slow=9.7,SNR=3.9							
NVAR				PcP		PcP	17 44 34.4	+1.2
	comp=Z,0.6nm,0.5s,baz=296,slow=2.5,SNR=5.6							
PDAR	Pinedale Array	31.18	108	P		P	17 41 43.5	+2.2
PDAR				pP		pP	17 41 59.6	-3.6
PDAR				sP		sP	17 42 06.4	-8.1
PDAR				PcP		PcP	17 44 34.0	+0.4
PDAR	Pinedale Array	31.18	108	P		P	17 41 43.5	+2.2
	comp=Z,0.3nm,0.5s,baz=337,slow=4.0,SNR=5.1							
PDAR				pP		pP	17 41 59.6	-3.6
	comp=Z,0.3nm,0.5s,baz=338,slow=6.8,SNR=2.6							
PDAR				sP		sP	17 42 06.4	-8.1
	comp=Z,0.7nm,0.8s,baz=318,slow=6.6,SNR=4.3							
PDAR				PcP		PcP	17 44 34.1	+0.4
	comp=Z,0.6nm,0.8s,baz=45,slow=1.4,SNR=3.7							
TXAR	Lajitas Array	44.97	113	P		P	17 43 39.0	+2.3
TXAR				sP		sP	17 44 03.0	-7.8
TXAR	Lajitas Array	44.97	113	P		P	17 43 39.1	+2.3
	comp=Z,0.5nm,0.6s,baz=312,slow=7.5,SNR=3.8							
TXAR				sP		sP	17 44 03.0	-7.8
	comp=Z,1.0nm,0.7s,baz=307,slow=4.6,SNR=4.4							
KEV	Kevo	48.87	1	*ep*		P	17 44 06.0	-0.4
	comp=Z,6.9nm,0.8s							
KEV	Kevo	48.87	1	*eP*		P	17 44 06.0	-0.4
KEV				pmax	pmax			
	comp=Z,7.0nm,0.8s							
ARCES	ARCESS Array B	49.08	1	P		P	17 44 07.4	-0.7
ARCES				PcP		PcP	17 45 30.4	+0.3
ARCES	ARCESS Array B	49.08	1	P		P	17 44 07.4	-0.7
	comp=Z,2.1nm,0.4s,baz=351,slow=6.6,SNR=24							
ARCES				PcP		PcP	17 45 30.5	+0.3
	comp=Z,4.4nm,0.8s,baz=357,slow=4.1,SNR=8.4							
KRAR	Krasnoyarsk	52.29	320	⇓ *eP*		P	17 44 31.3	-1.0
KRAR				pmax	pmax			
	comp=Z,13nm,0.5s							
KSRS	Korea Array	53.49	282	P		P	17 44 40.9	-0.4
	comp=Z,1.3nm,0.7s,baz=34,slow=7.2,SNR=3.5							
KSAR	Wonju Array Be	53.51	282	P		P	17 44 40.9	-0.7
ULN	Ulaanbaatar	54.09	305	*eP*		P	17 44 46.3	+0.5
	comp=Z,4.4nm,0.8s							
SONM	Songino Array	54.37	306	P		P	17 44 48.4	+0.6
SONM	Songino Array	54.37	306	P		P	17 44 48.4	+0.6
	comp=Z,7.1nm,0.8s,baz=33,slow=6.1,SNR=52							
NVS	Novosibirsk	56.09	325	*eP*		P	17 44 56.0	-3.9
HVS	Khovu-Aksy	56.16	316	⇑ *eP*		P	17 45 01.3	+0.7
HVS				pmax	pmax			
	comp=Z,27nm,1.0s							
ZALV	Zalesovo Beam	56.44	324	P		P	17 45 02.0	-0.4
ZALV	Zalesovo Beam	56.44	324	P		P	17 45 02.0	-0.4
ZALV	Zalesovo Beam	56.44	324	P		P	17 45 02.0	-0.4
	comp=Z,4.3nm,0.5s,baz=28,slow=6.9,SNR=23							
KAF	Kangasniemi	56.54	1	*ep*		P	17 45 02.9	-0.1
KAF	Kangasniemi	56.54	1	*eP*		P	17 45 02.9	-0.1
NB2	NORSAR Subarra	56.92	10	P		P	17 45 04.9	-0.9
	comp=Z,0.5nm,0.5s,baz=351,slow=7.4							
NOA	NORSAR Array B	56.92	10	P		P	17 45 05.3	-0.5
NOA	NORSAR Array B	56.92	10	P		P	17 45 05.3	-0.5
	comp=Z,0.6nm,0.6s,baz=351,slow=7.1,SNR=5.2							
FINES	FINESS Array B	57.21	1	P		P	17 45 07.1	-0.6
FINES	FINESS Array B	57.21	1	P		P	17 45 07.1	-0.6
	comp=Z,1.7nm,0.4s,baz=10,slow=7.3,SNR=17							
ARU	Arti	59.90	341	*d iP*		P	17 45 22.5	-3.9
ARU				S		S	17 53 27.3	-2.9
ARU				SS		SS	17 57 23.2	-3.8
ARU				pmax	pmax			
	comp=Z,6.0nm,1.2s							
BRVK	Borovoye	60.91	333	⇓ *eP*		P	17 45 33.0	-0.4
BRVK				pmax	pmax			
	comp=Z,3.0nm,1.2s							
OBN	Obninsk	63.39	355	*eP*		P	17 45 49.9	0.0
OBN				pmax	pmax			
	comp=Z,5.0nm,0.7s							
MKAR	Makanchi Array	63.56	322	*ceP*		P	17 45 50.2	-1.0
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	Makanchi Array	63.56	322	P		P	17 45 50.5	-0.6
MKAR				sP		sP	17 46 17.5	-8.7
MKAR	Makanchi Array	63.56	322	P		P	17 45 50.5	-0.6
	comp=Z,1.0nm,0.5s,baz=38,slow=7.0,SNR=21							
MKAR				sP		sP	17 46 17.5	-8.7
	comp=Z,0.5nm,0.5s,baz=37,slow=7.1,SNR=2.5							
CLL	Collm	66.72	10	*i* P		P	17 46 11.4	0.0
CLL				pmax	pmax			
	comp=Z,22nm,0.8s							
CLL	Collm	66.72	10	*i* P		P	17 46 11.4	0.0
	comp=Z,3.0nm,0.8s							
GERES	GERESS Array B	69.22	10	P		P	17 46 27.4	+0.1
GERES	GERESS Array B	69.22	10	P		P	17 46 27.4	+0.1
	comp=Z,0.5nm,0.5s,baz=304,slow=7.0,SNR=3.7							
AAK	Ala-Archa	69.58	325	⇓ *eP*		P	17 46 29.9	+0.1
AAK				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KIV	Kislovodsk	74.11	349	*eP*		P	17 46 56.0	-0.7
KIV				pmax	pmax			
	comp=Z,8.0nm,1.0s							
ESDC	Sonseca Array	75.66	25	P		P	17 47 06.5	+0.8
ESDC				sP		sP	17 47 32.8	-8.4
ESDC	Sonseca Array	75.66	25	P		P	17 47 06.5	+0.8
	comp=Z,0.2nm,0.3s,baz=342,slow=6.2,SNR=5.7							
ESDC				sP		sP	17 47 32.8	-8.4
	comp=Z,0.5nm,0.6s,baz=344,slow=5.6,SNR=2.3							
BRTR	Keskin Array B	78.88	356	P		P	17 47 23.8	+0.1
BRTR	Keskin Array B	78.88	356	P		P	17 47 23.8	+0.1
	comp=Z,0.4nm,0.4s,baz=357,slow=3.8,SNR=4.2							
CMAR	Chiang Mai Arr	82.78	296	P		P	17 47 44.3	-0.3
CMAR	Chiang Mai Arr	82.78	296	P		P	17 47 44.3	-0.3
	comp=Z,1.0nm,0.7s,baz=17,slow=5.6,SNR=7.3							
BOSA	Boshof	146.89	5	PKPbc		PKPbc	17 55 01.9	-0.2
BOSA	Boshof	146.89	5	PKPbc		PKPbc	17 55 01.9	-0.2
	comp=Z,3.6nm,0.7s,baz=334,slow=4.4,SNR=7.6							

IDC 15 17:43:54.0±2.2, 8°27S×158°05E, h144km±26km, mb3.3/5, mb1 3.5/6, mb1mx3.3/19, mbtmpb3.3/6, Error ellipse: s-maj=30.6km s-min=26.1km az=102.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	Honiara	2.21	122	P		Pn	17 44 31.3	+0.2
	46nm,0.3s,baz=208,slow=5.6,SNR=44							
HNR				S		Sn	17 45 00.2	+0.5
	104nm,0.3s,baz=211,slow=10,SNR=5.5							
WRA	Warramunga Arr	25.71	241	P		P	17 49 10.9	-0.2
	0.7nm,0.4s,baz=65,slow=8.9,SNR=28							
ASAR	Alice Springs	27.73	234	P		P	17 49 29.2	-0.1
	0.2nm,0.4s,baz=61,slow=10,SNR=6.8							
STKA	Stephens Creek	28.04	211	P		P	17 49 32.3	+0.5
	3.5nm,0.9s,baz=27,slow=9.0,SNR=3.3							
VNDA	Vanda	69.25	179	P		P	17 54 44.8	-0.1
	0.3nm,0.6s,baz=357,slow=6.2,SNR=3.5							
SONM	Songino Array	72.05	326	P		P	17 55 02.6	+0.1
	0.2nm,0.5s,baz=134,slow=6.2,SNR=2.0							

*ISCJB **15** 17:51:15.2±0.6, 20°.00S±0°.05×69°.2W±0°.1, h114km±7km, mb3.8/3, Error ellipse: s-maj=18.5km s-min=7.2km az=8.0*
*GUC **15** 17:51:17.2±0.4, 20°.20S×69°.47W, h119km±3km, ML4.1*
*IDC **15** 17:51:18.0±1.8, 20°.11S×68°.88W, h112km±13km, mb3.7/5, mb1 3.7/8, mb1mx3.5/21, mbtmpb3.7/8, Error ellipse: s-maj=35.6km s-min=12.8km az=107.0*

ISC 15 17:51:16.3±0.8, 20°.00S±0°.05×69°.2W±0°.1, h106km±7km, n17, σ1°22/26, mb3.9/3, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HMBC	Humberstone	0.73	248	⇑ *iP*		Pn	17 51 34.8	+0.2
HMBC				*i* S		Sn	17 51 48.5	+0.1
HMBC				AML		AML	17 51 50.1	
	comp=E,13μm,0.6s							
PB01	Plate Boundary	1.08	196	⇑ *iP*		Pn	17 51 38.0	-0.1
PB01				*i* S		Sn	17 51 54.0	-0.6
PB01				AML		AML	17 51 54.8	
	comp=N,9μm,0.2s							
PB09	Plate Boundary	1.79	182	⇓ *eP*		Pn	17 51 46.6	0.0
PB09				*i* S		Sn	17 52 09.2	-0.5
PB09				AML	AML		17 52 11.4	
	comp=E,3μm,0.2s							
PB07	Plate Boundary	1.84	201	*eP*		Pn	17 51 46.5	-0.9
PB07				*i* S		Sn	17 52 08.4	-2.5
PB07				AML	AML		17 52 17.7	
	comp=E,1μm,0.2s							
PB04	Plate Boundary	2.27	187	*eP*		Pn	17 51 54.7	+2.1
PB04				*i* S		Sn	17 52 22.6	+2.2
PB04				AML	AML		17 52 35.4	
	comp=N,598nm,0.3s							
LVC	Limon Verde	2.61	175	*eP*		Pn	17 51 57.7	+0.4
LVC				*i* S		Sn	17 52 28.7	0.0
LVC	Limon Verde	2.61	175	P		Pn	17 51 57.7	+0.4
	comp=N,18nm,0.3s,baz=17,slow=12,SNR=102							
LVC				S		Sn	17 52 28.6	-0.2
	comp=N,44nm,0.3s,baz=341,slow=10,SNR=14							
LPAZ	La Paz	3.82	15	P		Pn	17 52 16.8	+3.0
	comp=N,5.6nm,0.3s,baz=152,slow=8.1,SNR=58							
LPAZ				S		Sn	17 52 58.2	0.0
	comp=N,1.1nm,0.3s,baz=178,slow=10,SNR=3.6							
SIV	San Ignacio	8.68	64	P		Pn	17 53 17.6	-1.5
	comp=N,3.1nm,0.3s,baz=261,slow=14,SNR=43							
BDFB	Brasilia	20.60	81	P		P	17 55 46.3	-0.9
	comp=N,2.2nm,0.4s,baz=235,slow=8.0,SNR=5.4							
PLCA	Paso Flores	20.70	183	P		P	17 55 47.4	-0.7
	comp=N,2.6nm,0.6s,baz=360,slow=11,SNR=9.3							
SNAA	Sanae	63.77	161	P		P	18 01 37.3	+0.7
	comp=N,0.4nm,0.9s,baz=280,slow=7.4,SNR=6.8							
DBIC	Dimbokro	68.55	74	P		P	18 02 07.5	-0.6
	comp=N,5.6nm,0.9s,baz=245,slow=10.0,SNR=2.9							
TORD	Torodi Ar. Bea	77.09	71	P		P	18 02 58.0	-0.6
	comp=N,0.9nm,0.4s,baz=253,slow=5.4,SNR=19							
TORD				pP		pP	18 03 25.6	+0.1
	comp=N,0.8nm,0.6s,baz=255,slow=5.4,SNR=3.8							
WRA	Warramunga Arr	134.10	212	PKP		PKPdf	18 10 22.8	+0.5
	comp=N,0.4nm,0.7s,baz=152,slow=1.8,SNR=3.5							
MKAR	Makanchi Array	144.56	34	PKP		PKPdf	18 10 40.0	-0.3
	comp=N,6.6nm,0.8s,baz=324,slow=2.3,SNR=6.9							
SONM	Songino Array	152.00	6	PKPbc		PKPbc	18 11 00.3	+1.1
	comp=N,0.5nm,0.3s,baz=316,slow=1.2,SNR=6.1							

*ISCJB **15** 18:16:02.4±1.1, 13°.87N±0°.10×91°.78W±0°.06, h66km±11km, mb3.5/3, Error ellipse: s-maj=17.3km s-min=8.5km az=21.5*
*CASC **15** 18:16:04.3±2.3, 13°.89N×91°.61W, h24km±9km, MD3.7, ML3.7*
*IDC **15** 18:16:07.8±9.2, 14°.19N×91°.64W, h84km±65km, mb3.4/3, mb1 3.7/5, mb1mx3.4/21, mbtmpb3.4/5, ML3.8/2, Error ellipse: s-maj=74.3km s-min=43.4km az=176.0*

ISC 15 18:16:03.5±1.6, 13°.92N±0°.10×91°.75W±0°.09, h57km±13km, n19, σ0°.96/29, mb3.6/3, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAT	Jato	0.41	16	*eP*		Pn	18 16 14.2	-0.1
FUG	Fuego 3	1.03	59	*eP*		Pn	18 16 21.6	-0.4
PCG	Pacaya	1.21	67	*eP*		Pn	18 16 24.9	+0.4
PCG				*eS*		Sn	18 16 39.9	-0.1
IXG	Ixpaco	1.29	79	*eP*		Sn	18 16 25.6	+0.2
IXG				*eS*		Sn	18 16 42.1	+0.3
NBG	Las Nubes	1.52	64	*eP*		Pn	18 16 27.9	-0.7
NBG				*eS*		Sn	18 16 48.4	+0.8
RBDL	Robledal	2.02	84	*eP*		Pn	18 16 35.8	+0.4
RBDL				*eS*		Sn	18 17 01.0	+1.4
RTR	El Retiro	2.05	90	*eP*		Pn	18 16 36.4	+0.6
RTR				*eS*		Sn	18 16 59.9	-0.4
SBLS	San Blas	2.07	92	*eP*		Pn	18 16 36.3	+0.1
SBLS				*eS*		Sn	18 17 00.6	-0.4
SNJE	San Jose	2.09	91	*eP*		Pn	18 16 36.8	+0.5
SNJE				*eS*		Sn	18 17 01.0	-0.3
MRL	Marmol	2.30	60	*eP*		Pn	18 16 39.1	-0.1
MRL				*eS*		Sn	18 17 08.2	+1.8
BOQS	Boqueron	2.41	94	*eP*		Pn	18 16 41.3	+0.5
BOQS				*eS*		Sn	18 17 08.1	-1.1
SNET	Serv Nac Est T	2.46	95	AML		AML	18 17 16.3	
	comp=Z,691nm,0.3s							
LFRS	El Faro	2.63	96	*eP*		Pn	18 16 43.3	-0.4
LFRS				*eS*		Sn	18 17 11.8	-2.8
TEIG	Tepich	7.09	27	P		Pn	18 17 44.8	+0.1
	comp=Z,4.5nm,0.3s,baz=210,slow=12,SNR=31							
TEIG				S		Sn	18 19 02.0	-2.0
	comp=Z,1.0nm,0.3s,baz=209,slow=23,SNR=4.1							
TXAR	Lajitas Array	18.89	326	P		Pn	18 20 20.8	+0.1
	comp=Z,0.0nm,0.3s,baz=157,slow=13,SNR=9.2							
ANMO	Albuquerque	24.73	330	P		P	18 21 20.6	+0.2
	comp=Z,0.4nm,0.3s,baz=111,slow=8.6,SNR=4.1							
NVAR	Mina Array Bea	33.88	321	P		P	18 22 42.0	+0.8
	comp=Z,1.1nm,0.7s,baz=134,slow=8.7,SNR=8.6							
ILAR	Eielson Array	63.00	337	P		P	18 26 23.5	-0.7
	comp=Z,0.4nm,0.7s,baz=129,slow=8.5,SNR=4.7							
CMAR	Chiang Mai Arr	146.14	342	PKPbc		PKPbc	18 35 38.4	+0.1
	comp=Z,1.1nm,0.7s,baz=334,slow=3.8,SNR=8.5							

IDC 15 18:24:37.1±6.9, 44°.80S×166°.97E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/13, mbtmpb3.5/2, Error ellipse: s-maj=370.1km s-min=45.7km az=48.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ASAR	Alice Springs	34.17	297	P		P	18 31 24.1	0.0
	0.3nm,0.6s,baz=132,slow=7.9,SNR=7.5							
WRA	Warramunga Arr	36.66	302	P		P	18 31 45.4	-0.2
	1.1nm,0.9s,baz=141,slow=8.8,SNR=4.2							
BRTR	Keskin Array B	145.47	278	PKPbc		PKPdf	18 44 16.1	-0.7
	4.0nm,0.9s,baz=131,slow=5.0,SNR=4.5							
TORD	Torodi Ar. Bea	146.05	206	PKPbc		PKPdf	18 44 18.2	-0.1
	1.3nm,0.7s,baz=165,slow=1.8,SNR=7.7							

*NIED **15** 18:32:00.36°.10N×142°.10E, h17km, Mw4.2 Best double couple: M0 1.95000×10^15 NP1:φ=8.00000°, δ=77.00000°, λ=52.00000°. NP2:φ=254.00000°, δ=40.00000°, λ=160.00000°.*
*IDC **15** 18:32:04.0±1.2, 36°.06N×142°.26E, h0km, mb4.0/10, mb1 4.0/14, mb1mx4.0/24, mbtmpb4.0/14, ML3.5/4, MS3.5/5, Ms1 3.5/5, ms1mx3.2/27, Error ellipse: s-maj=30.3km s-min=20.4km az=81.0*
*ISCJB **15** 18:32:05.3±1.9, 36°.07N±0°.04×142°.18E±0°.07, h18km±14km, mb3.8/13, MS3.7/3, Error ellipse: s-maj=9.7km s-min=6.2km az=19.8*
*JMA **15** 18:32:06.6±0.3, 36°.10N×142°.15E, h75km, M3.6*

ISC 15 18:32:06.2±2.3, 36°.06N±0°.05×142°.16E±0°.08, h12km±13km, n34, σ1°23/38, mb3.9/13, MS3.7/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHOJ	Chosi	1.11	252	P		Pg	18 32 27.1	-0.5
CHOJ				S		Sn	18 32 42.6	-0.3
JHO	Hitachi	1.39	294	P		Pn	18 32 30.0	-1.5
ONAJ	Iwakimizuishiy	1.51	314	P		Pn	18 32 31.7	-1.4
JFK	Kawauchi	1.66	322	P		Pn	18 32 34.0	-1.2
BSO1	Boso 1	1.70	215	P		Pn	18 32 35.4	+0.2
BSO1				S		Sn	18 32 56.4	-0.3
JFT	Otama	2.06	315	P		Pn	18 32 40.6	-0.1
JFT				*eS*		Sn	18 33 05.9	-0.4
JAG	Ashikaga	2.21	280	P		Pn	18 32 42.0	-0.8
JOD2	Odawara 2	2.62	253	P		Pn	18 32 48.1	-0.3
JOD2				S		Sn	18 33 19.4	-0.8
JRY	Ryogami san	2.64	270	P		Pn	18 32 47.9	-0.7
JMK	Ichinoseki	2.98	346	P		Pn	18 32 52.4	-0.9
JMK				*eS*		Sn	18 33 27.0	-1.9
JYN	Shimob	2.99	260	P		Pn	18 32 53.8	+0.3
MJAR	Matsushiro Arr	3.22	280	Pn		Pn	18 32 56.9	+0.2
	8.2nm,0.3s,baz=98,slow=7.6,SNR=64							
MAT	Matsushiro	3.23	280	P		Pn	18 32 57.2	+0.5
MAT				*eS*		Sn	18 33 35.0	-0.1
MAT	Matsushiro	3.23	280	P		Pn	18 32 57.2	+0.5
JHJ2	Mitsune	3.52	214	*eS*		Sn	18 33 38.8	-3.5
ASAJ	Asahikawa	8.05	2	Pn		Pn	18 34 01.6	-1.4
	1.8nm,0.3s,baz=57,slow=29,SNR=17							
ASAJ				Sn		Sn	18 35 30.8	-3.1
	1.1nm,0.3s,baz=87,slow=30,SNR=3.8							
ASAJ				LR		LR	18 37 54.5	
	comp=Z,295nm,21.4s,baz=194,slow=44							
JNU	Nakatsue	9.75	256	Pn		Pn	18 34 27.1	+0.9
	0.2nm,0.3s,baz=77,slow=19,SNR=2.6							
USRK	Ussuriysk Arra	11.24	319	Pn		Pn	18 34 49.3	+2.7
	0.1nm,0.3s,baz=80,slow=12,SNR=5.2							
KSRS	Korea Array	11.50	281	Pn		Pn	18 34 50.1	-0.1
	0.1nm,0.3s,baz=101,slow=14,SNR=4.0							
KSRS				LR		LR	18 39 27.2	
	comp=Z,160nm,19.4s,baz=352,slow=38							
PETK	Petropavlovsk-	20.25	28	P		Pn	18 36 45.3	+2.2
	1.5nm,0.9s,baz=212,slow=14,SNR=3.8							
SONM	Songino Array	28.83	305	P		P	18 38 04.9	+0.5
	2.4nm,0.8s,baz=101,slow=8.6,SNR=12							
CMAR	Chiang Mai Arr	41.84	257	P		P	18 39 56.1	-0.2
	0.4nm,0.3s,baz=54,slow=6.8,SNR=5.2							
ZALV	Zalesovo Beam	43.01	313	P		P	18 40 05.1	-0.2
	0.8nm,0.4s,baz=91,slow=6.4,SNR=8.4							
MKAR	Makanchi Array	45.14	303	P		P	18 40 22.7	+0.1
	2.9nm,0.7s,baz=86,slow=9.7,SNR=7.7							
KURBB	Kurchatov Arra	47.07	309	P		P	18 40 37.5	-0.1
	4.5nm,0.8s,baz=84,slow=8.4,SNR=21							
WRA	Warramunga Arr	56.19	189	P		P	18 41 46.0	-0.1
	0.8nm,0.7s,baz=4.6,slow=7.1,SNR=5.5							
ASAR	Alice Springs	59.92	189	P		P	18 42 11.5	-0.6
	0.4nm,1.0s,baz=9.9,slow=7.5,SNR=3.5							
FINES	FINESS Array B	69.95	333	P		P	18 43 17.2	+0.3
	3.5nm,1.0s,baz=19,slow=6.5,SNR=4.9							
FINES				LR		LR	19 18 44.5	
	comp=Z,49nm,20.7s,baz=97,slow=40							
NVAR	Mina Array Bea	75.09	53	P		P	18 43 52.5	+4.1
	0.3nm,0.5s,baz=298,slow=3.2,SNR=3.7							
NB2	NORSAR Subarra	75.31	338	P		P	18 43 49.1	+0.1
	comp=Z,0.7nm,0.6s,baz=40,slow=6.2							
NOA	NORSAR Array B	75.31	338	P		P	18 43 48.9	-0.1
	comp=Z,1.3nm,0.8s,baz=39,slow=5.8,SNR=5.4							
NOA				LR		LR	19 20 32.5	
	comp=Z,40nm,19.7s,baz=90,slow=39							
PDAR	Pinedale Array	77.92	46	P		P	18 44 09.1	+4.8
	comp=Z,0.3nm,0.5s,baz=285,slow=4.6,SNR=3.1							
GERES	GERESS Array B	83.85	329	P		P	18 44 35.9	+0.2
	comp=Z,0.3nm,0.4s,baz=46,slow=5.3,SNR=3.5							
GERES				LR		LR	19 22 26.5	
	comp=Z,23nm,19.4s,baz=72,slow=36							
TXAR	Lajitas Array	90.23	53	P		P	18 45 09.5	+2.3
	comp=Z,0.1nm,0.3s,baz=316,slow=4.7,SNR=2.9							

IDC 15 18:34:17.7±4.7, 2°.52S×139°.38E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/17, mbtmpb3.3/3, ML3.4/1, Error ellipse: s-maj=184.8km s-min=28.4km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	Warramunga Arr	18.00	196	P		Pn	18 38 29.8	+0.3
	0.1nm,0.3s,baz=19,slow=13,SNR=5.1							
ASAR	Alice Springs	21.68	194	P		P	18 39 10.5	+0.3
	0.6nm,0.6s,baz=21,slow=10,SNR=12							
MKAR	Makanchi Array	70.06	322	P		P	18 45 31.5	-0.2
	0.5nm,0.8s,baz=101,slow=7.6,SNR=3.0							

*IDC **15** 18:46:16.0±1.7, 36°.09N×142°.38E, h0km, mb3.6/5, mb1 3.7/8, mb1mx3.5/26, mbtmpb3.6/8, ML3.5/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/23, Error ellipse: s-maj=50.2km s-min=20.2km az=69.0*
*ISCJB **15** 18:46:16.6±0.8, 36°.07N±0°.05×142°.31E±0°.07, h18km, mb3.5/5, Error ellipse: s-maj=8.9km s-min=6.9km az=18.9*
*JMA **15** 18:46:19.8±0.2, 36°.09N×142°.08E, h74km, M3.1*

ISC 15 18:46:18.4±1.2, 36°.08N±0°.06×142°.28E±0°.09, h18km, n20, σ1°26/25, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHOJ	Chosi	1.21	252	P		Pn	18 46 39.5	-0.9
CHOJ				*eS*		Sb	18 46 54.6	-1.5
JHO	Hitachi	1.48	292	P		Pn	18 46 42.5	-1.6
JFK	Kawauchi	1.71	319	P		Pn	18 46 46.5	-0.9
BSO1	Boso 1	1.77	217	P		Pn	18 46 47.8	+0.1
BSO3	Boso 3	1.92	229	P		Pn	18 46 49.3	-0.7
BSO3				*eS*		Sn	18 47 11.1	-2.5
JFT	Otama	2.12	313	P		Pn	18 46 53.0	0.0
JFT				*eS*		Sn	18 47 18.0	-0.8
JAG	Ashikaga	2.31	279	P		Pn	18 46 54.8	-0.7
JOD2	Odawara 2	2.72	254	P		Pn	18 47 00.6	-0.6
JRY	Ryogami san	2.73	270	P		Pn	18 47 00.4	-1.1
JYN	Shimob	3.09	260	P		Pn	18 47 06.3	0.0
MJAR	Matsushiro Arr	3.32	279	Pn		Pn	18 47 09.6	+0.2
	3.8nm,0.3s,baz=100,slow=7.6,SNR=12							
MAT	Mats

JFT				S	Sn	18 57 27.1	-2.9	
JCH	**Churui**	**4.28**	**338**	P	Pn	**18 56 41.5**	**-1.3**	
JCH				S	Sn	**18 57 29.4**	**-2.1**	
JOT	**Ohata**	**4.37**	**310**	*eS*	Sn	**18 57 30.5**	**-3.2**	
JKB	**Kayabe**	**4.70**	**315**	P	Pn	**18 56 48.7**	**+0.2**	
JKB				*eS*	Sn	**18 57 39.7**	**-2.1**	
NEM2	**Nemuro 2**	**4.72**	**2**	P	Pn	**18 56 45.9**	**-2.9**	
NEM2				*eS*	Sn	18 57 36.0	-6.2	
BSO1	**Boso 1**	**5.39**	**224**	*eS*	Sn	**18 57 53.8**	**-4.2**	
JTKR	**Abashiri--Toko**	**5.45**	**348**	P	Pn	**18 56 58.0**	**-0.8**	
JTKR				*eS*	Sn	**18 57 57.7**	**-2.6**	
JRY	**Ryogami san**	**5.87**	**245**	P	Pn	**18 57 02.6**	**-2.0**	
JRY				*eS*	Sn	18 58 04.5	-6.2	
ASAJ	**Asahikawa**	**5.88**	**339**	Pn	Pn	**18 57 04.7**	**-0.1**	
	4.4nm,0.3s,baz=166,slow=27,SNR=42							
ASAJ				Sn	Sn	**18 58 10.2**	**-0.8**	
	3.8nm,0.3s,baz=328,slow=31,SNR=7.1							
JOD2	**Odawara 2**	**6.14**	**239**	S	Sn	18 58 10.4	-6.9	
MJAR	**Matsushiro Arr**	**6.15**	**252**	Pn	Pn	**18 57 08.4**	**-0.1**	
	3.1nm,0.3s,baz=89,slow=16,SNR=30							
MAT	**Matsushiro**	**6.15**	**252**	P	Pn	**18 57 08.3**	**-0.2**	
MAT				*eS*	Sn	**18 58 17.2**	**-0.5**	
USRK	**Ussuriysk Arra**	**11.54**	**303**	Pn	Pn	18 58 24.5	+2.1	
	0.3nm,0.3s,baz=104,slow=14,SNR=10							
SONM	**Songino Array**	**29.65**	**301**	P	**P**	**19 01 44.3**	**+1.9**	
	0.3nm,0.4s,baz=81,slow=8.9,SNR=3.4							
ZALV	**Zalesovo Beam**	**43.25**	**311**	P	P	19 03 40.1	+2.3	
	0.5nm,0.4s,baz=113,slow=3.3,SNR=3.2							
ZALV				PcP	**PcP**	**19 05 27.1**	**+0.7**	
	1.8nm,0.5s,baz=85,slow=3.1,SNR=7.1							
CMAR	**Chiang Mai Arr**	**45.02**	**257**	P	**P**	**19 03 54.2**	**+1.8**	
	0.4nm,0.7s,baz=50,slow=8.5,SNR=3.8							
MKAR	**Makanchi Array**	**46.02**	**302**	P	**P**	**19 04 01.6**	**+1.5**	
	0.5nm,0.7s,baz=74,slow=8.2,SNR=3.8							
ILAR	**Eielson Array**	**46.40**	**33**	P	**P**	**19 04 01.0**	**-1.7**	
	0.7nm,0.8s,baz=252,slow=5.3,SNR=4.6							
KURBB	**Kurchatov Arra**	**47.57**	**307**	P	**P**	**19 04 13.4**	**+1.3**	
	1.4nm,0.8s,baz=81,slow=8.2,SNR=16							
BVAR	**Borovoye Array**	**51.88**	**312**	P	**P**	**19 04 46.6**	**+1.7**	
	0.2nm,0.3s,baz=69,slow=7.9,SNR=2.4							
WRA	**Warramunga Arr**	**59.21**	**192**	P	**P**	**19 05 35.9**	**-1.9**	
	1.9nm,0.5s,baz=11,slow=7.0,SNR=30							
ASAR	**Alice Springs**	**62.93**	**192**	P	**P**	**19 06 01.4**	**-1.6**	
	0.6nm,0.7s,baz=8.6,slow=6.2,SNR=11							
FINES	**FINESS Array B**	**68.86**	**333**	P	**P**	**19 06 40.6**	**0.0**	
	2.2nm,1.0s,baz=50,slow=6.0,SNR=5.9							
NVAR	**Mina Array Bea**	**71.43**	**55**	P	**P**	**19 06 57.7**	**+0.6**	
	1.8nm,0.9s,baz=287,slow=7.2,SNR=9.1							
NOA	**NORSAR Array B**	**73.91**	**339**	P	**P**	**19 07 12.0**	**+0.7**	
	0.2nm,0.4s,baz=50,slow=7.6,SNR=2.9							
HFS	**Hagfors**	**73.91**	**337**	P	**P**	**19 07 11.3**	**+0.1**	
	0.7nm,0.7s,baz=38,slow=12,SNR=3.8							
PDAR	**Pinedale Array**	**74.22**	**48**	P	**P**	**19 07 13.3**	**-0.3**	
	0.4nm,0.5s,baz=318,slow=2.0,SNR=3.6							
GERES	**GERESS Array B**	**82.98**	**330**	P	**P**	**19 08 02.3**	**+0.8**	
	0.4nm,0.4s,baz=27,slow=6.7,SNR=3.4							
TXAR	**Lajitas Array**	**86.57**	**55**	P	**P**	**19 08 20.3**	**+0.3**	
	1.1nm,0.8s,baz=292,slow=3.9,SNR=6.4							

IDC 15 19:00:07.8±7.5, 45.16S×167.52E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.4/13, mbtmp3.2/2, Error ellipse: s-maj=407.0km s-min=43.1km az=48.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**34.68**	**297**	P	P	19 06 59.2	0.0
	0.2nm,0.9s,baz=134,slow=5.3,SNR=2.7						
WRA	**Warramunga Arr**	**37.18**	**302**	P	P	19 07 20.3	-0.3
	0.5nm,0.8s,baz=139,slow=8.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**145.89**	**205**	PKPbc	PKPdf	19 19 48.3	-0.5
	0.9nm,0.7s,baz=161,slow=2.2,SNR=12						
BRTR	**Keskin Array B**	**145.90**	**277**	PKPbc	PKPdf	19 19 48.4	+0.1
	2.0nm,1.2s,baz=151,slow=3.3,SNR=4.9						

*CSEM **15** 19:03:14.4, 38.34N×14.52E, h217km, After ROM*
*ROM **15** 19:03:14.4±0.2, 38.34N×14.52E, h217km±2km, Ml3.2/12, Error ellipse: s-maj=4.2km s-min=1.8km az=152.0*
*ISCJB **15** 19:03:15.6±0.5, 38.29N±0.06×14.57E±0.05, h209km±3km, mb3.1/3, Error ellipse: s-maj=10.4km s-min=5.3km az=152.4*
*IDC **15** 19:03:18.1±2.6, 38.28N×14.49E, h235km±37km, mb2.9/3, mb1 3.0/6, mb1mx2.8/29, mbtmp2.9/6, Error ellipse: s-maj=55.4km s-min=17.2km az=126.0*

ISC 15 19:03:16.2±0.9, 38.31N±0.06×14.54E±0.05, h205km±6km, n76, σ0.51/113, mb3.2/3, 6C-4D, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IACL	**Alicudi**	**0.26**	**327**	Pn	**Pn**	**19 03 43.4**	**+0.2**
IACL	**Alicudi**	**0.26**	**327**	Pn	**Pn**	**19 03 43.4**	**+0.2**
VPL	**Vulcano Piano**	**0.36**	**79**	Pn	**Pn**	**19 03 43.3**	**-0.2**
VPL	**Vulcano Piano**	**0.36**	**79**	Pn	**Pn**	**19 03 43.3**	**-0.2**
MNO	**Monte Soro**	**0.40**	**162**	Pn	**Pn**	**19 03 43.6**	**-0.3**
MNO				Sn	**S**	**19 04 05.2**	**-0.1**
	12nm,0.2s						
MNO	**Monte Soro**	**0.40**	**162**	Pn	**Pn**	**19 03 43.6**	**-0.3**
MNO				Sn	**S**	**19 04 05.2**	**-0.1**
	12nm,0.2s						
PLLN	**Pollina**	**0.45**	**224**	Pn	**Pn**	**19 03 43.5**	**-0.3**
PLLN				Sn	**S**	**19 04 05.3**	**+0.1**
	44nm,0.3s						
PLLN	**Pollina**	**0.45**	**224**	Pn	**Pn**	**19 03 43.5**	**-0.3**
PLLN				Sn	**S**	**19 04 05.3**	**+0.1**
	44nm,0.3s						
GIB	**Gibilmanna**	**0.52**	**231**	Pn	**Pn**	**19 03 43.9**	**-0.2**
	165nm,0.5s						
GIB	**Gibilmanna**	**0.52**	**231**	Pn	**Pn**	**19 03 43.9**	**-0.2**
	165nm,0.5s						
CSLB	**Castelbuono**	**0.53**	**225**	Pn	**Pn**	**19 03 44.0**	**-0.1**
	34nm,0.2s						
CSLB	**Castelbuono**	**0.53**	**225**	Pn	**Pn**	**19 03 44.0**	**-0.1**
	34nm,0.2s						
MILZ	**Milazzo**	**0.55**	**94**	Pn	**Pn**	**19 03 43.6**	**-0.4**
MILZ				Sn	**S**	**19 04 06.5**	**+0.9**
	84nm,0.5s						
MILZ	**Milazzo**	**0.55**	**94**	Pn	**Pn**	**19 03 43.6**	**-0.4**
MILZ				Sn	**S**	**19 04 06.5**	**+0.9**
	84nm,0.5s						
GALF	**Gagliano Caste**	**0.60**	**178**	Pn	**Pn**	**19 03 45.1**	**+0.7**
GALF				Sn	**S**	**19 04 07.1**	**+0.8**
	87nm,0.6s						
GALF	**Gagliano Caste**	**0.60**	**178**	Pn	**Pn**	**19 03 45.1**	**+0.7**
GALF				Sn	**S**	**19 04 07.1**	**+0.8**
	87nm,0.6s						
MMME	**Mongiuffi-Meli**	**0.68**	**124**	Pn	**Pn**	**19 03 44.9**	**+0.1**
MMME				Sn	**S**	**19 04 07.7**	**+0.9**
	114nm,0.4s						
MMME	**Mongiuffi-Meli**	**0.68**	**124**	Pn	**Pn**	**19 03 44.9**	**+0.1**
MMME				Sn	**S**	**19 04 07.7**	**+0.9**
	114nm,0.4s						
ECNV	**Catenanuova**	**0.73**	**169**	Pn	**Pn**	**19 03 46.0**	**+1.0**
ECNV	**Catenanuova**	**0.73**	**169**	Pn	**Pn**	**19 03 46.0**	**+1.0**
MSRU	**Castanea**	**0.77**	**93**	Pn	**Pn**	**19 03 44.5**	**-0.6**
MSRU				Sn	**S**	**19 04 07.3**	**-0.1**
	57nm,0.2s						
MSRU	**Castanea**	**0.77**	**93**	Pn	**Pn**	**19 03 44.5**	**-0.6**
MSRU				Sn	**S**	**19 04 07.3**	**-0.1**
	57nm,0.2s						
ALJA	**Alia**	**0.84**	**228**	Pn	**Pn**	**19 03 45.8**	**+0.2**
ALJA				Sn	**S**	**19 04 08.1**	**-0.1**
	401nm,0.7s						
ALJA	**Alia**	**0.84**	**228**	Pn	**Pn**	**19 03 45.8**	**+0.2**
ALJA				Sn	**S**	**19 04 08.1**	**-0.1**
	401nm,0.7s						
MTTG	**Motta San Giov**	**0.96**	**108**	Pn	**Pn**	**19 03 46.7**	**+0.4**
MTTG				Sn	**S**	**19 04 10.6**	**+1.2**
	155nm,0.6s						
MTTG	**Motta San Giov**	**0.96**	**108**	Pn	**Pn**	**19 03 46.7**	**+0.4**
MTTG				Sn	**S**	**19 04 10.6**	**+1.2**
	155nm,0.6s						
MSCL	**Scilla**	**0.99**	**94**	Pn	**Pn**	**19 03 46.2**	**-0.3**
	282nm,0.5s						
MSCL	**Scilla**	**0.99**	**94**	Pn	**Pn**	**19 03 46.2**	**-0.3**
	282nm,0.5s						
CORL	**Corleone**	**1.06**	**247**	Pn	**Pn**	**19 03 46.8**	**-0.2**
CORL				Sn	**S**	**19 04 10.0**	**-0.6**
CORL	**Corleone**	**1.06**	**247**	Pn	**Pn**	**19 03 46.8**	**-0.2**
CORL				Sn	**S**	**19 04 10.0**	**-0.6**
CEL	**Celeste**	**1.07**	**92**	Pn	**Pn**	**19 03 46.7**	**-0.3**
CEL				Sn	**S**	**19 04 10.5**	**-0.2**
	232nm,0.4s						
CEL	**Celeste**	**1.07**	**92**	Pn	**Pn**	**19 03 46.7**	**-0.3**
CEL				Sn	**S**	**19 04 10.5**	**-0.2**
	232nm,0.4s						
JOPP	**Joppolo**	**1.10**	**74**	⇑*i*Pn	**Pn**	**19 03 47.0**	**-0.2**
JOPP				Sn	**S**	**19 04 11.1**	**+0.1**
JOPP	**Joppolo**	**1.10**	**74**	⇑*i*Pn	**Pn**	**19 03 47.0**	**-0.2**
JOPP				Sn	**S**	**19 04 11.1**	**+0.1**
RAFF	**Raffo Rosso**	**1.10**	**187**	⇓*i*Pn	**Pn**	**19 03 47.5**	**+0.3**
RAFF				Sn	**S**	**19 04 11.9**	**+0.9**
RAFF	**Raffo Rosso**	**1.10**	**187**	⇓*i*Pn	**Pn**	**19 03 47.5**	**+0.3**
RAFF				Sn	**S**	**19 04 11.9**	**+0.9**
HCRL	**Carlentini**	**1.10**	**159**	Pn	**Pn**	**19 03 47.2**	**0.0**
HCRL	**Carlentini**	**1.10**	**159**	Pn	**Pn**	**19 03 47.2**	**0.0**
USI	**Ustica**	**1.14**	**291**	Pn	**Pn**	**19 03 48.0**	**+0.6**
USI	**Ustica**	**1.14**	**291**	Pn	**Pn**	**19 03 48.0**	**+0.6**
HVZN	**Vizzini**	**1.14**	**173**	Pn	**Pn**	**19 03 47.8**	**+0.2**
HVZN				Sn	**S**	**19 04 11.9**	**+0.2**
HVZN	**Vizzini**	**1.14**	**173**	Pn	**Pn**	**19 03 47.8**	**+0.2**
HVZN				Sn	**S**	**19 04 11.9**	**+0.2**
MPAZ	**Palizzi**	**1.21**	**107**	Pn	**Pn**	**19 03 48.2**	**+0.2**
MPAZ				Sn	**S**	**19 04 12.4**	**0.0**
	136nm,0.2s						
MPAZ	**Palizzi**	**1.21**	**107**	Pn	**Pn**	**19 03 48.2**	**+0.2**
MPAZ				Sn	**S**	**19 04 12.4**	**0.0**
	136nm,0.2s						
SOI	**Samo**	**1.22**	**101**	Pn	**Pn**	**19 03 48.1**	**0.0**
SOI				Sn	**S**	**19 04 12.6**	**+0.1**
	129nm,0.5s						
SOI	**Samo**	**1.22**	**101**	Pn	**Pn**	**19 03 48.1**	**0.0**
SOI				Sn	**S**	**19 04 12.6**	**+0.1**
	129nm,0.5s						
CRJA	**Costa Raja**	**1.31**	**248**	Pn	**Pn**	**19 03 49.1**	**+0.3**
	86nm,0.4s						
CRJA	**Costa Raja**	**1.31**	**248**	Pn	**Pn**	**19 03 49.1**	**+0.3**
	86nm,0.4s						
HMDC	**Modica**	**1.37**	**172**	Pn	**Pn**	**19 03 49.9**	**+0.6**
HMDC	**Modica**	**1.37**	**172**	Pn	**Pn**	**19 03 49.9**	**+0.6**
MFNL	**Monte Finestre**	**1.38**	**248**	Pn	**Pn**	**19 03 49.6**	**+0.2**
	105nm,0.4s						
MFNL	**Monte Finestre**	**1.38**	**248**	Pn	**Pn**	**19 03 49.6**	**+0.2**
	105nm,0.4s						
MMGO	**Monte Magaggia**	**1.39**	**243**	⇓*i*Pn	**Pn**	**19 03 49.2**	**-0.3**
	94nm,0.3s						
MMGO	**Monte Magaggia**	**1.39**	**243**	⇓*i*Pn	**Pn**	**19 03 49.2**	**-0.3**
	94nm,0.3s						
HAVL	**Avola**	**1.43**	**161**	Pn	**Pn**	**19 03 49.9**	**+0.1**
HAVL	**Avola**	**1.43**	**161**	Pn	**Pn**	**19 03 49.9**	**+0.1**
MTGR	**Montagna Grand**	**1.46**	**254**	Pn	**Pn**	**19 03 49.8**	**-0.3**
	19nm,0.4s						
MTGR	**Montagna Grand**	**1.46**	**254**	Pn	**Pn**	**19 03 49.8**	**-0.3**
	19nm,0.4s						
PLAC	**Placanica**	**1.50**	**84**	⇑*i*Pn	**Pn**	**19 03 50.7**	**+0.3**
PLAC				Sn	**S**	**19 04 16.1**	**-0.5**
	212nm,0.5s						
PLAC	**Placanica**	**1.50**	**84**	⇑*i*Pn	**Pn**	**19 03 50.7**	**+0.3**
PLAC				Sn	**S**	**19 04 16.1**	**-0.5**
	212nm,0.5s						
GRI	**Girifalco**	**1.56**	**70**	Pn	**Pn**	**19 03 51.2**	**+0.3**
GRI	**Girifalco**	**1.56**	**70**	Pn	**Pn**	**19 03 51.2**	**+0.3**
CARO	**Carolei**	**1.61**	**54**	⇑*i*Pn	**Pn**	**19 03 51.4**	**0.0**
CARO				Sn	**S**	**19 04 18.5**	**+0.1**
CARO	**Carolei**	**1.61**	**54**	⇑*i*Pn	**Pn**	**19 03 51.4**	**0.0**
CARO				Sn	**S**	**19 04 18.5**	**+0.1**
SERS	**Sersale**	**1.83**	**66**	Pn	**Pn**	**19 03 54.0**	**+0.5**
SERS				Sn	**S**	**19 04 22.7**	**+0.6**
SERS	**Sersale**	**1.83**	**66**	Pn	**Pn**	**19 03 54.0**	**+0.5**
SERS				Sn	**S**	**19 04 22.7**	**+0.6**
BULG	**Bulgheria - Ca**	**1.88**	**20**	Pn	**Pn**	**19 03 55.1**	**+1.2**
BULG	**Bulgheria - Ca**	**1.88**	**20**	Pn	**Pn**	**19 03 55.1**	**+1.2**
TIP	**Timpagrande**	**1.94**	**63**	Pn	**Pn**	**19 03 54.9**	**+0.4**
TIP				Sn	**S**	**19 04 24.1**	**+0.2**
TIP	**Timpagrande**	**1.94**	**63**	Pn	**Pn**	**19 03 54.9**	**+0.4**
TIP				Sn	**S**	**19 04 24.1**	**+0.2**
KEST	**Kesra**	**4.89**	**240**	P	**Pn**	**19 04 30.9**	**+1.5**
	0.4nm,0.3s,baz=37,slow=5.1,SNR=12						
GERES	**GERESS Array B**	**10.54**	**357**	P	P	19 05 44.8	-4.5
	0.2nm,0.3s,baz=170,slow=13,SNR=9.6						
BRTR	**Keskin Array B**	**14.92**	**79**	P	**P**	**19 06 38.9**	**+0.9**
	0.1nm,0.3s,baz=286,slow=12,SNR=4.0						
TORD	**Torodi Ar. Bea**	**27.54**	**208**	P	**P**	**19 08 43.2**	**-0.9**
	0.3nm,0.4s,baz=16,slow=10,SNR=7.5						
KURBB	**Kurchatov Arra**	**45.92**	**53**	P	**P**	**19 11 17.2**	**-1.1**
	0.2nm,0.3s,baz=279,slow=8.5,SNR=4.6						
MKAR	**Makanchi Array**	**49.22**	**57**	P	**P**	**19 11 42.8**	**-0.9**
	0.4nm,0.4s,baz=280,slow=6.8,SNR=8.6						

IDC 15 19:03:16.3±2.5, 25.31N×141.88E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/24, mbtmp3.7/6, Error ellipse: s-maj=122.3km s-min=22.8km az=79.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.58**	**190**	P	P	19 11 38.1	-0.1
	0.8nm,0.3s,baz=10,slow=8.5,SNR=18						
ASAR	**Alice Springs**	**49.30**	**190**	P	P	19 12 07.0	-0.2
	0.2nm,0.7s,baz=5.8,slow=5.4,SNR=4.3						
KURBB	**Kurchatov Arra**	**54.10**	**315**	P	P	19 12 42.7	-0.1
	0.5nm,0.6s,baz=94,slow=7.8,SNR=6.0						
BVAR	**Borovoye Array**	**59.18**	**318**	P	P	19 13 19.1	+0.1
	0.7nm,0.5s,baz=91,slow=7.4,SNR=6.2						
FINES	**FINESS Array B**	**79.42**	**334**	P	P	19 15 24.3	+0.2
	1.1nm,0.8s,baz=73,slow=4.8,SNR=3.3						
NOA	**NORSAR Array B**	**85.16**	**338**	P	P	19 15 53.8	-0.5
	0.4nm,0.7s,baz=45,slow=4.9,SNR=3.0						

IDC 15 19:13:47.1±1.7, 46.05S×165.89E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.6/13, mbtmp3.6/2, Error ellipse: s-maj=173.0km s-min=48.3km az=33.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**34.10**	**300**	P	P	19 20 33.4	-0.1
	0.5nm,0.9s,baz=138,slow=8.3,SNR=4.8						
ASAR				PcP	PcP	19 23 10.7	-0.3
	0.4nm,0.7s,baz=123,slow=3.9,SNR=5.2						
WRA	**Warramunga Arr**	**36.71**	**305**	P	P	19 20 55.9	0.0
	0.9nm,0.9s,baz=150,slow=9.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**144.58**	**207**	PKP	PKPbc	19 33 25.0	+0.5
	2.0nm,0.8s,baz=155,slow=2.0,SNR=9.4						
BRTR	**Keskin Array B**	**144.88**	**27**	PKP	PKPdf	19 33 25.9	+0.1
	1.6nm,0.9s,baz=132,slow=2.1,SNR=5.0						
ARCES	**ARCESS Array B**	**149.37**	**334**	PKPbc	PKPbc	19 33 36.3	-0.4
	3.2nm,0.9s,baz=64,slow=6.3,SNR=5.6						
FINES	**FINESS Array B**	**152.25**	**318**	PKPbc	PKPbc	19 33 43.1	-0.5
	0.9nm,0.6s,baz=111,slow=3.1,SNR=5.1						

*IDC **15** 19:27:47.4±0.8, 45.65S×166.21E, h0km, mb4.0/5, mb1 4.3/7, mb1mx4.0/16, mbtmp4.1/7, ML4.2/2, Error ellipse: s-maj=26.5km s-min=21.7km az=2.0*
*ISCJB **15** 19:27:48.3±0.5, 45.65S±0.06×166.30E±0.06, h15km, mb3.9/6, Error ellipse: s-maj=9.2km s-min=6.1km az=5.3*
*AUST **15** 19:27:50.9±0.9, 45.63S×166.40E, h21km, Error ellipse: s-maj=1.1km s-min=0.8km az=22.0*
*NEIC **15** 19:27:51.8, 45.80S×166.63E, h5km, ML4.6(WEL), After WEL.*

ISC 15 19:27:49.2±0.5, 45.68S±0.07×166.34E±0.05, h15km, n39, σ1.48/47, mb3.9/6, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.54**	**154**	Pg	**Pg**	**19 27 59.6**	**-0.3**
WHZ	**Wether Hill Ro**	**1.14**	**101**	P*	**Pb**	**19 28 09.5**	**-1.1**
MLZ	**Mavora Lakes**	**1.33**	**76**	P*	**Pn**	**19 28 11.6**	**-1.7**
APZ	**The Paps**	**1.62**	**136**	Pn	**Pn**	**19 28 16.5**	**-0.8**
WKZ	**Wanaka**	**2.07**	**67**	Pn	**Pn**	**19 28 24.5**	**+1.1**
WKZ				Sn	**Sg**	**19 28 54.0**	**-1.7**
EAZ	**Earnscleugh**	**2.13**	**79**	Pn	**Pn**	**19 28 25.3**	**+1.0**
RPZ	**Rata Peaks**	**3.89**	**61**	Pn	**Pn**	**19 28 48.1**	**-0.3**
RPZ				Sn	**Sn**	**19 29 37.8**	**+4.0**
RPZ	**Rata Peaks**	**3.89**	**61**	Pn	**Pn**	**19 28 48.1**	**-0.3**
	38nm,0.3s,baz=227,slow=3.6,SNR=90						
RPZ				Sn	**Sn**	**19 29 37.8**	**+4.0**
	24nm,0.3s,baz=358,slow=20,SNR=6.2						
MCQ	**Macquarie Isla**	**10.02**	**206**	P	Pn	19 30 17.7	+5.3
	baz=10,SNR=5.0						
URZ	**Urewera**	**10.91**	**51**	Pn	**Pn**	**19 30 26.6**	**+2.0**
URZ				Sn	**Sn**	**19 32 23.5**	**-2.9**
URZ	**Urewera**	**10.91**	**51**	Pn	**Pn**	**19 30 26.6**	**+2.0**
	0.7nm,0.3s,baz=270,slow=4.6,SNR=6.0						
URZ				Sn	**Sn**	**19 32 23.5**	**-2.9**
	0.4nm,0.3s,baz=300,slow=20,SNR=3.5						
MILA	**Mila**	**15.49**	**298**	P	**Pn**	**19 31 24.7**	**-2.4**
	baz=16,SNR=7.0						
TOO	**Toolangi**	**17.54**	**290**	P	**P**	**19 31 54.2**	**+0.1**
	baz=18,SNR=7.0						
YNG	**Young**	**17.80**	**303**	P	**P**	**19 31 57.1**	**+0.2**
	baz=18,SNR=7.4						
STKA	**Stephens Creek**	**23.59**	**297**	P	**P**	**19 33 01.5**	**+2.2**
STKA	**Stephens Creek**	**23.59**	**297**	P	**P**	**19 33 01.5**	**+2.2**
	1.7nm,0.8s,baz=153,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**34.20**	**299**	P	**P**	**19 34 33.5**	**-0.6**
ASAR				PcP	**PcP**	**19 37 10.1**	**-0.7**
	0.9nm,0.7s,baz=133,slow=8.5,SNR=14						
ASAR	**Alice Springs**	**34.20**	**299**	P	**P**	**19 34 33.5**	**-0.6**
	0.9nm,0.7s,baz=133,slow=8.5,SNR=14						
ASAR				PcP	**PcP**	**19 37 10.1**	**-0.7**
	0.5nm,0.7s,baz=131,slow=4.1,SNR=4.9						
WRA	**Warramunga Arr**	**36.77**	**304**	P	**P**	**19 34 55.1**	**-1.0**
WRA				PcP	**PcP**	**19 37 18.2**	**-0.1**
WRA	**Warramunga Arr**	**36.77**	**304**	P	**P**	**19 34 55.1**	**-1.0**
	2.2nm,0.8s,baz=138,slow=7.5,SNR=11						
WRA				PcP	**PcP**	**19 37 18.2**	**-0.1**
	0.4nm,0.7s,baz=130,slow=2.7,SNR=4.8						
FITZ	**Fitzroy Crossi**	**43.47**	**296**	P	**P**	**19 35 52.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**43.47**	**296**	P	**P**	**19 35 52.0**	**+0.2**
	2.8nm,0.7s,baz=186,slow=10,SNR=6.4						
FITZ	**Fitzroy Crossi**	**43.47**	**296**	P	**P**	**19 35 52.1**	**+0.4**
	baz=44,SNR=3.4						
QSPA	**South Pole Qui**	**44.45**	**180**	P	**P**	**19 36 00.3**	**+1.0**
QSPA	**South Pole Qui**	**44.45**	**180**	P	**P**	**19 36 00.3**	**+1.0**
	1.3nm,0.9s,baz=74,slow=2.6,SNR=4.5						
CMAR	**Chiang Mai Arr**	**88.21**	**299**	P	**P**	**19 40 40.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**88.21**	**299**	P	**P**	**19 40 40.5**	**+0.8**
	0.9nm,0.6s,baz=157,slow=3.5,SNR=7.6						
ILAR	**Eielson Array**	**116.01**	**20**	PKP	**PKPdf**	**19 46 30.0**	**-0.2**
ILAR	**Eielson Array**	**116.01**	**20**	PKP	**PKPdf**	**19 46 30.0**	**-0.2**
	0.4nm,0.7s,baz=221,slow=1.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**145.06**	**207**	PKPbc	**PKPbc**	**19 47 24.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**145.06**	**207**	PKPbc	**PKPbc**	**19 47 24.7**	**-0.8**
	1.7nm,0.6s,baz=155,slow=2.8,SNR=25						
BRTR	**Keskin Array B**	**145.15**	**277**	PKPbc	**PKPbc**	**19 47 25.3**	**-0.1**
BRTR	**Keskin Array B**	**145.15**	**277**	PKPbc	**PKPbc**	**19 47 25.3**	**-0.1**
	2.0nm,0.8s,baz=137,slow=5.3,SNR=10.0						
SPITS	**Spitsbergen Ar**	**145.38**	**350**	PKPbc	**PKPab**	**19 47 24.9**	**-0.1**
SPITS	**Spitsbergen Ar**	**145.38**	**350**	PKPbc	**PKPab**	**19 47 24.9**	**-0.1**
	12nm,0.8s,baz=15,slow=8.1,SNR=5.0						
ARCES	**ARCESS Array B**	**149.17**	**334**	PKPbc	**PKPbc**	**19 47 36.7**	**+1.1**
ARCES	**ARCESS Array B**	**149.17**	**334**	PKPbc	**PKPbc**	**19 47 36.7**	**+1.1**
	4.3nm,0.8s,baz=40,slow=7.4,SNR=4.7						
FINES	**FINESS Array B**	**152.18**	**319**	PKPbc	**PKPbc**	**19 47 43.7**	**+0.8**
FINES	**FINESS Array B**	**152.18**	**319**	PKPbc	**PKPbc**	**19 47 43.7**	**+0.8**
	1.7nm,0.9s,baz=103,slow=4.4,SNR=5.8						

*IDC **15** 19:47:22.1±2.0, 0.73S×134.11E, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.8/21, mbtmp3.9/6, ML4.1/2, MS3.3/1, Ms1 3.3/1, ms1mx2.3/34, Error ellipse: s-maj=69.2km s-min=20.0km az=77.0*
*AUST **15** 19:47:28.7, 0.98S×134.00E, h35km*

ISC 15 19:47:28.5±1.4, 0.89S±0.08×133.5E±0.2, h29km, n12, σ1.90/16, mb3.9/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**2.27**	**271**	P	**Pb**	**19 48 08.8**	**0.0**
	baz=2.7,SNR=32						
**

mB6.4/19,mb5.7/20,MLv6.1/1,Mw(mB)6.2/19,Mwp6.0/6
MOS ***15*** *20:10:44.6 1.4,3˙32S 150˙47E,h33km,mb5.7/47, MS6.0/55,Error ellipse: s-maj=8.5km s-min=5.6km az=92.1*
GCMT ***15*** *20:10:46.8 0.1,3˙31S 150˙61E,h12km,MW6.1,Moment Tensor Solution. s106,c215; s18,c21; Moment tensor: Scale 10¹⁸Nm; Mrr0.01±.02; Mθθ 1.21±.02; Mφφ -1.22±.02; Mrθ -0.09±.05; Mθφ 1.71±.02; Mφr -0.17±.05; Best double couple: Mo2.10000×10¹⁸ NP1:φ288.00000°,δ85.00000°, λ1.00000°. NP2:φ198.00000°,δ89.00000°,λ175.00000°. Principal axes: T 2.1000, Plg4.0000°, Azm153.0000°; N 0.0000, Plg85.0000°, Azm8.0000°; P -2.1100, Plg3.0000°, Azm243.0000°; Data Used: II IU CN IC G. Surface waves: sta=113, comp=264, per= 50.*
NEIC ***15*** *20:10:59.3 0.0,3˙26S 150˙16E,h10km,Moment Tensor Solution. s157 Moment tensor: Scale 10¹⁸Nm; Mrr-0.27; Mθθ 0.94; Mφφ -0.67; Mrθ -0.48; Mθφ 1.29; Mφr 0.77; Best double couple: Mo1.80000×10¹⁸ NP1:φ200.00000°, δ69.00000°,λ-159.00000°. NP2:φ102.00000°, δ71.00000°,λ-22.00000°. Principal axes: T 1.6600, Plg1.0000°, Azm151.0000°; N 0.2300, Plg60.0000°, Azm244.0000°; P -1.8900, Plg29.0000°, Azm60.0000°;*
ISC 15 20:10:43.8 0.3,3˙32S 150˙62E 0˙03,h22km 2km, h22km;pP-P,n785,σ1 78/804,mb5.6/188,MS6.1/244, 30C-3D,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.77**	**119**	P	Pn	20 11 09.3	-3.9
	baz=1.5,SNR=154						
MANU	**Manus Island**	**3.48**	**291**	P	**Pn**	**20 11 37.4**	**+0.7**
	baz=3.8,SNR=41						
PMG	**Port Moresby**	**6.95**	**209**	Pn	**Pn**	**20 12 25.8**	**+1.4**
PMG	**Port Moresby**	**6.95**	**209**	P	**Pn**	**20 12 26.5**	**+2.1**
	640nm,1.1s,27µm54µm5.2nm						
PMG	**Port Moresby**	**6.95**	**209**	Pn	**Pn**	**20 12 25.8**	**+1.4**
	15nm,0.3s,baz=34,slow=6.2,SNR=95						
PMG				LR	LR	20 15 09.8	
	comp=Z,85µm,19.1s,baz=209,slow=39						
JAY	**Jayapura**	**9.93**	**274**	P	**Pn**	**20 13 08.0**	**+2.6**
	268nm,1.8s,19µm						
JAY	**Jayapura**	**9.93**	**274**	P	**Pn**	**20 13 08.0**	**+2.6**
	baz=10,SNR=23						
HNR	**Honiara**	**11.08**	**124**	Pn	**Pn**	**20 13 21.8**	**+0.7**
HNR				Sn	**Sn**	**20 15 25.5**	**+1.1**
HNR	**Honiara**	**11.08**	**124**	Pn	**Pn**	**20 13 21.8**	**+0.7**
	3.2nm,0.3s,baz=270,slow=12,SNR=11						
HNR				Sn	**Sn**	**20 15 25.5**	**+1.1**
	5.7nm,0.3s,baz=245,slow=19,SNR=1.5						
PATS	**Pohnpei**	**12.68**	**37**	P	P	20 13 49.8	-4.3
	baz=13,SNR=3.7						
COEN	**Coen**	**12.87**	**214**	*e*Pn	Pn	20 13 49.5	+3.9
COEN	**Coen**	**12.87**	**214**	P	Pn	20 13 49.2	+3.6
	baz=13,SNR=8.3						
MTSU	**Mount Surprise**	**15.96**	**202**	P	**Pn**	**20 14 28.9**	**+1.6**
	baz=16,SNR=41						
RKPI	**Ransiki, Papua**	**16.52**	**276**	P	**P**	**20 14 39.6**	**+2.8**
	464nm,2.1s,10µm						
CTA	**Charters Tower**	**17.20**	**194**	P	**Pn**	**20 14 43.0**	**+0.1**
CTA				S	**Sn**	**20 17 56.7**	**+3.0**
CTA	**Charters Tower**	**17.20**	**194**	P	**Pn**	**20 14 43.0**	**+0.1**
	0.8nm,0.3s,baz=17,slow=14,SNR=48						
CTA				S	**Sn**	**20 17 56.7**	**+3.0**
	0.2nm,0.3s,baz=18,slow=16,SNR=1.9						
CTA				LR	LR	20 20 50.5	
	comp=Z,19µm,18.4s,baz=14,slow=36						
CTAO	**Charters Tower**	**17.20**	**194**	⇑*i*P	**Pn**	**20 14 43.2**	**+0.3**
CTAO						20 17 51.7	
CTAO				pmax	pmax		
	comp=Z,643nm,1.6s						
CTAO	**Charters Tower**	**17.20**	**194**	⇑*i*Pn	**Pn**	**20 14 43.2**	**+0.3**
	comp=Z,643nm,1.6s						
CTAO				Sn	**Sn**	**20 17 51.7**	**-2.0**
GUMO	**Guam**	**17.74**	**341**	*e*Pn	**P**	**20 14 50.7**	**+0.4**
	comp=Z,2µm,1.4s						
FAKI	**Fak Fak**	**18.34**	**271**	P	**Pn**	**20 14 58.4**	**+1.4**
	comp=Z,522nm,2.1s,comp=Z,19µmcomp=Z,61µm						
FAKI	**Fak Fak**	**18.34**	**271**	P	**P**	**20 14 56.5**	**-0.5**
	baz=19,SNR=15						
PALU	**Palau**	**19.28**	**303**	P	**Pn**	**20 15 08.9**	**+0.6**
	baz=20,SNR=8.6						
SWI	**Sorong**	**19.50**	**277**	P	**Pn**	**20 15 12.9**	**+1.9**
	comp=Z,678nm,1.1s,comp=Z,14µm						
SWI	**Sorong**	**19.50**	**277**	P	**Pn**	**20 15 13.2**	**+2.3**
	baz=20,SNR=12						
KDU	**Kakadu**	**20.21**	**242**	P	**P**	**20 15 16.8**	**-0.6**
	baz=20,SNR=45						
BNDI	**Bandanaira**	**20.70**	**266**	P	Pn	20 15 26.7	+1.6
	comp=Z,3µm,1.1s,comp=Z,48µmcomp=Z,64µm						
BNDI	**Bandanaira**	**20.70**	**266**	P	Pn	20 15 26.2	+1.0
	baz=21,SNR=4.6						
KWAJ	**Kwajalein Atol**	**20.79**	**54**	*e*P	**P**	**20 15 24.0**	**+0.3**
KWAJ				pmax	pmax		
	comp=Z,1µm,1.5s						
KWAJ	**Kwajalein Atol**	**20.79**	**54**	*e*P	**P**	**20 15 23.9**	**+0.3**
	comp=Z,1µm,1.5s						
MTN	**Manton Dam**	**21.46**	**243**	P	**P**	**20 15 30.2**	**-0.7**
	baz=22,SNR=23						
MSAI	**Masohi**	**21.65**	**269**	P	**P**	**20 15 37.5**	**+4.5**
	comp=Z,33nm,0.9s,comp=Z,2µm						
EIDS	**Eidsvold**	**21.93**	**179**	*e*P	**P**	**20 15 35.3**	**-0.6**
	comp=Z,212nm,1.0s						
EIDS	**Eidsvold**	**21.93**	**179**	P	**P**	**20 15 35.2**	**-0.6**
	baz=22,SNR=43						
TARA	**Tarawa**	**22.78**	**79**	*e*P	**P**	**20 15 44.4**	**-0.7**
	comp=Z,2µm,1.9s						
TARA				LR	LR		
	comp=Z,57µm,20.0s						
WRAB	**Tennant Creek**	**22.90**	**223**	*e*P	**P**	**20 15 44.4**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,280nm,0.8s						
WRAB				MLR	MLR		
	comp=Z,36µm,21.0s						
WRAB	**Tennant Creek**	**22.90**	**223**	*e*P	**P**	**20 15 44.4**	**-1.9**
	comp=Z,280nm,0.8s						
WRAB				LR	LR		
	comp=Z,36µm,21.0s						
WRA	**Warramunga Arr**	**22.92**	**223**	P	**P**	**20 15 44.8**	**-1.7**
WRA				S	**S**	**20 19 54.6**	**-0.8**
WRA	**Warramunga Arr**	**22.92**	**223**	P	**P**	**20 15 44.8**	**-1.7**
	comp=Z,105nm,0.7s,baz=48,slow=9.7,SNR=293						
WRA				S	**S**	**20 19 54.6**	**-0.8**
	comp=Z,9.0nm,1.2s,baz=46,slow=20,SNR=5.1						
WRA				LR	LR	20 24 48.7	
	comp=Z,31µm,20.3s,baz=40,slow=37						
RMQ	**Roma**	**23.10**	**184**	P	**P**	**20 15 48.1**	**-0.2**
	baz=23,SNR=28						
LBMI	**Labuha**	**23.25**	**276**	P	P	20 15 54.8	+4.8
	comp=Z,618nm,1.5s,comp=Z,24µm						
TNTI	**Ternate**	**23.59**	**280**	P	**P**	**20 15 54.0**	**+0.7**
	comp=Z,754nm,1.1s,comp=Z,19µm						
NOUC	**Port Laguerre**	**24.09**	**142**	*e*P	**P**	**20 15 58.4**	**+0.5**
DZM	**Mont Dzumac**	**24.16**	**142**	*e*P	**P**	**20 15 57.8**	**-0.9**
	comp=Z,1µm,1.6s						
DZM				*e*S	**S**	**20 20 12.9**	**-2.8**
	comp=Z,24µm,24.5s						
DZM				*e*LR	LR	20 22 00.6	
	comp=Z,146µm,23.9s						
DZM	**Mont Dzumac**	**24.16**	**142**	*e*P	**P**	**20 15 56.3**	**-2.3**
DZM	**Mont Dzumac**	**24.16**	**142**	P	**P**	**20 15 57.2**	**-1.5**
DZM				S	**S**	**20 20 09.9**	**-5.8**
DZM	**Mont Dzumac**	**24.16**	**142**	P	**P**	**20 15 57.2**	**-1.5**
	comp=Z,75nm,0.8s,baz=270,slow=24,SNR=24						
DZM				S	**S**	**20 20 09.9**	**-5.8**
	comp=Z,2.6nm,0.7s,baz=270,slow=20,SNR=3.5						
KNRA	**Kununurra**	**24.77**	**239**	P	**P**	**20 16 03.3**	**-0.9**
	baz=25,SNR=117						
KNRA				S	S	20 20 36.2	+11
	baz=25,SNR=4.8						
AS31	**Alice Springs**	**25.88**	**217**	*e*P	**P**	**20 16 13.2**	**-1.1**
ASAR	**Alice Springs**	**25.89**	**217**	P	**P**	**20 16 13.4**	**-0.9**
ASAR				PcP	**PcP**	**20 19 43.1**	**-0.2**
ASAR				S	S	20 20 50.8	+7.5
ASAR	**Alice Springs**	**25.89**	**217**	P	**P**	**20 16 13.4**	**-0.9**
	comp=Z,44nm,0.8s,baz=54,slow=7.6,SNR=138						
ASAR				PcP	**PcP**	**20 19 43.1**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=34,slow=3.5,SNR=2.2						
ASAR				S	S	20 20 50.8	+7.5
	comp=Z,3.6nm,1.1s,baz=36,slow=16,SNR=2.0						
ASAR				LR	LR	20 27 26.7	
	comp=Z,37µm,19.5s,baz=36,slow=39						
MNI	**Manado**	**26.20**	**280**	P	**P**	**20 16 17.4**	**+0.2**
	comp=Z,435nm,1.0s,comp=Z,10µm						
KMSI	**Cibinong**	**26.90**	**278**	P	**P**	**20 16 25.9**	**+2.3**
	comp=Z,1µm,1.2s,comp=Z,13µm						
SOEI	**Soe**	**26.93**	**255**	P	**P**	**20 16 27.6**	**+3.6**
SOEI	**Soe**	**26.93**	**255**	P	P	20 16 30.7	+6.7
	baz=27,SNR=11						
ARMA	**Armidale**	**26.97**	**178**	*e*P	**P**	**20 16 23.5**	**-0.6**
	comp=Z,448nm,1.9s						
ARMA	**Armidale**	**26.97**	**178**	P	**P**	**20 16 23.7**	**-0.4**
	baz=27,SNR=4.7						
DAV	**Davao City (W)**	**27.04**	**292**	PFAKE			
DAV				LR	LR	20 16 40.0	+15
	comp=Z,18µm,19.0s						
DAV	**Davao City (W)**	**27.04**	**292**	S	S	20 21 17.1	+15
	comp=Z,107nm,0.4s,baz=72,slow=3.2,SNR=1.7						
DAV				LR	LR	20 27 01.6	
	comp=Z,14µm,18.4s,baz=278,slow=36						
WAKE	**Wake Island**	**27.45**	**34**	PFAKE			
WAKE				LR	LR	20 16 40.0	+12
	comp=Z,29µm,22.0s						
LUWI	**Luwuk**	**27.91**	**274**	P	**P**	**20 16 35.3**	**+2.7**
	baz=28,SNR=6.6						
CMSA	**Cobar Meteorol**	**28.45**	**189**	P	**P**	**20 16 35.7**	**-1.4**
	baz=29,SNR=35						
FITZ	**Fitzroy Crossi**	**28.54**	**237**	P	**P**	**20 16 36.2**	**-2.0**
FITZ				S	**S**	**20 21 21.4**	**-3.8**
FITZ	**Fitzroy Crossi**	**28.54**	**237**	P	**P**	**20 16 36.2**	**-2.0**
	comp=Z,35nm,0.9s,baz=69,slow=8.9,SNR=26						
FITZ				S	**S**	**20 21 21.4**	**-3.8**
	comp=Z,11nm,1.1s,baz=144,slow=19,SNR=1.6						
FITZ				LR	LR	20 28 51.6	
	comp=Z,53µm,18.8s,baz=60,slow=38						
FUNA	**Funafuti**	**28.88**	**102**	PFAKE			
FUNA				LR	LR	20 16 50.0	+8.7
	comp=Z,19µm,21.0s						
LHI	**Lord Howe Isla**	**29.16**	**165**	S	S	20 21 51.2	+17
	baz=29,SNR=4.1						
STKA	**Stephens Creek**	**29.65**	**196**	*e*P	**P**	**20 16 46.7**	**-1.2**
	comp=Z,13nm,1.3s						
STKA				S	S	20 21 52.9	+11
STKA	**Stephens Creek**	**29.65**	**196**	P	**P**	**20 16 46.3**	**-1.5**
	comp=Z,13nm,0.8s,baz=348,slow=9.9,SNR=10						
STKA				S	S	20 21 52.9	+11
	comp=Z,8.6nm,1.1s,baz=63,slow=12,SNR=2.5						
STKA				LR	LR	20 30 04.1	
	comp=Z,21µm,18.5s,baz=11,slow=39						
STKA	**Stephens Creek**	**29.65**	**196**	P	**P**	**20 16 46.1**	**-1.7**
	baz=30,SNR=8.5						
MSVF	**Nonsavu**	**30.47**	**120**	*e*P	**P**	**20 16 58.0**	**+2.6**
MSVF				MLR	MLR		
	comp=Z,15µm,21.0s						
MSVF	**Nonsavu**	**30.47**	**120**	*e*P	**P**	**20 16 58.0**	**+2.6**
MSVF				LR	LR		
	comp=Z,15µm,21.0s						
KAPI	**Kappang**	**30.83**	**266**	P	**P**	**20 16 57.6**	**-0.9**
KAPI				S	**S**	**20 22 00.6**	**-0.7**
KAPI				LR	LR		
	comp=Z,9µm,20.0s						
KAPI	**Kappang**	**30.83**	**266**	P	**P**	**20 16 57.6**	**-0.9**
	comp=Z,21nm,0.8s,baz=99,slow=10,SNR=11						
KAPI				S	**S**	**20 22 00.6**	**-0.7**
	comp=Z,6.7nm,0.9s,baz=127,slow=19,SNR=2.0						
YNG	**Young**	**30.89**	**184**	P	**P**	**20 16 58.4**	**-0.4**
	baz=31,SNR=8.0						
CNB	**Canberra Magne**	**31.86**	**182**	P	**P**	**20 17 07.4**	**0.0**
	baz=32,SNR=9.2						
CAN	**Canberra**	**31.88**	**183**	*e*P	**P**	**20 17 06.4**	**-1.1**
CAN				pmax	pmax		
	comp=Z,70nm,1.3s						
CAN				MLR	MLR		
	comp=Z,26µm,20.0s						
CAN	**Canberra**	**31.88**	**183**	*e*P	**P**	**20 17 06.4**	**-1.1**
	comp=Z,70nm,1.3s						
CAN				LR	LR		
	comp=Z,26µm,20.0s						
MYLDM	**Lahad Datu**	**33.17**	**285**	P	**P**	**20 17 22.0**	**+2.8**
TSM	**Tawau**	**33.58**	**283**	P	**P**	**20 17 23.9**	**+1.1**
TGY	**Tagaytay City**	**34.14**	**301**	LR	LR	20 31 21.2	
	comp=Z,38nm,18.4s,baz=249,slow=36						
ARPS	**Mount Arapiles**	**34.25**	**193**	P	**P**	**20 17 27.5**	**-0.7**
	baz=34,SNR=9.8						
TOO	**Toolangi**	**34.41**	**187**	P	**P**	**20 17 29.2**	**-0.4**
	baz=35,SNR=16						
SDKM	**Sandakan**	**34.55**	**285**	P	**P**	**20 17 30.2**	**-1.0**
FORT	**Forrest**	**34.63**	**216**	*e*P	P	20 17 27.9	-3.7
	comp=Z,134nm,1.1s						
FORT	**Forrest**	**34.63**	**216**	P	**P**	**20 17 29.9**	**-1.7**
	baz=35,SNR=9.6						
MBWA	**Marble Bar**	**34.88**	**237**	*e*P	**P**	**20 17 32.6**	**-1.3**
	comp=Z,127nm,1.0s						
MBWA				LR	LR		
	comp=Z,41nm,19.0s						
KDM	**Kudat**	**35.22**	**287**	P	P	20 17 43.5	+6.5
BCPH	**Baguio City Da**	**35.56**	**304**	⇑*i*P	P	20 17 35.4	-4.6
BCPH				*i* S	**S**	**20 23 14.0**	**-1.0**
KKM	**Kota Kinabalu**	**35.59**	**285**	*e*P	**P**	**20 17 40.0**	**-0.2**
	comp=Z,96nm,0.9s						
KKM				LR	LR		
	comp=Z,11µm,21.0s						
KKM	**Kota Kinabalu**	**35.59**	**285**	P	**P**	**20 17 40.2**	**-0.1**
KKM	**Kota Kinabalu**	**35.59**	**285**	P	**P**	**20 17 40.7**	**+0.5**
	baz=36,SNR=6.7						
JOW	**Kunigami**	**36.94**	**326**	*e*P	**P**	**20 17 49.8**	**-1.6**
	comp=Z,242nm,2.4s						
BTM	**Bintulu**	**38.07**	**279**	P	**P**	**20 18 03.2**	**+2.0**
OUZ	**Omahuta**	**38.23**	**149**	*e*P	**P**	**20 18 02.9**	**+0.6**
	comp=Z,89nm,1.0s						
MEEK	**Meekatharra**	**38.42**	**230**	P	**P**	**20 18 03.0**	**-1.1**
	baz=39,SNR=57						
AFI	**Afiamalu**	**38.58**	**108**	PFAKE			
AFI				LR	LR	20 18 20.0	+14
	comp=Z,12µm,19.0s						
SBUM	**Sibu**	**38.80**	**278**	P	**P**	**20 18 09.0**	**+1.6**
YULB	**Yu-li**	**39.01**	**314**	*e*P	**P**	**20 18 08.6**	**-0.4**
	comp=Z,169nm,1.5s						
NACB	**Ninganchiao**	**39.30**	**316**	*e*P	**P**	**20 18 10.9**	**-0.4**
	comp=Z,331nm,1.8s						
TPUB	**Ta-pu**	**39.43**	**314**	*e*P	**P**	**20 18 10.8**	**-1.7**
	comp=Z,31nm,0.9s						
RAO	**Raoul Island**	**39.46**	**134**	PFAKE			
RAO				LR	LR	20 18 20.0	+7.4
	comp=Z,19µm,22.0s						
SSLB	**Suanglung**	**39.50**	**315**	*e*P	**P**	**20 18 13.0**	**-0.2**
	comp=Z,199nm,1.9s						
TAU	**Tasmania Unive**	**39.53**	**184**	PFAKE			
TAU				LR	LR	20 18 20.0	+7.0
	comp=Z,33µm,21.0s						
YHNB	**Yeheng**	**39.77**	**316**	*e*P	**P**	**20 18 15.2**	**-0.2**
	comp=Z,321nm,1.4s						
YHNB				LR	LR		
	comp=Z,27µm,21.0s						
TATO	**Taipei**	**39.89**	**316**	*e*P	**P**	**20 18 16.9**	**+0.6**
	comp=Z,148nm,1.1s						
TATO				LR	LR		
	comp=Z,28µm,20.0s						
KSM	**Kuching**	**40.57**	**276**	*e*P	**P**	**20 18 22.6**	**+0.5**
	comp=Z,1µm,2.5s						
KSM				LR	LR		
	comp=Z,6µm,20.0s						
KSM	**Kuching**	**40.57**	**276**	P	**P**	**20 18 23.1**	**+0.9**
KSM	**Kuching**	**40.57**	**276**	P	**P**	**20 18 22.8**	**+0.7**
	baz=41,SNR=28						
JNU	**Nakatsue**	**40.77**	**334**	*e*P	**P**	**20 18 22.9**	**-0.7**
	comp=Z,102nm,1.1s						
JNU				S	**S**	**20 24 29.1**	**-4.1**
JNU	**Nakatsue**	**40.77**	**334**	P	**P**	**20 18 23.2**	**-0.3**
	comp=Z,77nm,0.9s,baz=116,slow=3.5,SNR=34						
JNU				S	**S**	**20 24 29.1**	**-4.1**
	comp=Z,2.4nm,0.9s,baz=153,slow=18,SNR=1.5						
JNU				LR	LR	20 33 41.9	
	comp=Z,10µm,18.8s,baz=322,slow=34						
MJAR	**Matsushiro Arr**	**41.31**	**345**	P	**P**	**20 18 25.7**	**-2.2**
MJAR	**Matsushiro Arr**	**41.31**	**345**	P	**P**	**20 18 25.7**	**-2.2**
	comp=Z,15nm,0.8s,baz=168,slow=9.2,SNR=23						
MJAR				LR	LR	20 35 22.7	
	comp=Z,14µm,18.1s,baz=165,slow=36						
MAJO	**Matsushiro**	**41.31**	**345**	*e*P	**P**	**20 18 26.3**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,122nm,1.4s						
MAJO				MLR	MLR		
	comp=Z,15µm,19.0s						
MAJO	**Matsushiro**	**41.31**	**345**	*e*P	**P**	**20 18 26.3**	**-1.6**
	comp=Z,122nm,1.4s						
MAJO				LR	LR		
	comp=Z,15µm,19.0s						
MAT	**Matsushiro**	**41.31**	**345**	P	**P**	**20 18 26.1**	**-1.8**
MAT				S	**S**	**20 24 35.8**	**-5.4**
MORW	**Morawa**	**41.63**	**228**	P	**P**	**20 18 29.4**	**-1.3**
	baz=42,SNR=14						
KLBR	**Kellerberrin**	**41.79**	**224**	P	**P**	**20 18 33.5**	**+1.5**
	baz=42,SNR=5.4						
QZH	**Quanzhou**	**41.91**	**314**	P	**P**	**20 18 32.3**	**-0.6**
QZH				PP	**PP**	**20 20 11.3**	**+1.2**
QZH				S	**S**	**20 24 49.0**	**-1.2**
QZH				SS	**SS**	**20 27 53.0**	**-4.3**
QZH				pmax	pmax		
	comp=Z,180nm,1.0s						
QZH				pmax	pmax		
	comp=Z,3µm,9.8s						
QZH				LR	LR		
	comp=N,36µm,21.4s						
QZH				LR	LR		
	comp=E,19µm,16.5s						
QZH				LR	LR		
	comp=Z,49µm,28.7s						
URZ	**Urewera**	**42.37**	**149**	*e*P	**P**	**20 18 36.1**	**-0.4**
	comp=Z,959nm,3.0s						
URZ				PP	**PP**	**20 20 16.0**	**+1.1**
URZ				S	**S**	**20 24 55.9**	**-0.8**
URZ	**Urewera**	**42.37**	**149**	P	**P**	**20 18 34.4**	**-2.0**
	comp=Z,21nm,0.9s,baz=270,slow=10,SNR=5.0						
URZ				PP	**PP**	**20 20 16.0**	**+1.1**
	comp=Z,9.2nm,0.8s,baz=340,slow=22,SNR=7.4						
URZ				S	**S**	**20 24 55.9**	**-0.8**
	comp=Z,3.4nm,0.4s,baz=257,slow=12,SNR=4.3						
URZ				LR	LR	20 34 10.6	
	comp=Z,19µm,19.6s,baz=127,slow=33						
CISI	**Cisompet, Garu**	**42.80**	**263**	P	**P**	**20 18 39.7**	**-0.8**
	baz=43,SNR=5.5						
NWAO	**Narrogin (SRO)**	**42.92**	**223**	P	**P**	**20 18 39.4**	**-1.7**
NWAO				PP	**PP**	**20 20 22.2**	**+1.2**
NWAO				LR	LR		
	comp=Z,18µm,20.0s						
NWAO	**Narrogin (SRO)**	**42.92**	**223**	P	**P**	**20 18 39.4**	**-1.7**
	comp=Z,27nm,1.2s,baz=352,slow=14,SNR=2.3						
NWAO				PP	**PP**	**20 20 22.2**	**+1.2**
	comp=Z,34nm,1.0s,baz=52,slow=11,SNR=4.4						
LEM	**Lembang**	**42.96**	**264**	P	**P**	**20 18 42.8**	**+0.9**
	baz=43,SNR=3.6						
SNZO	**South Karori**	**43.58**	**154**	PFAKE			
SNZO				LR	LR	20 19 00.0	+14
	comp=Z,42µm,21.0s						
MIDW	**Midway**	**43.95**	**42**	PFAKE			
MIDW				LR	LR	20 19 00.0	+11
	comp=Z,11µm,22.0s						
KHZ	**Kahutara**	**43.98**	**155**	P	**P**	**20 18 49.8**	**+0.4**
	comp=Z,210nm,1.5s						
RPZ	**Rata Peaks**	**44.12**	**159**	*e*P	**P**	**20 18 49.0**	**-1.6**
	comp=Z,135nm,1.1s						
RPZ	**Rata Peaks**	**44.12**	**159**	LR	LR	20 34 48.0	
	comp=Z,39µm,21.4s,baz=322,slow=33						
SSE	**Sheshan**	**44.25**	**323**	⇑P	**P**	**20 18 51.8**	**0.0**
SSE				pP	**pP**	**20 18 58.6**	**0.0**
SSE				S	**S**	**20 25 23.4**	**-1.0**
SSE				sS	**sS**	**20 25 32.4**	**-3.2**
SSE				pmax	pmax		
	comp=Z,56nm,1.2s						
SSE				pmax	pmax		
	comp=Z,1µm,7.0s						
SSE				LR	LR		
	comp=N,13µm,19.6s						
SSE				LR	LR		
	comp=E,7µm,19.6s						
SSE				LR	LR		
	comp=Z,20µm,25.9s						
GZH	**Guangzhou**	**44.84**	**308**	P	**P**	**20 18 58.8**	**+2.2**
GZH				S	**S**	**20 25 36.3**	**+3.1**
GZH				LR	LR		
	comp=N,6µm,18.8s						
GZH				LR	LR		
	comp=E,16µm,19.3s						
GZH				LR	LR		
	comp=Z,29µm,18.5s						
ERM	**Erimo**	**45.63**	**352**	PFAKE			
ERM				LR	LR	20 19 10.0	+7.4
	comp=Z,10µm,19.0s						
KSRS	**Korea Array**	**45.72**	**335**	P	**P**	**20 19 03.3**	**-0.1**
	comp=Z,9.5nm,0.9s,baz=152,slow=9.5,SNR=24						
KSRS				S	**S**	**20 25 47.9**	**+2.3**
	comp=Z,0.5nm,0.4s,baz=149,slow=27,SNR=2.9						
KSRS				LR	LR	20 38 51.2	
	comp=Z,7µm,18.1s,baz=131,slow=37						
KSAR	**Wonju Array Be**	**45.73**	**335**	P	**P**	**20 19 03.3**	**-0.2**
KSAR				S	**S**	**20 25 47.9**	**+2.2**
QIZ	**Qiongzhong**	**45.85**	**301**	P	**P**	**20 19 05.8**	**+1.1**
QIZ				PP	**PP**	**20 20 52.3**	**-0.1**
QIZ				S	**S**	**20 25 49.4**	**+1.5**
QIZ				pmax	pmax		
	comp=Z,56nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,1µm,8.0s						
QIZ				LR	LR		
	comp=N,10µm,18.0s						
QIZ				LR	LR		
	comp=Z,15µm,26.5s						
QIZ	**Qiongzhong**	**45.85**	**301**	*e*P	**P**	**20 19 05.8**	**+1.1**
	comp=Z,31nm,0.9s						
QIZ				LR	LR		
	comp=Z,16µm,20.0s						
INCN	**Inchon**	**46.31**	**333**	*e*P	**P**	**20 19 08.7**	**+0.6**
	comp=Z,414nm,1.4s						
INCN				LR	LR		
	comp=Z,10µm,21.0s						
NJ2	**Nanjing**	**46.34**	**322**	*e*P	**P**	**20 19 08.9**	**+0.5**
NJ2				pP	**pP**	**20 19 12.3**	**-2.9**
NJ2				sP	**sP**	**20 19 14.3**	**-3.6**
NJ2				PP	**PP**	**20 20 58.3**	**+0.8**
NJ2				S	**S**	**20 25 56.8**	**+2.2**
NJ2				sS	**sS**	**20 26 02.0**	**-3.8**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
NJ2				LR	LR		
	comp=N,15µm,20.2s						
NJ2				LR	LR		
	comp=E,15µm,24.1s						
NJ2				LR	LR		
	comp=Z,14µm,22.3s						
MYKOM	**Kota Tinggi**	**47.02**	**276**	P	**P**	**20 19 15.3**	**+1.2**
MYKOM	**Kota Tinggi**	**47.02**	**276**	P	**P**	**20 19 15.3**	**+1.2**
BTDF	**Bukit Timah Da**	**47.05**	**275**	P	**P**	**20 19 15.2**	**+0.9**
	baz=47,SNR=5.4						
BTDF				P	**P**	**20 19 15.2**	**+0.9**
	baz=47,SNR=5.4						
YUK	**Yuzh-Kuril'sk**	**47.

VLA pmax pmax
comp=Z,241nm,1.7s
FRIM Kepong 49.40 277 P **P** **20 19 33.6 +1.1**
PANO Nakornpanom 49.75 296 P **P** **20 19 36.2 +1.2**
comp=Z,308nm,1.1s,comp=Z,23µm
DL2 Dalian 49.81 330⇑ *i*P **P** **20 19 35.8 +0.7**
DL2 S **S** **20 26 46.8 +3.3**
DL2 pmax pmax
comp=Z,190nm,1.0s
DL2 pmax pmax
comp=Z,1µm,8.0s
DL2 LR LR
comp=N,3µm,20.2s
DL2 LR LR
comp=E,4µm,22.1s
DL2 LR LR
comp=Z,6µm,26.2s
IPM Ipoh 50.15 279 *e*P **P** **20 19 38.1 0.0**
comp=Z,293nm,2.2s
IPM Ipoh 50.15 279 P **P** **20 19 39.2 +1.0**
USRK Ussuriysk Arra 50.17 343 P **P** **20 19 37.9 +0.2**
comp=Z,20nm,0.7s,baz=171,slow=7.1,SNR=54
USRK S **S** **20 26 51.1 +2.6**
comp=Z,0.5nm,0.5s,baz=138,slow=26,SNR=2.3
USRK LR LR 20 39 30.3
comp=Z,8µm,21.8s,baz=146,slow=34
TIA Tai'an 50.25 325⇑⇑P **P** **20 19 37.9 -0.6**
TIA S **S** **20 26 51.3 +1.5**
TIA pmax pmax
comp=Z,50nm,0.9s
TIA pmax pmax
comp=Z,2µm,9.3s
TIA LR LR
comp=N,12µm,18.6s
TIA LR LR
comp=E,14µm,17.6s
TIA LR LR
comp=Z,15µm,19.6s
PPI Padang Panjang 50.27 272 P **P** **20 19 38.8 -0.3**
baz=51,SNR=5.6
YSS Yuzh-Sakhalins 50.54 353⇑⇑*e*P **P** **20 19 41.3 +0.8**
YSS *e**PP **pP** **20 19 48.3 +1.0**
YSS *e* 20 19 55.0
YSS *e*PPP PPP 20 22 29.0
YSS *i* S **S** **20 26 54.0 +0.6**
YSS *e*PS **pS** **20 27 06.0 +4.3**
YSS *e*SSS SSS 20 31 51.0
YSS pmax pmax
comp=Z,2µm,6.0s
YSS smax smax
comp=N,5µm,8.0s
YSS smax smax
comp=E,5µm,8.0s
YSS MLR MLR
comp=N,8µm,17.0s
YSS MLR MLR
comp=Z,8µm,17.0s
CHBT CHBT 50.54 289 P P 20 19 47.6 +6.5
comp=Z,68nm,1.2s,comp=Z,3µm
SNY Shenyang 51.22 334⇑⇑P **P** **20 19 45.6 -0.1**
SNY pP **pP** **20 19 53.5 +0.9**
SNY S S 20 26 55.4 -7.6
SNY pmax pmax
comp=Z,38nm,2.0s
SNY pmax pmax
comp=Z,2µm,8.0s
SNY LR LR
comp=N,5µm,22.9s
SNY LR LR
comp=E,9µm,18.4s
SNY LR LR
comp=Z,13µm,36.3s
MDJ Mudanjiang 51.30 341 P **P** **20 19 46.8 +0.5**
MDJ pP **pP** **20 19 49.8 -3.3**
MDJ sP **sP** **20 19 51.3 -4.5**
MDJ PcP **PcP** **20 21 02.3 +1.2**
MDJ PP **PP** **20 21 42.6 -0.9**
MDJ ScP **ScP** **20 24 58.4 +1.9**
MDJ PcS **PcS** **20 25 00.0 +1.3**
MDJ S **S** **20 27 02.8 -1.3**
MDJ ScS **ScS** **20 29 36.3 +0.7**
MDJ pmax pmax
comp=Z,50nm,1.3s
MDJ pmax pmax
comp=Z,2µm,6.3s
MDJ LR LR
comp=N,7µm,42.8s
MDJ LR LR
comp=E,8µm,33.3s
MDJ LR LR
comp=Z,14µm,33.3s
MDJ Mudanjiang 51.30 341 *e*P **P** **20 19 46.3 0.0**
comp=Z,47nm,0.9s
MDJ LR LR
comp=Z,11µm,20.0s
RAR Rarotonga 51.37 115 P **P** **20 19 47.6 +0.4**
RAR LR LR
comp=Z,10µm,22.0s
RAR Rarotonga 51.37 115 P **P** **20 19 47.6 +0.4**
comp=Z,27nm,0.6s,baz=239,slow=5.9,SNR=2.4
ENH Enshi 51.56 313 *e*P **P** **20 19 48.6 +0.1**
comp=Z,644nm,1.8s
ENH LR LR
comp=Z,17µm,22.0s
CHAI Chaiyaphum 51.74 293 P **P** **20 19 50.9 +0.8**
comp=Z,14nm,1.1s,comp=Z,137nm
GYA Guiyang 51.77 308⇑ *i*P **P** **20 19 51.4 +1.1**
GYA PcP **PcP** **20 21 05.8 +2.4**
GYA PP **PP** **20 21 51.6 +3.4**
GYA ScP **ScP** **20 25 01.4 +2.2**
GYA S **S** **20 27 12.8 +1.3**
GYA SS **SS** **20 30 46.4 -2.0**
GYA pmax pmax
comp=Z,50nm,1.0s
GYA pmax pmax
comp=Z,290nm,5.7s
GYA LR LR
comp=N,9µm,19.0s
GYA LR LR
comp=E,7µm,20.5s
GYA LR LR
comp=Z,9µm,19.4s
NAYO Nakonayok 51.90 291 P **P** **20 19 52.7 +1.4**
comp=Z,154nm,1.1s,comp=Z,26µm
PSI Prapat 52.02 276 P **P** **20 19 53.2 +0.8**
PSI S **S** **20 27 18.1 +2.8**
PSI Prapat 52.02 276 P **P** **20 19 53.2 +0.8**
comp=Z,5.2nm,0.3s,baz=149,slow=5.3,SNR=11
PSI S **S** **20 27 18.1 +2.8**
comp=Z,3.1nm,0.4s,baz=164,slow=20,SNR=2.6
PSI Prapat 52.02 276 P **P** **20 19 54.4 +2.0**
baz=52,SNR=5.9
CN2 Changchun 52.08 337⇑⇑P **P** **20 19 52.3 +0.2**
CN2 *e*pP **pP** **20 19 58.4 -0.6**
CN2 *e*S **S** **20 27 15.1 +0.2**
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,2µm,10.0s
CN2 LR LR
comp=N,7µm,17.0s
CN2 LR LR
comp=E,4µm,17.0s
CN2 LR LR
comp=Z,8µm,19.0s
XMAS Kiritimati 52.19 85 PFAKE 20 20 10.0 +17
XMAS LR LR
comp=Z,24µm,20.0s
PBKT Sadao Pong 52.87 294 P **P** **20 19 59.9 +1.5**
comp=Z,48nm,1.9s,comp=Z,2µm
LOEI Loei 52.89 295 P **P** **20 19 57.1 -1.5**
comp=Z,251nm,1.0s,comp=Z,6µm
PHET Kaeng Krachan 53.13 289 P **P** **20 20 02.6 +2.2**
comp=Z,168nm,1.0s,comp=Z,2µm
HABR Khabarovsk 53.34 347 *e*P **P** **20 19 58.7 -2.6**
HABR *e**PP **pP** **20 20 09.1 +0.9**
HABR *e**SP **sP** **20 20 13.5 +2.6**
HABR *e* 20 21 06.5
HABR *e* 20 21 59.6
HABR *e*S **S** **20 27 29.0 -2.9**
HABR *i* 20 27 43.8
HABR *e**SS **sS** **20 27 46.0 +2.7**
HABR *e* 20 29 46.2
HABR *e*SS **SS** **20 31 10.5 -1.7**
HABR *e*SSS SSS 20 33 03.2
HABR pmax pmax
comp=Z,539nm,2.9s
HABR MLR MLR
comp=Z,5µm,17.0s
BJT Baijiatuau 53.46 327 *e*P **P** **20 20 02.1 -0.3**
comp=Z,45nm,0.8s
BJT LR LR
comp=Z,19µm,22.0s
BJI Beijing 53.47 327 P **P** **20 20 02.3 -0.2**
BJI PP **PP** **20 22 01.4 -1.8**
BJI S **S** **20 27 29.5 -4.5**
BJI pmax pmax
comp=Z,38nm,2.2s
BJI pmax pmax
comp=Z,2µm,10.0s
BJI LR LR
comp=N,10µm,23.1s
BJI LR LR
comp=E,10µm,21.6s
BJI LR LR
comp=Z,17µm,34.7s
NANT Nan 53.80 296 P **P** **20 20 06.6 +1.3**
comp=Z,151nm,1.2s
COCO West Island 53.92 257 PFAKE 20 20 20.0 +14
COCO LR LR
comp=Z,6µm,22.0s
SKR Severo-Kuril's 54.00 4 *e*P **P** **20 20 04.0 -2.1**
SKR *e* 20 21 10.0
SKR *e*PPP PPP 20 23 20.0
SKR *e*S **S** **20 27 38.0 -2.7**
SKR *e*SS **SS** **20 31 26.0 +3.5**
SKR pmax pmax
comp=N,1µm,8.0s
SKR pmax pmax
comp=E,1µm,8.0s
SKR pmax pmax
comp=Z,1µm,8.0s
SKR pmax pmax
comp=Z,320nm,1.5s
SKR smax smax
comp=N,5µm,10.0s
SKR smax smax
comp=E,11µm,10.0s
SKR MLR MLR
comp=N,4µm,14.0s
SKR MLR MLR
comp=E,5µm,14.0s
SKR MLR MLR
comp=Z,3µm,14.0s
TIY Taiyuan 54.03 323 *e*P **P** **20 20 06.3 -0.4**
TIY pP **pP** **20 20 11.8 -1.9**
TIY S **S** **20 27 43.0 +1.1**
TIY SS **SS** **20 31 26.8 +3.1**
TIY pmax pmax
comp=Z,1µm,8.0s
TIY LR LR
comp=N,11µm,16.9s
TIY LR LR
comp=E,5µm,18.6s
TIY LR LR
comp=Z,22µm,24.3s
XAN Xi'an 54.06 317 P **P** **20 20 06.8 -0.2**
XAN pP **pP** **20 20 13.6 -0.3**
XAN sP **sP** **20 20 17.0 +0.5**
XAN S **S** **20 27 42.3 0.0**
XAN sS **sS** **20 27 55.4 +1.7**
XAN ScS **ScS** **20 29 54.8 -0.7**
XAN pmax pmax
comp=Z,21nm,1.3s
XAN pmax pmax
comp=Z,340nm,9.2s
XAN LR LR
comp=N,7µm,20.4s
XAN LR LR
comp=E,4µm,20.4s
XAN LR LR
comp=Z,5µm,21.4s
KMI Kunming 54.36 304⇑⇑P **P** **20 20 11.1 +1.6**
KMI pP **pP** **20 20 16.9 +0.5**
KMI sP **sP** **20 20 19.1 0.0**
KMI PcP **PcP** **20 21 15.5 +2.1**
KMI PP **PP** **20 22 15.8 +4.1**
KMI S **S** **20 27 47.6 +0.6**
KMI sS **sS** **20 27 56.8 -1.6**
KMI SS **SS** **20 31 28.8 -0.7**
KMI pmax pmax
comp=Z,69nm,1.3s
KMI pmax pmax
comp=Z,980nm,5.5s
KMI LR LR
comp=N,5µm,16.6s
KMI LR LR
comp=E,7µm,13.4s
KMI LR LR
comp=Z,12µm,16.0s
CRAI Chiangrai 54.56 298 P P 20 20 24.3 +13
LAMP Lampang 54.68 295 P **P** **20 20 13.6 +1.9**
comp=Z,24nm,0.8s,comp=Z,208nm
KLR Kul'dur 54.84 345 *e*P P 20 20 09.0 -3.3
KLR *e*S **S** **20 27 49.0 -3.2**
KLR *e* 20 31 34.0
KLR pmax pmax
comp=Z,220nm,1.8s
KLR pmax pmax
comp=Z,3µm,8.5s
KLR smax smax
comp=N,5µm,16.0s
KLR smax smax
comp=E,3µm,16.0s
CMAR Chiang Mai Arr 55.28 295 P **P** **20 20 17.6 +1.5**
CMAR P'P'ab **P'P'ab** **20 50 52.1 -5.0**
CMAR Chiang Mai Arr 55.28 295 P **P** **20 20 17.6 +1.5**
comp=E,26nm,0.8s,baz=116,slow=5.7,SNR=153
CMAR LR LR 20 44 56.8
comp=E,5µm,19.4s,baz=115,slow=37
CMAR PKP2ab 20 50 52.1
comp=E,0.6nm,0.7s,baz=301,slow=4.5,SNR=4.3
CMMT Chiang Mai 55.38 295 P **P** **20 20 18.0 +1.2**
comp=E,74nm,1.0s,comp=E,2µm
CHTO Chiang Mai 55.39 295 *e*P **P** **20 20 17.9 +1.1**
CHTO pmax pmax
comp=Z,80nm,1.4s
CHTO MLR MLR
comp=Z,6µm,19.0s
CHTO Chiang Mai 55.39 295 *e*P **P** **20 20 17.9 +1.1**
comp=Z,80nm,1.4s
CHTO LR LR
comp=Z,6µm,19.0s
CHTO Chiang Mai 55.39 295 P **P** **20 20 18.1 +1.3**
comp=Z,68nm,1.1s,comp=Z,2µm
KIP Kipapa 55.96 61⇑⇑*e*P **P** **20 20 21.6 +0.8**
KIP pmax pmax
comp=Z,133nm,1.7s
KIP Kipapa 55.96 61 PFAKE 20 20 30.0 +9.2
KIP LR LR
comp=Z,16µm,22.0s
CD2 Chengdu 56.13 311 P **P** **20 20 22.8 +0.8**
CD2 pP **pP** **20 20 28.6 -0.3**
CD2 sP **sP** **20 20 31.4 -0.2**
CD2 PcP **PcP** **20 21 20.4 +0.5**
CD2 PP **PP** **20 22 29.4 +2.1**
CD2 ScP **ScP** **20 25 17.0 -1.0**
CD2 PcS **PcS** **20 25 19.3 -1.1**
CD2 S **S** **20 28 09.3 -0.9**
CD2 sS **sS** **20 28 19.1 -2.5**
CD2 ScS **ScS** **20 30 07.4 -3.0**
CD2 pmax pmax
comp=Z,200nm,0.7s
CD2 pmax pmax
comp=Z,2µm,6.5s
CD2 LR LR
comp=N,13µm,19.6s
CD2 LR LR
comp=E,16µm,22.5s
CD2 LR LR
comp=Z,22µm,21.5s
PETK Petropavlovsk- 56.54 5 P **P** **20 20 24.4 0.0**
PETK Petropavlovsk- 56.54 5 P **P** **20 20 24.4 0.0**
PETK Petropavlovsk- 56.54 5 P **P** **20 20 24.4 0.0**
comp=Z,11nm,0.8s,baz=169,slow=6.7,SNR=21
PETK LR LR 20 39 39.8
comp=Z,9µm,21.8s,baz=183,slow=31
PET Petropavlovsk 56.55 6*c* *i*P **P** **20 20 24.1 -0.3**
PET *i* S **S** **20 28 16.6 +1.9**
PET *e*SS **SS** **20 32 00.9 -1.6**
PET pmax pmax
comp=Z,29nm,1.5s
PET pmax pmax
comp=Z,900nm,9.4s
PET MLR MLR
comp=Z,6µm,17.0s
PET MLR MLR
comp=Z,5µm,16.0s
HHC Hu-ho-hao-te 56.59 325 *e*P **P** **20 20 25.5 +0.3**
HHC pP **pP** **20 20 31.1 -1.0**
HHC sP **sP** **20 20 34.6 -0.2**
HHC PP **PP** **20 22 34.1 +2.8**
HHC PcS **PcS** **20 25 20.6 -1.6**
HHC S **S** **20 28 16.0 -0.1**
HHC sS **sS** **20 28 25.3 -2.2**
HHC SS **SS** **20 32 02.6 -1.4**
HHC pmax pmax
comp=Z,69nm,0.9s
HHC pmax pmax
comp=Z,3µm,4.9s
HHC LR LR
comp=N,22µm,17.4s
HHC LR LR
comp=E,24µm,17.6s
HHC LR LR
comp=Z,34µm,16.8s
BTO Baotou 57.33 324 *e*P **P** **20 20 30.1 -0.3**
LZH Lanzhou 58.66 316⇑⇑P **P** **20 20 41.0 +1.1**
LZH pP **pP** **20 20 47.3 +0.4**
LZH sP **sP** **20 20 50.1 +0.6**
LZH PP **PP** **20 22 52.5 +2.6**
LZH S **S** **20 28 44.1 +0.6**
LZH sS **sS** **20 28 53.5 -1.5**
LZH SS **SS** **20 32 38.6 +1.8**
LZH pmax pmax
comp=Z,190nm,1.2s
LZH pmax pmax
comp=Z,2µm,6.2s
LZH LR LR
comp=N,7µm,16.0s
LZH LR LR
comp=E,6µm,17.5s
LZH LR LR
comp=Z,12µm,19.0s
HIA Hailar 58.81 337 *e*P **P** **20 20 40.7 +0.2**
comp=Z,193nm,1.4s
HIA LR LR
comp=Z,8µm,20.0s
PPT Papeete 60.25 108 LR LR 20 44 20.5
comp=Z,4µm,18.1s,baz=91,slow=34
PPT2 Papeete2 60.25 108 *e*P **P** **20 20 52.6 +1.5**
comp=Z,98nm,1.1s
PPT2 *e*S **S** **20 29 03.0 -1.5**
comp=Z,9µm,26.5s
PPT2 *e*LQ LQ 20 36 01.2
comp=Z,35µm,33.2s
PPT2 *e*LR LR 20 38 37.9
comp=Z,13µm,28.2s
PAE Paea 60.26 108 *e*P **P** **20 20 52.2 +1.2**
comp=Z,16nm,1.1s
TIAR Tiarei 60.47 108 *e*P **P** **20 20 54.0 +1.5**
comp=Z,261nm,1.1s
TVO Taravao 60.58 108 *e*P **P** **20 20 54.9 +1.5**
comp=Z,218nm,1.1s
TBI Tubuai 61.15 115 *e*S **S** **20 29 16.3 +0.6**
comp=Z,7µm,29.2s
TBI *e*SS **SS** **20 33 11.1 -4.8**
comp=Z,3µm,26.5s
TBI *e*LQ LQ 20 36 34.8
comp=Z,28µm,32.5s
TBI *e*LR LR 20 39 11.9
comp=Z,15µm,31.2s
PMOR Pomariorio Ree 61.62 105 *e*P **P** **20 21 01.3 +1.0**
comp=Z,497nm,1.2s
IMP Imphal 61.68 300 *e*P **P** **20 21 01.0 +0.3**
MEH Mehetia 61.72 108 *e*P **P** **20 21 02.1 +1.1**
comp=Z,234nm,1.2s
GTA Gaotai 63.10 318⇑⇑P **P** **20 21 11.3 +1.3**
GTA pP **pP** **20 21 17.3 +0.3**
GTA sP **sP** **20 21 20.8 +1.1**
GTA S **S** **20 29 40.3 +0.3**
GTA sS **sS** **20 29 49.0 -2.6**
GTA SS **SS** **20 33 46.1 -0.2**
GTA pmax pmax
comp=Z,54nm,1.4s
GTA pmax pmax
comp=Z,1µm,9.5s
GTA LR LR
comp=N,4µm,20.9s
GTA LR LR
comp=E,8µm,21.9s
GTA LR LR
comp=Z,11µm,19.5s
CIT Chita 63.45 335 *e*P **P** **20 21 12.8 +0.9**
CIT *e* 20 21 30.9
CIT *e* 20 21 46.7
CIT pmax pmax
comp=Z,386nm,1.9s
CLNS Chul'man 63.50 345 *e*P **P** **20 21 12.7 +0.5**
CLNS *e**PP **pP** **20 21 18.7 -0.5**
CLNS *e* 20 21 47.8
CLNS *e* 20 23 27.4
CLNS *e*S **S** **20 29 46.0 +1.9**
CLNS *e* 20 30 59.1
CLNS *e*SS **SS** **20 33 47.9 -3.7**
CLNS pmax pmax
comp=Z,31nm,1.0s
CLNS pmax pmax
comp=N,20nm,1.3s
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS pmax pmax
comp=Z,8.0nm,0.9s
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,1.2s
CLNS smax smax
comp=N,2µm,9.7s
CLNS smax smax
comp=E,2µm,13.3s
CLNS MLR MLR
comp=N,4µm,17.0s
CLNS MLR MLR
comp=Z,5µm,17.0s
CLNS MLR MLR
comp=E,2µm,16.0s
ULN Ulaanbaatar 63.60 329 *e*P **P** **20 21 13.6 +0.4**
comp=E,256nm,1.7s
ULN LR LR
comp=Z,14µm,21.0s
DRV Dumont d'Urvil 63.66 185 S S 20 29 21.0 -25
DRV SS **SS** **20 33 48.0 -5.6**
DRV L L 20 36 00.0
DRV R 20 40 00.0
SHL Shillong 63.68 301 *e*P **P** **20 21 14.0 -0.2**
SHL *ex* x 20 29 56.0
SONM Songino Array 63.93 328 P **P** **20 21 15.7 +0.4**
SONM S **S** **20 29 53.0 +3.0**
SONM ⇑*e* 20 50 09.2
SONM Songino Array 63.93 328 P **P** **20 21 15.7 +0.4**
comp=Z,9.6nm,0.8s,baz=148,slow=6.6,SNR=55
SONM S **S** **20 29 53.0 +3.0**
comp=Z,0.1nm,0.4s,baz=121,slow=40,SNR=2.3
SONM LR LR 20 49 03.3
comp=Z,15µm,19.8s,baz=125,slow=36
SONM PKP2bc 20 50 09.2
comp=Z,0.3nm,0.4s,baz=224,slow=4.0,SNR=4.3
LSA Lhasa 65.61 305 P **P** **20 21 28.1 +1.0**
LSA S **S** **20 30 12.3 +0.2**
LSA pmax pmax
comp=Z,40nm,1.0s
LSA pmax pmax
comp=Z,670nm,9.0s
LSA LR LR
comp=N,2µm,32.0s
LSA LR LR
comp=E,5µm,28.0s
LSA LR LR
comp=Z,8µm,25.0s
LSA Lhasa 65.61 305 *e*P **P** **20 21 28.5 +1.4**
LSA pmax pmax
comp=Z,89nm,1.4s
LSA MLR MLR
comp=Z,6µm,22.0s
LSA Lhasa 65.61 305 *e*P **P** **20 21 28.5 +1.4**
comp=Z,88nm,1.4s
LSA LR LR

comp=Z,6µm,22.0s
ZAK Zakamensk 67.11 329 eP P 20 21 36.0 +0.2
ZAK e 20 24 02.1
ZAK pmax pmax
comp=Z,56nm,1.4s
YAK Yakutsk 67.12 349 eP P 20 21 35.0 -0.4
YAK e 20 22 01.1
YAK e 20 24 07.3
YAK eS S 20 30 23.7 -4.5
YAK e*SS sS 20 30 54.3 +14
YAK pmax pmax
comp=Z,52nm,0.9s
YAK pmax pmax
comp=N,33nm,1.3s
YAK pmax pmax
comp=E,15nm,1.3s
YAK pmax pmax
comp=E,631nm,6.2s
YAK pmax pmax
comp=Z,579nm,6.4s
YAK pmax pmax
comp=N,435nm,4.8s
YAK smax smax
comp=E,2µm,7.0s
YAK smax smax
comp=N,3µm,10.4s
YAK MLR MLR
comp=N,6µm,24.0s
YAK MLR MLR
comp=E,3µm,26.0s
YAK MLR MLR
comp=Z,6µm,22.0s
TLY Talaya 67.72 331 eP P 20 21 39.8 +0.2
TLY e 20 22 07.1
TLY eS S 20 30 37.8 +1.8
TLY e 20 31 37.4
TLY eSS SS 20 34 58.5 +1.0
TLY pmax pmax
comp=Z,88nm,1.9s
TLY MLR MLR
comp=Z,7µm,17.0s
TLY Talaya 67.72 331 P P 20 21 40.5 +0.9
comp=Z,102nm,1.0s,SNR=9.2
AKUT Akutan 67.74 26 eP P 20 21 40.6 +1.1
comp=Z,180nm,1.2s
IRK Irkutsk 67.77 331 eP P 20 21 40.5 +0.7
IRK e 20 25 51.2
IRK e 20 30 54.3
IRK pmax pmax
comp=Z,103nm,2.2s
TAPN Taplejung 67.78 301 eP P 20 21 41.5 +0.7
comp=Z,255nm,1.1s
ODAN Odare 67.92 301 eP P 20 21 42.4 +0.8
comp=Z,213nm,1.0s
BOK Bokaro 68.45 297 eP P 20 21 45.7 +1.0
BOK AMB AMB 20 22 08.1
comp=Z,88nm,6.1s
RAMN Ramite 68.62 300 eP P 20 21 46.9 +0.9
CASY Casey 68.80 196 eP P 20 21 44.6 -1.4
comp=Z,347nm,3.0s
CASY LR LR
comp=Z,8µm,20.0s
MOY Mondy 69.04 329 eP P 20 21 48.6 +0.7
MOY pmax pmax
comp=Z,125nm,2.2s
JIRN Jiri 69.16 301 eP P 20 21 50.4 +0.9
comp=Z,76nm,0.9s
FALS False Pass 69.25 26 eP P 20 21 46.6 -2.4
comp=Z,88nm,0.9s
GUN Gumba 69.50 301 eP P 20 21 52.2 +0.7
comp=Z,347nm,1.3s
VIS Vishakhapatnam 69.51 290 eP P 20 21 50.2 -1.2
VIS AMB AMB 20 21 52.6
comp=Z,666nm,4.5s
VIS ex x 20 31 03.0
PKI Pulchoki 69.81 301 eP P 20 21 54.0 +0.5
comp=Z,211nm,1.2s
PKIN Phulchoki 69.82 301 eP P 20 21 53.7 +0.2
comp=Z,161nm,1.3s
KKN Kakani 69.98 301 eP P 20 21 54.8 +0.5
comp=Z,158nm,1.3s
DMN Daman 70.08 301 eP P 20 21 55.8 +0.8
comp=Z,250nm,1.1s
SDPT Sand Point 70.88 27 eP P 20 22 05.2 +6.3
comp=Z,87nm,1.0s
KOLN Koldanda 71.41 301 eP P 20 22 03.8 +0.7
comp=Z,92nm,1.1s
DANN Dangsing 71.42 301 eP P 20 22 03.5 +0.3
comp=Z,348nm,1.4s
PYUN Piuthan 72.02 301 eP P 20 22 06.8 +0.1
comp=Z,150nm,0.9s
HVS Khovu-Aksy 72.62 326 *c iP* **P 20 22 10.1 +0.4**
HVS pmax pmax
comp=Z,592nm,1.7s
WMQ Urumqi 73.19 318 P P 20 22 13.3 +0.1
WMQ pP **pP 20 22 19.5 -0.8**
WMQ sP **sP 20 22 22.3 -0.6**
WMQ PcP **PcP 20 22 30.3 +0.6**
WMQ PP **PP 20 24 58.3 +1.9**
WMQ S **S 20 31 38.5 -1.7**
WMQ sS **sS 20 31 48.9 -3.0**
WMQ SKS **SKSac 20 32 13.3 -4.8**
WMQ ScS **SKSac 20 32 16.8 -1.5**
WMQ SS **SS 20 36 22.1 +0.1**
WMQ pmax pmax
comp=Z,33nm,1.6s
WMQ pmax pmax
comp=Z,1µm,5.5s
WMQ LR LR
comp=N,6µm,21.4s
WMQ LR LR
comp=E,4µm,23.6s
WMQ LR LR
comp=Z,7µm,27.0s
JBP Jabalpur 73.61 295 *i/P* **P 20 22 15.6 -0.4**
JBP ex x 20 31 51.1
HYB Hyderabad 73.95 289 eP P 20 22 17.9 -0.3
HYB AMB AMB 20 23 00.9
comp=Z,110nm,6.3s
NGP Nagpur 74.09 293 eP P 20 22 16.7 -2.2
NGP eS S 20 31 49.8 -1.3
RKT Rikitea 74.37 113 eS S 20 31 56.4 +2.3
comp=Z,5µm,28.5s
RKT eSS SS 20 36 39.5 -1.1
comp=Z,3µm,30.8s
RKT eLQ LQ 20 42 05.3
comp=Z,11µm,33.0s
RKT eLR LR 20 45 20.7
comp=Z,14µm,26.2s
TRD Trivandrum 74.37 280 eP P 20 22 19.3 -1.3
VNDA Vanda 74.38 177 P P 20 22 19.0 -0.5
comp=Z,10nm,0.9s,baz=330,slow=6.4,SNR=41
VNDA S S 20 31 52.2 -0.2
comp=Z,0.3nm,0.9s,baz=6.8,slow=7.6,SNR=2.5
VNDA LR LR 20 54 11.6
comp=Z,5µm,18.6s,baz=355,slow=35
MIR Mirnyy 74.53 201 eP P 20 22 20.0 -0.4
MIR e 20 22 43.0
MIR ePPP PPP 20 26 50.0
MIR eS S 20 31 53.0 -1.2
MIR pmax pmax
comp=Z,38nm,1.5s
MIR pmax pmax
comp=Z,1µm,4.0s
SBA Scott Base 74.97 177 eP P 20 22 23.3 +0.4
SBA pmax pmax
comp=Z,335nm,2.2s
SBA MLR MLR
comp=Z,6µm,21.0s
SBA Scott Base 74.97 177 eP P 20 22 23.2 +0.4
comp=Z,335nm,2.2s
SBA LR LR
comp=Z,6µm,21.0s
OHAK Old Harbor 75.25 28 eP P 20 22 25.0 +0.3
comp=Z,50nm,0.9s
KRAR Krasnoyarsk 75.43 331 *ceP* **P 20 22 25.8 0.0**
KRAR pmax pmax
comp=Z,15nm,0.6s
KDAK Kodiak Island 75.86 28 P P 20 22 29.2 +0.9
KDAK S S 20 32 09.2 -0.1
KDAK LR LR
comp=Z,7µm,20.0s
KDAK Kodiak Island 75.86 28 P P 20 22 29.2 +0.9
baz=198,slow=3.9
KDAK S S 20 32 09.2 -0.1
comp=Z,1.3nm,0.7s,baz=270,slow=20,SNR=1.6

BHPL Bhopal 75.94 295 *eP* **P 20 22 27.0 -2.5**
BHPL AMB AMB 20 22 35.4
comp=Z,50nm,1.8s
TIXI Tiksi 76.17 353 *ceP* **P 20 22 28.3 -1.4**
TIXI pmax pmax
comp=Z,16nm,1.7s
SVW2 Sparrevohn 76.34 24 *eP* **P 20 22 32.0 +1.0**
comp=Z,63nm,1.1s
DDI Dehra Dun 76.71 302 *eP* **P 20 22 34.7 +0.9**
DDI AMB AMB 20 22 42.7
comp=Z,202nm,2.4s
NDI New Delhi 77.11 300 *eP* **P 20 22 34.0 -2.0**
NDI New Delhi 77.11 300 *eP* **P 20 22 34.0 -2.0**
RSO Redoubt South 77.17 25 *eP* **P 20 22 37.0 +1.1**
SMLA Simla 77.63 303 *eP* **P 20 22 39.9 +1.0**
SMLA AMB AMB 20 22 45.8
comp=Z,75nm,1.1s
MK31 Makanchi Array 77.79 319 *eP* **P 20 22 39.8 +0.3**
MK31 Makanchi Array 77.79 319 *eP* **P 20 22 39.8 +0.3**
MKAR Makanchi Array 77.79 319 P P 20 22 39.9 +0.4
MKAR pmax pmax
comp=Z,18nm,0.8s
MKAR MLR MLR
comp=Z,9µm,21.5s
MKAR Makanchi Array 77.79 319 *eP* **P 20 22 40.0 +0.5**
MKAR S **S 20 32 35.0 +4.0**
MKAR Makanchi Array 77.79 319 P P 20 22 39.9 +0.4
comp=Z,18nm,0.8s,baz=99,slow=7.3,SNR=85
MKAR S **S 20 32 35.0 +4.0**
comp=Z,0.2nm,0.5s,baz=73,slow=26,SNR=2.5
MKAR LR LR 20 55 38.3
comp=Z,9µm,21.5s,baz=106,slow=35
SPU Mount Spurr 77.83 25 *eP* P 20 22 45.1 +5.6
DGAR Diego Garcia 77.85 263 PFAKE 20 22 50.0 +10
DGAR LR LR
comp=Z,6µm,21.0s
POO Poona 78.54 290 *eP* **P 20 22 44.2 -0.1**
POO *e4* 20 32 36.5
POO *eS* **S 20 32 38.9 -1.2**
DHRM DHARAMSHALA 78.57 304 *eP* **P 20 22 44.0 -0.4**
DHRM AMB AMB 20 23 01.7
comp=Z,83nm,2.5s
ZALV Zalesovo Beam 78.72 327 P P 20 22 43.9 -0.6
ZALV Zalesovo Beam 78.72 327 P P 20 22 43.9 -0.6
ZALV Zalesovo Beam 78.72 327 P P 20 22 43.9 -0.6
comp=Z,20nm,0.8s,baz=108,slow=5.6,SNR=84
ZALV LR LR 20 56 49.8
comp=Z,8µm,19.9s,baz=95,slow=35
AJM Ajmer 78.97 298 *eP* **P 20 22 45.8 -0.6**
AJM AMB AMB 20 22 57.1
comp=Z,554nm,2.4s
AJM *eS* **S 20 32 44.7 +0.2**
AJM Ajmer 78.97 298 *i P* **P 20 22 47.0 +0.6**
PMR Palmer 79.26 25 *eP* **P 20 22 48.2 +1.0**
PMR pmax pmax
comp=Z,51nm,1.0s
PMR Palmer 79.26 25 *eP* **P 20 22 48.2 +1.0**
comp=Z,51nm,1.0s
TRF Thorofare Moun 79.69 23 *eP* **P 20 22 47.7 -2.0**
comp=Z,38nm,0.8s
SML Sawmill 79.70 25 *eP* **P 20 22 49.6 -0.1**
SML pmax pmax
comp=Z,34nm,1.0s
SML Sawmill 79.70 25 *eP* **P 20 22 49.6 -0.1**
comp=Z,34nm,1.0s
NVS Novosibirsk 79.91 327 *i iP* **P 20 22 49.1 -1.8**
NVS *e* 20 26 01.6
NVS *eS* **S 20 32 52.3 -0.9**
NVS pmax pmax
comp=Z,195nm,2.1s
NVS pmax pmax
comp=N,34nm,1.8s
NVS pmax pmax
comp=E,108nm,2.1s
NVS pmax pmax
comp=Z,113nm,3.0s
NVS pmax pmax
comp=N,16nm,1.8s
NVS pmax pmax
comp=E,57nm,2.7s
NVS smax smax
comp=N,263nm,4.1s
NVS smax smax
comp=E,149nm,3.8s
KSH Kashi 80.33 311 P P 20 22 55.9 +2.2
KSH pP **pP 20 23 03.3 +2.4**
KSH sP **sP 20 23 06.3 +2.8**
KSH PP **PP 20 26 01.4 +4.7**
KSH S **S 20 33 00.9 +2.4**
KSH SKS **SKSac 20 33 09.3 -1.3**
KSH SS SS 20 38 17.9 +7.7
KSH pmax pmax
comp=Z,25nm,1.0s
KSH pmax pmax
comp=Z,470nm,5.5s
KSH LR LR
comp=N,3µm,16.8s
KSH LR LR
comp=E,3µm,16.1s
KSH LR LR
comp=Z,6µm,20.3s
MCK McKinley 80.36 23 *eP* **P 20 22 52.5 -0.7**
MCK pmax pmax
comp=Z,130nm,0.9s
MCK McKinley 80.36 23 *eP* **P 20 22 52.5 -0.7**
comp=Z,130nm,0.9s
DIV Divide 80.50 26 *eP* **P 20 22 54.4 +0.3**
comp=Z,79nm,1.0s
ULHL Ulahol 80.73 314 P P 20 22 57.4 +1.5
SNR=5.5
BMRM Bremner River 80.95 27 *eP* **P 20 22 57.5 +1.0**
comp=Z,318nm,1.7s
PAF Port-aux-Franc 81.23 221 PFAKE 20 23 10.0 +12
PAF LR LR
comp=Z,16µm,20.0s
KURK Kurchatov 81.27 322 P P 20 22 57.3 -1.0
comp=Z,442nm,0.9s,SNR=20
KURK Kurchatov 81.27 322 P P 20 22 58.1 -0.2
KURK Kurchatov 81.27 322 P P 20 22 58.1 -0.2
KURK P'P' 20 49 43.5
KURBB Kurchatov Arra 81.30 322 P P 20 22 58.1 -0.4
comp=Z,19nm,0.9s,baz=109,slow=4.5,SNR=74
KURBB PKPPKP P'P'df 20 49 43.5 +5.8
comp=Z,0.2nm,0.8s,baz=281,slow=3.0,SNR=5.1
COLA College 81.31 22 *eP* **P 20 22 58.6 +0.5**
COLA *e* 20 26 07.5
COLA pmax pmax
comp=Z,291nm,1.0s
COLA MLR MLR
comp=Z,5µm,19.0s
COLA College 81.31 22 *eP* **P 20 22 58.6 +0.5**
comp=Z,291nm,1.0s
COLA ePP **PP 20 26 07.5 +3.5**
COLA LR LR
comp=Z,5µm,19.0s
TKM2 Tokmak 2 81.34 314 P P 20 22 59.9 +0.7
SNR=13
PAX Paxson 81.41 25 *eP* **P 20 22 59.6 +0.7**
PAX pmax pmax
comp=Z,26nm,1.0s
PAX Paxson 81.41 25 *eP* **P 20 22 59.6 +0.7**
comp=Z,26nm,1.0s
KZA Kyzart 81.41 313 P P 20 23 01.3 +1.6
SNR=30
COLD Coldfoot 81.60 20 *eP* **P 20 23 00.2 +0.5**
comp=Z,40nm,1.0s
ILAR Eielson Array 81.63 23 P P 20 22 58.5 -1.4
ILAR S **S 20 33 09.1 -1.7**
ILAR Eielson Array 81.63 23 P P 20 22 58.5 -1.4
comp=Z,7.7nm,0.8s,baz=254,slow=5.1,SNR=38
ILAR S **S 20 33 09.1 -1.7**
comp=Z,0.3nm,0.7s,baz=210,slow=7.1,SNR=3.4
ILAR LR LR 20 59 25.9
comp=Z,7µm,19.2s,baz=255,slow=36
CHMS Chumysh 81.97 314 P P 20 23 02.8 +0.6
SNR=12
FRU Bishkek 82.03 314 *i P* **P 20 23 02.0 -0.5**
FRU pmax pmax
comp=Z,80nm,1.8s
FRU MLR MLR
comp=Z,4µm,20.0s
AAK Ala-Archa 82.08 314 *eP* **P 20 23 03.7 +0.8**
AAK S **S 20 33 18.3 +1.7**
AAK pmax pmax
comp=Z,33nm,1.4s
AAK Ala-Archa 82.08 314 P P 20 23 04.6 +1.7
SNR=6.0
AAK Ala-Archa 82.08 314 *eP* **P 20 23 03.7 +0.8**
comp=Z,33nm,1.4s
AAK S **S 20 33 18.3 +1.7**
AAK Ala-Archa 82.08 314 P P 20 23 03.8 +0.8
comp=Z,5.4nm,0.6s,baz=118,slow=4.1,SNR=14
AAK S **S 20 33 18.3 +1.7**
comp=Z,1.1nm,0.4s,baz=100,slow=8.5,SNR=2.0
AAK LR LR 20 59 21.3
comp=Z,9µm,21.9s,baz=92,slow=36
USP Ospenovka 82.20 314 P P 20 23 04.3 +0.8
SNR=15
AML Almayashu 82.56 313 P P 20 23 07.7 +2.0
SNR=22
EKS2 Erkin-Say 82.60 314 P P 20 23 06.8 +1.1
SNR=12
PNL Peninsula 82.89 29 *eP* **P 20 23 06.7 0.0**
comp=Z,149nm,1.4s
EGAK Eagle 83.88 24 *eP* **P 20 23 12.7 +1.2**
comp=Z,59nm,1.0s
EGAK LR LR
comp=Z,6µm,21.0s
SIT Sitka 84.17 32 *eP* P 20 23 19.6 +6.5
SIT pmax pmax
comp=Z,103nm,1.6s
SIT Sitka 84.17 32 *eP* P 20 23 19.6 +6.5
comp=Z,103nm,1.6s
VIB Van Inlet 84.81 36 T T 21 56 29.0
SNR=20
DIB Dawson Inlet, 84.83 36 T T 21 56 34.3
KBL Kabul 84.93 305 *eP* **P 20 23 17.5 -0.4**
KBL pmax pmax
comp=Z,25nm,0.8s
KBL Kabul 84.93 305 *eP* **P 20 23 17.5 -0.4**
comp=Z,25nm,0.8s
KBL Kabul 84.93 305 P P 20 23 18.1 +0.2
baz=85,SNR=6.6
CRAG Craig 84.97 34 *eP* **P 20 23 18.2 +1.0**
comp=Z,72nm,1.4s
KKAR Karatay Array 85.04 314 *eP* **P 20 23 18.6 +0.6**
KKAR pmax pmax
comp=Z,130nm,1.1s
KKAR Karatay Array 85.04 314 *eP* **P 20 23 18.6 +0.6**
comp=Z,130nm,1.1s
WRAK Wrangell Islan 85.61 33 *eP* **P 20 23 22.0 +1.6**
comp=Z,67nm,1.2s
WRAK LR LR
comp=Z,12µm,21.0s
MAW Mawson 86.09 203 P P 20 23 21.1 -1.6
MAW Mawson 86.09 203 P P 20 23 21.1 -1.6
comp=Z,3.3nm,0.6s,baz=82,slow=7.6,SNR=12
MAW LR LR 20 59 55.2
comp=Z,11µm,21.5s,baz=85,slow=34
MAW Mawson 86.09 203 P P 20 23 21.5 -1.2
baz=86,SNR=6.9
QSPA South Pole Qui 86.63 180 *eP* **P 20 23 24.0 -1.5**
comp=Z,89nm,1.4s
QSPA South Pole Qui 86.63 180 LR LR 20 57 19.2
comp=Z,5µm,21.5s,baz=6.7,slow=32
BVAR Borovoye Array 86.76 323 P P 20 23 25.6 -0.7
BVAR S **SKSac 20 33 49.7 -2.2**
BVAR Borovoye Array 86.76 323 P P 20 23 25.6 -0.7
BVAR S **SKSac 20 33 49.7 -2.2**
BVAR Borovoye Array 86.76 323 P P 20 23 25.6 -0.7
comp=Z,32nm,0.7s,baz=104,slow=6.3,SNR=128
BVAR S **SKSac 20 33 49.7 -2.2**
comp=Z,0.2nm,0.5s,baz=63,slow=13,SNR=2.3
BRVK Borovoye 86.83 323 *eP* **P 20 23 26.1 -0.5**
BRVK pmax pmax
comp=Z,47nm,0.9s
BRVK MLR MLR
comp=Z,10µm,19.0s
BRVK Borovoye 86.83 323 *eP* **P 20 23 26.1 -0.5**
comp=Z,47nm,0.9s
BRVK LR LR
comp=Z,10µm,19.0s
DLBC Dease Lake 87.25 31 LR LR 20 53 19.0
comp=Z,8µm,21.7s,baz=265,slow=29
BBB Bella Bella 87.25 38 LR LR 20 54 54.8
comp=Z,9µm,19.9s,baz=262,slow=30
INK Inuvik 87.87 21 LR LR 20 57 52.7
comp=Z,5µm,21.0s,baz=244,slow=32
KHMM Horse Mountain 88.86 49 *eP* P 20 23 44.0 +7.2
comp=Z,36nm,1.1s
NLWA Neilton Lookou 89.38 43 *eP* **P 20 23 41.8 +2.9**
comp=Z,22nm,1.0s
NLWA LR LR
comp=Z,6µm,19.0s
HUMO Hull Mountain 89.59 47 *eP* **P 20 23 41.1 +1.1**
comp=Z,36nm,1.1s
YBH Yreka Blue Hor 89.70 48 *eP* **P 20 23 41.3 +0.7**
comp=Z,24nm,1.1s
YBH Yreka Blue Hor 89.70 48 LR LR 20 55 36.1
comp=Z,18µm,21.5s,baz=260,slow=30
WDC Whiskeytown Da 89.74 50 *eP* **P 20 23 42.7 +2.0**
WDC pmax pmax
comp=Z,31nm,1.3s
WDC Whiskeytown Da 89.74 50 *eP* **P 20 23 42.7 +2.0**
comp=Z,30nm,1.3s
OHCM Honcut 90.46 51 *eP* **P 20 23 45.5 +1.4**
OHCM *e*PP PP 20 27 31.0 +12
LON Longmire 90.73 43 *eP* P 20 23 50.7 +5.4
LON pmax pmax
comp=Z,7.0nm,1.0s
LON Longmire 90.73 43 *eP* P 20 23 50.7 +5.4
comp=Z,7.5nm,1.0s
CMB Columbia Colle 91.23 52 *eP* **P 20 23 49.6 +1.8**
CMB pmax pmax
comp=Z,84nm,2.1s
CMB Columbia Colle 91.23 52 *eP* **P 20 23 49.6 +1.8**
comp=Z,84nm,2.1s
PTRM Twissleman Ran 91.24 55 *e*PP PP 20 27 32.4 +7.2
BEKR Beckworth 91.36 50 *eP* **P 20 23 48.6 +0.1**
comp=Z,19nm,1.4s
MOD Modoc 91.51 48 *eP* **P 20 23 51.1 +2.0**
comp=Z,24nm,1.0s
PKM Peak Mountain 91.52 55 P P 20 23 50.7 +1.4
baz=92
WAKR Walker 92.00 52 *eP* P 20 23 54.9 +3.3
PAHR Pah Rah Range 92.10 51 *eP* **P 20 23 53.8 +1.9**
comp=Z,21nm,1.1s
HAWA Hanford 92.28 44 *eP* **P 20 23 55.0 +2.7**
comp=Z,19nm,1.1s
HAWA LR LR
comp=Z,6µm,19.0s
MTUM Tungsten Hills 92.65 53 *eP* **P 20 23 56.7 +2.1**
ISA Isabella 92.66 55 *eP* **P 20 23 56.1 +1.6**
ISA *e* 20 27 46.5
ISA pmax pmax
comp=Z,28nm,1.6s
ISA Isabella 92.66 55 *eP* **P 20 23 56.1 +1.6**
comp=Z,28nm,1.6s
ISA ePP PP 20 27 46.5 +10
ISA Isabella 92.66 55 P P 20 23 55.7 +1.2
baz=93
SVE Sverdlovsk 92.74 327 *i eP* P 20 23 50.3 -4.0
SVE *eS* **SKSac 20 34 19.9 -6.8**
SVE *eSS* **SS 20 41 10.3 -0.7**
SVE pmax pmax
comp=Z,58nm,2.0s
SVE MLR MLR
comp=E,10µm,20.0s
SVE MLR MLR
comp=Z,13µm,20.0s
SVE MLR MLR
comp=N,4µm,18.0s
WVOR Wild Horse Val 92.77 48 *eP* **P 20 23 55.3 +0.4**
WVOR pmax pmax
comp=Z,30nm,1.1s
WVOR MLR MLR
comp=Z,15µm,22.0s
WVOR Wild Horse Val 92.77 48 *eP* **P 20 23 55.3 +0.4**
comp=Z,30nm,1.1s
WVOR LR LR
comp=Z,15µm,22.0s
NVAR Mina Array Bea 92.89 52 P P 20 23 56.2 +0.5
NVAR PP **PP 20 27 38.7 +0.4**
NVAR Mina Array Bea 92.89 52 P P 20 23 56.2 +0.5
comp=Z,1.4nm,0.6s,baz=254,slow=6.3,SNR=13
NVAR PP **PP 20 27 38.7 +0.4**
comp=Z,3.8nm,1.1s,baz=262,slow=6.9,SNR=4.8
NVAR LR LR 21 02 31.5
comp=Z,10µm,19.0s,baz=91,slow=34
ABKAR Akbulak array 92.93 319 *eP* **P 20 23 54.2 -1.2**
MWC Mount Wilson 92.94 56 *eP* **P 20 23 58.1 +2.1**
MWC pmax pmax
comp=Z,37nm,1.0s

| | | |

comp=Z,8µm,20.0s
GLMI Grayling 116.46 41 PFAKE 20 29 40.0 +14
GLMI LR LR
comp=Z,7µm,20.0s
KOLS Kolonicke sedl 116.85 325 *e*PKIKP **PKPdf 20 29 26.5 -0.3**
KOLS Kolonicke sedl 116.85 325 *e*PKP **PKPdf 20 29 26.5 -0.3**
UZH Uzhgorod 116.98 324 *e*P **Pdif 20 25 48.4 +5.5**
UZH *e*SS SS 20 46 46.2 +3.5
UZH MLR MLR
comp=N,2µm,23.0s
UZH MLR MLR
comp=E,4µm,23.0s
UZH MLR MLR
comp=Z,200nm,23.0s
BER Bergen 117.23 341 *e*PP PP 20 30 30.4 -6.8
BER AMS AMS 21 20 05.4
comp=Z,5µm,23.2s
GKP Gorka Klasztor 117.25 331 *e*PP PP 20 30 39.7 +2.0
GKP LMZ LR 21 15 25.3
NIE Niedzica 117.73 326 *e*PKIKP **PKPdf 20 29 31.4 +2.9**
NIE *e* 20 30 43.7
NIE Niedzica 117.73 326 *e*PKPdf **PKPdf 20 29 31.4 +2.9**
NIE *e*PP **PP 20 30 43.7 +2.4**
NIE *e*SKKSdf SKKSdf 20 47 35.7 +4.6
BORG Borgarnes 118.42 356 PFAKE 20 29 40.0 +11
BORG LR LR
comp=Z,2µm,21.0s
OKC Ostrava-Krasne 118.70 327 *e*PKIKP **PKPdf 20 29 34.4 +4.1**
OKC *e* 20 30 47.4
OKC MLR MLR
comp=Z,5µm,19.0s
OKC Ostrava-Krasne 118.70 327 *e*PKPdf **PKPdf 20 29 34.4 +4.1**
OKC *e*PP **PP 20 30 47.4 -0.5**
OKC AMS AMS 21 22 10.0
comp=Z,5µm,19.0s
LRAL Lakeview Retre 118.71 54 PFAKE 20 29 40.0 +9.1
LRAL LR LR
comp=Z,6µm,20.0s
BOSA Boshof 118.72 235 PKP **PKPdf 20 29 30.4 -0.8**
BOSA Boshof 118.72 235 PKP **PKPdf 20 29 30.4 -0.8**
comp=Z,2.9nm,1.0s,baz=90,slow=12,SNR=2.5
PSZ Piszkesteto 118.73 324 PFAKE 20 29 40.0 +9.4
PSZ LR LR
comp=Z,6µm,21.0s
PAYG Puerto Ayora 119.00 93 PFAKE 20 29 40.0 +8.0
PAYG LR LR
comp=Z,7µm,22.0s
VYHS Vyhne 119.04 325 *e*PKIKP **PKPdf 20 29 30.4 -0.7**
VYHS Vyhne 119.04 325 *e*PKP **PKPdf 20 29 30.4 -0.7**
MORC Moravsky Berou 119.07 327 *e*PKIKP **PKPdf 20 29 31.7 +0.6**
MORC Moravsky Berou 119.07 327 *e*PKPdf **PKPdf 20 29 31.7 +0.6**
KSP Ksiaz 119.13 329 *e*PP PP 20 30 53.6 +2.8
KSP LMZ LR 21 20 14.7
BRAL Brewton 119.20 56 PFAKE 20 29 40.0 +8.1
BRAL LR LR
comp=Z,7µm,20.0s
DPC Dobruska-Polom 119.39 328 *e*PKIKP **PKPdf 20 29 32.5 +0.8**
DPC *e* 20 29 37.9
DPC *e* 20 30 55.9
DPC *e*SP SP 20 40 41.4 +3.2
DPC *e*SS SKKSdf 20 47 35.5 +7.5
DPC Dobruska-Polom 119.39 328 *e*PKPdf **PKPdf 20 29 32.5 +0.8**
DPC *ep*PKP **pPKPdf 20 29 37.9 -1.3**
DPC *e*PP **PP 20 30 55.9 +3.2**
DPC *e*SP SP 20 40 41.4 +3.2
DPC *e*SKKS SKKSdf 20 47 35.5 +7.5
DPC AMS AMS 21 20 20.0
UPC Upice 119.47 329 *e*PKIKP PKPdf 20 29 37.6 +5.8
UPC *e* 20 30 56.1
UPC Upice 119.47 329 *ep*PKP **PKPdf 20 29 37.6 +5.8**
UPC *e*PP **PP 20 30 56.1 +2.9**
MBAR Mbarara 119.78 267 PFAKE 20 29 50.0 +16
MBAR LR LR
comp=Z,464nm,21.0s
SANT Santorini 119.86 310 PFAKE 20 29 40.0 +6.9
SANT LR LR
comp=Z,2µm,21.0s
EFI East Falkland 120.02 160 PFAKE 20 29 40.0 +7.2
EFI LR LR
comp=Z,2µm,19.0s
BSEG Bad Segeberg 120.04 334 *e*PKPdf **PKPdf 20 29 33.9 +1.2**
BSEG *e*SP SP 20 40 31.7 -12
BSEG *e*SS SKKSdf 20 47 38.1 +11
BSEG Bad Segeberg 120.04 334 *e*PKIKP **PKPdf 20 29 33.9 +1.2**
BSEG *e*SS SS 20 47 38.1 +17
LSZ Lusaka 120.11 250 *e*PKPdf **PKPdf 20 29 36.1 +1.9**
LSZ LR LR
comp=Z,6µm,22.0s
PVCC Panska Ves 120.20 329 *e*PKIKP **PKPdf 20 29 37.5 +4.3**
PVCC *e* 20 29 41.8
PVCC *e*SP SP 20 40 36.9 -8.3
PVCC *e*SS SKKSdf 20 47 42.9 +17
PVCC MLR MLR
comp=Z,7µm,20.3s
PVCC Panska Ves 120.20 329 *e*PKPdf **PKPdf 20 29 37.5 +4.3**
PVCC *ex* x 20 29 41.8
PVCC *ex* x 20 30 45.9
PVCC *ex* x 20 40 36.9
PVCC *ex* x 20 47 42.9
PVCC AMS AMS 21 22 20.0
comp=Z,7µm,20.3s
TEIG Tepich 120.28 69 PFAKE 20 29 50.0 +16
TEIG LR LR
comp=Z,8µm,20.0s
BRG Berggiesshubel 120.31 330 PKP **PKPdf 20 29 34.1 +0.7**
comp=Z,4.0nm,0.9s
BRG *e* 20 29 37.8
comp=Z,14nm,1.1s
BRG PP PKKPab 20 39 54.0 +12
BRG *e* 20 40 30.0
BRG *e* 20 42 47.0
BRG
comp=N,4µm,19.3s
BRG
comp=E,5µm,20.0s
BRG
comp=Z,8µm,19.4s
BRG Berggiesshubel 120.31 330 *e*PKPdf **PKPdf 20 29 34.1 +0.7**
BRG *e*SP SP 20 40 34.9 -11
BRG *e*SS SKKSdf 20 47 42.3 +16
BRG Berggiesshubel 120.31 330 PKIKP **PKPdf 20 29 34.1 +0.7**
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG pmax pmax
comp=Z,4.0nm,1.1s
BRG MLR MLR
comp=N,14µm,19.3s
BRG MLR MLR
comp=E,4µm,20.0s
BRG MLR MLR
comp=Z,5µm,19.4s
TREC Trest 120.44 328 *e*PKIKP **PKPdf 20 29 34.3 +0.5**
TREC *e*SS SS 20 47 47.1 +20
TREC MLR MLR
comp=Z,7µm,22.5s
TREC Trest 120.44 328 *e*PKPdf **PKPdf 20 29 34.3 +0.5**
TREC *e*PP PP 20 30 52.7 -7.2
TREC *ex* x 20 47 47.1
TREC AMS AMS 21 20 20.0
comp=Z,7µm,22.5s
CLL Collm 120.51 331 *e*PKPdf **PKPdf 20 29 34.4 +0.6**
CLL *e*SP SP 20 40 35.9 -12
CLL *e*SS SS 20 47 44.5 +17
CLL Collm 120.51 331 *e*PKIKP **PKPdf 20 29 34.0 +0.2**
CLL *e* 20 31 01.0
CLL pmax pmax
comp=Z,3.0nm,1.0s
CLL MLR MLR
comp=Z,5µm,20.1s
CLL Collm 120.51 331 *e*(PKP) PKPpre 20 29 27.0
CLL Collm 120.51 331 *e*PKPdf **PKPdf 20 29 34.0 +0.2**
comp=Z,8.0nm,1.0s
CLL *eP* **PP 20 31 01.0 +0.8**
CLL *eP*S **PS 20 40 50.0 -1.6**
CLL *e*PPS PPS 20 42 12.0
CLL *e*SS SS 20 47 30.0 +2.2
CLL L L 21 24 00.0
comp=Z,5µm,20.1s
PRU Pruhonice 120.54 329 *e*PKIKP **PKPdf 20 29 37.9 +4.0**
PRU *e* 20 31 04.8
PRU *e*SP SP 20 40 53.7 +5.4
PRU *e*SS SS 20 47 52.1 +24
PRU MLR MLR
comp=Z,8µm,21.7s
PRU Pruhonice 120.54 329 *e*PKPdf **PKPdf 20 29 37.9 +4.0**
PRU *ep*PKP **pPKPdf 20 29 41.7 +0.4**
PRU *e*PP **PP 20 31 04.8 +4.3**
PRU *e*SP 20 40 53.7 +5.4
PRU *ex* x 20 47 52.1
PRU AMS AMS 21 21 50.0
comp=Z,8µm,21.7s
PRA Prague 120.54 329 PKPdf **PKPdf 20 29 38.0 +4.1**
PRA PP PP **20 31 05.0 +4.5**
PRA AMS AMS 21 22 00.0
SUR Sutherland 120.67 229 PFAKE 20 29 50.0 +15
SUR LR LR
comp=Z,5µm,20.0s
CONA Conrad Observa 121.02 326 ⇑ *i*PKiKP **PKPdf 20 29 34.9 -0.1**
comp=Z,19nm,1.7s
NRDL Niedersach Rie 121.10 333 *e*PKPdf **PKPdf 20 29 35.9 +1.1**
NRDL *e*PP **PP 20 31 06.0 +1.9**
NRDL *e*SP SP 20 40 40.1 -13
TANN Tannenbergstha 121.33 330 *e*PKPdf **PKPdf 20 29 36.3 +0.8**
TANN *e*SP SP 20 40 43.3 -12
TANN *e*SS SS 20 47 55.0 +16
CLZ Clausthal 121.42 332 *e*PKPdf **PKPdf 20 29 36.8 +1.2**
CLZ *e*SP SP 20 40 42.2 -14
CLZ *e*SS SS 20 47 59.2 +20
CLZ Clausthal 121.42 332 *e*PKIKP **PKPdf 20 29 36.8 +1.2**
CLZ *e*SS SS 20 47 59.2 +20
KHC Kasperske Hory 121.55 328 *e*PKIKP **PKPdf 20 29 36.3 +0.4**
KHC *e* 20 29 48.5
KHC *e* 20 31 08.9
KHC *e*SP SP 20 40 58.9 +1.5
KHC *e*SS SS 20 48 05.1 +24
KHC MLR MLR
comp=Z,9µm,20.9s
KHC Kasperske Hory 121.55 328 *e*PKPdf **PKPdf 20 29 36.3 +0.4**
KHC *ep*PKP **pPKPdf 20 29 40.3 -3.1**
KHC *ex* x 20 29 48.5
KHC *ex* x 20 30 14.5
KHC *eP* **PP 20 31 08.9 +1.4**
KHC *e*SP SP 20 40 58.9 +1.5
KHC *ex* x 20 48 05.1
KHC AMS AMS 21 22 10.0
comp=Z,9µm,20.9s
KHC Kasperske Hory 121.55 328 *e*PKPdf **PKPdf 20 29 36.6 +0.7**
MOX Moxa 121.61 331 *e*PKPdf **PKPdf 20 29 36.8 +0.9**
MOX *eP* **PP 20 31 08.4 +0.7**
MOX *e*SP SP 20 40 49.6 -8.1
MOX *e*SS SS 20 47 56.0 +14
MOX *e*L L 21 25 10.1
comp=Z,8µm,21.4s
MOX Moxa 121.61 331 *e*PKIKP **PKPdf 20 29 36.8 +0.9**
MOX *e* 20 31 08.4
MOX *e*SP SP 20 40 49.6 -8.1
MOX *e*SS SS 20 47 56.0 +14
MOX MLR MLR
comp=Z,216µm,21.4s
GEC2 GERESS Array S 121.66 328 *e*PKPdf **PKPdf 20 29 36.8 +0.6**
GEC2 *eP* **PP 20 31 09.8 +1.5**
GEC2 *e*SP SP 20 40 46.4 -12
GEC2 *e*SS SS 20 47 59.2 +16
GEC2 GERESS Array S 121.66 328 *e*PKIKP **PKPdf 20 29 36.8 +0.6**
GEC2 *e* 20 31 09.8
GEC2 *e*SS SS 20 47 59.2 +16
GERES GERESS Array B 121.66 328 PKP **PKPdf 20 29 35.6 -0.6**
GERES PKKPbc **PKKPbc 20 39 40.0 +2.9**
GERES GERESS Array B 121.66 328 PKP **PKPdf 20 29 35.6 -0.6**
comp=Z,2.8nm,0.7s,baz=83,slow=1.6,SNR=28
GERES PKKPbc **PKKPbc 20 39 40.0 +2.9**
comp=Z,0.2nm,0.4s,baz=186,slow=3.6,SNR=6.8
TIR Tirane 121.91 318 PFAKE 20 29 50.0 +13
TIR LR LR
comp=Z,7µm,21.0s
WET Wettzell 121.91 329 *e*PKPdf **PKPdf 20 29 37.6 +1.0**
WET *e*SP SP 20 40 50.7 -10
WET *e*SS SS 20 48 05.5 +19
WET Wettzell 121.91 329 *e*PKIKP **PKPdf 20 29 37.6 +1.0**
WET *e*SS SS 20 48 05.5 +19
TGUH Tegucigalpa,Un 121.93 76 PFAKE 20 29 50.0 +13
TGUH LR LR
comp=Z,7µm,20.0s
PERS Pernice 122.17 325 *e*PKPdf **PKPdf 20 29 36.3 -0.9**
PERS *e* 20 29 42.2
PERS *e*PP **PP 20 31 10.7 -1.1**
PERS *e* 20 33 12.0
PERS *e* 20 38 13.4
PERS *e* 20 41 04.6
PERS *e* 20 43 27.2
PERS *e*SS SS 20 48 11.7 +22
SOKA Soboth 122.19 325 ⇑ *i*PKiKP **PKPdf 20 29 37.2 0.0**
comp=Z,14nm,1.3s
PLCA Paso Flores 122.26 144 PKP **PKPdf 20 29 36.5 -1.1**
PLCA Paso Flores 122.26 144 PKP **PKPdf 20 29 36.5 -1.1**
comp=Z,1.1nm,0.8s,baz=235,slow=4.9,SNR=3.8
IBBN Ibbenburen 122.28 334 *e*PKPdf **PKPdf 20 29 38.3 +1.2**
IBBN *e*SS SS 20 48 07.6 +17
BLA Blacksburg 122.40 47 *e*PKIKP **PKPdf 20 29 39.0 +1.1**
BLA MLR MLR
comp=Z,6µm,20.0s
BLA Blacksburg 122.40 47 *e*PKPdf **PKPdf 20 29 39.0 +1.1**
BLA LR LR
comp=Z,6µm,20.0s
GRF Grafenberg Arr 122.41 330 *e*PKPdf **PKPdf 20 29 38.5 +1.0**
GRF *e*SP SP 20 40 53.8 -11
GRF *e*SS SS 20 48 08.7 +16
GRF *e*L L 21 23 36.6
comp=Z,6µm,21.0s
GRF Grafenberg Arr 122.41 330 *e*PKIKP **PKPdf 20 29 38.5 +1.0**
GRF *e*SS SS 20 48 08.7 +16
GRF MLR MLR
comp=Z,126µm,21.0s
BOJS Bojanci 122.72 324 *e*PKPdf **PKPdf 20 29 37.7 -0.5**
VISS Visnje 122.79 325 *e*PKPdf **PKPdf 20 29 37.2 -1.1**
RJOB Jochberg 122.81 327 *e*PKPdf **PKPdf 20 29 39.5 +1.1**
RJOB *e*SS SS 20 48 17.1 +19
LJU Ljubljana 122.84 325 *e*PKPdf **PKPdf 20 29 35.9 -2.5**
LONY Lake Ozonia 122.87 37 *e*PKPdf **PKPdf 20 29 38.8 +0.2**
LONY LR LR
comp=Z,6µm,21.0s
BUG Bochum--Univer 123.11 334 *e*PKPdf **PKPdf 20 29 39.7 +1.0**
BUG *e*SS SS 20 48 16.0 +15
BINY Binghamton 123.24 40 PFAKE 20 29 50.0 +11
BINY LR LR
comp=Z,10µm,20.0s
FRNY Flat Rock 123.34 36 *e*PKPdf **PKPdf 20 29 41.1 +1.7**
FUR Furstenfeldbru 123.35 329 *e*PKPdf **PKPdf 20 29 40.2 +0.8**
FUR *e*SS SS 20 48 21.3 +17
FUR Furstenfeldbru 123.35 329 *e*PKIKP **PKPdf 20 29 40.2 +0.8**
FUR *e*SS SS 20 48 21.3 +17
TNS Taunus Mts 123.41 332 *e*PKPdf **PKPdf 20 29 40.6 +1.1**
TNS *e*SS SS 20 48 24.5 +20
TNS Taunus Mts 123.41 332 *e*PKIKP **PKPdf 20 29 40.6 +1.1**
TNS *e*SS SS 20 48 24.5 +20
NCB Newcomb 123.43 38 *e*PKPdf **PKPdf 20 29 40.0 +0.3**
NCB LR LR
comp=Z,7µm,20.0s
ABTA Abfaltersbach 123.56 327 ⇑ *i*PKiKP **PKPdf 20 29 39.8 -0.1**
comp=Z,12nm,1.0s
WTTA Wattenberg 123.72 327 ⇑ *i*PKiKP **PKPdf 20 29 39.8 -0.6**
comp=Z,20nm,0.9s
ESK Eskdalemuir 124.01 342 PFAKE 20 29 50.0 +10
ESK LR LR
comp=Z,4µm,19.0s
STU Stuttgart 124.02 330 *e*PKPdf **PKPdf 20 29 41.6 +0.9**
STU *e*SS SS 20 48 32.9 +20
STU Stuttgart 124.02 330 *e*PKIKP **PKPdf 20 29 41.5 +0.9**
STU Stuttgart 124.02 330 *e*PKPdf **PKPdf 20 29 41.5 +0.9**
MDV Middlebury 124.05 37 *e*PKPdf **PKPdf 20 29 40.7 -0.1**
NHSC New Hope 124.12 52 PFAKE 20 29 50.0 +8.8
NHSC LR LR
comp=Z,11µm,22.0s
CBN Corbin 124.18 45 PFAKE 20 29 50.0 +8.8
CBN LR LR
comp=Z,6µm,21.0s
FETA Feichten 124.36 328 ⇑ *i*PKiKP **PKiKP 20 29 42.2 +0.4**
comp=Z,22nm,1.0s
LANF Langenberg 124.56 331 PKP **PKPdf 20 29 42.6 +0.9**
DAVA Damuels 124.64 328 ⇑ *i*PKiKP **PKiKP 20 29 42.7 +0.3**
comp=Z,18nm,0.9s
LBNH Lisbon 124.66 36 PFAKE 20 29 50.0 +8.0
LBNH LR LR
comp=Z,7µm,21.0s
BFO Black Forest 124.74 330 *e*PKPdf **PKPdf 20 29 42.5 +0.4**
BFO *e*SS SS 20 48 38.2 +16
BFO Black Forest 124.74 330 *e*PKIKP **PKPdf 20 29 42.5 +0.4**
BFO *e*SS SS 20 48 38.2 +16
BFO Black Forest 124.74 330 *e*PKPdf **PKPdf 20 29 42.3 +0.2**
BFO LR LR
comp=Z,5µm,21.0s
WLF Walferdange 124.86 333 *e*SS SS 20 48 42.4 +19
WLF Walferdange 124.86 333 PFAKE 20 29 50.0 +7.8
WLF LR LR
comp=Z,8µm,20.0s
TIP Timpagrande 125.02 317 *e*PKPdf **PKPdf 20 29 43.5 +0.6**
TIP LR LR
comp=Z,5µm,22.0s
CNNC Cliffs of the 125.06 49 PFAKE 20 29 50.0 +7.0
CNNC LR LR
comp=Z,8µm,21.0s
GIVF Givet 125.15 334 *e*PKIKP **PKPdf 20 29 42.4 -0.3**
comp=Z,70nm,1.2s
CDF Champ du Feu 125.20 331 *e*PKIKP **PKPdf 20 29 42.8 -0.2**
comp=Z,44nm,1.6s
CUC Castrocucco 125.26 318 PFAKE 20 30 00.0 +17
CUC LR LR
comp=Z,3µm,22.0s
ECH Echery 125.40 331 *e*PKIKP **PKPdf 20 29 44.7 +1.4**
ECH MLR MLR
comp=Z,4µm,21.0s
ECH Echery 125.40 331 *e*PKPdf **PKPdf 20 29 44.7 +1.4**
ECH LR LR
comp=Z,4µm,21.0s
ECH Echery 125.40 331 PKP **PKPdf 20 29 44.3 +1.0**
TUE Stuetta 125.44 328 *e*PKPdf **PKPdf 20 29 43.9 +0.2**
TUE LR LR
comp=Z,9µm,21.0s
BAIF Baives 125.45 334 *e*PKIKP **PKPdf 20 29 42.5 -0.8**
AQU L'Aquila 125.57 322 PFAKE 20 30 00.0 +16
AQU LR LR
comp=Z,9µm,22.0s
MOF Molkenrain 125.66 330 PKP **PKPdf 20 29 44.5 +0.6**
HINF Hinteralfeld 125.82 331 *e*PKIKP **PKPdf 20 29 44.2 0.0**
comp=Z,53nm,1.2s
PAGF Fort de Pagny 125.85 332 *e*PKIKP **PKPdf 20 29 43.2 -0.9**
comp=Z,7.3nm,1.1s
HAU Haudompre 125.94 331 *e*PKIKP **PKPdf 20 29 44.5 +0.2**
comp=Z,45nm,1.2s
THEF They Montfort 125.95 331 PKP **PKPdf 20 29 42.9 -1.5**
CEL Celeste 126.05 316 PFAKE 20 30 00.0 +15
CEL LR LR
comp=Z,3µm,20.0s
LOMF Lomont 126.15 330 PKP **PKPdf 20 29 45.7 +0.8**
MEZF Maizieres J'vi 126.20 332 *e*PKIKP **PKPdf 20 29 45.6 +0.8**
VLC Villacollemand 126.32 325 PFAKE 20 30 00.0 +15
VLC LR LR
comp=Z,7µm,21.0s
SFTF Sexfontaines 126.42 332 *e*PKIKP **PKPdf 20 29 44.9 -0.3**
CABF La Chapelle 127.03 330 *e*PKIKP **PKPdf 20 29 47.2 +0.6**
comp=Z,9nm,1.2s
LPL La Plagne 127.44 329 *e*PKIKP **PKPdf 20 29 46.1 -1.5**
comp=Z,25nm,1.2s
LPG La Plagne 127.44 329 *e*PKIKP **PKPdf 20 29 46.8 -0.9**
comp=Z,40nm,1.2s
LOR Lormes 127.64 332 *e*PKIKP **PKPdf 20 29 48.1 +0.5**
comp=Z,61nm,1.3s
BNI Bardonecchia 127.78 328 *e*PKIKP **PKPdf 20 29 48.8 +0.7**
BNI MLR MLR
comp=Z,11µm,20.0s
BNI Bardonecchia 127.78 328 *e*PKPdf **PKPdf 20 29 48.8 +0.7**
BNI LR LR
comp=Z,11µm,20.0s
MBDF Montbardon 127.95 328 *e*PKIKP **PKPdf 20 29 47.5 -1.0**
SSF Saint Saulge 127.96 332 *e*PKIKP **PKPdf 20 29 48.7 +0.5**
comp=Z,45nm,1.3s
PGF Pioggiola 128.10 324 *e*PKIKP **PKPdf 20 29 47.8 -1.0**
comp=Z,102nm,1.3s
SMF Signal de Mont 128.10 331 *e*PKIKP **PKPdf 20 29 48.9 +0.4**
comp=Z,54nm,1.3s
WDD Wield Dalam 128.16 314 PFAKE 20 30 00.0 +11
WDD LR LR
comp=Z,2µm,22.0s
SBF Sospel 128.16 327 *e*PKIKP **PKPdf 20 29 48.3 -0.5**
comp=Z,42nm,1.0s
HYF Humbligny 128.21 333 *e*PKIKP **PKPdf 20 29 49.6 +0.9**
AVF Avril sur Loir 128.23 332 *e*PKIKP **PKPdf 20 29 48.9 +0.2**
comp=Z,41nm,1.6s
ORIF Oris-en-Rattie 128.29 328 *e*PKIKP **PKPdf 20 29 47.7 -1.3**
comp=Z,12nm,0.8s
LDF La Druitiere 128.41 336 *e*PKIKP **PKPdf 20 29 48.4 -0.6**
comp=Z,96nm,1.6s
FLN La Foliniere 128.42 336 *e*PKIKP **PKPdf 20 29 48.4 -0.6**
comp=Z,111nm,1.5s
BGF Bois d'Agland 128.64 332 *e*PKIKP **PKPdf 20 29 50.1 +0.6**
comp=Z,31nm,1.1s
TSUM Tsumeb 128.68 242 PFAKE 20 30 00.0 +9.5
TSUM LR LR
comp=Z,5µm,20.0s
SSB Saint Sauveur 128.73 330 *e*PKIKP **PKPdf 20 29 51.8 +2.0**
SSB MLR MLR
comp=Z,6µm,21.0s
SSB Saint Sauveur 128.73 330 *e*PKPdf **PKPdf 20 29 51.8 +2.0**
SSB LR LR
comp=Z,6µm,21.0s
FRF La Foret Royal 128.79 327 *e*PKIKP **PKPdf 20 29 48.5 -1.4**
comp=Z,97nm,1.6s
GRR Gorron 128.87 336 *e*PKIKP **PKPdf 20 29 49.4 -0.5**
comp=Z,81nm,1.4s
TRQA Tornquist 128.95 147 PFAKE 20 30 00.0 +10
TRQA LR LR
comp=Z,2µm,19.0s
VIVF Saint-Julien-l 128.96 329 *e*PKIKP **PKPdf 20 29 49.5 -0.7**
comp=Z,110nm,1.8s
LCO Las Campanas 128.98 132 PFAKE 20 30 00.0 +8.9
LCO LR LR
comp=Z,3µm,22.0s
LMR La Mourre 129.01 327 *e*PKIKP **PKPdf 20 29 49.5 -0.8**
comp=Z,34nm,1.2s
SMRF Simiane la Rot 129.09 328 *e*PKIKP **PKPdf 20 29 48.6 -1.9**
comp=Z,59nm,1.4s
TCF Toulx Ste Croi 129.14 332 *e*PKIKP **PKPdf 20 29 51.1 +0.6**
comp=Z,37nm,1.1s
BCIP Isla Barro Col 129.55 81 PFAKE 20 30 00.0 +7.9
BCIP LR LR
comp=Z,6µm,19.0s
SGMF Saint Gilles 129.66 337 *e*PKIKP **PKPdf 20 29 50.6 -0.8**
comp=Z,119nm,1.6s
VSL Villasalto 129.70 321 PFAKE 20 30 00.0 +8.2
VSL LR LR
comp=Z,3µm,21.0s
ROSF Rostrenen 129.87 338 *e*PKIKP **PKPdf 20 29 50.7 -1.1**
LASF Ste Croix 129.92 329 *e*PKIKP **PKPdf 20 29 51.3 -0.8**
comp=Z,49nm,1.4s
MFF Saint Martin d 129.97 334 *e*PKIKP **PKPdf 20 29 51.4 -0.6**
comp=Z,100nm,1.6s
CAF Calviac 130.21 331 *e*PKIKP **PKPdf 20 29 51.4 -1.2**
comp=Z,75nm,1.8s
NNA Nana 130.44 109 PFAKE 20 30 10.0 +16
NNA LR LR
comp=Z,3µm,22.0s
MTDJ Mount Denham 130.61 69 PFAKE 20 30 10.0 +16
MTDJ LR LR
comp=Z,3µm,19.0s
OTAV Otavalo 130.87 93 *e*PKPdf **PKPdf 20 29 56.5 +1.2**
OTAV LR LR
comp=Z,8µm,21.0s
MTLF Montolieu 131.28 329 *e*PKIKP **PKPdf 20 29 54.4 -0.2**
comp=Z,57nm,1.7s
KEST Kesra 131.84 317 PKP **PKPdf 20 29 56.1 +0.1**
KEST Kesra 131.84 317 PKP **PKPdf 20 29 56.1 +0.1**
comp=Z,1.2nm,0.9s,baz=127,slow=5.1,SNR=2.8
EPF Esparros 132.44 330 *e*PKIKP **PKPdf 20 29 55.9 -1.0**
comp=Z,34nm,1.4s
GTBY Guantanamo Bay 132.47 66 PFAKE 20 30 10.0 +13
GTBY LR LR
comp=Z,4µm,20.0s
ETSF Etsaut 132.98 331 *e*PKIKP **PKPdf 20 29 56.7 -1.3**
comp=Z,24nm,1.1s
SJPF Ste Jean 133.14 332 *e*PKIKP **PKPdf 20 29 56.9 -1.3**
comp=Z,75nm,1.5s
LVC Limon Verde 133.59 126 PFAKE 20 30 10.0 +10
LVC LR LR
comp=Z,3µm,22.0s
ROSC El Rosal 135.15 86 PKP **PKPdf 20 30 04.2 +1.0**
ROSC El Rosal 135.15 86 PKP **PKPdf 20 30 04.2 +1.0**
comp=Z,4.1nm,0.3s,baz=282,slow=20,SNR=2.9
GRTK Grand Turk 135.61 62 PFAKE 20 30 20.0 +17
GRTK LR LR
comp=Z,7µm,22.0s
BBSR BB Station 136.06 45 PFAKE 20 30 20.0 +16

BBSR				LR	LR				
	comp=Z,3μm,21.0s								
SDDR	**Presa de Saban**	**136.20**	**66**	PFAKE			20 30 20.0	+15	
SDDR				LR	LR				
	comp=Z,8μm,21.0s								
TRIS	**Tristan da Cun**	**136.79**	**200**	PFAKE			20 30 20.0	+15	
TRIS				LR	LR				
	comp=Z,4μm,20.0s								
LPAZ	**La Paz**	**137.03**	**118**	*e*PKPpre	PKPpre		20 30 00.3		
LPAZ				PKPpre	PKPpre		20 30 00.9		
LPAZ	**La Paz**	**137.03**	**118**	PKhKP	PKPpre		20 30 00.9		
	comp=Z,3.2nm,0.9s,baz=231,slow=4.2,SNR=4.2								
ESDC	**Sonseca Array**	**137.10**	**331**	PKPpre	PKPpre		20 29 59.6		
ESDC				PKP	**PKiKP**		**20 30 07.5**	**0.0**	
ESDC				PP	**PP**		**20 32 50.0**	**+1.1**	
ESDC	**Sonseca Array**	**137.10**	**331**	PKhKP	PKPpre		20 29 59.7		
	comp=Z,0.1nm,0.3s,baz=61,slow=3.7,SNR=2.5								
ESDC				PKP	**PKiKP**		**20 30 07.5**	**0.0**	
	comp=Z,0.2nm,0.3s,baz=47,slow=4.5,SNR=2.8								
ESDC				PP	**PP**		**20 32 50.0**	**+1.1**	
	comp=Z,0.2nm,0.3s,baz=21,slow=7.8,SNR=4.4								
PGAV	**Gavieira, Arco**	**137.13**	**337**	*e*LQ	LQ		21 08 42.1		
PGAV				*e*LR	LR		21 16 53.5		
	comp=Z,5μm,20.0s								
MVO	**Moncorvo**	**137.29**	**335**	*e*LQ	LQ		21 10 08.0		
MVO				*e*LR	LR		21 16 35.5		
	comp=Z,3μm,18.0s								
PAB	**San Pablo**	**137.38**	**331**	PFAKE			20 30 20.0	+14	
PAB				LR	LR				
	comp=Z,3μm,22.0s								
PVIS	**Viseu**	**138.03**	**335**	*e*PKPdf	**PKPdf**		**20 30 06.6**	**-0.8**	
MTE	**Manteigas**	**138.15**	**335**	*e*LQ	LQ		21 10 26.4		
MTE				*e*LR	LR		21 16 50.3		
	comp=Z,4μm,22.0s								
MTE	**Manteigas**	**138.15**	**335**	PFAKE			20 30 20.0	+12	
MTE				LR	LR				
	comp=Z,4μm,22.0s								
PCBR	**Castelo Branco**	**138.58**	**334**	*e*PKPdf	**PKPdf**		**20 30 08.5**	**+0.1**	
PMRV	**Marv??o**	**138.88**	**334**	*e*PKPdf	**PKPdf**		**20 30 08.9**	**-0.1**	
PMRV	**Marv??o**	**138.88**	**334**	*e*LQ	LQ		21 11 00.0		
PMRV				*e*LR	LR		21 17 31.6		
	comp=Z,5μm,22.0s								
PBAR	**Barrancos**	**139.75**	**332**	*e*PKPdf	**PKPdf**		**20 30 11.7**	**+1.2**	
EVO	**Evora**	**139.89**	**334**	*e*PKIKP	**PKPdf**		**20 30 10.5**	**-0.3**	
	comp=Z,40nm,1.3s								
PBEJ	**Beja**	**140.24**	**333**	*e*PKPdf	**PKPdf**		**20 30 10.8**	**-0.7**	
LRS	**Lares**	**140.43**	**65**	*e*PKPdf	**PKPdf**		**20 30 11.2**	**-1.1**	
PVAQ	**Vaqueiros**	**140.68**	**332**	*e*LQ	LQ		21 12 29.7		
PVAQ				*e*LR	LR		21 18 33.6		
	comp=Z,5μm,20.0s								
TAM	**Tamanrasset**	**141.05**	**303**	*e*PKIKP	**PKPdf**		**20 30 14.2**	**+0.7**	
TAM				MLR	MLR				
	comp=Z,2μm,20.0s								
TAM	**Tamanrasset**	**141.05**	**303**	*e*PKPdf	**PKPdf**		**20 30 14.2**	**+0.7**	
TAM				LR	LR				
	comp=Z,2μm,20.0s								
SJG	**San Juan**	**141.12**	**65**	*e*PKPdf	**PKPdf**		**20 30 14.1**	**+0.6**	
SJG				LR	LR				
	comp=Z,7μm,22.0s								
RTC	**Rabat Centre**	**142.96**	**328**	PFAKE			20 30 30.0	+14	
RTC				LR	LR				
	comp=Z,2μm,21.0s								
SIV	**San Ignacio**	**143.25**	**122**	PKP	**PKPdf**		**20 30 18.0**	**+0.6**	
SIV	**San Ignacio**	**143.25**	**122**	PKP	**PKPdf**		**20 30 18.0**	**+0.6**	
	comp=Z,3.2nm,0.8s,baz=246,slow=3.5,SNR=8.8								
SAML	**Samuel**	**144.17**	**110**	*e*PKPpre	PKPpre		20 30 16.3		
SAML				LR	LR				
	comp=Z,4μm,20.0s								
ANWB	**Willy Bob**	**145.19**	**63**	*e*PKPdf	**PKPdf**		**20 30 21.7**	**+1.0**	
ANWB				LR	LR				
	comp=Z,4μm,21.0s								
CMLA	**Cha da Macela**	**145.54**	**355**	PFAKE			20 30 30.0	+8.9	
CMLA				LR	LR				
	comp=Z,3μm,20.0s								
SCG	**Saint Claude**	**145.82**	**66**	*e*P	PKPab		20 30 29.3	+6.4	
SEG	**Port Louis**	**145.86**	**65**	*e*P	**PKPab**		**20 30 26.5**	**+3.6**	
DOG	**Dongo Capester**	**145.88**	**66**	*e*P	**PKPab**		**20 30 23.7**	**+0.6**	
FDF	**Fort de France**	**146.70**	**68**	*e*P	PKPab		20 30 31.6	+5.3	
GRGR	**Grenville**	**146.88**	**73**	PFAKE			20 30 40.0	+13	
GRGR				LR	LR				
	comp=Z,3μm,21.0s								
TOA0	**Torodi Ar. Sit**	**147.77**	**289**	*e*PKPdf	**PKPbc**		**20 30 27.3**	**-0.8**	
TORD	**Torodi Ar. Bea**	**147.77**	**289**	PKPbc	**PKPbc**		**20 30 27.3**	**-0.7**	
TORD	**Torodi Ar. Bea**	**147.77**	**289**	PKPbc	PKPbc		**20 30 27.3**	**-0.7**	
	comp=Z,18nm,0.7s,baz=105,slow=2.3,SNR=48								
PMAR	**Madeira**	**148.50**	**340**	*e*PKPab	**PKPbc**		**20 30 31.3**	**+1.6**	
PMOZ	**Porto Moniz, M**	**148.51**	**340**	*e*PKPab	**PKPab**		**20 30 34.5**	**+1.6**	
PMOZ	**Porto Moniz, M**	**148.51**	**340**	*e*LR	LR		21 22 55.0		
BBGH	**Gun Hill**	**148.62**	**70**	PFAKE			20 30 40.0	+6.2	
BBGH				LR	LR				
	comp=Z,7μm,21.0s								
SHEL	**Horse Pasture**	**149.77**	**230**	PFAKE			20 30 40.0	+1.5	
SHEL				LR	LR				
	comp=Z,5μm,22.0s								
BDFB	**Brasilia**	**153.64**	**136**	PKP	**PKPdf**		**20 30 35.2**	**+0.8**	
BDFB				PKPbc	**PKPbc**		**20 30 41.2**	**-1.0**	
BDFB				PKPab	**PKPab**		**20 30 53.0**	**-1.6**	
BDFB	**Brasilia**	**153.64**	**136**	PKP	**PKPdf**		**20 30 35.2**	**+0.8**	
	comp=Z,1.1nm,0.3s,baz=260,slow=17,SNR=2.5								
BDFB				PKPbc	**PKPbc**		**20 30 41.2**	**-1.0**	
	comp=Z,3.8nm,0.7s,baz=260,slow=6.1,SNR=5.4								
BDFB				PKPab	**PKPab**		**20 30 53.0**	**-1.6**	
	comp=Z,13nm,0.9s,baz=257,slow=2.5,SNR=4.2								
DBIC	**Dimbokro**	**155.34**	**279**	PKP	**PKPdf**		**20 30 35.9**	**-0.8**	
DBIC				*e*PKPdf	**PKPdf**		**20 30 36.5**	**-0.1**	
DBIC	**Dimbokro**	**155.34**	**279**	PKP	**PKPdf**		**20 30 35.9**	**-0.8**	
	comp=Z,6.3nm,1.0s,baz=141,slow=14,SNR=3.2								
LIC	**Lamto**	**155.56**	**278**	*e*PKIKP	**PKPdf**		**20 30 34.4**	**-2.6**	
	comp=Z,32nm,0.9s								
ASCN	**Ascension**	**161.30**	**233**	PFAKE			20 30 50.0	+6.1	
ASCN				LR	LR				
	comp=Z,1μm,21.0s								
SACV	**Santiago Islan**	**167.10**	**334**	PFAKE			20 31 00.0	+11	
SACV				LR	LR				
	comp=Z,3μm,20.0s								
RCBR	**Riachuelo**	**168.82**	**144**	PFAKE			20 31 00.0	+10	
RCBR				LR	LR				
	comp=Z,5μm,21.0s								

NIED ***15*** *20:19:00.3 35.40N×139.00E,h59km,Mw4.2 Best double couple: M0 2.13000×10^15 NP1:φs=347.00000°,δ83.00000°, λ36.00000°. NP2:φs=252.00000°,δ54.00000°,λ171.00000°.*

IDC ***15*** *20:19:22.9±0.7,35.28N×138.90E,h0km,mb3.8/14, mb1 4.0/14,mb1mx3.9/27,mbtmp3.8/14,Error ellipse: s-maj=23.2km s-min=13.1km az=68.0*

ISCJB ***15*** *20:19:25.8±0.5,35.37N±0.04×139.02E±0.06,h28km±3km, mb3.8/14,Error ellipse: s-maj=7.8km s-min=6.5km az=169.4*

JMA ***15*** *20:19:26.9,35.42N×139.01E,h16km±1km,M4.2 Broadband fault plane solution: P waves. NP1: φs42.00000°,δ54.00000°,λ122.00000°. NP2: φs175.00000°,δ47.00000°,λ54.00000°. Principal axes: T Plg64.0000°, Azm12.0000°; N Plg26.0000°, Azm202.0000°; P Plg4.0000°, Azm110.0000°;*

JMA Felt III J1.

ISC 15 20:19:26.3±0.9,35.41N±0.03×139.02E±0.04,h20km±5km, n25,σ0.81/31,mb3.8/14,3C-3D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOD2	**Odawara 2**	**0.15**	**159**	↑↑P	**Pg**	**20 19 31.0**	**+0.1**
JOD2				*e*S	**Sg**	**20 19 33.9**	**0.0**
JYN	**Shimob**	**0.40**	**283**	↓↓P	**Pg**	**20 19 34.6**	**-0.2**
JYN				*e*S	**Sg**	**20 19 40.6**	**+0.1**
JHU	**Hanno**	**0.49**	**26**	↑↑P	**Pb**	**20 19 36.5**	**+0.1**
JHU				*e*S	**Sg**	**20 19 43.0**	**-0.2**
JRY	**Ryogami san**	**0.62**	**351**	↓↓P	**Pb**	**20 19 38.3**	**-0.2**
JIZS	**Izushimoda**	**0.70**	**190**	↑↑P	**Pb**	**20 19 39.5**	**-0.3**
SHZ3	**Shizuoka 3**	**0.74**	**243**	↓↓P	**Pb**	**20 19 40.8**	**+0.1**
JIM2	**Oshima 3**	**0.77**	**154**	P	**Pb**	**20 19 40.8**	**-0.2**
MJAR	**Matsushiro Arr**	**1.31**	**330**	Pg	**Pn**	**20 19 48.9**	**-0.7**
	149nm,0.3s,baz=154,slow=15,SNR=578						
MJAR				Lg	Lg	20 20 05.6	
	302nm,0.3s,baz=182,slow=28,SNR=39						
MAT	**Matsushiro**	**1.31**	**330**	P	**Pb**	**20 19 50.2**	**-0.1**
MAT				S	**Sn**	**20 20 06.9**	**+0.4**
JNU	**Nakatsue**	**7.12**	**254**	Pn	**Pn**	**20 21 10.7**	**+1.3**
	1.1nm,0.3s,baz=110,slow=8.8,SNR=10						
ZALV	**Zalesovo Beam**	**41.61**	**314**	P		**P**	**20 27 11.8**	**-1.0**
	0.6nm,0.5s,baz=114,slow=9.6,SNR=2.4						
ZALV				PcP	**PcP**	**20 29 09.1**	**-0.4**
	1.2nm,0.5s,baz=94,slow=2.9,SNR=4.1						
MKAR	**Makanchi Array**	**43.37**	**303**	P		**P**	**20 27 26.8**	**-0.4**
	0.8nm,0.8s,baz=79,slow=9.5,SNR=4.7						
KURBB	**Kurchatov Arra**	**45.50**	**309**	P		**P**	**20 27 43.9**	**-0.2**
	1.7nm,0.6s,baz=86,slow=7.6,SNR=7.7						
KDAK	**Kodiak Island**	**49.60**	**41**	P		**P**	**20 28 16.2**	**+0.4**
	5.8nm,1.1s,baz=315,slow=11,SNR=4.2						
BVAR	**Borovoye Array**	**50.25**	**313**	P		**P**	**20 28 22.1**	**+1.2**
	0.7nm,0.6s,baz=85,slow=6.8,SNR=3.7						
BVAR				PcP	**PcP**	**20 29 38.9**	**-0.9**
	0.9nm,0.7s,baz=88,slow=4.8,SNR=3.3						
ILAR	**Eielson Array**	**51.90**	**32**	P		**P**	**20 28 34.3**	**+1.2**
	0.5nm,0.6s,baz=281,slow=5.3,SNR=4.4						
WRA	**Warramunga Arr**	**55.22**	**185**	P		**P**	**20 28 57.1**	**-0.8**
	0.9nm,0.6s,baz=0.8,slow=7.6,SNR=12						
AKTO	**Aktyubinsk**	**58.32**	**312**	P		**P**	**20 29 19.8**	**0.0**
	1.5nm,0.8s,baz=66,slow=18,SNR=3.0						
ASAR	**Alice Springs**	**58.95**	**185**	P		**P**	**20 29 22.0**	**-2.4**
	0.3nm,0.6s,baz=19,slow=13,SNR=4.2						
FINES	**FINESS Array B**	**69.34**	**332**	P		**P**	**20 30 32.1**	**0.0**
	1.3nm,0.4s,baz=58,slow=6.7,SNR=10						
NB2	**NORSAR Subarra**	**74.92**	**337**	P		**P**	**20 31 05.1**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=44,slow=5.9						
NOA	**NORSAR Array B**	**74.92**	**337**	P		**P**	**20 31 05.3**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=42,slow=6.0,SNR=4.9						
NVAR	**Mina Array Bea**	**77.51**	**52**	P		**P**	**20 31 22.7**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=297,slow=6.0,SNR=4.1						
PDAR	**Pinedale Array**	**80.18**	**44**	P		**P**	**20 31 35.8**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=73,slow=1.2,SNR=3.2						
TXAR	**Lajitas Array**	**92.65**	**51**	P		**P**	**20 32 37.7**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=222,slow=1.2,SNR=2.7						

AUST ***15*** *20:22:20.7±0.8,45.49S×166.60E,h10km,Error ellipse: s-maj=1.5km s-min=1.3km az=26.0*

IDC 15 20:22:18.5±1.7,45.62S×167.13E,h0km,mb3.2/1, mb1 3.4/1,mb1mx3.3/13,mbtmp3.2/1,Error ellipse: s-maj=99.0km s-min=56.7km az=48.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHI	**Lord Howe Isla**	**15.41**	**333**	S	Sn	20 28 20.7	-28
	baz=15,SNR=4.9						
MILA	**Mila**	**15.96**	**296**	P	Pn	20 25 59.8	-4.5
	baz=16,SNR=7.1						
STKA	**Stephens Creek**	**24.06**	**296**	S	S	20 31 28.5	-25
	baz=24,SNR=8.3						
ASAR	**Alice Springs**	**34.65**	**298**	P	P	20 29 09.6	0.0
	0.3nm,0.8s,baz=133,slow=7.2,SNR=2.9						
FAKI	**Fak Fak**	**52.34**	**314**	P	P	20 31 46.1	+14
	baz=52,SNR=5.9						
TORD	**Torodi Ar. Bea**	**145.36**	**206**	PKPbc	PKPbc	20 41 57.6	-0.7
	7.2nm,0.9s,baz=150,slow=2.1,SNR=55						
BRTR	**Keskin Array B**	**145.69**	**277**	PKPbc	PKPdf	20 41 58.0	-0.5
	1.0nm,0.9s,baz=105,slow=3.4,SNR=3.6						
ARCES	**ARCESS Array**	**149.35**	**335**	PKPbc	PKPbc	20 42 08.2	+0.3
	2.9nm,0.8s,baz=72,slow=2.9,SNR=8.9						
FINES	**FINESS Array B**	**152.50**	**319**	PKPbc	PKPbc	20 42 14.4	-1.1
	0.9nm,0.6s,baz=84,slow=2.0,SNR=7.2						

IDC 15 20:29:12.6±1.4,45.34S×166.73E,h0km,mb1 4.3/1, mb1mx3.5/14,mbtmp4.3/1,ML4.1/1,Error ellipse: s-maj=107.2km s-min=30.9km az=154.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**3.50**	**64**	Pn	Pn	20 30 08.5	+0.2
	17nm,0.3s,baz=228,slow=5.4,SNR=49						
RPZ				Sn	Sn	20 30 51.3	+0.9
	18nm,0.3s,baz=336,slow=20,SNR=6.9						
BRTR	**Keskin Array B**	**145.37**	**278**	PKPbc	PKPbc	20 48 51.8	-0.3
	0.6nm,0.5s,baz=126,slow=3.7,SNR=3.1						
TORD	**Torodi Ar. Bea**	**145.48**	**206**	PKPbc	PKPbc	20 48 52.0	-0.9
	3.3nm,0.6s,baz=141,slow=2.3,SNR=54						
FINES	**FINESS Array B**	**152.10**	**319**	PKPbc	PKPbc	20 49 08.2	-0.6
	0.6nm,0.7s,baz=32,slow=5.4,SNR=3.6						

IDC 15 20:32:17.2±2.4,46.16S×165.97E,h0km,mb3.5/2, mb1 3.8/3,mb1mx3.7/14,mbtmp3.6/3,ML3.7/1,Error ellipse: s-maj=67.9km s-min=28.8km az=170.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**4.36**	**58**	Pn	Pn	20 33 25.6	+0.9
	4.0nm,0.3s,baz=211,slow=19,SNR=6.6						
RPZ				Sn	Sn	20 34 15.1	-1.2
	9.0nm,0.3s,baz=335,slow=23,SNR=5.7						
ASAR	**Alice Springs**	**34.21**	**300**	P	P	20 39 04.5	0.0
	0.3nm,0.5s,baz=136,slow=7.9,SNR=6.8						
WRA	**Warramunga Arr**	**36.82**	**305**	P	P	20 39 26.7	-0.3
	4.6nm,1.0s,baz=146,slow=10,SNR=4.6						
TORD	**Torodi Ar. Bea**	**144.51**	**207**	PKP	PKPbc	20 51 54.7	+0.4
	0.4nm,0.7s,baz=207,slow=0.3,SNR=3.3						
BRTR	**Keskin Array B**	**144.95**	**277**	PKP	PKPdf	20 51 55.7	-0.3
	0.9nm,0.7s,baz=123,slow=4.6,SNR=4.7						

IDC 15 20:43:13.9±2.5,46.24S×165.98E,h0km,mb3.3/1, mb1 3.6/2,mb1mx3.4/14,mbtmp3.6/2,ML3.8/1,Error ellipse: s-maj=82.6km s-min=31.9km az=164.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**4.40**	**57**	Pn	Pn	20 44 21.1	-0.8
	5.2nm,0.3s,baz=191,slow=16,SNR=3.8						
RPZ				Sn	Sn	20 45 15.7	+1.8
	2.8nm,0.3s,baz=131,slow=19,SNR=3.7						
ASAR	**Alice Springs**	**34.25**	**300**	P	P	20 50 01.1	-0.5
	0.2nm,0.6s,baz=138,slow=7.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**144.44**	**207**	PKP	PKPbc	21 02 50.9	+0.2
	0.3nm,0.7s,baz=144,slow=2.2,SNR=5.1						
FINES	**FINESS Array B**	**152.44**	**318**	PKPbc	PKPbc	21 03 11.6	+0.9
	0.8nm,0.8s,baz=90,slow=5.6,SNR=3.0						

IDC ***15*** *20:44:55.3±0.7,3.28N×126.41E,h0km,mb4.2/11, mb1 4.3/11,mb1mx4.0/24,mbtmp4.2/11,Error ellipse: s-maj=45.1km s-min=14.4km az=74.0*

ISCJB ***15*** *20:45:01.5±0.5,3.22N±0.08×126.4E±0.1,h63km, mb4.2/11,Error ellipse: s-maj=19.7km s-min=8.3km az=156.2*

AUST ***15*** *20:45:15.2,2.50N×127.00E,h100km*

ISC 15 20:45:03.5±0.7,3.2N±0.1×126.5E±0.2,h63km,n22, σ0.85/21,mb4.3/11,1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.53**	**331**	↓*i*P	Pn	20 46 16.0	+6.3
LUWI	**Luwuk**	**5.63**	**221**	P	Pn	20 46 35.6	+11
	baz=5.5,SNR=5.0						
SWI	**Sorong**	**6.29**	**130**	P	**Pn**	**20 46 33.9**	**+0.2**
	baz=5.4,SNR=4.9						
FAKI	**Fak Fak**	**8.41**	**137**	P	**Pn**	**20 47 02.6**	**-0.2**
	baz=7.5,SNR=5.0						
JAY	**Jayapura**	**15.34**	**112**	P	**P**	**20 48 39.0**	**-0.8**
	baz=15,SNR=3.9						
MTN	**Manton Dam**	**16.64**	**164**	P	**Pn**	**20 48 50.5**	**-2.2**
	baz=16,SNR=11						
MTN				S	Sn	20 51 47.2	-10
	baz=16,SNR=6.2						
KDU	**Kakadu**	**16.91**	**159**	P	**P**	**20 48 58.8**	**+1.6**
	baz=16,SNR=5.3						
KNRA	**Kununurra**	**18.93**	**173**	P	**Pn**	**20 49 20.8**	**+0.1**
	baz=18,SNR=9.4						
FITZ	**Fitzroy Crossi**	**21.22**	**182**	P	**P**	**20 49 43.6**	**-0.6**
	5.1nm,0.8s,baz=49,slow=8.9,SNR=12						
WRA	**Warramunga Arr**	**24.30**	**162**	P	**P**	**20 50 14.8**	**-0.5**
	4.1nm,0.4s,baz=331,slow=11,SNR=33						
ASAR	**Alice Springs**	**27.71**	**165**	P	**P**	**20 50 46.1**	**+0.1**
	1.3nm,0.6s,baz=346,slow=7.0,SNR=22						
BBOO	**Buckleboo**	**36.99**	**167**	P	**P**	**20 52 07.9**	**+0.9**
	baz=36,SNR=5.2						
STKA	**Stephens Creek**	**37.77**	**159**	P	**P**	**20 52 13.5**	**-0.1**
	6.0nm,0.7s,baz=347,slow=5.6,SNR=6.2						
STKA	**Stephens Creek**	**37.77**	**159**	P	**P**	**20 52 14.3**	**+0.7**
	baz=37,SNR=5.6						
SONM	**Songino Array**	**47.68**	**342**	P	**P**	**20 53 33.2**	**-0.6**
	0.6nm,0.5s,baz=158,slow=8.7,SNR=7.8						
SONM				PcP	**PcP**	**20 55 02.8**	**+0.4**
	0.4nm,0.8s,baz=140,slow=4.7,SNR=2.7						
PETK	**Petropavlovsk-**	**55.98**	**22**	P		**P**	**20 54 35.6**	**+0.2**
	1.7nm,0.8s,baz=176,slow=4.0,SNR=3.5						
MKAR	**Makanchi Array**	**57.81**	**326**	P		**P**	**20 54 47.9**	**-0.6**
	1.7nm,0.6s,baz=120,slow=7.5,SNR=13						
ZALV	**Zalesovo Beam**	**60.91**	**333**	P		**P**	**20 55 09.7**	**0.0**
	0.9nm,0.6s,baz=120,slow=6.0,SNR=4.5						
KURBB	**Kurchatov Arra**	**62.01**	**328**	P		**P**	**20 55 16.6**	**-0.5**
	4.3nm,0.7s,baz=133,slow=6.4,SNR=44						
KDAK	**Kodiak Island**	**82.44**	**32**	P		**P**	**20 57 19.3**	**+0.4**
	5.6nm,0.7s,baz=290,slow=1.6,SNR=6.4						
FINES	**FINESS Array B**	**92.14**	**332**	P		**P**	**20 58 05.7**	**-0.2**
	1.1nm,0.8s,baz=32,slow=5.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**122.82**	**288**	PKP		**PKPdf**	**21 03 54.7**	**+1.2**
	0.2nm,0.4s,baz=109,slow=2.1,SNR=3.5						

AUST ***15*** *20:45:21.6±1.7,46.26S×165.86E,h0km,Error ellipse: s-maj=1.9km s-min=0.9km az=10.0*

ISCJB ***15*** *20:45:22.8±0.6,46.13S±0.07×165.92E±0.06,h12km, mb4.1/6,Error ellipse: s-maj=11.2km s-min=5.3km az=160.4*

IDC ***15*** *20:45:22.4±0.9,46.14S×165.99E,h0km,mb4.1/6, mb1 4.3/8,mb1mx4.1/16,mbtmp4.2/8,ML4.1/2,Error ellipse: s-maj=24.6km s-min=21.9km az=167.0*

NEIC ***15*** *20:45:24.4,46.23S×165.90E,h12km,ML4.8(WEL),After WEL.*

ISC 15 20:45:24.2±0.6,46.13S±0.08×166.05E±0.06,h12km,n54, σ1.49/52,mb4.1/6,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**1.01**	**50**	P*	**Pn**	**20 45 44.5**	**+0.4**
DCZ				S*	**Sn**	**20 45 58.7**	**+0.5**
MSZ	**Milford Sound**	**1.96**	**43**	Pn	**Pb**	**20 45 59.4**	**-0.5**
SYZ	**Scrubby Hill**	**2.18**	**102**	Pn	**Pn**	**20 46 00.8**	**+0.6**
EAZ	**Earnscleugh**	**2.45**	**70**	Pn	**Pn**	**20 46 05.1**	**+1.1**
WKZ	**Wanaka**	**2.46**	**59**	Pn	**Pn**	**20 46 05.6**	**+1.5**
WKZ				Sn	**Sb**	**20 46 39.8**	**+1.3**
TUZ	**Tuapeka**	**2.50**	**87**	Pn	**Pn**	**20 46 05.7**	**+1.0**
ODZ	**Otahua Downs**	**3.40**	**73**	*e*P	**Pn**	**20 46 16.6**	**-0.4**
FOZ	**Fox Glacier**	**3.64**	**47**	Pn	**Pn**	**20 46 22.5**	**+2.2**
RPZ	**Rata Peaks**	**4.29**	**58**	Pn	**Pn**	**20 46 28.2**	**-1.1**
RPZ				Sn	**Sn**	**20 47 21.0**	**+1.7**
RPZ	**Rata Peaks**	**4.29**	**58**	Pn	**Pn**	**20 46 28.0**	**-1.3**
	14nm,0.3s,baz=181,slow=2.6,SNR=13						
RPZ				Sn	**Sn**	**20 47 21.0**	**+1.7**
	38nm,0.3s,baz=146,slow=22,SNR=12						
WVZ	**Waitaha Valley**	**4.53**	**49**	Pn	**Pn**	**20 46 35.4**	**+2.9**
LTZ	**Lake Taylor**	**5.56**	**55**	Pn	**Pn**	**20 46 47.0**	**+0.2**
DSZ	**Denniston Nort**	**6.03**	**46**	Pn	**Pn**	**20 46 53.1**	**-0.1**
THZ	**Tophouse**	**6.59**	**51**	Pn	**Pn**	**20 47 01.5**	**+0.6**
QRZ	**Quartz Range**	**7.09**	**44**	Pn	**Pn**	**20 47 08.1**	**+0.5**
NNZ	**Nelson**	**7.23**	**50**	Pn	**Pn**	**20 47 11.7**	**+2.1**
TUWZ	**Tuamarina**	**7.39**	**53**	Pn	Pn	20 47 15.4	+3.6
HOWZ	**Holdsworth Sta**	**8.63**	**56**	Pn	Pn	20 47 33.4	+4.5
TMWZ	**Te Maipa**	**8.72**	**58**	Pn	**Pn**	**20 47 32.0**	**+1.9**
MRZ	**Mangatainoka R**	**8.82**	**55**	Pn	**Pn**	**20 47 29.7**	**-1.8**
TIWZ	**Tintock**	**8.93**	**57**	Pn	Pn	20 47 28.8	-4.1
NEZ	**North Egmont**	**9.05**	**44**	Pn	**Pn**	**20 47 37.2**	**+2.5**
PKE	**Pukeiti**	**9.06**	**43**	Pn	**Pn**	**20 47 36.3**	**+1.5**
POWZ	**Post Office Ro**	**9.11**	**54**	Pn	Pn	20 47 31.8	-3.6
RAEZ	**Rainy Point**	**9.18**	**45**	Pn	**Pn**	**20 47 36.9**	**+0.5**
HIZ	**Hauiti**	**10.01**	**44**	Pn	**Pn**	**20 47 49.0**	**+1.2**
KAAZ	**Kauri Point**	**11.33**	**38**	Pn	Pn	20 48 10.5	+4.7
URZ	**Urewera**	**11.35**	**50**	Pn	**Pn**	**20 48 08.2**	**+2.1**
URZ				Sn	**Sn**	**20 50 08.7**	**-4.1**
URZ	**Urewera**	**11.35**	**50**	Pn	**Pn**	**20 48 08.2**	**+2.1**
	0.9nm,0.3s,baz=221,slow=6.0,SNR=8.0						
URZ				Sn	**Sn**	**20 50 08.7**	**-4.1**
	0.7nm,0.3s,baz=143,slow=20,SNR=3.9						
MILA	**Mila**	**15.53**	**300**	P	**Pn**	**20 49 01.5**	**-1.4**
	baz=16,SNR=6.1						
TOO	**Toolangi**

IDC 15 21:06:53.0±0.9, 11°82S×14°02W, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/21, mbtmp3.8/8, Error ellipse: s-maj=42.3km s-min=19.4km az=126.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**20.50**	**27**	P	P	21 11 32.5	-0.3
	7.2nm,1.0s,baz=170,slow=11,SNR=3.7						
TORD	**Torodi Ar. Bea**	**29.29**	**33**	P	P	21 12 56.0	-1.3
	3.1nm,0.9s,baz=212,slow=8.4,SNR=5.3						
BDFB	**Brasilia**	**33.22**	**260**	P	P	21 13 30.9	-1.3
	7.6nm,0.9s,baz=67,slow=7.7,SNR=4.7						
KEST	**Kesra**	**52.20**	**24**	P	P	21 16 08.4	+2.6
	1.2nm,1.0s,baz=164,slow=7.4,SNR=2.2						
CFAA	**Coronel Fontan**	**53.52**	**239**	P	P	21 16 17.1	+1.3
	0.1nm,0.4s,baz=108,slow=6.4,SNR=3.7						
SNAA	**Sanae**	**60.20**	**176**	P	P	21 17 02.1	-0.5
	0.3nm,1.0s,baz=339,slow=7.0,SNR=4.1						
GERES	**GERESS Array B**	**65.18**	**20**	P	P	21 17 35.9	-0.1
	0.3nm,0.4s,baz=224,slow=4.1,SNR=6.3						
BRTR	**Keskin Array B**	**67.72**	**38**	P	P	21 17 52.9	+0.3
	0.5nm,0.8s,baz=262,slow=8.6,SNR=2.7						
NB2	**NORSAR Subarra**	**75.33**	**12**	P	P	21 18 43.3	+5.4
	comp=Z,1.4nm,0.9s,baz=210,slow=6.2						
FINES	**FINESS Array B**	**79.55**	**18**	P	P	21 19 03.2	+1.8
	comp=Z,1.4nm,0.8s,baz=285,slow=2.7,SNR=3.1						

IDC 15 21:15:14.2±1.0, 45°89S×166°00E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.6/15, mbtmp3.5/4, ML4.0/1, Error ellipse: s-maj=31.1km s-min=27.5km az=6.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**4.20**	**61**	Pn	Pn	21 16 20.3	+0.7
	7.8nm,0.3s,baz=221,slow=7.5,SNR=16						
RPZ				Sn	Sn	21 17 07.8	-1.5
	19nm,0.3s,baz=10,slow=17,SNR=10						
ASAR	**Alice Springs**	**34.09**	**300**	P	P	21 22 00.8	+0.3
	0.4nm,0.9s,baz=130,slow=8.7,SNR=6.3						
WRA	**Warramunga Arr**	**36.68**	**304**	P	P	21 22 22.0	-0.8
	0.4nm,0.6s,baz=151,slow=10,SNR=4.8						
SNAA	**Sanae**	**62.48**	**188**	P	P	21 25 38.8	-0.1
	0.5nm,0.9s,baz=192,slow=4.2,SNR=7.4						
TORD	**Torodi Ar. Bea**	**144.76**	**207**	PKP	PKPab	21 34 52.0	0.0
	1.5nm,0.8s,baz=147,slow=2.8,SNR=11						
BRTR	**Keskin Array B**	**144.94**	**277**	PKP	PKPab	21 34 52.0	-0.2
	1.6nm,0.8s,baz=118,slow=4.5,SNR=5.2						
ARCES	**ARCESS Array B**	**149.26**	**334**	PKPbc	PKPbc	21 35 03.2	-0.2
	6.7nm,1.0s,baz=71,slow=7.8,SNR=7.3						
FINES	**FINESS Array B**	**152.18**	**318**	PKPbc	PKPbc	21 35 11.0	+0.5
	0.8nm,0.8s,baz=34,slow=10,SNR=3.1						

AUST ***15*** *21:15:14.8, 21°38S×176°58W, h300km*
IDC ***15*** *21:16:03.4±11.0, 22°28S×179°94W, h635km±116km, mb3.1/6, mb1 3.3/6, mb1mx3.0/20, mbtmp3.1/6, Error ellipse: s-maj=96.3km s-min=24.8km az=55.0*
ISC 15 21:16:01.5±1.8, 22°45±0°3×179°9W±0°2, h600km, n16, σ0s89/18, mb4.0/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.56**	**268**	P	**P**	**21 21 36.8**	**0.0**
	2.6nm,0.3s,baz=88,slow=9.3,SNR=4.2						
CMSA	**Cobar Meteorol**	**31.85**	**246**	P	**P**	**21 21 40.1**	**+1.1**
	baz=35,SNR=5.9						
STKA	**Stephens Creek**	**35.36**	**246**	P	**P**	**21 22 09.1**	**+0.8**
	3.9nm,0.5s,baz=94,slow=9.7,SNR=24						
STKA	**Stephens Creek**	**35.36**	**246**	P	**P**	**21 22 09.2**	**+0.8**
	baz=39,SNR=17						
BBOO	**Buckleboo**	**40.10**	**245**	P	**P**	**21 22 46.7**	**0.0**
	baz=43,SNR=13						
ASAR	**Alice Springs**	**42.36**	**259**	P	**P**	**21 23 04.5**	**-0.2**
	4.2nm,0.7s,baz=98,slow=7.7,SNR=41						
ASAR				PcP	**PcP**	**21 24 42.7**	**-1.2**
	0.5nm,0.6s,baz=114,slow=3.5,SNR=5.0						
WRA	**Warramunga Arr**	**42.59**	**265**	P	**P**	**21 23 05.6**	**-1.0**
	1.0nm,0.3s,baz=96,slow=8.2,SNR=37						
KDU	**Kakadu**	**46.23**	**274**	P	**P**	**21 23 33.6**	**-0.8**
	baz=49,SNR=5.2						
FORT	**Forrest**	**46.90**	**248**	P	**P**	**21 23 39.1**	**-0.2**
	baz=50,SNR=6.5						
KNRA	**Kununurra**	**48.77**	**268**	P	**P**	**21 23 53.1**	**-0.3**
	baz=52,SNR=3.7						
FITZ	**Fitzroy Crossi**	**51.02**	**264**	P	**P**	**21 24 09.6**	**-0.2**
	1.2nm,0.3s,baz=108,slow=6.1,SNR=17						
FITZ	**Fitzroy Crossi**	**51.02**	**264**	P	**P**	**21 24 09.8**	**+0.1**
	baz=54,SNR=6.8						
MEEK	**Meekatharra**	**55.61**	**252**	P	**P**	**21 24 41.5**	**-0.6**
	baz=59,SNR=3.6						
VNDA	**Vanda**	**55.86**	**185**	P	**P**	**21 24 43.5**	**+0.5**
	0.5nm,0.7s,baz=13,slow=6.7,SNR=5.7						
BRTR	**Keskin Array B**	**146.71**	**309**	PKPbc	**PKPdf**	**21 34 35.1**	**+0.6**
	0.7nm,0.6s,baz=112,slow=4.3,SNR=3.2						
BRTR				PKPab	**PKPbc**	**21 34 38.8**	**+1.4**
	0.5nm,0.6s,baz=54,slow=7.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**170.66**	**190**	PKPab	**PKPab**	**21 36 22.5**	**-1.7**
	0.4nm,1.0s,baz=161,slow=5.3,SNR=2.2						

IDC ***15*** *21:30:46.7±2.0, 41°63N×144°53E, h0km, mb3.8/8, mb1 3.8/11, mb1mx3.6/27, mbtmp3.7/11, ML2.9/3, Error ellipse: s-maj=36.5km s-min=28.6km az=145.0*
ISCJB ***15*** *21:30:48.5±0.9, 41°55N±0°06×144°5E±0°1, h25km, mb3.8/8, Error ellipse: s-maj=12.5km s-min=8.3km az=13.9*
JMA ***15*** *21:30:52.0±0.2, 41°70N×144°29E, h26km±3km, M4.0*
ISC 15 21:30:51.1±1.3, 41°71N±0°09×144°40E±0°09, h25km, n17, σ0s74/20, mb3.8/8, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.97**	**289**	P	**Pn**	**21 31 09.1**	**0.0**
JCH	**Churui**	**1.18**	**320**	P	**Pn**	**21 31 11.9**	**-0.2**
JCH				*e*S	**Sb**	**21 31 27.2**	**-0.6**
JOB	**Onbets**	**1.26**	**341**	P	**Pb**	**21 31 13.8**	**-0.4**
JAK	**Akkeshi**	**1.30**	**10**	P	**Pb**	**21 31 14.2**	**-0.7**
JAK				*e*S	**Sb**	**21 31 31.5**	**+0.3**
JNBK	**Urakawa-nobuka**	**1.35**	**295**	P	**Pn**	**21 31 14.8**	**+0.5**
JAR	**Ashorobuto**	**1.65**	**344**	P	**Pn**	**21 31 18.4**	**-0.1**
ASAJ	**Asahikawa**	**2.74**	**332**	Pn	**Pn**	**21 31 34.4**	**+0.9**
	2.3nm,0.3s,baz=183,slow=26,SNR=11						
ASAJ				Sn	**Sb**	**21 32 11.3**	**-1.3**
	9.9nm,0.3s,baz=180,slow=10,SNR=5.0						
MJAR	**Matsushiro Arr**	**7.05**	**225**	Pn	**Pn**	**21 32 32.4**	**-0.4**
	0.3nm,0.3s,baz=26,slow=14,SNR=7.3						
USRK	**Ussuriysk Arra**	**9.42**	**289**	Pn	**Pn**	**21 33 07.2**	**+2.0**
	0.1nm,0.3s,baz=104,slow=14,SNR=5.9						
SONM	**Songino Array**	**27.46**	**296**	P	**P**	**21 36 35.2**	**+0.1**
	1.3nm,0.8s,baz=91,slow=9.8,SNR=9.0						
ZALV	**Zalesovo Beam**	**40.64**	**309**	P	**P**	**21 38 28.2**	**-0.6**
	1.1nm,0.6s,baz=88,slow=6.0,SNR=5.9						
MKAR	**Makanchi Array**	**43.75**	**299**	P	**P**	**21 38 54.6**	**+0.3**
	1.3nm,0.7s,baz=81,slow=11,SNR=9.0						
ILAR	**Eielson Array**	**44.32**	**35**	P	**P**	**21 38 58.3**	**-0.3**
	0.3nm,0.7s,baz=264,slow=6.3,SNR=2.8						
KURBB	**Kurchatov Arra**	**45.09**	**305**	P	**P**	**21 39 05.1**	**+0.2**
	2.3nm,0.5s,baz=72,slow=8.9,SNR=19						
BVAR	**Borovoye Array**	**49.24**	**310**	P	**P**	**21 39 37.3**	**+0.1**
	0.7nm,0.4s,baz=102,slow=7.4,SNR=5.4						
FINES	**FINESS Array B**	**65.75**	**332**	P	**P**	**21 41 33.6**	**+0.3**
	0.9nm,0.5s,baz=49,slow=5.0,SNR=8.7						
NOA	**NORSAR Array B**	**70.75**	**338**	P	**P**	**21 42 05.5**	**+0.8**
	0.7nm,0.9s,baz=34,slow=6.3,SNR=3.1						

ISCJB ***15*** *21:36:00.2±0.5, 46°03S±0°06×166°06E±0°05, h12km, mb4.2/9, MS4.0/1, Error ellipse: s-maj=9.0km s-min=4.5km az=166.8*
NEIC ***15*** *21:36:01.0, 46°53S×165°96E, h12km, ML5.4(WEL), After WEL.*
IDC ***15*** *21:36:00.1±0.8, 46°10S×166°02E, h0km, mb4.2/9, mb1 4.3/11, mb1mx4.2/18, mbtmp4.3/11, ML4.3/2, MS4.1/2, Ms1 4.0/2, ms1mx3.7/21, Error ellipse: s-maj=24.6km s-min=18.8km az=74.0*
AUST ***15*** *21:36:00.1±1.4, 46°13S×166°12E, h0km, Error ellipse: s-maj=1.7km s-min=0.7km az=15.0*
ISC 15 21:36:01.8±0.5, 46°12S±0°07×166°12E±0°05, h12km, n67, σ1s36/71, mb4.2/9, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**1.93**	**42**	Pn	**Pg**	**21 36 40.2**	**+1.5**
EAZ	**Earnscleugh**	**2.40**	**69**	Pn	**Pn**	**21 36 42.7**	**+1.8**
EAZ				Sn	**Sb**	**21 37 14.7**	**+0.1**
WKZ	**Wanaka**	**2.41**	**59**	Pn	**Pn**	**21 36 42.9**	**+1.8**
WKZ				Sn	**Sb**	**21 37 16.2**	**+1.4**
TUZ	**Tuapeka**	**2.45**	**87**	Pn	**Pn**	**21 36 42.6**	**+1.1**
TUZ				Sn	**Sb**	**21 37 14.5**	**-1.3**
LBZ	**Lake Benmore**	**3.35**	**60**	Pn	**Pn**	**21 36 54.1**	**+0.1**
FOZ	**Fox Glacier**	**3.60**	**46**	Pn	**Pn**	**21 36 58.9**	**+1.5**
RPZ	**Rata Peaks**	**4.25**	**57**	Pn	**Pn**	**21 37 05.5**	**-0.9**
RPZ				Sn	**Sn**	**21 37 54.5**	**-1.4**
RPZ	**Rata Peaks**	**4.25**	**57**	Pn	**Pn**	**21 37 05.9**	**-0.5**
	23nm,0.3s,baz=200,slow=5.9,SNR=72						
RPZ				Sn	**Sn**	**21 37 54.5**	**-1.4**
	56nm,0.3s,baz=170,slow=21,SNR=11						
RPZ				LR	LR	21 38 41.3	
	comp=Z,2μm,18.5s,baz=219,slow=38						
WVZ	**Waitaha Valley**	**4.49**	**49**	Pn	**Pn**	**21 37 08.9**	**-0.6**
MQZ	**McQueen's Vall**	**5.23**	**65**	Pn	**Pn**	**21 37 19.0**	**-0.7**
LTZ	**Lake Taylor**	**5.52**	**55**	Pn	**Pn**	**21 37 22.5**	**-1.3**
DSZ	**Denniston Nort**	**5.99**	**45**	Pn	**Pn**	**21 37 30.0**	**-0.3**
KHZ	**Kahutara**	**6.48**	**58**	Pn	**Pn**	**21 37 36.5**	**-0.5**
THZ	**Tophouse**	**6.55**	**51**	Pn	**Pn**	**21 37 38.4**	**+0.4**
QRZ	**Quartz Range**	**7.05**	**44**	Pn	**Pn**	**21 37 44.0**	**-0.8**
NNZ	**Nelson**	**7.19**	**50**	Pn	**Pn**	**21 37 48.0**	**+1.4**
TUWZ	**Tuamarina**	**7.35**	**53**	Pn	**Pn**	**21 37 50.7**	**+1.8**
TCW	**Tory Channel**	**7.68**	**53**	Pn	**Pn**	**21 37 55.7**	**+2.3**
DUWZ	**D'Urville Isla**	**7.77**	**50**	Pn	**Pn**	**21 37 56.6**	**+1.9**
PKE	**Pukeiti**	**9.02**	**43**	Pn	**Pn**	**21 38 11.9**	**+0.1**
HIZ	**Hauiti**	**9.97**	**43**	Pn	**Pn**	**21 38 25.1**	**+0.2**
MKAZ	**Moumakai**	**11.26**	**40**	Pn	**Pn**	**21 38 42.5**	**+0.1**
URZ	**Urewera**	**11.31**	**50**	Pn	**Pn**	**21 38 42.7**	**-0.5**
URZ				Sn	**Sn**	**21 40 45.8**	**-3.6**
URZ	**Urewera**	**11.31**	**50**	Pn	**Pn**	**21 38 42.7**	**-0.5**
	1.5nm,0.3s,baz=226,slow=9.7,SNR=6.4						
URZ				Sn	**Sn**	**21 40 45.8**	**-3.6**
	1.1nm,0.3s,baz=127,slow=20,SNR=6.1						
WCZ	**Waipu Caves**	**11.91**	**34**	Pn	**Pn**	**21 38 50.2**	**-1.1**
MOO	**Moorlands**	**14.05**	**278**	P	**Pn**	**21 39 18.0**	**-2.5**
	baz=14,SNR=4.6						
MILA	**Mila**	**15.57**	**300**	P	**Pn**	**21 39 38.9**	**-2.2**
	baz=16,SNR=13						
MILA				S	Sn	21 42 19.9	-14
	baz=16,SNR=6.5						
MGCD	**Mangrove Creek**	**17.28**	**313**	P	**Pn**	**21 40 02.5**	**-0.3**
	baz=17,SNR=7.0						
TOO	**Toolangi**	**17.55**	**292**	P	**Pn**	**21 40 05.3**	**-0.9**
	baz=18,SNR=20						
YNG	**Young**	**17.92**	**305**	P	**Pn**	**21 40 10.2**	**-0.5**
	baz=18,SNR=15						
CMSA	**Cobar Meteorol**	**21.48**	**306**	P	**P**	**21 40 54.0**	**+3.8**
	baz=22,SNR=6.7						
STKA	**Stephens Creek**	**23.66**	**298**	P	**P**	**21 41 12.9**	**-0.1**
STKA	**Stephens Creek**	**23.66**	**298**	P	**P**	**21 41 12.9**	**-0.1**
	3.3nm,0.8s,baz=132,slow=13,SNR=4.7						
STKA				LR	LR	21 50 20.5	
	comp=Z,451nm,18.7s,baz=46,slow=36						
EIDS	**Eidsvold**	**23.96**	**325**	P	**P**	**21 41 16.6**	**+0.7**
	baz=24,SNR=3.9						
RMQ	**Roma**	**23.98**	**319**	P	P	21 41 23.2	+7.1
	baz=24,SNR=6.1						
DZM	**Mont Dzumac**	**23.99**	**1**	P	**P**	**21 41 17.5**	**+1.2**
DZM	**Mont Dzumac**	**23.99**	**1**	P	**P**	**21 41 17.5**	**+1.2**
	6.3nm,0.3s,baz=270,slow=24,SNR=4.6						
VNDA	**Vanda**	**31.55**	**182**	P	**P**	**21 42 23.9**	**+0.4**
VNDA	**Vanda**	**31.55**	**182**	P	**P**	**21 42 23.9**	**+0.4**
	0.8nm,1.0s,baz=344,slow=8.6,SNR=4.0						
ASAR	**Alice Springs**	**34.28**	**300**	P	P	21 42 46.6	-1.2
ASAR	**Alice Springs**	**34.28**	**300**	P	**P**	**21 42 46.6**	**-1.2**
	1.7nm,0.7s,baz=129,slow=7.8,SNR=14						
WRA	**Warramunga Arr**	**36.88**	**304**	P	**P**	**21 43 08.6**	**-1.7**
WRA	**Warramunga Arr**	**36.88**	**304**	P	**P**	**21 43 08.6**	**-1.7**
	1.2nm,0.5s,baz=136,slow=8.0,SNR=14						
COEN	**Coen**	**37.43**	**321**	P	P	21 43 24.9	+10
	baz=38,SNR=8.1						
PMG	**Port Moresby**	**40.03**	**330**	P	**P**	**21 43 38.1**	**+1.5**
PMG	**Port Moresby**	**40.03**	**330**	P	**P**	**21 43 38.1**	**+1.5**
	13nm,0.9s,baz=153,slow=9.0,SNR=3.6						
QSPA	**South Pole Qui**	**44.00**	**180**	P	**P**	**21 44 09.8**	**+1.0**
QSPA	**South Pole Qui**	**44.00**	**180**	P	**P**	**21 44 09.8**	**+1.0**
	11nm,0.8s,baz=12,slow=2.6,SNR=58						
SNAA	**Sanae**	**62.25**	**184**	*e*P	**P**	**21 46 22.5**	**-0.5**
VNA1	**Neumayer--Stat**	**63.47**	**182**	*e*P	**P**	**21 46 31.1**	**+0.2**
MJAR	**Matsushiro Arr**	**86.04**	**338**	P	**P**	**21 48 41.9**	**0.0**
MJAR	**Matsushiro Arr**	**86.04**	**338**	P	**P**	**21 48 41.9**	**0.0**
	2.3nm,0.9s,baz=184,slow=7.7,SNR=4.9						
CMAR	**Chiang Mai Arr**	**88.28**	**299**	P	**P**	**21 48 53.8**	**+0.7**
CMAR	**Chiang Mai Arr**	**88.28**	**299**	P	**P**	**21 48 53.8**	**+0.7**
	0.9nm,0.7s,baz=152,slow=3.9,SNR=6.4						
TORD	**Torodi Ar. Bea**	**144.59**	**207**	PKP	**PKPab**	**21 55 36.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**144.59**	**207**	PKP	**PKPab**	**21 55 36.4**	**-0.6**
	3.7nm,0.6s,baz=152,slow=1.4,SNR=35						
BRTR	**Keskin Array B**	**145.05**	**277**	PKP	**PKPbc**	**21 55 37.9**	**-0.3**
BRTR	**Keskin Array B**	**145.05**	**277**	PKP	**PKPbc**	**21 55 37.9**	**-0.3**
	6.4nm,1.1s,baz=123,slow=4.6,SNR=14						
KEV	**Kevo**	**148.94**	**334**	*e*P	**PKPbc**	**21 55 48.1**	**0.0**
	5.3nm,0.7s						
ARCES	**ARCESS Array B**	**149.50**	**334**	PKPbc	**PKPbc**	**21 55 49.1**	**-0.4**
ARCES	**ARCESS Array B**	**149.50**	**334**	PKPbc	**PKPbc**	**21 55 49.1**	**-0.4**
	3.7nm,0.8s,baz=103,slow=1.6,SNR=7.4						
KAF	**Kangasniemi**	**152.12**	**320**	*e*P	**PKPbc**	**21 55 59.2**	**+3.3**
	2.7nm,0.8s						
FINES	**FINESS Array B**	**152.41**	**318**	PKPbc	**PKPbc**	**21 55 56.1**	**-0.5**
FINES	**FINESS Array B**	**152.41**	**318**	PKPbc	**PKPbc**	**21 55 56.1**	**-0.5**
	0.9nm,0.6s,baz=27,slow=9.4,SNR=3.6						
BRG	**Berggiesshubel**	**161.02**	**295**	*e*(P)	PKPab	21 56 57.7	+13
	7.8nm,1.6s						
GERES	**GERESS Array B**	**161.20**	**288**	PKPab	**PKPab**	**21 56 45.0**	**-0.3**
GERES	**GERESS Array B**	**161.20**	**288**	PKPab	**PKPab**	**21 56 45.0**	**-0.3**
	0.2nm,0.3s,baz=76,slow=5.6,SNR=5.7						

IDC ***15*** *21:39:34.6±2.2, 3°90S×128°25E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.4/21, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=173.2km s-min=28.3km az=67.0*
DJA ***15*** *21:39:39.2±1.6, 3°5±9°×13°1E±, h11km±11km, M3.3/4, MLv3.3/4*
ISC 15 21:39:37.7±1.1, 3°0S±0°1×130°53E±0°05, h24km, n7, σ2s20/7, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.63**	**258**	P	**Pn**	**21 40 04.8**	**-0.1**
MSAI				S	**Sb**	**21 40 29.8**	**+2.5**
FAKI	**Fak Fak**	**1.72**	**87**	P	**Pb**	**21 40 10.0**	**+1.4**
FAKI				S	**Sb**	**21 40 30.2**	**+0.3**
SWI	**Sorong**	**2.26**	**19**	P	**Pn**	**21 40 17.3**	**-0.6**
RKPI	**Ransiki, Papua**	**3.94**	**68**	P	**Pn**	**21 40 37.5**	**+0.8**
WRA	**Warramunga Arr**	**17.23**	**168**	P	**Pn**	**21 43 33.7**	**-3.2**
	0.2nm,0.3s,baz=342,slow=13,SNR=8.6						
ASAR	**Alice Springs**	**20.79**	**171**	P	P	21 44 13.6	-3.7
	1.9nm,0.7s,baz=348,slow=10,SNR=13						
MKAR	**Makanchi Array**	**65.23**	**326**	P	P	21 50 14.5	-2.8
	0.5nm,0.7s,baz=121,slow=7.1,SNR=5.6						

IDC 15 22:25:40.8±2.3, 46°18S×166°04E, h0km, mb3.7/1, mb1 3.8/1, mb1mx3.5/12, mbtmp3.7/1, Error ellipse: s-maj=174.5km s-min=64.0km az=34.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**34.26**	**300**	P	P	22 32 27.8	-0.7
	0.5nm,0.5s,baz=133,slow=8.1,SNR=5.3						
TORD	**Torodi Ar. Bea**	**144.51**	**207**	PKP	PKPab	22 45 17.4	-0.2
	0.4nm,0.7s,baz=181,slow=2.3,SNR=5.7						
BRTR	**Keskin Array B**	**145.00**	**277**	PKPbc	PKPab	22 45 19.1	+0.1
	0.6nm,0.7s,baz=114,slow=3.6,SNR=3.5						
ARCES	**ARCESS Array B**	**149.53**	**334**	PKPbc	PKPbc	22 45 30.6	0.0
	0.7nm,0.6s,baz=73,slow=3.0,SNR=3.4						

ISCJB ***15*** *22:37:27.4±0.4, 35°49N±0°04×81°6E±0°1, h15km, mb3.5/8, Error ellipse: s-maj=15.6km s-min=4.7km az=165.2*
BJI ***15*** *22:37:27.9, 35°46N×81°53E, h7km, ML3.9/3, Ms3.7/1, Ms7 3.6/1*
IDC ***15*** *22:37:28.5±1.1, 35°51N×81°16E, h0km, mb3.5/8, mb1 3.7/13, mb1mx3.6/29, mbtmp3.6/13, ML3.5/4, Error ellipse: s-maj=25.5km s-min=18.7km az=66.0*
ISC 15 22:37:30.2±0.7, 35°45N±0°07×81°4E±0°1, h15km, n23, σ1s46/25, mb3.5/8, 1C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOLN	**Koldanda**	**7.89**	**165**	*e*P	**Pn**	**22 39 22.1**	**-2.5**
KKN	**Kakani**	**8.34**	**155**	*e*P	**Pn**	**22 39 30.5**	**-0.2**
	12nm,0.5s						
DMN	**Daman**	**8.45**	**157**	*e*P	**Pn**	**22 39 32.1**	**-0.1**
	6.3nm,0.4s						
GUN	**Gumba**	**8.45**	**152**	*e*P	**Pn**	**22 39 31.7**	**-0.6**
	18nm,0.5s						
PKIN	**Phulchoki**	**8.57**	**155**	*e*P	**Pn**	**22 39 33.7**	**-0.3**
	12nm,0.7s						
PKI	**Pulchoki**	**8.58**	**155**	*e*P	**Pn**	**22 39 34.0**	**-0.2**
	17nm,0.7s						
JIRN	**Jiri**	**8.79**	**151**	*e*P	**Pn**	**22 39 36.1**	**-1.0**
	15nm,0.4s						
AAK	**Ala-Archa**	**8.94**	**325**	Pn	**Pn**	**22 39 40.2**	**+1.3**
	0.3nm,0.3s,baz=171,slow=13,SNR=1.9						
AAK				Pg		22 40 07.7	
	0.4nm,0.3s,baz=135,slow=11,SNR=3.0						
AAK				Lg	Lg	22 42 06.3	
	0.7nm,0.3s,baz=240,slow=14,SNR=2.9						
ODAN	**Odare**	**10.00**	**147**	*e*P	**Pn**	**22 39 52.9**	**-0.6**
	9.3nm,0.5s						
MK31	**Makanchi Array**	**11.36**	**3**	⇑P	**Pn**	**22 40 10.0**	**-1.8**
	1.4nm,0.6s,baz=183,slow=13,SNR=12						
MK31				⇓S	**Sn**	**22 42 17.7**	**-0.7**
	3.4nm,0.8s,baz=182,slow=22,SNR=3.5						
MKAR	**Makanchi Array**	**11.36**	**3**	Pn	**Pn**	**22 40 10.8**	**-1.1**
	0.3nm,0.3s,baz=180,slow=12,SNR=11						
MKAR				Sn	**Sn**	**22 42 21.2**	**+2.8**
	0.3nm,0.3s,baz=190,slow=23,SNR=3.8						
KURBB	**Kurchatov Arra**	**15.30**	**353**	Pn	**Pn**	**22 41 02.4**	**-3.1**
	baz=173,slow=12,SNR=7.0						
ZALV	**Zalesovo Beam**	**18.66**	**6**	P	**P**	**22 41 46.6**	**-0.7**
	0.2nm,0.3s,baz=196,slow=12,SNR=7.8						
BVAR	**Borovoye Array**	**19.21**	**340**	P	**P**	**22 41 53.3**	**0.0**
	0.3nm,0.3s,baz=141,slow=10,SNR=9.6						
SONM	**Songino Array**	**22.32**	**49**	P	**P**	**22 42 28.5**	**+1.2**
	0.7nm,0.8s,baz=246,slow=11,SNR=5.4						
AKTO	**Aktyubinsk**	**22.59**	**319**	P	**P**	**22 42 30.1**	**+0.1**
	0.6nm,0.6s,baz=110,slow=12,SNR=2.8						
CMAR	**Chiang Mai Arr**	**23.01**	**133**	P	**P**	**22 42 37.3**	**+2.7**
	0.3nm,0.3s,baz=319,slow=11,SNR=2.6						
FINES	**FINESS Array B**	**43.13**	**325**	P	**P**	**22 45 29.5**	**-0.1**
	0.8nm,0.6s,baz=123,slow=10,SNR=3.8						
NB2	**NORSAR Subarra**	**50.25**	**323**	P	**P**	**22 46 24.7**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**50.25**	**323**	P	**P**	**22 46 24.6**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=86,slow=7.2,SNR=3.7						
GERES	**GERESS Array B**	**50.32**	**307**	P	**P**	**22 46 27.1**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=74,slow=7.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**74.14**	**275**	P	**P**	**22 49 04.7**	**-1.6**
	comp=Z,0.4nm,0.7s,baz=52,slow=4.9,SNR=7.8						
BOSA	**Boshof**	**82.80**	**227**	P	**P**	**22 49 54.9**	**+0.9**
	comp=Z,2.1nm,0.7s,baz=45,slow=4.3,SNR=4.5						

AUST ***15*** *22:57:53.8±2.6, 46°15S×166°14E, h0km, Error ellipse: s-maj=2.5km s-min=1.0km az=13.0*
IDC ***15*** *22:57:53.5±1.1, 46°04S×166°08E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/15, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=32.8km s-min=27.7km az=180.0*
ISCJB ***15*** *22:57:54.3±0.6, 46°09S±0°08×166°05E±0°06, h12km, mb3.6/3, Error ellipse: s-maj=11.0km s-min=5.6km az=10.3*
NEIC ***15*** *22:57:56.3, 46°18S×166°08E, h22km, ML4.3(WEL), After WEL.*
ISC 15 22:57:55.1±0.8, 46°07S±0°07×166°11E±0°06, h12km, n21, σ0s97/24, mb3.6/3, 1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.41**	**104**	⇓P*	**Pb**	**22 58 04.8**	**+0.6**
PYZ				S*	**Sb**	**22 58 11.1**	**+0.8**
WHZ	**Wether Hill Ro**	**1.29**	**83**	Pn	**Pb**	**22 58 18.9**	**-0.3**
WHZ				Sn	**Sn**	**22 58 36.1**	**0.0**
APZ	**The Paps**	**1.50**	**121**	Pn	**Pn**	**22 58 21.0**	**-0.9**
APZ				Sn	**Sn**	**22 58 39.2**	**-2.2**
SYZ	**Scrubby Hill**	**2.15**	**104**	Pn	**Pn**	**22 58 31.3**	**+0.6**
EAZ	**Earnscleugh**	**2.39**	**71**	Pn	**Pb**	**22 58 36.5**	**-1.5**
WKZ	**Wanaka**	**2.39**	**60**	Pn	**Pb**	**22

0.6nm,0.3s,baz=148,slow=19,SNR=3.6
MOO Moorlands 14.35 276 P Pn 23 17 46.3 -1.4
baz=14,SNR=5.8
MILA Mila 15.66 297 P Pn 23 18 02.7 -2.6
baz=16,SNR=5.2
TOO Toolangi 17.72 290 P Pn 23 18 31.5 +0.2
baz=18,SNR=5.8
STKA Stephens Creek 23.76 297 P P 23 19 37.9 +1.0
STKA Stephens Creek 23.76 297 P P 23 19 37.9 +1.0
1.4nm,0.6s,baz=136,slow=20,SNR=4.7
ASAR Alice Springs 34.36 299 P P 23 21 10.9 -0.5
ASAR Alice Springs 34.36 299 P P 23 21 11.0 -0.5
0.5nm,0.6s,baz=148,slow=7.3,SNR=9.4
WRA Warramunga Arr 36.92 303 P P 23 21 32.0 -1.4
WRA Warramunga Arr 36.92 303 P P 23 21 32.0 -1.4
1.8nm,1.1s,baz=136,slow=8.3,SNR=4.1
CMAR Chiang Mai Arr 88.37 299 P P 23 27 17.7 +1.3
CMAR Chiang Mai Arr 88.37 299 P P 23 27 17.7 +1.3
0.7nm,0.4s,baz=139,slow=4.8,SNR=3.7
TORD Torodi Ar. Bea 145.19 206 PKPbc PKPbc 23 34 01.9 0.0
TORD Torodi Ar. Bea 145.19 206 PKPbc PKPbc 23 34 01.9 0.0
4.7nm,0.7s,baz=150,slow=2.2,SNR=78
BRTR Keskin Array B 145.35 277 PKPbc PKPbc 23 34 01.5 -0.5
BRTR Keskin Array B 145.35 277 PKPbc PKPbc 23 34 01.5 -0.5
0.5nm,0.7s,baz=119,slow=4.5,SNR=2.6
ARCES ARCESS Array B 149.22 334 PKPbc PKPbc 23 34 11.6 -0.1
ARCES ARCESS Array B 149.22 334 PKPbc PKPbc 23 34 11.6 -0.1
2.8nm,0.7s,baz=64,slow=4.6,SNR=10
KAF Kangasniemi 151.98 320 *ep* PKPbc 23 34 18.1 -0.3
2.5nm,0.6s
FINES FINESS Array B 152.28 319 PKPbc PKPbc 23 34 19.1 -0.1
FINES FINESS Array B 152.28 319 PKPbc PKPbc 23 34 19.1 -0.1
1.7nm,0.6s,baz=96,slow=3.5,SNR=15

KRSC 15 23:18:12.6±1.2, 50.52N×157.25E, h45km±44km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	0.74	283	*i* P	Pn	23 18 26.9	+0.2
SKR				*i* S	Sn	23 18 37.1	+0.3
PAU	Pauzhetka	0.99	344	*i* P	Pn	23 18 31.5	+1.5
PAU				*i* S	Sn	23 18 45.0	+2.2
MIPR	Malaya Ipel'ka	1.79	350	*e*P	Pn	23 18 42.9	+1.9
MIPR				*i* S	Sn	23 19 05.1	+2.6
ASAK	Asacha	1.91	12	*e*P	Pn	23 18 43.9	+1.1
ASAK				*i* S	Sn	23 19 06.9	+1.2
MTVR	Mutnovka	2.05	16	*e*P	Pn	23 18 46.0	+1.2
MTVR				*i* S	Sn	23 19 10.2	+0.9
GRL	Gorelyy	2.10	14	*e*P	Pn	23 18 47.1	+1.7
APC	Apacha	2.41	359	*e*P	Pn	23 19 51.8	+2.3
APC				*e*S	Sn	23 19 20.3	+2.6
UGLR	Uglovaya	2.86	19	*e*P	Pn	23 18 58.3	+2.4
AVH	Avacha	2.90	18	P	Pn	23 18 59.0	+2.7
AVH				*i* S	Sn	23 19 33.2	+3.2
KOK	Koryaka	2.91	17	*e*P	Pn	23 18 59.3	+2.9
SMAR	Somma	2.91	19	P	Pn	23 18 59.3	+2.6
GNL	Ganaly	3.21	7	P	Pn	23 19 03.9	+3.3
TUMR	Tumrok	5.08	19	P	Pn	23 19 30.9	+4.6

MAN 15 23:25:24, 10.05N×125.61E, h26km, mb4.5, ML3.4, MS3.3, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	Maasin	0.74	277	*e*P	Pn	23 25 39.1	+0.3
MSLP				*e*S	Sn	23 25 50.9	+1.6
BUTP	Butuan	1.07	179	*e*P	Pn	23 25 42.9	-0.5
PLP	Palo	1.27	331	*e*P	Pb	23 25 47.4	+0.1
PLP				*e*S	Sb	23 26 03.2	-0.1
LLP	Lapu-Lapu	1.64	280	*e*P	Pb	23 25 52.8	-0.7
LLP				*e*S	Sb	23 26 15.8	+2.0
TBP	Tagbilaran	1.76	259	*e*P	Pn	23 25 54.0	+1.2
TBP				*e*S	Sb	23 26 15.9	-1.3
BUKP	Musuan	2.22	194	*e*P	Pb	23 26 01.6	-2.0

*MOS **15** 23:37:27.4±1.7, 48.76N×154.59E, h196km, mb3.7/4, Error ellipse: s-maj=36.5km s-min=17.6km az=69.7*
*IDC **15** 23:37:32.9±2.3, 49.32N×153.42E, h165km±21km, mb3.4/7, mb1 3.6/11, mb1mx3.4/28, mbtmp3.4/11, Error ellipse: s-maj=30.8km s-min=13.7km az=165.0*
ISC 15 23:37:30.8±1.0, 49.1N±0.2×153.8E±0.1, h150km, n15, σ2.8 01/17, mb3.7/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	2.23	42	*e*PN	Pn	23 38 05.5	-3.1
SKR				*e*		23 38 36.3	
PETK	Petropavlovsk-	4.75	30	PN	Pn	23 38 42.1	+1.2
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK	Petropavlovsk-	4.75	30	P	Pn	23 38 42.0	+1.2
	comp=Z,3.3nm,0.3s,baz=204,slow=15,SNR=87						
ASAJ	Asahikawa	9.13	241	P	Pn	23 39 39.6	+0.4
	comp=Z,2.2nm,0.3s,baz=111,slow=14,SNR=3.7						
USRK	Ussuriysk Arr	15.70	260	P	P	23 41 03.9	-0.7
	comp=Z,0.3nm,0.3s,baz=66,slow=12,SNR=6.9						
MJAR	Matsushiro Arr	16.89	228	P	Pn	23 41 19.0	+0.7
	comp=Z,0.2nm,0.3s,baz=16,slow=11,SNR=3.7						
ILAR	Eielson Array	34.49	41	P	P	23 44 04.0	0.0
	comp=Z,1.1nm,0.9s,baz=279,slow=8.5,SNR=7.7						
MKAR	Makanchi Array	46.29	296	P	P	23 45 39.6	-1.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	46.29	296	P	P	23 45 39.5	-1.6
	comp=Z,1.1nm,0.6s,baz=74,slow=7.6,SNR=16						
KURK	Kurchatov	46.47	302	P	P	23 45 41.1	-1.3
KURK				*PP	pP	23 46 19.9	+3.9
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURBB	Kurchatov Arra	46.57	302	P	P	23 45 41.0	-2.1
	comp=Z,0.6nm,0.4s,baz=69,slow=8.8,SNR=12						
KURBB				pP	pP	23 46 19.9	+3.1
	comp=Z,0.7nm,0.6s,baz=67,slow=8.6,SNR=5.8						
NVAR	Mina Array Bea	61.00	64	P	P	23 47 29.4	+0.9
	comp=Z,0.4nm,0.4s,baz=300,slow=7.2,SNR=3.5						
FINES	FINESS Array B	62.13	335	P	P	23 47 33.1	-2.3
	comp=Z,1.5nm,0.9s,baz=32,slow=7.9,SNR=6.0						
PDAR	Pinedale Array	63.05	55	P	P	23 47 43.0	+1.0
	comp=Z,1.4nm,0.8s,baz=344,slow=1.4,SNR=12						
TXAR	Lajitas Array	75.99	61	P	P	23 49 02.1	+0.7
	comp=Z,1.1nm,0.6s,baz=300,slow=4.5,SNR=21						

*DJA **15** 23:41:11.0±2.5, 46.3×16.1×16.8E±1.4, h39km±15km, M5.0/10, mB5.5/2, mb5.0/10, Mw(mB)5.0/2*
*IDC **15** 23:41:19.8±0.6, 45.40S×167.20E, h68km±5km, mb4.5/9, mb1 4.6/11, mb1mx4.4/17, mbtmp4.5/11, MS4.0/12, Ms1 4.1/12, ms1mx3.9/24, Error ellipse: s-maj=13.7km s-min=9.7km az=159.0*
*ISCJB **15** 23:41:19.5±0.3, 45.48S±0.03×167.26E±0.04, h76km±3km, mb5.0/24, Error ellipse: s-maj=5.3km s-min=5.1km az=168.1*
*AUST **15** 23:41:20.3, 45.47S×167.20E, h60km*
*BJI **15** 23:41:20.4, 45.59S×166.88E, h66km, mB5.8/11, mb5.3/16, Ms5.5/9, Ms7 5.0/9*
*NEIC **15** 23:41:20.6, 45.52S×167.03E, h65km, mb4.9/11, ML5.1(WEL), After WEL.*
NEIC Felt at Gore, Invercargill and Queenstown.
ISC 15 23:41:20.5±0.4, 45.51S±0.04×167.26E±0.05, h71km±2km, h70km:pP-P, n117, σ1.9 58/156, mb5.0/24, 1C-1D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	Deep Cove	0.08	291	Pn	Pn	23 41 30.0	-0.8
DCZ				Sn	Sn	23 41 37.1	-1.2
WHZ	Wether Hill Ro	0.62	129	*e*Pn	Pn	23 41 35.2	+0.5
WHZ				*e*Sn	Sn	23 41 46.0	+0.9
MSZ	Milford Sound	0.96	30	Pn	Pn	23 41 39.4	+0.9
MSZ				Sn	Sn	23 41 53.4	+1.5
MSZ				Sn	Sn	23 41 53.7	+1.8
WKZ	Wanaka	1.42	62	Pn	Pn	23 41 45.8	+1.3
APZ	The Paps	1.42	159	Pn	Pn	23 41 45.1	+0.6
APZ				*e*S	Sn	23 42 00.6	-1.9
APZ				Sn	Sn	23 42 03.6	+0.9
EAZ	Earnscleugh	1.47	80	Pn	Pn	23 41 46.8	+1.7
SYZ	Scrubby Hill	1.67	129	Pn	Pn	23 41 48.4	+0.7
SYZ				Sn	Sn	23 42 09.3	+1.0
TUZ	Tuapeka	1.73	106	Pn	Pn	23 41 49.5	+1.1
JCZ	Jackson Bay	1.79	37	Pn	Pn	23 41 50.5	+1.1
LBZ	Lake Benmore	2.36	63	Pn	Pn	23 41 57.4	+0.3
ODZ	Otahua Downs	2.44	80	*e*Pn	Pn	23 41 58.6	+0.6
ODZ				*e*Sn	Sn	23 42 23.9	-2.9
RPZ	Rata Peaks	3.25	58	*e*Pn	Pn	23 42 09.0	-0.1
RPZ				*e*Sn	Sn	23 42 43.8	-2.9
RPZ				S		23 42 45.8	
RPZ	Rata Peaks	3.25	58	P	Pn	23 42 08.7	-0.4
	108nm,0.3s,baz=239,slow=4.4,SNR=85						
RPZ				S	Sn	23 42 45.8	-0.8
	299nm,0.3s,baz=296,slow=18,SNR=18						
WVZ	Waitaha Valley	3.48	47	Pn	Pn	23 42 12.2	-0.1
MQZ	McQueen's Vall	4.25	67	Pn	Pn	23 42 21.9	-0.8
CRLZ	Canterbury Las	4.29	65	Pn	Pn	23 42 22.8	-0.5
LTZ	Lake Taylor	4.52	55	Pn	Pn	23 42 25.6	-0.9
DSZ	Denniston Nort	5.00	43	Pn	Pn	23 42 32.6	-0.4
KHZ	Kahutara	5.49	58	*e*Pn	Pn	23 42 39.0	-0.6
KHZ				*e*Sn	Sn	23 43 39.3	-2.0
THZ	Tophouse	5.55	50	Pn	Pn	23 42 39.0	-1.5
NNZ	Nelson	6.19	48	Pn	Pn	23 42 50.1	+0.9
SNZO	South Karori	6.86	55	*e*Pn	Pn	23 42 59.6	+1.3
SNZO				*e*Sn	Sn	23 44 11.6	-3.2
URZ	Urewera	10.31	49	P	Pn	23 43 44.9	-0.5
URZ				*e*Sn	Sn	23 45 30.0	-9.3
URZ				S		23 45 31.0	
URZ	Urewera	10.31	49	P	Pn	23 43 44.9	-0.5
	2.0nm,0.3s,baz=245,slow=8.4,SNR=9.6						
URZ				S	Sn	23 45 31.0	-8.3
	1.5nm,0.3s,baz=204,slow=20,SNR=3.8						
OUZ	Omahuta	11.35	27	*e*Pn	Pn	23 44 00.2	+0.5
OUZ				*e*Sn	Sn	23 45 56.1	-8.6
TAU	Tasmania Unive	14.53	273	*e*Pn	Pn	23 44 38.3	-4.0
TAU				*e*Sn	Sn	23 47 06.2	-16
MOO	Moorlands	14.77	275	P	Pn	23 44 45.2	-0.2
	baz=15,SNR=9.1						
MILA	Mila	15.99	296	P	Pn	23 44 59.8	-1.2
	baz=16,SNR=34						
MILA				S	Sn	23 47 44.1	-13
	baz=16,SNR=10						
CNB	Canberra Magne	16.97	301	P	Pn	23 45 13.7	+0.4
	baz=17,SNR=27						
CAN	Canberra	17.19	300	*e*Pn	Pn	23 45 15.3	-0.6
	97nm,1.1s						
CAN				*e*Sn	Sn	23 48 14.2	-12
MGCD	Mangrove Creek	17.47	309	P	P	23 45 20.8	+1.2
	baz=17,SNR=7.2						
TOO	Toolangi	18.08	288	P	Pn	23 45 27.0	+0.2
	baz=18,SNR=7.9						
TOO				S	Sn	23 48 35.4	-13
	baz=18,SNR=8.5						
YNG	Young	18.25	301	P	Pn	23 45 28.9	+0.2
	baz=18,SNR=20						
ARMA	Armidale	19.41	316	*e*P	P	23 45 40.5	-0.5
	54nm,1.1s						
ARMA				*e*S	S	23 49 12.3	-4.4
ARMA	Armidale	19.41	316	P	Pn	23 45 42.6	-0.1
	baz=19,SNR=7.9						
RAO	Raoul Island	20.00	41	LR	LR	23 53 00.4	
	comp=Z,556nm,21.8s,baz=140,slow=35						
ARPS	Mount Arapiles	20.97	286	P	P	23 45 57.9	+0.2
	baz=21,SNR=6.2						
CMSA	Cobar Meteorol	21.80	302	P	P	23 46 06.5	0.0
	baz=22,SNR=14						
DZM	Mont Dzumac	23.39	358	P	P	23 46 24.8	+1.7
DZM	Mont Dzumac	23.39	358	P	P	23 46 24.8	+1.7
	14nm,0.6s,baz=90,slow=24,SNR=8.2						
DZM				LR	LR	23 54 10.4	
	comp=Z,210nm,19.5s,baz=0.0,slow=33						
EIDS	Eidsvold	23.94	322	*e*P	P	23 46 26.7	-1.3
	122nm,1.0s						
EIDS	Eidsvold	23.94	322	P	P	23 46 28.5	+0.5
	baz=24,SNR=22						
RMQ	Roma	24.07	316	P	P	23 46 29.7	+0.6
	baz=24,SNR=22						
STKA	Stephens Creek	24.09	295	*e*P	P	23 46 28.3	-1.0
	16nm,1.1s						
STKA	Stephens Creek	24.09	295	P	P	23 46 29.8	+0.5
	39nm,0.9s,baz=125,slow=11,SNR=43						
STKA				LR	LR	23 53 56.0	
	comp=Z,627nm,20.1s,baz=121,slow=32						
STKA	Stephens Creek	24.09	295	P	P	23 46 29.8	+0.5
	baz=24,SNR=34						
BBOO	Buckleboo	27.13	287	*e*P	P	23 46 56.8	0.0
	1µm,1.1s						
BBOO	Buckleboo	27.13	287	P	P	23 46 56.9	+0.1
	baz=27,SNR=8.3						
CTA	Charters Tower	30.70	319	P	P	23 47 28.2	-0.5
CTA	Charters Tower	30.70	319	P	P	23 47 28.2	-0.5
	14nm,0.6s,baz=159,slow=10,SNR=15						
CTAO	Charters Tower	30.70	319	*e*P	P	23 47 28.9	+0.3
	19nm,0.7s						
VNDA	Vanda	32.20	182	*e*P	P	23 47 42.0	+0.9
	38nm,1.9s						
VNDA	Vanda	32.20	182	P	P	23 47 42.0	+0.9
	2.2nm,1.0s,baz=6.5,slow=10.0,SNR=9.3						
VNDA				LR	LR	23 58 05.0	
	comp=Z,244nm,19.9s,baz=16,slow=31						
SBA	Scott Base	32.46	180	*e*P	P	23 47 45.4	+2.0
	26nm,1.2s						
MTSU	Mount Surprise	33.30	318	P	P	23 47 52.0	+0.6
	baz=33,SNR=12						
AS31	Alice Springs	34.68	298	*e*P	P	23 48 01.3	-2.0
ASAR	Alice Springs	34.68	298	P	P	23 48 01.6	-1.7
ASAR				pP	pP	23 48 17.9	-2.5
ASAR	Alice Springs	34.68	298	P	P	23 48 01.6	-1.7
	11nm,0.8s,baz=135,slow=4.3,SNR=61						
ASAR				pP	pP	23 48 17.9	-2.5
	8.0nm,1.1s,baz=145,slow=8.7,SNR=5.0						
ASAR				LR	LR	00 00 48.4	
	comp=Z,327nm,21.4s,baz=99,slow=34						
CASY	Casey	36.26	215	*e*P	P	23 48 15.4	-1.0
	10nm,1.1s						
HNR	Honiara	36.49	348	LR	LR	00 01 42.4	
	comp=Z,370nm,19.3s,baz=293,slow=34						
WRA	Warramunga Arr	37.21	302	P	P	23 48 23.4	-1.5
WRA				pP	pP	23 48 39.9	-2.3
WRA	Warramunga Arr	37.21	302	P	P	23 48 23.4	-1.5
	20nm,0.8s,baz=136,slow=8.0,SNR=77						
WRA				pP	pP	23 48 39.9	-2.3
	9.2nm,1.0s,baz=138,slow=8.3,SNR=5.2						
WRAB	Tennant Creek	37.21	302	*e*P	P	23 48 22.9	-2.1
WRAB	Tennant Creek	37.21	302	*e*P	P	23 48 22.9	-2.0
	88nm,1.5s						
COEN	Coen	37.47	319	P	P	23 48 27.1	0.0
	baz=38,SNR=5.4						
PMG	Port Moresby	39.91	328	LR	LR	00 01 37.5	
	comp=Z,264nm,21.1s,baz=110,slow=31						
NWAO	Narrogin (SRO)	40.13	270	LR	LR	00 01 34.9	
	comp=Z,181nm,21.6s,baz=196,slow=30						
MEEK	Meekatharra	42.87	279	P	P	23 49 10.9	-0.9
	baz=43,SNR=7.7						
MORW	Morawa	43.17	274	P	P	23 49 13.7	-0.5
	baz=43,SNR=5.0						
KNRA	Kununurra	43.85	300	P	P	23 49 18.7	-1.0
	baz=44,SNR=7.5						
FITZ	Fitzroy Crossi	43.98	295	LR	LR	00 06 00.6	
	comp=Z,221nm,21.5s,baz=152,slow=34						
QSPA	South Pole Qui	44.62	180	*e*P	P	23 49 26.6	+1.1
QSPA				*e*		23 49 45.3	
QSPA	South Pole Qui	44.62	180	P	P	23 49 26.3	+0.8
	20nm,0.8s,baz=14,slow=2.6,SNR=76						
MTN	Manton Dam	44.68	305	P	P	23 49 25.5	-0.9
	baz=45,SNR=7.1						
JAY	Jayapura	48.74	324	P	P	23 49 54.5	-3.6
	baz=49,SNR=3.5						
MAW	Mawson	53.86	207	P	P	23 50 34.8	-0.8
MAW	Mawson	53.86	207	P	P	23 50 34.8	-0.8
	5.3nm,1.1s,baz=109,slow=9.1,SNR=6.2						
MAW				LR	LR	00 10 12.5	
	comp=Z,180nm,19.8s,baz=105,slow=32						
KAPI	Kappang	57.66	300	LR	LR	00 15 41.3	
	comp=Z,162nm,21.1s,baz=186,slow=36						
SYO	Syowa Base	59.44	199	*e*P	P	23 51 13.0	-2.2
SNAA	Sanae	62.92	184	*e*P	P	23 51 38.9	+0.1
SNAA	Sanae	62.92	184	*e*P	P	23 51 38.5	-0.3
	14nm,0.9s						
VNA1	Neumayer--Stat	64.11	182	*e*P	P	23 51 46.9	+0.4
PMBI	Palembang	68.87	288	P	P	23 52 27.4	+10
	baz=69,SNR=4.4						
PLCA	Paso Flores	79.78	139	*e*P	P	23 53 21.4	+0.5
	6.8nm,0.9s						
PLCA	Paso Flores	79.78	139	P	P	23 53 21.4	+0.5
	5.5nm,1.0s,baz=193,slow=6.6,SNR=8.5						
CMAR	Chiang Mai Arr	88.69	298	P	P	23 54 05.8	-0.2
CMAR				pP	pP	23 54 24.4	-1.2
CMAR	Chiang Mai Arr	88.69	298	P	P	23 54 05.8	-0.2
	1.1nm,0.4s,baz=134,slow=8.1,SNR=14						
CMAR				pP	pP	23 54 24.4	-1.2
	2.0nm,0.3s,baz=151,slow=4.0,SNR=3.0						
CMAR				LR	LR	00 32 28.3	
	comp=Z,67nm,20.8s,baz=120,slow=35						
NJ2	Nanjing	88.80	321	*e*P		23 54 08.4	+2.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GYA	Guiyang	90.32	309	*i*P	P	23 54 15.3	+1.7
GYA				pP	pP	23 54 34.8	+1.6
GYA				sP	sP	23 54 42.0	+1.2
GYA				PP	PP	23 57 53.5	+4.5
GYA				SKS	SKSac	00 04 38.3	-0.2
GYA				S	S	00 05 01.9	-0.3
GYA				sS	sS	00 05 35.4	-0.2
GYA				SS	SS	00 11 08.8	+4.6
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.8s						
GYA				LR	LR		
	comp=N,580nm,20.8s						
GYA				LR	LR		
	comp=E,550nm,19.9s						
GYA				LR	LR		
	comp=Z,610nm,20.2s						
KMI	Kunming	91.48	305	P	P	23 54 21.6	+2.4
KMI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
CD2	Chengdu	95.38	309	P	P	23 54 38.0	+1.2
CD2				pP	pP	23 54 57.3	+0.9
CD2				sP	sP	23 55 04.9	+0.9
CD2				PP	PP	23 58 31.9	+3.4
CD2				SKS	SKSac	00 05 06.5	+0.3
CD2				S	S	00 05 45.8	-1.0
CD2				sS	sS	00 06 19.1	-1.3
CD2				SS	SS	00 12 19.5	+3.0
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.6s						
MDJ	Mudanjiang	95.74	334	P	P	23 54 39.6	+1.6
MDJ				pmax	pmax		
	comp=Z,7.0nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,180nm,3.9s						
BJI	Beijing	96.69	323	P	P	23 54 42.9	+0.5
BJI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LZH	Lanzhou	99.32	313	*e*P	Pdif	23 54 55.4	+0.8
LZH				pP	pP	23 55 15.6	+1.4
LZH				sP	sP	23 55 24.5	+2.6
LZH				*e*PP	PP	23 59 02.0	+3.1
LZH				SKS	SKSac	00 05 26.5	0.0
LZH				*e*S	S	00 06 18.8	-1.8
LZH				sS	sS	00 06 55.0	+0.7
LZH				pmax	pmax		
	comp=Z,15nm,1.5s						
LZH				pmax	pmax		
	comp=Z,91nm,9.6s						
LZH				LR	LR		
	comp=N,360nm,16.9s						
LZH				LR	LR		
	comp=E,370nm,17.2s						
LZH				LR	LR		
	comp=Z,430nm,19.8s						
HHC	Hu-ho-hao-te	99.35	321	*e*P	Pdif	23 54 58.0	+3.5
HHC				pP	pP	23 55 17.4	+3.2
HHC				sP	sP	23 55 27.1	+5.3
HHC				PP	PP	23 59 03.3	+4.3
HHC				S	ScS	00 06 19.9	-0.6
HHC				pmax	pmax		
	comp=Z,42nm,1.0s						
HHC				pmax	pmax		
	comp=Z,170nm,4.8s						
HHC				LR	LR		
	comp=N,290nm,22.6s						
HHC				LR	LR		
	comp=E,280nm,20.2s						
HHC				LR	LR		
	comp=Z,330nm,17.8s						
KSH	Kashi	117.56	299	*e*PKP	PKPdf	23 59 59.6	+1.7
KSH				PP	PP	00 01 20.3	+8.6
KSH				PKS	PKSdf	00 03 31.6	-3.0
KSH				SKS	SKSdf	00 07 01.9	-1.6
KSH				SS	SS	00 17 21.0	+2.8
KSH				AMB	AMB		
	comp=Z,140nm,4.6s						
KSH				LR	LR		
	comp=N,100nm,5.9s						
KSH				LR	LR		
	comp=E,140nm,5.0s						
KSH				LR	LR		
	comp=Z,150nm,9.0s						
MKAR	Makanchi Array	118.31	309	PKP	PKPdf	23 59 57.0	-1.9
MKAR	Makanchi Array	118.31	309	PKP	PKPdf	23 59 57.0	-1.9
	comp=Z,0.3nm,0.5s,baz=139,slow=2.7,SNR=3.7						
TORD	Torodi Ar. Bea	145.50	205	PKPbc	PKPdf	00 00 49.4	-1.2
TORD				pPKPbc	pPKPbc	00 01 09.5	-1.4
TORD	Torodi Ar. Bea	145.50	205	PKPbc	PKPdf	00 00 49.4	-1.2
	comp=Z,34nm,0.8s,baz=157,slow=2.5,SNR=138						
TORD				pPKPbc	pPKPbc	00 01 09.5	-1.4
	comp=Z,20nm,0.9s,baz=152,slow=2.2,SNR=9.6						
BRTR	Keskin Array B	145.76	277	PKPbc	PKPdf	00 00 50.0	-0.6
BRTR	Keskin Array B	145.76	277	PKPbc	PKPdf	00 00 50.0	-0.6
	comp=Z,2.5nm,0.8s,baz=143,slow=5.2,SNR=12						
KEV	Kevo	148.73	335	*ep*	PKPbc	00 00 57.6	-0.6
	comp=Z,3.8nm,0.6s						
ARCES	ARCESS Array B	149.29	335	PKPbc	PKPbc	00 00 58.0	-1.7
ARCES	ARCESS Array B	149.29	335	PKPbc	PKPbc	00 00 58.0	-1.7
	comp=Z,7.2nm,0.8s,baz=73,slow=4.1,SNR=24						
KAF	Kangasniemi	152.16	321	*ep*	PKPbc	00 01 05.5	-1.1
	comp=Z,4.8nm,0.8s						
FINES	FINESS Array B	152.47	319	PKPbc	PKPbc	00 01 06.3	-1.0
FINES				pPKPbc	pPKPbc	00 01 25.9	-1.7
FINES	FINESS Array B	152.47	319	PKPbc	PKPbc	00 01 06.3	-1.0
	comp=Z,2.2nm,0.5s,baz=90,slow=4.3,SNR=26						
FINES				pPKPbc	pPKPbc	00 01 25.9	-1.7
	comp=Z,3.1nm,0.7s,baz=98,slow=5.8,SNR=4.4						
HFS	Hagfors	158.54	322	PKPab	PKPab	00 01 42.2	-1.8
HFS	Hagfors	158.54	322	PKPab	PKPab	00 01 42.2	-1.8
	comp=Z,0.8nm,0.7s,baz=57,slow=5.3,SNR=3.7						
KEST	Kesra	160.65	247	PKPab	PKPab	00 01 54.1	0.0
KEST	Kesra	160.65	247	PKPab	PKPab	00 01 54.1	0.0
	comp=Z,1.9nm,1.1s,baz=88,slow=4.7,SNR=4.4						
GERES	GERESS Array B	161.75	290	PKPab	PKPab	00 01 57.9	-0.7
GERES				pPKPab	pPKPab	00 02 16.7	-1.5
GERES	GERESS Array B

IDI eSb **Sg** **23 42 38.2 +0.7**
VAM Vamos 1.66 328 ePN **Pg** **23 42 24.8 -1.9**
VAM Vamos 1.66 328 ePn **Pg** **23 42 24.8 -1.9**
KARN Karanos 1.79 321 ePN **Pb** **23 42 27.0 -0.2**
KARN Karanos 1.79 321 ePn **Pb** **23 42 27.0 -0.2**
KYTH Kithira 2.92 322 ePN **Pb** **23 42 43.9 -2.6**
KYTH Kithira 2.92 322 ePn **Pb** **23 42 43.9 -2.6**
ARG Arkhangelos 3.21 46 ePN Pn 23 42 48.0 +3.6
ARG Arkhangelos 3.21 46 ePn Pn 23 42 48.0 +3.6
DAT Datca 3.30 34 eP **Pn** **23 42 45.0 -0.8**
MLSB Milas 3.86 31 eP **Pn** **23 42 53.1 -0.2**
DALY Dalyan (Mu¨la 3.93 44 eP **Pb** **23 43 00.9 -2.7**
KULA Kula-Manisa 5.26 30 eP **Pn** **23 43 15.6 +2.9**
SUTC Sutluce-Ispart 5.79 52 eP **Pn** **23 43 22.7 +2.6**
CSS Prodhromos 6.71 80 eP **Pn** **23 43 32.6 0.0**
IKL Isikli 7.24 70 eP **Pn** **23 43 38.1 -1.7**
MMAI Mount Meron Ar 8.51 94 Pn **Pn** **23 43 58.3 +1.0**
comp=Z,20nm,0.8s
MMAI Sn **Sn** **23 45 32.2 -0.7**
0.6nm,0.3s,baz=274,slow=11,SNR=4.5
0.7nm,0.3s,baz=264,slow=26,SNR=3.4
BRTR Keskin Array B 8.79 47 Pn **Pn** **23 44 04.1 +2.8**
0.1nm,0.3s,baz=214,slow=15,SNR=3.3
EIL Elat 9.29 115 Pn **Pn** **23 44 08.1 +0.1**
0.4nm,0.3s,baz=10.0,slow=17,SNR=11
EIL Sn **Sn** **23 45 49.0 -3.1**
0.2nm,0.3s,baz=288,slow=19,SNR=2.7
KEST Kesra 13.20 282 Pn **Pn** **23 45 01.3 -0.3**
0.0nm,0.3s,baz=77,slow=10,SNR=2.6
VRAC Vranov 16.59 340 Pn **Pn** **23 45 47.0 +0.4**
0.4nm,0.3s,baz=135,slow=5.7,SNR=4.2
GNI Garni 16.68 63 Pn **P** **23 45 51.0 +0.8**
0.4nm,0.3s,baz=228,slow=14,SNR=3.7
GERES GERESS Array B 17.15 333 Pn **P** **23 45 56.1 +0.9**
0.2nm,0.3s,baz=148,slow=13,SNR=4.0
DAVOX Davos/Dischmat 17.29 322 P **P** **23 46 00.3 +3.4**
0.2nm,0.3s,baz=148,slow=18,SNR=2.2
ESDC Sonseca Array 24.02 292 P **P** **23 47 09.1 +0.2**
0.3nm,0.5s,baz=88,slow=9.4,SNR=5.2
HFS Hagfors 27.22 347 P **P** **23 47 37.8 +0.3**
0.8nm,0.8s,baz=151,slow=9.2,SNR=3.5
NOA NORSAR Array B 28.54 346 P **P** **23 47 48.0 -1.4**
0.6nm,0.8s,baz=159,slow=9.6,SNR=3.5
EKA Eskdalemuir Ar 29.04 326 P **P** **23 47 54.1 +0.3**
0.6nm,0.7s,baz=135,slow=10.0,SNR=4.4
TORD Torodi Ar. Bea 29.84 232 P **P** **23 48 01.6 +0.4**
0.7nm,0.6s,baz=32,slow=8.5,SNR=8.9
KURBB Kurchatov Arra 41.77 50 P **P** **23 49 44.3 +1.2**
0.9nm,0.9s,baz=279,slow=8.6,SNR=10
MKAR Makanchi Array 44.33 56 P **P** **23 50 05.1 +1.2**
0.9nm,0.5s,baz=270,slow=7.0,SNR=16
ZALV Zalesovo Beam 45.73 45 P **P** **23 50 15.7 +0.8**
0.5nm,0.4s,baz=251,slow=9.2,SNR=4.1
SONM Songino Array 60.14 50 P **P** **23 52 02.9 +1.4**
0.5nm,0.8s,baz=300,slow=9.3,SNR=2.8

IDC 15 23:44:40.3±2.0, 45.92S×166.30E, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.8/14, mbtmp4.0/3, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.9/22, Error ellipse: s-maj=62.0km s-min=28.1km az=171.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**4.04**	**59**	Pn	Pn	23 45 44.1	+0.7
	5.1nm,0.3s,baz=180,slow=4.0,SNR=3.7						
RPZ				Sn	Sn	23 46 30.9	-0.5
	8.5nm,0.3s,baz=329,slow=19,SNR=6.9						
RPZ				LR	LR	23 46 35.7	
	comp=Z,287nm,21.2s,baz=247,slow=29						
ASAR	**Alice Springs**	**34.28**	**299**	P	P	23 51 28.3	0.0
	0.9nm,0.6s,baz=134,slow=7.9,SNR=4.5						
WRA	**Warramunga Arr**	**36.87**	**304**	P	P	23 51 50.1	-0.4
	1.7nm,0.9s,baz=141,slow=8.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**144.83**	**207**	PKP	PKPab	00 04 18.0	-0.4
	1.5nm,0.6s,baz=158,slow=2.8,SNR=5.9						
BRTR	**Keskin Array B**	**145.15**	**277**	PKPbc	PKPbc	00 04 18.7	-0.3
	0.7nm,0.8s,baz=77,slow=4.7,SNR=3.1						

*AUST **15** 23:57:37.4±32.0, 9.46N×126.57E, h1km, Error ellipse: s-maj=3.5km s-min=1.6km az=267.0*
*MOS **15** 23:57:41.9±1.1, 9.38N×126.31E, h33km, mb4.9/16, Error ellipse: s-maj=14.1km s-min=7.3km az=117.3*
*ISCJB **15** 23:57:41.5±0.3, 9.49N±0.03×126.64E±0.04, h33km, mb4.7/56, MS3.8/5, Error ellipse: s-maj=5.8km s-min=4.0km az=175.4*
*MAN **15** 23:57:43, 9.27N×126.59E, h21km, mb4.8, ML3.7, MS3.8*
MAN INTENSITY I - SURIGAO CITY.
*NEIC **15** 23:57:48.1±1.5, 9.38N×126.31E, h73km±13km, mb5.0/11, Error ellipse: s-maj=12.4km s-min=6.2km az=65.0*
NEIC Felt [I PIVS] at Surigao.
*IDC **15** 23:57:48.3±3.0, 9.33N×126.33E, h75km±27km, mb4.1/22, mb1 4.1/23, mb1mx4.1/29, mbtmp4.1/23, MS3.7/3, Ms1 3.8/3, ms1mx3.2/36, Error ellipse: s-maj=23.0km s-min=11.0km az=76.0*
*BJI **15** 23:57:49.6, 9.23N×126.43E, h112km, mB5.0/11, mb4.8/18*
ISC 15 23:57:41.8±0.4, 9.34N±0.04×126.72E±0.05, h21km±4km, n154, σ1§64/152, mb4.7/56, MS3.9/5, 9C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.15**	**251**	eP	**Pb**	**23 58 00.5**	**-2.4**
BUTP				eS	**Sn**	**23 58 21.0**	**+3.2**
MSLP	**Maasin**	**2.00**	**293**	eP	**Pn**	**23 58 15.6**	**+1.2**
CGP	**Cagayan de Oro**	**2.19**	**246**↑	*i*P	**Pn**	**23 58 16.3**	**-0.7**
CGP				*i* S	**Sn**	**23 58 42.3**	**-1.1**
BUKP	**Musuan**	**2.19**	**229**	eP	**Pb**	**23 58 18.6**	**-2.2**
BUKP				eS	**Sb**	**23 58 48.3**	**+0.8**
MATI	**Mati**	**2.42**	**191**	eP	**Pn**	**23 58 20.9**	**+0.7**
PLP	**Palo**	**2.50**	**317**↓	eP	**Pn**	**23 58 21.9**	**+0.7**
PLP				eS	**Sn**	**23 58 49.5**	**-1.6**
DAV	**Davao City (W)**	**2.52**	**207**	ePn	**Pb**	**23 58 25.7**	**-0.7**
DAV				eSn	**Sb**	**23 58 53.2**	**-3.9**
DAV	**Davao City (W)**	**2.52**	**207**	P	**Pb**	**23 58 25.8**	**-0.6**
	51nm,0.3s,baz=293,slow=17,SNR=2.7						
DAV				S	Sb	23 59 05.6	+8.6
	95nm,0.3s,baz=43,slow=21,SNR=6.7						
DAV				LR	LR	23 59 31.8	
	comp=Z,1μm,20.1s,baz=225,slow=44						
OCLP	**Ormoc**	**2.69**	**309**	eP	**Pn**	**23 58 26.4**	**+2.5**
KCP	**Kidapawan**	**2.82**	**215**↓	eP	Pb	23 58 34.0	+2.5
KCP				*i* S	**Sb**	**23 59 07.2**	**+1.4**
TBP	**Tagbilaran**	**2.84**	**277**	eP	**Pn**	**23 58 25.8**	**-0.2**
LLP	**Lapu-Lapu**	**2.89**	**290**	eP	Pn	23 58 29.3	+2.7
LLP				eS	**Sn**	**23 59 02.4**	**+1.7**
CTBH	**Cotabato--PC H**	**3.23**	**230**↑	*i*P	**Pn**	**23 58 32.2**	**+0.9**
DCPH	**Dipolog City**	**3.41**	**258**↑	eP	**Pn**	**23 58 34.4**	**+0.6**
PAGZ	**Pagadian**	**3.62**	**246**	eP	**Pn**	**23 58 38.4**	**+1.7**
RCP	**Roxas**	**4.49**	**300**↑	eP	**Pn**	**23 58 50.2**	**+1.6**
PALU	**Palau**	**7.92**	**104**	P	Pn	23 59 35.0	-0.8
	baz=8.1,SNR=4.5						
PALU				S	**Sn**	**00 01 03.9**	**-1.0**
	baz=8.1,SNR=3.1						
KSM	**Kuching**	**18.10**	**245**	P	P	00 02 05.0	+13
	baz=18,SNR=3.2						
QIZ	**Qiongzhong**	**18.97**	**302**	P	**P**	**00 02 01.5**	**-0.5**
QIZ				S	Sn	00 05 25.4	-9.4
QIZ				LR	LR		
	comp=E,120nm,19.0s						
QIZ				LR	LR		
	comp=Z,320nm,19.7s						
QIZ	**Qiongzhong**	**18.97**	**302**	P	**P**	**00 02 01.5**	**-0.5**
QIZ				S	Sn	00 05 25.4	-9.4
QIZ				LR	LR		
	comp=E,120nm,19.0s						
QIZ				LR	LR		
	comp=Z,320nm,19.7s						
MTN	**Manton Dam**	**22.47**	**169**	P	**P**	**00 02 41.7**	**+1.8**
	baz=23,SNR=3.7						
KDU	**Kakadu**	**22.62**	**165**	P	**P**	**00 02 43.3**	**+1.9**
	baz=23,SNR=3.8						
NJ2	**Nanjing**	**23.75**	**343**	eP	**P**	**00 02 54.0**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,40nm,0.5s						
NJ2	**Nanjing**	**23.75**	**343**	eP	**P**	**00 02 54.0**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,40nm,0.5s						
KNRA	**Kununurra**	**24.94**	**175**	P	**P**	**00 03 06.4**	**+2.6**
	baz=25,SNR=4.4						
GYA	**Guiyang**	**25.51**	**314**	P	**P**	**00 03 08.6**	**-0.5**
GYA				pP	pP	00 03 33.9	+18
GYA				sP	sP	00 03 48.0	+30
GYA				PcP	**PcP**	**00 06 41.4**	**+0.8**
GYA				S	S	00 07 23.3	-12
GYA				sS	sS	00 08 06.9	+21
GYA				ScP	ScP	00 10 08.0	-11
GYA				PcS	**PcS**	**00 10 19.3**	**-2.1**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
GYA	**Guiyang**	**25.51**	**314**	P	**P**	**00 03 08.6**	**-0.5**
GYA				pP	pP	00 03 33.9	+18
GYA				sP	sP	00 03 48.0	+30
GYA				PcP	**PcP**	**00 06 41.4**	**+0.8**
GYA				S	S	00 07 23.3	-12
GYA				sS	sS	00 08 06.9	+21
GYA				ScP	ScP	00 10 08.0	-11
GYA				PcS	**PcS**	**00 10 19.3**	**-2.1**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
FITZ	**Fitzroy Crossi**	**27.29**	**182**	P	**P**	**00 03 25.7**	**+0.7**
FITZ	**Fitzroy Crossi**	**27.29**	**182**	P	**P**	**00 03 25.7**	**+0.7**
	comp=Z,8.6nm,0.6s,baz=11,slow=4.7,SNR=17						
KMI	**Kunming**	**27.69**	**308**	P	**P**	**00 03 29.8**	**+0.9**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KMI				LR	LR		
	comp=N,180nm,10.1s						
KMI				LR	LR		
	comp=E,180nm,10.8s						
KMI				LR	LR		
	comp=Z,170nm,15.3s						
KMI	**Kunming**	**27.69**	**308**	P	**P**	**00 03 29.8**	**+0.9**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KMI				LR	LR		
	comp=N,180nm,10.1s						
KMI				LR	LR		
	comp=E,180nm,10.8s						
KMI				LR	LR		
	comp=Z,170nm,15.3s						
PSI	**Prapat**	**28.38**	**259**	P	**P**	**00 03 34.2**	**-0.8**
PSI	**Prapat**	**28.38**	**259**	P	**P**	**00 03 34.2**	**-0.8**
	comp=Z,9.8nm,0.7s,baz=84,slow=4.1,SNR=5.4						
CMAR	**Chiang Mai Arr**	**28.41**	**292**	P	**P**	**00 03 33.7**	**-1.5**
CMAR	**Chiang Mai Arr**	**28.41**	**292**	P	**P**	**00 03 33.7**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=99,slow=6.7,SNR=8.1						
CMAR				LR	LR	00 14 17.1	
	comp=Z,67nm,19.7s,baz=175,slow=35						
WRAB	**Tennant Creek**	**30.04**	**166**	eP	**P**	**00 03 50.6**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,109nm,2.7s						
WRAB	**Tennant Creek**	**30.04**	**166**	eP	**P**	**00 03 50.6**	**+1.0**
	comp=Z,109nm,2.7s						
WRA	**Warramunga Arr**	**30.05**	**166**	P	**P**	**00 03 49.5**	**-0.1**
WRA	**Warramunga Arr**	**30.05**	**166**	P	**P**	**00 03 49.5**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=346,slow=9.4,SNR=8.1						
CD2	**Chengdu**	**30.30**	**318**	eP	**P**	**00 03 51.8**	**0.0**
CD2				pP	pP	00 04 16.8	+19
CD2				sP	sP	00 04 30.4	+30
CD2				PP	**PnPn**	**00 04 54.0**	**+3.9**
CD2				S	S	00 08 40.0	-11
CD2				sS	sS	00 09 23.8	+22
CD2				SS	**SnSn**	**00 10 25.3**	**-0.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CD2				pmax	pmax		
	comp=Z,40nm,4.2s						
CD2	**Chengdu**	**30.30**	**318**	eP	**P**	**00 03 51.8**	**0.0**
CD2				pP	pP	00 04 16.8	+19
CD2				sP	sP	00 04 30.4	+30
CD2				PP	**PnPn**	**00 04 54.0**	**+3.9**
CD2				S	S	00 08 40.0	-11
CD2				sS	sS	00 09 23.8	+22
CD2				SS	**SnSn**	**00 10 25.3**	**-0.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CD2				pmax	pmax		
	comp=Z,40nm,4.2s						
MBWA	**Marble Bar**	**31.08**	**193**	eP	**P**	**00 03 59.0**	**+0.3**
	comp=Z,82nm,1.9s						
BJI	**Beijing**	**31.99**	**345**	P	**P**	**00 04 06.3**	**-0.2**
BJI				pmax	pmax		
	comp=Z,14nm,0.9s						
BJI				pmax	pmax		
	comp=Z,75nm,4.4s						
BJI				LR	LR		
	comp=Z,110nm,40.2s						
BJI	**Beijing**	**31.99**	**345**	P	**P**	**00 04 06.3**	**-0.2**
BJI				pmax	pmax		
	comp=Z,14nm,0.9s						
BJI				pmax	pmax		
	comp=Z,75nm,4.4s						
MTSU	**Mount Surprise**	**32.36**	**148**	P	P	00 04 15.8	+5.7
	baz=33,SNR=4.4						
ASAR	**Alice Springs**	**33.55**	**168**	P	**P**	**00 04 20.8**	**+0.4**
ASAR	**Alice Springs**	**33.55**	**168**	P	**P**	**00 04 20.8**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=349,slow=7.1,SNR=16						
LZH	**Lanzhou**	**33.79**	**326**	eP	**P**	**00 04 25.3**	**+2.7**
LZH				pP	pP	00 04 50.3	+21
LZH				sP	sP	00 05 03.5	+32
LZH				ePP	**PP**	**00 05 41.5**	**+2.3**
LZH				eS	S	00 09 38.8	-6.7
LZH				sS	sS	00 10 20.5	+24
LZH				pmax	pmax		
	comp=Z,21nm,1.4s						
LZH				pmax	pmax		
	comp=Z,100nm,5.0s						
LZH				LR	LR		
	comp=N,210nm,13.0s						
LZH				LR	LR		
	comp=E,330nm,12.6s						
LZH				LR	LR		
	comp=Z,380nm,15.3s						
USRK	**Ussuriysk Arra**	**35.03**	**7**	P	**P**	**00 04 35.1**	**+2.2**
	comp=Z,5.5nm,1.0s,baz=174,slow=6.3,SNR=6.1						
ERM	**Erimo**	**35.62**	**21**↓	eP	**P**	**00 04 39.5**	**+1.5**
ERM				pmax	pmax		
	comp=Z,153nm,2.5s						
MEEK	**Meekatharra**	**36.62**	**192**	P	**P**	**00 04 47.4**	**+0.6**
	baz=37,SNR=7.0						
YUK	**Yuzh-Kuril'sk**	**38.36**	**22**	eP	P	00 05 06.2	+4.9
YUK				eS	**S**	**00 10 52.6**	**-2.2**
GTA	**Gaotai**	**38.40**	**326**	eP	P	00 05 07.4	+5.5
GTA				pP	pP	00 05 32.1	+24
GTA				sP	sP	00 05 45.8	+35
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MORW	**Morawa**	**39.55**	**195**	P	**P**	**00 05 11.9**	**+0.4**
	baz=40,SNR=6.1						
FORT	**Forrest**	**39.91**	**178**	eP	**P**	**00 05 15.4**	**+1.0**
	comp=Z,25nm,0.9s						
FORT	**Forrest**	**39.91**	**178**	P	**P**	**00 05 15.7**	**+1.2**
	baz=40,SNR=12						
KWAJ	**Kwajalein Atol**	**40.37**	**87**	eP	P	00 05 22.8	+4.3
KWAJ				pmax	pmax		
	comp=Z,74nm,0.8s						
KWAJ	**Kwajalein Atol**	**40.37**	**87**	eP	P	00 05 22.8	+4.3
	comp=Z,74nm,0.8s						
TAPN	**Taplejung**	**40.91**	**301**	eP	**P**	**00 05 21.5**	**-1.7**
	comp=Z,45nm,1.2s						
ODAN	**Odare**	**41.03**	**300**	eP	**P**	**00 05 21.8**	**-2.4**
	comp=Z,28nm,0.7s						
KLBR	**Kellerberrin**	**41.59**	**192**	P	**P**	**00 05 29.1**	**+0.8**
	baz=42,SNR=8.5						
RAMN	**Ramite**	**41.73**	**300**	eP	**P**	**00 05 28.1**	**-1.8**
	comp=Z,50nm,0.6s						
ULN	**Ulaanbaatar**	**41.84**	**340**	eP	**P**	**00 05 29.8**	**-0.7**
	comp=Z,2.5nm,0.6s						
SONM	**Songino Array**	**42.04**	**340**	P	**P**	**00 05 31.0**	**-1.0**
SONM	**Songino Array**	**42.04**	**340**	P	**P**	**00 05 31.0**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=158,slow=8.8,SNR=6.6						
JIRN	**Jiri**	**42.29**	**301**	eP	**P**	**00 05 32.5**	**-2.1**
	comp=Z,22nm,0.5s						
GUN	**Gumba**	**42.63**	**301**	eP	**P**	**00 05 35.0**	**-2.3**
	comp=Z,22nm,0.6s						
BBOO	**Buckleboo**	**42.85**	**168**	eP	**P**	**00 05 41.5**	**+2.9**
	comp=Z,5μm,2.6s						
BBOO	**Buckleboo**	**42.85**	**168**	P	P	**00 05 39.8**	**+1.3**
	baz=43,SNR=19						
PKI	**Pulchoki**	**42.92**	**301**	eP	**P**	**00 05 37.3**	**-2.4**
	comp=Z,11nm,0.6s						
PKIN	**Phulchoki**	**42.94**	**301**	eP	P	00 05 37.1	-2.7
	comp=Z,51nm,1.5s						
NWAO	**Narrogin (SRO)**	**42.99**	**192**	eP	**P**	**00 05 40.9**	**+1.1**
NWAO	**Narrogin (SRO)**	**42.99**	**192**	P	**P**	**00 05 39.9**	**+0.2**
	comp=Z,11nm,0.6s,baz=13,slow=4.8,SNR=7.8						
KKN	**Kakani**	**43.10**	**301**	eP	**P**	**00 05 38.4**	**-2.6**
DMN	**Daman**	**43.19**	**301**	eP	**P**	**00 05 39.7**	**-2.1**
	comp=Z,21nm,1.0s						
STKA	**Stephens Creek**	**43.38**	**161**	P	**P**	**00 05 44.4**	**+1.5**
STKA	**Stephens Creek**	**43.38**	**161**	P	**P**	**00 05 44.4**	**+1.5**
	comp=Z,2.0nm,0.5s,baz=327,slow=11,SNR=5.9						
KOLN	**Koldanda**	**44.52**	**300**	eP	**P**	**00 05 50.0**	**-2.4**
	comp=Z,29nm,0.6s						
DANN	**Dangsing**	**44.54**	**301**	eP	P	00 05 50.0	-2.7
	comp=Z,19nm,0.5s						
PYUN	**Piuthan**	**45.13**	**300**	eP	**P**	**00 05 54.9**	**-2.4**
	comp=Z,130nm,1.1s						
PALK	**Pallekele**	**45.56**	**271**	eP	P	00 05 56.9	-3.8
	comp=Z,126nm,2.0s						
ARMA	**Armidale**	**46.21**	**150**	eP	P	00 06 09.3	+3.7
	comp=Z,63nm,1.9s						
TLY	**Talaya**	**46.26**	**340**	eP	**P**	**00 06 04.4**	**-1.2**
WMQ	**Urumqi**	**48.23**	**322**	P	**P**	**00 06 20.8**	**-0.4**
WMQ				pP	pP	00 06 46.8	+19
WMQ				sP	sP	00 06 59.5	+29
WMQ				PP	**PP**	**00 08 13.8**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.5s						
WMQ	**Urumqi**	**48.23**	**322**	P	**P**	**00 06 20.8**	**-0.4**
WMQ				pP	pP	00 06 46.8	+19
WMQ				sP	sP	00 06 59.5	+29
WMQ				PP	**PP**	**00 08 13.8**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HVS	**Khovu-Aksy**	**49.72**	**333**↑	eP	**P**	**00 06 31.4**	**-1.1**
HVS				pmax	pmax		
	comp=Z,14nm,1.0s						
PETK	**Petropavlovsk-**	**50.30**	**24**	P	**P**	**00 06 39.4**	**+2.6**
PETK	**Petropavlovsk-**	**50.30**	**24**	P	**P**	**00 06 39.4**	**+2.6**
PETK	**Petropavlovsk-**	**50.30**	**24**	P	**P**	**00 06 39.4**	**+2.6**
	comp=Z,2.8nm,0.5s,baz=204,slow=3.8,SNR=25						
YAK	**Yakutsk**	**52.64**	**2**	eP	**P**	**00 06 55.7**	**+1.6**
MK31	**Makanchi Array**	**53.03**	**323**	*ce*P	**P**	**00 06 55.3**	**-2.1**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MK31	**Makanchi Array**	**53.03**	**323**	eP	**P**	**00 06 55.6**	**-1.8**
MK31				*e*PcP	**PcP**	**00 08 04.1**	**-1.7**
MKAR	**Makanchi Array**	**53.03**	**323**	*ce*P	**P**	**00 06 55.5**	**-1.9**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MKAR	**Makanchi Array**	**53.03**	**323**	eP	**P**	**00 06 55.7**	**-1.7**
MKAR				PcP	**PcP**	**00 08 04.9**	**-0.9**
MKAR	**Makanchi Array**	**53.03**	**323**	P	**P**	**00 06 55.5**	**-1.9**
	comp=Z,5.7nm,0.6s,baz=129,slow=7.7,SNR=48						
MKAR				PcP	**PcP**	**00 08 04.9**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=115,slow=5.6,SNR=2.4						
ZALV	**Zalesovo Beam**	**55.65**	**331**	P	P	00 07 13.8	-2.4
ZALV	**Zalesovo Beam**	**55.65**	**331**	P	P	00 07 13.8	-2.4
ZALV	**Zalesovo Beam**	**55.65**	**331**	P	P	00 07 13.8	-2.4
	comp=Z,1.2nm,0.4s,baz=123,slow=7.0,SNR=6.6						
AAK	**Ala-Archa**	**56.30**	**315**↓	eP	**P**	**00 07 19.9**	**-1.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
EKS2	**Erkin-Say**	**56.80**	**315**	eP	**P**	**00 07 23.2**	**-1.6**
EKS2				pmax	pmax		
	comp=Z,6.0nm,0.9s						
EKS2	**Erkin-Say**	**56.80**	**315**	eP	**P**	**00 07 23.2**	**-1.6**
	comp=Z,5.7nm,0.9s						
KURK	**Kurchatov**	**57.08**	**326**	P	P	00 07 23.2	-3.3
	comp=Z,56nm,0.6s,SNR=5.5						
KBL	**Kabul**	**58.23**	**305**	eP	**P**	**00 07 33.3**	**-1.9**
KBL				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KBL	**Kabul**	**58.23**	**305**	eP	**P**	**00 07 33.2**	**-1.9**
	comp=Z,6.9nm,0.6s						
KKAR	**Karatay Array**	**59.22**	**315**	eP	**P**	**00 07 39.6**	**-2.0**
KKAR	**Karatay Array**	**59.22**	**315**	eP	**P**	**00 07 39.6**	**-2.0**
VOSK	**Vostochnaya**	**62.23**	**325**	P	P	00 07 58.9	-3.1
VOSK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
TIXI	**Tiksi**	**62.27**	**1**↑	eP	**P**	**00 08 02.7**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BVA0	**Borovoye Array**	**62.68**	**326**	*i* P	P	00 08 02.7	-2.3
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**62.75**	**326**	P	P	00 08 03.0	-2.4
	comp=Z,48nm,0.7s,SNR=6.0						
BRVK	**Borovoye**	**62.75**	**326**	*d i*P	**P**	**00 08 03.6**	**-1.8**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRVK	**Borovoye**	**62.75**	**326**	eP	**P**	**00 08 03.4**	**-2.0**
	comp=Z,5.6nm,0.8s						
BILL	**Bilibino**	**64.17**	**15**	P	**P**	**00 08 15.0**	**+0.4**
BILL				*PP	**PcP**	**00 08 49.0**	**-0.4**
BILL				pmax	pmax		
	comp=Z,28nm,1.6s						
AB31	**Akbulak array**	**67.87**	**319**	*ce*P	P	00 08 36.4	-2.3
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ABKAR	**Akbulak array**	**67.87**	**319**	eP	**P**	**00 08 36.7**	**-1.9**
AKTO	**Aktyubinsk**	**69.32**	**320**	P	**P**	**00 08 46.0**	**-1.7**
AKTO	**Aktyubinsk**	**69.32**	**320**	P	**P**	**00 08 46.0**	**-1.7**
AKTO	**Aktyubinsk**	**69.32**	**320**	P	**P**	**00 08 46.0**	**-1.7**
	comp=Z,2.3nm,0.7s,baz=94,slow=8.4,SNR=8.4						
ARU	**Arti**	**70.24**	**327**	*d i*P	**P**	**00 08 51.2**	**-2.1**
ARU				*PP	**PcP**	**00 09 17.1**	**+2.1**
ARU						00 11 22.7	
ARU				S	S	00 17 53.4	-10
ARU				pmax	pmax		
	comp=Z,7.0nm,0.6s						
RAYN	**Ar Rayn**	**78.33**	**292**	P	**P**	**00 09 39.9**	**-1.3**
	comp=Z,74nm,0.6s,SNR=6.1						
RAYN	**Ar Rayn**	**78.33**	**292**	eP	**P**	**00 09 38.9**	**-2.2**
	comp=Z,7.7nm,0.6s						
ILAR	**Eielson Array**	**80.08**	**26**	LR	LR	00 41 06.5	
	comp=Z,88nm,19.9s,baz=238,slow=32						
OBN	**Obninsk**	**82.51**	**325**	P	**P**	**00 10 01.0**	**-1.8**
OBN				*e*		00 10 15.8	
OBN				pmax	pmax		
	comp=Z,13nm,1.7s						
KEV	**Kevo**	**84.66**	**340**	*e*p	**P**	**00 10 12.9**	**-0.7**
	comp=Z,2.8nm,0.6s						
KEV	**Kevo**	**84.66**	**340**	eP	**P**	**00 10 12.9**	**-0.7**
KEV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
**

PLCA	**Paso Flores**	**145.18**	**157**	PKPbc	**PKPbc**	**00 17 18.8**	**+1.0**
PLCA	**Paso Flores**	**145.18**	**157**	PKPbc	**PKPbc**	**00 17 18.8**	**+1.0**

comp=Z,2.2nm,0.7s,baz=255,slow=5.2,SNR=5.1

NEIC 16 00:00:10.8, 46°38S×166°16E, h5km, ML4.4(WEL), 1C, After WEL., Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.42**	**60**	⇑Pg	Pg	00 00 19.5	+0.6
PYZ				Sg	Sg	00 00 25.3	+0.9
WHZ	**Wether Hill Ro**	**1.34**	**69**	P*	Pn	00 00 33.4	-2.8
APZ	**The Paps**	**1.34**	**110**	P*	Pn	00 00 35.5	-0.8
SYZ	**Scrubby Hill**	**2.07**	**95**	Pn	Pn	00 00 46.0	-0.1
TUZ	**Tuapeka**	**2.45**	**81**	Pn	Pn	00 00 50.9	-0.5
EAZ	**Earnscleugh**	**2.48**	**64**	Pn	Pn	00 00 51.1	-0.8
EAZ				Sn	Sn	00 01 20.5	-2.1
WKZ	**Wanaka**	**2.54**	**53**	Pn	Pn	00 00 51.8	-0.9
JCZ	**Jackson Bay**	**2.95**	**39**	Pn	Pn	00 00 55.7	-2.7
ODZ	**Otahua Downs**	**3.42**	**69**	Pn	Pn	00 01 02.1	-2.6
LBZ	**Lake Benmore**	**3.47**	**56**	Pn	Pn	00 01 03.2	-2.2
FOZ	**Fox Glacier**	**3.77**	**43**	Pn	Pn	00 01 07.3	-2.2
WVZ	**Waitaha Valley**	**4.64**	**46**	Pn	Pn	00 01 18.1	-3.4

IDC 16 00:01:12.9±1.8, 46°28S×166°19E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/14, mbtmp4.0/3, ML4.2/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/23, Error ellipse: s-maj=59.6km s-min=28.3km az=169.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**4.30**	**55**	Pn	Pn	00 02 20.4	+0.9
	14nm,0.3s,baz=244,slow=3.7,SNR=12						
RPZ				Sn	Sn	00 03 09.0	-1.4
	26nm,0.3s,baz=15,slow=15,SNR=7.6						
RPZ				LR	LR	00 03 49.2	
	comp=Z,113nm,19.0s,baz=198,slow=36						
ASAR	**Alice Springs**	**34.39**	**300**	P	P	00 08 01.7	-0.1
	0.8nm,0.6s,baz=130,slow=7.8,SNR=8.8						
WRA	**Warramunga Arr**	**37.01**	**304**	P	P	00 08 23.9	-0.4
	1.7nm,1.0s,baz=136,slow=8.0,SNR=4.6						
TORD	**Torodi Ar. Bea**	**144.48**	**207**	PKP	PKPab	00 20 49.6	-0.1
	0.7nm,0.6s,baz=155,slow=2.1,SNR=10						
BRTR	**Keskin Array B**	**145.11**	**277**	PKPbc	PKPbc	00 20 51.0	-0.4
	2.0nm,1.0s,baz=134,slow=5.3,SNR=6.5						
ARCES	**ARCESS Array B**	**149.66**	**334**	PKPbc	PKPbc	00 21 02.7	-0.4
	2.1nm,0.7s,baz=35,slow=4.4,SNR=5.9						
FINES	**FINESS Array B**	**152.56**	**318**	PKPbc	PKPbc	00 21 10.2	+0.2
	1.1nm,0.9s,baz=116,slow=4.4,SNR=3.4						

*ISCJB **16** 00:19:05.9±0.9, 45°.70S±0°.06×166°.16E±0°.09, h14km, mb3.6/2, Error ellipse: s-maj=9.6km s-min=8.3km az=137.4*

*IDC **16** 00:19:05.7±1.5, 45°.64S×166°.22E, h0km, mb3.8/2, mb1 4.2/3, mb1mx3.8/14, mbtmp4.0/3, ML4.2/1, Error ellipse: s-maj=48.9km s-min=27.5km az=174.0*

*NEIC **16** 00:19:10.2, 45°.64S×166°.54E, h12km, ML4.3(WEL), After WEL.*

ISC 16 00:19:06.9±1.0, 45°.76S±0°.06×166°.33E±0°.07, h14km, n24, σ1§48/28, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.64**	**64**	P*	**Pg**	**00 19 18.6**	**-0.8**
DCZ				S*	**Sg**	**00 19 24.7**	**-3.2**
WHZ	**Wether Hill Ro**	**1.14**	**97**	P*	**Pn**	**00 19 28.3**	**-0.1**
MSZ	**Milford Sound**	**1.57**	**47**	Pn	**Pn**	**00 19 33.8**	**-0.5**
APZ	**The Paps**	**1.57**	**134**	Pn	**Pb**	**00 19 35.5**	**-0.2**
APZ				Sn	**Sg**	**00 19 56.5**	**-0.9**
SYZ	**Scrubby Hill**	**2.10**	**113**	Pn	**Pb**	**00 19 44.0**	**-0.6**
WKZ	**Wanaka**	**2.11**	**65**	Pn	**Pb**	**00 19 44.1**	**-0.8**
EAZ	**Earnscleugh**	**2.12**	**77**	Pn	**Pb**	**00 19 44.6**	**+2.2**
TUZ	**Tuapeka**	**2.31**	**96**	Pn	**Pb**	**00 19 47.3**	**-1.0**
JCZ	**Jackson Bay**	**2.41**	**46**	Pn	**Pn**	**00 19 47.4**	**+1.4**
LBZ	**Lake Benmore**	**3.05**	**65**	Pn	**Pn**	**00 19 56.1**	**+1.3**
ODZ	**Otahua Downs**	**3.12**	**78**	Pn	**Pn**	**00 19 56.7**	**+1.1**
FOZ	**Fox Glacier**	**3.25**	**49**	Pn	**Pn**	**00 19 59.4**	**+2.0**
RPZ	**Rata Peaks**	**3.94**	**60**	Pn	**Pn**	**00 20 07.2**	**+0.3**
RPZ				Sn	**Sn**	**00 20 56.4**	**+3.6**
RPZ	**Rata Peaks**	**3.94**	**60**	Pn	**Pn**	**00 20 07.2**	**+0.3**
	16nm,0.3s,baz=218,slow=4.9,SNR=58						
RPZ				Sn	**Sn**	**00 20 56.4**	**+3.6**
	13nm,0.3s,baz=313,slow=20,SNR=6.0						
WVZ	**Waitaha Valley**	**4.14**	**51**	Pn	**Pn**	**00 20 10.0**	**+0.3**
QRZ	**Quartz Range**	**6.69**	**45**	Pn	**Pn**	**00 20 44.9**	**+0.2**
ASAR	**Alice Springs**	**34.23**	**299**	P	**P**	**00 25 52.4**	**+0.1**
ASAR	**Alice Springs**	**34.23**	**299**	P	**P**	**00 25 52.4**	**+0.1**
	1.7nm,1.2s,baz=140,slow=9.2,SNR=5.5						
WRA	**Warramunga Arr**	**36.81**	**304**	P	**P**	**00 26 13.7**	**-0.7**
WRA	**Warramunga Arr**	**36.81**	**304**	P	**P**	**00 26 13.7**	**-0.7**
	0.6nm,0.9s,baz=137,slow=8.3,SNR=6.7						
TORD	**Torodi Ar. Bea**	**144.98**	**207**	PKPbc	**PKPdf**	**00 38 43.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**144.98**	**207**	PKPbc	**PKPdf**	**00 38 43.5**	**-0.5**
	1.2nm,0.6s,baz=160,slow=3.4,SNR=14						
BRTR	**Keskin Array B**	**145.15**	**277**	PKPbc	**PKPdf**	**00 38 44.0**	**+0.3**
BRTR	**Keskin Array B**	**145.15**	**277**	PKPbc	**PKPdf**	**00 38 44.0**	**+0.3**
	1.9nm,0.9s,baz=48,slow=1.8,SNR=6.7						

IDC 16 00:20:46.0±0.9, 46°03S×166°01E, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.0/15, mbtmp4.2/6, ML4.3/1, Error ellipse: s-maj=29.7km s-min=24.6km az=26.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**4.27**	**59**	Pn	Pn	00 21 53.2	+1.0
	15nm,0.3s,baz=3.7,slow=18,SNR=5.0						
RPZ				Sn	Sn	00 22 43.1	+0.3
	12nm,0.3s,baz=8.0,slow=21,SNR=6.3						
STKA	**Stephens Creek**	**23.55**	**298**	P	P	00 25 59.3	+1.4
	2.4nm,0.9s,baz=122,slow=17,SNR=2.9						
ASAR	**Alice Springs**	**34.17**	**300**	P	P	00 27 33.2	+0.3
	1.1nm,0.9s,baz=144,slow=8.4,SNR=6.2						
WRA	**Warramunga Arr**	**36.77**	**304**	P	P	00 27 54.9	-0.4
	2.3nm,0.9s,baz=140,slow=7.6,SNR=6.5						
QSPA	**South Pole Qui**	**44.09**	**180**	P	P	00 28 56.0	+0.4
	3.7nm,1.1s,baz=345,slow=2.4,SNR=8.5						
CMAR	**Chiang Mai Arr**	**88.17**	**299**	P	P	00 33 37.7	-1.1
	1.1nm,0.3s,baz=189,slow=5.1,SNR=7.3						
KURBB	**Kurchatov Arra**	**122.25**	**311**	PKP	PKPdf	00 39 41.4	-0.5
	0.4nm,0.7s,baz=132,slow=1.3,SNR=5.0						
BVAR	**Borovoye Array**	**127.81**	**310**	PKP	PKPdf	00 39 52.6	0.0
	0.3nm,0.5s,baz=108,slow=4.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**144.64**	**207**	PKP	PKPab	00 40 22.7	-0.6
	1.2nm,0.6s,baz=150,slow=1.8,SNR=13						
BRTR	**Keskin Array B**	**144.96**	**277**	PKPbc	PKPbc	00 40 24.2	0.0
	5.0nm,0.9s,baz=144,slow=4.9,SNR=17						
ARCES	**ARCESS Array B**	**149.39**	**334**	PKPbc	PKPbc	00 40 35.9	+0.4
	5.6nm,0.8s,baz=70,slow=7.0,SNR=8.4						
FINES	**FINESS Array B**	**152.29**	**318**	PKPbc	PKPbc	00 40 41.5	-1.0
	2.0nm,1.0s,baz=30,slow=9.2,SNR=4.2						
GERES	**GERESS Array B**	**161.10**	**289**	PKPab	PKPab	00 41 30.8	-0.3
	0.2nm,0.6s,baz=111,slow=5.9,SNR=3.5						

*IDC **16** 00:24:04.5±0.6, 46°.18S×166°.12E, h0km, mb4.9/13, mb1 5.0/15, mb1mx4.9/18, mbtmp4.9/15, ML4.8/2, MS4.7/17, Ms1 4.7/17, ms1mx4.5/30, Error ellipse: s-maj=19.0km s-min=14.3km az=71.0*

*ISCJB **16** 00:24:04.4±1.1, 46°.14S±0°.04×166°.05E±0°.03, h6km±7km, mb5.2/38, MS4.7/25, Error ellipse: s-maj=7.0km s-min=3.6km az=171.7*

*BJI **16** 00:24:05.0, 46°.20S×166°.20E, h5km, mB5.8/13, mb5.6/17, Ms5.4/12, Ms7 4.9/15*

*NEIC **16** 00:24:07.0, 46°.20S×166°.16E, h5km, mb5.2/15, ML5.3(WEL), After WEL.*

NEIC Felt at Invercargill and Winton.

*AUST **16** 00:24:07.7±1.2, 46°.01S×166°.02E, h14km, Error ellipse: s-maj=1.0km s-min=0.6km az=9.0*

*BKK **16** 00:24:09.3±0.9, 46°S±12°×16°5E±2°4, h10km, M5.2/14, mB5.4/1, mb5.2/14, Mw(mB)4.8/1*

*MOS **16** 00:24:11.6±2.4, 46°.22S×165°.16E, h33km, mb5.3/8, Error ellipse: s-maj=21.6km s-min=10.1km az=116.1*

*DJA **16** 00:24:21.4±1.9, 46°S±6°×16°5E±1°3, h98km±15km, M5.1/20, mB5.6/6, mb5.2/20, Mw(mB)5.1/6*

ISC 16 00:24:07.2±0.5, 46°.20S±0°.05×166°.21E±0°.04, h14km±2km, n291, σ1§44/302, mb5.2/38, MS4.7/26, 18C-10D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.98**	**43**	P*	**Pb**	**00 24 24.5**	**-1.4**
DCZ				S*	**Sg**	**00 24 39.0**	**+0.1**
WHZ	**Wether Hill Ro**	**1.25**	**77**	P*	**Pn**	**00 24 30.2**	**0.0**
WHZ				*e*Pg	**Pg**	**00 24 31.8**	**+0.6**
WHZ				S*	**Sg**	**00 24 49.1**	**+1.6**
WHZ				*e*Sn	**Sn**	**00 24 49.3**	**+2.4**
APZ	**The Paps**	**1.39**	**118**	Pn	**Pn**	**00 24 32.0**	**-0.1**
MSZ	**Milford Sound**	**1.95**	**39**	Pn	**Pn**	**00 24 40.1**	**+0.3**
SYZ	**Scrubby Hill**	**2.06**	**101**	*e*Pn	**Pn**	**00 24 42.3**	**+1.0**
EAZ	**Earnscleugh**	**2.38**	**67**	Pn	**Pn**	**00 24 47.4**	**+1.6**
TUZ	**Tuapeka**	**2.40**	**85**	Pn	**Pn**	**00 24 47.3**	**+1.3**
WKZ	**Wanaka**	**2.41**	**56**	Pn	**Pb**	**00 24 48.4**	**-1.8**
ODZ	**Otahua Downs**	**3.32**	**71**	*e*Pn	**Pn**	**00 24 59.3**	**+0.6**
ODZ				*e*Sn	**Sn**	**00 25 39.6**	**+1.6**
LBZ	**Lake Benmore**	**3.34**	**59**	Pn	**Pn**	**00 24 59.2**	**+0.1**
FOZ	**Fox Glacier**	**3.62**	**44**	Pn	**Pn**	**00 25 04.2**	**+1.5**
RPZ	**Rata Peaks**	**4.24**	**56**	*e*Pn	**Pn**	**00 25 11.4**	**0.0**
RPZ				Sn	**Sn**	**00 26 00.5**	**-0.3**
RPZ				*e*Sn	**Sn**	**00 26 01.2**	**+0.5**
RPZ	**Rata Peaks**	**4.24**	**56**	Pn	**Pn**	**00 25 11.4**	**0.0**
	86nm,0.3s,baz=225,slow=7.3,SNR=50						
RPZ				Sn	**Sn**	**00 26 00.5**	**-0.3**
	320nm,0.3s,baz=348,slow=21,SNR=15						
MQZ	**McQueen's Vall**	**5.21**	**64**	Pn	**Pn**	**00 25 24.6**	**-0.1**
LTZ	**Lake Taylor**	**5.52**	**54**	Pn	**Pn**	**00 25 27.7**	**-1.3**
KHZ	**Kahutara**	**6.48**	**57**	*e*Pn	**Pn**	**00 25 41.8**	**-0.3**
KHZ				*e*Sn	**Sn**	**00 26 53.2**	**-2.5**
QRZ	**Quartz Range**	**7.07**	**43**	Pn	**Pn**	**00 25 50.2**	**0.0**
NNZ	**Nelson**	**7.20**	**49**	Pn	**Pn**	**00 25 51.4**	**-0.5**
TUWZ	**Tuamarina**	**7.35**	**52**	Pn	**Pn**	**00 25 55.6**	**+1.6**
DUWZ	**D'Urville Isla**	**7.78**	**49**	Pn	**Pn**	**00 26 01.5**	**+1.5**
SNZO	**South Karori**	**7.86**	**55**	*e*Pn	**Pn**	**00 26 00.5**	**-0.5**
SNZO				*e*Sn	**Sn**	**00 27 25.2**	**-4.4**
NWEZ	**Newall Road**	**8.92**	**42**	Pn	**Pn**	**00 26 16.6**	**+1.0**
DFE	**Dawson Falls**	**8.99**	**43**	Pn	**Pn**	**00 26 18.1**	**+1.4**
NEZ	**North Egmont**	**9.03**	**43**	Pn	**Pn**	**00 26 18.2**	**+1.0**
PKE	**Pukeiti**	**9.04**	**42**	Pn	**Pn**	**00 26 18.3**	**+1.1**
PKVZ	**Pokaka**	**9.63**	**47**	Pn	**Pn**	**00 26 27.7**	**+1.3**
MKAZ	**Moumakai**	**11.28**	**40**	Pn	**Pn**	**00 26 49.1**	**+1.3**
URZ	**Urewera**	**11.32**	**49**	*e*Pn	**Pn**	**00 26 46.9**	**-1.5**
URZ				Sn	Sn	00 28 45.2	-9.4
URZ	**Urewera**	**11.32**	**49**	Pn	**Pn**	**00 26 48.0**	**-0.4**
	4.3nm,0.3s,baz=228,slow=12,SNR=12						
URZ				Sn	Sn	00 28 45.2	-9.4
	2.2nm,0.3s,baz=287,slow=20,SNR=4.6						
OUZ	**Omahuta**	**12.31**	**30**	*e*Pn	**Pn**	**00 27 01.0**	**-0.9**
TAU	**Tasmania Unive**	**13.86**	**277**	Pn	Pn	00 27 17.0	-6.1
	596nm,0.6s,SNR=6.4						
TAU	**Tasmania Unive**	**13.86**	**277**	*e*P	Pn	00 27 17.6	-5.5
TAU	**Tasmania Unive**	**13.86**	**277**	*e*Pn	Pn	00 27 17.6	-5.5
MOO	**Moorlands**	**14.12**	**279**	P	Pn	00 27 22.9	-3.7
	baz=14,SNR=13						
MILA	**Mila**	**15.66**	**300**	P	**Pn**	**00 27 43.7**	**-3.7**
	baz=15,SNR=67						
MILA				S	Sn	00 30 24.1	-17
	baz=15,SNR=6.3						
LHI	**Lord Howe Isla**	**15.67**	**337**	P	Pn	00 27 39.2	-8.3
	baz=16,SNR=4.9						
CNB	**Canberra Magne**	**16.73**	**305**	P	**Pn**	**00 27 59.9**	**-1.2**
	baz=16,SNR=11						
CAN	**Canberra**	**16.93**	**304**	*e*P	**Pn**	**00 28 00.1**	**-3.6**
CAN				pmax	pmax		
	comp=Z,433nm,1.8s						
CAN	**Canberra**	**16.93**	**304**	*e*Pn	**Pn**	**00 28 00.1**	**-3.6**
	comp=Z,433nm,1.8s						
MGCD	**Mangrove Creek**	**17.37**	**313**	P	**Pn**	**00 28 08.2**	**-1.0**
	baz=17,SNR=7.3						
TOO	**Toolangi**	**17.63**	**292**	P	**Pn**	**00 28 10.5**	**-1.8**
	baz=17,SNR=10.0						
YNG	**Young**	**18.01**	**305**	P	**Pn**	**00 28 15.6**	**-1.5**
	baz=18,SNR=17						
ARMA	**Armidale**	**19.42**	**319**	*e*Pn	**P**	**00 28 32.6**	**-0.5**
	comp=Z,31nm,0.9s						
ARMA	**Armidale**	**19.42**	**319**	P	**Pn**	**00 28 33.8**	**-0.4**
	baz=19,SNR=6.7						
ARPS	**Mount Arapiles**	**20.47**	**289**	P	**P**	**00 28 44.3**	**-0.1**
	baz=20,SNR=7.0						
CMSA	**Cobar Meteorol**	**21.58**	**306**	P	**P**	**00 28 55.3**	**-1.1**
	baz=21,SNR=47						
STKA	**Stephens Creek**	**23.75**	**298**	*e*P	**P**	**00 29 18.4**	**-0.6**
	comp=Z,54nm,2.1s						
STKA	**Stephens Creek**	**23.75**	**298**	P	**P**	**00 29 18.6**	**-0.3**
	comp=Z,14nm,0.9s,baz=129,slow=10.0,SNR=12						
STKA				LR	LR	00 37 44.7	
	comp=Z,2μm,18.2s,baz=109,slow=35						
STKA	**Stephens Creek**	**23.75**	**298**	P	**P**	**00 29 18.6**	**-0.4**
	baz=24,SNR=15						
EIDS	**Eidsvold**	**24.06**	**325**	*e*P	**P**	**00 29 21.6**	**-0.3**
	comp=Z,980nm,2.3s						
EIDS	**Eidsvold**	**24.06**	**325**	P	**P**	**00 29 21.7**	**-0.3**
	baz=24,SNR=22						
DZM	**Mont Dzumac**	**24.07**	**1**	*e*P	**P**	**00 29 22.7**	**+0.5**
DZM	**Mont Dzumac**	**24.07**	**1**	P	**P**	**00 29 22.4**	**+0.2**
	comp=Z,31nm,0.9s,baz=90,slow=24,SNR=8.6						
RMQ	**Roma**	**24.08**	**319**	P	**P**	**00 29 22.0**	**-0.2**
	baz=24,SNR=22						
BBOO	**Buckleboo**	**26.65**	**289**	*e*P	**P**	**00 29 44.6**	**-0.9**
	comp=Z,749nm,0.9s						
BBOO	**Buckleboo**	**26.65**	**289**	P	**P**	**00 29 44.5**	**-0.9**
	baz=26,SNR=14						
CTA	**Charters Tower**	**30.76**	**321**	P	**P**	**00 30 20.3**	**-1.9**
CTA	**Charters Tower**	**30.76**	**321**	P	**P**	**00 30 20.3**	**-1.9**
	comp=Z,15nm,1.0s,baz=156,slow=6.6,SNR=9.1						
CTA				LR	LR	00 42 15.2	
	comp=Z,2μm,18.0s,baz=70,slow=36						
CTAO	**Charters Tower**	**30.76**	**321**	*e*P	**P**	**00 30 21.5**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CTAO	**Charters Tower**	**30.76**	**321**	*e*P	**P**	**00 30 21.5**	**-0.6**
	comp=Z,7.9nm,0.8s						
VNDA	**Vanda**	**31.48**	**182**	*e*P	**P**	**00 30 29.0**	**+1.1**
VNDA	**Vanda**	**31.48**	**182**	P	**P**	**00 30 27.8**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=352,slow=7.1,SNR=2.9						
VNDA				LR	LR	00 40 29.0	
	comp=Z,861nm,21.2s,baz=20,slow=31						
SBA	**Scott Base**	**31.77**	**180**	*e*P	**P**	**00 30 33.5**	**+3.1**
SBA				pmax	pmax		
	comp=Z,39nm,1.6s						
SBA	**Scott Base**	**31.77**	**180**	*e*P	**P**	**00 30 33.5**	**+3.1**
	comp=Z,39nm,1.6s						
MTSU	**Mount Surprise**	**33.34**	**320**	P	**P**	**00 30 45.1**	**+0.3**
	baz=33,SNR=5.2						
AS31	**Alice Springs**	**34.37**	**300**	*e*P	**P**	**00 30 51.8**	**-1.9**
ASAR	**Alice Springs**	**34.37**	**300**	P	**P**	**00 30 51.8**	**-2.0**
ASAR				PcP	**PcP**	**00 33 27.9**	**-1.5**
ASAR	**Alice Springs**	**34.37**	**300**	P	**P**	**00 30 51.8**	**-2.0**
	comp=Z,20nm,0.9s,baz=138,slow=9.4,SNR=102						
ASAR				PcP	**PcP**	**00 33 27.9**	**-1.5**
	comp=Z,2.7nm,0.8s,baz=124,slow=3.5,SNR=5.3						
ASAR				LR	LR	00 44 28.2	
	comp=Z,2μm,19.0s,baz=128,slow=36						
CASY	**Casey**	**35.27**	**215**	*e*P	**P**	**00 31 01.0**	**0.0**
WRA	**Warramunga Arr**	**36.98**	**304**	P	**P**	**00 31 13.8**	**-2.4**
WRA	**Warramunga Arr**	**36.98**	**304**	P	**P**	**00 31 13.8**	**-2.4**
	comp=Z,29nm,0.9s,baz=143,slow=8.3,SNR=80						
WRA				LR	LR	00 45 57.6	
	comp=Z,2μm,18.5s,baz=140,slow=36						
WRAB	**Tennant Creek**	**36.98**	**304**	P	**P**	**00 31 13.8**	**-2.3**
	comp=Z,280nm,1.0s,SNR=9.2						
WRAB	**Tennant Creek**	**36.98**	**304**	*e*P	**P**	**00 31 13.9**	**-2.3**
WRAB				pmax	pmax		
	comp=Z,35nm,0.9s						
WRAB	**Tennant Creek**	**36.98**	**304**	*e*P	**P**	**00 31 13.9**	**-2.3**
	comp=Z,35nm,0.9s						
HNR	**Honiara**	**37.03**	**350**	*e*P	**P**	**00 31 17.2**	**+0.7**
HNR	**Honiara**	**37.03**	**350**	P	**P**	**00 31 16.3**	**-0.2**
	comp=Z,214nm,1.1s,baz=216,slow=15,SNR=5.6						
HNR				LR	LR	00 45 21.1	
	comp=Z,2μm,18.6s,baz=352,slow=34						
RAR	**Rarotonga**	**37.26**	**60**	LR	LR	00 43 30.3	
	comp=Z,894nm,18.9s,baz=253,slow=31						
COEN	**Coen**	**37.53**	**321**	*e*P	**P**	**00 31 20.6**	**-0.2**
	comp=Z,206nm,0.9s						
COEN	**Coen**	**37.53**	**321**	P	**P**	**00 31 20.6**	**-0.2**
	baz=37,SNR=11						
NWAO	**Narrogin (SRO)**	**39.41**	**272**	LR	LR	00 44 05.0	
	comp=Z,534nm,20.0s,baz=301,slow=30						
KLBR	**Kellerberrin**	**39.81**	**274**	P	**P**	**00 31 38.5**	**-1.4**
	baz=40,SNR=8.1						
PMG	**Port Moresby**	**40.12**	**330**	*e*P	**P**	**00 31 43.4**	**+0.8**
PMG	**Port Moresby**	**40.12**	**330**	P	**P**	**00 31 43.2**	**+0.7**
	comp=Z,131nm,1.0s						
PMG	**Port Moresby**	**40.12**	**330**	P	**P**	**00 31 42.8**	**+0.2**
	comp=Z,102nm,0.9s,baz=151,slow=4.8,SNR=28						
PMG				LR	LR	00 46 50.2	
	comp=Z,916nm,18.1s,baz=310,slow=34						
TBI	**Tubuai**	**42.26**	**73**	*e*S	**S**	**00 38 19.2**	**-1.0**
	comp=Z,291nm,28.5s						
TBI				*e*LR	LR	00 43 41.3	
	comp=Z,1μm,27.5s						
MEEK	**Meekatharra**	**42.26**	**281**	P	**P**	**00 31 58.6**	**-1.5**
	baz=42,SNR=5.7						
MORW	**Morawa**	**42.50**	**276**	P	P	00 31 57.8	-4.2
	baz=42,SNR=4.6						
KNRA	**Kununurra**	**43.58**	**302**	P	**P**	**00 32 09.2**	**-1.7**
	baz=43,SNR=10						
FITZ	**Fitzroy Crossi**	**43.61**	**296**	P	**P**	**00 32 09.4**	**-1.6**
FITZ	**Fitzroy Crossi**	**43.61**	**296**	P	**P**	**00 32 09.4**	**-1.6**
	comp=Z,17nm,0.8s,baz=160,slow=10.0,SNR=14						
FITZ				LR	LR	00 49 53.5	
	comp=Z,1μm,19.0s,baz=138,slow=36						
KDU	**Kakadu**	**43.89**	**309**	P	**P**	**00 32 12.2**	**-1.1**
	baz=44,SNR=6.6						
QSPA	**South Pole Qui**	**43.93**	**180**	*e*P	**P**	**00 32 14.2**	**+0.8**
	comp=Z,36nm,1.0s						
QSPA	**South Pole Qui**	**43.93**	**180**	P	**P**	**00 32 14.1**	**+0.8**
	comp=Z,19nm,1.1s,baz=6.5,slow=3.1,SNR=23						
QSPA				LR	LR	00 47 01.0	
	comp=Z,727nm,20.9s,baz=32,slow=31						
MTN	**Manton Dam**	**44.49**	**307**	P	**P**	**00 32 16.9**	**-1.3**
	baz=44,SNR=21						
MBWA	**Marble Bar**	**45.20**	**287**	*e*P	**P**	**00 32 22.5**	**-1.2**
	comp=Z,40nm,0.9s						
PPT2	**Papeete2**	**46.30**	**67**	*e*LR	LR	00 45 30.5	
	comp=Z,1μm,24.8s						
SOEI	**Soe**	**50.92**	**302**	P	**P**	**00 33 08.2**	**0.0**
RKT	**Rikitea**	**52.27**	**85**	*e*S	**S**	**00 40 40.8**	**-2.0**
	comp=Z,287nm,29.2s						
RKT				*e*LR	LR	00 48 26.2	
	comp=Z,2μm,23.0s						
MAW	**Mawson**	**52.91**	**208**	P	**P**	**00 33 24.9**	**+2.7**
MAW	**Mawson**	**52.91**	**208**	P	**P**	**00 33 24.9**	**+2.7**
	comp=Z,2.9nm,0.9s,baz=106,slow=9.0,SNR=4.6						
MAW	**Mawson**	**52.91**	**208**	P	P	00 33 31.0	+8.8
	baz=53,SNR=4.6						
KAPI	**Kappang**	**57.37**	**301**	P	**P**	**00 33 54.2**	**-0.9**
	comp=Z,340nm,1.1s,SNR=6.1						
KAPI	**Kappang**	**57.37**	**301**	*e*P	**P**	**00 33 53.9**	**-1.3**
	comp=Z,92nm,1.2s						
SYO	**Syowa Base**	**58.55**	**200**	⇑*e*P	**P**	**00 34 01.4**	**-1.2**
SYO	**Syowa Base**	**58.55**	**200**	⇑*e*pP	**P**	**00 34 04.2**	**+1.6**
UGM	**Wanagama**	**60.90**	**291**	P	P	00 34 10.9	-8.8
	baz=61,SNR=3.5						
BBKI	**Banjar Baru**	**61.57**	**298**	P	**P**	**00 34 24.2**	**+0.1**
SNAA	**Sanae**	**62.18**	**184**	*e*P	**P**	**00 34 26.9**	**-0.7**
SNAA	**Sanae**	**62.18**	**184**	*e*P	**P**	**00 34 27.1**	**-0.4**
	comp=Z,62nm,1.3s						
VNA1	**Neumayer--Stat**	**63.39**	**182**	*e*P	**P**	**00 34 35.2**	**-0.3**
MTKI	**Muara Teweh, K**	**63.52**	**299**	P	P	00 34 41.3	+4.1
LEM	**Lembang**	**63.61**	**289**	P	**P**	**00 34 38.3**	**+0.3**
	comp=Z,99nm,1.7s						
LEM	**Lembang**	**63.61**	**289**	P	**P**	**00 34 38.3**	**+0.3**
DBJI	**Dramaga**	**64.39**	**288**	P	**P**	**00 34 42.7**	**-0.2**
	comp=Z,138nm,1.1s,comp=Z,3μmcomp=Z,0.5nm						
DBJI	**Dramaga**	**64.39**	**288**	P	**P**	**00 34 42.6**	**-0.3**
	comp=Z,138nm,1.1s,comp=Z,3μm						
STKI	**Sintang**	**66.41**	**297**	P	**P**	**00 34 56.0**	**+0.1**
	comp=Z,36nm,0.6s,comp=Z,18μm						
STKI	**Sintang**	**66.41**	**297**	P	**P**	**00 34 56.8**	**+0.9**
**KSM

CD2				SKS	**SKSac**	**00 48 05.5**	**-0.2**		
CD2				S	**S**	**00 48 44.0**	**-1.4**		
CD2				sS	**sS**	**00 48 52.3**	**-0.7**		
CD2				SS	**SS**	**00 55 15.5**	**+2.5**		
CD2				pmax	pmax				
	comp=Z,10.0nm,0.8s								
CD2				pmax	pmax				
	comp=Z,80nm,6.2s								
OPO	**Ambohidratompo**	**95.27**	**236**	LR	LR	01 13 10.9			
	comp=Z,408nm,18.9s,baz=130,slow=31								
SUR	**Sutherland**	**95.76**	**209**	LR	LR	01 21 07.8			
	comp=Z,170nm,18.0s,baz=158,slow=36								
MDJ	**Mudanjiang**	**96.05**	**335**	P	P	00 37 37.3	+3.8		
MDJ				pmax	pmax				
	comp=Z,160nm,4.2s								
MDJ				LR	LR				
	comp=Z,110nm,23.9s								
CN2	**Changchun**	**96.62**	**332**	*e*P	**P**	**00 37 38.5**	**+2.4**		
BOSA	**Boshof**	**97.56**	**214**	P	**P**	**00 37 39.9**	**-1.3**		
BOSA	**Boshof**	**97.56**	**214**	P	**P**	**00 37 39.9**	**-1.3**		
	comp=Z,3.5nm,1.1s,baz=141,slow=13,SNR=2.5								
LZH	**Lanzhou**	**99.26**	**313**	*e*P	**Pdif**	**00 37 50.3**	**+1.8**		
LZH				pP	**pP**	**00 37 54.0**	**+1.0**		
LZH				sP	**sP**	**00 37 56.1**	**+1.5**		
LZH				pmax	pmax				
	comp=Z,15nm,1.0s								
LZH				LR	LR				
	comp=N,180nm,11.9s								
LZH				LR	LR				
	comp=E,200nm,12.6s								
LZH				LR	LR				
	comp=Z,200nm,14.4s								
HHC	**Hu-ho-hao-te**	**99.43**	**321**	*e*P	**Pdif**	**00 37 48.8**	**-0.2**		
HHC				pP	**pP**	**00 37 53.4**	**-0.2**		
HHC				sP	**sP**	**00 37 56.6**	**+1.4**		
HHC				SKS	**SKSac**	**00 48 25.8**	**-1.0**		
HHC				S	ScS	00 49 09.8	-11		
HHC				sS	**sS**	**00 49 28.8**	**+0.5**		
HHC				pmax	pmax				
	comp=Z,250nm,5.2s								
HHC				LR	LR				
	comp=N,430nm,12.2s								
HHC				LR	LR				
	comp=E,280nm,12.2s								
HHC				LR	LR				
	comp=Z,350nm,14.5s								
TXAR	**Lajitas Array**	**110.61**	**69**	PKKPbc	PKKPbc	00 53 39.0	+1.8		
TXAR	**Lajitas Array**	**110.61**	**69**	PKKPbc	PKKPbc	00 53 39.0	+1.8		
	comp=Z,0.5nm,0.8s,baz=96,slow=5.0,SNR=5.1								
ILAR	**Eielson Array**	**116.53**	**20**	PKP	**PKPdf**	**00 42 47.5**	**-1.8**		
ILAR				PKKPbc	**PKKPbc**	**00 53 16.6**	**-1.4**		
ILAR	**Eielson Array**	**116.53**	**20**	PKP	**PKPdf**	**00 42 47.5**	**-1.8**		
	comp=Z,0.8nm,1.1s,baz=287,slow=2.2,SNR=4.2								
ILAR				PKKPbc	**PKKPbc**	**00 53 16.6**	**-1.4**		
	comp=Z,0.5nm,0.8s,baz=3.7,slow=2.0,SNR=5.5								
KSH	**Kashi**	**117.27**	**300**	*e*PKPbc	PKPdf	00 42 59.4	+7.6		
KSH				PP	PP	00 44 15.3	+12		
KSH				PKS	PKSdf	00 46 34.3	+5.8		
KSH				SKS	SKSdf	00 50 12.5	+9.2		
KSH				SKKS	**SKKSac**	**00 51 07.5**	**+4.6**		
KSH	**Kashi**	**117.27**	**300**	SS	SS	01 00 23.8	+11		
KSH				AMB	AMB				
	comp=Z,74nm,3.3s								
KSH				LR	LR				
	comp=N,130nm,4.4s								
KSH				LR	LR				
	comp=E,160nm,4.5s								
KSH				LR	LR				
	comp=Z,170nm,13.7s								
MKAR	**Makanchi Array**	**118.17**	**309**	PKIKP	**PKPdf**	**00 42 51.6**	**-1.5**		
MKAR	**Makanchi Array**	**118.17**	**309**	PKP	**PKPdf**	**00 42 51.6**	**-1.5**		
MKAR	**Makanchi Array**	**118.17**	**309**	PKP	**PKPdf**	**00 42 51.6**	**-1.5**		
	comp=Z,1.1nm,1.1s,baz=58,slow=3.6,SNR=2.8								
AAK	**Ala-Archa**	**120.05**	**302**	⇓*i*PKIKP	**PKPdf**	**00 42 55.5**	**-1.6**		
KURBB	**Kurchatov Arra**	**122.45**	**311**	PKP	**PKPdf**	**00 42 59.9**	**-1.3**		
	comp=Z,1.6nm,0.8s,baz=117,slow=2.0,SNR=11								
KURK	**Kurchatov**	**122.46**	**311**	PKIKP	**PKPdf**	**00 42 59.9**	**-1.3**		
KURK	**Kurchatov**	**122.46**	**311**	PKP	**PKPdf**	**00 42 59.9**	**-1.3**		
KKAR	**Karatay Array**	**122.70**	**300**	*e*PKIKP	**PKPdf**	**00 43 00.7**	**-1.2**		
KKAR	**Karatay Array**	**122.70**	**300**	*e*PKPdf	**PKPdf**	**00 43 00.7**	**-1.2**		
ECSD	**EROS Data Cent**	**123.95**	**60**	*e*PKPdf	**PKPdf**	**00 43 02.5**	**-1.9**		
BVAR	**Borovoye Array**	**128.01**	**310**	PKIKP	**PKPdf**	**00 43 10.5**	**-1.2**		
BVAR	**Borovoye Array**	**128.01**	**310**	PKP	**PKPdf**	**00 43 10.5**	**-1.2**		
BVAR	**Borovoye Array**	**128.01**	**310**	PKP	**PKPdf**	**00 43 10.5**	**-1.2**		
	comp=Z,1.3nm,0.8s,baz=145,slow=5.4,SNR=6.3								
BRVK	**Borovoye**	**128.09**	**310**	⇓*i*PKIKP	**PKPdf**	**00 43 10.7**	**-1.2**		
ARU	**Arti**	**135.66**	**311**	*i* PKIKP	**PKPdf**	**00 43 26.2**	**+0.1**		
ARU						00 46 00.8			
TOA0	**Torodi Ar. Sit**	**144.55**	**207**	*e*PKPdf	**PKPab**	**00 43 40.8**	**-1.1**		
TORD	**Torodi Ar. Bea**	**144.55**	**207**	PKP	**PKPab**	**00 43 41.0**	**-0.8**		
TORD	**Torodi Ar. Bea**	**144.55**	**207**	PKP	**PKPab**	**00 43 41.0**	**-0.8**		
	comp=Z,7.5nm,0.7s,baz=159,slow=1.7,SNR=83								
BR131	**Keskin Array S**	**145.12**	**277**	*e*PKP	**PKPbc**	**00 43 42.5**	**-1.0**		
BRTR	**Keskin Array B**	**145.12**	**277**	PKP	**PKPbc**	**00 43 42.5**	**-1.0**		
BRTR	**Keskin Array B**	**145.12**	**277**	PKP	**PKPbc**	**00 43 42.5**	**-1.0**		
	comp=Z,29nm,0.8s,baz=142,slow=4.6,SNR=117								
VORD	**Divnogorie**	**145.20**	**298**	*e*PKHKP	PKPpre	00 43 40.9			
VORD				pmax	pmax				
	comp=Z,50nm,1.0s								
VORD				pmax	pmax				
	comp=N,170nm,1.5s								
VORD				pmax	pmax				
	comp=E,80nm,0.5s								
VSR	**Storozhevoye**	**145.33**	**298**	*e*PKIKP	**PKPbc**	**00 43 42.0**	**-1.6**		
VSR				pmax	pmax				
	comp=Z,50nm,0.9s								
VSR				pmax	pmax				
	comp=N,10.0nm,1.1s								
VSR				pmax	pmax				
	comp=E,20nm,0.9s								
ANTO	**Ankara**	**145.76**	**276**	⇑PKP2	**PKPdf**	**00 43 44.6**	**-0.3**		
ANTO	**Ankara**	**145.76**	**276**	*e*PKPdf	**PKPdf**	**00 43 45.0**	**0.0**		
ANTO	**Ankara**	**145.76**	**276**	⇑*i*P	**PKPdf**	**00 43 44.6**	**-0.3**		
TMCR	**Tamitsa**	**146.59**	**321**	*e*PKIKP	**PKPdf**	**00 43 45.7**	**+0.3**		
TMCR				pmax	pmax				
	comp=Z,24nm,0.8s								
MOS	**Moscow**	**146.96**	**306**	*e*PKP2	**PKPbc**	**00 43 47.8**	**-0.5**		
OBN	**Obninsk**	**147.50**	**305**	*d i*PKP2	**PKPbc**	**00 43 49.5**	**-0.3**		
OBN				pmax	pmax				
	comp=Z,26nm,1.0s								
OBN				MLR	MLR				
	comp=Z,100nm,20.0s								
KEV	**Kevo**	**149.03**	**334**	*ep*	**PKPbc**	**00 43 52.9**	**-0.5**		
	comp=Z,9.1nm,0.7s								
KEV	**Kevo**	**149.03**	**334**	*e*PKIKP	**PKPbc**	**00 43 52.9**	**-0.5**		
KEV				pmax	pmax				
	comp=Z,9.0nm,0.7s								
ARCES	**ARCESS Array B**	**149.60**	**334**	PKPbc	**PKPbc**	**00 43 54.3**	**-0.6**		
ARCES	**ARCESS Array B**	**149.60**	**334**	PKPbc	**PKPbc**	**00 43 54.3**	**-0.6**		
	comp=Z,11nm,0.7s,baz=84,slow=2.8,SNR=26								
TLCR		**150.48**	**284**	⇑*i*P	**PKPbc**	**00 43 57.1**	**-0.6**		
CFR	**Carcaliu**	**150.93**	**283**	⇑PKIKP	**PKPbc**	**00 43 58.0**	**-0.8**		
CFR	**Carcaliu**	**150.93**	**283**	⇑*i*P	**PKPbc**	**00 43 58.0**	**-0.8**		
SUMG	**Summit**	**151.18**	**15**	*e*PKIKP	**PKPdf**	**00 43 54.1**	**+0.9**		
SUMG	**Summit**	**151.18**	**15**	*e*PKPdf	**PKPdf**	**00 43 54.1**	**+0.9**		
LEOM	**Leova**	**151.22**	**286**	⇓PKIKP	**PKPbc**	**00 43 58.7**	**-0.7**		
LEOM	**Leova**	**151.22**	**286**	⇓*i*P	**PKPbc**	**00 43 58.7**	**-0.7**		
KIEV	**Kiev**	**151.43**	**295**	*e*PKIKP	**PKPdf**	**00 43 54.7**	**+1.1**		
KIEV	**Kiev**	**151.43**	**295**	*e*PKPdf	**PKPdf**	**00 43 54.7**	**+1.1**		
TAM	**Tamanrasset**	**151.88**	**220**	*e*PKIKP	**PKPdf**	**00 43 56.4**	**+0.9**		
TAM				*e*		00 44 02.0			
TAM				*e*		00 44 11.5			
TAM	**Tamanrasset**	**151.88**	**220**	*e*PKPdf	**PKPdf**	**00 43 56.4**	**+0.9**		
TAM				*e*PKPbc	**PKPbc**	**00 44 02.0**	**+0.2**		
TAM				*e*PKPab	**PKPab**	**00 44 11.5**	**+0.5**		
VRI	**Vrincioaia**	**152.08**	**284**	⇓PKIKP	**PKPbc**	**00 44 00.6**	**-0.8**		
VRI	**Vrincioaia**	**152.08**	**284**	⇓*i*P	**PKPbc**	**00 44 00.6**	**-0.8**		
RZN	**Rozhen**	**152.10**	**275**	*i* P	**PKPab**	**00 44 10.4**	**-1.1**		
PLOR	**Plostina**	**152.12**	**284**	⇑PKIKP	**PKPbc**	**00 44 01.0**	**-0.6**		
PLOR	**Plostina**	**152.12**	**284**	⇑*i*P	**PKPbc**	**00 44 01.0**	**-0.6**		
KAF	**Kangasniemi**	**152.22**	**319**	*ep*	**PKPbc**	**00 44 00.9**	**-0.3**		
	comp=Z,6.5nm,0.9s								
KAF	**Kangasniemi**	**152.22**	**319**	*e*PKIKP	**PKPbc**	**00 44 00.9**	**-0.3**		
KAF				pmax	pmax				
	comp=Z,7.0nm,0.9s								
TESR	**Tescani**	**152.30**	**285**	⇑*i*P	**PKPbc**	**00 44 01.3**	**-0.6**		
MICGM	**Minsk**	**152.50**	**303**	*e*	**PKPbc**	**00 44 01.0**	**-1.0**		
MLR	**Muntele Rosu**	**152.50**	**283**	⇑*i*P	**PKPbc**	**00 44 01.9**	**-0.7**		
FIA1	**FINESS Array S**	**152.51**	**318**	*e*PKPdf	**PKPdf**	**00 43 57.0**	**+2.1**		
FINES	**FINESS Array B**	**152.51**	**318**	PKPbc	**PKPbc**	**00 44 01.2**	**-0.7**		
FINES	**FINESS Array B**	**152.51**	**318**	PKPbc	**PKPbc**	**00 44 01.2**	**-0.7**		
	comp=Z,7.6nm,0.9s,baz=99,slow=3.1,SNR=16								
MNK	**Minsk**	**152.52**	**303**	*e*PKIKP	**PKPbc**	**00 44 01.0**	**-1.1**		
VOIR		**153.09**	**283**	⇑PKIKP	**PKPbc**	**00 44 02.9**	**-0.9**		
VOIR		**153.09**	**283**	⇑*i*P	**PKPbc**	**00 44 02.9**	**-0.9**		
KKB	**Krupnik**	**153.30**	**274**	*i* P	**PKPab**	**00 44 13.5**	**-2.8**		
ARR	**Arges**	**153.36**	**282**	⇓*i*P	**PKPbc**	**00 44 02.2**	**-2.2**		
MPEP	**Malo Peshtene**	**153.37**	**278**	*e*P	**PKPab**	**00 44 16.0**	**-0.6**		
VTS	**Vitosha**	**153.47**	**276**	*i* P	**PKPab**	**00 44 13.8**	**-3.4**		
VTS	**Vitosha**	**153.47**	**276**	⇑*i*P	**PKPab**	**00 44 16.1**	**-1.1**		
BURAR	**Bucovina Array**	**153.50**	**287**	⇑*i*P	**PKPab**	**00 44 12.6**	**-4.5**		
BUR08	**Bucovina Ar. S**	**153.51**	**287**	*e*PKPdf	**PKPdf**	**00 43 57.2**	**+0.2**		
BUR08				*e*PKPbc	**PKiKP**	**00 44 06.3**	**+1.5**		
LOT	**Lotru**	**153.97**	**282**	⇓*i*P	**PKPbc**	**00 44 06.3**	**+0.6**		
UZH	**Uzhgorod**	**155.60**	**289**	*e*PKIKP	**PKPdf**	**00 44 02.4**	**+2.7**		
UZH				*e*		00 44 09.4			
UZH				*e*		00 44 19.6			
KOLS	**Kolonicke sedl**	**155.65**	**290**	*e*PKIKP	PKPdf	00 44 06.4	+6.6		
KOLS				*e*		00 44 26.0			
KOLS	**Kolonicke sedl**	**155.65**	**290**	*e*PKP	PKPdf	00 44 06.4	+6.6		
KOLS				*e*		00 44 26.0			
STHS	**Stebnicka Huta**	**156.38**	**291**	*e*PKIKP	PKPdf	00 44 06.5	+5.8		
STHS				*e*		00 44 28.7			
STHS	**Stebnicka Huta**	**156.38**	**291**	*e*PKP	PKPdf	00 44 06.5	+5.8		
STHS				*e*		00 44 28.7			
VYHS	**Vyhne**	**157.86**	**288**	*e*PKP	PKPdf	00 44 13.1	+10		
VYHS				*e*		00 44 34.4			
OKC	**Ostrava-Krasne**	**158.42**	**291**	*e*PKP2	**PKPab**	**00 44 37.1**	**-0.9**		
OKC	**Ostrava-Krasne**	**158.42**	**291**	*e*PKPAB	**PKPab**	**00 44 37.1**	**-0.9**		
OKC				*ex*	x	00 44 51.6			
NOA	**NORSAR Array B**	**159.20**	**325**	PKPab	**PKPab**	**00 44 38.7**	**-2.4**		
NOA	**NORSAR Array B**	**159.20**	**325**	PKPab	**PKPab**	**00 44 38.7**	**-2.4**		
	comp=Z,1.9nm,0.8s,baz=58,slow=4.5,SNR=8.0								
DPC	**Dobruska-Polom**	**159.60**	**293**	*e*PKP2	**PKPab**	**00 44 43.1**	**-0.2**		
DPC	**Dobruska-Polom**	**159.60**	**293**	*e*PKPAB	**PKPab**	**00 44 43.1**	**-0.2**		
DPC				*ex*	x	00 44 57.4			
KSP	**Ksiaz**	**159.62**	**294**	*e*PKP2	**PKPab**	**00 44 42.9**	**-0.3**		
KEST	**Kesra**	**159.71**	**247**	PKPab	**PKPab**	**00 44 43.9**	**-0.2**		
KEST	**Kesra**	**159.71**	**247**	PKPab	**PKPab**	**00 44 43.9**	**-0.2**		
	comp=Z,4.2nm,0.9s,baz=110,slow=2.4,SNR=12								
BOJS	**Bojanci**	**159.80**	**279**	*e*PKPab	**PKPab**	**00 44 43.0**	**-1.2**		
UPC	**Upice**	**159.80**	**293**	*e*PKP2	**PKPab**	**00 44 43.6**	**-0.5**		
UPC	**Upice**	**159.80**	**293**	*e*PKPAB	**PKPab**	**00 44 43.6**	**-0.5**		
UPC				*ex*	x	00 44 57.6			
GROS	**Grobnik**	**159.81**	**281**	*e*PKPab	**PKPab**	**00 44 43.3**	**-1.0**		
ARSA	**Arzberg**	**159.92**	**284**	⇑*i*PKPab	**PKPab**	**00 44 43.1**	**-1.6**		
	comp=Z,4.5nm,0.9s								
PERS	**Pernice**	**160.10**	**282**	*i* PKPab	**PKPab**	**00 44 44.5**	**-1.1**		
PERS				*e*		00 44 59.0			
TREC	**Trest**	**160.12**	**290**	*e*PKP2	**PKPab**	**00 44 44.7**	**-0.8**		
TREC	**Trest**	**160.12**	**290**	*e*PKPAB	**PKPab**	**00 44 44.7**	**-0.8**		
TREC				*ex*	x	00 44 59.0			
SOKA	**Soboth**	**160.17**	**282**	⇓*i*PKPab	**PKPab**	**00 44 44.8**	**-1.1**		
	comp=Z,7.6nm,0.9s								
SOKA	**Soboth**	**160.17**	**282**	P	PKPab	00 44 59.5	+14		
	comp=Z,10nm,1.1s								
PVCC	**Panska Ves**	**160.72**	**293**	*e*PKP2	**PKPab**	**00 44 47.7**	**-0.4**		
PVCC	**Panska Ves**	**160.72**	**293**	*e*PKPAB	**PKPab**	**00 44 47.7**	**-0.4**		
PRU	**Pruhonice**	**160.75**	**292**	*e*PKP2	**PKPab**	**00 44 47.0**	**-1.2**		
PRU	**Pruhonice**	**160.75**	**292**	*e*PKPAB	**PKPab**	**00 44 47.0**	**-1.2**		
PRU				*ex*	x	00 45 02.0			
PRA	**Prague**	**160.82**	**292**	PKPAB	**PKPab**	**00 44 47.0**	**-1.5**		
BRG	**Berggiesshubel**	**161.10**	**294**	*e*PKP	**PKPab**	**00 44 49.1**	**-0.6**		
	comp=Z,7.6nm,1.1s								
BRG				*e*		00 45 02.8			
	comp=Z,16nm,1.6s								
BRG	**Berggiesshubel**	**161.10**	**294**	*e*PKPab	**PKPab**	**00 44 48.9**	**-0.8**		
BRG	**Berggiesshubel**	**161.10**	**294**	*e*PKP2	**PKPab**	**00 44 49.1**	**-0.6**		
BRG				pmax	pmax				
	comp=Z,8.0nm,1.1s								
BRG				pmax	pmax				
	comp=Z,8.0nm,1.6s								
GEC2	**GERESS Array S**	**161.28**	**288**	*e*PKPab	**PKPab**	**00 44 49.3**	**-1.4**		
GEC2				*ep*PKPab	pPKPab	00 45 03.5	+8.2		
GEC2	**GERESS Array S**	**161.28**	**288**	*e*PKP2	**PKPab**	**00 44 49.3**	**-1.4**		
GERES	**GERESS Array B**	**161.28**	**288**	PKPab	**PKPab**	**00 44 49.8**	**-0.9**		
GERES	**GERESS Array B**	**161.28**	**288**	PKPab	**PKPab**	**00 44 49.8**	**-0.9**		
	comp=Z,2.9nm,0.8s,baz=105,slow=4.6,SNR=19								
KHC	**Kasperske Hory**	**161.37**	**289**	*e*PKP2	**PKPab**	**00 44 49.4**	**-1.6**		
KHC	**Kasperske Hory**	**161.37**	**289**	*e*PKPAB	**PKPab**	**00 44 49.4**	**-1.6**		
KHC				*ex*	x	00 45 03.6			
FBE	**Freiberg**	**161.47**	**295**	*e*PKPab	**PKPab**	**00 44 50.4**	**-0.9**		
CLL	**Collm**	**161.66**	**296**	*e*PKPab	**PKPab**	**00 44 51.0**	**-1.0**		
CLL	**Collm**	**161.66**	**296**	*i* PKP2	**PKPab**	**00 44 51.1**	**-1.0**		
CLL				pmax	pmax				
	comp=Z,8.0nm,1.4s								
CLL	**Collm**	**161.66**	**296**	*i* PKPab	**PKPab**	**00 44 51.1**	**-1.0**		
	comp=Z,8.0nm,1.4s								
RJOB	**Jochberg**	**161.81**	**285**	*e*PKPab	**PKPab**	**00 44 53.0**	**0.0**		
WET	**Wettzell**	**161.83**	**289**	*e*PKPab	**PKPab**	**00 44 52.0**	**-1.0**		
WET				*ep*PKPab	pPKPab	00 45 06.5	+8.9		
WET	**Wettzell**	**161.83**	**289**	*e*PKP2	**PKPab**	**00 44 52.0**	**-1.0**		
TANN	**Tannenbergstha**	**162.07**	**293**	*e*PKPab	**PKPab**	**00 44 53.2**	**-0.9**		
GUNZ	**Gunzen**	**162.16**	**293**	*ep*PKPab	pPKPab	00 45 07.8	+8.8		
WERD	**Werda**	**162.17**	**293**	*e*PKPab	**PKPab**	**00 44 53.6**	**-0.8**		
MANZ	**Manzenberg**	**162.32**	**292**	*e*PKPab	**PKPab**	**00 44 54.4**	**-0.7**		
NEUB	**Neuenburg**	**162.44**	**296**	*e*PKPab	**PKPab**	**00 44 54.6**	**-0.9**		
BSEG	**Bad Segeberg**	**162.75**	**305**	*e*PKPab	**PKPab**	**00 44 57.1**	**+0.3**		
BSEG	**Bad Segeberg**	**162.75**	**305**	*e*PKP2	**PKPab**	**00 44 57.1**	**+0.3**		
GRF	**Grafenberg Arr**	**162.91**	**291**	*e*PKPab	**PKPab**	**00 44 56.9**	**-0.8**		
GRF				*ep*PKPab	pPKPab	00 45 11.3	+9.1		
GRF	**Grafenberg Arr**	**162.91**	**291**	*e*PKP2	**PKPab**	**00 44 56.9**	**-0.8**		
FETA	**Feichten**	**163.14**	**282**	⇑*i*PKPab	**PKPab**	**00 44 57.6**	**-1.4**		
	comp=Z,7.7nm,1.1s								
NRDL	**Niedersach Rie**	**163.24**	**301**	*e*PKPab	**PKPab**	**00 44 58.7**	**-0.2**		
TNS	**Taunus Mts**	**164.65**	**293**	*e*PKPab	**PKPab**	**00 45 04.4**	**-1.0**		
TNS	**Taunus Mts**	**164.65**	**293**	*e*PKP2	**PKPab**	**00 45 04.4**	**-1.0**		
WLF	**Walferdange**	**166.19**	**292**	*e*PKPab	**PKPab**	**00 45 11.4**	**-0.7**		
ESDC	**Sonseca Array**	**170.28**	**231**	PKPab	**PKPab**	**00 45 30.0**	**-0.5**		
ESDC	**Sonseca Array**	**170.28**	**231**	PKPab	**PKPab**	**00 45 30.0**	**-0.5**		
	comp=Z,0.2nm,0.3s,baz=128,slow=4.7,SNR=7.8								

*ISCJB **16** 00:39:10.0±0.4, 46.16°S±0.05×165.97°E±0.05, h12km, mb4.2/11, Error ellipse: s-maj=7.7km s-min=4.5km az=161.9*

*IDC **16** 00:39:09.6±0.6, 46.16°S×166.06°E, h0km, mb4.2/10, mb1 4.4/12, mb1mx4.3/18, mbtmp4.3/12, ML4.5/2, Error ellipse: s-maj=21.1km s-min=17.2km az=72.0*

*NEIC **16** 00:39:11.6, 46.19°S×165.88°E, h12km, mb4.7/3, ML5.0(WEL), After WEL.*

ISC 16 00:39:11.4±0.4, 46.15°S±0.06°×166.07°E±0.06, h12km, n86, σ1§17/95, mb4.2/11, 8C-6D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**1.98**	**42**	Pn		**Pn**	**00 39 45.5**	**+0.8**
SYZ	**Scrubby Hill**	**2.16**	**101**	Pn		**Pn**	**00 39 48.0**	**+0.8**
SYZ				Sn		**Sn**	**00 40 15.9**	**+2.0**
JCZ	**Jackson Bay**	**2.82**	**44**	Pn		**Pn**	**00 39 58.7**	**+2.4**
ODZ	**Otahua Downs**	**3.40**	**73**	*e*Pn		**Pn**	**00 40 04.8**	**+0.5**
ODZ				*e*Sn		**Sn**	**00 40 46.4**	**+1.9**
LBZ	**Lake Benmore**	**3.40**	**60**	Pn		**Pn**	**00 40 05.3**	**+1.1**
FOZ	**Fox Glacier**	**3.65**	**46**	Pn		**Pn**	**00 40 09.9**	**+2.3**
RPZ	**Rata Peaks**	**4.30**	**57**	*e*Pn		**Pn**	**00 40 16.9**	**+0.3**
RPZ				Sn		**Sn**	**00 41 08.1**	**+1.4**
RPZ				*e*Sn		Sb	00 41 08.4	-10
RPZ	**Rata Peaks**	**4.30**	**57**	Pn		**Pn**	**00 40 16.9**	**+0.3**
	58nm,0.3s,baz=216,slow=5.8,SNR=102							
RPZ				Sn		**Sn**	**00 41 08.1**	**+1.4**
	76nm,0.3s,baz=355,slow=21,SNR=11							
WVZ	**Waitaha Valley**	**4.53**	**49**	Pn		**Pn**	**00 40 20.6**	**+0.8**
LTZ	**Lake Taylor**	**5.57**	**55**	Pn		**Pn**	**00 40 33.8**	**-0.3**
DSZ	**Denniston Nort**	**6.04**	**45**	Pn		**Pn**	**00 40 41.1**	**+0.5**
KHZ	**Kahutara**	**6.53**	**58**	Pn		**Pn**	**00 40 48.0**	**+0.7**
	5.1nm,1.2s							
KHZ				*e*Sn		**Sn**	**00 42 02.3**	**+0.6**
QRZ	**Quartz Range**	**7.10**	**44**	Pn		**Pn**	**00 40 55.9**	**+0.9**
DUWZ	**D'Urville Isla**	**7.82**	**50**	Pn		**Pn**	**00 41 07.9**	**+2.9**
NEZ	**North Egmont**	**9.06**	**44**	Pn		**Pn**	**00 41 22.3**	**+0.3**
PKE	**Pukeiti**	**9.07**	**43**	Pn		**Pn**	**00 41 23.0**	**+0.9**
MKAZ	**Moumakai**	**11.30**	**40**	Pn		**Pn**	**00 41 54.7**	**+2.0**
URZ	**Urewera**	**11.36**	**50**	Pn		**Pn**	**00 41 52.9**	**-0.5**
URZ				Sn		**Sn**	**00 43 55.8**	**-4.4**
URZ	**Urewera**	**11.36**	**50**	Pn		**Pn**	**00 41 52.9**	**-0.5**
	1.4nm,0.3s,baz=218,slow=10,SNR=5.6							
URZ				Sn		**Sn**	**00 43 55.8**	**-4.4**
	1.1nm,0.3s,baz=114,slow=20,SNR=2.8							
WCZ	**Waipu Caves**	**11.95**	**34**	Pn		**Pn**	**00 42 01.6**	**+0.1**
CAN	**Canberra**	**16.83**	**304**	*e*Pn		**Pn**	**00 43 05.7**	**-1.1**
	39nm,0.6s							
STKA	**Stephens Creek**	**23.64**	**298**	P		**P**	**00 44 23.4**	**+0.9**
STKA	**Stephens Creek**	**23.64**	**298**	P		**P**	**00 44 23.4**	**+0.9**
	2.6nm,0.8s,baz=124,slow=15,SNR=3.1							
CTAO	**Charters Tower**	**30.66**	**321**	*e*P		**P**	**00 45 25.3**	**-0.5**
VNDA	**Vanda**	**31.52**	**182**	P		**P**	**00 45 33.4**	**+0.6**
VNDA	**Vanda**	**31.52**	**182**	P		**P**	**00 45 33.4**	**+0.6**
	0.8nm,0.9s,baz=1.8,slow=12,SNR=4.6							
AS31	**Alice Springs**	**34.26**	**300**	*e*P		**P**	**00 45 55.9**	**-1.4**
ASAR	**Alice Springs**	**34.26**	**300**	P		**P**	**00 45 56.6**	**-0.6**
ASAR				PcP		**PcP**	**00 48 33.0**	**-0.7**
ASAR	**Alice Springs**	**34.26**	**300**	P		**P**	**00 45 56.6**	**-0.6**
	1.7nm,0.7s,baz=133,slow=8.0,SNR=13							
ASAR				PcP		**PcP**	**00 48 33.0**	**-0.7**
	2.0nm,0.8s,baz=132,slow=3.5,SNR=9.1							
WRA	**Warramunga Arr**	**36.87**	**304**	P		**P**	**00 46 18.4**	**-1.4**
WRA				PcP		**PcP**	**00 48 40.9**	**-0.4**
WRA	**Warramunga Arr**	**36.87**	**304**	P		**P**	**00 46 18.4**	**-1.4**
	3.9nm,0.9s,baz=142,slow=8.3,SNR=14							
WRA				PcP		**PcP**	**00 48 40.9**	**-0.4**
	1.3nm,0.8s,baz=140,slow=2.8,SNR=4.7							
WRAB	**Tennant Creek**	**36.87**	**304**	*e*P		**P**	**00 46 19.0**	**-0.7**
	3.5nm,0.8s							
PMG	**Port Moresby**	**40.03**	**330**	P		**P**	**00 46 48.1**	**+1.8**
PMG	**Port Moresby**	**40.03**	**330**	P		**P**	**00 46 48.1**	**+1.8**
	13nm,0.8s,baz=177,slow=7.2,SNR=4.9							
QSPA	**South Pole Qui**	**43.97**	**180**	*e*P		**P**	**00 47 18.8**	**+0.6**
	21nm,1.2s							
**QSP

TAU	**Tasmania Unive**	**13.83**	**277**	Pn	Pn	00 47 59.5	-4.8		
	527nm,0.6s,SNR=8.4								
TAU	**Tasmania Unive**	**13.83**	**277**	*e*P	Pn	00 47 59.1	-5.2		
TAU				*e*		00 50 27.3			
TAU	**Tasmania Unive**	**13.83**	**277**	*e*Pn	Pn	00 47 59.1	-5.2		
TAU				*e*Sn	Sn	00 50 27.3	-10		
MOO	**Moorlands**	**14.09**	**279**	P	**Pn**	**00 48 06.2**	**-1.7**		
	baz=14,SNR=4.2								
MOO				S	Sn	00 50 34.3	-9.1		
	baz=14,SNR=3.3								
MILA	**Mila**	**15.66**	**300**	P	**Pn**	**00 48 25.4**	**-3.7**		
	baz=16,SNR=32								
MILA				S	Sn	00 51 05.6	-16		
	baz=16,SNR=8.2								
LHI	**Lord Howe Isla**	**15.73**	**337**	S	**Sn**	**00 51 28.3**	**+4.7**		
	baz=16,SNR=3.2								
CNB	**Canberra Magne**	**16.74**	**305**	P	**Pn**	**00 48 42.2**	**-0.7**		
	baz=17,SNR=11								
CAN	**Canberra**	**16.95**	**304**	*e*P	**Pn**	**00 48 42.2**	**-3.2**		
CAN				*e*		00 51 41.3			
CAN	**Canberra**	**16.95**	**304**	*e*Pn	**Pn**	**00 48 42.2**	**-3.2**		
CAN				*e*Sn	Sn	00 51 41.3	-12		
MGCD	**Mangrove Creek**	**17.40**	**313**	P	**Pn**	**00 48 49.6**	**-1.5**		
	baz=18,SNR=5.1								
TOO	**Toolangi**	**17.62**	**292**	P	**Pn**	**00 48 52.4**	**-1.4**		
	baz=18,SNR=28								
TOO				S	Sn	00 51 58.1	-11		
	baz=18,SNR=5.4								
YNG	**Young**	**18.03**	**305**	P	**Pn**	**00 48 57.3**	**-1.5**		
	baz=18,SNR=8.5								
ARMA	**Armidale**	**19.46**	**319**	*e*P	**P**	**00 49 13.1**	**-1.9**		
	64nm,1.4s								
ARMA	**Armidale**	**19.46**	**319**	P	Pn	00 49 22.8	+6.5		
	baz=20,SNR=4.6								
ARPS	**Mount Arapiles**	**20.46**	**289**	P	Pn	00 49 29.7	+1.7		
	baz=20,SNR=12								
RAO	**Raoul Island**	**21.10**	**42**	LR	LR	00 57 25.9			
	comp=Z,5µm,20.8s,baz=202,slow=36								
CMSA	**Cobar Meteorol**	**21.59**	**306**	P	**P**	**00 49 39.1**	**+1.1**		
	baz=22,SNR=20								
STKA	**Stephens Creek**	**23.75**	**299**	*e*P	**P**	**00 50 00.2**	**-0.3**		
STKA				PcP	**PcP**	**00 53 43.9**	**+0.1**		
STKA	**Stephens Creek**	**23.75**	**299**	P	**P**	**00 49 59.9**	**-0.5**		
	3.2nm,0.7s,baz=139,slow=9.5,SNR=5.6								
STKA				PcP	**PcP**	**00 53 43.9**	**+0.1**		
	3.0nm,0.7s,baz=139,slow=4.5,SNR=3.3								
STKA				LR	LR	00 58 30.4			
	comp=Z,2µm,18.3s,baz=80,slow=35								
STKA	**Stephens Creek**	**23.75**	**299**	P	**P**	**00 50 00.8**	**+0.4**		
	baz=24,SNR=13								
EIDS	**Eidsvold**	**24.11**	**325**	*e*P	**P**	**00 50 04.2**	**+0.4**		
	153nm,1.4s								
EIDS	**Eidsvold**	**24.11**	**325**	P	**P**	**00 50 04.1**	**+0.4**		
	baz=24,SNR=4.4								
RMQ	**Roma**	**24.12**	**319**	P	**P**	**00 50 04.6**	**+0.7**		
	baz=24,SNR=7.0								
NOUC	**Port Laguerre**	**24.13**	**0**	*e*P	**P**	**00 50 05.7**	**+1.7**		
DZM	**Mont Dzumac**	**24.16**	**1**	*e*P	**P**	**00 50 02.8**	**-1.7**		
	131nm,1.0s								
DZM	**Mont Dzumac**	**24.16**	**1**	P	**P**	**00 50 04.8**	**+0.4**		
	82nm,0.9s,baz=270,slow=23,SNR=32								
BBOO	**Buckleboo**	**26.64**	**290**	*e*P	**P**	**00 50 26.3**	**-0.4**		
BBOO				*e*		00 50 32.8			
BBOO	**Buckleboo**	**26.64**	**290**	P	**P**	**00 50 26.6**	**-0.1**		
	baz=27,SNR=6.7								
CTA	**Charters Tower**	**30.81**	**321**	LR	LR	01 02 24.1			
	comp=Z,2µm,19.6s,baz=129,slow=34								
VNDA	**Vanda**	**31.38**	**182**	*e*P	**P**	**00 51 10.4**	**+2.0**		
VNDA	**Vanda**	**31.38**	**182**	P	**P**	**00 51 09.8**	**+1.4**		
	3.3nm,1.0s,baz=345,slow=5.4,SNR=10								
VNDA				LR	LR	01 01 25.9			
	comp=Z,2µm,19.5s,baz=27,slow=32								
SBA	**Scott Base**	**31.67**	**180**	*e*P	**P**	**00 51 13.4**	**+2.4**		
SBA				pmax	pmax				
	comp=Z,358nm,3.0s								
SBA	**Scott Base**	**31.67**	**180**	*e*P	**P**	**00 51 13.4**	**+2.4**		
	comp=Z,358nm,3.0s								
AS31	**Alice Springs**	**34.37**	**300**	*e*P	**P**	**00 51 33.0**	**-2.2**		
AS31				*e*PcP	**PcP**	**00 54 08.8**	**-1.8**		
ASAR	**Alice Springs**	**34.37**	**300**	P	**P**	**00 51 33.9**	**-1.3**		
ASAR				PcP	**PcP**	**00 54 10.0**	**-0.7**		
ASAR	**Alice Springs**	**34.37**	**300**	P	**P**	**00 51 33.9**	**-1.3**		
	comp=Z,3.0nm,0.5s,baz=132,slow=7.9,SNR=35								
ASAR				PcP	**PcP**	**00 54 10.0**	**-0.7**		
	comp=Z,4.9nm,0.7s,baz=130,slow=4.0,SNR=9.6								
ASAR				LR	LR	01 05 23.2			
	comp=Z,2µm,18.2s,baz=144,slow=36								
CASY	**Casey**	**35.17**	**215**	*e*P	**P**	**00 51 41.9**	**+0.3**		
	comp=Z,65nm,1.6s								
WRA	**Warramunga Arr**	**36.99**	**305**	P	**P**	**00 51 56.1**	**-1.5**		
WRA				PcP	**PcP**	**00 54 17.6**	**-0.9**		
WRA	**Warramunga Arr**	**36.99**	**305**	P	**P**	**00 51 56.1**	**-1.5**		
	comp=Z,9.9nm,0.9s,baz=143,slow=8.4,SNR=26								
WRA				PcP	**PcP**	**00 54 17.6**	**-0.9**		
	comp=Z,5.9nm,0.8s,baz=141,slow=2.8,SNR=8.6								
WRA				LR	LR	01 06 23.1			
	comp=Z,2µm,18.5s,baz=135,slow=35								
WRAB	**Tennant Creek**	**36.99**	**305**	P	**P**	**00 51 56.0**	**-1.6**		
	comp=Z,224nm,0.9s,SNR=10								
WRAB	**Tennant Creek**	**36.99**	**305**	*e*P	**P**	**00 51 55.7**	**-1.9**		
WRAB				pmax	pmax				
	comp=Z,33nm,0.9s								
WRAB	**Tennant Creek**	**36.99**	**305**	*e*P	**P**	**00 51 55.7**	**-1.9**		
	comp=Z,33nm,0.9s								
HNR	**Honiara**	**37.11**	**350**	*e*P	**P**	**00 51 58.8**	**+0.2**		
	comp=Z,202nm,1.1s								
HNR	**Honiara**	**37.11**	**350**	LR	LR	01 05 58.8			
	comp=Z,3µm,18.4s,baz=328,slow=34								
AFI	**Afiamalu**	**37.24**	**37**	LR	LR	01 04 37.9			
	comp=Z,912nm,21.8s,baz=278,slow=32								
RAR	**Rarotonga**	**37.34**	**60**	LR	LR	01 04 13.2			
	comp=Z,1µm,19.0s,baz=242,slow=31								
NWAO	**Narrogin (SRO)**	**39.36**	**272**	LR	LR	01 06 41.1			
	comp=Z,855nm,19.4s,baz=78,slow=33								
PMG	**Port Moresby**	**40.18**	**330**	*e*P	**P**	**00 52 25.5**	**+1.1**		
PMG	**Port Moresby**	**40.18**	**330**	P	**P**	**00 52 24.7**	**+0.3**		
PMG	**Port Moresby**	**40.18**	**330**	P	**P**	**00 52 25.3**	**+0.9**		
	comp=Z,37nm,1.0s,baz=137,slow=6.2,SNR=8.3								
MEEK	**Meekatharra**	**42.23**	**281**	P	**P**	**00 52 40.3**	**-1.0**		
	baz=42,SNR=3.7								
TBI	**Tubuai**	**42.33**	**73**	*e*S	**S**	**00 59 01.7**	**-0.1**		
	comp=Z,638nm,29.0s								
TBI				*e*LQ	LQ	01 02 44.0			
	comp=Z,1µm,26.5s								
TBI				*e*LR	LR	01 04 22.1			
	comp=Z,926nm,34.8s								
FITZ	**Fitzroy Crossi**	**43.61**	**296**	P	**P**	**00 52 51.2**	**-1.2**		
FITZ				PcP	**PcP**	**00 54 38.8**	**-0.9**		
FITZ	**Fitzroy Crossi**	**43.61**	**296**	P	**P**	**00 52 51.2**	**-1.2**		
	comp=Z,4.2nm,0.6s,baz=155,slow=7.7,SNR=16								
FITZ				PcP	**PcP**	**00 54 38.8**	**-0.9**		
	comp=Z,14nm,0.8s,baz=182,slow=7.6,SNR=7.2								
FITZ				LR	LR	01 10 17.7			
	comp=Z,1µm,19.8s,baz=135,slow=35								
QSPA	**South Pole Qui**	**43.83**	**180**	*e*P	**P**	**00 52 55.5**	**+1.6**		
	comp=Z,78nm,1.3s								
QSPA				*e*pP	**pP**	**00 53 02.1**	**+1.4**		
QSPA	**South Pole Qui**	**43.83**	**180**	P	**P**	**00 52 55.5**	**+1.6**		
	comp=Z,33nm,1.0s,baz=18,slow=2.9,SNR=50								
QSPA				LR	LR	01 07 59.0			
	comp=Z,1µm,20.9s,baz=214,slow=32								
MTN	**Manton Dam**	**44.51**	**307**	P	**P**	**00 52 58.9**	**-0.8**		
	baz=45,SNR=7.6								
MBWA	**Marble Bar**	**45.18**	**288**	*e*P	**P**	**00 53 04.1**	**-0.9**		
	comp=Z,28nm,1.0s								
PPT2	**Papeete2**	**46.38**	**67**	*e*LR	LR	01 06 13.8			
	comp=Z,1µm,29.0s								
MANU	**Manus Island**	**47.03**	**334**	P	P	00 53 27.3	+7.8		
	baz=47,SNR=3.7								
RKT	**Rikitea**	**52.33**	**85**	*e*LR	LR	01 09 07.5			
	comp=Z,1µm,23.5s								
MAW	**Mawson**	**52.80**	**208**	LR	LR	01 13 14.1			
	comp=Z,1µm,20.6s,baz=111,slow=32								
KAPI	**Kappang**	**57.38**	**301**	*e*P	**P**	**00 54 34.3**	**-2.2**		
	comp=Z,37nm,1.0s								
SYO	**Syowa Base**	**58.44**	**200**	ǁ*e*P	**P**	**00 54 42.0**	**-1.2**		
MAIT	**Maitri**	**61.79**	**189**	*e*P	P	00 54 56.9	-9.2		
SNAA	**Sanae**	**62.08**	**184**	*e*P	**P**	**00 55 08.7**	**+0.5**		
SNAA	**Sanae**	**62.08**	**184**	*e*P	**P**	**00 55 08.7**	**+0.5**		
	comp=Z,65nm,1.1s								
SNAA				*e*pP	**pP**	**00 55 16.0**	**+0.7**		
PMSA	**Palmer Station**	**62.56**	**158**	LR	LR	01 19 37.5			
	comp=Z,1µm,20.9s,baz=347,slow=33								
VNA1	**Neumayer--Stat**	**63.30**	**182**	*e*P	**P**	**00 55 17.1**	**+0.9**		
VNA1	**Neumayer--Stat**	**63.30**	**182**	*e*pP	pP	00 55 24.3	+1.0		
MTKI	**Muara Teweh, K**	**63.53**	**299**	P	P	00 55 30.5	+12		
	comp=Z,247nm,0.5s								
KSM	**Kuching**	**68.23**	**297**	*e*P	**P**	**00 55 47.7**	**-1.1**		
KSM	**Kuching**	**68.23**	**297**	P	P	00 55 54.5	+5.7		
	comp=Z,25nm,0.8s								
KSM	**Kuching**	**68.23**	**297**	P	**P**	**00 55 48.9**	**+0.1**		
	baz=68,SNR=3.3								
PSI	**Prapat**	**76.51**	**289**	LR	LR	01 28 44.2			
	comp=Z,482nm,20.3s,baz=146,slow=34								
PLCA	**Paso Flores**	**79.69**	**140**	P	**P**	**00 56 56.8**	**+1.1**		
PLCA	**Paso Flores**	**79.69**	**140**	P	**P**	**00 56 56.8**	**+1.1**		
	comp=Z,17nm,1.2s,baz=207,slow=7.4,SNR=7.3								
PLCA				LR	LR	01 28 06.4			
	comp=Z,461nm,19.2s,baz=210,slow=33								
QIZ	**Qiongzhong**	**82.50**	**307**	P	**P**	**00 57 11.1**	**+0.5**		
QIZ				S	**S**	**01 07 28.3**	**+2.3**		
QIZ				LR	LR				
	comp=N,340nm,15.6s								
QIZ				LR	LR				
	comp=Z,370nm,17.1s								
QZH	**Quanzhou**	**82.95**	**318**	P	P	00 57 05.5	-7.3		
QZH	**Quanzhou**	**82.95**	**318**	S	S	01 07 19.8	-11		
QZH				LR	LR				
	comp=Z,490nm,20.2s								
TRQA	**Tornquist**	**85.59**	**144**	*e*P	**P**	**00 57 26.2**	**-0.1**		
PBKT	**Sadao Pong**	**85.70**	**299**	P	P	00 57 23.6	-3.3		
	comp=Z,13nm,1.9s								
MJAR	**Matsushiro Arr**	**86.20**	**338**	P	**P**	**00 57 29.3**	**+0.3**		
MJAR	**Matsushiro Arr**	**86.20**	**338**	P	**P**	**00 57 29.3**	**+0.3**		
	comp=Z,10nm,1.0s,baz=175,slow=6.5,SNR=16								
MAJO	**Matsushiro**	**86.20**	**338**	*e*P	**P**	**00 57 29.8**	**+0.8**		
MAJO				pmax	pmax				
	comp=Z,68nm,1.6s								
MAJO	**Matsushiro**	**86.20**	**338**	*e*P	**P**	**00 57 29.8**	**+0.8**		
	comp=Z,68nm,1.6s								
MAT	**Matsushiro**	**86.20**	**338**	P	**P**	**00 57 29.0**	**0.0**		
CFAA	**Coronel Fontan**	**88.22**	**136**	P	**P**	**00 57 39.4**	**+0.1**		
CFAA	**Coronel Fontan**	**88.22**	**136**	P	**P**	**00 57 39.4**	**+0.1**		
	comp=Z,0.7nm,1.0s,baz=204,slow=5.3,SNR=6.9								
CMAR	**Chiang Mai Arr**	**88.38**	**299**	P	**P**	**00 57 40.6**	**+0.7**		
CMAR	**Chiang Mai Arr**	**88.38**	**299**	P	**P**	**00 57 40.6**	**+0.7**		
	comp=Z,13nm,1.0s,baz=154,slow=3.5,SNR=38								
CMMT	**Chiang Mai**	**88.64**	**299**	P	**P**	**00 57 40.9**	**-0.3**		
	comp=Z,14nm,1.4s								
CHTO	**Chiang Mai**	**88.65**	**299**	*e*P	**P**	**00 57 39.8**	**-1.4**		
CHTO				pmax	pmax				
	comp=Z,2.0nm,0.6s								
CHTO	**Chiang Mai**	**88.65**	**299**	*e*P	**P**	**00 57 39.8**	**-1.4**		
	comp=Z,2.4nm,0.6s								
CHTO	**Chiang Mai**	**88.65**	**299**	P	**P**	**00 57 40.5**	**-0.7**		
	comp=Z,16nm,1.4s								
CHTO	**Chiang Mai**	**88.65**	**299**	P	**P**	**00 57 41.9**	**+0.7**		
	comp=Z,16nm,1.4s								
NJ2	**Nanjing**	**88.92**	**321**	*e*P	**P**	**00 57 42.5**	**+0.4**		
NJ2				pmax	pmax				
	comp=Z,20nm,0.5s								
WHN	**Wuhan**	**89.67**	**317**	P	**P**	**00 57 45.5**	**-0.2**		
WHN				pmax	pmax				
	comp=Z,110nm,1.3s								
KSRS	**Korea Array**	**90.16**	**331**	P	**P**	**00 57 48.8**	**+1.0**		
	comp=Z,3.0nm,0.9s,baz=154,slow=5.4,SNR=5.1								
KSAR	**Wonju Array Be**	**90.16**	**330**	P	**P**	**00 57 48.8**	**+0.9**		
KMI	**Kunming**	**91.31**	**306**	P	**P**	**00 57 55.0**	**+1.2**		
KMI				pP	**pP**	**00 58 01.8**	**+0.7**		
KMI				sP	**sP**	**00 58 05.6**	**+1.9**		
KMI				S	**S**	**01 08 50.8**	**-0.6**		
KMI				sS	**sS**	**01 09 03.1**	**-0.5**		
KMI				SS	**SS**	**01 15 01.5**	**+4.1**		
KMI				pmax	pmax				
	comp=Z,14nm,1.0s								
KMI				pmax	pmax				
	comp=Z,160nm,3.1s								
KMI				LR	LR				
	comp=N,200nm,15.2s								
KMI				LR	LR				
	comp=E,220nm,13.3s								
KMI				LR	LR				
	comp=Z,180nm,17.1s								
YUK	**Yuzh-Kuril'sk**	**91.72**	**346**	*d i* P	**P**	**00 57 55.1**	**+0.3**		
YUK				*e*S	**SKSac**	**01 08 26.5**	**+0.9**		
YUK				MLR	MLR				
	comp=Z,444nm,20.0s								
CD2	**Chengdu**	**95.28**	**310**	*e*P	**P**	**00 58 12.3**	**+0.6**		
CD2				pP	**pP**	**00 58 21.0**	**+1.9**		
CD2				sP	**sP**	**00 58 23.8**	**+2.1**		
CD2				PP	**PP**	**01 02 06.0**	**+3.5**		
CD2				SKS	**SKSac**	**01 08 46.3**	**+0.3**		
CD2				S	**S**	**01 09 25.3**	**-0.6**		
CD2				sS	**sS**	**01 09 36.3**	**-1.9**		
CD2				SS	**SS**	**01 15 56.9**	**+3.0**		
CD2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
CD2				pmax	pmax				
	comp=Z,50nm,6.8s								
CD2				LR	LR				
	comp=E,360nm,14.4s								
CD2				LR	LR				
	comp=Z,410nm,21.4s								
MDJ	**Mudanjiang**	**96.11**	**335**	P	**P**	**00 58 17.3**	**+2.2**		
MDJ				sP	**sP**	**00 58 26.5**	**+1.5**		
MDJ				PP	**PP**	**01 02 11.1**	**+2.4**		
MDJ				S	S	01 09 26.4	-6.0		
MDJ				pmax	pmax				
	comp=Z,9.0nm,2.1s								
MDJ				LR	LR				
	comp=N,66nm,43.6s								
MDJ				LR	LR				
	comp=E,120nm,48.3s								
CN2	**Changchun**	**96.68**	**332**	*e*P	P	00 58 21.6	+3.9		
BJI	**Beijing**	**96.85**	**324**	P	**P**	**00 58 20.5**	**+2.0**		
BJI				S	**S**	**01 09 42.3**	**+3.4**		
BJI				pmax	pmax				
	comp=Z,7.0nm,0.6s								
BJI				pmax	pmax				
	comp=Z,140nm,3.9s								
BJI				LR	LR				
	comp=N,260nm,25.0s								
BJI				LR	LR				
	comp=E,320nm,24.4s								
BJI				LR	LR				
	comp=Z,190nm,28.3s								
BOSA	**Boshof**	**97.45**	**214**	P	**P**	**00 58 20.9**	**-1.2**		
BOSA	**Boshof**	**97.45**	**214**	P	**P**	**00 58 20.9**	**-1.2**		
	comp=Z,2.3nm,0.8s,baz=133,slow=12,SNR=4.5								
BOSA				LR	LR	01 39 26.2			
	comp=Z,252nm,19.3s,baz=165,slow=34								
LZH	**Lanzhou**	**99.29**	**313**	*e*P	**Pdif**	**00 58 33.6**	**+3.7**		
LZH				pP	**pP**	**00 58 40.0**	**+2.8**		
LZH				sP	**sP**	**00 58 42.8**	**+3.0**		
LZH				pmax	pmax				
	comp=Z,14nm,1.0s								
LZH				pmax	pmax				
	comp=Z,140nm,5.7s								
LZH				LR	LR				
	comp=N,550nm,19.2s								
LZH				LR	LR				
	comp=E,530nm,19.7s								
LZH				LR	LR				
	comp=Z,210nm,19.8s								
HHC	**Hu-ho-hao-te**	**99.47**	**321**	*e*P	**Pdif**	**00 58 31.8**	**+1.3**		
HHC				pP	**pP**	**00 58 38.3**	**+0.5**		
HHC				sP	**sP**	**00 58 41.5**	**+1.1**		
HHC				PP	PP	01 02 40.0	+5.3		
HHC				SKS	**SKSac**	**01 09 07.3**	**+0.1**		
HHC				S	**ScS**	**01 09 59.6**	**-1.9**		
HHC				sS	**sS**	**01 10 11.5**	**-2.2**		
HHC				pmax	pmax				
	comp=Z,40nm,0.7s								
HHC				pmax	pmax				
	comp=Z,150nm,5.1s								
HHC				LR	LR				
	comp=N,310nm,12.9s								
HHC				LR	LR				
	comp=E,450nm,12.6s								
HHC				LR	LR				
	comp=Z,450nm,12.9s								
BILL	**Bilibino**	**114.00**	**0**	*i* PKIKP	**PKiKP**	**01 03 26.0**	**+0.4**		
BILL				*e*		01 03 33.0			
BILL				pmax	pmax				
	comp=Z,37nm,1.2s								
Y27A	**Causey**	**114.01**	**66**	P	PKPdf	01 03 27.0	+0.1		
	baz=114								
H12A	**Diamond D Ranc**	**114.15**	**50**	P	PKPdf	01 03 27.8	+0.9		
	baz=114								
E12A	**Beaver Dam Sad**	**115.02**	**48**	P	**PKPdf**	**01 03 29.4**	**+1.0**		
	baz=115								
N20A	**Spence Gulch,**	**115.40**	**57**	P	**PKPdf**	**01 03 30.1**	**+0.6**		
	baz=116								
L19A	**Farson**	**115.59**	**55**	P	**PKPdf**	**01 03 30.7**	**+0.9**		
	baz=116								
N21A	**Black Mountain**	**115.79**	**57**	P	**PKPdf**	**01 03 31.0**	**+0.8**		
	baz=116								
D13A	**Huson**	**116.04**	**48**	P	**PKPdf**	**01 03 31.2**	**+0.9**		
	baz=116								
L20A	**Wamsutter**	**116.11**	**56**	P	**PKPdf**	**01 03 31.1**	**+0.4**		
	baz=116								
ISCO	**Idaho Springs**	**116.30**	**59**	P	**PKPdf**	**01 03 31.7**	**+0.4**		
	baz=117								
K19A	**Absolon Red Bu**	**116.34**	**55**	P	**PKPdf**	**01 03 31.5**	**+0.3**		
	baz=117								
C13A	**Hot Springs**	**116.36**	**48**	P	**PKPdf**	**01 03 30.6**	**-0.3**		
	baz=117								
BSMT	**Bassoo Peak**	**116.36**	**48**	*e*PKPdf	**PKPdf**	**01 03 30.5**	**-0.6**		
ILAR	**Eielson Array**	**116.63**	**21**	PKP	**PKPdf**	**01 03 29.8**	**-1.0**		
ILAR	**Eielson Array**	**116.63**	**21**	PKP	**PKPdf**	**01 03 29.8**	**-1.0**		
	comp=Z,3.0nm,0.9s,baz=266,slow=3.6,SNR=16								
L21A	**Rawlins**	**116.64**	**56**	P	**PKPdf**	**01 03 32.0**	**+0.2**		
	baz=117								
C14A	**Swan Lake**	**116.84**	**48**	P	**PKPdf**	**01 03 31.9**	**+0.1**		
	baz=117								
B13A	**Whitefish**	**116.86**	**47**	P	**PKPdf**	**01 03 32.2**	**+0.4**		
	baz=117								
R27A	**Eads**	**117.05**	**62**	P	**PKPdf**	**01 03 33.3**	**+0.7**		
	baz=117								
KSH	**Kashi**	**117.27**	**300**	*e*PKPbc	PKPdf	01 03 39.8	+6.8		
KSH				PP	PP	01 04 56.3	+12		
KSH				PKS	PKSdf	01 07 15.1	+5.4		
KSH				SKS	**SKSdf**	**01 10 50.4**	**+6.8**		
KSH	**Kashi**	**117.27**	**300**	SS	SS	01 21 05.6	+12		
KSH				AMB	AMB				
	comp=Z,130nm,4.7s								
KSH				LR	LR				
	comp=N,150nm,6.9s								
KSH				LR	LR				
	comp=E,120nm,5.6s								
KSH				LR	LR				
	comp=Z,180nm,8.9s								
WMOK	**Wichita Mounta**	**117.34**	**67**	*e*PKIKP	**PKPdf**	**01 03 32.4**	**-0.7**		
WMOK	**Wichita Mounta**	**117.34**	**67**	*e*PKPdf	**PKPdf**	**01 03 32.4**	**-0.7**		
C15A	**Salmond Ranch,**	**117.44**	**49**	P	**PKPdf**	**01 03 33.2**	**+0.2**		
	baz=118								
J21A	**Lysite**	**117.46**	**55**	P	**PKPdf**	**01 03 33.3**	**0.0**		
	baz=118								
B14A	**Marquette Ranc**	**117.47**	**48**	P	**PKPdf**	**01 03 33.0**	**-0.1**		
	baz=118								
B15A	**Bradely Ranch,**	**117.81**	**48**	P	**PKPdf**	**01 03 33.4**	**-0.3**		
	baz=118								
I21A	**Big Trails, Te**	**117.84**	**55**	P	**PKPdf**	**01 03 33.7**	**-0.3**		
	baz=118								
C16A	**Fuhringer Ranc**	**117.91**	**49**	P	**PKPdf**	**01 03 34.1**	**+0.2**		
	baz=118								
COLD	**Coldfoot**	**117.93**	**18**	*e*PKPdf	**PKPdf**	**01 03 32.6**	**-0.6**		
D17A	**Six Diamond Ra**	**118.06**	**50**	P	**PKPdf**	**01 03 34.2**	**-0.1**		
	baz=118								
EGAK	**Eagle**	**118.10**	**23**	*e*PKPdf	**PKPdf**	**01 03 32.6**	**-1.0**		
E18A	**Harlowton**	**118.11**	**51**	P	**PKPdf**	**01 03 35.8**	**+1.5**		
	baz=118								
A15A	**Johnson Ranch,**	**118.14**	**48**	P	**PKPdf**	**01 03 34.2**	**-0.1**		
	baz=118								
MK31	**Makanchi Array**	**118.20**	**309**	*e*PKIKP	**PKPdf**	**01 03 33.2**	**-1.2**		
MK31	**Makanchi Array**	**118.20**	**309**	*e*PKPdf	**PKPdf**	**01 03 33.2**	**-1.2**		
MKAR	**Makanchi Array**	**118.20**	**309**	PKIKP	**PKPdf**	**01 03 33.6**	**-0.8**		
MKAR	**Makanchi Array**	**118.20**	**309**	PKP	**PKPdf**	**01 03 33.6**	**-0.8**		
MKAR	**Makanchi Array**	**118.20**	**309**	PKP	**PKPdf**	**01 03 33.6**	**-0.8**		
	comp=Z,3.0nm,0.9s,baz=125,slow=1.9,SNR=18								
C17A	**Wharram Farm,**	**118.32**	**50**	P	**PKPdf**	**01 03 34.7**	**0.0**		
	baz=119								
KBL	**Kabul**	**118.52**	**291**	*e*PKIKP	**PKPdf**	**01 03 34.7**	**-1.0**		
KBL	**Kabul**	**118.52**	**291**	*e*PKPdf	**PKPdf**	**01 03 34.7**	**-1.0**		
D18A	**Linhart Farms,**	**118.56**	**51**	P	**PKPdf**	**01 03 35.3**	**+0.1**		
	baz=119								
E19A	**Rath Farm, Rou**	**118.65**	**52**	P	**PKPdf**	**01 03 36.1**	**+0.7**		
	baz=119								
A16A	**West Butte Ran**	**118.70**	**48**	P	**PKPdf**	**01 03 35.5**	**+0.1**		
	baz=119								
B17A	**L&G Farms, Che**	**118.71**	**49**	P	**PKPdf**	**01 03 35.1**	**-0.3**		
	baz=119								
D19A	**Cripps Ranch,**	**119.03**	**51**	P	**PKPdf**	**01 03 35.6**	**-0.4**		
	baz=119								
E20A	**Meyer Farm, Mu**	**119.04**	**52**	P	**PKPdf**	**01 03 36.4**	**+0.3**		
	baz=119	

	comp=E,50nm,0.9s							
VSR	**Storozhevoye**	**145.33**	**298**	*e*PKIKP	**PKPbc**	**01 04 24.0**	**-0.8**
VSR				pmax	pmax			
	comp=Z,80nm,0.7s							
VSR				pmax	pmax			
	comp=N,10.0nm,1.1s							
VSR				pmax	pmax			
	comp=E,50nm,0.9s							
ANTO	**Ankara**	**145.73**	**276**	⇑PKIKP	**PKPdf**	**01 04 26.2**	**+0.1**
ANTO	**Ankara**	**145.73**	**276**	⇑*e*PKPdf	**PKPdf**	**01 04 25.8**	**-0.3**
ANTO	**Ankara**	**145.73**	**276**	⇑*i*P	**PKPdf**	**01 04 26.2**	**+0.1**
TMCR	**Tamitsa**	**146.63**	**321**	*e*PKP2	**PKPbc**	**01 04 28.0**	**-0.3**
TMCR				pmax	pmax			
	comp=Z,65nm,1.3s							
MOS	**Moscow**	**146.98**	**306**	*e*PKIKP	**PKPdf**	**01 04 26.9**	**-0.6**
MOS				pmax	pmax			
	comp=Z,66nm,1.3s							
ALT	**Altintas**	**147.22**	**273**	P	**PKPdf**	**01 04 27.1**	**-1.6**
LVZ	**Lovozero**	**147.22**	**328**	*d i*PKP2	**PKPbc**	**01 04 29.5**	**-0.5**
OBN	**Obninsk**	**147.51**	**304**	⇓*e*PKIKP	**PKPdf**	**01 04 27.9**	**-0.5**
OBN				*i*		01 04 31.0		
OBN				*i*		01 04 37.7		
OBN				*e*		01 11 33.4		
OBN				pmax	pmax			
	comp=Z,20nm,1.8s							
OBN				pmax	pmax			
	comp=Z,133nm,1.8s							
KARP	**Karpathos**	**147.53**	**266**	*e*P	**PKPbc**	**01 04 31.6**	**-0.2**
APA	**Apatity**	**147.77**	**328**	⇑*i*PKP2	**PKPbc**	**01 04 31.5**	**+0.1**
APA				MLR	MLR			
	comp=Z,600nm,12.0s							
KULA	**Kula-Manisa**	**147.97**	**271**	P	**PKPbc**	**01 04 31.8**	**-1.2**
NPS	**Neapolis**	**148.45**	**264**	*e*P	**PKPbc**	**01 04 34.4**	**+0.1**
SMG	**Samos**	**148.85**	**269**	*e*P	**PKPdf**	**01 04 33.2**	**+1.9**
IDI	**Anoyia**	**148.96**	**263**	P	**PKPbc**	**01 04 35.7**	**+0.1**
KEV	**Kevo**	**149.09**	**334**	*e*p	**PKPbc**	**01 04 34.5**	**-0.3**
	comp=Z,26nm,0.7s							
KEV	**Kevo**	**149.09**	**334**	*e*PKP2	**PKPbc**	**01 04 34.5**	**-0.3**
KEV				pmax	pmax			
	comp=Z,26nm,0.7s							
KEV	**Kevo**	**149.09**	**334**	*e*PKPdf	**PKPbc**	**01 04 33.9**	**-0.9**
DAG	**Danmarks Havn**	**149.35**	**2**	*i*P	**PKPbc**	**01 04 34.1**	**-1.2**
	comp=Z,10nm,0.9s							
APE	**Apeiranthos**	**149.44**	**267**	⇓PKP2	**PKPbc**	**01 04 36.2**	**-0.6**
APE	**Apeiranthos**	**149.44**	**267**	*e*P	**PKPdf**	**01 04 33.5**	**+1.2**
APE	**Apeiranthos**	**149.44**	**267**	⇓*i*P	**PKPbc**	**01 04 36.2**	**-0.6**
VAM	**Vamos**	**149.50**	**263**	*e*P	**PKPbc**	**01 04 37.3**	**+0.4**
ARCES	**ARCESS Array B**	**149.66**	**334**	PKPbc	**PKPbc**	**01 04 36.5**	**+0.3**
ARCES	**ARCESS Array B**	**149.66**	**334**	PKPbc	**PKPbc**	**01 04 36.5**	**+0.3**
	comp=Z,41nm,0.7s,baz=84,slow=3.0,SNR=84							
ARE0	**ARCESS Array S**	**149.66**	**334**	*e*PKPbc	**PKPbc**	**01 04 35.4**	**-0.9**
PRK	**Paraskevi**	**149.96**	**271**	P	**PKPbc**	**01 04 37.1**	**-0.8**
PRK	**Paraskevi**	**149.96**	**271**	*e*P	**PKPbc**	**01 04 37.4**	**-0.5**
SIGR	**SIGRI**	**150.23**	**271**	P	**PKPbc**	**01 04 37.3**	**-1.2**
ANKY	**Antikythira Is**	**150.36**	**263**	*e*P	**PKPbc**	**01 04 39.0**	**0.0**
TLCR		**150.46**	**284**	⇓PKP2	**PKPbc**	**01 04 38.9**	**+0.1**
TLCR		**150.46**	**284**	⇓*i*P	**PKPbc**	**01 04 38.9**	**+0.1**
EDRB	**Edirne**	**150.72**	**276**	P	**PKPbc**	**01 04 38.4**	**-1.2**
PRD	**Provadia**	**150.77**	**279**	*e*P	**PKPbc**	**01 04 38.3**	**-1.4**
HARR	**Harsova**	**150.90**	**282**	⇑PKIKP	**PKPbc**	**01 04 40.0**	**+0.1**
HARR	**Harsova**	**150.90**	**282**	⇑*i*P	**PKPbc**	**01 04 40.0**	**+0.1**
CFR	**Carcaliu**	**150.91**	**283**	⇑PKIKP	**PKPbc**	**01 04 39.6**	**-0.3**
CFR	**Carcaliu**	**150.91**	**283**	⇑*i*P	**PKPbc**	**01 04 39.6**	**-0.3**
SMTH	**Samothraki Isl**	**151.01**	**273**	*e*P	**PKPbc**	**01 04 39.5**	**-0.9**
VLI	**Veliai**	**151.06**	**264**	P	**PKPbc**	**01 04 39.2**	**-1.4**
VLI	**Veliai**	**151.06**	**264**	*e*P	**PKPbc**	**01 04 39.6**	**-1.0**
PTL	**Penteli**	**151.07**	**267**	P	**PKPbc**	**01 04 39.6**	**-1.0**
PTL	**Penteli**	**151.07**	**267**	*e*P	**PKPbc**	**01 04 39.8**	**-0.8**
ATHU	**Athens Univers**	**151.09**	**267**	P	**PKPbc**	**01 04 39.4**	**-1.2**
ATH	**Athens Observa**	**151.14**	**267**	P	**PKPbc**	**01 04 39.8**	**-0.9**
ATH	**Athens Observa**	**151.14**	**267**	*e*P	**PKPbc**	**01 04 39.3**	**-1.4**
LEOM	**Leova**	**151.20**	**286**	⇓PKIKP	**PKPbc**	**01 04 40.4**	**-0.2**
LEOM	**Leova**	**151.20**	**286**	⇓*i*P	**PKPbc**	**01 04 40.4**	**-0.2**
DID	**Didima**	**151.24**	**266**	P	**PKPbc**	**01 04 39.6**	**-1.4**
DID	**Didima**	**151.24**	**266**	*e*P	**PKPbc**	**01 04 39.6**	**-1.4**
DIDY	**Didyma**	**151.25**	**266**	P	**PKPbc**	**01 04 39.7**	**-1.4**
SUMG	**Summit**	**151.28**	**15**	*e*PKIKP	**PKPdf**	**01 04 34.0**	**-0.5**
SUMG				*e*		01 04 40.3		
SUMG				*e*		01 04 47.3		
SUMG	**Summit**	**151.28**	**15**	*e*PKPdf	**PKPdf**	**01 04 34.0**	**-0.5**
SUMG				*e*PKPbc	**PKPbc**	**01 04 40.0**	**-0.5**
SUMG				*e*PKPab	**PKPab**	**01 04 47.2**	**-1.4**
SUMG	**Summit**	**151.28**	**15**	*i*P	**PKPbc**	**01 04 40.2**	**-0.3**
	comp=Z,21nm,1.0s							
KIEV	**Kiev**	**151.43**	**295**	*e*PKIKP	**PKPbc**	**01 04 40.4**	**-0.5**
KIEV				*e*		01 04 47.3		
KIEV	**Kiev**	**151.43**	**295**	*e*PKPbc	**PKPbc**	**01 04 40.4**	**-0.5**
KIEV				*e*PKPab	**PKPab**	**01 04 47.3**	**-2.1**
DYR	**Agios Nikonas**	**151.49**	**264**	P	**PKPbc**	**01 04 40.1**	**-1.5**
DYR	**Agios Nikonas**	**151.49**	**264**	*e*P	**PKPbc**	**01 04 41.1**	**-0.5**
KDZ	**Kurdzhali**	**151.56**	**275**	*e*P	**PKPbc**	**01 04 40.2**	**-1.4**
AOS	**Alonnisos**	**151.59**	**269**	P	**PKPbc**	**01 04 40.7**	**-1.0**
AOS	**Alonnisos**	**151.59**	**269**	*e*P	**PKPbc**	**01 04 40.8**	**-1.0**
LTK	**Loutraki**	**151.68**	**266**	P	**PKPbc**	**01 04 40.8**	**-1.2**
LTK	**Loutraki**	**151.68**	**266**	*e*P	**PKPbc**	**01 04 40.8**	**-1.2**
VLX	**Vlachokerasia**	**151.77**	**265**	P	**PKPbc**	**01 04 42.0**	**-0.3**
VLX	**Vlachokerasia**	**151.77**	**265**	*e*P	**PKPbc**	**01 04 42.2**	**-0.1**
TAM	**Tamanrasset**	**151.78**	**220**	*e*PKIKP	**PKPdf**	**01 04 36.5**	**0.0**
TAM				*e*		01 04 42.8		
TAM				*e*		01 04 50.4		
TAM	**Tamanrasset**	**151.78**	**220**	*e*PKPdf	**PKPdf**	**01 04 36.5**	**0.0**
TAM				*e*PKPbc	**PKPbc**	**01 04 42.8**	**-0.1**
TAM				*e*PKPab	**PKPab**	**01 04 50.4**	**-1.4**
SKIA	**Skiathos**	**151.87**	**269**	P	**PKPbc**	**01 04 41.5**	**-0.9**
THAL	**Thalero**	**151.90**	**266**	P	**PKPbc**	**01 04 41.4**	**-1.1**
SMIA	**Simia**	**151.92**	**268**	P	**PKPbc**	**01 04 42.0**	**-0.5**
KAVA	**Kavala**	**151.93**	**273**	P	**PKPbc**	**01 04 41.7**	**-0.7**
LKR	**Lokris**	**151.96**	**268**	*e*P	**PKPbc**	**01 04 41.2**	**-1.4**
ISR	**Istrita**	**151.97**	**282**	⇑PKIKP	**PKPbc**	**01 04 43.3**	**+0.8**
ISR	**Istrita**	**151.97**	**282**	⇑*i*P	**PKPbc**	**01 04 43.3**	**+0.8**
PYL	**PYLOS**	**151.97**	**263**	P	**PKPbc**	**01 04 41.1**	**-1.6**
PYL	**PYLOS**	**151.97**	**263**	*e*P	**PKPbc**	**01 04 41.5**	**-1.2**
ITM	**Ithomi**	**151.99**	**264**	P	**PKPbc**	**01 04 42.0**	**-0.8**
ITM	**Ithomi**	**151.99**	**264**	*e*P	**PKPbc**	**01 04 41.9**	**-0.8**
OUR	**Ouranopolis**	**152.02**	**271**	P	**PKPbc**	**01 04 41.7**	**-1.0**
VRI	**Vrincioaia**	**152.06**	**284**	⇑PKIKP	**PKPbc**	**01 04 42.3**	**-0.3**
VRI	**Vrincioaia**	**152.06**	**284**	⇑*i*P	**PKPbc**	**01 04 42.3**	**-0.3**
RZN	**Rozhen**	**152.06**	**275**	*e*P	**PKPbc**	**01 04 41.8**	**-1.2**
GUR	**Goura**	**152.07**	**266**	P	**PKPbc**	**01 04 42.2**	**-0.8**
GUR	**Goura**	**152.07**	**266**	*e*P	**PKPbc**	**01 04 42.5**	**-0.5**
NEO	**Neokhori**	**152.10**	**269**	P	**PKPbc**	**01 04 42.2**	**-0.7**
NEO	**Neokhori**	**152.10**	**269**	*e*P	**PKPbc**	**01 04 41.9**	**-1.0**
PLOR	**Plostina**	**152.10**	**284**	⇓PKIKP	**PKPbc**	**01 04 42.4**	**-0.4**
PLOR	**Plostina**	**152.10**	**284**	⇓*i*P	**PKPbc**	**01 04 42.4**	**-0.4**
XOR	**Xorichti**	**152.15**	**269**	P	**PKPbc**	**01 04 42.4**	**-0.7**
DSF	**Desfina**	**152.17**	**267**	P	**PKPbc**	**01 04 41.8**	**-1.4**
AXAR	**Agios Charalam**	**152.25**	**268**	P	**PKPbc**	**01 04 42.4**	**-0.9**
KLV	**Kalavryta, Ach**	**152.26**	**266**	P	**PKPbc**	**01 04 43.0**	**-0.4**
KLV	**Kalavryta, Ach**	**152.26**	**266**	*e*P	**PKPbc**	**01 04 42.8**	**-0.6**
KAF	**Kangasniemi**	**152.26**	**319**	*e*p	**PKPbc**	**01 04 42.4**	**-0.1**
	comp=Z,15nm,0.8s							
KAF	**Kangasniemi**	**152.26**	**319**	*e*PKIKP	**PKPbc**	**01 04 42.4**	**-0.1**
KAF				pmax	pmax			
	comp=Z,15nm,0.8s							
TESR	**Tescani**	**152.28**	**285**	⇓*i*P	**PKPbc**	**01 04 43.2**	**+0.1**
AMT	**Artemida-Makis**	**152.31**	**264**	P	**PKPbc**	**01 04 41.0**	**-2.5**
AMT	**Artemida-Makis**	**152.31**	**264**	*e*P	**PKPbc**	**01 04 43.4**	**-0.1**
PLG	**Polygyros**	**152.41**	**271**	*e*P	**PKPbc**	**01 04 42.2**	**-1.4**
KALE	**Kalithea**	**152.43**	**266**	*e*P	**PKPbc**	**01 04 43.2**	**-0.6**
TRIZ	**Trizonia**	**152.47**	**266**	P	**PKPbc**	**01 04 43.2**	**-0.5**
TRIZ	**Trizonia**	**152.47**	**266**	*e*P	**PKPbc**	**01 04 43.5**	**-0.2**
LAKA	**Lakka**	**152.47**	**266**	P	**PKPbc**	**01 04 43.4**	**-0.4**
LAKA	**Lakka**	**152.47**	**266**	*e*P	**PKPbc**	**01 04 43.1**	**-0.7**
MLR	**Muntele Rosu**	**152.48**	**283**	⇑*i*P	**PKPbc**	**01 04 43.2**	**-0.5**
MICM	**Minsk**	**152.51**	**303**	*i*	**PKPbc**	**01 04 42.0**	**-1.3**
NVR	**Nevrokopi**	**152.52**	**273**	P	**PKPbc**	**01 04 41.1**	**-2.7**
NVR	**Nevrokopi**	**152.52**	**273**	*e*P	**PKPbc**	**01 04 42.2**	**-1.6**
MNK	**Minsk**	**152.53**	**303**	*e*PKIKP	**PKPbc**	**01 04 42.0**	**-1.3**
FIA1	**FINESS Array S**	**152.54**	**318**	*e*PKPdf	**PKPdf**	**01 04 34.3**	**-1.8**
FIA1				*e*PKPbc	**PKPbc**	**01 04 42.5**	**-0.7**
FINES	**FINESS Array B**	**152.54**	**318**	PKPbc	**PKPbc**	**01 04 43.2**	**+0.1**
FINES	**FINESS Array B**	**152.54**	**318**	PKPbc	**PKPbc**	**01 04 43.2**	**+0.1**
	comp=Z,22nm,1.0s,baz=92,slow=3.8,SNR=39							
PSA1	**Psathopyrgos**	**152.58**	**266**	*e*P	**PKPbc**	**01 04 44.4**	**+0.4**
AGG	**Agios Georgios**	**152.59**	**268**	P	**PKPbc**	**01 04 42.4**	**-1.7**
EFP	**Efpalio**	**152.61**	**266**	P	**PKPbc**	**01 04 43.1**	**-1.0**
EFP	**Efpalio**	**152.61**	**266**	*e*P	**PKPbc**	**01 04 44.0**	**-0.1**
SRS	**Serrai**	**152.61**	**273**	P	**PKPbc**	**01 04 42.2**	**-1.8**
SOH	**Sokhos**	**152.66**	**272**	P	**PKPbc**	**01 04 41.9**	**-2.3**
MAKR	**Makrakomi, Fth**	**152.73**	**268**	P	**PKPbc**	**01 04 43.0**	**-1.4**
RLS	**Riolos of Patr**	**152.74**	**265**	P	**PKPdf**	**01 04 37.6**	**+0.4**
RLS	**Riolos of Patr**	**152.74**	**265**	*e*P	**PKPbc**	**01 04 44.5**	**+0.2**
THE	**Thessaloniki**	**152.85**	**271**	P	**PKPbc**	**01 04 42.9**	**-1.6**
EVR	**Evrytania**	**152.91**	**267**	P	**PKPbc**	**01 04 43.4**	**-1.4**
EVR	**Evrytania**	**152.91**	**267**	*e*P	**PKPbc**	**01 04 44.5**	**-0.3**
DOPR	**Dopca**	**152.98**	**284**	⇑*i*P	**PKPbc**	**01 04 43.6**	**-1.1**
THL	**Klokotos Trika**	**153.06**	**269**	P	**PKPbc**	**01 04 43.1**	**-1.9**
THL	**Klokotos Trika**	**153.06**	**269**	*e*P	**PKPbc**	**01 04 44.1**	**-0.9**
VOIR		**153.07**	**282**	⇓PKIKP	**PKPbc**	**01 04 45.1**	**+0.1**
VOIR		**153.07**	**282**	⇓*i*P	**PKPbc**	**01 04 45.1**	**+0.1**
KNT	**Kendrikon**	**153.11**	**272**	P	**PKPbc**	**01 04 43.0**	**-2.1**
MPEP	**Malo Peshtene**	**153.33**	**277**	*e*P	**PKPbc**	**01 04 45.5**	**0.0**
ARR	**Arges**	**153.33**	**282**	⇑*i*P	**PKPbc**	**01 04 45.7**	**+0.2**
VLS	**Valsamata**	**153.40**	**265**	P	**PKPbc**	**01 04 44.8**	**-1.0**
VLS	**Valsamata**	**153.40**	**265**	*e*P	**PKPbc**	**01 04 43.8**	**-2.0**
VTS	**Vitosha**	**153.44**	**276**	⇑PKIKP	**PKPbc**	**01 04 44.7**	**-1.3**
VTS	**Vitosha**	**153.44**	**276**	⇑*i*P	**PKPbc**	**01 04 44.7**	**-1.3**
BURAR	**Bucovina Array**	**153.48**	**287**	⇑PKIKP	**PKPbc**	**01 04 46.1**	**+0.3**
BURAR	**Bucovina Array**	**153.48**	**287**	⇑*i*P	**PKPbc**	**01 04 46.1**	**+0.3**
BUR08	**Bucovina Ar. S**	**153.50**	**287**	*e*PKPdf	**PKPdf**	**01 04 37.4**	**-0.8**
LKD2	**Lefkada island**	**153.64**	**266**	*e*P	**PKPbc**	**01 04 45.6**	**-0.8**
JAN	**Janina**	**153.90**	**268**	P	**PKPbc**	**01 04 45.5**	**-1.4**
JAN	**Janina**	**153.90**	**268**	*e*P	**PKPbc**	**01 04 46.0**	**-0.9**
LOT	**Lotru**	**153.94**	**282**	⇓*i*P	**PKPbc**	**01 04 47.8**	**+0.9**
FNA	**Florina**	**154.01**	**271**	*e*P	**PKPbc**	**01 04 44.5**	**-2.6**
LVV	**L'vov**	**154.61**	**292**	*e*PKIKP	**PKPbc**	**01 04 48.2**	**+0.2**
DRGR		**154.98**	**285**	⇓PKIKP	**PKPbc**	**01 04 48.1**	**-0.9**
DRGR		**154.98**	**285**	⇓*i*P	**PKPbc**	**01 04 48.1**	**-0.9**
PHP	**Peshkopia**	**155.02**	**272**	P	**PKPdf**	**01 04 39.7**	**-0.7**
TRPA	**Tarpa**	**155.35**	**288**	⇑*i*P	PKPdf	01 04 49.7	+9.1
KWP	**Kalwaria Pacla**	**155.44**	**291**	⇑PKIKP	PKPdf	01 04 48.5	+7.8
KWP	**Kalwaria Pacla**	**155.44**	**291**	⇑*i*P	PKPdf	01 04 48.5	+7.8
BZS	**Buzias**	**155.45**	**281**	⇓PKIKP	**PKPdf**	**01 04 43.3**	**+2.5**
BZS	**Buzias**	**155.45**	**281**	⇓*i*P	**PKPdf**	**01 04 43.3**	**+2.5**
UZH	**Uzhgorod**	**155.59**	**289**	*e*PKIKP	PKPdf	01 04 49.0	+8.1
UZH				*e*		01 04 56.8		
UZH				*e*		01 05 00.6		
UZH				*e*		01 05 03.8		
KOLS	**Kolonicke sedl**	**155.64**	**289**	*e*PKIKP	**PKPdf**	**01 04 43.7**	**+2.7**
KOLS	**Kolonicke sedl**	**155.64**	**289**	*e*PKP	**PKPdf**	**01 04 43.7**	**+2.7**
DIVS	**Divibare**	**156.15**	**277**	P	**PKPdf**	**01 04 39.7**	**-2.2**
STHS	**Stebnicka Huta**	**156.37**	**290**	*e*PKIKP	**PKPdf**	**01 04 43.7**	**+1.8**
STHS	**Stebnicka Huta**	**156.37**	**290**	*e*PKP	**PKPdf**	**01 04 43.7**	**+1.8**
STHS				*e*		01 05 10.9		
TIP	**Timpagrande**	**156.52**	**263**	*e*PKPdf	**PKPdf**	**01 04 41.5**	**-1.0**
VYHS	**Vyhne**	**157.85**	**288**	*e*PKIKP	**PKPdf**	**01 04 44.2**	**+0.4**
VYHS	**Vyhne**	**157.85**	**288**	*e*PKP	**PKPdf**	**01 04 44.2**	**+0.4**
VYHS				*e*		01 05 16.1		
OKC	**Ostrava-Krasne**	**158.41**	**291**	*e*PKIKP	PKPdf	01 04 51.9	+7.5
OKC				*e*		01 05 19.1		
OKC	**Ostrava-Krasne**	**158.41**	**291**	⇑*e*PKP	PKPdf	01 04 51.9	+7.5
OKC				*e*PKPAB	**PKPab**	**01 05 19.1**	**-0.1**
NB2	**NORSAR Subarra**	**159.25**	**324**	P	**PKPab**	**01 05 20.9**	**-1.7**
	comp=Z,4.5nm,0.8s,baz=63,slow=5.1							
NOA	**NORSAR Array B**	**159.25**	**324**	PKPab	**PKPab**	**01 05 21.2**	**-1.4**
NOA	**NORSAR Array B**	**159.25**	**324**	PKPab	**PKPab**	**01 05 21.2**	**-1.4**
	comp=Z,2.4nm,0.7s,baz=58,slow=4.4,SNR=9.6							
DPC	**Dobruska-Polom**	**159.60**	**293**	*e*PKIKP	**PKPdf**	**01 04 45.0**	**-0.9**
DPC	**Dobruska-Polom**	**159.60**	**293**	*e*PKPDF	**PKPdf**	**01 04 45.0**	**-0.9**
DPC				*e*PKPAB	**PKPab**	**01 05 24.8**	**+0.3**
KEST	**Kesra**	**159.63**	**247**	PKPab	**PKPab**	**01 05 26.3**	**+1.2**
KEST	**Kesra**	**159.63**	**247**	PKPab	**PKPab**	**01 05 26.3**	**+1.2**
	comp=Z,5.8nm,1.1s,baz=144,slow=2.5,SNR=12							
DOBS	**Dobrina**	**159.75**	**280**	*i* PKPdf	**PKPdf**	**01 04 44.7**	**-1.5**
BOJS	**Bojanci**	**159.77**	**278**	*i* PKPdf	**PKPdf**	**01 04 44.7**	**-1.5**
BOJS				*e*		01 04 52.2		
BOJS				*i* PKPab	**PKPab**	**01 05 24.4**	**-0.9**
BSD	**Bornholm Skovb**	**159.88**	**307**	⇓*i*PKP2	**PKPab**	**01 05 25.6**	**+0.2**
BSD				pmax	pmax			
	comp=Z,26nm,1.0s							
BSD	**Bornholm Skovb**	**159.88**	**307**	⇓*i*P	**PKPab**	**01 05 25.6**	**+0.2**
	comp=Z,26nm,1.0s							
ARSA	**Arzberg**	**159.90**	**283**	⇑*i*pPKPab	**PKPab**	**01 05 25.9**	**+0.1**
	comp=Z,7.4nm,1.4s							
TREC	**Trest**	**160.11**	**289**	*e*PKP2	**PKPab**	**01 05 26.6**	**-0.1**
TREC	**Trest**	**160.11**	**289**	*e*PKPAB	**PKPab**	**01 05 26.6**	**-0.1**
VISS	**Visnje**	**160.11**	**279**	*i* PKPdf	**PKPdf**	**01 04 45.0**	**-1.6**
VISS				*i*		01 04 52.4		
VISS				*e*PKPab	**PKPab**	**01 05 25.4**	**-1.5**
SOKA	**Soboth**	**160.14**	**282**	⇑*i*PKPdf	**PKPdf**	**01 04 45.8**	**-0.9**
	comp=Z,5.1nm,1.2s							
SOKA				⇑*i*PKPab	**PKPab**	**01 05 26.2**	**-0.8**
	comp=Z,8.0nm,1.2s							
PVCC	**Panska Ves**	**160.72**	**293**	*e*PKIKP	**PKPdf**	**01 04 51.7**	**+4.6**
PVCC	**Panska Ves**	**160.72**	**293**	*e*PKPDF	**PKPdf**	**01 04 51.7**	**+4.6**
PRU	**Pruhonice**	**160.74**	**291**	*e*PKIKP	**PKPdf**	**01 04 45.5**	**-1.6**
PRU				*e*		01 05 28.9		
PRU	**Pruhonice**	**160.74**	**291**	*e*PKPDF	**PKPdf**	**01 04 45.5**	**-1.6**
PRU				*e*PKPAB	**PKPab**	**01 05 28.9**	**-0.5**
PRA	**Prague**	**160.81**	**292**	PKPDF	**PKPdf**	**01 04 46.0**	**-1.2**
PRA				PKPAB	**PKPab**	**01 05 29.0**	**-0.7**
RGN	**Rugen**	**160.91**	**306**	*e*PKPdf	**PKPdf**	**01 04 46.2**	**-0.9**
RGN				*e*PKPab	**PKPab**	**01 05 31.1**	**+1.2**
RUE	**Ruedersdorf**	**161.04**	**299**	*e*PKPab	**PKPab**	**01 05 31.2**	**+0.6**
BRG	**Berggiesshubel**	**161.10**	**294**	*e*PKP	**PKPdf**	**01 04 47.1**	**-0.4**
	comp=Z,8.3nm,1.6s							
BRG				*e*		01 04 53.2		
	comp=Z,20nm,1.7s							
BRG				*e*		01 05 30.9		
	comp=Z,16nm,1.4s							
BRG				PP	**PP**	**01 09 17.2**	**+2.5**
	comp=Z,26nm,2.3s							
BRG								
	comp=N,211nm,23.2s							
BRG								
	comp=E,124nm,16.5s							
BRG								
	comp=Z,248nm,12.6s							
BRG	**Berggiesshubel**	**161.10**	**294**	*e*PKPdf	**PKPdf**	**01 04 45.9**	**-1.6**
BRG				*e*pPKPdf	**pPKPdf**	**01 04 53.2**	**-1.8**
BRG				*e*PKPab	**PKPab**	**01 05 31.1**	**+0.2**
BRG	**Berggiesshubel**	**161.10**	**294**	*e*PKIKP	**PKPdf**	**01 04 47.1**	**-0.4**
BRG				*e*		01 04 53.2		
BRG				*e*		01 05 30.9		
BRG						01 09 17.2		
BRG				pmax	pmax			
	comp=Z,9.0nm,1.6s							
BRG				pmax	pmax			
	comp=Z,8.0nm,1.7s							
BRG				pmax	pmax			
	comp=Z,21nm,1.4s							
BRG				pmax	pmax			
	comp=Z,16nm,2.3s							
BRG				MLR	MLR			
	comp=N,26µm,23.2s							
BRG				MLR	MLR			
	comp=E,211nm,16.5s							
BRG				MLR	MLR			
	comp=Z,124nm,12.6s							
GEC2	**GERESS Array S**	**161.27**	**288**	*e*PKPdf	**PKPdf**	**01 04 46.2**	**-1.7**
GEC2				*e*PKPab	**PKPab**	**01 05 30.9**	**-1.0**
GEC2	**GERESS Array S**	**161.27**	**288**	*e*PKIKP	**PKPdf**	**01 04 46.2**	**-1.7**
GERES	**GERESS Array B**	**161.27**	**288**	PKPab	**PKPab**	**01 05 31.6**	**-0.3**
GERES	**GERESS Array B**	**161.27**	**288**	PKPab	**PKPab**	**01 05 31.6**	**-0.3**
	comp=Z,3.4nm,1.0s,baz=108,slow=4.3,SNR=13							
KHC	**Kasperske Hory**	**161.36**	**289**	*e*PKIKP	**PKPdf**	**01 04 46.8**	**-1.1**
KHC				*e*		01 05 28.2		
KHC	**Kasperske Hory**	**161.36**	**289**	*e*PKPDF	**PKPdf**	**01 04 46.8**	**-1.1**
KHC				*e*PKPAB	**PKPab**	**01 05 28.2**	**-4.0**
FBE	**Freiberg**	**161.47**	**294**	*e*PKPab	**PKPab**	**01 05 31.8**	**-0.7**
FBE				*e*pPKPab	**pPKPab**	**01 05 39.0**	**-0.9**
CLL	**Collm**	**161.66**	**296**	*e*PKPdf	**PKPdf**	**01 04 46.5**	**-1.5**
CLL				*e*PKPab	**PKPab**	**01 05 32.1**	**-1.3**
CLL	**Collm**	**161.66**	**296**	*i* PKIKP	**PKPdf**	**01 04 46.6**	**-1.5**
CLL				*i*		01 05 32.9		
CLL				pmax	pmax			
	comp=Z,8.0nm,1.6s							
CLL				pmax	pmax			
	comp=Z,11nm,1.2s							
CLL	**Collm**	**161.66**	**296**	*i* PKPdf	**PKPdf**	**01 04 46.6**	**-1.5**
	comp=Z,11nm,1.6s							
CLL				*i* PKPdf(2)		01 04 53.7		
	comp=Z,7.0nm,1.3s							
CLL				*i* PKPab	**PKPab**	**01 05 32.9**	**-0.5**
	comp=Z,10.0nm,1.2s							
CLL				*i* PKPab(2)		01 05 40.6		
	comp=Z,11nm,1.3s							
CLL				*e*PP	**PP**	**01 09 14.0**	**-3.7**
CLL				LmV		02 16 00.0		
	comp=Z,200nm,21.7s							
RJOB	**Jochberg**	**161.79**	**284**	*e*PKPdf	**PKPdf**	**01 04 46.5**	**-1.9**
RJOB				*e*pPKPdf	**pPKPdf**	**01 04 53.5**	**-2.5**
RJOB				*e*PKPab	**PKPab**	**01 05 32.7**	**-1.5**
WET	**Wettzell**	**161.82**	**289**	*e*PKPab	**PKPab**	**01 05 33.8**	**-0.4**
WET				*e*pPKPab	**pPKPab**	**01 05 39.9**	**-1.7**
WET	**Wettzell**	**161.82**	**289**	*e*PKP2	**PKPab**	**01 05 33.8**	**-0.4**
TANN	**Tannenbergstha**	**162.07**	**293**	*e*PKPdf	**PKPdf**	**01 04 46.5**	**-2.1**
TANN				*e*PKPab	**PKPab**	**01 05 34.7**	**-0.6**
WERN	**Wernitzgruen**	**162.13**	**292**	*e*PKPdf	**PKPdf**	**01 04 46.5**	**-2.1**
WERN				*e*pPKPdf	**pPKPdf**	**01 04 54.7**	**-1.5**
GUNZ	**Gunzen**	**162.15**	**293**	*e*PKPdf	**PKPdf**	**01 04 46.8**	**-1.8**
GUNZ				*e*PKPab	**PKPab**	**01 05 35.0**	**-0.6**
WERD	**Werda**	**162.16**	**293**	*e*PKPdf	**PKPdf**	**01 04 46.8**	**-1.8**
WERD				*e*pPKPdf	**pPKPdf**	**01 04 54.7**	**-1.5**
WERD				*e*PKPab	**PKPab**	**01 05 34.8**	**-0.9**
PLN	**Plauen**	**162.26**	**293**	*e*PKPab	**PKPab**	**01 05 36.0**	**0.0**
MANZ	**Manzenberg**	**162.31**	**292**	*e*PKPdf	**PKPdf**	**01 04 47.7**	**-1.1**
MANZ				*e*PKPab	**P

mb3.5/2, Error ellipse: s-maj=13.6km s-min=8.2km az=165.7

NEIC ***16*** *00:54:13.0, 46°22S × 166°08E, h12km, ML4.0(WEL), After WEL.*

ISC 16 00:54:11.2±1.4, 46°36S±0°08 × 166°19E±0°07, h13km, n14, σ1§16/17, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**1.11**	**38**	P*	**Pb**	**00 54 31.7**	**-0.6**
DCZ				S*	**Sb**	**00 54 46.0**	**-0.7**
WHZ	**Wether Hill Ro**	**1.31**	**70**	Pn	**Pg**	**00 54 37.0**	**+0.5**
WHZ				Sn	**Sg**	**00 54 54.1**	**+0.7**
APZ	**The Paps**	**1.33**	**111**	Pn	**Pg**	**00 54 37.6**	**+0.8**
SYZ	**Scrubby Hill**	**2.05**	**96**	Pn	**Pb**	**00 54 47.8**	**-0.5**
TUZ	**Tuapeka**	**2.43**	**82**	Pn	**Pb**	**00 54 52.8**	**-2.0**
EAZ	**Earnscleugh**	**2.46**	**64**	Pn	**Pb**	**00 54 53.8**	**-1.4**
EAZ				Sn	**Sb**	**00 55 24.4**	**-1.0**
WKZ	**Wanaka**	**2.51**	**53**	Pn	**Pb**	**00 54 55.8**	**-0.4**
ODZ	**Otahua Downs**	**3.39**	**69**	Pn	**Pn**	**00 55 04.5**	**+0.7**
LBZ	**Lake Benmore**	**3.44**	**56**	Pn	**Pn**	**00 55 06.2**	**+1.7**
RPZ	**Rata Peaks**	**4.35**	**54**	Pn	**Pn**	**00 55 18.4**	**+1.4**
	2.4nm,0.3s,baz=336,slow=18,SNR=3.4						
RPZ				Sn	**Sn**	**00 56 06.9**	**-0.6**
	5.0nm,0.3s,baz=3.5,slow=19,SNR=3.3						
BKZ	**Black Stump Fm**	**10.44**	**50**	Pn	**Pn**	**00 56 42.1**	**+1.6**
ASAR	**Alice Springs**	**34.43**	**300**	P	**P**	**01 00 58.4**	**-0.1**
	0.2nm,0.4s,baz=128,slow=7.3,SNR=6.8						
WRA	**Warramunga Arr**	**37.06**	**305**	P	**P**	**01 01 19.9**	**-1.1**
	0.6nm,0.7s,baz=137,slow=7.9,SNR=6.6						
TORD	**Torodi Ar. Bea**	**144.40**	**207**	PKP	PKPbc	01 13 46.1	+0.4
	0.3nm,0.7s,baz=180,slow=2.8,SNR=5.4						

IDC ***16*** *01:01:25.8±1.8, 46°46S × 166°20E, h0km, mb3.6/1, mb1 3.9/2, mb1mx3.6/14, mbtmp3.7/2, ML3.7/1, Error ellipse: s-maj=65.4km s-min=30.9km az=161.0*

NEIC ***16*** *01:01:29.8, 46°31S × 166°06E, h12km, ML4.3(WEL), After WEL.*

ISC 16 01:01:27.8±1.2, 46°45S±0°14 × 166°14E±0°08, h13km, n16, σ1§85/20, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.45**	**57**	P*	**Pn**	**01 01 39.0**	**-0.9**
PYZ				S*	**Sb**	**01 01 44.8**	**+0.6**
APZ	**The Paps**	**1.34**	**109**	Pn	**Pg**	**01 01 54.6**	**+1.0**
SYZ	**Scrubby Hill**	**2.08**	**95**	Pn	**Pb**	**01 02 05.0**	**-0.3**
TUZ	**Tuapeka**	**2.47**	**81**	Pn	**Pb**	**01 02 10.1**	**-1.9**
WKZ	**Wanaka**	**2.57**	**53**	Pn	**Pb**	**01 02 11.7**	**-2.0**
JCZ	**Jackson Bay**	**2.98**	**39**	Pn	**Pn**	**01 02 15.6**	**+0.8**
ODZ	**Otahua Downs**	**3.44**	**68**	ePn	**Pn**	**01 02 21.4**	**+0.4**
ODZ				eS	**Sn**	**01 02 58.0**	**-3.6**
LBZ	**Lake Benmore**	**3.50**	**56**	Pn	**Pn**	**01 02 22.6**	**+0.8**
LBZ				Sn	**Sn**	**01 03 03.5**	**+0.5**
RPZ	**Rata Peaks**	**4.40**	**54**	ePn	**Pn**	**01 02 33.3**	**-1.0**
RPZ				eS	**Sn**	**01 03 31.1**	**+5.7**
RPZ	**Rata Peaks**	**4.40**	**54**	Pn	**Pn**	**01 02 34.4**	**+0.1**
	3.7nm,0.3s,baz=201,slow=7.2,SNR=7.6						
RPZ				Sn	**Sn**	**01 03 25.7**	**+0.2**
	5.7nm,0.3s,baz=22,slow=21,SNR=8.6						
LTZ	**Lake Taylor**	**5.68**	**53**	Pn	**Pn**	**01 02 52.0**	**+0.1**
WRA	**Warramunga Arr**	**37.06**	**305**	P	**P**	**01 08 37.8**	**+0.2**
	0.8nm,0.9s,baz=141,slow=7.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**144.34**	**207**	PKP	PKPbc	01 21 02.4	+0.2
	0.8nm,0.8s,baz=184,slow=2.3,SNR=8.5						
BRTR	**Keskin Array B**	**145.10**	**276**	PKPbc	**PKPdf**	**01 21 04.4**	**-0.2**
	1.3nm,0.7s,baz=149,slow=4.3,SNR=7.7						
ARCES	**ARCESS Array B**	**149.77**	**334**	PKPbc	**PKPbc**	**01 21 16.4**	**+0.4**
	2.8nm,0.8s,baz=56,slow=6.6,SNR=5.6						
FINES	**FINESS Array B**	**152.64**	**318**	PKPbc	**PKPbc**	**01 21 22.3**	**-0.5**
	0.9nm,0.9s,baz=60,slow=7.5,SNR=4.2						

KRSC ***16*** *01:13:55.0±1.1, 51°46N × 157°50E, h129km±48km, ML3.5*

IDC ***16*** *01:13:56.7±5.7, 51°46N × 157°99E, h113km±51km, mb3.2/3, mb1 3.7/3, mb1mx3.1/24, mbtmp3.2/3, Error ellipse: s-maj=86.1km s-min=59.6km az=115.0*

ISC 16 01:13:56.1±1.0, 51°55N±0°07 × 157°2E±0°1, h129km±7km, n25, σ0§92/38, mb3.4/3, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.23**	**248**	*i* P	**Pn**	**01 14 14.2**	**+0.2**
PAU				*i* S	**Sn**	**01 14 28.3**	**+0.9**
MIPR	**Malaya Ipel'ka**	**0.77**	**341**	*e*P	**Pn**	**01 14 16.7**	**-0.2**
MIPR				eS	**Sn**	**01 14 32.4**	**-0.4**
ASAK	**Asacha**	**0.95**	**29**	*i* P	**Pn**	**01 14 18.7**	**+0.1**
ASAK				eS	**Sn**	**01 14 36.0**	**+0.3**
SKR	**Severo-Kuril's**	**1.09**	**217**	*i* P	**Pn**	**01 14 20.0**	**+0.2**
SKR				*i* S	**Sn**	**01 14 38.4**	**+0.6**
MTVR	**Mutnovka**	**1.13**	**34**	*i* P	**Pn**	**01 14 20.4**	**+0.1**
MTVR				eS	**Sn**	**01 14 39.0**	**+0.3**
GRL	**Gorelyy**	**1.15**	**29**	*i* P	**Pn**	**01 14 20.8**	**+0.3**
RUS	**Russkaya**	**1.22**	**43**	*e*P	**Pn**	**01 14 20.6**	**-0.4**
RUS				eS	**Sn**	**01 14 39.5**	**-0.5**
APC	**Apacha**	**1.37**	**360**	*i* P	**Pn**	**01 14 22.4**	**-0.3**
APC				eS	**Sn**	**01 14 42.4**	**-0.6**
PETK	**Petropavlovsk-**	**1.59**	**12**	P	**Pn**	**01 14 25.0**	**-0.2**
	1.2nm,0.3s,baz=164,slow=12,SNR=14						
PETK				S	**Sn**	**01 14 47.9**	**+0.4**
	1.4nm,0.3s,baz=190,slow=16,SNR=7.4						
PET	**Petropavlovsk**	**1.74**	**31**	P	**Pn**	**01 14 26.6**	**-0.2**
PET				*i* S	**Sn**	**01 14 49.7**	**-0.6**
UGLR	**Uglovaya**	**1.95**	**31**	*e*P	**Pn**	**01 14 30.5**	**+1.0**
UGLR				eS	**Sn**	**01 14 56.1**	**+1.1**
KOK	**Koryaka**	**1.96**	**27**	*e*P	**Pn**	**01 14 30.8**	**+1.1**
KOK				eS	**Sn**	**01 14 57.1**	**+1.8**
AVH	**Avacha**	**1.97**	**29**	*e*P	**Pn**	**01 14 30.8**	**+1.1**
AVH				eS	**Sn**	**01 14 56.9**	**+1.5**
SMAR	**Somma**	**1.99**	**30**	P	**Pn**	**01 14 30.8**	**+0.7**
SMAR				eS	**Sn**	**01 14 56.9**	**+0.8**
KRER	**Koryakskii**	**2.01**	**28**	*e*P	**Pn**	**01 14 31.0**	**+0.7**
KRER				eS	**Sn**	**01 14 57.3**	**+0.8**
NLC	**Nalytchevo**	**2.10**	**39**	eS	**Sn**	**01 14 55.2**	**-3.0**
GNL	**Ganaly**	**2.20**	**12**	*e*P	**Pn**	**01 14 32.7**	**+0.1**
TUMR	**Tumrok**	**4.14**	**24**	*e*P	**Pn**	**01 14 58.7**	**+0.9**
KMNR	**Kamenistaya**	**4.59**	**22**	*e*P	**Pn**	**01 15 04.6**	**+0.9**
KPT	**Kopyto**	**4.78**	**21**	P	**Pn**	**01 15 06.4**	**+0.2**
KOZ	**Kozyrevsk**	**4.79**	**19**	P	**Pn**	**01 15 07.1**	**+0.8**
BKI	**Bering**	**6.42**	**52**	eS	Sn	01 16 32.2	-7.7
ILAR	**Eielson Array**	**31.18**	**43**	P	**P**	**01 20 01.1**	**-1.3**
	0.5nm,0.6s,baz=262,slow=6.6,SNR=5.7						
PDAR	**Pinedale Array**	**59.86**	**58**	P	**P**	**01 23 48.3**	**+0.2**
	0.4nm,0.7s,baz=320,slow=3.9,SNR=4.2						
TXAR	**Lajitas Array**	**72.91**	**64**	P	**P**	**01 25 11.4**	**+0.2**
	0.3nm,0.4s,baz=303,slow=4.7,SNR=6.6						

IDC 16 01:21:08.4±1.2, 0.88N × 124°88E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.7/22, mbtmp3.7/6, ML3.1/1, Error ellipse: s-maj=110.2km s-min=19.5km az=70.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.88**	**178**	P	P	01 25 29.4	-1.1
	0.0nm,0.3s,baz=338,slow=2.7,SNR=3.1						
WRA	**Warramunga Arr**	**22.68**	**156**	P	P	01 26 10.4	-1.3
	1.7nm,0.5s,baz=330,slow=11,SNR=12						
ASAR	**Alice Springs**	**25.93**	**161**	P	P	01 26 43.1	+0.4
	0.9nm,0.4s,baz=352,slow=16,SNR=12						
SONM	**Songino Array**	**49.45**	**344**	P	P	01 29 59.2	-1.3
	0.2nm,0.3s,baz=145,slow=3.5,SNR=3.5						
MKAR	**Makanchi Array**	**58.88**	**327**	P	P	01 31 09.6	+0.4
	0.3nm,0.4s,baz=120,slow=7.5,SNR=8.0						
VNDA	**Vanda**	**80.86**	**172**	P	P	01 33 24.8	+0.9
	0.4nm,0.5s,baz=304,slow=9.7,SNR=3.6						

IDC 16 01:30:55.6±1.8, 56°43S × 27°82W, h0km, mb4.0/2, mb1 4.1/2, mb1mx3.7/15, mbtmp4.0/2, Error ellipse: s-maj=73.8km s-min=42.1km az=7.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**50.31**	**306**	P	P	01 39 54.8	0.0
	0.5nm,0.5s,baz=162,slow=9.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**73.56**	**30**	P	P	01 42 30.3	+0.1
	2.4nm,0.6s,baz=199,slow=6.3,SNR=43						
FINES	**FINESS Array B**	**124.88**	**28**	PKP	PKPdf	01 49 54.9	-1.1
	0.7nm,0.5s,baz=187,slow=1.5,SNR=4.7						
ILAR	**Eielson Array**	**150.10**	**311**	PKPbc	PKPbc	01 50 46.1	-0.6
	0.8nm,0.9s,baz=126,slow=1.6,SNR=5.9						
SONM	**Songino Array**	**151.10**	**88**	PKPbc	PKPbc	01 50 50.0	+0.2
	1.0nm,0.4s,baz=217,slow=3.7,SNR=7.4						

IDC 16 01:36:15.7±2.1, 45°40S × 166°10E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/13, mbtmp3.6/2, Error ellipse: s-maj=118.9km s-min=42.9km az=45.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**33.91**	**299**	P	P	01 43 02.2	+1.8
	0.6nm,0.9s,baz=140,slow=8.2,SNR=4.8						
WRA	**Warramunga Arr**	**36.47**	**304**	P	P	01 43 20.8	-1.7
	1.1nm,0.9s,baz=138,slow=7.5,SNR=3.1						
BRTR	**Keskin Array B**	**144.94**	**278**	PKP	PKPbc	01 55 54.1	+0.4
	0.6nm,1.0s,baz=120,slow=4.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**145.23**	**207**	PKPbc	PKPbc	01 55 54.0	-1.1
	1.2nm,0.7s,baz=147,slow=3.0,SNR=10						
ARCES	**ARCESS Array B**	**148.85**	**334**	PKPbc	PKPbc	01 56 03.6	-0.3
	1.7nm,0.8s,baz=53,slow=4.6,SNR=4.8						

NEIC 16 01:53:37.3, 60.94N × 150.40W, h43km, ML3.5(AEIC), After AEIC., Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RC01	**Rabbit Creek A**	**0.35**	**65**	*e*Pg	Pn	01 53 45.7	-0.8
RC01				eS	Sn	01 53 53.1	+0.2
SLKM	**Skilak Lake**	**0.44**	**169**	P	Pn	01 53 47.0	-0.6
NKA	**Nikishka**	**0.46**	**245**	P	Pn	01 53 48.5	+0.9
SUA	**Susitna One**	**0.55**	**342**	P	Pn	01 53 47.9	-1.2
SPU	**Mount Spurr**	**0.84**	**287**	P	Pn	01 53 51.7	-1.2
STLK	**Strandline Lak**	**0.89**	**309**	P	Pn	01 53 52.6	-0.9
PMR	**Palmer**	**0.90**	**42**	*e*Pg	Pn	01 53 52.5	-0.9
PMR				eS	Sn	01 54 04.8	-0.4
CKL	**Chakachamna La**	**0.98**	**286**	P	Pn	01 53 53.9	-0.9
BGRM	**Barrier Glacie**	**1.01**	**260**	P	Pn	01 53 54.1	-1.1
BGL	**Barrier Glacie**	**1.02**	**289**	P	Pn	01 53 54.5	-0.8
DFR	**Drift River**	**1.18**	**254**	P	Pn	01 53 56.5	-0.9
SKT	**Skwentna**	**1.18**	**333**	P	Pn	01 53 56.8	-0.6
SKT				S	Sn	01 54 12.5	+0.3
BRLK	**Bradley Lake**	**1.21**	**192**	P	Pn	01 53 57.4	-0.3
BRLK				S	Sn	01 54 13.3	+0.4
RDJH	**Redoubt Jeurge**	**1.23**	**255**	P	Pn	01 53 57.6	-0.7
RDJH				S	Sn	01 54 13.5	-0.4
RSO	**Redoubt South**	**1.25**	**249**	*e*Pn	Pn	01 53 57.9	-0.8
RDWB	**Redoubt West**	**1.28**	**250**	P	Pn	01 53 58.6	-0.4
RDWB				S	Sn	01 54 15.3	+0.1
NCT	**North Crescent**	**1.30**	**254**	P	Pn	01 53 58.4	-0.7
SML	**Sawmill**	**1.32**	**48**	*e*Pn	Pn	01 53 58.9	-0.4
SML				eS	Sn	01 54 16.7	+0.9
CUT	**Chulitna**	**1.47**	**2**	P	Pn	01 54 00.9	-0.4
CNPM	**China Poot**	**1.48**	**197**	P	Pn	01 54 01.4	-0.1
SCM	**Sheep Creek Mo**	**1.73**	**57**	P	Pn	01 54 04.5	-0.4
SCM				S	Sn	01 54 26.6	+0.7
PPLA	**Purkeypile**	**2.14**	**337**	P	Pn	01 54 10.9	+0.2
KLU	**Klutina**	**2.23**	**74**	P	Pn	01 54 11.2	-0.7
DIV	**Divide**	**2.26**	**83**	*e*Pn	Pn	01 54 11.3	-0.9
DIV				eS	Sn	01 54 37.8	-1.2
EYAK	**Cordova Ski Ar**	**2.32**	**98**	P	Pn	01 54 11.4	-1.5
TRF	**Thorofare Moun**	**2.52**	**1**	P	Pn	01 54 14.8	-1.2
SVW2	**Sparrevohn**	**2.53**	**276**	P	Pn	01 54 15.1	-0.8
MID	**Middleton Isla**	**2.53**	**125**	P	Pn	01 54 14.3	-1.6
DHY	**Denali Highway**	**2.57**	**32**	P	Pn	01 54 17.0	+0.3
RND	**Reindeer**	**2.58**	**16**	P	Pn	01 54 14.1	-2.5
CAST	**Castle Rocks**	**2.61**	**343**	P	Pn	01 54 17.4	+0.4
BMRM	**Bremner River**	**2.83**	**87**	*e*Pn	Pn	01 54 18.6	-1.4
BMRM				eS	Sn	01 54 52.4	-0.4
MCK	**McKinley**	**2.88**	**13**	P	Pn	01 54 21.7	+0.9
HARP	**HAARP**	**2.90**	**57**	P	Pn	01 54 20.8	-0.1
KAPH	**Katmai Pasha**	**3.08**	**222**	P	Pn	01 54 23.7	+0.1
CHUM	**Lake Minchumin**	**3.09**	**344**	P	Pn	01 54 24.0	+0.5
PAX	**Paxson**	**3.09**	**47**	*e*Pn	Pn	01 54 24.1	+0.3
PAX				eS	Sn	01 55 02.7	+3.2
TT01	**Tatalina**	**3.31**	**309**	P	Pn	01 54 26.4	-0.1
BERG	**Berg Lake**	**3.34**	**97**	P	Pn	01 54 24.7	-2.3
KDAK	**Kodiak Island**	**3.36**	**200**	*e*Pn	Pn	01 54 26.7	-0.5
KDAK				eS	Sn	01 55 17.5	+12
KHIT	**Khitrov Hills**	**3.55**	**95**	P	Pn	01 54 27.8	-2.2
KAKN	**Katmai Knife C**	**3.56**	**224**	P	Pn	01 54 30.3	+0.3
WRH	**Wood River Hil**	**3.70**	**16**	P	Pn	01 54 32.5	+0.5
NEA	**Nenana**	**3.70**	**9**	P	Pn	01 54 31.2	-0.7
MENT	**Mentasta**	**3.74**	**55**	*e*Pn	Pn	01 54 31.8	-0.6
MENT				eS	Sn	01 55 26.3	+11
KUL	**Kultieth River**	**3.85**	**97**	P	Pn	01 54 31.7	-2.4
PTPK	**Patty Peak**	**3.86**	**83**	P	Pn	01 54 32.6	-0.8
CCB	**Clear Creek Bu**	**3.91**	**17**	P	Pn	01 54 34.8	+0.1
KIAG	**Kiagna River**	**3.92**	**87**	P	Pn	01 54 33.7	-1.5
BALM	**Baldy**	**3.92**	**85**	P	Pn	01 54 33.9	-1.2
BARK	**Barkley Ridge**	**3.93**	**94**	P	Pn	01 54 33.4	-1.8
ISLE	**Juniper Island**	**3.97**	**91**	P	Pn	01 54 33.7	-2.0
OHAK	**Old Harbor**	**4.02**	**203**	*e*Pn	Pn	01 54 35.2	-1.0
OHAK				eS	Sn	01 55 36.0	+14
BAGL	**Bagley Icefiel**	**4.11**	**93**	P	Pn	01 54 36.2	-1.2
MLY	**Manley**	**4.11**	**358**	P	Pn	01 54 38.0	+0.4
COLA	**College**	**4.12**	**15**	*e*Pn	Pn	01 54 38.3	+0.7
COLA				eS	Sn	01 55 26.2	+1.8
MDM	**Murphy Dome**	**4.15**	**13**	P	Pn	01 54 38.9	+0.7
IL1	**Eielson Array**	**4.17**	**21**	P	Pn	01 54 38.5	+0.2
MESA	**MESA**	**4.24**	**97**	P	Pn	01 54 37.9	-1.7
TABL	**Table Mountain**	**4.58**	**92**	P	Pn	01 54 43.1	-1.1
BCA3	**Beaver Creek A**	**4.58**	**59**	P	Pn	01 54 43.6	-0.5
IM3	**Indian Mountai**	**5.28**	**345**	P	Pn	01 54 53.5	0.0
PNL	**Peninsula**	**5.62**	**98**	*e*Pn	Pn	01 54 56.5	-1.7
	15nm,0.8s						
EGAK	**Eagle**	**5.72**	**44**	*e*Pn	Pn	01 54 59.1	-0.4
	13nm,0.3s						
EGAK				eS	Sn	01 56 30.0	+26
COLD	**Coldfoot**	**6.31**	**1**	*e*Pn	Pn	01 55 07.5	-0.2
COLD				eS	Sn	01 56 20.0	+1.5
BM3	**Burnt Mountain**	**6.97**	**19**	P	Pn	01 55 17.0	+0.1

TAP ***16*** *01:56:28.6, 24°74N × 122°55E, h126km, ML3.6, C*

ISCJB ***16*** *01:56:29.2±0.8, 24°69N±0°05 × 122°60E±0°02, h115km±6km, Error ellipse: s-maj=8.0km s-min=3.5km az=175.1*

JMA ***16*** *01:56:29.2±0.2, 24°79N × 122°61E, h116km, M2.5*

ISC 16 01:56:29.9±1.9, 24°68N±0°07 × 122°59E±0°03, h113km±12km, n32, σ0§76/61, 4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.44**	**119**	P	**Pn**	**01 56 46.6**	**-0.1**
YOJ				eS	**Sn**	**01 57 00.4**	**+1.1**
TWB1	**Santiao Chiao**	**0.64**	**301**	*i*P	**Pn**	**01 56 48.1**	**0.0**
	baz=290						
TWB1				eS	**Sn**	**01 57 01.6**	**-0.2**
	baz=290						
TWC	**Suao**	**0.68**	**264**	P	**Pn**	**01 56 48.0**	**-0.4**
	baz=256						
TWC				S	**Sn**	**01 57 02.1**	**-0.2**
	baz=256						
ENA	**Nanau**	**0.81**	**252**	*i*P	**Pn**	**01 56 49.6**	**0.0**
	baz=247						
ENA				eS	**Sn**	**01 57 05.0**	**+0.6**
	baz=247						
NWF	**Wu-fen Shan**	**0.84**	**298**	P	**Pn**	**01 56 49.8**	**0.0**
	baz=287						
NWF				S	**Sn**	**01 57 04.9**	**0.0**
	baz=287						
TWE	**Neicheng**	**0.84**	**273**	P	**Pn**	**01 56 49.7**	**-0.1**
	baz=272						
TWE				eS	**Sn**	**01 57 04.4**	**-0.4**
	baz=272						
ENTT	**Nioudou**	**0.94**	**268**	P	**Pn**	**01 56 50.9**	**+0.2**
	baz=265						
ENTT				eS	**Sn**	**01 57 06.8**	**+0.4**
	baz=265						
TWD	**Chiawan**	**1.09**	**237**	*e*P	**Pn**	**01 56 51.9**	**-0.4**
	baz=233						
TWD				eS	**Sn**	**01 57 08.8**	**-0.4**
	baz=233						
IRIF	**Iriomote-Funau**	**1.09**	**108**	P	**Pn**	**01 56 52.2**	**0.0**
IRIF				eS	**Sn**	**01 57 09.2**	**0.0**
NSK	**Sanguang**	**1.12**	**270**	*i*P	**Pn**	**01 56 52.7**	**0.0**
	baz=273						
NSK				eS	**Sn**	**01 57 09.7**	**-0.3**
	baz=273						
NNS	**Nan Shan**	**1.14**	**258**	P	**Pn**	**01 56 52.9**	**0.0**
	baz=250						
NNS				eS	**Sn**	**01 57 10.3**	**0.0**
	baz=250						
HWA	**Hwalien**	**1.14**	**233**	*e*P	**Pn**	**01 56 52.4**	**-0.3**
	baz=221						
HWA				eS	**Sn**	**01 57 10.5**	**+0.4**
	baz=221						
TWS1	**Kuangyinshan**	**1.15**	**292**	*e*P	**Pn**	**01 56 52.4**	**-0.4**
	baz=284						
HATJ	**Hateruma jima**	**1.27**	**119**	P	**Pn**	**01 56 54.3**	**+0.1**
HATJ				eS	**Sn**	**01 57 13.6**	**+1.0**
WHF	**Hehuan Shan**	**1.32**	**247**	*i*P	**Pn**	**01 56 55.1**	**-0.1**
	baz=243						
WHF				S	**Sn**	**01 57 14.1**	**-0.4**
	baz=243						
TWT	**Tachien**	**1.36**	**252**	*e*P	**Pn**	**01 56 55.9**	**+0.5**
	baz=244						
TWT				eS	**Sn**	**01 57 15.2**	**+0.5**
	baz=244						
JKRS	**Kuro-shima**	**1.36**	**108**	P	**Pn**	**01 56 55.6**	**+0.3**
JKRS				eS	**Sn**	**01 57 14.6**	**+0.1**
JIJ	**Ishigaki jima**	**1.45**	**102**	P	**Pn**	**01 56 56.1**	**-0.1**
JIJ				eS	**Sn**	**01 57 15.3**	**-0.9**
NSTT	**Nanjuang**	**1.45**	**269**	*e*P	**Pn**	**01 56 55.7**	**-0.6**
	baz=266						
NSTT				eS	**Sn**	**01 57 15.7**	**-0.6**
	baz=266						
EHY	**Hungye**	**1.65**	**225**	*e*P	**Pn**	**01 56 56.4**	**-2.3**
	baz=229						
TWQ1	**Liyutan**	**1.69**	**259**	*e*P	**Pn**	**01 56 58.1**	**-1.1**
	baz=256						
TWQ1				eS	**Sn**	**01 57 21.0**	**-0.5**
	baz=256						
SMLT	**Sun Moon Lake**	**1.74**	**243**	*e*P	**Pn**	**01 57 00.3**	**+0.4**
	baz=237						
SMLT				eS	**Sn**	**01 57 25.2**	**+2.6**
	baz=237						
TYC	**Yuchr**	**1.76**	**244**	*e*P	**Pn**	**01 57 00.4**	**+0.4**
	baz=243						
TYC				eS	**Sn**	**01 57 23.5**	**+0.5**
	baz=243						
TWF1	**Yuli**	**1.77**	**222**	*e*P	**Pn**	**01 56 59.6**	**-0.6**
	baz=227						
TWF1				eS	**Sn**	**01 57 21.7**	**-1.7**
	baz=227						
YUS	**Yu-Shan**	**1.91**	**232**	*e*P	**Pn**	**01 57 02.7**	**+0.3**
	baz=223						
YUS				eS	**Sn**	**01 57 27.0**	**-0.1**
	baz=223						
JTJ	**Tarama**	**1.92**	**91**	P	**Pn**	**01 57 02.0**	**0.0**
JTJ				eS	**Sn**	**01 57 26.0**	**-0.5**
CHKT	**Chengkung**	**1.93**	**216**	*e*P	**Pn**	**01 57 01.5**	**-0.7**
	baz=208						
CHKT				eS	**Sn**	**01 57 25.6**	**-1.1**
	baz=208						
ALS	**Alishan**	**2.00**	**235**	*e*P	**Pn**	**01 57 04.2**	**+0.8**
	baz=227						
ALS				eS	**Sn**	**01 57 30.5**	**+1.6**
	baz=227						
CHN5	**Tsauling**	**2.05**	**239**	*e*P	**Pn**	**01 57 04.5**	**+0.7**
	baz=245						
CHN5				eS	**Sn**	**01 57 31.0**	**+1.3**
	baz=245						
ELDTW	**Lidau**	**2.07**	**225**	*e*P	**Pn**	**01 57 03.3**	**-0.7**
	baz=226						
CHN4	**Tsaushan**	**2.26**	**235**	*e*P	**Pn**	**01 57 06.8**	**+0.5**
	baz=232						
CHN4				eS	**Sn**	**01 57 35.0**	**+0.9**
	baz=232						
WTP	**Ta-pu**	**2.30**	**232**	*e*P	**Pn**	**01 57 06.9**	**0.0**
	baz=230						
WTP				eS	**Sn**	**01 57 35.8**	**+0.4**
	baz=230						

CSEM ***16*** *01:59:10.2, 38°38N × 26°95W, h0km, ML2.7, After PDA*

PDA 16 01:59:10.2±1.4, 38°38N × 26°95W, h0km±7km, MD3.5, ML2.7, Error ellipse: s-maj=8.0km s-min=3.1km az=32.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADH	**Angra Heroismo**	**0.36**	**321**	*i* P	**Pg**	**01 59 16.7**	**-0.4**
ADH				*i* S	Sg	01 59 22.1	+0.3
PMAN	**Manadas**	**0.93**	**286**	*e*P	**Pg**	**01 59 25.6**	**-2.5**
PMAN				eS	Sg	01 59 37.1	-3.1
PMAN	**Manadas**	**0.93**	**286**	*e*P	Pg	01 59 25.6	-2.5
PMAN				eS	Sg	01 59 37.1	-3.1
PGRA	**Graciosa**	**1.04**	**309**	*e*P	Pg	01 59 26.8	-3.4
PGRA	**Graciosa**	**1.04**	**309**	*e*P	Pg	01 59 26.8	-3.4
ROSA	**Rosais**	**1.07**	**289**	*e*P	Pg	01 59 28.3	-2.

JNU	**Nakatsue**	**22.96 329**	*e*P		**P**		**02 04 24.5**	**+0.5**
JNU	**Nakatsue**	**22.96 329**	P		**P**		**02 04 24.1**	**+0.1**
	16nm,0.8s,baz=69,slow=4.7,SNR=9.4							
MJAR	**Matsushiro Arr**	**23.28 346**	P		**P**		**02 04 25.7**	**-1.2**
MJAR	**Matsushiro Arr**	**23.28 346**	P		**P**		**02 04 25.7**	**-1.2**
	1.8nm,0.6s,baz=166,slow=11,SNR=6.0							
MAT	**Matsushiro**	**23.28 346**	P		**P**		**02 04 26.2**	**-0.7**
MAT			S		**S**		**02 08 26.6**	**-1.8**
PMG	**Port Moresby**	**23.31 174**	*e*P		**P**		**02 04 27.0**	**-0.3**
	36nm,1.0s							
PMG	**Port Moresby**	**23.31 174**	P		**P**		**02 04 27.1**	**-0.3**
	58nm,1.2s,baz=329,slow=5.7,SNR=6.3							
YULB	**Yu-li**	**24.22 296**	P		**P**		**02 04 35.7**	**+0.1**
	5.2nm,0.5s							
SSLB	**Suanglung**	**24.65 297**	P		**P**		**02 04 40.2**	**+0.7**
	13nm,1.0s							
KSRS	**Korea Array**	**27.87 330**	P		**P**		**02 05 07.5**	**-0.7**
	1.8nm,0.7s,baz=148,slow=9.7,SNR=5.4							
KSAR	**Wonju Array Be**	**27.88 330**	P		**P**		**02 05 07.5**	**-0.8**
MDJ	**Mudanjiang**	**33.23 340**	P		**P**		**02 05 56.6**	**+1.3**
MDJ			pP		**pP**		**02 06 28.3**	**+2.1**
MDJ			PP		**PP**		**02 07 14.3**	**+0.9**
MDJ			S		**S**		**02 11 06.5**	**+1.9**
MDJ			ScS		**ScS**		**02 16 07.3**	**+1.0**
MDJ			pmax		pmax			
	comp=Z,280nm,4.3s							
MDJ			LR		LR			
	comp=N,94nm,39.0s							
MDJ			LR		LR			
	comp=E,62nm,40.8s							
MDJ			LR		LR			
	comp=Z,21nm,55.7s							
CTAO	**Charters Tower**	**33.85 178**	*e*P		**P**		**02 06 01.9**	**+1.0**
	comp=Z,7.0nm,0.8s							
QIZ	**Qiongzhong**	**33.95 283**	*e*P		**P**		**02 06 00.5**	**-1.4**
	comp=Z,128nm,1.7s							
WRAB	**Tennant Creek**	**35.23 197**	*e*P		**P**		**02 06 11.3**	**-1.5**
	comp=Z,16nm,0.8s							
WRA	**Warramunga Arr**	**35.25 197**	P		**P**		**02 06 12.5**	**-0.4**
WRA	**Warramunga Arr**	**35.25 197**	P		**P**		**02 06 12.5**	**-0.4**
	comp=Z,12nm,0.7s,baz=22,slow=9.7,SNR=63							
GYA	**Guiyang**	**37.84 295**	*e*P		**P**		**02 06 35.5**	**+0.5**
GYA			pP		**pP**		**02 07 07.8**	**+1.3**
GYA			sP		**sP**		**02 07 25.0**	**+2.1**
GYA			PcP		**PcP**		**02 08 48.3**	**-0.3**
GYA			S		**S**		**02 12 14.5**	**-1.2**
GYA			ScP		**ScP**		**02 12 21.3**	**-1.6**
GYA			PcS		**PcS**		**02 12 37.0**	**-0.9**
GYA			ScS		**ScS**		**02 16 28.4**	**-4.1**
GYA			pmax		pmax			
	comp=Z,10.0nm,0.8s							
AS31	**Alice Springs**	**38.90 196**	*e*P		**P**		**02 06 43.5**	**-0.3**
ASAR	**Alice Springs**	**38.90 196**	P		**P**		**02 06 43.3**	**-0.5**
ASAR	**Alice Springs**	**38.90 196**	P		**P**		**02 06 43.3**	**-0.5**
	comp=Z,2.8nm,0.7s,baz=19,slow=11,SNR=24							
HHC	**Hu-ho-hao-te**	**39.52 319**	*e*P		**P**		**02 06 50.0**	**+1.1**
HHC			pP		**pP**		**02 07 20.4**	**-0.1**
HHC			sP		**sP**		**02 07 37.8**	**+0.9**
HHC			S		**S**		**02 12 41.0**	**+0.4**
HHC			PcS		**PcS**		**02 12 44.8**	**+1.0**
HHC			sS		**sS**		**02 13 34.8**	**-1.0**
HHC			ScS		**ScS**		**02 16 42.1**	**+0.3**
HHC			pmax		pmax			
	comp=Z,240nm,5.2s							
CD2	**Chengdu**	**41.33 301**	*e*P		**P**		**02 07 04.4**	**+0.5**
CD2			pP		**pP**		**02 07 37.1**	**+1.3**
CD2			sP		**sP**		**02 07 54.3**	**+2.2**
CD2			PP		**PnPn**		**02 08 45.1**	**-3.2**
CD2			S		**S**		**02 13 07.3**	**-0.4**
CD2			sS		**sS**		**02 14 04.8**	**+1.6**
CD2			SS		**SS**		**02 16 11.3**	**-6.0**
CD2			pmax		pmax			
	comp=Z,10.0nm,0.6s							
CD2			pmax		pmax			
	comp=Z,30nm,4.5s							
LZH	**Lanzhou**	**42.82 308**	*e*P		P		02 07 06.6	-9.4
LZH			pP		pP		02 07 39.1	-9.0
LZH			sP		sP		02 07 55.8	-8.5
LZH			pmax		pmax			
	comp=Z,13nm,1.0s							
STKA	**Stephens Creek**	**45.67 184**	*e*P		**P**		**02 07 38.0**	**-0.4**
	comp=Z,16nm,2.3s							
STKA	**Stephens Creek**	**45.67 184**	P		**P**		**02 07 38.2**	**-0.2**
	comp=Z,5.3nm,0.4s,baz=15,slow=11,SNR=15							
SONM	**Songino Array**	**46.46 325**	P		**P**		**02 07 44.4**	**-0.2**
SONM	**Songino Array**	**46.46 325**	P		**P**		**02 07 44.4**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=138,slow=9.8,SNR=4.6							
GTA	**Gaotai**	**46.96 311**	*e*P		**P**		**02 07 49.5**	**+0.9**
GTA			pmax		pmax			
	comp=Z,5.0nm,0.4s							
BBOO	**Buckleboo**	**47.26 190**	*e*P		**P**		**02 07 50.6**	**-0.2**
	comp=Z,329nm,0.6s							
WMQ	**Urumqi**	**56.91 313**	*e*P		**P**		**02 09 04.5**	**+2.3**
WMQ			pP		**pP**		**02 09 37.5**	**+1.6**
WMQ			sP		**sP**		**02 09 53.3**	**+1.5**
WMQ			PP		**PP**		**02 11 14.3**	**+4.1**
WMQ			pmax		pmax			
	comp=Z,5.0nm,0.4s							
WMQ			LR		LR			
	comp=N,46nm,22.2s							
WMQ			LR		LR			
	comp=E,81nm,22.2s							
WMQ			LR		LR			
	comp=Z,91nm,20.3s							
URZ	**Urewera**	**60.07 151**	P		**P**		**02 09 24.7**	**+0.8**
URZ	**Urewera**	**60.07 151**	P		**P**		**02 09 24.7**	**+0.8**
	comp=Z,4.1nm,0.3s,baz=291,slow=3.6,SNR=6.4							
MK31	**Makanchi Array**	**61.25 316**	*e*P		**P**		**02 09 31.8**	**-0.2**
MKAR	**Makanchi Array**	**61.25 316**	P		**P**		**02 09 31.9**	**-0.1**
MKAR	**Makanchi Array**	**61.25 316**	P		**P**		**02 09 31.9**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=92,slow=8.6,SNR=25							
ILAR	**Eielson Array**	**68.23 25**	P		**P**		**02 10 13.9**	**-2.9**
ILAR	**Eielson Array**	**68.23 25**	P		**P**		**02 10 13.9**	**-2.9**
	comp=Z,0.7nm,0.4s,baz=253,slow=5.5,SNR=16							
BVAR	**Borovoye Array**	**69.66 322**	P		**P**		**02 10 24.0**	**-1.9**
BVAR	**Borovoye Array**	**69.66 322**	P		**P**		**02 10 24.0**	**-1.9**
	comp=Z,1.2nm,0.4s,baz=99,slow=7.8,SNR=6.3							
YBH	**Yreka Blue Hor**	**82.61 49**	P		**P**		**02 11 40.4**	**+0.9**
YBH	**Yreka Blue Hor**	**82.61 49**	P		**P**		**02 11 40.4**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=277,slow=5.0,SNR=4.4							
BMO	**Blue Mountains**	**85.72 45**	*e*P		**P**		**02 11 54.8**	**-0.3**
	comp=Z,1.7nm,0.8s							
BSMT	**Bassoo Peak**	**86.56 42**	*e*P		**P**		**02 11 58.6**	**-0.7**
NVAR	**Mina Array Bea**	**86.67 51**	P		**P**		**02 12 00.3**	**+0.3**
NVAR	**Mina Array Bea**	**86.67 51**	P		**P**		**02 12 00.3**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=268,slow=6.0,SNR=17							
MFID	**Camas Ranch**	**87.13 46**	*e*P		**P**		**02 12 02.1**	**0.0**
	comp=Z,4.3nm,1.1s							
HLID	**Hailey**	**88.07 46**	*e*P		**P**		**02 12 06.8**	**+0.1**
	comp=Z,21nm,2.5s							
ELK	**Elko**	**88.31 48**	P		**P**		**02 12 08.0**	**0.0**
ELK	**Elko**	**88.31 48**	P		**P**		**02 12 08.0**	**0.0**
	comp=Z,1.0nm,0.4s,baz=295,slow=4.3,SNR=9.1							
FINES	**FINESS Array B**	**90.85 335**	P		**P**		**02 12 16.4**	**-2.5**
FINES	**FINESS Array B**	**90.85 335**	P		**P**		**02 12 16.4**	**-2.5**
	comp=Z,0.7nm,0.5s,baz=46,slow=5.5,SNR=8.4							
VNDA	**Vanda**	**91.82 176**	P		**P**		**02 12 23.1**	**+0.1**
VNDA	**Vanda**	**91.82 176**	P		**P**		**02 12 23.1**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=314,slow=6.2,SNR=7.3							
TORD	**Torodi Ar. Bea**	**134.69 305**	PKP		**PKPdf**		**02 18 33.3**	**-1.2**
TORD	**Torodi Ar. Bea**	**134.69 305**	PKP		**PKPdf**		**02 18 33.3**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=51,slow=2.3,SNR=7.8							
LPAZ	**La Paz**	**148.05 98**	*e*PKPbc		**PKPbc**		**02 19 03.2**	**+0.8**
LPAZ	**La Paz**	**148.05 98**	PKPbc		**PKPbc**		**02 19 03.2**	**+0.8**
	comp=Z,1.8nm,0.5s,baz=270,slow=7.1,SNR=14							
SAML	**Samuel**	**152.04 83**	*e*PKPbc		**PKPbc**		**02 19 11.4**	**+0.1**

IDC ***16*** *02:07:30.1±1.3, 45.76S×166.41E, h0km, mb4.2/5, mb1 4.4/7, mb1mx4.2/16, mbtmp4.3/7, ML4.3/2, MS3.2/1, Ms1 3.2/1, ms1mx2.8/25, Error ellipse: s-maj=49.0km s-min=21.2km az=174.0*

ISCJB ***16*** *02:07:31.2±0.5, 45.70S±0.04×166.38E±0.05, h14km, mb4.1/5, Error ellipse: s-maj=5.4km s-min=4.9km az=171.7*

NEIC ***16*** *02:07:33.1, 45.77S×166.54E, h5km, ML4.9(WEL), After WEL.*

AUST ***16*** *02:07:34.8±1.7, 46.07S×166.47E, h90km, Error ellipse: s-maj=1.9km s-min=1.4km az=316.0*

ISC 16 02:07:32.2±0.5, 45.72S±0.05×166.44E±0.05, h14km, n61, σ1§48/65, mb4.2/5, 1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.48**	**160**	∥Pg	**Pg**	**02 07 41.4**	**-0.3**
PYZ				Sg	**Sg**	**02 07 47.8**	**-0.3**
DCZ	**Deep Cove**	**0.56**	**65**	Pg	**Pg**	**02 07 43.1**	**+0.1**
WHZ	**Wether Hill Ro**	**1.07**	**100**	P*	**Pb**	**02 07 51.7**	**-0.7**
MSZ	**Milford Sound**	**1.48**	**46**	Pn	**Pn**	**02 07 57.1**	**-1.3**
APZ	**The Paps**	**1.55**	**137**	Pn	**Pn**	**02 07 58.8**	**-0.6**
WKZ	**Wanaka**	**2.02**	**65**	Pn	**Pn**	**02 08 07.3**	**+1.4**
SYZ	**Scrubby Hill**	**2.05**	**115**	Pn	**Pn**	**02 08 06.9**	**+0.8**
EAZ	**Earnscleugh**	**2.08**	**77**	Pn	**Pn**	**02 08 08.1**	**+1.5**
TUZ	**Tuapeka**	**2.24**	**97**	Pn	**Pn**	**02 08 10.7**	**+1.8**
JCZ	**Jackson Bay**	**2.33**	**46**	Pn	**Pn**	**02 08 12.2**	**+2.1**
LBZ	**Lake Benmore**	**2.97**	**65**	Pn	**Pn**	**02 08 19.8**	**+0.9**
ODZ	**Otahua Downs**	**3.04**	**79**	*e*Pn	**Pn**	**02 08 21.2**	**+1.4**
ODZ				*e*S	**Sn**	**02 08 55.8**	**-0.1**
FOZ	**Fox Glacier**	**3.16**	**48**	Pn	**Pn**	**02 08 24.0**	**+2.5**
RPZ	**Rata Peaks**	**3.85**	**60**	*e*Pn	**Pn**	**02 08 31.9**	**+0.9**
RPZ				*e*S	**Sn**	**02 09 12.2**	**-3.8**
RPZ	**Rata Peaks**	**3.85**	**60**	Pn	**Pn**	**02 08 31.2**	**+0.2**
	60nm,0.3s,baz=226,slow=4.7,SNR=78						
RPZ				Sn	**Sn**	**02 09 19.6**	**+3.6**
	67nm,0.3s,baz=296,slow=22,SNR=8.5						
RPZ				LR	LR	02 09 29.7	
	comp=Z,308nm,19.0s,baz=208,slow=31						
WVZ	**Waitaha Valley**	**4.06**	**51**	Pn	**Pn**	**02 08 34.8**	**+1.0**
LTZ	**Lake Taylor**	**5.11**	**57**	Pn	**Pn**	**02 08 48.7**	**+0.4**
DSZ	**Denniston Nort**	**5.55**	**46**	Pn	**Pn**	**02 08 56.3**	**+1.9**
KHZ	**Kahutara**	**6.08**	**60**	*e*Pn	**Pn**	**02 09 02.2**	**+0.6**
	83nm,1.0s						
KHZ				*e*S	**Sn**	**02 10 10.6**	**-0.4**
THZ	**Tophouse**	**6.13**	**52**	Pn	**Pn**	**02 09 03.2**	**+0.9**
QRZ	**Quartz Range**	**6.61**	**44**	Pn	**Pn**	**02 09 09.5**	**+0.7**
NNZ	**Nelson**	**6.76**	**51**	Pn	Pn	02 09 14.2	+3.3
TUWZ	**Tuamarina**	**6.93**	**54**	Pn	Pn	02 09 17.5	+4.3
SNZO	**South Karori**	**7.45**	**57**	*e*Pn	**Pn**	**02 09 21.6**	**+1.2**
SNZO				*e*S	**Sn**	**02 10 47.5**	**+2.9**
NWEZ	**Newall Road**	**8.46**	**43**	Pn	**Pn**	**02 09 35.4**	**+1.2**
DFE	**Dawson Falls**	**8.53**	**44**	Pn	Pn	02 09 40.0	+4.8
PKE	**Pukeiti**	**8.58**	**43**	Pn	**Pn**	**02 09 36.5**	**+0.6**
URZ	**Urewera**	**10.88**	**51**	Pn	**Pn**	**02 10 07.1**	**-0.3**
URZ				*e*S	**Sn**	**02 12 04.7**	**-4.2**
URZ	**Urewera**	**10.88**	**51**	Pn	**Pn**	**02 10 07.1**	**-0.3**
	0.9nm,0.3s,baz=205,slow=8.4,SNR=3.1						
URZ				Sn	**Sn**	**02 12 04.7**	**-4.2**
	0.9nm,0.3s,baz=46,slow=20,SNR=3.2						
WCZ	**Waipu Caves**	**11.45**	**34**	Pn	**Pn**	**02 10 16.4**	**+1.2**
OUZ	**Omahuta**	**11.81**	**30**	*e*Pn	**Pn**	**02 10 21.8**	**+1.6**
	26nm,0.6s						
OUZ				*e*S	**Sn**	**02 12 29.2**	**-2.4**
MILA	**Mila**	**15.57**	**298**	P	**Pn**	**02 11 09.2**	**-2.1**
	baz=16,SNR=6.1						
TOO	**Toolangi**	**17.61**	**290**	P	**P**	**02 11 38.4**	**+0.3**
	baz=18,SNR=5.0						
STKA	**Stephens Creek**	**23.67**	**297**	P	**P**	**02 12 44.3**	**+1.1**
STKA	**Stephens Creek**	**23.67**	**297**	P	**P**	**02 12 44.3**	**+1.1**
	2.9nm,0.7s,baz=122,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**34.27**	**299**	P	**P**	**02 14 17.9**	**-0.1**
ASAR	**Alice Springs**	**34.27**	**299**	P	**P**	**02 14 17.9**	**-0.1**
	3.3nm,1.0s,baz=143,slow=9.8,SNR=15						
WRA	**Warramunga Arr**	**36.85**	**304**	P	**P**	**02 14 39.2**	**-0.8**
WRA				PcP	**PcP**	**02 17 01.4**	**-0.3**
WRA	**Warramunga Arr**	**36.85**	**304**	P	**P**	**02 14 39.2**	**-0.8**
	3.2nm,0.9s,baz=143,slow=8.8,SNR=9.7						
WRA				PcP	**PcP**	**02 17 01.4**	**-0.3**
	0.5nm,0.8s,baz=147,slow=2.9,SNR=4.6						
RABL	**Rabaul**	**43.20**	**339**	S	S	02 21 35.5	-24
	baz=44,SNR=4.4						
FITZ	**Fitzroy Crossi**	**43.55**	**296**	P	**P**	**02 15 34.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**43.55**	**296**	P	**P**	**02 15 34.9**	**-0.6**
	3.7nm,0.7s,baz=166,slow=13						
KDU	**Kakadu**	**43.72**	**308**	P	P	02 15 42.9	+6.0
	baz=44,SNR=3.8						
MTN	**Manton Dam**	**44.34**	**306**	P	P	02 15 33.2	-8.7
	baz=45,SNR=4.4						
FAKI	**Fak Fak**	**52.06**	**315**	P	P	02 16 35.9	-5.6
	baz=52,SNR=6.0						
PALU	**Palau**	**60.07**	**323**	P	**P**	**02 17 40.4**	**+1.6**
	baz=61,SNR=5.0						
CMAR	**Chiang Mai Arr**	**88.28**	**299**	P	**P**	**02 20 24.6**	**+1.4**
CMAR	**Chiang Mai Arr**	**88.28**	**299**	P	**P**	**02 20 24.6**	**+1.4**
	0.6nm,0.3s,baz=154,slow=4.7,SNR=4.2						
ILAR	**Eielson Array**	**116.02**	**20**	PKP	**PKPdf**	**02 26 12.7**	**-0.6**
ILAR	**Eielson Array**	**116.02**	**20**	PKP	**PKPdf**	**02 26 12.7**	**-0.6**
	0.5nm,0.6s,baz=279,slow=3.6,SNR=5.3						
TORD	**Torodi Ar. Bea**	**145.05**	**207**	PKP	**PKPbc**	**02 27 08.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**145.05**	**207**	PKP	**PKPbc**	**02 27 08.1**	**-0.6**
	4.9nm,0.7s,baz=150,slow=2.4,SNR=46						
BRTR	**Keskin Array B**	**145.22**	**277**	PKPbc	**PKPbc**	**02 27 08.6**	**-0.2**
BRTR	**Keskin Array B**	**145.22**	**277**	PKPbc	**PKPbc**	**02 27 08.6**	**-0.2**
	1.5nm,0.7s,baz=146,slow=5.7,SNR=8.0						
ARCES	**ARCESS Array B**	**149.24**	**334**	PKPbc	**PKPbc**	**02 27 20.1**	**+1.2**
ARCES	**ARCESS Array B**	**149.24**	**334**	PKPbc	**PKPbc**	**02 27 20.1**	**+1.2**
	6.3nm,0.9s,baz=55,slow=4.6,SNR=4.4						
KAF	**Kangasniemi**	**151.96**	**320**	*ep*	**PKPbc**	**02 27 25.9**	**+0.3**
	1.3nm,0.5s						
FINES	**FINESS Array B**	**152.26**	**319**	PKPbc	**PKPbc**	**02 27 26.4**	**+0.2**
FINES	**FINESS Array B**	**152.26**	**319**	PKPbc	**PKPbc**	**02 27 26.4**	**+0.2**
	1.1nm,0.5s,baz=104,slow=4.4,SNR=17						
GERES	**GERESS Array B**	**161.28**	**289**	PKPab	**PKPab**	**02 28 15.9**	**+0.3**
GERES	**GERESS Array B**	**161.28**	**289**	PKPab	**PKPab**	**02 28 15.9**	**+0.3**
	0.2nm,0.7s,baz=118,slow=6.0,SNR=3.3						

AUST ***16*** *02:13:01.1, 46.47S×167.15E, h0km*

IDC ***16*** *02:13:07.3±0.6, 45.35S×166.87E, h0km, mb4.4/10, mb1 4.5/11, mb1mx4.4/17, mbtmp4.4/11, ML4.6/2, MS4.2/10, Ms1 4.2/10, ms1mx4.0/21, Error ellipse: s-maj=19.4km s-min=15.7km az=46.0*

ISCJB ***16*** *02:13:08.1±0.3, 45.41S±0.04×166.77E±0.03, h10km, mb4.5/17, MS4.3/11, Error ellipse: s-maj=6.1km s-min=3.5km az=0.6*

NEIC ***16*** *02:13:09.9, 45.40S×166.75E, h12km, mb4.6/7, ML5.1(WEL), After WEL.*

NEIC Felt at Invercargill.

BJI ***16*** *02:13:10.0, 45.21S×167.11E, h16km, mB5.3/3, mb5.0/5, Ms5.3/2, Ms7 5.0/2*

DJA ***16*** *02:13:17.1±3.1, 46°S±9°×16°E±2°0, h47km±26km, M4.8/11, mB5.4/2, mb4.8/11, Mw(mB)4.8/2*

ISC 16 02:13:09.2±0.3, 45.37S±0.04×166.82E±0.03, h10km, n120, σ1§58/123, mb4.5/17, MS4.2/11, 3C-3D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.26**	**115**	P*	**Pb**	**02 13 16.3**	**+0.2**
WHZ	**Wether Hill Ro**	**0.95**	**124**	P*	**Pg**	**02 13 27.1**	**-0.5**
MSZ	**Milford Sound**	**1.05**	**49**	P*	**Pg**	**02 13 28.7**	**-0.7**
WKZ	**Wanaka**	**1.65**	**72**	Pn	**Pn**	**02 13 39.1**	**+0.8**
APZ	**The Paps**	**1.68**	**151**	Pn	**Pn**	**02 13 38.5**	**-0.2**
EAZ	**Earnscleugh**	**1.77**	**87**	Pn	**Pn**	**02 13 40.7**	**+0.8**
JCZ	**Jackson Bay**	**1.89**	**48**	Pn	**Pb**	**02 13 43.6**	**-0.4**
SYZ	**Scrubby Hill**	**2.00**	**127**	Pn	**Pn**	**02 13 43.3**	**+0.2**
TUZ	**Tuapeka**	**2.06**	**108**	Pn	**Pn**	**02 13 44.4**	**+0.5**
LBZ	**Lake Benmore**	**2.59**	**69**	Pn	**Pn**	**02 13 51.2**	**+0.1**
ODZ	**Otahua Downs**	**2.73**	**85**	*e*Pn	**Pn**	**02 13 52.9**	**-0.2**
ODZ				*e*S	**Sn**	**02 14 25.2**	**-0.8**
FOZ	**Fox Glacier**	**2.73**	**50**	Pn	**Pn**	**02 13 55.8**	**+2.7**
RPZ	**Rata Peaks**	**3.45**	**63**	*e*Pn	**Pn**	**02 14 02.9**	**-0.2**
RPZ				*e*S	**Sn**	**02 14 47.4**	**+3.4**
RPZ	**Rata Peaks**	**3.45**	**63**	Pn	**Pn**	**02 14 02.4**	**-0.6**
	236nm,0.3s,baz=210,slow=4.8,SNR=119						
RPZ				Sn	**Sn**	**02 14 45.5**	**+1.6**
	147nm,0.3s,baz=355,slow=22,SNR=10.0						
MQZ	**McQueen's Vall**	**4.49**	**70**	Pn	**Pn**	**02 14 15.9**	**-1.4**
KHZ	**Kahutara**	**5.68**	**61**	*e*Pn	**Pn**	**02 14 34.8**	**+1.1**
KHZ				*e*S	**Sn**	**02 15 37.9**	**-1.1**
TUWZ	**Tuamarina**	**6.51**	**55**	Pn	**Pn**	**02 14 48.0**	**+2.9**
TCW	**Tory Channel**	**6.84**	**55**	Pn	Pn	02 14 53.3	+3.7
SNZO	**South Karori**	**7.04**	**58**	*e*Pn	Pn	02 14 55.5	+3.3
SNZO				*e*S	**Sn**	**02 16 13.0**	**+0.8**
PLWZ	**Palliser**	**7.22**	**61**	Pn	**Pn**	**02 14 55.8**	**+1.0**
URZ	**Urewera**	**10.46**	**51**	*e*Pn	**Pn**	**02 15 38.2**	**-0.9**
	30nm,0.6s						
URZ				Sn	**Sn**	**02 17 32.4**	**-3.9**
URZ				*e*S		02 17 37.3	
URZ	**Urewera**	**10.46**	**51**	Pn	**Pn**	**02 15 38.3**	**-0.9**
	1.1nm,0.3s,baz=201,slow=8.6,SNR=4.5						
URZ				Sn	**Sn**	**02 17 32.4**	**-3.9**
	1.9nm,0.3s,baz=75,slow=23,SNR=5.7						
OUZ	**Omahuta**	**11.37**	**29**	*e*Pn	**Pn**	**02 15 51.9**	**+0.2**
OUZ				*e*S	**Sn**	**02 17 55.2**	**-3.6**
TAU	**Tasmania Unive**	**14.21**	**273**	*e*Pn	Pn	02 16 26.3	-4.1
TAU				*e*S	Sn	02 18 56.0	-12
MOO	**Moorlands**	**14.45**	**275**	P	**Pn**	**02 16 31.0**	**-2.7**
	baz=15,SNR=27						
LHI	**Lord Howe Isla**	**15.09**	**334**	S	S	02 20 08.1	+21
	baz=16,SNR=3.5						
MILA	**Mila**	**15.65**	**296**	P	**Pn**	**02 16 48.0**	**-1.8**
	baz=16,SNR=5.0						
MILA				S	Sn	02 19 25.1	-18
	baz=16,SNR=5.1						
CNB	**Canberra Magne**	**16.63**	**301**	P	**Pn**	**02 17 03.1**	**+0.6**
	baz=17,SNR=13						
CAN	**Canberra**	**16.85**	**300**	*e*Pn	**Pn**	**02 17 04.5**	**-0.8**
	90nm,1.3s						
MGCD	**Mangrove Creek**	**17.14**	**310**	P	**P**	**02 17 10.9**	**+0.5**
	baz=18,SNR=5.9						
TOO	**Toolangi**	**17.74**	**289**	P	**Pn**	**02 17 16.7**	**+0.4**
	baz=18,SNR=52						
YNG	**Young**	**17.91**	**302**	P	**Pn**	**02 17 17.9**	**-0.5**
	baz=19,SNR=17						
ARMA	**Armidale**	**19.09**	**316**	*e*P	**Pn**	**02 17 34.3**	**+1.4**
	20nm,0.9s						
ARMA	**Armidale**	**19.09**	**316**	P	**Pn**	**02 17 34.9**	**+2.1**
	baz=20,SNR=7.0						
ARPS	**Mount Arapiles**	**20.63**	**286**	P	Pn	02 17 53.4	+2.3
	baz=21,SNR=9.5						
CMSA	**Cobar Meteorol**	**21.46**	**303**	P	**P**	**02 17 58.7**	**+1.0**
	baz=22,SNR=34						
DZM	**Mont Dzumac**	**23.24**	**359**	P	**P**	**02 18 18.8**	**+2.1**
DZM	**Mont Dzumac**	**23.24**	**359**	P	**P**	**02 18 18.8**	**+2.1**
	8.2nm,0.8s,baz=270,slow=20,SNR=4.1						
EIDS	**Eidsvold**	**23.64**	**322**	*e*P	**P**	**02 18 21.8**	**+1.2**
	28nm,1.0s						
STKA	**Stephens Creek**	**23.75**	**296**	*e*P	**P**	**02 18 22.2**	**+0.6**
	8.2nm,1.2s						
STKA	**Stephens Creek**	**23.75**	**296**	P	**P**	**02 18 22.1**	**+0.5**
	17nm,1.1s,baz=124,slow=10,SNR=11						
STKA				LR	LR	02 27 09.7	
	comp=Z,645nm,18.2s,baz=206,slow=35						
STKA	**Stephens Creek**	**23.75**	**296**	P	**P**	**02 18 22.7**	**+1.1**
	baz=24,SNR=9.7						
RMQ	**Roma**	**23.75**	**316**	P	**P**	**02 18 23.4**	**+1.7**
	baz=25,SNR=16						
BBOO	**Buckleboo**	**26.79**	**287**	*e*P	**P**	**02 18 49.5**	**+0.1**
	185nm,0.9s						
CTA	**Charters Tower**	**30.39**	**319**	P	**P**	**02 19 21.7**	**+0.2**
CTA	**Charters Tower**	**30.39**	**319**	P	**P**	**02 19 21.7**	**+0.2**
	2.7nm,0.6s,baz=132,slow=12,SNR=2.3						
VNDA	**Vanda**	**32.32**	**182**	P	**P**	**02 19 38.1**	**+0.2**
VNDA	**Vanda**	**32.32**	**182**	P	**P**	**02 19 38.1**	**+0.2**
	0.5nm,0.7s,baz=335,slow=7.6,SNR=4.1						
VNDA				LR	LR	02 30 24.3	
	comp=Z,243nm,19.0s,baz=23,slow=32						
AS31	**Alice Springs**	**34.34**	**298**	*e*P	**P**	**02 19 56.3**	**+0.2**
ASAR	**Alice Springs**	**34.34**	**298**	P	**P**	**02 19 55.4**	**-0.8**
ASAR				PcP	**PcP**	**02 22 33.1**	**+1.0**
ASAR	**Alice Springs**	**34.34**	**298**	P	**P**	**02 19 55.4**	**-0.8**
	8.8nm,1.2s,baz=143,slow=7.8,SNR=22						
ASAR				PcP	**PcP**	**02 22 33.1**	**+1.0**
	1.7nm,0.9s,baz=129,slow=3.9,SNR=4.3						
ASAR				LR	LR	02 34 44.0	
	comp=Z,531nm,18.1s,baz=132,slow=38						
WRA	**Warramunga Arr**	**36.87**	**303**	P	**P**	**02 20 16.7**	**-1.2**
WRA	**Warramunga Arr**	**36.87**	**303**	P	**P**	**02 20 16.7**	**-1.2**
	9.8nm,1.2s,baz=140,slow=7.7,SNR=9.3						
WRA				LR	LR	02 33 33.5	
	comp=Z,297nm,18.4s,baz=95,slow=33						
WRAB	**Tennant Creek**	**36.87**	**303**	*e*P	**P**	**02 20 16.9**	**-1.0**
	11nm,1.1s						
TBI	**Tubuai**	**41.61**	**73**	*e*S	**S**	**02 27 13.4**	**-0.2**
	214nm,26.2s						
TBI				*e*LR	LR

BRTR	**Keskin Array B**	**145.44**	**278**	PKPbc	**PKPdf**	02 32 47.1	-0.1
	comp=Z,5.6nm,0.9s,baz=135,slow=4.7,SNR=18						
TOA0	**Torodi Ar. Sit**	**145.49**	**206**	*e*PKPdf	**PKPbc**	02 32 46.4	-1.4
TORD	**Torodi Ar. Bea**	**145.49**	**206**	PKPbc	**PKPbc**	02 32 46.4	-1.4
TORD	**Torodi Ar. Bea**	**145.49**	**206**	PKPbc	**PKPbc**	02 32 46.4	-1.4
	comp=Z,32nm,0.9s,baz=146,slow=2.3,SNR=198						
DAG	**Danmarks Havn**	**148.41**	**2**	*i* P	**PKPbc**	02 32 55.0	+0.6
	comp=Z,3.9nm,0.7s						
KEV	**Kevo**	**148.47**	**335**	*e*p	**PKPbc**	02 32 54.1	-0.6
	comp=Z,8.9nm,0.8s						
ARCES	**ARCESS Array B**	**149.03**	**335**	PKPbc	**PKPbc**	02 32 55.7	-0.5
ARCES	**ARCESS Array B**	**149.03**	**335**	PKPbc	**PKPbc**	02 32 55.7	-0.5
	comp=Z,4.6nm,0.6s,baz=66,slow=3.6,SNR=34						
SUMG	**Summit**	**150.27**	**15**	*e*PKPbc	**PKPbc**	02 32 59.7	+0.1
SUMG	**Summit**	**150.27**	**15**	*i* P	**PKPab**	02 33 05.5	-0.4
	comp=Z,6.1nm,1.0s						
KIEV	**Kiev**	**151.46**	**296**	*e*PKPbc	**PKPbc**	02 33 02.2	-0.4
KAF	**Kangasniemi**	**151.85**	**321**	*e*p	**PKPbc**	02 33 02.5	-0.6
	comp=Z,5.6nm,0.6s						
FINES	**FINESS Array B**	**152.16**	**319**	PKPbc	**PKPbc**	02 33 03.3	-0.5
FINES	**FINESS Array B**	**152.16**	**319**	PKPbc	**PKPbc**	02 33 03.3	-0.5
	comp=Z,3.0nm,0.5s,baz=94,slow=3.6,SNR=44						
BUC1	**Bucharest**	**152.37**	**282**	*i* P	**PKPab**	02 33 16.5	+1.5
MLR	**Muntele Rosu**	**152.72**	**284**	*i* P	**PKPbc**	02 33 05.4	-0.4
TAM	**Tamanrasset**	**152.79**	**220**	*e*PKPbc	**PKPbc**	02 33 06.0	-0.6
ARR	**Arges**	**153.59**	**284**	*i* P	**PKPbc**	02 33 09.1	+1.5
BURAR	**Bucovina Array**	**153.64**	**289**	*i* P	**PKPab**	02 33 21.2	+0.7
PSZ	**Piszkesteto**	**157.24**	**288**	*i* P	PKPdf	02 33 14.4	+10
NB2	**NORSAR Subarra**	**158.75**	**326**	PKP	**PKPab**	02 33 38.1	-3.8
	comp=Z,1.0nm,0.8s,baz=53,slow=4.4						
KEST	**Kesra**	**160.41**	**248**	PKPab	**PKPab**	02 33 50.4	+0.5
KEST	**Kesra**	**160.41**	**248**	PKPab	**PKPab**	02 33 50.4	+0.5
	comp=Z,1.1nm,0.8s,baz=202,slow=0.9,SNR=4.1						
GERES	**GERESS Array B**	**161.41**	**290**	PKPab	**PKPab**	02 33 54.0	+0.1
GERES	**GERESS Array B**	**161.41**	**290**	PKPab	**PKPab**	02 33 54.0	+0.1
	comp=Z,0.2nm,0.5s,baz=88,slow=2.5,SNR=4.9						

MAN 16 02:16:57,9.36N×126.34E,h22km,mb4.3,ML3.2,MS3.0,
1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.81**	**242**	*e*P	Pb	02 17 12.7	+0.3
BUTP				*e*S	Sb	02 17 21.5	-1.2
CGP	**Cagayan de Oro**	**1.85**	**241**	*e*P	Pn	02 17 27.5	0.0
CGP				*e*S	Sb	02 17 51.8	-1.1
BUKP	**Musuan**	**1.94**	**221**	*e*P	Pn	02 17 29.8	+1.1
BUKP				*e*S	Sn	02 17 53.5	+1.1
TBP	**Tagbilaran**	**2.46**	**278**	*e*P	Pn	02 17 37.0	+1.2

*ISCJB **16** 02:38:29.9±0.4,23.82S±0.05×179.90W±0.08,h518km,*
mb4.2/29,Error ellipse: s-maj=9.4km s-min=6.8km az=3.5
*BJI **16** 02:38:30.2,23.80S×179.70W,h537km,mB4.8/3,mb4.5/7*
*IDC **16** 02:38:30.6±1.4,23.78S×179.93W,h509km±15km,*
mb3.7/17,mb1 3.9/19,mb1mx3.8/23,mbtmp3.7/19,Error
ellipse: s-maj=12.6km s-min=11.1km az=142.0
*NEIC **16** 02:38:31.2±1.4,23.83S×179.73W,h537km±14km,*
mb4.4/12,Error ellipse: s-maj=20.3km s-min=15.2km
az=206.0

ISC 16 02:38:30.8±0.4,23.91S±0.06×179.77W±0.08,h518km,
n61,σ1961/76,mb4.2/28,1C-1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.57**	**163**	*e*P	**P**	**02 40 05.5**	**+1.7**
RAO				*e*S	**S**	**02 41 17.9**	**-2.0**
RAO	**Raoul Island**	**5.57**	**163**	P	**P**	**02 40 05.7**	**+1.9**
	109nm,0.3s,baz=84,slow=12,SNR=10						
RAO				S	**S**	**02 41 17.8**	**-2.1**
	47nm,0.3s,baz=62,slow=23,SNR=4.1						
AFI	**Afiamalu**	**12.49**	**39**	P	**P**	**02 41 12.9**	**-1.8**
	10nm,0.3s,baz=146,slow=19,SNR=6.1						
OUZ	**Omahuta**	**12.66**	**206**	*e*P	**P**	**02 41 18.5**	**+2.4**
URZ	**Urewera**	**14.55**	**190**	*e*P	**P**	**02 41 33.5**	**-2.4**
URZ				*e*S	**S**	**02 44 07.5**	**-1.0**
URZ	**Urewera**	**14.55**	**190**	P	**P**	**02 41 35.7**	**-0.2**
	4.7nm,0.3s,baz=12,slow=1.6,SNR=18						
URZ				S	**S**	**02 44 07.5**	**-1.0**
	2.2nm,0.3s,baz=203,slow=21,SNR=11						
SNZO	**South Karori**	**17.95**	**194**	P	**P**	**02 42 08.4**	**-1.2**
KHZ	**Kahutara**	**19.27**	**195**	*e*P	**P**	**02 42 20.8**	**-0.9**
	459nm,2.6s						
RPZ	**Rata Peaks**	**21.15**	**199**	P	**P**	**02 42 39.2**	**+0.5**
	15nm,0.4s,baz=334,slow=0.4,SNR=11						
ARMA	**Armidale**	**26.22**	**249**	*e*P	**P**	**02 43 25.0**	**+0.8**
	9.8nm,0.6s						
EIDS	**Eidsvold**	**26.52**	**261**	*e*P	**P**	**02 43 26.9**	**+0.1**
	6.8nm,0.6s						
CTA	**Charters Tower**	**31.69**	**270**	P	**P**	**02 44 11.6**	**-0.2**
	13nm,0.3s,baz=95,slow=11,SNR=49						
CTAO	**Charters Tower**	**31.69**	**270**	*e*P	**P**	**02 44 11.6**	**-0.2**
	20nm,0.5s						
TAU	**Tasmania Unive**	**33.08**	**227**	*e*P	**P**	**02 44 24.0**	**+0.7**
	11nm,0.5s						
STKA	**Stephens Creek**	**34.91**	**248**	*e*P	**P**	**02 44 38.9**	**-0.1**
	0.7nm,0.6s						
STKA	**Stephens Creek**	**34.91**	**248**	P	**P**	**02 44 38.9**	**-0.1**
	3.9nm,0.6s,baz=90,slow=11,SNR=8.7						
AS31	**Alice Springs**	**42.24**	**261**	*e*P	**P**	**02 45 37.7**	**-0.8**
ASAR	**Alice Springs**	**42.24**	**261**	P	**P**	**02 45 37.8**	**-0.8**
	6.0nm,0.6s,baz=99,slow=6.7,SNR=80						
ASAR				PcP	**PcP**	**02 47 20.6**	**-0.1**
	1.0nm,0.6s,baz=117,slow=4.8,SNR=4.5						
ASAR				ScP	**ScP**	**02 50 24.4**	**+2.5**
	1.0nm,0.6s,baz=112,slow=4.0,SNR=8.8						
ASAR				S	**S**	**02 51 19.9**	**-1.6**
	0.8nm,0.7s,baz=100,slow=15,SNR=5.4						
WRAB	**Tennant Creek**	**42.61**	**266**	*e*P	**P**	**02 45 39.8**	**-1.7**
	8.3nm,0.5s						
WRA	**Warramunga Arr**	**42.62**	**266**	P	**P**	**02 45 40.1**	**-1.4**
	10nm,0.3s,baz=97,slow=8.4,SNR=238						
FORT	**Forrest**	**46.51**	**250**	*e*P	**P**	**02 46 10.3**	**-1.1**
	76nm,0.6s						
FITZ	**Fitzroy Crossi**	**51.04**	**266**	P	**P**	**02 46 44.9**	**-0.2**
	6.7nm,0.5s,baz=106,slow=8.2,SNR=22						
SBA	**Scott Base**	**54.38**	**183**	*e*P	P	02 47 11.8	+3.7
	4.7nm,0.9s						
VNDA	**Vanda**	**54.38**	**185**	P	**P**	**02 47 09.9**	**+1.8**
	1.1nm,0.5s,baz=2.9,slow=6.3,SNR=12						
NWAO	**Narrogin (SRO)**	**55.42**	**246**	P	**P**	**02 47 15.4**	**-0.8**
	11nm,0.8s						
NWAO	**Narrogin (SRO)**	**55.42**	**246**	P	**P**	**02 47 14.9**	**-1.3**
	4.5nm,0.4s,baz=95,slow=1.9,SNR=7.3						
MBWA	**Marble Bar**	**55.58**	**260**	*e*P	**P**	**02 47 16.4**	**-1.1**
CASY	**Casey**	**60.19**	**206**	*e*P	**P**	**02 47 47.8**	**-0.2**
	4.4nm,0.5s						
QSPA	**South Pole Qui**	**66.17**	**180**	*e*P	**P**	**02 48 28.2**	**+1.6**
	5.5nm,0.8s						
QSPA	**South Pole Qui**	**66.17**	**180**	P	**P**	**02 48 28.3**	**+1.7**
	baz=23,slow=2.2						
MJAR	**Matsushiro Arr**	**72.03**	**325**	P	**P**	**02 49 01.5**	**-0.6**
	4.5nm,1.1s,baz=160,slow=6.6,SNR=5.9						
MAW	**Mawson**	**77.81**	**200**	P	**P**	**02 49 34.8**	**+0.8**
	3.9nm,0.5s,baz=128,slow=7.9,SNR=13						
PETK	**Petropavlovsk-**	**79.16**	**346**	P	**P**	**02 49 41.3**	**0.0**
	4.1nm,0.7s,baz=134,slow=6.4,SNR=6.1						
MDJ	**Mudanjiang**	**82.39**	**326**	P	**P**	**02 49 58.0**	**-0.3**
MDJ				sP	**sP**	**02 52 45.9**	**+2.2**
MDJ				S	**SKSac**	**02 59 29.4**	**0.0**
MDJ				sS	**sS**	**03 02 54.6**	**+2.8**
MDJ				pmax	pmax		
	comp=Z,290nm,4.5s						
NVAR	**Mina Array Bea**	**84.61**	**44**	P	**P**	**02 50 10.6**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=221,slow=6.9,SNR=4.5						
SNAA	**Sanae**	**84.65**	**179**	*e*P	**P**	**02 50 09.0**	**-0.3**
SNAA	**Sanae**	**84.65**	**179**	*e*P	**P**	**02 50 07.5**	**-1.8**
GYA	**Guiyang**	**86.94**	**301**	*e*P	**P**	**02 50 19.8**	**-1.3**
GYA				pP	**pP**	**02 52 18.3**	**+3.2**
GYA				sP	**sP**	**02 53 12.0**	**+4.3**
GYA				SKS	**SKSac**	**02 59 54.3**	**-4.6**
GYA				S	**S**	**03 00 12.8**	**-3.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI	**Kunming**	**89.46**	**298**	P	**P**	**02 50 33.0**	**0.0**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.5s						
CMAR	**Chiang Mai Arr**	**89.73**	**290**	P	**P**	**02 50 35.5**	**+1.4**
	comp=Z,1.3nm,0.4s,baz=123,slow=2.6,SNR=8.1						
TRF	**Thorofare Moun**	**90.12**	**13**	*e*P	**P**	**02 50 33.5**	**-1.6**
	comp=Z,2.5nm,0.8s						
TXAR	**Lajitas Array**	**90.26**	**58**	P	**P**	**02 50 37.9**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=214,slow=6.7,SNR=16						
CD2	**Chengdu**	**91.26**	**303**	*e*P	**P**	**02 50 40.1**	**-0.9**
ILAR	**Eielson Array**	**91.99**	**13**	P	**P**	**02 50 42.5**	**-0.9**
	comp=Z,0.8nm,1.0s,baz=226,slow=5.6,SNR=5.1						
PDAR	**Pinedale Array**	**92.55**	**44**	P	**P**	**02 50 47.0**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=198,slow=4.4,SNR=5.6						
LZH	**Lanzhou**	**93.55**	**308**	*e*P	**P**	**02 50 49.9**	**-1.6**
LZH				pP	**pP**	**02 52 48.0**	**+1.4**
LZH				sP	**sP**	**02 53 42.5**	**+3.7**
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
SONM	**Songino Array**	**97.25**	**319**	P	Pdif	02 51 07.4	-0.6
	comp=Z,0.2nm,0.5s,baz=174,slow=1.5,SNR=3.6						
MKAR	**Makanchi Array**	**112.32**	**313**	PKiKP	**PKiKP**	**02 56 06.2**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=201,slow=1.2,SNR=4.9						
BOSA	**Boshof**	**122.48**	**206**	PKP	**PKPdf**	**02 56 30.4**	**+2.5**
	comp=Z,3.6nm,0.9s,baz=138,slow=10,SNR=3.3						
ARCES	**ARCESS Array B**	**131.94**	**348**	PKP	**PKPdf**	**02 56 43.2**	**-1.2**
	comp=Z,2.9nm,0.9s,baz=43,slow=2.0,SNR=6.6						
FINES	**FINESS Array B**	**138.53**	**342**	PKhKP	PKPpre	02 56 47.4	
	comp=Z,0.3nm,0.4s,baz=71,slow=6.0,SNR=3.6						
FINES				PKP	**PKiKP**	**02 56 57.5**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=102,slow=4.0,SNR=5.0						
NB2	**NORSAR Subarra**	**142.12**	**351**	PKP	PKPpre	02 56 58.6	
	comp=Z,0.7nm,0.6s,baz=11,slow=3.1						
NOA	**NORSAR Array B**	**142.12**	**351**	PKhKP	PKPpre	02 56 59.0	
	comp=Z,1.0nm,0.7s,baz=16,slow=4.7,SNR=7.0						
KIEV	**Kiev**	**145.11**	**327**	*e*PKPdf	**PKPdf**	**02 57 07.3**	**-1.6**
BRTR	**Keskin Array B**	**147.75**	**307**	PKPbc	**PKPbc**	**02 57 16.8**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=139,slow=3.4,SNR=6.5						
CLL	**Collm**	**150.93**	**343**	*i* PKPbc	**PKPbc**	**02 57 24.8**	**+0.3**
	comp=Z,9.0nm,0.9s						
CLL				*i* PKPab	**PKPab**	**02 57 34.1**	**-0.1**
	comp=Z,5.0nm,0.8s						
BRG	**Berggiesshubel**	**151.06**	**342**	*e*PKP	**PKPbc**	**02 57 25.2**	**+0.4**
	comp=Z,6.4nm,0.9s						
BRG				*e*		02 57 33.6	
	comp=Z,4.0nm,0.8s						
BRG				*e*		03 39 56.5	
	comp=Z,5.4nm,1.3s						
GERES	**GERESS Array B**	**152.94**	**340**	PKPbc	**PKPbc**	**02 57 28.8**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=90,slow=1.3,SNR=4.8						
GERES				PKPab	**PKPab**	**02 57 42.9**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=28,slow=4.4,SNR=3.4						
CONA	**Conrad Observa**	**153.00**	**336**	*i* PKPab	**PKPab**	**02 57 43.4**	**+0.1**
	comp=Z,3.9nm,0.8s						
ESDC	**Sonseca Array**	**163.89**	**12**	PKPab	**PKPab**	**02 58 30.3**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=357,slow=3.3,SNR=5.6						
TORD	**Torodi Ar. Bea**	**169.20**	**188**	PKP	**PKPdf**	**02 57 38.2**	**-1.0**
	comp=Z,1.0nm,1.2s,baz=134,slow=2.2,SNR=3.9						
TORD				PKPab	**PKPab**	**02 58 54.8**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=171,slow=4.0,SNR=14						

MAN 16 02:43:02,7.49N×125.82E,h17km,mb4.5,ML3.4,MS3.3,
4C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**0.51**	**217**	*e*P	Pb	02 43 13.2	+0.6
DMPH				*e*S	Sn	02 43 22.2	-0.8
BUKP	**Musuan**	**0.85**	**297**	*e*P	Pg	02 43 18.9	+0.3
BUKP				*e*S	Sb	02 43 27.4	-2.0
KCP	**Kidapawan**	**0.87**	**237**	*i* P	Pn	02 43 23.8	+4.2
KCP				*e*S	Sn	02 43 35.7	+3.7
CGP	**Cagayan de Oro**	**1.47**	**311**	*e*P	Pn	02 43 28.0	+0.2
CGP				*e*S	Sg	02 43 49.2	-0.4
BUTP	**Butuan**	**1.48**	**352**	*e*P	Pn	02 43 27.3	-0.6
CTBH	**Cotabato--PC H**	**1.59**	**260**	*i* P	Pn	02 43 29.4	+0.1
CTBH				*i* S	Sb	02 43 50.3	-0.4
GSPH	**General Santos**	**1.65**	**212**	*e*P	Pn	02 43 29.1	-1.2
GSPH				*e*S	Sn	02 43 51.5	+0.2
PAGZ	**Pagadian**	**2.44**	**278**	*e*P	Pn	02 43 41.9	+0.7

MAN 16 02:48:17,6.98N×125.97E,h26km,mb4.8,ML3.7,MS3.7,
4C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**0.47**	**282**	*e*P	Pn	02 48 27.8	-0.2
DMPH				*e*S	Sb	02 48 33.5	+0.2
KCP	**Kidapawan**	**0.87**	**272**	*i* P	Pn	02 48 34.1	+0.5
KCP				*i* S	Sb	02 48 39.5	-5.5
BUKP	**Musuan**	**1.27**	**315**	*e*P	Pb	02 48 41.4	+1.1
BUKP				*e*S	Sn	02 48 53.4	-1.9
GSPH	**General Santos**	**1.35**	**229**	*e*P	Pn	02 48 37.5	-2.8
GSPH				*e*S	Sn	02 48 50.4	-7.1
CTBH	**Cotabato--PC H**	**1.72**	**278**	*i* P	Pn	02 48 42.4	-2.9
CGP	**Cagayan de Oro**	**1.93**	**319**	*e*P	Pb	02 48 52.8	+1.3
CGP				*e*S	Sb	02 49 15.7	+0.5
PAGZ	**Pagadian**	**2.70**	**289**	*e*P	Pn	02 49 00.1	+1.3

*ATH **16** 03:03:06.9,39.43N×28.05E,h9km±2km,MD3.5/5*
*ISK **16** 03:03:07.6,39.29N×27.92E,h5km,MD3.3*
*DDA **16** 03:03:08.5,39.29N×27.93E,h8km,MD3.4*
*ISCJB **16** 03:03:08.7±0.5,39.30N±0.02×27.92E±0.02,h2km±4km,*
Error ellipse: s-maj=3.1km s-min=2.9km az=17.0
*THE **16** 03:03:09.8,39.18N×27.98E,h8km±5km,ML3.2/2,Error*
ellipse: s-maj=5.2km s-min=1.4km az=129.0
*CSEM **16** 03:03:09.3±0.1,39.30N×27.92E,h5km,MD3.3,Error*
ellipse: s-maj=2.4km s-min=2.1km az=130.0

ISC 16 03:03:08.9±1.1,39.29N±0.02×27.96E±0.02,h7km±9km,
n125,σ0993/157,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.35**	**350**	*e*PG	**Pg**	**03 03 16.3**	**+0.4**
BALB				*e*SG	**Sb**	**03 03 22.5**	**-0.8**
BALB	**Balikesir**	**0.35**	**350**	*e*Pg	**Pg**	**03 03 16.3**	**+0.4**
AKHS	**Akhisar**	**0.43**	**195**	*i* P	**Pg**	**03 03 17.2**	**0.0**
AKHS				*i* S	**Sb**	**03 03 24.0**	**-1.4**
AKHS	**Akhisar**	**0.43**	**195**	*i* P	**Pg**	**03 03 17.2**	**0.0**
AKHS				*i* S	**Sb**	**03 03 24.0**	**-1.4**
DURS	**Dursunbey**	**0.51**	**52**	*i* P	**Pg**	**03 03 18.9**	**+0.2**
DURS				*i* S	**Sb**	**03 03 26.6**	**-1.2**
DURS	**Dursunbey**	**0.51**	**52**	*i* P	**Pg**	**03 03 18.9**	**+0.2**
DURS				*i* S	**Sb**	**03 03 26.6**	**-1.2**
DST	**Dursunbey**	**0.60**	**58**	*e*PG	**Pb**	**03 03 21.0**	**-0.8**
DST				*e*SG	**Sb**	**03 03 30.9**	**+0.5**
DST	**Dursunbey**	**0.60**	**58**	*e*Pg	**Pb**	**03 03 21.0**	**-0.8**
DST				*e*Sg	**Sb**	**03 03 31.0**	**+0.5**
DEMI	**Demirci**	**0.64**	**113**	*i* P	**Pg**	**03 03 21.5**	**+0.3**
DEMI				*i* S	**Sb**	**03 03 32.0**	**+0.3**
DEMI	**Demirci**	**0.64**	**113**	*i* P	**Pg**	**03 03 21.5**	**+0.3**
DEMI				*i* S	**Sb**	**03 03 32.0**	**+0.3**
GONE	**Gonen-Balikesi**	**0.78**	**345**	*e*PG	**Pg**	**03 03 23.8**	**-0.2**
GONE				*e*SG	**Sb**	**03 03 35.0**	**-0.7**
GONE	**Gonen-Balikesi**	**0.78**	**345**	*e*Pg	**Pg**	**03 03 23.8**	**-0.2**
GONE				*e*Sg	**Sb**	**03 03 35.0**	**-0.7**
KULA	**Kula-Manisa**	**0.95**	**145**	*e*PG	**Pg**	**03 03 27.1**	**0.0**
KULA	**Kula-Manisa**	**0.95**	**145**	P	**Pg**	**03 03 27.2**	**0.0**
KULA				S	**Sg**	**03 03 37.7**	**-1.8**
KULA	**Kula-Manisa**	**0.95**	**145**	P	**Pg**	**03 03 27.2**	**0.0**
KULA				S	**Sg**	**03 03 37.7**	**-1.8**
AYVA	**Ayvalik**	**0.98**	**271**	*i* P	**Pg**	**03 03 27.7**	**-0.1**
AYVA				*i* S	**Sb**	**03 03 42.0**	**+0.5**
AYVA	**Ayvalik**	**0.98**	**271**	*i* P	**Pg**	**03 03 27.7**	**-0.1**
AYVA				*i* S	**Sb**	**03 03 42.0**	**+0.5**
KCTX	**Karacabey (Bur**	**1.02**	**17**	*e*PG	**Pg**	**03 03 28.4**	**-0.1**
KCTX	**Karacabey (Bur**	**1.02**	**17**	*e*Pg	**Pg**	**03 03 28.4**	**-0.1**
IZM	**Izmir**	**1.04**	**212**	*e*PG	**Pg**	**03 03 28.6**	**-0.4**
IZM	**Izmir**	**1.04**	**212**	*e*Pg	**Pg**	**03 03 28.6**	**-0.4**
ORLT	**Orhaneli**	**1.04**	**44**	*e*PG	**Pg**	**03 03 28.8**	**-0.2**
ORLT	**Orhaneli**	**1.04**	**44**	*e*Pg	**Pg**	**03 03 28.8**	**-0.2**
BNT	**Bandirma**	**1.06**	**358**	*e*PG	**Pg**	**03 03 28.9**	**-0.4**
BNT	**Bandirma**	**1.06**	**358**	*e*Pg	**Pg**	**03 03 28.9**	**-0.4**
TVSB	**Tavsanli**	**1.18**	**82**	*e*PN	**Pb**	**03 03 31.6**	**0.0**
TVSB	**Tavsanli**	**1.18**	**82**	*e*Pn	**Pb**	**03 03 31.6**	**0.0**
KRBG	**Karabiga-Canak**	**1.21**	**335**	*e*Pn	**Pg**	**03 03 31.5**	**-0.7**
KRBG	**Karabiga-Canak**	**1.21**	**335**	*e*Pn	**Pg**	**03 03 31.5**	**-0.7**
MDNY	**Mudanya-Bursa**	**1.29**	**33**	*e*PN	**Pb**	**03 03 33.4**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**33**	*e*Pn	**Pb**	**03 03 33.4**	**-0.1**
PRK	**Paraskevi**	**1.31**	**269**	P	**Pb**	**03 03 33.5**	**-0.3**
PRK				S	**Sn**	**03 03 51.8**	**+0.5**
PRK	**Paraskevi**	**1.31**	**269**	*e*PB	**Pb**	**03 03 33.6**	**-0.3**
PRK				*e*SB	**Sn**	**03 03 51.8**	**+0.5**
PRK	**Paraskevi**	**1.31**	**269**	P	**Pb**	**03 03 33.5**	**-0.3**
PRK				S	**Sn**	**03 03 51.8**	**+0.5**
EZN	**Ezine**	**1.37**	**293**	*e*PN	**Pn**	**03 03 34.3**	**-0.2**
EZN	**Ezine**	**1.37**	**293**	*e*Pn	**Pn**	**03 03 34.3**	**-0.2**
LPK	**Lapseki**	**1.42**	**320**	*e*PN	**Pb**	**03 03 35.2**	**-0.5**
LPK	**Lapseki**	**1.42**	**320**	*e*Pn	**Pb**	**03 03 35.2**	**-0.5**
ARMT	**Armutlu**	**1.45**	**28**	*e*PN	**Pn**	**03 03 35.4**	**-0.2**
ARMT	**Armutlu**	**1.45**	**28**	*e*Pn	**Pn**	**03 03 35.4**	**-0.2**
GEMT	**Gemlik**	**1.48**	**39**	*e*PN	**Pn**	**03 03 36.0**	**0.0**
GEMT	**Gemlik**	**1.48**	**39**	*e*Pn	**Pn**	**03 03 36.1**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.52**	**337**	*e*PN	**Pb**	**03 03 36.9**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.52**	**337**	*e*Pn	**Pb**	**03 03 36.9**	**-0.5**
KHL	**Karahalli**	**1.56**	**128**	*e*PN	**Pb**	**03 03 37.6**	**-0.6**
KHL	**Karahalli**	**1.56**	**128**	*e*Pn	**Pb**	**03 03 37.6**	**-0.6**
AYDN	**Tasoluk**	**1.63**	**182**	*i* P	**Pn**	**03 03 37.5**	**-0.6**
AYDN				*i* S	**Sg**	**03 04 00.9**	**-0.4**
AYDN	**Tasoluk**	**1.63**	**182**	*i* P	**Pn**	**03 03 37.5**	**-0.6**
AYDN				*i* S	**Sg**	**03 04 00.9**	**-0.4**
SIGR	**SIGRI**	**1.64**	**268**	P	**Pn**	**03 03 37.5**	**-0.6**
SIGR				S	**Sn**	**03 03 59.2**	**-0.2**
SIGR	**SIGRI**	**1.64**	**268**	P	**Pn**	**03 03 37.5**	**-0.6**
SIGR				S	**Sn**	**03 03 59.2**	**-0.2**
ALT	**Altintas**	**1.69**	**97**	*e*PN	**Pb**	**03 03 39.7**	**-0.7**
ALT	**Altintas**	**1.69**	**97**	*e*Pn	**Pb**	**03 03 39.7**	**-0.7**
CAVI	**Cavuskoy**	**1.71**	**57**	*e*PN	**Pb**	**03 03 40.5**	**-0.3**
CAVI	**Cavuskoy**	**1.71**	**57**	*e*Pn	**Pb**	**03 03 40.5**	**-0.3**
TKR	**Tekirdag**	**1.73**	**349**	*e*PN	**Pn**	**03 03 39.9**	**+0.5**
TKR	**Tekirdag**	**1.73**	**349**	*e*Pn	**Pn**	**03 03 39.9**	**+0.5**
CHOS	**Chios island**	**1.74**	**239**	P	**Pn**	**03 03 39.2**	**-0.4**
CHOS				S	**Sn**	**03 04 01.2**	**-0.9**
CHOS	**Chios island**	**1.74**	**239**	*e*PN	**Pb**	**03 03 41.1**	**-0.1**
CHOS				*e*SN	**Sg**	**03 04 06.2**	**+1.4**
CHOS	**Chios island**	**1.74**	**239**	P	**Pn**	**03 03 39.2**	**-0.4**
CHOS	**Chios island**	**1.74**	**239**	*e*Pn	**Pb**	**03 03 41.1**	**-0.1**
CHOS				S	**Sn**	**03 04 01.2**	**-0.9**
CHOS				*e*Sn	**Sg**	**03 04 06.2**	**+1.4**
ADVT	**Abdulvahap**	**1.78**	**50**	*e*PN	**Pn**	**03 03 40.5**	**+0.4**
ADVT	**Abdulvahap**	**1.78**	**50**	*e*Pn	**Pn**	**03 03 40.5**	**+0.4**
SMG	**Samos**	**1.81**	**209**	*e*PN	**Pb**	**03 03 42.0**	**-0.4**
SMG				*e*SN	**Sg**	**03 04 08.9**	**+1.9**
SMG	**Samos**	**1.81**	**209**	*e*Pn	**Pb**	**03 03 42.0**	**-0.4**
SMG				*e*Sn	**Sg**	**03 04 08.9**	**+1.9**
SLVT	**Silivri**	**1.95**	**6**	*e*PN	**Pn**	**03 03 43.3**	**+0.9**
SLVT	**Silivri**	**1.95**	**6**	*e*Pn	**Pn**	**03 03 43.3**	**+0.9**
ISK	**Istanbul-Kandi**	**1.96**	**25**	*e*PN	**Pb**	**03 03 43.8**	**-1.2**
ISK	**Istanbul-Kandi**	**1.96**	**25**	P	**Pn**	**03 03 42.4**	**-0.2**
ISK				S	**Sb**	**03 04 10.5**	**+0.9**
ISK	**Istanbul-Kandi**	**1.96**	**25**	*e*Pn	**Pb**	**03 03 43.8**	**-1.2**
ISK				S	**Sb**	**03 04 10.5**	**+0.9**
CTKS	**Kestanelik-??a**	**1.99**

STKA				LR	LR	03 32 39.7		
	comp=Z,885nm,18.1s,baz=305,slow=34							
DRV	**Dumont d'Urvil**	**24.83**	**205**	S	S	03 29 03.0	+5.2	
DRV				R		03 30 00.0		
VNDA	**Vanda**	**31.58**	**182**	P	**P**	**03 25 36.0**	**+1.1**	
VNDA	**Vanda**	**31.58**	**182**	P	**P**	**03 25 36.0**	**+1.1**	
	2.3nm,1.1s,baz=356,slow=9.5,SNR=4.4							
VNDA				LR	LR	03 35 51.3		
	comp=Z,683nm,20.9s,baz=9.3,slow=32							
ASAR	**Alice Springs**	**34.28**	**300**	P	**P**	**03 25 59.2**	**+0.2**	
ASAR				PcP	**PcP**	**03 28 34.8**	**-0.6**	
ASAR	**Alice Springs**	**34.28**	**300**	P	**P**	**03 25 59.2**	**+0.2**	
	3.4nm,0.9s,baz=134,slow=8.7,SNR=19							
ASAR				PcP	**PcP**	**03 28 34.8**	**-0.6**	
	1.4nm,0.8s,baz=128,slow=3.0,SNR=6.1							
ASAR				LR	LR	03 39 42.0		
	comp=Z,828nm,19.3s,baz=103,slow=36							
WRA	**Warramunga Arr**	**36.88**	**304**	P	**P**	**03 26 21.1**	**-0.3**	
WRA	**Warramunga Arr**	**36.88**	**304**	P	**P**	**03 26 21.1**	**-0.3**	
	4.8nm,0.9s,baz=143,slow=8.2,SNR=18							
PMG	**Port Moresby**	**40.01**	**330**	P	P	03 26 50.7	+3.0	
PMG	**Port Moresby**	**40.01**	**330**	P	P	03 26 50.7	+3.0	
	33nm,1.2s							
PMG	**Port Moresby**	**40.01**	**330**	P	P	03 26 50.7	+3.0	
	23nm,0.9s,baz=142,slow=8.3,SNR=7.3							
TBI	**Tubuai**	**42.27**	**73**	*e*LR	LR	03 38 41.2		
	182nm,23.2s							
QSPA	**South Pole Qui**	**44.03**	**180**	*e*P	**P**	**03 27 18.3**	**-2.0**	
	33nm,1.2s							
QSPA	**South Pole Qui**	**44.03**	**180**	P	P	03 27 21.8	+1.6	
	19nm,1.0s,baz=25,slow=2.8,SNR=38							
PPT2	**Papeete2**	**46.30**	**67**	*e*LR	LR	03 40 47.4		
	312nm,22.0s							
PPT	**Papeete**	**46.31**	**67**	LR	LR	03 43 59.2		
	comp=Z,356nm,18.0s,baz=311,slow=32							
RKT	**Rikitea**	**52.30**	**85**	*e*LR	LR	03 43 32.1		
	475nm,23.5s							
MAW	**Mawson**	**52.98**	**208**	P	**P**	**03 28 29.9**	**+1.0**	
MAW	**Mawson**	**52.98**	**208**	P	**P**	**03 28 29.9**	**+1.0**	
	2.7nm,0.8s,baz=102,slow=9.4,SNR=6.2							
MAW				LR	LR	03 50 02.0		
	comp=Z,296nm,18.2s,baz=108,slow=35							
KAPI	**Kappang**	**57.28**	**301**	P	P	03 29 04.6	+4.0	
SYO	**Syowa Base**	**58.63**	**200**⇑	*e*pP	**P**	**03 29 08.4**	**-1.0**	
SNAA	**Sanae**	**62.28**	**184**	*e*P	**P**	**03 29 34.8**	**+0.4**	
SNAA	**Sanae**	**62.28**	**184**	*e*	P	03 29 43.3	+8.9	
SNAA	**Sanae**	**62.28**	**184**	*e*P	P	03 29 30.1	-4.3	
	34nm,1.3s							
VNA1	**Neumayer--Stat**	**63.50**	**182**	*e*P	**P**	**03 29 43.2**	**+0.8**	
VNA1	**Neumayer--Stat**	**63.50**	**182**	*e*	P	03 29 51.3	+8.9	
PSI	**Prapat**	**76.49**	**289**	LR	LR	04 05 00.9		
	comp=Z,375nm,19.6s,baz=325,slow=36							
PLCA	**Paso Flores**	**79.84**	**140**	P	**P**	**03 31 22.3**	**+0.9**	
PLCA	**Paso Flores**	**79.84**	**140**	P	**P**	**03 31 22.3**	**+0.9**	
	4.5nm,1.0s,baz=256,slow=2.1,SNR=4.9							
MJAR	**Matsushiro Arr**	**86.02**	**338**	P	**P**	**03 31 54.3**	**+1.2**	
MJAR	**Matsushiro Arr**	**86.02**	**338**	P	**P**	**03 31 54.3**	**+1.2**	
	4.5nm,1.0s,baz=179,slow=6.3,SNR=8.0							
CMAR	**Chiang Mai Arr**	**88.28**	**299**	P	P	03 32 05.8	+1.3	
CMAR	**Chiang Mai Arr**	**88.28**	**299**	P	P	03 32 05.8	+1.3	
	6.3nm,0.9s,baz=159,slow=3.6,SNR=20							
BOSA	**Boshof**	**97.62**	**214**	LR	LR	04 14 19.4		
	comp=Z,103nm,18.1s,baz=166,slow=34							
ILAR	**Eielson Array**	**116.44**	**20**	PKP	**PKPdf**	**03 37 55.5**	**+0.1**	
ILAR	**Eielson Array**	**116.44**	**20**	PKP	**PKPdf**	**03 37 55.5**	**+0.1**	
	1.6nm,1.1s,baz=244,slow=2.6,SNR=6.9							
MKAR	**Makanchi Array**	**118.08**	**309**	PKP	**PKPdf**	**03 37 58.3**	**-0.9**	
MKAR	**Makanchi Array**	**118.08**	**309**	PKP	**PKPdf**	**03 37 58.3**	**-0.9**	
	1.6nm,1.0s,baz=83,slow=3.1,SNR=6.3							
KURBB	**Kurchatov Arra**	**122.36**	**311**	PKP	**PKPdf**	**03 38 07.1**	**-0.2**	
	0.7nm,0.2s,baz=115,slow=2.0,SNR=7.0							
KURK	**Kurchatov**	**122.36**	**311**	PKP	**PKPdf**	**03 38 07.1**	**-0.2**	
BVAR	**Borovoye Array**	**127.92**	**310**	PKP	**PKPdf**	**03 38 18.1**	**+0.3**	
BVAR	**Borovoye Array**	**127.92**	**310**	PKP	**PKPdf**	**03 38 18.1**	**+0.3**	
	1.0nm,0.8s,baz=178,slow=3.9,SNR=5.4							
AKTO	**Aktyubinsk**	**133.68**	**303**	PKP	**PKPdf**	**03 38 29.6**	**+0.7**	
AKTO	**Aktyubinsk**	**133.68**	**303**	PKP	**PKPdf**	**03 38 29.6**	**+0.7**	
	0.6nm,0.7s,baz=192,slow=4.0,SNR=4.3							
TOA0	**Torodi Ar. Sit**	**144.62**	**207**	*e*PKPdf	**PKPdf**	**03 38 48.4**	**-1.5**	
TORD	**Torodi Ar. Bea**	**144.62**	**207**	PKP	**PKPdf**	**03 38 48.0**	**-1.9**	
TORD	**Torodi Ar. Bea**	**144.62**	**207**	PKP	**PKPdf**	**03 38 48.0**	**-1.9**	
	7.9nm,0.9s,baz=168,slow=2.2,SNR=74							
BR131	**Keskin Array S**	**145.06**	**277**	*e*PKPdf	**PKPdf**	**03 38 49.6**	**-0.5**	
BRTR	**Keskin Array B**	**145.06**	**277**	PKP	**PKPdf**	**03 38 49.9**	**-0.3**	
BRTR	**Keskin Array B**	**145.06**	**277**	PKP	**PKPdf**	**03 38 49.9**	**-0.3**	
	20nm,0.9s,baz=140,slow=4.3,SNR=62							
SPITS	**Spitsbergen Ar**	**145.76**	**349**	PKPbc	**PKPab**	**03 38 50.6**	**-0.3**	
SPITS	**Spitsbergen Ar**	**145.76**	**349**	PKPbc	**PKPab**	**03 38 50.6**	**-0.3**	
	9.4nm,0.6s,baz=90,slow=4.2,SNR=7.5							
SCHQ	**Schefferville**	**145.91**	**56**	PKPbc	**PKPab**	**03 38 50.8**	**-1.2**	
SCHQ	**Schefferville**	**145.91**	**56**	PKPbc	**PKPab**	**03 38 50.8**	**-1.2**	
	11nm,0.8s,baz=304,slow=3.9,SNR=13							
ARCES	**ARCESS Array B**	**149.49**	**334**	PKPbc	**PKPab**	**03 39 01.6**	**-4.2**	
ARCES	**ARCESS Array B**	**149.49**	**334**	PKPbc	**PKPab**	**03 39 01.6**	**-4.2**	
	16nm,0.8s,baz=64,slow=5.5,SNR=21							
TAM	**Tamanrasset**	**151.94**	**221**	*e*PKPbc	**PKPbc**	**03 39 09.3**	**+1.0**	
FINES	**FINESS Array B**	**152.40**	**318**	PKPbc	**PKPbc**	**03 39 08.2**	**+0.3**	
FINES	**FINESS Array B**	**152.40**	**318**	PKPbc	**PKPbc**	**03 39 08.2**	**+0.3**	
	6.2nm,0.9s,baz=64,slow=4.4,SNR=12							
MLR	**Muntele Rosu**	**152.44**	**283**	PKPbc	**PKPbc**	**03 39 08.5**	**-0.1**	
MLR	**Muntele Rosu**	**152.44**	**283**	PKPbc	**PKPbc**	**03 39 08.5**	**-0.1**	
	1.9nm,0.9s,baz=169,slow=2.8,SNR=10							
KEST	**Kesra**	**159.71**	**248**	PKPab	**PKPab**	**03 39 51.4**	**+1.0**	
KEST	**Kesra**	**159.71**	**248**	PKPab	**PKPab**	**03 39 51.4**	**+1.0**	
	2.8nm,1.0s,baz=210,slow=1.2,SNR=7.5							
GERES	**GERESS Array B**	**161.21**	**288**	PKPab	**PKPab**	**03 39 56.9**	**+0.3**	
GERES	**GERESS Array B**	**161.21**	**288**	PKPab	**PKPab**	**03 39 56.9**	**+0.3**	
	1.8nm,0.9s,baz=101,slow=4.8,SNR=13							
ESDC	**Sonseca Array**	**170.32**	**232**	PKPab	**PKPab**	**03 40 37.4**	**+0.5**	
ESDC	**Sonseca Array**	**170.32**	**232**	PKPab	**PKPab**	**03 40 37.4**	**+0.5**	
	0.1nm,0.3s,baz=125,slow=4.7,SNR=11							

CSEM ***16*** *03:24:38.4±0.6,36°.06N×10°.09W,h10km,ML2.1/11,Error ellipse: s-maj=10.0km s-min=7.1km az=97.0*

INMG 16 03:24:38.3±1.1,35°.92N×10°.18W,h10km,ML1.7,Error ellipse: s-maj=14.5km s-min=8.4km az=62.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.63**	**42**	*e*Sn	Sn	03 25 25.3	-2.8
PFVI				A	A	03 25 25.5	
	4.8nm,0.6s						
PFVI	**Vila Bisbo**	**1.63**	**42**	*e*Sn	Sn	03 25 25.3	-2.8
	4.8nm,0.6s						
PBDV	**Barranco-do-Ve**	**2.24**	**53**	*e*Pn	Pn	03 25 13.5	-2.0
PBDV				*e*Sn	Sn	03 25 39.8	-3.5
PBDV				A	A	03 25 42.2	
	2.4nm,0.8s						
PBDV	**Barranco-do-Ve**	**2.24**	**53**	Sn	Sn	03 25 39.8	-3.5
	2.4nm,0.8s						
PBDV	**Barranco-do-Ve**	**2.24**	**53**	*e*Pn	Pn	03 25 13.5	-2.0
PBDV				*e*Sn	Sn	03 25 39.8	-3.5
	2.4nm,0.8s						
PCVE	**Castro Verde**	**2.42**	**44**	*e*Sn	Sn	03 25 44.9	-2.9
PCVE				A	A	03 25 57.7	
	1.7nm,0.6s						
PCVE	**Castro Verde**	**2.42**	**44**	Sn	Sn	03 25 44.9	-2.9
	1.7nm,0.6s						
PCVE	**Castro Verde**	**2.42**	**44**	*e*Sn	Sn	03 25 44.9	-2.9
	1.7nm,0.6s						
PVAQ	**Vaqueiros**	**2.47**	**52**	*e*Pn	Pn	03 25 16.9	-1.8
PVAQ				*e*Sn	Sn	03 25 45.5	-3.5
PVAQ				A	A	03 25 48.1	
	1.5nm,0.3s						
PVAQ	**Vaqueiros**	**2.47**	**52**	Sn	Sn	03 25 45.5	-3.5
	1.5nm,0.3s						
PVAQ	**Vaqueiros**	**2.47**	**52**	*e*Pn	Pn	03 25 16.9	-1.8
PVAQ				*e*Sn	Sn	03 25 45.5	-3.5
	1.5nm,0.3s						
PNCL	**Nicolau / Gran**	**2.56**	**31**	*e*Sn	Sn	03 25 47.7	-3.3
PNCL				A	A	03 26 07.0	
	1.8nm,0.8s						
PNCL	**Nicolau / Gran**	**2.56**	**31**	*e*Sn	Sn	03 25 47.7	-3.3
	1.8nm,0.8s						
EGRO	**El Granado**	**2.70**	**53**	Sn	Sn	03 25 51.1	-3.4
	SNR=7.9						
EGRO	**El Granado**	**2.70**	**53**	Sn	Sn	03 25 51.1	-3.4
	SNR=7.9						
PMAFR	**Mafra**	**3.12**	**13**	*e*Sn	Sn	03 26 01.0	-3.8
PMAFR				A	A	03 26 01.4	
	6.8nm,0.8s						
PMAFR	**Mafra**	**3.12**	**13**	*e*Sn	Sn	03 26 01.0	-3.8
	6.8nm,0.8s						

EVO	**Evora**	**3.13**	**33**	*e*Sn	Sn	03 26 01.6	-3.6	
EVO				A	A	03 26 02.7		
	1.8nm,0.7s							
EVO	**Evora**	**3.13**	**33**	Sn	Sn	03 26 01.6	-3.6	
	1.8nm,0.7s							
EVO	**Evora**	**3.13**	**33**	*e*Sn	Sn	03 26 01.6	-3.6	
	1.8nm,0.7s							
EMIN	**Mina Concepcio**	**3.37**	**56**	Sn	Sn	03 26 06.5	-4.5	
	SNR=7.9							
EMIN	**Mina Concepcio**	**3.37**	**56**	Sn	Sn	03 26 06.5	-4.4	
	SNR=7.9							
PBAR	**Barrancos**	**3.38**	**47**	*e*Sn	Sn	03 26 07.3	-3.9	
PBAR				A	A	03 26 11.1		
	0.9nm,0.7s							
PBAR	**Barrancos**	**3.38**	**47**	Sn	Sn	03 26 07.3	-3.9	
	0.9nm,0.7s							
PBAR	**Barrancos**	**3.38**	**47**	*e*Sn	Sn	03 26 07.3	-3.9	
	0.9nm,0.7s							
PMTG	**Montargil**	**3.51**	**26**	*e*Sn	Sn	03 26 09.8	-4.7	
PMTG				A	A	03 26 15.7		
	1.0nm,0.8s							
PMTG	**Montargil**	**3.51**	**26**	*e*Sn	Sn	03 26 09.8	-4.7	
	1.0nm,0.8s							
PESTR	**Estremoz**	**3.59**	**34**	*e*Sn	Sn	03 26 12.8	-3.9	
PESTR				A	A	03 26 15.7		
	1.5nm,0.7s							
PESTR	**Estremoz**	**3.59**	**34**	Sn	Sn	03 26 12.8	-3.9	
	1.5nm,0.7s							
PESTR	**Estremoz**	**3.59**	**34**	*e*Sn	Sn	03 26 12.8	-3.9	
	1.5nm,0.7s							
EBAD	**Badajoz**	**3.79**	**41**	Sn	Sn	03 26 17.4	-4.1	
	SNR=7.9							
EBAD	**Badajoz**	**3.79**	**41**	Sn	Sn	03 26 17.4	-4.1	
	SNR=7.9							
PMRV	**Marv??o**	**4.14**	**31**	*e*Sn	Sn	03 26 25.3	-4.9	
PMRV				A	A	03 26 30.2		
	1.4nm,0.7s							
PMRV	**Marv??o**	**4.14**	**31**	Sn	Sn	03 26 25.3	-4.9	
	1.4nm,0.7s							
PMRV	**Marv??o**	**4.14**	**31**	*e*Sn	Sn	03 26 25.3	-4.9	
	1.4nm,0.7s							
ECAB	**El Cabril**	**4.38**	**59**	Sn	Sn	03 26 28.7	-7.3	
	SNR=7.9							
ECAB	**El Cabril**	**4.38**	**59**	Sn	Sn	03 26 28.7	-7.3	
	SNR=7.9							

ISK ***16*** *03:38:53.9,36°.42N×40°.90E,h5km,MD3.5*
ISCJB ***16*** *03:38:54.6±0.7,36°.41N±0°.03×40°.90E±0°.03,h6km±5km, Error ellipse: s-maj=5.5km s-min=4.2km az=147.2*
CSEM ***16*** *03:38:54.8±0.2,36°.42N×40°.92E,h5km,ML2.7,Error ellipse: s-maj=5.2km s-min=3.8km az=141.0*
NSSC ***16*** *03:38:54.4±1.2,36°.41N×40°.93E,h0km,6km,MD1.5,ML2.7*
DDA ***16*** *03:38:55.3,36°.43N×40°.88E,h36km,MD3.5*

ISC 16 03:38:55.0±1.2,36°.42N±0°.03×40°.92E±0°.03,h4km±10km, n35,σ0°70/60,2C-4D,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MZRK	**Al-Mazaregh**	**0.63**	**200**⇓	*e*P	**Pg**	**03 39 06.7**	**-0.4**
MZRK				*e*S	**Sg**	**03 39 15.4**	**+0.2**
MZRK				AML	AML	03 39 28.8	
	comp=Z,622nm,0.5s						
MZRK	**Al-Mazaregh**	**0.63**	**200**⇓	*e*P	**Pg**	**03 39 06.7**	**-0.4**
	SNR=75						
MZRK				*e*S	**Sg**	**03 39 15.4**	**+0.2**
	comp=Z,622nm,0.5s,SNR=59						
KBSD	**Kabsdagh**	**0.66**	**332**⇓	*e*P	**Pg**	**03 39 07.5**	**-0.1**
KBSD				*e*S	**Sg**	**03 39 17.1**	**+1.0**
KBSD				AML	AML	03 39 19.9	
	comp=Z,990nm,0.4s						
KBSD	**Kabsdagh**	**0.66**	**332**⇓	*e*P	**Pg**	**03 39 07.5**	**-0.1**
	SNR=75						
KBSD				*e*S	**Sg**	**03 39 17.1**	**+1.0**
	comp=Z,990nm,0.4s,SNR=59						
SFNV	**Sufian**	**0.66**	**270**⇑	*e*P	**Pg**	**03 39 06.7**	**-0.8**
SFNV				*e*S	**Sg**	**03 39 17.2**	**+1.1**
SFNV				AML	AML	03 39 33.7	
	comp=Z,286nm,0.8s						
SFNV	**Sufian**	**0.66**	**270**⇑	*e*P	**Pg**	**03 39 06.7**	**-0.8**
	SNR=75						
SFNV				*e*S	**Sg**	**03 39 17.2**	**+1.1**
	comp=Z,286nm,0.8s,SNR=59						
MAZI	**Mazidag**	**1.11**	**340**	*e*PN	**Pg**	**03 39 15.5**	**-0.7**
MAZI				*e*SN	**Sg**	**03 39 30.9**	**+0.4**
MAZI	**Mazidag**	**1.11**	**340**	*e*Pn	**Pg**	**03 39 15.5**	**-0.7**
MAZI				*e*Sn	**Sg**	**03 39 30.9**	**+0.4**
BEST	**Besiri**	**1.49**	**11**	*i*P	**Pn**	**03 39 22.6**	**0.0**
BEST				*i*S	**Sg**	**03 39 43.2**	**+0.2**
SIRN	**S¨¨rnak**	**1.60**	**48**	*i*P	**Pn**	**03 39 23.7**	**-0.4**
SIRN				*i*S	**Sb**	**03 39 45.7**	**-0.1**
SIRN	**S¨¨rnak**	**1.60**	**48**	*i*P	**Pn**	**03 39 23.7**	**-0.4**
SIRN				*i*S	**Sb**	**03 39 45.7**	**-0.1**
SIRT	**Sirnak**	**1.62**	**48**	*e*PN	**Pn**	**03 39 24.0**	**-0.4**
SIRT				*e*SN	**Sb**	**03 39 46.4**	**0.0**
SIRT	**Sirnak**	**1.62**	**48**	*e*Pn	**Pn**	**03 39 24.0**	**-0.4**
SIRT				*e*Sn	**Sb**	**03 39 46.4**	**0.0**
DIYA	**Diyarbakir**	**1.63**	**337**	*i*P	**Pn**	**03 39 23.8**	**-0.7**
DIYA				*i*S	**Sn**	**03 39 45.2**	**-0.8**
DIYA	**Diyarbakir**	**1.63**	**337**	*i*P	**Pn**	**03 39 23.8**	**-0.7**
DIYA				*i*S	**Sn**	**03 39 45.2**	**-0.8**
BTMT	**Batman**	**1.83**	**14**	*e*PN	**Pn**	**03 39 25.9**	**-1.2**
BTMT				*e*SN	**Sn**	**03 39 50.8**	**+0.1**
BTMT	**Batman**	**1.83**	**14**	*e*Pn	**Pn**	**03 39 25.9**	**-1.2**
BTMT				*e*Sn	**Sn**	**03 39 50.8**	**+0.1**
URFA	**Urfa**	**1.97**	**302**	*e*PN	**Pn**	**03 39 28.4**	**-0.8**
URFA	**Urfa**	**1.97**	**302**	*e*Pn	**Pn**	**03 39 28.4**	**-0.8**
JHLN	**Al Jahlan**	**2.15**	**250**	*e*P	**Pn**	**03 39 31.8**	**+0.3**
JHLN				*e*S	**Sn**	**03 39 59.2**	**+0.6**
JHLN				AML	AML	03 40 11.4	
	comp=Z,56nm,0.5s						
JHLN	**Al Jahlan**	**2.15**	**250**	*e*P	**Pn**	**03 39 31.8**	**+0.3**
	SNR=45						
JHLN				*e*S	**Sn**	**03 39 59.2**	**+0.6**
	comp=Z,56nm,0.5s,SNR=40						
ATAB	**Bozova**	**2.35**	**297**	*i*P	**Pn**	**03 39 33.8**	**-0.6**
ATAB				*i*S	**Sn**	**03 40 03.6**	**-0.1**
ATAB	**Bozova**	**2.35**	**297**	*i*P	**Pn**	**03 39 33.8**	**-0.6**
ATAB				*i*S	**Sn**	**03 40 03.6**	**-0.1**
BINT	**Bingol**	**2.48**	**352**	*e*Pn	**Pn**	**03 39 37.6**	**+1.4**
HAKT	**HAKKARI**	**2.50**	**62**	*i*P	**Pn**	**03 39 36.6**	**0.0**
HAKT				*i*S	**Sn**	**03 40 08.3**	**+0.6**
HAKT	**HAKKARI**	**2.50**	**62**	*i*P	**Pn**	**03 39 36.6**	**0.0**
HAKT				*i*S	**Sn**	**03 40 08.3**	**+0.6**
BNGL	**BINGOL**	**2.53**	**4**	*i*P	**Pn**	**03 39 38.4**	**+1.4**
BNGL				*i*S	**Sb**	**03 40 12.5**	**-0.2**
BNGB	**Bing¨¶l**	**2.58**	**356**	*e*PN	**Pn**	**03 39 37.6**	**+0.1**
PTK	**Pertek**	**2.75**	**334**	*e*PN	**Pn**	**03 39 40.6**	**+0.6**
PTK	**Pertek**	**2.75**	**334**	*e*Pn	**Pn**	**03 39 40.6**	**+0.6**
MYA	**Malataya**	**2.75**	**314**	*e*PN	**Pn**	**03 39 40.0**	**0.0**
MYA	**Malataya**	**2.75**	**314**	*e*Pn	**Pn**	**03 39 40.0**	**0.0**
KMRS	**Kahramanmaras**	**3.40**	**290**	*e*PN	**Pn**	**03 39 48.5**	**-0.2**
KMRS	**Kahramanmaras**	**3.40**	**290**	*e*Pn	**Pn**	**03 39 48.6**	**-0.2**
AYKD	**Aykdinkavak**	**3.45**	**288**	*i*P	**Pn**	**03 39 47.4**	**-2.0**
AYKD				*i*S	**Sn**	**03 40 31.9**	**+1.2**

ISCJB ***16*** *03:46:07.1±0.6,51°.44N±0°.03×16°.11E±0°.04,h0km,Error ellipse: s-maj=4.1km s-min=3.2km az=25.4*
IPEC ***16*** *03:46:07.5±0.3,51°.55N×16°.19E,h0km,ML2.2/3,Error ellipse: s-maj=2.0km s-min=1.5km az=33.0*
WAR ***16*** *03:46:09.2,51°.48N×16°.11E*
PRU ***16*** *03:46:09.8,51°.42N×16°.10E,h0km*
CSEM ***16*** *03:46:09.0±0.5,51°.43N×16°.09E,h1km,ML3.0/5,Error ellipse: s-maj=8.3km s-min=6.9km az=149.0*
IDC ***16*** *03:46:09.2±0.9,51°.50N×16°.00E,h0km,mb1 3.2/5, mb1mx3.1/27,mbtmp3.1/5,ML2.6/5,Error ellipse: s-maj=17.5km s-min=8.1km az=100.0*
VIE ***16*** *03:46:10.1±0.4,51°.30N×16°.08E,h0km,mb2.2/3,ML2.6/4, Error ellipse: s-maj=2.8km s-min=2.2km az=3.0 69 km WNW of Wroclaw Suspected Mining induced.*

ISC 16 03:46:07.8±0.8,51°.50N±0°.03×16°.09E±0°.03,h0km,n30, σ1§15/58,3C-1D,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.67**	**169**	*e*Pg	**Pg**	**03 46 21.2**	**+0.6**
KSP				*e*Sg	**Sg**	**03 46 30.0**	**+0.6**
KSP	**Ksiaz**	**0.67**	**169**	*e*Pg	**Pg**	**03 46 21.3**	**+0.6**
KSP				*i*Sg	**Sg**	**03 46 30.0**	**+0.6**
UPC	**Upice**	**1.00**	**183**	*e*PG	**Pg**	**03 46 27.2**	**+0.3**

DPC	**Dobruska-Polom**	**1.16**	**173**	*e*PG	**Pg**	**03 46 30.1**	**0.0**	
DPC				*e*SG	**Sg**	**03 46 44.7**	**-0.4**	
PVCC	**Panska Ves**	**1.37**	**225**	*e*PG	**Pb**	**03 46 34.6**	**+0.3**	
PVCC				*e*SG	**Sb**	**03 46 52.3**	**0.0**	
	comp=Z,95nm,0.2s							
BRG	**Berggiesshubel**	**1.49**	**246**	PN	**Pn**	**03 46 35.8**	**0.0**	
BRG				PG	**Pb**	**03 46 36.8**	**+0.5**	
BRG				SG	**Sn**	**03 46 56.9**	**+1.0**	
	48nm,0.4s							
PRU	**Pruhonice**	**1.81**	**214**	*e*PN	**Pn**	**03 46 39.9**	**-0.3**	
PRU				*e*PG	**Pb**	**03 46 41.8**	**+0.1**	
PRU				*e*SG	**Sg**	**03 47 05.7**	**-0.1**	
	comp=Z,20nm,0.5s							
CLL	**Collm**	**1.94**	**265**	*i* Pn	**Pn**	**03 46 41.8**	**-0.2**	
	comp=Z,2.0nm,0.4s							
CLL				*i* Pg	**Pg**	**03 46 46.1**	**+1.1**	
CLL				*i*		03 46 48.9		
CLL				*i* Sg	**Sg**	**03 47 11.4**	**+1.3**	
	comp=Z,14nm,0.6s							
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**03 46 42.0**	**-0.3**	
	baz=335							
MORC				*e*Sg	**Sb**	**03 47 09.2**	**-0.2**	
	comp=Z,22nm,0.5s,baz=335							
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*PG	**Pb**	**03 46 47.5**	**+0.4**	
OKC				*e*SG	**Sb**	**03 47 13.8**	**-0.1**	
	comp=Z,17nm,0.4s							
VRAC	**Vranov**	**2.22**	**171**	Pn	**Pn**	**03 46 47.4**	**+1.5**	
	comp=Z,0.9nm,0.3s,baz=334,slow=17,SNR=5.1							
VRAC				Pg	**Pg**	**03 46 50.8**	**+0.5**	
	comp=Z,1.5nm,0.3s,baz=351,slow=17,SNR=7.3							
VRAC				Lg	Lg	03 47 18.1		
	comp=Z,3.6nm,0.3s,baz=261,slow=23,SNR=8.5							
VRAC	**Vranov**	**2.22**	**171**	*e*Pn	**Pn**	**03 46 46.4**	**+0.5**	
	baz=354							
VRAC				*e*Sg	**Sg**	**03 47 18.0**	**-1.1**	
	comp=Z,10.0nm,0.3s,baz=354							
TREC	**Trest**	**2.24**	**190**	*e*PN	**Pn**	**03 46 46.7**	**+0.5**	
TREC				*e*PG	**Pb**	**03 46 49.8**	**+0.6**	
TREC				*e*SG	**Sg**	**03 47 18.9**	**-0.9**	
	comp=Z,14nm,0.6s							
KRUC	**Moravsky**	**2.45**	**175**	*e*Pn	**Pn**	**03 46 49.9**	**+0.9**	
	baz=357							
KRUC				*e*Sg	**Sg**	**03 47 25.8**	**-0.7**	
	comp=Z,10nm,0.6s,baz=357							
OJC	**Ojcow**	**2.68**	**117**	*e*Pg	**Pg**	**03 47 00.7**	**+1.6**	
OJC				*e*		03 47 34.5		
OJC				*e*Sg	**Sg**	**03 47 34.9**	**+1.1**	
OJC	**Ojcow**	**2.68**	**117**	*e*Pg	**Pg**	**03 47 00.7**	**+1.6**	
OJC				*e*Sg	**Sg**	**03 47 34.9**	**+1.1**	
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	**Pn**	**03 46 55.2**	**+0.4**	
KHC				*e*PG	**Pb**	**03 47 00.9**	**+1.1**	
KHC				*e*SN	**Sn**	**03 47 28.9**	**-1.1**	
KHC				*e*SG	**Sg**	**03 47 38.5**	**-1.4**	
	comp=Z,5.2nm,0.4s							
GERES	**GERESS Array B**	**3.07**	**211**	Pn	**Pn**	**03 46 58.9**	**+1.2**	
	comp=Z,0.6nm,0.3s,baz=26,slow=13,SNR=18							
GERES				Pg	**Pb**	**03 47 04.5**	**+1.1**	
	comp=Z,1.6nm,0.3s,baz=27,slow=16,SNR=20							
GERES				Lg	Lg	03 47 45.3		
	comp=Z,2.6nm,0.3s,baz=34,slow=26,SNR=10							
VYHS	**Vyhne**	**3.50**	**148**	*e*PN	**Pn**

TWE	**Neicheng**	**0.41**	**313**	⇓*i*	P	**Pn**	**04 11 24.6**	**-1.0**
	baz=320								
TWE				*i*	S	**Sn**	**04 11 31.1**	**-1.2**
	baz=320								
ENTT	**Nioudou**	**0.45**	**297**	*i*	P	**Pn**	**04 11 24.9**	**-1.1**
	baz=302								
ENTT				*i*	S	**Sn**	**04 11 31.7**	**-1.4**
	baz=302								
TWD	**Chiawan**	**0.51**	**226**	*i*	P	**Pb**	**04 11 25.7**	**-0.5**
	baz=224								
TWD				*i*	S	**Sb**	**04 11 33.5**	**+0.1**
	baz=224								
TWB1	**Santiao Chiao**	**0.57**	**359**		P	**Pn**	**04 11 27.5**	**-0.2**
	baz=3.0								
TWB1					S	**Sn**	**04 11 36.4**	**+0.3**
	baz=3.0								
NNS	**Nan Shan**	**0.57**	**270**	⇑*i*	P	**Pb**	**04 11 26.7**	**-0.6**
	baz=275								
NNS					S	**Sb**	**04 11 34.8**	**-0.4**
	baz=275								
HWA	**Hwalien**	**0.58**	**218**	*eP*		**Pn**	**04 11 27.8**	**-0.1**
	baz=216								
HWA				*eS*		**Sn**	**04 11 36.6**	**+0.1**
	baz=216								
NSK	**Sanguang**	**0.63**	**292**	⇑*i*	P	**Pb**	**04 11 27.8**	**-0.4**
	baz=296								
NSK					S	**Sb**	**04 11 36.4**	**-0.4**
	baz=296								
TWA	**Mucha**	**0.66**	**325**		P	**Pn**	**04 11 28.9**	**-0.1**
	baz=323								
TWA					S	**Sn**	**04 11 38.1**	**-0.3**
	baz=323								
NWF	**Wu-fen Shan**	**0.66**	**342**		P	**Pn**	**04 11 29.4**	**+0.3**
	baz=339								
NWF				*eS*		**Sn**	**04 11 39.0**	**+0.5**
	baz=339								
WHF	**Hehuan Shan**	**0.73**	**247**	⇑*i*	P	**Pb**	**04 11 29.2**	**-0.8**
	baz=247								
WHF				*i*	S	**Sb**	**04 11 39.5**	**-0.4**
	baz=247								
TAP1	**Taipei**	**0.74**	**324**	*eP*		**Pn**	**04 11 29.9**	**-0.1**
	baz=327								
TAP1				*eS*		**Sn**	**04 11 40.8**	**+0.4**
	baz=327								
TAP	**Taipei**	**0.75**	**323**	*eP*		**Pn**	**04 11 30.4**	**+0.2**
	baz=327								
TAP				*eS*		**Sn**	**04 11 41.0**	**+0.5**
	baz=327								
TWT	**Tachien**	**0.78**	**256**	*eP*		**Pb**	**04 11 30.1**	**-0.6**
	baz=257								
TWT					S	**Sb**	**04 11 40.9**	**0.0**
	baz=257								
ESL	**Shilin**	**0.81**	**220**	*eP*		**Pb**	**04 11 29.9**	**-1.2**
	baz=230								
TWS1	**Kuangyinshan**	**0.85**	**321**		P	**Pn**	**04 11 31.9**	**+0.3**
	baz=334								
TWS1				*eS*		**Sn**	**04 11 44.1**	**+1.1**
	baz=334								
TWY	**Chenhua**	**0.91**	**336**	*eP*		**Pn**	**04 11 33.2**	**+0.8**
	baz=339								
TWY				*eS*		**Sn**	**04 11 45.7**	**+1.1**
	baz=339								
NCU	**National Centr**	**0.91**	**306**	*eP*		**Pn**	**04 11 33.5**	**+1.1**
	baz=308								
NCU				*eS*		**Sn**	**04 11 46.3**	**+1.7**
	baz=308								
YOJ	**Yonaguni jima**	**0.92**	**88**		P	**Pn**	**04 11 32.5**	**0.0**
YOJ				*eS*		**Sn**	**04 11 46.5**	**+1.7**
NSTT	**Nanjuang**	**0.93**	**282**	⇑*i*	P	**Pn**	**04 11 33.0**	**+0.3**
	baz=284								
NSTT					S	**Sn**	**04 11 45.8**	**+0.7**
	baz=284								
HSN	**Hsinchu**	**1.01**	**291**	*eP*		**Pn**	**04 11 34.9**	**+1.2**
	baz=295								
HSN				*eS*		**Sn**	**04 11 48.2**	**+1.3**
	baz=295								
EHY	**Hungye**	**1.12**	**214**	*eP*		**Pn**	**04 11 35.4**	**+0.1**
	baz=212								
TWQ1	**Liyutan**	**1.12**	**266**	*eP*		**Pb**	**04 11 36.3**	**-0.1**
	baz=267								
TWQ1				*eS*		**Sb**	**04 11 51.3**	**+1.4**
	baz=267								
NSY	**Sanyi**	**1.13**	**269**	*eP*		**Pb**	**04 11 36.4**	**-0.1**
	baz=270								
NSY				*eS*		**Sn**	**04 11 52.4**	**+2.4**
	baz=270								
SMLT	**Sun Moon Lake**	**1.15**	**241**	*eP*		**Pb**	**04 11 36.5**	**-0.4**
	baz=232								
TYC	**Yuchr**	**1.17**	**243**	*eP*		**Pb**	**04 11 36.6**	**-0.6**
	baz=243								
TYC					S	**Sn**	**04 11 51.9**	**+0.9**
	baz=243								
PCYT	**Pengchaiyu**	**1.19**	**3**	*eP*		**Pb**	**04 11 36.7**	**-0.8**
	baz=4.0								
PCYT				*eS*		**Sn**	**04 11 53.6**	**+2.2**
	baz=4.0								
TCU	**Taichung**	**1.24**	**257**	*eP*		**Pb**	**04 11 37.9**	**-0.5**
	baz=257								
TCU				*eS*		**Sb**	**04 11 53.8**	**-0.2**
	baz=257								
TWF1	**Yuli**	**1.26**	**211**	*eP*		**Pn**	**04 11 36.9**	**-0.3**
	baz=221								
YUS	**Yu-Shan**	**1.35**	**226**	*eP*		**Pn**	**04 11 38.9**	**+0.1**
	baz=214								
YUS				*eS*		**Sn**	**04 11 56.5**	**+0.5**
	baz=214								
ALS	**Alishan**	**1.43**	**230**	*eP*		**Pn**	**04 11 40.5**	**+0.7**
	baz=220								
ALS				*eS*		**Sb**	**04 11 59.2**	**-0.5**
	baz=220								
CHKT	**Chengkung**	**1.46**	**204**	*eP*		**Pn**	**04 11 40.1**	**+0.2**
	baz=186								
CHN5	**Tsauling**	**1.47**	**236**	*eP*		**Pb**	**04 11 41.5**	**-0.9**
	baz=236								
CHN5				*eS*		**Sb**	**04 12 00.6**	**-0.1**
	baz=236								
ELDTW	**Lidau**	**1.54**	**216**	*eP*		**Pn**	**04 11 41.5**	**+0.3**
	baz=205								
IRIF	**Iriomote-Funau**	**1.58**	**93**		P	**Pn**	**04 11 41.9**	**+0.3**
IRIF				*eS*		**Sb**	**04 12 02.1**	**-1.6**
CHN4	**Tsaushan**	**1.68**	**230**	*eP*		**Pb**	**04 11 44.6**	**-1.3**
	baz=230								
CHN4				*eS*		**Sb**	**04 12 07.2**	**+0.5**
	baz=230								
HATJ	**Hateruma jima**	**1.69**	**103**	*eS*		**Sb**	**04 12 06.4**	**-0.4**
STYT	**Tauyuan**	**1.71**	**222**	*eP*		**Pn**	**04 11 44.6**	**+1.2**
	baz=214								
STYT				*eS*		**Sb**	**04 12 06.5**	**-0.9**
	baz=214								
CHY	**Chiayi**	**1.72**	**237**	*eP*		**Pn**	**04 11 44.1**	**+0.6**
	baz=237								
CHY				*eS*		**Sb**	**04 12 06.5**	**-1.2**
	baz=237								
WTP	**Ta-pu**	**1.74**	**227**	*eP*		**Pn**	**04 11 45.2**	**+1.4**
	baz=227								
WTP				*eS*		**Sb**	**04 12 08.4**	**+0.1**
	baz=227								
TWK	**Hsinying**	**1.81**	**230**	*eP*		**Pn**	**04 11 46.1**	**+1.2**
	baz=230								
TWK				*eS*		**Sb**	**04 12 09.0**	**-1.4**
	baz=230								
TWG	**Pinlang**	**1.82**	**208**	*eP*		**Pn**	**04 11 44.9**	**0.0**
	baz=192								
CHN1	**Nanshi**	**1.84**	**228**	*eP*		**Pb**	**04 11 46.8**	**-1.7**
	baz=227								
CHN1				*eS*		**Sb**	**04 12 11.1**	**-0.1**
	baz=227								
JKRS	**Kuro-shima**	**1.84**	**96**		P	**Pn**	**04 11 45.7**	**+0.5**
JKRS				*eS*		**Sn**	**04 12 08.9**	**+1.4**
SGST	**Jiashian**	**1.87**	**224**	*eP*		**Pn**	**04 11 45.4**	**-0.2**
	baz=212								
SGST				*eS*		**Sn**	**04 12 10.3**	**+1.9**
	baz=212								
JIJ	**Ishigaki jima**	**1.95**	**92**	*eS*		**Sn**	**04 12 10.8**	**+0.5**
JTJ	**Tarama**	**2.47**	**85**		P	**Pn**	**04 11 53.7**	**-0.1**
JTJ				*eS*		**Sn**	**04 12 23.9**	**+0.9**

*ISCJB **16** 04:14:58.6±0.5, 6°.23S×147°.4E±0°.1, h77km, mb3.9/15, Error ellipse: s-maj=17.0km s-min=5.8km az=9.1*
*IDC **16** 04:14:58.8±2.0, 6°.18S×147°.52E, h62km±19km, mb3.8/14, mb1 4.0/17, mb1mx3.9/22, mbtmp3.8/17, MS3.6/3, Ms1 3.5/3, ms1mx3.1/29, Error ellipse: s-maj=25.0km s-min=10.4km az=100.0*
*NEIC **16** 04:14:59.3±1.2, 6°.23S×147°.38E, h67km±11km, mb4.1/3,*

Error ellipse: s-maj=14.8km s-min=8.5km az=92.0
ISC 16 04:15:00.5±0.5, 6°.27S±0°.06×147°.3E±0°.1, h77km, n48, σ1s01/57, mb4.0/15, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.12**	**182**	P	**Pn**	**04 15 45.6**	**-1.8**
PMG				S	**Sn**	**04 16 25.5**	**+1.8**
PMG	**Port Moresby**	**3.12**	**182**	P	**Pn**	**04 15 45.6**	**-1.8**
	27nm,0.3s,baz=4.6,slow=5.6,SNR=27						
PMG				S	**Sn**	**04 16 25.5**	**+1.8**
	41nm,0.3s,baz=20,slow=22,SNR=8.1						
PMG				LR	LR	04 17 13.9	
	comp=Z,314nm,20.0s,baz=285,slow=42						
COEN	**Coen**	**8.64**	**208**	*e*Pn	**Pn**	**04 17 02.5**	**-0.4**
	60nm,0.6s						
COEN				*e*S	**Sn**	**04 18 37.6**	**-1.1**
CTA	**Charters Tower**	**13.77**	**184**	P	**Pn**	**04 18 13.0**	**+0.6**
CTA	**Charters Tower**	**13.77**	**184**	P	**Pn**	**04 18 13.0**	**+0.6**
	0.5nm,0.3s,baz=3.7,slow=13,SNR=6.2						
CTAO	**Charters Tower**	**13.77**	**184**	*e*Pn	**Pn**	**04 18 13.2**	**+0.8**
WRAB	**Tennant Creek**	**18.50**	**222**	*e*Pn	**Pn**	**04 19 11.4**	**-0.3**
WRA	**Warramunga Arr**	**18.51**	**222**	P	**P**	**04 19 11.3**	**+0.4**
WRA				S	**S**	**04 22 35.5**	**-2.2**
WRA	**Warramunga Arr**	**18.51**	**222**	P	**P**	**04 19 11.3**	**+0.4**
	0.7nm,0.3s,baz=51,slow=11,SNR=23						
WRA				S	**S**	**04 22 35.5**	**-2.2**
	0.1nm,0.3s,baz=51,slow=23,SNR=3.2						
AS31	**Alice Springs**	**21.56**	**215**	*e*P	**P**	**04 19 44.5**	**+0.7**
ASAR	**Alice Springs**	**21.56**	**215**	P	**P**	**04 19 44.5**	**+0.7**
ASAR				S	Sn	04 23 45.1	-6.5
ASAR	**Alice Springs**	**21.56**	**215**	P	**P**	**04 19 44.5**	**+0.7**
	2.3nm,0.4s,baz=56,slow=8.2,SNR=35						
ASAR				S	Sn	04 23 45.1	-6.5
	2.3nm,0.8s,baz=34,slow=22,SNR=5.4						
FITZ	**Fitzroy Crossi**	**24.16**	**239**	*e*P	**P**	**04 20 11.0**	**+1.3**
	9.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**24.16**	**239**	P	**P**	**04 20 11.2**	**+1.5**
	3.3nm,0.4s,baz=79,slow=5.7,SNR=15						
STKA	**Stephens Creek**	**26.03**	**191**	*e*P	**P**	**04 20 26.9**	**+0.4**
	0.9nm,0.8s						
STKA	**Stephens Creek**	**26.03**	**191**	P	**P**	**04 20 26.7**	**+0.2**
	4.0nm,0.7s,baz=359,slow=10,SNR=11						
STKA				LR	LR	04 31 46.3	
	comp=Z,95nm,20.6s,baz=25,slow=38						
JNU	**Nakatsue**	**42.16**	**339**	P	**P**	**04 22 46.7**	**+1.1**
JNU	**Nakatsue**	**42.16**	**339**	P	**P**	**04 22 46.7**	**+1.1**
	9.4nm,1.0s,baz=176,slow=11,SNR=4.4						
MJAR	**Matsushiro Arr**	**43.42**	**349**	P	**P**	**04 22 56.6**	**+0.8**
MJAR	**Matsushiro Arr**	**43.42**	**349**	P	**P**	**04 22 56.6**	**+0.8**
	1.3nm,0.2s,baz=165,slow=9.6,SNR=6.3						
KSRS	**Korea Array**	**47.10**	**339**	P	**P**	**04 23 25.5**	**+0.7**
	1.5nm,0.8s,baz=163,slow=8.5,SNR=4.3						
KSAR	**Wonju Array Be**	**47.10**	**339**	P	**P**	**04 23 25.5**	**+0.7**
USRK	**Ussuriysk Arra**	**52.09**	**346**	P	**P**	**04 24 02.7**	**+0.1**
	1.9nm,0.8s,baz=191,slow=11,SNR=4.2						
PETK	**Petropavlovsk-**	**59.81**	**7**	P	**P**	**04 24 56.9**	**-0.6**
PETK	**Petropavlovsk-**	**59.81**	**7**	P	**P**	**04 24 56.9**	**-0.6**
	2.1nm,0.8s,baz=206,slow=6.3,SNR=3.7						
SONM	**Songino Array**	**64.77**	**331**	P	**P**	**04 25 31.5**	**+0.4**
SONM	**Songino Array**	**64.77**	**331**	P	**P**	**04 25 31.5**	**+0.4**
	1.7nm,0.9s,baz=138,slow=6.3,SNR=9.4						
SONM				LR	LR	04 51 21.6	
	comp=Z,165nm,19.4s,baz=2.2,slow=34						
VNDA	**Vanda**	**71.63**	**177**	P	**P**	**04 26 14.3**	**+1.0**
VNDA	**Vanda**	**71.63**	**177**	P	**P**	**04 26 14.3**	**+1.0**
	0.9nm,0.6s,baz=322,slow=6.5,SNR=9.4						
MKAR	**Makanchi Array**	**77.88**	**320**	P	**P**	**04 26 50.0**	**+0.1**
MKAR	**Makanchi Array**	**77.88**	**320**	P	**P**	**04 26 50.0**	**+0.1**
	0.4nm,0.4s,baz=99,slow=7.8,SNR=7.5						
ZALV	**Zalesovo Beam**	**79.38**	**328**	P	**P**	**04 26 56.7**	**-1.3**
ZALV	**Zalesovo Beam**	**79.38**	**328**	P	**P**	**04 26 56.7**	**-1.3**
	1.2nm,0.6s,baz=126,slow=4.5,SNR=4.4						
KURK	**Kurchatov**	**81.59**	**323**	P	**P**	**04 27 09.5**	**-0.4**
KURBB	**Kurchatov Arra**	**81.61**	**323**	P	**P**	**04 27 09.5**	**-0.5**
	0.4nm,0.5s,baz=113,slow=4.0,SNR=4.9						
QSPA	**South Pole Qui**	**83.70**	**180**	*e*P	**P**	**04 27 21.0**	**+0.2**
	2.2nm,0.7s						
ILAR	**Eielson Array**	**85.62**	**23**	P	**P**	**04 27 28.4**	**-1.8**
ILAR	**Eielson Array**	**85.62**	**23**	P	**P**	**04 27 28.4**	**-1.8**
	0.5nm,0.6s,baz=256,slow=5.0,SNR=4.9						
SIV	**San Ignacio**	**144.27**	**129**	PKP	**PKPdf**	**04 34 28.5**	**-0.2**
SIV	**San Ignacio**	**144.27**	**129**	PKP	**PKPdf**	**04 34 28.5**	**-0.2**
	1.3nm,0.7s,baz=263,slow=6.9,SNR=3.9						
TOA0	**Torodi Ar. Sit**	**145.42**	**284**	*e*PKPdf	**PKPab**	**04 34 30.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**145.42**	**284**	PKPbc	**PKPbc**	**04 34 30.8**	**0.0**
TORD	**Torodi Ar. Bea**	**145.42**	**284**	PKPbc	**PKPbc**	**04 34 30.8**	**0.0**
	4.4nm,0.7s,baz=70,slow=3.6,SNR=45						
SAML	**Samuel**	**146.08**	**116**	*e*PKPdf	**PKPdf**	**04 34 32.2**	**+0.3**
DBIC	**Dimbokro**	**152.31**	**272**	PKPbc	**PKPbc**	**04 34 49.6**	**+0.9**
DBIC				PKPab	**PKPab**	**04 34 59.8**	**+0.9**
DBIC	**Dimbokro**	**152.31**	**272**	PKPbc	**PKPbc**	**04 34 49.6**	**+0.9**
	3.4nm,0.9s,baz=82,slow=4.0,SNR=3.6						
DBIC				PKPab	**PKPab**	**04 34 59.8**	**+0.9**
	2.0nm,0.7s,baz=78,slow=7.0,SNR=3.1						
BDFB	**Brasilia**	**153.48**	**145**	PKPbc	**PKPbc**	**04 34 50.9**	**-0.4**
BDFB				PKPab	**PKPab**	**04 35 03.0**	**-0.7**
BDFB	**Brasilia**	**153.48**	**145**	PKPbc	**PKPbc**	**04 34 50.9**	**-0.4**
	1.6nm,0.6s,baz=194,slow=4.2,SNR=3.3						
BDFB				PKPab	**PKPab**	**04 35 03.0**	**-0.7**
	1.0nm,0.6s,baz=88,slow=3.3,SNR=3.3						

IDC 16 04:19:22.0±3.5, 55°.69N×86°.06E, h0km, mb1 2.7/2, mb1mx2.7/29, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=26.2km s-min=4.5km az=23.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**203**	*i*		04 31 00.0	
	baz=22,slow=316,SNR=12						
ZALV	**Zalesovo Beam**	**1.89**	**203**	Pg	Pn	04 19 54.6	-0.9
	2.7nm,0.3s,baz=25,slow=18,SNR=13						
ZALV				Lg	Lg	04 20 21.5	
	3.2nm,0.3s,baz=21,slow=27,SNR=12						
KURBB	**Kurchatov Arra**	**6.80**	**225**	Pn	Pn	04 21 03.2	+0.3
	0.0nm,0.3s,baz=45,slow=14,SNR=3.2						
KURBB				Lg	Lg	04 23 00.0	
	0.0nm,0.3s,baz=57,slow=27,SNR=4.3						
MKAR	**Makanchi Array**	**9.22**	**196**	Pn	Pn	04 21 36.0	-0.1
	0.1nm,0.3s,baz=19,slow=12,SNR=3.6						
MKAR				Sn	Sn	04 23 19.1	-1.4
	0.1nm,0.3s,baz=48,slow=24,SNR=2.6						
MKAR				Lg	Lg	04 24 14.2	
	0.1nm,0.3s,baz=20,slow=27,SNR=4.1						

IDC 16 04:35:49.0±2.9, 46°.25S×166°.21E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.8/15, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=75.8km s-min=27.5km az=169.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**4.27**	**55**	Pn	Pn	04 36 56.2	+0.9
	7.3nm,0.3s,baz=220,slow=6.3,SNR=15						
RPZ				Sn	Sn	04 37 44.8	-0.9
	9.9nm,0.3s,baz=166,slow=19,SNR=9.4						
ASAR	**Alice Springs**	**34.39**	**300**	P	P	04 42 38.2	+0.3
	0.7nm,0.6s,baz=134,slow=8.3,SNR=8.9						
WRA	**Warramunga Arr**	**37.01**	**304**	P	P	04 43 00.1	-0.2
	1.2nm,0.7s,baz=136,slow=8.0,SNR=12						
FITZ	**Fitzroy Crossi**	**43.63**	**296**	P	P	04 43 54.7	-0.5
	1.4nm,0.7s,baz=175,slow=11,SNR=4.8						
TORD	**Torodi Ar. Bea**	**144.51**	**207**	PKP	PKPbc	04 55 26.7	+0.7
	0.4nm,0.6s,baz=168,slow=1.4,SNR=5.9						

GUC 16 04:35:57.9±0.8, 22°.84S×68°.65W, h97km±5km, ML3.5, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.33**	**312**	*e*P	Pn	04 36 12.8	+0.2
LVC				*i* S	Sn	04 36 24.5	+0.9
PB04	**Plate Boundary**	**0.96**	**306**	⇑*i* P	Pn	04 36 24.4	+6.8
PB04				*i* S	Sn	04 36 44.9	+12
PB04				AML	AML	04 36 49.3	
	comp=N,479nm,0.2s						
PB09	**Plate Boundary**	**1.17**	**332**	⇓*i* P	Pn	04 36 21.1	+0.8
PB09				*i* S	Sn	04 36 38.6	+1.4
PB09				AML	AML	04 36 43.9	
	comp=N,2μm,0.4s						
CEN1	**Los Morros**	**1.53**	**249**	*e*P	Pn	04 36 27.6	+3.1
CEN1				*i* S	Sn	04 36 49.9	+5.1
PB07	**Plate Boundary**	**1.59**	**314**	⇑*i* P	Pn	04 36 25.8	+0.3
PB07				*i* S	Sn	04 36 47.2	+0.9
PB07				AML	AML	04 36 48.3	
	comp=E,624nm,0.2s						
PB10	**Plate Boundary**	**1.88**	**249**	*e*P	Pn	04 36 29.5	+0.6
PB10				*e*S	Sn	04 36 53.6	+1.2
PB10				AML	AML	04 37 05.0	
	comp=N,735nm,0.4s						
PB01	**Plate Boundary**	**1.95**	**336**	AML	AML	04 36 56.6	
	comp=N,435nm,0.3s						
HMBC	**Humberstone**	**2.80**	**335**	AML	AML	04 37 21.0	
	comp=N,136nm,0.6s						
PSGC	**Pisagua**	**3.51**	**337**	*e*P	Pn	04 36 49.2	-1.4
PSGC				*i* S	Sn	04 37 30.4	-0.8
PSGC				AML	AML	04 37 41.1	
	comp=N,55nm,0.7s						
MNMC	**Minimini**	**3.79**	**346**	AML	AML	04 38 08.2	
	comp=N,92nm,0.6s						

*CSEM **16** 04:42:10.8, 37°.03N×20°.72E, h29km, MD3.4, After ATH*
ATH 16 04:42:10.8, 37°.03N×20°.72E, h29km±5km, MD3.4/14, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.83**	**99**	*e*PN	Pb	04 42 27.4	+0.7
PYL	**PYLOS**	**0.83**	**99**	*e*Pn	Pb	04 42 27.4	+0.7
AMT	**Artemida-Makis**	**0.94**	**57**	*e*PN	Pb	04 42 29.5	+1.0
AMT	**Artemida-Makis**	**0.94**	**57**	*e*Pn	Pb	04 42 29.5	+1.0
ITM	**Ithomi**	**0.98**	**81**	*e*PN	Pb	04 42 29.3	+0.1
ITM	**Ithomi**	**0.98**	**81**	*e*Pn	Pb	04 42 29.3	+0.1
VLS	**Valsamata**	**1.15**	**355**	*e*PN	Pb	04 42 33.4	+1.3
VLS				*e*SN	Sb	04 42 49.0	+2.3
VLS	**Valsamata**	**1.15**	**355**	*e*Pn	Pb	04 42 33.4	+1.3
VLS				*e*Sn	Sb	04 42 49.0	+2.3
RLS	**Riolos of Patr**	**1.19**	**30**	*e*PN	Pb	04 42 33.6	+0.9
RLS				*e*SN	Sb	04 42 49.4	+1.8
RLS	**Riolos of Patr**	**1.19**	**30**	*e*Pn	Pb	04 42 33.6	+0.9
RLS				*e*Sn	Sb	04 42 49.4	+1.8
DYR	**Agios Nikonas**	**1.32**	**101**	*e*PN	Pb	04 42 35.9	+0.9
DYR	**Agios Nikonas**	**1.32**	**101**	*e*Pn	Pb	04 42 35.9	+0.9
VLX	**Vlachokerasia**	**1.37**	**75**	*e*PN	Pb	04 42 36.6	+0.7
VLX	**Vlachokerasia**	**1.37**	**75**	*e*Pn	Pb	04 42 36.6	+0.7
KLV	**Kalavryta, Ach**	**1.52**	**48**	*e*PB	Pb	04 42 37.4	-1.1
KLV				*e*SN	Sb	04 42 58.7	+1.2
KLV	**Kalavryta, Ach**	**1.52**	**48**	*e*Pb	Pb	04 42 37.4	-1.1
KLV				*e*Sn	Sb	04 42 58.7	+1.2
LAKA	**Lakka**	**1.57**	**39**	*e*PN	Pn	04 42 37.0	+0.2
LAKA	**Lakka**	**1.57**	**39**	*e*Pn	Pn	04 42 37.0	+0.2
GUR	**Goura**	**1.58**	**54**	*e*PB	Pn	04 42 38.0	+1.0
GUR	**Goura**	**1.58**	**54**	*e*Pb	Pn	04 42 38.0	+1.0
TRIZ	**Trizonia**	**1.71**	**38**	*e*PN	Pn	04 42 38.3	-0.3
TRIZ	**Trizonia**	**1.71**	**38**	*e*Pn	Pn	04 42 38.3	-0.3
KALE	**Kalithea**	**1.77**	**39**	*e*PN	Pn	04 42 39.2	-0.3
KALE	**Kalithea**	**1.77**	**39**	*e*Pn	Pn	04 42 39.2	-0.3
VLI	**Veliai**	**1.81**	**99**	*e*PN	Pb	04 42 42.8	-0.4
VLI	**Veliai**	**1.81**	**99**	*e*Pn	Pb	04 42 42.8	-0.4
LTK	**Loutraki**	**2.04**	**60**	*e*PN	Pn	04 42 45.1	+1.8
LTK	**Loutraki**	**2.04**	**60**	*e*Pn	Pn	04 42 45.1	+1.8
DID	**Didima**	**2.06**	**76**	*e*PB	Pb	04 42 46.7	-0.9
DID	**Didima**	**2.06**	**76**	*e*Pb	Pb	04 42 46.7	-0.9
AGG	**Agios Georgios**	**2.36**	**32**	*e*PB	Pb	04 42 51.7	-1.0
AGG	**Agios Georgios**	**2.36**	**32**	*e*Pb	Pb	04 42 51.7	-1.0

*CSEM **16** 04:43:12.1±0.2, 40°.84N×31°.04E, h5km, MD2.9, Error ellipse: s-maj=3.5km s-min=3.2km az=166.0*
*DDA **16** 04:43:14.0, 40°.76N×30°.87E, h7km, MD2.9*
ISK 16 04:43:11.4, 40°.83N×31°.04E, h5km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDUB	**Mudurnu**	**0.38**	**162**	*e*PG	Pg	04 43 19.4	+0.6
MDUB				*e*SG	Sg	04 43 24.7	+0.7
MDUB	**Mudurnu**	**0.38**	**162**	*e*Pg	Pg	04 43 19.4	+0.5
MDUB				*e*Sg	Sg	04 43 24.7	+0.7
GULT	**Gulveren**	**0.56**	**225**	*e*PG	Pg	04 43 23.1	+0.7
GULT				*e*SG	Sg	04 43 31.0	+1.2
GULT	**Gulveren**	**0.56**	**225**	*e*Pg	Pg	04 43 23.1	+0.7
GULT				*e*Sg	Sg	04 43 31.0	+1.1
KDZE	**Karadeniz Ereo**	**0.57**	**32**	*e*PG	Pg	04 43 22.9	+0.5
KDZE				*e*SG	Sg	04 43 31.1	+1.2
KDZE	**Karadeniz Ereo**	**0.57**	**32**	*e*Pg	Pg	04 43 22.9	+0.5
KDZE				*e*Sg	Sg	04 43 31.1	+1.2
SPNC	**Sapanca-Adapaz**	**0.58**	**256**	*e*PG	Pb	04 43 23.5	-0.5
SPNC				*e*SG	Sb	04 43 31.6	-0.9
SPNC	**Sapanca-Adapaz**	**0.58**	**256**	*e*Pg	Pb	04 43 23.5	-0.5
SPNC				*e*Sg	Sb	04 43 31.6	-0.9
GPA	**Golpazari**	**0.78**	**226**	*e*PG	Pg	04 43 26.5	+0.1
GPA	**Golpazari**	**0.78**	**226**	*e*Pg	Pg

*MOS **16** 04:44:31.6±0.8,38°.93N×101°.37E,h33km,mb5.2/61,Error ellipse: s-maj=7.6km s-min=3.9km az=125.5*
*BKK **16** 04:44:37.3±1.2,39°N±5°×10°2E±1°2,h68km±19km, M4.4/13,mB4.9/6,mb4.6/13,Mw(mB)4.2/6*
ISC 16 04:44:31.4±0.6,38°.96N±0°.03×101°.39E±0°.03,h17km±3km, n599,σ1♀04/635,mb5.0/187,MS3.7/17,110C-12D,Gansu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	h	m	s	ISC	Time	Res
GTA	**Gaotai**	**1.30**	**291**	Pg		**Pn**					**04 44 53.5**	**-1.4**
GTA				Sg		**Sn**					**04 45 11.6**	**-0.3**
GTA				smax		smax						
	comp=N,30μm,0.4s											
GTA				smax		smax						
	comp=E,15μm,0.5s											
LZH	**Lanzhou**	**3.47**	**145**	Pn		**Pn**					**04 45 24.8**	**+0.1**
LZH				Pg		**Pb**					**04 45 32.8**	**+0.4**
LZH				Sg		**Sb**					**04 46 15.8**	**+1.4**
LZH				smax		smax						
	comp=N,7μm,1.0s											
LZH				smax		smax						
	comp=E,5μm,0.7s											
LZH				LR		LR						
	comp=N,7μm,6.0s											
LZH				LR		LR						
	comp=E,8μm,7.6s											
LZH				LR		LR						
	comp=Z,9μm,8.3s											
BTO	**Baotou**	**6.85**	**73**	*e*Pn		Pn				04 46 15.8		+4.7
BTO				Sn		**Sn**				**04 47 28.3**		**-0.4**
BTO				Sg		Sg				04 48 03.5		-7.6
BTO				smax		smax						
	comp=N,75nm,0.7s											
BTO				smax		smax						
	comp=E,65nm,0.5s											
XAN	**Xi'an**	**7.80**	**127**	Pn		**Pn**				**04 46 21.5**		**-2.6**
XAN				Sn		**Sn**				**04 47 49.8**		**-2.3**
XAN				smax		smax						
	comp=N,100nm,1.2s											
XAN				smax		smax						
	comp=E,42nm,0.8s											
XAN				LR		LR						
	comp=N,1μm,10.3s											
XAN				LR		LR						
	comp=E,460nm,12.8s											
XAN				LR		LR						
	comp=Z,490nm,11.9s											
HHC	**Hu-ho-hao-te**	**8.05**	**73**	*e*P		**Pn**				**04 46 30.0**		**+2.5**
HHC				pP		pP				04 46 33.3		
HHC				sP						04 46 36.3		
HHC				S		Sn				04 48 04.3		+6.2
HHC				sS		sS				04 48 07.8		
HHC				pmax		pmax						
	comp=Z,65nm,0.7s											
HHC				pmax		pmax						
	comp=Z,330nm,5.3s											
HHC				LR		LR						
	comp=N,1μm,5.3s											
HHC				LR		LR						
	comp=E,1μm,4.8s											
HHC				LR		LR						
	comp=Z,610nm,3.7s											
CD2	**Chengdu**	**8.26**	**166**	*e*P		**Pn**				**04 46 32.8**		**+2.3**
CD2				pP		pP				04 46 36.0		
CD2				sP						04 46 38.9		
CD2				PP		**PnPn**				**04 46 40.6**		**+2.5**
CD2				S		**Sn**				**04 48 07.8**		**+4.4**
CD2				sS		sS				04 48 12.3		
CD2				SS		**SnSn**				**04 48 20.8**		**+5.7**
CD2				pmax		pmax						
	comp=Z,20nm,1.1s											
CD2				pmax		pmax						
	comp=Z,100nm,4.8s											
CD2				LR		LR						
	comp=N,6μm,8.2s											
CD2				LR		LR						
	comp=E,2μm,11.2s											
CD2				LR		LR						
	comp=Z,2μm,7.1s											
SONM	**Songino Array**	**9.59**	**21**	Pn		**Pn**				**04 46 49.9**		**+1.2**
SONM				Sn		**Sn**				**04 48 39.7**		**+3.8**
SONM				Lg		Lg				04 49 33.2		
SONM	**Songino Array**	**9.59**	**21**	Pn		**Pn**				**04 46 49.9**		**+1.2**
	comp=Z,32nm,0.3s,baz=202,slow=14,SNR=525											
SONM				Sn		**Sn**				**04 48 39.7**		**+3.8**
	comp=Z,5.4nm,0.3s,baz=202,slow=22,SNR=4.4											
SONM				Lg		Lg				04 49 33.2		
	comp=Z,9.6nm,0.3s,baz=195,slow=29,SNR=6.7											
ULN	**Ulaanbaatar**	**9.81**	**23**	*e*Pn		**Pn**				**04 46 52.7**		**+1.1**
ULN				*e*Sn		**Sn**				**04 48 40.4**		**-1.0**
ENH	**Enshi**	**10.93**	**140**	*e*Pn		**Pn**				**04 47 05.4**		**-1.7**
WMQ	**Urumqi**	**11.37**	**300**	P		**Pn**				**04 47 14.0**		**+1.0**
WMQ				pP						04 47 17.0		
WMQ				sP						04 47 20.0		
WMQ				PP		**PnPn**				**04 47 23.0**		**+2.4**
WMQ				S		**Sn**				**04 49 21.3**		**+1.7**
WMQ				SS		**SnSn**				**04 49 35.1**		**+3.8**
WMQ				PcP		**PcP**				**04 53 10.6**		**+4.4**
WMQ				ScP		**ScP**				**04 56 38.5**		**+0.6**
WMQ				ScS		**ScS**				**05 00 12.3**		**-1.0**
WMQ				pmax		pmax						
	comp=Z,23nm,0.7s											
WMQ				pmax		pmax						
	comp=Z,240nm,4.6s											
BJI	**Beijing**	**11.48**	**80**	P		**Pn**				**04 47 14.9**		**+0.5**
BJI				S		**Sn**				**04 49 25.0**		**+2.8**
BJI				pmax		pmax						
	comp=Z,8.0nm,0.6s											
BJI				pmax		pmax						
	comp=Z,74nm,3.9s											
BJI				LR		LR						
	comp=N,1μm,10.3s											
BJI				LR		LR						
	comp=E,1μm,11.8s											
BJI				LR		LR						
	comp=Z,300nm,18.4s											
ZAK	**Zakamensk**	**11.50**	**6**	*e*P		**Pn**				**04 47 16.7**		**+2.0**
ZAK				pmax		pmax						
	comp=Z,22nm,0.7s											
MOY	**Mondy**	**12.71**	**359**	*e*P		**Pn**				**04 47 34.0**		**+2.7**
TLY	**Talaya**	**12.82**	**6**	*c i*P		**Pn**				**04 47 35.2**		**+2.5**
TLY				pmax		pmax						
	comp=Z,22nm,0.6s											
TLY				MLR		MLR						
	comp=Z,192nm,7.0s											
TLY	**Talaya**	**12.82**	**6**	Pn		**Pn**				**04 47 35.2**		**+2.5**
	comp=Z,311nm,0.5s,SNR=6.7											
GYA	**Guiyang**	**13.23**	**159**	P		**Pn**				**04 47 39.0**		**+0.5**
GYA				PP		**P**				**04 47 51.0**		**+2.6**
GYA				S		**Sn**				**04 50 08.4**		**+3.1**
GYA				SS		**S**				**04 50 24.8**		**-5.0**
GYA				pmax		pmax						
	comp=Z,30nm,0.8s											
GYA				pmax		pmax						
	comp=Z,120nm,4.6s											
GYA				LR		LR						
	comp=N,5μm,14.7s											
GYA				LR		LR						
	comp=E,3μm,15.0s											
GYA				LR		LR						
	comp=Z,6μm,14.5s											
HVS	**Khovu-Aksy**	**13.32**	**339**	*e*P		**Pn**				**04 47 37.9**		**-1.7**
HVS				pmax		pmax						
	comp=Z,46nm,1.4s											
IRK	**Irkutsk**	**13.44**	**8**	*e*P		**P**				**04 47 47.9**		**-2.5**
IRK				pmax		pmax						
	comp=Z,64nm,0.6s											
WHN	**Wuhan**	**13.56**	**124**	P		**Pn**				**04 47 45.6**		**+2.8**
WHN				S		Sn				04 50 20.1		+7.1
WHN				LR		LR						
	comp=N,2μm,7.5s											
WHN				LR		LR						
	comp=E,1μm,8.9s											
WHN				LR		LR						
	comp=Z,2μm,14.8s											
KMI	**Kunming**	**13.84**	**175**	P		**Pn**				**04 47 47.0**		**0.0**
KMI				pmax		pmax						
	comp=Z,5.0nm,1.9s											
CIT	**Chita**	**15.57**	**29**	*e*P		**P**				**04 48 12.8**		**-1.3**
CIT				pmax		pmax						
	comp=Z,139nm,2.1s											
SHL	**Shillong**	**15.57**	**214**	*e*P		**Pn**				**04 48 08.7**		**-1.5**
NJ2	**Nanjing**	**15.79**	**111**	*e*P		**Pn**				**04 48 14.4**		**+1.5**
NJ2				pP		**P**				**04 48 18.0**		**+1.3**
NJ2				S		**Sn**				**04 51 11.0**		**+3.5**
NJ2				sS		**S**				**04 51 16.0**		**-6.0**
NJ2				pmax		pmax						
	comp=Z,20nm,0.8s											
NJ2				pmax		pmax						
	comp=Z,120nm,6.7s											
NJ2				LR		LR						
	comp=N,440nm,14.6s											
NJ2				LR		LR						
	comp=E,460nm,19.5s											
NJ2				LR		LR						
	comp=Z,600nm,14.6s											
MK31	**Makanchi Array**	**16.01**	**305**	*ce*P		**Pn**				**04 48 14.4**		**-1.3**
MK31				pmax		pmax						
	comp=Z,20nm,0.6s											
MK31	**Makanchi Array**	**16.01**	**305**	*e*Pn		**Pn**				**04 48 14.7**		**-1.0**
MKAR	**Makanchi Array**	**16.01**	**305**	P		**Pn**				**04 48 15.1**		**-0.5**
MKAR	**Makanchi Array**	**16.01**	**305**	Pn		**Pn**				**04 48 15.1**		**-0.5**
MKAR				Lg		Lg				04 52 56.5		
MKAR	**Makanchi Array**	**16.01**	**305**	Pn		**Pn**				**04 48 15.1**		**-0.5**
	comp=Z,0.4nm,0.3s,baz=103,slow=14,SNR=47											
MKAR				Lg		Lg				04 52 56.5		
	comp=Z,0.2nm,0.3s,baz=114,slow=24,SNR=2.8											
MKAR				LR		LR				04 54 48.6		
	comp=Z,234nm,19.7s,baz=211,slow=39											
TAPN	**Taplejung**	**16.26**	**229**	*e*P		**P**				**04 48 20.8**		**-1.4**
	comp=Z,26nm,0.6s											
ODAN	**Odare**	**16.82**	**228**	*e*P		**Pn**				**04 48 26.9**		**+0.7**
	comp=Z,50nm,0.7s											
JIRN	**Jiri**	**16.95**	**233**	*e*P		**P**				**04 48 29.3**		**-0.7**
	comp=Z,188nm,0.7s											
GUN	**Gumba**	**16.97**	**234**	*e*P		**P**				**04 48 29.3**		**-0.9**
	comp=Z,223nm,0.6s											
SNY	**Shenyang**	**17.14**	**73**	||P		**P**				**04 48 32.4**		**+0.9**
SNY				S		**Sn**				**04 51 42.1**		**+2.0**
SNY				pmax		pmax						
	comp=Z,17nm,1.0s											
SNY				pmax		pmax						
	comp=Z,170nm,5.5s											
SNY				LR		LR						
	comp=N,920nm,15.7s											
SNY				LR		LR						
	comp=E,280nm,15.2s											
SNY				LR		LR						
	comp=Z,370nm,14.9s											
RAMN	**Ramite**	**17.22**	**230**	*e*P		**Pn**				**04 48 30.3**		**-1.0**
	comp=Z,39nm,0.5s											
KKN	**Kakani**	**17.44**	**235**	*e*P		**Pn**				**04 48 34.0**		**0.0**
	comp=Z,192nm,0.7s											
PKI	**Pulchoki**	**17.51**	**234**	*e*P		**Pn**				**04 48 34.6**		**-0.4**
	comp=Z,156nm,1.3s											
PKIN	**Phulchoki**	**17.51**	**234**	*e*P		**Pn**				**04 48 35.0**		**+0.1**
	comp=Z,45nm,0.8s											
DMN	**Daman**	**17.67**	**235**	*e*P		**Pn**				**04 48 36.7**		**-0.2**
	comp=Z,45nm,0.6s											
DANN	**Dangsing**	**18.06**	**239**	*e*P		**Pn**				**04 48 40.7**		**-1.0**
KOLN	**Koldanda**	**18.55**	**238**	*e*P		**P**				**04 48 46.4**		**-1.0**
	comp=Z,64nm,0.7s											
CN2	**Changchun**	**18.67**	**67**	*e*P		**Pn**				**04 48 52.4**		**+3.6**
CN2				*e*S		**Sn**				**04 52 17.5**		**+0.4**
CN2				pmax		pmax						
	comp=Z,30nm,0.6s											
CN2				pmax		pmax						
	comp=Z,200nm,4.0s											
CN2				LR		LR						
	comp=N,2μm,12.0s											
CN2				LR		LR						
	comp=E,1μm,12.0s											
CN2				LR		LR						
	comp=Z,1μm,12.0s											
PYUN	**Piuthan**	**18.74**	**240**	*e*P		**P**				**04 48 47.0**		**-2.5**
	comp=Z,113nm,0.8s											
ZALV	**Zalesovo Beam**	**18.77**	**328**	*i* P		**P**				**04 48 48.7**		**-0.7**
ZALV				pmax		pmax						
	comp=Z,7.0nm,0.5s											
ZALV	**Zalesovo Beam**	**18.77**	**328**	P		**P**				**04 48 48.7**		**-0.7**
ZALV				Lg		Lg				04 54 15.6		
ZALV	**Zalesovo Beam**	**18.77**	**328**	P		**P**				**04 48 48.7**		**-0.7**
	comp=Z,0.4nm,0.3s,baz=131,slow=11,SNR=24											
ZALV				Lg		Lg				04 54 15.6		
	comp=Z,0.2nm,0.3s,baz=144,slow=23,SNR=3.4											
ZALV				LR		LR				04 56 16.0		
	comp=Z,175nm,20.6s,baz=69,slow=38											
CMAI	**Chiengmai2**	**19.07**	**187**	P		**Pn**				**04 48 57.4**		**+3.5**
	comp=Z,18nm,1.1s											
ULHL	**Ulahol**	**19.35**	**288**	*i* P		**P**				**04 48 55.8**		**-0.4**
ULHL	**Ulahol**	**19.35**	**288**	P		**P**				**04 48 55.8**		**-0.4**
	SNR=8.3											
KSH	**Kashi**	**19.68**	**280**	P		**Pn**				**04 49 04.6**		**+3.5**
KSH				pP		**pP**				**04 49 09.0**		**+4.4**
KSH				PP		PnPn				04 49 23.3		+8.6
KSH				S		**Sn**				**04 52 42.1**		**+0.4**
KSH				PcS		**PcS**				**04 56 58.3**		**+2.6**
KSH				pmax		pmax						
	comp=Z,30nm,1.2s											
KSH				pmax		pmax						
	comp=Z,110nm,3.4s											
KSH				LR		LR						
	comp=N,270nm,9.1s											
KSH				LR		LR						
	comp=E,200nm,6.5s											
KSH				LR		LR						
	comp=Z,200nm,6.2s											
TKM2	**Tokmak 2**	**19.85**	**290**	*e*P		**P**				**04 49 02.0**		**+0.4**
TKM2				pmax		pmax						
	comp=Z,84nm,1.1s											
TKM2	**Tokmak 2**	**19.85**	**290**	P		**P**				**04 49 02.2**		**+0.6**
	SNR=41											
TKM2	**Tokmak 2**	**19.85**	**290**	*e*P		**P**				**04 49 02.0**		**+0.4**
	comp=Z,84nm,1.1s											
KURK	**Kurchatov**	**19.88**	**314**	P		**P**				**04 49 00.6**		**-0.9**
	comp=Z,284nm,0.7s,SNR=36											
KURK	**Kurchatov**	**19.88**	**314**	P		**P**				**04 49 01.1**		**-0.5**
KURK	**Kurchatov**	**19.88**	**314**	P		**P**				**04 49 01.1**		**-0.5**
KURK				PcP		**PcP**				**04 53 17.2**		**-1.0**
KURK				Lg		Lg				04 54 58.5		
KURBB	**Kurchatov Arra**	**19.89**	**313**	P		**P**				**04 49 01.1**		**-0.6**
	comp=Z,0.9nm,0.3s,baz=120,slow=12,SNR=168											
KURBB				PcP		**PcP**				**04 53 17.2**		**-1.1**
	comp=Z,0.1nm,0.3s,baz=99,slow=2.2,SNR=5.4											
KURBB				Lg		Lg				04 54 58.4		
	comp=Z,0.0nm,0.3s,baz=120,slow=27,SNR=6.3											
BOK	**Bokaro**	**20.05**	**226**	*e*P		**P**				**04 49 02.2**		**-1.4**
NVS	**Novosibirsk**	**20.05**	**328**	*e*P		**P**				**04 49 01.5**		**-1.9**
NVS				pmax		pmax						
	comp=N,6.0nm,0.7s											
NVS				pmax		pmax						
	comp=E,4.0nm,0.7s											
NVS				pmax		pmax						
	comp=Z,7.0nm,0.7s											
KZA	**Kyzart**	**20.09**	**287**	*i* P		Pn				04 49 05.6		-0.7
KZA	**Kyzart**	**20.09**	**287**	P		Pn				04 49 05.6		-0.8
	SNR=2											
CHTO	**Chiang Mai**	**20.19**	**187**	*e*P		**P**				**04 49 03.1**		**-2.1**
CHTO				pmax		pmax						
	comp=Z,16nm,0.9s											
CHTO	**Chiang Mai**	**20.19**	**187**	*e*P		**P**				**04 49 03.1**		**-2.1**
	comp=Z,16nm,0.9s											
CHTO	**Chiang Mai**	**20.19**	**187**	P		**P**				**04 49 05.7**		**+0.6**
	comp=Z,23nm,0.9s											
KBK	**Karagaybulak**	**20.32**	**289**	*i* P		Pn				04 49 10.8		+2.0
KBK	**Karagaybulak**	**20.32**	**289**	P		Pn				04 49 10.8		+2.0
	SNR=13											
LAMP	**Lampang**	**20.42**	**185**	P		Pn				04 49 11.5		+1.7
	comp=Z,13nm,0.9s,comp=Z,112nm											
CHMS	**Chumysh**	**20.48**	**290**	*i* P		Pn				04 49 11.1		+0.7
CHMS	**Chumysh**	**20.48**	**290**	P		Pn				04 49 11.1		+0.7
	SNR=5.3											
CMAR	**Chiang Mai Arr**	**20.54**	**187**	P		**P**				**04 49 07.8**		**-1.2**
CMAR	**Chiang Mai Arr**	**20.54**	**187**	P		**P**				**04 49 07.8**		**-1.2**
	comp=Z,8.3nm,0.9s,baz=353,slow=8.9,SNR=23											
FRU	**Bishkek**	**20.57**	**289**	*e*P		Pn				04 49 12.0		+0.5
FRU				pmax		pmax						
	comp=Z,70nm,1.8s											
UCH	**Uchtor**	**20.63**	**288**	*i* P		Pn				04 49 11.9		-0.9
UCH	**Uchtor**	**20.63**	**288**	P		Pn				04 49 11.9		-0.9
	SNR=6.0											
AAK	**Ala-Archa**	**20.65**	**289**	P		**P**				**04 49 10.3**		**+0.1**
AAK				pmax		pmax						
	comp=Z,8.0nm,0.7s											
AAK	**Ala-Archa**	**20.65**	**289**	P		Pn				04 49 14.3		+1.7
	SNR=5.4											
AAK	**Ala-Archa**	**20.65**	**289**	*e*P		**P**				**04 49 10.6**		**+0.4**
	comp=Z,44nm,1.5s											
AAK	**Ala-Archa**	**20.65**	**289**	P		**P**				**04 49 10.3**		**+0.1**
	comp=Z,7.7nm,0.7s,baz=95,slow=9.4,SNR=16											
USP	**Ospenovka**	**20.67**	**291**	*i* P		**P**				**04 49 11.1**		**+0.8**
USP	**Ospenovka**	**20.67**	**291**	P		**P**				**04 49 11.1**		**+0.8**
	SNR=19											
KSAR	**Wonju Array Be**	**20.86**	**86**	P		**P**				**04 49 12.8**		**+0.5**
KSRS	**Korea Array**	**20.89**	**86**	P		**P**				**04 49 12.8**		**+0.2**
	comp=Z,6.5nm,0.6s,baz=274,slow=8.8,SNR=22											
KSRS				LR		LR				04 57 38.8		
	comp=Z,88nm,20.1s,baz=154,slow=38											
DDI	**Dehra Dun**	**21.00**	**253**	*e*P		**P**				**04 49 12.0**		**-1.9**
DDI				AMB		AMB				04 49 14.6		
	comp=Z,197nm,1.1s											
QIZ	**Qiongzhong**	**21.17**	**157**	P		**P**				**04 49 16.3**		**+0.5**
QIZ				pP		**pP**				**04 49 19.0**		**-1.8**
QIZ				S		**S**				**04 53 13.1**		**+2.4**
QIZ				pmax		pmax						
	comp=Z,100nm,1.0s											
QIZ				LR		LR						
	comp=N,500nm,10.5s											
QIZ				LR		LR						
	comp=Z,740nm,11.4s											
QIZ	**Qiongzhong**	**21.17**	**157**	*e*P		**P**				**04 49 15.8**		**0.0**
	comp=Z,172nm,1.2s											
EKS2	**Erkin-Say**	**21.18**	**289**	*e*P		**P**				**04 49 16.2**		**+0.2**
EKS2				pmax		pmax						
	comp=Z,21nm,1.0s											
EKS2	**Erkin-Say**	**21.18**	**289**	P		**P**				**04 49 16.4**		**+0.5**
	SNR=15											
EKS2	**Erkin-Say**	**21.18**	**289**	*e*P		**P**				**04 49 16.1**		**+0.2**
	comp=Z,21nm,1.0s											
AML	**Almayashu**	**21.24**	**287**	*i* P		**P**				**04 49 17.9**		**+1.0**
AML	**Almayashu**	**21.24**	**287**	P		**P**				**04 49 17.9**		**+1.0**
	SNR=13											
SMLA	**Simla**	**21.27**	**256**	*e*P		**P**				**04 49 15.9**		**-0.9**
SMLA				AMB		AMB				04 49 17.1		
	comp=Z,155nm,1.7s											
DHRM	**DHARAMSHALA**	**21.43**	**260**	*e*P		**P**				**04 49 18.0**		**-0.8**
DHRM				AMB		AMB				04 49 19.2		
	comp=Z,99nm,1.4s											
MDJ	**Mudanjiang**	**21.72**	**66**	P		**P**				**04 49 21.9**		**+0.4**
MDJ				sP		**sP**				**04 49 26.8**		**-1.9**
MDJ				S		**S**				**04 53 19.9**		**-1.2**
MDJ				pmax		pmax						
	comp=Z,310nm,4.2s											
MDJ				LR		LR						
	comp=N,250nm,22.8s											
MDJ				LR		LR						
	comp=Z,200nm,14.7s											
PANO	**Nakornpanom**	**21.91**	**172**	P		**P**				**04 49 25.8**		**+2.0**
	comp=Z,30nm,1.1s,comp=Z,1μm											
SKNT	**Sakolnakorn**	**22.02**	**173**	P		**P**				**04 49 25.3**		**+0.4**
	comp=Z,25nm,0.9s											
PBKT	**Sadao Pong**	**22.31**	**181**	P		**P**				**04 49 28.6**		**+0.6**
	comp=Z,32nm,1.2s											
YULB	**Yu-li**	**22.97**	**127**	*e*P		**P**				**04 49 34.8**		**-0.2**
	comp=Z,12nm,0.9s											
CHAI	**Chaiyaphum**	**22.98**	**179**	P		**P**				**04 49 33.9**		**-1.2**
	comp=Z,8.5nm,1.0s,comp=Z,193nm											
VLA	**Vladivostok**	**23.31**	**70**	*e*P		P				04 49 45.8		+7.5
VLA				pmax		pmax						
	comp=Z,17nm,0.7s											
USRK	**Ussuriysk Arra**	**23.40**	**67**	P		**P**				**04 49 40.5**		**+1.2**
	comp=Z,2.4nm,0.6s,baz=301,slow=4.1,SNR=5.5											
KK31	**Karatay Array**	**23.58**	**290**	*ce*P		**P**				**04 49 40.3**		**-0.8**
KK31				pmax		pmax						
	comp=Z,2.0nm,0.4s											
KKAR	**Karatay Array**	**23.58**	**290**	*e*P		**P**				**04 49 39.7**		**-1.4**
KKAR				pmax		pmax						
	comp=Z,3.0nm,0.6s											
KKAR	**Karatay Array**	**23.58**	**290**	*e*P		**P**				**04 49 39.7**		**-1.4**
	comp=Z,3.4nm,0.6s											
JBP	**Jabalpur**	**24.08**	**235**	||*e*P		**P**				**04 49 44.2**		**-1.7**
JBP				*ex*		x				04 49 49.2		
JNU	**Nakatsue**	**24.49**	**95**	P		**P**				**04 49 48.9**		**-0.7**
JNU	**Nakatsue**	**24.49**	**95**	P		**P**				**04 49 48.9**		**-0.7**
	comp=Z,7.6nm,0.9s,baz=294,slow=10.0,SNR=3.4											
JNU				LR		LR				05 00 16.2		
	comp=Z,213nm,20.8s,baz=44,slow=39											
BVA0	**Borovoye Array**	**25.48**	**314**	*i* P		**P**				**04 49 57.7**		**-0.6**
BVA0				pmax		pmax						
	comp=Z,9.0nm,0.7s											
BVAR	**Borovoye Array**	**25.48**	**314**	P		**P**				**04 49 58.2**		**-0.2**
BVAR										04 53 29.0		
BVAR	**Borovoye Array**	**25.48**	**314**	P		**P**				**04 49 58.2**		**-0.2**
BVAR				PcP		**PcP**				**04 53 29.0**		**-0.7**
BVAR	**Borovoye Array**	**25.48**	**314**	P		**P**				**04 49 58.2**		**-0.2**
	comp=Z,9.3nm,0.5s,baz=111,slow=9.3,SNR=39											
BVAR				PcP		**PcP**				**04 53 29.0**		**-0.7**
	comp=Z,1.3nm,0.5s,baz=137,slow=3.7,SNR=3.5											
BVAR				LR		LR				05 01 00.7		
	comp=Z,87nm,20.7s,baz=116,slow=39											
BRVK	**Borovoye**	**25.55**	**314**	*c i*P		**P**				**04 49 58.8**		**-0.2**
BRVK				pmax		pmax						
	comp=Z,23nm,1.0s							

VORD pmax pmax
comp=N,50nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD pmax pmax
comp=E,40nm,0.8s
VSR Storozhevoye 44.32 307 *eP* **P 04 52 39.9 -0.3**
VSR pmax pmax
comp=Z,70nm,0.5s
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,40nm,0.7s
MOS Moscow 44.65 314 *eP* **P 04 52 41.7 -1.0**
MOS pmax pmax
comp=Z,81nm,0.7s
MIB Mutribah 44.97 275 *eP* **P 04 52 45.5 -0.1**
MIB AMb AMB 04 52 46.3
comp=Z,41nm,0.8s
KBD Kabd 44.97 274 *eP* **P 04 52 45.7 +0.1**
KBD AMb AMB 04 52 47.5
comp=Z,48nm,1.4s
BILL Bilibino 45.19 29⇑ *eP* P 04 52 51.5 +4.6
BILL *e* 04 54 35.7
BILL pmax pmax
comp=Z,5.0nm,1.4s
RDF Al-Radifah 45.20 274 *eP* **P 04 52 48.0 +0.6**
RDF AMb AMB 04 52 52.2
comp=Z,46nm,1.0s
NAY Al-Naaiem 45.29 275 *eP* **P 04 52 48.1 -0.1**
NAY AMb AMB 04 52 49.2
comp=Z,33nm,0.7s
OBN Obninsk 45.32 313⇓ *eP* **P 04 52 47.3 -0.7**
OBN pmax pmax
comp=Z,41nm,1.7s
OBN MLR MLR
comp=Z,100nm,15.0s
ANN Anapa 46.88 299 *eP* **P 04 52 59.6 -0.9**
ANN *eS* **S 04 59 50.2 -0.1**
ANN pmax pmax
comp=Z,49nm,0.9s
KEV Kevo 48.69 333 *ep* **P 04 53 13.4 -0.7**
comp=Z,6.5nm,0.7s
KEV Kevo 48.69 333 *eP* **P 04 53 13.4 -0.7**
KEV pmax pmax
comp=Z,7.0nm,0.7s
ARCES ARCESS Array B 49.22 333 P **P 04 53 17.6 -0.7**
ARCES PcP **PcP 04 54 40.2 -0.8**
ARCES ARCESS Array B 49.22 333 P **P 04 53 17.6 -0.7**
comp=Z,4.4nm,0.7s,baz=81,slow=10.0,SNR=10
ARCES PcP **PcP 04 54 40.2 -0.8**
comp=Z,2.8nm,0.5s,baz=87,slow=3.9,SNR=12
ARCES LR LR 05 15 47.1
comp=Z,34nm,19.6s,baz=134,slow=38
KAF Kangasniemi 49.68 323 *ep* **P 04 53 20.7 -1.1**
comp=Z,5.1nm,0.7s
KAF Kangasniemi 49.68 323 *eP* **P 04 53 20.7 -1.1**
KAF pmax pmax
comp=Z,5.0nm,0.7s
FINES FINESS Array B 49.89 323 P **P 04 53 22.7 -0.8**
FINES PcP **PcP 04 54 42.5 -1.2**
FINES FINESS Array B 49.89 323 P **P 04 53 22.7 -0.8**
comp=Z,3.6nm,0.5s,baz=87,slow=7.5,SNR=28
FINES PcP **PcP 04 54 42.5 -1.2**
comp=Z,2.2nm,0.5s,baz=90,slow=5.7,SNR=5.0
VSU Vasula 50.12 319⇓ *iP* **P 04 53 24.7 -0.5**
VSU pmax pmax
comp=Z,29nm,1.0s
DRWC Darouich 50.22 289 *eP* P 04 53 33.4 +6.9
KIEV Kiev 50.58 308 *eP* **P 04 53 27.8 -1.0**
KIEV pmax pmax
comp=Z,6.0nm,0.5s
KIEV Kiev 50.58 308 *eP* **P 04 53 27.8 -1.0**
comp=Z,6.3nm,0.5s
BTCH Batrach 50.61 288 *eP* **P 04 53 30.5 +1.2**
IDID Didziasalis 50.81 315 *eP* **P 04 53 30.7 +0.2**
IDID AMB AMB 04 53 32.2
comp=Z,6.8nm,1.5s
IZAR Zarasai 50.98 315 *eP* **P 04 53 31.9 +0.2**
IZAR AMB AMB 04 53 38.8
comp=Z,7.1nm,0.7s
ISAL Salakas 51.09 315 *eP* **P 04 53 32.7 +0.1**
ISAL AMB AMB 04 53 37.1
comp=Z,7.2nm,1.3s
IIGN Ignalina 51.09 315 *eP* **P 04 53 32.8 +0.1**
IIGN AMB AMB 04 53 34.3
comp=Z,7.2nm,1.1s
BR131 Keskin Array S 51.22 294 *eP* **P 04 53 34.3 +0.3**
comp=Z,11nm,0.6s
BRTR Keskin Array B 51.22 294 P **P 04 53 33.6 -0.4**
BRTR Keskin Array B 51.22 294 P **P 04 53 33.6 -0.4**
comp=Z,13nm,0.7s,baz=100,slow=8.0,SNR=64
ZALF Zalf 51.27 284 *eP* **P 04 53 35.0 +0.6**
SALA Sala 51.82 284 *eP* **P 04 53 39.6 +1.0**
BRBR Barbar 52.10 285 *eP* **P 04 53 41.5 +0.8**
CSS Prodhromos 53.38 288 *eP* **P 04 53 49.9 -0.1**
comp=Z,21nm,0.7s
VRI Vrincioaia 53.69 303⇑ P **P 04 53 53.2 +1.1**
VRI Vrincioaia 53.69 303⇑ *iP* **P 04 53 53.2 +1.1**
PLOR Plostina 53.75 303⇑ P **P 04 53 53.7 +1.2**
PLOR Plostina 53.75 303⇑ *iP* **P 04 53 53.7 +1.2**
LVV L'vov 54.01 309 *eP* **P 04 53 54.0 -0.3**
BUR08 Bucovina Ar. S 54.04 306 *eP* **P 04 53 54.6 -0.1**
BURAR Bucovina Array 54.04 306⇓ P **P 04 53 55.0 +0.3**
BURAR Bucovina Array 54.04 306⇓ *iP* **P 04 53 55.0 +0.3**
ISR Istrita 54.09 302⇑ P **P 04 53 56.6 +1.6**
ISR Istrita 54.09 302⇑ *iP* **P 04 53 56.6 +1.6**
MLR Muntele Rosu 54.34 303 P **P 04 53 57.2 +0.3**
MLR Muntele Rosu 54.34 303⇑ *iP* **P 04 53 57.4 +0.4**
MLR Muntele Rosu 54.34 303 P **P 04 53 57.2 +0.3**
comp=Z,1.5nm,0.6s,baz=344,slow=9.0,SNR=9.7
KWP Kalwaria Pacla 54.88 309 *eP* **P 04 54 01.1 +0.4**
KWP Kalwaria Pacla 54.88 309 *eP* **P 04 54 01.1 +0.4**
comp=Z,62nm,0.7s
KWP Kalwaria Pacla 54.88 309⇑ *iP* **P 04 54 01.1 +0.4**
KWP Kalwaria Pacla 54.88 309 *eP* **P 04 54 01.1 +0.4**
VOIR 54.95 303⇑ P **P 04 54 01.6 +0.3**
VOIR 54.95 303⇑ *iP* **P 04 54 01.6 +0.3**
ARR Arges 55.24 303⇓ *iP* **P 04 54 04.0 +0.6**
KOLS Kolonicke sedl 55.40 308 *eP* **P 04 54 04.2 -0.2**
KOLS pmax pmax
comp=Z,7.0nm,0.8s
KOLS Kolonicke sedl 55.40 308 *eP* **P 04 54 04.2 -0.2**
TRPA Tarpa 55.53 307⇑ *iP* **P 04 54 06.3 +1.0**
LOT Lotru 55.77 304⇑ *iP* **P 04 54 08.2 +0.9**
STHS Stebnicka Huta 55.85 309 *eP* **P 04 54 08.2 +0.5**
STHS pmax pmax
comp=Z,6.0nm,0.7s
STHS Stebnicka Huta 55.85 309 *eP* **P 04 54 08.2 +0.5**
HFS Hagfors 56.09 323 P **P 04 54 08.3 -0.9**
HFS PcP **PcP 04 55 05.8 -1.2**
HFS Hagfors 56.09 323 P **P 04 54 08.3 -0.9**
comp=Z,5.4nm,0.6s,baz=91,slow=7.4,SNR=22
HFS PcP **PcP 04 55 05.8 -1.2**
comp=Z,4.8nm,0.6s,baz=90,slow=4.6,SNR=9.1
NIE Niedzica 56.41 309⇑ *eP* **P 04 54 13.9 +2.2**
NIE Niedzica 56.41 309 *eP* **P 04 54 13.9 +2.2**
OJC Ojcow 56.41 310⇑ *eP* **P 04 54 11.7 0.0**
OJC Ojcow 56.41 310 *eP* **P 04 54 11.7 0.0**
GZR Gura Zlata 56.44 304⇑ P **P 04 54 12.9 +0.9**
GZR Gura Zlata 56.44 304⇑ *iP* **P 04 54 12.9 +0.9**
KECS Kecovo 56.66 308 *eP* **P 04 54 13.5 0.0**
KECS pmax pmax
comp=Z,5.0nm,0.9s
KECS Kecovo 56.66 308 *eP* **P 04 54 13.5 0.0**
NB2 NORSAR Subarra 56.91 324 P **P 04 54 13.7 -1.4**
comp=Z,2.4nm,0.6s,baz=71,slow=7.4
NOA NORSAR Array B 56.91 324 P **P 04 54 13.7 -1.4**
NOA PcP **PcP 04 55 08.8 -1.5**
NOA NORSAR Array B 56.91 324 P **P 04 54 13.7 -1.4**
comp=Z,3.1nm,0.8s,baz=71,slow=7.0,SNR=16
NOA PcP **PcP 04 55 08.8 -1.5**
comp=Z,1.4nm,0.7s,baz=71,slow=4.3,SNR=5.5
NOA LR LR 05 20 23.4
comp=Z,72nm,19.9s,baz=65,slow=38
PSZ Piszkesteto 57.25 308⇓ P **P 04 54 18.3 +0.6**
PSZ Piszkesteto 57.25 308 *eP* **P 04 54 17.4 -0.4**
comp=Z,8.9nm,0.9s
PSZ Piszkesteto 57.25 308⇓ *iP* **P 04 54 18.3 +0.6**
VTS Vitosha 57.30 301⇓ P **P 04 54 19.0 +0.7**
VTS Vitosha 57.30 301⇓ *iP* **P 04 54 19.0 +0.7**
OKC Ostrava-Krasne 57.54 310⇑ *iP* **P 04 54 19.7 0.0**
OKC Ostrava-Krasne 57.54 310⇑ *iP* **P 04 54 19.7 0.0**
VYHS Vyhne 57.67 309 *eP* **P 04 54 21.0 +0.4**
VYHS pmax pmax
comp=Z,7.0nm,0.8s
VYHS Vyhne 57.67 309 *eP* **P 04 54 21.0 +0.4**
MORC Moravsky Berou 57.93 310 *eP* **P 04 54 22.5 +0.1**
MORC pmax pmax
comp=Z,19nm,0.6s
MORC Moravsky Berou 57.93 310 *eP* **P 04 54 22.5 +0.1**
comp=Z,19nm,0.6s
KSP Ksiaz 58.23 312 *eP* **P 04 54 24.5 +0.1**
KSP Ksiaz 58.23 312 *eP* **P 04 54 24.5 +0.1**
KRLC Kraliky 58.25 311⇑ *iP* **P 04 54 25.0 +0.3**
KRLC Kraliky 58.25 311⇑ *iP* **P 04 54 25.0 +0.3**
DPC Dobruska-Polom 58.41 311⇑ *iP* **P 04 54 26.3 +0.5**
DPC *e* 04 54 36.1
DPC Dobruska-Polom 58.41 311⇑ *iP* **P 04 54 26.3 +0.5**
DPC *ex* x 04 54 36.1
UPC Upice 58.53 312⇑ *iP* **P 04 54 27.0 +0.4**
UPC Upice 58.53 312⇑ *iP* **P 04 54 27.0 +0.4**
VRAC Vranov 58.68 310 P **P 04 54 28.1 +0.4**
VRAC Vranov 58.68 310 P **P 04 54 28.1 +0.4**
comp=Z,15nm,0.6s,baz=64,slow=8.1,SNR=15
PKSM Moragy 58.73 306⇑ P **P 04 54 27.9 -0.1**
PKSM Moragy 58.73 306⇑ *iP* **P 04 54 27.9 -0.1**
TREC Trest 59.34 311⇑ *iP* **P 04 54 32.5 +0.2**
TREC Trest 59.34 311⇑ *iP* **P 04 54 32.5 +0.2**
PVCC Panska Ves 59.35 312 *iP* **P 04 54 32.7 +0.4**
PVCC Panska Ves 59.35 312⇑ *iP* **P 04 54 32.7 +0.4**
BRG Berggiesshubel 59.57 313 *eP* **P 04 54 33.6 -0.1**
comp=Z,13nm,0.8s
BRG Berggiesshubel 59.57 313 *eP* **P 04 54 33.6 -0.1**
BRG pmax pmax
comp=Z,48nm,0.8s
PRU Pruhonice 59.60 312 *iP* **P 04 54 34.2 +0.2**
PRU Pruhonice 59.60 312⇑ *iP* **P 04 54 34.2 +0.2**
PRA Prague 59.63 312⇑ P **P 04 54 35.0 +0.8**
CONA Conrad Observa 59.71 309 *iP* **P 04 54 35.5 +0.6**
comp=Z,13nm,1.0s,SNR=9.0
CLL Collm 59.91 314⇑ *iP* **P 04 54 35.8 -0.3**
CLL pmax pmax
comp=Z,2.0nm,0.8s
CLL Collm 59.91 314⇑ *iP* **P 04 54 35.8 -0.3**
comp=Z,17nm,0.8s
CLL *i* pP **pP 04 54 39.8 -1.9**
ARSA Arzberg 60.22 308 *iP* **P 04 54 38.3 0.0**
comp=Z,9.0nm,0.5s,SNR=5.7
KHC Kasperske Hory 60.54 311 *iP* **P 04 54 40.5 0.0**
KHC Kasperske Hory 60.54 311⇑ *iP* **P 04 54 40.5 0.0**
KHC Kasperske Hory 60.54 311 *eP* **P 04 54 40.5 0.0**
comp=Z,6.8nm,0.9s
GEC2 GERESS Array S 60.60 311 *eP* **P 04 54 41.3 +0.3**
GEC2 GERESS Array S 60.60 311 *eP* **P 04 54 41.2 +0.3**
GERES GERESS Array B 60.60 311 P **P 04 54 41.1 +0.1**
GERES GERESS Array B 60.60 311 P **P 04 54 41.1 +0.1**
comp=Z,4.4nm,0.7s,baz=64,slow=7.6,SNR=38
MOA Molln 60.71 310⇑ *iP* **P 04 54 42.0 +0.4**
comp=Z,10nm,0.7s,SNR=11
PERS Pernice 60.74 308 *iP* **P 04 54 41.7 -0.2**
SOKA Soboth 60.77 308⇑ *iP* **P 04 54 42.1 -0.1**
comp=Z,18nm,0.6s
FITZ Fitzoy Crossi 61.14 154 P **P 04 54 43.5 -1.3**
FITZ Fitzroy Crossi 61.14 154 P **P 04 54 43.5 -1.3**
comp=Z,2.3nm,0.5s,baz=354,slow=6.4,SNR=10
OBKA Obir 61.15 308⇑ *iP* **P 04 54 44.4 -0.3**
comp=Z,7.4nm,0.5s,SNR=6.3
BOJS Bojanci 61.17 307 *iP* **P 04 54 45.0 +0.1**
COLD Coldfoot 61.25 25 *eP* **P 04 54 45.5 +0.5**
comp=Z,9.1nm,0.8s
LJU Ljubljana 61.37 308 *iP* **P 04 54 46.0 -0.2**
KBA Koelnbreinsper 61.62 309 *iP* **P 04 54 48.1 0.0**
comp=Z,18nm,0.6s,SNR=25
MYKA Terra Mystica 61.65 309⇑ *iP* **P 04 54 47.6 -0.4**
comp=Z,6.5nm,0.6s
VOY Vojsko 61.77 308 *eP* **P 04 54 47.8 -1.2**
VOY *e* 04 54 52.0
CADS Cadrg 61.77 308 *iP* **P 04 54 47.8 -1.2**
ABTA Abfaltersbach 62.28 309⇑ *iP* **P 04 54 51.5 -0.9**
comp=Z,12nm,0.8s
SVW2 Sparrevohn 62.49 32 *eP* **P 04 54 54.5 +1.0**
comp=Z,8.4nm,0.9s
WTTA Wattenberg 62.56 310 *iP* **P 04 54 54.3 -0.1**
comp=Z,33nm,0.5s,SNR=22
WATA Walderalm 62.56 310⇑ *iP* **P 04 54 53.2 -1.1**
comp=Z,15nm,0.5s
RETA Reutte 62.97 310⇑ *iP* **P 04 54 56.8 -0.1**
comp=Z,7.7nm,0.6s
FETA Feichten 63.22 310 *iP* **P 04 54 58.3 -0.4**
comp=Z,6.4nm,0.6s,SNR=10
TRF Thorofare Moun 63.30 29 *eP* **P 04 54 58.2 -0.8**
comp=Z,5.5nm,1.0s
COLA College 63.37 27 *eP* **P 04 54 59.6 +0.4**
COLA pmax pmax
comp=Z,46nm,1.0s
COLA College 63.37 27 *eP* **P 04 54 59.5 +0.4**
comp=Z,46nm,1.0s
CUC Castrocucco 63.44 301 *eP* **P 04 54 59.2 -0.9**
comp=Z,14nm,0.7s
DAVA Damuels 63.59 311⇑ *iP* **P 04 55 00.7 -0.5**
comp=Z,7.4nm,0.7s
MCK McKinley 63.64 28 *eP* **P 04 55 01.5 +0.4**
MCK pmax pmax
comp=Z,4.0nm,0.5s
MCK McKinley 63.64 28 *eP* **P 04 55 01.5 +0.4**
comp=Z,4.1nm,0.5s
ILAR Eielson Array 63.76 26 P **P 04 55 01.3 -0.5**
ILAR Eielson Array 63.76 26 P **P 04 55 01.3 -0.5**
comp=Z,3.5nm,0.7s,baz=286,slow=5.4,SNR=33
DAVOX Davos/Dischmat 63.84 310 P **P 04 55 02.6 -0.3**
DAVOX Davos/Dischmat 63.84 310 P **P 04 55 02.6 -0.3**
comp=Z,20nm,0.6s,baz=55,slow=4.6,SNR=34
LANF Langenberg 63.96 313 *eP* **P 04 55 02.5 -0.9**
BFO Black Forest 63.98 312 *eP* **P 04 55 03.0 -0.6**
BFO pmax pmax
comp=Z,8.0nm,0.7s
BFO Black Forest 63.98 312 *eP* **P 04 55 03.0 -0.6**
comp=Z,8.5nm,0.7s
CEL Celeste 64.25 299 *eP* **P 04 55 05.5 -0.1**
comp=Z,17nm,0.8s
TUE Stuetta 64.31 310 *eP* **P 04 55 05.4 -0.6**
comp=Z,16nm,0.7s
WLF Walferdange 64.55 314 P **P 04 55 07.9 +0.8**
comp=Z,13nm,1.3s
CDF Champ du Feu 64.55 313⇑ *iP* **P 04 55 06.9 -0.5**
comp=Z,9.9nm,0.6s
CDF Champ du Feu 64.55 313⇑ *iP* **P 04 55 06.9 -0.5**
CDF pmax pmax
comp=Z,10.0nm,0.6s
CDF Champ du Feu 64.55 313⇑ *iP* **P 04 55 06.9 -0.5**
comp=Z,9.9nm,0.6s
ECH Echery 64.72 312 *eP* **P 04 55 07.9 -0.5**
PMR Palmer 64.81 30 *eP* **P 04 55 08.1 -0.6**
PMR pmax pmax
comp=Z,8.0nm,0.9s
PMR Palmer 64.81 30 *eP* **P 04 55 08.1 -0.6**
comp=Z,8.4nm,0.9s
VLC Villacollemand 64.85 307 *eP* **P 04 55 09.7 +0.3**
comp=Z,15nm,0.8s
MOF Molkenrain 64.92 312 *eP* **P 04 55 09.5 -0.3**
SML Sawmill 64.99 29 *eP* **P 04 55 10.0 0.0**
SML pmax pmax
comp=Z,4.0nm,0.9s
SML Sawmill 64.99 29 *eP* **P 04 55 10.0 0.0**
comp=Z,3.7nm,0.9s
GIVF Givet 65.06 315 *eP* **P 04 55 10.5 0.0**
comp=Z,29nm,0.9s
GIVF Givet 65.06 315 *eP* **P 04 55 10.5 0.0**
GIVF pmax pmax
comp=Z,29nm,0.9s
GIVF Givet 65.06 315 *eP* **P 04 55 10.5 0.0**
comp=Z,29nm,0.9s
HINF Hinteralfeld 65.10 312⇑ *iP* **P 04 55 10.3 -0.6**
comp=Z,15nm,0.7s
HINF Hinteralfeld 65.10 312⇑ *iP* **P 04 55 10.3 -0.6**
HINF pmax pmax
comp=Z,15nm,0.7s
HINF Hinteralfeld 65.10 312⇑ *iP* **P 04 55 10.3 -0.6**
comp=Z,15nm,0.7s
DOU Dourbes 65.19 315 P **P 04 55 11.6 +0.2**
comp=Z,7.1nm,2.0s
HAU Haudompre 65.29 313 *eP* **P 04 55 11.6 -0.5**
HAU Haudompre 65.29 313 *eP* **P 04 55 11.6 -0.5**
HAU Haudompre 65.29 313 *eP* **P 04 55 11.6 -0.5**
SUMG Summit 65.31 348 *eP* **P 04 55 11.8 -0.5**
SUMG pmax pmax
comp=Z,43nm,2.2s
SUMG Summit 65.31 348 *eP* **P 04 55 11.8 -0.5**
comp=Z,42nm,2.2s
LOMF Lomont 65.35 312 *eP* **P 04 55 12.2 -0.4**
PAX Paxson 65.35 28 *eP* **P 04 55 12.8 +0.5**
PAX pmax pmax
comp=Z,11nm,0.7s
PAX Paxson 65.35 28 *eP* **P 04 55 12.8 +0.5**
comp=Z,10nm,0.7s
PAGF Fort de Pagny 65.36 313 *eP* **P 04 55 12.6 +0.1**
comp=Z,10nm,0.7s
PAGF Fort de Pagny 65.36 313 *eP* **P 04 55 12.6 +0.1**
comp=Z,10nm,0.7s
THEF They Montfort 65.38 313 *eP* **P 04 55 12.1 -0.6**
BAIF Baives 65.42 315⇑ *iP* **P 04 55 12.8 0.0**
comp=Z,32nm,1.1s
BAIF Baives 65.42 315⇑ *iP* **P 04 55 12.8 0.0**
BAIF pmax pmax
comp=Z,32nm,1.1s
BAIF Baives 65.42 315⇑ *iP* **P 04 55 12.8 0.0**
comp=Z,32nm,1.1s
INK Inuvik 65.50 20 LR LR 05 24 53.8
comp=Z,46nm,18.7s,baz=15,slow=37
KDAK Kodiak Island 65.58 34 *eP* **P 04 55 12.8 -0.9**
comp=Z,14nm,0.8s
OHAK Old Harbor 65.58 35 *eP* **P 04 55 13.5 -0.3**
comp=Z,13nm,0.8s
SENIN Lac Senin/Sane 65.59 311 *eP* **P 04 55 14.0 -0.3**
comp=Z,6.3nm,0.8s
MEZF Maizieres J'vi 65.77 314 *eP* **P 04 55 15.1 0.0**
MEZF Maizieres J'vi 65.77 314 *eP* **P 04 55 15.1 0.0**
SFTF Sexfontaines 65.93 313 *eP* **P 04 55 15.8 -0.4**
comp=Z,34nm,0.6s
SFTF Sexfontaines 65.93 313 *eP* **P 04 55 15.8 -0.4**
comp=Z,34nm,0.6s
CABF La Chapelle 66.17 311 *eP* **P 04 55 17.3 -0.6**
comp=Z,16nm,0.7s
CABF La Chapelle 66.17 311 *eP* **P 04 55 17.3 -0.6**
CABF pmax pmax
comp=Z,16nm,0.7s
CABF La Chapelle 66.17 311 *eP* **P 04 55 17.3 -0.6**
comp=Z,16nm,0.7s
WRA Warramunga Arr 66.23 146 P **P 04 55 16.9 -1.5**
WRA PcP **PcP 04 55 47.1 -1.2**
WRA Warramunga Arr 66.23 146 P **P 04 55 16.9 -1.5**
comp=Z,4.2nm,0.6s,baz=345,slow=6.7,SNR=39
WRA PcP **PcP 04 55 47.1 -1.2**
comp=Z,1.9nm,0.6s,baz=338,slow=4.3,SNR=8.4
EKA Eskdalemuir Ar 66.29 323 P **P 04 55 17.7 -0.7**
EKA Eskdalemuir Ar 66.29 323 P **P 04 55 17.7 -0.7**
comp=Z,2.9nm,0.6s,baz=59,slow=6.5,SNR=18
ESK Eskdalemuir 66.32 323 *iP* **P 04 55 21.1 +2.5**
RSL Roselend 66.34 310 *eP* **P 04 55 18.4 -0.7**
LPG La Plagne 66.37 310⇑ *iP* **P 04 55 19.5 +0.1**
comp=Z,39nm,0.6s
LPG La Plagne 66.37 310⇑ *iP* **P 04 55 19.5 +0.1**
LPG pmax pmax
comp=Z,39nm,0.6s
LPG La Plagne 66.37 310⇑ *iP* **P 04 55 19.5 +0.1**
comp=Z,39nm,0.6s
LPL La Plagne 66.37 310⇑ *iP* **P 04 55 19.4 0.0**
comp=Z,25nm,0.6s
LPL La Plagne 66.37 310⇑ *iP* **P 04 55 19.4 0.0**
LPL pmax pmax
comp=Z,25nm,0.6s
LPL La Plagne 66.37 310⇑ *iP* **P 04 55 19.4 0.0**
comp=Z,25nm,0.6s
DIV Divide 66.38 29 *eP* **P 04 55 20.2 +1.2**
comp=Z,11nm,0.6s
PGF Pioggiola 66.55 306⇑ *iP* **P 04 55 20.6 +0.2**
comp=Z,67nm,0.6s
PGF Pioggiola 66.55 306⇑ *iP* **P 04 55 20.6 +0.2**
PGF pmax pmax
comp=Z,67nm,0.6s
PGF Pioggiola 66.55 306⇑ *iP* **P 04 55 20.6 +0.2**
comp=Z,67nm,0.6s
BNI Bardonecchia 66.65 310 *eP* **P 04 55 20.7 -0.4**
BNI pmax pmax
comp=Z,10.0nm,0.6s
BNI Bardonecchia 66.65 310 *eP* **P 04 55 20.7 -0.4**
comp=Z,10nm,0.6s
SAOF Saorge 66.68 308 *eP* **P 04 55 20.9 -0.3**
AUTN L'Aution 66.76 308 *eP* **P 04 55 21.4 -0.5**
MBDF Montbardon 66.77 309 *eP* **P 04 55 20.8 -1.0**
comp=Z,27nm,0.6s
MBDF Montbardon 66.77 309 *eP* **P 04 55 20.8 -1.0**
MBDF pmax pmax
comp=Z,27nm,0.6s
MBDF Montbardon 66.77 309 *eP* **P 04 55 20.8 -1.0**
comp=Z,27nm,0.6s
SBF Sospel 66.82 308⇑ *iP* **P 04 55 21.7 -0.4**
comp=Z,69nm,0.6s
SBF Sospel 66.82 308⇑ *iP* **P 04 55 21.7 -0.4**
SBF pmax pmax
comp=Z,69nm,0.6s
SBF Sospel 66.82 308⇑ *iP* **P 04 55 21.7 -0.4**
comp=Z,69nm,0.6s
TOUF Mont Tournerai 66.86 309 *eP* **P 04 55 21.9 -0.6**
BMRM Bremner River 66.93 29 *eP* **P 04 55 22.8 +0.3**
comp=Z,29nm,1.2s
MVIF Mont Vial 66.98 308 *eP* **P 04 55 22.5 -0.7**
LOR Lormes 67.11 313⇑ *iP* **P 04 55 22.7 -1.1**
comp=Z,12nm,0.7s
LOR Lormes 67.11 313⇑ *iP* **P 04 55 22.7 -1.1**
comp=Z,12nm,0.7s
ORIF Oris-en-Rattie 67.20 310 *eP* **P 04 55 24.3 -0.2**
comp=Z,36nm,0.6s
ORIF Oris-en-Rattie 67.20 310 *eP* **P 04 55 24.3 -0.2**
ORIF pmax pmax
comp=Z,36nm,0.6s
ORIF Oris-en-Rattie 67.20 310 *eP* **P 04 55 24.3 -0.2**
comp=Z,36nm,0.6s
CALN Calern 67.22 308 *eP* **P 04 55 24.1 -0.6**
SSF Saint Saulge 67.42 313 *eP* **P 04 55 24.9 -0.8**
comp=Z,8.7nm,0.7s
SSF Saint Saulge 67.42 313 *eP* **P 04 55 24.9 -0.8**
SSF pmax pmax
comp=Z,9.0nm,0.7s
SSF Saint Saulge 67.42 313 *eP* **P 04 55 24.9 -0.8**
comp=Z,8.7nm,0.7s
SMF Signal de Mont 67.46 312⇑ *iP* **P 04 55 25.3 -0.7**
comp=Z,23nm,0.8s
SMF Signal de Mont 67.46 312⇑ *iP* **P 04 55 25.3 -0.7**
SMF pmax pmax
comp=Z,23nm,0.8s
SMF Signal de Mont 67.46 312⇑ *iP* **P 04 55 25.3 -0.7**
comp=Z,23nm,0.8s
FRF La Foret Royal 67.47 308 *eP* **P 04 55 25.4 -0.7**
comp=Z,13nm,0.6s
FRF La Foret Royal 67.47 308 *eP* **P 04 55 25.4 -0.7**
FRF pmax pmax
comp=Z,13nm,0.6s
FRF La Foret Royal 67.47 308 *eP* **P 04 55 25.4 -0.7**
comp=Z,13nm,0.6s
AVF Avril sur Loir 67.66 313⇑ *iP* **P 04 55 26.5 -0.7**
comp=Z,11nm,0.6s
AVF Avril sur Loir 67.66 313⇑ *iP* **P 04 55 26.5 -0.7**
AVF pmax pmax
comp=Z,11nm,0.6s
AVF Avril sur Loir 67.66 313⇑ *iP* **P 04 55 26.5 -0.7**
comp=Z,11nm,0.6s
LMR La Mourre 67.67 308 *eP* **P 04 55 27.0 -0.4**
comp=Z,17nm,0.7s
LMR La Mourre 67.67 308 *eP* **P 04 55 27.0 -0.4**
LMR pmax pmax
comp=Z,17nm,0.7s
LMR La Mourre 67.67 308 *eP* **P 04 55 27.0 -0.4**
comp=Z,17nm,0.7s
HYF Humbligny 67.80 313 *eP* **P 04 55 28.0 -0.2**
HYF Humbligny 67.80 313 *eP* **P 04 55 28.0 -0.2**
SMRF Simiane la Rot 67.89 309 *eP* **P 04 55 28.5 -0.3**
comp=Z,5.4nm,0.6s
SMRF Simiane la Rot 67.89 309 *eP* **P 04 55 28.5 -0.3**
comp=Z,5.4nm,0.6s
VIVF Saint-Julien-l 67.95 310⇑ *iP* **P 04 55 28.6 -0.6**
comp=Z,11nm,0.8s
VIVF Saint-Julien-l 67.95 310⇑ *iP* **P 04 55 28.6 -0.6**
VIVF pmax pmax
comp=Z,11nm,0.8s
VIVF Saint-Julien-l 67.95 310⇑ *iP* **P 04 55 28.6 -0.6**
comp=Z,11nm,0.8s
BGF Bois d'Agland 68.08 313 *eP* **P 04 55 29.1 -0.8**
BGF Bois d'Agland 68.08 313 *eP* **P 04 55 29.1 -0.8**
BGF Bois d'Agland 68.08 313 *eP* **P 04 55 29.1 -0.8**
AGO Saint Agoulin 68.19 312 *eP* **P 04 55 31.1 +0.4**
PYM Petit Puy Mans 68.43 312 *eP* **P 04 55 32.8 +0.6**
LBL Lubilhac 68.58 311 *eP* **P 04 55 34.0 +0.8**
LDF La Druitiere 68.59 316⇑ *iP* **P 04 55 32.4 -0.7**

comp=Z,15nm,0.8s
LDF La Druitiere 68.59 316⇑*iP* P 04 55 32.4 -0.7
LDF pmax pmax
comp=Z,15nm,0.8s
LDF La Druitiere 68.59 316⇑*iP* P 04 55 32.4 -0.7
comp=Z,15nm,0.8s
TCF Toulx Ste Croi 68.59 313⇑*iP* P 04 55 32.8 -0.4
comp=Z,27nm,0.7s
TCF Toulx Ste Croi 68.59 313⇑*iP* P 04 55 32.8 -0.4
TCF pmax pmax
comp=Z,27nm,0.7s
TCF Toulx Ste Croi 68.59 313⇑*iP* P 04 55 32.8 -0.4
comp=Z,27nm,0.7s
FLN La Foliniere 68.69 316 *eP* P 04 55 33.0 -0.7
comp=Z,37nm,1.0s
FLN La Foliniere 68.69 316 *eP* P 04 55 33.0 -0.7
FLN pmax pmax
comp=Z,37nm,1.0s
FLN La Foliniere 68.69 316 *eP* P 04 55 33.0 -0.7
comp=Z,37nm,1.0s
LASF Ste Croix 68.87 310⇑*iP* P 04 55 34.8 -0.1
comp=Z,15nm,0.7s
LASF Ste Croix 68.87 310⇑*iP* P 04 55 34.8 -0.1
comp=Z,15nm,0.7s
GRR Gorron 69.11 316⇑*iP* P 04 55 35.6 -0.7
comp=Z,48nm,1.0s
GRR Gorron 69.11 316⇑*iP* P 04 55 35.6 -0.7
GRR pmax pmax
comp=Z,48nm,1.0s
GRR Gorron 69.11 316⇑*iP* P 04 55 35.6 -0.7
comp=Z,48nm,1.0s
AS31 Alice Springs 69.34 148 *eP* P 04 55 37.1 -0.9
ASAR Alice Springs 69.34 148 P P 04 55 36.9 -1.0
ASAR PcP **PcP 04 56 00.1 -1.3**
ASAR ⇑*e* 05 23 44.8
ASAR Alice Springs 69.34 148 P P 04 55 36.9 -1.0
comp=Z,4.3nm,0.7s,baz=343,slow=6.8,SNR=59
ASAR PcP **PcP 04 56 00.1 -1.3**
comp=Z,0.8nm,0.6s,baz=327,slow=3.8,SNR=4.6
ASAR PKP2bc 05 23 44.8
comp=Z,0.5nm,0.6s,baz=139,slow=4.1,SNR=6.2
CAF Calviac 69.45 312 *eP* P 04 55 38.6 +0.1
comp=Z,25nm,1.0s
CAF Calviac 69.45 312 *eP* P 04 55 38.6 +0.1
CAF pmax pmax
comp=Z,25nm,1.0s
CAF Calviac 69.45 312 *eP* P 04 55 38.6 +0.1
comp=Z,25nm,1.0s
RJF Les Rejaudoux 69.55 312⇑*iP* P 04 55 39.1 0.0
comp=Z,18nm,0.8s
RJF Les Rejaudoux 69.55 312⇑*iP* P 04 55 39.1 0.0
RJF pmax pmax
comp=Z,18nm,0.8s
RJF Les Rejaudoux 69.55 312⇑*iP* P 04 55 39.1 0.0
comp=Z,18nm,0.8s
PNL Peninsula 69.73 28 *eP* P 04 55 40.3 +0.3
comp=Z,7.9nm,0.6s
MFF Saint Martin d 69.75 314⇑*iP* P 04 55 40.2 -0.1
comp=Z,73nm,0.8s
MFF Saint Martin d 69.75 314⇑*iP* P 04 55 40.2 -0.1
MFF pmax pmax
comp=Z,73nm,0.8s
MFF Saint Martin d 69.75 314⇑*iP* P 04 55 40.2 -0.1
comp=Z,73nm,0.8s
KEST Kesra 70.03 300 *eP* P 04 55 41.7 -0.6
KEST Kesra 70.03 300 P P 04 55 42.3 0.0
comp=Z,2.6nm,0.6s,baz=57,slow=6.4,SNR=14
SGMF Saint Gilles 70.11 316⇑*iP* P 04 55 42.1 -0.3
comp=Z,50nm,1.0s
SGMF Saint Gilles 70.11 316⇑*iP* P 04 55 42.1 -0.3
SGMF pmax pmax
comp=Z,50nm,1.0s
SGMF Saint Gilles 70.11 316⇑*iP* P 04 55 42.1 -0.3
comp=Z,50nm,1.0s
LFF La Frestale 70.21 312 *eP* P 04 55 43.3 +0.2
comp=Z,34nm,0.8s
LFF La Frestale 70.21 312 *eP* P 04 55 43.3 +0.2
LFF pmax pmax
comp=Z,34nm,0.8s
LFF La Frestale 70.21 312 *eP* P 04 55 43.3 +0.2
comp=Z,34nm,0.8s
MTLF Montolieu 70.27 310⇑*iP* P 04 55 43.3 -0.2
comp=Z,2.9nm,0.5s
MTLF Montolieu 70.27 310⇑*iP* P 04 55 43.3 -0.2
MTLF pmax pmax
comp=Z,3.0nm,0.5s
MTLF Montolieu 70.27 310⇑*iP* P 04 55 43.3 -0.2
comp=Z,2.9nm,0.5s
ROSF Rostrenen 70.44 317 *eP* P 04 55 44.1 -0.4
ROSF Rostrenen 70.44 317 *eP* P 04 55 44.1 -0.4
ROSF Rostrenen 70.44 317 *eP* P 04 55 44.1 -0.4
QUIF Quistinic 70.63 316 *eP* P 04 55 45.3 -0.3
comp=Z,38nm,1.0s
QUIF Quistinic 70.63 316 *eP* P 04 55 45.3 -0.3
QUIF pmax pmax
comp=Z,38nm,1.0s
QUIF Quistinic 70.63 316 *eP* P 04 55 45.3 -0.3
comp=Z,38nm,1.0s
KMBO Kilima Mbogo 70.86 252 *eP* P 04 55 47.8 0.0
KMBO Kilima Mbogo 70.86 252 P P 04 55 47.6 -0.2
comp=Z,0.8nm,0.3s,baz=24,slow=6.6,SNR=4.8
SKAG Skagway 71.34 27 *eP* P 04 55 50.8 +1.1
comp=Z,11nm,0.9s
EPF Esparros 71.56 311 *eP* P 04 55 50.6 -0.9
comp=Z,9.9nm,0.8s
EPF Esparros 71.56 311 *eP* P 04 55 50.6 -0.9
EPF pmax pmax
comp=Z,10.0nm,0.8s
EPF Esparros 71.56 311 *eP* P 04 55 50.6 -0.9
comp=Z,9.9nm,0.8s
ETSF Etsaut 72.17 311 *eP* P 04 55 55.2 0.0
comp=Z,6.3nm,0.7s
ETSF Etsaut 72.17 311 *eP* P 04 55 55.2 0.0
ETSF pmax pmax
comp=Z,6.0nm,0.7s
ETSF Etsaut 72.17 311 *eP* P 04 55 55.2 0.0
comp=Z,6.3nm,0.7s
CTA Charters Tower 72.21 136 P P 04 55 55.0 -0.5
CTA Charters Tower 72.21 136 P P 04 55 55.0 -0.5
comp=Z,2.4nm,0.6s,baz=286,slow=7.4,SNR=2.8
SFJD Kangerlussuaq 72.23 349 P P 04 55 54.7 -0.2
SFJD Kangerlussuaq 72.23 349 P P 04 55 54.7 -0.2
comp=Z,16nm,0.6s,baz=40,slow=3.7,SNR=5.7
SJPF Ste Jean 72.43 311 *eP* P 04 55 57.1 +0.5
comp=Z,22nm,1.0s
SJPF Ste Jean 72.43 311 *eP* P 04 55 57.1 +0.5
SJPF pmax pmax
comp=Z,22nm,1.0s
SJPF Ste Jean 72.43 311 *eP* P 04 55 57.1 +0.5
comp=Z,22nm,1.0s
YKA Yellowknife Ar 74.83 16 P P 04 56 10.3 0.0
YKA Yellowknife Ar 74.83 16 P P 04 56 10.3 0.0
comp=Z,2.7nm,0.9s,baz=330,slow=5.2,SNR=3.4
ESDC Sonseca Array 76.18 310 P P 04 56 18.2 -0.3
ESDC Sonseca Array 76.18 310 P P 04 56 18.2 -0.3
comp=Z,5.2nm,0.7s,baz=47,slow=5.8,SNR=35
ESLA Sonseca Array 76.18 310 *eP* P 04 56 18.7 +0.2
comp=Z,0.6nm,0.7s
PBRG Braganca 76.44 313 *eP* P 04 56 19.9 -0.1
comp=Z,18nm,1.9s
MVO Moncorvo 77.02 313 *eP* P 04 56 23.4 +0.1
comp=Z,18nm,1.5s
PCAB Cabril 77.23 314 *eP* P 04 56 24.8 +0.4
comp=Z,29nm,1.1s
MTE Manteigas 77.81 312 *eP* P 04 56 28.0 +0.2
comp=Z,16nm,1.0s
PCBR Castelo Branco 78.14 312 *eP* P 04 56 29.6 +0.1
comp=Z,16nm,1.9s
PMRV Marv??o 78.36 312 *eP* P 04 56 31.0 +0.2
comp=Z,18nm,1.3s
PESTR Estremoz 78.84 311 *eP* P 04 56 33.7 +0.3
comp=Z,21nm,1.8s
PBAR Barrancos 78.97 310 *eP* P 04 56 33.8 -0.3
comp=Z,22nm,1.4s
PMTG Montargil 79.08 312 *eP* P 04 56 34.7 0.0
comp=Z,16nm,1.6s
EVO Evora 79.31 311⇑*iP* P 04 56 36.4 +0.4
comp=Z,18nm,1.0s
EVO Evora 79.31 311 *eP* P 04 56 36.4 +0.4
comp=Z,17nm,1.3s
EVOP Sao Brissos 79.38 311⇑*iP* P 04 56 36.4 +0.1
EVOP pmax pmax
comp=Z,18nm,1.0s
EVOP Sao Brissos 79.38 311⇑*iP* P 04 56 36.4 +0.1
comp=Z,18nm,1.0s
PBEJ Beja 79.56 311 *eP* P 04 56 38.0 +0.6
comp=Z,16nm,1.3s

STKA Stephens Creek 79.78 146 *eP* P 04 56 37.1 -1.3
comp=Z,1.9nm,0.7s
STKA Stephens Creek 79.78 146 P P 04 56 37.4 -1.0
comp=Z,11nm,0.6s,baz=338,slow=5.8,SNR=46
PNCL Nicolau / Gran 79.90 311 *eP* P 04 56 39.5 +0.4
comp=Z,15nm,1.7s
PBDV Barranco-do-Ve 80.12 310 *eP* P 04 56 41.1 +0.7
comp=Z,29nm,1.3s
TAM Tamanrasset 80.34 291 *eP* P 04 56 42.1 +0.1
TAM pmax pmax
comp=Z,5.0nm,0.6s
TAM Tamanrasset 80.34 291 *eP* P 04 56 42.1 +0.1
comp=Z,4.9nm,0.6s
NLWA Neilton Lookou 85.03 29 *eP* P 04 57 06.3 +0.4
comp=Z,7.3nm,0.9s
SCHQ Schefferville 86.03 353 P P 04 57 10.3 -0.3
SCHQ Schefferville 86.03 353 P P 04 57 10.3 -0.3
comp=Z,7.7nm,0.7s,baz=36,slow=5.4,SNR=9.3
FL2 Flat Top 2 86.61 29 P P 04 57 14.7 +0.9
NEW Newport 86.66 25 *eP* P 04 57 14.0 0.0
comp=Z,3.1nm,0.9s
NEW Newport 86.66 25 P P 04 57 14.1 +0.2
baz=86
LSZ Lusaka 86.93 248 *eP* P 04 57 15.3 -0.4
comp=Z,8.5nm,0.8s
GULW Guler Mountain 87.12 28 P P 04 57 17.0 +0.7
C11A Tepee Creek (N 87.31 24 P P 04 57 17.8 +0.7
baz=87
A15A Johnson Ranch, 87.37 22 P P 04 57 17.0 -0.5
baz=87
B13A Whitefish 87.40 23 P P 04 57 18.1 +0.6
baz=87
C12B Naegeli Ranch, 87.68 24 P P 04 57 18.9 0.0
baz=87
A16A West Butte Ran 87.72 21 P P 04 57 18.6 -0.6
baz=88
BSMT Bassoo Peak 87.77 23 *eP* P 04 57 19.8 +0.3
A17A Triple J Farms 87.97 21 P P 04 57 19.6 -0.7
baz=88
C13A Hot Springs 87.98 23 P P 04 57 20.1 -0.3
baz=88
YBMT Yellow Bay 87.99 23 *eP* P 04 57 21.0 +0.6
comp=Z,3.9nm,0.8s
JTMT Jette 88.01 23 *eP* P 04 57 20.5 -0.1
B15A Bradely Ranch, 88.02 22 P P 04 57 20.0 -0.5
baz=88
CROR Criterion Ridg 88.14 29 P P 04 57 22.1 +1.0
C14A Swan Lake 88.16 23 P P 04 57 21.6 +0.4
baz=88
B16A M & M Farms, S 88.18 21 P P 04 57 21.4 +0.1
baz=88
A18A Metzger Ranch, 88.23 20 P P 04 57 21.4 -0.1
baz=88
SWMT Swartz Lake 88.31 23 *eP* P 04 57 22.2 +0.2
C15A Salmond Ranch, 88.49 22 P P 04 57 23.1 +0.2
baz=88
A19A Klindworth Far 88.51 19 P P 04 57 22.6 -0.2
baz=88
D13A Huson 88.54 24 P P 04 57 23.0 -0.1
baz=88
B17A L&G Farms, Che 88.54 21 P P 04 57 22.8 -0.1
baz=88
SLMT Seeley Lake 88.71 23 *eP* P 04 57 24.3 +0.4
C16A Fuhringer Ranc 88.72 22 P P 04 57 23.6 -0.3
baz=88
B18A Beardsley Farm 88.73 20 P P 04 57 23.5 -0.4
baz=88
A20A Cobblestone Ra 88.76 19 P P 04 57 24.2 +0.2
baz=88
E12A Beaver Dam Sad 88.79 25 P P 04 57 24.3 +0.1
baz=89
D14A Greenough 88.85 23 P P 04 57 24.5 0.0
baz=89
B19A Brinkman Farms 88.89 20 P P 04 57 24.2 -0.4
baz=89
EGMT Eagleton 89.07 20 P P 04 57 25.4 -0.1
baz=89
CHMT Chamberlain Mo 89.07 23 *eP* P 04 57 25.7 0.0
C17A Wharram Farm, 89.15 21 P P 04 57 25.4 -0.5
baz=89
TOA0 Torodi Ar. Sit 89.22 286 *eP* P 04 57 25.7 -0.9
TORD Torodi Ar. Bea 89.22 286 P P 04 57 26.1 -0.5
TORD Torodi Ar. Bea 89.22 286 P P 04 57 26.1 -0.5
comp=Z,3.1nm,0.9s,baz=40,slow=2.8,SNR=16
B21A Ellsworth Farm 89.41 18 P P 04 57 26.6 -0.4
baz=89
A23A Redstone 89.42 17 P P 04 57 27.8 +0.7
baz=89
C19A Slack Wire Ran 89.53 20 P P 04 57 27.4 -0.2
baz=89
BMO Blue Mountains 89.58 26 *eP* P 04 57 27.7 -0.2
comp=Z,5.1nm,0.8s
D17A Six Diamond Ra 89.61 21 P P 04 57 27.9 -0.3
baz=89
HRY Holter Researc 89.68 22 *eP* P 04 57 29.0 +0.6
B22A Reddig Ranch S 89.77 18 P P 04 57 29.0 +0.2
baz=90
D18A Linhart Farms, 89.82 21 P P 04 57 29.2 +0.1
baz=90
C20A Veseth Ranch, 89.82 19 P P 04 57 28.8 -0.2
baz=90
B23A Brockton 89.86 17 P P 04 57 28.6 -0.6
baz=90
ULM Lac du Bonnet 89.88 11 LR LR 05 40 16.5
comp=Z,40nm,19.5s,baz=359,slow=37
C21A Desert Coulee 89.95 19 P P 04 57 29.3 -0.2
baz=90
G12A Big Creek, Yel 90.01 25 P P 04 57 29.4 -0.7
baz=90
DGMT Dagmar 90.03 17 P P 04 57 29.8 -0.2
baz=90
D19A Cripps Ranch, 90.10 20 P P 04 57 30.2 -0.2
baz=90
E18A Harlowton 90.36 21 P P 04 57 31.9 +0.3
baz=90
C23A Lambert 90.43 18 P P 04 57 32.3 +0.5
baz=90
LCCM Lewis and Clar 90.46 23 P P 04 57 32.4 +0.2
J08A Circle Bar Ran 90.46 28 P P 04 57 33.1 +0.9
DLMT Dillon 90.67 23 *eP* P 04 57 33.6 +0.5
comp=Z,4.0nm,1.0s
H12A Diamond D Ranc 90.67 25 P P 04 57 32.6 -0.6
baz=90
D21A La Casta Ranch 90.68 19 P P 04 57 33.0 -0.1
baz=90
BOZ Bozeman (W) 90.70 22 *eP* P 04 57 33.3 0.0
BOZ pmax pmax
comp=Z,3.0nm,0.8s
BOZ Bozeman (W) 90.70 22 *eP* P 04 57 33.3 0.0
comp=Z,2.6nm,0.8s
F17A Fitzpatrick Pl 90.75 22 P P 04 57 33.5 0.0
baz=90
E19A Rath Farm, Rou 90.77 20 P P 04 57 33.8 +0.4
baz=90
D22A Cohagen 90.81 18 P P 04 57 33.4 -0.1
baz=91
C24A Savage 90.87 17 P P 04 57 33.9 +0.1
baz=91
E20A Meyer Farm, Mu 90.91 20 P P 04 57 34.1 0.0
baz=91
D23A Lindsay 91.02 18 P P 04 57 34.5 -0.1
baz=91
F18A Big Timber 91.02 21 P P 04 57 35.2 +0.5
baz=91
MOD Modoc 91.03 30 *eP* P 04 57 35.8 +0.9
comp=Z,6.0nm,0.8s
MCMT McKenzie Canyo 91.07 24 *eP* P 04 57 35.2 +0.1
comp=Z,1.1nm,0.8s
GCMT Greycliff 91.14 21 *eP* P 04 57 36.1 +0.8
comp=Z,1.5nm,0.7s
WVOR Wild Horse Val 91.20 28 *eP* P 04 57 36.3 +0.7
WVOR pmax pmax
comp=Z,5.0nm,1.0s
WVOR Wild Horse Val 91.20 28 *eP* P 04 57 36.3 +0.7
comp=Z,5.5nm,1.0s
I12A Atlanta 91.25 26 P P 04 57 36.6 +0.7
baz=91
D24A Glendive 91.28 17 P P 04 57 36.2 +0.4
baz=91
F19A Roth Farm, Mol 91.28 21 P P 04 57 36.3 +0.4
baz=91
MFID Camas Ranch 91.35 26 *eP* P 04 57 37.1 +0.8
comp=Z,2.0nm,0.9s
MFID Camas Ranch 91.35 26 P P 04 57 36.7 +0.4
baz=91
LBCM Butte Creek Ri 91.52 31 P P 04 57 38.0 +0.8
I14A Mackay 91.69 24 P P 04 57 37.9 0.0

baz=92
HLID Hailey 91.70 25 *eP* P 04 57 38.2 +0.2
comp=Z,2.7nm,0.8s
HLID Hailey 91.70 25 P P 04 57 38.0 0.0
baz=92
G20A Bridger 92.07 20 P P 04 57 39.3 -0.3
baz=92
H18A Shoshone NF, C 92.16 22 P P 04 57 40.0 -0.1
baz=92
F23A Volborg 92.33 18 P P 04 57 40.7 0.0
baz=92
IMW Indian Meadow 92.50 23 *eP* P 04 57 42.6 +0.8
comp=Z,3.8nm,0.8s
DCID1 Drake Creek 92.70 23 *eP* P 04 57 43.6 +1.0
comp=Z,1.8nm,0.8s
BEKR Beckworth 92.75 31 *eP* P 04 57 43.3 +0.4
comp=Z,2.1nm,0.8s
G23A Biddle 92.82 19 P P 04 57 42.1 -0.9
baz=93
H21A Big Horn, Sher 92.93 20 P P 04 57 43.2 -0.4
baz=93
G25A Newell 93.30 17 P P 04 57 45.2 0.0
baz=93
G26A Maurine 93.39 17 P P 04 57 45.4 -0.2
baz=93
I21A Big Trails, Te 93.62 20 P P 04 57 46.7 -0.1
baz=93
PDAR Pinedale Array 93.94 22 P P 04 57 48.1 -0.3
PDAR Pinedale Array 93.94 22 P P 04 57 48.1 -0.3
comp=Z,0.7nm,0.8s,baz=31,slow=1.7,SNR=7.0
RSSD Black Hills 94.17 18 *eP* P 04 57 49.3 -0.1
RSSD pmax pmax
comp=Z,5.0nm,0.7s
RSSD Black Hills 94.17 18 *eP* P 04 57 49.3 -0.1
comp=Z,4.8nm,0.7s
J22A Midwest 94.21 20 P P 04 57 49.3 -0.2
baz=94
NVAR Mina Array Bea 94.79 30 P P 04 57 53.4 +1.0
NVAR Mina Array Bea 94.79 30 P P 04 57 53.4 +1.0
comp=Z,1.6nm,0.7s,baz=310,slow=3.7,SNR=12
DUG Dugway 95.24 26 P P 04 57 54.0 -0.3
baz=95
L21A Rawlins 95.31 21 P P 04 57 53.8 -0.8
baz=95
J28A Allard Ranch, 95.47 16 P P 04 57 55.2 0.0
baz=95
TXAR Lajitas Array 108.15 23 PKiKP **PKiKP 05 02 58.3 -0.3**
TXAR Lajitas Array 108.15 23 PKiKP **PKiKP 05 02 58.3 -0.3**
comp=Z,0.1nm,0.5s,baz=318,slow=1.2,SNR=3.3
VNDA Vanda 121.85 167 PKP **PKPdf 05 03 21.9 -1.2**
VNDA Vanda 121.85 167 PKP **PKPdf 05 03 21.9 -1.2**
comp=Z,0.6nm,0.8s,baz=293,slow=6.1,SNR=4.0
BDFB Brasilia 144.52 302 PKP **PKPab 05 04 05.5 -0.2**
BDFB Brasilia 144.52 302 PKP **PKPab 05 04 05.5 -0.2**
comp=Z,26nm,0.7s,baz=81,slow=1.9,SNR=44
SAML Samuel 147.06 331 *e*PKPdf **PKPdf 05 04 10.8 -0.8**
SAML *e*PKPbc **PKPbc 05 04 12.4 -1.3**
SAML *e*PKPab **PKPab 05 04 14.5 -0.6**
LPAZ La Paz 155.62 335 PKP **PKPdf 05 04 24.6 -0.7**
LPAZ PKPab **PKPab 05 04 49.5 -1.7**
LPAZ La Paz 155.62 335 PKP **PKPdf 05 04 24.6 -0.7**
comp=Z,1.3nm,0.9s,baz=34,slow=3.6,SNR=3.2
LPAZ PKPab **PKPab 05 04 49.5 -1.7**
comp=Z,1.4nm,1.0s,baz=28,slow=3.6,SNR=4.6

IDC 16 05:02:01.2±1.2, 55°.47S×29°.85W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/15, mbtmpg4.0/4, MS3.9/8, Ms1 3.9/8, ms1mx3.7/21, Error ellipse: s-maj=51.1km s-min=27.5km az=80.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**30.41**	**282**	LR		LR	LR	05 18 19.7	
	comp=Z,356nm,20.4s,baz=175,slow=32								
MAW	**Mawson**	**41.51**	**145**	LR		LR	LR	05 24 13.6	
	comp=Z,160nm,19.0s,baz=46,slow=32								
BDFB	**Brasilia**	**42.13**	**333**	P		P	P	05 09 55.9	+0.5
	1.5nm,0.8s,baz=162,slow=9.6,SNR=3.0								
VNDA	**Vanda**	**47.08**	**183**	P		P	P	05 10 34.2	+0.2
	3.2nm,0.9s,baz=181,slow=8.3,SNR=16								
BOSA	**Boshof**	**47.31**	**79**	LR		LR	LR	05 27 06.3	
	comp=Z,193nm,18.9s,baz=165,slow=32								
LPAZ	**La Paz**	**48.82**	**308**	P		P	P	05 10 48.9	0.0
	1.5nm,0.6s,baz=135,slow=4.3,SNR=7.9								
LPAZ				LR		LR	LR	05 32 43.1	
	comp=Z,54nm,18.9s,baz=54,slow=38								
ROSC	**El Rosal**	**70.38**	**312**	LR		LR	LR	05 46 00.3	
	comp=Z,54nm,18.7s,baz=278,slow=38								
TORD	**Torodi Ar. Bea**	**73.32**	**32**	P		P	P	05 13 34.7	+0.2
	0.4nm,0.5s,baz=205,slow=5.7,SNR=4.1								
TORD				LR		LR	LR	05 39 56.8	
	comp=Z,86nm,19.2s,baz=200,slow=31								
KMBO	**Kilima Mbogo**	**76.25**	**71**	LR		LR	LR	05 43 23.6	
	comp=Z,104nm,19.4s,baz=277,slow=33								
KEST	**Kesra**	**96.82**	**31**	LR		LR	LR	05 56 53.5	
	comp=Z,34nm,18.3s,baz=231,slow=34								
ILAR	**Eielson Array**	**148.61**	**313**	PKPbc		PKPbc	PKPbc	05 21 46.8	-1.8
	1.2nm,0.8s,baz=98,slow=1.8,SNR=8.4								

*NIED **16** 05:04:00, 35°.80N×139°.20E, h130km, Mw3.9 Best double couple: M0 9.31000×10^14 NP1: φs 2.00000°, δ 46.00000°, λ -86.00000°. NP2: φs 176.00000°, δ 44.00000°, λ -94.00000°.*

*ISCJB **16** 05:04:12.6±0.5, 35°.74N±0°.06×139°.24E±0°.08, h125km±2km, mb3.8/19, Error ellipse: s-maj=11.1km s-min=9.7km az=155.8*

*JMA **16** 05:04:13.6±0.1, 35°.76N×139°.32E, h118km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs 78.00000°, δ 55.00000°, λ -108.00000°. NP2: φs 288.00000°, δ 39.00000°, λ -66.00000°. Principal axes: T Plg 8.0000°, Azm 181.0000°; N Plg 15.0000°, Azm 89.0000°; P Plg 73.0000°, Azm 299.0000°;*

JMA Felt II J1.

*IDC **16** 05:04:13.6±1.1, 35°.71N×139°.17E, h120km±7km, mb3.6/19, mb1 3.8/21, mb1mx3.7/31, mbtmpg3.6/21 Error ellipse: s-maj=16.2km s-min=14.5km az=65.0*

ISC 16 05:04:13.7±0.7, 35°.75N±0°.07×139°.26E±0°.08, h120km±5km, n33, σ 0°.68/40, mb3.9/19, 5D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHU	**Hanno**	**0.10**	**8**	⇓*P*		Pn	Pn	05 04 29.9	-0.2
JHU				*eS*		Sn	Sn	05 04 42.4	-0.1
JRY	**Ryogami san**	**0.40**	**312**	⇓*P*		Pn	Pn	05 04 31.2	+0.1
JRY				*eS*		Sn	Sn	05 04 44.7	+0.5
JOD2	**Odawara 2**	**0.51**	**196**	⇓*P*		Pn	Pn	05 04 31.4	-0.3
JOD2				*eS*		Sn	Sn	05 04 44.9	-0.4
JYN	**Shimob**	**0.64**	**247**	⇓*P*		Pn	Pn	05 04 32.4	-0.3
JYN				*eS*		Sn	Sn	05 04 47.6	+0.7
JAG	**Ashikaga**	**0.69**	**13**	⇓*P*		Pn	Pn	05 04 32.7	-0.2
JAG				*eS*		Sn	Sn	05 04 46.8	-0.7
MJAR	**Matsushiro Arr**	**1.16**	**313**	P		Pn	Pn	05 04 36.9	-0.5
	42nm,0.3s,baz=150,slow=10.0,SNR=215								
MJAR				S		Sn	Sn	05 04 54.4	-1.0
	103nm,0.3s,baz=135,slow=17,SNR=52								
MAT	**Matsushiro**	**1.16**	**313**	P		Pn	Pn	05 04 37.2	-0.2
MAT				S		Sn	Sn	05 04 54.5	-0.9
MAT	**Matsushiro**	**1.16**	**313**	P		Pn	Pn	05 04 37.1	-0.3
JNU	**Nakatsue**	**7.41**	**252**	P		Pn	Pn	05 05 59.4	+0.2
	0.6nm,0.3s,baz=48,slow=15,SNR=5.0								
KSRS	**Korea Array**	**9.28**	**284**	P		Pn	Pn	05 06 26.4	+2.0
	0.4nm,0.3s,baz=102,slow=14,SNR=15								
USRK	**Russuriysk Arra**	**10.11**	**329**	P		Pn	Pn	05 06 37.0	+1.5
	0.2nm,0.3s,baz=152,slow=12,SNR=6.8								
SONM	**Songino Array**	**27.11**	**307**	P		P	P	05 09 44.3	-1.0
	0.3nm,0.4s,baz=115,slow=6.6,SNR=4.2								
ZALV	**Zalesovo Beam**	**41.52**	**313**	P		P	P	05 11 48.8	0.0
	0.6nm,0.3s,baz=98,slow=6.1,SNR=4.0								
MKAR	**Makanchi Array**	**43.34**	**303**	P		P	P	05 12 03.4	-0.4
	1.6nm,0.6s,baz=87,slow=10,SNR=23								
KURBB	**Kurchatov Arra**	**45.44**	**309**	P		P	P	05 12 19.8	-0.5
	3.0nm,0.5s,baz=85,slow=7.9,SNR=46								
KDAK	**Kodiak Island**	**49.21**	**41**	P		P	P	05 12 50.0	+0.6
	3.3nm,0.8s,baz=243,slow=9.0,SNR=5.4								
BVAR	**Borovoye Array**	**50.16**	**313**	P		P	P	05 12 56.3	-0.4
	1.0nm,0.4s,baz=91,slow=7.7,SNR=6.4								
ILAR	**Eielson Array**	**51.50**	**32**	P		P	P	05 13 07.2	+0.6
	0.9nm,0.6s,baz=272,slow=6.2,SNR=8.3								
WRA	**Warramunga Arr**	**55.59**	**186**	P		P	P	05 13 36.0	-0.9
	0.8nm,0.3s,baz=0.7,slow=7.6,SNR=36								
AKTO	**Aktyubinsk**	**58.24**	**312**	P		P	P	05 13 55.5	+0.2

1.9nm,0.7s,baz=74,slow=12,SNR=7.8
ASAR Alice Springs 59.31 186 P **P** **05 14 02.6 -0.4**
0.3nm,0.6s,baz=15,slow=9.3,SNR=5.3
ARCES ARCESS Array B 64.58 339 P **P** **05 14 37.4 -0.3**
2.9nm,0.9s,baz=58,slow=7.5,SNR=6.6
FINES FINESS Array B 69.13 332 P **P** **05 15 05.9 -0.6**
1.2nm,0.6s,baz=83,slow=4.6,SNR=6.9
KBZ Khabaz 70.41 310 P **P** **05 15 15.1 +0.4**
1.4nm,0.7s,baz=34,slow=7.3,SNR=3.2
NB2 NORSAR Subarra 74.68 337 P **P** **05 15 39.1 -0.7**
comp=Z,0.6nm,0.7s,baz=38,slow=6.2
NOA NORSAR Array B 74.68 337 P **P** **05 15 39.3 -0.5**
comp=Z,0.8nm,0.6s,baz=40,slow=5.8,SNR=6.4
NVAR Mina Array Bea 77.14 52 P **P** **05 15 54.8 +0.4**
comp=Z,0.9nm,0.7s,baz=302,slow=4.9,SNR=6.1
BRTR Keskin Array B 78.39 311 P **P** **05 16 01.4 +0.2**
comp=Z,1.0nm,0.8s,baz=120,slow=7.3,SNR=4.1
PDAR Pinedale Array 79.80 44 P **P** **05 16 09.3 +0.4**
comp=Z,0.3nm,0.5s,baz=44,slow=1.8,SNR=3.9
EKA Eskdalemuir Ar 83.74 339 P **P** **05 16 28.9 -0.2**
comp=Z,0.3nm,0.4s,baz=36,slow=5.4,SNR=4.5
TXAR Lajitas Array 92.28 51 P **P** **05 17 11.2 +0.7**
comp=Z,0.4nm,0.6s,baz=296,slow=2.3,SNR=9.2
TORD Torodi Ar. Bea 116.96 312 PKP **PKPdf** **05 22 43.9 -0.9**
comp=Z,0.2nm,0.5s,baz=88,slow=1.4,SNR=4.5
LPAZ La Paz 148.84 59 PKPbc **PKPbc** **05 23 48.5 0.0**
comp=Z,1.5nm,0.8s,baz=328,slow=3.6,SNR=5.6

CSEM ***16*** *05:06:12.7, 38.22N×26.68W, h0km, ML2.1, After PDA*
PDA 16 05:06:12.7±0.8, 38°22N×26°68W, h0km±5km, MD3.6, ML2.1, Error ellipse: s-maj=9.9km s-min=1.7km az=36.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ADH	**Angra Heroismo**	**0.61**	**315**	*e*P	Pg	05 06 23.4	-1.1
ADH				*i* S	Sg	05 06 31.8	-0.7
ADH				A	A	05 06 32.6	
	39nm,0.2s						
ADH	**Angra Heroismo**	**0.61**	**315**	*e*P	Pg	05 06 23.4	-1.1
ADH				*i* S	Sg	05 06 31.8	-0.7
PSET	**Sete Cidades**	**0.85**	**118**	*e*S	Sg	05 06 37.7	-2.6
PSET				A	A	05 06 38.8	
	30nm,0.3s						
PSET	**Sete Cidades**	**0.85**	**118**	*e*S	Sg	05 06 37.7	-2.6
PDA	**Ponta Delgada**	**0.93**	**120**	*e*P	Pg	05 06 28.1	-2.5
PDA				*e*S	Sg	05 06 39.8	-2.8
PDA				A	A	05 06 43.6	
	10nm,0.4s						
PDA	**Ponta Delgada**	**0.93**	**120**	*e*P	Pg	05 06 28.1	-2.5
PDA				*e*S	Sg	05 06 39.8	-2.8
CMLA	**Cha da Macela**	**1.02**	**116**	*e*S	Sg	05 06 41.8	-3.7
CMLA				A	A	05 06 43.9	
	28nm,0.4s						
CMLA	**Cha da Macela**	**1.02**	**116**	*e*S	Sg	05 06 41.8	-3.7
PMAN	**Manadas**	**1.18**	**291**	*e*S	Sg	05 06 45.6	-5.1
PMAN				A	A	05 06 46.7	
	5.2nm,0.2s						
PMAN	**Manadas**	**1.18**	**291**	*e*S	Sg	05 06 45.6	-5.1
ROSA	**Rosais**	**1.32**	**292**	*e*P	Pg	05 06 33.9	-4.2
ROSA				*e*S	Sg	05 06 49.5	-5.8
ROSA				A	A	05 06 50.9	
	6.2nm,0.1s						
ROSA	**Rosais**	**1.32**	**292**	*e*P	Pg	05 06 33.9	-4.2
ROSA				*e*S	Sg	05 06 49.5	-5.8

NEIC 16 05:35:55.6, 45.70S×166.59E, h12km, mb4.5/1, ML4.7(WEL), After WEL., Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.46**	**61**	P*	Pg	05 36 04.7	+0.2
DCZ				S*	Sg	05 36 10.6	0.0
PYZ	**Puysegur Point**	**0.47**	**172**	P*	Pg	05 36 04.6	-0.2
PYZ				S*	Sg	05 36 10.9	-0.2
WHZ	**Wether Hill Ro**	**0.97**	**102**	P*	Pg	05 36 13.9	-0.4
MSZ	**Milford Sound**	**1.40**	**43**	Pn	Pn	05 36 20.1	-0.8
APZ	**The Paps**	**1.49**	**140**	Pn	Pn	05 36 21.6	-0.7
WKZ	**Wanaka**	**1.93**	**64**	Pn	Pb	05 36 29.8	-0.9
SYZ	**Scrubby Hill**	**1.96**	**116**	Pn	Pb	05 36 30.3	-0.9
EAZ	**Earnscleugh**	**1.97**	**77**	Pn	Pb	05 36 30.6	-0.8
TUZ	**Tuapeka**	**2.14**	**98**	Pn	Pb	05 36 33.1	-1.2
JCZ	**Jackson Bay**	**2.24**	**44**	Pn	Pb	05 36 36.1	-0.1
JCZ				Sn	Sg	05 37 08.0	+0.1
ODZ	**Otahua Downs**	**2.93**	**78**	*e*Pn	Pn	05 36 42.1	+0.1
ODZ				*e*Sn	Sn	05 37 12.8	-4.4
RPZ	**Rata Peaks**	**3.75**	**60**	Pn	Pn	05 36 53.5	+0.2
MQZ	**McQueen's Vall**	**4.76**	**67**	Pn	Pn	05 37 06.6	-0.5
LTZ	**Lake Taylor**	**5.02**	**56**	Pn	Pn	05 37 10.5	-0.2
EIDS	**Eidsvold**	**23.81**	**323**	*e*P	P	05 41 08.7	+0.3
	9.9nm,0.6s						
BFO	**Black Forest**	**164.95**	**288**	*e*PKPdf	PKPdf	05 55 59.1	+0.3

CSEM ***16*** *05:37:42.7, 34.09N×25.26E, h5km, MD3.4, After ATH*
ATH ***16*** *05:37:42.7, 34.09N×25.26E, h5km, MD3.4/6*
IDC ***16*** *05:37:44.6±1.4, 34.04N×25.41E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/24, mbtmp3.7/4, ML3.8/1, MS2.5/1, Ms1 2.5/1, ms1mx2.1/35, Error ellipse: s-maj=58.6km s-min=26.3km az=143.0*
ISC 16 05:37:43.9±1.9, 34.18N±0.07×25.33E±0.04, h2km±11km, n34, σ1s33/40, mb3.7/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.94**	**333**	*e*PB	**Pg**	**05 38 01.7**	**-0.3**
SIVA				*e*SB	**Sb**	**05 38 15.4**	**-0.6**
SIVA	**Sivas**	**0.94**	**333**	*e*Pb	**Pg**	**05 38 01.7**	**-0.3**
SIVA				*e*Sb	**Sb**	**05 38 15.4**	**-0.6**
LAST	**Lasithi**	**0.99**	**7**	*e*PB	**Pb**	**05 38 03.7**	**-0.2**
LAST				*e*SB	**Sn**	**05 38 19.5**	**-0.1**
LAST	**Lasithi**	**0.99**	**7**	*e*Pb	**Pb**	**05 38 03.7**	**-0.2**
LAST				*e*Sb	**Sn**	**05 38 19.5**	**-0.1**
NPS	**Neapolis**	**1.11**	**12**	*e*PB	**Pn**	**05 38 06.0**	**-0.6**
NPS				*e*SB	**Sn**	**05 38 21.5**	**-1.0**
NPS	**Neapolis**	**1.11**	**12**	*e*Pb	**Pn**	**05 38 06.0**	**-0.6**
NPS				*e*Sb	**Sn**	**05 38 21.5**	**-1.0**
IDI	**Anoyia**	**1.17**	**342**	*e*PG	**Pb**	**05 38 05.6**	**-1.3**
IDI				*e*SB	**Sn**	**05 38 22.6**	**-1.3**
IDI	**Anoyia**	**1.17**	**342**	*e*Pg	**Pb**	**05 38 05.6**	**-1.3**
IDI				*e*Sb	**Sn**	**05 38 22.6**	**-1.3**
ZKR	**Zakros**	**1.19**	**38**	*e*PB	**Pn**	**05 38 05.5**	**-2.2**
ZKR	**Zakros**	**1.19**	**38**	*e*Pb	**Pn**	**05 38 05.5**	**-2.2**
GVD	**Gavdhos**	**1.22**	**303**	*e*PB	**Pn**	**05 38 06.4**	**-1.6**
GVD	**Gavdhos**	**1.22**	**303**	*e*Pb	**Pn**	**05 38 06.4**	**-1.6**
VAM	**Vamos**	**1.54**	**323**	*e*PG	**Pb**	**05 38 12.4**	**-0.8**
VAM				*e*SB	**Sg**	**05 38 35.2**	**+1.8**
VAM	**Vamos**	**1.54**	**323**	*e*Pg	**Pb**	**05 38 12.4**	**-0.8**
VAM				*e*Sb	**Sg**	**05 38 35.2**	**+1.8**
KARN	**Karanos**	**1.69**	**317**	*e*PG	**Pb**	**05 38 14.4**	**-1.3**
KARN	**Karanos**	**1.69**	**317**	*e*Pg	**Pb**	**05 38 14.4**	**-1.3**
KARP	**Karpathos**	**2.04**	**47**	*e*PG	**Pg**	**05 38 22.8**	**-0.2**
KARP	**Karpathos**	**2.04**	**47**	*e*Pg	**Pg**	**05 38 22.8**	**-0.2**
KYTH	**Kithira**	**2.81**	**319**	*e*PN	**Pb**	**05 38 32.7**	**-2.3**
KYTH	**Kithira**	**2.81**	**319**	*e*Pn	**Pb**	**05 38 32.7**	**-2.3**
VLI	**Veliai**	**3.20**	**323**	*e*PB	**Pn**	**05 38 36.7**	**+1.4**
VLI	**Veliai**	**3.20**	**323**	*e*Pb	**Pn**	**05 38 36.7**	**+1.4**
DYR	**Agios Nikonas**	**3.55**	**317**	*e*PB	Pb	05 38 43.4	-4.1
DYR	**Agios Nikonas**	**3.55**	**317**	*e*Pb	Pb	05 38 43.4	-4.1
DID	**Didima**	**3.73**	**334**	*e*PN	**Pn**	**05 38 44.2**	**+1.6**
DID	**Didima**	**3.73**	**334**	*e*Pn	**Pn**	**05 38 44.2**	**+1.6**
GUR	**Goura**	**4.46**	**328**	*e*PN	**Pn**	**05 38 51.2**	**-1.5**
GUR	**Goura**	**4.46**	**328**	*e*Pn	**Pn**	**05 38 51.2**	**-1.5**
KLV	**Kalavryta, Ach**	**4.64**	**327**	*e*PN	Pn	05 38 57.9	+2.8
KLV	**Kalavryta, Ach**	**4.64**	**327**	*e*Pn	Pn	05 38 57.9	+2.8
GERES	**GERESS Array B**	**17.02**	**333**	P	**P**	**05 41 45.9**	**+0.9**
	0.1nm,0.3s,baz=148,slow=13,SNR=7.4						
GERES				LR	LR	05 48 38.6	
	comp=Z,17nm,19.5s,baz=281,slow=38						
TORD	**Torodi Ar. Bea**	**29.97**	**231**	P	**P**	**05 43 54.5**	**+0.7**
	0.7nm,0.6s,baz=36,slow=8.6,SNR=7.9						
MKAR	**Makanchi Array**	**44.21**	**56**	P	**P**	**05 45 55.2**	**+0.8**
	0.8nm,0.6s,baz=277,slow=6.5,SNR=10.0						
SONM	**Songino Array**	**60.01**	**50**	P	**P**	**05 47 53.4**	**+1.3**
	0.3nm,0.5s,baz=256,slow=5.8,SNR=2.5						

ISCJB ***16*** *05:40:23.8±0.5, 24.96N±0.03×106.75W±0.04, h10km, mb3.4/1, Error ellipse: s-maj=5.7km s-min=4.2km az=152.0*

IDC ***16*** *05:40:28.1±3.6, 25.20N×106.67W, h0km, mb3.4/1, mb1 3.6/5, mb1mx3.5/24, mbtmp3.2/5, ML3.2/4, MS2.6/1, Ms1 2.6/1, ms1mx2.3/18, Error ellipse: s-maj=47.4km s-min=21.7km az=141.0*
MEX ***16*** *05:40:29.4±0.5, 24.96N×106.78W, h25km±8km, MD4.3*
ISC 16 05:40:26.0±0.9, 24.95N±0.04×106.74W±0.06, h10km, n13, σ1s53/22, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAIG	**Mazatlaan**	**1.78**	**171**	*e*P	**Pn**	**05 40 56.4**	**-0.4**
MAIG				*i* S	**Sn**	**05 41 17.7**	**-1.8**
HPIG		**2.20**	**26**	*i* P	**Pn**	**05 41 02.0**	**-0.7**
HPIG				*i* S	**Sn**	**05 41 28.8**	**-1.4**
LPIG	**La Paz**	**3.36**	**256**	*i* P	**Pn**	**05 41 18.8**	**+0.2**
LPIG				*i* S	**Sn**	**05 41 56.2**	**-2.4**
ANIG	**Ahuacatlan**	**4.39**	**152**	*i* P	**Pn**	**05 41 32.5**	**-0.3**
ANIG				*i* S	**Sn**	**05 42 22.7**	**-1.3**
ZAIG	**Zacatecas**	**4.39**	**119**	*i* P	**Pn**	**05 41 33.8**	**+0.7**
ZAIG				*i* S	**Sn**	**05 42 23.7**	**-0.8**
TXAR	**Lajitas Array**	**5.15**	**31**	Pn	**Pn**	**05 41 42.2**	**-1.1**
	0.4nm,0.3s,baz=206,slow=14,SNR=28						
TXAR				Sn	**Sn**	**05 42 38.8**	**-4.0**
	1.3nm,0.3s,baz=209,slow=20,SNR=5.4						
TXAR				Lg	Lg	05 43 03.1	
	3.6nm,0.3s,baz=216,slow=28,SNR=9.8						
TXAR				LR	LR	05 44 00.4	
	comp=Z,75nm,20.9s,baz=0.0,slow=43						
CGIG		**5.50**	**349**	*e*P	**Pn**	**05 41 47.5**	**-0.7**
CGIG				*i* S	**Sn**	**05 42 50.8**	**-0.9**
HSIG		**5.52**	**318**	*i* P	**Pn**	**05 41 47.7**	**-0.7**
HSIG				*i* S	**Sn**	**05 42 50.3**	**-1.6**
LNIG	**Linares**	**6.60**	**89**	*e*P	**Pn**	**05 42 03.5**	**+0.3**
LNIG				*i* S	**Sn**	**05 43 18.2**	**-0.3**
ANMO	**Albuquerque**	**9.96**	**1**	Pn	**Pn**	**05 42 50.4**	**+0.9**
	0.1nm,0.3s,baz=216,slow=8.7,SNR=4.5						
ANMO				Lg	Lg	05 45 38.5	
	0.1nm,0.3s,baz=107,slow=20,SNR=5.5						
NVAR	**Mina Array Bea**	**16.63**	**327**	Pn	**P**	**05 44 23.2**	**+1.3**
	0.1nm,0.3s,baz=140,slow=14,SNR=4.2						
PDAR	**Pinedale Array**	**17.92**	**353**	P	**P**	**05 44 36.2**	**0.0**
	0.0nm,0.3s,baz=163,slow=11,SNR=3.7						
ILAR	**Eielson Array**	**47.44**	**338**	P	**P**	**05 49 02.9**	**+2.4**
	0.4nm,0.8s,baz=124,slow=8.1,SNR=3.4						

IDC 16 05:43:52.2±1.1, 46.17S×165.91E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.7/16, mbtmp3.8/5, ML3.6/2, MS2.7/1, Ms1 2.7/1, ms1mx2.5/22, Error ellipse: s-maj=28.5km s-min=24.8km az=160.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**4.40**	**58**	Pn	Pn	05 45 00.2	0.0
	4.0nm,0.3s,baz=233,slow=5.2,SNR=9.1						
RPZ				Sn	Sn	05 45 52.6	+0.4
	8.7nm,0.3s,baz=345,slow=21,SNR=5.8						
RPZ				LR	LR	05 46 22.5	
	comp=Z,103nm,20.7s,baz=240,slow=34						
URZ	**Urewera**	**11.45**	**50**	Pn	Pn	05 46 37.5	+0.5
	0.3nm,0.3s,baz=225,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**34.17**	**300**	P	P	05 50 39.5	+0.3
	0.2nm,0.5s,baz=135,slow=8.1,SNR=4.2						
WRA	**Warramunga Arr**	**36.79**	**305**	P	P	05 51 01.4	-0.3
	0.5nm,0.8s,baz=137,slow=7.9,SNR=8.6						
QSPA	**South Pole Qui**	**43.96**	**180**	P	P	05 52 01.0	+0.2
	1.8nm,1.0s,baz=36,slow=2.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**144.49**	**207**	PKP	PKPab	06 03 28.3	-0.7
	0.6nm,0.6s,baz=161,slow=1.3,SNR=4.8						
BRTR	**Keskin Array B**	**144.91**	**277**	PKP	PKPab	06 03 30.1	-0.1
	0.7nm,0.9s,baz=136,slow=3.4,SNR=5.0						
ARCES	**ARCESS Array B**	**149.48**	**334**	PKPbc	PKPbc	06 03 41.9	0.0
	2.9nm,0.9s,baz=58,slow=4.6,SNR=5.4						

IDC 16 05:46:57.1±1.5, 12.78S×73.83W, h83km±14km, mb3.7/11, mb1 3.9/16, mb1mx3.8/26, mbtmp3.7/16, MS3.2/4, Ms1 3.2/4, ms1mx2.8/33, Error ellipse: s-maj=21.2km s-min=10.4km az=36.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.05**	**285**	P	Pn	05 47 42.0	-1.3
	127nm,0.3s,baz=107,slow=12,SNR=132						
NNA				S	Sn	05 48 19.9	+1.0
	216nm,0.3s,baz=265,slow=15,SNR=13						
LPAZ	**La Paz**	**6.53**	**123**	P	Pn	05 48 31.9	+0.6
	1.2nm,0.3s,baz=310,slow=9.7,SNR=51						
ATAH	**Atahualpa**	**7.19**	**321**	P	Pn	05 48 39.1	-1.0
	1.8nm,0.3s,baz=122,slow=10,SNR=6.9						
ATAH				S	Sn	05 50 03.5	+2.7
	3.0nm,0.3s,baz=143,slow=20,SNR=2.1						
LVC	**Limon Verde**	**10.84**	**155**	P	Pn	05 49 27.9	-1.9
	0.3nm,0.3s,baz=337,slow=13,SNR=2.9						
LVC				S	Sn	05 51 22.6	-7.0
	1.4nm,0.3s,baz=82,slow=20,SNR=7.7						
LVC				LR	LR	05 53 39.4	
	comp=Z,116nm,19.4s,baz=310,slow=37						
SIV	**San Ignacio**	**12.76**	**106**	P	Pn	05 49 55.1	-0.4
	0.3nm,0.3s,baz=307,slow=12,SNR=6.0						
SIV				LR	LR	05 54 58.2	
	comp=Z,93nm,21.2s,slow=38						
ROSC	**El Rosal**	**17.53**	**358**	LR	LR	05 59 00.7	
	comp=Z,22nm,21.4s,baz=340,slow=41						
CFAA	**Coronel Fontan**	**19.43**	**166**	P	Pn	05 51 18.8	-0.2
	0.1nm,0.3s,baz=332,slow=11,SNR=3.6						
BDFB	**Brasilia**	**25.18**	**100**	P	P	05 52 15.9	+0.7
	1.1nm,0.5s,baz=249,slow=14,SNR=3.6						
TKL	**Tuckaleechee C**	**49.08**	**349**	P	P	05 55 34.5	-1.6
	0.5nm,0.4s,baz=126,slow=8.7,SNR=3.9						
TXAR	**Lajitas Array**	**50.82**	**326**	P	P	05 55 49.1	-0.4
	1.1nm,0.9s,baz=157,slow=8.8,SNR=8.3						
TXAR				pP	pP	05 56 08.4	-1.6
	0.5nm,0.8s,baz=148,slow=7.4,SNR=3.2						
PDAR	**Pinedale Array**	**64.25**	**331**	P	P	05 57 23.6	-0.2
	0.6nm,0.7s,baz=118,slow=10,SNR=6.9						
ULM	**Lac du Bonnet**	**65.67**	**345**	P	P	05 57 31.9	-0.6
	4.0nm,0.8s,baz=141,slow=4.7,SNR=2.9						
NVAR	**Mina Array Bea**	**65.75**	**323**	P	P	05 57 31.9	-1.7
	0.6nm,0.7s,baz=157,slow=9.8,SNR=4.7						
SCHQ	**Schefferville**	**67.61**	**4**	P	P	05 57 44.0	-0.8
	3.1nm,0.7s,baz=157,slow=7.7,SNR=2.6						
DBIC	**Dimbokro**	**71.19**	**78**	LR	LR	06 27 22.9	
	comp=Z,53nm,18.0s,baz=247,slow=34						
QSPA	**South Pole Qui**	**77.36**	**180**	P	P	05 58 41.4	-1.4
	1.8nm,0.9s,baz=117,slow=5.9,SNR=6.9						
TORD	**Torodi Ar. Bea**	**79.17**	**74**	P	P	05 58 53.4	-0.1
	3.9nm,0.8s,baz=243,slow=4.7,SNR=10.0						
ESDC	**Sonseca Array**	**83.14**	**47**	P	P	05 59 14.7	+0.5
	0.3nm,0.3s,baz=249,slow=5.7,SNR=4.4						
ILAR	**Eielson Array**	**94.40**	**336**	P	P	06 00 07.5	+0.2
	0.7nm,1.0s,baz=146,slow=6.6,SNR=4.1						
ASAR	**Alice Springs**	**134.75**	**217**	PKP	PKPdf	06 06 06.8	-0.3
	0.4nm,0.8s,baz=150,slow=2.8,SNR=4.1						
ZALV	**Zalesovo Beam**	**135.59**	**18**	PKP	PKPdf	06 06 08.6	+1.0
	0.3nm,0.3s,baz=215,slow=1.8,SNR=4.6						
KURBB	**Kurchatov Arra**	**136.04**	**25**	PKP	PKPdf	06 06 09.0	+0.4
	0.2nm,0.4s,baz=318,slow=3.1,SNR=3.8						
WRA	**Warramunga Arr**	**137.27**	**221**	PKP	PKPdf	06 06 12.1	+0.2
	1.0nm,0.8s,baz=130,slow=2.0,SNR=5.8						
SONM	**Songino Array**	**145.05**	**360**	PKPbc	PKPdf	06 06 25.6	+0.5
	4.8nm,0.7s,baz=327,slow=2.6,SNR=35						
SONM				pPKPbc	pPKPbc	06 06 46.9	-1.0
	1.4nm,0.8s,baz=335,slow=2.1,SNR=2.9						
KSRS	**Korea Array**	**148.67**	**325**	PKPbc	PKPbc	06 06 36.2	+1.2
	1.6nm,0.7s,baz=18,slow=2.4,SNR=7.4						

ISCJB ***16*** *05:47:55.9±0.7, 46.14S±0.06×166.09E±0.06, h12km, mb4.0/4, MS3.7/6, Error ellipse: s-maj=8.7km s-min=6.3km az=6.2*
NEIC ***16*** *05:47:56.2, 46.25S×166.01E, h16km, ML4.8(WEL), After WEL.*
IDC ***16*** *05:47:56.0±1.0, 46.00S×165.99E, h0km, mb4.0/4, mb1 4.3/6, mb1mx4.0/16, mbtmp4.1/6, ML3.9/2, MS3.7/6, Ms1 3.7/6, ms1mx3.4/24, Error ellipse: s-maj=29.4km s-min=24.5km az=167.0*
ISC 16 05:47:57.2±0.8, 46.21S±0.08×166.16E±0.05, h12km, n42, σ1s57/41, mb3.9/4, MS3.8/6, 1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.36**	**83**	ǁP*	**Pb**	**05 48 05.7**	**+0.2**
PYZ				S*	**Sb**	**05 48 11.8**	**+0.6**

WHZ	**Wether Hill Ro**	**1.28**	**76**	Pn	**Pn**	**05 48 19.9**	**-1.0**
APZ	**The Paps**	**1.41**	**117**	Pn	**Pn**	**05 48 21.4**	**-1.2**
APZ				Sn	**Sb**	**05 48 40.7**	**-0.6**
MSZ	**Milford Sound**	**1.98**	**40**	Pn	**Pn**	**05 48 29.5**	**-1.0**
SYZ	**Scrubby Hill**	**2.09**	**100**	Pn	Pn	**05 48 31.9**	**0.0**
EAZ	**Earnscleugh**	**2.41**	**67**	Pn	Pn	**05 48 37.4**	**+1.0**
TUZ	**Tuapeka**	**2.43**	**85**	Pn	Pn	**05 48 36.8**	**+0.1**
WKZ	**Wanaka**	**2.44**	**56**	Pn	Pn	**05 48 38.5**	**+1.6**
JCZ	**Jackson Bay**	**2.82**	**42**	Pn	Pn	**05 48 43.5**	**+1.4**
ODZ	**Otahua Downs**	**3.35**	**71**	*e*Pn	Pn	**05 48 49.0**	**-0.3**
ODZ				*e*Sg	**Sg**	**05 49 45.8**	**+1.0**
LBZ	**Lake Benmore**	**3.37**	**59**	Pn	Pn	**05 48 49.7**	**0.0**
FOZ	**Fox Glacier**	**3.65**	**45**	Pn	Pn	**05 48 55.4**	**+2.1**
RPZ	**Rata Peaks**	**4.28**	**56**	Pn	Pn	**05 49 01.9**	**-0.2**
RPZ				*e*Sn	**Sn**	**05 49 52.3**	**+0.5**
RPZ				Sn	Sb	05 49 54.1	-10
RPZ	**Rata Peaks**	**4.28**	**56**	Pn	Pn	**05 49 01.9**	**-0.2**
	9.9nm,0.3s,baz=212,slow=5.6,SNR=23						
RPZ				Sn	**Sn**	**05 49 54.1**	**+2.2**
	23nm,0.3s,baz=34,slow=19,SNR=8.8						
WVZ	**Waitaha Valley**	**4.53**	**48**	Pn	Pn	**05 49 05.3**	**-0.2**
DSZ	**Denniston Nort**	**6.04**	**44**	Pn	Pn	**05 49 26.0**	**-0.3**
PKE	**Pukeiti**	**9.07**	**42**	Pn	Pn	**05 50 09.5**	**+1.6**
URZ	**Urewera**	**11.35**	**49**	Pn	Pn	**05 50 38.4**	**-0.7**
URZ				Sn	Sn	**05 52 41.0**	**-4.7**
URZ	**Urewera**	**11.35**	**49**	Pn	Pn	**05 50 38.4**	**-0.7**
	0.5nm,0.3s,baz=229,slow=9.3,SNR=2.4						
URZ				Sn	**Sn**	**05 52 41.0**	**-4.7**
	0.7nm,0.3s,baz=116,slow=6.2,SNR=5.9						
STKA	**Stephens Creek**	**23.73**	**298**	LR	LR	06 01 34.9	
	comp=Z,149nm,20.0s,baz=147,slow=35						
ASAR	**Alice Springs**	**34.35**	**300**	P	**P**	**05 54 42.9**	**-0.9**
ASAR	**Alice Springs**	**34.35**	**300**	P	**P**	**05 54 42.9**	**-0.9**
	0.7nm,0.6s,baz=130,slow=9.5,SNR=5.5						
WRA	**Warramunga Arr**	**36.96**	**304**	P	**P**	**05 55 04.2**	**-2.1**
WRA	**Warramunga Arr**	**36.96**	**304**	P	**P**	**05 55 04.2**	**-2.1**
	1.3nm,0.7s,baz=146,slow=8.3,SNR=6.3						
PMG	**Port Moresby**	**40.12**	**330**	LR	LR	06 09 28.1	
	comp=Z,144nm,20.3s,baz=198,slow=32						
FITZ	**Fitzroy Crossi**	**43.59**	**296**	LR	LR	06 14 41.3	
	comp=Z,102nm,18.9s,baz=296,slow=37						
QSPA	**South Pole Qui**	**43.91**	**180**	P	P	05 56 06.2	+2.7
QSPA	**South Pole Qui**	**43.91**	**180**	P	P	05 56 06.2	+2.7
	2.0nm,1.0s,baz=38,slow=6.1,SNR=5.4						
PPT	**Papeete**	**46.35**	**67**	LR	LR	06 13 34.1	
	comp=Z,21nm,20.0s,baz=306,slow=33						
MAW	**Mawson**	**52.88**	**208**	LR	LR	06 16 19.1	
	comp=Z,90nm,18.5s,baz=282,slow=32						
CMAR	**Chiang Mai Arr**	**88.35**	**299**	P	**P**	**06 00 49.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**88.35**	**299**	P	**P**	**06 00 49.1**	**+0.3**
	1.3nm,0.3s,baz=168,slow=3.8,SNR=5.3						
PETK	**Petropavlovsk-**	**99.21**	**355**	LR	LR	06 38 20.8	
	comp=Z,84nm,21.5s,baz=231,slow=31						
ULN	**Ulaanbaatar**	**106.97**	**323**	*e*PKPdf	**PKiKP**	**06 06 25.7**	**+3.4**
TORD	**Torodi Ar. Bea**	**144.53**	**207**	PKP	PKPbc	06 07 32.2	-0.1
TORD	**Torodi Ar. Bea**	**144.53**	**207**	PKP	PKPbc	06 07 32.2	-0.1
	0.7nm,0.6s,baz=144,slow=1.8,SNR=6.1						
BRTR	**Keskin Array B**	**145.09**	**277**	PKP	**PKPdf**	**06 07 33.5**	**-0.6**
BRTR	**Keskin Array B**	**145.09**	**277**	PKP	**PKPdf**	**06 07 33.5**	**-0.6**
	2.1nm,0.8s,baz=134,slow=4.2,SNR=8.0						
ARCES	**ARCESS Array B**	**149.60**	**334**	PKPbc	**PKPbc**	**06 07 45.4**	**+0.2**
ARCES				PKPab	**PKPab**	**06 07 51.3**	**+1.0**
ARCES	**ARCESS Array B**	**149.60**	**334**	PKPbc	**PKPbc**	**06 07 45.4**	**+0.2**
	4.3nm,0.9s,baz=64,slow=5.5,SNR=6.9						
ARCES				PKPab	**PKPab**	**06 07 51.3**	**+1.0**
	1.5nm,0.7s,baz=78,slow=4.7,SNR=3.3						
**FIN

GSPH			*i* S	**Sg**	**06 29 08.1 +0.2**	
BUKP	**Musuan**	**1.14 339**	*e*P	**Pb**	**06 28 59.2 -2.0**	
CTBH	**Cotabato--PC H**	**1.28 289**⇓	*i*P	Pn	06 28 60.0 -3.3	
CGP	**Cagayan de Oro**	**1.81 335**⇑	*e*P	**Pn**	**06 29 09.5 -1.0**	
CGP			*e*S	**Sn**	**06 29 32.2 -1.2**	
PAGZ	**Pagadian**	**2.31 297**	*e*P	**Pn**	**06 29 17.0 -0.4**	
KKM	**Kota Kinabalu**	**9.23 266**	Pn	Pn	06 30 56.4 +3.9	
KAPI	**Kappang**	**13.05 206**	Pn	**Pn**	**06 31 47.9 +3.0**	
KAPI	**Kappang**	**13.05 206**	LR	LR	06 37 14.2	
	comp=Z,54nm,19.6s,baz=133,slow=38					
KSM	**Kuching**	**16.02 251**	*e*Pn	**P**	**06 32 28.9 +0.7**	
	5.5nm,0.3s					
TWG	**Pinlang**	**16.48 346**	Pn	**P**	**06 32 33.3 0.0**	
FITZ	**Fitzroy Crossi**	**24.75 180**	P	**P**	**06 34 01.2 +0.1**	
	25nm,1.7s					
FITZ	**Fitzroy Crossi**	**24.75 180**	P	**P**	**06 34 00.7 -0.4**	
	1.8nm,0.6s,baz=18,slow=9.6,SNR=4.0					
COEN	**Coen**	**27.10 140**	P	**P**	**06 34 21.4 -1.0**	
	37nm,1.0s					
WRAB	**Tennant Creek**	**27.97 162**	*e*P	P	06 34 35.2 +5.0	
	32nm,1.1s					
WRA	**Warramunga Arr**	**27.98 162**	P	**P**	**06 34 29.9 -0.4**	
WRA	**Warramunga Arr**	**27.98 162**	P	**P**	**06 34 29.9 -0.4**	
	0.4nm,0.5s,baz=342,slow=9.5,SNR=3.1					
CMAR	**Chiang Mai Arr**	**28.31 297**	LR	LR	06 44 34.7	
	comp=Z,86nm,21.6s,baz=35,slow=35					
ASAR	**Alice Springs**	**31.39 165**	P	**P**	**06 34 59.8 -0.7**	
ASAR	**Alice Springs**	**31.39 165**	P	**P**	**06 34 59.8 -0.7**	
	0.5nm,0.4s,baz=348,slow=7.2,SNR=6.2					
ARCES	**ARCESS Array B**	**87.15 340**	P	P	06 41 09.4 -16	
	3.1nm,0.6s,baz=59,slow=8.8,SNR=3.5					

BKK **16** *06:28:03.6±1.2, 43˚N±7˚×13˚7E±1˚9, h10km, M5.7/27, mB6.0/16, mb5.7/27, Mw(mB)5.7/16, Mwp5.9/1*

BGS **16** *06:28:05.9±2.1, 38.67˚N×133.45E, h100km, mb4.6*

PDG **16** *06:28:09.7, 42.50˚N×133.00E, h466km, mb5.0/1*

SZGRF **16** *06:28:17.9, 42.32˚N×132.90E, h17km, mb5.0, Primorye, Russia*

NIED **16** *06:29:00, 42.30˚N×133.60E, h500km, Mw5.3 Best double couple: M0 9.53000×10^16 NP1:φs335.00000°, δ87.00000°, λ-34.00000°. NP2:φs67.00000°, δ56.00000°, λ-176.00000°.*

BJI **16** *06:29:03.8, 42.26N×132.91E, h454km, mB5.2/29, mb5.6/57*

ISCJB **16** *06:29:03.0±0.1, 42.42˚N±0.02˚×133.10E±0.02, h466km±2km, mb5.0/309, Error ellipse: s-maj=2.6km s-min=2.0km az=143.2*

JMA **16** *06:29:03.5±0.3, 42.34N×133.65E, h528km, M5.7*

SKHL **16** *06:29:03.8±0.1, 42.42N×133.23E, h475km±13km, mb6.3/1, msh5.8/8*

MOS **16** *06:29:03.2±0.8, 42.43N×133.06E, h470km, mb5.2/98, Error ellipse: s-maj=6.0km s-min=3.9km az=111.7*

NEIC **16** *06:29:04.8±0.1, 42.37N×133.00E, mb5.1/175, Error ellipse: s-maj=3.1km s-min=2.2km az=150.0*

IDC **16** *06:29:05.0±0.4, 42.42N×133.03E, h480km±3km, mb4.5/38, mb1 4.6/44, mb1mx4.6/45, mbtmp4.5/44, Error ellipse: s-maj=5.4km s-min=5.2km az=48.0*

GCMT **16** *06:29:05.7±0.4, 42.39N×133.24E, h486km±3km, MW5.3, Moment Tensor Solution. s42,c56; Moment tensor: Scale 10^17Nm; Mrr0.00; Mθθ 0.00; Mφφ0.00; Mrθ0.00; Mθφ0.00; Mrφ0.00; Best double couple: M0 1.10000×10^17 NP1:φs60.00000°, δ55.00000°, λ180.00000°. NP2: φs150.00000°, δ90.00000°, λ35.00000°. Principal axes: T 1.1000, Plg24.0000°, Azm21.0000°; N -0.0400, Plg55.0000°, Azm151.0000°; P -1.0600, Plg24.0000°, Azm279.0000°; Data Used: II IU G CN IC.*

DJA **16** *06:29:13.6±3.0, 42˚N±11˚×13˚2E±3˚1, h534km±25km, M5.0/14, mB5.6/6, mb5.0/14, Mw(mB)5.0/6*

ISC 16 06:29:04.5±0.3, 42˚39N±0˚03×133˚11E±0˚03, h476km±2km, h475km; pP-P, n1456, σ1§10/1713, mb5.1/321, 267C-317D, Primorye

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VLA	**Vladivostok**	**1.16**	**309**	*c*	*i*P	**P**	**06 30 04.7**	**+1.0**
VLA	**Vladivostok**	**1.16**	**309**⇑		*i*P	**P**	**06 30 04.7**	**+1.0**
USRK	**Ussuriysk Arra**	**1.98**	**336**		P	**P**	**06 30 08.1**	**+0.9**
	76nm,0.3s,baz=150,slow=5.2,SNR=1478							
USRK					S	**S**	**06 30 58.6**	**+0.3**
	baz=173,slow=17,SNR=4.3							
MDJ	**Mudanjiang**	**3.39**	**312**		P	**P**	**06 30 17.8**	**+1.5**
MDJ					S	**S**	**06 31 15.8**	**+0.9**
MDJ					ScS	**ScS**	**06 42 57.6**	**+0.7**
MDJ	**Mudanjiang**	**3.39**	**312**	*e*	P	**P**	**06 30 17.5**	**+1.2**
MDJ				*e*	S	**S**	**06 31 14.9**	**0.0**
MDJ	**Mudanjiang**	**3.39**	**312**	*e*	P	**P**	**06 30 17.5**	**+1.2**
MDJ				*e*	S	**S**	**06 31 14.9**	**0.0**
TEY	**Ternei**	**3.66**	**43**⇓	*i*	P	**P**	**06 30 19.0**	**+0.6**
TEY					AMB	AMB	06 30 19.1	
	1μm,0.6s							
TEY				*i*	S	**S**	**06 31 17.7**	**-1.0**
TEY					A	A	06 31 18.8	
	13μm,3.0s							
TEY					A	A	06 31 18.8	
	13μm,3.0s							
JOSM	**Okushiri--Mats**	**4.74**	**92**		P	**P**	**06 30 26.3**	**-1.4**
JOSM					eS	**S**	**06 31 34.5**	**-1.2**
JHG	**Hegura jima**	**5.40**	**146**		P	**P**	**06 30 34.6**	**+0.6**
JIW	**Iwasaki**	**5.49**	**107**		P	**P**	**06 30 33.6**	**-1.2**
JSR	**Shiriuchi**	**5.52**	**97**		P	**P**	**06 30 34.2**	**-0.9**
JSI2	**Shiura 2**	**5.63**	**101**		P	**P**	**06 30 35.1**	**-1.0**
CN2	**Changchun**	**5.78**	**287**	*e*	P	**P**	**06 30 39.0**	**+1.4**
CN2					eS	**S**	**06 31 54.8**	**+1.1**
JTB	**Tobi-shima**	**5.84**	**121**		P	**P**	**06 30 37.4**	**-0.9**
JSD	**Sado**	**5.87**	**136**		P	**P**	**06 30 37.8**	**-0.8**
JKB	**Kayabe**	**5.91**	**92**		P	**P**	**06 30 37.0**	**-1.9**
JOT	**Ohata**	**6.01**	**97**		P	**P**	**06 30 38.1**	**-1.8**
JAH	**Hinai**	**6.08**	**109**		P	**P**	**06 30 39.1**	**-1.6**
JYW	**Yuwa**	**6.08**	**116**		P	**P**	**06 30 39.5**	**-1.2**
JJH	**Hakui**	**6.15**	**151**		P	**P**	**06 30 42.0**	**+0.6**
JTM	**Tenmabayashi**	**6.18**	**102**		P	**P**	**06 30 39.5**	**-2.1**
HABR	**Khabarovsk**	**6.23**	**12**	*c*	*i*P	**P**	**06 30 42.1**	**+0.2**
HABR					eS	**S**	**06 32 01.4**	**-0.3**
HABR					pmax	pmax		
	comp=N,803nm,1.4s							
HABR					pmax	pmax		
	comp=Z,2μm,1.4s							
HABR					pmax	pmax		
	comp=E,537nm,1.4s							
HABR	**Khabarovsk**	**6.23**	**12**	*i*	P	**P**	**06 30 42.1**	**+0.2**
HABR					AMB	AMB	06 30 43.6	
	comp=E,803nm,1.4s							
HABR					AMB	AMB	06 30 43.6	
	comp=E,2μm,1.4s							
JYA	**Atsumi**	**6.30**	**125**		P	**P**	**06 30 41.4**	**-1.5**
KSRS	**Korea Array**	**6.34**	**221**		P	**P**	**06 30 45.1**	**+1.8**
	comp=E,87nm,0.3s,baz=38,slow=10,SNR=1794							
KSRS					S	**S**	**06 32 06.8**	**+2.8**
	baz=37,slow=19,SNR=2.6							
KSRS					ScP	**ScP**	**06 39 26.4**	**-0.3**
	comp=E,0.4nm,0.3s,baz=309,slow=1.3,SNR=11							
KSAR	**Wonju Array Be**	**6.37**	**221**		P	**P**	**06 30 45.1**	**+1.5**
KSAR					S	**S**	**06 32 06.8**	**+2.2**
KSAR					ScP	**ScP**	**06 39 26.4**	**-0.3**
KSAR	**Wonju Array Be**	**6.37**	**221**		P	**P**	**06 30 45.1**	**+1.5**
JRG	**Rokugo**	**6.44**	**115**		P	**P**	**06 30 42.5**	**-1.8**
JHR	**Hokuryu**	**6.46**	**75**		P	**P**	**06 30 43.3**	**-1.0**
JYK	**Kaneyama**	**6.51**	**120**		P	**P**	**06 30 43.6**	**-1.4**
JKG	**Kaga**	**6.60**	**157**		P	**P**	**06 30 46.0**	**+0.1**
JANG	**Nango**	**6.64**	**105**		P	**P**	**06 30 43.4**	**-2.8**
JKZ	**Kuzumaki**	**6.65**	**108**		P	**P**	**06 30 44.1**	**-2.3**
JYS	**Shirataka**	**6.75**	**126**		P	**P**	**06 30 46.0**	**-1.5**
JOM	**Ohasama**	**6.85**	**112**		P	**P**	**06 30 45.9**	**-2.5**
JHK	**Hiroka**	**6.86**	**137**		P	**P**	**06 30 47.5**	**-1.0**
JKSM	**Kasumi**	**6.90**	**169**		P	**P**	**06 30 49.3**	**+0.3**
KLR	**Kul'dur**	**6.90**	**353**	*e*	P	**P**	**06 30 45.7**	**-3.0**
KLR				*e*			06 32 07.5	
KLR	**Kul'dur**	**6.90**	**353**	*e*	P	**P**	**06 30 45.7**	**-3.0**
JKY	**Yasaka**	**6.93**	**166**		P	**P**	**06 30 49.5**	**+0.2**
INCN	**Inchon**	**6.98**	**228**		P	**P**	**06 30 51.8**	**+2.0**
	SNR=32							
INCN	**Inchon**	**6.98**	**228**	*e*	P	**P**	**06 30 51.3**	**+1.5**
INCN					eS	**S**	**06 32 18.3**	**+2.2**
INCN	**Inchon**	**6.98**	**228**	*e*	P	**P**	**06 30 51.3**	**+1.5**
JWK2	**Keihoku**	**6.99**	**62**		P	**P**	**06 30 49.7**	**0.0**
JWK2					eS	**S**	**06 32 12.7**	**-3.3**
JKR	**Kurayoshi**	**7.03**	**175**		P	**P**	**06 30 51.4**	**+1.1**
JOU	**Okura**	**7.03**	**122**		P	**P**	**06 30 48.3**	**-2.0**
JTH	**Tanohata**	**7.05**	**107**		P	**P**	**06 30 47.3**	**-3.1**
MAJO	**Matsushiro**	**7.05**	**144**	*e*	P	**P**	**06 30 49.5**	**-1.0**
MAJO	**Matsushiro**	**7.05**	**144**	*e*	P	**P**	**06 30 49.5**	**-1.0**
MAT	**Matsushiro**	**7.05**	**144**		P	**P**	**06 30 49.4**	**-1.1**
MAT					S	**S**	**06 32 15.6**	**-1.7**
MAT	**Matsushiro**	**7.05**	**144**	*e*	P	**P**	**06 30 49.4**	**-1.1**
MAT				*e*	S	**S**	**06 32 15.4**	**-1.9**
MJAR	**Matsushiro Arr**	**7.05**	**144**		P	**P**	**06 30 50.4**	**-0.1**
MJAR					S	**S**	**06 32 16.8**	**-0.5**
MJAR	**Matsushiro Arr**	**7.05**	**144**		P	**P**	**06 30 50.4**	**-0.1**
MJAR	**Matsushiro Arr**	**7.05**	**144**		P	**P**	**06 30 50.4**	**-0.1**
	comp=E,11nm,0.3s,baz=327,slow=10,SNR=514							
MJAR					S	**S**	**06 32 16.8**	**-0.5**
	comp=E,6.2nm,0.3s,baz=342,slow=19,SNR=10							
JMK	**Ichinoseki**	**7.06**	**116**		P	**P**	**06 30 48.0**	**-2.5**
JMK					eS	**S**	**06 32 12.1**	**-5.3**
JFY	**Yanaizu**	**7.11**	**132**		P	**P**	**06 30 49.4**	**-1.7**
SNY	**Shenyang**	**7.11**	**269**	⇓	P	**P**	**06 30 53.3**	**+2.3**
SNY					sP	**S**	**06 32 13.5**	**-4.8**
SNY					S	S	06 32 20.5	+2.2
SNY					pmax	pmax		
	comp=Z,1μm,1.1s							
SNY					pmax	pmax		
	comp=Z,4μm,12.0s							
JNG	**Nsakai**	**7.12**	**145**		P	**P**	**06 30 50.1**	**-1.2**
ASAJ	**Asahikawa**	**7.14**	**73**		P	**P**	**06 30 50.6**	**-0.7**
ASAJ					S	**S**	**06 32 14.4**	**-4.4**
ASAJ					eS	S	06 32 16.0	-2.9
ASAJ	**Asahikawa**	**7.14**	**73**		P	**P**	**06 30 50.6**	**-0.7**
ASAJ	**Asahikawa**	**7.14**	**73**		P	**P**	**06 30 50.6**	**-0.7**
	comp=Z,165nm,0.3s,baz=257,slow=9.4,SNR=128							
ASAJ					S	**S**	**06 32 14.4**	**-4.4**
	baz=240,slow=20,SNR=4.6							
JKA	**Kamikawa-asahi**	**7.14**	**73**		P	**P**	**06 30 50.6**	**-0.7**
MIYJ	**Miyakonagasawa**	**7.17**	**110**		P	**P**	**06 30 48.9**	**-2.7**
OFUJ	**Ofunato**	**7.29**	**114**		P	**P**	**06 30 49.9**	**-3.1**
JSE	**Soyaes**	**7.33**	**66**		P	**P**	**06 30 52.6**	**-0.6**
JGT	**Gotsu**	**7.38**	**185**		P	**P**	**06 30 54.8**	**+0.9**
JHS	**Saijyo**	**7.38**	**180**		P	**P**	**06 30 55.0**	**+1.0**
JHS					eS	**S**	**06 32 25.4**	**+1.7**
JFT	**Otama**	**7.38**	**129**		P	**P**	**06 30 51.8**	**-2.2**
JIO	**Ouri**	**7.42**	**119**		P	**P**	**06 30 51.1**	**-3.1**
JMM	**Marumori**	**7.42**	**125**		P	**P**	**06 30 51.7**	**-2.6**
ERM	**Erimo**	**7.47**	**90**		P	**P**	**06 30 53.4**	**-1.3**
	comp=Z,13μm,0.7s							
ERM	**Erimo**	**7.47**	**90**	*c*	*i*P	**P**	**06 30 52.6**	**-2.1**
ERM					pmax	pmax		
	comp=Z,1μm,1.0s							
ERM	**Erimo**	**7.47**	**90**	*e*	P	**P**	**06 30 52.7**	**-2.0**
ERM					eS	**S**	**06 32 21.4**	**-3.8**
JAD	**Aida**	**7.49**	**173**		P	**P**	**06 30 55.9**	**+0.8**
JCH	**Churui**	**7.58**	**85**		P	P	06 30 52.3	-3.6
JCH					S	S	06 32 19.1	-8.2
JNT	**Takato**	**7.59**	**147**		P	**P**	**06 30 55.2**	**-1.1**
JAG	**Ashikaga**	**7.72**	**138**		P	**P**	**06 30 55.3**	**-2.2**
JHT	**Toyohira**	**7.74**	**184**		P	**P**	**06 30 58.7**	**+1.0**
JJG	**Jouge**	**7.74**	**180**		P	**P**	**06 30 58.7**	**+0.9**
JRY	**Ryogami san**	**7.79**	**143**		P	**P**	**06 30 56.2**	**-2.1**
JRY					eS	**S**	**06 32 27.3**	**-4.3**
JHIK	**Hikimi**	**7.90**	**187**		P	**P**	**06 31 00.0**	**+0.5**
JNY	**Yasuok**	**7.94**	**151**		P	**P**	**06 30 58.7**	**-1.2**
JHE	**Heguri**	**7.99**	**165**		P	**P**	**06 31 00.1**	**-0.2**
JJS	**Sakaide**	**8.03**	**175**		P	**P**	**06 31 01.4**	**+0.6**
JTKR	**Abashiri--Toko**	**8.05**	**75**		P	**P**	**06 30 59.1**	**-1.7**
JTKR					eS	S	06 32 29.5	-6.8
JAJ2	**Tsuna**	**8.08**	**169**		P	**P**	**06 31 01.2**	**-0.1**
JHO	**Hitachi**	**8.16**	**133**		P	P	06 30 58.5	-3.6
YSS	**Yuzh-Sakhalins**	**8.25**	**53**	*e*	P	**P**	**06 31 03.0**	**+0.2**
YSS					eS	**S**	**06 32 35.0**	**-5.0**
YSS					pmax	pmax		
	comp=Z,80nm,0.8s							
YSS					smax	smax		
	comp=N,460nm,1.1s							
YSS					smax	smax		
	comp=E,3μm,4.0s							
YSS	**Yuzh-Sakhalins**	**8.25**	**53**	*e*	P	**P**	**06 31 03.0**	**+0.2**
YSS					AMB	AMB	06 31 05.6	
	comp=E,80nm,0.8s							
YSS					eS	**S**	**06 32 35.0**	**-5.0**
YSS					A	A	06 32 38.0	
	comp=E,460nm,1.1s							
YSS					A	A	06 32 41.0	
	comp=E,3μm,4.0s							
JHM	**Kurahashi**	**8.25**	**183**		P	**P**	**06 31 03.4**	**+0.3**
JTY	**Toyota**	**8.27**	**192**		P	**P**	**06 31 03.6**	**+0.3**
JAA	**Atsumi**	**8.37**	**156**		P	**P**	**06 31 04.2**	**-0.1**
JKD	**Kudamatsu**	**8.38**	**187**		P	**P**	**06 31 05.0**	**+0.5**
JIE	**Ise**	**8.47**	**159**		P	**P**	**06 31 05.5**	**+0.1**
JIE					eS	**S**	**06 32 40.9**	**-3.8**
JOD2	**Odawara 2**	**8.51**	**145**		P	**P**	**06 31 03.5**	**-2.4**
JOD2					eS	S	06 32 37.7	-7.8
JKN2	**Miekihoku**	**8.51**	**162**		P	**P**	**06 31 05.4**	**-0.5**
JET	**Tanbara**	**8.60**	**180**		P	**P**	**06 31 07.4**	**+0.5**
JAI	**Aioi**	**8.65**	**173**		P	**P**	**06 31 07.6**	**+0.2**
JMN	**Monobe**	**8.67**	**176**		P	**P**	**06 31 08.1**	**+0.5**
GRNR	**Gornyy**	**8.68**	**14**⇑	*i*	P	**P**	**06 31 07.2**	**-0.2**
GRNR					AMB	AMB	06 31 08.3	
	comp=E,475nm,0.5s							
GRNR					eS	**S**	**06 32 45.3**	**-3.1**
GRNR					A	A	06 32 52.0	
	comp=E,127nm,1.0s							
JKI	**Kunimi**	**8.83**	**188**		P	**P**	**06 31 10.0**	**+0.7**
JNA	**Nagahama**	**8.84**	**183**		P	**P**	**06 31 09.8**	**+0.5**
JII	**Iki**	**8.98**	**198**		P	**P**	**06 31 12.0**	**+1.1**
MRT2	**Murotomisaki 2**	**9.03**	**174**		P	**P**	**06 31 11.4**	**0.0**
JKU	**Kubokawa**	**9.07**	**180**		P	**P**	**06 31 12.2**	**+0.4**
JWZ	**Kozaga**	**9.08**	**166**		P	**P**	**06 31 11.0**	**-1.0**
JWZ					eS	**S**	**06 32 53.7**	**-3.0**
UGL	**Uglegorsk**	**9.16**	**40**	*e*	P	**P**	**06 31 12.0**	**-0.4**
UGL					pmax	pmax		
	comp=Z,689nm,0.9s							
UGL					pmax	pmax		
	comp=N,158nm,0.7s							
UGL	**Uglegorsk**	**9.16**	**40**⇑	*e*	P	**P**	**06 31 12.0**	**-0.4**
UGL					AMB	AMB	06 31 14.0	
	comp=N,158nm,0.8s							
UGL					AMB	AMB	06 31 14.0	
	comp=N,313nm,0.8s							
UGL					AMB	AMB	06 31 14.0	
	comp=N,689nm,0.8s							
UGL					eS	**S**	**06 32 52.0**	**-5.6**
UGL					A	A	06 32 57.0	
	comp=N,5μm,5.0s							
UGL					A	A	06 32 57.0	
	comp=N,5μm,5.0s							
UWA2	**Uwa jima 2**	**9.17**	**183**		P	**P**	**06 31 13.4**	**+0.4**
TTO1	**TONANKAI O.B.S**	**9.22**	**160**		P	**P**	**06 31 13.2**	**+0.1**
NEM2	**Nemuro 2**	**9.33**	**80**		P	P	06 31 11.1	-3.3
NEM2					eS	S	06 32 52.1	-9.1
JUS	**Usuki**	**9.37**	**187**		P	**P**	**06 31 15.5**	**+0.4**
DL2	**Dalian**	**9.39**	**252**⇓	*i*	P	**P**	**06 31 16.8**	**+1.7**
DL2					S	**S**	**06 33 03.0**	**+0.5**
DL2					pmax	pmax		
	comp=Z,440nm,1.0s							
DL2					pmax	pmax		
	comp=Z,470nm,3.7s							
JNU	**Nakatsue**	**9.42**	**191**	*e*	P	**P**	**06 31 16.5**	**+0.9**
JNU				*e*	S	**S**	**06 33 03.2**	**-0.1**
JNU					S	S	06 33 04.8	+1.4
JNU					ScP	**ScP**	**06 39 29.7**	**-0.1**
JNU	**Nakatsue**	**9.42**	**191**		P	**P**	**06 31 16.5**	**+0.9**
JNU	**Nakatsue**	**9.42**	**191**	*e*	P	**P**	**06 31 16.5**	**+0.9**
JNU	**Nakatsue**	**9.42**	**191**		P	**P**	**06 31 16.5**	**+0.9**
	comp=Z,34nm,0.3s,baz=37,slow=7.7,SNR=231							
JNU					S	**S**	**06 33 04.8**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=355,slow=10,SNR=2.6							
JNU					ScP	**ScP**	**06 39 29.7**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=5.7,slow=3.8,SNR=4.6							
YUK	**Yuzh-Kuril'sk**	**9.46**	**76**	*d*	*i*P	**P**	**06 31 15.3**	**-0.4**
YUK					*i* S	**S**	**06 32 58.6**	**-5.1**
YUK					pmax	pmax		
	comp=E,315nm,0.5s							
YUK					pmax	pmax		
	comp=Z,1μm,0.5s							
YUK					pmax	pmax		
	comp=N,280nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**9.46**	**76**⇓	*i*	P	**P**	**06 31 15.3**	**-0.4**
YUK					AMB	AMB	06 31 16.3	
	comp=N,280nm,0.5s							
YUK					AMB	AMB	06 31 16.3	
	comp=N,315nm,0.5s							
YUK					AMB	AMB	06 31 16.3	
	comp=N,1μm,0.5s							
YUK				⇓	*i* S	**S**	**06 32 58.6**	**-5.1**
JTO	**Tosashimizu**	**9.52**	**182**		P	**P**	**06 31 17.0**	**+0.4**
JTO					eS	**S**	**06 33 02.9**	**-2.3**
JUR	**Ureshino**	**9.61**	**196**		P	**P**	**06 31 18.6**	**+1.0**
JTA	**Tamana**	**9.63**	**193**		P	**P**	**06 31 18.6**	**+0.8**
BSO1	**Boso 1**	**9.88**	**139**		P	**P**	**06 31 17.9**	**-2.0**
BSO1					eS	S	06 33 04.4	-6.9
JIU2	**Izumi 2**	**10.00**	**191**		P	**P**	**06 31 22.3**	**+0.5**
NGSJ	**Nagasakinomoza**	**10.09**	**196**		P	**P**	**06 31 24.0**	**+1.3**
JFU	**Fukue jima 2**	**10.31**	**201**		P	**P**	**06 31 26.3**	**+1.1**
JZO	**Okuchi**	**10.43**	**192**		P	**P**	**06 31 27.3**	**+0.9**
JHJ2	**Mitsune**	**10.68**	**148**		P	**P**	**06 31 27.1**	**-1.9**
JHJ2					eS	**S**	**06 33 22.2**	**-5.8**
EKMR	**Ekimchan**	**10.68**	**359**⇑	*i*	P	**P**	**06 31 27.5**	**-1.3**
EKMR					AMB	AMB	06 31 29.0	
	comp=N,450nm,0.6s							
EKMR					AMB	AMB	06 31 29.0	
	comp=N,120nm,0.6s							
EKMR					AMB	AMB	06 31 29.0	
	comp=N,480nm,0.6s							
TYV	**Tymovskoe**	**10.71**	**34**⇓	*i*	P	**P**	**06 31 29.0**	**-0.1**
TYV					AMB	AMB	06 31 31.2	
	comp=N,340nm,0.7s							
TYV					eS	**S**	**06 33 25.0**	**-3.2**
TYV					A	A	06 33 30.0	
	comp=N,138nm,1.0s							
TYV					A	A	06 33 32.0	
	comp=N,2μm,8.0s							
JSJ	**Shimokoshiki**	**11.03**	**195**		P	**P**	**06 31 33.7**	**+0.8**
KUR	**Kuril'sk**	**11.04**	**70**	*e*	P	**P**	**06 31 32.5**	**-0.2**
KUR					eS	**S**	**06 33 32.8**	**-2.0**
KUR					pmax	pmax		
	comp=Z,910nm,0.9s							
KUR					pmax	pmax		
	comp=N,90nm,0.5s							
KUR					pmax	pmax		
	comp=E,190nm,1.0s							
KUR					pmax	pmax		
	comp=Z,4μm,1.4s							
KUR					smax	smax		
	comp=N,20μm,3.0s							
KUR					smax	smax		
	comp=E,6μm,2.0s							
KUR					smax	smax		
	comp=N,6μm,1.5s							
KUR					smax	smax		
	comp=E,940nm,1.0s							
KUR	**Kuril'sk**	**11.04**	**70**⇓	*e*	P	**P**	**06 31 32.2**	**-0.5**
KUR					AMB	AMB	06 31 33.8	
	comp=E,540nm,0.9s							
KUR					eS	**S**	**06 33 32.8**	**-2.0**
KUR					A	A	06 33 34.3	
	comp=E,20μm,3.0s							
KUR					A	A	06 33 34.3	
	comp=E,6μm,3.0s							
HIA	**Hailar**	**11.57**	**311**	*e*	P	**P**	**06 31 38.9**	**+0.5**
	comp=E,122nm,0.8s							
HIA	**Hailar**	**11.57**	**311**	*e*	P	**P**	**06 31 38.9**	**+0.5**
NKL	**Nikolayevsk**	**11.90**	**23**⇑	*i*	P	**P**	**06 31 39.0**	**-2.8**
NKL					AMB	AMB	06 31 40.5	
	comp=E,900nm,1.0s							
NKL					AMB	AMB	06 31 40.5	
	comp=E,460nm,1.0s							
NKL					AMB	AMB	06 31 40.5	
	comp=E,750nm,1.0s							
NKL					eS	S	06 33 45.0	-6.5
NKL					A	A	06 33 48.0	
	comp=E,1μm,7.0s							
NKL					A	A	06 33 48.0	
	comp=E,2μm,7.0s							
ZEA	**Zeya**	**12.00**	**343**⇑	*i*	P	**P**	**06 31 43.0**	**+0.1**
ZEA					AMB	AMB	06 31 44.2	
	comp=E,950nm,1.2s							
ZEA					AMB	AMB	06 31 44.5	
	comp=E,800nm,2.0s							
ZEA					AMB	AMB	06 31 44.5	
	comp=E,1μm,2.0s							
ZEA				*i*	S	**S**	**06 33 51.1**	**-2.5**
ZEA					A	A	06 33 51.8	
	comp=E,290nm,1.2s							
ZEA					A	A	06 33 51.8	
	comp=E,630nm,1.2s							
ZEA					A	A	06 33 54.0	
	comp=E,3μm,5.5s							
ZEA					A	A	06 33 54.0	
	comp=E,4μm,5.5s							
KROS	**Kirovskiy**	**12.71**	**344**⇑	*i*	P	**P**	**06 31 49.0**	**-1.5**
KROS					AMB	AMB	06 31 51.0	
	comp=E,66nm,0.6s							
KROS					AMB	AMB	06 31 51.0	
	comp=E,21nm,0.6s							
KROS					AMB	AMB	06 31 51.0	
	comp=E,91nm,0.6s							
OKH	**Okha**	**12.94**	**27**	*i*	P	**P**	**06 31 54.0**	**+1.0**
OKH				*i*	S	**S**	**06 34 12.0**	**+0.1**
OKH					pmax	pmax		
	comp=Z,5μm,3.0s							
OKH					smax	smax		
	comp=N,3μm,6.0s							
OKH					smax	smax		
	comp=E,2μm,6.0s							
OKH	**Okha**	**12.94**	**27**⇑	*i*	P	**P**	**06 31 53.9**	**+1.0**
OKH					AMB	AMB	06 31 54.2	
	comp=E,5μm,3.0s							
O

SKR pmax pmax
comp=Z,120nm,0.6s
SKR pmax pmax
comp=N,200nm,1.0s
SKR pmax pmax
comp=E,130nm,1.0s
SKR pmax pmax
comp=Z,1μm,3.0s
SKR smax smax
comp=N,2μm,6.0s
SKR smax smax
comp=E,2μm,6.0s
SKR smax smax
comp=N,480nm,1.5s
SKR smax smax
comp=E,480nm,1.5s
SKR MLR MLR
comp=Z,800nm,14.0s
SKR MLR MLR
comp=N,800nm,16.0s
SKR MLR MLR
comp=E,1μm,16.0s
SKR Severo-Kuril's 17.82 54 *e*P P 06 32 37.2 -6.8
SKR AMB AMB 06 32 40.0
comp=E,1μm,3.0s
SKR AMB AMB 06 32 40.0
comp=E,120nm,0.6s
SKR *e*S S 06 35 36.0 -7.7
SKR A A 06 35 39.0
comp=E,2μm,6.0s
SKR A A 06 35 39.0
comp=E,2μm,6.0s
OKHT Okhotsk 18.11 17 *e*P **P** **06 32 45.7 -1.0**
WHN Wuhan 19.12 238⇓ *i*P **P** **06 32 55.0 -1.4**
WHN S **S** **06 36 02.8 -2.6**
WHN ScP **ScP** **06 39 46.9 +0.1**
WHN pmax pmax
comp=Z,420nm,0.8s
ULN Ulaanbaatar 19.13 296 P **P** **06 32 56.9 +0.3**
SNR=121
ULN Ulaanbaatar 19.13 296 *e*P **P** **06 32 56.5 -0.1**
comp=Z,172nm,0.7s
ULN Ulaanbaatar 19.13 296 *e*P **P** **06 32 56.5 -0.1**
ULN Ulaanbaatar 19.13 296 P **P** **06 32 56.1 -0.4**
comp=Z,341nm,1.3s,comp=Z,4μm
SONM Songino Array 19.57 295 P **P** **06 33 00.9 +0.4**
SONM S **S** **06 36 13.5 +0.9**
SONM ScP **ScP** **06 39 46.8 -0.9**
SONM Songino Array 19.57 295 P **P** **06 33 00.9 +0.4**
comp=Z,15nm,0.3s,baz=98,slow=10.0,SNR=477
SONM S **S** **06 36 13.5 +0.9**
baz=110,slow=13,SNR=2.0
SONM ScP **ScP** **06 39 46.8 -0.9**
comp=Z,1.0nm,0.3s,baz=143,slow=2.8,SNR=11
PEA0B Petropavlovsk- 19.61 48 *e*P **P** **06 32 59.0 -1.6**
PEA0B *e*PcP **PcP** **06 36 57.5 +0.4**
PEA0B *e*ScP **ScP** **06 39 47.5 -0.1**
PETK Petropavlovsk- 19.61 48 P **P** **06 33 00.2 -0.4**
PETK Petropavlovsk- 19.61 48 P **P** **06 33 00.2 -0.4**
PETK PcP **PcP** **06 36 57.6 +0.6**
PETK ScP **ScP** **06 39 47.3 -0.2**
PETK Petropavlovsk- 19.61 48 P **P** **06 33 00.2 -0.4**
comp=Z,2.0nm,0.3s,baz=220,slow=6.7,SNR=96
PETK PcP **PcP** **06 36 57.6 +0.6**
comp=Z,0.4nm,0.3s,baz=198,slow=4.1,SNR=4.9
PETK ScP **ScP** **06 39 47.3 -0.2**
comp=Z,0.3nm,0.3s,baz=197,slow=3.0,SNR=10
YAK Yakutsk 19.78 355*d* *i*P **P** **06 33 00.3 -1.6**
YAK *e*S **S** **06 36 12.0 -3.3**
YAK pmax pmax
comp=Z,814nm,1.0s
YAK pmax pmax
comp=N,469nm,1.3s
YAK pmax pmax
comp=E,42nm,0.9s
YAK smax smax
comp=E,690nm,1.4s
YAK smax smax
comp=N,228nm,1.2s
TATO Taipei 19.85 213 *e*P **P** **06 33 03.9 +0.8**
comp=N,109nm,1.0s
PET Petropavlovsk 20.11 49*α* *i*P **P** **06 33 04.6 -0.5**
PET *e*S **S** **06 36 18.5 -2.3**
PET pmax pmax
comp=Z,223nm,0.8s
PET pmax pmax
comp=Z,400nm,3.2s
PET pmax pmax
comp=Z,100nm,11.2s
PET MLR MLR
comp=Z,300nm,14.0s
PET MLR MLR
comp=Z,300nm,16.0s
PET Petropavlovsk 20.11 49⇑ *i*P **P** **06 33 04.6 -0.5**
PET AMB AMB 06 33 06.3
comp=Z,223nm,0.8s
PET AMB AMB 06 33 06.5
comp=Z,400nm,3.2s
YHNB Yeheng 20.16 212 *e*P **P** **06 33 05.7 -0.4**
comp=Z,38nm,0.5s
YHNB *e*S **S** **06 36 23.4 +0.7**
YHNB *e*ScP **ScP** **06 39 48.4 -1.1**
NACB Ninganchiao 20.52 211 *e*P **P** **06 33 07.9 -1.4**
comp=Z,42nm,0.4s
XAN Xi'an 20.70 254 P **P** **06 33 10.5 -0.4**
XAN sP sP 06 35 09.3 -8.7
XAN S **S** **06 36 27.8 -3.2**
XAN PcP PcP 06 37 05.6 +6.0
XAN ScP ScP 06 39 57.8 +7.2
XAN PcS **PcS** **06 40 42.8 +4.9**
XAN ScS **ScS** **06 43 38.8 +4.2**
XAN pmax pmax
comp=Z,80nm,1.3s
XAN pmax pmax
comp=Z,120nm,7.8s
SSLB Suanglung 21.12 212 *e*P **P** **06 33 13.7 -1.1**
comp=Z,73nm,0.9s
QZH Quanzhou 21.13 219⇑ *i*P **P** **06 33 16.4 +1.6**
QZH S **S** **06 36 40.3 +2.4**
QZH pmax pmax
comp=Z,90nm,0.9s
YULB Yu-li 21.34 211 *e*P **P** **06 33 15.8 -0.9**
comp=Z,20nm,0.3s
YULB *e*ScP **ScP** **06 39 50.5 -1.8**
TPUB Ta-pu 21.69 213 *e*P **P** **06 33 19.6 -0.3**
comp=Z,155nm,0.4s
IRK Irkutsk 21.76 307 *e*P **P** **06 33 19.5 -0.6**
IRK *e* 06 36 45.8
IRK pmax pmax
comp=Z,150nm,1.9s
IRK Irkutsk 21.76 307 *e*P **P** **06 33 19.5 -0.6**
ZAK Zakamensk 21.96 302⇓ *i*P **P** **06 33 22.3 +0.2**
ZAK *e* 06 36 50.7
ZAK pmax pmax
comp=Z,158nm,0.9s
TLY Talaya 21.99 305*d* *i*P **P** **06 33 22.3 0.0**
TLY *e*S **S** **06 36 49.8 -1.2**
TLY *e* 06 37 02.7
TLY pmax pmax
comp=Z,156nm,1.5s
TLY Talaya 21.99 305⇓ *i*P **P** **06 33 22.3 0.0**
TLY Talaya 21.99 305 P **P** **06 33 22.5 +0.2**
comp=Z,459nm,1.2s,SNR=28
ENH Enshi 22.47 245 *e*P **P** **06 33 25.8 -1.1**
comp=Z,113nm,0.7s
ENH *e*S **S** **06 36 54.0 -5.0**
LZH Lanzhou 23.45 264⇓ P **P** **06 33 36.4 +0.6**
LZH sP sP 06 35 41.0 -7.1
LZH S **S** **06 37 13.3 -1.4**
LZH ScP **ScP** **06 39 58.5 +0.7**
LZH pmax pmax
comp=Z,390nm,1.0s
LZH pmax pmax
comp=Z,960nm,4.0s
SEY Seymchan 23.48 22*d* *i*P **P** **06 33 36.5 +1.1**
MOY Mondy 23.61 304 *e*P **P** **06 33 36.4 -0.5**
MOY pmax pmax
comp=Z,83nm,2.1s
GTA Gaotai 25.25 274⇓ P **P** **06 33 52.3 +0.6**
GTA PcP **PcP** **06 37 10.0 +0.8**
GTA S **S** **06 37 45.4 +2.6**
GTA ScP **ScP** **06 40 03.4 +0.6**
GTA ScS **ScS** **06 43 51.3 -1.1**
GTA pmax pmax
comp=Z,300nm,0.8s
GTA pmax pmax
comp=Z,160nm,6.7s
CD2 Chengdu 26.06 254 *e*P **P** **06 33 58.3 -0.5**
CD2 PcP **PcP** **06 37 13.0 +1.8**
CD2 S **S** **06 37 56.1 +0.5**
CD2 ScS **ScS** **06 43 57.8 +1.8**
CD2 pmax pmax
comp=Z,270nm,1.1s
CD2 pmax pmax
comp=Z,410nm,6.2s
GYA Guiyang 26.84 242⇑ *i*P **P** **06 34 05.8 0.0**
GYA sP sP 06 36 17.0 -5.5
GYA PcP **PcP** **06 37 15.4 +2.2**
GYA S **S** **06 38 08.5 +0.5**
GYA ScP **ScP** **06 40 10.0 +2.3**
GYA PcS **PcS** **06 40 55.3 -0.1**
GYA ScS **ScS** **06 44 01.8 +2.1**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.8s
HVS Khovu-Aksy 28.08 302*d* *i*P **P** **06 34 16.2 -0.2**
HVS pmax pmax
comp=Z,516nm,1.3s
FX1 Attu Island--F 28.61 55 P **P** **06 34 21.6 +0.7**
FX1 *e*PcP **PcP** **06 37 17.0 0.0**
FX1 PcP PcP 06 37 17.2 +0.3
FX1 Attu Island--F 28.61 55 P **P** **06 34 21.6 +0.7**
comp=Z,74nm,0.5s,baz=282,slow=4.4,SNR=59
FX1 PcP **PcP** **06 37 17.2 +0.3**
comp=Z,16nm,0.5s,baz=147,slow=2.1,SNR=5.9
KRAR Krasnoyarsk 29.14 312⇑ *i*P **P** **06 34 25.1 -0.4**
KRAR pmax pmax
comp=Z,119nm,1.4s
TIXI Tiksi 29.41 357*c* *i*P **P** **06 34 26.6 -1.0**
TIXI pmax pmax
comp=Z,119nm,1.1s
KMI Kunming 30.34 245⇓ P **P** **06 34 36.1 -0.5**
KMI pP **pP** **06 35 57.5 -1.6**
KMI PP **PP** **06 36 01.3 -6.1**
KMI sP **sP** **06 36 50.1 -4.1**
KMI S **S** **06 38 58.9 -3.8**
KMI SS SS 06 41 34.3 -21
KMI pmax pmax
comp=Z,120nm,0.9s
KMI pmax pmax
comp=Z,260nm,3.1s
QIZ Qiongzhong 30.51 227 P **P** **06 34 37.8 0.0**
QIZ pP **pP** **06 35 57.3 -3.1**
QIZ S **S** **06 39 06.5 +1.5**
QIZ pmax pmax
comp=Z,120nm,4.0s
BILL Bilibino 31.17 23*c* *i*P **P** **06 34 43.1 +0.2**
BILL *i* *PP **pP** **06 36 07.9 +2.3**
BILL pmax pmax
comp=Z,159nm,1.1s
BILL Bilibino 31.17 23⇑ *i*P **P** **06 34 43.1 +0.2**
AMKA Amchitka 32.35 58 *e*P **P** **06 34 53.5 +0.3**
comp=Z,235nm,0.7s
WMQ Urumqi 32.87 288 P **P** **06 34 58.5 +0.6**
WMQ pP **pP** **06 36 19.6 -1.8**
WMQ PP **PP** **06 36 29.1 -3.1**
WMQ sP sP 06 37 10.0 -6.3
WMQ pmax pmax
comp=Z,160nm,0.9s
WMQ pmax pmax
comp=Z,920nm,4.4s
ZAA0 Zalesovo Array 33.57 307 *e*P **P** **06 35 02.9 -0.7**
ZAA0 *e*PcP **PcP** **06 37 30.1 -0.3**
ZALV Zalesovo Beam 33.57 307 P **P** **06 35 03.0 -0.6**
ZALV 06 37 30.3
ZALV S **S** **06 39 50.2 -0.9**
ZALV Zalesovo Beam 33.57 307 P **P** **06 35 03.0 -0.6**
ZALV PcP **PcP** **06 37 30.3 -0.2**
ZALV S **S** **06 39 50.1 -0.9**
ZALV ScP **ScP** **06 40 28.1 -1.2**
ZALV Zalesovo Beam 33.57 307 P **P** **06 35 03.0 -0.6**
comp=Z,121nm,0.8s,baz=79,slow=7.9,SNR=327
ZALV PcP **PcP** **06 37 30.3 -0.2**
comp=Z,11nm,0.7s,baz=68,slow=2.8,SNR=4.1
ZALV S **S** **06 39 50.1 -0.9**
comp=Z,4.0nm,0.8s,baz=94,slow=15,SNR=3.4
ZALV ScP **ScP** **06 40 28.1 -1.2**
comp=Z,70nm,0.7s,baz=97,slow=3.2,SNR=52
NVS Novosibirsk 34.50 309⇓ *i*P **P** **06 35 09.7 -1.7**
NVS *e* 06 36 43.3
NVS *e*S **S** **06 40 00.6 -4.5**
NVS pmax pmax
comp=E,116nm,1.2s
NVS pmax pmax
comp=Z,155nm,1.2s
NVS pmax pmax
comp=N,15nm,0.7s
NVS smax smax
comp=N,35nm,1.8s
NVS smax smax
comp=E,109nm,2.2s
PANO Nakornpanom 34.98 233 P **P** **06 35 16.4 +0.5**
comp=E,202nm,1.2s,comp=E,2μm
SKNT Sakolnakorn 35.49 233 P **P** **06 35 20.3 +0.1**
comp=E,192nm,0.9s
LSA Lhasa 35.86 263 P **P** **06 35 24.5 +0.8**
LSA Lhasa 35.86 263 *e*P **P** **06 35 24.5 +0.8**
LSA pmax pmax
comp=Z,205nm,1.0s
LSA Lhasa 35.86 263 *e*P **P** **06 35 24.5 +0.8**
comp=Z,205nm,1.0s
MK31 Makanchi Array 35.94 295*c* *e*P **P** **06 35 23.0 -0.6**
MK31 pmax pmax
comp=Z,81nm,0.5s
MK31 Makanchi Array 35.94 295 *e*P **P** **06 35 23.4 -0.2**
MK31 *e*S **S** **06 40 26.9 -0.1**
MK31 *e*ScP **ScP** **06 40 37.2 -0.8**
MKAR Makanchi Array 35.94 295 P **P** **06 35 23.5 -0.1**
MKAR 06 37 37.6
MKAR S **S** **06 40 26.7 -0.4**
MKAR Makanchi Array 35.94 295 P **P** **06 35 23.5 -0.1**
MKAR PcP **PcP** **06 37 37.6 0.0**
MKAR S **S** **06 40 26.6 -0.4**
MKAR ScP **ScP** **06 40 37.0 -1.1**
MKAR Makanchi Array 35.94 295 *e*P **P** **06 35 23.5 -0.1**
MKAR Makanchi Array 35.94 295 P **P** **06 35 23.5 -0.1**
comp=Z,123nm,0.8s,baz=85,slow=9.8,SNR=1058
MKAR PcP **PcP** **06 37 37.6 0.0**
comp=Z,2.6nm,0.5s,baz=65,slow=4.2,SNR=2.9
MKAR S **S** **06 40 26.6 -0.4**
comp=Z,22nm,1.1s,baz=83,slow=20,SNR=8.4
MKAR ScP **ScP** **06 40 37.0 -1.1**
comp=Z,9.4nm,0.8s,baz=25,slow=1.4,SNR=6.9
UBPT Khong Chiam 35.97 230 P **P** **06 35 24.4 +0.2**
comp=Z,58nm,0.8s
UBPT Khong Chiam 35.97 230 P **P** **06 35 24.4 +0.2**
comp=Z,58nm,0.8s
PAYA Payao 36.26 241 P **P** **06 35 27.0 +0.4**
comp=Z,90nm,0.8s,comp=Z,757nm
CMAI Chiengmai2 36.39 243 P **P** **06 35 27.9 +0.1**
comp=Z,154nm,1.0s,comp=Z,4μm
IMP Imphal 36.67 254 *i* P **P** **06 35 27.0 -3.0**
IMP *e*S **S** **06 40 40.0 +1.3**
LOEI Loei 36.74 237 P **P** **06 35 27.9 -2.6**
comp=Z,185nm,0.9s,comp=Z,2μm
LAMP Lampang 37.02 240 P **P** **06 35 33.0 +0.1**
comp=Z,79nm,0.7s,comp=Z,869nm
CHTO Chiang Mai 37.26 241 *e*P **P** **06 35 34.8 0.0**
CHTO pmax pmax
comp=Z,177nm,1.1s
CHTO Chiang Mai 37.26 241 P **P** **06 35 35.3 +0.5**
comp=Z,24nm,0.5s
CHTO Chiang Mai 37.26 241 *e*P **P** **06 35 34.8 0.0**
comp=Z,177nm,1.1s
CHTO Chiang Mai 37.26 241 *e*P **P** **06 35 34.8 0.0**
CHTO Chiang Mai 37.26 241 P **P** **06 35 34.5 -0.3**
comp=Z,166nm,1.3s,comp=Z,2μm
CHTO Chiang Mai 37.26 241 P **P** **06 35 34.5 -0.3**
comp=Z,166nm,1.3s,comp=Z,2μm
CMAR Chiang Mai Arr 37.51 241 P **P** **06 35 37.3 +0.4**
CMAR PP **PP** **06 37 14.8 -1.7**
CMAR PcP **PcP** **06 37 43.8 +0.8**
CMAR ScP **ScP** **06 40 44.4 0.0**
CMAR S **S** **06 40 52.5 +1.4**
CMAR Chiang Mai Arr 37.51 241 *e*P **P** **06 40 03.4 +0.6**
CMAR Chiang Mai Arr 37.51 241 P **P** **06 35 37.3 +0.4**
comp=Z,29nm,0.4s,baz=35,slow=7.4,SNR=114
CMAR PP **PP** **06 37 14.8 -1.7**
comp=Z,1.5nm,0.3s,baz=29,slow=9.4,SNR=3.2
CMAR PcP **PcP** **06 37 43.8 +0.8**
comp=Z,7.0nm,0.9s,baz=12,slow=2.7,SNR=5.5
CMAR ScP **ScP** **06 40 44.4 0.0**
comp=Z,15nm,0.8s,baz=14,slow=3.0,SNR=28
CMAR S **S** **06 40 52.5 +1.4**
comp=Z,3.0nm,0.4s,baz=28,slow=18,SNR=13
CHAI Chaiyaphum 37.52 235 P **P** **06 35 36.5 -0.5**
comp=Z,44nm,0.7s,comp=Z,538nm
KURK Kurchatov 37.62 302 P **P** **06 35 36.6 -0.7**
comp=Z,4μm,0.6s
KURK Kurchatov 37.62 302 P **P** **06 35 37.5 +0.1**
KURK S **S** **06 40 51.2 -0.7**
KURK Kurchatov 37.62 302 P **P** **06 35 37.5 +0.1**
KURK ScP **ScP** **06 40 43.0 -1.3**
KURK S **S** **06 40 51.2 -0.7**
KURK Kurchatov 37.62 302 *e*P **P** **06 35 37.5 +0.1**
PBKT Sadao Pong 37.63 237 P **P** **06 35 37.7 -0.2**
comp=Z,68nm,0.9s
PBKT Sadao Pong 37.63 237 P **P** **06 35 37.7 -0.2**
comp=Z,68nm,0.9s
SHL Shillong 37.67 257 *i* P **P** **06 35 37.5 -0.8**
SHL *e*4 06 40 51.0
KURBB Kurchatov Arra 37.69 302 P **P** **06 35 37.5 -0.5**
comp=Z,378nm,0.7s,baz=82,slow=8.6,SNR=1775
KURBB ScP **ScP** **06 40 43.0 -1.5**
comp=Z,5.8nm,0.8s,baz=82,slow=3.6,SNR=6.9
KURBB S **S** **06 40 51.2 -1.7**
comp=Z,8.1nm,0.7s,baz=89,slow=16,SNR=8.4
SPIA Saint Paul Isl 38.26 47 *e*P **P** **06 35 43.4 +0.9**
comp=Z,880nm,1.6s
NAYO Nakonayok 39.16 234 P **P** **06 35 50.7 +0.4**
comp=Z,93nm,1.0s,comp=Z,4μm
TNA Tin City 39.67 34 *e*P **P** **06 35 54.2 +0.4**
comp=Z,249nm,1.0s
TAPN Taplejung 39.68 263 *e*P **P** **06 35 55.4 +0.6**
comp=Z,700nm,0.8s
CHBT CHBT 39.80 231 P **P** **06 35 56.9 +1.4**
comp=Z,61nm,1.0s,comp=Z,3μm
CHBT CHBT 39.80 231 P **P** **06 35 56.9 +1.4**
comp=Z,61nm,1.0s,comp=Z,3μm
ODAN Odare 40.19 262 *e*P **P** **06 35 59.1 +0.2**
comp=Z,697nm,0.9s
JIRN Jiri 40.62 264 *e*P **P** **06 36 02.9 +0.4**
comp=Z,251nm,0.4s
GUN Gumba 40.71 265 *e*P **P** **06 36 03.4 +0.2**
comp=Z,2μm,0.8s
RAMN Ramite 40.72 263 *e*P **P** **06 36 03.3 +0.2**
comp=Z,1μm,0.8s
KKN Kakani 41.22 265 *e*P **P** **06 36 07.2 +0.1**
comp=Z,675nm,0.8s
PKI Pulchoki 41.25 265 *e*P **P** **06 36 07.3 -0.1**
comp=Z,995nm,1.0s
PKIN Phulchoki 41.25 265 *e*P **P** **06 36 07.3 -0.1**
comp=Z,542nm,0.7s
ULHL Ulahol 41.36 290 *i* P **P** **06 36 08.0 0.0**
ULHL Ulahol 41.36 290 P **P** **06 36 08.0 0.0**
SNR=54
DMN Daman 41.45 265 *e*P **P** **06 36 09.1 +0.1**
comp=Z,736nm,0.9s
TKM2 Tokmak 2 41.57 291 *i* P **P** **06 36 10.1 +0.4**
TKM2 Tokmak 2 41.57 291 P **P** **06 36 10.1 +0.4**
SNR=271
DANN Dangsing 42.04 267 *e*P **P** **06 36 14.2 +0.5**
comp=Z,2μm,0.8s
KZA Kyzart 42.11 290 *i* P **P** **06 36 15.3 +1.1**
KZA Kyzart 42.11 290 P **P** **06 36 15.3 +1.1**
SNR=50
KBK Karagaybulak 42.11 291 *i* P **P** **06 36 14.5 +0.6**
KBK Karagaybulak 42.11 291 P **P** **06 36 14.5 +0.6**
SNR=188
CHMS Chumysh 42.13 291 *i* P **P** **06 36 13.6 -0.3**
CHMS Chumysh 42.13 291 P **P** **06 36 13.6 -0.3**
SNR=52
USP Ospenovka 42.21 292 *i* P **P** **06 36 14.7 +0.1**
USP Ospenovka 42.21 292 P **P** **06 36 14.7 +0.1**
SNR=21
BVA0 Borovoye Array 42.23 307 *i* P **P** **06 36 14.0 -0.5**
BVA0 pmax pmax
comp=Z,77nm,1.4s
BVAR Borovoye Array 42.23 307 P **P** **06 36 14.0 -0.5**
BVAR 06 37 57.8
BVAR S **S** **06 41 57.3 -2.0**
BVAR 06 45 20.3
BVAR Borovoye Array 42.23 307 P **P** **06 36 14.0 -0.5**
BVAR PcP **PcP** **06 37 57.8 +0.1**
BVAR ScP **ScP** **06 41 01.4 -1.0**
BVAR S **S** **06 41 57.3 -2.0**
BVAR ScS **ScS** **06 45 20.3 -1.8**
BVAR Borovoye Array 42.23 307 P **P** **06 36 14.0 -0.5**
comp=Z,24nm,0.5s,baz=80,slow=8.0,SNR=126
BVAR PcP **PcP** **06 37 57.8 +0.1**
comp=Z,7.7nm,0.6s,baz=69,slow=2.1,SNR=4.2
BVAR ScP **ScP** **06 41 01.4 -1.0**
comp=Z,14nm,0.8s,baz=105,slow=3.4,SNR=12
BVAR S **S** **06 41 57.3 -2.0**
comp=Z,5.2nm,0.8s,baz=74,slow=16,SNR=3.8
BVAR ScS **ScS** **06 45 20.3 -1.8**
comp=Z,1.9nm,0.9s,baz=70,slow=8.5,SNR=4.2
FRU Bishkek 42.28 291⇓ *i*P **P** **06 36 15.0 -0.1**
FRU *e* 06 38 03.0
FRU *e*S **S** **06 42 01.0 +0.6**
FRU pmax pmax
comp=Z,410nm,1.8s
FRU smax smax
comp=E,150nm,2.0s
BRVK Borovoye 42.29 307 P **P** **06 36 14.5 -0.5**
comp=E,227nm,1.3s,SNR=15
BRVK Borovoye 42.29 307*d* *i*P **P** **06 36 14.4 -0.5**
BRVK pmax pmax
comp=Z,43nm,1.3s
BRVK Borovoye 42.29 307 P **P** **06 36 14.8 -0.1**
SNR=23
BRVK Borovoye 42.29 307 *e*P **P** **06 36 14.4 -0.5**
comp=Z,196nm,1.9s
BRVK Borovoye 42.29 307 *e*P **P** **06 36 14.5 -0.5**
FALS False Pass 42.33 50 *e*P **P** **06 36 14.5 -0.7**
comp=Z,59nm,1.1s
AAK Ala-Archa 42.44 291 P **P** **06 36 16.0 -0.5**
comp=Z,1μm,0.5s,SNR=48
AAK Ala-Archa 42.44 291 P **P** **06 36 16.6 +0.1**
AAK 06 38 07.2
AAK S **S** **06 42 03.2 +0.3**
AAK pmax pmax
comp=Z,68nm,0.4s
AAK pmax pmax
comp=Z,25nm,1.0s
AAK pmax pmax
comp=N,4.0nm,0.6s
AAK smax smax
comp=N,2.0nm,0.6s
AAK Ala-Archa 42.44 291 P **P** **06 36 16.7 +0.2**
SNR=50
AAK Ala-Archa 42.44 291 P **P** **06 36 16.6 +0.1**
SNR=22
AAK Ala-Archa 42.44 291 *e*P **P** **06 36 16.4 -0.1**
comp=N,150nm,0.8s
AAK PP **PP** **06 38 07.2 +0.8**
AAK *e*ScP **ScP** **06 41 02.7 -0.9**
AAK *e*S **S** **06 42 02.9 0.0**
AAK S S 06 42 03.2 +0.3
AAK Ala-Archa 42.44 291 P **P** **06 36 16.6 +0.1**
AAK Ala-Archa 42.44 291 P **P** **06 36 16.6 +0.1**
comp=N,68nm,0.4s,baz=103,slow=5.0,SNR=179
AAK PP **PP** **06 38 07.2 +0.8**
comp=N,25nm,1.0s,baz=90,slow=6.5,SNR=6.1
AAK ScP **ScP** **06 41 02.7 -0.9**
comp=N,3.7nm,0.6s,baz=54,slow=2.2,SNR=3.7
AAK S **S** **06 42 03.2 +0.3**
comp=N,2.4nm,0.6s,baz=251,slow=21,SNR=7.6
KOLN Koldanda 42.47 266 *e*P **P** **06 36 17.3 +0.3**
comp=N,1μm,0.9s
KSH Kashi 42.55 286⇓ *i*P P 06 36 21.0 +3.6
KSH pP pP 06 37 50.3 +4.6
KSH PP **PP** **06 38 12.6 +5.1**
KSH sP sP 06 38 43.8 +4.5
KSH S **S** **06 42 10.1 +5.5**
KSH ScS **ScS** **06 45 26.9 +2.0**
KSH SS **SS** **06 45 31.8 +1.7**
KSH pmax pmax
comp=Z,130nm,1.3s
UCH Uchtor 42.56 290 *i* P **P** **06 36 18.2 +0.4**
UCH Uchtor 42.56 290 P **P** **06 36 18.2 +0.4**
SNR=16
PYUN Piuthan 42.74 267 *e*P **P** **06 36 19.4 +0.2**
comp=Z,2μm,0.9s

EKS2 Erkin-Say 42.92 291 P **P** 06 36 20.2 -0.1
SNR=18
AML Almayashu 43.17 291 *i* P **P** 06 36 22.9 +0.4
AML Almayashu 43.17 291 P **P** 06 36 23.0 +0.4
SNR=140
SDPT Sand Point 43.89 49 *e*P **P** 06 36 26.6 -0.8
comp=Z,79nm,0.6s
SBUM Sibu 43.94 211 P **P** 06 36 29.7 +1.3
comp=Z,47nm,0.8s
CHGN Chignik 44.83 47 *e*P **P** 06 36 34.2 -0.4
KK31 Karatay Array 45.00 293*c*e P **P** 06 36 35.9 -0.4
KK31 pmax pmax
comp=Z,211nm,0.8s
KKAR Karatay Array 45.00 293 *e*P **P** 06 36 35.8 -0.5
KKAR pmax pmax
comp=Z,144nm,0.7s
KKAR Karatay Array 45.00 293 *e*P **P** 06 36 35.8 -0.5
comp=Z,144nm,0.7s
DDI Dehra Dun 45.22 273 *ex* P 06 36 33.5 -4.7
SVW2 Sparrevohn 45.38 40 *e*P **P** 06 36 40.3 +1.4
comp=Z,68nm,0.6s
SDNR Sundarnagar 45.42 275 *e*P **P** 06 36 40.0 +0.3
SMLA Simla 45.47 275 ⇓*i*P **P** 06 36 40.1 +0.1
KSM Kuching 45.59 213 *e*P **P** 06 36 42.2 +1.1
comp=Z,17nm,0.9s
DLH Dalhousie 45.64 277 *e*P **P** 06 36 41.0 -0.6
DLH *e*4 06 36 46.0
BHK Bhakra 45.87 276 *e*P **P** 06 36 43.2 0.0
THN Thein Dam 45.88 277 *e*P P 06 36 38.5 -4.6
THN *e*4 06 36 55.4
COLD Coldfoot 46.76 31 *e*P **P** 06 36 49.9 +0.6
comp=Z,96nm,0.8s
COLD *e*PP **PP** 06 38 45.5 +0.5
COLD *e*ScP **ScP** 06 41 22.1 +1.3
KULM Kulim 46.84 227 *e*P **P** 06 36 50.7 0.0
comp=Z,68nm,0.9s
KULM Kulim 46.84 227 P **P** 06 36 51.4 +0.7
comp=Z,95nm,1.1s
SVE Sverdlovsk 46.86 314*c* *i*P **P** 06 36 50.2 0.0
SVE pmax pmax
comp=Z,168nm,0.9s
RSO Redoubt South 46.86 41 *e*P **P** 06 36 51.3 +0.8
SPU Mount Spurr 47.04 40 *e*P **P** 06 36 52.6 +1.0
IPM Ipoh 47.32 226 *e*P **P** 06 36 53.7 -0.6
comp=Z,41nm,0.9s
IPM *e*ScP **ScP** 06 41 23.3 -0.7
IPM Ipoh 47.32 226 P **P** 06 36 54.4 +0.1
comp=Z,51nm,1.1s
OHAK Old Harbor 47.36 45 *e*P **P** 06 36 53.8 -0.2
comp=Z,157nm,0.7s
OHAK *e*PcP **PcP** 06 38 16.5 +1.0
TRF Thorofare Moun 47.38 36 *e*P **P** 06 36 53.9 -0.3
comp=Z,90nm,0.7s
TRF *e*ScP **ScP** 06 41 23.9 +0.2
KDAK Kodiak Island 47.58 44 P **P** 06 36 55.0 -0.6
comp=Z,1µm,0.6s,SNR=56
KDAK Kodiak Island 47.58 44 *e*P **P** 06 36 55.5 -0.2
comp=Z,132nm,0.8s
KDAK *e*PcP **PcP** 06 38 16.8 +0.5
KDAK *e*ScP **ScP** 06 41 25.3 +0.9
KDAK S **S** 06 43 15.8 +1.1
KDAK Kodiak Island 47.58 44 P **P** 06 36 55.5 -0.2
comp=Z,121nm,0.6s,baz=295,slow=4.2,SNR=159
KDAK PcP **PcP** 06 38 16.9 +0.5
comp=Z,26nm,0.8s,baz=5.2,slow=2.9,SNR=4.1
KDAK S **S** 06 43 15.8 +1.1
comp=Z,5.5nm,0.7s,baz=324,slow=17,SNR=10
JBP Jabalpur 47.79 264 ⇓*i*P **P** 06 36 57.6 -0.1
JBP AMB AMB 06 36 58.4
comp=Z,230nm,0.9s
JBP *e*4 06 37 19.3
MCK McKinley 47.91 36 *e*P **P** 06 36 58.7 +0.6
MCK pmax pmax
comp=Z,187nm,0.8s
MCK McKinley 47.91 36 *e*P **P** 06 36 58.7 +0.6
comp=Z,187nm,0.8s
MCK McKinley 47.91 36 *e*P **P** 06 36 58.7 +0.6
ARU Arti 48.07 314*d* *i*P **P** 06 36 58.9 -0.5
ARU 06 38 14.3
ARU *PP **pP** 06 38 26.8 -3.7
ARU S **S** 06 43 22.4 +0.8
ARU 06 45 55.8
ARU pmax pmax
comp=Z,181nm,1.0s
ARU Arti 48.07 314 P **P** 06 36 59.3 -0.1
comp=Z,1000nm,0.8s,SNR=10
COLA College 48.12 34 *e*P **P** 06 37 00.7 +1.1
COLA College 48.12 34 *e*P **P** 06 37 00.7 +1.1
comp=Z,2µm,0.7s
COLA College 48.12 34 *e*P **P** 06 37 00.7 +1.1
SOKR Solikamsk 48.13 318*d* *i*P **P** 06 36 59.4 -0.3
SOKR pmax pmax
comp=Z,50nm,1.0s
MYKOM **Kota Tinggi** 48.18 221 P **P** 06 37 02.5 +1.8
comp=Z,44nm,1.2s
PMR Palmer 48.31 39 *e*P **P** 06 37 01.1 0.0
PMR pmax pmax
comp=Z,133nm,0.8s
PMR Palmer 48.31 39 *e*P **P** 06 37 01.1 0.0
comp=Z,133nm,0.8s
ILAR Eielson Array 48.55 34 P **P** 06 37 02.8 -0.1
ILAR S **S** 06 43 29.4 +1.5
ILAR Eielson Array 48.55 34 *e*P **P** 06 37 02.8 -0.1
ILAR Eielson Array 48.55 34 P **P** 06 37 02.8 -0.1
comp=Z,114nm,0.7s,baz=280,slow=6.2,SNR=953
ILAR S **S** 06 43 29.4 +1.5
comp=Z,0.7nm,1.0s,baz=281,slow=9.1,SNR=2.5
SML Sawmill 48.63 38 *e*P **P** 06 37 04.0 +0.5
SML pmax pmax
comp=Z,68nm,1.1s
SML Sawmill 48.63 38 *e*P **P** 06 37 04.0 +0.5
comp=Z,68nm,1.1s
SML Sawmill 48.63 38 *e*P **P** 06 37 04.0 +0.5
KAPI Kappang 48.72 198 *e*P **P** 06 37 03.8 -1.0
KAPI S **S** 06 43 31.6 +0.1
KAPI Kappang 48.72 198 P **P** 06 37 03.5 -1.3
comp=Z,10nm,0.7s,baz=22,slow=9.1,SNR=5.3
KAPI S **S** 06 43 31.6 +0.1
comp=Z,4.0nm,0.4s,baz=203,slow=19,SNR=2.4
AB31 Akbulak array 49.60 305*c*e P **P** 06 37 10.4 -0.5
AB31 pmax pmax
comp=Z,39nm,0.3s
ABKAR **Akbulak array** 49.60 305 *e*P **P** 06 37 10.4 -0.5
comp=Z,1.4nm,0.8s
PAX Paxson 49.61 36 *e*P **P** 06 37 10.9 0.0
PAX pmax pmax
comp=Z,45nm,0.6s
PAX Paxson 49.61 36 *e*P **P** 06 37 10.9 0.0
comp=Z,45nm,0.6s
NGP Nagpur 49.70 262 *e*P **P** 06 37 09.3 -2.7
NGP AMB AMB 06 37 10.0
comp=Z,111nm,1.1s
KBL Kabul 49.71 283 *e*P **P** 06 37 11.3 -0.9
KBL pmax pmax
comp=Z,129nm,0.9s
KBL Kabul 49.71 283 *e*P **P** 06 37 11.3 -0.9
comp=Z,129nm,0.9s
PSI Prapat 49.86 227 P **P** 06 37 13.1 -0.3
PSI ScP **ScP** 06 41 33.9 -1.1
PSI Prapat 49.86 227 P **P** 06 37 13.1 -0.3
comp=Z,47nm,0.9s,baz=24,slow=6.0,SNR=19
PSI ScP **ScP** 06 41 33.9 -1.1
comp=Z,12nm,0.7s,baz=346,slow=5.8,SNR=6.7
DIV Divide 50.00 39 *e*P **P** 06 37 14.5 +0.8
comp=Z,136nm,0.8s
DIV Divide 50.00 39 P **P** 06 37 14.5 +0.8
MID Middleton Isla 50.25 41 *e*P **P** 06 37 16.6 +1.2
MID pmax pmax
comp=Z,320nm,1.0s
MID Middleton Isla 50.25 41 *e*P **P** 06 37 16.6 +1.2
comp=Z,320nm,1.0s
AKTO Aktyubinsk 50.33 307 P **P** 06 37 15.4 -0.9
AKTO S **S** 06 43 50.9 -1.8
AKTO Aktyubinsk 50.33 307 P **P** 06 37 15.4 -0.9
AKTO S **S** 06 43 50.9 -1.8
AKTO Aktyubinsk 50.33 307 P **P** 06 37 15.4 -0.9
comp=Z,38nm,0.8s,baz=84,slow=7.8,SNR=63
AKTO S **S** 06 43 50.9 -1.8
comp=Z,3.0nm,1.0s,baz=280,slow=18,SNR=13
MENT Mentasta 50.38 36 *e*P **P** 06 37 17.3 +0.8
BMRM Bremner River 50.59 39 *e*P **P** 06 37 18.9 +0.8
comp=Z,136nm,0.9s
EGAK Eagle 50.91 33 *e*P **P** 06 37 20.3 0.0
comp=Z,136nm,0.8s
AKL Akola 51.47 263 *e*P **P** 06 37 24.7 -0.2
AKL AMB AMB 06 37 25.6
comp=Z,278nm,0.6s
HYB Hyderabad 52.41 259 *i* P **P** 06 37 32.0 +0.1
HYB *e*pP **pP** 06 39 08.0 +2.8
INK Inuvik 52.60 28 PP PP 06 39 41.3 +4.0
INK Inuvik 52.60 28 PP PP 06 39 41.3 +4.0
comp=Z,10nm,1.0s,baz=306,slow=6.6,SNR=3.9
PMG Port Moresby 53.13 163 P **P** 06 37 36.2 -0.7
PMG Port Moresby 53.13 163 P **P** 06 37 36.2 -0.7
comp=Z,9.8nm,0.7s,baz=0.0,slow=4.0,SNR=2.8
LATR Latur 53.23 261 *e*P **P** 06 37 37.1 -0.5
LATR AMB AMB 06 37 38.3
comp=Z,151nm,0.9s
PNL Peninsula 53.47 39 *e*P **P** 06 37 40.1 +1.2
comp=Z,173nm,0.8s
SPA0 Spitsbergen Ar 53.94 347 *e*P **P** 06 37 42.2 +0.2
SPA0 *e*S **S** 06 44 39.7 -0.6
KBS Kingsbay 54.20 348 *e*P **P** 06 37 44.3 +0.7
KBS Kingsbay 54.20 348*c*e P **P** 06 37 44.8 +1.1
KBS pmax pmax
comp=Z,19nm,0.6s
KBS Kingsbay 54.20 348 *e*P **P** 06 37 44.4 +0.7
comp=Z,40nm,0.7s
KBS Kingsbay 54.20 348 *e*P **P** 06 37 44.4 +0.7
TMCR Tamitsa 54.89 328 *e*P **P** 06 37 48.5 -0.2
TMCR *e* 06 38 41.2
TMCR pmax pmax
comp=Z,67nm,1.3s
APA Apatity 55.08 333 ⇑*i*P **P** 06 37 51.7 +1.7
APA *i* 06 38 46.0
APA *i* *PP **pP** 06 39 25.0 +0.5
APA *i* SS **SS** 06 48 48.0 +0.6
APA MLR MLR
comp=Z,700nm,16.0s
ALE Alert 55.10 2 P **P** 06 37 50.0 0.0
comp=Z,918nm,0.6s,SNR=49
SKAG Skagway 55.44 38 *e*P **P** 06 37 54.1 +1.4
comp=Z,79nm,0.9s
KEV Kevo 56.07 336 *e*p **P** 06 37 57.1 +0.2
comp=Z,24nm,0.5s
KEV Kevo 56.07 336 *e*P **P** 06 37 57.1 +0.2
KEV pmax pmax
comp=Z,24nm,0.5s
SIT Sitka 56.53 41 *e*P **P** 06 38 01.7 +1.5
SIT Sitka 56.53 41 *e*P **P** 06 38 01.7 +1.5
SIT Sitka 56.53 41 *e*P **P** 06 38 01.7 +1.5
ARCES ARCESS Array B 56.63 336 P **P** 06 38 00.9 +0.1
ARCES ScP **ScP** 06 42 03.0 -0.5
ARCES ARCESS Array B 56.63 336 P **P** 06 38 00.9 +0.1
ARCES ARCESS Array B 56.63 336 P **P** 06 38 00.9 +0.1
comp=Z,14nm,0.5s,baz=55,slow=8.4,SNR=126
ARCES ScP **ScP** 06 42 03.0 -0.5
comp=Z,3.6nm,0.8s,baz=28,slow=8.4,SNR=4.0
ARE0 ARCESS Array S 56.63 336 *e*P **P** 06 38 01.1 +0.2
ARE0 *e*S **S** 06 45 16.2 +0.7
COEN Coen 56.83 168 *e*P **P** 06 38 03.7 +0.9
comp=Z,133nm,0.8s
KTK1 Kautokeino 57.59 336 *e*P **P** 06 38 07.5 +0.1
PALK Pallekele 57.80 248 *e*P **P** 06 38 09.7 0.0
comp=Z,78nm,1.1s
PALK Pallekele 57.80 248 P **P** 06 38 10.6 +0.9
WRAK Wrangell Islan 58.27 41 *e*P **P** 06 38 13.6 +1.3
comp=Z,86nm,1.0s
CRAG Craig 58.37 42 *e*P **P** 06 38 14.4 +1.6
comp=Z,102nm,0.8s
MOS Moscow 59.07 319 *e*P **P** 06 38 16.3 -1.3
MOS *i* S **S** 06 45 44.4 -2.6
MOS *e* 06 47 14.5
MOS pmax pmax
comp=Z,300nm,1.1s
MOS pmax pmax
comp=Z,159nm,0.9s
MOS smax smax
comp=N,700nm,1.6s
DAG Danmarks Havn 59.78 353 ⇑*i*P **P** 06 38 21.5 -0.5
DAG pmax pmax
comp=Z,34nm,0.6s
DAG Danmarks Havn 59.78 353 ⇑*i*P **P** 06 38 21.5 -0.5
comp=Z,50nm,0.6s
OBN Obninsk 59.91 319*d* *i*P **P** 06 38 22.4 -0.8
OBN 06 39 03.0
OBN *e* 06 40 40.7
OBN *i* S **S** 06 45 55.7 -1.9
OBN *i* 06 47 20.8
OBN SS **SS** 06 50 07.0 +3.7
OBN pmax pmax
comp=Z,83nm,1.1s
OBN Obninsk 59.91 319 ⇓*i*P **P** 06 38 22.4 -0.8
KIP Kipapa 60.49 87 *e*P **P** 06 38 28.1 +0.5
KIP pmax pmax
comp=Z,75nm,1.3s
KAF Kangasniemi 60.52 329 *e*p **P** 06 38 27.0 -0.2
comp=Z,16nm,0.6s
KAF Kangasniemi 60.52 329 *e*P **P** 06 38 27.0 -0.2
KAF pmax pmax
comp=Z,16nm,0.6s
FITZ Fitzroy Crossi 60.58 188 P **P** 06 38 28.2 +0.1
FITZ Fitzroy Crossi 60.58 188 P **P** 06 38 28.2 +0.1
comp=Z,9.4nm,0.7s,baz=1.1,slow=7.3,SNR=6.8
STEI Steigen 60.59 337 *e*P **P** 06 38 27.4 -0.2
VSR Storozhevoye 60.64 314 *e*P **P** 06 38 27.4 -0.8
VSR *e*S **S** 06 46 03.7 -3.2
VSR pmax pmax
comp=Z,110nm,1.1s
VSR pmax pmax
comp=N,70nm,1.0s
VSR pmax pmax
comp=E,100nm,1.2s
VSR smax smax
comp=N,60nm,1.2s
VSR smax smax
comp=Z,60nm,2.1s
VSR smax smax
comp=E,50nm,1.0s
VORD Divnogorie 60.71 314 *e*P **P** 06 38 27.4 -1.2
VORD *e*S **S** 06 46 04.0 -3.7
VORD pmax pmax
comp=N,40nm,1.2s
VORD pmax pmax
comp=E,50nm,1.2s
VORD pmax pmax
comp=Z,50nm,1.2s
VORD smax smax
comp=E,150nm,3.2s
VORD smax smax
comp=Z,10.0nm,2.2s
VORD smax smax
comp=N,90nm,2.0s
FIA1 FINESS Array S 60.99 328 *e*P **P** 06 38 29.9 -0.4
FINES FINESS Array B 61.00 328 P **P** 06 38 30.1 -0.3
FINES S **S** 06 46 09.9 -1.1
FINES FINESS Array B 61.00 328 P **P** 06 38 30.1 -0.3
FINES FINESS Array B 61.00 328 P **P** 06 38 30.1 -0.3
comp=N,29nm,0.6s,baz=72,slow=8.2,SNR=114
FINES S **S** 06 46 09.9 -1.1
comp=N,16nm,0.9s,baz=52,slow=16,SNR=18
MOR8 Moi Rana 62.00 336 ⇑*i*P **P** 06 38 35.5 -1.5
MOR8 AMB AMB 06 38 36.2
comp=Z,65nm,0.6s
WRAB Tennant Creek 62.02 179 P **P** 06 38 37.0 -0.6
comp=Z,125nm,0.4s,SNR=21
WRA Warramunga Arr 62.03 179 P **P** 06 38 37.0 -0.7
WRA ⇑*e* 07 07 45.2
WRA Warramunga Arr 62.03 179 P **P** 06 38 37.0 -0.7
comp=Z,7.6nm,0.3s,baz=348,slow=7.6,SNR=136
WRA PKP2bc 07 07 45.2
comp=Z,1.2nm,1.0s,baz=190,slow=2.3,SNR=7.6
YKW3 Yellowknife Ar 62.28 29 *e*P **P** 06 38 38.5 -0.2
comp=Z,1.9nm,0.9s
YKW3 *e*PcP **PcP** 06 39 13.6 +0.3
YKA Yellowknife Ar 62.32 29 P **P** 06 38 38.9 -0.1
YKA PcP **PcP** 06 39 14.2 +0.7
YKA Yellowknife Ar 62.32 29 P **P** 06 38 38.9 -0.1
YKA Yellowknife Ar 62.32 29 P **P** 06 38 38.9 -0.1
comp=Z,50nm,0.6s,baz=311,slow=6.1,SNR=163
YKA PcP **PcP** 06 39 14.1 +0.7
comp=Z,6.2nm,0.6s,baz=317,slow=3.6,SNR=7.6
ZEI Tsey 62.47 304 *e*P **P** 06 38 38.4 -2.2
ZEI pmax pmax
comp=Z,52nm,1.5s
VSU Vasula 62.50 325*d* *i*P **P** 06 38 40.0 -0.2
VSU pmax pmax
comp=Z,103nm,1.0s
KBZ Khabaz 62.56 305 P **P** 06 38 40.5 -0.4
KBZ Khabaz 62.56 305 P **P** 06 38 40.5 -0.4
KBZ Khabaz 62.56 305 P **P** 06 38 40.5 -0.4
comp=Z,25nm,0.9s,baz=19,slow=5.7,SNR=32
KIV Kislovodsk 62.57 306 *e*P **P** 06 38 40.8 -0.3
KIV *e* 06 39 13.8
KIV *e**PP **pP** 06 40 18.6 -0.2
KIV *e*S **S** 06 46 29.9 -1.3
KIV *e*SS **SS** 06 50 45.9 +0.5
KIV pmax pmax
comp=Z,196nm,1.1s
KIV MLR MLR
comp=Z,33nm,17.0s
KIV Kislovodsk 62.57 306 P **P** 06 38 41.2 +0.1
comp=Z,1µm,0.9s,SNR=15
CTA Charters Tower 63.34 166 P **P** 06 38 46.1 0.0
CTA pP **pP** 06 40 26.2 +1.9
CTA Charters Tower 63.34 166 P **P** 06 38 46.1 0.0
comp=Z,5.8nm,0.6s,baz=13,slow=8.0,SNR=8.3
CTA pP **pP** 06 40 26.2 +1.9
comp=Z,4.0nm,0.9s,baz=347,slow=7.2,SNR=2.4
WBK Wadi Bani Khal 63.65 277 P **P** 06 38 49.5 +1.2
SNR=11
SMDO Samad 64.05 278 P **P** 06 38 51.8 +0.8
SNR=11
UOSS Wadi Hilu 64.27 281 P **P** 06 38 52.0 -0.2
comp=Z,877nm,0.6s,SNR=12
HOQ Hoqain 64.28 279 P **P** 06 38 52.7 +0.4
SNR=19
IZAR Zarasai 64.37 323 *e*P **P** 06 38 52.8 +0.5
IZAR AMB AMB 06 38 53.5
comp=Z,19nm,0.9s
MICGM **Minsk** 64.40 321 ⇓*i*P **P** 06 38 50.0 -2.5
IDID Didziasalis 64.42 323 *e*P **P** 06 38 53.1 +0.5
IDID AMB AMB 06 38 53.9
comp=Z,23nm,1.0s
MNK Minsk 64.42 321 ⇓*i*P **P** 06 38 50.0 -2.6
MNK pmax pmax
comp=Z,360nm,1.0s
JMDO Jabal Madar 64.43 278 P **P** 06 38 53.7 +0.4
SNR=13
ASHO Ashiyiah 64.53 281 P **P** 06 38 54.4 +0.4
SNR=10
ISAL Salakas 64.53 323 *e*P **P** 06 38 53.9 +0.5
ISAL AMB AMB 06 38 54.6
comp=Z,37nm,1.1s
SOC Sochi 64.56 307*c* *i*P **P** 06 38 52.3 -1.4
SOC *e**PP pP 06 40 26.4 -5.8
SOC *e* 06 41 19.5
SOC *e*S **S** 06 46 51.4 -3.7
SOC pmax pmax
comp=Z,63nm,0.8s
IIGN Ignalina 64.63 323 *e*P **P** 06 38 54.4 +0.5
IIGN AMB AMB 06 38 55.2
comp=Z,32nm,0.8s
NACGM **Naroch** 64.65 322 *e* P 06 38 50.0 -4.1
BSY Bisya 64.86 278 P **P** 06 38 56.9 +0.9
SNR=16
ARQ Araqi 65.00 279 P **P** 06 38 57.3 +0.4
SNR=16
SUMG Summit 65.18 357 ⇑*i*P **P** 06 38 58.1 +0.4
SUMG pmax pmax
comp=Z,130nm,0.8s
SUMG Summit 65.18 357 *e*P **P** 06 38 58.2 +0.4
comp=Z,149nm,0.7s
SUMG Summit 65.18 357 ⇑*i*P **P** 06 38 58.1 +0.4
comp=Z,131nm,0.8s
ANN Anapa 65.19 309 *e*P **P** 06 38 56.6 -1.1
ANN *e**PP **pP** 06 40 37.7 +1.3
ANN *e*S **S** 06 47 00.8 -1.8
ANN pmax pmax
comp=Z,107nm,1.3s
AS31 Alice Springs 65.73 179 *e*P **P** 06 39 01.4 +0.1
AS31 *e*PcP **PcP** 06 39 23.1 -4.9
ASAR Alice Springs 65.73 179 P **P** 06 39 01.4 +0.1
ASAR pP **pP** 06 40 42.6 +2.2
ASAR Alice Springs 65.73 179 P **P** 06 39 01.4 +0.1
comp=Z,6.2nm,0.3s,baz=356,slow=7.1,SNR=70
ASAR pP **pP** 06 40 42.6 +2.2
comp=Z,4.3nm,1.0s,baz=351,slow=5.0,SNR=2.9
SCO Scoresbysund 65.99 351 *i* P **P** 06 39 02.6 +0.3
SCO pmax pmax
comp=Z,23nm,0.8s
SCO Scoresbysund 65.99 351 *i* P **P** 06 39 02.6 +0.3
comp=Z,23nm,0.8s
KIEV Kiev 66.10 318 *e*P **P** 06 39 02.6 -0.7
KIEV pmax pmax
comp=Z,91nm,0.8s
KIEV Kiev 66.10 318 *e*P **P** 06 39 02.6 -0.7
comp=Z,91nm,0.8s
HFS Hagfors 66.45 332 P **P** 06 39 04.9 -0.4
HFS PP **PP** 06 41 39.6 +0.7
HFS Hagfors 66.45 332 P **P** 06 39 04.9 -0.4
HFS Hagfors 66.45 332 P **P** 06 39 04.9 -0.4
comp=Z,5.1nm,0.5s,baz=68,slow=5.1,SNR=44
HFS PP **PP** 06 41 39.6 +0.7
comp=Z,4.2nm,0.8s,baz=38,slow=7.5,SNR=3.5
NB2 NORSAR Subarra 66.65 333 P **P** 06 39 06.1 -0.5
comp=Z,5.7nm,0.6s,baz=42,slow=6.5
NB2 NORSAR Subarra 66.65 333 P **P** 06 39 06.1 -0.5
baz=42,slow=6.5
NOA NORSAR Array B 66.65 333 P **P** 06 39 06.2 -0.4
NOA PP **PP** 06 41 39.1 -1.4
NOA S **S** 06 47 19.1 -0.5
NOA NORSAR Array B 66.65 333 P **P** 06 39 06.2 -0.4
comp=Z,5.5nm,0.6s,baz=41,slow=6.1,SNR=45
NOA PP **PP** 06 41 39.1 -1.4
comp=Z,2.6nm,0.8s,baz=45,slow=8.9,SNR=4.1
NOA S **S** 06 47 19.1 -0.5
comp=Z,1.3nm,0.9s,baz=57,slow=14,SNR=4.1
MOL Molde 66.68 336 *e*P P 06 39 11.2 +4.6
NC602 NORSAR Array S 66.76 333 *e*P **P** 06 39 06.3 -1.0
NC602 *e*S **S** 06 47 20.0 -0.8
SUW Suwalki 66.84 323 *e*P **P** 06 39 07.6 -0.3
SUW Suwalki 66.84 323 *e*P **P** 06 39 07.6 -0.3
SIM Simferopol' 67.00 310 *e*P **P** 06 39 08.1 -0.9
SIM *e* 06 41 43.0
SIM *e*S **S** 06 47 22.0 -2.2
SIM pmax pmax
comp=Z,61nm,0.7s
MIB Mutribah 67.69 290 *e*P **P** 06 39 12.3 -1.2
MIB AMb AMB 06 39 13.6
comp=Z,265nm,1.0s
NLWA Neilton Lookou 67.70 46 *e*P **P** 06 39 14.7 +1.3
comp=Z,106nm,1.3s
KBD Kabd 67.81 290 *e*P **P** 06 39 13.2 -1.1
KBD AMb AMB 06 39 14.8
comp=Z,102nm,0.9s
MBW Mount Baker 67.85 44 P **P** 06 39 14.9 +0.5
RDF Al-Radifah 68.07 290 *e*P **P** 06 39 15.2 -0.6
RDF AMb AMB 06 39 16.9
comp=Z,255nm,1.1s
NAY Al-Naaiem 68.08 290 *e*P **P** 06 39 14.6 -1.3
NAY AMb AMB 06 39 15.6
comp=Z,73nm,0.8s
HYA Hoyanger 68.17 335 ⇑*i*P **P** 06 39 16.1 +0.3
JCW Jim Creek 68.21 44 P **P** 06 39 17.2 +0.8
MALT Malatya 68.46 303 ⇓*i*P P 06 39 34.2 +16
BMW Boistfort Moun 68.62 46 P **P** 06 39 20.0 +1.0
BMW Boistfort Moun 68.62 46 P **P** 06 39 20.0 +1.0
SUE Sulen 68.69 336 *e*P **P** 06 39 19.4 +0.4
RMW Rattlesnake Mo 68.74 45 P **P** 06 39 20.7 +0.9
RMW Rattlesnake Mo 68.74 45 P **P** 06 39 20.7 +0.9
ASK Askoy 69.01 335 *e*P **P** 06 39 20.5 -0.5
RUND Rundenannen 69.01 335 *e*P **P** 06 39 20.8 -0.3
RUND AMB AMB 06 39 21.3
comp=Z,38nm,0.8s
EGD Espegrend 69.17 335 *e*P **P** 06 39 21.6 -0.3
RCM Mount Rainier- 69.18 45 P **P** 06 39 23.9 +1.1
LON Longmire 69.20 45 *e*P **P** 06 39 23.1 +0.6
LON pmax pmax
comp=Z,33nm,1.0s
LON Longmire 69.20 45 *e*P **P** 06 39 23.1 +0.6
comp=Z,33nm,1.0s
LVV L'vov 69.21 319 *e*P **P** 06 39 22.0 -0.4
TDL Tradedollar La 69.24 46 P **P** 06 39 23.8 +0.9
WPW White Pass 69.37 45 P **P** 06 39 24.4 +0.8
BEL Belsk 69.37 322 *e*P **P** 06 39 24.0 +0.7
BEL Belsk 69.37 322 *e*P **P** 06 39 24.0 +0.7
BLSS Blasjo 69.44 334 *e*P **P** 06 39 24.0 +0.4
TBM Table Mountain 69.56 44 P **P** 06 39 25.4 +0.7
BSD Bornholm Skovb 69.59 327 *i* P **P** 06 39 23.8 -0.8
BSD pmax pmax
comp=Z,33nm,0.8s
BSD Bornholm Skovb 69.59 327 *i* P **P** 06 39 23.8 -0.8
comp=Z,33nm,0.7s

TLCR		69.78	313	⇓P		P		06 39 26.1	+0.2
TLCR		69.78	313	⇓*i*P		P		06 39 26.1	+0.2
COR	Corvallis	69.78	48	*e*P		P		06 39 27.3	+1.3
COR	comp=Z,60nm,0.9s			pmax	pmax				
COR	Corvallis	69.78	48	*e*P		P		06 39 27.3	+1.3
KWP	comp=Z,60nm,0.9s Kalwaria Pacla	69.97	320	⇓*e*P		P		06 39 27.6	+0.5
KWP	Kalwaria Pacla	69.97	320	*e*P		P		06 39 26.4	-0.7
KWP	comp=Z,96nm,1.0s Kalwaria Pacla	69.97	320	⇓*i*P		P		06 39 27.6	+0.5
KWP	Kalwaria Pacla	69.97	320	*e*P		P		06 39 27.5	+0.5
BUR08	Bucovina Ar. S	70.07	317	*e*P		P		06 39 27.7	-0.1
TESR	Tescani	70.07	315	⇓*i*P		P		06 39 27.5	-0.2
BURAR	Bucovina Array	70.08	317	⇓P		P		06 39 27.8	0.0
BURAR	Bucovina Array	70.08	317	⇓*i*P		P		06 39 27.8	0.0
CFR	Carcaliu	70.15	313	⇓P		P		06 39 27.7	-0.4
CFR	Carcaliu	70.15	313	⇓*i*P		P		06 39 27.7	-0.4
VFP	Flag Point	70.31	46	P		P		06 39 30.1	+0.8
KEBM	Edson Butte	70.31	50	*e*P		P		06 39 31.4	+2.1
OD2	Odessa Site #2	70.38	43	P		P		06 39 29.8	+0.3
VRI	Vrincioaia	70.45	315	⇓P		P		06 39 30.2	+0.2
VRI	Vrincioaia	70.45	315	⇓*i*P		P		06 39 30.2	+0.2
TIRR	Tirgusor	70.47	313	*e*P		P		06 39 29.7	-0.3
TIRR	comp=Z,26nm,0.9s			pmax	pmax				
TIRR	Tirgusor	70.47	313	*e*P		P		06 39 29.7	-0.3
TIRR	comp=Z,26nm,0.9s Tirgusor	70.47	313	⇓*i*P		P		06 39 29.7	-0.3
D08A	Wollman Farm,	70.49	44	P		P		06 39 30.7	+0.5
PLOR	Plostina	70.50	315	⇓P		P		06 39 30.5	+0.2
PLOR	Plostina	70.50	315	⇓*i*P		P		06 39 30.5	+0.2
BR131	Keskin Array S	70.51	306	*e*P		P		06 39 29.9	-0.7
BRTR	comp=Z,19nm,0.9s Keskin Array B	70.51	306	P		P		06 39 30.1	-0.5
BRTR				PP		PP		06 42 14.2	0.0
BRTR	Keskin Array B	70.51	306	P		P		06 39 30.1	-0.5
BRTR	comp=Z,14nm,0.9s,baz=59,slow=4.6,SNR=39			PP		PP		06 42 14.2	0.0
WRD	comp=Z,8.1nm,1.1s,baz=91,slow=6.2,SNR=6.4 Warden	70.55	44	P		P		06 39 30.6	+0.1
NEW	Newport	70.59	42	*e*P		P		06 39 31.3	+0.5
NEW	comp=Z,56nm,0.8s Newport	70.59	42	⇑P		P		06 39 31.2	+0.5
HAWA	baz=70,SNR=101 Hanford	70.62	44	*e*P		P		06 39 31.7	+0.7
GRER	comp=Z,88nm,0.9s	70.64	314	⇓*i*P		P		06 39 33.1	+2.0
KOLS	Kolonicke sedl	70.66	319	*e*P		P		06 39 31.1	0.0
KOLS	comp=Z,14nm,0.9s			pmax	pmax				
KOLS	Kolonicke sedl	70.66	319	*e*P		P		06 39 31.1	0.0
KOLS				*e*PP		PP		06 42 17.0	+2.0
KOLS				*e*S		S		06 48 05.5	-0.9
KBO	Bosley Butte	70.79	50	*e*P		P		06 39 33.1	+1.0
STHS	comp=Z,92nm,1.1s Stebnicka Huta	70.82	320	*e*P		P		06 39 32.8	+0.7
STHS	comp=Z,42nm,1.6s			pmax	pmax				
STHS	Stebnicka Huta	70.82	320	*e*P		P		06 39 32.8	+0.7
A12A	Yaak River Ran	70.85	41	⇓P		P		06 39 33.2	+0.9
UZH	baz=71,SNR=16 Uzhgorod	70.85	319	*e*P		P		06 39 31.3	-0.9
UZH				*e*				06 42 00.4	
SFJD	Kangerlussuaq	70.90	2	⇑*i*P		P		06 39 32.2	0.0
ANTO	comp=Z,43nm,0.8s Ankara	70.92	307	⇓P		P		06 39 33.0	+0.1
ANTO	Ankara	70.92	307	P		P		06 39 33.3	+0.4
ANTO	SNR=5.8 Ankara	70.92	307	*e*P		P		06 39 32.5	-0.4
ANTO	Ankara	70.92	307	⇓*i*P		P		06 39 33.0	+0.1
OJC	Ojcow	70.94	321	⇓P		P		06 39 33.1	+0.4
OJC	Ojcow	70.94	321	*e*P		P		06 39 33.2	+0.4
OJC	comp=Z,55nm,0.8s Ojcow	70.94	321	*e*P		P		06 39 33.2	+0.4
OJC	Ojcow	70.94	321	*i*P		P		06 39 33.1	+0.4
ISR	Istrita	71.04	314	⇑P		P		06 39 34.3	+0.8
ISR	Istrita	71.04	314	⇑*i*P		P		06 39 34.3	+0.8
TRPA	Tarpa	71.07	318	⇓*i*P		P		06 39 33.9	+0.4
TRPA	Tarpa	71.07	318	⇓*e*		P		06 39 34.3	+0.8
DOPR	Dopca	71.09	315	⇓*i*P		P		06 39 35.9	+2.2
MLR	Muntele Rosu	71.11	315	⇓*i*P		P		06 39 34.0	0.0
DZM	Mont Dzumac	71.15	147	P		P		06 39 36.0	+1.6
DZM	Mont Dzumac	71.15	147	P		P		06 39 36.0	+1.6
LRW	comp=Z,11nm,0.7s,baz=270,slow=24,SNR=4.0 Lerwick	71.17	338	*e*P		P		06 39 34.1	+0.2
LRW				AMB		AMB		06 39 36.1	
B12A	comp=Z,78nm,3.0s Libby	71.20	41	⇓P		P		06 39 35.1	+0.7
HUMO	baz=71,SNR=12 Hull Mountain	71.25	49	*e*P		P		06 39 35.8	+1.0
NIE	comp=Z,60nm,1.6s Niedzica	71.26	321	⇓*i*P		P		06 39 37.0	+2.3
NIE	Niedzica	71.26	321	*i*P		P		06 39 37.0	+2.3
VIPM	Ingram Point	71.29	46	P		P		06 39 35.8	+0.6
VIPM	Ingram Point	71.29	46	P		P		06 39 35.8	+0.6
C11A	Tepee Creek (N	71.31	42	P		P		06 39 36.0	+1.0
KRMB	baz=71 Red Mountain	71.42	51	*e*P		P		06 39 37.1	+1.3
A13A	comp=Z,61nm,1.4s Flathead Natio	71.45	40	⇓P		P		06 39 36.5	+0.6
WALA	baz=71 Waterton Lakes	71.60	40	*e*P		P		06 39 37.4	+0.6
VOIR	comp=Z,2.4nm,0.8s	71.62	315	⇓P		P		06 39 37.5	+0.6
VOIR		71.62	315	⇓*i*P		P		06 39 37.5	+0.6
C12B	Naegeli Ranch,	71.78	41	⇑P		P		06 39 38.5	+0.7
B13A	baz=72,SNR=27 Whitefish	71.81	40	⇓P		P		06 39 38.9	+1.0
KECS	baz=72,SNR=81 Kecovo	71.83	320	*e*P		P		06 39 37.8	-0.2
KECS	Kecovo	71.83	320	*e*P		P		06 39 37.8	-0.2
ARR	Arges	71.88	315	⇓*i*P		P		06 39 39.3	+0.8
A14A	Double T Ranch	71.89	39	⇓P		P		06 39 39.1	+0.6
DRGR	baz=72,SNR=145	71.90	317	⇑P		P		06 39 38.8	+0.3
DRGR		71.90	317	⇑*i*P		P		06 39 38.8	+0.3
KHMM	Horse Mountain	71.94	51	*e*P		P		06 39 40.5	+1.5
YBH	comp=Z,44nm,0.7s Yreka Blue Hor	71.97	50	*e*P		P		06 39 40.0	+1.0
YBH	comp=Z,41nm,1.0s Yreka Blue Hor	71.97	50	P		P		06 39 40.1	+1.0
OKC	comp=Z,30nm,0.9s,baz=32,slow=4.1,SNR=38 Ostrava-Krasne	71.97	322	*e*P		P		06 39 39.0	+0.2
OKC				*e*S		S		06 48 21.5	+0.4
OKC	Ostrava-Krasne	71.97	322	⇓*e*P		P		06 39 39.0	+0.2
OKC				*ex*		x		06 39 43.4	
OKC				*e*S		S		06 48 21.5	+0.4
BSMT	Bassoo Peak	72.02	41	*e*P		P		06 39 40.5	+1.1
KSP	Ksiaz	72.08	324	*e*P		P		06 39 40.0	+0.5
KSP				*e*S		S		06 48 21.0	-1.4
KSP	Ksiaz	72.08	324	*e*P		P		06 39 39.9	+0.5
BLMT	Blacktail Moun	72.11	41	*e*P		P		06 39 41.0	+1.1
A15A	Johnson Ranch,	72.21	39	⇓P		P		06 39 40.5	+0.2
C13A	baz=72,SNR=127 Hot Springs	72.24	41	⇓P		P		06 39 41.5	+1.0
BSEG	baz=72,SNR=167 Bad Segeberg	72.27	329	*e*P		P		06 39 40.7	+0.3
BSEG	comp=Z,25nm,0.8s			*e*pP		PcP		06 39 45.9	-9.5
BSEG	Bad Segeberg	72.27	329	*e*P		P		06 39 40.7	+0.3
BSEG	comp=Z,16nm,0.8s			pmax	pmax				
LOT	Lotru	72.28	316	⇓*i*P		P		06 39 41.4	+0.6
MORC	Moravsky Berou	72.29	322	*e*P		P		06 39 41.3	+0.6
MORC	Moravsky Berou	72.29	322	*e*P		P		06 39 41.3	+0.6
JTMT	Jette	72.33	41	*e*P		P		06 39 42.2	+1.1
YBMT	Yellow Bay	72.38	41	*e*P		P		06 39 42.4	+1.0
B14A	comp=Z,35nm,0.8s Marquette Ranc	72.39	40	⇓P		P		06 39 42.5	+1.0
KRLC	baz=72,SNR=119 Kraliky	72.42	323	⇓*i*P		P		06 39 42.0	+0.5
KRLC	Kraliky	72.42	323	⇓*i*P		P		06 39 42.0	+0.5
DPC	Dobruska-Polom	72.43	323	⇓*i*P		P		06 39 42.2	+0.7
DPC				*e*S		S		06 48 26.4	+0.1
DPC	Dobruska-Polom	72.43	323	⇓*i*P		P		06 39 42.2	+0.7
DPC				*ex*		x		06 39 45.6	
DPC				*e*S		S		06 48 26.4	+0.1
UPC	Upice	72.45	323	⇓*i*P		P		06 39 42.1	+0.5
UPC	Upice	72.45	323	⇓*i*P		P		06 39 42.1	+0.5
UPC				*ex*		x		06 39 46.3	
FFC	Flin Flon	72.47	30	P		P		06 39 41.4	-0.2
	comp=Z,1μm,0.9s,SNR=54								
FFC	Flin Flon	72.47	30	*e*P		P		06 39 41.6	0.0
FFC	comp=Z,174nm,0.9s			pmax	pmax				
FFC	Flin Flon	72.47	30	*e*P		P		06 39 41.5	0.0
PSZ	comp=Z,174nm,0.9s Piszkesteto	72.50	320	*e*P		P		06 39 42.6	+0.6
PSZ	comp=Z,46nm,1.1s			pmax	pmax				
PSZ	Piszkesteto	72.50	320	*e*P		P		06 39 42.6	+0.6
PSZ	comp=Z,46nm,1.1s Piszkesteto	72.50	320	⇓*i*P		P		06 39 42.6	+0.6
PSZ	Piszkesteto	72.50	320	⇓*e*		P		06 39 42.8	+0.8
C14A	Swan Lake	72.58	41	⇓P		P		06 39 43.4	+0.9
VYHS	baz=72 Vyhne	72.60	321	*e*P		P		06 39 42.9	+0.4
VYHS	comp=Z,10.0nm,1.2s			pmax	pmax				
VYHS	Vyhne	72.60	321	*e*P		P		06 39 42.9	+0.4
VYHS				*e*PP		PP		06 42 34.1	+2.7
E12A	Beaver Dam Sad	72.62	42	⇑P		P		06 39 43.5	+0.6
SWMT	baz=72,SNR=109 Swartz Lake	72.64	41	*e*P		P		06 39 43.7	+0.8
D13A	Huson	72.70	41	⇓P		P		06 39 43.5	+0.3
D13A	baz=72,SNR=48			⇑S		S		06 48 28.6	-0.9
A16A	baz=72 West Butte Ran	72.76	39	⇑P		P		06 39 43.8	+0.3
B15A	baz=72,SNR=122 Bradely Ranch,	72.76	40	⇑P		P		06 39 44.2	+0.7
BMO	baz=72,SNR=384 Blue Mountains	72.81	45	*e*P		P		06 39 44.5	+0.6
WDC	comp=Z,61nm,0.7s Whiskeytown Da	72.82	51	*e*P		P		06 39 44.5	+0.6
WDC	comp=Z,40nm,0.9s			pmax	pmax				
WDC	Whiskeytown Da	72.82	51	*e*P		P		06 39 44.5	+0.6
GZR	comp=Z,40nm,0.9s Gura Zlata	72.82	316	⇑P		P		06 39 44.1	+0.2
GZR	Gura Zlata	72.82	316	⇑*i*P		P		06 39 44.1	+0.2
RAYN	Ar Rayn	72.84	286	P		P		06 39 43.0	-1.4
RAYN	comp=Z,317nm,0.7s,SNR=16 Ar Rayn	72.84	286	*e*P		P		06 39 43.9	-0.5
PVCC	comp=Z,171nm,1.6s Panska Ves	73.07	324	⇓*e*S		S		06 48 33.3	0.0
SLMT	Seeley Lake	73.07	41	*e*P		P		06 39 46.0	+0.6
BRG	Berggiesshubel	73.08	325	*e*P		P		06 39 45.5	+0.3
BRG	comp=Z,9.8nm,0.7s			S		S		06 48 30.0	-3.5
BRG	Berggiesshubel	73.08	325	SG		S		06 48 31.0	-2.5
BRG	comp=Z,5.3nm,0.9s Berggiesshubel	73.08	325	*e*P		P		06 39 45.0	-0.2
BRG	comp=Z,10.0nm,0.7s Berggiesshubel	73.08	325	*e*P		P		06 39 45.5	+0.3
BRG				S		S		06 48 30.0	-3.5
BRG				pmax	pmax				
BRG	comp=Z,13nm,0.7s			smax	smax				
B16A	comp=N,10.0nm,0.9s M & M Farms, S	73.09	39	⇑P		P		06 39 45.8	+0.4
C15A	baz=73,SNR=40 Salmond Ranch,	73.12	40	⇓P		P		06 39 46.9	+1.2
CLL	baz=73,SNR=314 Collm	73.16	325	*e*P		P		06 39 44.9	-0.7
CLL	comp=Z,18nm,0.8s			*e*pP		PcP		06 39 50.1	-9.2
CLL	Collm	73.16	325	⇑*i*P		P		06 39 45.4	-0.2
CLL				*e*S		SKiKP		06 48 30.0	+3.9
CLL	comp=Z,17nm,0.8s			pmax	pmax				
CLL	Collm	73.16	325	⇑*i*P		P		06 39 45.4	-0.2
CLL	comp=Z,18nm,0.8s			*i* P(2)				06 39 49.9	
CLL	comp=Z,21nm,0.9s			*e*S		SKiKP		06 48 30.0	+3.9
CLL				*e*S		SKiKP		06 48 30.0	+3.9
CLL	comp=E,200nm,10.6s			*e*SKSac		SKSac		06 49 05.0	-0.2
CLL				*e*SS		SS		06 53 18.0	-8.7
CLL				*e*SSS		SSS		06 56 48.0	
A17A	Triple J Farms	73.17	38	⇓P		P		06 39 46.4	+0.5
D14A	baz=73,SNR=192 Greenough	73.18	41	⇑P		P		06 39 46.5	+0.5
MOD	baz=73,SNR=136 Modoc	73.20	48	*e*P		P		06 39 47.0	+0.7
BUD	comp=E,59nm,1.1s Budapest	73.23	320	⇓*e*		P		06 39 46.9	+0.8
SMOL	Smolenice	73.25	321	*e*P		P		06 39 47.3	+1.1
SMOL	Smolenice	73.25	321	*e*P		P		06 39 47.3	+1.1
BZS	Buzias	73.26	317	⇓P		P		06 39 46.1	-0.2
BZS	Buzias	73.26	317	⇓*i*P		P		06 39 46.1	-0.2
CHMT	Chamberlain Mo	73.42	41	*e*P		P		06 39 47.7	+0.2
NRDL	Niedersach Rie	73.45	328	*e*P		P		06 39 46.9	-0.3
NRDL	comp=Z,4.0nm,0.8s			*e*pP		PcP		06 39 52.3	-8.1
PRA	Prague	73.46	324	⇓P		P		06 39 48.0	+0.6
PKS7	Kunszentmiklos	73.47	319	⇑*e*		P		06 39 48.6	+1.1
PRU	Pruhonice	73.47	324	*e*P		P		06 39 47.8	+0.3
PRU				*e*S		S		06 48 38.5	+0.7
PRU	Pruhonice	73.47	324	⇓*e*P		P		06 39 47.8	+0.3
PRU				*ex*		x		06 39 52.2	
PRU				*e*S		S		06 48 38.5	+0.7
C16A	Fuhringer Ranc	73.51	40	⇑P		P		06 39 48.4	+0.5
TREC	baz=73,SNR=132 Trest	73.56	323	⇓*i*P		P		06 39 48.5	+0.5
TREC	Trest	73.56	323	⇓*i*P		P		06 39 48.5	+0.5
TREC				*ex*		x		06 39 53.1	
A18A	Metzger Ranch,	73.58	38	⇑P		P		06 39 48.5	+0.4
PKSG	baz=73,SNR=148	73.59	320	⇑*e*		P		06 39 49.4	+1.2
B17A	L&G Farms, Che	73.60	39	⇑P		P		06 39 48.9	+0.6
ZST	baz=73,SNR=173 Bratislava	73.62	321	*e*P		P		06 39 50.3	+1.9
ZST	Bratislava	73.62	321	*e*P		P		06 39 50.3	+1.9
G12A	Big Creek, Yel	73.64	43	⇓P		P		06 39 49.0	+0.2
CSKK	baz=73 Cs˙ˇtkako	73.68	320	⇑*e*		P		06 39 49.6	+0.9
CSS	Prodhromos	73.75	303	*e*P		P		06 39 48.2	-1.2
WVOR	Wild Horse Val	73.75	47	*e*P		P		06 39 50.0	+0.6
WVOR	comp=Z,53nm,0.9s			pmax	pmax				
WVOR	Wild Horse Val	73.75	47	*e*P		P		06 39 50.0	+0.6
PKS2	comp=Z,53nm,0.9s Kecel	73.84	319	⇑*e*		P		06 39 50.3	+0.7
CLZ	Clausthal	73.84	327	*e*P		P		06 39 49.9	+0.3
CLZ	comp=Z,12nm,0.9s			*e*pP		PcP		06 39 55.2	-7.1
CLZ	Clausthal	73.84	327	*e*P		P		06 39 49.9	+0.3
CLZ	comp=Z,23nm,0.9s			pmax	pmax				
MCD	Coleburn Disti	73.91	337	⇑*e*P		P		06 39 50.0	+0.2
KDZ	Kurdzhali	73.97	312	*e*P		P		06 39 51.0	+0.5
B18A	Beardsley Farm	73.99	38	⇓P		P		06 39 51.2	+0.6
PGB	baz=74,SNR=213 Panagyurishte	74.04	313	*e*P		P		06 39 51.0	+0.1
MME1	Meikle Cairn	74.05	337	⇑*e*P		P		06 39 50.5	-0.2
TANN	Tannenbergstha	74.06	325	*e*P		P		06 39 50.5	-0.4
TANN	comp=Z,8.0nm,0.9s			*e*pP		PcP		06 39 56.4	-6.9
A19A	Klindworth Far	74.07	37	⇓P		P		06 39 51.6	+0.6
C17A	baz=74,SNR=124 Wharram Farm,	74.09	39	⇓P		P		06 39 51.3	+0.1
PKS9	baz=74 Tamasi	74.22	319	⇑*e*		P		06 39 52.1	+0.3
MOX	Moxa	74.24	326	*e*P		P		06 39 51.7	-0.1
MOX	comp=Z,12nm,1.4s			*e*P		P		06 39 51.7	-0.1
MOX	Moxa	74.24	326	pmax	pmax				
HRY	comp=Z,13nm,1.4s Holter Researc	74.25	40	*e*P		P		06 39 53.0	+0.9
OHCM	Honcut	74.25	51	*e*P		P		06 39 52.1	0.0
DRUM	Mains of Drumt	74.25	336	*e*P		P		06 39 51.8	+0.1
DRUM				AMB		AMB		06 39 52.4	
EGMT	comp=Z,46nm,2.5s Eagleton	74.27	38	*e*P		P		06 39 52.8	+0.6
EGMT	comp=Z,158nm,0.8s Eagleton	74.27	38	⇑P		P		06 39 52.8	+0.6
H12A	baz=74,SNR=149 Diamond D Ranc	74.28	44	⇑P		P		06 39 52.9	+0.5
PKSM	baz=74,SNR=219 Moragy	74.32	319	⇓P		P		06 39 52.2	-0.1
PKSM	Moragy	74.32	319	⇓*i*P		P		06 39 52.2	-0.1
PKSM	Moragy	74.32	319	⇓*e*		P		06 39 52.4	+0.1
STKA	Stephens Creek	74.32	173	P		P		06 39 53.4	+1.0
STKA	Stephens Creek	74.32	173	P		P		06 39 53.4	+1.0
	comp=Z,7.3nm,0.5s,baz=346,slow=5.8,SNR=27								
B19A	Brinkman Farms	74.33	38	⇓P		P		06 39 53.0	+0.6
RZN	baz=74 Rozhen	74.33	312	*e*P		P		06 39 53.0	+0.2
MDO	Dochfour	74.34	338	⇑*e*P		P		06 39 52.0	-0.3
CONA	Conrad Observa	74.39	322	*i* P		P		06 39 53.8	+0.9
A20A	comp=Z,14nm,0.7s,SNR=11 Cobblestone Ra	74.47	37	⇓P		P		06 39 53.6	+0.4
D17A	baz=74,SNR=38 Six Diamond Ra	74.47	39	⇑P		P		06 39 53.8	+0.4
VTS	baz=74,SNR=73 Vitosha	74.53	314	⇓P		P		06 39 54.1	+0.3
VTS	Vitosha	74.53	314	*e*P		P		06 39 54.0	+0.3
VTS	Vitosha	74.53	314	⇓*i*P		P		06 39 54.1	+0.3
KHC	Kasperske Hory	74.53	324	⇓*i*P		P		06 39 54.0	+0.5
KHC				*e*S		S		06 48 49.2	-0.4
KHC	Kasperske Hory	74.53	324	⇓*i*P		P		06 39 54.0	+0.5
KHC				*ex*		x		06 39 58.5	
KHC				*ex*		x		06 40 15.5	
KHC				*e*S		S		06 48 49.2	-0.4
KHC	Kasperske Hory	74.53	324	*e*P		P		06 39 54.1	+0.5
KHC	comp=Z,18nm,0.8s Kasperske Hory	74.53	324	*e*P		P		06 39 54.1	+0.5
BEKR	Beckworth	74.54	50	*e*P		P		06 39 54.2	+0.3
BEKR	comp=Z,31nm,0.8s			*e*PP		PP		06 42 48.1	0.0
KAC	Achnashellach	74.55	338	⇑*e*P		P		06 39 53.6	+0.2
MFID	Camas Ranch	74.57	45	*e*P		P		06 39 54.9	+0.8
MFID	comp=Z,116nm,0.8s Camas Ranch	74.57	45	⇓P		P		06 39 54.9	+0.8
LRM	baz=74,SNR=157 Limekiln Ridge	74.58	41	*e*P		P		06 39 54.9	+0.7
I12A	Atlanta	74.67	44	⇓P		P		06 39 55.4	+0.8
GEC2	baz=74,SNR=64 GERESS Array S	74.69	323	*e*P		P		06 39 54.3	-0.2
GEC2	comp=Z,11nm,0.9s			*e*pP		PcP		06 39 59.1	-7.0
GEC2	GERESS Array S	74.69	323	*e*P		P		06 39 54.3	-0.2
GEC2	comp=Z,96nm,0.9s			pmax	pmax				
GERES	GERESS Array B	74.69	323	P		P		06 39 54.6	+0.1
GERES				PP		PP		06 42 46.9	-2.1
GERES	GERESS Array B	74.69	323	P		P		06 39 54.6	+0.1
GERES	comp=Z,7.0nm,0.8s,baz=37,slow=5.5,SNR=45			PP		PP		06 42 46.9	-2.1
B20A	comp=Z,1.4nm,0.7s,baz=51,slow=9.1,SNR=3.9 Solberg Farm,	74.76	37	P		P		06 39 55.0	+0.2
C19A	baz=74 Slack Wire Ran	74.81	38	⇓P		P		06 39 56.0	+0.8
WET	baz=75,SNR=64 Wettzell	74.83	324	*e*P		P		06 39 55.5	+0.3
WET	comp=Z,14nm,0.8s			*e*pP		PcP		06 40 00.4	-6.2
WET	Wettzell	74.83	324	*e*P		P		06 39 55.5	+0.3
WET				*e**PP		PcP		06 40 00.4	-6.2
WET				pmax	pmax				
A21A	comp=Z,51nm,0.8s Bergtoll Ranch	74.83	36	⇑P		P		06 39 55.8	+0.5
DLMT	baz=75,SNR=42 Dillon	74.84	42	*e*P		P		06 39 56.3	+0.8
D18A	comp=Z,183nm,0.7s Linhart Farms,	74.86	39	⇑P		P		06 39 56.3	+0.8
E17A	baz=75,SNR=92 Martinsdale	74.89	40	⇑P		P		06 39 56.9	+1.1
MMB	baz=75,SNR=184 Musomiste	74.94	313	*e*P		P		06 39 56.0	0.0
ARSA	Arzberg	75.05	321	⇓*i*P		P		06 39 57.0	+0.5
MCMT	comp=Z,9.5nm,0.7s McKenzie Canyo	75.10	42	*e*P		P		06 39 57.4	+0.2
MCMT	comp=Z,12nm,0.7s			*e*PcP		PcP		06 40 09.6	+1.5
BOZ	Bozeman (W)	75.11	41	*e*P		P		06 39 57.9	+0.9
BOZ	comp=Z,65nm,0.8s			pmax	pmax				
BOZ	Bozeman (W)	75.11	41	*e*P		P		06 39 57.9	+0.9
GRF	comp=Z,65nm,0.8s Grafenberg Arr	75.13	325	*e*P		P		06 39 57.6	+0.7
GRF	comp=Z,34nm,0.8s			*e*pP		PcP		06 40 01.5	-6.4
GRF	Grafenberg Arr	75.13	325	*e*P		P		06 39 57.6	+0.7
GRF				*e**PP		PcP		06 40 01.5	-6.4
GRF				pmax	pmax				
PAHR	comp=Z,7.0nm,0.8s Pah Rah Range	75.20	50	*e*P		P		06 39 58.3	+0.7
HLID	comp=Z,98nm,1.1s Hailey	75.20	44	*e*P		P		06 39 58.6	+1.0
HLID	comp=Z,23nm,0.8s Hailey	75.20	44	⇑P		P		06 39 58.8	+1.1
B21A	baz=75,SNR=50 Ellsworth Farm	75.21	37	⇑P		P		06 39 57.8	+0.4
E18A	baz=75,SNR=134 Harlowton	75.26	39	⇑P		P		06 39 58.8	+0.9
A22A	baz=75,SNR=50 Carney Farms,	75.27	36	⇓P		P		06 39 57.9	+0.2
C20A	baz=75,SNR=116 Veseth Ranch,	75.30	38	⇓P		P		06 39 58.5	+0.6
D19A	baz=75,SNR=108 Cripps Ranch,	75.31	39	⇑P		P		06 39 58.7	+0.6
F17A	baz=75,SNR=154 Fitzpatrick Pl	75.39	40	⇓P		P		06 39 59.6	+1.0
I14A	baz=75,SNR=97 Mackay	75.44	43	⇓P		P		06 39 59.6	+0.7
C21A	baz=75,SNR=53 Desert Coulee	75.63	37	⇓P		P		06 39 59.9	+0.2
PERS	baz=75,SNR=29 Pernice	75.69	321	*i* P		P		06 40 00.4	+0.3
SOKA	Soboth	75.69	321	⇓*i*P		P		06 40 00.4	+0.2
A23A	comp=Z,

YFT	Old Faithful	76.36	41	eP		P	06 40 06.6	+2.5
	comp=Z,77nm,0.8s							
MYKA	Terra Mystica	76.37	322	⇑iP		P	06 40 03.7	-0.2
	comp=Z,16nm,1.2s							
LJU	Ljubljana	76.40	321	i P		P	06 40 03.8	-0.2
DGMT	Dagmar	76.41	35	eP		P	06 40 04.5	+0.4
	comp=Z,162nm,0.6s							
DGMT	Dagmar	76.41	35	⇓P		P	06 40 04.4	+0.3
	baz=76,SNR=58							
VISS	Visnje	76.43	321	i P		P	06 40 03.9	-0.3
VISS				e			06 40 08.8	
BOJS	Bojanci	76.46	320	i P		P	06 40 04.2	-0.1
I16A	Newdale	76.46	42	⇓P		P	06 40 06.3	+1.7
	baz=76,SNR=213							
C23A	Lambert	76.49	36	⇑P		P	06 40 05.0	+0.5
	baz=76,SNR=54							
LKWY	Lake	76.49	41	eP		P	06 40 07.0	+2.1
LKWY				pmax		pmax		
	comp=Z,76nm,1.0s							
LKWY	Lake	76.49	41	eP		P	06 40 07.0	+2.1
	comp=Z,76nm,1.0s							
MEM	Membach	76.53	328	P		P	06 40 04.6	0.0
	comp=Z,6.8nm,1.0s							
H17A	Grant Village	76.53	41	⇑P		P	06 40 07.6	+2.5
	baz=76							
D22A	Cohagen	76.54	37	⇓P		P	06 40 05.3	+0.4
	baz=76,SNR=70							
E21A	Keefer Ranch,	76.60	38	⇓P		P	06 40 05.8	+0.6
	baz=76,SNR=12							
RLMT	Red Lodge	76.63	40	eP		P	06 40 06.4	+0.8
	comp=Z,53nm,0.8s							
F20A	Billings	76.66	39	⇓P		P	06 40 06.0	+0.5
	baz=76							
NVAR	Mina Array Bea	76.68	50	P		P	06 40 06.9	+0.9
NVAR				pP		pP	06 41 51.0	+2.1
NVAR				PP		PP	06 43 09.8	+3.8
NVAR	Mina Array Bea	76.68	50	P		P	06 40 06.9	+0.9
	comp=Z,52nm,0.8s,baz=294,slow=5.2,SNR=321							
NVAR				pP		pP	06 41 51.0	+2.1
	comp=Z,2.1nm,0.7s,baz=297,slow=6.0,SNR=3.1							
NVAR				PP		PP	06 43 09.8	+3.8
	comp=Z,2.3nm,0.8s,baz=292,slow=8.2,SNR=3.5							
FLWY	Flagg Ranch	76.70	42	eP		P	06 40 07.6	+1.6
	comp=Z,118nm,1.3s							
TTG	Podgorica	76.72	316	⇓iP		P	06 40 05.7	-0.1
IMW	Indian Meadow	76.72	42	eP		P	06 40 07.0	+0.8
	comp=Z,79nm,0.8s							
JAVS	Javornik	76.73	321	i P		P	06 40 05.2	-0.7
BRY	Bratogost	76.74	317	⇓iP		P	06 40 05.4	-0.7
ELK	Elko	76.76	47	eP		P	06 40 07.5	+1.1
	comp=Z,21nm,0.8s							
NV11	Mina Array Sit	76.77	50	eP		P	06 40 07.1	+0.7
H18A	Shoshone NF, C	76.77	41	⇓P		P	06 40 07.0	+0.7
	baz=77,SNR=35							
WTTA	Wattenberg	76.79	323	⇓iP		P	06 40 06.2	-0.2
	comp=Z,11nm,1.0s							
DCID1	Drake Creek	76.82	42	eP		P	06 40 08.3	+1.7
	comp=Z,41nm,0.7s							
I17A	Pilgrim Ck.	76.88	42	⇓P		P	06 40 09.0	+2.0
	baz=77,SNR=40							
MOOW	Moose Ponds	76.92	42	eP		P	06 40 08.5	+1.3
	comp=Z,69nm,0.9s							
RRI2	Red Ridge	76.93	42	eP		P	06 40 08.8	+1.5
	comp=Z,75nm,0.7s							
MLAC	Mammoth Lakes	76.93	51	⇑P		P	06 40 08.6	+1.2
	baz=77,SNR=17							
D23A	Lindsay	76.96	37	⇓P		P	06 40 07.9	+0.7
	baz=77,SNR=57							
BUM	Brajici-Budva	77.00	316	eP		P	06 40 07.3	-0.1
RETA	Reutte	77.01	324	⇓iP		P	06 40 07.7	+0.3
	comp=Z,19nm,0.8s							
TPAW	Teton Pass	77.01	42	eP		P	06 40 08.3	+0.5
	comp=Z,108nm,1.4s							
C24A	Savage	77.03	36	⇑P		P	06 40 07.9	+0.5
	baz=77,SNR=43							
APE	Apeiranthos	77.04	309	⇓P		P	06 40 06.3	-1.5
APE	Apeiranthos	77.04	309	⇓iP		P	06 40 06.3	-1.5
ULC	Ulcinj	77.06	316	⇓iP		P	06 40 07.3	-0.4
G20A	Bridger	77.06	40	⇓P		P	06 40 07.7	-0.1
	baz=77,SNR=26							
LOHW	Long Hollow	77.09	42	eP		P	06 40 09.2	+1.1
	comp=Z,32nm,0.8s							
HCY	Herceg Novi	77.09	316	⇓iP		P	06 40 07.2	-0.7
H19A	Powell	77.10	40	⇓P		P	06 40 08.9	+0.9
	baz=77,SNR=24							
F21A	Absaloka Mine,	77.12	39	⇑P		P	06 40 08.4	+0.4
	baz=77,SNR=21							
SNOW	Snow King Moun	77.13	42	eP		P	06 40 09.6	+1.2
	comp=Z,38nm,0.8s							
TIR	Tirane	77.17	315	eP		P	06 40 08.8	+0.5
TIR				pmax		pmax		
	comp=Z,49nm,0.8s							
TIR	Tirane	77.17	315	eP		P	06 40 08.8	+0.5
	comp=Z,49nm,0.8s							
E22A	Miles City	77.19	37	⇑P		P	06 40 08.7	+0.3
	baz=77,SNR=27							
MTUM	Tungsten Hills	77.28	51	eP		P	06 40 09.9	+0.7
HVU	Hansel Valley	77.32	44	eP		P	06 40 10.4	+1.0
HVU				pmax		pmax		
	comp=Z,26nm,0.7s							
HVU	Hansel Valley	77.32	44	eP		P	06 40 10.4	+1.0
	comp=Z,26nm,0.7s							
FETA	Feichten	77.38	324	⇓iP		P	06 40 09.3	-0.2
	comp=Z,8.1nm,0.8s							
GIVF	Givet	77.39	329	eP		P	06 40 08.8	-0.5
GIVF	Givet	77.39	329	eP		P	06 40 08.8	-0.5
GIVF	Givet	77.39	329	eP		P	06 40 08.8	-0.5
BFO	Black Forest	77.39	326	P		P	06 40 09.6	+0.2
	comp=Z,119nm,0.8s,SNR=6.3							
BFO	Black Forest	77.39	326	eP		P	06 40 09.4	0.0
	comp=Z,19nm,0.9s							
BFO	Black Forest	77.39	326	eP		P	06 40 09.6	+0.2
BFO				pmax		pmax		
	comp=Z,16nm,0.8s							
BFO	Black Forest	77.39	326	eP		P	06 40 09.6	+0.2
	comp=Z,16nm,0.8s							
D24A	Glendive	77.39	36	⇓P		P	06 40 10.3	+0.8
	baz=77,SNR=42							
I18A	Diamond G Ranc	77.41	41	⇑P		P	06 40 11.0	+1.1
	baz=77,SNR=17							
E23A	Ismay	77.43	37	P		P	06 40 10.4	+0.7
	baz=77							
AHID	Auburn Hatcher	77.46	43	eP		P	06 40 10.7	+0.5
	comp=Z,34nm,0.8s							
DOU	Dourbes	77.48	329	P		P	06 40 09.7	-0.1
	comp=Z,5.4nm,1.8s							
G21A	Lodge Grass	77.53	39	⇓P		P	06 40 10.5	+0.2
	baz=77,SNR=38							
DAVA	Damuels	77.54	324	⇓iP		P	06 40 10.4	0.0
	comp=Z,21nm,0.7s							
F22A	Rosebud	77.55	38	⇓P		P	06 40 10.7	+0.3
	baz=77,SNR=33							
GMM	Mts of Mourne	77.56	337	⇑eP		P	06 40 09.5	-0.7
I19A	Meeteetse	77.57	41	⇑P		P	06 40 11.5	+0.8
	baz=77,SNR=22							
RCTC	Rector, Farmer	77.61	52	⇓P		P	06 40 10.8	0.0
	baz=77,SNR=6.6							
BAIF	Baives	77.66	329	eP		P	06 40 10.3	-0.5
BAIF	Baives	77.66	329	eP		P	06 40 10.3	-0.5
BAIF	Baives	77.66	329	eP		P	06 40 10.3	-0.5
TIN	Tinemaha	77.68	51	⇑P		P	06 40 12.2	+0.9
	baz=78,SNR=9.2							
H20A	Greybull	77.71	40	⇑P		P	06 40 11.5	+0.2
	baz=78,SNR=51							
CDF	Champ du Feu	77.76	326	eP		P	06 40 11.4	-0.1
	comp=Z,14nm,0.9s							
CDF	Champ du Feu	77.76	326	eP		P	06 40 11.4	-0.1
CDF				pmax		pmax		
	comp=Z,14nm,0.9s							
CDF	Champ du Feu	77.76	326	eP		P	06 40 11.4	-0.1
	comp=Z,14nm,0.9s							
BGU	Big Grassy Mou	77.80	45	eP		P	06 40 13.0	+1.0
	comp=Z,17nm,0.8s							
E24A	Baker	77.83	36	⇓P		P	06 40 12.2	+0.4
	baz=78							
SMMC	Simmler	77.85	53	⇓P		P	06 40 12.8	+0.6
	baz=78,SNR=9.4							
G22A	Birney	77.95	38	⇓P		P	06 40 13.0	+0.4
	baz=78,SNR=42							
ECH	Echery	77.96	326	eP		P	06 40 12.5	0.0
ECH				pmax		pmax		
	comp=Z,10.0nm,1.0s							
ECH	Echery	77.96	326	eP		P	06 40 12.5	0.0
	comp=Z,9.9nm,1.0s							
F23A	Volborg	77.98	38	⇑P		P	06 40 13.1	+0.4
	baz=78,SNR=76							
VES	Vestal, Richgr	78.02	52	⇑P		P	06 40 12.8	-0.2
	baz=78,SNR=17							
I20A	Worland	78.05	40	⇑P		P	06 40 14.2	+1.0
	baz=78,SNR=80							
H21A	Big Horn, Sher	78.05	39	⇑P		P	06 40 13.5	+0.2
	baz=78,SNR=38							
HWUT	Hardware Ranch	78.07	44	eP		P	06 40 14.4	+0.9
	comp=Z,81nm,0.8s							
J19A	Crowheart	78.11	41	⇓P		P	06 40 14.3	+0.6
	baz=78,SNR=50							
CWC	Cottonwood Cre	78.19	51	⇑P		P	06 40 14.4	+0.3
	baz=78							
GRAC	Grapevine Rang	78.21	50	⇓P		P	06 40 15.1	+1.0
	baz=78,SNR=50							
BW06	Boulder Array	78.23	42	eP		P	06 40 14.4	+0.1
	comp=Z,57nm,0.8s							
BW06				epP		pP	06 41 56.4	-1.3
PDAR	Pinedale Array	78.23	42	P		P	06 40 14.5	+0.1
PDAR				pP		pP	06 41 59.7	+2.0
PDAR	Pinedale Array	78.23	42	P		P	06 40 14.5	+0.1
	comp=Z,68nm,0.8s,baz=353,slow=0.6,SNR=512							
PDAR				pP		pP	06 41 59.7	+2.0
	comp=Z,2.8nm,0.9s,baz=316,slow=3.8,SNR=3.1							
PKM	Peak Mountain	78.24	53	⇑P		P	06 40 15.2	+0.7
	baz=78,SNR=14							
R11A	Troy Canyon, C	78.26	48	⇑P		P	06 40 15.0	+0.5
	baz=78,SNR=22							
E25A	Miller Ranch,	78.27	36	⇑P		P	06 40 14.7	+0.5
	baz=78,SNR=41							
PAGF	Fort de Pagny	78.27	327	eP		P	06 40 14.3	+0.1
	comp=Z,8.5nm,0.8s							
PAGF	Fort de Pagny	78.27	327	eP		P	06 40 14.3	+0.1
	comp=Z,8.5nm,0.8s							
ULM	Lac du Bonnet	78.29	30	eP		P	06 40 13.9	-0.4
	comp=Z,92nm,0.8s							
ULM	Lac du Bonnet	78.29	30	P		P	06 40 13.8	-0.4
	comp=Z,97nm,0.6s,baz=323,slow=6.2,SNR=68							
F24A	Ekalaka	78.31	37	⇓P		P	06 40 14.9	+0.3
	baz=78,SNR=58							
G23A	Biddle	78.38	38	⇑P		P	06 40 15.1	+0.2
	baz=78,SNR=34							
H22A	Clearmont	78.40	39	⇓P		P	06 40 15.4	+0.3
	baz=78,SNR=23							
HINF	Hinteralfeld	78.41	326	eP		P	06 40 14.5	-0.4
HINF	Hinteralfeld	78.41	326	eP		P	06 40 14.5	-0.4
HINF	Hinteralfeld	78.41	326	eP		P	06 40 14.5	-0.4
TUE	Stuetta	78.41	324	eP		P	06 40 14.8	-0.3
DUG	Dugway	78.44	46	eP		P	06 40 16.5	+1.1
DUG	Dugway	78.44	46	eP		P	06 40 16.5	+1.1
DUG	Dugway	78.44	46	⇓P		P	06 40 16.3	+0.9
	baz=78,SNR=68							
HAU	Haudompre	78.46	327	eP		P	06 40 14.7	-0.5
HAU	Haudompre	78.46	327	eP		P	06 40 14.7	-0.5
HAU	Haudompre	78.46	327	eP		P	06 40 14.7	-0.5
ISA	Isabella	78.50	52	eP		P	06 40 15.3	-0.5
ISA				pmax		pmax		
	comp=Z,14nm,0.9s							
ISA	Isabella	78.50	52	eP		P	06 40 15.3	-0.5
	comp=Z,14nm,0.9s							
ISA	Isabella	78.50	52	⇓P		P	06 40 15.3	-0.5
	baz=78,SNR=18							
J20A	Shoshoni	78.52	41	⇓P		P	06 40 16.1	+0.4
	baz=78,SNR=12							
K19A	Absolon Red Bu	78.54	41	⇓P		P	06 40 15.5	-0.5
	baz=78,SNR=22							
I21A	Big Trails, Te	78.55	40	⇓P		P	06 40 16.2	+0.3
	baz=78,SNR=69							
MCH1	Michaelchurch	78.58	334	eP		P	06 40 14.7	-1.1
MCH1				AMB		AMB	06 40 21.3	
	comp=Z,17nm,1.7s							
MEZF	Maizieres J'vi	78.58	328	eP		P	06 40 16.0	+0.2
MEZF	Maizieres J'vi	78.58	328	eP		P	06 40 16.0	+0.2
L18A	Fontenelle, Gr	78.61	43	⇑P		P	06 40 17.1	+0.7
	baz=78,SNR=72							
SBC	Santa Barbara	78.62	54	⇑P		P	06 40 16.6	+0.4
	baz=78							
M17A	Scullys Gap (B	78.63	43	⇑P		P	06 40 16.8	+0.3
	baz=78,SNR=35							
CTU	Camp Tracy	78.64	45	eP		P	06 40 17.5	+1.0
	comp=Z,35nm,1.0s							
IDI	Anovia	78.65	308	eP		P	06 40 15.2	-1.3
	comp=Z,72nm,0.9s							
ARVC	Arvin	78.67	53	⇑P		P	06 40 16.4	-0.1
	baz=78							
F25A	Bowman	78.69	36	P		P	06 40 16.9	+0.3
	baz=78							
E26A	Carlson Angus	78.70	36	⇓P		P	06 40 16.7	+0.1
	baz=78							
G24A	Alzada	78.73	37	⇑P		P	06 40 16.6	-0.2
	baz=78,SNR=18							
MDND	Maddock	78.80	33	⇑P		P	06 40 17.4	+0.3
	baz=79,SNR=11							
L19A	Farson	78.82	42	⇓P		P	06 40 18.0	+0.5
	baz=79,SNR=63							
J21A	Lysite	78.83	40	⇑P		P	06 40 17.8	+0.3
	baz=79,SNR=24							
SFTF	Sexfontaines	78.83	328	eP		P	06 40 16.8	-0.4
	comp=Z,26nm,0.8s							
SFTF	Sexfontaines	78.83	328	eP		P	06 40 16.8	-0.4
	comp=Z,26nm,0.8s							
JLU	Jordanelle	78.86	44	eP		P	06 40 18.5	+0.7
	comp=Z,28nm,0.8s							
H23A	Clabaugh Cattl	78.87	38	⇓P		P	06 40 17.7	+0.1
	baz=79							
I22A	9 Mile Ranch,	78.87	39	⇓P		P	06 40 17.7	+0.1
	baz=79,SNR=17							
FURC	Furnace Creek,	78.87	51	⇓P		P	06 40 18.6	+1.0
	baz=79,SNR=59							
K20A	Yellowstone Ra	78.91	41	⇓P		P	06 40 17.5	-0.4
	baz=79,SNR=10							
NLU	North Lily Min	79.01	45	eP		P	06 40 19.6	+1.0
	comp=Z,43nm,0.9s							
OSI	Osito Adit	79.09	53	eP		P	06 40 19.4	+0.6
	comp=Z,16nm,0.3s							
OSI	Osito Adit	79.09	53	⇓P		P	06 40 19.1	+0.2
	baz=79							
LRMC	Laurel Mountai	79.09	52	⇑P		P	06 40 19.1	+0.2
	baz=79							
F26A	Lodgepole	79.09	36	P		P	06 40 18.8	+0.1
	baz=79							
DAU	Daniels Canyon	79.10	45	eP		P	06 40 20.0	+0.8
DAU	Daniels Canyon	79.10	45	eP		P	06 40 20.0	+0.8
H24A	Dirks Ranch, A	79.11	38	⇓P		P	06 40 18.6	-0.2
	baz=79,SNR=31							
MPU	Maple Canyon	79.20	45	eP		P	06 40 20.4	+0.9
	comp=Z,45nm,0.8s							
BLG	Laguna Peak	79.24	54	⇓P		P	06 40 19.4	-0.2
	baz=79							
J22A	Midwest	79.24	40	⇑P		P	06 40 19.5	-0.1
	baz=79,SNR=50							
G25A	Newell	79.28	37	P		P	06 40 19.6	-0.1
	baz=79							
I23A	Meade Ranch, G	79.30	39	⇓P		P	06 40 19.7	-0.2
	baz=79							
EDW2	Edwards Air Fo	79.33	52	⇑P		P	06 40 20.6	+0.5
	baz=79,SNR=40							
M19A	Rock Springs	79.37	43	⇑P		P	06 40 20.7	+0.2
	baz=79,SNR=16							
SENIN	Lac Senin/Sane	79.37	325	eP		P	06 40 20.1	-0.2
	comp=Z,11nm,0.8s							
L20A	Wamsutter	79.40	42	⇑P		P	06 40 21.0	+0.4
	baz=79,SNR=26							
K21A	Alcova	79.46	41	⇓P		P	06 40 21.1	+0.2
	baz=79,SNR=65							
G26A	Maurine	79.56	36	P		P	06 40 21.3	+0.1
	baz=79							
DECC	Green Verdugo	79.57	53	⇓P		P	06 40 21.5	+0.1
	baz=79							
SHOC	Shoshone	79.61	51	⇓P		P	06 40 22.1	+0.6
	baz=79,SNR=16							
H25A	Fruitdale	79.64	37	⇑P		P	06 40 21.6	0.0
	baz=79							
CABF	La Chapelle	79.68	326	eP		P	06 40 21.7	-0.1
	comp=Z,10nm,0.8s							
CABF	La Chapelle	79.68	326	eP		P	06 40 21.7	-0.1
CABF				pmax		pmax		
	comp=Z,10.0nm,0.8s							
CABF	La Chapelle	79.68	326	eP		P	06 40 21.7	-0.1
	comp=Z,10nm,0.8s							
J23A	Dilts Ranch, B	79.68	39	⇓P		P	06 40 21.7	-0.3
	baz=80							
AQU	L'Aquila	79.70	319	eP		P	06 40 22.7	+0.7
	comp=Z,56nm,0.8s							
PASC	Pasadena Art C	79.71	53	eP		P	06 40 22.1	0.0
	comp=Z,32nm,1.2s							
GSC	Goldstone	79.73	51	eP		P	06 40 22.8	+0.5
GSC				pmax		pmax		
	comp=Z,53nm,1.3s							
GSC	Goldstone	79.73	51	⇑P		P	06 40 22.7	+0.5
	baz=80,SNR=30							
MWC	Mount Wilson	79.75	53	eP		P	06 40 22.7	+0.1
MWC				pmax		pmax		
	comp=Z,65nm,1.4s							
MWC	Mount Wilson	79.75	53	eP		P	06 40 22.7	+0.1
	comp=Z,65nm,1.4s							
I24A	Kuemmerle Ranc	79.76	38	⇑P		P	06 40 22.3	-0.1
	baz=80,SNR=12							
G27A	Dupree	79.78	36	⇑P		P	06 40 22.4	+0.1
	baz=80							
K22A	Casper	79.80	40	⇓P		P	06 40 22.4	-0.2
	baz=80,SNR=14							
SHPR	Sheep Range	79.81	50	eP		P	06 40 23.1	+0.3
RSSD	Black Hills	79.83	38	eP		P	06 40 22.8	0.0
RSSD	Black Hills	79.83	38	eP		P	06 40 22.8	0.0
ARUT	Antelope Range	79.85	48	eP		P	06 40 23.6	+0.6
ARUT				pmax		pmax		
	comp=Z,26nm,0.9s							
ARUT	Antelope Range	79.85	48	eP		P	06 40 23.6	+0.6
	comp=Z,26nm,0.9s							
M20A	Sweetwater, Wa	79.86	42	⇓P		P	06 40 23.8	+0.7
	baz=80,SNR=17							
AGMN	Agassiz Nation	79.90	31	eP		P	06 40 22.2	-0.6
	comp=Z,64nm,0.8s							
AGMN				epP		pP	06 42 07.1	+0.4
AGMN				esP		sP	06 42 53.8	-2.3
L21A	Rawlins	79.91	41	⇓P		P	06 40 23.3	0.0
	baz=80,SNR=37							
RRX	Edison Barstow	79.91	52	⇑P		P	06 40 24.0	+0.8
	baz=80							
TMUT	Trail Mountain	79.95	45	eP		P	06 40 24.4	+0.8
	comp=Z,53nm,0.7s							
FMP	Fort Macarthur	79.97	53	⇑P		P	06 40 23.5	0.0
	baz=80							
BFSC	Mount Baldy Ra	79.98	53	⇑P		P	06 40 23.8	+0.1
	baz=80,SNR=19							
MVU	Marysvale	79.99	46	eP		P	06 40 25.2	+1.4
MSU	Marysvale	80.00	46	eP		P	06 40 25.3	+1.4
MSU	Marysvale	80.00	46	eP		P	06 40 25.2	+1.4
H26A	Fairpoint	80.01	37	⇓P		P	06 40 23.7	+0.1
	baz=80							
I25A	Rochford	80.05	38	⇑P		P	06 40 24.2	+0.3
	baz=80							
LOR	Lormes	80.06	328	eP		P	06 40 23.2	-0.5
	comp=Z,30nm,0.7s							
LOR	Lormes	80.06	328	eP		P	06 40 23.2	-0.5
	comp=Z,30nm,0.7s							
CCUT	Cedar City	80.06	48	eP		P	06 40 25.1	+0.9
	comp=Z,19nm,0.8s							
CIS	Catalina Islan	80.12	54	⇑P		P	06 40 24.2	-0.1
	baz=80							
TUQ	Turquoise Moun	80.14	51	⇑P		P	06 40 25.3	+0.7
	baz=80,SNR=9.7							
K23A	Bowen Ranch, D	80.14	40	⇓P		P	06 40 24.0	-0.5
	baz=80							
J24A	Dixon Ranch, L	80.15	39	⇓P		P	06 40 24.2	-0.3
	baz=80,SNR=6.1							
M21A	Separation Pea	80.18	41	⇑P		P	06 40 24.9	+0.2
	baz=80,SNR=42							
RSL	Roselend	80.19	325	eP		P	06 40 24.4	-0.2
RWWY	Rawlins	80.19	41	eP		P	06 40 24.9	+0.1
	comp=Z,42nm,1.0s							
Q16A	Castle Valley	80.24	45	⇓P		P	06 40 25.9	+0.9
	baz=80,SNR=20							
CUC	Castrocucco	80.27	316	eP		P	06 40 24.0	-1.0
LPL	La Plagne	80.28	325	eP		P	06 40 25.1	-0.1
	comp=Z,39nm,0.7s							
LPL	La Plagne	80.28	325	eP		P	06 40 25.1	-0.1
LPL				pmax		pmax		
	comp=Z,39nm,0.7s							
LPL	La Plagne	80.28	325	eP		P	06 40 25.1	-0.1
	comp=Z,39nm,0.7s							
O19A	Miners Draw (B	80.28	43	⇓P		P	06 40 25.3	+0.1
	baz=80							
LPG	La Plagne	80.29	325	eP		P	06 40 25.3	0.0
	comp=Z,41nm,0.7s							
LPG	La Plagne	80.29	325	eP		P	06 40 25.3	0.0
LPG				pmax		pmax		
	comp=Z,41nm,0.7s							
LPG	La Plagne	80.29	325	eP		P	06 40 25.3	0.0
	comp=Z,41nm,0.7s							
H27A	Howes	80.31	36	⇑P		P	06 40 25.3	+0.2
	baz=80							
L22A	Ellis Ranch, M	80.31	41	⇓P		P	06 40 25.8	+0.4
	baz=80,SNR=13							
N20A	Spence Gulch,	80.32	43	⇓P		P	06 40 26.3	+0.9
	baz=80,SNR=117							
HEC	Hector,Ludlow	80.34	51	⇑P		P	06 40 26.0	+0.5
	baz=80,SNR=5.5							
SSF	Saint Saulge	80.36	328	eP		P	06 40 24.9	-0.4
	comp=Z,24nm,0.8s							
SSF	Saint Saulge	80.36	328	eP		P	06 40 24.9	-0.4
SSF				pmax		pmax		
	comp=Z,24nm,0.8s							
SSF	Saint Saulge	80.36	328	eP		P	06 40 24.9	-0.4
	comp=Z,24nm,0.8s							
TIP	Timpagrande	80.38	315	eP		P	06 40 25.5	-0.1
	comp=Z,46nm,1.4s							
BBRC	Big Bear Solar	80.39	52	⇓P		P	06 40 26.2	+0.2
	baz=80,SNR=16							
I26A	New Underwood	80.43	37	⇑P		P	06 40 26.3	+0.5
	baz=80							
G28A	Parade	80.47	36	⇑P		P	06 40 26.1	+0.2
	baz=80							
LDF	La Druitiere	80.47	331	eP		P	06 40 24.8	-1.0
LDF	La Druitiere	80.47	331	eP		P	06 40 24.8	-1.0
LDF	La Druitiere	80.47	331	eP		P	06 40 24.8	-1.0
J25A	Sunshine Ranch	80.50	38	⇓P		P	06 40 26.1	-0.1
	baz=80,SNR=11							
HYF	Humbligny	80.53	328	eP		P	06 40 26.2	0.0
HYF	Humbligny	80.53	328	eP		P	06 40 26.2	0.0
K24A	Anderson

GRR Gorron 80.91 331 eP P 06 40 27.4 -0.7
comp=Z,7,4nm,0.5s
L24A Wheatland 81.02 40 ⇑P P 06 40 29.3 +0.3
baz=81
BGF Bois d'Agland 81.04 328 eP P 06 40 28.5 -0.3
comp=Z,10nm,0.7s
BGF Bois d'Agland 81.04 328 eP P 06 40 28.5 -0.3
BGF pmax pmax
comp=Z,10.0nm,0.7s
BGF Bois d'Agland 81.04 328 eP P 06 40 28.5 -0.3
comp=Z,10nm,0.7s
K25A Mack Ranch, Ha 81.08 39 ⇓P P 06 40 29.5 +0.2
baz=81
M23A Laramie 81.08 41 ⇑P P 06 40 29.5 0.0
baz=81,SNR=8.8
BELC Belle Mtn. Jos 81.12 52 ⇑P P 06 40 29.7 0.0
baz=81,SNR=35
ORIF Oris-en-Rattie 81.12 325 eP P 06 40 29.2 -0.2
comp=Z,12nm,0.7s
ORIF Oris-en-Rattie 81.12 325 eP P 06 40 29.2 -0.2
ORIF pmax pmax
comp=Z,12nm,0.7s
ORIF Oris-en-Rattie 81.12 325 eP P 06 40 29.2 -0.2
comp=Z,12nm,0.7s
PFO Pinyon Flat Ob 81.13 52 P P 06 40 30.0 +0.3
comp=Z,266nm,0.8s,SNR=27
PFO Pinyon Flat Ob 81.13 52 P P 06 40 29.9 +0.3
comp=Z,16nm,0.9s
PFO Pinyon Flat Ob 81.13 52 P P 06 40 29.9 +0.3
comp=Z,40nm,0.9s,baz=329,slow=5.1,SNR=73
PFO Pinyon Flat Ob 81.13 52 ⇓P P 06 40 29.8 +0.1
baz=81,SNR=43
SAOF Saorge 81.14 324 eP P 06 40 29.1 -0.3
O21A Pagoda 81.18 42 ⇑P P 06 40 30.2 +0.2
baz=81,SNR=20
I28A Midland 81.21 36 ⇓P P 06 40 30.1 +0.3
baz=81
N22A Wattenberg Ran 81.24 41 ⇑P P 06 40 31.0 +0.7
baz=81,SNR=34
P20A De Beque 81.25 43 ⇑P P 06 40 30.3 0.0
baz=81,SNR=26
TOUF Mont Tournerai 81.25 324 eP P 06 40 30.1 -0.1
109C Camp Elliot, M 81.26 53 ⇑P P 06 40 30.2 0.0
baz=81,SNR=5.2
SBF Sospel 81.29 324 eP P 06 40 29.4 -0.9
SBF Sospel 81.29 324 eP P 06 40 29.4 -0.9
SBF Sospel 81.29 324 eP P 06 40 29.4 -0.9
K26A Motz Farm, Whi 81.33 38 ⇑P P 06 40 30.6 +0.1
baz=81,SNR=12
AGO Saint Agoulin 81.34 327 eP P 06 40 30.7 +0.3
PHWY Pilot Hill 81.34 41 eP P 06 40 31.2 +0.4
NEE2 Needles Airpor 81.36 50 ⇓P P 06 40 31.0 +0.3
baz=81
L25A Engebretsen Ra 81.39 39 ⇓P P 06 40 31.0 +0.1
baz=81
SSB Saint Sauveur 81.39 326 eP P 06 40 30.6 -0.1
SSB pmax pmax
comp=Z,6.0nm,0.9s
SSB Saint Sauveur 81.39 326 eP P 06 40 30.6 -0.1
comp=Z,6.3nm,0.9s
N23A Red Feather La 81.42 41 ⇑P P 06 40 31.9 +0.6
baz=81,SNR=20
U15A North Rim 81.47 48 ⇓P P 06 40 32.8 +1.2
baz=81,SNR=165
IRM Iron Mountain 81.50 51 ⇑P P 06 40 32.3 +0.9
baz=81,SNR=46
TCF Toulx Ste Croi 81.51 328 eP P 06 40 31.5 +0.2
comp=Z,12nm,0.8s
TCF Toulx Ste Croi 81.51 328 eP P 06 40 31.5 +0.2
TCF pmax pmax
comp=Z,12nm,0.8s
TCF Toulx Ste Croi 81.51 328 eP P 06 40 31.5 +0.2
comp=Z,12nm,0.8s
CEL Celeste 81.52 315 eP P 06 40 31.0 -0.5
M24A Cheyenne 81.52 40 ⇓P P 06 40 32.5 +0.9
baz=81,SNR=30
W13A Hualapai Mount 81.54 50 ⇑P P 06 40 32.7 +0.8
baz=81,SNR=58
PGF Pioggiola 81.63 322 eP P 06 40 31.4 -0.7
PGF Pioggiola 81.63 322 eP P 06 40 31.4 -0.7
PGF Pioggiola 81.63 322 eP P 06 40 31.4 -0.7
SGMF Saint Gilles 81.63 332 eP P 06 40 31.9 +0.1
SGMF Saint Gilles 81.63 332 eP P 06 40 31.9 +0.1
SGMF Saint Gilles 81.63 332 eP P 06 40 31.9 +0.1
PYM Petit Puy Mans 81.63 327 eP P 06 40 32.4 +0.4
J28A Allard Ranch, 81.64 37 ⇓P P 06 40 32.5 +0.5
baz=81,SNR=37
BAR Barrett 81.66 53 eP P 06 40 32.5 +0.2
MONP Monument Peak 81.66 53 ⇓P P 06 40 32.6 0.0
baz=82,SNR=23
SCHQ Schefferville 81.66 12 P P 06 40 31.9 0.0
comp=Z,38nm,0.8s,baz=3.0,slow=6.1,SNR=43
O22A Kremmling 81.68 42 ⇑P P 06 40 33.0 +0.3
baz=82,SNR=42
BC3 Big Chuckawall 81.68 52 ⇓P P 06 40 32.9 +0.4
baz=82,SNR=29
VIVF Saint-Julien-l 81.68 326 eP P 06 40 32.0 -0.2
comp=Z,26nm,0.9s
VIVF Saint-Julien-l 81.68 326 eP P 06 40 32.0 -0.2
VIVF pmax pmax
comp=Z,26nm,0.9s
VIVF Saint-Julien-l 81.68 326 eP P 06 40 32.0 -0.2
comp=Z,26nm,0.9s
P21A Newcastle 81.71 43 P P 06 40 33.3 +0.5
baz=82
Q20A Ridgley Place, 81.71 44 ⇓P P 06 40 33.0 +0.3
baz=82,SNR=42
K27A Flueckinger Fa 81.76 38 ⇑P P 06 40 32.7 0.0
baz=82,SNR=15
EYMN Ely 81.80 28 eP P 06 40 32.2 -0.5
comp=Z,46nm,0.7s
BRSD Miller 81.81 35 ⇑P P 06 40 32.9 +0.1
baz=82,SNR=11
ROSF Rostrenen 81.81 332 eP P 06 40 33.0 +0.3
comp=Z,12nm,0.6s
ROSF Rostrenen 81.81 332 eP P 06 40 33.0 +0.3
ROSF pmax pmax
comp=Z,12nm,0.6s
ROSF Rostrenen 81.81 332 eP P 06 40 33.0 +0.3
comp=Z,12nm,0.6s
PV04 Paradox Valley 81.82 45 eP P 06 40 34.3 +1.0
FRF La Foret Royal 81.88 324 eP P 06 40 32.5 -0.7
FRF La Foret Royal 81.88 324 eP P 06 40 32.5 -0.7
FRF La Foret Royal 81.88 324 eP P 06 40 32.5 -0.7
L26A Underwood Farm 81.89 39 ⇑P P 06 40 33.7 +0.3
baz=82
M25A Palm-Egli Farm 81.91 40 ⇓P P 06 40 34.4 +0.8
baz=82,SNR=6.4
O23A Lake Granby, G 81.95 42 ⇑P P 06 40 35.0 +1.0
baz=82,SNR=54
LBL Lubilhac 81.96 327 eP P 06 40 33.7 0.0
PDMCI Parker Dam,Lak 81.97 50 ⇓P P 06 40 34.2 +0.3
baz=82,SNR=23
N24A Carr 81.98 41 ⇓P P 06 40 34.7 +0.7
baz=82,SNR=14
SWSC Sam W. Stewart 81.99 52 ⇓P P 06 40 34.1 +0.1
baz=82,SNR=5.7
P22A Eagle 82.01 42 ⇑P P 06 40 35.0 +0.8
baz=82,SNR=49
SMRF Simiane la Rot 82.01 325 eP P 06 40 33.5 -0.4
SMRF Simiane la Rot 82.01 325 eP P 06 40 33.5 -0.4
DVTC Desert V Tower 82.01 53 ⇓P P 06 40 34.6 +0.4
baz=82,SNR=12
LMR La Mourre 82.12 324 eP P 06 40 33.8 -0.6
comp=Z,22nm,0.9s
LMR La Mourre 82.12 324 eP P 06 40 33.8 -0.6
LMR pmax pmax
comp=Z,22nm,0.9s
LMR La Mourre 82.12 324 eP P 06 40 33.8 -0.6
comp=Z,22nm,0.9s
QUIF Quistinic 82.13 332 eP P 06 40 33.8 -0.5
QUIF Quistinic 82.13 332 eP P 06 40 33.8 -0.5
QUIF Quistinic 82.13 332 eP P 06 40 33.8 -0.5
K28A Ten Mile Ranch 82.14 37 ⇓P P 06 40 35.2 +0.5
baz=82,SNR=19
Y12C Blythe 82.15 51 ⇑P P 06 40 35.5 +0.8
baz=82,SNR=21
Q21A Lamborn Mesa, 82.17 43 ⇓P P 06 40 35.7 +0.6
baz=82,SNR=15
PV01 Paradox Valley 82.19 44 eP P 06 40 35.8 +0.6
comp=Z,3µm,1.0s
PV01 epP pP 06 42 21.0 +1.2
PV01 ePP PP 06 43 53.2 +2.2
L27A T5 Ranch, Ells 82.21 38 ⇓P P 06 40 35.3 +0.3
baz=82,SNR=5.6
SMCO Snowmass 82.22 43 eP P 06 40 36.3 +0.8
comp=Z,47nm,0.8s
OSPF L'Ospedale 82.23 321 eP P 06 40 34.9 -0.2
R20A Redvale 82.25 44 ⇑P P 06 40 36.1 +0.7
baz=82,SNR=79
M26A McRoberts Ranc 82.31 39 ⇓P P 06 40 36.4 +0.8
baz=82
N25A Grover 82.37 40 ⇑P P 06 40 36.6 +0.6
baz=82
ISCO Idaho Springs 82.42 42 ⇑P P 06 40 37.1 +0.7
baz=82,SNR=47
O24A Longmont 82.43 41 ⇑P P 06 40 37.0 +0.7
baz=82,SNR=11
GLA Glamis 82.48 52 eP P 06 40 37.2 +0.7
GLA pmax pmax
comp=Z,54nm,0.9s
GLA Glamis 82.48 52 eP P 06 40 37.2 +0.7
comp=Z,54nm,0.9s
GLA Glamis 82.48 52 ⇓P P 06 40 37.1 +0.7
baz=82,SNR=14
Q22A Crested Butte, 82.49 43 ⇓P P 06 40 37.6 +0.8
baz=82,SNR=44
ATD Arta Tunnel 82.52 279 P P 06 40 37.6 +0.6
ATD Arta Tunnel 82.52 279 P P 06 40 37.6 +0.6
comp=Z,20nm,0.6s,baz=27,slow=5.1,SNR=7.6
S20A Disappointment 82.53 45 ⇑P P 06 40 37.6 +0.7
baz=82,SNR=44
R21A Cimarron 82.54 44 ⇑P P 06 40 37.8 +0.8
baz=82,SNR=29
K29A Lazy Trails An 82.57 37 ⇑P P 06 40 37.4 +0.6
baz=82,SNR=28
RJF Les Rejaudoux 82.59 328 eP P 06 40 36.9 +0.1
RJF Les Rejaudoux 82.59 328 eP P 06 40 36.9 +0.1
RJF Les Rejaudoux 82.59 328 eP P 06 40 36.9 +0.1
M27A Reverse DX Ran 82.61 39 ⇓P P 06 40 37.5 +0.4
baz=82
L28A Connealy Angus 82.63 38 ⇓P P 06 40 37.7 +0.5
baz=82
P23A Jefferson 82.63 42 ⇑P P 06 40 38.6 +1.1
baz=82,SNR=22
WUAZ Wupatki 82.64 48 eP P 06 40 38.4 +1.0
comp=Z,62nm,1.1s
WUAZ Wupatki 82.64 48 ⇑P P 06 40 38.5 +1.1
baz=82,SNR=39
LASF Ste Croix 82.66 326 eP P 06 40 37.0 -0.2
comp=Z,6.8nm,0.8s
LASF Ste Croix 82.66 326 eP P 06 40 37.0 -0.2
comp=Z,6.8nm,0.8s
CAF Calviac 82.69 327 eP P 06 40 37.7 +0.4
comp=Z,21nm,0.8s
CAF Calviac 82.69 327 eP P 06 40 37.7 +0.4
CAF pmax pmax
comp=Z,21nm,0.8s
CAF Calviac 82.69 327 eP P 06 40 37.7 +0.4
comp=Z,21nm,0.8s
N26A Koester Ranch, 82.77 40 ⇑P P 06 40 38.3 +0.4
baz=82,SNR=7.8
Y14A Wickenburg 82.88 50 ⇓P P 06 40 39.3 +0.8
baz=83,SNR=50
O25A Wiggins 82.90 41 ⇑P P 06 40 39.0 +0.3
baz=83,SNR=17
MVCO Mesa Verde 82.92 45 eP P 06 40 39.5 +0.6
MVCO Mesa Verde 82.92 45 ⇑P P 06 40 39.6 +0.6
baz=83,SNR=41
S21A Coal Bank Pass 82.95 44 ⇑P P 06 40 40.2 +1.1
baz=83,SNR=109
P24A Kerr Place, 82.98 41 ⇓P P 06 40 39.9 +0.7
baz=83
Q23A Hartsel 83.00 42 ⇓P P 06 40 39.9 +0.6
baz=83
R22A Saguache, Gunn 83.05 43 ⇓P P 06 40 40.8 +1.1
baz=83,SNR=31
L29A Maesberg Ranch 83.06 37 ⇓P P 06 40 39.4 +0.1
baz=83
N27A Anderson Farm, 83.11 39 ⇑P P 06 40 40.1 +0.5
baz=83,SNR=8.5
M28A Bar X Bar Ranc 83.18 38 ⇑P P 06 40 40.3 +0.3
baz=83,SNR=6.0
O26A Horse Wrangler 83.19 40 ⇑P P 06 40 40.1 0.0
baz=83,SNR=11
LFF La Frestale 83.20 328 eP P 06 40 39.8 0.0
comp=Z,12nm,0.4s
LFF La Frestale 83.20 328 eP P 06 40 39.8 0.0
LFF pmax pmax
comp=Z,12nm,0.4s
LFF La Frestale 83.20 328 eP P 06 40 39.8 0.0
comp=Z,12nm,0.4s
OGNE Ogallala 83.24 39 eP P 06 40 40.2 0.0
comp=Z,55nm,0.6s
OGNE Ogallala 83.24 39 ⇓P P 06 40 40.5 +0.3
baz=83,SNR=7.0
Q24A Divide 83.29 42 ⇓P P 06 40 41.0 +0.1
baz=83,SNR=11
113A Mohawk Valley, 83.30 51 ⇑P P 06 40 41.0 +0.4
baz=83,SNR=37
Z14A Wimersburg 83.34 50 ⇓P P 06 40 41.3 +0.6
baz=83,SNR=8.9
P25A Willow Gulch B 83.35 41 ⇓P P 06 40 41.3 +0.3
baz=83,SNR=22
ECSD EROS Data Cent 83.36 34 eP P 06 40 40.7 -0.1
comp=Z,75nm,0.7s
S22A 4UR Ranch, Cre 83.38 44 ⇓P P 06 40 42.1 +0.8
baz=83,SNR=52
X16A Lo Mia Camp, P 83.41 49 ⇓P P 06 40 42.6 +1.2
baz=83,SNR=83
M29A Burnside Ranch 83.46 38 ⇓P P 06 40 41.2 -0.1
baz=83
U20A Newcomb 83.54 46 ⇓P P 06 40 42.7 +0.8
baz=83,SNR=7.8
R23A Moffat 83.55 43 ⇓P P 06 40 42.9 +0.8
baz=83,SNR=28
T21A Navajo Lake 83.59 45 ⇓P P 06 40 43.2 +0.9
baz=83
O27A Beecher Island 83.62 39 ⇓P P 06 40 42.3 0.0
baz=83,SNR=13
SPMN St. Paul 83.63 31 ⇓P P 06 40 41.7 -0.3
baz=83,SNR=24
N28A Pribbeno Ranch 83.67 39 ⇑P P 06 40 42.4 0.0
baz=83,SNR=15
P26A Davis Ranch, A 83.70 40 ⇓P P 06 40 42.8 +0.1
baz=84,SNR=18
M30A Dale-Ortello V 83.75 37 ⇑P P 06 40 42.8 0.0
baz=84
Q25A Bedland, Calha 83.77 41 ⇑P P 06 40 43.1 0.0
baz=84,SNR=16
W18A Petrified Fore 83.83 47 ⇓P P 06 40 44.3 +0.8
baz=84,SNR=5.9
S23A Nye Farm, Mont 83.83 43 ⇑P P 06 40 44.5 +1.1
baz=84,SNR=6.1
R24A Sanders Place, 83.88 42 ⇑P P 06 40 44.2 +0.6
baz=84,SNR=38
T22A Edith 83.90 44 ⇑P P 06 40 44.8 +0.9
baz=84,SNR=56
MTLF Montolieu 83.94 326 eP P 06 40 43.6 0.0
MTLF Montolieu 83.94 326 eP P 06 40 43.6 0.0
MTLF Montolieu 83.94 326 eP P 06 40 43.6 0.0
U21A Nageezi 83.95 45 ⇑P P 06 40 44.9 +0.8
baz=84,SNR=53
N29A Votaw Ranch, W 83.98 38 ⇓P P 06 40 44.1 +0.1
baz=84,SNR=11
V20A Brimhall 84.00 46 ⇑P P 06 40 44.9 +0.6
baz=84,SNR=14
O28A Krutsinger Ran 84.00 39 ⇑P P 06 40 44.1 +0.1
baz=84,SNR=19
SDCO Great Sand Dun 84.05 43 eP P 06 40 44.9 +0.3
comp=Z,17nm,0.8s
P27A Ficken Ranch, 84.08 40 ⇓P P 06 40 44.5 0.0
baz=84,SNR=14
Q26A Hugo 84.12 41 ⇑P P 06 40 44.8 +0.1
baz=84,SNR=16
X18A Snowflake 84.15 48 ⇑P P 06 40 45.9 +0.8
baz=84,SNR=48
COWI Conner 84.21 28 eP P 06 40 44.2 -0.7
comp=Z,17nm,0.9s
N30A Hueftle Ranch, 84.24 38 ⇑P P 06 40 45.4 +0.2
baz=84
S24A Houchin Ranch, 84.28 43 ⇓P P 06 40 46.4 +0.6
baz=84,SNR=26
T23A Casias Ranch, 84.33 44 ⇑P P 06 40 47.0 +1.0
baz=84,SNR=44
R25A Fountain Ranch 84.35 42 ⇑P P 06 40 45.8 -0.1
baz=84,SNR=30
U22A Llaves 84.41 45 ⇓P P 06 40 47.2 +0.9
baz=84,SNR=30
V21A Milan 84.44 45 ⇓P P 06 40 47.0 +0.6
baz=84,SNR=6.8
214A Organ Pipe Nat 84.44 51 ⇓P P 06 40 46.6 +0.3
baz=84,SNR=15
P28A Saint Francis 84.45 39 P P 06 40 46.3 0.0
baz=84
O29A 4D Ranch, Culb 84.46 38 ⇓P P 06 40 46.4 +0.1
baz=84,SNR=16
KSCO Kaye Shedlock' 84.48 40 ⇓P P 06 40 46.4 -0.1
baz=84,SNR=7.5
W20A Ramah 84.49 46 ⇑P P 06 40 47.3 +0.5
baz=84,SNR=55
BGNE Belgrade 84.61 36 ⇑P P 06 40 47.0 0.0
baz=84,SNR=14
R26A Arlington 84.64 41 ⇑P P 06 40 47.4 +0.1
baz=84,SNR=28
S25A Robets Cordova 84.65 42 ⇓P P 06 40 47.0 -0.4
baz=84,SNR=17
V22A San Miguel Ran 84.74 45 ⇑P P 06 40 48.8 +0.9
baz=84,SNR=24
O30A MW Ranch, Wils 84.75 38 ⇓P P 06 40 47.9 +0.2
baz=84
U23A El Rito 84.79 44 ⇓P P 06 40 49.2 +0.9
baz=85,SNR=59
P29A Atwood 84.81 39 ⇑P P 06 40 47.9 -0.2
baz=85,SNR=11
Q28A Sharon Springs 84.82 40 ⇓P P 06 40 48.1 0.0
baz=85,SNR=16
X20A Quemado 84.93 47 ⇑P P 06 40 50.3 +1.4
baz=85,SNR=63
W21A San Fidel 84.95 46 ⇑P P 06 40 49.7 +0.7
baz=85,SNR=9.7
EPF Esparros 84.96 327 eP P 06 40 48.1 -0.6
EPF Esparros 84.96 327 eP P 06 40 48.1 -0.6
EPF Esparros 84.96 327 eP P 06 40 48.1 -0.6
R27A Eads 84.97 41 ⇑P P 06 40 48.9 0.0
baz=85,SNR=39
T25A Trinidad 85.07 43 ⇑P P 06 40 49.7 +0.2
baz=85,SNR=49
S26A Kim 85.16 42 ⇑P P 06 40 49.5 -0.3
baz=85,SNR=9.0
P30A Selden 85.18 39 ⇑P P 06 40 49.8 0.0
baz=85,SNR=19
U24A Moreno Valley 85.20 44 ⇓P P 06 40 51.2 +0.9
baz=85
V23A Ortiz Mt. (NFS 85.24 45 ⇑P P 06 40 52.0 +1.6
baz=85,SNR=19
TUC Tucson 85.34 50 eP P 06 40 51.2 +0.4
TUC pmax pmax
comp=Z,74nm,1.1s
TUC Tucson 85.34 50 eP P 06 40 51.2 +0.4
comp=Z,74nm,1.1s
Q29A Oakley 85.36 39 ⇓P P 06 40 50.7 -0.1
baz=85,SNR=30
X21A Alamocita Cree 85.39 46 ⇑P P 06 40 52.5 +1.3
baz=85,SNR=38
S27A Las Animas 85.39 41 ⇑P P 06 40 50.9 -0.1
baz=85
R28A Tribune 85.40 40 ⇓P P 06 40 50.9 -0.1
baz=85,SNR=15
W22A Albuquerque 85.40 45 ⇓P P 06 40 52.5 +1.4
baz=85
ETSF Etsaut 85.43 328 eP P 06 40 52.4 +1.4
comp=Z,3.2nm,0.6s
ETSF Etsaut 85.43 328 eP P 06 40 52.4 +1.4
ETSF pmax pmax
comp=Z,3.0nm,0.6s
ETSF Etsaut 85.43 328 eP P 06 40 52.4 +1.4
comp=Z,3.2nm,0.6s
T26A Comanche Natio 85.45 42 ⇓P P 06 40 51.1 -0.3
baz=85,SNR=14
Y20A Horse Springs, 85.48 47 ⇑P P 06 40 52.9 +1.3
baz=85,SNR=41
P31A Stockton 85.59 38 ⇑P P 06 40 51.7 -0.1
baz=85,SNR=27
Q30A Quinter 85.64 39 ⇓P P 06 40 52.1 0.0
baz=85
U25A Circle Dot Ran 85.65 43 ⇓P P 06 40 52.6 +0.2
baz=85,SNR=26
R29A Marienthal 85.66 40 ⇓P P 06 40 52.0 -0.2
baz=85,SNR=12
W23A Werner Place, 85.71 45 ⇓P P 06 40 53.9 +1.2
baz=86,SNR=27
ANMO Albuquerque 85.71 45 eP P 06 40 53.6 +1.0
comp=Z,23nm,1.0s
V24A Rampart Ranch, 85.73 44 ⇑P P 06 40 53.9 +1.1
baz=86,SNR=36
X22A Bernardo 85.76 46 ⇑P P 06 40 54.6 +1.7
baz=86,SNR=6.8
LAZ Ladron 85.77 46 eP P 06 40 53.7 +0.8
comp=Z,18nm,1.2s
Y21A Point of Rocks 85.78 47 ⇓P P 06 40 54.4 +1.3
baz=86,SNR=39
S28A Manter 85.95 41 ⇑P P 06 40 53.9 +0.2
baz=86,SNR=25
Z20A Nine Sixteen R 85.96 48 ⇑P P 06 40 55.0 +1.1
baz=86,SNR=51
T27A Campo 85.97 42 ⇓P P 06 40 53.9 +0.1
baz=86,SNR=8.2
V25A Rancho No Teng 85.98 44 ⇓P P 06 40 54.7 +0.8
baz=86,SNR=24
U26A Atchley Ranch, 85.99 43 ⇑P P 06 40 54.4 +0.4
baz=86,SNR=19
Q31A Ellis 86.00 38 ⇑P P 06 40 53.4 -0.4
baz=86,SNR=7.6
W24A Lazy 6 Ranch, 86.06 44 ⇑P P 06 40 55.5 +1.1
baz=86,SNR=16
LPM Los Pinos Moun 86.11 46 eP P 06 40 55.6 +1.0
Y22D IRIS PASSCAL I 86.13 46 ⇓P P 06 40 55.8 +1.2
baz=86
X23A Hourglass Bar 86.14 45 ⇓P P 06 40 55.9 +1.2
baz=86,SNR=10
R30A Dighton 86.17 39 ⇓P P 06 40 54.6 -0.1
baz=86,SNR=16
Y22A Socorro 86.22 46 ⇑P P 06 40 55.8 +0.7
baz=86,SNR=7.7
T28A Walsh 86.22 41 P P 06 40 54.7 -0.3
baz=86
SCIA State Center 86.27 33 eP P 06 40 55.5 +0.6
comp=Z,219nm,1.4s
S29A Ulysses 86.31 40 ⇑P P 06 40 55.3 0.0
baz=86,SNR=8.0
Z21A St. Cloud Mine 86.31 47 ⇑P P 06 40 56.7 +1.1
baz=86,SNR=25
120A U Bar Ranch, L 86.36 48 ⇑P P 06 40 56.7 +0.9
baz=86,SNR=9.5
U27A Thompson Grove 86.42 42 ⇓P P 06 40 56.1 +0.2
baz=86,SNR=30
V26A Tequesquite Ra 86.43 43 ⇓P P 06 40 56.0 0.0
baz=86,SNR=22
R31A Burdett 86.52 39 ⇓P P 06 40 56.0 -0.3
baz=86
W25A X Bar L Ranch, 86.54 44 ⇑P P 06 40 57.1 +0.5
baz=86,SNR=13
X24A Lazy VL Ranch, 86.54 45 ⇓P P 06 40 57.8 +1.1
baz=86
T29A Hugoton 86.59 41 ⇓P P 06 40 56.6 -0.1
baz=86
S30A Montezuma 86.60 40 ⇓P P 06 40 56.8 +0.2
baz=86,SNR=19
Y23A Lovelace Mesa, 86.70 46 ⇓P P 06 40 58.3 +0.9
baz=86,SNR=30
Z22A Elephant Butte 86.74 47 ⇑P P 06 40 58.4 +0.9
baz=86,SNR=27
U28A Mallet 86.75 42 ⇑P P 06 40 57.5 0.0
baz=86
KEST Kesra 86.81 317 eP P 06 40 57.7 -0.1
KEST Kesra 86.81 317 P P 06 40 57.6 -0.1
comp=Z,2.7nm,1.0s,baz=39,slow=1.3,SNR=8.4
121A Cookes Peak, D 86.84 48 ⇓P P 06 40 58.9 +0.9
baz=87,SNR=12
GLMI Grayling 86.85 26 eP P 06 40 58.1 +0.5
comp=Z,128nm,0.9s
319A Douglas 86.88 49 ⇓P P 06 40 58.8 +0.6
baz=87,SNR=7.9
220A Playas Peak, P 86.91 49 ⇓P P 06 40 59.0 +0.7
baz=87,SNR=13
V27A Dan Oppiter Fa 86.94 42 ⇑P P 06 40 58.5 +0.1
baz=87,SNR=9.1
X25A Clemmons Ranch 86.97 44 ⇓P P 06 40 59.4 +0.8
baz=87,SNR=13
W26A Owens Ranch, T 87.00 43 ⇑P P 06 40 59.5 +0.8
baz=87
Y24A Capitan 87.03 45 ⇑P P 06 40 59.5 +0.5
baz=87,SNR=7.9
T30A Plains 87.04 40 ⇓P P 06 40 59.1 +0.3
baz=87
S31A Mullinville 87.08 39 ⇓P P 06 40 59.1 +0.2
baz=87,SNR=6.3
Z23A Rita Site, Whi 87.12 46 ⇑P P 06 41 00.1 +0.8
baz=87
122A Conniff Cattle 87.14 47 ⇓P P 06 41 00.6 +1.2
baz=87

U29A Oasis Ranch, S 87.18 41 ⇑P P 06 40 59.4 0.0
baz=87
KSU1 Kansas State U 87.18 36 eP P 06 40 59.5 +0.2
comp=Z,54nm,0.8s
221A Mesquite Ranch 87.24 48 ⇑P P 06 41 00.6 +0.7
baz=87
V28A Channing 87.25 42 ⇓P P 06 40 59.9 0.0
baz=87
W27A Bowe Ranch, En 87.37 43 ⇓P P 06 41 00.9 +0.5
baz=87,SNR=11
X26A CR and CF Fran 87.39 44 ⇑P P 06 41 01.0 +0.4
baz=87
U30A WK&E Inc. Balk 87.40 41 ⇓P P 06 41 00.8 +0.3
baz=87,SNR=7.1
T31A Randall Ranch, 87.41 40 ⇑P P 06 41 00.6 +0.2
baz=87,SNR=15
Y25A Mesa, Roswell 87.43 45 ⇓P P 06 41 01.2 +0.4
baz=87,SNR=21
V29A Stinnett 87.50 42 ⇑P P 06 41 01.0 0.0
baz=87
Z24A Sheeppen Canyo 87.53 46 ⇑P P 06 41 02.1 +0.8
baz=87
222A Williams Famil 87.54 47 ⇑P P 06 41 01.8 +0.5
baz=87,SNR=5.4
123A Bell Site, Whi 87.59 47 ⇑P P 06 41 02.3 +0.8
baz=87
W28A Vega 87.65 42 ⇑P P 06 41 02.2 +0.5
baz=87
X27A F and S Farms, 87.68 43 ⇑P P 06 41 02.3 +0.4
baz=88,SNR=5.7
Y26A Elida 87.88 44 ⇑P P 06 41 03.2 +0.3
baz=88
U31A Nine Bar Ranch 87.91 40 ⇑P P 06 41 03.6 +0.7
baz=88
Z25A Roswell 87.91 45 ⇑P P 06 41 03.9 +0.9
baz=88,SNR=32
124A Stringfield Ra 87.97 46 ⇓P P 06 41 04.2 +0.8
baz=88,SNR=27
223A Chaparral, Ant 87.98 47 ⇑P P 06 41 04.3 +0.9
baz=88
V30A Spur Ranch, Mi 88.00 41 ⇑P P 06 41 03.8 +0.5
baz=88
W29A Amarillo 88.04 42 ⇓P P 06 41 04.3 +0.8
baz=88
X28A Dimmitt 88.24 43 ⇓P P 06 41 04.7 +0.2
baz=88
Y27A Causey 88.25 44 ⇑P P 06 41 04.7 +0.1
baz=88,SNR=7.3
Z26A Caprock 88.31 45 ⇓P P 06 41 05.2 +0.4
baz=88,SNR=19
MSTX Muleshoe 88.38 43 ⇓P P 06 41 05.0 -0.2
baz=88,SNR=5.6
V31A Spring Creek L 88.40 40 ⇓P P 06 41 06.0 +0.8
baz=88
224A Cornudas Mount 88.42 46 ⇑P P 06 41 06.0 +0.6
baz=88,SNR=16
125A Gardner Draw, 88.43 46 ⇓P P 06 41 06.1 +0.7
baz=88,SNR=18
W30A Crocket Farms 88.52 41 ⇑P P 06 41 06.4 +0.7
baz=88
X29A Tulia 88.55 42 ⇑P P 06 41 06.2 +0.3
baz=88,SNR=6.8
Y28A McKinney Farm, 88.70 43 ⇓P P 06 41 06.8 +0.2
baz=88,SNR=5.4
225A Deer Hill, Car 88.77 46 ⇑P P 06 41 07.8 +0.7
baz=89,SNR=14
126A Clayton Basin, 88.77 45 ⇑P P 06 41 07.2 +0.2
baz=89
MNTX Cornudas Mount 88.78 47 eP P 06 41 07.6 +0.6
comp=Z,6.0nm,0.9s
W31A Holland Ranch, 88.82 41 ⇓P P 06 41 07.7 +0.6
baz=89
324A Moseley Ranch, 88.93 47 ⇑P P 06 41 08.2 +0.4
baz=89,SNR=6.7
GDL2 Guadalupe Moun 88.94 46 eP P 06 41 08.7 +0.9
X30A Coker Ranch, T 88.96 42 ⇑P P 06 41 07.8 0.0
baz=89
Y29A Porterfield Fa 89.03 43 ⇓P P 06 41 08.3 +0.1
baz=89
127A Arkansas Junct 89.10 45 ⇑P P 06 41 08.5 0.0
baz=89
Z28A Tucker Farm, M 89.11 44 ⇓P P 06 41 08.8 +0.2
baz=89
226B Tecolote Peak, 89.14 46 ⇑P P 06 41 09.3 +0.6
baz=89
X31A McDonald Ranch 89.25 41 ⇓P P 06 41 09.5 +0.4
baz=89,SNR=6.3
325A Bean Ranch, Si 89.26 47 ⇓P P 06 41 10.0 +0.7
baz=89,SNR=19
PQI Presque Isle 89.36 14 eP P 06 41 09.0 -0.3
comp=Z,29nm,0.9s
PQI epP pP 06 42 56.7 +0.8
Y30A Stafford Cattl 89.40 42 ⇑P P 06 41 10.0 +0.2
baz=89
Z29A Hungry Hill Ra 89.48 43 ⇑P P 06 41 10.6 +0.3
baz=89,SNR=22
ESDC Sonseca Array 89.51 328 P P 06 41 10.2 0.0
ESDC Sonseca Array 89.51 328 P P 06 41 10.2 0.0
comp=Z,0.4nm,0.4s,baz=29,slow=4.6,SNR=6.0
128A Castleberry Fa 89.59 44 ⇑P P 06 41 10.9 +0.1
baz=89,SNR=6.5
Y31A Rekieta Farm, 89.65 42 ⇓P P 06 41 11.0 +0.1
baz=89
227A Bennet, Jal 89.65 45 ⇓P P 06 41 11.5 +0.5
baz=90
URZ Urewera 89.70 147 P P 06 41 09.7 -1.0
URZ Urewera 89.70 147 P P 06 41 09.7 -1.0
comp=Z,4.2nm,0.7s,baz=0.0,slow=8.1,SNR=2.7
425A Indio Mountain 89.70 47 ⇑P P 06 41 12.3 +0.9
baz=90,SNR=34
WMOK Wichita Mounta 89.74 40 eP P 06 41 11.7 +0.3
WMOK pmax pmax
comp=Z,26nm,1.1s
WMOK Wichita Mounta 89.74 40 eP P 06 41 11.7 +0.3
comp=Z,26nm,1.1s
Z30A Sanderson Ranc 89.76 43 ⇓P P 06 41 11.6 +0.1
baz=90,SNR=9.4
326A Caldwell Ranch 89.83 46 ⇓P P 06 41 12.5 +0.5
baz=90,SNR=31
LONY Lake Ozonia 89.90 19 eP P 06 41 11.8 0.0
comp=Z,17nm,1.4s
129A Stewart Farms, 89.90 44 ⇑P P 06 41 12.1 -0.1
baz=90
SFIN Scholer Farm 89.93 30 ⇓P P 06 41 12.4 +0.3
baz=90,SNR=18
228A UT Block 9, Go 89.93 45 ⇑P P 06 41 12.6 +0.2
baz=90,SNR=5.2
FRNY Flat Rock 89.94 19 eP P 06 41 11.4 -0.6
comp=Z,4.7nm,0.5s
Y32A R-V Farms, Ver 90.02 41 ⇑P P 06 41 12.8 +0.2
baz=90,SNR=6.3
327A Balmorhea Ranc 90.05 46 ⇓P P 06 41 13.7 +0.7
baz=90
TUL1 Tulsa 90.18 38 ⇓P P 06 41 14.0 +0.6
baz=90,SNR=18
Z31A Sharp Cattle R 90.22 42 ⇓P P 06 41 13.7 0.0
baz=90,SNR=7.0
426A McDonald Obser 90.31 46 ⇑P P 06 41 14.7 +0.4
baz=90,SNR=22
130A Snyder 90.39 43 ⇓P P 06 41 14.5 +0.1
baz=90
328A Wristen Ranch, 90.40 45 ⇓P P 06 41 14.9 +0.3
baz=90,SNR=24
229A Bryant Ranch, 90.46 44 ⇑P P 06 41 15.1 +0.3
baz=90,SNR=7.9
427A Hayter Ranch, 90.50 46 ⇑P P 06 41 15.7 +0.6
baz=90,SNR=20
Z32A Haskell 90.56 42 ⇓P P 06 41 15.3 +0.1
baz=90,SNR=21
NCB Newcomb 90.60 19 eP P 06 41 14.6 -0.5
131A Roby 90.62 43 ⇓P P 06 41 15.7 +0.2
baz=90
329A Wagon Wheel Ra 90.75 44 ⇓P P 06 41 16.5 +0.4
baz=90,SNR=19
526A Mary Lane Ranc 90.75 47 ⇓P P 06 41 16.9 +0.6
baz=91,SNR=30
MDV Middlebury 90.82 19 eP P 06 41 16.2 +0.1
230A Sterling City 90.88 44 ⇓P P 06 41 17.1 +0.4
baz=91,SNR=16
LBNH Lisbon 90.88 18 eP P 06 41 16.6 +0.2
LBNH pmax pmax
comp=Z,8.0nm,0.8s
LBNH Lisbon 90.88 18 eP P 06 41 16.6 +0.2
comp=Z,7.6nm,0.8s
527A Woodward Ranch 90.94 46 ⇑P P 06 41 17.6 +0.5
baz=91,SNR=16
428A Kincaid Ranch, 90.98 45 ⇓P P 06 41 18.4 +1.1
baz=91,SNR=66

ABTX Abilene, Hawle 91.03 42 ⇓P P 06 41 17.7 +0.3
baz=91
ALLY Alegheny Colle 91.12 24 eP P 06 41 17.9 +0.4
comp=Z,42nm,0.8s
626A Big Bend Ranch 91.12 47 ⇑P P 06 41 18.5 +0.5
baz=91,SNR=29
330A Mertzon 91.23 44 ⇓P P 06 41 18.4 +0.1
baz=91,SNR=16
231A Bronte 91.25 43 ⇑P P 06 41 18.3 -0.1
baz=91,SNR=7.9
ACCN Adirondack Com 91.28 19 eP P 06 41 18.5 +0.2
528A Cox Ranch, San 91.37 46 ⇑P P 06 41 19.9 +0.8
baz=91,SNR=32
429A Davenport Ranc 91.48 45 ⇑P P 06 41 19.3 -0.2
baz=91,SNR=13
TXAR Lajitas Array 91.55 47 P P 06 41 19.6 -0.3
TXAR pP pP 06 43 09.2 +2.4
TXAR PP PP 06 45 06.8 +1.4
TXAR PKKPbc PKKPbc 06 58 36.7 +1.0
TXAR Lajitas Array 91.55 47 P P 06 41 19.6 -0.3
comp=Z,16nm,0.7s,baz=299,slow=2.1,SNR=166
TXAR pP pP 06 43 09.2 +2.4
comp=Z,1.3nm,0.9s,baz=293,slow=2.7,SNR=3.2
TXAR PP PP 06 45 06.8 +1.4
comp=Z,1.5nm,0.8s,baz=312,slow=6.4,SNR=4.2
TXAR PKKPbc PKKPbc 06 58 36.7 +1.0
comp=Z,0.4nm,0.8s,baz=160,slow=6.1,SNR=5.9
627A Terlingua Ranc 91.61 47 ⇓P P 06 41 20.7 +0.5
baz=91,SNR=17
232A Coleman 91.62 43 ⇓P P 06 41 20.3 +0.1
baz=91,SNR=16
331A San Angelo 91.69 44 ⇑P P 06 41 20.5 0.0
baz=92,SNR=11
430A Baggett Ranch, 91.69 44 ⇑P P 06 41 20.6 +0.1
baz=92,SNR=28
529A Stev Forest Ra 91.70 45 ⇑P P 06 41 20.8 +0.3
baz=92,SNR=16
BINY Binghamton 91.80 21 eP P 06 41 20.4 -0.3
comp=Z,12nm,0.8s
628A Black Gap, Mar 91.85 46 ⇓P P 06 41 21.6 +0.4
baz=92,SNR=6.8
332A Millersview 91.98 43 ⇓P P 06 41 22.0 +0.2
baz=92,SNR=20
EVO Evora 92.04 330 eP P 06 41 22.1 +0.3
EVOP Sao Brissos 92.08 331 eP P 06 41 22.1 +0.1
EVOP Sao Brissos 92.08 331 eP P 06 41 22.1 +0.1
431A Sonora 92.10 44 ⇓P P 06 41 22.4 0.0
baz=92,SNR=11
PARMO Parma 92.14 33 eP P 06 41 23.3 +1.0
530A J-C Ranch, Com 92.15 45 ⇓P P 06 41 23.0 +0.4
baz=92,SNR=15
MIAR Mount Ida 92.31 37 eP P 06 41 23.4 +0.2
MIAR pmax pmax
comp=Z,24nm,0.8s
MIAR Mount Ida 92.31 37 eP P 06 41 23.4 +0.2
comp=Z,24nm,0.8s
432A Menard 92.36 43 ⇑P P 06 41 23.5 0.0
baz=92,SNR=11
531A Rocksprings 92.55 44 ⇑P P 06 41 24.4 0.0
baz=92,SNR=9.2
WHTX Lake Whitney 92.62 41 ⇑P P 06 41 24.9 +0.2
baz=92,SNR=7.3
JCT Junction City 92.67 44 eP P 06 41 25.5 +0.5
JCT pmax pmax
comp=Z,17nm,1.0s
JCT Junction City 92.67 44 eP P 06 41 25.5 +0.5
comp=Z,18nm,1.0s
JCT Junction City 92.67 44 ⇓P P 06 41 24.9 -0.1
baz=92,SNR=8.4
HBAR Harrisburg 92.72 34 eP P 06 41 27.0 +2.0
HBAR epP pP 06 43 14.8 +2.9
532A Rocksprings 92.90 44 ⇑P P 06 41 26.1 0.0
baz=93,SNR=18
631A Perdido Creek 93.13 45 ⇑P P 06 41 27.3 +0.2
baz=93,SNR=11
WVT Waverly 93.37 32 eP P 06 41 28.2 +0.2
WVT e 06 45 20.6
WVT pmax pmax
comp=Z,27nm,1.0s
WVT Waverly 93.37 32 eP P 06 41 28.2 +0.2
comp=Z,27nm,1.0s
WVT epP pP 06 45 20.6 +1.7
632A Uvalde 93.46 44 ⇑P P 06 41 29.0 +0.4
baz=93
732A Laxson Ranch, 93.99 45 ⇓P P 06 41 31.3 +0.3
baz=94,SNR=6.7
OXF Oxford 94.13 34 eP P 06 41 31.8 +0.3
OXF e*PP pP 06 43 20.2 +1.7
OXF pmax pmax
comp=Z,20nm,0.9s
OXF Oxford 94.13 34 eP P 06 41 31.8 +0.3
comp=Z,20nm,0.9s
OXF epP pP 06 43 20.2 +1.7
TZTN Tazewell 94.61 29 eP P 06 41 33.9 +0.2
KMBO Kilima Mbogo 95.09 273 eP P 06 41 36.8 +0.3
comp=Z,14nm,1.2s
KMBO PP PP 06 45 33.7 -0.1
KMBO Kilima Mbogo 95.09 273 P P 06 41 36.7 +0.3
comp=Z,5.9nm,0.9s,baz=35,slow=9.9,SNR=11
KMBO PP PP 06 45 33.7 -0.1
comp=Z,7.3nm,1.1s,baz=28,slow=11,SNR=5.5
CPCT Cooper Cave 95.23 30 eP P 06 41 36.5 0.0
TKL Tuckaleechee C 95.32 29 eP P 06 41 37.2 +0.3
KMSC Kings Mountain 96.65 28 ⇓P P 06 41 42.8 -0.1
baz=96
GOGA Godfrey 97.44 30 eP Pdif 06 41 46.8 +0.4
GOGA pmax pmax
comp=Z,10.0nm,0.8s
GOGA Godfrey 97.44 30 eP Pdif 06 41 46.8 +0.3
comp=Z,10.0nm,0.8s
TIGA Tifton 99.15 31 ⇑P Pdif 06 41 54.5 +0.4
baz=99
TORD Torodi Ar. Bea 109.00 309 PKiKP PKiKP 06 46 38.5 -1.2
TORD PP PP 06 47 16.5 +0.7
TORD Torodi Ar. Bea 109.00 309 PKiKP PKiKP 06 46 38.6 -1.2
comp=Z,0.5nm,0.7s,baz=13,slow=2.3,SNR=4.3
TORD PP PP 06 47 16.5 +0.7
comp=Z,6.5nm,1.0s,baz=25,slow=7.4,SNR=9.4
CASY Casey 109.73 189 ePKPdf PKiKP 06 46 36.2 -3.2
LSZ Lusaka 111.10 268 PKiKP PKiKP 06 46 43.8 +0.1
LSZ Lusaka 111.10 268 PKiKP PKiKP 06 46 43.8 +0.1
comp=Z,0.6nm,0.3s,baz=35,slow=1.1,SNR=4.0
LBTB Lobatse 118.99 262 PKP PKPdf 06 46 58.4 -0.2
LBTB Lobatse 118.99 262 PKP PKPdf 06 46 58.4 -0.2
comp=Z,6.3nm,0.7s,baz=86,slow=2.2,SNR=12
VNDA Vanda 120.95 173 PKP PKPdf 06 47 00.8 +0.1
VNDA Vanda 120.95 173 PKP PKPdf 06 47 00.8 +0.1
comp=Z,0.3nm,0.4s,baz=302,slow=3.7,SNR=6.1
BOSA Boshof 121.31 258 PKP PKPdf 06 47 02.6 -0.4
BOSA PP PP 06 48 40.4 -1.9
BOSA PKKPab PKKPab 06 57 07.0 +0.4
BOSA Boshof 121.31 258 PKP PKPdf 06 47 02.6 -0.4
comp=Z,1.4nm,0.4s,baz=21,slow=1.2,SNR=4.5
BOSA PP PP 06 48 40.4 -1.9
comp=Z,7.3nm,1.0s,baz=84,slow=4.7,SNR=4.7
BOSA PKKPab PKKPab 06 57 07.0 +0.4
comp=Z,2.3nm,0.6s,baz=249,slow=4.8,SNR=6.4
MAW Mawson 121.63 205 PKP PKPdf 06 47 02.3 +0.1
MAW PKKPbc PKKPbc 06 57 03.3 -0.7
MAW Mawson 121.63 205 PKP PKPdf 06 47 02.3 +0.1
comp=Z,2.8nm,0.6s,baz=326,slow=2.4,SNR=7.1
MAW PKKPbc PKKPbc 06 57 03.3 -0.7
comp=Z,2.9nm,0.8s,baz=284,slow=4.4,SNR=6.2
ROSC El Rosal 126.77 35 PKP PKPdf 06 47 14.4 +0.1
ROSC El Rosal 126.77 35 PKP PKPdf 06 47 14.4 +0.1
comp=Z,6.9nm,0.6s,baz=103,slow=5.4,SNR=6.3
SYO Syowa Base 130.01 208 ‖ eX SKPbc 06 49 52.4 -3.5
QSPA South Pole Qui 132.13 180 PKP PKPdf 06 47 22.8 +0.4
QSPA SKPbc SKPbc 06 50 02.5 -1.2
QSPA South Pole Qui 132.13 180 PKP PKPdf 06 47 22.7 +0.4
comp=Z,1.4nm,0.6s,baz=333,slow=1.5,SNR=14
QSPA SKPbc SKPbc 06 50 02.5 -1.2
comp=Z,38nm,0.8s,baz=321,slow=1.7,SNR=59
MAIT Maitri 139.60 206 eP x 06 50 15.9
SNAA Sanae 143.68 202 ePKPdf PKPab 06 47 42.0 0.0
SNAA Sanae 143.68 202 ePKPdf PKPab 06 47 41.6 -0.4
SAML Samuel 143.74 28 ePKPdf PKPab 06 47 43.2 -0.5
VNA1 Neumayer--Stat 145.71 202 ePKP PKPbc 06 47 48.4 +0.2
LPAZ La Paz 148.25 41 ePKPdf PKPdf 06 47 53.9 +0.5
LPAZ PKPbc PKPbc 06 47 57.3 -0.1
LPAZ ePKPbc PKiKP 06 47 57.4 -1.3
LPAZ ePKPab PKPab 06 48 01.7 -0.4
LPAZ La Paz 148.25 41 PKPbc PKPbc 06 47 57.3 -0.1
comp=Z,20nm,0.8s,baz=345,slow=3.2,SNR=43
LVC Limon Verde 153.05 50 ePKPbc PKPbc 06 48 08.4 +0.5
LVC ePKPab PKPab 06 48 22.3 +0.6

BDFB Brasilia 153.32 2 PKP PKPdf 06 48 00.4 -0.1
BDFB PKPbc PKPbc 06 48 08.3 -0.2
BDFB PKPab PKPab 06 48 22.5 -0.1
BDFB Brasilia 153.32 2 PKP PKPdf 06 48 00.4 -0.1
comp=Z,1.5nm,0.7s,baz=312,slow=1.4,SNR=4.2
BDFB PKPbc PKPbc 06 48 08.3 -0.2
comp=Z,8.0nm,0.8s,baz=14,slow=4.2,SNR=10
BDFB PKPab PKPab 06 48 22.5 -0.1
comp=Z,11nm,0.6s,baz=354,slow=2.4,SNR=14
PLCA Paso Flores 162.23 93 PKPab PKPab 06 49 02.2 +1.2
PLCA Paso Flores 162.23 93 PKPab PKPab 06 49 02.2 +1.2
comp=Z,1.6nm,0.6s,baz=273,slow=5.7,SNR=4.3

DJA ***16*** *06:29:57.8±13.0, 46°S±55°×16°7E±5°3, h24km±77km, M4.7/5, mb4.7/5*
AUST ***16*** *06:29:59.9±0.7, 45°.78S×166°.46E, h0km, Error ellipse: s-maj=1.1km s-min=0.6km az=17.0*
BJI ***16*** *06:29:59.0, 45°.70S×166°.60E, h5km, mB5.2/2, mb5.1/6, Ms5.2/2, Ms7.4 8/2*
IDC ***16*** *06:29:59.5±0.5, 45°.62S×166°.59E, h0km, mb4.7/14, mb1 4.8/16, mb1mx4.7/20, mbtmp4.7/16, ML4.9/2, MS4.5/9, Ms1 4.5/9, ms1mx4.1/20, Error ellipse: s-maj=17.0km s-min=14.7km az=61.0*
ISCJB ***16*** *06:30:00.8±0.9, 45°.61S±0°.04×166°.49E±0°.04, h15km±7km, mb4.8/25, MS4.5/11, Error ellipse: s-maj=6.6km s-min=4.2km az=168.7*
NEIC ***16*** *06:30:01.2, 45°.70S×166°.55E, h5km, mb4.7/15, After WEL.*
NEIC Felt at Timaru.
ISC 16 06:30:02.1±0.5, 45°.70S±0°.04×166°.60E±0°.04, h15km±2km, n183, σ1$32/210, mb4.8/25, MS4.5/11, 3C-1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	Deep Cove	0.45	60	Pg	Pg	06 30 11.1	0.0
DCZ				Sg	Sb	06 30 17.8	-0.3
WHZ	Wether Hill Ro	0.96	102	P*	Pb	06 30 20.4	-0.1
MLZ	Mavora Lakes	1.16	73	P*	Pn	06 30 22.7	-1.1
MLZ				S*	Sb	06 30 38.0	-0.7
MSZ	Milford Sound	1.39	43	Pn	Pn	06 30 24.9	-2.0
APZ	The Paps	1.48	140	Pn	Pn	06 30 28.1	-0.1
WKZ	Wanaka	1.92	64	Pn	Pb	06 30 36.0	-0.7
WKZ				Sn	Sg	06 31 03.5	-0.3
SYZ	Scrubby Hill	1.95	116	Pn	Pb	06 30 36.5	-0.9
EAZ	Earnscleugh	1.96	77	Pn	Pb	06 30 36.2	-1.3
EAZ				Sn	Sb	06 31 01.6	-0.1
TUZ	Tuapeka	2.13	98	Pn	Pb	06 30 39.6	-0.8
JCZ	Jackson Bay	2.24	44	Pn	Pn	06 30 40.2	+1.6
LBZ	Lake Benmore	2.86	64	Pn	Pn	06 30 48.5	+1.4
ODZ	Otahua Downs	2.92	78	ePn	Pn	06 30 49.0	+1.0
ODZ				eSn	Sn	06 31 24.6	+1.8
FOZ	Fox Glacier	3.07	47	Pn	Pn	06 30 51.8	+1.8
RPZ	Rata Peaks	3.74	60	Pn	Pn	06 30 59.7	+0.4
RPZ				eSn	Sn	06 31 44.7	+1.6
RPZ				Sn	Sn	06 31 45.1	+2.0
RPZ	Rata Peaks	3.74	60	Pn	Pn	06 30 58.6	-0.7
	264nm,0.3s,baz=213,slow=3.4,SNR=189						
RPZ				Sn	Sn	06 31 45.1	+2.0
	194nm,0.3s,baz=27,slow=22,SNR=13						
WVZ	Waitaha Valley	3.96	50	Pn	Pn	06 31 03.1	+0.9
MQZ	McQueen's Vall	4.75	67	Pn	Pn	06 31 13.1	0.0
CRLZ	Canterbury Las	4.79	66	Pn	Pn	06 31 13.9	+0.2
LTZ	Lake Taylor	5.01	56	Pn	Pn	06 31 16.4	-0.3
DSZ	Denniston Nort	5.46	45	Pn	Pn	06 31 22.9	0.0
KHZ	Kahutara	5.98	59	ePn	Pn	06 31 30.0	0.0
KHZ				eSn	Sn	06 32 38.3	+0.2
THZ	Tophouse	6.03	51	Pn	Pn	06 31 31.2	+0.5
QRZ	Quartz Range	6.51	44	Pn	Pn	06 31 37.4	0.0
BSWZ	Blackbirch Sta	6.61	55	Pn	Pn	06 31 41.1	+2.5
TUWZ	Tuamarina	6.83	54	Pn	Pn	06 31 43.1	+1.5
TCW	Tory Channel	7.16	54	Pn	Pn	06 31 49.2	+3.0
DUWZ	D'Urville Isla	7.25	50	Pn	Pn	06 31 50.3	+2.8
SNZO	South Karori	7.34	56	Pn	Pn	06 31 49.6	+0.9
SNZO				eSn	Sn	06 33 09.8	-2.0
CAW	Cannon Point	7.68	56	Pn	Pn	06 31 53.8	+0.4
KIW	Kapiti Island	7.75	54	Pn	Pn	06 31 55.2	+0.8
MTW	Mount Morrison	7.91	58	Pn	Pn	06 31 56.0	+0.5
MRZ	Mangatainoka R	8.27	56	Pn	Pn	06 32 00.1	-1.3
NWEZ	Newall Road	8.37	42	Pn	Pn	06 32 06.6	+3.8
DFE	Dawson Falls	8.44	44	Pn	Pn	06 32 04.9	+1.0
WAZ	Wanganui	8.56	49	Pn	Pn	06 32 08.5	+3.0
RAEZ	Rainy Point	8.61	45	Pn	Pn	06 32 08.1	+2.0
BFZ	Birch Farm	8.65	58	Pn	Pn	06 32 05.8	-0.8
MKAZ	Moumakai	10.72	40	Pn	Pn	06 32 35.9	+0.9
URZ	Urewera	10.79	50	ePn	Pn	06 32 35.6	-0.3
URZ				eSn	Sn	06 34 29.5	-6.8
URZ				Sn	Sn	06 34 35.4	-0.9
URZ	Urewera	10.79	50	Pn	Pn	06 32 33.7	-2.2
	2.7nm,0.3s,baz=242,slow=6.9,SNR=11						
URZ				Sn	Sn	06 34 35.4	-0.9
	4.1nm,0.3s,baz=313,slow=23,SNR=3.3						
WCZ	Waipu Caves	11.37	34	Pn	Pn	06 32 44.2	+0.3
OUZ	Omahuta	11.74	29	ePn	Pn	06 32 48.4	-0.6
OUZ				eSn	Sn	06 34 58.7	-1.0
TAU	Tasmania Unive	14.09	275	ePn	Pn	06 33 15.8	-5.2
TAU				eSn	Sn	06 35 41.1	-16
MOO	Moorlands	14.33	276	P	Pn	06 33 21.9	-2.4
	baz=14,SNR=17						
LHI	Lord Howe Isla	15.33	335	S	Sn	06 36 13.7	-14
	baz=15,SNR=3.3						
MILA	Mila	15.67	297	P	Pn	06 33 39.3	-2.9
	baz=16,SNR=9.2						
MILA				S	Sn	06 36 19.8	-16
	baz=16,SNR=8.3						
CNB	Canberra Magne	16.69	302	P	Pn	06 33 54.8	-0.6
	baz=17,SNR=13						
CAN	Canberra	16.90	302	ePn	Pn	06 33 56.3	-1.7
	114nm,1.5s						
CAN				eSn	Sn	06 36 51.5	-14
MGCD	Mangrove Creek	17.25	311	P	Pn	06 34 01.1	-1.3
	baz=17,SNR=7.2						
TOO	Toolangi	17.71	290	P	Pn	06 34 08.3	+0.2
	baz=18,SNR=16						
YNG	Young	17.96	303	P	Pn	06 34 11.3	+0.1
	baz=18,SNR=12						
ARPS	Mount Arapiles	20.59	287	P	P	06 34 41.1	+0.7
	baz=20,SNR=7.4						
CMSA	Cobar Meteorol	21.52	304	P	P	06 34 50.5	0.0
	baz=22,SNR=15						
STKA	Stephens Creek	23.76	297	eP	P	06 35 12.9	-1.0
	4.0nm,1.0s						
STKA	Stephens Creek	23.76	297	P	P	06 35 12.9	-1.0
	16nm,0.8s,baz=122,slow=9.8,SNR=17						
STKA				LR	LR	06 43 32.1	
	comp=Z,2μm,19.4s,baz=87,slow=34						
STKA	Stephens Creek	23.76	297	P	P	06 35 14.8	+0.9
	baz=24,SNR=9.0						
EIDS	Eidsvold	23.82	323	eP	P	06 35 14.9	+0.5
	42nm,1.0s						
EIDS				eS	S	06 39 21.1	-8.5
EIDS	Eidsvold	23.82	323	P	P	06 35 15.1	+0.6
	baz=24,SNR=3.9						
RMQ	Roma	23.90	317	P	P	06 35 15.8	+0.7
	baz=24,SNR=15						
RMQ				S	S	06 39 29.6	-1.3
	baz=24,SNR=5.8						
BBOO	Buckleboo	26.75	288	eP	P	06 35 41.1	0.0
BBOO	Buckleboo	26.75	288	P	P	06 35 41.1	0.0
	baz=27,SNR=9.1						
CTA	Charters Tower	30.56	320	P	P	06 36 15.0	-0.1
CTA	Charters Tower	30.56	320	P	P	06 36 15.0	-0.1
	2.0nm,0.5s,baz=140,slow=13,SNR=3.5						
CTAO	Charters Tower	30.56	320	eP	P	06 36 15.2	+0.1
	6.8nm,1.0s						
VNDA	Vanda	31.98	182	P	P	06 36 27.2	+0.2
	1.6nm,1.3s						
VNDA	Vanda	31.98	182	P	P	06 36 27.2	+0.2
	1.5nm,0.9s,baz=357,slow=8.2,SNR=8.5						
VNDA				LR	LR	06 47 02.4	
	comp=Z,304nm,21.0s,baz=22,slow=32						
SBA	Scott Base	32.26	180	eP	P	06 36 31.6	+2.1
	50nm,2.1s						
SBA				ePcP	PcP	06 39 17.7	+0.5
AS31	Alice Springs	34.37	299	eP	P	06 36 47.2	-1.2
ASAR	Alice Springs	34.37	299	P	P	06 36 47.1	-1.4
ASAR	Alice Springs	34.37	299	P	P	06 36 47.1	-1.4
	11nm,0.8s,baz=141,slow=8.7,SNR=60						
ASAR				LR	LR	06 50 14.0	
	comp=Z,1μm,19.0s,baz=137,slow=35						
CASY	Casey	35.84	215	eP	P	06 37 00.5	-0.1

8.0nm,0.7s
WRA Warramunga Arr 36.93 303 P **P** **06 37 08.8 -1.7**
WRA Warramunga Arr 36.93 303 P **P** **06 37 08.8 -1.7**
19nm,1.0s,baz=140,slow=8.7,SNR=38
WRA LR LR 06 51 42.8
comp=Z,895nm,18.6s,baz=145,slow=35
WRAB Tennant Creek 36.93 303 *e*P **P** **06 37 08.4 -2.1**
32nm,1.1s
WRAB *e*PP **PnPn** **06 38 35.9 +1.1**
NWAO Narrogin (SRO) 39.67 271 LR LR 06 50 20.1
comp=Z,533nm,21.2s,baz=189,slow=31
TBI Tubuai 41.85 73 *e*LR LR 06 49 24.6
649nm,30.0s
MEEK Meekatharra 42.45 280 P **P** **06 37 55.6 -0.8**
baz=42,SNR=4.9
KNRA Kununurra 43.56 301 P P 06 38 10.4 +5.0
baz=44,SNR=6.6
FITZ Fitzroy Crossi 43.65 295 P **P** **06 38 05.2 -0.8**
11nm,1.5s
FITZ PcP **PcP** **06 39 52.8 -0.5**
FITZ Fitzroy Crossi 43.65 295 P **P** **06 38 05.2 -0.8**
9.0nm,0.8s,baz=137,slow=9.9,SNR=7.9
FITZ PcP **PcP** **06 39 52.8 -0.5**
8.4nm,0.8s,baz=173,slow=5.3,SNR=4.1
FITZ LR LR 06 57 06.8
comp=Z,393nm,19.0s,baz=145,slow=37
FITZ Fitzroy Crossi 43.65 295 P **P** **06 38 05.7 -0.4**
baz=44,SNR=3.4
QSPA South Pole Qui 44.42 180 P **P** **06 38 13.0 +1.0**
6.2nm,1.2s
QSPA South Pole Qui 44.42 180 P **P** **06 38 13.0 +1.0**
7.2nm,1.1s,baz=40,slow=7.2,SNR=13
MBWA Marble Bar 45.32 287 *e*P **P** **06 38 18.0 -1.5**
23nm,1.1s
PPT2 Papeete2 45.85 67 *e*LR LR 06 51 21.0
710nm,24.0s
PPT Papeete 45.87 67 LR LR 06 54 32.7
comp=Z,570nm,20.2s,baz=134,slow=32
JAY Jayapura 48.63 324 P **P** **06 38 46.1 +0.7**
baz=49,SNR=3.9
SOEI Soe 50.90 301 P P 06 39 09.3 +6.6
baz=51,SNR=3.9
RKT Rikitea 51.95 85 *e*LR LR 06 54 11.8
1µm,23.2s,baz=227
MAW Mawson 53.47 208 P **P** **06 39 21.6 +0.5**
MAW PcP **PcP** **06 40 27.8 -0.1**
MAW Mawson 53.47 208 P **P** **06 39 21.6 +0.5**
7.8nm,0.9s,baz=116,slow=10,SNR=12
MAW PcP **PcP** **06 40 27.8 -0.1**
5.6nm,0.8s,baz=125,slow=5.2,SNR=4.5
MAW LR LR 07 00 43.9
comp=Z,654nm,18.3s,baz=103,slow=34
MAW Mawson 53.47 208 P **P** **06 39 21.8 +0.7**
baz=53,SNR=7.0
KAPI Kappang 57.36 300 P **P** **06 39 49.3 -0.5**
KAPI Kappang 57.36 300 P **P** **06 39 49.3 -0.5**
14nm,0.6s,baz=134,slow=3.6,SNR=5.6
SYO Syowa Base 59.10 200⇑ *e*P **P** **06 39 59.3 -1.9**
SYO Syowa Base 59.10 200⇓ *e*pP pP 06 40 05.2 -0.9
SNAA Sanae 62.69 184 *e*P **P** **06 40 25.4 -0.3**
SNAA Sanae 62.69 184 *e*PcP **PcP** **06 41 03.4 -0.9**
SNAA Sanae 62.69 184 *e*P **P** **06 40 24.7 -1.0**
11nm,1.0s
VNA1 Neumayer--Stat 63.90 182 *e*P **P** **06 40 33.6 0.0**
KSM Kuching 68.25 296 *e*P **P** **06 41 01.5 -0.9**
6.2nm,0.5s
PLCA Paso Flores 79.93 140 P **P** **06 42 11.2 +0.8**
2.2nm,0.9s
PLCA Paso Flores 79.93 140 P **P** **06 42 11.2 +0.8**
4.2nm,0.9s,baz=203,slow=6.2,SNR=6.4
JNU Nakatsue 84.87 331 P **P** **06 42 35.9 0.0**
JNU Nakatsue 84.87 331 P **P** **06 42 35.9 0.0**
15nm,0.9s,baz=198,slow=2.6,SNR=4.4
MJAR Matsushiro Arr 85.78 337 P **P** **06 42 40.2 -0.1**
MJAR Matsushiro Arr 85.78 337 P **P** **06 42 40.2 -0.1**
2.0nm,0.8s,baz=205,slow=5.5,SNR=4.4
CMAR Chiang Mai Arr 88.38 299 P **P** **06 42 53.4 0.0**
CMAR Chiang Mai Arr 88.38 299 P **P** **06 42 53.4 0.0**
8.1nm,0.8s,baz=154,slow=3.3,SNR=18
CHTO Chiang Mai 88.65 299 *e*P **P** **06 42 54.2 -0.4**
4.5nm,0.8s
WHN Wuhan 89.46 317 ⇑P **P** **06 42 58.8 +0.6**
KSRS Korea Array 89.81 330 P **P** **06 43 00.7 +1.1**
2.7nm,0.9s,baz=152,slow=5.8,SNR=8.6
KSAR Wonju Array Be 89.81 330 P **P** **06 43 00.7 +1.1**
GYA Guiyang 90.08 309 *e*P **P** **06 43 02.8 +1.4**
GYA pmax pmax
comp=Z,10.0nm,1.0s
KMI Kunming 91.23 306 P **P** **06 43 08.3 +1.5**
KMI pP **pP** **06 43 11.6 -0.4**
KMI sP **sP** **06 43 12.8 -1.0**
KMI PP **PP** **06 46 48.0 +3.6**
KMI S **S** **06 54 04.8 -0.1**
KMI sS **ScS** **06 54 10.1 +2.2**
KMI SS **SS** **07 00 13.8 +3.5**
KMI pmax pmax
comp=Z,11nm,0.5s
KMI LR LR
comp=N,170nm,14.7s
KMI LR LR
comp=E,180nm,14.2s
KMI LR LR
comp=Z,220nm,16.5s
CD2 Chengdu 95.15 310 *e*P **P** **06 43 26.1 +1.5**
CD2 pP **pP** **06 43 31.0 +1.3**
CD2 sP **sP** **06 43 33.1 +1.6**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
MDJ Mudanjiang 95.72 334 P P 06 43 30.0 +3.2
MDJ PP **PP** **06 47 22.5 +3.5**
MDJ S **S** **06 54 48.4 +5.2**
CN2 Changchun 96.32 331 *e*P **P** **06 43 31.6 +2.1**
BOSA Boshof 98.12 214 LR LR 07 20 28.4
comp=Z,145nm,18.5s,baz=306,slow=31
LZH Lanzhou 99.12 313 *e*P **Pdif** **06 43 44.5 +1.9**
LZH pP **pP** **06 43 49.3 +1.6**
LZH sP **sP** **06 43 51.0 +1.5**
HHC Hu-ho-hao-te 99.22 321 *e*P **Pdif** **06 43 42.3 -0.5**
HHC sP **sP** **06 43 49.3 -0.4**
HHC PP **PP** **06 47 50.1 +3.9**
HHC SKS **SKSac** **06 54 19.8 -0.4**
HHC S **S** **06 55 09.3 -4.2**
HHC sS **sS** **06 55 21.3 -0.8**
HHC SS **SS** **07 02 03.6 +0.2**
HHC LR LR
comp=N,320nm,13.2s
HHC LR LR
comp=E,200nm,13.2s
HHC LR LR
comp=Z,270nm,14.9s
TXAR Lajitas Array 110.17 68 PKKPbc PKKPbc 06 59 34.1 +0.7
TXAR Lajitas Array 110.17 68 PKKPbc PKKPbc 06 59 34.1 +0.7
comp=Z,0.4nm,0.8s,baz=108,slow=2.7,SNR=4.6
ILAR Eielson Array 115.97 20 PKP **PKPdf** **06 48 41.8 -1.2**
ILAR PKKPab **PKKPab** **06 59 17.4 +1.7**
ILAR Eielson Array 115.97 20 PKP **PKPdf** **06 48 41.8 -1.2**
comp=Z,0.9nm,0.7s,baz=286,slow=3.0,SNR=7.3
ILAR PKKPab **PKKPab** **06 59 17.4 +1.7**
comp=Z,0.4nm,0.8s,baz=9.5,slow=2.6,SNR=6.7
KSH Kashi 117.26 300 *e*PKPbc PKPdf 06 48 53.4 +6.9
KSH PP PP 06 50 09.3 +11
KSH PKS PKSdf 06 52 29.3 +6.1
KSH SKKS 06 57 01.8
KSH AMB AMB
comp=Z,79nm,5.3s
KSH LR LR
comp=N,76nm,5.4s
KSH LR LR
comp=E,110nm,5.1s
KSH LR LR
comp=Z,120nm,9.0s
MK31 Makanchi Array 118.08 309 *e*PKPdf **PKPdf** **06 48 46.8 -0.8**
MKAR Makanchi Array 118.08 309 PKP **PKPdf** **06 48 46.7 -0.9**
MKAR PKKPab **PKKPab** **06 59 10.5 +2.7**
MKAR Makanchi Array 118.08 309 PKP **PKPdf** **06 48 46.7 -0.9**
comp=Z,1.2nm,0.8s,baz=177,slow=1.3,SNR=5.4
MKAR PKKPab **PKKPab** **06 59 10.5 +2.7**
comp=Z,0.3nm,0.7s,baz=302,slow=2.7,SNR=3.9
INK Inuvik 122.11 22 PKP **PKPdf** **06 48 53.4 -1.3**
INK Inuvik 122.11 22 PKP **PKPdf** **06 48 53.4 -1.3**
comp=Z,3.2nm,0.6s,baz=31,slow=1.2,SNR=4.8
KURBB Kurchatov Arra 122.34 311 PKP **PKPdf** **06 48 55.0 -0.6**
comp=Z,2.0nm,0.8s,baz=128,slow=1.5,SNR=11
KURK Kurchatov 122.34 311 PKP **PKPdf** **06 48 55.0 -0.6**
YKA Yellowknife Ar 124.65 34 PKP **PKPdf** **06 48 57.1 -2.6**
comp=Z,0.9nm,0.6s,baz=254,slow=1.7,SNR=4.0
BVAR Borovoye Array 127.91 310 PKP **PKPdf** **06 49 05.3 -1.0**
BVAR Borovoye Array 127.91 310 PKP **PKPdf** **06 49 05.3 -1.0**
comp=Z,0.9nm,0.7s,baz=79,slow=3.2,SNR=4.6
JSRW J. Sargeant Re 132.36 76 *e*PKPdf **PKPdf** **06 49 15.7 +0.5**
AKTO Aktyubinsk 133.73 303 SKPbc **SKPbc** **06 52 45.3 -0.2**
AKTO Aktyubinsk 133.73 303 SKPbc **SKPbc** **06 52 45.3 -0.2**
comp=Z,0.6nm,0.5s,baz=83,slow=3.6,SNR=6.2
DBIC Dimbokro 140.41 193 PKP **PKPdf** **06 49 30.9 0.0**
DBIC Dimbokro 140.41 193 PKP **PKPdf** **06 49 30.9 0.0**
comp=Z,5.2nm,0.7s,baz=152,slow=3.3,SNR=4.8
TOA0 Torodi Ar. Sit 145.12 206 *e*PKPbc **PKPbc** **06 49 37.4 -1.2**
TORD Torodi Ar. Bea 145.12 206 PKPbc **PKPbc** **06 49 37.4 -1.3**
TORD Torodi Ar. Bea 145.12 206 PKPbc **PKPbc** **06 49 37.4 -1.3**
comp=Z,37nm,0.8s,baz=164,slow=2.1,SNR=110
BR131 Keskin Array S 145.33 277 *e*PKPbc **PKPbc** **06 49 37.9 -0.9**
BRTR Keskin Array B 145.33 277 PKPbc **PKPbc** **06 49 38.0 -0.9**
BRTR Keskin Array B 145.33 277 PKPbc **PKPbc** **06 49 38.0 -0.9**
comp=Z,16nm,0.9s,baz=147,slow=4.9,SNR=44
SCHO Schefferville 145.43 55 PKPbc **PKPdf** **06 49 37.4 -1.1**
SCHQ Schefferville 145.43 55 PKPbc **PKPdf** **06 49 37.4 -1.1**
comp=Z,3.3nm,0.6s,baz=230,slow=5.2,SNR=4.5
ANTO Ankara 145.98 277 *e*PKPbc **PKPbc** **06 49 40.4 -0.4**
ARCES ARCESS Array B 149.27 334 PKPbc **PKPbc** **06 49 48.6 -0.1**
ARCES PKPab **PKPab** **06 49 54.5 +1.1**
ARCES ARCESS Array B 149.27 334 PKPbc **PKPbc** **06 49 48.6 -0.1**
comp=Z,16nm,0.7s,baz=68,slow=3.0,SNR=42
ARCES PKPab **PKPab** **06 49 54.5 +1.1**
comp=Z,25nm,0.7s,baz=72,slow=2.9,SNR=27
FIA1 FINESS Array S 152.32 319 *e*PKPbc **PKPbc** **06 49 56.0 -0.1**
FINES FINESS Array B 152.32 319 PKPbc **PKPbc** **06 49 55.4 -0.8**
FINES FINESS Array B 152.32 319 PKPbc **PKPbc** **06 49 55.4 -0.8**
comp=Z,3.5nm,0.6s,baz=90,slow=3.8,SNR=13
TAM Tamanrasset 152.44 220 *e*PKPbc **PKPbc** **06 49 57.2 -0.7**
BUR08 Bucovina Ar. S 153.63 288 *e*PKPbc **PKPbc** **06 50 00.6 +1.0**
BUR08 *e*PKPab **PKPab** **06 50 11.9 -0.5**
KOLS Kolonicke sedl 155.74 291 *e*PKP **PKPab** **06 50 21.4 +0.1**
STHS Stebnicka Huta 156.46 292 *e*PKP **PKPab** **06 50 24.8 +0.5**
NOA NORSAR Array B 158.95 326 PKPab **PKPab** **06 50 33.1 -1.6**
NOA NORSAR Array B 158.95 326 PKPab **PKPab** **06 50 33.1 -1.6**
comp=Z,2.5nm,0.8s,baz=59,slow=4.5,SNR=7.0
GROS Grobnik 159.98 283 *i* PKPab **PKPab** **06 50 39.1 -0.7**
BOJS Bojanci 160.00 280 *e*PKPbc **PKPab** **06 50 39.0 -0.7**
KEST Kesra 160.15 248 PKPab **PKPab** **06 50 40.2 -0.5**
KEST Kesra 160.15 248 PKPab **PKPab** **06 50 40.2 -0.5**
comp=Z,3.4nm,0.9s,baz=134,slow=4.1,SNR=7.9
MOZS Mozjanca 160.68 282 *e*PKPab **PKPab** **06 50 42.2 -0.6**
BRG Berggiesshubel 161.14 296 *e*P **PKPab** **06 50 44.6 0.0**
comp=Z,6.5nm,0.9s
BRG Berggiesshubel 161.14 296 *e*PKP **PKPab** **06 50 43.9 -0.7**
GEC2 GERESS Array S 161.38 289 *e*PKP **PKPab** **06 50 44.8 -1.1**
GERES GERESS Array B 161.38 289 PKPab **PKPab** **06 50 45.8 -0.1**
GERES GERESS Array B 161.38 289 PKPab **PKPab** **06 50 45.8 -0.1**
comp=Z,2.1nm,0.9s,baz=90,slow=5.3,SNR=10
CLL Collm 161.69 297 *i* PKPab **PKPab** **06 50 45.6 -1.3**
WET Wettzell 161.93 290 *e*PKP **PKPab** **06 50 47.3 -0.8**
WERD Werda 162.22 295 *e*PKP **PKPab** **06 50 48.0 -1.4**
PLN Plauen 162.31 295 *e*PKP **PKPab** **06 50 48.6 -1.1**
MOX Moxa 162.64 296 *e*PKP **PKPab** **06 50 50.8 -0.4**
BSEG Bad Segeberg 162.69 307 *e*PKP **PKPab** **06 50 51.7 +0.5**
GRF Grafenberg Arr 162.98 292 *e*PKP **PKPab** **06 50 52.7 0.0**
GRFO Grafenberg 162.98 292 *e*PKPdf PKPdf 06 49 57.3 -5.7
FETA Feichten 163.31 283⇑ *i* PKPab **PKPab** **06 50 53.7 -0.8**
comp=Z,5.4nm,1.3s
ESDC Sonseca Array 170.81 232 PKPab **PKPab** **06 51 27.2 -0.4**
ESDC Sonseca Array 170.81 232 PKPab **PKPab** **06 51 27.2 -0.4**
comp=Z,0.4nm,0.3s,baz=135,slow=3.7,SNR=8.7

JMA 16 06:39:05.8, 34.37N×132.34E, h19km, M0.6, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHM	**Kurahashi**	**0.28**	**146**	P	Pg	06 39 11.8	-0.3
JHM				S	Sb	06 39 16.0	-0.3
JHT	**Toyohira**	**0.30**	**13**	P	Pg	06 39 12.3	-0.2
JHT				S	Sg	06 39 16.9	-0.2
JHIK	**Hikimi**	**0.38**	**295**	P	Pg	06 39 13.6	-0.2
JHIK				S	Sg	06 39 19.1	-0.1
JGT	**Gotsu**	**0.66**	**360**	S	Sb	06 39 27.2	-0.1

*ISCJB **16** 07:01:09.9±0.7, 29.97N±0.06×139.6E±0.2, h417km±11km, mb2.9/3, Error ellipse: s-maj=28.6km s-min=6.2km az=165.2*
*JMA **16** 07:01:10.0±0.1, 29.93N×139.56E, h415km, M3.7*
*IDC **16** 07:01:12.8±2.2, 30.44N×140.09E, h467km±28km, mb2.6/3, mb1 2.9/4, mb1mx2.7/24, mbtmp2.7/4, Error ellipse: s-maj=36.6km s-min=20.3km az=99.0*

ISC 16 07:01:09.2±1.2, 30.05N±0.09×139.8E±0.2, h433km±11km, n18, σ2$07/24, mb2.9/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.05**	**0**	P	**P**	**07 02 17.0**	**+1.9**
JHJ2				*e*S	**S**	**07 03 07.5**	**-1.4**
CBIJ	**Chichi jima**	**3.61**	**144**	P	**P**	**07 02 20.3**	**+0.4**
CBIJ				S	**S**	**07 03 15.9**	**-1.4**
JHHJ	**Haha-jima-NKT**	**4.00**	**148**	P	**P**	**07 02 22.9**	**-0.4**
JHHJ				S	**S**	**07 03 21.6**	**-1.9**
BSO1	**Boso 1**	**4.70**	**12**	P	**P**	07 02 32.3	+3.4
BSO1				S	**S**	**07 03 36.9**	**+2.7**
BSO3	**Boso 3**	**4.78**	**7**	P	**P**	**07 02 32.9**	**+2.9**
BSO3				S	**S**	**07 03 36.2**	**+0.1**
BSO4	**Boso 4**	**4.95**	**5**	S	**S**	**07 03 40.5**	**+1.0**
JIE	**Ise**	**5.06**	**330**	P	**P**	**07 02 34.5**	**+1.4**
JKN2	**Miekihoku**	**5.14**	**325**	P	**P**	**07 02 34.1**	**+0.2**
JOD2	**Odawara 2**	**5.23**	**354**	S	**S**	**07 03 43.7**	**-1.2**
JNY	**Yasuok**	**5.54**	**343**	P	**P**	**07 02 39.6**	**+1.6**
JRY	**Ryogami san**	**6.00**	**353**	P	**P**	**07 02 44.6**	**+1.9**
JRY				S	**S**	**07 03 58.4**	**-0.9**
JAG	**Ashikaga**	**6.37**	**357**	P	**P**	**07 02 47.7**	**+1.2**
JAG				*e*S	**S**	**07 04 02.0**	**-4.3**
JHO	**Hitachi**	**6.58**	**5**	P	**P**	**07 02 51.8**	**+2.9**
JHO				*e*S	**S**	**07 04 08.5**	**-1.9**
MJAR	**Matsushiro Arr**	**6.61**	**349**	P	**P**	**07 02 51.9**	**+2.5**
MJAR	1.6nm,0.3s,baz=171,slow=11,SNR=8.6			S	**S**	**07 04 09.2**	**-1.9**
	0.5nm,0.3s,baz=129,slow=9.8,SNR=4.1						
MAT	**Matsushiro**	**6.61**	**349**	P	P	07 02 52.7	+3.3
MKAR	**Makanchi Array**	**47.00**	**308**	P	**P**	**07 09 00.2**	**+0.7**
	0.5nm,0.7s,baz=92,slow=8.4,SNR=5.2						
WRA	**Warramunga Arr**	**49.98**	**187**	P	P	07 09 25.9	+3.9
	0.2nm,0.5s,baz=6.9,slow=8.7,SNR=8.4						
ILAR	**Eielson Array**	**56.16**	**30**	P	**P**	**07 10 03.4**	**-2.4**
	0.3nm,0.5s,baz=262,slow=6.2,SNR=3.4						

*ISCJB **16** 07:16:31.5±0.7, 46.18S±0.07×165.93E±0.06, h12km, mb3.9/5, MS4.0/3, Error ellipse: s-maj=10.5km s-min=5.9km az=170.3*
*NEIC **16** 07:16:32.2, 46.15S×165.94E, h12km, mb4.0/2, ML4.6(WEL), After WEL.*
*IDC **16** 07:16:32.1±1.1, 46.15S×166.09E, h0km, mb3.9/3, mb1 4.2/5, mb1mx3.9/16, mbtmp4.0/5, ML3.9/2, MS3.7/4, Ms1 3.7/4, ms1mx3.3/19, Error ellipse: s-maj=27.7km s-min=24.0km az=168.0*

ISC 16 07:16:32.9±0.8, 46.13S±0.07×166.10E±0.05, h12km, n34, σ1$49/36, mb3.9/5, MS4.2/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.41**	**95**	P*	**Pg**	**07 16 38.7**	**-2.2**
PYZ				S*	**Sb**	**07 16 50.5**	**+2.2**
DCZ	**Deep Cove**	**0.99**	**49**	P*	**Pn**	**07 16 53.2**	**+0.7**
DCZ				S*	**Sn**	**07 17 06.5**	**+0.2**
WHZ	**Wether Hill Ro**	**1.31**	**80**	Pn	**Pg**	**07 16 58.4**	**+0.3**
WHZ				Sn	**Sg**	**07 17 15.7**	**+0.6**
APZ	**The Paps**	**1.48**	**119**	Pn	**Pn**	**07 16 58.9**	**-0.5**
SYZ	**Scrubby Hill**	**2.15**	**102**	Pn	**Pn**	**07 17 09.1**	**+0.7**
TUZ	**Tuapeka**	**2.47**	**87**	Pn	**Pn**	**07 17 14.4**	**+1.5**
JCZ	**Jackson Bay**	**2.79**	**42**	Pn	**Pb**	**07 17 20.7**	**-2.0**
LBZ	**Lake Benmore**	**3.37**	**60**	Pn	**Pn**	**07 17 27.3**	**+2.0**
ODZ	**Otahua Downs**	**3.37**	**73**	Pn	**Pn**	**07 17 26.3**	**+1.0**
FOZ	**Fox Glacier**	**3.62**	**46**	Pn	**Pb**	**07 17 34.0**	**-2.8**
RPZ	**Rata Peaks**	**4.27**	**57**	Pn	**Pn**	**07 17 39.3**	**+1.6**
RPZ				Sn	**Sn**	**07 18 28.6**	**+1.2**
RPZ	**Rata Peaks**	**4.27**	**57**	Pn	**Pn**	**07 17 39.3**	**+1.6**
	5.2nm,0.3s,baz=197,slow=4.0,SNR=29						
RPZ				Sn	**Sn**	**07 18 28.6**	**+1.2**
	27nm,0.3s,baz=22,slow=21,SNR=7.8						
RPZ				LR	LR	07 18 41.2	
	comp=Z,99nm,21.5s,baz=237,slow=30						
LTZ	**Lake Taylor**	**5.54**	**55**	Pn	**Pn**	**07 17 57.5**	**+2.3**
THZ	**Tophouse**	**6.57**	**51**	Pn	Pn	07 18 13.1	+3.8
URZ	**Urewera**	**11.33**	**50**	Pn	**Pn**	**07 19 15.5**	**+1.0**
URZ				Sn	**Sn**	**07 21 18.8**	**-2.2**
URZ	**Urewera**	**11.33**	**50**	Pn	**Pn**	**07 19 15.5**	**+1.0**
	1.3nm,0.3s,baz=309,slow=5.5,SNR=7.6						
URZ				Sn	**Sn**	**07 21 18.8**	**-2.2**
	0.4nm,0.3s,baz=132,slow=21,SNR=1.9						
DRV	**Dumont d'Urvil**	**24.78**	**205**	R		07 21 00.0	
ASAR	**Alice Springs**	**34.27**	**300**	P	**P**	**07 23 20.0**	**+1.2**
ASAR	**Alice Springs**	**34.27**	**300**	P	**P**	**07 23 20.0**	**+1.2**
	1.1nm,0.6s,baz=131,slow=8.3,SNR=17						
WRA	**Warramunga Arr**	**36.88**	**304**	P	**P**	**07 23 42.1**	**+0.9**
WRA	**Warramunga Arr**	**36.88**	**304**	P	**P**	**07 23 42.1**	**+0.9**
	1.6nm,0.7s,baz=136,slow=8.0,SNR=18						
WRAB	**Tennant Creek**	**36.88**	**304**	*e*P	**P**	**07 23 38.9**	**-2.3**
	2.4nm,0.6s						
AFI	**Afiamalu**	**37.14**	**37**	LR	LR	07 36 32.8	
	comp=Z,70nm,21.0s,baz=110,slow=32						
FITZ	**Fitzroy Crossi**	**43.51**	**296**	*e*P	**P**	**07 24 34.6**	**-1.6**
	1.9nm,0.8s						
QSPA	**South Pole Qui**	**43.99**	**180**	P	**P**	**07 24 38.5**	**-1.3**
QSPA	**South Pole Qui**	**43.99**	**180**	P	**P**	**07 24 40.8**	**+1.0**
	1.1nm,0.9s,baz=26,slow=12,SNR=4.4						
PPT	**Papeete**	**46.36**	**67**	LR	LR	07 42 58.9	
	comp=Z,265nm,18.2s,baz=184,slow=34						
PLCA	**Paso Flores**	**79.83**	**140**	LR	LR	07 59 10.2	
	comp=Z,157nm,19.7s,baz=202,slow=32						
TORD	**Torodi Ar. Bea**	**144.58**	**207**	PKP	**PKPab**	**07 36 08.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**144.58**	**207**	PKP	**PKPab**	**07 36 08.2**	**+0.2**
	0.8nm,0.8s,baz=157,slow=1.3,SNR=5.0						
BRTR	**Keskin Array B**	**145.03**	**277**	PKPbc	**PKPdf**	**07 36 10.2**	**+0.4**
BRTR	**Keskin Array B**	**145.03**	**277**	PKPbc	**PKPdf**	**07 36 10.2**	**+0.4**
	1.4nm,0.8s,baz=89,slow=3.4,SNR=5.0						
ARCES	**ARCESS Array B**	**149.50**	**334**	PKPbc	**PKPbc**	**07 36 21.7**	**+1.1**
ARCES	**ARCESS Array B**	**149.50**	**334**	PKPbc	**PKPbc**	**07 36 21.7**	**+1.1**
	2.1nm,0.7s,baz=100,slow=2.0,SNR=3.6						

GUC 16 07:22:24.6±0.8, 20.73S×70.19W, h24km±4km, ML3.6, 4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HMBC	**Humberstone**	**0.54**	**32**	AML	AML	07 22 50.7	
	comp=N,3µm,0.5s						
PB01	**Plate Boundary**	**0.73**	**115**	*i* P	Pb	07 22 38.1	-0.7
PB01				*i* S	Sb	07 22 47.4	-1.1
PSGC	**Pisagua**	**1.13**	**3**⇓	*i* P	Pn	07 22 44.5	-0.6
PSGC				*i* S	Sn	07 22 59.1	-0.9
PSGC				AML	AML	07 23 00.3	
	comp=E,2µm,0.3s						
PB09	**Plate Boundary**	**1.38**	**140**⇓	*i* P	Pn	07 22 49.1	+0.5
PB09				*i* S	Sn	07 23 06.8	+0.5
PB09				AML	AML	07 23 08.5	
	comp=E,5µm,0.5s						
PB04	**Plate Boundary**	**1.66**	**157**⇓	*i* P	Pn	07 22 51.8	-0.5
PB04				*i* S	Sn	07 23 12.9	+0.2
PB04				AML	AML	07 23 17.6	
	comp=E,1µm,0.7s						
LVC	**Limon Verde**	**2.22**	**148**⇓	*i* P	Pb	07 23 02.4	-2.0
LVC				*i* S	Sb	07 23 30.9	-0.7
CEN1	**Los Morros**	**2.64**	**180**	*i* P	Pb	07 23 10.6	-0.8
CEN1				*i* S	Sb	07 23 45.5	+1.8
CEN1				AML	AML	07 23 59.2	
	comp=N,105nm,0.7s						
ANCH	**Antofagasta**	**2.94**	**184**	AML	AML	07 24 03.9	
	comp=N,251nm,0.0s						

KRSC 16 07:28:24.6±1.4, 49.35N×156.22E, h5km±5km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.34**	**357**	*e*P	Pn	07 28 49.1	-0.8
SKR				*i* S	Sb	07 29 07.3	-0.2
PAU	**Pauzhetka**	**2.15**	**10**	*e*P	Pn	07 29 02.4	+1.3
PAU				*i* S	Sb	07 29 29.9	-1.1
MIPR	**Malaya Ipel'ka**	**2.95**	**6**	P	Pn	07 29 12.7	+0.6
ASAK	**Asacha**	**3.22**	**19**	*e*P	Pn	07 29 17.2	+1.3
MTVR	**Mutnovka**	**3.37**	**21**	*e*P	Pn	07 29 18.9	+0.8
MTVR				*i* S	Sn	07 29 59.0	+0.3
RUS	**Russkaya**	**3.41**	**24**	*e*P	Pn	07 29 18.6	+0.2
RUS				*i* S	Sn	07 29 58.6	-0.6
APC	**Apacha**	**3.63**	**9**	P	Pn	07 29 23.1	+1.7
UGLR	**Uglovaya**	**4.20**	**22**	*e*P	Pn	07 29 31.1	+1.8
KOK	**Koryaka**	**4.23**	**20**	*e*P	Pn	07 29 32.2	+2.4
KRER	**Koryakskii**	**4.26**	**21**	P	Pn	07 29 31.9	+1.5
GNL	**Ganaly**	**4.48**	**13**	P	Pn	07 29 35.2	+1.9

IDC 16 07:29:00.9±4.9, 18.76S×172.09W, h0km, mb4.2/4, mb1 4.5/4, mb1mx3.9/21, mbtmp4.2/4, Error ellipse: s-maj=212.1km s-min=35.9km az=138.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.55**	**243**	P	P	07 37 06.6	-0.1
	1.8nm,0.5s,baz=109,slow=12,SNR=5.2						
ASAR	**Alice Springs**	**50.34**	**254**	P	P	07 37 59.9	-0.1
	4.5nm,0.5s,baz=97,slow=7.8,SNR=72						
WRA	**Warramunga Arr**	**50.38**	**259**	P	P	07 38 00.2	-0.1
	3.2nm,0.8s,baz=97,slow=7.6,SNR=42						
ILAR	**Eielson Array**	**85.49**	**11**	P	P	07 41 40.1	-0.1
	0.5nm,0.8s,baz=203,slow=3.9,SNR=5.2						

*IDC **16** 08:10:23.9±13.0, 45.89S×167.86E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/13, mbtmp3.4/2, Error ellipse: s-maj=643.2km s-min=50.0km az=50.0*
*NEIC **16** 08:10:27.1, 46.22S×165.70E, h12km, ML4.1(WEL), After WEL.*

ISC 16 08:10:30.4±1.3, 46.5S±0.1×166.21E±0.08, h13km, n8, σ1$19/8, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.48**	**44**	P*	**Pb**	**08 10 40.3**	**-0.4**
DCZ	**Deep Cove**	**1.23**	**33**	P*	Pn	08 10 49.0	-4.3
APZ	**The Paps**	**1.27**	**105**	Pn	**Pg**	**08 10 55.1**	**+0.3**
WHZ	**Wether Hill Ro**	**1.36**	**63**	Pn	**Pn**	**08 10 54.5**	**-0.6**
WHZ				Sn	**Sg**	**08 11 15.2**	**+1.1**
JCZ	**Jackson Bay**	**3.03**	**37**	Pn	**Pn**	**08 11 17.1**	**-1.0**
ASAR	**Alice Springs**	**34.52**	**300**	P	**P**	**08 17 19.2**	**+0.8**
	0.2nm,0.5s,baz=132,slow=8.1,SNR=4.9						
WRA	**Warramunga Arr**	**37.16**	**305**	P	**P**	**08 17 42.4**	**+1.3**
	0.5nm,0.8s,baz=136,slow=7.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**144.27**	**206**	PKPbc	**PKPab**	**08 30 02.9**	**-1.4**
	0.2nm,0.4s,baz=171,slow=2.2,SNR=4.5						

*AUST **16**

TUZ	**Tuapeka**	**2.62**	**86**	Pn		**Pn**	**08 22 21.7**	**+1.1**
ODZ	**Otahua Downs**	**3.54**	**72**	Pn		**Pn**	**08 22 33.2**	**0.0**
LBZ	**Lake Benmore**	**3.54**	**60**	Pn		**Pn**	**08 22 34.5**	**+1.2**
RPZ	**Rata Peaks**	**4.44**	**58**	*e*Pn		**Pn**	**08 22 46.0**	**+0.4**
RPZ				*e*Sn		Sn	08 23 24.8	-12
RPZ	**Rata Peaks**	**4.44**	**58**	Pn		**Pn**	**08 22 45.7**	**0.0**
	baz=219,slow=6.8							
RPZ				Sn		**Sn**	**08 23 38.6**	**+1.4**
	4.8nm,0.3s,baz=145,slow=21,SNR=1.3							
TOO	**Toolangi**	**17.44**	**292**	P		**P**	**08 25 42.0**	**-0.7**
	baz=17,SNR=4.8							
ASAR	**Alice Springs**	**34.19**	**300**	P		**P**	**08 28 24.8**	**+1.1**
	0.3nm,0.5s,baz=128,slow=7.7,SNR=6.8							
WRA	**Warramunga Arr**	**36.81**	**305**	P		**P**	**08 28 46.3**	**+0.1**
	0.2nm,0.5s,baz=138,slow=7.7,SNR=9.6							
BLDU	**Ballidu**	**40.89**	**275**	P		P	08 29 30.0	+10
	baz=41,SNR=7.8							
MKAR	**Makanchi Array**	**118.02**	**309**	PKP		**PKPdf**	**08 40 24.5**	**+0.1**
	0.2nm,0.5s,baz=120,slow=1.9,SNR=3.6							
TORD	**Torodi Ar. Bea**	**144.43**	**207**	PKP		**PKPdf**	**08 41 13.5**	**-1.4**
	0.9nm,0.5s,baz=152,slow=1.8,SNR=26							
BRTR	**Keskin Array B**	**144.90**	**277**	PKP		**PKPdf**	**08 41 15.4**	**+0.3**
	0.5nm,0.5s,baz=182,slow=7.2,SNR=3.1							
SCHQ	**Schefferville**	**146.13**	**56**	PKPbc		**PKPab**	**08 41 17.8**	**-0.5**
	3.4nm,0.9s,baz=236,slow=11,SNR=3.4							
ARCES	**ARCESS Array B**	**149.52**	**334**	PKPbc		**PKPbc**	**08 41 27.6**	**+1.4**
	1.3nm,0.6s,baz=72,slow=4.0,SNR=8.6							
FINES	**FINESS Array B**	**152.38**	**318**	PKPbc		**PKPbc**	**08 41 33.7**	**+0.6**
	1.7nm,1.0s,baz=92,slow=7.0,SNR=5.3							

IDC 16 08:23:44.8±5.2, 23.00S×175.50W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/19, mbtmp4.1/3, Error ellipse: s-maj=179.4km s-min=46.3km az=17.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.89**	**247**	P	P	08 31 11.7	-0.6
	1.0nm,0.4s,baz=84,slow=8.4,SNR=5.2						
ASAR	**Alice Springs**	**46.27**	**259**	P	P	08 32 12.1	-0.3
	0.7nm,0.4s,baz=92,slow=6.9,SNR=22						
WRA	**Warramunga Arr**	**46.61**	**264**	P	P	08 32 15.3	+0.2
	2.4nm,0.5s,baz=103,slow=8.3,SNR=89						
TORD	**Torodi Ar. Bea**	**169.85**	**164**	PKPab	PKPab	08 45 09.2	-0.2
	0.2nm,0.4s,baz=212,slow=1.2,SNR=4.5						

*JMA **16** 08:25:30.1±0.1, 44.88N×141.46E, h286km, M2.5*
*ISCJB **16** 08:25:31.1±0.6, 44.77N±0.06×141.51E±0.10, h279km, mb2.9/4, Error ellipse: s-maj=9.7km s-min=8.1km az=151.5*
*IDC **16** 08:25:31.9±1.3, 44.89N×141.39E, h267km±12km, mb2.8/4, mb1 3.1/5, mb1mx2.8/24, mbtmp2.8/5, Error ellipse: s-maj=35.4km s-min=20.8km az=125.0*
ISC 16 08:25:32.0±0.9, 44.76N±0.08×141.50E±0.08, h279km, n19, σ1§41/23, mb3.0/4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYG	**Yagishiri**	**0.34**	**189**	P	**Pn**	**08 26 06.9**	**-1.0**
JSS	**Shosan**	**0.44**	**145**	P	**Pn**	**08 26 07.8**	**-0.4**
JWK2	**Keihoku**	**0.63**	**27**	P	**Pn**	**08 26 06.9**	**-1.6**
JSE	**Soyaes**	**0.80**	**75**	P	**Pn**	**08 26 07.8**	**-1.4**
ASAJ	**Asahikawa**	**1.02**	**129**	P	**Pn**	**08 26 09.6**	**-0.6**
ASAJ	**Asahikawa**	**1.02**	**129**	P	**Pn**	**08 26 09.7**	**-0.6**
	5.4nm,0.3s,baz=284,slow=7.9,SNR=25						
ASAJ				S	S	08 26 29.9	-11
	0.4nm,0.3s,baz=28,slow=14,SNR=3.5						
JKK2	**Kamakawa 2**	**1.26**	**134**	P	**Pn**	**08 26 11.4**	**-0.3**
JKK2				*e*S	**S**	**08 26 43.0**	**0.0**
JAR	**Ashorobuto**	**2.19**	**131**	P	**Pn**	**08 26 18.9**	**+0.2**
JAR				*e*S	**S**	**08 26 56.0**	**+0.3**
JCH	**Churui**	**2.53**	**147**	P	**Pn**	**08 26 20.9**	**-0.9**
JCH				*e*S	**S**	**08 26 58.9**	**-2.4**
JNBK	**Urakawa-nobuka**	**2.64**	**159**	*e*S	**S**	**08 27 02.4**	**-0.8**
JKB	**Kayabe**	**2.89**	**187**	P	**Pn**	**08 26 24.4**	**-0.9**
JKB				*e*S	**S**	**08 27 06.9**	**-0.7**
JAK	**Akkeshi**	**2.91**	**126**	*e*S	**S**	**08 27 06.0**	**-1.9**
NEM2	**Nemuro 2**	**3.36**	**113**	*e*S	**S**	**08 27 13.5**	**-2.9**
JOT	**Ohata**	**3.39**	**186**	*e*S	**S**	**08 27 15.4**	**-1.7**
USRK	**Ussuriysk Arra**	**6.82**	**269**	P	**Pn**	**08 27 09.3**	**-1.4**
	0.2nm,0.3s,baz=94,slow=12,SNR=4.9						
ILAR	**Eielson Array**	**43.09**	**37**	P	**P**	**08 33 04.8**	**+0.2**
	0.3nm,0.6s,baz=269,slow=7.4,SNR=4.8						
WRA	**Warramunga Arr**	**64.72**	**187**	P	**P**	**08 35 42.0**	**+1.4**
	0.2nm,0.9s,baz=14,slow=6.9,SNR=3.4						
ASAR	**Alice Springs**	**68.44**	**187**	P	**P**	**08 36 06.3**	**+2.2**
	0.2nm,0.5s,baz=359,slow=5.1,SNR=5.6						
PDAR	**Pinedale Array**	**72.28**	**47**	P	**P**	**08 36 28.3**	**+0.9**
	0.3nm,0.5s,baz=302,slow=4.1,SNR=3.4						

*ISCJB **16** 08:28:55.4±1.0, 45.46S±0.05×166.54E±0.05, h7km±8km, mb3.9/5, MS3.4/4, Error ellipse: s-maj=8.1km s-min=5.3km az=164.6*
*IDC **16** 08:28:55.8±0.9, 45.42S×166.60E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/15, mbtmp3.8/5, ML4.1/2, MS3.5/4, Ms1 3.4/4, ms1mx3.2/21, Error ellipse: s-maj=27.2km s-min=21.8km az=1.0*
*NEIC **16** 08:28:57.5, 45.58S×166.62E, h4km, mb4.2/2, ML4.7(WEL), After WEL.*
ISC 16 08:28:56.8±1.7, 45.54S±0.06×166.58E±0.06, h7km±12km, n46, σ1§09/48, mb3.9/5, MS3.4/4, 1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.41**	**81**	ǁPg	**Pb**	**08 29 05.6**	**-0.6**
DCZ				Sg	**Sg**	**08 29 10.9**	**+0.9**
PYZ	**Puysegur Point**	**0.63**	**174**	Pg	**Pb**	**08 29 09.4**	**-0.7**
PYZ				Sg	**Sg**	**08 29 17.4**	**+0.2**
WHZ	**Wether Hill Ro**	**1.02**	**111**	P*	**Pg**	**08 29 16.1**	**-0.3**
MSZ	**Milford Sound**	**1.29**	**48**	P*	Pg	08 29 18.6	-2.8
APZ	**The Paps**	**1.62**	**143**	Pn	**Pn**	**08 29 25.8**	**0.0**
WKZ	**Wanaka**	**1.86**	**68**	Pn	**Pn**	**08 29 29.1**	**+0.1**
EAZ	**Earnscleugh**	**1.94**	**82**	Pn	**Pn**	**08 29 30.6**	**+0.5**
SYZ	**Scrubby Hill**	**2.04**	**120**	Pn	**Pn**	**08 29 32.8**	**+1.3**
TUZ	**Tuapeka**	**2.17**	**102**	Pn	**Pn**	**08 29 34.4**	**+1.1**
LBZ	**Lake Benmore**	**2.80**	**67**	Pn	**Pn**	**08 29 41.3**	**-0.7**
ODZ	**Otahua Downs**	**2.91**	**82**	*e*Pn	**Pn**	**08 29 43.1**	**-0.3**
ODZ				*e*Sn	**Sn**	**08 30 19.1**	**+0.5**
FOZ	**Fox Glacier**	**2.97**	**49**	Pn	**Pn**	**08 29 45.7**	**+1.4**
RPZ	**Rata Peaks**	**3.68**	**62**	*e*Pn	**Pn**	**08 29 52.6**	**-1.3**
RPZ				*e*Sn	**Sn**	**08 30 40.7**	**+3.2**
RPZ	**Rata Peaks**	**3.68**	**62**	Pn	**Pn**	**08 29 52.5**	**-1.5**
	66nm,0.3s,baz=226,slow=5.1,SNR=88						
RPZ				Sn	**Sn**	**08 30 37.7**	**+0.1**
	35nm,0.3s,baz=2.4,slow=19,SNR=2.0						
WVZ	**Waitaha Valley**	**3.87**	**52**	Pn	**Pn**	**08 29 56.4**	**-0.2**
LTZ	**Lake Taylor**	**4.93**	**58**	Pn	**Pn**	**08 30 09.3**	**-1.9**
DSZ	**Denniston Nort**	**5.36**	**47**	Pn	**Pn**	**08 30 16.4**	**-0.7**
QRZ	**Quartz Range**	**6.41**	**45**	Pn	**Pn**	**08 30 30.7**	**-0.8**
NNZ	**Nelson**	**6.57**	**51**	Pn	**Pn**	**08 30 32.7**	**-1.0**
MKAZ	**Moumakai**	**10.60**	**40**	Pn	**Pn**	**08 31 28.8**	**-0.2**
URZ	**Urewera**	**10.69**	**51**	*e*Pn	**Pn**	**08 31 31.9**	**+1.7**
URZ				*e*Sn	**Sn**	**08 33 27.6**	**-2.5**
URZ	**Urewera**	**10.69**	**51**	Pn	**Pn**	**08 31 30.1**	**-0.1**
	0.4nm,0.3s,baz=231,slow=7.4,SNR=3.5						
URZ				Sn	Sn	08 33 23.2	-6.9
	0.4nm,0.3s,baz=89,slow=20,SNR=2.6						
MOO	**Moorlands**	**14.30**	**276**	P	**Pn**	**08 32 20.7**	**+1.2**
	baz=5.2,SNR=5.3						
MILA	**Mila**	**15.58**	**297**	P	**Pn**	**08 32 34.8**	**-2.0**
	baz=5.8,SNR=28						
TOO	**Toolangi**	**17.65**	**289**	P	**Pn**	**08 33 03.4**	**+0.4**
	baz=7.7,SNR=18						
YNG	**Young**	**17.86**	**303**	P	**Pn**	**08 33 06.5**	**+0.9**
	baz=8.4,SNR=6.1						
ARPS	**Mount Arapiles**	**20.53**	**287**	P	Pn	08 33 43.4	+5.8
	baz=11,SNR=10						
STKA	**Stephens Creek**	**23.68**	**297**	*e*P	**P**	**08 34 10.6**	**+1.7**
STKA	**Stephens Creek**	**23.68**	**297**	P	**P**	**08 34 09.3**	**+0.4**
	2.4nm,0.8s,baz=118,slow=13,SNR=5.6						
STKA				LR	LR	08 42 26.8	
	comp=Z,113nm,19.1s,baz=206,slow=34						
ASAR	**Alice Springs**	**34.28**	**298**	P	**P**	**08 35 43.2**	**-0.3**
ASAR	**Alice Springs**	**34.28**	**298**	P	**P**	**08 35 43.2**	**-0.3**
	0.7nm,0.6s,baz=135,slow=8.1,SNR=9.4						
ASAR				LR	LR	08 48 38.1	
	comp=Z,130nm,21.4s,baz=244,slow=34						
HNR	**Honiara**	**36.43**	**349**	LR	LR	08 48 11.9	
	comp=Z,70nm,18.5s,baz=50,slow=32						

WRA	**Warramunga Arr**	**36.83**	**303**	P		**P**	**08 36 04.5**	**-1.0**
WRA	**Warramunga Arr**	**36.83**	**303**	P		**P**	**08 36 04.5**	**-1.0**
	1.8nm,1.0s,baz=139,slow=8.2,SNR=6.2							
WRAB	**Tennant Creek**	**36.83**	**303**	*e*P		**P**	**08 36 06.5**	**+1.0**
	6.0nm,1.0s							
QSPA	**South Pole Qui**	**44.59**	**180**	*e*P		**P**	**08 37 09.2**	**0.0**
	3.6nm,1.3s							
QSPA	**South Pole Qui**	**44.59**	**180**	P		**P**	**08 37 10.5**	**+1.3**
	1.1nm,1.0s,baz=11,slow=5.3,SNR=7.0							
KSRS	**Korea Array**	**89.66**	**330**	LR		LR	09 20 36.5	
	comp=Z,9.7nm,18.8s,baz=270,slow=35							
TORD	**Torodi Ar. Bea**	**145.26**	**206**	PKPbc		**PKPbc**	**08 48 34.6**	**-0.5**
TORD	**Torodi Ar. Bea**	**145.26**	**206**	PKPbc		**PKPbc**	**08 48 34.6**	**-0.5**
	3.4nm,0.7s,baz=146,slow=2.2,SNR=27							
BRTR	**Keskin Array B**	**145.30**	**277**	PKPbc		**PKPbc**	**08 48 34.8**	**0.0**
BRTR	**Keskin Array B**	**145.30**	**277**	PKPbc		**PKPbc**	**08 48 34.8**	**0.0**
	1.2nm,0.8s,baz=180,slow=8.3,SNR=5.0							
ARCES	**ARCESS Array B**	**149.12**	**334**	PKPbc		**PKPbc**	**08 48 43.6**	**-0.8**
ARCES	**ARCESS Array B**	**149.12**	**334**	PKPbc		**PKPbc**	**08 48 43.6**	**-0.8**
	1.8nm,0.8s,baz=79,slow=2.6,SNR=7.6							
FINES	**FINESS Array B**	**152.19**	**319**	PKPbc		**PKPbc**	**08 48 51.6**	**-0.2**
FINES	**FINESS Array B**	**152.19**	**319**	PKPbc		**PKPbc**	**08 48 51.6**	**-0.2**
	1.9nm,1.0s,baz=76,slow=5.9,SNR=5.7							

IDC 16 08:40:12.9±2.6, 17.20S×178.22W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.8/19, mbtmp4.1/5, Error ellipse: s-maj=68.1km s-min=36.8km az=32.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.13**	**240**	P	P	08 47 43.4	+1.0
	0.8nm,0.4s,baz=92,slow=9.1,SNR=8.9						
WRA	**Warramunga Arr**	**44.94**	**259**	P	P	08 48 28.9	-1.2
	0.6nm,0.5s,baz=96,slow=6.8,SNR=14						
ASAR	**Alice Springs**	**45.16**	**254**	P	P	08 48 30.9	-0.8
	5.2nm,0.5s,baz=89,slow=8.2,SNR=104						
VNDA	**Vanda**	**61.12**	**185**	P	P	08 50 29.7	+0.9
	0.3nm,0.3s,baz=3.5,slow=6.2,SNR=6.0						
CMAR	**Chiang Mai Arr**	**88.82**	**290**	P	P	08 53 10.7	+1.2
	0.7nm,0.3s,baz=90,slow=6.3,SNR=5.7						
TORD	**Torodi Ar. Bea**	**175.97**	**179**	PKPab	PKPab	09 02 02.4	-2.2
	0.3nm,0.9s,baz=200,slow=2.2,SNR=3.0						

*CSEM **16** 08:44:30.0±0.8, 34.59N×36.61E, h2km, ML2.1, Error ellipse: s-maj=18.2km s-min=14.8km az=42.0*
NSSC 16 08:44:30.6±2.0, 34.54N×36.58E, h4km±12km, ML2.1, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAWK	**Haweek**	**0.14**	**263**	*e*P	Pg	08 44 31.4	-2.2
HAWK				*e*S	Sg	08 44 36.2	+0.6
HAWK				AML	AML	08 44 38.6	
	comp=N,1μm,0.4s						
HAWK				AML	AML	08 44 41.6	
	comp=E,479nm,0.5s						
HAWK	**Haweek**	**0.14**	**263**	*e*P	Pg	08 44 32.7	-0.9
HAWK				*e*S	Sg	08 44 36.5	+0.9
HAWK				AML	AML	08 44 38.6	
	comp=N,1μm,0.4s						
HAWK				AML	AML	08 44 41.6	
	comp=E,479nm,0.5s						
HAWK	**Haweek**	**0.14**	**263**	*e*P	Pg	08 44 32.7	-0.9
	SNR=105						
HAWK				*e*S	Sg	08 44 36.5	+0.9
	comp=E,479nm,0.5s,SNR=59						
HWQ	**Hawqa**	**0.58**	**244**	*e*P	Pn	08 44 45.8	-0.1
HWQ	**Hawqa**	**0.58**	**244**	*e*P	Pn	08 44 45.8	-0.1
RCY	**Rachaya**	**1.21**	**211**	*e*P	Pn	08 44 55.0	+0.4
BRBR	**Barbar**	**1.24**	**205**	*e*P	Pb	08 44 54.9	0.0
BRBR				*e*S	Sg	08 45 11.1	+0.1
BRBR				AML	AML	08 45 19.4	
	comp=E,61nm,0.6s						
BRBR				AML	AML	08 45 27.5	
	comp=N,46nm,0.5s						
BRBR	**Barbar**	**1.24**	**205**	*e*P	Pn	08 44 55.2	+0.1
BRBR				*e*S	Sg	08 45 10.5	-0.5
BRBR				AML	AML	08 45 19.4	
	comp=E,61nm,0.6s						
BRBR				AML	AML	08 45 27.5	
	comp=N,46nm,0.5s						
BRBR	**Barbar**	**1.24**	**205**	*e*P	Pn	08 44 55.2	+0.1
	SNR=57						
BRBR				*e*S	Sg	08 45 10.5	-0.5
	comp=N,46nm,0.5s,SNR=49						
ZALF	**Zalf**	**1.73**	**158**	*e*P	Pn	08 45 01.8	+0.2
ZALF				*e*S	Sn	08 45 23.5	-0.7
ZALF				AML	AML	08 45 25.1	
	comp=N,34nm,0.6s						
ZALF				AML	AML	08 45 27.5	
	comp=E,28nm,0.4s						
ZALF	**Zalf**	**1.73**	**158**	*e*P	Pn	08 45 01.8	+0.1
ZALF				*e*S	Sn	08 45 23.4	-0.8
ZALF				AML	AML	08 45 25.2	
	comp=N,34nm,0.6s						
ZALF				AML	AML	08 45 27.4	
	comp=E,28nm,0.4s						
ZALF	**Zalf**	**1.73**	**158**	*e*P	Pn	08 45 01.8	+0.2
	SNR=45						
ZALF				*e*S	Sn	08 45 23.4	-0.8
	comp=E,28nm,0.4s,SNR=40						
SALA	**Sala**	**1.83**	**176**	*e*P	Pb	08 45 04.2	-0.8
SALA				*e*S	Sn	08 45 27.6	+0.6
SALA				AML	AML	08 45 29.8	
	comp=N,74nm,0.5s						
SALA				AML	AML	08 45 32.1	
	comp=E,4.8nm,0.5s						
SALA	**Sala**	**1.83**	**176**	*e*P	Pb	08 45 04.2	-0.7
	SNR=45						
SALA				*e*S	Sn	08 45 26.3	-0.6
	comp=E,4.8nm,0.5s,SNR=40						

*IDC **16** 08:48:32.9±1.0, 14.93N×118.93E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.8/24, mbtmp3.9/8, ML4.4/1, Error ellipse: s-maj=33.3km s-min=16.1km az=63.0*
*ISCJB **16** 08:48:34.2±0.8, 14.92N±0.10×118.9E±0.1, h22km, mb3.9/8, Error ellipse: s-maj=17.7km s-min=8.6km az=135.4*
*NEIC **16** 08:48:38.1±2.7, 14.93N×118.97E, h38km±26km, mb4.2/1, Error ellipse: s-maj=29.8km s-min=10.2km az=74.0*
ISC 16 08:48:36.2±1.1, 14.9N±0.1×118.9E±0.1, h22km, n17, σ0§44/19, mb4.0/8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**2.12**	**113**	Pn	**Pn**	**08 49 10.6**	**+0.2**
TGY				Sn	**Sn**	**08 49 36.2**	**+0.1**
TGY	**Tagaytay City**	**2.12**	**113**	Pn	**Pn**	**08 49 10.6**	**+0.2**
	116nm,0.3s,baz=205,slow=3.6,SNR=6.2						
TGY				Sn	**Sn**	**08 49 36.2**	**+0.1**
	40nm,0.3s,baz=126,slow=23,SNR=1.4						
KSAR	**Wonju Array Be**	**23.78**	**18**	P	**P**	**08 53 46.6**	**-0.6**
KSRS	**Korea Array**	**23.80**	**18**	P	**P**	**08 53 46.6**	**-0.8**
	0.6nm,0.5s,baz=196,slow=8.4,SNR=3.5						
SONM	**Songino Array**	**34.40**	**345**	P	**P**	**08 55 22.2**	**+0.2**
SONM	**Songino Array**	**34.40**	**345**	P	**P**	**08 55 22.2**	**+0.2**
	0.7nm,0.6s,baz=168,slow=10,SNR=4.1						
WRAB	**Tennant Creek**	**37.83**	**156**	*e*P	**P**	**08 55 50.9**	**-0.5**
	2.5nm,0.7s						
WRA	**Warramunga Arr**	**37.84**	**156**	P	**P**	**08 55 50.8**	**-0.6**
WRA	**Warramunga Arr**	**37.84**	**156**	P	**P**	**08 55 50.8**	**-0.6**
	1.4nm,0.4s,baz=332,slow=9.8,SNR=44						
ASAR	**Alice Springs**	**41.07**	**159**	P	**P**	**08 56 18.5**	**+0.1**
ASAR	**Alice Springs**	**41.07**	**159**	P	**P**	**08 56 18.5**	**+0.1**
	1.4nm,0.6s,baz=342,slow=8.4,SNR=24						
MKAR	**Makanchi Array**	**44.02**	**324**	P	**P**	**08 56 42.6**	**+0.4**
MKAR	**Makanchi Array**	**44.02**	**324**	P	**P**	**08 56 42.6**	**+0.4**
	0.6nm,0.7s,baz=126,slow=9.7,SNR=5.5						
ZALV	**Zalesovo Beam**	**47.17**	**333**	P	**P**	**08 57 06.7**	**-0.3**
ZALV	**Zalesovo Beam**	**47.17**	**333**	P	**P**	**08 57 06.7**	**-0.3**
	0.6nm,0.3s,baz=128,slow=9.3,SNR=2.4						
PETK	**Petropavlovsk-**	**48.80**	**30**	P	**P**	**08 57 19.9**	**+0.3**
PETK	**Petropavlovsk-**	**48.80**	**30**	P	**P**	**08 57 19.9**	**+0.3**
	3.3nm,0.6s,baz=205,slow=6.4,SNR=9.2						

*IDC **16** 09:06:38.1±0.8, 18.01S×167.29E, h0km, mb4.1/12, mb1 4.3/14, mb1mx4.2/20, mbtmp4.1/14, ML3.9/2, MS3.3/4, Ms1 3.3/4, ms1mx3.0/26, Error ellipse: s-maj=23.4km s-min=18.2km az=103.0*
*NOU **16** 09:06:38.5±0.7, 17.81S×167.42E, h30km, MD3.3*
*ISCJB **16** 09:06:39.6±0.6, 18.14S±0.04×167.3E±0.1, h23km, mb4.0/13, MS3.4/3, Error ellipse: s-maj=13.9km s-min=5.1km az=2.6*
*NEIC **16** 09:06:39.4±0.6, 18.01S×167.27E, h10km, mb4.3/2, Error ellipse: s-maj=14.2km s-min=12.0km az=118.0*
ISC 16 09:06:41.7±0.7, 18.11S±0.06×167.3E±0.1, h23km, n48, σ1§48/48, mb4.0/12, MS3.4/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.01**	**191**	*e*Pn	**Pn**	**09 07 41.0**	**-0.8**
DZM				Sn	**Sn**	**09 08 24.3**	**-3.9**
DZM				*e*Sn	Sb	09 08 30.3	-10
DZM	**Mont Dzumac**	**4.01**	**191**	Pn	**Pn**	**09 07 41.2**	**-0.6**
	6.9nm,0.3s,baz=270,slow=24,SNR=67						
DZM				Sn	**Sn**	**09 08 24.3**	**-3.9**
	4.3nm,0.3s,baz=270,slow=24,SNR=4.1						
BAYA	**Yate Dam**	**4.04**	**185**	*e*P	**Pn**	**09 07 41.4**	**-0.7**
BAYA				*e*S	**Sn**	**09 08 27.6**	**-1.0**
NOUC	**Port Laguerre**	**4.07**	**193**	*e*P	**Pn**	**09 07 42.1**	**-0.5**
NOUC				*e*S	**Sn**	**09 08 28.5**	**-0.9**
NOUC				AMP		09 08 35.8	
	comp=Z,30nm,8.0s						
LASL	**Noumea**	**4.15**	**189**	*e*S	**Sn**	**09 08 31.4**	**-0.1**
PLUM	**Mont Dore**	**4.18**	**188**	*e*S	**Sn**	**09 08 32.0**	**-0.2**
HNR	**Honiara**	**11.18**	**320**	LR	LR	09 12 01.7	
	comp=Z,47nm,19.8s,baz=38,slow=29						
RMQ	**Roma**	**19.04**	**241**	P	**Pn**	**09 11 06.8**	**+3.8**
	baz=9.7,SNR=6.9						
CTA	**Charters Tower**	**19.96**	**261**	P	**Pn**	**09 11 14.2**	**0.0**
CTA	**Charters Tower**	**19.96**	**261**	P	**Pn**	**09 11 14.2**	**0.0**
	comp=Z,0.2nm,0.3s,baz=94,slow=14,SNR=4.4						
CTAO	**Charters Tower**	**19.96**	**261**	P	**P**	**09 11 11.2**	**-1.2**
AFI	**Afiamalu**	**20.56**	**81**	LR	LR	09 17 16.4	
	comp=Z,181nm,19.2s,baz=67,slow=31						
PMG	**Port Moresby**	**21.35**	**291**	LR	LR	09 18 10.5	
	comp=Z,133nm,19.0s,baz=153,slow=32						
URZ	**Urewera**	**21.84**	**159**	P	**P**	**09 11 35.0**	**+2.5**
URZ	**Urewera**	**21.84**	**159**	P	**P**	**09 11 35.0**	**+2.5**
	comp=Z,2.6nm,0.6s,baz=306,slow=11,SNR=3.6						
CMSA	**Cobar Meteorol**	**23.66**	**232**	P	**P**	**09 11 53.4**	**+1.9**
	baz=15,SNR=5.9						
STKA	**Stephens Creek**	**26.92**	**235**	*e*P	**P**	**09 12 21.9**	**+0.6**
	comp=Z,2.0nm,0.9s						
STKA	**Stephens Creek**	**26.92**	**235**	P	**P**	**09 12 22.6**	**+1.4**
	comp=Z,7.9nm,0.8s,baz=65,slow=8.4,SNR=17						
STKA				LR	LR	09 22 24.2	
	comp=Z,84nm,20.2s,baz=228,slow=35						
STKA	**Stephens Creek**	**26.92**	**235**	P	**P**	**09 12 22.7**	**+1.4**
	baz=18,SNR=4.4						
WRAB	**Tennant Creek**	**31.15**	**261**	P	**P**	**09 12 58.7**	**-0.4**
WRA	**Warramunga Arr**	**31.16**	**261**	P	**P**	**09 12 57.4**	**-1.8**
WRA	**Warramunga Arr**	**31.16**	**261**	P	**P**	**09 12 57.4**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=79,slow=6.0,SNR=8.1						
BBOO	**Buckleboo**	**31.61**	**236**	P	**P**	**09 13 04.3**	**+1.3**
	baz=22,SNR=5.1						
AS31	**Alice Springs**	**31.61**	**254**	*e*P	**P**	**09 13 02.7**	**-0.5**
ASAR	**Alice Springs**	**31.62**	**254**	P	**P**	**09 13 02.6**	**-0.5**
ASAR	**Alice Springs**	**31.62**	**254**	P	**P**	**09 13 02.6**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=83,slow=8.3,SNR=27						
MTN	**Manton Dam**	**35.18**	**273**	P	P	09 13 37.6	+3.4
	baz=27,SNR=3.2						
FITZ	**Fitzroy Crossi**	**39.51**	**263**	P	**P**	**09 14 11.3**	**+0.4**
	baz=30,SNR=3.1						
MEEK	**Meekatharra**	**45.57**	**250**	P	**P**	**09 15 00.7**	**+0.6**
	baz=36,SNR=6.3						
VNDA	**Vanda**	**59.50**	**181**	P	**P**	**09 16 42.5**	**+0.1**
VNDA	**Vanda**	**59.50**	**181**	P	**P**	**09 16 42.5**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=15,slow=4.9,SNR=1.5						
MJAR	**Matsushiro Arr**	**60.91**	**333**	P	**P**	**09 16 51.9**	**-0.8**
MJAR	**Matsushiro Arr**	**60.91**	**333**	P	**P**	**09 16 51.9**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=156,slow=9.3,SNR=3.3						
USRK	**Ussuriysk Arra**	**69.89**	**334**	P	**P**	**09 17 50.9**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=114,slow=4.8,SNR=5.1						
CMAR	**Chiang Mai Arr**	**76.35**	**295**	P	**P**	**09 18 31.2**	**+1.8**
CMAR	**Chiang Mai Arr**	**76.35**	**295**	P	**P**	**09 18 31.2**	**+1.8**
	comp=Z,1.8nm,

CAIG				*i* S	Sn	09 39 00.8	-5.1
ARIG	**Puente Sto Nin**	**1.48**	**60**	*e*P	Pn	09 38 43.2	-3.8
ARIG				*i* S	Sn	09 39 01.3	-5.3
PLIG	**Platanillo**	**2.25**	**68**	*i* P	Pn	09 38 55.3	-2.5
PLIG				*i* S	Sn	09 39 21.7	-4.1
YAIG	**Yautepec**	**2.82**	**62**	*i* P	Pn	09 39 03.1	-2.5
YAIG				*i* S	Sn	09 39 36.1	-3.9

*CSEM **16** 09:52:29.4±0.8, 37.02N×38.80E, h5km, MD3.2, Error ellipse: s-maj=16.5km s-min=10.3km az=173.0*
*ISK **16** 09:52:30.6, 37.15N×38.88E, h5km, MD3.0*
*DDA **16** 09:52:36.5, 37.48N×38.63E, h7km, MD3.2*
ISC 16 09:52:30.7±1.6, 37.15N±0.06×38.84E±0.03, h2km±11km, n19, σ0.71/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.29**	**358**	*e*PG	**Pg**	**09 52 36.5**	**+0.1**
URFA	**Urfa**	**0.29**	**358**	*e*Pg	**Pg**	**09 52 36.5**	**+0.2**
ATAB	**Bozova**	**0.54**	**307**	*i* P	**Pb**	**09 52 42.4**	**-0.5**
ATAB				*i* S	**Sb**	**09 52 50.1**	**-1.0**
ATAB	**Bozova**	**0.54**	**307**	*i* P	**Pb**	**09 52 42.4**	**-0.5**
ATAB				*i* S	**Sb**	**09 52 50.1**	**-1.0**
GZT	**Gaziantep**	**1.04**	**282**	*e*P	**Pn**	**09 52 52.6**	**+0.1**
GZT				*e*S	**Sn**	**09 53 09.8**	**+2.1**
MYA	**Malataya**	**1.22**	**345**	*e*PN	**Pn**	**09 52 54.7**	**-0.2**
MYA				*e*SN	**Sn**	**09 53 12.4**	**+0.3**
MYA	**Malataya**	**1.22**	**345**	*e*Pn	**Pn**	**09 52 54.7**	**-0.2**
MYA				*e*Sn	**Sn**	**09 53 12.4**	**+0.3**
MAZI	**Mazidag**	**1.32**	**76**	*e*PN	**Pn**	**09 52 56.2**	**-0.1**
MAZI				*e*SN	**Sb**	**09 53 13.4**	**-0.4**
MAZI	**Mazidag**	**1.32**	**76**	*e*Pn	**Pn**	**09 52 56.2**	**-0.1**
MAZI				*e*Sn	**Sb**	**09 53 13.4**	**-0.4**
ELZG	**Elazig**	**1.35**	**5**	*e*P	**Pb**	**09 52 56.6**	**-0.3**
ELZG				*e*S	**Sg**	**09 53 14.7**	**+0.6**
ELZG	**Elazig**	**1.35**	**5**	*e*P	**Pb**	**09 52 56.6**	**-0.3**
ELZG				*e*S	**Sg**	**09 53 14.7**	**+0.6**
AKCD	**Akcadag**	**1.35**	**328**	*e*P	**Pg**	**09 52 57.1**	**+0.4**
AKCD				*e*S	**Sn**	**09 53 16.2**	**+0.7**
AKCD	**Akcadag**	**1.35**	**328**	*e*P	**Pg**	**09 52 57.1**	**+0.4**
AKCD				*e*S	**Sn**	**09 53 16.2**	**+0.7**
KMRS	**Kahramanmaras**	**1.58**	**284**	*e*PN	**Pg**	**09 53 00.3**	**-0.8**
KMRS	**Kahramanmaras**	**1.58**	**284**	*e*Pn	**Pg**	**09 53 00.3**	**-0.8**
AYKD	**Aykdinkavak**	**1.64**	**280**	*e*P	**Pg**	**09 53 03.1**	**+0.9**
AYKD				*e*S	**Sg**	**09 53 24.0**	**+0.6**
DARE	**Darende-Malaty**	**1.78**	**323**	*e*PN	**Pb**	**09 53 03.4**	**-0.7**
PTK	**Pertek**	**1.79**	**14**	*e*PN	**Pb**	**09 53 03.9**	**-0.5**
PTK	**Pertek**	**1.79**	**14**	*e*Pn	**Pb**	**09 53 03.9**	**-0.5**

*NEIC **16** 09:54:50.9±1.0, 28.33S×65.93W, h79km±10km, mb4.3/9, Error ellipse: s-maj=17.8km s-min=8.9km az=79.0*
*ISCJB **16** 09:55:03.9±0.9, 27.66S±0.04×67.58W±0.09, h141km±8km, mb4.0/15, Error ellipse: s-maj=13.0km s-min=6.2km az=179.1*
*IDC **16** 09:55:04.3±1.3, 27.64S×67.55W, h130km±12km, mb3.5/7, mb1 3.7/10, mb1mx3.6/21, mbtmp3.5/10, Error ellipse: s-maj=26.0km s-min=9.2km az=83.0*
*GUC **16** 09:55:05.5±0.7, 27.53S×67.66W, h135km±78km, ML4.7*
ISC 16 09:55:04.2±1.2, 27.63S±0.04×67.52W±0.09, h132km±11km, n42, σ1.36/58, mb4.0/15, 7C, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**2.53**	**275**	*i* P	**Pn**	**09 55 44.9**	**0.0**
CPCH				*e*S	**Sn**	**09 56 15.3**	**-0.8**
CPCH	**Copiapo**	**2.53**	**275**	*i* P	**Pn**	**09 55 44.9**	**0.0**
CPCH				*e*S	**Sn**	**09 56 15.3**	**-0.8**
CPCH				AML	AML	09 56 18.6	
	comp=N,6μm,0.1s						
CDCH	**Caldera**	**2.99**	**280**	*e*P	**Pn**	**09 55 51.2**	**+0.5**
CDCH				*i* S	**Sn**	**09 56 25.2**	**-1.3**
CDCH	**Caldera**	**2.99**	**280**	*e*P	**Pn**	**09 55 51.2**	**+0.5**
CDCH				*i* S	**Sn**	**09 56 25.2**	**-1.3**
CDCH				AML	AML	09 56 31.6	
	comp=N,540nm,0.4s						
LCO	**Las Campanas**	**3.12**	**243**	*e*Pn	**Pn**	**09 55 53.5**	**+0.8**
LCO				*e*Sn	**Sn**	**09 56 31.3**	**+1.1**
LCO	**Las Campanas**	**3.12**	**243**	*i* P	**Pn**	**09 55 53.6**	**+0.8**
LCO				*e*S	**Sn**	**09 56 30.9**	**+0.8**
LCO				AML	AML	09 56 32.5	
	comp=E,2μm,0.3s						
TLL	**Tololo Astrono**	**3.83**	**228**	*i* P	**Pn**	**09 56 04.0**	**+2.0**
TLL				*i* S	**Sn**	**09 56 49.0**	**+2.3**
TLL	**Tololo Astrono**	**3.83**	**228**	*i* P	**Pn**	**09 56 04.0**	**+2.0**
TLL				*i* S	**Sn**	**09 56 49.0**	**+2.3**
TLL				AML	AML	09 56 54.7	
	comp=E,712nm,0.3s						
CFAA	**Coronel Fontan**	**4.01**	**189**	P	**Pn**	**09 56 05.2**	**+1.1**
	comp=E,1.8nm,0.3s,baz=3.9,slow=9.7,SNR=385						
CFAA				S	**Sn**	**09 56 50.4**	**-0.4**
	comp=E,19nm,0.3s,baz=344,slow=14,SNR=57						
CMCH	**Combarbala**	**4.66**	**220**	*i* P	**Pn**	**09 56 12.1**	**-0.7**
CMCH				*i* S	**Sn**	**09 57 04.9**	**-1.3**
CMCH	**Combarbala**	**4.66**	**220**	*i* P	**Pn**	**09 56 12.1**	**-0.7**
CMCH				*i* S	**Sn**	**09 57 04.9**	**-1.3**
LVC	**Limon Verde**	**5.15**	**346**	*e*Pn	**Pn**	**09 56 21.4**	**+1.7**
LVC				*e*Sn	**Sn**	**09 57 19.7**	**+1.3**
LVC	**Limon Verde**	**5.15**	**346**	P	**Pn**	**09 56 21.3**	**+1.7**
	comp=E,5.6nm,0.3s,baz=166,slow=9.6,SNR=83						
LVC				S	**Sn**	**09 57 18.3**	**0.0**
	comp=E,4.4nm,0.3s,baz=295,slow=20,SNR=15						
CHNG	**Los Chungos**	**5.47**	**218**	*i* P	**Pn**	**09 56 22.6**	**-0.9**
CHNG				*i* S	**Sn**	**09 57 23.4**	**-2.0**
CHNG	**Los Chungos**	**5.47**	**218**	*i* P	**Pn**	**09 56 22.6**	**-0.9**
CHNG				*i* S	**Sn**	**09 57 23.4**	**-2.0**
LPAZ	**La Paz**	**11.30**	**357**	*e*Pn	**Pn**	**09 57 42.2**	**-0.3**
LPAZ	**La Paz**	**11.30**	**357**	P	**Pn**	**09 57 42.0**	**-0.5**
	comp=E,0.4nm,0.3s,baz=154,slow=5.3,SNR=13						
SIV	**San Ignacio**	**13.04**	**29**	P	Pn	09 58 01.0	-3.6
	comp=E,0.1nm,0.3s,baz=234,slow=19,SNR=3.7						
NNA	**Nana**	**17.85**	**329**	*e*P	**Pn**	**09 59 08.4**	**+4.0**
SAML	**Samuel**	**19.03**	**13**	P	**P**	**09 59 11.9**	**-4.2**
	comp=E,2.3nm,0.5s						
SNAA	**Sanae**	**56.11**	**160**	P	**P**	**10 04 29.6**	**+0.2**
	comp=E,0.2nm,0.5s,baz=289,slow=13,SNR=14						
CNNC	**Cliffs of the**	**63.29**	**351**	*e*P	P	10 05 15.0	-3.8
	comp=E,50nm,0.4s						
WVT	**Waverly**	**66.25**	**342**	*e*P	**P**	**10 05 36.7**	**-1.2**
	comp=E,4.2nm,0.7s						
TXAR	**Lajitas Array**	**66.37**	**326**	P	**P**	**10 05 39.3**	**+0.2**
	comp=E,0.4nm,0.7s,baz=139,slow=7.8,SNR=4.7						
GDL2	**Guadalupe Moun**	**69.06**	**327**	*e*P	**P**	**10 05 55.8**	**-0.1**
ECSD	**EROS Data Cent**	**75.86**	**339**	*e*P	**P**	**10 06 34.9**	**-0.9**
	comp=E,4.1nm,0.6s						
CCUT	**Cedar City**	**77.80**	**324**	*e*P	**P**	**10 06 48.7**	**+1.6**
	comp=E,3.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**78.32**	**68**	P	**P**	**10 06 50.2**	**+0.1**
	comp=E,3.3nm,0.7s,baz=268,slow=5.8,SNR=28						
JLU	**Jordanelle**	**79.19**	**327**	*e*P	**P**	**10 06 55.7**	**+1.0**
	comp=E,2.2nm,0.7s						
BOSA	**Boshof**	**79.52**	**117**	P	**P**	**10 06 57.0**	**+0.2**
	comp=E,2.0nm,0.7s,baz=84,slow=17,SNR=4.9						
PDAR	**Pinedale Array**	**80.03**	**330**	P	**P**	**10 06 59.1**	**-0.1**
	comp=E,1.2nm,0.8s,baz=121,slow=7.4,SNR=9.1						
NVAR	**Mina Array Bea**	**81.08**	**322**	P	**P**	**10 07 04.7**	**-0.1**
	comp=E,0.4nm,0.6s,baz=116,slow=4.1,SNR=4.0						
ELK	**Elko**	**81.16**	**325**	P	**P**	**10 07 06.1**	**+0.8**
	comp=E,1.1nm,0.8s,baz=158,slow=5.6,SNR=5.3						
LOHW	**Long Hollow**	**81.16**	**330**	*e*P	**P**	**10 07 04.7**	**-0.5**
	comp=E,42nm,2.8s						
IMW	**Indian Meadow**	**81.54**	**330**	*e*P	**P**	**10 07 08.3**	**+1.1**
	comp=E,2.3nm,0.8s						
HLID	**Hailey**	**82.88**	**328**	*e*P	**P**	**10 07 15.2**	**+1.2**
	comp=E,2.8nm,0.8s						
ASAR	**Alice Springs**	**124.97**	**204**	PKP	**PKPdf**	**10 13 48.9**	**-0.5**
	comp=E,0.6nm,0.6s,baz=131,slow=1.7,SNR=13						
WRA	**Warramunga Arr**	**128.19**	**206**	PKP	**PKPdf**	**10 13 55.2**	**-0.3**
	comp=E,0.6nm,0.6s,baz=164,slow=1.5,SNR=9.8						
ZALV	**Zalesovo Beam**	**146.78**	**30**	PKP	**PKPdf**	**10 14 28.9**	**+0.5**
	comp=E,11nm,0.5s,baz=301,slow=4.0,SNR=33						
ZALV				PKPbc	**PKPbc**	**10 14 30.4**	**0.0**
	comp=E,11nm,0.4s,baz=307,slow=3.7,SNR=34						
MKAR	**Makanchi Array**	**149.56**	**43**	PKPbc	**PKPbc**	**10 14 38.1**	**+0.2**
	comp=E,3.8nm,0.5s,baz=303,slow=2.7,SNR=32						
MKAR				PKPab	**PKPab**	**10 14 44.4**	**+1.1**
	comp=E,1.2nm,0.7s,baz=300,slow=4.9,SNR=5.0						
MJAR	**Matsushiro Arr**	**156.51**	**299**	PKP	**PKPdf**	**10 14 45.4**	**+1.9**
	comp=E,0.4nm,0.5s,baz=146,slow=2.4,SNR=2.4						
SONM	**Songino Array**	**159.28**	**12**	PKP	**PKPdf**	**10 14 45.8**	**-1.0**
	comp=E,0.2nm,0.3s,baz=249,slow=4.0,SNR=2.3						
SONM				PKPab	**PKPab**	**10 15 24.5**	**-0.2**
	comp=E,0.3nm,0.3s,baz=344,slow=6.4,SNR=3.5						

*NAO **16** 09:58:26.3±4.3, 78.23N×8.51E, ML2.6*
*CSEM **16** 09:58:28.1±0.3, 78.19N×9.09E, h5km, ML2.6, Error ellipse: s-maj=5.9km s-min=2.1km az=74.0*
*BER **16** 09:58:29.8±1.1, 78.21N×8.86E, h15km±284km, ML1.8, ML2.6(NAO)*
ISC 16 09:58:28.6±3.1, 78.19N±0.07×9.2E±0.2, h10km, n7, σ0.16/10, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**0.92**	**35**	Pg	**Pg**	**09 58 46.1**	**-0.1**
KBS				Lg	Lg	09 58 58.0	
KBS	**Kingsbay**	**0.92**	**35**	Pg	**Pg**	**09 58 46.1**	**-0.1**
KBS				*e*Sg	**Sg**	**09 58 58.2**	**+0.1**
KBS				AML	AML	09 58 58.6	
	comp=Z,34nm,0.2s						
KBS	**Kingsbay**	**0.92**	**35**	Pg	**Pg**	**09 58 46.1**	**-0.1**
KBS				Lg	Lg	09 58 58.0	
KBS				*e*Sg	**Sg**	**09 58 58.2**	**+0.1**
	comp=Z,34nm,0.2s,SNR=92						
SPA0	**Spitsbergen Ar**	**1.48**	**87**	Pg	**Pg**	**09 58 56.9**	**0.0**
	baz=270,slow=12						
SPA0				Lg	Lg	09 59 17.4	
	baz=274,slow=28						
SPA0	**Spitsbergen Ar**	**1.48**	**87**	Pg	**Pg**	**09 58 56.9**	**0.0**
	baz=270,slow=12						
SPA0				Lg	Lg	09 59 17.4	
	baz=274,slow=28						
SPA0	**Spitsbergen Ar**	**1.48**	**87**	Pg	**Pg**	**09 58 56.9**	**0.0**
	SNR=703						
SPA0				Lg	Lg	09 59 17.4	
	SNR=5.6						
HSP	**Hornsund**	**1.82**	**128**	*e*P	**Pn**	**09 59 00.0**	**+0.2**
HSP				*e*S	**Sn**	**09 59 22.5**	**-0.4**

*NSSC **16** 10:00:44.2±1.1, 34.54N×36.53E, h4km±6km, ML2.0*
*GRAL **16** 10:00:46.9±0.4, 34.39N×36.73E, h2km±104km, MD3.0*
CSEM 16 10:00:44.4±0.3, 34.57N×36.47E, h8km, ML2.0, Error ellipse: s-maj=14.3km s-min=4.9km az=86.0, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAWK	**Haweek**	**0.07**	**227**	*e*P	Pg	10 00 45.8	-0.7
HAWK				*e*S	Sg	10 00 48.9	+0.8
HAWK				AML	AML	10 00 52.3	
	comp=N,701nm,0.3s						
HAWK				AML	AML	10 00 53.6	
	comp=E,455nm,0.3s						
HAWK	**Haweek**	**0.07**	**227**	*e*P	Pg	10 00 45.8	-0.7
	SNR=112						
HAWK				*e*S	Sg	10 00 48.8	+0.8
	comp=E,455nm,0.3s,SNR=112						
FKH	**Fakeheh**	**0.33**	**188**	*e*P	Pb	10 00 52.1	-0.6
FKH				*e*S	Sg	10 00 56.3	+0.8
HWQ	**Hawqa**	**0.52**	**236**	*e*P	Pn	10 00 58.7	+0.4
HWQ	**Hawqa**	**0.52**	**236**	*e*P	Pn	10 00 58.7	+0.4
SLNF	**Slenfeh**	**1.04**	**349**	*e*P	Pg	10 01 04.4	-0.3
SLNF				*e*S	Sb	10 01 19.6	+0.7
SLNF				AML	AML	10 01 26.4	
	comp=N,37nm,0.3s						
SLNF				AML	AML	10 01 28.9	
	comp=E,245nm,0.3s						
SLNF	**Slenfeh**	**1.04**	**349**	*e*P	Pg	10 01 04.4	-0.3
	SNR=57						
SLNF				*e*S	Sb	10 01 19.6	+0.6
	comp=E,245nm,0.3s,SNR=49						
RCY	**Rachaya**	**1.19**	**206**	*e*P	Pn	10 01 07.7	+0.1
RCY				*e*S	Sg	10 01 23.0	-0.2
ZALF	**Zalf**	**1.79**	**156**	*e*P	Pn	10 01 16.0	+0.3
ZALF				*e*S	Sn	10 01 37.6	-1.2
ZALF				AML	AML	10 01 39.3	
	comp=N,28nm,0.7s						
ZALF				AML	AML	10 01 40.8	
	comp=E,23nm,0.4s						
ZALF	**Zalf**	**1.79**	**156**	*e*P	Pn	10 01 16.0	+0.3
	SNR=45						
ZALF				*e*S	Sn	10 01 37.6	-1.2
	comp=E,23nm,0.4s,SNR=40						
SALA	**Sala**	**1.87**	**173**	*e*P	Pn	10 01 17.4	+0.5
SALA				*e*S	Sn	10 01 39.8	-1.0
SALA				AML	AML	10 01 42.9	
	comp=N,65nm,0.5s						
SALA				AML	AML	10 01 47.7	
	comp=E,2.7nm,0.4s						
SALA	**Sala**	**1.87**	**173**	*e*P	Pn	10 01 17.4	+0.5
	SNR=45						
SALA				*e*S	Sn	10 01 39.8	-1.1
	comp=E,2.7nm,0.4s,SNR=40						

*ISCJB **16** 10:01:15.2±0.9, 45.90S±0.07×165.96E±0.09, h10km, mb3.5/2, MS3.1/1, Error ellipse: s-maj=10.4km s-min=7.7km az=39.4*
*NEIC **16** 10:01:15.8, 46.12S×165.75E, h12km, ML4.3(WEL), After WEL.*
*IDC **16** 10:01:19.7±8.9, 47.59S×163.47E, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/12, mbtmp3.7/2, MS3.2/1, Ms1 3.1/1, ms1mx2.8/24, Error ellipse: s-maj=614.1km s-min=96.6km az=48.0*
ISC 16 10:01:16.5±1.2, 45.99S±0.08×165.98E±0.09, h10km, n20, σ0.98/21, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APZ	**The Paps**	**1.62**	**122**	Pn	**Pn**	**10 01 44.6**	**-0.6**
APZ				Sn	**Sn**	**10 02 05.8**	**-0.4**
MSZ	**Milford Sound**	**1.90**	**47**	Pn	**Pn**	**10 01 48.2**	**-0.8**
SYZ	**Scrubby Hill**	**2.26**	**105**	Pn	**Pn**	**10 01 54.0**	**+0.1**
SYZ				Sn	**Sn**	**10 02 23.2**	**+1.4**
WKZ	**Wanaka**	**2.43**	**63**	Pn	**Pn**	**10 01 57.4**	**+1.0**
EAZ	**Earnscleugh**	**2.46**	**73**	Pn	**Pn**	**10 01 57.4**	**+0.8**
TUZ	**Tuapeka**	**2.55**	**91**	Pn	**Pn**	**10 01 58.1**	**+0.3**
JCZ	**Jackson Bay**	**2.75**	**47**	Pn	**Pn**	**10 02 01.9**	**+1.2**
LBZ	**Lake Benmore**	**3.38**	**63**	Pn	**Pn**	**10 02 08.8**	**-0.5**
ODZ	**Otahua Downs**	**3.41**	**76**	*e*Pn	**Pn**	**10 02 09.1**	**-0.7**
FOZ	**Fox Glacier**	**3.58**	**49**	Pn	**Pn**	**10 02 13.5**	**+1.4**
RPZ	**Rata Peaks**	**4.26**	**60**	*e*Pn	**Pn**	**10 02 20.2**	**-1.3**
RPZ				*e*Sn	**Sn**	**10 03 10.9**	**-0.4**
WVZ	**Waitaha Valley**	**4.48**	**51**	Pn	**Pn**	**10 02 24.2**	**-0.2**
LTZ	**Lake Taylor**	**5.53**	**57**	Pn	**Pn**	**10 02 37.2**	**-1.8**
DSZ	**Denniston Nort**	**5.97**	**47**	Pn	**Pn**	**10 02 44.4**	**-0.6**
THZ	**Tophouse**	**6.55**	**52**	Pn	Pn	10 02 50.9	-2.0
QRZ	**Quartz Range**	**7.02**	**45**	Pn	**Pn**	**10 02 58.3**	**-1.1**
STKA	**Stephens Creek**	**23.51**	**298**	LR	LR	10 13 20.0	
	comp=Z,60nm,19.9s,baz=78,slow=32						
ASAR	**Alice Springs**	**34.13**	**300**	P	**P**	**10 08 00.9**	**-0.7**
	0.8nm,0.9s,baz=130,slow=9.8,SNR=5.4						
WRA	**Warramunga Arr**	**36.73**	**304**	P	**P**	**10 08 25.0**	**+1.0**
	0.5nm,0.8s,baz=150,slow=9.8,SNR=5.9						
TORD	**Torodi Ar. Bea**	**144.67**	**207**	PKP	**PKPdf**	**10 20 53.9**	**+0.2**
	1.4nm,0.8s,baz=161,slow=2.1,SNR=6.8						

MEX 16 10:03:28.8±0.3, 16.89N×100.33W, h11km±2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.17**	**20**	*i* P	Pg	10 03 32.0	-0.5
CAIG				*i* S	Sg	10 03 34.7	-0.4
ZIIG	**Zihuatanejo**	**1.30**	**303**	*e*P	Pn	10 03 49.1	-3.8
ZIIG				*i* S	Sb	10 04 05.1	-4.9
ARIG	**Puente Sto Nin**	**1.38**	**359**	*e*P	Pn	10 03 50.6	-3.5
ARIG				*i* S	Sn	10 04 07.3	-5.1
PLIG	**Platanillo**	**1.69**	**28**	*e*P	Pn	10 03 55.3	-3.1
PLIG				*e*S	Sn	10 04 14.4	-5.7
YAIG	**Yautepec**	**2.30**	**31**	*e*P	Pn	10 04 04.1	-2.8
YAIG				*i* S	Sn	10 04 31.1	-4.2

IDC 16 10:07:05.3±3.8, 4.45S×151.62E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.3/18, mbtmp3.3/2, Error ellipse: s-maj=146.6km s-min=49.7km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.82**	**226**	P	P	10 12 11.1	+1.0
	0.7nm,0.3s,baz=50,slow=10.0,SNR=19						
ASAR	**Alice Springs**	**25.63**	**220**	P	P	10 12 35.9	-1.1
	0.1nm,0.3s,baz=52,slow=9.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	**149.08**	**288**	PKPbc	PKPbc	10 26 56.2	-0.5
	0.3nm,0.6s,baz=107,slow=2.3,SNR=4.6						

*IDC **16** 10:08:50.5±0.7, 15.83S×167.67E, h0km, mb4.1/15, mb1 4.2/15, mb1mx4.1/22, mbtmp4.1/15, MS3.2/1, Ms1 3.2/1, ms1mx2.9/31, Error ellipse: s-maj=25.6km s-min=18.0km az=92.0*
*ISCJB **16** 10:08:55.2±0.6, 15.86S±0.04×167.4E±0.2, h39km, mb4.0/15, Error ellipse: s-maj=22.4km s-min=5.3km az=0.6*
*NOU **16** 10:08:56.2±1.6, 15.57S×167.28E, h30km, MD3.8*
ISC 16 10:08:56.6±0.7, 15.81S±0.07×167.6E±0.2, h39km, n26, σ1.27/29, mb4.1/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.32**	**190**	Pn	**Pn**	**10 10 28.8**	**+1.4**
	22nm,0.3s,baz=90,slow=24,SNR=43						
DZM				Sn	**Sn**	**10 11 36.6**	**-1.7**
	9.2nm,0.3s,baz=90,slow=24,SNR=5.6						
BAYA	**Yate Dam**	**6.34**	**186**	*e*P	**Pn**	**10 10 29.2**	**+1.6**
BAYA				*e*S	**Sn**	**10 11 37.9**	**-0.9**
NOUC	**Port Laguerre**	**6.37**	**191**	*e*P	**Pn**	**10 10 29.4**	**+1.4**
NOUC				*e*S	**Sn**	**10 11 37.2**	**-2.3**
NOUC				AMP		10 11 43.6	
	comp=Z,22nm,6.4s						
LASL	**Noumea**	**6.46**	**189**	*e*P	**Pn**	**10 10 30.9**	**+1.7**
LASL				*e*S	**Sn**	**10 11 42.4**	**+0.7**
HNR	**Honiara**	**9.78**	**310**	LR	LR	10 14 21.9	
	comp=Z,140nm,20.1s,baz=129,slow=34						
WRA	**Warramunga Arr**	**31.87**	**258**	P	**P**	**10 15 17.4**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=85,slow=7.9,SNR=3.8						
ASAR	**Alice Springs**	**32.58**	**251**	P	**P**	**10 15 24.5**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=77,slow=8.9,SNR=17						
MJAR	**Matsushiro Arr**	**58.99**	**333**	P	**P**	**10 18 52.1**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=168,slow=9.8,SNR=5.8						
JNU	**Nakatsue**	**59.97**	**325**	P	**P**	**10 18 59.5**	**+0.2**
	comp=Z,7.2nm,0.9s,baz=107,slow=14,SNR=3.9						
VNDA	**Vanda**	**61.80**	**181**	P	**P**	**10 19 12.3**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=2.1,slow=7.9,SNR=4.0						
ASAJ	**Asahikawa**	**63.85**	**340**	P	**P**	**10 19 23.9**	**-1.2**
	comp=Z,9.9nm,1.0s,baz=170,slow=6.1,SNR=2.4						
KSRS	**Korea Array**	**64.80**	**326**	P	**P**	**10 19 31.6**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=150,slow=5.2,SNR=3.9						
USRK	**Ussuriysk Arra**	**67.97**	**333**	P	**P**	**10 19 53.5**	**+1.9**
	comp=Z,0.9nm,0.6s,baz=151,slow=4.4,SNR=4.2						
PETK	**Petropavlovsk-**	**69.16**	**354**	P	**P**	**10 19 58.4**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=160,slow=9.1,SNR=4.1						
QSPA	**South Pole Qui**	**74.22**	**180**	P	**P**	**10 20 27.8**	**-1.5**
	comp=Z,2.2nm,0.8s,baz=22,slow=4.0,SNR=11						
CMAR	**Chiang Mai Arr**	**75.66**	**294**	P	**P**	**10 20 39.7**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=134,slow=6.4,SNR=2.4						
SONM	**Songino Array**	**83.54**	**324**	P	**P**	**10 21 21.7**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=153,slow=9.1,SNR=11						
ILAR	**Eielson Array**	**87.46**	**18**	P	**P**	**10 21 37.7**	**-1.9**
	comp=Z,0.9nm,0.6s,baz=237,slow=4.7,SNR=11						
NVAR	**Mina Array Bea**	**87.75**	**49**	P	**P**	**10 21 43.3**	**+1.4**
	comp=Z,0.1nm,0.5s,baz=248,slow=4.8,SNR=2.6						
MKAR	**Makanchi Array**	**98.19**	**316**	P	Pdif	10 22 30.8	+1.1
	comp=Z,0.5nm,0.8s,baz=107,slow=5.0,SNR=3.6						
ARCES	**ARCESS Array B**	**121.37**	**345**	PKP	**PKPdf**	**10 27 44.1**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=50,slow=2.1,SNR=11						
FINES	**FINESS Array B**	**126.83**	**338**	PKP	**PKPdf**	**10 27 55.0**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=59,slow=2.0,SNR=3.2						
NOA	**NORSAR Array B**	**131.74**	**345**	PKP	**PKPdf**	**10 28 04.7**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=33,slow=2.1,SNR=4.1						
GERES	**GERESS Array B**	**140.73**	**333**	PKP	**PKPdf**	**10 28 21.9**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=11,slow=1.4,SNR=6.2						
KEST	**Kesra**	**152.22**	**320**	PKPbc	**PKPbc**	**10 28 49.2**	**+0.6**
	comp=Z,2.0nm,0.9s,baz=313,slow=2.0,SNR=6.9						
TORD	**Torodi Ar. Bea**	**166.07**	**261**	PKP	**PKPdf**	**10 28 57.4**	**-1.0**
	comp=Z,0.9nm,1.0s,baz=100,slow=1.2,SNR=4.0						
TORD				PKPab	**PKPab**	**10 29 58.1**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=103,slow=2.7,SNR=3.1						

**IDC 16 10:12:26.8±1.9, 8.75S×124.58E, h0km, mb3.7/1, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, ML3.8/

KRER	**Koryakskii**	**1.52**	**307**	P		**Pn**	**10 14 55.5**	**-0.8**
KRER				S		**Sn**	**10 15 15.1**	**+0.1**
KOK	**Koryaka**	**1.57**	**305**	P		**Pn**	**10 14 56.0**	**-0.9**
KOK				S		**Sn**	**10 15 16.2**	**+0.1**
MTVR	**Mutnovka**	**1.59**	**274**	*e*P		**Pn**	**10 14 56.9**	**-0.3**
MTVR				*e*S		**Sn**	**10 15 17.6**	**+1.0**
GRL	**Gorelyy**	**1.66**	**276**	*e*P		**Pn**	**10 14 59.2**	**+1.0**
GRL				*e*S		**Sn**	**10 15 21.5**	**+3.2**
ASAK	**Asacha**	**1.76**	**270**	P		**Pn**	**10 14 59.7**	**+0.2**
ASAK				*e*S		**Sn**	**10 15 22.4**	**+1.6**
PETK	**Petropavlovsk-**	**2.00**	**292**	*e*PN		**Pn**	**10 15 02.5**	**-0.2**
PETK				pmax	pmax			
	comp=Z,47nm,0.3s							
PETK	**Petropavlovsk-**	**2.00**	**292**	Pn		**Pn**	**10 15 02.7**	**0.0**
	comp=Z,47nm,0.3s,baz=105,slow=17,SNR=229							
PETK				Sn	Sn	**Sn**	**10 15 32.0**	**+5.6**
	comp=Z,44nm,0.3s,baz=82,slow=34,SNR=9.1							
GNL	**Ganaly**	**2.14**	**308**	P		**Pn**	**10 15 05.1**	**+0.3**
GNL				*e*S		**Sn**	**10 15 31.7**	**+1.5**
APC	**Apacha**	**2.27**	**285**	*e*P		**Pn**	**10 15 07.1**	**+0.8**
APC				*e*S		**Sn**	**10 15 35.3**	**+2.3**
MIPR	**Malaya Ipel'ka**	**2.47**	**269**	*e*P		**Pn**	**10 15 10.1**	**+0.9**
MIPR				*e*S		**Sn**	**10 15 40.1**	**+2.0**
PAU	**Pauzhetka**	**2.63**	**251**	PN		**Pn**	**10 15 11.5**	**+0.2**
PAU				S		**Sn**	**10 15 43.0**	**+1.0**
PAU	**Pauzhetka**	**2.63**	**251**	*e*P		**Pn**	**10 15 11.5**	**+0.2**
PAU				*e*S		**Sn**	**10 15 43.0**	**+1.0**
TUMR	**Tumrok**	**2.91**	**353**	*e*P		**Pn**	**10 15 14.7**	**-0.5**
TUMR				S		**Sn**	**10 15 48.6**	**-0.3**
KMNR	**Kamenistaya**	**3.37**	**355**	*e*P		**Pn**	**10 15 22.9**	**+1.3**
KMNR				*e*S		**Sn**	**10 16 02.4**	**+2.0**
SKR	**Severo-Kuril's**	**3.38**	**241**	*e*PN		Pn	10 15 15.8	-5.9
SKR				pmax	pmax			
	comp=Z,40nm,0.5s							
SKR				MLR	MLR			
	comp=Z,800nm,12.0s							
SKR				MLR	MLR			
	comp=E,1μm,16.0s							
SKR	**Severo-Kuril's**	**3.38**	**241**	*e*P		**Pn**	**10 15 21.3**	**-0.4**
SKR				*e*S		**Sn**	**10 15 59.4**	**-1.1**
BZMR	**Bezymyannaya**	**3.54**	**357**	*e*P		**Pn**	**10 15 25.0**	**+1.0**
BZMR				*e*S		**Sn**	**10 16 06.3**	**+1.7**
BZGR	**Bezymyannyi-Gr**	**3.54**	**359**	*e*P		**Pn**	**10 15 24.8**	**+0.9**
BZGR				*e*S		**Sn**	**10 16 06.1**	**+1.5**
BZWR	**Bezymyannyi-We**	**3.57**	**357**	*e*P		**Pn**	**10 15 24.8**	**+0.4**
BZWR				*e*S		**Sn**	**10 16 06.1**	**+0.8**
KPT	**Kopyto**	**3.58**	**355**	*e*P		**Pn**	**10 15 26.1**	**+1.6**
KPT				*e*S		**Sn**	**10 16 08.4**	**+2.9**
ZLN	**Zelenaya**	**3.62**	**0**	*e*P		**Pn**	**10 15 26.2**	**+1.2**
ZLN				*e*S		**Sn**	**10 16 08.5**	**+2.1**
KOZ	**Kozyrevsk**	**3.70**	**352**	*e*P		**Pn**	**10 15 27.5**	**+1.5**
KOZ				*e*S		**Sn**	**10 16 10.3**	**+2.0**
KOZR	**Kozyr**	**3.70**	**352**	PN		**Pn**	**10 15 27.5**	**+1.4**
KOZR				S		**Sn**	**10 16 10.3**	**+1.9**
CIRR	**Tsirk**	**3.71**	**360**	*e*P		**Pn**	**10 15 28.2**	**+1.8**
CIRR				*e*S		**Sn**	**10 16 11.3**	**+2.4**
ESO	**Esso**	**3.73**	**342**	PN		**Pn**	**10 15 26.2**	**-0.3**
ESO				S		**Sn**	**10 16 08.5**	**-0.6**
ESO	**Esso**	**3.73**	**342**	*e*P		**Pn**	**10 15 26.2**	**-0.3**
ESO				*e*S		**Sn**	**10 16 08.5**	**-0.6**
KRSR	**Krestovskiy**	**3.82**	**358**	*e*P		**Pn**	**10 15 28.3**	**+0.5**
KRSR				*e*S		**Sn**	**10 16 12.0**	**+0.6**
KLY	**Klyuchi**	**3.91**	**359**	S		**Sn**	**10 16 14.4**	**+0.8**
SRDR	**Sredinnyy**	**3.97**	**351**	*e*P		**Pn**	**10 15 30.5**	**+0.7**
SRDR				S		**Sn**	**10 16 15.3**	**+0.3**
KBG	**Krutoberegovo**	**4.02**	**16**	PN		**Pn**	**10 15 29.6**	**-0.8**
KBG				S		**Sn**	**10 16 14.6**	**-1.5**
KBG	**Krutoberegovo**	**4.02**	**16**	P		**Pn**	**10 15 29.6**	**-0.8**
KBG				S		**Sn**	**10 16 14.6**	**-1.5**
BKI	**Bering**	**4.16**	**46**	PN		Pn	10 15 28.6	-3.7
BKI	**Bering**	**4.16**	**46**	P		Pn	10 15 28.6	-3.7
BKI				*e*S		Sn	10 16 12.1	-7.6
BDR	**Baidarnaya**	**4.18**	**3**	*e*P		**Pn**	**10 15 34.4**	**+1.7**
BDR				S		**Sn**	**10 16 21.6**	**+1.4**
SMKR	**Semkarok**	**4.20**	**5**	*e*P		**Pn**	**10 15 33.1**	**+0.1**
SMKR				*e*S		**Sn**	**10 16 20.5**	**-0.3**
SRKR	**Sorokina**	**4.26**	**3**	P		**Pn**	**10 15 34.6**	**+0.8**
SRKR				S		**Sn**	**10 16 22.2**	**-0.1**
FX1	**Attu Island--F**	**7.55**	**81**	Pn		**Pn**	**10 16 17.0**	**-1.9**
	comp=E,6.4nm,0.3s,baz=184,slow=12,SNR=23							
FX1				Sn	Sn		10 17 35.1	-8.1
	comp=E,6.4nm,0.3s,baz=57,slow=20,SNR=8.3							
FX1				LR	LR		10 19 08.9	
	comp=E,78nm,19.2s,baz=50,slow=37							
ASAJ	**Asahikawa**	**14.65**	**243**	Pn		**Pn**	**10 17 55.4**	**-0.4**
	comp=E,0.3nm,0.3s,baz=47,slow=19,SNR=3.6							
BILL	**Bilibino**	**15.91**	**8**	P		**P**	**10 18 16.0**	**+0.7**
BILL				pmax	pmax			
	comp=Z,27nm,0.5s							
YAK	**Yakutsk**	**19.20**	**312**	*e*P		**P**	**10 18 48.6**	**-3.1**
YAK				pmax	pmax			
	comp=Z,16nm,0.9s							
YAK				pmax	pmax			
	comp=E,7.0nm,1.4s							
YAK				pmax	pmax			
	comp=N,5.0nm,1.3s							
USRK	**Ussuriysk Arra**	**20.72**	**258**	P		**P**	**10 19 06.3**	**-2.0**
	comp=N,4.3nm,0.9s,baz=58,slow=11,SNR=9.0							
USRK				LR	LR		10 28 30.6	
	comp=N,107nm,18.4s,baz=78,slow=41							
MJA0	**Matsu Arr-Jizo**	**22.44**	**234**	*e*P		**P**	**10 19 29.0**	**+2.1**
MJA0				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MJAR	**Matsushiro Arr**	**22.46**	**234**	P		**P**	**10 19 28.6**	**+1.5**
	comp=Z,2.3nm,0.7s,baz=25,slow=10.0,SNR=6.8							
MJAR				LR	LR		10 27 55.0	
	comp=Z,84nm,18.4s,baz=100,slow=36							
TIXI	**Tiksi**	**23.88**	**336**	⇑*i*P		**P**	**10 19 38.9**	**-2.0**
TIXI				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KSRS	**Korea Array**	**27.36**	**250**	P		**P**	**10 20 15.1**	**+2.5**
	comp=Z,1.0nm,0.6s,baz=37,slow=8.7,SNR=6.2							
ILAR	**Eielson Array**	**29.01**	**44**	P		**P**	**10 20 27.7**	**+0.6**
	comp=Z,0.2nm,0.8s,baz=268,slow=7.8,SNR=2.4							
SONM	**Songino Array**	**34.47**	**285**	P		**P**	**10 21 15.0**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=58,slow=7.6,SNR=3.3							
SONM				LR	LR		10 36 53.7	
	comp=Z,94nm,18.6s,baz=249,slow=39							
ZALV	**Zalesovo Beam**	**43.50**	**304**	P		**P**	**10 22 28.7**	**-1.9**
ZALV	**Zalesovo Beam**	**43.50**	**304**	P		**P**	**10 22 28.7**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=62,slow=8.2,SNR=2.5							
KBS	**Kingsbay**	**47.61**	**352**	*ce*P		**P**	**10 23 03.6**	**+0.8**
KBS				pmax	pmax			
	comp=Z,23nm,1.7s							
MKAR	**Makanchi Array**	**48.83**	**297**	*ce*P		**P**	**10 23 12.6**	**-0.1**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**48.83**	**297**	P		**P**	**10 23 10.7**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=60,slow=7.3,SNR=3.8							
NVAR	**Mina Array Bea**	**55.59**	**70**	P		**P**	**10 24 05.2**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=303,slow=8.4,SNR=2.1							
AAK	**Ala-Archa**	**55.76**	**297**	*e*P		**P**	**10 24 03.8**	**-0.5**
AAK				pmax	pmax			
	comp=Z,11nm,2.5s							
PDAR	**Pinedale Array**	**57.49**	**61**	P		**P**	**10 24 16.2**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=291,slow=7.5,SNR=2.4							
CMAR	**Chiang Mai Arr**	**58.45**	**259**	P		**P**	**10 24 23.8**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=26,slow=6.9,SNR=7.0							
FINES	**FINESS Array B**	**60.91**	**337**	P		**P**	**10 24 39.2**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=23,slow=10,SNR=5.5							
NOA	**NORSAR Array B**	**64.32**	**344**	P		**P**	**10 25 01.8**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=21,slow=6.6,SNR=4.1							
KBZ	**Khabaz**	**70.32**	**317**	P		**P**	**10 25 41.3**	**+0.6**
KBZ				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KBZ	**Khabaz**	**70.32**	**317**	P		**P**	**10 25 41.2**	**+0.6**
	comp=Z,3.8nm,0.9s,baz=34,slow=7.3,SNR=7.5							
TXAR	**Lajitas Array**	**70.52**	**67**	P		**P**	**10 25 41.8**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=322,slow=6.1,SNR=3.5							
GERES	**GERESS Array B**	**75.31**	**338**	P		**P**	**10 26 11.7**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=33,slow=5.8,SNR=2.8							
WRA	**Warramunga Arr**	**75.64**	**206**	P		**P**	**10 26 13.1**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=18,slow=5.2,SNR=2.6							
BRTR	**Keskin Array B**	**77.42**	**321**	P		**P**	**10 26 23.2**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=39,slow=3.3,SNR=2.8							
ASAR	**Alice Springs**	**79.31**	**205**	P		**P**	**10 26 33.9**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=19,slow=5.6,SNR=3.7							

IDC 16 10:34:19.5±2.0, 54°23N×86°05E, h0km, mb1 3.3/3, mb1mx3.1/30, mbtmp3.3/3, ML3.1/3, Error ellipse: s-maj=16.7km s-min=3.6km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.78**	**249**	*i*			10 39 10.0	
	baz=68,slow=317,SNR=4.6							
ZALV	**Zalesovo Beam**	**0.78**	**249**	Pg		Pg	10 34 32.8	-1.7
	1.5nm,0.3s,baz=71,slow=18,SNR=17							
ZALV				Lg		Lg	10 34 45.9	
	8.4nm,0.3s,baz=68,slow=27,SNR=32							
KURBB	**Kurchatov Arra**	**5.85**	**235**	Pn		Pn	10 35 48.2	+0.8
	0.2nm,0.3s,baz=51,slow=14,SNR=19							
KURBB				Lg		Lg	10 37 28.2	
	0.0nm,0.3s,baz=51,slow=33,SNR=4.5							
MKAR	**Makanchi Array**	**7.82**	**199**	Pn		Pn	10 36 15.2	+0.6
	0.3nm,0.3s,baz=23,slow=13,SNR=14							
MKAR				Sn		Sn	10 37 41.4	-2.4
	0.1nm,0.3s,baz=18,slow=24,SNR=3.3							
MKAR				Lg		Lg	10 38 25.6	
	0.1nm,0.3s,baz=23,slow=28,SNR=7.4							
BVAR	**Borovoye Array**	**9.39**	**269**	Pn		Pn	10 36 37.1	+1.1
	0.1nm,0.3s,baz=71,slow=14,SNR=2.9							

*IDC **16** 10:38:48.3±4.6, 6°00N×73°30W, h224km±94km, mb3.0/3, mb1 3.3/3, mb1mx3.0/20, mbtmp3.0/3, Error ellipse: s-maj=198.3km s-min=27.2km az=28.0*
*FUNV **16** 10:38:53.7, 7°06N×72°56W, h135km, MW3.1*
ISC 16 10:38:47.4±1.8, 7°1N±0°1×72°7W±0.1, h162km±9km, n18, σ2°48/17, mb3.3/3, 1C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAPV	**Capacho**	**0.88**	**25**	⇑*e*P		**Pn**	**10 39 14.7**	**+1.9**
CAPV				*e*S		**Sn**	**10 39 31.6**	**-0.6**
SOCV	**Socops**	**2.18**	**56**	⇓*e*P		Pn	10 39 28.7	+3.2
SOCV				*e*S		**Sn**	**10 39 53.5**	**-1.4**
VIGV	**El Vigia**	**2.20**	**36**	⇓*e*P		Pn	10 39 29.0	+3.4
VIGV				*e*S		**Sn**	**10 39 54.8**	**-0.5**
ROSC	**El Rosal**	**2.73**	**217**	P		Pn	10 39 26.4	-6.0
	26nm,0.3s,baz=95,slow=12,SNR=38							
ROSC				S		Sn	10 39 53.3	-14
	21nm,0.3s,baz=94,slow=13,SNR=12							
ELOV	**Elorza**	**3.18**	**91**	*e*P		**Pn**	**10 39 40.1**	**+2.5**
ELOV				*e*S		**Sn**	**10 40 13.7**	**-2.7**
QARV	**Quebrada Arrib**	**3.79**	**34**	*e*P		**Pn**	**10 39 48.4**	**+3.0**
QARV				*e*S		**Sn**	**10 40 29.0**	**-1.5**
CURV	**Curarigua**	**3.98**	**42**	*e*P		**Pn**	**10 39 51.0**	**+3.1**
DABV	**Dabajuro**	**4.34**	**28**	*e*P		**Pn**	**10 39 55.0**	**+2.6**
TEPV	**Terepaima**	**4.50**	**50**	*e*P		Pn	10 39 58.3	+3.7
BAUV	**El Baul**	**4.96**	**68**	*e*P		**Pn**	**10 40 03.0**	**+2.4**
MAPV	**Macapo**	**5.01**	**56**	*e*P		Pn	10 40 04.5	+3.3
MONV	**Montecano**	**5.55**	**29**	*e*P		**Pn**	**10 40 10.9**	**+2.6**
TURV	**Turiamo**	**5.85**	**55**	*e*P		**Pn**	**10 40 14.7**	**+2.4**
BIRV	**Birongo**	**7.19**	**61**	*e*P		**Pn**	**10 40 32.6**	**+2.5**
CUPV	**Cœpira**	**7.44**	**66**	*e*P		**Pn**	**10 40 35.5**	**+2.0**
TXAR	**Lajitas Array**	**36.63**	**311**	P		P	10 45 36.6	-1.9
	0.1nm,0.5s,baz=128,slow=8.1,SNR=3.9							
YKA	**Yellowknife Ar**	**63.19**	**340**	P		**P**	**10 48 56.3**	**-1.7**
	0.7nm,0.6s,baz=133,slow=6.3,SNR=4.7							
TORD	**Torodi Ar. Bea**	**73.27**	**78**	P		**P**	**10 50 00.7**	**-0.9**
	0.7nm,1.0s,baz=285,slow=6.1,SNR=2.8							

CSEM 16 10:46:04.4, 45°97N×15°47E, h0km, ML0.7, 2C, After LJU, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CESS	**Cesta pri Krsk**	**0.01**	**305**	⇑*i*Pg		Pg	10 46 03.9	-0.7
CESS				*i* Sg		Sg	10 46 04.1	-0.6
CESS								
	comp=Z,994nm,0.1s							
CESS	**Cesta pri Krsk**	**0.01**	**305**	⇑*i*Pg		Pg	10 46 03.9	-0.7
CESS				*i* Sg		Sg	10 46 04.1	-0.6
	comp=Z,994nm,0.1s							
LEGS	**Legarje**	**0.11**	**259**	*i* Pg		Pg	10 46 06.1	-0.4
LEGS				*i* Sg		Sg	10 46 09.2	+1.2
LEGS	**Legarje**	**0.11**	**259**	*i* Pg		Pg	10 46 06.1	-0.4
LEGS				*i* Sg		Sg	10 46 09.2	+1.2
GOLS	**Golise**	**0.12**	**69**	*i* Pg		Pg	10 46 06.4	-0.3
GOLS				*i* Sg		Sg	10 46 08.6	+0.4
GOLS								
	comp=Z,18nm,0.2s							
GOLS	**Golise**	**0.12**	**69**	*i* Pg		Pg	10 46 06.4	-0.3
GOLS				*i* Sg		Sg	10 46 08.6	+0.3
	comp=Z,18nm,0.2s							
CRES	**Cresnjev**	**0.14**	**184**	*i* Sg		Sg	10 46 09.7	+0.6
CRES	**Cresnjev**	**0.14**	**184**	*i* Sg		Sg	10 46 09.7	+0.6

*NIED **16** 10:48:00, 24°10N×122°20E, h35km, Mw5.4 Best double couple: M0 1.44000×10^17 NP1:φs 70.00000°, δ 76.00000°, λ 37.00000°. NP2:φs 329.00000°, δ 54.00000°, λ 163.00000°.*
*IDC **16** 10:48:10.6±0.4, 24°17N×122°33E, h0km, mb5.1/29, mb1 5.1/30, mb1mx5.1/31, mbtmp5.0/30, ML4.0/1, MS4.9/37, Ms1 5.0/37, ms1mx4.9/44, Error ellipse: s-maj=15.2km s-min=11.6km az=55.0*
*BJI **16** 10:48:12.4, 24°03N×122°32E, h32km, mB5.4/35, mb5.0/54, ML5.4/7, Ms5.4/72, Ms7 5.3/63*
*TAP **16** 10:48:13.8, 24°02N×122°29E, h21km, ML5.4, C*
*MOS **16** 10:48:14.0±1.0, 24°22N×122°37E, h33km, mb5.7/86, MS5.2/58, Error ellipse: s-maj=7.6km s-min=3.8km az=118.2*
*JMA **16** 10:48:14.1±0.3, 24°09N×122°22E, h33km, M5.7*
JMA Felt II J1.
*ISCJB **16** 10:48:15.0±0.2, 24°04N±0°01×122°27E±0°01, h43km±1km, mb5.3/229, MS5.1/208, Error ellipse: s-maj=2.5km s-min=1.9km az=155.4*
*DJA **16** 10:48:15.2±0.5, 24°N±6°×12°2E±°, h10km, M5.2/15, mB5.7/13, mb5.2/15, Mw(mB)5.2/13*
*GCMT **16** 10:48:16.7±0.1, 23°81N×122°17E, h32km, MW5.4, Moment Tensor Solution. s82,c149; s92,c172; Moment tensor: Scale 10^17Nm; Mrr 0.94±.03; Mθθ -1.41±.02; Mφφ 0.47±.03; Mrθ 1.17±.04; Mθφ 0.05±.02; Mφr 0.70±.04; Best double couple: M0 1.80000×10^17 NP1:φs 301.00000°, δ 30.00000°, λ 142.00000°. NP2:φs 65.00000°, δ 72.00000°, λ 66.00000°. Principal axes: T 1.7700, Plg 56.0000°, Azm 304.0000°; N 0.1500, Plg 23.0000°, Azm 73.0000°; P -1.9200, Plg 23.0000°, Azm 174.0000°; Data Used: II IU CN IC G.*
*NEIC **16** 10:48:16.6±0.4, 24°11N×122°21E, h44km±4km, mb5.5/121, MS5.0/133 Error ellipse: s-maj=3.9km s-min=3.7km az=137.0*
NEIC Felt [II] at Taipei. Also felt at Pan-ch'iao, T'ai-chung and Yung-ho. Recorded [2 TAP] in Chang-hua, Hua-lien, I-lan, Nan-t'ou, T'ai-chung, T'ai-tung and Yun-lin; [1 TAP] in Chia-i, Hsin-chu, Kao-hsiung, Miao-li, P'ing-tung, T'ai-nan, T'ai-pei and T'ao-yuan. Recorded [2 JMA] on Yonaguni-jima and [1 JMA] on Iriomote-jima and Ishigaki-jima.
*BKK **16** 10:48:19.5±0.8, 24°N±5°×12°2E±°, h44km±9km, M5.0/23, mB5.5/18, mb5.2/23, MLv5.2/1, Mw(mB)5.0/18, Mwp5.9/2*
ISC 16 10:48:15.1±0.3, 24°02N±0°02×122°27E±0°02, h30km±2km, h29km:pP-P, n1009, σ1938/1018, mb5.4/236, MS5.1/208, 130C-104D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EHP	**Heping Village**	**0.57**	**301**	*e*P		**Pb**	**10 48 25.6**	**-1.0**
	baz=300							
HWA	**Hwalien**	**0.61**	**267**	⇓*i*P		**Pb**	**10 48 26.3**	**-1.0**
	baz=252							
TWD	**Chiawan**	**0.62**	**276**	⇓*i*P		**Pb**	**10 48 26.2**	**-1.3**
	baz=276							
TWD				*e*S		**Sb**	**10 48 35.5**	**-0.4**
	baz=276							
ENA	**Nanau**	**0.64**	**310**	⇑*e*P		**Pb**	**10 48 26.2**	**-1.5**
	baz=319							
NACB	**Ninganchiao**	**0.64**	**284**	*e*Pg		**Pb**	**10 48 26.4**	**-1.4**
TWC	**Suao**	**0.71**	**327**	⇑*i*P		**Pb**	**10 48 27.2**	**-1.7**
	baz=333							
ESF	**Shoufeng Towns**	**0.71**	**259**	*e*P		**Pb**	**10 48 27.8**	**-1.2**
	baz=246							
TEGC	**Jichi Village**	**0.74**	**246**	*e*P		**Pb**	**10 48 27.6**	**-1.8**
	baz=246							
TEGC				*e*S		**Sn**	**10 48 39.5**	**-0.2**
	baz=246							
ESL	**Shilin**	**0.79**	**256**	⇓*e*P		**Pn**	**10 48 28.2**	**-2.1**
	baz=244							
ESL				*e*S		**Sb**	**10 48 39.4**	**-1.4**
	baz=244							
YOJ	**Yonaguni jima**	**0.81**	**56**	⇓*i*P		**Pn**	**10 48 29.2**	**-1.2**
	baz=54							
YOJ				*e*S		**Sb**	**10 48 39.4**	**-1.8**
	baz=54							
YOJ	**Yonaguni jima**	**0.81**	**56**	P		**Pn**	**10 48 29.2**	**-1.2**
YOJ				S		**Sb**	**10 48 39.5**	**-1.7**
ILA	**Ilan**	**0.89**	**327**	*e*P		**Pn**	**10 48 31.3**	**-0.2**
	baz=326							
TWE	**Neicheng**	**0.89**	**322**	⇑P		**Pn**	**10 48 30.9**	**-0.8**
	baz=329							
ENTT	**Nioudou**	**0.90**	**314**	⇓*e*P		**Pn**	**10 48 31.3**	**-0.4**
	baz=313							
NNS	**Nan Shan**	**0.92**	**297**	⇓*i*P		**Pn**	**10 48 31.5**	**-0.7**
	baz=297							
WHF	**Hehuan Shan**	**0.93**	**278**	⇓*i*P		**Pn**	**10 48 31.2**	**-1.3**
	baz=278							
EHY	**Hungye**	**1.01**	**240**	⇓*e*P		**Pn**	**10 48 31.7**	**-1.5**
	baz=241							
EHY				*e*S		**Sn**	**10 48 45.0**	**-1.4**
	baz=241							
TWB1	**Santiao Chiao**	**1.02**	**345**	⇓*e*P		**Pn**	**10 48 32.9**	**-0.5**
	baz=344							
TWT	**Tachien**	**1.03**	**284**	⇓*i*P		**Pn**	**10 48 33.3**	**-0.4**
	baz=270							
NSK	**Sanguang**	**1.06**	**308**	⇓*i*P		**Pn**	**10 48 33.6**	**-0.4**
	baz=308							
YULB	**Yu-li**	**1.09**	**235**	*e*Pn		**Pn**	**10 48 32.9**	**-1.4**
YULB				*e*Sn		**Sn**	**10 48 46.0**	**-2.4**
TWF1	**Yuli**	**1.11**	**234**	⇑P		**Pn**	**10 48 33.3**	**-1.3**
	baz=222							
TWF1				*e*S		**Sn**	**10 48 48.1**	**-0.8**
	baz=222							
NWF	**Wu-fen Shan**	**1.14**	**337**	⇓P		**Pn**	**10 48 35.1**	**0.0**
	baz=335							
TWA	**Mucha**	**1.15**	**327**	⇓*i*P		**Pb**	**10 48 35.9**	**-0.5**
	baz=326							
TATO	**Taipei**	**1.19**	**323**	*e*Pn		**Pb**	**10 48 36.4**	**-0.7**
TAP1	**Taipei**	**1.23**	**326**	⇓*i*P		**Pn**	**10 48 36.7**	**+0.5**
	baz=324							
SSLB	**Suanglung**	**1.23**	**260**	*e*Pn		**Pn**	**10 48 36.6**	**+0.3**
CHKT	**Chengkung**	**1.23**	**223**	*e*P		**Pn**	**10 48 34.2**	**-2.2**
	baz=211							
CHKT				*e*S		**Sn**	**10 48 49.2**	**-2.7**
	baz=211							
TAP	**Taipei**	**1.23**	**326**	*e*P		**Pn**	**10 48 36.8**	**+0.5**
	baz=324							
SMLT	**Sun Moon Lake**	**1.26**	**264**	⇓*i*P		**Pn**	**10 48 36.4**	**-0.4**
	baz=253							
SMLT				*e*S		**Sn**	**10 48 52.6**	**-0.2**
	baz=253							
TYC	**Yuchr**	**1.30**	**265**	⇓*i*P		**Pn**	**10 48 36.9**	**-0.3**
	baz=266							
NSTT	**Nanjuang**	**1.31**	**298**	⇓*i*P		**Pn**	**10 48 38.2**	**+0.8**
	baz=298							
YUS	**Yu-Shan**	**1.32**	**247**	⇓P		**Pn**	**10 48 37.3**	**-0.6**
	baz=236							
TWS1	**Kuangyinshan**	**1.33**	**324**	⇓*e*P		**Pn**	**10 48 38.2**	**+0.6**
	baz=323							
IRIF	**Iriomote-Funau**	**1.37**	**76**	P		**Pn**	**10 48 38.1**	**0.0**
IRIF				S		**Sb**	**10 48 56.7**	**-0.5**
NCU	**National Centr**	**1.37**	**314**	*e*P		**Pn**	**10 48 39.0**	**+0.8**
	baz=313							
TWY	**Chenhua**	**1.40**	**334**	*e*P		**Pn**	**10 48 38.3**	**-0.2**
	baz=348							
HATJ	**Hateruma jima**	**1.40**	**88**	P		**Pn**	**10 48 38.5**	**-0.1**
HATJ				S		**Sb**	**10 48 57.8**	**-0.3**
TWQ1	**Liyutan**	**1.41**	**284**	⇓P		**Pb**	**10 48 39.9**	**-0.9**
	baz=283							
TWQ1				*e*S		**Sb**	**10 48 59.6**	**+1.3**
	baz=283							
ELDTW	**Lidau**	**1.42**	**235**	⇑*e*P		**Pn**	**10 48 37.5**	**-1.4**
	baz=236							
ELDTW				*e*S		**Sn**	**10 48 54.6**	**-2.0**
	baz=236							
HSN	**Hsinchu**	**1.42**	**304**	*e*P		**Pn**	**10 48 39.5**	**+0.6**
	baz=304							
ALS	**Alishan**	**1.44**	**250**	⇓*e*P		**Pn**	**10 48 39.2**	**-0.2**
	baz=241							
NSY	**Sanyi**	**1.44**	**286**	⇓*e*P		**Pb**	**10 48 40.4**	**-0.8**
	baz=285							
NSY				*e*S		**Sb**	**10 48 58.7**	**-0.4**
	baz=285							
WNT	**Mingjian**	**1.46**	**265**	*e*P		**Pn**	**10 48 40.3**	**+0.9**
	baz=265							
TCU	**Taichung**	**1.47**	**275**	⇓*i*P

baz=217
HEN eS Sn 10 49 22.6 +0.6
baz=217
TSEB Hengchuen, Pin 2.46 211 eP Pn 10 48 53.0 -0.1
baz=214
TSEB eS Sn 10 49 22.9 +0.7
baz=214
TWK1 Hengchun 2.47 214 eP Pn 10 48 52.7 -0.6
baz=216
TWK1 eS Sn 10 49 24.6 +2.2
baz=216
PNG Penghu 2.53 260⇑ eP Pn 10 48 54.5 +0.4
baz=260
PNG eS Sn 10 49 24.6 +0.7
baz=260
JMJ Miyako jima 2 2.87 73 eP Pn 10 48 57.0 -1.8
baz=75
JMJ Miyako jima 2 2.87 73 P Pn 10 49 00.2 +1.4
JMJ S Sn 10 49 34.5 +2.2
JOGS Gusukube 2.95 75 P Pn 10 49 01.4 +1.5
JOGS S Sn 10 49 35.9 +1.5
QZH Quanzhou 3.48 286⇑ iPn Pn 10 49 06.3 -0.9
QZH Sn Sn 10 49 46.8 -0.6
QZH smax smax
comp=N,6μm,0.9s
QZH smax smax
comp=E,5μm,1.0s
QZH LR LR
comp=N,61μm,11.1s
QZH LR LR
comp=E,58μm,12.8s
QZH LR LR
comp=Z,74μm,17.6s
KNM Kinmen 3.53 277 eP Pn 10 49 08.9 +1.0
baz=276
JKE Kume jima 2 4.69 60 P Pn 10 49 23.6 -0.3
JAGN Aguni-jima 5.18 59 P Pn 10 49 30.9 +0.4
PJP Pasuquin 5.87 196⇑ iP Pn 10 49 43.2 +3.1
PJP eS Px 10 49 48.3
JIH Iheya 5.96 59 P Pn 10 49 40.3 -1.0
JOW Kunigami 6.11 61 eP Pn 10 49 41.8 -1.6
baz=65
JOW Kunigami 6.11 61 ePn Pn 10 49 41.8 -1.6
JOW Kunigami 6.11 61 P Pn 10 49 41.6 -1.8
APYP Conner 6.20 189 eP Pn 10 49 45.0 +0.4
APYP eS Pb 10 50 09.4 +7.1
ABRA Dolores 6.50 193 eP Pn 10 49 50.6 +1.8
PALP Palanan 6.92 179 eP Pn 10 49 56.5 +2.0
CAUP Cauayan 7.05 184 eP Pn 10 49 56.2 -0.1
JTK Tokunoshima 7.09 57 P Pn 10 49 54.7 -2.1
SSE Sheshan 7.12 352 P Pn 10 49 56.5 -0.7
SSE S Sn 10 51 18.8 +1.7
SSE pmax pmax
comp=Z,59nm,0.7s
SSE smax smax
comp=N,420nm,1.2s
SSE smax smax
comp=E,410nm,1.1s
SSE LR LR
comp=N,16μm,14.4s
SSE LR LR
comp=E,4μm,14.4s
SSE LR LR
comp=Z,20μm,15.3s
JAMN Amaminishikomi 7.50 54 P Pn 10 50 00.0 -2.4
JAM Amami Oshima 7.91 55 P Pn 10 50 05.7 -2.3
JZK Kikaishima 8.13 57 P Pn 10 50 10.8 -0.4
GZH Guangzhou 8.24 265 P Pn 10 50 08.4 -4.3
GZH smax smax
comp=N,1μm,0.9s
GZH smax smax
comp=E,1μm,0.9s
BALP Baler 8.26 185 eP Pn 10 50 14.4 +1.6
JMZ Minamidaito 2 8.32 76 P Pn 10 50 10.0 -3.7
NJ2 Nanjing 8.56 340 eP Pn 10 50 19.6 +2.7
NJ2 pP 10 50 26.5
NJ2 sP 10 50 31.5
NJ2 S Sn 10 51 54.3 +1.9
NJ2 sS 10 52 03.5
NJ2 pmax pmax
comp=Z,50nm,0.8s
NJ2 smax smax
comp=N,350nm,1.1s
NJ2 smax smax
comp=E,730nm,1.2s
NJ2 LR LR
comp=N,24μm,15.7s
NJ2 LR LR
comp=E,15μm,14.6s
NJ2 LR LR
comp=Z,19μm,18.5s
WHN Wuhan 9.59 314 P Pn 10 50 33.3 +2.3
WHN S Sn 10 52 17.3 -0.5
WHN LR LR
comp=N,20μm,10.2s
WHN LR LR
comp=E,16μm,10.6s
WHN LR LR
comp=Z,40μm,17.3s
TGY Tagaytay City 9.94 188 Pn Pn 10 50 40.2 +4.2
TGY Tagaytay City 9.94 188 Pn Pn 10 50 40.2 +4.2
comp=Z,19nm,0.3s,baz=63,slow=4.5,SNR=3.6
TGY LR LR 10 54 14.6
comp=Z,26nm,19.4s,baz=26,slow=36
GQP Guinayangan 10.06 179⇑ eP Pn 10 50 38.0 +0.4
GQP eS Sn 10 52 26.9 -2.6
JNU Nakatsue 11.80 38 ePn Pn 10 51 01.8 +0.3
JNU Nakatsue 11.80 38 Pn Pn 10 51 03.1 +1.6
comp=Z,0.2nm,0.3s,baz=347,slow=14,SNR=2.8
JNU LR LR 10 55 55.9
comp=Z,7μm,19.6s,baz=219,slow=40
QIZ Qiongzhong 12.58 249 P Pn 10 51 12.3 +0.1
QIZ S Sn 10 53 31.6 +0.2
QIZ pmax pmax
comp=Z,26nm,1.3s
QIZ LR LR
comp=N,7μm,20.4s
QIZ LR LR
comp=Z,5μm,19.2s
TIA Tai'an 12.94 341 ⇑P Pn 10 51 18.3 +1.3
TIA pmax pmax
comp=Z,20nm,1.6s
TIA pmax pmax
comp=Z,1μm,12.2s
TIA LR LR
comp=N,16μm,14.3s
TIA LR LR
comp=E,7μm,13.7s
TIA LR LR
comp=Z,22μm,14.3s
ENH Enshi 12.97 301 ePn Pn 10 51 19.6 +2.1
comp=Z,69nm,1.0s
KSAR Wonju Array Be 14.22 18 Pn Pn 10 51 36.9 +2.5
KSRS Korea Array 14.24 19 Pn Pn 10 51 36.9 +2.2
comp=Z,0.7nm,0.3s,baz=198,slow=12,SNR=29
KSRS LR LR 10 57 47.0
comp=Z,6μm,18.1s,baz=202,slow=41
GYA Guiyang 14.33 283⇓ iP Pn 10 51 36.9 +0.7
GYA pP P 10 51 44.5 +1.6
GYA S Sn 10 54 15.3 +1.1
GYA sS S 10 54 27.6 -6.3
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,140nm,4.8s
GYA LR LR
comp=N,6μm,14.7s
GYA LR LR
comp=E,6μm,15.0s
GYA LR LR
comp=Z,6μm,14.5s
PPR Puerto Princes 14.56 194 eP P 10 51 48.9 +3.6
DL2 Dalian 14.86 358⇑ iP Pn 10 51 44.9 +1.9
DL2 pmax pmax
comp=Z,98nm,1.0s
DL2 pmax pmax
comp=Z,850nm,8.4s
DL2 LR LR
comp=N,6μm,13.2s
DL2 LR LR
comp=E,1μm,13.3s
DL2 LR LR
comp=Z,8μm,13.8s
XAN Xi'an 15.35 314 P Pn 10 51 50.0 +0.3
XAN S Sn 10 54 37.6 -1.2
XAN LR LR
comp=N,3μm,19.9s
XAN LR LR
comp=E,3μm,16.5s
XAN LR LR
comp=Z,3μm,17.6s
TIY Taiyuan 16.04 331 eP Pn 10 51 58.3 -0.3
TIY pP pP 10 52 06.5 -3.1
TIY sP sP 10 52 12.8 -0.6
TIY S Sn 10 54 55.5 0.0
TIY LR LR
comp=N,15μm,12.7s
TIY LR LR
comp=E,6μm,15.5s
TIY LR LR
comp=Z,15μm,12.9s
BJT Baijiatuau 16.77 344 eP P 10 52 09.0 -0.6
comp=Z,205nm,1.4s
BJI Beijing 16.79 344 P Pn 10 52 08.5 +0.6
BJI S Sn 10 55 14.8 +1.4
BJI pmax pmax
comp=Z,940nm,5.2s
BJI LR LR
comp=N,9μm,14.7s
BJI LR LR
comp=E,6μm,21.9s
BJI LR LR
comp=Z,5μm,24.0s
CTBH Cotabato--PC H 16.81 173⇑ iP Pn 10 52 06.9 -1.4
DAV Davao City (W) 17.15 169 LR LR 10 58 38.5
comp=Z,6μm,19.9s,baz=8.0,slow=36
KDM Kudat 17.79 198 P P 10 52 25.9 +4.8
CD2 Chengdu 17.80 297 P Pn 10 52 20.8 +0.1
CD2 pP pP 10 52 28.4 -0.7
CD2 sP sP 10 52 32.9 0.0
CD2 PP PnPn 10 52 35.6 +4.0
CD2 S Sn 10 55 34.8 -3.4
CD2 sS S 10 55 46.9 +2.4
CD2 SS SnSn 10 55 57.4 +5.5
CD2 pmax pmax
comp=Z,260nm,1.2s
CD2 pmax pmax
comp=Z,2μm,10.4s
CD2 LR LR
comp=N,10μm,15.4s
CD2 LR LR
comp=E,12μm,15.4s
CD2 LR LR
comp=Z,15μm,14.3s
SNY Shenyang 17.80 3 ⇓P P 10 52 22.0 +1.0
SNY S Sn 10 55 38.6 +0.7
SNY pmax pmax
comp=Z,42nm,2.5s
SNY pmax pmax
comp=Z,2μm,12.0s
SNY LR LR
comp=N,4μm,22.4s
SNY LR LR
comp=E,7μm,14.3s
SNY LR LR
comp=Z,5μm,18.4s
KMI Kunming 17.80 278 ⇑P P 10 52 21.5 0.0
KMI pP pP 10 52 29.5 +0.1
KMI sP sP 10 52 33.6 +0.4
KMI PP PnPn 10 52 37.4 +5.5
KMI S Sn 10 55 36.8 -1.9
KMI sS S 10 55 48.1 +3.1
KMI SS SnSn 10 55 58.9 +6.6
KMI pmax pmax
comp=Z,22nm,1.4s
KMI pmax pmax
comp=Z,1μm,8.1s
KMI LR LR
comp=N,14μm,12.8s
KMI LR LR
comp=E,11μm,12.0s
KMI LR LR
comp=Z,13μm,11.7s
PANO Nakornpanom 17.88 251 P P 10 52 31.8 +10
UBPT Khong Chiam 18.04 244 P P 10 52 37.1 +13
UBPT Khong Chiam 18.04 244 P P 10 52 37.1 +13
SKNT Sakolnakorn 18.50 251 P Pn 10 52 38.4 +9.1
MAJO Matsushiro 18.55 44 eP Pn 10 52 30.5 +0.7
MAJO pmax pmax
comp=Z,43nm,1.4s
MAJO Matsushiro 18.55 44 eP Pn 10 52 30.5 +0.7
comp=Z,43nm,1.4s
MAT Matsushiro 18.55 44 P P 10 52 26.7 -2.7
MAT S S 10 56 00.2 +0.8
MJAR Matsushiro Arr 18.55 44 P P 10 52 27.0 -2.4
MJAR Matsushiro Arr 18.55 44 P P 10 52 27.0 -2.4
comp=Z,0.4nm,0.3s,baz=228,slow=9.1,SNR=7.4
MJAR LR LR 11 00 16.5
comp=Z,1μm,20.6s,baz=240,slow=39
KKM Kota Kinabalu 18.79 199 eP Pn 10 52 33.9 +1.0
comp=Z,168nm,1.2s
KKM Kota Kinabalu 18.79 199 P Pn 10 52 35.6 +2.7
KKM Kota Kinabalu 18.79 199 P Pn 10 52 35.7 +2.7
comp=Z,151nm,2.1s,comp=Z,3μm
SDKM Sandakan 18.91 196 P Pn 10 52 39.3 +4.9
MYLDM Lahad Datu 19.08 192 P Pn 10 52 42.8 +6.6
MYLDM Lahad Datu 19.08 192 P Pn 10 52 38.7 +2.5
comp=Z,154nm,1.2s,comp=Z,4μm
BTO Baotou 19.48 331 eP P 10 52 39.4 -0.3
CN2 Changchun 19.91 7 eP P 10 52 43.6 -0.6
CN2 eS S 10 56 26.8 +0.1
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 LR LR
comp=N,12μm,17.0s
CN2 LR LR
comp=E,4μm,17.0s
CN2 LR LR
comp=Z,13μm,19.0s
LZH Lanzhou 19.94 311 ⇑P Pn 10 52 46.6 0.0
LZH pP pP 10 52 54.5 +1.7
LZH sP sP 10 52 58.3 +1.7
LZH PP PnPn 10 53 06.0 +5.0
LZH S S 10 56 25.0 -2.8
LZH sS Sn 10 56 32.0 +1.9
LZH SS SnSn 10 56 49.5 +4.9
LZH pmax pmax
comp=Z,150nm,1.4s
LZH pmax pmax
comp=Z,960nm,7.8s
LZH LR LR
comp=N,5μm,11.5s
LZH LR LR
comp=E,8μm,12.0s
LZH LR LR
comp=Z,13μm,16.8s
TSM Tawau 20.06 193 P Pn 10 52 47.5 -0.5
VLA Vladivostok 20.64 20 eP P 10 52 49.9 -2.2
VLA pmax pmax
comp=Z,60nm,1.2s
VLA MLR MLR
comp=Z,6μm,18.0s
LOEI Loei 20.67 256 P P 10 52 52.0 -0.7
comp=Z,94nm,1.1s,comp=Z,2μm
CHAI Chaiyaphum 20.69 251 P P 10 52 51.4 -1.5
comp=Z,18nm,0.8s,comp=Z,172nm
PBKT Sadao Pong 21.29 254 P P 10 53 05.2 +5.8
comp=Z,71nm,1.1s,comp=Z,2μm
PBKT Sadao Pong 21.29 254 P P 10 53 02.2 +2.8
comp=Z,71nm,1.1s,comp=Z,2μm
PAYA Payao 21.32 262 P P 10 53 03.8 +4.1
comp=Z,22nm,1.2s,comp=Z,229nm
MDJ Mudanjiang 21.40 14 P P 10 53 00.3 -0.1
MDJ pP pP 10 53 08.0 -0.4
MDJ S S 10 56 50.9 -5.4
MDJ pmax pmax
comp=Z,16nm,1.1s
MDJ LR LR
comp=N,5μm,16.9s
MDJ LR LR
comp=E,8μm,15.5s
MDJ LR LR
comp=Z,9μm,13.6s
MDJ Mudanjiang 21.40 14 eP P 10 53 00.6 +0.2
comp=Z,30nm,0.9s
MDJ LR LR
comp=Z,5μm,20.0s
USRK Ussuriysk Arra 21.65 19 P P 10 53 00.7 -2.3
comp=Z,21nm,0.9s,baz=206,slow=9.6,SNR=20
USRK LR LR 11 02 10.3
comp=Z,4μm,18.4s,baz=182,slow=39
LAMP Lampang 21.78 260 P P 10 53 08.6 +3.9
comp=Z,23nm,1.4s,comp=Z,203nm
CMAI Chiengmai2 21.91 264 P P 10 53 12.9 +6.7
NAYO Nakonayok 21.99 248 P P 10 53 11.1 +4.2
comp=Z,50nm,1.5s,comp=Z,2μm
CMMT Chiang Mai 22.31 261 P P 10 53 12.4 +2.0
comp=Z,103nm,1.2s,comp=Z,2μm
CMMT Chiang Mai 22.31 261 P P 10 53 12.6 +2.2
comp=Z,103nm,1.3s,comp=Z,2μm
CHTO Chiang Mai 22.32 261 eP P 10 53 11.8 +1.4
CHTO pmax pmax
comp=Z,96nm,1.1s
CHTO MLR MLR
comp=Z,3μm,21.0s
CHTO Chiang Mai 22.32 261 P P 10 53 12.6 +2.1
SNR=21
CHTO Chiang Mai 22.32 261 eP P 10 53 11.8 +1.4
comp=Z,96nm,1.1s
CHTO LR LR
comp=Z,3μm,21.0s
CHTO Chiang Mai 22.32 261 P P 10 53 12.5 +2.1
comp=Z,115nm,1.4s,comp=Z,2μm
CHTO Chiang Mai 22.32 261 P P 10 53 12.8 +2.4
comp=Z,115nm,1.4s,comp=Z,2μm
CMAR Chiang Mai Arr 22.43 260 P P 10 53 14.4 +2.8
CMAR PcP PcP 10 57 07.0 +1.3
CMAR Chiang Mai Arr 22.43 260 P P 10 53 14.4 +2.8
comp=Z,32nm,1.0s,baz=60,slow=8.5,SNR=44
CMAR PcP PcP 10 57 07.0 +1.3
comp=Z,6.2nm,0.9s,baz=68,slow=1.0,SNR=12
CMAR LR LR 11 03 10.1
comp=Z,3μm,19.0s,baz=70,slow=40
BTM Bintulu 22.52 205 P P 10 53 08.3 -4.2
MNI Manado 22.58 173 P P 10 53 22.8 +10
comp=Z,155nm,1.1s
GTOI Gorontalo 23.25 178 P P 10 53 22.4 +2.3
comp=Z,251nm,1.2s,comp=Z,3μm
KMSI Cibinong 23.36 176 P P 10 53 34.7 +13
MRSI Marisa 23.40 181 P P 10 53 31.8 +10
SBUM Sibu 23.54 206 P P 10 53 23.2 +0.2
TNTI Ternate 23.63 167 P P 10 53 24.6 +0.8
GUMO Guam 23.74 112 eP P 10 53 28.2 +3.3
comp=Z,312nm,1.0s
GUMO LR LR
comp=Z,3μm,19.0s
GTA Gaotai 24.41 314 ⇑P P 10 53 30.8 -0.3
GTA pP pP 10 53 39.8 0.0
GTA sP sP 10 53 43.8 +0.4
GTA PcP PcP 10 57 08.3 -1.5
GTA S S 10 57 48.5 -0.7
GTA ScP ScP 11 00 46.8 +0.4
GTA pmax pmax
comp=Z,28nm,1.7s
GTA pmax pmax
comp=Z,820nm,4.3s
GTA LR LR
comp=N,2μm,15.7s
GTA LR LR
comp=E,6μm,15.7s
GTA LR LR
comp=Z,7μm,16.6s
ERM Erimo 24.97 39 i P P 10 53 33.2 -2.7
ERM pmax pmax
comp=Z,6.0nm,0.5s
ERM Erimo 24.97 39 PFAKE 10 53 50.0 +14
ERM LR LR
comp=Z,2μm,19.0s
LBMI Labuha 25.03 168 P P 10 53 42.3 +5.6
comp=Z,453nm,0.9s,comp=Z,5μm
KSM Kuching 25.23 209 eP P 10 53 40.0 +1.5
comp=Z,114nm,1.3s
KSM LR LR
comp=Z,1μm,20.0s
KSM Kuching 25.23 209 P P 10 53 44.7 +6.2
KSM Kuching 25.23 209 P P 10 53 42.9 +4.4
comp=Z,70nm,1.6s,comp=Z,1μm
HIA Hailar 25.28 356 eP P 10 53 38.0 -0.8
comp=Z,55nm,1.0s
HIA LR LR
comp=Z,3μm,20.0s
MTKI Muara Teweh, K 25.82 197 P P 10 53 55.6 +12
STKI Sintang 26.01 205 P P 10 53 54.0 +8.4
comp=Z,52nm,1.7s,comp=Z,7μm
ASAJ Asahikawa 26.05 35 P P 10 53 43.5 -2.3
ASAJ Asahikawa 26.05 35 P P 10 53 43.5 -2.3
comp=Z,5.8nm,0.4s,baz=253,slow=12,SNR=10
ASAJ LR LR 11 04 13.5
comp=Z,3μm,19.6s,baz=238,slow=37
SWI Sorong 26.23 159 P P 10 53 53.8 +6.2
comp=Z,72nm,1.1s,comp=Z,2μm
SKSI Soroako, Sulaw 26.40 182 P P 10 53 54.8 +5.6
HABR Khabarovsk 26.42 19 eP P 10 53 45.3 -3.7
HABR e*SP sP 10 53 59.0 -2.3
HABR e 10 54 24.4
HABR e 10 57 11.3
HABR e 11 04 38.4
HABR pmax pmax
comp=E,59nm,2.5s
HABR pmax pmax
comp=N,45nm,1.7s
HABR pmax pmax
comp=Z,44nm,1.7s
HABR MLR MLR
comp=Z,5μm,18.0s
ULN Ulaanbaatar 26.70 337 P P 10 53 51.1 -0.7
SNR=98
ULN Ulaanbaatar 26.70 337 eP P 10 53 51.1 -0.7
comp=Z,160nm,0.7s
ULN LR LR
comp=Z,10μm,19.0s
ULN Ulaanbaatar 26.70 337 P P 10 53 51.1 -0.7
comp=Z,250nm,1.1s,comp=Z,3μm
SONM Songino Array 26.92 336 P P 10 53 53.0 -0.7
SONM PcP PcP 10 57 14.8 -0.5
SONM ScP ScP 11 00 53.0 -0.4
SONM Songino Array 26.92 336 P P 10 53 53.0 -0.7
comp=Z,243nm,0.8s,baz=153,slow=9.1,SNR=283
SONM PcP PcP 10 57 14.8 -0.5
comp=Z,9.2nm,1.1s,baz=172,slow=4.1,SNR=6.2
SONM ScP ScP 11 00 53.0 -0.4
comp=Z,7.9nm,1.1s,baz=164,slow=4.0,SNR=11
SONM LR LR 11 05 45.7
comp=Z,10μm,19.1s,baz=153,slow=39
TTSI Tana Toraja 27.00 185 P P 10 54 08.0 +13
KULM Kulim 27.92 232 PFAKE 10 54 10.0 +7.1
KULM LR LR
comp=Z,2μm,20.0s
YSS Yuzh-Sakhalins 28.16 31 eP P 10 54 12.8 +8.2
YSS MLR MLR
comp=Z,4μm,18.0s
YSS MLR MLR
comp=N,2μm,16.0s
YSS MLR MLR
comp=E,6μm,17.0s
IPM Ipoh 28.22 230 eP P 10 54 08.0 +2.4
comp=E,64nm,1.3s
IPM Ipoh 28.22 230 P P 10 54 08.0 +2.4
LSA Lhasa 28.29 288 P P 10 54 08.3 +1.7
LSA LR LR
comp=N,730nm,22.6s
LSA LR LR
comp=E,6μm,19.3s
LSA LR LR
comp=Z,8μm,21.0s
LSA Lhasa 28.29 288 eP P 10 54 07.7 +1.1
LSA pmax pmax
comp=Z,41nm,0.8s
LSA MLR MLR
comp=Z,3μm,20.0s
LSA Lhasa 28.29 288 eP P 10 54 07.7 +1.1
comp=Z,41nm,0.8s
LSA LR LR
comp=Z,3μm,20.0s
KAPI Kappang 28.96 185 LR LR 11 05 46.6
comp=Z,2μm,20.9s,baz=11,slow=36
ZAK Zakamensk 30.18 336⇑ iP P 10 54 20.8 -1.9
ZAK pmax pmax
comp=Z,29nm,1.0s
PSI Prapat 30.88 230 LR LR 11 08 00.3
comp=Z,1μm,18.2s,baz=39,slow=38
TLY Talaya 31.11 337 c iP P 10 54 29.6 -1.2
TLY e 10 55 25.9
TLY pmax pmax
comp=Z,113nm,0.9s
TLY MLR MLR
comp=Z,8μm,15.0s
TLY Talaya 31.11 337 P P 10 54 29.2 -1.6

comp=Z,786nm,0.6s,SNR=28
IRK Irkutsk 31.36 339 *e*P P **10 54 31.1 -1.9**
IRK pmax pmax
comp=Z,356nm,1.2s
MOY Mondy 32.08 335 *e*P P **10 54 38.6 -0.8**
MOY pmax pmax
comp=Z,75nm,1.4s
JIRN Jiri 32.61 284 *e*P P **10 54 45.0 +0.4**
comp=Z,96nm,0.9s
CLNS Chul'man 32.84 3 *e*P P 10 54 40.4 -5.6
CLNS *e**PP pP 10 54 48.8 -5.9
CLNS *e*PPP PPP 10 55 56.3
CLNS *e* 10 57 27.7
CLNS *e*S S 10 59 51.8 -10
CLNS pmax pmax
comp=E,3.0nm,0.8s
CLNS pmax pmax
comp=Z,3.0nm,1.1s
CLNS pmax pmax
comp=N,3.0nm,0.9s
CLNS pmax pmax
comp=Z,3.0nm,0.9s
CLNS pmax pmax
comp=N,6.0nm,1.1s
CLNS pmax pmax
comp=E,2.0nm,0.9s
CLNS smax smax
comp=E,238nm,15.2s
CLNS smax smax
comp=N,316nm,20.8s
CLNS MLR MLR
comp=E,2µm,14.0s
CLNS MLR MLR
comp=Z,6µm,14.0s
CLNS MLR MLR
comp=N,6µm,16.0s
GUN Gumba 32.87 285 *e*P P **10 54 47.3 +0.3**
comp=N,91nm,0.8s
PKI Pulchoki 33.30 284 *e*P P **10 54 50.5 -0.2**
comp=N,54nm,0.9s
KKN Kakani 33.41 284 *e*P P **10 54 51.7 +0.2**
comp=N,91nm,1.1s
DMN Daman 33.57 284 *e*P P **10 54 52.6 -0.3**
comp=N,76nm,1.0s
WMQ Urumqi 34.49 313 P P **10 55 00.3 -0.2**
WMQ pP **pP** **10 55 10.0 +0.8**
WMQ sP **sP** **10 55 13.9 +1.0**
WMQ PP **PnPn** **10 56 16.4 +0.4**
WMQ PcP **PcP** **10 57 35.8 +0.6**
WMQ S **S** **11 00 25.1 -2.2**
WMQ sS **sS** **11 00 41.1 -0.6**
WMQ ScP **ScP** **11 01 17.1 -1.3**
WMQ SS **SnSn** **11 02 36.4 -3.0**
WMQ ScS **ScS** **11 05 18.3 -2.9**
WMQ pmax pmax
comp=Z,41nm,1.6s
WMQ pmax pmax
comp=Z,230nm,3.2s
WMQ LR LR
comp=N,3µm,13.0s
WMQ LR LR
comp=E,3µm,13.6s
WMQ LR LR
comp=Z,2µm,15.2s
DANN Dangsing 34.73 286 *e*P P **10 55 03.0 -0.1**
comp=Z,56nm,0.7s
HVS Khovu-Aksy 34.89 328 *d*↓*i*P P **10 55 03.0 -0.9**
HVS pmax pmax
comp=Z,169nm,1.3s
HVS MLR MLR
comp=Z,33µm,16.0s
KOLN Koldanda 34.90 285 *e*P P **10 55 04.1 -0.3**
comp=Z,56nm,0.8s
PYUN Piuthan 35.42 285 *e*P P **10 55 08.9 0.0**
comp=Z,156nm,0.9s
YAK Yakutsk 38.33 6 *e*P P 10 55 29.6 -3.3
YAK *e**PP pP 10 55 38.6 -3.1
YAK *e* 10 57 01.9
YAK *e*PPP PPP 10 57 19.8
YAK *e*S **S** **11 01 27.9 +2.7**
YAK *e* 11 05 39.5
YAK pmax pmax
comp=Z,40nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=N,27nm,1.1s
YAK pmax pmax
comp=Z,31nm,1.5s
YAK pmax pmax
comp=N,17nm,1.7s
YAK smax smax
comp=E,101nm,3.5s
YAK smax smax
comp=N,121nm,2.7s
YAK MLR MLR
comp=Z,4µm,16.0s
YAK MLR MLR
comp=N,3µm,15.0s
YAK MLR MLR
comp=E,1µm,15.0s
KRAR Krasnoyarsk 38.53 334↓ *i*P P **10 55 33.2 -1.5**
KRAR MLR MLR
comp=Z,9µm,19.0s
MK31 Makanchi Array 39.15 316 *ce*P P **10 55 39.4 -0.7**
MK31 pmax pmax
comp=Z,9.0nm,0.3s
MK31 Makanchi Array 39.15 316 *e*P P **10 55 39.5 -0.7**
MKAR Makanchi Array 39.15 316 *e*P P **10 55 39.6 -0.5**
MKAR 10 57 49.3
MKAR 11 01 36.5
MKAR Makanchi Array 39.15 316 *e*P P **10 55 39.5 -0.5**
MKAR PcP **PcP** **10 57 49.3 +0.1**
MKAR ScP **ScP** **11 01 36.5 +0.8**
MKAR Makanchi Array 39.15 316 P P **10 55 39.6 -0.5**
comp=Z,22nm,0.6s,baz=100,slow=10,SNR=117
MKAR PcP **PcP** **10 57 49.3 +0.1**
comp=Z,6.2nm,0.8s,baz=121,slow=5.6,SNR=5.0
MKAR ScP **ScP** **11 01 36.5 +0.8**
comp=Z,4.7nm,1.1s,baz=106,slow=4.7,SNR=7.1
MKAR LR LR 11 13 32.7
comp=Z,4µm,18.1s,baz=109,slow=39
PETK Petropavlovsk- 39.45 33 P P 10 55 38.5 -4.0
PETK 10 57 50.1
PETK Petropavlovsk- 39.45 33 P P 10 55 38.5 -4.0
PETK PcP **PcP** **10 57 50.1 +0.1**
PETK Petropavlovsk- 39.45 33 P P 10 55 38.5 -4.0
comp=Z,0.9nm,0.7s,baz=212,slow=4.9,SNR=5.4
PETK PcP **PcP** **10 57 50.1 +0.1**
comp=Z,1.1nm,0.6s,baz=184,slow=2.4,SNR=3.5
PETK LR LR 11 13 00.1
comp=Z,2µm,18.6s,baz=228,slow=38
PET Petropavlovsk 39.89 34 *e*P P **10 55 45.2 -0.9**
PET *e*S S 11 01 42.5 -6.4
PET pmax pmax
comp=Z,200nm,15.5s
PET pmax pmax
comp=Z,300nm,11.4s
PET MLR MLR
comp=Z,2µm,18.0s
PET MLR MLR
comp=Z,2µm,19.0s
NDI New Delhi 40.46 287 *e*P P 10 55 48.0 -3.2
ZAA0 Zalesovo Array 40.93 327 *e*P P **10 55 52.9 -1.8**
ZALV Zalesovo Beam 40.93 327 P P **10 55 53.1 -1.6**
ZALV Zalesovo Beam 40.93 327 P P **10 55 53.0 -1.6**
ZALV ScP **ScP** **11 01 43.5 +1.2**
ZALV Zalesovo Beam 40.93 327 P P **10 55 53.0 -1.6**
comp=Z,90nm,0.7s,baz=113,slow=6.1,SNR=83
ZALV ScP **ScP** **11 01 43.5 +1.2**
comp=Z,0.7nm,0.4s,baz=163,slow=1.5,SNR=3.9
ZALV LR LR 11 14 14.4
comp=Z,6µm,18.6s,baz=80,slow=38
PMG Port Moresby 41.16 141 *e*P P **10 55 58.3 +1.3**
comp=Z,41nm,0.9s
PMG Port Moresby 41.16 141 P P **10 55 58.4 +1.3**
comp=Z,33nm,1.1s,baz=342,slow=3.2,SNR=3.2
PMG LR LR 11 12 32.8
comp=Z,2µm,19.5s,baz=100,slow=35
KSH Kashi 41.83 303 P P 10 56 06.0 +3.6
KSH pP pP 10 56 15.6 +4.3
KSH PP **PnPn** **10 57 46.6 +2.1**
KSH S **S** **11 02 22.4 +4.0**
KSH sS sS 11 02 38.6 +5.6
KSH SS **SS** **11 05 24.9 -0.1**
KSH pmax pmax
comp=Z,31nm,1.2s
KSH pmax pmax
comp=Z,220nm,4.4s
KSH LR LR
comp=N,2µm,14.6s
KSH LR LR
comp=E,4µm,17.4s
KSH LR LR
comp=Z,5µm,16.9s
NVS Novosibirsk 42.19 327↑ *i*P P **10 56 02.1 -2.8**
NVS *e* 10 57 42.7
NVS pmax pmax
comp=Z,130nm,1.7s
NVS pmax pmax
comp=N,40nm,1.4s
NVS pmax pmax
comp=E,34nm,1.3s
TKM2 Tokmak 2 42.65 308 *i*P P **10 56 09.7 +0.5**
TKM2 Tokmak 2 42.65 308 P P **10 56 09.7 +0.5**
SNR=44
KZA Kyzart 42.75 307 *i*P P **10 56 12.1 +1.8**
KZA Kyzart 42.75 307 P P **10 56 12.1 +1.8**
SNR=18
KURK Kurchatov 42.86 320 P P **10 56 08.3 -2.2**
comp=E,362nm,0.9s,SNR=26
KURK Kurchatov 42.86 320 P P **10 56 09.9 -0.6**
KURK 10 58 01.2
KURK Kurchatov 42.86 320 P P **10 56 09.9 -0.6**
KURK PcP **PcP** **10 58 01.2 +0.1**
KURK ScP **ScP** **11 01 53.4 +3.2**
KURBB Kurchatov Arra 42.88 320 P P **10 56 09.9 -0.8**
comp=E,34nm,0.9s,baz=113,slow=7.9,SNR=79
KURBB PcP **PcP** **10 58 01.2 0.0**
comp=E,5.8nm,0.9s,baz=105,slow=3.8,SNR=4.6
KURBB ScP **ScP** **11 01 53.4 +3.1**
comp=E,1.2nm,0.8s,baz=113,slow=3.0,SNR=4.2
COEN Coen 42.91 149 *e*P P **10 56 11.8 +0.5**
comp=E,424nm,0.8s
KBK Karagaybulak 43.07 307 *i*P P **10 56 13.4 +0.8**
KBK Karagaybulak 43.07 307 P P **10 56 13.4 +0.8**
SNR=33
CHMS Chumysh 43.27 308 *i*P P **10 56 14.3 +0.3**
CHMS Chumysh 43.27 308 P P **10 56 14.3 +0.3**
SNR=20
UCH Uchtor 43.32 307 *i*P P **10 56 16.7 +1.8**
UCH Uchtor 43.32 307 P P **10 56 16.7 +1.8**
SNR=16
FRU Bishkek 43.34 308 *e*P P 10 56 10.0 -4.6
FRU pmax pmax
comp=Z,120nm,1.6s
FRU MLR MLR
comp=Z,3µm,18.0s
AAK Ala-Archa 43.40 307 P P **10 56 16.2 +1.0**
comp=Z,246nm,0.7s,SNR=12
AAK Ala-Archa 43.40 307 *c*↓*i*P P **10 56 15.4 +0.2**
AAK pmax pmax
comp=Z,128nm,1.2s
AAK MLR MLR
comp=Z,8µm,18.0s
AAK Ala-Archa 43.40 307 P P **10 56 16.0 +0.8**
SNR=18
AAK Ala-Archa 43.40 307 P P **10 56 16.2 +1.0**
SNR=19
AAK Ala-Archa 43.40 307 *e*P P **10 56 16.1 +0.8**
comp=Z,24nm,0.7s
AAK LR LR
comp=Z,4µm,19.0s
AAK Ala-Archa 43.40 307 P P **10 56 16.3 +1.1**
comp=Z,34nm,0.9s,baz=113,slow=5.1,SNR=16
USP Ospenovka 43.50 308 *i*P P **10 56 15.8 -0.1**
USP Ospenovka 43.50 308 P P **10 56 15.8 -0.1**
SNR=19
AML Almayashu 43.90 306 *i*P P **10 56 20.4 +0.9**
AML Almayashu 43.90 306 P P **10 56 20.4 +0.9**
SNR=29
EKS2 Erkin-Say 43.92 307 P P **10 56 19.6 +0.2**
SNR=24
MBWA Marble Bar 44.97 183 *e*P P **10 56 26.8 -0.9**
comp=Z,27nm,1.1s
MBWA LR LR
comp=Z,949nm,20.0s
WRAB Tennant Creek 45.24 164 P P **10 56 29.4 -0.5**
comp=Z,276nm,1.0s,SNR=12
WRAB Tennant Creek 45.24 164 *e*P P **10 56 29.6 -0.3**
WRAB pmax pmax
comp=Z,76nm,1.0s
WRAB MLR MLR
comp=Z,1µm,19.0s
WRAB Tennant Creek 45.24 164 *e*P P **10 56 29.6 -0.3**
comp=Z,76nm,1.0s
WRAB LR LR
comp=Z,1µm,19.0s
WRA Warramunga Arr 45.25 164 P P **10 56 29.7 -0.3**
WRA PcP **PcP** **10 58 11.4 +1.8**
WRA Warramunga Arr 45.25 164 P P **10 56 29.7 -0.3**
comp=Z,29nm,0.8s,baz=345,slow=8.8,SNR=102
WRA PcP **PcP** **10 58 11.4 +1.8**
comp=Z,4.3nm,0.9s,baz=336,slow=2.1,SNR=2.8
KK31 Karatay Array 46.36 307 *ce*P P **10 56 38.7 +0.1**
KK31 pmax pmax
comp=Z,18nm,0.4s
KBL Kabul 47.13 296 *e*P P **10 56 45.8 +0.8**
KBL pmax pmax
comp=Z,78nm,0.9s
KBL Kabul 47.13 296 *e*P P **10 56 45.8 +0.8**
comp=Z,78nm,0.9s
TIXI Tiksi 47.81 3 *d*↓*i*P P **10 56 47.3 -2.1**
TIXI pmax pmax
comp=Z,65nm,1.2s
TIXI MLR MLR
comp=Z,8µm,18.0s
FX1 Attu Island--F 47.82 39 LR LR 11 15 13.2
comp=Z,774nm,21.2s,baz=267,slow=34
BVA0 Borovoye Array 48.43 321 P P **10 56 53.7 -0.9**
BVA0 pmax pmax
comp=Z,37nm,1.0s
BVAR Borovoye Array 48.43 321 P P **10 56 53.8 -0.8**
BVAR 10 58 20.2
BVAR Borovoye Array 48.43 321 P P **10 56 53.8 -0.8**
BVAR PcP **PcP** **10 58 20.2 -0.4**
BVAR ScP **ScP** **11 02 13.7 +0.5**
BVAR Borovoye Array 48.43 321 P P **10 56 53.8 -0.8**
comp=Z,34nm,0.7s,baz=107,slow=8.1,SNR=32
BVAR PcP **PcP** **10 58 20.2 -0.4**
comp=Z,15nm,0.8s,baz=116,slow=3.4,SNR=6.9
BVAR ScP **ScP** **11 02 13.7 +0.5**
comp=Z,2.4nm,0.9s,baz=150,slow=3.3,SNR=4.4
BVAR LR LR 11 20 03.8
comp=Z,2µm,18.3s,baz=338,slow=40
BRVK Borovoye 48.50 321 P P **10 56 54.9 -0.2**
comp=Z,407nm,0.6s,SNR=19
BRVK Borovoye 48.50 321 *c*↓*i*P P **10 56 54.1 -1.0**
BRVK pmax pmax
comp=Z,100nm,1.2s
BRVK MLR MLR
comp=Z,2µm,17.0s
BRVK Borovoye 48.50 321 P P **10 56 54.4 -0.7**
SNR=33
BRVK Borovoye 48.50 321 *e*P P **10 56 54.3 -0.7**
comp=Z,76nm,1.0s
BRVK LR LR
comp=Z,2µm,19.0s
AS31 Alice Springs 48.72 166 *e*P P **10 56 57.0 -0.1**
ASAR Alice Springs 48.72 166 P P **10 56 58.1 +1.0**
ASAR ScP **ScP** **11 02 14.9 0.0**
ASAR Alice Springs 48.72 166 P P **10 56 58.1 +1.0**
comp=Z,18nm,0.9s,baz=347,slow=7.9,SNR=56
ASAR ScP **ScP** **11 02 14.9 0.0**
comp=Z,1.2nm,0.9s,baz=356,slow=5.0,SNR=4.7
ASAR LR LR 11 17 30.5
comp=Z,641nm,18.9s,baz=337,slow=36
HNR Honiara 49.59 128 PFAKE 10 57 20.0 +16
HNR LR LR
comp=Z,1µm,20.0s
CTAO Charters Tower 49.68 150 *e*P P **10 57 05.5 +1.1**
CTAO pmax pmax
comp=Z,44nm,1.1s
CTAO MLR MLR
comp=Z,2µm,21.0s
CTAO Charters Tower 49.68 150 *e*P P **10 57 05.5 +1.1**
comp=Z,44nm,1.1s
CTAO LR LR
comp=Z,2µm,21.0s
BILL Bilibino 51.51 20 P P **10 57 17.0 -0.6**
BILL *i* 10 57 31.5
BILL *e* 10 58 29.7
BILL pmax pmax
comp=Z,4.0nm,0.9s
BILL MLR MLR
comp=Z,3µm,19.0s
MIDW Midway 53.88 72 PFAKE 10 57 50.0 +14
MIDW LR LR
comp=Z,522nm,20.0s
TARA Tarawa 53.90 107 PFAKE 10 57 50.0 +14
TARA LR LR
comp=Z,2µm,22.0s
AB31 Akbulak array 54.27 314 *ce*P P **10 57 37.7 -0.6**
AB31 pmax pmax
comp=Z,42nm,0.5s
FORT Forrest 54.77 174 *e*P P **10 57 44.1 +2.1**
comp=Z,83nm,1.2s
SVE Sverdlovsk 54.77 324↓ *e*P P **10 57 40.8 -1.0**
SVE pmax pmax
comp=Z,66nm,1.2s
SVE MLR MLR
comp=Z,3µm,16.0s
AKTO Aktyubinsk 55.59 316 P P **10 57 47.8 -0.1**
AKTO Aktyubinsk 55.59 316 P P **10 57 47.8 -0.1**
comp=Z,37nm,0.9s,baz=89,slow=6.9,SNR=26
AKTO LR LR 11 23 37.9
comp=Z,2µm,19.2s,baz=99,slow=38
ARU Arti 55.84 323 *c*↓*i*P P **10 57 47.8 -1.7**
ARU 10 58 44.1
ARU S **S** **11 05 33.5 -1.3**
ARU pmax pmax
comp=Z,45nm,1.2s
ARU MLR MLR
comp=Z,2µm,22.0s
ARU Arti 55.84 323 P P **10 57 47.8 -1.7**
comp=Z,282nm,0.5s,SNR=9.4
EIDS Eidsvold 56.47 148 *e*P P **10 57 54.8 +0.4**
comp=Z,22nm,0.8s
SOKR Solikamsk 57.22 327 *d*↓*i*P P **10 57 58.7 -0.5**
SOKR pmax pmax
comp=Z,40nm,1.6s
SOKR MLR MLR
comp=Z,6µm,23.0s
BBOO Buckleboo 58.02 166 *e*P P **10 58 06.1 +0.9**
comp=Z,794nm,0.8s
STKA Stephens Creek 58.57 161 *e*P P **10 58 09.4 +0.3**
STKA Stephens Creek 58.57 161 P P **10 58 09.3 +0.3**
comp=Z,11nm,1.0s,baz=349,slow=8.6,SNR=11
ARMA Armidale 61.01 151 *e*P P **10 58 28.0 +2.0**
comp=Z,163nm,2.3s
DZM Mont Dzumac 62.79 133 *e*LR LR 11 17 29.6
comp=Z,4µm,25.1s
MAK Makhachkala 63.18 307 *e*P P **10 58 40.2 -0.2**
MAK *e* 11 00 58.9
MAK *e*S **S** **11 07 09.1 -0.8**
MAK pmax pmax
comp=Z,195nm,1.5s
MAK MLR MLR
comp=Z,1µm,14.0s
CAN Canberra 64.22 156 PFAKE 10 59 00.0 +13
CAN LR LR
comp=Z,1µm,20.0s
FUNA Funafuti 64.28 113 PFAKE 10 59 00.0 +12
FUNA LR LR
comp=Z,11µm,21.0s
DGRG David-gareji 64.99 306 P P **10 58 52.7 +0.2**
DUS Dusheti 65.37 307 P P **10 58 56.4 +1.5**
TBLG Delisi 65.41 307 *e*P P **10 58 53.8 -1.3**
TBLG Delisi 65.41 307 P P **10 58 53.9 -1.3**
SVW2 Sparrevohn 65.52 32 *e*P P **10 58 57.4 +2.0**
comp=Z,15nm,1.1s
KZR Kazreti 65.72 306 P P **10 58 57.4 +0.3**
GNI Garni 65.72 305 *e*P P **10 58 55.3 -2.0**
comp=Z,117nm,1.4s
GNI Garni 65.72 305 LR LR 11 30 21.3
comp=Z,350nm,21.9s,baz=94,slow=38
ZEI Tsey 65.82 308 *e*P P **10 58 56.6 -1.4**
ZEI pmax pmax
comp=Z,79nm,1.3s
KBD Kabd 65.86 293 *e*P P **10 58 57.0 -1.2**
KBD AMb AMB 10 59 02.5
comp=Z,79nm,1.0s
MIB Mutribah 66.00 293 *e*P P **10 58 57.9 -1.2**
MIB AMb AMB 10 59 03.2
comp=Z,121nm,1.0s
RDF Al-Radifah 66.05 292 *e*P P **10 58 58.6 -0.8**
RDF AMb AMB 10 59 04.2
comp=Z,204nm,0.9s
TMCR Tamitsa 66.17 332 *e*P P **10 58 57.6 -1.9**
TMCR *e* 10 59 27.0
TMCR pmax pmax
comp=Z,91nm,1.2s
ONI Oni 66.18 308 P P **10 59 00.5 +0.4**
NAY Al-Naaiem 66.22 293 *e*P P **10 58 59.1 -1.4**
NAY AMb AMB 10 59 04.5
comp=Z,77nm,1.0s
KBZ Khabaz 66.36 309 P P **10 59 01.5 +0.4**
KBZ Khabaz 66.36 309 P P **10 59 01.4 +0.4**
KBZ Khabaz 66.36 309 P P **10 59 01.4 +0.4**
comp=Z,43nm,0.9s,baz=76,slow=4.7,SNR=22
KBZ LR LR 11 31 42.4
comp=Z,1µm,19.9s,baz=67,slow=39
AKH Akhalkalaki 66.39 306 P P **10 59 01.8 +0.2**
KIV Kislovodsk 66.47 309 *e*P P **10 59 01.3 -0.6**
KIV *e* 10 59 27.2
KIV *e*S **S** **11 07 49.7 -0.9**
KIV *e*SS **SS** **11 12 08.9 +1.6**
KIV pmax pmax
comp=Z,141nm,1.0s
KIV pmax pmax
comp=Z,46nm,2.8s
KIV MLR MLR
comp=Z,1µm,17.0s
KIV Kislovodsk 66.47 309 P P **10 59 02.5 +0.6**
comp=Z,711nm,1.4s,SNR=14
RSO Redoubt South 66.97 32 *e*P P **10 59 05.2 +0.2**
COLD Coldfoot 67.16 25 *e*P P **10 59 05.4 -0.4**
OHAK Old Harbor 67.18 36 *e*P P **10 59 05.5 -0.6**
comp=Z,16nm,0.9s
SPU Mount Spurr 67.20 32 *e*P P **10 59 09.1 +2.8**
VORD Divnogorie 67.41 317 *e*P P **10 59 06.4 -1.2**
VORD pmax pmax
comp=Z,30nm,1.2s
VORD pmax pmax
comp=N,10.0nm,1.1s
VORD pmax pmax
comp=E,570nm,13.1s
VORD MLR MLR
comp=Z,690nm,14.0s
VORD MLR MLR
comp=N,490nm,15.0s
VORD MLR MLR
comp=E,570nm,13.0s
VSR Storozhevoye 67.44 317 *e*P P **10 59 06.9 -0.9**
VSR pmax pmax
comp=N,20nm,1.2s
VSR pmax pmax
comp=Z,60nm,1.2s
VSR pmax pmax
comp=E,40nm,1.0s
VSR MLR MLR
comp=Z,930nm,15.0s
VSR MLR MLR
comp=N,610nm,23.0s
VSR MLR MLR
comp=E,470nm,18.0s
KDAK Kodiak Island 67.47 35 P P **10 59 07.8 -0.1**
KDAK LR LR
comp=Z,490nm,21.0s
KDAK Kodiak Island 67.47 35 P P **10 59 07.8 -0.1**
comp=Z,4.5nm,0.4s,baz=275,slow=4.4,SNR=5.9
MOS Moscow 67.54 322 *e*P P **10 59 05.7 -2.7**
MOS pmax pmax
comp=Z,87nm,1.0s
MOS MLR MLR
comp=Z,2µm,17.0s
APA Apatity 67.63 335↑ *i*P P **10 59 08.0 -0.7**
APA MLR MLR
comp=Z,3µm,18.0s
TRF Thorofare Moun 67.67 29 *e*P P **10 59 08.7 -0.7**
comp=Z,40nm,1.5s
MCK McKinley 68.22 29 *e*P P **10 59 12.3 -0.3**
MCK McKinley 68.22 29 *e*P P **10 59 12.3 -0.3**
OBN Obninsk 68.25 322 *de*P P **10 59 11.7 -1.1**
OBN *e* 10 59 37.1
OBN *e* 11 09 09.1
OBN pmax pmax
comp=Z,93nm,1.3s

OBN MLR MLR
comp=Z,2μm,21.0s
MSVF Nonsavu 68.43 122 PFAKE 10 59 30.0 +15
MSVF LR LR
comp=Z,675nm,21.0s
COLA College 68.48 27 *e*P **P 10 59 13.5 -0.6**
COLA pmax pmax
comp=Z,39nm,0.8s
COLA MLR MLR
comp=Z,411nm,20.0s
COLA College 68.48 27 *e*P **P 10 59 13.5 -0.6**
comp=Z,39nm,0.8s
COLA LR LR
comp=Z,411nm,20.0s
PMR Palmer 68.52 31 *e*P **P 10 59 13.2 -1.3**
PMR pmax pmax
comp=Z,15nm,1.0s
PMR Palmer 68.52 31 *e*P **P 10 59 13.2 -1.3**
comp=Z,15nm,1.0s
SOC Sochi 68.65 309 *c i*P **P 10 59 14.6 -1.0**
SOC *e* 11 01 42.4
SOC *e*PPP PPP 11 03 25.1
SOC *e*S **S 11 08 18.3 +1.8**
SOC *e*SS **SS 11 12 36.3 -4.6**
SOC pmax pmax
comp=Z,54nm,0.9s
SOC MLR MLR
comp=Z,1μm,18.0s
SML Sawmill 68.85 31 *e*P **P 10 59 16.3 -0.3**
SML Sawmill 68.85 31 *e*P **P 10 59 16.3 -0.3**
ILAR Eielson Array 68.91 27 P **P 10 59 15.3 -1.5**
ILAR Eielson Array 68.91 27 P **P 10 59 15.3 -1.5**
comp=Z,1.2nm,0.6s,baz=295,slow=9.5,SNR=13
ILAR LR LR 11 31 50.8
comp=Z,459nm,18.6s,baz=124,slow=38
RAYN Ar Rayn 69.35 287 P **P 10 59 20.0 -0.4**
comp=Z,242nm,0.9s,SNR=16
RAYN Ar Rayn 69.35 287 *e*P **P 10 59 20.2 -0.2**
comp=Z,46nm,1.0s
KEV Kevo 69.50 338 *e*p **P 10 59 19.3 -1.1**
comp=Z,28nm,0.9s
KEV Kevo 69.50 338 *e*P **P 10 59 19.0 -1.4**
KEV pmax pmax
comp=Z,634nm,2.9s
KEV MLR MLR
comp=Z,2μm,19.0s
KEV Kevo 69.50 338 *e*P **P 10 59 19.0 -1.4**
comp=Z,634nm,2.9s
KEV LR LR
comp=Z,2μm,19.0s
PAX Paxson 69.91 29 *e*P **P 10 59 23.2 0.0**
PAX Paxson 69.91 29 *e*P **P 10 59 23.2 0.0**
ANN Anapa 69.95 311 *e*P **P 10 59 22.3 -1.3**
ANN *e*S **S 11 08 29.7 -2.2**
ANN pmax pmax
comp=Z,290nm,1.2s
ANN MLR MLR
comp=N,330nm,16.0s
ANN MLR MLR
comp=E,346nm,16.0s
ANN MLR MLR
comp=Z,797nm,16.0s
ARCES ARCESS Array B 70.06 338 P **P 10 59 23.1 -0.9**
ARCES ARCESS Array B 70.06 338 P **P 10 59 23.1 -0.9**
comp=Z,20nm,0.9s,baz=64,slow=6.0,SNR=20
ARCES LR LR 11 36 28.7
comp=Z,1μm,18.6s,baz=83,slow=41
ARE0 ARCESS Array S 70.06 338 *e*P **P 10 59 22.9 -1.0**
DIV Divide 70.20 31 *e*P **P 10 59 24.4 -0.6**
comp=Z,22nm,1.1s
KBS Kingsbay 70.39 349 PFAKE 10 59 40.0 +14
KBS LR LR
comp=Z,3μm,19.0s
TAU Tasmania Unive 70.48 161 P **P 10 59 29.1 +2.5**
TAU pmax pmax
comp=Z,115nm,1.5s
TAU Tasmania Unive 70.48 161 P **P 10 59 29.1 +2.5**
comp=Z,115nm,1.5s
MENT Mentasta 70.69 29 *e*P **P 10 59 27.9 0.0**
BMRM Bremner River 70.79 31 *e*P **P 10 59 28.0 -0.6**
comp=Z,35nm,1.0s
MALT Malatya 70.91 304 PFAKE 10 59 40.0 +10
MALT LR LR
comp=Z,784nm,20.0s
MALT Malatya 70.91 304⇓*i*P P 10 59 46.4 +17
MSEY Mahe Island 70.95 256 PFAKE 10 59 40.0 +10
MSEY LR LR
comp=Z,599nm,21.0s
EGAK Eagle 71.29 27 *e*P **P 10 59 31.0 -0.4**
comp=Z,6.5nm,0.6s
EGAK LR LR
comp=Z,572nm,19.0s
KAF Kangasniemi 71.79 331 *e*p **P 10 59 34.0 -0.5**
KAF Kangasniemi 71.79 331 *e*P **P 10 59 34.0 -0.5**
FIA1 FINESS Array S 72.09 330 *e*P **P 10 59 35.0 -1.3**
FINES FINESS Array B 72.09 330 P **P 10 59 35.5 -0.8**
FINES FINESS Array B 72.09 330 P **P 10 59 35.5 -0.8**
comp=Z,9.6nm,0.6s,baz=54,slow=6.2,SNR=38
FINES LR LR 11 34 37.6
comp=Z,4μm,19.1s,baz=74,slow=39
SIM Simferopol' **72.19 312** *e*P **P 10 59 36.9 -0.3**
SIM pmax pmax
comp=Z,116nm,0.9s
KIP Kipapa 72.60 74 PFAKE 10 59 50.0 +10
KIP LR LR
comp=Z,749nm,19.0s
VSU Vasula 72.67 327 *d i*P **P 10 59 39.2 -0.6**
VSU pmax pmax
comp=Z,201nm,1.2s
VSU MLR MLR
comp=Z,9μm,20.0s
INK Inuvik 73.01 22 P **P 10 59 40.8 -0.8**
INK Inuvik 73.01 22 P **P 10 59 40.8 -0.8**
comp=Z,13nm,0.7s,baz=278,slow=6.7,SNR=10
IDID Didziasalis 73.64 324 *e*P **P 10 59 45.7 +0.1**
IDID AMB AMB 10 59 50.5
comp=Z,46nm,0.8s
ALE Alert 73.65 1 P **P 10 59 44.0 -1.3**
comp=Z,80nm,1.2s,SNR=5.8
KIEV Kiev 73.67 319 *e*P **P 10 59 43.9 -1.9**
KIEV MLR MLR
comp=Z,978nm,20.0s
KIEV Kiev 73.67 319 *e*P **P 10 59 43.9 -1.9**
KIEV LR LR
comp=Z,978nm,20.0s
NACGM Naroch 73.75 323 *e*P P 10 59 41.0 -5.2
IZAR Zarasai 73.77 324 *e*P **P 10 59 46.5 +0.2**
IZAR AMB AMB 10 59 51.2
comp=Z,34nm,0.9s
ISAL Salakas 73.89 324 *e*P **P 10 59 47.2 +0.2**
ISAL AMB AMB 10 59 51.9
comp=Z,25nm,0.9s
IIGN Ignalina 73.91 324 *e*P **P 10 59 47.3 +0.1**
IIGN AMB AMB 10 59 52.0
comp=Z,26nm,1.0s
BR131 Keskin Array S 74.07 307 *e*P **P 10 59 48.4 -0.3**
comp=Z,62nm,0.9s
BRTR Keskin Array B 74.07 307 P **P 10 59 48.4 -0.3**
BRTR Keskin Array B 74.07 307 P **P 10 59 48.4 -0.3**
comp=Z,70nm,1.0s,baz=104,slow=4.0,SNR=73
BRTR LR LR 11 37 40.0
comp=Z,387nm,20.4s,baz=165,slow=40
AFI Afiamalu 74.62 113 LR LR 11 30 25.1
comp=Z,555nm,18.7s,baz=336,slow=34
ANTO Ankara 74.64 307⇓P **P 10 59 51.6 -0.3**
ANTO Ankara 74.64 307 P **P 10 59 52.3 +0.4**
SNR=11
ANTO Ankara 74.64 307 *e*P **P 10 59 51.4 -0.5**
ANTO LR LR
comp=Z,424nm,20.0s
ANTO Ankara 74.64 307⇓*i*P **P 10 59 51.6 -0.3**
KIS Kishinev 75.09 315 *e*P P 11 00 00.0 +5.8
KIS LRM MLR 11 36 40.0
comp=Z,2μm,20.0s
KIS Kishinev 75.09 315 *e*P P 11 00 00.0 +5.8
KIS *e* 11 09 20.0
KIS MLR MLR
comp=E,1μm,16.0s
KIS MLR MLR
comp=Z,2μm,16.0s
KIS MLR MLR
comp=Z,2μm,20.0s
SKAG Skagway 75.66 31 *e*P **P 10 59 57.5 +0.3**
comp=Z,39nm,1.0s
TLCR 75.69 313⇑P **P 10 59 57.2 -0.5**
TLCR 75.69 313⇑*i*P **P 10 59 57.2 -0.5**

ATD Arta Tunnel 75.83 276 LR LR 11 33 54.6
comp=Z,197nm,19.1s,baz=26,slow=36
CSS Prodhromos 75.83 302 *e*P **P 10 59 58.7 0.0**
CSS LR LR
comp=Z,662nm,21.0s
SUW Suwalki 76.03 323 *e*P **P 10 59 58.5 -0.9**
SUW pmax pmax
comp=Z,295nm,0.9s
SUW Suwalki 76.03 323 *e*P **P 10 59 58.5 -0.9**
comp=Z,295nm,0.9s
SUW Suwalki 76.03 323 *e*P **P 10 59 59.2 -0.2**
CFR Carcaliu 76.15 313⇑P **P 11 00 00.2 -0.1**
CFR Carcaliu 76.15 313⇑*i*P **P 11 00 00.2 -0.1**
TIRR Tirgusor 76.21 313⇑P **P 11 00 01.7 +1.1**
TIRR Tirgusor 76.21 313⇑*i*P **P 11 00 01.6 +1.0**
TESR Tescani 76.66 315⇑*i*P **P 11 00 04.3 +1.1**
DAG Danmarks Havn 76.68 351 *i* P **P 11 00 00.5 -2.3**
DAG pmax pmax
comp=Z,11nm,0.8s
DAG MLR MLR
comp=Z,410nm,16.0s
DAG Danmarks Havn 76.68 351 *i* P **P 11 00 00.5 -2.3**
comp=Z,15nm,0.8s
DAG
comp=Z,400nm,15.0s
VRI Vrincioaia 76.83 314⇑P **P 11 00 04.5 +0.3**
VRI Vrincioaia 76.83 314⇑*i*P **P 11 00 04.5 +0.3**
PLOR Plostina 76.89 314⇓P **P 11 00 05.5 +0.9**
PLOR Plostina 76.89 314⇓*i*P **P 11 00 05.5 +0.9**
ISP Isparta 77.00 306⇓P **P 11 00 05.6 +0.2**
ISP Isparta 77.00 306 *e*P **P 11 00 05.1 -0.3**
ISP LR LR
comp=Z,513nm,20.0s
ISP Isparta 77.00 306⇓*i*P **P 11 00 05.6 +0.2**
LVV L'vov 77.09 319 *e*P **P 11 00 02.8 -2.7**
LVV MLR MLR
comp=Z,600nm,18.0s
LVV MLR MLR
comp=N,200nm,15.0s
LVV MLR MLR
comp=E,600nm,18.0s
BUR08 Bucovina Ar. S 77.17 317 *e*P **P 11 00 06.2 0.0**
BURAR Bucovina Array 77.17 316⇑P **P 11 00 06.4 +0.2**
BURAR Bucovina Array 77.17 316⇑*i*P **P 11 00 06.4 +0.2**
ISR Istrita 77.22 314⇓P **P 11 00 08.4 +1.9**
ISR Istrita 77.22 314⇓*i*P **P 11 00 08.4 +1.9**
MLR Muntele Rosu 77.48 314⇑*i*P **P 11 00 07.9 -0.1**
KWP Kalwaria Pacla 77.95 319 P **P 11 00 09.3 -1.1**
KWP pmax pmax
comp=Z,125nm,0.9s
KWP MLR MLR
comp=Z,1μm,19.0s
KWP Kalwaria Pacla 77.95 319 P **P 11 00 09.3 -1.1**
comp=Z,125nm,0.9s
KWP LR LR
comp=Z,1μm,19.0s
KWP Kalwaria Pacla 77.95 319 *e*P **P 11 00 10.4 0.0**
VOIR 78.09 314⇓P **P 11 00 12.6 +1.3**
VOIR 78.09 314⇓*i*P **P 11 00 12.6 +1.3**
RAO Raoul Island 78.16 129 LR LR 11 28 27.9
comp=Z,485nm,21.4s,baz=308,slow=31
HFS Hagfors 78.20 331 LR LR 11 38 15.8
comp=Z,6μm,18.1s,baz=63,slow=38
BEL Belsk 78.20 322 *e*P **P 11 00 11.4 -0.3**
BEL *e* 11 00 14.7
BEL Belsk 78.20 322 *e*P **P 11 00 11.4 -0.3**
BEL *e* 11 00 14.7
WRAK Wrangell Islan 78.36 33 *e*P **P 11 00 12.1 -0.4**
comp=Z,34nm,1.1s
WRAK LR LR
comp=Z,380nm,19.0s
CRAG Craig 78.38 34 *e*P **P 11 00 12.3 -0.3**
comp=Z,54nm,1.2s
ARR Arges 78.38 314⇑*i*P **P 11 00 13.0 +0.1**
HUMR Humele 78.47 314⇓*i*P **P 11 00 14.4 +1.0**
KOLS Kolonicke sedl 78.49 318 *e*P **P 11 00 13.2 -0.2**
KOLS pmax pmax
comp=Z,17nm,1.0s
KOLS Kolonicke sedl 78.49 318 *e*P **P 11 00 13.1 -0.3**
DLBC Dease Lake 78.58 31 P **P 11 00 14.2 +0.5**
DLBC Dease Lake 78.58 31 P **P 11 00 14.2 +0.5**
comp=Z,14nm,0.8s,baz=307,slow=5.9,SNR=26
UZH Uzhgorod 78.60 318 *e*P **P 11 00 11.7 -2.2**
UZH *e* 11 00 26.2
UZH *e*S **S 11 10 03.8 -4.9**
UZH *i* 11 10 35.6
TRPA Tarpa 78.64 318⇓*i*P **P 11 00 14.8 +0.6**
TRPA Tarpa 78.64 318⇓*e* **P 11 00 14.1 -0.1**
NB2 NORSAR Subarra 78.83 332 P **P 11 00 13.7 -1.4**
comp=Z,40nm,1.1s,baz=54,slow=5.9
NB2 NORSAR Subarra 78.83 332 P **P 11 00 13.7 -1.4**
baz=54,slow=5.9
NOA NORSAR Array B 78.83 332 P **P 11 00 13.4 -1.7**
NOA PP **PP 11 03 17.2 +4.0**
NOA NORSAR Array B 78.83 332 P **P 11 00 13.4 -1.7**
comp=Z,7.3nm,0.6s,baz=58,slow=5.4,SNR=22
NOA PP **PP 11 03 17.2 +4.0**
comp=Z,2.3nm,0.9s,baz=66,slow=8.1,SNR=4.7
NOA LR LR 11 38 49.0
comp=Z,3μm,18.5s,baz=65,slow=39
LOT Lotru 78.92 315⇓*i*P **P 11 00 17.5 +1.6**
STHS Stebnicka Huta 78.92 319 *e*P **P 11 00 15.8 +0.1**
STHS pmax pmax
comp=Z,19nm,1.0s
STHS Stebnicka Huta 78.92 319 *e*P **P 11 00 15.8 +0.1**
DRGR 79.07 316⇑P **P 11 00 17.7 +1.0**
DRGR 79.07 316⇑*i*P **P 11 00 17.7 +1.0**
NAO01 NORSAR Array S 79.07 332 *e*P **P 11 00 14.6 -1.8**
comp=Z,9.9nm,0.8s
DEV Deva 79.30 315⇓P **P 11 00 19.4 +1.5**
DEV Deva 79.30 315⇓*i*P **P 11 00 19.4 +1.5**
OJC Ojcow 79.44 320⇑*i*P **P 11 00 17.7 -0.8**
OJC Ojcow 79.44 320 *i* P **P 11 00 17.7 -0.8**
NIE Niedzica 79.47 319⇑*i*P **P 11 00 19.6 +0.8**
NIE Niedzica 79.47 319 *i* P **P 11 00 19.6 +0.8**
GZR Gura Zlata 79.58 315⇑P **P 11 00 19.7 +0.2**
GZR Gura Zlata 79.58 315⇑*i*P **P 11 00 19.7 +0.2**
RZN Rozhen 79.74 311 *e*P **P 11 00 21.0 +0.4**
KECS Kecovo 79.75 319 *e*P **P 11 00 19.5 -0.8**
KECS pmax pmax
comp=Z,12nm,1.1s
KECS Kecovo 79.75 319 *e*P **P 11 00 19.5 -0.8**
BSD Bornholm Skovb 79.95 326 *i* P **P 11 00 20.8 -0.4**
BSD pmax pmax
comp=Z,21nm,1.1s
BSD MLR MLR
comp=Z,3μm,16.0s
BSD Bornholm Skovb 79.95 326 *i* P **P 11 00 20.8 -0.4**
comp=Z,21nm,1.0s
BSD
comp=Z,3μm,16.0s
KONO Kongsberg 80.23 332 PFAKE 11 00 30.0 +7.4
KONO LR LR
comp=Z,4μm,20.0s
PSZ Piszkesteto 80.35 318⇓P **P 11 00 24.2 +0.6**
PSZ Piszkesteto 80.35 318 *e*P **P 11 00 22.5 -1.1**
PSZ LR LR
comp=Z,72nm,1.3s
PSZ
comp=Z,1μm,19.0s
PSZ Piszkesteto 80.35 318⇓*i*P **P 11 00 24.2 +0.6**
VTS Vitosha 80.42 312⇑P **P 11 00 24.5 +0.3**
VTS Vitosha 80.42 312 *e*P **P 11 00 23.0 -1.2**
VTS Vitosha 80.42 312⇑*i*P **P 11 00 24.5 +0.3**
MMB Musomiste 80.46 311 *e*P **P 11 00 23.0 -1.3**
NVR Nevrokopi 80.46 311 *e*P P 11 00 20.8 -3.5
URZ Urewera 80.50 139 P **P 11 00 23.8 -0.5**
comp=Z,10.0nm,0.6s
URZ Urewera 80.50 139 LR LR 11 30 11.1
comp=Z,680nm,20.9s,baz=272,slow=31
OKC Ostrava-Krasne 80.56 320 *e*P **P 11 00 24.3 -0.3**
OKC *e* 11 10 37.1
OKC MLR MLR
comp=Z,700nm,15.9s
OKC Ostrava-Krasne 80.56 320 *e*P **P 11 00 24.3 -0.3**
OKC *e*PCP **PcP 11 00 28.1 -3.4**
OKC *e*SKS S 11 10 37.1 +7.6
OKC AMS AMS 11 39 50.0
comp=Z,700nm,15.9s
VYHS Vyhne 80.74 319 *e*P **P 11 00 25.3 -0.3**
VYHS pmax pmax
comp=Z,37nm,1.0s
VYHS Vyhne 80.74 319 *e*P **P 11 00 25.3 -0.3**
KKB Krupnik 80.79 312 *e*P **P 11 00 25.0 -1.0**
PKSN Nyarlorinc 80.80 317⇓*e* **P 11 00 26.4 +0.5**

RPZ Rata Peaks 80.90 146 *e*P **P 11 00 28.8 +2.4**
comp=Z,38nm,1.1s
RPZ Rata Peaks 80.90 146 LR LR 11 33 39.5
comp=Z,848nm,19.7s,baz=241,slow=34
MORC Moravsky Berou 80.94 321 *e*P **P 11 00 26.2 -0.5**
MORC pmax pmax
comp=Z,34nm,1.2s
MORC Moravsky Berou 80.94 321 *e*P **P 11 00 26.2 -0.5**
comp=Z,34nm,1.2s
BUD Budapest 81.07 318⇓*e* **P 11 00 26.8 -0.6**
PKS6 Bocsa 81.12 317⇓*e*P P 11 00 31.9 +4.3
PLG Polygyros 81.14 310 *e*P **P 11 00 26.0 -2.0**
SNZO South Karori 81.15 143 PFAKE 11 00 40.0 +12
SNZO LR LR
comp=Z,799nm,20.0s
PKS7 Kunszentmiklos 81.17 318⇓*e* **P 11 00 27.8 -0.1**
KSP Ksiaz 81.18 322⇓*e*P **P 11 00 27.3 -0.6**
KSP *e*S **S 11 10 36.0 +0.1**
KSP MLR MLR
comp=Z,4μm,20.0s
KSP Ksiaz 81.18 322 *e*P **P 11 00 27.1 -0.8**
KSP *e* 11 00 31.0
KRLC Kraliky 81.25 321 *e*P **P 11 00 27.9 -0.4**
KRLC Kraliky 81.25 321 *e*P **P 11 00 27.9 -0.4**
KRLC *e*PCP **PcP 11 00 31.9 -2.6**
SANT Santorini 81.29 306 PFAKE 11 00 40.0 +11
SANT LR LR
comp=Z,552nm,19.0s
AOS Alonnisos 81.32 309 *e*P **P 11 00 26.7 -2.2**
PKS2 Kecel 81.38 317⇓*e*P P 11 00 32.7 +3.7
DPC Dobruska-Polom 81.39 321 *e*P **P 11 00 28.9 -0.2**
DPC *e* 11 10 45.3
DPC Dobruska-Polom 81.39 321 *e*P **P 11 00 28.9 -0.2**
DPC *e*PCP **PcP 11 00 32.2 -2.9**
DPC *e*SKS S 11 10 45.3 +7.1
DPC AMS AMS 11 40 20.0
UPC Upice 81.49 322 *e*P **P 11 00 29.3 -0.3**
UPC Upice 81.49 322 *e*P **P 11 00 29.3 -0.3**
UPC *e*PCP **PcP 11 00 32.8 -2.7**
PKSG 81.50 318⇓*e*P **P 11 00 29.5 -0.1**
CSKK Cs˙ˇkako 81.59 318⇓*e*P **P 11 00 31.7 +1.6**
GRG Griva 81.63 311 *e*P **P 11 00 28.7 -1.8**
PKSM Moragy 81.86 317⇓*e*P **P 11 00 31.0 -0.6**
ZST Bratislava 81.91 319 *e*P **P 11 00 31.8 0.0**
ZST Bratislava 81.91 319 *e*P **P 11 00 31.8 0.0**
PKS9 Tamasi 81.92 317⇓*e*P **P 11 00 31.8 -0.1**
MUD Monsted U'grnd 82.10 329 *e*P **P 11 00 33.9 +1.3**
MUD pmax pmax
comp=Z,21nm,1.1s
MUD MLR MLR
comp=Z,4μm,17.0s
MUD Monsted U'grnd 82.10 329 *i* P **P 11 00 33.9 +1.3**
comp=Z,21nm,1.0s
MUD
comp=Z,4μm,17.0s
IDI Anoyia 82.15 305 *e*P **P 11 00 32.4 -1.0**
comp=Z,41nm,0.9s
LKR Lokris 82.16 309 *e*P **P 11 00 31.4 -1.9**
PVCC Panska Ves 82.29 322 *e*P **P 11 00 33.7 -0.1**
PVCC MLR MLR
comp=Z,3μm,17.1s
PVCC Panska Ves 82.29 322 *e*P **P 11 00 33.7 -0.1**
PVCC *e*PCP **PcP 11 00 37.6 -1.4**
PVCC AMS AMS 11 41 40.0
comp=Z,3μm,17.1s
TREC Trest 82.36 321 *e*P **P 11 00 33.9 -0.3**
TREC MLR MLR
comp=Z,1μm,17.3s
TREC Trest 82.36 321 *e*P **P 11 00 33.9 -0.3**
TREC AMS AMS 11 40 50.0
comp=Z,1μm,17.3s
SCO Scoresbysund 82.42 349 *i* P **P 11 00 32.8 -1.2**
SCO pmax pmax
comp=Z,15nm,1.0s
SCO MLR MLR
comp=Z,830nm,23.0s
SCO Scoresbysund 82.42 349 *i* P **P 11 00 32.8 -1.2**
comp=Z,15nm,1.0s
SCO
comp=Z,820nm,22.0s
AGG Agios Georgios 82.48 309 *e*P **P 11 00 32.1 -3.0**
BBB Bella Bella 82.54 36 P **P 11 00 33.7 -1.2**
BBB Bella Bella 82.54 36 P **P 11 00 33.7 -1.2**
comp=Z,12nm,1.0s,baz=288,slow=7.8,SNR=8.1
PRU Pruhonice 82.57 322 *e*P **P 11 00 34.1 -1.1**
PRU MLR MLR
comp=Z,2μm,20.2s
PRU Pruhonice 82.57 322 *e*P **P 11 00 34.1 -1.1**
PRU *e*PCP **PcP 11 00 38.7 -1.5**
PRU *ex* x 11 10 59.1
PRU *ex* x 11 16 35.5
PRU AMS AMS 11 40 40.0
comp=Z,2μm,20.2s
PRA Prague 82.59 322 P **P 11 00 34.0 -1.3**
PRA AMS AMS 11 41 00.0
YKW3 Yellowknife Ar 82.69 23 *e*P **P 11 00 33.7 -1.8**
comp=Z,0.5nm,0.9s
YKA Yellowknife Ar 82.74 23 P **P 11 00 34.4 -1.4**
YKA Yellowknife Ar 82.74 23 P **P 11 00 34.4 -1.4**
comp=Z,13nm,0.9s,baz=314,slow=5.0,SNR=40
SUMG Summit 82.77 354⇑*i*P **P 11 00 34.9 -1.4**
SUMG pmax pmax
comp=Z,20nm,0.8s
SUMG MLR MLR
comp=Z,580nm,19.0s
SUMG Summit 82.77 354 *e*P **P 11 00 35.1 -1.2**
comp=Z,40nm,0.9s
SUMG Summit 82.77 354⇑*i*P **P 11 00 34.9 -1.4**
comp=Z,20nm,0.8s
SUMG
comp=Z,580nm,19.0s
CONA Conrad Observa 82.78 319⇑*i*P **P 11 00 35.9 -0.6**
comp=Z,27nm,1.4s,SNR=21
CLL Collm 82.78 323⇑*i*P **P 11 00 35.8 -0.5**
CLL *e*S **S 11 10 55.0 +2.6**
CLL pmax pmax
comp=Z,18nm,1.3s
CLL MLR MLR
comp=Z,2μm,19.3s
CLL Collm 82.78 323⇑*i*P **P 11 00 35.8 -0.5**
comp=Z,23nm,1.3s
CLL *i* Pmax 11 00 39.1
comp=Z,32nm,1.3s
CLL *e*Plp 11 00 43.0
CLL comp=Z,200nm,16.4s *e*PP **PP 11 03 46.0 0.0**
CLL comp=Z,11nm,1.3s *e*PPlp 11 03 50.0
CLL comp=Z,100nm,16.5s *e*PPP PPP 11 05 54.0
CLL *e*S **S 11 10 55.0 +2.6**
CLL *e*SS SS 11 16 24.0 +10
CLL *e* 11 20 36.0
CLL LmV 11 42 00.0
comp=Z,2μm,19.3s
BEHE Becsehely 82.90 318⇑*e*P **P 11 00 36.8 -0.2**
LAKA Lakka 83.06 309 *e*P **P 11 00 35.8 -2.3**
TIR Tirane 83.20 312 *e*P **P 11 00 38.0 -0.7**
TIR pmax pmax
comp=Z,38nm,0.9s
TIR MLR MLR
comp=Z,846nm,21.0s
TIR Tirane 83.20 312 *e*P **P 11 00 38.0 -0.7**
comp=Z,38nm,0.9s
TIR LR LR
comp=Z,846nm,21.0s
ARSA Arzberg 83.30 319⇑*i*P **P 11 00 38.1 -1.0**
KHC Kasperske Hory 83.53 321 *e*P **P 11 00 39.9 -0.4**
KHC MLR MLR
comp=Z,2μm,16.4s
KHC Kasperske Hory 83.53 321 *e*P **P 11 00 39.9 -0.4**
KHC *e*PCP **PcP 11 00 43.6 -0.9**
KHC *ex* x 11 11 10.0
KHC *ex* x 11 16 45.1
KHC AMS AMS 11 42 40.0
comp=Z,2μm,16.4s
KHC Kasperske Hory 83.53 321 *e*P **P 11 00 39.6 -0.7**
comp=Z,47nm,1.3s
ITM Ithomi 83.55 308 *e*P **P 11 00 38.6 -2.0**
GERES GERESS Array B 83.60 321 P **P 11 00 40.2 -0.5**
GERES GERESS Array B 83.60 321 P **P 11 00 40.2 -0.5**
comp=Z,19nm,0.8s,baz=57,slow=4.9,SNR=41
GERES LR LR 11 42 06.7
comp=Z,1μm,19.5s,baz=62,slow=39

GROS Grobnik 83.68 318 *e*P **P** **11 00 39.8 -1.3**
GROS *e*pP **PcP** **11 00 43.7 -1.6**
MOA Molln 83.76 320 *i* P **P** **11 00 40.7 -0.7**
comp=Z,42nm,1.1s,SNR=18
LKD2 Lefkada island 83.76 310 *e*P **P** **11 00 39.3 -2.4**
PYL PYLOS 83.80 308 *e*P **P** **11 00 39.2 -2.7**
PERS Pernice 83.83 319 *e*P **P** **11 00 40.8 -1.1**
PERS *e*pP **PcP** **11 00 44.6 -1.3**
SOKA Soboth 83.86 319⇑ *i*P **P** **11 00 41.1 -1.0**
comp=Z,29nm,0.8s
VLS Valsamata 84.08 309 *e*P **P** **11 00 41.6 -1.7**
OBKA Obir 84.24 319⇑ *i*P **P** **11 00 42.8 -1.2**
comp=Z,31nm,0.8s
BOJS Bojanci 84.29 317 *e*P **P** **11 00 43.6 -0.5**
BOJS *e*pP **PcP** **11 00 47.4 -0.5**
LJU Ljubljana 84.48 318 *e*P **P** **11 00 44.0 -1.1**
LJU *e*pP **PcP** **11 00 48.0 -0.7**
KBA Koelnbreinsper 84.68 320⇑ *i*P **P** **11 00 44.8 -1.5**
comp=Z,32nm,1.1s,SNR=12
ABPO Ambohimpanom 84.71 247 P **P** **11 00 46.4 -0.5**
ABPO pmax pmax
comp=Z,17nm,1.0s
ABPO MLR MLR
comp=Z,581nm,22.0s
ABPO Ambohimpanom 84.71 247 P **P** **11 00 46.4 -0.5**
comp=Z,17nm,1.0s
ABPO LR LR
comp=Z,581nm,22.0s
MYKA Terra Mystica 84.72 319⇓ *i*P **P** **11 00 44.8 -1.6**
comp=Z,19nm,1.3s
VOY Vojsko 84.87 318 *e*P **P** **11 00 45.4 -1.8**
VOY *e* 11 00 49.2
VOY *e* 11 01 00.4
ABTA Abfaltersbach 85.34 320⇑ *i*P **P** **11 00 47.6 -1.9**
comp=Z,35nm,1.0s,SNR=19
WTTA Wattenberg 85.59 320⇑ *i*P **P** **11 00 49.6 -1.3**
comp=Z,35nm,1.3s,SNR=16
KMBO Kilima Mbogo 85.90 267 P P 11 00 58.3 +5.2
SNR=7.0
KMBO Kilima Mbogo 85.90 267 *e*P **P** **11 00 54.0 +0.9**
comp=Z,29nm,0.9s
KMBO Kilima Mbogo 85.90 267 P **P** **11 00 54.2 +1.2**
baz=29,slow=5.1,SNR=6.9
KMBO LR LR 11 41 22.1
comp=Z,330nm,18.7s,baz=92,slow=37
STU Stuttgart 86.19 322 *e*P **P** **11 00 51.0 -2.6**
STU Stuttgart 86.19 322 *e*P **P** **11 00 51.0 -2.6**
FETA Feichten 86.25 320⇓ *i*P **P** **11 00 52.8 -1.4**
comp=Z,26nm,1.1s,SNR=14
TIP Timpagrande 86.30 311 *e*P **P** **11 00 53.8 -0.7**
comp=Z,64nm,1.2s
TIP LR LR
comp=Z,663nm,21.0s
CUC Castrocucco 86.56 312 *e*P **P** **11 00 54.1 -1.6**
comp=Z,21nm,1.1s
CUC LR LR
comp=Z,559nm,20.0s
DAVA Damuels 86.60 321⇑ *i*P **P** **11 00 54.2 -1.7**
comp=Z,19nm,1.3s
LANF Langenberg 86.85 323 *e*P **P** **11 00 56.6 -0.3**
MEM Membach 86.90 325 P **P** **11 00 56.5 -0.5**
MEM E 11 01 00.1
BFO Black Forest 86.92 322 *e*P **P** **11 00 55.3 -1.9**
BFO pmax pmax
comp=Z,34nm,1.6s
BFO MLR MLR
comp=Z,2µm,20.0s
BFO Black Forest 86.92 322 *e*P **P** **11 00 55.3 -1.9**
comp=Z,34nm,1.6s
BFO LR LR
comp=Z,2µm,20.0s
PGC Sidney 86.93 37 *e*P **P** **11 00 57.0 -0.2**
comp=Z,2.3nm,1.1s
AQU L'Aquila 87.00 315 *e*P **P** **11 00 57.7 -0.1**
comp=Z,118nm,1.0s
AQU LR LR
comp=Z,820nm,22.0s
BORG Borgarnes 87.14 345 PFAKE 11 01 10.0 +12
BORG LR LR
comp=Z,1µm,19.0s
OSD Olympics--Snow 87.24 38 P **P** **11 00 59.5 +0.4**
CEL Celeste 87.33 311 *e*P **P** **11 00 58.7 -0.8**
comp=Z,91nm,1.0s
CEL LR LR
comp=Z,435nm,19.0s
TUE Stuetta 87.35 320 *e*P **P** **11 00 58.2 -1.4**
comp=Z,39nm,1.3s
TUE LR LR
comp=Z,1µm,19.0s
WLF Walferdange 87.36 324 P **P** **11 00 59.9 +0.6**
WLF Walferdange 87.36 324 *e*P **P** **11 00 59.2 -0.1**
WLF pmax pmax
comp=Z,89nm,1.2s
WLF MLR MLR
comp=Z,2µm,19.0s
WLF Walferdange 87.36 324 *e*P **P** **11 00 59.2 -0.1**
comp=Z,89nm,1.2s
WLF LR LR
comp=Z,2µm,19.0s
NLWA Neilton Lookou 87.38 38 *e*P **P** **11 00 59.7 +0.1**
comp=Z,41nm,1.1s
NLWA LR LR
comp=Z,293nm,20.0s
CDF Champ du Feu 87.46 323 *e*P **P** **11 00 58.6 -1.3**
comp=Z,131nm,1.4s
CDF Champ du Feu 87.46 323 *e*P **P** **11 00 58.6 -1.3**
CDF pmax pmax
comp=Z,131nm,1.4s
CDF Champ du Feu 87.46 323 *e*P **P** **11 00 58.6 -1.3**
comp=Z,131nm,1.4s
ECH Echery 87.63 323 *e*P **P** **11 00 59.6 -1.1**
ECH pmax pmax
comp=Z,32nm,1.4s
ECH MLR MLR
comp=Z,1µm,19.0s
ECH Echery 87.63 323 *e*P **P** **11 00 59.6 -1.1**
comp=Z,32nm,1.4s
ECH LR LR
comp=Z,1µm,19.0s
ECH Echery 87.63 323 *e*P **P** **11 00 59.9 -0.8**
GIVF Givet 87.81 325 *e*P **P** **11 01 00.2 -1.2**
comp=Z,73nm,1.2s
GIVF Givet 87.81 325 *e*P **P** **11 01 00.2 -1.2**
GIVF pmax pmax
comp=Z,73nm,1.2s
GIVF Givet 87.81 325 *e*P **P** **11 01 00.2 -1.2**
comp=Z,73nm,1.2s
MOF Molkenrain 87.85 322 *e*P **P** **11 01 01.2 -0.6**
DOU Dourbes 87.93 325 P **P** **11 01 01.5 -0.5**
comp=Z,8.0nm,1.5s
DOU E 11 01 04.9
VLC Villacollemand 87.96 318 PFAKE 11 01 10.0 +7.7
VLC LR LR
comp=Z,1µm,19.0s
JCW Jim Creek 88.02 37 P **P** **11 01 02.8 +0.2**
HINF Hinteralfeld 88.03 322 *e*P **P** **11 01 00.9 -1.7**
comp=Z,26nm,1.0s
HINF Hinteralfeld 88.03 322 *e*P **P** **11 01 00.9 -1.7**
HINF pmax pmax
comp=Z,26nm,1.0s
HINF Hinteralfeld 88.03 322 *e*P **P** **11 01 00.9 -1.7**
comp=Z,26nm,1.0s
BAIF Baives 88.16 325 *e*P **P** **11 01 01.8 -1.3**
comp=Z,43nm,1.2s
BAIF Baives 88.16 325 *e*P **P** **11 01 01.8 -1.3**
BAIF pmax pmax
comp=Z,43nm,1.2s
BAIF Baives 88.16 325 *e*P **P** **11 01 01.8 -1.3**
comp=Z,43nm,1.2s
HAU Haudompre 88.20 323 *e*P **P** **11 01 01.7 -1.7**
comp=Z,43nm,1.1s
HAU *e*R
comp=Z,2µm,18.0s
HAU Haudompre 88.20 323 *e*P **P** **11 01 01.7 -1.7**
HAU pmax pmax
comp=Z,43nm,1.1s
HAU Haudompre 88.20 323 *e*P **P** **11 01 01.7 -1.7**
comp=Z,43nm,1.1s
PAGF Fort de Pagny 88.23 324 *e*P **P** **11 01 02.4 -1.1**
comp=Z,12nm,1.0s
PAGF Fort de Pagny 88.23 324 *e*P **P** **11 01 02.4 -1.1**
comp=Z,12nm,1.0s
THEF They Montfort 88.27 323 *e*P **P** **11 01 02.7 -1.0**
HTW Haystack Looko 88.33 37 P **P** **11 01 03.9 -0.2**
ESK Eskdalemuir 88.36 332 PFAKE 11 01 10.0 +6.1
ESK LR LR
comp=Z,18nm,1.0s
SSB MLR MLR
comp=Z,1µm,19.0s
SSB Saint Sauveur 90.79 321 *e*P **P** **11 01 14.5 -1.1**
comp=Z,18nm,1.0s
SSB LR LR
comp=Z,1µm,19.0s
SSB Saint Sauveur 90.79 321 *e*P **P** **11 01 14.8 -0.8**
A12A Yaak River Ran 90.92 34⇓ P **P** **11 01 16.1 -0.1**
baz=91,SNR=14
SMRF Simiane la Rot 90.95 320 *e*P **P** **11 01 15.3 -1.1**
comp=Z,43nm,1.2s
SMRF Simiane la Rot 90.95 320 *e*P **P** **11 01 15.3 -1.1**
comp=Z,43nm,1.3s
VIVF Saint-Julien-l 90.97 321 *e*P **P** **11 01 15.1 -1.3**
comp=Z,57nm,1.0s
VIVF Saint-Julien-l 90.97 321 *e*P **P** **11 01 15.1 -1.3**
VIVF pmax pmax
comp=Z,57nm,1.0s
VIVF Saint-Julien-l 90.97 321 *e*P **P** **11 01 15.1 -1.3**
comp=Z,57nm,1.0s
BGF Bois d'Agland 90.98 323 *e*P **P** **11 01 15.0 -1.4**
comp=Z,32nm,1.0s
BGF Bois d'Agland 90.98 323 *e*P **P** **11 01 15.0 -1.4**
BGF pmax pmax
comp=Z,32nm,1.0s
BGF Bois d'Agland 90.98 323 *e*P **P** **11 01 15.0 -1.4**
comp=Z,32nm,1.0s
VSL Villasalto 91.08 315 *e*P **P** **11 01 16.5 -0.5**
comp=Z,57nm,1.1s
VSL LR LR
comp=Z,802nm,21.0s
AGO Saint Agoulin 91.13 323 *e*P **P** **11 01 16.8 -0.3**
YBH Yreka Blue Hor 91.21 43 P **P** **11 01 18.1 +0.4**
YBH Yreka Blue Hor 91.21 43 P **P** **11 01 18.1 +0.4**
comp=Z,6.6nm,1.0s,baz=329,slow=0.9,SNR=11
B12A Libby 91.24 34⇑ P **P** **11 01 17.6 -0.1**
baz=91,SNR=6.8
LDF La Druitiere 91.30 326 *e*P **P** **11 01 16.0 -1.8**
LDF La Druitiere 91.30 326 *e*P **P** **11 01 16.0 -1.8**
LDF La Druitiere 91.30 326 *e*P **P** **11 01 16.0 -1.8**
FLN La Foliniere 91.37 326 *e*P **P** **11 01 16.3 -1.8**
FLN *e*R
comp=Z,3µm,19.5s
FLN La Foliniere 91.37 326 *e*P **P** **11 01 16.3 -1.8**
FLN La Foliniere 91.37 326 *e*P **P** **11 01 16.3 -1.8**
PYM Petit Puy Mans 91.38 322 *e*P **P** **11 01 17.9 -0.5**
DRV Dumont d'Urvil 91.39 173 S **S** **11 12 11.0 -3.2**
DRV SP **SP** **11 13 15.0 -8.0**
DRV SS **SS** **11 18 18.0 -2.8**
TCF Toulx Ste Croi 91.49 323 *e*P **P** **11 01 17.7 -1.1**
comp=Z,81nm,1.3s
TCF Toulx Ste Croi 91.49 323 *e*P **P** **11 01 17.7 -1.1**
TCF pmax pmax
comp=Z,81nm,1.3s
TCF Toulx Ste Croi 91.49 323 *e*P **P** **11 01 17.7 -1.1**
comp=Z,81nm,1.3s
A13A Flathead Natio 91.55 33⇓ P **P** **11 01 19.0 -0.1**
baz=91
LBL Lubilhac 91.56 322 *e*P **P** **11 01 18.4 -0.8**
MBAR Mbarara 91.64 270 PFAKE 11 01 30.0 +10
MBAR LR LR
comp=Z,621nm,20.0s
WALA Waterton Lakes 91.72 33 *e*P **P** **11 01 20.0 +0.1**
comp=Z,1.4nm,1.2s
C12B Naegeli Ranch, 91.78 35⇑ P **P** **11 01 19.7 -0.4**
baz=92,SNR=6.7
GRR Gorron 91.80 326 *e*P **P** **11 01 18.3 -1.9**
GRR Gorron 91.80 326 *e*P **P** **11 01 18.3 -1.9**
GRR Gorron 91.80 326 *e*P **P** **11 01 18.3 -1.9**
B13A Whitefish 91.88 34⇓ P **P** **11 01 20.3 -0.3**
baz=92,SNR=27
LASF Ste Croix 91.90 321 *e*P **P** **11 01 19.8 -0.9**
comp=Z,42nm,1.1s
LASF Ste Croix 91.90 321 *e*P **P** **11 01 19.8 -0.9**
comp=Z,42nm,1.1s
WDC Whiskeytown Da 91.96 44 *e*P **P** **11 01 20.4 -0.6**
WDC pmax pmax
comp=Z,13nm,1.1s
WDC Whiskeytown Da 91.96 44 *e*P **P** **11 01 20.4 -0.6**
comp=Z,13nm,1.1s
A14A Double T Ranch 92.02 33⇓ P **P** **11 01 21.0 -0.3**
baz=92,SNR=50
BSMT Bassoo Peak 92.05 34 *e*P **P** **11 01 21.3 -0.3**
comp=Z,19nm,1.2s
BLMT Blacktail Moun 92.17 34 *e*P **P** **11 01 20.6 -1.6**
comp=Z,9.6nm,0.9s
C13A Hot Springs 92.27 34⇑ P **P** **11 01 22.2 -0.2**
baz=92,SNR=14
A15A Johnson Ranch, 92.35 33⇑ P **P** **11 01 21.8 -1.0**
baz=92,SNR=5.3
JTMT Jette 92.38 34 *e*P **P** **11 01 22.7 -0.3**
comp=Z,11nm,1.0s
CAF Calviac 92.41 322 *e*P **P** **11 01 22.5 -0.6**
comp=Z,96nm,1.1s
CAF Calviac 92.41 322 *e*P **P** **11 01 22.5 -0.6**
CAF pmax pmax
comp=Z,96nm,1.1s
CAF Calviac 92.41 322 *e*P **P** **11 01 22.5 -0.6**
comp=Z,96nm,1.1s
YBMT Yellow Bay 92.44 34 *e*P **P** **11 01 23.3 -0.1**
comp=Z,12nm,1.0s
RJF Les Rejaudoux 92.48 323 *e*P **P** **11 01 22.7 -0.7**
comp=Z,153nm,1.1s
RJF Les Rejaudoux 92.48 323 *e*P **P** **11 01 22.7 -0.7**
RJF pmax pmax
comp=Z,153nm,1.1s
RJF Les Rejaudoux 92.48 323 *e*P **P** **11 01 22.7 -0.7**
comp=Z,153nm,1.1s
B14A Marquette Ranc 92.49 33⇑ P **P** **11 01 23.3 -0.2**
baz=92,SNR=27
E12A Beaver Dam Sad 92.55 36⇑ P **P** **11 01 23.4 -0.5**
baz=92
BMO Blue Mountains 92.57 38 *e*P **P** **11 01 23.0 -1.0**
BMO pmax pmax
comp=Z,17nm,1.1s
BMO MLR MLR
comp=Z,373nm,19.0s
BMO Blue Mountains 92.57 38 *e*P **P** **11 01 23.0 -1.0**
comp=Z,17nm,1.1s
BMO LR LR
comp=Z,373nm,19.0s
MFF Saint Martin d 92.57 324 *e*P **P** **11 01 22.5 -1.3**
MFF Saint Martin d 92.57 324 *e*P **P** **11 01 22.5 -1.3**
MFF Saint Martin d 92.57 324 *e*P **P** **11 01 22.5 -1.3**
MOD Modoc 92.59 42 *e*P **P** **11 01 24.1 -0.1**
SWMT Swartz Lake 92.68 34 *e*P **P** **11 01 24.1 -0.3**
comp=Z,14nm,1.0s
D13A Huson 92.71 35⇑ P **P** **11 01 23.7 -0.8**
baz=92
SGMF Saint Gilles 92.75 327 *e*P **P** **11 01 23.3 -1.2**
SGMF Saint Gilles 92.75 327 *e*P **P** **11 01 23.3 -1.2**
SGMF Saint Gilles 92.75 327 *e*P **P** **11 01 23.3 -1.2**
B15A Bradely Ranch, 92.88 33⇑ P **P** **11 01 24.4 -0.9**
baz=93,SNR=16
FFC Flin Flon 92.88 24 P **P** **11 01 23.8 -1.2**
comp=Z,220nm,0.9s,SNR=15
FFC Flin Flon 92.88 24 *ce*P **P** **11 01 24.0 -1.0**
FFC Flin Flon 92.88 24 *e*P **P** **11 01 23.4 -1.7**
comp=Z,47nm,1.1s
FFC LR LR
comp=Z,491nm,19.0s
ROSF Rostrenen 93.05 327 *e*P **P** **11 01 25.2 -0.7**
comp=Z,40nm,1.2s
ROSF Rostrenen 93.05 327 *e*P **P** **11 01 25.2 -0.7**
ROSF pmax pmax
comp=Z,40nm,1.2s
ROSF Rostrenen 93.05 327 *e*P **P** **11 01 25.2 -0.7**
comp=Z,40nm,1.2s
SLMT Seeley Lake 93.11 34 *e*P **P** **11 01 25.9 -0.6**
comp=Z,24nm,1.2s
KEST Kesra 93.13 311 P **P** **11 01 25.4 -1.3**
KEST Kesra 93.13 311 P **P** **11 01 25.4 -1.3**
comp=Z,4.3nm,1.0s,baz=0.0,slow=4.0,SNR=11
KEST LR LR 11 50 40.1
comp=Z,223nm,18.5s,baz=344,slow=40
LFF La Frestale 93.14 323 *e*P **P** **11 01 25.7 -0.7**
comp=Z,88nm,1.3s
LFF La Frestale 93.14 323 *e*P **P** **11 01 25.7 -0.7**
LFF pmax pmax
comp=Z,88nm,1.3s
LFF La Frestale 93.14 323 *e*P **P** **11 01 25.7 -0.7**
comp=Z,88nm,1.3s
D14A Greenough 93.21 34⇑ P **P** **11 01 25.9 -1.0**
baz=93,SNR=9.5
C15A Salmond Ranch, 93.21 34⇑ P **P** **11 01 26.4 -0.5**

RMW Rattlesnake Mo 88.51 38 P **P** **11 01 05.2 +0.3**
RMW Rattlesnake Mo 88.51 38 P **P** **11 01 05.2 +0.3**
MEZF Maizieres J'vi 88.62 324 *e*P **P** **11 01 04.3 -1.0**
comp=Z,42nm,0.8s
MEZF Maizieres J'vi 88.62 324 *e*P **P** **11 01 04.3 -1.0**
comp=Z,42nm,0.8s
RVW Rose Valley 88.72 39 P **P** **11 01 06.2 +0.3**
SFTF Sexfontaines 88.80 323 *e*P **P** **11 01 04.8 -1.4**
comp=Z,75nm,0.9s
SFTF Sexfontaines 88.80 323 *e*P **P** **11 01 04.8 -1.4**
comp=Z,75nm,0.9s
RCM Mount Rainier- 88.91 38 P **P** **11 01 07.8 +0.6**
TDL Tradedollar La 88.91 39 P **P** **11 01 07.4 +0.5**
LON Longmire 88.91 38 P **P** **11 01 06.2 -0.6**
LON Longmire 88.91 38 P **P** **11 01 06.2 -0.6**
FL2 Flat Top 2 88.92 39 P **P** **11 01 07.4 +0.4**
WPW White Pass 89.09 38 P **P** **11 01 07.2 -0.5**
SFJD Kangerlussuaq 89.11 357 PFAKE 11 01 20.0 +13
SFJD LR LR
comp=Z,645nm,21.0s
SFJD Kangerlussuaq 89.11 357 *i* P **P** **11 01 06.2 -1.0**
comp=Z,19nm,0.8s
SFJD
comp=Z,490nm,20.0s
GLK Glacier Lake 89.13 38 P **P** **11 01 08.3 +0.3**
CABF La Chapelle 89.14 322 *e*P **P** **11 01 06.6 -1.3**
comp=Z,97nm,1.9s
CABF La Chapelle 89.14 322 *e*P **P** **11 01 06.6 -1.3**
CABF pmax pmax
comp=Z,97nm,1.9s
CABF La Chapelle 89.14 322 *e*P **P** **11 01 06.6 -1.3**
comp=Z,97nm,1.9s
TWW Teanaway 89.22 38 P **P** **11 01 08.7 +0.4**
ETW Entiat 89.24 37 P **P** **11 01 08.1 -0.3**
COR Corvallis 89.26 41 *e*P **P** **11 01 07.2 -1.2**
COR pmax pmax
comp=Z,151nm,1.7s
COR Corvallis 89.26 41 *e*P **P** **11 01 07.2 -1.2**
comp=Z,150nm,1.7s
B08A Colville Reser 89.34 36 P **P** **11 01 08.4 -0.3**
ASR Mount Adams--S 89.38 39 P **P** **11 01 09.5 +0.4**
LPG La Plagne 89.39 321 *e*P **P** **11 01 08.4 -1.0**
comp=Z,69nm,0.9s
LPG La Plagne 89.39 321 *e*P **P** **11 01 08.4 -1.0**
LPG pmax pmax
comp=Z,69nm,0.9s
LPG La Plagne 89.39 321 *e*P **P** **11 01 08.4 -1.0**
comp=Z,69nm,0.9s
LPL La Plagne 89.39 321 *e*P **P** **11 01 08.3 -1.0**
comp=Z,68nm,0.9s
LPL La Plagne 89.39 321 *e*P **P** **11 01 08.3 -1.0**
LPL pmax pmax
comp=Z,68nm,0.9s
LPL La Plagne 89.39 321 *e*P **P** **11 01 08.3 -1.0**
comp=Z,68nm,0.9s
WDD Wield Dalam 89.45 309 PFAKE 11 01 20.0 +11
WDD LR LR
comp=Z,239nm,20.0s
PGF Pioggiola 89.67 317 *e*P **P** **11 01 09.5 -1.0**
comp=Z,119nm,1.0s
PGF Pioggiola 89.67 317 *e*P **P** **11 01 09.5 -1.0**
PGF pmax pmax
comp=Z,119nm,1.0s
PGF Pioggiola 89.67 317 *e*P **P** **11 01 09.5 -1.0**
comp=Z,119nm,1.0s
BNI Bardonecchia 89.69 320 *e*P **P** **11 01 08.2 -2.4**
BNI pmax pmax
comp=Z,45nm,1.3s
BNI MLR MLR
comp=Z,2µm,20.0s
BNI Bardonecchia 89.69 320 *e*P **P** **11 01 08.2 -2.4**
comp=Z,45nm,1.3s
BNI LR LR
comp=Z,2µm,20.0s
VLL Laurance Lake 89.72 39 P **P** **11 01 11.3 +0.6**
SAOF Saorge 89.77 319 *e*P **P** **11 01 10.0 -0.8**
MBDF Montbardon 89.82 320 *e*P **P** **11 01 09.4 -1.8**
comp=Z,17nm,0.7s
MBDF Montbardon 89.82 320 *e*P **P** **11 01 09.4 -1.8**
MBDF pmax pmax
comp=Z,17nm,0.7s
MBDF Montbardon 89.82 320 *e*P **P** **11 01 09.4 -1.8**
comp=Z,17nm,0.7s
AUTN L'Aution 89.84 319 *e*P **P** **11 01 10.4 -1.0**
SBF Sospel 89.91 319 *e*P **P** **11 01 09.9 -1.6**
comp=Z,89nm,0.9s
SBF Sospel 89.91 319 *e*P **P** **11 01 09.9 -1.6**
SBF pmax pmax
comp=Z,89nm,0.9s
SBF Sospel 89.91 319 *e*P **P** **11 01 09.9 -1.6**
comp=Z,89nm,0.9s
TOUF Mont Tournerai 89.94 319 *e*P **P** **11 01 10.8 -1.0**
LOR Lormes 90.00 323 *e*P **P** **11 01 10.2 -1.6**
comp=Z,56nm,1.2s
LOR *e*R
comp=Z,2µm,19.5s
LOR Lormes 90.00 323 *e*P **P** **11 01 10.2 -1.6**
comp=Z,56nm,1.2s
MVIF Mont Vial 90.06 319 *e*P **P** **11 01 11.3 -1.1**
FRIS Frissel Point 90.18 40 P **P** **11 01 13.4 +0.4**
ORIF Oris-en-Rattie 90.23 320 *e*P **P** **11 01 11.9 -1.2**
comp=Z,32nm,0.8s
ORIF *e*R
comp=Z,2µm,18.8s
ORIF Oris-en-Rattie 90.23 320 *e*P **P** **11 01 11.9 -1.2**
ORIF pmax pmax
comp=Z,32nm,0.8s
ORIF Oris-en-Rattie 90.23 320 *e*P **P** **11 01 11.9 -1.2**
comp=Z,32nm,0.8s
OD2 Odessa Site #2 90.25 36 P **P** **11 01 12.9 -0.1**
CALN Calern 90.30 319 *e*P **P** **11 01 12.6 -0.9**
SSF Saint Saulge 90.31 323 *e*P **P** **11 01 11.8 -1.5**
comp=Z,35nm,1.1s
SSF Saint Saulge 90.31 323 *e*P **P** **11 01 11.8 -1.5**
SSF pmax pmax
comp=Z,35nm,1.1s
SSF Saint Saulge 90.31 323 *e*P **P** **11 01 11.8 -1.5**
comp=Z,35nm,1.1s
SMF Signal de Mont 90.38 323 *e*P **P** **11 01 12.2 -1.4**
comp=Z,151nm,1.1s
SMF Signal de Mont 90.38 323 *e*P **P** **11 01 12.2 -1.4**
SMF pmax pmax
comp=Z,151nm,1.1s
SMF Signal de Mont 90.38 323 *e*P **P** **11 01 12.2 -1.4**
comp=Z,151nm,1.1s
HAWA Hanford 90.40 38 *e*P **P** **11 01 13.6 -0.1**
comp=Z,47nm,1.2s
HAWA LR LR
comp=Z,384nm,19.0s
CASY Casey 90.45 185 PFAKE 11 01 20.0 +6.8
CASY LR LR
comp=Z,339nm,22.0s
FRF La Foret Royal 90.55 319 *e*P **P** **11 01 12.9 -1.6**
comp=Z,48nm,1.0s
FRF La Foret Royal 90.55 319 *e*P **P** **11 01 12.9 -1.6**
FRF pmax pmax
comp=Z,48nm,1.0s
FRF La Foret Royal 90.55 319 *e*P **P** **11 01 12.9 -1.6**
comp=Z,48nm,1.0s
AVF Avril sur Loir 90.56 323 *e*P **P** **11 01 13.0 -1.4**
comp=Z,89nm,1.2s
AVF Avril sur Loir 90.56 323 *e*P **P** **11 01 13.0 -1.4**
AVF pmax pmax
comp=Z,89nm,1.2s
AVF Avril sur Loir 90.56 323 *e*P **P** **11 01 13.0 -1.4**
comp=Z,89nm,1.2s
HUMO Hull Mountain 90.57 42 *e*P **P** **11 01 14.5 -0.1**
NEW Newport 90.57 35 *e*P **P** **11 01 14.3 -0.3**
comp=Z,38nm,1.0s
NEW LR LR
comp=Z,437nm,19.0s
NEW Newport 90.57 35⇓ P **P** **11 01 14.1 -0.4**
baz=90,SNR=50
HYF Humbligny 90.66 324 *e*P **P** **11 01 14.1 -0.8**
HYF Humbligny 90.66 324 *e*P **P** **11 01 14.1 -0.8**
LMR La Mourre 90.76 319 *e*P **P** **11 01 14.2 -1.2**
comp=Z,67nm,1.2s
LMR La Mourre 90.76 319 *e*P **P** **11 01 14.2 -1.2**
LMR pmax pmax
comp=Z,67nm,1.2s
LMR La Mourre 90.76 319 *e*P **P** **11 01 14.2 -1.2**
comp=Z,67nm,1.2s
OG26 St.-Nazaire-De 90.76 320 *e*P **P** **11 01 15.2 -0.3**
SSB Saint Sauveur 90.79 321 *e*P **P** **11 01 14.5 -1.1**
SSB pmax pmax

baz=93,SNR=19
B16A M & M Farms, S 93.24 33 ⇓P P 11 01 26.0 -0.9
baz=93
WVOR Wild Horse Val 93.27 40 *e*P P 11 01 26.6 -0.7
WVOR pmax pmax
comp=Z,11nm,1.0s
WVOR MLR MLR
comp=Z,264nm,19.0s
WVOR Wild Horse Val 93.27 40 *e*P P 11 01 26.6 -0.7
comp=Z,11nm,1.0s
WVOR LR LR
comp=Z,264nm,19.0s
MTLF Montolieu 93.29 321 *e*P P 11 01 26.1 -1.0
comp=Z,22nm,1.1s
MTLF Montolieu 93.29 321 *e*P P 11 01 26.1 -1.0
MTLF pmax pmax
comp=Z,22nm,1.1s
MTLF Montolieu 93.29 321 *e*P P 11 01 26.1 -1.0
comp=Z,22nm,1.1s
A17A Triple J Farms 93.37 32 ⇑P P 11 01 26.8 -0.7
baz=93,SNR=19
CHMT Chamberlain Mo 93.45 34 *e*P P 11 01 27.3 -0.8
comp=Z,16nm,1.5s
G12A Big Creek, Yel 93.50 37 ⇑P P 11 01 27.2 -1.2
baz=93
C16A Fuhringer Ranc 93.63 33 ⇑P P 11 01 27.7 -1.1
baz=93,SNR=13
BEKR Beckworth 93.74 43 *e*P P 11 01 29.1 -0.4
B17A L&G Farms, Che 93.77 32 ⇑P P 11 01 28.3 -1.0
baz=94,SNR=12
A18A Metzger Ranch, 93.80 31 ⇓P P 11 01 28.3 -1.1
baz=94,SNR=11
H12A Diamond D Ranc 94.12 37 ⇓P P 11 01 30.4 -0.8
baz=94
B18A Beardsley Farm 94.19 32 ⇑P P 11 01 30.0 -1.3
baz=94
C17A Wharram Farm, 94.23 33 ⇑P P 11 01 30.4 -1.1
baz=94
MFID Camas Ranch 94.30 38 *e*P P 11 01 31.8 -0.1
comp=Z,24nm,1.5s
MFID Camas Ranch 94.30 38 ⇓P P 11 01 31.5 -0.5
baz=94
A19A Klindworth Far 94.31 31 ⇑P P 11 01 30.5 -1.3
baz=94,SNR=9.3
HRY Holter Researc 94.32 34 *e*P P 11 01 31.5 -0.4
comp=Z,9.9nm,0.8s
I12A Atlanta 94.45 38 ⇑P P 11 01 31.9 -0.8
baz=94
EGMT Eagleton 94.46 32 *e*P P 11 01 31.9 -0.6
comp=Z,8.1nm,0.8s
EGMT LR LR
comp=Z,436nm,21.0s
EGMT Eagleton 94.46 32 ⇓P P 11 01 31.3 -1.2
baz=94,SNR=5.4
B19A Brinkman Farms 94.55 31 ⇑P P 11 01 32.0 -0.9
baz=94
EPF Esparros 94.56 321 *e*P P 11 01 31.6 -1.5
EPF Esparros 94.56 321 *e*P P 11 01 31.6 -1.5
EPF Esparros 94.56 321 *e*P P 11 01 31.6 -1.5
LRM Limekiln Ridge 94.59 35 *e*P P 11 01 32.3 -1.1
comp=Z,78nm,1.2s
D17A Six Diamond Ra 94.60 33 ⇑P P 11 01 32.2 -1.0
baz=94,SNR=12
A20A Cobblestone Ra 94.73 31 ⇑P P 11 01 32.7 -1.1
baz=94,SNR=7.2
CMB Columbia Colle 94.78 45 *e*P P 11 01 33.6 -0.6
CMB pmax pmax
comp=Z,9.0nm,0.9s
CMB Columbia Colle 94.78 45 *e*P P 11 01 33.6 -0.6
comp=Z,9.0nm,0.9s
DLMT Dillon 94.82 35 *e*P P 11 01 34.2 -0.2
comp=Z,15nm,1.1s
E17A Martinsdale 94.98 34 ⇓P P 11 01 34.1 -1.0
baz=95,SNR=14
HLID Hailey 95.00 38 *e*P P 11 01 35.4 +0.1
comp=Z,7.1nm,1.0s
HLID LR LR
comp=Z,542nm,21.0s
HLID Hailey 95.00 38 ⇑P P 11 01 35.0 -0.2
baz=95
C19A Slack Wire Ran 95.00 32 ⇑P P 11 01 34.2 -0.8
baz=95,SNR=10
D18A Linhart Farms, 95.01 33 ⇑P P 11 01 34.3 -0.8
baz=95
A21A Bergtoll Ranch 95.11 30 ⇑P P 11 01 34.6 -0.8
baz=95
BOZ Bozeman (W) 95.13 35 *e*P P 11 01 35.5 -0.3
BOZ pmax pmax
comp=Z,4.0nm,1.0s
BOZ MLR MLR
comp=Z,410nm,20.0s
BOZ Bozeman (W) 95.13 35 *e*P P 11 01 35.5 -0.3
comp=Z,3.6nm,1.0s
BOZ LR LR
comp=Z,410nm,20.0s
ETSF Etsaut 95.15 322 *e*P P 11 01 35.1 -0.7
comp=Z,19nm,1.1s
ETSF Etsaut 95.15 322 *e*P P 11 01 35.1 -0.7
ETSF pmax pmax
comp=Z,19nm,1.0s
ETSF Etsaut 95.15 322 *e*P P 11 01 35.1 -0.7
comp=Z,19nm,1.0s
I14A Mackay 95.30 37 ⇑P P 11 01 36.5 -0.1
baz=95
BMN Battle Mountai 95.33 41 PFAKE 11 01 50.0 +13
BMN LR LR
comp=Z,341nm,19.0s
PPT Papeete 95.35 107 LR LR 11 37 05.1
comp=Z,559nm,20.1s,baz=305,slow=31
PPT2 Papeete2 95.36 107 *e*LR LR 11 32 36.3
comp=Z,1μm,23.2s,baz=287
E18A Harlowton 95.39 33 ⇓P P 11 01 35.9 -0.9
baz=95,SNR=10
F17A Fitzpatrick Pl 95.46 34 ⇑P P 11 01 36.3 -1.0
baz=95
B21A Ellsworth Farm 95.47 30 ⇓P P 11 01 36.0 -1.1
baz=95
D19A Cripps Ranch, 95.48 32 ⇓P P 11 01 36.4 -0.9
baz=95,SNR=12
C20A Veseth Ranch, 95.52 31 ⇓P P 11 01 36.4 -1.0
baz=95,SNR=12
A22A Carney Farms, 95.57 30 ⇑P P 11 01 36.2 -1.4
baz=95
G17A Pierce Place, 95.82 35 ⇑P P 11 01 37.9 -1.0
baz=96
C21A Desert Coulee 95.87 31 ⇑P P 11 01 38.0 -1.0
baz=96
NVAR Mina Array Bea 95.87 43 P P 11 01 39.3 -0.1
NVAR Mina Array Bea 95.87 43 P P 11 01 39.3 -0.1
comp=Z,3.9nm,0.9s,baz=298,slow=4.9,SNR=22
F18A Big Timber 95.94 34 ⇑P P 11 01 38.5 -0.9
baz=96
NV11 Mina Array Sit 95.96 43 *e*P P 11 01 39.4 -0.3
H16A Russell Place, 95.97 35 ⇑P P 11 01 38.9 -0.8
baz=96
E19A Rath Farm, Rou 96.02 33 ⇓P P 11 01 38.9 -0.8
baz=96,SNR=8.1
B22A Reddig Ranch S 96.04 30 ⇑P P 11 01 38.6 -1.1
baz=96
A23A Redstone 96.06 29 ⇑P P 11 01 38.8 -1.0
baz=96
E20A Meyer Farm, Mu 96.31 32 ⇑P P 11 01 40.2 -0.8
baz=96
ELK Elko 96.32 40 P P 11 01 41.9 +0.5
ELK Elko 96.32 40 P P 11 01 41.9 +0.5
comp=Z,1.4nm,1.0s,baz=333,slow=0.9,SNR=5.4
F19A Roth Farm, Mol 96.36 33 ⇓P P 11 01 40.2 -1.1
baz=96
B23A Brockton 96.37 29 ⇑P P 11 01 40.5 -0.8
baz=96
I16A Newdale 96.40 36 ⇓P P 11 01 39.8 -1.8
baz=96
D21A La Casta Ranch 96.46 31 ⇓P P 11 01 40.4 -1.3
baz=96
A24A Westby 96.47 29 ⇑P P 11 01 40.6 -1.0
baz=96
C22A Vida 96.49 30 ⇓P P 11 01 40.8 -1.0
baz=96
LKWY Lake 96.51 35 PFAKE 11 01 50.0 +7.8
LKWY LR LR
comp=Z,709nm,20.0s
H17A Grant Village 96.53 35 ⇑P P 11 01 40.8 -1.5
baz=96
IMW Indian Meadow 96.68 36 *e*P P 11 01 43.2 +0.2
comp=Z,5.6nm,1.1s
RLMT Red Lodge 96.71 34 PFAKE 11 01 50.0 +7.0
RLMT LR LR
comp=Z,470nm,19.0s

DGMT Dagmar 96.72 29 *e*P P 11 01 42.3 -0.5
comp=Z,28nm,1.0s
DGMT LR LR
comp=Z,617nm,20.0s
DGMT Dagmar 96.72 29 ⇓P P 11 01 41.9 -0.9
baz=96
TPH Tonopah 96.77 43 PFAKE 11 01 50.0 +6.6
TPH LR LR
comp=Z,363nm,20.0s
C23A Lambert 96.77 30 ⇑P P 11 01 41.6 -1.4
baz=96
D22A Cohagen 96.79 31 ⇓P P 11 01 42.1 -1.0
baz=96
F20A Billings 96.80 33 ⇑P P 11 01 42.2 -1.1
baz=96
D23A Lindsay 97.22 30 ⇓P P 11 01 44.5 -0.6
baz=97
AHID Auburn Hatcher 97.35 37 PFAKE 11 02 00.0 +14
AHID LR LR
comp=Z,519nm,20.0s
I18A Diamond G Ranc 97.40 35 ⇑P P 11 01 45.2 -1.1
baz=97
ISA Isabella 97.41 46 *e*P P 11 01 45.1 -1.1
ISA pmax pmax
comp=Z,5.0nm,1.3s
ISA Isabella 97.41 46 *e*P P 11 01 45.1 -1.1
comp=Z,5.0nm,1.3s
ISA Isabella 97.41 46 ⇓P P 11 01 45.5 -0.8
baz=97
E22A Miles City 97.41 31 ⇓P P 11 01 45.3 -0.7
baz=97
R11A Troy Canyon, C 97.61 42 ⇓P P 11 01 46.6 -0.6
baz=97
D24A Glendive 97.67 30 ⇓P P 11 01 46.7 -0.5
baz=97
G21A Lodge Grass 97.67 33 ⇓P P 11 01 46.2 -1.0
baz=97
TBI Tubuai 97.70 112 *e*S S 11 13 12.2 +0.8
comp=Z,463nm,26.8s
TBI Tubuai 97.70 112 *e*LR LR 11 33 32.5
comp=Z,447nm,25.2s,baz=301
MPMC Manual Prospec 97.81 45 ⇑P P 11 01 47.4 -0.8
baz=98
HWUT Hardware Ranch 97.87 38 *e*P Pdif 11 01 50.1 +1.7
comp=Z,7.0nm,1.2s
HWUT LR LR
comp=Z,431nm,20.0s
FURC Furnace Creek, 97.97 44 ⇓P P 11 01 48.0 -0.5
baz=98
DUG Dugway 98.09 39 PFAKE 11 02 00.0 +11
DUG LR LR
comp=Z,536nm,20.0s
DUG Dugway 98.09 39 ⇑P P 11 01 48.7 -0.6
baz=98
J19A Crowheart 98.11 35 ⇓P P 11 01 48.2 -1.1
baz=98
I20A Worland 98.11 34 ⇓P P 11 01 48.7 -0.6
baz=98
G22A Birney 98.13 32 ⇑P P 11 01 48.4 -0.9
baz=98
BW06 Boulder Array 98.18 36 PFAKE 11 02 00.0 +10
BW06 LR LR
comp=Z,385nm,19.0s
PDAR Pinedale Array 98.18 36 P P 11 01 48.8 -1.0
PDAR Pinedale Array 98.18 36 P P 11 01 48.8 -1.0
comp=Z,1.0nm,0.8s,baz=270,slow=0.4,SNR=6.2
PDAR LR LR 11 52 05.5
comp=Z,254nm,18.3s,baz=346,slow=39
EDW2 Edwards Air Fo 98.19 46 ⇑P P 11 01 49.1 -0.7
baz=98
F23A Volborg 98.19 32 ⇑P P 11 01 48.6 -0.9
baz=98
L18A Fontenelle, Gr 98.50 37 ⇑P P 11 01 50.2 -0.9
baz=98
E25A Miller Ranch, 98.55 30 ⇓P P 11 01 50.3 -0.8
baz=98
ULM Lac du Bonnet 98.71 24 P P 11 01 51.5 -0.1
ULM Lac du Bonnet 98.71 24 P P 11 01 51.5 -0.1
comp=Z,4.2nm,0.7s,baz=14,slow=4.2,SNR=2.9
ULM LR LR 11 51 19.2
comp=Z,609nm,18.5s,baz=318,slow=38
GSC Goldstone 98.72 45 *e*P P 11 01 51.5 -0.6
GSC pmax pmax
comp=Z,4.0nm,1.1s
GSC Goldstone 98.72 45 *e*P P 11 01 51.5 -0.6
comp=Z,4.5nm,1.1s
GSC Goldstone 98.72 45 ⇑Pdiff P 11 01 51.5 -0.6
baz=98
BFSC Mount Baldy Ra 98.80 47 ⇑Pdiff P 11 01 51.5 -1.0
baz=99
ESDC Sonseca Array 99.20 321 PP PP 11 05 55.2 -1.0
ESDC Sonseca Array 99.20 321 PP PP 11 05 55.2 -1.0
comp=Z,0.2nm,0.2s,baz=43,slow=8.1,SNR=4.0
ESDC LR LR 11 52 08.8
comp=Z,766nm,18.9s,baz=20,slow=39
J22A Midwest 99.34 34 ⇑Pdiff Pdif 11 01 52.9 -1.9
baz=99
PAB San Pablo 99.50 321 PFAKE 11 02 10.0 +14
PAB LR LR
comp=Z,859nm,19.0s
MVU Marysvale 99.55 40 PFAKE 11 02 10.0 +14
MVU LR LR
comp=Z,332nm,22.0s
LSZ Lusaka 99.72 258 PFAKE 11 02 10.0 +13
LSZ LR LR
comp=Z,515nm,20.0s
PFO Pinyon Flat Ob 99.97 46 PFAKE 11 02 10.0 +12
PFO LR LR
comp=Z,370nm,21.0s
PFO Pinyon Flat Ob 99.97 46 ⇓Pdiff Pdif 11 01 57.2 -0.6
baz=100
I25A Rochford 100.25 32 ⇑Pdiff Pdif 11 01 57.4 -1.5
baz=100
AGMN Agassiz Nation 100.31 25 PFAKE 11 02 10.0 +11
AGMN LR LR
comp=Z,830nm,20.0s
MONP Monument Peak 100.43 47 ⇓Pdiff Pdif 11 01 58.9 -1.1
baz=100
P19A Cripple Cowboy 100.65 38 ⇑Pdiff Pdif 11 01 59.5 -1.3
baz=100
MTE Manteigas 100.71 323 PFAKE 11 02 10.0 +9.1
MTE LR LR
comp=Z,1μm,19.0s
N23A Red Feather La 101.42 35 ⇑Pdiff Pdif 11 02 02.1 -2.1
baz=101
WUAZ Wupatki 102.01 42 PFAKE 11 02 20.0 +13
WUAZ LR LR
comp=Z,288nm,20.0s
EYMN Ely 102.21 22 PFAKE 11 02 20.0 +13
EYMN LR LR
comp=Z,788nm,19.0s
ISCO Idaho Springs 102.38 36 PFAKE 11 02 20.0 +11
ISCO LR LR
comp=Z,511nm,20.0s
MVCO Mesa Verde 102.59 39 PFAKE 11 02 20.0 +10
MVCO LR LR
comp=Z,385nm,20.0s
TAM Tamanrasset 102.94 302 PFAKE 11 02 20.0 +8.8
TAM LR LR
comp=Z,371nm,20.0s
OGNE Ogallala 103.39 33 PFAKE 11 02 20.0 +7.2
OGNE LR LR
comp=Z,500nm,19.0s
ECSD EROS Data Cent 103.72 28 PFAKE 11 02 20.0 +5.9
ECSD LR LR
comp=Z,519nm,19.0s
SDCO Great Sand Dun 103.91 37 PFAKE 11 02 30.0 +15
SDCO LR LR
comp=Z,419nm,19.0s
TUC Tucson 104.48 44 PFAKE 11 02 30.0 +12
TUC LR LR
comp=Z,294nm,19.0s
RTC Rabat Centre 104.73 318 PFAKE 11 02 30.0 +11
RTC LR LR
comp=Z,953nm,21.0s
SBA Scott Base 104.91 171 PFAKE 11 06 40.0
SBA LR LR
comp=Z,273nm,22.0s
ANMO Albuquerque 105.35 40 PFAKE 11 06 50.0
ANMO LR LR
comp=Z,322nm,19.0s
SCIA State Center 106.65 27 PFAKE 11 06 50.0
SCIA LR LR
comp=Z,481nm,20.0s
GLMI Grayling 107.22 20 PFAKE 11 06 50.0
GLMI LR LR
comp=Z,671nm,22.0s

KSU1 Kansas State U 107.44 31 PFAKE 11 06 50.0
KSU1 LR LR
comp=Z,477nm,19.0s
AMTX Amarillo 108.11 37 PFAKE 11 06 50.0
AMTX LR LR
comp=Z,405nm,19.0s
MNTX Cornudas Mount 108.27 42 PFAKE 11 06 50.0
MNTX LR LR
comp=Z,460nm,21.0s
WMOK Wichita Mounta 109.78 35 PFAKE 11 06 50.0
WMOK LR LR
comp=Z,509nm,19.0s
LONY Lake Ozonia 109.98 13 PFAKE 11 06 50.0
LONY LR LR
comp=Z,744nm,20.0s
427A Hayter Ranch, 110.06 41 ⇓PKiKP PKiKP 11 06 44.4 0.0
baz=110
RKT Rikitea 110.11 107 *e*LR LR 11 39 27.1
comp=Z,658nm,22.8s,baz=292
527A Woodward Ranch1 110.44 42 ⇓PKiKP PKiKP 11 06 44.7 -0.4
baz=110
Z32A Haskell 110.50 37 ⇑PKiKP PKiKP 11 06 44.8 -0.2
baz=110
626A Big Bend Ranch 110.54 42 ⇓PKiKP PKiKP 11 06 45.1 -0.2
baz=110
TSUM Tsumeb 110.58 258 PFAKE 11 07 00.0
TSUM LR LR
comp=Z,470nm,22.0s
428A Kincaid Ranch, 110.58 41 ⇑PKiKP PKiKP 11 06 45.0 -0.4
baz=110
NCB Newcomb 110.67 13 PFAKE 11 07 00.0
NCB LR LR
comp=Z,790nm,19.0s
LBNH Lisbon 110.84 11 PFAKE 11 07 00.0
LBNH LR LR
comp=Z,882nm,20.0s
TXAR Lajitas Array 110.98 42 Pdif Pdif 11 02 48.5 +1.7
TXAR PKiKP PKiKP 11 06 46.2 0.0
TXAR Lajitas Array 110.98 42 Pdiff Pdif 11 02 48.5 +1.7
comp=Z,0.8nm,1.1s,baz=243,slow=4.0,SNR=3.3
TXAR PKiKP PKiKP 11 06 46.2 0.0
comp=Z,1.6nm,0.9s,baz=235,slow=2.0,SNR=9.4
627A Terlingua Ranc 111.06 42 ⇑PKiKP PKiKP 11 06 46.2 -0.2
baz=111
429A Davenport Ranc 111.12 40 ⇓PKiKP PKiKP 11 06 46.0 -0.3
baz=111
TORD Torodi Ar. Bea 111.20 296 PKiKP PKiKP 11 06 47.1 +0.3
TORD PP PP 11 07 26.8 +0.9
TORD PKKPab PKKPab 11 17 55.3 +1.7
TORD Torodi Ar. Bea 111.20 296 PKiKP PKiKP 11 06 47.1 +0.3
comp=Z,1.2nm,0.8s,baz=86,slow=0.9,SNR=7.4
TORD PP PP 11 07 26.8 +0.9
comp=Z,3.9nm,1.1s,baz=57,slow=8.1,SNR=8.2
TORD PKKPab PKKPab 11 17 55.3 +1.7
comp=Z,1.0nm,0.8s,baz=240,slow=3.8,SNR=4.8
628A Black Gap, Mar 111.35 42 ⇓PKiKP PKiKP 11 06 46.6 -0.2
baz=111
430A Baggett Ranch, 111.39 40 ⇓PKiKP PKiKP 11 06 46.1 -0.7
baz=111
CMLA Cha da Macela 111.50 333 PFAKE 11 07 00.0
CMLA LR LR
comp=Z,851nm,19.0s
530A J-C Ranch, Com 111.79 40 ⇓PKiKP PKiKP 11 06 47.3 -0.3
baz=112
332A Millersview 111.80 38 ⇑PKiKP PKiKP 11 06 47.0 -0.5
baz=112
BINY Binghamton 111.99 15 PFAKE 11 07 00.0
BINY LR LR
comp=Z,897nm,19.0s
531A Rocksprings 112.25 39 ⇓PKiKP PKiKP 11 06 48.0 -0.5
baz=112
JCT Junction City 112.44 39 PFAKE 11 07 00.0
JCT LR LR
comp=Z,451nm,22.0s
JCT Junction City 112.44 39 ⇓PKiKP PKiKP 11 06 48.1 -0.7
baz=112
MIAR Mount Ida 112.55 32 PFAKE 11 07 00.0
MIAR LR LR
comp=Z,567nm,19.0s
532A Rocksprings 112.64 39 ⇑PKiKP PKiKP 11 06 48.8 -0.5
baz=112
631A Perdido Creek 112.78 40 ⇑PKiKP PKiKP 11 06 48.8 -0.7
baz=112
632A Uvalde 113.17 39 ⇑PKiKP PKiKP 11 06 49.4 -0.8
baz=113
QSPA South Pole Qui 113.81 180 PFAKE 11 07 00.0
QSPA LR LR
comp=Z,390nm,20.0s
OXF Oxford 114.48 28 PFAKE 11 07 00.0 +7.5
OXF LR LR
comp=Z,520nm,20.0s
CBN Corbin 115.42 17 PFAKE 11 07 10.0 +16
CBN LR LR
comp=Z,930nm,19.0s
BLA Blacksburg 115.46 20 PFAKE 11 07 10.0 +16
BLA LR LR
comp=Z,526nm,20.0s
KVTX Kingsville 115.74 39 PFAKE 11 07 10.0 +15
KVTX LR LR
comp=Z,380nm,19.0s
LRAL Lakeview Retre 116.77 27 PFAKE 11 07 10.0 +13
LRAL LR LR
comp=Z,447nm,19.0s
CNNC Cliffs of the 118.05 19 PFAKE 11 07 10.0 +11
CNNC LR LR
comp=Z,1μm,19.0s
BRAL Brewton 118.49 29 PFAKE 11 07 10.0 +10
BRAL LR LR
comp=Z,692nm,19.0s
NHSC New Hope 119.30 22 PFAKE 11 07 10.0 +8.2
NHSC LR LR
comp=Z,727nm,20.0s
DBIC Dimbokro 120.11 294 PKP PKPdf 11 07 03.2 -0.6
DBIC Dimbokro 120.11 294 PKP PKPdf 11 07 03.2 -0.6
comp=Z,4.9nm,0.8s,baz=351,slow=3.3,SNR=4.1
LIC Lamto 120.49 293 *e*PKiKP PKPdf 11 07 06.6 +2.0
comp=Z,24nm,0.9s
LIC *e*R
comp=Z,632nm,23.0s
LIC Lamto 120.49 293 *e*PKPdf PKPdf 11 07 06.6 +2.0
SNAA Sanae 123.39 198 *e*PKP PKPdf 11 07 09.2 +0.7
BBSR BB Station 123.54 7 PFAKE 11 07 20.0 +10
BBSR LR LR
comp=Z,469nm,20.0s
VNA1 Neumayer--Stat 125.43 198 *e*PKP PKPdf 11 07 15.1 +2.8
TEIG Tepich 126.90 37 PFAKE 11 07 30.0 +13
TEIG LR LR
comp=Z,321nm,21.0s
SACV Santiago Islan 128.89 316 PFAKE 11 07 30.0 +9.3
SACV LR LR
comp=Z,892nm,19.0s
TGUH Tegucigalpa,Un 132.40 40 PFAKE 11 07 40.0 +13
TGUH LR LR
comp=Z,308nm,21.0s
GRTK Grand Turk 132.90 17 PFAKE 11 07 40.0 +12
GRTK LR LR
comp=Z,676nm,22.0s
GTBY Guantanamo Bay 133.15 23 PFAKE 11 07 40.0 +11
GTBY LR LR
comp=Z,617nm,20.0s
MTDJ Mount Denham 133.78 26 PFAKE 11 07 40.0 +10
MTDJ LR LR
comp=Z,590nm,19.0s
SDDR Presa de Saban 135.26 18 PFAKE 11 07 40.0 +7.3
SDDR LR LR
comp=Z,639nm,21.0s
SJG San Juan 137.33 12 PFAKE 11 07 50.0 +14
SJG LR LR
comp=Z,368nm,21.0s
ANWB Willy Bob 138.38 6 PFAKE 11 07 50.0 +12
ANWB LR LR
comp=Z,244nm,19.0s
BCIP Isla Barro Col 140.58 36 PFAKE 11 07 50.0 +7.5
BCIP LR LR
comp=Z,423nm,19.0s
FDF Fort de France 141.34 5 PFAKE 11 08 00.0 +16
FDF LR LR
comp=Z,446nm,20.0s
GRGR Grenville 143.87 7 PFAKE 11 08 00.0 +12
GRGR LR LR
comp=Z,441nm,19.0s
ROSC El Rosal 147.05 32 PKPbc PKPdf 11 07 55.2 +0.9
ROSC El Rosal 147.05 32 PKPbc PKPdf 11 07 55.2 +0.9
comp=Z,10nm,0.4s,baz=88,slow=15,SNR=7.2
OTAV Otavalo 148.61 43 *e*PKPdf PKPdf 11 07 56.9 -0.2
OTAV LR LR

comp=Z,376nm,21.0s
RCBR Riachuelo 152.30 307 PFAKE 11 08 10.0 +1.0
RCBR LR LR
comp=Z,410nm,20.0s
ATAH Atahualpa 154.03 53 PKP **PKPdf** **11 08 05.8 +0.7**
ATAH PKPbc **PKiKP** **11 08 15.0 +1.7**
ATAH Atahualpa 154.03 53 PKP **PKPdf** **11 08 05.8 +0.7**
comp=Z,8.6nm,0.9s,baz=10,slow=1.7,SNR=4.3
ATAH PKPbc **PKiKP** **11 08 15.0 +1.7**
comp=Z,16nm,1.0s,baz=5.1,slow=2.3,SNR=5.8
NNA Nana 158.27 60 PFAKE 11 08 20.0 +10
NNA LR LR
comp=Z,293nm,19.0s
SAML Samuel 164.13 20 *e*PKPdf **PKPdf** **11 08 16.2 -0.2**
SAML LR LR
comp=Z,420nm,20.0s
LCO Las Campanas 167.37 116 PFAKE 11 08 30.0 +11
LCO LR LR
comp=Z,258nm,19.0s
LPAZ La Paz 167.57 54 PKP **PKPdf** **11 08 20.7 +0.8**
LPAZ PKPab **PKPab** **11 09 24.5 -1.3**
LPAZ La Paz 167.57 54 PKP **PKPdf** **11 08 20.7 +0.8**
comp=Z,8.7nm,0.9s,baz=22,slow=3.2,SNR=16
LPAZ PKPab **PKPab** **11 09 24.5 -1.3**
comp=Z,4.7nm,0.9s,baz=38,slow=7.3,SNR=3.9
BDFB Brasilia 167.64 311 PKP **PKPdf** **11 08 19.1 -0.2**
BDFB PKPab **PKPab** **11 09 26.4 +1.0**
BDFB Brasilia 167.64 311 PKP **PKPdf** **11 08 19.1 -0.2**
comp=Z,4.4nm,0.8s,baz=131,slow=7.4,SNR=3.0
BDFB PKPab **PKPab** **11 09 26.4 +1.0**
comp=Z,7.6nm,0.9s,baz=75,slow=6.0,SNR=5.6
LVC Limon Verde 169.63 84 PFAKE 11 08 30.0 +9.4
LVC LR LR
comp=Z,382nm,21.0s
SIV San Ignacio 171.42 22 PKP **PKPdf** **11 08 22.0 +0.5**
SIV PKPab **PKPab** **11 09 40.6 -1.3**
SIV San Ignacio 171.42 22 PKP **PKPdf** **11 08 22.0 +0.5**
comp=Z,7.4nm,0.9s,baz=266,slow=1.2,SNR=15
SIV PKPab **PKPab** **11 09 40.6 -1.3**
comp=Z,1.7nm,0.5s,baz=293,slow=3.5,SNR=3.7

IDC ***16*** *10:59:22.9±1.1,23.86N×121.84E,h0km,mb4.0/9, mb1 4.0/10,mb1mx3.8/27,mbtmp4.0/10,ML3.6/1,Error ellipse: s-maj=64.8km s-min=18.3km az=66.0*
JMA ***16*** *10:59:23.0±0.2,23.93N×122.09E,h23km,M3.8*
NEIC ***16*** *10:59:23.4±0.6,24.01N×122.39E,h10km,mb4.1/2,Error ellipse: s-maj=9.1km s-min=7.4km az=91.0*
ISCJB ***16*** *10:59:25.9±0.4,23.93N±0.02×122.31E±0.01,h16km±3km, mb3.9/11,Error ellipse: s-maj=3.0km s-min=1.9km az=148.9*
TAP ***16*** *10:59:25.9,23.98N×122.31E,h22km,ML4.1,C*
ISC 16 10:59:24.1±1.0,23.92N±0.02×122.32E±0.02,h16km±7km, n101,σ0s85/169,mb4.0/11,1C-11D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.65**	**275**	P			**Pn**	**10 59 38.5**	**-0.2**
	baz=255								
HWA				*e*S			**Sn**	**10 59 48.0**	**-0.7**
	baz=255								
TWD	**Chiawan**	**0.68**	**283**	⇓*i*P			**Pn**	**10 59 38.6**	**-0.4**
	baz=278								
TWD				*i* S			**Sb**	**10 59 48.0**	**+1.3**
	baz=278								
NACB	**Ninganchiao**	**0.71**	**291**	*e*Pg			**Pn**	**10 59 38.9**	**-0.6**
NACB				*e*Sg			**Sg**	**10 59 46.7**	**-0.7**
ENA	**Nanau**	**0.73**	**314**	P			**Pb**	**10 59 39.0**	**+0.5**
	baz=321								
ENA				S			**Sn**	**10 59 49.7**	**-0.8**
	baz=321								
ESF	**Shoufeng Towns**	**0.74**	**266**	*e*P			**Pn**	**10 59 40.4**	**+0.5**
	baz=250								
ESF				S			**Sn**	**10 59 50.5**	**-0.4**
	baz=250								
TEGC	**Jichi Village**	**0.74**	**253**	*e*P			**Pn**	**10 59 39.9**	**-0.1**
	baz=249								
TEGC				*e*S			**Sn**	**10 59 50.6**	**-0.3**
	baz=249								
TWC	**Suao**	**0.81**	**328**	⇑*i*P			**Pg**	**10 59 40.0**	**+0.1**
	baz=326								
TWC				*e*S			**Sb**	**10 59 50.1**	**-0.3**
	baz=326								
ESL	**Shilin**	**0.82**	**262**	*i* P			**Pg**	**10 59 40.5**	**+0.4**
	baz=248								
ESL				*e*S			**Sg**	**10 59 51.3**	**+0.4**
	baz=248								
YOJ	**Yonaguni jima**	**0.83**	**50**	P			**Pn**	**10 59 41.2**	**+0.1**
YOJ				*e*S			**Sn**	**10 59 54.4**	**+1.4**
ILA	**Ilan**	**0.99**	**328**	P			**Pn**	**10 59 43.5**	**+0.3**
	baz=326								
ILA				*e*S			**Sn**	**10 59 57.0**	**+0.1**
	baz=326								
WHF	**Hehuan Shan**	**0.99**	**283**	⇓*i*P			**Pg**	**10 59 43.7**	**+0.3**
	baz=279								
WHF				S			**Sb**	**10 59 56.5**	**+0.4**
	baz=279								
ENTT	**Nioudou**	**0.99**	**316**	P			**Pn**	**10 59 43.8**	**+0.4**
	baz=326								
ENTT				*e*S			**Sn**	**10 59 56.8**	**-0.2**
	baz=326								
TWE	**Neicheng**	**0.99**	**323**	*i* P			**Pg**	**10 59 43.6**	**+0.2**
	baz=330								
TWE				*e*S			**Sn**	**10 59 57.4**	**+0.4**
	baz=330								
EHY	**Hungye**	**1.00**	**246**	*e*P			**Pg**	**10 59 43.7**	**+0.1**
	baz=242								
EHY				*e*S			**Sn**	**10 59 57.2**	**-0.1**
	baz=242								
NNS	**Nan Shan**	**1.00**	**301**	⇓*i*P			**Pg**	**10 59 44.0**	**+0.4**
	baz=285								
NNS				*e*S			**Sg**	**10 59 57.0**	**+0.1**
	baz=285								
YULB	**Yu-li**	**1.07**	**241**	*e*P			**Pg**	**10 59 44.9**	**0.0**
TWT	**Tachien**	**1.09**	**288**	*e*P			**Pg**	**10 59 46.0**	**+0.7**
	baz=272								
TWT				*e*S			**Sg**	**11 00 00.7**	**+0.9**
	baz=272								
TWF1	**Yuli**	**1.10**	**239**	P			**Pg**	**10 59 45.5**	**+0.1**
	baz=236								
TWF1				*e*S			**Sg**	**11 00 00.1**	**+0.4**
	baz=236								
TWB1	**Santiao Chiao**	**1.12**	**345**	P			**Pg**	**10 59 45.6**	**-0.2**
	baz=329								
TWB1				S			**Sg**	**11 00 00.8**	**+0.3**
	baz=329								
YHNB	**Yeheng**	**1.14**	**311**	*e*P			**Pb**	**10 59 45.7**	**+0.2**
YHNB				*e*S			**Sb**	**10 59 59.5**	**-0.5**
NSK	**Sanguang**	**1.15**	**311**	⇓*i*P			**Pg**	**10 59 46.3**	**-0.2**
	baz=295								
NSK				*e*S			**Sn**	**11 00 01.0**	**-0.1**
	baz=295								
CHKT	**Chengkung**	**1.20**	**227**	*e*P			**Pb**	**10 59 46.5**	**0.0**
	baz=225								
CHKT				*e*S			**Sb**	**11 00 00.6**	**-1.1**
	baz=225								
NWF	**Wu-fen Shan**	**1.24**	**337**	⇓*i*P			**Pb**	**10 59 47.8**	**+0.5**
	baz=334								
NWF				*e*S			**Sn**	**11 00 03.6**	**+0.2**
	baz=334								
TWA	**Mucha**	**1.25**	**328**	P			**Pg**	**10 59 48.5**	**+0.3**
	baz=325								
TWA				*e*S			**Sb**	**11 00 03.0**	**-0.1**
	baz=325								
SSLB	**Suanglung**	**1.26**	**264**	*e*Pn			**Pb**	**10 59 47.5**	**+0.1**
TATO	**Taipei**	**1.29**	**324**	*e*Pn			**Pb**	**10 59 48.2**	**+0.1**
SMLT	**Sun Moon Lake**	**1.30**	**268**	⇓*i*P			**Pb**	**10 59 48.8**	**+0.5**
	baz=266								
SMLT				*e*S			**Sb**	**11 00 04.8**	**+0.1**
	baz=266								
TAP1	**Taipei**	**1.32**	**327**	*e*P			**Pg**	**10 59 49.3**	**-0.5**
	baz=323								
TAP1				*e*S			**Sb**	**11 00 05.8**	**+0.5**
	baz=323								
YUS	**Yu-Shan**	**1.32**	**251**	P			**Pb**	**10 59 49.5**	**+0.6**
	baz=249								
YUS				*e*S			**Sn**	**11 00 05.8**	**-0.1**
	baz=249								
TAP	**Taipei**	**1.33**	**326**	*e*P			**Pg**	**10 59 49.6**	**-0.3**
	baz=323								
TAP				*e*S			**Sb**	**11 00 06.4**	**+0.8**
	baz=323								
TYC	**Yuchr**	**1.34**	**269**	⇓*i*P			**Pb**	**10 59 49.2**	**+0.4**
	baz=267								
IRIF	**Iriomote-Funau**	**1.35**	**72**	P			**Pg**	**10 59 49.8**	**-0.4**
IRIF				*e*S			**Sg**	**11 00 09.6**	**+1.7**
HATJ	**Hateruma jima**	**1.37**	**84**	P			**Pg**	**10 59 50.2**	**-0.3**
HATJ				*e*S			**Sg**	**11 00 09.1**	**+0.8**
NSTT	**Nanjuang**	**1.39**	**301**	*i* P			**Pg**	**10 59 50.5**	**-0.5**
	baz=285								
NSTT				*i* S			**Sg**	**11 00 08.6**	**-0.6**
	baz=285								
ELDTW	**Lidau**	**1.40**	**239**	*e*P			**Pn**	**10 59 49.5**	**+0.4**
	baz=237								
ELDTW				*e*S			**Sn**	**11 00 06.3**	**-0.9**
	baz=237								
TWS1	**Kuangyinshan**	**1.43**	**325**	P			**Pb**	**10 59 50.8**	**+0.4**
	baz=335								
TWS1				*e*S			**Sb**	**11 00 09.3**	**+0.9**
	baz=335								
ALS	**Alishan**	**1.45**	**254**	⇓P			**Pb**	**10 59 51.5**	**+0.7**
	baz=251								
ALS				*e*S			**Sb**	**11 00 10.1**	**+1.0**
	baz=251								
NCU	**National Centr**	**1.47**	**316**	P			**Pb**	**10 59 50.9**	**-0.1**
	baz=312								
NCU				S			**Sb**	**11 00 10.4**	**+1.0**
	baz=312								
TWQ1	**Liyutan**	**1.47**	**287**	⇓*i*P			**Pg**	**10 59 52.4**	**-0.1**
	baz=284								
TWQ1				*e*S			**Sg**	**11 00 10.9**	**-0.8**
	baz=284								
TWY	**Chenhua**	**1.50**	**334**	*e*P			**Pb**	**10 59 51.5**	**-0.1**
	baz=331								
TWY				*e*S			**Sb**	**11 00 11.0**	**+0.7**
	baz=331								
WNT	**Mingjian**	**1.50**	**269**	*e*P			**Pg**	**10 59 52.6**	**-0.4**
	baz=266								
WNT				*e*S			**Sg**	**11 00 11.9**	**-0.5**
	baz=266								
NSY	**Sanyi**	**1.50**	**289**	*e*P			**Pg**	**10 59 52.8**	**-0.4**
	baz=286								
NSY				*e*S			**Sg**	**11 00 11.8**	**-0.9**
	baz=286								
HSN	**Hsinchu**	**1.51**	**306**	*e*P			**Pb**	**10 59 52.0**	**+0.2**
	baz=303								
HSN				*e*S			**Sb**	**11 00 10.5**	**-0.1**
	baz=303								
TCU	**Taichung**	**1.52**	**279**	*i* P			**Pg**	**10 59 53.1**	**-0.2**
	baz=276								
TCU				*e*S			**Sg**	**11 00 12.6**	**-0.6**
	baz=276								
CHN5	**Tsauling**	**1.54**	**258**	⇓*i*P			**Pb**	**10 59 53.1**	**+0.8**
	baz=245								
CHN5				*e*S			**Sg**	**11 00 13.2**	**-0.6**
	baz=245								
JKRS	**Kuro-shima**	**1.58**	**78**	P			**Pb**	**10 59 53.6**	**+0.7**
JKRS				*e*S			**Sg**	**11 00 15.7**	**+0.7**
TTN	**Taitung**	**1.59**	**223**	*e*P			**Pb**	**10 59 53.2**	**+0.1**
	baz=222								
TTN				*e*S			**Sb**	**11 00 13.3**	**+0.4**
	baz=222								
TWG	**Pinlang**	**1.59**	**226**	*e*P			**Pn**	**10 59 52.3**	**+0.7**
	baz=238								
TWG				*e*S			**Sn**	**11 00 11.5**	**-0.2**
	baz=238								
TWG	**Pinlang**	**1.59**	**226**	*e*Pn			**Pb**	**10 59 52.4**	**-0.6**
STYT	**Tauyuan**	**1.62**	**242**	⇓P			**Pb**	**10 59 53.8**	**+0.1**
	baz=230								
STYT				*e*S			**Sb**	**11 00 14.2**	**+0.3**
	baz=230								
TPUB	**Ta-pu**	**1.67**	**248**	*e*Pn			**Pb**	**10 59 54.6**	**+0.1**
CHN4	**Tsaushan**	**1.68**	**251**	*e*P			**Pb**	**10 59 55.2**	**+0.5**
	baz=249								
CHN4				*e*S			**Sg**	**11 00 17.3**	**-1.1**
	baz=249								
WTP	**Ta-pu**	**1.70**	**247**	*e*P			**Pb**	**10 59 55.3**	**+0.2**
	baz=245								
WTP				*e*S			**Sb**	**11 00 17.0**	**+0.7**
	baz=245								
PCYT	**Pengchaiyu**	**1.71**	**353**	*e*P			**Pn**	**10 59 53.8**	**+0.5**
	baz=351								
JIJ	**Ishigaki jima**	**1.72**	**75**	P			**Pb**	**10 59 54.8**	**-0.6**
JIJ				S			**Sb**	**11 00 17.8**	**+1.0**
CHN2	**Minshiung**	**1.73**	**257**	*e*P			**Pb**	**10 59 55.8**	**+0.2**
	baz=255								
CHN2				*e*S			**Sg**	**11 00 19.1**	**-0.9**
	baz=255								
CHY	**Chiayi**	**1.79**	**257**	*e*P			**Pb**	**10 59 57.1**	**+0.6**
	baz=255								
CHY				*e*S			**Sb**	**11 00 19.4**	**+0.8**
	baz=255								
CHN1	**Nanshi**	**1.80**	**246**	*e*P			**Pb**	**10 59 57.1**	**+0.4**
	baz=245								
CHN1				*e*S			**Sb**	**11 00 20.6**	**+1.5**
	baz=245								
SGST	**Jiashian**	**1.80**	**243**	*e*P			**Pb**	**10 59 57.3**	**+0.6**
	baz=230								
SGST				*e*S			**Sb**	**11 00 20.1**	**+1.1**
	baz=230								
TWK	**Hsinying**	**1.80**	**249**	*e*P			**Pb**	**10 59 56.9**	**+0.1**
	baz=247								
TWK				*e*S			**Sb**	**11 00 20.0**	**+0.9**
	baz=247								
ECL	**Taimali**	**1.82**	**224**	*e*P			**Pb**	**10 59 56.6**	**-0.4**
	baz=223								
ECL				*e*S			**Sn**	**11 00 16.8**	**-0.7**
	baz=223								
WTCT	**Ta-ch'eng**	**1.86**	**269**	*e*P			**Pb**	**10 59 57.5**	**-0.3**
	baz=266								
WTCT				*e*S			**Sb**	**11 00 21.7**	**+0.8**
	baz=266								
WSF	**Szhu**	**1.94**	**262**	*e*P			**Pb**	**10 59 58.3**	**-0.8**
	baz=260								
WSF				*e*S			**Sb**	**11 00 23.6**	**+0.5**
	baz=260								
CHN3	**Shinhua**	**1.98**	**245**	*e*P			**Pb**	**10 59 60.0**	**+0.1**
	baz=244								
CHN3				*e*S			**Sb**	**11 00 25.6**	**+1.3**
	baz=244								
LAY	**Lan-yu**	**2.00**	**201**	P			**Pn**	**10 59 58.0**	**+0.7**
	baz=200								
TAW	**Tawu**	**2.04**	**220**	*e*P			**Pb**	**11 00 00.3**	**-0.4**
	baz=230								
TAW				*e*S			**Sn**	**11 00 22.7**	**-0.1**
	baz=230								
TWM1	**Shoushan**	**2.06**	**238**	*e*P			**Pb**	**11 00 02.3**	**+1.1**
	baz=236								
TWM1				*e*S			**Sg**	**11 00 29.9**	**-0.5**
	baz=236								
SGLT	**Jiouru**	**2.06**	**235**	*e*P			**Pb**	**11 00 01.3**	**+0.1**
	baz=234								
SGLT				*e*S			**Sb**	**11 00 28.2**	**+1.7**
	baz=234								
SCLT	**Jiali**	**2.09**	**249**	*e*P			**Pb**	**11 00 00.9**	**-0.7**
	baz=248								
SCZT	**Fangliau**	**2.20**	**226**	*e*P			**Pb**	**11 00 03.2**	**-0.3**
	baz=218								
SCZT				*e*S			**Sb**	**11 00 29.8**	**-0.7**
	baz=218								
JTJ	**Tarama**	**2.29**	**71**	P			**Pb**	**11 00 03.6**	**-1.5**
JTJ				*e*S			**Sb**	**11 00 33.3**	**+0.2**
TWP	**Hsiaoliuchiu**	**2.39**	**229**	*e*P			**Pb**	**11 00 05.8**	**-1.0**
	baz=229								
HEN	**Hengchun**	**2.40**	**218**	*e*P			**Pb**	**11 00 05.2**	**-1.8**
	baz=218								
HEN				*e*S			**Sb**	**11 00 34.6**	**-1.8**
	baz=218								
TSEB	**Hengchuen, Pin**	**2.40**	**213**	*e*P			**Pb**	**11 00 07.0**	**+0.1**
	baz=215								
TSEB				*e*S			**Sn**	**11 00 33.4**	**+1.6**
	baz=215								
TWK1	**Hengchun**	**2.42**	**216**	*e*P			**Pb**	**11 00 06.1**	**-1.1**
	baz=216								
TWK1				*e*S			**Sn**	**11 00 33.6**	**+1.5**
	baz=216								
PNG	**Penghu**	**2.56**	**263**	*e*P			**Pn**	**11 00 06.4**	**+1.5**
	baz=261								
PNG				*e*S			**Sn**	**11 00 36.6**	**+0.9**
	baz=261								
JMJ	**Miyako jima 2**	**2.85**	**71**	P			**Pn**	**11 00 10.7**	**+1.7**
JMJ				*e*S			**Sb**	**11 00 47.0**	**-2.4**
JOGS	**Gusukube**	**2.94**	**73**	P			**Pn**	**11 00 12.9**	**+2.8**
JOGS				*e*S			**Sb**	**11 00 49.8**	**-2.0**
KNM	**Kinmen**	**3.58**	**279**	*e*P			**Pn**	**11 00 21.3**	**+2.3**
	baz=276								
KSAR	**Wonju Array Be**	**14.29**	**18**	Pn			**P**	**11 02 50.8**	**-2.2**
KSRS	**Korea Array**	**14.32**	**18**	Pn			**P**	**11 02 50.8**	**-2.4**
	0.3nm,0.3s,baz=199,slow=12,SNR=8.7								
ULN	**Ulaanbaatar**	**26.80**	**337**	*e*P			**P**	**11 05 03.2**	**-0.4**
	4.5nm,0.9s								
SONM	**Songino Array**	**27.02**	**336**	P			**P**	**11 05 05.3**	**-0.2**
SONM	**Songino Array**	**27.02**	**336**	P			**P**	**11 05 05.3**	**-0.2**
	4.9nm,0.6s,baz=151,slow=10,SNR=25								
MKAR	**Makanchi Array**	**39.25**	**316**	P			**P**	**11 06 51.8**	**0.0**
MKAR	**Makanchi Array**	**39.25**	**316**	P			**P**	**11 06 51.8**	**0.0**
	0.7nm,0.4s,baz=102,slow=9.7,SNR=16								
ZALV	**Zalesovo Beam**	**41.03**	**327**	P			**P**	**11 07 05.3**	**-1.1**
ZALV	**Zalesovo Beam**	**41.03**	**327**	P			**P**	**11 07 05.3**	**-1.1**
	2.0nm,0.5s,baz=111,slow=8.1,SNR=8.3								
KURK	**Kurchatov**	**42.96**	**320**	P			**P**	**11 07 22.2**	**0.0**
KURBB	**Kurchatov Arra**	**42.98**	**320**	P			**P**	**11 07 22.2**	**-0.2**
	0.6nm,0.6s,baz=110,slow=8.0,SNR=3.6								
WRA	**Warramunga Arr**	**45.15**	**164**	P			**P**	**11 07 41.4**	**+1.2**
WRA	**Warramunga Arr**	**45.15**	**164**	P			**P**	**11 07 41.4**	**+1.2**
	0.9nm,0.8s,baz=345,slow=8.9,SNR=6.2								
BVAR	**Borovoye Array**	**48.53**	**321**	P			**P**	**11 08 05.5**	**-0.8**
BVAR	**Borovoye Array**	**48.53**	**321**	P			**P**	**11 08 05.5**	**-0.8**
	0.5nm,0.4s,baz=111,slow=8.1,SNR=3.8								
ASAR	**Alice Springs**	**48.63**	**166**	P			**P**	**11 08 09.3**	**+2.0**
ASAR	**Alice Springs**	**48.63**	**166**	P			**P**	**11 08 09.3**	**+2.0**
	0.6nm,1.1s,baz=346,slow=7.6,SNR=5.7								
ABKAR	**Akbulak array**	**54.36**	**314**	*e*P			**P**	**11 08 50.1**	**+0.1**
	0.7nm,0.4s								
BRTR	**Keskin Array B**	**74.16**	**307**	P			**P**	**11 10 59.8**	**-0.4**
BRTR	**Keskin Array B**	**74.16**	**307**	P			**P**	**11 10 59.8**	**-0.4**
	1.7nm,0.8s,baz=76,slow=7.0,SNR=5.3								
GERES	**GERESS Array B**	**83.70**	**321**	P			**P**	**11 11 52.4**	**+0.1**
GERES	**GERESS Array B**	**83.70**	**321**	P			**P**	**11 11 52.4**	**+0.1**
	0.3nm,0.2s,baz=46,slow=4.2,SNR=4.0								

JMA ***16*** *11:03:09.4±0.2,24.43N×121.99E,h61km,M3.3*
ISCJB ***16*** *11:03:10.4±0.6,23.91N±0.01×122.28E±0.02,h10km±4km, Error ellipse: s-maj=2.6km s-min=2.1km az=41.2*
TAP ***16*** *11:03:10.8,23.99N×122.28E,h19km,ML3.7,C*
ISC 16 11:03:09.5±1.1,23.93N±0.02×122.25E±0.02,h9km±9km, n60,σ0s72/120,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.59**	**275**	*e*P			**Pn**	**11 03 23.6**	**-0.5**
	baz=254								
HWA				*e*S			**Sb**	**11 03 31.7**	**+1.2**
	baz=254								
TWD	**Chiawan**	**0.62**	**284**	*i* P			**Pn**	**11 03 23.4**	**-1.0**
	baz=278								
TWD				S			**Sn**	**11 03 32.6**	**-1.8**
	baz=278								
ENA	**Nanau**	**0.68**	**317**	*e*P			**Pb**	**11 03 23.7**	**+0.1**
	baz=311								
ENA				*e*S			**Sb**	**11 03 33.8**	**+0.7**
	baz=311								
ESL	**Shilin**	**0.76**	**262**	P			**Pn**	**11 03 25.4**	**-1.0**
	baz=245								
ESL				*e*S			**Sb**	**11 03 36.4**	**+1.2**
	baz=245								
TWC	**Suao**	**0.77**	**332**	*i* P			**Pb**	**11 03 24.6**	**-0.4**
	baz=337								
TWC				*e*S			**Sb**	**11 03 35.7**	**0.0**
	baz=337								
YOJ	**Yonaguni jima**	**0.88**	**52**	P			**Pb**	**11 03 26.7**	**-0.2**
YOJ				*e*S			**Sn**	**11 03 39.7**	**-1.1**
WHF	**Hehuan Shan**	**0.93**	**284**	*e*P			**Pn**	**11 03 28.6**	**-0.5**
	baz=279								
WHF				S			**Sb**	**11 03 41.0**	**+0.5**
	baz=279								
ENTT	**Nioudou**	**0.94**	**319**	*e*P			**Pn**	**11 03 28.5**	**-0.4**
	baz=314								
ENTT				S			**Sn**	**11 03 42.0**	**-0.6**
	baz=314								
EHY	**Hungye**	**0.95**	**244**	*e*P			**Pn**	**11 03 29.0**	**0.0**
	baz=241								
EHY				*e*S			**Sb**	**11 03 41.6**	**+0.8**
	baz=241								
NNS	**Nan Shan**	**0.95**	**303**	P			**Pn**	**11 03 28.8**	**-0.4**
	baz=285								
NNS				*e*S			**Sn**	**11 03 42.2**	**-0.6**
	baz=285								
ILA	**Ilan**	**0.95**	**331**	*e*P			**Pn**	**11 03 29.0**	**0.0**
	baz=327								
ILA				*e*S			**Sn**	**11 03 42.1**	**-0.6**
	baz=327								
TWE	**Neicheng**	**0.95**	**326**	P			**Pn**	**11 03 28.6**	**-0.5**
	baz=330								
TWE				*e*S			**Sn**	**11 03 42.4**	**-0.3**
	baz=330								
TWT	**Tachien**	**1.03**	**288**	P			**Pn**	**11 03 30.8**	**+0.5**
	baz=272								
TWT				*e*S			**Sn**	**11 03 45.0**	**0.0**
	baz=272								
TWF1	**Yuli**	**1.04**	**237**	*e*P			**Pn**	**11 03 30.6**	**+0.2**
	baz=235								
TWF1				*e*S			**Sn**	**11 03 44.8**	**-0.2**
	baz=235								
NSK	**Sanguang**	**1.10**	**313**	P			**Pn**	**11 03 31.1**	**-0.1**
	baz=308								
NSK				*e*S			**Sn**	**11 03 46.6**	**+0.1**
	baz=308								
TWB1	**Santiao Chiao**	**1.10**	**348**	P			**Pn**	**11 03 30.5**	**-0.6**
	baz=330								
TWB1				*e*S			**Sn**	**11 03 46.5**	**+0.1**
	baz=330								
CHKT	**Chengkung**	**1.16**	**225**	*e*P			**Pb**	**11 03 30.6**	**-1.1**
	baz=211								
CHKT				*e*S			**Sg**	**11 03 46.2**	**-0.6**
	baz=211								
TWA	**Mucha**	**1.21**	**330**	P			**Pg**	**11 03 33.5**	**+0.7**
	baz=326								
TWA				*e*S			**Sn**	**11 03 49.7**	**+0.6**
	baz=326								
NWF	**Wu-fen Shan**	**1.22**	**340**	P			**Pg**	**11 03 32.5**	**-0.4**
	baz=335								
NWF				*e*S			**Sn**	**11 03 50.2**	**+0.9**
	baz=335								
SMLT	**Sun Moon Lake**	**1.23**	**268**	P			**Pg**	**11 03 33.7**	**+0.4**
	baz=265								
SMLT				*e*S			**Sn**	**11 03 50.1**	**+0.2**
	baz=265								
YUS	**Yu-Shan**	**1.27**	**250**	*e*P			**Pg**	**11 03 34.6**	**+0.7**
	baz=248								
YUS				*e*S			**Sg**	**11 03 51.1**	**+0.7**
	baz=248								
TYC	**Yuchr**	**1.27**	**269**	P			**Pg**	**11 03 34.2**	**+0.2**
	baz=267								
TYC				*e*S			**Sn**	**11 03 50.9**	**+0.2**
	baz=267								
TAP1	**Taipei**	**1.29**	**329**	*e*P			**Pg**	**11 03 34.4**	**+0.1**
	baz=324								
TAP1				*e*S			**Sn**	**11 03 51.4**	**+0.4**
	baz=324								
TAP	**Taipei**	**1.30**	**329**	*e*P			**Pg**	**11 03 35.1**	**+0.6**
	baz=324								
TAP				*e*S			**Sn**	**11 03 52.6**	**+1.3**
	baz=324						

TWY	**Chenhua**	**1.47**	**336**	*eP*	**Pb**	**11 03 36.5**	**-0.4**
	baz=332							
TWY				*eS*	**Sg**	**11 03 56.3**	**-0.4**
	baz=332							
CHN5	**Tsauling**	**1.48**	**257**	P	**Pg**	**11 03 38.1**	**+0.3**
	baz=243							
CHN5				*eS*	**Sg**	**11 03 57.5**	**+0.5**
	baz=243							
TWG	**Pinlang**	**1.54**	**225**	*eP*	**Pb**	**11 03 37.8**	**-0.5**
	baz=237							
TWG				*eS*	**Sn**	**11 03 56.5**	**-0.8**
	baz=237							
TTN	**Taitung**	**1.55**	**221**	*eP*	**Pg**	**11 03 39.0**	**-0.2**
	baz=221							
TTN				*eS*	**Sg**	**11 03 59.7**	**+0.4**
	baz=221							
STYT	**Tauyuan**	**1.57**	**241**	*eP*	**Pb**	**11 03 38.8**	**+0.1**
	baz=228							
STYT				*eS*	**Sb**	**11 03 58.7**	**+0.1**
	baz=228							
CHN4	**Tsaushan**	**1.62**	**250**	*eP*	**Pg**	**11 03 40.8**	**+0.2**
	baz=248							
CHN4				*eS*	**Sg**	**11 04 02.8**	**+1.1**
	baz=248							
JKRS	**Kuro-shima**	**1.64**	**79**	P	**Pb**	**11 03 39.5**	**-0.4**
JKRS				*eS*	**Sg**	**11 04 02.2**	**0.0**
WTP	**Ta-pu**	**1.65**	**246**	*eP*	**Pg**	**11 03 41.0**	**-0.1**
	baz=245							
WTP				*eS*	**Sg**	**11 04 02.1**	**-0.4**
	baz=245							
PCYT	**Pengchaiyu**	**1.70**	**355**	*eP*	**Pn**	**11 03 39.4**	**0.0**
	baz=336							
PCYT				*eS*	**Sb**	**11 04 01.8**	**-0.7**
	baz=336							
CHY	**Chiayi**	**1.73**	**256**	*eP*	**Pn**	**11 03 39.9**	**+0.2**
	baz=255							
CHY				*eS*	**Sb**	**11 04 03.7**	**+0.6**
	baz=255							
CHN1	**Nanshi**	**1.74**	**245**	*eP*	**Pg**	**11 03 42.4**	**-0.6**
	baz=244							
CHN1				*eS*	**Sg**	**11 04 04.7**	**-0.9**
	baz=244							
TWK	**Hsinying**	**1.74**	**248**	*eP*	**Pg**	**11 03 42.4**	**-0.6**
	baz=247							
TWK				*eS*	**Sg**	**11 04 05.2**	**-0.4**
	baz=247							
SGST	**Jiashian**	**1.75**	**241**	*eP*	**Pg**	**11 03 42.2**	**-0.9**
	baz=228							
SGST				*eS*	**Sg**	**11 04 05.0**	**-0.6**
	baz=228							
ECL	**Taimali**	**1.78**	**222**	*eP*	**Pb**	**11 03 41.8**	**-0.5**
	baz=223							
ECL				*eS*	**Sn**	**11 04 02.3**	**-0.9**
	baz=223							
JIJ	**Ishigaki jima**	**1.78**	**76**	P	**Pb**	**11 03 40.9**	**-1.5**
JIJ				*eS*	**Sn**	**11 04 03.3**	**+0.1**
WTCT	**Ta-ch'eng**	**1.80**	**268**	*eP*	**Pb**	**11 03 42.0**	**-0.7**
	baz=266							
WTCT				*eS*	**Sg**	**11 04 06.4**	**-1.1**
	baz=266							
WSF	**Szhu**	**1.88**	**262**	*eP*	**Pb**	**11 03 43.4**	**-0.6**
	baz=260							
WSF				*eS*	**Sb**	**11 04 07.8**	**+0.2**
	baz=260							
LAY	**Lan-yu**	**1.99**	**199**	*eP*	**Pn**	**11 03 42.9**	**-0.4**
	baz=211							
LAY				*eS*	**Sn**	**11 04 07.2**	**-1.1**
	baz=211							
TAW	**Tawu**	**2.00**	**219**	*eP*	**Pb**	**11 03 45.4**	**-0.6**
	baz=219							
TAW				*eS*	**Sn**	**11 04 08.4**	**-0.1**
	baz=219							
TWM1	**Shoushan**	**2.01**	**237**	*eP*	**Pg**	**11 03 48.0**	**0.0**
	baz=236							
TWM1				*eS*	**Sb**	**11 04 11.7**	**+0.4**
	baz=236							
SCZT	**Fangliau**	**2.15**	**224**	*eP*	**Pb**	**11 03 48.1**	**-0.6**
	baz=217							
SCZT				*eS*	**Sb**	**11 04 15.0**	**-0.5**
	baz=217							
JTJ	**Tarama**	**2.35**	**72**	P	**Pn**	**11 03 48.6**	**+0.4**
JTJ				*eS*	**Sn**	**11 04 17.9**	**+0.7**
HEN	**Hengchun**	**2.37**	**216**	*eP*	**Pb**	**11 03 50.9**	**-1.4**
	baz=217							
HEN				*eS*	**Sn**	**11 04 19.1**	**+1.5**
	baz=217							
TSEB	**Hengchuen, Pin**	**2.37**	**212**	*eP*	**Pn**	**11 03 50.2**	**+1.7**
	baz=214							
TSEB				*eS*	**Sn**	**11 04 18.4**	**+0.7**
	baz=214							
TWK1	**Hengchun**	**2.38**	**214**	*eP*	**Pn**	**11 03 50.2**	**+1.5**
	baz=215							
TWK1				*eS*	**Sn**	**11 04 19.0**	**+0.9**
	baz=215							
PNG	**Penghu**	**2.49**	**262**	*eP*	**Pn**	**11 03 51.6**	**+1.4**
	baz=261							
PNG				*eS*	**Sn**	**11 04 21.0**	**+0.2**
	baz=261							

IDC ***16*** *11:07:33.1±0.7,2.61N×79.68W,h0km,mb3.9/15, mb1 4.1/17,mb1mx4.1/26,mbtmp4.0/17,ML2.3/1,Error ellipse: s-maj=26.0km s-min=15.4km az=47.0*

ISCJB ***16*** *11:07:34.5±0.5,2.55N±0.08×79.76W±0.06,h21km, mb3.9/19,Error ellipse: s-maj=11.6km s-min=8.1km az=23.3*

NEIC ***16*** *11:07:36.8±3.3,2.60N×79.69W,h25km±23km,mb4.1/6, Error ellipse: s-maj=14.3km s-min=7.1km az=51.0*

ISC 16 11:07:36.2±0.6,**2.52N**±0.10×**79.75W**±0.08,**h21**km,**n231**, **σ0.71**/238,**mb4.0**/19,**83C-100D,South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**5.88**	**67**	Pn	**Pn**	**11 09 01.6**	**-1.0**
ROSC				Sn	**Sn**	**11 10 11.5**	**+1.8**
ROSC	**El Rosal**	**5.88**	**67**	Pn	**Pn**	**11 09 01.6**	**-1.0**
	1.9nm,0.3s,baz=270,slow=20,SNR=2.1						
ROSC				Sn	**Sn**	**11 10 11.5**	**+1.8**
	baz=94,slow=23,SNR=1.9						
TEIG	**Tepich**	**19.46**	**335**	P	**P**	**11 12 02.1**	**+0.3**
TEIG	**Tepich**	**19.46**	**335**	P	**P**	**11 12 02.1**	**+0.3**
	0.8nm,0.3s,baz=234,slow=12,SNR=5.1						
SAML	**Samuel**	**20.06**	**125**	*eP*	Pn	11 12 08.9	-1.3
	5.0nm,0.6s						
LPAZ	**La Paz**	**21.94**	**149**	P	**P**	**11 12 27.8**	**-1.4**
LPAZ	**La Paz**	**21.94**	**149**	P	**P**	**11 12 27.8**	**-1.4**
	1.7nm,0.9s,baz=329,slow=7.1,SNR=4.7						
SIV	**San Ignacio**	**26.07**	**135**	P	**P**	**11 13 09.3**	**+0.7**
SIV	**San Ignacio**	**26.07**	**135**	P	**P**	**11 13 09.3**	**+0.7**
	0.7nm,0.6s,baz=304,slow=3.6,SNR=2.6						
732A	**Laxson Ranch,**	**32.41**	**326**	⇑P	**P**	**11 14 04.8**	**0.0**
	baz=32						
632A	**Uvalde**	**32.90**	**327**	⇑P	**P**	**11 14 08.8**	**-0.3**
	baz=33						
631A	**Perdido Creek**	**33.27**	**326**	⇑P	**P**	**11 14 12.8**	**+0.4**
	baz=33						
532A	**Rocksprings**	**33.45**	**327**	⇓P	**P**	**11 14 13.8**	**-0.1**
	baz=34						
WHTX	**Lake Whitney**	**33.72**	**332**	⇓P	**P**	**11 14 16.4**	**+0.2**
	baz=34						
531A	**Rocksprings**	**33.83**	**326**	⇑P	**P**	**11 14 17.5**	**+0.2**
	baz=34						
530A	**J-C Ranch, Com**	**34.26**	**326**	⇑P	**P**	**11 14 21.7**	**+0.7**
	baz=34						
332A	**Millersview**	**34.35**	**329**	⇑P	**P**	**11 14 21.6**	**-0.2**
	baz=34						
628A	**Black Gap, Mar**	**34.67**	**323**	⇓P	**P**	**11 14 25.4**	**+0.8**
	baz=35						
430A	**Baggett Ranch,**	**34.69**	**326**	⇑P	**P**	**11 14 25.0**	**+0.2**
	baz=35						
529A	**Stev Forest Ra**	**34.75**	**324**	⇓P	**P**	**11 14 25.8**	**+0.5**
	baz=35						
429A	**Davenport Ranc**	**34.93**	**325**	⇑P	**P**	**11 14 27.4**	**+0.6**
	baz=35						
627A	**Terlingua Ranc**	**34.95**	**322**	⇓P	**P**	**11 14 28.1**	**+1.0**
	baz=35						
TXAR	**Lajitas Array**	**35.04**	**322**	P	**P**	**11 14 27.4**	**-0.4**
TXAR				PcP	**PcP**	**11 17 00.8**	**+1.0**
TXAR	**Lajitas Array**	**35.04**	**322**	P	**P**	**11 14 27.4**	**-0.4**
	0.3nm,0.8s,baz=129,slow=9.9,SNR=3.6						
TXAR				PcP	**PcP**	**11 17 00.8**	**+1.0**
	1.4nm,0.9s,baz=156,slow=4.6,SNR=10						
528A	**Cox Ranch, San**	**35.10**	**324**	⇓P	**P**	**11 14 28.9**	**+0.5**
	baz=35						
ABTX	**Abilene, Hawle**	**35.29**	**330**	⇓P	**P**	**11 14 30.0**	**+0.1**
	baz=35						
428A	**Kincaid Ranch,**	**35.46**	**325**	⇓P	**P**	**11 14 32.2**	**+0.8**
	baz=36						
626A	**Big Bend Ranch**	**35.48**	**322**	⇓P	**P**	**11 14 32.4**	**+0.8**
	baz=36						
527A	**Woodward Ranch**	**35.58**	**323**	⇓P	**P**	**11 14 33.3**	**+0.7**
	baz=36						
329A	**Wagon Wheel Ra**	**35.63**	**326**	⇓P	**P**	**11 14 33.2**	**+0.3**
	baz=36						
Z32A	**Haskell**	**35.77**	**331**	⇓P	**P**	**11 14 33.8**	**-0.2**
	baz=36						
526A	**Mary Lane Ranc**	**35.81**	**322**	⇓P	**P**	**11 14 34.8**	**+0.3**
	baz=36						
427A	**Hayter Ranch,**	**35.97**	**324**	⇑P	**P**	**11 14 36.3**	**+0.5**
	baz=36						
328A	**Wristen Ranch,**	**36.02**	**325**	⇑P	**P**	**11 14 36.6**	**+0.4**
	baz=36						
Z31A	**Sharp Cattle R**	**36.10**	**330**	⇓P	**P**	**11 14 36.3**	**-0.5**
	baz=36						
426A	**McDonald Obser**	**36.21**	**323**	⇓P	**P**	**11 14 38.7**	**+0.7**
	baz=36						
228A	**UT Block 9, Go**	**36.45**	**326**	⇑P	**P**	**11 14 40.1**	**+0.2**
	baz=36						
Z30A	**Sanderson Ranc**	**36.57**	**329**	⇑P	**P**	**11 14 40.9**	**+0.1**
	baz=37						
326A	**Caldwell Ranch**	**36.65**	**324**	⇓P	**P**	**11 14 41.9**	**+0.3**
	baz=37						
Y31A	**Rekieta Farm,**	**36.68**	**331**	⇓P	**P**	**11 14 42.0**	**+0.3**
	baz=37						
Z29A	**Hungry Hill Ra**	**36.85**	**329**	⇓P	**P**	**11 14 43.0**	**-0.3**
	baz=37						
425A	**Indio Mountain**	**36.87**	**322**	⇑P	**P**	**11 14 44.2**	**+0.6**
	baz=37						
Y30A	**Stafford Cattl**	**36.92**	**330**	⇓P	**P**	**11 14 44.2**	**+0.3**
	baz=37						
X31A	**McDonald Ranch**	**37.09**	**332**	⇑P	**P**	**11 14 45.5**	**+0.3**
	baz=37						
325A	**Bean Ranch, Si**	**37.27**	**323**	⇑P	**P**	**11 14 47.2**	**+0.2**
	baz=37						
Y29A	**Porterfield Fa**	**37.30**	**329**	⇓P	**P**	**11 14 47.5**	**+0.4**
	baz=37						
226B	**Tecolote Peak,**	**37.31**	**325**	⇓P	**P**	**11 14 48.1**	**+0.9**
	baz=37,SNR=7.0						
X30A	**Coker Ranch, T**	**37.37**	**331**	⇑P	**P**	**11 14 47.8**	**+0.2**
	baz=38						
324A	**Moseley Ranch,**	**37.63**	**323**	⇑P	**P**	**11 14 50.1**	**0.0**
	baz=38,SNR=6.1						
MSTX	**Muleshoe**	**37.96**	**328**	⇓P	**P**	**11 14 52.9**	**+0.2**
	baz=38						
V31A	**Spring Creek L**	**37.96**	**333**	⇓P	**P**	**11 14 52.7**	**0.0**
	baz=38						
125A	**Gardner Draw,**	**38.02**	**325**	⇑P	**P**	**11 14 53.9**	**+0.7**
	baz=38						
Z26A	**Caprock**	**38.08**	**326**	⇓P	**P**	**11 14 54.2**	**+0.5**
	baz=38						
Y27A	**Causey**	**38.10**	**328**	⇓P	**P**	**11 14 53.8**	**-0.1**
	baz=38						
224A	**Cornudas Mount**	**38.10**	**323**	⇑P	**P**	**11 14 54.3**	**+0.3**
	baz=38						
W29A	**Amraillo**	**38.29**	**330**	⇑P	**P**	**11 14 55.6**	**+0.1**
	baz=38						
Y26A	**Elida**	**38.49**	**327**	⇑P	**P**	**11 14 57.4**	**+0.2**
	baz=39						
Z25A	**Roswell**	**38.50**	**325**	⇓P	**P**	**11 14 58.1**	**+0.7**
	baz=39,SNR=9.7						
124A	**Stringfield Ra**	**38.51**	**324**	⇓P	**P**	**11 14 58.2**	**+0.6**
	baz=39						
Z24A	**Sheeppen Canyo**	**38.91**	**325**	⇑P	**P**	**11 15 01.6**	**+0.8**
	baz=39						
U30A	**WK&E Inc. Balk**	**38.95**	**333**	⇓P	**P**	**11 15 01.5**	**+0.5**
	baz=39						
W27A	**Bowe Ranch, En**	**38.95**	**329**	⇓P	**P**	**11 15 01.3**	**+0.2**
	baz=39						
Y25A	**Mesa, Roswell**	**38.97**	**326**	⇑P	**P**	**11 15 02.5**	**+1.3**
	baz=39						
Y24A	**Capitan**	**39.38**	**325**	⇓P	**P**	**11 15 05.6**	**+0.8**
	baz=40						
Y23A	**Lovelace Mesa,**	**39.74**	**325**	⇓P	**P**	**11 15 08.5**	**+0.7**
	baz=40						
Z22A	**Elephant Butte**	**39.80**	**323**	⇑P	**P**	**11 15 09.5**	**+1.3**
	baz=40						
121A	**Cookes Peak, D**	**39.80**	**322**	⇑P	**P**	**11 15 09.6**	**+1.4**
	baz=40						
W25A	**X Bar L Ranch,**	**39.81**	**328**	⇓P	**P**	**11 15 09.0**	**+0.8**
	baz=40,SNR=5.9						
220A	**Playas Peak, P**	**39.85**	**320**	⇓P	**P**	**11 15 10.0**	**+1.4**
	baz=40						
U27A	**Thompson Grove**	**39.90**	**330**	⇑P	**P**	**11 15 09.4**	**+0.5**
	baz=40						
R31A	**Burdett**	**39.94**	**335**	⇑P	**P**	**11 15 09.1**	**0.0**
	baz=40						
319A	**Douglas**	**39.99**	**319**	⇓P	**P**	**11 15 10.6**	**+0.8**
	baz=40						
R30A	**Dighton**	**40.25**	**335**	⇑P	**P**	**11 15 11.9**	**+0.2**
	baz=40						
Z21A	**St. Cloud Mine**	**40.26**	**323**	⇑P	**P**	**11 15 13.5**	**+1.4**
	baz=40						
Y22A	**Socorro**	**40.28**	**324**	⇓P	**P**	**11 15 13.3**	**+1.1**
	baz=40						
W24A	**Lazy 6 Ranch,**	**40.31**	**327**	⇓P	**P**	**11 15 13.4**	**+0.9**
	baz=40						
U26A	**Atchley Ranch,**	**40.34**	**330**	⇓P	**P**	**11 15 13.2**	**+0.5**
	baz=40,SNR=5.6						
V25A	**Rancho No Teng**	**40.36**	**328**	⇓P	**P**	**11 15 13.7**	**+0.8**
	baz=40,SNR=9.9						
Q31A	**Ellis**	**40.49**	**336**	⇑P	**P**	**11 15 13.7**	**0.0**
	baz=41						
V24A	**Rampart Ranch,**	**40.62**	**327**	⇑P	**P**	**11 15 15.9**	**+0.8**
	baz=41						
U25A	**Circle Dot Ran**	**40.68**	**329**	⇓P	**P**	**11 15 16.1**	**+0.5**
	baz=41						
W23A	**Werner Place,**	**40.69**	**326**	⇑P	**P**	**11 15 16.6**	**+0.9**
	baz=41						
Z20A	**Nine Sixteen R**	**40.69**	**322**	⇓P	**P**	**11 15 16.6**	**+1.0**
	baz=41						
ANMO	**Albuquerque**	**40.70**	**326**	*eP*	**P**	**11 15 16.1**	**+0.4**
	4.6nm,0.9s						
ANMO	**Albuquerque**	**40.70**	**326**	P	**P**	**11 15 16.6**	**+0.9**
	4.6nm,0.9s,baz=140,slow=9.3,SNR=21						
X22A	**Bernardo**	**40.70**	**325**	⇑P	**P**	**11 15 16.6**	**+0.9**
	baz=41						
Q30A	**Quinter**	**40.80**	**335**	⇓P	**P**	**11 15 16.5**	**+0.2**
	baz=41						
R28A	**Tribune**	**40.97**	**333**	⇓P	**P**	**11 15 17.8**	**0.0**
	baz=41,SNR=6.9						
Q29A	**Oakley**	**41.05**	**335**	⇑P	**P**	**11 15 18.4**	**0.0**
	baz=41						
Y20A	**Horse Springs,**	**41.10**	**323**	⇑P	**P**	**11 15 19.8**	**+0.7**
	baz=41						
X21A	**Alamocita Cree**	**41.12**	**324**	⇓P	**P**	**11 15 19.8**	**+0.6**
	baz=41						
V23A	**Ortiz Mt. (NFS**	**41.13**	**327**	⇑P	**P**	**11 15 19.8**	**+0.5**
	baz=41						
U24A	**Moreno Valley**	**41.14**	**328**	⇓P	**P**	**11 15 19.8**	**+0.4**
	baz=41						
S26A	**Kim**	**41.16**	**331**	⇓P	**P**	**11 15 19.7**	**+0.3**
	baz=41						
T25A	**Trinidad**	**41.25**	**330**	⇑P	**P**	**11 15 21.0**	**+0.8**
	baz=41						
R27A	**Eads**	**41.37**	**332**	⇑P	**P**	**11 15 21.0**	**-0.1**
	baz=42,SNR=5.1						
U23A	**El Rito**	**41.57**	**327**	⇑P	**P**	**11 15 24.0**	**+1.1**
	baz=42,SNR=8.8						
X20A	**Quemado**	**41.61**	**323**	⇓P	**P**	**11 15 23.9**	**+0.7**
	baz=42						
V22A	**San Miguel Ran**	**41.66**	**326**	⇑P	**P**	**11 15 24.3**	**+0.6**
	baz=42						
S25A	**Robets Cordova**	**41.67**	**330**	⇑P	**P**	**11 15 24.2**	**+0.6**
	baz=42						
R26A	**Arlington**	**41.69**	**332**	⇑P	**P**	**11 15 23.9**	**+0.2**
	baz=42						
P28A	**Saint Francis**	**41.95**	**334**	⇓P	**P**	**11 15 26.2**	**+0.4**
	baz=42						
U22A	**Llaves**	**41.97**	**327**	⇑P	**P**	**11 15 26.9**	**+0.8**
	baz=42						
R25A	**Fountain Ranch**	**41.97**	**331**	⇑P	**P**	**11 15 26.9**	**+0.9**
	baz=42						
W20A	**Ramah**	**42.01**	**324**	⇑P	**P**	**11 15 27.3**	**+0.8**
	baz=42						
T23A	**Casias Ranch,**	**42.01**	**328**	⇓P	**P**	**11 15 27.4**	**+0.9**
	baz=42						
S24A	**Houchin Ranch,**	**42.04**	**329**	⇓P	**P**	**11 15 27.5**	**+0.6**
	baz=42						
Q26A	**Hugo**	**42.22**	**332**	⇓P	**P**	**11 15 28.5**	**+0.5**
	baz=42						
SDCO	**Great Sand Dun**	**42.27**	**329**	*eP*	**P**	**11 15 28.6**	**-0.1**
	3.9nm,1.0s						
P27A	**Ficken Ranch,**	**42.30**	**334**	⇓P	**P**	**11 15 29.3**	**+0.6**
	baz=42						
U21A	**Nageezi**	**42.45**	**326**	⇓P	**P**	**11 15 31.2**	**+1.1**
	baz=42						
W18A	**Petrified Fore**	**42.74**	**323**	⇓P	**P**	**11 15 33.7**	**+1.3**
	baz=43						
R23A	**Moffat**	**42.78**	**329**	⇑P	**P**	**11 15 33.9**	**+1.1**
	baz=43						
N28A	**Pribbeno Ranch**	**42.79**	**335**	⇑P	**P**	**11 15 32.5**	**-0.1**
	baz=43						
U20A	**Newcomb**	**42.90**	**325**	⇓P	**P**	**11 15 35.0**	**+1.4**
	baz=43						
S22A	**4UR Ranch, Cre**	**42.96**	**328**	⇑P	**P**	**11 15 34.6**	**+0.3**
	baz=43						
P25A	**Willow Gulch B**	**42.99**	**332**	⇓P	**P**	**11 15 34.6**	**+0.3**
	baz=43						
OGNE	**Ogallala**	**43.21**	**335**	⇑P	**P**	**11 15 36.4**	**+0.4**
	baz=43						
R22A	**Saguache, Gunn**	**43.28**	**329**	⇓P	**P**	**11 15 37.3**	**+0.4**
	baz=43						
X16A	**Lo Mia Camp, P**	**43.33**	**321**	⇓P	**P**	**11 15 38.2**	**+1.0**
	baz=43						
P23A	**Jefferson**	**43.69**	**330**	⇑P	**P**	**11 15 40.4**	**+0.2**
	baz=44						
R21A	**Cimarron**	**43.80**	**328**	⇓P	**P**	**11 15 41.6**	**+0.6**
	baz=44						
Q22A	**Crested Butte,**	**43.84**	**329**	⇓P	**P**	**11 15 42.1**	**+0.7**
	baz=44,SNR=5.5						
S20A	**Disappointment**	**43.85**	**327**	⇓P	**P**	**11 15 41.9**	**+0.5**
	baz=44						
PLCA	**Paso Flores**	**43.86**	**170**	P	**P**	**11 15 43.2**	**+2.0**
PLCA	**Paso Flores**	**43.86**	**170**	P	**P**	**11 15 43.2**	**+2.0**
	1.7nm,0.7s,baz=326,slow=12,SNR=3.7						
O24A	**Longmont**	**43.90**	**332**	⇓P	**P**	**11 15 42.2**	**+0.5**
	baz=44						
ISCO	**Idaho Springs**	**43.91**	**331**	⇓P	**P**	**11 15 42.2**	**+0.2**
	baz=44						
WUAZ	**Wupatki**	**44.01**	**322**	*eP*	**P**	**11 15 43.1**	**+0.5**
	5.8nm,0.9s						
WUAZ	**Wupatki**	**44.01**	**322**	⇑P	**P**	**11 15 43.5**	**+0.9**
	baz=44,SNR=5.6						
Y14A	**Wickenburg**	**44.04**	**319**	⇓P	**P**	**11 15 43.9**	**+1.1**
	baz=44						
P22A	**Eagle**	**44.32**	**330**	⇑P	**P**	**11 15 45.8**	**+0.7**
	baz=44						
O23A	**Lake Granby, G**	**44.38**	**331**	⇓P	**P**	**11 15 46.3**	**+0.7**
	baz=44						
O22A	**Kremmling**	**44.64**	**331**	⇑P	**P**	**11 15 47.8**	**0.0**
	baz=45						
N23A	**Red Feather La**	**44.92**	**332**	⇓P	**P**	**11 15 50.7**	**+0.7**
	baz=45						
N22A	**Wattenberg Ran**	**45.09**	**331**	⇓P	**P**	**11 15 52.0**	**+0.6**
	baz=45						
U15A	**North Rim**	**45.16**	**322**	⇑P	**P**	**11 15 53.3**	**+1.3**
	baz=45						
O20A	**White River Ci**	**45.47**	**329**	⇓P	**P**	**11 15 54.5**	**+0.2**
	baz=46						
J25A	**Sunshine Ranch**	**45.97**	**336**	⇑P	**P**	**11 15 58.1**	**0.0**
	baz=46						
N20A	**Spence Gulch,**	**46.01**	**330**	⇓P	**P**	**11 15 58.9**	**+0.3**
	baz=46						
O19A	**Miners Draw (B**	**46.05**	**329**	⇑P	**P**	**11 15 59.0**	**+0.2**
	baz=46						
M21A	**Separation Pea**	**46.15**	**331**	⇑P	**P**	**11 15 59.8**	**+0.2**
	baz=46						
K23A	**Bowen Ranch, D**	**46.24**	**334**	⇓P	**P**	**11 16 00.5**	**+0.3**
	baz=46						
J24A	**Dixon Ranch, L**	**46.28**	**335**	⇓P	**P**	**11 16 01.8**	**+1.3**
	baz=46						
I25A	**Rochford**	**46.47**	**336**	⇑P	**P**	**11 16 02.5**	**+0.5**
	baz=47						
I24A	**Kuemmerle Ranc**	**46.70**	**335**	⇓P	**P**	**11 16 04.2**	**+0.5**
	baz=47						
BBRC	**Big Bear Solar**	**46.86**	**317**	⇑P	**P**	**11 16 06.3**	**+1.0**
	baz=47						
J22A	**Midwest**	**47.14**	**333**	⇑P	**P**	**11 16 07.7**	**+0.4**
	baz=47						
H24A	**Dirks Ranch, A**	**47.40**	**336**	⇓P	**P**	**11 16 09.7**	**+0.5**
	baz=48						
K20A	**Yellowstone Ra**	**47.42**	**331**	⇑P	**P**	**11 16 09.9**	**+0.4**
	baz=48						
J21A	**Lysite**	**47.53**	**333**	⇑P	**P**	**11 16 10.8**	**+0.4**
	baz=48						
M17A	**Scullys Gap (B**	**47.71**	**329**	⇑P	**P**	**11 16 12.0**	**+0.2**
	baz=48						
L18A	**Fontenelle, Gr**	**47.71**	**329**	⇑P	**P**	**11 16 11.9**	**+0.1**
	baz=48						
K19A	**Absolon Red Bu**	**47.79**	**331**	⇓P	**P**	**11 16 12.3**	**-0.1**
	baz=48						
I21A	**Big Trails, Te**	**47.82**	**333**	⇓P	**P**	**11 16 12.5**	**0.0**
	baz=48						
J20A	**Shoshoni**	**47.83**	**332**	⇓P	**P**	**11 16 13.0**	**+0.4**
	baz=48						
DUG	**Dugway**	**47.98**	**326**	⇓P	**P**	**11 16 14.7**	**+0.9**
	baz=48						
FURC	**Furnace Creek,**	**48.08**	**319**	⇓P	**P**	**11 16 15.7**	**+1.2**
	baz=48						
PDAR	**Pinedale Array**	**48.09**	**331**	P	**P**	**11 16 14.3**	**-0.5**
PDAR				PcP	**PcP**	**11 17 41.5**	**-0.8**
PDAR	**Pinedale Array**	**48.09**	**331**	P	**P**	**11 16 14.3**	**-0.5**
	0.6nm,0.6s,baz=132,slow=9.6,SNR=7.3						
PDAR				PcP	**PcP**	**11 17 41.5**	**-0.8**
	0.8nm,0.9s,baz=130,slow=4.6,SNR=5.4						
G23A	**Biddle**	**48.11**	**336**	⇑P	**P**	**11 16 15.0**	**+0.3**
	baz=48						
J19A	**Crowheart**	**48.22**	**331**	⇑P	**P**	**11 16 15.9**	**+0.2**
	baz=48						
BLG	**Laguna Peak**	**48.26**	**315**	⇓P	**P**	**11 16 17.8**	**+1.9**
	baz=48						
I20A	**Worland**	**48.31**	**333**	⇑P	**P**	**11 16 16.8**	**+0.5**
	baz=48						
R11A	**Troy Canyon, C**	**48.41**	**322**	⇓P	**P**	**11 16 17.8**	**+0.6**
	baz=48						
G22A	**Birney**	**48.50**	**335**	⇓P	**P**	**11 16 17.9**	**+0.2**
	baz=49						
F23A	**Volborg**	**48.54**	**336**	⇓P	**P**	**11 16 18.2**	**+0.2**
	baz=49						
ISA	**Isabella**	**48.69**	**317**	⇑P	**P**	**11 16 20.9**	**+1.5**
	baz=49						
D24A	**Glendive**	**49.27**	**338**	⇑P	**P**	**11 16 23.8**	**+0.3**
	baz=49						
G20A	**Bridger**	**49.33**	**334**	⇓P	**P**	**11 16 23.8**	**

	baz=52							
C17A	**Wharram Farm,**	**52.31**	**334**	⇓P		**P**	**11 16 46.5**	**0.0**
	baz=52							
A19A	**Klindworth Far**	**52.47**	**336**	⇓P		**P**	**11 16 48.2**	**+0.6**
	baz=53							
G12A	**Big Creek, Yel**	**52.69**	**329**	⇓P		**P**	**11 16 50.0**	**+0.5**
	baz=53							
A18A	**Metzger Ranch,**	**52.91**	**336**	⇓P		**P**	**11 16 51.1**	**+0.2**
	baz=53							
C15A	**Salmond Ranch,**	**53.25**	**333**	⇓P		**P**	**11 16 54.2**	**+0.7**
	baz=53							
B15A	**Bradely Ranch,**	**53.62**	**333**	⇑P		**P**	**11 16 56.0**	**-0.2**
	baz=54							
D13A	**Huson**	**53.62**	**331**	⇑P		**P**	**11 16 56.2**	**0.0**
	baz=54							
E12A	**Beaver Dam Sad**	**53.70**	**330**	⇓P		**P**	**11 16 56.8**	**0.0**
	baz=54							
B14A	**Marquette Ranc**	**53.98**	**333**	⇑P		**P**	**11 16 59.3**	**+0.4**
	baz=54							
C13A	**Hot Springs**	**54.09**	**332**	⇑P		**P**	**11 17 00.2**	**+0.5**
	baz=54							
A15A	**Johnson Ranch,**	**54.19**	**334**	⇓P		**P**	**11 17 01.3**	**+0.9**
	baz=54							
C12B	**Naegeli Ranch,**	**54.55**	**331**	⇓P		**P**	**11 17 03.5**	**+0.6**
	baz=55							
NEW	**Newport**	**55.73**	**331**	⇓P		**P**	**11 17 12.4**	**+1.0**
	baz=56							
YKA	**Yellowknife Ar**	**65.20**	**343**	P		**P**	**11 18 15.0**	**-0.8**
YKA	**Yellowknife Ar**	**65.20**	**343**	P		**P**	**11 18 15.0**	**-0.8**
	0.9nm,0.7s,baz=139,slow=6.4,SNR=5.1							
ESDC	**Sonseca Array**	**77.46**	**50**	P		**P**	**11 19 30.8**	**+0.4**
ESDC	**Sonseca Array**	**77.46**	**50**	P		**P**	**11 19 30.8**	**+0.4**
	0.3nm,0.3s,baz=246,slow=5.9,SNR=4.0							
ILAR	**Eielson Array**	**78.12**	**336**	P		**P**	**11 19 32.4**	**-1.1**
ILAR	**Eielson Array**	**78.12**	**336**	P		**P**	**11 19 32.4**	**-1.1**
	0.6nm,0.8s,baz=115,slow=4.8,SNR=8.8							
EKA	**Eskdalemuir Ar**	**80.31**	**34**	P		**P**	**11 19 45.0**	**-0.7**
EKA	**Eskdalemuir Ar**	**80.31**	**34**	P		**P**	**11 19 45.0**	**-0.7**
	0.9nm,0.6s,baz=269,slow=5.7,SNR=4.8							
TORD	**Torodi Ar. Bea**	**81.10**	**77**	P		**P**	**11 19 50.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**81.10**	**77**	P		**P**	**11 19 50.2**	**-0.5**
	1.2nm,0.5s,baz=277,slow=6.6,SNR=12							
NB2	**NORSAR Subarra**	**88.28**	**29**	P		**P**	**11 20 26.0**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=268,slow=4.6							
NOA	**NORSAR Array B**	**88.28**	**29**	P		**P**	**11 20 26.4**	**+0.3**
NOA	**NORSAR Array B**	**88.28**	**29**	P		**P**	**11 20 26.4**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=268,slow=4.5,SNR=5.3							
HFS	**Hagfors**	**89.55**	**30**	P		**P**	**11 20 31.9**	**-0.1**
HFS	**Hagfors**	**89.55**	**30**	P		**P**	**11 20 31.9**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=281,slow=4.3,SNR=2.9							
ARCES	**ARCESS Array B**	**92.95**	**20**	P		**P**	**11 20 47.1**	**-0.5**
ARCES	**ARCESS Array B**	**92.95**	**20**	P		**P**	**11 20 47.1**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=283,slow=4.0,SNR=3.7							
SONM	**Songino Array**	**129.56**	**355**	PKP		**PKPdf**	**11 26 43.8**	**-0.2**
SONM	**Songino Array**	**129.56**	**355**	PKP		**PKPdf**	**11 26 43.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=5.7,slow=2.0,SNR=3.7							
ASAR	**Alice Springs**	**141.25**	**234**	PKPpre	PKPpre		11 27 01.3	
ASAR				PKP	**PKPdf**		**11 27 04.6**	**-1.8**
ASAR	**Alice Springs**	**141.25**	**234**	PKhKP	PKPpre		11 27 01.3	
	comp=Z,0.2nm,0.5s,baz=136,slow=3.5,SNR=3.9							
ASAR				PKP	**PKPdf**		**11 27 04.6**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=118,slow=2.4,SNR=3.2							
WRA	**Warramunga Arr**	**142.49**	**240**	PKPpre	PKPpre		11 27 03.8	
WRA				PKP	**PKPdf**		**11 27 07.8**	**-0.8**
WRA	**Warramunga Arr**	**142.49**	**240**	PKhKP	PKPpre		11 27 03.8	
	comp=Z,0.4nm,0.6s,baz=104,slow=3.4,SNR=5.2							
WRA				PKP	**PKPdf**		**11 27 07.8**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=114,slow=2.6,SNR=5.3							
CMAR	**Chiang Mai Arr**	**159.11**	**3**	PKPab		**PKPab**	**11 28 09.2**	**-1.1**
CMAR	**Chiang Mai Arr**	**159.11**	**3**	PKPab		**PKPab**	**11 28 09.2**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=326,slow=6.0,SNR=4.3							

ISCJB ***16*** *11:08:07.8±0.6,23˚.91N±0˚.02×122˚.31E±0˚.02,h9km±4km,*
Error ellipse: s-maj=3.0km s-min=2.3km az=153.0
JMA ***16*** *11:08:07.1±0.5,24˚.17N×122˚.05E,h58km,M3.1*
TAP ***16*** *11:08:08.9,23˚.99N×122˚.31E,h24km,ML3.5,C*
ISC 16 11:08:08.3±1.2**,23˚.93N**±0˚.02×**122˚.30E**±0˚.02**,h18**km±3km,**
n54,σ0°87/99,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
EHP	**Heping Village**	**0.63**	**307**	*e*P		**Pn**	**11 08 21.7**	**-0.7**
	baz=302							
HWA	**Hwalien**	**0.63**	**274**	P		**Pg**	**11 08 21.3**	**+0.4**
	baz=256							
HWA				*e*S		**Sg**	**11 08 30.6**	**+1.2**
	baz=256							
TWD	**Chiawan**	**0.66**	**283**	P		**Pb**	**11 08 21.4**	**+0.3**
	baz=278							
TWD				S		**Sg**	**11 08 30.6**	**+0.5**
	baz=278							
ENA	**Nanau**	**0.71**	**314**	P		**Pb**	**11 08 21.6**	**-0.5**
	baz=319							
ENA				*e*S		**Sg**	**11 08 31.9**	**+0.2**
	baz=319							
TWC	**Suao**	**0.79**	**329**	*i* P		**Pb**	**11 08 22.7**	**-0.8**
	baz=325							
TWC				S		**Sb**	**11 08 32.8**	**-1.1**
	baz=325							
ESL	**Shilin**	**0.80**	**262**	*e*P		**Pb**	**11 08 22.7**	**-1.0**
	baz=248							
ESL				*e*S		**Sb**	**11 08 34.2**	**+0.1**
	baz=248							
YOJ	**Yonaguni jima**	**0.84**	**51**	P		**Pb**	**11 08 24.2**	**-0.2**
YOJ				*e*S		**Sn**	**11 08 37.0**	**-0.1**
WHF	**Hehuan Shan**	**0.97**	**283**	*e*P		**Pb**	**11 08 26.5**	**-0.2**
	baz=279							
WHF				S		**Sb**	**11 08 39.3**	**0.0**
	baz=279							
ENTT	**Nioudou**	**0.97**	**317**	*e*P		**Pb**	**11 08 26.6**	**0.0**
	baz=325							
ENTT				*e*S		**Sn**	**11 08 40.0**	**-0.4**
	baz=325							
TWE	**Neicheng**	**0.97**	**324**	P		**Pb**	**11 08 26.4**	**-0.3**
	baz=329							
TWE				*e*S		**Sn**	**11 08 39.9**	**-0.5**
	baz=329							
NNS	**Nan Shan**	**0.98**	**301**	P		**Pb**	**11 08 26.7**	**-0.2**
	baz=285							
NNS				*e*S		**Sg**	**11 08 40.0**	**-0.5**
	baz=285							
EHY	**Hungye**	**0.99**	**245**	*e*P		**Pb**	**11 08 26.7**	**-0.2**
	baz=242							
EHY				*e*S		**Sb**	**11 08 40.0**	**+0.4**
	baz=242							
TWT	**Tachien**	**1.07**	**288**	*e*P		**Pb**	**11 08 28.7**	**+0.2**
	baz=273							
TWT				*e*S		**Sn**	**11 08 43.3**	**+0.2**
	baz=273							
TWF1	**Yuli**	**1.08**	**238**	*e*P		**Pn**	**11 08 28.2**	**-0.4**
	baz=224							
TWF1				*e*S		**Sb**	**11 08 42.7**	**+0.4**
	baz=224							
TWB1	**Santiao Chiao**	**1.11**	**345**	P		**Pb**	**11 08 28.0**	**-0.9**
	baz=331							
TWB1				*e*S		**Sn**	**11 08 43.3**	**-0.4**
	baz=331							
NSK	**Sanguang**	**1.13**	**311**	*e*P		**Pn**	**11 08 28.3**	**-1.0**
	baz=307							
NSK				*e*S		**Sn**	**11 08 44.0**	**-0.4**
	baz=307							
CHKT	**Chengkung**	**1.19**	**226**	*e*P		**Pn**	**11 08 29.2**	**-0.8**
	baz=213							
CHKT				*e*S		**Sb**	**11 08 43.8**	**-1.6**
	baz=213							
NWF	**Wu-fen Shan**	**1.23**	**338**	P		**Pn**	**11 08 30.4**	**-0.2**
	baz=333							
NWF				S		**Sn**	**11 08 46.6**	**-0.2**
	baz=333							
TWA	**Mucha**	**1.23**	**328**	P		**Pb**	**11 08 31.1**	**+0.1**
	baz=325							
TWA				*e*S		**Sn**	**11 08 47.0**	**+0.2**
	baz=325							
SMLT	**Sun Moon Lake**	**1.28**	**268**	P		**Pn**	**11 08 31.4**	**0.0**
	baz=255							
SMLT				*e*S		**Sn**	**11 08 48.1**	**+0.1**
	baz=255							
TAP1	**Taipei**	**1.31**	**328**	*e*P		**Pn**	**11 08 31.6**	**0.0**
	baz=323							
TAP1				*e*S		**Sg**	**11 08 49.5**	**-1.2**
	baz=323							
YUS	**Yu-Shan**	**1.31**	**251**	*e*P		**Pn**	**11 08 32.4**	**+0.3**
	baz=248							
YUS				*e*S		**Sn**	**11 08 48.6**	**-0.7**
	baz=248							
TAP	**Taipei**	**1.32**	**327**	*e*P		**Pn**	**11 08 32.0**	**+0.2**
	baz=323							
TAP				*e*S		**Sg**	**11 08 50.0**	**-1.1**
	baz=323							
TYC	**Yuchr**	**1.32**	**269**	P		**Pn**	**11 08 31.7**	**-0.1**
	baz=266							
IRIF	**Iriomote-Funau**	**1.37**	**73**	P		**Pn**	**11 08 32.9**	**+0.4**
IRIF				*e*S		**Sg**	**11 08 52.8**	**+0.1**
NSTT	**Nanjuang**	**1.37**	**301**	P		**Pb**	**11 08 33.1**	**-0.4**
	baz=284							
NSTT				S		**Sb**	**11 08 51.0**	**+0.4**
	baz=284							
HATJ	**Hateruma jima**	**1.39**	**85**	P		**Pb**	**11 08 33.8**	**+0.1**
HATJ				*e*S		**Sb**	**11 08 52.1**	**+1.1**
ELDTW	**Lidau**	**1.39**	**238**	*e*P		**Pn**	**11 08 32.2**	**-0.7**
	baz=236							
ELDTW				*e*S		**Sn**	**11 08 49.6**	**-1.2**
	baz=236							
TWS1	**Kuangyinshan**	**1.41**	**326**	*e*P		**Pn**	**11 08 33.3**	**+0.2**
	baz=334							
TWS1				*e*S		**Sb**	**11 08 51.9**	**+0.1**
	baz=334							
ALS	**Alishan**	**1.43**	**253**	*e*P		**Pn**	**11 08 34.1**	**+0.5**
	baz=251							
ALS				*e*S		**Sn**	**11 08 52.6**	**+0.5**
	baz=251							
TWQ1	**Liyutan**	**1.45**	**287**	*e*P		**Pb**	**11 08 34.8**	**0.0**
	baz=283							
TWQ1				*e*S		**Sb**	**11 08 54.0**	**+1.0**
	baz=283							
WNT	**Mingjian**	**1.48**	**268**	*e*P		**Pn**	**11 08 34.7**	**+0.7**
	baz=265							
WNT				*e*S		**Sb**	**11 08 54.6**	**+1.0**
	baz=265							
TWY	**Chenhua**	**1.48**	**335**	*e*P		**Pn**	**11 08 34.3**	**+0.2**
	baz=348							
NSY	**Sanyi**	**1.48**	**289**	P		**Pb**	**11 08 35.1**	**-0.2**
	baz=285							
NSY				*e*S		**Sg**	**11 08 55.2**	**-1.1**
	baz=285							
TCU	**Taichung**	**1.50**	**279**	*e*P		**Pn**	**11 08 34.9**	**+0.7**
	baz=275							
TCU				*e*S		**Sb**	**11 08 54.8**	**+0.6**
	baz=275							
CHN5	**Tsauling**	**1.52**	**258**	*e*P		**Pn**	**11 08 35.7**	**+1.0**
	baz=244							
CHN5				*e*S		**Sb**	**11 08 55.2**	**+0.2**
	baz=244							
TWG	**Pinlang**	**1.58**	**226**	*e*P		**Pn**	**11 08 35.0**	**-0.4**
	baz=237							
TWG				*e*S		**Sn**	**11 08 54.3**	**-1.0**
	baz=237							
JKRS	**Kuro-shima**	**1.59**	**79**	P		**Pb**	**11 08 36.8**	**-0.5**
JKRS				*e*S		**Sb**	**11 08 58.3**	**+1.2**
STYT	**Tauyuan**	**1.61**	**242**	*e*P		**Pn**	**11 08 36.0**	**+0.1**
	baz=230							
STYT				*e*S		**Sn**	**11 08 56.8**	**+0.7**
	baz=230							
CHN4	**Tsaushan**	**1.67**	**250**	*e*P		**Pn**	**11 08 37.9**	**+1.3**
	baz=248							
CHN4				*e*S		**Sb**	**11 08 59.8**	**+0.7**
	baz=248							
WTP	**Ta-pu**	**1.69**	**246**	*e*P		**Pn**	**11 08 38.0**	**+1.1**
	baz=245							
WTP				*e*S		**Sb**	**11 08 59.9**	**+0.1**
	baz=245							
PCYT	**Pengchaiyu**	**1.70**	**353**	*e*P		**Pn**	**11 08 36.1**	**-1.0**
	baz=351							
JIJ	**Ishigaki jima**	**1.74**	**75**	P		**Pn**	**11 08 37.5**	**-0.1**
JIJ				*e*S		**Sn**	**11 08 59.3**	**0.0**
CHY	**Chiayi**	**1.77**	**256**	*e*P		**Pn**	**11 08 39.5**	**+1.4**
	baz=254							
CHY				*e*S		**Sb**	**11 09 02.5**	**+0.5**
	baz=254							
CHN1	**Nanshi**	**1.78**	**246**	*e*P		**Pb**	**11 08 40.0**	**-0.5**
	baz=244							
CHN1				*e*S		**Sb**	**11 09 02.8**	**+0.2**
	baz=244							
SGST	**Jiashian**	**1.79**	**242**	*e*P		**Pn**	**11 08 39.7**	**+1.4**
	baz=230							
SGST				*e*S		**Sb**	**11 09 03.0**	**+0.4**
	baz=230							
TWK	**Hsinying**	**1.79**	**249**	*e*P		**Pn**	**11 08 39.4**	**+1.1**
	baz=247							
TWK				*e*S		**Sn**	**11 09 02.3**	**+1.7**
	baz=247							
ECL	**Taimali**	**1.81**	**223**	*e*P		**Pn**	**11 08 39.4**	**+0.8**
	baz=233							
WTCT	**Ta-ch'eng**	**1.84**	**268**	*e*P		**Pn**	**11 08 40.5**	**+1.4**
	baz=266							
WSF	**Szhu**	**1.92**	**262**	*e*P		**Pb**	**11 08 41.9**	**-0.9**
	baz=260							
LAY	**Lan-yu**	**2.00**	**200**	*e*P		**Pn**	**11 08 39.1**	**-2.1**
	baz=210							
LAY				*e*S		**Sn**	**11 09 02.2**	**-3.7**
	baz=210							
SCZT	**Fangliau**	**2.19**	**225**	*e*P		**Pn**	**11 08 45.4**	**+1.6**
	baz=218							
SCZT				*e*S		**Sn**	**11 09 12.2**	**+1.8**
	baz=218							
JTJ	**Tarama**	**2.31**	**72**	*e*S		**Sn**	**11 09 14.4**	**+1.1**
TWK1	**Hengchun**	**2.41**	**215**	*e*P		**Pn**	**11 08 46.4**	**-0.4**
	baz=215							

ISCJB ***16*** *11:09:09.1±0.4,23˚.91N±0˚.02×122˚.31E±0˚.02,h15km±4km,*
Error ellipse: s-maj=3.5km s-min=2.3km az=147.3
TAP ***16*** *11:09:09.8,23˚.99N×122˚.29E,h23km,ML3.5,C*
JMA ***16*** *11:09:11.2±0.3,23˚.95N×122˚.42E,h14km,M3.1*
ISC 16 11:09:07.8±1.1**,23˚.90N**±0˚.02×**122˚.32E**±0˚.02**,h9**km±9km,**
n49,σ0°65/94,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
HWA	**Hwalien**	**0.65**	**277**	*e*P		**Pb**	**11 09 21.8**	**+0.4**
	baz=256							
HWA				*e*S		**Sb**	**11 09 30.9**	**+0.2**
	baz=256							
TWD	**Chiawan**	**0.68**	**285**	P		**Pb**	**11 09 21.7**	**-0.2**
	baz=278							
TWD				S		**Sb**	**11 09 31.4**	**0.0**
	baz=278							
ENA	**Nanau**	**0.74**	**315**	*e*P		**Pg**	**11 09 22.5**	**+0.4**
	baz=322							
ENA				*e*S		**Sb**	**11 09 33.0**	**-0.1**
	baz=322							
ESL	**Shilin**	**0.81**	**264**	P		**Pg**	**11 09 24.0**	**+0.6**
	baz=247							
ESL				S		**Sg**	**11 09 34.9**	**+0.8**
	baz=247							
TWC	**Suao**	**0.82**	**329**	*i* P		**Pg**	**11 09 23.6**	**0.0**
	baz=334							
TWC				*i* S		**Sg**	**11 09 33.3**	**-1.0**
	baz=334							
YOJ	**Yonaguni jima**	**0.84**	**49**	P		**Pb**	**11 09 25.4**	**+0.7**
YOJ				*e*S		**Sg**	**11 09 35.1**	**0.0**
WHF	**Hehuan Shan**	**0.99**	**284**	P		**Pg**	**11 09 27.3**	**+0.4**
	baz=279							
WHF				S		**Sg**	**11 09 40.0**	**+0.2**
	baz=279							
EHY	**Hungye**	**0.99**	**247**	*e*P		**Pb**	**11 09 27.6**	**+0.4**
	baz=242							
EHY				*e*S		**Sb**	**11 09 40.7**	**+0.3**
	baz=242							
ENTT	**Nioudou**	**1.00**	**317**	P		**Pb**	**11 09 27.7**	**+0.3**
	baz=326							
ENTT				*e*S		**Sb**	**11 09 41.2**	**+0.5**
	baz=326							
TWE	**Neicheng**	**1.01**	**324**	P		**Pb**	**11 09 27.5**	**+0.1**
	baz=330							
TWE				S		**Sg**	**11 09 40.3**	**+0.1**
	baz=330							
NNS	**Nan Shan**	**1.01**	**302**	P		**Pb**	**11 09 27.8**	**+0.2**
	baz=286							
NNS				*e*S		**Sg**	**11 09 40.2**	**-0.3**
	baz=286							
TWF1	**Yuli**	**1.08**	**240**	*e*P		**Pg**	**11 09 29.1**	**+0.5**
	baz=223							
TWF1				*e*S		**Sg**	**11 09 43.2**	**+0.4**
	baz=223							
TWT	**Tachien**	**1.10**	**289**	P		**Pb**	**11 09 29.4**	**+0.3**
	baz=273							
TWT				S		**Sb**	**11 09 44.0**	**+0.4**
	baz=273							
TWB1	**Santiao Chiao**	**1.14**	**345**	P		**Pg**	**11 09 29.0**	**-0.7**
	baz=331							
TWB1				*e*S		**Sb**	**11 09 45.0**	**+0.3**
	baz=331							
NSK	**Sanguang**	**1.16**	**312**	P		**Pg**	**11 09 29.9**	**-0.3**
	baz=295							
NSK				S		**Sg**	**11 09 44.6**	**-0.7**
	baz=295							
CHKT	**Chengkung**	**1.18**	**228**	*e*P		**Pb**	**11 09 30.0**	**-0.5**
	baz=213							
CHKT				*e*S		**Sg**	**11 09 44.3**	**-1.6**
	baz=213							
NWF	**Wu-fen Shan**	**1.26**	**337**	P		**Pn**	**11 09 31.4**	**-0.3**
	baz=334							
NWF				S		**Sb**	**11 09 47.7**	**-0.5**
	baz=334							
TWA	**Mucha**	**1.26**	**328**	P		**Pg**	**11 09 32.4**	**+0.3**
	baz=325							
TWA				*e*S		**Sb**	**11 09 48.3**	**+0.1**
	baz=325							
SMLT	**Sun Moon Lake**	**1.29**	**269**	P		**Pn**	**11 09 32.2**	**0.0**
	baz=255							
SMLT				S		**Sb**	**11 09 48.3**	**-0.9**
	baz=255							
YUS	**Yu-Shan**	**1.31**	**252**	*e*P		**Pn**	**11 09 33.2**	**+0.3**
	baz=248							
YUS				S		**Sb**	**11 09 49.6**	**-0.6**
	baz=248							
TYC	**Yuchr**	**1.33**	**270**	*e*P		**Pn**	**11 09 32.5**	**-0.1**
	baz=256							
TYC				*e*S		**Sb**	**11 09 49.2**	**-1.1**
	baz=256							
TAP1	**Taipei**	**1.34**	**328**	*e*P		**Pn**	**11 09 33.1**	**+0.4**
	baz=324							
TAP1				*e*S		**Sb**	**11 09 50.5**	**+0.1**
	baz=324							
TAP	**Taipei**	**1.35**	**327**	*e*P		**Pn**	**11 09 33.0**	**+0.2**
	baz=325							
IRIF	**Iriomote-Funau**	**1.36**	**71**	P		**Pg**	**11 09 34.3**	**+0.3**
IRIF				*e*S		**Sb**	**11 09 51.2**	**+0.1**
HATJ	**Hateruma jima**	**1.37**	**83**	P		**Pb**	**11 09 34.0**	**+0.3**
HATJ				*e*S		**Sg**	**11 09 51.8**	**-0.2**
ELDTW	**Lidau**	**1.39**	**239**	*e*P		**Pn**	**11 09 33.5**	**0.0**
	baz=236							
ELDTW				*e*S		**Sb**	**11 09 50.3**	**-1.5**
	baz=236							
NSTT	**Nanjuang**	**1.40**	**301**	P		**Pb**	**11 09 34.2**	**+0.1**
	baz=285							
NSTT				S		**Sb**	**11 09 52.0**	**-0.2**
	baz=285							
ALS	**Alishan**	**1.44**	**255**	*e*P		**Pn**	**11 09 34.8**	**+0.4**
	baz=251							
ALS				*e*S		**Sn**	**11 09 52.7**	**-0.9**
	baz=251							
TWS1	**Kuangyinshan**	**1.45**	**326**	P		**Pn**	**11 09 34.1**	**0.0**
	baz=335							
TWS1				*e*S		**Sn**	**11 09 52.9**	**-0.4**
	baz=335							
TWQ1	**Liyutan**	**1.48**	**288**	P		**Pb**	**11 09 35.8**	**+0.3**
	baz=284							
TWQ1				*i* S		**Sn**	**11 09 54.4**	**+0.3**
	baz=284							
WNT	**Mingjian**	**1.49**	**269**	*e*P		**Pb**	**11 09 36.5**	**+0.7**
	baz=266							
NSY	**Sanyi**	**1.51**	**290**	*e*P		**Pb**	**11 09 36.6**	**+0.6**
	baz=287							
TWY	**Chenhua**	**1.51**	**335**	P		**Pn**	**11 09 35.5**	**+0.3**
	baz=332							
TWY				*e*S		**Sn**	**11 09 53.2**	**-1.8**
	baz=332							
TCU	**Taichung**	**1.52**	**280**	*e*P		**Pg**	**11 09 37.1**	**+0.1**
	baz=276							
TCU				*e*S		**Sg**	**11 09 57.0**	**+0.3**
	baz=276							
CHN5	**Tsauling**	**1.53**	**259**	*e*P		**Pn**	**11 09 35.9**	**+0.5**
	baz=244							
CHN5				*e*S		**Sn**	**11 09 55.2**	**-0.4**
	baz=244							
TWG	**Pinlang**	**1.57**	**227**	*e*P		**Pn**	**11 09 35.5**	**-0.4**
	baz=237							
TWG				*e*S		**Sn**	**11 09 55.0**	**-1.4**
	baz=237							
JKRS	**Kuro-shima**	**1.58**	**78**	P		**Pb**	**11 09 37.4**	**+0.1**
JKRS				*e*S		**Sn**	**11 09 57.0**	**+0.3**
STYT	**Tauyuan**	**1.61**	**243**	*e*P		**Pn**	**11 09 36.1**	**-0.4**
	baz=229							
STYT				*e*S		**Sn**	**11 09 57.4**	**0.0**
	baz=229							
CHN4	**Tsaushan**	**1.67**	**251**	*e*P		**Pb**	**11 09 38.8**	**0.0**
	baz=248							
CHN4				*e*S		**Sb**	**11 10 00.2**	**+0.2**
	baz=248							
WTP	**Ta-pu**	**1.69**	**248**	*e*P		**Pn**	**11 09 38.4**	**+0.7**
	baz=245							
WTP				*e*S		**Sn**	**11 10 00.3**	**+0.9**
	baz=245							
JIJ	**Ishigaki jima**	**1.73**	**74**	P		**Pb**	**11 09 39.5**	**-0.3**
JIJ				*e*S		**Sn**	**11 10 00.9**	**+0.5**
PCYT	**Pengchaiyu**	**1.73**	**353**	*e*P		**Pn**	**11 09 38.1**	**0.0**
	baz=335							
PCYT				*e*S		**Sn**	**11 09 59.4**	**-1.0**
	baz=335							
SGST	**Jiashian**	**1.79**	**243**	*e*P		**Pn**	**11 09 40.0**	**+1.0**
	baz=229							
SGST				*e*S		**Sn**	**11 10 03.1**	**+1.3**
	baz=229							
CHN1	**Nanshi**	**1.79**	**247**	*e*P		**Pn**	**11 09 39.9**	**+1.0**
	baz=244							
CHN1				*e*S		**Sn**	**11 10 02.9**	**+1.0**
	baz=244							
ECL	**Taimali**	**1.81**	**224**	*e*P		**Pn**	**11 09 40.1**	**+0.9**
	baz=223							
ECL				*e*S		**Sn**	**11 10 01.2**	**-0.9**
	baz=223							
LAY	**Lan-yu**	**1.98**	**201**	*e*P		**Pn**	**11 09 41.6**	**-0.1**
	baz=200							
SCZT	**Fangliau**	**2.18**	**226**	*e*P		**Pb**	**11 09 46.9**	**-0.6**
	baz=218							
SCZT				*e*S		**Sn**	**11 10 12.8**	**+1.3**
	baz=218							
JTJ	**Tarama**	**2.30**	**71**	P		**Pb**	**11 09 48.6**	**-0.9**
JTJ				*e*S		**Sn**	**11 10 15.5**	**+1.1**
TWK1	**Hengchun**	**2.40**	**216**	*e*P		**Pb**	**11 09 49.8**	**-1.3**
	baz=216							
TWK1				*e*S		**Sn**	**11 10 17.3**	**+0.5**
	baz=216							

IDC 16 11:10:08.2±1.9**,9˚.05N×92˚.52E,h0**km**,mb3.6**/4**,mb1 3.8**/5**,**
mb1mx3.5/26,mbtmp3.6/5,ML4.0/1,Error ellipse:
s-maj=68.1km s-min=23.0km az=71.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CMAR	**Chiang Mai Arr**	**11.24**	**33**	P		**Pn**	**11 12 52.1**	**+1.9**
	0.3

NPS	**Neapolis**	**1.14**	**5**	*e*PG	**Pn**	**11 10 46.7**	**-1.6**
NPS	**Neapolis**	**1.14**	**5**	*e*Pg	**Pn**	**11 10 46.7**	**-1.6**
ZKR	**Zakros**	**1.15**	**31**	*e*PB	**Pn**	**11 10 47.5**	**-1.0**
ZKR	**Zakros**	**1.15**	**31**	*e*Pb	**Pn**	**11 10 47.5**	**-1.0**
IDI	**Anoyia**	**1.25**	**337**	*e*PG	**Pn**	**11 10 48.9**	**-1.1**
IDI				*e*SB	**Sg**	**11 11 08.8**	**+1.0**
IDI	**Anoyia**	**1.25**	**337**	*e*Pg	**Pn**	**11 10 48.9**	**-1.1**
IDI				*e*Sb	**Sg**	**11 11 08.8**	**+1.0**
GVD	**Gavdhos**	**1.35**	**302**	*e*PB	**Pn**	**11 10 50.9**	**-0.4**
GVD	**Gavdhos**	**1.35**	**302**	*e*Pb	**Pn**	**11 10 50.9**	**-0.4**
VAM	**Vamos**	**1.66**	**321**	*e*PG	**Pb**	**11 10 56.2**	**-1.0**
VAM	**Vamos**	**1.66**	**321**	*e*Pg	**Pb**	**11 10 56.2**	**-1.0**
KARN	**Karanos**	**1.81**	**315**	*e*PN	**Pb**	**11 10 58.9**	**-0.9**
KARN	**Karanos**	**1.81**	**315**	*e*Pn	**Pb**	**11 10 58.9**	**-0.9**
KARP	**Karpathos**	**1.98**	**44**	*e*PN	**Pb**	**11 11 01.4**	**-1.3**
KARP	**Karpathos**	**1.98**	**44**	*e*Pn	**Pb**	**11 11 01.4**	**-1.3**
ANKY	**Antikythira Is**	**2.49**	**315**	*e*PN	**Pb**	**11 11 08.8**	**-2.7**
ANKY	**Antikythira Is**	**2.49**	**315**	*e*Pn	**Pb**	**11 11 08.8**	**-2.7**
KYTH	**Kithira**	**2.94**	**318**	*e*PN	**Pn**	**11 11 15.6**	**+2.5**
KYTH	**Kithira**	**2.94**	**318**	*e*Pn	**Pn**	**11 11 15.6**	**+2.5**
ITM	**Ithomi**	**4.20**	**317**	*e*PN	**Pn**	**11 11 32.7**	**+2.3**
ITM	**Ithomi**	**4.20**	**317**	*e*Pn	**Pn**	**11 11 32.7**	**+2.3**
MMAI	**Mount Meron Ar**	**8.35**	**95**	P	**Pn**	**11 12 30.5**	**+3.0**
	1.8nm,0.3s,baz=283,slow=13,SNR=2.9						
BRTR	**Keskin Array B**	**8.59**	**47**	P	Pn	11 12 34.8	+4.0
	0.1nm,0.3s,baz=230,slow=13,SNR=3.2						
EIL	**Elat**	**9.19**	**116**	P	**Pn**	**11 12 41.5**	**+2.6**
	0.4nm,0.3s,baz=315,slow=11,SNR=3.4						
EIL				S	**Sn**	**11 14 18.1**	**-4.0**
	0.3nm,0.3s,baz=25,slow=17,SNR=3.0						
ASF	**Jabal al Asfar**	**9.77**	**98**	LR	LR	11 18 30.3	
	comp=Z,58nm,18.5s,baz=314,slow=49						
KBZ	**Khabaz**	**16.57**	**50**	P	**P**	**11 14 21.0**	**0.0**
	0.1nm,0.3s,baz=225,slow=4.3,SNR=4.1						
GERES	**GERESS Array B**	**17.12**	**333**	P	**P**	**11 14 26.6**	**-0.6**
	0.3nm,0.3s,baz=150,slow=14,SNR=6.5						
ESDC	**Sonseca Array**	**24.13**	**292**	P	**P**	**11 15 41.3**	**-0.9**
	0.2nm,0.4s,baz=94,slow=9.8,SNR=3.5						
NOA	**NORSAR Array B**	**28.46**	**345**	P	**P**	**11 16 20.8**	**-0.2**
	0.4nm,0.7s,baz=155,slow=8.9,SNR=2.1						
EKA	**Eskdalemuir Ar**	**29.04**	**326**	P	**P**	**11 16 26.1**	**0.0**
	0.1nm,0.3s,baz=109,slow=9.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**30.05**	**232**	P	**P**	**11 16 34.3**	**-1.2**
	0.7nm,0.9s,baz=42,slow=7.6,SNR=3.8						
KURBB	**Kurchatov Arra**	**41.57**	**50**	P	**P**	**11 18 14.2**	**+0.5**
	1.1nm,0.7s,baz=276,slow=8.7,SNR=4.3						
MKAR	**Makanchi Array**	**44.13**	**56**	P	**P**	**11 18 35.2**	**+0.7**
	1.4nm,0.6s,baz=276,slow=6.8,SNR=14						
ZALV	**Zalesovo Beam**	**45.53**	**45**	P	**P**	**11 18 44.8**	**-0.8**
	0.7nm,0.4s,baz=270,slow=7.1,SNR=3.3						
SONM	**Songino Array**	**59.94**	**50**	P	**P**	**11 20 32.9**	**+0.5**
	0.3nm,0.4s,baz=282,slow=7.2,SNR=3.2						
ILAR	**Eielson Array**	**81.24**	**357**	P	**P**	**11 22 42.9**	**+1.1**
	0.2nm,0.5s,baz=5.0,slow=3.1,SNR=3.8						

IDC 16 11:42:55.2±2.3, 46°.65S×166°.48E, h0km, mb3.6/2, mb1 4.0/4, mb1mx3.8/15, mbtmp3.8/4, ML3.8/2, MS3.7/1, Ms1 3.7/1, ms1mx3.0/20, Error ellipse: s-maj=62.1km s-min=25.4km az=160.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**4.37**	**49**	Pn	Pn	11 44 02.4	-0.4
	6.5nm,0.3s,baz=197,slow=3.4,SNR=18						
RPZ				Sn	Sn	11 44 54.3	-0.1
	11nm,0.3s,baz=41,slow=20,SNR=8.8						
URZ	**Urewera**	**11.48**	**47**	Pn	Pn	11 45 41.6	+1.3
	0.4nm,0.3s,baz=231,slow=6.5,SNR=4.2						
VNDA	**Vanda**	**31.03**	**182**	LR	LR	12 00 09.6	
	comp=Z,134nm,21.8s,baz=140,slow=33						
ASAR	**Alice Springs**	**34.76**	**300**	P	P	11 49 47.1	-0.1
	0.7nm,0.6s,baz=132,slow=8.4,SNR=6.8						
WRA	**Warramunga Arr**	**37.39**	**304**	P	P	11 50 09.3	-0.5
	0.7nm,0.9s,baz=137,slow=8.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**144.23**	**206**	PKP	PKPab	12 02 30.8	-0.3
	0.4nm,0.6s,baz=138,slow=2.6,SNR=5.6						
BRTR	**Keskin Array B**	**145.36**	**276**	PKPbc	PKPab	12 02 34.9	+0.1
	1.7nm,0.8s,baz=144,slow=3.7,SNR=6.1						

IDC 16 12:19:12.5±2.2, 18°.79S×68°.93W, h134km±17km, mb3.4/3, mb1 3.4/6, mb1mx3.3/20, mbtmp3.4/6, Error ellipse: s-maj=57.1km s-min=19.6km az=109.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.60**	**17**	P	Pn	12 19 55.4	+0.4
	6.8nm,0.3s,baz=224,slow=7.1,SNR=195						
LPAZ				S	Sn	12 20 26.8	-0.7
	0.6nm,0.3s,baz=257,slow=19,SNR=2.9						
LVC	**Limon Verde**	**3.81**	**180**	P	Pn	12 20 09.1	-1.0
	2.2nm,0.3s,baz=342,slow=9.0,SNR=18						
LVC				S	Sn	12 20 49.0	-5.8
	6.5nm,0.3s,baz=163,slow=19,SNR=4.0						
SIV	**San Ignacio**	**8.00**	**71**	P	Pn	12 21 05.6	-0.4
	2.1nm,0.3s,baz=265,slow=12,SNR=29						
BDFB	**Brasilia**	**20.22**	**84**	P	Pn	12 23 41.1	+0.6
	3.3nm,0.5s,baz=34,slow=27,SNR=3.5						
PLCA	**Paso Flores**	**21.92**	**183**	P	P	12 23 56.1	+1.0
	1.6nm,0.9s,baz=349,slow=12,SNR=3.1						
DBIC	**Dimbokro**	**68.00**	**74**	P	P	12 29 57.7	0.0
	1.6nm,0.5s,baz=220,slow=7.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**76.48**	**71**	P	P	12 30 47.9	-0.2
	0.5nm,0.7s,baz=241,slow=5.2,SNR=6.6						

IDC 16 12:32:16.6±2.5, 17°.26S×174°.85W, h172km±25km, mb3.5/7, mb1 3.7/8, mb1mx3.5/21, mbtmp3.5/8, Error ellipse: s-maj=30.0km s-min=16.3km az=132.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.46**	**42**	P	Pn	12 33 23.8	+0.3
	12nm,0.3s,baz=249,slow=8.6,SNR=32						
AFI				S	Sn	12 34 11.0	-4.8
	65nm,0.3s,baz=44,slow=24,SNR=16						
URZ	**Urewera**	**22.08**	**197**	P	P	12 36 56.5	-1.3
	2.5nm,0.3s,baz=45,slow=18,SNR=11						
STKA	**Stephens Creek**	**41.92**	**241**	P	P	12 39 50.8	+0.3
	3.4nm,0.8s,baz=67,slow=6.8,SNR=6.5						
WRA	**Warramunga Arr**	**48.09**	**258**	P	P	12 40 38.8	-0.5
	0.5nm,0.5s,baz=99,slow=6.8,SNR=27						
ASAR	**Alice Springs**	**48.23**	**253**	P	P	12 40 40.7	+0.3
	5.5nm,0.6s,baz=88,slow=8.5,SNR=80						
VNDA	**Vanda**	**61.40**	**186**	P	P	12 42 14.9	+0.9
	0.8nm,0.8s,baz=1.8,slow=7.1,SNR=5.0						
ILAR	**Eielson Array**	**84.53**	**12**	P	P	12 44 29.4	-0.5
	0.4nm,0.6s,baz=228,slow=6.4,SNR=6.9						
PDAR	**Pinedale Array**	**84.57**	**42**	P	P	12 44 30.9	0.0
	0.4nm,0.8s,baz=215,slow=3.0,SNR=3.1						

IDC ***16*** *12:46:41.2±0.7, 34°.08N×25°.39E, h0km, mb4.1/18, mb1 4.2/25, mb1mx4.1/33, mbtmp4.0/25, ML3.9/6, Error ellipse: s-maj=15.9km s-min=13.9km az=30.0*

ATH ***16*** *12:46:43.4, 34°.05N×25°.39E, h16km, MD3.6/14*

ISCJB ***16*** *12:46:44.1±0.5, 33°.97N±0°.03×25°.47E±0°.02, h34km±4km, mb4.1/34, Error ellipse: s-maj=5.5km s-min=2.8km az=20.1*

MOS ***16*** *12:46:44.8±1.0, 34°.06N×25°.42E, h33km, mb4.3/21, Error ellipse: s-maj=11.5km s-min=6.3km az=80.4*

CSEM ***16*** *12:46:44.3±0.2, 33°.94N×25°.44E, h20km, mb4.2/16, Error ellipse: s-maj=5.8km s-min=2.8km az=29.0*

THE ***16*** *12:46:45.1, 34°.00N×25°.37E, h24km±36km, ML3.5/2, Error ellipse: s-maj=42.8km s-min=3.5km az=171.0*

ISC 16 12:46:44.0±2.6, 34°.00N±0°.05×25°.46E±0°.03, h17km±16km, n255, σ1$21/308, mb4.1/33, 2C, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.90**	**12**	*e*PN	**Pb**	**12 46 59.8**	**-1.3**
XRY	**Khrisi**	**0.90**	**12**	*e*Pn	**Pb**	**12 46 59.8**	**-1.3**
SIVA	**Sivas**	**1.15**	**332**	P	**Pn**	**12 47 03.9**	**-1.4**
SIVA				S	**Sb**	**12 47 19.2**	**-0.9**
SIVA	**Sivas**	**1.15**	**332**	*e*PN	**Pn**	**12 47 04.3**	**-1.0**
SIVA				*e*SN	**Sb**	**12 47 19.2**	**-0.9**
SIVA	**Sivas**	**1.15**	**332**	P	**Pn**	**12 47 03.9**	**-1.4**
SIVA	**Sivas**	**1.15**	**332**	*e*Pn	**Pn**	**12 47 04.3**	**-1.0**
SIVA				S	**Sb**	**12 47 19.2**	**-0.9**
LAST	**Lasithi**	**1.16**	**1**	P	**Pn**	**12 47 04.0**	**-1.6**
LAST				S	**Sb**	**12 47 20.2**	**-0.3**
LAST	**Lasithi**	**1.16**	**1**	*e*PN	**Pn**	**12 47 04.3**	**-1.3**
LAST				*e*SN	**Sb**	**12 47 20.0**	**-0.5**
LAST	**Lasithi**	**1.16**	**1**	P	**Pn**	**12 47 04.0**	**-1.6**
LAST	**Lasithi**	**1.16**	**1**	*e*Pn	**Pn**	**12 47 04.3**	**-1.3**
LAST				*e*Sn	**Sb**	**12 47 20.0**	**-0.5**
NPS	**Neapolis**	**1.27**	**6**	P	**Pn**	**12 47 06.2**	**-0.8**
NPS	**Neapolis**	**1.27**	**6**	*e*PN	**Pn**	**12 47 06.2**	**-0.8**
NPS	**Neapolis**	**1.27**	**6**	P	**Pn**	**12 47 06.2**	**-0.8**
IDI	**Anoyia**	**1.37**	**340**	P	**Pn**	**12 47 07.6**	**-0.8**
IDI				S	**Sn**	**12 47 23.4**	**-2.9**
IDI	**Anoyia**	**1.37**	**340**	*e*PN	**Pn**	**12 47 08.1**	**-0.3**
IDI	**Anoyia**	**1.37**	**340**	P	**Pn**	**12 47 07.6**	**-0.8**
IDI	**Anoyia**	**1.37**	**340**	*e*Pn	**Pn**	**12 47 08.1**	**-0.3**
IDI				S	**Sn**	**12 47 23.4**	**-2.9**
VAM	**Vamos**	**1.75**	**324**	P	**Pn**	**12 47 13.8**	**+0.2**
VAM	**Vamos**	**1.75**	**324**	*e*PN	**Pn**	**12 47 14.0**	**+0.4**
VAM				*e*SN	**Sn**	**12 47 36.3**	**+0.8**
VAM	**Vamos**	**1.75**	**324**	*e*Pn	**Pn**	**12 47 14.0**	**+0.4**
VAM				*e*Sn	**Sn**	**12 47 36.3**	**+0.8**
KARN	**Karanos**	**1.89**	**318**	*e*PN	**Pn**	**12 47 16.2**	**+0.6**
KARN				*e*SN	**Sn**	**12 47 39.6**	**+0.5**
KARN	**Karanos**	**1.89**	**318**	*e*Pn	**Pn**	**12 47 16.2**	**+0.6**
KARN				*e*Sn	**Sn**	**12 47 39.6**	**+0.5**
KARP	**Karpathos**	**2.08**	**42**	P	**Pb**	**12 47 20.3**	**-1.1**
KARP				S	**Sb**	**12 47 47.6**	**+0.6**
KARP	**Karpathos**	**2.08**	**42**	*e*PN	**Pn**	**12 47 19.7**	**+1.5**
KARP				*e*SN	**Sb**	**12 47 46.4**	**-0.6**
KARP	**Karpathos**	**2.08**	**42**	*e*Pn	**Pn**	**12 47 19.7**	**+1.5**
KARP	**Karpathos**	**2.08**	**42**	P	**Pb**	**12 47 20.3**	**-1.1**
KARP				*e*Sn	**Sb**	**12 47 46.4**	**-0.6**
KARP				S	**Sb**	**12 47 47.6**	**+0.6**
SANT	**Santorini**	**2.37**	**360**	*e*PN	**Pn**	**12 47 23.0**	**+0.9**
SANT	**Santorini**	**2.37**	**360**	*e*Pn	**Pn**	**12 47 23.0**	**+0.9**
ANKY	**Antikythira Is**	**2.58**	**317**	P	**Pn**	**12 47 25.8**	**+0.9**
ANKY	**Antikythira Is**	**2.58**	**317**	*e*PB	**Pn**	**12 47 26.1**	**+1.2**
ANKY	**Antikythira Is**	**2.58**	**317**	P	**Pn**	**12 47 25.8**	**+0.9**
ANKY	**Antikythira Is**	**2.58**	**317**	*e*Pb	**Pn**	**12 47 26.1**	**+1.2**
NIS1	**Nisyros Isl.**	**2.95**	**28**	*e*PN	**Pn**	**12 47 31.7**	**+1.6**
NIS1	**Nisyros Isl.**	**2.95**	**28**	*e*Pn	**Pn**	**12 47 31.7**	**+1.6**
KYTH	**Kithira**	**3.02**	**320**	*e*PN	**Pn**	**12 47 32.4**	**+1.3**
KYTH	**Kithira**	**3.02**	**320**	*e*Pn	**Pn**	**12 47 32.4**	**+1.3**
APE	**Apeiranthos**	**3.07**	**1**	*e*PN	**Pn**	**12 47 32.6**	**+0.9**
APE				*e*SN	**Sn**	**12 48 09.2**	**+1.2**
APE	**Apeiranthos**	**3.07**	**1**	*e*Pn	**Pn**	**12 47 32.6**	**+0.9**
APE				*e*Sn	**Sn**	**12 48 09.2**	**+1.2**
ARG	**Arkhangelos**	**3.11**	**44**	*e*PN	**Pn**	**12 47 34.7**	**+2.4**
ARG				*e*SN	**Sn**	**12 48 11.6**	**+2.6**
ARG	**Arkhangelos**	**3.11**	**44**	*e*Pn	**Pn**	**12 47 34.7**	**+2.4**
ARG				*e*Sn	**Sn**	**12 48 11.6**	**+2.6**
VLI	**Veliai**	**3.41**	**323**	P	**Pn**	**12 47 36.8**	**+0.4**
VLI				S	**Sn**	**12 48 13.3**	**-3.2**
VLI	**Veliai**	**3.41**	**323**	*e*PN	**Pn**	**12 47 36.8**	**+0.4**
VLI				*e*SN	**Sn**	**12 48 17.1**	**+0.6**
VLI	**Veliai**	**3.41**	**323**	*e*Pn	**Pn**	**12 47 36.8**	**+0.4**
VLI				S	**Sn**	**12 48 13.3**	**-3.2**
VLI				*e*Sn	**Sn**	**12 48 17.1**	**+0.6**
DYR	**Agios Nikonas**	**3.76**	**318**	*e*PN	**Pn**	**12 47 42.4**	**+1.2**
DYR	**Agios Nikonas**	**3.76**	**318**	*e*Pn	**Pn**	**12 47 42.4**	**+1.2**
DALY	**Dalyan (Mu˘la**	**3.84**	**42**	*e*P	**Pn**	**12 47 43.9**	**+1.7**
TURN	**Turunc**	**3.85**	**41**	*i* P	**Pn**	**12 47 40.3**	**-2.1**
TURN	**Turunc**	**3.85**	**41**	*i* P	**Pn**	**12 47 40.3**	**-2.1**
SMG	**Samos**	**3.87**	**16**	*e*PN	**Pn**	**12 47 43.7**	**+1.0**
SMG				*e*SN	**Sn**	**12 48 28.5**	**+0.7**
SMG	**Samos**	**3.87**	**16**	*e*Pn	**Pn**	**12 47 43.7**	**+1.0**
SMG				*e*Sn	**Sn**	**12 48 28.5**	**+0.7**
YER	**Yerkesik**	**3.88**	**35**	*e*P	**Pn**	**12 47 44.3**	**+1.3**
FETY	**Fethiye**	**3.96**	**47**	*e*P	**Pn**	**12 47 44.3**	**+0.4**
AKAS	**Kas**	**4.06**	**56**	*i* P	**Pn**	**12 47 46.6**	**+1.1**
AKAS				*i* S	**Sn**	**12 48 31.5**	**-1.3**
AKAS	**Kas**	**4.06**	**56**	*i* P	**Pn**	**12 47 46.6**	**+1.1**
AKAS				*i* S	**Sn**	**12 48 31.5**	**-1.3**
AYDN	**Tasoluk**	**4.15**	**28**	*i* P	**Pn**	**12 47 48.4**	**+1.8**
AYDN	**Tasoluk**	**4.15**	**28**	*i* P	**Pn**	**12 47 48.4**	**+1.8**
PYL	**PYLOS**	**4.19**	**315**	*e*PN	**Pn**	**12 47 48.3**	**+1.1**
PYL	**PYLOS**	**4.19**	**315**	*e*Pn	**Pn**	**12 47 48.3**	**+1.1**
VLX	**Vlachokerasia**	**4.20**	**324**	*e*PN	**Pn**	**12 47 48.2**	**+0.9**
VLX	**Vlachokerasia**	**4.20**	**324**	*e*Pn	**Pn**	**12 47 48.2**	**+0.9**
PTL	**Penteli**	**4.25**	**343**	*e*PN	**Pn**	**12 47 48.5**	**+0.6**
PTL	**Penteli**	**4.25**	**343**	*e*Pn	**Pn**	**12 47 48.5**	**+0.6**
ITM	**Ithomi**	**4.29**	**319**	*e*PN	**Pn**	**12 47 49.9**	**+1.4**
ITM				*e*SN	**Sn**	**12 48 37.7**	**-0.4**
ITM	**Ithomi**	**4.29**	**319**	*e*Pn	**Pn**	**12 47 49.9**	**+1.4**
ITM				*e*Sn	**Sn**	**12 48 37.7**	**-0.4**
LTK	**Loutraki**	**4.50**	**334**	*e*PN	**Pn**	**12 47 52.5**	**+1.1**
LTK				*e*SN	**Sn**	**12 48 43.4**	**+0.1**
LTK	**Loutraki**	**4.50**	**334**	*e*Pn	**Pn**	**12 47 52.5**	**+1.1**
LTK				*e*Sn	**Sn**	**12 48 43.4**	**+0.1**
IZM	**Izmir**	**4.63**	**18**	*e*P	**Pn**	**12 47 53.7**	**+0.6**
GOLH	**Golhisar**	**4.65**	**45**	*i* P	**Pn**	**12 47 54.9**	**+1.4**
GOLH				*i* S	**Sn**	**12 48 46.9**	**-0.2**
GOLH	**Golhisar**	**4.65**	**45**	*i* P	**Pn**	**12 47 54.9**	**+1.4**
GOLH				*i* S	**Sn**	**12 48 46.9**	**-0.2**
GUR	**Goura**	**4.67**	**328**	*e*PN	**Pn**	**12 47 54.1**	**+0.2**
GUR				*e*SN	**Sn**	**12 48 47.1**	**-0.7**
GUR	**Goura**	**4.67**	**328**	*e*Pn	**Pn**	**12 47 54.1**	**+0.2**
GUR				*e*Sn	**Sn**	**12 48 47.1**	**-0.7**
DNZL	**Cakiroluk**	**4.70**	**37**	*i* P	**Pn**	**12 47 55.7**	**+1.5**
DNZL	**Cakiroluk**	**4.70**	**37**	*i* P	**Pn**	**12 47 55.7**	**+1.5**
KLV	**Kalavryta, Ach**	**4.85**	**327**	*e*PN	**Pn**	**12 47 56.3**	**+0.1**
KLV	**Kalavryta, Ach**	**4.85**	**327**	*e*Pn	**Pn**	**12 47 56.3**	**+0.1**
KORT	**Korkueli**	**4.99**	**52**	*i* P	**Pn**	12 48 03.5	+5.3
KORT				*i* S	**Sn**	**12 48 57.1**	**+1.6**
KORT	**Korkueli**	**4.99**	**52**	*i* P	**Pn**	12 48 03.5	+5.3
KORT				*i* S	**Sn**	**12 48 57.1**	**+1.6**
LKR	**Lokris**	**5.05**	**338**	*e*PN	**Pn**	**12 48 00.2**	**+1.3**
LKR	**Lokris**	**5.05**	**338**	*e*Pn	**Pn**	**12 48 00.2**	**+1.3**
LAKA	**Lakka**	**5.09**	**327**	*e*PN	**Pn**	**12 48 01.0**	**+1.5**
LAKA				*e*SN	**Sn**	**12 48 57.5**	**-0.3**
LAKA	**Lakka**	**5.09**	**327**	*e*Pn	**Pn**	**12 48 01.0**	**+1.5**
LAKA				*e*Sn	**Sn**	**12 48 57.5**	**-0.3**
KALE	**Kalithea**	**5.14**	**329**	*e*PN	**Pn**	**12 48 01.3**	**+1.0**
KALE	**Kalithea**	**5.14**	**329**	*e*Pn	**Pn**	**12 48 01.3**	**+1.0**
TRIZ	**Trizonia**	**5.15**	**329**	*e*PN	**Pn**	**12 48 01.6**	**+1.3**
TRIZ				*e*SN	**Sn**	**12 48 58.6**	**-0.7**
TRIZ	**Trizonia**	**5.15**	**329**	*e*Pn	**Pn**	**12 48 01.6**	**+1.3**
TRIZ				*e*Sn	**Sn**	**12 48 58.6**	**-0.7**
RLS	**Riolos of Patr**	**5.19**	**323**	*e*PN	**Pn**	**12 48 02.1**	**+1.3**
RLS				*e*SN	**Sn**	**12 49 00.2**	**0.0**
RLS	**Riolos of Patr**	**5.19**	**323**	*e*Pn	**Pn**	**12 48 02.1**	**+1.3**
RLS				*e*Sn	**Sn**	**12 49 00.2**	**0.0**
KULA	**Kula-Manisa**	**5.20**	**29**	*e*P	**Pn**	**12 48 01.9**	**+0.9**
EFP	**Efpalio**	**5.27**	**328**	*e*PN	**Pn**	**12 48 03.5**	**+1.5**
EFP				*e*SN	**Sn**	**12 49 01.9**	**-0.5**
EFP	**Efpalio**	**5.27**	**328**	*e*Pn	**Pn**	**12 48 03.5**	**+1.5**
EFP				*e*Sn	**Sn**	**12 49 01.9**	**-0.5**
PRK	**Paraskevi**	**5.28**	**7**	*e*PN	**Pn**	**12 48 03.6**	**+1.5**
PRK	**Paraskevi**	**5.28**	**7**	*e*Pn	**Pn**	**12 48 03.6**	**+1.5**
AOS	**Alonnisos**	**5.32**	**347**	*e*PN	**Pn**	**12 48 03.5**	**+0.9**
AOS	**Alonnisos**	**5.32**	**347**	*e*Pn	**Pn**	**12 48 03.5**	**+0.9**
NEO	**Neokhori**	**5.60**	**342**	*e*PN	**Pn**	**12 48 07.5**	**+1.0**
NEO	**Neokhori**	**5.60**	**342**	*e*Pn	**Pn**	**12 48 07.5**	**+1.0**
AGG	**Agios Georgios**	**5.61**	**334**	*e*PN	**Pn**	**12 48 08.8**	**+2.1**
AGG	**Agios Georgios**	**5.61**	**334**	*e*Pn	**Pn**	**12 48 08.8**	**+2.1**
SUTC	**Sutluce-Ispart**	**5.69**	**51**	*e*P	Pn	12 48 11.0	+3.2
EVR	**Evrytania**	**5.72**	**330**	*e*PN	**Pn**	**12 48 09.7**	**+1.4**
EVR				*e*SN	**Sn**	**12 49 13.0**	**-0.6**
EVR	**Evrytania**	**5.72**	**330**	*e*Pn	**Pn**	**12 48 09.7**	**+1.4**
EVR				*e*Sn	**Sn**	**12 49 13.0**	**-0.6**
VLS	**Valsamata**	**5.74**	**318**	*e*PN	**Pn**	**12 48 09.9**	**+1.5**
VLS				*e*SN	**Sn**	**12 49 13.0**	**-0.9**
VLS	**Valsamata**	**5.74**	**318**	*e*Pn	**Pn**	**12 48 09.9**	**+1.5**
VLS				*e*Sn	**Sn**	**12 49 13.0**	**-0.9**
GAZI	**Gazipasa**	**6.04**	**66**	*i* P	**Pn**	**12 48 11.8**	**-0.8**
GAZI				*i* S	**Sn**	**12 49 17.2**	**-4.2**
GAZI	**Gazipasa**	**6.04**	**66**	*i* P	**Pn**	**12 48 11.8**	**-0.8**
LKD2	**Lefkada island**	**6.15**	**322**	*e*PN	**Pn**	**12 48 16.0**	**+1.9**
LKD2				*e*SN	**Sn**	**12 49 23.8**	**-0.3**
LKD2	**Lefkada island**	**6.15**	**322**	*e*Pn	**Pn**	**12 48 16.0**	**+1.9**
LKD2				*e*Sn	**Sn**	**12 49 23.8**	**-0.3**
THL	**Klokotos Trika**	**6.21**	**335**	*e*PN	**Pn**	**12 48 17.1**	**+2.3**
THL				*e*SN	**Sn**	**12 49 24.4**	**-1.0**
THL	**Klokotos Trika**	**6.21**	**335**	*e*Pn	**Pn**	**12 48 17.1**	**+2.3**
THL				*e*Sn	**Sn**	**12 49 24.4**	**-1.0**
ERMK	**Ermenek**	**6.64**	**64**	*i* P	**Pn**	**12 48 22.9**	**+1.9**
ERMK	**Ermenek**	**6.64**	**64**	*i* P	**Pn**	**12 48 22.9**	**+1.9**
LADK	**Ladik-KONYA**	**6.99**	**51**	*e*P	**Pn**	**12 48 25.6**	**-0.1**
SOH	**Sokhos**	**7.02**	**347**	*e*PN	**Pn**	**12 48 28.4**	**+2.4**
SOH	**Sokhos**	**7.02**	**347**	*e*Pn	**Pn**	**12 48 28.4**	**+2.4**
IKL	**Isikli**	**7.10**	**69**	*e*P	**Pn**	**12 48 25.8**	**-1.3**
KIZT	**Kizilcal**	**7.11**	**45**	*e*P	**Pn**	**12 48 27.4**	**+0.1**
KEK	**Kerkira**	**7.29**	**323**	*e*PN	**Pn**	**12 48 31.0**	**+1.3**
KEK	**Kerkira**	**7.29**	**323**	*e*Pn	**Pn**	**12 48 31.0**	**+1.3**
EREN	**Erenkoy**	**7.33**	**76**	*e*P	**Pn**	**12 48 28.1**	**-2.1**
FNA	**Florina**	**7.51**	**336**	*e*PN	**Pn**	**12 48 34.3**	**+1.5**
FNA	**Florina**	**7.51**	**336**	*e*Pn	**Pn**	**12 48 34.3**	**+1.5**
MMAI	**Mount Meron Ar**	**8.36**	**94**	Pn	**Pn**	**12 48 43.8**	**-0.6**
	1.5nm,0.3s,baz=275,slow=11,SNR=3.1						
MMAI				Sn	**Sn**	**12 50 15.2**	**-3.4**
	1.9nm,0.3s,baz=264,slow=27,SNR=3.0						
BRTR	**Keskin Array B**	**8.69**	**47**	Pn	**Pn**	**12 48 50.6**	**+1.5**
	0.2nm,0.3s,baz=216,slow=12,SNR=4.4						
BRTR				Sn	**Sn**	**12 50 27.3**	**+0.5**
	0.1nm,0.3s,baz=214,slow=23,SNR=3.2						
BRTR	**Keskin Array B**	**8.69**	**47**	P	**Pn**	**12 48 50.6**	**+1.5**
BRTR				S	**Sn**	**12 50 27.3**	**+0.5**
DSI	**Dead Sea**	**8.69**	**103**	Pn	**Pn**	**12 48 49.1**	**+0.1**
MZDA	**Masada**	**8.77**	**105**	Pn	**Pn**	**12 48 49.3**	**-0.6**
PRNI	**Paran**	**8.87**	**112**	Pn	**Pn**	**12 48 50.6**	**-0.8**
ZFRI	**Zfri**	**8.91**	**110**	Pn	**Pn**	**12 48 51.2**	**-0.8**
HRFI	**Mount Harif**	**9.04**	**113**	Pn	**Pn**	**12 48 53.0**	**-0.7**
MBRI	**Mt Berech**	**9.06**	**115**	Pn	**Pn**	**12 48 53.3**	**-0.8**
EIL	**Elat**	**9.15**	**116**	Pn	**Pn**	**12 48 54.9**	**-0.4**
	1.8nm,0.3s,baz=327,slow=18,SNR=17						
EIL				Sn	Sn	12 50 30.7	-7.2
	0.7nm,0.3s,baz=293,slow=11,SNR=3.1						
EIL	**Elat**	**9.15**	**116**	Pn	**Pn**	**12 48 54.2**	**-1.1**
ASF	**Jabal al Asfar**	**9.77**	**98**	Pn	**P

MFF	**Saint Martin d**	**23.12**	**311**	*eP*		**P**		**12 51 49.7**	**+0.6**
	comp=Z,3.8nm,0.5s								
LDF	**La Druitiere**	**23.98**	**315**	*eP*		**P**		**12 51 55.9**	**-1.6**
LDF	**La Druitiere**	**23.98**	**315**	*eP*		**P**		**12 51 55.9**	**-1.6**
ESDC	**Sonseca Array**	**24.16**	**292**	P		**P**		**12 51 58.3**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=89,slow=9.7,SNR=12								
FLN	**La Foliniere**	**24.27**	**315**	*eP*		**P**		**12 52 00.2**	**+0.1**
GRR	**Gorron**	**24.32**	**314**	*eP*		**P**		**12 52 01.0**	**+0.4**
VSU	**Vasula**	**24.49**	**2**	*eP*		**P**		**12 52 00.5**	**-1.5**
VSU					pmax	pmax			
	comp=Z,15nm,1.0s								
MDT	**Midelt**	**25.10**	**276**	P		**P**		**12 52 10.0**	**+2.1**
	comp=Z,3.4nm,0.8s,baz=89,slow=12,SNR=6.2								
SGMF	**Saint Gilles**	**25.29**	**313**	*eP*		**P**		**12 52 10.2**	**+0.8**
	comp=Z,6.3nm,0.2s								
QUIF	**Quistinic**	**25.53**	**312**	*eP*		**P**		**12 52 12.5**	**+0.9**
	comp=Z,14nm,0.7s								
HFS	**Hagfors**	**27.26**	**347**	P		**P**		**12 52 26.1**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=141,slow=12,SNR=6.6								
FINES	**FINESS Array B**	**27.47**	**1**	P		**P**		**12 52 27.3**	**-1.6**
	comp=Z,2.0nm,0.7s,baz=155,slow=10,SNR=9.8								
NB2	**NORSAR Subarra**	**28.59**	**346**	P		**P**		**12 52 37.3**	**-1.7**
	comp=Z,2.0nm,0.9s,baz=159,slow=9.3								
NB2	**NORSAR Subarra**	**28.59**	**346**	P		**P**		**12 52 37.3**	**-1.7**
	comp=Z,2.0nm,0.9s,SNR=7.1								
NOA	**NORSAR Array B**	**28.59**	**346**	P		**P**		**12 52 38.1**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=159,slow=9.8,SNR=7.4								
AKTO	**Aktyubinsk**	**28.87**	**45**	P		**P**		**12 52 40.7**	**-0.9**
AKTO					pmax	pmax			
	comp=Z,2.0nm,0.5s								
AKTO	**Aktyubinsk**	**28.87**	**45**	P		**P**		**12 52 40.7**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=335,slow=6.3,SNR=7.1								
EKA	**Eskdalemuir Ar**	**29.14**	**326**	P		**P**		**12 52 43.1**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=118,slow=12,SNR=5.1								
AB31	**Akbulak array**	**29.64**	**49**	*ceP*		**P**		**12 52 48.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**29.95**	**232**	P		**P**		**12 52 51.3**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=33,slow=8.1,SNR=10								
ARCES	**ARCESS Array B**	**35.59**	**0**	P		**P**		**12 53 38.2**	**-2.0**
	comp=Z,1.3nm,0.4s,baz=171,slow=9.1,SNR=18								
ARCES	**ARCESS Array B**	**35.59**	**0**	P		**P**		**12 53 38.2**	**-2.0**
	comp=Z,1.0nm,0.4s								
BRVK	**Borovoye**	**36.92**	**45**	*ceP*		**P**		**12 53 51.6**	**-0.2**
BRVK					pmax	pmax			
	comp=Z,5.0nm,1.7s								
BRVK	**Borovoye**	**36.92**	**45**	*eP*		**P**		**12 53 51.6**	**-0.2**
	comp=Z,5.0nm,1.7s								
VOSK	**Vostochnaya**	**37.26**	**46**	P		**P**		**12 53 54.5**	**-0.2**
VOSK					pmax	pmax			
	comp=Z,4.0nm,1.0s								
VOSK	**Vostochnaya**	**37.26**	**46**	P		**P**		**12 53 54.5**	**-0.2**
	comp=Z,4.0nm,1.0s								
MK31	**Makanchi Array**	**44.22**	**56**	*i* P		**P**		**12 54 52.7**	**+0.5**
MK31					pmax	pmax			
	comp=Z,5.0nm,0.5s								
MK31	**Makanchi Array**	**44.22**	**56**	*i* P		**P**		**12 54 52.7**	**+0.5**
	comp=Z,5.0nm,0.5s								
MKAR	**Makanchi Array**	**44.22**	**56**	P		**P**		**12 54 52.5**	**+0.3**
MKAR					pmax	pmax			
	comp=Z,3.0nm,0.6s								
MKAR	**Makanchi Array**	**44.22**	**56**	P		**P**		**12 54 52.5**	**+0.3**
	comp=Z,3.2nm,0.6s,baz=278,slow=6.5,SNR=39								
MKAR	**Makanchi Array**	**44.22**	**56**	P		**P**		**12 54 52.5**	**+0.3**
	comp=Z,3.0nm,0.6s								
NVS	**Novosibirsk**	**44.74**	**44**	*eP*		P		12 54 52.7	-3.5
ZALV	**Zalesovo Beam**	**45.63**	**45**	*i* P		**P**		**12 55 03.0**	**-0.3**
ZALV					pmax	pmax			
	comp=Z,4.0nm,0.6s								
ZALV	**Zalesovo Beam**	**45.63**	**45**	P		**P**		**12 55 03.0**	**-0.3**
	comp=Z,3.5nm,0.6s,baz=267,slow=9.3,SNR=14								
ZALV	**Zalesovo Beam**	**45.63**	**45**	*i* P		**P**		**12 55 03.0**	**-0.3**
	comp=Z,4.0nm,0.6s								
ZAK	**Zakamensk**	**57.33**	**48**	*eP*		**P**		**12 56 32.2**	**+1.1**
ZAK					pmax	pmax			
	comp=Z,2.0nm,1.0s								
ZAK	**Zakamensk**	**57.33**	**48**	*eP*		**P**		**12 56 32.2**	**+1.1**
	comp=Z,2.0nm,1.0s								
SONM	**Songino Array**	**60.03**	**50**	P		**P**		**12 56 50.6**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=288,slow=6.1,SNR=5.4								
BOSA	**Boshof**	**62.27**	**180**	P		**P**		**12 57 05.8**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=304,slow=5.9,SNR=4.0								
SCHQ	**Schefferville**	**64.23**	**320**	P		**P**		**12 57 16.9**	**-1.0**
	comp=Z,2.3nm,0.5s,baz=208,slow=11,SNR=6.2								
CMAR	**Chiang Mai Arr**	**66.46**	**83**	P		**P**		**12 57 32.8**	**0.0**
	comp=Z,1.0nm,0.8s,baz=296,slow=8.7,SNR=5.4								
WHN	**Wuhan**	**72.82**	**65**	*eP*		**P**		**12 58 12.5**	**+0.6**
USRK	**Ussuriysk Arra**	**77.49**	**45**	P		**P**		**12 58 38.6**	**0.0**
	comp=Z,2.1nm,0.6s,baz=238,slow=3.6,SNR=3.5								
YKA	**Yellowknife Ar**	**78.63**	**342**	P		**P**		**12 58 44.4**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=30,slow=5.3,SNR=6.3								
KSRS	**Korea Array**	**78.79**	**52**	P		**P**		**12 58 46.1**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=304,slow=4.0,SNR=5.2								
ILAR	**Eielson Array**	**81.38**	**357**	P		**P**		**12 58 59.6**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=349,slow=3.7,SNR=16								
WRA	**Warramunga Arr**	**116.20**	**97**	PKP		**PKPdf**		**13 05 27.0**	**+0.2**
	comp=Z,0.8nm,1.2s,baz=316,slow=1.9,SNR=3.5								
ASAR	**Alice Springs**	**117.59**	**101**	PKP		**PKPdf**		**13 05 29.0**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=298,slow=1.5,SNR=3.8								
QSPA	**South Pole Qui**	**123.85**	**180**	PKP		**PKPdf**		**13 05 39.5**	**-0.6**
	comp=Z,1.1nm,1.0s,baz=337,slow=6.3,SNR=5.5								

IDC 16 12:52:00.9±2.1, 46.16S×166.05E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.4/14, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=62.5km s-min=28.6km az=169.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RPZ	**Rata Peaks**	**4.31**	**57**	Pn		Pn	12 53 08.5	+0.7
	2.2nm,0.3s,baz=6.7,slow=21,SNR=6.7							
RPZ				Sn		Sn	12 53 58.3	-0.4
	3.9nm,0.3s,baz=47,slow=23,SNR=8.6							
ASAR	**Alice Springs**	**34.25**	**300**	P		P	12 58 48.6	0.0
	0.2nm,0.4s,baz=134,slow=8.1,SNR=6.3							
WRA	**Warramunga Arr**	**36.87**	**304**	P		P	12 59 10.6	-0.5
	0.2nm,0.5s,baz=138,slow=7.9,SNR=5.2							
TORD	**Torodi Ar. Bea**	**144.54**	**207**	PKP		PKPab	13 11 37.9	0.0
	0.4nm,0.6s,baz=163,slow=3.3,SNR=3.8							
BRTR	**Keskin Array B**	**145.00**	**277**	PKPbc		PKPbc	13 11 39.1	-0.1
	1.0nm,0.8s,baz=28,slow=4.1,SNR=3.3							

IDC 16 12:54:06.1±1.4, 34.07N×25.46E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.4/25, mbtmp3.6/5, ML4.0/2, Error ellipse: s-maj=39.6km s-min=25.6km az=147.0, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MMAI	**Mount Meron Ar**	**8.37**	**94**	Sn		Sn	12 57 44.0	0.0
	1.9nm,0.3s,baz=287,slow=30,SNR=3.2							
EIL	**Elat**	**9.18**	**116**	Pn		Pn	12 56 19.1	-0.8
	0.5nm,0.3s,baz=214,slow=3.6,SNR=5.1							
EIL				Sn		Sn	12 57 56.6	-7.4
	0.3nm,0.3s,baz=24,slow=20,SNR=2.9							
GERES	**GERESS Array B**	**17.16**	**333**	P		Pn	12 58 06.4	-0.9
	0.4nm,0.3s,baz=158,slow=1.1,SNR=5.5							
TORD	**Torodi Ar. Bea**	**29.99**	**232**	P		P	13 00 16.7	+0.1
	0.4nm,0.8s,baz=34,slow=8.1,SNR=3.0							
MKAR	**Makanchi Array**	**44.18**	**56**	P		P	13 02 16.6	-0.1
	0.5nm,0.6s,baz=279,slow=6.6,SNR=5.4							
ZALV	**Zalesovo Beam**	**45.59**	**45**	P		P	13 02 27.8	+0.1
	0.4nm,0.3s,baz=258,slow=5.7,SNR=2.7							

*IDC **16** 13:13:58.2±6.6, 45.71S×166.44E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/13, mbtmp3.3/2, Error ellipse: s-maj=342.8km s-min=45.9km az=50.0*
*NEIC **16** 13:14:00.8, 46.23S×165.78E, h12km, ML4.5(WEL), After WEL.*

ISC 16 13:14:01.3±1.0, 45.88S±0.05×166.01E±0.06, h12km, n25, σ2°15/28, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.55**	**122**	P*		**Pg**	**13 14 13.2**	**+1.2**
PYZ				S*		**Sb**	**13 14 21.4**	**+0.7**
PYZ				S*		**Sg**	**13 14 21.6**	**+2.2**
DCZ	**Deep Cove**	**0.90**	**64**	P*		**Pn**	**13 14 21.6**	**+1.9**
WHZ	**Wether Hill Ro**	**1.35**	**91**	Pn		**Pg**	**13 14 27.5**	**+0.2**
WHZ				Sn		**Sg**	**13 14 46.3**	**+1.4**
APZ	**The Paps**	**1.67**	**126**	Pn		**Pn**	**13 14 28.5**	**-2.0**
MSZ	**Milford Sound**	**1.81**	**49**	Pn		**Pg**	**13 14 35.6**	**-0.4**
SYZ	**Scrubby Hill**	**2.27**	**108**	Pn		**Pn**	**13 14 38.6**	**+0.1**
WKZ	**Wanaka**	**2.37**	**65**	Pn		**Pb**	**13 14 44.5**	**+0.6**
EAZ	**Earnscleugh**	**2.41**	**76**	Pn		**Pb**	**13 14 44.1**	**-0.4**
TUZ	**Tuapeka**	**2.53**	**93**	Pn		**Pn**	**13 14 43.7**	**+1.6**
JCZ	**Jackson Bay**	**2.66**	**48**	*e*Pn		**Pb**	**13 14 49.1**	**+0.3**
LBZ	**Lake Benmore**	**3.31**	**65**	Pn		**Pn**	**13 14 55.6**	**+2.7**
ODZ	**Otahua Downs**	**3.37**	**77**	*e*Pn		**Pn**	**13 14 54.4**	**+0.7**
ODZ				*e*Sn		**Sb**	**13 15 38.7**	**-3.1**
FOZ	**Fox Glacier**	**3.50**	**50**	*e*Pn		**Pb**	**13 15 00.5**	**-2.6**
RPZ	**Rata Peaks**	**4.19**	**61**	*e*Pn		**Pn**	**13 15 07.3**	**+2.3**
RPZ				*e*Sn		**Sb**	**13 15 59.7**	**-5.8**
WVZ	**Waitaha Valley**	**4.39**	**52**	*e*Pn		**Pn**	**13 15 10.7**	**+2.9**
LTZ	**Lake Taylor**	**5.45**	**58**	Pn		**Pn**	**13 15 24.2**	**+1.8**
DSZ	**Denniston Nort**	**5.88**	**47**	*e*Pn		**Pn**	**13 15 30.9**	**+2.6**
THZ	**Tophouse**	**6.46**	**53**	*e*Pn		**Pn**	**13 15 38.3**	**+2.0**
QRZ	**Quartz Range**	**6.93**	**46**	Pn		**Pn**	**13 15 45.6**	**+2.9**
NNZ	**Nelson**	**7.09**	**52**	*e*Pn		Pn	13 15 49.7	+4.8
WCZ	**Waipu Caves**	**11.75**	**35**	*e*Pn		Pn	13 16 51.9	+3.2
ASAR	**Alice Springs**	**34.09**	**300**	P		**P**	**13 20 45.9**	**+0.1**
	0.3nm,0.6s,baz=134,slow=7.6,SNR=7.5							
WRA	**Warramunga Arr**	**36.69**	**304**	P		**P**	**13 21 07.8**	**-0.3**
	0.2nm,0.5s,baz=139,slow=7.3,SNR=3.7							
TORD	**Torodi Ar. Bea**	**144.77**	**207**	PKPbc		**PKPab**	**13 33 35.9**	**-1.3**
	0.7nm,0.7s,baz=146,slow=1.8,SNR=5.1							
BRTR	**Keskin Array B**	**144.94**	**277**	PKPbc		**PKPbc**	**13 33 37.0**	**-0.4**
	0.9nm,0.6s,baz=131,slow=3.4,SNR=4.4							

*BJI **16** 13:23:25.6, 31.25N×103.59E, h14km, ML3.3/13*
*IDC **16** 13:23:25.0±1.4, 30.95N×103.92E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/24, mbtmp3.3/4, MS3.3/1, Ms1 3.3/1, ms1mx2.6/16, Error ellipse: s-maj=45.1km s-min=26.6km az=55.0*

ISC 16 13:23:26.7±0.9, 31.15N±0.05×103.86E±0.08, h14km, n9, σ1°44/11, mb3.7/3, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CD2	**Chengdu**	**0.25**	**201**	Pg		**Pg**	**13 23 31.4**	**-0.8**
CD2				Sg		**Sg**	**13 23 36.6**	**+0.7**
CD2				smax		smax		
	comp=N,8μm,0.7s							
CD2				smax		smax		
	comp=E,850nm,0.7s							
LZH	**Lanzhou**	**4.93**	**360**	*eP*		**Pg**	**13 25 01.1**	**0.0**
LZH				pP		pP	13 25 06.5	
LZH				sP		sP	13 25 09.1	
LZH				pmax		pmax		
	comp=Z,18nm,1.0s							
LZH	**Lanzhou**	**4.93**	**360**	Pg		**Pb**	**13 24 51.0**	**-1.9**
LZH				Sg		**Sb**	**13 25 53.3**	**+1.2**
LZH				smax		smax		
	comp=N,27nm,1.2s							
LZH				smax		smax		
	comp=E,35nm,1.1s							
XAN	**Xi'an**	**5.15**	**55**	Pg		**Pb**	**13 24 57.8**	**+1.1**
XAN				Sg		**Sg**	**13 26 10.5**	**-1.6**
XAN				smax		smax		
	comp=N,40nm,0.7s							
XAN				smax		smax		
	comp=E,18nm,0.9s							
KSRS	**Korea Array**	**20.82**	**66**	P		**P**	**13 28 08.5**	**+0.7**
	comp=E,0.5nm,0.6s,baz=256,slow=9.9,SNR=3.5							
MKAR	**Makanchi Array**	**22.81**	**319**	P		**P**	**13 28 31.2**	**+2.1**
	comp=E,0.3nm,0.7s,baz=127,slow=9.2,SNR=3.1							
PETK	**Petropavlovsk-**	**44.30**	**44**	LR		LR	13 52 52.5	
	comp=E,30nm,18.2s,baz=310,slow=40							
WRA	**Warramunga Arr**	**58.62**	**146**	P		**P**	**13 33 22.7**	**-0.8**
	comp=E,1.4nm,0.9s,baz=339,slow=7.3,SNR=14							
ASAR	**Alice Springs**	**61.64**	**149**	P		**P**	**13 33 43.3**	**-0.9**
	comp=E,0.2nm,0.3s,baz=341,slow=6.8,SNR=9.7							

*IDC **16** 13:33:03.2±1.0, 58.63S×25.41W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.8/16, mbtmp3.8/3, MS4.0/2, Ms1 4.0/2, ms1mx3.4/20, Error ellipse: s-maj=67.1km s-min=29.7km az=94.0*

ISC 16 13:33:08.8±1.0, 58.7S±0.2×25.6W±0.5, h38km, n9, σ0°80/6, mb3.7/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**14.06**	**156**	*e*Pn		Pn	13 36 20.6	-4.4
SNAA	**Sanae**	**16.01**	**154**	*e*Pn		Pn	13 36 45.7	-5.2
SNAA	**Sanae**	**16.01**	**154**	*e*Sn		Sn	13 39 27.8	-19
VNDA	**Vanda**	**44.01**	**182**	P		**P**	**13 41 11.6**	**-0.2**
	1.1nm,0.8s,baz=177,slow=5.4,SNR=7.9							
VNDA				LR		LR	13 58 25.2	
	comp=Z,71nm,21.7s,baz=159,slow=35							
TORD	**Torodi Ar. Bea**	**74.92**	**28**	P		**P**	**13 44 45.5**	**-0.1**
	0.4nm,0.3s,baz=201,slow=6.0,SNR=12							
ASAR	**Alice Springs**	**96.24**	**161**	P		**P**	**13 46 33.2**	**+0.2**
	0.1nm,0.3s,baz=189,slow=3.5,SNR=3.5							
DZM	**Mont Dzumac**	**98.97**	**191**	LR		LR	14 29 08.8	
	comp=Z,179nm,19.1s,baz=0.0,slow=34							
YKA	**Yellowknife Ar**	**138.67**	**315**	PKP		**PKPdf**	**13 52 28.3**	**-0.7**
	0.4nm,0.6s,baz=119,slow=2.2,SNR=2.9							
ILAR	**Eielson Array**	**152.45**	**308**	PKPbc		**PKPbc**	**13 53 00.3**	**+1.1**
	0.7nm,0.6s,baz=153,slow=1.9,SNR=8.7							
ILAR				PKPab		**PKPab**	**13 53 09.4**	**-0.3**
	0.7nm,0.7s,baz=114,slow=1.1,SNR=5.6							

IDC 16 13:38:12.7±65.0, 13.79S×168.20E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/19, mbtmp3.7/3, Error ellipse: s-maj=1096.0km s-min=115.0km az=64.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**30.28**	**229**	P		P	13 44 25.7	-0.1
	0.9nm,0.3s,baz=55,slow=9.0,SNR=8.3							
WRA	**Warramunga Arr**	**32.93**	**255**	P		P	13 44 49.1	-0.1
	0.2nm,0.7s,baz=85,slow=9.1,SNR=2.6							
ASAR	**Alice Springs**	**33.85**	**248**	P		P	13 44 57.3	0.0
	0.4nm,0.4s,baz=79,slow=8.7,SNR=9.7							

CASC 16 13:39:15.8±1.1, 8.34N×82.83W, h14km±6km, MD3.8, 1C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ACR	**Cerro Adams**	**0.46**	**314**	*eP*		Pg	13 39 24.2	-0.8
ACR				*e*S		Sg	13 39 31.7	+0.5
BRU	**Baru**	**0.54**	**30**	*eP*		Pb	13 39 27.4	-0.3
BUS	**Buena Vista**	**1.52**	**323**	*e*S		Sg	13 40 04.9	-0.9
QCR	**Quepos**	**1.70**	**310**	*eP*		Pn	13 39 44.8	-0.4
QCR				*e*S		Sn	13 40 07.1	+0.3
URSC	**Urasca**	**1.76**	**328**	*eP*		Pn	13 39 46.1	0.0
URSC				*e*S		Sn	13 40 09.3	+0.8
PTP	**Ponta Puerca**	**19.41**	**58**	*eP*		x	13 39 19.8	

*IDC **16** 13:42:52.9±2.3, 4.72S×101.81E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.8/23, mbtmp3.8/9, MS3.2/1, Ms1 3.4/1, ms1mx2.6/32, Error ellipse: s-maj=87.4km s-min=16.0km az=58.0*
*ISCJB **16** 13:42:55.7±0.8, 4.82S±0.07×101.67E±0.07, h37km, mb3.8/9, MS3.1/1, Error ellipse: s-maj=10.0km s-min=9.0km az=40.3*
*DJA **16** 13:42:56.5±1.7, 5°S±6°×10°2E±°, h10km±18km, M4.4/5, MLv4.4/5*

ISC 16 13:42:58.3±1.0, 4.75S±0.09×101.78E±0.09, h37km, n16, σ0°81/18, mb3.9/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MNAI	**Manna**	**1.23**	**72**	P		**Pn**	**13 43 18.2**	**-0.8**
MNAI				S		**Sn**	**13 43 36.2**	**+1.8**
KSI	**Kapahiang**	**1.36**	**37**	P		**Pn**	**13 43 19.5**	**-1.2**
KSI				S		**Sn**	**13 43 38.0**	**+0.5**
MASI	**Maura Aman, Be**	**1.66**	**16**	P		**Pn**	**13 43 25.8**	**+0.9**
LWLI	**Liwa**	**2.29**	**97**	P		**Pn**	**13 43 34.2**	**+0.6**
KLSI		**2.94**	**89**	P		**Pn**	**13 43 43.0**	**+0.5**
PPI	**Padang Panjang**	**4.48**	**342**	P		**Pn**	**13 44 04.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**23.23**	**353**	P		**P**	**13 48 02.0**	**-0.2**
	0.4nm,0.5s,baz=185,slow=8.6,SNR=3.5							
CMAR				LR		LR	13 58 04.2	
	comp=Z,59nm,18.0s,baz=195,slow=39							
FITZ	**Fitzroy Crossi**	**26.84**	**122**	P		**P**	**13 48 34.9**	**-0.6**
	1.5nm,0.8s,baz=291,slow=8.6,SNR=3.7							
WRA	**Warramunga Arr**	**35.11**	**118**	P		**P**	**13 49 47.8**	**-0.7**
	0.3nm,0.5s,baz=304,slow=9.6,SNR=6.8							
ASAR	**Alice Springs**	**36.23**	**124**	P		**P**	**13 49 57.8**	**-0.2**
	1.1nm,0.7s,baz=294,slow=7.9,SNR=12							
STKA	**Stephens Creek**	**46.02**	**131**	P		**P**	**13 51 19.1**	**+0.7**
	2.3nm,0.7s,baz=292,slow=1.5,SNR=5.9							
SONM	**Songino Array**	**52.51**	**4**	P		**P**	**13 52 08.2**	**+0.3**
	1.4nm,0.7s,baz=184,slow=8.4,SNR=11							
MKAR	**Makanchi Array**	**54.14**	**344**	P		**P**	**13 52 19.1**	**-0.6**
	0.8nm,0.7s,baz=144,slow=8.7,SNR=8.0							
USRK	**Ussuriysk Arra**	**55.78**	**26**	P		**P**	**13 52 31.1**	**-0.4**
	1.6nm,0.6s,baz=214,slow=6.1,SNR=3.9							
ZALV	**Zalesovo Beam**	**60.19**	**349**	P		**P**	**13 53 01.8**	**-0.4**
	1.4nm,0.7s,baz=159,slow=4.6,SNR=6.5							
TXAR	**Lajitas Array**	**145.68**	**42**	PKPbc		**PKPab**	**14 02 34.1**	**-0.2**
	1.0nm,0.8s,baz=298,slow=2.7,SNR=7.2							

*IDC **16** 13:47:50.2±1.1, 23.67N×121.39E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.5/26, mbtmp3.6/7, ML3.5/2, Error ellipse: s-maj=40.9km s-min=19.2km az=71.0*
*ISCJB **16** 13:47:52.1±0.4, 23.92N±0.02×122.33E±0.02, h15km±3km, mb3.5/5, Error ellipse: s-maj=3.3km s-min=2.3km az=137.3*
*TAP **16** 13:47:53.1, 24.00N×122.28E, h21km, ML3.9, C*
*JMA **16** 13:47:54.9±0.3, 24.06N×122.37E, h30km, M3.3*

ISC 16 13:47:52.6±1.2, 23.94N±0.02×122.30E±0.02, h24km±10km, n78, σ1°00/139, mb3.7/5, 3C-7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EHP	**Heping Village**	**0.63**	**306**	*eP*		**Pb**	**13 48 04.0**	**-1.1**
	baz=302							
HWA	**Hwalien**	**0.64**	**273**	*eP*		**Pb**	**13 48 05.5**	**+0.3**
	baz=253							
HWA				*e*S		**Sb**	**13 48 14.5**	**+0.8**
	baz=253							
TWD	**Chiawan**	**0.66**	**282**	*i*P		**Pb**	**13 48 05.5**	**0.0**
	baz=277							
TWD				*i* S		**Sb**	**13 48 14.7**	**+0.4**
	baz=277							
ENA	**Nanau**	**0.70**	**313**	*i* P		**Pb**	**13 48 05.8**	**-0.5**
	baz=322							
ENA				S		**Sn**	**13 48 16.5**	**-0.7**
	baz=322							
ESF	**Shoufeng Towns**	**0.73**	**264**	*eP*		**Pb**	**13 48 06.7**	**0.0**
	baz=249							
ESF				*e*S		**Sb**	**13 48 16.6**	**+0.3**
	baz=249							
TEGC	**Jichi Village**	**0.74**	**252**	*eP*		**Pb**	**13 48 06.5**	**-0.3**
	baz=247							
TEGC				*e*S		**Sb**	**13 48 17.3**	**+0.9**
	baz=247							
TWC	**Suao**	**0.78**	**328**	*i*P		**Pb**	**13 48 06.8**	**-0.8**
	baz=335							
TWC				*i* S		**Sb**	**13 48 16.0**	**-1.8**
	baz=335							
ESL	**Shilin**	**0.81**	**261**	P		**Pb**	**13 48 07.3**	**-0.7**
	baz=245							
ESL				*e*S		**Sb**	**13 48 18.1**	**-0.4**
	baz=245							
YOJ	**Yonaguni jima**	**0.83**	**51**	P		**Pb**	**13 48 08.4**	**0.0**
YOJ				S		**Sb**	**13 48 18.0**	**-1.1**
ILA	**Ilan**	**0.96**	**328**	*eP*		**Pb**	**13 48 10.7**	**+0.1**
	baz=327							
ILA				*e*S		**Sn**	**13 48 24.2**	**+0.6**
	baz=327							
ENTT	**Nioudou**	**0.96**	**316**	P		**Pb**	**13 48 10.6**	**-0.1**
	baz=327							
ENTT				*e*S		**Sb**	**13 48 22.8**	**-0.3**
	baz=327							
TWE	**Neicheng**	**0.97**	**323**	*i* P		**Pb**	**13 48 10.5**	**-0.3**
	baz=330							
TWE				*e*S		**Sb**	**13 48 22.7**	**-0.4**
	baz=330							
WHF	**Hehuan Shan**	**0.97**	**282**	*i*P		**Pb**	**13 48 10.6**	**-0.4**
	baz=279							
WHF				S		**Sb**	**13 48 22.9**	**-0.6**
	baz=279							
NNS	**Nan Shan**	**0.98**	**300**	*i*P		**Pb**	**13 48 10.8**	**-0.3**
	baz=284							
NNS				*e*S		**Sb**	**13 48 23.5**	**-0.2**
	baz=284							
EHY	**Hungye**	**1.00**	**244**	P		**Pn**	**13 48 10.7**	**-0.5**
	baz=241							
EHY				S		**Sb**	**13 48 24.3**	**+0.3**
	baz=241			

	baz=286								
HSN	**Hsinchu**	**1.49**	**305**	*e*P		**Pn**	**13 48 18.6**	**+0.7**	
	baz=304								
HSN				*e*S		**Sb**	**13 48 37.8**	**-0.2**	
	baz=304								
TCU	**Taichung**	**1.50**	**278**	*e*P		**Pb**	**13 48 19.7**	**-0.1**	
	baz=276								
TCU				*e*S		**Sb**	**13 48 39.7**	**+1.3**	
	baz=276								
CHN5	**Tsauling**	**1.53**	**257**	*e*P		**Pb**	**13 48 20.3**	**0.0**	
	baz=243								
CHN5				*e*S		**Sb**	**13 48 39.8**	**+0.4**	
	baz=243								
JKRS	**Kuro-shima**	**1.59**	**79**	P		**Pn**	**13 48 20.6**	**+1.3**	
TTN	**Taitung**	**1.59**	**222**	*e*P		**Pn**	**13 48 20.8**	**+1.5**	
	baz=220								
TWG	**Pinlang**	**1.59**	**226**	*e*P		**Pn**	**13 48 18.8**	**-0.6**	
	baz=237								
TWG				*e*S		**Sn**	**13 48 38.0**	**-1.1**	
	baz=237								
STYT	**Tauyuan**	**1.62**	**242**	⇑*i*P		**Pn**	**13 48 20.7**	**+1.0**	
	baz=228								
STYT				*e*S		**Sn**	**13 48 41.0**	**+1.1**	
	baz=228								
CHN4	**Tsaushan**	**1.68**	**250**	*e*P		**Pn**	**13 48 22.3**	**+1.8**	
	baz=248								
CHN4				*e*S		**Sb**	**13 48 43.7**	**+0.2**	
	baz=248								
PCYT	**Pengchaiyu**	**1.69**	**353**	*e*P		**Pn**	**13 48 20.9**	**+0.2**	
	baz=336								
PCYT				*e*S		**Sn**	**13 48 42.3**	**+0.7**	
	baz=336								
WTP	**Ta-pu**	**1.70**	**246**	*e*P		**Pn**	**13 48 22.2**	**+1.4**	
	baz=245								
WTP				*e*S		**Sb**	**13 48 44.2**	**0.0**	
	baz=245								
JIJ	**Ishigaki jima**	**1.73**	**76**	P		**Pn**	**13 48 22.1**	**+0.8**	
JIJ				*e*S		**Sn**	**13 48 42.2**	**-0.5**	
CHY	**Chiayi**	**1.78**	**256**	*e*P		**Pn**	**13 48 25.4**	**+0.9**	
	baz=254								
CHY				*e*S		**Sb**	**13 48 47.2**	**+0.8**	
	baz=254								
CHN1	**Nanshi**	**1.79**	**245**	*e*P		**Pn**	**13 48 23.9**	**+1.7**	
	baz=244								
CHN1				*e*S		**Sb**	**13 48 46.6**	**-0.3**	
	baz=244								
TWK	**Hsinying**	**1.79**	**248**	*e*P		**Pn**	**13 48 23.5**	**+1.3**	
	baz=247								
TWK				*e*S		**Sb**	**13 48 47.3**	**+0.3**	
	baz=247								
SGST	**Jiashian**	**1.80**	**242**	*e*P		**Pn**	**13 48 23.9**	**+1.7**	
	baz=229								
SGST				*e*S		**Sb**	**13 48 47.1**	**+0.2**	
	baz=229								
ECL	**Taimali**	**1.83**	**223**	*e*P		**Pn**	**13 48 23.0**	**+0.4**	
	baz=223								
ECL				*e*S		**Sn**	**13 48 43.6**	**-1.3**	
	baz=223								
WTCT	**Ta-ch'eng**	**1.85**	**268**	*e*P		**Pn**	**13 48 24.1**	**+1.2**	
	baz=266								
WTCT				*e*S		**Sb**	**13 48 48.4**	**-0.1**	
	baz=266								
WSF	**Szhu**	**1.93**	**261**	*e*P		**Pn**	**13 48 25.5**	**+1.5**	
	baz=260								
WSF				*e*S		**Sb**	**13 48 50.3**	**-0.4**	
	baz=260								
CHN3	**Shinhua**	**1.98**	**244**	*e*P		**Pn**	**13 48 26.9**	**+2.3**	
	baz=244								
CHN3				*e*S		**Sb**	**13 48 52.3**	**+0.2**	
	baz=244								
CHN8	**Yiju**	**2.01**	**253**	*e*P		**Pn**	**13 48 26.4**	**+1.3**	
	baz=252								
CHN8				*e*S		**Sn**	**13 48 51.0**	**+1.5**	
	baz=252								
LAY	**Lan-yu**	**2.02**	**200**	*e*P		**Pn**	**13 48 25.1**	**-0.2**	
	baz=210								
LAY				*e*S		**Sn**	**13 48 47.8**	**-2.0**	
	baz=210								
TAW	**Tawu**	**2.04**	**220**	*e*P		**Pn**	**13 48 27.6**	**+2.0**	
	baz=220								
TAW				*e*S		**Sn**	**13 48 49.4**	**-0.9**	
	baz=220								
TWM1	**Shoushan**	**2.06**	**238**	*e*P		**Pb**	**13 48 28.8**	**-0.5**	
	baz=236								
TWM1				*e*S		**Sb**	**13 48 55.0**	**+0.5**	
	baz=236								
SGLT	**Jiouru**	**2.06**	**234**	*e*P		**Pn**	**13 48 27.1**	**+1.4**	
	baz=233								
SCLT	**Jiali**	**2.08**	**249**	*e*P		**Pn**	**13 48 28.5**	**+2.5**	
	baz=247								
TAI1	**Yung-k'ang**	**2.11**	**245**	*e*P		**Pn**	**13 48 28.7**	**+2.3**	
	baz=244								
SCZT	**Fangliau**	**2.20**	**225**	*e*P		**Pn**	**13 48 29.7**	**+2.0**	
	baz=218								
SCZT				*e*S		**Sn**	**13 48 56.5**	**+2.3**	
	baz=218								
JTJ	**Tarama**	**2.30**	**72**	P		**Pn**	**13 48 31.0**	**+2.0**	
JTJ				S		**Sn**	**13 48 58.6**	**+2.0**	
HEN	**Hengchun**	**2.41**	**217**	*e*P		**Pn**	**13 48 31.8**	**+1.2**	
	baz=217								
HEN				*e*S		**Sn**	**13 48 60.0**	**+0.7**	
	baz=217								
TSEB	**Hengchuen, Pin**	**2.41**	**213**	*e*P		**Pn**	**13 48 30.0**	**-0.6**	
	baz=213								
TWK1	**Hengchun**	**2.42**	**215**	*e*P		**Pn**	**13 48 32.3**	**+1.5**	
	baz=215								
TWK1				*e*S		**Sn**	**13 49 00.3**	**+0.6**	
	baz=215								
PNG	**Penghu**	**2.54**	**262**	*e*P		**Pn**	**13 48 33.4**	**+0.9**	
	baz=261								
PNG				*e*S		**Sn**	**13 49 03.8**	**+1.1**	
	baz=261								
KNM	**Kinmen**	**3.56**	**278**	*e*P		**Pn**	**13 48 47.9**	**+1.4**	
	baz=275								
KNM				*e*S		**Sn**	**13 49 28.9**	**+1.0**	
	baz=275								
KSRS	**Korea Array**	**14.30**	**18**	Pn		**P**	**13 51 19.2**	**-1.3**	
	0.2nm,0.3s,baz=198,slow=11,SNR=5.1								
MJAR	**Matsushiro Arr**	**18.58**	**44**	P		Pn	13 52 19.0	+11	
	0.2nm,0.3s,baz=225,slow=6.7,SNR=4.4								
SONM	**Songino Array**	**26.99**	**336**	P		**P**	**13 53 32.1**	**-0.6**	
	2.5nm,0.7s,baz=150,slow=10,SNR=11								
MKAR	**Makanchi Array**	**39.22**	**316**	P		**P**	**13 55 18.7**	**-0.4**	
	0.3nm,0.4s,baz=105,slow=9.6,SNR=4.8								
ZALV	**Zalesovo Beam**	**41.00**	**327**	P		**P**	**13 55 32.1**	**-1.6**	
	0.9nm,0.5s,baz=118,slow=8.6,SNR=4.3								
WRA	**Warramunga Arr**	**45.17**	**164**	P		**P**	**13 56 07.8**	**0.0**	
	0.6nm,0.7s,baz=346,slow=9.1,SNR=4.0								
ASAR	**Alice Springs**	**48.65**	**166**	P		**P**	**13 56 36.3**	**+1.4**	
	0.2nm,0.6s,baz=348,slow=6.9,SNR=2.9								

IDC 16 13:58:17.4±28.0, 17°66S×175°04W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, Error ellipse: s-maj=554.2km s-min=150.3km az=87.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time		Res
				Op			h	m s	ISC
STKA	**Stephens Creek**	**41.56**	**242**	P		P	14 06 07.5		**+0.5**
	1.2nm,0.8s,baz=88,slow=12,SNR=5.1								
WRA	**Warramunga Arr**	**47.83**	**259**	P		P	14 06 57.0		-0.3
	0.4nm,0.3s,baz=98,slow=7.4,SNR=33								
ASAR	**Alice Springs**	**47.94**	**254**	P		P	14 06 57.7		-0.4
	0.8nm,0.4s,baz=87,slow=8.3,SNR=17								
FITZ	**Fitzroy Crossi**	**56.23**	**260**	P		P	14 07 59.7		-0.1
	2.0nm,0.8s,baz=90,slow=2.0,SNR=9.6								

*IDC **16** 14:25:27.7±2.2, 46°24S×165°91E, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.7/15, mbtmp3.8/5, ML3.7/2, MS3.8/7, Ms1 3.8/7, ms1mx3.5/23, Error ellipse: s-maj=63.1km s-min=26.3km az=174.0*

*AUST **16** 14:25:28.1±8.4, 46°26S×165°71E, h0km, Error ellipse: s-maj=1.9km s-min=0.7km az=2.0*

ISC 16 14:25:30.0±1.6, 46°1S±0°3×165°9E±0°1, h13km, n21, σ0°95/12, mb3.6/3, MS3.7/7, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time		Res
				Op			h	m s	ISC
RPZ	**Rata Peaks**	**4.39**	**58**	Pn		**Pn**	**14 26 36.8**		**+0.5**
	7.3nm,0.3s,baz=0.1,slow=11,SNR=24								
RPZ				Sn		**Sn**	**14 27 26.9**		**-0.4**
	14nm,0.3s,baz=157,slow=22,SNR=6.7								
URZ	**Urewera**	**11.44**	**51**	Pn		**Pn**	**14 28 13.6**		**+0.6**
	0.3nm,0.3s,baz=194,slow=8.3,SNR=2.8								
URZ				Sn		Sn	14 30 12.8		-7.8
	0.3nm,0.3s,baz=15,slow=16,SNR=3.5								
MOO	**Moorlands**	**13.89**	**279**	P		**Pn**	**14 28 46.4**		**0.0**
	baz=14,SNR=4.7								
MILA	**Mila**	**15.44**	**300**	P		**Pn**	**14 29 06.2**		**-1.2**
	baz=15,SNR=8.6								
TOO	**Toolangi**	**17.40**	**292**	P		**Pn**	**14 29 32.3**		**-0.1**
	baz=17,SNR=12								
RAO	**Raoul Island**	**21.10**	**43**	LR		LR	14 38 15.0		
	comp=Z,311nm,19.4s,baz=203,slow=36								
STKA	**Stephens Creek**	**23.52**	**299**	P		**P**	**14 30 41.5**		**+1.8**
	3.8nm,1.2s,baz=116,slow=11,SNR=2.8								
STKA				LR		LR	14 38 10.8		
	comp=Z,168nm,18.9s,baz=206,slow=32								
RMQ	**Roma**	**23.89**	**319**	P		P	14 30 52.9		+10
	baz=24,SNR=5.1								
VNDA	**Vanda**	**31.54**	**182**	LR		LR	14 41 46.5		
	comp=Z,177nm,21.4s,baz=19,slow=31								
ASAR	**Alice Springs**	**34.14**	**300**	P		**P**	**14 32 14.8**		**+0.1**
	0.6nm,0.7s,baz=133,slow=8.2,SNR=7.0								
WRA	**Warramunga Arr**	**36.76**	**305**	P		**P**	**14 32 37.0**		**-0.3**
	0.6nm,0.9s,baz=137,slow=7.9,SNR=3.9								
HNR	**Honiara**	**36.92**	**350**	LR		LR	14 46 45.3		
	comp=Z,145nm,18.7s,baz=132,slow=34								
AFI	**Afiamalu**	**37.22**	**38**	LR		LR	14 45 02.0		
	comp=Z,162nm,19.9s,baz=142,slow=32								
TBI	**Tubuai**	**42.45**	**73**	eLR		LR	14 45 09.2		
	112nm,23.2s								
FITZ	**Fitzroy Crossi**	**43.39**	**297**	LR		LR	14 49 23.0		
	comp=Z,106nm,21.9s,baz=94,slow=33								
PPT2	**Papeete2**	**46.47**	**67**	eLR		LR	14 46 57.1		
	89nm,22.5s								
PPT	**Papeete**	**46.49**	**67**	LR		LR	14 50 08.6		
	comp=Z,223nm,20.8s,baz=160,slow=32								
RKT	**Rikitea**	**52.48**	**85**	eLR		LR	14 49 50.4		
	307nm,36.8s								
TORD	**Torodi Ar. Bea**	**144.51**	**207**	PKP		**PKPdf**	**14 45 06.0**		**-0.4**
	0.5nm,0.8s,baz=158,slow=2.3,SNR=5.8								
BRTR	**Keskin Array B**	**144.89**	**277**	PKP		**PKPdf**	**14 45 06.6**		**+0.1**
	1.1nm,1.0s,baz=142,slow=7.2,SNR=2.8								
FINES	**FINESS Array B**	**152.31**	**318**	PKPab		**PKPab**	**14 45 32.9**		**-1.6**
	3.0nm,1.1s,baz=66,slow=6.7,SNR=3.3								

IDC 16 14:45:18.3±4.9, 12°88S×100°92E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.5/3, Error ellipse: s-maj=261.8km s-min=28.1km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time		Res
				Op			h	m s	ISC
WRA	**Warramunga Arr**	**37.26**	**121**	P		P	14 52 32.2		0.0
	0.3nm,0.3s,baz=299,slow=8.2,SNR=3.9								
ASAR	**Alice Springs**	**38.58**	**127**	P		P	14 52 43.1		-0.2
	0.2nm,0.7s,baz=301,slow=8.2,SNR=4.4								
MKAR	**Makanchi Array**	**51.17**	**344**	P		P	14 54 23.4		+0.2
	0.7nm,0.6s,baz=160,slow=9.3,SNR=6.0								
TXAR	**Lajitas Array**	**144.05**	**38**	PKP		PKPbc	15 04 55.5		+0.8
	0.4nm,0.6s,baz=297,slow=0.2,SNR=3.3								

*IDC **16** 14:45:16.6±1.7, 18°13S×167°41E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/20, mbtmp3.9/9, ML3.6/1, Error ellipse: s-maj=47.0km s-min=22.4km az=129.0*

*ISCJB **16** 14:45:18.5±1.1, 18°18S±0°05×167°3E±0°2, h23km, mb3.8/7, Error ellipse: s-maj=24.1km s-min=6.7km az=179.5*

*NOU **16** 14:45:18.0±0.7, 17°81S×167°00E, h30km, MD3.4, ML3.7*

ISC 16 14:45:20.1±1.3, 18°18S±0°08×167°4E±0°2, h23km, n13, σ0°96/15, mb3.9/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time		Res
				Op			h	m s	ISC
DZM	**Mont Dzumac**	**3.98**	**193**	*e*P		**Pn**	**14 46 20.0**		**+0.1**
DZM				*e*S		**Sn**	**14 47 05.6**		**-0.3**
DZM				AMP			14 47 20.3		
	comp=Z,362nm,3.4s								
DZM	**Mont Dzumac**	**3.98**	**193**	Pn		**Pn**	**14 46 20.2**		**+0.3**
	comp=Z,3.5nm,0.3s,baz=270,slow=24,SNR=53								
DZM				Sn		**Sn**	**14 47 05.3**		**-0.6**
	comp=Z,6.5nm,0.3s,baz=270,slow=20,SNR=4.0								
BAYA	**Yate Dam**	**3.99**	**187**	*e*S		**Sn**	**14 47 06.6**		**+0.7**
NOUC	**Port Laguerre**	**4.04**	**195**	*e*S		**Sn**	**14 47 06.2**		**-1.1**
LASL	**Noumea**	**4.12**	**191**	*e*S		**Sn**	**14 47 09.7**		**+0.6**
CTA	**Charters Tower**	**20.09**	**261**	P		**P**	**14 49 52.6**		**+0.3**
	comp=Z,1.5nm,0.7s,baz=50,slow=12,SNR=4.0								
STKA	**Stephens Creek**	**27.00**	**235**	P		**P**	**14 51 01.5**		**+1.1**
	comp=Z,2.9nm,0.8s,baz=82,slow=8.4,SNR=6.3								
WRA	**Warramunga Arr**	**31.29**	**261**	P		**P**	**14 51 37.4**		**-1.3**
	comp=Z,0.2nm,0.4s,baz=92,slow=9.9,SNR=6.4								
ASAR	**Alice Springs**	**31.73**	**254**	P		**P**	**14 51 41.5**		**-1.0**
	comp=Z,0.7nm,0.5s,baz=83,slow=8.4,SNR=32								
FITZ	**Fitzroy Crossi**	**39.64**	**263**	P		**P**	**14 52 50.2**		**-0.3**
	comp=Z,4.2nm,1.0s,baz=63,slow=4.5,SNR=3.5								
PETK	**Petropavlovsk-**	**71.48**	**354**	P		**P**	**14 56 39.6**		**+1.0**
	comp=Z,0.7nm,0.7s,baz=137,slow=7.4,SNR=2.7								
CMAR	**Chiang Mai Arr**	**76.50**	**295**	P		**P**	**14 57 09.8**		**+1.0**
	comp=Z,0.5nm,0.5s,baz=122,slow=5.2,SNR=4.0								
ILAR	**Eielson Array**	**89.74**	**18**	P		**P**	**14 58 14.6**		**-1.5**
	comp=Z,0.9nm,0.6s,baz=228,slow=3.5,SNR=7.5								

IDC 16 15:00:23.0±5.6, 4°09S×152°07E, h100km±49km, mb3.4/5, mb1 3.6/6, mb1mx3.3/19, mbtmp3.4/6, MS3.5/6, Ms1 3.5/6, ms1mx3.3/21, Error ellipse: s-maj=61.9km s-min=27.3km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time		Res
				Op			h	m s	ISC
PMG	**Port Moresby**	**7.19**	**222**	P		Pn	15 02 05.3		-0.2
	1.0nm,0.3s,baz=81,slow=17,SNR=4.1								
PMG				LR		LR	15 05 09.0		
	comp=Z,216nm,18.1s,baz=63,slow=40								
WRA	**Warramunga Arr**	**23.39**	**226**	P		P	15 05 22.1		-1.0
	1.3nm,0.8s,baz=49,slow=9.4,SNR=8.0								
ASAR	**Alice Springs**	**26.20**	**220**	P		P	15 05 49.3		+0.8
	1.0nm,0.7s,baz=51,slow=8.8,SNR=17								
FITZ	**Fitzroy Crossi**	**29.37**	**240**	LR		LR	15 17 17.7		
	comp=Z,87nm,20.6s,baz=282,slow=34								
KAPI	**Kappang**	**32.23**	**267**	LR		LR	15 21 07.1		
	comp=Z,60nm,18.1s,baz=284,slow=39								
RAO	**Raoul Island**	**37.89**	**135**	LR		LR	15 20 26.6		
	comp=Z,138nm,21.2s,baz=318,slow=32								
MJAR	**Matsushiro Arr**	**42.44**	**343**	LR		LR	15 22 33.8		
	comp=Z,75nm,21.2s,baz=210,slow=31								
KSRS	**Korea Array**	**47.04**	**334**	LR		LR	15 27 23.0		
	comp=Z,33nm,18.3s,baz=123,slow=34								
SONM	**Songino Array**	**65.34**	**328**	P		P	15 10 55.6		+1.0
	0.3nm,0.6s,baz=116,slow=6.7,SNR=2.9								
ZALV	**Zalesovo Beam**	**80.16**	**326**	P		P	15 12 21.7		-0.2
	0.4nm,0.5s,baz=115,slow=6.5,SNR=2.4								
ILAR	**Eielson Array**	**81.78**	**22**	P		P	15 12 29.6		-0.9
	0.8nm,0.7s,baz=248,slow=5.8,SNR=7.5								

IDC 16 15:03:10.9±3.9, 12°75S×166°72E, h105km±30km, mb3.5/7, mb1 3.6/9, mb1mx3.4/22, mbtmp3.6/9, Error ellipse: s-maj=37.6km s-min=26.2km az=91.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time		Res
				Op			h	m s	ISC
HNR	**Honiara**	**7.42**	**296**	P		Pn	15 04 56.3		-0.2
	4.2nm,0.3s,baz=64,slow=7.6,SNR=3.0								
HNR				S		Sn	15 06 15.0		-4.2
	7.9nm,0.3s,baz=157,slow=18,SNR=4.6								
DZM	**Mont Dzumac**	**9.27**	**182**	P		Pn	15 05 21.9		+0.1
	0.5nm,0.3s,baz=269,slow=24,SNR=12								
DZM				S		Sn	15 07 01.8		-2.6
	0.1nm,0.3s,baz=270,slow=20,SNR=2.8								
CTA	**Charters Tower**	**20.93**	**247**	P		P	15 07 45.8		+0.5
	1.7nm,0.6s,baz=90,slow=10,SNR=3.5								
STKA	**Stephens Creek**	**29.31**	**226**	P		P	15 09 09.8		+0.9
	2.1nm,1.0s,baz=60,slow=7.8,SNR=3.5								
WRA	**Warramunga Arr**	**31.84**	**253**	P		P	15 09 25.1		-0.9
	0.6nm,0.8s,baz=84,slow=9.2,SNR=5.1								
ASAR	**Alice Springs**	**32.93**	**246**	P		P	15 09 34.5		-1.1
	0.8nm,0.6s,baz=70,slow=9.7,SNR=16								
ASAR				pP		pP	15 09 56.6		-2.5
	0.4nm,0.8s,baz=68,slow=9.0,SNR=2.2								
CMAR	**Chiang Mai Arr**	**73.67**	**294**	P		P	15 14 34.6		+1.0
	0.6nm,0.8s,baz=99,slow=5.6,SNR=3.3								
SONM	**Songino Array**	**80.60**	**324**	P		P	15 15 12.1		+0.1
	0.3nm,0.3s,baz=130,slow=4.5,SNR=4.7								
MKAR	**Makanchi Array**	**95.41**	**317**	P		P	15 16 23.4		-0.2
	0.6nm,0.6s,baz=100,slow=7.7,SNR=6.0								
MKAR				pP		pP	15 16 45.3		-5.9
	0.4nm,0.7s,baz=104,slow=6.1,SNR=2.3								
ARCES	**ARCESS Array B**	**118.22**	**346**	PKP		PKPdf	15 21 44.1		-1.1
	1.8nm,0.8s,baz=64,slow=2.1,SNR=4.3								

*SZGRF **16** 15:05:40.6, 2°52N×31°82W, h33km, mb5.4, MS4.4, Central Mid-Atlantic Ridge*

*MOS **16** 15:05:42.6±0.9, 3°47N×31°50W, h10km, mb5.5/79, MS4.3/7, Error ellipse: s-maj=8.5km s-min=3.7km az=58.8*

*ISCJB **16** 15:05:42.3±0.2, 3°38N±0°05×31°52W±0°03, h10km, mb5.1/232, MS4.6/46, Error ellipse: s-maj=6.8km s-min=3.5km az=161.3*

*IDC **16** 15:05:42.5±0.4, 3°40N×31°50W, h0km, mb4.7/26, mb1 4.8/28, mb1mx4.8/30, mbtmp4.7/28, ML4.3/2, MS4.5/35, Ms1 4.5/35, ms1mx4.4/46, Error ellipse: s-maj=12.6km s-min=11.7km az=156.0*

*NEIC **16** 15:05:43.5±0.2, 3°34N×31°51W, h10km, mb5.3/130, Error ellipse: s-maj=5.6km s-min=3.3km az=164.0*

*BJI **16** 15:05:43.1, 3°18N×31°36W, h10km, mB5.5/11, Ms5.2/9, Ms7 4.8/10*

*DJA **16** 15:05:44.7±1.4, 3°N±16°×3°1W±2°7, h10km, M5.0/7, mB5.8/1, mb5.0/7, Mw(mB)5.3/1*

*GCMT **16** 15:05:49.5±0.2, 3°48N×31°46W, h12km, MW5.2, Moment Tensor Solution. s48,c66; s89,c157; Moment tensor: Scale 10^16Nm; Mrr-6.67±.14; Mθθ-0.32±.13; Mϕϕ6.99±.12; Mrθ0.01±.42; Mθϕ-0.54±.12; Mϕr1.68±.35; Best double couple: M0 7.10000×10^16 NP1:ϕs355.00000°, δ38.00000°, λ-92.00000°. NP2:ϕs177.00000°, δ52.00000°, λ-89.00000°. Principal axes: T 7.2300, Plg7.0000°, Azm266.0000°; N -0.3600, Plg1.0000°, Azm356.0000°; P -6.8800, Plg83.0000°, Azm96.0000°; Data Used: II IU IC G CN.*

ISC 16 15:05:43.2±0.3, 3°28N±0°05×31°52W±0°06, h10km, n1033, σ1s07/1053, mb5.2/233, MS4.6/46, 247C-249D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time		Res
				Op			h	m s	ISC
RCBR	**Riachuelo**	**10.05**	**206**	*e*Pn		**Pn**	**15 08 09.1**		**+1.3**
RCBR				Sn		**Sn**	**15 09 55.5**		**-5.2**
RCBR	**Riachuelo**	**10.05**	**206**	Pn		**Pn**	**15 08 09.1**		**+1.3**
	2.6nm,0.3s,baz=12,slow=16,SNR=20								
RCBR				Sn		**Sn**	**15 09 55.5**		**-5.2**
	0.5nm,0.3s,baz=288,slow=13,SNR=3.5								
RCBR				LR		LR	15 11 21.6		
	comp=Z,2μm,19.9s,baz=16,slow=33								
SACV	**Santiago Islan**	**13.99**	**33**	*e*Pn		Pn	15 08 57.3		-4.5
	153nm,1.0s								
BBTS	**Babate**	**18.61**	**52**	P		**Pn**	**15 10 02.1**		**+0.9**
BBTS	**Babate**	**18.61**	**52**	P		**Pn**	**15 10 02.1**		**+0.9**
	0.8nm,0.3s,baz=238,slow=4.6,SNR=4.6								
BBTS				LR		LR	15 15 19.1		
	comp=Z,2μm,20.8s,baz=277,slow=31								
BDFB	**Brasilia**	**24.90**	**221**	P		**P**	**15 11 08.9**		**+2.3**
BDFB	**Brasilia**	**24.90**	**221**	P		**P**	**15 11 08.9**		**+2.3**
	18nm,0.9s,baz=35,slow=9.3,SNR=15								
BDFB				LR		LR	15 20 05.1		
	comp=Z,2μm,19.2s,baz=15,slow=34								
LIC	**Lamto**	**26.56**	**83**	*e*P		**P**	**15 11 21.2**		**-0.5**
	64nm,1.1s,baz=263								
LIC				*e*R					
	4μm,20.5s								
LIC	**Lamto**	**26.56**	**83**	*e*P		**P**	**15 11 21.2**		**-0.5**
	64nm,1.1s								
DBIC	**Dimbokro**	**26.77**	**82**	*e*P		**P**	**15 11 22.8**		**-0.8**
	283nm,2.5s								
DBIC	**Dimbokro**	**26.77**	**82**	P		**P**	**15 11 23.2**		**-0.4**
	13nm,0.9s,baz=250,slow=13,SNR=7.3								
DBIC				LR		LR	15 19 43.9		
	comp=Z,2μm,20.3s,baz=248,slow=32								
PMOZ	**Porto Moniz, M**	**32.31**	**23**	*e*LQ		LQ	15 19 49.6		
PMOZ				*e*LR		LR	15 20 34.8		
	492nm,20.0s								
SAML	**Samuel**	**33.82**	**249**	*e*P		**P**	**15 12 28.5**		**+2.5**
	80nm,1.6s								
TOA0	**Torodi Ar. Sit**	**34.26**	**71**	*e*P		**P**	**15 12 28.4**		**-1.4**
TORD	**Torodi Ar. Bea**	**34.26**	**71**	P		**P**	**15 12 29.2**		**-0.5**
TORD				PcP		**PcP**	**15 15 07.3**		**+0.9**
TORD	**Torodi Ar. Bea**	**34.26**	**71**	P		**P**	**15 12 29.2**		**-0.5**
	39nm,0.9s,baz=258,slow=8.3,SNR=141								
TORD				PcP		**PcP**	**15 15 07.3**		**+0.9**
	2.5nm,0.8s,baz=286,slow=2.4,SNR=5.7								
TORD				LR		LR	15 24 33.0		
	comp=Z,2μm,19.4s,baz=250,slow=33								
SIV	**San Ignacio**	**34.94**	**236**	LR		LR	15 26 34.8		
	comp=Z,3μm,19.0s,slow=36								
SDV	**Santo Domingo**	**39.27**	**280**	*e*P		**P**	**15 13 12.2**		**-0.5**
	50nm,1.1s								
PFVI	**Vila Bisbo**	**39.62**	**29**	*e*P		**P**	**15 13 15.7**		**+0.6**
	113nm,1.4s								
MORF	**Marmelete**	**39.84**	**29**	*e*P		**P**	**15 13 17.8**		**+0.7**
	102nm,2.0s								
MORF	**Marmelete**	**39.84**	**29**	*e*P		**P**	**15 13 17.6**		**+0.5**
MORF				*e*S		**S**	**15 19

MTE eLQ LQ 15 23 26.7
MTE eLR LR 15 25 35.8
comp=Z,447nm,20.0s
PVIS Viseu 42.93 27 *e*P **P 15 13 43.6 +1.2**
comp=Z,77nm,2.0s
POLO Lamas de Olo 43.51 26 *e*P **P 15 13 46.8 -0.3**
comp=Z,26nm,1.9s
MVO Moncorvo 43.68 27 *e*P **P 15 13 49.3 +0.9**
comp=Z,72nm,1.7s
MVO eLQ LQ 15 23 39.0
MVO eLR LR 15 26 06.8
comp=Z,368nm,20.0s
PAB San Pablo 43.71 31 *e*P **P 15 13 49.3 +0.5**
PAB pmax pmax
comp=Z,58nm,1.4s
PAB San Pablo 43.71 31 *e*P **P 15 13 49.3 +0.5**
comp=Z,58nm,1.4s
PGAV Gavieira, Arco 43.78 25 *e*LR LR 15 25 55.6
comp=Z,423nm,20.0s
ESDC Sonseca Array 44.01 31 P **P 15 13 52.0 +0.9**
ESDC Sonseca Array 44.01 31 P **P 15 13 52.0 +0.9**
comp=Z,14nm,1.0s,baz=226,slow=8.5,SNR=62
ESDC LR LR 15 28 55.0
comp=Z,267nm,18.5s,baz=215,slow=32
ESLA Sonseca Array 44.01 31 *e*P **P 15 13 51.5 +0.4**
comp=Z,37nm,1.5s
LVC Limon Verde 44.66 233 P **P 15 13 55.6 -1.2**
comp=Z,148nm,2.3s
LVC Limon Verde 44.66 233 LR LR 15 33 43.3
comp=Z,2µm,18.8s,baz=48,slow=38
OTAV Otavalo 47.00 267 P **P 15 14 13.8 -1.9**
comp=Z,40nm,1.5s
SJPF Ste Jean 47.94 30 *e*P **P 15 14 22.8 +0.8**
comp=Z,142nm,1.7s
SJPF Ste Jean 47.94 30 *e*P **P 15 14 22.8 +0.8**
SJPF pmax pmax
comp=Z,142nm,1.7s
SJPF Ste Jean 47.94 30 *e*P **P 15 14 22.8 +0.8**
comp=Z,142nm,1.7s
ETSF Etsaut 48.11 31 *e*P **P 15 14 24.5 +1.1**
comp=Z,212nm,1.7s
ETSF Etsaut 48.11 31 *e*P **P 15 14 24.5 +1.1**
ETSF pmax pmax
comp=Z,212nm,1.7s
ETSF Etsaut 48.11 31 *e*P **P 15 14 24.5 +1.1**
comp=Z,212nm,1.7s
ATE Arette 48.18 30 *e*P **P 15 14 25.3 +1.4**
REYF Montagne du Re 48.32 30 *e*P **P 15 14 26.1 +1.0**
EPF Esparros 48.67 31 *e*P **P 15 14 28.7 +1.0**
comp=Z,189nm,1.8s
EPF Esparros 48.67 31 *e*P **P 15 14 28.7 +1.0**
EPF pmax pmax
comp=Z,189nm,1.8s
EPF Esparros 48.67 31 *e*P **P 15 14 28.7 +1.0**
comp=Z,189nm,1.8s
MELF Melles 48.77 31 *e*P **P 15 14 30.1 +1.6**
SALF Salau 48.92 32 *e*P **P 15 14 30.9 +1.2**
MLS Moulis 49.01 32 *e*P **P 15 14 31.7 +1.4**
VALF Valcebollere 49.11 33 *e*P **P 15 14 31.7 +0.4**
CFAA Coronel Fontan 49.22 222 LR LR 15 35 33.2
comp=Z,94nm,18.3s,baz=54,slow=36
KEST Kesra 49.66 44 *e*P **P 15 14 35.0 -0.4**
KEST Kesra 49.66 44 P **P 15 14 36.6 +1.2**
comp=Z,6.9nm,1.1s,baz=36,slow=4.5,SNR=16
KEST LR LR 15 36 40.9
comp=Z,342nm,18.5s,baz=190,slow=38
MTLF Montolieu 49.87 32 *e*P **P 15 14 36.7 -0.1**
comp=Z,99nm,1.5s
MTLF Montolieu 49.87 32 *e*P **P 15 14 36.7 -0.1**
MTLF pmax pmax
comp=Z,99nm,1.5s
MTLF Montolieu 49.87 32 *e*P **P 15 14 36.7 -0.1**
comp=Z,99nm,1.5s
LFF La Frestale 50.24 30 *e*P **P 15 14 39.9 +0.3**
LFF La Frestale 50.24 30 *e*P **P 15 14 39.9 +0.3**
LFF La Frestale 50.24 30 *e*P **P 15 14 39.9 +0.3**
QUIF Quistinic 50.72 24 *e*P **P 15 14 42.9 -0.3**
QUIF Quistinic 50.72 24 *e*P **P 15 14 42.9 -0.3**
QUIF Quistinic 50.72 24 *e*P **P 15 14 42.9 -0.3**
RJF Les Rejaudoux 50.88 30 *e*P **P 15 14 44.1 -0.3**
RJF Les Rejaudoux 50.88 30 *e*P **P 15 14 44.1 -0.3**
RJF Les Rejaudoux 50.88 30 *e*P **P 15 14 44.1 -0.3**
CAF Calviac 50.89 30 *e*P **P 15 14 44.5 0.0**
comp=Z,51nm,1.2s
CAF Calviac 50.89 30 *e*P **P 15 14 44.5 0.0**
CAF pmax pmax
comp=Z,51nm,1.2s
CAF Calviac 50.89 30 *e*P **P 15 14 44.5 0.0**
comp=Z,51nm,1.2s
ROSF Rostrenen 51.01 24 *e*P **P 15 14 45.3 0.0**
ROSF Rostrenen 51.01 24 *e*P **P 15 14 45.3 0.0**
ROSF Rostrenen 51.01 24 *e*P **P 15 14 45.3 0.0**
MFF Saint Martin d 51.03 27 *e*P **P 15 14 45.2 -0.3**
comp=Z,88nm,1.4s
MFF Saint Martin d 51.03 27 *e*P **P 15 14 45.2 -0.3**
MFF pmax pmax
comp=Z,88nm,1.4s
MFF Saint Martin d 51.03 27 *e*P **P 15 14 45.2 -0.3**
comp=Z,88nm,1.4s
LASF Ste Croix 51.24 32 *e*P **P 15 14 47.3 +0.1**
comp=Z,142nm,1.9s
LASF Ste Croix 51.24 32 *e*P **P 15 14 47.3 +0.1**
comp=Z,142nm,1.9s
SGMF Saint Gilles 51.24 25 *e*P **P 15 14 46.9 -0.2**
comp=Z,123nm,1.5s
SGMF Saint Gilles 51.24 25 *e*P **P 15 14 46.9 -0.2**
SGMF pmax pmax
comp=Z,123nm,1.5s
SGMF Saint Gilles 51.24 25 *e*P **P 15 14 46.9 -0.2**
comp=Z,123nm,1.5s
VERF Verneugheol 51.68 30 *e*P **P 15 14 52.2 +1.7**
LBL Lubilhac 51.70 31 *e*P **P 15 14 52.7 +2.0**
TCF Toulx Ste Croi 51.92 29 *e*P **P 15 14 52.3 0.0**
comp=Z,83nm,1.6s
TCF Toulx Ste Croi 51.92 29 *e*P **P 15 14 52.3 0.0**
comp=Z,83nm,1.6s
PYM Petit Puy Mans 51.94 30 *e*P **P 15 14 54.3 +1.8**
GRR Gorron 52.06 26 *e*P **P 15 14 52.9 -0.3**
comp=Z,42nm,1.2s
GRR Gorron 52.06 26 *e*P **P 15 14 52.9 -0.3**
GRR pmax pmax
comp=Z,42nm,1.2s
GRR Gorron 52.06 26 *e*P **P 15 14 52.9 -0.3**
comp=Z,42nm,1.2s
SMRF Simiane la Rot 52.10 33 *e*P **P 15 14 54.2 +0.5**
comp=Z,46nm,1.5s
SMRF Simiane la Rot 52.10 33 *e*P **P 15 14 54.2 +0.5**
comp=Z,46nm,1.5s
VIVF Saint-Julien-l 52.19 32 *e*P **P 15 14 54.5 +0.2**
comp=Z,50nm,1.4s
VIVF Saint-Julien-l 52.19 32 *e*P **P 15 14 54.5 +0.2**
VIVF pmax pmax
comp=Z,50nm,1.4s
VIVF Saint-Julien-l 52.19 32 *e*P **P 15 14 54.5 +0.2**
comp=Z,50nm,1.4s
AGO Saint Agoulin 52.21 30 *e*P **P 15 14 56.0 +1.6**
SSB Saint Sauveur 52.41 32 P **P 15 14 55.3 -0.6**
SSB pmax pmax
comp=Z,213nm,2.5s
SSB Saint Sauveur 52.41 32 P **P 15 14 55.3 -0.6**
comp=Z,213nm,2.5s
SSB Saint Sauveur 52.41 32 *e*P **P 15 14 56.9 +1.0**
BGF Bois d'Agland 52.42 29 *e*P **P 15 14 56.0 0.0**
comp=Z,64nm,1.2s
BGF Bois d'Agland 52.42 29 *e*P **P 15 14 56.0 0.0**
BGF pmax pmax
comp=Z,64nm,1.2s
BGF Bois d'Agland 52.42 29 *e*P **P 15 14 56.0 0.0**
comp=Z,64nm,1.2s
FRF La Foret Royal 52.44 35 *e*P **P 15 14 56.0 -0.1**
comp=Z,51nm,1.2s
FRF La Foret Royal 52.44 35 *e*P **P 15 14 56.0 -0.1**
FRF pmax pmax
comp=Z,51nm,1.2s
FRF La Foret Royal 52.44 35 *e*P **P 15 14 56.0 -0.1**
comp=Z,51nm,1.2s
FLN La Foliniere 52.51 25 *e*P **P 15 14 56.1 -0.4**
comp=Z,61nm,1.4s
FLN *e*R
comp=Z,405nm,22.8s
FLN La Foliniere 52.51 25 *e*P **P 15 14 56.1 -0.4**
FLN pmax pmax
comp=Z,61nm,1.4s
FLN La Foliniere 52.51 25 *e*P **P 15 14 56.1 -0.4**
comp=Z,61nm,1.4s
LDF La Druitiere 52.54 26 *e*P **P 15 14 56.3 -0.4**
comp=Z,59nm,1.3s
LDF La Druitiere 52.54 26 *e*P **P 15 14 56.3 -0.4**
LDF pmax pmax
comp=Z,59nm,1.3s
LDF La Druitiere 52.54 26 *e*P **P 15 14 56.3 -0.4**
comp=Z,59nm,1.3s
CALN Calern 52.69 34 *e*P **P 15 14 58.5 +0.3**
AVF Avril sur Loir 52.84 30 *e*P **P 15 14 58.9 -0.1**
comp=Z,32nm,1.4s
AVF Avril sur Loir 52.84 30 *e*P **P 15 14 58.9 -0.1**
AVF pmax pmax
comp=Z,32nm,1.4s
AVF Avril sur Loir 52.84 30 *e*P **P 15 14 58.9 -0.1**
comp=Z,32nm,1.4s
ORIF Oris-en-Rattie 52.88 33 *e*P **P 15 15 00.0 +0.5**
ORIF *e*R
comp=Z,442nm,19.8s
ORIF Oris-en-Rattie 52.88 33 *e*P **P 15 15 00.0 +0.5**
ORIF Oris-en-Rattie 52.88 33 *e*P **P 15 15 00.0 +0.5**
HRV Adam Dziewonsk 52.88 323 *e*P **P 15 14 58.6 -0.8**
HRV pmax pmax
comp=Z,30nm,1.1s
HRV Adam Dziewonsk 52.88 323 *e*P **P 15 14 58.6 -0.8**
comp=Z,30nm,1.1s
MVIF Mont Vial 52.93 34 *e*P **P 15 15 00.3 +0.3**
REVF Revere 52.96 35 *e*P **P 15 15 00.4 +0.4**
SMF Signal de Mont 52.98 30 *e*P **P 15 15 00.2 +0.1**
comp=Z,110nm,1.9s
SMF Signal de Mont 52.98 30 *e*P **P 15 15 00.2 +0.1**
SMF pmax pmax
comp=Z,111nm,1.9s
SMF Signal de Mont 52.98 30 *e*P **P 15 15 00.2 +0.1**
comp=Z,110nm,1.9s
TOUF Mont Tournerai 53.06 34 *e*P **P 15 15 02.4 +1.5**
SBF Sospel 53.07 35 *e*P **P 15 15 01.1 +0.2**
comp=Z,118nm,1.2s
SBF Sospel 53.07 35 *e*P **P 15 15 01.1 +0.2**
SBF pmax pmax
comp=Z,118nm,1.2s
SBF Sospel 53.07 35 *e*P **P 15 15 01.1 +0.2**
comp=Z,118nm,1.2s
SSF Saint Saulge 53.10 29 *e*P **P 15 15 00.7 -0.3**
comp=Z,16nm,0.9s
SSF Saint Saulge 53.10 29 *e*P **P 15 15 00.7 -0.3**
SSF pmax pmax
comp=Z,16nm,0.9s
SSF Saint Saulge 53.10 29 *e*P **P 15 15 00.7 -0.3**
comp=Z,16nm,0.9s
AUTN L'Aution 53.15 35 *e*P **P 15 15 02.7 +1.1**
TSUM Tsumeb 53.19 117 *e*P **P 15 15 03.7 +1.5**
comp=Z,99nm,1.9s
TSUM Tsumeb 53.19 117 P **P 15 15 03.9 +1.7**
comp=Z,9.6nm,1.0s,baz=277,slow=7.9,SNR=7.9
TSUM LR LR 15 33 11.1
comp=Z,985nm,19.4s,baz=332,slow=31
PGF Pioggiola 53.19 37 *e*P **P 15 15 01.6 -0.2**
comp=Z,84nm,1.3s
PGF Pioggiola 53.19 37 *e*P **P 15 15 01.6 -0.2**
PGF pmax pmax
comp=Z,84nm,1.3s
PGF Pioggiola 53.19 37 *e*P **P 15 15 01.6 -0.2**
comp=Z,84nm,1.3s
SAOF Saorge 53.22 35 *e*P **P 15 15 02.4 +0.5**
MBDF Montbardon 53.24 33 *e*P **P 15 15 03.0 +0.8**
comp=Z,78nm,1.4s
MBDF Montbardon 53.24 33 *e*P **P 15 15 03.0 +0.8**
MBDF pmax pmax
comp=Z,78nm,1.4s
MBDF Montbardon 53.24 33 *e*P **P 15 15 03.0 +0.8**
comp=Z,78nm,1.4s
BNI Bardonecchia 53.40 33 *e*P **P 15 15 04.3 +1.0**
BNI pmax pmax
comp=Z,28nm,1.2s
BNI Bardonecchia 53.40 33 *e*P **P 15 15 04.3 +1.0**
comp=Z,28nm,1.2s
LOR Lormes 53.42 29 *e*P **P 15 15 03.0 -0.3**
LOR *e*R
comp=Z,667nm,21.8s
LOR Lormes 53.42 29 *e*P **P 15 15 03.0 -0.3**
PAL Palisades 53.48 321 *e*P **P 15 15 03.3 -0.5**
PAL pmax pmax
comp=Z,105nm,0.9s
PAL Palisades 53.48 321 *e*P **P 15 15 03.3 -0.5**
comp=Z,105nm,0.9s
LPG La Plagne 53.73 33 *e*P **P 15 15 06.6 +0.7**
comp=Z,66nm,1.7s
LPG La Plagne 53.73 33 *e*P **P 15 15 06.6 +0.7**
LPG pmax pmax
comp=Z,66nm,1.7s
LPG La Plagne 53.73 33 *e*P **P 15 15 06.6 +0.7**
comp=Z,66nm,1.7s
LPL La Plagne 53.73 33 *e*P **P 15 15 06.5 +0.6**
LPL La Plagne 53.73 33 *e*P **P 15 15 06.5 +0.6**
LPL La Plagne 53.73 33 *e*P **P 15 15 06.5 +0.6**
HNH Hanover 54.02 324 *e*P **P 15 15 06.7 -1.1**
CABF La Chapelle 54.10 31 *e*P **P 15 15 08.2 -0.2**
comp=Z,59nm,1.4s
CABF La Chapelle 54.10 31 *e*P **P 15 15 08.2 -0.2**
CABF pmax pmax
comp=Z,59nm,1.4s
CABF La Chapelle 54.10 31 *e*P **P 15 15 08.2 -0.2**
comp=Z,59nm,1.4s
JSRW J. Sargeant Re 54.47 315 *e*P **P 15 15 11.2 0.0**
MVL Millersville 54.53 318 *e*P **P 15 15 12.1 +0.5**
comp=Z,62nm,1.6s
SDMD Soldier's Deli 54.57 317 *e*P **P 15 15 12.5 +0.7**
SENIN Lac Senin/Sane 54.57 32 *e*P **P 15 15 11.3 -0.7**
comp=Z,154nm,2.6s
MEZF Maizieres J'vi 54.85 29 *e*P **P 15 15 13.3 -0.4**
MEZF Maizieres J'vi 54.85 29 *e*P **P 15 15 13.3 -0.4**
LOMF Lomont 54.97 31 *e*P **P 15 15 14.7 +0.7**
MENF Mencas 54.99 26 *e*P **P 15 15 14.7 0.0**
THEF They Montfort 55.12 30 *e*P **P 15 15 16.1 +0.4**
HAU Haudompre 55.15 30 *e*P **P 15 15 15.8 -0.2**
HAU *e*R
comp=Z,651nm,20.2s
HAU Haudompre 55.15 30 *e*P **P 15 15 15.8 -0.2**
HAU Haudompre 55.15 30 *e*P **P 15 15 15.8 -0.2**
PAGF Fort de Pagny 55.22 29 *e*P **P 15 15 16.1 -0.3**
PAGF Fort de Pagny 55.22 29 *e*P **P 15 15 16.1 -0.3**
HINF Hinteralfeld 55.28 31 *e*P **P 15 15 16.6 -0.3**
HINF Hinteralfeld 55.28 31 *e*P **P 15 15 16.6 -0.3**
HINF Hinteralfeld 55.28 31 *e*P **P 15 15 16.6 -0.3**
MOF Molkenrain 55.45 31 *e*P **P 15 15 18.2 0.0**
CEL Celeste 55.47 45 *e*P **P 15 15 18.6 +0.2**
comp=Z,33nm,0.9s
BAIF Baives 55.54 27 *e*P **P 15 15 18.1 -0.5**
comp=Z,109nm,1.5s
BAIF Baives 55.54 27 *e*P **P 15 15 18.1 -0.5**
BAIF pmax pmax
comp=Z,109nm,1.5s
BAIF Baives 55.54 27 *e*P **P 15 15 18.1 -0.5**
comp=Z,109nm,1.5s
ECH Echery 55.70 30 *e*P **P 15 15 19.2 -0.7**
ECH pmax pmax
comp=Z,8.0nm,1.1s
ECH Echery 55.70 30 *e*P **P 15 15 19.2 -0.7**
comp=Z,8.0nm,1.1s
ECH Echery 55.70 30 *e*P **P 15 15 19.5 -0.4**
DOU Doubes 55.74 27 P **P 15 15 20.2 +0.1**
AQU L'Aquila 55.80 39 *e*P **P 15 15 19.2 -1.5**
comp=Z,70nm,1.1s
GIVF Givet 55.85 27 *e*P **P 15 15 20.1 -0.8**
GIVF Givet 55.85 27 *e*P **P 15 15 20.1 -0.8**
GIVF Givet 55.85 27 *e*P **P 15 15 20.1 -0.8**
CDF Champ du Feu 55.89 30 *e*P **P 15 15 20.8 -0.5**
comp=Z,108nm,1.8s
CDF Champ du Feu 55.89 30 *e*P **P 15 15 20.8 -0.5**
CDF pmax pmax
comp=Z,108nm,1.8s
CDF Champ du Feu 55.89 30 *e*P **P 15 15 20.8 -0.5**
comp=Z,108nm,1.8s
KMSC Kings Mountain 55.91 311 ⇑P **P 15 15 22.0 +0.4**
baz=56
BLA Blacksburg 56.07 314 P **P 15 15 20.4 -2.4**
BLA pmax pmax
comp=Z,3.0nm,0.6s
BLA Blacksburg 56.07 314 P **P 15 15 20.4 -2.4**
comp=Z,3.3nm,0.6s
CUC Castrocucco 56.21 43 *e*P **P 15 15 22.9 -0.8**
comp=Z,25nm,1.3s
TIGA Tifton 56.36 306 ⇓P **P 15 15 24.5 -0.4**
baz=56
BFO Black Forest 56.37 31 P **P 15 15 25.1 +0.4**
comp=Z,59nm,1.7s,SNR=5.2
BFO Black Forest 56.37 31 *e*P **P 15 15 24.7 0.0**
comp=Z,99nm,2.1s
BFO Black Forest 56.37 31 *e*P **P 15 15 24.6 0.0**
BFO pmax pmax
comp=Z,106nm,2.2s
BFO Black Forest 56.37 31 *e*P **P 15 15 24.6 0.0**
comp=Z,106nm,2.2s
PLCA Paso Flores 56.47 215 LR LR 15 40 22.2
comp=Z,767nm,19.2s,baz=45,slow=37
TIP Timpagrande 56.48 44 *e*P **P 15 15 23.9 -1.8**
comp=Z,42nm,1.3s
LANF Langenberg 56.53 30 *e*P **P 15 15 26.3 +0.5**
DAVA Damuels 56.53 33⇓*i*P **P 15 15 26.0 -0.1**
comp=Z,20nm,1.2s,SNR=6.3
ESK Eskdalemuir 56.70 19 *i* P **P 15 15 27.2 +0.4**
ESK Eskdalemuir 56.70 19 *e*P **P 15 15 26.2 -0.7**
comp=Z,71nm,1.7s
BEBN Eben Emael 56.73 27 P **P 15 15 28.5 +1.4**
MEM Membach 56.75 28 P **P 15 15 28.4 +1.1**
FETA Feichten 56.83 33⇓*i*P **P 15 15 27.8 -0.4**
comp=Z,18nm,0.9s
STU Stuttgart 57.10 31 *e*P **P 15 15 29.4 -0.4**
comp=Z,38nm,1.5s
STU Stuttgart 57.10 31 P **P 15 15 29.9 +0.1**
STU Stuttgart 57.10 31 P **P 15 15 29.9 +0.1**
WTTA Wattenberg 57.48 34⇓*i*P **P 15 15 32.5 -0.3**
comp=Z,20nm,1.3s
TNS Taunus Mts 57.65 29 *e*P **P 15 15 33.5 -0.3**
comp=Z,37nm,1.3s
TNS Taunus Mts 57.65 29 *e*P **P 15 15 33.5 -0.3**
TNS pmax pmax
comp=Z,7.0nm,1.3s
ABTA Abfaltersbach 57.67 34⇓*i*P **P 15 15 34.2 +0.2**
comp=Z,35nm,1.2s,SNR=11
FUR Furstenfeldbru 57.82 33 *e*P **P 15 15 34.6 -0.3**
comp=Z,123nm,2.0s
FUR Furstenfeldbru 57.82 33 *e*P **P 15 15 34.6 -0.3**
FUR pmax pmax
comp=Z,28nm,2.0s
BUG Bochum-Univer 57.90 28 *e*P **P 15 15 35.3 -0.1**
comp=Z,74nm,1.8s
TKL Tuckaleechee C 57.95 311 *e*P **P 15 15 35.8 -0.3**
VOY Vojsko 58.06 36 *e*P **P 15 15 37.5 +0.7**
VOY *e* 15 15 43.1
CADS Cadrg 58.08 36 *i* P **P 15 15 37.4 +0.6**
JAVS Javornik 58.09 36 *i* P **P 15 15 37.6 +0.6**
TZTN Tazewell 58.11 312 *e*P **P 15 15 36.5 -0.6**
comp=Z,122nm,2.0s
MYKA Terra Mystica 58.24 35⇓*i*P **P 15 15 38.7 +0.7**
comp=Z,24nm,1.2s
RJOB Jochberg 58.39 34 *e*P **P 15 15 38.5 -0.5**
comp=Z,16nm,1.1s
LJU Ljubljana 58.44 36 *e*P **P 15 15 40.3 +1.0**
CPCT Cooper Cave 58.45 310 *e*P **P 15 15 40.5 +0.9**
BOJS Bojanci 58.58 37 *e*P **P 15 15 41.5 +1.3**
GRFO Grafenberg 58.71 31 *e*P **P 15 15 41.3 +0.2**
GRFO pmax pmax
comp=Z,112nm,1.8s
GRFO Grafenberg 58.71 31 *e*P **P 15 15 41.2 +0.2**
comp=Z,112nm,1.8s
GRF Grafenberg Arr 58.71 31 *e*P **P 15 15 40.9 -0.2**
comp=Z,95nm,1.6s
GRF *e*L L 15 36 34.7
comp=Z,286nm,21.2s
GRF Grafenberg Arr 58.71 31 *e*P **P 15 15 40.9 -0.2**
GRF pmax pmax
comp=Z,34nm,1.6s
IBBN Ibbenburen 58.71 27 *e*P **P 15 15 40.7 -0.3**
comp=Z,72nm,1.5s
UBBA Unterbreizbach 58.80 29 *e*P **P 15 15 41.6 +0.1**
comp=Z,123nm,2.3s
SCHQ Schefferville 58.83 337 *e*P **P 15 15 41.7 -0.1**
comp=Z,27nm,1.1s
SCHQ Schefferville 58.83 337 P **P 15 15 41.7 -0.1**
comp=Z,18nm,0.9s,baz=129,slow=5.4,SNR=14
SOKA Soboth 59.07 36⇑*i*P **P 15 15 44.2 +0.4**
comp=Z,24nm,1.2s
PERS Pernice 59.10 36 *e*P **P 15 15 44.4 +0.5**
WET Wettzell 59.25 32 *e*P **P 15 15 44.4 -0.5**
comp=Z,44nm,1.7s
WET Wettzell 59.25 32 *e*P **P 15 15 44.4 -0.5**
WET pmax pmax
comp=Z,14nm,1.7s
ROTZ Rotzenmuhle 59.27 31 *e*P **P 15 15 44.7 -0.3**
comp=Z,47nm,1.5s
MOA Molln 59.27 34⇓*i*P **P 15 15 44.8 -0.3**
comp=Z,7.9nm,1.1s
MOX Moxa 59.49 30 *e*P **P 15 15 46.5 0.0**
comp=Z,78nm,1.7s
MOX Moxa 59.49 30 *e*P **P 15 15 46.5 0.0**
MOX pmax pmax
comp=Z,12nm,1.7s
GEC2 GERESS Array S 59.52 33 *e*P **P 15 15 46.5 -0.4**
comp=Z,116nm,2.5s
GEC2 GERESS Array S 59.52 33 *e*P **P 15 15 47.4 +0.5**
GEC2 GERESS Array S 59.52 33 *e*P **P 15 15 47.4 +0.5**
GERES GERESS Array B 59.52 33 P **P 15 15 47.0 +0.1**
GERES PP **PP 15 17 57.2 -1.2**
GERES GERESS Array B 59.52 33 P **P 15 15 47.0 +0.1**
comp=Z,3.6nm,0.9s,baz=235,slow=4.7,SNR=17
GERES PP **PP 15 17 57.2 -1.2**
comp=Z,1.3nm,0.9s,baz=227,slow=7.1,SNR=5.3
GERES LR LR 15 40 06.8
comp=Z,191nm,18.8s,baz=244,slow=35
LRAL Lakeview Retre 59.60 307 *e*P **P 15 15 48.0 +0.5**
comp=Z,14nm,1.0s
KHC Kasperske Hory 59.62 33⇑*i*P **P 15 15 47.7 +0.2**
KHC *e* 15 15 54.5
KHC *e*S **S 15 24 01.5 +3.7**
KHC MLR MLR
comp=Z,300nm,23.7s
KHC Kasperske Hory 59.62 33⇑*i*P **P 15 15 47.7 +0.2**
KHC *e*x x 15 15 54.5
KHC *e*S **S 15 24 01.5 +3.7**
KHC AMS AMS 15 39 40.0
comp=Z,300nm,23.7s
KHC Kasperske Hory 59.62 33 *e*P **P 15 15 47.4 0.0**
comp=Z,133nm,2.4s
CLZ Clausthal 59.63 29 *e*P **P 15 15 47.2 -0.3**
comp=Z,124nm,2.3s
CLZ Clausthal 59.63 29 *e*P **P 15 15 47.2 -0.3**
CLZ pmax pmax
comp=Z,12nm,2.3s
KOGS Kog 59.67 36 *e*P **P 15 15 48.4 +0.6**
TANN Tannenbergstha 59.78 31 *e*P **P 15 15 48.5 -0.1**
comp=Z,81nm,1.5s
PUK Puka 59.88 42 *e*P **P 15 15 50.8 +1.3**
NRDL Niedersach Rie 59.92 28 *e*P **P 15 15 49.6 +0.3**
comp=Z,67nm,1.5s
BEHE Becsehely 59.99 37⇓*e*P **P 15 15 51.4 +1.4**
PHP Peshkopia 60.10 43 *e*P **P 15 15 53.2 +2.2**
CONA Conrad Observa 60.22 35⇓*i*P **P 15 15 51.6 -0.1**
comp=Z,8.9nm,1.1s,SNR=7.2
CLL Collm 60.59 30 *e*P **P 15 15 53.9 -0.1**
comp=Z,59nm,1.8s
CLL Collm 60.59 30⇑*i*P **P 15 15 54.8 +0.8**
CLL *e*S **S 15 24 10.0 -0.1**
CLL pmax pmax
comp=Z,23nm,1.8s
CLL Collm 60.59 30⇑*i*P **P 15 15 54.8 +0.8**
comp=Z,59nm,1.8s
CLL *i* sP **sP 15 16 00.5 +2.0**
CLL *e*PPP PPP 15 19 31.0
CLL *e*S **S 15 24 10.0 -0.1**
CLL *e*PS **PnS 15 24 21.0 -2.2**
CLL *e*SSS SSS 15 30 54.0
CLL L L 15 40 00.0
comp=Z,300nm,18.7s
PRA Prague 60.61 32 ⇑P **P 15 15 55.0 +0.8**
PRA AMS AMS 15 39 30.0
PRU Pruhonice 60.62 32⇑*i*P **P 15 15 54.8 +0.5**
PRU *e*S S 15 24 16.7 +6.1
PRU MLR MLR
comp=Z,300nm,19.1s
PRU Pruhonice 60.62 32⇑*i*P **P 15 15 54.8 +0.5**
PRU *e*S S 15 24 16.7 +6.1
PRU AMS AMS 15 39 10.0
comp=Z,300nm,19.1s
TREC Trest 60.75 33⇑*i*P **P 15 15 55.8 +0.6**
TREC Trest 60.75 33⇑*i*P **P 15 15 55.8 +0.6**
BRG Berggiesshubel 60.82 31 *e*P **P 15 15 56.4 +0.8**
comp=Z,56nm,1.7s
BRG *e* 15 16 02.5
comp=Z,64nm,2.0s
BRG S S 15 24 23.0 +10

BRG SS SS 15 28 24.0 +12
BRG
comp=N,213nm,24.9s
BRG
comp=E,119nm,22.1s
BRG
comp=Z,216nm,20.6s
BRG Berggiesshubel 60.82 31 *e*P **P 15 15 55.5 -0.1**
comp=Z,56nm,1.7s
BRG Berggiesshubel 60.82 31 *e*P **P 15 15 56.4 +0.8**
BRG 15 16 02.5
BRG S S 15 24 23.0 +10
BRG pmax pmax
comp=Z,3.0nm,1.7s
BRG pmax pmax
comp=Z,56nm,2.0s
BRG MLR MLR
comp=N,64µm,24.9s
BRG MLR MLR
comp=E,213nm,22.1s
BRG MLR MLR
comp=Z,119nm,20.6s
SUR Sutherland 60.92 130 P **P 15 15 58.6 +1.7**
SUR Sutherland 60.92 130 P **P 15 15 58.6 +1.7**
comp=Z,11nm,0.8s,baz=300,slow=6.8,SNR=6.9
SUR LR LR 15 36 32.5
comp=Z,266nm,19.9s,baz=229,slow=30
PVCC Panska Ves 60.94 32 *e*P **P 15 15 57.4 +0.9**
PVCC MLR MLR
comp=Z,400nm,17.4s
PVCC Panska Ves 60.94 32⇑*e*P **P 15 15 57.4 +0.9**
PVCC AMS AMS 15 38 50.0
comp=Z,400nm,17.4s
BSEG Bad Segeberg 60.95 27 *e*P **P 15 15 55.7 -0.7**
comp=Z,134nm,1.2s
BSEG Bad Segeberg 60.95 27 *e*P **P 15 15 55.7 -0.7**
BSEG pmax pmax
comp=Z,25nm,1.2s
PKS9 Tamasi 60.95 37⇑*e*P **P 15 15 58.2 +1.6**
PKSM Moragy 60.99 38 *e*P **P 15 15 56.5 -0.3**
IDI Anoyia 61.02 51 *e*P **P 15 15 57.0 -0.3**
comp=Z,370nm,1.9s
ZST Bratislava 61.07 35 *e*P **P 15 15 57.8 +0.5**
ZST Bratislava 61.07 35 *e*P **P 15 15 57.8 +0.5**
WVT Waverly 61.21 310 *e*P **P 15 15 58.6 +0.1**
WVT pmax pmax
comp=Z,38nm,1.7s
WVT Waverly 61.21 310 *e*P **P 15 15 58.6 +0.1**
comp=Z,38nm,1.7s
CSKK Cs˙ˇkako 61.32 36⇑*e*P **P 15 16 00.5 +1.4**
PKSG 61.41 36⇓*e*P **P 15 16 00.3 +0.6**
PKS2 Kecel 61.47 38⇑*e*P P 15 16 08.0 +7.9
UPC Upice 61.70 32⇑*i*P **P 15 16 02.3 +0.7**
UPC *e* 15 16 08.7
UPC Upice 61.70 32⇑*i*P **P 15 16 02.3 +0.7**
UPC *ex* x 15 16 08.7
PKS7 Kunszentmiklos 61.70 37⇑*e*P **P 15 16 03.5 +1.9**
PKS6 Bocsa 61.73 38⇑*e*P **P 15 16 03.8 +1.9**
DPC Dobruska-Polom 61.78 33⇑*i*P **P 15 16 03.0 +0.8**
DPC *e* 15 16 09.4
DPC *e*S S 15 24 33.3 +7.9
DPC Dobruska-Polom 61.78 33⇑*i*P **P 15 16 03.0 +0.8**
DPC *ex* x 15 16 09.4
DPC *e*S S 15 24 33.3 +7.9
DPC AMS AMS 15 40 30.0
BUD Budapest 61.83 36⇓*e*P **P 15 16 03.6 +1.1**
LSZ Lusaka 61.89 109 *e*P **P 15 16 04.7 +1.1**
KKB Krupnik 61.98 44 *e*P **P 15 16 05.0 +1.3**
KSP Ksiaz 62.03 32⇓*e*P **P 15 16 04.4 +0.6**
KSP Ksiaz 62.03 32 *e*P **P 15 16 05.2 +1.4**
PKSN Nyarlorinc 62.06 37⇑*e*P **P 15 16 06.1 +2.1**
APE Apeiranthos 62.07 49⇑P **P 15 16 06.1 +1.7**
APE Apeiranthos 62.07 49⇑*i*P **P 15 16 06.1 +1.7**
LBTB Lobatse 62.10 120 *e*P **P 15 16 04.2 -0.7**
comp=Z,14nm,0.8s
SFIN Scholer Farm 62.11 315 ⇓P **P 15 16 04.7 +0.1**
baz=62
MUD Monsted U'grnd 62.13 24⇓*i*P **P 15 16 04.6 +0.3**
MUD Monsted U'grnd 62.13 24 *i* P **P 15 16 05.5 +1.2**
comp=Z,12nm,0.9s
MORC Moravsky Berou 62.14 34 *e*P **P 15 16 05.6 +1.0**
MORC pmax pmax
comp=Z,55nm,1.7s
MORC Moravsky Berou 62.14 34 *e*P **P 15 16 05.6 +1.0**
comp=Z,55nm,1.7s
VYHS Vyhne 62.22 35 *e*P **P 15 16 05.6 +0.5**
VYHS pmax pmax
comp=Z,20nm,1.9s
VYHS Vyhne 62.22 35 *e*P **P 15 16 05.6 +0.5**
MMB Musomiste 62.32 44 *e*P **P 15 16 07.0 +1.0**
VTS Vitosha 62.35 43⇑P **P 15 16 08.1 +1.8**
VTS Vitosha 62.35 43 *e*P **P 15 16 07.0 +0.7**
VTS Vitosha 62.35 43⇑*i*P **P 15 16 08.1 +1.8**
OKC Ostrava-Krasne 62.50 34⇑*i*P **P 15 16 07.6 +0.6**
OKC *e* 15 16 14.5
OKC *e*S S 15 24 52.7 +18
OKC MLR MLR
comp=Z,200nm,25.1s
OKC Ostrava-Krasne 62.50 34⇑*i*P **P 15 16 07.6 +0.6**
OKC *ex* x 15 16 14.5
OKC *ex* x 15 24 52.7
OKC AMS AMS 15 39 30.0
comp=Z,200nm,25.1s
PSZ Piszkesteto 62.55 36⇑P **P 15 16 08.6 +1.1**
PSZ Piszkesteto 62.55 36 *e*P **P 15 16 08.3 +0.8**
comp=Z,252nm,2.1s
PSZ Piszkesteto 62.55 36⇑*i*P **P 15 16 08.6 +1.1**
PSZ Piszkesteto 62.55 36⇓*e*P **P 15 16 08.9 +1.4**
BZS Buzias 62.56 39⇑P **P 15 16 08.5 +1.1**
BZS Buzias 62.56 39⇑*i*P **P 15 16 08.5 +1.1**
LLD Lille Linde 62.69 26 *i* P **P 15 16 09.2 +1.1**
LLD pmax pmax
comp=Z,44nm,1.0s
LLD Lille Linde 62.69 26 *i* P **P 15 16 09.2 +1.1**
comp=Z,44nm,0.9s
PARMO Parma 62.85 310 *e*P **P 15 16 09.2 -0.4**
BOSA Boshof 63.00 124 *e*P **P 15 16 11.4 +0.5**
comp=Z,23nm,0.8s
BOSA Boshof 63.00 124 P **P 15 16 11.6 +0.7**
comp=Z,17nm,0.8s,baz=291,slow=5.9,SNR=28
BOSA LR LR 15 38 47.2
comp=Z,463nm,18.2s,baz=286,slow=32
COP Copenhagen 63.01 26 *e*P **P 15 16 12.1 +1.9**
COP pmax pmax
comp=Z,24nm,0.9s
COP Copenhagen 63.01 26 *i* P **P 15 16 12.1 +1.9**
comp=Z,24nm,0.9s
MPEP Malo Peshtene 63.01 42 *e*P **P 15 16 12.0 +1.5**
RZN Rozhen 63.05 44 *e*P **P 15 16 12.0 +1.0**
KECS Kecovo 63.17 36 *e*P **P 15 16 13.7 +2.2**
KECS pmax pmax
comp=Z,7.0nm,1.5s
KECS Kecovo 63.17 36 *e*P **P 15 16 13.7 +2.2**
PLD Plovdiv 63.19 44 *e*P **P 15 16 13.0 +1.3**
NIE Niedzica 63.52 35⇓*e*P **P 15 16 16.4 +2.6**
NIE Niedzica 63.52 35 *e*P **P 15 16 16.4 +2.6**
KDZ Kurdzhali 63.52 45 *e*P **P 15 16 15.0 +1.0**
OJC Ojcow 63.62 34⇓*e*P **P 15 16 15.0 +0.6**
OJC Ojcow 63.62 34 *e*P **P 15 16 14.0 -0.4**
comp=Z,40nm,1.3s
OJC Ojcow 63.62 34 *e*P **P 15 16 15.0 +0.6**
DRGR 63.75 38⇑P **P 15 16 16.7 +1.2**
DRGR 63.75 38⇑*i*P **P 15 16 16.7 +1.2**
BSD Bornholm Skovb 63.78 28 *e*P **P 15 16 15.6 +0.3**
BSD pmax pmax
comp=Z,12nm,1.1s
BSD Bornholm Skovb 63.78 28 *i* P **P 15 16 15.6 +0.3**
comp=Z,12nm,1.0s
GKP Gorka Klasztor 63.85 30 *e*P **P 15 16 17.2 +1.4**
GKP Gorka Klasztor 63.85 30 *e*P **P 15 16 17.1 +1.3**
LOT Lotru 63.86 40⇑*i*P P 15 16 19.9 +3.6
STHS Stebnicka Huta 64.05 35 *e*P **P 15 16 18.8 +1.5**
STHS pmax pmax
comp=Z,5.0nm,1.2s
STHS Stebnicka Huta 64.05 35 *e*P **P 15 16 18.8 +1.5**
TRPA Tarpa 64.23 37⇓*i*P **P 15 16 20.0 +1.6**
TRPA Tarpa 64.23 37⇓*e*P **P 15 16 19.2 +0.8**
UZH Uzhgorod 64.31 36 *e*P **P 15 16 18.8 -0.1**
UZH *e* 15 16 24.4
UALR University of 64.35 307 *e*P **P 15 16 19.4 -0.1**
comp=Z,18nm,1.0s
ARR Arges 64.39 40⇑*i*P **P 15 16 21.1 +1.5**
KOLS Kolonicke sedl 64.43 36 *e*P **P 15 16 20.8 +1.0**
KOLS pmax pmax
comp=Z,19nm,1.5s
KOLS Kolonicke sedl 64.43 36 *e*P **P 15 16 20.8 +1.0**
VOIR 64.68 41⇓*i*P **P 15 16 23.3 +1.7**
VOIR 64.68 41⇓*i*P **P 15 16 23.3 +1.7**
BEL Belsk 64.96 33 *e*P **P 15 16 25.2 +2.1**
BEL Belsk 64.96 33 *e*P **P 15 16 25.1 +2.0**
SFJD Kangerlussuaq 64.98 352⇓*i*P **P 15 16 21.9 -1.0**
SFJD Kangerlussuaq 64.98 352 LR LR 15 40 14.7
comp=Z,178nm,18.3s,baz=154,slow=32
KWP Kalwaria Pacla 65.00 36 *e*P **P 15 16 24.8 +1.3**
KWP Kalwaria Pacla 65.00 36 P **P 15 16 23.6 +0.1**
comp=Z,43nm,1.6s
KWP Kalwaria Pacla 65.00 36 *e*P **P 15 16 24.7 +1.3**
MIAR Mount Ida 65.28 307 *e*P **P 15 16 25.6 0.0**
MIAR pmax pmax
comp=Z,37nm,1.8s
MIAR Mount Ida 65.28 307 *e*P **P 15 16 25.6 0.0**
comp=Z,37nm,1.8s
MLR Muntele Rosu 65.29 41⇓*i*P **P 15 16 26.5 +0.9**
ISR Istrita 65.54 41⇓*i*P **P 15 16 27.9 +0.8**
ISR Istrita 65.54 41⇓*i*P **P 15 16 27.9 +0.8**
BUR08 Bucovina Ar. S 65.65 38 P **P 15 16 29.0 +1.1**
NAO01 NORSAR Array S 65.76 21 *e*P **P 15 16 28.1 -0.1**
comp=Z,17nm,1.0s
LVV L'vov 65.85 36 *e*P **P 15 16 28.0 -1.0**
VRI Vrincioaia 65.94 41⇓P **P 15 16 31.1 +1.4**
VRI Vrincioaia 65.94 41⇓*i*P **P 15 16 31.0 +1.4**
NB2 NORSAR Subarra 66.01 21 P **P 15 16 29.9 0.0**
comp=Z,0.8nm,0.7s,baz=222,slow=6.9
NOA NORSAR Array B 66.01 21 P **P 15 16 30.0 +0.2**
NOA NORSAR Array B 66.01 21 P **P 15 16 30.0 +0.2**
comp=Z,7.1nm,0.9s,baz=230,slow=6.3,SNR=35
NOA LR LR 15 44 08.4
comp=Z,197nm,18.6s,baz=235,slow=35
TESR Tescani 66.12 40⇓*i*P **P 15 16 32.2 +1.4**
HFS Hagfors 66.35 23 LR LR 15 44 12.1
comp=Z,160nm,19.3s,baz=246,slow=35
CFR Carcaliu 66.61 42⇓P **P 15 16 33.9 0.0**
CFR Carcaliu 66.61 42⇓*i*P **P 15 16 33.8 -0.1**
SUW Suwalki 67.27 31 *e*P **P 15 16 38.8 +0.8**
SUW Suwalki 67.27 31 *e*P **P 15 16 38.6 +0.6**
comp=Z,142nm,1.4s
SUW Suwalki 67.27 31 *e*P **P 15 16 38.7 +0.8**
TUL1 Tulsa 67.36 308⇓P **P 15 16 38.6 -0.3**
baz=67
SCO Scoresbysund 67.40 3 *i* P **P 15 16 38.1 -0.3**
SCO pmax pmax
comp=Z,7.0nm,0.9s
SCO Scoresbysund 67.40 3 *i* P **P 15 16 38.1 -0.3**
comp=Z,7.4nm,0.9s
CSS Prodhromos 67.61 54 *e*P **P 15 16 39.7 -0.8**
comp=Z,37nm,1.1s
KIS Kishinev 67.69 40 *e*P P 15 16 38.0 -2.8
KIS Kishinev 67.69 40 *e*P P 15 16 38.0 -2.8
SPMN St. Paul 67.72 318⇓P **P 15 16 40.7 -0.3**
baz=68
WHTX Lake Whitney 67.92 303⇓P **P 15 16 42.3 -0.3**
baz=68
ANTO Ankara 68.33 48⇓P **P 15 16 46.9 +1.9**
ANTO Ankara 68.33 48 *e*P **P 15 16 44.2 -0.9**
comp=Z,137nm,2.1s
ANTO Ankara 68.33 48⇓*i*P **P 15 16 46.9 +1.9**
KSU1 Kansas State U 68.72 311 *e*P **P 15 16 46.7 -0.8**
comp=Z,21nm,0.9s
KMBO Kilima Mbogo 68.88 92 *e*P **P 15 16 48.1 -1.1**
comp=Z,81nm,2.2s
KMBO *ep*P pP 15 16 58.7 +6.3
KMBO Kilima Mbogo 68.88 92 P **P 15 16 51.3 +2.1**
comp=Z,0.9nm,0.2s,baz=44,slow=24,SNR=7.2
KMBO LR LR 15 43 45.1
comp=Z,772nm,18.8s,baz=96,slow=33
BRTR Keskin Array B 68.92 49 P **P 15 16 49.6 +0.7**
BRTR Keskin Array B 68.92 49 P **P 15 16 49.6 +0.7**
comp=Z,10.0nm,0.7s,baz=239,slow=5.7,SNR=45
BRTR LR LR 15 49 32.8
comp=Z,178nm,18.4s,baz=249,slow=38
KIEV Kiev 69.25 36 *e*P **P 15 16 50.7 +0.3**
KIEV pmax pmax
comp=Z,100nm,1.4s
KIEV Kiev 69.25 36 *e*P **P 15 16 50.7 +0.3**
comp=Z,100nm,1.4s
SUMG Summit 69.35 358⇓*i*P **P 15 16 50.9 -0.2**
SUMG pmax pmax
comp=Z,13nm,0.9s
SUMG Summit 69.35 358 *e*P **P 15 16 50.4 -0.7**
comp=Z,34nm,1.2s
SUMG Summit 69.35 358⇓*i*P **P 15 16 50.9 -0.2**
comp=Z,13nm,0.9s
632A Uvalde 69.51 300⇑P **P 15 16 53.5 +1.0**
baz=70,SNR=14
WMOK Wichita Mounta 69.51 306 *e*P **P 15 16 52.0 -0.5**
WMOK pmax pmax
comp=Z,3.0nm,1.0s
WMOK Wichita Mounta 69.51 306 *e*P **P 15 16 52.0 -0.5**
comp=Z,3.5nm,1.0s
NACGM Naroch 69.55 32 *e* P 15 16 49.0 -3.2
732A Laxson Ranch, 69.56 299⇑P **P 15 16 53.9 +1.1**
baz=70,SNR=6.2
JCT Junction City 69.66 301 *e*P **P 15 16 54.2 +0.7**
JCT pmax pmax
comp=Z,51nm,1.3s
JCT Junction City 69.66 301 *e*P **P 15 16 54.2 +0.7**
comp=Z,51nm,1.3s
JCT Junction City 69.66 301⇓P **P 15 16 54.0 +0.5**
baz=70,SNR=8.3
532A Rocksprings 69.70 301⇓P **P 15 16 54.5 +0.7**
baz=70,SNR=10
432A Menard 69.71 302⇑P **P 15 16 54.1 +0.3**
baz=70,SNR=5.6
232A Coleman 69.74 303⇓P **P 15 16 54.0 0.0**
baz=70,SNR=10
332A Millersview 69.75 302⇑P **P 15 16 54.0 0.0**
baz=70,SNR=7.6
Z32A Haskell 69.83 304⇓P **P 15 16 54.3 -0.2**
baz=70
ABTX Abilene, Hawle 69.86 303⇑P **P 15 16 54.4 -0.2**
baz=70
ECSD EROS Data Cent 69.89 316 *e*P **P 15 16 54.0 -0.5**
comp=Z,90nm,2.1s
Y32A R-V Farms, Ver 69.92 305⇓P **P 15 16 54.5 -0.5**
baz=70
631A Perdido Creek 70.18 300⇓P **P 15 16 57.4 +0.7**
baz=70
531A Rocksprings 70.25 301⇓P **P 15 16 57.5 +0.3**
baz=70
231A Bronte 70.31 303⇑P **P 15 16 57.0 -0.5**
baz=70
331A San Angelo 70.31 302⇑P **P 15 16 57.8 +0.3**
baz=70
431A Sonora 70.38 301⇑P **P 15 16 58.3 +0.4**
baz=70,SNR=8.1
Z31A Sharp Cattle R 70.38 304⇑P **P 15 16 57.7 -0.2**
baz=70
BGNE Belgrade 70.41 313⇑P **P 15 16 57.3 -0.6**
baz=70
X31A McDonald Ranch 70.47 306⇓P **P 15 16 57.9 -0.4**
baz=70
131A Roby 70.49 303⇓P **P 15 16 58.4 -0.1**
baz=70
W31A Holland Ranch, 70.53 306⇓P **P 15 16 58.3 -0.4**
baz=70
V31A Spring Creek L 70.56 307⇑P **P 15 16 59.2 +0.3**
baz=70
Y31A Rekieta Farm, 70.58 305⇓P **P 15 16 59.0 -0.1**
baz=71
S31A Mullinville 70.61 309⇑P **P 15 16 59.1 -0.1**
baz=71
T31A Randall Ranch, 70.67 308⇓P **P 15 16 59.4 -0.1**
baz=71
U31A Nine Bar Ranch 70.67 307⇑P **P 15 16 59.5 0.0**
baz=71
AGMN Agassiz Nation 70.68 320 *e*P **P 15 16 58.5 -0.7**
comp=Z,21nm,1.2s
R31A Budett 70.78 309⇑P **P 15 16 60.0 -0.2**
baz=71
Q31A Ellis 70.82 310⇓P **P 15 16 60.0 -0.4**
baz=71
P31A Stockton 70.91 311⇓P **P 15 17 00.6 -0.4**
baz=71
430A Baggett Ranch, 70.93 301⇑P **P 15 17 01.9 +0.6**
baz=71
530A J-C Ranch, Com 70.93 301⇑P **P 15 17 02.0 +0.7**
baz=71,SNR=22
130A Snyder 70.95 303⇓P **P 15 17 01.9 +0.5**
baz=71,SNR=6.0
330A Mertzon 70.96 302⇑P **P 15 17 02.0 +0.5**
baz=71,SNR=6.9
230A Sterling City 70.98 303⇑P **P 15 17 02.0 +0.5**
baz=71
W30A Crocket Farms 71.04 306⇑P **P 15 17 02.2 +0.3**
baz=71
VSU Vasula 71.07 28*c i*P **P 15 17 01.9 +0.5**
VSU pmax pmax
comp=Z,25nm,1.2s
Y30A Stafford Cattl 71.09 305⇑P **P 15 17 01.8 -0.4**
baz=71
X30A Coker Ranch, T 71.16 305⇑P **P 15 17 02.7 0.0**
baz=71
Z30A Sanderson Ranc 71.19 304⇓P **P 15 17 03.3 +0.4**
baz=71,SNR=6.6
V30A Spur Ranch, Mi 71.23 307⇑P **P 15 17 03.4 +0.4**
baz=71
ULM Lac du Bonnet 71.28 322 P **P 15 17 02.1 -0.8**
ULM Lac du Bonnet 71.28 322 P **P 15 17 02.1 -0.8**
comp=Z,7.8nm,0.9s,baz=111,slow=4.5,SNR=5.4
ULM LR LR 15 42 46.1
comp=Z,256nm,20.9s,baz=93,slow=31
T30A Plains 71.33 308⇓P **P 15 17 03.8 +0.2**
baz=71
U30A WK&E Inc. Balk 71.33 307⇓P **P 15 17 04.1 +0.4**
baz=71
R30A Dighton 71.36 309⇓P **P 15 17 04.0 +0.3**
baz=71
S30A Montezuma 71.38 309⇓P **P 15 17 04.0 +0.1**
baz=71
Q30A Quinter 71.44 310⇑P **P 15 17 04.5 +0.3**
baz=71
429A Davenport Ranc 71.47 301⇑P **P 15 17 04.9 +0.4**
baz=72,SNR=15
O30A MW Ranch, Wils 71.56 311⇓P **P 15 17 04.6 -0.3**
baz=72
229A Bryant Ranch, 71.58 302⇓P **P 15 17 05.5 +0.3**
baz=72
P30A Selden 71.58 311⇓P **P 15 17 04.7 -0.3**
baz=72
Z29A Hungry Hill Ra 71.67 304⇑P **P 15 17 06.1 +0.3**
baz=72
529A Stev Forest Ra 71.69 301⇓P **P 15 17 06.5 +0.6**
baz=72,SNR=5.5
BRSD Miller 71.70 316⇓P **P 15 17 05.0 -0.6**
baz=72
M30A Dale-Ortello V 71.70 313⇓P **P 15 17 05.3 -0.4**
baz=72
129A Stewart Farms, 71.71 303⇓P **P 15 17 06.4 +0.4**
baz=72
N30A Hueftle Ranch, 71.72 312⇑P **P 15 17 05.9 +0.1**
baz=72
Y29A Porterfield Fa 71.73 304⇑P **P 15 17 06.3 +0.2**
baz=72
U29A Oasis Ranch, S 71.81 307⇓P **P 15 17 06.6 +0.1**
baz=72
X29A Tulia 71.84 305⇓P **P 15 17 06.7 0.0**
baz=72
AMTX Amarillo 71.89 306 *e*P **P 15 17 07.0 0.0**
comp=Z,25nm,1.3s
S29A Ulysses 71.89 308⇑P **P 15 17 06.6 -0.4**
baz=72
W29A Amraillo 71.90 306⇑P **P 15 17 07.3 +0.2**
baz=72
T29A Hugoton 71.95 308⇑P **P 15 17 07.5 +0.2**
baz=72
Q29A Oakley 72.01 310⇓P **P 15 17 07.8 +0.1**
baz=72
R29A Marienthal 72.05 309⇑P **P 15 17 07.9 0.0**
baz=72
P29A Atwood 72.11 311⇑P **P 15 17 08.1 -0.1**
baz=72
N29A Votaw Ranch, W 72.11 312⇓P **P 15 17 08.2 -0.1**
baz=72
FINES FINESS Array B 72.13 25 P **P 15 17 08.3 +0.6**
FINES FINESS Array B 72.13 25 P **P 15 17 08.3 +0.6**
comp=Z,5.8nm,0.7s,baz=263,slow=3.3,SNR=24
FINES LR LR 15 47 06.0
comp=Z,297nm,19.2s,baz=220,slow=34
FIA1 FINESS Array S 72.13 25 *e*P **P 15 17 07.4 -0.4**
428A Kincaid Ranch, 72.16 301⇓P **P 15 17 09.8 +1.0**
baz=72,SNR=17
528A Cox Ranch, San 72.18 301⇑P **P 15 17 09.2 +0.3**
baz=72
628A Black Gap, Mar 72.19 300⇓P **P 15 17 09.7 +0.8**
baz=72,SNR=15
Y28A McKinney Farm, 72.21 304⇓P **P 15 17 09.3 +0.3**
baz=72
128A Castleberry Fa 72.23 303⇑P **P 15 17 09.4 +0.3**
baz=72
Z28A Tucker Farm, M 72.24 304⇑P **P 15 17 09.3 +0.2**
baz=72
228A UT Block 9, Go 72.25 303⇑P **P 15 17 09.3 0.0**
baz=72
L29A Maesberg Ranch 72.25 313⇑P **P 15 17 08.8 -0.3**
baz=72
X28A Dimmitt 72.26 305⇓P **P 15 17 09.2 -0.1**
baz=72
M29A Burnside Ranch 72.28 312⇑P **P 15 17 08.9 -0.3**
baz=72
K29A Lazy Trails An 72.28 314⇑P **P 15 17 09.2 0.0**
baz=72
328A Wristen Ranch, 72.34 302⇑P **P 15 17 09.3 -0.5**
baz=72
W28A Vega 72.37 306⇑P **P 15 17 09.8 -0.2**
baz=72
V28A Channing 72.46 306⇓P **P 15 17 10.3 -0.1**
baz=72
S28A Manter 72.50 308⇓P **P 15 17 10.9 +0.3**
baz=72
KAF Kangasniemi 72.54 25 *ep* **P 15 17 11.2 +1.0**
comp=Z,6.7nm,0.7s
KAF Kangasniemi 72.54 25 *e*P **P 15 17 11.2 +1.0**
KAF pmax pmax
comp=Z,7.0nm,0.7s
R28A Tribune 72.55 309⇓P **P 15 17 11.3 +0.3**
baz=72
U28A Mallet 72.56 307⇓P **P 15 17 11.2 +0.1**
baz=72
627A Terlingua Ranc 72.62 300⇑P **P 15 17 12.3 +0.8**
baz=73,SNR=9.9
MSTX Muleshoe 72.65 304⇓P **P 15 17 12.2 +0.5**
baz=73
Q28A Sharon Springs 72.69 310⇓P **P 15 17 12.1 +0.3**
baz=73
P28A Saint Francis 72.73 310⇓P **P 15 17 12.1 +0.1**
baz=73
N28A Pribbeno Ranch 72.77 312⇑P **P 15 17 12.1 -0.1**
baz=73
M28A Bar X Bar Ranc 72.78 312⇓P **P 15 17 12.3 +0.1**
baz=73
427A Hayter Ranch, 72.78 301⇓P **P 15 17 13.4 +0.9**
baz=73,SNR=9.2
227A Bennet, Jal 72.83 302⇓P **P 15 17 12.7 0.0**
baz=73
ANN Anapa 72.83 44 *e*P **P 15 17 10.3 -2.0**
ANN pmax pmax
comp=Z,120nm,2.0s
O28A Krutsinger Ran 72.84 311⇓P **P 15 17 12.5 -0.1**
baz=73
TXAR Lajitas Array 72.85 300 P **P 15 17 13.6 +0.8**
TXAR Lajitas Array 72.85 300 P **P 15 17 13.6 +0.8**
comp=Z,5.7nm,0.9s,baz=117,slow=7.2,SNR=32
TXAR LR LR 15 45 05.0
comp=Z,158nm,20.3s,baz=255,slow=32
527A Woodward Ranch 72.89 300⇓P **P 15 17 14.1 +1.0**
baz=73,SNR=11
327A Balmorhea Ranc 72.92 302⇓P **P 15 17 13.1 -0.1**
baz=73
V27A Dan Oppiter Fa 72.95 306⇓P **P 15 17 13.9 +0.5**
baz=73
Y27A Causey 72.96 304⇓P **P 15 17 14.1 +0.6**
baz=73,SNR=12
MDND Maddock 72.97 319⇑P **P 15 17 12.8 -0.3**
baz=73
127A Arkansas Junct 72.97 303⇑P **P 15 17 13.7 +0.1**
baz=73
L28A Connealy Angus 73.00 313⇓P **P 15 17 13.5 -0.1**
baz=73
X27A F and S Farms, 73.01 305⇑P **P 15 17 14.6 +0.8**
baz=73
W27A Bowe Ranch, En 73.04 306⇓P **P 15 17 14.4 +0.5**
baz=73,SNR=7.6
U27A Thompson Grove 73.04 307⇓P **P 15 17 13.9 0.0**
baz=73
J28A Allard Ranch, 73.08 314⇓P **P 15 17 14.0 +0.1**
baz=73,SNR=5.5
I28A Midland 73.15 315⇓P **P 15 17 14.3 0.0**
baz=73
OGNE Ogallala 73.18 312⇑P **P 15 17 14.4 -0.2**

H28A **Mission Ridge** 73.19 316 ⇓P P 15 17 14.5 0.0
baz=73
G28A **Parade** 73.20 316 ⇑P P 15 17 14.4 -0.2
baz=73
626A **Big Bend Ranch** 73.28 300 ⇓P P 15 17 16.5 +1.1
baz=73,SNR=16
526A **Mary Lane Ranc** 73.29 300 ⇓P P 15 17 17.0 +1.4
baz=73,SNR=7.4
PUL **Pulkovo** 73.29 28 *eP* P 15 17 15.0 +0.3
PUL pmax pmax
comp=Z,61nm,1.0s
S27A **Las Animas** 73.29 308 ⇓P P 15 17 15.8 +0.4
baz=73
KSCO **Kaye Shedlock'** 73.30 310 ⇓P P 15 17 15.9 +0.5
baz=73
426A **McDonald Obser** 73.30 301 ⇑P P 15 17 17.0 +1.3
baz=73,SNR=19
R27A **Eads** 73.31 309 ⇓P P 15 17 16.3 +0.8
baz=73,SNR=5.5
326A **Caldwell Ranch** 73.33 302 ⇓P P 15 17 16.9 +1.2
baz=73,SNR=9.0
P27A **Ficken Ranch,** 73.35 310 ⇑P P 15 17 16.2 +0.6
baz=73
O27A **Beecher Island** 73.38 311 ⇑P P 15 17 16.1 +0.2
baz=73
Y26A **Elida** 73.51 304 ⇓P P 15 17 17.5 +0.7
baz=74
126A **Clayton Basin,** 73.52 303 ⇑P P 15 17 17.2 +0.4
baz=74
N27A **Anderson Farm,** 73.53 312 ⇑P P 15 17 17.6 +0.8
baz=74
M27A **Reverse DX Ran** 73.55 312 ⇑P P 15 17 16.8 0.0
baz=74
Z26A **Caprock** 73.56 304 ⇑P P 15 17 17.0 0.0
baz=74
226B **Tecolote Peak,** 73.57 302 ⇓P P 15 17 18.1 +1.0
baz=74,SNR=6.7
X26A **CR and CF Fran** 73.58 305 ⇓P P 15 17 17.7 +0.5
baz=74
L27A **T5 Ranch, Ells** 73.60 313 ⇓P P 15 17 17.2 +0.2
baz=74
W26A **Owens Ranch, T** 73.61 306 ⇑P P 15 17 18.2 +0.9
baz=74
K27A **Flueckinger Fa** 73.66 314 ⇓P P 15 17 17.2 -0.2
baz=74
V26A **Tequesquite Ra** 73.72 306 ⇑P P 15 17 18.8 +0.8
baz=74
S26A **Kim** 73.73 308 ⇑P P 15 17 18.9 +0.9
baz=74,SNR=6.6
T26A **Comanche Natio** 73.77 308 ⇓P P 15 17 19.1 +0.8
baz=74,SNR=6.9
U26A **Atchley Ranch,** 73.77 307 ⇓P P 15 17 18.8 +0.5
baz=74,SNR=7.8
DAG **Danmarks Havn** 73.78 3⇓ *eP* P 15 17 16.5 -0.8
DAG pmax pmax
comp=Z,3.0nm,0.9s
DAG **Danmarks Havn** 73.78 3⇓ *iP* P 15 17 16.5 -0.8
comp=Z,3.5nm,0.9s
I27A **Quinn** 73.79 315 ⇑P P 15 17 18.1 0.0
baz=74
R26A **Arlington** 73.82 309 ⇓P P 15 17 19.3 +0.8
baz=74,SNR=6.0
H27A **Howes** 73.92 316 ⇑P P 15 17 19.3 +0.5
baz=74
P26A **Davis Ranch, A** 73.94 310 ⇓P P 15 17 19.5 +0.4
baz=74
G27A **Dupree** 73.97 316 ⇑P P 15 17 19.5 +0.4
baz=74
Q26A **Hugo** 73.97 309 ⇑P P 15 17 20.2 +0.9
baz=74
O26A **Horse Wrangler** 74.02 311 ⇓P P 15 17 20.2 +0.5
baz=74
N26A **Koester Ranch,** 74.05 311 ⇓P P 15 17 20.5 +0.7
baz=74
125A **Gardner Draw,** 74.05 303 ⇓P P 15 17 20.6 +0.6
baz=74,SNR=19
M26A **McRoberts Ranc** 74.10 312 ⇓P P 15 17 19.6 -0.4
baz=74
225A **Deer Hill, Car** 74.13 302 ⇓P P 15 17 20.9 +0.4
baz=74
425A **Indio Mountain** 74.13 301 ⇓P P 15 17 21.7 +1.2
baz=74,SNR=16
L26A **Underwood Farm** 74.15 313 ⇑P P 15 17 19.9 -0.4
baz=74
Z25A **Roswell** 74.17 304 ⇓P P 15 17 21.6 +1.0
baz=74,SNR=6.0
325A **Bean Ranch, Si** 74.18 302 ⇓P P 15 17 21.7 +0.9
baz=74,SNR=12
SOC **Sochi** 74.19 46 *diP* P 15 17 20.4 0.0
SOC *eS* S 15 26 56.1 +2.1
SOC pmax pmax
comp=Z,47nm,0.9s
W25A **X Bar L Ranch,** 74.19 306 ⇑P P 15 17 21.4 +0.6
baz=74
Y25A **Mesa, Roswell** 74.23 304 ⇑P P 15 17 21.7 +0.7
baz=74,SNR=10.0
X25A **Clemmons Ranch** 74.27 305 ⇑P P 15 17 22.0 +0.7
baz=74
K26A **Motz Farm, Whi** 74.34 313 ⇓P P 15 17 21.2 -0.2
baz=74
I26A **New Underwood** 74.35 315 ⇓P P 15 17 21.5 +0.1
baz=74
V25A **Rancho No Teng** 74.40 306 ⇑P P 15 17 23.0 +1.0
baz=74,SNR=6.0
H26A **Fairpoint** 74.40 315 ⇑P P 15 17 21.8 +0.2
baz=74
T25A **Trinidad** 74.41 308 ⇓P P 15 17 23.2 +1.2
baz=74
R25A **Fountain Ranch** 74.45 309 ⇑P P 15 17 22.4 +0.2
baz=74
S25A **Robets Cordova** 74.50 308 ⇑P P 15 17 23.7 +1.2
baz=74,SNR=7.8
Q25A **Bedland, Calha** 74.53 309 ⇑P P 15 17 23.8 +1.1
baz=74,SNR=6.3
E26A **Carlson Angus** 74.56 317 ⇑P P 15 17 22.9 +0.4
baz=74
P25A **Willow Gulch B** 74.56 310 ⇓P P 15 17 23.7 +0.8
baz=74
MNTX **Cornudas Mount** 74.56 302 *eP* P 15 17 22.4 -0.4
comp=Z,12nm,1.3s
O25A **Wiggins** 74.61 311 ⇓P P 15 17 23.6 +0.5
baz=75
324A **Moseley Ranch,** 74.62 302 ⇓P P 15 17 23.3 0.0
baz=75,SNR=6.8
N25A **Grover** 74.69 311 ⇑P P 15 17 24.2 +0.6
baz=75
Z24A **Sheeppen Canyo** 74.72 304 ⇓P P 15 17 24.3 +0.4
baz=75
224A **Cornudas Mount** 74.72 302 ⇑P P 15 17 24.3 +0.4
baz=75,SNR=11
124A **Stringfield Ra** 74.72 303 ⇑P P 15 17 24.5 +0.5
baz=75,SNR=7.1
M25A **Palm-Egli Farm** 74.77 312 ⇓P P 15 17 24.5 +0.5
baz=75
L25A **Engebretsen Ra** 74.82 313 ⇓P P 15 17 24.7 +0.5
baz=75
K25A **Mack Ranch, Ha** 74.83 313 ⇓P P 15 17 24.4 +0.1
baz=75
Y24A **Capitan** 74.84 304 ⇑P P 15 17 25.7 +1.1
baz=75,SNR=12
OBN **Obninsk** 74.90 34 *deP* P 15 17 23.9 -0.3
OBN *e* 15 17 27.3
OBN *e* 15 17 30.3
OBN *i* 15 17 42.1
OBN *e* 15 27 41.6
OBN SS SS 15 31 54.0 +4.4
OBN pmax pmax
comp=Z,73nm,1.7s
X24A **Lazy VL Ranch,** 74.91 305 ⇓P P 15 17 25.7 +0.6
baz=75
V24A **Rampart Ranch,** 74.91 306 ⇑P P 15 17 26.3 +1.3
baz=75
W24A **Lazy 6 Ranch,** 74.96 305 ⇓P P 15 17 26.7 +1.4
baz=75,SNR=19
I25A **Rochford** 74.97 315 ⇓P P 15 17 25.3 +0.2
baz=75
H25A **Fruitdale** 74.98 315 ⇓P P 15 17 25.2 +0.1
baz=75
U24A **Moreno Valley** 75.00 307 ⇓P P 15 17 27.4 +1.8
baz=75
R24A **Sanders Place,** 75.10 309 ⇓P P 15 17 27.3 +1.2
baz=75
S24A **Houchin Ranch,** 75.11 308 ⇑P P 15 17 27.4 +1.2
baz=75
P24A **Kohler Place,** 75.12 310 ⇓P P 15 17 26.8 +0.7
baz=75
E25A **Miller Ranch,** 75.20 317 ⇓P P 15 17 26.8 +0.6
baz=75
Q24A **Divide** 75.23 309 ⇑P P 15 17 28.2 +1.3
baz=75,SNR=12
N24A **Carr** 75.29 311 ⇑P P 15 17 28.2 +1.1
baz=75
O24A **Longmont** 75.33 311 ⇑P P 15 17 28.1 +0.9
baz=75
M24A **Cheyenne** 75.35 312 ⇑P P 15 17 28.4 +1.1
baz=75,SNR=6.4
SDCO **Great Sand Dun** 75.35 308 *eP* P 15 17 28.0 +0.4
comp=Z,12nm,1.3s
Y23A **Lovelace Mesa,** 75.35 304 ⇑P P 15 17 28.6 +1.1
baz=75,SNR=6.5
VNA1 **Neumayer--Stat** 75.39 172 *eP* P 15 17 30.2 +3.5
123A **Bell Site, Whi** 75.40 303 ⇑P P 15 17 29.0 +1.3
baz=75
VSR **Storozhevoye** 75.41 38 *eP* P 15 17 27.5 +0.3
VSR pmax pmax
comp=Z,90nm,0.9s
VSR pmax pmax
comp=N,40nm,1.4s
VSR pmax pmax
comp=E,70nm,1.1s
Z23A **Rita Site, Whi** 75.43 303 ⇑P P 15 17 29.3 +1.3
baz=75
VORD **Divnogorie** 75.43 38 *eP* P 15 17 25.7 -1.7
VORD pmax pmax
comp=Z,80nm,0.9s
VORD pmax pmax
comp=N,50nm,0.8s
VORD pmax pmax
comp=E,80nm,0.4s
223A **Chaparral, Ant** 75.48 302 ⇓P P 15 17 28.3 +0.1
baz=76
L24A **Wheatland** 75.51 312 ⇑P P 15 17 28.6 +0.3
baz=76
J24A **Dixon Ranch, L** 75.52 314 ⇑P P 15 17 28.8 +0.6
baz=76
X23A **Hourglass Bar** 75.53 305 ⇓P P 15 17 29.0 +0.4
baz=76
K24A **Anderson Ranch** 75.53 313 ⇑P P 15 17 28.6 +0.2
baz=76
W23A **Werner Place,** 75.56 305 ⇑P P 15 17 30.0 +1.3
baz=76
I24A **Kuemmerle Ranc** 75.58 314 ⇓P P 15 17 29.6 +1.0
baz=76
MOS **Moscow** 75.65 33 *eP* P 15 17 28.2 -0.3
MOS pmax pmax
comp=Z,141nm,1.4s
V23A **Ortiz Mt. (NFS** 75.65 306 ⇑P P 15 17 30.8 +1.5
baz=76
R23A **Moffat** 75.66 308 ⇑P P 15 17 30.5 +1.1
baz=76
H24A **Dirks Ranch, A** 75.67 315 ⇓P P 15 17 29.8 +0.7
baz=76
G24A **Alzada** 75.68 316 ⇓P P 15 17 29.8 +0.7
baz=76
T23A **Casias Ranch,** 75.68 307 ⇓P P 15 17 30.9 +1.4
baz=76
ISCO **Idaho Springs** 75.70 310 *eP* P 15 17 29.7 +0.1
ISCO pmax pmax
comp=Z,35nm,1.5s
ISCO **Idaho Springs** 75.70 310 *eP* P 15 17 29.7 +0.1
comp=Z,34nm,1.5s
ISCO **Idaho Springs** 75.70 310 ⇓P P 15 17 31.0 +1.4
baz=76,SNR=8.6
U23A **El Rito** 75.72 307 ⇑P P 15 17 31.1 +1.4
baz=76
S23A **Nye Farm, Mont** 75.74 308 ⇓P P 15 17 31.4 +1.7
baz=76
Q23A **Hartsel** 75.75 309 ⇓P P 15 17 31.0 +1.1
baz=76
F24A **Ekalaka** 75.79 316 ⇑P P 15 17 30.4 +0.7
baz=76
ANMO **Albuquerque** 75.79 305 *eP* P 15 17 30.5 +0.4
comp=Z,27nm,1.6s
PHWY **Pilot Hill** 75.79 312 *eP* P 15 17 30.5 +0.5
comp=Z,50nm,1.9s
P23A **Jefferson** 75.82 310 ⇑P P 15 17 31.9 +1.5
baz=76,SNR=5.3
E24A **Baker** 75.82 317 ⇓P P 15 17 31.1 +1.3
baz=76
BNM **Barren Site** 75.85 304 *eP* P 15 17 31.5 +1.1
comp=Z,13nm,1.4s
ARCES **ARCESS Array B** 75.86 18 P P 15 17 29.8 +0.3
ARCES **ARCESS Array B** 75.86 18 P P 15 17 29.8 +0.3
comp=Z,5.8nm,1.1s,baz=238,slow=7.0,SNR=8.3
ARCES LR LR 15 44 48.6
comp=Z,189nm,20.2s,baz=243,slow=31
LPM **Los Pinos Moun** 75.87 304 *eP* P 15 17 31.9 +1.4
D24A **Glendive** 75.94 318 ⇓P P 15 17 31.8 +1.3
baz=76
O23A **Lake Granby, G** 75.99 311 ⇑P P 15 17 32.9 +1.7
baz=76
M23A **Laramie** 76.01 312 ⇑P P 15 17 32.3 +1.0
baz=76
122A **Conniff Cattle** 76.02 303 ⇓P P 15 17 32.4 +1.1
baz=76
Z22A **Elephant Butte** 76.04 303 ⇑P P 15 17 32.9 +1.4
baz=76,SNR=17
222A **Williams Famil** 76.06 302 ⇑P P 15 17 32.2 +0.7
baz=76
A24A **Westby** 76.06 320 ⇑P P 15 17 32.0 +0.9
baz=76,SNR=5.6
C24A **Savage** 76.08 318 ⇑P P 15 17 32.2 +1.0
baz=76,SNR=8.3
Y22D **IRIS PASSCAL I** 76.08 304 ⇑P P 15 17 32.8 +1.1
baz=76
L23A **Garrett** 76.09 312 ⇓P P 15 17 32.2 +0.5
baz=76
N23A **Red Feather La** 76.10 311 ⇓P P 15 17 32.8 +1.0
baz=76,SNR=16
DGMT **Dagmar** 76.10 319 *eP* P 15 17 32.0 +0.7
comp=Z,68nm,0.9s
DGMT **Dagmar** 76.10 319 ⇑P P 15 17 32.3 +1.0
baz=76,SNR=19
Y22A **Socorro** 76.11 304 ⇓P P 15 17 32.8 +0.9
baz=76
FFC **Flin Flon** 76.12 326 P P 15 17 31.7 +0.5
comp=Z,110nm,1.1s,SNR=6.4
FFC **Flin Flon** 76.12 326 *iP* P 15 17 31.6 +0.4
FFC **Flin Flon** 76.12 326 *eP* P 15 17 31.2 0.0
comp=Z,46nm,1.4s
K23A **Bowen Ranch, D** 76.13 313 ⇑P P 15 17 32.1 +0.3
baz=76
W22A **Albuquerque** 76.14 305 ⇓P P 15 17 33.4 +1.4
baz=76
J23A **Dilts Ranch, B** 76.17 314 ⇑P P 15 17 32.2 +0.2
baz=76
I23A **Meade Ranch, G** 76.19 314 ⇑P P 15 17 32.8 +0.7
baz=76
X22A **Bernardo** 76.20 305 ⇓P P 15 17 34.0 +1.6
baz=76
H23A **Clabaugh Cattl** 76.24 315 ⇓P P 15 17 33.0 +0.7
baz=76
V22A **San Miguel Ran** 76.26 306 ⇓P P 15 17 34.6 +1.8
baz=76,SNR=10.0
U22A **Llaves** 76.26 307 ⇓P P 15 17 34.8 +2.0
baz=76
LAZ **Ladron** 76.30 304 *eP* P 15 17 34.2 +1.3
comp=Z,16nm,1.5s
G23A **Biddle** 76.34 316 ⇑P P 15 17 33.4 +0.6
baz=76
T22A **Edith** 76.37 307 ⇑P P 15 17 35.1 +1.8
baz=76,SNR=7.2
KIV **Kislovodsk** 76.38 46 *eP* P 15 17 34.1 +1.0
KIV *e* 15 17 46.6
KIV *eS* S 15 27 18.5 0.0
KIV pmax pmax
comp=Z,52nm,1.1s
KIV pmax pmax
comp=Z,74nm,3.8s
KIV MLR MLR
comp=Z,96nm,18.0s
KIV **Kislovodsk** 76.38 46 P P 15 17 34.4 +1.3
comp=Z,236nm,1.1s,SNR=7.9
R22A **Saguache, Gunn** 76.39 308 ⇑P P 15 17 34.8 +1.2
baz=76
S22A **4UR Ranch, Cre** 76.39 308 ⇓P P 15 17 34.9 +1.4
baz=76,SNR=7.1
F23A **Volborg** 76.43 316 ⇓P P 15 17 33.9 +0.6
baz=76,SNR=13
O22A **Kremmling** 76.46 310 ⇑P P 15 17 35.0 +1.1
baz=76,SNR=6.3
N22A **Wattenberg Ran** 76.47 311 ⇑P P 15 17 35.0 +1.1
baz=76,SNR=6.4
KBZ **Khabaz** 76.49 46 P P 15 17 34.8 +1.2
KBZ **Khabaz** 76.49 46 P P 15 17 34.8 +1.2
KBZ **Khabaz** 76.49 46 P P 15 17 34.8 +1.2
comp=Z,19nm,1.0s,baz=266,slow=4.8,SNR=24
KBZ LR LR 15 53 32.1
comp=Z,148nm,20.6s,baz=269,slow=38
D23A **Lindsay** 76.54 318 ⇑P P 15 17 35.1 +1.2
baz=76,SNR=8.1
P22A **Eagle** 76.55 310 ⇑P P 15 17 35.3 +1.0
baz=76
Q22A **Crested Butte,** 76.58 309 ⇑P P 15 17 35.7 +1.1
baz=77
AKH **Akhalkalaki** 76.61 48 P P 15 17 35.2 +0.6
L22A **Ellis Ranch, M** 76.62 312 ⇑P P 15 17 35.9 +1.3
baz=77,SNR=6.2
B23A **Brockton** 76.62 319 ⇑P P 15 17 35.3 +1.0
baz=77
221A **Mesquite Ranch** 76.62 302 ⇑P P 15 17 36.5 +1.8
baz=77
C23A **Lambert** 76.63 318 ⇑P P 15 17 35.2 +0.8
baz=77,SNR=6.9
A23A **Redstone** 76.64 320 ⇓P P 15 17 35.4 +1.0
baz=77
Z21A **St. Cloud Mine** 76.64 303 ⇓P P 15 17 36.5 +1.6
baz=77
M22A **Cedar Creek Ra** 76.66 312 ⇑P P 15 17 36.3 +1.4
baz=77
121A **Cookes Peak, D** 76.67 303 ⇑P P 15 17 37.0 +1.9
baz=77,SNR=6.7
SMCO **Snowmass** 76.67 309 *eP* P 15 17 36.3 +1.1
comp=Z,19nm,1.3s
Y21A **Point of Rocks** 76.70 304 ⇑P P 15 17 37.2 +1.9
baz=77
ONI **Oni** 76.73 47 P P 15 17 35.8 +0.7
K22A **Casper** 76.77 313 ⇑P P 15 17 35.7 +0.3
baz=77
W21A **San Fidel** 76.78 305 ⇓P P 15 17 37.1 +1.4
baz=77
RAYN **Ar Rayn** 76.80 67 P P 15 17 37.4 +1.6
comp=Z,85nm,1.1s,SNR=5.8
RAYN **Ar Rayn** 76.80 67 *eP* P 15 17 34.8 -1.0
comp=Z,86nm,1.9s
X21A **Alamocita Cree** 76.83 304 ⇑P P 15 17 37.5 +1.5
baz=77,SNR=13
V21A **Milan** 76.83 306 ⇓P P 15 17 37.5 +1.5
baz=77
J22A **Midwest** 76.84 314 ⇑P P 15 17 35.7 -0.1
baz=77
T21A **Navajo Lake** 76.87 307 ⇓P P 15 17 37.7 +1.5
baz=77
I22A **9 Mile Ranch,** 76.91 314 ⇑P P 15 17 36.6 +0.4
baz=77,SNR=14
U21A **Nageezi** 76.91 306 ⇓P P 15 17 38.1 +1.7
baz=77,SNR=9.1
E22A **Miles City** 76.92 317 ⇑P P 15 17 36.7 +0.7
baz=77
H22A **Clearmont** 76.92 315 ⇑P P 15 17 36.9 +0.8
baz=77
G22A **Birney** 76.97 316 ⇓P P 15 17 36.8 +0.4
baz=77,SNR=5.2
R21A **Cimarron** 77.03 308 ⇓P P 15 17 38.2 +1.2
baz=77
F22A **Rosebud** 77.03 316 ⇓P P 15 17 36.8 +0.1
baz=77
C22A **Vida** 77.09 318 ⇑P P 15 17 37.7 +0.8
baz=77,SNR=5.2
ZEI **Tsey** 77.09 47 *eP* P 15 17 38.2 +0.9
ZEI pmax pmax
comp=Z,86nm,2.1s
Q21A **Lamborn Mesa,** 77.09 309 ⇑P P 15 17 38.9 +1.5
baz=77
SNAA **Sanae** 77.10 171 *eP* P 15 17 38.5 +2.0
SNAA **Sanae** 77.10 171 *eP* P 15 17 37.2 +0.7
comp=Z,22nm,1.3s
SNAA **Sanae** 77.10 171 P P 15 17 38.7 +2.2
comp=Z,2.7nm,0.9s,baz=333,slow=6.3,SNR=26
SNAA LR LR 15 42 21.0
comp=Z,32nm,21.4s,baz=346,slow=28
S21A **Coal Bank Pass** 77.14 308 ⇑P P 15 17 39.4 +1.6
baz=77,SNR=8.3
RWWY **Rawlins** 77.15 312 *eP* P 15 17 36.0 -1.7
comp=Z,60nm,1.8s
O21A **Pagoda** 77.17 310 ⇓P P 15 17 38.7 +0.8
baz=77
D22A **Cohagen** 77.19 318 ⇑P P 15 17 38.5 +1.0
baz=77,SNR=13
220A **Playas Peak, P** 77.25 302 ⇑P P 15 17 40.1 +1.8
baz=77,SNR=9.1
B22A **Reddig Ranch S** 77.25 319 ⇑P P 15 17 38.4 +0.6
baz=77
M21A **Separation Pea** 77.25 312 ⇑P P 15 17 38.3 0.0
baz=77
N21A **Black Mountain** 77.27 311 ⇑P P 15 17 40.0 +1.6
baz=77,SNR=8.4
Y20A **Horse Springs,** 77.27 304 ⇓P P 15 17 40.3 +1.8
baz=77,SNR=7.0
K21A **Alcova** 77.30 313 ⇓P P 15 17 38.9 +0.5
baz=77,SNR=6.8
L21A **Rawlins** 77.30 312 ⇑P P 15 17 39.3 +0.8
baz=77,SNR=12
A22A **Carney Farms,** 77.31 319 ⇓P P 15 17 38.5 +0.3
baz=77
120A **U Bar Ranch, L** 77.38 302 ⇑P P 15 17 41.0 +1.9
baz=77,SNR=8.9
Z20A **Nine Sixteen R** 77.39 303 ⇓P P 15 17 41.0 +1.9
baz=77,SNR=8.2
H21A **Big Horn, Sher** 77.41 315 ⇓P P 15 17 39.1 +0.1
baz=77
X20A **Quemado** 77.42 305 ⇓P P 15 17 40.6 +1.2
baz=77
W20A **Ramah** 77.47 305 ⇓P P 15 17 40.7 +1.1
baz=78
I21A **Big Trails, Te** 77.48 314 ⇑P P 15 17 39.5 +0.2
baz=78,SNR=23
V20A **Brimhall** 77.50 306 ⇓P P 15 17 40.8 +1.0
baz=78
J21A **Lysite** 77.53 314 ⇓P P 15 17 40.1 +0.4
baz=78,SNR=17
TBLG **Delisi** 77.57 48 *eP* P 15 17 40.8 +1.1
TBLG **Delisi** 77.57 48 P P 15 17 40.8 +1.1
U20A **Newcomb** 77.60 306 ⇓P P 15 17 41.7 +1.4
baz=78
S20A **Disappointment** 77.61 308 ⇑P P 15 17 41.5 +1.1
baz=78
G21A **Lodge Grass** 77.61 315 ⇑P P 15 17 40.8 +0.8
baz=78
F21A **Absaloka Mine,** 77.64 316 ⇑P P 15 17 40.6 +0.5
baz=78
R20A **Redvale** 77.66 308 ⇑P P 15 17 42.0 +1.4
baz=78
MVCO **Mesa Verde** 77.66 307 P P 15 17 39.2 -1.4
comp=Z,34nm,1.7s
MVCO **Mesa Verde** 77.66 307 ⇑P P 15 17 42.0 +1.4
baz=78
Q20A **Ridgley Place,** 77.67 309 ⇓P P 15 17 41.3 +0.8
baz=78
E21A **Keefer Ranch,** 77.70 317 ⇓P P 15 17 40.9 +0.5
baz=78
D21A **La Casta Ranch** 77.72 317 ⇓P P 15 17 41.1 +0.5
baz=78
O20A **White River Ci** 77.75 310 ⇓P P 15 17 42.0 +1.0
baz=78
P20A **De Beque** 77.80 310 ⇑P P 15 17 42.2 +0.9
baz=78
PV01 **Paradox Valley** 77.80 308 *eP* P 15 17 43.1 +1.7
comp=Z,998nm,1.3s
N20A **Spence Gulch,** 77.84 311 ⇑P P 15 17 42.5 +0.9
baz=78,SNR=5.3
M20A **Sweetwater, Wa** 77.85 312 ⇓P P 15 17 42.5 +0.9
baz=78
319A **Douglas** 77.85 301 ⇑P P 15 17 43.1 +1.4
baz=78
C21A **Desert Coulee** 77.91 318 ⇑P P 15 17 42.2 +0.7
baz=78
B21A **Ellsworth Farm** 77.94 319 ⇓P P 15 17 42.4 +0.7
baz=78
A21A **Bergtoll Ranch** 77.97 319 ⇑P P 15 17 42.4 +0.6
baz=78
J20A **Shoshoni** 77.99 314 ⇓P P 15 17 43.1 +0.9
baz=78,SNR=9.8
DGRG **David-gareji** 78.01 48 P P 15 17 44.2 +2.0
L20A **Wamsutter** 78.03 312 ⇑P P 15 17 42.9 +0.4
baz=78
H20A **Greybull** 78.07 315 ⇓P P 15 17 42.9 +0.3
baz=78,SNR=5.3
PV04 **Paradox Valley** 78.09 308 *eP* P 15 17 42.0 -0.9
I20A **Worland** 78.10 314 ⇓P P 15 17 43.1 +0.3
baz=78,SNR=11
K20A **Yellowstone Ra** 78.10 313 ⇓P P 15 17 43.2 +0.3
baz=78,SNR=5.6

LVZ Lovozero 78.16 21 *e*P P 15 17 43.4 +0.9
LVZ pmax pmax
comp=Z,38nm,1.3s
TMCR Tamitsa 78.24 25 *e*P P 15 17 42.3 -0.6
TMCR *e* 15 17 52.1
TMCR pmax pmax
comp=Z,27nm,0.5s
P19A Cripple Cowboy 78.26 310 ⇓P P 15 17 44.8 +0.8
baz=78,SNR=10
G20A Bridger 78.31 315 ⇑P P 15 17 44.1 +0.1
baz=78
F20A Billings 78.34 316 ⇓P P 15 17 44.6 +0.5
baz=78
E20A Meyer Farm, Mu 78.42 317 ⇓P P 15 17 44.9 +0.4
baz=78,SNR=6.1
O19A Miners Draw (B 78.44 310 ⇓P P 15 17 45.6 +0.8
baz=78,SNR=5.1
W18A Petrified Fore 78.48 305 ⇓P P 15 17 46.2 +1.0
baz=78
K19A Absolon Red Bu 78.49 313 ⇑P P 15 17 45.1 +0.1
baz=78
M19A Rock Springs 78.58 312 ⇑P P 15 17 45.9 +0.3
baz=78
NAY Al-Naaiem 78.60 61 *e*P P 15 17 46.6 +0.9
NAY AMb AMB 15 17 47.8
comp=Z,35nm,1.1s
A20A Cobblestone Ra 78.61 319 ⇓P P 15 17 45.8 +0.4
baz=79,SNR=9.1
X18A Snowflake 78.62 304 ⇓P P 15 17 47.1 +1.1
baz=79
J19A Crowheart 78.69 313 ⇑P P 15 17 46.3 +0.2
baz=79,SNR=5.8
MIB Mutribah 78.71 60 *e*P P 15 17 47.2 +1.0
MIB AMb AMB 15 17 48.4
comp=Z,58nm,1.0s
I19A Meeteetse 78.73 314 ⇓P P 15 17 46.8 +0.5
baz=79
L19A Farson 78.79 312 ⇑P P 15 17 47.4 +0.6
baz=79
H19A Powell 78.79 315 ⇑P P 15 17 47.2 +0.6
baz=79
E19A Rath Farm, Rou 78.86 317 ⇓P P 15 17 47.3 +0.4
baz=79,SNR=8.7
F19A Roth Farm, Mol 78.90 316 ⇑P P 15 17 47.6 +0.4
baz=79,SNR=7.4
BW06 Boulder Array 79.00 313 *e*P P 15 17 47.7 -0.3
comp=Z,12nm,1.4s
PDAR Pinedale Array 79.00 313 P P 15 17 47.8 -0.2
PDAR Pinedale Array 79.00 313 P P 15 17 47.8 -0.2
comp=Z,1.8nm,0.8s,baz=87,slow=7.6,SNR=11
PDAR LR LR 15 48 45.9
comp=Z,236nm,21.1s,baz=106,slow=33
D19A Cripps Ranch, 79.02 317 ⇓P P 15 17 48.0 +0.3
baz=79
UMR Umm Al-Rimmam 79.03 61 *e*P P 15 17 49.0 +1.0
UMR AMb AMB 15 17 50.4
comp=Z,84nm,1.1s
RLMT Red Lodge 79.04 315 *e*P P 15 17 48.5 +0.4
comp=Z,56nm,1.8s
A19A Klindworth Far 79.15 319 ⇓P P 15 17 49.0 +0.6
baz=79,SNR=7.5
TUC Tucson 79.19 302 *e*P P 15 17 50.4 +1.4
TUC pmax pmax
comp=Z,59nm,1.2s
TUC Tucson 79.19 302 *e*P P 15 17 50.4 +1.4
comp=Z,59nm,1.2s
C19A Slack Wire Ran 79.20 318 ⇑P P 15 17 49.1 +0.4
baz=79,SNR=8.3
B19A Brinkman Farms 79.22 319 ⇑P P 15 17 49.2 +0.4
baz=79
G18A Lazy EL Ranch, 79.27 315 ⇓P P 15 17 49.4 +0.2
baz=79
H18A Shoshone NF, C 79.28 315 ⇑P P 15 17 49.2 -0.2
baz=79
L18A Fontenelle, Gr 79.28 312 ⇑P P 15 17 50.1 +0.6
baz=79
I18A Diamond G Ranc 79.28 314 ⇑P P 15 17 49.7 +0.3
baz=79,SNR=5.4
GCMT Greycliff 79.40 316 *e*P P 15 17 50.5 +0.6
comp=Z,16nm,1.6s
SRU San Rafael 79.41 309 *e*P P 15 17 50.9 +0.7
SRU pmax pmax
comp=Z,23nm,1.4s
SRU San Rafael 79.41 309 *e*P P 15 17 50.9 +0.7
comp=Z,23nm,1.4s
F18A Big Timber 79.44 316 ⇑P P 15 17 50.6 +0.4
baz=79,SNR=9.9
D18A Linhart Farms, 79.64 317 ⇑P P 15 17 51.5 +0.3
baz=80
E18A Harlowton 79.65 317 ⇑P P 15 17 51.7 +0.4
baz=80,SNR=12
EGMT Eagleton 79.70 318 *e*P P 15 17 50.3 -1.2
comp=Z,22nm,1.3s
EGMT Eagleton 79.70 318 ⇓P P 15 17 51.5 +0.1
baz=80,SNR=6.3
M17A Scullys Gap (B 79.71 311 ⇑P P 15 17 52.2 +0.4
baz=80,SNR=9.1
B18A Beardsley Farm 79.76 318 ⇓P P 15 17 51.8 0.0
baz=80
X16A Lo Mia Camp, P 79.84 304 ⇓P P 15 17 52.1 -0.5
baz=80
LOHW Long Hollow 79.84 314 P P 15 17 52.8 +0.2
comp=Z,20nm,1.3s
WUAZ Wupatki 79.85 305 *e*P P 15 17 54.3 +1.7
comp=Z,19nm,1.3s
WUAZ Wupatki 79.85 305 ⇓P P 15 17 54.1 +1.5
baz=80,SNR=6.4
I17A Pilgrim Ck. 79.85 314 ⇑P P 15 17 53.7 +1.1
baz=80
A18A Metzger Ranch, 79.87 319 ⇓P P 15 17 52.7 +0.4
baz=80
H17A Grant Village 79.90 314 ⇓P P 15 17 53.5 +0.7
baz=80
Q16A Castle Valley 79.90 309 ⇑P P 15 17 53.9 +1.0
baz=80
SNOW Snow King Moun 79.94 313 *e*P P 15 17 53.1 +0.1
TMUT Trail Mountain 79.95 309 *e*P P 15 17 53.1 -0.2
comp=Z,47nm,1.7s
FLWY Flagg Ranch 79.96 314 *e*P P 15 17 53.3 +0.2
comp=Z,196nm,2.5s
MOOW Moose Ponds 79.96 314 *e*P P 15 17 53.1 0.0
comp=Z,10nm,1.3s
DAU Daniels Canyon 80.07 310 P P 15 17 53.6 -0.3
DAU Daniels Canyon 80.07 310 P P 15 17 53.6 -0.3
TPAW Teton Pass 80.08 313 *e*P P 15 17 53.7 -0.2
comp=Z,23nm,1.4s
F17A Fitzpatrick Pl 80.10 316 ⇓P P 15 17 54.1 +0.4
baz=80
G17A Pierce Place, 80.10 315 ⇑P P 15 17 54.8 +1.0
baz=80
IMW Indian Meadow 80.11 314 *e*P P 15 17 53.9 -0.2
comp=Z,17nm,1.3s
JLU Jordanelle 80.23 310 *e*P P 15 17 53.2 -1.5
comp=Z,27nm,1.5s
D17A Six Diamond Ra 80.24 317 ⇓P P 15 17 54.8 +0.3
baz=80
DCID1 Drake Creek 80.26 314 *e*P P 15 17 54.0 -0.7
comp=Z,78nm,2.6s
E17A Martinsdale 80.29 316 ⇓P P 15 17 55.1 +0.3
baz=80,SNR=13
C17A Wharram Farm, 80.34 318 ⇑P P 15 17 55.3 +0.4
baz=80
RRI2 Red Ridge 80.34 313 *e*P P 15 17 54.8 -0.5
comp=Z,132nm,2.6s
HWUT Hardware Ranch 80.39 311 P P 15 17 54.5 -0.9
comp=Z,24nm,1.3s
H16A Russell Place, 80.40 315 ⇓P P 15 17 56.5 +1.0
baz=80
B17A L&G Farms, Che 80.43 318 ⇑P P 15 17 55.7 +0.3
baz=80
A17A Triple J Farms 80.43 319 ⇑P P 15 17 55.7 +0.3
baz=80
I16A Newdale 80.50 314 ⇓P P 15 17 56.7 +0.7
baz=80
QLMT Earthquake Lak 80.54 315 *e*P P 15 17 57.6 +1.4
U15A North Rim 80.64 306 ⇓P P 15 17 58.7 +1.7
baz=81,SNR=11
MSU Marysvale 80.66 308 *e*P P 15 17 57.5 +0.5
MSU Marysvale 80.66 308 *e*P P 15 17 57.5 +0.5
NLU North Lily Min 80.66 310 *e*P P 15 17 55.8 -1.2
comp=Z,9.1nm,1.0s
MVU Marysvale 80.69 308 *e*P P 15 17 57.9 +0.7
comp=Z,25nm,1.4s
BOZ Bozeman (W) 80.75 316 *e*P P 15 17 56.2 -1.0
BOZ pmax pmax
comp=Z,12nm,1.6s
BOZ Bozeman (W) 80.75 316 *e*P P 15 17 56.2 -1.0
comp=Z,12nm,1.6s

214A Organ Pipe Nat 80.89 302 ⇑P P 15 17 59.8 +1.7
baz=81
HRY Holter Researc 80.98 317 *e*P P 15 17 59.2 +0.8
C16A Fuhringer Ranc 81.02 318 ⇓P P 15 17 58.8 +0.2
baz=81
B16A M & M Farms, S 81.04 318 ⇓P P 15 17 59.2 +0.5
baz=81
Y14A Wickenburg 81.12 304 ⇑P P 15 18 00.8 +1.5
baz=81
DUG Dugway 81.24 310 *e*P P 15 18 00.6 +0.6
DUG pmax pmax
comp=Z,40nm,1.5s
DUG Dugway 81.24 310 *e*P P 15 18 00.6 +0.6
comp=Z,40nm,1.5s
DUG Dugway 81.24 310 ⇑P P 15 18 01.0 +1.0
baz=81,SNR=5.4
HVU Hansel Valley 81.30 312 *e*P P 15 17 57.5 -2.8
HVU pmax pmax
comp=Z,28nm,1.8s
HVU Hansel Valley 81.30 312 *e*P P 15 17 57.5 -2.8
comp=Z,28nm,1.8s
LRM Limekiln Ridge 81.34 316 *e*P P 15 18 01.1 +0.6
DLMT Dillon 81.41 315 *e*P P 15 18 01.3 +0.6
comp=Z,23nm,1.4s
BGU Big Grassy Mou 81.45 311 *e*P P 15 17 59.1 -2.0
comp=Z,36nm,1.5s
CCUT Cedar City 81.55 307 *e*P P 15 18 03.2 +1.4
comp=Z,17nm,1.2s
MCMT McKenzie Canyo 81.55 315 *e*P P 15 18 02.4 +0.8
comp=Z,2.5nm,1.3s
C15A Salmond Ranch, 81.59 318 ⇑P P 15 18 02.2 +0.5
baz=82,SNR=14
B15A Bradely Ranch, 81.60 318 ⇓P P 15 18 01.6 0.0
baz=82,SNR=6.0
113A Mohawk Valley, 81.72 302 ⇑P P 15 18 03.0 +0.5
baz=82
A15A Johnson Ranch, 81.77 319 ⇑P P 15 18 02.7 +0.2
baz=82,SNR=9.4
W13A Hualapai Mount 81.88 305 ⇓P P 15 18 03.0 -0.6
baz=82
I14A Mackay 81.92 314 ⇓P P 15 18 04.6 +1.0
baz=82
CHMT Chamberlain Mo 81.97 317 *e*P P 15 18 04.4 +0.6
PDMCI Parker Dam,Lak 82.07 304 ⇑P P 15 18 05.8 +1.5
baz=82
B14A Marquette Ranc 82.08 318 ⇑P P 15 18 03.5 -0.7
baz=82
D14A Greenough 82.15 317 ⇓P P 15 18 04.9 +0.3
baz=82
SLMT Seeley Lake 82.15 317 *e*P P 15 18 05.4 +0.7
SLMT *e*pP PcP 15 18 21.5 +11
A14A Double T Ranch 82.22 319 ⇑P P 15 18 05.1 +0.1
baz=82,SNR=14
Y12C Blythe 82.38 303 ⇑P P 15 18 07.7 +1.8
baz=82
NEE2 Needles Airpor 82.47 304 ⇑P P 15 18 07.7 +1.3
baz=82
SWMT Swartz Lake 82.51 317 *e*P P 15 18 06.7 +0.2
WALA Waterton Lakes 82.55 319 *e*P P 15 18 06.9 +0.3
comp=Z,3.9nm,1.8s
HLID Hailey 82.60 313 *e*P P 15 18 07.6 +0.5
comp=Z,34nm,2.0s
HLID Hailey 82.60 313 ⇑P P 15 18 07.9 +0.8
baz=83
GLA Glamis 82.62 303 ⇑P P 15 18 08.9 +1.7
baz=83
JTMT Jette 82.72 318 *e*P P 15 18 08.3 +0.8
D13A Huson 82.80 317 ⇑P P 15 18 08.0 +0.1
baz=83
A13A Flathead Natio 82.87 319 ⇓P P 15 18 09.1 +0.8
baz=83
B13A Whitefish 82.88 318 ⇑P P 15 18 08.9 +0.6
baz=83,SNR=11
LDFC Landfair 82.88 305 *e*P P 15 18 10.4 +1.7
comp=Z,34nm,1.4s
IRM Iron Mountain 82.90 304 ⇑P P 15 18 10.4 +1.7
baz=83,SNR=9.0
C13A Hot Springs 82.91 317 ⇑P P 15 18 09.1 +0.6
baz=83,SNR=8.4
SHPR Sheep Range 82.95 306 *e*P P 15 18 06.3 -2.8
H12A Diamond D Ranc 82.96 314 ⇑P P 15 18 09.9 +0.9
baz=83,SNR=14
BSMT Bassoo Peak 83.06 318 *e*P P 15 18 09.6 +0.1
ELK Elko 83.11 310 *e*P P 15 18 10.8 +0.9
comp=Z,35nm,2.1s
ELK Elko 83.11 310 LR LR 15 50 23.4
comp=Z,394nm,21.3s,baz=87,slow=32
I12A Atlanta 83.13 314 ⇑P P 15 18 11.0 +1.1
baz=83
BC3 Big Chuckawall 83.15 303 ⇑P P 15 18 11.2 +1.1
baz=83
R11A Troy Canyon, C 83.33 308 ⇓P P 15 18 12.2 +1.2
baz=83,SNR=9.9
GMRC Granite Mounta 83.33 304 ⇓P P 15 18 12.4 +1.3
baz=83,SNR=6.3
SWSC Sam W. Stewart 83.43 303 ⇓P P 15 18 12.6 +1.2
baz=83
C12B Naegeli Ranch, 83.52 317 ⇑P P 15 18 12.7 +1.1
baz=84
E12A Beaver Dam Sad 83.54 316 ⇑P P 15 18 12.2 +0.4
baz=84,SNR=12
TUQ Turquoise Moun 83.56 305 ⇓P P 15 18 13.6 +1.4
baz=84,SNR=6.5
BELC Belle Mtn. Jos 83.61 304 ⇑P P 15 18 14.0 +1.5
baz=84,SNR=5.7
MFID Camas Ranch 83.63 313 ⇓P P 15 18 13.0 +0.7
baz=84
B12A Libby 83.63 318 ⇓P P 15 18 13.3 +1.1
baz=84
DVTC Desert V Tower 83.69 302 ⇑P P 15 18 14.3 +1.5
baz=84
A12A Yaak River Ran 83.69 319 ⇑P P 15 18 13.4 +1.0
baz=84
SHOC Shoshone 83.85 306 ⇑P P 15 18 14.6 +1.1
baz=84
HEC Hector,Ludlow 83.88 305 ⇓P P 15 18 14.9 +1.2
baz=84
YKA Yellowknife Ar 83.91 332 P P 15 18 12.7 -0.5
YKA Yellowknife Ar 83.91 332 P P 15 18 12.6 -0.5
comp=Z,6.2nm,1.0s,baz=95,slow=5.4,SNR=29
YKW3 Yellowknife Ar 83.92 332 *e*P P 15 18 11.7 -1.5
comp=Z,1.5nm,2.0s
MONP Monument Peak 83.95 303 ⇑P P 15 18 15.7 +1.3
baz=84
PFO Pinyon Flat Ob 83.98 303 P P 15 18 15.5 +1.1
PFO Pinyon Flat Ob 83.98 303 P P 15 18 15.5 +1.1
comp=Z,2.6nm,0.8s,baz=86,slow=8.1,SNR=6.5
PFO LR LR 15 52 56.6
comp=Z,245nm,18.1s,baz=182,slow=34
PFO Pinyon Flat Ob 83.98 303 ⇑P P 15 18 15.2 +0.8
baz=84
C11A Tepee Creek (N 84.05 318 ⇑P P 15 18 14.7 +0.4
baz=84,SNR=9.2
GSC Goldstone 84.28 305 *e*P P 15 18 16.2 +0.4
GSC pmax pmax
comp=Z,10.0nm,1.3s
GSC Goldstone 84.28 305 *e*P P 15 18 16.2 +0.4
comp=Z,10nm,1.3s
GSC Goldstone 84.28 305 ⇓P P 15 18 16.9 +1.1
baz=84
FURC Furnace Creek, 84.32 306 ⇑P P 15 18 16.8 +1.0
baz=84
BBRC Big Bear Solar 84.37 304 ⇓P P 15 18 16.8 +0.3
baz=84
RRX Edison Barstow 84.44 305 ⇓P P 15 18 17.6 +1.1
baz=84
109C Camp Elliot, M 84.53 303 ⇓P P 15 18 17.8 +0.8
baz=84
MURC Murrieta 84.61 303 ⇓P P 15 18 18.1 +0.6
baz=85
NEW Newport 84.64 318 ⇑P P 15 18 17.1 -0.2
baz=85
BMO Blue Mountains 84.72 315 *e*P P 15 18 17.5 -0.3
BMO pmax pmax
comp=Z,28nm,1.4s
BMO Blue Mountains 84.72 315 *e*P P 15 18 17.5 -0.3
comp=Z,28nm,1.4s
GRAC Grapevine Rang 84.73 307 ⇓P P 15 18 19.6 +1.6
baz=85
MPMC Manual Prospec 84.83 306 ⇓P P 15 18 20.1 +1.4
baz=85,SNR=5.9
BFSC Mount Baldy Ra 84.98 304 ⇑P P 15 18 19.7 +0.3
baz=85
LRMC Laurel Mountai 85.00 305 ⇑P P 15 18 20.8 +1.3
baz=85
EDW2 Edwards Air Fo 85.25 305 ⇓P P 15 18 21.8 +1.1
baz=85,SNR=6.3
CWC Cottonwood Cre 85.31 306 ⇓P P 15 18 22.3 +1.3
baz=85

NV11 Mina Array Sit 85.35 308 *e*P P 15 18 21.9 +0.7
TIN Tinemaha 85.42 307 ⇓P P 15 18 22.8 +1.2
baz=85
NVAR Mina Array Bea 85.46 308 P P 15 18 22.6 +0.7
NVAR Mina Array Bea 85.46 308 P P 15 18 22.6 +0.7
comp=Z,1.4nm,0.9s,baz=99,slow=5.6,SNR=14
NVAR LR LR 15 52 10.3
comp=Z,321nm,21.7s,baz=276,slow=33
FMP Fort Macarthur 85.52 303 ⇓P P 15 18 22.9 +1.0
baz=86
DECC Green Verdugo 85.54 304 ⇑P P 15 18 22.6 +0.5
baz=86
CIS Catalina Islan 85.61 303 ⇓P P 15 18 23.0 +0.6
baz=86
ISA Isabella 85.63 305 *e*P P 15 18 24.1 +1.5
ISA pmax pmax
comp=Z,141nm,2.8s
ISA Isabella 85.63 305 *e*P P 15 18 24.1 +1.5
comp=Z,141nm,2.8s
ISA Isabella 85.63 305 ⇑P P 15 18 24.1 +1.5
baz=86,SNR=8.8
WVOR Wild Horse Val 85.68 312 *e*P P 15 18 24.2 +1.5
WVOR pmax pmax
comp=Z,82nm,1.8s
WVOR Wild Horse Val 85.68 312 *e*P P 15 18 24.2 +1.5
comp=Z,82nm,1.8s
SCI San Clemente I 85.74 303 ⇓P P 15 18 24.9 +1.8
baz=86
OSI Osito Adit 85.86 304 ⇓P P 15 18 24.6 +0.9
baz=86
MLAC Mammoth Lakes 85.89 307 ⇑P P 15 18 24.7 +0.7
baz=86
ARVC Arvin 85.94 305 ⇑P P 15 18 24.7 +0.7
baz=86
SOKR Solikamsk 86.34 31*d i*P P 15 18 26.7 +1.3
SOKR pmax pmax
comp=Z,40nm,1.5s
WAKR Walker 86.35 308 *e*P P 15 18 28.4 +2.2
SYO Syowa Base 86.36 160*i*l*e*P P 15 18 26.0 +0.7
UOSS Wadi Hilu 86.57 65 P P 15 18 28.0 +0.7
comp=Z,323nm,1.3s,SNR=5.4
SBC Santa Barbara 86.68 304 ⇑P P 15 18 27.9 +0.2
baz=87
PKM Peak Mountain 86.75 305 ⇑P P 15 18 29.1 +0.8
baz=87
SMMC Simmler 86.89 305 ⇓P P 15 18 30.0 +1.3
baz=87
MOD Modoc 86.93 312 *e*P P 15 18 30.1 +1.2
comp=Z,159nm,3.0s
BEKR Beckworth 87.03 310 *e*P P 15 18 30.4 +0.9
comp=Z,11nm,1.5s
AKTO Aktyubinsk 87.20 40 *i* P P 15 18 30.6 +0.7
AKTO pmax pmax
comp=Z,27nm,1.3s
ARU Arti 87.34 34*d i*P P 15 18 31.1 +0.7
ARU 15 23 48.9
ARU S S 15 28 58.0 -13
ARU SS **SS** **15 34 52.3 -2.7**
ARU pmax pmax
comp=Z,89nm,2.5s
ARU Arti 87.34 34 P P 15 18 31.9 +1.5
comp=Z,162nm,1.0s,SNR=7.0
LON Longmire 87.84 317 *e*P P 15 18 34.1 +1.0
LON pmax pmax
comp=Z,4.0nm,1.0s
LON Longmire 87.84 317 *e*P P 15 18 34.0 +1.0
comp=Z,3.7nm,1.0s
SVE Sverdlovsk 88.46 33⇓*e*P P 15 18 37.3 +1.6
SVE pmax pmax
comp=Z,26nm,1.4s
AB31 Akbulak array 88.50 41*c e*P P 15 18 36.9 +0.8
AB31 pmax pmax
comp=Z,34nm,1.1s
YBH Yreka Blue Hor 88.73 312 LR LR 15 53 54.7
comp=Z,332nm,21.1s,baz=83,slow=33
BRVK Borovoye 94.47 36*d i*P P 15 19 04.4 +0.7
BRVK pmax pmax
comp=Z,4.0nm,1.2s
BVAR Borovoye Array 94.54 36 LR LR 15 58 22.1
comp=Z,125nm,19.8s,baz=279,slow=34
VOSK Vostochnaya 94.95 37 P P 15 19 06.4 +0.4
VOSK pmax pmax
comp=Z,11nm,1.3s
ILAR Eielson Array 97.59 337 P P 15 19 17.5 -0.2
ILAR Eielson Array 97.59 337 P P 15 19 17.5 -0.2
comp=Z,3.6nm,1.0s,baz=51,slow=4.0,SNR=26
ILAR LR LR 16 01 56.4
comp=Z,179nm,18.2s,baz=107,slow=35
AAK Ala-Archa 99.49 46⇑*i*P **Pdif** 15 19 26.4 -0.5
AAK pmax pmax
comp=Z,5.0nm,1.3s
KSH Kashi 101.31 49 *e*P **Pdif** 15 19 35.8 +0.8
KSH PP PP 15 23 49.9 +5.8
KSH SKS 15 30 13.6
KSH S SKKSac 15 31 10.1 +19
KSH sS **sS** **15 31 17.5 -3.5**
KSH SS **SS** **15 38 12.3 -3.0**
KSH pmax pmax
comp=Z,110nm,3.9s
KSH LR LR
comp=N,120nm,6.2s
KSH LR LR
comp=E,140nm,8.2s
KSH LR LR
comp=Z,180nm,7.9s
TLY Talaya 113.35 29 *i* PKIKP **PKiKP** 15 24 19.0 -2.5
TLY pmax pmax
comp=Z,5.0nm,1.1s
TLY MLR MLR
comp=Z,200nm,18.0s
TBI Tubuai 116.89 246 *e*LR LR 15 59 55.6
comp=Z,194nm,26.5s
SONM Songino Array 117.21 31 PKP **PKPdf** 15 24 28.5 -0.7
SONM PP **PP** **15 25 34.3 -4.6**
SONM Songino Array 117.21 31 PKP **PKPdf** 15 24 28.5 -0.7
comp=Z,1.5nm,0.9s,baz=262,slow=1.1,SNR=7.6
SONM PP **PP** **15 25 34.3 -4.6**
comp=Z,2.9nm,1.2s,baz=297,slow=9.8,SNR=4.5
PPT2 Papeete2 117.71 252 *e*SS SS 15 41 55.4 -1.8
comp=Z,194nm,26.2s
PPT2 Papeete2 117.71 252 *e*LR LR 16 00 18.9
comp=Z,300nm,23.0s
GTA Gaotai 118.35 41 PKP **PKPdf** 15 24 31.9 +0.3
LZH Lanzhou 122.83 43 *e*PKP PKPdf 15 24 35.1 -5.3
LZH sPKP 15 24 40.8
LZH LR LR
comp=N,120nm,18.0s
LZH LR LR
comp=E,120nm,18.4s
LZH LR LR
comp=Z,150nm,20.3s
PETK Petropavlovsk- 123.29 353 PKIKP **PKPdf** 15 24 40.8 +0.2
PETK Petropavlovsk- 123.29 353 PKP **PKPdf** 15 24 40.8 +0.2
PETK Petropavlovsk- 123.29 353 PKP **PKPdf** 15 24 40.8 +0.2
comp=Z,4.1nm,1.0s,baz=48,slow=2.2,SNR=8.6
HHC Hu-ho-hao-te 124.65 34 *e*PKP **PKPdf** 15 24 41.9 -1.8
HHC PP **PP** **15 26 33.3 +3.5**
HHC PKS **PKSdf** **15 28 17.3 -3.1**
HHC SKS **SKSdf** **15 31 50.0 -6.0**
HHC SKKS **SKKSac** **15 33 25.5 -4.0**
HHC SS **SS** **15 43 20.8 -2.6**
HHC AMB AMB
comp=Z,180nm,5.1s
HHC LR LR
comp=N,520nm,16.7s
HHC LR LR
comp=E,420nm,14.2s
HHC LR LR
comp=Z,470nm,16.9s
CD2 Chengdu 125.50 48 *e*PKP **PKPdf** 15 24 43.3 -2.2
CD2 PP **PP** **15 26 38.0 +2.0**
CD2 PKS **PKSdf** **15 28 18.5 -3.8**
CD2 SKS **SKSdf** **15 31 52.8 -5.1**
CD2 SKKS **SKKSac** **15 33 28.8 -6.5**
CD2 SS **SS** **15 43 33.3 -1.8**
CD2 AMB AMB
comp=Z,120nm,10.2s
CD2 LR LR
comp=E,180nm,22.2s
CD2 LR LR
comp=Z,210nm,24.0s
CMAR Chiang Mai Arr 126.66 64 PKP **PKPdf** 15 24 47.9 0.0
CMAR PP **PP** **15 26 43.4 -1.0**
CMAR Chiang Mai Arr 126.66 64 PKP **PKPdf** 15 24 47.9 0.0
comp=Z,2.6nm,0.8s,baz=288,slow=3.6,SNR=15

CMAR PP **PP** **15 26 43.4 -1.0**
comp=Z,0.6nm,0.7s,baz=302,slow=10,SNR=4.6
KMI Kunming 127.42 55 PKP **PKPdf** **15 24 48.3 -1.2**
KMI PP **PP** **15 26 52.3 +3.1**
KMI SS SS 15 43 57.1 -2.9
KMI AMB AMB
comp=Z,71nm,4.5s
KMI LR LR
comp=Z,110nm,21.8s
BJI Beijing 127.69 31 PKP **PKPdf** **15 24 48.0 -1.3**
BJI SS SS 15 44 00.4 -0.7
BJI LR LR
comp=N,160nm,28.0s
BJI LR LR
comp=E,100nm,26.6s
BJI LR LR
comp=Z,110nm,29.5s
CN2 Changchun 128.76 21 *e*PKP **PKPdf** **15 24 52.3 +1.0**
GYA Guiyang 129.93 51 *e*Pdif **Pdif** **15 21 41.0 -1.6**
GYA PKP **PKPdf** **15 24 52.8 -1.4**
GYA PP **PP** **15 27 07.6 +2.2**
GYA PKS **PKSdf** **15 28 27.0 -4.0**
GYA SS SS 15 44 28.9 -1.7
GYA AMB AMB
comp=Z,130nm,7.8s
GYA LR LR
comp=N,160nm,20.3s
GYA LR LR
comp=E,140nm,21.0s
GYA LR LR
comp=Z,180nm,20.1s
WHN Wuhan 133.18 42 *e*PKP **PKPdf** **15 25 01.8 +1.8**
NJ2 Nanjing 134.99 36 *e*PKP **PKPdf** **15 25 02.4 -1.0**
MJAR Matsushiro Arr 139.24 13 PKP **PKPdf** **15 25 10.2 -1.0**
MJAR Matsushiro Arr 139.24 13 PKP **PKPdf** **15 25 10.2 -1.0**
comp=Z,1.7nm,0.8s,baz=303,slow=2.2,SNR=5.6
BBOO Buckleboo 148.40 160 *e*PKPbc **PKPbc** **15 25 30.9 +0.3**
STKA Stephens Creek 150.82 168 PKPbc **PKPbc** **15 25 36.9 +0.2**
STKA PKPab **PKPab** **15 25 43.5 -0.2**
STKA Stephens Creek 150.82 168 PKPbc **PKPbc** **15 25 36.9 +0.2**
comp=Z,11nm,1.0s,baz=173,slow=1.7,SNR=15
STKA PKPab **PKPab** **15 25 43.5 -0.2**
comp=Z,9.3nm,1.1s,baz=188,slow=1.2,SNR=8.0
KAPI Kappang 151.29 94 PKPbc **PKPbc** **15 25 37.7 -0.5**
KAPI Kappang 151.29 94 PKPbc **PKPbc** **15 25 37.7 -0.5**
comp=Z,19nm,0.9s,baz=266,slow=6.9,SNR=4.5
FITZ Fitzroy Crossi 153.21 125 PKPbc **PKPbc** **15 25 43.5 +1.1**
FITZ Fitzroy Crossi 153.21 125 PKPbc **PKPbc** **15 25 43.5 +1.1**
comp=Z,5.8nm,0.8s,baz=265,slow=4.0,SNR=7.3
ASAR Alice Springs 155.31 146 PKP **PKPdf** **15 25 38.0 +0.1**
ASAR PKPab **PKPab** **15 26 03.5 +0.6**
ASAR Alice Springs 155.31 146 PKP **PKPdf** **15 25 38.0 +0.1**
comp=Z,2.1nm,0.9s,baz=181,slow=2.0,SNR=17
ASAR PKPab **PKPab** **15 26 03.5 +0.6**
comp=Z,3.4nm,0.7s,baz=214,slow=3.5,SNR=14
WRA Warramunga Arr 158.44 141 PKP **PKPdf** **15 25 41.8 -0.1**
WRA PKPab **PKPab** **15 26 16.8 +0.4**
WRA Warramunga Arr 158.44 141 PKP **PKPdf** **15 25 41.8 -0.1**
comp=Z,1.4nm,0.9s,baz=239,slow=2.4,SNR=5.8
WRA PKPab **PKPab** **15 26 16.8 +0.4**
comp=Z,3.8nm,0.9s,baz=210,slow=2.4,SNR=9.6

IDC 16 15:12:05.5±2.6, 3°85N×127°27E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/22, mbtmp3.3/3, Error ellipse: s-maj=213.9km s-min=26.9km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.64**	**164**	P	P	15 17 27.1	-0.9
	0.8nm,0.8s,baz=343,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**28.10**	**167**	P	P	15 18 00.4	+1.2
	0.1nm,0.4s,baz=346,slow=12,SNR=4.9						
MKAR	**Makanchi Array**	**57.77**	**325**	P	P	15 21 58.3	-0.2
	0.4nm,0.6s,baz=125,slow=7.7,SNR=5.5						

*MOS **16** 15:18:00.6±0.8, 3°.40N×31°.46W, h10km, mb5.2/38, Error ellipse: s-maj=11.3km s-min=5.2km az=58.3*
*ISCJB **16** 15:18:00.4±0.3, 3°.34N±0°.05×31°.43W±0°.04, h10km, mb4.7/114, MS4.3/22, Error ellipse: s-maj=8.3km s-min=4.8km az=155.5*
*IDC **16** 15:18:00.5±0.4, 3°.41N×31°.46W, h0km, mb4.5/27, mb1 4.6/28, mb1mx4.6/31, mbtmp4.5/28, ML4.0/1, MS4.2/19, Ms1 4.2/19, ms1mx4.0/44, Error ellipse: s-maj=13.4km s-min=12.0km az=149.0*
*NEIC **16** 15:18:01.8±0.2, 3°.33N×31°.46W, h10km, mb4.8/53, Error ellipse: s-maj=6.0km s-min=4.0km az=156.0*
*BJI **16** 15:18:01.5, 3°.30N×31°.40W, h10km, mB5.4/3, Ms5.3/3, Ms7 5.1/4*
*GCMT **16** 15:18:06.9±0.3, 3°.46N×31°.45W, h12km, MW4.9, Moment Tensor Solution. s15,c17; s61,c86; Moment tensor: Scale 10^{16}Nm; M_{rr}-2.16±.09; $M_{\theta\theta}$0.20±.08; $M_{\phi\phi}$1.96±.09; $M_{r\theta}$0.28±.50; $M_{\theta\phi}$-0.58±.08; $M_{\phi r}$1.32±.31; Best double couple: M_o2.50000×10^{16} NP1:ϕ_s331.00000°, δ32.00000°, λ-113.00000°. NP2:ϕ_s177.00000°, δ61.00000°, λ-76.00000°. Principal axes: T 2.4500, Plg15.0000°, Azm257.0000°; N 0.1700, Plg12.0000°, Azm351.0000°; P -2.6100, Plg71.0000°, Azm118.0000°; Data Used: G IU II IC CN.*
*SZGRF **16** 15:18:11.5, 4°.21N×31°.57W, h24km, mb4.9, Central Mid-Atlantic Ridge*
ISC 16 15:18:02.2±0.3, 3°.35N±0°.07×31°.46W±0°.07, h12km, n572, σ0s94/589, mb4.8/114, MS4.2/22, 120C-146D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**10.14**	**206**	*e*P	**Pn**	**15 20 26.6**	**-1.1**
RCBR				Sn	Sn	15 22 12.3	-9.2
RCBR	**Riachuelo**	**10.14**	**206**	**Pn**	**Pn**	**15 20 26.1**	**-1.7**
	1.2nm,0.3s,baz=14,slow=14,SNR=4.9						
RCBR				Sn	Sn	15 22 12.3	-9.2
	0.2nm,0.3s,baz=90,slow=20,SNR=2.8						
RCBR				LR	LR	15 23 38.0	
	comp=Z,942nm,19.2s,baz=193,slow=33						
BBTS	**Babate**	**18.52**	**52**	LR	LR	15 27 56.5	
	comp=Z,568nm,18.5s,baz=139,slow=32						
BDFB	**Brasilia**	**24.99**	**221**	P	**P**	**15 23 26.6**	**+0.5**
BDFB	**Brasilia**	**24.99**	**221**	P	**P**	**15 23 26.6**	**+0.5**
	1.2nm,0.3s,baz=40,slow=15,SNR=3.5						
BDFB				LR	LR	15 32 21.7	
	comp=Z,699nm,19.9s,baz=124,slow=34						
LIC	**Lamto**	**26.49**	**83**	*e*P	**P**	**15 23 39.5**	**-0.3**
	38nm,1.1s,baz=264						
LIC				*e*R			
	1μm,19.0s						
LIC	**Lamto**	**26.49**	**83**	*e*P	**P**	**15 23 39.5**	**-0.3**
	38nm,1.1s						
DBIC	**Dimbokro**	**26.70**	**82**	*e*P	**P**	**15 23 40.4**	**-1.3**
	17nm,1.2s						
DBIC	**Dimbokro**	**26.70**	**82**	P	**P**	**15 23 40.9**	**-0.8**
	9.5nm,1.1s,baz=230,slow=7.5,SNR=3.7						
DBIC				LR	LR	15 31 38.2	
	comp=Z,600nm,19.3s,baz=244,slow=31						
TOA0	**Torodi Ar. Sit**	**34.18**	**71**	*e*P	**P**	**15 24 47.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**34.18**	**71**	P	**P**	**15 24 47.2**	**-0.7**
TORD				PcP	**PcP**	**15 27 24.2**	**-0.7**
TORD	**Torodi Ar. Bea**	**34.18**	**71**	P	**P**	**15 24 47.2**	**-0.7**
	15nm,0.7s,baz=258,slow=8.5,SNR=74						
TORD				PcP	**PcP**	**15 27 24.2**	**-0.7**
	1.4nm,0.8s,baz=276,slow=2.3,SNR=4.2						
TORD				LR	LR	15 36 41.9	
	comp=Z,549nm,19.8s,baz=220,slow=33						
SIV	**San Ignacio**	**35.03**	**236**	P	**P**	**15 24 57.1**	**+2.0**
SIV	**San Ignacio**	**35.03**	**236**	P	**P**	**15 24 57.1**	**+2.0**
	1.0nm,0.5s,baz=90,slow=11,SNR=4.6						
SDV	**Santo Domingo**	**39.31**	**280**	P	**P**	**15 25 32.9**	**+1.0**
MORF	**Marmelete**	**39.76**	**29**	*e*P	**P**	**15 25 36.2**	**+1.2**
	53nm,1.6s						
PBDV	**Barranco-do-Ve**	**40.06**	**30**	*e*P	**P**	**15 25 36.0**	**-1.5**
	34nm,1.5s						
PVAQ	**Vaqueiros**	**40.29**	**30**	*e*P	**P**	**15 25 40.7**	**+1.3**
	35nm,1.7s						
PCVE	**Castro Verde**	**40.31**	**29**	*e*P	**P**	**15 25 40.0**	**+0.4**
	27nm,1.9s						
PNCL	**Nicolau / Gran**	**40.45**	**28**	*e*P	**P**	**15 25 42.1**	**+1.4**
	29nm,1.8s						
TAM	**Tamanrasset**	**40.69**	**58**	*e*P	**P**	**15 25 44.1**	**+1.0**
TAM				*e*		15 25 50.3	
TAM				pmax	pmax		
	comp=Z,27nm,1.4s						
TAM	**Tamanrasset**	**40.69**	**58**	*e*P	**P**	**15 25 44.1**	**+1.0**
	comp=Z,27nm,1.4s						
TAM				*e*		15 25 50.3	
EVOP	**Sao Brissos**	**40.98**	**28**	*e*P	**P**	**15 25 45.5**	**+0.4**
EVOP				pmax	pmax		
	comp=Z,90nm,1.7s						
EVOP	**Sao Brissos**	**40.98**	**28**	*e*P	**P**	**15 25 45.5**	**+0.4**
	comp=Z,90nm,1.7s						
EVO	**Evora**	**41.03**	**28**	*e*P	**P**	**15 25 45.5**	**0.0**
	comp=Z,90nm,1.7s						
EVO				*e*R			
	comp=Z,379nm,22.8s						
EVO	**Evora**	**41.03**	**28**	*e*P	**P**	**15 25 47.2**	**+1.7**
	comp=Z,29nm,1.7s						
LPAZ	**La Paz**	**41.16**	**241**	*e*P	**P**	**15 25 47.5**	**-0.1**
	comp=Z,10.0nm,1.1s						
LPAZ	**La Paz**	**41.16**	**241**	P	**P**	**15 25 48.5**	**+0.9**
	comp=Z,3.3nm,1.0s,baz=26,slow=5.8,SNR=9.0						
LPAZ				LR	LR	15 42 02.8	
	comp=Z,754nm,20.6s,baz=86,slow=35						
PBAR	**Barrancos**	**41.23**	**30**	*e*P	**P**	**15 25 47.9**	**+0.8**
	comp=Z,19nm,1.7s						
PMTG	**Montargil**	**41.36**	**28**	*e*P	**P**	**15 25 49.8**	**+1.6**
	comp=Z,31nm,1.6s						
PTOM	**Tomar**	**41.72**	**27**	*e*P	**P**	**15 25 52.7**	**+1.5**
	comp=Z,48nm,1.4s						
PMRV	**Marv??o**	**42.04**	**28**	*e*P	**P**	**15 25 53.8**	**0.0**
	comp=Z,37nm,2.0s						
ROSC	**El Rosal**	**42.78**	**274**	P	**P**	**15 26 02.1**	**+1.4**
ROSC	**El Rosal**	**42.78**	**274**	P	**P**	**15 26 02.1**	**+1.4**
	comp=Z,2.8nm,0.3s,baz=75,slow=17,SNR=3.6						
ROSC				LR	LR	15 43 26.9	
	comp=Z,392nm,19.4s,baz=23,slow=36						
PVIS	**Viseu**	**42.84**	**27**	*e*P	**P**	**15 26 01.0**	**+0.7**
	comp=Z,26nm,1.6s						
PAB	**San Pablo**	**43.62**	**31**	*e*P	**P**	**15 26 07.9**	**+1.2**
PAB				pmax	pmax		
	comp=Z,28nm,1.5s						
PAB	**San Pablo**	**43.62**	**31**	*e*P	**P**	**15 26 07.9**	**+1.2**
	comp=Z,28nm,1.5s						
ESLA	**Sonseca Array**	**43.92**	**31**	*e*P	**P**	**15 26 10.2**	**+1.1**
	comp=Z,5.9nm,1.3s						
ESDC	**Sonseca Array**	**43.92**	**31**	P	**P**	**15 26 09.8**	**+0.7**
ESDC	**Sonseca Array**	**43.92**	**31**	P	**P**	**15 26 09.8**	**+0.7**
	comp=Z,4.0nm,0.7s,baz=225,slow=8.5,SNR=29						
ESDC				LR	LR	15 41 15.5	
	comp=Z,125nm,18.7s,baz=220,slow=32						
ETSF	**Etsaut**	**48.02**	**31**	*e*P	**P**	**15 26 42.8**	**+1.4**
	comp=Z,32nm,1.3s						
ETSF	**Etsaut**	**48.02**	**31**	*e*P	**P**	**15 26 42.8**	**+1.4**
ETSF				pmax	pmax		
	comp=Z,32nm,1.3s						
ETSF	**Etsaut**	**48.02**	**31**	*e*P	**P**	**15 26 42.8**	**+1.4**
	comp=Z,32nm,1.3s						
KEST	**Kesra**	**49.57**	**44**	*e*P	**P**	**15 26 51.4**	**-2.1**
KEST	**Kesra**	**49.57**	**44**	P	**P**	**15 26 54.2**	**+0.7**
	comp=Z,2.1nm,0.9s,baz=1.7,slow=3.7,SNR=6.9						
KEST				LR	LR	15 46 29.0	
	comp=Z,152nm,18.4s,baz=194,slow=34						
MTLF	**Montolieu**	**49.77**	**32**	*e*P	**P**	**15 26 55.0**	**+0.2**
	comp=Z,40nm,1.4s						
MTLF	**Montolieu**	**49.77**	**32**	*e*P	**P**	**15 26 55.0**	**+0.2**
MTLF				pmax	pmax		
	comp=Z,40nm,1.4s						
MTLF	**Montolieu**	**49.77**	**32**	*e*P	**P**	**15 26 55.0**	**+0.2**
	comp=Z,40nm,1.4s						
TRQA	**Tornquist**	**49.96**	**212**	*e*P	**P**	**15 26 56.8**	**+0.5**
	comp=Z,6.4nm,1.1s						
RJF	**Les Rejaudoux**	**50.79**	**30**	*e*P	**P**	**15 27 02.6**	**+0.1**
RJF	**Les Rejaudoux**	**50.79**	**30**	*e*P	**P**	**15 27 02.6**	**+0.1**
RJF	**Les Rejaudoux**	**50.79**	**30**	*e*P	**P**	**15 27 02.6**	**+0.1**
CAF	**Calviac**	**50.80**	**30**	*e*P	**P**	**15 27 02.9**	**+0.3**
	comp=Z,31nm,1.2s						
CAF	**Calviac**	**50.80**	**30**	*e*P	**P**	**15 27 02.9**	**+0.3**
CAF				pmax	pmax		
	comp=Z,31nm,1.2s						
CAF	**Calviac**	**50.80**	**30**	*e*P	**P**	**15 27 02.9**	**+0.3**
	comp=Z,31nm,1.2s						
ROSF	**Rostrenen**	**50.92**	**24**	*e*P	**P**	**15 27 03.4**	**0.0**
ROSF	**Rostrenen**	**50.92**	**24**	*e*P	**P**	**15 27 03.4**	**0.0**
ROSF	**Rostrenen**	**50.92**	**24**	*e*P	**P**	**15 27 03.4**	**0.0**
LASF	**Ste Croix**	**51.15**	**32**	*e*P	**P**	**15 27 05.4**	**+0.2**
LASF	**Ste Croix**	**51.15**	**32**	*e*P	**P**	**15 27 05.4**	**+0.2**
TCF	**Toulx Ste Croi**	**51.83**	**29**	*e*P	**P**	**15 27 10.6**	**+0.3**
	comp=Z,42nm,1.6s						
TCF	**Toulx Ste Croi**	**51.83**	**29**	*e*P	**P**	**15 27 10.6**	**+0.3**
TCF				pmax	pmax		
	comp=Z,43nm,1.6s						
TCF	**Toulx Ste Croi**	**51.83**	**29**	*e*P	**P**	**15 27 10.6**	**+0.3**
	comp=Z,42nm,1.6s						
SMRF	**Simiane la Rot**	**52.01**	**33**	*e*P	**P**	**15 27 12.5**	**+0.8**
SMRF	**Simiane la Rot**	**52.01**	**33**	*e*P	**P**	**15 27 12.5**	**+0.8**
VIVF	**Saint-Julien-l**	**52.10**	**32**	*e*P	**P**	**15 27 12.9**	**+0.6**
VIVF	**Saint-Julien-l**	**52.10**	**32**	*e*P	**P**	**15 27 12.9**	**+0.6**
VIVF	**Saint-Julien-l**	**52.10**	**32**	*e*P	**P**	**15 27 12.9**	**+0.6**
BGF	**Bois d'Agland**	**52.34**	**29**	*e*P	**P**	**15 27 14.4**	**+0.4**
	comp=Z,31nm,1.1s						
BGF	**Bois d'Agland**	**52.34**	**29**	*e*P	**P**	**15 27 14.4**	**+0.4**
BGF				pmax	pmax		
	comp=Z,31nm,1.1s						
BGF	**Bois d'Agland**	**52.34**	**29**	*e*P	**P**	**15 27 14.4**	**+0.4**
	comp=Z,31nm,1.1s						
LDF	**La Druitiere**	**52.45**	**26**	*e*P	**P**	**15 27 14.7**	**-0.1**
LDF	**La Druitiere**	**52.45**	**26**	*e*P	**P**	**15 27 14.7**	**-0.1**
LDF	**La Druitiere**	**52.45**	**26**	*e*P	**P**	**15 27 14.7**	**-0.1**
AVF	**Avril sur Loir**	**52.75**	**30**	*e*P	**P**	**15 27 17.3**	**+0.3**
AVF	**Avril sur Loir**	**52.75**	**30**	*e*P	**P**	**15 27 17.3**	**+0.3**
AVF	**Avril sur Loir**	**52.75**	**30**	*e*P	**P**	**15 27 17.3**	**+0.3**
ORIF	**Oris-en-Rattie**	**52.79**	**33**	*e*P	**P**	**15 27 18.5**	**+1.0**
ORIF				*e*R			
	comp=Z,261nm,18.5s						
ORIF	**Oris-en-Rattie**	**52.79**	**33**	*e*P	**P**	**15 27 18.5**	**+1.0**
ORIF	**Oris-en-Rattie**	**52.79**	**33**	*e*P	**P**	**15 27 18.5**	**+1.0**
SMF	**Signal de Mont**	**52.89**	**30**	*e*P	**P**	**15 27 18.6**	**+0.5**
SMF	**Signal de Mont**	**52.89**	**30**	*e*P	**P**	**15 27 18.6**	**+0.5**
SMF	**Signal de Mont**	**52.89**	**30**	*e*P	**P**	**15 27 18.6**	**+0.5**
SBF	**Sospel**	**52.98**	**35**	*e*P	**P**	**15 27 19.5**	**+0.6**
SBF	**Sospel**	**52.98**	**35**	*e*P	**P**	**15 27 19.5**	**+0.6**
SBF	**Sospel**	**52.98**	**35**	*e*P	**P**	**15 27 19.5**	**+0.6**
SSF	**Saint Saulge**	**53.01**	**29**	*e*P	**P**	**15 27 19.1**	**+0.1**
SSF	**Saint Saulge**	**53.01**	**29**	*e*P	**P**	**15 27 19.1**	**+0.1**
SSF	**Saint Saulge**	**53.01**	**29**	*e*P	**P**	**15 27 19.1**	**+0.1**
PGF	**Pioggiola**	**53.10**	**37**	*e*P	**P**	**15 27 20.1**	**+0.2**
	comp=Z,37nm,1.4s						
PGF	**Pioggiola**	**53.10**	**37**	*e*P	**P**	**15 27 20.1**	**+0.2**
PGF				pmax	pmax		
	comp=Z,37nm,1.4s						
PGF	**Pioggiola**	**53.10**	**37**	*e*P	**P**	**15 27 20.1**	**+0.2**
	comp=Z,37nm,1.4s						
MBDF	**Montbardon**	**53.15**	**33**	*e*P	**P**	**15 27 21.2**	**+0.9**
	comp=Z,24nm,1.1s						
MBDF	**Montbardon**	**53.15**	**33**	*e*P	**P**	**15 27 21.2**	**+0.9**
MBDF				pmax	pmax		
	comp=Z,24nm,1.1s						
MBDF	**Montbardon**	**53.15**	**33**	*e*P	**P**	**15 27 21.2**	**+0.9**
	comp=Z,24nm,1.1s						
TSUM	**Tsumeb**	**53.17**	**117**	P	**P**	**15 27 19.1**	**-1.7**
TSUM	**Tsumeb**	**53.17**	**117**	P	**P**	**15 27 21.9**	**+1.1**
	comp=Z,3.7nm,0.8s,baz=304,slow=6.8,SNR=5.2						
BNI	**Bardonecchia**	**53.31**	**33**	*e*P	**P**	**15 27 20.9**	**-0.5**
BNI				pmax	pmax		
	comp=Z,14nm,1.2s						
BNI	**Bardonecchia**	**53.31**	**33**	*e*P	**P**	**15 27 20.9**	**-0.5**
	comp=Z,14nm,1.2s						
LOR	**Lormes**	**53.33**	**29**	*e*P	**P**	**15 27 21.5**	**+0.1**
LOR				*e*R			
	comp=Z,292nm,20.2s						
LOR	**Lormes**	**53.33**	**29**	*e*P	**P**	**15 27 21.5**	**+0.1**
LPG	**La Plagne**	**53.63**	**33**	*e*P	**P**	**15 27 24.9**	**+0.9**
LPG	**La Plagne**	**53.63**	**33**	*e*P	**P**	**15 27 24.9**	**+0.9**
LPG	**La Plagne**	**53.63**	**33**	*e*P	**P**	**15 27 24.9**	**+0.9**
LPL	**La Plagne**	**53.64**	**33**	*e*P	**P**	**15 27 24.7**	**+0.8**
LPL	**La Plagne**	**53.64**	**33**	*e*P	**P**	**15 27 24.7**	**+0.8**
LPL	**La Plagne**	**53.64**	**33**	*e*P	**P**	**15 27 24.7**	**+0.8**
MEZF	**Maizieres J'vi**	**54.76**	**29**	*e*P	**P**	**15 27 31.8**	**0.0**
MEZF	**Maizieres J'vi**	**54.76**	**29**	*e*P	**P**	**15 27 31.8**	**0.0**
PAGF	**Fort de Pagny**	**55.12**	**29**	*e*P	**P**	**15 27 34.4**	**0.0**
PAGF	**Fort de Pagny**	**55.12**	**29**	*e*P	**P**	**15 27 34.4**	**0.0**
CEL	**Celeste**	**55.38**	**45**	*e*P	**P**	**15 27 36.4**	**-0.1**
	comp=Z,13nm,0.8s						
BAIF	**Baives**	**55.45**	**27**	*e*P	**P**	**15 27 36.5**	**-0.2**
BAIF	**Baives**	**55.45**	**27**	*e*P	**P**	**15 27 36.5**	**-0.2**
BAIF	**Baives**	**55.45**	**27**	*e*P	**P**	**15 27 36.5**	**-0.2**
CDF	**Champ du Feu**	**55.80**	**30**	*e*P	**P**	**15 27 39.3**	**-0.1**
CDF	**Champ du Feu**	**55.80**	**30**	*e*P	**P**	**15 27 39.3**	**-0.1**
CDF	**Champ du Feu**	**55.80**	**30**	*e*P	**P**	**15 27 39.3**	**-0.1**
CUC	**Castrocucco**	**56.12**	**43**	*e*P	**P**	**15 27 40.5**	**-1.3**
	comp=Z,10nm,1.3s						
DAVOX	**Davos/Dischmat**	**56.13**	**33**	LR	LR	15 48 12.6	
	comp=Z,267nm,19.8s,baz=258,slow=32						
BFO	**Black Forest**	**56.28**	**31**	*e*P	**P**	**15 27 42.7**	**0.0**
	comp=Z,32nm,2.2s						
BFO	**Black Forest**	**56.28**	**31**	*e*P	**P**	**15 27 42.7**	**0.0**
BFO				pmax	pmax		
	comp=Z,99nm,2.2s						
TIGA	**Tifton**	**56.36**	**306**	⇑P	**P**	**15 27 43.9**	**+0.3**
	baz=56						
TIP	**Timpagrande**	**56.39**	**44**	*e*P	**P**	**15 27 43.5**	**-0.2**
	comp=Z,4.8nm,0.9s						
PLCA	**Paso Flores**	**56.56**	**215**	LR	LR	15 52 38.2	
	comp=Z,341nm,18.7s,baz=234,slow=37						
FETA	**Feichten**	**56.74**	**33**	⇓*i*P	**P**	**15 27 46.1**	**-0.2**
	comp=Z,11nm,1.0s						
TNS	**Taunus Mts**	**57.56**	**29**	*e*P	**P**	**15 27 52.5**	**+0.7**
	comp=Z,28nm,1.6s						
TNS	**Taunus Mts**	**57.56**	**29**	*e*P	**P**	**15 27 52.5**	**+0.7**
TNS				pmax	pmax		
	comp=Z,37nm,1.6s						
ABTA	**Abfaltersbach**	**57.58**	**34**	⇓*i*P	**P**	**15 27 52.4**	**+0.4**
	comp=Z,16nm,1.2s						
TKL	**Tuckaleechee C**	**57.95**	**311**	LR	LR	15 46 35.6	
	comp=Z,294nm,20.9s,baz=286,slow=30						
CPCT	**Cooper Cave**	**58.44**	**310**	*e*P	**P**	**15 27 57.7**	**-0.5**
GRF	**Grafenberg Arr**	**58.62**	**31**	*e*P	**P**	**15 28 00.4**	**+1.2**
	comp=Z,21nm,1.2s						
GRF				*e*pP	**pP**	**15 28 06.7**	**+3.6**
GRF	**Grafenberg Arr**	**58.62**	**31**	*e*P	**P**	**15 28 00.4**	**+1.2**
GRF				*e**PP	**pP**	**15 28 06.7**	**+3.6**
GRF				MLR	MLR		
	comp=Z,21μm,20.7s						
SADO	**Sadowa**	**58.70**	**322**	LR	LR	15 49 11.5	
	comp=Z,110nm,18.0s,baz=176,slow=32						
SCHQ	**Schefferville**	**58.78**	**337**	*e*P	**P**	**15 27 59.6**	**-0.5**
	comp=Z,16nm,0.9s						
SCHQ	**Schefferville**	**58.78**	**337**	P	**P**	**15 27 59.7**	**-0.5**
	comp=Z,14nm,0.9s,baz=112,slow=5.9,SNR=12						
SOKA	**Soboth**	**58.98**	**36**	⇓*i*P	**P**	**15 28 02.4**	**+0.5**
	comp=Z,7.4nm,0.8s						
WET	**Wettzell**	**59.16**	**32**	*e*P	**P**	**15 28 04.0**	**+1.0**
	comp=Z,4.0nm,0.9s						
WET	**Wettzell**	**59.16**	**32**	*e*P	**P**	**15 28 04.0**	**+1.0**
WET				pmax	pmax		
	comp=Z,44nm,0.9s						
ROTZ	**Rotzenmuhle**	**59.17**	**31**	*e*P	**P**	**15 28 04.2**	**+1.1**
	comp=Z,9.0nm,1.0s						
MOX	**Moxa**	**59.40**	**30**	*e*P	**P**	**15 28 05.0**	**+0.4**
	comp=Z,15nm,1.4s						
MOX				*e*pP	**pP**	**15 28 11.4**	**+2.9**
MOX	**Moxa**	**59.40**	**30**	*e*P	**P**	**15 28 05.0**	**+0.4**
MOX				*e**PP	**pP**	**15 28 11.4**	**+2.9**
MOX				pmax	pmax		
	comp=Z,78nm,1.4s						
GEC2	**GERESS Array S**	**59.43**	**33**	*e*P	**P**	**15 28 05.0**	**+0.1**
	comp=Z,6.0nm,1.1s						
GEC2	**GERESS Array S**	**59.43**	**33**	*e*P	**P**	**15 28 06.0**	**+1.0**
GEC2	**GERESS Array S**	**59.43**	**33**	*e*P	**P**	**15 28 06.0**	**+1.0**
GERES	**GERESS Array B**	**59.43**	**33**	P	**P**	**15 28 05.0**	**+0.1**
GERES	**GERESS Array B**	**59.43**	**33**	P	**P**	**15 28 05.0**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=231,slow=6.0,SNR=13						
GERES				LR	LR	15 52 46.4	
	comp=Z,162nm,18.0s,baz=59,slow=35						
KHC	**Kasperske Hory**	**59.53**	**33**	*e*P	**P**	**15 28 07.1**	**+1.5**
KHC				*e*		15 28 12.3	
KHC	**Kasperske Hory**	**59.53**	**33**	*e*P	**P**	**15 28 07.1**	**+1.5**
KHC				*e*pP	**pP**	**15 28 12.3**	**+2.9**
KHC	**Kasperske Hory**	**59.53**	**33**	*e*P	**P**	**15 28 04.2**	**-1.4**
	comp=Z,65nm,2.6s						
CLZ	**Clausthal**	**59.54**	**29**	*e*P	**P**	**15 28 05.9**	**+0.3**
	comp=Z,18nm,1.5s						
CLZ	**Clausthal**	**59.54**	**29**	*e*P	**P**	**15 28 05.9**	**+0.3**
CLZ				pmax	pmax		
	comp=Z,124nm,1.5s						
LRAL	**Lakeview Retre**	**59.60**	**307**	*e*P	**P**	**15 28 06.8**	**+0.5**
	comp=Z,6.0nm,0.9s						
TANN	**Tannenbergstha**	**59.69**	**31**	*e*P	**P**	**15 28 07.3**	**+0.6**
	comp=Z,20nm,1.2s						
NRDL	**Niedersach Rie**	**59.83**	**28**	*e*P	**P**	**15 28 08.0**	**+0.6**
	comp=Z,17nm,1.1s						
NRDL				*e*pP	**pP**	**15 28 14.8**	**+3.5**
CLL	**Collm**	**60.50**	**30**	*e*P	**P**	**15 28 12.6**	**+0.5**
	comp=Z,12nm,1.3s						
CLL	**Collm**	**60.50**	**30**	⇑*i*P	**P**	**15 28 13.2**	**+1.1**
CLL				pmax	pmax		
	comp=Z,59nm,1.3s						
CLL	**Collm**	**60.50**	**30**	⇑*i*P	**P**	**15 28 13.2**	**+1.1**
	comp=Z,12nm,1.3s						
CLL				L	L	15 51 00.0	
	comp=Z,200nm,19.3s						
PRU	**Pruhonice**	**60.53**	**32**	*e*P	**P**	**15 28 13.9**	**+1.5**
PRU	**Pruhonice**	**60.53**	**32**	*e*P	**P**	**15 28 13.9**	**+1.5**
TREC	**Trest**	**60.66**	**

baz=68
WHTX **Lake Whitney** 67.93 303 ⇑P P 15 29 00.3 -1.0
baz=68
KMBO **Kilima Mbogo** 68.83 92 LR LR 15 55 13.5
comp=Z,272nm,19.9s,baz=271,slow=32
BRTR **Keskin Array B** 68.83 49 P P 15 29 07.5 +0.5
BRTR **Keskin Array B** 68.83 49 P P 15 29 07.5 +0.5
comp=Z,5.9nm,0.7s,baz=240,slow=5.9,SNR=26
KIEV **Kiev** 69.16 36 *e*P P 15 29 08.7 +0.2
KIEV *e* 15 29 15.4
KIEV **Kiev** 69.16 36 *e*P P 15 29 08.7 +0.2
KIEV *e* 15 29 15.4
SUMG **Summit** 69.28 358 *i*P P 15 29 08.9 -0.5
SUMG pmax pmax
comp=Z,7.0nm,1.1s
SUMG **Summit** 69.28 358 *e*P P 15 29 08.0 -1.4
SUMG **Summit** 69.28 358 *i*P P 15 29 08.9 -0.5
comp=Z,7.2nm,1.1s
632A **Uvalde** 69.52 300 ⇓P P 15 29 11.1 -0.2
baz=70,SNR=6.6
732A **Laxson Ranch,** 69.58 299 ⇑P P 15 29 11.8 +0.2
baz=70
JCT **Junction City** 69.67 301 *e*P P 15 29 12.1 -0.2
JCT pmax pmax
comp=Z,29nm,1.3s
JCT **Junction City** 69.67 301 *e*P P 15 29 12.1 -0.2
comp=Z,29nm,1.3s
JCT **Junction City** 69.67 301 ⇓P P 15 29 11.6 -0.7
baz=70,SNR=6.8
532A **Rocksprings** 69.71 301 ⇓P P 15 29 12.5 0.0
baz=70
432A **Menard** 69.72 302 ⇑P P 15 29 11.8 -0.8
baz=70,SNR=6.6
232A **Coleman** 69.75 303 ⇑P P 15 29 12.1 -0.6
baz=70
332A **Millersview** 69.75 302 ⇑P P 15 29 12.2 -0.5
baz=70
Z32A **Haskell** 69.84 304 ⇑P P 15 29 12.4 -0.7
baz=70
ABTX **Abilene, Hawle** 69.86 303 ⇑P P 15 29 12.8 -0.6
baz=70
Y32A **R-V Farms, Ver** 69.92 305 ⇑P P 15 29 12.7 -1.0
baz=70
631A **Perdido Creek** 70.19 300 ⇓P P 15 29 15.0 -0.4
baz=70
531A **Rocksprings** 70.26 301 ⇓P P 15 29 14.9 -1.0
baz=70
231A **Bronte** 70.32 303 ⇓P P 15 29 15.5 -0.7
baz=70
331A **San Angelo** 70.32 302 ⇑P P 15 29 15.3 -0.9
baz=70
431A **Sonora** 70.39 301 ⇓P P 15 29 16.3 -0.3
baz=70
Z31A **Sharp Cattle R** 70.39 304 ⇓P P 15 29 15.8 -0.8
baz=70
BGNE **Belgrade** 70.40 313 ⇓P P 15 29 15.5 -1.0
baz=70
X31A **McDonald Ranch** 70.47 305 ⇓P P 15 29 16.0 -1.0
baz=70
131A **Roby** 70.49 303 ⇑P P 15 29 16.4 -0.8
baz=70
W31A **Holland Ranch,** 70.53 306 ⇑P P 15 29 16.6 -0.8
baz=71
V31A **Spring Creek L** 70.56 307 ⇑P P 15 29 17.6 0.0
baz=71
S31A **Mullinville** 70.61 309 ⇓P P 15 29 16.9 -1.0
baz=71
T31A **Randall Ranch,** 70.66 308 ⇓P P 15 29 17.7 -0.5
baz=71
U31A **Nine Bar Ranch** 70.67 307 ⇓P P 15 29 18.0 -0.3
baz=71
R31A **Burdett** 70.78 309 ⇑P P 15 29 18.0 -0.8
baz=71
P31A **Stockton** 70.91 311 ⇓P P 15 29 18.9 -0.7
baz=71
430A **Baggett Ranch,** 70.94 301 ⇑P P 15 29 19.6 -0.5
baz=71
530A **J-C Ranch, Com** 70.94 301 ⇓P P 15 29 19.9 -0.1
baz=71,SNR=9.0
130A **Snyder** 70.96 303 ⇑P P 15 29 20.1 0.0
baz=71
330A **Mertzon** 70.97 302 ⇑P P 15 29 20.0 -0.2
baz=71
VSU **Vasula** 70.98 28 *e*P P 15 29 19.6 0.0
VSU pmax pmax
comp=Z,16nm,1.1s
230A **Sterling City** 70.98 302 ⇓P P 15 29 19.7 -0.5
baz=71
Z30A **Sanderson Ranc** 71.20 304 ⇓P P 15 29 21.3 -0.3
baz=71
ULM **Lac du Bonnet** 71.26 322 P P 15 29 19.9 -1.5
ULM **Lac du Bonnet** 71.26 322 P P 15 29 19.9 -1.5
comp=Z,5.0nm,0.7s,baz=102,slow=6.4,SNR=3.8
U30A **WK&E Inc. Balk** 71.33 307 ⇑P P 15 29 21.8 -0.5
baz=71
429A **Davenport Ranc** 71.48 301 ⇓P P 15 29 22.7 -0.6
baz=72,SNR=5.8
O30A **MW Ranch, Wils** 71.55 311 ⇓P P 15 29 23.0 -0.6
baz=72
229A **Bryant Ranch,** 71.58 302 ⇑P P 15 29 23.4 -0.5
baz=72
Z29A **Hungry Hill Ra** 71.67 304 ⇑P P 15 29 24.1 -0.3
baz=72
529A **Stev Forest Ra** 71.70 301 ⇓P P 15 29 24.0 -0.6
baz=72
W29A **Amraillo** 71.90 306 ⇓P P 15 29 25.4 -0.4
baz=72
FINES **FINESS Array B** 72.04 25 P P 15 29 26.0 +0.1
FINES **FINESS Array B** 72.04 25 P P 15 29 26.0 +0.1
comp=Z,4.7nm,0.7s,baz=242,slow=4.1,SNR=21
R29A **Marienthal** 72.04 309 ⇓P P 15 29 26.3 -0.3
baz=72
P29A **Atwood** 72.10 311 ⇑P P 15 29 26.3 -0.5
baz=72
N29A **Votaw Ranch, W** 72.10 312 ⇓P P 15 29 26.2 -0.7
baz=72
428A **Kincaid Ranch,** 72.17 301 ⇓P P 15 29 27.3 -0.1
baz=72,SNR=5.7
528A **Cox Ranch, San** 72.19 300 ⇓P P 15 29 27.1 -0.6
baz=72
628A **Black Gap, Mar** 72.20 300 ⇓P P 15 29 27.1 -0.5
baz=72
128A **Castleberry Fa** 72.23 303 ⇑P P 15 29 27.5 -0.4
baz=72
X28A **Dimmitt** 72.26 305 ⇓P P 15 29 27.4 -0.5
baz=72
228A **UT Block 9, Go** 72.26 303 ⇓P P 15 29 27.5 -0.5
baz=72
K29A **Lazy Trails An** 72.27 314 ⇑P P 15 29 27.4 -0.4
baz=72
328A **Wristen Ranch,** 72.35 302 ⇓P P 15 29 28.2 -0.4
baz=72
S28A **Manter** 72.49 308 ⇑P P 15 29 29.4 +0.1
baz=72
U28A **Mallet** 72.56 307 ⇑P P 15 29 29.5 -0.3
baz=73
627A **Terlingua Ranc** 72.63 300 ⇓P P 15 29 30.4 +0.1
baz=73
MSTX **Muleshoe** 72.65 304 ⇑P P 15 29 30.6 +0.3
baz=73
Q28A **Sharon Springs** 72.69 310 ⇑P P 15 29 30.5 0.0
baz=73
P28A **Saint Francis** 72.72 310 ⇑P P 15 29 30.5 -0.2
baz=73
427A **Hayter Ranch,** 72.80 301 ⇑P P 15 29 31.2 0.0
baz=73
O28A **Krutsinger Ran** 72.83 311 ⇑P P 15 29 31.2 0.0
baz=73
TXAR **Lajitas Array** 72.86 300 P P 15 29 31.8 +0.2
TXAR **Lajitas Array** 72.86 300 P P 15 29 31.8 +0.2
comp=Z,4.1nm,0.9s,baz=109,slow=6.8,SNR=21
527A **Woodward Ranch** 72.90 300 ⇑P P 15 29 31.4 -0.5
baz=73
Y27A **Causey** 72.96 304 ⇑P P 15 29 32.2 0.0
baz=73,SNR=7.4
127A **Arkansas Junct** 72.97 303 ⇓P P 15 29 32.1 -0.2
baz=73
W27A **Bowe Ranch, En** 73.04 306 ⇑P P 15 29 32.5 -0.1
baz=73
U27A **Thompson Grove** 73.04 307 ⇓P P 15 29 32.3 -0.3
baz=73
T27A **Campo** 73.06 308 ⇓P P 15 29 32.6 -0.1
baz=73
J28A **Allard Ranch,** 73.07 314 ⇑P P 15 29 31.8 -0.7
baz=73
I28A **Midland** 73.14 315 ⇑P P 15 29 32.2 -0.7
baz=73
OGNE **Ogallala** 73.17 312 ⇓P P 15 29 32.7 -0.5
baz=73
H28A **Mission Ridge** 73.18 316 ⇓P P 15 29 32.8 -0.3
baz=73
G28A **Parade** 73.19 316 ⇓P P 15 29 32.9 -0.3
baz=73
626A **Big Bend Ranch** 73.29 300 ⇑P P 15 29 34.3 +0.2
baz=73,SNR=10
KSCO **Kane Shedlock'** 73.29 310 ⇓P P 15 29 34.6 +0.5
baz=73
526A **Mary Lane Ranc** 73.30 300 ⇓P P 15 29 34.8 +0.5
baz=73,SNR=5.8
R27A **Eads** 73.31 309 ⇓P P 15 29 34.3 +0.2
baz=73
426A **McDonald Obser** 73.31 301 ⇓P P 15 29 34.9 +0.4
baz=73,SNR=14
326A **Caldwell Ranch** 73.34 302 ⇓P P 15 29 34.7 +0.2
baz=73,SNR=5.9
O27A **Beecher Island** 73.38 311 ⇓P P 15 29 34.6 +0.1
baz=73
Y26A **Elida** 73.52 304 ⇓P P 15 29 35.4 -0.1
baz=74
N27A **Anderson Farm,** 73.53 312 ⇓P P 15 29 35.7 +0.4
baz=74
226B **Tecolote Peak,** 73.58 302 ⇑P P 15 29 36.3 +0.4
baz=74
X26A **CR and CF Fran** 73.58 305 ⇓P P 15 29 36.0 +0.1
baz=74
S26A **Kim** 73.73 308 ⇓P P 15 29 36.8 +0.1
baz=74,SNR=7.5
T26A **Comanche Natio** 73.76 308 ⇑P P 15 29 37.1 +0.1
baz=74
U26A **Atchley Ranch,** 73.77 307 ⇑P P 15 29 37.1 +0.1
baz=74,SNR=6.3
R26A **Arlington** 73.81 309 ⇑P P 15 29 37.0 -0.2
baz=74
H27A **Howes** 73.91 315 ⇑P P 15 29 37.8 +0.4
baz=74
P26A **Davis Ranch, A** 73.93 310 ⇓P P 15 29 37.7 -0.2
baz=74
G27A **Dupree** 73.95 316 ⇑P P 15 29 38.2 +0.5
baz=74
125A **Gardner Draw,** 74.06 303 ⇑P P 15 29 38.7 0.0
baz=74,SNR=12
M26A **McRoberts Ranc** 74.09 312 ⇓P P 15 29 39.2 +0.5
baz=74
425A **Indio Mountain** 74.14 301 ⇑P P 15 29 39.9 +0.6
baz=74,SNR=13
Z25A **Roswell** 74.18 304 ⇑P P 15 29 40.0 +0.6
baz=74
325A **Bean Ranch, Si** 74.19 302 ⇑P P 15 29 39.5 0.0
baz=74,SNR=7.4
W25A **X Bar L Ranch,** 74.20 306 ⇑P P 15 29 39.7 +0.2
baz=74
Y25A **Mesa, Roswell** 74.23 304 ⇓P P 15 29 39.8 +0.1
baz=74,SNR=5.4
X25A **Clemmons Ranch** 74.28 305 ⇓P P 15 29 40.2 +0.2
baz=74
K26A **Motz Farm, Whi** 74.33 313 ⇓P P 15 29 40.1 +0.1
baz=74
I26A **New Underwood** 74.34 315 ⇓P P 15 29 40.4 +0.4
baz=74
V25A **Rancho No Teng** 74.40 306 ⇑P P 15 29 40.7 0.0
baz=74
T25A **Trinidad** 74.41 308 ⇓P P 15 29 40.6 -0.1
baz=74
R25A **Fountain Ranch** 74.44 309 ⇓P P 15 29 40.9 0.0
baz=74
S25A **Robets Cordova** 74.50 308 ⇓P P 15 29 41.7 +0.5
baz=74
MNTX **Cornudas Mount** 74.57 302 *e*P P 15 29 40.2 -1.3
comp=Z,4.3nm,1.2s
324A **Moseley Ranch,** 74.63 302 ⇑P P 15 29 41.2 -0.8
baz=75,SNR=6.5
224A **Cornudas Mount** 74.73 302 ⇑P P 15 29 42.3 -0.3
baz=75,SNR=9.9
124A **Stringfield Ra** 74.73 303 ⇓P P 15 29 42.8 +0.1
baz=75
OBN **Obninsk** 74.81 34 *de*P P 15 29 41.9 -0.4
OBN *e* 15 29 49.4
OBN 15 29 57.0
OBN S SKiKP 15 39 12.0 +4.5
OBN pmax pmax
comp=Z,28nm,1.7s
OBN MLR MLR
comp=Z,100nm,15.0s
Y24A **Capitan** 74.85 304 ⇓P P 15 29 43.5 +0.2
baz=75,SNR=10
V24A **Rampart Ranch,** 74.92 306 ⇓P P 15 29 44.1 +0.3
baz=75
I25A **Rochford** 74.96 315 ⇓P P 15 29 43.9 +0.1
baz=75
W24A **Lazy 6 Ranch,** 74.97 305 ⇑P P 15 29 44.7 +0.7
baz=75,SNR=8.0
H25A **Fruitdale** 74.97 315 ⇑P P 15 29 43.9 +0.2
baz=75
S24A **Houchin Ranch,** 75.10 308 ⇓P P 15 29 45.5 +0.6
baz=75
Q24A **Divide** 75.23 309 ⇓P P 15 29 46.1 +0.5
baz=75,SNR=7.7
VSR **Storozhevoye** 75.32 38 *e*P P 15 29 45.0 -0.4
VSR pmax pmax
comp=Z,40nm,0.8s
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,20nm,1.1s
M24A **Cheyenne** 75.34 312 ⇓P P 15 29 46.5 +0.5
baz=75
VORD **Divnogorie** 75.34 38 *e*P P 15 29 44.9 -0.6
VORD pmax pmax
comp=Z,90nm,0.9s
VORD pmax pmax
comp=N,50nm,0.4s
VORD pmax pmax
comp=E,180nm,0.6s
SDCO **Great Sand Dun** 75.34 308 *e*P P 15 29 46.9 +0.7
comp=E,4.5nm,1.2s
Y23A **Lovelace Mesa,** 75.36 304 ⇑P P 15 29 46.6 +0.3
baz=75
VNA1 **Neumayer--Stat** 75.46 172 *e*P P 15 29 48.1 +2.4
MOS **Moscow** 75.56 33 *e*P P 15 29 46.0 -0.7
MOS pmax pmax
comp=Z,60nm,1.0s
R23A **Moffat** 75.66 308 ⇓P P 15 29 48.5 +0.5
baz=76
ISCO **Idaho Springs** 75.70 310 *e*P P 15 29 48.9 +0.7
ISCO pmax pmax
comp=Z,13nm,1.4s
ISCO **Idaho Springs** 75.70 310 *e*P P 15 29 48.9 +0.7
comp=Z,13nm,1.4s
ISCO **Idaho Springs** 75.70 310 ⇑P P 15 29 49.0 +0.8
baz=76,SNR=5.7
ARCES **ARCESS Array B** 75.78 18 P P 15 29 47.2 -0.5
ARCES **ARCESS Array B** 75.78 18 P P 15 29 47.2 -0.5
comp=Z,1.1nm,0.6s,baz=270,slow=3.6,SNR=5.6
ARCES LR LR 15 56 45.5
comp=Z,118nm,19.6s,baz=75,slow=31
ANMO **Albuquerque** 75.79 305 *e*P P 15 29 47.9 -0.8
comp=Z,6.3nm,1.2s
E24A **Baker** 75.81 317 ⇑P P 15 29 49.3 +0.9
baz=76
P23A **Jefferson** 75.81 310 ⇓P P 15 29 49.7 +0.7
baz=76
D24A **Glendive** 75.92 318 ⇑P P 15 29 49.5 +0.5
baz=76,SNR=5.5
M23A **Laramie** 76.01 312 ⇓P P 15 29 50.4 +0.5
baz=76
A24A **Westby** 76.04 320 ⇓P P 15 29 50.6 +0.9
baz=76
Z22A **Elephant Butte** 76.05 303 ⇑P P 15 29 50.4 +0.2
baz=76,SNR=14
C24A **Savage** 76.06 318 ⇑P P 15 29 50.5 +0.7
baz=76
222A **Williams Famil** 76.06 302 ⇓P P 15 29 50.4 +0.2
baz=76
L23A **Garrett** 76.08 312 ⇑P P 15 29 50.7 +0.4
baz=76
DGMT **Dagmar** 76.08 319 *e*P P 15 29 50.4 +0.5
comp=Z,46nm,0.9s
DGMT *e* 15 29 57.0
DGMT **Dagmar** 76.08 319 ⇑P P 15 29 49.9 0.0
baz=76,SNR=11
FFC **Flin Flon** 76.09 326 *i*P P 15 29 49.6 -0.1
FFC **Flin Flon** 76.09 326 *e*P P 15 29 49.0 -0.8
N23A **Red Feather La** 76.09 311 ⇓P P 15 29 50.9 +0.5
baz=76,SNR=7.9
Y22A **Socorro** 76.11 304 ⇓P P 15 29 50.8 +0.2
baz=76
K23A **Bowen Ranch, D** 76.12 313 ⇑P P 15 29 50.7 +0.3
baz=76
KIV **Kislovodsk** 76.29 46 *e*P P 15 29 52.1 +0.9
KIV pmax pmax
comp=Z,23nm,1.1s
LAZ **Ladron** 76.30 304 *e*P P 15 29 52.3 +0.7
comp=Z,8.2nm,1.6s
G23A **Biddle** 76.32 316 ⇓P P 15 29 51.4 0.0
baz=76
T22A **Edith** 76.37 307 ⇑P P 15 29 52.4 +0.3
baz=76
KBZ **Khabaz** 76.40 46 P P 15 29 53.2 +1.4
KBZ **Khabaz** 76.40 46 P P 15 29 53.2 +1.4
KBZ **Khabaz** 76.40 46 P P 15 29 53.2 +1.4
comp=Z,9.2nm,0.9s,baz=267,slow=4.7,SNR=12
F23A **Volborg** 76.42 316 ⇑P P 15 29 51.7 -0.2
baz=76,SNR=8.8
N22A **Wattenberg Ran** 76.47 311 ⇓P P 15 29 53.0 +0.4
baz=76
D23A **Lindsay** 76.52 318 ⇓P P 15 29 52.8 +0.3
baz=77,SNR=5.5
P22A **Eagle** 76.55 310 ⇓P P 15 29 53.4 +0.4
baz=77
B23A **Brockton** 76.60 319 ⇓P P 15 29 53.4 +0.5
baz=77
L22A **Ellis Ranch, M** 76.61 312 ⇓P P 15 29 54.0 +0.7
baz=77,SNR=6.0
C23A **Lambert** 76.61 318 ⇑P P 15 29 53.4 +0.4
baz=77
Z21A **St. Cloud Mine** 76.64 303 ⇑P P 15 29 54.2 +0.6
baz=77
M22A **Cedar Creek Ra** 76.65 312 ⇑P P 15 29 54.5 +1.0
baz=77
121A **Cookes Peak, D** 76.67 302 ⇑P P 15 29 54.7 +0.9
baz=77
Y21A **Point of Rocks** 76.70 304 ⇓P P 15 29 55.1 +1.1
baz=77
RAYN **Ar Rayn** 76.72 67 *e*P P 15 29 52.2 -1.8
X21A **Alamocita Cree** 76.83 304 ⇓P P 15 29 55.3 +0.6
baz=77,SNR=6.4
I22A **9 Mile Ranch,** 76.90 314 ⇑P P 15 29 54.5 -0.3
baz=77,SNR=7.4
E22A **Miles City** 76.90 317 ⇓P P 15 29 54.7 0.0
baz=77
U21A **Nageezi** 76.91 306 ⇑P P 15 29 55.9 +0.8
baz=77,SNR=5.1
G22A **Birney** 76.96 316 ⇓P P 15 29 54.6 -0.4
baz=77,SNR=5.1
R21A **Cimarron** 77.02 308 ⇑P P 15 29 55.9 +0.2
baz=77
C22A **Vida** 77.07 318 ⇓P P 15 29 56.0 +0.5
baz=77
Q21A **Lamborn Mesa,** 77.09 309 ⇑P P 15 29 56.8 +0.8
baz=77
S21A **Coal Bank Pass** 77.14 308 ⇓P P 15 29 56.9 +0.4
baz=77
SNAA **Sanae** 77.16 171 *e*P P 15 29 56.6 +1.1
SNAA **Sanae** 77.16 171 *e*P P 15 29 56.0 +0.5
comp=Z,6.0nm,0.9s
SNAA **Sanae** 77.16 171 P P 15 29 56.4 +0.8
comp=Z,1.9nm,0.8s,baz=343,slow=6.2,SNR=19
D22A **Cohagen** 77.17 318 ⇓P P 15 29 56.4 +0.3
baz=77,SNR=7.8
B22A **Reddig Ranch S** 77.23 319 ⇓P P 15 29 57.4 +0.9
baz=77
M21A **Separation Pea** 77.25 312 ⇓P P 15 29 57.4 +0.5
baz=77
220A **Playas Peak, P** 77.25 302 ⇑P P 15 29 57.8 +0.8
baz=77,SNR=6.1
N21A **Black Mountain** 77.26 311 ⇑P P 15 29 57.9 +0.9
baz=77
Y20A **Horse Springs,** 77.28 304 ⇑P P 15 29 58.0 +0.8
baz=77
K21A **Alcova** 77.29 313 ⇑P P 15 29 57.4 +0.3
baz=77
L21A **Rawlins** 77.29 312 ⇑P P 15 29 57.5 +0.4
baz=77
A22A **Carney Farms,** 77.30 319 ⇓P P 15 29 57.9 +1.1
baz=77
120A **U Bar Ranch, L** 77.39 302 ⇓P P 15 29 58.5 +0.7
baz=77
Z20A **Nine Sixteen R** 77.40 303 ⇑P P 15 29 58.8 +1.0
baz=77
X20A **Quemado** 77.43 304 ⇑P P 15 29 59.1 +1.0
baz=77
I21A **Big Trails, Te** 77.47 314 ⇓P P 15 29 57.3 -0.7
baz=78,SNR=12
W20A **Ramah** 77.48 305 ⇓P P 15 29 58.9 +0.6
baz=78
J21A **Lysite** 77.52 314 ⇓P P 15 29 57.7 -0.6
baz=78,SNR=11
G21A **Lodge Grass** 77.60 315 ⇑P P 15 29 59.4 +0.7
baz=78
S20A **Disappointment** 77.61 308 ⇓P P 15 29 59.4 +0.3
baz=78
R20A **Redvale** 77.65 308 ⇓P P 15 29 59.9 +0.7
baz=78
D21A **La Casta Ranch** 77.71 317 ⇓P P 15 29 59.8 +0.6
baz=78
P20A **De Beque** 77.79 310 ⇓P P 15 30 00.5 +0.6
baz=78
M20A **Sweetwater, Wa** 77.85 312 ⇑P P 15 30 00.3 +0.1
baz=78
319A **Douglas** 77.86 301 ⇑P P 15 30 00.6 +0.2
baz=78
C21A **Desert Coulee** 77.89 318 ⇓P P 15 30 00.8 +0.7
baz=78
B21A **Ellsworth Farm** 77.93 319 ⇓P P 15 30 01.3 +1.0
baz=78
J20A **Shoshoni** 77.98 313 ⇓P P 15 30 00.8 -0.1
baz=78,SNR=6.6
L20A **Wamsutter** 78.02 312 ⇓P P 15 30 01.1 0.0
baz=78
H20A **Greybull** 78.06 315 ⇑P P 15 30 01.0 -0.2
baz=78
I20A **Worland** 78.09 314 ⇓P P 15 30 00.9 -0.5
baz=78,SNR=6.0
K20A **Yellowstone Ra** 78.09 313 ⇓P P 15 30 01.5 -0.1
baz=78
P19A **Cripple Cowboy** 78.26 310 ⇑P P 15 30 02.5 -0.1
baz=78
G20A **Bridger** 78.30 315 ⇓P P 15 30 02.1 -0.5
baz=78
E20A **Meyer Farm, Mu** 78.41 317 ⇓P P 15 30 03.1 +0.1
baz=78
LPIG **La Paz** 78.46 294 LR LR 15 59 39.9
comp=Z,7.6nm,21.5s,slow=32
K19A **Absolon Red Bu** 78.48 313 ⇑P P 15 30 03.2 -0.5
baz=78
X18A **Snowflake** 78.62 304 ⇑P P 15 30 05.1 +0.4
baz=79
J19A **Crowheart** 78.68 313 ⇑P P 15 30 04.7 -0.1
baz=79
I19A **Meeteetse** 78.72 314 ⇑P P 15 30 05.1 +0.1
baz=79
E19A **Rath Farm, Rou** 78.85 317 ⇓P P 15 30 05.1 -0.4
baz=79,SNR=5.8
F19A **Roth Farm, Mol** 78.89 316 ⇑P P 15 30 05.5 -0.2
baz=79
BW06 **Boulder Array** 78.99 313 *e*P P 15 30 05.7 -0.9
comp=Z,2.5nm,1.0s
PDAR **Pinedale Array** 78.99 313 P P 15 30 06.0 -0.6
PDAR **Pinedale Array** 78.99 313 P P 15 30 06.0 -0.6
comp=Z,1.3nm,0.9s,baz=96,slow=7.6,SNR=9.7
D19A **Cripps Ranch,** 79.00 317 ⇑P P 15 30 06.5 +0.2
baz=79
RLMT **Red Lodge** 79.03 315 *e*P P 15 30 06.6 -0.1
comp=Z,2.6nm,0.7s
A19A **Klindworth Far** 79.13 319 ⇓P P 15 30 07.3 +0.3
baz=79
C19A **Slack Wire Ran** 79.18 318 ⇓P P 15 30 07.0 -0.2
baz=79,SNR=5.1
TUC **Tucson** 79.19 302 *e*P P 15 30 06.9 -0.8
TUC pmax pmax
comp=Z,36nm,1.3s
TUC **Tucson** 79.19 302 *e*P P 15 30 06.9 -0.8
comp=Z,36nm,1.3s
G18A **Lazy EL Ranch,** 79.26 315 ⇑P P 15 30 08.1 +0.2
baz=79
H18A **Shoshone NF, C** 79.26 315 ⇓P P 15 30 08.2 +0.2
baz=79
I18A **Diamond G Ranc** 79.27 314 ⇑P P 15 30 08.4 +0.3
baz=79
F18A **Big Timber** 79.43 316 ⇓P P 15 30 08.4 -0.4
baz=80,SNR=5.9
D18A **Linhart Farms,** 79.63 317 ⇓P P 15 30 09.6 -0.2
baz=80,SNR=5.8
E18A **Harlowton** 79.64 317 ⇓P P 15 30 09.7 -0.1

	baz=80,SNR=5.3								
EGMT	**Eagleton**	79.69	318	*e*P		P	15 30 08.9	-1.1	
	comp=Z,8.2nm,1.0s								
EGMT	**Eagleton**	79.69	318	⇓P		P	15 30 10.4	+0.4	
	baz=80								
M17A	**Scullys Gap (B**	79.70	311	⇑P		P	15 30 10.5	0.0	
	baz=80								
B18A	**Beardsley Farm**	79.75	318	⇓P		P	15 30 10.4	+0.1	
	baz=80								
LOHW	**Long Hollow**	79.83	314	*e*P		P	15 30 10.3	-0.9	
	comp=Z,2.8nm,0.7s								
I17A	**Pilgrim Ck.**	79.84	314	⇑P		P	15 30 11.7	+0.5	
	baz=80								
X16A	**Lo Mia Camp, P**	79.85	304	⇓P		P	15 30 12.5	+1.1	
	baz=80								
A18A	**Metzger Ranch,**	79.85	319	⇓P		P	15 30 10.8	-0.1	
	baz=80								
WUAZ	**Wupatki**	79.85	305	⇑P		P	15 30 11.9	+0.6	
	baz=80								
TPAW	**Teton Pass**	80.08	313	*e*P		P	15 30 13.0	+0.5	
	comp=Z,11nm,1.4s								
F17A	**Fitzpatrick Pl**	80.08	316	⇑P		P	15 30 12.5	+0.1	
	baz=80								
IMW	**Indian Meadow**	80.10	314	*e*P		P	15 30 12.4	-0.2	
	comp=Z,3.0nm,0.8s								
D17A	**Six Diamond Ra**	80.22	317	⇓P		P	15 30 13.3	+0.3	
	baz=80								
JLU	**Jordanelle**	80.22	310	*e*P		P	15 30 12.9	-0.4	
	comp=Z,17nm,1.6s								
DCID1	**Drake Creek**	80.25	314	*e*P		P	15 30 11.6	-1.7	
	comp=Z,5.1nm,1.1s								
E17A	**Martinsdale**	80.27	316	⇑P		P	15 30 13.1	-0.3	
	baz=80,SNR=7.4								
C17A	**Wharram Farm,**	80.32	318	⇑P		P	15 30 13.8	+0.3	
	baz=80								
HWUT	**Hardware Ranch**	80.38	311	*e*P		P	15 30 14.0	-0.1	
	comp=Z,3.8nm,0.4s								
B17A	**L&G Farms, Che**	80.41	318	⇓P		P	15 30 14.3	+0.4	
	baz=80								
A17A	**Triple J Farms**	80.41	319	⇓P		P	15 30 13.9	0.0	
	baz=80								
U15A	**North Rim**	80.64	306	⇓P		P	15 30 16.1	+0.4	
	baz=81								
MSU	**Marysvale**	80.66	308	*e*P		P	15 30 16.4	+0.7	
MSU	**Marysvale**	80.66	308	*e*P		P	15 30 16.4	+0.7	
MVU	**Marysvale**	80.68	308	*e*P		P	15 30 16.9	+1.1	
	comp=Z,7.5nm,1.2s								
214A	**Organ Pipe Nat**	80.90	302	⇑P		P	15 30 16.8	0.0	
	baz=81								
C16A	**Fuhringer Ranc**	81.00	318	⇑P		P	15 30 17.2	+0.1	
	baz=81								
B16A	**M & M Farms, S**	81.03	318	⇓P		P	15 30 17.5	+0.2	
	baz=81								
DUG	**Dugway**	81.24	310	*e*P		P	15 30 17.4	-1.3	
DUG				pmax		pmax			
	comp=Z,17nm,1.6s								
DUG	**Dugway**	81.24	310	*e*P		P	15 30 17.4	-1.3	
	comp=Z,17nm,1.6s								
DUG	**Dugway**	81.24	310	⇑P		P	15 30 19.3	+0.7	
	baz=81								
LRM	**Limekiln Ridge**	81.32	316	*e*P		P	15 30 19.6	+0.5	
DLMT	**Dillon**	81.39	315	*e*P		P	15 30 19.5	+0.1	
	comp=Z,15nm,1.3s								
BGU	**Big Grassy Mou**	81.44	311	*e*P		P	15 30 18.8	-0.9	
	comp=Z,13nm,1.4s								
CCUT	**Cedar City**	81.55	307	*e*P		P	15 30 19.5	-0.9	
	comp=Z,12nm,1.3s								
C15A	**Salmond Ranch,**	81.58	318	⇑P		P	15 30 20.0	-0.3	
	baz=82,SNR=10								
B15A	**Bradely Ranch,**	81.59	318	⇓P		P	15 30 19.8	-0.5	
	baz=82,SNR=5.8								
ARUT	**Antelope Range**	81.62	308	*e*P		P	15 30 21.6	+0.9	
ARUT				pmax		pmax			
	comp=Z,75nm,1.7s								
ARUT	**Antelope Range**	81.62	308	*e*P		P	15 30 21.6	+0.9	
	comp=Z,74nm,1.7s								
A15A	**Johnson Ranch,**	81.75	319	⇓P		P	15 30 20.9	-0.2	
	baz=82,SNR=9.0								
I14A	**Mackay**	81.92	314	⇑P		P	15 30 22.5	+0.3	
	baz=82								
CHMT	**Chamberlain Mo**	81.95	317	*e*P		P	15 30 20.3	-2.1	
D14A	**Greenough**	82.14	317	⇓P		P	15 30 23.1	-0.1	
	baz=82								
A14A	**Double T Ranch**	82.20	319	⇓P		P	15 30 23.1	-0.4	
	baz=82,SNR=8.8								
SWMT	**Swartz Lake**	82.50	317	*e*P		P	15 30 24.9	-0.2	
WALA	**Waterton Lakes**	82.53	319	*e*P		P	15 30 25.1	-0.1	
	comp=Z,0.4nm,1.0s								
HLID	**Hailey**	82.59	313	⇓P		P	15 30 26.1	+0.4	
	baz=83								
D13A	**Huson**	82.79	317	⇓P		P	15 30 26.9	+0.4	
	baz=83								
A13A	**Flathead Natio**	82.85	319	⇑P		P	15 30 26.9	0.0	
	baz=83,SNR=9.3								
B13A	**Whitefish**	82.86	318	⇑P		P	15 30 27.3	+0.4	
	baz=83,SNR=6.3								
LDFC	**Landfair**	82.89	305	*e*P		P	15 30 27.1	-0.3	
	comp=Z,13nm,1.1s								
C13A	**Hot Springs**	82.89	317	⇓P		P	15 30 27.6	+0.5	
	baz=83								
IRM	**Iron Mountain**	82.91	304	⇓P		P	15 30 27.9	+0.5	
	baz=83								
H12A	**Diamond D Ranc**	82.95	314	⇑P		P	15 30 28.2	+0.6	
	baz=83								
BSMT	**Bassoo Peak**	83.05	318	*e*P		P	15 30 28.0	-0.1	
I12A	**Atlanta**	83.12	314	⇑P		P	15 30 28.9	+0.3	
	baz=83								
BC3	**Big Chuckawall**	83.16	303	⇓P		P	15 30 29.1	+0.3	
	baz=83								
R11A	**Troy Canyon, C**	83.33	308	⇓P		P	15 30 29.9	+0.2	
	baz=83								
C12B	**Naegeli Ranch,**	83.50	317	⇑P		P	15 30 30.2	0.0	
	baz=84								
E12A	**Beaver Dam Sad**	83.52	316	⇑P		P	15 30 30.1	-0.4	
	baz=84,SNR=8.0								
TUQ	**Turquoise Moun**	83.56	305	⇑P		P	15 30 31.7	+0.8	
	baz=84								
BELC	**Belle Mtn. Jos**	83.61	304	⇓P		P	15 30 31.4	+0.3	
	baz=84								
YKA	**Yellowknife Ar**	83.87	332	P		P	15 30 30.7	-1.0	
YKA	**Yellowknife Ar**	83.87	332	P		P	15 30 30.7	-1.0	
	comp=Z,3.3nm,0.9s,baz=95,slow=5.5,SNR=19								
MONP	**Monument Peak**	83.96	303	⇑P		P	15 30 33.2	+0.1	
	baz=84								
PFO	**Pinyon Flat Ob**	83.99	303	P		P	15 30 32.8	-0.3	
PFO	**Pinyon Flat Ob**	83.99	303	P		P	15 30 32.8	-0.3	
	comp=Z,2.4nm,0.5s,baz=214,slow=11,SNR=3.9								
PFO	**Pinyon Flat Ob**	83.99	303	⇑P		P	15 30 32.5	-0.6	
	baz=84								
C11A	**Tepee Creek (N**	84.03	318	⇓P		P	15 30 32.1	-0.9	
	baz=84,SNR=5.8								
GSC	**Goldstone**	84.28	305	P		P	15 30 35.1	+0.6	
GSC				pmax		pmax			
	comp=Z,6.0nm,0.6s								
GSC	**Goldstone**	84.28	305	P		P	15 30 35.0	+0.6	
	comp=Z,6.5nm,0.6s								
NEW	**Newport**	84.63	318	⇓P		P	15 30 35.4	-0.5	
	baz=85								
BMO	**Blue Mountains**	84.71	315	*e*P		P	15 30 36.5	0.0	
BMO				pmax		pmax			
	comp=Z,27nm,1.7s								
BMO	**Blue Mountains**	84.71	315	*e*P		P	15 30 36.5	0.0	
	comp=Z,27nm,1.7s								
GRAC	**Grapevine Rang**	84.73	307	⇑P		P	15 30 37.0	+0.3	
	baz=85								
MPMC	**Manual Prospec**	84.83	306	⇑P		P	15 30 37.4	0.0	
	baz=85								
LRMC	**Laurel Mountai**	85.00	305	⇑P		P	15 30 38.4	+0.2	
	baz=85								
EDW2	**Edwards Air Fo**	85.25	305	⇑P		P	15 30 39.8	+0.5	
	baz=85								
CWC	**Cottonwood Cre**	85.31	306	⇑P		P	15 30 39.8	0.0	
	baz=85								
NVAR	**Mina Array Bea**	85.46	308	P		P	15 30 40.7	+0.1	
NVAR	**Mina Array Bea**	85.46	308	P		P	15 30 40.7	+0.1	
	comp=Z,0.8nm,0.8s,baz=100,slow=5.3,SNR=6.1								
ISA	**Isabella**	85.64	305	P		P	15 30 40.3	-1.0	
ISA				pmax		pmax			
	comp=Z,5.0nm,1.0s								
ISA	**Isabella**	85.64	305	P		P	15 30 40.3	-1.0	
	comp=Z,5.1nm,1.0s								
ISA	**Isabella**	85.64	305	⇓P		P	15 30 41.1	-0.2	
	baz=86								
WVOR	**Wild Horse Val**	85.67	312	*e*P		P	15 30 42.3	+0.9	
WVOR				pmax		pmax			
	comp=Z,27nm,1.6s								
WVOR	**Wild Horse Val**	85.67	312	*e*P		P	15 30 42.3	+0.9	
	comp=Z,27nm,1.6s								
PKM	**Peak Mountain**	86.76	305	⇑P		P	15 30 47.9	+1.0	
	baz=87								
MOD	**Modoc**	86.92	312	*e*P		P	15 30 48.2	+0.6	
ARU	**Arti**	87.25	34	*d*P		P	15 30 49.2	+0.6	
ARU							15 34 12.8		
ARU				S		S	15 41 15.9	-12	
ARU				pmax		pmax			
	comp=Z,22nm,1.2s								
SVE	**Sverdlovsk**	88.37	33	⇓*e*P		P	15 30 55.2	+1.2	
SVE				pmax		pmax			
	comp=Z,11nm,1.1s								
DLBC	**Dease Lake**	91.65	329	P		P	15 31 08.7	-0.7	
DLBC	**Dease Lake**	91.65	329	P		P	15 31 08.7	-0.7	
	comp=Z,2.0nm,0.8s,baz=48,slow=4.4,SNR=5.2								
ILAR	**Eielson Array**	97.54	337	P		P	15 31 35.5	-0.6	
ILAR	**Eielson Array**	97.54	337	P		P	15 31 35.5	-0.6	
	comp=Z,2.2nm,0.9s,baz=52,slow=3.7,SNR=15								
AAK	**Ala-Archa**	99.40	46	*e*P		Pdif	15 31 45.2	0.0	
AAK				pmax		pmax			
	comp=Z,3.0nm,1.3s								
KSH	**Kashi**	101.22	49	*e*P		Pdif	15 31 55.6	+2.3	
KSH				PP		PP	15 36 05.8	+3.6	
KSH				S		Sdif	15 43 30.0	-3.0	
KSH				sS		sS	15 43 37.4	-2.4	
KSH				SS		SS	15 50 30.6	-2.0	
KSH				LR		LR			
	comp=N,130nm,5.9s								
KSH				LR		LR			
	comp=E,91nm,4.5s								
KSH				LR		LR			
	comp=Z,180nm,7.4s								
SONM	**Songino Array**	117.12	31	PKP		PKPdf	15 36 47.1	-0.6	
SONM	**Songino Array**	117.12	31	PKP		PKPdf	15 36 47.1	-0.6	
	comp=Z,0.2nm,0.3s,baz=214,slow=0.5,SNR=4.4								
GTA	**Gaotai**	118.26	41	*e*PKP		PKPdf	15 36 50.3	+0.2	
GTA				PP		PP	15 38 10.0	+4.7	
LZH	**Lanzhou**	122.74	43	*e*PKP		PKPdf	15 36 53.6	-5.3	
LZH				sPKP			15 36 58.0		
LZH				LR		LR			
	comp=N,120nm,17.0s								
LZH				LR		LR			
	comp=E,100nm,15.0s								
LZH				LR		LR			
	comp=Z,140nm,20.0s								
PETK	**Petropavlovsk-**	123.22	353	PKIKP		PKPdf	15 36 58.1	-1.0	
PETK	**Petropavlovsk-**	123.22	353	PKP		PKPdf	15 36 58.1	-1.0	
PETK	**Petropavlovsk-**	123.22	353	PKP		PKPdf	15 36 58.1	-1.0	
	comp=Z,2.3nm,0.8s,baz=67,slow=5.0,SNR=5.8								
HHC	**Hu-ho-hao-te**	124.56	34	*e*PKP		PKPdf	15 37 00.8	-1.4	
HHC				PP		PP	15 38 51.4	+3.5	
HHC				PKS		PKSdf	15 40 35.5	-3.4	
HHC				SKS		SKSdf	15 44 13.3	-1.0	
HHC				SKKS		SKKSac	15 45 42.9	-4.5	
HHC				SS		SS	15 55 38.9	-1.9	
HHC				LR		LR			
	comp=N,280nm,16.3s								
HHC				LR		LR			
	comp=E,350nm,13.3s								
HHC				LR		LR			
	comp=Z,310nm,15.7s								
CD2	**Chengdu**	125.41	48	*e*PKP		PKPdf	15 37 02.1	-1.9	
CMAR	**Chiang Mai Arr**	126.58	64	PKP		PKPdf	15 37 06.2	-0.2	
CMAR	**Chiang Mai Arr**	126.58	64	PKP		PKPdf	15 37 06.2	-0.2	
	comp=Z,2.2nm,0.9s,baz=288,slow=4.0,SNR=8.9								
KMI	**Kunming**	127.33	55	PKP		PKPdf	15 37 07.4	-0.7	
CN2	**Changchun**	128.68	21	*e*PKP		PKPdf	15 37 10.3	+0.5	
GYA	**Guiyang**	129.84	51	*e*Pdif		Pdif	15 33 58.8	-2.1	
GYA				PKP		PKPdf	15 37 10.0	-2.7	
GYA				PP		PP	15 39 25.8	+2.2	
GYA				AMB		AMB			
	comp=Z,90nm,7.6s								
GYA	**Guiyang**	129.84	51	SKKS		Pdif	15 33 58.6	-2.3	
USRK	**Ussuriysk Arra**	130.39	16	PKP		PKPdf	15 37 12.6	-0.4	
	comp=Z,2.2nm,0.9s,baz=56,slow=4.8,SNR=4.0								
MJAR	**Matsushiro Arr**	139.16	13	PKP		PKPdf	15 37 29.5	-0.2	
MJAR	**Matsushiro Arr**	139.16	13	PKP		PKPdf	15 37 29.5	-0.2	
	comp=Z,1.1nm,1.0s,baz=27,slow=1.4,SNR=3.6								
STKA	**Stephens Creek**	150.88	168	PKPbc		PKPbc	15 37 55.3	-0.2	
STKA	**Stephens Creek**	150.88	168	PKPbc		PKPbc	15 37 55.3	-0.2	
	comp=Z,12nm,1.0s,baz=141,slow=3.6,SNR=15								
FITZ	**Fitzroy Crossi**	153.20	125	PKPbc		PKPbc	15 38 01.6	+0.5	
FITZ	**Fitzroy Crossi**	153.20	125	PKPbc		PKPbc	15 38 01.6	+0.5	
	comp=Z,5.1nm,1.1s,baz=247,slow=7.9,SNR=5.6								
ASAR	**Alice Springs**	155.34	146	PKP		PKPdf	15 37 56.0	-0.6	
ASAR				PKPab		PKPab	15 38 21.8	+0.1	
ASAR	**Alice Springs**	155.34	146	PKP		PKPdf	15 37 56.0	-0.6	
	comp=Z,1.5nm,0.9s,baz=165,slow=1.2,SNR=11								
ASAR				PKPab		PKPab	15 38 21.8	+0.1	
	comp=Z,3.2nm,0.8s,baz=213,slow=3.4,SNR=12								
WRA	**Warramunga Arr**	158.46	141	PKP		PKPdf	15 37 59.6	-1.0	
WRA				PKPab		PKPab	15 38 35.0	-0.2	
WRA	**Warramunga Arr**	158.46	141	PKP		PKPdf	15 37 59.6	-1.0	
	comp=Z,1.0nm,0.8s,baz=223,slow=2.3,SNR=5.4								
WRA				PKPab		PKPab	15 38 35.0	-0.2	
	comp=Z,3.6nm,1.0s,baz=211,slow=2.3,SNR=7.9								

AUST ***16*** *15:33:10.5±3.8, 5.°75S×147.°99E, h87km, Error ellipse: s-maj=3.4km s-min=1.7km az=35.0*
ISCJB ***16*** *15:33:18.4±0.8, 6.°10S±0.°06×147.°1E±0.°1, h77km, mb3.7/7, Error ellipse: s-maj=16.2km s-min=8.7km az=2.3*
IDC ***16*** *15:33:20.9±4.2, 6.°11S×147.°02E, h81km±45km, mb3.6/6, mb1 3.7/9, mb1mx3.5/19, mbtmp3.6/9, ML3.6/3, Error ellipse: s-maj=48.3km s-min=21.8km az=121.0*

ISC 16 15:33:19.9±0.9, 6.°18S±0.°08×147.°2E±0.°2, h77km, n18, σ1°31/18, mb3.7/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	3.21	180	P		P	Pn	15 34 09.7	+1.7
	17nm,0.3s,baz=22,slow=5.7,SNR=63								
PMG				S			Sn	15 34 45.7	+0.5
	17nm,0.3s,baz=144,slow=22,SNR=9.3								
COEN	**Coen**	8.67	207	P		P	Pn	15 35 24.5	+1.9
	baz=9.5,SNR=10								
COEN				S			Sn	15 36 48.9	-10
	baz=9.5,SNR=11								
MTSU	**Mount Surprise**	12.20	193	P			Pn	15 36 04.3	-6.5
	baz=13,SNR=5.6								
CTA	**Charters Tower**	13.85	184	P		P		15 36 36.0	-2.7
	0.1nm,0.3s,baz=13,slow=14,SNR=2.3								
KDU	**Kakadu**	15.87	245	P		P	Pn	15 36 58.8	0.0
	baz=17,SNR=8.9								
MTN	**Manton Dam**	17.14	246	P		P		15 37 15.1	0.0
	baz=18,SNR=6.7								
WRA	**Warramunga Arr**	18.51	221	P		P		15 37 30.1	-0.1
	0.5nm,0.3s,baz=43,slow=11,SNR=41								
KNRA	**Kununurra**	20.37	241	P		P		15 37 50.3	-0.1
	baz=21,SNR=9.0								
ASAR	**Alice Springs**	21.57	215	P		P		15 38 03.4	+0.1
	1.2nm,0.5s,baz=50,slow=8.5,SNR=40								
ASAR				S		S		15 41 55.9	-2.4
	0.3nm,0.9s,baz=30,slow=25,SNR=3.2								
FITZ	**Fitzroy Crossi**	24.12	239	P		P		15 38 28.9	+0.2
	12nm,0.6s,baz=60,slow=13,SNR=62								
LUWI	**Luwuk**	24.87	281	P		P		15 38 28.8	-6.8
	baz=26,SNR=3.6								
STKA	**Stephens Creek**	26.09	191	P		P		15 38 47.0	+0.5
	1.8nm,1.0s,baz=26,slow=9.7,SNR=3.7								
MEEK	**Meekatharra**	33.97	230	P		P		15 39 57.1	+0.8
	baz=35,SNR=8.2								
PETK	**Petropavlovsk-**	59.73	7	P		P		15 43 17.9	+1.4
	1.2nm,0.5s,baz=170,slow=7.8,SNR=14								
MKAR	**Makanchi Array**	77.74	320	P		P		15 45 07.9	-0.7
	0.2nm,0.5s,baz=92,slow=8.8,SNR=3.7								
ZALV	**Zalesovo Beam**	79.25	328	P		P		15 45 15.4	-1.3
	0.6nm,0.4s,baz=106,slow=4.3,SNR=3.2								
ILAR	**Eielson Array**	85.58	23	P		P		15 45 48.6	-0.8
	0.6nm,0.7s,baz=252,slow=5.5,SNR=5.8								
TORD	**Torodi Ar. Bea**	145.30	284	PKPbc		PKPab		15 52 50.6	+0.6
	1.7nm,0.6s,baz=88,slow=4.3,SNR=10								
TORD				pPKPbc		pPKPbc		15 53 16.4	+4.9
	0.9nm,0.8s,baz=72,slow=2.8,SNR=3.8								

TAP ***16*** *15:58:06.6, 21.°92N×121.°71E, h14km, ML3.5, C*
JMA ***16*** *15:58:08.1±0.5, 22.°00N×121.°83E, h128km, M2.9*

ISC 16 15:58:05.3±1.7, 21.°89N±0.°06×121.°73E±0.°04, h14km±10km, n46, σ1°07/72, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	0.23	312	⇑*i*P		P	Pb	15 58 11.2	0.0
	baz=310								
LAY				S		S	Sb	15 58 14.3	-0.9
TSEB	**Hengchuen, Pin**	0.77	271	P		P	Pn	15 58 22.5	+0.7
	baz=269								
TSEB				*e*S		S	Sn	15 58 32.1	-1.1
	baz=269								
TWK1	**Hengchun**	0.86	274	*e*P		P	Pg	15 58 21.4	-0.5
	baz=267								
TAW	**Tawu**	0.91	301	*e*P		P	Pb	15 58 22.6	-0.1
	baz=301								
HEN	**Hengchun**	0.93	277	*e*P		P	Pn	15 58 24.2	+0.3
	baz=290								
HEN				*e*S		S	Sn	15 58 36.5	-0.6
	baz=290								
ECL	**Taimali**	1.01	314	P		P	Pb	15 58 24.1	-0.4
	baz=301								
ECL				*e*S		S	Sb	15 58 37.2	-0.4
	baz=301								
TWG	**Pinlang**	1.11	327	*e*P		P	Pb	15 58 26.4	+0.1
	baz=337								
TWG				*e*S		S	Sg	15 58 40.7	-0.5
	baz=337								
SCZT	**Fangliau**	1.14	295	*e*P		P	Pb	15 58 26.6	-0.1
	baz=306								
CHKT	**Chengkung**	1.25	344	*e*P		P	Pn	15 58 27.3	-1.1
	baz=345								
CHKT				S			Sb	15 58 43.4	-1.3
	baz=345								
TWP	**Hsiaoliuchiu**	1.35	290	*e*P		P	Pg	15 58 31.9	+0.7
	baz=289								
SGLT	**Jiouru**	1.42	306	*e*P		P	Pg	15 58 33.4	+0.8
	baz=314								
ELDTW	**Lidau**	1.45	333	*e*P		P	Pn	15 58 30.9	-0.3
	baz=341								
ELDTW				*e*S		S	Sn	15 58 49.7	-0.4
	baz=341								
TWF1	**Yuli**	1.51	345	P		P	Pn	15 58 31.5	-0.4
	baz=355								
TWF1				*e*S		S	Sn	15 58 50.7	-0.8
	baz=355								
TWM1	**Shoushan**	1.53	308	*e*P		P	Pg	15 58 35.1	+0.4
	baz=318								
STYT	**Tauyuan**	1.56	325	*e*P		P	Pn	15 58 33.2	+0.6
	baz=325								
STYT				*e*S		S	Sb	15 58 53.5	0.0
	baz=325								
SGST	**Jiashian**	1.59	318	*e*P		P	Pb	15 58 34.9	+0.4
	baz=318								
SGST				*e*S		S	Sg	15 58 56.3	-0.3
	baz=318								
EHY	**Hungye**	1.65	347	P		P	Pn	15 58 33.9	0.0
	baz=355								
EHY				S		S	Sn	15 58 54.9	-0.1
	baz=355								
WTP	**Ta-pu**	1.70	323	*e*P		P	Pb	15 58 36.5	+0.1
	baz=323								
WTP				*e*S		S	Sg	15 58 59.7	-0.4
	baz=323								
CHN1	**Nanshi**	1.70	319	*e*P		P	Pb	15 58 37.1	+0.7
	baz=319								
CHN1				*e*S		S	Sg	15 59 00.6	+0.5
	baz=319								
CHN3	**Shinhua**	1.73	313	*e*P		P	Pg	15 58 38.6	+0.1
	baz=313								
YUS	**Yu-Shan**	1.75	336	*e*P		P	Pn	15 58 36.8	+1.1
	baz=326								
TWK	**Hsinying**	1.79	320	*e*P		P	Pb	15 58 38.5	+0.6
	baz=320								
CHN4	**Tsaushan**	1.80	324	*e*P		P	Pb	15 58 38.4	+0.4
	baz=324								
CHN4				*e*S		S	Sg	15 59 01.9	-1.2
	baz=324								
ALS	**Alishan**	1.83	332	*e*P		P	Pb	15 58 38.4	-0.2
	baz=332								
ALS				*e*S		S	Sg	15 59 03.9	-0.3
	baz=332								
ESL	**Shilin**	1.94	352	*e*P		P	Pn	15 58 37.1	-0.7
	baz=359								
ESL				*e*S		S	Sn	15 59 00.9	-1.0
	baz=359								
CHN5	**Tsauling**	1.96	330	*e*P		P	Pb	15 58 40.9	+0.1
	baz=330								
CHN5				*e*S		S	Sg	15 59 07.1	-1.2
	baz=330								
SMLT	**Sun Moon Lake**	2.13	339	*e*P		P	Pb	15 58 42.4	-1.3
	baz=350								
SMLT				*e*S		S	Sb	15 59 10.3	+0.3
	baz=350								
TYC	**Yuchr**	2.16	338	P		P	Pb	15 58 43.1	-1.1
	baz=350								
TYC				*e*S		S	Sb	15 59 12.3	+1.5
	baz=350								
TWD	**Chiawan**	2.18	357	*e*P		P	Pn	15 58 43.0	+1.9
	baz=7.0								
WNT	**Mingjian**	2.20	334	*e*P		P	Pb	15 58 45.1	+0.2
	baz=317								
WNT				*e*S		S	Sb	15 59 13.5	+1.4
	baz=317								
WHF	**Hehuan Shan**	2.29	349	*e*P		P	Pn	15 58 44.3	+1.3
	baz=350								
TWT	**Tachien**	2.41	348	*e*P		P	Pn	15 58 45.8	+1.3
	baz=357								
ENA	**Nanau**	2.53	0	*e*P		P	Pn	15 58 46.3	+0.4
	baz=9.0				

PYZ				S*	**Sb**	**16 14 00.2**	**-0.1**		
PYZ				S*	**Sn**	**16 14 00.4**	**-2.1**		
DCZ	**Deep Cove**	**0.98**	**48**	Pn	**Pn**	**16 14 02.6**	**-1.4**		
DCZ				Sn	**Sn**	**16 14 15.0**	**-2.0**		
WHZ	**Wether Hill Ro**	**1.30**	**80**	Pn	**Pn**	**16 14 08.0**	**-0.4**		
WHZ				Sn	**Sn**	**16 14 23.6**	**-1.2**		
APZ	**The Paps**	**1.46**	**119**	Pn	**Pn**	**16 14 08.8**	**-1.9**		
MLZ	**Mavora Lakes**	**1.64**	**62**	Pn	**Pb**	**16 14 14.8**	**-0.7**		
MLZ				Sn	**Sb**	**16 14 38.8**	**+2.9**		
MSZ	**Milford Sound**	**1.94**	**41**	Pn	**Pn**	**16 14 17.1**	**-0.2**		
SYZ	**Scrubby Hill**	**2.13**	**102**	Pn	**Pn**	**16 14 19.1**	**-0.6**		
SYZ				Sn	**Sn**	**16 14 45.5**	**+0.2**		
EAZ	**Earnscleugh**	**2.41**	**69**	Pn	Pn	16 14 20.4	-3.3		
WKZ	**Wanaka**	**2.42**	**58**	*e*Pn	**Pn**	**16 14 25.6**	**+1.7**		
TUZ	**Tuapeka**	**2.45**	**87**	Pn	**Pn**	**16 14 24.0**	**-0.2**		
ODZ	**Otahua Downs**	**3.36**	**73**	*e*P	Pn	16 14 33.6	-3.1		
LBZ	**Lake Benmore**	**3.36**	**60**	Pn	**Pn**	**16 14 38.5**	**+1.7**		
RPZ	**Rata Peaks**	**4.26**	**57**	*e*Pn	Pn	16 14 40.4	-8.7		
RPZ				Sn	**Sn**	**16 15 37.0**	**-1.0**		
RPZ	**Rata Peaks**	**4.26**	**57**	Pn	**Pn**	**16 14 49.5**	**+0.3**		
	45nm,0.3s,baz=203,slow=14,SNR=27								
RPZ				Sn	**Sn**	**16 15 37.0**	**-1.0**		
	67nm,0.3s,baz=81,slow=20,SNR=5.1								
MQZ	**McQueen's Vall**	**5.24**	**65**	Pn	Pn	16 14 55.4	-7.1		
CRLZ	**Canterbury Las**	**5.29**	**63**	*e*Pn	Pn	16 14 55.2	-8.0		
KHZ	**Kahutara**	**6.50**	**58**	*e*P	**Pn**	**16 15 20.7**	**+0.9**		
	178nm,1.0s								
TUWZ	**Tuamarina**	**7.36**	**53**	Pn	Pn	16 15 22.1	-10		
TCW	**Tory Channel**	**7.69**	**53**	Pn	Pn	16 15 27.8	-8.5		
SNZO	**South Karori**	**7.87**	**55**	*e*P	**Pn**	**16 15 39.9**	**+1.3**		
	61nm,0.6s								
DFE	**Dawson Falls**	**8.99**	**44**	Pn	Pn	16 15 57.0	+2.9		
PKE	**Pukeiti**	**9.04**	**43**	Pn	Pn	16 15 57.7	+3.0		
MCQ	**Macquarie Isla**	**9.53**	**206**	P	Pn	16 16 06.7	+5.4		
	baz=9.8,SNR=4.4								
HIZ	**Hauiti**	**9.99**	**43**	*e*Pn	**Pn**	**16 16 08.5**	**+0.8**		
TOZ	**Tahuroa Road**	**10.92**	**43**	*e*Pn	**Pn**	**16 16 22.7**	**+2.2**		
WTAZ	**Waiatarua**	**11.16**	**37**	Pn	**Pn**	**16 16 25.2**	**+1.4**		
MKAZ	**Moumakai**	**11.27**	**40**	Pn	Pn	16 16 28.1	+2.8		
URZ	**Urewera**	**11.33**	**50**	*e*P	**Pn**	**16 16 25.5**	**-0.5**		
	23nm,0.6s								
URZ				Sn	**Sn**	**16 18 29.4**	**-2.2**		
URZ	**Urewera**	**11.33**	**50**	Pn	**Pn**	**16 16 25.5**	**-0.5**		
	3.5nm,0.3s,baz=224,slow=6.0,SNR=16								
URZ				Sn	**Sn**	**16 18 29.4**	**-2.2**		
	2.4nm,0.3s,baz=113,slow=18,SNR=7.1								
MWZ	**Matawai**	**11.49**	**51**	*e*Pn	**Pn**	**16 16 28.7**	**+0.3**		
OUZ	**Omahuta**	**12.29**	**30**	*e*P	**Pn**	**16 16 39.1**	**-0.1**		
	29nm,0.6s								
TAU	**Tasmania Unive**	**13.80**	**277**	*e*P	Pn	16 16 55.2	-4.5		
	75nm,1.1s								
MOO	**Moorlands**	**14.05**	**278**	P	Pn	16 16 59.8	-3.4		
	baz=14,SNR=14								
LHI	**Lord Howe Isla**	**15.59**	**337**	P	Pn	16 17 17.8	-6.1		
	baz=16,SNR=4.1								
CNB	**Canberra Magne**	**16.65**	**305**	P	**P**	**16 17 38.1**	**-1.6**		
	baz=17,SNR=8.0								
CAN	**Canberra**	**16.86**	**304**	*e*P	**Pn**	**16 17 38.4**	**-1.6**		
	33nm,0.9s								
MGCD	**Mangrove Creek**	**17.29**	**313**	P	**P**	**16 17 47.6**	**+0.9**		
	baz=17,SNR=11								
TOO	**Toolangi**	**17.56**	**292**	P	**P**	**16 17 48.8**	**-0.8**		
	baz=18,SNR=58								
TOO				S	**Sn**	**16 20 57.2**	**-6.2**		
	baz=18,SNR=4.0								
YNG	**Young**	**17.93**	**305**	P	**P**	**16 17 53.6**	**-0.2**		
	baz=18,SNR=17								
ARPS	**Mount Arapiles**	**20.40**	**289**	P	Pn	16 18 22.3	-0.7		
	baz=20,SNR=6.9								
CMSA	**Cobar Meteorol**	**21.50**	**306**	P	**P**	**16 18 33.8**	**+1.2**		
	baz=22,SNR=11								
STKA	**Stephens Creek**	**23.67**	**298**	*e*P	**P**	**16 18 56.5**	**+1.2**		
STKA	**Stephens Creek**	**23.67**	**298**	P	**P**	**16 18 55.8**	**+0.4**		
	2.9nm,0.9s,baz=139,slow=9.4,SNR=4.4								
STKA				LR	LR	16 27 24.0			
	comp=Z,499nm,19.0s,baz=56,slow=35								
STKA	**Stephens Creek**	**23.67**	**298**	P	P	16 19 04.3	+9.0		
	baz=24,SNR=5.9								
EIDS	**Eidsvold**	**23.98**	**325**	*e*P	**P**	**16 18 59.9**	**+1.7**		
	28nm,1.0s								
EIDS	**Eidsvold**	**23.98**	**325**	P	**P**	**16 19 00.3**	**+2.1**		
	baz=24,SNR=4.3								
RMQ	**Roma**	**24.00**	**319**	P	**P**	**16 19 00.4**	**+1.9**		
	baz=24,SNR=9.5								
DZM	**Mont Dzumac**	**24.02**	**1**	P	**P**	**16 19 01.2**	**+2.5**		
DZM	**Mont Dzumac**	**24.02**	**1**	P	**P**	**16 19 01.2**	**+2.5**		
	15nm,1.0s,baz=90,slow=24,SNR=4.0								
BBOO	**Buckleboo**	**26.58**	**289**	*e*P	**P**	**16 19 22.4**	**+0.6**		
	690nm,1.2s								
CTA	**Charters Tower**	**30.68**	**321**	P	**P**	**16 19 59.1**	**+0.7**		
CTA	**Charters Tower**	**30.68**	**321**	P	**P**	**16 19 59.1**	**+0.7**		
	1.3nm,0.4s,baz=133,slow=11,SNR=3.9								
VNDA	**Vanda**	**31.53**	**182**	*e*P	**P**	**16 20 05.7**	**+0.3**		
VNDA	**Vanda**	**31.53**	**182**	P	**P**	**16 20 05.0**	**-0.4**		
	1.3nm,0.8s,baz=346,slow=12,SNR=5.4								
VNDA				LR	LR	16 30 56.0			
	comp=Z,391nm,18.6s,baz=24,slow=33								
NIUE	**Niue**	**33.44**	**44**	S	S	16 25 19.5	-23		
	baz=33,SNR=3.3								
AS31	**Alice Springs**	**34.29**	**300**	*e*P	**P**	**16 20 27.3**	**-2.8**		
ASAR	**Alice Springs**	**34.29**	**300**	P	**P**	**16 20 29.8**	**-0.3**		
ASAR	**Alice Springs**	**34.29**	**300**	P	**P**	**16 20 29.8**	**-0.3**		
	4.2nm,0.8s,baz=131,slow=8.5,SNR=55								
ASAR				LR	LR	16 33 25.8			
	comp=Z,566nm,18.2s,baz=175,slow=34								
WRA	**Warramunga Arr**	**36.90**	**304**	P	**P**	**16 20 51.8**	**-0.7**		
WRA	**Warramunga Arr**	**36.90**	**304**	P	**P**	**16 20 51.8**	**-0.7**		
	7.6nm,0.9s,baz=137,slow=8.0,SNR=32								
WRAB	**Tennant Creek**	**36.90**	**304**	*e*P	**P**	**16 20 51.8**	**-0.7**		
	20nm,1.2s								
HNR	**Honiara**	**36.96**	**350**	LR	LR	16 35 00.7			
	comp=Z,583nm,18.1s,baz=358,slow=34								
TBI	**Tubuai**	**42.30**	**73**	*e*S	**S**	**16 27 57.1**	**+0.6**		
	141nm,29.5s								
TBI				*e*LR	LR	16 33 19.1			
	411nm,31.8s								
FITZ	**Fitzroy Crossi**	**43.54**	**296**	LR	LR	16 41 11.7			
	comp=Z,333nm,18.1s,baz=131,slow=38								
QSPA	**South Pole Qui**	**43.98**	**180**	P	**P**	**16 21 51.1**	**+0.4**		
QSPA	**South Pole Qui**	**43.98**	**180**	P	**P**	**16 21 51.1**	**+0.4**		
	14nm,0.9s,baz=14,slow=2.8,SNR=52								
MBWA	**Marble Bar**	**45.13**	**288**	*e*P	**P**	**16 22 00.1**	**-0.1**		
	16nm,1.0s								
PPT2	**Papeete2**	**46.33**	**67**	*e*LR	LR	16 35 12.5			
	661nm,29.5s								
PPT	**Papeete**	**46.35**	**67**	LR	LR	16 37 49.4			
	comp=Z,328nm,20.7s,baz=180,slow=31								
RKT	**Rikitea**	**52.32**	**85**	*e*LR	LR	16 38 03.9			
	388nm,27.8s								
MAW	**Mawson**	**52.93**	**208**	P	**P**	**16 22 59.9**	**+0.6**		
MAW	**Mawson**	**52.93**	**208**	P	**P**	**16 22 59.9**	**+0.6**		
	1.4nm,0.6s,baz=104,slow=19,SNR=3.5								
MAW				LR	LR	16 42 28.7			
	comp=Z,219nm,18.4s,baz=296,slow=33								
SYO	**Syowa Base**	**58.58**	**200**	*e*P	**P**	**16 23 38.0**	**-1.7**		
SNAA	**Sanae**	**62.23**	**184**	*e*P	**P**	**16 24 04.1**	**-0.7**		
	13nm,0.8s								
PLCA	**Paso Flores**	**79.81**	**140**	P	**P**	**16 25 52.4**	**+0.5**		
PLCA	**Paso Flores**	**79.81**	**140**	P	**P**	**16 25 52.4**	**+0.5**		
	3.6nm,1.0s,baz=139,slow=5.8,SNR=4.2								
PLCA				LR	LR	16 56 22.4			
	comp=Z,317nm,19.4s,baz=346,slow=32								
MJAR	**Matsushiro Arr**	**86.06**	**338**	P	**P**	**16 26 25.0**	**+1.1**		
MJAR	**Matsushiro Arr**	**86.06**	**338**	P	**P**	**16 26 25.0**	**+1.1**		
	0.7nm,0.6s,baz=160,slow=7.8,SNR=4.7								
CMAR	**Chiang Mai Arr**	**88.29**	**299**	P	**P**	**16 26 36.7**	**+1.6**		
CMAR	**Chiang Mai Arr**	**88.29**	**299**	P	**P**	**16 26 36.7**	**+1.6**		
	2.9nm,1.0s,baz=161,slow=3.0,SNR=11								
CMAR				LR	LR	17 08 21.8			
	comp=Z,59nm,18.0s,baz=165,slow=37								
CHTO	**Chiang Mai**	**88.57**	**299**	*e*P	**P**	**16 26 37.6**	**+1.2**		
	5.9nm,0.9s								
CHTO				*e*		16 26 44.5			
KSRS	**Korea Array**	**90.03**	**331**	P	P	16 26 45.0	+2.2		
	0.6nm,0.7s,baz=172,slow=3.7,SNR=2.9								
KSRS				LR	LR	17 03 23.1			
	comp=Z,44nm,20.1s,baz=334,slow=33								
KSAR	**Wonju Array Be**	**90.03**	**330**	P	P	16 26 45.0	+2.2		
NNA	**Nana**	**99.26**	**118**	LR	LR	17 06 41.6			
	comp=Z,113nm,18.6s,baz=142,slow=32								
ILAR	**Eielson Array**	**116.50**	**20**	PKP	**PKPdf**	**16 32 25.9**	**-0.1**		
ILAR	**Eielson Array**	**116.50**	**20**	PKP	**PKPdf**	**16 32 25.9**	**-0.1**		
	0.6nm,0.9s,baz=270,slow=4.3,SNR=3.4								
KSH	**Kashi**	**117.19**	**300**	*e*PKPbc	**PKPdf**	**16 32 30.5**	**+2.1**		
KSH				sPKP		16 32 45.0			
KSH				PP	PP	16 33 48.5	+8.9		
KSH				PKS	**PKSdf**	**16 36 06.8**	**+1.7**		
KSH				SKS	**SKSdf**	**16 39 38.8**	**+0.3**		
KSH				SKKS	**SKKSac**	**16 40 35.3**	**-2.5**		
KSH				AMB	AMB				
	comp=Z,130nm,5.2s								
KSH				LR	LR				
	comp=N,210nm,11.7s								
KSH				LR	LR				
	comp=E,190nm,10.9s								
KSH				LR	LR				
	comp=Z,200nm,6.1s								
MKAR	**Makanchi Array**	**118.09**	**309**	PKP	**PKPdf**	**16 32 29.2**	**-0.6**		
MKAR	**Makanchi Array**	**118.09**	**309**	PKP	**PKPdf**	**16 32 29.2**	**-0.6**		
	comp=Z,0.6nm,0.9s,baz=205,slow=3.8,SNR=2.9								
KURBB	**Kurchatov Arra**	**122.38**	**311**	PKP	**PKPdf**	**16 32 38.0**	**+0.3**		
	comp=Z,0.6nm,0.6s,baz=116,slow=1.7,SNR=5.7								
KURK	**Kurchatov**	**122.38**	**311**	PKP	**PKPdf**	**16 32 38.0**	**+0.3**		
YKA	**Yellowknife Ar**	**125.20**	**34**	PKP	**PKPdf**	**16 32 42.2**	**-0.6**		
YKA	**Yellowknife Ar**	**125.20**	**34**	PKP	**PKPdf**	**16 32 42.2**	**-0.6**		
	comp=Z,0.6nm,0.9s,baz=238,slow=1.2,SNR=3.8								
BVAR	**Borovoye Array**	**127.94**	**310**	PKP	**PKPdf**	**16 32 48.9**	**+0.5**		
BVAR	**Borovoye Array**	**127.94**	**310**	PKP	**PKPdf**	**16 32 48.9**	**+0.5**		
	comp=Z,0.6nm,0.7s,baz=186,slow=5.7,SNR=2.9								
AKTO	**Aktyubinsk**	**133.69**	**303**	PKP	**PKPdf**	**16 33 00.1**	**+0.7**		
AKTO	**Aktyubinsk**	**133.69**	**303**	PKP	**PKPdf**	**16 33 00.1**	**+0.7**		
	comp=Z,1.1nm,0.8s,baz=259,slow=5.2,SNR=3.2								
DBIC	**Dimbokro**	**139.91**	**194**	PKPpre	PKPpre	16 33 06.8			
DBIC	**Dimbokro**	**139.91**	**194**	PKhKP	PKPpre	16 33 06.8			
	comp=Z,6.0nm,1.2s,baz=164,slow=9.5,SNR=3.0								
TOAQ	**Torodi Ar. Sit**	**144.57**	**207**	*e*PKPdf	**PKPdf**	**16 33 18.4**	**-1.9**		
TORD	**Torodi Ar. Bea**	**144.57**	**207**	PKP	**PKPdf**	**16 33 18.5**	**-1.8**		
TORD	**Torodi Ar. Bea**	**144.57**	**207**	PKP	**PKPdf**	**16 33 18.5**	**-1.8**		
	comp=Z,4.4nm,0.8s,baz=168,slow=1.4,SNR=26								
BRTR	**Keskin Array B**	**145.05**	**277**	PKPbc	**PKPdf**	**16 33 20.4**	**-0.2**		
BRTR	**Keskin Array B**	**145.05**	**277**	PKPbc	**PKPdf**	**16 33 20.4**	**-0.2**		
	comp=Z,9.9nm,1.0s,baz=141,slow=4.7,SNR=30								
SPITS	**Spitsbergen Ar**	**145.81**	**349**	PKPbc	**PKPab**	**16 33 20.6**	**-1.0**		
SPITS	**Spitsbergen Ar**	**145.81**	**349**	PKPbc	**PKPab**	**16 33 20.6**	**-1.0**		
	comp=Z,6.0nm,0.8s,baz=77,slow=9.5,SNR=6.0								
SCHQ	**Schefferville**	**145.95**	**56**	PKPbc	**PKPab**	**16 33 21.4**	**-1.4**		
SCHQ	**Schefferville**	**145.95**	**56**	PKPbc	**PKPab**	**16 33 21.4**	**-1.4**		
	comp=Z,4.8nm,0.6s,baz=279,slow=6.3,SNR=9.7								
ARCES	**ARCESS Array B**	**149.52**	**334**	PKPbc	**PKPbc**	**16 33 32.2**	**+0.8**		
ARCES	**ARCESS Array B**	**149.52**	**334**	PKPbc	**PKPbc**	**16 33 32.2**	**+0.8**		
	comp=Z,4.4nm,0.6s,baz=74,slow=3.2,SNR=27								
KIEV	**Kiev**	**151.35**	**295**	*e*PKPbc	**PKPbc**	**16 33 36.4**	**+0.1**		
TAM	**Tamanrasset**	**151.89**	**221**	*e*PKPbc	**PKPbc**	**16 33 39.6**	**+1.0**		
FINES	**FINESS Array B**	**152.43**	**318**	PKPbc	**PKPbc**	**16 33 39.2**	**+0.8**		
FINES	**FINESS Array B**	**152.43**	**318**	PKPbc	**PKPbc**	**16 33 39.2**	**+0.8**		
	comp=Z,3.4nm,0.6s,baz=81,slow=2.6,SNR=7.1								
MLR	**Muntele Rosu**	**152.44**	**283**	PKPbc	**PKPbc**	**16 33 38.2**	**-1.0**		
MLR	**Muntele Rosu**	**152.44**	**283**	PKPbc	**PKPbc**	**16 33 38.2**	**-1.0**		
	comp=Z,0.9nm,0.8s,baz=184,slow=11,SNR=5.7								
KEST	**Kesra**	**159.67**	**247**	PKPab	**PKPab**	**16 34 20.9**	**+0.1**		
KEST	**Kesra**	**159.67**	**247**	PKPab	**PKPab**	**16 34 20.9**	**+0.1**		
	comp=Z,1.9nm,1.0s,baz=114,slow=0.5,SNR=4.9								
BRG	**Berggiesshubel**	**161.03**	**295**	*e*P	PKPab	16 34 33.9	+7.7		
	comp=Z,5.6nm,1.0s								
GERES	**GERESS Array B**	**161.21**	**288**	PKPab	**PKPab**	**16 34 27.9**	**+0.7**		
GERES	**GERESS Array B**	**161.21**	**288**	PKPab	**PKPab**	**16 34 27.9**	**+0.7**		
	comp=Z,0.7nm,0.6s,baz=92,slow=4.0,SNR=6.7								
ESDC	**Sonseca Array**	**170.27**	**232**	PKPab	**PKPab**	**16 35 07.4**	**+0.1**		
ESDC	**Sonseca Array**	**170.27**	**232**	PKPab	**PKPab**	**16 35 07.4**	**+0.1**		
	comp=Z,0.2nm,0.3s,baz=134,slow=5.5,SNR=3.6								

*IDC **16** 16:17:44.2±0.9,4°.58S×133°.89E,h0km,mb3.9/7, mb1 4.2/12,mb1mx4.0/23,mbtmp4.1/12,ML4.0/5,MS4.0/2, Ms1 4.0/2,ms1mx3.0/27,Error ellipse: s-maj=43.0km s-min=17.4km az=67.0*

*ISCJB **16** 16:17:45.1±0.5,4°.57S±0°.04×133°.98E±0°.07,h21km, mb3.9/7,MS4.3/1,Error ellipse: s-maj=9.5km s-min=5.7km az=172.9*

*AUST **16** 16:17:48.0,4°.46S×134°.03E,h30km*

ISC 16 16:17:47.2±0.7,4°.59S±0°.06×133°.85E±0°.09,h21km,n28, σ2s77/28,mb4.1/7,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.31**	**316**	P	**Pn**	**16 18 22.3**	**-1.8**
	baz=2.4,SNR=23						
BNDI	**Bandanaira**	**3.94**	**271**	P	**Pn**	**16 18 49.4**	**+3.0**
	baz=4.1,SNR=4.4						
SWI	**Sorong**	**4.52**	**325**	P	**Pn**	**16 18 52.9**	**-1.5**
	baz=4.5,SNR=16						
KDU	**Kakadu**	**8.16**	**190**	P	**Pn**	**16 19 47.3**	**+2.9**
	baz=8.4,SNR=21						
MTN	**Manton Dam**	**8.63**	**198**	P	Pn	16 19 54.2	+3.3
	baz=8.9,SNR=71						
MTN				S	**Sn**	**16 21 31.7**	**+4.1**
	baz=8.9,SNR=5.1						
SOEI	**Soe**	**10.80**	**241**	P	Pn	16 20 25.4	+4.6
	baz=11,SNR=8.9						
KNRA	**Kununurra**	**12.10**	**204**	P	**Pn**	**16 20 39.7**	**+1.3**
	baz=12,SNR=42						
KNRA				S	**Sn**	**16 22 55.1**	**+2.3**
	baz=12,SNR=5.1						
COEN	**Coen**	**13.08**	**136**	P	**Pn**	**16 20 53.4**	**+1.5**
	baz=38,SNR=5.3						
COEN	**Coen**	**13.08**	**136**	P	**Pn**	**16 20 53.4**	**+1.5**
	baz=13,SNR=5.3						
MANU	**Manus Island**	**13.72**	**80**	P	Pn	16 20 53.6	-7.1
	baz=8.4,SNR=4.4						
PMG	**Port Moresby**	**14.04**	**111**	Pn	**Pn**	**16 21 03.5**	**-1.5**
	0.9nm,0.3s,baz=298,slow=15,SNR=3.3						
PMG				LR	LR	16 27 28.2	
	comp=Z,362nm,18.4s,baz=286,slow=42						
WRA	**Warramunga Ar**	**15.26**	**178**	Pn	**Pn**	**16 21 19.8**	**-1.8**
	0.6nm,0.3s,baz=357,slow=13,SNR=13						
WRA				Sn	**Sn**	**16 24 03.6**	**-6.5**
	0.2nm,0.3s,baz=2.0,slow=23,SNR=4.0						
FITZ	**Fitzroy Crossi**	**15.65**	**210**	Pn	**Pn**	**16 21 25.7**	**-0.9**
	1.6nm,0.3s,baz=37,slow=9.6,SNR=34						
FITZ				Sn	**Sn**	**16 24 14.2**	**-5.3**
	1.0nm,0.3s,baz=204,slow=13,SNR=7.4						
FITZ	**Fitzroy Crossi**	**15.65**	**210**	P	**Pn**	**16 21 27.6**	**+1.0**
	baz=44,SNR=9.5						
FITZ	**Fitzroy Crossi**	**15.65**	**210**	P	**Pn**	**16 21 25.7**	**-0.9**
	baz=16,SNR=36						
FITZ				S	**Sn**	**16 24 15.7**	**-3.8**
	baz=16,SNR=6.0						
MTSU	**Mount Surprise**	**16.91**	**144**	P	**P**	**16 21 47.2**	**+2.6**
	baz=17,SNR=8.8						
ASAR	**Alice Springs**	**18.96**	**180**	P	**Pn**	**16 22 08.4**	**+0.5**
	1.2nm,0.3s,baz=7.1,slow=14,SNR=29						
ASAR				S	**Sn**	**16 25 33.8**	**-6.1**
	0.0nm,0.3s,baz=4.2,slow=29,SNR=3.2						
CTA	**Charters Tower**	**19.57**	**143**	P	**P**	**16 22 13.7**	**-0.3**
	0.1nm,0.3s,baz=307,slow=14,SNR=3.1						
PATS	**Pohnpei**	**26.93**	**65**	S	S	16 27 38.3	-25
	baz=27,SNR=3.2						
LHI	**Lord Howe Isla**	**35.75**	**141**	P	P	16 24 50.2	+5.5
	baz=36,SNR=4.0						
CMAR	**Chiang Mai Arr**	**41.33**	**305**	P	**P**	**16 25 31.9**	**0.0**
	0.5nm,0.5s,baz=134,slow=7.7,SNR=2.7						
SONM	**Songino Array**	**57.51**	**338**	P	**P**	**16 27 34.8**	**-0.2**
	0.5nm,0.7s,baz=155,slow=8.2,SNR=3.5						
MKAR	**Makanchi Array**	**68.41**	**325**	P	**P**	**16 28 47.1**	**-0.4**
	1.2nm,0.5s,baz=111,slow=8.6,SNR=12						
ZALV	**Zalesovo Beam**	**71.21**	**332**	P	**P**	**16 29 05.4**	**+0.9**
	1.4nm,0.8s,baz=98,slow=4.5,SNR=5.2						
KURBB	**Kurchatov Arra**	**72.55**	**327**	P	**P**	**16 29 13.8**	**+1.2**
	1.3nm,0.8s,baz=121,slow=5.2,SNR=5.2						
BVAR	**Borovoye Array**	**78.14**	**326**	P	**P**	**16 29 45.6**	**+0.8**
	1.9nm,0.8s,baz=140,slow=5.0,SNR=7.4						
MAW	**Mawson**	**78.58**	**202**	LR	LR	17 04 44.5	
	comp=Z,136nm,18.7s,baz=297,slow=36						
QSPA	**South Pole Qui**	**85.37**	**180**	P	**P**	**16 30 23.4**	**+0.6**
	1.5nm,0.9s,baz=218,slow=4.4,SNR=6.6						

*NIED **16** 16:30:00,38°.30N×133°.70E,h500km,Mw4.5 Best double couple: M0 7.07000×10^15 NP1:ϕ=62.0000°, δ=80.0000°,λ=-155.00000°. NP2:ϕ=328.00000°, δ=65.00000°,λ=-11.00000°.*

*JMA **16** 16:30:53.4±0.2,38°.35N×133°.72E,h467km±2km,M4.1*

*ISCJB **16** 16:30:54.3±0.2,38°.36N±0°.03×133°.72E±0°.04, h454km±3km,mb4.0/54,Error ellipse: s-maj=5.1km s-min=4.0km az=141.1*

*BJI **16** 16:30:54.2±0.8,38°.31N×133°.63E,h467km,mB4.8/15, mb4.9/34*

*MOS **16** 16:30:54.2±0.8,38°.36N×133°.65E,h450km,mb4.1/37, Error ellipse: s-maj=10.8km s-min=6.9km az=114.8*

*IDC **16** 16:30:55.3±0.7,38°.34N×133°.56E,h446km±8km,mb3.6/33, mb1 3.7/38,mb1mx3.7/43,mbtmp3.6/38,Error ellipse: s-maj=8.6km s-min=7.8km az=59.0*

ISC 16 16:30:54.9±0.5,38°.36N±0°.05×133°.71E±0°.05,h445km±5km, n128,σ1s21/156,mb4.0/54,3C-6D,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAI	**Saigo**	**2.18**	**188**	P	**P**	**16 31 56.8**	**+0.8**
SAI				S	**S**	**16 32 46.3**	**+0.8**
JHG	**Hegura jima**	**2.58**	**101**	P	**P**	**16 31 59.1**	**+0.6**
JHG				S	**S**	**16 32 51.7**	**+1.6**
JKG	**Kaga**	**2.95**	**134**	P	**P**	**16 32 01.9**	**+0.8**
JKG				*e*S	**S**	**16 32 55.8**	**+0.9**
JSZ	**Suzu**	**3.03**	**106**	P	**P**	**16 32 02.6**	**+0.9**
JSZ				S	**S**	**16 32 57.9**	**+2.0**
JWT	**Wachi**	**3.36**	**156**	P	**P**	**16 32 05.2**	**+0.8**
JWT				S	**S**	**16 33 00.8**	**+0.1**
JHS	**Saijyo**	**3.39**	**188**	P	**P**	**16 32 05.0**	**+0.3**
JHS				S	**S**	**16 33 00.5**	**-0.8**
MAJO	**Matsushiro**	**4.01**	**116**	*i* P	**P**	**16 32 10.1**	**+0.3**
MAT	**Matsushiro**	**4.01**	**116**	P	**P**	**16 32 10.1**	**+0.3**
MAT				S	**S**	**16 33 13.3**	**+2.5**
MAT	**Matsushiro**	**4.01**	**116**	P	**P**	**16 32 10.2**	**+0.4**
MJAR	**Matsushiro Arr**	**4.01**	**116**	P	**P**	**16 32 10.6**	**+0.7**
	14nm,0.3s,baz=296,slow=10,SNR=516						
JIE	**Ise**	**4.64**	**148**	P	**P**	**16 32 16.2**	**+0.6**
JIE				S	**S**	**16 33 20.1**	**-1.2**
KSRS	**Korea Array**	**4.67**	**261**	P	**P**	**16 32 17.1**	**+1.4**
	3.5nm,0.3s,baz=67,slow=9.4,SNR=133						
KSRS				S	**S**	**16 33 20.8**	**-0.9**
	baz=79,slow=16,SNR=11						
JRY	**Ryogami san**	**4.76**	**118**	P	**P**	**16 32 16.5**	**-0.2**
VLA	**Vladivostok**	**4.95**	**344**	*e*P	**P**	**16 32 19.6**	**+1.4**
JWZ	**Kozaga**	**5.09**	**161**	P	**P**	**16 32 20.2**	**+0.3**
JWZ				S	**S**	**16 33 28.6**	**-0.6**
JTU	**Tsushima**	**5.17**	**224**	P	**P**	**16 32 20.2**	**-0.5**
JOD2	**Odawara 2**	**5.31**	**124**	P	**P**	**16 32 21.8**	**-0.2**
JOD2				S	**S**	**16 33 33.4**	**+0.3**
TTO1	**TONANKAI O.B.S**	**5.35**	**151**	P	**P**	**16 32 23.1**	**+1.0**
JTO	**Tosashimizu**	**5.54**	**188**	P	**P**	**16 32 25.0**	**+0.6**
JTO				S	**S**	**16 33 37.3**	**-0.1**
JNU	**Nakatsue**	**5.72**	**205**	P	**P**	**16 32 26.5**	**+0.3**
	23nm,0.3s,baz=26,slow=4.8,SNR=198						
JOSM	**Okushiri--Mats**	**5.76**

KURK				pmax		pmax		
	comp=Z,19nm,0.7s							
ODAN	**Odare**	**40.29**	**268**	*eP*		**P**	**16 37 52.0**	**-0.3**
	comp=Z,15nm,0.5s							
KURBB	**Kurchatov Arra**	**40.33**	**306**	P		**P**	**16 37 50.9**	**-1.0**
	comp=Z,19nm,0.7s,baz=87,slow=8.4,SNR=105							
JIRN	**Jiri**	**40.86**	**269**	*eP*		**P**	**16 37 56.6**	**-0.4**
	comp=Z,23nm,0.4s							
RAMN	**Ramite**	**40.87**	**268**	*eP*		**P**	**16 37 56.7**	**-0.2**
	comp=Z,37nm,0.6s							
GUN	**Gumba**	**40.99**	**270**	*eP*		**P**	**16 37 57.9**	**-0.1**
	comp=Z,36nm,0.4s							
PKI	**Pulchoki**	**41.52**	**270**	*eP*		**P**	**16 38 01.2**	**-1.0**
	comp=Z,16nm,0.7s							
KKN	**Kakani**	**41.52**	**270**	*eP*		**P**	**16 38 01.9**	**-0.1**
	comp=Z,36nm,0.6s							
PKIN	**Phulchoki**	**41.52**	**270**	*eP*		**P**	**16 38 01.2**	**-1.0**
	comp=Z,16nm,0.6s							
DMN	**Daman**	**41.74**	**270**	*eP*		**P**	**16 38 03.1**	**-0.7**
	comp=Z,15nm,0.8s							
DANN	**Dangsing**	**42.46**	**272**	*eP*		**P**	**16 38 09.2**	**-0.4**
	comp=Z,88nm,0.7s							
TKM2	**Tokmak 2**	**43.58**	**295**	*i* P		**P**	**16 38 18.4**	**+0.3**
TKM2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
TKM2	**Tokmak 2**	**43.58**	**295**	P		**P**	**16 38 18.7**	**+0.6**
	SNR=16							
KZA	**Kyzart**	**44.05**	**294**	*i* P		**P**	**16 38 23.3**	**+1.3**
KZA	**Kyzart**	**44.05**	**294**	P		**P**	**16 38 23.3**	**+1.3**
	SNR=9.2							
KBK	**Karagaybulak**	**44.11**	**295**	*i* P		**P**	**16 38 22.9**	**+0.7**
KBK	**Karagaybulak**	**44.11**	**295**	P		**P**	**16 38 23.0**	**+0.7**
	SNR=8.4							
USP	**Ospenovka**	**44.27**	**296**	*i* P		**P**	**16 38 22.9**	**-0.4**
USP	**Ospenovka**	**44.27**	**296**	P		**P**	**16 38 23.0**	**-0.4**
	SNR=7.4							
AAK	**Ala-Archa**	**44.44**	**295**	⇓*i* P		**P**	**16 38 23.6**	**-1.2**
AAK				pmax		pmax		
	comp=Z,10.0nm,1.3s							
AAK	**Ala-Archa**	**44.44**	**295**	P		**P**	**16 38 24.0**	**-0.8**
	comp=Z,4.2nm,0.6s,baz=132,slow=9.1,SNR=6.7							
BVA0	**Borovoye Array**	**45.11**	**310**	*i* P		**P**	**16 38 28.6**	**-1.0**
BVA0				pmax		pmax		
	comp=Z,4.0nm,0.7s							
BVAR	**Borovoye Array**	**45.11**	**310**	P		**P**	**16 38 28.6**	**-1.0**
BVAR				S		**S**	**16 44 33.7**	**-1.3**
BVAR				pmax		pmax		
	comp=Z,4.0nm,0.4s							
BVAR				smax		smax		
	comp=N,1.0nm,0.8s							
BVAR	**Borovoye Array**	**45.11**	**310**	P		**P**	**16 38 28.6**	**-1.0**
	comp=N,4.1nm,0.4s,baz=89,slow=7.1,SNR=34							
BVAR				S		**S**	**16 44 33.7**	**-1.3**
	comp=N,0.7nm,0.8s,baz=98,slow=11,SNR=3.5							
AML	**Almayashu**	**45.15**	**295**	*i* P		**P**	**16 38 31.3**	**+0.8**
AML	**Almayashu**	**45.15**	**295**	P		**P**	**16 38 31.3**	**+0.8**
	SNR=13							
BRVK	**Borovoye**	**45.17**	**310***c*	*i* P		**P**	**16 38 29.9**	**-0.1**
BRVK				pmax		pmax		
	comp=Z,6.0nm,1.2s							
KK31	**Karatay Array**	**47.12**	**297**	*i* P		**P**	**16 38 44.9**	**-0.3**
KK31				pmax		pmax		
	comp=Z,1.0nm,0.3s							
SVE	**Sverdlovsk**	**50.05**	**317**⇓	*e*P		**P**	**16 39 07.1**	**+0.3**
SVE				pmax		pmax		
	comp=Z,14nm,0.6s							
KDAK	**Kodiak Island**	**50.20**	**42**	P		**P**	**16 39 08.8**	**+0.9**
	comp=Z,2.2nm,0.3s,baz=282,slow=4.3,SNR=12							
ARU	**Arti**	**51.25**	**316***d*	*i* P		**P**	**16 39 15.0**	**-0.7**
ARU				S		**S**	**16 46 00.6**	**+0.8**
ARU							16 48 15.9	
ARU				pmax		pmax		
	comp=Z,15nm,0.6s							
ILAR	**Eielson Array**	**51.65**	**32**	P		**P**	**16 39 19.7**	**+1.2**
	comp=Z,2.1nm,0.6s,baz=264,slow=5.0,SNR=25							
AB31	**Akbulak array**	**52.34**	**307**	*i* P		**P**	**16 39 23.2**	**-0.5**
AB31				pmax		pmax		
	comp=Z,10.0nm,0.3s							
AKTO	**Aktyubinsk**	**53.17**	**309**	P		**P**	**16 39 30.1**	**+0.4**
AKTO				pmax		pmax		
	comp=Z,6.0nm,0.6s							
AKTO	**Aktyubinsk**	**53.17**	**309**	P		**P**	**16 39 30.1**	**+0.4**
	comp=Z,5.7nm,0.6s,baz=82,slow=13,SNR=20							
FITZ	**Fitzroy Crossi**	**56.67**	**189**	P		**P**	**16 39 54.3**	**-0.3**
	comp=Z,5.1nm,1.1s,baz=356,slow=14,SNR=7.8							
WRA	**Warramunga Arr**	**58.00**	**179**	P		**P**	**16 40 03.4**	**-0.3**
	comp=Z,3.2nm,0.5s,baz=356,slow=7.5,SNR=67							
CTA	**Charters Tower**	**59.32**	**166**	P		**P**	**16 40 11.9**	**-0.8**
	comp=Z,3.6nm,0.8s,baz=48,slow=6.0,SNR=4.0							
KEV	**Kevo**	**59.95**	**337**	*ep*		**P**	**16 40 17.1**	**+0.9**
KEV	**Kevo**	**59.95**	**337**	*eP*		**P**	**16 40 17.1**	**+0.9**
ARCES	**ARCESS Array B**	**60.51**	**337**	P		**P**	**16 40 20.7**	**+0.7**
	comp=Z,2.1nm,0.5s,baz=63,slow=8.6,SNR=16							
ASAR	**Alice Springs**	**61.70**	**180**	P		**P**	**16 40 28.6**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=2.4,slow=6.4,SNR=32							
OBN	**Obninsk**	**63.27**	**320**	P		**P**	**16 40 38.0**	**-0.3**
OBN				pmax		pmax		
	comp=Z,7.0nm,1.3s							
KAF	**Kangasniemi**	**64.22**	**330**	*ep*		**P**	**16 40 44.5**	**+0.2**
	comp=Z,5.0nm,0.5s							
KAF	**Kangasniemi**	**64.22**	**330**	*eP*		**P**	**16 40 44.5**	**+0.2**
KAF				pmax		pmax		
	comp=Z,5.0nm,0.5s							
FINES	**FINESS Array B**	**64.68**	**330**	P		**P**	**16 40 47.3**	**+0.1**
	comp=Z,9.0nm,0.6s,baz=69,slow=5.6,SNR=65							
KBZ	**Khabaz**	**65.31**	**307**	P		**P**	**16 40 51.9**	**+0.4**
KBZ				pmax		pmax		
	comp=Z,2.0nm,0.6s							
KBZ	**Khabaz**	**65.31**	**307**	P		**P**	**16 40 51.9**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=74,slow=3.5,SNR=6.0							
KIV	**Kislovodsk**	**65.33**	**307**	*eP*		**P**	**16 40 51.9**	**+0.1**
KIV				pmax		pmax		
	comp=Z,14nm,1.0s							
YKA	**Yellowknife Ar**	**65.63**	**28**	P		**P**	**16 40 53.8**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=299,slow=6.7,SNR=7.0							
VSU	**Vasula**	**66.10**	**327**	*eP*		**P**	**16 40 56.6**	**+0.4**
VSU				pmax		pmax		
	comp=Z,12nm,1.1s							
UMR	**Umm Al-Rimmam**	**69.44**	**292**	*eP*		**P**	**16 41 16.5**	**-0.8**
MIB	**Mutribah**	**69.58**	**292**	*eP*		**P**	**16 41 17.4**	**-0.7**
MIB				AMb		AMB	16 41 17.9	
	comp=Z,26nm,0.6s							
KBD	**Kabd**	**69.67**	**292**	*eP*		**P**	**16 41 18.2**	**-0.5**
NAY	**Al-Naaiem**	**69.95**	**292**	*eP*		**P**	**16 41 19.8**	**-0.6**
NAY				AMb		AMB	16 41 20.1	
	comp=Z,13nm,0.6s							
HFS	**Hagfors**	**70.23**	**333**	P		**P**	**16 41 21.5**	**+0.1**
	comp=Z,3.4nm,0.4s,baz=59,slow=5.7,SNR=32							
STKA	**Stephens Creek**	**70.27**	**173**	P		**P**	**16 41 23.1**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=329,slow=20,SNR=6.0							
NB2	**NORSAR Subarra**	**70.46**	**334**	P		**P**	**16 41 22.8**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=44,slow=5.9							
NOA	**NORSAR Array B**	**70.46**	**334**	P		**P**	**16 41 23.1**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=43,slow=6.0,SNR=15							
BRTR	**Keskin Array B**	**73.30**	**308**	P		**P**	**16 41 40.0**	**0.0**
	comp=Z,3.0nm,0.9s,baz=111,slow=5.3,SNR=9.2							
ASF	**Jabal al Asfar**	**75.62**	**300**	P		**P**	**16 41 53.5**	**+0.2**
	comp=Z,1.7nm,0.5s							
MMAI	**Mount Meron Ar**	**76.13**	**301**	P		**P**	**16 41 56.0**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=52,slow=6.7,SNR=4.3							
VRAC	**Vranov**	**76.54**	**323**	P		**P**	**16 41 58.2**	**+0.3**
	comp=Z,2.2nm,0.4s,baz=285,slow=16,SNR=3.9							
GERES	**GERESS Array B**	**78.21**	**324**	P		**P**	**16 42 07.3**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=29,slow=3.0,SNR=4.1							
NVAR	**Mina Array Bea**	**78.93**	**50**	P		**P**	**16 42 13.3**	**+1.9**
	comp=Z,1.1nm,0.8s,baz=297,slow=5.1,SNR=7.9							
EKA	**Eskdalemuir Ar**	**79.66**	**337**	P		**P**	**16 42 15.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=25,slow=5.5,SNR=3.0							
PDAR	**Pinedale Array**	**80.92**	**42**	P		**P**	**16 42 23.1**	**+1.2**
	comp=Z,1.4nm,0.9s,baz=349,slow=1.5,SNR=7.6							
DAVOX	**Davos/Dischmat**	**81.48**	**325**	P		**P**	**16 42 24.3**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=191,slow=5.2,SNR=3.1							
SCHQ	**Schefferville**	**85.51**	**12**	P		**P**	**16 42 45.0**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=247,slow=10.0,SNR=3.4							
TXAR	**Lajitas Array**	**93.94**	**47**	P		**P**	**16 43 24.8**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=356,slow=1.4,SNR=3.5							

*ISCJB **16** 17:05:24.5±0.3,5.°15S±0.°04×143.°66E±0.°06, h101km, mb4.3/20, Error ellipse: s-maj=8.7km s-min=5.6km az=168.2*
*IDC **16** 17:05:25.5±2.3,5.°15S×143.°70E, h98km±23km, mb4.0/14, mb1 4.1/18, mb1mx4.1/21, mbtmp4.0/18, Error ellipse: s-maj=18.3km s-min=9.9km az=97.0*
*NEIC **16** 17:05:27.7±1.7,5.°17S×143.°65E, h118km±19km, mb4.5/8,*

Error ellipse: s-maj=14.6km s-min=10.5km az=120.0

ISC 16 17:05:26.1±0.5,5.°18S±0.°05×143.°63E±0.°08, h101km, n55, σ1$31/64, mb4.3/19, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.47**	**140**	P			**Pn**	**17 06 45.7**	**+0.5**
PMG				S			**Sn**	**17 07 46.8**	**0.0**
PMG	**Port Moresby**	**5.47**	**140**	P			**Pn**	**17 06 45.7**	**+0.5**
	5.2nm,0.3s,baz=339,slow=9.0,SNR=20								
PMG				S			**Sn**	**17 07 46.8**	**0.0**
	7.4nm,0.3s,baz=123,slow=20,SNR=10.0								
COEN	**Coen**	**8.74**	**183**	*eP*			Pn	17 07 33.3	+3.6
	96nm,0.7s								
CTA	**Charters Tower**	**15.04**	**170**	P			**Pn**	**17 08 54.6**	**+1.2**
CTA	**Charters Tower**	**15.04**	**170**	P			**Pn**	**17 08 54.6**	**+1.2**
	0.4nm,0.3s,baz=27,slow=9.0,SNR=2.0								
CTAO	**Charters Tower**	**15.04**	**170**	*eP*			**P**	**17 08 57.1**	**+0.8**
	15nm,1.0s								
HNR	**Honiara**	**16.73**	**106**	P			**Pn**	**17 09 14.1**	**-0.3**
HNR	**Honiara**	**16.73**	**106**	P			**Pn**	**17 09 14.1**	**-0.3**
	6.7nm,0.3s,baz=182,slow=3.5,SNR=6.9								
WRAB	**Tennant Creek**	**17.22**	**211**	*eP*			**P**	**17 09 19.8**	**-0.6**
	35nm,0.9s								
WRA	**Warramunga Arr**	**17.24**	**211**	P			**P**	**17 09 20.4**	**-0.2**
WRA				S			**Sn**	**17 12 28.6**	**-3.9**
WRA	**Warramunga Arr**	**17.24**	**211**	P			**P**	**17 09 20.4**	**-0.2**
	2.8nm,0.3s,baz=33,slow=12,SNR=96								
WRA				S			**Sn**	**17 12 28.6**	**-3.9**
	0.2nm,0.3s,baz=26,slow=23,SNR=3.5								
AS31	**Alice Springs**	**20.63**	**206**	*eP*			**P**	**17 09 57.7**	**+0.1**
ASAR	**Alice Springs**	**20.63**	**206**	P			**P**	**17 09 57.0**	**-0.7**
ASAR				S			**S**	**17 13 46.2**	**+3.4**
ASAR	**Alice Springs**	**20.63**	**206**	P			**P**	**17 09 57.0**	**-0.7**
	5.0nm,0.6s,baz=32,slow=7.6,SNR=56								
ASAR				S			**S**	**17 13 46.2**	**+3.4**
	1.7nm,0.7s,baz=22,slow=27,SNR=4.5								
FITZ	**Fitzroy Crossi**	**21.77**	**232**	P			**P**	**17 10 08.3**	**-1.5**
FITZ	**Fitzroy Crossi**	**21.77**	**232**	P			**P**	**17 10 08.3**	**-1.5**
	5.0nm,0.5s,baz=53,slow=8.4,SNR=23								
STKA	**Stephens Creek**	**26.63**	**184**	*eP*			**P**	**17 10 55.6**	**+0.3**
STKA	**Stephens Creek**	**26.63**	**184**	P			**P**	**17 10 54.0**	**-1.2**
	3.1nm,0.8s,baz=14,slow=8.6,SNR=5.4								
JNU	**Nakatsue**	**39.96**	**343**	P			**P**	**17 12 49.7**	**-1.1**
JNU	**Nakatsue**	**39.96**	**343**	P			**P**	**17 12 49.7**	**-1.1**
	7.8nm,0.7s,baz=49,slow=22,SNR=5.3								
MJAR	**Matsushiro Arr**	**41.81**	**353**	P			**P**	**17 13 03.5**	**-2.3**
MJAR				PcP			**PcP**	**17 14 59.5**	**-0.7**
MJAR	**Matsushiro Arr**	**41.81**	**353**	P			**P**	**17 13 03.5**	**-2.3**
	1.7nm,0.5s,baz=178,slow=8.1,SNR=10								
MJAR				PcP			**PcP**	**17 14 59.5**	**-0.7**
	0.6nm,0.5s,baz=166,slow=2.6,SNR=4.1								
KSRS	**Korea Array**	**44.87**	**342**	P			**P**	**17 13 30.5**	**+0.1**
	3.9nm,0.7s,baz=164,slow=9.4,SNR=22								
KSAR	**Wonju Array Be**	**44.87**	**342**	P			**P**	**17 13 30.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**49.91**	**299**	P			**P**	**17 14 10.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**49.91**	**299**	P			**P**	**17 14 10.8**	**+0.9**
	1.7nm,0.6s,baz=123,slow=6.1,SNR=15								
USRK	**Ussuriysk Array**	**50.26**	**349**	P			**P**	**17 14 12.1**	**+0.2**
	6.4nm,0.6s,baz=184,slow=8.2,SNR=16								
PETK	**Petropavlovsk-**	**59.27**	**10**	P			**P**	**17 15 16.9**	**-0.1**
PETK				PcP			**PcP**	**17 16 02.5**	**-1.6**
PETK	**Petropavlovsk-**	**59.27**	**10**	P			**P**	**17 15 16.9**	**-0.1**
	3.4nm,0.8s,baz=174,slow=8.1,SNR=13								
PETK				PcP			**PcP**	**17 16 02.5**	**-1.6**
	1.9nm,0.8s,baz=150,slow=4.8,SNR=4.4								
LSA	**Lhasa**	**61.08**	**308**	*eP*			**P**	**17 15 31.9**	**+1.7**
	6.6nm,0.9s								
ULN	**Ulaanbatar**	**61.82**	**333**	*eP*			**P**	**17 15 35.3**	**+0.8**
	3.5nm,0.7s								
SONM	**Songino Array**	**62.09**	**333**	P			**P**	**17 15 36.9**	**+0.6**
SONM	**Songino Array**	**62.09**	**333**	P			**P**	**17 15 36.9**	**+0.6**
	1.7nm,0.6s,baz=157,slow=7.2,SNR=15								
TAPN	**Taplejung**	**62.90**	**304**	*eP*			**P**	**17 15 43.5**	**+1.1**
	20nm,0.9s								
ODAN	**Odare**	**62.99**	**304**	*eP*			**P**	**17 15 43.9**	**+1.1**
	19nm,0.9s								
GUN	**Gumba**	**64.62**	**304**	*eP*			**P**	**17 15 54.7**	**+1.0**
	34nm,0.8s								
KKN	**Kakani**	**65.07**	**304**	*eP*			**P**	**17 15 57.6**	**+1.1**
	26nm,0.9s								
DMN	**Daman**	**65.15**	**303**	*eP*			**P**	**17 15 58.1**	**+1.1**
	32nm,0.9s								
DANN	**Dangsing**	**66.53**	**304**	*eP*			**P**	**17 16 06.8**	**+0.9**
	4.8nm,0.2s								
VNDA	**Vanda**	**72.94**	**176**	P			**P**	**17 16 43.8**	**-0.3**
VNDA	**Vanda**	**72.94**	**176**	P			**P**	**17 16 43.8**	**-0.3**
	0.9nm,0.6s,baz=329,slow=6.5,SNR=21								
MK31	**Makanchi Array**	**74.75**	**321**	*eP*			**P**	**17 16 55.5**	**+0.4**
MKAR	**Makanchi Array**	**74.75**	**321**	P			**P**	**17 16 55.6**	**+0.6**
MKAR	**Makanchi Array**	**74.75**	**321**	P			**P**	**17 16 55.6**	**+0.6**
	1.8nm,0.4s,baz=95,slow=8.2,SNR=45								
ZAA0	**Zalesovo Array**	**76.55**	**329**	*eP*			**P**	**17 17 04.6**	**-0.6**
ZALV	**Zalesovo Beam**	**76.55**	**329**	P			**P**	**17 17 04.5**	**-0.7**
ZALV	**Zalesovo Beam**	**76.55**	**329**	P			**P**	**17 17 04.5**	**-0.7**
	2.6nm,0.6s,baz=115,slow=5.8,SNR=14								
KKAR	**Karatay Array**	**81.33**	**315**	*eP*			**P**	**17 17 31.9**	**+0.3**
	2.2nm,0.6s								
BRVK	**Borovoye**	**84.21**	**324**	*eP*			**P**	**17 17 46.7**	**+0.5**
	8.5nm,0.9s								
MCK	**McKinley**	**84.85**	**24**	*eP*			**P**	**17 17 48.4**	**-0.9**
	7.2nm,0.8s								
ILAR	**Eielson Array**	**86.07**	**24**	P			**P**	**17 17 53.7**	**-1.5**
ILAR	**Eielson Array**	**86.07**	**24**	P			**P**	**17 17 53.7**	**-1.5**
	4.1nm,0.8s,baz=258,slow=4.9,SNR=31								
EGAK	**Eagle**	**88.40**	**24**	*eP*			**P**	**17 18 06.8**	**+0.3**
	1.9nm,0.6s								
NVAR	**Mina Array Bea**	**99.52**	**52**	P			**Pdif**	**17 18 58.0**	**-0.3**
NVAR	**Mina Array Bea**	**99.52**	**52**	P			**Pdif**	**17 18 58.0**	**-0.3**
	0.4nm,0.7s,baz=253,slow=7.2,SNR=3.9								

*ISCJB **16** 17:26:59.1±0.9, 13.°5N±0.°1×119.°83E±0.°06, h16km, mb4.1/5, MS2.7/1, Error ellipse: s-maj=17.7km s-min=8.4km az=168.8*
*IDC **16** 17:27:07.9±1.6, 13.°69N×120.°36E, h80km±17km, mb3.6/6, mb1 3.8/6, mb1mx3.5/24, mbtmp3.6/6, MS2.8/1, Ms1 2.8/1, ms1mx2.5/36, Error ellipse: s-maj=38.6km s-min=19.3km az=63.0*

ISC 16 17:27:00.7±1.0, 13.°6N±0.°1×119.°89E±0.°07, h16km, n13, σ1$01/15, mb4.0/5, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**1.03**	**93**	⇓*i* P			**Sn**	**17 27 34.5**	**-0.2**
TGY	**Tagaytay City**	**1.15**	**62**	⇓*eP*			**Pg**	**17 27 23.1**	**+0.3**
TGY				*eS*			**Sg**	**17 27 37.3**	**-0.5**
TGY	**Tagaytay City**	**1.15**	**62**	P			**Pg**	**17 27 23.3**	**+0.5**
	921nm,0.3s,baz=248,slow=5.0,SNR=98								
TGY				S			**Sn**	**17 27 37.1**	**-0.4**
	1µm,0.3s,baz=233,slow=20,SNR=14								
LQP	**Lukban**	**1.69**	**71**	*eP*			**Pn**	**17 27 30.3**	**+0.5**
GQP	**Guinayangan**	**2.50**	**82**	*eP*			**Pn**	**17 27 42.3**	**+1.5**
GQP				*eS*			**Sn**	**17 28 09.9**	**-1.1**
CMAR	**Chiang Mai Arr**	**20.71**	**286**	P			Pn	17 31 47.0	+4.0
	1.5nm,0.7s,baz=96,slow=8.9,SNR=11								
KSRS	**Korea Array**	**24.85**	**15**	LR			LR	17 41 42.7	
	comp=Z,25nm,21.1s,baz=220,slow=36								
SONM	**Songino Array**	**35.97**	**344**	P			**P**	**17 34 01.1**	**+0.3**
	0.8nm,0.5s,baz=163,slow=9.4,SNR=9.0								
WRA	**Warramunga Arr**	**36.20**	**157**	P			**P**	**17 34 02.7**	**-0.2**
	1.8nm,0.5s,baz=335,slow=9.6,SNR=21								
MKAR	**Makanchi Array**	**45.68**	**324**	P			**P**	**17 35 22.8**	**+2.0**
	1.5nm,0.8s,baz=118,slow=8.8,SNR=11								
MKAR				PcP			**PcP**	**17 36 57.8**	**-0.9**
	1.1nm,0.8s,baz=125,slow=3.4,SNR=6.0								
ZALV	**Zalesovo Beam**	**48.82**	**333**	P			**P**	**17 35 44.5**	**-0.7**
	0.8nm,0.5s,baz=138,slow=7.1,SNR=5.1								
NB2	**NORSAR Subarra**	**87.02**	**333**	P			**P**	**17 39 44.0**	**-1.3**
	comp=Z,1.9nm,0.7s,baz=69,slow=4.6								
NOA	**NORSAR Array B**	**87.02**	**333**	P			**P**	**17 39 44.4**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=68,slow=4.7,SNR=9.4								

*ISCJB **16** 17:27:40.6±0.3,45.°47S±0.°04×166.°61E±0.°04, h10km, mb4.2/11, MS4.3/11, Error ellipse: s-maj=5.3km s-min=4.5km az=168.3*
*NEIC **16** 17:27:40.9, 45.°49S×166.°54E, h12km, mb4.7/1, After WEL.*
*IDC **16** 17:27:40.8±0.6, 45.°42S×166.°57E, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.2/15, mbtmp4.1/11, ML4.6/2, MS4.3/12, Ms1 4.3/12, ms1mx4.1/25, Error ellipse: s-maj=19.1km s-min=16.9km az=69.0*
*AUST **16** 17:27:41.5±2.8, 45.°50S×166.°66E, h0km, Error ellipse: s-maj=1.2km s-min=0.8km az=17.0*
*GCMT **16** 17:27:45.0±0.4, 45.°38S×166.°36E, h17km±2km, MW5.0, Moment Tensor Solution. s29,c33; s61,c89; Moment tensor: Scale 10^16 Nm; Mrr=0.29±.21; Mθθ=4.07±.18; Mφφ=-4.37±.18; Mrθ=0.79±.49; Mrφ=-0.45±.16; Mθφ=-1.80±.49; Best double couple: M=4.70000×10^16 NP1:φs=49.00000°, δ67.00000°, λ=-176.00000°. NP2:φs=318.00000°, δ87.00000°, λ=-23.00000°. Principal axes: T 4.3100, Plg14.0000°, Azm6.0000°; N 0.6700, Plg67.0000°, Azm130.0000°; P -4.9900, Plg19.0000°, Azm271.0000°; Data Used: IU II G IC CN.*

ISC 16 17:27:41.9±0.4, 45.°48S±0.°04×166.°76E±0.°04, h10km, n88, σ1$24/87, mb4.2/11, MS4.3/11, 1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.28**	**89**	⇓P*			**Pb**	**17 27 49.4**	**+0.4**
DCZ				S*			**Sb**	**17 27 55.3**	**+1.7**
PYZ	**Puysegur Point**	**0.69**	**185**	P*			**Pg**	**17 27 53.6**	**-1.5**
PYZ				S*			**Sg**	**17 28 02.9**	**-1.2**
PYZ				S*			**Sb**	**17 28 03.1**	**-2.4**
WHZ	**Wether Hill Ro**	**0.93**	**117**	P*			**Pg**	**17 28 00.2**	**+0.5**
MLZ	**Mavora Lakes**	**1.00**	**83**	P*			**Pg**	**17 28 01.0**	**-0.2**
MSZ	**Milford Sound**	**1.16**	**46**	Pn			**Pn**	**17 28 02.9**	**-1.0**
APZ	**The Paps**	**1.60**	**148**	Pn			**Pn**	**17 28 10.6**	**+0.4**
EAZ	**Earnscleugh**	**1.81**	**83**	Pn			**Pn**	**17 28 14.4**	**+1.3**
SYZ	**Scrubby Hill**	**1.96**	**123**	Pn			**Pn**	**17 28 16.9**	**+1.7**
JCZ	**Jackson Bay**	**2.00**	**46**	*e*Pn			**Pb**	**17 28 18.2**	**-0.2**
TUZ	**Tuapeka**	**2.07**	**104**	Pn			**Pb**	**17 28 18.7**	**-0.8**
LBZ	**Lake Benmore**	**2.67**	**67**	Pn			**Pn**	**17 28 25.0**	**+0.1**
ODZ	**Otahua Downs**	**2.78**	**82**	Pn			**Pn**	**17 28 26.4**	**0.0**
FOZ	**Fox Glacier**	**2.84**	**49**	*e*Pn			**Pn**	**17 28 28.9**	**+1.7**
RPZ	**Rata Peaks**	**3.54**	**62**	*e*Pn			**Pn**	**17 28 36.5**	**-0.4**
RPZ				Sn			**Sb**	**17 29 24.4**	**-3.1**
RPZ	**Rata Peaks**	**3.54**	**62**	Pn			**Pn**	**17 28 37.7**	**+0.9**
	193nm,0.3s,baz=223,slow=7.3,SNR=37								
RPZ				Sn			**Sb**	**17 29 24.4**	**-3.1**
	234nm,0.3s,baz=141,slow=23,SNR=9.7								
RPZ				LR			LR	17 29 27.3	
	comp=Z,651nm,21.1s,baz=16,slow=29								
WVZ	**Waitaha Valley**	**3.73**	**51**	*e*Pn			**Pn**	**17 28 40.1**	**+0.6**
LTZ	**Lake Taylor**	**4.79**	**58**	*e*Pn			**Pn**	**17 28 53.4**	**-0.8**
DSZ	**Dennistoun Nort**	**5.23**	**46**	*e*Pn			**Pn**	**17 29 01.1**	**+0.9**
THZ	**Tophouse**	**5.80**	**52**	*e*Pn			**Pn**	**17 29 09.4**	**+1.4**
QRZ	**Quartz Range**	**6.28**	**44**	*e*Pn			**Pn**	**17 29 14.3**	**-0.2**
URZ	**Urewera**	**10.56**	**51**	Pn			**Pn**	**17 30 12.5**	**-0.6**
URZ				Sn			**Sn**	**17 32 10.0**	**-1.5**
URZ	**Urewera**	**10.56**	**51**	Pn			**Pn**	**17 30 12.5**	**-0.6**
	1.3nm,0.3s,baz=240,slow=11,SNR=6.7								
URZ				Sn			**Sn**	**17 32 10.0**	**-1.5**
	7.9nm,0.3s,baz=117,slow=19,SNR=7.0								
MOO	**Moorlands

NOA	**NORSAR Array B**	**158.83**	**326**	PKPab	**PKPab**	**17 48 14.2**	**-0.6**
NOA	**NORSAR Array B**	**158.83**	**326**	PKPab	**PKPab**	**17 48 14.2**	**-0.6**
	0.6nm,0.8s,baz=279,slow=15,SNR=2.3						
KEST	**Kesra**	**160.34**	**248**	PKPab	**PKPab**	**17 48 23.6**	**+1.3**
KEST	**Kesra**	**160.34**	**248**	PKPab	**PKPab**	**17 48 23.6**	**+1.3**
	2.3nm,0.9s,baz=320,slow=6.0,SNR=5.4						
BRG	**Berggiesshubel**	**161.15**	**296**	*e*P	PKPab	17 48 32.2	+6.9
	4.5nm,1.0s						
GERES	**GERESS Array B**	**161.41**	**290**	PKPab	**PKPab**	**17 48 25.9**	**-0.7**
GERES	**GERESS Array B**	**161.41**	**290**	PKPab	**PKPab**	**17 48 25.9**	**-0.7**
	0.2nm,0.4s,baz=47,slow=5.8,SNR=3.3						
ESDC	**Sonseca Array**	**171.03**	**233**	PKPab	**PKPab**	**17 49 09.7**	**+0.5**
ESDC	**Sonseca Array**	**171.03**	**233**	PKPab	**PKPab**	**17 49 09.7**	**+0.5**
	0.2nm,0.3s,baz=111,slow=3.9,SNR=3.8						

CSEM ***16*** *17:31:07.3, 38.37N×21.71E, h18km, MD2.3, After ATH*
ATH 16 17:31:07.3, 38.37N×21.71E, h18km±4km, MD2.3/6, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EFP	**Efpalio**	**0.16**	**70**	*e*PB		Pg	17 31 12.0	+0.3
EFP				*e*SB		Sg	17 31 14.8	+0.1
EFP	**Efpalio**	**0.16**	**70**	*e*Pb		Pg	17 31 12.0	+0.3
EFP				*e*Sb		Sg	17 31 14.8	+0.1
LAKA	**Lakka**	**0.25**	**121**	*e*PB		Pg	17 31 12.7	-0.3
LAKA	**Lakka**	**0.25**	**121**	*e*Pb		Pg	17 31 12.7	-0.3
TRIZ	**Trizonia**	**0.28**	**91**	*e*PB		Pb	17 31 13.8	-0.1
TRIZ				*e*SB		Sg	17 31 17.7	-0.2
TRIZ	**Trizonia**	**0.28**	**91**	*e*Pb		Pb	17 31 13.8	-0.1
TRIZ				*e*Sb		Sg	17 31 17.7	-0.2
KALE	**Kalithea**	**0.34**	**86**	*e*PB		Pg	17 31 14.7	+0.1
KALE				*e*SB		Sb	17 31 20.2	+0.1
KALE	**Kalithea**	**0.34**	**86**	*e*Pb		Pg	17 31 14.7	+0.1
KALE				*e*Sb		Sb	17 31 20.2	+0.1
KLV	**Kalavryta, Ach**	**0.48**	**133**	*e*PB		Pg	17 31 16.9	-0.1
KLV				*e*SB		Sb	17 31 24.2	+0.2
KLV	**Kalavryta, Ach**	**0.48**	**133**	*e*Pb		Pg	17 31 16.9	-0.1
KLV				*e*Sb		Sb	17 31 24.2	+0.2
GUR	**Goura**	**0.66**	**131**	*e*PN		Pb	17 31 20.3	-0.1
GUR				*e*SN		Sb	17 31 29.1	-0.3
GUR	**Goura**	**0.66**	**131**	*e*Pn		Pb	17 31 20.3	-0.1
GUR				*e*Sn		Sb	17 31 29.1	-0.3

CSEM ***16*** *17:31:26.0, 36.75N×22.90E, h11km, MD2.2, After ATH*
ATH 16 17:31:26.0, 36.75N×22.90E, h11km±1km, MD2.2/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VLI	**Veliai**	**0.04**	**137**	*e*PG		Pg	17 31 28.0	-0.1
VLI				*e*SG		Sg	17 31 29.9	+0.3
VLI	**Veliai**	**0.04**	**137**	*e*Pg		Pg	17 31 28.0	-0.1
VLI				*e*Sg		Sg	17 31 29.9	+0.3
DYR	**Agios Nikonas**	**0.46**	**272**	*e*PN		Pg	17 31 35.1	+0.1
DYR	**Agios Nikonas**	**0.46**	**272**	*e*PB		Pg	17 31 35.1	+0.1
DYR	**Agios Nikonas**	**0.46**	**272**	*e*Pn		Pg	17 31 35.1	+0.1
DYR	**Agios Nikonas**	**0.46**	**272**	*e*Pb		Pg	17 31 35.1	+0.1
KYTH	**Kithira**	**0.48**	**167**	*e*PB		Pg	17 31 35.4	-0.1
KYTH	**Kithira**	**0.48**	**167**	*e*Pb		Pg	17 31 35.4	-0.1
VLX	**Vlachokerasia**	**0.75**	**326**	*e*PG		Pg	17 31 40.2	-0.4
VLX	**Vlachokerasia**	**0.75**	**326**	*e*Pg		Pg	17 31 40.2	-0.4
DID	**Didima**	**0.80**	**20**	*e*PB		Pg	17 31 41.4	-0.2
DID	**Didima**	**0.80**	**20**	*e*Pb		Pg	17 31 41.4	-0.2

IDC 16 17:52:27.3±1.2, 1.45S×27.76E, h0km, mb4.0/5, mb1 4.0/6, mb1mx3.6/24, mbtmp4.0/6, ML3.1/1, Error ellipse: s-maj=30.2km s-min=22.0km az=72.0, Zaire

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MANYT	**Many**	**7.82**	**121**	*i* S		Sg	17 56 36.3	-2.5
MANYT				AMP			17 56 54.5	
	comp=Z,2μm,1.2s							
KMBO	**Kilima Mbogo**	**9.50**	**88**	Pn		Pn	17 54 46.1	+0.3
	comp=Z,0.2nm,0.3s,baz=225,slow=21,SNR=4.1							
KMBO				Lg		Lg	17 57 15.1	
	comp=Z,0.3nm,0.3s,baz=200,slow=20,SNR=5.3							
LSZ	**Lusaka**	**13.74**	**178**	Lg		Lg	17 59 36.9	
	comp=Z,0.3nm,0.3s,baz=67,slow=10,SNR=3.5							
LBTB	**Lobatse**	**23.52**	**185**	P		P	17 57 38.8	-0.5
	comp=Z,1.4nm,0.7s,baz=20,slow=14,SNR=2.5							
BOSA	**Boshof**	**27.11**	**185**	P		P	17 58 12.6	+0.3
	comp=Z,4.2nm,0.8s,baz=346,slow=13,SNR=2.0							
TORD	**Torodi Ar. Bea**	**29.64**	**300**	P		P	17 58 34.9	+0.1
	comp=Z,2.5nm,0.7s,baz=108,slow=8.5,SNR=16							
DBIC	**Dimbokro**	**33.53**	**284**	P		P	17 59 09.2	0.0
	comp=Z,3.8nm,1.0s,baz=102,slow=9.3,SNR=3.2							
BRTR	**Keskin Array B**	**41.33**	**7**	P		P	18 00 14.8	-0.3
	comp=Z,1.1nm,0.7s,baz=185,slow=9.6,SNR=5.6							

IDC 16 17:56:25.7±0.7, 41.68S×42.67E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.9/23, mbtmp4.0/11, ML3.6/2, MS4.2/7, Ms1 4.2/7, ms1mx3.9/35, Error ellipse: s-maj=28.2km s-min=16.9km az=71.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BOSA	**Boshof**	**19.26**	**307**	P		Pn	18 00 53.0	+0.3
	0.2nm,0.3s,baz=120,slow=14,SNR=4.2							
BOSA				LR		LR	18 06 46.4	
	comp=Z,682nm,19.0s,baz=140,slow=32							
SUR	**Sutherland**	**19.72**	**291**	P		P	18 00 56.6	-0.4
	0.1nm,0.3s,baz=78,slow=14,SNR=3.2							
SUR				LR		LR	18 06 56.7	
	comp=Z,346nm,19.7s,baz=66,slow=32							
LBTB	**Lobatse**	**21.83**	**314**	P		P	18 01 18.9	-0.9
	4.0nm,0.9s,baz=162,slow=11,SNR=4.4							
LBTB				LR		LR	18 08 27.3	
	comp=Z,341nm,19.1s,baz=148,slow=33							
OPO	**Ambohidratompo**	**23.35**	**11**	LR		LR	18 09 38.5	
	comp=Z,1μm,19.1s,baz=180,slow=34							
MAW	**Mawson**	**28.20**	**164**	P		P	18 02 20.3	+0.7
	1.2nm,0.7s,baz=315,slow=4.3,SNR=3.9							
MAW				LR		LR	18 10 39.7	
	comp=Z,213nm,18.6s,baz=333,slow=30							
SNAA	**Sanae**	**37.39**	**202**	P		P	18 03 39.0	-0.8
	2.0nm,1.1s,baz=73,slow=5.4,SNR=8.1							
KMBO	**Kilima Mbogo**	**40.66**	**352**	LR		LR	18 19 25.1	
	comp=Z,334nm,18.3s,baz=110,slow=34							
QSPA	**South Pole Qui**	**48.53**	**180**	P		P	18 05 10.2	-0.1
	11nm,1.1s,baz=253,slow=6.8,SNR=13							
VNDA	**Vanda**	**55.45**	**167**	P		P	18 06 00.8	-0.6
	1.6nm,1.0s,baz=258,slow=6.3,SNR=6.8							
TORD	**Torodi Ar. Bea**	**66.34**	**316**	P		P	18 07 15.9	-0.3
	0.9nm,0.8s,baz=136,slow=6.4,SNR=3.6							
STKA	**Stephens Creek**	**75.57**	**120**	LR		LR	18 35 15.5	
	comp=Z,447nm,19.2s,baz=101,slow=31							
CMAR	**Chiang Mai Arr**	**79.26**	**53**	P		P	18 08 33.1	+0.1
	0.5nm,0.7s,baz=212,slow=27,SNR=2.9							
BRTR	**Keskin Array B**	**81.44**	**353**	P		P	18 08 45.0	+0.6
	0.6nm,0.8s,baz=153,slow=9.7,SNR=3.1							
MKAR	**Makanchi Array**	**94.87**	**26**	P		P	18 09 47.8	-1.3
	0.3nm,0.8s,baz=226,slow=5.8,SNR=2.5							
TXAR	**Lajitas Array**	**150.14**	**256**	PKPbc		PKPbc	18 16 19.5	+0.9
	1.5nm,0.9s,baz=90,slow=6.3,SNR=8.6							

IDC ***16*** *17:59:34.3±0.4, 17.37S×167.92E, h0km, mb4.8/28, mb1 4.9/30, mb1mx4.8/33, mbtmp4.8/30, ML5.1/2, MS5.3/26, Ms1 5.3/26, ms1mx5.2/37, Error ellipse: s-maj=15.7km s-min=11.5km az=87.0*

BJI ***16*** *17:59:34.6, 17.19S×167.78E, h4km, mB5.7/49, mb5.1/50, Ms5.4/51, Ms7 5.2/50*

IGIL ***16*** *17:59:35.5, 17.61S×167.68E, h10km, MS5.6*

NOU ***16*** *17:59:36.9±1.8, 17.13S×167.55E, h30km, MD3.8, ML3.7, MS3.1*

NEIC ***16*** *17:59:36.1±0.2, 17.53S×167.72E, h10km, mb5.4/33, MS5.4/150, MW5.8, Error ellipse: s-maj=6.3km s-min=5.7km az=113.0, Moment Tensor Solution. s33 Moment tensor: Scale 10^17 Nm; Mrr 5.78; Mθθ -0.08; Mφφ -5.70; Mrθ 1.01; Mθφ -0.30; Mφr -2.12; Best double couple: M=6.20000×10^17 NP1:φ±s 13.00000°, δ 36.00000°, λ 106.00000°. NP2:φs 173.00000°, δ 56.00000°, λ 79.00000°. Principal axes: T 6.3300, Plg 76.0000°, Azm 47.0000°; N -0.2500, Plg 9.0000°, Azm 179.0000°; P -6.0800, Plg 10.0000°, Azm 271.0000°;*

NEIC Felt [II] at Port-Vila.

BKK ***16*** *17:59:37.7±0.6, 18.3S×170.16E±1.0, h10km, M5.3/16, mB5.8/6, mb5.3/16, Mw(mB)5.3/6*

MOS ***16*** *17:59:38.4±1.4, 17.41S×167.72E, h33km, mb5.5/28, MS5.3/31, Error ellipse: s-maj=9.4km s-min=7.4km az=39.4*

ISCJB ***16*** *17:59:38.0±1.3, 17.51S±0.02×167.77E±0.04, h33km±8km, mb5.2/79, MS5.4/205, Error ellipse: s-maj=6.4km s-min=4.0km az=3.5*

AUST ***16*** *17:59:42.0, 17.49S×167.91E, h35km*

GCMT ***16*** *17:59:43.2±0.1, 17.38S×167.68E, h22km, MW5.8, Moment Tensor Solution. s106,c225; s50,c61; Moment tensor: Scale 10^17 Nm; Mrr 4.67±.05; Mθθ 0.26±.05; Mφφ -4.92±.05; Mrθ 1.16±.09; Mθφ 0.98±.04; Mφr -2.63±.09; Best double couple: M=6.70000×10^17 NP1:φs 358.00000°, δ 31.00000°, λ 103.00000°. NP2:φs 162.00000°, δ 60.00000°, λ 82.00000°. Principal axes: T 5.5000, Plg 74.0000°, Azm 53.0000°; N 0.3600, Plg 7.0000°, Azm 166.0000°; P -5.8500, Plg 15.0000°, Azm 258.0000°; Data Used: II IU CN IC G. Surface waves: sta=111, comp=230, per= 50.*

DJA ***16*** *17:59:58.9±1.6, 18.5S×170.16E, h183km±15km, MS1.1/23, mB5.6/15, mb5.0/23, Mw(mB)5.1/15*

ISC 16 17:59:37.4±0.4, 17.45S±0.04×167.87E±0.05, h20km±1km, h20km:pP-P, n542, σ1s 81/430, mb5.3/76, MS5.4/206, 11C-7D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BAYA	**Yate Dam**	**4.77**	**191**	*e*P		**Pn**	**18 00 49.5**	**+1.3**
BAYA				*e*S		**Sn**	**18 01 43.4**	**+0.6**
BAYA				AMP			18 01 51.9	
	comp=Z,37nm,3.6s							
DZM	**Mont Dzumac**	**4.79**	**196**	*e*Pn		**Pn**	**18 00 48.1**	**-0.4**
	comp=Z,166nm,0.3s							
DZM				*e*Sn		Sn	18 01 34.7	-8.8
	comp=Z,543nm,0.3s							
DZM	**Mont Dzumac**	**4.79**	**196**	*e*P		**Pn**	**18 00 49.0**	**+0.5**
DZM				*e*S		**Sn**	**18 01 43.3**	**-0.2**
DZM				AMP			18 01 49.2	
	comp=Z,6μm,5.7s							
DZM	**Mont Dzumac**	**4.79**	**196**	Pn		**Pn**	**18 00 49.1**	**+0.5**
DZM				Sn		**Sn**	**18 01 41.4**	**-2.1**
DZM	**Mont Dzumac**	**4.79**	**196**	Pn		**Pn**	**18 00 49.1**	**+0.5**
	comp=Z,32nm,0.3s,baz=270,slow=24,SNR=95							
DZM				Sn		**Sn**	**18 01 41.4**	**-2.1**
	comp=Z,44nm,0.3s,baz=100,slow=22,SNR=5.1							
DZM				LR		LR	18 02 33.1	
	comp=Z,45μm,18.9s,baz=11,slow=37							
NOUC	**Port Laguerre**	**4.85**	**197**	*e*P		**Pn**	**18 00 50.3**	**+1.0**
NOUC				*e*S		**Sn**	**18 01 44.3**	**-0.7**
NOUC				AMP			18 01 51.4	
	comp=Z,219nm,3.2s							
LASL	**Noumea**	**4.92**	**195**	*e*P		**Pn**	**18 00 49.4**	**-0.8**
LASL				*e*S		**Sn**	**18 01 45.3**	**-1.2**
LASL				AMP			18 01 50.7	
	comp=Z,946nm,3.1s							
NORM	**Noumea**	**4.93**	**195**	*e*P		**Pn**	**18 00 51.2**	**+0.9**
NORM				*e*S		**Sn**	**18 01 45.8**	**-1.0**
NORM				AMP			18 02 03.3	
	comp=Z,436nm,0.9s							
PLUM	**Mont Dore**	**4.93**	**193**	*e*P		**Pn**	**18 00 51.5**	**+1.1**
PLUM				*e*S		**Sn**	**18 01 47.0**	**0.0**
PLUM				AMP			18 01 49.3	
	comp=Z,567nm,13.1s							
MVNO	**Noumea**	**4.98**	**195**	*e*P		**Pn**	**18 00 52.4**	**+1.4**
MVNO				*e*S		**Sn**	**18 01 45.4**	**-2.6**
MSVF	**Nonsavu**	**9.71**	**93**	*e*P		Pn	18 02 02.2	+6.0
MSVF	**Nonsavu**	**9.71**	**93**	*e*Pn		Pn	18 02 02.2	+6.0
HNR	**Honiara**	**11.08**	**315**	*e*Pn		**Pn**	**18 02 15.1**	**+0.2**
HNR				Sn		**Sn**	**18 04 16.0**	**-2.3**
HNR	**Honiara**	**11.08**	**315**	Pn		**Pn**	**18 02 15.5**	**+0.6**
	comp=Z,38nm,0.3s,baz=182,slow=4.1,SNR=22							
HNR				Sn		**Sn**	**18 04 16.0**	**-2.3**
	comp=Z,11nm,0.3s,baz=322,slow=19,SNR=4.3							
HNR				LR		LR	18 06 09.2	
	comp=Z,17μm,18.8s,baz=137,slow=36							
NFK	**Norfolk Island**	**11.54**	**180**	P		Pn	18 02 28.6	+7.5
	baz=12,SNR=5.9							
FUNA	**Funafuti**	**14.15**	**53**	*e*Pn		**P**	**18 03 01.7**	**-2.6**
EIDS	**Eidsvold**	**17.49**	**240**	*e*Pn		**Pn**	**18 03 37.4**	**-2.9**
	comp=Z,160nm,1.4s							
EIDS	**Eidsvold**	**17.49**	**240**	P		**P**	**18 03 42.9**	**+1.6**
	baz=18,SNR=11							
RAO	**Raoul Island**	**17.54**	**135**	*e*Pn		**Pn**	**18 03 40.5**	**-0.2**
RAO	**Raoul Island**	**17.54**	**135**	LR		LR	18 08 59.6	
	comp=Z,7μm,21.1s,baz=303,slow=32							
OUZ	**Omahuta**	**18.42**	**165**	*e*Pn		**P**	**18 03 50.2**	**-1.2**
	comp=Z,268nm,1.9s							
TARA	**Tarawa**	**19.34**	**15**	*e*Pn		**Pn**	**18 04 04.8**	**+1.9**
	comp=Z,328nm,1.3s							
ARMA	**Armidale**	**19.64**	**226**	*e*Pn		**P**	**18 04 02.8**	**-2.2**
	comp=Z,216nm,1.7s							
ARMA	**Armidale**	**19.64**	**226**	P		**Pn**	**18 04 08.8**	**+2.4**
	baz=20,SNR=4.8							
RMQ	**Roma**	**19.85**	**240**	P		**Pn**	**18 04 10.7**	**+1.7**
	baz=20,SNR=47							
AFI	**Afiamalu**	**19.91**	**83**	*e*P		**Pn**	**18 04 10.3**	**+0.6**
	comp=Z,391nm,1.5s							
AFI	**Afiamalu**	**19.91**	**83**	LR		LR	18 09 58.5	
	comp=Z,11μm,21.3s,baz=267,slow=31							
CTA	**Charters Tower**	**20.63**	**259**	P		**P**	**18 04 16.8**	**+1.0**
CTA	**Charters Tower**	**20.63**	**259**	P		**P**	**18 04 16.8**	**+1.0**
	comp=Z,92nm,1.1s,baz=79,slow=14,SNR=25							
CTA				LR		LR	18 11 37.0	
	comp=Z,13μm,18.3s,baz=42,slow=35							
CTAO	**Charters Tower**	**20.63**	**259**	*e*P		**P**	**18 04 14.2**	**-1.6**
CTAO				pmax		pmax		
	comp=Z,150nm,1.2s							
CTAO				MLR		MLR		
	comp=Z,14μm,19.0s							
CTAO	**Charters Tower**	**20.63**	**259**	*e*P		**P**	**18 04 14.2**	**-1.6**
	comp=Z,150nm,1.2s							
CTAO				LR		LR		
	comp=Z,14μm,19.0s							
PMG	**Port Moresby**	**21.66**	**289**	*e*P		**P**	**18 04 25.7**	**-1.1**
	comp=Z,478nm,2.0s							
PMG	**Port Moresby**	**21.66**	**289**	P		P	18 04 34.3	+7.5
	comp=Z,108nm,2.2s,comp=Z,4μm							
PMG	**Port Moresby**	**21.66**	**289**	P		**P**	**18 04 27.6**	**+0.8**
	comp=Z,14nm,1.0s,baz=176,slow=12,SNR=2.6							
PMG				LR		LR	18 11 37.1	
	comp=Z,10μm,18.6s,baz=104,slow=33							
URZ	**Urewera**	**22.26**	**161**	*e*P		**P**	**18 04 32.0**	**-1.1**
URZ	**Urewera**	**22.26**	**161**	P		**P**	**18 04 35.2**	**+2.1**
	comp=Z,22nm,0.4s,baz=19,slow=3.5,SNR=23							
URZ				LR		LR	18 12 03.0	
	comp=Z,13μm,18.9s,baz=355,slow=34							
MTSU	**Mount Surprise**	**22.43**	**265**	P		**P**	**18 04 36.7**	**+1.5**
	baz=22,SNR=14							
COEN	**Coen**	**24.02**	**275**	*e*P		**P**	**18 04 49.2**	**-2.0**
	comp=Z,2μm,1.8s							
COEN	**Coen**	**24.02**	**275**	P		**P**	**18 04 54.2**	**+3.0**
	baz=24,SNR=8.8							
YNG	**Young**	**24.18**	**222**	P		**P**	**18 04 55.1**	**+2.5**
	baz=24,SNR=10.0							
CNB	**Canberra Magne**	**24.24**	**219**	P		**P**	**18 04 55.3**	**+2.1**
	baz=24,SNR=11							
CAN	**Canberra**	**24.47**	**220**	*e*P		**P**	**18 04 54.9**	**-0.3**
CAN				pmax		pmax		
	comp=Z,41nm,0.9s							
CAN				MLR		MLR		
	comp=Z,11μm,19.0s							
CAN	**Canberra**	**24.47**	**220**	*e*P		**P**	**18 04 54.9**	**-0.3**
	comp=Z,41nm,0.9s							
CAN				LR		LR		
	comp=Z,11μm,19.0s							
SNZO	**South Karori**	**24.49**	**168**	*e*P		**P**	**18 04 53.8**	**-1.5**
	comp=Z,70nm,1.0s							
SNZO				LR		LR		
	comp=Z,8μm,19.0s							
CMSA	**Cobar Meteorol**	**24.51**	**231**	P		**P**	**18 04 56.9**	**+1.3**
	baz=24,SNR=34							
RPZ	**Rata Peaks**	**26.32**	**175**	P		**P**	**18 05 13.3**	**+1.5**
RPZ	**Rata Peaks**	**26.32**	**175**	P		**P**	**18 05 13.3**	**+1.5**
	comp=Z,8.5nm,0.6s,baz=12,slow=20,SNR=3.8							
RPZ				LR		LR	18 13 27.2	
	comp=Z,4μm,21.7s,baz=232,slow=32							
STKA	**Stephens Creek**	**27.77**	**234**	*e*P		**P**	**18 05 23.5**	**-1.5**
	comp=Z,13nm,0.8s							
STKA	**Stephens Creek**	**27.77**	**234**	P		**P**	**18 05 26.6**	**+1.6**
	comp=Z,17nm,0.7s,baz=60,slow=7.2,SNR=38							
STKA				LR		LR	18 16 22.2	
	comp=Z,11μm,18.3s,baz=62,slow=36							

STKA	**Stephens Creek**	**27.77**	**234**	P		**P**	**18 05 26.1**	**+1.1**
	baz=28,SNR=14							
ARPS	**Mount Arapiles**	**29.96**	**225**	P		**P**	**18 05 46.4**	**+2.0**
	baz=30,SNR=6.7							
TAU	**Tasmania Unive**	**30.81**	**210**	PFAKE			18 06 00.0	+8.2
TAU				LR		LR		
	comp=Z,7μm,19.0s							
WRAB	**Tennant Creek**	**31.82**	**260**	*e*P		**P**	**18 06 00.2**	**-0.9**
WRAB				pmax		pmax		
	comp=Z,18nm,0.8s							
WRAB				MLR		MLR		
	comp=Z,6μm,19.0s							
WRAB	**Tennant Creek**	**31.82**	**260**	*e*P		**P**	**18 06 00.2**	**-0.9**
	comp=Z,18nm,0.8s							
WRAB				LR		LR		
	comp=Z,6μm,19.0s							
WRA	**Warramunga Arr**	**31.83**	**260**	P		**P**	**18 06 00.2**	**-0.9**
WRA	**Warramunga Arr**	**31.83**	**260**	P		**P**	**18 06 00.2**	**-0.9**
	comp=Z,4.6nm,0.7s,baz=89,slow=9.3,SNR=22							
WRA				LR		LR	18 18 26.8	
	comp=Z,6μm,18.4s,baz=90,slow=36							
AS31	**Alice Springs**	**32.34**	**253**	*e*P		**P**	**18 06 05.1**	**-0.5**
ASAR	**Alice Springs**	**32.34**	**253**	P		**P**	**18 06 05.1**	**-0.6**
ASAR				ScP		**ScP**	**18 12 37.8**	**+1.6**
ASAR				PKiKP		**PKiKP**	**18 16 19.6**	**-1.6**
ASAR	**Alice Springs**	**32.34**	**253**	P		**P**	**18 06 05.1**	**-0.6**
	comp=Z,18nm,0.8s,baz=79,slow=8.2,SNR=74							
ASAR				ScP		**ScP**	**18 12 37.8**	**+1.6**
	comp=Z,2.5nm,1.1s,baz=89,slow=4.3,SNR=6.1							
ASAR				PKiKP		**PKiKP**	**18 16 19.6**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=91,slow=1.4,SNR=4.3							
ASAR				LR		LR	18 18 58.5	
	comp=Z,14μm,18.0s,baz=77,slow=36							
BBOO	**Buckleboo**	**32.45**	**236**	*e*P		**P**	**18 06 04.5**	**-2.0**
	comp=Z,1μm,0.8s							
BBOO	**Buckleboo**	**32.45**	**236**	P		**P**	**18 06 07.7**	**+1.2**
	baz=32,SNR=13							
KDU	**Kakadu**	**34.47**	**273**	P		P	18 06 33.7	+10
	baz=34,SNR=4.6							
BAKI	**Biak**	**35.16**	**294**	P		P	18 06 40.4	+10
MTN	**Manton Dam**	**35.72**	**272**	P		P	18 06 47.7	+13
	baz=36,SNR=4.7							
WAKE	**Wake Island**	**36.52**	**358**	PFAKE			18 06 50.0	+8.3
WAKE				LR		LR		
	comp=Z,4μm,20.0s							
RKPI	**Ransiki, Papua**	**36.70**	**292**	P		**P**	**18 06 46.0**	**+2.6**
	comp=Z,103nm,1.1s,comp=Z,2μm							
KNRA	**Kununurra**	**37.48**	**267**	P		**P**	**18 06 49.6**	**-0.5**
	baz=38,SNR=19							
FAKI	**Fak Fak**	**37.81**	**288**	P		P	18 07 01.9	+9.1
	baz=38,SNR=3.4							
GUMO	**Guam**	**38.30**	**322**	PFAKE			18 07 10.0	+13
GUMO				LR		LR		
	comp=Z,4μm,22.0s							
XMAS	**Kiritimati**	**39.30**	**64**	PFAKE			18 07 20.0	+15
XMAS				LR		LR		
	comp=Z,8μm,19.0s							
SWI	**Sorong**	**39.59**	**291**	P		P	**18 07 07.5**	**-0.3**
	comp=Z,64nm,0.7s,comp=Z,915nm							
SWI	**Sorong**	**39.59**	**291**	P		**P**	**18 07 09.0**	**+1.2**
	baz=40,SNR=5.3							
TBI	**Tubuai**	**40.31**	**106**	*e*S		**S**	**18 13 20.8**	**+0.2**
	comp=Z,3μm,28.5s							
TBI				*e*LQ		LQ	18 16 41.4	
	comp=Z,10μm,28.0s							
TBI				*e*LR		LR	18 18 12.7	
	comp=Z,5μm,25.8s,baz=278							
PPT2	**Papeete2**	**40.52**	**97**	*e*S		**S**	**18 13 22.8**	**-1.1**
	comp=Z,3μm,26.0s							
PPT2				*e*LQ		LQ	18 16 38.1	
	comp=Z,7μm,28.0s							
PPT2				*e*LR		LR	18 18 20.1	
	comp=Z,8μm,24.8s,baz=258							
PPT	**Papeete**	**40.52**	**97**	LR		LR	18 20 15.2	
	comp=Z,4μm,21.5s,baz=259,slow=31							
MBWA	**Marble Bar**	**45.45**	**257**	*e*P		**P**	**18 07 54.1**	**-1.3**
	comp=Z,110nm,1.0s							
MBWA				LR		LR		
	comp=Z,5μm,19.0s							
MEEK	**Meekatharra**	**46.33**	**250**	P		**P**	**18 08 02.6**	**+0.3**
	baz=46,SNR=23							
MIDW	**Midway**	**47.59**	**18**	PFAKE			18 08 20.0	+8.1
MIDW				LR		LR		
	comp=Z,2μm,19.0s							
NWAO	**Narrogin (SRO)**	**47.90**	**241**	P		**P**	**18 08 15.7**	**+1.3**
NWAO	**Narrogin (SRO)**	**47.90**	**241**	P		**P**	**18 08 15.7**	**+1.3**
	comp=Z,11nm,0.6s,baz=86,slow=6.5,SNR=9.4							
NWAO				LR		LR	18 27 12.2	
	comp=Z,5μm,21.3s,baz=93,slow=35							
DAV	**Davao City (W)**	**48.37**	**297**	PFAKE			18 08 30.0	+12
DAV				LR		LR		
	comp=Z,2μm,19.0s							
KAPI	**Kappang**	**48.64**	**279**	P		**P**	**18 08 20.1**	**-0.3**
KAPI	**Kappang**	**48.64**	**279**	P		**P**	**18 08 20.1**	**-

comp=Z,57nm,1.6s
JNU Nakatsue 61.46 325 *e*P **P 18 09 53.2 +0.4**
comp=Z,45nm,1.5s
JNU Nakatsue 61.46 325 P **P 18 09 51.7 -1.0**
comp=Z,33nm,1.2s,baz=201,slow=3.3,SNR=6.9
YHNB Yeheng 61.70 311 *e*P **P 18 09 55.1 +0.5**
YHNB comp=Z,39nm,0.8s LR LR
comp=Z,36µm,20.0s
TATO Taipei 61.80 312 PFAKE 18 10 10.0 +15
TATO LR LR
comp=Z,2µm,21.0s
ERM Erimo 63.42 340 PFAKE 18 10 20.0 +14
ERM LR LR
comp=Z,2µm,20.0s
QZH Quanzhou 63.88 310 P **P 18 10 09.5 +0.6**
QZH S **S 18 18 44.4 +0.8**
QZH pmax pmax
comp=Z,840nm,10.1s
QZH LR LR
comp=N,2µm,20.7s
QZH LR LR
comp=E,3µm,22.4s
QZH LR LR
comp=Z,2µm,17.0s
YUK Yuzh-Kuril'sk 64.42 343*d i*P **P 18 10 10.3 -1.8**
YUK *i* PPP PPP 18 14 03.8
YUK *i* S **S 18 18 47.7 -1.9**
YUK *i* SSS SSS 18 25 44.5
YUK MLR MLR
comp=E,2µm,19.0s
YUK MLR MLR
comp=Z,2µm,19.0s
ASAJ Asahikawa 65.48 340 *e*P **P 18 10 19.8 +0.7**
comp=Z,135nm,2.3s
ASAJ Asahikawa 65.48 340 P **P 18 10 19.6 +0.5**
comp=Z,11nm,0.7s,baz=58,slow=2.2,SNR=7.0
ASAJ LR LR 18 35 57.9
comp=Z,3µm,20.1s,baz=200,slow=33
SSE Sheshan 65.88 317 *e*P **P 18 10 22.6 +0.7**
SSE S **S 18 19 07.3 -0.9**
SSE sS sS 18 19 12.5 -6.3
SSE ScS **SKSac 18 20 16.0 -0.9**
SSE pmax pmax
comp=Z,15nm,1.0s
SSE pmax pmax
comp=Z,250nm,6.1s
SSE LR LR
comp=N,830nm,20.1s
SSE LR LR
comp=E,170nm,20.1s
SSE LR LR
comp=Z,850nm,18.2s
KSRS Korea Array 66.30 326 P **P 18 10 24.6 +0.2**
comp=Z,1.5nm,0.7s,baz=155,slow=6.4,SNR=8.0
KSAR Wonju Array Be 66.32 326 P **P 18 10 24.6 +0.1**
INCN Inchon 67.02 325 PFAKE 18 10 40.0 +11
INCN LR LR
comp=Z,1µm,19.0s
QIZ Qiongzhong 67.57 300 P **P 18 10 32.9 0.0**
QIZ PP **PP 18 12 59.3 -2.9**
QIZ S **S 18 19 30.1 +1.1**
QIZ SS **SS 18 23 49.9 -0.3**
QIZ pmax pmax
comp=Z,730nm,14.7s
QIZ LR LR
comp=N,780nm,19.9s
QIZ LR LR
comp=Z,1µm,24.1s
QIZ Qiongzhong 67.57 300 PFAKE 18 10 40.0 +7.1
QIZ LR LR
comp=Z,1µm,21.0s
YSS Yuzh-Sakhalins 67.98 342 *e*P **P 18 10 32.6 -2.3**
YSS *e* 18 10 45.0
YSS S **S 18 19 32.0 -0.8**
NJ2 Nanjing 68.03 316 *e*P **P 18 10 37.1 +1.6**
NJ2 pP **pP 18 10 40.0 -2.0**
NJ2 sP **sP 18 10 42.3 -2.1**
NJ2 S **S 18 19 34.8 +0.8**
NJ2 sS **sS 18 19 43.5 -1.2**
NJ2 pmax pmax
comp=Z,20nm,0.9s
NJ2 pmax pmax
comp=Z,690nm,7.7s
NJ2 LR LR
comp=N,970nm,24.6s
NJ2 LR LR
comp=E,1µm,23.4s
NJ2 LR LR
comp=Z,1µm,27.5s
MIR Mirnyy 68.10 205 *e*P P 18 10 48.0 +13
MIR pmax pmax
comp=Z,63nm,1.0s
COCO West Island 68.54 263 PFAKE 18 10 50.0 +11
COCO LR LR
comp=Z,4µm,19.0s
SKR Severo-Kuril's 68.62 352 *e*P P 18 10 33.0 -5.8
SKR *e*PS **PnS 18 20 00.0 -5.9**
SKR *e* 18 20 11.0
SKR pmax pmax
comp=Z,900nm,8.0s
SKR pmax pmax
comp=Z,700nm,10.0s
SKR MLR MLR
comp=N,1µm,18.0s
SKR MLR MLR
comp=E,1µm,18.0s
SKR MLR MLR
comp=Z,1µm,18.0s
IPM Ipoh 69.44 282 *e*P **P 18 10 43.4 -1.4**
comp=Z,51nm,1.3s
IPM Ipoh 69.44 282 P P 18 10 57.8 +13
USRK Ussuriysk Arra 69.56 333 P **P 18 10 44.1 -0.7**
comp=Z,13nm,1.1s,baz=140,slow=3.3,SNR=9.9
KULM Kulim 70.08 282 *e*P **P 18 10 47.5 -1.2**
KULM comp=Z,38nm,1.1s LR LR
comp=Z,1µm,21.0s
KULM Kulim 70.08 282 P P 18 11 01.7 +13
WHN Wuhan 70.19 312 ⇑P **P 18 10 49.9 +0.9**
WHN S **S 18 19 59.5 -0.2**
WHN ScS **ScS 18 20 51.9 +1.1**
WHN pmax pmax
comp=Z,33nm,0.7s
WHN pmax pmax
comp=Z,430nm,4.6s
WHN LR LR
comp=Z,2µm,20.8s
PET Petropavlovsk 70.63 354 *e*P **P 18 10 51.3 +0.1**
PET *e*S **S 18 20 03.8 -0.1**
PET *e*SS **SS 18 24 42.8 +6.5**
PET pmax pmax
comp=Z,500nm,11.6s
PET pmax pmax
comp=Z,500nm,8.4s
SKLT Songkhla 70.77 284 P P 18 11 06.4 +13
SKLT Songkhla 70.77 284 P P 18 11 06.4 +13
PEA0B Petropavlovsk- 70.81 354 *e*P **P 18 10 53.2 +0.9**
PETK Petropavlovsk- 70.81 354 P **P 18 10 53.6 +1.2**
PETK Petropavlovsk- 70.81 354 P **P 18 10 53.6 +1.2**
PETK Petropavlovsk- 70.81 354 P **P 18 10 53.6 +1.2**
comp=Z,5.5nm,0.6s,baz=147,slow=8.5,SNR=11
PETK LR LR 18 36 00.6
comp=Z,797nm,21.6s,baz=73,slow=31
PSI Prapat 70.85 279 P **P 18 10 53.3 -0.2**
PSI Prapat 70.85 279 P **P 18 10 53.3 -0.2**
comp=Z,13nm,0.9s,baz=165,slow=7.8,SNR=6.3
PSI LR LR 18 45 11.3
comp=Z,2µm,18.5s,baz=126,slow=39
PSI Prapat 70.85 279 P **P 18 10 54.1 +0.5**
baz=71,SNR=4.9
MDJ Mudanjiang 70.94 332 P **P 18 10 54.3 +1.0**
MDJ sP **sP 18 11 07.1 +4.9**
MDJ S **S 18 20 09.8 +1.9**
MDJ pmax pmax
comp=Z,21nm,1.6s
MDJ pmax pmax
comp=Z,630nm,8.2s
MDJ LR LR
comp=N,870nm,28.0s
MDJ LR LR
comp=E,950nm,31.7s
MDJ LR LR
comp=Z,460nm,28.0s
MDJ Mudanjiang 70.94 332 *e*P **P 18 10 54.4 +1.1**
comp=Z,27nm,1.1s
MDJ LR LR
comp=Z,1µm,20.0s
SNY Shenyang 71.78 327 ⇑P **P 18 10 56.3 -2.1**
SNY S **S 18 20 19.1 +1.4**
SNY pmax pmax
comp=Z,550nm,5.9s
SNY LR LR
comp=N,630nm,20.0s
SNY LR LR
comp=E,990nm,17.8s
SNY LR LR
comp=Z,1µm,18.6s
HABR Khabarovsk 71.86 338 *e*P **P 18 11 00.3 +1.6**
HABR *e* 18 11 15.8
HABR *e* 18 13 35.7
HABR PPP PPP 18 15 19.7
HABR *e**SS **S 18 20 23.1 +4.8**
HABR *e* 18 21 02.2
HABR *e*SS **SS 18 24 53.8 -1.5**
HABR pmax pmax
comp=E,57nm,2.8s
HABR pmax pmax
comp=Z,39nm,1.2s
HABR pmax pmax
comp=N,42nm,2.2s
HABR MLR MLR
comp=Z,324nm,16.0s
CN2 Changchun 72.27 329 *e*P **P 18 11 01.8 +0.5**
CN2 *e*pP **pP 18 11 06.3 -1.5**
CN2 *e*sP **sP 18 11 10.8 +0.6**
CN2 *e*S **S 18 20 27.5 +4.3**
CN2 SS **SS 18 24 59.9 -1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,600nm,8.0s
CN2 LR LR
comp=N,900nm,19.0s
CN2 LR LR
comp=E,700nm,19.0s
CN2 LR LR
comp=Z,400nm,17.0s
QSPA South Pole Qui 72.59 180 P **P 18 11 03.8 +0.6**
QSPA LR LR
comp=Z,1µm,19.0s
QSPA South Pole Qui 72.59 180 P **P 18 11 03.7 +0.6**
comp=Z,29nm,0.8s,baz=4.1,slow=2.6,SNR=85
CHAI Chaiyaphum 72.89 293 P P 18 11 11.1 +5.5
comp=Z,6.4nm,1.0s
ENH Enshi 73.53 310 *e*P **P 18 11 09.4 +0.2**
comp=Z,40nm,1.1s
ENH LR LR
comp=Z,3µm,21.0s
GYA Guiyang 73.73 305 P **P 18 11 12.0 +1.4**
GYA PP **PP 18 13 58.9 +3.5**
GYA S S 18 20 47.0 +6.1
GYA SKS **SKSac 18 21 13.4 -3.4**
GYA SS **SS 18 25 27.6 +2.5**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,320nm,5.9s
GYA LR LR
comp=N,760nm,18.5s
GYA LR LR
comp=E,640nm,19.0s
GYA LR LR
comp=Z,980nm,18.8s
PBKT Sadao Pong 74.06 293 P P 18 11 17.3 +4.9
comp=Z,32nm,1.1s
PBKT Sadao Pong 74.06 293 P P 18 11 17.3 +4.9
comp=Z,32nm,1.1s
BJT Baijiatuau 74.73 321 *e*P **P 18 11 16.0 +0.2**
comp=Z,27nm,0.8s
BJT LR LR
comp=Z,3µm,19.0s
BJI Beijing 74.74 321 P **P 18 11 17.3 +1.4**
BJI S **S 18 20 55.3 +4.0**
BJI pmax pmax
comp=Z,32nm,1.1s
BJI pmax pmax
comp=Z,690nm,4.5s
BJI LR LR
comp=N,740nm,17.6s
BJI LR LR
comp=E,1µm,18.5s
BJI LR LR
comp=Z,530nm,21.8s
TIY Taiyuan 75.64 318 *e*P **P 18 11 23.8 +2.5**
TIY S **S 18 21 01.9 +0.2**
TIY pmax pmax
comp=Z,580nm,6.7s
TIY LR LR
comp=N,560nm,12.5s
TIY LR LR
comp=E,890nm,14.1s
TIY LR LR
comp=Z,2µm,14.9s
XAN Xi'an 75.95 313 P **P 18 11 23.3 +0.2**
XAN sP **sP 18 11 33.3 +1.2**
XAN pmax pmax
comp=Z,3.0nm,1.0s
XAN pmax pmax
comp=Z,140nm,8.5s
LAMP Lampang 76.01 295 P P 18 11 26.9 +3.2
comp=Z,7.7nm,1.0s
KMI Kunming 76.23 302 ⇑P **P 18 11 26.1 +1.0**
KMI pP **pP 18 11 29.5 -2.2**
KMI sP **sP 18 11 31.1 -3.0**
KMI PcP **PcP 18 11 38.5 +1.4**
KMI S **S 18 21 07.5 -1.5**
KMI sS sS 18 21 14.5 -5.3
KMI SKS **SKSac 18 21 31.8 -3.9**
KMI SS **SS 18 26 06.8 +3.5**
KMI pmax pmax
comp=Z,13nm,1.2s
KMI pmax pmax
comp=Z,500nm,5.7s
KMI LR LR
comp=N,790nm,20.3s
KMI LR LR
comp=E,590nm,20.3s
KMI LR LR
comp=Z,970nm,29.0s
CMAR Chiang Mai Arr 76.58 294 P **P 18 11 28.6 +1.6**
CMAR Chiang Mai Arr 76.58 294 P **P 18 11 28.6 +1.6**
comp=Z,4.9nm,0.7s,baz=130,slow=4.7,SNR=24
CMMT Chiang Mai 76.72 295 P **P 18 11 30.2 +2.4**
comp=Z,24nm,1.6s,comp=Z,634nm
CMMT Chiang Mai 76.72 295 P **P 18 11 30.2 +2.4**
comp=Z,24nm,1.6s,comp=Z,634nm
CHTO Chiang Mai 76.73 295 *e*P **P 18 11 29.1 +1.3**
CHTO pmax pmax
comp=Z,101nm,1.9s
CHTO MLR MLR
comp=Z,1µm,21.0s
CHTO Chiang Mai 76.73 295 *e*P **P 18 11 29.1 +1.3**
comp=Z,101nm,1.9s
CHTO LR LR
comp=Z,1µm,21.0s
CHTO Chiang Mai 76.73 295 P **P 18 11 30.4 +2.6**
comp=Z,31nm,1.3s
CHTO Chiang Mai 76.73 295 P **P 18 11 30.4 +2.6**
comp=Z,31nm,1.3s
HHC Hu-ho-hao-te 78.02 320 *e*P **P 18 11 34.8 +0.1**
HHC pP **pP 18 11 41.8 +0.5**
HHC PcP **PcP 18 11 44.4 0.0**
HHC PP **PP 18 14 33.9 +2.6**
HHC S **S 18 21 30.0 +2.3**
HHC sS **sS 18 21 42.0 +3.5**
HHC SS **SS 18 26 26.0 -3.6**
HHC pmax pmax
comp=Z,51nm,1.1s
HHC pmax pmax
comp=Z,940nm,5.1s
HHC LR LR
comp=N,1µm,18.1s
HHC LR LR
comp=E,1µm,20.1s
HHC LR LR
comp=Z,2µm,21.0s
CD2 Chengdu 78.12 308 *e*P **P 18 11 36.5 +1.1**
CD2 pP **pP 18 11 41.0 -1.0**
CD2 sP **sP 18 11 43.5 -0.9**
CD2 PcP **PcP 18 11 46.3 +1.3**
CD2 PP **PP 18 14 35.0 +2.8**
CD2 S **S 18 21 29.8 +0.8**
CD2 sS **sS 18 21 37.0 -2.8**
CD2 ScS **ScS 18 21 53.0 -1.5**
CD2 SS **SS 18 26 35.4 +4.1**
CD2 pmax pmax
comp=Z,30nm,0.8s
CD2 pmax pmax
comp=Z,180nm,10.2s
CD2 LR LR
comp=N,3µm,25.0s
CD2 LR LR
comp=E,1µm,19.0s
CD2 LR LR
comp=Z,1µm,19.0s
BTO Baotou 78.84 319 *e*P **P 18 11 39.8 +0.6**
HIA Hailar 78.92 330 *e*P **P 18 11 39.6 +0.2**
comp=Z,29nm,1.1s
HIA LR LR
comp=Z,1µm,20.0s
MAW Mawson 79.59 202 P **P 18 11 44.5 +1.7**
MAW Mawson 79.59 202 P **P 18 11 44.5 +1.7**
comp=Z,5.2nm,0.9s,baz=87,slow=6.6,SNR=11
MAW LR LR 18 42 19.7
comp=Z,3µm,20.3s,baz=101,slow=32
MAW Mawson 79.59 202 P P 18 11 46.1 +3.3
baz=79,SNR=6.4
LZH Lanzhou 80.57 312 P **P 18 11 49.9 +1.1**
LZH sP **sP 18 11 56.8 -1.0**
LZH S **S 18 21 56.0 +1.0**
LZH sS **sS 18 22 04.1 -1.8**
LZH SS **SS 18 27 11.5 +3.3**
LZH pmax pmax
comp=Z,31nm,1.2s
LZH pmax pmax
comp=Z,380nm,8.3s
LZH LR LR
comp=N,730nm,17.1s
LZH LR LR
comp=E,550nm,16.1s
LZH LR LR
comp=Z,1µm,20.2s
KDAK Kodiak Island 81.80 20 PFAKE 18 12 10.0 +15
KDAK LR LR
comp=Z,2µm,19.0s
CIT Chita 83.70 330 *e*P **P 18 12 05.4 +0.7**
CIT *e* 18 12 17.8
CIT pmax pmax
comp=Z,131nm,1.4s
RSO Redoubt South 83.88 18 *e*P **P 18 12 07.0 +1.4**
ULN Ulaanbaatar 84.66 324 *e*P **P 18 12 09.6 -0.3**
comp=Z,175nm,1.6s
ULN LR LR
comp=Z,4µm,19.0s
ULN Ulaanbaatar 84.66 324 P **P 18 12 10.2 +0.4**
YAK Yakutsk 84.79 343 *e*P **P 18 12 08.8 -1.1**
YAK *e**PP **pP 18 12 20.9 +4.4**
YAK *e* 18 15 23.4
YAK *e*PPP PPP 18 17 25.2
YAK *e*S S 18 22 29.8 -6.8
YAK pmax pmax
comp=Z,35nm,1.2s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=Z,105nm,3.2s
YAK pmax pmax
comp=E,19nm,3.2s
YAK pmax pmax
comp=N,22nm,3.4s
YAK smax smax
comp=E,375nm,11.1s
YAK smax smax
comp=N,459nm,13.3s
YAK MLR MLR
comp=Z,1µm,18.0s
YAK MLR MLR
comp=N,1µm,19.0s
YAK MLR MLR
comp=E,433nm,20.0s
GTA Gaotai 84.96 314 *e*P **P 18 12 11.8 +0.3**
GTA pP **pP 18 12 20.0 +1.9**
GTA sP **sP 18 12 23.1 +2.6**
GTA PP **PP 18 15 29.0 +0.3**
GTA S **SKSac 18 22 35.1 -0.1**
GTA sS **ScS 18 22 49.8 -0.5**
GTA SS **SS 18 28 09.1 -4.0**
GTA pmax pmax
comp=Z,13nm,1.6s
GTA pmax pmax
comp=Z,590nm,8.1s
GTA LR LR
comp=N,700nm,19.0s
GTA LR LR
comp=E,680nm,20.9s
GTA LR LR
comp=Z,920nm,20.9s
SONM Songino Array 85.02 324 P **P 18 12 12.1 +0.5**
SONM Songino Array 85.02 324 P **P 18 12 12.1 +0.5**
comp=Z,26nm,0.8s,baz=160,slow=12,SNR=118
BILL Bilibino 85.25 359*c i*P **P 18 12 10.9 -1.3**
BILL *e* 18 12 18.7
BILL pmax pmax
comp=Z,5µm,1.6s
SHL Shillong 85.36 298 *e*P **P 18 12 14.5 +0.6**
SYO Syowa Base 86.27 196⇑*e*P **P 18 12 17.0 -0.4**
YBH Yreka Blue Hor 86.94 45 P **P 18 12 21.6 +0.4**
YBH Yreka Blue Hor 86.94 45 P **P 18 12 21.6 +0.4**
comp=Z,1.7nm,0.7s,baz=150,slow=5.7,SNR=4.2
YBH LR LR 18 45 17.8
comp=Z,2µm,19.3s,baz=241,slow=32
CMB Columbia Colle 86.95 49 *e*P **P 18 12 22.6 +1.3**
CMB pmax pmax
comp=Z,8.0nm,1.0s
CMB Columbia Colle 86.95 49 *e*P **P 18 12 22.6 +1.3**
comp=Z,8.2nm,1.0s
ISA Isabella 87.38 51 *e*P **P 18 12 25.6 +2.1**
ISA pmax pmax
comp=Z,1µm,1.1s
ISA Isabella 87.38 51 *e*P **P 18 12 25.6 +2.1**
comp=Z,1µm,1.1s
LSA Lhasa 87.49 302 PFAKE 18 12 40.0 +15
LSA LR LR
comp=Z,1µm,20.0s
WAKR Walker 87.82 49 *e*P **P 18 12 28.0 +2.3**
MTUM Tungsten Hills 87.99 50 *e*P **P 18 12 27.6 +1.1**
ZAK Zakamensk 88.09 325⇑*i*P **P 18 12 26.1 -0.5**
ZAK pmax pmax
comp=Z,26nm,1.2s
PFO Pinyon Flat Ob 88.12 54 LR LR 18 44 10.2
comp=Z,3µm,19.9s,baz=247,slow=30
PAHR Pah Rah Range 88.35 47 *e*P **P 18 12 30.7 +2.5**
comp=Z,25nm,1.5s
IRK Irkutsk 88.51 327 *e*P **P 18 12 27.4 -1.0**
IRK pmax pmax
comp=Z,38nm,1.6s
TLY Talaya 88.56 326 *e*P **P 18 12 28.5 -0.1**
TLY *e* 18 12 38.5
TLY *e*S S 18 22 49.6 -24
TLY pmax pmax
comp=Z,38nm,1.6s
TLY Talaya 88.56 326 P **P 18 12 29.9 +1.3**
comp=Z,97nm,0.8s,SNR=6.9
NVAR Mina Array Bea 88.61 49 P **P 18 12 29.1 -0.4**
NVAR Mina Array Bea 88.61 49 P **P 18 12 29.1 -0.4**
comp=Z,1.4nm,0.8s,baz=233,slow=6.8,SNR=9.5
NVAR LR LR 18 45 10.6
comp=Z,2µm,20.0s,baz=106,slow=31
COLA College 88.73 17 PFAKE 18 12 40.0 +11
COLA LR LR
comp=Z,952nm,19.0s
WRAK Wrangell Islan 88.90 29 PFAKE 18 12 40.0 +10
WRAK LR LR
comp=Z,2µm,19.0s
ILAR Eielson Array 88.93 18 P **P 18 12 28.6 -1.4**
ILAR Eielson Array 88.93 18 P **P 18 12 28.6 -1.4**
comp=Z,3.5nm,0.7s,baz=239,slow=5.2,SNR=9.7
ILAR LR LR 18 49 00.7
comp=Z,2µm,19.7s,baz=235,slow=33
TPH Tonopah 89.25 50 PFAKE 18 12 40.0 +7.5
TPH LR LR
comp=Z,2µm,19.0s
WVOR Wild Horse Val 89.98 45 PFAKE 18 12 50.0 +14
WVOR LR LR
comp=Z,2µm,20.0s

MOY Mondy 89.98 325 *e*P **P** **18 12 35.7 +0.3**
MOY pmax pmax
comp=Z,50nm,4.0s
MAIT Maitri 90.45 188 *e*P P 18 12 28.7 -8.5
EGAK Eagle 90.67 19 PFAKE 18 12 50.0 +12
EGAK LR LR
comp=Z,2µm,19.0s
SNAA Sanae 90.88 183 *e*PcP **P** **18 12 39.9 +0.6**
SNAA Sanae 90.88 183 *e*P **P** **18 12 39.0 -0.3**
SNAA Sanae 90.88 183 P **P** **18 12 38.5 -0.8**
comp=Z,12nm,1.2s,baz=195,slow=4.3,SNR=31
SNAA LR LR 18 55 45.9
comp=Z,474nm,18.0s,baz=350,slow=37
HAWA Hanford 91.01 41 PFAKE 18 12 50.0 +10
HAWA LR LR
comp=Z,839nm,21.0s
BMO Blue Mountains 91.82 43 PFAKE 18 13 00.0 +16
BMO LR LR
comp=Z,2µm,20.0s
VNA1 Neumayer--Stat 92.09 181 *e*PcP **PcP** **18 12 45.8 +0.2**
TUC Tucson 92.12 57 PFAKE 18 13 00.0 +14
TUC LR LR
comp=Z,972nm,19.0s
WUAZ Wupatki 92.71 54 PFAKE 18 13 00.0 +11
WUAZ LR LR
comp=Z,2µm,20.0s
TIXI Tiksi 92.74 348 *e*P **P** **18 12 47.2 -0.4**
TIXI pmax pmax
comp=Z,4.0nm,1.2s
TIXI MLR MLR
comp=Z,544nm,19.0s
DGAR Diego Garcia 92.93 261 PFAKE 18 13 00.0 +10
DGAR LR LR
comp=Z,4µm,19.0s
MVU Marysvale 93.08 51 PFAKE 18 13 00.0 +10
MVU LR LR
comp=Z,4µm,19.0s
DUG Dugway 93.22 49 PFAKE 18 13 00.0 +9.2
DUG LR LR
comp=Z,3µm,20.0s
NEW Newport 93.25 40 PFAKE 18 13 00.0 +9.4
NEW LR LR
comp=Z,1µm,21.0s
HLID Hailey 93.27 45 PFAKE 18 13 00.0 +9.0
HLID LR LR
comp=Z,4µm,19.0s
HWUT Hardware Ranch 94.58 48 PFAKE 18 13 10.0 +13
HWUT LR LR
comp=Z,1µm,20.0s
WMQ Urumqi 95.03 314 P **P** **18 12 58.3 -0.6**
AHID Auburn Hatcher 95.28 47 PFAKE 18 13 10.0 +10
AHID LR LR
comp=Z,2µm,21.0s
MVCO Mesa Verde 95.45 53 PFAKE 18 13 10.0 +8.8
MVCO LR LR
comp=Z,2µm,20.0s
BOZ Bozeman (W) 95.85 44 PFAKE 18 13 10.0 +7.3
BOZ LR LR
comp=Z,1µm,20.0s
KRAR Krasnoyarsk 96.19 327 *e*P **P** **18 13 03.4 -0.4**
KRAR pmax pmax
comp=Z,15nm,1.3s
MNTX Cornudas Mount 96.30 59 PFAKE 18 13 20.0 +15
MNTX LR LR
comp=Z,637nm,20.0s
LKWY Lake 96.33 45 PFAKE 18 13 20.0 +15
LKWY LR LR
comp=Z,6µm,20.0s
BW06 Boulder Array 96.36 47 PFAKE 18 13 20.0 +15
BW06 LR LR
comp=Z,1µm,20.0s
PDAR Pinedale Array 96.36 47 LR LR 18 49 45.0
comp=Z,1µm,21.0s,baz=270,slow=31
ANMO Albuquerque 96.36 56 PFAKE 18 13 20.0 +15
ANMO LR LR
comp=Z,1µm,22.0s
TXAR Lajitas Array 97.06 62 LR LR 18 52 12.9
comp=Z,1µm,18.1s,baz=95,slow=33
RLMT Red Lodge 97.27 45 PFAKE 18 13 20.0 +11
RLMT LR LR
comp=Z,313nm,19.0s
EGMT Eagleton 97.81 42 PFAKE 18 13 20.0 +8.5
EGMT LR LR
comp=Z,1µm,19.0s
SDCO Great Sand Dun 97.89 53 PFAKE 18 13 20.0 +7.6
SDCO LR LR
comp=Z,2µm,20.0s
ISCO Idaho Springs 98.36 51 PFAKE 18 13 30.0 +16
ISCO LR LR
comp=Z,3µm,20.0s
MKAR Makanchi Array 99.56 316 P **Pdif** **18 13 19.4 +0.2**
MKAR Makanchi Array 99.56 316 P **Pdif** **18 13 19.4 +0.2**
MKAR PP PP 18 17 14.8 -8.6
MKAR Makanchi Array 99.56 316 P **Pdif** **18 13 19.4 +0.2**
comp=Z,1.4nm,0.6s,baz=93,slow=6.2,SNR=15
MKAR PP PP 18 17 14.8 -8.6
comp=Z,0.3nm,0.8s,baz=89,slow=9.2,SNR=2.0
YKA Yellowknife Ar 99.69 27 P **Pdif** **18 13 20.8 +1.4**
YKA Yellowknife Ar 99.69 27 P **Pdif** **18 13 20.8 +1.4**
comp=Z,0.6nm,0.6s,baz=251,slow=4.2,SNR=4.7
ZALV Zalesovo Beam 99.91 323 P **Pdif** **18 13 20.4 -0.2**
ZALV Zalesovo Beam 99.91 323 P **Pdif** **18 13 20.4 -0.2**
ZALV Zalesovo Beam 99.91 323 P **Pdif** **18 13 20.4 -0.2**
comp=Z,4.0nm,0.9s,baz=108,slow=4.8,SNR=18
AMTX Amarillo 100.13 57 PFAKE 18 13 30.0 +7.8
AMTX LR LR
comp=Z,950nm,22.0s
JCT Junction City 100.60 61 PFAKE 18 13 40.0 +16
JCT LR LR
comp=Z,1µm,22.0s
NVS Novosibirsk 101.04 324 *e*P **Pdif** **18 13 23.4 -2.1**
NVS *e* 18 23 56.9
NVS *e*S **Sdif** **18 25 03.6 +0.5**
NVS pmax pmax
comp=Z,37nm,2.3s
NVS pmax pmax
comp=E,20nm,2.1s
NVS smax smax
comp=N,170nm,4.8s
NVS smax smax
comp=E,190nm,4.3s
PAYG Puerto Ayora 101.10 94 PFAKE 18 13 40.0 +13
PAYG LR LR
comp=Z,1µm,20.0s
OGNE Ogallala 101.29 51 PFAKE 18 13 40.0 +13
OGNE LR LR
comp=Z,2µm,20.0s
DGMT Dagmar 101.51 43 PFAKE 18 13 40.0 +12
DGMT LR LR
comp=Z,308nm,19.0s
KVTX Kingsville 101.52 65 PFAKE 18 13 40.0 +12
KVTX LR LR
comp=Z,1µm,20.0s
KSH Kashi 102.32 308 *e*P **Pdif** **18 13 35.3 +3.5**
KSH pP 18 13 40.1
KSH PP **PKiKP** **18 17 52.4 -1.3**
KSH SKS 18 24 12.5
KSH S **Sdif** **18 25 16.1 +1.3**
KSH sS sS 18 25 23.0 -3.2
KSH pmax pmax
comp=Z,130nm,6.8s
KSH LR LR
comp=N,370nm,12.9s
KSH LR LR
comp=E,800nm,17.9s
KSH LR LR
comp=Z,610nm,22.0s
WMOK Wichita Mounta 102.42 57 PFAKE 18 13 40.0 +7.8
WMOK LR LR
comp=Z,1µm,19.0s
KURK Kurchatov 102.83 319 P **Pdif** **18 13 35.2 +1.6**
KURK Kurchatov 102.83 319 P **Pdif** **18 13 35.2 +1.6**
KURK PP PP 18 17 35.2 -13
KURBB Kurchatov Arra 102.87 319 P **Pdif** **18 13 35.2 +1.4**
comp=Z,0.8nm,0.8s,baz=102,slow=4.1,SNR=12
KURBB PP PP 18 17 35.2 -13
comp=Z,0.3nm,0.6s,baz=96,slow=11,SNR=6.0
AAK Ala-Archa 104.04 311 PFAKE 18 13 50.0 +11
AAK LR LR
comp=Z,1µm,19.0s
FFC Flin Flon 104.14 37 PFAKE 18 13 50.0 +11
FFC LR LR
comp=Z,2µm,20.0s
KSU1 Kansas State U 104.99 53 PFAKE 18 18 10.0
KSU1 LR LR
comp=Z,2µm,20.0s
ECSD EROS Data Cent 105.78 49 PFAKE 18 18 10.0
ECSD LR LR
comp=Z,3µm,19.0s
MIAR Mount Ida 106.59 58 PFAKE 18 18 10.0
MIAR LR LR
comp=Z,2µm,20.0s
AGMN Agassiz Nation 106.95 44 PFAKE 18 18 10.0
AGMN LR LR
comp=Z,2µm,19.0s
LCO Las Campanas 106.99 129 PFAKE 18 18 10.0
LCO LR LR
comp=Z,858nm,20.0s
TRQA Tornquist 107.63 141 PFAKE 18 18 20.0
TRQA LR LR
comp=Z,440nm,19.0s
SCIA State Center 107.99 51 PFAKE 18 18 20.0
SCIA LR LR
comp=Z,413nm,19.0s
TGUH Tegucigalpa,Un 108.03 81 PFAKE 18 18 20.0
TGUH LR LR
comp=Z,864nm,20.0s
BVAR Borovoye Array 108.22 321 PKiKP **PKiKP** **18 18 04.1 +0.2**
BVAR Borovoye Array 108.22 321 PKiKP **PKiKP** **18 18 04.1 +0.2**
comp=Z,0.6nm,0.6s,baz=90,slow=1.5,SNR=5.3
BRVK Borovoye 108.28 321 PFAKE 18 18 20.0
BRVK LR LR
comp=Z,907nm,19.0s
TEIG Tepich 108.49 74 PFAKE 18 18 20.0
TEIG LR LR
comp=Z,742nm,22.0s
VBMS Vicksburg 108.73 61 PFAKE 18 18 20.0
VBMS LR LR
comp=Z,450nm,19.0s
NNA Nana 109.72 110 PFAKE 18 18 20.0
NNA LR LR
comp=Z,1µm,19.0s
MSEY Mahe Island 109.77 258 PFAKE 18 18 20.0
MSEY LR LR
comp=Z,3µm,19.0s
EYMN Ely 109.82 45 PFAKE 18 18 20.0
EYMN LR LR
comp=Z,2µm,19.0s
OXF Oxford 109.98 59 PFAKE 18 18 20.0
OXF LR LR
comp=Z,2µm,19.0s
HDIL Hopedale 110.77 53 PFAKE 18 18 20.0
HDIL LR LR
comp=Z,2µm,19.0s
COWI Conover 111.31 47 PFAKE 18 18 20.0
COWI LR LR
comp=Z,3µm,20.0s
ABPO Ambohimpanom 111.33 241 PFAKE 18 18 20.0
ABPO LR LR
comp=Z,2µm,19.0s
BRAL Brewton 111.47 63 PFAKE 18 18 20.0
BRAL LR LR
comp=Z,1µm,19.0s
LVC Limon Verde 111.67 124 PFAKE 18 18 20.0
LVC LR LR
comp=Z,1µm,19.0s
LRAL Lakeview Retre 111.78 61 PFAKE 18 18 20.0
LRAL LR LR
comp=Z,602nm,21.0s
OTAV Otavalo 112.62 97 PFAKE 18 18 30.0
OTAV LR LR
comp=Z,756nm,20.0s
BCIP Isla Barro Col 113.87 88 PFAKE 18 18 30.0
BCIP LR LR
comp=Z,323nm,19.0s
GLMI Grayling 114.45 48 PFAKE 18 18 30.0 +14
GLMI LR LR
comp=Z,3µm,21.0s
ARU Arti 115.03 325 *i* PKIKP **PKPdf** **18 18 16.4 -0.3**
ARU 18 19 12.8
ARU 18 25 03.2
ARU PS **PS** **18 28 55.6 -0.4**
ARU SS SS 18 35 04.5 -7.0
ARU MLR MLR
comp=Z,948nm,18.0s
AKTO Aktyubinsk 115.88 318 PKIKP **PKPdf** **18 18 17.2 -1.4**
AKTO pmax pmax
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 115.88 318 PKP **PKPdf** **18 18 17.2 -1.4**
AKTO Aktyubinsk 115.88 318 PKP **PKPdf** **18 18 17.2 -1.4**
comp=Z,2.3nm,0.6s,baz=104,slow=4.3,SNR=11
KBS Kingsbay 117.45 355 PFAKE 18 18 30.0 +9.1
KBS LR LR
comp=Z,836nm,19.0s
BLA Blacksburg 117.48 57 PFAKE 18 18 30.0 +7.9
BLA LR LR
comp=Z,1µm,20.0s
NHSC New Hope 117.49 61 PFAKE 18 18 30.0 +7.8
NHSC LR LR
comp=Z,1µm,19.0s
SPITS Spitsbergen Ar 117.69 354 PKP **PKPdf** **18 18 22.8 +1.5**
SPITS Spitsbergen Ar 117.69 354 PKP **PKPdf** **18 18 22.8 +1.5**
comp=Z,5.5nm,0.5s,baz=76,slow=7.2,SNR=13
MTDJ Mount Denham 118.05 78 PFAKE 18 18 40.0 +16
MTDJ LR LR
comp=Z,505nm,20.0s
CNNC Cliffs of the 119.47 59 PFAKE 18 18 40.0 +14
CNNC LR LR
comp=Z,2µm,20.0s
CBN Corbin 119.90 56 PFAKE 18 18 40.0 +13
CBN LR LR
comp=Z,610nm,19.0s
GTBY Guantanamo Bay 120.60 77 PFAKE 18 18 40.0 +11
GTBY LR LR
comp=Z,660nm,21.0s
BINY Binghamton 120.80 51 PFAKE 18 18 40.0 +12
BINY LR LR
comp=Z,1µm,21.0s
SUR Sutherland 121.26 213 PFAKE 18 18 40.0 +10
SUR LR LR
comp=Z,1µm,20.0s
LONY Lake Ozonia 121.60 48 PFAKE 18 18 40.0 +10
LONY LR LR
comp=Z,2µm,20.0s
NCB Newcomb 121.92 49 PFAKE 18 18 40.0 +10
NCB LR LR
comp=Z,3µm,20.0s
APA Apatity 122.13 341 ↑ *i* PKIKP PKPdf 18 18 36.0 +5.9
APA *e* 18 25 30.0
APA *e*PPS PPS 18 31 26.0
APA MLR MLR
comp=Z,2µm,15.0s
TMCR Tamitsa 122.40 337 *e*PKIKP **PKPdf** **18 18 30.0 -0.7**
TMCR *e* 18 20 12.6
TMCR pmax pmax
comp=Z,25nm,1.4s
KEV Kevo 122.49 345 PFAKE 18 18 40.0 +9.3
KEV LR LR
comp=Z,1µm,21.0s
SUMG Summit 122.82 9 *i* P **PP** **18 20 07.1 -2.8**
SUMG
comp=Z,820nm,21.0s
ARCES ARCESS Array B 123.02 345 PKP **PKPdf** **18 18 32.1 +0.4**
ARCES ARCESS Array B 123.02 345 PKP **PKPdf** **18 18 32.1 +0.4**
comp=Z,2.8nm,0.4s,baz=64,slow=2.1,SNR=14
SAML Samuel 123.15 113 PFAKE 18 18 50.0 +16
SAML LR LR
comp=Z,941nm,20.0s
LBNH Lisbon 123.53 48 PFAKE 18 18 50.0 +16
LBNH LR LR
comp=Z,297nm,21.0s
SDDR Presa de Saban 124.02 79 PFAKE 18 18 50.0 +15
SDDR LR LR
comp=Z,1µm,21.0s
LBTB Lobatse 124.03 222 PKP **PKPdf** **18 18 34.8 -0.4**
LBTB Lobatse 124.03 222 PKP **PKPdf** **18 18 34.8 -0.4**
comp=Z,1.9nm,0.6s,baz=294,slow=6.5,SNR=4.1
SCHQ Schefferville 124.21 35 PKP **PKPdf** **18 18 33.3 -1.2**
SCHQ Schefferville 124.21 35 PKP **PKPdf** **18 18 33.3 -1.2**
comp=Z,2.5nm,0.6s,baz=230,slow=16,SNR=2.6
KBD Kabd 124.34 294 *e*P **PKPdf** **18 18 35.3 -0.2**
KBD AMb AMB 18 18 39.2
comp=Z,18nm,1.0s
RDF Al-Radifah 124.46 293 *e*P **PKPdf** **18 18 35.7 0.0**
RDF AMb AMB 18 18 40.5
comp=Z,73nm,1.0s
GRTK Grand Turk 124.50 76 PFAKE 18 18 50.0 +14
GRTK LR LR
comp=Z,992nm,20.0s
SFJD Kangerlussuaq 124.59 17 PFAKE 18 18 50.0 +15
SFJD LR LR
comp=Z,1µm,20.0s
MIB Mutribah 124.67 294 *e*P **PKPdf** **18 18 35.6 -0.5**
MIB AMb AMB 18 18 39.3
comp=Z,39nm,1.4s
NAY Al-Naaiem 124.74 294 *e*P **PKPdf** **18 18 35.7 -0.5**
NAY AMb AMB 18 18 39.4
comp=Z,28nm,1.5s
GNI Garni 126.25 307 PFAKE 18 18 50.0 +11
GNI LR LR
comp=Z,499nm,19.0s
KBZ Khabaz 127.01 312 PKIKP **PKPdf** **18 18 40.6 +0.5**
KBZ Khabaz 127.01 312 PKP **PKPdf** **18 18 40.6 +0.5**
KBZ Khabaz 127.01 312 PKP **PKPdf** **18 18 40.6 +0.5**
comp=Z,4.3nm,0.8s,baz=86,slow=0.5,SNR=6.2
KIV Kislovodsk 127.11 312 *i* PKIKP **PKPdf** **18 18 41.0 +0.5**
KIV *e* 18 20 37.3
KIV *e* 18 25 46.3
KIV *e*PS **PS** **18 30 42.9 -1.7**
KIV *e*SS SS 18 37 45.7 -1.3
KIV pmax pmax
comp=Z,18nm,1.1s
OBN Obninsk 127.30 327 κ *i* PKIKP **PKPdf** **18 18 39.5 -0.8**
OBN *e* 18 20 43.4
OBN PS **PS** **18 30 36.0 -9.4**
OBN pmax pmax
comp=Z,30nm,1.2s
OBN MLR MLR
comp=Z,800nm,20.0s
VSR Storozhevoye 127.38 322 *e*PKIKP **PKPdf** **18 18 40.6 0.0**
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR pmax pmax
comp=N,4.0nm,0.5s
VSR pmax pmax
comp=E,10.0nm,0.9s
VORD Divnogorie 127.39 322 *e*PKIKP **PKPdf** **18 18 39.0 -1.6**
VORD pmax pmax
comp=Z,8.0nm,0.3s
VORD pmax pmax
comp=N,30nm,0.6s
VORD pmax pmax
comp=E,70nm,0.6s
KMBO Kilima Mbogo 127.98 254 PKP **PKPdf** **18 18 42.9 -0.4**
KMBO LR LR
comp=Z,2µm,19.0s
KMBO Kilima Mbogo 127.98 254 PKP **PKPdf** **18 18 42.9 -0.4**
comp=Z,1.0nm,0.5s,baz=231,slow=23,SNR=4.5
FINES FINESS Array B 128.45 338 PKPpre PKPpre 18 18 29.8
FINES PKP **PKPdf** **18 18 42.2 -0.1**
FINES FINESS Array B 128.45 338 PKhKP PKPpre 18 18 29.8
comp=Z,1.4nm,0.9s,baz=67,slow=6.4,SNR=3.3
FINES PKP **PKPdf** **18 18 42.2 -0.1**
comp=Z,11nm,1.1s,baz=32,slow=4.7,SNR=7.9
LSZ Lusaka 128.63 233 PKP **PKPdf** **18 18 44.2 -0.1**
LSZ LR LR
comp=Z,1µm,20.0s
LSZ Lusaka 128.63 233 PKP **PKPdf** **18 18 44.2 -0.1**
comp=Z,1.4nm,0.5s,baz=61,slow=7.6,SNR=4.3
SJG San Juan 128.72 81 PFAKE 18 19 00.0 +16
SJG LR LR
comp=Z,600nm,20.0s
VSU Vasula 130.11 334 *i* PKIKP **PKPdf** **18 18 46.8 +1.2**
BBSR BB Station 130.53 62 PFAKE 18 19 00.0 +13
BBSR LR LR
comp=Z,836nm,20.0s
ANN Anapa 130.55 315 *i* PKIKP **PKPdf** **18 18 50.0 +3.2**
ANN *e* 18 21 05.6
ANN pmax pmax
comp=Z,65nm,1.5s
MALT Malatya 131.38 306 PFAKE 18 19 00.0 +11
MALT LR LR
comp=Z,610nm,19.0s
GRGR Grenville 131.93 89 PFAKE 18 19 00.0 +10
GRGR LR LR
comp=Z,618nm,21.0s
IDID Didziasalis 132.02 331 *e*P **PKPdf** **18 18 49.1 -0.2**
ISAL Salakas 132.15 332 *e*P **PKPdf** **18 18 47.8 -1.7**
IIGN Ignalina 132.24 331 *e*P **PKPdf** **18 18 48.8 -1.0**
BORG Borgarnes 132.33 5 PFAKE 18 19 00.0 +10
BORG LR LR
comp=Z,893nm,19.0s
ANWB Willy Bob 132.77 82 PFAKE 18 19 00.0 +8.2
ANWB LR LR
comp=Z,385nm,20.0s
FDF Fort de France 132.92 86 PFAKE 18 19 00.0 +7.8
FDF LR LR
comp=Z,521nm,20.0s
KIEV Kiev 133.30 325 PFAKE 18 19 00.0 +8.1
KIEV LR LR
comp=Z,821nm,20.0s
TSUM Tsumeb 133.31 220 PFAKE 18 19 00.0 +6.9
TSUM LR LR
comp=Z,981nm,20.0s
NB2 NORSAR Subarra 133.39 345 PKPdf **PKPdf** **18 18 53.5 +1.7**
comp=Z,2.8nm,0.9s,baz=31,slow=1.9
NOA NORSAR Array B 133.39 345 PKP **PKPdf** **18 18 52.5 +0.7**
NOA NORSAR Array B 133.39 345 PKP **PKPdf** **18 18 52.5 +0.7**
comp=Z,1.3nm,0.7s,baz=33,slow=2.0,SNR=9.2
BBGH Gun Hill 134.14 88 PFAKE 18 19 10.0 +15
BBGH LR LR
comp=Z,1µm,22.0s
MBAR Mbarara 134.14 251 PFAKE 18 19 10.0 +15
MBAR LR LR
comp=Z,915nm,22.0s
BRTR Keskin Array B 134.69 309 PKP **PKPdf** **18 18 54.5 -0.6**
BRTR Keskin Array B 134.69 309 PKP **PKPdf** **18 18 54.5 -0.6**
comp=Z,2.2nm,0.7s,baz=131,slow=4.3,SNR=8.9
KONO Kongsberg 135.00 345 PFAKE 18 19 10.0 +15
KONO LR LR
comp=Z,1µm,20.0s
ANTO Ankara 135.27 309 PFAKE 18 19 10.0 +14
ANTO LR LR
comp=Z,542nm,20.0s
KIS Kishinev 135.30 320 *e*PKP PKPdf 18 19 02.0 +6.3
KIS Kishinev 135.30 320 *e*PP PP 18 21 25.0 -6.8
KIS *e*SKP 18 22 30.0
KIS *e*SKS SKSdf 18 26 24.0 +18
KIS *e*SKKS **SKKSac** **18 28 20.0 -6.1**
KIS LRM MLR 19 21 20.0
comp=Z,700nm,22.0s
KIS Kishinev 135.30 320 *e*PKIKP PKPdf 18 19 02.0 +6.3
KIS *e* 18 19 12.0
KIS MLR MLR
comp=Z,1µm,20.0s
KIS MLR MLR
comp=N,600nm,22.0s
KIS MLR MLR
comp=Z,700nm,22.0s
CSS Prodhromos 136.05 302 PFAKE 18 19 10.0 +12
CSS LR LR
comp=Z,908nm,19.0s
LVV L'vov 136.57 326 *i* PKIKP **PKPdf** **18 18 59.0 +1.0**
LVV *e* 18 21 38.0
LVV *e*SS SS 18 39 43.0 +1.9
BSD Bornholm Skovb 137.09 337 *i* P **PP** **18 21 42.4 0.0**
BSD
comp=Z,1µm,16.0s
KWP Kalwaria Pacla 137.38 327 PFAKE 18 19 10.0 +10
KWP LR LR
comp=Z,849nm,21.0s
COP Copenhagen 137.50 340 *i* P **PP** **18 21 45.1 +0.2**
COP
comp=Z,460nm,14.0s
ISP Isparta 137.56 307 PFAKE 18 19 10.0 +10
ISP LR LR
comp=Z,788nm,20.0s
MUD Monsted U'grnd 137.87 342 *i* P PP 18 21 53.1 +5.9
MUD
comp=Z,1µm,16.0s
KOLS Kolonicke sedl 138.03 326 *e* PKPdf 18 18 53.4 -7.4
KOLS Kolonicke sedl 138.03 326 *e*PKP **PKPdf** **18 19 01.3 +0.5**
UZH Uzhgorod 138.19 326 *e*PKIKP **PKPdf** **18 19 03.0 +2.0**
UZH *e* 18 19 19.7
STHS Stebnicka Huta 138.27 327 *e*PKIKP **PKPdf** **18 18 56.5 -4.7**
STHS *e* 18 19 03.4
STHS Stebnicka Huta 138.27 327 *e* **PKPdf** **18 18 56.5 -4.7**
STHS Stebnicka Huta 138.27 327 *e*PKP **PKPdf** **18 19 03.4 +2.2**
OKC Ostrava-Krasne 139.54 330 *e*PKIKP **PKPdf** **18 19 04.8 +1.3**
OKC *e* 18 21 56.8
OKC MLR MLR
comp=Z,700nm,19.6s
OKC Ostrava-Krasne 139.54 330 *e*PKPdf **PKPdf** **18 19 04.8 +1.3**
OKC *e*PP **PP** **18 21 56.8 -1.1**

OKC AMS AMS 19 23 50.0
comp=Z,700nm,19.6s
KSP Ksiaz 139.71 332 *e*PKIKP **PKPdf** **18 19 04.9 +1.1**
KSP *e* 18 22 01.0
KSP *e*PPS PPS 18 34 07.0
KSP MLR MLR
comp=Z,4μm,21.9s
PSZ Piszkesteto 139.90 326 PFAKE 18 19 20.0 +16
PSZ LR LR
comp=Z,960nm,20.0s
DPC Dobruska-Polom 140.04 332 *e*PKIKP **PKPdf** **18 19 06.0 +1.5**
DPC *e* 18 22 03.8
DPC Dobruska-Polom 140.04 332 *e*PKPdf **PKPdf** **18 19 06.0 +1.5**
DPC *e*PP **PP** **18 22 03.8 +2.8**
DPC AMS AMS 19 21 40.0
UPC Upice 140.07 332 *e*PKIKP **PKPdf** **18 19 09.1 +4.6**
UPC Upice 140.07 332 *e*PKPdf **PKPdf** **18 19 09.1 +4.6**
VYHS Vyhne 140.09 328 *e*PKIKP PKPdf 18 18 58.9 -5.7
VYHS *e* 18 19 06.5
VYHS Vyhne 140.09 328 *e* PKPdf 18 18 58.9 -5.7
VYHS Vyhne 140.09 328 *e*PKP **PKPdf** **18 19 06.5 +1.9**
PVCC Panska Ves 140.69 333 *e*PKIKP **PKPdf** **18 19 03.4 -2.2**
PVCC MLR MLR
comp=Z,1μm,22.5s
PVCC Panska Ves 140.69 333 *e*PKPdf **PKPdf** **18 19 03.4 -2.2**
PVCC AMS AMS 19 20 30.0
comp=Z,1μm,22.5s
BRG Berggiesshubel 140.70 334 *e*PKP **PKPdf** **18 19 00.5 -5.1**
comp=Z,2.5nm,0.5s
BRG *e* 18 19 07.8
comp=Z,16nm,1.9s
BRG PP **PP** **18 22 03.0 -1.9**
BRG *e* 18 22 43.5
comp=Z,13nm,1.6s
BRG *e* 18 34 28.0
BRG SS SS 18 40 45.0 +16
BRG
comp=N,846nm,26.2s
BRG
comp=E,674nm,20.1s
BRG
comp=Z,955nm,24.2s
BRG Berggiesshubel 140.70 334 *e*PKIKP **PKPdf** **18 19 00.5 -5.1**
BRG *e* 18 19 07.8
BRG 18 22 03.0
BRG *e* 18 34 28.0
BRG pmax pmax
comp=Z,5.0nm,0.5s
BRG pmax pmax
comp=Z,3.0nm,1.9s
BRG pmax pmax
comp=Z,17nm,1.6s
BRG MLR MLR
comp=N,13μm,26.2s
BRG MLR MLR
comp=E,846nm,20.1s
BRG MLR MLR
comp=Z,674nm,24.2s
CLL Collm 140.76 335 *e*PKIKP **PKPdf** **18 19 06.0 +0.4**
CLL *e* 18 22 04.0
CLL pmax pmax
comp=Z,12nm,0.8s
CLL MLR MLR
comp=Z,800nm,20.8s
CLL Collm 140.76 335 *e*PKPdf **PKPdf** **18 19 06.0 +0.4**
comp=Z,6.0nm,0.8s
CLL *i* pPKPdf **pPKPdf** **18 19 11.2 -1.3**
CLL *e*PKPlp 18 19 21.0
CLL *e*PP **PP** **18 22 04.0 -1.2**
CLL *e*PPlp 18 22 07.0
comp=Z,300nm,11.7s
CLL *e*SS SS 18 40 35.0 +5.1
CLL *e*SSS SSS 18 45 41.0
CLL L L 19 23 00.0
comp=Z,800nm,20.8s
PRA Prague 141.09 333 PKPdf **PKPdf** **18 19 03.0 -3.3**
PRA PP **PP** **18 22 09.0 +1.7**
PRA AMS AMS 19 24 00.0
PRU Pruhonice 141.10 333 *e*PKIKP **PKPdf** **18 19 02.5 -3.8**
PRU *e* 18 22 08.5
PRU MLR MLR
comp=Z,900nm,21.5s
PRU Pruhonice 141.10 333 *e*PKPdf **PKPdf** **18 19 02.5 -3.8**
PRU *e*PP **PP** **18 22 08.5 +1.1**
PRU AMS AMS 19 23 50.0
comp=Z,900nm,21.5s
TREC Trest 141.17 331 *e*PKIKP **PKPdf** **18 19 06.8 +0.3**
TREC *e* 18 22 07.8
TREC MLR MLR
comp=Z,1μm,22.0s
TREC Trest 141.17 331 *e*PKPdf **PKPdf** **18 19 06.8 +0.3**
TREC *e*PP **PP** **18 22 07.8 -0.1**
TREC AMS AMS 19 21 40.0
comp=Z,1μm,22.0s
ESK Eskdalemuir 141.59 352 PFAKE 18 19 20.0 +13
ESK LR LR
comp=Z,862nm,20.0s
SANT Santorini 141.85 307 PFAKE 18 19 20.0 +12
SANT LR LR
comp=Z,528nm,22.0s
CONA Conrad Observa 141.95 329 P PKPdf 18 19 01.7 -6.3
comp=Z,9.9nm,0.8s,SNR=9.4
KHC Kasperske Hory 142.16 332 *e*PKIKP **PKPdf** **18 19 05.2 -3.1**
KHC *e* 18 22 15.7
KHC MLR MLR
comp=Z,900nm,21.0s
KHC Kasperske Hory 142.16 332 *e*PKPdf **PKPdf** **18 19 05.2 -3.1**
KHC *e*PP **PP** **18 22 15.7 +1.8**
KHC AMS AMS 19 22 50.0
comp=Z,900nm,21.0s
GEC2 GERESS Array S 142.31 332 *e*PKP **PKPdf** **18 19 05.3 -3.4**
GEC2 GERESS Array S 142.31 332 *e*PKIKP **PKPdf** **18 19 05.3 -3.4**
GERES GERESS Array B 142.31 332 PKPpre PKPpre 18 19 05.4
GERES GERESS Array B 142.31 332 PKhKP PKPpre 18 19 05.4
comp=Z,2.2nm,0.6s,baz=41,slow=3.4,SNR=16
WTSB Winterswijk 142.45 341 *e*PKP **PKPdf** **18 19 09.2 +0.5**
GRF Grafenberg Arr 142.73 335 *e*L L 19 24 50.5
comp=Z,696nm,20.7s
MOA Molln 142.77 330 ⇑*i*PKPdf **PKPdf** **18 19 06.0 -3.4**
comp=Z,18nm,1.3s,SNR=8.4
SOKA Soboth 143.22 328 ⇓*i*PKPdf PKPab 18 19 06.1 +0.1
comp=Z,22nm,1.5s
TNS Taunus Mts 143.37 338 *e*PKP PKPbc 18 19 07.7 +0.2
TNS Taunus Mts 143.37 338 *e*PKIKP PKPbc 18 19 07.7 +0.2
RJOB Jochberg 143.53 331 *e*PKP PKPbc 18 19 09.0 +0.9
TIR Tirane 143.68 318 PFAKE 18 19 20.0 +8.8
TIR LR LR
comp=Z,857nm,21.0s
KBA Koelnbreinsper 143.76 330 ⇑*i*PKPdf PKPab 18 19 08.5 +0.2
comp=Z,22nm,1.2s,SNR=8.8
HGN Heimansgroeve 143.76 341 *e*PKP PKPab 18 19 04.8 -3.0
HGN *e*PP **PP** **18 22 21.5 -1.8**
MEM Membach 143.87 340 PKhKP PKPbc 18 19 09.0 +0.1
BOJS Bojanci 143.90 327 *e*PKPdf PKPbc 18 19 09.1 -0.1
LJU Ljubljana 143.91 328 *e*PKPdf PKPab 18 19 08.7 +0.1
MYKA Terra Mystica 143.94 329 ⇑*i*PKPdf PKPab 18 19 08.2 -0.6
comp=Z,18nm,0.8s
CADS Cadrg 144.17 329 *e*PKPdf **PKPab** **18 19 08.8 -0.9**
VOY Vojsko 144.23 328 *e*PKPdf **PKPab** **18 19 09.8 -0.2**
VOY *e* 18 19 19.9
VOY *e* 18 19 30.2
STU Stuttgart 144.27 336 *e*PKP PKPbc 18 19 10.3 +0.1
ABTA Abfaltersbach 144.39 330 ⇑*i*PKPdf **PKPab** **18 19 08.8 -1.7**
comp=Z,37nm,0.6s,SNR=30
WTTA Wattenberg 144.41 332 ⇓*i*PKPdf **PKPab** **18 19 10.3 -0.4**
comp=Z,38nm,0.9s,SNR=11
LANF Langenberg 144.63 337 PKP PKPbc 18 19 12.0 +0.6
RETA Reutte 144.63 333 ⇓*i*PKPab **PKPab** **18 19 11.1 -0.2**
comp=Z,41nm,1.0s,SNR=26
WLF Walferdange 144.64 339 PKP **PKPdf** **18 19 12.1 -0.5**
WLF Walferdange 144.64 339 *e*PKP **PKPdf** **18 19 12.3 -0.3**
WLF Walferdange 144.64 339 PFAKE 18 19 20.0 +7.4
WLF LR LR
comp=Z,863nm,20.0s
DOU Dourbes 144.76 341 PKhKP **PKPab** **18 19 11.0 -0.6**
BFO Black Forest 144.97 336 *e*PKP **PKPab** **18 19 12.0 -0.5**
BFO Black Forest 144.97 336 *e*PKIKP **PKPab** **18 19 12.0 -0.5**
BFO Black Forest 144.97 336 PFAKE 18 19 30.0 +17
BFO LR LR
comp=Z,836nm,20.0s
FETA Feichten 145.00 332 *i* PKPdf **PKPbc** **18 19 12.6 -0.2**
comp=Z,123nm,1.5s,SNR=46
DAVA Damuels 145.16 333 ⇓*i*PKPab **PKPbc** **18 19 12.7 -0.7**
comp=Z,67nm,0.7s,SNR=34

ECH Echery 145.50 337 PFAKE 18 19 30.0 +16
ECH LR LR
comp=Z,915nm,19.0s
ECH Echery 145.50 337 PKP **PKPab** **18 19 14.6 +0.1**
VAL Valentia 145.56 358 *e*P **PKPbc** **18 19 14.3 +0.1**
MOF Molkenrain 145.82 337 PKP **PKPab** **18 19 15.7 0.0**
THEF They Montfort 145.92 338 PKP **PKPab** **18 19 16.1 +0.1**
TUE Stuetta 146.03 333 PFAKE 18 19 30.0 +13
TUE LR LR
comp=Z,678nm,20.0s
SHEL Horse Pasture 146.21 191 PFAKE 18 19 30.0 +12
SHEL LR LR
comp=Z,935nm,19.0s
LOMF Lomont 146.35 337 PKP **PKPab** **18 19 17.6 -0.1**
TIP Timpagrande 146.84 317 PFAKE 18 19 30.0 +10
TIP LR LR
comp=Z,1μm,22.0s
AQU L'Aquila 146.99 324 PFAKE 18 19 30.0 +10
AQU LR LR
comp=Z,1μm,20.0s
CUC Castrocucco 146.99 319 PFAKE 18 19 30.0 +10
CUC LR LR
comp=Z,701nm,21.0s
RCBR Riachuelo 147.04 133 PFAKE 18 19 30.0 +8.7
RCBR LR LR
comp=Z,926nm,19.0s
VLC Villacollemand 147.31 329 PFAKE 18 19 30.0 +8.5
VLC LR LR
comp=Z,887nm,20.0s
CEL Celeste 147.90 316 PFAKE 18 19 30.0 +5.9
CEL LR LR
comp=Z,638nm,19.0s
BNI Bardonecchia 148.29 334 PFAKE 18 19 30.0 +4.5
BNI LR LR
comp=Z,1μm,19.0s
GRN Grenoble 148.51 335 PKP **PKPbc** **18 19 23.8 +0.8**
SURF Saint Ours 148.70 333 PKP **PKPdf** **18 19 21.6 +1.7**
SAOF Saorge 148.76 332 PKP **PKPbc** **18 19 23.6 0.0**
AGO Saint Agoulin 148.78 339 PKP **PKPbc** **18 19 24.0 +0.4**
AUTN L'Aution 148.81 332 PKP **PKPbc** **18 19 23.7 -0.3**
TOUF Mont Tournerai 148.88 332 PKP **PKPbc** **18 19 24.1 0.0**
SSB Saint Sauveur 148.95 337 PFAKE 18 19 30.0 +2.0
SSB LR LR
comp=Z,693nm,20.0s
SSB Saint Sauveur 148.95 337 PKP **PKPbc** **18 19 24.9 +0.9**
MVIF Mont Vial 149.01 332 PKP **PKPbc** **18 19 24.2 -0.2**
PYM Petit Puy Mans 149.09 339 PKP **PKPbc** **18 19 25.2 +0.8**
OG26 St.-Nazaire-De 149.24 335 PKP **PKPbc** **18 19 25.8 +1.0**
CALN Calern 149.24 332 PKP **PKPbc** **18 19 24.4 -0.6**
LBL Lubilhac 149.46 338 PKP **PKPbc** **18 19 26.3 +0.9**
OSPF L'Ospedale 149.73 327 PKP **PKPbc** **18 19 25.8 -0.4**
WDD Wield Dalam 150.09 313 PFAKE 18 19 30.0 +2.9
WDD LR LR
comp=Z,705nm,19.0s
VSL Villasalto 151.16 324 PFAKE 18 19 40.0 +2.7
VSL LR LR
comp=Z,977nm,20.0s
FILF Fillols 152.01 336 PKP **PKPbc** **18 19 31.6 +0.1**
MLS Moulis 152.20 339 PKP **PKPbc** **18 19 32.0 +0.2**
VALF Valcebollere 152.35 337 PKP **PKPbc** **18 19 32.8 +0.4**
RESF Ens 152.59 340 PKP **PKPbc** **18 19 34.7 +1.9**
ATE Arette 152.66 342 PKP **PKPbc** **18 19 34.0 +1.1**
KEST Kesra 153.64 318 PKPbc **PKPbc** **18 19 33.9 -1.4**
KEST Kesra 153.64 318 PKPbc **PKPbc** **18 19 33.9 -1.4**
comp=Z,1.8nm,0.6s,baz=93,slow=3.1,SNR=7.3
ASCN Ascension 154.68 175 PFAKE 18 19 40.0 +1.9
ASCN LR LR
comp=Z,337nm,19.0s
PBRG Braganca 155.29 350 *e*PKPdf **PKPdf** **18 19 30.9 +1.3**
PBRG Braganca 155.29 350 *e*PKPab PKPab 18 20 01.0 +6.4
PBRG Braganca 155.29 350 *e*PP PP 18 23 34.3 +4.4
PGAV Gavieira, Arco 155.34 353 *e*PKPdf **PKPdf** **18 19 33.8 +4.0**
PGAV Gavieira, Arco 155.34 353 *e*PP PP 18 23 38.2 +8.0
POLO Lamas de Olo 155.87 352 *e*PKPdf **PKPdf** **18 19 30.9 +0.4**
POLO Lamas de Olo 155.87 352 *e*PP PP 18 23 39.9 +6.7
PVRL Vila Real 155.96 352 *e*PKPab PKPab 18 20 02.6 +5.2
MVO Moncorvo 155.96 351 *e*PKPdf **PKPdf** **18 19 30.9 +0.3**
MVO Moncorvo 155.96 351 *e*PP PP 18 23 41.3 +7.6
CMLA Cha da Macela 156.59 28 PFAKE 18 19 40.0 +8.6
CMLA LR LR
comp=Z,1μm,20.0s
ESDC Sonseca Array 156.75 344 PKPab **PKPab** **18 19 59.3 -1.6**
ESDC Sonseca Array 156.75 344 PKPab **PKPab** **18 19 59.3 -1.6**
comp=Z,0.4nm,0.4s,baz=12,slow=2.3,SNR=5.7
MTE Manteigas 156.79 351 *e*PKPdf **PKPdf** **18 19 32.4 +0.7**
MTE Manteigas 156.79 351 *e*PKPab **PKPab** **18 20 05.1 +4.0**
MTE Manteigas 156.79 351 *e*PP PP 18 23 41.3 +3.1
MTE Manteigas 156.79 351 PFAKE 18 19 40.0 +8.3
MTE LR LR
comp=Z,804nm,20.0s
PAB San Pablo 156.97 344 PFAKE 18 19 40.0 +8.1
PAB LR LR
comp=Z,756nm,19.0s
PCBR Castelo Branco 157.33 351 *e*PKPab PKPab 18 20 09.3 +6.0
PMRV Marv??o 157.72 350 *e*PKPdf **PKPdf** **18 19 30.9 -1.9**
PMRV Marv??o 157.72 350 *e*PP PP 18 23 46.9 +3.6
PMTG Montargil 158.19 352 *e*PKPdf **PKPdf** **18 19 32.4 -1.0**
PMTG Montargil 158.19 352 *e*PP PP 18 23 51.1 +5.3
PESTR Estremoz 158.30 350 *e*PKPdf **PKPdf** **18 19 30.9 -2.6**
PESTR Estremoz 158.30 350 *e*PKPab PKPab 18 20 13.3 +5.7
PESTR Estremoz 158.30 350 *e*PP PP 18 23 49.1 +2.6
PMAFR Mafra 158.43 354 *e*PKPdf **PKPdf** **18 19 33.8 +0.1**
PMAFR Mafra 158.43 354 *e*PP PP 18 23 51.1 +4.0
LIS Lisbon 158.65 354 *e*P **PKPdf** **18 19 33.0 -0.9**
LIS AMS AMS 19 26 11.9
comp=E,1μm,23.6s
LIS Lisbon 158.65 354 *e*P **PKPdf** **18 19 33.0 -0.9**
LIS Lisbon 158.65 354 *e*PKIKP **PKPdf** **18 19 33.0 -0.9**
PBAR Barrancos 158.88 349 *e*PKPdf **PKPdf** **18 19 36.6 +2.4**
PBAR Barrancos 158.88 349 *e*PKPab PKPab 18 20 15.6 +5.6
PBAR Barrancos 158.88 349 *e*PP PP 18 23 52.5 +2.9
PBEJ Beja 159.16 350 *e*PKPab **PKPab** **18 20 14.5 +3.2**
PNCL Nicolau / Gran 159.18 352 *e*PKPdf **PKPdf** **18 19 30.9 -3.7**
PNCL Nicolau / Gran 159.18 352 *e*PP PP 18 23 55.8 +4.6
MESJ Messejana 159.40 351 *e*P **PKPdf** **18 19 33.7 -1.1**
MESJ *e*PP **PP** **18 23 53.5 +1.0**
MESJ AMS AMS 19 37 43.6
comp=Z,958nm,23.3s
MESJ Messejana 159.40 351 *e*P **PKPdf** **18 19 33.7 -1.1**
MESJ Messejana 159.40 351 A A 19 37 43.6
comp=Z,958nm,23.3s
MESJ Messejana 159.40 351 *e*PKIKP **PKPdf** **18 19 33.7 -1.1**
MESJ *e* 18 23 53.5
PCVE Castro Verde 159.58 351 *e*PKPdf **PKPdf** **18 19 35.2 +0.1**
PCVE Castro Verde 159.58 351 *e*PKPab **PKPab** **18 20 16.7 +3.6**
PCVE Castro Verde 159.58 351 *e*PP PP 18 23 55.4 +2.0
PVAQ Vaqueiros 159.75 350 *e*PKPdf **PKPdf** **18 19 38.0 +2.8**
PVAQ Vaqueiros 159.75 350 *e*PP PP 18 24 01.0 +6.7
PBDV Barranco-do-Ve 159.94 350 *e*PKPdf **PKPdf** **18 19 36.6 +1.1**
PBDV Barranco-do-Ve 159.94 350 *e*PP PP 18 23 58.2 +2.8
MORF Marmelete 159.99 352 *e*PKPdf **PKPdf** **18 19 38.0 +2.4**
MORF Marmelete 159.99 352 *e*PP PP 18 23 59.6 +3.9
MORF Marmelete 159.99 352 *e*PKIKP **PKPdf** **18 19 34.8 -0.8**
MORF *e* 18 23 56.9
PFVI Vila Bisbo 160.18 352 *e*PKPdf **PKPdf** **18 19 40.7 +5.0**
PFVI Vila Bisbo 160.18 352 *e*PP PP 18 24 15.0 +18
TAM Tamanrasset 162.59 291 PFAKE 18 19 50.0 +11
TAM LR LR
comp=Z,1μm,19.0s
RTC Rabat Centre 162.87 345 PFAKE 18 19 50.0 +11
RTC LR LR
comp=Z,860nm,20.0s
TORD Torodi Ar. Bea 165.99 254 PKP **PKPdf** **18 19 40.6 -1.3**
TORD PKPab **PKPab** **18 20 44.0 +1.9**
TORD Torodi Ar. Bea 165.99 254 PKP **PKPdf** **18 19 40.6 -1.3**
comp=Z,6.1nm,1.1s,baz=328,slow=0.8,SNR=14
TORD PKPab **PKPab** **18 20 44.0 +1.9**
comp=Z,2.3nm,1.0s,baz=88,slow=1.4,SNR=2.8
SACV Santiago Islan 168.70 101 PFAKE 18 20 00.0 +16
SACV LR LR
comp=Z,1μm,22.0s

IDC 16 18:17:51.1±2.4, **13°.33S**×**167°.14E, h200**km±19km, **mb3.7**/14, **mb1 3.7**/16, **mb1mx3.7**/23, **mbtmp3.7**/16, **Error ellipse: s-maj=22.4km s-min=12.7km az=102.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**8.05**	**298**	P	Pn	18 19 45.2	+0.1
	1.8nm,0.3s,baz=293,slow=7.5,SNR=4.0						
DZM	**Mont Dzumac**	**8.72**	**184**	P	Pn	18 19 55.5	+1.5
	0.3nm,0.3s,baz=270,slow=20,SNR=2.7						
CTA	**Charters Tower**	**21.09**	**249**	P	P	18 22 20.8	+0.5
	0.9nm,0.3s,baz=61,slow=13,SNR=3.9						
STKA	**Stephens Creek**	**29.83**	**228**	P	P	18 23 39.8	+0.2
	1.3nm,0.4s,baz=5.1,slow=8.8,SNR=11						
STKA				PcP	PcP	18 26 37.5	-0.4
	3.2nm,0.7s,baz=24,slow=4.9,SNR=7.9						
WRA	**Warramunga Arr**	**32.07**	**254**	P	P	18 23 58.2	-1.3
	0.8nm,0.5s,baz=85,slow=9.4,SNR=5.6						
ASAR	**Alice Springs**	**33.08**	**247**	P	P	18 24 07.3	-1.0
	1.6nm,0.6s,baz=75,slow=9.5,SNR=27						
ASAR				PcP	PcP	18 26 46.5	-0.4
	0.5nm,0.6s,baz=74,slow=2.4,SNR=8.0						
ASAR				ScP	ScP	18 30 13.3	+1.1
	1.0nm,0.8s,baz=94,slow=3.0,SNR=6.1						
MJAR	**Matsushiro Arr**	**56.61**	**332**	P	P	18 27 12.1	-1.2
	1.8nm,0.6s,baz=169,slow=8.6,SNR=7.6						
ASAJ	**Asahikawa**	**61.39**	**340**	P	P	18 27 46.2	+0.4
	5.8nm,0.5s,baz=254,slow=2.3,SNR=8.6						
KSRS	**Korea Array**	**62.52**	**325**	P	P	18 27 54.4	+0.9
	0.4nm,0.3s,baz=144,slow=7.8,SNR=4.0						
VNDA	**Vanda**	**64.25**	**181**	P	P	18 28 04.5	+0.2
	0.4nm,0.8s,baz=334,slow=6.7,SNR=5.4						
USRK	**Ussuriysk Arra**	**65.58**	**333**	P	P	18 28 13.6	+0.2
	1.3nm,0.7s,baz=90,slow=9.2,SNR=4.4						
PETK	**Petropavlovsk-**	**66.66**	**354**	P	P	18 28 20.4	+0.4
	2.2nm,0.6s,baz=159,slow=6.4,SNR=18						
CMAR	**Chiang Mai Arr**	**74.27**	**294**	P	P	18 29 07.8	+0.9
	1.6nm,0.7s,baz=121,slow=4.5,SNR=11						
SONM	**Songino Array**	**81.30**	**324**	P	P	18 29 45.8	+0.6
	0.6nm,0.5s,baz=146,slow=5.3,SNR=5.1						
ILAR	**Eielson Array**	**85.24**	**18**	P	P	18 30 03.4	-1.3
	2.2nm,0.5s,baz=241,slow=5.0,SNR=9.0						
MKAR	**Makanchi Array**	**96.11**	**317**	P	P	18 30 56.1	+0.1
	1.4nm,0.6s,baz=84,slow=7.4,SNR=3.0						
ARCES	**ARCESS Array B**	**118.87**	**346**	PKP	PKPdf	18 36 14.3	-0.8
	1.6nm,0.5s,baz=75,slow=1.6,SNR=15						
FINES	**FINESS Array B**	**124.38**	**339**	PKP	PKPdf	18 36 24.9	-0.9
	2.4nm,0.9s,baz=354,slow=1.9,SNR=9.8						
NOA	**NORSAR Array B**	**129.24**	**345**	PKP	PKPdf	18 36 34.4	-0.8
	0.7nm,0.7s,baz=60,slow=1.8,SNR=3.3						
GERES	**GERESS Array B**	**138.34**	**334**	PKP	PKPdf	18 36 52.2	-0.5
	0.4nm,0.5s,baz=45,slow=2.1,SNR=3.9						
KEST	**Kesra**	**150.04**	**322**	PKPbc	PKPbc	18 37 18.7	+0.2
	1.9nm,0.7s,baz=340,slow=2.2,SNR=8.0						
ESDC	**Sonseca Array**	**152.61**	**345**	PKPbc	PKPbc	18 37 23.3	-0.9
	0.6nm,0.5s,baz=30,slow=2.9,SNR=5.0						

IDC 16 18:19:48.4±1.4, **45°.35S**×**166°.69E, h0**km, **mb1 4.6**/1, **mb1mx3.6**/14, **mbtmp4.6**/1, **ML4.3**/1, **Error ellipse: s-maj=102.5km s-min=30.8km az=154.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**3.52**	**64**	Pn	Pn	18 20 44.1	-0.2
	27nm,0.3s,baz=221,slow=5.0,SNR=59						
RPZ				Sn	Sn	18 21 28.7	+1.9
	14nm,0.3s,baz=54,slow=20,SNR=12						
BRTR	**Keskin Array B**	**145.35**	**278**	PKPbc	PKPbc	18 39 27.5	-0.2
	0.7nm,0.7s,baz=116,slow=2.9,SNR=4.2						
TORD	**Torodi Ar. Bea**	**145.46**	**206**	PKPbc	PKPbc	18 39 27.6	-0.9
	1.4nm,0.6s,baz=152,slow=2.1,SNR=13						
FINES	**FINESS Array B**	**152.09**	**319**	PKPbc	PKPbc	18 39 44.0	-0.5
	0.7nm,0.7s,baz=44,slow=6.2,SNR=3.2						

IDC 16 18:25:20.4±2.8, **49°.93N**×**91°.95E, h0**km, **mb3.3**/1, **mb1 3.3**/5, **mb1mx3.2**/32, **mbtmp3.3**/5, **ML3.3**/4, **MS2.8**/1, **Ms1 2.8**/1, **ms1mx2.5**/29, **3C, Error ellipse: s-maj=31.3km s-min=28.1km az=75.0, Mongolia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**5.97**	**315**	Pn	Pn	18 26 50.1	+0.2
	0.2nm,0.3s,baz=133,slow=14,SNR=2.7						
ZALV				Pg	Pb	18 27 08.7	+3.5
	0.6nm,0.3s,baz=134,slow=16,SNR=6.6						
ZALV				Lg	Lg	18 28 24.7	
	1.3nm,0.3s,baz=126,slow=28,SNR=9.1						
ZALV				LR	LR	18 28 35.8	
	comp=Z,82nm,19.8s,baz=71,slow=33						
MK31	**Makanchi Array**	**7.16**	**248**	Pn	Pn	18 27 07.5	+1.1
	0.7nm,0.4s,baz=78,slow=12,SNR=19						
MK31				⇑Pg	Pg	18 27 36.7	-0.9
	1.7nm,0.5s,baz=75,slow=17,SNR=11						
MKAR	**Makanchi Array**	**7.16**	**248**	Pn	Pn	18 27 07.6	+1.2
	0.4nm,0.3s,baz=53,slow=14,SNR=21						
MKAR				Pg	Pg	18 27 32.8	-4.9
	0.4nm,0.3s,baz=66,slow=14,SNR=6.2						
MKAR				Lg	Lg	18 29 03.8	
	0.6nm,0.3s,baz=28,slow=14,SNR=3.7						
KURBB	**Kurchatov Arra**	**8.63**	**280**	⇑Pn	Pn	18 27 25.6	-0.9
	3.8nm,0.3s						
KURBB				⇑Lg	Lg	18 29 51.2	
	38nm,0.7s						
KURBB	**Kurchatov Arra**	**8.63**	**280**	Pn	Pn	18 27 26.1	-0.4
	0.3nm,0.3s,baz=90,slow=14,SNR=43						
KURBB				Lg	Lg	18 29 51.8	
	0.1nm,0.3s,baz=88,slow=32,SNR=6.6						
SONM	**Songino Array**	**9.75**	**97**	Pg	Pn	18 28 16.6	+35
	0.1nm,0.3s,baz=286,slow=16,SNR=2.9						
SONM				Lg	Lg	18 30 24.2	
	0.1nm,0.3s,baz=300,slow=35,SNR=4.1						
BVAR	**Borovoye Array**	**13.78**	**291**	Pn	Pn	18 28 35.7	-1.2
	0.2nm,0.3s,baz=109,slow=13,SNR=3.4						
AKTO	**Aktyubinsk**	**21.63**	**284**	P	P	18 30 11.2	-0.9
	1.0nm,0.6s,baz=98,slow=11,SNR=4.7						

*IDC **16** 18:35:48.6±0.8, 18°.65S×65°.64E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.8/26, mbtmp3.8/10, ML3.8/1, Error ellipse: s-maj=26.6km s-min=19.7km az=88.0*
*ISCJB **16** 18:35:49.1±0.6, 18°.7S±0°.1×65°.7E±0°.1, h15km, mb4.0/11, Error ellipse: s-maj=17.2km s-min=14.3km az=164.8*
*NEIC **16** 18:35:50.2±0.4, 18°.67S×65°.66E, h10km, mb4.5/3, Error ellipse: s-maj=13.4km s-min=11.2km az=164.0*

ISC 16 18:35:51.0±0.7, **18°.7S**±0°.1×**65°.6E**±0°.1, **h15**km, **n22**, **s0°65/22, mb3.9/11, Mauritius - Reunion region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**17.46**	**267**	P	**P**	**18 39 55.1**	**-0.3**
OPO	**Ambohidratompo**	**17.46**	**267**	P	**P**	**18 39 55.1**	**-0.3**
	0.3nm,0.3s,baz=98,slow=13,SNR=4.0						
LBTB	**Lobatse**	**37.57**	**253**	*e*P	**P**	**18 43 05.5**	**+0.3**
	13nm,1.3s						
MAW	**Mawson**	**48.95**	**181**	P	**P**	**18 44 36.5**	**+0.2**
MAW	**Mawson**	**48.95**	**181**	P	**P**	**18 44 36.5**	**+0.2**
	2.8nm,0.7s,baz=319,slow=8.5,SNR=7.8						
CMAR	**Chiang Mai Arr**	**49.33**	**43**	P	**P**	**18 44 41.0**	**+1.2**
CMAR	**Chiang Mai Arr**	**49.33**	**43**	P	**P**	**18 44 41.0**	**+1.2**
	0.6nm,0.5s,baz=240,slow=8.9,SNR=5.2						
ASAR	**Alice Springs**	**63.36**	**108**	P	**P**	**18 46 19.6**	**-0.5**
ASAR	**Alice Springs**	**63.36**	**108**	P	**P**	**18 46 19.6**	**-0.5**
	0.6nm,1.0s,baz=270,slow=6.5,SNR=3.0						
WRA	**Warramunga Arr**	**64.45**	**104**	P	**P**	**18 46 26.9**	**-0.5**
WRA	**Warramunga Arr**	**64.45**	**104**	P	**P**	**18 46 26.9**	**-0.5**
	0.9nm,0.9s,baz=235,slow=7.4,SNR=3.5						
BRTR	**Keskin Array B**	**65.30**	**333**	P	**P**	**18 46 32.4**	**-0.2**
BRTR	**Keskin Array B**	**65.30**	**333**	P	**P**	**18 46 32.4**	**-0.2**
	0.5nm,0.8s,baz=133,slow=10,SNR=3.3						
SNAA	**Sanae**	**65.67**	**199**	*e*P	**P**	**18 46 34.0**	**-0.4**
	2.3nm,1.1s						
SNAA	**Sanae**	**65.67**	**199**	P	**P**	**18 46 34.3**	**-0.1**
	0.4nm,0.8s,baz=39,slow=5.4,SNR=4.1						
MKAR	**Makanchi Array**	**66.87**	**12**	P	**P**	**18 46 41.7**	**-0.6**
MKAR	**Makanchi Array**	**66.87**	**12**	P	**P**	**18 46 41.7**	**-0.6**
	0.5nm,0.9s,baz=207,slow=8.9,SNR=3.2						
VNDA	**Vanda**	**73.26**	**167**	P	**P**	**18 47 22.1**	**+0.9**
VNDA	**Vanda**	**73.26**	**167**	P	**P**	**18 47 22.1**	**+0.9**
	1.2nm,0.8s,baz=238,slow=6.5,SNR=3.7						
ZALV	**Zalesovo Beam**	**74.18**	**12**	P	**P**	**18 47 26.8**	**+0.1**
ZALV	**Zalesovo Beam**	**74.18**	**12**	P	**P**	**18 47 26.8**	**+0.1**
	1.0nm,0.7s,baz=224,slow=3.9,SNR=5.2						
CTAO	**Charters Tower**	**75.32**	**107**	*e*P	**P**	**18 47 33.2**	**-1.1**
	4.0nm,0.5s						

IDC 16 18:39:14.5±14.0, **17°.63S**×**167°.16E, h0**km, **mb3.7**/3, **mb1 3.8**/4, **mb1mx3.6**/19, **mbtmp3.6**/4, **ML3.5**/1, **Error ellipse: s-maj=243.4km s-min=38.9km az=69.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.47**	**189**	*e*LR	LR	19 11 38.3	
	1μm,24.2s						
DZM	**Mont Dzumac**	**4.47**	**189**	Pn	Pn	18 40 23.4	-0.3
	2.3nm,0.3s,baz=90,slow=24,SNR=9.4						
DZM				Sn	Sn	18 41 16.1	-0.4
	1.1nm,0.3s,baz=90,slow=20,SNR=2.7						
STKA	**Stephens Creek**	**27.12**	**234**	P	P	18 45 00.3	+1.0
	0.7nm,0.5s,baz=71,slow=13,SNR=4.8						
WRA	**Warramunga Arr**	**31.14**	**260**	P	P	18 45 35.1	-0.1
	0.4nm,0.6s,baz=87,slow=7.9,SNR=3.2						
ASAR	**Alice Springs**	**31.65**	**253**	P	P	18 45 39.1	-0.6
	0.7nm,0.6s,baz=78,slow=8.7,SNR=12						

IDC 16 18:40:20.9±28.0, 22°38S×174°05W, h0km, mb4.3/4, mb1 4.4/4, mb1mx3.9/21, mbtmp4.3/4, Error ellipse: s-maj=509.1km s-min=146.0km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.00**	**266**	P	P	18 47 33.4	+0.9
	3.6nm,0.5s,baz=92,slow=12,SNR=9.0						
STKA	**Stephens Creek**	**40.36**	**247**	P	P	18 47 59.5	-1.1
	4.4nm,1.1s,baz=84,slow=8.9,SNR=6.4						
ASAR	**Alice Springs**	**47.69**	**258**	P	P	18 48 59.4	-0.3
	1.6nm,0.7s,baz=96,slow=7.5,SNR=15						
WRA	**Warramunga Arr**	**48.00**	**263**	P	P	18 49 02.0	-0.1
	1.9nm,0.3s,baz=97,slow=8.5,SNR=41						

NIED ***16*** *18:42:00.24˚00N×122˚30E,h35km,Mw5.1 Best double couple: M₀4.52000×10¹⁶ NP1:ϕ₀74.00000°,δ79.00000°, λ39.00000°. NP2:ϕ₀335.00000°,δ52.00000°,λ165.00000°.*

SZGRF ***16*** *18:42:46.8,23˚84N×122˚57E,h33km,mb5.2,MS5.1, Taiwan region*

BJI ***16*** *18:42:47.0,24˚04N×122˚30E,h30km,mB5.1/33,mb4.6/48, ML4.4/9,Ms5.1/59,Ms7 5.1/52*

MOS ***16*** *18:42:47.6±0.9,24˚17N×122˚39E,h33km,mb5.3/63, MS4.9/9,Error ellipse: s-maj=8.3km s-min=4.1km az=118.3*

TAP ***16*** *18:42:47.7,24˚00N×122˚29E,h21km,ML5.1,C*

ISCJB ***16*** *18:42:48.7±0.2,24˚02N±0˚01×122˚30E±0˚01,h44km±1km, mb5.0/154,MS4.8/25,Error ellipse: s-maj=2.4km s-min=1.9km az=143.5*

IDC ***16*** *18:42:48.2±2.8,24˚14N×122˚38E,h27km±19km,mb4.5/27, mb1 4.6/29,mb1mx4.5/33,mbtmp4.5/29,ML4.3/3,MS4.5/16, Ms1 4.6/16,ms1mx4.4/31,Error ellipse: s-maj=14.8km s-min=10.3km az=67.0*

JMA ***16*** *18:42:48.2±0.4,24˚04N×122˚26E,h30km,M5.4*

NEIC ***16*** *18:42:49.7±0.5,24˚06N×122˚23E,h38km±4km,mb5.3/58, Error ellipse: s-maj=5.0km s-min=4.5km az=69.0*

NEIC Felt at Taipei. Also felt at Fuzhou, Fujian. Recorded [2 TAP] in Hua-lien, I-lan and T'ai-tung; [1 TAP] in Chang-hua, Chia-i, Nan-t'ou, T'ai-chung, T'ai-pei and Yun-lin.

GCMT ***16*** *18:42:50.9±0.3,23˚90N×122˚21E,h20km,MW5.2, Moment Tensor Solution. s26,c35; s66,c103; Moment tensor: Scale 10¹⁶Nm; Mrr1.35±.22; Mθθ-3.27±.12; Mϕϕ1.92±.17; Mrθ5.52±.24; Mθϕ0.48±.11; Mϕr3.50±.36; Best double couple: M₀7.10000×10¹⁶ NP1:ϕ₀314.00000°, δ21.00000°,λ163.00000°. NP2:ϕ₀59.00000°,δ84.00000°, λ69.00000°. Principal axes: T 7.0600, Plg47.0000°, Azm308.0000°; N 0.1700, Plg21.0000°, Azm61.0000°; P -7.2300, Plg36.0000°, Azm167.0000°; Data Used: II IC G IU CN.*

DJA ***16*** *18:42:51.1±1.1,24˚N±6˚×12˚2E±˚,h48km±12km,M5.0/12, mB5.5/11,mb5.0/12,MLv5.0/1,Mw(mB)4.9/11*

BKK ***16*** *18:42:53.9±0.8,24˚N±4˚×12˚2E±˚,h49km±8km,M4.8/24, mB5.3/9,mb5.0/24,MLv4.9/1,Mw(mB)4.7/9*

ISC 16 18:42:49.1±0.3, 24°01N±0˚02×122°28E±0˚02, h33km±1km, h33km:pP-P,n603,σ1§35/708, mb5.1/165, MS4.7/26, 56C-41D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.58**	**302**	*e*P	**Pb**	**18 43 01.0**	**0.0**
	baz=302						
EHP				*e*S	**Sb**	**18 43 09.4**	**+0.2**
	baz=302						
HWA	**Hwalien**	**0.62**	**268**	*e*P	**Pn**	**18 43 00.2**	**-1.4**
	baz=253						
TWD	**Chiawan**	**0.63**	**277**	⇓*i*P	**Pn**	**18 43 00.3**	**-1.4**
	baz=277						
TWD				S	**Sb**	**18 43 09.3**	**-1.2**
	baz=277						
ENA	**Nanau**	**0.65**	**311**	⇑*i*P	**Pn**	**18 43 00.4**	**-1.6**
	baz=320						
NACB	**Ninganchiao**	**0.65**	**285**	*e*Pn	**Pn**	**18 43 00.3**	**-1.6**
TWC	**Suao**	**0.72**	**327**	⇑*i*P	**Pn**	**18 43 01.5**	**-1.5**
	baz=334						
TWC				*e*S	**Sn**	**18 43 11.4**	**-1.4**
	baz=334						
ESF	**Shoufeng Towns**	**0.72**	**259**	*e*P	**Pn**	**18 43 02.0**	**-0.9**
	baz=247						
TEGC	**Jichi Village**	**0.74**	**247**	*e*P	**Pn**	**18 43 02.5**	**-0.7**
	baz=247						
TEGC				*e*S	**Sn**	**18 43 12.5**	**-0.9**
	baz=247						
ESL	**Shilin**	**0.80**	**256**	⇓*i*P	**Pn**	**18 43 02.3**	**-1.8**
	baz=245						
ESL				*e*S	**Sn**	**18 43 12.9**	**-1.9**
	baz=245						
YOJ	**Yonaguni jima**	**0.81**	**56**	⇓*i*P	**Pn**	**18 43 03.3**	**-0.8**
	baz=53						
YOJ				*e*S	**Sn**	**18 43 13.6**	**-1.3**
	baz=53						
YOJ	**Yonaguni jima**	**0.81**	**56**	P	**Pn**	**18 43 03.2**	**-0.9**
YOJ				S	**Sn**	**18 43 13.5**	**-1.5**
ILA	**Ilan**	**0.90**	**327**	*e*P	**Pn**	**18 43 05.3**	**-0.2**
	baz=326						
ILA				*e*S	**Sb**	**18 43 18.7**	**+0.7**
	baz=326						
TWE	**Neicheng**	**0.91**	**322**	⇑P	**Pn**	**18 43 05.1**	**-0.4**
	baz=328						
TWE				*e*S	**Sb**	**18 43 18.8**	**+0.6**
	baz=328						
ENTT	**Nioudou**	**0.91**	**314**	⇑*i*P	**Pn**	**18 43 05.3**	**-0.3**
	baz=314						
NNS	**Nan Shan**	**0.94**	**298**	⇓*i*P	**Pn**	**18 43 05.6**	**-0.5**
	baz=298						
WHF	**Hehuan Shan**	**0.94**	**279**	⇓*i*P	**Pn**	**18 43 05.3**	**-1.0**
	baz=264						
EHY	**Hungye**	**1.01**	**241**	⇑*i*P	**Pn**	**18 43 05.5**	**-1.4**
	baz=241						
EHY				*e*S	**Sn**	**18 43 19.1**	**-0.9**
	baz=241						
TWB1	**Santiao Chiao**	**1.03**	**345**	⇓*e*P	**Pn**	**18 43 07.0**	**-0.3**
	baz=330						
TWB1				*e*S	**Sb**	**18 43 21.9**	**+0.1**
	baz=330						
TWT	**Tachien**	**1.04**	**284**	⇓*i*P	**Pn**	**18 43 07.4**	**-0.2**
	baz=273						
TWT				*e*S	**Sn**	**18 43 21.1**	**+0.1**
	baz=273						
YHNB	**Yeheng**	**1.06**	**309**	*e*Pn	**Pn**	**18 43 06.0**	**-1.7**
NSK	**Sanguang**	**1.07**	**309**	⇓*i*P	**Pn**	**18 43 07.8**	**-0.1**
	baz=308						
YULB	**Yu-li**	**1.09**	**236**	*e*Pn	**Pn**	**18 43 06.2**	**-1.9**
TWF1	**Yuli**	**1.11**	**234**	⇑*i*P	**Pn**	**18 43 07.3**	**-1.1**
	baz=222						
TWF1				*e*S	**Sn**	**18 43 21.4**	**-1.2**
	baz=222						
NWF	**Wu-fen Shan**	**1.16**	**337**	⇓P	**Pn**	**18 43 09.3**	**+0.2**
	baz=353						
TWA	**Mucha**	**1.16**	**327**	⇓*i*P	**Pb**	**18 43 10.1**	**-0.6**
	baz=327						
TATO	**Taipei**	**1.21**	**323**	*e*Pn	**Pn**	**18 43 10.2**	**+0.5**
CHKT	**Chengkung**	**1.23**	**223**	P	**Pn**	**18 43 08.0**	**-2.1**
	baz=211						
CHKT				*e*S	**Sn**	**18 43 22.7**	**-2.8**
	baz=211						
SSLB	**Suanglung**	**1.23**	**260**	*e*Pn	**Pn**	**18 43 09.1**	**-1.0**
TAP1	**Taipei**	**1.24**	**326**	P	**Pn**	**18 43 10.8**	**+0.6**
	baz=325						
TAP	**Taipei**	**1.25**	**326**	⇓*e*P	**Pn**	**18 43 10.9**	**+0.7**
	baz=324						
TAP				*e*S	**Sb**	**18 43 28.7**	**+0.8**
	baz=324						
SMLT	**Sun Moon Lake**	**1.27**	**265**	⇓*i*P	**Pn**	**18 43 10.5**	**-0.1**
	baz=254						
SMLT				*e*S	**Sn**	**18 43 26.3**	**-0.3**
	baz=254						
TYC	**Yuchr**	**1.31**	**266**	⇓*i*P	**Pn**	**18 43 10.9**	**-0.2**
	baz=266						
YUS	**Yu-Shan**	**1.32**	**247**	⇑*e*P	**Pn**	**18 43 11.2**	**-0.5**
	baz=248						
YUS				*e*S	**Sn**	**18 43 27.6**	**-0.8**
	baz=248						
NSTT	**Nanjuang**	**1.32**	**298**	⇓*i*P	**Pn**	**18 43 12.3**	**+1.1**
	baz=298						
NSTT				*e*S	**Sb**	**18 43 29.9**	**-0.2**
	baz=298						
TWS1	**Kuangyinshan**	**1.34**	**324**	⇓*i*P	**Pn**	**18 43 12.4**	**+0.8**
	baz=323						
IRIF	**Iriomote-Funau**	**1.36**	**76**	P	**Pn**	**18 43 11.8**	**0.0**
IRIF				S	**Sb**	**18 43 30.8**	**-0.4**
NCU	**National Centr**	**1.39**	**314**	*e*P	**Pn**	**18 43 12.8**	**+0.7**
	baz=313						
HATJ	**Hateruma jima**	**1.39**	**88**	P	**Pn**	**18 43 12.4**	**+0.2**
HATJ				*e*S	**Sn**	**18 43 29.9**	**+0.4**
TWY	**Chenhua**	**1.41**	**334**	*e*P	**Pn**	**18 43 12.5**	**+0.1**
	baz=350						
ELDTW	**Lidau**	**1.42**	**235**	⇑*i*P	**Pn**	**18 43 11.3**	**-1.3**
	baz=236						
ELDTW				*e*S	**Sn**	**18 43 28.3**	**-2.0**
	baz=236						
TWQ1	**Liyutan**	**1.42**	**284**	⇓*i*P	**Pb**	**18 43 14.0**	**-1.0**
	baz=284						
TWQ1				*e*S	**Sb**	**18 43 32.5**	**-0.3**
	baz=284						
HSN	**Hsinchu**	**1.44**	**304**	*e*P	**Pn**	**18 43 13.2**	**+0.4**
	baz=305						
ALS	**Alishan**	**1.44**	**250**	⇑*i*P	**Pn**	**18 43 13.3**	**+0.1**
	baz=251						
NSY	**Sanyi**	**1.45**	**287**	⇓*i*P	**Pb**	**18 43 14.6**	**-0.9**
	baz=286						
NSY				*e*S	**Sb**	**18 43 33.5**	**-0.1**
	baz=286						
WNT	**Mingjian**	**1.47**	**265**	*e*P	**Pn**	**18 43 14.4**	**+1.1**
	baz=266						
WNT				*e*S	**Sb**	**18 43 33.8**	**-0.4**
	baz=266						
TCU	**Taichung**	**1.47**	**276**	⇓*i*P	**Pb**	**18 43 14.9**	**-1.0**
	baz=276						
TCU				*e*S	**Sb**	**18 43 34.1**	**-0.2**
	baz=276						
CHN5	**Tsauling**	**1.52**	**255**	⇓P	**Pn**	**18 43 14.8**	**+0.7**
	baz=255						
JKRS	**Kuro-shima**	**1.59**	**81**	P	**Pn**	**18 43 15.4**	**+0.4**
JKRS				*e*S	**Sb**	**18 43 37.1**	**-0.7**
TWG	**Pinlang**	**1.62**	**224**	⇑*e*P	**Pn**	**18 43 13.8**	**-1.6**
	baz=224						
TWG	**Pinlang**	**1.62**	**224**	*e*Pn	**Pn**	**18 43 13.6**	**-1.8**
TTN	**Taitung**	**1.62**	**220**	*e*P	**Pn**	**18 43 14.4**	**-1.0**
	baz=221						
TTN				*e*S	**Sn**	**18 43 35.4**	**+0.2**
	baz=221						
PCYT	**Pengchaiyu**	**1.63**	**353**	⇓P	**Pn**	**18 43 15.5**	**0.0**
	baz=352						
STYT	**Tauyuan**	**1.63**	**239**	⇑*i*P	**Pn**	**18 43 15.6**	**0.0**
	baz=228						
STYT				*e*S	**Sn**	**18 43 36.2**	**+0.7**
	baz=228						
TPUB	**Ta-pu**	**1.67**	**245**	*e*Pn	**Pn**	**18 43 16.4**	**+0.3**
CHN4	**Tsaushan**	**1.68**	**248**	⇑P	**Pn**	**18 43 17.0**	**+0.8**
	baz=248						
CHN4				*e*S	**Sb**	**18 43 39.6**	**-0.6**
	baz=248						
WTP	**Ta-pu**	**1.71**	**244**	⇑*i*P	**Pn**	**18 43 17.3**	**+0.7**
	baz=245						
WTP				*e*S	**Sb**	**18 43 39.8**	**-1.2**
	baz=245						
CHN2	**Minshiung**	**1.72**	**254**	*e*P	**Pb**	**18 43 18.6**	**-1.5**
	baz=255						
CHN2				*e*S	**Sb**	**18 43 41.0**	**-0.3**
	baz=255						
JIJ	**Ishigaki jima**	**1.74**	**78**	P	**Pn**	**18 43 16.5**	**-0.5**
JIJ				S	**Sn**	**18 43 38.0**	**0.0**
CHY	**Chiayi**	**1.77**	**254**	*e*P	**Pn**	**18 43 18.7**	**+1.2**
	baz=254						
CHY				*e*S	**Sn**	**18 43 41.0**	**+2.0**
	baz=254						
TWK	**Hsinying**	**1.80**	**246**	⇑*e*P	**Pn**	**18 43 18.9**	**+1.0**
	baz=247						
TWK				*e*S	**Sn**	**18 43 41.8**	**+2.1**
	baz=247						
CHN1	**Nanshi**	**1.80**	**243**	⇑*i*P	**Pn**	**18 43 19.1**	**+1.2**
	baz=244						
CHN1				*e*S	**Sb**	**18 43 42.1**	**-1.7**
	baz=244						
SGST	**Jiashian**	**1.81**	**240**	*e*P	**Pn**	**18 43 18.8**	**+0.8**
	baz=229						
SGST				*e*S	**Sb**	**18 43 42.2**	**-1.7**
	baz=229						
WTCT	**Ta-ch'eng**	**1.84**	**266**	*e*P	**Pn**	**18 43 19.4**	**+1.1**
	baz=266						
WTCT				*e*S	**Sb**	**18 43 43.8**	**-0.8**
	baz=266						
ECL	**Taimali**	**1.86**	**221**	⇑*e*P	**Pn**	**18 43 16.8**	**-1.8**
	baz=233						
WSF	**Szhu**	**1.92**	**259**	*e*P	**Pn**	**18 43 21.0**	**+1.5**
	baz=260						
WSF				*e*S	**Sb**	**18 43 45.6**	**-1.5**
	baz=260						
CHN3	**Shinhua**	**1.99**	**243**	*e*P	**Pb**	**18 43 23.2**	**-1.4**
	baz=244						
CHN3				*e*S	**Sb**	**18 43 48.9**	**-0.1**
	baz=244						
CHN8	**Yiju**	**2.01**	**251**	*e*P	**Pn**	**18 43 21.6**	**+0.9**
	baz=252						
CHN8				*e*S	**Sn**	**18 43 47.1**	**+2.4**
	baz=252						
LAY	**Lan-yu**	**2.07**	**199**	*e*P	**Pn**	**18 43 19.2**	**-2.4**
	baz=211						
LAY				*e*S	**Sn**	**18 43 42.7**	**-3.6**
	baz=211						
TWM1	**Shoushan**	**2.07**	**236**	*e*P	**Pn**	**18 43 23.8**	**+2.2**
	baz=236						
TWM1				*e*S	**Sb**	**18 43 51.9**	**+0.4**
	baz=236						
TAW	**Tawu**	**2.08**	**218**	*e*P	**Pn**	**18 43 20.2**	**-1.4**
	baz=219						
SGLT	**Jiouru**	**2.08**	**233**	*e*P	**Pb**	**18 43 24.5**	**-1.7**
	baz=223						
SGLT				*e*S	**Sn**	**18 43 48.9**	**+2.5**
	baz=223						
SCLT	**Jiali**	**2.09**	**247**	*e*P	**Pn**	**18 43 21.6**	**-0.2**
	baz=248						
SCLT				*e*S	**Sn**	**18 43 49.2**	**+2.6**
	baz=248						
TAI1	**Yung-k'ang**	**2.12**	**243**	*e*P	**Pn**	**18 43 24.0**	**+1.9**
	baz=244						
TAI1				*e*S	**Sn**	**18 43 50.1**	**+2.9**
	baz=244						
SCZT	**Fangliau**	**2.23**	**224**	⇑P	**Pn**	**18 43 23.5**	**-0.2**
	baz=218						
SCZT				*e*S	**Sn**	**18 43 52.8**	**+2.6**
	baz=218						
JTJ	**Tarama**	**2.30**	**74**	P	**Pn**	**18 43 25.0**	**+0.3**
JTJ				*e*S	**Sn**	**18 43 54.3**	**+2.5**
KAU	**Kaohsiung**	**2.31**	**232**	*e*P	**Pn**	**18 43 27.0**	**+2.2**
	baz=233						
TWP	**Hsiaoliuchiu**	**2.42**	**227**	*e*P	**Pn**	**18 43 28.6**	**+2.3**
	baz=228						
HEN	**Hengchun**	**2.45**	**216**	*e*P	**Pn**	**18 43 26.5**	**-0.2**
	baz=217						
HEN				*e*S	**Sn**	**18 43 55.1**	**-0.3**
	baz=217						
TSEB	**Hengchuen, Pin**	**2.45**	**212**	*e*P	**Pn**	**18 43 26.7**	**-0.1**
	baz=214						
TSEB				*e*S	**Sn**	**18 43 55.2**	**-0.4**
	baz=214						
TWK1	**Hengchun**	**2.46**	**214**	*e*P	**Pn**	**18 43 26.1**	**-0.9**
	baz=216						
TWK1				*e*S	**Sn**	**18 43 55.7**	**-0.2**
	baz=216						
PNG	**Penghu**	**2.54**	**261**	⇑*e*P	**Pn**	**18 43 27.9**	**0.0**
	baz=261						
PNG				*e*S	**Sn**	**18 43 58.4**	**+0.7**
	baz=261						
JMJ	**Miyako jima 2**	**2.86**	**73**	*e*P	**Pn**	**18 43 33.0**	**+0.6**
	baz=74						
JMJ	**Miyako jima 2**	**2.86**	**73**	P	**Pn**	**18 43 34.2**	**+1.8**
JMJ				S	**Sn**	**18 44 09.1**	**+3.4**
JOGS	**Gusukube**	**2.95**	**75**	P	**Pn**	**18 43 35.5**	**+1.9**
QZH	**Quanzhou**	**3.49**	**286**	⇑*i*Pn	**Pn**	**18 43 40.3**	**-0.8**
QZH				Sn	**Sn**	**18 44 18.8**	**-2.4**
QZH				smax	smax		
	comp=N,2μm,0.9s						
QZH				smax	smax		
	comp=E,2μm,0.8s						
QZH				LR	LR		
	comp=N,26μm,10.3s						
QZH				LR	LR		
	comp=E,22μm,9.0s						
QZH				LR	LR		
	comp=Z,30μm,11.4s						
KNM	**Kinmen**	**3.54**	**277**	⇓*e*P	**Pn**	**18 43 43.1**	**+1.4**
	baz=275						
KNM				*e*S	**Sn**	**18 44 23.8**	**+1.3**
	baz=275						
JKE	**Kume jima 2**	**4.69**	**60**	P	**Pn**	**18 43 57.6**	**0.0**
JAGN	**Aguni-jima**	**5.17**	**59**	P	**Pn**	**18 44 04.8**	**+0.6**
JAGN				*e*S	**Sn**	**18 45 05.2**	**+2.4**
JIH	**Iheya**	**5.96**	**58**	P	**Pn**	**18 44 13.9**	**-1.1**
JOW	**Kunigami**	**6.11**	**61**	*e*P	**Pn**	**18 44 15.8**	**-1.2**
	baz=65						
JOW	**Kunigami**	**6.11**	**61**	*e*Pn	**Pn**	**18 44 15.9**	**-1.2**
JOW	**Kunigami**	**6.11**	**61**	P	**Pn**	**18 44 15.7**	**-1.4**
APYP	**Conner**	**6.19**	**189**	*e*P	**Pn**	**18 44 18.0**	**-0.2**
APYP				*e*S	**Pb**	**18 44 35.7**	**-0.5**
SIPP	**Brgy, Tapao**	**6.29**	**196**	⇓*i*P	**Pn**	**18 44 20.3**	**+0.8**
ABRA	**Dolores**	**6.49**	**193**	*e*P	**Pn**	**18 44 23.1**	**+0.8**
PALP	**Palanan**	**6.91**	**179**	⇑*e*P	**Pn**	**18 44 26.4**	**-1.7**
PALP				*e*S	**Sn**	**18 45 45.4**	**-0.2**
CAUP	**Cauayan**	**7.04**	**184**	*e*P	**Pn**	**18 44 31.7**	**+1.8**
JTK	**Tokunoshima**	**7.09**	**57**	P	**Pn**	**18 44 28.4**	**-2.1**
SSE	**Sheshan**	**7.13**	**352**	*e*P	**Pn**	**18 44 31.0**	**-0.1**
SSE				S	**Sn**	**18 45 52.0**	**+1.1**
SSE				pmax	pmax		
	comp=Z,38nm,0.5s						
SSE				pmax	pmax		
	comp=Z,67nm,3.5s						
SSE				smax	smax		
	comp=N,110nm,1.2s						
SSE				smax	smax		
	comp=E,140nm,0.9s						
SSE				LR	LR		
	comp=N,7μm,12.5s						
SSE				LR	LR		
	comp=E,2μm,12.5s						
SSE				LR	LR		
	comp=Z,9μm,13.2s						
JAMN	**Amaminishikomi**	**7.50**	**54**	P	**Pn**	**18 44 34.0**	**-2.1**
HKC	**Hong Kong Obse**	**7.65**	**259**	P	**Pn**	**18 44 38.0**	**-0.3**
JAM	**Amami Oshima**	**7.91**	**55**	P	**Pn**	**18 44 39.7**	**-2.0**
BALP	**Baler**	**8.25**	**185**	*e*P	**Pn**	**18 44 48.1**	**+1.6**
JMZ	**Minamidaito 2**	**8.31**	**76**	P	Pn	18 44 43.8	-3.6
NJ2	**Nanjing**	**8.57**	**340**	*e*P	**Pn**	**18 44 50.3**	**-0.5**
NJ2				pP		18 44 57.3	
NJ2				sP		18 45 01.1	
NJ2				S	**Sn**	**18 46 27.5**	**+1.2**
NJ2				sS		18 46 37.8	
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
NJ2				smax	smax		
	comp=N,180nm,1.1s						
NJ2				smax	smax		
	comp=E,210nm,1.4s						
NJ2				LR	LR		
	comp=N,11μm,11.8s						
NJ2				LR	LR		
	comp=E,6μm,10.6s						
NJ2				LR	LR		
	comp=Z,15μm,10.8s						
WHN	**Wuhan**	**9.60**	**314**	P	**Pn**	**18 45 06.3**	**+1.3**
WHN				S	Sn	18 46 58.8	+7.1
WHN				LR	LR		
	comp=N,14μm,10.9s						
WHN				LR	LR		
	comp=E,7μm,9.9s						
WHN				LR	LR		
	comp=Z,17μm,11.8s						
TGY	**Tagaytay City**	**9.93**	**188**	Pn	Pn	18 45 13.3	+3.7
TGY	**Tagaytay City**	**9.93**	**188**	Pn	Pn	18 45 13.3	+3.7
	comp=Z,10nm,0.3s,baz=201,slow=5.6,SNR=6.2						
JNU	**Nakatsue**	**11.81**	**38**	*e*P	Pn	18 45 41.3	+6.1
	comp=Z,7.9nm,1.1s						
JNU	**Nakatsue**	**11.81**	**38**	Pn	**Pn**	**18 45 37.0**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=262,slow=12,SNR=5.1						
JNU				LR	LR	18 50 38.6	
	comp=Z,2μm,19.2s,baz=216,slow=40						
QIZ	**Qiongzhong**	**12.59**	**249**	P	**Pn**	**18 45 45.5**	**-0.5**
QIZ				S	**Sn**	**18 48 05.9**	**+0.8**
QIZ				LR	LR		
	comp=N,2μm,18.5s						
QIZ				LR	LR		
	comp=E,750nm,19.2s						
QIZ				LR	LR		
	comp=Z,1μm,20.5s						
ENH	**Enshi**	**12.98**	**302**	*e*P	**Pn**	**18 45 51.2**	**-0.1**
	comp=Z,33nm,1.2s						
INCN	**Inchon**	**13.94**	**15**	*e*Pn	**P**	**18 46 09.3**	**-2.7**
KSAR	**Wonju Array Be**	**14.23**	**18**	Pn	**Pn**	**18 46 07.2**	**-1.0**
KSRS	**Korea Array**	**14.25**	**19**	Pn	**Pn**	**18 46 07.2**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=199,slow=12,SNR=57						
KSRS				LR	LR	18 52 10.7	
	comp=Z,2μm,19.4s,baz=199,slow=40						
GYA	**Guiyang**	**14.34**	**283**	⇑*i*P	**Pn**	**18 46 10.3**	**+0.3**
GYA				pP	**P**	**18 46 17.8**	**+1.1**
GYA				S	**Sn**	**18 48 47.5**	**-0.6**
GYA				sS	S	18 49 01.3	-6.2
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,4.8s						
GYA				LR	LR		
	comp=N,660nm,15.5s						
GYA				LR	LR		
	comp=E,490nm,16.0s						
DL2	**Dalian**	**14.87**	**358**	⇓P	**Pn**	**18 46 17.8**	**+0.9**
DL2				*e*S	**Sn**	**18 49 00.9**	**+0.5**
DL2				pmax	pmax		
	comp=Z,37nm,1.1s						
DL2				pmax	pmax		
	comp=Z,560nm,4.1s						
DL2				LR	LR		
	comp=N,3μm,12.7s						
DL2				LR	LR		
	comp=E,620nm,12.4s						
DL2				LR	LR		
	comp=Z,4μm,12.6s						
XAN	**Xi'an**	**15.37**	**314**	P	**P**	**18 46 28.4**	**+0.5**
XAN				S	**S**	**18 49 21.9**	**-6.3**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
XAN				LR	LR		
	comp=N,2μm,14.0s						
XAN				LR	LR		
	comp=E,680nm,15.6s						
XAN				LR	LR		
	comp=Z,1μm,12.8s						
BJT	**Baijiatuau**	**16.78**	**344**	*e*P	**P**	**18 46 43.1**	**-0.3**
CTBH	**Cotabato--PC H**	**16.80**	**173**	⇑*e*P	**P**	**18 46 43.3**	**-0.4**
BJI	**Beijing**	**16.80**	**344**	P	**P**	**18 46 42.8**	**-0.8**
BJI				S	**Sn**	**18 49 48.9**	**+1.6**
BJI				pmax	pmax		
	comp=Z,12nm,0.8s						
BJI				pmax	pmax		
	comp=Z,920nm,9.3s						
BJI				LR	LR		
	comp=N,5μm,15.4s						
BJI				LR	LR		
	comp=E,2μm,20.5s						
BJI				LR	LR		
	comp=Z,2μm,18.1s						
DAV	**Davao City (W)**	**17.13**	**169**	LR	LR	18 53 10.2	
	comp=Z,2μm,19.8s,baz=357,slow=36						
SNY	**Shenyang**	**17.81**	**3**	⇓P	**P**	**18 46 56.0**	**+1.2**
SNY				S	**Sn**	**18 50 14.5**	**+2.8**
SNY

CD2 sP **sP** 18 47 08.5 +0.6
CD2 PP **PnPn** 18 47 10.0 +4.5
CD2 S **Sn** 18 50 08.6 -3.5
CD2 sS **S** 18 50 21.8 +3.7
CD2 SS **SnSn** 18 50 31.3 +5.6
CD2 pmax pmax
comp=Z,50nm,1.3s
CD2 pmax pmax
comp=Z,2µm,10.4s
CD2 LR LR
comp=N,6µm,11.8s
CD2 LR LR
comp=Z,6µm,11.8s
KMI Kunming 17.81 278 P **Pn** 18 46 55.0 +0.3
KMI pP **pP** 18 47 03.3 -0.7
KMI sP **sP** 18 47 08.8 +0.6
KMI PP **PnPn** 18 47 10.3 +4.6
KMI S **Sn** 18 50 08.3 -4.2
KMI sS **S** 18 50 21.8 +3.2
KMI SS **SnSn** 18 50 31.3 +5.2
KMI pmax pmax
comp=Z,20nm,1.5s
KMI pmax pmax
comp=Z,700nm,10.3s
KMI LR LR
comp=N,6µm,13.0s
KMI LR LR
comp=E,4µm,10.5s
KMI LR LR
comp=Z,5µm,10.9s
MAT Matsushiro 18.55 44 P **P** 18 47 02.0 -1.1
MJAR Matsushiro Arr 18.55 44 P **P** 18 47 01.0 -2.1
MJAR Matsushiro Arr 18.55 44 P **P** 18 47 01.0 -2.1
comp=Z,0.4nm,0.3s,baz=237,slow=11,SNR=8.8
MJAR LR LR 18 53 34.4
comp=Z,932nm,21.9s,baz=240,slow=35
KKM Kota Kinabalu 18.79 199 *e*Pn **Pn** 18 47 10.2 +3.7
comp=Z,244nm,1.4s
KKM Kota Kinabalu 18.79 199 P **Pn** 18 47 09.9 +3.4
comp=Z,125nm,1.3s,comp=Z,2µm
HHC Hu-ho-hao-te 19.05 334 *e*P **Pn** 18 47 10.4 +0.8
HHC sP **sP** 18 47 23.3 +1.7
HHC S **Sn** 18 50 36.6 -5.4
HHC sS **S** 18 50 44.6 +1.6
HHC SS **SnSn** 18 51 02.0 +5.6
HHC PcP **PcP** 18 51 36.1 +3.4
HHC pmax pmax
comp=Z,79nm,1.2s
HHC pmax pmax
comp=Z,2µm,5.0s
HHC LR LR
comp=N,10µm,13.5s
HHC LR LR
comp=E,6µm,14.0s
HHC LR LR
comp=Z,10µm,14.5s
MYLDM Lahad Datu 19.07 192 P **Pn** 18 47 14.2 +4.4
comp=Z,106nm,1.3s,comp=Z,3µm
BTO Baotou 19.49 331 *e*P **Pn** 18 47 14.3 -0.6
CN2 Changchun 19.92 7 *e*P **P** 18 47 18.3 +0.4
CN2 *e*S **S** 18 51 00.3 0.0
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,5µm,13.0s
CN2 LR LR
comp=E,2µm,13.0s
CN2 LR LR
comp=Z,5µm,13.0s
LZH Lanzhou 19.95 311 ⇑P **Pn** 18 47 20.4 0.0
LZH pP **pP** 18 47 28.0 +0.7
LZH sP **sP** 18 47 32.5 +0.9
LZH sS sS 18 51 10.0 -5.4
LZH SS **SnSn** 18 51 23.5 +4.9
LZH pmax pmax
comp=Z,260nm,1.8s
LZH pmax pmax
comp=Z,650nm,6.3s
LZH LR LR
comp=N,3µm,10.3s
LZH LR LR
comp=E,3µm,14.1s
LZH LR LR
comp=Z,5µm,13.4s
VLA Vladivostok 20.65 20 *e*P **P** 18 47 24.2 -1.7
VLA pmax pmax
comp=Z,51nm,1.3s
LOEI Loei 20.68 256 P Pn 18 47 28.8 -0.1
comp=Z,60nm,0.7s
PBKT Sadao Pong 21.30 254 P **P** 18 47 35.2 +2.1
comp=Z,32nm,1.7s,comp=Z,1µm
PBKT Sadao Pong 21.30 254 P **P** 18 47 36.7 +3.6
comp=Z,32nm,1.7s,comp=Z,1µm
MDJ Mudanjiang 21.41 14 P **P** 18 47 35.9 +1.8
MDJ sP **sP** 18 47 48.5 +1.4
MDJ S **S** 18 51 30.8 +0.9
MDJ pmax pmax
comp=Z,10.0nm,1.8s
MDJ LR LR
comp=E,3µm,13.0s
MDJ LR LR
comp=Z,4µm,13.0s
USRK Ussuriysk Arra 21.66 19 P **P** 18 47 35.3 -1.4
comp=Z,4.9nm,0.6s,baz=200,slow=11,SNR=12
USRK LR LR 18 55 54.2
comp=Z,1µm,19.5s,baz=185,slow=37
LAMP Lampang 21.79 260 P **P** 18 47 42.2 +3.8
comp=Z,9.6nm,0.9s,comp=Z,81nm
NAYO Nakonayok 21.99 248 P P 18 47 50.2 +10
CMMT Chiang Mai 22.32 261 P **P** 18 47 46.6 +2.5
comp=Z,27nm,1.6s,comp=Z,640nm
CMMT Chiang Mai 22.32 261 P **P** 18 47 46.6 +2.5
comp=Z,27nm,1.6s,comp=Z,640nm
CHTO Chiang Mai 22.32 261 *e*P **P** 18 47 46.0 +1.9
CHTO pmax pmax
comp=Z,71nm,1.6s
CHTO Chiang Mai 22.32 261 *e*P **P** 18 47 46.0 +1.9
comp=Z,71nm,1.6s
CHTO Chiang Mai 22.32 261 P **P** 18 47 46.6 +2.5
comp=Z,31nm,1.6s,comp=Z,562nm
CHTO Chiang Mai 22.32 261 P **P** 18 47 46.8 +2.7
comp=Z,31nm,1.6s,comp=Z,561nm
CMAR Chiang Mai Arr 22.43 260 P **P** 18 47 46.7 +1.4
CMAR PcP **PcP** 18 51 37.5 -1.8
CMAR Chiang Mai Arr 22.43 260 P **P** 18 47 46.7 +1.4
comp=Z,5.0nm,0.9s,baz=62,slow=7.1,SNR=29
CMAR PcP **PcP** 18 51 37.5 -1.8
comp=Z,0.7nm,0.5s,baz=334,slow=1.1,SNR=5.1
CMAR LR LR 18 57 43.0
comp=Z,763nm,18.5s,baz=80,slow=40
MNI Manado 22.57 173 P P 18 47 52.5 +5.8
GTOI Gorontalo 23.24 178 P **P** 18 47 53.8 +0.2
comp=Z,196nm,1.2s,comp=Z,2µm
MRSI Marisa 23.39 181 P **P** 18 47 58.5 +3.4
comp=Z,73nm,1.7s,comp=Z,1µm
TNTI Ternate 23.62 167 P **P** 18 47 57.7 +0.4
comp=Z,246nm,1.1s,comp=Z,3µm
GUMO Guam 23.73 112 *e*P **P** 18 47 58.0 -0.4
comp=Z,226nm,1.1s
GTA Gaotai 24.42 314 ⇑P **P** 18 48 04.8 0.0
GTA pP **pP** 18 48 13.3 -1.0
GTA sP **sP** 18 48 17.4 -1.0
GTA PcP **PcP** 18 51 43.8 +0.5
GTA S **S** 18 52 22.1 -0.6
GTA pmax pmax
comp=Z,19nm,1.7s
GTA pmax pmax
comp=Z,570nm,5.7s
GTA LR LR
comp=N,1µm,15.2s
GTA LR LR
comp=E,2µm,17.6s
GTA LR LR
comp=Z,2µm,15.7s
LUWI Luwuk 24.90 179 P **P** 18 48 10.0 +0.9
comp=Z,124nm,1.3s,comp=Z,2µm
ERM Erimo 24.97 39 *e*P **P** 18 48 06.7 -2.9
ERM pmax pmax
comp=Z,107nm,2.7s
LBMI Labuha 25.02 168 P **P** 18 48 11.2 +1.0
comp=Z,276nm,0.9s,comp=Z,3µm
KSM Kuching 25.22 209 *e*P **P** 18 48 12.6 +0.5
comp=Z,44nm,1.1s
HIA Hailar 25.29 356 *e*P **P** 18 48 11.3 -1.1
comp=Z,8.2nm,0.6s
ASAJ Asahikawa 26.06 35 P **P** 18 48 17.1 -2.4
ASAJ Asahikawa 26.06 35 P **P** 18 48 17.1 -2.4
comp=Z,5.5nm,0.4s,baz=238,slow=8.4,SNR=24
ASAJ LR LR 18 59 42.7
comp=Z,1µm,18.2s,baz=237,slow=39
HABR Khabarovsk 26.43 19 P **P** 18 48 20.2 -2.5
HABR *e**PP **pP** 18 48 29.2 -3.0
HABR PPP PPP 18 49 07.2
HABR S **S** 18 52 51.0 -3.1
HABR *e**SS **sS** 18 53 06.8 -3.0
HABR *e*SS **SnSn** 18 53 52.4 -4.2
HABR *e* 18 59 12.2
HABR pmax pmax
comp=E,114nm,2.5s
HABR pmax pmax
comp=Z,131nm,3.8s
HABR pmax pmax
comp=N,155nm,3.8s
HABR MLR MLR
comp=Z,2µm,18.0s
ULN Ulaanbaatar 26.71 337 *e*P **P** 18 48 24.3 -1.2
comp=Z,46nm,0.6s
ULN Ulaanbaatar 26.71 337 P **P** 18 48 25.1 -0.4
SONM Songino Array 26.93 336 P **P** 18 48 26.7 -0.7
SONM PcP **PcP** 18 51 47.6 -1.3
SONM ScP **ScP** 18 55 26.5 -0.1
SONM Songino Array 26.93 336 P **P** 18 48 26.7 -0.7
comp=Z,57nm,0.9s,baz=151,slow=10.0,SNR=230
SONM PcP **PcP** 18 51 47.6 -1.3
comp=Z,1.2nm,0.4s,baz=170,slow=3.5,SNR=9.8
SONM ScP **ScP** 18 55 26.5 -0.1
comp=Z,1.6nm,1.1s,baz=177,slow=5.9,SNR=7.0
SONM LR LR 19 00 44.4
comp=Z,3µm,18.2s,baz=145,slow=40
SHL Shillong 27.61 280 *e*P **P** 18 48 34.0 +0.1
LSA Lhasa 28.30 288 P **P** 18 48 41.4 +1.2
LSA Lhasa 28.30 288 *e*P **P** 18 48 41.1 +0.9
LSA pmax pmax
comp=Z,8.0nm,0.6s
LSA Lhasa 28.30 288 *e*P **P** 18 48 41.1 +0.9
comp=Z,7.9nm,0.6s
KAPI Kappang 28.95 185 LR LR 19 00 50.8
comp=Z,734nm,18.4s,baz=9.4,slow=37
ZAK Zakamensk 30.19 336 ⇑*i*P **P** 18 48 54.7 -1.7
ZAK pmax pmax
comp=Z,6.0nm,1.2s
TLY Talaya 31.12 337*c i*P **P** 18 49 03.8 -0.7
TLY pmax pmax
comp=Z,37nm,0.6s
TLY MLR MLR
comp=Z,2µm,13.0s
TAPN Taplejung 31.28 284 *e*P **P** 18 49 07.9 +1.4
comp=Z,14nm,0.4s
IRK Irkutsk 31.37 339 *e*P **P** 18 49 05.0 -1.7
IRK pmax pmax
comp=Z,71nm,1.5s
ODAN Odare 31.58 283 *e*P **P** 18 49 09.8 +0.7
comp=Z,18nm,0.7s
MOY Mondy 32.09 335 *e*P **P** 18 49 12.4 -0.7
MOY pmax pmax
comp=Z,49nm,1.9s
RAMN Ramite 32.28 283 *e*P **P** 18 49 16.5 +1.2
comp=Z,48nm,0.9s
JIRN Jiri 32.62 284 *e*P **P** 18 49 19.5 +1.2
comp=Z,12nm,0.5s
GUN Gumba 32.88 285 *e*P **P** 18 49 21.7 +1.1
comp=Z,58nm,1.1s
PKI Pulchoki 33.31 284 *e*P **P** 18 49 25.0 +0.6
comp=Z,18nm,0.9s
PKIN Phulchoki 33.32 284 *e*P **P** 18 49 24.9 +0.5
comp=Z,41nm,1.5s
KKN Kakani 33.42 285 *e*P **P** 18 49 25.8 +0.6
comp=Z,25nm,0.9s
DMN Daman 33.58 284 *e*P **P** 18 49 27.2 +0.6
comp=Z,13nm,0.7s
WMQ Urumqi 34.50 314 P **P** 18 49 34.6 +0.4
WMQ pP **pP** 18 49 44.3 +0.5
WMQ sP **sP** 18 49 48.3 +0.5
WMQ PP **PnPn** 18 50 50.8 +1.0
WMQ PcP **PcP** 18 52 10.0 +1.2
WMQ S **S** 18 54 59.4 -1.4
WMQ sS **sS** 18 55 15.4 -1.2
WMQ ScP **ScP** 18 55 51.4 -0.2
WMQ pmax pmax
comp=Z,570nm,13.0s
WMQ LR LR
comp=N,1µm,14.8s
WMQ LR LR
comp=E,1µm,11.2s
WMQ LR LR
comp=Z,570nm,15.0s
DANN Dangsing 34.74 286 *e*P **P** 18 49 37.4 +0.7
comp=Z,30nm,0.9s
YAK Yakutsk 38.34 6 *e*P **P** 18 50 03.5 -3.1
YAK *e**PP **pP** 18 50 14.7 -1.6
YAK *e* 18 51 32.7
YAK *e*PPP PPP 18 51 52.3
YAK *e* 18 52 15.8
YAK *e*S **S** 18 55 59.5 +0.8
YAK *e**SS **sS** 18 56 18.3 +3.7
YAK *e* 19 00 08.9
YAK pmax pmax
comp=Z,12nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.4s
YAK pmax pmax
comp=Z,14nm,1.3s
YAK smax smax
comp=N,186nm,3.6s
YAK smax smax
comp=E,39nm,3.5s
YAK MLR MLR
comp=Z,1µm,14.0s
YAK MLR MLR
comp=N,937nm,14.0s
YAK MLR MLR
comp=E,397nm,16.0s
KRAR Krasnoyarsk 38.54 334*d i*P **P** 18 50 07.3 -1.1
KRAR pmax pmax
comp=Z,29nm,1.4s
MK31 Makanchi Array 39.16 316*ce*P **P** 18 50 13.4 -0.4
MK31 pmax pmax
comp=Z,6.0nm,0.4s
MK31 Makanchi Array 39.16 316 *e*P **P** 18 50 13.3 -0.5
MKAR Makanchi Array 39.16 316*ce*P **P** 18 50 13.5 -0.3
MKAR pmax pmax
comp=Z,8.0nm,0.5s
MKAR Makanchi Array 39.16 316 *e*P **P** 18 50 13.6 -0.3
MKAR Makanchi Array 39.16 316 P **P** 18 50 13.5 -0.3
comp=Z,7.5nm,0.5s,baz=100,slow=10,SNR=150
PETK Petropavlovsk- 39.46 33 LR LR 19 05 02.4
comp=Z,783nm,20.1s,baz=230,slow=34
ZAA0 Zalesovo Array 40.94 327 *e*P **P** 18 50 26.7 -1.6
ZALV Zalesovo Beam 40.94 327 P **P** 18 50 26.9 -1.5
ZALV 18 52 27.3
ZALV Zalesovo Beam 40.94 327 P **P** 18 50 26.9 -1.5
ZALV PcP **PcP** 18 52 27.3 -1.0
ZALV ScP **ScP** 18 56 16.5 +0.9
ZALV Zalesovo Beam 40.94 327 P **P** 18 50 26.9 -1.5
comp=Z,14nm,0.5s,baz=114,slow=8.3,SNR=77
ZALV PcP **PcP** 18 52 27.3 -1.0
comp=Z,1.9nm,0.5s,baz=105,slow=4.5,SNR=5.4
ZALV ScP **ScP** 18 56 16.5 +0.9
comp=Z,0.5nm,0.5s,baz=91,slow=5.8,SNR=2.9
ZALV LR LR 19 09 14.0
comp=Z,699nm,20.4s,baz=70,slow=39
PMG Port Moresby 41.15 141 P **P** 18 50 31.6 +1.1
PMG Port Moresby 41.15 141 P **P** 18 50 31.6 +1.1
comp=Z,17nm,0.8s,baz=300,slow=8.1,SNR=3.1
PMG LR LR 19 07 24.8
comp=Z,694nm,18.6s,baz=207,slow=36
KSH Kashi 41.84 303 *e*P P 18 50 44.9 +8.8
KSH sP sP 18 50 57.3 +7.5
KSH PP **PnPn** 18 52 24.8 +6.5
KSH S S 18 57 00.3 +8.4
KSH pmax pmax
comp=Z,150nm,5.2s
KSH LR LR
comp=N,370nm,12.9s
KSH LR LR
comp=E,250nm,6.8s
KSH LR LR
comp=Z,610nm,22.0s
NVS Novosibirsk 42.20 327 ⇑*i*P **P** 18 50 35.5 -3.1
NVS pmax pmax
comp=N,25nm,2.0s
NVS pmax pmax
comp=Z,60nm,2.0s
NVS pmax pmax
comp=E,26nm,1.7s
TKM2 Tokmak 2 42.66 308 P **P** 18 50 43.5 +0.6
TKM2 pmax pmax
comp=Z,31nm,1.3s
TKM2 Tokmak 2 42.66 308 P **P** 18 50 43.9 +1.0
SNR=18
KZA Kyzart 42.77 307 *i* P **P** 18 50 45.9 +1.9
KZA Kyzart 42.77 307 P **P** 18 50 45.9 +1.9
SNR=8.2
KURK Kurchatov 42.87 320 P **P** 18 50 42.2 -2.0
comp=Z,116nm,1.5s,SNR=16
COEN Coen 42.90 149 *e*P **P** 18 50 45.5 +0.7
comp=Z,357nm,1.0s
KBK Karagaybulak 43.09 307 *i* P **P** 18 50 47.2 +0.9
KBK Karagaybulak 43.09 307 P **P** 18 50 47.2 +0.9
SNR=8.7
CHMS Chumysh 43.29 308 *i* P **P** 18 50 48.3 +0.6
CHMS Chumysh 43.29 308 P **P** 18 50 48.3 +0.6
SNR=12
FRU Bishkek 43.36 308 *e*P **P** 18 50 48.0 -0.3
FRU pmax pmax
comp=Z,60nm,2.0s
AAK Ala-Archa 43.41 307*c i*P **P** 18 50 49.4 +0.5
AAK pmax pmax
comp=Z,26nm,1.2s
AAK Ala-Archa 43.41 307 *e*P **P** 18 50 50.0 +1.2
comp=Z,6.4nm,0.8s
AAK Ala-Archa 43.41 307 P **P** 18 50 48.0 -0.9
comp=Z,4.5nm,0.5s,baz=96,slow=6.5,SNR=7.8
AML Almayashu 43.92 306 *i* P **P** 18 50 54.6 +1.3
AML Almayashu 43.92 306 P **P** 18 50 54.6 +1.3
SNR=17
EKS2 Erkin-Say 43.94 307 P **P** 18 50 53.6 +0.5
SNR=10
MBWA Marble Bar 44.96 183 P **P** 18 50 59.2 -2.0
WRAB Tennant Creek 45.23 164 P **P** 18 51 03.0 -0.4
comp=Z,185nm,1.3s,SNR=6.7
WRAB Tennant Creek 45.23 164 *e*P **P** 18 51 03.0 -0.4
WRAB pmax pmax
comp=Z,42nm,1.1s
WRAB Tennant Creek 45.23 164 *e*P **P** 18 51 03.0 -0.4
comp=Z,42nm,1.1s
WRA Warramunga Arr 45.23 164 P **P** 18 51 03.1 -0.3
WRA Warramunga Arr 45.23 164 P **P** 18 51 03.1 -0.3
comp=Z,18nm,0.9s,baz=346,slow=8.5,SNR=46
KK31 Karatay Array 46.38 307*ce*P **P** 18 51 12.7 +0.4
KK31 pmax pmax
comp=Z,4.0nm,0.4s
KKAR Karatay Array 46.38 307 *e*P **P** 18 51 12.8 +0.5
KKAR Karatay Array 46.38 307 *e*P **P** 18 51 12.8 +0.5
KBL Kabul 47.15 296 *e*P **P** 18 51 19.9 +1.2
KBL pmax pmax
comp=Z,37nm,1.4s
KBL Kabul 47.15 296 *e*P **P** 18 51 19.9 +1.2
comp=Z,37nm,1.4s
TIXI Tiksi 47.82 3*d i*P **P** 18 51 21.5 -1.6
TIXI pmax pmax
comp=Z,34nm,1.7s
TIXI MLR MLR
comp=Z,3µm,17.0s
FX1 Attu Island--F 47.82 39 LR LR 19 09 57.7
comp=Z,315nm,19.4s,baz=253,slow=34
VOSK Vostochnaya 48.02 320 P **P** 18 51 23.3 -1.6
VOSK pmax pmax
comp=Z,14nm,0.9s
BVA0 Borovoye Array 48.45 321 *i* P **P** 18 51 27.7 -0.5
BVA0 pmax pmax
comp=Z,19nm,1.0s
BRVK Borovoye 48.52 321 P **P** 18 51 28.3 -0.4
comp=Z,120nm,0.5s,SNR=7.1
BRVK Borovoye 48.52 321*c i*P **P** 18 51 28.4 -0.4
BRVK pmax pmax
comp=Z,37nm,1.5s
BRVK Borovoye 48.52 321 *e*P **P** 18 51 28.3 -0.4
comp=Z,151nm,2.1s
AS31 Alice Springs 48.71 166 *e*P **P** 18 51 30.8 +0.2
ASAR Alice Springs 48.71 166 P **P** 18 51 30.8 +0.2
ASAR Alice Springs 48.71 166 P **P** 18 51 30.8 +0.2
comp=Z,12nm,0.9s,baz=345,slow=6.6,SNR=49
CTA Charters Tower 49.66 150 P **P** 18 51 38.1 +0.3
CTA Charters Tower 49.66 150 P **P** 18 51 38.1 +0.3
comp=Z,9.7nm,0.9s,baz=328,slow=12,SNR=6.6
CTAO Charters Tower 49.66 150 *e*P **P** 18 51 39.8 +1.9
CTAO pmax pmax
comp=Z,38nm,1.1s
CTAO Charters Tower 49.66 150 *e*P **P** 18 51 39.8 +1.9
comp=Z,38nm,1.1s
BILL Bilibino 51.51 19 P **P** 18 51 51.0 -0.3
BILL pmax pmax
comp=Z,4.0nm,0.9s
BILL MLR MLR
comp=Z,900nm,20.0s
AB31 Akbulak array 54.28 314*ce*P **P** 18 52 12.0 0.0
AB31 pmax pmax
comp=Z,13nm,0.6s
FORT Forrest 54.75 174 *e*pP pP 18 52 25.8 +0.3
SVE Sverdlovsk 54.78 324⇓*e*P **P** 18 52 14.7 -0.8
SVE pmax pmax
comp=Z,30nm,1.5s
ARU Arti 55.85 323*c i*P **P** 18 52 22.3 -0.9
ARU 18 53 17.5
ARU 18 54 22.2
ARU S **S** 19 00 07.5 -0.7
ARU pmax pmax
comp=Z,36nm,1.7s
ARU Arti 55.85 323 P **P** 18 52 22.4 -0.8
comp=Z,77nm,0.5s,SNR=6.6
BBOO Buckleboo 58.01 166 *e*P **P** 18 52 39.9 +1.3
comp=Z,589nm,1.0s
STKA Stephens Creek 58.56 161 *e*P **P** 18 52 43.2 +0.6
comp=Z,3.8nm,0.8s
STKA Stephens Creek 58.56 161 P **P** 18 52 42.7 +0.2
comp=Z,10nm,0.7s,baz=347,slow=5.5,SNR=15
STKA LR LR 19 17 23.4
comp=Z,315nm,18.3s,baz=119,slow=35
SVW2 Sparrevohn 65.52 32 *e*P **P** 18 53 29.4 +0.4
comp=Z,29nm,1.7s
ZEI Tsey 65.83 308 *e*P **P** 18 53 30.0 -1.6
ZEI pmax pmax
comp=Z,38nm,1.4s
KBD Kabd 65.87 293 *e*P **P** 18 53 31.0 -0.8
KBD AMb AMB 18 53 35.5
comp=Z,37nm,1.5s
MIB Mutribah 66.01 293 *e*P **P** 18 53 32.1 -0.5
MIB AMb AMB 18 53 34.3
comp=Z,28nm,1.0s
RDF Al-Radifah 66.06 292 *e*P **P** 18 53 32.9 -0.2
RDF AMb AMB 18 53 42.5
comp=Z,52nm,1.4s
TMCR Tamitsa 66.18 332 *e*P **P** 18 53 31.1 -2.0
TMCR *e* 18 54 02.4
TMCR *e* 18 55 57.0
TMCR pmax pmax
comp=Z,50nm,1.3s
NAY Al-Naaiem 66.24 293 *e*P **P** 18 53 33.3 -0.9
NAY AMb AMB 18 53 35.5
comp=Z,24nm,1.5s
KBZ Khabaz 66.37 309 P **P** 18 53 35.4 +0.6
KBZ Khabaz 66.37 309 P **P** 18 53 35.4 +0.6
KBZ Khabaz 66.37 309 P **P** 18 53 35.4 +0.6
comp=Z,6.0nm,0.8s,baz=100,slow=5.5,SNR=18
KIV Kislovodsk 66.48 309 *e*P **P** 18 53 35.8 +0.2
KIV pmax pmax
comp=Z,42nm,1.1s
KIV Kislovodsk 66.48 309 P **P** 18 53 36.0 +0.4
comp=Z,200nm,1.1s,SNR=6.7
VORD Divnogorie 67.42 317 *e*P **P** 18 53 40.2 -1.1
VORD pmax pmax
comp=Z,10.0nm,1.3s
VORD pmax pmax
comp=N,8.0nm,0.6s
VORD pmax pmax
comp=E,20nm,1.0s
VORD MLR MLR
comp=Z,780nm,20.0s
VORD MLR MLR
comp=N,950nm,21.0s
VORD MLR MLR
comp=E,280nm,16.0s
VSR Storozhevoye 67.45 317 *e*P **P** 18 53 40.7 -0.8
VSR pmax pmax

VSR comp=Z,20nm,1.3s pmax pmax
VSR comp=N,6.0nm,1.1s pmax pmax
VSR comp=E,10.0nm,0.5s MLR MLR
VSR comp=Z,710nm,23.0s MLR MLR
VSR comp=N,300nm,14.0s MLR MLR
KDAK Kodiak Island 67.47 35 *e*P **P 18 53 41.9 +0.4**
comp=E,66nm,0.6s,SNR=5.5
KDAK Kodiak Island 67.47 35 *e*P **P 18 53 41.4 -0.1**
comp=E,48nm,1.6s
MOS Moscow 67.56 322 *e*P **P 18 53 39.6 -2.4**
MOS pmax pmax
comp=Z,36nm,0.8s
MCK McKinley 68.23 29 *e*P **P 18 53 47.2 +1.0**
MCK *e**PP **pP 18 53 54.9 -1.6**
MCK pmax pmax
comp=Z,31nm,1.3s
MCK McKinley 68.23 29 *e*P **P 18 53 47.2 +1.0**
comp=Z,31nm,1.3s
MCK *e*pP **pP 18 53 54.9 -1.6**
OBN Obninsk 68.26 322⇓ *e*P **P 18 53 45.7 -0.8**
OBN *e* 18 54 13.5
OBN pmax pmax
comp=Z,54nm,1.6s
OBN MLR MLR
comp=Z,600nm,19.0s
PMR Palmer 68.53 31 *e*P **P 18 53 46.1 -2.0**
PMR Palmer 68.53 31 *e*P **P 18 53 46.1 -2.0**
SML Sawmill 68.86 31 *e*P **P 18 53 51.2 +1.0**
SML pmax pmax
comp=Z,2.0nm,0.9s
SML Sawmill 68.86 31 *e*P **P 18 53 51.2 +1.0**
comp=Z,2.2nm,0.9s
ILAR Eielson Array 68.91 27 P **P 18 53 49.2 -1.2**
ILAR Eielson Array 68.91 27 P **P 18 53 49.2 -1.2**
comp=Z,0.9nm,0.6s,baz=288,slow=8.6,SNR=9.7
ILAR LR LR 19 26 22.6
comp=Z,228nm,19.0s,baz=114,slow=38
RAYN Ar Rayn 69.36 287 P **P 18 53 53.0 -1.0**
comp=Z,68nm,1.4s,SNR=5.3
RAYN Ar Rayn 69.36 287 *e*P **P 18 53 53.7 -0.3**
comp=Z,29nm,1.4s
KEV Kevo 69.51 338 *e*p **P 18 53 53.7 -0.3**
comp=Z,4.1nm,0.5s
KEV Kevo 69.51 338 *e*P **P 18 53 53.7 -0.3**
KEV pmax pmax
comp=Z,4.0nm,0.5s
PAX Paxson 69.91 29 *e*P P 18 54 01.9 +5.1
PAX pmax pmax
comp=Z,19nm,1.5s
PAX Paxson 69.91 29 *e*P P 18 54 01.9 +5.1
comp=Z,19nm,1.5s
ARCES ARCESS Array B 70.08 338 P **P 18 53 56.2 -1.3**
ARCES ARCESS Array B 70.08 338 P **P 18 53 56.2 -1.3**
comp=Z,19nm,0.5s,baz=60,slow=7.2,SNR=20
BMRM Bremner River 70.80 31 *e*pP pP 18 54 20.2 +7.8
MALT Malatya 70.93 304⇑P **P 18 54 04.6 +1.2**
MALT Malatya 70.93 304 *e*pP pP 18 54 20.0 +6.2
MALT Malatya 70.93 304⇑*i*P **P 18 54 04.6 +1.2**
EGAK Eagle 71.29 27 *e*P **P 18 54 04.4 -0.6**
comp=Z,6.0nm,0.8s
KAF Kangasniemi 71.80 331 *e*p **P 18 54 08.4 +0.3**
comp=Z,1.4nm,0.5s
KAF Kangasniemi 71.80 331 *e*P **P 18 54 08.4 +0.3**
KAF pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 72.10 330 P **P 18 54 09.5 -0.4**
FINES FINESS Array B 72.10 330 P **P 18 54 09.5 -0.4**
comp=Z,2.9nm,0.5s,baz=59,slow=5.2,SNR=27
VSU Vasula 72.68 327*d i*P **P 18 54 13.1 -0.3**
VSU pmax pmax
comp=Z,41nm,1.4s
INK Inuvik 73.01 22 P **P 18 54 14.7 -0.5**
INK Inuvik 73.01 22 P **P 18 54 14.7 -0.5**
comp=Z,4.4nm,0.6s,baz=327,slow=8.8,SNR=9.9
MICGM Minsk 73.28 323 *e* **P 18 54 15.0 -2.1**
MNK Minsk 73.31 323 *e*P **P 18 54 15.0 -2.2**
KIEV Kiev 73.68 319 *e*P **P 18 54 18.2 -1.3**
KIEV Kiev 73.68 319 *e*P **P 18 54 18.2 -1.3**
NACGM Naroch 73.76 323 *e* P 18 54 16.0 -3.9
BRTR Keskin Array B 74.08 307 P **P 18 54 22.4 +0.1**
BRTR Keskin Array B 74.08 307 P **P 18 54 22.4 +0.1**
comp=Z,11nm,1.0s,baz=100,slow=3.8,SNR=36
ANTO Ankara 74.66 307⇑P **P 18 54 26.2 +0.7**
ANTO Ankara 74.66 307 *e*P **P 18 54 25.5 0.0**
comp=Z,20nm,0.9s
ANTO Ankara 74.66 307⇑*i*P **P 18 54 26.2 +0.7**
SKAG Skagway 75.66 31 *e*P **P 18 54 31.7 +1.0**
comp=Z,20nm,1.2s
CSS Prodhromos 75.85 302 *e*P **P 18 54 32.4 0.0**
comp=Z,50nm,1.4s
SUW Suwalki 76.04 323 *e*P **P 18 54 32.5 -0.6**
SUW Suwalki 76.04 323 *e*pP pP 18 54 46.6 +3.2
SUW Suwalki 76.04 323 *e*P **P 18 54 32.4 -0.6**
CFR Carcaliu 76.16 313⇓P **P 18 54 34.0 +0.1**
CFR Carcaliu 76.16 313⇓*i*P **P 18 54 34.0 +0.1**
EIL Elat 76.33 297 P **P 18 54 35.9 +0.7**
EIL Elat 76.33 297 P **P 18 54 35.9 +0.7**
comp=Z,3.7nm,0.8s,baz=30,slow=5.1,SNR=9.0
SIT Sitka 76.61 33 *e*P **P 18 54 36.5 +0.3**
SIT pmax pmax
comp=Z,19nm,0.9s
SIT Sitka 76.61 33 *e*P **P 18 54 36.5 +0.3**
comp=Z,19nm,0.9s
TESR Tescani 76.67 315⇑*i*P **P 18 54 36.9 +0.1**
VRI Vrincioaia 76.85 314⇓P **P 18 54 38.4 +0.6**
VRI Vrincioaia 76.85 314⇓*i*P **P 18 54 38.4 +0.6**
PLOR Plostina 76.90 314⇓P **P 18 54 38.3 +0.1**
PLOR Plostina 76.90 314⇓*i*P **P 18 54 38.3 +0.1**
BUR08 Bucovina Ar. S 77.19 317 *e*P **P 18 54 39.6 -0.2**
BURAR Bucovina Array 77.19 316⇑P **P 18 54 40.2 +0.4**
BURAR Bucovina Array 77.19 316⇑*i*P **P 18 54 40.2 +0.4**
MLR Muntele Rosu 77.49 314⇓*i*P **P 18 54 41.7 +0.1**
KWP Kalwaria Pacla 77.97 319 *e*P **P 18 54 43.0 -0.1**
KWP Kalwaria Pacla 77.97 319 *e*P **P 18 54 43.9 -0.1**
VOIR 78.10 314⇓P **P 18 54 44.9 0.0**
VOIR 78.10 314⇓*i*P **P 18 54 44.9 0.0**
ARR Arges 78.40 314⇑*i*P **P 18 54 46.3 -0.3**
KOLS Kolonicke sedl 78.50 318 *e*P **P 18 54 46.2 -0.8**
KOLS pmax pmax
comp=Z,12nm,1.7s
KOLS Kolonicke sedl 78.50 318 *e*P **P 18 54 46.2 -0.8**
DLBC Dease Lake 78.59 31 P **P 18 54 47.0 -0.3**
DLBC Dease Lake 78.59 31 P **P 18 54 47.0 -0.3**
comp=Z,3.3nm,0.5s,baz=329,slow=4.7,SNR=5.1
UZH Uzhgorod 78.61 318 *e*P **P 18 54 48.6 +1.0**
UZH *e* 18 55 00.0
NB2 NORSAR Subarra 78.85 332 P **P 18 54 47.1 -1.6**
comp=Z,4.8nm,0.7s,baz=58,slow=5.3
NOA NORSAR Array B 78.85 332 P **P 18 54 47.8 -0.9**
NOA NORSAR Array B 78.85 332 P **P 18 54 47.8 -0.9**
comp=Z,1.4nm,0.5s,baz=54,slow=5.6,SNR=16
NOA LR LR 19 33 30.6
comp=Z,1µm,18.5s,baz=50,slow=39
LOT Lotru 78.93 315⇓*i*P **P 18 54 50.0 +0.5**
STHS Stebnicka Huta 78.93 319 *e*P **P 18 54 48.1 -1.3**
STHS pmax pmax
comp=Z,6.0nm,1.4s
STHS Stebnicka Huta 78.93 319 *e*P **P 18 54 48.1 -1.3**
OJC Ojcow 79.45 320 *e*P **P 18 54 51.9 -0.3**
OJC Ojcow 79.45 320 *e*P **P 18 54 51.9 -0.3**
comp=Z,96nm,1.8s
OJC Ojcow 79.45 320 *e*P **P 18 54 51.9 -0.3**
NIE Niedzica 79.48 319 *e*P **P 18 54 54.0 +1.6**
NIE Niedzica 79.48 319 *e*P **P 18 54 54.0 +1.6**
GKP Gorka Klasztor 79.58 324 *e*P **P 18 54 52.9 +0.1**
GKP Gorka Klasztor 79.58 324 *e*P **P 18 54 52.8 0.0**
KECS Kecovo 79.77 319 *e*P **P 18 54 53.3 -0.6**
KECS pmax pmax
comp=Z,5.0nm,1.1s
KECS Kecovo 79.77 319 *e*P **P 18 54 53.3 -0.6**
PSZ Piszkesteto 80.36 318⇑P **P 18 54 56.5 -0.8**
PSZ Piszkesteto 80.36 318 *e*P **P 18 54 56.4 -0.8**
comp=Z,39nm,1.7s
PSZ Piszkesteto 80.36 318⇑*i*P **P 18 54 56.5 -0.8**
VTS Vitosha 80.43 312⇑P **P 18 54 57.6 -0.2**
VTS Vitosha 80.43 312⇑*i*P **P 18 54 57.6 -0.2**
OKC Ostrava-Krasne 80.58 320 *i* P **P 18 54 58.0 -0.2**
OKC Ostrava-Krasne 80.58 320 *i* P **P 18 54 58.0 -0.2**
VYHS Vyhne 80.76 319 *e*P **P 18 54 59.1 -0.2**
VYHS pmax pmax
comp=Z,25nm,1.6s
VYHS Vyhne 80.76 319 *e*P **P 18 54 59.1 -0.2**
RPZ Rata Peaks 80.88 146 P **P 18 55 00.8 +1.0**
RPZ Rata Peaks 80.88 146 P **P 18 55 00.8 +1.0**
comp=Z,12nm,1.0s,baz=352,slow=7.1,SNR=2.2
MORC Moravsky Berou 80.96 321 *e*P **P 18 54 59.8 -0.5**
MORC pmax pmax
comp=Z,19nm,1.5s
MORC Moravsky Berou 80.96 321 *e*P **P 18 54 59.8 -0.5**
comp=Z,19nm,1.5s
KSP Ksiaz 81.19 322⇑ *e*P **P 18 55 01.4 -0.1**
KSP Ksiaz 81.19 322 *e*P **P 18 55 00.9 -0.6**
DPC Dobruska-Polom 81.40 321 *i* P **P 18 55 02.6 -0.1**
DPC Dobruska-Polom 81.40 321 *i* P **P 18 55 02.6 -0.1**
UPC Upice 81.50 322⇑*i*P **P 18 55 02.8 -0.4**
UPC Upice 81.50 322⇑*i*P **P 18 55 02.8 -0.4**
PKSM Moragy 81.88 317⇓P **P 18 55 04.5 -0.7**
PKSM Moragy 81.88 317⇓*i*P **P 18 55 04.4 -0.7**
PVCC Panska Ves 82.31 322 *i* P **P 18 55 07.2 -0.2**
PVCC Panska Ves 82.31 322 *i* P **P 18 55 07.2 -0.2**
TREC Trest 82.37 321 *i* P **P 18 55 07.9 +0.1**
TREC Trest 82.37 321 *i* P **P 18 55 07.9 +0.1**
BRG Berggiesshubel 82.49 323 *e*P **P 18 55 08.4 0.0**
comp=Z,11nm,1.4s
BRG Berggiesshubel 82.49 323 *e*P **P 18 55 08.4 0.0**
BRG pmax pmax
comp=Z,1.0nm,1.4s
PRU Pruhonice 82.58 322 *i* P **P 18 55 08.8 0.0**
PRU *e* 18 55 21.2
PRU Pruhonice 82.58 322 *i* P **P 18 55 08.8 0.0**
PRU *e*pP **pP 18 55 21.2 +1.9**
PRA Prague 82.60 322⇑P **P 18 55 09.0 +0.1**
YKW3 Yellowknife Ar 82.69 23 *e*P **P 18 55 07.9 -1.2**
comp=Z,0.6nm,1.4s
YKA Yellowknife Ar 82.74 23 P **P 18 55 08.7 -0.7**
YKA Yellowknife Ar 82.74 23 P **P 18 55 08.7 -0.7**
comp=Z,4.0nm,0.6s,baz=315,slow=5.0,SNR=31
SUMG Summit 82.78 354 *e*P **P 18 55 09.0 -0.9**
SUMG Summit 82.78 354 *e*P **P 18 55 09.0 -0.9**
CONA Conrad Observa 82.79 319⇑*i*P **P 18 55 10.0 0.0**
comp=Z,20nm,1.6s
CLL Collm 82.80 323 *e*P **P 18 55 09.0 -0.8**
comp=Z,10.0nm,1.1s
CLL Collm 82.80 323⇑*i*P **P 18 55 09.1 -0.8**
CLL pmax pmax
comp=Z,6.0nm,1.1s
CLL MLR MLR
comp=Z,1µm,19.1s
CLL Collm 82.80 323⇑*i*P **P 18 55 09.1 -0.8**
comp=Z,10.0nm,1.1s
CLL *e*PP **PP 18 58 18.0 -1.7**
CLL *e*PS **PnS 19 06 14.0 -4.6**
CLL LmV 19 36 00.0
comp=Z,1µm,19.1s
BSEG Bad Segeberg 82.88 326 *e*P **P 18 55 09.7 -0.5**
comp=Z,21nm,1.2s
BSEG Bad Segeberg 82.88 326 *e*P **P 18 55 09.7 -0.5**
BSEG pmax pmax
comp=Z,64nm,1.2s
KOGS Kog 83.25 318 *e*P **P 18 55 11.6 -0.7**
TANN Tannenbergstha 83.54 323 *e*P **P 18 55 13.2 -0.7**
comp=Z,22nm,1.7s
KHC Kasperske Hory 83.55 321 *i* P **P 18 55 13.9 0.0**
KHC *e* 18 55 25.5
KHC Kasperske Hory 83.55 321 *i* P **P 18 55 13.9 0.0**
KHC *e*pP **pP 18 55 25.5 +1.1**
KHC Kasperske Hory 83.55 321 *e*P **P 18 55 14.0 +0.1**
GEC2 GERESS Array S 83.61 321 *e*P **P 18 55 13.7 -0.6**
comp=Z,34nm,1.7s
GEC2 GERESS Array S 83.61 321 *e*P **P 18 55 13.7 -0.6**
GEC2 pmax pmax
comp=Z,6.0nm,1.7s
GEC2 GERESS Array S 83.61 321 *e*P **P 18 55 14.3 -0.1**
GERES GERESS Array B 83.61 321 P **P 18 55 14.2 -0.1**
GERES GERESS Array B 83.61 321 P **P 18 55 14.2 -0.1**
comp=Z,2.8nm,0.8s,baz=57,slow=4.9,SNR=23
NRDL Niedersach Rie 83.74 325 *e*P **P 18 55 14.6 0.0**
comp=Z,48nm,2.0s
MOA Molln 83.77 320⇑*i*P **P 18 55 14.8 -0.3**
comp=Z,10nm,0.8s
PERS Pernice 83.85 319 *i* P **P 18 55 14.9 -0.6**
MOX Moxa 83.89 323 *e*P **P 18 55 14.9 -0.7**
comp=Z,21nm,1.7s
MOX Moxa 83.89 323 *e*P **P 18 55 14.9 -0.7**
MOX pmax pmax
comp=Z,15nm,1.7s
WET Wettzell 83.94 321 *e*P **P 18 55 15.6 -0.3**
comp=Z,25nm,1.7s
WET Wettzell 83.94 321 *e*P **P 18 55 15.6 -0.3**
WET pmax pmax
comp=Z,4.0nm,1.7s
CLZ Clausthal 83.94 325 *e*P **P 18 55 15.6 -0.3**
comp=Z,32nm,1.6s
CLZ Clausthal 83.94 325 *e*P **P 18 55 15.6 -0.3**
CLZ pmax pmax
comp=Z,18nm,1.6s
ROTZ Rotzenmuhle 84.01 322 *e*P **P 18 55 16.0 -0.2**
comp=Z,37nm,1.7s
LJU Ljubljana 84.49 318 *i* P **P 18 55 18.2 -0.5**
GRF Grafenberg Arr 84.59 323 *e*P **P 18 55 18.9 -0.3**
comp=Z,25nm,1.3s
GRF *e*L L 19 37 43.1
comp=Z,696nm,18.3s
GRF Grafenberg Arr 84.59 323 *e*P **P 18 55 18.9 -0.3**
GRF pmax pmax
comp=Z,1.0nm,1.3s
GRF MLR MLR
comp=Z,25µm,18.3s
UBBA Unterbreizbach 84.67 324 *e*P **P 18 55 19.0 -0.4**
comp=Z,26nm,1.7s
RJOB Jochberg 84.69 320 *e*P **P 18 55 19.2 -0.6**
comp=Z,12nm,1.2s
KBA Koelnbreinsper 84.69 320⇑*i*PcP **P 18 55 19.9 0.0**
comp=Z,13nm,1.2s
JAVS Javornik 84.84 318 *i* P **P 18 55 19.7 -1.0**
CADS Cadrg 84.88 319 *e*P **P 18 55 19.3 -1.5**
IBBN Ibbenburen 85.05 326 *e*P **P 18 55 20.9 -0.5**
comp=Z,40nm,1.6s
FUR Furstenfeldbru 85.35 321 *e*P **P 18 55 22.7 -0.3**
comp=Z,88nm,1.6s
FUR Furstenfeldbru 85.35 321 *e*P **P 18 55 22.7 -0.3**
FUR pmax pmax
comp=Z,123nm,1.6s
ABTA Abfaltersbach 85.35 320⇑*i*P **P 18 55 21.5 -1.7**
comp=Z,18nm,1.5s
BUG Bochum--Univer 85.78 325 *e*P **P 18 55 24.4 -0.6**
comp=Z,35nm,1.3s
TNS Taunus Mts 85.83 324 *e*P **P 18 55 25.0 -0.4**
comp=Z,46nm,2.1s
TNS Taunus Mts 85.83 324 *e*P **P 18 55 25.0 -0.4**
TNS pmax pmax
comp=Z,28nm,2.1s
KMBO Kilima Mbogo 85.91 267 *e*P **P 18 55 28.1 +1.4**
comp=Z,12nm,0.3s
KMBO Kilima Mbogo 85.91 267 P **P 18 55 27.0 +0.3**
comp=Z,11nm,0.3s,baz=68,slow=0.5,SNR=17
STU Stuttgart 86.21 322 *e*P **P 18 55 26.4 -0.8**
TIP Timpagrande 86.31 311 *e*P **P 18 55 28.1 0.0**
CUC Castrocucco 86.57 312 *e*P **P 18 55 28.8 -0.5**
BFO Black Forest 86.93 322 *e*P **P 18 55 29.8 -1.0**
comp=Z,25nm,1.9s
BFO Black Forest 86.93 322 *e*P **P 18 55 29.8 -1.0**
BFO pmax pmax
comp=Z,32nm,1.9s
AQU L'Aquila 87.01 315 *e*P **P 18 55 31.4 0.0**
CEL Celeste 87.34 311 *e*P **P 18 55 33.4 +0.3**
TUE Stuetta 87.36 320 *e*P **P 18 55 32.9 -0.3**
WLF Walferdange 87.38 324 P **P 18 55 33.2 +0.3**
comp=Z,21nm,1.7s
WLF Walferdange 87.38 324 *e*P **P 18 55 32.5 -0.4**
comp=Z,57nm,1.6s
NLWA Neilton Lookou 87.39 38 *e*P **P 18 55 34.1 +1.0**
comp=Z,26nm,1.4s
CDF Champ du Feu 87.47 323 *e*P **P 18 55 32.8 -0.7**
comp=Z,66nm,1.6s
CDF Champ du Feu 87.47 323 *e*P **P 18 55 32.8 -0.7**
CDF pmax pmax
comp=Z,66nm,1.6s
CDF Champ du Feu 87.47 323 *e*P **P 18 55 32.8 -0.7**
comp=Z,66nm,1.6s
MBW Mount Baker 87.71 37 P **P 18 55 34.7 0.0**
GIVF Givet 87.83 325 *e*P **P 18 55 34.4 -0.7**
GIVF Givet 87.83 325 *e*P **P 18 55 34.4 -0.7**
GIVF Givet 87.83 325 *e*P **P 18 55 34.4 -0.7**
JCW Jim Creek 88.03 37 P **P 18 55 36.8 +0.7**
HINF Hinteralfeld 88.04 322 *e*P **P 18 55 35.0 -1.2**
HINF Hinteralfeld 88.04 322 *e*P **P 18 55 35.0 -1.2**
HINF Hinteralfeld 88.04 322 *e*P **P 18 55 35.0 -1.2**
BAIF Baives 88.17 325 *e*P **P 18 55 36.0 -0.7**
comp=Z,13nm,1.1s
BAIF Baives 88.17 325 *e*P **P 18 55 36.0 -0.7**
BAIF pmax pmax
comp=Z,13nm,1.1s
BAIF Baives 88.17 325 *e*P **P 18 55 36.0 -0.7**
comp=Z,13nm,1.1s
PAGF Fort de Pagny 88.24 324 *e*P **P 18 55 36.5 -0.6**
PAGF Fort de Pagny 88.24 324 *e*P **P 18 55 36.5 -0.6**
MEZF Maizieres J'vi 88.64 324 *e*P **P 18 55 38.4 -0.5**
MEZF Maizieres J'vi 88.64 324 *e*P **P 18 55 38.4 -0.5**
SFTF Sexfontaines 88.82 323 *e*P **P 18 55 38.9 -0.9**
SFTF Sexfontaines 88.82 323 *e*P **P 18 55 38.9 -0.9**
TDL Tradedollar La 88.91 39 P **P 18 55 41.4 +1.0**
LON Longmire 88.91 38 *e*P **P 18 55 41.0 +0.6**
LON *e**PP **pP 18 55 53.5 +2.6**
LON pmax pmax
comp=Z,10.0nm,1.2s
LON Longmire 88.91 38 *e*P **P 18 55 41.0 +0.6**
comp=Z,10nm,1.2s
LON *e*pP **pP 18 55 53.5 +2.6**
WPW White Pass 89.09 38 P **P 18 55 42.0 +0.8**
CABF La Chapelle 89.15 322 *e*P **P 18 55 40.4 -1.1**
CABF La Chapelle 89.15 322 *e*P **P 18 55 40.4 -1.1**
CABF La Chapelle 89.15 322 *e*P **P 18 55 40.4 -1.1**
TBM Table Mountain 89.35 37 P **P 18 55 43.2 +0.8**
LPG La Plagne 89.41 321 *e*P **P 18 55 42.3 -0.7**
comp=Z,12nm,0.6s
LPG La Plagne 89.41 321 *e*P **P 18 55 42.3 -0.7**
LPG pmax pmax
comp=Z,12nm,0.6s
LPG La Plagne 89.41 321 *e*P **P 18 55 42.3 -0.7**
comp=Z,12nm,0.6s
LPL La Plagne 89.41 321 *e*P **P 18 55 42.2 -0.7**
comp=Z,10nm,0.6s
LPL La Plagne 89.41 321 *e*P **P 18 55 42.2 -0.7**
LPL pmax pmax
comp=Z,10.0nm,0.6s
LPL La Plagne 89.41 321 *e*P **P 18 55 42.2 -0.7**
comp=Z,10nm,0.6s
PGF Pioggiola 89.69 317 *e*P **P 18 55 42.2 -1.9**
comp=Z,15nm,0.9s
PGF Pioggiola 89.69 317 *e*P **P 18 55 42.2 -1.9**
PGF pmax pmax
comp=Z,15nm,0.9s
PGF Pioggiola 89.69 317 *e*P **P 18 55 42.2 -1.9**
comp=Z,15nm,0.9s
MBDF Montbardon 89.83 320 *e*P **P 18 55 43.2 -1.6**
comp=Z,4.5nm,0.5s
MBDF Montbardon 89.83 320 *e*P **P 18 55 43.2 -1.6**
MBDF pmax pmax
comp=Z,5.0nm,0.5s
MBDF Montbardon 89.83 320 *e*P **P 18 55 43.2 -1.6**
comp=Z,4.5nm,0.5s
SBF Sospel 89.92 319 *e*P **P 18 55 43.7 -1.4**
comp=Z,16nm,0.8s
SBF Sospel 89.92 319 *e*P **P 18 55 43.7 -1.4**
SBF pmax pmax
comp=Z,16nm,0.8s
SBF Sospel 89.92 319 *e*P **P 18 55 43.7 -1.4**
comp=Z,16nm,0.8s
LOR Lormes 90.01 323 *e*P **P 18 55 44.3 -1.1**
comp=Z,29nm,1.5s
LOR Lormes 90.01 323 *e*P **P 18 55 44.3 -1.1**
comp=Z,29nm,1.5s
IRO Indian Ridge 90.21 41 P **P 18 55 47.4 +0.7**
ORIF Oris-en-Rattie 90.24 320 *e*P **P 18 55 45.8 -0.9**
comp=Z,8.9nm,0.8s
ORIF Oris-en-Rattie 90.24 320 *e*P **P 18 55 45.8 -0.9**
ORIF pmax pmax
comp=Z,9.0nm,0.8s
ORIF Oris-en-Rattie 90.24 320 *e*P **P 18 55 45.8 -0.9**
comp=Z,8.9nm,0.8s
SSF Saint Saulge 90.33 323 *e*P **P 18 55 45.9 -1.0**
SSF Saint Saulge 90.33 323 *e*P **P 18 55 45.9 -1.0**
SSF Saint Saulge 90.33 323 *e*P **P 18 55 45.9 -1.0**
SMF Signal de Mont 90.39 323 *e*P **P 18 55 46.1 -1.1**
comp=Z,31nm,1.0s
SMF Signal de Mont 90.39 323 *e*P **P 18 55 46.1 -1.1**
SMF pmax pmax
comp=Z,31nm,1.0s
SMF Signal de Mont 90.39 323 *e*P **P 18 55 46.1 -1.1**
comp=Z,31nm,1.0s
HAWA Hanford 90.40 38 *e*P **P 18 55 48.1 +0.8**
comp=Z,15nm,1.0s
FRF La Foret Royal 90.56 319 *e*P **P 18 55 46.8 -1.3**
FRF La Foret Royal 90.56 319 *e*P **P 18 55 46.8 -1.3**
FRF La Foret Royal 90.56 319 *e*P **P 18 55 46.8 -1.3**
AVF Avril sur Loir 90.58 323 *e*P **P 18 55 46.7 -1.3**
comp=Z,25nm,1.0s
AVF Avril sur Loir 90.58 323 *e*P **P 18 55 46.7 -1.3**
AVF pmax pmax
comp=Z,25nm,1.0s
AVF Avril sur Loir 90.58 323 *e*P **P 18 55 46.7 -1.3**
comp=Z,25nm,1.0s
NEW Newport 90.58 35 *e*P **P 18 55 48.1 0.0**
comp=Z,19nm,1.1s
NEW Newport 90.58 35 P **P 18 55 48.3 +0.2**
baz=90
LMR La Mourre 90.77 319 *e*P **P 18 55 48.0 -1.0**
comp=Z,31nm,1.3s
LMR La Mourre 90.77 319 *e*P **P 18 55 48.0 -1.0**
LMR pmax pmax
comp=Z,31nm,1.3s
LMR La Mourre 90.77 319 *e*P **P 18 55 48.0 -1.0**
comp=Z,31nm,1.3s
SMRF Simiane la Rot 90.96 320 *e*P **P 18 55 49.2 -0.8**
SMRF Simiane la Rot 90.96 320 *e*P **P 18 55 49.2 -0.8**
VIVF Saint-Julien-l 90.98 321 *e*P **P 18 55 49.1 -0.9**
VIVF Saint-Julien-l 90.98 321 *e*P **P 18 55 49.1 -0.9**
VIVF Saint-Julien-l 90.98 321 *e*P **P 18 55 49.1 -0.9**
BGF Bois d'Agland 90.99 323 *e*P **P 18 55 49.0 -1.0**
BGF Bois d'Agland 90.99 323 *e*P **P 18 55 49.0 -1.0**
BGF Bois d'Agland 90.99 323 *e*P **P 18 55 49.0 -1.0**
C11A Tepee Creek (N 91.30 35 P **P 18 55 52.0 +0.5**
baz=91
FLN La Foliniere 91.38 326 *e*P **P 18 55 50.3 -1.4**
comp=Z,117nm,1.8s
FLN La Foliniere 91.38 326 *e*P **P 18 55 50.3 -1.4**
FLN pmax pmax
comp=Z,117nm,1.8s
FLN La Foliniere 91.38 326 *e*P **P 18 55 50.3 -1.4**
comp=Z,117nm,1.8s
TCF Toulx Ste Croi 91.51 323 *e*P **P 18 55 51.6 -0.8**
comp=Z,100nm,1.7s
TCF Toulx Ste Croi 91.51 323 *e*P **P 18 55 51.6 -0.8**
TCF pmax pmax
comp=Z,100nm,1.7s
TCF Toulx Ste Croi 91.51 323 *e*P **P 18 55 51.6 -0.8**
comp=Z,100nm,1.7s
A13A Flathead Natio 91.55 33 P **P 18 55 53.1 +0.4**
baz=91
WALA Waterton Lakes 91.72 33 *e*P **P 18 55 54.0 +0.5**
comp=Z,0.9nm,1.4s
C12B Naegeli Ranch, 91.79 35 P **P 18 55 54.1 +0.4**
baz=92
B13A Whitefish 91.88 34 P **P 18 55 54.9 +0.8**
baz=92
LASF Ste Croix 91.91 321 *e*P **P 18 55 53.8 -0.5**
comp=Z,43nm,1.6s
LASF Ste Croix 91.91 321 *e*P **P 18 55 53.8 -0.5**
comp=Z,43nm,1.6s
A14A Double T Ranch 92.02 33 P **P 18 55 55.2 +0.3**
baz=92
BSMT Bassoo Peak 92.05 34 *e*P **P 18 55 56.3 +1.1**
C13A Hot Springs 92.28 34 P **P 18 55 56.4 +0.4**
baz=92
JTMT Jette 92.38 34 *e*P **P 18 55 57.5 +0.9**
CAF Calviac 92.42 322 *e*P **P 18 55 56.4 -0.3**
comp=Z,36nm,1.2s
CAF Calviac 92.42 322 *e*P **P 18 55 56.4 -0.3**
CAF pmax pmax
comp=Z,36nm,1.2s
CAF Calviac 92.42 322 *e*P **P 18 55 56.4 -0.3**
comp=Z,36nm,1.2s
RJF Les Rejaudoux 92.49 323 *e*P **P 18 55 56.7 -0.3**
comp=Z,120nm,1.6s
RJF Les Rejaudoux 92.49 323 *e*P **P 18 55 56.7 -0.3**
RJF pmax pmax
comp=Z,120nm,1.6s

RJF	Les Rejaudoux	92.49	323	*eP*		**P**	18 55 56.7	-0.3
	comp=Z,120nm,1.6s							
B14A	Marquette Ranc	92.50	33	P		**P**	18 55 57.5	+0.4
	baz=92							
E12A	Beaver Dam Sad	92.56	36	P		**P**	18 55 57.8	+0.4
	baz=92							
MFF	Saint Martin d	92.59	324	*eP*		**P**	18 55 56.2	-1.2
	comp=Z,17nm,1.0s							
MFF	Saint Martin d	92.59	324	*eP*		**P**	18 55 56.2	-1.2
MFF					pmax	pmax		
	comp=Z,17nm,1.0s							
MFF	Saint Martin d	92.59	324	*eP*		**P**	18 55 56.2	-1.2
	comp=Z,17nm,1.0s							
MOD	Modoc	92.59	42	*eP*		**P**	18 55 58.5	+0.8
	comp=Z,19nm,1.5s							
C14A	Swan Lake	92.64	34	P		**P**	18 55 58.1	+0.3
	baz=92							
SWMT	Swartz Lake	92.68	34	*eP*		**P**	18 55 58.4	+0.4
	comp=Z,5.0nm,1.0s							
D13A	Huson	92.71	35	P		**P**	18 55 58.1	0.0
	baz=92							
SGMF	Saint Gilles	92.76	327	*eP*		**P**	18 55 57.4	-0.7
	comp=Z,148nm,1.6s							
SGMF	Saint Gilles	92.76	327	*eP*		**P**	18 55 57.4	-0.7
SGMF					pmax	pmax		
	comp=Z,148nm,1.6s							
SGMF	Saint Gilles	92.76	327	*eP*		**P**	18 55 57.4	-0.7
	comp=Z,148nm,1.6s							
B15A	Bradely Ranch,	92.88	33	P		**P**	18 55 58.6	-0.3
	baz=93							
FFC	Flin Flon	92.89	24	*eP*		**P**	18 55 57.8	-0.8
FFC					pmax	pmax		
	comp=Z,11nm,1.1s							
FFC	Flin Flon	92.89	24	*eP*		**P**	18 55 57.8	-0.8
	comp=Z,11nm,1.1s							
A16A	West Butte Ran	92.94	32	P		**P**	18 55 58.9	-0.3
	baz=93							
SLMT	Seeley Lake	93.12	34	*eP*		**P**	18 56 00.3	+0.2
KEST	Kesra	93.14	311	*eP*		**P**	18 56 00.7	+0.4
KEST	Kesra	93.14	311	P		**P**	18 56 00.1	-0.1
	comp=Z,0.8nm,0.6s,baz=201,slow=3.3,SNR=5.0							
C15A	Salmond Ranch,	93.22	34	P		**P**	18 56 00.4	0.0
	baz=93							
B16A	M & M Farms, S	93.24	33	P		**P**	18 56 00.1	-0.4
	baz=93							
WVOR	Wild Horse Val	93.27	40	*eP*		**P**	18 56 00.4	-0.4
WVOR					pmax	pmax		
	comp=Z,10.0nm,1.3s							
WVOR	Wild Horse Val	93.27	40	*eP*		**P**	18 56 00.4	-0.4
	comp=Z,9.5nm,1.3s							
MTLF	Montolieu	93.30	321	*eP*		**P**	18 56 00.2	-0.5
MTLF	Montolieu	93.30	321	*eP*		**P**	18 56 00.2	-0.5
MTLF	Montolieu	93.30	321	*eP*		**P**	18 56 00.2	-0.5
A17A	Triple J Farms	93.37	32	P		**P**	18 56 00.7	-0.3
	baz=93							
G12A	Big Creek, Yel	93.50	37	P		**P**	18 56 01.5	-0.3
	baz=93							
C16A	Fuhringer Ranc	93.63	33	P		**P**	18 56 02.0	-0.3
	baz=93							
B17A	L&G Farms, Che	93.77	32	P		**P**	18 56 02.7	-0.2
	baz=94							
A18A	Metzger Ranch,	93.80	31	P		**P**	18 56 02.5	-0.5
	baz=94							
H12A	Diamond D Ranc	94.13	37	P		**P**	18 56 04.7	-0.1
	baz=94							
B18A	Beardsley Farm	94.20	32	P		**P**	18 56 04.7	-0.2
	baz=94							
A19A	Klindworth Far	94.32	31	P		**P**	18 56 04.8	-0.6
	baz=94							
HRY	Holter Researc	94.32	34	*e*pP		pP	18 56 24.4	+8.3
EPF	Esparros	94.57	321	*eP*		**P**	18 56 05.1	-1.6
EPF	Esparros	94.57	321	*eP*		**P**	18 56 05.1	-1.6
EPF	Esparros	94.57	321	*eP*		**P**	18 56 05.1	-1.6
D17A	Six Diamond Ra	94.60	33	P		**P**	18 56 06.8	-0.1
	baz=94							
E17A	Martinsdale	94.98	34	P		**P**	18 56 08.6	-0.1
	baz=95							
HLID	Hailey	95.00	38	*eP*		**P**	18 56 09.9	+1.1
	comp=Z,20nm,2.1s							
HLID	Hailey	95.00	38	P		**P**	18 56 09.4	+0.6
	baz=95							
ETSF	Etsaut	95.17	322	*eP*		**P**	18 56 09.0	-0.4
	comp=Z,38nm,1.5s							
ETSF	Etsaut	95.17	322	*eP*		**P**	18 56 09.0	-0.4
ETSF					pmax	pmax		
	comp=Z,38nm,1.5s							
ETSF	Etsaut	95.17	322	*eP*		**P**	18 56 09.0	-0.4
	comp=Z,38nm,1.5s							
PPT	Papeete	95.34	107	P		**P**	18 56 10.1	-0.4
PPT	Papeete	95.34	107	P		**P**	18 56 10.1	-0.4
	comp=Z,114nm,0.7s,baz=85,slow=19,SNR=3.5							
D19A	Cripps Ranch,	95.49	32	P		**P**	18 56 10.8	0.0
	baz=95							
NVAR	Mina Arroyo Bea	95.88	43	P		**P**	18 56 11.9	-1.0
NVAR	Mina Arroyo Bea	95.88	43	P		**P**	18 56 11.9	-1.0
	comp=Z,0.9nm,0.5s,baz=295,slow=4.1,SNR=7.6							
F18A	Big Timber	95.95	34	P		**P**	18 56 12.8	-0.2
	baz=96							
H16A	Russell Place,	95.97	35	P		**P**	18 56 12.7	-0.5
	baz=96							
E19A	Rath Farm, Rou	96.02	33	P		**P**	18 56 13.0	-0.3
	baz=96							
ISA	Isabella	97.41	46	*eP*		P	18 56 15.0	-4.8
ISA					pmax	pmax		
	comp=Z,35nm,2.8s							
ISA	Isabella	97.41	46	*eP*		P	18 56 15.0	-4.8
	comp=Z,35nm,2.8s							
GDL2	Guadalupe Moun	108.53	41	*e*Pdif		**Pdif**	18 57 12.8	+3.4
OTAV	Otavalo	148.61	43	*e*PKPdf		**PKPdf**	19 02 31.3	+0.7
LPAZ	La Paz	167.57	54	PKP		**PKPdf**	19 02 53.2	-0.2
LPAZ	La Paz	167.57	54	PKP		**PKPdf**	19 02 53.2	-0.2
	comp=Z,5.0nm,1.1s,baz=14,slow=4.3,SNR=11							

CASC 16 18:46:00.6±1.7, 12°12N×87°09W, h67km±30km, MD3.9, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.49**	**83**	*eP*	Pn	18 46 13.7	+0.6
COPN				*eS*	Sn	18 46 23.2	+1.0
CNGN	**Cerro Negro**	**0.54**	**46**	*eP*	Pn	18 46 13.1	-0.5
CNGN				*eS*	Sn	18 46 23.3	+0.2
CNCH	**Conchagua**	**1.36**	**328**	*eP*	Pn	18 46 22.8	-1.0
LFRS	**El Faro**	**2.43**	**308**	*eP*	Pn	18 46 38.4	+0.1
VCR	**Vista de Mar**	**2.45**	**144**	*eP*	Pn	18 46 39.3	+0.8
VCR				*eS*	Sn	18 47 07.2	-0.2
JCR	**Jicaral**	**2.98**	**139**	*eP*	Pn	18 46 47.0	+1.4
JCR				*eS*	Sn	18 47 20.7	+0.4
SBLS	**San Blas**	**3.00**	**305**	*eP*	Pn	18 46 46.7	+0.6
ACR	**Cerro Adams**	**5.17**	**131**	*eP*	Pn	18 47 17.2	+1.5

*ISCJB **16** 18:57:42.8±0.4, 66°37N±0°03×141°87W±0°07, h10km, mb3.6/4, Error ellipse: s-maj=5.4km s-min=3.8km az=146.8*

*NEIC **16** 18:57:44.8, 66°27N×142°30W, h2km, ML3.6(AEIC), ML3.8(PGC), After AEIC.*

*IDC **16** 18:57:45.5±1.0, 66°37N×142°20W, h0km, mb3.7/4, mb1 4.0/8, mb1mx3.6/29, mbtmp3.7/8, ML3.6/4, MS3.0/1, Ms1 3.1/1, ms1mx2.8/42, Error ellipse: s-maj=19.1km s-min=12.0km az=161.0*

*PGC **16** 18:57:46.0±3.4, 66°28N×142°04W, h5km, ML3.8/2, 275km northwest of Dawson, Yt Alaska*

ISC 16 18:57:45.6±0.7, 66°29N±0°04×141°97W±0°05, h10km, n37, σ1°57/48, mb3.7/4, 5D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.54**	**319**	P	**Pn**	**18 58 11.9**	**-1.2**
EGAK	**Eagle**	**1.56**	**167**	P	**Pn**	**18 58 13.1**	**-0.2**
EGAK				S	**Sb**	**18 58 35.1**	**+1.0**
SCRK	**Sand Creek**	**2.47**	**201**	P	**Pn**	**18 58 25.7**	**-0.3**
SCRK				S	**Sn**	**18 58 56.7**	**+0.4**
DAWY	**Dawson**	**2.48**	**153**	⇑Pn	**Pn**	**18 58 26.5**	**+0.3**
DAWY				⇓Sn	**Sn**	**18 58 56.1**	**-0.3**
DAWY				⇑Sg	**Sb**	**18 59 03.1**	**+2.2**
DAWY	**Dawson**	**2.48**	**153**	P	**Pn**	**18 58 26.4**	**+0.3**
DAWY				S	**Sb**	**18 58 59.8**	**-1.2**
IL1	**Eielson Array**	**2.55**	**236**	P	**Pn**	**18 58 25.4**	**-1.5**
ILAR	**Eielson Array**	**2.55**	**236**	Pn	**Pn**	**18 58 25.5**	**-1.5**
	4.3nm,0.3s,baz=46,slow=14,SNR=124						
ILAR				Pg	**Pb**	**18 58 31.8**	**+0.4**
	18nm,0.3s,baz=47,slow=17,SNR=92						
ILAR				Lg	Lg	18 59 00.6	
	107nm,0.3s,baz=46,slow=32,SNR=34						
ILAR				LR	LR	18 59 22.0	
	comp=Z,299nm,19.6s,baz=162,slow=38						
GLM	**Gilmore Dome**	**2.60**	**242**	P	**Pn**	**18 58 26.4**	**-1.3**
COLA	**College**	**2.83**	**242**	P	**Pn**	**18 58 29.5**	**-1.2**
RIDG	**Independ'e Rid**	**2.83**	**207**	P	**Pn**	**18 58 30.5**	**-0.4**
RIDG				S	**Sn**	**18 59 06.5**	**+1.4**
MDM	**Murphy Dome**	**2.92**	**246**	P	**Pn**	**18 58 30.2**	**-1.9**
CCB	**Clear Creek Bu**	**2.94**	**239**	P	**Pn**	**18 58 30.6**	**-1.7**
WRH	**Wood River Hil**	**3.14**	**237**	P	**Pn**	**18 58 33.4**	**-1.7**
BCA3	**Beaver Creek A**	**3.24**	**178**	P	**Pn**	**18 58 37.5**	**+1.0**
COLD	**Coldfoot**	**3.40**	**290**	P	**Pn**	**18 58 38.1**	**-0.4**
PAX	**Paxson**	**3.66**	**206**	P	**Pn**	**18 58 42.6**	**+0.3**
INK	**Inuvik**	**3.85**	**54**	⇓Pn	**Pn**	**18 58 45.7**	**+0.9**
INK				⇑Sn	**Sn**	**18 59 29.6**	**-0.5**
INK				⇑Sg	**Sg**	**18 59 46.9**	**-2.2**
INK	**Inuvik**	**3.85**	**54**	P	**Pn**	**18 58 47.1**	**+2.3**
INK	**Inuvik**	**3.85**	**54**	Pn	**Pn**	**18 58 46.6**	**+1.8**
	2.2nm,0.3s,baz=248,slow=15,SNR=36						
INK				Sn	**Sn**	**18 59 27.1**	**-2.9**
	6.7nm,0.3s,baz=204,slow=27,SNR=5.6						
INK				Lg	Lg	18 59 44.3	
	16nm,0.3s,baz=156,slow=17,SNR=6.9						
MCK	**McKinley**	**3.91**	**232**	P	**Pn**	**18 58 44.8**	**-0.9**
DHY	**Denali Highway**	**3.97**	**218**	P	**Pn**	**18 58 46.9**	**+0.2**
HARP	**HAARP**	**4.13**	**201**	P	**Pn**	**18 58 49.3**	**+0.6**
TRF	**Thorofare Moun**	**4.55**	**235**	P	**Pn**	**18 58 52.9**	**-1.7**
IM3	**Indian Mountai**	**4.79**	**272**	P	**Pn**	**18 58 56.0**	**-1.7**
HYT	**Haines Junctio**	**5.84**	**158**	⇑Pn	**Pn**	**18 59 13.1**	**+0.9**
HYT				⇓Sg	**Sg**	**19 00 47.7**	**-5.1**
SKT	**Skwentna**	**6.01**	**228**	P	**Pn**	**18 59 13.6**	**-0.9**
WHY	**Whitehorse**	**6.48**	**147**	⇑Pn	**Pn**	**18 59 20.9**	**-0.1**
WHY				⇓Sg	Sg	19 01 07.8	-5.5
DLBC	**Dease Lake**	**9.62**	**139**	⇑Pn	**Pn**	**19 00 04.4**	**+0.4**
DLBC				⇓Sg	Sn	19 02 44.9	+53
DLBC	**Dease Lake**	**9.62**	**139**	Pn	**Pn**	**19 00 05.7**	**+1.8**
	0.7nm,0.3s,baz=328,slow=12,SNR=5.5						
DLBC				Lg	Lg	19 02 43.8	
	0.2nm,0.3s,baz=203,slow=21,SNR=4.8						
ROMN	**Roman Lake**	**10.19**	**90**	⇑Pn	**Pn**	**19 00 11.3**	**-0.4**
ROMN				⇑Sn	Sn	19 01 58.3	-7.6
CTLN	**Castor Lake**	**10.96**	**88**	⇑Pn	**Pn**	**19 00 20.7**	**-1.5**
CTLN				⇑Sn	Sn	19 02 16.8	-7.9
YKW3	**Yellowknife Ar**	**12.34**	**95**	⇑Pn	**Pn**	**19 00 39.7**	**-1.3**
YKW3				⇑Sn	Sn	19 02 50.3	-8.0
YKA	**Yellowknife Ar**	**12.37**	**95**	Pn	**Pn**	**19 00 39.9**	**-1.6**
	0.4nm,0.3s,baz=294,slow=13,SNR=8.2						
YKA				Sn	Sn	19 02 49.7	-10
	0.3nm,0.3s,baz=299,slow=22,SNR=3.6						
PDAR	**Pinedale Array**	**29.52**	**127**	P	**P**	**19 03 52.2**	**+2.1**
	0.9nm,0.9s,baz=15,slow=8.4,SNR=3.0						
NVAR	**Mina Array Bea**	**31.02**	**142**	P	**P**	**19 04 06.0**	**+2.7**
	0.6nm,0.7s,baz=332,slow=7.7,SNR=3.9						
FINES	**FINESS Array B**	**52.27**	**7**	P	**P**	**19 06 57.2**	**+0.9**
	0.4nm,0.4s,baz=359,slow=8.6,SNR=8.7						
CMAR	**Chiang Mai Arr**	**84.19**	**304**	P	**P**	**19 10 18.0**	**+1.1**
	0.6nm,0.9s,baz=0.3,slow=6.1,SNR=4.1						

MEX 16 19:09:16.3±0.4, 27°31N×112°58W, h10km, MD4.0, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.30**	**88**	*eP*	Pg	19 09 22.2	-0.2
SRIG				*i* S	Sg	19 09 26.4	0.0
HSIG		**2.23**	**40**	*i* P	Pn	19 09 50.3	-3.1
HSIG				*i* S	Sn	19 10 15.3	-5.7
LPIG	**La Paz**	**3.80**	**147**	*i* P	Pn	19 10 11.3	-3.6
LPIG				*i* S	Sn	19 10 54.4	-5.2
SPIG	**San Pedro Mart**	**4.49**	**327**	*i* P	Pn	19 10 23.0	-1.9
SPIG				*i* S	Sn	19 11 13.4	-4.2
CGIG		**5.06**	**52**	*eP*	Pn	19 10 29.1	-3.4
CGIG				*eS*	Sn	19 11 26.2	-4.9

*IDC **16** 19:24:51.2±2.3, 43°31N×146°69E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.5/4, Error ellipse: s-maj=76.5km s-min=30.2km az=69.0*

*ISCJB **16** 19:24:56.8±1.2, 43°34N±0°08×146°78E±0°10, h58km±10km, mb3.5/4, Error ellipse: s-maj=16.3km s-min=6.8km az=139.3*

*JMA **16** 19:24:56.7±0.1, 43°30N×146°79E, h47km±2km, M3.7*

*MOS **16** 19:24:56.4±0.4, 43°29N×146°56E, h55km, mb4.1/1, Error ellipse: s-maj=47.6km s-min=26.2km az=96.4*

ISC 16 19:24:57.5±1.8, 43°34N±0°09×146°77E±0°09, h46km±15km, n16, σ0°75/25, mb3.5/4, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.75**	**273**	P	**Pn**	**19 25 11.3**	**-0.5**
NEM2				*e*S	**Sn**	**19 25 22.2**	**0.0**
YUK	**Yuzh-Kuril'sk**	**0.96**	**317**	*d*iPN	**Pn**	**19 25 14.2**	**-0.4**
YUK				*i* S	**Sn**	**19 25 27.1**	**-0.1**
YUK				pmax	pmax		
	comp=Z,439nm,0.3s						
YUK				pmax	pmax		
	comp=E,62nm,0.2s						
YUK				pmax	pmax		
	comp=N,46nm,0.3s						
YUK				smax	smax		
	comp=N,2μm,0.5s						
YUK				smax	smax		
	comp=E,3μm,0.5s						
JRA	**Rausu**	**1.34**	**297**	P	**Pn**	**19 25 20.0**	**+0.2**
JRA				*e*S	**Sn**	**19 25 36.8**	**+0.3**
JNK	**Nakash**	**1.52**	**280**	P	**Pn**	**19 25 22.1**	**-0.1**
JNK				*e*S	**Sn**	**19 25 40.6**	**-0.2**
JAK	**Akkeshi**	**1.56**	**258**	P	**Pn**	**19 25 22.4**	**-0.4**
JAK				*e*S	**Sn**	**19 25 41.6**	**-0.1**
KUR	**Kuril'sk**	**2.05**	**22**	PN	**Pn**	**19 25 30.7**	**+1.2**
KUR				*e*S	**Sn**	**19 25 53.2**	**-0.7**
KUR				smax	smax		
	comp=N,300nm,0.6s						
KUR				smax	smax		
	comp=E,190nm,0.5s						
JTKR	**Abashiri--Toko**	**2.17**	**288**	P	**Pn**	**19 25 32.4**	**+1.2**
JAR	**Ashorobuto**	**2.19**	**270**	P	**Pn**	**19 25 32.0**	**+0.5**
JAR				*e*S	**Sn**	**19 25 58.8**	**+1.4**
JOB	**Onbets**	**2.19**	**260**	P	**Pn**	**19 25 31.9**	**+0.4**
JOB				*e*S	**Sn**	**19 25 58.0**	**+0.6**
JMP	**Maruseppu**	**2.57**	**286**	P	**Pn**	**19 25 37.8**	**+1.2**
JCH	**Churui**	**2.61**	**255**	P	**Pn**	**19 25 37.9**	**+0.8**
JCH				*e*S	**Sn**	**19 26 07.7**	**+0.2**
SONM	**Songino Array**	**28.38**	**293**	P	**P**	**19 30 45.8**	**-1.5**
	comp=E,0.2nm,0.4s,baz=99,slow=8.9,SNR=2.6						
MKAR	**Makanchi Array**	**44.53**	**298**	P	**P**	**19 33 05.0**	**+0.5**
MKAR	**Makanchi Array**	**44.53**	**298**	P	**P**	**19 33 05.0**	**+0.5**
	comp=E,0.2nm,0.4s,baz=81,slow=8.9,SNR=6.2						
WRA	**Warramunga Arr**	**63.99**	**193**	P	**P**	**19 35 26.0**	**-0.1**
	comp=E,0.5nm,0.8s,baz=12,slow=6.7,SNR=3.1						
FINES	**FINESS Array B**	**65.12**	**333**	P	**P**	**19 35 33.0**	**+0.1**
	comp=E,0.8nm,0.9s,baz=32,slow=7.5,SNR=6.2						

NEIC 16 19:27:03.1, 46°18S×165°93E, h5km, ML4.4(WEL), 2D, After WEL., Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.53**	**89**	⇓Pg	Pb	19 27 14.9	0.0
PYZ				Sg	Sg	19 27 20.9	+0.8
PYZ				Sg	Sg	19 27 20.9	+0.8
DCZ	**Deep Cove**	**1.11**	**51**	P*	Pg	19 27 23.4	-1.0
WHZ	**Wether Hill Ro**	**1.44**	**79**	⇓Pn	Pn	19 27 28.9	-1.0
APZ	**The Paps**	**1.57**	**115**	Pn	Pn	19 27 30.6	-1.1
MLZ	**Mavora Lakes**	**1.78**	**63**	Pn	Pn	19 27 34.2	-0.4
MSZ	**Milford Sound**	**2.07**	**44**	Pn	Pn	19 27 38.3	-0.2
SYZ	**Scrubby Hill**	**2.25**	**100**	Pn	Pn	19 27 40.8	-0.3
EAZ	**Earnscleugh**	**2.55**	**69**	Pn	Pn	19 27 46.2	+1.0
WKZ	**Wanaka**	**2.56**	**59**	Pn	Pn	19 27 46.8	+1.4
TUZ	**Tuapeka**	**2.59**	**86**	Pn	Pn	19 27 45.8	+0.1
JCZ	**Jackson Bay**	**2.91**	**45**	*e*Pn	Pn	19 27 51.3	+1.1

NEIC 16 19:37:52.2, 45°69S×166°39E, h12km, ML4.2(WEL), 1D, After WEL., Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.52**	**157**	⇓P*	Pg	19 38 02.2	-0.3
PYZ				S*	Sg	19 38 09.5	0.0
DCZ	**Deep Cove**	**0.58**	**69**	P*	Pg	19 38 03.3	-0.1
DCZ				S*	Sg	19 38 09.5	-1.6
WHZ	**Wether Hill Ro**	**1.11**	**101**	P*	Pb	19 38 12.4	-1.0
MLZ	**Mavora Lakes**	**1.30**	**76**	P*	Pn	19 38 15.0	-1.2
MLZ				S*	Sb	19 38 32.4	-0.9
MSZ	**Milford Sound**	**1.49**	**48**	Pn	Pn	19 38 17.3	-1.4
APZ	**The Paps**	**1.60**	**136**	Pn	Pn	19 38 19.8	-0.5
WKZ	**Wanaka**	**2.05**	**66**	Pn	Pb	19 38 28.4	-1.0
SYZ	**Scrubby Hill**	**2.10**	**115**	Pn	Pn	19 38 28.1	+1.0
EAZ	**Earnscleugh**	**2.11**	**79**	Pn	Pb	19 38 29.0	-1.3
TUZ	**Tuapeka**	**2.29**	**98**	Pn	Pb	19 38 31.6	-1.8
LBZ	**Lake Benmore**	**2.99**	**66**	Pn	Pn	19 38 40.8	+1.4
ODZ	**Otahua Downs**	**3.07**	**79**	Pn	Pn	19 38 41.1	+0.6
FOZ	**Fox Glacier**	**3.17**	**49**	Pn	Pn	19 38 43.6	+1.7
RPZ	**Rata Peaks**	**3.87**	**61**	Pn	Pn	19 38 52.7	+1.2
WVZ	**Waitaha Valley**	**4.07**	**52**	Pn	Pn	19 38 54.4	+0.3

IDC 16 19:38:13.4±1.5, 46°24S×166°10E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/13, mbtmp3.4/2, Error ellipse: s-maj=110.3km s-min=38.0km az=23.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**1.43**	**115**	Sn	Sg	19 38 58.8	-0.8
ASAR	**Alice Springs**	**34.32**	**300**	P	P	19 45 02.4	+0.8
	0.4nm,0.7s,baz=132,slow=6.3,SNR=2.9						
WRA	**Warramunga Arr**	**36.94**	**305**	P	P	19 45 22.9	-1.2
	0.7nm,1.1s,baz=138,slow=7.7,SNR=3.4						
TORD	**Torodi Ar. Bea**	**144.49**	**207**	PKP	PKPbc	19 57 50.3	-0.1
	1.1nm,0.5s,baz=152,slow=1.6,SNR=22						
BRTR	**Keskin Array B**	**145.05**	**277**	PKPbc	PKPbc	19 57 51.5	-0.3
	1.3nm,0.8s,baz=114,slow=3.1,SNR=5.9						
SCHQ	**Schefferville**	**146.01**	**56**	PKPbc	PKPdf	19 57 53.2	-0.2
	2.4nm,0.7s,baz=22,slow=17,SNR=5.3						
ARCES	**ARCESS Array B**	**149.60**	**334**	PKPbc	PKPbc	19 58 03.6	+0.2
	1.6nm,0.5s,baz=83,slow=2.8,SNR=17						
FINES	**FINESS Array B**	**152.49**	**318**	PKPbc	PKPbc	19 58 09.7	-0.6
	0.5nm,0.5s,baz=149,slow=4.0,SNR=4.7						

IDC 16 19:38:46.2±2.4, 18°84S×65°25E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/26, mbtmp3.7/8, Error ellipse: s-maj=74.3km s-min=26.3km az=47.0, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**49.69**	**44**	P	P	19 47 41.1	+0.8
	0.4nm,0.5s,baz=233,slow=8.9,SNR=4.1						
ASAR	**Alice Springs**	**63.63**	**108**	P	P	19 49 19.3	-0.3
	0.7nm,0.9s,baz=243,slow=9.7,SNR=4.3						
WRA	**Warramunga Arr**	**64.73**	**104**	P	P	19 49 27.1	+0.2
	0.5nm,0.8s,baz=254,slow=6.3,SNR=2.6						
BRTR	**Keskin Array B**	**65.31**	**334**	P	P	19 49 30.9	+0.6
	0.5nm,0.7s,baz=157,slow=4.1,SNR=2.8						
KURBB	**Kurchatov Arra**	**70.15**	**9**	P	P	19 49 59.3	-1.0
	0.7nm,0.8s,baz=202,slow=6.6,SNR=6.7						
BVAR	**Borovoye Array**	**71.70**	**3**	P	P	19 50 10.4	+0.6
	1.0nm,0.8s,baz=152,slow=6.7,SNR=6.5						
ZALV	**Zalesovo Beam**	**74.42**	**12**	P	P	19 50 24.5	-1.4
	0.6nm,0.7s,baz=184,slow=4.0,SNR=3.7						
SONM	**Songino Array**	**75.92**	**27**	P	P	19 50 35.3	+0.4
	0.3nm,0.4s,baz=224,slow=4.0,SNR=2.9						

IDC 16 19:41:15.9±3.8, 16°03S×167°79E, h187km±43km, mb3.5/8, mb1 3.7/9, mb1mx3.4/22, mbtmp3.5/9, Error ellipse: s-maj=43.2km s-min=25.6km az=135.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.14**	**192**	P	Pn	19 42 44.9	-0.2
	2.2nm,0.3s,baz=270,slow=20,SNR=6.3						
DZM				S	Sn	19 43 55.5	+0.1
	baz=270,slow=20,SNR=2.6						
CTA	**Charters Tower**	**20.87**	**256**	P	P	19 45 45.1	+1.4
	2.2nm,0.6s,baz=87,slow=11,SNR=4.2						
STKA	**Stephens Creek**	**28.56**	**232**	P	P	19 46 54.5	0.0
	0.7nm,0.6s,baz=90,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**32.02**	**258**	P	P	19 47 24.4	-0.7
	0.7nm,0.6s,baz=87,slow=8.1,SNR=9.0						
ASAR	**Alice Springs**	**32.71**	**251**	P	P	19 47 31.1	+0.1
	2.8nm,0.6s,baz=78,slow=8.7,SNR=53						
FITZ	**Fitzroy Crossi**	**40.29**	**261**	P	P	19 48 34.7	-0.5
	3.6nm,0.7s,baz=82,slow=5.5,SNR=9.2						
MJAR	**Matsushiro Arr**	**59.28**	**332**	P	P	19 50 56.8	-1.3
	1.8nm,0.8s,baz=163,slow=8.9,SNR=7.1						
USRK	**Ussuriysk Arra**	**68.26**	**333**	P	P	19 51 58.1	+1.6
	1.0nm,0.6s,baz=227,slow=10,SNR=4.1						
CMAR	**Chiang Mai Arr**	**75.94**	**294**	P	P	19 52 42.5	-0.1
	0.7nm,0.3s,baz=134,slow=3.9,SNR=4.7						
ARCES	**ARCESS Array B**	**121.63**	**345**	PKP	PKPdf	19 59 46.9	+0.1

0.9nm,0.3s,baz=236,slow=12,SNR=7.0
TORD Torodi Ar. Bea 76.61 69 P P 20 15 19.2 -0.3
0.4nm,0.8s,baz=252,slow=4.6,SNR=7.7

*TAP **16** 20:05:49.0,23°.50N×121°.59E,h41km,ML3.4,C*
*ISCJB **16** 20:05:49.2±0.4,23°.49N±0°.02×121°.65E±0°.03,h34km±8km, Error ellipse: s-maj=4.6km s-min=2.8km az=37.5*
*JMA **16** 20:06:06.8±0.4,24°.33N×122°.80E,h52km,M2.0*
ISC 16 20:05:49.3±1.0,23°49N±0°03×121°63E±0°04,h33km±4km, n51,σ0°84/82,11C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village** baz=356	**0.23**	**339**	*e*P	**Pn**	**20 05 56.7**	**+0.4**
TEGC	baz=356			*e*S	**Sb**	**20 06 02.7**	**+1.8**
EHY	**Hungye** baz=272	**0.28**	**273**	⇑*i*P	**Pb**	**20 05 56.7**	**-0.2**
EHY	baz=272			S	**Sn**	**20 06 01.9**	**-0.2**
TWF1	**Yuli** baz=254	**0.34**	**245**	⇑*i*P	**Pb**	**20 05 57.5**	**-0.1**
TWF1	baz=254			S	**Sn**	**20 06 03.3**	**-0.3**
ESL	**Shilin** baz=329	**0.37**	**330**	⇑*i*P	**Pb**	**20 05 57.5**	**-0.5**
ESL	baz=329			S	**Sb**	**20 06 04.0**	**+0.1**
ESF	**Shoufeng Towns** baz=339	**0.39**	**343**	*e*P	**Pb**	**20 05 57.5**	**-0.9**
CHKT	**Chengkung** baz=200	**0.46**	**212**	P	**Pb**	**20 05 59.6**	**+0.3**
CHKT	baz=200			*e*S	**Sb**	**20 06 07.5**	**+1.4**
HWA	**Hwalien** baz=9.0	**0.48**	**357**	*e*P	**Pb**	**20 05 58.8**	**-0.8**
HWA	baz=9.0			*e*S	**Sb**	**20 06 07.4**	**+0.7**
TWD	**Chiawan** baz=351	**0.58**	**357**	*i* P	**Pn**	**20 06 00.6**	**-0.7**
TWD	baz=351			*e*S	**Sb**	**20 06 10.2**	**+0.7**
YUS	**Yu-Shan** baz=276	**0.62**	**270**	⇑*i*P	**Pn**	**20 06 01.9**	**-0.4**
YUS	baz=276			S	**Sb**	**20 06 10.4**	**-0.7**
ELDTW	**Lidau** baz=235	**0.64**	**242**	⇓*e*P	**Pn**	**20 06 00.9**	**-1.3**
ELDTW	baz=235			*e*S	**Sn**	**20 06 09.4**	**-1.9**
WHF	**Hehuan Shan** baz=336	**0.73**	**333**	P	**Pn**	**20 06 02.6**	**-1.2**
WHF	baz=336			S	**Sn**	**20 06 13.0**	**-1.0**
ALS	**Alishan** baz=279	**0.76**	**271**	⇑*i*P	**Pn**	**20 06 04.0**	**-0.1**
ALS	baz=279			S	**Sn**	**20 06 14.1**	**-0.4**
SMLT	**Sun Moon Lake** baz=302	**0.77**	**300**	⇑*i*P	**Pn**	**20 06 03.7**	**-0.3**
SMLT	baz=302			*e*S	**Sn**	**20 06 13.7**	**-1.0**
TYC	**Yuchr** baz=302	**0.82**	**300**	⇑*i*P	**Pn**	**20 06 04.3**	**-0.2**
TYC	baz=302			S	**Sn**	**20 06 15.4**	**-0.2**
TWG	**Pinlang** baz=215	**0.84**	**218**	*e*P	**Pn**	**20 06 03.2**	**-1.8**
TWG	baz=215			*e*S	**Sn**	**20 06 15.3**	**-0.9**
TWT	**Tachien** baz=338	**0.86**	**331**	⇑*i*P	**Pn**	**20 06 05.2**	**-0.2**
TWT	baz=338			*e*S	**Sn**	**20 06 15.6**	**-1.3**
STYT	**Tauyuan** baz=243	**0.87**	**248**	P	**Pn**	**20 06 04.9**	**-0.4**
STYT	baz=243			S	**Sn**	**20 06 16.5**	**-0.3**
CHN5	**Tsauling** baz=277	**0.88**	**277**	⇑*i*P	**Pn**	**20 06 05.8**	**+0.2**
CHN5	baz=277			S	**Sn**	**20 06 17.7**	**+0.4**
ENA	**Nanau** baz=17	**0.94**	**6**	*e*P	**Pn**	**20 06 05.5**	**-0.7**
WNT	**Mingjian** baz=295	**0.95**	**294**	*e*P	**Pn**	**20 06 06.8**	**+0.4**
CHN4	**Tsaushan** baz=261	**0.96**	**262**	*e*P	**Pn**	**20 06 07.1**	**+0.5**
CHN4	baz=261			S	**Sn**	**20 06 20.1**	**+0.9**
WTP	**Ta-pu** baz=255	**0.97**	**255**	*i* P	**Pn**	**20 06 07.0**	**+0.4**
WTP	baz=255			S	**Sn**	**20 06 20.0**	**+0.7**
NNS	**Nan Shan** baz=349	**0.97**	**346**	*e*P	**Pn**	**20 06 06.1**	**-0.7**
NNS	baz=349			*e*S	**Sn**	**20 06 18.5**	**-1.0**
SGST	**Jiashian** baz=239	**1.05**	**247**	*e*P	**Pn**	**20 06 08.2**	**+0.5**
SGST	baz=239			S	**Sn**	**20 06 22.5**	**+1.3**
CHN1	**Nanshi** baz=253	**1.06**	**253**	P	**Pn**	**20 06 08.3**	**+0.4**
CHN1	baz=253			*e*S	**Sn**	**20 06 22.8**	**+1.2**
CHN2	**Minshiung** baz=272	**1.06**	**272**	*e*P	**Pn**	**20 06 08.7**	**+0.7**
CHN2	baz=272			*e*S	**Sb**	**20 06 23.2**	**+0.4**
TWK	**Hsinying** baz=258	**1.07**	**258**	*e*P	**Pn**	**20 06 08.6**	**+0.4**
TWK	baz=258			*e*S	**Sn**	**20 06 22.8**	**+0.9**
ECL	**Taimali** baz=213	**1.09**	**215**	*e*P	**Pn**	**20 06 06.2**	**-2.1**
TCU	**Taichung** baz=308	**1.09**	**307**	⇑P	**Pn**	**20 06 09.2**	**+0.8**
CHY	**Chiayi** baz=270	**1.11**	**270**	*e*P	**Pn**	**20 06 07.7**	**-0.8**
TWC	**Suao** baz=22	**1.13**	**10**	*e*P	**Pn**	**20 06 09.3**	**+0.5**
TWC	baz=22			*e*S	**Sn**	**20 06 23.6**	**+0.3**
ENTT	**Nioudou** baz=359	**1.14**	**357**	*e*P	**Pn**	**20 06 08.4**	**-0.7**
TWQ1	**Liyutan** baz=318	**1.16**	**317**	⇑*e*P	**Pn**	**20 06 09.9**	**+0.6**
TWQ1	baz=318			*e*S	**Sn**	**20 06 24.4**	**+0.4**
NSK	**Sanguang** baz=350	**1.20**	**348**	*e*P	**Pn**	**20 06 09.9**	**-0.1**
NSK	baz=350			*e*S	**Sn**	**20 06 24.5**	**-0.7**
NSY	**Sanyi** baz=332	**1.22**	**319**	*e*P	**Pn**	**20 06 10.7**	**+0.6**
NSY	baz=332			*e*S	**Sn**	**20 06 26.7**	**+1.3**
TWE	**Neicheng** baz=355	**1.22**	**2**	*e*P	**Pn**	**20 06 09.6**	**-0.5**
CHN3	**Shinhua** baz=262	**1.24**	**251**	*e*P	**Pn**	**20 06 11.7**	**+1.4**
CHN3	baz=262			*e*S	**Sb**	**20 06 28.3**	**+0.6**
NSTT	**Nanjuang** baz=334	**1.27**	**333**	*e*P	**Pn**	**20 06 10.9**	**+0.1**
NSTT	baz=334			*e*S	**Sn**	**20 06 27.1**	**+0.4**
WTCT	**Ta-ch'eng** baz=277	**1.29**	**287**	*e*P	**Pn**	**20 06 11.3**	**+0.2**
WTCT	baz=277			*e*S	**Sn**	**20 06 27.9**	**+0.7**
TWM1	**Shoushan** baz=239	**1.30**	**239**	*e*P	**Pn**	**20 06 12.8**	**+1.6**
CHN8	**Yiju** baz=264	**1.31**	**264**	*e*P	**Pn**	**20 06 10.8**	**-0.6**
CHN8	baz=264			*e*S	**Sn**	**20 06 28.7**	**+0.9**
SCZT	**Fangliau** baz=210	**1.45**	**220**	*e*P	**Pn**	**20 06 13.7**	**+0.4**
TWA	**Mucha** baz=360	**1.48**	**358**	*e*P	**Pn**	**20 06 13.9**	**+0.2**
TWB1	**Santiao Chiao** baz=15	**1.54**	**12**	*e*P	**Pn**	**20 06 16.1**	**+1.6**
YOJ	**Yonaguni jima**	**1.59**	**52**	P	**Pn**	**20 06 15.6**	**+0.4**
YOJ				S	Sn	20 06 21.8	-13
PNG	**Penghu** baz=272	**1.91**	**273**	*e*P	**Pn**	**20 06 19.0**	**-0.5**
HATJ	**Hateruma jima**	**2.07**	**74**	*e*S	Sn	20 06 36.2	-10
IRIF	**Iriomote-Funau**	**2.10**	**66**	P	**Pn**	**20 06 23.0**	**+0.9**
IRIF				S	Sn	20 06 35.1	-12
JKRS	**Kuro-shima**	**2.30**	**71**	P	**Pn**	**20 06 25.8**	**+0.8**
JKRS				S	Sn	20 06 42.5	-10
JIJ	**Ishigaki jima**	**2.46**	**69**	P	**Pn**	**20 06 27.0**	**-0.1**
JIJ				S	Sn	20 06 45.2	-11
JTJ	**Tarama**	**3.03**	**67**	P	**Pn**	**20 06 35.1**	**+0.1**

IDC 16 20:23:43.8±2.3,3°23N×126°01E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.4/21,mbtmp3.4/3,Error ellipse: s-maj=211.7km s-min=26.6km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.6nm,0.5s,baz=339,slow=11,SNR=5.6	**24.43**	**161**	P	P	20 29 04.5	0.0
ASAR	**Alice Springs** 0.4nm,0.7s,baz=352,slow=12,SNR=2.9	**27.81**	**164**	P	P	20 29 35.2	+0.2
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=125,slow=7.4,SNR=5.8	**57.56**	**326**	P	P	20 33 35.0	-0.3

MAN 16 20:32:56,9°77N×125°73E,h102km,mb4.3,ML3.2,MS3.0, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.93**	**293**	*e*P	Pn	20 33 17.2	+1.4
MSLP				*e*S	Sn	20 33 25.3	-5.5
CGP	**Cagayan de Oro**	**1.66**	**218**	⇑*i*P	Pn	20 33 25.4	+1.1
CGP				*i* S	Sn	20 33 47.2	+1.4
OCLP	**Ormoc**	**1.69**	**319**	*e*P	Pn	20 33 25.8	+1.1
TBP	**Tagbilaran**	**1.84**	**268**	*e*P	Pn	20 33 28.0	+1.3
GUIM	**Jordan**	**3.21**	**286**	*e*P	Pn	20 33 46.3	+1.7

IDC 16 20:39:22.1±7.8,8°95S×121°27E,h234km±68km,mb3.5/1, mb1 3.1/4,mb1mx2.8/20,mbtmp2.9/4,Error ellipse: s-maj=141.0km s-min=58.9km az=52.0,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=336,slow=20,SNR=2.5	**10.04**	**155**	P	Pn	20 41 40.4	-1.0
FITZ	0.1nm,0.3s,baz=126,slow=19,SNR=2.8			S	S	20 43 34.7	+0.4
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=310,slow=12,SNR=5.5	**16.71**	**132**	P	P	20 43 01.1	-0.7
WRA	0.1nm,0.3s,baz=336,slow=23,SNR=2.9			S	S	20 46 04.8	+0.3
ASAR	**Alice Springs** 0.2nm,0.3s,baz=326,slow=13,SNR=14	**18.98**	**142**	P	P	20 43 27.9	+1.4
STKA	**Stephens Creek** 0.8nm,0.3s,baz=311,slow=11,SNR=12	**29.61**	**143**	P	P	20 45 05.3	-0.5

*IDC **16** 20:55:54.7±1.5,27°.62N×52°.35E,h0km,mb3.7/6, mb1 3.7/7,mb1mx3.5/26,mbtmp3.6/7,ML3.4/1,MS3.1/1, Ms1 3.1/1,ms1mx2.4/37,Error ellipse: s-maj=38.1km s-min=22.9km az=2.0*
*ISCJB **16** 20:55:55.2±0.5,27°.78N±0°.06×52°.40E±0°.06,h10km, mb3.6/6,MS2.9/1,Error ellipse: s-maj=10.8km s-min=5.6km az=37.4*
*CSEM **16** 20:56:00.6±0.4,28°.48N×52°.41E,h10km,ML3.3,Error ellipse: s-maj=20.4km s-min=8.4km az=14.0*
*OMAN **16** 20:56:18.6±99.0,27°.94N×57°.83E,h89km,Error ellipse: s-maj=33.0km s-min=22.9km az=346.0*
*KISR **16** 20:56:32.0±1.0,28°.45N×49°.27E,h5km±999km,ML2.5*
ISC 16 20:55:55.8±0.8,27°67N±0°06×52°40E±0°05,h10km,n30, σ2s01/22,mb3.6/6,2C-1D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.80**	**40**	*e*Pg	**Pg**	**20 56 11.1**	**-0.2**
BNDS	**Bandar-Abbas**	**3.36**	**94**	*e*Pn	**Pb**	**20 56 56.0**	**+0.4**
BANOM	**Banah** SNR=25	**3.90**	**116**	⇓P	**Pn**	**20 56 57.3**	**+1.5**
BANOM	**Banah** SNR=25	**3.90**	**116**	P	**Pn**	**20 56 57.4**	**+1.6**
BANOM				S	**Sn**	**20 57 36.0**	**-5.6**
NAZ	**Nazwa, Dubai**	**3.96**	**132**	P	Pb	20 56 59.6	-6.2
ASUD	**Al Ashush, Dub**	**4.01**	**138**	P	Pb	20 57 00.4	-6.3
FAQ	**Al Faqa, Dubai**	**4.09**	**135**	P	Pb	20 57 01.9	-6.0
HATD	**Hatta, Dubai**	**4.39**	**129**	P	Pn	20 57 04.7	+2.1
ASHO	**Ashiyiah** SNR=17	**4.43**	**131**	⇑P	Pn	20 57 05.2	+2.0
ASHO				⇑S	**Sn**	**20 57 55.0**	**+0.1**
ASHO	**Ashiyiah** SNR=17	**4.43**	**131**	P	Pn	20 57 05.2	+2.0
ASHO				S	**Sn**	**20 57 55.0**	**+0.1**
KRBR	**Kerman**	**4.46**	**58**	*e*Pn	**Pn**	**20 57 02.7**	**-1.2**
KRBR				*e*Sg	**Sn**	**20 58 01.1**	**+5.0**
UMR	**Umm Al-Rimmam**	**4.53**	**296**	*e*P	**Pn**	**20 57 05.3**	**+0.9**
UMR	**Umm Al-Rimmam**	**4.53**	**296**	*e*P	**Pn**	**20 57 05.3**	**+0.9**
NAY	**Al-Naaiem** comp=Z,20nm,0.6s	**4.81**	**290**	*e*P	**Pn**	**20 57 09.1**	**+0.8**
NAY				*e*S	Sn	20 57 35.9	-28
NAY				AML	AML	20 57 39.8	
NAY	**Al-Naaiem** comp=Z,20nm,0.6s	**4.81**	**290**	*e*P	**Pn**	**20 57 09.1**	**+0.8**
NAY				*e*S	Sn	20 57 35.8	-28
MIB	**Mutribah** comp=Z,54nm,0.5s	**4.93**	**297**	*e*P	Pn	20 57 11.7	+1.8
MIB				*e*S	Sn	20 57 41.6	-25
MIB				AML	AML	20 57 45.9	
MIB	**Mutribah**	**4.93**	**297**	*e*P	Pn	20 57 11.7	+1.8
MIB				*e*S	Sn	20 57 41.6	-25
NASN	**Na'in**	**5.12**	**4**	*e*Pn	Pn	20 57 07.3	-5.7
NASN				*e*Sg	**Sn**	**20 58 10.2**	**-2.1**
BSY	**Bisya** SNR=8.2	**6.55**	**137**	P	Pn	20 57 34.4	+2.0
BSYO	**Bisya** SNR=8.2	**6.59**	**137**	P	Pn	20 57 34.4	+1.6
BRTR	**Keskin Array B** comp=Z,0.1nm,0.3s,baz=132,slow=13,SNR=6.2	**19.66**	**312**	P	**Pn**	**21 00 24.8**	**-1.6**
AAK	**Ala-Archa** comp=Z,47nm,20.5s,baz=352,slow=41	**23.34**	**44**	LR	LR	21 11 58.4	
MKAR	**Makanchi Array** comp=Z,0.5nm,0.8s,baz=242,slow=12,SNR=3.1	**30.23**	**43**	P	P	21 02 09.4	+2.7
ZALV	**Zalesovo Beam** comp=Z,0.7nm,0.4s,baz=252,slow=9.3,SNR=3.9	**35.40**	**33**	P	**P**	**21 02 52.4**	**+0.7**
FINES	**FINESS Array B** comp=Z,2.0nm,0.9s,baz=139,slow=15,SNR=4.9	**38.09**	**340**	P	**P**	**21 03 14.7**	**+0.2**
NB2	**NORSAR Subarra** comp=Z,0.5nm,0.5s,baz=123,slow=8.6	**43.25**	**332**	P	**P**	**21 03 56.3**	**-0.9**
NB2	**NORSAR Subarra** comp=Z,0.5nm,0.5s,SNR=4.1	**43.25**	**332**	P	**P**	**21 03 56.3**	**-0.9**
NOA	**NORSAR Array B** comp=Z,0.5nm,0.6s,baz=122,slow=8.3,SNR=4.1	**43.25**	**332**	P	**P**	**21 03 56.8**	**-0.4**
CMAR	**Chiang Mai Arr** comp=Z,0.3nm,0.3s,baz=297,slow=10.0,SNR=3.6	**43.58**	**92**	P	**P**	**21 04 00.0**	**-0.4**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.7s,baz=62,slow=8.8,SNR=7.1	**49.34**	**264**	P	**P**	**21 04 46.4**	**+0.7**

*ISCJB **16** 21:07:22.7±0.6,27°.32N±0°.06×140°.4E±0°.1,h400km, mb3.2/8,Error ellipse: s-maj=15.9km s-min=7.7km az=169.1*
*JMA **16** 21:07:25.7±0.2,27°.51N×140°.53E,h379km,M4.1*
*IDC **16** 21:07:30.2±4.7,27°.19N×140°.09E,h462km±58km,mb3.0/8, mb1 3.2/9,mb1mx2.9/25,mbtmp3.0/9,Error ellipse: s-maj=26.5km s-min=12.6km az=84.0*
ISC 16 21:07:24.4±0.8,27°37N±0°08×140°6E±0°2,h400km,n14, σ2s50/18,mb3.4/8,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.48**	**100**	P	**Pn**	**21 08 16.9**	**-0.6**
CBIJ				S	**S**	**21 08 57.4**	**-2.9**
JHHJ	**Haha-jima-NKT**	**1.63**	**116**	P	**Pn**	**21 08 18.0**	**-0.2**
JHHJ				S	**S**	**21 08 59.8**	**-1.9**
BSO3	**Boso 3**	**7.41**	**360**	P	**P**	**21 09 13.1**	**+0.3**
BSO3				*e*S	**S**	**21 10 38.9**	**-1.7**
JHU	**Hanno**	**8.53**	**353**	*e*S	**S**	**21 10 58.5**	**-6.0**
JHO	**Hitachi**	**9.22**	**0**	P	**Pn**	**21 09 33.9**	**+0.7**
JHO				*e*S	**S**	**21 11 15.3**	**-3.7**
USRK	**Ussuriysk Arra** 0.4nm,0.3s,baz=153,slow=8.2,SNR=8.7	**18.15**	**340**	P	**P**	**21 11 13.7**	**+3.4**
WRA	**Warramunga Arr**	**47.41**	**188**	P	**P**	**21 15 19.6**	**-1.0**
	1.8nm,0.4s,baz=5.9,slow=7.7,SNR=32						
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=90,slow=10,SNR=3.8	**49.18**	**309**	P	**P**	**21 15 33.2**	**-0.6**
ASAR	**Alice Springs** 0.4nm,0.3s,baz=359,slow=4.3,SNR=13	**51.14**	**188**	P	**P**	**21 15 47.8**	**-0.7**
KURBB	**Kurchatov Arra** 0.6nm,0.5s,baz=93,slow=8.2,SNR=5.1	**51.81**	**314**	P	**P**	**21 15 52.1**	**-0.9**
BVAR	**Borovoye Array** 0.8nm,0.4s,baz=89,slow=7.3,SNR=7.0	**56.86**	**317**	P	**P**	**21 16 28.9**	**0.0**
ILAR	**Eielson Array** 0.3nm,0.6s,baz=268,slow=8.9,SNR=3.5	**58.17**	**29**	P	**P**	**21 16 40.6**	**+2.8**
YKA	**Yellowknife Ar** 0.7nm,0.4s,baz=297,slow=6.4,SNR=4.5	**72.59**	**28**	P	**P**	**21 18 11.6**	**+2.6**
FINES	**FINESS Array B** 0.4nm,0.3s,baz=64,slow=6.0,SNR=10	**77.06**	**333**	P	**P**	**21 18 34.0**	**-0.3**

*CSEM **16** 21:20:47.3,35°.76N×22°.98E,h13km,MD3.5,After ATH*
ATH 16 21:20:47.3,35°76N×22°98E,h13km,MD3.5/26,ML2.7, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.28**	**68**	*e*PG	Pg	21 20 53.7	+0.5
ANKY				*e*SG	Sg	21 20 57.5	+0.4
ANKY	**Antikythira Is**	**0.28**	**68**	*e*Pg	Pg	21 20 53.7	+0.5
ANKY				*e*Sg	Sg	21 20 57.5	+0.4
KYTH	**Kithira**	**0.52**	**5**	*e*PB	Pg	21 20 57.6	0.0
KYTH	**Kithira**	**0.52**	**5**	*e*Pb	Pg	21 20 57.6	0.0
KARN	**Karanos**	**0.84**	**115**	*e*PB	Pg	21 21 03.4	-0.3
KARN				*e*SB	Sb	21 21 15.2	+0.1
KARN	**Karanos**	**0.84**	**115**	*e*Pb	Pg	21 21 03.4	-0.3
KARN				*e*Sb	Sb	21 21 15.2	+0.1
VLI	**Veliai**	**0.96**	**358**	*e*PB	Pb	21 21 05.4	-0.4
VLI				*e*SB	Sb	21 21 18.7	+0.3
VLI	**Veliai**	**0.96**	**358**	*e*Pb	Pb	21 21 05.4	-0.4
VLI				*e*Sb	Sb	21 21 18.7	+0.3
VAM	**Vamos**	**1.05**	**109**	*e*PB	Pb	21 21 07.5	+0.1
VAM				*e*SB	Sn	21 21 22.1	-0.3
VAM	**Vamos**	**1.05**	**109**	*e*Pb	Pb	21 21 07.5	+0.1
VAM				*e*Sb	Sn	21 21 22.1	-0.3
DYR	**Agios Nikonas**	**1.13**	**333**	*e*PG	Pb	21 21 08.4	-0.3
DYR				*e*SB	Sg	21 21 23.8	-0.1
DYR	**Agios Nikonas**	**1.13**	**333**	*e*Pg	Pb	21 21 08.4	-0.3
DYR				*e*Sb	Sg	21 21 23.8	-0.1
GVD	**Gavdhos**	**1.29**	**135**	*e*PB	Pg	21 21 11.8	-0.3
GVD	**Gavdhos**	**1.29**	**135**	*e*Pb	Pg	21 21 11.8	-0.3
PYL	**PYLOS**	**1.51**	**319**	*e*PG	Pb	21 21 15.2	0.0
PYL				*e*SB	Sg	21 21 36.5	+0.5
PYL	**PYLOS**	**1.51**	**319**	*e*Pg	Pb	21 21 15.2	0.0
PYL				*e*Sb	Sg	21 21 36.5	+0.5
ITM	**Ithomi**	**1.65**	**329**	*e*PG	Pb	21 21 17.6	-0.1
ITM				*e*SB	Sg	21 21 40.7	+0.1
ITM	**Ithomi**	**1.65**	**329**	*e*Pg	Pb	21 21 17.6	-0.1
ITM				*e*Sb	Sg	21 21 40.7	+0.1
SIVA	**Sivas**	**1.67**	**116**	*e*PG	Pb	21 21 18.6	+0.7
SIVA				*e*SB	Sg	21 21 41.5	+0.5
SIVA	**Sivas**	**1.67**	**116**	*e*Pg	Pb	21 21 18.6	+0.7
SIVA				*e*Sb	Sg	21 21 41.5	+0.5
VLX	**Vlachokerasia**	**1.68**	**343**	*e*PG	Pb	21 21 18.7	+0.5
VLX				*e*SB	Sg	21 21 41.6	0.0
VLX	**Vlachokerasia**	**1.68**	**343**	*e*Pg	Pb	21 21 18.7	+0.5
VLX				*e*Sb	Sg	21 21 41.6	0.0
DID	**Didima**	**1.75**	**7**	*e*PN	Pb	21 21 19.5	+0.1
DID				*e*SN	Sg	21 21 43.6	-0.3
DID	**Didima**	**1.75**	**7**	*e*Pn	Pb	21 21 19.5	+0.1
DID				*e*Sn	Sg	21 21 43.6	-0.3
NAIG	**Nisos Aigina**	**2.04**	**11**	*e*PN	Pb	21 21 23.3	-0.9
NAIG	**Nisos Aigina**	**2.04**	**11**	*e*Pn	Pb	21 21 23.3	-0.9
AMT	**Artemida-Makis**	**2.04**	**330**	*e*PN	Pb	21 21 24.1	-0.2
AMT				*e*SN	Sb	21 21 49.8	+0.1
AMT	**Artemida-Makis**	**2.04**	**330**	*e*Pn	Pb	21 21 24.1	-0.2
AMT				*e*Sn	Sb	21 21 49.8	+0.1
SANT	**Santorini**	**2.10**	**72**	*e*PN	Pb	21 21 24.1	-1.2
SANT				*e*SN	Sb	21 21 51.5	+0.2
SANT	**Santorini**	**2.10**	**72**	*e*Pn	Pb	21 21 24.1	-1.2
SANT				*e*Sn	Sb	21 21 51.5	+0.2
LAST	**Lasithi**	**2.12**	**106**	*e*PN	Pb	21 21 24.5	-1.3
LAST				*e*SN	Sb	21 21 51.9	-0.3
LAST	**Lasithi**	**2.12**	**106**	*e*Pn	Pb	21 21 24.5	-1.3
LAST				*e*Sn	Sb	21 21 51.9	-0.3
NPS	**Neapolis**	**2.20**	**102**	*e*PN	Pb	21 21 25.7	-1.4
NPS				*e*SN	Sb	21 21 53.2	-1.1
NPS	**Neapolis**	**2.20**	**102**	*e*Pn	Pb	21 21 25.7	-1.4
NPS				*e*Sn	Sb	21 21 53.2	-1.1
GUR	**Goura**	**2.23**	**347**	*e*PN	Pb	21 21 26.0	-1.7
GUR				*e*SN	Sb	21 21 54.8	-0.5
GUR	**Goura**	**2.23**	**347**	*e*Pn	Pb	21 21 26.0	-1.7
GUR				*e*Sn	Sb	21 21 54.8	-0.5
LTK	**Loutraki**	**2.26**	**360**	*e*PN	Pb	21 21 26.7	-1.3
LTK				*e*SN	Sb	21 21 55.9	0.0
LTK	**Loutraki**	**2.26**	**360**	*e*Pn	Pb	21 21 26.7	-1.3
LTK				*e*Sn	Sb	21 21 55.9	0.0
ATH	**Athens Observa**	**2.29**	**15**	*e*PN	Pb	21 21 27.0	-1.4
ATH				*e*SN	Sb	21 21 55.9	-0.7
ATH	**Athens Observa**	**2.29**	**15**	*e*Pn	Pb	21 21 27.0	-1.4
ATH				*e*Sn	Sb	21 21 55.9	-0.7
KLV	**Kalavryta, Ach**	**2.37**	**344**	*e*PN	Pb	21 21 28.3	-1.7
KLV	**Kalavryta, Ach**	**2.37**	**344**	*e*Pn	Pb	21 21 28.3	-1.7
PTL	**Penteli**	**2.39**	**17**	*e*PN	Pb	21 21 28.4	-1.9
PTL				*e*SN	Sb	21 21 58.5	-1.3
PTL	**Penteli**	**2.39**	**17**	*e*Pn	Pb	21 21 28.4	-1.9
PTL				*e*Sn	Sb	21 21 58.5	-1.3
APE	**Apeiranthos**	**2.44**	**57**	*e*PN	Pb	21 21 29.5	-1.6
APE				*e*SN	Sb	21 21 59.6	-1.5
APE	**Apeiranthos**	**2.44**	**57**	*e*Pn	Pb	21 21 29.5	-1.6
APE				*e*Sn	Sb	21 21 59.6	-1.5
RLS	**Riolos of Patr**	**2.59**	**333**	*e*PN	Pb	21 21 31.5	-2.2
RLS	**Riolos of Patr**	**2.59**	**333**	*e*Pn	Pb	21 21 31.5	-2.2
LAKA	**Lakka**	**2.60**	**342**	*e*PN	Pn	21 21 31.5	+2.4
LAKA	**Lakka**	**2.60**	**342**	*e*Pn	Pn	21 21 31.5	+2.4
TRIZ	**Trizonia**	**2.70**	**345**	*e*PB	Pb	21 21 33.2	-2.3
TRIZ				*e*SN	Sb	21 22 06.2	-2.3
TRIZ	**Trizonia**	**2.70**	**345**	*e*Pb	Pb	21 21 33.2	-2.3
TRIZ				*e*Sn	Sb	21 22 06.2	-2.3
KALE	**Kalithea**	**2.71**	**346**	*e*PN	Pn	21 21 32.8	+2.1
KALE	**Kalithea**	**2.71**	**346**	*e*Pn	Pn	21 21 32.8	+2.1
EFP	**Efpalio**	**2.80**	**342**	*e*PN	Pn	21 21 34.1	+2.3
EFP				*e*SN	Sn	21 22 08.0	+2.6
EFP	**Efpalio**	**2.80**	**342**	*e*Pn	Pn	21 21 34.1	+2.3
EFP				*e*Sn	Sn	21 22 08.0	+2.6
LKR	**Lokris**	**2.88**	**0**	*e*PB	Pn	21 21 35.7	+2.7
LKR				*e*SN	Sn	21 22 10.2	+2.7
LKR	**Lokris**	**2.88**	**0**	*e*Pb	Pn	21 21 35.7	+2.7
LKR				*e*Sn	Sn	21 22 10.2	+2.7
VLS	**Valsamata**	**3.08**	**322**	*e*PN	Pn	21 21 38.0	+2.3
VLS	**Valsamata**	**3.08**	**322**	*e*Pn	Pn	21 21 38.0	+2.3
EVR	**Evrytania**	**3.29**	**344**	*e*PN	Pn	21 21 41.5	+2.9
EVR	**Evrytania**	**3.29**	**344**	*e*Pn	Pn	21 21 41.5	+2.9
AGG	**Agios Georgios**	**3.30**	**351**	*e*PN	Pn	21 21 41.9	+3.2
AGG	**Agios Georgios**	**3.30**	**

*KISR **16** 21:28:11.6±0.5, 31°.76N×49°.67E, h34km±102km, ML2.6*
CSEM 16 21:28:16.3±0.5, 31°.42N×49°.84E, h20km, ML2.3, Error ellipse: s-maj=21.1km s-min=9.0km az=124.0, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.12**	**308**	*e*Pg	Pb	21 28 38.7	+1.8
KHMZ	**Khomeyn**	**2.31**	**3**	*e*Pg	Pn	21 28 52.0	-1.6
UMR	**Umm Al-Rimmam**	**2.61**	**225**	*e*P	Pn	21 28 56.8	-0.5
UMR				*e*S	Sb	21 29 31.3	-2.8
UMR				AML	AML	21 29 34.7	
	comp=Z,17nm,0.3s						
UMR	**Umm Al-Rimmam**	**2.61**	**225**	*e*P	Pn	21 28 57.0	-0.3
UMR				*e*S	Sn	21 29 29.3	+0.8
UMR				AML	AML	21 29 33.6	
	comp=Z,16nm,0.3s						
UMR	**Umm Al-Rimmam**	**2.61**	**225**	*e*P	Pn	21 28 57.0	-0.4
UMR				*e*S	Sn	21 29 29.3	+0.8
MIB	**Mutribah**	**2.69**	**234**	*e*P	Pn	21 28 57.4	-1.0
MIB				*e*S	Sn	21 29 31.6	+1.1
MIB				AML	AML	21 29 42.0	
	comp=Z,24nm,0.4s						
MIB	**Mutribah**	**2.69**	**234**	*e*P	Pn	21 28 57.3	-1.1
MIB	**Mutribah**	**2.69**	**234**	*e*P	Pn	21 28 57.3	-1.2
NASN	**Na'in**	**2.87**	**61**	*e*Pn	Pn	21 29 02.3	+0.9
NASN				*e*Sg	Sb	21 29 41.7	-0.6
KBD	**Kabd**	**2.91**	**220**	*e*P	Pn	21 29 01.3	-0.1
KBD				*e*S	Sn	21 29 38.6	+2.9
KBD				AML	AML	21 29 40.0	
	comp=Z,12nm,0.2s						
KBD	**Kabd**	**2.91**	**220**	*e*P	Pn	21 29 01.6	+0.2
KBD				AML	AML	21 29 44.1	
	comp=Z,9.2nm,0.3s						
KBD	**Kabd**	**2.91**	**220**	*e*P	Pn	21 29 01.6	+0.2
NAY	**Al-Naaiem**	**3.12**	**227**	*e*P	Pn	21 29 04.1	-0.3
NAY	**Al-Naaiem**	**3.12**	**227**	*e*P	Pn	21 29 04.0	-0.3
NAY				*e*S	Sn	21 29 41.3	+0.3
NAY				AML	AML	21 29 43.8	
	comp=Z,4.7nm,0.3s						
NAY	**Al-Naaiem**	**3.12**	**227**	*e*P	Pn	21 29 04.0	-0.3
NAY				*e*S	Sn	21 29 41.3	+0.3
	comp=Z,4.7nm,0.3s						
RDF	**Al-Radifah**	**3.18**	**219**	*e*P	Pn	21 29 05.5	+0.3
RDF				*e*S	Sn	21 29 43.5	+0.9
RDF	**Al-Radifah**	**3.18**	**219**	*e*P	Pn	21 29 05.5	+0.3
RDF				*e*S	Sn	21 29 43.5	+1.0

*IDC **16** 21:31:51.5±24.0, 25°.21S×179°.03W, h386km±208km, mb3.5/5, mb1 3.7/5, mb1mx3.3/19, mbtmp3.5/5, Error ellipse: s-maj=140.2km s-min=44.5km az=62.0*
*AUST **16** 21:32:05.0, 24°.08S×179.04W, h600km*
ISC 16 21:31:59.1±1.1, 24°.9S±0°.3×178°.9W±0°.2, h500km, n17, σ1§34/17, mb4.0/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**10.14**	**57**	S	**S**	**21 36 11.3**	**-1.0**
	baz=9.8,SNR=3.5						
EIDS	**Eidsvold**	**27.14**	**262**	P	**P**	**21 37 01.6**	**0.0**
	baz=27,SNR=4.6						
RMQ	**Roma**	**29.13**	**260**	P	**P**	**21 37 20.0**	**+1.0**
	baz=29,SNR=4.5						
CMSA	**Cobar Meteorol**	**31.79**	**250**	P	**P**	**21 37 40.6**	**-1.3**
	baz=32,SNR=6.7						
CTA	**Charters Tower**	**32.47**	**271**	P	**P**	**21 37 47.8**	**-0.1**
	1.6nm,0.3s,baz=102,slow=11,SNR=4.3						
MTSU	**Mount Surprise**	**34.77**	**274**	P	**P**	**21 38 08.6**	**+1.3**
	baz=35,SNR=5.9						
STKA	**Stephens Creek**	**35.29**	**249**	P	**P**	**21 38 09.8**	**-1.7**
	1.6nm,0.3s,baz=102,slow=12,SNR=19						
STKA	**Stephens Creek**	**35.29**	**249**	P	**P**	**21 38 09.8**	**-1.7**
	baz=35,SNR=18						
ASAR	**Alice Springs**	**42.85**	**261**	P	**P**	**21 39 12.2**	**-0.7**
	3.1nm,0.4s,baz=89,slow=6.8,SNR=80						
ASAR				PcP	**PcP**	**21 40 56.0**	**+3.2**
	0.3nm,0.7s,baz=104,slow=3.9,SNR=2.7						
WRA	**Warramunga Arr**	**43.33**	**267**	P	**P**	**21 39 15.9**	**-0.7**
	2.3nm,0.5s,baz=100,slow=6.7,SNR=18						
KNRA	**Kununurra**	**49.66**	**270**	P	**P**	**21 40 05.6**	**+0.9**
	baz=50,SNR=6.3						
FITZ	**Fitzroy Crossi**	**51.73**	**266**	P	**P**	**21 40 20.0**	**+0.2**
	2.7nm,0.8s,baz=111,slow=14,SNR=6.9						
FITZ	**Fitzroy Crossi**	**51.73**	**266**	P	**P**	**21 40 20.6**	**+0.7**
	baz=52,SNR=3.8						
KLBR	**Kellerberrin**	**55.53**	**248**	P	**P**	**21 40 46.0**	**-0.6**
	baz=56,SNR=6.8						
MORW	**Morawa**	**57.47**	**250**	P	**P**	**21 40 59.4**	**-0.6**
	baz=58,SNR=4.3						
BRTR	**Keskin Array B**	**148.93**	**306**	PKPab	PKPab	21 51 01.2	+4.7
	0.7nm,0.8s,baz=84,slow=3.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**168.34**	**183**	PKPab	**PKPab**	**21 52 21.8**	**+1.0**
	0.5nm,0.9s,baz=179,slow=4.6,SNR=3.2						

*ISCJB **16** 22:18:17.7±1.2, 46°.21S±0°.04×166°.10E±0°.04, h0km±7km, mb5.5/44, MS5.4/119, Error ellipse: s-maj=6.7km s-min=3.9km az=167.1*
*IDC **16** 22:18:18.9±0.4, 46°.17S×166°.17E, h0km, mb5.3/13, mb1 5.3/15, mb1mx5.2/18, mbtmp5.3/15, ML4.9/2, MS5.2/14, Ms1 5.2/14, ms1mx5.0/20, Error ellipse: s-maj=17.4km s-min=13.1km az=81.0*
*BJI **16** 22:18:21.6, 46°.36S×165°.83E, h19km, mB5.8/24, mb5.6/25, Ms5.4/31, Ms7 5.2/31*
*MOS **16** 22:18:23.4±1.2, 46°.11S×165°.96E, h33km, mb5.6/15, MS5.3/27, Error ellipse: s-maj=15.9km s-min=9.6km az=103.1*
*BKK **16** 22:18:23.8±0.8, 46°S±8°×16°6E±1°9, h10km, M5.5/22, mB5.9/13, mb5.5/22, Mw(mB)5.5/13*
*NEIC **16** 22:18:23.5±1.4, 46°.20S×166°.13E, h30km±9km, mb5.6/15, MS5.5/81, MW5.6, ML5.5(WEL), Error ellipse: s-maj=6.4km s-min=5.2km az=168.0, Moment Tensor Solution. s29 Moment tensor: Scale 10^{17}Nm; M_{rr}1.06; $M_{\theta\theta}$0.97; $M_{\phi\phi}$-2.03; $M_{r\theta}$0.90; $M_{\theta\phi}$0.95; $M_{\phi r}$-1.94; Best double couple: M_o2.90000×10^{17} NP1:ϕ_s12.00000°, δ23.00000°, λ130.00000°. NP2:ϕ_s150.00000°, δ72.00000°, λ74.00000°. Principal axes: T 2.1700, Plg59.0000°, Azm37.0000°; N 1.1600, Plg14.0000°, Azm154.0000°; P -3.3300, Plg25.0000°, Azm251.0000°;*
NEIC Felt throughout the southern part of the South Island.
*AUST **16** 22:18:24.4±0.8, 46°.06S×165°.97E, h29km Error ellipse: s-maj=0.9km s-min=0.7km az=351.0*
*GCMT **16** 22:18:26.5±0.1, 46°.12S×165°.85E, h18km, MW5.7, Moment Tensor Solution. s98,c186; s40,c43; Moment tensor: Scale 10^{17}Nm; M_{rr}1.78±.04; $M_{\theta\theta}$0.80±.03; $M_{\phi\phi}$-2.58±.04; $M_{r\theta}$1.95±.11; $M_{\theta\phi}$-0.11±.03; $M_{\phi r}$-3.86±.17; Best double couple: M_o4.90000×10^{17} NP1:ϕ_s31.00000°, δ20.00000°, λ143.00000°. NP2:ϕ_s156.00000°, δ78.00000°, λ74.00000°. Principal axes: T 4.8000, Plg54.0000°, Azm47.0000°; N 0.1700, Plg16.0000°, Azm159.0000°; P -4.9800, Plg32.0000°, Azm259.0000°; Data Used: II IU CN IC G. Surface waves: sta=105, comp=195, per= 50.*
*DJA **16** 22:18:30.3±2.1, 46°S±6°×16°5E±1°4, h58km±17km, M5.5/19, mB5.9/12, mb5.5/19, Mw(mB)5.5/12, Mwp5.4/2*
ISC 16 22:18:22.6±0.3, 46°.26S±0°.04×166°.20E±0°.04, h23km±1km, h23km:pP-P, n693, σ1§55/674, mb5.5/44, MS5.4/120, 41C-21D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**1.27**	**74**	*e*Pn	**Pn**	**22 18 45.3**	**+0.4**
WHZ				*e*Sn	**Sb**	**22 19 03.2**	**+1.4**
MSZ	**Milford Sound**	**2.00**	**38**	P	**Pn**	**22 18 54.6**	**-0.3**
MSZ	**Milford Sound**	**2.00**	**38**	Pn	**Pn**	**22 18 54.6**	**-0.3**
WKZ	**Wanaka**	**2.45**	**55**	Sn	**Sb**	**22 19 35.8**	**+0.3**
ODZ	**Otahua Downs**	**3.35**	**70**	*e*Pn	**Pn**	**22 19 13.3**	**-0.1**
LBZ	**Lake Benmore**	**3.38**	**58**	Pn	**Pn**	**22 19 14.1**	**+0.2**
FOZ	**Fox Glacier**	**3.66**	**44**	Pn	**Pn**	**22 19 19.2**	**+1.4**
RPZ	**Rata Peaks**	**4.28**	**55**	*e*Pn	**Pn**	**22 19 25.9**	**-0.4**
RPZ				Sn	**Sn**	**22 20 16.7**	**+1.1**
RPZ	**Rata Peaks**	**4.28**	**55**	Pn	**Pn**	**22 19 25.8**	**-0.6**
	68nm,0.3s,baz=217,slow=8.9,SNR=140						
RPZ				Sn	**Sn**	**22 20 16.7**	**+1.1**
	396nm,0.3s,baz=356,slow=17,SNR=10						
WVZ	**Waitaha Valley**	**4.54**	**47**	Pn	**Pn**	**22 19 29.5**	**-0.3**
MQZ	**McQueen's Vall**	**5.24**	**63**	Pn	**Pn**	**22 19 39.3**	**-0.1**
CRLZ	**Canterbury Las**	**5.29**	**62**	Pn	**Pn**	**22 19 40.2**	**0.0**
LTZ	**Lake Taylor**	**5.56**	**53**	Pn	**Pn**	**22 19 42.5**	**-1.4**
DSZ	**Denniston Nort**	**6.06**	**44**	Pn	**Pn**	**22 19 50.5**	**-0.2**
KHZ	**Kahutara**	**6.52**	**57**	*e*Pn	**Pn**	**22 19 55.6**	**-1.3**
KHZ				*e*Sn	**Sn**	**22 21 06.6**	**-3.9**
QRZ	**Quartz Range**	**7.12**	**43**	Pn	**Pn**	**22 20 04.6**	**-0.6**
NNZ	**Nelson**	**7.24**	**48**	Pn	**Pn**	**22 20 07.7**	**+0.8**
TUWZ	**Tuamarina**	**7.39**	**52**	Pn	**Pn**	**22 20 10.8**	**+1.9**
SNZO	**South Karori**	**7.90**	**54**	*e*Pn	**Pn**	**22 20 16.9**	**+1.0**
SNZO				*e*Sn	**Sn**	**22 21 42.3**	**-2.1**
KIW	**Kapiti Island**	**8.31**	**53**	Pn	**Pn**	**22 20 21.1**	**-0.6**
NEZ	**North Egmont**	**9.08**	**43**	Pn	**Pn**	**22 20 32.9**	**+0.7**
DREZ	**Durham Road**	**9.20**	**43**	Pn	**Pn**	**22 20 35.4**	**+1.6**
MHEZ	**Mangahewa**	**9.34**	**43**	Pn	**Pn**	**22 20 37.5**	**+1.8**
MCQ	**Macquarie Isla**	**9.45**	**207**	*e*P	**Pn**	**22 20 36.1**	**-1.0**
MCQ	**Macquarie Isla**	**9.45**	**207**	*e*Pn	**Pn**	**22 20 36.1**	**-1.0**
MCQ	**Macquarie Isla**	**9.45**	**207**	P	Pn	22 20 43.2	+6.1
	baz=9.5,SNR=4.4						
VRZ	**Vera Road**	**9.51**	**44**	Pn	**Pn**	**22 20 39.6**	**+1.6**
WNVZ	**Wahianoa**	**9.78**	**48**	Pn	**Pn**	**22 20 44.4**	**+2.5**
URZ	**Urewera**	**11.36**	**49**	*e*Pn	**Pn**	**22 21 02.2**	**-1.1**
URZ				*e*Sn	Sn	22 23 00.3	-9.2
URZ	**Urewera**	**11.36**	**49**	Pn	**Pn**	**22 21 02.8**	**-0.5**
	8.3nm,0.3s,baz=220,slow=6.8,SNR=21						
URZ				Sn	Sn	22 23 00.9	-8.6
	2.0nm,0.3s,baz=330,slow=20,SNR=2.6						
WCZ	**Waipu Caves**	**11.99**	**34**	Pn	**Pn**	**22 21 11.1**	**-1.0**
OUZ	**Omahuta**	**12.37**	**30**	*e*Pn	**Pn**	**22 21 15.8**	**-1.3**
OUZ				*e*Sn	**Sn**	**22 23 29.7**	**-4.4**
TAU	**Tasmania Unive**	**13.86**	**277**	Pn	Pn	22 21 31.0	-6.4
	3µm,1.1s,SNR=30						
TAU	**Tasmania Unive**	**13.86**	**277**	*e*P	Pn	22 21 31.1	-6.4
TAU	**Tasmania Unive**	**13.86**	**277**	*e*Pn	Pn	22 21 31.1	-6.4
MOO	**Moorlands**	**14.12**	**279**	P	Pn	22 21 35.7	-5.4
	baz=14,SNR=60						
MILA	**Mila**	**15.68**	**300**	S	Sn	22 24 35.9	-19
	baz=15,SNR=8.1						
CNB	**Canberra Magne**	**16.76**	**305**	P	**Pn**	**22 22 13.0**	**-2.8**
	baz=16,SNR=30						
CAN	**Canberra**	**16.96**	**304**	*e*P	**Pn**	**22 22 15.5**	**-2.8**
CAN				*e*		22 25 12.6	
CAN				pmax	pmax		
	comp=Z,690nm,1.4s						
CAN	**Canberra**	**16.96**	**304**	*e*Pn	**Pn**	**22 22 15.5**	**-2.8**
	comp=Z,690nm,1.4s						
CAN				*e*Sn	Sn	22 25 12.6	-14
MGCD	**Mangrove Creek**	**17.41**	**313**	P	**Pn**	**22 22 22.8**	**-1.0**
	baz=17,SNR=13						
TOO	**Toolangi**	**17.65**	**292**	P	**Pn**	**22 22 25.3**	**-1.5**
	baz=17,SNR=154						
TOO				S	Sn	22 25 30.0	-13
	baz=17,SNR=5.0						
YNG	**Young**	**18.04**	**305**	P	**Pn**	**22 22 30.6**	**-1.1**
	baz=18,SNR=26						
ARMA	**Armidale**	**19.46**	**319**	*e*Pn	**Pn**	**22 22 49.1**	**+0.2**
ARMA				*e*Sn	**S**	**22 26 23.1**	**-3.1**
ARMA	**Armidale**	**19.46**	**319**	P	**Pn**	**22 22 49.2**	**+0.2**
	baz=19,SNR=11						
ARPS	**Mount Arapiles**	**20.49**	**289**	P	**P**	**22 22 58.7**	**0.0**
	baz=20,SNR=21						
RAO	**Raoul Island**	**21.05**	**42**	LR	LR	22 31 22.2	
	comp=Z,10µm,18.6s,baz=200,slow=37						
CMSA	**Cobar Meteorol**	**21.61**	**306**	P	**P**	**22 23 10.3**	**-0.5**
	baz=21,SNR=39						
STKA	**Stephens Creek**	**23.77**	**299**	*e*P	**P**	**22 23 33.2**	**0.0**
	comp=Z,36nm,1.0s						
STKA	**Stephens Creek**	**23.77**	**299**	P	**P**	**22 23 33.3**	**+0.1**
	comp=Z,24nm,0.9s,baz=126,slow=10,SNR=26						
STKA				LR	LR	22 31 22.5	
	comp=Z,7µm,18.5s,baz=128,slow=33						
STKA	**Stephens Creek**	**23.77**	**299**	P	**P**	**22 23 33.1**	**-0.2**
	baz=24,SNR=30						
NOUC	**Port Laguerre**	**24.10**	**0**	*e*P	**P**	**22 23 39.3**	**+2.9**
EIDS	**Eidsvold**	**24.10**	**325**	*e*P	**P**	**22 23 36.1**	**-0.3**
EIDS	**Eidsvold**	**24.10**	**325**	P	**P**	**22 23 36.8**	**+0.5**
	baz=24,SNR=9.3						
RMQ	**Roma**	**24.12**	**319**	P	**P**	**22 23 37.0**	**+0.4**
	baz=24,SNR=15						
DZM	**Mont Dzumac**	**24.13**	**1**	*e*P	**P**	**22 23 38.4**	**+1.6**
	comp=Z,931nm,1.4s						
DZM	**Mont Dzumac**	**24.13**	**1**	*e*P	**P**	**22 23 36.9**	**+0.1**
	comp=Z,370nm,1.4s						
DZM	**Mont Dzumac**	**24.13**	**1**	P	**P**	**22 23 35.9**	**-0.9**
	comp=Z,266nm,1.2s,baz=274,slow=23,SNR=32						
DRV	**Dumont d'Urvil**	**24.69**	**205**	P	P	22 23 30.0	-11
DRV				S	**S**	**22 27 55.0**	**-6.4**
DRV				L	L	22 28 00.0	
DRV				R		22 29 00.0	
BBOO	**Buckleboo**	**26.66**	**290**	*e*P	**P**	**22 23 59.2**	**-0.4**
BBOO	**Buckleboo**	**26.66**	**290**	P	**P**	**22 23 59.2**	**-0.4**
	baz=26,SNR=18						
MSVF	**Nonsavu**	**30.10**	**23**	PFAKE		22 24 40.0	+10
MSVF				LR	LR		
	comp=Z,10µm,19.0s						
CTAO	**Charters Tower**	**30.81**	**321**	*e*P	**P**	**22 24 35.2**	**-1.3**
CTAO				MLR	MLR		
	comp=Z,6µm,19.0s						
CTAO	**Charters Tower**	**30.81**	**321**	*e*P	**P**	**22 24 35.2**	**-1.3**
CTAO				LR	LR		
	comp=Z,6µm,19.0s						
VNDA	**Vanda**	**31.41**	**182**	*e*P	**P**	**22 24 43.0**	**+1.7**
	comp=Z,29nm,1.0s						
VNDA	**Vanda**	**31.41**	**182**	P	**P**	**22 24 43.0**	**+1.7**
	comp=Z,3.1nm,1.0s,baz=354,slow=9.6,SNR=10						
VNDA				LR	LR	22 35 04.9	
	comp=Z,8µm,19.0s,baz=20,slow=32						
SBA	**Scott Base**	**31.70**	**180**	*e*P	**P**	**22 24 46.6**	**+2.7**
SBA				MLR	MLR		
	comp=Z,7µm,19.0s						
SBA	**Scott Base**	**31.70**	**180**	*e*P	**P**	**22 24 46.6**	**+2.7**
SBA				LR	LR		
	comp=Z,7µm,19.0s						
MTSU	**Mount Surprise**	**33.38**	**320**	P	**P**	**22 25 00.1**	**+0.9**
	baz=33,SNR=6.2						
AS31	**Alice Springs**	**34.39**	**300**	*e*P	**P**	**22 25 06.4**	**-1.5**
ASAR	**Alice Springs**	**34.39**	**300**	P	**P**	**22 25 06.6**	**-1.3**
ASAR				PcP	**PcP**	**22 27 42.4**	**-1.0**
ASAR	**Alice Springs**	**34.39**	**300**	P	**P**	**22 25 06.6**	**-1.3**
	comp=Z,34nm,0.9s,baz=136,slow=9.2,SNR=184						
ASAR				PcP	**PcP**	**22 27 42.4**	**-1.0**
	comp=Z,8.9nm,0.9s,baz=137,slow=3.4,SNR=4.2						
ASAR				LR	LR	22 37 31.2	
	comp=Z,7µm,18.9s,baz=143,slow=34						
CASY	**Casey**	**35.22**	**215**	*e*P	**P**	**22 25 14.9**	**+0.3**
	comp=Z,163nm,1.2s						
CASY				LR	LR		
	comp=Z,6µm,19.0s						
WRA	**Warramunga Arr**	**37.01**	**304**	P	**P**	**22 25 28.6**	**-1.8**
WRA				PcP	**PcP**	**22 27 50.2**	**-0.8**
WRA				ScP	**ScP**	**22 31 36.7**	**+0.4**
WRA	**Warramunga Arr**	**37.01**	**304**	P	**P**	**22 25 28.6**	**-1.8**
	comp=Z,43nm,0.8s,baz=136,slow=8.0,SNR=137						
WRA				PcP	**PcP**	**22 27 50.2**	**-0.8**
	comp=Z,7.9nm,0.9s,baz=136,slow=2.9,SNR=4.1						
WRA				ScP	**ScP**	**22 31 36.7**	**+0.4**
	comp=Z,6.4nm,1.3s,baz=134,slow=3.5,SNR=5.5						
WRA				LR	LR	22 39 56.3	
	comp=Z,6µm,19.6s,baz=135,slow=35						
WRAB	**Tennant Creek**	**37.01**	**304**	P	**P**	**22 25 28.0**	**-2.4**
	comp=Z,539nm,1.1s,SNR=23						
WRAB	**Tennant Creek**	**37.01**	**304**	*e*P	**P**	**22 25 28.5**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,95nm,1.0s						
WRAB	**Tennant Creek**	**37.01**	**304**	*e*P	**P**	**22 25 28.5**	**-1.9**
	comp=Z,95nm,1.0s						
HNR	**Honiara**	**37.09**	**350**	*e*P	**P**	**22 25 31.4**	**+0.4**
HNR	**Honiara**	**37.09**	**350**	P	**P**	**22 25 30.8**	**-0.2**
	comp=Z,226nm,0.9s,baz=245,slow=3.8,SNR=18						
HNR				LR	LR	22 38 59.8	
	comp=Z,7µm,18.0s,baz=175,slow=34						
AFI	**Afiamalu**	**37.20**	**37**	PFAKE		22 25 40.0	+7.9
AFI				LR	LR		
	comp=Z,3µm,21.0s						
RAR	**Rarotonga**	**37.29**	**60**	PFAKE		22 25 40.0	+7.3
RAR				LR	LR		
	comp=Z,8µm,19.0s						
COEN	**Coen**	**37.58**	**321**	*e*P	**P**	**22 25 35.5**	**+0.3**
COEN	**Coen**	**37.58**	**321**	P	**P**	**22 25 35.3**	**+0.1**
	baz=37,SNR=4.9						
FUNA	**Funafuti**	**39.22**	**21**	PFAKE		22 26 00.0	+11
FUNA				LR	LR		
	comp=Z,12µm,19.0s						
NWAO	**Narrogin (SRO)**	**39.40**	**272**	*e*P	**P**	**22 25 48.8**	**-1.6**
NWAO				LR	LR		
	comp=Z,4µm,21.0s						
KLBR	**Kellerberrin**	**39.81**	**274**	P	**P**	**22 25 52.8**	**-1.0**
	baz=40,SNR=9.2						
PMG	**Port Moresby**	**40.17**	**330**	*e*P	**P**	**22 25 58.6**	**+1.7**
	comp=Z,150nm,1.0s						
PMG	**Port Moresby**	**40.17**	**330**	P	**P**	**22 25 58.8**	**+1.9**
	comp=Z,163nm,1.0s,comp=Z,1µm						
PMG	**Port Moresby**	**40.17**	**330**	P	**P**	**22 25 57.0**	**0.0**
	comp=Z,77nm,0.9s,baz=150,slow=3.8,SNR=12						
PMG				LR	LR	22 39 59.2	
	comp=Z,3µm,18.0s,baz=359,slow=32						
MIR	**Mirnyy**	**42.24**	**215**	*e*P	**P**	**22 26 15.0**	**+1.6**
MIR				*e*		22 27 53.0	
MIR				*e*PPP	PPP	22 28 33.0	
MIR				*e*S	**S**	**22 32 34.0**	**+2.0**
MIR				pmax	pmax		
	comp=Z,162nm,1.5s						
MIR				pmax	pmax		
	comp=Z,700nm,2.0s						
MEEK	**Meekatharra**	**42.27**	**281**	P	**P**	**22 26 12.9**	**-1.3**
	baz=42,SNR=14						
TBI	**Tubuai**	**42.28**	**73**	*e*S	**S**	**22 32 34.8**	**+1.2**
	comp=Z,2µm,29.0s						
TBI				*e*LQ	LQ	22 36 11.5	
	comp=Z,2µm,30.3s						
TBI				*e*LR	LR	22 37 56.1	
	comp=Z,7µm,31.0s,baz=218						
MORW	**Morawa**	**42.50**	**276**	P	**P**	**22 26 15.3**	**-0.7**
	baz=42,SNR=6.3						
KNRA	**Kununurra**	**43.61**	**302**	P	**P**	**22 26 23.8**	**-1.2**
	baz=43,SNR=10						
QSPA	**South Pole Qui**	**43.86**	**180**	*e*P	**P**	**22 26 28.3**	**+1.5**
	comp=Z,84nm,1.0s						
QSPA				LR	LR		
	comp=Z,4µm,20.0s						
QSPA	**South Pole Qui**	**43.86**	**180**	P	**P**	**22 26 28.3**	**+1.5**
	comp=Z,60nm,0.9s,baz=14,slow=2.5,SNR=126						
KDU	**Kakadu**	**43.92**	**309**	P	**P**	**22 26 26.8**	**-0.8**
	baz=44,SNR=11						
MTN	**Manton Dam**	**44.53**	**307**	P	**P**	**22 26 31.7**	**-0.7**
	baz=44,SNR=16						
MBWA	**Marble Bar**	**45.21**	**288**	*e*P	**P**	**22 26 36.1**	**-1.8**
	comp=Z,125nm,1.0s						
MBWA				LR	LR		
	comp=Z,9µm,20.0s						
PPT2	**Papeete2**	**46.33**	**67**	*e*S	**S**	**22 33 33.2**	**+0.5**
	comp=Z,2µm,28.5s						
PPT2				*e*LR	LR	22 39 55.3	
	comp=Z,10µm,30.8s,baz=218						
PPT	**Papeete**	**46.35**	**67**	LR	LR	22 43 32.8	
	comp=Z,3µm,18.7s,baz=220,slow=33						
TARA	**Tarawa**	**47.78**	**9**	PFAKE		22 27 10.0	+12
TARA				LR	LR		
	comp=Z,1µm,22.0s						
JAY	**Jayapura**	**48.92**	**325**	P	**P**	**22 27 07.8**	**+0.9**
	baz=49,SNR=3.2						
SOEI	**Soe**	**50.95**	**302**	P	**P**	22 27 28.2	+5.9
	baz=51,SNR=4.1						
RKT	**Rikitea**	**52.28**	**85**	*e*S	**S**	**22 34 58.1**	**+2.1**
	comp=Z,2µm,30.8s						
RKT				*e*LR	LR	22 42 39.3	
	comp=Z,9µm,23.5s,baz=228						
FAKI	**Fak Fak**	**52.32**	**315**	P	P	22 27 39.6	+7.1
	baz=52,SNR=3.1						
MAW	**Mawson**	**52.85**	**208**	P	**P**	**22 27 36.5**	**+0.8**
MAW	**Mawson**	**52.85**	**208**	P	**P**	**22 27 36.5**	**+0.8**
	comp=Z,11nm,1.0s,baz=117,slow=8.5,SNR=17						
MAW				LR	LR	22 48 38.4	
	comp=Z,6µm,18.5s,baz=111,slow=34						
MAW	**Mawson**	**52.85**	**208**	P	**P**	**22 27 36.5**	**+0.8**
	baz=53,SNR=13						
KAPI	**Kappang**	**57.40**	**301**	P	**P**	**22 28 08.7**	**-0.6**
	comp=Z,457nm,1.4s,SNR=11						
KAPI	**Kappang**	**57.40**	**301**	*e*P	**P**	**22 28 08.7**	**-0.6**
KAPI				LR	LR		
	comp=Z,3µm,19.0s						
XMAS	**Kiritimati**	**57.80**	**44**	PFAKE		22 28 20.0	+8.0
XMAS				LR	LR		
	comp=Z,3µm,20.0s						
SYO	**Syowa Base**	**58.48**	**200**	*e*P	**P**	**22 28 14.8**	**-1.3**
SYO	**Syowa Base**	**58.48**	**200**	*e*P	P	22 28 23.0	+6.9
SYO	**Syowa Base**	**58.48**	**200**	*e*P	P	22 28 25.0	+8.9
MAIT	**Maitri**	**61.83**	**189**	*e*P	P	22 28 29.7	-9.3
SNAA	**Sanae**	**62.12**	**184**	*e*P	**P**	**22 28 41.3**	**+0.2**
SNAA	**Sanae**	**62.12**	**184**	*e*P	**P**	**22 28 41.1**	**+0.1**
VNA1	**Neumayer--Stat**	**63.33**	**182**	*e*P	**P**	**22 28 50.0**	**+1.0**
LEM	**Lembang**	**63.63**	**289**	P	**P**	**22 28 53.2**	**+1.2**
	baz=63,SNR=3.7						
DAV	**Davao City (W)**	**64.24**	**314**	PFAKE		22 29 10.0	+14
DAV				LR	LR		
	comp=Z,1µm,19.0s						
WAKE	**Wake Island**	**65.23**	**0**	PFAKE		22 29 10.0	+8.0
WAKE				LR	LR		
	comp=Z,2µm,21.0s						
TSM	**Tawau**	**66.02**	**305**	P	**P**	**22 29 06.1**	**-1.2**
MYLDM	**Lahad Datu**	**66.39**	**306**	P	**P**	**22 29 08.6**	**-1.1**
COCO	**West Island**	**67.03**	**276**	PFAKE		22 29 30.0	+16
COCO				LR	LR		

MAJO Matsushiro 86.19 338 *e*P **P** **22 31 01.8 +0.3**
comp=Z,59nm,1.3s
MAT Matsushiro 86.19 338 P **P** **22 31 01.8 +0.3**
MAT S **S** **22 41 35.0 +0.3**
SSE Sheshan 87.10 323 *e*P **P** **22 31 07.0 +0.9**
SSE pP **pP** **22 31 13.8 +0.1**
SSE sP **sP** **22 31 16.3 -0.1**
SSE S **S** **22 41 43.8 +0.1**
SSE sS **sS** **22 41 54.1 -2.2**
SSE pmax pmax
comp=Z,51nm,0.7s
SSE pmax pmax
comp=Z,160nm,6.8s
SSE LR LR
comp=N,420nm,19.2s
SSE LR LR
comp=E,73nm,19.3s
SSE LR LR
comp=Z,600nm,19.2s
DGAR Diego Garcia 87.28 262 PFAKE 22 31 20.0 +12
DGAR LR LR
comp=Z,3μm,19.0s
LAMP Lampang 88.03 299 P **P** **22 31 12.0 +1.1**
comp=Z,7.7nm,1.1s
CMAR Chiang Mai Arr 88.39 299 P **P** **22 31 13.4 +0.8**
CMAR Chiang Mai Arr 88.39 299 P **P** **22 31 13.4 +0.8**
comp=Z,18nm,0.9s,baz=158,slow=3.5,SNR=67
CMAR LR LR 23 12 38.5
comp=Z,781nm,19.7s,baz=150,slow=37
CMMT Chiang Mai 88.66 299 P **P** **22 31 14.2 +0.3**
comp=Z,35nm,1.6s,comp=Z,515nm
CHTO Chiang Mai 88.67 299 *e*P **P** **22 31 13.9 0.0**
CHTO pmax pmax
comp=Z,50nm,1.3s
CHTO MLR MLR
comp=Z,1μm,20.0s
CHTO Chiang Mai 88.67 299 *e*P **P** **22 31 13.9 0.0**
comp=Z,50nm,1.3s
CHTO LR LR
comp=Z,1μm,20.0s
CHTO Chiang Mai 88.67 299 P **P** **22 31 14.3 +0.4**
CHTO Chiang Mai 88.67 299 P **P** **22 31 14.3 +0.4**
comp=Z,23nm,1.6s
NJ2 Nanjing 88.92 321 *e*P **P** **22 31 16.4 +1.7**
NJ2 pP **pP** **22 31 23.0 +0.6**
NJ2 sP **sP** **22 31 26.3 +1.2**
NJ2 SKS **SKSac** **22 41 44.9 +2.4**
NJ2 S **S** **22 42 03.0 +2.0**
NJ2 sS **sS** **22 42 16.8 +3.2**
NJ2 pmax pmax
comp=Z,20nm,1.1s
NJ2 pmax pmax
comp=Z,690nm,7.7s
NJ2 LR LR
comp=N,690nm,29.0s
NJ2 LR LR
comp=E,920nm,26.8s
NJ2 LR LR
comp=Z,180nm,28.5s
LCO Las Campanas 89.11 133 *e*P **P** **22 31 16.5 +0.1**
comp=Z,25nm,0.9s
KSRS Korea Array 90.15 330 P **P** **22 31 21.9 +1.5**
comp=Z,7.7nm,1.0s,baz=147,slow=6.1,SNR=27
KSRS LR LR 23 09 00.5
comp=Z,286nm,21.5s,baz=135,slow=34
KSAR Wonju Array Be 90.15 330 P **P** **22 31 21.9 +1.5**
GYA Guiyang 90.22 309‖ *i*P **P** **22 31 23.6 +2.5**
GYA pP **pP** **22 31 31.0 +2.2**
GYA PP PP 22 35 01.5 +6.1
GYA SKS **SKSac** **22 41 51.8 +1.1**
GYA S **S** **22 42 14.3 +0.7**
GYA SS **SS** **22 48 18.0 +4.0**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,180nm,6.2s
GYA LR LR
comp=N,4μm,20.5s
GYA LR LR
comp=E,3μm,21.0s
GYA LR LR
comp=Z,4μm,20.8s
ERM Erimo 90.26 343 *e*P **P** **22 31 18.9 -1.8**
ERM pmax pmax
comp=Z,70nm,1.7s
ERM MLR MLR
comp=Z,671nm,23.0s
ERM Erimo 90.26 343 PFAKE 22 31 30.0 +9.3
ERM LR LR
comp=Z,634nm,19.0s
KMI Kunming 91.32 306 P **P** **22 31 28.0 +1.6**
KMI pP **pP** **22 31 35.6 +1.5**
KMI sP **sP** **22 31 38.8 +2.0**
KMI SKS **SKSac** **22 41 58.4 +1.0**
KMI S **S** **22 42 24.8 +0.8**
KMI sS **sS** **22 42 37.9 +1.2**
KMI SS **SS** **22 48 34.4 +4.3**
KMI pmax pmax
comp=Z,12nm,1.1s
KMI pmax pmax
comp=Z,150nm,5.1s
KMI LR LR
comp=N,540nm,17.4s
KMI LR LR
comp=E,810nm,20.7s
KMI LR LR
comp=Z,1μm,22.9s
YUK Yuzh-Kuril'sk 91.70 345*c i*P **P** **22 31 25.2 -2.2**
YUK *i* 22 35 06.2
YUK *e*S **SKSac** **22 41 55.7 -2.3**
YUK *i* SSS SSS 22 52 15.3
YUK MLR MLR
comp=Z,792nm,23.0s
ENH Enshi 91.82 314 *e*P **P** **22 31 27.8 -0.5**
comp=Z,75nm,1.6s
ASAJ Asahikawa 92.39 343 LR LR 23 06 24.3
comp=Z,529nm,21.9s,baz=5.7,slow=31
DL2 Dalian 93.72 327 P P 22 31 42.1 +5.3
DL2 S **S** **22 42 49.8 +5.6**
DL2 pmax pmax
comp=Z,140nm,4.8s
DL2 LR LR
comp=N,310nm,16.8s
DL2 LR LR
comp=E,240nm,15.8s
DL2 LR LR
comp=Z,380nm,16.9s
ABPO Ambohimpanom 94.86 236 *e*P **P** **22 31 44.1 +1.1**
ABPO pmax pmax
comp=Z,53nm,1.5s
ABPO MLR MLR
comp=Z,2μm,19.0s
ABPO Ambohimpanom 94.86 236 *e*P **P** **22 31 44.1 +1.1**
comp=Z,53nm,1.5s
ABPO LR LR
comp=Z,2μm,19.0s
CD2 Chengdu 95.29 310 P **P** **22 31 45.3 +0.9**
CD2 pP **pP** **22 31 52.3 +0.3**
CD2 sP **sP** **22 31 55.6 +0.8**
CD2 PP **PP** **22 35 38.5 +3.3**
CD2 SKS **SKSac** **22 42 18.6 0.0**
CD2 S **S** **22 42 57.3 -1.2**
CD2 sS **sS** **22 43 09.0 -2.3**
CD2 SS **SS** **22 49 29.3 +2.8**
CD2 pmax pmax
comp=Z,30nm,1.2s
CD2 pmax pmax
comp=Z,160nm,9.2s
CD2 LR LR
comp=E,750nm,20.2s
CD2 LR LR
comp=Z,980nm,15.5s
TRD Trivandrum 95.55 276‖ *e*P SKSac 22 42 28.4 +7.7
SUR Sutherland 95.70 209 *e*P **P** **22 31 46.5 -0.2**
MDJ Mudanjiang 96.10 335 P **P** **22 31 49.3 +1.7**
MDJ sP **sP** **22 31 58.5 +0.5**
MDJ PP **PP** **22 35 42.3 +1.1**
MDJ S **ScS** **22 43 12.3 +6.9**
MDJ SS **SS** **22 49 33.4 -4.2**
MDJ pmax pmax
comp=Z,7.0nm,1.2s
MDJ pmax pmax
comp=Z,120nm,4.9s
MDJ LR LR
comp=N,250nm,49.9s
MDJ LR LR
comp=E,380nm,47.5s
MDJ LR LR
comp=Z,270nm,26.8s
CN2 Changchun 96.67 332 *e*P P 22 31 53.8 +3.6
CN2 *e*S **S** **22 43 11.5 +1.8**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,16.0s
CN2 LR LR
comp=E,400nm,16.0s
CN2 LR LR
comp=Z,200nm,14.0s
BJT Baijiatuau 96.83 324 PFAKE 22 32 00.0 +8.9
BJT LR LR
comp=Z,587nm,19.0s
BJI Beijing 96.85 324 P **P** **22 31 52.9 +1.8**
BJI S **S** **22 43 14.5 +3.1**
BJI pmax pmax
comp=Z,8.0nm,0.8s
BJI pmax pmax
comp=Z,120nm,5.1s
BJI LR LR
comp=N,550nm,26.6s
BJI LR LR
comp=E,790nm,21.3s
BJI LR LR
comp=Z,190nm,24.9s
BOSA Boshof 97.50 214 P **P** **22 31 53.9 -0.9**
BOSA PP **PP** **22 35 52.6 +1.4**
BOSA Boshof 97.50 214 P **P** **22 31 53.9 -0.9**
comp=Z,3.6nm,0.9s,baz=117,slow=12,SNR=4.8
BOSA PP **PP** **22 35 52.6 +1.4**
comp=Z,4.7nm,1.0s,baz=166,slow=8.6,SNR=3.6
BOSA LR LR 23 08 41.6
comp=Z,1μm,20.9s,baz=165,slow=31
SHL Shillong 98.03 299 *e*P **P** **22 31 57.0 -0.1**
PAYG Puerto Ayora 98.84 100 PFAKE 22 32 10.0 +9.1
PAYG LR LR
comp=Z,1μm,20.0s
PET Petropavlovsk 99.12 355 *e*P **Pdif** **22 32 07.1 +6.1**
PET *e* 22 36 12.4
PET *e* 22 42 35.7
PET *e*S **S** **22 43 31.2 +1.2**
PET *e*PS **PS** **22 45 01.3 +1.5**
PET *e*PPS PPS 22 45 48.8
PET *e*SS **SS** **22 50 26.5 +6.8**
PET pmax pmax
comp=Z,200nm,10.7s
PET pmax pmax
comp=Z,100nm,15.7s
PET pmax pmax
comp=Z,200nm,19.7s
PET MLR MLR
comp=Z,600nm,21.0s
PET MLR MLR
comp=Z,500nm,19.0s
LZH Lanzhou 99.30 313 *e*P **Pdif** **22 32 06.3 +3.8**
LZH pP **pP** **22 32 12.5 +2.3**
LZH sP **sP** **22 32 15.4 +2.5**
LZH SKS **SKSac** **22 42 43.1 +3.9**
LZH S **ScS** **22 43 34.0 +1.2**
LZH sS **sS** **22 43 45.1 -0.5**
LZH pmax pmax
comp=Z,13nm,1.0s
LZH pmax pmax
comp=Z,130nm,6.8s
LZH LR LR
comp=N,1μm,17.0s
LZH LR LR
comp=E,400nm,15.2s
LZH LR LR
comp=Z,1μm,19.7s
HHC Hu-ho-hao-te 99.47 321 *e*P **Pdif** **22 32 03.8 +0.7**
HHC pP **pP** **22 32 09.8 -1.0**
HHC sP **sP** **22 32 14.1 +0.6**
HHC PP PP 22 36 13.3 +6.0
HHC SKS **SKSac** **22 42 36.3 -3.4**
HHC S **S** **22 43 36.3 +2.3**
HHC sS **sS** **22 43 42.5 -4.2**
HHC pmax pmax
comp=Z,30nm,1.1s
HHC pmax pmax
comp=Z,99nm,5.1s
HHC LR LR
comp=N,510nm,16.7s
HHC LR LR
comp=E,840nm,16.7s
HHC LR LR
comp=Z,660nm,18.8s
MSEY Mahe Island 100.74 252 PFAKE 22 32 20.0 +11
MSEY LR LR
comp=Z,2μm,19.0s
NVAR Mina Array Bea 108.02 53 PKKPbc PKKPbc 22 48 02.5 +2.6
NVAR Mina Array Bea 108.02 53 PKKPbc PKKPbc 22 48 02.5 +2.6
comp=Z,1.2nm,1.0s,baz=91,slow=3.0,SNR=5.4
TSUM Tsumeb 108.92 211 PFAKE 22 37 00.0
TSUM LR LR
comp=Z,2μm,22.0s
KDAK Kodiak Island 109.18 22 PFAKE 22 37 00.0
KDAK LR LR
comp=Z,2μm,21.0s
SAML Samuel 109.57 127 PFAKE 22 37 00.0
SAML LR LR
comp=Z,898nm,21.0s
BMN Battle Mountai 110.02 52 PFAKE 22 37 00.0
BMN LR LR
comp=Z,1μm,19.0s
TXAR Lajitas Array 110.64 69 PKKPbc PKKPbc 22 47 53.8 +2.8
TXAR Lajitas Array 110.64 69 PKKPbc PKKPbc 22 47 53.8 +2.8
comp=Z,1.1nm,0.9s,baz=119,slow=4.4,SNR=7.3
526A Mary Lane Ranc 110.85 68 P 22 36 52.6
baz=111
MNTX Cornudas Mount 111.12 66 PFAKE 22 37 10.0
MNTX LR LR
comp=Z,2μm,21.0s
ELK Elko 111.33 53 *e*PP PP 22 37 34.7 -0.6
MVU Marysvale 111.53 57 PFAKE 22 37 10.0
MVU LR LR
comp=Z,2μm,19.0s
MSU Marysvale 111.55 57 *e*PKIKP **PKiKP** **22 36 55.8 +1.0**
MSU Marysvale 111.55 57 *e*PKPdf **PKiKP** **22 36 55.8 +1.0**
U20A Newcomb 112.28 60 P 22 36 55.3
baz=112
DUG Dugway 112.32 55 PFAKE 22 37 10.0
DUG LR LR
comp=Z,1μm,19.0s
ANMO Albuquerque 112.60 63 PFAKE 22 37 10.0
ANMO LR LR
comp=Z,2μm,20.0s
MFID Camas Ranch 112.82 51 *e*PKPdf **PKiKP** **22 36 55.0 -1.9**
MFID Camas Ranch 112.82 51 P 22 36 56.9
baz=113
U21A Nageezi 112.84 61 P 22 36 57.2
baz=113
BMO Blue Mountains 113.02 49 PFAKE 22 37 10.0
BMO LR LR
comp=Z,2μm,20.0s
BCIP Isla Barro Col 113.09 101 PFAKE 22 37 10.0
BCIP LR LR
comp=Z,1μm,22.0s
WMQ Urumqi 113.38 309 PKP **PKiKP** **22 36 58.1 +0.2**
WMQ LR LR
comp=N,420nm,20.0s
WMQ LR LR
comp=E,270nm,14.3s
WMQ LR LR
comp=Z,510nm,25.7s
S21A Coal Bank Pass 113.57 60 P 22 36 59.2
baz=114
HWUT Hardware Ranch 113.96 54 *e*PP **PP** **22 37 50.7 -3.3**
HWUT LR LR
comp=Z,2μm,19.0s
BILL Bilibino 113.97 0 *i* PKIKP **PKiKP** **22 36 54.0 -4.2**
BILL *e* 22 36 59.4
BILL *e* 22 37 49.7
BILL pmax pmax
comp=Z,46nm,2.5s
BILL MLR MLR
comp=Z,500nm,20.0s
W25A X Bar L Ranch, 114.01 64 P PKPdf 22 36 59.1 -0.3
baz=114
H12A Diamond D Ranc 114.11 50 P PKPdf 22 37 00.2 +0.8
baz=114
O19A Miners Draw (B 114.50 57 P PKPdf 22 37 01.2 +1.0
baz=115
TRF Thorofare Moun 114.66 20 *e*PKPdf PKPdf 22 36 58.4 -1.4
V26A Tequesquite Ra 114.81 64 P PKPdf 22 37 00.9 0.0
baz=115
E12A Beaver Dam Sad 114.97 48 P PKPdf 22 37 01.2 +0.2
baz=115
AHID Auburn Hatcher 114.98 54 PFAKE 22 37 10.0 +8.8
AHID LR LR
comp=Z,1μm,20.0s
MCK McKinley 115.22 20 *e*PKIKP **PKPdf** **22 36 59.2 -1.5**
MCK McKinley 115.22 20 *e*PKPdf **PKPdf** **22 36 59.2 -1.5**
N20A Spence Gulch, 115.35 57 P **PKPdf** **22 37 02.7 +0.7**
baz=116
AMTX Amarillo 115.54 66 PFAKE 22 37 10.0 +7.7
AMTX LR LR
comp=Z,2μm,21.0s
BW06 Boulder Array 115.85 55 PFAKE 22 37 10.0 +7.1
BW06 LR LR
comp=Z,2μm,19.0s
PDAR Pinedale Array 115.85 55 PKP **PKPdf** **22 37 01.4 -1.4**
PDAR PKKPbc **PKKPbc** **22 47 34.5 +0.5**
PDAR Pinedale Array 115.85 55 PKP **PKPdf** **22 37 01.4 -1.4**
comp=Z,1.3nm,1.0s,baz=251,slow=4.1,SNR=5.9
PDAR PKKPbc **PKKPbc** **22 47 34.5 +0.5**
comp=Z,1.4nm,1.0s,baz=68,slow=5.6,SNR=6.2
MENT Mentasta 115.90 23 *e*PKPdf **PKPdf** **22 36 59.8 -2.2**
ISCO Idaho Springs 116.25 59 *e*PKIKP **PKPdf** **22 37 03.2 -0.6**
ISCO Idaho Springs 116.25 59 *e*PKPdf **PKPdf** **22 37 03.2 -0.6**
ISCO Idaho Springs 116.25 59 P **PKPdf** **22 37 03.4 -0.4**
baz=116
C13A Hot Springs 116.31 48 P **PKPdf** **22 37 02.7 -0.7**
baz=117
BSMT Bassoo Peak 116.31 48 *e*PKPdf **PKPdf** **22 37 03.8 +0.2**
COLA College 116.44 20 PFAKE 22 37 10.0 +7.1
COLA LR LR
comp=Z,2μm,20.0s
SWMT Swartz Lake 116.50 48 *e*PKPdf **PKPdf** **22 37 03.7 -0.1**
CHMT Chamberlain Mo 116.50 49 *e*PKPdf **PKPdf** **22 37 04.3 +0.3**
JTMT Jette 116.50 48 *e*PKPdf **PKPdf** **22 37 03.1 -0.7**
LKWY Lake 116.53 53 PFAKE 22 37 20.0 +16
LKWY LR LR
comp=Z,1μm,21.0s
BOZ Bozeman (W) 116.55 51 PFAKE 22 37 20.0 +16
BOZ LR LR
comp=Z,1μm,19.0s
ILAR Eielson Array 116.59 20 PKP **PKPdf** **22 37 02.4 -0.9**
ILAR PKKPbc **PKKPbc** **22 47 30.1 -1.4**
ILAR Eielson Array 116.59 20 PKP **PKPdf** **22 37 02.4 -0.9**
comp=Z,7.1nm,1.1s,baz=266,slow=3.1,SNR=23
ILAR PKKPbc **PKKPbc** **22 47 30.1 -1.4**
comp=Z,1.3nm,0.8s,baz=3.8,slow=3.1,SNR=11
L21A Rawlins 116.59 56 P **PKPdf** **22 37 05.2 +0.9**
baz=117
YBMT Yellow Bay 116.72 48 *e*PKPdf **PKPdf** **22 37 03.9 -0.3**
C14A Swan Lake 116.80 48 P **PKPdf** **22 37 04.1 -0.2**
baz=117
B13A Whitefish 116.82 47 P **PKPdf** **22 37 04.3 0.0**
baz=117
K21A Alcova 117.08 56 P **PKPdf** **22 37 05.2 0.0**
baz=117
KSH Kashi 117.29 299 *e*PKP **PKPdf** **22 37 09.5 +3.9**
KSH PP PP 22 38 25.1 +7.8
KSH PKS **PKSdf** **22 40 44.1 +1.8**
KSH SKS **SKSdf** **22 44 15.1 -1.0**
KSH AMB AMB
comp=Z,200nm,4.5s
KSH LR LR
comp=N,200nm,14.5s
KSH LR LR
comp=E,620nm,17.8s
KSH LR LR
comp=Z,580nm,20.4s
WMOK Wichita Mounta 117.29 67 *e*PKIKP **PKPdf** **22 37 04.6 -1.0**
WMOK Wichita Mounta 117.29 67 *e*PKPdf **PKPdf** **22 37 04.6 -1.0**
C15A Salmond Ranch, 117.39 49 P **PKPdf** **22 37 05.5 -0.1**
baz=118
I20A Worland 117.41 54 P **PKPdf** **22 37 05.7 0.0**
baz=118
B14A Marquette Ranc 117.42 48 P **PKPdf** **22 37 05.7 +0.1**
baz=118
L23A Garrett 117.65 57 P **PKPdf** **22 37 06.3 0.0**
baz=118
A14A Double T Ranch 117.73 47 P **PKPdf** **22 37 05.6 -0.5**
baz=118
F18A Big Timber 117.75 52 P **PKPdf** **22 37 07.0 +0.7**
baz=118
B15A Bradely Ranch, 117.75 48 P **PKPdf** **22 37 06.3 +0.1**
baz=118
C16A Fuhringer Ranc 117.86 49 P **PKPdf** **22 37 06.7 +0.3**
baz=118
COLD Coldspot 117.89 18 *e*PKPdf **PKPdf** **22 37 06.1 +0.3**
D17A Six Diamond Ra 118.01 50 P **PKPdf** **22 37 07.4 +0.7**
baz=118
EGAK Eagle 118.06 23 *e*PKPdf **PKPdf** **22 37 05.6 -0.4**
EGAK LR LR
comp=Z,2μm,22.0s
E18A Harlowton 118.06 51 P **PKPdf** **22 37 07.7 +0.8**
baz=118
A15A Johnson Ranch, 118.09 48 P **PKPdf** **22 37 06.6 -0.2**
baz=118
G20A Bridger 118.15 53 P **PKPdf** **22 37 07.5 +0.4**
baz=118
MK31 Makanchi Array 118.21 309*c i*PKIKP **PKPdf** **22 37 04.8 -2.2**
MK31 pmax pmax
comp=Z,5.0nm,0.9s
MK31 Makanchi Array 118.21 309 *e*PKPdf **PKPdf** **22 37 06.3 -0.7**
MKAR Makanchi Array 118.21 309 PKIKP **PKPdf** **22 37 06.4 -0.6**
MKAR Makanchi Array 118.21 309 PKP **PKPdf** **22 37 06.3 -0.6**
MKAR PKKPbc **PKKPbc** **22 47 25.6 +0.2**
MKAR Makanchi Array 118.21 309 PKP **PKPdf** **22 37 06.3 -0.6**
comp=Z,3.3nm,1.0s,baz=106,slow=3.0,SNR=12
MKAR PKKPbc **PKKPbc** **22 47 25.6 +0.2**
comp=Z,1.2nm,1.1s,baz=286,slow=8.7,SNR=4.2
B16A M & M Farms, S 118.26 49 P **PKPdf** **22 37 06.8 -0.3**
baz=118
D18A Linhart Farms, 118.51 51 P **PKPdf** **22 37 08.6 +0.9**
baz=119
KBL Kabul 118.54 291 *e*PKIKP **PKPdf** **22 37 08.1 -0.2**
KBL Kabul 118.54 291 *e*PKPdf **PKPdf** **22 37 08.1 -0.2**
E19A Rath Farm, Rou 118.60 52 P **PKPdf** **22 37 08.6 +0.8**
baz=119
A16A West Butte Ran 118.65 48 P **PKPdf** **22 37 07.9 0.0**
baz=119
B17A L&G Farms, Che 118.66 49 P **PKPdf** **22 37 08.1 +0.2**
baz=119
D19A Cripps Ranch, 118.98 51 P **PKPdf** **22 37 09.0 +0.4**
baz=119
E20A Meyer Farm, Mu 118.99 52 P **PKPdf** **22 37 09.2 +0.6**
baz=119
A17A Triple J Farms 119.12 49 P **PKPdf** **22 37 08.6 -0.1**
baz=119
MBAR Mbarara 119.14 233 PFAKE 22 37 20.0 +10
MBAR LR LR
comp=Z,657nm,19.0s
C19A Slack Wire Ran 119.24 50 P **PKPdf** **22 37 08.9 -0.1**
baz=120
A18A Metzger Ranch, 119.55 49 P **PKPdf** **22 37 09.6 +0.1**
baz=120
F22A Rosebud 119.58 54 P **PKPdf** **22 37 09.6 -0.2**
baz=120
B19A Brinkman Farms 119.74 50 P **PKPdf** **22 37 10.1 +0.2**
baz=120
H24A Dirks Ranch, A 119.92 55 P **PKPdf** **22 37 10.5 +0.1**
baz=120
D21A La Casta Ranch 119.95 52 P **PKPdf** **22 37 10.8 +0.4**
baz=120
F23A Volborg 120.02 54 P **PKPdf** **22 37 10.5 -0.1**
baz=120
AAK Ala-Archa 120.08 302‖ *i*PKIKP **PKPdf** **22 37 09.4 -1.5**
AAK Ala-Archa 120.08 302 *e*PKPdf **PKPdf** **22 37 11.5 +0.5**
AAK LR LR
comp=Z,577nm,20.0s
FRU Bishkek 120.13 302 *e*PKIKP **PKPdf** **22 37 10.5 -0.3**
FRU *e* 22 38 37.0
A19A Klindworth Far 120.13 49 P **PKPdf** **22 37 10.5 -0.1**
baz=120
B20A Solberg Farm, 120.22 50 P **PKPdf** **22 37 11.2 +0.4**
baz=120
C21A Desert Coulee 120.35 51 P **PKPdf** **22 37 11.5 +0.4**
baz=121
D22A Cohagen 120.44 52 P **PKPdf** **22 37 11.7 +0.4**
baz=121
A20A Cobblestone Ra 120.53 50 P **PKPdf** **22 37 11.7 +0.3**

baz=121
E23A Ismay 120.54 53 P PKPdf 22 37 12.0 +0.5
baz=121
TIXI Tiksi 120.55 347 *d* iPKIKP PKPdf 22 37 10.0 -0.7
TIXI pmax pmax
comp=Z,28nm,2.5s
B21A Ellsworth Farm 120.75 51 P PKPdf 22 37 12.0 +0.1
baz=121
C22A Vida 120.96 52 P PKPdf 22 37 12.5 +0.2
baz=121
J28A Allard Ranch, 121.06 58 P PKPdf 22 37 12.8 +0.2
baz=121
A21A Bergtoll Ranch 121.13 50 P PKPdf 22 37 12.9 +0.3
baz=121
B22A Reddig Ranch S 121.22 51 P PKPdf 22 37 13.4 +0.6
baz=122
H27A Howes 121.28 57 P PKPdf 22 37 12.8 -0.2
baz=122
ZALV Zalesovo Beam 121.29 317 PKIKP PKPdf 22 37 11.0 -1.6
ZALV Zalesovo Beam 121.29 317 PKP PKPdf 22 37 11.0 -1.6
ZALV PKKPbc PKKPab 22 47 11.9 -0.6
ZALV Zalesovo Beam 121.29 317 PKP PKPdf 22 37 11.0 -1.6
comp=Z,0.4nm,0.4s,baz=106,slow=3.2,SNR=5.0
ZALV PKKPbc PKKPab 22 47 11.9 -0.6
comp=Z,0.3nm,0.3s,baz=250,slow=4.3,SNR=4.1
KSU1 Kansas State U 121.33 65 *e*PKPdf PKPdf 22 37 12.7 -0.6
KSU1 LR LR
comp=Z,902nm,20.0s
G26A Maurine 121.36 56 P PKPdf 22 37 13.1 0.0
baz=122
C23A Lambert 121.38 52 P PKPdf 22 37 13.6 +0.5
baz=122
I28A Midland 121.44 58 P PKPdf 22 37 13.3 0.0
baz=122
D24A Glendive 121.45 53 P PKPdf 22 37 13.8 +0.5
baz=122
E25A Miller Ranch, 121.61 54 P PKPdf 22 37 14.0 +0.4
baz=122
F26A Lodgepole 121.64 55 P PKPdf 22 37 13.8 +0.1
baz=122
A22A Carney Farms, 121.67 51 P PKPdf 22 37 14.1 +0.5
baz=122
B23A Brockton 121.86 52 P PKPdf 22 37 14.4 +0.4
baz=122
E26A Carlson Angus 122.12 55 P PKPdf 22 37 14.7 +0.1
baz=122
DGMT Dagmar 122.30 52 *e*PKPdf PKPdf 22 37 14.6 -0.2
DGMT LR LR
comp=Z,956nm,21.0s
DGMT Dagmar 122.30 52 P PKPdf 22 37 14.9 0.0
baz=122
NVS Novosibirsk 122.57 317 *e*PKIKP PKPdf 22 37 12.8 -2.2
NVS *e* 22 39 01.2
A24A Westby 122.67 52 P PKPdf 22 37 15.5 0.0
baz=123
KKAR Karatay Array 122.73 300 *e*PKIKP PKPdf 22 37 15.4 -0.4
KKAR Karatay Array 122.73 300 *e*PKPdf PKPdf 22 37 15.3 -0.4
BRAL Brewton 122.74 78 PFAKE 22 37 30.0 +14
BRAL LR LR
comp=Z,10μm,21.0s
GTBY Guantanamo Bay 123.88 96 PFAKE 22 37 30.0 +11
GTBY LR LR
comp=Z,810nm,19.0s
ECSD EROS Data Cent 123.99 60 *e*PKPdf PKPdf 22 37 16.9 -1.3
ECSD LR LR
comp=Z,1μm,19.0s
LRAL Lakeview Retre 124.00 76 PFAKE 22 37 30.0 +11
LRAL LR LR
comp=Z,883nm,20.0s
MDND Maddock 124.51 55 P PKPdf 22 37 19.3 +0.2
baz=125
YKA Yellowknife Ar 125.27 34 PKP PKPdf 22 37 19.3 -0.7
YKA Yellowknife Ar 125.27 34 PKP PKPdf 22 37 19.3 -0.7
comp=Z,4.4nm,0.9s,baz=230,slow=1.9,SNR=18
YKW3 Yellowknife Ar 125.31 34 *e*PKPdf PKPdf 22 37 19.8 -0.3
SDDR Presa de Saban 125.86 100 PFAKE 22 37 30.0 +7.4
SDDR LR LR
comp=Z,717nm,19.0s
ASCN Ascension 126.05 179 PFAKE 22 37 30.0 +6.9
ASCN LR LR
comp=Z,517nm,19.0s
HDIL Hopedale 126.79 67 *e*PKPdf PKPdf 22 37 22.7 -1.0
FFC Flin Flon 126.83 46 *e*PKIKP PKPdf 22 37 22.1 -1.2
FFC MLR MLR
comp=Z,1μm,19.0s
FFC Flin Flon 126.83 46 *e*PKPdf PKPdf 22 37 22.1 -1.2
FFC LR LR
comp=Z,1μm,19.0s
AGMN Agassiz Nation 126.88 56 PFAKE 22 37 40.0 +16
AGMN LR LR
comp=Z,2μm,19.0s
SPMN St. Paul 127.09 60 P PKPdf 22 37 23.9 -0.1
baz=127
GRGR Grenville 127.28 114 PFAKE 22 37 40.0 +15
GRGR LR LR
comp=Z,1μm,20.0s
WCI Wyandotte Cave 127.46 71 *e*PKIKP PKPdf 22 37 24.3 -0.7
WCI Wyandotte Cave 127.46 71 *e*PKPdf PKPdf 22 37 24.3 -0.7
TKL Tuckaleechee C 127.70 75 *e*PKPdf PKPdf 22 37 25.0 -0.6
ULM Lac du Bonnet 127.85 54 PKP PKPdf 22 37 24.2 -1.2
ULM Lac du Bonnet 127.85 54 PKP PKPdf 22 37 24.2 -1.2
comp=Z,4.1nm,0.8s,baz=332,slow=4.9,SNR=4.1
SFIN Scholer Farm 128.10 68 P PKPdf 22 37 26.2 +0.1
baz=128
BRVK Borovoye 128.12 310 *c* iPKIKP PKPdf 22 37 23.7 -2.1
BRVK pmax pmax
comp=Z,19nm,1.7s
BRVK Borovoye 128.12 310 *e*PKPdf PKPdf 22 37 25.8 +0.1
BRVK LR LR
comp=Z,472nm,19.0s
TZTN Tazewell 128.34 74 *e*PKPdf PKPdf 22 37 26.9 +0.1
KMSC Kings Mountain 129.05 77 P PKPdf 22 37 28.3 +0.1
baz=129
BBGH Gun Hill 129.37 115 PFAKE 22 37 40.0 +11
BBGH LR LR
comp=Z,2μm,19.0s
FDF Fort de France 129.56 113 PFAKE 22 37 40.0 +10
FDF LR LR
comp=Z,966nm,19.0s
COWI Conover 129.75 61 PFAKE 22 37 40.0 +11
COWI LR LR
comp=Z,2μm,21.0s
UMR Umm Al-Rimmam 129.92 273 *e*P PKPdf 22 37 27.7 -2.2
UMR AMb AMB 22 37 32.9
comp=Z,24nm,1.6s
NAY Al-Naaiem 130.06 272 *e*P PKPdf 22 37 28.9 -1.3
MIB Mutribah 130.33 273 *e*P PKPdf 22 37 28.6 -2.1
MIB AMb AMB 22 37 32.9
comp=Z,33nm,1.5s
BLA Blacksburg 130.81 75 *e*PKIKP PKPdf 22 37 30.7 -0.8
BLA MLR MLR
comp=Z,1μm,19.0s
BLA Blacksburg 130.81 75 *e*PKPdf PKPdf 22 37 30.7 -0.8
BLA LR LR
comp=Z,1μm,19.0s
ANWB Willy Bob 131.30 109 PFAKE 22 37 40.0 +7.1
ANWB LR LR
comp=Z,617nm,20.0s
CNNC Cliffs of the 131.44 79 PFAKE 22 37 40.0 +7.4
CNNC LR LR
comp=Z,995nm,19.0s
GLMI Grayling 131.93 65 PFAKE 22 37 40.0 +6.7
GLMI LR LR
comp=Z,3μm,19.0s
AB31 Akbulak array 132.17 302 *c* iPKIKP PKPdf 22 37 34.5 +0.9
AB31 pmax pmax
comp=Z,3.0nm,0.7s
CBN Corbin 133.38 76 PFAKE 22 37 50.0 +14
CBN LR LR
comp=Z,1μm,22.0s
AKTO Aktyubinsk 133.80 303 PKP PKPdf 22 37 37.5 +0.9
AKTO Aktyubinsk 133.80 303 PKP PKPdf 22 37 37.5 +0.9
comp=Z,3.0nm,0.7s,baz=107,slow=2.7,SNR=9.5
ARU Arti 135.69 311 *i* PKIKP PKPdf 22 37 39.9 0.0
ARU 22 40 16.7
ARU PPP PPP 22 43 14.5
BINY Binghamton 136.26 72 PFAKE 22 37 50.0 +8.5
BINY LR LR
comp=Z,2μm,20.0s
MAK Makhachkala 137.18 289 *e*PKIKP PKPdf 22 37 42.0 -1.1
MAK *e* 22 40 32.6
MAK *e* 22 50 55.9
MAK pmax pmax
comp=Z,89nm,0.7s
SOKR Solikamsk 137.50 315 *i* PKIKP PKPdf 22 37 43.7 +0.6
SOKR pmax pmax
comp=Z,20nm,1.4s
EIL Elat 138.83 264 PKP PKPdf 22 37 46.8 +0.1
EIL Elat 138.83 264 PKP PKPdf 22 37 46.8 +0.1
comp=Z,12nm,1.1s,baz=262,slow=4.1,SNR=4.6
BBSR BB Station 138.94 91 PFAKE 22 38 00.0 +13
BBSR LR LR
comp=Z,1μm,19.0s
DBIC Dimbokro 139.81 194 PKPpre PKPpre 22 37 40.1
DBIC PKP PKPdf 22 37 49.4 +0.5
DBIC Dimbokro 139.81 194 PKhKP PKPpre 22 37 40.1
comp=Z,7.6nm,0.8s,baz=205,slow=1.6,SNR=8.2
DBIC PKP PKPdf 22 37 49.4 +0.5
comp=Z,6.4nm,0.7s,baz=133,slow=2.4,SNR=9.7
LBNH Lisbon 139.82 71 PFAKE 22 38 00.0 +12
LBNH LR LR
comp=Z,2μm,21.0s
MMAI Mount Meron Ar 140.48 268 PKP PKPdf 22 37 51.0 +1.4
MMAI Mount Meron Ar 140.48 268 PKP PKPdf 22 37 51.0 +1.4
comp=Z,0.7nm,0.5s,baz=333,slow=24,SNR=3.4
KBZ Khabaz 140.55 288 PKIKP PKPdf 22 37 50.9 +1.6
KBZ Khabaz 140.55 288 PKP PKPdf 22 37 50.9 +1.6
KBZ Khabaz 140.55 288 PKP PKPdf 22 37 50.9 +1.6
comp=Z,8.0nm,1.1s,baz=294,slow=4.5,SNR=4.8
KIV Kislovodsk 140.78 288 *e*PKIKP PKPdf 22 37 45.2 -4.7
KIV *e* 22 40 48.1
KIV *e* 22 44 54.5
KIV *e*SS SS 22 59 07.6 -8.6
KIV pmax pmax
comp=Z,16nm,0.9s
KIV MLR MLR
comp=Z,517nm,22.0s
MALT Malatya 141.16 277 PFAKE 22 38 00.0 +9.3
MALT LR LR
comp=Z,1μm,19.0s
SOC Sochi 142.61 286 *i* PKIKP PKPdf 22 37 58.6 +5.6
SOC *e* 22 41 03.2
SOC *e*SS SS 22 59 29.2 -8.0
SOC pmax pmax
comp=Z,29nm,1.2s
SOC MLR MLR
comp=Z,605nm,17.0s
CSS Prodhromos 142.98 269 *e*P Pdif 22 35 08.2 -8.5
CSS Prodhromos 142.98 269 PFAKE 22 38 10.0 +16
CSS LR LR
comp=Z,930nm,20.0s
LFK Lefkose 143.01 270 *e*P Pdif 22 35 10.5 -6.3
PQI Presque Isle 143.28 69 *e*PKPdf PKPab 22 37 48.9 -1.1
IKL Isikli 143.41 271 *e*P Pdif 22 35 15.7 -2.8
NIG Nigde 143.69 275 *e*P PKPbc 22 37 53.1 +0.1
KVT Kavak 144.06 280 *e*P PKPbc 22 37 54.1 +0.3
TOA0 Torodi Ar. Sit 144.49 207 *e*PKPdf PKPab 22 37 55.1 -0.4
TORD Torodi Ar. Bea 144.49 207 PKP PKPab 22 37 55.3 -0.2
TORD Torodi Ar. Bea 144.49 207 PKP PKPab 22 37 55.3 -0.2
comp=Z,30nm,0.9s,baz=162,slow=1.8,SNR=124
SULT Sultanhani-AKS 144.50 274 *e*P PKPab 22 37 55.1 +0.1
ANN Anapa 144.59 287 *i* PKIKP PKPab 22 37 53.6 -1.4
ANN *e* 22 41 11.0
ANN pmax pmax
comp=Z,62nm,1.0s
CORM Corum 144.64 278 *e*P PKPbc 22 37 55.9 +0.2
KAMT Kaman 144.91 276 *e*P PKPab 22 37 56.4 -0.1
BRTR Keskin Array B 145.12 277 PKP PKPbc 22 37 57.0 -0.3
BRTR Keskin Array B 145.12 277 PKP PKPbc 22 37 57.0 -0.3
comp=Z,65nm,0.9s,baz=142,slow=4.2,SNR=201
KONT Konya--Tatoy 145.17 273 *e*P PKPdf 22 37 57.8 +0.1
VORD Divnogorie 145.22 298 *e*PKIKP PKPbc 22 37 56.6 -0.4
VORD *i* 22 38 04.4
VORD pmax pmax
comp=Z,70nm,0.8s
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,30nm,1.3s
LADK Ladik-KONYA 145.29 273 *e*P PKPbc 22 37 57.4 -0.4
VSR Storozhevoye 145.35 298 *e*PKIKP PKPbc 22 37 57.1 -0.4
VSR *i* 22 38 04.7
VSR pmax pmax
comp=Z,110nm,0.9s
VSR pmax pmax
comp=N,20nm,1.0s
VSR pmax pmax
comp=E,70nm,1.1s
AFSR Af˙ar-Bala (A 145.38 276 *e*P PKPab 22 37 58.3 0.0
CANT Cankiri 145.52 278 *e*P PKPab 22 37 58.7 0.0
ANTO Ankara 145.76 276 *e*P PKPab 22 38 00.0 +0.3
ANTO Ankara 145.76 276 ⇑PKP2 PKPab 22 37 59.7 0.0
ANTO Ankara 145.76 276 *e*PKPdf PKPbc 22 37 59.4 +0.2
ANTO LR LR
comp=Z,607nm,21.0s
ANTO Ankara 145.76 276 ⇑*i*P PKPab 22 37 59.7 0.0
LOD Lodumlu 145.79 276 *e*P PKPdf 22 37 59.0 +0.2
KBS Kingsbay 145.83 351 *e*P PKPbc 22 37 58.1 -0.2
KBS Kingsbay 145.83 351 *c* iPKP2 PKPab 22 37 59.5 +0.8
KBS pmax pmax
comp=Z,85nm,1.7s
KBS Kingsbay 145.83 351 *e*PKPdf PKPdf 22 37 57.1 -0.6
KBS LR LR
comp=Z,638nm,22.0s
SUTC Sutluce-Ispart 145.89 271 *e*P PKPdf 22 37 58.8 -0.3
SPA0 Spitsbergen Ar 145.93 349 *e*P PKPdf 22 37 58.0 +0.2
SPA0 *e*SS SS 23 00 16.4 +2.9
KIZT Kizilcal 145.95 274 *e*P PKPdf 22 37 59.3 +0.2
SCHQ Schefferville 145.98 56 *e*PKPdf PKPdf 22 37 58.1 -0.4
SCHQ PKPbc PKPdf 22 37 58.3 -0.2
SCHQ Schefferville 145.98 56 PKPbc PKPdf 22 37 58.3 -0.2
comp=Z,52nm,0.8s,baz=289,slow=3.2,SNR=42
ELL Elmali 146.28 270 *e*P PKPdf 22 37 60.0 +0.2
ISP Isparta 146.39 272 PFAKE 22 38 10.0 +7.8
ISP LR LR
comp=Z,564nm,20.0s
SVRH Sivrihisar-ESK 146.45 275 *e*P PKPbc 22 38 01.3 -0.1
TMCR Tamitsa 146.64 321 *e*PKP2 PKPbc 22 38 00.7 -0.2
TMCR pmax pmax
comp=Z,82nm,1.2s
SIM Simferopol' 146.85 285 *ce*PKP2 PKPbc 22 38 01.6 -0.6
SIM pmax pmax
comp=Z,180nm,9.2s
SIM pmax pmax
comp=Z,44nm,1.0s
MOS Moscow 146.99 306 *e*PKIKP PKPdf 22 37 58.7 -1.4
MOS *i* 22 38 08.8
MOS *e* 22 41 26.5
MOS pmax pmax
comp=Z,41nm,0.7s
MOS MLR MLR
comp=Z,700nm,21.0s
MDUB Mudurnu 147.13 276 *e*P PKPbc 22 38 03.0 -0.3
DALY Dalyan (Mu˘la 147.19 269 *e*P PKPbc 22 38 04.0 +0.6
LVZ Lovozero 147.22 328 *i* PKP2 PKPbc 22 38 02.8 +0.2
LVZ pmax pmax
comp=Z,144nm,2.5s
OBN Obninsk 147.53 304 ⇓PKHKP PKPpre 22 37 56.0
OBN *i* 22 38 01.0
OBN *e* 22 38 09.4
OBN *e* 22 41 37.7
OBN *e*SS SS 23 00 34.6 +1.7
OBN pmax pmax
comp=Z,143nm,1.7s
APA Apatity 147.77 328 ⇑*i*PKP2 PKPbc 22 38 04.4 +0.4
APA pmax pmax
comp=Z,72nm,1.2s
APA MLR MLR
comp=Z,2μm,22.0s
TVSB Tavsanli 147.88 274 *e*P PKPbc 22 38 05.6 +0.3
KULA Kula-Manisa 148.01 271 *e*P PKPbc 22 38 06.4 +0.7
ADVT Abdulvahap 148.12 275 *e*P PKPbc 22 38 05.8 0.0
ARMT Armutlu 148.78 275 *e*P PKPbc 22 38 07.3 -0.3
IZM Izmir 148.92 270 *e*P PKPdf 22 38 05.7 +1.7
BALB Balikesir 149.06 273 *e*P PKPbc 22 38 08.3 0.0
KEV Kevo 149.08 334 *ep* PKPbc 22 38 06.9 -0.5
comp=Z,26nm,0.8s
KEV Kevo 149.08 334 *e*PKIKP PKPdf 22 38 02.3 -0.9
KEV *e* 22 38 07.1
KEV MLR MLR
comp=Z,708nm,21.0s
KEV Kevo 149.08 334 *e*PKPdf PKPdf 22 38 02.2 -0.9
KEV *e*PKPbc PKPbc 22 38 07.0 -0.3
KEV LR LR
comp=Z,708nm,21.0s
SANT Santorini 149.18 265 *e*PKPdf PKPdf 22 38 06.3 +1.9
GVD Gavdhos 149.31 262 *e*PKPdf PKPdf 22 38 06.2 +1.6
DAG Danmarks Havn 149.32 2 ⇑*i*P PKPbc 22 38 06.5 -1.3
comp=Z,14nm,1.1s
DAG *i* 22 38 24.4
DAG
comp=Z,670nm,18.0s
GONE Gonen-Balikesi 149.37 273 *e*P PKPbc 22 38 08.8 -0.2
APE Apeiranthos 149.48 267 ⇑*i*P PKPdf 22 38 04.2 -0.8
ARCES ARCESS Array B 149.65 334 PKPbc PKPbc 22 38 08.6 -0.3
ARCES ARCESS Array B 149.65 334 PKPbc PKPbc 22 38 08.6 -0.3
comp=Z,34nm,0.7s,baz=48,slow=1.8,SNR=6.2
ARE0 ARCESS Array S 149.65 334 *e*P PKPbc 22 38 08.4 -0.4
ARE0 *e*SS SS 23 00 52.8 -2.9
ARE0 ARCESS Array S 149.65 334 *e*PKPbc PKPbc 22 38 08.8 -0.1
KRBG Karabiga-Canak 149.79 274 *e*P PKPbc 22 38 10.0 0.0
LPK Lapseki 150.15 273 *e*P PKPbc 22 38 10.8 -0.1
GELI Tayfur-Gelibol 150.36 273 *e*P PKPbc 22 38 11.0 -0.4
PSN Preselentsi 150.43 280 *e*P PKPab 22 38 19.0 +0.9
TLCR 150.49 284 ⇓*i*P PKPbc 22 38 11.7 +0.2
TIRR Tirgusor 150.53 282 ⇓PKIKP PKPdf 22 38 01.9 -4.4
TIRR Tirgusor 150.53 282 *e*PKPbc PKPbc 22 38 11.1 -0.6
TIRR *e*PKPab PKPab 22 38 19.5 +1.0
TIRR Tirgusor 150.53 282 ⇓*i*P PKPdf 22 38 01.9 -4.4
KTK1 Kautokeino 150.61 334 *e*P PKPbc 22 38 10.6 -0.6
KTK1 AMB AMB 22 38 12.2
comp=Z,587nm,2.1s
PRD Provadia 150.80 279 *e*P PKPbc 22 38 12.0 -0.3
CFR Carcaliu 150.94 283 ⇑PKIKP PKPdf 22 38 05.7 -1.2
CFR Carcaliu 150.94 283 ⇑*i*P PKPdf 22 38 05.7 -1.2
KIS Kishinev 150.98 287 *e*PKP PKPbc 22 38 12.0 -0.6
KIS LRM MLR 23 46 28.0
comp=Z,600nm,22.0s
KIS Kishinev 150.98 287 *e*PKIKP PKPbc 22 38 12.0 -0.6
KIS *i* 22 38 21.0
KIS *e* 22 41 50.0
KIS *e* 22 45 18.0
KIS MLR MLR
comp=Z,700nm,20.0s
KIS MLR MLR
comp=Z,600nm,22.0s
KIS Kishinev 150.98 287 ⇑*i*P PKPab 22 38 20.8 +0.5
SUMG Summit 151.25 15 *e*PKIKP PKPdf 22 38 06.6 -0.5
SUMG *e* 22 38 13.2
SUMG *e* 22 38 20.8
SUMG Summit 151.25 15 *e*PKPdf PKPdf 22 38 06.6 -0.5
SUMG *e*PKPbc PKPbc 22 38 13.2 +0.2
SUMG *e*PKPab PKPab 22 38 20.8 -0.3
SUMG Summit 151.25 15 *i* P PKPdf 22 38 06.4 -0.7
comp=Z,3.3nm,1.0s
SUMG *e* 22 41 48.1
SUMG
comp=Z,1μm,22.0s
KIEV Kiev 151.45 295 *e*PKIKP PKPbc 22 38 13.5 -0.1
KIEV *e* 22 38 21.4
KIEV Kiev 151.45 295 *e*PKPbc PKPbc 22 38 13.5 -0.1
KIEV *e*PKPab PKPab 22 38 21.4 -0.7
TRO Tromso 151.51 337 *e*P PKPbc 22 38 12.4 -0.7
TRO AMB AMB 22 38 14.5
comp=Z,145nm,1.1s
TRO *e*PP PP 22 41 53.0 -0.3
TRO *e*SS SS 23 01 14.6 -1.5
SFJD Kangerlussuaq 151.70 30 *e*PKPbc PKPbc 22 38 13.4 -0.3
SFJD *e*PKPab PKPab 22 38 20.8 -1.8
SFJD LR LR
comp=Z,1μm,19.0s
SFJD Kangerlussuaq 151.70 30 ⇑*i*P PKPbc 22 38 12.7 -1.0
comp=Z,17nm,1.1s
SFJD *e* 22 41 42.3
SFJD
comp=Z,870nm,17.0s
SZH Strazhica 151.83 278 *e*P PKPab 22 38 23.0 -1.0
TAM Tamanrasset 151.83 220 *e*PKIKP PKPdf 22 38 09.6 +0.4
TAM *e* 22 38 16.5
TAM *e* 22 38 24.7
TAM Tamanrasset 151.83 220 *e*PKPdf PKPdf 22 38 09.6 +0.4
TAM *e*PKPbc PKiKP 22 38 16.5 +0.5
TAM *e*PKPab PKPab 22 38 24.7 +0.1
ISR Istrita 152.00 282 ⇑PKIKP PKPdf 22 38 06.8 -1.8
ISR Istrita 152.00 282 ⇑*i*P PKPdf 22 38 06.8 -1.8
VRI Vrincioaia 152.09 284 ⇑PKIKP PKPbc 22 38 15.9 +0.6
VRI Vrincioaia 152.09 284 ⇑*i*P PKPbc 22 38 15.9 +0.6
RZN Rozhen 152.10 275 *e*P PKPbc 22 38 15.0 -0.7
PLOR Plostina 152.13 284 ⇑PKIKP PKPbc 22 38 15.9 +0.5
PLOR Plostina 152.13 284 ⇑*i*P PKPbc 22 38 15.9 +0.5
KAF Kangasniemi 152.26 319 *ep* PKPbc 22 38 15.9 +0.8
comp=Z,24nm,0.9s
KAF Kangasniemi 152.26 319 *e*PKIKP PKPbc 22 38 15.9 +0.8
KAF pmax pmax
comp=Z,24nm,0.9s
PLD Plovdiv 152.26 275 *e*P PKPab 22 38 21.0 -4.8
TESR Tescani 152.31 285 ⇑*i*P PKPbc 22 38 16.0 +0.3
MLR Muntele Rosu 152.51 283 PKPbc PKPbc 22 38 16.7 +0.3
MLR Muntele Rosu 152.51 283 ⇑*i*P PKPbc 22 38 16.2 -0.2
MLR Muntele Rosu 152.51 283 PKPbc PKPbc 22 38 16.7 +0.3
comp=Z,6.3nm,0.9s,baz=78,slow=1.3,SNR=30
MICGM Minsk 152.52 303 ⇓*i*P PKPbc 22 38 15.0 -0.9
FIA1 FINESS Array S 152.55 318 *e*PKPbc PKPbc 22 38 14.3 -1.4
FINES FINESS Array B 152.55 318 PKPbc PKPbc 22 38 15.3 -0.4
FINES FINESS Array B 152.55 318 PKPbc PKPbc 22 38 15.3 -0.4
comp=Z,13nm,0.9s,baz=81,slow=4.7,SNR=38
MNK Minsk 152.55 303 ⇓*i*PKIKP PKPbc 22 38 15.0 -1.0
MNK pmax pmax
comp=Z,220nm,1.4s
MMB Musomiste 152.74 274 *e*P PKPbc 22 38 16.0 -0.9
VOIR 153.10 282 ⇑PKIKP PKPbc 22 38 17.9 +0.3
VOIR 153.10 282 ⇑*i*P PKPbc 22 38 17.9 +0.3
NACGM Naroch 153.16 304 *e* PKPbc 22 38 14.0 -3.3
IDID Didziasalis 153.16 305 *e*P PKPbc 22 38 17.4 +0.1
IDID AMB AMB 22 38 28.1
comp=Z,16nm,1.2s
KKB Krupnik 153.29 274 *e*P PKPab 22 38 29.0 -1.2
ARR Arges 153.37 282 ⇑*i*P PKPdf 22 38 07.7 -2.9
MPEP Malo Peshtene 153.37 277 *e*P PKPdf 22 38 14.0 +3.4
IZAR Zarasai 153.42 306 *e*P PKPbc 22 38 18.2 +0.4
IZAR AMB AMB 22 38 43.3
comp=Z,13nm,1.1s
IIGN Ignalina 153.46 305 *e*P PKPbc 22 38 18.0 +0.1
IIGN AMB AMB 22 38 28.7
comp=Z,14nm,1.0s
VTS Vitosha 153.47 276 ⇑PKIKP PKPdf 22 38 11.6 +0.6
VTS Vitosha 153.47 276 *e*P PKPab 22 38 27.0 -4.1
VTS Vitosha 153.47 276 ⇑*i*P PKPdf 22 38 11.6 +0.6
ISAL Salakas 153.50 305 *e*P PKPbc 22 38 18.3 +0.3
ISAL AMB AMB 22 38 30.2
comp=Z,14nm,1.1s
BURAR Bucovina Array 153.51 287 ⇑*i*P PKPbc 22 38 20.0 +1.5
BUR08 Bucovina Ar. S 153.53 287 *e*PKPdf PKPdf 22 38 11.3 +0.5
LOT Lotru 153.97 282 ⇑*i*P PKPbc 22 38 20.6 +1.0
GZR Gura Zlata 154.63 281 ⇓*i*P PKPab 22 38 28.7 -7.1
LVV L'vov 154.63 292 *e*PKIKP PKPdf 22 38 12.3 +0.1
DRGR 155.01 285 ⇓*i*P PKPdf 22 38 22.0 +9.1
JMIC Jan Mayen 155.07 356 *e*P PKPdf 22 38 11.5 -0.6
JMIC *e*PP PP 22 42 13.2 0.0
JMIC *e*SS SS 23 01 57.6 +2.9
SUW Suwalki 155.29 302 *e*PKP PKPab 22 38 30.4 -7.8
TIR Tirane 155.33 271 *e*PKP2 PKPab 22 38 38.3 -0.5
TIR Tirane 155.33 271 *e*PKPab PKPab 22 38 38.3 -0.5
SCO Scoresbysund 155.38 7 *e*PKIKP PKPdf 22 38 12.0 -0.5
SCO *i* 22 42 11.4
SCO MLR MLR
comp=Z,820nm,18.0s
SCO Scoresbysund 155.38 7 *i* P PKPdf 22 38 12.0 -0.5
SCO *i* 22 42 11.4
SCO
comp=Z,810nm,17.0s
KWP Kalwaria Pacla 155.47 291 ⇑PKIKP PKPdf 22 38 14.1 +0.8
KWP Kalwaria Pacla 155.47 291 *e*PKPdf PKPdf 22 38 12.2 -1.1
KWP LR LR
comp=Z,1μm,22.0s
KWP Kalwaria Pacla 155.47 291 ⇑*i*P PKPdf 22 38 14.1 +0.8
KWP Kalwaria Pacla 155.47 291 *e*PKP PKPdf 22 38 12.3 -1.0
BZS Buzias 155.48 281 ⇓PKIKP PKPdf 22 38 11.7 -1.7
BZS Buzias 155.48 281 ⇓*i*P PKPdf 22 38 11.7 -1.7
UZH Uzhgorod 155.61 289 *i* PKIKP PKPdf 22 38 11.8 -1.7
KOLS Kolonicke sedl 155.67 290 *e*PKIKP PKPdf 22 38 17.3 +3.7
KOLS Kolonicke sedl 155.67 290 *e*PKP PKPdf 22 38 17.3 +3.7
KOLS *e* 22 38 40.6
STHS Stebnicka Huta 156.39 291 *e*PKIKP PKPdf 22 38 16.8 +2.2
STHS Stebnicka Huta 156.39 291 *e*PKP PKPdf 22 38 16.8 +2.2
STHS *e* 22 38 43.2
TIP Timpagrande 156.56 263 *e*PKPdf PKPdf 22 38 14.5 -0.7
CEL Celeste 156.71 261 PFAKE 22 38 30.0 +15
CEL LR LR
comp=Z,860nm,19.0s
KECS Kecovo 156.78 288 *e* PKPdf 22 38 25.9 +11

KECS	**Kecovo**	**156.78**	**288**	*e*PKP	**PKPab**	**22 38 44.4**	**-0.5**
CUC	**Castrocucco**	**157.57**	**264**	PFAKE		22 38 30.0	+14
CUC				LR	LR		
	comp=Z,689nm,20.0s						
PKSM	**Moragy**	**157.64**	**282**	⇓*e*PKP2	PKPab	22 38 39.0	-10
PKSM	**Moragy**	**157.64**	**282**	⇓*i*P	PKPab	22 38 39.0	-10
VYHS	**Vyhne**	**157.87**	**288**	*e*PKP2	**PKPab**	**22 38 49.3**	**-0.4**
VYHS	**Vyhne**	**157.87**	**288**	*e*PKP	**PKPab**	**22 38 49.2**	**-0.4**
OKC	**Ostrava-Krasne**	**158.43**	**291**	*e*PKIKP	**PKPdf**	**22 38 16.3**	**-0.8**
OKC				*e*		22 38 52.4	
OKC				MLR	MLR		
	comp=Z,600nm,20.8s						
OKC	**Ostrava-Krasne**	**158.43**	**291**	*e*PKPDF	**PKPdf**	**22 38 16.3**	**-0.8**
OKC				*e*PKPAB	**PKPab**	**22 38 52.4**	**+0.4**
OKC				*ep*PKP	**pPKPab**	**22 38 59.6**	**-0.1**
OKC				*ex*	x	22 53 11.2	
OKC				*e*SS	SS	23 02 37.3	+4.5
OKC				AMS	AMS	00 04 20.0	
	comp=Z,600nm,20.8s						
HFS	**Hagfors**	**158.67**	**321**	PKPab	**PKPab**	**22 38 50.9**	**-1.7**
HFS	**Hagfors**	**158.67**	**321**	PKPab	**PKPab**	**22 38 50.9**	**-1.7**
	comp=Z,8.3nm,1.0s,baz=94,slow=4.8,SNR=9.3						
MORC	**Moravsky Berou**	**158.82**	**291**	*e*PKIKP	**PKPdf**	**22 38 17.2**	**-0.4**
MORC				*e*		22 38 53.4	
MORC	**Moravsky Berou**	**158.82**	**291**	*e*PKPdf	**PKPdf**	**22 38 17.2**	**-0.4**
MORC				*e*PKPab	**PKPab**	**22 38 53.4**	**-0.4**
GKP	**Gorka Klasztor**	**158.88**	**301**	*e*PKIKP	**PKPdf**	**22 38 17.5**	**0.0**
GKP	**Gorka Klasztor**	**158.88**	**301**	*e*PKP	**PKPdf**	**22 38 17.4**	**0.0**
NB2	**NORSAR Subarra**	**159.25**	**324**	PKP	**PKPab**	**22 38 53.5**	**-1.7**
	comp=Z,17nm,1.2s,baz=59,slow=4.6						
NB2	**NORSAR Subarra**	**159.25**	**324**	PKP	**PKPab**	**22 38 53.5**	**-1.7**
	baz=59,slow=4.6						
NOA	**NORSAR Array B**	**159.25**	**324**	PKPab	**PKPab**	**22 38 54.1**	**-1.1**
NOA	**NORSAR Array B**	**159.25**	**324**	PKPab	**PKPab**	**22 38 54.1**	**-1.1**
	comp=Z,5.0nm,1.0s,baz=60,slow=4.5,SNR=8.5						
NC602	**NORSAR Array S**	**159.28**	**324**	*e*P	**PKPdf**	**22 38 20.1**	**+2.3**
NC602				*e*SS	SS	23 02 40.6	0.0
KOGS	**Kog**	**159.31**	**281**	*e*PKPdf	**PKPdf**	**22 38 16.6**	**-1.6**
KOGS				*e*PKPab	**PKPab**	**22 38 55.7**	**-0.1**
KOGS				*e*		22 39 03.5	
VRAC	**Vranov**	**159.42**	**290**	PKP	**PKPdf**	**22 38 17.8**	**-0.5**
VRAC				PKPab	**PKPab**	**22 38 56.7**	**+0.4**
VRAC	**Vranov**	**159.42**	**290**	PKP	**PKPdf**	**22 38 17.8**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=71,slow=21,SNR=3.6						
VRAC				PKPab	**PKPab**	**22 38 56.7**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=146,slow=5.5,SNR=4.5						
DPC	**Dobruska-Polom**	**159.62**	**293**	*e*PKIKP	**PKPdf**	**22 38 16.6**	**-1.9**
DPC	**Dobruska-Polom**	**159.62**	**293**	*e*PKPDF	**PKPdf**	**22 38 16.6**	**-1.9**
DPC				*e*PKPAB	**PKPab**	**22 38 57.5**	**+0.3**
DPC				*ep*PKP	**pPKPab**	**22 39 04.9**	**0.0**
DPC				*e*SS	SS	23 02 48.8	+3.3
DPC				AMS	AMS	23 58 30.0	
KSP	**Ksiaz**	**159.63**	**294**	*e*PKP2	**PKPab**	**22 38 57.2**	**+0.1**
KSP				*e*SS	SS	23 02 48.0	+2.5
KSP	**Ksiaz**	**159.63**	**294**	*e*PKP	**PKPab**	**22 38 57.3**	**+0.1**
GOLS	**Golise**	**159.65**	**280**	*e*PKPdf	**PKPdf**	**22 38 17.3**	**-1.4**
KEST	**Kesra**	**159.68**	**247**	PKPab	**PKPab**	**22 38 59.1**	**+1.3**
KEST	**Kesra**	**159.68**	**247**	PKPab	**PKPab**	**22 38 59.1**	**+1.3**
	comp=Z,13nm,1.0s,baz=92,slow=0.6,SNR=21						
CONA	**Conrad Observa**	**159.79**	**286**	⇑*i*PKPdf	**PKPdf**	**22 38 15.8**	**-3.0**
	comp=Z,5.0nm,1.4s						
BOJS	**Bojanci**	**159.80**	**278**	*e*PKPdf	**PKPdf**	**22 38 17.3**	**-1.5**
BOJS				*e*PKPab	**PKPab**	**22 38 57.5**	**-0.6**
BOJS				*i*		22 39 05.4	
UPC	**Upice**	**159.82**	**293**	*e*PKIKP	**PKPdf**	**22 38 18.3**	**-0.4**
UPC				*e*		22 38 57.4	
UPC	**Upice**	**159.82**	**293**	*e*PKPDF	**PKPdf**	**22 38 18.3**	**-0.4**
UPC				*e*PKPAB	**PKPab**	**22 38 57.4**	**-0.6**
BSD	**Bornholm Skovb**	**159.89**	**307**	*i* PKP2	**PKPab**	**22 38 58.1**	**0.0**
BSD				pmax	pmax		
	comp=Z,20nm,0.9s						
BSD	**Bornholm Skovb**	**159.89**	**307**	*i* P	**PKPab**	**22 38 58.1**	**0.0**
	comp=Z,20nm,0.9s						
BSD				*i*		22 39 06.5	
ARSA	**Arzberg**	**159.93**	**284**	⇑*i*PKPdf	**PKPdf**	**22 38 18.3**	**-0.6**
	comp=Z,5.7nm,1.4s						
ARSA				⇑*i*PKPab	**PKPab**	**22 38 58.6**	**0.0**
	comp=Z,25nm,1.3s						
TREC	**Trest**	**160.14**	**289**	*e*PKIKP	**PKPdf**	**22 38 18.7**	**-0.4**
TREC				*e*		22 38 59.2	
TREC				*e*SS	SS	23 02 48.7	-2.3
TREC				MLR	MLR		
	comp=Z,900nm,17.9s						
TREC	**Trest**	**160.14**	**289**	*e*PKPDF	**PKPdf**	**22 38 18.7**	**-0.4**
TREC				*e*PKPAB	**PKPab**	**22 38 59.2**	**-0.2**
TREC				*ep*PKP	pPKPdf	22 39 06.7	+40
TREC				*e*SKKS		22 49 26.8	
TREC				*ex*	x	22 53 03.3	
TREC				*e*SS	**SS**	**23 02 48.7**	**-2.3**
TREC				AMS	AMS	00 07 30.0	
	comp=Z,900nm,17.9s						
SOKA	**Soboth**	**160.18**	**282**	⇓*i*PKPdf	**PKPdf**	**22 38 18.1**	**-1.2**
	comp=Z,8.6nm,1.4s						
SOKA				⇑*i*PKPab	**PKPab**	**22 38 59.7**	**0.0**
	comp=Z,37nm,1.1s						
AQU	**L'Aquila**	**160.18**	**268**	PFAKE		22 38 30.0	+11
AQU				LR	LR		
	comp=Z,1μm,20.0s						
KONO	**Kongsberg**	**160.69**	**322**	*e*P	**PKPdf**	**22 38 18.1**	**-1.2**
KONO				*e*PP	**PP**	**22 42 48.1**	**+3.6**
KONO				*e*SS	SS	23 02 56.3	+0.8
KONO	**Kongsberg**	**160.69**	**322**	PFAKE		22 38 30.0	+11
KONO				LR	LR		
	comp=Z,1μm,22.0s						
PVCC	**Panska Ves**	**160.74**	**293**	*e*PKIKP	**PKPdf**	**22 38 18.9**	**-0.8**
PVCC				*e*		22 39 02.3	
PVCC				MLR	MLR		
	comp=Z,900nm,17.8s						
PVCC	**Panska Ves**	**160.74**	**293**	*e*PKPDF	**PKPdf**	**22 38 18.9**	**-0.8**
PVCC				*e*PKPAB	**PKPab**	**22 39 02.3**	**+0.3**
PVCC				*ep*PKP	**pPKPab**	**22 39 10.1**	**+0.4**
PVCC				AMS	AMS	00 06 20.0	
	comp=Z,900nm,17.8s						
PRU	**Pruhonice**	**160.77**	**292**	*e*PKIKP	**PKPdf**	**22 38 17.9**	**-1.8**
PRU				*e*		22 39 01.7	
PRU				MLR	MLR		
	comp=Z,1μm,18.1s						
PRU	**Pruhonice**	**160.77**	**292**	*e*PKPDF	**PKPdf**	**22 38 17.9**	**-1.8**
PRU				*e*PKPAB	**PKPab**	**22 39 01.7**	**-0.4**
PRU				*ep*PKP	**pPKPab**	**22 39 09.5**	**-0.3**
PRU				*e*SKKS		22 49 28.1	
PRU				*ex*	x	22 53 05.3	
PRU				*ex*	x	22 56 23.1	
PRU				*e*SS	**SS**	**23 03 00.9**	**+3.5**
PRU				AMS	AMS	00 07 10.0	
	comp=Z,1μm,18.1s						
PRA	**Prague**	**160.84**	**292**	PKPDF	**PKPdf**	**22 38 18.0**	**-1.8**
PRA				PKPAB	**PKPab**	**22 39 02.0**	**-0.4**
PRA				AMS	AMS	00 07 30.0	
BORG	**Borgarnes**	**161.01**	**10**	PFAKE		22 38 30.0	+10
BORG				LR	LR		
	comp=Z,1μm,19.0s						
COP	**Copenhagen**	**161.08**	**309**	*e*PKIKP	**PKPdf**	**22 38 24.4**	**+4.6**
COP	**Copenhagen**	**161.08**	**309**	*i* P	**PKPdf**	**22 38 24.4**	**+4.6**
COP				*i*		22 42 56.5	
BRG	**Berggiesshubel**	**161.12**	**294**	*e*PKP	**PKPdf**	**22 38 18.5**	**-1.6**
	comp=Z,16nm,1.5s						
BRG				*i*		22 39 03.7	
	comp=Z,20nm,1.2s						
BRG				*i*		22 39 11.3	
	comp=Z,31nm,1.3s						
BRG				PP	**PP**	**22 42 43.0**	**-4.4**
BRG				*e*		22 53 24.0	
BRG				SS	SS	23 02 58.0	-3.1
BRG							
	comp=N,937nm,21.5s						
BRG							
	comp=E,399nm,18.2s						
BRG							
	comp=Z,1μm,19.1s						
BRG	**Berggiesshubel**	**161.12**	**294**	*e*PKIKP	**PKPdf**	**22 38 18.5**	**-1.6**
BRG				*i*		22 39 03.7	
BRG						22 42 43.0	
BRG				SS	SS	23 02 58.0	-3.1
BRG				pmax	pmax		
	comp=Z,4.0nm,1.5s						
BRG				pmax	pmax		
	comp=Z,16nm,1.2s						
BRG				pmax	pmax		
	comp=Z,20nm,1.3s						
BRG				MLR	MLR		
	comp=N,31μm,21.5s						
BRG				MLR	MLR		
	comp=E,937nm,18.2s						
BRG				MLR	MLR		
	comp=Z,399nm,19.1s						
GEC2	**GERESS Array S**	**161.29**	**288**	*e*PKP	**PKPab**	**22 39 04.2**	**-0.4**
GEC2				*ep*PKP	**pPKPab**	**22 39 11.6**	**-0.7**
GEC2	**GERESS Array S**	**161.29**	**288**	*e*PKP2	**PKPab**	**22 39 04.2**	**-0.4**
GERES	**GERESS Array B**	**161.29**	**288**	PKP	**PKPdf**	**22 38 21.1**	**+0.6**
GERES				PKPab	**PKPab**	**22 39 03.6**	**-1.0**
GERES				PP	PP	22 42 59.3	+11
GERES	**GERESS Array B**	**161.29**	**288**	PKP	**PKPdf**	**22 38 21.1**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=0.0,slow=2.7,SNR=3.9						
GERES				PKPab	**PKPab**	**22 39 03.6**	**-1.0**
	comp=Z,6.0nm,0.9s,baz=102,slow=4.5,SNR=21						
GERES				PP	PP	22 42 59.3	+11
	comp=Z,4.0nm,1.2s,baz=77,slow=5.9,SNR=3.8						
KHC	**Kasperske Hory**	**161.38**	**289**	*e*PKIKP	**PKPdf**	**22 38 19.2**	**-1.3**
KHC				*e*		22 39 04.7	
KHC				*e*		22 42 53.5	
KHC				*e*		22 56 15.2	
KHC				*e*SS	SS	23 03 00.8	-3.3
KHC				MLR	MLR		
	comp=Z,900nm,18.5s						
KHC	**Kasperske Hory**	**161.38**	**289**	*e*PKPDF	**PKPdf**	**22 38 19.2**	**-1.3**
KHC				*e*PKPAB	**PKPab**	**22 39 04.7**	**-0.2**
KHC				*ep*PKP	**pPKPab**	**22 39 12.2**	**-0.4**
KHC				*e*PP	**PP**	**22 42 53.5**	**+4.5**
KHC				*ex*	x	22 43 04.0	
KHC				*e*SKKS		22 49 31.0	
KHC				*ex*	x	22 53 09.2	
KHC				*ex*	x	22 56 15.2	
KHC				*e*SS	**SS**	**23 03 00.8**	**-3.3**
KHC				AMS	AMS	00 05 50.0	
	comp=Z,900nm,18.5s						
CLL	**Collm**	**161.68**	**296**	*i* PKIKP	**PKPdf**	**22 38 19.6**	**-1.1**
CLL				*e*		22 39 06.0	
CLL				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CLL				pmax	pmax		
	comp=Z,16nm,1.4s						
CLL				MLR	MLR		
	comp=Z,1μm,20.4s						
CLL	**Collm**	**161.68**	**296**	*i* PKPdf	**PKPdf**	**22 38 19.6**	**-1.1**
	comp=Z,16nm,1.4s						
CLL				*e*PKPlp		22 38 27.0	
CLL				*e*PKPab	**PKPab**	**22 39 06.0**	**-0.1**
	comp=Z,14nm,1.4s						
CLL				*i* pPKPab	**pPKPab**	**22 39 13.0**	**-0.8**
	comp=Z,23nm,1.3s						
CLL				*e*(PP)		22 43 01.0	
CLL				*e*SS	SS	23 03 11.0	+4.2
CLL				*e*SSS	SSS	23 09 12.0	
CLL				LmV		00 02 00.0	
	comp=Z,1μm,20.4s						
WET	**Wettzell**	**161.84**	**289**	*e*PKP	**PKPab**	**22 39 06.6**	**-0.3**
WET				*ep*PKP	**pPKPab**	**22 39 13.9**	**-0.7**
WET	**Wettzell**	**161.84**	**289**	*e*PKP2	**PKPab**	**22 39 06.6**	**-0.3**
BER	**Bergen**	**161.92**	**328**	*e*P	**PKPdf**	**22 38 19.6**	**-0.9**
BER				*e*PP	**PP**	**22 42 49.7**	**-1.3**
BER				*e*SS	SS	23 03 08.8	+0.8
ROTZ	**Rotzenmuhle**	**162.28**	**291**	*e*PKP	**PKPab**	**22 39 08.3**	**-0.5**
ROTZ				*ep*PKP	**pPKPab**	**22 39 16.5**	**0.0**
WTTA	**Wattenberg**	**162.56**	**283**	⇓*i*PKPdf	**PKPdf**	**22 38 20.8**	**-1.2**
	comp=Z,7.9nm,1.0s						
WTTA				⇑*i*PKPab	**PKPab**	**22 39 09.3**	**-1.0**
	comp=Z,17nm,1.1s						
MOX	**Moxa**	**162.61**	**294**	*e*PKP	**PKPab**	**22 39 09.4**	**-0.8**
MOX	**Moxa**	**162.61**	**294**	*e*PKP2	**PKPab**	**22 39 09.4**	**-0.8**
BSEG	**Bad Segeberg**	**162.78**	**305**	*e*PKP	**PKPab**	**22 39 11.7**	**+0.9**
BSEG	**Bad Segeberg**	**162.78**	**305**	*e*PKP2	**PKPab**	**22 39 11.7**	**+0.9**
GRF	**Grafenberg Arr**	**162.92**	**291**	*e*PKP	**PKPab**	**22 39 10.8**	**-0.8**
GRF				*ep*PKP	**pPKPab**	**22 39 19.4**	**+0.1**
GRF	**Grafenberg Arr**	**162.92**	**291**	*e*L	L	00 04 15.1	
	comp=Z,631nm,18.3s						
GRF	**Grafenberg Arr**	**162.92**	**291**	*e*PKP2	**PKPab**	**22 39 10.8**	**-0.8**
FETA	**Feichten**	**163.15**	**281**	⇑*i*PKPdf	**PKPdf**	**22 38 21.8**	**-0.7**
	comp=Z,6.7nm,1.3s						
CLZ	**Clausthal**	**163.24**	**298**	*e*PKP	**PKPab**	**22 39 13.4**	**+0.5**
CLZ	**Clausthal**	**163.24**	**298**	*e*PKP2	**PKPab**	**22 39 13.4**	**+0.5**
DAVOX	**Davos/Dischmat**	**163.70**	**280**	PKPab	**PKPab**	**22 39 14.5**	**-0.9**
DAVOX	**Davos/Dischmat**	**163.70**	**280**	PKPab	**PKPab**	**22 39 14.5**	**-0.9**
	comp=Z,6.5nm,0.9s,baz=104,slow=6.3,SNR=7.4						
DAVA	**Damuels**	**163.75**	**282**	⇓*i*PKPdf	**PKPdf**	**22 38 21.9**	**-1.1**
	comp=Z,11nm,1.5s						
DAVA				⇑*i*PKPab	**PKPab**	**22 39 15.2**	**-0.3**
	comp=Z,32nm,1.0s						
TUE	**Stuetta**	**164.02**	**279**	*e*PKPdf	**PKPdf**	**22 38 19.4**	**-4.0**
STU	**Stuttgart**	**164.27**	**288**	*e*PKIKP	**PKPdf**	**22 38 21.5**	**-1.8**
STU				*e*		22 39 17.5	
STU	**Stuttgart**	**164.27**	**288**	*e*PKPdf	**PKPdf**	**22 38 21.5**	**-1.8**
STU				*e*PKPab	**PKPab**	**22 39 17.5**	**-0.1**
TNS	**Taunus Mts**	**164.67**	**293**	*e*PKP	**PKPab**	**22 39 19.0**	**-0.3**
TNS	**Taunus Mts**	**164.67**	**293**	*e*PKP2	**PKPab**	**22 39 19.0**	**-0.3**
REVF	**Revere**	**164.82**	**268**	PKP	**PKPab**	**22 39 19.2**	**-1.0**
MDT	**Midelt**	**164.83**	**211**	PKP	**PKPdf**	**22 38 24.4**	**0.0**
MDT				PKPab	**PKPab**	**22 39 20.0**	**-0.4**
MDT	**Midelt**	**164.83**	**211**	PKP	**PKPdf**	**22 38 24.4**	**0.0**
	comp=Z,3.2nm,1.1s,baz=182,slow=5.6,SNR=4.5						
MDT				PKPab	**PKPab**	**22 39 20.0**	**-0.4**
	comp=Z,3.1nm,0.9s,baz=85,slow=3.6,SNR=3.5						
BFO	**Black Forest**	**164.85**	**286**	*e*PKP	**PKPab**	**22 39 18.8**	**-1.3**
BFO				*ep*PKP	**pPKPab**	**22 39 26.7**	**-1.1**
BFO	**Black Forest**	**164.85**	**286**	*e*PKP2	**PKPab**	**22 39 18.8**	**-1.3**
BFO	**Black Forest**	**164.85**	**286**	PFAKE		22 38 30.0	+6.2
BFO				LR	LR		
	comp=Z,1μm,21.0s						
MVIF	**Mont Vial**	**165.01**	**268**	PKP	PKPdf	22 38 42.8	+19
LANF	**Langenberg**	**165.18**	**288**	PKP	**PKPdf**	**22 38 23.0**	**-1.1**
BNI	**Bardonecchia**	**165.62**	**273**	PFAKE		22 38 40.0	+15
BNI				LR	LR		
	comp=Z,1μm,20.0s						
ECH	**Echery**	**165.63**	**285**	PFAKE		22 38 40.0	+16
ECH				LR	LR		
	comp=Z,1μm,22.0s						
PGRA	**Graciosa**	**167.32**	**120**	*e*LQ	LQ	23 27 51.9	
PSMN	**Pico do Norte,**	**167.50**	**134**	*e*LQ	LQ	23 28 58.0	
PSET	**Sete Cidades**	**167.78**	**129**	*e*LQ	LQ	23 28 04.7	
CMLA	**Cha da Macela**	**167.84**	**130**	PFAKE		22 38 40.0	+14
CMLA				LR	LR		
	comp=Z,2μm,19.0s						
EKA	**Eskdalemuir Ar**	**168.71**	**327**	PKPab	**PKPab**	**22 39 35.8**	**-1.0**
EKA	**Eskdalemuir Ar**	**168.71**	**327**	PKPab	**PKPab**	**22 39 35.8**	**-1.0**
	comp=Z,4.0nm,0.9s,baz=15,slow=4.3,SNR=7.8						
ESK	**Eskdalemuir**	**168.74**	**327**	PFAKE		22 38 40.0	+14
ESK				LR	LR		
	comp=Z,1μm,20.0s						
PBDV	**Barranco-do-Ve**	**169.98**	**208**	*e*PKPdf	PKPdf	22 38 34.0	+6.1
PBDV	**Barranco-do-Ve**	**169.98**	**208**	*e*PP	PP	22 43 44.5	+12
PBDV	**Barranco-do-Ve**	**169.98**	**208**	*e*SS	SS	23 04 30.6	+0.6
PVAQ	**Vaqueiros**	**170.06**	**209**	*e*PKPdf	PKPdf	22 38 37.4	+10
PVAQ	**Vaqueiros**	**170.06**	**209**	*e*PKPab	**PKPab**	**22 39 41.1**	**-2.1**
PVAQ				*eP*	**pPKPab**	**22 39 51.5**	**+0.6**
PVAQ	**Vaqueiros**	**170.06**	**209**	*e*PP	PP	22 43 57.2	+24
PVAQ	**Vaqueiros**	**170.06**	**209**	*e*SS	SS	23 04 36.3	+5.6
PFVI	**Vila Bisbo**	**170.15**	**204**	*e*PKPdf	**PKPdf**	**22 38 31.4**	**+3.5**
PFVI	**Vila Bisbo**	**170.15**	**204**	*e*PP	PP	22 43 45.9	+12
PFVI	**Vila Bisbo**	**170.15**	**204**	*e*SS	SS	23 04 56.8	+25
ESDC	**Sonseca Array**	**170.24**	**231**	PKP	**PKPdf**	**22 38 27.9**	**-0.1**
ESDC				PKPab	**PKPab**	**22 39 43.9**	**-0.2**
ESDC	**Sonseca Array**	**170.24**	**231**	PKP	**PKPdf**	**22 38 27.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=13,slow=1.3,SNR=8.4						
ESDC				PKPab	**PKPab**	**22 39 43.9**	**-0.2**
	comp=Z,6.3nm,0.9s,baz=129,slow=3.5,SNR=16						
MORF	**Marmelete**	**170.26**	**205**	*e*SS	SS	23 04 45.4	+13
MORF	**Marmelete**	**170.26**	**205**	*e*PKIKP	**PKPdf**	**22 38 29.4**	**+1.3**
MORF				*e*		22 43 36.2	
MORF				*e*SS	SS	23 04 36.6	+3.9
PCVE	**Castro Verde**	**170.37**	**208**	*e*PKPdf	PKPdf	22 38 36.6	+8.5
PCVE				*eP*	PKPab	22 39 53.6	+9.0
PCVE	**Castro Verde**	**170.37**	**208**	*e*PP	PP	22 43 45.9	+11
PCVE	**Castro Verde**	**170.37**	**208**	*e*SS	SS	23 04 45.2	+11
PBAR	**Barrancos**	**170.49**	**214**	*e*PKPdf	**PKPdf**	**22 38 28.8**	**+0.7**
PBAR				*eP*	PKPab	22 39 53.4	+8.2
PBAR	**Barrancos**	**170.49**	**214**	*e*PP	PP	22 43 45.9	+11
PBAR	**Barrancos**	**170.49**	**214**	*e*SS	SS	23 04 32.5	-2.7
PNCL	**Nicolau / Gran**	**170.97**	**208**	*e*PKPdf	**PKPdf**	**22 38 29.1**	**+0.8**
PNCL	**Nicolau / Gran**	**170.97**	**208**	*e*PP	PP	22 43 49.4	+12
PNCL	**Nicolau / Gran**	**170.97**	**208**	*e*SS	SS	23 05 01.7	+22
PESTR	**Estremoz**	**171.31**	**214**	*e*PKPdf	PKPdf	22 38 34.9	+6.4
PESTR	**Estremoz**	**171.31**	**214**	*e*PP	PP	22 43 51.5	+12
PESTR	**Estremoz**	**171.31**	**214**	*e*SS	SS	23 04 38.2	-5.1
PMRV	**Marv??o**	**171.71**	**217**	*e*PKPdf	PKPdf	22 38 34.1	+5.4
PMRV				*eP*	PKPab	22 39 58.9	+8.3
PMRV	**Marv??o**	**171.71**	**217**	*e*PP	PP	22 43 53.0	+12
PMRV	**Marv??o**	**171.71**	**217**	*e*SS	SS	23 04 59.9	+13
PMTG	**Montargil**	**171.72**	**212**	*e*PKPdf	**PKPdf**	**22 38 33.1**	**+4.4**
PMTG	**Montargil**	**171.72**	**212**	*e*PKPab	**PKPab**	**22 39 51.4**	**+0.8**
PMTG	**Montargil**	**171.72**	**212**	*e*PP	PP	22 43 55.8	+14
PMTG	**Montargil**	**171.72**	**212**	*e*SS	SS	23 04 47.2	0.0
PMAFR	**Mafra**	**171.97**	**206**	*e*PKPdf	**PKPdf**	**22 38 29.8**	**+1.0**
PMAFR	**Mafra**	**171.97**	**206**	*e*PP	PP	22 43 52.3	+10
PMAFR	**Mafra**	**171.97**	**206**	*e*SS	SS	23 04 46.3	-3.2
MTE	**Manteigas**	**172.58**	**220**	*e*PKPdf	PKPdf	22 38 35.1	+6.0
MTE	**Manteigas**	**172.58**	**220**	*e*PP	PP	22 43 48.2	+2.3
MTE	**Manteigas**	**172.58**	**220**	*e*SS	SS	23 05 16.1	+20
MTE	**Manteigas**	**172.58**	**220**	PFAKE		22 38 40.0	+11
MTE				LR	LR		
	comp=Z,2μm,20.0s						
MVO	**Moncorvo**	**172.93**	**226**	*e*PKPdf	**PKPdf**	**22 38 30.5**	**+1.2**
MVO	**Moncorvo**	**172.93**	**226**	*e*PP	PP	22 43 57.9	+10
MVO	**Moncorvo**	**172.93**	**226**	*e*SS	SS	23 05 02.2	+2.4
PBRG	**Braganca**	**173.24**	**231**	*e*PKPdf	**PKPdf**	**22 38 34.0**	**+4.7**
PBRG	**Braganca**	**173.24**	**231**	*e*PP	PP	22 44 02.1	+13
POLO	**Lamas de Olo**	**173.46**	**224**	*e*PKPdf	**PKPdf**	**22 38 29.6**	**+0.1**
POLO	**Lamas de Olo**	**173.46**	**224**	*e*PKPab	**PKPab**	**22 39 59.4**	**+1.0**
POLO	**Lamas de Olo**	**173.46**	**224**	*e*PP	PP	22 44 00.7	+10
POLO	**Lamas de Olo**	**173.46**	**224**	*e*SS	SS	23 05 12.6	+7.7
PGAV	**Gavieira, Arco**	**174.14**	**225**	*e*PKPdf	**PKPdf**	**22 38 34.5**	**+4.8**
PGAV	**Gavieira, Arco**	**174.14**	**225**	*e*PP	PP	22 44 03.5	+10
PGAV	**Gavieira, Arco**	**174.14**	**225**	*e*SS	SS	23 05 03.1	-8.5

IDC ***16*** *22:32:30.3±2.0, 33.96N×25.59E, h0km, mb3.5/3, mb1 3.7/8, mb1mx3.6/28, mbtmp3.6/8, ML3.5/5, Error ellipse: s-maj=45.3km s-min=21.3km az=10.0*
CSEM ***16*** *22:32:30.7, 33.97N×25.44E, h5km, MD3.6, After ATH* ***16*** *22:32:30.7, 33.97N×25.44E, h5km, MD3.6/10*
ISC 16 22:32:30.2±1.5, 33.97N±0.06×25.47E±0.03, h12km±9km, n84, σ2s35/70, mb3.7/3, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**1.17**	**333**	*e*PB	**Pn**	**22 32 53.5**	**+1.0**
SIVA				*e*SB	**Sn**	**22 33 09.2**	**+0.8**
SIVA	**Sivas**	**1.17**	**333**	*e*Pb	**Pn**	**22 32 53.5**	**+1.0**
SIVA				*e*Sb	**Sn**	**22 33 09.2**	**+0.8**
LAST	**Lasithi**	**1.19**	**1**	*e*PB	**Pb**	**22 32 53.3**	**+0.6**
LAST				*e*SB	**Sn**	**22 33 09.7**	**+0.9**
LAST	**Lasithi**	**1.19**	**1**	*e*Pb	**Pb**	**22 32 53.3**	**+0.6**
LAST				*e*Sb	**Sn**	**22 33 09.7**	**+0.9**
NPS	**Neapolis**	**1.29**	**5**	*e*PG	**Pb**	**22 32 54.9**	**+0.4**
NPS				*e*SB	**Sn**	**22 33 12.7**	**+1.3**
NPS	**Neapolis**	**1.29**	**5**	*e*Pg	**Pb**	**22 32 54.9**	**+0.4**
NPS				*e*Sb	**Sn**	**22 33 12.7**	**+1.3**
ZKR	**Zakros**	**1.30**	**28**	*e*PB	**Pg**	**22 32 55.5**	**+0.4**
ZKR				*e*SB	**Sn**	**22 33 14.1**	**+2.6**
ZKR	**Zakros**	**1.30**	**28**	*e*Pb	**Pg**	**22 32 55.5**	**+0.4**
ZKR				*e*Sb	**Sn**	**22 33 14.1**	**+2.6**
GVD	**Gavdhos**	**1.43**	**308**	*e*PB	**Pg**	**22 32 58.1**	**+0.4**
GVD				*e*SB	**Sg**	**22 33 17.9**	**+1.6**
GVD	**Gavdhos**	**1.43**	**308**	*e*Pb	**Pg**	**22 32 58.1**	**+0.4**
GVD				*e*Sb	**Sg

0.1nm,0.3s,baz=68,slow=8.3,SNR=2.6
MKAR Makanchi Array 44.23 56 P **P 22 40 41.9 +2.6**
0.9nm,0.8s,baz=284,slow=5.6,SNR=5.4
ZALV Zalesovo Beam 45.65 45 P **P 22 40 51.7 +1.2**
1.2nm,0.7s,baz=280,slow=8.6,SNR=3.2

CASC 16 22:43:03.6±2.0, 12°88N×90°48W, h15km±9km, MD3.6, 2C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**1.27**	**41**⇑	*eP*	Pn	22 43 25.8	-1.3
SBLS				*eS*	Sn	22 43 44.2	+0.1
IXG	**Ixpaco**	**1.28**	**1**	*eP*	Pn	22 43 26.6	-0.7
IXG				*eS*	Sb	22 43 43.6	-0.7
RTR	**El Retiro**	**1.29**	**39**	*eP*	Pn	22 43 26.3	-1.2
SNJE	**San Jose**	**1.30**	**41**	*eP*	Pn	22 43 26.3	-1.2
BOQS	**Boqueron**	**1.44**	**54**	*eP*	Pn	22 43 28.6	-1.0
BOQS				*eS*	Sg	22 43 50.5	-0.3
RBDL	**Robledal**	**1.45**	**32**⇑	*eP*	Pn	22 43 28.8	-0.7
LFRS	**El Faro**	**1.57**	**62**	*eP*	Pn	22 43 29.6	-1.5
LFRS				*eS*	Sb	22 43 52.1	-0.2
FUG	**Fuego 3**	**1.59**	**347**	*eP*	Pn	22 43 31.5	-0.1
FUG				*eS*	Sb	22 43 52.9	-0.3
NBG	**Las Nubes**	**1.70**	**4**	*eP*	Pn	22 43 34.0	+0.9
NBG				*eS*	Sn	22 43 53.1	-1.8
JAT	**Jato**	**1.82**	**322**	*eP*	Pb	22 43 35.5	-1.1

GUC 16 22:51:26.8±0.7, 31°37S×69°29W, h42km±10km, MD3.7, ML3.0, 3C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**1.48**	**277**	*i*|| *iP*	Pn	22 51 52.1	+1.0
CMCH				*eS*	Sn	22 52 11.4	+2.0
CMCH				AML	AML	22 52 18.3	
	comp=E,565nm,0.6s						
TLL	**Tololo Astrono**	**1.77**	**312**	*eP*	Pn	22 51 57.0	+1.6
TLL				*i S*	Sn	22 52 19.0	+2.1
TLL				AML	AML	22 52 23.5	
	comp=E,143nm,0.5s						
CHNG	**Los Chungos**	**1.96**	**254**⇑	*iP*	Pn	22 51 58.1	+0.6
CHNG				*i S*	Sn	22 52 22.3	+1.5
PEL	**Peldehue**	**2.13**	**213**⇑	*eP*	Pn	22 52 00.8	+0.8
PEL				*eS*	Sn	22 52 27.0	+1.7
PEL				AML	AML	22 52 33.4	
	comp=N,132nm,0.4s						
ROCH	**El Roble**	**2.17**	**222**	*eP*	Pn	22 52 01.9	+1.1
ROCH				*i S*	Sn	22 52 29.0	+2.4
ROCH				AML	AML	22 52 32.9	
	comp=N,177nm,0.5s						
CLCH	**Cerro Calan**	**2.28**	**207**	*i P*	Pn	22 52 04.8	+2.7
CLCH				*i S*	Sn	22 52 32.5	+3.4
CLCH				AML	AML	22 52 35.6	
	comp=E,92nm,0.2s						
LMEL	**Las Melosas**	**2.59**	**197**	AML	AML	22 52 49.6	
	comp=N,63nm,0.2s						
LCO	**Las Campanas**	**2.65**	**332**	*eP*	Pn	22 52 05.2	-2.2
LCO				*i S*	Sn	22 52 36.6	-1.9
LCO				AML	AML	22 52 40.6	
	comp=E,86nm,0.2s						
CACH	**El Canelo**	**2.96**	**202**⇑	*iP*	Pn	22 52 12.8	+1.4

IDC 16 22:55:42.4±1.7, 46°22S×165°89E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, ML4.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/19, Error ellipse: s-maj=62.7km s-min=26.8km az=175.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**4.43**	**58**	Pn	Pn	22 56 51.2	+0.3
	6.9nm,0.3s,baz=212,slow=6.4,SNR=31						
RPZ				Sn	Sn	22 57 43.0	-0.3
	6.4nm,0.3s,baz=122,slow=19,SNR=4.3						
RPZ				LR	LR	22 58 07.0	
	comp=Z,471nm,18.1s,baz=219,slow=33						
ASAR	**Alice Springs**	**34.19**	**300**	P	P	23 02 29.0	-0.5
	0.5nm,0.7s,baz=134,slow=7.9,SNR=4.3						
WRA	**Warramunga Arr**	**36.81**	**305**	P	P	23 02 51.7	-0.3
	1.5nm,1.2s,baz=174,slow=32,SNR=3.3						
TORD	**Torodi Ar. Bea**	**144.44**	**207**	PKP	PKPbc	23 15 19.1	-0.1
	0.4nm,0.4s,baz=148,slow=2.6,SNR=9.8						
SCHQ	**Schefferville**	**146.13**	**56**	PKPbc	PKPdf	23 15 22.1	-0.4
	1.3nm,0.4s,baz=256,slow=12,SNR=6.4						
ARCES	**ARCESS Array B**	**149.52**	**334**	PKPbc	PKPbc	23 15 32.7	+0.5
	0.8nm,0.5s,baz=83,slow=3.8,SNR=9.7						
FINES	**FINESS Array B**	**152.38**	**318**	PKPbc	PKPbc	23 15 39.4	+0.3
	0.8nm,0.8s,baz=90,slow=11,SNR=5.4						

*IDC **16** 23:01:03.5±0.7, 46°08S×166°11E, h0km, mb4.4/6, mb1 4.6/8, mb1mx4.4/16, mbtmp4.5/8, ML4.6/2, MS4.4/7, Ms1 4.3/7, ms1mx4.0/25, Error ellipse: s-maj=20.8km s-min=19.8km az=53.0*
*ISCJB **16** 23:01:04.5±1.3, 46°13S±0°05×166°10E±0°04, h15km±9km, mb4.9/14, MS4.6/12, Error ellipse: s-maj=8.3km s-min=4.6km az=7.5*
*BJI **16** 23:01:05.6, 46°20S×166°10E, h18km, mB5.5/8, mb5.3/13, Ms5.2/8, Ms7 4.9/8*
*AUST **16** 23:01:07.8±2.2, 46°15S×166°25E, h32km, Error ellipse: s-maj=1.3km s-min=0.7km az=14.0*
*NEIC **16** 23:01:08.1, 46°14S×166°35E, h12km, mb5.0/4, ML5.2(WEL), After WEL.*

ISC 16 23:01:07.4±1.1, 46°16S±0°05×166°28E±0°05, h26km±7km, n114, σ1§64/126, mb4.9/14, MS4.7/12, 5C-1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.91**	**43**	⇑P*	**Pb**	**23 01 23.2**	**-1.4**
DCZ				S*	**Sb**	**23 01 36.4**	**+0.1**
WHZ	**Wether Hill Ro**	**1.19**	**78**	*e*Pn	**Pb**	**23 01 28.9**	**-0.5**
WHZ				*e*Sn	**Sn**	**23 01 47.8**	**+4.1**
APZ	**The Paps**	**1.36**	**120**	Pn	**Pn**	**23 01 30.1**	**-0.7**
APZ				Sn	**Sb**	**23 01 49.7**	**+0.4**
MLZ	**Mavora Lakes**	**1.56**	**59**	Pn	**Pb**	**23 01 34.5**	**-1.0**
MSZ	**Milford Sound**	**1.89**	**39**	Pn	**Pn**	**23 01 38.1**	**+0.3**
SYZ	**Scrubby Hill**	**2.02**	**102**	Pn	**Pn**	**23 01 40.1**	**+0.4**
SYZ				Sn	**Sb**	**23 02 06.8**	**-1.3**
EAZ	**Earnscleugh**	**2.32**	**68**	Pn	**Pb**	**23 01 46.2**	**-2.3**
WKZ	**Wanaka**	**2.34**	**56**	Pn	**Pb**	**23 01 46.9**	**-2.0**
TUZ	**Tuapeka**	**2.35**	**86**	Pn	**Pn**	**23 01 45.6**	**+1.5**
JCZ	**Jackson Bay**	**2.72**	**41**	Pn	**Pn**	**23 01 51.5**	**+2.0**
ODZ	**Otahua Downs**	**3.26**	**72**	*e*Pn	**Pn**	**23 01 57.2**	**+0.5**
LBZ	**Lake Benmore**	**3.28**	**59**	Pn	**Pn**	**23 01 58.0**	**+1.0**
FOZ	**Fox Glacier**	**3.55**	**44**	Pn	**Pn**	**23 02 03.0**	**+2.3**
RPZ	**Rata Peaks**	**4.18**	**56**	*e*Pn	**Pn**	**23 02 09.8**	**+0.4**
RPZ				Sn	**Sn**	**23 03 00.7**	**+3.3**
RPZ	**Rata Peaks**	**4.18**	**56**	Pn	**Pn**	**23 02 09.8**	**+0.4**
	47nm,0.3s,baz=213,slow=7.6,SNR=44						
RPZ				Sn	**Sn**	**23 03 00.7**	**+3.3**
	123nm,0.3s,baz=89,slow=19,SNR=9.3						
WVZ	**Waitaha Valley**	**4.43**	**48**	Pn	**Pn**	**23 02 13.7**	**+0.9**
LTZ	**Lake Taylor**	**5.46**	**54**	Pn	**Pn**	**23 02 26.6**	**-0.4**
DSZ	**Denniston Nort**	**5.94**	**44**	Pn	**Pn**	**23 02 33.1**	**-0.6**
KHZ	**Kahutara**	**6.41**	**57**	*e*Pn	**Pn**	**23 02 40.3**	**+0.3**
KHZ				*e*Sn	**Sn**	**23 03 53.5**	**+1.2**
QRZ	**Quartz Range**	**7.00**	**43**	Pn	**Pn**	**23 02 49.6**	**+1.5**
DUWZ	**D'Urville Isla**	**7.71**	**49**	Pn	Pn	23 03 01.5	+3.5
SNZO	**South Karori**	**7.79**	**55**	*e*Pn	**Pn**	**23 03 01.3**	**+2.4**
SNZO				*e*Sn	**Sn**	**23 04 25.9**	**-0.3**
CAW	**Cannon Point**	**8.13**	**55**	Pn	**Pn**	**23 03 04.8**	**+1.2**
MRZ	**Mangatainoka R**	**8.71**	**54**	Pn	**Pn**	**23 03 11.7**	**0.0**
MCQ	**Macquarie Isla**	**9.57**	**207**	*e*Pn	Pn	23 03 14.3	-8.9
URZ	**Urewera**	**11.25**	**49**	*e*Pn	**Pn**	**23 03 45.8**	**-0.6**
URZ				*e*Sn	**Sn**	**23 05 47.6**	**-3.6**
URZ	**Urewera**	**11.25**	**49**	Pn	**Pn**	**23 03 45.5**	**-0.8**
	3.0nm,0.3s,baz=228,slow=5.3,SNR=10						
URZ				Sn	**Sn**	**23 05 48.1**	**-3.1**
	2.8nm,0.3s,baz=348,slow=19,SNR=5.4						
WCZ	**Waipu Caves**	**11.88**	**34**	Pn	**Pn**	**23 03 54.6**	**-0.3**
OUZ	**Omahuta**	**12.25**	**29**	*e*Pn	**Pn**	**23 03 59.9**	**-0.1**
OUZ				*e*Sn	**Sn**	**23 06 14.7**	**-0.9**
TAU	**Tasmania Unive**	**13.90**	**277**	Pn	Pn	23 04 16.5	-6.1
	210nm,0.5s,SNR=7.2						
TAU	**Tasmania Unive**	**13.90**	**277**	*e*Pn	Pn	23 04 16.4	-6.1
MOO	**Moorlands**	**14.16**	**278**	P	Pn	23 04 21.6	-4.4
	baz=14,SNR=4.6						
MILA	**Mila**	**15.68**	**299**	P	**Pn**	**23 04 43.2**	**-3.2**
	baz=16,SNR=15						
CNB	**Canberra Magne**	**16.74**	**304**	P	**P**	**23 05 03.0**	**+0.9**
	baz=17,SNR=5.3						
CAN	**Canberra**	**16.95**	**304**	*e*Pn	**Pn**	**23 05 00.6**	**-2.1**
	243nm,1.9s						
TOO	**Toolangi**	**17.66**	**292**	P	**Pn**	**23 05 09.9**	**-1.6**
	baz=18,SNR=30						
YNG	**Young**	**18.02**	**305**	P	**Pn**	**23 05 15.3**	**-0.6**
	baz=18,SNR=5.9						
ARPS	**Mount Arapiles**	**20.51**	**289**	P	**P**	**23 05 43.6**	**+0.3**
	baz=20,SNR=8.9						
CMSA	**Cobar Meteorol**	**21.59**	**305**	P	**P**	**23 05 54.9**	**-0.1**
	baz=22,SNR=13						
STKA	**Stephens Creek**	**23.77**	**298**	P	**P**	**23 06 15.8**	**-1.8**
STKA	**Stephens Creek**	**23.77**	**298**	P	**P**	**23 06 15.8**	**-1.8**
	6.4nm,1.1s,baz=109,slow=9.9,SNR=5.0						
STKA				LR	LR	23 14 02.6	
	comp=Z,444nm,18.9s,baz=306,slow=33						
EIDS	**Eidsvold**	**24.05**	**324**	*e*P	**P**	**23 06 20.9**	**+0.6**
EIDS	**Eidsvold**	**24.05**	**324**	P	**P**	**23 06 21.2**	**+0.9**
	baz=24,SNR=5.1						
RMQ	**Roma**	**24.08**	**319**	P	**P**	**23 06 21.2**	**+0.7**
	baz=24,SNR=6.4						
VNDA	**Vanda**	**31.52**	**182**	P	**P**	**23 07 28.6**	**+1.9**
VNDA	**Vanda**	**31.52**	**182**	P	**P**	**23 07 28.6**	**+1.9**
	0.5nm,0.6s,baz=351,slow=5.9,SNR=4.4						
AS31	**Alice Springs**	**34.39**	**300**	*e*P	**P**	**23 07 50.7**	**-1.6**
ASAR	**Alice Springs**	**34.39**	**300**	P	**P**	**23 07 51.0**	**-1.4**
ASAR				PcP	**PcP**	**23 10 26.9**	**-0.7**
ASAR	**Alice Springs**	**34.39**	**300**	P	**P**	**23 07 51.0**	**-1.4**
	8.2nm,1.0s,baz=131,slow=8.3,SNR=37						
ASAR				PcP	**PcP**	**23 10 26.9**	**-0.7**
	1.2nm,0.8s,baz=139,slow=4.4,SNR=4.1						
ASAR				LR	LR	23 20 38.7	
	comp=Z,356nm,18.1s,baz=149,slow=34						
WRA	**Warramunga Arr**	**36.99**	**304**	P	**P**	**23 08 13.0**	**-1.6**
WRA	**Warramunga Arr**	**36.99**	**304**	P	**P**	**23 08 13.0**	**-1.6**
	10.0nm,0.9s,baz=136,slow=7.9,SNR=52						
WRAB	**Tennant Creek**	**36.99**	**304**	*e*P	**P**	**23 08 12.5**	**-2.2**
	32nm,1.2s						
RAR	**Rarotonga**	**37.19**	**60**	LR	LR	23 20 03.6	
	comp=Z,708nm,19.8s,baz=92,slow=31						
NWAO	**Narrogin (SRO)**	**39.45**	**272**	LR	LR	23 20 08.5	
	comp=Z,352nm,21.4s,baz=181,slow=29						
TBI	**Tubuai**	**42.20**	**73**	*e*LR	LR	23 20 39.5	
	439nm,30.0s						
KNRA	**Kununurra**	**43.60**	**302**	P	**P**	**23 09 08.4**	**-0.9**
	baz=44,SNR=5.7						
QSPA	**South Pole Qui**	**43.97**	**180**	*e*P	**P**	**23 09 11.9**	**-0.2**
	25nm,1.3s						
QSPA	**South Pole Qui**	**43.97**	**180**	P	**P**	**23 09 11.8**	**-0.2**
	13nm,1.1s,baz=10,slow=2.7,SNR=39						
MTN	**Manton Dam**	**44.51**	**307**	P	**P**	**23 09 16.1**	**-0.5**
	baz=44,SNR=8.2						
PPT2	**Papeete2**	**46.24**	**67**	*e*LR	LR	23 22 37.1	
	406nm,25.2s						
PPT	**Papeete**	**46.25**	**67**	LR	LR	23 24 02.7	
	comp=Z,351nm,19.9s,baz=162,slow=30						
RKT	**Rikitea**	**52.22**	**85**	*e*S	**S**	**23 17 40.5**	**+1.3**
	540nm,24.8s						
RKT				*e*LR	LR	23 25 23.7	
	580nm,23.0s						
MAW	**Mawson**	**52.97**	**208**	LR	LR	23 29 29.0	
	comp=Z,608nm,18.2s,baz=116,slow=32						
KAPI	**Kappang**	**57.39**	**301**	*e*P	**P**	**23 10 53.3**	**-0.3**
SYO	**Syowa Base**	**58.60**	**200**⇑	*e*pP	**P**	**23 11 03.2**	**+1.9**
LUWI	**Luwuk**	**58.86**	**306**	P	P	23 11 12.8	+8.9
	baz=59,SNR=3.4						
SNAA	**Sanae**	**62.23**	**184**	*e*P	**P**	**23 11 26.3**	**+0.1**
SNAA	**Sanae**	**62.23**	**184**	*e*P	**P**	**23 11 25.9**	**-0.2**
	22nm,1.1s						
VNA1	**Neumayer--Stat**	**63.44**	**182**	*e*P	**P**	**23 11 34.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**88.39**	**299**	P	**P**	**23 13 57.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**88.39**	**299**	P	**P**	**23 13 57.8**	**+0.8**
	4.5nm,0.8s,baz=157,slow=3.4,SNR=22						
NJ2	**Nanjing**	**88.87**	**321**	*e*P	**P**	**23 14 00.1**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GYA	**Guiyang**	**90.19**	**309**	P	**P**	**23 14 06.0**	**+0.6**
GYA				PP	**PP**	**23 17 43.8**	**+4.2**
GYA				SKS	**SKSac**	**23 24 32.1**	**-2.5**
GYA				S	**S**	**23 24 55.8**	**-1.7**
GYA				SS	**SS**	**23 31 01.5**	**+3.8**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,6.4s						
GYA				LR	LR		
	comp=N,550nm,20.8s						
GYA				LR	LR		
	comp=E,440nm,21.2s						
GYA				LR	LR		
	comp=Z,580nm,20.6s						
KMI	**Kunming**	**91.30**	**306**	P	**P**	**23 14 11.8**	**+1.1**
KMI				S	**S**	**23 25 04.1**	**-3.8**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KMI				LR	LR		
	comp=N,300nm,15.1s						
KMI				LR	LR		
	comp=E,220nm,18.0s						
KMI				LR	LR		
	comp=Z,280nm,11.5s						
CD2	**Chengdu**	**95.26**	**310**	*e*P	**P**	**23 14 29.8**	**+1.2**
CD2				PP	**PP**	**23 18 23.5**	**+4.1**
CD2				SKS	**SKSac**	**23 25 00.3**	**-2.2**
CD2				S	**S**	**23 25 39.3**	**-3.0**
CD2				SS	**SS**	**23 32 12.5**	**+2.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,50nm,6.8s						
LVC	**Limon Verde**	**95.27**	**130**	LR	LR	23 47 44.6	
	comp=Z,222nm,19.9s,baz=227,slow=29						
CN2	**Changchun**	**96.60**	**332**	*e*P	**P**	**23 14 37.1**	**+2.8**
CN2				*e*S	**S**	**23 25 52.4**	**-0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CN2				LR	LR		
	comp=N,300nm,16.0s						
CN2				LR	LR		
	comp=E,200nm,16.0s						
CN2				LR	LR		
	comp=Z,300nm,17.0s						
HHC	**Hu-ho-hao-te**	**99.42**	**321**	*e*P	**Pdif**	**23 14 48.4**	**+1.2**
HHC				PP	**PP**	**23 18 55.0**	**+3.6**
HHC				SKS	**SKSac**	**23 25 20.5**	**-3.0**
HHC				S	S	23 26 11.4	-6.2
HHC				SS	**SS**	**23 33 11.4**	**+2.6**
HHC				pmax	pmax		
	comp=Z,27nm,1.1s						
HHC				LR	LR		
	comp=N,540nm,13.9s						
HHC				LR	LR		
	comp=E,490nm,16.1s						
HHC				LR	LR		
	comp=Z,480nm,16.1s						
WMQ	**Urumqi**	**113.35**	**309**	P	**PKiKP**	**23 19 41.4**	**-0.8**
WMQ	**Urumqi**	**113.35**	**309**	PKP	**PKiKP**	**23 19 41.6**	**-0.6**
ILAR	**Eielson Array**	**116.47**	**20**	PKP	**PKPdf**	**23 19 48.2**	**+0.8**
ILAR	**Eielson Array**	**116.47**	**20**	PKP	**PKPdf**	**23 19 48.2**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=275,slow=3.3,SNR=2.4						
KSH	**Kashi**	**117.29**	**299**	*e*PKPbc	PKPdf	23 19 57.8	+7.8
KSH				PP	PP	23 21 13.6	+12
KSH				PKS	PKSdf	23 23 33.3	+6.6
KSH				SKS	SKSdf	23 27 09.8	+10
KSH				AMB	AMB		
	comp=Z,120nm,4.7s						
KSH				LR	LR		
	comp=N,130nm,8.5s						
KSH				LR	LR		
	comp=E,230nm,9.2s						
KSH				LR	LR		
	comp=Z,370nm,14.0s						
MKAR	**Makanchi Array**	**118.18**	**309**	PKP	**PKPdf**	**23 19 50.7**	**-0.6**
MKAR	**Makanchi Array**	**118.18**	**309**	PKP	**PKPdf**	**23 19 50.7**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=230,slow=2.7,SNR=3.0						
TOA0	**Torodi Ar. Sit**	**144.61**	**207**	*e*PKPdf	**PKPab**	**23 20 39.1**	**-1.2**
TORD	**Torodi Ar. Bea**	**144.61**	**207**	PKP	**PKPab**	**23 20 39.5**	**-0.8**
TORD	**Torodi Ar. Bea**	**144.61**	**207**	PKP	**PKPab**	**23 20 39.5**	**-0.8**
	comp=Z,6.2nm,0.7s,baz=158,slow=1.6,SNR=50						
BRTR	**Keskin Array B**	**145.16**	**277**	PKPbc	**PKPbc**	**23 20 41.4**	**-0.4**
BRTR	**Keskin Array B**	**145.16**	**277**	PKPbc	**PKPbc**	**23 20 41.4**	**-0.4**
	comp=Z,16nm,0.9s,baz=141,slow=4.5,SNR=62						
SCHQ	**Schefferville**	**145.87**	**56**	PKPbc	**PKPdf**	**23 20 42.6**	**0.0**
SCHQ	**Schefferville**	**145.87**	**56**	PKPbc	**PKPdf**	**23 20 42.6**	**0.0**
	comp=Z,5.1nm,0.6s,baz=244,slow=5.7,SNR=8.4						
KEV	**Kevo**	**149.01**	**334**	*ep*	**PKPbc**	**23 20 51.6**	**+0.1**
	comp=Z,6.1nm,0.7s						
ARCES	**ARCESS Array B**	**149.58**	**334**	PKPbc	**PKPbc**	**23 20 53.1**	**+0.1**
ARCES	**ARCESS Array B**	**149.58**	**334**	PKPbc	**PKPbc**	**23 20 53.1**	**+0.1**
	comp=Z,5.7nm,0.7s,baz=84,slow=2.9,SNR=35						
ARE0	**ARCESS Array S**	**149.58**	**334**	*e*PKPdf	**PKPdf**	**23 20 44.0**	**-4.4**
CFR	**Carcaliu**	**150.97**	**283**⇑	*iP*	**PKPbc**	**23 20 56.5**	**-0.5**
KIEV	**Kiev**	**151.46**	**295**	*e*PKPbc	**PKPbc**	**23 20 57.0**	**-1.0**
TAM	**Tamanrasset**	**151.95**	**220**	*e*PKPbc	**PKPbc**	**23 20 59.5**	**-0.7**
VRI	**Vrincioaia**	**152.11**	**284**⇑	*iP*	**PKPbc**	**23 20 59.5**	**-0.2**
KAF	**Kangasniemi**	**152.22**	**320**	*ep*	**PKPbc**	**23 20 59.1**	**-0.2**
	comp=Z,3.5nm,0.6s						
TESR	**Tescani**	**152.33**	**286**||	*iP*	**PKPbc**	**23 20 58.5**	**-1.6**
FINES	**FINESS Array B**	**152.51**	**318**	PKPbc	**PKPbc**	**23 21 00.0**	**0.0**
FINES	**FINESS Array B**	**152.51**	**318**	PKPbc	**PKPbc**	**23 21 00.0**	**0.0**
	comp=Z,1.9nm,0.6s,baz=52,slow=3.1,SNR=15						
MLR	**Muntele Rosu**	**152.54**	**283**⇑	*iP*	**PKPbc**	**23 20 59.9**	**-0.9**
BUR08	**Bucovina Ar. S**	**153.55**	**287**	*e*PKPab	**PKPab**	**23 21 15.9**	**+0.4**
STHS	**Stebnicka Huta**	**156.41**	**291**	*e*PKP	**PKPab**	**23 21 27.5**	**-0.1**
VYHS	**Vyhne**	**157.89**	**288**	*e*PKP	**PKPab**	**23 21 34.5**	**+0.4**
KEST	**Kesra**	**159.77**	**247**	PKPab	**PKPab**	**23 21 42.7**	**+0.1**
KEST	**Kesra**	**159.77**	**247**	PKPab	**PKPab**	**23 21 42.7**	**+0.1**
	comp=Z,3.6nm,1.0s,baz=139,slow=2.9,SNR=8.5						
GERES	**GERESS Array B**	**161.31**	**288**	PKPab	**PKPab**	**23 21 48.6**	**-0.4**
GERES	**GERESS Array B**	**161.31**	**288**	PKPab	**PKPab**	**23 21 48.6**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=96,slow=5.4,SNR=13						
ESDC	**Sonseca Array**	**170.35**	**231**	PKPab	**PKPab**	**23 22 28.8**	**-0.2**
ESDC	**Sonseca Array**	**170.35**	**231**	PKPab	**PKPab**	**23 22 28.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=137,slow=3.7,SNR=7.3						

IDC 16 23:08:23.6±1.5, 45°49S×166°41E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.7/14, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=51.7km s-min=25.4km az=178.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**3.76**	**64**	Pn	Pn	23 09 23.4	+0.5
	12nm,0.3s,baz=225,slow=6.4,SNR=19						
RPZ				Sn	Sn	23 10 07.8	0.0
	22nm,0.3s,baz=348,slow=21,SNR=8.4						
STKA	**Stephens Creek**	**23.55**	**297**	P	P	23 13 36.8	+1.2
	1.8nm,0.7s,baz=65,slow=8.8,SNR=3.4						
ASAR	**Alice Springs**	**34.15**	**299**	P	P	23 15 10.8	+0.4
	0.4nm,0.6s,baz=133,slow=8.4,SNR=4.4						
WRA	**Warramunga Arr**	**36.70**	**303**	P	P	23 15 30.7	-1.7
	1.5nm,1.1s,baz=129,slow=7.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**145.25**	**207**	PKPbc	PKPbc	23 28 02.0	-1.1
	1.1nm,0.7s,baz=159,slow=2.4,SNR=7.0						
ARCES	**ARCESS Array B**	**149.02**	**334**	PKPbc	PKPbc	23 28 11.9	-0.4
	0.8nm,0.7s,baz=64,slow=5.5,SNR=4.7						
FINES	**FINESS Array B**	**152.07**	**319**	PKPbc	PKPbc	23 28 19.8	+0.1
	1.3nm,0.8s,baz=132,slow=2.8,SNR=4.1						

IDC 16 23:17:14.6±3.1, 46°38S×166°69E, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/14, mbtmp3.7/3, ML2.6/1, Error ellipse: s-maj=83.9km s-min=36.6km az=169.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**4.08**	**51**	Pn	Pn	23 18 18.2	0.0
	0.4nm,0.3s,baz=121,slow=18,SNR=2.1						
ASAR	**Alice Springs**	**34.74**	**299**	P	P	23 24 05.8	-0.7
	1.2nm,0.7s,baz=133,slow=7.6,SNR=12						
WRA	**Warramunga Arr**	**37.35**	**304**	P	P	23 24 29.3	+0.5
	1.0nm,0.6s,baz=144,slow=8.6,SNR=7.4						
BRTR	**Keskin Array B**	**145.47**	**276**	PKPbc	PKPdf	23 36 53.5	-0.8
	0.4nm,0.6s,baz=131,slow=6.6,SNR=2.9						

*DDA **16** 23:24:20.1, 39°88N×25°35E, h10km, MD3.0*
*ISCJB **16** 23:24:23.9±0.7, 39°91N±0°03×25°58E±0°03, h4km±5km, Error ellipse: s-maj=4.7km s-min=3.4km az=18.4*
*CSEM **16** 23:24:23.7±0.2, 39°88N×25°52E, h2km, MD3.1, Error ellipse: s-maj=5.0km s-min=3.9km az=20.0*
*ATH **16** 23:24:24.6, 39°92N×25°62E, h29km±1km, MD3.1/8*
*ISK **16** 23:24:25.0, 39°95N×25°75E, h5km, MD3.2*

ISC 16 23:24:24.6±1.1, 39°92N±0°02×25°61E±0°02, h10km±9km, n80, σ1§10/107, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.33**	**267**	*e*PB	**Pb**	**23 24 32.7**	**+0.1**
LIA				*e*SB	**Sb**	**23 24 38.4**	**+0.4**
BOZC	**Bozcaada**	**0.35**	**103**	*i P*	**Pg**	**23 24 31.6**	**+0.1**
SMTH	**Samothraki Isl**	**0.56**

DURS				*i* S		**Sn**	**23 25 29.4**	**0.0**
DURS	**Dursunbey**	**2.23**	**97**	*i* P		**Pn**	**23 25 02.4**	**+0.7**
DURS				*i* S		**Sn**	**23 25 29.4**	**0.0**
DST	**Dursunbey**	**2.34**	**97**	*e*PN		**Pn**	**23 25 04.1**	**+0.9**
DST	**Dursunbey**	**2.34**	**97**	*e*Pn		**Pn**	**23 25 04.1**	**+0.9**
SLVT	**Silivri**	**2.37**	**56**	*e*PN		**Pb**	**23 25 06.5**	**-0.9**
SLVT	**Silivri**	**2.37**	**56**	*e*Pn		**Pb**	**23 25 06.5**	**-0.9**
ORLT	**Orhaneli**	**2.53**	**86**	*e*PN		**Pn**	**23 25 07.5**	**+1.8**
ORLT	**Orhaneli**	**2.53**	**86**	*e*Pn		**Pn**	**23 25 07.5**	**+1.8**
MDNY	**Mudanya-Bursa**	**2.55**	**79**	*e*PN		**Pn**	**23 25 07.5**	**+1.5**
MDNY	**Mudanya-Bursa**	**2.55**	**79**	*e*Pn		**Pn**	**23 25 07.5**	**+1.5**
CTKS	**Kestanelik-??a**	**2.57**	**58**	*e*PN		**Pb**	**23 25 08.4**	**-2.3**
CTKS	**Kestanelik-??a**	**2.57**	**58**	*e*Pn		**Pb**	**23 25 08.4**	**-2.3**
ARMT	**Armutlu**	**2.57**	**74**	*e*PN		**Pn**	**23 25 08.1**	**+1.8**
ARMT	**Armutlu**	**2.57**	**74**	*e*Pn		**Pn**	**23 25 08.1**	**+1.8**
BGKT	**Bogazkoy**	**2.72**	**61**	*e*PN		**Pn**	**23 25 10.2**	**+1.9**
BGKT	**Bogazkoy**	**2.72**	**61**	*e*Pn		**Pn**	**23 25 10.2**	**+1.9**
KULA	**Kula-Manisa**	**2.75**	**120**	*e*PN		**Pn**	**23 25 10.8**	**+1.9**
KULA	**Kula-Manisa**	**2.75**	**120**	*e*Pn		**Pn**	**23 25 10.8**	**+1.9**
BUY	**Buyukada**	**2.83**	**70**	*e*PN		**Pn**	**23 25 11.7**	**+1.8**
BUY	**Buyukada**	**2.83**	**70**	*e*Pn		**Pn**	**23 25 11.7**	**+1.8**
ISK	**Istanbul-Kandi**	**2.87**	**65**	*e*PN		**Pn**	**23 25 12.3**	**+1.9**
ISK	**Istanbul-Kandi**	**2.87**	**65**	*e*Pn		**Pn**	**23 25 12.3**	**+1.9**
KLYT	**Kilyos**	**2.93**	**62**	*e*PN		**Pn**	**23 25 13.5**	**+2.2**
KLYT	**Kilyos**	**2.93**	**62**	*e*Pn		**Pn**	**23 25 13.5**	**+2.2**
YLV	**Yalova**	**2.95**	**76**	*e*PN		**Pn**	**23 25 13.8**	**+2.3**
YLV	**Yalova**	**2.95**	**76**	*e*Pn		**Pn**	**23 25 13.9**	**+2.3**
TVSB	**Tavsanli**	**3.01**	**98**	*e*PN		**Pn**	**23 25 14.7**	**+2.3**
TVSB	**Tavsanli**	**3.01**	**98**	*e*Pn		**Pn**	**23 25 14.7**	**+2.3**
HRT	**Hereke**	**3.23**	**72**	*e*PN		**Pn**	**23 25 17.6**	**+2.3**
HRT	**Hereke**	**3.23**	**72**	*e*Pn		**Pn**	**23 25 17.7**	**+2.3**
BARS	**Barje**	**4.07**	**317**	*e*Pn		Pn	23 25 30.2	+3.3

CSEM ***16*** *23:33:24.5, 42°.47N×13°.29E, h10km, MD1.8/13, After ROM*

ROM 16 23:33:24.5±0.1, 42°.47N×13°.29E, h10km, Md1.8/13, Ml1.3/6, Error ellipse: s-maj=1.4km s-min=0.9km az=73.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.11**	**52**	Pg	Pg	23 33 27.8	+0.3
CAMP				Sg	Sg	23 33 30.0	+0.5
	35nm,0.3s						
CAMP	**Campotosto**	**0.11**	**52**	Pg	Pg	23 33 27.8	+0.3
CAMP				Sg	Sg	23 33 30.0	+0.5
	35nm,0.3s						
AQU	**L'Aquila**	**0.14**	**143**	Pg	Pg	23 33 28.3	+0.5
AQU				Sg	Sg	23 33 30.7	+0.7
	82nm,0.4s						
AQU	**L'Aquila**	**0.14**	**143**	Pg	Pg	23 33 28.3	+0.5
AQU				Sg	Sg	23 33 30.7	+0.7
	82nm,0.4s						
LNSS	**Leonessa**	**0.23**	**307**	Pg	Pg	23 33 30.0	+0.6
LNSS				Sg	Sg	23 33 34.4	+1.7
LNSS	**Leonessa**	**0.23**	**307**	Pg	Pg	23 33 30.0	+0.6
LNSS				Sg	Sg	23 33 34.4	+1.7
FIAM	**Fiamignano**	**0.23**	**213**	Pg	Pg	23 33 30.0	+0.5
FIAM				Sg	Sg	23 33 34.1	+1.3
	22nm,0.4s						
FIAM	**Fiamignano**	**0.23**	**213**	Pg	Pg	23 33 30.0	+0.5
FIAM				Sg	Sg	23 33 34.1	+1.3
	22nm,0.4s						
TERO	**Teramo**	**0.28**	**56**	Pg	Pg	23 33 30.5	+0.2
TERO				Sg	Sg	23 33 34.7	+0.5
	20nm,0.3s						
TERO	**Teramo**	**0.28**	**56**	Pg	Pg	23 33 30.5	+0.2
TERO				Sg	Sg	23 33 34.7	+0.5
	20nm,0.3s						
NRCA	**Norcia**	**0.39**	**341**	Pg	Pg	23 33 32.6	+0.3
NRCA				Sg	Sg	23 33 38.7	+1.1
	3.0nm,0.2s						
NRCA	**Norcia**	**0.39**	**341**	Pg	Pg	23 33 32.6	+0.3
NRCA				Sg	Sg	23 33 38.7	+1.1
	3.0nm,0.2s						
VCEL	**Villa Celiera**	**0.42**	**100**	Pg	Pb	23 33 33.8	-0.4
VCEL				Sg	Sb	23 33 40.8	+0.1
VCEL	**Villa Celiera**	**0.42**	**100**	Pg	Pb	23 33 33.8	-0.4
VCEL				Sg	Sb	23 33 40.8	+0.1
PTQR	**Pietraquaria**	**0.45**	**169**	Pg	Pg	23 33 33.6	+0.1
PTQR				Sg	Sg	23 33 40.3	+0.8
PTQR	**Pietraquaria**	**0.45**	**169**	Pg	Pg	23 33 33.6	+0.1
PTQR				Sg	Sg	23 33 40.3	+0.8

IDC 16 23:38:03.9±1.9, 47°.66S×165°.72E, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.9/13, mbtmp4.0/4, ML3.3/1, Error ellipse: s-maj=52.5km s-min=29.0km az=169.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**5.44**	**45**	Pn	Pn	23 39 26.0	-0.2
	0.9nm,0.3s,baz=207,slow=9.0,SNR=3.1						
RPZ				Sn	Sn	23 40 31.8	+2.3
	8.2nm,0.3s,baz=7.6,slow=20,SNR=12						
STKA	**Stephens Creek**	**24.20**	**302**	P	P	23 43 22.9	+0.9
	1.8nm,0.9s,baz=130,slow=17,SNR=3.3						
ASAR	**Alice Springs**	**34.83**	**302**	P	P	23 44 56.5	-0.1
	3.0nm,0.6s,baz=134,slow=7.3,SNR=32						
WRA	**Warramunga Arr**	**37.55**	**307**	P	P	23 45 19.4	-0.5
	2.1nm,0.7s,baz=141,slow=8.0,SNR=18						
TORD	**Torodi Ar. Bea**	**143.09**	**207**	PKP	PKPdf	23 57 39.7	-0.3
	0.7nm,1.1s,baz=148,slow=3.3,SNR=2.8						
BRTR	**Keskin Array B**	**144.93**	**275**	PKP	PKPbc	23 57 42.1	+0.2
	0.9nm,0.8s,baz=123,slow=4.6,SNR=4.8						
ARCES	**ARCESS Array B**	**150.76**	**333**	PKPbc	PKPbc	23 57 55.3	-1.4
	1.8nm,0.8s,baz=87,slow=6.2,SNR=4.3						
FINES	**FINESS Array B**	**153.35**	**316**	PKPbc	PKPbc	23 58 03.6	+0.9
	2.5nm,1.0s,baz=48,slow=2.1,SNR=4.8						

IDC ***16*** *23:41:47.6±1.7, 6°.52N×71°.79W, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.6/22, mbtmp3.6/5, ML2.5/1, Error ellipse: s-maj=50.4km s-min=25.3km az=81.0*

ISCJB ***16*** *23:41:51.7±0.8, 6°.30N±0°.05×72°.09W±0°.07, h33km, mb3.5/4, Error ellipse: s-maj=9.7km s-min=7.8km az=10.7*

FUNV ***16*** *23:41:52.9, 6°.19N×72°.25W, h35km, MW3.7*

ISC 16 23:41:53.1±1.1, 6°.31N±0°.08×72°.14W±0°.08, h35km, n21, σ0°88/24, mb3.5/4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.55**	**354**	*e*P	**Pn**	**23 42 19.5**	**+1.0**
CAPV				*e*S	**Sn**	**23 42 38.2**	**+0.7**
SOCV	**Socops**	**2.34**	**33**	*e*S	**Sn**	**23 42 57.3**	**+0.7**
ROSC	**El Rosal**	**2.62**	**237**	Pn	Pn	23 42 37.6	+4.2
	13nm,0.3s,baz=91,slow=23,SNR=11						
ROSC				Lg	Lg	23 43 14.5	
	16nm,0.3s,baz=90,slow=20,SNR=3.5						
VIGV	**El Vigia**	**2.63**	**17**	*e*P	**Pn**	**23 42 34.5**	**+1.3**
VIGV				*e*S	**Sn**	**23 43 04.6**	**+0.8**
ELOV	**Elorza**	**2.73**	**75**	*e*P	**Pn**	**23 42 35.2**	**+0.7**
SANV	**Sanarito**	**4.08**	**39**	*e*P	**Pn**	**23 42 53.9**	**+0.6**
VIRV	**Villa del Rosa**	**4.17**	**356**	*e*P	**Pn**	**23 42 53.8**	**-0.6**
VIRV				*e*S	**Sn**	**23 43 39.9**	**-2.0**
QARV	**Quebrada Arrib**	**4.19**	**22**	*e*P	**Pn**	**23 42 55.7**	**+1.0**
CURV	**Curarigua**	**4.26**	**30**	*e*P	**Pn**	**23 42 56.2**	**+0.5**
CURV				*e*S	**Sn**	**23 43 43.6**	**-0.7**
TEPV	**Terepaima**	**4.66**	**39**	*e*P	**Pn**	**23 43 00.9**	**-0.2**
DABV	**Dabajuro**	**4.81**	**18**	*e*P	**Pn**	**23 43 03.6**	**+0.4**
BAUV	**El Baul**	**4.83**	**57**	*e*P	**Pn**	**23 43 02.8**	**-0.6**
MAPV	**Macapo**	**5.05**	**46**	*e*P	**Pn**	**23 43 06.9**	**+0.4**
TURV	**Turiamo**	**5.92**	**46**	*e*P	**Pn**	**23 43 18.3**	**0.0**
MONV	**Montecano**	**6.00**	**21**	*e*P	**Pn**	**23 43 18.9**	**0.6**
BIRV	**Birongo**	**7.13**	**54**	*e*P	**Pn**	**23 43 35.2**	**+0.2**
CUPV	**Cepira**	**7.30**	**59**	*e*P	**Pn**	**23 43 36.5**	**-1.0**
LPAZ	**La Paz**	**22.80**	**170**	P	**P**	**23 46 54.2**	**+0.5**
	1.3nm,0.7s,baz=357,slow=10,SNR=5.7						
TXAR	**Lajitas Array**	**37.53**	**311**	P	**P**	**23 49 04.9**	**+0.8**
	0.2nm,0.6s,baz=131,slow=8.5,SNR=4.7						
PDAR	**Pinedale Array**	**49.06**	**324**	P	**P**	**23 50 35.8**	**-1.4**
	0.3nm,0.7s,baz=128,slow=5.9,SNR=3.3						
YKA	**Yellowknife Ar**	**64.08**	**340**	P	**P**	**23 52 23.5**	**+0.2**
	1.4nm,0.6s,baz=129,slow=7.0,SNR=8.1						

ATH ***16*** *23:42:45.3, 33°.86N×25°.40E, h9km±4km, MD3.9/11*

CSEM ***16*** *23:42:47.1±0.3, 33°.97N×25°.43E, h2km, MD3.9, Error ellipse: s-maj=7.9km s-min=5.9km az=66.0*

IDC ***16*** *23:42:47.2±1.1, 34°.24N×25°.48E, h0km, mb3.7/8, mb1 3.7/12, mb1mx3.6/29, mbtmp3.7/12, ML3.8/3, Error ellipse: s-maj=24.4km s-min=19.0km az=173.0*

ISC 16 23:42:46.2±1.4, 33°.92N±0°.04×25°.43E±0°.04, h11km±9km, n63, σ1°87/67, mb3.8/8, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.21**	**335**	*e*PB	**Pg**	**23 43 09.4**	**0.0**
SIVA				*e*SB	**Sn**	**23 43 26.5**	**+1.1**
SIVA	**Sivas**	**1.21**	**335**	*e*Pb	**Pg**	**23 43 09.4**	**0.0**
SIVA				*e*Sb	**Sn**	**23 43 26.5**	**+1.1**
LAST	**Lasithi**	**1.24**	**2**	*e*PN	**Pn**	**23 43 09.1**	**-0.5**
LAST				*e*SB	**Sg**	**23 43 27.6**	**+1.4**
LAST	**Lasithi**	**1.24**	**2**	*e*Pn	**Pn**	**23 43 09.1**	**-0.5**
LAST				*e*Sb	**Sg**	**23 43 27.6**	**+1.4**
NPS	**Neapolis**	**1.35**	**6**	*e*PB	**Pn**	**23 43 11.2**	**+0.2**
NPS	**Neapolis**	**1.35**	**6**	*e*Pb	**Pn**	**23 43 11.2**	**+0.2**
ZKR	**Zakros**	**1.36**	**28**	*e*PB	**Pg**	**23 43 12.2**	**-0.1**
ZKR				*e*SB	**Sg**	**23 43 31.5**	**+1.5**
ZKR	**Zakros**	**1.36**	**28**	*e*Pb	**Pg**	**23 43 12.2**	**-0.1**
ZKR				*e*Sb	**Sg**	**23 43 31.5**	**+1.5**
VAM	**Vamos**	**1.79**	**326**	*e*PG	**Pg**	**23 43 19.5**	**-1.2**
VAM	**Vamos**	**1.79**	**326**	*e*Pg	**Pg**	**23 43 19.5**	**-1.2**
KARN	**Karanos**	**1.93**	**320**	*e*PG	**Pg**	**23 43 22.1**	**-1.2**
KARN	**Karanos**	**1.93**	**320**	*e*Pg	**Pg**	**23 43 22.1**	**-1.2**
SLUM		**2.43**	**184**	P	**Pb**	**23 43 28.7**	**-1.2**
KYTH	**Kithira**	**3.06**	**321**	*e*PB	**Pb**	**23 43 37.9**	**-2.9**
KYTH	**Kithira**	**3.06**	**321**	*e*Pb	**Pb**	**23 43 37.9**	**-2.9**
APE	**Apeiranthos**	**3.14**	**2**	*e*PN	**Pn**	**23 43 37.5**	**+1.8**
APE	**Apeiranthos**	**3.14**	**2**	*e*Pn	**Pn**	**23 43 37.5**	**+1.8**
HMAT	**Matruh**	**3.15**	**153**	P	Pb	23 43 38.0	-4.2
HMAT				S	**Sn**	**23 44 11.8**	**-1.6**
ARG	**Arkhangelos**	**3.19**	**43**	*e*PB	**Pb**	**23 43 39.8**	**-3.0**
ARG	**Arkhangelos**	**3.19**	**43**	*e*Pb	**Pb**	**23 43 39.8**	**-3.0**
DAT	**Datca**	**3.31**	**31**	*e*PG	**Pn**	**23 43 40.2**	**+2.1**
VLI	**Veliai**	**3.46**	**325**	*e*PN	**Pn**	**23 43 42.0**	**+2.0**
VLI	**Veliai**	**3.46**	**325**	*e*Pn	**Pn**	**23 43 42.0**	**+2.0**
DYR	**Agios Nikonas**	**3.80**	**319**	*e*PN	**Pn**	**23 43 47.3**	**+2.6**
DYR	**Agios Nikonas**	**3.80**	**319**	*e*Pn	**Pn**	**23 43 47.3**	**+2.6**
MLSB	**Milas**	**3.87**	**29**	*e*PG	**Pn**	**23 43 45.0**	**-0.7**
DALY	**Dalyan (Mu˘la**	**3.91**	**41**	*e*PG	Pn	23 43 50.0	+3.8
TURN	**Turunc**	**3.92**	**40**	*i* P	**Pn**	**23 43 45.9**	**-0.5**
TURN				*i* S	Sn	23 44 23.7	-8.7
TURN	**Turunc**	**3.92**	**40**	*i* P	**Pn**	**23 43 45.9**	**-0.5**
YER	**Yerkesik**	**3.96**	**35**	*e*PG	**Pn**	**23 43 49.3**	**+2.3**
DID	**Didima**	**4.00**	**334**	*e*PN	**Pn**	**23 43 49.0**	**+1.6**
DID	**Didima**	**4.00**	**334**	*e*Pn	**Pn**	**23 43 49.0**	**+1.6**
AKAS	**Kas**	**4.13**	**55**	*i* P	**Pn**	**23 43 52.3**	**+2.9**
AKAS				*i* S	**Sn**	**23 44 36.6**	**-1.1**
AKAS	**Kas**	**4.13**	**55**	*i* P	**Pn**	**23 43 52.3**	**+2.9**
AKAS				*i* S	**Sn**	**23 44 36.6**	**-1.1**
PYL	**PYLOS**	**4.23**	**316**	*e*PN	**Pn**	**23 43 51.5**	**+0.9**
PYL	**PYLOS**	**4.23**	**316**	*e*Pn	**Pn**	**23 43 51.5**	**+0.9**
AYDN	**Tasoluk**	**4.23**	**27**	*i* P	**Pn**	**23 43 53.7**	**+3.0**
AYDN	**Tasoluk**	**4.23**	**27**	*i* P	**Pn**	**23 43 53.7**	**+3.0**
ITM	**Ithomi**	**4.33**	**320**	*e*PN	**Pn**	**23 43 54.2**	**+2.2**
ITM	**Ithomi**	**4.33**	**320**	*e*Pn	**Pn**	**23 43 54.2**	**+2.2**
SWA2		**4.66**	**180**	P	Pn	23 43 59.7	+3.1
AMT	**Artemida-Makis**	**4.71**	**321**	*e*PN	Pn	23 44 00.1	+2.9
AMT	**Artemida-Makis**	**4.71**	**321**	*e*Pn	Pn	23 44 00.1	+2.9
GOLH	**Golhisar**	**4.72**	**44**	*i* P	**Pn**	**23 44 00.4**	**+2.9**
GOLH	**Golhisar**	**4.72**	**44**	*i* P	**Pn**	**23 44 00.4**	**+2.9**
GUR	**Goura**	**4.72**	**329**	*e*PN	**Pn**	**23 43 59.2**	**+1.7**
GUR	**Goura**	**4.72**	**329**	*e*Pn	**Pn**	**23 43 59.2**	**+1.7**
KLV	**Kalavryta, Ach**	**4.90**	**328**	*e*PN	**Pn**	**23 44 01.2**	**+1.4**
KLV	**Kalavryta, Ach**	**4.90**	**328**	*e*Pn	**Pn**	**23 44 01.2**	**+1.4**
KULA	**Kula-Manisa**	**5.28**	**29**	*e*PG	**Pn**	**23 44 04.3**	**-0.7**
AWBH		**6.33**	**151**	P	Pn	23 44 21.3	+1.9
MMAI	**Mount Meron Ar**	**8.38**	**93**	Pn	**Pn**	**23 44 48.7**	**+1.0**
	1.8nm,0.3s,baz=270,slow=12,SNR=10						
MMAI				Sn	**Sn**	**23 46 21.8**	**-0.7**
	1.6nm,0.3s,baz=274,slow=22,SNR=4.7						
BRTR	**Keskin Array B**	**8.77**	**46**	Pn	**Pn**	**23 44 52.6**	**-0.4**
	0.0nm,0.3s,baz=221,slow=15,SNR=2.9						
EIL	**Elat**	**9.14**	**115**	Pn	**Pn**	**23 44 59.9**	**+1.7**
	0.9nm,0.3s,baz=252,slow=8.3,SNR=13						
EIL				Sn	**Sn**	**23 46 36.0**	**-5.1**
	0.6nm,0.3s,baz=22,slow=11,SNR=4.0						
GERES	**GERESS Array B**	**17.28**	**333**	P	**Pn**	**23 46 46.9**	**-0.6**
	0.1nm,0.3s,baz=152,slow=12,SNR=7.0						
ESDC	**Sonseca Array**	**24.16**	**292**	P	**P**	**23 48 04.4**	**+1.9**
	0.1nm,0.3s,baz=90,slow=8.9,SNR=4.2						
HFS	**Hagfors**	**27.33**	**347**	P	**P**	**23 48 30.6**	**-0.2**
	1.4nm,0.7s,baz=130,slow=13,SNR=3.6						
FINES	**FINESS Array B**	**27.54**	**1**	P	**P**	**23 48 30.9**	**-1.8**
	1.9nm,0.9s,baz=174,slow=14,SNR=3.1						
TORD	**Torodi Ar. Bea**	**29.88**	**232**	P	P	23 48 59.0	+5.0
	0.3nm,0.8s,baz=29,slow=8.0,SNR=3.1						
ARCES	**ARCESS Array B**	**35.67**	**0**	P	**P**	**23 49 44.0**	**0.0**
	1.2nm,0.8s,baz=170,slow=7.4,SNR=7.0						
KURBB	**Kurchatov Arra**	**41.74**	**50**	P	**P**	**23 50 36.3**	**+1.1**
	0.9nm,0.5s,baz=274,slow=8.6,SNR=11						
MKAR	**Makanchi Array**	**44.28**	**55**	P	**P**	**23 50 58.0**	**+2.1**
	0.8nm,0.6s,baz=281,slow=5.8,SNR=11						
ZALV	**Zalesovo Beam**	**45.71**	**45**	P	**P**	**23 51 07.3**	**+0.3**
	1.1nm,0.5s,baz=272,slow=8.9,SNR=5.5						

DDA ***16*** *23:45:03.5, 37°.54N×31°.94E, h7km, MD2.6*

ISCJB ***16*** *23:45:06.8±0.8, 37°.63N±0°.04×32°.14E±0°.06, h8km±9km, Error ellipse: s-maj=8.4km s-min=5.8km az=30.0*

ISK ***16*** *23:45:06.7, 37°.74N×32°.05E, h5km, MD2.6*

CSEM ***16*** *23:45:07.3±0.3, 37°.68N×32°.12E, h10km, MD2.6, Error ellipse: s-maj=9.2km s-min=6.0km az=123.0*

ISC 16 23:45:06.3±1.8, 37°.61N±0°.05×32°.07E±0°.09, h7km±19km, n11, σ1°90/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONT	**Konya--Tatoy**	**0.40**	**35**	*e*PG	**Pg**	**23 45 14.0**	**-0.2**
KONT				*e*SG	**Sg**	**23 45 19.9**	**+0.4**
KONT	**Konya--Tatoy**	**0.40**	**35**	*e*Pg	**Pg**	**23 45 14.0**	**-0.2**
KONT				*e*Sg	**Sg**	**23 45 19.9**	**+0.4**
LADK	**Ladik-KONYA**	**0.63**	**22**	*e*PG	**Pg**	**23 45 17.4**	**-1.1**
LADK				*e*SG	**Sg**	**23 45 26.6**	**-0.1**
LADK	**Ladik-KONYA**	**0.63**	**22**	*e*Pg	**Pg**	**23 45 17.4**	**-1.1**
LADK				*e*Sg	**Sg**	**23 45 26.6**	**-0.1**
SUTC	**Sutluce-Ispart**	**0.86**	**261**	*e*PG	**Pn**	**23 45 25.0**	**0.0**
SUTC				*e*SG	**Sn**	**23 45 37.9**	**0.0**
SUTC	**Sutluce-Ispart**	**0.86**	**261**	*e*Pg	**Pn**	**23 45 25.0**	**0.0**
SUTC				*e*Sg	**Sn**	**23 45 37.9**	**0.0**
KDHN	**Kadinhani**	**0.91**	**2**	*i* P	**Pg**	**23 45 23.0**	**-0.7**
KDHN				*i* S	**Sb**	**23 45 36.4**	**-0.4**
KDHN	**Kadinhani**	**0.91**	**2**	*i* P	**Pg**	**23 45 23.0**	**-0.7**
KDHN				*i* S	**Sb**	**23 45 36.4**	**-0.4**
ERMK	**Ermenek**	**1.18**	**145**	*e*P	**Pb**	**23 45 30.8**	**+1.6**
ERMK				*i* S	**Sb**	**23 45 42.9**	**-1.8**
ERMK	**Ermenek**	**1.18**	**145**	*i* S	**Sb**	**23 45 42.9**	**-1.8**
ERMK	**Ermenek**	**1.18**	**145**	*e*P	**Pb**	**23 45 30.8**	**+1.6**

BJI ***16*** *23:51:54.6, 4°.18N×126°.86E, h57km, mB5.6/47, mb5.2/57, Ms5.6/67, Ms7 5.4/60*

IDC ***16*** *23:51:55.5±0.3, 5°.06N×126°.51E, h0km, mb4.9/38, mb1 4.9/39, mb1mx4.9/40, mbtmp4.8/39, ML3.3/1, MS5.2/28, Ms1 5.2/28, ms1mx5.0/41, Error ellipse: s-maj=16.1km s-min=9.3km az=79.0*

GCMT ***16*** *23:51:59.8±0.1, 5°.02N×126°.55E, h20km, MW5.6, Moment Tensor Solution. s79,c137; s99,c202; Moment tensor: Scale 10^17 Nm; Mrr=0.14±.04; Mθθ=1.25±.03; Mφφ=-1.11±.04; Mrθ=0.71±.07; Mθφ=2.13±.03; Mφr=1.42±.08; Best double couple: M0=2.90000×10^17 NP1:φ=79.00000°, δ=69.00000°, λ=162.00000°. NP2:φ=342.00000°, δ=73.00000°, λ=22.00000°. Principal axes: T 2.5100, Plg3.0000°, Azm31.0000°; N 0.6800, Plg62.0000°, Azm127.0000°; P -3.1900, Plg27.0000°, Azm300.0000°; Data Used: II IU CN IC G. Surface waves from 104 sta.*

ISCJB ***16*** *23:52:01.8±0.4, 5°.02N±0°.02×126°.64E±0°.03, h59km±3km, mb5.2/132, MS5.3/67 Error ellipse: s-maj=4.7km s-min=3.1km az=162.6*

MOS ***16*** *23:52:01.0±1.1, 5°.05N×126°.53E, h52km, mb5.4/34, MS5.4/18, Error ellipse: s-maj=10.5km s-min=5.3km az=113.7*

BKK ***16*** *23:52:01.4±0.3, 5°.N±4°×12°.7E±°, h10km, M5.4/32, mB5.8/20, mb5.2/32, MLv5.7/5, Mw(mB)5.4/20, Mwp5.9/1*

NEIC ***16*** *23:52:03.6±0.8, 5°.01N×126°.51E, h59km±7km, mb5.2/44, Error ellipse: s-maj=6.3km s-min=3.7km az=79.0*

AUST ***16*** *23:52:03.9, 5°.00N×126°.51E, h60km*

DJA ***16*** *23:52:03.2±0.4, 5°.N±3°×12°.7E±°, h40km±4km, M5.5/68, mb5.2/68, mB5.9/54, MLv5.7/9, Mw(mB)5.5/54, Mwp5.9/6*

TEH ***16*** *23:52:04.0, 5°.02N×126°.55E, h62km, ML5.9*

ISC 16 23:52:04.0±0.3, 5°.04N±0°.03×126°.61E±0°.04, h62km±1km, h61km:pP-P, n452, σ1°68/520, mb5.2/132, 16C-23D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.93**	**349**	*e*P	**Pn**	**23 52 34.8**	**+0.2**
MATI				*e*S	Sn	23 53 08.5	+11
DAV	**Davao City (W)**	**2.27**	**333**	*e*Pn	**Pn**	**23 52 39.1**	**-0.1**
DAV	**Davao City (W)**	**2.27**	**333**	P	**Pn**	**23 52 40.7**	**+1.5**
DAV	**Davao City (W)**	**2.27**	**333**	Pn	**Pn**	**23 52 36.9**	**-2.2**
	63nm,0.3s,baz=308,slow=4.7,SNR=14						
DAV				LR	LR	23 53 05.2	
	comp=Z,22μm,21.4s,baz=295,slow=32						
KCP	**Kidapawan**	**2.48**	**322**	*e*P	**Pn**	**23 52 42.6**	**+0.5**
KCP				*e*S	Sn	23 53 24.4	+13
CTBH	**Cotabato--PC H**	**3.20**	**313**	*e*P	**Pn**	**23 52 49.0**	**-2.9**
BUKP	**Musuan**	**3.22**	**331**	*e*P	**Pn**	**23 52 50.0**	**-2.2**
GAMI	**Galela, Maluku**	**3.39**	**160**	P	**Pn**	**23 52 52.0**	**-2.5**
GAMI				S	**Sn**	**23 53 31.2**	**-2.3**
CGP	**Cagayan de Oro**	**3.89**	**331**	*e*P	**Pn**	**23 53 01.9**	**+0.5**
CGP				*e*S	Sn	23 54 00.2	+14
MNI	**Manado**	**3.98**	**206**	P	Pn	23 52 59.4	-3.3
BUTP	**Butuan**	**4.03**	**346**	*e*P	**Pn**	**23 53 03.8**	**+0.6**
PAGZ	**Pagadian**	**4.25**	**311**	*e*P	**Pn**	**23 53 04.1**	**-2.2**
TNTI	**Ternate**	**4.30**	**170**	P	**Pn**	**23 53 04.9**	**-2.1**
TNTI				S	**Sn**	**23 53 56.6**	**+0.6**
KMSI	**Cibinong**	**5.15**	**211**	P	**Pn**	**23 53 19.4**	**+0.7**
	1μm,0.8s,34μm68μm16nm						
KMSI				S	Sn	23 53 46.0	-31
	1μm,0.8s,34μm68μm16nm						
GTOI	**Gorontalo**	**5.66**	**220**	P	Pn	23 53 22.0	-3.6
	614nm,1.1s,11μm83μm2.8nm						
LBMI	**Labuha**	**5.71**	**171**	P	**Pn**	**23 53 24.0**	**-2.3**
	953nm,0.9s,23μm28μm5.9nm						
LLP	**Lapu-Lapu**	**5.87**	**334**	*e*P	Pn	23 53 36.5	+8.0
MRSI	**Marisa**	**6.50**	**226**	P	**Pn**	**23 53 34.6**	**-2.5**
	561nm,1.0s,7μm33μm2.9nm						
LUWI	**Luwuk**	**7.15**	**213**	P	**Pn**	**23 53 46.3**	**+0.2**
	2μm,1.2s,17μm70μm5.6nm						
LUWI	**Luwuk**	**7.15**	**213**	P	**Pn**	**23 53 46.6**	**+0.5**
	baz=7.1,SNR=17						
SWI	**Sorong**	**7.48**	**141**	P	Pn	23 53 47.3	-3.2
	223nm,1.0s,3μm58μm0.7nm						
SWI	**Sorong**	**7.48**	**141**	P	**Pn**	**23 53 51.6**	**+1.1**
	baz=7.5,SNR=3.7						
RCP	**Roxas**	**7.53**	**330**	*e*P	**Pn**	**23 53 53.0**	**+1.8**
MYLDM	**Lahad Datu**	**8.08**	**271**	P	**Pn**	**23 53 59.9**	**+1.1**
MYLDM	**Lahad Datu**	**8.08**	**271**	P	**Pn**	**23 53 59.4**	**+0.6**
	285nm,1.0s,8μm						
PALU	**

comp=Z,7μm,24.9s
JOW Kunigami 21.73 4 *e*P **P 23 56 51.5 +1.1**
comp=Z,100nm,1.2s
GZH Guangzhou 22.05 326 P **P 23 56 54.8 +1.1**
GZH S **S 00 00 58.9 +5.4**
GZH LR LR
comp=N,21μm,22.6s
GZH LR LR
comp=E,16μm,20.9s
LEM Lembang 22.32 238 P P 23 57 05.5 +8.5
comp=E,76nm,1.3s,comp=E,5μm
CBJI Citeko 22.77 240 P P 23 57 13.2 +12
MYKOM Kota Tinggi 22.95 263 P **P 23 57 01.4 -2.0**
MYKOM Kota Tinggi 22.95 263 P **P 23 57 02.8 -0.6**
comp=E,99nm,2.0s,comp=E,3μm
FITZ Fitzroy Crossi 23.01 182 P **P 23 57 03.2 -0.7**
FITZ Fitzroy Crossi 23.01 182 P **P 23 57 03.2 -0.7**
comp=E,50nm,1.0s
BTDF Bukit Timah Da 23.09 262 P **P 23 57 05.5 +0.7**
comp=E,89nm,1.0s,comp=E,2μm
UBPT Khong Chiam 23.14 298 P **P 23 57 06.0 +0.7**
comp=E,67nm,1.9s
UBPT Khong Chiam 23.14 298 P **P 23 57 08.5 +3.2**
comp=E,67nm,1.9s
KTGM Kuala Trenggan 23.38 272 P **P 23 57 05.6 -2.0**
KGM Kluang 23.44 263 P **P 23 57 07.8 -0.4**
KLSI 23.90 246 P **P 23 57 14.9 +2.6**
comp=E,52nm,1.8s,comp=E,3μm
LWLI Liwa 24.64 246 P P 23 57 30.8 +12
PANO Nakornpanom 24.68 301 P P 23 57 27.6 +8.2
RGRI Rengat 24.83 258 P **P 23 57 20.0 -0.8**
comp=E,700nm,0.4s
FRIM Kepong 24.98 267 P **P 23 57 23.7 +1.5**
PMG Port Moresby 25.00 125 LR LR 00 07 37.9
comp=E,5μm,18.9s,baz=320,slow=38
COEN Coen 25.03 139 *e*P **P 23 57 22.0 -0.7**
comp=E,4μm,2.6s
COEN Coen 25.03 139 P **P 23 57 21.9 -0.7**
baz=25,SNR=4.1
CHBT CHBT 25.17 289 P P 23 57 28.8 +5.0
comp=E,192nm,1.2s,comp=E,3μm
CHBT CHBT 25.17 289 P P 23 57 28.8 +5.0
comp=E,192nm,1.2s,comp=E,3μm
KSI Kapahiang 25.50 251 P P 23 57 43.2 +16
IPM Ipoh 25.50 270 *e*P **P 23 57 26.9 -0.1**
comp=E,58nm,1.1s
IPM Ipoh 25.50 270 P P 23 57 22.0 -5.0
IPM Ipoh 25.50 270 P P 23 57 32.0 +5.0
comp=E,36nm,1.1s,comp=E,2μm
KULM Kulim 25.86 272 *e*P **P 23 57 29.3 -0.9**
comp=E,197nm,1.9s
KULM Kulim 25.86 272 P **P 23 57 27.4 -2.8**
KULM Kulim 25.86 272 P **P 23 57 29.7 -0.5**
comp=E,47nm,1.6s,comp=E,1μm
SKLT Songkhla 25.93 276 P **P 23 57 32.9 +2.1**
comp=E,55nm,1.4s,comp=E,2μm
SKLT Songkhla 25.93 276 P P 23 57 36.2 +5.4
comp=E,114nm,1.8s,comp=E,2μm
WRAB Tennant Creek 25.95 163 P **P 23 57 29.4 -1.5**
comp=E,986nm,1.2s,SNR=18
WRAB Tennant Creek 25.95 163 *e*P **P 23 57 29.1 -1.9**
WRAB pmax pmax
comp=Z,323nm,1.3s
WRAB Tennant Creek 25.95 163 *e*P **P 23 57 29.1 -1.9**
comp=Z,323nm,1.3s
WRA Warramunga Arr 25.96 163 P **P 23 57 29.3 -1.7**
WRA Warramunga Arr 25.96 163 P **P 23 57 29.3 -1.7**
comp=Z,80nm,0.9s,baz=343,slow=10,SNR=87
BKNI Bangkinang 25.96 260 P P 23 57 40.3 +9.2
comp=Z,126nm,1.1s,comp=Z,2μm
SSE Sheshan 26.42 349 ⇓P **P 23 57 35.8 +0.8**
SSE pP **pP 23 57 50.4 +0.4**
SSE sP **sP 23 57 57.6 +0.3**
SSE S **S 00 02 05.5 +1.3**
SSE sS **sS 00 02 31.5 +1.5**
SSE ScS **ScS 00 08 22.1 -2.2**
SSE pmax pmax
comp=Z,83nm,0.8s
SSE pmax pmax
comp=Z,900nm,4.7s
SSE LR LR
comp=N,2μm,21.2s
SSE LR LR
comp=E,4μm,21.2s
SSE LR LR
comp=Z,5μm,21.6s
CHAI Chaiyaphum 26.48 296 P **P 23 57 38.7 +3.0**
comp=Z,11nm,1.0s,comp=Z,122nm
NAYO Nakonayok 26.55 292 P **P 23 57 38.1 +1.7**
comp=Z,398nm,0.7s
PPI Padang Panjang 26.75 259 P **P 23 57 38.7 +0.5**
comp=Z,76nm,1.1s,comp=Z,13μm
MBWA Marble Bar 26.89 194 *e*P **P 23 57 38.8 -0.5**
comp=Z,102nm,1.2s
PSI Prapat 27.71 266 P **P 23 57 45.4 -1.6**
PSI Prapat 27.71 266 P **P 23 57 45.4 -1.6**
comp=Z,11nm,0.8s,baz=333,slow=3.9,SNR=5.4
LOEI Loei 27.73 299 P **P 23 57 45.2 -1.7**
NJ2 Nanjing 27.84 346 *e*P **P 23 57 48.9 +1.2**
NJ2 pP **pP 23 58 04.0 +1.2**
NJ2 sP **sP 23 58 11.3 +1.2**
NJ2 S **S 00 02 29.9 +3.3**
NJ2 sS **sS 00 02 56.3 +3.9**
NJ2 pmax pmax
comp=Z,50nm,1.1s
NJ2 pmax pmax
comp=Z,920nm,10.7s
NJ2 LR LR
comp=N,3μm,20.0s
NJ2 LR LR
comp=E,5μm,21.8s
NJ2 LR LR
comp=Z,3μm,20.5s
WHN Wuhan 27.88 337 ⇓*i*P **P 23 57 47.6 -0.5**
WHN pP **pP 23 58 03.8 +0.6**
WHN S **S 00 02 33.4 +6.1**
WHN pmax pmax
comp=Z,1μm,6.8s
WHN LR LR
comp=N,26μm,24.6s
WHN LR LR
comp=E,17μm,18.4s
WHN LR LR
comp=Z,20μm,16.1s
JNU Nakatsue 28.23 8 *e*P **P 23 57 50.6 -0.6**
comp=Z,40nm,1.0s
JNU Nakatsue 28.23 8 P **P 23 57 49.8 -1.4**
comp=Z,22nm,0.9s,baz=16,slow=13,SNR=5.2
JNU LR LR 00 09 12.1
comp=Z,4μm,20.3s,baz=3.1,slow=37
GYA Guiyang 28.59 320 ⇑*i*P **P 23 57 56.0 +1.4**
GYA pP **pP 23 58 11.8 +2.1**
GYA sP **sP 23 58 20.4 +3.4**
GYA PP **PnPn 23 58 50.3 +2.8**
GYA S **S 00 02 39.3 +0.5**
GYA sS **sS 00 03 05.6 +1.0**
GYA ScP **ScP 00 04 40.0 -0.9**
GYA ScS **ScS 00 08 32.5 -2.0**
GYA pmax pmax
comp=Z,50nm,0.8s
GYA pmax pmax
comp=Z,180nm,4.9s
GYA LR LR
comp=N,5μm,17.0s
GYA LR LR
comp=E,3μm,17.6s
GYA LR LR
comp=Z,4μm,17.3s
NANT Nan 28.75 301 P P 23 57 59.2 +3.2
comp=Z,44nm,0.6s
KCSI Kotacane, Aceh 28.80 268 P **P 23 57 55.6 -0.9**
MTSU Mount Surprise 28.90 143 P **P 23 57 58.0 +0.6**
baz=29,SNR=9.5
AS31 Alice Springs 29.40 166 *e*P **P 23 58 00.7 -1.1**
ASAR Alice Springs 29.40 166 P **P 23 58 00.5 -1.3**
ASAR ScP ScP 00 04 51.5 +8.1
ASAR Alice Springs 29.40 166 P **P 23 58 00.5 -1.3**
comp=Z,3.0nm,0.7s,baz=356,slow=8.4,SNR=20
ASAR ScP ScP 00 04 51.5 +8.1
comp=Z,2.9nm,1.0s,baz=0.0,slow=3.8,SNR=4.1
LAMP Lampang 29.55 299 P P 23 58 09.6 +6.4
comp=Z,7.6nm,0.9s,comp=Z,107nm
ENH Enshi 29.85 329 *e*P **P 23 58 06.2 +0.5**
comp=Z,49nm,1.0s
CMAR Chiang Mai Arr 30.13 299 P **P 23 58 07.5 -0.8**
CMAR ScP **ScP 00 04 52.5 +6.6**
comp=Z,4.5nm,0.8s,baz=118,slow=7.7,SNR=13
CMAR ScP **ScP 00 04 52.5 +6.6**
comp=Z,2.3nm,0.8s,baz=154,slow=1.7,SNR=4.9
CMAR LR LR 00 11 16.6
comp=Z,4μm,18.5s,baz=125,slow=39
CMMT Chiang Mai 30.26 299 P **P 23 58 10.0 +0.5**
CMMT Chiang Mai 30.26 299 P P 23 58 13.2 +3.7
comp=Z,16nm,1.2s
CHTO Chiang Mai 30.27 299 *e*P **P 23 58 10.3 +0.8**
CHTO pmax pmax
comp=Z,15nm,1.1s
CHTO Chiang Mai 30.27 299 *e*P **P 23 58 10.2 +0.8**
comp=Z,15nm,1.1s
CHTO Chiang Mai 30.27 299 P **P 23 58 10.5 +1.0**
comp=Z,20nm,0.9s,comp=Z,772nm
CHTO Chiang Mai 30.27 299 P P 23 58 13.4 +3.9
comp=Z,23nm,0.8s,comp=Z,783nm
KMI Kunming 30.39 314 P P 23 58 15.3 +4.5
KMI pP pP 23 58 28.1 +2.2
KMI sP sP 23 58 35.5 +2.3
KMI PP **PnPn 23 59 11.3 -0.1**
KMI S **S 00 03 05.3 -2.1**
KMI sS sS 00 03 34.9 +1.7
KMI pmax pmax
comp=Z,16nm,1.1s
KMI pmax pmax
comp=Z,240nm,9.1s
KMI LR LR
comp=N,4μm,16.2s
KMI LR LR
comp=E,5μm,21.3s
KMI LR LR
comp=Z,8μm,20.3s
CMAI Chiengmai2 30.64 301 P P 23 58 25.2 +12
CTAO Charters Tower 31.56 143 *e*P **P 23 58 21.1 +0.2**
CTAO pmax pmax
comp=Z,531nm,2.5s
CTAO Charters Tower 31.56 143 *e*P **P 23 58 21.1 +0.2**
comp=Z,531nm,2.5s
TIA Tai'an 32.23 346 ⇑P **P 23 58 27.5 +1.0**
TIA S **S 00 03 39.3 +3.9**
TIA pmax pmax
comp=Z,50nm,0.8s
TIA pmax pmax
comp=Z,690nm,4.8s
TIA LR LR
comp=N,6μm,22.6s
TIA LR LR
comp=E,3μm,23.8s
TIA LR LR
comp=Z,7μm,23.8s
KSAR Wonju Array Be 32.27 2 P **P 23 58 26.6 -0.3**
KSAR PcP **PcP 00 01 14.7 +0.7**
KSRS Korea Array 32.29 2 P **P 23 58 26.6 -0.4**
comp=Z,4.9nm,0.8s,baz=176,slow=11,SNR=20
KSRS PcP **PcP 00 01 14.7 +0.7**
comp=Z,1.8nm,0.6s,baz=200,slow=1.8,SNR=4.3
KSRS LR LR 00 12 04.7
comp=Z,4μm,20.6s,baz=186,slow=38
MEEK Meekatharra 32.43 193 P **P 23 58 26.7 -1.6**
baz=32,SNR=35
MAT Matsushiro 33.11 17 P **P 23 58 34.3 0.0**
MAT S **S 00 03 47.6 -1.6**
MJAR Matsushiro Arr 33.11 17 P **P 23 58 32.9 -1.4**
MJAR PcP **PcP 00 01 17.7 +1.3**
MJAR ScP ScP 00 05 03.2 +7.7
MJAR Matsushiro Arr 33.11 17 P **P 23 58 32.9 -1.4**
comp=Z,2.5nm,0.6s,baz=189,slow=8.9,SNR=7.5
MJAR PcP **PcP 00 01 17.7 +1.3**
comp=Z,1.6nm,0.7s,baz=190,slow=2.0,SNR=3.6
MJAR ScP ScP 00 05 03.2 +7.7
comp=Z,0.6nm,0.4s,baz=203,slow=3.7,SNR=6.0
MJAR LR LR 00 10 23.0
comp=Z,4μm,19.8s,baz=195,slow=33
XAN Xi'an 33.21 333 P **P 23 58 33.8 -1.4**
XAN pP **pP 23 58 46.6 -3.8**
XAN sP **sP 23 58 55.5 -2.1**
XAN PP **PnPn 23 59 45.0 -2.2**
XAN S **S 00 03 45.8 -5.0**
XAN pmax pmax
comp=Z,32nm,1.1s
XAN pmax pmax
comp=Z,110nm,10.0s
XAN LR LR
comp=N,5μm,24.3s
XAN LR LR
comp=E,4μm,25.2s
XAN LR LR
comp=Z,1μm,17.5s
CD2 Chengdu 33.53 323 P **P 23 58 37.5 -0.6**
CD2 pP **pP 23 58 53.5 +0.2**
CD2 sP **sP 23 59 01.3 +0.8**
CD2 PP **PnPn 23 59 52.5 +1.2**
CD2 PcP **PcP 00 01 17.6 -0.1**
CD2 S **S 00 03 55.5 -0.4**
CD2 sS **sS 00 04 21.8 -0.1**
CD2 ScS **ScS 00 08 55.3 -3.2**
CD2 pmax pmax
comp=Z,480nm,6.0s
CD2 LR LR
comp=N,10μm,20.2s
CD2 LR LR
comp=E,8μm,15.5s
CD2 LR LR
comp=Z,11μm,16.7s
DL2 Dalian 34.02 353 ⇓*i*P **P 23 58 42.9 +0.9**
DL2 pP **pP 23 58 56.9 -0.4**
DL2 S **S 00 04 05.4 +2.4**
DL2 pmax pmax
comp=Z,100nm,1.0s
DL2 pmax pmax
comp=Z,470nm,4.1s
DL2 LR LR
comp=N,3μm,19.1s
DL2 LR LR
comp=E,2μm,16.0s
DL2 LR LR
comp=Z,3μm,13.6s
MORW Morawa 35.40 196 P **P 23 58 55.3 +1.2**
baz=36,SNR=7.7
FORT Forrest 35.64 178 *e*P **P 23 58 55.3 -0.8**
comp=Z,111nm,0.9s
HNR Honiara 36.20 113 LR LR 00 12 31.3
comp=Z,4μm,21.2s,baz=92,slow=34
BLDU Ballidu 36.69 194 P **P 23 59 05.5 +0.3**
baz=37,SNR=6.4
SNY Shenyang 36.73 356 ⇓P **P 23 59 05.9 +0.6**
SNY S **S 00 04 48.8 +4.2**
SNY pmax pmax
comp=Z,36nm,0.9s
SNY pmax pmax
comp=Z,760nm,4.2s
SNY LR LR
comp=N,5μm,18.2s
SNY LR LR
comp=E,3μm,18.1s
SNY LR LR
comp=Z,7μm,18.3s
LZH Lanzhou 37.33 329 *e*P **P 23 59 10.9 +0.2**
LZH pP **pP 23 59 27.0 +0.9**
LZH sP **sP 23 59 32.5 -0.8**
LZH S **S 00 04 52.3 -1.9**
LZH sS **sS 00 05 19.0 -1.4**
LZH pmax pmax
comp=Z,180nm,1.1s
LZH pmax pmax
comp=Z,350nm,4.0s
LZH LR LR
comp=N,5μm,14.1s
LZH LR LR
comp=E,4μm,15.0s
LZH LR LR
comp=Z,7μm,16.0s
KLBR Kellerberrin 37.39 192 P **P 23 59 10.7 -0.4**
baz=38,SNR=10
RMQ Roma 37.98 147 P **P 23 59 16.6 +0.4**
baz=38,SNR=7.6
HHC Hu-ho-hao-te 38.13 341 *e*P **P 23 59 15.6 -1.7**
HHC pP **pP 23 59 31.6 -1.2**
HHC sP **sP 23 59 38.4 -1.6**
HHC S **S 00 05 04.3 -1.8**
HHC ScP **ScP 00 05 12.8 -1.1**
HHC PcS **PcS 00 05 15.8 -4.5**
HHC ScS **ScS 00 09 19.3 -4.2**
HHC pmax pmax
comp=Z,37nm,1.2s
HHC pmax pmax
comp=Z,2μm,5.2s
HHC LR LR
comp=N,8μm,19.4s
HHC LR LR
comp=E,5μm,17.8s
HHC LR LR
comp=Z,6μm,17.2s
BTO Baotou 38.42 340 *e*P **P 23 59 19.6 -0.2**
EIDS Eidsvold 38.45 143 *e*P **P 23 59 19.6 -0.6**
comp=Z,1μm,2.9s
EIDS Eidsvold 38.45 143 P P 23 59 23.4 +3.3
baz=39,SNR=3.6
CN2 Changchun 38.62 359 *e*P **P 23 59 23.4 +2.1**
CN2 *e*pP **pP 23 59 38.8 +2.1**
CN2 *e*sP **sP 23 59 46.0 +2.1**
CN2 *e*S **ScP 00 05 17.1 +1.6**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,3μm,18.0s
CN2 LR LR
comp=E,2μm,18.0s
CN2 LR LR
comp=Z,3μm,21.0s
BBOO Buckleboo 38.69 167 *e*P **P 23 59 22.3 +0.3**
comp=Z,824nm,1.3s
BBOO Buckleboo 38.69 167 P **P 23 59 22.0 0.0**
baz=39,SNR=12
NWAO Narrogin (SRO) 38.79 193 *e*P **P 23 59 21.3 -1.5**
NWAO Narrogin (SRO) 38.79 193 P **P 23 59 22.1 -0.7**
comp=Z,28nm,1.0s,baz=41,slow=1.7,SNR=3.8
SHL Shillong 39.02 305 *e*P **P 23 59 25.0 -0.1**
USRK Ussuriysk Arra 39.29 6 P **P 23 59 27.2 +0.4**
comp=Z,11nm,0.8s,baz=196,slow=6.3,SNR=12
USRK LR LR 00 15 01.5
comp=Z,3μm,20.9s,baz=178,slow=35
STKA Stephens Creek 39.39 160 *e*P **P 23 59 27.1 -0.8**
comp=Z,24nm,0.9s
STKA Stephens Creek 39.39 160 P **P 23 59 27.9 +0.1**
comp=Z,54nm,0.7s,baz=340,slow=8.4,SNR=32
STKA Stephens Creek 39.39 160 P **P 23 59 27.2 -0.6**
baz=40,SNR=67
MDJ Mudanjiang 39.51 3 P **P 23 59 29.5 +0.8**
MDJ Mudanjiang 39.51 3 pP **pP 23 59 44.8 +0.6**
MDJ pmax pmax
comp=Z,49nm,1.2s
MDJ pmax pmax
comp=Z,210nm,4.7s
MDJ LR LR
comp=N,3μm,25.4s
MDJ LR LR
comp=Z,4μm,25.4s
MDJ Mudanjiang 39.51 3 P **P 23 59 29.9 +1.2**
MDJ pP **pP 23 59 43.0 -1.2**
MDJ sP **sP 23 59 49.0 -2.4**
MDJ PP **PP 00 01 00.3 -0.1**
MDJ PcP **PcP 00 01 35.3 0.0**
MDJ S **S 00 05 26.4 -0.1**
MDJ SS **SnSn 00 08 26.9 -0.9**
MDJ pmax pmax
comp=Z,28nm,0.8s
MDJ pmax pmax
comp=Z,210nm,4.1s
MDJ LR LR
comp=N,2μm,16.2s
MDJ LR LR
comp=E,2μm,16.2s
MDJ LR LR
comp=Z,2μm,18.2s
CMSA Cobar Meteorol 40.67 155 P **P 23 59 37.7 -0.8**
baz=41,SNR=26
ASAJ Asahikawa 41.39 17 *e*P **P 23 59 45.0 +0.8**
comp=Z,26nm,0.8s
ASAJ Asahikawa 41.39 17 P **P 23 59 44.0 -0.1**
comp=Z,24nm,0.7s,baz=195,slow=8.5,SNR=11
ASAJ LR LR 00 16 40.6
comp=Z,4μm,20.4s,baz=213,slow=36
LSA Lhasa 41.50 310 *e*P **P 23 59 45.8 -0.1**
LSA Lhasa 41.50 310 *e*P **P 23 59 45.8 -0.1**
GTA Gaotai 41.92 328 *e*P **P 23 59 48.5 -0.4**
GTA pP **pP 00 00 05.8 +1.3**
GTA sP **sP 00 00 13.3 +1.7**
GTA PP **PP 00 01 28.1 +1.2**
GTA S **S 00 06 02.3 -0.7**
GTA sS **sS 00 06 28.8 -0.7**
GTA pmax pmax
comp=Z,15nm,0.9s
GTA pmax pmax
comp=Z,370nm,7.1s
GTA LR LR
comp=N,8μm,23.8s
GTA LR LR
comp=E,6μm,23.7s
GTA LR LR
comp=Z,6μm,20.4s
YUK Yuzh-Kuril'sk 42.38 21 *d i*P **P 23 59 52.1 -0.1**
YUK *i* PPP PPP 00 02 07.6
YUK *i* S **S 00 06 09.5 +0.4**
YUK *i* SSS SSS 00 09 55.5
YUK MLR MLR
comp=E,2μm,21.0s
YUK MLR MLR
comp=Z,2μm,21.0s
ARMA Armidale 42.62 147 *e*P **P 23 59 56.1 +1.5**
comp=Z,768nm,2.3s
ARMA Armidale 42.62 147 P **P 23 59 56.1 +1.5**
baz=43,SNR=16
HABR Khabarovsk 43.88 8 *e*P **P 00 00 02.2 -2.1**
HABR *e**PP **pP 00 00 17.5 -2.5**
HABR *e*SP **sP 00 00 25.1 -2.0**
HABR *e* 00 01 45.6
HABR *e* 00 01 46.8
HABR *e*PPP PPP 00 02 22.5
HABR *e*S **S 00 06 30.3 -0.7**
HABR *e**SS **sS 00 06 57.0 -0.6**
HABR *e* 00 09 55.0
HABR *e*SSS SSS 00 10 33.1
HABR pmax pmax
comp=E,118nm,2.4s
HABR pmax pmax
comp=N,123nm,2.4s
HABR pmax pmax
comp=Z,160nm,2.4s
HABR MLR MLR
comp=Z,2μm,19.0s
ARPS Mount Arapiles 43.96 162 P **P 00 00 05.4 +0.3**
baz=44,SNR=25
YSS Yuzh-Sakhalins 44.02 16 *e*P **P 00 00 06.0 +0.5**
YSS *e*PPP PPP 00 02 22.0
YSS *e*S **S 00 06 34.0 +0.8**
YSS *e*SS **SS 00 09 53.0 +0.7**
YSS MLR MLR
comp=N,2μm,17.0s
YSS MLR MLR
comp=Z,2μm,17.0s
YNG Young 44.20 154 P P 00 00 13.3 +6.2
baz=44,SNR=4.6
KLR Kul'dur 44.25 5 *e*P P 00 00 03.2 -4.1
KLR *e*S **S 00 06 32.0 -4.5**
KLR *e* 00 09 53.5
KLR smax smax
comp=N,900nm,13.5s
KLR smax smax
comp=E,2μm,13.5s
KLR MLR MLR
comp=Z,3μm,15.0s
ULN Ulaanbaatar 45.85 342 *e*P **P 00 00 20.5 +0.3**
comp=Z,37nm,0.9s
ULN Ulaanbaatar 45.85 342 P **P 00 00 21.9 +1.7**
comp=Z,742nmcomp=Z,47nm,1.0s
TOO Toolangi 45.89 159 P P 00 00 24.2 +3.7
baz=46,SNR=5.8
SONM Songino Array 46.03 341 P **P 00 00 21.5 -0.1**
SONM Songino Array 46.03 341 P **P 00 00 21.5 -0.1**
comp=Z,23nm,1.0s,baz=157,slow=7.0,SNR=54
SONM LR LR 00 22 34.8
comp=Z,3μm,19.7s,baz=154,slow=40
DZM Mont Dzumac 47.39 126 *e*S **S 00 07 27.0 +4.5**
comp=Z,2μm,31.4s
DZM *e*LR LR 00 14 07.5
comp=Z,6μm,25.7s
DZM Mont Dzumac 47.39 126 P **P 00 00 32.9 +0.3**

DZM	**Mont Dzumac**	**47.39**	**126**	P	**P**		**00 00 32.9**	**+0.3**
	comp=Z,8.7nm,0.8s,baz=270,slow=24,SNR=5.3							
DZM				LR	LR		00 19 58.8	
	comp=Z,2μm,20.5s,baz=5.2,slow=36							
ZAK	**Zakamensk**	**49.26**	**340**	*e*P	**P**		**00 00 47.2**	**+0.6**
ZAK				*e*			00 02 09.5	
ZAK				pmax	pmax			
	comp=Z,9.0nm,1.7s							
TLY	**Talaya**	**50.26**	**342**	P	**P**		**00 00 56.3**	**+2.3**
	comp=Z,194nm,0.9s,SNR=8.3							
WMQ	**Urumqi**	**51.60**	**325**	P	**P**		**00 01 05.0**	**+0.7**
WMQ				pP	**pP**		**00 01 20.8**	**+0.5**
WMQ				sP	**sP**		**00 01 27.8**	**+0.4**
WMQ				PcP	**PcP**		**00 02 18.3**	**+0.9**
WMQ				PP	**PP**		**00 03 03.9**	**+1.6**
WMQ				ScP	**ScP**		**00 06 08.3**	**-0.7**
WMQ				S	**S**		**00 08 19.9**	**-0.9**
WMQ				sS	**sS**		**00 08 46.9**	**-1.0**
WMQ				ScS	**ScS**		**00 10 46.4**	**-2.7**
WMQ				SS	**SS**		**00 11 54.6**	**-3.1**
WMQ				pmax	pmax			
	comp=Z,25nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,400nm,4.6s							
WMQ				LR	LR			
	comp=N,9μm,22.9s							
WMQ				LR	LR			
	comp=E,4μm,21.0s							
WMQ				LR	LR			
	comp=Z,5μm,22.9s							
CLNS	**Chul'man**	**51.67**	**359**	*e*P	**P**		**00 01 04.6**	**0.0**
CLNS				*e**PP	pP		00 01 14.3	-6.4
CLNS				*e*S	S		00 08 30.9	+10
CLNS				pmax	pmax			
	comp=N,14nm,0.9s							
CLNS				pmax	pmax			
	comp=Z,12nm,0.9s							
CLNS				pmax	pmax			
	comp=E,25nm,1.0s							
CLNS				pmax	pmax			
	comp=Z,18nm,1.3s							
CLNS				pmax	pmax			
	comp=E,8.0nm,0.9s							
CLNS				pmax	pmax			
	comp=N,18nm,1.5s							
CLNS				smax	smax			
	comp=E,632nm,13.8s							
CLNS				smax	smax			
	comp=N,493nm,12.2s							
CLNS				MLR	MLR			
	comp=Z,1μm,20.0s							
CLNS				MLR	MLR			
	comp=E,692nm,13.0s							
CLNS				MLR	MLR			
	comp=N,1μm,21.0s							
HVS	**Khovu-Aksy**	**53.51**	**335**⇑	*i*P	**P**		**00 01 18.7**	**+0.4**
HVS				pmax	pmax			
	comp=Z,275nm,1.0s							
PETK	**Petropavlovsk-**	**54.27**	**23**	P	**P**		**00 01 24.4**	**+0.6**
PETK	**Petropavlovsk-**	**54.27**	**23**	P	**P**		**00 01 24.4**	**+0.6**
PETK	**Petropavlovsk-**	**54.27**	**23**	P	**P**		**00 01 24.4**	**+0.6**
	comp=Z,20nm,0.7s,baz=193,slow=6.1,SNR=38							
PETK				LR	LR		00 22 17.2	
	comp=Z,919nm,21.9s,baz=215,slow=34							
PET	**Petropavlovsk**	**54.58**	**23**⇑	*i*P	**P**		**00 01 26.5**	**+0.6**
PET				*e*S	**S**		**00 09 00.5**	**-0.3**
PET				pmax	pmax			
	comp=Z,400nm,5.3s							
PET				pmax	pmax			
	comp=Z,38nm,1.2s							
PET				MLR	MLR			
	comp=Z,1μm,20.0s							
MKAR	**Makanchi Array**	**56.42**	**325**	P	**P**		**00 01 38.4**	**-1.0**
MKAR							00 02 35.9	
MKAR	**Makanchi Array**	**56.42**	**325**	P	**P**		**00 01 38.4**	**-1.0**
MKAR				PcP	**PcP**		**00 02 35.9**	**+0.1**
MKAR	**Makanchi Array**	**56.42**	**325**	P	**P**		**00 01 38.4**	**-1.0**
	comp=Z,9.9nm,0.6s,baz=117,slow=7.3,SNR=44							
MKAR				PcP	**PcP**		**00 02 35.9**	**+0.1**
	comp=Z,9.7nm,0.6s,baz=116,slow=4.1,SNR=5.3							
MKAR				LR	LR		00 26 38.7	
	comp=Z,4μm,20.9s,baz=108,slow=37							
YAK	**Yakutsk**	**56.91**	**2**	*e*P	**P**		**00 01 41.5**	**-1.0**
YAK				*e*			00 02 40.7	
YAK				*e*S	**S**		**00 09 31.5**	**-0.1**
YAK				*e*SS	**SS**		**00 13 23.3**	**+2.6**
YAK				pmax	pmax			
	comp=Z,138nm,1.0s							
YAK				pmax	pmax			
	comp=N,59nm,1.1s							
YAK				pmax	pmax			
	comp=E,23nm,1.1s							
YAK				smax	smax			
	comp=E,575nm,4.3s							
YAK				smax	smax			
	comp=N,238nm,3.0s							
YAK				MLR	MLR			
	comp=N,2μm,21.0s							
YAK				MLR	MLR			
	comp=Z,2μm,20.0s							
KSH	**Kashi**	**57.05**	**315**	P	**P**		**00 01 44.3**	**+0.3**
KSH				pP	**pP**		**00 02 00.8**	**+0.5**
KSH				PP	**PP**		**00 03 53.8**	**+2.5**
KSH				PcS	**PcS**		**00 06 39.1**	**-0.4**
KSH				S	**S**		**00 09 34.1**	**-0.3**
KSH				sS	**sS**		**00 10 00.8**	**-1.1**
KSH				pmax	pmax			
	comp=Z,7.0nm,0.9s							
KSH				pmax	pmax			
	comp=Z,340nm,9.9s							
KSH				LR	LR			
	comp=N,2μm,14.7s							
KSH				LR	LR			
	comp=E,4μm,17.3s							
KSH				LR	LR			
	comp=Z,4μm,16.9s							
KRAR	**Krasnoyarsk**	**57.49**	**338**⇓	*i*P	**P**		**00 01 46.6**	**-0.1**
KRAR				pmax	pmax			
	comp=Z,15nm,0.9s							
FRU	**Bishkek**	**59.32**	**318**	*e*P	**P**		**00 01 57.5**	**-2.2**
FRU				*e*			00 02 40.0	
FRU				MLR	MLR			
	comp=Z,5μm,22.0s							
AAK	**Ala-Archa**	**59.32**	**317**	P	**P**		**00 01 59.8**	**-0.1**
	comp=Z,45nm,0.8s,SNR=5.2							
AAK	**Ala-Archa**	**59.32**	**317**	*d i*P	**P**		**00 01 59.1**	**-0.8**
AAK				pmax	pmax			
	comp=Z,16nm,1.3s							
AAK	**Ala-Archa**	**59.32**	**317**	*e*P	**P**		**00 01 59.4**	**-0.5**
	comp=Z,24nm,1.2s							
AAK				PcP	**PcP**		**00 02 47.9**	**+0.5**
AAK	**Ala-Archa**	**59.32**	**317**	P	**P**		**00 01 59.1**	**-0.8**
	comp=Z,2.6nm,0.6s,baz=340,slow=5.5,SNR=7.1							
AAK				PcP	**PcP**		**00 02 47.9**	**+0.5**
	comp=Z,9.9nm,0.9s,baz=266,slow=5.8,SNR=5.1							
ZALV	**Zalesovo Beam**	**59.38**	**333**	P	**P**		**00 01 58.5**	**-1.4**
ZALV	**Zalesovo Beam**	**59.38**	**333**	P	**P**		**00 01 58.5**	**-1.4**
ZALV				⇑*e*			00 31 49.0	
ZALV	**Zalesovo Beam**	**59.38**	**333**	P	**P**		**00 01 58.5**	**-1.4**
	comp=Z,25nm,0.9s,baz=124,slow=6.1,SNR=25							
ZALV				LR	LR		00 29 38.0	
	comp=Z,3μm,19.6s,baz=279,slow=38							
ZALV				PKP2bc			00 31 49.0	
	comp=Z,1.1nm,0.6s,baz=299,slow=4.6,SNR=7.8							
KURBB	**Kurchatov Arra**	**60.58**	**327**	P	**P**		**00 02 07.0**	**-1.2**
	comp=Z,9.8nm,0.7s,baz=127,slow=6.3,SNR=50							
KURK	**Kurchatov**	**60.58**	**327**	P	**P**		**00 02 06.9**	**-1.2**
	comp=Z,269nm,0.6s,SNR=23							
KURK	**Kurchatov**	**60.58**	**327**	P	**P**		**00 02 07.0**	**-1.2**
KURK	**Kurchatov**	**60.58**	**327**	P	**P**		**00 02 07.0**	**-1.2**
KBL	**Kabul**	**60.64**	**307**	*e*P	**P**		**00 02 07.8**	**-1.4**
KBL				pmax	pmax			
	comp=Z,15nm,0.8s							
KBL	**Kabul**	**60.64**	**307**	*e*P	**P**		**00 02 07.8**	**-1.4**
	comp=Z,15nm,0.8s							
KBL	**Kabul**	**60.64**	**307**	P	**P**		**00 02 08.2**	**-1.0**
	baz=61,SNR=5.3							
NVS	**Novosibirsk**	**60.66**	**333**⇓	*i*P	**P**		**00 02 05.7**	**-2.9**
NVS				*e*S	**S**		**00 10 19.8**	**-0.6**
NVS				pmax	pmax			
	comp=N,15nm,1.1s							
NVS				pmax	pmax			
	comp=Z,37nm,1.1s							
NVS				pmax	pmax			
	comp=E,20nm,1.2s							
NVS				smax	smax			
	comp=N,60nm,2.8s							
NVS				smax	smax			
	comp=E,64nm,3.2s							
FX1	**Attu Island--F**	**61.02**	**30**	*e*P	**P**		**00 02 11.5**	**+0.4**
KKAR	**Karatay Array**	**62.20**	**317**	*e*P	**P**		**00 02 18.0**	**-1.4**
KKAR	**Karatay Array**	**62.20**	**317**	*e*P	**P**		**00 02 18.0**	**-1.4**
RPZ	**Rata Peaks**	**62.89**	**145**	*e*P	**P**		**00 02 24.4**	**+0.6**
	comp=E,417nm,2.6s							
RPZ	**Rata Peaks**	**62.89**	**145**	P	**P**		**00 02 24.3**	**+0.4**
	comp=E,24nm,0.9s,baz=42,slow=4.9,SNR=7.1							
RAO	**Raoul Island**	**63.19**	**126**	LR	LR		00 28 57.3	
	comp=E,927nm,18.4s,baz=105,slow=35							
URZ	**Urewera**	**63.57**	**137**	LR	LR		00 28 26.7	
	comp=E,4μm,21.8s,baz=118,slow=34							
BVAR	**Borovoye Array**	**66.17**	**327**	P	**P**		**00 02 43.8**	**-1.3**
BVAR	**Borovoye Array**	**66.17**	**327**	P	**P**		**00 02 43.8**	**-1.3**
BVAR	**Borovoye Array**	**66.17**	**327**	P	**P**		**00 02 43.8**	**-1.3**
	comp=E,16nm,0.9s,baz=123,slow=7.6,SNR=45							
BRVK	**Borovoye**	**66.24**	**327**	P	**P**		**00 02 44.7**	**-0.8**
	comp=E,248nm,1.0s,SNR=15							
BRVK	**Borovoye**	**66.24**	**327**	*d i*P	**P**		**00 02 44.3**	**-1.2**
BRVK				pmax	pmax			
	comp=Z,24nm,1.0s							
BRVK	**Borovoye**	**66.24**	**327**	*e*P	**P**		**00 02 44.5**	**-1.1**
	comp=Z,58nm,1.1s							
TIXI	**Tiksi**	**66.55**	**1**	*d i*P	**P**		**00 02 46.3**	**-0.8**
TIXI				pmax	pmax			
	comp=Z,34nm,1.2s							
IAKL	**Akhelmad**	**69.27**	**307**	*e*P	**P**		**00 03 04.4**	**-0.9**
IBAF	**Bafgh**	**71.24**	**302**	*e*Pn	**P**		**00 03 15.9**	**-1.4**
IMEH	**Mehriz**	**72.03**	**301**	*e*P	**P**		**00 03 19.4**	**-2.8**
CASY	**Casey**	**72.09**	**187**	*e*P	**P**		**00 03 22.2**	**+0.8**
	comp=Z,22nm,0.9s							
DRV	**Dumont d'Urvil**	**72.18**	**174**	P	P		00 03 30.0	+8.1
DRV	**Dumont d'Urvil**	**72.18**	**174**	PP	PP		00 06 11.0	+7.9
DRV				S	S		00 12 33.0	-6.4
DRV				SP	**ScS**		**00 13 25.0**	**+2.4**
AKTO	**Aktyubinsk**	**72.57**	**321**	P	**P**		**00 03 23.2**	**-1.4**
AKTO	**Aktyubinsk**	**72.57**	**321**	P	**P**		**00 03 23.2**	**-1.4**
	comp=Z,9.8nm,0.9s,baz=99,slow=6.2,SNR=29							
SVE	**Sverdlovsk**	**72.79**	**328**⇓	*i*P	**P**		**00 03 25.3**	**-0.5**
SVE				*e*			00 06 12.0	
SVE				*e*PPP	PPP		00 07 47.6	
SVE				pmax	pmax			
	comp=Z,66nm,1.2s							
SVE				MLR	MLR			
	comp=Z,2μm,20.0s							
ISRV	**Sarvestan**	**73.17**	**299**	*e*P	**P**		**00 03 26.7**	**-2.4**
IGLO	**Ghaloghah**	**73.19**	**306**	*e*P	**P**		**00 03 27.7**	**-1.2**
ARU	**Arti**	**73.78**	**328**	*d i*P	**P**		**00 03 30.1**	**-1.5**
ARU				*PP	**PcP**		**00 03 47.0**	**0.0**
ARU							00 06 13.7	
ARU				PPP	PPP		00 08 02.1	
ARU				S	**SKiKP**		**00 12 56.5**	**+0.9**
ARU				SSS	SSS		00 20 58.7	
ARU				pmax	pmax			
	comp=Z,16nm,1.0s							
ARU	**Arti**	**73.78**	**328**	P	**P**		**00 03 30.8**	**-0.8**
	comp=Z,220nm,0.9s,SNR=7.7							
KIP	**Kipapa**	**74.57**	**69**	*e*P	**P**		**00 03 36.2**	**-0.8**
KIP				pmax	pmax			
	comp=Z,66nm,1.4s							
IBDR	**Badra**	**79.47**	**303**	*e*P	**P**		**00 04 02.0**	**-2.3**
IBDR				*e*S	S		00 13 54.0	-7.1
SVW2	**Sparrevohn**	**79.72**	**29**	*e*P	**P**		**00 04 06.3**	**+1.2**
	comp=Z,28nm,1.2s							
RAYN	**Ar Rayn**	**79.87**	**293**	P	**P**		**00 04 04.8**	**-1.9**
	comp=Z,62nm,0.8s,SNR=5.2							
RAYN	**Ar Rayn**	**79.87**	**293**	*e*P	**P**		**00 04 05.0**	**-1.7**
	comp=Z,9.6nm,0.8s							
DGRG	**David-gareji**	**80.12**	**311**	P	**P**		**00 04 07.4**	**-0.4**
OHAK	**Old Harbor**	**80.42**	**33**	*e*P	**P**		**00 04 09.3**	**+0.4**
	comp=Z,28nm,1.0s							
TBLG	**Delisi**	**80.61**	**311**	*e*P	**P**		**00 04 09.2**	**-1.1**
TBLG	**Delisi**	**80.61**	**311**	P	**P**		**00 04 09.2**	**-1.1**
DUS	**Dusheti**	**80.64**	**312**	P	**P**		**00 04 12.3**	**+1.8**
BHD	**Baghdad**	**80.77**	**303**	*e*P	**P**		**00 04 13.0**	**+1.7**
BHD				*e*S	**SKSac**		**00 14 27.0**	**+2.1**
KDAK	**Kodiak Island**	**80.86**	**32**	P	**P**		**00 04 11.1**	**-0.1**
	comp=Z,140nm,0.6s,SNR=7.0							
KDAK	**Kodiak Island**	**80.86**	**32**	*e*P	**P**		**00 04 11.7**	**+0.5**
	comp=Z,40nm,1.2s							
KDAK	**Kodiak Island**	**80.86**	**32**	P	**P**		**00 04 10.8**	**-0.4**
	comp=Z,13nm,0.6s,baz=4.2,slow=2.0,SNR=21							
RSO	**Redoubt South**	**81.02**	**30**	*e*P	**P**		**00 04 12.6**	**+0.3**
	comp=Z,40nm,0.9s							
ZEI	**Tsey**	**81.25**	**312**	*e*P	**P**		**00 04 13.3**	**-0.7**
ZEI				pmax	pmax			
	comp=Z,26nm,1.0s							
SPU	**Mount Spurr**	**81.43**	**29**	*e*P	**P**		**00 04 13.4**	**-0.9**
PPLA	**Purkeypile**	**81.53**	**27**	*e*P	**P**		**00 04 14.3**	**-0.5**
	comp=Z,58nm,1.4s							
AKH	**Akhalkalaki**	**81.53**	**311**	P	**P**		**00 04 15.6**	**+0.1**
ONI	**Oni**	**81.58**	**312**	P	**P**		**00 04 14.4**	**-1.1**
KBZ	**Khabaz**	**82.00**	**313**	P	**P**		**00 04 17.9**	**+0.3**
KBZ	**Khabaz**	**82.00**	**313**	P	**P**		**00 04 17.9**	**+0.3**
KBZ	**Khabaz**	**82.00**	**313**	P	**P**		**00 04 17.9**	**+0.3**
	comp=Z,7.3nm,1.0s,baz=103,slow=5.1,SNR=7.7							
KBZ				LR	LR		00 46 53.3	
	comp=Z,3μm,19.1s,baz=261,slow=40							
TRF	**Thorofare Moun**	**82.43**	**27**	*e*P	**P**		**00 04 19.2**	**-0.5**
	comp=Z,48nm,1.2s							
CHVG	**Ch'k'valeri**	**82.59**	**312**	P	P		00 04 27.0	+6.3
COLD	**Coldfoot**	**82.74**	**23**	*e*P	**P**		**00 04 22.6**	**+1.6**
	comp=Z,19nm,0.9s							
PMR	**Palmer**	**82.86**	**29**	*e*P	**P**		**00 04 21.7**	**0.0**
PMR				pmax	pmax			
	comp=Z,35nm,1.0s							
PMR	**Palmer**	**82.86**	**29**	*e*P	**P**		**00 04 21.7**	**0.0**
	comp=Z,35nm,1.0s							
MCK	**McKinley**	**83.05**	**26**	*e*P	**P**		**00 04 22.9**	**+0.2**
MCK				pmax	pmax			
	comp=Z,60nm,1.2s							
MCK	**McKinley**	**83.05**	**26**	*e*P	**P**		**00 04 22.9**	**+0.2**
	comp=Z,60nm,1.2s							
SML	**Sawmill**	**83.25**	**28**	*e*P	**P**		**00 04 24.2**	**+0.4**
SML				pmax	pmax			
	comp=Z,12nm,1.0s							
SML	**Sawmill**	**83.25**	**28**	*e*P	**P**		**00 04 24.2**	**+0.4**
	comp=Z,12nm,1.0s							
COLA	**College**	**83.57**	**25**	*e*P	**P**		**00 04 24.7**	**-0.5**
COLA				pmax	pmax			
	comp=Z,57nm,0.9s							
COLA	**College**	**83.57**	**25**	*e*P	**P**		**00 04 24.7**	**-0.5**
	comp=Z,57nm,0.9s							
ILAR	**Eielson Array**	**83.98**	**25**	P	P		**00 04 26.4**	**-1.0**
ILAR	**Eielson Array**	**83.98**	**25**	P	**P**		**00 04 26.4**	**-1.0**
	comp=Z,5.0nm,0.7s,baz=241,slow=4.5,SNR=26							
ILAR				LR	LR		00 40 55.9	
	comp=Z,664nm,20.9s,baz=270,slow=35							
SOC	**Sochi**	**84.31**	**313**	*e*P	**P**		**00 04 28.6**	**-0.9**
SOC				*e**SP	**sP**		**00 04 49.7**	**-3.8**
SOC				*e*			00 07 39.2	
SOC				*e*S	**SKSac**		**00 14 46.7**	**-1.3**
SOC				pmax	pmax			
	comp=Z,14nm,0.8s							
VORD	**Divnogorie**	**84.43**	**321**	*e*P	**P**		**00 04 29.4**	**-0.5**
VORD				pmax	pmax			
	comp=Z,20nm,0.6s							
VORD				pmax	pmax			
	comp=N,70nm,0.7s							
VORD				pmax	pmax			
	comp=E,110nm,0.6s							
VORD				MLR	MLR			
	comp=Z,1μm,25.0s							
VORD				MLR	MLR			
	comp=N,930nm,18.0s							
VORD				MLR	MLR			
	comp=E,1μm,21.0s							
DIV	**Divide**	**84.47**	**29**	*e*P	**P**		**00 04 31.1**	**+1.1**
	comp=E,138nm,1.6s							
VSR	**Storozhevoye**	**84.51**	**321**	*e*P	**P**		**00 04 29.3**	**-1.0**
VSR				pmax	pmax			
	comp=Z,10.0nm,1.1s							
VSR				pmax	pmax			
	comp=N,10.0nm,0.7s							
VSR				pmax	pmax			
	comp=E,10.0nm,0.9s							
VSR				MLR	MLR			
	comp=Z,1μm,20.0s							
VSR				MLR	MLR			
	comp=N,430nm,21.0s							
VSR				MLR	MLR			
	comp=E,660nm,18.0s							
PAX	**Paxson**	**84.60**	**27**	*e*P	**P**		**00 04 31.3**	**+0.6**
PAX				pmax	pmax			
	comp=Z,57nm,1.5s							
PAX	**Paxson**	**84.60**	**27**	*e*P	**P**		**00 04 31.3**	**+0.6**
	comp=Z,57nm,1.5s							
VNDA	**Vanda**	**84.73**	**173**	*e*P	**P**		**00 04 30.6**	**-0.3**
	comp=Z,95nm,2.1s							
VNDA	**Vanda**	**84.73**	**173**	P	**P**		**00 04 30.6**	**-0.3**
	comp=Z,4.4nm,0.9s,baz=309,slow=5.4,SNR=19							
VNDA				LR	LR		00 43 58.7	
	comp=Z,2μm,19.0s,baz=338,slow=37							
TMCR	**Tamitsa**	**84.88**	**334**	*e*P	**P**		**00 04 31.8**	**-0.1**
TMCR				*e*S	**S**		**00 14 50.7**	**-4.6**
TMCR				pmax	pmax			
	comp=Z,93nm,1.1s							
MAW	**Mawson**	**84.93**	**200**	P	**P**		**00 04 32.1**	**+0.1**
MAW	**Mawson**	**84.93**	**200**	P	**P**		**00 04 32.1**	**+0.1**
	comp=Z,6.0nm,0.9s,baz=118,slow=3.5,SNR=4.2							
MAW				LR	LR		00 38 50.6	
	comp=Z,777nm,20.4s,baz=58,slow=33							
BMRM	**Bremner River**	**85.04**	**29**	*e*P	**P**		**00 04 33.8**	**+0.9**
	comp=Z,31nm,0.9s							
MOS	**Moscow**	**85.30**	**325**	*e*P	**P**		**00 04 31.8**	**-2.4**
MOS				*e**PP	**pP**		**00 04 47.5**	**-4.0**
MOS				*e*			00 15 05.7	
MOS				pmax	pmax			
	comp=Z,28nm,0.7s							
MOS				MLR	MLR			
	comp=Z,4μm,24.0s							
MOS				MLR	MLR			
	comp=E,2μm,23.0s							
MALT	**Malatya**	**85.49**	**308**	*e*P	**P**		**00 04 36.5**	**+0.8**
MALT	**Malatya**	**85.49**	**308**	*e*P	**P**		**00 04 36.5**	**+0.8**
PPT	**Papeete**	**85.63**	**108**	LR	LR		00 40 09.8	
	comp=E,775nm,18.9s,baz=91,slow=34							
PPT2	**Papeete2**	**85.63**	**108**	*e*S	S		00 15 10.9	+6.3
	comp=E,1μm,28.5s							
PPT2	**Papeete2**	**85.63**	**108**	*e*LQ	LQ		00 27 55.3	
	comp=E,2μm,31.8s							
PPT2				*e*LR	LR		00 31 39.5	
	comp=E,2μm,24.8s,baz=286							
SBA	**Scott Base**	**85.64**	**172**	*e*P	**P**		**00 04 36.6**	**+1.2**
SBA	**Scott Base**	**85.64**	**172**	*e*P	**P**		**00 04 36.6**	**+1.2**
OBN	**Obninsk**	**85.93**	**325**	P	**P**		**00 04 36.5**	**-0.8**
	comp=E,295nm,1.0s,SNR=7.2							
TBI	**Tubuai**	**86.42**	**114**	*e*S	**S**		**00 15 15.0**	**+3.0**
	comp=E,1μm,31.0s							
TBI				*e*SS	SS		00 21 02.4	+9.0
	comp=E,595nm,29.5s							
TBI				*e*LQ	LQ		00 28 34.6	
	comp=E,1μm,31.2s							
TBI				*e*LR	LR		00 32 12.8	
	comp=E,3μm,26.5s,baz=294							
EGAK	**Eagle**	**86.44**	**25**	*e*P	**P**		**00 04 40.2**	**+0.5**
	comp=E,17nm,1.3s							
APA	**Apatity**	**86.61**	**337**⇑	*i*P	**P**		**00 04 39.0**	**-1.4**
APA				*i*			00 14 58.0	
APA				*i* S	**S**		**00 15 08.0**	**-4.2**
APA				MLR	MLR			
	comp=Z,3μm,21.0s							
KEV	**Kevo**	**88.63**	**340**	*e*p	**P**		**00 04 51.4**	**+1.4**
	comp=Z,0.7nm,0.4s							
KEV	**Kevo**	**88.63**	**340**	*e*P	**P**		**00 04 51.4**	**+1.4**
KEV				pmax	pmax			
	comp=Z,1.0nm,0.4s							
PUL	**Pulkovo**	**88.86**	**330**	*e*P	**P**		**00 04 50.7**	**-0.6**
PUL				pmax	pmax			
	comp=Z,53nm,1.0s							
INK	**Inuvik**	**89.00**	**21**	P	**P**		**00 04 50.9**	**-0.9**
INK	**Inuvik**	**89.00**	**21**	P	**P**		**00 04 50.9**	**-0.9**
	comp=Z,6.9nm,1.0s,baz=276,slow=8.1,SNR=6.9							
BRTR	**Keskin Array B**	**89.10**	**310**	P	**P**		**00 04 52.0**	**-1.1**
BRTR	**Keskin Array B**	**89.10**	**310**	P	**P**		**00 04 52.0**	**-1.1**
	comp=Z,2.3nm,1.0s,baz=121,slow=5.2,SNR=9.0							
BRTR				LR	LR		00 51 49.8	
	comp=Z,790nm,21.5s,baz=66,slow=40							
SPITS	**Spitsbergen Ar**	**89.18**	**349**	P	**P**		**00 04 52.8**	**+0.2**
SPITS	**Spitsbergen Ar**	**89.18**	**349**	P	**P**		**00 04 52.8**	**+0.2**
	comp=Z,5.5nm,0.7s,baz=92,slow=5.3,SNR=6.8							
ARCES	**ARCESS Array B**	**89.19**	**340**	P	**P**		**00 04 52.1**	**-0.6**
ARCES	**ARCESS Array B**	**89.19**	**340**	P	**P**		**00 04 52.1**	**-0.6**
	comp=Z,4.3nm,0.6s,baz=82,slow=6.3,SNR=22							
ARCES				LR	LR		00 48 17.2	
	comp=Z,2μm,21.1s,baz=91,slow=38							
KMBO	**Kilima Mbogo**	**89.46**	**269**	*e*P	**P**		**00 04 55.6**	**+0.2**
	comp=Z,22nm,1.6s							
KMBO	**Kilima Mbogo**	**89.46**	**269**	P	**P**		**00 04 55.8**	**+0.4**
	comp=Z,4.1nm,0.9s,baz=41,slow=12,SNR=8.0							
KMBO				LR	LR		00 41 51.5	
	comp=Z,1μm,21.9s,baz=89,slow=34							
KAF	**Kangasniemi**	**90.39**	**332**	*e*p	**P**		**00 04 56.6**	**-1.8**
	comp=Z,9.3nm,0.8s							
KAF	**Kangasniemi**	**90.39**	**332**	*e*P	**P**		**00 04 56.6**	**-1.8**
KAF				pmax	pmax			
	comp=Z,9.0nm,0.8s							
FIA1	**FINESS Array S**	**90.63**	**332**	*e*P	**P**		**00 04 58.7**	**-0.9**
FINES	**FINESS Array B**	**90.63**	**332**	P	**P**		**00 04 58.8**	**-0.7**
FINES	**FINESS Array B**	**90.63**	**332**	P	**P**		**00 04 58.8**	**-0.7**
	comp=Z,10nm,0.9s,baz=61,slow=3.3,SNR=34							
FINES				LR	LR		00 50 09.8	
	comp=Z,2μm,19.6s,baz=82,slow=39							
KIEV	**Kiev**	**90.82**	**321**	*e*P	P		00 04 56.9	-3.8
KIEV	**Kiev**	**90.82**	**321**	*e*P	P		00 04 56.9	-3.8
VSU	**Vasula**	**90.89**	**329**	*e*P	**P**		**00 04 59.6**	**-1.2**
VSU				pmax	pmax			
	comp=Z,29nm,1.0s							
MICGM	**Minsk**	**91.00**	**325**	*e*P	**P**		**00 05 01.0**	**-0.4**
MNK	**Minsk**	**91.02**	**325**	*e*P	**P**		**00 05 01.0**	**-0.5**
MNK				MLR	MLR			
	comp=Z,6μm,20.0s							
NACGM	**Naroch**	**91.55**	**325**	*e*	**P**		**00 05 01.0**	**-3.0**
WRAK	**Wrangell Islan**	**91.92**	**33**	*e*P	**P**		**00 05 06.9**	**+1.3**
	comp=Z,9.1nm,0.8s							
DLBC

VYHS	Vyhne	97.89	320	*e*P		Pdif		00 05 33.4	+0.2
OKC	Ostrava-Krasne	97.92	322	*e*P		P		**00 05 32.3**	**-1.0**
OKC				*e*				00 05 56.3	
OKC					MLR	MLR			
	comp=Z,1μm,19.3s								
OKC	Ostrava-Krasne	97.92	322	*e*P		P		**00 05 32.3**	**-1.0**
OKC				*es*P		sP		**00 05 56.3**	**-1.1**
OKC					AMS	AMS		00 54 00.0	
	comp=Z,1μm,19.3s								
BSD	Bornholm Skovb	98.06	327	*i* P		P		**00 05 31.2**	**-2.5**
BSD					pmax	pmax			
	comp=Z,11nm,1.0s								
BSD	Bornholm Skovb	98.06	327	*i* P		P		**00 05 31.2**	**-2.5**
	comp=Z,11nm,0.9s								
YKA	Yellowknife Ar	98.36	24	P		P		**00 05 33.8**	**-1.2**
YKA	Yellowknife Ar	98.36	24	P		P		**00 05 33.7**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=299,slow=4.1,SNR=4.9								
KSP	Ksiaz	98.73	323	*e*P		Pdif		00 05 37.0	+0.1
KSP				*e*				00 09 38.2	
KSP					MLR	MLR			
	comp=Z,4μm,22.5s								
DPC	Dobruska-Polom	98.88	323	*e*P		Pdif		00 05 37.7	+0.1
DPC				*e*				00 06 00.6	
DPC	Dobruska-Polom	98.88	323	*e*P		Pdif		00 05 37.7	+0.1
DPC				*es*P		sP		00 06 00.6	-1.2
DPC					AMS	AMS		00 54 30.0	
UPC	Upice	99.01	323	*e*P		**Pdif**		**00 05 35.8**	**-2.4**
UPC	Upice	99.01	323	*e*P		**Pdif**		**00 05 35.8**	**-2.4**
RKT	Rikitea	99.69	112	*e*LQ		LQ		00 34 15.1	
	comp=Z,1μm,33.2s								
RKT				*e*LR		LR		00 38 20.4	
	comp=Z,1μm,25.0s,baz=290								
TREC	Trest	99.74	322	*e*P		**Pdif**		**00 05 36.1**	**-5.3**
TREC					MLR	MLR			
	comp=Z,1μm,20.4s								
TREC	Trest	99.74	322	*e*PDIF		**Pdif**		**00 05 36.1**	**-5.3**
TREC					AMS	AMS		00 50 50.0	
	comp=Z,1μm,20.4s								
PVCC	Panska Ves	99.87	323	AMS		AMS		00 54 00.0	
	comp=Z,2μm,23.9s								
PRU	Pruhonice	100.08	323	*e*P		**Pdif**		**00 05 42.6**	**-0.3**
PRU					MLR	MLR			
	comp=Z,2μm,18.4s								
PRU	Pruhonice	100.08	323	*e*PDIF		**Pdif**		**00 05 42.6**	**-0.3**
PRU					AMS	AMS		00 55 00.0	
	comp=Z,2μm,18.4s								
PRA	Prague	100.11	323	PDIFF		**Pdif**		**00 05 43.0**	**0.0**
PRA					AMS	AMS		00 55 30.0	
BRG	Berggiesshubel	100.12	324	*e*P		**Pdif**		**00 05 42.2**	**-0.9**
	comp=Z,33nm,0.9s								
BRG					MLR	MLR			
	comp=N,2μm,18.8s								
BRG					MLR	MLR			
	comp=E,1μm,21.3s								
BRG					MLR	MLR			
	comp=Z,2μm,22.7s								
BRG	Berggiesshubel	100.12	324	*e*Pdiff		**Pdif**		**00 05 42.1**	**-0.9**
BRG	Berggiesshubel	100.12	324	*e*P		**Pdif**		**00 05 42.2**	**-0.9**
BRG					pmax	pmax			
	comp=Z,1.0nm,0.9s								
BRG					MLR	MLR			
	comp=N,33μm,18.8s								
BRG					MLR	MLR			
	comp=E,2μm,21.3s								
BRG					MLR	MLR			
	comp=Z,1μm,22.7s								
CLL	Collm	100.52	324	*e*Pdiff		**Pdif**		**00 05 43.5**	**-1.3**
CLL	Collm	100.52	324	⇓*i* P		**Pdif**		**00 05 43.9**	**-0.9**
CLL				*e*				00 09 56.0	
CLL					pmax	pmax			
	comp=Z,14nm,1.1s								
CLL					pmax	pmax			
	comp=Z,6.0nm,2.0s								
CLL					MLR	MLR			
	comp=Z,1μm,22.0s								
CLL	Collm	100.52	324	⇓*i* Pdif		**Pdif**		**00 05 43.9**	**-0.9**
	comp=Z,6.0nm,1.1s								
CLL				*i*				00 05 54.9	
CLL				*e*PP		**PP**		**00 09 56.0**	**+4.2**
	comp=Z,21nm,2.0s								
CLL				*e*SKSac		**SKSac**		**00 16 12.0**	**-6.5**
CLL				*e*SP		**SP**		**00 18 54.0**	**+8.4**
CLL				L		L		00 53 00.0	
	comp=Z,1μm,22.0s								
KHC	Kasperske Hory	100.97	322	*e*P		**Pdif**		**00 05 45.9**	**-1.0**
KHC					MLR	MLR			
	comp=Z,2μm,18.4s								
KHC	Kasperske Hory	100.97	322	*e*P		**Pdif**		**00 05 45.9**	**-1.0**
KHC				*ex*		x		00 05 58.0	
KHC					AMS	AMS		00 55 40.0	
	comp=Z,2μm,18.4s								
BSEG	Bad Segeberg	100.99	327	*e*Pdiff		**Pdif**		**00 05 46.8**	**0.0**
BSEG	Bad Segeberg	100.99	327	*e*P		**Pdif**		**00 05 46.8**	**0.0**
GERES	GERESS Array B	100.99	322	P		**Pdif**		**00 05 46.9**	**-0.2**
GERES	GERESS Array B	100.99	322	P		**Pdif**		**00 05 46.9**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=75,slow=7.1,SNR=8.9								
TANN	Tannenbergstha	101.17	323	*e*Pdiff		**Pdif**		**00 05 46.8**	**-1.0**
MOX	Moxa	101.58	324	*e*L		L		00 56 07.8	
	comp=Z,2μm,20.7s								
NRDL	Niedersach Rie	101.70	326	*e*Pdiff		**Pdif**		**00 05 49.6**	**-0.3**
CLZ	Clausthal	101.82	325	*e*Pdiff		**Pdif**		**00 05 50.3**	**-0.4**
CLZ	Clausthal	101.82	325	*e*P		**Pdif**		**00 05 50.3**	**-0.4**
SUMG	Summit	101.94	355	*i* P		**Pdif**		**00 05 55.0**	**+3.8**
	comp=Z,3.3nm,0.9s								
GRF	Grafenberg Arr	102.19	323	*e*L		L		00 56 28.2	
	comp=Z,2μm,21.3s								
IBBN	Ibbenburen	103.08	326	*e*Pdiff		**Pdif**		**00 05 55.7**	**-0.5**
NVAR	Mina Array Bea	106.12	48	Pdif		**Pdif**		**00 06 10.9**	**+0.6**
NVAR				PP		**PP**		**00 10 36.8**	**+2.4**
NVAR				PKKP		**PKKPab**		**00 21 59.5**	**-1.7**
NVAR	Mina Array Bea	106.12	48	Pdiff		**Pdif**		**00 06 10.9**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=291,slow=5.1,SNR=6.6								
NVAR				PP		**PP**		**00 10 36.8**	**+2.4**
	comp=Z,0.4nm,0.6s,baz=289,slow=2.8,SNR=3.0								
NVAR				PKKP		**PKKPab**		**00 21 59.5**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=164,slow=5.9,SNR=4.2								
PDAR	Pinedale Array	110.45	41	PP		PP		00 11 08.3	+2.5
PDAR				PKKP		**PKKPdf**		**00 21 48.8**	**+0.7**
PDAR	Pinedale Array	110.45	41	PP		PP		00 11 08.3	+2.5
	comp=Z,0.7nm,0.9s,baz=299,slow=9.2,SNR=3.7								
PDAR				PKKP		**PKKPdf**		**00 21 48.8**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=121,slow=5.7,SNR=5.8								
ECSD	EROS Data Cent	117.78	34	*e*PKPdf		**PKPdf**		**00 10 44.0**	**+0.3**
SCHQ	Schefferville	119.30	9	PKP		**PKPdf**		**00 10 47.3**	**+1.0**
SCHQ	Schefferville	119.30	9	PKP		**PKPdf**		**00 10 47.3**	**+1.0**
	comp=Z,3.3nm,0.6s,baz=47,slow=3.3,SNR=7.6								
MDT	Midelt	120.38	313	PKP		**PKPdf**		**00 10 50.0**	**+0.8**
MDT	Midelt	120.38	313	PKP		**PKPdf**		**00 10 50.0**	**+0.8**
	baz=225,slow=2.9								
TXAR	Lajitas Array	120.89	52	PKP		**PKPdf**		**00 10 51.1**	**+0.9**
TXAR				PKKPbc		PKKPab		00 21 03.2	+7.5
TXAR	Lajitas Array	120.89	52	PKP		**PKPdf**		**00 10 51.1**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=279,slow=0.1,SNR=6.5								
TXAR				PKKPbc		PKKPab		00 21 03.2	+7.5
	comp=Z,0.8nm,0.9s,baz=132,slow=5.6,SNR=6.7								
TOA0	Torodi Ar. Sit	122.39	289	*e*PKPdf		**PKPdf**		**00 10 52.5**	**-0.8**
TORD	Torodi Ar. Bea	122.39	289	PKP		**PKPdf**		**00 10 52.5**	**-0.8**
TORD				PKKPbc		**PKKPab**		**00 20 49.8**	**+0.6**
TORD	Torodi Ar. Bea	122.39	289	PKP		**PKPdf**		**00 10 52.5**	**-0.8**
	comp=Z,3.2nm,0.6s,baz=49,slow=2.0,SNR=15								
TORD				PKKPbc		**PKKPab**		**00 20 49.8**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=282,slow=3.4,SNR=5.3								
JCT	Junction City	123.29	48	*e*PKIKP		**PKPdf**		**00 10 55.9**	**+1.1**
JCT	Junction City	123.29	48	*e*PKPdf		**PKPdf**		**00 10 55.9**	**+1.1**
MIAR	Mount Ida	125.38	41	*e*PKIKP		**PKPdf**		**00 10 59.6**	**+1.0**
MIAR	Mount Ida	125.38	41	*e*PKPdf		**PKPdf**		**00 10 59.6**	**+1.0**
PQI	Presque Isle	126.91	13	*e*PKPdf		**PKPdf**		**00 11 01.6**	**+0.4**
WVT	Waverly	127.87	35	*e*PKIKP		**PKPdf**		**00 11 03.3**	**0.0**
WVT	Waverly	127.87	35	*e*PKPdf		**PKPdf**		**00 11 03.3**	**0.0**
DBIC	Dimbokro	130.18	283	PKP		**PKPdf**		**00 11 08.6**	**+0.3**
DBIC				SKPbc		**SKPbc**		**00 14 30.9**	**+4.7**
DBIC	Dimbokro	130.18	283	PKP		**PKPdf**		**00 11 08.6**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=54,slow=2.6,SNR=7.4								
DBIC				SKPbc		**SKPbc**		**00 14 30.9**	**+4.7**
	comp=Z,8.2nm,1.0s,baz=43,slow=8.8,SNR=4.1								
TKL	Tuckaleechee C	130.48	33	*e*PKPdf		**PKPdf**		**00 11 08.6**	**+0.2**
LRAL	Lakeview Retre	130.51	38	*e*PKPdf		**PKPdf**		**00 11 08.5**	**+0.1**
PLCA	Paso Flores	141.26	159	PKP		**PKPdf**		**00 11 27.0**	**-1.3**
PLCA	Paso Flores	141.26	159	PKP		**PKPdf**		**00 11 27.0**	**-1.3**
	comp=Z,2.3nm,0.8s,baz=275,slow=4.0,SNR=4.4								
TRQA	Tornquist	146.21	168	*e*PKPbc		**PKPbc**		**00 11 38.0**	**0.0**
SDDR	Presa de Saban	150.33	36	*e*PKPbc		**PKPbc**		**00 11 49.9**	**+0.4**
SDDR				*e*PKPab		**PKPab**		**00 11 56.1**	**+0.3**
LCO	Las Campanas	151.06	147	*e*PKPbc		**PKPbc**		**00 11 52.3**	**+1.1**
LPAZ	La Paz	161.72	129	PKP		**PKPdf**		**00 12 01.0**	**+1.1**
LPAZ				*e*PKPdf		**PKPdf**		**00 12 01.5**	**+1.6**
LPAZ	La Paz	161.72	129	PKP		**PKPdf**		**00 12 01.0**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=309,slow=2.9,SNR=5.5								
SAML	Samuel	169.53	112	*e*PKPdf		**PKPdf**		**00 12 05.9**	**+0.3**

IDC 17 00:03:11.6±5.4, 2°.97S×139°.29E, h0km, mb3.8/2, mb1 4.2/3, mb1mx3.7/16, mbtmp4.0/3, ML4.1/1, Error ellipse: s-maj=215.5km s-min=29.1km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	17.55	196	P	Pn	00 07 16.5	-1.4
	0.7nm,0.3s,baz=16,slow=13,SNR=22						
WRA				S	Sn	00 10 23.2	-11
	0.1nm,0.3s,baz=15,slow=22,SNR=3.1						
ASAR	Alice Springs	21.23	194	P	P	00 07 59.8	+0.5
	3.7nm,0.8s,baz=20,slow=10,SNR=16						
MKAR	Makanchi Array	70.34	322	P	P	00 14 27.4	+0.1
	1.0nm,0.8s,baz=99,slow=7.7,SNR=8.6						

WEL 17 00:07:03.8±1.2, 46°.11S×165°.96E, h33km, ML4.5/16, Error ellipse: s-maj=13.1km s-min=5.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	Puysegur Point	0.50	97	PN	Pb	00 07 13.4	-1.0
PYZ				SN	Sn	00 07 22.4	+0.2
DCZ	Deep Cove	1.04	53	PN	Pn	00 07 20.9	-1.1
DCZ				AML	AML	00 07 33.7	
DCZ				AML	AML	00 07 33.8	
DCZ				AML	AML	00 07 38.2	
DCZ				AML	AML	00 07 39.0	
WHZ	Wether Hill Ro	1.40	82	PN	Pn	00 07 27.1	+0.1
WHZ				AML	AML	00 07 43.2	
WHZ				AML	AML	00 07 44.8	
APZ	The Paps	1.58	118	PN	Pn	00 07 29.5	0.0
MLZ	Mavora Lakes	1.72	65	PN	Pn	00 07 32.1	+0.6
MLZ				AML	AML	00 07 59.2	
MLZ				AML	AML	00 08 00.7	
MSZ	Milford Sound	1.99	45	PN	Pn	00 07 35.1	0.0
MSZ				AML	AML	00 08 17.8	
MSZ				AML	AML	00 08 17.8	
MSZ				AML	AML	00 08 23.4	
MSZ				AML	AML	00 08 23.5	
SYZ	Scrubby Hill	2.24	102	PN	Pn	00 07 39.8	+1.2
WKZ	Wanaka	2.50	60	PN	Pn	00 07 44.2	+2.0
WKZ				AML	AML	00 08 25.8	
WKZ				AML	AML	00 08 25.8	
WKZ				AML	AML	00 08 27.0	
WKZ				AML	AML	00 08 27.1	
EAZ	Earnscleugh	2.50	71	PN	Pn	00 07 43.9	+1.8
EAZ				AML	AML	00 08 20.2	
EAZ				AML	AML	00 08 20.3	
EAZ				AML	AML	00 08 25.1	
EAZ				AML	AML	00 08 25.9	
TUZ	Tuapeka	2.56	88	PN	Pn	00 07 43.9	+1.0
TUZ				AML	AML	00 08 21.6	
TUZ				AML	AML	00 08 22.5	
JCZ	Jackson Bay	2.84	45	*e*PN	Pn	00 07 47.9	+1.0
JCZ				AML	AML	00 08 37.2	
JCZ				AML	AML	00 08 37.4	
LBZ	Lake Benmore	3.44	61	PN	Pn	00 07 55.3	+0.2
LBZ				AML	AML	00 09 06.0	
LBZ				AML	AML	00 09 08.5	
ODZ	Otahua Downs	3.45	74	PN	Pn	00 07 55.0	-0.2
ODZ				AML	AML	00 08 58.5	
ODZ				AML	AML	00 08 58.5	
ODZ				AML	AML	00 09 01.5	
ODZ				AML	AML	00 09 01.5	
FOZ	Fox Glacier	3.67	47	*e*PN	Pn	00 07 59.6	+1.4
FOZ				AML	AML	00 09 12.1	
FOZ				AML	AML	00 09 17.1	
RPZ	Rata Peaks	4.33	58	PN	Pn	00 08 06.6	-0.8
RPZ				AML	AML	00 09 34.5	
RPZ				AML	AML	00 09 34.9	
WVZ	Waitaha Valley	4.56	50	*e*PN	Pn	00 08 09.7	-0.7
WVZ				AML	AML	00 09 34.2	
WVZ				AML	AML	00 09 38.7	
OXZ	Oxford	5.14	59	*e*PN	Pn	00 08 16.5	-2.0
LTZ	Lake Taylor	5.61	56	*e*PN	Pn	00 08 24.0	-0.9
LTZ				AML	AML	00 09 46.4	
LTZ				AML	AML	00 10 06.0	
DSZ	Denniston Nort	6.06	46	*e*PN	Pn	00 08 30.1	-1.0
THZ	Tophouse	6.63	52	AML	AML	00 10 16.7	
THZ				AML	AML	00 10 20.0	
QRZ	Quartz Range	7.12	44	*e*PN	Pn	00 08 43.1	-2.5

ISCJB 17 00:13:06.9±0.6, 45°.61S±0°.04×166°.41E±0°.07, h15km, mb3.8/3, MS5.2/1, Error ellipse: s-maj=6.7km s-min=5.9km az=18.1

IDC 17 00:13:06.3±1.3, 45°.62S×166°.46E, h0km, mb3.9/3, mb1 4.1/5, mb1mx3.9/15, mbtmp4.0/5, ML4.3/2, Error ellipse: s-maj=44.1km s-min=22.8km az=172.0

NEIC 17 00:13:07.5, 45°.65S×166°.45E, h12km, ML4.7(WEL), After WEL.

WEL 17 00:13:08.9±0.6, 45°.70S×166°.53E, h20km±1km, ML4.6/17, Error ellipse: s-maj=7.9km s-min=2.5km az=90.0

ISC 17 00:13:08.3±0.7, 45°.67S±0°.04×166°.52E±0°.05, h15km, n58, σ1=28/65, mb3.9/3, 4C, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	Deep Cove	0.48	67	⇑P*	**Pb**	**00 13 18.1**	**-0.4**
DCZ				S*	**Sg**	**00 13 24.5**	**+0.1**
DCZ	Deep Cove	0.48	67	⇑P*	**Pb**	**00 13 18.1**	**-0.4**
DCZ				S*	**Sg**	**00 13 23.6**	**-0.8**
DCZ				S*	**Sg**	**00 13 24.5**	**+0.1**
DCZ				AML	AML	00 13 24.8	
DCZ				AML	AML	00 13 25.2	
PYZ	Puysegur Point	0.51	168	P*	Pg	00 13 12.7	-5.7
PYZ				S*	**Sg**	**00 13 25.2**	**-0.1**
PYZ	Puysegur Point	0.51	168	P*	**Pg**	**00 13 18.1**	**-0.3**
PYZ				S*	**Sg**	**00 13 25.0**	**-0.3**
WHZ	Wether Hill Ro	1.02	103	P*	**Pb**	**00 13 27.6**	**-0.1**
WHZ	Wether Hill Ro	1.02	103	P*	**Pb**	**00 13 27.6**	**-0.1**
WHZ				AML	AML	00 13 42.2	
WHZ				AML	AML	00 13 47.9	
MLZ	Mavora Lakes	1.21	75	⇑P*	**Pn**	**00 13 29.6**	**-1.0**
MLZ	Mavora Lakes	1.21	75	⇑P*	**Pn**	**00 13 29.6**	**-1.0**
MLZ				AML	AML	00 13 45.4	
MLZ				AML	AML	00 13 46.6	
MSZ	Milford Sound	1.41	46	Pn	**Pn**	**00 13 33.0**	**-0.3**
MSZ	Milford Sound	1.41	46	PN	**Pn**	**00 13 31.8**	**-1.5**
MSZ				AML	AML	00 13 59.8	
MSZ				AML	AML	00 13 59.8	
MSZ				AML	AML	00 14 04.0	
MSZ				AML	AML	00 14 04.0	
APZ	The Paps	1.55	139	Pn	**Pn**	**00 13 34.8**	**-0.6**
APZ	The Paps	1.55	139	PN	**Pn**	**00 13 34.8**	**-0.6**
WKZ	Wanaka	1.95	65	Pn	**Pb**	**00 13 42.2**	**-1.4**
WKZ	Wanaka	1.95	65	PN	**Pn**	**00 13 42.1**	**+1.2**
WKZ				AML	AML	00 14 11.1	
WKZ				AML	AML	00 14 11.2	
WKZ				AML	AML	00 14 15.3	
WKZ				AML	AML	00 14 15.4	
EAZ	Earnscleugh	2.01	79	Pn	**Pn**	**00 13 42.7**	**+1.1**
EAZ	Earnscleugh	2.01	79	PN	**Pn**	**00 13 42.7**	**+1.1**
EAZ				AML	AML	00 14 14.1	
EAZ				AML	AML	00 14 14.1	
EAZ				AML	AML	00 14 17.6	
EAZ				AML	AML	00 14 17.7	
SYZ	Scrubby Hill	2.02	117	Pn	**Pn**	**00 13 43.1**	**+1.3**
SYZ	Scrubby Hill	2.02	117	*e*PN	**Pn**	**00 13 42.4**	**+0.6**
TUZ	Tuapeka	2.19	99	Pn	**Pb**	**00 13 46.5**	**-1.1**
TUZ	Tuapeka	2.19	99	PN	**Pb**	**00 13 46.5**	**-1.1**
TUZ				AML	AML	00 14 16.7	
TUZ				AML	AML	00 14 19.0	
JCZ	Jackson Bay	2.25	46	*e*PN	**Pn**	**00 13 46.2**	**+1.1**
HHSZ	Highcliff Hill	2.86	96	*e*PN	**Pn**	**00 13 55.0**	**+1.7**
LBZ	Lake Benmore	2.90	65	*e*PN	**Pn**	**00 13 55.3**	**+1.5**
LBZ				AML	AML	00 14 39.5	
LBZ				AML	AML	00 14 39.5	
LBZ				AML	AML	00 14 50.5	
ODZ	Otahua Downs	2.97	79	*e*Pn	**Pn**	**00 13 55.5**	**+0.7**
ODZ	Otahua Downs	2.97	79	PN	**Pn**	**00 13 54.7**	**-0.2**
ODZ				AML	AML	00 14 33.5	
ODZ				AML	AML	00 14 34.1	
ODZ				AML	AML	00 14 48.5	
FOZ	Fox Glacier	3.09	48	*e*PN	**Pn**	**00 13 58.4**	**+2.0**
FOZ				AML	AML	00 14 52.8	
FOZ				AML	AML	00 14 52.8	
FOZ				AML	AML	00 14 56.7	
FOZ				AML	AML	00 14 56.7	
RPZ	Rata Peaks	3.77	60	*e*Pn	**Pn**	**00 14 06.3**	**+0.4**
RPZ				Sn	**Sn**	**00 14 52.5**	**+2.4**
RPZ	Rata Peaks	3.77	60	Pn	**Pn**	**00 14 05.7**	**-0.3**
	78nm,0.3s,baz=178,slow=2.8,SNR=142						
RPZ				Sn	**Sn**	**00 14 52.5**	**+2.4**
	51nm,0.3s,baz=124,slow=16,SNR=2.1						
RPZ	Rata Peaks	3.77	60	*e*PN	**Pn**	**00 14 05.3**	**-0.7**
RPZ				AML	AML	00 15 03.5	
RPZ				AML	AML	00 15 17.4	
WVZ	Waitaha Valley	3.98	51	*e*PN	**Pn**	**00 14 09.2**	**+0.6**
WVZ				AML	AML	00 15 08.9	
WVZ				AML	AML	00 15 11.8	
OXZ	Oxford	4.59	61	*e*PN	**Pn**	**00 14 17.0**	**-0.1**
MQZ	McQueen's Vall	4.79	68	*e*PN	**Pn**	**00 14 20.0**	**+0.2**
MQZ				AML	AML	00 15 57.6	
LTZ	Lake Taylor	5.04	57	*e*PN	**Pn**	**00 14 23.6**	**+0.3**
LTZ				AML	AML	00 15 37.0	
LTZ				AML	AML	00 15 38.7	
DSZ	Denniston Nort	5.48	46	*e*PN	**Pn**	**00 14 28.9**	**-0.4**
KHZ	Kahutara	6.01	60	*e*PN	**Pn**	**00 14 37.8**	**+1.2**
KHZ	Kahutara	6.01	60	*e*PN	**Pn**	**00 14 37.1**	**+0.5**
THZ	Tophouse	6.05	52	*e*PN	**Pn**	**00 14 37.4**	**+0.2**
QRZ	Quartz Range	6.53	44	*e*PN	**Pn**	**00 14 44.3**	**+0.6**
QRZ				AML	AML	00 16 09.9	
QRZ				AML	AML	00 16 20.9	
NNZ	Nelson	6.68	51	*e*PN	**Pn**	**00 14 47.1**	**+1.2**
NNZ				AML	AML	00 16 12.8	
SNZO	South Karori	7.37	57	*e*Pn	**Pn**	**00 14 52.8**	**-2.4**
SNZO				*e*Sn	**Sn**	**00 16 16.1**	**-2.5**
URZ	Urewera	10.81	50	*e*Pn	**Pn**	**00 15 41.0**	**-1.4**
URZ	Urewera	10.81	50	Pn	**Pn**	**00 15 42.9**	**+0.6**
	0.6nm,0.3s,baz=297,slow=6.8,SNR=2.5						
OUZ	Omahuta	11.74	30	*e*Pn	**Pn**	**00 15 54.1**	**-1.0**
STKA	Stephens Creek	23.70	297	P	**P**	**00 18 19.2**	**-0.1**
STKA	Stephens Creek	23.70	297	P	**P**	**00 18 19.2**	**-0.1**
	2.6nm,0.9s,baz=135,slow=15,SNR=3.3						
ASAR	Alice Springs	34.30	299	P	**P**	**00 19 53.8**	**-0.3**
ASAR	Alice Springs	34.30	299	P	**P**	**00 19 53.8**	**-0.3**
	1.1nm,0.8s,baz=140,slow=8.2,SNR=6.7						
WRA	Warramunga Arr	36.86	303	P	**P**	**00 20 15.8**	**-0.3**
WRA	Warramunga Arr	36.86	303	P	**P**	**00 20 15.8**	**-0.3**
	2.1nm,0.9s,baz=141,slow=8.2,SNR=6.7						
KSH	Kashi	117.19	300	*e*PKPbc	PKPdf	00 31 59.4	+6.9
KSH				PP	PP	00 33 16.8	+13
KSH				PKS	PKSdf	00 35 35.4	+6.2
KSH				SKS	**SKSdf**	**00 39 10.3**	**+6.4**
KSH				LR	LR		
	comp=N,130nm,6.2s						
KSH				LR	LR		
	comp=E,170nm,8.6s						
KSH				LR	LR		
	comp=Z,280nm,10.7s						
TORD	Torodi Ar. Bea	145.12	206	PKPbc	**PKPbc**	**00 32 44.5**	**-0.3**
TORD	Torodi Ar. Bea	145.12	206	PKPbc	**PKPbc**	**00 32 44.5**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=160,slow=2.1,SNR=15						
BRTR	Keskin Array B	145.27	277	PKPbc	**PKPdf**	**00 32 45.1**	**0.0**
BRTR	Keskin Array B	145.27	277	PKPbc	**PKPdf**	**00 32 45.1**	**0.0**
	comp=Z,1.5nm,0.9s,baz=141,slow=3.8,SNR=7.2						
ARCES	ARCESS Array B	149.22	334	PKPbc	**PKPbc**	**00 32 54.5**	**-0.3**
ARCES	ARCESS Array B	149.22	334	PKPbc	**PKPbc**	**00 32 54.5**	**-0.3**
	comp=Z,3.9nm,0.9s,baz=46,slow=3.5,SNR=6.3						
FINES	FINESS Array B	152.25	319	PKPbc	**PKPbc**	**00 33 02.6**	**+0.4**
FINES	FINESS Array B	152.25	319	PKPbc	**PKPbc**	**00 33 02.6**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=72,slow=4.5,SNR=3.2						

NEIC 17 00:17:27.1, 39°.95S×177°.10E, h27km, ML3.9(WEL), After WEL.

NEIC Felt [IV] at Hastings and Havelock North.

WEL 17 00:17:27.3±0.2, 39°.93S×177°.07E, h24km±1km, ML3.9/37, 12C-9D, Error ellipse: s-maj=2.5km s-min=1.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PXZ	Pawanui	0.19	237	⇑P*	Pb	00 17 33.5	+0.7
PXZ				S*	Sb	00 17 38.6	+2.2
PXZ	Pawanui	0.19	237	⇑P*	Pb	00 17 33.5	+0.7
PXZ				S*	Sb	00 17 37.7	+1.3
PXZ				AML	AML	00 17 39.3	
PXZ				AML	AML	00 17 39.4	
PXZ				AML	AML	00 17 39.4

WHVZ	**Whangaehu Hut**	**1.31**	**299**	⇑PN	Pn	00 17 49.9	-0.5
OTVZ	**Oturere**	**1.33**	**305**	Pn	Pn	00 17 50.2	-0.3
OTVZ	**Oturere**	**1.33**	**305**	⇓PN	Pn	00 17 50.2	-0.3
OTVZ				AML	AML	00 18 10.1	
OTVZ				AML	AML	00 18 12.7	
TRVZ	**Turoa**	**1.33**	**298**	AML	AML	00 18 08.0	
TRVZ				AML	AML	00 18 09.2	
RITZ	**Rihia Road**	**1.33**	**315**	Pn	Pn	00 17 50.8	+0.3
RITZ	**Rihia Road**	**1.33**	**315**	PN	Pn	00 17 50.5	+0.1
RITZ				AML	AML	00 18 12.3	
RITZ				AML	AML	00 18 13.4	
MTVZ	**Mangateitei**	**1.35**	**293**	Pn	Pn	00 17 50.7	0.0
MTVZ	**Mangateitei**	**1.35**	**293**	PN	Pn	00 17 50.7	0.0
MTVZ				AML	AML	00 18 13.9	
MTVZ				AML	AML	00 18 18.5	
FWVZ	**Far West T-bar**	**1.35**	**300**	Pn	Pn	00 17 50.5	-0.5
FWVZ	**Far West T-bar**	**1.35**	**300**	⇑PN	Pn	00 17 50.5	-0.5
FWVZ				AML	AML	00 18 09.2	
FWVZ				AML	AML	00 18 09.2	
MRZ	**Mangatainoka R**	**1.35**	**237**	Pn	Pn	00 17 49.5	-1.1
MRZ	**Mangatainoka R**	**1.35**	**237**	PN	Pn	00 17 49.5	-1.1
MRZ				AML	AML	00 18 13.1	
MRZ				AML	AML	00 18 13.2	
NGZ	**Ngauruhoe**	**1.36**	**303**	Pn	Pn	00 17 50.5	-0.4
NGZ	**Ngauruhoe**	**1.36**	**303**	PN	Pn	00 17 50.5	-0.4
NGZ				AML	AML	00 18 11.2	
NGZ				AML	AML	00 18 20.5	
WPVZ	**Whakapapa**	**1.38**	**301**	Pn	Pn	00 17 50.9	-0.3
WPVZ	**Whakapapa**	**1.38**	**301**	PN	Pn	00 17 50.9	-0.3
WPVZ				AML	AML	00 18 09.7	
WPVZ				AML	AML	00 18 14.3	
KRVZ	**Karewarewa**	**1.38**	**307**	Pn	Pn	00 17 51.0	-0.2
KRVZ	**Karewarewa**	**1.38**	**307**	PN	Pn	00 17 51.0	-0.2
KRVZ				AML	AML	00 18 12.4	
KRVZ				AML	AML	00 18 20.7	
WTVZ	**West Tongariro**	**1.40**	**305**	Pn	Pn	00 17 51.4	-0.1
WTVZ	**West Tongariro**	**1.40**	**305**	PN	Pn	00 17 51.4	-0.1
WTVZ				AML	AML	00 18 16.7	
WTVZ				AML	AML	00 18 22.1	
KATZ	**Kakaramea**	**1.43**	**312**	Pn	Pn	00 17 52.2	+0.3
KATZ	**Kakaramea**	**1.43**	**312**	PN	Pn	00 17 52.2	+0.3
KATZ				AML	AML	00 18 13.5	
KATZ				AML	AML	00 18 13.5	
RATZ	**Rangitukua**	**1.46**	**316**	PN	Pn	00 17 53.0	+0.8
RATZ				AML	AML	00 18 18.2	
RATZ				AML	AML	00 18 22.5	
PKVZ	**Pokaka**	**1.48**	**295**	Pn	Pn	00 17 52.8	+0.4
PKVZ	**Pokaka**	**1.48**	**295**	*e*PN	Pn	00 17 52.5	+0.1
PKVZ				AML	AML	00 18 12.6	
PKVZ				AML	AML	00 18 20.8	
TMWZ	**Te Maipa**	**1.48**	**217**	Pn	Pn	00 17 50.9	-1.5
TMWZ	**Te Maipa**	**1.48**	**217**	*e*PN	Pn	00 17 50.8	-1.6
ALRZ	**Allen Road**	**1.48**	**337**	*e*PN	Pn	00 17 51.4	-0.9
TWVZ	**Taurewa**	**1.52**	**304**	Pn	Pn	00 17 53.0	-0.1
TWVZ	**Taurewa**	**1.52**	**304**	*e*PN	Pn	00 17 53.0	-0.1
TWVZ				AML	AML	00 18 17.0	
HOWZ	**Holdsworth Sta**	**1.53**	**230**	Pn	Pn	00 17 51.5	-1.6
HOWZ	**Holdsworth Sta**	**1.53**	**230**	PN	Pn	00 17 51.3	-1.8
WHTZ	**Whakaora**	**1.53**	**325**	*e*PN	Pn	00 17 53.7	+0.5
WATZ	**Wairara**	**1.60**	**319**	AML	AML	00 18 18.5	
WATZ				AML	AML	00 18 23.8	
WAZ	**Wanganui**	**1.61**	**276**	Pn	Pn	00 17 54.3	0.0
WAZ	**Wanganui**	**1.61**	**276**	AML	AML	00 18 22.2	
WAZ				AML	AML	00 18 22.4	
MWZ	**Matawai**	**1.64**	**13**	Pn	Pn	00 17 53.2	-1.3
MWZ	**Matawai**	**1.64**	**13**	PN	Pn	00 17 53.1	-1.4
MWZ				AML	AML	00 18 28.0	
MWZ				AML	AML	00 18 28.1	
MWZ				AML	AML	00 18 42.4	
MWZ				AML	AML	00 18 42.5	
URZ	**Urewera**	**1.67**	**1**	*e*Pn	Pn	00 17 53.6	-1.4
URZ	**Urewera**	**1.67**	**1**	PN	Pn	00 17 53.5	-1.5
URZ				AML	AML	00 18 27.6	
URZ				AML	AML	00 18 34.1	
CNGZ	**Carnagh Statio**	**1.69**	**32**	Pn	Pn	00 17 54.5	-0.9
CNGZ	**Carnagh Statio**	**1.69**	**32**	*e*PN	Pn	00 17 54.3	-1.1
OGWZ	**Otaki Gorge**	**1.70**	**238**	Pn	Pn	00 17 54.0	-1.4
OGWZ	**Otaki Gorge**	**1.70**	**238**	*e*PN	Pn	00 17 53.9	-1.5
MTW	**Mount Morrison**	**1.71**	**224**	Pn	Pn	00 17 53.7	-1.8
MTW	**Mount Morrison**	**1.71**	**224**	*e*PN	Pn	00 17 53.3	-2.2
MTW				AML	AML	00 18 34.7	
MTW				AML	AML	00 18 36.2	
TARZ	**Mount Tarawera**	**1.75**	**345**	Pn	Pn	00 17 55.4	-0.8
TARZ	**Mount Tarawera**	**1.75**	**345**	*e*PN	Pn	00 17 55.1	-1.1
KIW	**Kapiti Island**	**1.89**	**240**	Pn	Pn	00 17 56.7	-1.4
KIW	**Kapiti Island**	**1.89**	**240**	*e*PN	Pn	00 17 56.3	-1.8
KIW				AML	AML	00 18 35.5	
KIW				AML	AML	00 18 42.5	
PAWZ	**Paruwai Farm**	**1.91**	**220**	AML	AML	00 18 48.4	
PAWZ				AML	AML	00 18 51.1	
CAW	**Cannon Point**	**1.92**	**232**	AML	AML	00 18 34.4	
CAW				AML	AML	00 18 36.2	
MSWZ	**Moikau Station**	**2.03**	**222**	AML	AML	00 18 41.7	
MSWZ				AML	AML	00 18 45.3	
PUZ	**Puketiti**	**2.08**	**27**	Pn	Pn	00 17 58.9	-1.7
PUZ	**Puketiti**	**2.08**	**27**	*e*PN	Pn	00 17 58.3	-2.3
PUZ				AML	AML	00 19 09.2	
PUZ				AML	AML	00 19 15.1	
PLWZ	**Palliser**	**2.14**	**219**	Pn	Pn	00 17 59.1	-2.4
PLWZ	**Palliser**	**2.14**	**219**	PN	Pn	00 17 59.1	-2.4
HIZ	**Hauiti**	**2.23**	**309**	AML	AML	00 18 35.4	
HIZ				AML	AML	00 18 42.1	
SNZO	**South Karori**	**2.26**	**232**	*e*Pn	Pb	00 18 10.4	+2.9
TCW	**Tory Channel**	**2.48**	**238**	Pn	Pn	00 18 04.4	-1.7
TCW	**Tory Channel**	**2.48**	**238**	AML	AML	00 18 57.3	
PKE	**Pukeiti**	**2.49**	**286**	AML	AML	00 18 53.2	
TUWZ	**Tuamarina**	**2.81**	**237**	AML	AML	00 19 04.5	
KHZ	**Kahutara**	**3.64**	**226**	*e*Pn	Pb	00 18 29.1	-1.8
MQZ	**McQueen's Vall**	**5.01**	**220**	SN	Sn	00 19 30.2	-7.8
CTZ	**Chatham Island**	**6.06**	**131**	*e*PN	Pn	00 18 56.3	+1.1

WEL 17 00:24:57.4±0.6,**46°12S**×**166°06E**,**h27**km±2km,**ML3.8**/13,
Error ellipse: s-maj=6.6km s-min=2.3km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.43**	**96**	P*	Pb	00 25 06.3	-0.4
PYZ				S*	Sb	00 25 12.3	-0.6
PYZ				S*	Sn	00 25 12.7	-2.2
DCZ	**Deep Cove**	**1.00**	**50**	PN	Pn	00 25 14.6	-1.0
DCZ				SN	Sb	00 25 28.1	-0.7
DCZ				AML	AML	00 25 28.1	
DCZ				AML	AML	00 25 28.1	
DCZ				AML	AML	00 25 29.3	
DCZ	**Deep Cove**	**1.00**	**50**	AML	AML	00 25 28.1	
WHZ	**Wether Hill Ro**	**1.33**	**81**	PN	Pn	00 25 20.4	+0.2
WHZ				AML	AML	00 25 41.8	
WHZ				AML	AML	00 25 44.6	
APZ	**The Paps**	**1.51**	**119**	PN	Pn	00 25 22.2	-0.6
MLZ	**Mavora Lakes**	**1.67**	**63**	*e*PN	Pn	00 25 25.5	+0.6
MLZ				AML	AML	00 25 54.1	
MLZ				AML	AML	00 25 58.3	
MSZ	**Milford Sound**	**1.96**	**43**	*e*PN	Pn	00 25 29.1	+0.3
MSZ				AML	AML	00 26 06.0	
MSZ				AML	AML	00 26 14.3	
SYZ	**Scrubby Hill**	**2.17**	**102**	PN	Pn	00 25 32.5	+0.7
EAZ	**Earnscleugh**	**2.44**	**70**	*e*PN	Pn	00 25 37.4	+1.9
EAZ				AML	AML	00 26 12.2	
EAZ				AML	AML	00 26 16.1	
WKZ	**Wanaka**	**2.45**	**59**	*e*PN	Pb	00 25 38.9	-1.9
WKZ				AML	AML	00 26 20.3	
WKZ				AML	AML	00 26 30.9	
WKZ				AML	AML	00 26 30.9	
TUZ	**Tuapeka**	**2.49**	**87**	PN	Pn	00 25 37.5	+1.3
TUZ				AML	AML	00 26 11.2	
TUZ				AML	AML	00 26 17.4	
JCZ	**Jackson Bay**	**2.80**	**44**	AML	AML	00 26 30.9	
JCZ				AML	AML	00 26 33.3	
LBZ	**Lake Benmore**	**3.39**	**61**	*e*PN	Pn	00 25 49.7	+1.1
LBZ				AML	AML	00 26 47.6	
ODZ	**Otahua Downs**	**3.39**	**73**	*e*PN	Pn	00 25 48.4	-0.2
ODZ				AML	AML	00 26 44.0	
ODZ				AML	AML	00 26 48.9	

WEL 17 00:28:53.9±0.2,**45°44S**×**166°74E**,**h22**km±1km,**ML2.6**/4,
1C,Error ellipse: s-maj=2.1km s-min=1.8km az=90.0,
Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.29**	**98**	⇑P*	Pb	00 29 00.5	-0.1
DCZ				S*	Sb	00 29 05.2	0.0
DCZ				AML	AML	00 29 05.3	
DCZ				AML	AML	00 29 05.6	
PYZ	**Puysegur Point**	**0.73**	**183**	P*	Pb	00 29 07.3	-0.6
PYZ				S*	Sb	00 29 16.4	-1.2
WHZ	**Wether Hill Ro**	**0.96**	**119**	*e*P*	Pn	00 29 12.3	+0.2
WHZ				S*	Sb	00 29 24.5	+0.3
MLZ	**Mavora Lakes**	**1.01**	**85**	PN	Pb	00 29 11.9	-1.0
MLZ				S*	Sb	00 29 24.0	-1.8
MSZ	**Milford Sound**	**1.14**	**48**	PN	Pn	00 29 13.9	-0.6
MSZ				SN	Sn	00 29 30.8	+1.4
MSZ				AML	AML	00 29 32.8	
WKZ	**Wanaka**	**1.72**	**70**	*e*PN	Pb	00 29 24.5	-0.4
EAZ	**Earnscleugh**	**1.82**	**84**	*e*PN	Pb	00 29 26.6	+0.1
JCZ	**Jackson Bay**	**1.98**	**47**	*e*PN	Pb	00 29 28.4	-1.1
ODZ	**Otahua Downs**	**2.79**	**83**	PN	Pn	00 29 38.5	+1.3

WEL 17 00:39:16.1±0.3,**45°62S**×**166°70E**,**h16**km±1km,**ML4.0**/16,
3C,Error ellipse: s-maj=4.1km s-min=2.0km az=90.0,
Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.35**	**66**	⇑P*	Pg	00 39 23.2	-0.2
DCZ				S*	Sg	00 39 28.4	+0.1
DCZ				AML	AML	00 39 28.7	
DCZ				AML	AML	00 39 29.1	
DCZ				AML	AML	00 39 29.1	
PYZ	**Puysegur Point**	**0.55**	**181**	⇑P*	Pg	00 39 26.0	-1.0
PYZ				S*	Sg	00 39 33.6	-0.7
WHZ	**Wether Hill Ro**	**0.92**	**108**	P*	Pb	00 39 33.3	-0.4
WHZ				AML	AML	00 39 53.6	
WHZ				AML	AML	00 42 12.5	
MLZ	**Mavora Lakes**	**1.07**	**76**	⇑P*	Pb	00 39 34.7	-1.7
MLZ				AML	AML	00 39 57.3	
MLZ				AML	AML	00 42 23.3	
MSZ	**Milford Sound**	**1.29**	**43**	PN	Pn	00 39 38.2	-1.3
MSZ				AML	AML	00 40 02.4	
MSZ				AML	AML	00 40 02.5	
MSZ				AML	AML	00 40 04.7	
MSZ				AML	AML	00 40 04.7	
APZ	**The Paps**	**1.51**	**144**	PN	Pn	00 39 42.5	-0.1
WKZ	**Wanaka**	**1.82**	**65**	PN	Pn	00 39 46.9	0.0
WKZ				AML	AML	00 40 18.3	
WKZ				AML	AML	00 40 18.3	
WKZ				AML	AML	00 40 23.0	
WKZ				AML	AML	00 40 23.0	
EAZ	**Earnscleugh**	**1.88**	**79**	PN	Pn	00 39 48.1	+0.4
EAZ				AML	AML	00 40 17.9	
EAZ				AML	AML	00 40 19.7	
EAZ				AML	AML	00 40 19.8	
EAZ				AML	AML	00 40 19.8	
SYZ	**Scrubby Hill**	**1.93**	**119**	PN	Pn	00 39 49.6	+1.3
TUZ	**Tuapeka**	**2.08**	**100**	PN	Pn	00 39 51.9	+1.4
TUZ				AML	AML	00 40 23.5	
TUZ				AML	AML	00 40 23.6	
JCZ	**Jackson Bay**	**2.13**	**44**	*e*PN	Pn	00 39 51.3	+0.1
JCZ				AML	AML	00 40 32.8	
JCZ				AML	AML	00 40 33.1	
HHSZ	**Highcliff Hill**	**2.75**	**97**	*e*PN	Pn	00 40 01.0	+1.5
LBZ	**Lake Benmore**	**2.77**	**65**	*e*PN	Pn	00 39 59.4	-0.5
LBZ				AML	AML	00 40 39.2	
LBZ				AML	AML	00 40 53.3	
ODZ	**Otahua Downs**	**2.84**	**80**	*e*PN	Pn	00 39 59.9	-1.0
ODZ				AML	AML	00 40 39.2	
ODZ				AML	AML	00 40 39.2	
ODZ				AML	AML	00 40 39.8	
ODZ				AML	AML	00 40 39.8	
FOZ	**Fox Glacier**	**2.97**	**47**	*e*PN	Pn	00 40 03.3	+0.7
FOZ				AML	AML	00 40 56.5	
FOZ				AML	AML	00 40 56.5	
RPZ	**Rata Peaks**	**3.65**	**60**	*e*PN	Pn	00 40 11.4	-0.5
RPZ				AML	AML	00 40 60.0	
RPZ				AML	AML	00 41 00.1	
WVZ	**Waitaha Valley**	**3.86**	**50**	*e*PN	Pn	00 40 14.7	-0.1
WVZ				AML	AML	00 41 24.7	
OXZ	**Oxford**	**4.46**	**61**	*e*PN	Pn	00 40 22.8	-0.4

WEL 17 00:41:24.8±0.5,**46°16S**×**165°96E**,**h26**km±2km,**ML3.9**/12,
1D,Error ellipse: s-maj=4.9km s-min=2.5km az=90.0,
Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.50**	**91**	P*	Pb	00 41 34.8	-0.3
PYZ				S*	Sb	00 41 41.6	-0.5
DCZ	**Deep Cove**	**1.08**	**51**	⇓PN	Pn	00 41 43.5	-0.7
DCZ				SN	Sn	00 41 57.3	-1.0
DCZ				AML	AML	00 41 57.7	
DCZ				AML	AML	00 42 00.6	
DCZ				AML	AML	00 42 00.9	
WHZ	**Wether Hill Ro**	**1.41**	**80**	PN	Pn	00 41 48.7	-0.1
WHZ				SN	Sn	00 42 06.5	0.0
WHZ				AML	AML	00 42 10.9	
APZ	**The Paps**	**1.56**	**116**	PN	Pn	00 41 50.2	-0.6
MLZ	**Mavora Lakes**	**1.75**	**63**	*e*PN	Pn	00 41 54.1	+0.6
MLZ				SN	Sn	00 42 15.5	+0.5
MLZ				AML	AML	00 42 22.6	
SYZ	**Scrubby Hill**	**2.23**	**101**	*e*PN	Pn	00 42 00.6	+0.5
EAZ	**Earnscleugh**	**2.52**	**70**	PN	Pn	00 42 06.0	+1.9
EAZ				AML	AML	00 42 38.8	
EAZ				AML	AML	00 42 39.2	
WKZ	**Wanaka**	**2.53**	**59**	PN	Pn	00 42 06.9	+2.6
WKZ				AML	AML	00 42 42.5	
WKZ				AML	AML	00 42 44.7	
TUZ	**Tuapeka**	**2.57**	**87**	PN	Pn	00 42 05.7	+1.0
TUZ				AML	AML	00 42 38.2	
TUZ				AML	AML	00 42 39.8	
JCZ	**Jackson Bay**	**2.88**	**45**	*e*PN	Pn	00 42 11.2	+2.1
JCZ				AML	AML	00 42 53.0	
JCZ				AML	AML	00 42 57.7	
LBZ	**Lake Benmore**	**3.47**	**61**	*e*PN	Pn	00 42 17.7	+0.6
LBZ				AML	AML	00 42 58.5	
LBZ				AML	AML	00 42 59.0	
ODZ	**Otahua Downs**	**3.47**	**73**	PN	Pn	00 42 17.2	+0.1
ODZ				AML	AML	00 43 01.4	
FOZ	**Fox Glacier**	**3.71**	**47**	*e*PN	Pn	00 42 22.1	+1.7
RPZ	**Rata Peaks**	**4.37**	**58**	*e*PN	Pn	00 42 29.7	+0.3
OXZ	**Oxford**	**5.18**	**59**	*e*PN	Pn	00 42 40.8	+0.2

IDC ***17*** *00:50:28.4±0.9,46°24S×166°14E,h0km,mb4.1/6, mb1 4.3/7,mb1mx4.1/16,mbtmp4.1/7,ML4.3/1,MS3.7/3, Ms1 3.7/3,ms1mx3.4/24,Error ellipse: s-maj=29.3km s-min=23.0km az=17.0*

ISCJB ***17*** *00:50:29.6±0.5,46°09S±0°06×165°96E±0°06,h12km, mb4.1/7,MS3.9/2,Error ellipse: s-maj=8.3km s-min=5.4km az=171.1*

WEL ***17*** *00:50:30.8±0.6,46°11S×165°93E,h12km,ML4.8/18,Error ellipse: s-maj=5.3km s-min=3.9km az=90.0*

NEIC ***17*** *00:50:33.1,46°02S×166°12E,h12km,mb4.4/1, ML4.8(WEL),After WEL.*

ISC 17 00:50:30.3±0.6,**46°12S**±0°07×**166°08E**±0°05,**h12**km,**n50,**
σ**1**§**13**/54,**mb4.1**/7,**1D,Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.42**	**97**	P*	**Pn**	**00 50 41.5**	**-0.7**
PYZ				S*	**Sb**	**00 50 47.8**	**+1.8**
DCZ	**Deep Cove**	**0.99**	**50**	⇓P*	**Pg**	**00 50 49.6**	**+0.3**
DCZ				AML	AML	00 50 57.3	
DCZ				AML	AML	00 50 60.0	
DCZ				S*	**Sg**	**00 51 01.9**	**-0.2**
DCZ				AML	AML	00 51 03.3	
WHZ	**Wether Hill Ro**	**1.32**	**81**	PN	**Pb**	**00 50 55.4**	**+0.4**
WHZ				AML	AML	00 51 15.3	
WHZ				AML	AML	00 51 20.7	
APZ	**The Paps**	**1.50**	**119**	PN	**Pn**	**00 50 57.1**	**+0.1**
MLZ	**Mavora Lakes**	**1.66**	**63**	PN	**Pb**	**00 51 00.7**	**-0.1**
MLZ				AML	AML	00 51 26.9	
MLZ				AML	AML	00 51 29.2	
MSZ	**Milford Sound**	**1.95**	**43**	PN	**Pn**	**00 51 04.1**	**+0.9**
MSZ				AML	AML	00 51 38.5	
MSZ				AML	AML	00 51 39.1	
MSZ				AML	AML	00 51 39.8	
MSZ				AML	AML	00 51 41.2	
SYZ	**Scrubby Hill**	**2.16**	**102**	PN	**Pn**	**00 51 07.0**	**+1.0**
EAZ	**Earnscleugh**	**2.43**	**70**	PN	**Pb**	**00 51 12.3**	**-1.6**
EAZ				AML	AML	00 51 49.0	
EAZ				AML	AML	00 51 49.0	
EAZ				AML	AML	00 51 51.2	
EAZ				AML	AML	00 51 51.3	
WKZ	**Wanaka**	**2.44**	**59**	PN	**Pb**	**00 51 12.4**	**-1.7**
WKZ				AML	AML	00 51 54.4	
WKZ				AML	AML	00 51 54.5	
WKZ				AML	AML	00 52 06.8	
WKZ				AML	AML	00 52 06.8	
TUZ	**Tuapeka**	**2.48**	**87**	PN	**Pn**	**00 51 12.1**	**+1.6**
TUZ				AML	AML	00 51 43.6	
TUZ				AML	AML	00 51 51.7	
JCZ	**Jackson Bay**	**2.79**	**44**	*e*PN	**Pn**	**00 51 17.3**	**+2.5**
JCZ				AML	AML	00 52 08.5	
JCZ				AML	AML	00 52 11.9	
HHSZ	**Highcliff Hill**	**3.16**	**87**	*e*PN	**Pn**	**00 51 21.1**	**+1.3**
LBZ	**Lake Benmore**	**3.38**	**61**	PN	**Pn**	**00 51 24.2**	**+1.4**
LBZ				AML	AML	00 52 22.2	
LBZ				AML	AML	00 52 36.4	
ODZ	**Otahua Downs**	**3.38**	**73**	*e*Pn	**Pn**	**00 51 23.6**	**+0.7**
ODZ	**Otahua Downs**	**3.38**	**73**	PN	**Pn**	**00 51 23.4**	**+0.5**
ODZ				AML	AML	00 52 22.4	
ODZ				AML	AML	00 52 22.4	
ODZ				AML	AML	00 52 25.9	
ODZ				AML	AML	00 52 25.9	
FOZ	**Fox Glacier**	**3.62**	**46**	*e*PN	**Pn**	**00 51 29.1**	**+2.9**
FOZ				AML	AML	00 52 35.9	
FOZ				AML	AML	00 52 38.3	
RPZ	**Rata Peaks**	**4.27**	**58**	*e*Pn	**Pn**	**00 51 36.0**	**+0.8**
RPZ				Sn	**Sn**	**00 52 24.8**	**-0.1**
RPZ	**Rata Peaks**	**4.27**	**58**	Pn	**Pn**	**00 51 35.7**	**+0.5**
	16nm,0.3s,baz=231,slow=5.0,SNR=30						
RPZ				Sn	**Sn**	**00 52 24.8**	**-0.1**
	23nm,0.3s,baz=156,slow=22,SNR=3.3						
RPZ				LR	LR	00 52 40.4	
	comp=Z,287nm,19.2s,baz=237,slow=31						
RPZ	**Rata Peaks**	**4.27**	**58**	*e*PN	**Pn**	**00 51 35.6**	**+0.5**
RPZ				AML	AML	00 52 26.8	
RPZ				AML	AML	00 52 27.7	
WVZ	**Waitaha Valley**	**4.51**	**49**	*e*PN	**Pn**	**00 51 39.5**	**+1.2**
WVZ				AML	AML	00 52 39.2	
WVZ				AML	AML	00 53 17.4	
OXZ	**Oxford**	**5.08**	**59**	*e*PN	**Pn**	**00 51 45.8**	**-0.4**
LTZ	**Lake Taylor**	**5.54**	**55**	*e*PN	**Pn**	**00 51 52.9**	**+0.3**
LTZ				AML	AML	00 52 57.1	
LTZ				AML	AML	00 52 59.9	
THZ	**Tophouse**	**6.57**	**51**	*e*PN	**Pn**	**00 52 07.3**	**+0.5**
THZ				AML	AML	00 53 27.5	
THZ				AML	AML	00 53 29.6	
QRZ	**Quartz Range**	**7.07**	**44**	*e*PN	**Pn**	**00 52 14.9**	**+1.3**
QRZ				AML	AML	00 53 50.1	
QRZ				AML	AML	00 54 01.4	
NNZ	**Nelson**	**7.21**	**50**	*e*PN	Pn	00 52 19.0	+3.6
NNZ				AML	AML	00 53 53.7	
NNZ				AML	AML	00 54 02.0	
HIZ	**Hauiti**	**9.99**	**44**	*e*PN	**Pn**	**00 52 55.5**	**+1.8**
URZ	**Urewera**	**11.33**	**50**	Pn	**Pn**	**00 53 12.9**	**-1.1**
URZ				Sn	**Sn**	**00 55 16.7**	**-1.7**
URZ	**Urewera**	**11.33**	**50**	Sn	**Sn**	**00 55 16.7**	**-1.7**
	0.7nm,0.3s,baz=12,slow=18,SNR=2.4						
STKA	**Stephens Creek**	**23.64**	**298**	P	**P**	**00 55 41.9**	**+0.6**
	3.2nm,0.9s,baz=139,slow=15,SNR=3.1						
STKA				LR	LR	01 03 31.7	
	comp=Z,368nm,20.1s,baz=210,slow=33						
ASAR	**Alice Springs**	**34.25**	**300**	P	**P**	**00 57 16.8**	**+0.6**
ASAR	**Alice Springs**	**34.25**	**300**	P	**P**	**00 57 16.8**	**+0.6**
	1.8nm,0.8s,baz=140,slow=8.5,SNR=9.8						
ASAR				LR	LR	01 12 17.3	
	comp=Z,236nm,18.3s,baz=255,slow=38						
WRA	**Warramunga Arr**	**36.86**	**304**	P	**P**	**00 57 38.5**	**0.0**
WRA	**Warramunga Arr**	**36.86**	**304**	P	**P**	**00 57 38.5**	**0.0**
	3.1nm,0.9s,baz=139,slow=7.6,SNR=8.7						
FITZ	**Fitzroy Crossi**	**43.50**	**296**	P	**P**	**00 58 34.5**	**+0.9**
	5.0nm,1.0s,baz=150,slow=3.2,SNR=3.8						
QSPA	**South Pole Qui**	**44.00**	**180**	P	**P**	**00 58 35.8**	**-1.5**
QSPA	**South Pole Qui**	**44.00**	**180**	P	**P**	**00 58 35.8**	**-1.5**
	0.9nm,0.7s,baz=106,slow=3.8,SNR=6.0						
SNAA	**Sanae**	**62.25**	**184**	*e*P	**P**	**01 00 51.9**	**+0.4**
	3.1nm,1.0s						
DAV	**Davao City (W)**	**64.08**	**314**	*e*P	**P**	**01 01 01.5**	**-2.7**
CMAR	**Chiang Mai Arr**	**88.26**	**299**	P	**P**	**01 03 22.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**88.26**	**299**	P	**P**	**01 03 22.4**	**+0.8**
	0.8nm,0.3s,baz=157,slow=3.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**144.58**	**207**	PKP	**PKPab**	**01 10 05.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**144.58**	**207**	PKP	**PKPab**	**01 10 05.9**	**+0.5**
	0.6nm,0.6s,baz=172,slow=1.4,SNR=9.4						
BRTR	**Keskin Array B**	**145.02**	**277**	PKPbc	**PKPab**	**01 10 07.2**	**+0.5**
BRTR	**Keskin Array B**	**145.02**	**277**	PKPbc	**PKPab**	**01 10 07.2**	**+0.5**
	3.3nm,1.0s,baz=134,slow=3.6,SNR=9.0						
SCHQ	**Schefferville**	**145.96**	**56**	PKPbc	**PKPdf**	**01 10 08.4**	**+0.2**
SCHQ	**Schefferville**	**145.96**	**56**	PKPbc	**PKPdf**	**01 10 08.4**	**+0.2**
	3.4nm,0.9s,baz=264,slow=4.3,SNR=4.8						
ARCES	**ARCESS Array B**	**149.49**	**334**	PKPbc	**PKPbc**	**01 10 18.1**	**0.0**
ARCES	**ARCESS Array B**	**149.49**	**334**	PKPbc	**PKPbc**	**01 10 18.1**	**0.0**
	2.2n

QILN				Trac		00 55 07.0		
	comp=Z,3.4nm,0.2s							
STLN	**Stellar Camp,**	**9.89**	**228**	SN	Sn	00 55 14.2	-7.8	
FRB	**Frobisher Bay**	**11.53**	**168**	PN	**Pn**	**00 53 53.9**	**+0.2**	
FRB				mb		00 53 54.2		
	comp=Z,1.0nm,0.2s							
FRB				SN	Sn	00 55 53.1	-9.1	
FRB				Trac		00 55 58.0		
	comp=Z,2.7nm,0.2s							
FRB	**Frobisher Bay**	**11.53**	**168**	Pn	**Pn**	**00 53 53.8**	**+0.2**	
	0.2nm,0.3s,baz=340,slow=15,SNR=2.7							
FRB				Sn	Sn	00 55 52.2	-10	
	0.6nm,0.3s,baz=58,slow=19,SNR=7.8							
SEDN	**First Sedna Si**	**13.30**	**216**	PN	**Pn**	**00 54 17.1**	**-0.6**	
SEDN				mb		00 54 18.1		
	comp=Z,3.5nm,0.6s							
SEDN				SN	Sn	00 56 34.8	-11	
SEDN				Trac		00 56 41.3		
	comp=Z,6.6nm,0.6s							
YKA	**Yellowknife Ar**	**18.83**	**250**	P	**P**	**00 55 28.4**	**-0.2**	
	0.3nm,0.3s,baz=36,slow=13,SNR=8.3							
ILAR	**Eielson Array**	**25.18**	**285**	P	**P**	**00 56 36.4**	**+2.2**	
	0.1nm,0.4s,baz=24,slow=14,SNR=2.4							
ZALV	**Zalesovo Beam**	**50.47**	**16**	P	P	01 00 12.1	+5.6	
	1.1nm,0.6s,baz=350,slow=7.3,SNR=5.6							

IDC 17 00:51:18.4±2.7, 4.96S×133.82E, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML3.4/2, Error ellipse: s-maj=98.0km s-min=27.7km az=86.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.90**	**178**	Pn	Pn	00 54 49.9	-0.6
	0.1nm,0.3s,baz=355,slow=13,SNR=2.6						
FITZ	**Fitzroy Crossi**	**15.31**	**211**	Pn	Pn	00 54 56.6	+0.5
	0.2nm,0.3s,baz=32,slow=16,SNR=4.5						
FITZ				Sn	Sn	00 57 46.8	+0.3
	0.1nm,0.3s,baz=157,slow=14,SNR=2.7						
ASAR	**Alice Springs**	**18.59**	**180**	P	Pn	00 55 37.5	-0.1
	0.1nm,0.3s,baz=5.2,slow=13,SNR=12						
MKAR	**Makanchi Array**	**68.69**	**325**	P	P	01 02 23.9	0.0
	0.4nm,0.8s,baz=116,slow=9.8,SNR=2.9						

*IDC **17** 00:59:43.4±0.4, 21.25S×174.29W, h0km, mb4.8/26, mb1 5.0/28, mb1mx4.9/31, mbtmp4.8/28, ML5.1/2, MS4.5/9, Ms1 4.5/9, ms1mx4.3/29, Error ellipse: s-maj=16.5km s-min=11.5km az=145.0*

*BJI **17** 00:59:46.6, 20.90S×173.59W, h30km, mB5.6/24, mb5.3/30, Ms5.1/18, Ms7 4.9/18*

*DJA **17** 00:59:47.9±0.7, 22.12S×177.15W±1.5, h10km, M5.4/16, mB6.0/4, mb5.3/16, Mw(mB)5.6/4*

*ISCJB **17** 00:59:47.6±0.2, 21.25S±0.05, 174.24W±0.04, h33km, mb5.1/140, MS4.8/22, Error ellipse: s-maj=8.7km s-min=4.3km az=150.8*

*SZGRF **17** 00:59:48.0, 21.58S×174.05W, h33km, Tonga Islands*

*GCMT **17** 00:59:48.3±0.2, 21.51S×173.64W, h18km, MW5.1, Moment Tensor Solution. s43,c57; s79,c129; Moment tensor: Scale 1016Nm; Mrr5.69±.26; Mθθ0.04±.18; Mφφ-5.74±.20; Mrθ2.62±.44; Mrφ-1.70±.13; Mθφ0.95±.39; Best double couple: M06.60000×1016 NP1:φs177.00000°, δ41.00000°, λ59.00000°. NP2:φs35.00000°, δ56.00000°, λ114.00000°. Principal axes: T 6.7200, Plg69.0000°, Azm356.0000°; N -0.3000, Plg19.0000°, Azm201.0000°; P -6.4300, Plg8.0000°, Azm108.0000°; Data Used: II IU IC CN G.*

*BKK **17** 00:59:49.5±0.7, 22.12S×177.15W±1.7, h10km, M5.7/25, mB6.2/7, mb5.4/25, Mw(mB)5.9/7*

*MOS **17** 00:59:50.0±1.2, 20.59S×174.26W, h33km, mb5.2/44, MS4.8/7, Error ellipse: s-maj=14.5km s-min=8.8km az=71.0*

*NEIC **17** 00:59:51.2±2.2, 21.23S×174.29W, h53km±19km, mb5.0/89, Error ellipse: s-maj=8.1km s-min=5.2km az=146.0*

*AUST **17** 00:59:54.1±0.9, 21.64S×174.30W, h67km, Error ellipse: s-maj=1.9km s-min=1.5km az=243.0*

ISC 17 00:59:49.0±0.6, 21.21S±0.06×174.25W±0.07, h34km±2km, h33km:pP-P, n717, σ0.96/733, mb5.1/139, MS4.8/22, 150C-150D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.63**	**18**	*e*Pn	Pn	01 01 31.9	-6.0
AFI				Sn	Sn	01 02 48.3	-15
AFI				TT		01 09 35.3	
AFI	**Afiamalu**	**7.63**	**18**	Pn	Pn	01 01 32.2	-5.8
	47nm,0.3s,baz=130,slow=2.6,SNR=18						
AFI				Sn	Sn	01 02 48.3	-15
	13nm,0.3s,baz=54,slow=23,SNR=1.5						
AFI				T	T	01 09 35.3	
	10.0nm,0.3s,baz=349,slow=20,SNR=4.0						
MSVF	**Nonsavu**	**8.05**	**294**	Pn	Pn	01 01 51.0	+7.4
	2μm,1.1s,SNR=42						
MSVF	**Nonsavu**	**8.05**	**294**	*e*Pn	Pn	01 01 51.1	+7.4
RAO	**Raoul Island**	**8.67**	**202**	Pn	Pn	01 01 48.5	-3.6
RAO				Sn	Sn	01 03 21.8	-6.8
RAO	**Raoul Island**	**8.67**	**202**	Pn	Pn	01 01 48.5	-3.6
	61nm,0.3s,baz=92,slow=22,SNR=5.2						
RAO				Sn	Sn	01 03 21.8	-6.8
	46nm,0.3s,baz=93,slow=23,SNR=7.8						
RAO				LR	LR	01 04 44.0	
	comp=Z,1μm,22.0s,baz=75,slow=35						
RAR	**Rarotonga**	**13.50**	**93**	*e*Pn	Pn	01 02 45.8	-12
RAR				*e*Sn	Sn	01 04 59.9	-27
RAR	**Rarotonga**	**13.50**	**93**	Pn	Pn	01 02 45.9	-12
	12nm,0.3s,baz=270,slow=5.9,SNR=19						
RAR				Sn	Sn	01 04 59.9	-27
	4.3nm,0.3s,baz=270,slow=19,SNR=7.6						
RAR				LR	LR	01 07 08.2	
	comp=Z,2μm,19.3s,baz=271,slow=33						
DZM	**Mont Dzumac**	**17.97**	**264**	*e*P	**P**	**01 03 59.4**	**+2.7**
	166nm,1.6s						
DZM				*e*LR	LR	01 08 40.2	
	2μm,22.9s						
DZM	**Mont Dzumac**	**17.97**	**264**	*e*Pn	**P**	**01 03 59.0**	**+2.3**
	28nm,0.8s						
DZM	**Mont Dzumac**	**17.97**	**264**	P	**P**	**01 03 58.7**	**+1.9**
	0.9nm,0.3s,baz=270,slow=24,SNR=67						
URZ	**Urewera**	**18.56**	**202**	P	**P**	**01 04 02.6**	**-0.3**
URZ				*e*Pn	**Pn**	**01 04 03.3**	**0.0**
URZ				S	Sn	01 07 13.1	-17
URZ	**Urewera**	**18.56**	**202**	P	**P**	**01 04 02.6**	**-0.3**
	2.6nm,0.3s,baz=7.6,slow=7.0,SNR=14						
URZ				S	Sn	01 07 13.1	-17
	1.0nm,0.3s,baz=311,slow=5.9,SNR=1.8						
TBI	**Tubuai**	**23.03**	**100**	*e*LQ	LQ	01 08 51.8	
	501nm,31.8s						
TBI				*e*LR	LR	01 09 49.4	
	2μm,31.0s,baz=272						
PPT2	**Papeete2**	**23.54**	**85**	*e*LQ	LQ	01 09 12.3	
	2μm,25.0s						
PPT2				*e*LR	LR	01 10 14.5	
	2μm,26.0s,baz=255						
PPT	**Papeete**	**23.54**	**85**	LR	LR	01 12 11.8	
	comp=Z,2μm,18.1s,baz=251,slow=32						
HNR	**Honiara**	**27.46**	**291**	LR	LR	01 14 31.7	
	comp=Z,896nm,21.7s,baz=291,slow=32						
ARMA	**Armidale**	**31.96**	**246**	*e*P	**P**	**01 06 12.6**	**+0.5**
	25nm,1.0s						
RMQ	**Roma**	**34.16**	**254**	P	**P**	**01 06 31.6**	**+0.4**
	baz=34,SNR=5.8						
RKT	**Rikitea**	**36.35**	**100**	*e*LR	LR	01 16 00.0	
	2μm,28.5s,baz=260						
CTA	**Charters Tower**	**36.91**	**264**	P	**P**	**01 06 54.5**	**-0.4**
CTA	**Charters Tower**	**36.91**	**264**	P	**P**	**01 06 54.5**	**-0.4**
	5.3nm,0.5s,baz=85,slow=10,SNR=8.5						
CMSA	**Cobar Meteorol**	**37.16**	**245**	P	**P**	**01 06 55.7**	**-1.1**
	baz=37,SNR=8.6						
MOO	**Moorlands**	**38.56**	**228**	P	P	01 07 04.9	-3.7
	baz=38,SNR=6.3						
TAU	**Tasmania Unive**	**38.65**	**227**	*e*P	**P**	**01 07 08.6**	**-0.7**
TAU	**Tasmania Unive**	**38.65**	**227**	*e*P	**P**	**01 07 08.6**	**-0.7**
PMG	**Port Moresby**	**38.92**	**282**	P	**P**	**01 07 11.4**	**-0.5**
PMG	**Port Moresby**	**38.92**	**282**	P	**P**	**01 07 11.4**	**-0.5**
	13nm,0.6s,baz=162,slow=9.1,SNR=3.8						
PMG				LR	LR	01 21 18.3	
	comp=Z,635nm,18.4s,baz=283,slow=33						
MTSU	**Mount Surprise**	**39.06**	**267**	P	**P**	**01 07 12.9**	**-0.2**
	baz=39,SNR=4.4						
STKA	**Stephens Creek**	**40.66**	**245**	*e*P	**P**	**01 07 25.7**	**-0.5**
	6.5nm,1.3s						
STKA	**Stephens Creek**	**40.66**	**245**	P	**P**	**01 07 25.4**	**-0.9**
	15nm,1.0s,baz=72,slow=8.8,SNR=9.8						
STKA				LR	LR	01 22 59.3	
	comp=Z,667nm,19.7s,baz=62,slow=34						
STKA	**Stephens Creek**	**40.66**	**245**	P	**P**	**01 07 25.8**	**-0.5**
	baz=40,SNR=5.1						
COEN	**Coen**	**41.13**	**273**	*e*P	**P**	**01 07 30.0**	**-0.2**
	186nm,1.1s						
COEN	**Coen**	**41.13**	**273**	P	**P**	**01 07 30.0**	**-0.2**
	baz=41,SNR=7.6						
JAY	**Jayapura**	**47.60**	**287**	P	**P**	**01 08 22.2**	**+0.1**
	baz=48,SNR=8.7						
AS31	**Alice Springs**	**47.77**	**257**	*e*P	**P**	**01 08 22.1**	**-1.2**
ASAR	**Alice Springs**	**47.77**	**257**	P	**P**	**01 08 22.0**	**-1.4**
ASAR				S	**S**	**01 15 17.4**	**-0.6**
ASAR	**Alice Springs**	**47.77**	**257**	P	**P**	**01 08 22.0**	**-1.4**
	41nm,0.9s,baz=88,slow=8.4,SNR=132						
ASAR				S	**S**	**01 15 17.4**	**-0.6**
	1.6nm,1.0s,baz=103,slow=16,SNR=2.7						
ASAR				LR	LR	01 27 43.8	
	comp=Z,807nm,18.1s,baz=106,slow=35						
WRAB	**Tennant Creek**	**47.97**	**262**	P	**P**	**01 08 23.0**	**-1.8**
	182nm,1.1s,SNR=10						
WRAB	**Tennant Creek**	**47.97**	**262**	*e*P	**P**	**01 08 23.1**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,37nm,1.1s						
WRAB	**Tennant Creek**	**47.97**	**262**	*e*P	**P**	**01 08 23.1**	**-1.8**
	comp=Z,37nm,1.1s						
WRA	**Warramunga Arr**	**47.98**	**262**	P	**P**	**01 08 22.9**	**-2.0**
WRA	**Warramunga Arr**	**47.98**	**262**	P	**P**	**01 08 22.9**	**-2.0**
	comp=Z,21nm,0.9s,baz=98,slow=7.4,SNR=50						
KDU	**Kakadu**	**51.47**	**270**	P	**P**	**01 08 51.2**	**-0.3**
	baz=51,SNR=4.7						
FITZ	**Fitzroy Crossi**	**56.41**	**262**	P	**P**	**01 09 26.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**56.41**	**262**	P	**P**	**01 09 26.9**	**-0.7**
	comp=Z,3.6nm,0.6s,baz=116,slow=12,SNR=11						
SBA	**Scott Base**	**57.42**	**185**	*e*P	**P**	**01 09 34.0**	**+0.1**
SBA				pmax	pmax		
	comp=Z,18nm,1.2s						
SBA	**Scott Base**	**57.42**	**185**	*e*P	**P**	**01 09 34.0**	**+0.1**
	comp=Z,18nm,1.2s						
VNDA	**Vanda**	**57.54**	**186**	*e*P	**P**	**01 09 35.6**	**+0.9**
	comp=Z,9.3nm,1.2s						
VNDA	**Vanda**	**57.54**	**186**	P	**P**	**01 09 35.5**	**+0.9**
	comp=Z,2.5nm,0.9s,baz=0.3,slow=6.9,SNR=7.7						
VNDA				LR	LR	01 30 21.6	
	comp=Z,380nm,18.1s,baz=341,slow=32						
KLBR	**Kellerberrin**	**60.94**	**245**	P	**P**	**01 09 59.4**	**+0.4**
	baz=61,SNR=6.0						
MEEK	**Meekatharra**	**61.00**	**251**	P	**P**	**01 10 00.5**	**+1.0**
	baz=61,SNR=5.1						
MBWA	**Marble Bar**	**61.12**	**257**	*e*P	**P**	**01 09 59.2**	**-1.1**
	comp=Z,58nm,1.4s						
BLDU	**Balludu**	**61.97**	**246**	P	**P**	**01 10 06.5**	**+0.5**
	baz=62,SNR=12						
MORW	**Morawa**	**62.80**	**247**	P	**P**	**01 10 11.4**	**-0.2**
	baz=62,SNR=4.5						
CASY	**Casey**	**64.83**	**206**	*e*P	**P**	**01 10 23.9**	**-0.4**
	comp=Z,37nm,1.3s						
QSPA	**South Pole Qui**	**68.86**	**180**	*e*P	**P**	**01 10 50.5**	**+0.4**
	comp=Z,22nm,1.0s						
QSPA	**South Pole Qui**	**68.86**	**180**	LR	LR	01 36 33.1	
	comp=Z,462nm,18.2s,baz=230,slow=32						
MJAR	**Matsushiro Arr**	**72.91**	**322**	P	**P**	**01 11 14.9**	**0.0**
MJAR	**Matsushiro Arr**	**72.91**	**322**	P	**P**	**01 11 14.9**	**0.0**
	comp=Z,13nm,1.0s,baz=167,slow=6.0,SNR=19						
MAJO	**Matsushiro**	**72.91**	**322**	*e*P	**P**	**01 11 14.8**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,28nm,1.2s						
MAJO	**Matsushiro**	**72.91**	**322**	*e*P	**P**	**01 11 14.8**	**-0.1**
	comp=Z,28nm,1.2s						
MAT	**Matsushiro**	**72.91**	**322**	P	**P**	**01 11 15.1**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**74.50**	**331**	*d*	*i* P	**01 11 21.1**	**-2.9**
YUK					*i* S	**01 20 55.2**	**-1.5**
YUK				pmax	pmax		
	comp=N,117nm,1.1s						
YUK				pmax	pmax		
	comp=E,179nm,1.1s						
YUK				pmax	pmax		
	comp=Z,131nm,1.1s						
YUK				pmax	pmax		
	comp=Z,420nm,1.1s						
JNU	**Nakatsue**	**75.23**	**315**	*e*P	**P**	**01 11 28.8**	**+0.2**
	comp=Z,20nm,1.2s						
JNU	**Nakatsue**	**75.23**	**315**	P	**P**	**01 11 28.8**	**+0.2**
	comp=Z,26nm,1.1s,baz=13,slow=4.5,SNR=6.0						
SBUM	**Sibu**	**75.58**	**278**	P	**P**	**01 11 30.5**	**-0.5**
SBUM	**Sibu**	**75.58**	**278**	P	**P**	**01 11 33.4**	**+2.4**
	comp=Z,14nm,2.0s						
PKM	**Peak Mountain**	**76.03**	**44**	⇓P	**P**	**01 11 34.2**	**+0.8**
	baz=76,SNR=5.3						
SMMC	**Simmler**	**76.18**	**43**	⇓P	**P**	**01 11 34.8**	**+0.8**
	baz=76						
SAO	**San Andreas Ge**	**76.19**	**41**	*e*P	**P**	**01 11 34.1**	**+0.2**
SAO				pmax	pmax		
	comp=Z,30nm,1.0s						
SAO	**San Andreas Ge**	**76.19**	**41**	*e*P	**P**	**01 11 34.1**	**+0.2**
	comp=Z,30nm,1.0s						
MWC	**Mount Wilson**	**76.77**	**45**	*e*P	**P**	**01 11 38.7**	**+1.2**
MWC				pmax	pmax		
	comp=Z,21nm,1.4s						
MWC	**Mount Wilson**	**76.77**	**45**	*e*P	**P**	**01 11 38.6**	**+1.2**
	comp=Z,21nm,1.4s						
ARVC	**Arvin**	**76.82**	**44**	⇓P	**P**	**01 11 38.1**	**+0.6**
	baz=77						
MURC	**Murrieta**	**76.97**	**46**	⇑P	**P**	**01 11 39.1**	**+0.7**
	baz=77						
KIPM	**Iron Peak**	**76.98**	**38**	*e*P	**P**	**01 11 39.3**	**+0.8**
	comp=Z,108nm,1.8s						
KSM	**Kuching**	**76.98**	**277**	*e*P	**P**	**01 11 39.6**	**+0.6**
	comp=Z,23nm,0.8s						
KSM	**Kuching**	**76.98**	**277**	P	**P**	**01 11 40.0**	**+1.1**
KSM	**Kuching**	**76.98**	**277**	P	**P**	**01 11 39.8**	**+0.9**
	comp=Z,36nm,1.9s,comp=Z,796nm						
KSM	**Kuching**	**76.98**	**277**	P	**P**	**01 11 40.5**	**+1.5**
	baz=77,SNR=6.6						
NACB	**Ningchiao**	**77.00**	**302**	*e*P	**P**	**01 11 36.5**	**-2.3**
	comp=Z,52nm,1.0s						
BFSC	**Mount Baldy Ra**	**77.04**	**45**	⇑P	**P**	**01 11 39.6**	**+0.6**
	baz=77						
MONP	**Monument Peak**	**77.08**	**47**	⇑P	**P**	**01 11 39.8**	**+0.5**
	baz=77						
VES	**Vestal, Richgr**	**77.09**	**43**	⇑P	**P**	**01 11 39.4**	**+0.4**
	baz=77						
DVTC	**Desert V Tower**	**77.16**	**47**	⇓P	**P**	**01 11 40.2**	**+0.6**
	baz=77						
EDW2	**Edwards Air Fo**	**77.21**	**45**	⇑P	**P**	**01 11 40.5**	**+0.7**
	baz=77,SNR=13						
SSLB	**Suanglung**	**77.31**	**302**	*e*P	**P**	**01 11 39.6**	**-1.0**
	comp=Z,7.8nm,0.4s						
TPUB	**Ta-pu**	**77.33**	**301**	*e*P	**P**	**01 11 40.0**	**-0.7**
	comp=Z,40nm,1.0s						
ISA	**Isabella**	**77.37**	**44**	*e*P	**P**	**01 11 41.1**	**+0.4**
ISA				pmax	pmax		
	comp=Z,25nm,1.2s						
ISA	**Isabella**	**77.37**	**44**	*e*P	**P**	**01 11 41.0**	**+0.4**
	comp=Z,24nm,1.2s						
ISA	**Isabella**	**77.37**	**44**	⇑P	**P**	**01 11 41.3**	**+0.6**
	baz=78,SNR=12						
YHNB	**Yeheng**	**77.42**	**303**	*e*P	**P**	**01 11 41.1**	**-0.1**
	comp=Z,54nm,1.1s						
PFO	**Pinyon Flat Ob**	**77.47**	**46**	*e*P	**P**	**01 11 42.1**	**+0.7**
	comp=Z,11nm,1.0s						
PFO	**Pinyon Flat Ob**	**77.47**	**46**	P	**P**	**01 11 41.9**	**+0.4**
	comp=Z,7.1nm,0.9s,baz=258,slow=3.8,SNR=11						
PFO	**Pinyon Flat Ob**	**77.47**	**46**	⇓P	**P**	**01 11 41.8**	**+0.4**
	baz=78,SNR=5.1						
SWSC	**Sam W. Stewart**	**77.53**	**47**	⇑P	**P**	**01 11 41.9**	**+0.3**
	baz=78						
KHMM	**Horse Mountain**	**77.56**	**37**	*e*P	**P**	**01 11 43.6**	**+1.9**
	comp=Z,16nm,0.9s						
CMB	**Columbia Colle**	**77.65**	**41**	*e*P	**P**	**01 11 41.9**	**-0.3**
CMB				pmax	pmax		
	comp=Z,25nm,1.1s						
CMB	**Columbia Colle**	**77.65**	**41**	*e*P	**P**	**01 11 41.9**	**-0.3**
	comp=Z,25nm,1.1s						
LRMC	**Laurel Mountai**	**77.77**	**44**	⇓P	**P**	**01 11 43.5**	**+0.5**
	baz=78,SNR=6.1						
OHCM	**Honcut**	**77.83**	**39**	*e*P	**P**	**01 11 43.5**	**+0.4**
KRMB	**Red Mountain**	**77.90**	**36**	*e*P	**P**	**01 11 43.9**	**+0.3**
	comp=Z,48nm,2.0s						
PEA0B	**Petropavlovsk-**	**77.91**	**343**	*e*P	**P**	**01 11 41.6**	**-1.6**
PETK	**Petropavlovsk-**	**77.91**	**343**	P	**P**	**01 11 42.9**	**-0.3**
PETK	**Petropavlovsk-**	**77.91**	**343**	P	**P**	**01 11 42.9**	**-0.3**
PETK	**Petropavlovsk-**	**77.91**	**343**	P	**P**	**01 11 42.9**	**-0.3**
	comp=Z,12nm,0.9s,baz=120,slow=8.8,SNR=15						
BELC	**Belle Mtn. Jos**	**78.01**	**46**	⇓P	**P**	**01 11 44.7**	**+0.3**
	baz=78,SNR=14						
WDC	**Whiskeytown Da**	**78.03**	**38**	*e*P	**P**	**01 11 44.0**	**-0.2**
WDC				pmax	pmax		
	comp=Z,37nm,1.3s						
WDC	**Whiskeytown Da**	**78.03**	**38**	*e*P	**P**	**01 11 44.0**	**-0.2**
	comp=Z,36nm,1.3s						
CWC	**Cottonwood Cre**	**78.10**	**43**	⇓P	**P**	**01 11 45.4**	**+0.5**
	baz=78						
YSS	**Yuzh-Sakhalins**	**78.15**	**331**	⇑*e*P	**P**	**01 11 47.0**	**+2.4**
BC3	**Big Chuckawall**	**78.18**	**47**	⇓P	**P**	**01 11 46.0**	**+0.7**
	baz=78,SNR=6.2						
GSC	**Goldstone**	**78.24**	**45**	*e*P	**P**	**01 11 46.4**	**+0.8**
GSC				pmax	pmax		
	comp=Z,11nm,0.9s						
GSC	**Goldstone**	**78.24**	**45**	*e*P	**P**	**01 11 46.4**	**+0.8**
	comp=Z,11nm,0.9s						
GSC	**Goldstone**	**78.24**	**45**	⇑P	**P**	**01 11 45.7**	**+0.1**
	baz=78,SNR=9.9						
MPMC	**Manual Prospec**	**78.25**	**44**	⇓P	**P**	**01 11 46.0**	**+0.3**
	baz=78,SNR=24						
GLA	**Glamis**	**78.26**	**48**	*e*P	**P**	**01 11 46.9**	**+1.2**
GLA				pmax	pmax		
	comp=Z,14nm,1.0s						
GLA	**Glamis**	**78.26**	**48**	*e*P	**P**	**01 11 46.9**	**+1.2**
	comp=Z,14nm,1.0s						
GLA	**Glamis**	**78.26**	**48**	⇓P	**P**	**01 11 46.0**	**+0.3**
	baz=78						
HEC	**Hector,Ludlow**	**78.28**	**45**	⇑P	**P**	**01 11 45.5**	**-0.3**
	baz=78,SNR=17						
MTUM	**Tungsten Hills**	**78.35**	**42**	*e*P	**P**	**01 11 46.6**	**+0.4**
MLAC	**Mammoth Lakes**	**78.36**	**42**	⇑P	**P**	**01 11 47.2**	**+0.8**
	baz=79						
WAKR	**Walker**	**78.53**	**41**	*e*P	**P**	**01 11 47.4**	**+0.1**
IRM	**Iron Mountain**	**78.68**	**47**	⇑P	**P**	**01 11 48.3**	**+0.4**
	baz=79,SNR=7.7						
GMRC	**Granite Mounta**	**78.69**	**46**	⇓P	**P**	**01 11 48.1**	**-0.1**
	baz=79,SNR=6.7						
YBH	**Yreka Blue Hor**	**78.70**	**37**	*e*P	**P**	**01 11 48.2**	**+0.3**
	comp=Z,32nm,1.0s						
113A	**Mohawk Valley,**	**78.84**	**48**	⇓P	**P**	**01 11 49.2**	**+0.4**
	baz=79,SNR=11						
BEKR	**Beckworth**	**78.84**	**39**	*e*P	**P**	**01 11 48.5**	**-0.4**
	comp=Z,38nm,1.6s						
Y12C	**Blythe**	**78.87**	**47**	⇓P	**P**	**01 11 49.1**	**+0.2**
	baz=79,SNR=7.9						
LBCM	**Butte Creek Ri**	**78.89**	**38**	P	**P**	**01 11 49.1**	**+0.1**
GRAC	**Grapevine Rang**	**78.89**	**43**	⇓P	**P**	**01 11 49.7**	**+0.6**
	baz=79						
TUQ	**Turquoise Moun**	**78.90**	**45**	⇑P	**P**	**01 11 49.3**	**+0.1**
	baz=79,SNR=5.9						
FURC	**Furnace Creek,**	**78.90**	**44**	⇓P	**P**	**01 11 49.5**	**+0.5**
	baz=79,SNR=6.2						
SHOC	**Shoshone**	**78.94**	**45**	⇑P	**P**	**01 11 50.1**	**+0.8**
	baz=79						
214A	**Organ Pipe Nat**	**79.06**	**49**	⇓P	**P**	**01 11 50.6**	**+0.5**
	baz=79						
HUMO	**Hull Mountain**	**79.15**	**36**	*e*P	**P**	**01 11 51.0**	**+0.7**
	comp=Z,27nm,1.2s						
NVAR	**Mina Array Bea**	**79.18**	**41**	P	**P**	**01 11 50.3**	**-0.5**
NVAR	**Mina Array Bea**	**79.18**	**41**	P	**P**	**01 11 50.3**	**-0.5**
	comp=Z,17nm,0.9s,baz=224,slow=8.8,SNR=70						
NV11	**Mina Array Sit**	**79.27**	**42**	*e*P	**P**	**01 11 50.7**	**-0.6**
PAHR	**Pah Rah Range**	**79.32**	**40**	*e*P	**P**	**01 11 52.1**	**+0.7**
	comp=Z,26nm,1.0s						
PDMCI	**Parker Dam,Lak**	**79.44**	**47**	⇑P	**P**	**01 11 52.7**	**+0.7**
	baz=80						
Z14A	**Wintersburg**	**79.74**	**48**	⇑P	**P**	**01 11 53.7**	**0.0**
	baz=80,SNR=7.1						
KSRS	**Korea Array**	**79.78**	**317**	P	**P**	**01 11 55.3**	**+1.5**
	comp=Z,11nm,1.1s,baz=141,slow=5.9,SNR=26						
KSAR	**Wonju Array Be**	**79.79**	**317**	P	**P**	**01 11 55.3**	**+1.4**
Y14A	**Wickenburg**	**80.02**	**48**	⇓P	**P**	**01 11 55.7**	**+0.4**
	baz=80,SNR=14						
SHPR	**Sheep Range**	**80.03**	**45**	*e*P	**P**	**01 11 55.2**	**-0.2**
W13A	**Hualapai Mount**	**80.07**	**46**	⇑P	**P**	**01 11 56.3**	**+0.5**
	baz=80,SNR=6.2						
OHAK	**Old Harbor**	**80.09**	**11**	*e*P	**P**	**01 11 53.0**	**-2.0**
	comp=Z,38nm,1.4s						
MOD	**Modoc**	**80.17**	**38**	*e*P	**P**	**01 11 55.4**	**-0.7**
	comp=Z,25nm,0.9s						
TUC	**Tucson**	**80.70**	**50**	*e*P	**P**	**01 11 58.4**	**-0.6**
TUC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TUC	**Tucson**	**80.70**	**50**	*e*P	**P**	**01 11 58.4**	**-0.6**
	comp=Z,8.1nm,0.9s						
KDAK	**Kodiak Island**	**80.75**	**12**	*e*P	**P**	**01 12 00.6**	**+2.1**
	comp=Z,37nm,1.3s						
KDAK	**Kodiak Island**	**80.75**	**12**	P	**P**	**01 11 58.7**	**+0.2**
	comp=Z,12nm,1.0s,baz=157,slow=3.3,SNR=5.6						
R11A	**Troy Canyon, C**	**80.83**	**43**	⇑P	**P**	**01 12 00.7**	**+0.9**
	baz=81						
319A	**Douglas**	**81.30**	**52**	⇑P	**P**	**01 12 02.8**	**+0.5**
	baz=82						
X16A	**Lo Mia Camp, P**	**81.36**	**48**	⇑P	**P**	**01 12 03.6**	**+0.9**
	baz=82,SNR=14						
WVOR	**

MDJ pmax pmax
comp=Z,230nm,3.8s
MDJ LR LR
comp=N,160nm,18.8s
MDJ LR LR
comp=E,250nm,19.6s
MDJ LR LR
comp=Z,400nm,19.2s
MDJ Mudanjiang 83.15 323 eP P 01 12 12.9 +1.4
comp=Z,23nm,1.0s
RSO Redoubt South 83.24 11 eP P 01 12 10.9 -0.9
Y20A Horse Springs, 83.25 50 ⇓P P 01 12 13.5 +0.9
baz=84,SNR=15
222A Williams Famil 83.26 52 ⇓P P 01 12 13.3 +0.7
baz=84
SVW2 Sparrevohn 83.39 9 eP P 01 12 14.0 +1.6
comp=Z,11nm,1.0s
BBB Bella Bella 83.42 27 P P 01 12 12.8 +0.1
BBB Bella Bella 83.42 27 P P 01 12 12.8 +0.1
comp=Z,8.8nm,0.8s,baz=251,slow=10,SNR=5.2
E07A Sunnyside 83.42 34 P P 01 12 13.0 +0.1
Z21A St. Cloud Mine 83.45 51 ⇑P P 01 12 14.5 +0.9
baz=84,SNR=14
HAWA Hanford 83.49 35 eP P 01 12 13.5 +0.3
comp=Z,38nm,1.1s
X20A Quemado 83.49 49 ⇓P P 01 12 14.5 +0.7
baz=84,SNR=6.6
122A Conniff Cattle 83.63 51 ⇑P P 01 12 15.0 +0.6
baz=84
DUG Dugway 83.66 43 eP P 01 12 15.1 +0.7
DUG pmax pmax
comp=Z,9.0nm,1.3s
DUG Dugway 83.66 43 eP P 01 12 15.1 +0.7
comp=Z,8.9nm,1.3s
DUG Dugway 83.66 43 ⇓P P 01 12 15.0 +0.6
baz=84
KGM Kluang 83.67 275 P P 01 12 16.2 +1.3
MFID Camas Ranch 83.70 39 eP P 01 12 14.1 -0.4
comp=Z,25nm,1.1s
MFID Camas Ranch 83.70 39 ⇑P P 01 12 15.2 +0.6
baz=84
BMO Blue Mountains 83.73 37 eP P 01 12 13.7 -0.9
comp=Z,14nm,1.0s
W20A Ramah 83.79 49 ⇑P P 01 12 15.3 -0.1
baz=84,SNR=18
Y21A Point of Rocks 83.81 50 ⇑P P 01 12 16.4 +1.0
baz=84,SNR=9.8
ETW Entiat 83.85 33 P P 01 12 15.0 -0.2
Z22A Elephant Butte 83.94 51 ⇑P P 01 12 16.7 +0.7
baz=84
X21A Alamocita Cree 83.95 50 ⇑P P 01 12 17.1 +0.9
baz=84,SNR=9.6
Q16A Castle Valley 84.00 44 ⇑P P 01 12 16.9 +0.7
baz=84
SPU Mount Spurr 84.03 11 eP P 01 12 15.2 -0.5
324A Moseley Ranch, 84.14 53 ⇑P P 01 12 17.2 +0.1
baz=84,SNR=9.8
123A Bell Site, Whi 84.14 52 ⇑P P 01 12 17.6 +0.6
baz=84
V20A Brimhall 84.16 48 ⇓P P 01 12 17.7 +0.5
baz=84
TMUT Trail Mountain 84.18 44 eP P 01 12 17.6 +0.2
comp=Z,26nm,1.0s
425A Indio Mountain 84.19 54 ⇑P P 01 12 17.5 +0.1
baz=84,SNR=5.4
626A Big Bend Ranch 84.26 55 ⇓P P 01 12 17.5 -0.2
baz=84,SNR=8.6
Y22A Socorro 84.28 50 ⇑P P 01 12 18.2 +0.4
baz=84,SNR=6.1
I12A Atlanta 84.33 39 ⇓P P 01 12 18.1 +0.3
baz=85
MNTX Cornudas Mount 84.34 53 eP P 01 12 16.7 -1.2
comp=Z,6.7nm,1.1s
LAZ Ladron 84.39 50 eP P 01 12 19.4 +1.1
comp=Z,6.9nm,1.1s
LENM Lemitar 84.39 50 eP P 01 12 18.4 +0.1
224A Cornudas Mount 84.41 53 ⇓P P 01 12 18.8 +0.4
baz=85,SNR=7.2
U20A Newcomb 84.42 48 ⇑P P 01 12 18.9 +0.4
baz=85,SNR=6.1
Z23A Rita Site, Whi 84.47 51 ⇑P P 01 12 18.9 +0.2
baz=85
325A Bean Ranch, Si 84.48 53 ⇓P P 01 12 18.7 -0.2
baz=85,SNR=10
TXAR Lajitas Array 84.52 56 P P 01 12 19.2 +0.2
TXAR Lajitas Array 84.52 56 P P 01 12 19.2 +0.2
comp=Z,4.8nm,0.9s,baz=210,slow=7.2,SNR=37
SRU San Rafael 84.53 44 eP P 01 12 19.0 0.0
SRU pmax pmax
comp=Z,26nm,1.2s
SRU San Rafael 84.53 44 eP P 01 12 19.0 0.0
comp=Z,26nm,1.2s
SIT Sitka 84.53 20 eP P 01 12 19.2 +1.0
SIT pmax pmax
comp=Z,16nm,1.3s
SIT Sitka 84.53 20 eP P 01 12 19.1 +1.0
comp=Z,16nm,1.3s
X22A Bernardo 84.53 50 ⇑P P 01 12 20.4 +1.3
baz=85,SNR=6.8
526A Mary Lane Ranc 84.53 55 ⇓P P 01 12 19.3 +0.1
baz=85,SNR=9.9
OD2 Odessa Site #2 84.56 34 P P 01 12 18.8 +0.1
HVU Hansel Valley 84.58 41 eP P 01 12 19.3 +0.2
HVU pmax pmax
comp=Z,10.0nm,1.1s
HVU Hansel Valley 84.58 41 eP P 01 12 19.3 +0.2
comp=Z,10nm,1.1s
HLID Hailey 84.62 39 eP P 01 12 19.2 -0.1
comp=Z,15nm,1.0s
HLID Hailey 84.62 39 ⇓P P 01 12 19.5 +0.3
baz=85
BNM Barren Site 84.63 50 eP P 01 12 19.8 +0.2
comp=Z,7.5nm,1.0s
LPM Los Pinos Moun 84.70 50 eP P 01 12 19.5 -0.4
V21A Milan 84.74 49 ⇑P P 01 12 21.0 +0.8
baz=85,SNR=9.2
JLU Jordanelle 84.75 43 eP P 01 12 19.1 -1.0
comp=Z,13nm,1.2s
DAU Daniels Canyon 84.76 43 eP P 01 12 21.3 +1.1
DAU Daniels Canyon 84.76 43 eP P 01 12 21.3 +1.1
124A Stringfield Ra 84.77 52 ⇓P P 01 12 20.6 +0.3
baz=85,SNR=7.6
627A Terlingua Ranc 84.78 56 ⇑P P 01 12 20.5 +0.1
baz=85,SNR=13
426A McDonald Obser 84.86 54 ⇓P P 01 12 20.9 +0.1
baz=85,SNR=14
MVCO Mesa Verde 84.87 47 eP P 01 12 22.2 +1.5
comp=Z,9.9nm,1.1s
MVCO Mesa Verde 84.87 47 ⇓P P 01 12 21.0 +0.2
baz=85
W22A Albuquerque 84.92 49 ⇑P P 01 12 21.1 +0.1
baz=85
Y23A Lovelace Mesa, 84.93 51 ⇑P P 01 12 21.4 +0.3
baz=85,SNR=6.4
527A Woodward Ranch 84.94 55 ⇓P P 01 12 20.8 -0.4
baz=85,SNR=11
H12A Diamond D Ranc 84.94 38 ⇑P P 01 12 20.9 0.0
baz=85
PMR Palmer 84.94 12 eP P 01 12 19.9 -0.3
PMR pmax pmax
comp=Z,55nm,1.5s
PMR Palmer 84.94 12 eP P 01 12 19.9 -0.3
comp=Z,55nm,1.5s
225A Deer Hill, Car 84.95 53 ⇑P P 01 12 21.4 +0.2
baz=85,SNR=6.9
KLR Kul'dur 84.96 328 eP P 01 12 18.1 -2.5
G12A Big Creek, Yel 85.01 37 ⇑P P 01 12 21.3 +0.1
baz=85
WRAK Wrangell Islan 85.02 22 eP P 01 12 21.3 +0.7
comp=Z,27nm,1.4s
CN2 Changchun 85.03 321 eP P 01 12 22.5 +1.4
CN2 epP pP 01 12 32.9 +1.2
CN2 SKS S 01 22 41.4 -6.6
CN2 eS SKKSac 01 22 49.3 -0.1
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 pmax pmax
comp=Z,500nm,4.0s
CN2 LR LR
comp=N,130nm,18.0s
CN2 LR LR
comp=E,300nm,18.0s
CN2 LR LR
comp=Z,600nm,20.0s
U21A Nageezi 85.05 48 ⇓P P 01 12 21.6 -0.1
baz=85
Z24A Sheeppen Canyo 85.14 52 ⇓P P 01 12 22.7 +0.6
baz=85,SNR=7.4
ANMO Albuquerque 85.14 50 eP P 01 12 21.9 -0.3
comp=Z,18nm,1.0s
ANMO Albuquerque 85.14 50 P P 01 12 21.4 -0.7
comp=Z,14nm,1.0s,baz=216,slow=5.7,SNR=31
X23A Hourglass Bar 85.16 50 ⇓P P 01 12 22.5 +0.2
baz=85
326A Caldwell Ranch 85.21 54 ⇑P P 01 12 22.2 -0.3
baz=85
DIV Divide 85.21 13 eP P 01 12 21.7 +0.1
comp=Z,36nm,1.0s
PV04 Paradox Valley 85.22 46 eP P 01 12 23.5 +1.1
HWUT Hardware Ranch 85.23 42 eP P 01 12 21.8 -0.6
comp=Z,5.9nm,1.0s
S20A Disappointment 85.29 46 ⇑P P 01 12 22.5 -0.4
baz=86
SML Sawmill 85.30 12 eP P 01 12 23.0 +1.0
SML pmax pmax
comp=Z,7.0nm,1.3s
SML Sawmill 85.30 12 eP P 01 12 23.0 +1.0
comp=Z,6.9nm,1.3s
PV01 Paradox Valley 85.30 46 eP P 01 12 23.4 +0.5
comp=Z,678nm,1.2s
V22A San Miguel Ran 85.31 49 ⇓P P 01 12 22.3 -0.7
baz=86
BMRM Bremner River 85.32 14 eP P 01 12 22.6 +0.4
comp=Z,33nm,1.0s
GDL2 Guadalupe Moun 85.33 53 eP P 01 12 22.4 -0.6
comp=Z,3.8nm,0.9s
125A Gardner Draw, 85.34 52 ⇑P P 01 12 23.3 +0.3
baz=86,SNR=8.0
Y24A Capitan 85.38 51 ⇑P P 01 12 23.6 +0.2
baz=86,SNR=34
I14A Mackay 85.40 39 ⇓P P 01 12 23.7 +0.5
baz=86
T21A Navajo Lake 85.42 48 ⇓P P 01 12 23.7 +0.2
baz=86
427A Hayter Ranch, 85.42 55 ⇑P P 01 12 24.0 +0.5
baz=86,SNR=14
R20A Redvale 85.46 46 ⇑P P 01 12 23.8 +0.2
baz=86
W23A Werner Place, 85.47 50 ⇓P P 01 12 23.9 +0.1
baz=86,SNR=6.7
PNL Peninsula 85.49 17 eP P 01 12 23.1 +0.1
comp=Z,44nm,1.0s
528A Cox Ranch, San 85.58 55 ⇑P P 01 12 24.2 -0.1
baz=86,SNR=11
S21A Coal Bank Pass 85.59 47 ⇑P P 01 12 24.7 +0.3
baz=86
Z25A Roswell 85.59 52 ⇓P P 01 12 24.7 +0.4
baz=86,SNR=8.0
PPLA Purkeypile 85.62 10 eP P 01 12 22.7 -1.1
E12A Beaver Dam Sad 85.65 36 ⇓P P 01 12 24.3 0.0
baz=86
X24A Lazy VL Ranch, 85.69 51 ⇓P P 01 12 25.1 +0.2
baz=86
FRIM Kepong 85.69 275 P P 01 12 27.1 +2.0
WHN Wuhan 85.71 305 ⇓P P 01 12 26.5 +1.7
M17A Scullys Gap (B 85.72 42 ⇑P P 01 12 25.2 +0.3
baz=86
V23A Ortiz Mt. (NFS 85.74 49 ⇑P P 01 12 26.0 +0.9
baz=86,SNR=13
126A Clayton Basin, 85.80 53 ⇓P P 01 12 25.3 -0.1
baz=86
P19A Cripple Cowboy 85.82 45 ⇑P P 01 12 25.9 +0.4
baz=86
T22A Edith 85.87 48 ⇓P P 01 12 26.3 +0.5
baz=86
428A Kincaid Ranch, 85.91 55 ⇑P P 01 12 25.9 -0.1
baz=86,SNR=5.0
Q20A Ridgley Place, 85.91 46 ⇓P P 01 12 25.7 -0.1
baz=86
Y25A Mesa, Roswell 85.92 51 ⇓P P 01 12 25.9 -0.1
baz=86,SNR=18
NEW Newport 85.94 34 eP P 01 12 25.5 0.0
comp=Z,10nm,1.3s
NEW Newport 85.94 34 ⇑P P 01 12 25.8 +0.2
baz=86
529A Stev Forest Ra 86.00 56 ⇓P P 01 12 25.8 -0.6
baz=86,SNR=12
U23A El Rito 86.02 49 ⇓P P 01 12 27.0 +0.5
baz=86
W24A Lazy 6 Ranch, 86.02 50 ⇓P P 01 12 26.5 0.0
baz=86,SNR=12
O19A Miners Draw (B 86.07 44 ⇓P P 01 12 26.7 0.0
baz=86
R21A Cimarron 86.11 46 ⇓P P 01 12 26.9 0.0
baz=86
328A Wristen Ranch, 86.12 54 ⇓P P 01 12 26.5 -0.4
baz=86
Z26A Caprock 86.13 52 ⇑P P 01 12 26.9 -0.1
baz=86
P20A De Beque 86.13 45 ⇓P P 01 12 27.2 +0.2
baz=86
AHID Auburn Hatcher 86.16 41 eP P 01 12 27.2 +0.2
comp=Z,240nm,1.4s
PLCA Paso Flores 86.22 132 eP P 01 12 28.4 +1.0
comp=Z,122nm,2.4s
PLCA Paso Flores 86.22 132 P P 01 12 26.8 -0.6
comp=Z,3.0nm,1.0s,baz=246,slow=4.3,SNR=4.4
X25A Clemmons Ranch 86.23 51 ⇓P P 01 12 27.2 -0.3
baz=86,SNR=14
MCMT McKenzie Canyo 86.27 39 eP P 01 12 27.0 -0.5
comp=Z,3.4nm,1.1s
S22A 4UR Ranch, Cre 86.29 47 ⇑P P 01 12 27.6 -0.3
baz=86
127A Arkansas Junct 86.31 53 ⇓P P 01 12 27.6 -0.3
baz=86
V24A Rampart Ranch, 86.37 50 ⇑P P 01 12 28.8 +0.5
baz=87
TRF Thorofare Moun 86.46 11 eP P 01 12 26.4 -1.5
comp=Z,40nm,0.7s
429A Davenport Ranc 86.47 55 ⇓P P 01 12 28.4 -0.3
baz=87,SNR=28
SKAG Skagway 86.48 19 eP P 01 12 27.2 -0.7
comp=Z,61nm,1.3s
C12B Naegeli Ranch, 86.48 35 ⇓P P 01 12 28.5 +0.3
baz=87
I16A Newdale 86.54 40 ⇓P P 01 12 29.4 +0.6
baz=87
Y26A Elida 86.55 52 ⇓P P 01 12 29.2 +0.1
baz=87,SNR=9.4
O20A White River Ci 86.56 45 ⇓P P 01 12 29.4 +0.3
baz=87
228A UT Block 9, Go 86.62 54 ⇑P P 01 12 29.3 -0.1
baz=87
TNA Tin City 86.63 3 eP P 01 12 27.5 -0.9
TPAW Teton Pass 86.65 41 eP P 01 12 30.0 +0.5
comp=Z,7.0nm,1.3s
D13A Huson 86.67 36 ⇑P P 01 12 29.8 +0.6
baz=87
530A J-C Ranch, Com 86.69 56 ⇓P P 01 12 29.4 -0.3
baz=87,SNR=7.7
M19A Rock Springs 86.69 43 ⇓P P 01 12 29.8 +0.1
baz=87
IPM Ipoh 86.70 276 eP P 01 12 31.6 +1.5
comp=Z,72nm,1.2s
IPM Ipoh 86.70 276 P P 01 12 31.8 +1.7
IPM Ipoh 86.70 276 P P 01 12 31.6 +1.5
comp=Z,62nm,1.4s
W25A X Bar L Ranch, 86.70 50 ⇑P P 01 12 29.6 -0.2
baz=87
DLMT Dillon 86.72 38 eP P 01 12 29.2 -0.4
comp=Z,5.4nm,1.2s
Q22A Crested Butte, 86.80 46 ⇓P P 01 12 30.4 0.0
baz=87
329A Wagon Wheel Ra 86.80 55 ⇑P P 01 12 30.0 -0.3
baz=87,SNR=6.3
S23A Nye Farm, Mont 86.83 48 ⇓P P 01 12 30.7 +0.1
baz=87
X26A CR and CF Fran 86.86 51 ⇓P P 01 12 30.5 -0.1
baz=87
IMW Indian Meadow 86.88 40 eP P 01 12 29.8 -0.8
comp=Z,4.1nm,0.9s
L19A Farson 86.88 42 ⇓P P 01 12 30.6 0.0
baz=87
V25A Rancho No Teng 86.89 50 ⇓P P 01 12 30.7 -0.1
baz=87
SMCO Snowmass 86.91 46 eP P 01 12 31.2 +0.2
comp=Z,6.2nm,1.1s
N20A Spence Gulch, 86.91 44 ⇑P P 01 12 31.2 +0.4
baz=87
PAX Paxson 86.92 13 eP P 01 12 30.0 -0.1
PAX pmax pmax
comp=Z,20nm,1.1s
PAX Paxson 86.92 13 eP P 01 12 30.0 -0.1
comp=Z,20nm,1.1s
LOHW Long Hollow 86.92 41 eP P 01 12 31.2 +0.4
comp=Z,3.1nm,1.0s
BSMT Bassoo Peak 86.94 36 eP P 01 12 28.8 -1.9
128A Castleberry Fa 86.94 53 ⇓P P 01 12 30.8 -0.1
baz=87,SNR=9.9
MCK McKinley 86.95 11 eP P 01 12 30.0 -0.2
MCK pmax pmax
comp=Z,64nm,0.9s
MCK McKinley 86.95 11 eP P 01 12 29.9 -0.2
comp=Z,64nm,0.9s
631A Perdido Creek 86.95 57 ⇑P P 01 12 30.7 -0.3
baz=87,SNR=12
Y27A Causey 87.02 52 ⇑P P 01 12 31.0 -0.4
baz=87,SNR=7.7
430A Baggett Ranch, 87.05 55 ⇓P P 01 12 31.4 -0.1
baz=87
LRM Limekiln Ridge 87.06 38 eP P 01 12 31.5 +0.1
QLMT Earthquake Lak 87.10 39 eP P 01 12 32.9 +1.3
BW06 Boulder Array 87.11 42 eP P 01 12 31.4 -0.3
comp=Z,3.4nm,0.9s
PDAR Pinedale Array 87.11 42 P P 01 12 30.3 -1.5
PDAR Pinedale Array 87.11 42 P P 01 12 30.3 -1.5
comp=Z,3.2nm,0.9s,baz=218,slow=2.8,SNR=20
732A Laxson Ranch, 87.13 58 ⇓P P 01 12 31.8 -0.1
baz=87
H16A Russell Place, 87.14 40 ⇑P P 01 12 32.0 +0.3
baz=87
229A Bryant Ranch, 87.14 54 ⇓P P 01 12 31.9 0.0
baz=87
SNAA Sanae 87.17 177 eP P 01 12 30.8 -0.6
SNAA Sanae 87.17 177 ePcP P 01 12 32.1 +0.7
SNAA Sanae 87.17 177 eP P 01 12 30.4 -1.1
comp=Z,20nm,1.2s
CHMT Chamberlain Mo 87.23 37 eP P 01 12 31.4 -0.7
MENT Mentasta 87.26 13 eP P 01 12 31.6 -0.1
M20A Sweetwater, Wa 87.30 43 ⇓P P 01 12 32.5 -0.2
baz=88
531A Rocksprings 87.31 56 ⇑P P 01 12 32.3 -0.5
baz=88,SNR=18
U25A Circle Dot Ran 87.31 49 ⇑P P 01 12 33.2 +0.4
baz=88
Z28A Tucker Farm, M 87.32 53 ⇓P P 01 12 32.8 0.0
baz=88
KULM Kulim 87.34 277 eP P 01 12 34.7 +1.5
KULM Kulim 87.34 277 P P 01 12 34.1 +0.9
KULM Kulim 87.34 277 P P 01 12 37.4 +4.2
comp=Z,35nm,1.3s
MSTX Muleshoe 87.34 52 ⇑P P 01 12 32.8 -0.1
baz=88
S24A Houchin Ranch, 87.35 48 ⇓P P 01 12 32.8 -0.3
baz=88
N21A Black Mountain 87.36 44 ⇑P P 01 12 32.6 -0.3
baz=88
DLBC Dease Lake 87.38 22 P P 01 12 33.0 +0.6
DLBC Dease Lake 87.38 22 P P 01 12 33.0 +0.6
comp=Z,6.3nm,0.9s,baz=222,slow=6.4,SNR=17
330A Mertzon 87.38 55 ⇑P P 01 12 32.4 -0.7
baz=88
129A Stewart Farms, 87.40 54 ⇑P P 01 12 32.4 -0.8
baz=88
B13A Whitefish 87.42 35 ⇑P P 01 12 33.3 +0.5
baz=88
X27A F and S Farms, 87.42 51 ⇑P P 01 12 33.9 +0.6
baz=88
BOZ Bozeman (W) 87.44 39 eP P 01 12 32.2 -0.9
BOZ pmax pmax
comp=Z,5.0nm,1.1s
BOZ Bozeman (W) 87.44 39 eP P 01 12 32.2 -0.9
comp=Z,4.9nm,1.1s
I18A Diamond G Ranc 87.45 41 ⇑P P 01 12 33.6 +0.3
baz=88
V26A Tequesquite Ra 87.46 50 ⇓P P 01 12 33.8 +0.3
baz=88
L20A Wamsutter 87.47 43 ⇓P P 01 12 33.8 +0.4
baz=88
431A Sonora 87.49 56 ⇑P P 01 12 33.6 0.0
baz=88
K19A Absolon Red Bu 87.58 42 ⇓P P 01 12 34.2 +0.3
baz=88
632A Uvalde 87.61 57 ⇓P P 01 12 34.0 -0.2
baz=88,SNR=9.5
W27A Bowe Ranch, En 87.64 51 ⇓P P 01 12 34.2 -0.1
baz=88
T25A Trinidad 87.66 49 ⇑P P 01 12 34.1 -0.4
baz=88
J19A Crowheart 87.69 42 ⇓P P 01 12 34.5 +0.1
baz=88
O22A Kremmling 87.69 45 ⇑P P 01 12 34.3 -0.4
baz=88
R24A Sanders Place, 87.71 47 ⇓P P 01 12 34.4 -0.3
baz=88
532A Rocksprings 87.79 57 ⇑P P 01 12 34.4 -0.6
baz=88,SNR=13
Z29A Hungry Hill Ra 87.81 53 ⇓P P 01 12 34.6 -0.5
baz=88
K20A Yellowstone Ra 87.81 42 ⇑P P 01 12 34.5 -0.6
baz=88
VNA1 Neumayer--Stat 87.86 175 eP P 01 12 34.7 +0.1
VNA1 Neumayer--Stat 87.86 175 ePcP PcP 01 12 36.2 -0.2
M21A Separation Pea 87.89 44 ⇓P P 01 12 35.0 -0.5
baz=88
S25A Robets Cordova 87.90 48 ⇑P P 01 12 34.7 -0.8
baz=88
331A San Angelo 87.91 55 ⇓P P 01 12 34.9 -0.7
baz=88
Q24A Divide 88.04 47 ⇓P P 01 12 36.0 -0.3
baz=88
PSI Prapat 88.05 274 P P 01 12 37.3 +0.5
baz=88,SNR=7.2
B14A Marquette Ranc 88.06 36 ⇓P P 01 12 35.2 -0.8
baz=88
SKLT Songkhla 88.06 278 P P 01 12 38.8 +2.2
comp=Z,50nm,1.1s
SKLT Songkhla 88.06 278 P P 01 12 39.4 +2.8
comp=Z,50nm,1.2s
130A Snyder 88.07 54 ⇓P P 01 12 35.9 -0.4
baz=88
L21A Rawlins 88.07 43 ⇓P P 01 12 35.9 -0.4
baz=88
N22A Wattenberg Ran 88.08 45 ⇑P P 01 12 36.3 -0.2
baz=88
C15A Salmond Ranch, 88.09 36 ⇓P P 01 12 35.5 -0.7
baz=88
Y29A Porterfield Fa 88.11 53 ⇑P P 01 12 36.1 -0.4
baz=88
WALA Waterton Lakes 88.12 35 eP P 01 12 35.5 -0.8
comp=Z,0.4nm,1.1s
I19A Meeteetse 88.14 41 ⇓P P 01 12 36.6 0.0
baz=88
F17A Fitzpatrick Pl 88.15 39 ⇓P P 01 12 36.2 -0.3
baz=88
PANO Nakornpanom 88.17 289 P P 01 12 39.2 +2.2
comp=Z,386nm,1.4s,comp=Z,17μm
COLA College 88.19 11 eP P 01 12 35.7 -0.3
COLA pmax pmax
comp=Z,141nm,1.0s
COLA College 88.19 11 eP P 01 12 35.7 -0.3
comp=Z,141nm,1.0s
432A Menard 88.20 56 ⇓P P 01 12 36.6 -0.4
baz=88
R25A Fountain Ranch 88.23 48 ⇓P P 01 12 36.8 -0.3
baz=88
T26A Comanche Natio 88.25 49 ⇑P P 01 12 36.9 -0.4
baz=88
Z30A Sanderson Ranc 88.25 53 ⇓P P 01 12 36.8 -0.4
baz=88
231A Bronte 88.27 55 ⇑P P 01 12 36.1 -1.2
baz=88,SNR=8.1
ILAR Eielson Array 88.27 11 P P 01 12 35.8 -0.7
ILAR Eielson Array 88.27 11 P P 01 12 35.8 -0.7
comp=Z,7.8nm,0.9s,baz=212,slow=6.2,SNR=32
A14A Double T Ranch 88.33 35 ⇓P P 01 12 37.5 +0.2
baz=89
J20A Shoshoni 88.34 42 ⇑P P 01 12 37.8 +0.3
baz=89
N23A Red Feather La 88.46 45 ⇑P P 01 12 38.1 -0.2
baz=89
332A Millersview 88.46 56 ⇓P P 01 12 37.6 -0.6
baz=89
G18A Lazy EL Ranch, 88.47 40 ⇓P P 01 12 38.5 +0.4
baz=89
K21A Alcova 88.49 43 ⇓P P 01 12 38.5 +0.2
baz=89
131A Roby 88.54 54 ⇓P P 01 12 38.1 -0.4
baz=89
S26A Kim 88.55 49 ⇑P P 01 12 38.4 -0.2
baz=89
C16A Fuhringer Ranc 88.58 37 ⇓P P 01 12 38.5 +0.1
baz=89

I20A	Worland	88.62	41	⇑P		P	01 12 38.5	-0.2	
	baz=89								
A15A	Johnson Ranch,	88.70	35	⇑P		P	01 12 39.0	0.0	
	baz=89								
L22A	Ellis Ranch, M	88.71	44	⇓P		P	01 12 39.4	+0.1	
	baz=89								
232A	Coleman	88.76	55	⇓P		P	01 12 38.8	-0.8	
	baz=89								
D17A	Six Diamond Ra	88.82	38	⇓P		P	01 12 40.1	+0.5	
	baz=89								
BJI	Beijing	88.89	314	P		P	01 12 40.8	+0.9	
BJI				S		S	01 23 25.1	-0.2	
BJI				pmax	pmax				
	comp=Z,21nm,2.2s								
BJI				pmax	pmax				
	comp=Z,280nm,4.4s								
BJI				LR	LR				
	comp=N,140nm,22.9s								
BJI				LR	LR				
	comp=E,200nm,17.6s								
BJI				LR	LR				
	comp=Z,150nm,24.8s								
R26A	Arlington	88.89	48	⇓P		P	01 12 40.1	0.0	
	baz=89								
E18A	Harlowton	88.94	38	⇓P		P	01 12 40.9	+0.7	
	baz=89								
B16A	M & M Farms, S	88.94	36	⇓P		P	01 12 40.0	-0.1	
	baz=89								
K22A	Casper	88.96	43	⇑P		P	01 12 41.1	+0.6	
	baz=89								
P25A	Willow Gulch B	88.97	47	⇓P		P	01 12 41.0	+0.5	
	baz=89								
C17A	Wharram Farm,	89.04	37	⇓P		P	01 12 40.8	+0.2	
	baz=89								
I21A	Big Trails, Te	89.07	42	⇑P		P	01 12 40.8	-0.1	
	baz=89								
ABTX	Abilene, Hawle	89.08	54	⇑P		P	01 12 41.3	+0.2	
	baz=89								
Y31A	Rekieta Farm,	89.20	53	⇓P		P	01 12 41.5	-0.1	
	baz=89								
L23A	Garrett	89.22	44	⇑P		P	01 12 42.1	+0.4	
	baz=89								
R27A	Eads	89.33	48	⇓P		P	01 12 42.2	0.0	
	baz=90								
D18A	Linhart Farms,	89.35	38	⇓P		P	01 12 42.5	+0.4	
	baz=90								
ENH	Enshi	89.36	303	eP		P	01 12 44.0	+1.6	
	comp=Z,71nm,1.3s								
J22A	Midwest	89.37	42	⇑P		P	01 12 42.5	+0.2	
	baz=90								
EGAK	Eagle	89.43	14	eP		P	01 12 42.1	+0.3	
Z32A	Haskell	89.50	54	⇓P		P	01 12 43.1	+0.1	
	baz=90								
E19A	Rath Farm, Rou	89.54	39	⇑P		P	01 12 43.6	+0.6	
	baz=90								
K23A	Bowen Ranch, D	89.59	43	⇑P		P	01 12 44.4	+1.0	
	baz=90								
I22A	9 Mile Ranch,	89.61	42	⇑P		P	01 12 43.9	+0.5	
	baz=90								
A17A	Triple J Farms	89.80	36	⇑P		P	01 12 44.1	0.0	
	baz=90								
Y32A	R-V Farms, Ver	89.83	53	⇓P		P	01 12 44.6	0.0	
	baz=90								
COLD	Coldfoot	89.98	9	eP		P	01 12 45.3	+0.9	
	comp=Z,11nm,1.1s								
B18A	Beardsley Farm	90.01	37	⇑P		P	01 12 45.7	+0.6	
	baz=90								
CHAI	Chaiyaphum	90.03	287	P		P	01 12 48.1	+2.3	
	comp=Z,5.4nm,1.2s								
NAYO	Nakonayok	90.04	285	P		P	01 12 48.6	+2.7	
	comp=Z,180nm,1.1s,comp=Z,15µm								
R28A	Tribune	90.05	49	⇑P		P	01 12 45.8	+0.2	
	baz=90								
GYA	Guiyang	90.06	298	⇓iP		P	01 12 47.8	+1.9	
GYA				SKS		SKSac	01 23 12.0	-2.8	
GYA				S		S	01 23 35.4	-1.8	
GYA				pmax	pmax				
	comp=Z,20nm,1.0s								
GYA				pmax	pmax				
	comp=Z,120nm,5.2s								
GYA				LR	LR				
	comp=N,690nm,19.0s								
GYA				LR	LR				
	comp=E,540nm,20.6s								
GYA				LR	LR				
	comp=Z,680nm,18.3s								
C19A	Slack Wire Ran	90.07	38	⇓P		P	01 12 46.4	+1.1	
	baz=90								
BILL	Bilibino	90.14	353	eP		P	01 12 44.2	-0.9	
BILL				pmax	pmax				
	comp=Z,17nm,0.9s								
A18A	Metzger Ranch,	90.25	37	⇓P		P	01 12 47.1	+0.9	
	baz=90								
B19A	Brinkman Farms	90.51	37	⇑P		P	01 12 48.2	+0.9	
	baz=91								
M26A	McRoberts Ranc	90.58	45	⇓P		P	01 12 48.3	+0.3	
	baz=91								
C20A	Veseth Ranch,	90.66	38	⇓P		P	01 12 49.0	+0.9	
	baz=91								
A19A	Klindworth Far	90.87	37	⇑P		P	01 12 49.9	+0.8	
	baz=91								
D21A	La Casta Ranch	90.91	39	⇑P		P	01 12 49.8	+0.5	
	baz=91								
G23A	Biddle	90.94	41	⇑P		P	01 12 50.3	+0.8	
	baz=91								
T31A	Randall Ranch,	91.00	50	⇓P		P	01 12 50.2	+0.2	
	baz=91								
PHET	Kaeng Krachan	91.05	283	P		P	01 12 54.7	+4.1	
	comp=Z,81nm,1.1s								
PBKT	Sadao Pong	91.18	287	P		P	01 12 53.3	+2.2	
	comp=Z,29nm,1.5s,comp=Z,1µm								
PBKT	Sadao Pong	91.18	287	P		P	01 12 53.9	+2.8	
	comp=Z,29nm,1.5s								
F23A	Volborg	91.19	41	⇓P		P	01 12 51.4	+0.8	
	baz=91								
C21A	Desert Coulee	91.24	38	⇓P		P	01 12 51.6	+0.8	
	baz=92								
H24A	Dirks Ranch, A	91.24	42	⇑P		P	01 12 51.5	+0.6	
	baz=92								
RSSD	Black Hills	91.26	43	eP		P	01 12 51.6	+0.4	
RSSD				pmax	pmax				
	comp=Z,6.0nm,1.1s								
RSSD	Black Hills	91.26	43	eP		P	01 12 51.6	+0.4	
	comp=Z,6.1nm,1.1s								
LOEI	Loei	91.27	288	P		P	01 12 52.3	+0.7	
	comp=Z,21nm,2.1s								
A20A	Cobblestone Ra	91.31	37	⇓P		P	01 12 51.4	+0.3	
	baz=92								
S31A	Mullinville	91.37	50	⇓P		P	01 12 51.9	+0.2	
	baz=92								
XAN	Xi'an	91.37	306	P		P	01 12 52.1	+0.4	
XAN				pmax	pmax				
	comp=Z,5.0nm,1.5s								
XAN				pmax	pmax				
	comp=Z,51nm,9.7s								
I25A	Rochford	91.41	43	⇓P		P	01 12 52.0	+0.2	
	baz=92								
B21A	Ellsworth Farm	91.59	38	⇑P		P	01 12 53.0	+0.6	
	baz=92								
G24A	Alzada	91.60	41	⇑P		P	01 12 53.2	+0.6	
	baz=92								
E23A	Ismay	91.63	40	⇓P		P	01 12 53.4	+0.7	
	baz=92								
P30A	Selden	91.67	48	⇓P		P	01 12 53.6	+0.5	
	baz=92								
D23A	Lindsay	92.02	40	⇓P		P	01 12 55.5	+1.1	
	baz=92								
B22A	Reddig Ranch S	92.11	38	⇓P		P	01 12 56.0	+1.1	
	baz=92								
NANT	Nan	92.24	289	P		P	01 12 58.6	+2.6	
	comp=Z,59nm,1.1s								
P31A	Stockton	92.27	48	⇓P		P	01 12 56.2	+0.4	
	baz=92								
HHC	Hu-ho-hao-te	92.38	313	eP		P	01 12 57.1	+0.8	
HHC				sP		sP	01 13 11.1	+0.2	
HHC				SKS		SKSac	01 23 26.4	-1.0	
HHC				S		S	01 23 56.3	-1.4	
HHC				pmax	pmax				
	comp=Z,33nm,0.8s								
HHC				pmax	pmax				
	comp=Z,210nm,5.1s								
HHC				LR	LR				
	comp=N,270nm,18.0s								
HHC				LR	LR				
	comp=E,260nm,18.0s								
HHC				LR	LR				
	comp=Z,280nm,19.0s								
A22A	Carney Farms,	92.51	38	⇑P		P	01 12 57.1	+0.4	
	baz=93								
B23A	Brockton	92.78	39	⇓P		P	01 12 58.7	+0.8	
	baz=93								
KMI	Kunming	92.81	296	P		P	01 13 01.3	+2.5	
KMI				S		S	01 24 01.5	-0.9	
KMI				pmax	pmax				
	comp=Z,25nm,1.4s								
KMI				pmax	pmax				
	comp=Z,180nm,3.6s								
KMI				LR	LR				
	comp=N,150nm,20.5s								
KMI				LR	LR				
	comp=E,250nm,21.5s								
KMI				LR	LR				
	comp=Z,360nm,19.0s								
CLNS	Chul'man	92.91	331	eP		P	01 12 56.8	-1.5	
CLNS				pmax	pmax				
	comp=Z,12nm,1.2s								
CLNS				pmax	pmax				
	comp=E,5.0nm,1.0s								
CLNS				pmax	pmax				
	comp=N,8.0nm,1.0s								
K29A	Lazy Trails An	93.04	45	⇓P		P	01 13 00.3	+1.0	
	baz=93								
LAMP	Lampang	93.08	289	P		P	01 13 02.4	+2.5	
	comp=N,12nm,1.0s,comp=N,107nm								
A23A	Redstone	93.08	38	⇑P		P	01 13 00.3	+1.0	
	baz=93								
G27A	Dupree	93.18	42	⇓P		P	01 13 00.3	+0.5	
	baz=93								
DGMT	Dagmar	93.25	39	eP		P	01 13 01.2	+1.2	
	comp=N,30nm,0.9s								
DGMT	Dagmar	93.25	39	⇓P		P	01 13 00.4	+0.4	
	baz=94								
TUL1	Tulsa	93.35	53	⇓P		P	01 13 00.7	-0.1	
	baz=94								
A24A	Wesley	93.58	38	⇑P		P	01 13 02.2	+0.6	
	baz=94								
CMAR	Chiang Mai Arr	93.67	288	P		P	01 13 05.0	+2.3	
CMAR	Chiang Mai Arr	93.67	288	P		P	01 13 05.0	+2.3	
	comp=N,12nm,1.0s,baz=120,slow=3.0,SNR=37								
CMMT	Chiang Mai	93.79	289	P		P	01 13 05.4	+2.2	
	comp=N,21nm,0.8s,comp=N,610nm								
CMMT	Chiang Mai	93.79	289	P		P	01 13 05.4	+2.2	
	comp=N,21nm,0.8s,comp=N,610nm								
CHTO	Chiang Mai	93.79	289	eP		P	01 13 05.7	+2.5	
CHTO	Chiang Mai	93.79	289	eP		P	01 13 05.7	+2.5	
CHTO	Chiang Mai	93.79	289	P		P	01 13 05.5	+2.3	
CHTO	Chiang Mai	93.79	289	P		P	01 13 05.5	+2.3	
	comp=N,21nm,1.3s								
INK	Inuvik	94.07	14	P		P	01 13 03.1	-0.1	
INK	Inuvik	94.07	14	P		P	01 13 03.1	-0.1	
	comp=N,7.3nm,0.8s,baz=217,slow=3.5,SNR=10								
CMAI	Chiengmai2	94.10	290	P		P	01 13 07.2	+2.4	
	comp=N,24nm,1.5s								
CD2	Chengdu	94.14	301	eP		P	01 13 05.9	+1.3	
CD2				PP		PP	01 16 55.4	+3.7	
CD2				SKS		SKSac	01 23 36.5	-0.9	
CD2				S		S	01 24 11.5	-2.0	
CD2				pmax	pmax				
	comp=Z,10.0nm,1.2s								
CD2				pmax	pmax				
	comp=Z,100nm,6.4s								
CD2				LR	LR				
	comp=E,120nm,14.2s								
CD2				LR	LR				
	comp=Z,220nm,16.4s								
LVC	Limon Verde	95.19	117	eP		P	01 13 11.7	+1.7	
	comp=Z,16nm,1.2s								
MDND	Maddock	95.71	41	⇑P		P	01 13 12.2	+0.9	
	baz=96								
YKA	Yellowknife Ar	95.72	24	P		P	01 13 10.5	-0.5	
YKA	Yellowknife Ar	95.72	24	P		P	01 13 10.5	-0.5	
	comp=Z,2.6nm,0.8s,baz=237,slow=4.8,SNR=6.6								
ECSD	EROS Data Cent	95.91	45	eP		P	01 13 11.3	-1.1	
	comp=Z,14nm,1.1s								
LZH	Lanzhou	96.00	306	eP		P	01 13 14.0	+0.8	
LZH				pP		pP	01 13 24.5	+0.6	
LZH				sP		sP	01 13 28.3	+0.6	
LZH				pmax	pmax				
	comp=Z,15nm,1.0s								
LPAZ	La Paz	98.54	111	P		Pdif	01 13 26.4	+0.7	
LPAZ	La Paz	98.54	111	P		Pdif	01 13 26.4	+0.7	
	comp=Z,0.7nm,0.7s,baz=208,slow=7.2,SNR=3.6								
GTA	Gaotai	100.15	308	eP		Pdif	01 13 34.4	+2.7	
GTA				pmax	pmax				
	comp=Z,3.0nm,0.9s								
ZALV	Zalesovo Beam	113.25	321	PKIKP		PKiKP	01 18 21.3	-1.5	
ZALV	Zalesovo Beam	113.25	321	PKIKP		PKiKP	01 18 21.3	-1.5	
ZALV	Zalesovo Beam	113.25	321	PKIKP		PKiKP	01 18 21.3	-1.5	
	comp=Z,1.3nm,0.6s,baz=148,slow=2.1,SNR=7.0								
NVS	Novosibirsk	114.23	322	ePKIKP		PKPdf	01 18 19.3	-5.3	
NVS				e			01 19 15.8		
MKAR	Makanchi Array	114.25	313	PKKPbc		PKKPbc	01 29 05.2	-1.2	
MKAR	Makanchi Array	114.25	313	PKKPbc		PKKPbc	01 29 05.2	-1.2	
	comp=Z,0.8nm,0.9s,baz=298,slow=2.6,SNR=5.0								
KSH	Kashi	118.18	304	ePKPbc		PKPdf	01 18 39.3	+6.3	
KSH				sPKP			01 19 51.0		
KSH				PP		PP	01 20 00.9	+12	
KSH				SKS		SKSdf	01 25 46.8	+4.1	
KSH				SKKS		SKKSac	01 26 48.8	+2.1	
KSH				AMB		AMB			
	comp=Z,150nm,4.4s								
KSH				LR	LR				
	comp=N,250nm,8.3s								
KSH				LR	LR				
	comp=E,240nm,11.6s								
KSH				LR	LR				
	comp=Z,160nm,12.0s								
BRVK	Borovoye	121.94	320	⇑iPKIKP		PKPdf	01 18 38.5	-1.1	
BRVK				pmax	pmax				
	comp=Z,6.0nm,1.0s								
KKAR	Karatay Array	122.44	308	ePKIKP		PKPdf	01 18 40.0	-0.9	
KKAR	Karatay Array	122.44	308	ePKPdf		PKPdf	01 18 40.0	-0.9	
DAG	Danmarks Havn	123.07	7	iP		PKPdf	01 18 56.8	+16	
	comp=Z,5.3nm,1.0s								
KBL	Kabul	123.31	298	ePKIKP		PKPdf	01 18 43.2	+0.1	
KBL	Kabul	123.31	298	ePKPdf		PKPdf	01 18 43.2	+0.1	
SVE	Sverdlovsk	126.55	326	⇑iPKIKP		PKPdf	01 18 48.4	+0.1	
SVE				pmax	pmax				
	comp=Z,18nm,1.9s								
BOSA	Boshof	127.01	202	PKP		PKPdf	01 18 52.0	+1.7	
BOSA	Boshof	127.01	202	PKP		PKPdf	01 18 52.0	+1.7	
	comp=Z,5.0nm,1.0s,baz=359,slow=2.9,SNR=5.0								
ARU	Arti	127.77	326	iPKIKP		PKPdf	01 18 50.9	+0.3	
ARU							01 20 50.3		
ARU							01 25 53.5		
ARU				MLR	MLR				
	comp=Z,379nm,20.0s								
ARCES	ARCESS Array B	130.21	351	PKP		PKPdf	01 18 54.4	-0.5	
ARCES	ARCESS Array B	130.21	351	PKP		PKPdf	01 18 54.4	-0.5	
	comp=Z,5.0nm,1.1s,baz=38,slow=2.2,SNR=8.0								
TMCR	Tamitsa	131.99	342	ePKIKP		PKPdf	01 18 52.9	-5.5	
TMCR				e			01 21 17.0		
TMCR				pmax	pmax				
	comp=Z,15nm,1.0s								
FINES	FINESS Array B	137.38	346	PKP		PKPdf	01 19 06.4	-2.1	
FINES	FINESS Array B	137.38	346	PKP		PKPdf	01 19 06.4	-2.1	
	comp=Z,0.3nm,0.4s,baz=344,slow=35,SNR=3.9								
OBN	Obninsk	139.01	333	iPKIKP		PKPdf	01 19 13.0	+1.3	
OBN				pmax	pmax				
	comp=Z,22nm,1.7s								
OBN				MLR	MLR				
	comp=Z,100nm,20.0s								
NB2	NORSAR Subarra	140.02	356	PKP		PKPdf	01 19 07.1	-6.4	
	comp=Z,6.1nm,1.7s,baz=10,slow=3.2								
NOA	NORSAR Array B	140.02	356	PKPpre		PKPpre	01 19 04.5		
NOA	NORSAR Array B	140.02	356	PKHKP		PKPpre	01 19 04.5		
	comp=Z,0.3nm,0.7s,baz=298,slow=19,SNR=3.2								
KIV	Kislovodsk	141.95	315	ePKHKP		PKPpre	01 19 10.3		
KIV				pmax	pmax				
	comp=Z,4.0nm,1.0s								
KMBO	Kilima Mbogo	142.04	238	PKP		PKPdf	01 19 16.5	-2.4	
KMBO	Kilima Mbogo	142.04	238	PKP		PKPdf	01 19 16.5	-2.4	
	comp=Z,0.7nm,0.3s,baz=71,slow=24,SNR=5.2								
SUW	Suwalki	144.67	342	ePKIKP		PKPab	01 19 20.6	0.0	
SUW	Suwalki	144.67	342	ePKPdf		PKPab	01 19 20.6	0.0	
SUW	Suwalki	144.67	342	ePKP		PKPbc	01 19 20.7	0.0	
MUD	Monsted U'grnd	144.71	357	⇑iPKIKP		PKPbc	01 19 20.8	0.0	
MUD				pmax	pmax				
	comp=Z,19nm,1.1s								
MUD	Monsted U'grnd	144.71	357	⇑iP		PKPbc	01 19 20.8	0.0	
	comp=Z,19nm,1.0s								
ANN	Anapa	144.88	319	iPKHKP		PKPpre	01 19 11.7		
ANN				e			01 19 22.2		
ANN				e			01 26 21.9		
ANN				pmax	pmax				
	comp=Z,27nm,1.5s								
COP	Copenhagen	145.22	353	⇑iPKIKP		PKPbc	01 19 22.2	-0.2	
COP				pmax	pmax				
	comp=Z,7.0nm,0.8s								
COP	Copenhagen	145.22	353	⇑iP		PKPbc	01 19 22.2	-0.2	
	comp=Z,7.2nm,0.8s								
WNDE	Wendo Genet	145.27	251	iP		PKPdf	01 19 25.7	+1.3	
KIEV	Kiev	145.28	334	ePKIKP		PKPbc	01 19 22.0	-0.8	
KIEV	Kiev	145.28	334	ePKPdf		PKPbc	01 19 22.0	-0.8	
BSD	Bornholm Skovb	145.45	351	⇑iPKIKP		PKPdf	01 19 22.7	-0.5	
BSD				pmax	pmax				
	comp=Z,15nm,0.9s								
BSD	Bornholm Skovb	145.45	351	⇑iP		PKPdf	01 19 22.7	-0.5	
	comp=Z,15nm,0.9s								
LLD	Lille Linde	145.59	353	iPKIKP		PKPdf	01 19 23.0	-0.4	
LLD				pmax	pmax				
	comp=Z,14nm,1.1s								
LLD	Lille Linde	145.59	353	iP		PKPdf	01 19 23.0	-0.4	
	comp=Z,14nm,1.0s								
RGN	Rugen	146.23	352	ePKPdf		PKPab	01 19 26.7	+0.4	
GKP	Gorka Klasztor	146.81	347	ePKP		PKPab	01 19 28.5	-0.1	
MALT	Malatya	147.13	309	ePKPdf		PKPab	01 19 42.8	+12	
MALT	Malatya	147.13	309	⇑iP		PKPab	01 19 37.5	+6.9	
BSEG	Bad Segeberg	147.15	355	ePKPbc		PKPbc	01 19 28.7	+0.4	
BSEG	Bad Segeberg	147.15	355	ePKP2		PKPbc	01 19 28.7	+0.4	
URFA	Urfa	147.16	307	eP		PKPab	01 19 29.9	-0.8	
BEL	Belsk	147.27	343	ePKP		PKPbc	01 19 29.5	+0.8	
SVSK	Karacayir	147.51	312	eP		PKPab	01 19 31.2	-0.6	
DARE	Darende-Malaty	147.72	309	eP		PKPbc	01 19 31.7	+1.1	
LVV	L'vov	147.99	337	ePKP2		PKPbc	01 19 30.5	-0.3	
KIS	Kishinev	148.20	329	ePKP		PKPbc	01 19 30.0	-1.4	
KIS				LRM		MLR	02 52 24.0		
	comp=Z,300nm,21.0s								
KIS	Kishinev	148.20	329	ePKIKP		PKPbc	01 19 30.0	-1.4	
SARI	SarD1z-Kayseri	148.55	310	eP		PKPbc	01 19 33.6	+0.7	
NRDL	Niedersach Rie	148.59	355	ePKPbc		PKPbc	01 19 32.2	+0.1	
KWP	Kalwaria Pacla	148.61	339	⇑PKIKP		PKPbc	01 19 31.2	-1.2	
KWP	Kalwaria Pacla	148.61	339	ePKPbc		PKPbc	01 19 32.9	+0.4	
KWP				ePKPab		PKPab	01 19 36.8	+0.9	
KWP	Kalwaria Pacla	148.61	339	⇑iP		PKPbc	01 19 31.2	-1.2	
KWP	Kalwaria Pacla	148.61	339	ePKP		PKPbc	01 19 32.5	+0.1	
BNN	Bunyan	148.77	311	eP		PKPbc	01 19 34.1	+0.7	
LEOM	Leova	148.85	329	⇑PKHKP		PKPdf	01 19 28.8	-0.3	
LEOM	Leova	148.85	329	⇑iP		PKPdf	01 19 28.8	-0.3	
IBBN	Ibbenburen	148.92	358	ePKPbc		PKPbc	01 19 33.0	-0.1	
OJC	Ojcow	149.00	342	ePKP2		PKPbc	01 19 34.3	+0.9	
OJC	Ojcow	149.00	342	ePKP		PKPbc	01 19 34.3	+0.9	
CORM	Corum	149.00	314	eP		PKPbc	01 19 34.9	+1.0	
CLZ	Clausthal	149.22	354	ePKPbc		PKPbc	01 19 34.4	+0.5	
CLZ	Clausthal	149.22	354	ePKP2		PKPbc	01 19 34.4	+0.5	
STHS	Stebnicka Huta	149.28	340	ePKIKP		PKPdf	01 19 29.7	-0.1	
STHS				e			01 19 34.8		
STHS				e			01 19 40.5		
STHS	Stebnicka Huta	149.28	340	ePKP		PKPdf	01 19 29.7	-0.1	
STHS				e			01 19 34.8		
STHS				e			01 19 40.4		
KSP	Ksiaz	149.29	347	ePKP2		PKPbc	01 19 34.6	+0.5	
KSP	Ksiaz	149.29	347	ePKP		PKPbc	01 19 35.5	+1.4	
BUR08	Bucovina Ar. S	149.31	334	ePKPbc		PKPbc	01 19 35.6	+1.2	
BURAR	Bucovina Array	149.33	334	⇓PKP2		PKPbc	01 19 35.0	+0.6	
BURAR	Bucovina Array	149.33	334	⇓iP		PKPbc	01 19 35.0	+0.6	
KOLS	Kolonicke sedl	149.35	338	ePKP		PKPdf	01 19 29.7	-0.2	
KOLS				e			01 19 35.2		
KOZT	Kozan	149.35	309	eP		PKPbc	01 19 36.1	+1.4	
CLL	Collm	149.43	351	ePKPbc		PKPbc	01 19 34.3	-0.1	
CLL				ePKPab		PKPab	01 19 39.6	+0.4	
CLL	Collm	149.43	351	iPKP2		PKPbc	01 19 34.5	+0.1	
CLL				pmax	pmax				
	comp=Z,21nm,1.1s								
CLL				pmax	pmax				
	comp=Z,12nm,1.2s								
CLL	Collm	149.43	351	iPKPdf		PKPbc	01 19 34.5	+0.1	
	comp=Z,12nm,1.1s								
CLL				iPKPbc		PKiKP	01 19 36.1	+0.6	
	comp=Z,32nm,1.2s								
CLL				iPKiKP		PKPab	01 19 38.0	-1.2	
CLL				iPKPab		PKPdf	01 19 39.3	+9.3	
	comp=Z,70nm,1.6s								
CLL				ePP		PP	01 23 14.0	+7.9	
TLCR		149.48	327	⇑PKIKP		PKPbc	01 19 33.1	-1.6	
TLCR		149.48	327	⇑iP		PKPbc	01 19 33.1	-1.6	
TESR	Tescani	149.56	331	⇓iP		PKPdf	01 19 32.0	+1.7	
NIE	Niedzica	149.56	341	ePKP2		PKPbc	01 19 36.6	+1.7	
NIE	Niedzica	149.56	341	ePKP		PKPbc	01 19 36.6	+1.7	
UZH	Uzhgorod	149.60	338	⇓iPKP2		PKPbc	01 19 35.0	+0.1	
UPC	Upice	149.67	347	ePKIKP		PKPdf	01 19 32.5	+2.1	
UPC				e			01 19 35.5		
UPC	Upice	149.67	347	ePKPDF		PKPdf	01 19 32.5	+2.1	
UPC				⇑ePKP		PKiKP	01 19 35.5	+0.5	
BRG	Berggiesshubel	149.71	350	ePKP		PKPdf	01 19 31.6	+1.2	
	comp=Z,14nm,1.8s								
BRG				e			01 19 34.8		
	comp=Z,22nm,1.1s								
BRG	Berggiesshubel	149.71	350	ePKPbc		PKPbc	01 19 35.4	+0.3	
BRG				ePKPab		PKPab	01 19 40.9	+0.6	
BRG	Berggiesshubel	149.71	350	ePKIKP		PKPdf	01 19 31.6	+1.2	
BRG				pmax	pmax				
	comp=Z,2.0nm,1.8s								
BRG				pmax	pmax				
	comp=Z,14nm,1.1s								
SAFT	Safranbolu	149.72	317	eP		PKPbc	01 19 35.3	-0.2	
DPC	Dobruska-Polom	149.75	347	ePKIK

PSZ				ePKPab	**PKPab**	**01 19 47.1**	**+1.2**
PSZ	**Piszkesteto**	**151.02**	**340**	⇑iP	**PKPbc**	**01 19 40.6**	**+2.1**
ROTZ	**Rotzenmuhle**	**151.05**	**351**	eP	**PKPbc**	**01 19 38.6**	**+0.2**
ROTZ				ePKPab	**PKPab**	**01 19 46.6**	**+0.7**
VOIR		**151.10**	**331**	⇑iP	**PKPbc**	**01 19 37.7**	**-1.0**
DOU	**Dourbes**	**151.16**	**2**	PKPbc	**PKPbc**	**01 19 40.3**	**+1.7**
SMOL	**Smolenice**	**151.19**	**344**	ePKP	**PKPbc**	**01 19 39.8**	**+1.0**
SMOL				e		01 19 48.2	
GRF	**Grafenberg Arr**	**151.25**	**353**	ePKPbc	**PKPbc**	**01 19 38.6**	**-0.3**
GRF				ePKPab	**PKPab**	**01 19 47.2**	**+0.4**
GRFO	**Grafenberg**	**151.25**	**353**	ePKPbc	**PKPbc**	**01 19 39.2**	**+0.4**
GRFO				ePKPab	**PKPab**	**01 19 47.3**	**+0.5**
ARR	**Arges**	**151.34**	**332**	⇓iP	**PKPbc**	**01 19 40.3**	**+1.0**
KHC	**Kasperske Hory**	**151.45**	**349**	ePKIKP	**PKPdf**	**01 19 34.6**	**+1.3**
KHC				e		01 19 39.8	
KHC				e		01 19 48.2	
KHC				MLR	MLR		
	comp=Z,200nm,20.6s						
KHC	**Kasperske Hory**	**151.45**	**349**	ePKPDF	**PKPdf**	**01 19 34.6**	**+1.3**
KHC				⇑ePKP	**PKiKP**	**01 19 39.8**	**0.0**
KHC				ePKPAB	**PKPab**	**01 19 48.2**	**+0.5**
KHC				AMS	AMS	02 30 10.0	
	comp=Z,200nm,20.6s						
KHC	**Kasperske Hory**	**151.45**	**349**	ePKPbc	**PKPbc**	**01 19 39.5**	**+0.1**
KIZT	**Kizilcal**	**151.49**	**314**	eP	**PKPbc**	**01 19 40.0**	**+0.1**
WET	**Wettzell**	**151.56**	**350**	ePKPbc	**PKPbc**	**01 19 39.4**	**-0.2**
WET				ePKPab	**PKPab**	**01 19 48.7**	**+0.6**
ZST	**Bratislava**	**151.57**	**344**	ePKP	**PKPbc**	**01 19 43.3**	**+3.7**
WLF	**Walferdange**	**151.61**	**359**	PKPbc	**PKPbc**	**01 19 40.7**	**+1.1**
GEC2	**GERESS Array S**	**151.71**	**349**	ePKPbc	**PKPbc**	**01 19 39.9**	**-0.2**
GERES	**GERESS Array B**	**151.71**	**349**	PKPbc	**PKPbc**	**01 19 39.8**	**-0.2**
GERES	**GERESS Array B**	**151.71**	**349**	PKPbc	**PKPbc**	**01 19 39.8**	**-0.2**
	comp=Z,4.5nm,0.9s,baz=4.8,slow=1.6,SNR=22						
GZR	**Gura Zlata**	**152.12**	**334**	⇓iP	**PKPbc**	**01 19 41.8**	**+0.8**
CONA	**Conrad Observa**	**152.13**	**345**	⇑iPKPdf	**PKPdf**	**01 19 34.8**	**+0.4**
	comp=Z,15nm,1.2s						
CSS	**Prodhromos**	**152.19**	**305**	ePKPbc	**PKPbc**	**01 19 41.3**	**-0.2**
BZS	**Buzias**	**152.40**	**336**	⇑iP	**PKPbc**	**01 19 41.7**	**+0.1**
FUR	**Furstenfeldbru**	**152.74**	**352**	ePKPab	**PKPab**	**01 19 53.3**	**+0.2**
BFO	**Black Forest**	**152.87**	**356**	ePKPbc	**PKPbc**	**01 19 42.1**	**-0.5**
BFO				ePKPab	**PKPab**	**01 19 53.5**	**-0.1**
BFO	**Black Forest**	**152.87**	**356**	ePKIKP	**PKPdf**	**01 19 35.6**	**+0.2**
BFO				e		01 19 53.5	
BFO	**Black Forest**	**152.87**	**356**	ePKPdf	**PKPdf**	**01 19 35.6**	**+0.2**
BFO				ePKPab	**PKPab**	**01 19 53.5**	**-0.1**
RJOB	**Jochberg**	**152.93**	**350**	ePKPbc	**PKPbc**	**01 19 42.7**	**-0.1**
RJOB				ePKPab	**PKPab**	**01 19 54.7**	**+0.8**
ECH	**Echery**	**153.03**	**358**	PKP	**PKPab**	**01 19 53.8**	**-0.5**
MOF	**Molkenrain**	**153.40**	**358**	PKP	**PKPab**	**01 19 56.0**	**+0.1**
KOGS	**Kog**	**153.41**	**344**	ePKPdf	**PKPdf**	**01 19 34.9**	**-1.3**
KOGS				e		01 19 55.6	
GROS	**Grobnik**	**153.59**	**345**	ePKPdf	**PKPdf**	**01 19 35.2**	**-1.3**
VTS	**Vitosha**	**154.14**	**329**	⇑iP	PKPbc	01 19 51.9	+6.2
CEY	**Cerknica**	**154.52**	**346**	ePKPdf	**PKPdf**	**01 19 37.2**	**-0.6**
CEY				e		01 20 00.1	
TUE	**Stuetta**	**154.63**	**354**	ePKPab	**PKPab**	**01 20 01.2**	**-0.1**
BNI	**Bardonecchia**	**156.21**	**358**	ePKP2	**PKPab**	**01 20 09.0**	**+1.0**
BNI	**Bardonecchia**	**156.21**	**358**	ePKPab	**PKPab**	**01 20 09.0**	**+1.0**
TOUF	**Mont Tournerai**	**157.23**	**357**	PKP	**PKPab**	**01 20 12.4**	**-0.1**
AUN	**L'Aution**	**157.24**	**357**	PKP	**PKPab**	**01 20 12.9**	**+0.3**
SAOF	**Saorge**	**157.24**	**357**	PKP	**PKPab**	**01 20 12.4**	**0.0**
REVF	**Revere**	**157.50**	**357**	PKP	**PKPab**	**01 20 13.1**	**-0.4**
ESDC	**Sonseca Array**	**159.81**	**22**	PKPab	**PKPab**	**01 20 23.4**	**-0.2**
ESDC	**Sonseca Array**	**159.81**	**22**	PKPab	**PKPab**	**01 20 23.4**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=316,slow=3.8,SNR=8.5						
DBIC	**Dimbokro**	**162.27**	**143**	PKP	**PKPdf**	**01 19 47.2**	**-0.8**
DBIC				PKPab	**PKPab**	**01 20 33.1**	**-1.8**
DBIC	**Dimbokro**	**162.27**	**143**	PKP	**PKPdf**	**01 19 47.2**	**-0.8**
	comp=Z,7.1nm,1.0s,baz=204,slow=3.5,SNR=5.0						
DBIC				PKPab	**PKPab**	**01 20 33.1**	**-1.8**
	comp=Z,6.6nm,1.0s,baz=193,slow=8.8,SNR=4.0						
KEST	**Kesra**	**165.19**	**348**	PKPab	**PKPab**	**01 20 46.9**	**-0.5**
KEST	**Kesra**	**165.19**	**348**	PKPab	**PKPab**	**01 20 46.9**	**-0.5**
	comp=Z,1.8nm,0.9s,baz=322,slow=5.8,SNR=6.1						
TORD	**Torodi Ar. Bea**	**171.09**	**154**	PKP	**PKPdf**	**01 19 52.2**	**-2.5**
TORD				PKPab	**PKPab**	**01 21 12.4**	**-1.4**
TORD	**Torodi Ar. Bea**	**171.09**	**154**	PKP	**PKPdf**	**01 19 52.2**	**-2.5**
	comp=Z,2.9nm,1.1s,baz=220,slow=1.0,SNR=9.8						
TORD				PKPab	**PKPab**	**01 21 12.4**	**-1.4**
	comp=Z,2.8nm,0.9s,baz=230,slow=3.2,SNR=6.8						

*NEIC **17** 01:02:25.3, 46.°04S×166.°04E, h12km, ML4.5(WEL), After WEL.*

WEL 17 01:02:25.6±0.2, 46.°15S×166.°13E, h34km±3km, ML4.1/14, 3C-2D, Error ellipse: s-maj=2.6km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.39**	**94**	⇓P*	Pb	01 02 34.5	-0.1
PYZ				S*	Sn	01 02 41.2	+0.3
PYZ	**Puysegur Point**	**0.39**	**94**	⇓PN	Pb	01 02 34.4	-0.1
PYZ				SN	Sb	01 02 40.6	-0.1
PYZ				SN	Sn	01 02 41.2	+0.3
DCZ	**Deep Cove**	**0.98**	**48**	⇑P*	Pn	01 02 42.6	-0.3
DCZ				S*	Sn	01 02 55.6	0.0
DCZ	**Deep Cove**	**0.98**	**48**	⇑PN	Pn	01 02 42.6	-0.3
DCZ				SN	Sn	01 02 55.1	-0.5
DCZ				AML	AML	01 02 56.8	
DCZ				AML	AML	01 02 56.8	
DCZ				AML	AML	01 02 57.2	
WHZ	**Wether Hill Ro**	**1.29**	**79**	PN	Pb	01 02 48.3	-1.1
WHZ				AML	AML	01 03 09.9	
WHZ				AML	AML	01 03 10.2	
APZ	**The Paps**	**1.46**	**119**	Pn	Pn	01 02 50.6	+1.0
APZ	**The Paps**	**1.46**	**119**	PN	Pn	01 02 50.5	+0.9
MLZ	**Mavora Lakes**	**1.64**	**62**	Pn	Pb	01 02 53.9	-1.4
MLZ	**Mavora Lakes**	**1.64**	**62**	PN	Pb	01 02 53.9	-1.4
MLZ				AML	AML	01 03 19.4	
MLZ				AML	AML	01 03 19.5	
MSZ	**Milford Sound**	**1.94**	**41**	PN	Pn	01 02 56.9	+0.7
MSZ				AML	AML	01 03 30.9	
MSZ				AML	AML	01 03 31.0	
MSZ				AML	AML	01 03 31.6	
MSZ				AML	AML	01 03 32.5	
SYZ	**Scrubby Hill**	**2.12**	**102**	Pn	Pn	01 03 00.7	+2.1
SYZ	**Scrubby Hill**	**2.12**	**102**	⇑PN	Pn	01 03 00.7	+2.1
EAZ	**Earnscleugh**	**2.41**	**69**	PN	Pn	01 03 05.2	+2.6
EAZ				AML	AML	01 03 37.3	
EAZ				AML	AML	01 03 38.2	
WKZ	**Wanaka**	**2.42**	**58**	Pn	Pb	01 03 06.2	-2.4
WKZ	**Wanaka**	**2.42**	**58**	PN	Pb	01 03 06.2	-2.4
WKZ				AML	AML	01 03 38.2	
WKZ				AML	AML	01 03 40.5	
WKZ				AML	AML	01 03 40.6	
WKZ				AML	AML	01 03 41.6	
TUZ	**Tuapeka**	**2.45**	**87**	Pn	Pn	01 03 05.5	+2.4
TUZ	**Tuapeka**	**2.45**	**87**	PN	Pn	01 03 05.5	+2.4
TUZ				AML	AML	01 03 37.8	
TUZ				AML	AML	01 03 39.2	
JCZ	**Jackson Bay**	**2.79**	**43**	Pn	Pn	01 03 10.7	+2.8
JCZ	**Jackson Bay**	**2.79**	**43**	PN	Pn	01 03 10.7	+2.8
JCZ				AML	AML	01 03 48.5	
JCZ				AML	AML	01 03 52.3	
ODZ	**Otahua Downs**	**3.36**	**72**	Pn	Pn	01 03 16.6	+1.0
ODZ	**Otahua Downs**	**3.36**	**72**	PN	Pn	01 03 16.6	+1.0
ODZ				AML	AML	01 03 57.5	
ODZ				AML	AML	01 03 57.9	
ODZ				AML	AML	01 04 00.3	
ODZ				AML	AML	01 04 13.6	
LBZ	**Lake Benmore**	**3.36**	**60**	ePN	Pn	01 03 17.0	+1.3
LBZ				AML	AML	01 03 58.4	
LBZ				AML	AML	01 03 58.4	
FOZ	**Fox Glacier**	**3.62**	**46**	ePN	Pn	01 03 22.8	+3.6
RPZ	**Rata Peaks**	**4.26**	**57**	PN	Pn	01 03 28.5	+0.5
RPZ				AML	AML	01 04 19.5	
RPZ				AML	AML	01 04 20.8	
WVZ	**Waitaha Valley**	**4.50**	**49**	ePN	Pn	01 03 32.5	+1.2
OXZ	**Oxford**	**5.07**	**58**	ePN	Pn	01 03 39.3	+0.1

*NEIC **17** 01:03:57.5, 46.°01S×165.°86E, h5km, ML4.6(WEL), After WEL.*

WEL 17 01:03:59.0±0.2, 46.°09S×165.°94E, h30km±2km, ML3.7/8, 1D, Error ellipse: s-maj=2.4km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.52**	**99**	P*	Pb	01 04 09.5	-0.3
PYZ				Sg	Sb	01 04 17.6	+0.5
PYZ	**Puysegur Point**	**0.52**	**99**	⇓P*	Pb	01 04 09.7	-0.1
PYZ				S*	Sb	01 04 16.9	-0.2
DCZ	**Deep Cove**	**1.04**	**55**	P*	Pn	01 04 17.0	-0.5
DCZ				S*	Sb	01 04 31.5	-0.2
DCZ	**Deep Cove**	**1.04**	**55**	PN	Pn	01 04 17.0	-0.5
DCZ				SN	Sb	01 04 31.5	-0.2
DCZ				AML	AML	01 04 32.0	
DCZ				AML	AML	01 04 32.3	
DCZ				AML	AML	01 04 32.8	
APZ	**The Paps**	**1.60**	**119**	Pn	Pn	01 04 26.2	+1.0
APZ	**The Paps**	**1.60**	**119**	PN	Pn	01 04 26.2	+1.0
MLZ	**Mavora Lakes**	**1.73**	**65**	Pn	Pn	01 04 28.2	+1.2
MLZ	**Mavora Lakes**	**1.73**	**65**	PN	Pn	01 04 28.2	+1.2
MLZ				AML	AML	01 04 31.4	
MLZ				AML	AML	01 04 32.7	
MSZ	**Milford Sound**	**1.99**	**45**	ePN	Pn	01 04 31.6	+1.0
MSZ				AML	AML	01 04 43.2	
MSZ				AML	AML	01 04 43.8	
SYZ	**Scrubby Hill**	**2.26**	**103**	Pn	Pn	01 04 36.6	+2.4
SYZ	**Scrubby Hill**	**2.26**	**103**	ePN	Pn	01 04 36.1	+1.9
WKZ	**Wanaka**	**2.50**	**61**	Pn	Pb	01 04 40.9	-2.4
WKZ	**Wanaka**	**2.50**	**61**	ePN	Pb	01 04 40.8	-2.5
WKZ				AML	AML	01 04 47.0	
WKZ				AML	AML	01 04 47.7	
EAZ	**Earnscleugh**	**2.51**	**71**	ePN	Pn	01 04 39.8	+2.1
EAZ				AML	AML	01 04 45.6	
EAZ				AML	AML	01 04 46.3	
TUZ	**Tuapeka**	**2.57**	**88**	Pn	Pn	01 04 40.6	+2.0
TUZ	**Tuapeka**	**2.57**	**88**	ePN	Pn	01 04 40.6	+2.0
JCZ	**Jackson Bay**	**2.83**	**46**	Pn	Pn	01 04 45.0	+2.7
JCZ	**Jackson Bay**	**2.83**	**46**	ePN	Pn	01 04 43.7	+1.5
ODZ	**Otahua Downs**	**3.46**	**74**	ePN	Pn	01 04 51.1	+0.3

*IDC **17** 01:04:20.7±2.0, 46.°16S×166.°12E, h0km, mb3.8/2, mb1 4.2/3, mb1mx3.9/14, mbtmp4.0/3, ML4.1/1, Error ellipse: s-maj=62.7km s-min=28.3km az=171.0*
*ISCJB **17** 01:04:24.0±1.2, 46.°10S±0.°06×166.°02E±0.°08, h30km±7km, mb3.8/2, Error ellipse: s-maj=11.6km s-min=8.3km az=29.7*
*WEL **17** 01:04:25.1±0.3, 46.°15S×166.°11E, h32km±1km, ML4.4/17, Error ellipse: s-maj=2.7km s-min=1.2km az=90.0*

ISC 17 01:04:25.0±1.7, 46.°15S±0.°07×166.°20E±0.°08, h31km±11km, n25, σ1s43/30, 1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.34**	**93**	⇓P*	**Pn**	**01 04 33.9**	**+0.1**
PYZ				S*	**Sn**	**01 04 40.2**	**+0.7**
PYZ				S*	**Sb**	**01 04 40.5**	**+2.0**
DCZ	**Deep Cove**	**0.95**	**45**	PN	**Pn**	**01 04 42.2**	**+0.1**
DCZ				SN	**Sn**	**01 04 54.9**	**+0.2**
DCZ				AML	AML	01 04 56.3	
DCZ				AML	AML	01 04 56.3	
DCZ				AML	AML	01 04 58.2	
APZ	**The Paps**	**1.41**	**120**	PN	**Pn**	**01 04 49.2**	**+0.6**
APZ				SN	**Sb**	**01 05 08.2**	**-0.2**
MLZ	**Mavora Lakes**	**1.60**	**61**	ePN	**Pb**	**01 04 52.8**	**-1.1**
MLZ				AML	AML	01 05 19.2	
MLZ				AML	AML	01 05 27.6	
MSZ	**Milford Sound**	**1.92**	**40**	PN	**Pn**	**01 04 56.1**	**+0.6**
MSZ				AML	AML	01 05 32.0	
MSZ				AML	AML	01 05 32.0	
MSZ				AML	AML	01 05 43.1	
MSZ				AML	AML	01 05 43.1	
SYZ	**Scrubby Hill**	**2.07**	**102**	ePN	**Pn**	**01 04 59.4**	**+1.7**
SYZ				SN	**Sb**	**01 05 26.1**	**-1.1**
EAZ	**Earnscleugh**	**2.36**	**68**	PN	**Pb**	**01 05 04.8**	**-2.1**
EAZ				AML	AML	01 05 38.2	
EAZ				AML	AML	01 05 38.2	
EAZ				AML	AML	01 05 43.5	
EAZ				AML	AML	01 05 43.5	
WKZ	**Wanaka**	**2.38**	**57**	ePN	**Pb**	**01 05 03.4**	**-1.8**
WKZ				AML	AML	01 05 37.8	
WKZ				AML	AML	01 05 40.0	
WKZ				AML	AML	01 05 47.4	
WKZ				AML	AML	01 05 59.7	
TUZ	**Tuapeka**	**2.40**	**87**	PN	**Pn**	**01 05 04.0**	**+1.9**
TUZ				SN	**Sb**	**01 05 35.4**	**-1.2**
TUZ				AML	AML	01 05 40.6	
JCZ	**Jackson Bay**	**2.75**	**42**	ePN	**Pb**	**01 05 12.8**	**-0.8**
JCZ				AML	AML	01 06 00.4	
JCZ				AML	AML	01 06 03.3	
HHSZ	**Highcliff Hill**	**3.08**	**87**	ePN	**Pn**	**01 05 13.9**	**+2.5**
ODZ	**Otahua Downs**	**3.31**	**72**	PN	**Pn**	**01 05 16.0**	**+1.3**
ODZ				AML	AML	01 06 13.8	
ODZ				AML	AML	01 06 13.8	
ODZ				AML	AML	01 06 15.9	
ODZ				AML	AML	01 06 15.9	
LBZ	**Lake Benmore**	**3.32**	**59**	ePN	**Pn**	**01 05 15.9**	**+1.1**
LBZ				AML	AML	01 06 16.2	
LBZ				AML	AML	01 06 21.7	
FOZ	**Fox Glacier**	**3.58**	**45**	AML	AML	01 06 22.9	
FOZ				AML	AML	01 06 36.2	
RPZ	**Rata Peaks**	**4.22**	**56**	Pn	**Pn**	**01 05 28.0**	**+0.8**
	9.5nm,0.3s,baz=174,slow=4.9,SNR=7.3						
RPZ				Sn	**Sn**	**01 06 15.8**	**+0.4**
	21nm,0.3s,baz=176,slow=21,SNR=3.2						
RPZ	**Rata Peaks**	**4.22**	**56**	ePN	**Pn**	**01 05 27.9**	**+0.8**
RPZ				AML	AML	01 06 18.7	
RPZ				AML	AML	01 06 20.3	
WVZ	**Waitaha Valley**	**4.46**	**48**	ePN	**Pn**	**01 05 33.2**	**+2.6**
WVZ				AML	AML	01 06 35.1	
WVZ				AML	AML	01 06 46.9	
LTZ	**Lake Taylor**	**5.50**	**54**	ePN	**Pn**	**01 05 46.1**	**+1.3**
LTZ				AML	AML	01 06 49.0	
LTZ				AML	AML	01 07 45.2	
THZ	**Tophouse**	**6.53**	**50**	ePN	**Pn**	**01 06 00.5**	**+1.5**
THZ				AML	AML	01 07 21.3	
THZ				AML	AML	01 07 22.2	
QRZ	**Quartz Range**	**7.03**	**43**	ePN	**Pn**	**01 06 08.2**	**+2.3**
ASAR	**Alice Springs**	**34.34**	**300**	P	**P**	**01 11 09.0**	**0.0**
	1.1nm,0.9s,baz=126,slow=9.3,SNR=2.9						
WRA	**Warramunga Arr**	**36.95**	**304**	P	**P**	**01 11 30.7**	**-0.7**
	1.2nm,0.8s,baz=135,slow=7.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**144.59**	**207**	PKP	PKPbc	01 23 58.2	+0.9
	0.5nm,0.6s,baz=151,slow=2.0,SNR=4.6						
BRTR	**Keskin Array B**	**145.11**	**277**	PKPbc	**PKPbc**	**01 23 57.6**	**-1.0**
	1.5nm,0.8s,baz=98,slow=3.7,SNR=4.4						
ARCES	**ARCESS Array B**	**149.55**	**334**	PKPbc	**PKPbc**	**01 24 10.8**	**+0.9**
	1.2nm,0.8s,baz=66,slow=2.3,SNR=2.6						

*ISCJB **17** 01:20:02.2±1.0, 45.°38S±0.°04×166.°58E±0.°06, h12km±6km, mb3.7/4, Error ellipse: s-maj=7.3km s-min=6.2km az=35.5*
*IDC **17** 01:20:02.5±0.9, 45.°32S×166.°75E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.8/15, mbtmp3.8/5, ML4.7/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/23, Error ellipse: s-maj=33.9km s-min=25.1km az=39.0*
*WEL **17** 01:20:03.5±0.2, 45.°46S×166.°61E, h20km±1km, ML4.8/19, Error ellipse: s-maj=2.1km s-min=1.5km az=90.0*
*NEIC **17** 01:20:04.2, 45.°44S×166.°66E, h8km, ML4.8(WEL), After WEL.*

ISC 17 01:20:04.1±2.9, 45.°49S±0.°05×166.°72E±0.°05, h18km±19km, n59, σ1s74/62, mb3.7/4, 4C-3D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.30**	**87**	Pg	**Pb**	**01 20 11.4**	**+0.4**
DCZ				Sg	**Sb**	**01 20 16.9**	**+1.3**
DCZ	**Deep Cove**	**0.30**	**87**	⇑P*	**Pb**	**01 20 11.4**	**+0.4**
DCZ				AML	AML	01 20 16.6	
DCZ				AML	AML	01 20 16.6	
DCZ				S*	**Sb**	**01 20 16.9**	**+1.3**
DCZ				AML	AML	01 20 17.0	
PYZ	**Puysegur Point**	**0.67**	**182**	⇑P*	**Pb**	**01 20 16.4**	**-0.9**
WHZ	**Wether Hill Ro**	**0.95**	**115**	P*	**Pb**	**01 20 22.2**	**+0.2**
WHZ				S*	**Sn**	**01 20 36.4**	**+0.8**
WHZ	**Wether Hill Ro**	**0.95**	**115**	P*	**Pb**	**01 20 22.2**	**+0.2**
WHZ				S*	**Sn**	**01 20 36.4**	**+0.8**
WHZ				AML	AML	01 20 44.4	
MLZ	**Mavora Lakes**	**1.03**	**82**	P*	**Pn**	**01 20 22.9**	**-0.8**
MLZ				S*	**Sb**	**01 20 36.7**	**0.0**
MLZ	**Mavora Lakes**	**1.03**	**82**	⇑PN	**Pn**	**01 20 22.9**	**-0.8**
MLZ				S*	**Sb**	**01 20 36.7**	**0.0**
MLZ				AML	AML	01 20 38.5	
MSZ	**Milford Sound**	**1.19**	**47**	P*	**Pb**	**01 20 25.7**	**-0.4**
MSZ	**Milford Sound**	**1.19**	**47**	⇓PN	**Pn**	**01 20 24.2**	**-1.5**
MSZ				AML	AML	01 20 46.2	
MSZ				AML	AML	01 20 46.2	
MSZ				AML	AML	01 20 47.8	
MSZ				AML	AML	01 20 47.8	
APZ	**The Paps**	**1.60**	**147**	⇓PN	**Pb**	**01 20 32.6**	**-0.6**
WKZ	**Wanaka**	**1.76**	**69**	⇑PN	**Pb**	**01 20 34.7**	**-1.1**
WKZ				AML	AML	01 21 04.8	
WKZ				AML	AML	01 21 04.8	
WKZ				AML	AML	01 21 13.7	
WKZ				AML	AML	01 21 13.7	
EAZ	**Earnscleugh**	**1.84**	**83**	Pn	**Pb**	**01 20 36.5**	**-0.7**
EAZ	**Earnscleugh**	**1.84**	**83**	⇓PN	**Pb**	**01 20 36.3**	**-1.0**
EAZ				AML	AML	01 21 06.3	
EAZ				AML	AML	01 21 06.3	
EAZ				AML	AML	01 21 08.2	
EAZ				AML	AML	01 21 08.2	
SYZ	**Scrubby Hill**	**1.98**	**123**	PN	**Pb**	**01 20 38.5**	**-1.1**
JCZ	**Jackson Bay**	**2.03**	**46**	AML	AML	01 21 14.2	
JCZ				AML	AML	01 21 15.9	
TUZ	**Tuapeka**	**2.09**	**104**	Pn	**Pb**	**01 20 40.0**	**-1.4**
TUZ	**Tuapeka**	**2.09**	**104**	PN	**Pb**	**01 20 40.0**	**-1.4**
TUZ				AML	AML	01 21 15.0	
TUZ				AML	AML	01 21 20.2	
LBZ	**Lake Benmore**	**2.70**	**67**	PN	**Pn**	**01 20 46.9**	**+0.3**
LBZ				AML	AML	01 21 27.5	
LBZ				AML	AML	01 21 27.5	
LBZ				AML	AML	01 21 37.4	
HHSZ	**Highcliff Hill**	**2.75**	**100**	PN	**Pn**	**01 20 48.3**	**+1.1**
ODZ	**Otahua Downs**	**2.81**	**82**	ePn	**Pn**	**01 20 48.5**	**+0.5**
ODZ				eSn	**Sn**	**01 21 24.2**	**+2.8**
ODZ	**Otahua Downs**	**2.81**	**82**	PN	**Pn**	**01 20 48.3**	**+0.5**
ODZ				AML	AML	01 21 28.8	
ODZ				AML	AML	01 21 46.4	
FOZ	**Fox Glacier**	**2.87**	**49**	ePN	**Pn**	**01 20 50.6**	**+1.8**
FOZ				AML	AML	01 21 43.1	
FOZ				AML	AML	01 21 43.1	
FOZ				AML	AML	01 21 43.7	
FOZ				AML	AML	01 21 43.8	
RPZ	**Rata Peaks**	**3.57**	**62**	ePn	**Pn**	**01 20 58.1**	**-0.4**
RPZ				Sn	**Sn**	**01 21 44.4**	**+4.2**
RPZ	**Rata Peaks**	**3.57**	**62**	Pn	**Pn**	**01 20 58.0**	**-0.6**
	69nm,0.3s,baz=227,slow=6.4,SNR=70						
RPZ				Sn	**Sn**	**01 21 44.4**	**+4.2**
	65nm,0.3s,baz=131,slow=23,SNR=2.0						
RPZ				LR	LR	01 21 58.9	
	comp=Z,904nm,20.1s,baz=30,slow=34						
RPZ	**Rata Peaks**	**3.57**	**62**	PN	**Pn**	**01 20 57.8**	**-0.8**
RPZ				AML	AML	01 21 51.3	
RPZ				AML	AML	01 22 02.9	
WVZ	**Waitaha Valley**	**3.76**	**51**	PN	**Pn**	**01 21 01.7**	**+0.6**
WVZ				AML	AML	01 22 09.8	
WVZ				AML	AML	01 22 11.6	
MQZ	**McQueen's Vall**	**4.60**	**69**	ePN	**Pn**	**01 21 11.6**	**-1.0**
MQZ				AML	AML	01 22 10.1	
MQZ				AML	AML	01 22 51.0	
DSZ	**Denniston Nort**	**5.26**	**46**	ePN	**Pn**	**01 21 22.3**	**+0.5**
KHZ	**Kahutara**	**5.80**	**60**	PN	**Pn**	**01 21 30.9**	**+1.6**
THZ	**Tophouse**	**5.83**	**52**	ePN	**Pn**	**01 21 28.1**	**-1.7**
THZ				AML	AML	01 22 46.6	
THZ				AML	AML	01 22 47.8	
QRZ	**Quartz Range**	**6.31**	**44**	ePN	**Pn**	**01 21 36.4**	**+0.3**
QRZ				AML	AML	01 23 08.4	
QRZ				AML	AML	01 23 12.2	
NNZ	**Nelson**	**6.46**	**51**	ePN	**Pn**	**01 21 39.5**	**+1.2**
TUWZ	**Tuamarina**	**6.64**	**55**	PN	Pn	01 21 44.3	+3.6
TCW	**Tory Channel**	**6.97**	**55**	ePN	Pn	01 21 48.3	+3.1
DUWZ	**D'Urville Isla**	**7.05**	**51**	ePN	Pn	01 21 48.8	+2.5
KIW	**Kapiti Island**	**7.56**	**55**	ePN	**Pn**	**01 21 54.3**	**+0.8**
HIZ	**Hauiti**	**9.23**	**44**	ePN	**Pn**	**01 22 16.1**	**-0.2**
MKAZ	**Moumakai**	**10.51**	**40**	ePN	**Pn**	**01 22 34.4**	**+0.7**
URZ	**Urewera**	**10.59**	**51**	Sn	**Sn**	**01 24 27.5**	**-5.4**
URZ	**Urewera**	**10.59**	**51**	Sn	**Sn**	**01 24 27.5**	**-5.4**
	0.2nm,0.3s,baz=350,slow=20,SNR=1.5						
WCZ	**Waipu Caves**	**11.15**	**34**	ePN	**Pn**	**01 22 42.4**	**-0.2**
STKA	**Stephens Creek**	**23.75**	**296**	P	**P**	**01 25 17.2**	**+2.0**
STKA	**Stephens Creek**	**23.75**	**296**	P	**P**	**01 25 17.2**	**+2.0**
	1.6nm,0.5s,baz=124,slow=4.7,SNR=3.4						
ASAR	**Alice Springs**	**34.34**	**298**	P	**P**	**01 26 50.3**	**+0.5**
ASAR	**Alice Springs**	**34.34**	**298**	P	**P**	**01 26 50.3**

WHZ	**Wether Hill Ro**	**1.40**	**81**	PN	Pb	01 25 03.0	-1.1
WHZ				SN	Sb	01 25 21.1	-0.5
WHZ				AML	AML	01 25 27.1	
APZ	**The Paps**	**1.57**	**118**	SN	Sb	01 25 25.3	-1.3
MLZ	**Mavora Lakes**	**1.73**	**64**	*e*PN	Pb	01 25 09.0	-0.7
MLZ				SN	Sn	01 25 28.8	+1.5
MLZ				AML	AML	01 25 36.5	
MSZ	**Milford Sound**	**2.00**	**44**	AML	AML	01 25 46.7	
MSZ				AML	AML	01 25 48.0	
EAZ	**Earnscleugh**	**2.50**	**70**	AML	AML	01 25 53.7	
EAZ				AML	AML	01 25 58.8	

WEL 17 01:47:36.8±0.5, 46°22S×165°80E, h33km, ML4.1/14, 1C-1D, Error ellipse: s-maj=5.3km s-min=2.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.62**	**86**	⇓PN	Pn	01 47 48.2	-1.1
PYZ				SN	Sb	01 47 55.7	-2.2
PYZ				SN	Sn	01 47 55.8	-2.2
DCZ	**Deep Cove**	**1.20**	**53**	PN	Pn	01 47 56.8	-0.5
DCZ				SN	Sn	01 48 12.1	-0.4
DCZ				AML	AML	01 48 13.3	
DCZ				AML	AML	01 48 15.3	
DCZ				AML	AML	01 48 15.3	
WHZ	**Wether Hill Ro**	**1.53**	**79**	PN	Pn	01 48 02.1	+0.2
WHZ				SN	Sn	01 48 20.4	-0.2
WHZ				SN	Sb	01 48 21.2	-2.6
APZ	**The Paps**	**1.64**	**113**	PN	Pn	01 48 03.1	-0.2
APZ				SN	Sn	01 48 22.3	-1.0
MLZ	**Mavora Lakes**	**1.88**	**63**	PN	Pn	01 48 07.8	+1.2
MLZ				AML	AML	01 48 36.5	
MLZ				AML	AML	01 48 41.1	
MSZ	**Milford Sound**	**2.15**	**45**	⇑PN	Pn	01 48 11.7	+1.3
MSZ				AML	AML	01 48 54.4	
MSZ				AML	AML	01 48 54.4	
MSZ				AML	AML	01 48 54.4	
MSZ				AML	AML	01 48 54.5	
EAZ	**Earnscleugh**	**2.65**	**69**	PN	Pn	01 48 19.2	+1.9
EAZ				AML	AML	01 48 54.3	
EAZ				AML	AML	01 48 54.3	
EAZ				AML	AML	01 48 54.4	
EAZ				AML	AML	01 49 00.5	
WKZ	**Wanaka**	**2.66**	**60**	PN	Pn	01 48 19.7	+2.3
WKZ				AML	AML	01 49 00.5	
WKZ				AML	AML	01 49 02.3	
TUZ	**Tuapeka**	**2.68**	**86**	PN	Pn	01 48 18.8	+1.1
TUZ				AML	AML	01 48 55.0	
TUZ				AML	AML	01 48 58.4	
JCZ	**Jackson Bay**	**3.00**	**45**	PN	Pn	01 48 23.8	+1.6
JCZ				AML	AML	01 49 17.1	
JCZ				AML	AML	01 49 18.7	
LBZ	**Lake Benmore**	**3.60**	**61**	PN	Pn	01 48 31.3	+1.1
LBZ				AML	AML	01 49 16.5	
LBZ				AML	AML	01 49 20.8	
ODZ	**Otahua Downs**	**3.60**	**73**	PN	Pn	01 48 30.0	-0.3
ODZ				AML	AML	01 49 15.0	
ODZ				AML	AML	01 49 37.0	
FOZ	**Fox Glacier**	**3.83**	**48**	*e*PN	Pn	01 48 35.2	+1.8
RPZ	**Rata Peaks**	**4.49**	**58**	*e*PN	Pn	01 48 42.3	-0.3
RPZ				AML	AML	01 49 36.0	
RPZ				AML	AML	01 49 39.9	
WVZ	**Waitaha Valley**	**4.72**	**50**	*e*PN	Pn	01 48 46.4	+0.7
OXZ	**Oxford**	**5.30**	**59**	PN	Pn	01 48 53.4	-0.3
LTZ	**Lake Taylor**	**5.76**	**56**	*e*PN	Pn	01 48 59.6	-0.5
THZ	**Tophouse**	**6.79**	**52**	*e*PN	Pn	01 49 15.4	+1.2
QRZ	**Quartz Range**	**7.28**	**45**	*e*PN	Pn	01 49 22.0	+1.3

WEL 17 01:48:58.0±0.5, 45°46S×166°75E, h25km±2km, ML2.9/5, 1D, Error ellipse: s-maj=6.1km s-min=5.6km az=0.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.28**	**95**	⇓P*	Pb	01 49 04.7	0.0
DCZ				S*	Sb	01 49 09.3	0.0
DCZ				S*	Sn	01 49 09.4	-2.6
DCZ				AML	AML	01 49 09.6	
DCZ				AML	AML	01 49 09.6	
PYZ	**Puysegur Point**	**0.71**	**184**	PN	Pb	01 49 03.8	-8.0
PYZ				SN	Sb	01 49 11.5	-10
PYZ				SN	Sn	01 49 12.1	-11
WHZ	**Wether Hill Ro**	**0.95**	**118**	AML	AML	01 49 38.2	
MLZ	**Mavora Lakes**	**1.01**	**84**	PN	Pn	01 49 15.2	-1.4
MLZ				SN	Sb	01 49 28.9	-0.8
MSZ	**Milford Sound**	**1.14**	**47**	AML	AML	01 49 36.9	
MSZ				AML	AML	01 49 37.1	
MSZ				AML	AML	01 49 38.2	
MSZ				AML	AML	01 49 38.6	

IDC ***17*** *01:55:39.2±0.3, 26°.50N×142°.26E, h0km, mb4.6/41, mb1 4.7/44, mb1mx4.7/47, mbtmp4.6/44, ML4.3/3, MS4.2/22, Ms1 4.2/22, ms1mx4.0/49, Error ellipse: s-maj=12.9km s-min=9.5km az=90.0*

BJI ***17*** *01:55:39.1, 26°.50N×142°.39E, h10km, mB5.0/30, mb4.8/37, Ms4.5/37, Ms7 4.3/36*

JMA ***17*** *01:55:40.4±0.1, 26°.43N×142°.74E, h39km, MS1.1*

JMA Felt II J1.

BKK ***17*** *01:55:41.6±0.9, 27°.9N×14°3E±1°.4, h10km, M5.4/18, mB5.8/4, mb5.5/18, Mw(mB)5.3/4*

ISCJB ***17*** *01:55:42.4±0.9, 26°.59N±0°.02×142°.32E±0°.03, h28km±6km, mb4.9/163, MS4.3/42, Error ellipse: s-maj=4.8km s-min=3.8km az=15.7*

MOS ***17*** *01:55:42.8±1.0, 26°.53N×142°.27E, h33km, mb5.2/54, MS4.5/8, Error ellipse: s-maj=9.0km s-min=4.4km az=107.5*

NEIC ***17*** *01:55:43.9±0.1, 26°.50N×142°.34E, mb4.8/56, Error ellipse: s-maj=4.1km s-min=3.5km az=121.0*

NEIC Recorded [2 JMA] in the Hahajima-retto and [1 JMA] in the Chichijima-retto.

DJA ***17*** *01:55:46.6±10.0, 26°N±47°×14°2E±13°3, h10km, M5.5/8, mB5.5/1, mb5.5/8, Mw(mB)5.0/1*

ISC 17 01:55:44.0±0.4, 26°49N±0°04×142°42E±0°04, h31km±1km, h31km;pP-P, n405, σ1s21/494, mb4.9/165, MS4.3/44, 19C-7D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**0.26**	**304**	P	**Pn**	**01 55 51.7**	**0.0**
JHHJ				S	**Sn**	**01 55 59.5**	**+2.9**
CBIJ	**Chichi jima**	**0.64**	**341**	Pn	**Pb**	**01 55 55.5**	**-1.3**
CBIJ	**Chichi jima**	**0.64**	**341**	P	**Pb**	**01 55 55.7**	**-1.1**
CBIJ				S	**Sn**	**01 56 07.7**	**+1.6**
CBIJ	**Chichi jima**	**0.64**	**341**	Pn	**Pb**	**01 55 55.5**	**-1.3**
	baz=270,slow=20						
BSO1	**Boso 1**	**8.23**	**352**	P	**Pn**	**01 57 39.8**	**-1.0**
BSO1				S	**Sn**	**01 59 13.6**	**+1.1**
JOD2	**Odawara 2**	**9.20**	**343**	P	**Pn**	**01 57 54.2**	**-0.4**
JOD2				S	**Sn**	**01 59 36.6**	**-0.5**
JHU	**Hanno**	**9.71**	**345**	P	**Pn**	**01 58 00.5**	**-1.1**
JHU				S	**Sn**	**01 59 47.5**	**-2.1**
JRY	**Ryogami san**	**9.96**	**343**	P	**Pn**	**01 58 04.4**	**-0.6**
JRY				S	**Sn**	**01 59 54.9**	**-0.9**
JAG	**Ashikaga**	**10.22**	**346**	P	**Pn**	**01 58 06.4**	**-2.2**
JAG				S	**Sn**	**01 59 56.7**	**-5.5**
MJAR	**Matsushiro Arr**	**10.65**	**341**	Pn	**Pn**	**01 58 14.0**	**-0.3**
MJAR				Sn	**Sn**	**02 00 12.7**	**+0.2**
MJAR	**Matsushiro Arr**	**10.65**	**341**	Pn	**Pn**	**01 58 14.0**	**-0.3**
	5.8nm,0.3s,baz=152,slow=11,SNR=36						
MJAR				Sn	**Sn**	**02 00 12.7**	**+0.2**
	1.0nm,0.3s,baz=148,slow=13,SNR=4.1						
MAJO	**Matsushiro**	**10.65**	**341**	*e*P	**Pn**	**01 58 13.8**	**-0.6**
MAJO	**Matsushiro**	**10.65**	**341**	*e*Pn	**Pn**	**01 58 13.8**	**-0.6**
MAT	**Matsushiro**	**10.65**	**341**	P	**Pn**	**01 58 14.0**	**-0.4**
MAT				S	**Sn**	**02 00 10.1**	**-2.5**
MAT	**Matsushiro**	**10.65**	**341**	P	**Pn**	**01 58 14.0**	**0.0**
JMM	**Marumori**	**11.43**	**353**	P	**Pn**	**01 58 22.7**	**-2.3**
JAM	**Amami Oshima**	**11.54**	**282**	P	Pn	01 58 32.0	+5.4
JNU	**Nakatsue**	**12.00**	**306**	*e*Pn	Pn	01 58 39.2	+6.3
JNU	**Nakatsue**	**12.00**	**306**	Pn	Pn	01 58 39.2	+6.3
	0.6nm,0.3s,baz=104,slow=6.5,SNR=4.4						
JNU				LR	LR	02 02 45.7	
	comp=Z,1μm,20.0s,baz=129,slow=36						
JMK	**Ichinoseki**	**12.47**	**356**	P	**Pn**	**01 58 37.0**	**-2.3**
JMK				S	Sn	02 00 48.6	-8.5
JOW	**Kunigami**	**12.65**	**275**	*e*Pn	**Pn**	**01 58 42.1**	**+0.2**
ERM	**Erimo**	**15.50**	**2**	*e*P	**Pn**	**01 59 18.8**	**-1.5**
KSRS	**Korea Array**	**16.43**	**315**	Pn	**Pn**	**01 59 32.6**	**+0.4**
	0.9nm,0.3s,baz=119,slow=11,SNR=12						
KSRS				LR	LR	02 05 41.3	
	comp=Z,1μm,18.2s,baz=126,slow=37						
KSAR	**Wonju Array Be**	**16.45**	**315**	Pn	**Pn**	**01 59 32.6**	**+0.1**
ASAJ	**Asahikawa**	**17.59**	**0**	P	**Pn**	**01 59 46.1**	**-0.6**
ASAJ	**Asahikawa**	**17.59**	**0**	P	**Pn**	**01 59 46.1**	**-0.6**
	2.5nm,0.3s,baz=242,slow=18,SNR=6.1						
YUK	**Yuzh-Kuril'sk**	**17.73**		8*d*/P	**Pn**	**01 59 47.1**	**-1.3**
YUK				*e*S	**Sn**	**02 03 02.6**	**-2.4**
YUK				pmax	pmax		
	comp=N,57nm,0.2s						
YUK				pmax	pmax		
	comp=E,14nm,0.2s						
YUK				pmax	pmax		
	comp=E,67nm,0.2s						
YUK				pmax	pmax		
	comp=E,375nm,2.0s						
YUK				pmax	pmax		
	comp=Z,529nm,2.0s						
YUK				pmax	pmax		
	comp=N,371nm,2.0s						
YUK				pmax	pmax		
	comp=E,997nm,2.8s						
YUK				pmax	pmax		
	comp=N,332nm,2.8s						
YUK				MLR	MLR		
	comp=E,1μm,19.0s						
YUK				MLR	MLR		
	comp=Z,412nm,19.0s						
YHNB	**Yeheng**	**19.07**	**269**	*e*P	**Pn**	**02 00 05.2**	**+0.2**
	comp=Z,64nm,0.7s						
YULB	**Yu-li**	**19.40**	**265**	*e*P	**Pn**	**02 00 09.6**	**+0.7**
	comp=Z,126nm,1.1s						
USRK	**Ussuriysk Arra**	**19.58**	**337**	P	**P**	**02 00 09.4**	**0.0**
	comp=Z,1.3nm,0.3s,baz=156,slow=12,SNR=23						
USRK				LR	LR	02 06 48.0	
	comp=Z,476nm,20.8s,baz=300,slow=34						
SSLB	**Suanglung**	**19.62**	**267**	*e*P	**Pn**	**02 00 12.5**	**+1.0**
	comp=Z,63nm,0.9s						
TPUB	**Ta-pu**	**20.02**	**266**	*e*P	**P**	**02 00 14.1**	**-0.2**
YSS	**Yuzh-Sakhalins**	**20.43**	**1**	*e*P	Pn	02 00 25.9	+5.1
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
MDJ	**Mudanjiang**	**20.84**	**334**	P	Pn	02 00 24.4	-1.2
MDJ				pP	pP	02 00 30.1	-1.2
MDJ				PcP	**PcP**	**02 04 32.4**	**+1.6**
MDJ				PcS	**PcS**	**02 08 10.4**	**+1.8**
MDJ				pmax	pmax		
	comp=Z,13nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,180nm,4.0s						
MDJ				LR	LR		
	comp=N,500nm,16.0s						
MDJ				LR	LR		
	comp=E,350nm,13.7s						
MDJ				LR	LR		
	comp=Z,580nm,17.0s						
MDJ	**Mudanjiang**	**20.84**	**334**	*e*P	**P**	**02 00 23.3**	**+0.3**
	comp=Z,20nm,0.8s						
NJ2	**Nanjing**	**21.27**	**291**	*e*P	P	02 00 36.6	+8.8
NJ2				pP	pP	02 00 36.8	+0.7
NJ2				sP	sP	02 00 37.0	-3.1
NJ2				pmax	pmax		
	comp=Z,200nm,1.5s						
NJ2				pmax	pmax		
	comp=Z,20nm,5.0s						
NJ2				LR	LR		
	comp=N,720nm,20.0s						
NJ2				LR	LR		
	comp=E,600nm,20.7s						
NJ2				LR	LR		
	comp=Z,800nm,16.0s						
SNY	**Shenyang**	**21.77**	**319**	⇓P	**P**	**02 00 34.1**	**+1.0**
SNY				S	**S**	**02 04 36.3**	**+4.0**
SNY				pmax	pmax		
	comp=Z,31nm,1.0s						
SNY				pmax	pmax		
	comp=Z,240nm,3.8s						
SNY				LR	LR		
	comp=N,410nm,15.9s						
SNY				LR	LR		
	comp=E,260nm,13.0s						
SNY				LR	LR		
	comp=Z,410nm,15.3s						
CN2	**Changchun**	**22.09**	**326**	*e*P	**P**	**02 00 34.9**	**-1.5**
CN2				PP	**PnPn**	**02 01 01.1**	**+2.2**
CN2				*e*S	S	02 04 30.8	-7.4
CN2				SS	**SnSn**	**02 05 10.1**	**+4.5**
CN2				LR	LR		
	comp=N,500nm,12.0s						
CN2				LR	LR		
	comp=E,500nm,12.0s						
CN2				LR	LR		
	comp=Z,500nm,14.0s						
HABR	**Khabarovsk**	**22.69**	**347**	*c*e*P	**P**	**02 00 43.5**	**+0.7**
HABR				*e**SP	**sP**	**02 00 53.5**	**-1.6**
HABR				*e*PPP	PPP	02 01 12.2	
HABR				*e*		02 04 32.5	
HABR				*e*S	**S**	**02 04 49.1**	**0.0**
HABR				*e**SS	**sS**	**02 05 01.2**	**-2.2**
HABR				*e*SSS	SSS	02 05 31.4	
HABR				*e*		02 11 52.7	
HABR				pmax	pmax		
	comp=Z,201nm,1.4s						
HABR				pmax	pmax		
	comp=N,104nm,1.4s						
HABR				pmax	pmax		
	comp=E,48nm,1.0s						
HABR				MLR	MLR		
	comp=Z,202nm,17.0s						
KLR	**Kul'dur**	**24.17**	**343**	*e*P	**P**	**02 00 53.7**	**-3.6**
KLR				*e*S	**S**	**02 05 15.0**	**+1.6**
KLR				pmax	pmax		
	comp=E,52nm,1.4s						
KLR				pmax	pmax		
	comp=Z,160nm,1.4s						
WHN	**Wuhan**	**24.96**	**286**	⇑P	**P**	**02 01 05.3**	**+0.5**
WHN				LR	LR		
	comp=N,1μm,14.9s						
WHN				LR	LR		
	comp=E,670nm,13.6s						
WHN				LR	LR		
	comp=Z,2μm,15.5s						
BJI	**Beijing**	**25.66**	**308**	P	**P**	**02 01 12.0**	**+1.0**
BJI				S	**S**	**02 05 38.1**	**+0.7**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,110nm,5.0s						
BJI				LR	LR		
	comp=N,380nm,19.3s						
BJI				LR	LR		
	comp=E,490nm,18.3s						
BJI				LR	LR		
	comp=Z,370nm,25.6s						
PETK	**Petropavlovsk-**	**28.94**	**19**	P	**P**	**02 01 41.6**	**+1.3**
PETK	**Petropavlovsk-**	**28.94**	**19**	P	**P**	**02 01 41.6**	**+1.3**
PETK	**Petropavlovsk-**	**28.94**	**19**	P	**P**	**02 01 41.6**	**+1.3**
	comp=Z,1.9nm,0.7s,baz=179,slow=11,SNR=4.5						
HHC	**Hu-ho-hao-te**	**29.23**	**307**	*e*P	**P**	**02 01 43.1**	**0.0**
HHC				PP	**PnPn**	**02 02 38.8**	**+2.1**
HHC				PcP	**PcP**	**02 04 50.9**	**+1.1**
HHC				S	**S**	**02 06 31.3**	**-2.6**
HHC				SS	**SnSn**	**02 08 03.5**	**+3.2**
HHC				ScP	**ScP**	**02 08 28.1**	**-1.1**
HHC				PcS	**PcS**	**02 08 31.9**	**-0.8**
HHC				ScS	**ScS**	**02 12 20.3**	**-3.2**
HHC				pmax	pmax		
	comp=Z,14nm,1.2s						
HHC				pmax	pmax		
	comp=Z,280nm,5.1s						
HHC				LR	LR		
	comp=N,510nm,12.9s						
HHC				LR	LR		
	comp=E,760nm,13.5s						
HHC				LR	LR		
	comp=Z,2μm,13.9s						
XAN	**Xi'an**	**29.80**	**293**	P	**P**	**02 01 47.1**	**-1.1**
XAN				pP	**pP**	**02 01 57.9**	**+0.7**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
QIZ	**Qiongzhong**	**30.88**	**263**	P	**P**	**02 01 58.8**	**+1.0**
QIZ				S	**S**	**02 07 01.0**	**+1.0**
QIZ				LR	LR		
	comp=E,180nm,23.7s						
QIZ				LR	LR		
	comp=Z,390nm,21.3s						
MYLDM	**Lahad Datu**	**31.16**	**231**	P	**P**	**02 02 02.1**	**+1.8**
KDM	**Kudat**	**31.17**	**236**	P	**P**	**02 02 02.3**	**+2.0**
SDKM	**Sandakan**	**31.76**	**234**	P	**P**	**02 02 06.8**	**+1.2**
GYA	**Guiyang**	**31.94**	**278**	P	**P**	**02 02 07.1**	**-0.2**
GYA				pP	**pP**	**02 02 17.6**	**+1.3**
GYA				PP	**PnPn**	**02 03 14.3**	**+1.6**
GYA				PcP	**PcP**	**02 04 58.0**	**+0.8**
GYA				S	**S**	**02 07 13.4**	**-3.4**
GYA				ScP	**ScP**	**02 08 38.9**	**+0.5**
GYA				SS	**SnSn**	**02 09 07.0**	**+0.3**
GYA				ScS	**ScS**	**02 12 35.3**	**-1.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GYA				pmax	pmax		
	comp=Z,130nm,7.9s						
GYA				LR	LR		
	comp=N,520nm,16.7s						
GYA				LR	LR		
	comp=E,400nm,14.2s						
GYA				LR	LR		
	comp=Z,490nm,17.9s						
KKM	**Kota Kinabalu**	**32.21**	**235**	*e*P	**P**	**02 02 10.3**	**+0.7**
	comp=Z,32nm,0.5s						
KKM	**Kota Kinabalu**	**32.21**	**235**	P	**P**	**02 02 11.2**	**+1.6**
TSM	**Tawau**	**32.22**	**231**	P	**P**	**02 02 11.2**	**+1.5**
CLNS	**Chul'man**	**32.83**	**342**	*e*P	**P**	**02 02 15.6**	**+1.0**
CLNS				pmax	pmax		
	comp=Z,14nm,1.0s						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.6s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.7s						
CLNS				MLR	MLR		
	comp=Z,180nm,20.0s						
CLNS				MLR	MLR		
	comp=N,131nm,14.0s						
CLNS				MLR	MLR		
	comp=E,235nm,14.0s						
CD2	**Chengdu**	**34.08**	**287**	*e*P	**P**	**02 02 25.3**	**-0.5**
CD2				pP	**pP**	**02 02 34.5**	**-0.4**
CD2				PP	**PnPn**	**02 03 39.8**	**0.0**
CD2				S	**S**	**02 07 47.8**	**-2.0**
CD2				SS	**SnSn**	**02 09 55.8**	**-2.6**
CD2				pmax	pmax		
	comp=Z,270nm,6.8s						
CD2				LR	LR		
	comp=E,850nm,22.4s						
LZH	**Lanzhou**	**34.14**	**296**	*e*P	**P**	**02 02 25.3**	**-1.1**
LZH				pP	**pP**	**02 02 35.1**	**-0.4**
LZH				sP	**sP**	**02 02 39.0**	**-0.2**
LZH				*e*S	**S**	**02 07 46.0**	**-4.8**
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,130nm,5.4s						
LZH				LR	LR		
	comp=N,340nm,13.2s						
LZH				LR	LR		
	comp=E,530nm,13.5s						
LZH				LR	LR		
	comp=Z,760nm,16.2s						
ULN	**Ulaanbaatar**	**34.91**	**317**	*e*P	**P**	**02 02 31.7**	**-1.2**
FX1	**Attu Island--F**	**34.95**	**33**	P	**P**	**02 02 34.7**	**+1.7**
FX1	**Attu Island--F**	**34.95**	**33**	P	**P**	**02 02 34.7**	**+1.7**
	comp=Z,10nm,0.7s,baz=230,slow=6.0,SNR=2.5						
FX1				LR	LR	02 14 50.3	
	comp=Z,151nm,18.9s,baz=45,slow=33						
SONM	**Songino Array**	**35.30**	**317**	P	**P**	**02 02 34.1**	**-2.1**
SONM				PcP	**PcP**	**02 05 06.1**	**-0.2**
SONM	**Songino Array**	**35.30**	**317**	P	**P**	**02 02 34.1**	**-2.1**
	comp=Z,2.7nm,0.6s,baz=120,slow=5.8,SNR=3.7						
SONM				PcP	**PcP**	**02 05 06.1**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=153,slow=5.0,SNR=4.4						
SONM				LR	LR	02 17 04.3	
	comp=Z,422nm,20.9s,baz=84,slow=36						
KMI	**Kunming**	**35.65**	**277**	P	**P**	**02 02 39.8**	**+0.2**
KMI				pP	**pP**	**02 02 48.8**	**+0.1**
KMI				sP	**sP**	**02 02 52.5**	**0.0**
KMI				PP	**PP**	**02 04 01.5**	**+0.6**
KMI				S	**S**	**02 08 13.3**	**-1.1**
KMI				SS	**SnSn**	**02 10 34.4**	**-2.5**
KMI				pmax	pmax		
	comp=Z,37nm,0.8s						
KMI				pmax	pmax		
	comp=Z,200nm,4.6s						
KMI				LR	LR		
	comp=N,160nm,22.4s						
KMI				LR	LR		
	comp=E,360nm,20.5s						
KMI				LR	LR		
	comp=Z,450nm,21.5s						
PMG	**Port Moresby**	**35.97**	**172**	*e*P	**P**	**02 02 41.9**	**-0.2**
	comp=Z,40nm,1.1s						
PMG				*e*pP	**pP**	**02 02 51.7**	**+0.5**
PMG	**Port Moresby**	**35.97**	**172**	LR	LR	02 17 24.8	
	comp=Z,84nm,18.7s,baz=50,slow=36						
YAK	**Yakutsk**	**36.55**	**350**	*e*P	**P**	**02 02 45.1**	**-1.4**
YAK				pmax	pmax		
	comp=Z,23nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.2s						
SBUM	**Sibu**	**37.56**	**236**	P	**P**	**02 02 57.1**	**+1.4**
SBUM	**Sibu**	**37.56**	**236**	P	**P**	**02 02 56.5**	**+0.8**
	comp=E,18nm,1.0s						
GTA	**Gaotai**	**37.67**	**301**	*e*P	**P**	**02 02 58.1**	**+1.5**
GTA				pP	**pP**	**02 03 07.3**	**+1.6**
GTA				sP	**sP**	**02 03 10.4**	**+0.9**
GTA				PP	**PnPn**	**02 04 28.6**	**+4.7**
GTA				S	**S**	**02 08 47.3**	**+2.6**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GTA				pmax	pmax		
	comp=Z,170nm,5.2s						
GTA				LR	LR		
	comp=N,430nm,17.8s						
GTA				LR	LR		
	comp=E,440nm,18.1s						
GTA				LR	LR		
	comp=Z,490nm,19.5s						
ZAK	**Zakamensk**	**38.20**	**319**	*e*P	**P**	**02 02 59.4**	**-1.5**
ZAK				*e*		02 05 12.8	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KAPI	**Kappang**	**38.24**	**218**	*e*P	**P**	**02 03 01.3**	**-0.1**
	comp=Z,15nm,0.9s						
KAPI	**Kappang**	**38.24**	**218**	P	**P**	**02 03 01.2**	**-0.2**
	comp=Z,4.3nm,0.3s,baz=191,slow=10,SNR=3.3						
TLY	**Talaya**	**38.54**	**321**	*e*P	**P**	**02 03 03.8**	**+0.2**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,343nm,16.0s						
CHAI	**Chaiyaphum**	**38.99**	**263**	P	**P**	**02 03 08.4**	**+0.6**
	comp=Z,12nm,0.6s,comp=Z,259nm						
LOEI	**Loei**	**39.05**	**265**	P	**P**	**02 03 05.7**	**-2.6**
	comp=Z,70nm,0.8s,comp=Z,7μm						
PBKT	**Sadao Pong**	**39.65**	**264**	P	**P**	**02 03 13.6**	**+0.4**
	comp=Z,51nm,0.9s						
PBKT	**Sadao Pong**	**39.65**	**264**	P	**P**	**02 03 14.1**	**+0.9**
	comp=Z,51nm,1.0s						
STKI	**Sintang**	**39.72**	**234**	P	**P**	**02 03 14.5**	**+0.7**
	comp=Z,90nm,0.7s						
LAMP	**Lampang**	**40.17**	**268**	P	**P**	**02 03 18.6**	**+1.0**
	comp=Z,7.0nm,0.9s						
COEN	**Coen**	**40.21**	**179**	*e*P	**P**	**02 03 18.3**	**+0.5**
NAYO	**Nakonayok**	**40.21**	**261**	P	**P**	**02 03 19.6**	**+1.7**
	comp=Z,164nm,0.7s						
CMAI	**Chiengmai2**	**40.25**	**270**	P	**P**	**02 03 19.0**	**+0.6**
	comp=Z,42nm,0.8s,comp=Z,2μm						
CMMT	**Chiang Mai**	**40.69**	**268**	P	**P**	**02 03 22.1**	**+0.2**
	comp=Z,51nm,0.9s,comp=Z,644nm						
CMMT	**Chiang Mai**	**40.69**	**268**	P	**P**	**02 03 21.8**	**-0.1**
	comp=Z,51nm,0.9s,comp=Z,642nm						
CHTO	**Chiang Mai**	**40.69**	**268**	*e*P	**P**	**02 03 22.2**	**+0.3**
CHTO	**Chiang Mai**	**40.69**	**268**	*e*P	**P**	**02 03 22.1**	**+0.3**
CHTO	**Chiang Mai**	**40.69**	**268**	P	**P**	**02 03 22.1**	**+0.2**
	comp=Z,57nm,0.9s						
**C

CMAR Chiang Mai Arr 40.81 268 P **P 02 03 22.9 +0.1**
comp=Z,17nm,0.9s,baz=57,slow=8.5,SNR=59
CMAR LR LR 02 21 06.2
comp=Z,260nm,18.8s,baz=80,slow=38
BILL Bilibino 44.00 13 *e*P **P 02 03 48.5 +0.3**
BILL *e* 02 04 00.5
BILL pmax pmax
comp=Z,10.0nm,1.1s
HVS Khovu-Aksy 44.19 317 *e*P **P 02 03 49.1 -1.0**
HVS pmax pmax
comp=Z,43nm,1.0s
MYKOM Kota Tinggi 44.43 243 P **P 02 03 53.7 +1.5**
MYKOM Kota Tinggi 44.43 243 P **P 02 03 53.8 +1.5**
comp=Z,54nm,0.9s
KGM Kluang 44.72 244 P **P 02 03 56.0 +1.4**
KULM Kulim 45.07 250 *e*P **P 02 03 57.6 +0.2**
comp=Z,19nm,0.8s
KULM Kulim 45.07 250 P **P 02 03 59.0 +1.6**
SHL Shillong 45.18 281 *e*P **P 02 03 57.0 -1.4**
IPM Ipoh 45.19 248 *e*P **P 02 03 58.7 +0.3**
comp=Z,33nm,0.7s
IPM Ipoh 45.19 248 P **P 02 03 59.2 +0.8**
IPM Ipoh 45.19 248 P **P 02 03 59.5 +1.1**
IPM Ipoh 45.19 248 P **P 02 03 58.5 +0.1**
FRIM Kepong 45.39 246 P **P 02 04 01.2 +1.3**
TIXI Tiksi 45.84 354 *e*P **P 02 04 02.5 -0.2**
TIXI pmax pmax
comp=Z,12nm,1.2s
CTA Charters Tower 46.45 175 P **P 02 04 08.2 +0.1**
CTA Charters Tower 46.45 175 P **P 02 04 08.2 +0.1**
comp=Z,4.5nm,0.7s,baz=130,slow=2.7,SNR=4.4
CTAO Charters Tower 46.45 175 *e*P **P 02 04 08.1 0.0**
CTAO pmax pmax
comp=Z,8.0nm,0.7s
CTAO Charters Tower 46.45 175 *e*P **P 02 04 08.1 0.0**
comp=Z,7.6nm,0.7s
WRAB Tennant Creek 46.80 190 *e*P **P 02 04 10.8 -0.1**
WRAB *e**PP **pP 02 04 19.9 -0.3**
WRAB pmax pmax
comp=Z,90nm,0.6s
WRAB Tennant Creek 46.80 190 *e*P **P 02 04 10.8 -0.1**
comp=Z,90nm,0.6s
WRAB *e*pP **pP 02 04 19.9 -0.3**
WRA Warramunga Arr 46.81 190 P **P 02 04 10.8 -0.1**
WRA S **S 02 10 56.8 -2.6**
WRA Warramunga Arr 46.81 190 P **P 02 04 10.9 -0.1**
comp=Z,87nm,0.7s,baz=11,slow=8.6,SNR=211
WRA S **S 02 10 56.8 -2.6**
comp=Z,6.7nm,1.1s,baz=6.6,slow=14,SNR=8.0
WMQ Urumqi 47.10 306 P **P 02 04 13.6 +0.4**
WMQ pP **pP 02 04 23.3 +0.8**
WMQ sP **sP 02 04 27.3 +1.1**
WMQ PP **PP 02 06 03.9 -0.2**
WMQ S **S 02 11 02.6 -0.8**
WMQ pmax pmax
comp=Z,4.0nm,0.6s
WMQ pmax pmax
comp=Z,140nm,5.0s
WMQ LR LR
comp=N,130nm,8.6s
WMQ LR LR
comp=E,260nm,13.3s
WMQ LR LR
comp=Z,360nm,20.9s
FITZ Fitzroy Crossi 47.22 202 *e*P **P 02 04 13.9 -0.2**
comp=Z,25nm,0.8s
FITZ Fitzroy Crossi 47.22 202 P **P 02 04 14.0 -0.2**
comp=Z,32nm,0.7s,baz=23,slow=8.9,SNR=57
TAPN Taplejung 48.45 284 *e*Pn **P 02 04 23.8 -0.3**
comp=Z,16nm,0.5s
ODAN Odare 48.83 283 *e*Pn **P 02 04 26.7 -0.3**
comp=Z,29nm,0.5s
RAMN Ramite 49.50 284 *e*Pn **P 02 04 31.6 -0.5**
comp=Z,19nm,0.4s
JIRN Jiri 49.70 285 *e*Pn **P 02 04 33.5 -0.3**
comp=Z,45nm,0.5s
GUN Gumba 49.92 285 *e*Pn **P 02 04 35.3 -0.1**
comp=Z,67nm,0.7s
ZALV Zalesovo Beam 50.08 319 P **P 02 04 34.5 -1.3**
ZALV 02 05 54.9
ZALV Zalesovo Beam 50.08 319 P **P 02 04 34.5 -1.3**
ZALV PcP **PcP 02 05 54.9 -0.3**
ZALV Zalesovo Beam 50.08 319 P **P 02 04 34.5 -1.3**
comp=Z,1.9nm,0.3s,baz=99,slow=7.7,SNR=15
ZALV PcP **PcP 02 05 54.9 -0.3**
comp=Z,6.0nm,0.7s,baz=100,slow=3.9,SNR=10
ZALV LR LR 02 26 14.2
comp=Z,195nm,20.4s,baz=70,slow=37
PKI Pulchoki 50.40 285 *e*Pn **P 02 04 38.3 -0.7**
PKIN Phulchoki 50.41 285 *e*Pn **P 02 04 38.3 -0.7**
KKN Kakani 50.46 285 *e*Pn **P 02 04 38.8 -0.6**
AS31 Alice Springs 50.53 190 *e*P **P 02 04 38.7 -0.8**
ASAR Alice Springs 50.53 190 P **P 02 04 39.1 -0.5**
ASAR S **S 02 11 48.4 -3.4**
ASAR Alice Springs 50.53 190 P **P 02 04 39.1 -0.5**
comp=Z,3.6nm,0.4s,baz=17,slow=11,SNR=40
ASAR S **S 02 11 48.4 -3.4**
comp=Z,1.1nm,1.0s,baz=17,slow=22,SNR=4.5
DMN Daman 50.65 285 *e*Pn **P 02 04 40.2 -0.7**
comp=Z,16nm,0.5s
MK31 Makanchi Array 51.02 310 *ce*P **P 02 04 41.4 -1.7**
MK31 pmax pmax
comp=Z,1.0nm,0.3s
MK31 Makanchi Array 51.02 310 *e*P **P 02 04 41.5 -1.7**
MKAR Makanchi Array 51.02 310 P **P 02 04 41.6 -1.5**
MKAR 02 05 58.6
MKAR Makanchi Array 51.02 310 P **P 02 04 41.6 -1.5**
MKAR PcP **PcP 02 05 58.6 -0.3**
MKAR ScP **ScP 02 09 54.9 +1.8**
MKAR Makanchi Array 51.02 310 P **P 02 04 41.6 -1.5**
comp=Z,1.9nm,0.4s,baz=90,slow=9.3,SNR=33
MKAR PcP **PcP 02 05 58.6 -0.3**
comp=Z,3.6nm,0.8s,baz=85,slow=6.5,SNR=5.3
MKAR ScP **ScP 02 09 54.8 +1.8**
comp=Z,0.4nm,0.6s,baz=79,slow=6.3,SNR=4.2
MKAR LR LR 02 27 21.3
comp=Z,371nm,19.1s,baz=87,slow=37
NVS Novosibirsk 51.14 320 *e*P **P 02 04 41.9 -1.9**
DANN Dangsing 51.65 286 *e*Pn **P 02 04 48.3 -0.1**
comp=Z,71nm,0.7s
KOLN Koldanda 51.92 286 *e*Pn **P 02 04 49.9 -0.4**
comp=Z,22nm,0.7s
MBWA Marble Bar 52.22 207 *e*P **P 02 04 51.6 -0.6**
comp=Z,16nm,0.7s
KURK Kurchatov 53.56 315 P **P 02 05 00.8 -1.0**
KURK Kurchatov 53.56 315 P **P 02 05 00.8 -1.0**
DZM Mont Dzumac 53.59 152 *e*LR LR 02 20 33.1
comp=Z,541nm,24.1s
KURBB Kurchatov Arra 53.61 315 P **P 02 05 00.8 -1.4**
comp=Z,5.2nm,0.5s,baz=91,slow=9.6,SNR=37
KDAK Kodiak Island 54.73 36 *e*P **P 02 05 10.5 +0.4**
comp=Z,41nm,1.4s
KDAK Kodiak Island 54.73 36 P **P 02 05 10.3 +0.2**
comp=Z,8.1nm,0.6s,baz=307,slow=6.9,SNR=9.5
PPLA Purkeypile 55.58 30 *e*P **P 02 05 15.5 -1.0**
TKM2 Tokmak 2 55.94 305 *i* P **P 02 05 18.4 -1.1**
TKM2 pmax pmax
comp=Z,6.0nm,0.9s
TKM2 Tokmak 2 55.94 305 *e*P **P 02 05 19.1 -0.4**
comp=Z,3.5nm,0.6s
KSH Kashi 56.07 301 *e*P **P 02 05 23.0 +2.6**
KSH PP PP 02 07 31.0 +5.6
KSH pmax pmax
comp=Z,6.0nm,0.7s
KSH pmax pmax
comp=Z,66nm,4.8s
TRF Thorofare Moun 56.51 30 *e*P **P 02 05 23.1 -0.1**
AAK Ala-Archa 56.77 305 ‖ *i*P **P 02 05 24.8 -0.6**
AAK pmax pmax
comp=Z,13nm,1.7s
AAK Ala-Archa 56.77 305 *e*P **P 02 05 24.9 -0.6**
comp=Z,2.3nm,0.6s
AAK PcP **PcP 02 06 20.9 -0.1**
AAK PP **PP 02 07 36.0 +4.4**
AAK Ala-Archa 56.77 305 P **P 02 05 24.9 -0.5**
comp=Z,1.3nm,0.3s,baz=161,slow=9.3,SNR=5.3
AAK PcP **PcP 02 06 20.9 -0.1**
comp=Z,3.4nm,0.6s,baz=124,slow=7.3,SNR=5.3
AAK PP **PP 02 07 36.0 +4.4**
comp=Z,1.9nm,0.4s,baz=354,slow=19,SNR=3.0
PMR Palmer 56.84 32 *e*P **P 02 05 25.5 +0.3**
PMR pmax pmax
comp=Z,15nm,1.0s
PMR Palmer 56.84 32 *e*P **P 02 05 25.5 +0.3**
comp=Z,15nm,1.0s

COLD Coldfoot 57.13 25 *e*P **P 02 05 28.2 +1.0**
comp=Z,10nm,1.1s
MCK McKinley 57.15 30 *e*P **P 02 05 28.1 +0.6**
MCK pmax pmax
comp=Z,10.0nm,1.0s
MCK McKinley 57.15 30 *e*P **P 02 05 28.1 +0.6**
comp=Z,9.8nm,1.0s
SML Sawmill 57.24 32 *e*P **P 02 05 28.7 +0.5**
SML pmax pmax
comp=Z,3.0nm,0.9s
SML Sawmill 57.24 32 *e*P **P 02 05 28.7 +0.5**
comp=Z,3.3nm,0.9s
EKS2 Erkin-Say 57.30 305 *e*P **P 02 05 29.8 +0.8**
EKS2 pmax pmax
comp=Z,3.0nm,0.3s
EKS2 Erkin-Say 57.30 305 *e*P **P 02 05 29.8 +0.8**
comp=Z,3.3nm,0.3s
STKA Stephens Creek 58.04 181 *e*P **P 02 05 34.0 -0.1**
STKA Stephens Creek 58.04 181 P **P 02 05 33.8 -0.2**
comp=Z,13nm,0.6s,baz=346,slow=7.7,SNR=43
ILAR Eielson Array 58.15 28 P **P 02 05 34.0 -0.5**
ILAR Eielson Array 58.15 28 P **P 02 05 34.0 -0.5**
comp=Z,2.9nm,0.8s,baz=263,slow=5.6,SNR=27
VOSK Vostochnaya 58.29 317 P **P 02 05 34.0 -1.7**
VOSK pmax pmax
comp=Z,14nm,1.0s
FORT Forrest 58.58 194 *e*P **P 02 05 37.3 -0.5**
comp=Z,31nm,0.6s
BVAO Borovoye Array 58.63 318 P **P 02 05 37.0 -1.0**
BVA0 pmax pmax
comp=Z,12nm,0.9s
BVAR Borovoye Array 58.63 318 P **P 02 05 37.3 -0.7**
BVAR Borovoye Array 58.63 318 P **P 02 05 37.3 -0.7**
BVAR Borovoye Array 58.63 318 P **P 02 05 37.3 -0.7**
comp=Z,7.6nm,0.5s,baz=90,slow=7.4,SNR=35
PAX Paxson 58.64 31 *e*P **P 02 05 38.6 +0.5**
PAX pmax pmax
comp=Z,13nm,1.3s
PAX Paxson 58.64 31 *e*P **P 02 05 38.5 +0.5**
comp=Z,13nm,1.3s
BRVK Borovoye 58.69 318 *c i*P **P 02 05 37.4 -1.1**
BRVK pmax pmax
comp=Z,24nm,1.2s
BRVK Borovoye 58.69 318 *e*P **P 02 05 37.3 -1.2**
comp=Z,27nm,1.1s
BMRM Bremner River 58.99 33 *e*P **P 02 05 41.9 +1.4**
comp=Z,14nm,0.7s
BBOO Buckleboo 59.28 186 *e*P **P 02 05 42.7 +0.1**
comp=Z,6μm,2.4s
KK31 Karatay Array 59.61 306 *ce*P **P 02 05 43.4 -1.6**
KK31 pmax pmax
comp=Z,5.0nm,0.4s
KKAR Karatay Array 59.61 306 *e*P **P 02 05 44.0 -1.0**
KKAR Karatay Array 59.61 306 *e*P **P 02 05 44.0 -1.0**
EGAK Eagle 60.60 29 *e*P **P 02 05 52.4 +1.0**
KBL Kabul 62.48 297 *e*P **P 02 06 06.3 +1.4**
KBL Kabul 62.48 297 *e*P **P 02 06 06.3 +1.4**
INK Inuvik 63.50 24 P **P 02 06 11.1 +0.4**
INK Inuvik 63.50 24 P **P 02 06 11.1 +0.4**
comp=Z,6.6nm,0.7s,baz=307,slow=7.4,SNR=15
SVE Sverdlovsk 63.83 323 ‖ *e*P **P 02 06 13.9 +0.7**
SVE pmax pmax
comp=Z,24nm,0.9s
ARU Arti 65.03 322 *d i*P **P 02 06 20.7 -0.3**
ARU 02 06 52.0
ARU 02 08 42.0
ARU S **S 02 15 02.5 +1.5**
ARU pmax pmax
comp=Z,54nm,1.7s
SOKR Solikamsk 65.38 326 *e*P **P 02 06 22.6 -0.6**
SOKR pmax pmax
comp=Z,10.0nm,0.7s
SOKR MLR MLR
comp=Z,210nm,16.0s
AB31 Akbulak array 65.67 315 *ce*P **P 02 06 24.1 -1.2**
AB31 pmax pmax
comp=Z,3.0nm,0.3s
DLBC Dease Lake 66.59 35 P **P 02 06 32.0 +0.9**
DLBC Dease Lake 66.59 35 P **P 02 06 32.0 +0.9**
comp=Z,1.8nm,0.6s,baz=262,slow=7.1,SNR=5.5
DLBC LR LR 02 32 38.5
comp=Z,233nm,19.2s,baz=304,slow=33
AKTO Aktyubinsk 66.61 316 P **P 02 06 30.3 -1.0**
AKTO pmax pmax
comp=Z,6.0nm,0.7s
AKTO MLR MLR
comp=Z,260nm,18.2s
AKTO Aktyubinsk 66.61 316 P **P 02 06 30.3 -1.0**
AKTO Aktyubinsk 66.61 316 P **P 02 06 30.3 -1.0**
comp=Z,5.5nm,0.7s,baz=92,slow=6.2,SNR=26
AKTO LR LR 02 37 30.7
comp=Z,260nm,18.2s,baz=251,slow=38
SPITS Spitsbergen Ar 71.02 350 P **P 02 06 58.7 +0.4**
SPITS Spitsbergen Ar 71.02 350 P **P 02 06 58.7 +0.4**
comp=Z,3.9nm,0.5s,baz=323,slow=2.9,SNR=5.6
SPITS LR LR 02 39 43.7
comp=Z,109nm,18.4s,baz=210,slow=37
TMCR Tamitsa 72.47 334 *e*P **P 02 07 06.3 -0.9**
TMCR pmax pmax
comp=Z,19nm,0.7s
YKW3 Yellowknife Ar 72.54 28 *e*P **P 02 07 08.7 +1.0**
YKW3 *ep*P **pP 02 07 18.5 +1.1**
YKA Yellowknife Ar 72.58 28 P **P 02 07 07.9 0.0**
YKA Yellowknife Ar 72.58 28 P **P 02 07 07.9 0.0**
comp=Z,1.8nm,0.5s,baz=296,slow=6.3,SNR=5.5
APA Apatity 72.69 338 ‖ *i*P **P 02 07 09.5 +1.1**
APA pmax pmax
comp=Z,26nm,1.0s
APA MLR MLR
comp=Z,300nm,11.0s
ARCES ARCESS Array B 74.18 341 P **P 02 07 18.0 +0.7**
ARCES ARCESS Array B 74.18 341 P **P 02 07 18.0 +0.7**
comp=Z,9.5nm,0.5s,baz=65,slow=7.6,SNR=61
ARCES LR LR 02 44 17.9
comp=Z,218nm,19.0s,baz=266,slow=39
ARE0 ARCESS Array S 74.18 341 *e*P **P 02 07 17.9 +0.7**
ARE0 *ep*P **pP 02 07 27.0 0.0**
KTK1 Kautokeino 75.14 341 *e*P **P 02 07 23.8 +0.9**
KTK1 *ep*P **pP 02 07 32.0 -0.6**
TRO Tromso 75.97 342 *e*P **P 02 07 27.7 +0.2**
TRO AMB AMB 02 07 31.2
comp=Z,29nm,1.6s
YBH Yreka Blue Hor 76.28 50 P **P 02 07 31.0 +1.1**
YBH Yreka Blue Hor 76.28 50 P **P 02 07 31.0 +1.1**
comp=Z,1.6nm,0.7s,baz=338,slow=5.4,SNR=2.9
DAG Danmarks Havn 76.32 356 *i* P **P 02 07 29.8 +0.4**
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 76.32 356 *i* P **P 02 07 29.8 +0.4**
comp=Z,3.4nm,0.8s
MOS Moscow 76.33 326 *e*P **P 02 07 27.6 -2.2**
MOS pmax pmax
comp=Z,36nm,1.2s
OBN Obninsk 77.15 325 *c i*P **P 02 07 34.4 0.0**
OBN *e* 02 07 43.0
OBN *e* 02 07 51.4
OBN *e* 02 10 26.6
OBN pmax pmax
comp=Z,32nm,0.8s
OBN MLR MLR
comp=Z,300nm,17.0s
NEW Newport 77.21 42 *e*P **P 02 07 35.0 0.0**
comp=Z,4.2nm,1.0s
VSR Storozhevoye 77.55 321 *e*P **P 02 07 36.4 -0.3**
VSR pmax pmax
comp=Z,40nm,1.0s
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,30nm,1.0s
VORD Divnogorie 77.59 321 *e*P **P 02 07 36.4 -0.6**
VORD pmax pmax
comp=Z,20nm,0.9s
VORD pmax pmax
comp=N,6.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.8s
KAF Kangasniemi 78.11 334 *ep* **P 02 07 38.9 -0.8**
comp=E,18nm,0.5s
KAF Kangasniemi 78.11 334 *e*P **P 02 07 38.9 -0.8**
KAF pmax pmax
comp=Z,18nm,0.5s
ZEI Tsey 78.33 312 *e*P **P 02 07 39.9 -1.7**
ZEI pmax pmax
comp=Z,8.0nm,0.5s

BMO Blue Mountains 78.58 46 *e*P **P 02 07 43.2 +0.5**
BMO pmax pmax
comp=Z,16nm,1.6s
BMO Blue Mountains 78.58 46 *e*P **P 02 07 43.2 +0.5**
comp=Z,16nm,1.6s
KBZ Khabaz 78.58 313 P **P 02 07 42.9 +0.3**
KBZ Khabaz 78.58 313 P **P 02 07 42.9 +0.3**
KBZ Khabaz 78.58 313 P **P 02 07 42.9 +0.3**
comp=Z,24nm,0.8s,baz=94,slow=4.0,SNR=58
KBZ LR LR 02 44 58.9
comp=Z,290nm,20.9s,baz=43,slow=38
FINES FINESS Array B 78.58 334 P **P 02 07 42.4 +0.1**
FINES FINESS Array B 78.58 334 P **P 02 07 42.4 +0.1**
comp=Z,25nm,0.5s,baz=70,slow=5.0,SNR=177
KIV Kislovodsk 78.61 313 *e*P **P 02 07 41.0 -2.0**
KIV *e* 02 07 49.4
KIV *e* 02 10 37.9
KIV pmax pmax
comp=Z,29nm,1.0s
KIV MLR MLR
comp=Z,300nm,19.0s
BEKR Beckworth 78.67 51 *e*P **P 02 07 43.7 +0.2**
comp=Z,1.8nm,0.7s
WALA Waterton Lakes 78.77 41 *e*P **P 02 07 44.6 +0.9**
comp=Z,0.3nm,1.0s
GNI Garni 78.86 309 P **P 02 07 44.7 +0.2**
GNI Garni 78.86 309 P **P 02 07 44.7 +0.2**
comp=Z,2.6nm,0.4s,baz=37,slow=10,SNR=2.5
GNI LR LR 02 46 20.7
comp=Z,124nm,19.5s,baz=224,slow=39
JTMT Jette 79.15 42 *e*P **P 02 07 46.5 +0.6**
comp=Z,8.5nm,1.2s
PPT Papeete 79.22 116 LR LR 02 38 42.6
comp=Z,250nm,20.9s,baz=165,slow=33
PPT2 Papeete2 79.23 116 *e*LR LR 02 32 22.1
comp=Z,162nm,22.2s
CMB Columbia Colle 79.42 53 *e*P **P 02 07 48.1 +0.6**
CMB pmax pmax
comp=Z,4.0nm,0.8s
CMB Columbia Colle 79.42 53 *e*P **P 02 07 48.1 +0.6**
comp=Z,4.4nm,0.8s
SWMT Swartz Lake 79.43 42 *e*P **P 02 07 48.0 +0.6**
comp=Z,4.7nm,1.0s
MOR8 Moi Rana 79.56 341 *e*P **P 02 07 46.6 -1.0**
MOR8 AMB AMB 02 07 51.2
comp=Z,18nm,0.7s
SLMT Seeley Lake 79.86 42 *e*P **P 02 07 49.9 0.0**
comp=Z,3.5nm,0.7s
VSU Vasula 80.03 331 *e*P **P 02 07 49.3 -0.9**
VSU pmax pmax
comp=Z,15nm,0.7s
MFID Camas Ranch 80.17 46 *e*P **P 02 07 52.2 +0.7**
comp=Z,5.6nm,0.9s
SOC Sochi 80.70 314 *c i*P **P 02 07 53.5 -0.7**
SOC *e* 02 10 56.7
SOC *e*PPP PPP 02 12 47.3
SOC *e*S **S 02 17 56.0 -3.7**
SOC pmax pmax
comp=Z,29nm,0.9s
SOC MLR MLR
comp=Z,253nm,16.0s
NVAR Mina Array Bea 80.73 52 P **P 02 07 55.5 +0.7**
NVAR Mina Array Bea 80.73 52 P **P 02 07 55.5 +0.7**
comp=Z,0.5nm,0.3s,baz=288,slow=5.5,SNR=9.1
HLID Hailey 81.01 46 *e*P **P 02 07 56.3 +0.2**
comp=Z,2.9nm,1.1s
UMR Umm Al-Rimmam 81.16 298 *e*P **P 02 07 56.1 -0.7**
UMR AMb AMB 02 07 57.0
comp=Z,45nm,0.6s
LRM Limekiln Ridge 81.17 43 *e*P **P 02 07 57.4 +0.5**
comp=Z,46nm,0.9s
SUMG Summit 81.20 0 *i* P **P 02 07 57.2 +0.4**
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 81.20 0 *i* P **P 02 07 57.2 +0.4**
comp=Z,5.9nm,0.8s
KBD Kabd 81.34 298 *e*P **P 02 07 57.1 -0.7**
KBD AMb AMB 02 07 58.5
comp=Z,40nm,1.4s
MIB Mutribah 81.35 299 *e*P **P 02 07 57.0 -0.8**
MIB AMb AMB 02 07 58.4
comp=Z,97nm,0.9s
RDF Al-Radifah 81.56 298 *e*P **P 02 07 58.8 -0.3**
RDF AMb AMB 02 07 59.8
comp=Z,92nm,0.6s
ANN Anapa 81.57 316 *e*P P 02 07 47.8 -11
ANN *e**PP PcP 02 07 58.5 -6.1
ANN pmax pmax
comp=Z,22nm,1.3s
NAY Al-Naaiem 81.66 298 *e*P **P 02 07 58.7 -0.9**
NAY AMb AMB 02 08 00.1
comp=Z,88nm,0.8s
BOZ Bozeman (W) 81.76 43 *e*P **P 02 08 00.5 +0.6**
BOZ pmax pmax
comp=Z,1.0nm,0.6s
BOZ Bozeman (W) 81.76 43 *e*P **P 02 08 00.5 +0.6**
comp=Z,1.2nm,0.6s
ELK Elko 81.79 49 *e*P **P 02 08 00.8 +0.5**
comp=Z,3.3nm,1.0s
ELK Elko 81.79 49 P **P 02 08 00.9 +0.5**
comp=Z,1.4nm,0.7s,baz=304,slow=3.6,SNR=3.6
NACGM Naroch 82.06 328 *e* P 02 07 57.0 -4.1
FFC Flin Flon 82.15 32 *e*P **P 02 08 01.2 -0.4**
FFC pmax pmax
comp=Z,10.0nm,1.0s
FFC Flin Flon 82.15 32 *e*P **P 02 08 01.2 -0.4**
comp=Z,10.0nm,1.0s
TBI Tubuai 82.41 121 *e*LR LR 02 33 49.5
comp=Z,201nm,23.0s
SCO Scoresbysund 82.66 355 *i* P **P 02 08 05.1 +1.1**
SCO pmax pmax
comp=Z,4.0nm,0.7s
SCO Scoresbysund 82.66 355 *i* P **P 02 08 05.1 +1.1**
comp=Z,3.8nm,0.7s
IMW Indian Meadow 83.05 44 *e*P **P 02 08 08.4 +1.4**
comp=Z,2.9nm,0.8s
KIEV Kiev 83.24 324 *e*P **P 02 08 06.5 -0.8**
KIEV pmax pmax
comp=Z,8.0nm,0.6s
KIEV Kiev 83.24 324 *e*P **P 02 08 06.5 -0.8**
comp=Z,7.5nm,0.6s
MOOW Moose Ponds 83.25 44 *e*P **P 02 08 08.3 +0.4**
comp=Z,3.3nm,1.0s
TPAW Teton Pass 83.25 45 *e*P **P 02 08 08.4 +0.5**
comp=Z,2.9nm,0.7s
LOHW Long Hollow 83.41 44 *e*P **P 02 08 08.8 +0.1**
RLMT Red Lodge 83.46 43 *e*P **P 02 08 09.5 +0.6**
comp=Z,2.7nm,0.7s
RLMT *ep*P pP 02 08 25.0 +6.2
SIM Simferopol' 83.54 317 *c i*P **P 02 08 08.0 -1.0**
SIM pmax pmax
comp=Z,19nm,0.7s
DUG Dugway 83.67 48 *e*P **P 02 08 09.8 -0.2**
DUG pmax pmax
comp=Z,5.0nm,1.0s
DUG Dugway 83.67 48 *e*P **P 02 08 09.8 -0.2**
comp=Z,4.6nm,1.0s
HWUT Hardware Ranch 83.80 46 *e*P **P 02 08 11.5 +0.8**
HFS Hagfors 84.06 337 P **P 02 08 10.6 -0.8**
HFS Hagfors 84.06 337 P **P 02 08 10.6 -0.8**
comp=Z,14nm,0.5s,baz=90,slow=5.8,SNR=16
HFS LR LR 02 51 12.3
comp=Z,160nm,18.5s,baz=40,slow=40
MALT Malatya 84.06 310 ‖ *i*P P 02 08 27.7 +16
NB2 NORSAR Subarra 84.25 338 P **P 02 08 11.7 -0.7**
comp=Z,8.8nm,0.6s,baz=45,slow=4.8
NB2 NORSAR Subarra 84.25 338 P **P 02 08 11.7 -0.7**
baz=45,slow=4.8
NOA NORSAR Array B 84.25 338 P **P 02 08 11.7 -0.7**
NOA PP **PP 02 11 25.9 -0.6**
NOA NORSAR Array B 84.25 338 P **P 02 08 11.7 -0.7**
comp=Z,10nm,0.6s,baz=45,slow=5.0,SNR=72
NOA PP **PP 02 11 25.9 -0.6**
comp=Z,1.5nm,0.9s,baz=42,slow=8.3,SNR=2.9
NOA LR LR 02 49 50.5
comp=Z,104nm,19.7s,baz=35,slow=39
PFO Pinyon Flat Ob 84.26 55 P **P 02 08 14.7 +1.6**
PFO Pinyon Flat Ob 84.26 55 P **P 02 08 14.7 +1.6**
comp=Z,1.4nm,0.6s,baz=114,slow=10.0,SNR=2.7
SUW Suwalki 84.28 329 *e*P **P 02 08 11.7 -0.8**
SUW *e**PP **pP 02 08 20.9 -1.6**
SUW pmax pmax
comp=Z,55nm,1.0s
SUW Suwalki 84.28 329 *e*P **P 02 08 11.7 -0.8**
comp=Z,55nm,1.0s
SUW *ep*P **pP 02 08 20.9 -1.6**

SUW	**Suwalki**	**84.28**	**329**	*e*P		**P**	**02 08 11.8**	**-0.8**
BW06	**Boulder Array**	**84.50**	**45**	*e*P		**P**	**02 08 14.2**	**-0.1**
	comp=Z,2.1nm,0.8s							
PDAR	**Pinedale Array**	**84.50**	**45**	P		**P**	**02 08 14.2**	**-0.1**
PDAR	**Pinedale Array**	**84.50**	**45**	P		**P**	**02 08 14.2**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=297,slow=4.6,SNR=4.7							
PDAR				LR		LR	02 41 36.6	
	comp=Z,143nm,18.7s,baz=268,slow=33							
NAO01	**NORSAR Array S**	**84.50**	**338**	*e*P		**P**	**02 08 12.6**	**-1.1**
	comp=Z,6.4nm,0.6s							
SFJD	**Kangerlussuaq**	**86.29**	**5**	P		**P**	**02 08 22.2**	**-0.1**
SFJD	**Kangerlussuaq**	**86.29**	**5**	*i* P		**P**	**02 08 22.3**	**-0.1**
	comp=Z,13nm,0.8s							
SFJD	**Kangerlussuaq**	**86.29**	**5**	P		**P**	**02 08 22.2**	**-0.1**
	comp=Z,18nm,0.7s,baz=353,slow=5.1,SNR=4.2							
BRTR	**Keskin Array B**	**86.57**	**313**	P		**P**	**02 08 24.0**	**-0.5**
BRTR	**Keskin Array B**	**86.57**	**313**	P		**P**	**02 08 24.0**	**-0.5**
	comp=Z,5.2nm,0.8s,baz=90,slow=3.8,SNR=26							
BRTR				LR		LR	02 52 31.7	
	comp=Z,83nm,18.7s,baz=58,slow=40							
FRB	**Frobisher Bay**	**86.82**	**13**	P		**P**	**02 08 25.0**	**0.0**
FRB	**Frobisher Bay**	**86.82**	**13**	P		**P**	**02 08 25.0**	**0.0**
	comp=Z,6.5nm,0.7s,baz=4.6,slow=7.7,SNR=4.3							
TESR	**Tescani**	**87.04**	**321**	⇑*i*P		**P**	**02 08 26.7**	**+0.2**
RSSD	**Black Hills**	**87.14**	**41**	*e*P		**P**	**02 08 27.7**	**+0.3**
RSSD	**Black Hills**	**87.14**	**41**	*e*P		**P**	**02 08 27.6**	**+0.3**
BUR08	**Bucovina Ar. S**	**87.16**	**323**	*e*P		**P**	**02 08 26.7**	**-0.5**
BSD	**Bornholm Skovb**	**87.16**	**333**	*i* P		**P**	**02 08 26.5**	**-0.3**
BSD				pmax		pmax		
	comp=Z,7.0nm,0.8s							
BSD	**Bornholm Skovb**	**87.16**	**333**	*i* P		**P**	**02 08 26.5**	**-0.3**
	comp=Z,7.0nm,0.8s							
BURAR	**Bucovina Array**	**87.17**	**323**	⇑*i*P		**P**	**02 08 27.5**	**+0.3**
KWP	**Kalwaria Pacla**	**87.24**	**326**	*e*P		**P**	**02 08 27.7**	**+0.3**
KWP				pmax		pmax		
	comp=Z,77nm,1.8s							
KWP	**Kalwaria Pacla**	**87.24**	**326**	*e*P		**P**	**02 08 27.7**	**+0.3**
	comp=Z,77nm,1.8s							
KWP	**Kalwaria Pacla**	**87.24**	**326**	⇑*i*P		**P**	**02 08 26.9**	**-0.5**
KWP	**Kalwaria Pacla**	**87.24**	**326**	*e*P		**P**	**02 08 27.4**	**0.0**
VRI	**Vrincioaia**	**87.37**	**321**	⇓*i*P		**P**	**02 08 30.0**	**+1.9**
ULM	**Lac du Bonnet**	**87.84**	**33**	LR		LR	02 44 19.8	
	comp=Z,89nm,19.9s,baz=4.9,slow=33							
KOLS	**Kolonicke sedl**	**87.90**	**325**	*e*P		**P**	**02 08 30.9**	**+0.3**
KOLS				pmax		pmax		
	comp=Z,4.0nm,1.3s							
KOLS	**Kolonicke sedl**	**87.90**	**325**	*e*P		**P**	**02 08 30.9**	**+0.3**
KOLS				*e*pP		**pP**	**02 08 39.5**	**-1.0**
MLR	**Muntele Rosu**	**88.04**	**321**	P		**P**	**02 08 31.1**	**-0.4**
MLR	**Muntele Rosu**	**88.04**	**321**	P		**P**	**02 08 31.1**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=354,slow=9.2,SNR=3.4							
LLD	**Lille Linde**	**88.08**	**334**	*i* P		**P**	**02 08 31.9**	**+0.7**
LLD				pmax		pmax		
	comp=Z,12nm,0.7s							
LLD	**Lille Linde**	**88.08**	**334**	*i* P		**P**	**02 08 31.9**	**+0.7**
	comp=Z,12nm,0.7s							
STHS	**Stebnicka Huta**	**88.11**	**326**	*e*P		**P**	**02 08 30.6**	**-1.0**
STHS				pmax		pmax		
	comp=Z,3.0nm,1.1s							
STHS	**Stebnicka Huta**	**88.11**	**326**	*e*P		**P**	**02 08 30.6**	**-1.0**
STHS				*e*pP		**pP**	**02 08 40.8**	**-0.8**
STHS				*e*			02 29 30.1	
MUD	**Monsted U'grnd**	**88.39**	**336**	*e*P		**P**	**02 08 33.2**	**+0.5**
MUD				pmax		pmax		
	comp=Z,6.0nm,1.0s							
MUD	**Monsted U'grnd**	**88.39**	**336**	*i* P		**P**	**02 08 33.2**	**+0.5**
	comp=Z,6.2nm,0.9s							
VOIR		**88.57**	**321**	⇓*i*P		**P**	**02 08 34.4**	**+0.5**
MMAI	**Mount Meron Ar**	**88.84**	**307**	P		**P**	**02 08 34.9**	**-0.6**
MMAI	**Mount Meron Ar**	**88.84**	**307**	P		**P**	**02 08 34.9**	**-0.6**
	comp=Z,5.9nm,0.7s,baz=64,slow=6.6,SNR=6.3							
ARR	**Arges**	**88.85**	**321**	⇓*i*P		**P**	**02 08 35.7**	**+0.5**
KECS	**Kecovo**	**89.10**	**326**	*e*pP		**pP**	**02 08 44.8**	**-1.4**
KECS				*e*			02 29 35.3	
CSS	**Prodhromos**	**89.29**	**309**	*e*P		**P**	**02 08 36.8**	**-0.7**
	comp=Z,11nm,0.8s							
OKC	**Ostrava-Krasne**	**89.35**	**328**	AMS		AMS	02 54 10.0	
	comp=Z,200nm,22.9s							
MORC	**Moravsky Berou**	**89.68**	**328**	*e*P		**P**	**02 08 38.5**	**-0.5**
MORC				pmax		pmax		
	comp=Z,3.0nm,0.8s							
MORC	**Moravsky Berou**	**89.68**	**328**	*e*P		**P**	**02 08 38.5**	**-0.5**
	comp=Z,2.9nm,0.8s							
PSZ	**Piszkesteto**	**89.77**	**325**	*e*P		**P**	**02 08 39.4**	**-0.1**
PSZ				*e**PP		**pP**	**02 08 48.1**	**-1.4**
PSZ				pmax		pmax		
	comp=Z,10.0nm,1.0s							
PSZ	**Piszkesteto**	**89.77**	**325**	*e*P		**P**	**02 08 39.4**	**-0.1**
	comp=Z,10.0nm,1.0s							
PSZ				*e*pP		**pP**	**02 08 48.1**	**-1.4**
DPC	**Dobruska-Polom**	**89.86**	**329**	*e*P		**P**	**02 08 39.5**	**-0.4**
DPC				*e*			02 08 48.4	
DPC	**Dobruska-Polom**	**89.86**	**329**	*e*P		**P**	**02 08 39.5**	**-0.4**
DPC				*e*pP		**pP**	**02 08 48.4**	**-1.4**
UPC	**Upice**	**89.90**	**329**	*e*P		**P**	**02 08 39.8**	**-0.2**
UPC				*e*			02 08 48.7	
UPC				*e*			02 08 56.1	
UPC	**Upice**	**89.90**	**329**	*e*P		**P**	**02 08 39.8**	**-0.2**
UPC				*e*pP		**pP**	**02 08 48.7**	**-1.2**
UPC				*ex*		x	02 08 56.1	
VYHS	**Vyhne**	**89.92**	**326**	*e*P		**P**	**02 08 39.8**	**-0.3**
VYHS				pmax		pmax		
	comp=Z,5.0nm,1.1s							
VYHS	**Vyhne**	**89.92**	**326**	*e*P		**P**	**02 08 39.8**	**-0.3**
VYHS				*e*pP		**pP**	**02 08 49.0**	**-1.1**
VRAC	**Vranov**	**90.46**	**328**	LR		LR	02 51 22.0	
	comp=Z,163nm,20.1s,baz=0.9,slow=37							
BRG	**Berggiesshubel**	**90.58**	**330**	*e*P		**P**	**02 08 42.3**	**-0.8**
	comp=Z,22nm,1.0s							
BRG				*e*			02 12 15.2	
	comp=Z,4.6nm,1.9s							
BRG	**Berggiesshubel**	**90.58**	**330**	*e*P		**P**	**02 08 42.3**	**-0.8**
BRG				*e*			02 12 15.2	
BRG				pmax		pmax		
	comp=Z,22nm,1.0s							
BRG				pmax		pmax		
	comp=Z,22nm,1.9s							
CLL	**Collm**	**90.68**	**331**	*e*P		**P**	**02 08 43.0**	**-0.6**
CLL				pmax		pmax		
	comp=Z,32nm,1.3s							
CLL	**Collm**	**90.68**	**331**	*e*P		**P**	**02 08 43.0**	**-0.6**
	comp=Z,5.0nm,1.3s							
ANMO	**Albuquerque**	**90.71**	**50**	*e*P		**P**	**02 08 45.1**	**+0.8**
EIL	**Elat**	**90.90**	**304**	P		**P**	**02 08 42.7**	**-2.4**
EIL	**Elat**	**90.90**	**304**	P		**P**	**02 08 42.7**	**-2.4**
	comp=Z,4.6nm,1.0s,baz=0.0,slow=17,SNR=3.7							
PRU	**Pruhonice**	**90.94**	**329**	*e*P		**P**	**02 08 43.8**	**-1.0**
PRU				*e*			02 08 52.9	
PRU				MLR		MLR		
	comp=Z,300nm,15.5s							
PRU	**Pruhonice**	**90.94**	**329**	*e*P		**P**	**02 08 43.8**	**-1.0**
PRU				*e*pP		**pP**	**02 08 52.9**	**-1.9**
PRU				AMS		AMS	02 53 50.0	
	comp=Z,300nm,15.5s							
TREC	**Trest**	**90.99**	**328**	*e*P		**P**	**02 08 44.2**	**-0.9**
TREC				*e*			02 08 53.5	
TREC	**Trest**	**90.99**	**328**	*e*P		**P**	**02 08 44.2**	**-0.9**
TREC				*e*pP		**pP**	**02 08 53.5**	**-1.5**
VTS	**Vitosha**	**91.37**	**320**	⇑*i*P		**P**	**02 08 48.8**	**+1.6**
PKSM	**Moragy**	**91.54**	**325**	⇑*i*P		P	02 08 43.8	-3.8
CONA	**Conrad Observa**	**91.76**	**327**	⇑*i*PcP		**P**	**02 08 48.7**	**-0.1**
	comp=Z,4.0nm,1.0s							
KHC	**Kasperske Hory**	**91.99**	**329**	*e*P		**P**	**02 08 49.2**	**-0.6**
KHC				*e*			02 08 57.8	
KHC				MLR		MLR		
	comp=Z,200nm,10.3s							
KHC	**Kasperske Hory**	**91.99**	**329**	*e*P		**P**	**02 08 49.2**	**-0.6**
KHC				*e*pP		**pP**	**02 08 57.8**	**-1.9**
KHC				AMS		AMS	02 56 00.0	
	comp=Z,200nm,10.3s							
KHC	**Kasperske Hory**	**91.99**	**329**	*e*P		**P**	**02 08 48.8**	**-1.0**
	comp=Z,6.3nm,1.1s							
GERES	**GERESS Array B**	**92.14**	**329**	P		**P**	**02 08 49.4**	**-1.1**
GERES				PP		**PP**	**02 12 32.1**	**+2.2**
GERES	**GERESS Array B**	**92.14**	**329**	P		**P**	**02 08 49.4**	**-1.1**
	comp=Z,1.7nm,0.8s,baz=39,slow=5.1,SNR=15							
GERES				PP		**PP**	**02 12 32.1**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=39,slow=8.6,SNR=4.3							
GRF	**Grafenberg Arr**	**92.64**	**331**	*e*P		**P**	**02 08 52.9**	**+0.2**
	comp=Z,11nm,1.3s							
GRF				*e*pP		**pP**	**02 09 01.7**	**-1.0**
GRF	**Grafenberg Arr**	**92.64**	**331**	*e*P		**P**	**02 08 52.9**	**+0.2**
GRF				*e**PP		**pP**	**02 09 01.7**	**-1.0**
GRF				pmax		pmax		
	comp=Z,1.0nm,1.3s							
MNTX	**Cornudas Mount**	**93.25**	**52**	*e*P		**P**	**02 08 56.6**	**+0.7**
	comp=Z,2.3nm,0.8s							
EKA	**Eskdalemuir Ar**	**93.35**	**341**	P		**P**	**02 08 55.4**	**-0.4**
EKA	**Eskdalemuir Ar**	**93.35**	**341**	P		**P**	**02 08 55.4**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=49,slow=4.8,SNR=6.3							
ABTA	**Abfaltersbach**	**94.20**	**328**	⇑*i*PcP		**P**	**02 08 58.8**	**-1.3**
	comp=Z,3.2nm,0.9s							
STU	**Stuttgart**	**94.21**	**331**	*e*P		**P**	**02 08 58.7**	**-1.2**
STU				pmax		pmax		
	comp=Z,6.0nm,0.4s							
STU	**Stuttgart**	**94.21**	**331**	*e*P		**P**	**02 08 58.7**	**-1.2**
	comp=Z,5.9nm,0.4s							
WLF	**Walferdange**	**94.80**	**333**	*e*P		**P**	**02 09 02.8**	**+0.2**
WLF				pmax		pmax		
	comp=Z,13nm,1.1s							
WLF	**Walferdange**	**94.80**	**333**	*e*P		**P**	**02 09 02.8**	**+0.2**
	comp=Z,13nm,1.1s							
DAVOX	**Davos/Dischmat**	**95.40**	**329**	P		**P**	**02 09 04.6**	**-1.1**
DAVOX	**Davos/Dischmat**	**95.40**	**329**	P		**P**	**02 09 04.6**	**-1.1**
	comp=Z,2.4nm,0.7s,baz=288,slow=6.4,SNR=3.0							
TXAR	**Lajitas Array**	**95.80**	**53**	P		**P**	**02 09 08.8**	**+1.0**
TXAR	**Lajitas Array**	**95.80**	**53**	P		**P**	**02 09 08.8**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=323,slow=2.2,SNR=13							
WMOK	**Wichita Mounta**	**95.97**	**47**	*e*P		**P**	**02 09 06.8**	**-1.5**
WMOK	**Wichita Mounta**	**95.97**	**47**	*e*P		**P**	**02 09 06.8**	**-1.5**
TIP	**Timpagrande**	**97.30**	**320**	*e*P		**P**	**02 09 14.3**	**0.0**
	comp=Z,14nm,1.2s							
CEL	**Celeste**	**98.42**	**320**	*e*P		**P**	**02 09 18.8**	**-0.5**
	comp=Z,13nm,0.8s							
CEL				*e*pP		**pP**	**02 09 28.4**	**-0.9**
ESDC	**Sonseca Array**	**107.09**	**333**	PP		PP	02 14 12.8	-11
ESDC	**Sonseca Array**	**107.09**	**333**	PP		PP	02 14 12.8	-11
	comp=Z,0.2nm,0.5s,baz=353,slow=8.6,SNR=3.4							
QSPA	**South Pole Qui**	**116.26**	**180**	PKP		**PKPdf**	**02 14 22.6**	**-0.9**
QSPA	**South Pole Qui**	**116.26**	**180**	PKP		**PKPdf**	**02 14 22.6**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=262,slow=1.6,SNR=3.8							
LSZ	**Lusaka**	**118.11**	**266**	PKP		**PKPdf**	**02 14 28.9**	**+0.2**
LSZ				*e*PKPdf		**PKiKP**	**02 14 29.1**	**+0.4**
LSZ	**Lusaka**	**118.11**	**266**	PKP		**PKPdf**	**02 14 28.9**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=125,slow=3.7,SNR=4.4							
MATP	**Matopo**	**119.65**	**261**	PKP		**PKPdf**	**02 14 30.9**	**-0.7**
MATP	**Matopo**	**119.65**	**261**	PKP		**PKPdf**	**02 14 30.9**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=113,slow=1.1,SNR=5.0							
LBTB	**Lobatse**	**123.60**	**256**	*e*PKPdf		**PKPdf**	**02 14 39.2**	**+0.2**
LBTB	**Lobatse**	**123.60**	**256**	PKP		**PKPdf**	**02 14 39.3**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=170,slow=6.1,SNR=5.0							
TOA0	**Torodi Ar. Sit**	**125.14**	**311**	*e*PKPdf		**PKPdf**	**02 14 42.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**125.14**	**311**	PKP		**PKPdf**	**02 14 41.7**	**-0.4**
TORD				PP		PP	02 16 20.6	-10
TORD	**Torodi Ar. Bea**	**125.14**	**311**	PKP		**PKPdf**	**02 14 41.7**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=38,slow=1.3,SNR=19							
TORD				PP		PP	02 16 20.6	-10
	comp=Z,0.9nm,0.9s,baz=23,slow=4.8,SNR=3.8							
SNAA	**Sanae**	**130.83**	**194**	*e*P		**Pdif**	**02 11 45.2**	**+2.6**
SNAA	**Sanae**	**130.83**	**194**	PKP		**PKPdf**	**02 14 50.6**	**-0.8**
SNAA				PP		PP	02 16 59.7	-7.9
SNAA				SKPbc		**SKPbc**	**02 18 12.5**	**-0.7**
SNAA	**Sanae**	**130.83**	**194**	PKP		**PKPdf**	**02 14 50.6**	**-0.8**
	comp=Z,0.6nm,1.1s,baz=140,slow=7.9,SNR=3.2							
SNAA				PP		PP	02 16 59.7	-7.9
	comp=Z,0.6nm,1.0s,baz=122,slow=3.9,SNR=4.0							
SNAA				SKPbc		**SKPbc**	**02 18 12.5**	**-0.7**
	comp=Z,0.6nm,1.0s,baz=64,slow=2.2,SNR=4.4							
DBIC	**Dimbokro**	**134.25**	**311**	PKP		**PKPdf**	**02 14 59.5**	**0.0**
DBIC				SKPbc		**SKPab**	**02 18 30.2**	**+0.4**
DBIC	**Dimbokro**	**134.25**	**311**	PKP		**PKPdf**	**02 14 59.5**	**0.0**
	comp=Z,2.1nm,0.8s,baz=7.1,slow=8.1,SNR=2.5							
DBIC				SKPbc		**SKPab**	**02 18 30.2**	**+0.4**
	comp=Z,5.5nm,1.1s,baz=5.3,slow=1.5,SNR=4.3							
PLCA	**Paso Flores**	**149.29**	**126**	*e*PKPbc		**PKPbc**	**02 15 29.9**	**+0.1**
PLCA	**Paso Flores**	**149.29**	**126**	PKPbc		**PKPbc**	**02 15 30.2**	**+0.5**
	comp=Z,2.8nm,0.5s,baz=234,slow=4.9,SNR=12							
LPAZ	**La Paz**	**149.87**	**77**	*e*PKPbc		**PKPbc**	**02 15 32.8**	**+0.2**
LPAZ	**La Paz**	**149.87**	**77**	PKPbc		**PKPbc**	**02 15 33.0**	**+0.4**
	comp=Z,3.9nm,0.7s,baz=335,slow=3.1,SNR=14							
SAML	**Samuel**	**150.12**	**59**	*e*PKPdf		**PKPdf**	**02 15 27.4**	**-0.1**
SAML				*e*PKPbc		**PKPbc**	**02 15 32.2**	**-0.3**
LCO	**Las Campanas**	**150.63**	**103**	*e*PKPdf		**PKPdf**	**02 15 28.3**	**+0.2**
LVC	**Limon Verde**	**151.28**	**89**	*e*PKPbc		**PKPbc**	**02 15 35.8**	**+0.5**
LVC				*e*PKPab		**PKPab**	**02 15 44.9**	**+1.5**
LVC	**Limon Verde**	**151.28**	**89**	PKPbc		**PKPbc**	**02 15 35.9**	**+0.5**
	comp=Z,5.6nm,1.1s,baz=333,slow=2.3,SNR=3.3							
CFAA	**Coronel Fontan**	**152.77**	**108**	PKPbc		**PKPbc**	**02 15 40.4**	**+2.2**
CFAA				PKPab		**PKPab**	**02 15 49.4**	**+0.2**
CFAA	**Coronel Fontan**	**152.77**	**108**	PKPbc		**PKPbc**	**02 15 40.4**	**+2.2**
	comp=Z,0.1nm,0.4s,baz=243,slow=4.5,SNR=3.7							
CFAA				PKPab		**PKPab**	**02 15 49.4**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=253,slow=4.0,SNR=8.4							

*IDC **17** 02:09:39.4±1.9,51°.2**N**±0°.1×**179°.40W**±0°.03,**h11**km±12km,*
mb1 3.9/6,mb1mx3.6/29,mbtmp3.6/6,ML3.2/2,Error
ellipse: s-maj=59.4km s-min=12.4km az=8.0
*ISCJB **17** 02:09:40.6±1.2,51°.15**N**±0°.10×179°.41**W**±0°.04,h27km±7km,*
mb3.4/4,Error ellipse: s-maj=16.6km s-min=4.6km az=0.3
*NEIC **17** 02:09:40.3,51°.19**N**×179°.39**W**,h7km,ML3.3(AEIC),After*
AEIC.

ISC 17 02:09:39.8±2.1,51°.2N±0°.1×179°.40W±0°.03,h11km±12km,
n27,σ0°83/33,mb3.5/4,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.69**	**34**	P	**Pb**	**02 09 54.5**	**+0.6**
GAEA	**Gareloi East**	**0.72**	**34**	P	**Pb**	**02 09 54.8**	**+0.4**
GANE	**Gareloi Northe**	**0.74**	**31**	P	**Pb**	**02 09 54.8**	**+0.1**
AMKA	**Amchitka**	**0.84**	**284**	P	**Pb**	**02 09 56.7**	**+0.3**
AMKA				S	**Sb**	**02 10 07.9**	**+0.2**
CERAA	**Semis' Rag'd T**	**0.92**	**322**	P	**Pg**	**02 09 57.9**	**+0.3**
CESW	**Semis' Southwe**	**0.96**	**318**	P	**Pg**	**02 09 58.5**	**+0.1**
CEAP	**Semis' Anvil P**	**1.04**	**322**	P	**Pg**	**02 09 59.8**	**+0.1**
TASE	**Tanaga Southea**	**1.07**	**52**	P	**Pg**	**02 10 00.4**	**0.0**
TANO	**Tanaga North**	**1.08**	**47**	P	**Pg**	**02 10 00.4**	**-0.1**
TAFP	**Tanaga Falls P**	**1.13**	**51**	P	**Pg**	**02 10 00.8**	**-0.8**
TAFP				S	**Sg**	**02 10 16.3**	**0.0**
TAPA	**Tanaga Point A**	**1.17**	**57**	P	**Pg**	**02 10 02.1**	**-0.2**
LSPA	**Little Sitkin**	**1.48**	**302**	P	**Pn**	**02 10 06.5**	**+0.1**
LSPA				S	**Sn**	**02 10 26.4**	**+0.7**
LSSA	**Little Sitkin**	**1.51**	**301**	P	**Pn**	**02 10 07.5**	**+0.6**
KIKV	**Kanaga Island**	**1.55**	**63**	P	**Pn**	**02 10 07.7**	**+0.3**
KICM	**Kanaga Island**	**1.56**	**61**	P	**Pn**	**02 10 07.9**	**+0.5**
ETKA	**Kagalaska Isla**	**1.98**	**69**	P	**Pn**	**02 10 13.6**	**+0.3**
GSCK	**Great Sitkin C**	**2.18**	**67**	P	**Pn**	**02 10 16.5**	**+0.5**
GSTD	**Great Sitkin T**	**2.20**	**66**	P	**Pn**	**02 10 16.6**	**+0.2**
GSTD				S	**Sb**	**02 10 46.9**	**-0.1**
GSMY	**Great Sitkin M**	**2.25**	**66**	P	**Pn**	**02 10 17.4**	**+0.5**
ATKA	**Atka Island**	**3.39**	**71**	P	**Pn**	**02 10 33.5**	**+0.9**
ATKA				S	**Sn**	**02 11 14.4**	**+1.6**
FX1	**Attu Island--F**	**4.90**	**293**	Pn	**Pn**	**02 10 53.5**	**+0.3**
	1.3nm,0.3s,baz=261,slow=15,SNR=7.9						
FX1				Sn	**Sn**	**02 11 49.6**	**-0.2**
	1.0nm,0.3s,baz=251,slow=21,SNR=1.5						
NIKH	**Nikolski High**	**6.74**	**71**	P	**Pn**	**02 11 20.9**	**+2.3**
KDAK	**Kodiak Island**	**16.84**	**57**	Pn	**Pn**	**02 13 33.3**	**-1.9**
	0.8nm,0.3s,baz=280,slow=9.5,SNR=10						
ILAR	**Eielson Array**	**21.63**	**39**	P	**P**	**02 14 28.1**	**-1.4**
	0.1nm,0.5s,baz=236,slow=13,SNR=2.8						
NVAR	**Mina Array Bea**	**43.95**	**82**	P	**P**	**02 17 48.1**	**+1.2**
	0.4nm,0.6s,baz=296,slow=8.4,SNR=4.1						
PDAR	**Pinedale Array**	**46.72**	**72**	P	**P**	**02 18 08.4**	**-0.4**
	2.1nm,0.5s,baz=313,slow=3.3,SNR=19						
TXAR	**Lajitas Array**	**59.05**	**81**	P	**P**	**02 19 39.4**	**-0.5**
	0.3nm,0.7s,baz=296,slow=5.4,SNR=5.7						

IDC 17 02:15:25.6±2.3,6.73S×130°.26E,h0km,mb3.5/1,
mb1 3.9/4,mb1mx3.6/20,mbtmp3.7/4,ML3.4/3,Error
ellipse: s-maj=87.7km s-min=29.1km az=78.0,Banda
Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.17**	**201**	Pn	Pn	02 18 21.3	+1.0
	0.1nm,0.3s,baz=23,slow=15,SNR=4.0						
WRA	**Warramunga Arr**	**13.72**	**164**	Pn	Pn	02 18 40.1	-1.4
	0.3nm,0.3s,baz=344,slow=14,SNR=15						
WRA				Sn	Sn	02 21 01.4	-13
	1.1nm,0.3s,baz=332,slow=22,SNR=9.6						
ASAR	**Alice Springs**	**17.20**	**169**	P	Pn	02 19 27.6	+0.2
	0.2nm,0.3s,baz=358,slow=12,SNR=8.6						
ASAR				S	Sn	02 22 28.1	-12
	0.2nm,0.3s,baz=261,slow=14,SNR=8.5						
MKAR	**Makanchi Array**	**68.14**	**327**	P	P	02 26 27.6	0.0
	0.2nm,0.3s,baz=112,slow=7.2,SNR=4.9						

*IPEC **17** 02:28:14.3±0.3,51°.57N×16°.28E,h0km,ML2.4/3,Error*
ellipse: s-maj=1.9km s-min=1.5km az=43.0
*ISCJB **17** 02:28:14.0±0.4,51°.46N±0°.02×16°.15E±0°.03,h0km,Error*
ellipse: s-maj=3.2km s-min=2.9km az=18.8
*WAR **17** 02:28:16.1,51°.52N×16°.11E*
*CSEM **17** 02:28:16.9±0.3,51°.42N×16°.28E,h1km,ML3.3/5,Error*
ellipse: s-maj=6.5km s-min=3.6km az=97.0
*IDC **17** 02:28:16.4±0.8,51°.48N×16°.02E,h0km,mb1 3.4/6,*
mb1mx3.3/28,mbtmp3.4/6,ML2.9/6,Error ellipse:
s-maj=17.9km s-min=7.4km az=101.0
*PRU **17** 02:28:16.5,51°.45N×16°.12E,h0km*
*VIE **17** 02:28:17.8±0.6,51°.30N×16°.08E,h0km,mb2.7/4,ML3.0/4,*
Error ellipse: s-maj=3.7km s-min=3.0km az=5.0 68 km
WNW of Wroclaw Suspected Mining induced.

ISC 17 02:28:15.3±0.7,51°.51N±0°.02×16°.06E±0°.02,h0km,n47,
σ1s42/77,3C-2D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**168**	*e*Pg	**Pg**	**02 28 29.0**	**+0.5**
KSP				*e*Sg	**Sg**	**02 28 38.4**	**+1.1**
KSP	**Ksiaz**	**0.69**	**168**	⇓*i*Pg	**Pg**	**02 28 28.9**	**+0.5**
KSP				*e*Sg	**Sg**	**02 28 38.0**	**+0.7**
UPC	**Upice**	**1.01**	**182**	*e*PG	**Pg**	**02 28 34.9**	**+0.3**
DPC	**Dobruska-Polom**	**1.18**	**172**	*e*PG	**Pg**	**02 28 37.7**	**-0.1**
DPC				*e*SG	**Sg**	**02 28 52.4**	**-0.6**
PVCC	**Panska Ves**	**1.36**	**224**	*e*PG	**Pg**	**02 28 41.7**	**+0.3**
PVCC				*e*SG	**Sn**	**02 29 00.5**	**+0.1**
	comp=Z,190nm,0.3s						
BRG	**Berggiesshubel**	**1.48**	**245**	PN	**Pn**	**02 28 42.8**	**-0.4**
BRG				PG	**Pg**	**02 28 44.2**	**+0.6**
BRG				SG	**Sn**	**02 29 04.6**	**+1.4**
	112nm,0.4s						
PRU	**Pruhonice**	**1.81**	**213**	*e*PN	**Pn**	**02 28 47.4**	**-0.3**
PRU				*e*PG	**Pb**	**02 28 49.1**	**-0.1**
PRU				*e*SG	**Sg**	**02 29 13.3**	**0.0**
	comp=Z,39nm,0.4s						
GKP	**Gorka Klasztor**	**1.90**	**22**	*e*Pg	Pg	02 28 55.5	+3.8
GKP				*e*Sg	**Sg**	**02 29 18.1**	**+1.7**
GKP	**Gorka Klasztor**	**1.90**	**22**	*e*Pg	Pg	02 28 55.6	+3.8
GKP				*e*Sg	**Sg**	**02 29 18.1**	**+1.7**
CLL	**Collm**	**1.93**	**265**	*i* Pn	**Pn**	**02 28 48.9**	**-0.4**
	comp=Z,10.0nm,0.4s						
CLL				*i* Pg	**Pg**	**02 28 52.3**	**+0.1**
CLL				*i*		02 28 56.5	
CLL				*i* Sg	**Sg**	**02 29 19.1**	**+1.9**
	comp=Z,78nm,0.7s	

1.7nm,1.2s,baz=137,slow=4.7,SNR=2.8
TXAR Lajitas Array 77.23 332 P P 02 44 10.9 +0.6
0.5nm,0.8s,baz=136,slow=11,SNR=6.4
PDAR Pinedale Array 91.39 334 P P 02 45 22.1 0.0
0.6nm,0.9s,baz=129,slow=7.1,SNR=4.2
ILAR Eielson Array 121.72 331 PKP PKPdf 02 51 09.1 0.0
0.2nm,0.8s,baz=151,slow=2.1,SNR=4.2
AKTO Aktyubinsk 145.67 60 PKPbc PKPdf 02 51 52.4 -1.6
3.2nm,1.1s,baz=256,slow=3.3,SNR=5.4

WEL 17 02:33:30.2±0.2, 46.14S×166.07E, h32km, ML3.5/11, 2C, Error ellipse: s-maj=1.8km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.43**	**94**	⇑P*	Pb	02 33 39.7	+0.1
PYZ				S*	Sb	02 33 46.2	+0.1
PYZ				S*	Sb	02 33 46.2	+0.1
DCZ	**Deep Cove**	**1.01**	**49**	⇑PN	Pn	02 33 47.9	-0.2
DCZ				SN	Sn	02 34 00.1	-1.1
DCZ				AML	AML	02 34 01.4	
DCZ				AML	AML	02 34 01.4	
DCZ				AML	AML	02 34 03.2	
WHZ	**Wether Hill Ro**	**1.33**	**80**	PN	Pb	02 33 53.7	-1.0
WHZ				AML	AML	02 34 15.0	
WHZ				AML	AML	02 34 15.2	
APZ	**The Paps**	**1.50**	**118**	PN	Pn	02 33 55.6	+0.6
MLZ	**Mavora Lakes**	**1.68**	**63**	PN	Pn	02 33 58.7	+1.4
MLZ				AML	AML	02 34 24.8	
MLZ				AML	AML	02 34 26.7	
SYZ	**Scrubby Hill**	**2.17**	**102**	PN	Pn	02 34 05.7	+1.7
EAZ	**Earnscleugh**	**2.45**	**69**	PN	Pn	02 34 10.4	+2.5
EAZ				AML	AML	02 34 45.7	
EAZ				AML	AML	02 34 49.2	
TUZ	**Tuapeka**	**2.49**	**87**	PN	Pn	02 34 10.5	+2.0
TUZ				AML	AML	02 34 42.9	
TUZ				AML	AML	02 34 46.7	
JCZ	**Jackson Bay**	**2.81**	**44**	*e*PN	Pn	02 34 15.3	+2.2
JCZ				AML	AML	02 35 08.5	
ODZ	**Otahua Downs**	**3.40**	**73**	PN	Pn	02 34 21.6	+0.7

*IDC **17** 02:45:17.1±2.1, 45.97S×167.00E, h0km, mb3.2/1, mb1 3.3/1, mb1mx3.2/13, mbtmp3.2/1, Error ellipse: s-maj=117.6km s-min=52.1km az=45.0*
*WEL **17** 02:45:20.2±0.4, 46.17S×165.94E, h28km±1km, ML4.0/16, Error ellipse: s-maj=3.3km s-min=1.9km az=90.0*
*ISCJB **17** 02:45:23.3±1.6, 46.16S±0.08×166.2E±0.2, h37km±18km, mb3.3/1, Error ellipse: s-maj=23.2km s-min=13.2km az=10.5*

ISC 17 02:45:23.6±1.6, 46.19S±0.08×166.2E±0.1, h32km±10km, n21, σ1§14/23, 2C-4D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.32**	**86**	⇓P*	Pb	**02 45 30.5**	**-1.0**
PYZ				S*	Sb	**02 45 38.1**	**+1.2**
DCZ	**Deep Cove**	**0.97**	**43**	⇓PN	Pn	**02 45 39.1**	**-1.8**
DCZ				SN	Sn	**02 45 53.2**	**-0.2**
DCZ				AML	AML	02 45 54.3	
DCZ				AML	AML	02 45 55.2	
DCZ				AML	AML	02 45 55.5	
WHZ	**Wether Hill Ro**	**1.24**	**77**	PN	Pn	**02 45 44.4**	**-0.2**
WHZ				AML	AML	02 46 06.6	
WHZ				AML	AML	02 46 07.2	
APZ	**The Paps**	**1.38**	**118**	PN	Pn	**02 45 46.0**	**-0.6**
MLZ	**Mavora Lakes**	**1.60**	**59**	⇑PN	Pn	**02 45 50.3**	**+0.6**
MLZ				AML	AML	02 46 21.6	
MLZ				AML	AML	02 46 24.6	
MSZ	**Milford Sound**	**1.94**	**39**	PN	Pn	**02 45 53.5**	**-0.6**
MSZ				AML	AML	02 46 36.7	
MSZ				AML	AML	02 46 36.7	
MSZ				AML	AML	02 46 38.5	
SYZ	**Scrubby Hill**	**2.05**	**101**	⇑PN	Pn	**02 45 56.0**	**+0.3**
EAZ	**Earnscleugh**	**2.37**	**67**	PN	Pn	**02 46 01.7**	**+1.6**
EAZ				AML	AML	02 46 35.8	
EAZ				AML	AML	02 46 36.9	
EAZ				AML	AML	02 46 39.7	
EAZ				AML	AML	02 46 39.7	
TUZ	**Tuapeka**	**2.39**	**86**	PN	Pn	**02 46 01.3**	**+0.9**
TUZ				AML	AML	02 46 36.7	
TUZ				AML	AML	02 46 37.7	
WKZ	**Wanaka**	**2.39**	**56**	PN	Pn	**02 46 02.4**	**+1.9**
WKZ				AML	AML	02 46 42.0	
WKZ				AML	AML	02 46 42.0	
WKZ				AML	AML	02 46 43.5	
WKZ				AML	AML	02 46 43.6	
JCZ	**Jackson Bay**	**2.77**	**41**	PN	Pn	**02 46 06.2**	**+0.3**
JCZ				AML	AML	02 46 59.5	
JCZ				AML	AML	02 47 00.2	
ODZ	**Otahua Downs**	**3.31**	**71**	⇓PN	Pn	**02 46 12.8**	**-0.3**
ODZ				AML	AML	02 47 09.3	
ODZ				AML	AML	02 47 11.0	
LBZ	**Lake Benmore**	**3.33**	**59**	*e*PN	Pn	**02 46 13.5**	**+0.1**
LBZ				AML	AML	02 47 14.5	
LBZ				AML	AML	02 47 21.2	
FOZ	**Fox Glacier**	**3.60**	**44**	*e*PN	Pn	**02 46 18.2**	**+1.1**
RPZ	**Rata Peaks**	**4.23**	**56**	PN	Pn	**02 46 25.2**	**-0.5**
RPZ				AML	AML	02 47 20.2	
WVZ	**Waitaha Valley**	**4.48**	**48**	*e*PN	Pn	**02 46 28.9**	**-0.2**
OXZ	**Oxford**	**5.04**	**57**	⇓*e*PN	Pn	**02 46 35.7**	**-1.1**
ASAR	**Alice Springs**	**34.37**	**300**	P	P	**02 52 09.8**	**+2.2**
	0.2nm,0.5s,baz=125,slow=8.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**144.56**	**207**	PKPbc	**PKPab**	**03 04 54.9**	**-0.5**
	0.4nm,0.6s,baz=143,slow=2.2,SNR=10						
BRTR	**Keskin Array B**	**145.13**	**277**	PKPbc	**PKPbc**	**03 04 55.4**	**-1.5**
	0.5nm,0.6s,baz=161,slow=2.4,SNR=3.8						
ARCES	**ARCESS Array B**	**149.59**	**334**	PKPbc	**PKPbc**	**03 05 07.6**	**-0.7**
	1.2nm,0.6s,baz=57,slow=3.3,SNR=5.3						

WEL 17 02:46:19.7±0.3, 45.78S×166.39E, h21km±1km, ML3.5/13, 1C-1D, Error ellipse: s-maj=3.3km s-min=0.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.44**	**152**	⇓P*	Pb	02 46 28.1	-0.5
PYZ				S*	Sb	02 46 34.4	-0.4
DCZ	**Deep Cove**	**0.62**	**61**	⇑P*	Pb	02 46 31.3	-0.6
DCZ				AML	AML	02 46 39.2	
DCZ				S*	Sb	02 46 39.5	-0.6
DCZ				AML	AML	02 46 39.8	
DCZ				AML	AML	02 46 40.7	
WHZ	**Wether Hill Ro**	**1.10**	**96**	PN	Pn	02 46 39.5	-0.4
WHZ				AML	AML	02 46 58.0	
WHZ				AML	AML	02 46 58.1	
MLZ	**Mavora Lakes**	**1.33**	**72**	PN	Pn	02 46 42.7	-0.3
MLZ				AML	AML	02 47 01.3	
MLZ				AML	AML	02 47 01.6	
APZ	**The Paps**	**1.53**	**134**	*e*PN	Pn	02 46 45.3	-0.5
MSZ	**Milford Sound**	**1.56**	**45**	AML	AML	02 47 15.9	
MSZ				AML	AML	02 47 17.1	
SYZ	**Scrubby Hill**	**2.06**	**113**	SN	Sn	02 47 19.5	+1.5
WKZ	**Wanaka**	**2.09**	**64**	AML	AML	02 47 29.3	
WKZ				AML	AML	02 47 30.1	
EAZ	**Earnscleugh**	**2.13**	**76**	*e*PN	Pb	02 46 58.4	+0.9
EAZ				AML	AML	02 47 26.3	
EAZ				AML	AML	02 47 27.2	
TUZ	**Tuapeka**	**2.27**	**96**	*e*PN	Pb	02 46 58.3	-1.7
TUZ				AML	AML	02 47 28.9	
TUZ				AML	AML	02 47 29.8	
JCZ	**Jackson Bay**	**2.40**	**45**	AML	AML	02 47 42.3	
JCZ				AML	AML	02 47 44.0	

WEL 17 02:48:04.3±0.2, 45.67S×166.56E, h18km±1km, ML3.4/13, 2C-3D, Error ellipse: s-maj=2.8km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.46**	**65**	⇑P*	Pg	02 48 13.2	-0.4
DCZ				S*	Sg	02 48 19.2	-0.7
DCZ				S*	Sb	02 48 19.6	-0.7
DCZ				AML	AML	02 48 19.6	
PYZ	**Puysegur Point**	**0.51**	**171**	⇓P*	Pg	02 48 13.6	-1.0
PYZ				S*	Sg	02 48 20.3	-1.1
WHZ	**Wether Hill Ro**	**0.99**	**104**	⇑P*	Pb	02 48 22.8	-0.2
WHZ				AML	AML	02 48 37.0	
WHZ				AML	AML	02 48 38.2	
MLZ	**Mavora Lakes**	**1.18**	**75**	⇓PN	Pn	02 48 24.9	-1.0
MLZ				SN	Sb	02 48 40.0	-1.1
MLZ				AML	AML	02 48 41.6	
MSZ	**Milford Sound**	**1.39**	**45**	AML	AML	02 48 54.2	
APZ	**The Paps**	**1.53**	**140**	⇓*e*PN	Pn	02 48 31.0	+0.2
APZ				SN	Sn	02 48 49.7	-0.4
WKZ	**Wanaka**	**1.93**	**65**	*e*PN	Pb	02 48 37.9	-1.0
WKZ				AML	AML	02 49 07.7	
EAZ	**Earnscleugh**	**1.98**	**78**	*e*PN	Pb	02 48 38.8	-1.0
EAZ				AML	AML	02 49 04.3	
EAZ				AML	AML	02 49 08.2	
SYZ	**Scrubby Hill**	**1.99**	**117**	*e*PN	Pb	02 48 38.8	-1.2
TUZ	**Tuapeka**	**2.17**	**99**	PN	Pb	02 48 41.8	-1.1
TUZ				AML	AML	02 49 12.4	
JCZ	**Jackson Bay**	**2.23**	**45**	AML	AML	02 49 20.7	
JCZ				AML	AML	02 49 20.8	
ODZ	**Otahua Downs**	**2.94**	**79**	*e*PN	Pn	02 48 51.3	+1.1

IDC 17 03:04:06.2±32.0, 19.94S×177.74W, h510km±335km, mb3.1/5, mb1 3.2/5, mb1mx2.9/20, mbtmp3.1/5, Error ellipse: s-maj=210.0km s-min=69.9km az=46.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.79**	**263**	P	P	03 10 06.0	+0.4
	1.7nm,0.4s,baz=73,slow=11,SNR=5.0						
STKA	**Stephens Creek**	**38.26**	**244**	P	P	03 10 41.8	-0.6
	1.4nm,0.9s,baz=76,slow=12,SNR=1.9						
ASAR	**Alice Springs**	**44.89**	**256**	P	P	03 11 35.1	-0.1
	1.4nm,0.5s,baz=93,slow=7.5,SNR=25						
WRA	**Warramunga Arr**	**44.92**	**261**	P	P	03 11 35.2	-0.2
	0.7nm,0.3s,baz=96,slow=7.6,SNR=40						
QSPA	**South Pole Qui**	**70.13**	**180**	P	P	03 14 26.8	0.0
	0.6nm,0.6s,baz=292,slow=2.5,SNR=3.7						

*WEL **17** 03:11:17.2±1.5, 47.24S×164.82E, h33km, ML4.2/10, Error ellipse: s-maj=17.0km s-min=8.6km az=90.0*
*IDC **17** 03:11:17.1±3.9, 47.11S×165.53E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/13, mbtmp3.6/3, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.8/19, Error ellipse: s-maj=90.4km s-min=30.4km az=164.0*
*ISCJB **17** 03:11:20.9±1.3, 47.1S±0.1×165.33E±0.09, h33km, mb3.5/2, Error ellipse: s-maj=21.3km s-min=9.1km az=178.8*

ISC 17 03:11:22.3±1.4, 47.2S±0.1×165.37E±0.09, h35km, n18, σ1§42/21, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.34**	**43**	PN	**Pn**	**03 11 43.1**	**-1.4**
PYZ				SN	**Sn**	**03 12 03.6**	**+2.5**
APZ	**The Paps**	**1.82**	**81**	PN	**Pn**	**03 11 50.4**	**-0.8**
DCZ	**Deep Cove**	**2.09**	**37**	PN	**Pn**	**03 11 53.0**	**-1.8**
DCZ				AML	AML	03 12 35.4	
DCZ				AML	AML	03 12 35.4	
DCZ				AML	AML	03 12 38.5	
DCZ				AML	AML	03 12 38.5	
WHZ	**Wether Hill Ro**	**2.18**	**55**	PN	**Pn**	**03 11 55.7**	**-0.4**
WHZ				AML	AML	03 12 25.7	
WHZ				AML	AML	03 12 36.8	
MLZ	**Mavora Lakes**	**2.66**	**48**	PN	**Pn**	**03 12 02.9**	**+0.2**
MLZ				AML	AML	03 12 41.6	
MLZ				AML	AML	03 12 48.6	
SYZ	**Scrubby Hill**	**2.66**	**78**	PN	**Pn**	**03 12 02.9**	**+0.3**
SYZ				SN	**Sn**	**03 12 35.5**	**+2.0**
MSZ	**Milford Sound**	**3.06**	**37**	*e*PN	**Pn**	**03 12 08.4**	**+0.2**
MSZ				AML	AML	03 13 08.6	
MSZ				AML	AML	03 13 08.6	
MSZ				AML	AML	03 13 11.2	
MSZ				AML	AML	03 13 11.2	
TUZ	**Tuapeka**	**3.18**	**69**	PN	**Pn**	**03 12 09.7**	**0.0**
TUZ				AML	AML	03 12 50.3	
TUZ				AML	AML	03 13 11.1	
EAZ	**Earnscleugh**	**3.35**	**56**	PN	**Pn**	**03 12 12.0**	**0.0**
EAZ				AML	AML	03 12 55.6	
EAZ				AML	AML	03 12 55.8	
WKZ	**Wanaka**	**3.45**	**49**	PN	**Pn**	**03 12 14.9**	**+1.4**
WKZ				AML	AML	03 13 00.5	
WKZ				AML	AML	03 13 00.9	
JCZ	**Jackson Bay**	**3.90**	**39**	*e*PN	**Pn**	**03 12 21.1**	**+1.4**
JCZ				AML	AML	03 13 25.4	
JCZ				AML	AML	03 13 29.2	
ODZ	**Otahua Downs**	**4.24**	**62**	*e*PN	**Pn**	**03 12 22.6**	**-1.7**
ODZ				AML	AML	03 13 28.5	
ODZ				AML	AML	03 13 39.2	
LBZ	**Lake Benmore**	**4.36**	**52**	*e*PN	**Pn**	**03 12 24.3**	**-1.8**
LBZ				AML	AML	03 13 53.4	
RPZ	**Rata Peaks**	**5.28**	**51**	Pn	**Pn**	**03 12 36.3**	**-2.3**
	2.0nm,0.3s,baz=235,slow=6.1,SNR=6.4						
RPZ				Sn	**Sn**	**03 13 36.2**	**-2.0**
	1.9nm,0.3s,baz=145,slow=15,SNR=3.3						
RPZ				LR	LR	03 14 35.6	
	comp=Z,143nm,21.9s,baz=14,slow=38						
WVZ	**Waitaha Valley**	**5.58**	**45**	*e*PN	**Pn**	**03 12 42.3**	**-0.4**
	0.5nm,0.6s,baz=132,slow=7.6,SNR=7.1						
ASAR	**Alice Springs**	**34.37**	**302**	P	**P**	**03 18 06.5**	**+0.6**
	0.5nm,0.6s,baz=148,slow=9.4,SNR=4.5						
WRA	**Warramunga Arr**	**37.07**	**306**	P	**P**	**03 18 29.1**	**0.0**
	0.5nm,0.9s,baz=148,slow=9.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**143.43**	**207**	PKP	**PKPdf**	**03 30 52.9**	**-0.3**
	0.3nm,0.7s,baz=218,slow=1.0,SNR=3.1						

*BJI **17** 03:20:26.8, 22.06S×174.52W, h27km, mB5.7/30, mb5.3/33, Ms5.3/31, Ms7 5.1/32*
*IDC **17** 03:20:26.6±0.4, 21.82S×175.09W, h0km, mb4.7/25, mb1 4.8/28, mb1mx4.8/31, mbtmp4.7/28, ML4.0/2, MS5.0/22, Ms1 5.0/22, ms1mx5.0/26, Error ellipse: s-maj=15.0km s-min=11.1km az=145.0*
*AUST **17** 03:20:27.9±1.5, 21.98S×174.32W, h34km, Error ellipse: s-maj=1.3km s-min=0.9km az=314.0*
*BGS **17** 03:20:29.8±5.8, 21.77S×175.08W, h19km, MS5.3*
*NEIC **17** 03:20:29.4±3.3, 21.77S×175.08W, h19km±19km, mb5.2/85, MS5.2/141, MW5.7, Error ellipse: s-maj=6.8km s-min=4.4km az=149.0*
NEIC Felt at Nuku'alofa.
*ISCJB **17** 03:20:30.1±0.2, 21.84S±0.05×175.11W±0.04, h33km, mb5.1/121, MS5.2/197, Error ellipse: s-maj=7.1km s-min=4.2km az=149.7*
*MOS **17** 03:20:31.2±0.9, 21.63S×175.01W, h33km, mb5.4/43, MS5.1/38, Error ellipse: s-maj=12.4km s-min=8.9km az=76.1*
*SZGRF **17** 03:20:32.0, 21.75S×175.34W, h41km, mb5.3, Tonga Islands*
*GCMT **17** 03:20:33.8±0.1, 21.96S×174.40W, h28km, MW5.6, Moment Tensor Solution. s93,c184; s41,c47; Moment tensor: Scale 10^{17}Nm; M_{rr}2.67±.05; $M_{\theta\theta}$0.20±.04; $M_{\phi\phi}$-2.87±.03; $M_{r\theta}$0.58±.07; $M_{\theta\phi}$-1.21±.03; $M_{\phi r}$1.72±.06; Best double couple: $M_0$3.50000×10^{17} NP1:ϕ_s200.00000°, δ29.00000°, λ91.00000°. NP2:ϕ_s19.00000°, δ61.00000°, λ90.00000°. Principal axes: T 3.1800, Plg74.0000°, Azm288.0000°; N 0.6200, Plg0.0000°, Azm19.0000°; P -3.8000, Plg16.0000°, Azm109.0000°; Data Used: II IU IC G CN. Surface waves: sta= 99, comp=207, per= 50.*
*NEIC **17** 03:20:51.0±0.0, 21.80S×174.24W, h37km, Moment Tensor Solution. s123 Moment tensor: Scale 10^{17}Nm; M_{rr}3.69; $M_{\theta\theta}$-0.60; $M_{\phi\phi}$-3.09; $M_{r\theta}$1.55; $M_{\theta\phi}$-1.01; $M_{\phi r}$2.13; Best double couple: $M_0$4.40000×10^{17} NP1:ϕ_s29.00000°, δ63.00000°, λ98.00000°. NP2:ϕ_s192.00000°, δ28.00000°, λ75.00000°. Principal axes: T 4.6000, Plg70.0000°, Azm315.0000°; N -0.3300, Plg7.0000°, Azm205.0000°; P -4.2600, Plg17.0000°, Azm112.0000°;*

ISC 17 03:20:31.5±0.2, 21.93S±0.05×175.00W±0.0, h33km, h33km:pP-P, n776, σ1§10/770, mb5.2/118, MS5.2/196, 39C-8D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.54**	**60**	P	Pn	03 21 42.4	-9.2
	baz=5.0,SNR=28						
NIUE				S	Sn	03 22 35.8	-18
	baz=5.0,SNR=8.7						
RAO	**Raoul Island**	**7.75**	**199**	*e*Pn	**Pn**	**03 22 21.6**	**-0.4**
RAO				*e*S	**Sn**	**03 23 46.5**	**-2.2**
RAO	**Raoul Island**	**7.75**	**199**	Pn	**Pn**	**03 22 21.9**	**-0.1**
	73nm,0.3s,baz=109,slow=21,SNR=6.4						
RAO				Sn	**Sn**	**03 23 48.0**	**-0.7**
	156nm,0.3s,baz=100,slow=22,SNR=6.3						
MSVF	**Nonsavu**	**7.76**	**301**	Pn	Pn	03 22 29.0	+6.7
	4μm,0.9s,SNR=68						
MSVF	**Nonsavu**	**7.76**	**301**	*e*Pn	Pn	03 22 29.3	+7.0
AFI	**Afiamalu**	**8.55**	**22**	*e*Pn	Pn	03 22 26.9	-6.2
	155nm,0.5s						
AFI				*e*S	Sn	03 23 51.6	-17
AFI	**Afiamalu**	**8.55**	**22**	Pn	Pn	03 22 26.1	-7.0
	34nm,0.3s,baz=228,slow=2.1,SNR=16						
AFI				Sn	Sn	03 23 54.2	-14
	36nm,0.3s,baz=69,slow=19,SNR=4.9						
RAR	**Rarotonga**	**14.18**	**90**	*e*Pn	Pn	03 23 40.2	-10
RAR				*e*S	Sn	03 26 05.4	-21
RAR				TT		03 38 24.6	
RAR	**Rarotonga**	**14.18**	**90**	Pn	Pn	03 23 40.2	-10
	7.1nm,0.3s,baz=270,slow=8.6,SNR=20						
RAR				T	T	03 38 24.6	
	41nm,0.3s,baz=270,slow=18,SNR=4.1						
DZM	**Mont Dzumac**	**17.21**	**266**	*e*P	P	03 24 35.9	+5.0
	139nm,1.4s						
DZM				*e*LR	LR	03 28 30.4	
	13μm,22.1s						
DZM	**Mont Dzumac**	**17.21**	**266**	*e*Pn	**P**	**03 24 34.1**	**+3.1**
	47nm,0.9s						
DZM	**Mont Dzumac**	**17.21**	**266**	P	**Pn**	**03 24 26.9**	**-2.7**
	0.2nm,0.3s,baz=90,slow=20,SNR=4.9						
DZM				LR	LR	03 28 49.1	
	comp=Z,2μm,19.4s,baz=0.0,slow=29						
URZ	**Urewera**	**17.64**	**201**	*e*P	**P**	**03 24 37.2**	**+1.8**
	30nm,1.0s						
URZ				S	Sn	03 27 36.1	-14
URZ				*e*S	S	03 27 41.2	-16
URZ	**Urewera**	**17.64**	**201**	P	**Pn**	**03 24 33.1**	**-1.5**
	1.4nm,0.3s,baz=25,slow=17,SNR=5.3						
URZ				S	Sn	03 27 36.1	-14
	1.9nm,0.3s,baz=46,slow=11,SNR=5.2						
SNZO	**South Karori**	**21.19**	**202**	PFAKE		03 25 30.0	+16
SNZO				LR	LR		
	comp=Z,7μm,19.0s						
TBI	**Tubuai**	**23.60**	**98**	*e*S	**S**	**03 29 51.0**	**-1.0**
	comp=Z,4μm,31.2s						
TBI				*e*LR	LR	03 31 18.2	
	comp=Z,9μm,28.2s,baz=269						
PPT2	**Papeete2**	**24.30**	**84**	*e*S	**S**	**03 30 01.5**	**-1.9**
	comp=Z,3μm,25.5s						
PPT2				*e*LR	LR	03 31 33.8	
	comp=Z,10μm,25.8s,baz=252						
PPT	**Papeete**	**24.30**	**84**	LR	LR	03 32 26.4	
	comp=Z,4μm,21.9s,baz=259,slow=30						
TIAR	**Tiarei**	**24.52**	**84**	*e*P	**P**	**03 25 50.2**	**+2.0**
	comp=Z,104nm,0.9s						
RPZ	**Rata Peaks**	**24.62**	**205**	P	**P**	**03 25 49.8**	**+1.0**
RPZ	**Rata Peaks**	**24.62**	**205**	P	**P**	**03 25 49.8**	**+1.0**
	comp=Z,11nm,0.7s,baz=303,slow=6.2,SNR=3.1						
RPZ				LR	LR	03 35 27.1	
	comp=Z,6μm,19.0s,baz=21,slow=36						
TARA	**Tarawa**	**25.98**	**331**	PFAKE		03 26 10.0	+8.6
TARA				LR	LR		
	comp=Z,7μm,20.0s						
HNR	**Honiara**	**27.08**	**293**	LR	LR	03 35 16.8	
	comp=Z,3μm,20.3s,baz=176,slow=33						
XMAS	**Kiritimati**	**29.36**	**38**	PFAKE		03 26 40.0	+8.3
XMAS				LR	LR		
	comp=Z,3μm,19.0s						
ARMA	**Armidale**	**31.03**	**247**	P	**P**	**03 26 47.6**	**+1.1**
	baz=32,SNR=6.1						
EIDS	**Eidsvold**	**31.21**	**257**	*e*P	**P**	**03 26 49.4**	**+1.4**
	comp=Z,125nm,2.5s						
EIDS	**Eidsvold**	**31.21**	**257**	P	**P**	**03 26 48.1**	**+0.1**
	baz=32,SNR=6.0						
MGCD	**Mangrove Creek**	**31.94**	**242**	P	**P**	**03 26 56.2**	**+1.9**
	baz=32,SNR=5.4						
RMQ	**Roma**	**33.30**	**255**	P	**P**	**03 27 07.5**	**+1.2**
	baz=34,SNR=5.6						
CAN	**Canberra**	**34.11**	**239**	PFAKE		03 27 30.0	+17
CAN				LR	LR		
	comp=Z,4μm,19.0s						
CTA	**Charters Tower**	**36.16**	**266**	P	**P**	**03 27 30.5**	**-0.6**
CTA	**Charters Tower**	**36.16**	**266**	P	**P**	**03 27 30.5**	**-0.6**
	comp=Z,19nm,0.5s,baz=95,slow=10,SNR=32						
CTAO	**Charters Tower**	**36.16**	**266**	*e*P	**P**	**03 27 30.5**	**-0.6**
CTAO				MLR	MLR		
	comp=Z,2μm,19.0s						
CTAO	**Charters Tower**	**36.16**	**266**	*e*P	**P**	**03 27 30.5**	**-0.6**
CTAO				LR	LR		
	comp=Z,2μm,19.0s						
CMSA	**Cobar Meteorol**	**36.23**	**246**	P	**P**	**03 27 31.0**	**-0.5**
	baz=37,SNR=24						
RKT	**Rikitea**	**36.91**	**100**	*e*S	S	03 33 27.2	+6.8
	comp=Z,1μm,26.8s						
RKT				*e*LQ	LQ	03 36 01.1	
	comp=Z,903nm,27.0s						
RKT				*e*LR	LR	03 37 26.0	
	comp=Z,5μm,28.8s,baz=263						
TOO	**Toolangi**	**37.38**	**236**	P	**P**	**03 27 42.2**	**+0.9**
	baz=38,SNR=4.7						
MOO	**Moorlands**	**37.57**	**228**	P	**P**	**03 27 40.2**	**-2.6**
	baz=38,SNR=5.1						
TAU	**Tasmania Unive**	**37.65**	**227**	*e*P	**P**	**03 27 43.9**	**+0.4**
TAU				pmax	pmax		
	comp=Z,13nm,0.6s						
TAU				MLR	MLR		
	comp=Z,3μm,20.0s						
TAU	**Tasmania Unive**	**37.65**	**227**	*e*P	**P**	**03 27 43.9**	**+0.4**
	comp=Z,13nm,0.6s						
TAU				LR	LR		
	comp=Z,3μm,20.0s						
MTSU	**Mount Surprise**	**38.33**	**268**	P	**P**	**03 27 49.4**	**-0.3**
	baz=39,SNR=7.3						
PMG	**Port Moresby**	**38.39**	**283**	*e*P	**P**	**03 27 48.9**	**-1.2**
	comp=Z,47nm,1.0s						
PMG	**Port Moresby**	**38.39**	**283**	P	**P**	**03 27 48.2**	**-1.8**
	comp=Z,20nm,0.7s,baz=55,slow=3.9,SNR=5.6						
PMG				LR	LR	03 42 23.9	
	comp=Z,4μm,18.2s,baz=119,slow=34						
STKA	**Stephens Creek**	**39.73**	**246**	*e*P	**P**	**03 28 00.7**	**-0.4**
	comp=Z,24nm,2.5s						
STKA	**Stephens Creek**	**39.73**	**246**	P	**P**	**03 28 00.8**	**-0.4**
	comp=Z,8.2nm,0.5s,baz=90,slow=7.8,SNR=17						
STKA				LR	LR	03 43 42.5	
	comp=Z,5μm,18.4s,baz=78,slow=35						
STKA	**Stephens Creek**	**39.73**	**246**	P	**P**	**03 28 00.8**	**-0.4**
	baz=40,SNR=24						
COEN	**Coen**	**40.47**	**274**	*e*P	**P**	**03 28 05.9**	**-1.5**
COEN	**Coen**	**40.47**	**274**	P	**P**	**03 28 08.5**	**+1.1**
	baz=41,SNR=5.9						
BBOO	**Buckleboo**	**44.45**	**245**	P	**P**	**03 28 37.9**	**-1.8**
	baz=45,SNR=20						
WAKE	**Wake Island**	**44.72**	**335**	PFAKE		03 28 50.0	+8.3
WAKE				LR	LR		
	comp

comp=Z,14nm,0.8s,baz=103,slow=8.7,SNR=35
WRA PcP **PcP** **03 30 33.3 +0.6**
comp=Z,5.8nm,0.8s,baz=96,slow=3.9,SNR=6.9
WRA S **S** **03 35 56.6 +4.3**
comp=Z,1.3nm,0.9s,baz=100,slow=14,SNR=4.0
WRA LR LR 03 47 42.3
comp=Z,4µm,19.8s,baz=95,slow=35
MIDW **Midway** **49.91 357** PFAKE
MIDW LR LR 03 29 30.0 +8.0
comp=Z,2µm,21.0s
KDU **Kakadu** **50.78 271** P **P** **03 29 28.0 -1.0**
baz=51,SNR=4.7
FORT **Forrest** **51.32 248** *e*P **P** **03 29 31.6 -1.3**
comp=Z,93nm,0.6s
FORT **Forrest** **51.32 248** P **P** **03 29 31.4 -1.5**
baz=52,SNR=50
GUMO **Guam** **52.87 308** PFAKE
GUMO LR LR 03 30 00.0 +16
comp=Z,1µm,19.0s
KNRA **Kununurra** **53.36 266** P **P** **03 29 47.8 -0.4**
baz=54,SNR=5.6
FITZ **Fitzroy Crossi** **55.62 263** *e*P **P** **03 30 03.2 -1.3**
comp=Z,51nm,1.5s
FITZ **Fitzroy Crossi** **55.62 263** P **P** **03 30 03.3 -1.3**
comp=Z,5.7nm,0.6s,baz=138,slow=4.9,SNR=19
FITZ **Fitzroy Crossi** **55.62 263** P **P** **03 30 03.6 -1.0**
baz=56,SNR=6.5
SWI **Sorong** **56.31 284** P **P** **03 30 10.0 +0.4**
baz=57,SNR=4.5
SBA **Scott Base** **56.65 185** *e*P P 03 30 14.7 +3.6
SBA pmax pmax
comp=Z,209nm,2.6s
SBA MLR MLR
comp=Z,694nm,19.0s
SBA **Scott Base** **56.65 185** *e*P P 03 30 14.7 +3.6
comp=Z,209nm,2.6s
SBA LR LR
comp=Z,694nm,19.0s
VNDA **Vanda** **56.76 186** *e*P P 03 30 15.6 +3.8
comp=Z,7.8nm,1.0s
VNDA **Vanda** **56.76 186** P **P** **03 30 14.1 +2.3**
comp=Z,1.3nm,0.9s,baz=6.4,slow=6.9,SNR=6.9
VNDA LR LR 03 52 08.8
comp=Z,685nm,19.2s,baz=23,slow=34
SOEI **Soe** **59.34 272** P **P** **03 30 33.6 +2.6**
baz=60,SNR=4.1
KLBR **Kellerberrin** **60.00 245** P **P** **03 30 34.3 -0.9**
baz=60,SNR=15
MEEK **Meekatharra** **60.10 251** P **P** **03 30 33.8 -2.2**
baz=61,SNR=7.1
NWAO **Narrogin (SRO)** **60.24 244** PFAKE
NWAO LR LR 03 30 50.0 +13
comp=Z,2µm,19.0s
MBWA **Marble Bar** **60.28 257** *e*P **P** **03 30 35.7 -1.6**
comp=Z,87nm,1.6s
MBWA LR LR
comp=Z,2µm,19.0s
BLDU **Ballidu** **61.04 246** P **P** **03 30 41.5 -0.8**
baz=62,SNR=14
MORW **Morawa** **61.88 248** P **P** **03 30 47.1 -1.0**
baz=62,SNR=7.9
CASY **Casey** **63.88 206** *e*P **P** **03 31 02.3 +1.7**
comp=Z,17nm,0.9s
CASY LR LR
comp=Z,918nm,20.0s
DAV **Davao City (W)** **64.95 289** PFAKE 03 31 20.0 +12
DAV LR LR
comp=Z,1µm,20.0s
KAPI **Kappang** **65.20 275** *e*P **P** **03 31 09.1 -1.0**
comp=Z,21nm,1.2s
KAPI LR LR
comp=Z,999nm,20.0s
QSPA **South Pole Qui** **68.15 180** *e*P **P** **03 31 29.2 +1.0**
comp=Z,37nm,1.0s
QSPA LR LR
comp=Z,2µm,19.0s
QSPA **South Pole Qui** **68.15 180** P **P** **03 31 29.2 +1.0**
baz=33,slow=2.9
KKM **Kota Kinabalu** **72.83 284** PFAKE 03 32 10.0 +12
KKM LR LR
comp=Z,526nm,21.0s
MJAR **Matsushiro Arr** **73.03 322** P **P** **03 31 57.0 -1.2**
MJAR **Matsushiro Arr** **73.03 322** P **P** **03 31 57.0 -1.2**
comp=Z,11nm,0.8s,baz=164,slow=6.0,SNR=23
MAJO **Matsushiro** **73.04 322** *e*P **P** **03 31 57.1 -1.2**
MAJO pmax pmax
comp=Z,12nm,0.6s
MAJO MLR MLR
comp=Z,450nm,19.0s
MAJO **Matsushiro** **73.04 322** *e*P **P** **03 31 57.1 -1.2**
comp=Z,12nm,0.6s
MAJO LR LR
comp=Z,450nm,19.0s
MAT **Matsushiro** **73.04 322** P **P** **03 31 57.1 -1.1**
MAT S **SKiKP** **03 41 33.4 +4.8**
ERM **Erimo** **74.47 329** *e*P **P** **03 32 08.4 +2.0**
ERM pmax pmax
comp=Z,11nm,1.0s
ERM **Erimo** **74.47 329** PFAKE 03 32 20.0 +14
ERM LR LR
comp=Z,1µm,20.0s
YUK **Yuzh-Kuril'sk** **74.80 332** *d i* P **P** **03 32 08.8 +0.5**
YUK *i* 03 34 55.7
YUK *i* S **S** **03 41 43.4 +0.7**
YUK *i* SS **SS** **03 46 33.7 +2.1**
YUK pmax pmax
comp=N,1µm,2.2s
YUK pmax pmax
comp=Z,2µm,2.2s
YUK pmax pmax
comp=E,739nm,1.1s
FX1 **Attu Island--F** **75.20 353** *e*P **P** **03 32 09.3 -1.1**
JNU **Nakatsue** **75.25 315** P **P** **03 32 11.5 +0.2**
JNU **Nakatsue** **75.25 315** P **P** **03 32 11.5 +0.2**
comp=E,4.1nm,0.7s,baz=98,slow=7.1,SNR=3.1
ASAJ **Asahikawa** **76.34 330** *e*P **P** **03 32 17.9 +0.7**
comp=E,12nm,0.8s
ASAJ **Asahikawa** **76.34 330** P **P** **03 32 17.7 +0.6**
comp=E,20nm,0.6s,baz=233,slow=8.7,SNR=23
ASAJ LR LR 03 59 52.9
comp=E,1µm,21.8s,baz=166,slow=31
KSM **Kuching** **76.38 277** PFAKE 03 32 30.0 +12
KSM LR LR
comp=Z,805nm,20.0s
SKR **Severo-Kuril's** **76.66 342** *e*P **P** **03 32 16.0 -2.8**
SKR *e* 03 32 31.0
SKR S S 03 41 54.0 -9.0
SKR *e* 03 42 20.0
SKR pmax pmax
comp=Z,900nm,8.0s
SKR smax smax
comp=N,900nm,12.0s
SKR smax smax
comp=E,900nm,12.0s
SAO **San Andreas Ge** **77.19 41** *e*P **P** **03 32 22.0 -0.2**
SAO pmax pmax
comp=Z,34nm,1.2s
SAO **San Andreas Ge** **77.19 41** *e*P **P** **03 32 22.0 -0.2**
comp=Z,34nm,1.2s
YHNB **Yeheng** **77.22 303** PFAKE 03 32 30.0 +7.3
YHNB LR LR
comp=Z,1µm,20.0s
TATO **Taipei** **77.30 304** PFAKE 03 32 30.0 +7.0
TATO LR LR
comp=Z,1µm,19.0s
MURC **Murrieta** **77.97 46** P **P** **03 32 28.0 +1.4**
baz=78
PET **Petropavlovsk** **78.07 344** *e*P **P** **03 32 24.3 -2.4**
PET *e*S **S** **03 42 15.5 -2.7**
PET *e*PS **PnS** **03 42 58.0 -4.4**
PET *e*SS **SS** **03 47 19.3 -1.5**
PET pmax pmax
comp=Z,500nm,4.4s
PET pmax pmax
comp=Z,400nm,12.9s
PET MLR MLR
comp=Z,600nm,20.0s
PET MLR MLR
comp=Z,700nm,18.0s
MONP **Monument Peak** **78.08 47** P **P** **03 32 28.8 +1.3**
baz=78
EDW2 **Edwards Air Fo** **78.21 45** P **P** **03 32 28.1 +0.1**
baz=78
ISA **Isabella** **78.37 44** *e*P **P** **03 32 28.6 -0.3**
ISA *e**PP **pP** **03 32 41.1 +1.8**
ISA pmax pmax
comp=Z,65nm,1.6s
ISA **Isabella** **78.37 44** *e*P **P** **03 32 28.6 -0.3**
comp=Z,65nm,1.6s
ISA *e*pP **pP** **03 32 41.1 +1.8**
ISA **Isabella** **78.37 44** P **P** **03 32 29.0 +0.1**
baz=78
PETK **Petropavlovsk-** **78.39 344** P **P** **03 32 28.2 -0.3**
PETK **Petropavlovsk-** **78.39 344** P **P** **03 32 28.2 -0.3**
PETK **Petropavlovsk-** **78.39 344** P **P** **03 32 28.2 -0.3**
comp=Z,28nm,0.7s,baz=137,slow=8.6,SNR=71
PETK LR LR 04 05 34.4
comp=Z,395nm,19.6s,baz=162,slow=35
YSS **Yuzh-Sakhalins** **78.44 332** *e*P **P** **03 32 30.2 +1.3**
YSS *e* 03 32 41.0
YSS *e* 03 35 26.0
YSS *e* 03 42 20.0
YSS *e* 03 43 26.0
YSS pmax pmax
comp=Z,50nm,0.9s
PFO **Pinyon Flat Ob** **78.47 47** *e*P **P** **03 32 28.5 -1.1**
comp=Z,14nm,1.2s
PFO *e*pP **pP** **03 32 40.2 +0.3**
PFO LR LR
comp=Z,716nm,21.0s
CMB **Columbia Colle** **78.65 41** *e*P **P** **03 32 29.7 -0.6**
CMB pmax pmax
comp=Z,20nm,1.1s
CMB **Columbia Colle** **78.65 41** *e*P **P** **03 32 29.7 -0.6**
comp=Z,20nm,1.1s
LRMC **Laurel Mountai** **78.77 44** P **P** **03 32 31.3 +0.2**
baz=79
BELC **Belle Mtn. Jos** **79.01 47** P **P** **03 32 32.4 -0.2**
baz=79
WDC **Whiskeytown Da** **79.03 38** *e*P **P** **03 32 31.7 -0.6**
WDC pmax pmax
comp=Z,42nm,1.5s
WDC **Whiskeytown Da** **79.03 38** *e*P **P** **03 32 31.7 -0.6**
comp=Z,42nm,1.5s
CHGN **Chignik** **79.18 9** *e*P P 03 32 28.6 -4.1
GSC **Goldstone** **79.24 45** *e*P **P** **03 32 32.8 -0.9**
GSC *e**PP **pP** **03 32 45.5 +1.4**
GSC pmax pmax
comp=Z,17nm,1.5s
GSC **Goldstone** **79.24 45** *e*P **P** **03 32 32.8 -0.9**
comp=Z,17nm,1.5s
GSC *e*pP **pP** **03 32 45.5 +1.4**
GSC **Goldstone** **79.24 45** P **P** **03 32 33.5 -0.2**
baz=79
MPMC **Manual Prospec** **79.25 44** P **P** **03 32 33.8 0.0**
baz=79
IRM **Iron Mountain** **79.68 47** P **P** **03 32 36.2 +0.2**
baz=80
GMRC **Granite Mounta** **79.69 46** P **P** **03 32 36.5 +0.3**
baz=80
YBH **Yreka Blue Hor** **79.70 37** *e*P **P** **03 32 36.0 -0.1**
comp=Z,40nm,1.3s
YBH *e*pP **pP** **03 32 48.6 +2.2**
KSRS **Korea Array** **79.82 317** P **P** **03 32 36.9 +0.3**
comp=Z,2.8nm,0.7s,baz=134,slow=6.1,SNR=11
KSRS LR LR 04 01 58.5
comp=Z,742nm,21.3s,baz=131,slow=31
BEKR **Beckworth** **79.83 40** *e*P **P** **03 32 35.9 -1.1**
comp=Z,11nm,1.2s
BEKR *e*pP **pP** **03 32 49.2 +1.9**
113A **Mohawk Valley,** **79.84 49** P **P** **03 32 37.8 +1.0**
baz=80
KSAR **Wonju Array Be** **79.84 317** P **P** **03 32 37.0 +0.2**
Y12C **Blythe** **79.87 47** P **P** **03 32 37.5 +0.5**
baz=80
GRAC **Grapevine Rang** **79.89 43** P **P** **03 32 37.4 +0.3**
baz=80
FURC **Furnace Creek,** **79.90 44** P **P** **03 32 37.0 -0.1**
baz=80
214A **Organ Pipe Nat** **80.06 50** P **P** **03 32 38.5 +0.3**
baz=80
HUMO **Hull Mountain** **80.14 36** *e*P **P** **03 32 38.0 -0.4**
comp=Z,27nm,1.3s
HUMO *e*pP **pP** **03 32 51.1 +2.4**
NVAR **Mina Array Bea** **80.18 42** P **P** **03 32 38.7 -0.2**
NVAR **Mina Array Bea** **80.18 42** P **P** **03 32 38.7 -0.2**
comp=Z,4.9nm,0.9s,baz=223,slow=9.4,SNR=27
NVAR LR LR 04 04 10.3
comp=Z,1µm,18.2s,baz=114,slow=33
LDFC **Landfair** **80.23 46** *e*P **P** **03 32 38.7 -0.4**
comp=Z,52nm,1.2s
LDFC *e*pP **pP** **03 32 51.6 +2.0**
NV11 **Mina Array Sit** **80.27 42** *e*P **P** **03 32 38.4 -0.9**
NV11 *e*pP **pP** **03 32 51.7 +2.0**
PDMCI **Parker Dam,Lak** **80.44 47** P **P** **03 32 40.7 +0.6**
baz=81
INCN **Inchon** **80.66 317** PFAKE 03 32 50.0 +8.8
INCN LR LR
comp=Z,678nm,22.0s
Z14A **Wintersburg** **80.74 49** P **P** **03 32 41.6 -0.1**
baz=81
SSE **Sheshan** **80.76 309** *e*P **P** **03 32 42.8 +1.0**
SSE S **S** **03 42 48.1 +0.5**
SSE pmax pmax
comp=Z,28nm,0.7s
SSE pmax pmax
comp=Z,270nm,11.0s
SSE LR LR
comp=N,280nm,24.5s
SSE LR LR
comp=E,310nm,24.6s
SSE LR LR
comp=Z,410nm,22.6s
Y14A **Wickenburg** **81.02 48** P **P** **03 32 43.0 -0.3**
baz=81
MAW **Mawson** **81.16 199** LR LR 04 07 54.2
comp=Z,1µm,19.4s,baz=120,slow=35
MAW **Mawson** **81.16 199** P P 03 32 39.5 -3.9
baz=81,SNR=9.5
MOD **Modoc** **81.17 38** *e*P **P** **03 32 43.5 -0.5**
comp=Z,13nm,0.8s
KDAK **Kodiak Island** **81.59 12** *e*P **P** **03 32 45.4 -0.2**
comp=Z,25nm,0.9s
KDAK LR LR
comp=Z,2µm,20.0s
KDAK **Kodiak Island** **81.59 12** P **P** **03 32 45.1 -0.4**
comp=Z,12nm,1.0s,baz=212,slow=7.6,SNR=7.2
TUC **Tucson** **81.69 50** *e*P **P** **03 32 46.4 -0.5**
TUC *e**PP **pP** **03 32 59.3 +1.9**
TUC pmax pmax
comp=Z,27nm,1.4s
TUC MLR MLR
comp=Z,1µm,19.0s
TUC **Tucson** **81.69 50** *e*P **P** **03 32 46.4 -0.5**
comp=Z,27nm,1.4s
TUC *e*pP **pP** **03 32 59.3 +1.9**
TUC LR LR
comp=Z,1µm,19.0s
USRK **Ussuriysk Arra** **81.73 325** P **P** **03 32 47.2 +0.5**
comp=Z,9.4nm,0.9s,baz=132,slow=2.8,SNR=13
USRK LR LR 04 06 14.6
comp=Z,864nm,19.4s,baz=118,slow=34
R11A **Troy Canyon, C** **81.83 43** P **P** **03 32 47.4 -0.2**
baz=82
BMN **Battle Mountai** **82.06 41** *e*P **P** **03 32 49.1 +0.3**
BMN *e**PP **pP** **03 33 01.2 +2.0**
BMN pmax pmax
comp=Z,67nm,1.8s
BMN MLR MLR
comp=Z,1µm,20.0s
BMN **Battle Mountai** **82.06 41** *e*P **P** **03 32 49.1 +0.3**
comp=Z,67nm,1.8s
BMN *e*pP **pP** **03 33 01.2 +2.0**
BMN LR LR
comp=Z,1µm,20.0s
319A **Douglas** **82.29 52** P **P** **03 32 50.2 +0.1**
baz=82
X16A **Lo Mia Camp, P** **82.36 48** P **P** **03 32 50.8 +0.3**
baz=82
WVOR **Wild Horse Val** **82.46 38** *e*P **P** **03 32 49.8 -1.0**
WVOR *e**PP **pP** **03 33 02.7 +1.5**
WVOR pmax pmax
comp=Z,17nm,0.9s
WVOR MLR MLR
comp=Z,1µm,19.0s
WVOR **Wild Horse Val** **82.46 38** *e*P **P** **03 32 49.8 -1.0**
comp=Z,17nm,0.9s
WVOR *e*pP **pP** **03 33 02.7 +1.5**
WVOR LR LR
comp=Z,1µm,19.0s
LVP **Lakeview Peak** **82.75 34** P **P** **03 32 52.3 +0.1**
CROR **Criterion Ridg** **82.78 35** P **P** **03 32 52.1 -0.2**
CCUT **Cedar City** **82.81 45** *e*P **P** **03 32 52.4 -0.4**
comp=Z,25nm,1.4s
CCUT *e*pP **pP** **03 33 05.6 +2.4**
FL2 **Flat Top 2** **82.87 34** P **P** **03 32 53.1 +0.4**
U15A **North Rim** **82.89 46** P **P** **03 32 53.3 0.0**
baz=83
NLWA **Neilton Lookou** **82.91 32** *e*P **P** **03 32 52.7 -0.2**
comp=Z,17nm,1.1s
NLWA LR LR
comp=Z,1µm,20.0s
NJ2 **Nanjing** **82.95 309** *e*P **P** **03 32 53.4 0.0**
NJ2 pP **pP** **03 33 05.0 +1.2**
NJ2 sP **sP** **03 33 10.0 +2.4**
NJ2 S **S** **03 43 09.3 -0.9**
NJ2 pmax pmax
comp=Z,20nm,1.4s
NJ2 pmax pmax
comp=Z,120nm,4.0s
NJ2 LR LR
comp=N,720nm,19.2s
NJ2 LR LR
comp=E,700nm,19.3s
NJ2 LR LR
comp=Z,700nm,13.2s
WUAZ **Wupatki** **83.01 47** *e*P **P** **03 32 53.6 -0.2**
comp=Z,62nm,1.7s
WUAZ LR LR
comp=Z,691nm,21.0s
WUAZ **Wupatki** **83.01 47** P **P** **03 32 54.8 +1.0**
baz=83
TDL **Tradedollar La** **83.04 34** P **P** **03 32 53.9 +0.2**
HABR **Khabarovsk** **83.08 329** *e*P **P** **03 32 52.8 -0.8**
HABR *e**PP **pP** **03 33 03.2 -0.9**
HABR *e**SP **sP** **03 33 07.3 -0.6**
HABR *e*PPP PPP 03 37 55.8
HABR *e*S **S** **03 43 10.6 -0.2**
HABR SS **SS** **03 48 36.6 +0.7**
HABR *e*SSS SSS 03 52 05.8
HABR pmax pmax
comp=E,69nm,1.8s
HABR pmax pmax
comp=Z,115nm,2.1s
HABR pmax pmax
comp=N,36nm,1.4s
HABR MLR MLR
comp=Z,491nm,17.0s
220A **Playas Peak, P** **83.11 52** P **P** **03 32 55.2 +0.8**
baz=83
MDJ **Mudanjiang** **83.31 324** P **P** **03 32 55.8 +0.9**
MDJ PP **PP** **03 36 06.9 -0.3**
MDJ S **S** **03 43 15.8 +2.5**
MDJ SS **SS** **03 48 44.4 +5.0**
MDJ pmax pmax
comp=Z,32nm,1.1s
MDJ pmax pmax
comp=Z,380nm,5.1s
MDJ LR LR
comp=N,210nm,19.9s
MDJ LR LR
comp=E,220nm,19.9s
MDJ LR LR
comp=Z,410nm,21.2s
MDJ **Mudanjiang** **83.31 324** *e*P **P** **03 32 55.5 +0.5**
comp=Z,23nm,1.0s
MDJ LR LR
comp=Z,602nm,20.0s
120A **U Bar Ranch, L** **83.36 51** P **P** **03 32 56.4 +0.7**
baz=84
ELK **Elko** **83.46 41** *e*P **P** **03 32 55.2 -0.9**
comp=Z,15nm,1.3s
ELK *e*pP **pP** **03 33 08.3 +1.7**
X18A **Snowflake** **83.46 49** P **P** **03 32 57.0 +0.8**
baz=84
WPW **White Pass** **83.62 34** P **P** **03 32 56.6 0.0**
Z20A **Nine Sixteen R** **83.68 51** P **P** **03 32 57.6 +0.3**
baz=84
BLTW **Bickleton** **83.82 35** P **P** **03 32 57.6 0.0**
GSM **Grass Mountain** **83.82 33** P **P** **03 32 57.8 +0.1**
GSM **Grass Mountain** **83.82 33** P **P** **03 32 57.8 +0.1**
COCO **West Island** **83.86 259** PFAKE 03 33 10.0 +12
COCO LR LR
comp=Z,2µm,19.0s
121A **Cookes Peak, D** **83.97 52** P **P** **03 32 59.9 +1.0**
baz=84
PGC **Sidney** **83.97 31** *e*P **P** **03 32 57.9 -0.3**
comp=Z,5.4nm,1.6s
PGC *e*pP **pP** **03 33 09.6 +0.9**
RMW **Rattlesnake Mo** **83.99 33** P **P** **03 32 58.6 +0.1**
RMW **Rattlesnake Mo** **83.99 33** P **P** **03 32 58.6 +0.1**
QIZ **Qiongzhong** **83.99 293** P **P** **03 32 58.0 -1.0**
QIZ PP **PP** **03 36 10.9 -2.4**
QIZ S **S** **03 43 19.0 -2.3**
QIZ sS **sS** **03 43 40.8 +2.2**
QIZ LR LR
comp=N,330nm,23.3s
QIZ LR LR
comp=Z,570nm,27.4s
QIZ **Qiongzhong** **83.99 293** PFAKE 03 33 10.0 +11
QIZ LR LR
comp=Z,460nm,21.0s
MVU **Marysvale** **84.09 45** *e*P **P** **03 32 59.9 +0.5**
comp=Z,24nm,1.2s
MVU *e*pP **pP** **03 33 12.4 +2.5**
MVU LR LR
comp=Z,767nm,20.0s
MSU **Marysvale** **84.12 45** *e*P **P** **03 32 59.6 +0.1**
MSU *e**PP **pP** **03 33 12.4 +2.4**
MSU pmax pmax
comp=Z,67nm,1.6s
MSU **Marysvale** **84.12 45** *e*P **P** **03 32 59.6 +0.1**
comp=Z,67nm,1.6s
MSU *e*pP **pP** **03 33 12.4 +2.4**
Y20A **Horse Springs,** **84.25 50** P **P** **03 33 00.9 +0.6**
baz=84
Z21A **St. Cloud Mine** **84.45 51** P **P** **03 33 02.2 +0.9**
baz=85
HAWA **Hanford** **84.47 35** *e*P **P** **03 33 00.6 -0.3**
comp=Z,32nm,1.3s
HAWA *e*pP **pP** **03 33 13.5 +2.1**
HAWA LR LR
comp=Z,1µm,22.0s
X20A **Quemado** **84.49 50** P **P** **03 33 02.4 +0.9**
baz=85
DUG **Dugway** **84.66 43** *e*P **P** **03 33 01.5 -0.6**
DUG pmax pmax
comp=Z,13nm,1.5s
DUG MLR MLR
comp=Z,804nm,20.0s
DUG **Dugway** **84.66 43** *e*P **P** **03 33 01.5 -0.6**
comp=Z,13nm,1.5s
DUG LR LR
comp=Z,804nm,20.0s
DUG **Dugway** **84.66 43** P **P** **03 33 03.1 +0.9**
baz=85
MFID **Camas Ranch** **84.69 39** *e*P **P** **03 33 01.4 -0.8**
comp=Z,16nm,1.1s
MFID **Camas Ranch** **84.69 39** P **P** **03 33 02.0 -0.3**
baz=85
DL2 **Dalian** **84.70 316** P **P** **03 33 01.3 -0.8**
DL2 S **S** **03 43 25.4 -2.1**
DL2 pmax pmax
comp=Z,42nm,1.9s
DL2 pmax pmax
comp=Z,210nm,8.3s
DL2 LR LR
comp=N,310nm,19.6s
DL2 LR LR
comp=Z,300nm,18.1s
BMO **Blue Mountains** **84.72 37** *e*P **P** **03 33 01.1 -1.2**
comp=Z,21nm,1.3s
BMO LR LR
comp=Z,548nm,19.0s
W20A **Ramah** **84.79 49** P **P** **03 33 03.5 +0.5**
baz=85
ETW **Entiat** **84.84 34** P **P** **03 33 02.3 -0.5**
PAYG **Puerto Ayora** **84.84 89** PFAKE 03 33 20.0 +16
PAYG LR LR
comp=Z,1µm,20.0s
Z22A **Elephant Butte** **84.93 51** P **P** **03 33 04.3 +0.6**
baz=85
X21A **Alamocita Cree** **84.94 50** P **P** **03 33 04.5 +0.7**
baz=85
Q16A **Castle Valley** **85.00 45** P **P** **03 33 04.2 +0.3**
baz=85
324A **Moseley Ranch,** **85.12 53** P **P** **03 33 05.4 +0.7**
baz=85
CN2 **Changchun** **85.15 321** *e*P **P** **03 33 04.1 -0.2**

CN2 epP pP 03 33 17.6 +2.8
CN2 esP sP 03 33 22.8 +4.2
CN2 PP PP 03 36 23.8 +1.5
CN2 eS S 03 43 29.3 -2.5
CN2 SS SS 03 49 07.1 +0.4
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,500nm,8.0s
CN2 LR LR
comp=N,400nm,20.0s
CN2 LR LR
comp=E,300nm,20.0s
CN2 LR LR
comp=Z,400nm,22.0s
V20A Brimhall 85.16 48 P P 03 33 04.4 -0.4
baz=85
425A Indio Mountain 85.18 54 P P 03 33 04.4 -0.6
baz=85
TMUT Trail Mountain 85.18 44 eP P 03 33 05.3 +0.3
comp=Z,43nm,1.0s
KLR Kul'dur 85.20 328 eP P 03 33 00.0 -4.4
KLR pmax pmax
comp=Z,64nm,1.8s
626A Big Bend Ranch 85.24 56 P P 03 33 04.7 -0.5
baz=85
Y22A Socorro 85.27 51 P P 03 33 05.3 -0.1
baz=85
MNTX Cornudas Mount 85.33 53 eP P 03 33 05.1 -0.4
comp=Z,18nm,1.3s
MNTX epP pP 03 33 15.1 -0.9
MNTX LR LR
comp=Z,659nm,19.0s
I12A Atlanta 85.33 39 P P 03 33 05.3 -0.1
baz=86
LAZ Ladron 85.38 50 eP P 03 33 05.3 -0.6
comp=Z,42nm,1.8s
LAZ epP pP 03 33 17.4 +0.9
224A Cornudas Mount 85.40 53 P P 03 33 06.6 +0.5
baz=86
U20A Newcomb 85.42 48 P P 03 33 06.7 +0.6
baz=86
325A Bean Ranch, Si 85.47 54 P P 03 33 07.1 +0.6
baz=86
TXAR Lajitas Array 85.50 56 P P 03 33 06.1 -0.4
TXAR Lajitas Array 85.50 56 P P 03 33 06.1 -0.4
comp=Z,1.3nm,0.9s,baz=205,slow=5.5,SNR=10
TXAR LR LR 04 05 29.4
comp=Z,659nm,18.4s,baz=240,slow=32
526A Mary Lane Ranc 85.51 55 P P 03 33 06.3 -0.3
baz=86
SRU San Rafael 85.53 45 eP P 03 33 06.3 -0.3
SRU pmax pmax
comp=Z,42nm,1.3s
SRU San Rafael 85.53 45 eP P 03 33 06.3 -0.3
comp=Z,42nm,1.3s
CTU Camp Tracy 85.61 43 eP P 03 33 05.8 -1.1
HLID Hailey 85.61 39 PFAKE 03 33 20.0 +13
HLID LR LR
comp=Z,553nm,19.0s
HLID Hailey 85.61 39 P P 03 33 06.9 0.0
baz=86
BNM Barren Site 85.62 51 eP P 03 33 06.9 -0.3
comp=Z,76nm,1.8s
LPM Los Pinos Moun 85.70 50 eP P 03 33 08.6 +1.0
comp=Z,7.1nm,1.2s
LPM epP pP 03 33 18.7 +0.7
JLU Jordanelle 85.75 43 eP P 03 33 06.8 -0.9
comp=Z,34nm,1.7s
124A Stringfield Ra 85.76 52 P P 03 33 08.0 0.0
baz=86
DAU Daniels Canyon 85.76 43 eP P 03 33 06.8 -1.1
DAU pmax pmax
comp=Z,33nm,1.6s
DAU Daniels Canyon 85.76 43 eP P 03 33 06.8 -1.1
comp=Z,33nm,1.6s
627A Terlingua Ranc 85.77 56 P P 03 33 07.8 -0.1
baz=86
PMR Palmer 85.79 12 eP P 03 33 05.7 -1.3
PMR pmax pmax
comp=Z,86nm,1.7s
PMR Palmer 85.79 12 eP P 03 33 05.7 -1.3
comp=Z,86nm,1.7s
426A McDonald Obser 85.85 55 P P 03 33 08.2 -0.2
baz=86
MVCO Mesa Verde 85.87 47 PFAKE 03 33 20.0 +12
MVCO LR LR
comp=Z,683nm,20.0s
527A Woodward Ranch 85.92 55 P P 03 33 08.0 -0.7
baz=86
Y23A Lovelace Mesa, 85.92 51 P P 03 33 08.6 -0.1
baz=86
SYO Syowa Base 85.93 192 eP P 03 33 06.6 -1.3
H12A Diamond D Ranc 85.93 38 P P 03 33 07.9 -0.6
baz=86
225A Deer Hill, Car 85.94 53 P P 03 33 08.9 +0.1
baz=86
WRAK Wrangell Islan 85.94 22 PFAKE 03 33 20.0 +12
WRAK LR LR
comp=Z,600nm,21.0s
G12A Big Creek, Yel 86.01 38 P P 03 33 08.5 -0.3
baz=86
U21A Nageezi 86.05 48 P P 03 33 09.0 -0.3
baz=86
DIV Divide 86.07 14 eP P 03 33 08.0 -0.5
comp=Z,30nm,1.0s
IPM Ipoh 86.08 276 eP P 03 33 08.4 -1.3
Z24A Sheeppen Canyo 86.13 52 P P 03 33 09.7 0.0
baz=86
ANMO Albuquerque 86.14 50 eP P 03 33 09.3 -0.4
comp=Z,30nm,1.3s
ANMO LR LR
comp=Z,994nm,19.0s
SML Sawmill 86.14 12 eP P 03 33 08.5 -0.4
SML pmax pmax
comp=Z,3.0nm,1.2s
SML Sawmill 86.14 12 eP P 03 33 08.5 -0.4
comp=Z,2.9nm,1.2s
628A Black Gap, Mar 86.17 56 P P 03 33 09.6 -0.1
baz=86
BMRM Bremner River 86.19 14 eP P 03 33 08.1 -1.0
comp=Z,35nm,1.0s
PV04 Paradox Valley 86.22 46 eP P 03 33 09.9 -0.1
HWUT Hardware Ranch 86.23 42 PFAKE 03 33 20.0 +10
HWUT LR LR
comp=Z,1μm,20.0s
PLCA Paso Flores 86.25 132 eP P 03 33 11.1 +0.9
comp=Z,9.9nm,1.2s
PLCA Paso Flores 86.25 132 P P 03 33 12.6 +2.3
comp=Z,0.6nm,0.6s,baz=236,slow=8.0,SNR=2.9
PLCA LR LR 04 03 38.5
comp=Z,584nm,19.4s,baz=251,slow=30
PV01 Paradox Valley 86.30 46 eP P 03 33 09.6 -0.9
comp=Z,281nm,1.0s
PV01 epP pP 03 33 21.3 +0.2
V22A San Miguel Ran 86.31 49 P P 03 33 10.5 -0.1
baz=86
125A Gardner Draw, 86.33 53 P P 03 33 10.7 +0.1
baz=86
Y24A Capitan 86.37 51 P P 03 33 10.8 -0.1
baz=86
PNL Peninsula 86.38 17 eP P 03 33 09.9 -0.1
comp=Z,45nm,1.2s
I14A Mackay 86.39 40 P P 03 33 10.9 +0.2
baz=86
427A Hayter Ranch, 86.41 55 P P 03 33 11.0 0.0
baz=86
226B Tecolote Peak, 86.41 53 P P 03 33 10.9 -0.1
baz=86
R20A Redvale 86.46 46 P P 03 33 11.4 +0.2
baz=87
W23A Werner Place, 86.47 50 P P 03 33 11.7 +0.3
baz=87
SNAA Sanae 86.49 178 eP P 03 33 10.6 -0.1
SNAA Sanae 86.49 178 ePcP PcP 03 33 13.0 -0.1
SNAA Sanae 86.49 178 eP P 03 33 11.2 +0.5
comp=Z,19nm,1.3s
528A Cox Ranch, San 86.56 56 P P 03 33 11.7 -0.1
baz=87
Z25A Roswell 86.58 52 P P 03 33 12.0 +0.2
baz=87
S21A Coal Bank Pass 86.59 47 P P 03 33 11.4 -0.6
baz=87
E12A Beaver Dam Sad 86.64 37 P P 03 33 11.6 -0.2
baz=87
X24A Lazy VL Ranch, 86.68 51 P P 03 33 12.2 -0.2
baz=87

V23A Ortiz Mt. (NFS 86.73 49 P P 03 33 13.0 +0.3
baz=87
KULM Kulim 86.73 277 PFAKE 03 33 20.0 +7.1
KULM LR LR
comp=Z,711nm,19.0s
126A Clayton Basin, 86.79 53 P P 03 33 13.0 +0.2
baz=87
P19A Cripple Cowboy 86.82 45 P P 03 33 12.9 -0.1
baz=87
Y25A Mesa, Roswell 86.91 52 P P 03 33 13.7 +0.2
baz=87
NEW Newport 86.92 35 eP P 03 33 12.4 -0.7
comp=Z,46nm,2.0s
NEW epP pP 03 33 22.7 -0.8
NEW LR LR
comp=Z,1μm,22.0s
U23A El Rito 87.02 49 P P 03 33 14.4 +0.3
baz=87
W24A Lazy 6 Ranch, 87.02 50 P P 03 33 13.1 -0.9
baz=87
O19A Miners Draw (B 87.07 44 P P 03 33 14.3 +0.1
baz=87
328A Wristen Ranch, 87.11 55 P P 03 33 13.8 -0.6
baz=87
R21A Cimarron 87.11 47 P P 03 33 14.4 -0.1
baz=87
Z26A Caprock 87.12 52 P P 03 33 14.3 -0.1
baz=87
C11A Tepee Creek (N 87.12 35 P P 03 33 14.1 0.0
baz=87
P20A De Beque 87.14 45 P P 03 33 14.4 -0.1
baz=87
AHID Auburn Hatcher 87.16 41 PFAKE 03 33 30.0 +15
AHID LR LR
comp=Z,1μm,19.0s
VNA1 Neumayer--Stat 87.20 176 eP P 03 33 15.3 +1.2
X25A Clemmons Ranch 87.22 51 P P 03 33 14.8 -0.2
baz=87
MCMT McKenzie Canyo 87.26 39 eP P 03 33 14.9 -0.1
comp=Z,1.6nm,0.9s
S22A 4UR Ranch, Cre 87.28 47 P P 03 33 15.4 0.0
baz=87
TRF Thorofare Moun 87.29 11 eP P 03 33 12.4 -2.2
comp=Z,31nm,0.9s
TRF epP pP 03 33 24.8 -0.3
127A Arkansas Junct 87.30 53 P P 03 33 15.2 -0.1
baz=87
L18A Fontenelle, Gr 87.36 43 P P 03 33 15.7 +0.2
baz=88
V24A Rampart Ranch, 87.37 50 P P 03 33 16.0 +0.2
baz=88
429A Davenport Ranc 87.45 56 P P 03 33 15.1 -1.0
baz=88
I16A Newdale 87.53 40 P P 03 33 16.3 0.0
baz=88
R22A Saguache, Gunn 87.58 47 P P 03 33 17.1 +0.3
baz=88
D13A Huson 87.66 37 P P 03 33 16.9 +0.3
baz=88
530A J-C Ranch, Com 87.67 56 P P 03 33 16.7 -0.3
baz=88
W25A X Bar L Ranch, 87.70 51 P P 03 33 16.9 -0.4
baz=88
DLMT Dillon 87.71 39 eP P 03 33 16.1 -1.0
comp=Z,17nm,1.5s
PAX Paxson 87.78 13 eP P 03 33 15.3 -1.6
PAX pmax pmax
comp=Z,36nm,1.6s
PAX Paxson 87.78 13 eP P 03 33 15.3 -1.6
comp=Z,36nm,1.6s
MCK McKinley 87.79 11 eP P 03 33 15.9 -0.9
MCK pmax pmax
comp=Z,31nm,1.0s
MCK McKinley 87.79 11 eP P 03 33 15.9 -0.9
comp=Z,31nm,1.0s
Q22A Crested Butte, 87.80 46 P P 03 33 17.2 -0.7
baz=88
X26A CR and CF Fran 87.85 51 P P 03 33 17.6 -0.3
baz=88
IMW Indian Meadow 87.88 41 eP P 03 33 18.6 +0.5
comp=Z,4.9nm,1.1s
L19A Farson 87.88 43 P P 03 33 17.6 -0.5
baz=88
V25A Rancho No Teng 87.89 50 P P 03 33 17.7 -0.5
baz=88
SMCO Snowmass 87.91 46 eP P 03 33 19.1 +0.6
comp=Z,12nm,1.3s
N20A Spence Gulch, 87.91 44 P P 03 33 17.8 -0.4
baz=88
128A Castleberry Fa 87.92 54 P P 03 33 18.0 -0.3
baz=88
BSMT Bassoo Peak 87.92 36 eP P 03 33 17.1 -0.9
comp=Z,3.3nm,0.9s
631A Perdido Creek 87.93 57 P P 03 33 17.3 -1.0
baz=88
732A Laxson Ranch, 88.10 58 P P 03 33 20.0 +0.9
baz=88
A12A Yaak River Ran 88.11 35 P P 03 33 18.7 -0.1
baz=88
BW06 Boulder Array 88.11 42 eP P 03 33 17.3 -1.8
comp=Z,3.3nm,0.9s
BW06 LR LR
comp=Z,1μm,19.0s
PDAR Pinedale Array 88.11 42 P P 03 33 17.6 -1.5
PDAR Pinedale Array 88.11 42 P P 03 33 17.6 -1.5
comp=Z,1.3nm,0.8s,baz=207,slow=3.3,SNR=13
PDAR LR LR 04 08 00.0
comp=Z,843nm,19.1s,baz=249,slow=32
R23A Moffat 88.19 47 P P 03 33 19.6 -0.1
baz=88
SDCO Great Sand Dun 88.20 48 PFAKE 03 33 30.0 +10
SDCO LR LR
comp=Z,640nm,21.0s
CHMT Chamberlain Mo 88.22 37 eP P 03 33 17.9 -1.6
comp=Z,9.5nm,1.5s
P22A Eagle 88.27 46 P P 03 33 19.4 -0.6
baz=88
531A Rocksprings 88.29 57 P P 03 33 19.8 -0.2
baz=88
Z28A Tucker Farm, M 88.31 53 P P 03 33 20.0 -0.1
baz=88
U25A Circle Dot Ran 88.31 50 P P 03 33 20.0 -0.1
baz=88
S24A Houchin Ranch, 88.34 48 P P 03 33 20.6 +0.1
baz=88
N21A Black Mountain 88.36 45 P P 03 33 20.3 -0.1
baz=88
B13A Whitefish 88.41 36 P P 03 33 19.7 -0.5
baz=88
BOZ Bozeman (W) 88.44 39 eP P 03 33 19.6 -0.9
BOZ pmax pmax
comp=Z,6.0nm,1.2s
BOZ MLR MLR
comp=Z,573nm,19.0s
BOZ Bozeman (W) 88.44 39 eP P 03 33 19.6 -0.9
comp=Z,6.4nm,1.2s
BOZ LR LR
comp=Z,573nm,19.0s
LKWY Lake 88.57 40 PFAKE 03 33 30.0 +8.7
LKWY LR LR
comp=Z,1μm,20.0s
632A Uvalde 88.59 57 P P 03 33 21.0 -0.4
baz=89
O22A Kremmling 88.69 45 P P 03 33 21.4 -0.7
baz=89
R24A Sanders Place, 88.71 48 P P 03 33 21.3 -0.7
baz=89
A13A Flathead Natio 88.76 35 P P 03 33 21.2 -0.7
baz=89
P23A Jefferson 88.77 46 P P 03 33 22.0 -0.5
baz=89
U26A Atchley Ranch, 88.77 50 P P 03 33 21.5 -0.8
baz=89
BJT Baijiatuau 88.88 314 PFAKE 03 33 30.0 +7.5
BJT LR LR
comp=Z,478nm,19.0s
BJI Beijing 88.88 314 P P 03 33 23.0 +0.5
BJI S S 03 43 59.5 -8.4
BJI SS SS 03 50 03.6 +2.2
BJI pmax pmax
comp=Z,17nm,1.4s
BJI pmax pmax
comp=Z,340nm,6.4s
BJI LR LR
comp=N,270nm,20.2s
BJI LR LR
comp=E,350nm,19.8s
BJI LR LR

comp=Z,360nm,27.9s
S25A Robets Cordova 88.89 48 P P 03 33 22.7 -0.2
baz=89
JCT Junction City 89.00 57 PFAKE 03 33 30.0 +6.6
JCT LR LR
comp=Z,1μm,19.0s
COLA College 89.03 11 eP P 03 33 21.3 -1.3
COLA pmax pmax
comp=Z,131nm,1.0s
COLA MLR MLR
comp=Z,2μm,20.0s
COLA College 89.03 11 eP P 03 33 21.3 -1.3
comp=Z,131nm,1.0s
COLA LR LR
comp=Z,2μm,20.0s
B14A Marquette Ranc 89.05 36 P P 03 33 22.4 -0.8
baz=89
C15A Salmond Ranch, 89.08 37 P P 03 33 22.3 -1.2
baz=89
WALA Waterton Lakes 89.11 35 eP P 03 33 22.2 -1.3
comp=Z,0.3nm,1.0s
ILAR Eielson Array 89.11 12 P P 03 33 21.9 -1.1
ILAR Eielson Array 89.11 12 P P 03 33 21.9 -1.1
comp=Z,2.5nm,0.8s,baz=218,slow=5.0,SNR=26
ILAR LR LR 04 12 48.1
comp=Z,631nm,19.2s,baz=330,slow=35
ISCO Idaho Springs 89.13 46 PFAKE 03 33 40.0 +16
ISCO LR LR
comp=Z,390nm,20.0s
ENH Enshi 89.16 303 eP P 03 33 24.3 +0.2
comp=Z,11nm,0.4s
ENH LR LR
comp=Z,724nm,19.0s
KVTX Kingsville 89.25 60 PFAKE 03 33 40.0 +16
KVTX LR LR
comp=Z,505nm,21.0s
A14A Double T Ranch 89.32 35 P P 03 33 23.9 -0.7
baz=89
332A Millersview 89.44 56 P P 03 33 24.6 -0.8
baz=90
RLMT Red Lodge 89.55 40 PFAKE 03 33 40.0 +14
RLMT LR LR
comp=Z,691nm,20.0s
S26A Kim 89.55 49 P P 03 33 25.4 -0.5
baz=90
AMTX Amarillo 89.56 52 PFAKE 03 33 40.0 +14
AMTX LR LR
comp=Z,2μm,19.0s
C16A Fuhringer Ranc 89.57 37 P P 03 33 25.1 -0.6
baz=90
A15A Johnson Ranch, 89.69 36 P P 03 33 25.6 -0.6
baz=90
F18A Big Timber 89.70 39 P P 03 33 26.6 +0.2
baz=90
GYA Guiyang 89.79 299 P P 03 33 29.3 +2.0
GYA pP pP 03 33 39.9 +2.1
GYA PP PP 03 37 04.9 +4.7
GYA S S 03 44 17.0 -0.3
GYA pmax pmax
comp=Z,50nm,1.0s
GYA pmax pmax
comp=Z,180nm,6.1s
GYA LR LR
comp=N,860nm,24.8s
GYA LR LR
comp=E,830nm,24.8s
GYA LR LR
comp=Z,960nm,23.2s
D17A Six Diamond Ra 89.81 38 P P 03 33 26.5 -0.4
baz=90
R26A Arlington 89.89 48 P P 03 33 26.8 -0.6
baz=90
E18A Harlowton 89.94 39 P P 03 33 27.1 -0.4
baz=90
Z31A Sharp Cattle R 89.99 54 P P 03 33 27.7 -0.3
baz=90
C17A Wharram Farm, 90.03 38 P P 03 33 27.6 -0.3
baz=90
F19A Roth Farm, Mol 90.13 40 P P 03 33 28.0 -0.3
baz=90
EGAK Eagle 90.29 14 eP P 03 33 27.9 -0.6
comp=Z,22nm,1.1s
EGAK LR LR
comp=Z,1μm,19.0s
A16A West Butte Ran 90.30 36 P P 03 33 28.6 -0.5
baz=90
B17A L&G Farms, Che 90.37 37 P P 03 33 29.2 -0.2
baz=90
E19A Rath Farm, Rou 90.54 39 P P 03 33 30.2 0.0
baz=91
BILL Bilibino 90.76 353 *c e* iP P 03 33 31.8 +1.2
BILL 03 37 14.2
BILL pmax pmax
comp=Z,9.0nm,0.9s
BILL MLR MLR
comp=Z,1μm,18.0s
A17A Triple J Farms 90.79 36 P P 03 33 31.1 -0.2
baz=91
COLD Coldfoot 90.80 9 eP P 03 33 30.8 0.0
comp=Z,11nm,1.1s
EGMT Eagleton 90.81 38 PFAKE 03 33 40.0 +8.5
EGMT LR LR
comp=Z,668nm,20.0s
EGMT Eagleton 90.81 38 P P 03 33 30.8 -0.7
baz=91
Y32A R-V Farms, Ver 90.82 54 P P 03 33 31.4 -0.4
baz=91
R28A Tribune 91.04 49 P P 03 33 32.0 -0.8
baz=91
C19A Slack Wire Ran 91.06 38 P P 03 33 32.7 +0.1
baz=91
XAN Xi'an 91.23 306 P P 03 33 34.5 +0.8
XAN pP pP 03 33 45.0 +0.8
XAN pmax pmax
comp=Z,7.0nm,1.2s
XAN pmax pmax
comp=Z,67nm,12.0s
LCO Las Campanas 91.24 122 eP P 03 33 35.1 +0.8
comp=Z,7.9nm,0.5s
LCO LR LR
comp=Z,1μm,20.0s
A18A Metzger Ranch, 91.25 37 P P 03 33 33.0 -0.4
baz=91
V31A Spring Creek L 91.30 52 P P 03 33 34.0 0.0
baz=91
HIA Hailar 91.49 323 PFAKE 03 33 40.0 +5.5
HIA LR LR
comp=Z,880nm,20.0s
B19A Brinkman Farms 91.50 37 P P 03 33 34.6 0.0
baz=92
WMOK Wichita Mounta 91.63 53 eP P 03 33 36.1 +0.6
WMOK pmax pmax
comp=Z,13nm,1.4s
WMOK MLR MLR
comp=Z,653nm,20.0s
WMOK Wichita Mounta 91.63 53 eP P 03 33 36.1 +0.6
comp=Z,13nm,1.4s
WMOK LR LR
comp=Z,653nm,20.0s
C20A Veseth Ranch, 91.65 38 P P 03 33 35.0 -0.3
baz=92
A19A Klindworth Far 91.86 37 P P 03 33 35.3 -1.0
baz=92
B20A Solberg Farm, 92.02 38 P P 03 33 36.3 -0.7
baz=92
OGNE Ogallala 92.08 46 PFAKE 03 33 50.0 +12
OGNE LR LR
comp=Z,733nm,21.0s
H24A Dirks Ranch, A 92.24 42 P P 03 33 37.8 -0.3
baz=92
RSSD Black Hills 92.26 43 eP P 03 33 37.8 -0.7
RSSD pmax pmax
comp=Z,18nm,1.4s
RSSD Black Hills 92.26 43 eP P 03 33 37.8 -0.7
comp=Z,18nm,1.4s
A20A Cobblestone Ra 92.30 37 P P 03 33 38.1 -0.2
baz=92
HHC Hu-ho-hao-te 92.36 313 eP P 03 33 38.6 -0.3
HHC PP PP 03 37 21.9 +1.7
HHC SKS SKSac 03 44 09.5 -0.4
HHC S S 03 44 37.8 -2.3
HHC SS SS 03 50 53.4 +1.5
HHC pmax pmax
comp=Z,23nm,1.0s
HHC pmax pmax
comp=Z,370nm,5.0s
HHC LR LR

comp=N,650nm,18.8s
HHC LR LR
comp=E,1µm,18.7s
HHC LR LR
comp=Z,2µm,17.9s
I25A Rochford 92.41 43 P **P** **03 33 38.7 -0.4**
baz=92
D22A Cohagen 92.43 40 P **P** **03 33 38.9 -0.1**
baz=93
KMI Kunming 92.49 296 P **P** **03 33 41.3 +1.3**
KMI PP **PP** **03 37 20.0 -1.7**
KMI S **S** **03 44 40.3 -1.9**
KMI SS **SS** **03 50 54.8 +0.2**
KMI pmax pmax
comp=Z,14nm,1.3s
KMI pmax pmax
comp=Z,320nm,6.4s
KMI LR LR
comp=N,330nm,22.4s
KMI LR LR
comp=E,560nm,23.0s
KMI LR LR
comp=Z,1µm,21.9s
R31A Burdett 92.63 50 P **P** **03 33 39.5 -0.5**
baz=93
NNA Nana 93.00 104 PFAKE 03 33 50.0 +7.6
NNA LR LR
comp=Z,1µm,21.0s
TGUH Tegucigalpa,Un 93.09 76 PFAKE 03 33 50.0 +7.4
TGUH LR LR
comp=Z,496nm,19.0s
CMAR Chiang Mai Arr 93.23 288 P **P** **03 33 44.7 +1.5**
CMAR Chiang Mai Arr 93.23 288 P **P** **03 33 44.7 +1.5**
comp=Z,6.2nm,0.9s,baz=118,slow=3.0,SNR=30
CMAR LR LR 04 13 27.8
comp=Z,286nm,18.7s,baz=115,slow=34
C23A Lambert 93.34 39 P **P** **03 33 43.7 +0.6**
baz=94
CHTO Chiang Mai 93.36 289 *e*P **P** **03 33 44.9 +1.0**
CHTO pmax pmax
comp=Z,5.0nm,0.6s
CHTO MLR MLR
comp=Z,378nm,20.0s
CHTO Chiang Mai 93.36 289 *e*P **P** **03 33 44.9 +1.0**
comp=Z,4.5nm,0.6s
CHTO LR LR
comp=Z,378nm,20.0s
TRQA Tornquist 93.36 133 *e*P **P** **03 33 44.0 +0.3**
comp=Z,6.1nm,1.2s
TRQA LR LR
comp=Z,1µm,21.0s
B23A Brockton 93.78 39 P **P** **03 33 45.4 +0.3**
baz=94
CD2 Chengdu 93.92 302 *e*P **P** **03 33 46.3 +0.1**
CD2 PP **PP** **03 37 35.0 +2.4**
CD2 SKS **SKSac** **03 44 17.4 -1.4**
CD2 S **S** **03 44 51.5 -2.7**
CD2 SS **SS** **03 51 15.3 +0.7**
CD2 pmax pmax
comp=Z,10.0nm,1.4s
CD2 pmax pmax
comp=Z,60nm,6.4s
CD2 LR LR
comp=E,640nm,19.0s
CD2 LR LR
comp=Z,470nm,17.8s
DGMT Dagmar 94.24 39 *e*P **P** **03 33 46.4 -0.8**
comp=Z,38nm,1.2s
DGMT LR LR
comp=Z,896nm,20.0s
DGMT Dagmar 94.24 39 P **P** **03 33 46.6 -0.6**
baz=94
TEIG Tepich 94.46 70 PFAKE 03 34 00.0 +11
TEIG LR LR
comp=Z,553nm,19.0s
INK Inuvik 94.94 14 P **P** **03 33 49.5 -0.4**
INK Inuvik 94.94 14 P **P** **03 33 49.5 -0.4**
comp=Z,2.1nm,0.9s,baz=227,slow=8.5,SNR=5.2
KSU1 Kansas State U 95.04 50 PFAKE 03 34 00.0 +8.9
KSU1 LR LR
comp=Z,1µm,19.0s
LVC Limon Verde 95.50 117 *e*P **P** **03 33 55.2 +1.2**
comp=Z,8.4nm,1.1s
LVC LR LR
comp=Z,904nm,19.0s
LZH Lanzhou 95.86 306 *e*P **P** **03 33 56.3 +1.2**
LZH S **S** **03 45 09.3 -1.9**
LZH pmax pmax
comp=Z,15nm,1.5s
LZH pmax pmax
comp=Z,140nm,6.6s
LZH LR LR
comp=N,370nm,16.3s
LZH LR LR
comp=E,350nm,14.6s
LZH LR LR
comp=Z,530nm,18.8s
OTAV Otavalo 96.17 92 PFAKE 03 34 10.0 +13
OTAV LR LR
comp=Z,828nm,22.0s
YKA Yellowknife Ar 96.66 24 P **P** **03 33 56.1 -1.7**
YKA Yellowknife Ar 96.66 24 P **P** **03 33 56.1 -1.7**
comp=Z,2.5nm,0.9s,baz=241,slow=3.9,SNR=4.1
ECSD EROS Data Cent 96.91 46 *e*P **P** **03 33 58.0 -1.5**
comp=Z,58nm,1.8s
ECSD LR LR
comp=Z,656nm,21.0s
VBMS Vicksburg 96.97 58 PFAKE 03 34 10.0 +10
VBMS LR LR
comp=Z,1µm,19.0s
BCIP Isla Barro Col 98.12 83 PFAKE 03 34 20.0 +14
BCIP LR LR
comp=Z,314nm,20.0s
ULN Ulaanbaatar 98.28 318 *e*P **P** **03 34 05.4 -0.4**
ULN LR LR
comp=Z,373nm,19.0s
FFC Flin Flon 98.35 34 PFAKE 03 34 20.0 +14
FFC LR LR
comp=Z,817nm,20.0s
SCIA State Center 98.51 48 PFAKE 03 34 20.0 +13
SCIA LR LR
comp=Z,769nm,20.0s
OXF Oxford 98.65 56 PFAKE 03 34 20.0 +12
OXF LR LR
comp=Z,1µm,19.0s
SONM Songino Array 98.67 318 P Pdif 03 34 08.6 +1.1
SONM Songino Array 98.67 318 P Pdif 03 34 08.6 +1.1
comp=Z,1.0nm,0.5s,baz=111,slow=7.9,SNR=2.2
LPAZ La Paz 98.93 112 *e*P Pdif 03 34 11.1 +1.0
comp=Z,1.5nm,0.8s
LPAZ La Paz 98.93 112 P Pdif 03 34 11.0 +1.0
comp=Z,1.1nm,0.7s,baz=326,slow=1.7,SNR=4.3
LPAZ LR LR 04 13 51.6
comp=Z,714nm,18.6s,baz=328,slow=32
AGMN Agassiz Nation 99.18 42 PFAKE 03 34 20.0 +10
AGMN LR LR
comp=Z,509nm,19.0s
BRAL Brewton 99.31 60 PFAKE 03 34 20.0 +9.5
BRAL LR LR
comp=Z,582nm,19.0s
ULM Lac du Bonnet 99.92 40 LR LR 04 15 33.7
comp=Z,815nm,19.3s,baz=254,slow=33
LRAL Lakeview Retre 100.03 58 PFAKE 03 34 30.0 +16
LRAL LR LR
comp=Z,760nm,20.0s
GTA Gaotai 100.05 308 *e*P **Pdif** **03 34 13.0 -0.8**
GTA pP pP 03 34 26.0 +1.5
GTA sP sP 03 34 32.4 +4.2
GTA pmax pmax
comp=Z,5.0nm,0.5s
HDIL Hopedale 100.81 51 PFAKE 03 34 30.0 +13
HDIL LR LR
comp=Z,1µm,19.0s
TIXI Tiksi 100.86 344 *e*P **Pdif** **03 34 17.1 +0.6**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
TIXI MLR MLR
comp=Z,317nm,17.0s
EYMN Ely 101.78 43 PFAKE 03 34 30.0 +8.8
EYMN LR LR
comp=Z,840nm,20.0s
LSA Lhasa 103.73 297 PFAKE 03 34 40.0 +9.1
LSA LR LR
comp=Z,464nm,21.0s
GLMI Grayling 105.38 48 PFAKE 03 39 00.0
GLMI LR LR
comp=Z,864nm,19.0s
NHSC New Hope 105.51 60 PFAKE 03 39 00.0
NHSC LR LR
comp=Z,1µm,19.0s
BLA Blacksburg 106.42 56 PFAKE 03 39 00.0
BLA LR LR
comp=Z,942nm,19.0s
SAML Samuel 106.47 107 PFAKE 03 39 10.0
SAML LR LR
comp=Z,723nm,20.0s
CNNC Cliffs of the 107.90 59 PFAKE 03 39 10.0
CNNC LR LR
comp=Z,579nm,21.0s
CBN Corbin 109.01 56 PFAKE 03 39 10.0
CBN LR LR
comp=Z,978nm,19.0s
SDDR Presa de Saban 109.17 77 PFAKE 03 39 10.0
SDDR LR LR
comp=Z,543nm,21.0s
LONY Lake Ozonia 112.32 49 PFAKE 03 39 20.0
LONY LR LR
comp=Z,798nm,19.0s
NCB Newcomb 112.47 50 PFAKE 03 39 20.0
NCB LR LR
comp=Z,1µm,19.0s
ZALV Zalesovo Beam 113.36 321 PKIKP **PKiKP** **03 39 04.5 -1.2**
ZALV Zalesovo Beam 113.36 321 PKiKP **PKiKP** **03 39 04.5 -1.2**
ZALV Zalesovo Beam 113.36 321 PKiKP **PKiKP** **03 39 04.5 -1.2**
comp=Z,1.0nm,0.4s,baz=90,slow=0.1,SNR=5.6
SJG San Juan 113.58 79 PFAKE 03 39 20.0
SJG LR LR
comp=Z,364nm,21.0s
LBNH Lisbon 114.15 50 PFAKE 03 39 20.0 +13
LBNH LR LR
comp=Z,1µm,19.0s
MK31 Makanchi Array 114.22 313 *e*PKIKP PKPdf 03 39 06.7 -0.9
MK31 Makanchi Array 114.22 313 *e*PKP PKPdf 03 39 06.7 -0.9
MKAR Makanchi Array 114.22 313 *c i*PKIKP PKPdf 03 39 06.6 -1.0
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 114.22 313 PKP PKPdf 03 39 06.6 -1.0
MKAR Makanchi Array 114.22 313 PKP PKPdf 03 39 06.6 -1.0
comp=Z,0.8nm,0.6s,baz=74,slow=1.3,SNR=11
GRGR Grenville 115.94 87 PFAKE 03 39 20.0 +8.2
GRGR LR LR
comp=Z,446nm,19.0s
KURK Kurchatov 116.94 317 PKIKP **PKPdf** **03 39 11.7 -1.0**
KURK Kurchatov 116.94 317 PKP **PKPdf** **03 39 11.7 -1.0**
KURBB Kurchatov Arra 117.00 317 PKP **PKPdf** **03 39 11.7 -1.1**
comp=Z,1.9nm,0.8s,baz=102,slow=1.9,SNR=18
FDF Fort de France 117.20 84 PFAKE 03 39 30.0 +16
FDF LR LR
comp=Z,361nm,21.0s
BBSR BB Station 118.06 64 PFAKE 03 39 30.0 +15
BBSR LR LR
comp=Z,286nm,22.0s
TKM2 Tokmak 2 118.59 308 *e*PKIKP **PKPdf** **03 39 15.5 -0.9**
TKM2 Tokmak 2 118.59 308 *e*PKPdf **PKPdf** **03 39 15.5 -0.9**
AAK Ala-Archa 119.38 308 PKIKP **PKPdf** **03 39 16.6 -1.3**
AAK MLR MLR
comp=Z,386nm,19.0s
AAK Ala-Archa 119.38 308 PKP **PKPdf** **03 39 16.6 -1.3**
AAK *e*PKPdf **PKiKP** **03 39 17.1 -0.8**
AAK LR LR
comp=Z,386nm,19.0s
AAK Ala-Archa 119.38 308 PKP **PKPdf** **03 39 16.6 -1.3**
comp=Z,1.1nm,0.3s,baz=189,slow=13,SNR=3.3
BVAR Borovoye Array 121.97 320 PKIKP **PKPdf** **03 39 21.5 -0.8**
BVAR Borovoye Array 121.97 320 PKP **PKPdf** **03 39 21.4 -0.8**
BVAR Borovoye Array 121.97 320 PKP **PKPdf** **03 39 21.4 -0.8**
comp=Z,2.5nm,0.5s,baz=99,slow=2.0,SNR=18
ABPO Ambohimpanom 122.02 229 PFAKE 03 39 30.0 +6.3
ABPO LR LR
comp=Z,781nm,19.0s
BRVK Borovoye 122.03 320 *c i*PKIKP **PKPdf** **03 39 21.7 -0.7**
BRVK pmax pmax
comp=Z,12nm,1.7s
BRVK Borovoye 122.03 320 *e*PKPdf **PKPdf** **03 39 21.6 -0.8**
BRVK LR LR
comp=Z,494nm,19.0s
KKAR Karatay Array 122.33 308 *e*PKIKP **PKPdf** **03 39 22.8 -0.5**
KKAR Karatay Array 122.33 308 *e*PKPdf **PKPdf** **03 39 22.8 -0.5**
KBS Kingsbay 122.86 358 PFAKE 03 39 30.0 +6.7
KBS LR LR
comp=Z,453nm,20.0s
KBL Kabul 123.03 298 *e*PKIKP **PKPdf** **03 39 25.3 +0.1**
KBL Kabul 123.03 298 *e*PKPdf **PKPdf** **03 39 25.3 +0.1**
SFJD Kangerlussuaq 123.19 23 PFAKE 03 39 40.0 +16
SFJD LR LR
comp=Z,653nm,22.0s
SPITS Spitsbergen Ar 123.44 357 PKP **PKPdf** **03 39 24.4 0.0**
SPITS Spitsbergen Ar 123.44 357 PKP **PKPdf** **03 39 24.4 0.0**
comp=Z,9.9nm,0.8s,baz=133,slow=22,SNR=3.6
SUMG Summit 123.86 14 *i* P PKPdf 03 39 38.4 +13
SUR Sutherland 123.92 196 PFAKE 03 39 40.0 +13
SUR LR LR
comp=Z,867nm,21.0s
MSEY Mahe Island 123.98 248 PFAKE 03 39 40.0 +13
MSEY LR LR
comp=Z,1µm,19.0s
BOSA Boshof 126.08 202 *e*PKPdf **PKPdf** **03 39 31.2 0.0**
BOSA PKP **PKPdf** **03 39 32.2 +1.1**
BOSA Boshof 126.08 202 PKP **PKPdf** **03 39 32.2 +1.1**
comp=Z,1.6nm,0.6s,baz=176,slow=8.6,SNR=7.0
SVE Sverdlovsk 126.75 326 *i* PKIKP **PKPdf** **03 39 31.0 -0.3**
SVE *e* 04 03 06.8
SVE pmax pmax
comp=Z,25nm,1.5s
SVE MLR MLR
comp=Z,1µm,21.0s
SOKR Solikamsk 127.72 330 *e*PKIKP **PKPdf** **03 39 33.6 +0.6**
SOKR pmax pmax
comp=Z,10.0nm,0.8s
ARU Arti 127.96 325 *i* PKIKP **PKPdf** **03 39 33.1 -0.5**
ARU 03 41 35.7
ARU 03 46 36.4
ARU SP SP 03 51 31.8 -6.7
ARU MLR MLR
comp=Z,1µm,20.0s
AKTO Aktyubinsk 129.99 318 PKP **PKPdf** **03 39 35.9 -1.8**
AKTO Aktyubinsk 129.99 318 PKP **PKPdf** **03 39 35.9 -1.8**
comp=Z,2.3nm,0.8s,baz=97,slow=2.9,SNR=9.4
KEV Kevo 130.37 350 PFAKE 03 39 50.0 +12
KEV LR LR
comp=Z,544nm,20.0s
ARCES ARCESS Array B 130.80 351 PKP **PKPdf** **03 39 39.3 +0.6**
ARCES ARCESS Array B 130.80 351 PKP **PKPdf** **03 39 39.3 +0.6**
comp=Z,2.7nm,0.8s,baz=19,slow=3.1,SNR=11
RCBR Riachuelo 131.36 120 PFAKE 03 39 50.0 +8.5
RCBR LR LR
comp=Z,668nm,19.0s
LSZ Lusaka 136.59 214 *e*PKPdf **PKPdf** **03 39 52.4 +1.1**
LSZ LR LR
comp=Z,627nm,20.0s
TSUM Tsumeb 137.31 198 *e*PKPdf **PKPdf** **03 39 52.8 +0.2**
TSUM LR LR
comp=Z,696nm,19.0s
FINES FINESS Array B 137.90 345 PKPpre PKPpre 03 39 43.3
FINES PKP **PKiKP** **03 39 53.2 -0.9**
FINES FINESS Array B 137.90 345 PKhKP PKPpre 03 39 43.3
comp=Z,1.3nm,0.6s,baz=74,slow=6.8,SNR=4.4
FINES PKP **PKiKP** **03 39 53.2 -0.9**
comp=Z,1.4nm,0.5s,baz=63,slow=0.3,SNR=10
MAK Makhachkala 139.00 311 *e*PKIKP **PKPdf** **03 39 54.1 -0.6**
MAK *e* 03 46 55.0
OBN Obninsk 139.33 333 *c i*PKIKP **PKPdf** **03 39 55.5 +0.6**
OBN *e* 03 42 50.0
OBN pmax pmax
comp=Z,36nm,1.7s
OBN MLR MLR
comp=Z,700nm,22.0s
VSR Storozhevoye 140.52 326 *e*PKIKP **PKPdf** **03 39 59.4 +2.1**
VSR pmax pmax
comp=Z,6.0nm,0.6s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,7.0nm,0.5s
VORD Divnogorie 140.60 326 *e*PKIKP **PKPdf** **03 39 59.6 +2.2**
VORD pmax pmax
comp=Z,10.0nm,1.2s
VORD pmax pmax
comp=N,5.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.8s
NB2 NORSAR Subarra 140.68 355 PKP PKPdf 03 39 49.8 -7.5
comp=Z,1.8nm,1.1s,baz=16,slow=3.2
NOA NORSAR Array B 140.68 355 PKPpre 03 39 52.5
NOA NORSAR Array B 140.68 355 PKhKP PKPpre 03 39 52.5
comp=Z,1.2nm,0.8s,baz=59,slow=5.3,SNR=6.3
NAO01 NORSAR Array S 140.90 355 *e*PKPdf **PKPdf** **03 39 55.7 -2.0**
KMBO Kilima Mbogo 141.06 238 PKPpre PKPpre 03 39 55.2
KMBO *e*PKPdf **PKPdf** **03 39 57.0 -2.7**
KMBO LR LR
comp=Z,461nm,19.0s
KMBO Kilima Mbogo 141.06 238 PKhKP PKPpre 03 39 55.2
comp=Z,2.2nm,0.7s,baz=203,slow=7.7,SNR=4.5
HFS Hagfors 141.34 353 PKPpre PKPpre 03 39 52.2
HFS Hagfors 141.34 353 PKhKP PKPpre 03 39 52.2
comp=Z,2.9nm,0.7s,baz=50,slow=4.5,SNR=11
GNI Garni 141.79 308 PKP **PKPdf** **03 40 01.8 +1.7**
GNI LR LR
comp=Z,488nm,21.0s
GNI Garni 141.79 308 PKP **PKPdf** **03 40 01.8 +1.7**
comp=Z,3.0nm,0.4s,baz=342,slow=9.6,SNR=2.6
KBZ Khabaz 141.90 314 PKIKP **PKPdf** **03 40 01.0 +1.1**
KBZ Khabaz 141.90 314 PKP **PKPdf** **03 40 01.0 +1.1**
KBZ Khabaz 141.90 314 PKP **PKPdf** **03 40 01.0 +1.1**
comp=Z,1.1nm,0.7s,baz=34,slow=3.6,SNR=2.6
KIV Kislovodsk 141.96 314 *e*PKHKP **PKPdf** **03 39 55.7 -4.5**
KIV *e* 03 43 06.4
KIV *e*SS **SKSdf** **03 47 05.5 -2.3**
KIV pmax pmax
comp=Z,4.0nm,0.8s
KONO Kongsberg 142.18 356 PFAKE 03 40 10.0 +10
KONO LR LR
comp=Z,440nm,20.0s
NACGM Naroch 143.24 339 *e* PKPab 03 39 55.0 -2.8
DAGI Agillar 143.54 310 *i* P PKPbc 03 40 01.1 +0.6
DDEM Demirkent 143.72 310 *i* P PKPbc 03 40 01.6 +0.5
KPL Plockton 143.78 10 AMS AMS 04 40 44.2
comp=Z,466nm,21.5s
MCD Coleburn Disti 143.88 8 *e*P PKPab 03 39 59.6 -0.6
SOC Sochi 144.07 315 *c i*PKHKP **PKPab** **03 39 59.0 -2.3**
SOC pmax pmax
comp=Z,8.0nm,0.5s
ERZM Erzurum 144.33 309 *i* P **PKPdf** **03 40 04.7 -0.1**
EZM Erzurum 144.34 309 *e*P PKPbc 03 40 03.7 +0.5
BNGL BINGOL 144.80 307 *i* P **PKPdf** **03 40 05.1 -0.5**
ANN Anapa 144.96 318 *i* PKHKP PKPpre 03 39 53.7
ANN *e* 03 40 04.2
ANN *e* 03 47 03.6
ANN pmax pmax
comp=Z,20nm,1.4s
BEST Besiri 145.02 305 *i* P **PKPdf** **03 40 06.2 +0.4**
BAYT Ayd¯ntepe-Bay 145.05 310 *e*P **PKPdf** **03 40 06.0 +0.1**
EAB Aberfoyle 145.09 9 *e*P **PKPbc** **03 40 03.7 -1.0**
SUW Suwalki 145.12 341 *e*PKIKP **PKPbc** **03 40 04.7 -0.1**
SUW Suwalki 145.12 341 *e*PKPdf **PKPbc** **03 40 04.7 -0.1**
SUW Suwalki 145.12 341 *e*PKPdf **PKPbc** **03 40 04.2 -0.6**
SUW *e*pPKPdf **pPKPdf** **03 40 17.4 +1.2**
SUW *e*PP **PP** **03 43 23.5 -0.1**
SUW LMZ LR 04 39 51.9
BNGB Bing˚¶l 145.13 307 *e*P **PKPdf** **03 40 06.0 0.0**
MUD Monsted U'grnd 145.38 356 ⇑ *i*PKIKP **PKPbc** **03 40 05.1 -0.4**
MUD pmax pmax
comp=Z,40nm,0.9s
MUD Monsted U'grnd 145.38 356 ⇑ *i*P **PKPbc** **03 40 05.1 -0.4**
comp=Z,40nm,0.9s
PGBU Glenifferbraes 145.44 9 *e*P **PKPbc** **03 40 04.3 -1.4**
PGBU AMB AMB 03 40 09.5
comp=Z,47nm,2.7s
PGBU AMS AMS 04 44 27.2
comp=Z,498nm,20.1s
GUMT Gumushane 145.49 310 *e*P **PKPab** **03 40 07.0 0.0**
EDI Edinburgh 145.51 8 *e*P **PKPdf** **03 40 03.3 -2.6**
EDI AMB AMB 03 40 10.6
comp=Z,52nm,3.6s
EDI AMS AMS 04 42 29.4
comp=Z,545nm,20.9s
MARD Mardin 145.56 304 *i* P **PKPab** **03 40 07.3 0.0**
ESY Stoneypath 145.59 8 *e*P **PKPdf** **03 40 04.9 -1.1**
KIEV Kiev 145.60 333 *e*PKP2 **PKPdf** **03 40 05.3 -0.9**
KIEV MLR MLR
comp=Z,788nm,20.0s
KIEV Kiev 145.60 333 *e*PKPdf **PKPdf** **03 40 05.3 -0.9**
KIEV LR LR
comp=Z,788nm,20.0s
EBL Broad Law 145.68 8 *e*P **PKPdf** **03 40 05.4 -0.8**
KELT Kelkit 145.77 310 *i* P **PKPab** **03 40 08.7 +0.6**
MAZI Mazidag 145.77 305 *e*P **PKPbc** **03 40 07.6 0.0**
COP Copenhagen 145.84 353 ⇑ *i*PKP2 **PKPdf** **03 40 05.9 -0.5**
COP pmax pmax
comp=Z,9.0nm,0.8s
COP Copenhagen 145.84 353 ⇑ *i*P **PKPdf** **03 40 05.9 -0.5**
comp=Z,9.4nm,0.7s
ESPY Espiye-Giresun 145.84 311 *e*P **PKPdf** **03 40 06.9 -0.1**
BSD Bornholm Skovb 146.04 350 ⇑ *i*PKP2 **PKPdf** **03 40 06.4 -0.4**
BSD pmax pmax
comp=Z,23nm,0.9s
BSD Bornholm Skovb 146.04 350 ⇑ *i*P **PKPdf** **03 40 06.4 -0.4**
comp=Z,23nm,0.9s
ESK Eskdalemuir 146.10 8 *e*PKP2 **PKPbc** **03 40 07.6 -0.2**
ESK MLR MLR
comp=Z,641nm,20.0s
ESK Eskdalemuir 146.10 8 *e*PKPbc **PKPbc** **03 40 07.6 -0.2**
ESK LR LR
comp=Z,641nm,20.0s
PTK Pertek 146.11 308 *e*P **PKPbc** **03 40 08.3 -0.4**
GRSN GIRESUNGRSN 146.16 312 *i* P **PKPbc** **03 40 08.6 +0.1**
LLD Lille Linde 146.21 353 *i* PKP2 **PKPbc** **03 40 07.7 -0.5**
LLD pmax pmax
comp=Z,15nm,1.1s
LLD Lille Linde 146.21 353 *i* P **PKPbc** **03 40 07.7 -0.5**
comp=Z,15nm,1.0s
GAL1 Galloway 146.31 10 *e*P **PKPdf** **03 40 07.5 +0.2**
GAL1 AMS AMS 04 42 37.9
comp=Z,514nm,16.9s
MBAR Mbarara 146.35 232 PFAKE 03 40 20.0 +9.1
MBAR LR LR
comp=Z,418nm,20.0s
SUSE Susehri 146.49 311 *i* P **PKPbc** **03 40 09.8 0.0**
ELZG Elazig 146.55 307 *i* P **PKPab** **03 40 11.1 0.0**
KEMA Kemaliye 146.63 309 *i* P **PKPab** **03 40 11.3 0.0**
KESW Keswick, Cumbr 146.82 9 *e*P **PKPdf** **03 40 08.1 -0.1**
KESW AMB AMB 03 40 10.6
comp=Z,41nm,1.6s
SIM Simferopol' 146.88 321 *c i*PKP2 **PKPbc** **03 40 10.0 -0.5**
SIM pmax pmax
comp=Z,36nm,0.7s
SIM pmax pmax
comp=Z,90nm,11.3s
SIM MLR MLR
comp=Z,400nm,21.3s
URFA Urfa 147.01 306 *e*P **PKPbc** **03 40 11.9 +0.6**
MALT Malatya 147.02 307 PFAKE 03 40 20.0 +7.2
MALT LR LR
comp=Z,384nm,20.0s
MALT Malatya 147.02 307 ⇑ *i*P PKPab 03 40 27.6 +15
RSDY Resadiye-TOKAT 147.03 311 *e*P **PKPbc** **03 40 11.9 +0.8**
GKP Gorka Klasztor 147.34 346 *e*PKPdf **PKPdf** **03 40 09.9 +0.8**
GKP *e*PKPbc **PKPbc** **03 40 11.3 -0.2**
GKP *e*PP **PP** **03 43 38.1 +1.5**
GKP LMZ LR 04 43 09.9
AKCD Akcadag 147.40 307 *i* P **PKPbc** **03 40 13.0 +0.6**
SVSK Karacayir 147.45 311 *e*P **PKPab** **03 40 13.3 -1.0**
KVT Kavak 147.61 313 *e*P **PKPbc** **03 40 12.8 0.0**
DARE Darende-Malaty 147.62 308 *e*P **PKPbc** **03 40 13.6 +0.6**
HPK Haverah Park 147.63 7 *e*P **PKPbc** **03 40 11.3 -0.9**
HPK AMB AMB 03 40 20.4
comp=Z,33nm,1.9s
HPK AMS AMS 04 46 34.8
comp=Z,359nm,19.0s
BEL Belsk 147.73 342 *e*PKP **PKPbc** **03 40 12.9 +0.3**
BEL LMZ LR 04 43 45.2
BSEG Bad Segeberg 147.79 354 *e*PKPbc **PKPbc** **03 40 12.7 0.0**
BSEG Bad Segeberg 147.79 354 *e*PKP2 **PKPbc** **03 40 12.7 0.0**
HAVZ Havza 147.84 313 *i* P **PKPbc** **03 40 14.2 +0.8**
WLF1 Llynfaes 147.88 11 *e*P **PKPbc** **03 40 13.4 +0.5**
WLF1 AMS AMS 04 48 53.0
comp=Z,441nm,17.5s
GZT Gaziantep 147.99 306 *i* P **PKPbc** **03 40 15.1 +1.0**
BYBT Boyabat 148.29 315 *e*P **PKPbc** **03 40 14.5 +0.1**
KBI1 Birley Grange 148.33 7 *e*P **PKPbc** **03 40 12.6 -1.5**
PINB Pinarbasi 148.37 309 *i* P **PKPbc** **03 40 15.3 +0.2**
LVV L'vov 148.37 336 *e*PKP2 **PKPbc** **03 40 13.9 -0.5**
STNC Stoke 148.40 8 AMS AMS 04 42 06.5
comp=Z,648nm,24.3s
KMRS Kahramanmaras 148.43 307 *e*P **PKPbc** **03 40 15.2 +0.2**

KIS	**Kishinev**	**148.44**	**328**	*i* PKP	**PKPbc**	**03 40 13.0**	**-1.7**	
	comp=Z,300nm,2.6s							
KIS				*e*L	L	04 35 24.0		
KIS				*e*LR	LR	04 38 42.0		
	comp=Z,600nm,18.0s							
KIS	**Kishinev**	**148.44**	**328**	⇑*i*PKIKP	**PKPbc**	**03 40 13.0**	**-1.7**	
KIS				*e*		03 43 43.0		
KIS				pmax	pmax			
	comp=Z,260nm,2.6s							
KIS				pmax	pmax			
	comp=Z,600nm,9.0s							
KIS				pmax	pmax			
	comp=Z,700nm,12.0s							
KIS				MLR	MLR			
	comp=N,400nm,18.0s							
KIS				MLR	MLR			
	comp=E,300nm,18.0s							
KIS				MLR	MLR			
	comp=Z,600nm,18.0s							
KIS				MLR	MLR			
	comp=Z,600nm,18.0s							
FOEL	**Foel Wylfa**	**148.46**	**10**	AMS	AMS	04 49 53.3		
	comp=Z,552nm,14.8s							
AYKD	**Aykdinkavak**	**148.53**	**306**	*i* P	**PKPbc**	**03 40 15.9**	**+0.6**	
KUZU	**Kuzuini**	**148.55**	**305**	*i* P	**PKPbc**	**03 40 16.0**	**+0.6**	
CTKT	**Corum**	**148.67**	**313**	*i* P	**PKPbc**	**03 40 17.1**	**+1.4**	
BNN	**Bunyan**	**148.70**	**310**	*e*P	**PKPbc**	**03 40 15.9**	**+0.1**	
RUE	**Ruedersdorf**	**148.76**	**350**	*e*PKPbc	**PKPbc**	**03 40 15.5**	**+0.2**	
HLM1	**Long Mynd**	**148.87**	**9**	*e*P	**PKPbc**	**03 40 14.7**	**-0.9**	
HLM1				AMB	AMB	03 40 15.6		
	comp=Z,44nm,2.4s							
CORM	**Corum**	**148.98**	**313**	*e*P	**PKPbc**	**03 40 17.1**	**+0.6**	
KWP	**Kalwaria Pacla**	**149.01**	**337**	⇓PKP2	**PKPbc**	**03 40 16.5**	**+0.4**	
KWP	**Kalwaria Pacla**	**149.01**	**337**	*e*PKPbc	**PKPbc**	**03 40 15.7**	**-0.4**	
KWP				LR	LR			
	comp=Z,664nm,19.0s							
KWP	**Kalwaria Pacla**	**149.01**	**337**	⇓*i*P	**PKPbc**	**03 40 16.5**	**+0.4**	
KWP	**Kalwaria Pacla**	**149.01**	**337**	*e*PKPdf	**PKPbc**	**03 40 16.0**	**-0.1**	
KWP				*e*PP	**PP**	**03 43 45.8**	**-0.8**	
KWP				LMZ	LR	04 42 59.8		
NRDL	**Niedersach Rie**	**149.24**	**354**	*e*PKPbc	**PKPbc**	**03 40 16.3**	**-0.1**	
KOZT	**Kozan**	**149.24**	**307**	*e*P	**PKPbc**	**03 40 17.6**	**+0.5**	
COBT	**Iskenderun**	**149.25**	**305**	*i* P	**PKPbc**	**03 40 18.6**	**+1.3**	
OJC	**Ojcow**	**149.46**	**341**	*e*PKP2	**PKPbc**	**03 40 17.1**	**-0.1**	
OJC	**Ojcow**	**149.46**	**341**	*e*PKP	**PKPbc**	**03 40 17.1**	**-0.1**	
CANT	**Cankiri**	**149.46**	**314**	*e*P	**PKPbc**	**03 40 17.5**	**0.0**	
CEYT	**Ceyhan**	**149.47**	**306**	*e*P	**PKPbc**	**03 40 17.4**	**-0.2**	
IBBN	**Ibbenburen**	**149.60**	**357**	*e*PKPbc	**PKPbc**	**03 40 17.6**	**+0.2**	
IBBN				*e*PKPab	**PKPab**	**03 40 22.4**	**-0.1**	
BUR08	**Bucovina Ar. S**	**149.63**	**332**	*e*PKPbc	**PKPbc**	**03 40 18.1**	**+0.3**	
BURAR	**Bucovina Array**	**149.65**	**332**	⇑PKP2	**PKPbc**	**03 40 18.3**	**+0.5**	
BURAR	**Bucovina Array**	**149.65**	**332**	⇑*i*P	**PKPbc**	**03 40 18.3**	**+0.5**	
STHS	**Stebnicka Huta**	**149.70**	**339**	*e*PKP2	**PKPbc**	**03 40 18.1**	**+0.3**	
STHS	**Stebnicka Huta**	**149.70**	**339**	*e*PKP	**PKPbc**	**03 40 18.1**	**+0.3**	
KOLS	**Kolonicke sedl**	**149.75**	**337**	*e*PKP	**PKPdf**	**03 40 12.9**	**-0.3**	
KOLS				*e*		03 40 18.3		
SAFT	**Safranbolu**	**149.76**	**316**	*e*P	**PKPbc**	**03 40 18.0**	**-0.2**	
KSP	**Ksiaz**	**149.82**	**346**	⇑*i*PKP2	**PKPbc**	**03 40 18.3**	**+0.3**	
KSP				*e*		03 43 47.0		
KSP				*e*SS	SS	04 03 02.0	-1.9	
KSP				MLR	MLR			
	comp=Z,1μm,22.5s							
KSP	**Ksiaz**	**149.82**	**346**	*e*PKPdf	**PKPdf**	**03 40 14.2**	**+1.0**	
KSP				*e*PKPbc	**PKPbc**	**03 40 18.3**	**+0.3**	
KSP				*e*PKPab	**PKPab**	**03 40 23.6**	**+0.2**	
KSP				*e*PP	**PP**	**03 43 54.0**	**+2.9**	
KSP				LMZ	LR	04 45 09.8		
TESR	**Tescani**	**149.84**	**330**	⇑*i*P	**PKPbc**	**03 40 17.9**	**-0.3**	
CLZ	**Clausthal**	**149.85**	**353**	*e*PKPbc	**PKPbc**	**03 40 18.4**	**+0.3**	
CLZ				*ep*PKPbc	**pPKPbc**	**03 40 30.5**	**+1.6**	
CLZ	**Clausthal**	**149.85**	**353**	*e*PKP2	**PKPbc**	**03 40 18.4**	**+0.3**	
BRTR	**Keskin Array B**	**149.87**	**313**	PKPbc	**PKPbc**	**03 40 18.4**	**-0.3**	
BRTR	**Keskin Array B**	**149.87**	**313**	PKPbc	**PKPbc**	**03 40 18.4**	**-0.3**	
	comp=Z,16nm,0.8s,baz=132,slow=2.9,SNR=83							
NIG	**Nigde**	**149.88**	**309**	*e*P	**PKPbc**	**03 40 18.8**	**-0.1**	
KARA	**Karaisali**	**149.89**	**307**	*e*P	**PKPbc**	**03 40 18.7**	**0.0**	
ASF	**Jabal al Asfar**	**149.92**	**297**	PKPbc	**PKPbc**	**03 40 19.3**	**+0.3**	
ASF	**Jabal al Asfar**	**149.92**	**297**	PKPbc	**PKPbc**	**03 40 19.3**	**+0.3**	
UZH	**Uzhgorod**	**150.00**	**337**	⇓*i*PKP2	**PKPbc**	**03 40 18.0**	**-0.5**	
NIE	**Niedzica**	**150.00**	**340**	*e*PKP2	**PKPbc**	**03 40 20.5**	**+1.9**	
NIE	**Niedzica**	**150.00**	**340**	*e*PKP	**PKPbc**	**03 40 20.5**	**+1.9**	
CLL	**Collm**	**150.02**	**350**	⇑*i*PKP2	**PKPbc**	**03 40 18.1**	**-0.4**	
CLL				pmax	pmax			
	comp=Z,10.0nm,1.0s							
CLL				MLR	MLR			
	comp=Z,600nm,20.5s							
CLL	**Collm**	**150.02**	**350**	*e*PKPdf	**PKPdf**	**03 40 13.0**	**-0.5**	
	comp=Z,26nm,2.3s							
CLL				⇑*i*PKPbc	**PKPbc**	**03 40 18.1**	**-0.4**	
	comp=Z,37nm,1.0s							
CLL				*e*PKPab	**PKPab**	**03 40 24.0**	**-0.2**	
	comp=Z,35nm,1.1s							
CLL				*e*PP	**PP**	**03 43 56.0**	**+3.8**	
CLL				L	L	04 51 00.0		
	comp=Z,600nm,20.5s							
CFR	**Carcaliu**	**150.04**	**326**	⇑PKP2	**PKPbc**	**03 40 18.7**	**0.0**	
CFR	**Carcaliu**	**150.04**	**326**	⇑*i*P	**PKPbc**	**03 40 18.7**	**0.0**	
UPC	**Upice**	**150.20**	**346**	⇑*e*PKP	**PKPbc**	**03 40 19.3**	**+0.4**	
VRI	**Vrincioaia**	**150.27**	**329**	⇑*i*P	**PKPbc**	**03 40 19.1**	**-0.2**	
DPC	**Dobruska-Polom**	**150.27**	**345**	⇑*e*PKP	**PKPbc**	**03 40 19.2**	**0.0**	
DPC				*e*PKPAB	**PKPab**	**03 40 24.0**	**-1.4**	
DPC				*e*SKP		03 43 45.8		
DPC				*ex*	x	03 54 03.8		
DPC				AMS	AMS	04 54 20.0		
BRG	**Berggiesshubel**	**150.28**	**349**	*e*PKP	**PKPdf**	**03 40 14.2**	**+0.3**	
	comp=Z,131nm,1.6s							
BRG				*e*		03 40 19.2		
	comp=Z,30nm,1.1s							
BRG				*e*		03 43 52.0		
BRG				PP	PP	03 44 05.1	+11	
	comp=Z,7.3nm,1.5s							
BRG				SS	SS	04 03 19.0	+10	
BRG								
	comp=N,420nm,22.8s							
BRG								
	comp=E,226nm,14.4s							
BRG								
	comp=Z,405nm,21.7s							
BRG	**Berggiesshubel**	**150.28**	**349**	*e*PKPbc	**PKPbc**	**03 40 19.2**	**+0.1**	
BRG				*ep*PKPbc	**pPKPbc**	**03 40 32.0**	**+2.1**	
BRG	**Berggiesshubel**	**150.28**	**349**	*e*PKHKP	**PKPdf**	**03 40 14.2**	**+0.3**	
BRG				*e*		03 43 52.0		
BRG				pmax	pmax			
	comp=Z,112nm,1.6s							
BRG				pmax	pmax			
	comp=Z,131nm,1.1s							
BRG				pmax	pmax			
	comp=Z,31nm,1.5s							
BRG				MLR	MLR			
	comp=N,7μm,22.8s							
BRG				MLR	MLR			
	comp=E,420nm,14.4s							
BRG				MLR	MLR			
	comp=Z,226nm,21.7s							
OKC	**Ostrava-Krasne**	**150.28**	**343**	*e*PKPDF	**PKPdf**	**03 40 14.1**	**+0.1**	
OKC				*e*PKPAB	**PKPab**	**03 40 25.0**	**-0.3**	
OKC				*e*SKP		03 43 44.7		
OKC				AMS	AMS	04 44 30.0		
	comp=Z,600nm,23.6s							
TRPA	**Tarpa**	**150.32**	**336**	⇓*i*P	**PKPbc**	**03 40 19.3**	**0.0**	
ANTO	**Ankara**	**150.37**	**313**	*e*P	**PKPbc**	**03 40 19.9**	**+0.1**	
ANTO	**Ankara**	**150.37**	**313**	*e*PKPbc	**PKPbc**	**03 40 19.9**	**+0.1**	
ANTO				LR	LR			
	comp=Z,371nm,20.0s							
ANTO	**Ankara**	**150.37**	**313**	⇑*i*P	**PKPbc**	**03 40 20.0**	**+0.2**	
LOD	**Lodumlu**	**150.38**	**314**	*e*P	**PKPbc**	**03 40 19.8**	**-0.1**	
TIRR	**Tirgusor**	**150.38**	**325**	⇓*i*P	**PKPbc**	**03 40 19.7**	**+0.2**	
AFSR	**Af ar-Bala (A**	**150.38**	**313**	*e*P	**PKPbc**	**03 40 19.6**	**-0.3**	
PVCC	**Panska Ves**	**150.49**	**348**	⇑*e*PKP	**PKPbc**	**03 40 20.0**	**+0.4**	
PVCC				*e*PKPAB	**PKPab**	**03 40 25.8**	**-0.4**	
PVCC				AMS	AMS	04 48 00.0		
	comp=Z,600nm,21.7s							
BUG	**Bochum--Univer**	**150.49**	**357**	*e*PKPbc	**PKPbc**	**03 40 19.7**	**+0.1**	
MORC	**Moravsky Berou**	**150.50**	**343**	*e*PKPbc	**PKPbc**	**03 40 19.7**	**0.0**	
KECS	**Kecovo**	**150.76**	**339**	*e*PKP	**PKPbc**	**03 40 20.9**	**+0.6**	
MOX	**Moxa**	**150.88**	**351**	*e*PKPbc	**PKPbc**	**03 40 20.3**	**-0.3**	
MOX				*e*PKPab	**PKPab**	**03 40 27.0**	**-0.8**	
MOX				*e*L	L	04 53 48.5		
	comp=Z,572nm,19.0s							
ISR	**Istrita**	**150.89**	**328**	⇑*i*P	**PKPbc**	**03 40 21.8**	**+1.0**	
UBBA	**Unterbreizbach**	**150.90**	**353**	*e*PKPbc	**PKPbc**	**03 40 20.5**	**+0.1**	
UBBA				*ep*PKPbc	**pPKPbc**	**03 40 32.9**	**+1.6**	
MLR	**Muntele Rosu**	**150.92**	**329**	PKPbc	**PKPbc**	**03 40 21.0**	**0.0**	
MLR	**Muntele Rosu**	**150.92**	**329**	⇑*i*P	**PKPbc**	**03 40 20.4**	**-0.6**	
MLR	**Muntele Rosu**	**150.92**	**329**	PKPbc	**PKPbc**	**03 40 21.0**	**0.0**	
	comp=Z,5.4nm,0.9s,baz=7.0,slow=2.7,SNR=26							
PRA	**Prague**	**150.95**	**347**	⇑PKP	**PKPbc**	**03 40 20.0**	**-0.7**	
PRA				AMS	AMS	04 52 30.0		
MMAI	**Mount Meron Ar**	**150.95**	**299**	PKPbc	**PKPbc**	**03 40 21.8**	**+0.4**	
MMAI	**Mount Meron Ar**	**150.95**	**299**	PKPbc	**PKPbc**	**03 40 21.8**	**+0.4**	
	comp=Z,14nm,0.6s,baz=60,slow=4.9,SNR=22							
TANN	**Tannenbergstha**	**150.97**	**350**	*e*PKPbc	**PKPbc**	**03 40 20.7**	**-0.2**	
TANN				*e*PKPab	**PKPab**	**03 40 27.7**	**-0.6**	
PRU	**Pruhonice**	**151.00**	**347**	*e*PKIKP	**PKPdf**	**03 40 14.3**	**-0.8**	
PRU				*e*		04 04 20.3		
PRU				MLR	MLR			
	comp=Z,500nm,19.2s							
PRU	**Pruhonice**	**151.00**	**347**	*e*PKPDF	**PKPdf**	**03 40 14.3**	**-0.8**	
PRU				*e*SKP		03 43 52.8		
PRU				*ex*	x	03 54 08.8		
PRU				*e*SS	SS	04 03 20.3	+3.3	
PRU				AMS	AMS	04 52 10.0		
	comp=Z,500nm,19.2s							
MDUB	**Mudurnu**	**151.12**	**316**	*e*P	**PKPbc**	**03 40 21.3**	**-0.3**	
VRAC	**Vranov**	**151.17**	**344**	PKPbc	**PKPbc**	**03 40 21.0**	**-0.3**	
VRAC				PKPab	**PKPab**	**03 40 29.5**	**+0.4**	
VRAC	**Vranov**	**151.17**	**344**	PKPbc	**PKPbc**	**03 40 21.0**	**-0.3**	
	comp=Z,4.5nm,0.7s,baz=284,slow=0.6,SNR=13							
VRAC				PKPab	**PKPab**	**03 40 29.5**	**+0.4**	
	comp=Z,9.2nm,0.9s,baz=34,slow=6.0,SNR=8.1							
BEBN	**Eben Emael**	**151.19**	**359**	PKPbc	**PKPbc**	**03 40 21.1**	**-0.1**	
VYHS	**Vyhne**	**151.28**	**341**	*e*PKIKP	**PKPdf**	**03 40 15.1**	**-0.5**	
VYHS				*e*		03 40 21.8		
VYHS	**Vyhne**	**151.28**	**341**	*e*PKP	**PKPdf**	**03 40 15.1**	**-0.5**	
VYHS				*e*		03 40 21.8		
IKL	**Isikli**	**151.29**	**306**	*e*P	**PKPbc**	**03 40 21.4**	**-0.6**	
DRGR		**151.35**	**334**	⇑*i*P	**PKPbc**	**03 40 21.6**	**-0.3**	
MEM	**Membach**	**151.37**	**359**	PKPbc	**PKPbc**	**03 40 21.2**	**-0.5**	
MEM				E		03 40 33.5		
VOIR		**151.38**	**330**	⇓*i*P	**PKPbc**	**03 40 21.9**	**-0.1**	
PSZ	**Piszkesteto**	**151.44**	**339**	*e*PKPbc	**PKPbc**	**03 40 21.8**	**-0.2**	
PSZ				*e*PKPab	**PKPab**	**03 40 30.1**	**-0.3**	
PSZ				LR	LR			
	comp=Z,683nm,20.0s							
PSZ	**Piszkesteto**	**151.44**	**339**	⇓*i*P	**PKPbc**	**03 40 21.9**	**-0.2**	
LADK	**Ladik-KONYA**	**151.45**	**311**	*e*P	**PKPbc**	**03 40 21.6**	**-0.8**	
TREC	**Trest**	**151.45**	**346**	*e*PKIKP	**PKPdf**	**03 40 14.4**	**-1.4**	
TREC				MLR	MLR			
	comp=Z,600nm,17.7s							
TREC	**Trest**	**151.45**	**346**	*e*PKPDF	**PKPdf**	**03 40 14.4**	**-1.4**	
TREC				*e*SKP		03 43 54.5		
TREC				AMS	AMS	04 54 50.0		
	comp=Z,600nm,17.7s							
KIZT	**Kizilcal**	**151.47**	**312**	*e*P	**PKPbc**	**03 40 22.9**	**+0.5**	
KDHN	**Kadinhani**	**151.47**	**312**	*i* P	**PKPbc**	**03 40 22.1**	**-0.4**	
TNS	**Taunus Mts**	**151.63**	**355**	*e*PKPbc	**PKPbc**	**03 40 22.5**	**+0.1**	
ROTZ	**Rotzenmuhle**	**151.64**	**350**	*e*PKPbc	**PKPbc**	**03 40 22.8**	**+0.4**	
ROTZ				*ep*PKPbc	**pPKPbc**	**03 40 35.0**	**+1.8**	
ERMK	**Ermenek**	**151.71**	**307**	*i* P	**PKPbc**	**03 40 24.4**	**+1.2**	
SEYT	**Eskypehyr**	**151.85**	**314**	*i* P	**PKPbc**	**03 40 23.3**	**0.0**	
GRF	**Grafenberg Arr**	**151.86**	**351**	*e*PKPbc	**PKPbc**	**03 40 23.4**	**+0.5**	
GRF				*e*PKPab	**PKPab**	**03 40 31.5**	**-0.4**	
GRF				*e*L	L	04 51 18.3		
	comp=Z,454nm,21.3s							
GRFO	**Grafenberg**	**151.86**	**351**	*e*PKPbc	**PKPbc**	**03 40 22.9**	**0.0**	
GRFO				*e*PKPab	**PKPab**	**03 40 31.7**	**-0.2**	
DOU	**Dourbes**	**151.89**	**1**	PKPbc	**PKPbc**	**03 40 23.2**	**+0.3**	
BORA	**Eskisehir**	**151.92**	**315**	*i* P	**PKPbc**	**03 40 23.2**	**-0.2**	
LOT	**Lotru**	**151.96**	**331**	⇑*i*P	**PKPbc**	**03 40 23.3**	**-0.1**	
KHC	**Kasperske Hory**	**152.01**	**348**	*e*PKIKP	**PKPdf**	**03 40 16.5**	**-0.2**	
KHC				*e*		03 40 29.9		
KHC				*e*		04 03 29.7		
KHC				MLR	MLR			
	comp=Z,600nm,22.5s							
KHC	**Kasperske Hory**	**152.01**	**348**	*e*PKPDF	**PKPdf**	**03 40 16.5**	**-0.2**	
KHC				*e*PKPAB	**PKPab**	**03 40 29.9**	**-2.7**	
KHC				*ex*	x	03 54 18.7		
KHC				*e*SS	SS	04 03 29.7	+1.5	
KHC				AMS	AMS	04 49 00.0		
	comp=Z,600nm,22.5s							
KHC	**Kasperske Hory**	**152.01**	**348**	*e*PKPdf	**PKPdf**	**03 40 16.6**	**-0.2**	
KHC				*e*PKPbc	**PKPbc**	**03 40 22.5**	**-0.8**	
KHC				*e*PKPab	**PKPab**	**03 40 30.7**	**-2.0**	
EIL	**Elat**	**152.01**	**292**	PKPbc	**PKPbc**	**03 40 24.4**	**+0.5**	
EIL	**Elat**	**152.01**	**292**	PKPbc	**PKPbc**	**03 40 24.4**	**+0.5**	
	comp=Z,12nm,0.7s,baz=26,slow=1.9,SNR=16							
CSS	**Prodhromos**	**152.02**	**304**	*e*PKPbc	**PKPbc**	**03 40 22.6**	**-1.1**	
CSS				*e*PKPab	**PKPab**	**03 40 31.7**	**-1.5**	
CSS				LR	LR			
	comp=Z,575nm,19.0s							
SACV	**Santiago Islan**	**152.02**	**99**	PFAKE		03 40 30.0	-3.7	
SACV				LR	LR			
	comp=Z,1μm,20.0s							
ZST	**Bratislava**	**152.06**	**343**	*e*PKP	**PKPbc**	**03 40 27.0**	**+3.7**	
WET	**Wettzell**	**152.13**	**349**	*e*PKPbc	**PKPbc**	**03 40 23.9**	**+0.4**	
YLV	**Yalova**	**152.23**	**318**	*e*P	**PKPab**	**03 40 32.1**	**-1.8**	
GEC2	**GERESS Array S**	**152.26**	**348**	*e*PKPbc	**PKPbc**	**03 40 23.9**	**0.0**	
GERES	**GERESS Array B**	**152.26**	**348**	PKP	**PKPdf**	**03 40 16.8**	**-0.4**	
GERES				PKPbc	**PKPbc**	**03 40 23.7**	**-0.2**	
GERES	**GERESS Array B**	**152.26**	**348**	PKP	**PKPdf**	**03 40 16.8**	**-0.4**	
	comp=Z,0.2nm,0.3s,baz=101,slow=5.6,SNR=6.9							
GERES				PKPbc	**PKPbc**	**03 40 23.7**	**-0.2**	
	comp=Z,4.0nm,0.8s,baz=22,slow=1.4,SNR=29							
WLF	**Walferdange**	**152.31**	**358**	PKPbc	**PKPbc**	**03 40 24.3**	**+0.5**	
WLF				E		03 40 37.1		
WLF	**Walferdange**	**152.31**	**358**	*e*PKPbc	**PKPbc**	**03 40 24.3**	**+0.5**	
WLF	**Walferdange**	**152.31**	**358**	*e*PKIKP	**PKPdf**	**03 40 16.7**	**-0.4**	
WLF				*e*		03 40 23.2		
WLF				*e*		03 40 32.5		
WLF				MLR	MLR			
	comp=Z,609nm,20.0s							
WLF	**Walferdange**	**152.31**	**358**	*e*PKPdf	**PKPdf**	**03 40 16.7**	**-0.4**	
WLF				*e*PKPbc	**PKPbc**	**03 40 23.2**	**-0.6**	
WLF				*e*PKPab	**PKPab**	**03 40 32.5**	**-1.2**	
WLF				LR	LR			
	comp=Z,609nm,20.0s							
ULDT	**Uludag**	**152.62**	**317**	*i* P	**PKPbc**	**03 40 24.9**	**-0.2**	
CONA	**Conrad Observa**	**152.63**	**344**	⇑*i*PKPdf	**PKPdf**	**03 40 17.3**	**-0.4**	
	comp=Z,13nm,1.1s							
BZS	**Buzias**	**152.74**	**334**	⇑*i*P	**PKPbc**	**03 40 25.0**	**0.0**	
ISP	**Isparta**	**152.91**	**311**	PFAKE		03 40 30.0	+4.3	
ISP				LR	LR			
	comp=Z,372nm,20.0s							
LANF	**Langenberg**	**152.91**	**356**	PKP	**PKPbc**	**03 40 24.8**	**-0.5**	
STU	**Stuttgart**	**153.01**	**354**	*e*PKPbc	**PKPbc**	**03 40 25.6**	**+0.1**	
PKSM	**Moragy**	**153.35**	**339**	⇑*i*P	**PKPbc**	**03 40 25.7**	**-0.6**	
BFO	**Black Forest**	**153.52**	**355**	*e*PKPbc	**PKPbc**	**03 40 26.5**	**-0.1**	
BFO				*e*PKPab	**PKPab**	**03 40 38.6**	**-0.4**	
BFO	**Black Forest**	**153.52**	**355**	*e*PKP2	**PKPab**	**03 40 38.6**	**-0.4**	
BFO	**Black Forest**	**153.52**	**355**	*e*PKPdf	**PKPdf**	**03 40 18.0**	**-0.9**	
BFO				*e*PKPbc	**PKPbc**	**03 40 25.8**	**-0.9**	
BFO				*e*PKPab	**PKPab**	**03 40 38.2**	**-0.8**	
BFO				LR	LR			
	comp=Z,545nm,22.0s							
ECH	**Echery**	**153.72**	**357**	PFAKE		03 40 30.0	+2.9	
ECH				LR	LR			
	comp=Z,545nm,19.0s							
GROS	**Grobnik**	**154.08**	**343**	*e*PKPdf	**PKPdf**	**03 40 18.8**	**-1.0**	
GROS				*e*PKPbc	**PKiKP**	**03 40 28.7**	**+0.6**	
AKAS	**Kas**	**154.30**	**309**	*i* P	**PKPbc**	**03 40 28.6**	**-0.2**	
VTS	**Vitosha**	**154.38**	**328**	⇑*i*P	**PKPbc**	**03 40 31.1**	**+2.3**	
DAVA	**Damuels**	**154.40**	**352**	⇑*i*PKPbc	**PKPbc**	**03 40 27.6**	**-1.1**	
	comp=Z,14nm,1.2s							
LJU	**Ljubljana**	**154.72**	**344**	*e*PKPdf	**PKPdf**	**03 40 19.9**	**-0.8**	
LJU				*e*PKPab	**PKPab**	**03 40 42.5**	**-1.6**	
DAVOX	**Davos/Dischmat**	**154.90**	**352**	PKPbc	**PKPbc**	**03 40 29.1**	**-0.8**	
DAVOX				PKPab	**PKPab**	**03 40 46.1**	**+1.0**	
DAVOX	**Davos/Dischmat**	**154.90**	**352**	PKPbc	**PKPbc**	**03 40 29.1**	**-0.8**	
	comp=Z,2.7nm,0.8s,baz=67,slow=1.9,SNR=3.1							
DAVOX				PKPab	**PKPab**	**03 40 46.1**	**+1.0**	
	comp=Z,6.0nm,0.7s,baz=40,slow=6.7,SNR=6.1							
TUE	**Stuetta**	**155.26**	**353**	*e*PKPdf	**PKPdf**	**03 40 22.0**	**+0.3**	
TUE				*e*PKPbc	PKPab	03 40 30.6	-16	
TUE				*e*PKPab	PKPab	03 40 46.0	-0.7	
TUE				LR	LR			
	comp=Z,724nm,22.0s							
SSB	**Saint Sauveur**	**156.71**	**1**	PFAKE		03 40 30.0	+6.6	
SSB				LR	LR			
	comp=Z,736nm,20.0s							
BNI	**Bardonecchia**	**156.90**	**357**	*e*PKIKP	**PKPdf**	**03 40 23.5**	**-0.3**	
BNI				MLR	MLR			
	comp=Z,764nm,22.0s							
BNI	**Bardonecchia**	**156.90**	**357**	*e*PKPdf	**PKPdf**	**03 40 23.4**	**-0.3**	
BNI				*e*PKPab	**PKPab**	**03 40 52.9**	**-0.8**	
BNI				LR	LR			
	comp=Z,764nm,22.0s							
TIR	**Tirane**	**156.94**	**330**	PFAKE		03 40 30.0	+6.2	
TIR				LR	LR			
	comp=Z,768nm,21.0s							
SANT	**Santorini**	**157.13**	**313**	PFAKE		03 40 40.0	-15	
SANT				LR	LR			
	comp=Z,315nm,19.0s							
VLC	**Villacollemand**	**157.39**	**350**	PFAKE		03 40 40.0	-16	
VLC				LR	LR			
	comp=Z,688nm,20.0s							
TOUF	**Mont Tournerai**	**157.90**	**356**	PKP	**PKPab**	**03 40 57.5**	**-0.5**	
SAOF	**Saorge**	**157.90**	**355**	PKP	**PKPab**	**03 40 57.2**	**-0.6**	
AUTN	**L'Aution**	**157.90**	**355**	PKP	**PKPab**	**03 40 57.5**	**-0.6**	
REVF	**Revere**	**158.16**	**355**	PKP	**PKPab**	**03 40 58.3**	**-0.7**	
AQU	**L'Aquila**	**158.45**	**343**	PFAKE		03 40 40.0	+14	
AQU				LR	LR			
	comp=Z,771nm,20.0s							
MTE	**Manteigas**	**158.73**	**27**	PFAKE		03 40 40.0	+14	
MTE				LR	LR			
	comp=Z,700nm,19.0s							
CUC	**Castrocucco**	**159.78**	**335**	PFAKE		03 40 40.0	+13	
CUC				LR	LR			
	comp=Z,715nm,20.0s							
TIP	**Timpagrande**	**160.08**	**332**	PFAKE		03 40 40.0	+12	
TIP				LR	LR			
	comp=Z,783nm,21.0s							
PAB	**San Pablo**	**160.71**	**22**	PFAKE		03 40 40.0	+12	
PAB				LR	LR			
	comp=Z,542nm,19.0s							
ESDC	**Sonseca Array**	**160.73**	**21**	PKP	**PKPdf**	**03 40 28.8**	**+0.4**	
ESDC				PKPab	**PKPab**	**03 41 10.5**	**+0.2**	
ESDC	**Sonseca Array**	**160.73**	**21**	PKP	**PKPdf**	**03 40 28.8**	**+0.4**	
	comp=Z,0.2nm,0.3s,baz=298,slow=1.1,SNR=5.6							
ESDC				PKPab	**PKPab**	**03 41 10.5**	**+0.2**	
	comp=Z,0.2nm,0.2s,baz=317,slow=4.1,SNR=5.4							
CEL	**Celeste**	**161.22**	**332**	PFAKE		03 40 40.0	+11	
CEL				LR	LR			
	comp=Z,468nm,20.0s							
DBIC	**Dimbokro**	**162.09**	**146**	PKP	**PKPdf**	**03 40 30.0**	**-0.5**	
DBIC				*e*PKPdf	**PKPdf**	**03 40 30.1**	**-0.4**	
DBIC	**Dimbokro**	**162.09**	**146**	PKP	**PKPdf**	**03 40 30.0**	**-0.5**	
	comp=Z,4.0nm,0.8s,baz=330,slow=2.0,SNR=4.6							
VSL	**Villasalto**	**162.10**	**349**	PFAKE		03 40 40.0	+10	
VSL				LR	LR			
	comp=Z,708nm,22.0s							
WDD	**Wield Dalam**	**163.82**	**331**	PFAKE		03 40 40.0	+8.5	
WDD				LR	LR			
	comp=Z,671nm,20.0s							
RTC	**Rabat Centre**	**164.08**	**38**	PFAKE		03 40 40.0	+8.2	
RTC				LR	LR			
	comp=Z,556nm,19.0s							
KEST	**Kesra**	**165.74**	**346**	*e*PKPdf	**PKPdf**	**03 40

EAZ				AML	AML	03 29 08.3		
EAZ				AML	AML	03 29 08.7		
EAZ				AML	AML	03 29 08.7		
SYZ	**Scrubby Hill**	**2.03**	**120**	PN	Pn	03 28 39.6	+1.4	
JCZ	**Jackson Bay**	**2.13**	**47**	*e*PN	Pn	03 28 41.1	+1.3	
JCZ				AML	AML	03 29 18.0		
JCZ				AML	AML	03 29 27.2		
TUZ	**Tuapeka**	**2.17**	**102**	PN	Pb	03 28 42.0	-1.6	
TUZ				AML	AML	03 29 14.3		
TUZ				AML	AML	03 29 15.1		
LBZ	**Lake Benmore**	**2.80**	**67**	*e*PN	Pn	03 28 48.6	-0.2	
LBZ				AML	AML	03 29 31.5		
LBZ				AML	AML	03 29 31.7		
ODZ	**Otahua Downs**	**2.90**	**81**	PN	Pn	03 29 50.3	+0.1	
ODZ				AML	AML	03 29 30.6		
ODZ				AML	AML	03 29 30.8		
ODZ				AML	AML	03 29 30.8		
ODZ				AML	AML	03 29 43.7		
FOZ	**Fox Glacier**	**2.97**	**49**	*e*PN	Pn	03 28 52.7	+1.6	
FOZ				AML	AML	03 29 44.7		
FOZ				AML	AML	03 29 46.0		
RPZ	**Rata Peaks**	**3.67**	**62**	PN	Pn	03 29 01.2	+0.3	
RPZ				AML	AML	03 29 49.3		
RPZ				AML	AML	03 29 50.1		

IDC ***17*** *03:39:21.9±1.2, 46˚.37S×166˚.12E, h0km, mb3.9/3, mb1 4.2/5, mb1mx3.9/15, mbtmp4.1/5, ML4.1/2, Error ellipse: s-maj=49.5km s-min=23.3km az=167.0*
ISCJB ***17*** *03:39:23.3±0.6, 46˚.13S±0˚.07×165˚.95E±0˚.05, h12km, mb3.8/3, Error ellipse: s-maj=9.7km s-min=5.3km az=178.7*
AUST ***17*** *03:39:23.1±1.6, 46˚.27S×166˚.07E, h0km, Error ellipse: s-maj=1.9km s-min=0.9km az=3.0*
NEIC ***17*** *03:39:24.8, 46˚.29S×165˚.94E, h18km, ML4.7(WEL), After WEL.*
WEL ***17*** *03:39:25.6±0.4, 46˚.21S×166˚.01E, h31km±2km, ML4.7/20, Error ellipse: s-maj=4.6km s-min=1.6km az=90.0*

ISC 17 03:39:24.3±0.6, 46˚.25S±0˚.07×166˚.01E±0˚.05, h12km, n71, σ0s82/73, mb3.6/3, 3C-4D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.47**	**80**	⇓P*	**Pb**	**03 39 35.3**	**+0.7**
PYZ				S*	**Sb**	**03 39 42.2**	**+0.7**
PYZ	**Puysegur Point**	**0.47**	**80**	⇓P*	**Pb**	**03 39 35.3**	**+0.7**
PYZ				S*	**Sb**	**03 39 42.2**	**+0.7**
DCZ	**Deep Cove**	**1.11**	**47**	Pn	**Pb**	**03 39 44.0**	**-1.5**
DCZ	**Deep Cove**	**1.11**	**47**	⇑Pn	**Pb**	**03 39 44.0**	**-1.5**
DCZ				AML	AML	03 40 01.3		
DCZ				AML	AML	03 40 01.3		
DCZ				AML	AML	03 40 06.8		
DCZ				AML	AML	03 40 06.9		
WHZ	**Wether Hill Ro**	**1.40**	**76**	⇓Pn	**Pn**	**03 39 49.5**	**-0.1**
WHZ				SN	**Sn**	**03 40 07.5**	**-0.5**
WHZ				AML	AML	03 40 10.4		
APZ	**The Paps**	**1.49**	**114**	Pn	**Pn**	**03 39 50.2**	**-0.7**
APZ	**The Paps**	**1.49**	**114**	⇓Pn	**Pn**	**03 39 50.2**	**-0.7**
MLZ	**Mavora Lakes**	**1.76**	**60**	Pn	**Pn**	**03 39 54.8**	**+0.2**
MLZ	**Mavora Lakes**	**1.76**	**60**	Pn	**Pn**	**03 39 54.9**	**+0.2**
MLZ				AML	AML	03 40 23.0		
MLZ				AML	AML	03 40 26.1		
MSZ	**Milford Sound**	**2.08**	**41**	Pn	**Pn**	**03 39 58.7**	**-0.2**
MSZ	**Milford Sound**	**2.08**	**41**	Pn	**Pn**	**03 39 58.6**	**-0.4**
MSZ				AML	AML	03 40 37.2		
MSZ				AML	AML	03 40 42.7		
MSZ				AML	AML	03 40 46.6		
MSZ				AML	AML	03 40 46.6		
SYZ	**Scrubby Hill**	**2.19**	**99**	Pn	**Pn**	**03 40 00.3**	**-0.1**
SYZ	**Scrubby Hill**	**2.19**	**99**	⇑Pn	**Pn**	**03 40 00.3**	**-0.1**
EAZ	**Earnscleugh**	**2.53**	**67**	Pn	**Pn**	**03 40 06.3**	**+1.2**
EAZ	**Earnscleugh**	**2.53**	**67**	⇑Pn	**Pn**	**03 40 06.3**	**+1.2**
EAZ				AML	AML	03 40 40.2		
EAZ				AML	AML	03 40 40.2		
EAZ				AML	AML	03 40 43.2		
EAZ				AML	AML	03 40 43.2		
TUZ	**Tuapeka**	**2.54**	**85**	Pn	**Pn**	**03 40 05.8**	**+0.5**
TUZ	**Tuapeka**	**2.54**	**85**	PN	**Pn**	**03 40 05.8**	**+0.5**
TUZ				AML	AML	03 40 41.5		
TUZ				AML	AML	03 40 41.7		
WKZ	**Wanaka**	**2.55**	**57**	Pn	**Pn**	**03 40 07.1**	**+1.7**
WKZ	**Wanaka**	**2.55**	**57**	PN	**Pn**	**03 40 06.8**	**+1.4**
WKZ				AML	AML	03 40 44.7		
WKZ				AML	AML	03 40 46.9		
WKZ				AML	AML	03 40 47.0		
WKZ				AML	AML	03 40 47.8		
JCZ	**Jackson Bay**	**2.92**	**43**	*e*PN	**Pn**	**03 40 11.2**	**+0.6**
JCZ				AML	AML	03 40 49.0		
JCZ				AML	AML	03 40 50.0		
HHSZ	**Highcliff Hill**	**3.22**	**85**	PN	**Pn**	**03 40 14.9**	**+0.2**
ODZ	**Otahua Downs**	**3.47**	**71**	PN	**Pn**	**03 40 17.4**	**-0.7**
ODZ				AML	AML	03 41 01.8		
ODZ				AML	AML	03 41 02.3		
ODZ				AML	AML	03 41 02.3		
ODZ				AML	AML	03 41 12.8		
LBZ	**Lake Benmore**	**3.49**	**59**	Pn	**Pn**	**03 40 18.3**	**0.0**
LBZ	**Lake Benmore**	**3.49**	**59**	PN	**Pn**	**03 40 18.1**	**-0.2**
LBZ				AML	AML	03 41 06.7		
LBZ				AML	AML	03 41 18.8		
FOZ	**Fox Glacier**	**3.75**	**46**	Pn	**Pn**	**03 40 23.7**	**+1.8**
FOZ	**Fox Glacier**	**3.75**	**46**	*e*PN	**Pn**	**03 40 22.6**	**+0.7**
FOZ				AML	AML	03 41 33.5		
FOZ				AML	AML	03 41 33.5		
FOZ				AML	AML	03 41 33.7		
FOZ				AML	AML	03 41 33.7		
RPZ	**Rata Peaks**	**4.38**	**57**	Pn	**Pn**	**03 40 30.2**	**-0.5**
RPZ				Sn	**Sn**	**03 41 21.7**	**0.0**
RPZ	**Rata Peaks**	**4.38**	**57**	Pn	**Pn**	**03 40 30.2**	**-0.5**
	14nm,0.3s,baz=216,slow=4.9,SNR=34						
RPZ				Sn	**Sn**	**03 41 21.7**	**0.0**
	49nm,0.3s,baz=156,slow=20,SNR=9.4						
RPZ	**Rata Peaks**	**4.38**	**57**	*e*PN	**Pn**	**03 40 29.4**	**-1.3**
RPZ				AML	AML	03 41 56.1		
RPZ				AML	AML	03 41 59.3		
WVZ	**Waitaha Valley**	**4.63**	**48**	Pn	**Pn**	**03 40 35.1**	**+1.1**
WVZ	**Waitaha Valley**	**4.63**	**48**	*e*PN	**Pn**	**03 40 33.8**	**-0.2**
WVZ				AML	AML	03 41 33.2		
WVZ				AML	AML	03 42 04.7		
OXZ	**Oxford**	**5.19**	**58**	*e*PN	**Pn**	**03 40 39.2**	**-2.6**
LTZ	**Lake Taylor**	**5.66**	**55**	Pn	**Pn**	**03 40 47.5**	**-0.8**
LTZ	**Lake Taylor**	**5.66**	**55**	*e*PN	**Pn**	**03 40 47.3**	**-0.9**
LTZ				AML	AML	03 42 00.1		
LTZ				AML	AML	03 42 04.3		
DSZ	**Denniston Nort**	**6.14**	**45**	*e*PN	**Pn**	**03 40 53.4**	**-1.4**
THZ	**Tophouse**	**6.69**	**50**	AML	AML	03 42 38.0		
THZ				AML	AML	03 42 39.3		
QRZ	**Quartz Range**	**7.20**	**43**	Pn	**Pn**	**03 41 09.7**	**+0.4**
QRZ	**Quartz Range**	**7.20**	**43**	PN	**Pn**	**03 41 09.7**	**+0.4**
QRZ				AML	AML	03 42 44.2		
PKE	**Pukeiti**	**9.17**	**43**	Pn	**Pn**	**03 41 36.9**	**+0.5**
HIZ	**Hauiti**	**10.12**	**43**	Pn	**Pn**	**03 41 49.9**	**+0.5**
HIZ	**Hauiti**	**10.12**	**43**	*e*PN	**Pn**	**03 41 49.0**	**-0.4**
URZ	**Urewera**	**11.46**	**50**	Pn	**Pn**	**03 42 07.5**	**-0.1**
URZ	**Urewera**	**11.46**	**50**	Pn	**Pn**	**03 42 07.5**	**-0.1**
	1.0nm,0.3s,baz=284,slow=14,SNR=5.7						
MOO	**Moorlands**	**13.99**	**279**	P	**Pn**	**03 42 42.2**	**0.0**
	baz=14,SNR=3.9						
MILA	**Mila**	**15.56**	**300**	P	**Pn**	**03 43 05.5**	**+2.0**
	baz=16,SNR=5.8						
ASAR	**Alice Springs**	**34.27**	**300**	P	**P**	**03 46 10.6**	**+0.3**
ASAR				PcP	**PcP**	**03 48 45.6**	**-1.0**
ASAR	**Alice Springs**	**34.27**	**300**	P	**P**	**03 46 10.6**	**+0.3**
	0.5nm,0.7s,baz=130,slow=8.3,SNR=8.9						
ASAR				PcP	**PcP**	**03 48 45.6**	**-1.0**
	0.8nm,1.0s,baz=127,slow=3.3,SNR=4.4						
WRA	**Warramunga Arr**	**36.89**	**305**	P	**P**	**03 46 32.8**	**0.0**
WRA	**Warramunga Arr**	**36.89**	**305**	P	**P**	**03 46 32.8**	**0.0**
	0.8nm,0.7s,baz=140,slow=8.0,SNR=6.1						
SNAA	**Sanae**	**62.12**	**184**	*e*P	**P**	**03 49 44.9**	**+0.3**
SNAA	**Sanae**	**62.12**	**184**	*e*	P	03 49 52.2	+7.6
VNA1	**Neumayer--Stat**	**63.34**	**182**	*e*P	**P**	**03 49 53.5**	**+0.9**
VNA1	**Neumayer--Stat**	**63.34**	**182**	*e*	P	03 50 01.4	+8.8
CMAR	**Chiang Mai Arr**	**88.27**	**299**	P	**P**	**03 52 16.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**88.27**	**299**	P	**P**	**03 52 16.4**	**+0.8**
	0.8nm,0.4s,baz=169,slow=1.8,SNR=3.1						
KURBB	**Kurchatov Arra**	**122.38**	**311**	PKP	**PKPdf**	**03 58 17.7**	**-0.7**
	0.4nm,0.5s,baz=125,slow=2.0,SNR=4.4						
KURK	**Kurchatov**	**122.39**	**311**	PKP	**PKPdf**	**03 58 17.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**144.44**	**207**	PKP	**PKPab**	**03 58 58.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**144.44**	**207**	PKP	**PKPab**	**03 58 58.8**	**-0.1**
	1.8nm,0.7s,baz=155,slow=2.0,SNR=33						
BRTR	**Keskin Array B**	**144.98**	**277**	PKPbc	PKPbc	03 59 00.4	-0.1
BRTR	**Keskin Array B**	**144.98**	**277**	PKPbc	PKPbc	03 59 00.4	-0.1
	3.7nm,0.9s,baz=141,slow=4.8,SNR=19						
SPITS	**Spitsbergen Ar**	**145.90**	**349**	PKPbc	**PKPdf**	**03 59 01.7**	**+0.3**
SPITS	**Spitsbergen Ar**	**145.90**	**349**	PKPbc	**PKPdf**	**03 59 01.7**	**+0.3**
	3.1nm,0.5s,baz=67,slow=7.3,SNR=5.5						
SCHQ	**Schefferville**	**146.08**	**56**	PKPbc	**PKPdf**	**03 59 01.3**	**-1.0**
SCHQ	**Schefferville**	**146.08**	**56**	PKPbc	**PKPdf**	**03 59 01.3**	**-1.0**
	5.2nm,0.7s,baz=272,slow=4.8,SNR=8.1						
ARCES	**ARCESS Array B**	**149.58**	**334**	PKPbc	**PKPbc**	**03 59 12.6**	**+0.3**
ARCES	**ARCESS Array B**	**149.58**	**334**	PKPbc	**PKPbc**	**03 59 12.6**	**+0.3**
	4.2nm,0.6s,baz=72,slow=4.0,SNR=21						
MLR	**Muntele Rosu**	**152.38**	**283**	PKPbc	**PKPbc**	**03 59 19.5**	**-0.2**
MLR	**Muntele Rosu**	**152.38**	**283**	PKPbc	**PKPbc**	**03 59 19.5**	**-0.2**
	0.8nm,0.8s,baz=76,slow=17,SNR=4.5						
FINES	**FINESS Array B**	**152.45**	**318**	PKPbc	**PKPbc**	**03 59 18.9**	**-0.3**
FINES	**FINESS Array B**	**152.45**	**318**	PKPbc	**PKPbc**	**03 59 18.9**	**-0.3**
	0.9nm,0.5s,baz=108,slow=4.2,SNR=5.9						

BKK ***17*** *04:08:29.6±0.9, 5˚.5S×147˚.6E±1˚.6, h10km, M5.1/9, mB5.6/1, mb5.1/9, MLv5.1/1, Mw(mB)5.1/1*
IDC ***17*** *04:08:35.6±2.0, 5˚.85S×146˚.26E, h96km±19km, mb4.1/17, mb1 4.2/19, mb1mx4.2/22, mbtmp4.1/19, MS3.3/2, Ms1 3.3/2, ms1mx3.1/25, Error ellipse: s-maj=20.1km s-min=11.3km az=81.0*
ISCJB ***17*** *04:08:36.8±0.3, 5˚.91S±0˚.03×146˚.27E±0˚.06, h123km, mb4.5/31, Error ellipse: s-maj=8.4km s-min=4.9km az=3.6*
NEIC ***17*** *04:08:37.3±1.1, 5˚.85S×146˚.22E, h114km±9km, mb4.5/14, Error ellipse: s-maj=9.3km s-min=6.8km az=78.0*
AUST ***17*** *04:08:46.3±0.6, 6˚.50S×145˚.70E, h121km, Error ellipse: s-maj=1.6km s-min=0.8km az=31.0*

ISC 17 04:08:38.3±0.4, 5˚.97S±0˚.05×146˚.23E±0˚.06, h123km, n111, σ1s25/118, mb4.4/30, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.54**	**165**	P	**Pn**	**04 09 31.2**	**-0.6**
PMG				S	**Sn**	**04 10 11.2**	**-1.9**
PMG	**Port Moresby**	**3.54**	**165**	P	**Pn**	**04 09 31.2**	**-0.6**
	31nm,0.3s,baz=0.5,slow=4.1,SNR=81						
PMG				S	**Sn**	**04 10 11.2**	**-1.9**
	87nm,0.3s,baz=15,slow=20,SNR=5.3						
PMG				LR	LR	04 10 39.9	
	comp=Z,286nm,18.9s,baz=38,slow=34						
JAY	**Jayapura**	**6.49**	**302**	P	**Pn**	**04 10 10.4**	**-1.1**
	baz=6.4,SNR=5.2						
COEN	**Coen**	**8.49**	**201**	*e*Pn	**Pn**	**04 10 39.4**	**+1.0**
	790nm,0.6s						
COEN				*e*Sn	**Sn**	**04 12 11.6**	**-1.0**
COEN	**Coen**	**8.49**	**201**	P	**Pn**	**04 10 39.5**	**+1.0**
	baz=7.9,SNR=199						
MTSU	**Mount Surprise**	**12.23**	**189**	P	P	04 11 31.9	-3.9
	baz=12,SNR=7.2						
HNR	**Honiara**	**14.02**	**105**	P	**P**	**04 11 56.3**	**+0.7**
HNR	**Honiara**	**14.02**	**105**	P	**P**	**04 11 56.3**	**+0.7**
	26nm,0.3s,baz=315,slow=7.1,SNR=3.0						
HNR				LR	LR	04 16 07.0	
	comp=Z,180nm,19.0s,baz=12,slow=32						
CTA	**Charters Tower**	**14.04**	**180**	P	**P**	**04 11 57.0**	**+1.3**
CTA	**Charters Tower**	**14.04**	**180**	P	**P**	**04 11 57.0**	**+1.3**
	11nm,0.3s,baz=358,slow=14,SNR=39						
CTAO	**Charters Tower**	**14.04**	**180**	*e*P	**P**	**04 11 56.8**	**+1.0**
	0.2nm,0.3s						
FAKI	**Fak Fak**	**14.26**	**282**	P	**P**	**04 11 59.3**	**+1.0**
	baz=14,SNR=4.6						
KDU	**Kakadu**	**15.12**	**243**	P	**Pn**	**04 12 06.0**	**+0.4**
	baz=14,SNR=13						
SWI	**Sorong**	**15.78**	**288**	P	**P**	**04 12 16.4**	**+1.2**
	baz=16,SNR=4.0						
MTN	**Manton Dam**	**16.38**	**244**	P	**P**	**04 12 20.9**	**-0.8**
	baz=16,SNR=8.3						
WRAB	**Tennant Creek**	**18.06**	**219**	*e*P	**Pn**	**04 12 40.3**	**-1.1**
	19nm,1.0s						
WRA	**Warramunga Arr**	**18.07**	**219**	P	**Pn**	**04 12 40.4**	**-1.2**
WRA				S	**S**	**04 15 56.5**	**-5.0**
WRA	**Warramunga Arr**	**18.07**	**219**	P	**Pn**	**04 12 40.4**	**-1.2**
	1.2nm,0.3s,baz=41,slow=11,SNR=37						
WRA				S	**S**	**04 15 56.5**	**-5.0**
	0.1nm,0.3s,baz=37,slow=23,SNR=2.6						
KNRA	**Kununurra**	**19.67**	**239**	P	**Pn**	**04 13 02.9**	**+2.6**
	baz=19,SNR=4.9						
EIDS	**Eidsvold**	**19.84**	**167**	*e*P	**Pn**	**04 13 02.2**	**-0.1**
	8.4nm,0.6s						
AS31	**Alice Springs**	**21.22**	**213**	*e*P	**P**	**04 13 14.9**	**+0.4**
ASAR	**Alice Springs**	**21.22**	**213**	P	**P**	**04 13 15.2**	**+0.6**
ASAR				S	**S**	**04 17 01.2**	**-2.3**
ASAR	**Alice Springs**	**21.22**	**213**	P	**P**	**04 13 15.2**	**+0.6**
	2.2nm,0.5s,baz=44,slow=8.3,SNR=29						
ASAR				S	**S**	**04 17 01.2**	**-2.3**
	0.7nm,0.7s,baz=31,slow=20,SNR=3.2						
FITZ	**Fitzroy Crossi**	**23.44**	**237**	P	**P**	**04 13 36.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**23.44**	**237**	P	**P**	**04 13 36.9**	**+0.2**
	14nm,0.6s,baz=68,slow=6.4,SNR=65						
FITZ	**Fitzroy Crossi**	**23.44**	**237**	P	**P**	**04 13 36.6**	**-0.1**
	baz=23,SNR=48						
LUWI	**Luwuk**	**23.91**	**281**	P	**P**	**04 13 42.9**	**+1.9**
	baz=24,SNR=6.5						
STKA	**Stephens Creek**	**26.14**	**189**	*e*P	**P**	**04 14 01.9**	**+0.9**
	0.7nm,0.5s						
STKA	**Stephens Creek**	**26.14**	**189**	P	**P**	**04 14 02.5**	**+1.5**
	1.8nm,0.3s,baz=11,slow=7.9,SNR=15						
STKA	**Stephens Creek**	**26.14**	**189**	P	**P**	**04 14 02.2**	**+1.2**
	baz=26,SNR=6.1						
NFK	**Norfolk Island**	**30.79**	**141**	P	P	04 14 52.6	+10
	baz=31,SNR=3.3						
KKM	**Kota Kinabalu**	**32.25**	**291**	*e*P	**P**	**04 14 55.0**	**-0.5**
	13nm,0.7s						
MEEK	**Meekatharra**	**33.40**	**229**	P	**P**	**04 15 06.1**	**+0.8**
	baz=33,SNR=12						
UGM	**Wanagama**	**35.49**	**265**	S	**S**	**04 20 51.3**	**+1.2**
	baz=35,SNR=3.1						
MORW	**Morawa**	**36.62**	**228**	P	**P**	**04 15 33.8**	**+0.9**
	baz=36,SNR=3.6						
KLBR	**Kellerberrin**	**36.87**	**223**	P	**P**	**04 15 35.3**	**+0.3**
	baz=36,SNR=9.5						
BLDU	**Ballidu**	**37.01**	**225**	P	**P**	**04 15 36.8**	**+0.6**
	baz=36,SNR=5.4						
JNU	**Nakatsue**	**41.52**	**340**	P	**P**	**04 16 12.2**	**-1.4**
JNU	**Nakatsue**	**41.52**	**340**	P	**P**	**04 16 12.2**	**-1.4**
	8.6nm,0.7s,baz=180,slow=4.0,SNR=6.7						
URZ	**Urewera**	**42.63**	**143**	P	**P**	**04 16 23.5**	**+0.9**
URZ	**Urewera**	**42.63**	**143**	P	**P**	**04 16 23.5**	**+0.9**
	3.1nm,0.6s,baz=282,slow=18,SNR=3.2						
MJAR	**Matsushiro Arr**	**42.95**	**351**	P	**P**	**04 16 24.2**	**-0.9**
MJAR	**Matsushiro Arr**	**42.95**	**351**	P	**P**	**04 16 24.2**	**-0.9**
	1.3nm,0.6s,baz=222,slow=11,SNR=4.4						
MAJO	**Matsushiro**	**42.95**	**351**	*e*P	**P**	**04 16 24.1**	**-1.0**
	3.3nm,0.5s						
IPM	**Ipoh**	**46.32**	**282**	*e*P	**P**	**04 16 52.1**	**-0.1**
	20nm,1.0s						
KSRS	**Korea Array**	**46.45**	**340**	P	**P**	**04 16 52.4**	**-0.5**
	6.3nm,0.7s,baz=156,slow=8.8,SNR=7.5						
KSAR	**Wonju Array Be**	**46.46**	**340**	P	**P**	**04 16 52.4**	**-0.5**
KULM	**Kulim**	**46.86**	**283**	*e*P	**P**	**04 16 56.2**	**-0.3**
	47nm,1.4s						
CHAI	**Chaiyaphum**	**48.89**	**297**	P	**P**	**04 17 12.1**	**0.0**
	12nm,0.6s						
LOEI	**Loei**	**50.16**	**299**	P	**P**	**04 17 19.8**	**-1.9**
	26nm,0.9s						
NANT	**Nan**	**51.17**	**300**	P	**P**	**04 17 30.1**	**+0.8**
	94nm,0.9s						
USRK	**Ussuriysk Arra**	**51.56**	**347**	P	**P**	**04 17 31.5**	**-0.2**
	3.8nm,0.5s,baz=176,slow=7.4,SNR=10						
LAMP	**Lampang**	**51.99**	**299**	P	**P**	**04 17 36.8**	**+1.5**
	8.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**52.56**	**299**	P	**P**	**04 17 40.9**	**+1.3**
CMAR	**Chiang Mai Arr**	**52.56**	**299**	P	**P**	**04 17 40.9**	**+1.3**
	14nm,0.5s,baz=122,slow=6.0,SNR=46						
CHTO	**Chiang Mai**	**52.70**	**299**	*e*P	**P**	**04 17 41.4**	**+0.8**
	9.4nm,1.0s						
CHTO	**Chiang Mai**	**52.70**	**299**	P	**P**	**04 17 41.8**	**+1.2**
	17nm,1.3s						
PETK	**Petropavlovsk-**	**59.65**	**8**	P	**P**	**04 18 29.8**	**+0.5**
PETK	**Petropavlovsk-**	**59.65**	**8**	P	**P**	**04 18 29.8**	**+0.5**
	2.2nm,0.4s,baz=174,slow=8.6,SNR=6.4						
TAPN	**Taplejung**	**65.50**	**304**	*e*P	**P**	**04 19 10.2**	**+1.1**
ODAN	**Odare**	**65.59**	**303**	*e*P	**P**	**04 19 10.5**	**+0.9**
	11nm,0.4s						
RAMN	**Ramite**	**66.28**	**303**	*e*P	**P**	**04 19 14.9**	**+0.8**
	6.2nm,0.4s						
JIRN	**Jiri**	**66.87**	**303**	*e*P	**P**	**04 19 18.8**	**+0.8**
	7.3nm,0.4s						
GUN	**Gumba**	**67.21**	**303**	*e*P	**P**	**04 19 20.8**	**+0.7**
	28nm,0.4s						
PKI	**Pulchoki**	**67.49**	**303**	*e*P	**P**	**04 19 22.0**	**+0.2**
KKN	**Kakani**	**67.67**	**303**	*e*P	**P**	**04 19 23.4**	**+0.6**
DMN	**Daman**	**67.75**	**303**	*e*P	**P**	**04 19 24.0**	**+0.6**
KOLN	**Koldanda**	**69.06**	**303**	*e*P	**P**	**04 19 31.4**	**-0.1**
	10nm,0.6s						
DANN	**Dangsing**	**69.12**	**303**	*e*P	**P**	**04 19 32.3**	**+0.3**
	16nm,0.5s						
VNDA	**Vanda**	**71.99**	**176**	*e*P	**P**	**04 19 49.2**	**+1.1**
	1.8nm,0.7s						
VNDA	**Vanda**	**71.99**	**176**	P	**P**	**04 19 49.5**	**+1.4**
	1.5nm,0.6s,baz=324,slow=5.8,SNR=19						
MK31	**Makanchi Array**	**76.99**	**321**	*e*P	**P**	**04 20 17.0**	**-0.6**
MKAR	**Makanchi Array**	**76.99**	**321**	P	**P**	**04 20 17.2**	**-0.4**
MKAR	**Makanchi Array**	**76.99**	**321**	P	**P**	**04 20 17.2**	**-0.4**
	1.7nm,0.6s,baz=99,slow=8.7,SNR=38						
ZALV	**Zalesovo Beam**	**78.58**	**328**	P	**P**	**04 20 24.3**	**-1.9**
ZALV	**Zalesovo Beam**	**78.58**	**328**	P	**P**	**04 20 24.3**	**-1.9**
	2.3nm,0.5s,baz=107,slow=6.5,SNR=8.7						
TKM2	**Tokmak 2**	**80.08**	**315**	*e*P	**P**	**04 20 34.1**	**-0.8**
	1.7nm,0.4s						
EKS2	**Erkin-Say**	**81.29**	**315**	*e*P	**P**	**04 20 41.1**	**-0.1**
	6.8nm,1.1s						
MAW	**Mawson**	**81.98**	**203**	P	**P**	**04 20 45.1**	**+1.0**
MAW	**Mawson**	**81.98**	**203**	P	**P**	**04 20 45.1**	**+1.0**
	1.6nm,0.7s,baz=81,slow=19,SNR=8.2						
KKAR	**Karatay Array**	**83.72**	**314**	*e*P	**P**	**04 20 53.1**	**-0.6**
QSPA	**South Pole Qui**	**84.00**	**180**	*e*P	**P**	**04 20 55.2**	**+0.4**
	2.6nm,0.6s						
MCK	**McKinley**	**84.51**	**24**	*e*P	**P**	**04 20 56.0**	**-1.2**
	4.9nm,0.8s						
COLA	**College**	**85.42**	**23**	*e*P	**P**	**04 21 00.7**	**-1.0**
	12nm,0.7s						
ILAR	**Eielson Array**	**85.75**	**23**	P	**P**	**04 21 01.9**	**-1.5**
ILAR	**Eielson Array**	**85.75**	**23**	P	**P**	**04 21 01.9**	**-1.5**
	3.0nm,0.6s,baz=251,slow=5.0,SNR=46						
BVAR	**Borovoye Array**	**86.30**	**324**	P	**P**	**04 21 05.1**	**-1.2**
BVAR	**Borovoye Array**	**86.30**	**324**	P	**P**	**04 21 05.1**	**-1.2**
	1.1nm,0.5s,baz=104,slow=6.3,SNR=5.4						
NVAR	**Mina Array Bea**	**97.95**	**52**	P	Pdif	04 22 01.8	+0.8
NVAR	**Mina Array Bea**	**97.95**	**52**	P	Pdif	04 22 01.8	+0.8
	0.3nm,0.7s,baz=254,slow=6.5,SNR=3.2						
PSZ	**Piszkesteto**	**118.22**	**322**	*e*PKPdf	**PKPdf**	**04 27 10.8**	**-0.4**
MORC	**Moravsky Berou**	**118.80**	**325**	*e*PKPdf	**PKPdf**	**04 27 11.0**	**-1.2**
GERES	**GERESS Array B**	**121.45**	**325**	PKP	**PKPdf**	**04 27 17.1**	**-0.3**
GERES	**GERESS Array B**	**121.45**	**325**	PKP	**PKPdf**	**04 27 17.1**	**-0.3**
	0.2nm,0.3s,baz=34,slow=0.4,SNR=2.4						
PLCA	**Paso Flores**	**122.56**	**147**	*e*PKPdf	**PKPdf**	**04 27 20.8**	**+1.0**
KEST	**Kesra**	**130.60**	**313**	PKP	**PKPdf**	**04 27 33.0**	**-2.3**
KEST	**Kesra**	**130.60**	**313**	PKP	**PKPdf**	**04 27 33.0**	**-2.3**
	0.6nm,0.8s,baz=66,slow=19,SNR=2.2						
NNA	**Nana**	**133.60**	**113**	*e*PKPdf	**PKPdf**	**04 27 43.1**	**+1.6**
OTAV	**Otavalo**	**135.04**	**96**	*e*PKPdf	**PKPdf**	**04 27 45.2**	**+0.4**
ESDC	**Sonseca Array**	**137.04**	**326**	PKP	**PKPdf**	**04 27 47.1**	**-0.1**
ESDC	**Sonseca Array**	**137.04**	**326**	PKP	**PKPdf**	**04 27 47.1**	**-0.1**
	0.2nm,0.3s,baz=333,slow=8.9,SNR=3.3						
LPAZ	**La Paz**	**139.44**	**124**	PKPpre	PKPpre	04 27 46.2	
LPAZ				*e*PKPdf	**PKiKP**	**04 27 54.0**	**-1.3**
LPAZ				PKP	**PKiKP**

RUS	**Russkaya**	**1.79**	**193**	*i* P	Pn	04 39 51.5	+0.4
RUS				*e*S	Sn	04 40 17.8	-1.2
MTVR	**Mutnovka**	**1.79**	**200**	*e*P	Pn	04 39 52.8	+1.4
MTVR				*e*S	Sn	04 40 20.0	+0.5
KOZ	**Kozyrevsk**	**1.93**	**12**	*e*P	Pn	04 39 53.3	+0.7
ASAK	**Asacha**	**1.95**	**204**	P	Pn	04 39 54.0	+1.1
ASAK				*e*S	Sn	04 40 22.2	0.0
SRDR	**Sredinnyy**	**2.17**	**8**	*e*P	Pn	04 39 55.8	+0.6
BDR	**Baidarnaya**	**2.67**	**25**	P	Pn	04 40 02.6	+1.9
SMKR	**Semkarok**	**2.75**	**27**	P	Pn	04 40 04.4	+2.8
KBG	**Krutoberegovo**	**2.91**	**43**	*e*S	Sn	04 40 40.4	-0.6
BKI	**Bering**	**4.08**	**73**	*e*S	Sn	04 41 05.5	-1.1

WEL 17 05:07:51.9±0.2, 46°42S×165°69E, h33km, ML3.6/11, Error ellipse: s-maj=2.1km s-min=1.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.73**	**70**	PN	Pn	05 08 05.4	-0.5
PYZ				SN	Sn	05 08 15.1	-0.7
DCZ	**Deep Cove**	**1.39**	**48**	PN	Pn	05 08 14.9	0.0
DCZ				AML	AML	05 08 28.8	
DCZ				AML	AML	05 08 32.9	
DCZ				AML	AML	05 08 33.5	
DCZ				AML	AML	05 08 34.9	
APZ	**The Paps**	**1.64**	**105**	PN	Pb	05 08 20.0	-1.4
WHZ	**Wether Hill Ro**	**1.65**	**72**	PN	Pn	05 08 19.9	+1.3
WHZ				AML	AML	05 08 42.1	
WHZ				AML	AML	05 08 49.1	
MLZ	**Mavora Lakes**	**2.04**	**59**	*e*PN	Pn	05 08 25.1	+1.2
MLZ				AML	AML	05 08 55.4	
MLZ				AML	AML	05 08 55.4	
SYZ	**Scrubby Hill**	**2.38**	**94**	PN	Pn	05 08 30.8	+2.3
TUZ	**Tuapeka**	**2.77**	**82**	PN	Pn	05 08 35.5	+1.5
TUZ				AML	AML	05 09 11.5	
TUZ				AML	AML	05 09 13.7	
EAZ	**Earnscleugh**	**2.79**	**66**	PN	Pn	05 08 36.5	+2.3
EAZ				AML	AML	05 09 14.7	
EAZ				AML	AML	05 09 16.1	
WKZ	**Wanaka**	**2.82**	**57**	PN	Pb	05 08 38.4	-3.3
JCZ	**Jackson Bay**	**3.19**	**44**	*e*PN	Pb	05 08 44.3	-3.7
JCZ				AML	AML	05 09 39.0	
JCZ				AML	AML	05 09 40.4	

*ISCJB **17** 05:12:03.0±1.1, 77°16N±0°04×22°4E±0°3, h10km, Error ellipse: s-maj=11.5km s-min=5.0km az=157.5*
*CSEM **17** 05:12:06.4±0.3, 77°14N×21°72E, h15km, ML2.5, Error ellipse: s-maj=13.6km s-min=3.1km az=62.0*
*BER **17** 05:12:06.9±3.1, 77°23N×23°00E, h15km±36km, MD2.5, ML2.3, ML2.5(NAO)*
*NAO **17** 05:12:07.0±2.0, 77°17N×22°00E, h16km±11km, ML2.5*
ISC 17 05:12:05.7±1.8, 77°25N±0°06×22°7E±0°1, h10km, n16, σ1°70/28, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**1.62**	**265**	*e*P	**Pn**	**05 12 32.7**	**-1.4**
HSP				*e*S	**Sn**	**05 12 52.3**	**-2.7**
SPA0	**Spitsbergen Ar** baz=122,slow=22	**1.64**	**308**	Pn	**Pn**	**05 12 34.2**	**-0.3**
SPA0	baz=125,slow=18			Pg	**Pb**	**05 12 37.1**	**+1.1**
SPA0	baz=121,slow=22			Sn	**Sn**	**05 12 53.2**	**-2.5**
SPA0	baz=120,slow=28			Lg	Lg	05 12 56.3	
SPA0	**Spitsbergen Ar** baz=122,slow=22	**1.64**	**308**	Pn	**Pn**	**05 12 34.2**	**-0.3**
SPA0	baz=125,slow=18			Pg	**Pb**	**05 12 37.1**	**+1.1**
SPA0				*e*Sg	**Sn**	**05 12 56.6**	**+0.9**
SPA0	**Spitsbergen Ar** baz=122,slow=20,SNR=266	**1.64**	**308**	Pn	**Pn**	**05 12 34.2**	**-0.3**
SPA0	**Spitsbergen Ar** baz=125,slow=18,SNR=301	**1.64**	**308**	Pg	**Pb**	**05 12 37.1**	**+1.1**
SPA0	baz=121,slow=19			Sn	**Sn**	**05 12 53.2**	**-2.5**
SPA0	baz=120,slow=27,SNR=1.1			Lg	Lg	05 12 56.3	
KBS	**Kingsbay**	**2.79**	**312**	Pn	**Pn**	**05 12 49.9**	**-0.3**
KBS				Pg	**Pb**	**05 12 57.6**	**+2.1**
KBS				Sn	**Sn**	**05 13 21.1**	**-2.8**
KBS				Lg	Lg	05 13 31.3	
KBS	**Kingsbay**	**2.79**	**312**	Pn	**Pn**	**05 12 49.9**	**-0.3**
KBS				Pg	**Pb**	**05 12 57.6**	**+2.1**
KBS				Sg	**Sb**	**05 13 31.3**	**+1.6**
KBS	comp=Z,26nm,0.3s			AML	AML	05 13 36.2	
KBS	**Kingsbay**	**2.79**	**312**	Pn	**Pn**	**05 12 49.9**	**-0.3**
KBS	**Kingsbay**	**2.79**	**312**	Pg	**Pb**	**05 12 57.6**	**+2.1**
KBS				Sn	**Sn**	**05 13 21.1**	**-2.8**
KBS	comp=Z,26nm,0.3s,SNR=92			Sg	**Sb**	**05 13 31.3**	**+1.6**
KBS				Lg	Lg	05 13 31.3	
BJO	**Bjornoya**	**2.89**	**199**	*e*Sg	**Sb**	**05 13 34.4**	**+1.9**
BJO	comp=Z,21nm,0.5s			AML	AML	05 13 36.8	
BJO	**Bjornoya** comp=Z,21nm,0.5s,SNR=92	**2.89**	**199**	*e*Sg	**Sb**	**05 13 34.4**	**+1.9**
KEV	**Kevo**	**7.63**	**169**	*e*p	**Pn**	**05 13 55.6**	**-1.1**
KEV	**Kevo**	**7.63**	**169**	*e*P	**Pn**	**05 13 55.6**	**-1.1**
ARA0	**ARCESS Array S** baz=359,slow=11	**7.80**	**173**	Pn	**Pn**	**05 13 58.1**	**-0.8**
ARA0	baz=7.8,slow=22			Sn	Sn	05 15 18.8	-8.4
ARA0	**ARCESS Array S** baz=359,slow=11	**7.80**	**173**	Pn	**Pn**	**05 13 58.1**	**-0.8**
ARA0	baz=7.8,slow=22			Sn	Sn	05 15 18.8	-8.4
ARA0	**ARCESS Array S** baz=359,slow=10,SNR=6.5	**7.80**	**173**	Pn	**Pn**	**05 13 58.2**	**-0.8**

*ISCJB **17** 05:12:59.7±0.7, 16°7N±0°1×46°62W±0°08, h13km, mb4.4/40, Error ellipse: s-maj=17.9km s-min=10.4km az=175.0*
*IDC **17** 05:12:59.1±0.9, 16°67N×46°61W, h0km, mb4.0/13, mb1 4.2/13, mb1mx4.0/29, mbtmp4.0/13, Error ellipse: s-maj=27.5km s-min=17.8km az=164.0*
*NEIC **17** 05:13:00.8±0.4, 16°69N×46°59W, h10km, mb4.6/28, Error ellipse: s-maj=11.2km s-min=6.8km az=176.0*
ISC 17 05:13:01.3±0.7, 16°6N±0°1×46°59W±0°09, h13km, n329, σ0s53/329, mb4.4/40, 135C-138D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDF	**Fort de France** 55nm,0.8s	**14.14**	**264**	*e*P	**P**	**05 16 29.1**	**0.0**
SJG	**San Juan** 12nm,0.7s	**18.73**	**277**	*e*P	**Pn**	**05 17 20.3**	**0.0**
KMSC	**Kings Mountain** baz=36	**36.04**	**307**	⇑P	**P**	**05 20 02.8**	**+0.3**
TKL	**Tuckaleechee C**	**38.09**	**307**	P	**P**	**05 20 19.6**	**-0.3**
TKL	**Tuckaleechee C** 4.1nm,0.9s,baz=162,slow=5.4,SNR=4.9	**38.09**	**307**	P	**P**	**05 20 19.6**	**-0.3**
LPAZ	**La Paz** 1.7nm,0.9s	**38.99**	**214**	*e*P	**P**	**05 20 28.5**	**+0.1**
LPAZ	**La Paz** 1.1nm,0.8s,baz=341,slow=2.1,SNR=4.6	**38.99**	**214**	P	**P**	**05 20 28.4**	**+0.1**
ATAH	**Atahualpa**	**39.33**	**236**	P	**P**	**05 20 31.4**	**+0.4**
ATAH	**Atahualpa** 5.2nm,0.7s,baz=57,slow=7.6,SNR=4.4	**39.33**	**236**	P	**P**	**05 20 31.4**	**+0.4**
WVT	**Waverly** 8.1nm,1.4s	**41.36**	**306**	*e*P	**P**	**05 20 47.5**	**+0.3**
SFIN	**Scholer Farm** baz=42	**42.24**	**312**	⇓P	**P**	**05 20 54.5**	**+0.2**
SIUC	**Southern Illin** 5.6nm,0.2s	**42.89**	**308**	*e*P	**P**	**05 21 00.1**	**+0.4**
TORD	**Torodi Ar. Bea**	**46.71**	**87**	P	**P**	**05 21 29.2**	**-1.2**
TORD	**Torodi Ar. Bea** 1.6nm,0.9s,baz=293,slow=8.1,SNR=7.4	**46.71**	**87**	P	**P**	**05 21 29.2**	**-1.2**
TUL1	**Tulsa** baz=48	**47.58**	**304**	⇓P	**P**	**05 21 36.4**	**-0.5**
SPMN	**St. Paul** baz=48	**47.93**	**317**	⇑P	**P**	**05 21 39.3**	**-0.2**
WHTX	**Lake Whitney** baz=48	**48.39**	**298**	⇓P	**P**	**05 21 43.5**	**+0.3**
KSU1	**Kansas State U** 11nm,0.8s	**48.86**	**308**	*e*P	**P**	**05 21 46.2**	**-0.6**
632A	**Uvalde** baz=50	**50.21**	**295**	⇓P	**P**	**05 21 57.4**	**+0.2**
Z32A	**Haskell** baz=50	**50.22**	**300**	⇓P	**P**	**05 21 57.1**	**-0.2**
232A	**Coleman** baz=50	**50.23**	**298**	⇓P	**P**	**05 21 57.1**	**-0.4**
JCT	**Junction City** baz=50	**50.27**	**296**	⇓P	**P**	**05 21 57.2**	**-0.5**
332A	**Millersview** baz=50	**50.28**	**297**	⇓P	**P**	**05 21 57.2**	**-0.6**
432A	**Menard** baz=50	**50.29**	**296**	⇑P	**P**	**05 21 57.6**	**-0.3**
ABTX	**Abilene, Hawle** baz=50	**50.29**	**299**	⇓P	**P**	**05 21 57.6**	**-0.3**
532A	**Rocksprings** baz=50	**50.34**	**296**	⇓P	**P**	**05 21 58.0**	**-0.3**
732A	**Laxson Ranch,** baz=50	**50.34**	**294**	⇓P	**P**	**05 21 58.6**	**+0.3**
Z31A	**Sharp Cattle R** baz=51	**50.77**	**300**	⇓P	**P**	**05 22 01.4**	**-0.2**
X31A	**McDonald Ranch** baz=51	**50.78**	**301**	⇓P	**P**	**05 22 00.6**	**-0.9**
231A	**Bronte** baz=51	**50.80**	**298**	⇓P	**P**	**05 22 01.5**	**-0.2**
331A	**San Angelo** baz=51	**50.86**	**297**	⇑P	**P**	**05 22 01.5**	**-0.7**
T31A	**Randall Ranch,** baz=51	**50.86**	**304**	⇓P	**P**	**05 22 02.0**	**-0.1**
531A	**Rocksprings** baz=51	**50.90**	**296**	⇑P	**P**	**05 22 02.6**	**+0.1**
131A	**Roby** baz=51	**50.92**	**299**	⇓P	**P**	**05 22 02.5**	**-0.2**
Y31A	**Rekieta Farm,** baz=51	**50.94**	**300**	⇓P	**P**	**05 22 02.4**	**-0.3**
R31A	**Burdett** baz=51	**50.94**	**306**	⇓P	**P**	**05 22 02.3**	**-0.4**
Q31A	**Ellis** baz=51	**50.96**	**307**	⇑P	**P**	**05 22 01.9**	**-0.9**
431A	**Sonora** baz=51,SNR=5.7	**50.98**	**296**	⇑P	**P**	**05 22 02.0**	**-1.1**
P31A	**Stockton** baz=51	**51.05**	**308**	⇓P	**P**	**05 22 03.1**	**-0.3**
X30A	**Coker Ranch, T** baz=51	**51.49**	**301**	⇓P	**P**	**05 22 06.2**	**-0.8**
330A	**Mertzon** baz=51	**51.50**	**297**	⇑P	**P**	**05 22 06.8**	**-0.3**
R30A	**Dighton** baz=52,SNR=9.4	**51.52**	**306**	⇓P	**P**	**05 22 06.5**	**-0.5**
430A	**Baggett Ranch,** baz=52	**51.52**	**296**	⇑P	**P**	**05 22 06.8**	**-0.4**
T30A	**Plains** baz=52	**51.53**	**304**	⇓P	**P**	**05 22 05.9**	**-1.3**
U30A	**WK&E Inc. Balk** baz=52	**51.55**	**304**	⇑P	**P**	**05 22 07.3**	**-0.1**
530A	**J-C Ranch, Com** baz=52	**51.58**	**295**	⇓P	**P**	**05 22 06.9**	**-0.8**
Q30A	**Quinter** baz=52	**51.59**	**307**	⇑P	**P**	**05 22 07.1**	**-0.5**
Z30A	**Sanderson Ranc** baz=52,SNR=5.3	**51.59**	**299**	⇑P	**P**	**05 22 06.7**	**-1.0**
O30A	**MW Ranch, Wils** baz=52	**51.68**	**308**	⇓P	**P**	**05 22 07.6**	**-0.6**
P30A	**Selden** baz=52	**51.71**	**307**	⇑P	**P**	**05 22 07.7**	**-0.8**
BRSD	**Miller** baz=52	**51.85**	**314**	⇓P	**P**	**05 22 08.7**	**-0.6**
Z29A	**Hungry Hill Ra** baz=52	**52.07**	**299**	⇓P	**P**	**05 22 10.9**	**-0.4**
S29A	**Ulysses** baz=52	**52.08**	**305**	⇑P	**P**	**05 22 10.6**	**-0.7**
Y29A	**Porterfield Fa** baz=52	**52.09**	**300**	⇓P	**P**	**05 22 11.3**	**-0.2**
T29A	**Hutton** baz=52	**52.15**	**304**	⇑P	**P**	**05 22 11.7**	**-0.2**
329A	**Wagon Wheel Ra** baz=52	**52.19**	**297**	⇓P	**P**	**05 22 12.4**	**+0.2**
W29A	**Amraillo** baz=52	**52.19**	**302**	⇑P	**P**	**05 22 12.2**	**0.0**
R29A	**Marienthal** baz=52	**52.21**	**306**	⇑P	**P**	**05 22 12.0**	**-0.3**
O29A	**4D Ranch, Culb** baz=52	**52.23**	**308**	⇑P	**P**	**05 22 11.7**	**-0.6**
P29A	**Atwood** baz=52	**52.24**	**307**	⇑P	**P**	**05 22 11.9**	**-0.6**
529A	**Stev Forest Ra** baz=52	**52.34**	**295**	⇑P	**P**	**05 22 13.6**	**+0.2**
Z28A	**Tucker Farm, M** baz=53	**52.65**	**299**	⇑P	**P**	**05 22 15.1**	**-0.4**
S28A	**Manter** baz=53	**52.69**	**305**	⇓P	**P**	**05 22 15.3**	**-0.5**
R28A	**Tribune** baz=53	**52.72**	**306**	⇓P	**P**	**05 22 15.4**	**-0.7**
428A	**Kincaid Ranch,** baz=53	**52.76**	**296**	⇑P	**P**	**05 22 16.5**	**0.0**
T28A	**Walsh** baz=53	**52.80**	**304**	⇓P	**P**	**05 22 16.1**	**-0.5**
U28A	**Mallet** baz=53	**52.80**	**303**	⇑P	**P**	**05 22 16.5**	**-0.2**
528A	**Cox Ranch, San** baz=53	**52.84**	**295**	⇓P	**P**	**05 22 16.8**	**-0.2**
P28A	**Saint Francis** baz=53	**52.86**	**307**	⇓P	**P**	**05 22 16.9**	**-0.2**
N28A	**Pribbeno Ranch** baz=53	**52.89**	**309**	⇑P	**P**	**05 22 16.9**	**-0.4**
628A	**Black Gap, Mar** baz=53	**52.91**	**295**	⇑P	**P**	**05 22 17.4**	**-0.1**
MSTX	**Muleshoe** baz=53	**53.02**	**300**	⇑P	**P**	**05 22 18.0**	**-0.3**
K28A	**Ten Mile Ranch** baz=53,SNR=5.9	**53.15**	**311**	⇑P	**P**	**05 22 18.7**	**-0.5**
J28A	**Allard Ranch,** baz=53,SNR=6.0	**53.21**	**312**	⇑P	**P**	**05 22 18.5**	**-1.1**
T27A	**Campo** baz=53	**53.27**	**304**	⇓P	**P**	**05 22 19.6**	**-0.6**
U27A	**Thompson Grove** baz=53	**53.28**	**303**	⇑P	**P**	**05 22 20.2**	**-0.1**
I28A	**Midland** baz=53	**53.28**	**313**	⇑P	**P**	**05 22 19.6**	**-0.5**
Y27A	**Causey** baz=53	**53.33**	**300**	⇓P	**P**	**05 22 20.6**	**-0.1**
227A	**Bennet, Jal** baz=53	**53.33**	**298**	⇑P	**P**	**05 22 20.7**	**0.0**
H28A	**Mission Ridge** baz=53	**53.34**	**314**	⇑P	**P**	**05 22 19.8**	**-0.6**
627A	**Terlingua Ranc** baz=53	**53.34**	**295**	⇑P	**P**	**05 22 20.4**	**-0.4**
G28A	**Parade** baz=53	**53.36**	**314**	⇑P	**P**	**05 22 20.1**	**-0.5**
427A	**Hayter Ranch,** baz=53	**53.38**	**296**	⇓P	**P**	**05 22 20.7**	**-0.4**
127A	**Arkansas Junct** baz=53	**53.42**	**299**	⇓P	**P**	**05 22 20.7**	**-0.7**
R27A	**Eads** baz=53	**53.48**	**306**	⇓P	**P**	**05 22 21.6**	**-0.1**
P27A	**Ficken Ranch,** baz=53	**53.49**	**307**	⇑P	**P**	**05 22 21.6**	**-0.1**
O27A	**Beecher Island** baz=53	**53.51**	**308**	⇑P	**P**	**05 22 21.8**	**-0.1**
527A	**Woodward Ranch** baz=54	**53.55**	**295**	⇓P	**P**	**05 22 22.3**	**0.0**
TXAR	**Lajitas Array**	**53.59**	**294**	P	**P**	**05 22 21.7**	**-0.9**
TXAR	**Lajitas Array** 0.8nm,0.9s,baz=91,slow=5.0,SNR=8.8	**53.59**	**294**	P	**P**	**05 22 21.7**	**-0.9**
K27A	**Flueckinger Fa** baz=54	**53.78**	**311**	⇓P	**P**	**05 22 23.1**	**-0.6**
426A	**McDonald Obser** baz=54,SNR=9.8	**53.92**	**296**	⇓P	**P**	**05 22 24.7**	**-0.4**
W26A	**Owens Ranch, T** baz=54	**53.92**	**301**	⇓P	**P**	**05 22 25.0**	**0.0**
I27A	**Quinn** baz=54	**53.92**	**313**	⇑P	**P**	**05 22 24.1**	**-0.7**
S26A	**Kim** baz=54	**53.93**	**305**	⇑P	**P**	**05 22 24.3**	**-0.7**
526A	**Mary Lane Ranc** baz=54,SNR=6.1	**53.96**	**295**	⇓P	**P**	**05 22 25.5**	**+0.1**
T26A	**Comanche Natio** baz=54,SNR=5.8	**53.98**	**304**	⇓P	**P**	**05 22 24.9**	**-0.5**
R26A	**Arlington** baz=54,SNR=7.3	**53.99**	**305**	⇓P	**P**	**05 22 25.0**	**-0.5**
U26A	**Atchley Ranch,** baz=54,SNR=7.3	**54.02**	**303**	⇓P	**P**	**05 22 25.0**	**-0.7**
H27A	**Howes** baz=54	**54.06**	**313**	⇑P	**P**	**05 22 25.3**	**-0.5**
226B	**Tecolote Peak,** baz=54	**54.08**	**298**	⇑P	**P**	**05 22 25.9**	**-0.3**
P26A	**Davis Ranch, A** baz=54	**54.08**	**307**	⇓P	**P**	**05 22 26.1**	**0.0**
Q26A	**Hugo** baz=54	**54.13**	**306**	⇓P	**P**	**05 22 26.1**	**-0.3**
G27A	**Dupree** baz=54	**54.13**	**314**	⇓P	**P**	**05 22 26.0**	**-0.2**
O26A	**Horse Wrangler** baz=54	**54.15**	**308**	⇑P	**P**	**05 22 26.3**	**-0.3**
K26A	**Motz Farm, Whi** baz=54	**54.46**	**311**	⇓P	**P**	**05 22 27.8**	**-1.0**
125A	**Gardner Draw,** baz=54	**54.52**	**298**	⇑P	**P**	**05 22 29.2**	**-0.2**
H26A	**Fairpoint** baz=54	**54.54**	**313**	⇓P	**P**	**05 22 28.5**	**-0.8**
U25A	**Circle Dot Ran** baz=54,SNR=7.5	**54.55**	**303**	⇓P	**P**	**05 22 29.2**	**-0.4**
T25A	**Trinidad** baz=54	**54.62**	**304**	⇑P	**P**	**05 22 30.1**	**-0.1**
R25A	**Fountain Ranch** baz=55,SNR=5.2	**54.63**	**305**	⇓P	**P**	**05 22 29.3**	**-0.8**
225A	**Deer Hill, Car** baz=55	**54.64**	**298**	⇓P	**P**	**05 22 30.9**	**+0.6**
V25A	**Rancho No Teng** baz=55	**54.67**	**302**	⇓P	**P**	**05 22 30.4**	**-0.2**
S25A	**Robets Cordova** baz=55	**54.69**	**305**	⇑P	**P**	**05 22 30.8**	**+0.1**
P25A	**Willow Gulch B** baz=55	**54.70**	**307**	⇑P	**P**	**05 22 30.7**	**0.0**
325A	**Bean Ranch, Si** baz=55,SNR=9.4	**54.74**	**297**	⇑P	**P**	**05 22 30.3**	**-0.8**
425A	**Indio Mountain** baz=55,SNR=8.8	**54.74**	**296**	⇑P	**P**	**05 22 30.8**	**-0.3**
O25A	**Wiggins** baz=55	**54.74**	**308**	⇑P	**P**	**05 22 31.3**	**+0.4**
J25A	**Sunshine Ranch** baz=55	**55.03**	**312**	⇓P	**P**	**05 22 32.2**	**-0.7**
I25A	**Rochford** baz=55	**55.10**	**312**	⇑P	**P**	**05 22 33.3**	**-0.2**
MNTX	**Cornudas Mount** 4.3nm,1.0s	**55.10**	**297**	*e*P	**P**	**05 22 33.0**	**-0.5**
H25A	**Fruitdale** baz=55	**55.12**	**313**	⇓P	**P**	**05 22 33.2**	**-0.3**
Z24A	**Sheeppen Canyo** baz=55	**55.14**	**299**	⇑P	**P**	**05 22 34.1**	**+0.1**
324A	**Moseley Ranch,** baz=55	**55.18**	**297**	⇑P	**P**	**05 22 34.1**	**-0.2**
124A	**Stringfield Ra** baz=55	**55.19**	**298**	⇓P	**P**	**05 22 34.6**	**+0.2**
V24A	**Rampart Ranch,** baz=55	**55.19**	**302**	⇑P	**P**	**05 22 34.7**	**+0.3**
DAVOX	**Davos/Dischmat**	**55.22**	**44**	P	**P**	**05 22 34.5**	**+0.2**
DAVOX	**Davos/Dischmat** 0.7nm,0.3s,baz=294,slow=20,SNR=1.9	**55.22**	**44**	P	**P**	**05 22 34.5**	**+0.2**
Y24A	**Capitan** baz=55	**55.22**	**300**	⇓P	**P**	**05 22 34.8**	**+0.3**
224A	**Cornudas Mount** baz=55,SNR=5.1	**55.23**	**298**	⇑P	**P**	**05 22 34.0**	**-0.6**
U24A	**Moreno Valley** baz=55	**55.25**	**303**	⇑P	**P**	**05 22 35.4**	**+0.5**
X24A	**Lazy VL Ranch,** baz=55	**55.26**	**301**	⇑P	**P**	**05 22 35.3**	**+0.5**
W24A	**Lazy 6 Ranch,** baz=55,SNR=5.4	**55.27**	**302**	⇑P	**P**	**05 22 35.4**	**+0.5**
R24A	**Sanders Place,** baz=55	**55.28**	**305**	⇓P	**P**	**05 22 35.1**	**+0.2**
S24A	**Houchin Ranch,** baz=55	**55.31**	**304**	⇑P	**P**	**05 22 35.2**	**0.0**
N24A	**Carr** baz=55	**55.42**	**308**	⇓P	**P**	**05 22 35.5**	**-0.3**
M24A	**Cheyenne** baz=55,SNR=9.2	**55.47**	**309**	⇓P	**P**	**05 22 36.4**	**+0.2**
O24A	**Longmont** baz=55	**55.47**	**307**	⇓P	**P**	**05 22 36.2**	**0.0**
SDCO	**Great Sand Dun** 2.8nm,1.1s	**55.54**	**305**	*e*P	**P**	**05 22 36.8**	**-0.1**
J24A	**Dixon Ranch, L** baz=56	**55.64**	**311**	⇓P	**P**	**05 22 37.3**	**0.0**
Y23A	**Lovelace Mesa,** baz=56,SNR=5.2	**55.74**	**300**	⇓P	**P**	**05 22 38.2**	**0.0**
H24A	**Dirks Ranch, A** baz=56	**55.81**	**313**	⇓P	**P**	**05 22 38.2**	**-0.3**
G24A	**Alzada** baz=56	**55.83**	**314**	⇓P	**P**	**05 22 38.5**	**-0.1**
R23A	**Moffat** baz=56	**55.84**	**305**	⇓P	**P**	**05 22 39.2**	**+0.1**
ISCO	**Idaho Springs** 8.8nm,1.2s	**55.84**	**307**	*e*P	**P**	**05 22 39.9**	**+0.9**
ISCO	**Idaho Springs** baz=56,SNR=12	**55.84**	**307**	⇓P	**P**	**05 22 39.6**	**+0.5**
T23A	**Casias Ranch,** baz=56	**55.91**	**304**	⇑P	**P**	**05 22 40.3**	**+0.8**
S23A	**Nye Farm, Mont** baz=56	**55.94**	**304**	⇓P	**P**	**05 22 40.3**	**+0.6**
F24A	**Ekalaka** baz=56	**55.95**	**314**	⇑P	**P**	**05 22 39.1**	**-0.3**
P23A	**Jefferson** baz=56,SNR=7.4	**55.97**	**307**	⇓P	**P**	**05 22 41.0**	**+1.0**
U23A	**El Rito** baz=56,SNR=13	**55.98**	**303**	⇓P	**P**	**05 22 40.6**	**+0.6**
E24A	**Baker** baz=56	**56.00**	**315**	⇑P	**P**	**05 22 40.0**	**+0.3**
O23A	**Lake Granby, G** baz=56	**56.12**	**308**	⇑P	**P**	**05 22 41.2**	**+0.1**
L23A	**Garrett** baz=56	**56.21**	**310**	⇑P	**P**	**05 22 41.4**	**-0.1**
N23A	**Red Feather La** baz=56	**56.23**	**308**	⇑P	**P**	**05 22 42.0**	**+0.3**
C24A	**Savage** baz=56	**56.29**	**316**	⇑P	**P**	**05 22 41.5**	**-0.3**
DGMT	**Dagmar** 10nm,1.0s	**56.35**	**318**	*e*P	**P**	**05 22 42.5**	**+0.3**
DGMT	**Dagmar** baz=56	**56.35**	**318**	⇓P	**P**	**05 22 42.2**	**0.0**
H23A	**Clabaugh Cattl** baz=56	**56.38**	**313**	⇑P	**P**	**05 22 42.7**	**+0.2**
Z22A	**Elephant Butte** baz=56	**56.47**	**299**	⇓P	**P**	**05 22 43.9**	**+0.4**
G23A	**Biddle** baz=56	**56.48**	**314**	⇓P	**P**	**05 22 43.4**	**+0.1**
U22A	**Llaves** baz=56	**56.52**	**303**	⇓P	**P**	**05 22 44.4**	**+0.6**
V22A	**San Miguel Ran** baz=56,SNR=5.7	**56.53**	**302**	⇓P	**P**	**05 22 44.7**	**+0.7**
R22A	**Saguache, Gunn** baz=56	**56.57**	**305**	⇑P	**P**	**05 22 45.1**	**+0.8**
F23A	**Volborg** baz=56	**56.59**	**314**	⇑P	**P**	**05 22 43.6**	**-0.3**
S22A	**4UR Ranch, Cre** baz=56	**56.59**	**304**	⇑P	**P**	**05 22 44.3**	**-0.1**
O22A	**Kremmling** baz=56	**56.60**	**307**	⇓P	**P**	**05 22 45.1**	**+0.7**
T22A	**Edith** baz=56,SNR=7.1	**56.60**	**304**	⇓P	**P**	**05 22 44.9**	**+0.5**
N22A	**Wattenberg Ran** baz=56,SNR=8.2	**56.60**	**308**	⇑P	**P**	**05 22 44.6**	**+0.2**
E23A	**Ismay** baz=57,SNR=15	**56.67**	**315**	⇓P	**P**	**05 22 44.4**	**-0.1**
P22A	**Eagle** baz=57	**56.70**	**307**	⇓P	**P**	**05 22 45.5**	**+0.4**
D23A	**Lindsay** baz=57,SNR=7.6	**56.73**	**316**	⇓P	**P**	**05 22 45.2**	**+0.2**
L22A	**Ellis Ranch, M** baz=57	**56.74**	**310**	⇑P	**P**	**05 22 45.9**	**+0.7**
Q22A	**Crested Butte,** baz=57	**56.75**	**306**	⇓P	**P**	**05 22 45.5**	**-0.1**
M22A	**Cedar Creek Ra** baz=57	**56.78**	**309**	⇑P	**P**	**05 22 45.9**	**+0.3**
C23A	**Lambert** baz=57	**56.85**	**317**	⇓P	**P**	**05 22 45.9**	**+0.1**
B23A	**Brockton** baz=57,SNR=11	**56.87**	**317**	⇓P	**P**	**05 22 45.9**	**+0.1**
I22A	**9 Mile Ranch,** baz=57,SNR=5.2	**57.03**	**312**	⇑P	**P**	**05 22 46.4**	**-0.8**
Z21A	**St. Cloud Mine** baz=57	**57.07**	**299**	⇓P	**P**	**05 22 48.9**	**+1.1**
E22A	**Miles City** baz=57	**57.09**	**315**	⇑P	**P**	**05 22 47.6**	**+0.1**
T21A	**Navajo Lake** baz=57	**57.10**	**304**	⇓P	**P**	**05 22 48.7**	**+0.7**
G22A	**Birney** baz=57	**57.11**	**313**	⇑P	**P**	**05 22 47.9**	**+0.1**
121A	**Cookes Peak, D** baz=57	**57.15**	**298**	⇓P	**P**	**05 22 48.9**	**+0.6**
U21A	**Nageezi** baz=57,SNR=6.5	**57.17**	**303**	⇑P	**P**	**05 22 49.1**	**+0.6**
F22A	**Rosebud** baz=57	**57.18**	**314**	⇓P	**P**	**05 22 48.2**	**0.0**
X21A	**Alamocita Cree** baz=57,SNR=6.4	**57.19**	**301**	⇑P	**P**	**05 22 49.3**	**+0.6**
R21A	**Cimarron** baz=57,SNR=6.1	**57.21**	**305**	⇓P	**P**	**05 22 49.6**	**+0.9**

P21A	**Newcastle** baz=57	57.23	307	⇓P	P	05 22 49.0 +0.2
C22A	**Vida** baz=57,SNR=13	57.30	316	⇑P	P	05 22 49.2 +0.2
S21A	**Coal Bank Pass** baz=57	57.35	304	⇑P	P	05 22 50.2 +0.4
D22A	**Cohagen** baz=57,SNR=13	57.38	316	⇓P	P	05 22 49.9 +0.4
N21A	**Black Mountain** baz=57	57.40	308	⇑P	P	05 22 49.9 -0.1
K21A	**Alcova** baz=57	57.41	310	⇓P	P	05 22 50.0 0.0
L21A	**Rawlins** baz=57,SNR=19	57.42	309	⇓P	P	05 22 50.1 0.0
B22A	**Reddig Ranch S** baz=57	57.49	317	⇑P	P	05 22 50.5 +0.2
H21A	**Big Horn, Sher** baz=58	57.54	313	⇑P	P	05 22 50.3 -0.5
A22A	**Carney Farms,** baz=58	57.58	318	⇑P	P	05 22 50.6 -0.3
I21A	**Big Trails, Te** baz=58,SNR=12	57.60	312	⇓P	P	05 22 49.8 -1.5
J21A	**Lysite** baz=58,SNR=6.2	57.65	311	⇑P	P	05 22 50.7 -1.0
Y20A	**Horse Springs,** baz=58	57.67	300	⇑P	P	05 22 52.8 +0.8
220A	**Playas Peak, P** baz=58	57.78	297	⇑P	P	05 22 53.4 +0.7
W20A	**Ramah** baz=58	57.80	301	⇑P	P	05 22 54.0 +1.1
S20A	**Disappointment** baz=58	57.81	304	⇑P	P	05 22 53.2 +0.2
Q20A	**Ridgley Place,** baz=58,SNR=6.8	57.83	306	⇓P	P	05 22 53.3 +0.3
Z20A	**Nine Sixteen R** baz=58	57.84	299	⇓P	P	05 22 53.2 +0.1
120A	**U Bar Ranch, L** baz=58	57.87	298	⇓P	P	05 22 53.7 +0.4
E21A	**Keefer Ranch,** baz=58	57.88	315	⇑P	P	05 22 52.8 -0.2
O20A	**White River Ci** baz=58	57.89	307	⇓P	P	05 22 53.2 -0.3
D21A	**La Casta Ranch** baz=58	57.91	315	⇑P	P	05 22 53.5 +0.2
P20A	**De Beque** baz=58	57.95	306	⇓P	P	05 22 54.2 +0.3
N20A	**Spence Gulch,** baz=58	57.97	308	⇓P	P	05 22 54.0 -0.1
M20A	**Sweetwater, Wa** baz=58	57.98	309	⇑P	P	05 22 54.0 0.0
PV01	**Paradox Valley** 613nm,1.4s	57.99	305	*e*P	P	05 22 55.2 +1.0
J20A	**Shoshoni** baz=58,SNR=6.4	58.11	311	⇑P	P	05 22 54.4 -0.5
C21A	**Desert Coulee** baz=58	58.12	316	⇑P	P	05 22 55.1 +0.4
L20A	**Wamsutter** baz=58	58.14	309	⇑P	P	05 22 55.1 -0.1
GERES	**GERESS Array B**	58.18	42	P	P	05 22 53.8 -1.4
GERES	**GERESS Array B** 0.2nm,0.3s,baz=202,slow=7.4,SNR=2.3	58.18	42	P	P	05 22 53.8 -1.4
B21A	**Ellsworth Farm** baz=58	58.18	317	⇓P	P	05 22 55.5 +0.4
K20A	**Yellowstone Ra** baz=58	58.22	310	⇑P	P	05 22 55.2 -0.5
I20A	**Worland** baz=58,SNR=9.3	58.22	312	⇓P	P	05 22 54.9 -0.7
A21A	**Bergtoll Ranch** baz=58	58.23	318	⇑P	P	05 22 55.9 +0.4
CLL	**Collm**	58.27	40	*e*(P)	P	05 22 58.0 +2.4
PV10	**Paradox Valley** 20nm,0.5s	58.38	305	*e*P	P	05 22 56.9 -0.1
P19A	**Cripple Cowboy** baz=58,SNR=8.2	58.41	307	⇓P	P	05 22 57.4 +0.2
G20A	**Bridger** baz=58,SNR=12	58.45	313	⇑P	P	05 22 56.6 -0.6
F20A	**Billings** baz=58,SNR=5.4	58.49	314	⇓P	P	05 22 57.5 0.0
O19A	**Miners Draw (B** baz=58,SNR=6.5	58.57	307	⇑P	P	05 22 58.2 0.0
E20A	**Meyer Farm, Mu** baz=58,SNR=6.6	58.59	315	⇓P	P	05 22 57.9 -0.2
K19A	**Absolon Red Bu** baz=58,SNR=6.0	58.60	310	⇓P	P	05 22 57.2 -1.2
C20A	**Veseth Ranch,** baz=59	58.70	316	⇑P	P	05 22 58.6 -0.2
B20A	**Solberg Farm,** baz=59	58.84	317	⇑P	P	05 23 00.0 +0.3
I19A	**Meeteetse** baz=59,SNR=7.0	58.85	312	⇓P	P	05 22 59.5 -0.6
A20A	**Cobblestone Ra** baz=59	58.86	317	⇓P	P	05 22 59.8 -0.1
L19A	**Farson** baz=59	58.91	309	⇓P	P	05 23 00.1 -0.5
H19A	**Powell** baz=59,SNR=5.5	58.92	312	⇑P	P	05 23 00.2 -0.3
E19A	**Rath Farm, Rou** baz=59	59.03	315	⇑P	P	05 23 01.2 0.0
F19A	**Roth Farm, Mol** baz=59,SNR=5.2	59.05	314	⇑P	P	05 23 01.1 -0.2
PDAR	**Pinedale Array**	59.12	310	P	P	05 23 01.1 -0.9
PDAR	**Pinedale Array** 2.6nm,0.9s,baz=101,slow=7.7,SNR=16	59.12	310	P	P	05 23 01.1 -0.9
BW06	**Boulder Array** 7.0nm,1.2s	59.12	310	*e*P	P	05 23 01.3 -0.8
D19A	**Cripps Ranch,** baz=59	59.20	315	⇑P	P	05 23 02.4 +0.1
L18A	**Fontenelle, Gr** baz=59	59.40	309	⇓P	P	05 23 03.6 -0.3
A19A	**Klindworth Far** baz=59,SNR=7.8	59.40	317	⇓P	P	05 23 03.5 -0.2
C19A	**Slack Wire Ran** baz=59	59.40	316	⇓P	P	05 23 03.2 -0.5
H18A	**Shoshone NF, C** baz=59,SNR=5.5	59.40	312	⇓P	P	05 23 02.9 -1.1
I18A	**Diamond G Ranc** baz=59	59.40	311	⇑P	P	05 23 03.5 -0.5
G18A	**Lazy EL Ranch,** baz=59	59.41	313	⇑P	P	05 23 03.3 -0.6
GCMT	**Greycliff** 1.8nm,0.8s	59.54	314	*e*P	P	05 23 04.2 -0.6
F18A	**Big Timber** baz=60	59.59	314	⇑P	P	05 23 05.1 0.0
TUC	**Tucson** 1.4nm,0.9s	59.69	298	*e*P	P	05 23 05.5 -0.5
E18A	**Harlowton** baz=60	59.81	315	⇓P	P	05 23 06.9 +0.3
D18A	**Linhart Farms,** baz=60	59.83	315	⇑P	P	05 23 06.7 +0.1
M17A	**Scullys Gap (B** baz=60	59.83	309	⇑P	P	05 23 06.4 -0.6
EGMT	**Eagleton** 3.0nm,1.0s	59.91	316	*e*P	P	05 23 06.6 -0.6
EGMT	**Eagleton** baz=60	59.91	316	⇑P	P	05 23 07.1 -0.1
LOHW	**Long Hollow** 8.5nm,1.3s	59.96	311	*e*P	P	05 23 06.9 -0.9
I17A	**Pilgrim Ck.** baz=60	59.97	311	⇑P	P	05 23 08.3 +0.5
B18A	**Beardsley Farm** baz=60	59.99	317	⇓P	P	05 23 07.9 +0.2
SNOW	**Snow King Moun** 3.7nm,0.8s	60.06	311	*e*P	P	05 23 07.9 -0.6
Q16A	**Castle Valley** baz=60	60.07	306	⇑P	P	05 23 08.7 +0.1
MOOW	**Moose Ponds** 4.4nm,1.3s	60.08	311	*e*P	P	05 23 08.0 -0.6
A18A	**Metzger Ranch,** baz=60	60.11	317	⇓P	P	05 23 08.2 -0.4
TPAW	**Teton Pass** 6.6nm,1.0s	60.20	311	*e*P	P	05 23 09.0 -0.6
X16A	**Lo Mia Camp, P** baz=60	60.21	300	⇑P	P	05 23 10.4 +0.8
IMW	**Indian Meadow** 8.3nm,0.8s	60.23	311	*e*P	P	05 23 08.9 -0.8
F17A	**Fitzpatrick Pl** baz=60	60.24	314	⇑P	P	05 23 09.6 0.0
JLU	**Jordanelle** 26nm,1.8s	60.37	308	*e*P	P	05 23 09.6 -1.0
D17A	**Six Diamond Ra** baz=60	60.42	315	⇓P	P	05 23 10.7 -0.1
E17A	**Martinsdale** baz=60	60.45	314	⇓P	P	05 23 11.0 0.0
RRI2	**Red Ridge** 14nm,1.0s	60.46	311	*e*P	P	05 23 10.7 -0.6
HWUT	**Hardware Ranch** 9.4nm,1.0s	60.51	309	*e*P	P	05 23 10.8 -0.8
H16A	**Russell Place,** baz=60,SNR=6.8	60.53	312	⇑P	P	05 23 11.5 -0.2
C17A	**Wharram Farm,** baz=60	60.53	316	⇑P	P	05 23 11.5 0.0
I16A	**Newdale** baz=60	60.62	311	⇓P	P	05 23 12.5 +0.2
B17A	**L&G Farms, Che** baz=60	60.65	316	⇑P	P	05 23 11.8 -0.4
A17A	**Triple J Farms** baz=61	60.67	317	⇓P	P	05 23 11.9 -0.5
BOZ	**Bozeman (W)** 1.3nm,1.0s	60.89	313	*e*P	P	05 23 13.2 -0.9
U15A	**North Rim** baz=61,SNR=6.9	60.90	303	⇓P	P	05 23 15.1 +0.7
HFS	**Hagfors**	61.06	30	P	P	05 23 14.7 0.0
HFS	**Hagfors** 1.8nm,0.8s,baz=215,slow=9.7,SNR=3.4	61.06	30	P	P	05 23 14.7 0.0
C16A	**Fuhringer Ranc** baz=61	61.21	316	⇓P	P	05 23 15.8 -0.3
A16A	**West Butte Ran** baz=61	61.26	317	⇓P	P	05 23 16.4 0.0
B16A	**M & M Farms, S** baz=61	61.26	316	⇑P	P	05 23 16.2 -0.3
DUG	**Dugway** baz=61	61.39	307	⇑P	P	05 23 17.4 -0.1
214A	**Organ Pipe Nat** baz=61	61.42	298	⇑P	P	05 23 18.1 +0.4
C15A	**Salmond Ranch,** baz=62,SNR=6.9	61.79	316	⇑P	P	05 23 19.6 -0.4
B15A	**Bradely Ranch,** baz=62	61.82	316	⇑P	P	05 23 19.4 -0.8
I14A	**Mackay** baz=62	62.05	311	⇑P	P	05 23 21.8 -0.1
113A	**Mohawk Valley,** baz=62	62.19	299	⇓P	P	05 23 22.9 +0.1
W13A	**Hualapai Mount** baz=62	62.21	301	⇑P	P	05 23 23.4 +0.1
B14A	**Marquette Ranc** baz=62	62.29	316	⇓P	P	05 23 23.0 -0.4
SLMT	**Seeley Lake** 5.9nm,1.0s	62.33	315	*e*P	P	05 23 22.9 -0.9
A14A	**Double T Ranch** baz=62	62.46	317	⇓P	P	05 23 23.8 -0.7
C14A	**Swan Lake** baz=62	62.55	316	⇓P	P	05 23 24.7 -0.4
HLID	**Hailey** 3.5nm,1.1s	62.72	311	*e*P	P	05 23 25.8 -0.6
HLID	**Hailey** baz=63,SNR=5.8	62.72	311	⇓P	P	05 23 25.9 -0.6
D13A	**Huson** baz=63	62.97	315	⇓P	P	05 23 27.6 -0.3
H12A	**Diamond D Ranc** baz=63	63.09	312	⇑P	P	05 23 28.2 -0.7
C13A	**Hot Springs** baz=63	63.10	315	⇓P	P	05 23 28.6 -0.2
ELK	**Elko** 6.0nm,1.3s	63.25	308	*e*P	P	05 23 29.9 -0.2
I12A	**Atlanta** baz=63	63.25	311	⇓P	P	05 23 29.7 -0.2
IRM	**Iron Mountain** baz=63	63.29	300	⇓P	P	05 23 30.9 +0.7
G12A	**Big Creek, Yel** baz=63	63.45	312	⇑P	P	05 23 31.5 +0.2
R11A	**Troy Canyon, C** baz=63	63.52	305	⇑P	P	05 23 32.1 +0.2
GMRC	**Granite Mounta** baz=64	63.68	301	⇑P	P	05 23 33.2 +0.3
E12A	**Beaver Dam Sad** baz=64	63.69	314	⇓P	P	05 23 32.5 -0.3
C12B	**Naegeli Ranch,** baz=64	63.71	315	⇑P	P	05 23 32.6 -0.1
MFID	**Camas Ranch** 7.6nm,1.1s	63.74	311	*e*P	P	05 23 32.7 -0.5
MFID	**Camas Ranch** baz=64,SNR=7.4	63.74	311	⇓P	P	05 23 32.9 -0.2
B12A	**Libby** baz=64	63.84	316	⇑P	P	05 23 33.8 +0.2
A12A	**Yaak River Ran** baz=64	63.92	317	⇑P	P	05 23 34.2 +0.1
C11A	**Tepee Creek (N** baz=64	64.24	315	⇑P	P	05 23 35.8 -0.5
PFO	**Pinyon Flat Ob**	64.40	300	⇑P	P	05 23 38.0 +0.3
FURC	**Furnace Creek,** baz=64	64.58	303	⇑P	P	05 23 39.1 +0.5
GSC	**Goldstone** baz=64	64.59	302	⇓P	P	05 23 39.4 +0.5
NEW	**Newport** 7.8nm,1.3s	64.85	316	*e*P	P	05 23 39.6 -0.5
NEW	**Newport** baz=65	64.85	316	⇑P	P	05 23 39.7 -0.5
BFSC	**Mount Baldy Ra** baz=65	65.36	300	⇓P	P	05 23 44.2 +0.3
EDW2	**Edwards Air Fo** baz=66	65.59	301	⇓P	P	05 23 45.6 +0.3
NVAR	**Mina Array Bea**	65.65	305	P	P	05 23 45.0 -0.8
NVAR	**Mina Array Bea** 0.6nm,0.7s,baz=91,slow=7.5,SNR=3.1	65.65	305	P	P	05 23 45.0 -0.8
ISA	**Isabella** baz=66	65.93	302	⇑P	P	05 23 49.2 +1.7
BRTR	**Keskin Array B**	72.16	53	P	P	05 24 26.6 +0.3
BRTR	**Keskin Array B** 0.6nm,0.5s,baz=308,slow=5.3,SNR=4.3	72.16	53	P	P	05 24 26.6 +0.3
ILAR	**Eielson Array**	79.43	335	P	P	05 25 06.9 -0.2
ILAR	**Eielson Array** 2.1nm,0.8s,baz=76,slow=4.7,SNR=25	79.43	335	P	P	05 25 06.9 -0.2
AKTO	**Aktyubinsk**	86.33	38	P	P	05 25 44.3 +1.1
AKTO	**Aktyubinsk** 0.4nm,0.4s,baz=286,slow=6.1,SNR=3.8	86.33	38	P	P	05 25 44.3 +1.1

IDC 17 05:19:00.9±1.9,50°.90N×172°.68W,h0km,mb3.7/6, mb1 3.9/8,mb1mx3.6/30,mbtmp3.7/8,ML3.4/2,Error ellipse: s-maj=55.0km s-min=15.4km az=2.0,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FX1	**Attu Island--F** 0.5nm,0.3s,baz=119,slow=13,SNR=11	8.98	288	Pn	Pn	05 21 11.7	-0.1
FX1	0.3nm,0.3s,baz=270,slow=16,SNR=1.8			Sn	Sn	05 22 45.8	-7.7
KDAK	**Kodiak Island** 0.6nm,0.3s,baz=252,slow=9.1,SNR=11	13.56	52	Pn	Pn	05 22 12.1	-2.3
ILAR	**Eielson Array** 0.2nm,0.3s,baz=226,slow=9.2,SNR=13	19.33	34	P	P	05 23 26.3	-1.1
INK	**Inuvik** 1.3nm,0.5s,baz=254,slow=7.5,SNR=6.0	25.70	33	P	P	05 24 33.1	+0.8
NVAR	**Mina Array Bea** 0.6nm,0.4s,baz=296,slow=11,SNR=5.1	39.76	87	P	P	05 26 35.7	+0.2
PDAR	**Pinedale Array** 0.6nm,0.7s,baz=302,slow=7.1,SNR=4.4	42.74	75	P	P	05 26 59.1	-0.9
SONM	**Songino Array** 1.0nm,0.5s,baz=47,slow=6.7,SNR=2.5	50.27	300	P	P	05 27 59.3	+0.4
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=54,slow=6.2,SNR=4.4	63.29	312	P	P	05 29 30.6	-0.5
BVAR	**Borovoye Array** 0.9nm,0.5s,baz=68,slow=8.2,SNR=4.9	63.67	323	P	P	05 29 34.2	+0.6

IDC 17 05:42:31.4±0.9,19°.00N×145°.36E,h235km±8km,mb3.4/14, mb1 3.5/15,mb1mx3.4/27,mbtmp3.3/15,Error ellipse: s-maj=20.3km s-min=12.6km az=87.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr** 0.3nm,0.3s,baz=167,slow=9.0,SNR=3.1	18.58	342	P	P	05 46 31.1	0.0
KSRS	**Korea Array** 0.9s,baz=146,slow=9.8,SNR=4.1	23.89	324	pP	pP	05 48 11.0	+4.2
USRK	**Ussuriysk Arra** 0.8nm,0.4s,baz=192,slow=25,SNR=2.6	27.51	339	P	P	05 47 56.8	+0.7
WRA	**Warramunga Arr** 7.4nm,0.6s,baz=18,slow=8.9,SNR=84	40.18	196	P	P	05 49 45.1	-0.1
SONM	**Songino Array** 0.3nm,0.3s,baz=114,slow=6.5,SNR=2.8	42.71	321	P	P	05 50 06.8	+1.3
ASAR	**Alice Springs** 1.9nm,0.6s,baz=15,slow=6.9,SNR=24	43.85	195	P	P	05 50 14.4	-0.3
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=74,slow=8.2,SNR=4.4	43.87	277	P	P	05 50 14.9	-0.1
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=92,slow=7.5,SNR=5.2	58.03	314	P	P	05 52 00.9	+1.0
MKAR	0.5nm,0.6s,baz=95,slow=7.9,SNR=2.4			pP	pP	05 52 53.0	+0.6
KURBB	**Kurchatov Arra** 0.7nm,0.3s,baz=97,slow=6.8,SNR=5.6	60.88	318	P	P	05 52 17.7	-1.6
ILAR	**Eielson Array** 0.3nm,0.8s,baz=265,slow=5.4,SNR=3.4	63.52	26	P	P	05 52 35.3	-1.1
ILAR				pP	pP	05 53 29.5	-0.5
	0.2nm,0.6s,baz=264,slow=5.9,SNR=2.8						
BVAR	**Borovoye Array** 1.7nm,0.6s,baz=89,slow=9.7,SNR=7.0	66.04	320	P	P	05 52 51.7	-1.2
AKTO	**Aktyubinsk** 0.6nm,0.4s,baz=98,slow=15,SNR=2.7	73.93	318	P	P	05 53 41.8	+0.9
ARCES	**ARCESS Array B** 2.1nm,0.8s,baz=83,slow=9.9,SNR=3.7	82.11	342	P	P	05 54 26.0	+0.6
NVAR	**Mina Array Bea** 0.9nm,0.5s,baz=265,slow=5.7,SNR=6.1	83.20	52	P	P	05 54 32.0	+0.1
FINES	**FINESS Array B** 1.0nm,0.5s,baz=46,slow=5.5,SNR=6.9	86.48	335	P	P	05 54 46.0	-1.3
PDAR	**Pinedale Array** 0.2nm,0.5s,baz=261,slow=3.4,SNR=2.6	87.84	45	P	P	05 54 56.5	+1.8
PDAR	0.3nm,0.8s,baz=354,slow=1.8,SNR=2.5			pP	pP	05 55 51.4	-0.3
TORD	**Torodi Ar. Bea** 0.3nm,0.7s,baz=52,slow=1.8,SNR=2.7	132.02	309	PKP	PKPdf	06 01 18.7	+0.8
LPAZ	**La Paz** 0.6nm,0.6s,baz=168,slow=8.8,SNR=4.7	148.00	90	PKPbc	PKPbc	06 01 50.4	-0.3

IDC 17 05:42:38.1±1.4,37°.18N×72°.02E,h0km,mb3.6/5, mb1 3.8/11,mb1mx3.7/31,mbtmp3.7/11,ML3.5/6,Error ellipse: s-maj=26.9km s-min=18.5km az=127.0
NNC 17 05:42:42.4±8.6,37°.45N×71°.41E,h0km,mb4.2,mpv3.9, Error ellipse: s-maj=68.9km s-min=47.0km az=171.0
ISCJB 17 05:42:44.3±0.5,37°.36N±0°.03×71°.89E±0°.07,h50km, mb3.5/5,Error ellipse: s-maj=8.3km s-min=4.6km az=171.5

ISC 17 05:42:45.0±0.7,37°.39N±0°.05×71°.68E±0°.08,h50km,n30, σ2°75/30,mb3.6/5,7C,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	3.57	177	P	Pn	05 43 39.6	+1.6
CEP				S	Sn	05 44 28.0	+9.1
CHCP	**Chirah Chowk**	3.94	160	P	Pn	05 43 43.6	+0.5
KSH	**Kashi**	3.98	56	Pn	Pn	05 43 40.0	-3.6
KSH				Sn	Sn	05 44 26.5	-2.6
KSH	comp=N,250nm,0.9s			smax	smax		
KSH	comp=E,200nm,0.8s			smax	smax		
THW	**Thamme Wali**	4.59	179	P	Pn	05 43 50.6	-1.3
AML	**Almayashu** SNR=17	4.98	18	P	Pn	05 43 59.4	+1.8
KZA	**Kyzart** SNR=12	5.43	29	P	Pn	05 44 06.2	+2.5
EKS2	**Erkin-Say** SNR=6.4	5.50	16	P	Pn	05 44 06.8	+2.3
AAK	**Ala-Archa** comp=E,2.5nm,0.3s,baz=152,slow=5.0,SNR=8.8	5.66	22	Pn	Pn	05 44 08.4	+1.7
AAK	comp=E,1.5nm,0.3s,baz=228,slow=19,SNR=4.4			Sn	Sn	05 45 21.0	+10
AAK	comp=E,0.8nm,0.3s,baz=180,slow=16,SNR=4.6			Lg	Lg	05 45 41.6	
KK31	**Karatay Array** comp=E,4.7nm,0.4s,baz=176,slow=13,SNR=80	5.77	351	⇑Pn	Pn	05 44 08.8	+0.7
KK31	comp=E,17nm,0.6s,baz=166,slow=23,SNR=6.3			⇑Sn	Sn	05 45 16.2	+3.1
DLH	**Dalhousie**	5.98	143	*e*S	Sn	05 45 20.0	+1.5
ULHL	**Ulahol** SNR=10	5.98	34	P	Pn	05 44 13.4	+2.2
USP	**Ospenovka** SNR=5.6	6.25	19	P	Pn	05 44 16.2	+1.5
TKM2	**Tokmak 2** comp=E,8.6nm,0.6s	6.28	27	⇑Pn	Pn	05 44 17.6	+2.3
TKM2	comp=E,6.7nm,0.6s			⇑Sn	Sn	05 45 31.8	+6.0
TKM2	**Tokmak 2** SNR=17	6.28	27	P	Pn	05 44 18.4	+3.1
DHRM	**DHARAMSHALA**	6.38	142	*e*P	Pn	05 44 14.5	-2.2
DHRM				*e*S	Sn	05 45 27.4	-0.9
DHRM	comp=N,71nm,0.3s			AML	AML	05 45 31.8	
DHRM	comp=E,95nm,0.5s			AML	AML	05 45 31.9	
SMLA	**Simla**	7.72	142	*e*P	Pn	05 44 31.1	-3.7
SMLA				*e*S	Sn	05 45 52.3	-8.6
SMLA	comp=E,56nm,0.7s			AML	AML	05 46 01.4	
SMLA	comp=N,35nm,0.2s			AML	AML	05 46 01.8	
DDI	**Dehra Dun**	8.82	141	*e*S	Sn	05 46 17.7	-10
MKAR	**Makanchi Array** comp=N,0.1nm,0.3s,baz=218,slow=15,SNR=5.8	12.25	37	Pn	Pn	05 45 37.4	+0.7
KURBB	**Kurchatov Arra** comp=N,0.0nm,0.3s,baz=214,slow=12,SNR=4.2	14.11	18	Pn	Pn	05 45 59.6	-2.2
AB31	**Akbulak array** comp=N,0.6nm,0.4s,baz=0.0,slow=0.1,SNR=19	14.59	328	⇑P	Pn	05 46 04.5	-3.9
BVAR	**Borovoye Array** comp=N,0.4nm,0.3s,baz=158,slow=14,SNR=3.9	15.66	357	Pn	Pn	05 46 19.6	-2.6
AKTO	**Aktyubinsk** comp=N,5.0nm,0.8s	16.30	327	⇑P	P	05 46 32.5	-0.2
AKTO	comp=N,2.3nm,0.7s			⇑S	Sn	05 49 25.3	-4.8
AKTO	**Aktyubinsk** comp=N,0.1nm,0.3s,baz=143,slow=12,SNR=3.5	16.30	327	Pn	Pn	05 46 28.1	-2.3
AKTO				Sn	Sn	05 49 23.8	-6.3
ZALV	**Zalesovo Beam** comp=N,0.5nm,0.3s,baz=223,slow=11,SNR=7.8	18.88	25	P	P	05 47 00.1	-0.9
KBZ	**Khabaz** comp=N,1.3nm,0.4s,baz=70,slow=8.7,SNR=3.1	22.70	295	P	P	05 47 45.1	+2.8
ARCES	**ARCESS Array B** comp=N,2.2nm,0.9s,baz=114,slow=8.0,SNR=4.9	40.53	337	P	P	05 50 19.5	+0.6
NB2	**NORSAR Subarra** comp=Z,0.7nm,0.6s,baz=96,slow=8.6	44.00	322	P	P	05 50 51.1	+3.9
NOA	**NORSAR Array B** comp=Z,0.1nm,0.4s,baz=92,slow=8.3,SNR=3.4	44.00	322	P	P	05 50 51.5	+4.3
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.9s,baz=60,slow=5.8,SNR=4.9	66.28	269	P	P	05 53 30.7	+2.3
WRA	**Warramunga Arr** comp=Z,0.5nm,0.9s,baz=321,slow=4.9,SNR=3.1	82.00	122	P	P	05 54 57.7	-2.2

WEL 17 05:45:46.0±0.2,46°.31S×165°.87E,h33km,ML3.6/11, 1C-2D,Error ellipse: s-maj=1.9km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	0.58	76	⇓PN	Pb	05 45 57.7	-0.2
PYZ				SN	Sb	05 46 05.6	-0.5
DCZ	**Deep Cove**	1.22	48	⇑PN	Pn	05 46 06.5	-0.2
DCZ				SN	Sn	05 46 21.7	-0.4
DCZ				AML	AML	05 46 22.2	
DCZ				AML	AML	05 46 24.3	
DCZ				AML	AML	05 46 25.0	
WHZ	**Wether Hill Ro**	1.50	75	⇓PN	Pn	05 46 11.9	+1.2
WHZ				SN	Sb	05 46 32.0	-0.1
WHZ				AML	AML	05 46 33.4	
APZ	**The Paps**	1.55	111	PN	Pb	05 46 13.0	-1.3
MLZ	**Mavora Lakes**	1.87	60	PN	Pn	05 46 17.5	+1.7
MLZ				AML	AML	05 46 45.7	
MSZ	**Milford Sound**	2.18	42	*e*PN	Pn	05 46 20.8	+0.8
SYZ	**Scrubby Hill**	2.27	97	PN	Pn	05 46 23.0	+1.8
EAZ	**Earnscleugh**	2.63	67	PN	Pn	05 46 28.3	+2.1
EAZ				AML	AML	05 47 11.4	
EAZ				AML	AML	05 47 13.8	
TUZ	**Tuapeka**	2.64	84	*e*PN	Pn	05 46 28.4	+2.2
WKZ	**Wanaka**	2.66	57	*e*PN	Pn	05 46 28.5	+1.9
JCZ	**Jackson Bay**	3.03	43	*e*PN	Pn	05 46 33.9	+2.1
JCZ				AML	AML	05 47 27.9	
ODZ	**Otahua Downs**	3.58	71	PN	Pn	05 46 39.7	+0.5

WEL 17 05:49:12.5±0.2,45°.67S×166°.51E,h22km±1km,ML3.5/13, 2C,Error ellipse: s-maj=2.6km s-min=0.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	0.49	68	⇑P*	Pb	05 49 21.9	-0.4
DCZ				S*	Sb	05 49 27.9	-1.2
DCZ				S*	Sn	05 49 28.0	-4.0
DCZ				AML	AML	05 49 28.3	
DCZ				AML	AML	05 49 28.3	
PYZ	**Puysegur Point**	0.52	167	P*	Pb	05 49 22.1	-0.8
PYZ				S*	Sb	05 49 29.0	-1.0
MLZ	**Mavora Lakes**	1.21	75	⇑*i*PN	Pn	05 49 33.4	-0.7
MLZ				AML	AML	05 49 56.2	
MLZ				AML	AML	05 49 56.3	

MSZ	**Milford Sound**	**1.41**	**46**	AML	AML	05 50 03.0		
APZ	**The Paps**	**1.55**	**139**	*e*PN	Pn	05 49 38.7	-0.2	
WKZ	**Wanaka**	**1.96**	**66**	PN	Pb	05 49 46.4	-1.1	
WKZ				AML	AML	05 50 17.1		
EAZ	**Earnscleugh**	**2.02**	**79**	*e*PN	Pn	05 49 46.5	+1.3	
EAZ				AML	AML	05 50 15.5		
EAZ				AML	AML	05 50 18.3		
SYZ	**Scrubby Hill**	**2.03**	**116**	*e*PN	Pb	05 49 47.2	-1.3	
TUZ	**Tuapeka**	**2.20**	**99**	PN	Pb	05 49 50.3	-1.3	
TUZ				AML	AML	05 50 20.2		
TUZ				AML	AML	05 50 22.2		
JCZ	**Jackson Bay**	**2.26**	**46**	*e*PN	Pb	05 49 51.7	-0.9	
JCZ				AML	AML	05 50 29.2		
JCZ				AML	AML	05 50 31.3		
LBZ	**Lake Benmore**	**2.90**	**65**	*e*PN	Pn	05 49 59.2	+1.8	
ODZ	**Otahua Downs**	**2.98**	**79**	*e*PN	Pn	05 49 59.0	+0.5	

WEL 17 05:58:28.1±0.1, 45°70S×166°26E, h30km, ML3.5/14, 1C, Error ellipse: s-maj=1.6km s-min=0.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.56**	**148**	⇑P*	Pb	05 58 39.1	-0.4
PYZ				S*	Sb	05 58 47.2	-0.1
DCZ	**Deep Cove**	**0.66**	**71**	PN	Pb	05 58 40.9	-0.3
DCZ				SN	Sn	05 58 50.6	-0.2
DCZ				AML	AML	05 58 50.8	
DCZ				SN	Sb	05 58 51.2	+1.1
DCZ				AML	AML	05 58 56.1	
WHZ	**Wether Hill Ro**	**1.20**	**100**	PN	Pb	05 58 49.8	-0.4
WHZ				AML	AML	05 59 11.2	
WHZ				AML	AML	05 59 11.3	
MLZ	**Mavora Lakes**	**1.39**	**76**	PN	Pb	05 58 52.5	-1.0
MLZ				AML	AML	05 59 13.4	
MLZ				AML	AML	05 59 18.5	
MSZ	**Milford Sound**	**1.56**	**50**	*e*PN	Pn	05 58 54.7	+0.9
MSZ				AML	AML	05 59 22.4	
MSZ				AML	AML	05 59 22.4	
MSZ				AML	AML	05 59 24.2	
MSZ				AML	AML	05 59 30.6	
APZ	**The Paps**	**1.65**	**134**	PN	Pb	05 58 56.3	+1.2
WKZ	**Wanaka**	**2.13**	**67**	*e*PN	Pb	05 59 05.5	-0.6
WKZ				AML	AML	05 59 37.9	
WKZ				AML	AML	05 59 46.6	
SYZ	**Scrubby Hill**	**2.17**	**114**	PN	Pb	05 59 04.5	-2.3
EAZ	**Earnscleugh**	**2.19**	**79**	PN	Pb	05 59 05.7	-1.4
EAZ				AML	AML	05 59 39.3	
EAZ				AML	AML	05 59 39.3	
EAZ				AML	AML	05 59 48.6	
TUZ	**Tuapeka**	**2.37**	**98**	PN	Pb	05 59 08.0	-2.1
TUZ				AML	AML	05 59 39.9	
TUZ				AML	AML	05 59 41.5	
JCZ	**Jackson Bay**	**2.40**	**48**	*e*PN	Pn	05 59 07.9	+2.4
JCZ				AML	AML	05 59 51.5	
JCZ				AML	AML	05 59 52.0	
LBZ	**Lake Benmore**	**3.07**	**66**	*e*PN	Pn	05 59 17.1	+2.5
ODZ	**Otahua Downs**	**3.16**	**80**	PN	Pn	05 59 17.4	+1.7

CASC 17 06:15:07.0±2.3, 12°67N×88°67W, h36±467km, MD3.8, ML3.8, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.85**	**27**	*e*P	Pn	06 15 22.8	+0.1
BLLM	**Bellamira**	**0.88**	**28**	*e*P	Pn	06 15 22.9	-0.1
SNVI	**San Vicente**	**0.95**	**350**	*e*P	Pn	06 15 24.0	-0.1
SNVI				*e*S	Sn	06 15 36.9	+0.2
CNCH	**Conchagua**	**1.01**	**53**	*e*P	Pn	06 15 24.6	-0.2
LFRS	**El Faro**	**1.03**	**338**	*e*P	Pn	06 15 24.6	-0.4
LBRS	**Las Brisas**	**1.13**	**341**	*e*P	Pn	06 15 26.4	0.0
SNET	**Serv Nac Est T**	**1.15**	**332**	*e*S	Sn	06 15 41.9	+0.6
SNET	comp=Z,2μm,0.2s			AML	AML	06 15 43.3	
LFU	**La Fuente**	**1.16**	**338**	*e*P	Pn	06 15 26.7	-0.2
LFU				*e*S	Sn	06 15 42.0	+0.5
CAHU	**Cacacuatique**	**1.18**	**22**	*i* P	Pn	06 15 27.5	+0.2
CAHU				*e*S	Sn	06 15 44.6	+2.2
BOQS	**Boqueron**	**1.22**	**331**	*e*P	Pn	06 15 27.8	0.0
BOQS				*e*S	Sn	06 15 43.7	+0.4
SBLS	**San Blas**	**1.49**	**321**	*e*P	Pn	06 15 31.9	+0.3
SNJE	**San Jose**	**1.50**	**323**	*e*P	Pn	06 15 32.1	+0.4
RTR	**El Retiro**	**1.55**	**322**	*e*P	Pn	06 15 32.8	+0.5
RBDL	**Robledal**	**1.75**	**325**	*e*P	Pn	06 15 35.7	+0.7
TGUH	**Tegucigalpa,Un**	**1.94**	**44**	*e*P	Pn	06 15 37.6	+0.3
TGUH				*e*S	Sn	06 16 01.2	+0.8
COPN	**Copaltepe**	**2.08**	**103**	*e*P	Pn	06 15 38.4	-1.0
HUEN		**2.46**	**97**	*e*P	Pn	06 15 44.1	-0.4
NBG	**Las Nubes**	**2.51**	**320**	*e*P	Pn	06 15 46.6	+1.0
NBG				*e*S	Sn	06 16 16.2	+0.9
MRL	**Marmol**	**2.58**	**337**	*e*P	Pn	06 15 48.5	+2.0
MRL				*e*S	Sn	06 16 18.7	+1.9
FUG	**Fuego 3**	**2.76**	**310**	*e*P	Pn	06 15 51.8	+2.9
FUG				*e*S	Sn	06 16 20.4	-0.8
JAT	**Jato**	**3.32**	**300**	*e*P	Pn	06 15 56.8	+0.3
JAT				*e*S	Sn	06 16 33.1	-1.6

IDC 17 06:16:20.2±1.1, 4°27N×125°88E, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.9/22, mbtmp4.1/6, Error ellipse: s-maj=47.6km s-min=19.0km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.23**	**181**	P	P	06 21 18.9	+0.2
	2.5nm,0.3s,baz=9.1,slow=9.7,SNR=23						
WRA	**Warramunga Arr**	**25.46**	**161**	P	P	06 21 50.0	-0.1
	1.2nm,0.3s,baz=339,slow=10,SNR=30						
ASAR	**Alice Springs**	**28.85**	**165**	P	P	06 22 20.6	0.0
	0.7nm,0.4s,baz=342,slow=7.1,SNR=13						
CMAR	**Chiang Mai Arr**	**29.87**	**300**	P	P	06 22 29.9	+0.2
	0.9nm,0.3s,baz=80,slow=6.5,SNR=3.5						
STKA	**Stephens Creek**	**38.94**	**158**	P	P	06 23 47.8	-0.2
	1.9nm,0.6s,baz=341,slow=7.7,SNR=6.8						
USRK	**Ussuriysk Arra**	**40.13**	**7**	P	P	06 23 57.5	-0.2
	2.7nm,0.8s,baz=171,slow=3.6,SNR=6.0						

WEL 17 06:22:01.8±0.4, 46°16S×166°03E, h28km±1km, ML3.5/14, 1C, Error ellipse: s-maj=3.8km s-min=1.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.45**	**91**	P*	Pb	06 22 11.1	-0.3
PYZ				S*	Sb	06 22 17.5	-0.4
DCZ	**Deep Cove**	**1.04**	**49**	⇑PN	Pn	06 22 20.8	-0.6
DCZ				AML	AML	06 22 20.8	
DCZ				AML	AML	06 22 34.2	
DCZ				AML	AML	06 22 36.6	
DCZ				AML	AML	06 22 36.6	
WHZ	**Wether Hill Ro**	**1.36**	**79**	PN	Pn	06 22 25.2	+0.2
WHZ				AML	AML	06 22 44.4	
WHZ				AML	AML	06 22 47.5	
APZ	**The Paps**	**1.51**	**117**	PN	Pn	06 22 26.5	-0.5
MLZ	**Mavora Lakes**	**1.71**	**62**	*e*PN	Pn	06 22 30.6	+0.9
MLZ				AML	AML	06 22 56.2	
MLZ				AML	AML	06 23 01.2	
MSZ	**Milford Sound**	**2.00**	**43**	*e*PN	Pn	06 22 34.0	+0.3
MSZ				AML	AML	06 23 11.9	
MSZ				AML	AML	06 23 17.1	
SYZ	**Scrubby Hill**	**2.19**	**101**	*e*PN	Pn	06 22 36.9	+0.7
EAZ	**Earnscleugh**	**2.48**	**69**	PN	Pn	06 22 42.8	+2.5
EAZ				AML	AML	06 23 19.0	
EAZ				AML	AML	06 23 24.2	
WKZ	**Wanaka**	**2.49**	**59**	*e*PN	Pb	06 22 44.2	-1.6
WKZ				AML	AML	06 23 22.3	
TUZ	**Tuapeka**	**2.52**	**87**	*e*PN	Pn	06 22 42.6	+1.8
TUZ				AML	AML	06 23 16.0	
TUZ				AML	AML	06 23 18.6	
JCZ	**Jackson Bay**	**2.85**	**44**	*e*PN	Pn	06 22 46.6	+1.1
JCZ				AML	AML	06 23 39.3	
JCZ				AML	AML	06 23 39.3	
ODZ	**Otahua Downs**	**3.43**	**73**	PN	Pn	06 22 53.7	+0.4
LBZ	**Lake Benmore**	**3.43**	**60**	PN	Pn	06 22 54.8	+1.5

WEL 17 06:27:44.7±0.3, 45°73S×166°53E, h22km±1km, ML3.9/12, 2C, Error ellipse: s-maj=3.0km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.45**	**167**	P*	Pb	06 27 53.1	-1.1
PYZ				S*	Sb	06 27 59.5	-0.9
PYZ				S*	Sn	06 27 59.7	-3.7
DCZ	**Deep Cove**	**0.50**	**61**	⇑P*	Pb	06 27 54.5	-0.4
DCZ				AML	AML	06 28 01.2	
DCZ				S*	Sb	06 28 01.2	-0.6
DCZ				AML	AML	06 28 01.7	
DCZ				AML	AML	06 28 01.7	
WHZ	**Wether Hill Ro**	**1.00**	**100**	PN	Pb	06 28 03.2	-0.3
WHZ				AML	AML	06 28 22.2	
WHZ				AML	AML	06 28 22.7	
MLZ	**Mavora Lakes**	**1.22**	**72**	⇑PN	Pn	06 28 05.8	-0.6
MLZ				AML	AML	06 28 21.4	
MLZ				AML	AML	06 28 22.4	
APZ	**The Paps**	**1.50**	**138**	PN	Pn	06 28 10.1	-0.3
SYZ	**Scrubby Hill**	**1.99**	**115**	PN	Pn	06 28 18.4	+1.5
EAZ	**Earnscleugh**	**2.02**	**77**	PN	Pb	06 28 19.7	-1.0
EAZ				AML	AML	06 28 47.8	
EAZ				AML	AML	06 28 48.0	
TUZ	**Tuapeka**	**2.18**	**97**	PN	Pb	06 28 21.6	-1.8
TUZ				AML	AML	06 28 51.5	
TUZ				AML	AML	06 28 51.8	
ODZ	**Otahua Downs**	**2.98**	**78**	PN	Pn	06 28 31.8	+1.2
ODZ				AML	AML	06 29 21.8	
ODZ				AML	AML	06 29 22.5	

IDC 17 06:27:52.7±14.0, 21°71N×143°29E, h277km±145km, mb3.0/7, mb1 3.1/7, mb1mx3.0/25, mbtmp3.0/7, MS2.6/1, Ms1 2.6/1, ms1mx2.0/11, Error ellipse: s-maj=37.3km s-min=23.9km az=97.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.43**	**344**	LR	LR	06 36 18.9	
	comp=Z,23nm,20.2s,baz=280,slow=33						
WRA	**Warramunga Arr**	**42.31**	**193**	P	P	06 35 20.0	+0.1
	0.3nm,0.3s,baz=17,slow=9.2,SNR=9.0						
ASAR	**Alice Springs**	**46.02**	**192**	P	P	06 35 48.7	-0.5
	0.1nm,0.6s,baz=30,slow=9.6,SNR=3.6						
MKAR	**Makanchi Array**	**54.77**	**313**	P	P	06 36 53.7	-0.4
	0.1nm,0.3s,baz=89,slow=9.1,SNR=4.0						
MKAR				PcP	PcP	06 37 52.7	-0.2
	0.1nm,0.4s,baz=85,slow=3.0,SNR=2.7						
ILAR	**Eielson Array**	**61.98**	**27**	P	P	06 37 43.4	-0.1
	0.1nm,0.3s,baz=268,slow=5.1,SNR=3.8						
BVAR	**Borovoye Array**	**62.73**	**319**	P	P	06 37 48.9	+0.4
	1.0nm,0.4s,baz=111,slow=9.9,SNR=5.0						
ARCES	**ARCESS Array B**	**78.94**	**342**	P	P	06 39 25.7	+0.3
	1.3nm,0.7s,baz=64,slow=8.5,SNR=9.0						
FINES	**FINESS Array B**	**83.22**	**335**	P	P	06 39 47.4	-0.5
	0.5nm,0.5s,baz=90,slow=3.8,SNR=5.9						

*ISCJB **17** 06:32:43.9±1.4, 45°32S±0°03×166°64E±0°05, h4km±10km, mb4.0/3, Error ellipse: s-maj=6.3km s-min=5.0km az=1.0*
*IDC **17** 06:32:45.2±1.3, 45°39S×166°82E, h0km, mb3.5/2, mb1 4.0/4, mb1mx3.7/14, mbtmp3.9/4, ML4.0/2, Error ellipse: s-maj=48.9km s-min=23.9km az=166.0*
*NEIC **17** 06:32:46.8, 45°42S×166°67E, h12km, ML4.8(WEL), After WEL.*
*WEL **17** 06:32:46.9±0.1, 45°40S×166°71E, h22km, ML4.8/28, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0*
WEL Felt in the Otago region, maximum reported intensity MM 3.

ISC 17 06:32:47.3±0.7, 45°43S±0°04×166°76E±0°05, h21km±2km, n87, σ1°59/91, mb3.5/3, 2C-5D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.28**	**100**	P*	Pb	**06 32 54.1**	**+0.3**
DCZ				S*	Sb	**06 32 58.8**	**+0.5**
DCZ	**Deep Cove**	**0.28**	**100**	⇑P*	Pb	**06 32 54.1**	**+0.3**
DCZ				S*	Sb	**06 32 58.8**	**+0.5**
DCZ				AML	AML	06 32 58.8	
DCZ				AML	AML	06 32 58.9	
DCZ				AML	AML	06 32 58.9	
PYZ	**Puysegur Point**	**0.74**	**184**	P*	Pb	**06 33 00.8**	**-0.7**
PYZ	**Puysegur Point**	**0.74**	**184**	⇑P*	Pb	**06 33 00.8**	**-0.7**
PYZ				S*	Sb	**06 33 10.2**	**-1.0**
PYZ				S*	Sn	**06 33 10.8**	**-2.4**
WHZ	**Wether Hill Ro**	**0.96**	**120**	P*	Pb	**06 33 05.0**	**-0.2**
WHZ				S*	Sn	**06 33 19.1**	**+0.6**
WHZ	**Wether Hill Ro**	**0.96**	**120**	⇓PN	Pn	**06 33 05.3**	**-0.2**
WHZ				SN	Sn	**06 33 18.8**	**+0.3**
WHZ				AML	AML	06 39 59.6	
MLZ	**Mavora Lakes**	**1.00**	**86**	P*	Pb	**06 33 05.2**	**-0.7**
MLZ	**Mavora Lakes**	**1.00**	**86**	⇓PN	Pb	**06 33 05.2**	**-0.7**
MLZ				AML	AML	06 39 59.4	
MLZ				AML	AML	06 39 59.9	
MSZ	**Milford Sound**	**1.12**	**48**	P*	Pn	**06 33 05.6**	**-1.9**
MSZ	**Milford Sound**	**1.12**	**48**	PN	Pn	**06 33 05.6**	**-2.1**
MSZ				AML	AML	06 33 25.2	
MSZ				AML	AML	06 33 25.2	
MSZ				SN	Sn	**06 33 25.5**	**+3.0**
MSZ				AML	AML	06 33 28.9	
APZ	**The Paps**	**1.65**	**149**	Pn	Pb	**06 33 16.7**	**-0.2**
APZ	**The Paps**	**1.65**	**149**	PN	Pb	**06 33 16.5**	**-0.4**
WKZ	**Wanaka**	**1.71**	**70**	Pn	Pb	**06 33 16.7**	**-1.3**
WKZ	**Wanaka**	**1.71**	**70**	PN	Pn	**06 33 16.6**	**+0.7**
WKZ				AML	AML	06 33 47.4	
WKZ				AML	AML	06 33 47.4	
WKZ				AML	AML	06 33 48.6	
WKZ				AML	AML	06 33 48.6	
EAZ	**Earnscleugh**	**1.81**	**85**	Pn	Pb	**06 33 18.4**	**-1.2**
EAZ	**Earnscleugh**	**1.81**	**85**	PN	Pb	**06 33 18.2**	**-1.4**
EAZ				AML	AML	06 33 43.6	
EAZ				AML	AML	06 33 43.8	
EAZ				AML	AML	06 33 47.9	
EAZ				AML	AML	06 33 47.9	
JCZ	**Jackson Bay**	**1.97**	**47**	PN	Pn	**06 33 19.8**	**+0.4**
JCZ				AML	AML	06 33 55.0	
JCZ				AML	AML	06 33 55.5	
SYZ	**Scrubby Hill**	**2.00**	**125**	Pn	Pb	**06 33 21.2**	**-1.6**
SYZ	**Scrubby Hill**	**2.00**	**125**	PN	Pn	**06 33 21.0**	**+1.3**
TUZ	**Tuapeka**	**2.08**	**106**	Pn	Pn	**06 33 22.3**	**+1.4**
TUZ	**Tuapeka**	**2.08**	**106**	PN	Pn	**06 33 21.8**	**+0.9**
TUZ				AML	AML	06 33 52.3	
TUZ				AML	AML	06 33 55.4	
LBZ	**Lake Benmore**	**2.65**	**68**	Pn	Pn	**06 33 29.0**	**+0.3**
LBZ	**Lake Benmore**	**2.65**	**68**	⇓PN	Pn	**06 33 29.0**	**+0.3**
LBZ				AML	AML	06 34 16.2	
LBZ				AML	AML	06 34 16.2	
LBZ				AML	AML	06 34 24.3	
LBZ				AML	AML	06 34 24.3	
HHSZ	**Highcliff Hill**	**2.73**	**101**	⇓PN	Pn	**06 33 31.1**	**+1.6**
ODZ	**Otahua Downs**	**2.77**	**83**	*e*Pn	Pn	**06 33 30.7**	**+0.3**
ODZ				*e*Sn	Sb	**06 34 07.0**	**-2.6**
ODZ	**Otahua Downs**	**2.77**	**83**	⇓PN	Pn	**06 33 30.8**	**+0.3**
ODZ				AML	AML	06 34 12.6	
ODZ				AML	AML	06 34 12.6	
ODZ				AML	AML	06 34 16.8	
ODZ				AML	AML	06 34 16.8	
FOZ	**Fox Glacier**	**2.81**	**49**	Pn	Pn	**06 33 32.0**	**+1.1**
FOZ	**Fox Glacier**	**2.81**	**49**	PN	Pn	**06 33 31.7**	**+0.8**
FOZ				AML	AML	06 34 23.1	
FOZ				AML	AML	06 34 23.1	
FOZ				AML	AML	06 34 24.7	
FOZ				AML	AML	06 34 24.7	
RPZ	**Rata Peaks**	**3.52**	**62**	*e*Pn	Pn	**06 33 40.3**	**-0.3**
RPZ				SN	Sn	**06 34 24.8**	**+3.2**
RPZ	**Rata Peaks**	**3.52**	**62**	PN	Pn	**06 33 40.3**	**-0.3**
	42nm,0.3s,baz=218,slow=6.8,SNR=81						
RPZ				SN	Sn	**06 34 24.8**	**+3.2**
	82nm,0.3s,baz=282,slow=14,SNR=9.6						
RPZ	**Rata Peaks**	**3.52**	**62**	AML	AML	06 34 32.1	
RPZ				AML	AML	06 34 47.3	
WVZ	**Waitaha Valley**	**3.70**	**52**	Pn	Pn	**06 33 42.8**	**-0.3**
WVZ	**Waitaha Valley**	**3.70**	**52**	PN	Pn	**06 33 42.4**	**-0.7**
WVZ				AML	AML	06 34 48.0	
WVZ				AML	AML	06 34 57.9	
OXZ	**Oxford**	**4.33**	**63**	PN	Pn	**06 33 49.8**	**-2.0**
MQZ	**McQueen's Vall**	**4.55**	**70**	AML	AML	06 35 16.5	
MQZ				AML	AML	06 35 20.9	
LTZ	**Lake Taylor**	**4.77**	**58**	*e*PN	Pn	**06 33 56.9**	**-1.0**
LTZ				AML	AML	06 35 03.8	
LTZ				AML	AML	06 35 04.1	
DSZ	**Denniston Nort**	**5.19**	**47**	Pn	Pn	**06 34 03.4**	**-0.4**
DSZ	**Denniston Nort**	**5.19**	**47**	*e*PN	Pn	**06 34 00.9**	**-2.8**
KHZ	**Kahutara**	**5.75**	**61**	*e*Pn	Pn	**06 34 12.2**	**+0.9**
	54nm,0.8s						
THZ	**Tophouse**	**5.77**	**53**	AML	AML	06 35 25.7	
THZ				AML	AML	06 35 27.4	
QRZ	**Quartz Range**	**6.24**	**45**	Pn	Pn	**06 34 17.9**	**-0.2**
QRZ	**Quartz Range**	**6.24**	**45**	PN	Pn	**06 34 17.0**	**-1.1**
QRZ				AML	AML	06 35 34.1	
QRZ				AML	AML	06 35 35.0	
NNZ	**Nelson**	**6.40**	**51**	Pn	Pn	**06 34 21.0**	**+0.7**
NNZ	**Nelson**	**6.40**	**51**	*e*PN	Pn	**06 34 21.4**	**+1.1**
NNZ				AML	AML	06 35 44.0	
NNZ				AML	AML	06 35 47.7	
TUWZ	**Tuamarina**	**6.58**	**55**	Pn	Pn	**06 34 25.2**	**+2.4**
TUWZ	**Tuamarina**	**6.58**	**55**	*e*PN	Pn	**06 34 24.3**	**+1.5**
TUWZ				AML	AML	06 35 47.7	
TUWZ				AML	AML	06 35 50.5	
TCW	**Tory Channel**	**6.91**	**55**	Pn	Pn	06 34 30.8	+3.5
TCW	**Tory Channel**	**6.91**	**55**	AML	AML	06 35 56.0	
TCW				AML	AML	06 35 56.3	
DUWZ	**D'Urville Isla**	**6.99**	**51**	Pn	Pn	**06 34 30.1**	**+1.8**
DUWZ	**D'Urville Isla**	**6.99**	**51**	*e*PN	Pn	**06 34 29.9**	**+1.6**
SNZO	**South Karori**	**7.10**	**57**	*e*Pn	Pn	06 34 33.1	+3.2
SNZO				*e*Sn	Sn	**06 35 51.4**	**+1.5**
CAW	**Cannon Point**	**7.44**	**57**	Pn	Pn	**06 34 35.2**	**+0.6**
CAW	**Cannon Point**	**7.44**	**57**	*e*PN	Pn	**06 34 35.0**	**+0.4**
CAW				AML	AML	06 36 14.7	
CAW				AML	AML	06 36 20.5	
MRZ	**Mangatainoka R**	**8.03**	**57**	Pn	Pn	**06 34 41.6**	**-0.9**
MRZ	**Mangatainoka R**	**8.03**	**57**	*e*PN	Pn	**06 34 40.7**	**-1.8**
MRZ				AML	AML	06 36 30.6	
MRZ				AML	AML	06 36 36.5	
NWEZ	**Newall Road**	**8.09**	**43**	Pn	Pn	**06 34 43.9**	**+0.5**
NEZ	**North Egmont**	**8.21**	**44**	Pn	Pn	**06 34 46.3**	**+1.2**
NEZ	**North Egmont**	**8.21**	**44**	*e*PN	Pn	**06 34 44.4**	**-0.7**
PKE	**Pukeiti**	**8.21**	**43**	Pn	Pn	**06 34 45.8**	**+0.7**
PKE	**Pukeiti**	**8.21**	**43**	AML	AML	06 36 25.7	
PKE				AML	AML	06 36 25.7	
WAZ	**Wanganui**	**8.30**	**50**	Pn	Pn	**06 34 49.0**	**+2.7**
WAZ	**Wanganui**	**8.30**	**50**	*e*PN	Pn	**06 34 48.7**	**+2.4**
RAEZ	**Rainy Point**	**8.34**	**45**	*e*PN	Pn	06 34 50.8	+3.9
VRZ	**Vera Road**	**8.65**	**46**	Pn	Pn	**06 34 52.0**	**+0.9**
HIZ	**Hauiti**	**9.17**	**44**	Pn	Pn	**06 34 58.6**	**+0.4**
MKAZ	**Moumakai**	**10.44**	**40**	Pn	Pn	**06 35 15.9**	**+0.3**
MKAZ	**Moumakai**	**10.44**	**40**	*e*PN	Pn	**06 35 15.3**	**-0.3**
URZ	**Urewera**	**10.53**	**51**	*e*Pn	Pn	**06 35 14.4**	**+1.6**
URZ				Sn	Sn	**06 37 08.6**	**-5.4**
URZ	**Urewera**	**10.53**	**51**	Pn	Pn	**06 35 16.4**	**-0.4**
	0.4nm,0.3s,baz=229,slow=9.3,SNR=3.1						
URZ				Sn	Sn	**06 37 08.6**	**-5.4**
	0.7nm,0.3s,baz=245,slow=19,SNR=2.9						
WCZ	**Waipu Caves**	**11.08**	**34**	Pn	Pn	**06 35 23.8**	**-0.7**
WCZ	**Waipu Caves**	**11.08**	**34**	PN	Pn	**06 35 23.8**	**-0.7**
OUZ	**Omahuta**	**11.45**	**29**	*e*Pn	Pn	**06 35 29.7**	**+0.2**
TAU	**Tasmania Unive**	**14.18**	**273**	*e*Pn	Pn	**06 36 04.2**	**-2.5**
ASAR	**Alice Springs**	**34.33**	**298**	P	P	**06 39 34.5**	**+2.1**
ASAR	**Alice Springs**	**34.33**	**298**	P	P	**06 39 34.5**	**+2.1**
	0.5nm,0.8s,baz=139,slow=7.4,SNR=4.0						
WRA	**Warramunga Arr**	**36.87**	**303**	P	P	**06 39 55.0**	**+0.7**
WRA	**Warramunga Arr**	**36.87**	**303**	P	P	**06 39 55.0**	**+0.7**
	0.5nm,0.7s,baz=141,slow=8.6,SNR=2.6						
QSPA	**South Pole Qui**	**44.70**	**180**	*e*P	P	**06 41 01.0**	**+2.6**
GYA	**Guiyang**	**89.99**	**309**	*e*P	P	06 45 48.0	+2.9
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BRTR	**Keskin Array B**	**145.40**	**277**	PKPbc	**PKPab**	**06 52 24.9**	**+1.4**
BRTR	**Keskin Array B**	**145.40**	**277**	PKPbc	**PKPab**	**06 52 24.9**	**+1.4**
	comp=Z,1.1nm,0.8s,baz=134,slow=5.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**145.41**	**206**	PKPbc	**PKPab**	**06 52 24.6**	**+0.7**
TORD	**Torodi Ar. Bea**	**145.41**	**206**	PKPbc	**PKPab**	**06 52 24.6**	**+0.7**
	comp=Z,3.9nm,0.6s,baz=150,slow=2.2,SNR=24						
ARCES	**ARCESS Array B**	**149.07**	**335**	PKPbc	**PKPbc**	**06 52 33.3**	**+0.8**
ARCES	**ARCESS Array B**	**149.07**	**335**	PKPbc	**PKPbc**	**06 52 33.3**	**+0.8**
	comp=Z,2.3nm,0.8s,baz=64,slow=2.8,SNR=5.3						
FINES	**FINESS Array B**	**152.18**	**319**	PKPbc	**PKPbc**	**06 52 40.5**	**+0.5**
FINES	**FINESS Array B**	**152.18**	**319**	PKPbc	**PKPbc**	**06 52 40.5**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=103,slow=4.1,SNR=4.8						

*ISCJB **17** 06:39:22.5±1.1, 45°29S±0°03×166°62E±0°04, h4km±7km, mb4.8/21, MS4.7/14, Error ellipse: s-maj=5.2km s-min=4.3km az=11.8*
*IDC **17** 06:39:23.3±0.6, 45°27S×166°72E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.2/16, mbtmp4.1/11, ML4.7/2, MS4.5/11, Ms1 4.5/11, ms1mx4.3/25, Error ellipse: s-maj=20.2km s-min=16.6km az=44.0*
*NEIC **17** 06:39:24.0, 45°43S×166°54E, h5km, mb5.3/7, ML5.7(WEL), After WEL.*
NEIC Felt in the southern part of the South Island.
*WEL **17** 06:39:23.3±0.3, 45°33S×166°50E, h12km, ML5.6/45, Error ellipse: s-maj=1.9km s-min=1.4km az=90.0*
WEL Felt from Canterbury to Southland, maximum reported intensity MM 4.
*BJI **17** 06:39:23.6, 45°60S×166°18E, h7km, mB5.5/6, mb5.5/13, Ms5.3/4, Ms7 5.0/4*
*GCMT **17** 06:39:30.1±0.3, 45°24S×166°44E, h24km±1km, MW5.2, Moment Tensor Solution. s41,c57; s1,c1; Moment tensor: Scale 10^{16}Nm; M_{rr}0

TUZ AML AML 06 40 36.2
LBZ Lake Benmore 2.74 70 Pn **Pn** **06 40 08.1 0.0**
LBZ Lake Benmore 2.74 70 PN **Pn** **06 40 08.1 0.0**
LBZ AML AML 06 41 01.5
LBZ AML AML 06 41 01.5
LBZ AML AML 06 41 03.2
LBZ AML AML 06 41 03.3
FOZ Fox Glacier 2.86 52 Pn **Pn** **06 40 11.0 +1.3**
FOZ Fox Glacier 2.86 52 PN **Pn** **06 40 10.7 +1.0**
FOZ AML AML 06 41 07.1
FOZ AML AML 06 41 07.1
FOZ AML AML 06 41 11.4
FOZ AML AML 06 41 11.5
HHSZ Highcliff Hill 2.86 102 PN **Pn** **06 41 09.9 +0.1**
ODZ Otahua Downs 2.88 85 *e*Pn **Pn** **06 40 09.8 -0.3**
ODZ *e*S **Sg** **06 40 54.8 -1.8**
ODZ Otahua Downs 2.88 85 ‖PN **Pn** **06 40 09.8 -0.3**
ODZ AML AML 06 40 48.9
ODZ AML AML 06 40 48.9
ODZ AML AML 06 40 57.5
ODZ AML AML 06 40 57.5
RPZ Rata Peaks 3.59 64 *e*Pn **Pn** **06 40 19.3 -0.6**
RPZ *e*Sn **Sn** **06 40 59.6 -2.9**
RPZ Sn **Sn** **06 41 02.9 +0.4**
RPZ Rata Peaks 3.59 64 Pn **Pn** **06 40 19.3 -0.6**
251nm,0.3s,baz=224,slow=6.7,SNR=93
RPZ Sn **Sn** **06 41 02.9 +0.4**
226nm,0.3s,baz=221,slow=3.2,SNR=6.7
RPZ LR LR 06 41 33.1
comp=Z,6μm,20.6s,baz=233,slow=37
RPZ Rata Peaks 3.59 64 ‖PN **Pn** **06 40 19.2 -0.6**
RPZ AML AML 06 41 12.3
RPZ AML AML 06 41 25.7
WVZ Waitaha Valley 3.76 54 Pn **Pn** **06 40 21.8 -0.3**
WVZ Waitaha Valley 3.76 54 PN **Pn** **06 40 21.4 -0.7**
WVZ AML AML 06 41 27.9
WVZ AML AML 06 41 30.7
OXZ Oxford 4.41 64 PN **Pn** **06 40 29.7 -1.4**
MQZ McQueen's Vall 4.64 71 Pn **Pn** **06 40 32.9 -1.4**
MQZ McQueen's Vall 4.64 71 PN **Pn** **06 40 32.9 -1.4**
MQZ AML AML 06 42 04.1
MQZ AML AML 06 42 12.4
CRLZ Canterbury Las 4.67 70 AML AML 06 42 06.6
CRLZ AML AML 06 42 11.9
LTZ Lake Taylor 4.84 60 Pn **Pn** **06 40 36.0 -1.0**
LTZ Lake Taylor 4.84 60 PN **Pn** **06 40 36.0 -1.0**
LTZ AML AML 06 41 45.4
LTZ AML AML 06 41 47.2
DSZ Denniston Nort 5.24 48 Pn **Pn** **06 40 41.9 -0.6**
DSZ Denniston Nort 5.24 48 PN **Pn** **06 40 41.9 -0.6**
KHZ Kahutara 5.82 62 *e*Pn **Pn** **06 40 49.9 -0.6**
KHZ Kahutara 5.82 62 AML AML 06 42 53.8
KHZ AML AML 06 43 01.0
THZ Tophouse 5.83 54 Pn **Pn** **06 40 50.2 -0.5**
THZ Tophouse 5.83 54 PN **Pn** **06 40 50.2 -0.5**
THZ AML AML 06 42 07.0
THZ AML AML 06 42 07.6
QRZ Quartz Range 6.28 46 Pn **Pn** **06 40 56.2 -0.6**
QRZ Quartz Range 6.28 46 PN **Pn** **06 40 56.2 -0.6**
QRZ AML AML 06 42 13.8
QRZ AML AML 06 42 14.2
BSWZ Blackbirch Sta 6.43 58 AML AML 06 42 30.0
BSWZ AML AML 06 42 30.8
NNZ Nelson 6.46 52 Pn **Pn** **06 40 58.8 -0.4**
NNZ Nelson 6.46 52 PN **Pn** **06 40 58.8 -0.4**
NNZ AML AML 06 42 20.7
NNZ AML AML 06 42 25.1
TUWZ Tuamarina 6.64 56 Pn **Pn** **06 41 03.9 +2.1**
TUWZ Tuamarina 6.64 56 PN **Pn** **06 41 03.7 +1.9**
TUWZ AML AML 06 42 31.4
TUWZ AML AML 06 42 31.8
TCW Tory Channel 6.98 56 Pn **Pn** **06 41 08.4 +2.1**
TCW Tory Channel 6.98 56 PN **Pn** **06 41 07.6 +1.3**
TCW AML AML 06 42 35.7
TCW AML AML 06 42 37.0
DUWZ D'Urville Isla 7.04 52 Pn **Pn** **06 41 07.5 +0.2**
DUWZ D'Urville Isla 7.04 52 *e*PN **Pn** **06 41 06.9 -0.3**
DUWZ AML AML 06 42 36.5
DUWZ AML AML 06 42 38.0
SNZO South Karori 7.17 58 *e*Pn **Pn** **06 41 10.2 +1.2**
SNZO South Karori 7.17 58 AML AML 06 42 48.3
SNZO AML AML 06 42 48.4
CAW Cannon Point 7.51 58 Pn **Pn** **06 41 13.9 +0.2**
CAW Cannon Point 7.51 58 *e*PN **Pn** **06 41 13.4 -0.3**
CAW AML AML 06 42 56.4
CAW AML AML 06 43 01.3
KIW Kapiti Island 7.57 56 Pn **Pn** **06 41 15.5 +1.0**
KIW Kapiti Island 7.57 56 AML AML 06 42 56.9
KIW AML AML 06 42 57.8
MTW Mount Morrison 7.74 60 Pn **Pn** **06 41 17.4 +0.5**
MTW Mount Morrison 7.74 60 *e*PN **Pn** **06 41 17.0 +0.1**
MTW AML AML 06 43 14.1
MTW AML AML 06 43 20.4
OGWZ Otaki Gorge 7.75 57 Pn **Pn** **06 41 16.0 -1.0**
HOWZ Holdsworth Sta 7.91 59 Pn **Pn** **06 41 21.0 +1.9**
HOWZ Holdsworth Sta 7.91 59 PN **Pn** **06 41 20.6 +1.5**
MRZ Mangatainoka R 8.09 58 AML AML 06 43 13.1
MRZ AML AML 06 43 13.8
KHEZ Kahui Hut 8.19 45 *e*PN **Pn** **06 41 22.5 -0.6**
DFE Dawson Falls 8.21 45 *e*PN **Pn** **06 41 22.8 -0.5**
PKE Pukeiti 8.25 44 AML AML 06 43 06.1
PKE AML AML 06 43 07.9
WAZ Wanganui 8.35 51 Pn **Pn** **06 41 26.9 +1.6**
WAZ Wanganui 8.35 51 PN **Pn** **06 41 26.9 +1.6**
WAZ AML AML 06 43 37.7
WAZ AML AML 06 43 59.5
DREZ Durham Road 8.36 45 Pn **Pn** **06 41 25.8 +0.4**
DREZ Durham Road 8.36 45 *e*PN **Pn** **06 41 25.5 +0.1**
BFZ Birch Farm 8.48 60 AML AML 06 43 25.0
BFZ AML AML 06 43 26.9
VRZ Vera Road 8.69 47 Pn **Pn** **06 41 30.1 +0.2**
VRZ Vera Road 8.69 47 PN **Pn** **06 41 30.1 +0.2**
VRZ AML AML 06 43 14.7
VRZ AML AML 06 43 15.2
PKVZ Pokaka 8.88 50 Pn **Pn** **06 41 33.2 +0.6**
PKVZ Pokaka 8.88 50 PN **Pn** **06 41 33.1 +0.5**
PKVZ AML AML 06 43 20.9
PKVZ AML AML 06 43 43.5
WNVZ Wahianoa 8.99 51 Pn **Pn** **06 41 34.9 +0.8**
WNVZ Wahianoa 8.99 51 *e*PN **Pn** **06 41 34.4 +0.3**
WNVZ AML AML 06 43 54.7
WNVZ AML AML 06 44 30.5
TUVZ Tukino 9.06 51 Pn **Pn** **06 41 36.8 +1.7**
TUVZ Tukino 9.06 51 PN **Pn** **06 41 36.8 +1.7**
TUVZ AML AML 06 43 44.9
TUVZ AML AML 06 43 52.1
NGZ Ngauruhoe 9.10 50 AML AML 06 43 49.2
NGZ AML AML 06 43 59.9
OTVZ Oturere 9.14 50 Pn **Pn** **06 41 38.4 +2.1**
OTVZ Oturere 9.14 50 *e*PN **Pn** **06 41 38.2 +2.0**
OTVZ AML AML 06 43 42.5
OTVZ AML AML 06 43 59.0
HIZ Hauiti 9.21 45 Pn **Pn** **06 41 35.8 -1.1**
HIZ Hauiti 9.21 45 *e*PN **Pn** **06 41 36.2 -0.7**
HIZ AML AML 06 43 40.5
HIZ AML AML 06 43 53.1
RATZ Rangitukua 9.41 50 Pn **Pn** **06 41 41.3 +1.5**
RATZ Rangitukua 9.41 50 *e*PN **Pn** **06 41 40.4 +0.6**
RATZ AML AML 06 44 16.9
RATZ AML AML 06 44 24.5
TOZ Tahuroa Road 10.13 44 Pn **Pn** **06 41 49.3 -0.4**
TOZ Tahuroa Road 10.13 44 PN **Pn** **06 41 49.3 -0.4**
WTAZ Waiatarua 10.35 38 Pn **Pn** **06 41 52.2 -0.4**
WTAZ Waiatarua 10.35 38 *e*PN **Pn** **06 41 51.9 -0.7**
MKAZ Moumakai 10.47 41 Pn **Pn** **06 41 54.3 0.0**
MKAZ Moumakai 10.47 41 PN **Pn** **06 41 54.3 0.0**
MKAZ AML AML 06 43 56.9
MKAZ AML AML 06 44 10.2
URZ Urewera 10.58 52 *e*Pn **Pn** **06 41 54.5 -1.2**
URZ *e*Sn **Sn** **06 43 50.2 -4.2**
URZ Urewera 10.58 52 Pn **Pn** **06 41 54.1 -1.6**
1.7nm,0.3s,baz=266,slow=7.6,SNR=10
URZ Sn **Sn** **06 43 48.7 -5.7**
4.0nm,0.3s,baz=270,slow=20,SNR=3.0
MWZ Matawai 10.76 53 AML AML 06 43 59.1
MWZ AML AML 06 44 07.6
WCZ Waipu Caves 11.10 35 Pn **Pn** **06 42 02.5 -0.4**
WCZ Waipu Caves 11.10 35 *e*PN **Pn** **06 42 02.1 -0.8**
WCZ AML AML 06 44 14.2
WCZ AML AML 06 44 18.5

OUZ Omahuta 11.45 30 *e*Pn **Pn** **06 42 08.0 +0.3**
OUZ *e*Sn **Sn** **06 44 18.6 +2.8**
TAU Tasmania Unive 14.06 273 *e*PN **Pn** **06 42 40.9 -2.3**
RAO Raoul Island 20.20 43 LR LR 06 51 01.2
comp=Z,2μm,21.2s,baz=340,slow=35
EIDS Eidsvold 23.55 323 *e*P **P** **06 44 36.5 +1.9**
86nm,1.2s
STKA Stephens Creek 23.61 296 *e*P **P** **06 44 37.7 +2.4**
31nm,1.8s
STKA Stephens Creek 23.61 296 P P 06 44 38.0 +2.8
5.9nm,1.0s,baz=99,slow=9.0,SNR=6.5
STKA LR LR 06 51 59.0
comp=Z,2μm,19.0s,baz=121,slow=32
CTA Charters Tower 30.30 320 P P 06 45 37.4 +1.8
CTA Charters Tower 30.30 320 P P 06 45 37.4 +1.8
2.7nm,0.8s,baz=164,slow=7.4,SNR=3.3
VNDA Vanda 32.32 182 P **P** **06 45 54.1 +1.2**
VNDA Vanda 32.32 182 P **P** **06 45 54.1 +1.2**
0.6nm,1.0s,baz=72,slow=20,SNR=2.5
VNDA LR LR 06 56 26.6
comp=Z,984nm,21.7s,baz=28,slow=32
SBA Scott Base 32.59 180 *e*P **P** **06 45 56.8 +1.5**
157nm,2.6s
AS31 Alice Springs 34.20 298 *e*P P 06 46 13.2 +3.2
ASAR Alice Springs 34.20 298 P **P** **06 46 10.3 +0.4**
ASAR Alice Springs 34.20 298 P **P** **06 46 10.3 +0.4**
4.1nm,1.1s,baz=132,slow=9.2,SNR=8.3
ASAR LR LR 06 57 47.2
comp=Z,493nm,20.0s,baz=141,slow=32
WRA Warramunga Arr 36.74 303 P **P** **06 46 31.9 +0.2**
WRA Warramunga Arr 36.74 303 P **P** **06 46 31.9 +0.2**
2.9nm,0.9s,baz=139,slow=7.5,SNR=12
WRA LR LR 06 59 54.9
comp=Z,772nm,19.4s,baz=125,slow=34
WRAB Tennant Creek 36.74 303 *e*P **P** **06 46 32.3 +0.6**
171nm,2.0s
PMG Port Moresby 39.55 329 LR LR 07 00 59.6
comp=Z,573nm,18.7s,baz=198,slow=33
NWAO Narrogin (SRO) 39.66 271 LR LR 06 59 20.8
comp=Z,666nm,20.5s,baz=316,slow=30
TBI Tubuai 41.76 73 *e*LR LR 06 58 57.7
1μm,31.0s,baz=217
FITZ Fitzroy Crossi 43.50 295 P **P** **06 47 27.3 -0.5**
FITZ Fitzroy Crossi 43.50 295 P **P** **06 47 27.3 -0.5**
2.5nm,0.8s,baz=153,slow=4.5,SNR=2.5
QSPA South Pole Qui 44.76 180 *e*P **P** **06 47 39.4 +1.7**
121nm,1.8s
QSPA South Pole Qui 44.76 180 P **P** **06 47 39.3 +1.7**
5.3nm,0.8s,baz=26,slow=3.6,SNR=18
PPT2 Papeete2 45.73 67 *e*LR LR 07 00 43.8
2μm,27.8s,baz=218
PPT Papeete 45.74 67 LR LR 07 02 16.0
comp=Z,687nm,18.6s,baz=213,slow=30
RKT Rikitea 51.93 85 *e*LR LR 07 03 37.6
1μm,30.2s,baz=229
MAW Mawson 53.77 207 P P 06 48 48.1 +1.9
MAW Mawson 53.77 207 P P 06 48 48.1 +1.9
1.8nm,1.0s,baz=72,slow=13,SNR=2.8
MAW LR LR 07 09 54.5
comp=Z,652nm,19.0s,baz=110,slow=34
SYO Syowa Base 59.42 200 ‖*e*X 06 49 31.2
SNAA Sanae 63.03 184 *e*P **P** **06 49 52.2 +1.3**
SNAA Sanae 63.03 184 *e*P **P** **06 49 51.2 +0.3**
51nm,2.1s
VNA1 Neumayer--Stat 64.23 182 *e*P **P** **06 50 00.6 +1.8**
PLCA Paso Flores 80.19 140 *e*P **P** **06 51 35.3 +0.5**
40nm,1.8s
PLCA Paso Flores 80.19 140 P **P** **06 51 35.8 +1.0**
3.0nm,0.9s,baz=214,slow=4.6,SNR=5.9
CMAR Chiang Mai Arr 88.21 299 P **P** **06 52 16.6 +1.0**
CMAR Chiang Mai Arr 88.21 299 P **P** **06 52 16.6 +1.0**
0.7nm,0.3s,baz=134,slow=6.5,SNR=3.7
NJ2 Nanjing 88.40 321 *e*P P 06 52 19.5 +3.4
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
GYA Guiyang 89.87 309 *e*P P 06 52 25.8 +2.4
GYA pmax pmax
comp=Z,10.0nm,1.0s
KMI Kunming 91.02 306 P P 06 52 31.9 +3.0
KMI pmax pmax
comp=Z,13nm,0.5s
CD2 Chengdu 94.93 310 *e*P P 06 52 48.8 +2.2
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 pmax pmax
comp=Z,30nm,8.2s
MDJ Mudanjiang 95.42 334 P P 06 52 51.9 +3.5
MDJ PP **PP** **06 56 39.5 -0.1**
MDJ S S 07 04 09.3 +5.0
MDJ pmax pmax
comp=Z,7.0nm,1.2s
MDJ pmax pmax
comp=Z,47nm,4.1s
MDJ LR LR
comp=N,780nm,28.7s
MDJ LR LR
comp=E,260nm,32.5s
MDJ LR LR
comp=Z,960nm,28.7s
CN2 Changchun 96.02 331 *e*P **P** **06 52 52.4 +1.3**
FX1 Attu Island--F 98.03 4 LR LR 07 31 15.7
comp=Z,244nm,20.0s,baz=21,slow=32
LZH Lanzhou 98.89 313 *e*P Pdif 06 53 08.3 +3.8
LZH pmax pmax
comp=Z,14nm,1.4s
LZH pmax pmax
comp=Z,76nm,8.2s
LZH LR LR
comp=N,290nm,13.8s
LZH LR LR
comp=E,320nm,14.1s
LZH LR LR
comp=Z,370nm,19.5s
HHC Hu-ho-hao-te 98.95 321 *e*P Pdif 06 53 05.5 +0.9
HHC sP sP 06 53 11.5 +3.2
HHC PP PP 06 57 10.9 +3.8
HHC SKS **SKSac** **07 03 42.0 -0.8**
HHC S **ScS** **07 04 33.3 -1.8**
HHC sS sS 07 04 41.5 +1.8
HHC SS **SS** **07 11 25.8 +2.5**
HHC pmax pmax
comp=Z,37nm,1.0s
HHC pmax pmax
comp=Z,250nm,5.1s
HHC LR LR
comp=N,240nm,18.2s
HHC LR LR
comp=E,520nm,18.6s
HHC LR LR
comp=Z,380nm,18.5s
WMQ Urumqi 113.02 309 PKP **PKiKP** **06 58 01.3 +0.2**
WMQ LR LR
comp=N,1μm,27.8s
WMQ LR LR
comp=E,1μm,30.9s
WMQ LR LR
comp=Z,980nm,24.7s
ILAR Eielson Array 115.66 20 PKP **PKPdf** **06 58 04.7 -0.8**
ILAR Eielson Array 115.66 20 PKP **PKPdf** **06 58 04.7 -0.8**
comp=Z,0.5nm,0.8s,baz=276,slow=4.6,SNR=4.3
MKAR Makanchi Array 117.86 309 PKP **PKPdf** **06 58 10.2 0.0**
MKAR Makanchi Array 117.86 309 PKP **PKPdf** **06 58 10.2 0.0**
comp=Z,0.3nm,0.6s,baz=90,slow=1.6,SNR=2.7
KURBB Kurchatov Arra 122.11 311 PKP **PKPdf** **06 58 18.4 +0.2**
comp=Z,0.7nm,0.6s,baz=91,slow=1.2,SNR=5.5
KURK Kurchatov 122.12 311 PKP **PKPdf** **06 58 18.4 +0.2**
WVT Waverly 124.72 72 *e*PKPdf **PKPdf** **06 58 22.4 -1.4**
BVAR Borovoye Array 127.68 311 PKP **PKPdf** **06 58 29.5 +0.7**
BVAR Borovoye Array 127.68 311 PKP **PKPdf** **06 58 29.5 +0.7**
comp=Z,0.6nm,0.7s,baz=85,slow=3.0,SNR=3.2
AKTO Aktyubinsk 133.54 303 PKP **PKPdf** **06 58 40.5 +0.4**
AKTO Aktyubinsk 133.54 303 PKP **PKPdf** **06 58 40.5 +0.4**
comp=Z,0.5nm,0.4s,baz=168,slow=4.4,SNR=2.8
SCHQ Schefferville 145.24 55 PKPbc **PKPdf** **06 58 60.0 -1.2**
SCHQ Schefferville 145.24 55 PKPbc **PKPdf** **06 58 60.0 -1.2**
comp=Z,3.9nm,0.7s,baz=246,slow=5.6,SNR=6.4
BRTR Keskin Array B 145.28 278 PKPbc **PKPdf** **06 59 02.5 +0.5**
BRTR Keskin Array B 145.28 278 PKPbc **PKPdf** **06 59 02.5 +0.5**
comp=Z,5.3nm,0.9s,baz=155,slow=4.1,SNR=12
TOA0 Torodi Ar. Sit 145.41 207 *e*PKPdf **PKPab** **06 59 02.5 -0.3**
TORD Torodi Ar. Bea 145.41 207 PKPbc **PKPab** **06 59 02.8 0.0**
TORD Torodi Ar. Bea 145.41 207 PKPbc **PKPab** **06 59 02.8 0.0**
comp=Z,8.0nm,0.8s,baz=140,slow=2.3,SNR=32
KEV Kevo 148.40 334 *ep* **PKPab** **06 59 09.7 -3.2**
comp=Z,2.4nm,0.5s
ARCES ARCESS Array B 148.97 335 PKPbc **PKPab** **06 59 11.6 -3.6**
ARCES ARCESS Array B 148.97 335 PKPbc **PKPab** **06 59 11.6 -3.6**
comp=Z,2.7nm,0.5s,baz=66,slow=3.3,SNR=29
ARE0 ARCESS Array S 148.97 335 *e*PKPbc **PKPab** **06 59 11.7 -3.5**
SUMG Summit 150.31 15 *e*PKPbc **PKPbc** **06 59 13.9 -0.8**
SUMG Summit 150.31 15 *i* P **PKPbc** **06 59 13.2 -1.6**
comp=Z,5.8nm,1.0s
KAF Kangasniemi 151.76 321 *ep* **PKPbc** **06 59 17.3 -0.6**
comp=Z,5.1nm,0.6s
FINES FINESS Array B 152.06 319 PKPbc **PKPbc** **06 59 19.2 +0.6**
FINES FINESS Array B 152.06 319 PKPbc **PKPbc** **06 59 19.2 +0.6**
comp=Z,3.6nm,0.7s,baz=88,slow=3.6,SNR=13
HFS Hagfors 158.14 322 PKPab **PKPab** **06 59 54.1 -0.1**
HFS Hagfors 158.14 322 PKPab **PKPab** **06 59 54.1 -0.1**
comp=Z,1.4nm,0.7s,baz=54,slow=7.3,SNR=3.4
NOA NORSAR Array B 158.67 326 PKPab **PKPab** **06 59 56.2 -0.3**
NOA NORSAR Array B 158.67 326 PKPab **PKPab** **06 59 56.2 -0.3**
comp=Z,0.7nm,0.7s,baz=57,slow=4.6,SNR=3.8

WEL 17 06:41:13.5±0.3, 45°.41S×166°.55E, h20km±2km, ML4.7/17, Error ellipse: s-maj=2.8km s-min=1.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.43**	**100**	P*	Pb	06 41 21.9	-0.5
DCZ				S*	Sb	06 41 28.0	-0.5
DCZ				S*	Sn	06 41 28.0	-3.8
DCZ				AML	AML	06 41 28.2	
PYZ	**Puysegur Point**	**0.77**	**173**	P*	Pb	06 41 27.5	-0.7
MSZ	**Milford Sound**	**1.22**	**54**	*e*PN	Pn	06 41 35.5	+0.1
MSZ				AML	AML	06 41 53.0	
MSZ				AML	AML	06 41 54.6	
MSZ				AML	AML	06 41 55.3	
MSZ				AML	AML	06 41 55.5	
APZ	**The Paps**	**1.74**	**145**	*e*PN	Pn	06 41 43.4	+0.7
WKZ	**Wanaka**	**1.84**	**73**	*e*PN	Pb	06 41 46.5	0.0
WKZ				AML	AML	06 42 16.7	
WKZ				AML	AML	06 42 16.7	
WKZ				AML	AML	06 42 17.5	
WKZ				AML	AML	06 42 18.4	
EAZ	**Earnscleugh**	**1.96**	**86**	*e*PN	Pb	06 41 47.4	-1.0
EAZ				AML	AML	06 42 14.5	
EAZ				AML	AML	06 42 17.2	
EAZ				AML	AML	06 42 17.3	
EAZ				AML	AML	06 42 18.2	
JCZ	**Jackson Bay**	**2.06**	**51**	*e*PN	Pb	06 41 52.8	+2.4
JCZ				AML	AML	06 42 21.9	
JCZ				AML	AML	06 42 23.2	
SYZ	**Scrubby Hill**	**2.13**	**123**	*e*PN	Pb	06 41 50.9	-0.5
TUZ	**Tuapeka**	**2.23**	**105**	AML	AML	06 42 25.0	
TUZ				AML	AML	06 42 27.4	
LBZ	**Lake Benmore**	**2.78**	**70**	AML	AML	06 42 39.4	
LBZ				AML	AML	06 42 42.8	
FOZ	**Fox Glacier**	**2.91**	**52**	AML	AML	06 42 52.8	
FOZ				AML	AML	06 42 53.2	
ODZ	**Otahua Downs**	**2.92**	**84**	*e*PN	Pn	06 42 00.4	+1.6
ODZ				AML	AML	06 42 39.7	
ODZ				AML	AML	06 42 40.9	
WVZ	**Waitaha Valley**	**3.81**	**54**	AML	AML	06 43 17.2	
WVZ				AML	AML	06 43 18.5	
MQZ	**McQueen's Vall**	**4.68**	**71**	AML	AML	06 43 21.5	
MQZ				AML	AML	06 43 23.0	

WEL 17 06:41:49.0±0.3, 45°.59S×166°.61E, h12km, ML4.4/12, Error ellipse: s-maj=3.2km s-min=1.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.40**	**75**	P*	Pb	06 41 57.5	-0.5
DCZ				S*	Sg	06 42 03.0	+0.8
DCZ				S*	Sb	06 42 03.3	-0.7
DCZ				AML	AML	06 42 03.9	
DCZ				AML	AML	06 42 04.0	
PYZ	**Puysegur Point**	**0.58**	**175**	S*	Sb	06 42 09.8	+0.2
MSZ	**Milford Sound**	**1.30**	**46**	*e*PN	Pg	06 42 16.9	+2.8
MSZ				SN	Sb	06 42 29.8	-0.3
MSZ				AML	AML	06 42 31.8	
MSZ				AML	AML	06 42 31.8	
MSZ				AML	AML	06 42 32.6	
WKZ	**Wanaka**	**1.86**	**67**	SN	Sb	06 42 45.7	-0.6
WKZ				AML	AML	06 42 51.8	
WKZ				AML	AML	06 42 51.9	
WKZ				AML	AML	06 42 52.5	
EAZ	**Earnscleugh**	**1.93**	**80**	*e*PN	Pb	06 42 23.8	-0.4
EAZ				AML	AML	06 42 52.2	
EAZ				AML	AML	06 42 52.5	
EAZ				AML	AML	06 42 52.9	
EAZ				AML	AML	06 42 54.2	
TUZ	**Tuapeka**	**2.15**	**101**	AML	AML	06 43 01.6	
TUZ				AML	AML	06 43 01.7	
ODZ	**Otahua Downs**	**2.90**	**81**	AML	AML	06 43 13.8	
ODZ				AML	AML	06 43 13.8	
MQZ	**McQueen's Vall**	**4.70**	**69**	AML	AML	06 43 57.1	
MQZ				AML	AML	06 43 57.5	

TIR 17 06:48:18.9±1.6, 39°.17N×20°.65E, h0km±13km, ML3.1
IDC 17 06:48:18.2±1.5, 39°.35N×20°.79E, h0km, mb3.3/5, mb1 3.4/5, mb1mx3.3/26, mbtmp3.4/5, Error ellipse: s-maj=35.5km s-min=26.9km az=108.0
SKO 17 06:48:19.6, 39°.29N×20°.45E, h8km
ATH 17 06:48:20.4, 39°.49N×20°.62E, h13km±2km, MD3.4/11
ISCJB 17 06:48:20.3±0.6, 39°.51N±0°.02×20°.51E±0°.03, h1km±4km, mb3.4/5, Error ellipse: s-maj=4.0km s-min=2.7km az=150.4
THE 17 06:48:21.4, 39°.50N×20°.58E, h0km±3km, ML2.9/7, Error ellipse: s-maj=3.5km s-min=1.3km az=294.0
CSEM 17 06:48:21.0±0.2, 39°.50N×20°.58E, h2km, ML2.9/7, Error ellipse: s-maj=5.2km s-min=3.3km az=59.0

ISC 17 06:48:20.9±0.9, 39°.49N±0°.02×20°.59E±0°.02, h9km±6km, n89, σ1$12/127, mb3.4/5, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.20**	**281**	P	**Pg**	**06 48 24.7**	**-0.3**
IGT				S	**Sg**	**06 48 29.5**	**+1.6**
IGT	**Igoumenitsa**	**0.20**	**281**	P	**Pg**	**06 48 24.7**	**-0.3**
IGT				S	**Sg**	**06 48 29.5**	**+1.6**
JAN	**Janina**	**0.26**	**51**	P	**Pg**	**06 48 24.9**	**-1.2**
JAN				S	**Sg**	**06 48 29.4**	**-0.3**
JAN	**Janina**	**0.26**	**51**	*e*PG	**Pg**	**06 48 24.8**	**-1.3**
JAN				*e*SG	**Sg**	**06 48 29.7**	**0.0**
JAN	**Janina**	**0.26**	**51**	P	**Pg**	**06 48 24.9**	**-1.2**
JAN				S	**Sg**	**06 48 29.4**	**-0.3**
SRN	**Sarande**	**0.59**	**311**	*e*PG	**Pg**	**06 48 32.3**	**-0.1**
SRN				*i* SG	**Sb**	**06 48 43.5**	**+1.5**
SRN	**Sarande**	**0.59**	**311**	*e*Pg	**Pg**	**06 48 32.3**	**-0.1**
SRN	SNR=90						
	SNR=90			*i* Sg	**Sb**	**06 48 43.5**	**+1.5**
KEK	**Kerkira**	**0.65**	**290**	P	**Pg**	**06 48 33.4**	**0.0**
KEK	**Kerkira**	**0.65**	**290**	*e*PB	**Pg**	**06 48 33.4**	**0.0**
KEK				*e*SB	**Sb**	**06 48 43.0**	**-0.5**
KEK	**Kerkira**	**0.65**	**290**	P	**Pg**	**06 48 33.4**	**0.0**
KEK				*e*Sb	**Sb**	**06 48 43.0**	**-0.5**
LKD2	**Lefkada island**	**0.71**	**176**	P	**Pg**	**06 48 34.1**	**-0.4**
LKD2				S	**Sb**	**06 48 45.4**	**+0.2**
LKD2	**Lefkada island**	**0.71**	**176**	*e*PB	**Pg**	**06 48 33.3**	**-1.4**
LKD2				*e*SB	**Sg**	**06 48 44.3**	**+0.6**
LKD2	**Lefkada island**	**0.71**	**176**	P	**Pg**	**06 48 34.1**	**-0.4**
LKD2				*e*Sb	**Sg**	**06 48 44.3**	**+0.6**
LKD2				S	**Sb**	**06 48 45.4**	**+0.2**
NEST	**Nestorio**	**0.98**	**21**	P	**Pg**	**06 48 39.3**	**-0.5**
NEST				S	**Sn**	**06 48 54.9**	**-0.2**
NEST	**Nestorio**	**0.98**	**21**	P	**Pg**	**06 48 39.3**	**-0.5**
THL	**Klokotos Trika**	**1.10**	**86**	P	**Pg**	**06 48 41.1**	**-1.0**
THL				S	**Sn**	**06 48 59.1**	**+1.2**
THL	**Klokotos Trika**	**1.10**	**86**	*e*PN	**Pg**	**06 48 41.1**	**-1.0**
THL	**Klokotos Trika**	**1.10**	**86**	P	**Pg**	**06 48 41.1**	**-1.0**
KBN	**Korca**	**1.14**	**8**	*e*PN	**Pn**	**06 48 43.6**	**+0.5**
KBN				*i* SN	Sn	06 49 05.5	+6.6
KBN	**Korca**	**1.14**	**8**	*e*Pn	**Pn**	**06 48 43.6**	**+0.5**
KZN	**Kozani**	**1.22**	**48**	*e*PB	**Pb**	**06 48 43.6**	**-0.5**
KZN	**Kozani**	**1.22**	**48**	*e*Pb	**Pb**	**06 48 43.6**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.29**	**111**	P	**Pg**	**06 48 47.0**	**+1.4**
MAKR				S	**Sg**	**06 48 49.4**	**+2.9**
MAKR	**Makrakomi, Fth**	**1.29**	**111**	P	**Pg**	**06 48 47.0**	**+1.4**

VLS	**Valsamata**	**1.31**	**180**	P	**Pn**	**06 48 44.1**	**-1.4**
VLS	**Valsamata**	**1.31**	**180**	*e*PN	**Pn**	**06 48 44.0**	**-1.4**
VLS				*e*SB	**Sn**	**06 49 04.1**	**+1.0**
VLS	**Valsamata**	**1.31**	**180**	P	**Pn**	**06 48 44.1**	**-1.4**
VLS				*e*Sb	**Sn**	**06 49 04.1**	**+1.0**
KFL	**Anninata**	**1.39**	**174**	P	**Pn**	**06 48 46.3**	**-0.2**
KFL				S	**Sg**	**06 49 07.7**	**+2.1**
KFL	**Anninata**	**1.39**	**174**	P	**Pn**	**06 48 46.3**	**-0.2**
KFL				S	**Sg**	**06 49 07.7**	**+2.1**
FNA	**Florina**	**1.42**	**25**	P	**Pn**	**06 48 47.0**	**+0.1**
FNA	**Florina**	**1.42**	**25**	*e*PB	**Pn**	**06 48 47.1**	**+0.1**
FNA	**Florina**	**1.42**	**25**	P	**Pn**	**06 48 47.0**	**+0.1**
AGG	**Agios Georgios**	**1.43**	**109**	P	**Pg**	**06 48 48.6**	**+0.3**
AGG				S	**Sg**	**06 49 08.5**	**+1.6**
AGG	**Agios Georgios**	**1.43**	**109**	*e*PG	**Pn**	**06 48 46.1**	**-1.0**
AGG	**Agios Georgios**	**1.43**	**109**	*e*Pg	**Pn**	**06 48 46.1**	**-1.0**
AGG	**Agios Georgios**	**1.43**	**109**	P	**Pg**	**06 48 48.6**	**+0.3**
AGG				S	**Sg**	**06 49 08.5**	**+1.6**
EFP	**Efpalio**	**1.48**	**136**	P	**Pb**	**06 48 48.7**	**+0.2**
EFP				S	**Sg**	**06 49 10.8**	**+2.4**
EFP	**Efpalio**	**1.48**	**136**	P	**Pb**	**06 48 48.7**	**+0.2**
EFP				S	**Sg**	**06 49 10.8**	**+2.4**
TRIZ	**Trizonia**	**1.62**	**134**	P	**Pb**	**06 48 50.7**	**-0.1**
TRIZ				S	**Sg**	**06 49 12.9**	**+0.1**
TRIZ	**Trizonia**	**1.62**	**134**	P	**Pb**	**06 48 50.7**	**-0.1**
TRIZ				S	**Sg**	**06 49 12.9**	**+0.1**
BIA	**Bitola**	**1.62**	**20**	P	**Pb**	**06 48 50.9**	**-0.1**
BIA	**Bitola**	**1.62**	**20**	*e*Pn	**Pb**	**06 48 51.1**	**0.0**
BIA	**Bitola**	**1.62**	**20**	P	**Pb**	**06 48 50.9**	**-0.1**
LAKA	**Lakka**	**1.66**	**139**	P	**Pb**	**06 48 51.9**	**+0.3**
LAKA				S	**Sg**	**06 49 15.8**	**+1.7**
LAKA	**Lakka**	**1.66**	**139**	P	**Pb**	**06 48 51.9**	**+0.3**
LAKA				S	**Sg**	**06 49 15.8**	**+1.7**
AXAR	**Agios Charalam**	**1.77**	**114**	P	**Pb**	**06 48 53.8**	**+0.4**
AXAR	**Agios Charalam**	**1.77**	**114**	P	**Pb**	**06 48 53.8**	**+0.4**
DSF	**Desfina**	**1.86**	**125**	P	**Pn**	**06 48 53.7**	**+0.8**
DSF				S	**Sg**	**06 49 21.1**	**+0.5**
DSF	**Desfina**	**1.86**	**125**	P	**Pn**	**06 48 53.7**	**+0.8**
DSF				S	**Sg**	**06 49 21.1**	**+0.5**
KLV	**Kalavryta, Ach**	**1.89**	**139**	P	**Pb**	**06 48 55.1**	**-0.5**
KLV	**Kalavryta, Ach**	**1.89**	**139**	*e*PG	**Pb**	**06 48 55.1**	**-0.5**
KLV	**Kalavryta, Ach**	**1.89**	**139**	P	**Pb**	**06 48 55.1**	**-0.5**
TIR	**Tirane**	**1.93**	**344**	*e*PN	**Pb**	**06 48 56.5**	**+0.3**
TIR	**Tirane** SNR=40	**1.93**	**344**	*e*Pn	**Pb**	**06 48 56.5**	**+0.3**
XOR	**Xorichti**	**2.02**	**93**	P	**Pn**	**06 48 56.1**	**+1.0**
XOR	**Xorichti**	**2.02**	**93**	P	**Pn**	**06 48 56.1**	**+1.0**
NEO	**Neokhori**	**2.05**	**94**	P	**Pn**	**06 48 56.3**	**+0.8**
NEO				S	**Sb**	**06 49 24.9**	**+1.0**
NEO	**Neokhori**	**2.05**	**94**	*e*PN	**Pn**	**06 48 56.5**	**+1.0**
NEO	**Neokhori**	**2.05**	**94**	P	**Pn**	**06 48 56.3**	**+0.8**
NEO				S	**Sb**	**06 49 24.9**	**+1.0**
GUR	**Goura**	**2.07**	**138**	P	**Pb**	**06 48 57.5**	**-1.2**
GUR				S	**Sb**	**06 49 23.7**	**-0.9**
GUR	**Goura**	**2.07**	**138**	P	**Pb**	**06 48 57.5**	**-1.2**
GUR				S	**Sb**	**06 49 23.7**	**-0.9**
PHP	**Peshkopia**	**2.19**	**357**	*e*PN	**Pb**	**06 49 00.2**	**-0.5**
PHP	**Peshkopia**	**2.19**	**357**	P	**Pb**	**06 49 00.4**	**-0.3**
PHP	**Peshkopia** SNR=40	**2.19**	**357**	*e*Pn	**Pb**	**06 49 00.2**	**-0.5**
VAY	**Valandovo**	**2.37**	**39**	*e*Pn	**Pn**	**06 49 01.0**	**+1.1**
VAY	**Valandovo**	**2.37**	**39**	*e*Pn	**Pn**	**06 49 01.0**	**+1.1**
PAIG	**Paliouri**	**2.42**	**79**	*e*PN	**Pn**	**06 49 01.6**	**+1.0**
PAIG	**Paliouri**	**2.42**	**79**	*e*Pn	**Pn**	**06 49 01.6**	**+1.0**
AOS	**Alonnisos**	**2.57**	**96**	*e*PB	**Pn**	**06 49 03.4**	**+0.7**
AOS	**Alonnisos**	**2.57**	**96**	*e*Pb	**Pn**	**06 49 03.4**	**+0.7**
PUK	**Puka**	**2.60**	**348**	*e*PN	**Pn**	**06 49 05.4**	**+2.2**
PUK	**Puka** SNR=40	**2.60**	**348**	*e*Pn	**Pn**	**06 49 05.4**	**+2.2**
BCI	**Bajram Curri**	**2.90**	**352**	*e*PN	**Pn**	**06 49 09.9**	**+2.7**
BCI	**Bajram Curri** SNR=40	**2.90**	**352**	*e*Pn	**Pn**	**06 49 09.9**	**+2.7**
BARS	**Barje**	**3.45**	**15**	*e*Pn	**Pn**	**06 49 16.8**	**+2.1**
STON	**Ston**	**4.02**	**328**	*e*Pn	**Pn**	**06 49 21.5**	**-1.0**
STON				Sn	**Sn**	**06 50 08.8**	**-0.9**
STON	**Ston**	**4.02**	**328**	*e*Pn	**Pn**	**06 49 21.5**	**-1.0**
STON				Sn	**Sn**	**06 50 08.8**	**-0.9**
GRUS	**Gruza**	**4.39**	**1**	*e*Pn	Pn	06 49 31.7	+4.0
DIVS	**Divibare**	**4.62**	**355**	*e*Pn	**Pn**	**06 49 31.8**	**+0.8**
UDBI	**Udbina**	**6.18**	**326**	*e*Pn	**Pn**	**06 49 53.3**	**+1.0**
UDBI				Sn	**Sn**	**06 51 04.7**	**+1.5**
UDBI	**Udbina**	**6.18**	**326**	*e*Pn	**Pn**	**06 49 53.3**	**+1.0**
UDBI				Sn	**Sn**	**06 51 04.6**	**+1.5**
NVLJ	**Novalja**	**6.62**	**322**	*e*Pn	**Pn**	**06 49 58.3**	**+0.1**
NVLJ				Sn	**Sn**	**06 51 10.9**	**-2.8**
NVLJ	**Novalja**	**6.62**	**322**	*e*Pn	**Pn**	**06 49 58.3**	**+0.1**
HFS	**Hagfors** 1.0nm,0.6s,baz=176,slow=12,SNR=4.0	**21.11**	**350**	P	**P**	**06 53 06.3**	**+0.8**
NB2	**NORSAR Subarra** comp=Z,1.5nm,1.0s,baz=156,slow=9.3	**22.34**	**348**	P	**P**	**06 53 16.9**	**-1.9**
NOA	**NORSAR Array B** comp=Z,0.6nm,0.7s,baz=157,slow=9.1,SNR=4.3	**22.34**	**348**	P	**P**	**06 53 18.8**	**0.0**
EKA	**Eskdalemuir Ar** comp=Z,0.6nm,0.5s,baz=134,slow=11,SNR=3.9	**22.40**	**323**	P	**P**	**06 53 20.3**	**+0.9**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.6s,baz=29,slow=8.6,SNR=5.7	**31.09**	**218**	P	**P**	**06 54 38.3**	**-1.3**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.3s,baz=284,slow=8.3,SNR=3.4	**44.58**	**60**	P	**P**	**06 56 31.3**	**-1.9**

WEL 17 06:49:50.9±0.2, 45°.37S×166°.60E, h21km±1km, ML3.6/13, 2C-2D, Error ellipse: s-maj=2.1km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.40**	**105**	⇓P*	Pb	06 49 59.2	0.0
DCZ				S*	Sb	06 50 04.4	-0.4
DCZ				AML	AML	06 50 04.8	
DCZ				AML	AML	06 50 04.8	
DCZ				AML	AML	06 50 04.9	
PYZ	**Puysegur Point**	**0.80**	**176**	⇑P*	Pb	06 50 05.6	-0.7
PYZ				S*	Sb	06 50 15.2	-1.2
WHZ	**Wether Hill Ro**	**1.08**	**119**	⇑PN	Pn	06 50 10.3	-0.4
WHZ				AML	AML	06 50 25.3	
WHZ				AML	AML	06 50 25.6	
MLZ	**Mavora Lakes**	**1.11**	**89**	⇓PN	Pn	06 50 10.5	-0.7
MLZ				AML	AML	06 50 25.1	
MLZ				AML	AML	06 50 25.3	
MSZ	**Milford Sound**	**1.17**	**54**	PN	Pn	06 50 11.4	-0.6
MSZ				AML	AML	06 50 30.7	
MSZ				AML	AML	06 50 30.9	
MSZ				AML	AML	06 50 32.8	
APZ	**The Paps**	**1.75**	**147**	*e*PN	Pb	06 50 21.6	-0.7
WKZ	**Wanaka**	**1.79**	**73**	AML	AML	06 50 46.3	
WKZ				AML	AML	06 50 49.2	
WKZ				AML	AML	06 50 52.8	
WKZ				AML	AML	06 50 53.6	
EAZ	**Earnscleugh**	**1.92**	**87**	PN	Pb	06 50 23.7	-1.4
EAZ				SN	Sb	06 50 49.0	-0.6
EAZ				AML	AML	06 50 49.4	
EAZ				AML	AML	06 50 49.6	
EAZ				AML	AML	06 50 52.3	
JCZ	**Jackson Bay**	**2.01**	**51**	AML	AML	06 50 56.8	
JCZ				AML	AML	06 51 00.1	
SYZ	**Scrubby Hill**	**2.12**	**124**	PN	Pn	06 50 26.5	+1.5
TUZ	**Tuapeka**	**2.20**	**106**	*e*PN	Pn	06 50 27.5	+1.4
TUZ				AML	AML	06 50 57.3	
TUZ				AML	AML	06 50 57.7	
ODZ	**Otahua Downs**	**2.88**	**85**	PN	Pn	06 50 36.2	+0.8

WEL 17 06:51:51.0±0.3, 45°.43S×166°.69E, h22km±1km, ML3.5/8, 2C-1D, Error ellipse: s-maj=2.4km s-min=1.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.33**	**98**	⇓P*	Pb	06 51 58.2	-0.1
DCZ				S*	Sb	06 52 02.4	-0.8
DCZ				S*	Sn	06 52 02.9	-3.8
DCZ				AML	AML	06 52 03.2	
PYZ	**Puysegur Point**	**0.73**	**180**	P*	Pb	06 52 04.2	-0.9
PYZ	**Puysegur Point**	**0.73**	**180**	P*	Pb	06 52 04.2	-0.9
PYZ				S*	Sb	06 52 14.0	-0.8
WHZ	**Wether Hill Ro**	**1.00**	**118**	⇑PN	Pb	06 52 09.4	-0.2
WHZ	**Wether Hill Ro**	**1.00**	**118**	⇑PN	Pb	06 52 09.4	-0.2
MLZ	**Mavora Lakes**	**1.05**	**86**	PN	Pn	06 52 09.4	-1.1
MLZ				AML	AML	06 52 23.0	
MLZ	**Mavora Lakes**	**1.05**	**86**	PN	Pn	06 52 09.4	-1.1
MLZ				AML	AML	06 52 23.0	
MLZ				AML	AML	06 52 26.0	
MSZ	**Milford Sound**	**1.16**	**50**	AML	AML	06 50 37.9	
MSZ				PN	Pn	06 52 12.1	+0.1
MSZ				AML	AML	06 52 31.5	
MSZ				AML	AML	06 52 31.5	
MSZ				AML	AML	06 52 32.7	
WKZ	**Wanaka**	**1.76**	**71**	AML	AML	06 50 54.3	
WKZ				PN	Pb	06 52 22.7	+0.1
WKZ				AML	AML	06 52 46.3	
EAZ	**Earnscleugh**	**1.86**	**85**	*e*PN	Pn	06 52 22.7	+1.1
EAZ				AML	AML	06 52 47.4	
EAZ				AML	AML	06 52 48.2	
EAZ				AML	AML	06 52 52.3	
EAZ				AML	AML	06 52 52.4	
JCZ	**Jackson Bay**	**2.01**	**48**	PN	Pb	06 52 27.1	+0.2
JCZ				AML	AML	06 52 59.3	
SYZ	**Scrubby Hill**	**2.04**	**124**	*e*PN	Pb	06 52 25.7	-1.5
TUZ	**Tuapeka**	**2.13**	**105**	*e*PN	Pb	06 52 27.1	-1.8
TUZ				AML	AML	06 52 56.5	
ODZ	**Otahua Downs**	**2.82**	**84**	*e*PN	Pn	06 52 35.1	+0.3

*NEIC **17** 06:53:55.7, 24°.98N×107°.19W, h10km, MD4.1(MEX), After MEX.*

MEX 17 06:53:55.7±0.3, 24°.98N×107°.19W, h10km, MD4.1, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAIG	**Mazatlaan**	**1.92**	**158**	*i* P	Pn	06 54 24.8	-3.6
MAIG				*i* S	Sn	06 54 48.3	-4.3
MAIG	**Mazatlaan**	**1.92**	**158**	*i* P	Pn	06 54 24.8	-3.6
MAIG				*i* S	Sn	06 54 48.3	-4.3
HPIG		**2.38**	**35**	*e*P	Pn	06 54 31.7	-3.4
HPIG				*e*S	Sn	06 55 00.6	-4.0
HPIG		**2.38**	**35**	*e*P	Pn	06 54 31.7	-3.4
HPIG				*e*S	Sn	06 55 00.6	-4.0
ANIG	**Ahuacatlan**	**4.62**	**147**	*i* P	Pn	06 55 03.8	-1.9
ANIG				*i* S	Sn	06 55 56.2	-3.4
ANIG	**Ahuacatlan**	**4.62**	**147**	*i* P	Pn	06 55 03.8	-1.9
ANIG				*i* S	Sn	06 55 56.2	-3.4
ZAIG	**Zacatecas**	**4.77**	**117**	*i* P	Pn	06 55 05.1	-3.0
ZAIG				*e*S	Sn	06 56 00.0	-3.7
ZAIG	**Zacatecas**	**4.77**	**117**	*i* P	Pn	06 55 05.1	-3.0
ZAIG				*e*S	Sn	06 56 00.0	-3.7
HSIG		**5.23**	**321**	*i* P	Pn	06 55 12.8	-1.2
HSIG				*e*S	Sn	06 56 12.3	-2.2
HSIG		**5.23**	**321**	*i* P	Pn	06 55 12.8	-1.2
HSIG				*e*S	Sn	06 56 12.3	-2.2

*NEIC **17** 06:54:25.7, 46°.17S×166°.26E, h38km, ML4.0(WEL), After WEL.*

WEL 17 06:54:21.3±0.2, 46°.20S×165°.93E, h31km±1km, ML4.1/16, 1C-1D, Error ellipse: s-maj=1.9km s-min=1.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.52**	**87**	Pn	Pb	06 54 32.2	0.0
PYZ				Sn	Sb	06 54 39.5	-0.2
PYZ	**Puysegur Point**	**0.52**	**87**	⇓P*	Pb	06 54 32.2	0.0
PYZ				S*	Sb	06 54 39.2	-0.5
PYZ				S*	Sn	06 54 40.4	-0.1
DCZ	**Deep Cove**	**1.12**	**51**	Pn	Pn	06 54 40.4	-0.4
DCZ				Sn	Sn	06 54 54.2	-0.8
DCZ	**Deep Cove**	**1.12**	**51**	PN	Pn	06 54 40.4	-0.4
DCZ				SN	Sn	06 54 54.2	-0.8
DCZ				AML	AML	06 54 54.5	
DCZ				AML	AML	06 54 56.0	
DCZ				AML	AML	06 54 56.0	
WHZ	**Wether Hill Ro**	**1.44**	**79**	Pn	Pn	06 54 46.3	+1.0
WHZ	**Wether Hill Ro**	**1.44**	**79**	PN	Pb	06 54 46.4	-1.1
WHZ				AML	AML	06 55 08.7	
WHZ				AML	AML	06 55 09.8	
APZ	**The Paps**	**1.56**	**115**	Pn	Pn	06 54 48.0	+1.0
APZ	**The Paps**	**1.56**	**115**	PN	Pn	06 54 48.0	+1.0
MLZ	**Mavora Lakes**	**1.79**	**62**	Pn	Pn	06 54 51.6	+1.6
MLZ	**Mavora Lakes**	**1.79**	**62**	PN	Pn	06 54 51.5	+1.5
MLZ				AML	AML	06 55 18.0	
MLZ				AML	AML	06 55 19.4	
MSZ	**Milford Sound**	**2.07**	**43**	Pn	Pn	06 54 54.9	+1.0
MSZ	**Milford Sound**	**2.07**	**43**	PN	Pn	06 54 54.5	+0.6
MSZ				AML	AML	06 55 41.8	
MSZ				AML	AML	06 55 48.8	
EAZ	**Earnscleugh**	**2.56**	**69**	Pn	Pn	06 55 03.4	+2.8
EAZ	**Earnscleugh**	**2.56**	**69**	PN	Pn	06 55 03.2	+2.6
EAZ				AML	AML	06 55 37.2	
EAZ				AML	AML	06 55 37.2	
EAZ				AML	AML	06 55 47.8	
EAZ				AML	AML	06 55 47.8	
WKZ	**Wanaka**	**2.57**	**59**	Pn	Pb	06 55 04.0	-2.8
WKZ	**Wanaka**	**2.57**	**59**	PN	Pn	06 55 03.7	+3.0
WKZ				AML	AML	06 55 49.6	
WKZ				AML	AML	06 55 55.2	
TUZ	**Tuapeka**	**2.59**	**86**	Pn	Pn	06 55 03.5	+2.5
TUZ	**Tuapeka**	**2.59**	**86**	PN	Pn	06 55 03.4	+2.3
TUZ				SN	Sn	06 55 33.6	+2.2
TUZ				AML	AML	06 55 39.7	
JCZ	**Jackson Bay**	**2.92**	**44**	Pn	Pn	06 55 08.1	+2.4
JCZ	**Jackson Bay**	**2.92**	**44**	*e*PN	Pn	06 55 07.6	+1.9
JCZ				AML	AML	06 55 57.4	
JCZ				AML	AML	06 56 00.6	
ODZ	**Otahua Downs**	**3.50**	**73**	Pn	Pn	06 55 14.3	+0.7
ODZ	**Otahua Downs**	**3.50**	**73**	⇑PN	Pn	06 55 14.3	+0.7
ODZ				AML	AML	06 56 10.6	
ODZ				AML	AML	06 56 18.3	
LBZ	**Lake Benmore**	**3.51**	**60**	Pn	Pn	06 55 14.9	+1.3
LBZ	**Lake Benmore**	**3.51**	**60**	PN	Pn	06 55 14.7	+1.1
LBZ				AML	AML	06 56 20.6	
LBZ				AML	AML	06 56 23.1	
FOZ	**Fox Glacier**	**3.75**	**47**	Pn	Pn	06 55 19.6	+2.6
FOZ	**Fox Glacier**	**3.75**	**47**	PN	Pn	06 55 19.5	+2.5
RPZ	**Rata Peaks**	**4.40**	**58**	PN	Pn	06 55 26.2	+0.2
RPZ				AML	AML	06 56 19.8	
WVZ	**Waitaha Valley**	**4.64**	**49**	Pn	Pn	06 55 30.1	+1.0
WVZ	**Waitaha Valley**	**4.64**	**49**	*e*PN	Pn	06 55 29.8	+0.7
QRZ	**Quartz Range**	**7.20**	**44**	Pn	Pn	06 56 05.3	+1.0

WEL 17 06:58:15.2±0.2, 45°.36S×166°.66E, h21km±1km, ML3.1/8, Error ellipse: s-maj=1.7km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.37**	**109**	P*	Pb	06 58 22.8	-0.1
DCZ				S*	Sb	06 58 28.1	-0.1
PYZ	**Puysegur Point**	**0.81**	**179**	*e*P*	Pb	06 58 29.0	-1.5
PYZ				S*	Sb	06 58 39.9	-1.1
WHZ	**Wether Hill Ro**	**1.05**	**121**	PN	Pb	06 58 34.3	-0.4
WHZ				SN	Sb	06 58 47.8	-0.3
MLZ	**Mavora Lakes**	**1.07**	**90**	PN	Pn	06 58 33.8	-1.2
MLZ				AML	AML	06 58 48.8	
APZ	**The Paps**	**1.74**	**148**	SN	Sb	06 59 10.1	+2.1
EAZ	**Earnscleugh**	**1.88**	**87**	*e*PN	Pb	06 58 47.6	-1.2
ODZ	**Otahua Downs**	**2.84**	**85**	PN	Pn	06 58 59.3	+0.1

*NEIC **17** 07:03:04.5, 45°.47S×166°.56E, h17km, ML4.2(WEL), After WEL.*

WEL 17 07:03:04.4±0.2, 45°.45S×166°.55E, h23km±1km, ML3.5/8, 1C-1D, Error ellipse: s-maj=2.5km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.42**	**95**	P*	Pb	07 03 12.9	-0.3
DCZ				S*	Sb	07 03 18.8	-0.5
DCZ	**Deep Cove**	**0.42**	**95**	⇓P*	Pb	07 03 12.9	-0.3
DCZ				S*	Sb	07 03 18.8	-0.5
DCZ				AML	AML	07 03 19.1	
DCZ				AML	AML	07 03 19.8	
DCZ				AML	AML	07 03 19.8	
PYZ	**Puysegur Point**	**0.73**	**173**	P*	Pb	07 03 17.7	-0.7
PYZ				S*	Sb	07 03 27.4	-0.6
PYZ	**Puysegur Point**	**0.73**	**173**	⇑P*	Pb	07 03 17.7	-0.7
PYZ				S*	Sb	07 03 27.4	-0.6
WHZ	**Wether Hill Ro**	**1.07**	**115**	P*	Pn	07 03 24.0	-0.1
WHZ	**Wether Hill Ro**	**1.07**	**115**	PN	Pn	07 03 24.0	-0.1
MLZ	**Mavora Lakes**	**1.15**	**86**	P*	Pn	07 03 24.4	-0.7
MLZ	**Mavora Lakes**	**1.15**	**86**	PN	Pn	07 03 24.4	-0.7
MSZ	**Milford Sound**	**1.24**	**52**	*e*PN	Pn	07 03 25.7	-0.6
APZ	**The Paps**	**1.71**	**145**	PN	Pb	07 03 34.1	-1.1
WKZ	**Wanaka**	**1.85**	**71**	*e*PN	Pb	07 03 36.9	-0.7
EAZ	**Earnscleugh**	**1.95**	**85**	PN	Pb	07 03 38.1	-1.2
JCZ	**Jackson Bay**	**2.08**	**50**	*e*PN	Pb	07 03 40.2	-1.4
SYZ	**Scrubby Hill**	**2.11**	**122**	PN	Pb	07 03 40.6	-1.2
TUZ	**Tuapeka**	**2.22**	**104**	*e*PN	Pb	07 03 41.8	-1.9
ODZ	**Otahua Downs**	**2.92**	**84**	PN	Pn	07 03 50.1	+0.7

*MOS **17** 07:03:06.5±1.9, 61°.32N×165°.17E, h9km, mb4.1/3, Error ellipse: s-maj=69.1km s-min=27.0km az=96.2*
*ISCJB **17** 07:03:07.0±0.7, 61°.28N±0°.08×165°.2E±0°.3, h10km, mb3.7/6, Error ellipse: s-maj=20.3km s-min=7.5km az=149.1*
*KRSC **17** 07:03:07.5±2.2, 61°.25N×166°.86E, h11km±10km, ML4.8*
*IDC **17** 07:03:07.9±4.7, 61°.39N×165°.12E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/29, mbtmp3.6/5, Error ellipse: s-maj=126.9km s-min=29.1km az=171.0*

ISC 17 07:03:08.6±0.9, 61°.20N±0°.09×165°.10E±0°.08, h10km, n12, σ1§21/13, mb3.9/6, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILK	**Tilichiki**	**0.91**	**146**	*i* P	**Pg**	**07 03 24.7**	**-1.4**
TILK				*i* S	**Sg**	**07 03 37.6**	**-0.4**
PALN	**Palana**	**3.33**	**233**	P	**Pg**	**07 04 10.8**	**-1.5**
BKI	**Bering**	**6.03**	**175**	PN	**Pn**	**07 04 39.5**	**+1.8**
BKI	**Bering**	**6.03**	**175**	P	**Pn**	**07 04 39.5**	**+1.8**
ILAR	**Eielson Array** 0.7nm,0.8s,baz=273,slow=11,SNR=8.6	**21.67**	**60**	P	**P**	**07 07 58.9**	**-0.1**
KURK	**Kurchatov** comp=Z,1.0nm,0.6s	**46.03**	**298**	P pmax	**P** pmax	**07 11 33.1**	**+1.3**
KURK							
KURBB	**Kurchatov Arra** comp=Z,1.0nm,0.6s,baz=43,slow=7.8,SNR=8.3	**46.14**	**298**	P	**P**	**07 11 33.1**	**+0.4**
MKAR	**Makanchi Array**	**47.36**	**292**	P	**P**	**07 11 42.1**	**-0.3**
MKAR	**Makanchi Array** comp=Z,0.1nm,0.4s,baz=34,slow=5.6,SNR=3.6	**47.36**	**292**	P	**P**	**07 11 42.1**	**-0.3**
BVAR	**Borovoye Array** comp=Z,1.0nm,0.6s	**47.68**	**305**	P pmax	**P** pmax	**07 11 45.4**	**+0.7**
BVAR							
BVAR	**Borovoye Array** comp=Z,1.3nm,0.6s,baz=54,slow=7.5,SNR=7.3	**47.68**	**305**	P	**P**	**07 11 45.4**	**+0.7**
NOA	**NORSAR Array B** comp=Z,0.5nm,0.5s,baz=14,slow=7.4,SNR=3.6	**56.45**	**345**	P	**P**	**07 12 48.9**	**-0.9**

WEL 17 07:03:20.0±0.2, 45°.44S×166°.59E, h21km±1km, ML4.1/19, Error ellipse: s-maj=1.9km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.40**	**96**	P*	Pb	07 03 27.9	-0.3
DCZ				S*	Sb	07 03 33.7	-0.2
DCZ				AML	AML	07 03 34.4	
DCZ				AML	AML	07 03 34.9	
DCZ				AML	AML	07 03 34.9	
PYZ	**Puysegur Point**	**0.73**	**175**	S*	Sb	07 03 42.7	-1.0
PYZ				S*	Sn	07 03 42.9	-2.8
WHZ	**Wether Hill Ro**	**1.06**	**116**	PN	Pb	07 03 38.9	-0.7
WHZ				SN	Sn	07 03 53.9	+0.1
WHZ				AML	AML	07 04 02.1	
MLZ	**Mavora Lakes**	**1.12**	**86**	PN	Pn	07 03 39.6	-0.9
MLZ				AML	AML	07 04 00.4	
MLZ				AML	AML	07 04 12.3	
MSZ	**Milford Sound**	**1.22**	**52**	PN	Pn	07 03 41.5	-0.2
MSZ				AML	AML	07 04 04.0	
MSZ				AML	AML	07 04 04.0	
MSZ				AML	AML	07 04 04.4	
MSZ				AML	AML	07 04 04.4	
APZ	**The Paps**	**1.70**	**146**	PN	Pb	07 03 51.1	+0.4
WKZ	**Wanaka**	**1.82**	**71**	PN	Pb	07 03 52.4	-0.3
WKZ				AML	AML	07 04 26.9	
WKZ				AML	AML	07 04 27.0	
WKZ				AML	AML	07 04 32.6	
WKZ				AML	AML	07 04 32.6	
EAZ	**Earnscleugh**	**1.93**	**85**	PN	Pb	07 03 53.3	-1.1
EAZ				AML	AML	07 04 24.2	
EAZ				AML	AML	07 04 24.2	
EAZ				AML	AML	07 04 24.4	
EAZ				AML	AML	07 04 24.5	
JCZ	**Jackson Bay**	**2.06**	**49**	*e*PN	Pb	07 03 57.6	+0.8
JCZ				AML	AML	07 04 31.7	
JCZ				AML	AML	07 04 33.7	
SYZ	**Scrubby Hill**	**2.09**	**123**	PN	Pb	07 03 56.5	-0.7
TUZ	**Tuapeka**	**2.20**	**105**	*e*PN	Pb	07 03 57.3	-1.6
TUZ				AML	AML	07 04 30.6	
TUZ				AML	AML	07 04 31.3	
LBZ	**Lake Benmore**	**2.76**	**69**	*e*PN	Pn	07 04 05.8	+2.8
LBZ				AML	AML	07 04 53.9	
LBZ				AML	AML	07 04 58.1	
ODZ	**Otahua Downs**	**2.89**	**84**	*e*PN	Pn	07 04 05.3	+0.4
ODZ				AML	AML	07 04 44.1	
ODZ				AML	AML	07 04 58.6	
FOZ	**Fox Glacier**	**2.90**	**51**	AML

h60km:**pP-P**,**n540**,σ**1**§**56**/614,**mb5.3**/161,**23C-5D**,
Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**0.92**	**119**	P	Pn	07 12 04.9	-3.5
GAMI				S	**Sn**	**07 12 20.3**	**-0.7**
TNTI	**Ternate**	**1.56**	**166**	P	**Pn**	**07 12 13.7**	**-3.1**
TNTI				S	**Sn**	**07 12 35.6**	**-0.4**
MNI	**Manado**	**2.30**	**249**	P	**Pn**	**07 12 26.4**	**-0.5**
LBMI	**Labuha**	**2.96**	**170**	P	**Pn**	**07 12 34.6**	**-1.2**
KMSI	**Cibinong**	**3.45**	**240**	P	**Pn**	**07 12 43.9**	**+1.3**
GTOI	**Gorontalo**	**4.30**	**248**	P	**Pn**	**07 12 55.6**	**+1.4**
MATI	**Mati**	**4.68**	**351**	*e*P	**Pn**	**07 13 01.6**	**+2.2**
DAV	**Davao City (W)**	**4.95**	**344**	Pn	**Pn**	**07 13 03.5**	**+0.4**
DAV				Sn	Sn	07 13 46.5	-13
DAV	**Davao City (W)**	**4.95**	**344**	Pn	**Pn**	**07 13 03.5**	**+0.4**
	77nm,0.3s,baz=144,slow=2.7,SNR=5.0						
DAV				Sn	Sn	07 13 46.5	-13
	90nm,0.3s,baz=110,slow=20,SNR=4.3						
SWI	**Sorong**	**5.30**	**126**	P	**Pn**	**07 13 07.3**	**-0.7**
	217nm,0.7s,4μm1.1nm						
SWI	**Sorong**	**5.30**	**126**	P	**Pn**	**07 13 07.8**	**-0.1**
	baz=5.2,SNR=8.3						
MRSI	**Marisa**	**5.35**	**250**	P	**Pn**	**07 13 09.8**	**+1.2**
	827nm,1.4s,12μm2.7nm						
LUWI	**Luwuk**	**5.36**	**232**	P	**Pn**	**07 13 10.6**	**+1.9**
	832nm,0.9s,14μm4.8nm						
LUWI	**Luwuk**	**5.36**	**232**	P	Pn	07 13 12.0	+3.3
	baz=5.3,SNR=7.1						
CTBH	**Cotabato--PC H**	**5.60**	**331**	||*i*P	**Pn**	**07 13 11.5**	**-0.6**
BUKP	**Musuan**	**5.87**	**341**	*e*P	**Pn**	**07 13 14.9**	**-0.9**
MSAI	**Masohi**	**5.93**	**161**	P	Pn	07 13 19.8	+3.3
	79nm,1.0s,2μm0.2nm						
PAGZ	**Pagadian**	**6.58**	**327**	*e*P	**Pn**	**07 13 25.1**	**-0.4**
BUTP	**Butuan**	**6.77**	**349**	*e*P	Pn	07 13 31.9	+3.8
SKSI	**Soroako, Sulaw**	**7.40**	**230**	P	**Pn**	**07 13 37.5**	**+0.7**
	220nm,0.8s,2μm0.8nm						
RKPI	**Ransiki, Papua**	**8.13**	**118**	P	Pn	07 13 50.1	+3.5
TTSI	**Tana Toraja**	**8.91**	**234**	P	**Pn**	**07 13 57.0**	**-0.4**
	202nm,1.1s,2μm						
MYLDM	**Lahad Datu**	**8.94**	**289**	P	**Pn**	**07 13 59.5**	**+1.8**
MYLDM	**Lahad Datu**	**8.94**	**289**	P	**Pn**	**07 14 00.0**	**+2.3**
	264nm,1.1s,4μm19μm						
PALU	**Palau**	**8.99**	**56**	P	Pn	07 14 03.4	+4.8
	baz=9.1,SNR=4.1						
PALU				S	**Sn**	**07 15 39.1**	**+0.7**
	baz=9.1,SNR=3.5						
TSM	**Tawau**	**9.31**	**283**	P	**Pn**	**07 14 03.0**	**+0.2**
SPSI	**Sidrap Palu**	**9.52**	**229**	P	**Pn**	**07 14 06.8**	**+1.1**
	86nm,0.7s,2μm						
BAKI	**Biak**	**9.76**	**111**	P	Pn	07 14 12.8	+3.8
RCP	**Roxas**	**10.12**	**336**	⇑*e*P	**Pn**	**07 14 13.8**	**-0.1**
SRPI	**Serui, Papua**	**10.14**	**114**	P	Pn	07 14 22.4	+8.2
BKSI	**Bulukumba**	**10.21**	**222**	P	**Pn**	**07 14 14.7**	**-0.4**
	60nm,0.8s,1μm						
KAPI	**Kappang**	**10.24**	**225**	*e*Pn	**Pn**	**07 14 16.2**	**+0.6**
KAPI	**Kappang**	**10.24**	**225**	P	Pn	07 14 19.4	+3.8
	51nm,1.1s,1μm						
KAPI	**Kappang**	**10.24**	**225**	Pn	**Pn**	**07 14 14.5**	**-1.0**
	4.0nm,0.3s,baz=52,slow=14,SNR=8.2						
SDKM	**Sandakan**	**10.31**	**289**	P	**Pn**	**07 14 17.8**	**+1.2**
KDM	**Kudat**	**11.11**	**295**	P	**Pn**	**07 14 28.2**	**+0.8**
KKM	**Kota Kinabalu**	**11.37**	**289**	*e*Pn	**Pn**	**07 14 31.7**	**+0.6**
KKM	**Kota Kinabalu**	**11.37**	**289**	P	**Pn**	**07 14 33.2**	**+2.2**
KKM	**Kota Kinabalu**	**11.37**	**289**	P	**Pn**	**07 14 32.8**	**+1.8**
	166nm,1.1s,2μm						
KKM	**Kota Kinabalu**	**11.37**	**289**	P	Pn	07 14 38.4	+7.4
	baz=11,SNR=4.5						
SOEI	**Soe**	**12.27**	**193**	P	**Pn**	**07 14 44.6**	**+1.2**
	160nm,1.2s,4μm						
SOEI	**Soe**	**12.27**	**193**	P	P	07 14 59.3	+5.6
	baz=12,SNR=4.3						
TGY	**Tagaytay City**	**13.17**	**333**	Pn	**Pn**	**07 14 52.5**	**-3.1**
TGY	**Tagaytay City**	**13.17**	**333**	Pn	**Pn**	**07 14 52.5**	**-3.1**
	2.5nm,0.3s,baz=90,slow=17,SNR=2.1						
BBKI	**Banjar Baru**	**13.41**	**245**	P	**P**	**07 15 06.7**	**+0.4**
WSI	**Waingapu**	**13.62**	**209**	P	**Pn**	**07 15 01.4**	**-0.3**
	3μm,0.6s						
BTM	**Bintulu**	**13.91**	**274**	P	**P**	**07 15 13.0**	**+1.1**
JAY	**Jayapura**	**14.53**	**109**	P	**P**	**07 15 20.8**	**+2.0**
	baz=14,SNR=3.8						
SBUM	**Sibu**	**14.75**	**271**	P	**P**	**07 15 21.7**	**+0.5**
SBUM	**Sibu**	**14.75**	**271**	P	**P**	**07 15 21.5**	**+0.3**
	232nm,1.2s,3μm						
MTNI	**Mataram**	**15.30**	**225**	P	**P**	**07 15 31.9**	**+4.6**
KHKI	**Kahang-Kahang**	**15.51**	**227**	P	**P**	**07 15 32.5**	**+2.8**
SRBI	**Singaraja**	**15.62**	**229**	P	**P**	**07 15 35.0**	**+4.1**
STKI	**Sintang**	**15.66**	**262**	P	**P**	**07 15 32.8**	**+1.5**
	104nm,1.2s,15μm						
KDU	**Kakadu**	**15.85**	**160**	P	**P**	**07 15 33.4**	**0.0**
	baz=16,SNR=25						
DNP	**Denpasar**	**16.01**	**227**	P	**P**	**07 15 39.1**	**+3.9**
IGBI	**Denpasar**	**16.16**	**227**	P	**P**	**07 15 39.8**	**+3.0**
BLJI	**Banyuglugur**	**16.67**	**233**	P	**P**	**07 15 43.6**	**+1.1**
	339nm,1.2s,3μm						
JAGI	**Jajag, Banyuwa**	**16.67**	**230**	P	**P**	**07 15 44.1**	**+1.6**
	353nm,1.3s,4μm						
JAGI	**Jajag, Banyuwa**	**16.67**	**230**	P	**P**	**07 15 44.0**	**+1.4**
	baz=17,SNR=17						
KSM	**Kuching**	**16.68**	**268**	*e*P	**P**	**07 15 43.6**	**+0.9**
	73nm,1.0s						
KSM	**Kuching**	**16.68**	**268**	P	**P**	**07 15 43.1**	**+0.5**
KSM	**Kuching**	**16.68**	**268**	P	**P**	**07 15 43.6**	**+0.9**
	81nm,1.1s,2μm						
KSM	**Kuching**	**16.68**	**268**	P	**P**	**07 15 43.4**	**+0.7**
	baz=17,SNR=7.6						
GMJI	**Gumukmas**	**17.10**	**232**	P	**P**	**07 15 51.4**	**+4.1**
KNRA	**Kununurra**	**17.94**	**174**	P	**P**	**07 15 54.7**	**-1.8**
	baz=18,SNR=24						
SJI	**Sawahan**	**18.16**	**237**	P	**Pn**	**07 16 01.6**	**+2.2**
	80nm,1.2s,4μm						
PWJI	**Pagerwojo**	**18.28**	**236**	P	**Pn**	**07 16 03.4**	**+2.6**
	199nm,1.0s,14μm						
PCJI	**Pacitan**	**18.89**	**236**	P	**Pn**	**07 16 10.8**	**+2.6**
	156nm,0.7s						
BJII	**Banjamegara**	**19.71**	**241**	P	**Pn**	**07 16 18.0**	**0.0**
	90nm,1.2s						
TPI	**Tanjungpandan**	**19.96**	**256**	P	**Pn**	**07 16 20.3**	**-0.6**
	45nm,1.3s,764nm						
FITZ	**Fitzroy Crossi**	**20.31**	**184**	*e*P	**P**	**07 16 21.1**	**-1.3**
	42nm,0.9s						
FITZ				S	**S**	**07 20 01.4**	**-5.4**
FITZ	**Fitzroy Crossi**	**20.31**	**184**	P	**P**	**07 16 21.1**	**-1.3**
	21nm,0.6s,baz=22,slow=9.4,SNR=38						
FITZ				S	**S**	**07 20 01.4**	**-5.4**
	8.4nm,0.9s,baz=344,slow=7.4,SNR=2.6						
FITZ	**Fitzroy Crossi**	**20.31**	**184**	P	**P**	**07 16 21.2**	**-1.3**
	baz=20,SNR=20						
GUMO	**Guam**	**20.95**	**57**	*e*P	**P**	**07 16 29.0**	**-0.3**
	267nm,1.4s						
TWG	**Pinlang**	**21.20**	**345**	*e*P	**P**	**07 16 33.5**	**+1.5**
	253nm,0.6s						
LEM	**Lembang**	**21.35**	**245**	P	P	07 16 41.2	+7.4
YULB	**Yu-li**	**21.69**	**346**	*e*P	**P**	**07 16 32.4**	**-4.8**
	55nm,0.8s						
TPUB	**Ta-pu**	**21.77**	**344**	*e*P	**P**	**07 16 34.5**	**-3.6**
	151nm,0.9s						
CBJI	**Citeko**	**21.88**	**247**	P	P	07 16 45.9	+6.5
SSLB	**Suanglung**	**22.15**	**345**	*e*P	**P**	**07 16 38.4**	**-3.9**
	77nm,0.8s						
COEN	**Coen**	**22.77**	**136**	*e*P	**P**	**07 16 47.5**	**-1.3**
	249nm,1.1s						
COEN	**Coen**	**22.77**	**136**	P	**P**	**07 16 47.7**	**-1.1**
	baz=23,SNR=6.9						
YHNB	**Yeheng**	**22.90**	**347**	*e*P	**P**	**07 16 47.1**	**-3.1**
	72nm,0.8s						
MYKOM	**Kota Tinggi**	**23.12**	**269**	P	**P**	**07 16 52.2**	**-0.2**
MYKOM	**Kota Tinggi**	**23.12**	**269**	P	**P**	**07 16 51.9**	**-0.6**
	55nm,1.1s,1μm						
PMG	**Port Moresby**	**23.22**	**120**	P	**P**	**07 16 51.7**	**-1.7**
PMG	**Port Moresby**	**23.22**	**120**	P	**P**	**07 16 51.7**	**-1.7**
	11nm,0.8s,baz=252,slow=20,SNR=1.8						
WRAB	**Tennant Creek**	**23.24**	**162**	P	**P**	**07 16 51.6**	**-1.9**
	839nm,0.8s						
WRAB	**Tennant Creek**	**23.24**	**162**	*e*P	**P**	**07 16 51.0**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,99nm,0.8s						
WRAB	**Tennant Creek**	**23.24**	**162**	*e*P	**P**	**07 16 51.0**	**-2.5**
	comp=Z,99nm,0.8s						
WRA	**Warramunga Arr**	**23.25**	**162**	P	**P**	**07 16 51.1**	**-2.5**
WRA				PcP	**PcP**	**07 20 39.9**	**+0.1**
WRA				S	**S**	**07 20 59.7**	**-1.5**
WRA	**Warramunga Arr**	**23.25**	**162**	P	**P**	**07 16 51.1**	**-2.5**
	comp=Z,88nm,0.7s,baz=342,slow=10,SNR=116						
WRA				PcP	**PcP**	**07 20 39.9**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=324,slow=2.3,SNR=3.2						
WRA				S	**S**	**07 20 59.7**	**-1.5**
	comp=Z,8.5nm,1.0s,baz=339,slow=18,SNR=4.8						
KLSI		**23.29**	**253**	P	**P**	**07 16 55.1**	**+1.0**
	comp=Z,70nm,1.2s						
QIZ	**Qiongzhong**	**23.63**	**316**	P	**P**	**07 16 55.9**	**-1.2**
QIZ				pP	**pP**	**07 17 10.3**	**-1.1**
QIZ				S	**S**	**07 21 07.3**	**-0.1**
QIZ				sS	Sn	07 21 32.6	0.0
QIZ				pmax	pmax		
	comp=Z,30nm,0.9s						
QIZ				pmax	pmax		
	comp=Z,190nm,5.2s						
QIZ				LR	LR		
	comp=N,2μm,22.4s						
QIZ				LR	LR		
	comp=Z,2μm,29.9s						
QIZ	**Qiongzhong**	**23.63**	**316**	*e*P	**P**	**07 16 53.7**	**-3.4**
	comp=Z,29nm,0.9s						
QZH	**Quanzhou**	**23.93**	**341**	*e*P	**P**	**07 16 59.3**	**-0.5**
QZH				S	**S**	**07 21 08.0**	**-4.1**
QZH				LR	LR		
	comp=N,3μm,14.2s						
QZH				LR	LR		
	comp=E,2μm,15.8s						
QZH				LR	LR		
	comp=Z,10μm,24.9s						
KTGM	**Kuala Trenggan**	**23.98**	**278**	P	**P**	**07 17 00.2**	**-0.2**
MBWA	**Marble Bar**	**24.36**	**197**	*e*P	**P**	**07 17 03.7**	**-0.1**
	comp=Z,56nm,0.9s						
JOW	**Kunigami**	**24.43**	**3**	*e*P	**P**	**07 17 04.7**	**+0.3**
	comp=Z,319nm,2.3s						
UBPT	**Khong Chiam**	**24.83**	**303**	P	**P**	**07 17 06.8**	**-1.3**
	comp=Z,41nm,1.1s						
UBPT	**Khong Chiam**	**24.83**	**303**	P	**P**	**07 17 07.6**	**-0.5**
	comp=Z,41nm,1.1s						
KSI	**Kapahiang**	**25.08**	**256**	P	**P**	**07 17 15.2**	**+4.7**
	comp=Z,152nm,1.6s,comp=Z,8μm						
MASI	**Maura Aman, Be**	**25.31**	**258**	P	**P**	**07 17 17.2**	**+4.6**
	comp=Z,200nm,0.9s,comp=Z,4μm						
FRIM	**Kepong**	**25.34**	**273**	P	**P**	**07 17 12.4**	**-0.5**
IPM	**Ipoh**	**26.00**	**275**	*e*P	**P**	**07 17 18.2**	**-0.6**
	comp=Z,33nm,1.1s						
IPM	**Ipoh**	**26.00**	**275**	P	**P**	**07 17 18.1**	**-0.7**
IPM	**Ipoh**	**26.00**	**275**	P	**P**	**07 17 21.3**	**+2.5**
	comp=Z,33nm,1.1s						
KULM	**Kulim**	**26.44**	**277**	P	**P**	**07 17 21.1**	**-1.6**
PANO	**Nakornpanom**	**26.48**	**305**	P	**P**	**07 17 22.2**	**-0.9**
	comp=Z,80nm,1.0s						
MTSU	**Mount Surprise**	**26.52**	**141**	P	**P**	**07 17 25.1**	**+1.6**
	baz=26,SNR=7.4						
CHBT	**CHBT**	**26.52**	**294**	P	**P**	**07 17 26.3**	**+2.8**
	comp=Z,46nm,1.3s,comp=Z,2μm						
CHBT	**CHBT**	**26.52**	**294**	P	**P**	**07 17 26.3**	**+2.8**
	comp=Z,46nm,1.3s,comp=Z,2μm						
AS31	**Alice Springs**	**26.67**	**166**	*e*P	**P**	**07 17 24.4**	**-0.3**
ASAR	**Alice Springs**	**26.67**	**166**	P	**P**	**07 17 23.2**	**-1.5**
ASAR				PcP	**PcP**	**07 20 47.5**	**+0.1**
ASAR				S	**S**	**07 21 54.5**	**-1.3**
ASAR	**Alice Springs**	**26.67**	**166**	P	**P**	**07 17 23.2**	**-1.5**
	comp=Z,13nm,0.8s,baz=345,slow=7.0,SNR=59						
ASAR				PcP	**PcP**	**07 20 47.5**	**+0.1**
	comp=Z,6.2nm,0.6s,baz=352,slow=2.0,SNR=6.9						
ASAR				S	**S**	**07 21 54.5**	**-1.3**
	comp=Z,1.7nm,0.8s,baz=353,slow=20,SNR=3.2						
PSI	**Prapat**	**28.03**	**272**	P	P	07 17 34.0	-3.3
PSI	**Prapat**	**28.03**	**272**	P	P	07 17 34.0	-3.3
	comp=Z,18nm,0.9s,baz=102,slow=6.1,SNR=6.1						
PSI	**Prapat**	**28.03**	**272**	P	**P**	**07 17 35.9**	**-1.3**
	baz=28,SNR=4.0						
CHAI	**Chaiyaphum**	**28.09**	**300**	P	**P**	**07 17 35.5**	**-2.0**
	comp=Z,22nm,0.8s,comp=Z,228nm						
SSE	**Sheshan**	**29.17**	**350**	*e*P	**P**	**07 17 48.0**	**+1.1**
SSE				pP	**pP**	**07 18 02.4**	**+0.6**
SSE				S	**S**	**07 22 38.3**	**+3.4**
SSE				sS	**sS**	**07 23 05.0**	**+4.6**
SSE				pmax	pmax		
	comp=Z,36nm,0.7s						
SSE				pmax	pmax		
	comp=Z,170nm,5.5s						
SSE				LR	LR		
	comp=N,640nm,22.5s						
SSE				LR	LR		
	comp=E,330nm,22.5s						
SSE				LR	LR		
	comp=Z,730nm,22.8s						
CTA	**Charters Tower**	**29.20**	**141**	P	**P**	**07 17 47.3**	**0.0**
CTA	**Charters Tower**	**29.20**	**141**	P	**P**	**07 17 47.3**	**0.0**
	comp=Z,8.3nm,1.0s,baz=306,slow=8.7,SNR=3.2						
CTAO	**Charters Tower**	**29.20**	**141**	*e*P	**P**	**07 17 47.2**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,24nm,1.0s						
CTAO	**Charters Tower**	**29.20**	**141**	*e*P	**P**	**07 17 47.2**	**0.0**
	comp=Z,24nm,1.0s						
PBKT	**Sadao Pong**	**29.26**	**301**	P	**P**	**07 17 46.6**	**-1.3**
PBKT	**Sadao Pong**	**29.26**	**301**	P	**P**	**07 17 47.2**	**-0.7**
	comp=Z,30nm,0.8s						
LOEI	**Loei**	**29.43**	**303**	P	P	07 17 44.9	-4.6
	comp=Z,94nm,1.0s,comp=Z,873nm						
MEEK	**Meekatharra**	**29.88**	**195**	P	**P**	**07 17 52.3**	**-0.9**
	baz=30,SNR=19						
NANT	**Nan**	**30.52**	**304**	P	**P**	**07 17 58.7**	**-0.4**
	comp=Z,115nm,0.7s,comp=Z,5μm						
WHN	**Wuhan**	**30.54**	**338**	⇑P	**P**	**07 18 00.4**	**+1.4**
WHN				LR	LR		
	comp=N,2μm,15.0s						
WHN				LR	LR		
	comp=E,530nm,5.2s						
WHN				LR	LR		
	comp=Z,10μm,30.6s						
NJ2	**Nanjing**	**30.58**	**346**	*e*P	**P**	**07 18 01.3**	**+2.0**
NJ2				pP	**pP**	**07 18 15.0**	**+0.7**
NJ2				S	**S**	**07 23 03.0**	**+6.0**
NJ2				pmax	pmax		
	comp=Z,20nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,120nm,4.7s						
NJ2				LR	LR		
	comp=N,540nm,18.0s						
NJ2				LR	LR		
	comp=E,2μm,22.0s						
NJ2				LR	LR		
	comp=Z,2μm,21.0s						
JNU	**Nakatsue**	**30.89**	**6**	*e*P	**P**	**07 18 00.9**	**-1.2**
	comp=Z,20nm,0.9s						
JNU	**Nakatsue**	**30.89**	**6**	P	**P**	**07 18 00.2**	**-1.9**
	comp=Z,46nm,0.8s,baz=180,slow=6.1,SNR=23						
GYA	**Guiyang**	**30.95**	**323**	||*i*P	**P**	**07 18 04.8**	**+1.9**
GYA				pP	**pP**	**07 18 16.5**	**-1.4**
GYA				PP	**PnPn**	**07 19 04.6**	**-1.3**
GYA				PcP	**PcP**	**07 20 57.8**	**-0.4**
GYA				S	**S**	**07 22 59.4**	**-3.9**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,4.8s						
GYA				LR	LR		
	comp=N,640nm,19.5s						
GYA				LR	LR		
	comp=E,1μm,22.2s						
GYA				LR	LR		
	comp=Z,1μm,20.1s						
LAMP	**Lampang**	**31.28**	**303**	P	**P**	**07 18 05.8**	**+0.1**
	comp=Z,11nm,0.8s,comp=Z,102nm						
CMAR	**Chiang Mai Arr**	**31.83**	**302**	P	**P**	**07 18 09.2**	**-1.4**
CMAR				PcP	**PcP**	**07 21 02.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**31.83**	**302**	P	**P**	**07 18 09.2**	**-1.4**
	comp=Z,22nm,0.8s,baz=125,slow=7.6,SNR=45						
CMAR				PcP	**PcP**	**07 21 02.0**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=197,slow=0.9,SNR=4.1						
CMAR				LR	LR	07 32 09.1	
	comp=Z,462nm,20.0s,baz=120,slow=39						
CMMT	**Chiang Mai**	**31.99**	**303**	P	**P**	**07 18 10.4**	**-1.6**
	comp=Z,44nm,0.8s						
CMMT	**Chiang Mai**	**31.99**	**303**	P	**P**	**07 18 10.4**	**-1.6**
	comp=Z,44nm,0.8s						
CHTO	**Chiang Mai**	**31.99**	**303**	*e*P	**P**	**07 18 10.7**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,31nm,0.8s						
CHTO	**Chiang Mai**	**31.99**	**303**	*e*P	**P**	**07 18 10.7**	**-1.3**
	comp=Z,31nm,0.8s						
CHTO	**Chiang Mai**	**31.99**	**303**	P	**P**	**07 18 10.6**	**-1.5**
	comp=Z,48nm,0.8s						
CHTO	**Chiang Mai**	**31.99**	**303**	P	**P**	**07 18 10.5**	**-1.5**
	comp=Z,48nm,0.8s						
ENH	**Enshi**	**32.40**	**331**	*e*P	**P**	**07 18 14.0**	**-1.5**
	comp=Z,39nm,0.8s						
CMAI	**Chiengmai2**	**32.44**	**305**	P	**P**	**07 18 15.0**	**-1.1**
	comp=Z,47nm,0.9s						
KMI	**Kunming**	**32.58**	**316**	P	**P**	**07 18 16.5**	**-0.8**
KMI				pP	**pP**	**07 18 33.8**	**+1.5**
KMI				PP	**PP**	**07 19 32.1**	**+0.2**
KMI				S	**S**	**07 23 29.3**	**+0.4**
KMI				pmax	pmax		
	comp=Z,26nm,1.3s						
KMI				pmax	pmax		
	comp=Z,140nm,4.0s						
KMI				LR	LR		
	comp=N,460nm,21.2s						
KMI				LR	LR		
	comp=E,940nm,21.2s						
KMI				LR	LR		
	comp=Z,2μm,27.3s						
MORW	**Morawa**	**32.90**	**198**	P	**P**	**07 18 19.0**	**-0.8**
	baz=33,SNR=24						
FORT	**Forrest**	**32.90**	**178**	*e*P	**P**	**07 18 17.9**	**-1.9**
	comp=Z,61nm,0.8s						
FORT	**Forrest**	**32.90**	**178**	P	**P**	**07 18 19.3**	**-0.5**
	baz=33,SNR=8.5						
BLDU	**Ballidu**	**34.16**	**196**	P	**P**	**07 18 30.7**	**-0.1**
	baz=34,SNR=8.3						
KLBR	**Kellerberrin**	**34.82**	**194**	P	**P**	**07 18 35.9**	**-0.6**
	baz=35,SNR=18						
KSAR	**Wonju Array Be**	**34.99**	**1**	P	**P**	**07 18 38.0**	**+0.1**
KSAR				PcP	**PcP**	**07 21 10.4**	**+1.3**
KSRS	**Korea Array**	**35.00**	**1**	P	**P**	**07 18 38.0**	**0.0**
	comp=Z,17nm,0.8s,baz=180,slow=9.8,SNR=54						
KSRS				PcP	**PcP**	**07 21 10.4**	**+1.3**
	comp=Z,4.4nm,0.8s,baz=181,slow=2.6,SNR=5.9						
MJAR	**Matsushiro Arr**	**35.62**	**16**	P	**P**	**07 18 41.4**	**-1.9**
MJAR				PcP	**PcP**	**07 21 12.1**	**+1.1**
MJAR	**Matsushiro Arr**	**35.62**	**16**	P	**P**	**07 18 41.4**	**-1.9**
	comp=Z,20nm,0.8s,baz=182,slow=9.9,SNR=34						
MJAR				PcP	**PcP**	**07 21 12.1**	**+1.1**
	comp=Z,3.4nm,0.8s,baz=187,slow=3.6,SNR=4.0						
MAJO	**Matsushiro**	**35.63**	**16**	*e*P	**P**	**07 18 42.0**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,51nm,0.9s						
MAJO	**Matsushiro**	**35.63**	**16**	*e*P	**P**	**07 18 42.0**	**-1.3**
	comp=Z,51nm,0.9s						
MAT	**Matsushiro**	**35.63**	**16**	P	**P**	**07 18 41.3**	**-2.0**
MAT				S	S	07 24 30.0	+15
XAN	**Xi'an**	**35.81**	**334**	P	**P**	**07 18 42.6**	**-2.4**
XAN				PP	**PnPn**	**07 20 03.6**	**-3.2**
XAN				PcP	**PcP**	**07 21 11.8**	**+0.2**
XAN				S	S	07 24 11.9	-6.4
XAN				ScS	**ScS**	**07 28 54.3**	**-3.7**
XAN				pmax	pmax		
	comp=Z,17nm,0.9s						
XAN				LR	LR		
	comp=N,850nm,33.0s						
XAN				LR	LR		
	comp=E,420nm,28.5s						
XAN				LR	LR		
	comp=Z,400nm,29.9s						
CD2	**Chengdu**	**35.95**	**325**	P	**P**	**07 18 45.1**	**-1.2**
CD2				pP	**pP**	**07 19 00.1**	**-1.3**
CD2				PP	**PnPn**	**07 20 08.8**	**+0.2**
CD2				PcP	**PcP**	**07 21 10.5**	**-1.6**
CD2				S	**S**	**07 24 19.8**	**-0.7**
CD2				SS	**SnSn**	**07 26 45.3**	**-4.4**
CD2				ScS	**ScS**	**07 28 54.8**	**-4.1**
CD2				pmax	pmax		
	comp=Z,50nm,1.1s						
CD2				pmax	pmax		
	comp=Z,180nm,6.2s						
CD2				LR	LR		
	comp=E,800nm,19.0s						
CD2				LR	LR		
	comp=Z,850nm,21.4s						
BBOO	**Buckleboo**	**35.95**	**167**	*e*P	**P**	**07 18 46.9**	**+0.7**
	comp=Z,4μm,2.1s						
BBOO	**Buckleboo**	**35.95**	**167**	P	**P**	**07 18 46.8**	**+0.7**
	baz=36,SNR=21						
EIDS	**Eidsvold**	**36.08**	**141**	*e*P	**P**	**07 18 47.0**	**-0.3**
	comp=Z,37nm,1.1s						
EIDS	**Eidsvold**	**36.08**	**141**	P	**P**	**07 18 47.1**	**-0.2**
	baz=36,SNR=5.2						
NWAO	**Narrogin (SRO)**	**36.22**	**194**	*e*P	**P**	**07 18 48.0**	**-0.5**
	comp=Z,46nm,0.9s						
STKA	**Stephens Creek**	**36.70**	**159**	*e*P	**P**	**07 18 51.8**	**-0.8**
	comp=Z,16nm,0.8s						
STKA				PcP	**PcP**	**07 21 15.9**	**+1.7**
STKA	**Stephens Creek**	**36.70**	**159**	P	**P**	**07 18 51.5**	**-1.1**
	comp=Z,82nm,0.8s,baz=332,slow=8.0,SNR=60						
STKA				PcP	**PcP**	**07 21 15.9**	**+1.7**
	comp=Z,7.2nm,0.7s,baz=288,slow=9.4,SNR=3.2						
STKA	**Stephens Creek**	**36.70**	**159**	P	**P**	**07 18 51.7**	**-0.9**
	baz=37,SNR=72						
DL2	**Dalian**	**36.77**	**353**	P	**P**	**07 18 54.5**	**+1.5**
DL2				pP	**pP**	**07 19 11.5**	**+3.3**
DL2				S	**S**	**07 24 34.8**	**+2.1**
DL2				SS	**SS**	**07 27 13.3**	**-1.7**
DL2				pmax	pmax		
	comp=Z,130nm,0.8s						
DL2				pmax	pmax		
	comp=Z,310nm,5.4s						
DL2				LR	LR		
	comp=E,680nm,15.7s						
DL2				LR	LR		
	comp=Z,660nm,24.0s						
RKGY	**Rocky Gully**	**37.89

comp=E,2µm,14.7s
HHC LR LR
comp=Z,3µm,15.7s
VLA Vladivostok 40.89 5 *i* P **P 07 19 28.0 +0.6**
VLA pmax pmax
comp=Z,110nm,1.9s
ARPS Mount Arapiles 41.25 162 P **P 07 19 30.7 +0.2**
baz=41,SNR=19
CN2 Changchun 41.35 358 *e*P **P 07 19 30.3 -1.0**
CN2 PP **PP 07 21 10.1 +2.3**
CN2 *e*S **S 07 25 41.3 -0.2**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,500nm,18.0s
CN2 LR LR
comp=E,600nm,18.0s
CN2 LR LR
comp=Z,600nm,20.0s
YNG Young 41.60 153 P **P 07 19 33.5 +0.1**
baz=42,SNR=5.7
USRK Ussuriysk Arra 41.97 5 P **P 07 19 36.3 +0.1**
comp=Z,35nm,0.8s,baz=186,slow=6.3,SNR=50
ERM Erimo 42.13 18 *e*P **P 07 19 39.8 +2.2**
ERM pmax pmax
comp=Z,47nm,1.0s
ERM Erimo 42.13 18 *e*P **P 07 19 39.8 +2.2**
comp=Z,47nm,1.0s
MDJ Mudanjiang 42.21 3 P **P 07 19 38.9 +0.7**
MDJ PP **PP 07 21 17.1 0.0**
MDJ PcP **PcP 07 21 32.4 +1.0**
MDJ PcS **PcS 07 25 23.8 +0.6**
MDJ S **S 07 25 59.3 +5.2**
MDJ SS **SS 07 29 05.8 +1.5**
MDJ pmax pmax
comp=Z,50nm,1.1s
MDJ pmax pmax
comp=Z,230nm,4.2s
MDJ LR LR
comp=N,770nm,26.7s
MDJ LR LR
comp=E,260nm,33.4s
MDJ LR LR
comp=Z,910nm,28.4s
MDJ Mudanjiang 42.21 3 *e*P **P 07 19 38.6 +0.4**
comp=Z,58nm,1.0s
CAN Canberra 42.72 153 *e*P **P 07 19 42.1 -0.5**
CAN pmax pmax
comp=Z,40nm,1.0s
CAN Canberra 42.72 153 *e*P **P 07 19 42.1 -0.5**
comp=Z,40nm,1.0s
CNB Canberra Magne 42.88 153 P **P 07 19 45.9 +2.0**
baz=43,SNR=6.9
TOO Toolangi 43.22 158 P **P 07 19 48.9 +2.3**
baz=43,SNR=4.4
LSA Lhasa 43.58 312 P **P 07 19 49.4 -0.8**
LSA Lhasa 43.58 312 *e*P **P 07 19 49.7 -0.5**
LSA pmax pmax
comp=Z,29nm,0.8s
LSA Lhasa 43.58 312 *e*P **P 07 19 49.7 -0.5**
comp=Z,29nm,0.8s
ASAJ Asahikawa 43.89 16 *e*P **P 07 19 52.2 +0.3**
comp=Z,19nm,1.1s
ASAJ Asahikawa 43.89 16 P **P 07 19 51.6 -0.2**
comp=Z,16nm,0.8s,baz=218,slow=4.1,SNR=9.8
ASAJ LR LR 07 36 53.9
comp=Z,704nm,21.9s,baz=176,slow=34
GTA Gaotai 44.45 330 ⇑P **P 07 19 55.5 -1.1**
GTA pP **pP 07 20 10.4 -1.8**
GTA S **S 07 26 26.4 -1.0**
GTA SS SS 07 29 39.0 -10
GTA pmax pmax
comp=Z,9.0nm,0.9s
GTA pmax pmax
comp=Z,110nm,5.7s
GTA LR LR
comp=N,930nm,24.5s
GTA LR LR
comp=E,1µm,24.0s
GTA LR LR
comp=Z,2µm,23.8s
YUK Yuzh-Kuril'sk 44.81 19 *e*P P 07 19 52.1 -7.1
YUK S **S 07 26 30.7 -1.4**
YUK *i* SS **ScS 07 29 45.5 -5.6**
TAPN Taplejung 45.07 307 *e*P **P 07 20 00.3 -1.6**
comp=Z,39nm,0.8s
ODAN Odare 45.11 307 *e*P **P 07 20 00.6 -1.6**
comp=Z,104nm,0.8s
DZM Mont Dzumac 45.51 124 *e*LR LR 07 32 57.3
comp=Z,5µm,24.9s
RAMN Ramite 45.79 306 *e*P **P 07 20 06.2 -1.3**
comp=Z,77nm,0.8s
JIRN Jiri 46.42 307 *e*P **P 07 20 11.1 -1.6**
comp=Z,50nm,0.7s
HABR Khabarovsk 46.53 7 *e*P **P 07 20 11.0 -1.6**
HABR *e**PP **pP 07 20 26.3 -2.0**
HABR *e**SP **sP 07 20 33.4 -1.9**
HABR *e*PPP PPP 07 22 44.3
HABR *e*S **S 07 26 55.3 -1.4**
HABR *e**SS **sS 07 27 21.9 -1.2**
HABR *e* 07 30 00.0
HABR *e*SSS SSS 07 31 22.6
HABR pmax pmax
comp=Z,75nm,1.6s
HABR pmax pmax
comp=N,36nm,1.1s
HABR pmax pmax
comp=E,56nm,1.5s
HABR MLR MLR
comp=Z,478nm,19.0s
YSS Yuzh-Sakhalins 46.55 15 *e*P **P 07 20 13.0 +0.1**
YSS *e* 07 20 27.0
YSS *e* 07 20 36.0
YSS *e* 07 27 04.0
YSS MLR MLR
comp=Z,600nm,20.0s
GUN Gumba 46.78 307 *e*P **P 07 20 13.9 -1.5**
comp=Z,90nm,0.6s
KLR Kul'dur 46.94 4 *e*P P 07 20 11.8 -4.1
KLR *e* 07 21 54.0
KLR *e*S **S 07 27 02.5 -0.1**
KLR pmax pmax
comp=Z,57nm,1.4s
PKI Pulchoki 47.01 306 *e*P **P 07 20 15.1 -2.1**
comp=Z,26nm,0.7s
PKIN Phulchoki 47.02 306 *e*P **P 07 20 14.9 -2.3**
comp=Z,22nm,0.7s
KKN Kakani 47.21 307 *e*P **P 07 20 16.5 -2.1**
comp=Z,43nm,0.8s
HIA Hailar 47.21 354 *e*P **P 07 20 18.8 +0.8**
comp=Z,65nm,1.2s
DMN Daman 47.27 306 *e*P **P 07 20 17.4 -1.7**
comp=Z,51nm,0.9s
MOO Moorlands 48.13 160 P **P 07 20 26.2 +1.0**
baz=48,SNR=3.9
KOLN Koldanda 48.55 306 *e*P **P 07 20 27.6 -1.4**
comp=Z,99nm,0.7s
ULN Ulaanbaatar 48.55 342 *e*P **P 07 20 28.8 +0.2**
comp=Z,40nm,0.9s
DANN Dangsing 48.66 306 *e*P **P 07 20 28.3 -1.6**
comp=Z,104nm,0.7s
SONM Songino Array 48.73 342 P **P 07 20 29.5 -0.5**
SONM Songino Array 48.73 342 P **P 07 20 29.5 -0.5**
comp=Z,18nm,0.8s,baz=161,slow=8.8,SNR=39
PYUN Piuthan 49.18 306 *e*P **P 07 20 32.5 -1.3**
comp=Z,111nm,0.8s
HYB Hyderabad 49.85 291 *i* P **P 07 20 38.0 -0.8**
ZAK Zakamensk 51.96 341 ⇑*i*P **P 07 20 53.9 -0.3**
ZAK *e* 07 21 59.0
ZAK pmax pmax
comp=Z,8.0nm,0.9s
TLY Talaya 52.97 342 *c i*P **P 07 21 02.0 +0.5**
TLY *e*S **S 07 28 29.5 +3.0**
TLY pmax pmax
comp=Z,38nm,0.9s
TLY MLR MLR
comp=Z,362nm,21.0s
TLY Talaya 52.97 342 P **P 07 21 02.1 +0.5**
comp=Z,273nm,0.7s,SNR=11
IRK Irkutsk 53.27 343 *e*P **P 07 21 03.7 -0.1**
IRK pmax pmax
comp=Z,62nm,1.5s
MOY Mondy 53.81 340 *e*P **P 07 21 08.1 +0.2**
MOY pmax pmax
comp=Z,52nm,1.5s
WMQ Urumqi 54.04 326 P **P 07 21 09.8 +0.1**
WMQ pP **pP 07 21 25.6 0.0**
WMQ PcP **PcP 07 22 13.8 -0.2**
WMQ PP **PP 07 23 13.4 +1.7**
WMQ ScP **ScP 07 26 05.1 -2.0**
WMQ S **S 07 28 40.1 -1.4**
WMQ ScS **ScS 07 30 50.0 -3.7**
WMQ SS **SS 07 32 21.8 -2.0**
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ pmax pmax
comp=Z,130nm,3.9s
WMQ LR LR
comp=N,670nm,21.0s
WMQ LR LR
comp=E,820nm,23.1s
WMQ LR LR
comp=Z,980nm,25.2s
CLNS Chul'man 54.41 359 *e*P **P 07 21 12.6 +0.6**
CLNS *e* 07 22 17.0
CLNS *e* 07 23 18.2
CLNS *e*S **S 07 28 48.1 +2.2**
CLNS pmax pmax
comp=Z,19nm,0.9s
CLNS pmax pmax
comp=N,18nm,0.9s
CLNS pmax pmax
comp=E,11nm,1.0s
CLNS pmax pmax
comp=Z,5.0nm,1.2s
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,1.1s
CLNS smax smax
comp=E,214nm,13.8s
CLNS smax smax
comp=N,106nm,12.7s
CLNS MLR MLR
comp=Z,107nm,18.0s
CLNS MLR MLR
comp=N,175nm,14.0s
CLNS MLR MLR
comp=E,242nm,14.0s
HVS Khovu-Aksy 56.14 335 *d i*P **P 07 21 25.0 +0.3**
HVS pmax pmax
comp=Z,236nm,1.3s
PETK Petropavlovsk- 56.66 22 LR LR 07 44 56.6
comp=Z,239nm,21.8s,baz=211,slow=35
PET Petropavlovsk 56.95 22 *e*P P 07 21 43.7 +13
PET *e*S S 07 29 37.2 +17
PET pmax pmax
comp=Z,200nm,13.9s
PET MLR MLR
comp=Z,500nm,17.0s
MK31 Makanchi Array 58.87 326 *e*P **P 07 21 42.8 -1.1**
MK31 Makanchi Array 58.87 326 *e*P **P 07 21 42.8 -1.1**
MKAR Makanchi Array 58.87 326 *e*P **P 07 21 43.3 -0.7**
MKAR Makanchi Array 58.87 326 *e*P **P 07 21 43.2 -0.7**
MKAR ⇑*e* 07 51 27.5
MKAR Makanchi Array 58.87 326 P **P 07 21 42.9 -1.0**
comp=Z,12nm,0.5s,baz=123,slow=8.4,SNR=72
MKAR PKP2bc 07 51 27.5
comp=Z,0.3nm,0.4s,baz=246,slow=1.9,SNR=5.0
YAK Yakutsk 59.63 1 *e*P **P 07 21 48.2 -0.6**
YAK *e**PP **pP 07 22 09.2 +4.2**
YAK *e* 07 24 00.4
YAK *e*S **S 07 29 50.8 -3.6**
YAK pmax pmax
comp=N,30nm,1.1s
YAK pmax pmax
comp=Z,111nm,0.9s
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK pmax pmax
comp=Z,10.0nm,0.8s
YAK pmax pmax
comp=N,26nm,1.4s
YAK smax smax
comp=N,103nm,3.7s
YAK smax smax
comp=E,171nm,4.8s
YAK MLR MLR
comp=E,582nm,26.0s
YAK MLR MLR
comp=N,810nm,27.0s
YAK MLR MLR
comp=Z,883nm,26.0s
KRAR Krasnoyarsk 60.17 339 *i* P **P 07 21 52.7 +0.1**
KRAR pmax pmax
comp=Z,44nm,0.6s
ULHL Ulahol 60.26 319 *i* P **P 07 21 54.8 +1.1**
ULHL Ulahol 60.26 319 P **P 07 21 54.8 +1.1**
SNR=15
RPZ Rata Peaks 60.45 145 *e*P **P 07 21 54.9 +0.1**
comp=Z,43nm,0.9s
KZA Kyzart 60.84 318 *i* P **P 07 21 59.5 +1.5**
KZA Kyzart 60.84 318 P **P 07 21 59.5 +1.5**
SNR=8.7
TKM2 Tokmak 2 60.99 319 *i* P **P 07 21 58.3 -0.4**
TKM2 Tokmak 2 60.99 319 P **P 07 21 58.4 -0.4**
SNR=13
AAK Ala-Archa 61.59 318 ⇑*e*P **P 07 22 02.9 +0.2**
AAK pmax pmax
comp=Z,23nm,1.0s
AAK Ala-Archa 61.59 318 *e*P **P 07 22 02.2 -0.6**
comp=Z,12nm,0.9s
AAK Ala-Archa 61.59 318 P **P 07 22 02.1 -0.6**
comp=Z,7.1nm,0.8s,baz=168,slow=10,SNR=7.7
USP Ospenovka 61.86 319 *i* P **P 07 22 03.9 -0.5**
USP Ospenovka 61.86 319 P **P 07 22 04.0 -0.5**
SNR=16
AML Almayashu 61.91 317 *i* P **P 07 22 05.2 0.0**
AML Almayashu 61.91 317 P **P 07 22 05.2 0.0**
SNR=7.2
ZALV Zalesovo Beam 61.98 333 P **P 07 22 03.3 -1.6**
ZALV Zalesovo Beam 61.98 333 P **P 07 22 03.3 -1.6**
ZALV ⇑*e* 07 51 19.6
ZALV Zalesovo Beam 61.98 333 P **P 07 22 03.3 -1.6**
comp=Z,6.6nm,0.6s,baz=122,slow=6.5,SNR=32
ZALV PKP2bc 07 51 19.6
comp=Z,0.6nm,0.3s,baz=228,slow=1.7,SNR=5.4
EKS2 Erkin-Say 62.08 318 P **P 07 22 06.0 0.0**
SNR=15
KBL Kabul 62.59 308 *e*P **P 07 22 09.8 +0.1**
KBL pmax pmax
comp=Z,21nm,0.8s
KBL Kabul 62.59 308 *e*P **P 07 22 09.8 +0.1**
comp=Z,21nm,0.8s
KURBB Kurchatov Arra 63.08 328 P **P 07 22 11.4 -0.9**
comp=Z,30nm,0.9s,baz=128,slow=6.0,SNR=110
KURK Kurchatov 63.08 328 P **P 07 22 11.8 -0.5**
comp=Z,305nm,0.6s,SNR=53
KURK Kurchatov 63.08 328 P **P 07 22 11.4 -0.9**
KURK Kurchatov 63.08 328 P **P 07 22 11.4 -0.9**
FX1 Attu Island--F 63.20 29 *e*P **P 07 22 14.3 +1.3**
FX1 Attu Island--F 63.20 29 P **P 07 22 11.6 -1.5**
comp=Z,49nm,0.8s,baz=37,slow=10,SNR=8.1
NVS Novosibirsk 63.26 333 ⇑*i*P **P 07 22 10.9 -2.5**
NVS *e* 07 22 46.7
NVS pmax pmax
comp=N,11nm,0.8s
NVS pmax pmax
comp=Z,20nm,0.8s
NVS pmax pmax
comp=E,8.0nm,0.8s
KK31 Karatay Array 64.45 317 *i* P **P 07 22 20.5 -1.0**
KK31 pmax pmax
comp=Z,24nm,0.9s
KKAR Karatay Array 64.45 317 *e*P **P 07 22 20.7 -0.9**
KKAR pmax pmax
comp=Z,24nm,0.9s
KKAR Karatay Array 64.45 317 *e*P **P 07 22 20.7 -0.9**
comp=Z,24nm,0.9s
VOSK Vostochnaya 68.20 327 P **P 07 22 44.0 -1.3**
VOSK pmax pmax
comp=Z,16nm,0.6s
BVA0 Borovoye Array 68.66 327 *i* P **P 07 22 47.8 -0.3**
BVA0 pmax pmax
comp=Z,73nm,1.6s
BVAR Borovoye Array 68.66 327 P **P 07 22 47.4 -0.7**
BVAR Borovoye Array 68.66 327 P **P 07 22 47.4 -0.7**
BVAR Borovoye Array 68.66 327 P **P 07 22 47.4 -0.7**
comp=Z,16nm,0.8s,baz=129,slow=8.2,SNR=66
BRVK Borovoye 68.73 327 P **P 07 22 48.6 0.0**
comp=Z,211nm,0.9s,SNR=20
BRVK Borovoye 68.73 327 *c i*P **P 07 22 48.0 -0.6**
BRVK pmax pmax
comp=Z,52nm,1.2s
BRVK Borovoye 68.73 327 *e*P **P 07 22 48.3 -0.3**
comp=Z,48nm,1.0s
TIXI Tiksi 69.27 1 *c i*P **P 07 22 50.8 -0.7**
TIXI pmax pmax
comp=Z,37nm,1.3s
CASY Casey 69.43 187 *e*P **P 07 22 52.6 0.0**
comp=Z,19nm,0.8s
DRV Dumont d'Urvil 69.43 174 P P 07 22 58.0 +5.4
DRV S SKiKP 07 32 18.0 -18
DRV SP **ScS 07 32 48.0 -0.3**
DRV SS SS 07 35 42.0 -41
DRV L L 07 41 00.0
DRV R 07 47 00.0
ATKA Atka Island 69.53 34 *e*P **P 07 22 55.2 +1.7**
comp=Z,109nm,0.9s
IMYA Miami 70.11 308 *e*P **P 07 22 57.0 -0.7**
BILL Bilibino 70.87 15 *i* P **P 07 23 01.6 +0.1**
BILL *e**PP **pP 07 23 17.2 -0.9**
BILL pmax pmax
comp=Z,39nm,1.1s
IAKL Akhelmad 71.22 308 *e*P **P 07 23 05.1 +0.5**
IKRD Kardeh 71.45 308 *e*P P 07 23 01.6 -4.3
ISFR Sfrayin 71.91 308 *e*P **P 07 23 08.2 -0.5**
IBAF Bafgh 72.99 302 *e*P **P 07 23 12.1 -3.0**
AB31 Akbulak array 73.42 321 *i* P **P 07 23 16.4 -0.6**
AB31 pmax pmax
comp=Z,12nm,0.7s
IMEH Mehriz 73.78 302 *e*P P 07 23 16.5 -3.3
ICHK Chekchek 74.06 303 *e*P **P 07 23 22.2 +0.7**
ISRV Sarvestan 74.83 300 *e*P **P 07 23 25.7 -0.4**
IANJ Anjilo 74.90 306 *e*P **P 07 23 25.7 -0.6**
IPAR Pars 74.93 300 *e*P **P 07 23 25.5 -1.2**
AKUT Akutan 74.96 34 *e*P **P 07 23 27.6 +1.7**
comp=Z,72nm,0.7s
SVE Sverdlovsk 75.31 329 ⇑*i*P **P 07 23 28.0 +0.1**
SVE *e*PPP PPP 07 28 05.2
SVE *e*S **S 07 33 01.1 -1.5**
SVE pmax pmax
comp=Z,78nm,0.9s
ARU Arti 76.28 328 *c i*P **P 07 23 32.5 -0.9**
ARU S **S 07 33 13.4 +0.1**
ARU SS **SS 07 38 08.2 0.0**
ARU pmax pmax
comp=Z,67nm,1.2s
FALS False Pass 76.48 34 *e*P **P 07 23 34.9 +0.3**
comp=Z,81nm,0.8s
IPIR Pirpir 77.06 303 *e*P **P 07 23 38.8 +0.1**
SOKR Solikamsk 78.09 331 *e*P **P 07 23 44.0 +0.6**
SOKR pmax pmax
comp=Z,20nm,1.0s
SDPT Sand Point 78.24 34 *e*P **P 07 23 44.6 +0.3**
comp=Z,49nm,0.8s
CHGN Chignik 79.58 33 *e*P **P 07 23 53.0 +1.3**
RDF Al-Radifah 79.64 299 *e*P **P 07 23 52.1 -0.6**
RDF AMb AMB 07 23 56.7
comp=Z,45nm,1.1s
MIB Mutribah 79.88 300 *e*P **P 07 23 52.9 -1.0**
MIB AMb AMB 07 23 56.7
comp=Z,61nm,0.7s
NAY Al-Naaiem 79.93 299 *e*P **P 07 23 53.1 -1.1**
NAY AMb AMB 07 23 59.7
comp=Z,24nm,1.0s
IGHG Ghaleghazi 80.79 304 *e*P P 07 23 55.1 -4.0
IDHR Dehrash 80.96 305 *e*P **P 07 23 58.6 -1.3**
ABPO Ambohimpanom 81.07 250 *e*P **P 07 24 00.3 -0.4**
ABPO pmax pmax
comp=Z,9.0nm,0.7s
ABPO Ambohimpanom 81.07 250 *e*P **P 07 24 00.3 -0.4**
comp=Z,9.3nm,0.7s
RAYN Ar Rayn 81.28 293 P **P 07 24 03.3 +1.7**
comp=Z,90nm,0.8s,SNR=5.4
RAYN Ar Rayn 81.28 293 *e*P **P 07 24 01.3 -0.3**
comp=Z,21nm,0.9s
SVW2 Sparrevohn 81.94 29 *e*P **P 07 24 05.9 +1.6**
comp=Z,14nm,1.0s
VNDA Vanda 81.98 173 *e*P **P 07 24 03.4 -0.7**
comp=Z,14nm,0.8s
VNDA Vanda 81.98 173 P **P 07 24 03.7 -0.4**
comp=Z,14nm,0.8s,baz=317,slow=6.6,SNR=25
VNDA LR LR 07 58 29.3
comp=Z,403nm,20.9s,baz=333,slow=34
DGRG David-gareji 82.19 311 P **P 07 24 07.2 +1.1**
MAW Mawson 82.50 200 P **P 07 24 08.4 +1.4**
MAW Mawson 82.50 200 P **P 07 24 08.4 +1.4**
comp=Z,9.5nm,0.8s,baz=61,slow=7.5,SNR=20
OHAK Old Harbor 82.52 33 *e*P **P 07 24 07.4 +0.1**
comp=Z,26nm,0.7s
GNI Garni 82.59 310 *e*P **P 07 24 09.6 +1.3**
comp=Z,92nm,1.2s
TBLG Delisi 82.69 312 P **P 07 24 09.2 +0.6**
DUS Dusheti 82.74 312 P **P 07 24 11.3 +2.4**
SBA Scott Base 82.89 172 *e*P **P 07 24 09.8 +1.0**
SBA pmax pmax
comp=Z,7.0nm,0.8s
SBA Scott Base 82.89 172 *e*P **P 07 24 09.8 +1.0**
comp=Z,7.4nm,0.8s
KZR Kazreti 82.91 311 P **P 07 24 10.7 +0.9**
KDAK Kodiak Island 82.96 32 P **P 07 24 10.0 +0.4**
comp=Z,248nm,0.7s,SNR=15
KDAK Kodiak Island 82.96 32 *e*P **P 07 24 10.3 +0.7**
comp=Z,29nm,0.8s
KDAK Kodiak Island 82.96 32 P **P 07 24 10.5 +0.9**
comp=Z,23nm,0.7s,baz=218,slow=6.1,SNR=30
RSO Redoubt South 83.21 29 *e*P **P 07 24 11.9 +0.8**
HAKT HAKKARI 83.28 307 *i* P **P 07 24 12.2 +0.2**
ZEI Tsey 83.37 313 *e*P **P 07 24 11.9 -0.4**
ZEI pmax pmax
comp=Z,43nm,0.8s
SPU Mount Spurr 83.64 29 *e*P **P 07 24 13.6 +0.5**
SPU *e*pP **pP 07 24 30.4 +0.3**
ONI Oni 83.69 312 P **P 07 24 14.6 +0.8**
PPLA Purkeypile 83.79 27 *e*P **P 07 24 14.2 +0.3**
comp=Z,11nm,0.6s
GEVA Gevas 83.81 308 *i* P **P 07 24 15.6 +0.9**
KBZ Khabaz 84.14 314 P **P 07 24 16.3 +0.3**
KBZ Khabaz 84.14 314 P **P 07 24 16.3 +0.3**
KBZ Khabaz 84.14 314 P **P 07 24 16.3 +0.3**
comp=Z,13nm,0.8s,baz=62,slow=3.5,SNR=18
KBZ LR LR 08 07 36.9
comp=Z,183nm,20.3s,baz=68,slow=40
KIV Kislovodsk 84.31 314 ⇑*e*P **P 07 24 17.6 +0.6**
KIV *e**PP **pP 07 24 31.9 -2.1**
KIV *e**SP **sP 07 24 39.7 -0.9**
KIV *e* 07 27 30.4
KIV pmax pmax
comp=Z,15nm,0.8s
KIV MLR MLR
comp=Z,600nm,24.0s
PPT Papeete 84.44 108 LR LR 07 58 19.2
comp=Z,539nm,18.3s,baz=99,slow=33
PPT2 Papeete2 84.44 108 *e*LR LR 07 51 01.0
comp=Z,898nm,25.5s
TRF Thorofare Moun 84.70 27 *e*P **P 07 24 17.8 -0.8**
comp=Z,28nm,1.2s
ARTV Artvin 84.77 311 *i* P **P 07 24 20.4 +0.8**
DAGI Agillar 84.78 311 *i* P **P 07 24 20.4 +0.9**
DDEM Demirkent 84.90 311 *i* P **P 07 24 20.5 +0.4**
DBAD Bademkaya 84.95 311 *i* P **P 07 24 20.9 +0.6**
TBI Tubuai 84.99 114 *e*LR LR 07 51 07.9
comp=Z,680nm,24.5s
PMR Palmer 85.08 29 *e*P **P 07 24 20.3 0.0**
PMR pmax pmax
comp=Z,43nm,0.9s
PMR Palmer 85.08 29 *e*P **P 07 24 20.3 0.0**
comp=Z,43nm,0.9s
COLD Coldfoot 85.11 23 *e*P **P 07 24 21.2 +0.8**
comp=Z,26nm,0.9s
BNGL BINGOL 85.33 309 *i* P **P 07 24 24.2 +1.9**
MCK McKinley 85.33 26 *e*P **P 07 24 21.8 +0.2**
MCK pmax pmax
comp=Z,14nm,0.8s
MCK McKinley 85.33 26 *e*P **P 07 24 21.8 +0.2**
comp=Z,14nm,0.8s
SML Sawmill 85.47 28 *e*P **P 07 24 22.9 +0.5**
SML pmax pmax
comp=Z,11nm,0.8s
SML Sawmill 85.47 28 *e*P **P 07 24 22.9 +0.5**
comp=Z,11nm,0.8s
COLA College 85.88 25 *e*P **P 07 24 24.9 +0.7**
COLA pmax pmax
comp=Z,24nm,0.8s

COLA	College	85.88	25	*e*P		P	07 24 24.9	+0.7	
	comp=Z,24nm,0.8s								
ILAR	Eielson Array	86.29	25	P		P	07 24 24.8	-1.5	
ILAR				PP		PP	07 27 45.4	-2.3	
ILAR	Eielson Array	86.29	25	P		P	07 24 24.8	-1.5	
	comp=Z,1.6nm,0.7s,baz=323,slow=7.1,SNR=23								
ILAR				PP		PP	07 27 45.4	-2.3	
	comp=Z,2.2nm,1.1s,baz=258,slow=7.6,SNR=5.7								
ILAR				LR		LR	08 06 06.2		
	comp=Z,134nm,18.7s,baz=282,slow=38								
SOC	Sochi	86.45	313	*c i*P		P	07 24 25.8	-1.7	
SOC				*e**PP		pP	07 24 42.3	-2.3	
SOC				*e**SP		sP	07 24 49.2	-2.0	
SOC				*e*			07 27 45.4		
SOC				*e*S		SKSac	07 34 45.3	-3.7	
SOC				*e*SSS		SSS	07 44 14.8		
SOC				pmax		pmax			
	comp=Z,24nm,0.9s								
SOC				MLR		MLR			
	comp=Z,517nm,21.0s								
DIV	Divide	86.67	29	*e*P		P	07 24 30.1	+1.8	
	comp=Z,26nm,0.9s								
VORD	Divnogorie	86.78	321	*e*P		P	07 24 29.3	+0.4	
VORD				pmax		pmax			
	comp=Z,280nm,1.4s								
VORD				pmax		pmax			
	comp=N,100nm,0.4s								
VORD				pmax		pmax			
	comp=E,130nm,0.3s								
KELT	Kelkit	86.80	310	*i* P		P	07 24 30.3	+0.7	
PAX	Paxson	86.86	27	*e*P		P	07 24 29.5	+0.3	
PAX				pmax		pmax			
	comp=Z,7.0nm,0.9s								
PAX	Paxson	86.86	27	*e*P		P	07 24 29.5	+0.3	
	comp=Z,7.4nm,0.9s								
VSR	Storozhevoye	86.86	321	*e*P		P	07 24 30.0	+0.7	
VSR				pmax		pmax			
	comp=Z,20nm,0.6s								
VSR				pmax		pmax			
	comp=N,10.0nm,0.7s								
VSR				pmax		pmax			
	comp=E,9.0nm,0.7s								
BMRM	Bremner River	87.24	29	*e*P		P	07 24 32.5	+1.5	
	comp=E,14nm,0.8s								
MALT	Malatya	87.46	308	‖ *i*P		P	07 24 49.4	+17	
TMCR	Tamitsa	87.49	334	*e*P		P	07 24 30.4	-1.7	
TMCR				pmax		pmax			
	comp=Z,12nm,0.4s								
SUSE	Susehri	87.60	310	*i* P		P	07 24 35.3	+1.9	
MENT	Mentasta	87.66	27	*e*P		P	07 24 33.2	+0.2	
MOS	Moscow	87.76	326	*e*P		P	07 24 32.3	-1.3	
MOS				*e*			07 24 45.8		
MOS				pmax		pmax			
	comp=Z,43nm,0.9s								
MOS				pmax		pmax			
	comp=Z,112nm,1.0s								
ANN	Anapa	88.08	315	*e*P		P	07 24 35.6	+0.3	
ANN				*e**PP		pP	07 24 52.5	0.0	
ANN				*e*PPP		PPP	07 29 59.5		
ANN				*e*			07 34 58.7		
ANN				*e*			07 35 11.6		
ANN				pmax		pmax			
	comp=N,35nm,1.4s								
ANN				pmax		pmax			
	comp=E,41nm,1.4s								
ANN				pmax		pmax			
	comp=Z,139nm,1.4s								
OBN	Obninsk	88.37	325	⇑*e*P		P	07 24 36.9	+0.4	
OBN				*e**PP		pP	07 24 51.3	-2.3	
OBN				*e**SP		sP	07 25 00.0	-0.2	
OBN				*e*PS		PS	07 36 30.8	+2.9	
OBN				*e*SS		SS	07 41 13.4	+5.8	
OBN				pmax		pmax			
	comp=Z,38nm,1.2s								
OBN				MLR		MLR			
	comp=Z,300nm,23.0s								
EGAK	Eagle	88.74	25	*e*P		P	07 24 37.6	-0.5	
	comp=Z,9.4nm,1.0s								
KMBO	Kilima Mbogo	89.77	269	*e*P		P	07 24 45.1	+0.8	
KMBO	Kilima Mbogo	89.77	269	P		P	07 24 44.0	-0.3	
	comp=Z,16nm,1.1s,baz=49,slow=8.5,SNR=7.9								
CTKT	Corum	90.19	310	*i* P		P	07 24 46.5	+0.9	
AVNT	Avonos	90.24	309	*i* P		P	07 24 45.6	-0.3	
EIL	Elat	90.64	300	P		P	07 24 50.0	+2.3	
	baz=91,SNR=4.4								
BRTR	Keskin Array B	91.13	310	P		P	07 24 48.8	-1.1	
BRTR	Keskin Array B	91.13	310	P		P	07 24 48.8	-1.1	
	comp=Z,3.3nm,0.8s,baz=122,slow=4.9,SNR=9.1								
SYO	Syowa Base	91.18	201	⇑*e*P		P	07 24 51.4	+2.1	
KEV	Kevo	91.32	340	*e*p		P	07 24 48.8	-1.1	
	comp=Z,6.2nm,0.8s								
KEV	Kevo	91.32	340	*e*P		P	07 24 48.8	-1.1	
KEV				pmax		pmax			
	comp=Z,6.0nm,0.8s								
INK	Inuvik	91.40	22	P		P	07 24 49.1	-1.2	
INK	Inuvik	91.40	22	P		P	07 24 49.1	-1.2	
	comp=Z,4.7nm,0.9s,baz=276,slow=5.3,SNR=8.4								
ARCES	ARCESS Array B	91.88	340	P		P	07 24 51.2	-1.4	
ARCES				PKKP		PKKPdf	07 42 09.8	0.0	
ARCES	ARCESS Array B	91.88	340	P		P	07 24 51.2	-1.4	
	comp=Z,12nm,0.8s,baz=76,slow=5.1,SNR=22								
ARCES				PKKP		PKKPdf	07 42 09.8	0.0	
	comp=Z,1.2nm,0.8s,baz=285,slow=3.5,SNR=3.6								
ARCES				LR		LR	08 12 59.8		
	comp=Z,358nm,21.0s,baz=83,slow=40								
SKAG	Skagway	91.95	30	*e*P		P	07 24 54.0	+0.8	
	comp=Z,13nm,1.1s								
QSPA	South Pole Qui	92.21	180	*e*P		P	07 24 54.0	-0.3	
	comp=Z,14nm,1.2s								
SIT	Sitka	92.28	33	*e*P		P	07 24 55.8	+1.2	
SIT	Sitka	92.28	33	*e*P		P	07 24 55.8	+1.2	
KAF	Kangasniemi	92.98	332	*e*p		P	07 24 57.3	-0.5	
	comp=Z,2.7nm,0.6s								
KAF	Kangasniemi	92.98	332	*e*P		P	07 24 57.3	-0.5	
KAF				pmax		pmax			
	comp=Z,3.0nm,0.6s								
KIEV	Kiev	93.17	321	*e*P		P	07 24 57.7	-1.2	
KIEV				pmax		pmax			
	comp=Z,7.0nm,1.1s								
KIEV	Kiev	93.17	321	*e*P		P	07 24 57.7	-1.2	
	comp=Z,7.2nm,1.1s								
FINES	FINESS Array B	93.21	332	P		P	07 24 59.1	+0.2	
FINES	FINESS Array B	93.21	332	P		P	07 24 59.1	+0.2	
	comp=Z,4.2nm,0.7s,baz=38,slow=7.0,SNR=8.2								
FINES				LR		LR	08 15 37.0		
	comp=Z,145nm,18.1s,baz=52,slow=41								
WRAK	Wrangell Islan	94.00	33	*e*P		P	07 25 02.8	+0.2	
	comp=Z,20nm,0.8s								
CFR	Carcaliu	94.62	315	⇑*i*P		P	07 25 10.6	+4.9	
TESR	Tescani	95.45	317	⇑*i*P		P	07 25 09.3	-0.2	
VRI	Vrincioaia	95.50	316	⇑*i*P		P	07 25 10.4	+0.6	
PLOR	Plostina	95.56	316	‖ *i*P		P	07 25 11.1	+1.0	
MLR	Muntele Rosu	96.10	316	⇑*i*P		P	07 25 11.6	-1.1	
BURAR	Bucovina Array	96.23	318	⇑*i*P		P	07 25 14.8	+1.6	
BUR08	Bucovina Ar. S	96.24	318	*e*P		P	07 25 14.0	+0.7	
KOLS	Kolonicke sedl	97.90	320	*e*P		Pdif	07 25 22.6	+2.0	
KOLS	Kolonicke sedl	97.90	320	*e*P		Pdif	07 25 22.6	+2.0	
UZH	Uzhgorod	97.95	320	*e*P		Pdif	07 25 22.2	+1.4	
UZH				*i*			07 25 40.4		
RKT	Rikitea	98.29	113	*e*LR		LR	07 57 25.1		
	comp=Z,358nm,27.0s								
KECS	Kecovo	99.16	320	*e*P		Pdif	07 25 26.9	+0.7	
KECS	Kecovo	99.16	320	PDIF		Pdif	07 25 26.9	+0.7	
NB2	NORSAR Subarra	100.18	334	P		Pdif	07 25 28.7	-1.8	
	comp=Z,1.4nm,0.8s,baz=66,slow=4.6								
NOA	NORSAR Array B	100.18	334	P		Pdif	07 25 28.6	-1.8	
NOA				PP		PP	07 29 39.9	+3.5	
NOA	NORSAR Array B	100.18	334	P		Pdif	07 25 28.6	-1.8	
	comp=Z,2.1nm,0.8s,baz=66,slow=4.6,SNR=9.1								
NOA				PP		PP	07 29 39.9	+3.5	
	comp=Z,1.1nm,0.8s,baz=59,slow=8.0,SNR=3.5								
VYHS	Vyhne	100.22	320	*e*P		Pdif	07 25 33.1	+2.1	
VYHS	Vyhne	100.22	320	PDIF		Pdif	07 25 33.0	+2.1	
YKA	Yellowknife Ar	100.69	25	P		Pdif	07 25 31.3	-1.4	
YKA				PP		PP	07 29 40.2	0.0	
YKA	Yellowknife Ar	100.69	25	P		Pdif	07 25 31.3	-1.4	
	comp=Z,1.8nm,0.8s,baz=304,slow=5.1,SNR=2.7								
YKA				PP		PP	07 29 40.2	0.0	
	comp=Z,0.5nm,0.8s,baz=289,slow=5.8,SNR=2.7								
BRG	Berggiesshubel	102.53	323	*e*P		Pdif	07 25 46.6	+5.4	
	comp=Z,3.6nm,0.7s								
BRG	Berggiesshubel	102.53	323	*e*P		Pdif	07 25 46.6	+5.4	
BRG				pmax		pmax			
	comp=Z,4.0nm,0.7s								
CLL	Collm	102.94	324	*e*PP		PP	07 29 58.0	+0.5	
CLL				*e*Sdif		Sdif	07 37 24.0	-0.2	
CLL				*e*PS		PS	07 39 13.0	+6.1	
CLL				L		L	08 18 00.0		
	comp=Z,500nm,21.6s								
GERES	GERESS Array B	103.36	321	Pdif		Pdif	07 25 45.5	+0.5	
GERES				PP		PP	07 30 02.3	+1.5	
GERES	GERESS Array B	103.36	321	Pdiff		Pdif	07 25 45.5	+0.5	
	comp=Z,0.3nm,0.2s,baz=191,slow=1.4,SNR=3.9								
GERES				PP		PP	07 30 02.3	+1.5	
	comp=Z,0.4nm,0.2s,baz=39,slow=8.0,SNR=2.4								
YBH	Yreka Blue Hor	103.49	46	PP		PP	07 30 12.1	+10	
YBH	Yreka Blue Hor	103.49	46	PP		PP	07 30 12.1	+10	
	comp=Z,1.5nm,0.5s,baz=102,slow=13,SNR=3.1								
NVAR	Mina Array Bea	107.67	48	Pdif		Pdif	07 26 06.2	+1.6	
NVAR				PP		PKiKP	07 30 22.1	+10	
NVAR	Mina Array Bea	107.67	48	Pdiff		Pdif	07 26 06.2	+1.6	
	comp=Z,0.9nm,0.8s,baz=262,slow=6.2,SNR=7.3								
NVAR				PP		PKiKP	07 30 22.0	+10	
	comp=Z,0.5nm,0.6s,baz=282,slow=7.4,SNR=3.8								
PDAR	Pinedale Array	112.26	42	PKKPbc		PKKPbc	07 41 10.4	-2.5	
PDAR				PKKPab		PKKPab	07 41 21.8	+0.8	
PDAR	Pinedale Array	112.26	42	PKKPbc		PKKPbc	07 41 10.4	-2.5	
	comp=Z,0.5nm,0.8s,baz=104,slow=3.8,SNR=5.1								
PDAR				PKKPab		PKKPab	07 41 21.8	+0.8	
	comp=Z,1.4nm,0.8s,baz=120,slow=5.5,SNR=9.2								
F23A	Volborg	113.51	37	P			07 30 23.4		
	baz=114								
J22A	Midwest	113.97	40	P			07 30 23.7		
	baz=114								
K22A	Casper	114.31	41	P		PKPdf	07 30 25.2	+0.6	
	baz=114								
P20A	De Beque	114.47	44	P		PKPdf	07 30 25.2	+0.1	
	baz=114								
Q20A	Ridgley Place,	114.77	45	P		PKPdf	07 30 26.4	+0.8	
	baz=115								
E26A	Carlson Angus	114.86	35	P		PKPdf	07 30 26.4	+0.9	
	baz=115								
S20A	Disappointment	115.19	46	P		PKPdf	07 30 26.9	+0.2	
	baz=115								
I25A	Rochford	115.40	38	P		PKPdf	07 30 26.3	-0.4	
	baz=115								
S21A	Coal Bank Pass	115.67	46	P		PKPdf	07 30 28.1	+0.4	
	baz=116								
G27A	Dupree	115.76	36	P		PKPdf	07 30 27.4	+0.1	
	baz=116								
O23A	Lake Granby, G	115.85	43	P		PKPdf	07 30 27.9	0.0	
	baz=116								
H27A	Howes	116.08	37	P		PKPdf	07 30 27.9	+0.1	
	baz=116								
ISCO	Idaho Springs	116.25	43	P		PKPdf	07 30 29.5	+0.8	
	baz=116								
U21A	Nageezi	116.29	47	P		PKPdf	07 30 29.2	+0.4	
	baz=116								
S22A	4UR Ranch, Cre	116.33	46	P		PKPdf	07 30 29.6	+0.7	
	baz=116								
R23A	Moffat	116.84	45	P		PKPdf	07 30 30.9	+1.0	
	baz=117								
Z20A	Nine Sixteen R	116.90	51	P		PKPdf	07 30 30.8	+0.8	
	baz=117								
X21A	Alamocita Cree	117.00	49	P		PKPdf	07 30 31.1	+0.9	
	baz=117								
T23A	Casias Ranch,	117.20	46	P		PKPdf	07 30 31.2	+0.6	
	baz=117								
U23A	El Rito	117.40	47	P		PKPdf	07 30 31.9	+1.0	
	baz=117								
Z21A	St. Cloud Mine	117.54	50	P		PKPdf	07 30 32.2	+0.9	
	baz=118								
121A	Cowles Peak, D	117.75	51	P		PKPdf	07 30 32.6	+1.0	
	baz=118								
ANMO	Albuquerque	117.80	48	*e*PKPdf		PKPdf	07 30 32.5	+0.8	
P26A	Davis Ranch, A	117.90	42	P		PKPdf	07 30 31.9	+0.3	
	baz=118								
Z22A	Elephant Butte	118.11	50	P		PKPdf	07 30 32.8	+0.5	
	baz=118								
V24A	Rampart Ranch,	118.33	47	P		PKPdf	07 30 32.7	0.0	
	baz=118								
W24A	Lazy E Ranch,	118.46	48	P		PKPdf	07 30 34.1	+1.2	
	baz=118								
U25A	Circle Dot Ran	118.66	46	P		PKPdf	07 30 33.7	+0.4	
	baz=119								
V25A	Rancho No Teng	118.76	47	P		PKPdf	07 30 33.9	+0.4	
	baz=119								
T26A	Comanche Natio	118.88	45	P		PKPdf	07 30 33.6	-0.1	
	baz=119								
Y24A	Capitan	118.99	49	P		PKPdf	07 30 34.0	0.0	
	baz=119								
W25A	X Bar L Ranch,	119.15	47	P		PKPdf	07 30 34.8	+0.6	
	baz=119								
Q28A	Sharon Springs	119.17	42	P		PKPdf	07 30 34.8	+0.8	
	baz=119								
Z24A	Sheeppen Canyo	119.30	49	P		PKPdf	07 30 35.6	+1.0	
	baz=119								
124A	Stringfield Ra	119.49	50	P		PKPdf	07 30 35.8	+0.8	
	baz=120								
Y25A	Mesa, Roswell	119.55	49	P		PKPdf	07 30 35.3	+0.3	
	baz=120								
Z25A	Roswell	119.81	49	P		PKPdf	07 30 35.8	+0.3	
	baz=120								
ECSD	EROS Data Cent	119.81	35	*e*PKPdf		PKPdf	07 30 34.4	-0.6	
Q29A	Oakley	119.82	42	P		PKPdf	07 30 35.6	+0.3	
	baz=120								
MNTX	Cornudas Mount	119.96	51	*e*PKPdf		PKPdf	07 30 36.6	+1.0	
324A	Moseley Ranch,	119.98	51	P		PKPdf	07 30 35.3	-0.6	
	baz=120								
125A	Gardner Draw,	120.12	50	P		PKPdf	07 30 35.9	-0.2	
	baz=120								
BGNE	Belgrade	120.27	38	P		PKPdf	07 30 35.7	-0.3	
	baz=120								
Y27A	Causey	120.71	48	P		PKPdf	07 30 37.7	+0.5	
	baz=121								
226B	Tecolote Peak,	120.74	50	P		PKPdf	07 30 37.9	+0.6	
	baz=121								
MSTX	Muleshoe	120.96	48	P		PKPdf	07 30 38.4	+0.7	
	baz=121								
X28A	Dimmitt	121.13	47	P		PKPdf	07 30 37.8	-0.1	
	baz=121								
326A	Caldwell Ranch	121.20	51	P		PKPdf	07 30 37.6	-0.6	
	baz=121								
U30A	WK&E Inc. Balk	121.25	44	P		PKPdf	07 30 38.7	+0.6	
	baz=121								
426A	McDonald Obser	121.43	52	P		PKPdf	07 30 39.1	+0.3	
	baz=121								
X29A	Tulia	121.52	47	P		PKPdf	07 30 38.7	0.0	
	baz=122								
526A	Mary Lane Ranc	121.64	52	P		PKPdf	07 30 39.5	+0.4	
	baz=122								
626A	Big Bend Ranch	121.81	53	P		PKPdf	07 30 39.6	+0.2	
	baz=122								
Y29A	Porterfield Fa	121.82	47	P		PKPdf	07 30 39.8	+0.5	
	baz=122								
427A	Hayter Ranch,	121.85	51	P		PKPdf	07 30 39.9	+0.5	
	baz=122								
SCHQ	Schefferville	121.94	9	PKP		PKPdf	07 30 38.9	+0.1	
SCHQ	Schefferville	121.94	9	PKP		PKPdf	07 30 38.9	+0.1	
	comp=Z,3.1nm,0.7s,baz=48,slow=5.3,SNR=6.3								
527A	Woodward Ranch	121.98	52	P		PKPdf	07 30 39.5	-0.3	
	baz=122								
Z29A	Hungry Hill Ra	122.07	48	P		PKPdf	07 30 40.3	+0.5	
	baz=122								
328A	Wristen Ranch,	122.08	50	P		PKPdf	07 30 40.3	+0.4	
	baz=122								
X30A	Coker Ranch, T	122.12	46	P		PKPdf	07 30 40.0	+0.2	
	baz=122								
129A	Stewart Farms,	122.24	49	P		PKPdf	07 30 40.5	+0.3	
	baz=122								
TXAR	Lajitas Array	122.27	53	PKP		PKPdf	07 30 40.9	+0.6	
TXAR				PKKPbc		PKKPbc	07 40 35.7	-1.0	
TXAR	Lajitas Array	122.27	53	PKP		PKPdf	07 30 40.9	+0.6	
	comp=Z,1.8nm,0.8s,baz=218,slow=1.1,SNR=23								
TXAR				PKKPbc		PKKPbc	07 40 35.7	-1.0	
	comp=Z,0.1nm,0.4s,baz=326,slow=39,SNR=3.3								
W31A	Holland Ranch,	122.42	45	P		PKPdf	07 30 41.1	+0.7	
	baz=122								
627A	Terlingua Ranc	122.44	53	P		PKPdf	07 30 41.2	+0.6	
	baz=122								
428A	Kincaid Ranch,	122.46	51	P		PKPdf	07 30 41.0	+0.4	
	baz=122								
Z30A	Sanderson Ranc	122.49	48	P		PKPdf	07 30 40.7	+0.2	
	baz=122								
KSU1	Kansas State U	122.56	40	*e*PKPdf		PKPdf	07 30 40.9	+0.4	
528A	Cox Ranch, San	122.62	52	P		PKPdf	07 30 41.6	+0.6	
	baz=123								
329A	Wagon Wheel Ra	122.67	50	P		PKPdf	07 30 41.8	+0.8	
	baz=123								
X31A	McDonald Ranch	122.67	46	P		PKPdf	07 30 40.9	0.0	
	baz=123								
Y31A	Rekieta Farm,	122.80	47	P		PKPdf	07 30 41.5	+0.4	
	baz=123								
628A	Black Gap, Mar	122.82	52	P		PKPdf	07 30 41.4	+0.1	
	baz=123								
529A	Stev Forest Ra	123.08	52	P		PKPdf	07 30 42.2	+0.4	
	baz=123								
429A	Davenport Ranc	123.12	51	P		PKPdf	07 30 41.7	-0.2	
	baz=123								
330A	Mertzon	123.32	50	P		PKPdf	07 30 42.5	+0.3	
	baz=123								
WMOK	Wichita Mounta	123.47	45	*e*PKIKP		PKPdf	07 30 42.5	+0.1	
WMOK	Wichita Mounta	123.47	45	*e*PKPdf		PKPdf	07 30 42.5	+0.1	
430A	Baggett Ranch,	123.55	50	P		PKPdf	07 30 43.3	+0.6	
	baz=124								
TOA0	Torodi Ar. Sit	123.59	287	*e*PKPdf		PKPdf	07 30 42.9	-0.2	
TORD	Torodi Ar. Bea	123.59	287	PKP		PKPdf	07 30 42.9	-0.1	
TORD				PKKPbc		PKKPab	07 40 32.0	+0.7	
TORD	Torodi Ar. Bea	123.59	287	PKP		PKPdf	07 30 42.9	-0.1	
	comp=Z,5.3nm,0.8s,baz=62,slow=1.7,SNR=26								
TORD				PKKPbc		PKKPab	07 40 32.0	+0.7	
	comp=Z,0.6nm,0.8s,baz=280,slow=3.9,SNR=3.7								
Z32A	Haskell	123.69	47	P		PKPdf	07 30 42.9	+0.1	
	baz=124								
530A	J-C Ranch, Com	123.76	51	P		PKPdf	07 30 43.7	+0.7	
	baz=124								
331A	San Angelo	123.94	49	P		PKPdf	07 30 43.7	+0.3	
	baz=124								
431A	Sonora	124.08	50	P		PKPdf	07 30 43.9	+0.2	
	baz=124								
531A	Rocksprings	124.36	51	P		PKPdf	07 30 44.3	+0.1	
	baz=124								
332A	Millersview	124.42	49	P		PKPdf	07 30 44.0	-0.3	
	baz=124								
631A	Perdido Creek	124.68	52	P		PKPdf	07 30 45.0	+0.2	
	baz=125								
JCT	Junction City	124.79	50	*e*PKIKP		PKPdf	07 30 45.7	+0.7	
JCT	Junction City	124.79	50	*e*PKPdf		PKPdf	07 30 45.7	+0.7	
JCT	Junction City	124.79	50	P		PKPdf	07 30 45.3	+0.3	
	baz=125								
532A	Rocksprings	124.88	50	P		PKPdf	07 30 45.6	+0.4	
	baz=125								
TUL1	Tulsa	124.91	42	P		PKPdf	07 30 45.8	+0.7	
	baz=125								
632A	Uvalde	125.25	51	P		PKPdf	07 30 47.0	+1.1	
	baz=125								
732A	Laxson Ranch,	125.45	52	P		PKPdf	07 30 45.4	-0.8	
	baz=125								
BLO	Bloomington	128.51	33	*e*PKPdf		PKPdf	07 30 53.7	+1.9	
WVT	Waverly	129.85	37	*e*PKIKP		PKPdf	07 30 55.2	+0.7	
WVT	Waverly	129.85	37	*e*PKPdf		PKPdf	07 30 55.2	+0.7	
DBIC	Dimbokro	131.11	281	PKP		PKPdf	07 30 58.1	+0.7	
DBIC	Dimbokro	131.11	281	PKP		PKPdf	07 30 58.1	+0.7	
	comp=Z,1.4nm,0.5s,baz=161,slow=7.9,SNR=3.9								
LRAL	Lakeview Retre	132.41	39	*e*PKPdf		PKPdf	07 31 00.3	+1.0	
TKL	Tuckaleechee C	132.55	34	*e*PKPdf		PKPdf	07 31 01.0	+1.4	
TRQA	Tornquist	143.47	168	*e*PKPdf		PKPdf	07 31 18.8	-0.8	
LCO	Las Campanas	148.54	149	*e*PKPdf		PKPdf	07 31 28.8	+0.1	
BCIP	Isla Barro Col	150.95	67	*e*PKPbc		PKPbc	07 31 38.5	+0.1	
LVC	Limon Verde	154.58	144	*e*PKPbc		PKPbc	07 31 47.6	+1.1	
ROSC	El Rosal	157.56	72	PKP		PKPdf	07 31 42.4	+0.1	
ROSC	El Rosal	157.56	72	PKP		PKPdf	07 31 42.4	+0.1	
	comp=Z,1.5nm,0.4s,baz=90,slow=20,SNR=2.6								
LPAZ	La Paz	159.63	134	*e*PKPdf		PKPdf	07 31 45.5	+0.6	
LPAZ	La Paz	159.63	134	PKP		PKPdf	07 31 45.6	+0.6	
	comp=Z,4.6nm,1.1s,baz=329,slow=1.6,SNR=7.4								

WEL 17 07:13:45.8±0.2, 45°39S×166°57E, h20km±1km, ML3.8/18, 1C, Error ellipse: s-maj=1.8km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.42	102	P*		Pb		07 13 54.2	-0.2
DCZ				S*		Sb		07 13 59.6	-0.7
DCZ				AML		AML		07 14 00.4	
DCZ				AML		AML		07 14 00.4	
DCZ				AML		AML		07 14 00.6	
PYZ	Puysegur Point	0.78	175	⇑P*		Pb		07 13 59.8	-0.9
WHZ	Wether Hill Ro	1.09	118	PN		Pn		07 14 05.3	-0.6
WHZ				AML		AML		07 14 23.8	
WHZ				AML		AML		07 17 45.7	
MLZ	Mavora Lakes	1.13	88	PN		Pn		07 14 05.7	-0.9
MLZ				SN		Sb		07 14 19.8	-1.1
MLZ				AML		AML		07 14 20.9	
MSZ	Milford Sound	1.20	54	PN		Pn		07 14 06.3	-1.1
MSZ				AML		AML		07 14 26.7	
MSZ				AML		AML		07 14 26.7	
MSZ				AML		AML		07 14 26.9	
MSZ				AML		AML		07 14 26.9	
APZ	The Paps	1.75	146	*e*PN		Pn		07 14 15.7	+0.7
WKZ	Wanaka	1.82	73	PN		Pb		07

APZ	**The Paps**	**1.67**	**144**	*e*PN	Pb	07 17 33.8	-0.7
WKZ	**Wanaka**	**1.85**	**70**	*e*PN	Pb	07 17 36.7	-1.0
WKZ				AML	AML	07 18 06.9	
WKZ				AML	AML	07 18 07.6	
WKZ				AML	AML	07 18 07.9	
WKZ				AML	AML	07 18 08.4	
EAZ	**Earnscleugh**	**1.95**	**83**	PN	Pn	07 17 37.8	+1.5
EAZ				AML	AML	07 18 05.1	
EAZ				AML	AML	07 18 05.2	
EAZ				AML	AML	07 18 07.7	
EAZ				AML	AML	07 18 08.5	
SYZ	**Scrubby Hill**	**2.08**	**121**	PN	Pb	07 17 40.7	-0.7
JCZ	**Jackson Bay**	**2.11**	**49**	*e*PN	Pn	07 17 39.6	+1.0
JCZ				AML	AML	07 17 16.8	
JCZ				AML	AML	07 18 18.3	
TUZ	**Tuapeka**	**2.19**	**103**	*e*PN	Pb	07 17 41.8	-1.6
TUZ				AML	AML	07 18 14.6	
TUZ				AML	AML	07 18 14.7	
LBZ	**Lake Benmore**	**2.79**	**68**	*e*PN	Pn	07 17 48.6	+0.6
LBZ				AML	AML	07 18 27.6	
HHSZ	**Highcliff Hill**	**2.85**	**99**	*e*PN	Pn	07 17 51.1	+2.3
ODZ	**Otahua Downs**	**2.91**	**83**	PN	Pn	07 17 49.8	+0.2
ODZ				AML	AML	07 18 28.9	
ODZ				AML	AML	07 18 29.3	
ODZ				AML	AML	07 18 30.5	
FOZ	**Fox Glacier**	**2.95**	**50**	*e*PN	Pn	07 17 51.9	+1.8
FOZ				AML	AML	07 18 42.9	
FOZ				AML	AML	07 18 43.3	
RPZ	**Rata Peaks**	**3.66**	**63**	*e*PN	Pn	07 18 01.4	+1.5
WVZ	**Waitaha Valley**	**3.84**	**53**	*e*PN	Pn	07 18 03.0	+0.6
OXZ	**Oxford**	**4.48**	**63**	*e*PN	Pn	07 18 11.2	0.0

IDC 17 07:23:53.4±1.7, 2°32N×126°98E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, Error ellipse: s-maj=167.7km s-min=19.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.27**	**162**	P	P	07 29 02.6	-0.2
	3.8nm,0.8s,baz=341,slow=11,SNR=21						
ASAR	**Alice Springs**	**26.69**	**166**	P	P	07 29 34.2	-0.3
	0.4nm,0.7s,baz=348,slow=8.5,SNR=4.2						
STKA	**Stephens Creek**	**36.73**	**159**	P	P	07 31 02.8	+0.3
	3.3nm,0.8s,baz=348,slow=6.9,SNR=4.8						
MKAR	**Makanchi Array**	**58.85**	**326**	P	P	07 33 54.0	0.0
	0.1nm,0.3s,baz=110,slow=8.4,SNR=3.3						
KURBB	**Kurchatov Arra**	**63.05**	**328**	P	P	07 34 22.2	-0.2
	0.7nm,0.8s,baz=128,slow=6.0,SNR=4.3						

*NEIC **17** 07:30:04.5, 45°.49S×166°.57E, h2km, ML4.1(WEL), After WEL.*

WEL 17 07:30:04.5±0.2, 45°.40S×166°.54E, h20km±1km, ML4.1/20, 2D, Error ellipse: s-maj=1.8km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.44**	**100**	⇓P*g	Pb	07 30 13.1	-0.3
DCZ				Sg	Sb	07 30 18.9	-0.6
DCZ	**Deep Cove**	**0.44**	**100**	⇓P*	Pb	07 30 13.1	-0.3
DCZ				S*	Sb	07 30 18.9	-0.6
DCZ				AML	AML	07 30 19.3	
DCZ				AML	AML	07 30 19.3	
DCZ				AML	AML	07 30 19.3	
PYZ	**Puysegur Point**	**0.77**	**173**	P*	Pb	07 30 18.5	-0.8
PYZ				S*	Sb	07 30 28.7	-0.7
PYZ				S*	Sn	07 30 29.2	-2.1
WHZ	**Wether Hill Ro**	**1.10**	**117**	P*	Pn	07 30 24.4	-0.4
WHZ				S*	Sn	07 30 39.3	-0.1
WHZ	**Wether Hill Ro**	**1.10**	**117**	PN	Pn	07 30 24.4	-0.4
WHZ				SN	Sn	07 30 39.3	-0.1
WHZ				AML	AML	07 30 52.9	
MLZ	**Mavora Lakes**	**1.15**	**88**	P*	Pn	07 30 24.6	-0.9
MLZ	**Mavora Lakes**	**1.15**	**88**	PN	Pn	07 30 24.6	-0.9
MLZ				AML	AML	07 30 40.2	
MLZ				AML	AML	07 30 42.9	
MSZ	**Milford Sound**	**1.22**	**54**	P*	Pn	07 30 25.7	-0.7
MSZ				S*	Sn	07 30 45.9	+3.6
MSZ	**Milford Sound**	**1.22**	**54**	PN	Pn	07 30 25.7	-0.7
MSZ				SN	Sn	07 30 42.5	+0.2
MSZ				AML	AML	07 30 46.1	
MSZ				AML	AML	07 30 46.2	
MSZ				AML	AML	07 30 47.9	
APZ	**The Paps**	**1.75**	**145**	Pn	Pn	07 30 34.8	+1.0
APZ	**The Paps**	**1.75**	**145**	PN	Pn	07 30 34.8	+1.0
WKZ	**Wanaka**	**1.84**	**73**	Pn	Pb	07 30 36.6	-0.9
WKZ	**Wanaka**	**1.84**	**73**	PN	Pb	07 30 36.6	-0.9
WKZ				AML	AML	07 31 10.0	
WKZ				AML	AML	07 31 10.0	
WKZ				AML	AML	07 31 15.5	
WKZ				AML	AML	07 31 15.5	
EAZ	**Earnscleugh**	**1.96**	**86**	Pn	Pn	07 30 37.9	+1.4
EAZ	**Earnscleugh**	**1.96**	**86**	PN	Pn	07 30 37.9	+1.4
EAZ				AML	AML	07 31 07.9	
EAZ				AML	AML	07 31 09.1	
EAZ				AML	AML	07 31 09.1	
JCZ	**Jackson Bay**	**2.06**	**51**	*e*PN	Pb	07 30 39.7	-1.6
JCZ				AML	AML	07 31 13.8	
JCZ				AML	AML	07 31 18.1	
SYZ	**Scrubby Hill**	**2.14**	**123**	*e*PN	Pn	07 30 40.2	+1.3
TUZ	**Tuapeka**	**2.23**	**105**	PN	Pn	07 30 42.0	+1.7
TUZ				AML	AML	07 31 18.0	
TUZ				AML	AML	07 31 18.2	
LBZ	**Lake Benmore**	**2.78**	**70**	PN	Pn	07 30 48.6	+0.8
LBZ				AML	AML	07 31 39.2	
LBZ				AML	AML	07 31 41.9	
HHSZ	**Highcliff Hill**	**2.88**	**101**	*e*PN	Pn	07 30 50.0	+0.7
FOZ	**Fox Glacier**	**2.90**	**52**	AML	AML	07 31 43.0	
FOZ				AML	AML	07 31 44.1	
ODZ	**Otahua Downs**	**2.92**	**84**	Pn	Pn	07 30 50.5	+0.7
ODZ	**Otahua Downs**	**2.92**	**84**	PN	Pn	07 30 50.4	+0.7
ODZ				AML	AML	07 31 28.7	
ODZ				AML	AML	07 31 41.1	
ODZ				AML	AML	07 31 42.5	
ODZ				AML	AML	07 31 42.7	
RPZ	**Rata Peaks**	**3.64**	**64**	PN	Pn	07 30 59.8	+0.2
RPZ				AML	AML	07 31 52.9	
RPZ				AML	AML	07 31 53.1	
WVZ	**Waitaha Valley**	**3.80**	**54**	AML	AML	07 32 07.0	
WVZ				AML	AML	07 32 09.3	
OXZ	**Oxford**	**4.45**	**64**	*e*PN	Pn	07 31 11.3	+0.4
THZ	**Tophouse**	**5.88**	**54**	*e*PN	Pn	07 31 32.4	+1.9
THZ				AML	AML	07 32 46.3	
QRZ	**Quartz Range**	**6.33**	**46**	*e*PN	Pn	07 31 37.5	+0.9

WEL 17 07:34:19.1±0.2, 45°.38S×166°.70E, h22km, ML3.5/14, 3D, Error ellipse: s-maj=1.4km s-min=0.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.33**	**107**	⇓P*	Pb	07 34 26.3	0.0
DCZ				S*	Sb	07 34 30.9	-0.2
DCZ				AML	AML	07 34 31.0	
DCZ				AML	AML	07 34 31.4	
DCZ				AML	AML	07 34 31.4	
PYZ	**Puysegur Point**	**0.78**	**181**	P*	Pb	07 34 33.0	-1.0
PYZ				S*	Sb	07 34 43.2	-1.0
WHZ	**Wether Hill Ro**	**1.01**	**121**	⇓PN	Pb	07 34 37.5	-0.4
WHZ				AML	AML	07 34 56.7	
WHZ				AML	AML	07 34 58.1	
MLZ	**Mavora Lakes**	**1.04**	**89**	⇓PN	Pn	07 34 37.4	-0.9
MLZ				SN	Sb	07 34 50.6	-0.9
MLZ				AML	AML	07 35 51.0	
MSZ	**Milford Sound**	**1.12**	**51**	PN	Pn	07 34 38.2	-1.3
MSZ				AML	AML	07 34 57.2	
MSZ				AML	AML	07 34 57.3	
MSZ				AML	AML	07 34 59.9	
MSZ				AML	AML	07 34 59.9	
APZ	**The Paps**	**1.70**	**149**	PN	Pb	07 34 49.1	-0.6
WKZ	**Wanaka**	**1.73**	**72**	PN	Pn	07 34 48.9	+1.0
WKZ				AML	AML	07 35 13.0	
WKZ				AML	AML	07 35 18.3	
WKZ				AML	AML	07 35 20.9	
WKZ				AML	AML	07 35 22.4	
EAZ	**Earnscleugh**	**1.84**	**86**	PN	Pn	07 34 50.5	+1.1
EAZ				AML	AML	07 35 16.1	
EAZ				AML	AML	07 35 16.6	
EAZ				AML	AML	07 35 20.1	
EAZ				AML	AML	07 35 20.5	
JCZ	**Jackson Bay**	**1.96**	**49**	*e*PN	Pn	07 34 52.1	+0.9
JCZ				AML	AML	07 35 26.8	
JCZ				AML	AML	07 35 27.5	
SYZ	**Scrubby Hill**	**2.05**	**125**	PN	Pn	07 34 53.2	+1.0
TUZ	**Tuapeka**	**2.13**	**107**	*e*PN	Pn	07 34 54.8	+1.4
HHSZ	**Highcliff Hill**	**2.78**	**102**	*e*PN	Pn	07 35 02.9	+0.6
FOZ	**Fox Glacier**	**2.81**	**51**	*e*PN	Pn	07 35 03.5	+1.0
ODZ	**Otahua Downs**	**2.81**	**84**	PN	Pn	07 35 02.9	+0.3
ODZ				AML	AML	07 35 41.5	
RPZ	**Rata Peaks**	**3.53**	**63**	*e*PN	Pn	07 35 11.9	-0.7
WVZ	**Waitaha Valley**	**3.70**	**53**	*e*PN	Pn	07 35 14.8	-0.2
LTZ	**Lake Taylor**	**4.78**	**59**	*e*PN	Pn	07 35 31.3	+1.5
DSZ	**Denniston Nort**	**5.19**	**47**	*e*PN	Pn	07 35 34.7	-0.7

WEL 17 07:36:00.3±0.1, 46°.09S×166°.24E, h33km, ML3.6/14, 2D, Error ellipse: s-maj=1.3km s-min=0.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.32**	**104**	⇓P*	Pb	07 36 08.1	-0.1
PYZ				S*	Sb	07 36 13.5	-0.1
DCZ	**Deep Cove**	**0.89**	**46**	PN	Pn	07 36 16.1	-0.3
DCZ				SN	Sn	07 36 27.4	-0.7
DCZ				AML	AML	07 36 29.0	
DCZ				AML	AML	07 36 29.8	
DCZ				AML	AML	07 36 31.2	
WHZ	**Wether Hill Ro**	**1.21**	**81**	PN	Pb	07 36 21.8	-0.8
WHZ				SN	Sb	07 36 37.3	-0.7
WHZ				AML	AML	07 36 38.7	
APZ	**The Paps**	**1.42**	**122**	⇓PN	Pn	07 36 24.2	+0.4
MLZ	**Mavora Lakes**	**1.54**	**62**	PN	Pb	07 36 27.1	-1.3
MLZ				AML	AML	07 36 50.3	
MLZ				AML	AML	07 36 51.8	
MSZ	**Milford Sound**	**1.85**	**41**	*e*PN	Pn	07 36 30.9	+1.2
MSZ				AML	AML	07 37 05.3	
MSZ				AML	AML	07 37 08.3	
SYZ	**Scrubby Hill**	**2.06**	**104**	PN	Pn	07 36 34.1	+1.6
EAZ	**Earnscleugh**	**2.32**	**69**	PN	Pb	07 36 39.2	-2.2
EAZ				AML	AML	07 37 13.1	
EAZ				AML	AML	07 37 13.6	
WKZ	**Wanaka**	**2.33**	**58**	*e*PN	Pb	07 36 40.0	-1.7
WKZ				AML	AML	07 37 14.7	
TUZ	**Tuapeka**	**2.37**	**88**	PN	Pn	07 36 39.2	+2.4
TUZ				AML	AML	07 37 10.5	
TUZ				AML	AML	07 37 12.1	
JCZ	**Jackson Bay**	**2.69**	**42**	*e*PN	Pn	07 36 44.4	+3.0
JCZ				AML	AML	07 37 30.5	
JCZ				AML	AML	07 37 30.6	
ODZ	**Otahua Downs**	**3.27**	**73**	PN	Pn	07 36 50.3	+1.2
LBZ	**Lake Benmore**	**3.27**	**60**	*e*PN	Pn	07 36 51.6	+2.4

*ISCJB **17** 07:35:58.5±1.1, 49°.97N×0°.06×90°.62E±0°.08, h8km, Error ellipse: s-maj=9.2km s-min=6.6km az=151.6*
*MOS **17** 07:36:02.0±2.8, 49°.82N×90°.82E, h8km, mb4.3/1, Error ellipse: s-maj=30.7km s-min=21.5km az=99.3*
*ASRS **17** 07:36:02.1±1.4, 49°.87N×90°.81E, h15km, Ms3.1/4*

ISC 17 07:36:01.3±1.1, 49°.93N±0°.06×90°.82E±0°.05, h8km, n14, σ2°.27/16, 5C-2D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HVS	**Khovu-Aksy**	**2.20**	**56**	*i*PN	**Pb**	**07 36 40.7**	**-0.7**
CERR	**Cheremushki**	**2.96**	**7**	*e*PN	**Pg**	**07 36 56.8**	**-1.1**
CERR				*e*		07 37 35.3	
CERR	**Cheremushki**	**2.96**	**7**	*e*Pg	**Pg**	**07 36 56.8**	**-1.1**
CERR				*e*Sg	**Sg**	**07 37 35.3**	**-0.9**
TASR	**Tashtagol**	**3.38**	**328**	*e*PN	**Pg**	**07 37 05.5**	**-0.6**
TASR				*e*		07 37 50.2	
TASR	**Tashtagol**	**3.38**	**328**	*e*Pg	**Pg**	**07 37 05.5**	**-0.6**
TASR				*e*Sg	**Sg**	**07 37 50.2**	**+0.4**
UKR	**Ust'-Kan**	**3.99**	**287**	*e*PN	**Pb**	**07 37 14.1**	**+2.2**
UKR				*e*		07 38 06.4	
UKR	**Ust'-Kan**	**3.99**	**287**	*e*Pg	**Pb**	**07 37 14.1**	**+2.2**
UKR				*e*Sg	**Sg**	**07 38 06.4**	**-3.1**
ZALV	**Zalesovo Beam**	**5.47**	**320**	*e*PN	**Pn**	**07 37 25.3**	**+2.2**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31	**Makanchi Array**	**6.49**	**244**	⇑Pn	**Pn**	**07 37 37.4**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=62,slow=15,SNR=7.8						
MK31				⇑Pg	**Pb**	**07 37 52.3**	**-2.1**
	comp=Z,4.0nm,0.5s,baz=64,slow=14,SNR=18						
MK31				⇑Lg	Lg	07 39 21.2	
	comp=Z,31nm,0.7s,baz=48,slow=28,SNR=4.7						
MKAR	**Makanchi Array**	**6.49**	**244**	*e*PN	**Pn**	**07 37 39.8**	**+2.8**
NVS	**Novosibirsk**	**6.76**	**320**	*e*P*	Pg	07 38 06.8	-3.9
NVS				*e*		07 39 33.1	
NVS	**Novosibirsk**	**6.76**	**320**	*e*Pg	Pg	07 38 06.8	-3.9
NVS				*e*Sg	**Sg**	**07 39 33.1**	**-5.1**
KURBB	**Kurchatov Arra**	**7.90**	**280**	⇓Pn	Pn	07 37 53.2	-3.2
	comp=Z,8.0nm,0.7s						
KURBB				⇑Sn	Sn	07 39 33.0	+7.1
	comp=Z,22nm,0.6s						
KURBB				⇓Lg	Lg	07 40 14.5	
	comp=Z,55nm,0.6s						
TLY	**Talaya**	**8.32**	**73**	*i* P	**Pn**	**07 38 03.1**	**+1.0**

WEL 17 07:45:16.5±0.1, 45°.40S×166°.57E, h22km, ML3.5/13, Error ellipse: s-maj=1.6km s-min=0.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.42**	**101**	P*	Pb	07 45 25.1	-0.1
DCZ				S*	Sb	07 45 30.6	-0.5
DCZ				AML	AML	07 45 31.1	
DCZ				AML	AML	07 45 31.1	
DCZ				AML	AML	07 45 31.1	
PYZ	**Puysegur Point**	**0.77**	**174**	P*	Pb	07 45 30.4	-0.8
PYZ				S*	Sb	07 45 40.9	-0.4
WHZ	**Wether Hill Ro**	**1.08**	**117**	PN	Pn	07 45 36.1	-0.3
WHZ				AML	AML	07 45 51.6	
WHZ				AML	AML	07 45 54.4	
MLZ	**Mavora Lakes**	**1.13**	**88**	PN	Pn	07 45 36.1	-1.0
MLZ				AML	AML	07 45 52.0	
MLZ				AML	AML	07 45 52.7	
MSZ	**Milford Sound**	**1.21**	**53**	PN	Pn	07 45 37.4	-0.6
MSZ				AML	AML	07 46 00.0	
MSZ				AML	AML	07 46 00.1	
APZ	**The Paps**	**1.74**	**146**	*e*PN	Pb	07 45 46.6	-1.2
WKZ	**Wanaka**	**1.82**	**72**	PN	Pb	07 45 48.2	-1.0
WKZ				AML	AML	07 46 19.2	
EAZ	**Earnscleugh**	**1.94**	**86**	PN	Pb	07 45 49.8	-1.4
EAZ				AML	AML	07 46 21.0	
JCZ	**Jackson Bay**	**2.05**	**50**	*e*PN	Pb	07 45 52.1	-1.0
JCZ				AML	AML	07 46 24.4	
JCZ				AML	AML	07 46 28.3	
SYZ	**Scrubby Hill**	**2.12**	**123**	*e*PN	Pn	07 45 52.0	+1.5
TUZ	**Tuapeka**	**2.21**	**106**	PN	Pb	07 45 54.3	-1.5
LBZ	**Lake Benmore**	**2.76**	**70**	*e*PN	Pn	07 46 00.2	+0.7
ODZ	**Otahua Downs**	**2.90**	**84**	PN	Pn	07 46 02.0	+0.7

WEL 17 07:46:24.9±0.2, 45°.38S×166°.70E, h22km, ML3.7/17, 2D, Error ellipse: s-maj=1.9km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.33**	**107**	⇓P*	Pb	07 46 32.2	0.0
DCZ				S*	Sb	07 46 36.2	-0.9
DCZ				AML	AML	07 46 37.0	
DCZ				AML	AML	07 46 37.0	
DCZ				AML	AML	07 46 37.0	
PYZ	**Puysegur Point**	**0.79**	**181**	*e*P*	Pb	07 46 39.3	-0.7
WHZ	**Wether Hill Ro**	**1.01**	**121**	PN	Pb	07 46 43.3	-0.5
WHZ				AML	AML	07 47 02.3	
WHZ				AML	AML	07 47 02.7	
MLZ	**Mavora Lakes**	**1.04**	**89**	⇓PN	Pn	07 46 43.3	-0.9
MLZ				AML	AML	07 46 56.7	
MLZ				AML	AML	07 46 57.0	
MSZ	**Milford Sound**	**1.12**	**51**	PN	Pn	07 46 44.0	-1.2
MSZ				AML	AML	07 47 03.3	
MSZ				AML	AML	07 47 03.4	
APZ	**The Paps**	**1.71**	**149**	*e*PN	Pb	07 46 55.7	0.0
WKZ	**Wanaka**	**1.73**	**72**	PN	Pb	07 46 55.2	-0.8
WKZ				AML	AML	07 47 23.8	
WKZ				AML	AML	07 47 25.6	
EAZ	**Earnscleugh**	**1.84**	**86**	PN	Pn	07 46 56.5	+1.3
EAZ				AML	AML	07 47 25.9	
EAZ				AML	AML	07 47 25.9	
EAZ				AML	AML	07 47 26.0	
EAZ				AML	AML	07 47 26.0	
JCZ	**Jackson Bay**	**1.96**	**49**	*e*PN	Pb	07 47 00.3	+0.2
JCZ				AML	AML	07 47 30.4	
JCZ				AML	AML	07 47 33.2	
SYZ	**Scrubby Hill**	**2.06**	**125**	*e*PN	Pn	07 46 59.2	+1.1
TUZ	**Tuapeka**	**2.13**	**107**	*e*PN	Pn	07 47 00.6	+1.4
TUZ				AML	AML	07 47 33.1	
TUZ				AML	AML	07 47 37.0	
LBZ	**Lake Benmore**	**2.67**	**69**	*e*PN	Pn	07 47 07.2	+0.6
LBZ				AML	AML	07 47 50.5	
LBZ				AML	AML	07 47 59.9	
FOZ	**Fox Glacier**	**2.80**	**51**	*e*PN	Pn	07 47 11.3	+2.9
FOZ				AML	AML	07 47 58.0	
FOZ				AML	AML	07 47 59.1	
ODZ	**Otahua Downs**	**2.81**	**85**	PN	Pn	07 47 09.0	+0.5
RPZ	**Rata Peaks**	**3.53**	**63**	*e*PN	Pn	07 47 18.9	+0.5
RPZ				AML	AML	07 48 06.5	
RPZ				AML	AML	07 48 09.3	

KRSC 17 07:47:51.3±0.9, 52°.58N×159°.75E, h23km±22km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.64**	**338**	P	Pb	07 48 04.3	+0.5
NLC				*i* S	Sn	07 48 13.7	-0.7
RUS	**Russkaya**	**0.77**	**259**	P	Pn	07 48 06.6	-0.1
RUS				*i* S	Sn	07 48 17.3	-0.3
PET	**Petropavlovsk**	**0.80**	**304**	P	Pb	07 48 06.6	+0.1
PET				*i* S	Sb	07 48 17.2	+0.3
UGLR	**Uglovaya**	**0.84**	**319**	P	Pb	07 48 07.6	+0.2
UGLR				*i* S	Sn	07 48 19.2	-0.5
SMAR	**Somma**	**0.89**	**320**	P	Pb	07 48 08.2	-0.2
SMAR				*i* S	Sb	07 48 20.0	-0.1
AVH	**Avacha**	**0.92**	**319**	P	Pb	07 48 08.8	+0.1
AVH				*i* S	Sn	07 48 21.3	-0.2
KRER	**Koryakskii**	**0.94**	**321**	P	Pb	07 48 09.3	0.0
KRER				*i* S	Sn	07 48 22.2	-0.2
MTVR	**Mutnovka**	**0.96**	**265**	P	Pn	07 48 09.7	+0.1
MTVR				*i* S	Sn	07 48 22.7	0.0
KOK	**Koryaka**	**0.98**	**317**	P	Pn	07 48 09.8	0.0
KOK				*i* S	Sn	07 48 22.8	-0.3
GRL	**Gorelyy**	**1.02**	**269**	P	Pb	07 48 11.0	+0.5
GRL				*i* S	Sn	07 48 24.8	+0.6
ASAK	**Asacha**	**1.15**	**261**	P	Pb	07 48 12.8	+0.2
ASAK				*i* S	Sn	07 48 28.6	+1.4
GNL	**Ganaly**	**1.56**	**316**	P	Pn	07 48 18.5	+0.7
GNL				*i* S	Sb	07 48 38.3	-0.8
APC	**Apacha**	**1.61**	**283**	P	Pb	07 48 19.4	-0.9
APC				*i* S	Sb	07 48 40.0	-0.3
MIPR	**Malaya Ipel'ka**	**1.86**	**262**	P	Pn	07 48 23.0	+1.3
PAU	**Pauzhetka**	**2.13**	**240**	P	Pn	07 48 26.9	+1.5
TUMR	**Tumrok**	**2.72**	**5**	P	Pn	07 48 34.1	+0.4
KMNR	**Kamenistaya**	**3.19**	**5**	P	Pn	07 48 41.1	+0.9
KBG	**Krutoberegovo**	**4.07**	**24**	P	Pn	07 48 55.4	+3.4
KBG				*i* S	Sn	07 49 41.7	+2.9

GUC 17 07:48:14.4±0.7, 21°.39S×69°.35W, h127km±5km, ML3.5, 5C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.42**	**166**	*e*P	Pn	07 48 33.7	+0.7
PB09				*e*S	Sn	07 48 47.9	+0.8
PB09				AML	AML	07 48 49.7	
	comp=N,3μm,0.4s						
HMBC	**Humberstone**	**1.21**	**335**	⇑*i*P	Pn	07 48 39.9	+0.5
HMBC				*i* S	Sn	07 48 59.2	+0.9
HMBC				AML	AML	07 49 01.2	
	comp=N,939nm,0.5s						
LVC	**Limon Verde**	**1.29**	**162**	⇑*i*P	Pn	07 48 41.1	+0.8
LVC				*i* S	Sn	07 49 01.0	+1.0
PSGC	**Pisagua**	**1.92**	**338**	⇑*i*P	Pn	07 48 47.3	-0.2
PSGC				*i* S	Sn	07 49 12.8	+0.1
PSGC				AML	AML	07 49 15.8	
	comp=N,250nm,0.3s						
CEN1	**Los Morros**	**2.14**	**201**	⇑*i*P	Pn	07 48 56.5	+6.3
CEN1				*i* S	Sn	07 49 26.3	+8.7
MNMC	**Minimini**	**2.25**	**354**	⇑*i*P	Pn	07 48 50.8	-1.0
MNMC				*i* S	Sn	07 49 19.8	-0.6
MNMC				AML	AML	07 49 22.9	
	comp=N,370nm,0.2s						
PB10	**Plate Boundary**	**2.39**	**208**	AML	AML	07 49 28.9	
	comp=E,172nm,0.4s						

*ISCJB **17** 07:49:28.3±0.7, 1°.92N±0°.08×123°.0E±0°.1, h400km, mb3.3/6, Error ellipse: s-maj=19.0km s-min=10.4km az=169.2*
*IDC **17** 07:49:32.5±2.9, 1°.70N×122°.80E, h446km±39km, mb3.0/6, mb1 3.2/8, mb1mx2.9/24, mbtmp3.1/8, Error ellipse: s-maj=41.6km s-min=13.1km az=69.0*
*AUST **17** 07:49:39.9±0.0, 0°.94N×123°.36E, h437km, Error ellipse: s-maj=2.1km s-min=1.6km az=248.0*

ISC 17 07:49:29.7±0.8, 1°.88N±0°.09×122°.9E±0°.2, h400km, n16, σ1°.29/17, mb3.4/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**2.91**	**183**	P	**Pn**	**07 50 34.5**	**+2.3**
	baz=2.1,SNR=8.5						
LUWI				S	**S**	**07 51 23.2**	**+0.5**
	baz=2.1,SNR=9.9						
KAPI	**Kappang**	**7.54**	**205**	P	**P**	**07 51 20.7**	**+0.7**
	1.2nm,0.3s,baz=38,slow=2.1,SNR=7.8						
FAKI	**Fak Fak**	**10.48**	**117**	P*	**Pn**	**07 51 53.9**	**+0.5**
	baz=9.7,SNR=4.0						
MTN	**Manton Dam**	**16.75**	**151**	P	**P**	**07 53 01.6**	**+0.5**
	baz=16,SNR=8.1						
KDU	**Kakadu**	**17.31**	**147**	P	**P**	**07 53 06.4**	**-0.6**
	baz=16,SNR=4.5						
KNRA	**Kununurra**	**18.38**	**162**	P	**P**	**07 53 17.3**	**-1.0**
	baz=18,SNR=3.3						
FITZ	**Fitzroy Crossi**	**20.04**	**172**	P	**P**	**07 53 33.1**	**-1.4**
	0.6nm,0.3s,baz=13,slow=8.0,SNR=24						
WRA	**Warramunga Arr**	**24.42**	**153**	P	**P**	**07 54

MLZ	**Mavora Lakes**	**1.72**	**58**	PN	Pn	07 49 58.4	+1.6
MLZ				AML	AML	07 50 24.0	
MLZ				AML	AML	07 50 24.7	
MSZ	**Milford Sound**	**2.05**	**40**	PN	Pn	07 50 02.3	+1.0
MSZ				AML	AML	07 50 36.1	
MSZ				AML	AML	07 50 38.1	
SYZ	**Scrubby Hill**	**2.12**	**98**	*e*PN	Pn	07 50 03.6	+1.3
SYZ				SN	Sn	07 50 30.2	+2.5
EAZ	**Earnscleugh**	**2.48**	**66**	PN	Pn	07 50 09.6	+2.4
EAZ				AML	AML	07 50 44.1	
EAZ				AML	AML	07 50 44.3	
TUZ	**Tuapeka**	**2.48**	**84**	*e*PN	Pn	07 50 08.9	+1.7
TUZ				AML	AML	07 50 44.3	
TUZ				AML	AML	07 50 45.1	
WKZ	**Wanaka**	**2.50**	**56**	*e*PN	Pb	07 50 10.9	-2.6
JCZ	**Jackson Bay**	**2.89**	**42**	*e*PN	Pn	07 50 15.5	+2.5
JCZ				AML	AML	07 51 01.8	
ODZ	**Otahua Downs**	**3.41**	**71**	PN	Pn	07 50 20.6	+0.4
LBZ	**Lake Benmore**	**3.44**	**58**	*e*PN	Pn	07 50 22.1	+1.6

*ISCJB **17** 07:52:30.5±0.6, 45°.28S±0°.03×166°.55E±0°.07, h15km, mb4.4/1, Error ellipse: s-maj=6.8km s-min=4.7km az=174.2*
*NEIC **17** 07:52:31.9, 45°.41S×166°.57E, h5km, mb4.5/1, ML4.5(WEL), After WEL.*
*WEL **17** 07:52:32.6±0.1, 45°.37S×166°.63E, h21km, ML4.4/22, Error ellipse: s-maj=1.4km s-min=0.8km az=90.0*
*AUST **17** 07:52:33.1, 45°.46S×166°.50E, h0km*
ISC 17 07:52:32.4±0.9, 45°.37S±0°.05×166°.60E±0°.05, h15km, n54, σ1℘10/52, 1C-5D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.41**	**105**	⇓P*g	**Pg**	**07 52 40.5**	**0.0**
DCZ				Sg	**Sg**	**07 52 46.3**	**+0.2**
DCZ	**Deep Cove**	**0.41**	**105**	⇓P*	**Pg**	**07 52 40.5**	**0.0**
DCZ				S*	**Sg**	**07 52 46.0**	**-0.1**
DCZ				AML	AML	07 52 46.3	
DCZ				AML	AML	07 52 46.3	
DCZ				AML	AML	07 52 46.3	
PYZ	**Puysegur Point**	**0.80**	**176**	P*	**Pg**	**07 52 46.9**	**-1.0**
PYZ	**Puysegur Point**	**0.80**	**176**	⇑P*	**Pg**	**07 52 46.9**	**-1.0**
PYZ				S*	**Sg**	**07 52 56.6**	**-1.8**
WHZ	**Wether Hill Ro**	**1.08**	**119**	P*	**Pb**	**07 52 51.8**	**-1.0**
WHZ	**Wether Hill Ro**	**1.08**	**119**	⇓PN	**Pb**	**07 52 51.8**	**-1.0**
WHZ				AML	AML	07 53 06.8	
WHZ				AML	AML	07 53 09.4	
MLZ	**Mavora Lakes**	**1.11**	**89**	P*	**Pb**	**07 52 51.8**	**-1.5**
MLZ	**Mavora Lakes**	**1.11**	**89**	⇓PN	**Pb**	**07 52 51.8**	**-1.5**
MLZ				AML	AML	07 53 06.1	
MLZ				AML	AML	07 53 09.0	
MSZ	**Milford Sound**	**1.17**	**54**	P*	**Pn**	**07 52 52.5**	**-1.7**
MSZ	**Milford Sound**	**1.17**	**54**	PN	**Pn**	**07 52 52.5**	**-1.7**
MSZ				AML	AML	07 52 14.1	
MSZ				AML	AML	07 53 22.0	
APZ	**The Paps**	**1.75**	**147**	Pn	**Pn**	**07 53 03.2**	**+0.9**
WKZ	**Wanaka**	**1.80**	**73**	Pn	**Pn**	**07 53 03.7**	**+0.8**
WKZ	**Wanaka**	**1.80**	**73**	AML	AML	07 53 33.4	
WKZ				AML	AML	07 53 35.7	
WKZ				AML	AML	07 53 35.7	
WKZ				AML	AML	07 53 41.7	
EAZ	**Earnscleugh**	**1.92**	**87**	Pn	**Pn**	**07 53 05.2**	**+0.7**
EAZ	**Earnscleugh**	**1.92**	**87**	PN	**Pn**	**07 53 05.2**	**+0.7**
EAZ				AML	AML	07 53 31.5	
EAZ				AML	AML	07 53 33.2	
EAZ				AML	AML	07 53 34.2	
EAZ				AML	AML	07 53 43.5	
JCZ	**Jackson Bay**	**2.01**	**51**	Pn	**Pn**	**07 53 06.1**	**+0.2**
JCZ	**Jackson Bay**	**2.01**	**51**	AML	AML	07 53 41.3	
JCZ				AML	AML	07 53 41.5	
SYZ	**Scrubby Hill**	**2.12**	**124**	Pn	**Pn**	**07 53 07.9**	**+0.6**
SYZ	**Scrubby Hill**	**2.12**	**124**	PN	**Pn**	**07 53 07.8**	**+0.5**
TUZ	**Tuapeka**	**2.21**	**106**	Pn	**Pn**	**07 53 08.7**	**+0.3**
TUZ	**Tuapeka**	**2.21**	**106**	AML	AML	07 53 43.8	
TUZ				AML	AML	07 53 44.8	
LBZ	**Lake Benmore**	**2.73**	**70**	Pn	**Pn**	**07 53 15.6**	**-0.1**
LBZ	**Lake Benmore**	**2.73**	**70**	AML	AML	07 54 07.1	
LBZ				AML	AML	07 54 08.1	
HHSZ	**Highcliff Hill**	**2.85**	**102**	*e*PN	**Pn**	**07 53 16.0**	**-1.3**
FOZ	**Fox Glacier**	**2.86**	**52**	Pn	**Pn**	**07 53 18.4**	**+1.0**
FOZ	**Fox Glacier**	**2.86**	**52**	*e*PN	**Pn**	**07 53 17.6**	**+0.2**
FOZ				AML	AML	07 54 11.3	
FOZ				AML	AML	07 54 11.3	
FOZ				AML	AML	07 54 13.6	
FOZ				AML	AML	07 54 13.6	
ODZ	**Otahua Downs**	**2.88**	**85**	*e*Pn	**Pn**	**07 53 17.3**	**-0.4**
ODZ	**Otahua Downs**	**2.88**	**85**	⇓PN	**Pn**	**07 53 17.5**	**-0.2**
ODZ				AML	AML	07 53 56.0	
ODZ				AML	AML	07 53 57.3	
ODZ				AML	AML	07 54 07.6	
ODZ				AML	AML	07 54 12.2	
RPZ	**Rata Peaks**	**3.59**	**64**	*e*Pn	**Pn**	**07 53 26.9**	**-0.6**
RPZ	**Rata Peaks**	**3.59**	**64**	PN	**Pn**	**07 53 26.8**	**-0.6**
RPZ				AML	AML	07 54 32.1	
RPZ				AML	AML	07 54 32.4	
WVZ	**Waitaha Valley**	**3.76**	**54**	Pn	**Pn**	**07 53 29.1**	**-0.7**
WVZ	**Waitaha Valley**	**3.76**	**54**	PN	**Pn**	**07 53 29.0**	**-0.8**
WVZ				AML	AML	07 54 34.9	
WVZ				AML	AML	07 54 41.1	
OXZ	**Oxford**	**4.41**	**64**	PN	**Pn**	**07 53 37.3**	**-1.4**
MQZ	**McQueen's Vall**	**4.64**	**71**	PN	**Pn**	**07 53 40.4**	**-1.5**
LTZ	**Lake Taylor**	**4.84**	**60**	AML	AML	07 54 52.0	
LTZ				AML	AML	07 54 52.2	
DSZ	**Denniston Nort**	**5.24**	**48**	Pn	**Pn**	**07 53 49.7**	**-0.4**
DSZ	**Denniston Nort**	**5.24**	**48**	*e*PN	**Pn**	**07 53 49.2**	**-0.9**
KHZ	**Kahutara**	**5.82**	**62**	*e*Pn	**Pn**	**07 54 00.9**	**+2.8**
THZ	**Tophouse**	**5.83**	**54**	*e*PN	**Pn**	**07 53 57.2**	**-1.1**
THZ				AML	AML	07 55 12.5	
THZ				AML	AML	07 55 14.7	
QRZ	**Quartz Range**	**6.28**	**46**	Pn	**Pn**	**07 54 03.6**	**-0.8**
QRZ	**Quartz Range**	**6.28**	**46**	PN	**Pn**	**07 54 03.6**	**-0.8**
QRZ				AML	AML	07 55 24.7	
QRZ				AML	AML	07 55 41.3	
NNZ	**Nelson**	**6.46**	**52**	Pn	**Pn**	**07 54 07.3**	**+0.5**
NNZ	**Nelson**	**6.46**	**52**	PN	**Pn**	**07 54 07.3**	**+0.5**
NWEZ	**Newall Road**	**8.13**	**44**	Pn	**Pn**	**07 54 28.9**	**-0.9**
NWEZ	**Newall Road**	**8.13**	**44**	PN	**Pn**	**07 54 28.9**	**-0.9**
KHEZ	**Kahui Hut**	**8.19**	**45**	*e*PN	**Pn**	**07 54 29.8**	**-0.9**
NEZ	**North Egmont**	**8.24**	**45**	Pn	**Pn**	**07 54 32.0**	**+0.5**
PKE	**Pukeiti**	**8.25**	**44**	*e*Pn	**Pn**	**07 54 30.9**	**-0.6**
HIZ	**Hauiti**	**9.21**	**45**	Pn	**Pn**	**07 54 44.1**	**-0.4**
WCZ	**Waipu Caves**	**11.10**	**35**	Pn	**Pn**	**07 55 09.6**	**-0.9**
WCZ	**Waipu Caves**	**11.10**	**35**	*e*PN	**Pn**	**07 55 09.6**	**-0.9**
MOO	**Moorlands** baz=14,SNR=3.2	**14.29**	**275**	P	**Pn**	**07 55 53.6**	**-0.5**
TOO	**Toolangi** baz=18,SNR=4.0	**17.60**	**289**	P	**P**	**07 56 39.8**	**+1.8**
QSPA	**South Pole Qui** 10nm,1.6s	**44.75**	**180**	*e*P	**P**	**08 00 47.9**	**+3.0**

WEL 17 08:10:53.5±0.1, 46°.05S×166°.18E, h30km, ML3.6/14, Error ellipse: s-maj=1.6km s-min=0.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.37**	**109**	P*	Pb	08 11 01.9	0.0
PYZ				S*	Sb	08 11 07.4	-0.2
DCZ	**Deep Cove**	**0.89**	**50**	PN	Pn	08 11 09.4	-0.5
DCZ				AML	AML	08 11 30.6	
DCZ				AML	AML	08 11 30.6	
DCZ				AML	AML	08 11 30.8	
DCZ				AML	AML	08 11 30.8	
WHZ	**Wether Hill Ro**	**1.24**	**84**	PN	Pb	08 11 16.1	-0.2
WHZ				AML	AML	08 11 36.8	
WHZ				AML	AML	08 11 45.3	
APZ	**The Paps**	**1.48**	**123**	*e*PN	Pb	08 11 20.5	+0.1
MLZ	**Mavora Lakes**	**1.56**	**64**	*e*PN	Pb	08 11 20.9	-0.9
MLZ				AML	AML	08 11 50.4	
MLZ				AML	AML	08 11 58.6	
MSZ	**Milford Sound**	**1.85**	**42**	AML	AML	08 12 06.2	
MSZ				AML	AML	08 12 06.3	
SYZ	**Scrubby Hill**	**2.11**	**105**	*e*PN	Pn	08 11 28.6	+1.9
WKZ	**Wanaka**	**2.34**	**60**	*e*PN	Pb	08 11 35.3	+0.3
WKZ				AML	AML	08 12 21.2	
WKZ				AML	AML	08 12 36.1	
EAZ	**Earnscleugh**	**2.34**	**71**	*e*PN	Pb	08 11 33.6	-1.4
EAZ				AML	AML	08 12 17.5	
EAZ				AML	AML	08 12 21.2	
TUZ	**Tuapeka**	**2.41**	**89**	*e*PN	Pb	08 11 33.7	-2.4
TUZ				AML	AML	08 12 10.2	
TUZ				AML	AML	08 12 13.2	
JCZ	**Jackson Bay**	**2.69**	**44**	*e*PN	Pb	08 11 41.6	+0.5
JCZ				AML	AML	08 12 25.9	
JCZ				AML	AML	08 12 38.4	
ODZ	**Otahua Downs**	**3.29**	**74**	*e*PN	Pn	08 11 44.2	+1.2

*IDC **17** 08:27:01.0±1.3, 1°.92N×127°.56E, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.8/22, mbtmp4.1/6, ML3.6/1, MS4.2/1, Ms1 4.2/1, ms1mx2.8/32, Error ellipse: s-maj=96.4km s-min=17.3km az=68.0*
*ISCJB **17** 08:27:12.0±1.0, 1°.8N±0°.1×127°.63E±0°.09, h112km, mb4.0/5, Error ellipse: s-maj=16.8km s-min=12.0km az=22.7*
*DJA **17** 08:27:16.7±1.8, 2°.N±12°.×12°.7E±1°.1, h117km±17km, M4.4/4, mb5.0/3, mB5.0/2, MLv4.1/4, Mw(mB)4.3/2*
ISC 17 08:27:14.0±1.4, 1°.8N±0°.1×127°.6E±0°.2, h112km, n15, σ0℘57/12, mb4.0/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAMI	**Galela, Maluku**	**0.23**	**73**	P	Pn	08 27 34.9	+5.1
TNTI	**Ternate**	**1.01**	**192**	P	Pn	08 27 39.6	+4.0
MNI	**Manado**	**2.75**	**263**	P	**Pn**	**08 27 56.7**	**-0.1**
KMSI	**Cibinong**	**3.78**	**252**	P	**Pn**	**08 28 10.8**	**+0.3**
GTOI	**Gorontalo**	**4.70**	**256**	P	**Pn**	**08 28 23.9**	**+1.1**
MRSI	**Marisa** 53nm,0.6s,1μm	**5.78**	**257**	P	**Pn**	**08 28 37.1**	**-0.3**
SKSI	**Soroako, Sulaw** 199nm,0.6s	**7.56**	**236**	P	**Pn**	**08 29 01.0**	**-0.7**
SPSI	**Sidrap Palu**	**9.66**	**234**	P	**Pn**	**08 29 30.3**	**+0.2**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=12,slow=13,SNR=5.2	**19.84**	**185**	P	**P**	**08 31 35.7**	**-0.5**
WRA	**Warramunga Arr** 3.3nm,0.4s,baz=342,slow=11,SNR=75	**22.58**	**163**	P	**P**	**08 32 05.1**	**-0.2**
ASAR	**Alice Springs** 0.8nm,0.5s,baz=344,slow=7.5,SNR=23	**26.02**	**167**	P	**P**	**08 32 36.9**	**0.0**
STKA	**Stephens Creek** 3.7nm,0.4s,baz=338,slow=7.6,SNR=25	**36.01**	**159**	P	**P**	**08 34 05.0**	**+0.6**
DZM	**Mont Dzumac** comp=Z,259nm,20.0s,baz=180,slow=32	**44.73**	**124**	LR	LR	08 50 34.9	
MKAR	**Makanchi Array** 0.7nm,0.4s,baz=118,slow=7.5,SNR=15	**59.63**	**326**	P	**P**	**08 37 06.7**	**+0.3**
KURBB	**Kurchatov Arra** 1.4nm,0.8s,baz=130,slow=6.1,SNR=4.3	**63.83**	**328**	P	**P**	**08 37 33.7**	**-0.7**

*ISCJB **17** 08:27:58.2±0.3, 36°.11N±0°.03×28°.34E±0°.03, h67km±6km, Error ellipse: s-maj=4.8km s-min=3.0km az=152.4*
*ATH **17** 08:27:59.0, 36°.19N×28°.27E, h59km±1km, MD3.2/9*
*CSEM **17** 08:27:59.6±0.1, 36°.12N×28°.35E, h51km±5km, ML3.3/1, Error ellipse: s-maj=3.7km s-min=2.8km az=148.0*
*ISK **17** 08:27:59.1, 36°.15N×28°.31E, h48km, MD3.2*
*DDA **17** 08:28:00.3, 36°.28N×28°.42E, h53km, MD3.3*
*THE **17** 08:28:02.6, 36°.21N×28°.13E, h47km±3km, ML3.3/1, Error ellipse: s-maj=5.1km s-min=1.9km az=98.0*
ISC 17 08:27:60.0±1.2, 36°.20N±0°.03×28°.29E±0°.03, h57km±6km, n94, σ0℘86/122, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.13**	**278**	P	**Pn**	**08 28 08.8**	**0.0**
ARG				S	**Sn**	**08 28 15.1**	**0.0**
ARG	**Arkhangelos**	**0.13**	**278**	*e*P	**Pn**	**08 28 08.8**	**0.0**
ARG				*e*S	**Sn**	**08 28 15.2**	**+0.1**
ARG	**Arkhangelos**	**0.13**	**278**	P	**Pn**	**08 28 08.8**	**0.0**
ARG				*e*S	**Sn**	**08 28 15.2**	**+0.1**
DALY	**Dalyan (Mu˘la**	**0.69**	**25**	PG	**Pn**	**08 28 13.8**	**-0.1**
DALY				SG	**Sn**	**08 28 24.0**	**0.0**
DALY	**Dalyan (Mu˘la**	**0.69**	**25**	*i* Pg	**Pn**	**08 28 13.8**	**-0.1**
DALY				*i* Sg	**Sn**	**08 28 24.0**	**0.0**
TURN	**Turunc**	**0.72**	**20**	*i* P	Pn	08 28 13.2	-1.1
TURN				*i* S	**Sn**	**08 28 22.8**	**-2.0**
TURN	**Turunc**	**0.72**	**20**	*i* P	Pn	08 28 13.2	-1.1
TURN				*i* S	**Sn**	**08 28 22.8**	**-2.0**
DAT	**Datca**	**0.78**	**313**	*e*PG	**Pn**	**08 28 15.2**	**0.0**
DAT				*e*SG	**Sn**	**08 28 26.2**	**-0.2**
DAT	**Datca**	**0.78**	**313**	*e*Pg	**Pn**	**08 28 15.2**	**0.0**
DAT				*e*Sg	**Sn**	**08 28 26.2**	**-0.2**
YER	**Yerkesik**	**0.94**	**360**	*e*PG	**Pn**	**08 28 17.7**	**+0.5**
YER				*e*SG	**Sn**	**08 28 30.8**	**+1.0**
YER	**Yerkesik**	**0.94**	**360**	*e*Pg	**Pn**	**08 28 17.7**	**+0.5**
YER				*e*Sg	**Sn**	**08 28 30.8**	**+1.0**
NIS1	**Nisyros Isl.**	**0.98**	**295**	P	**Pn**	**08 28 18.1**	**+0.4**
NIS1				S	**Sn**	**08 28 31.0**	**+0.3**
NIS1	**Nisyros Isl.**	**0.98**	**295**	*e*P	**Pn**	**08 28 18.1**	**+0.4**
NIS1				*e*S	**Sn**	**08 28 31.1**	**+0.3**
NIS1	**Nisyros Isl.**	**0.98**	**295**	P	**Pn**	**08 28 18.1**	**+0.4**
NIS1				*e*S	**Sn**	**08 28 31.1**	**+0.3**
KSL	**Kastellorizon**	**1.05**	**92**	*e*P	Pn	08 28 18.7	+0.2
KSL	**Kastellorizon**	**1.05**	**92**	*e*P	Pn	08 28 18.7	+0.2
AKAS	**Kas**	**1.06**	**88**	*i* P	Pn	08 28 18.7	-0.2
AKAS				*i* S	Sn	08 28 30.9	-2.0
AKAS	**Kas**	**1.06**	**88**	*i* P	Pn	08 28 18.7	-0.2
AKAS				*i* S	Sn	08 28 30.9	-2.0
KARP	**Karpathos**	**1.12**	**235**	P	**Pn**	**08 28 19.9**	**+0.3**
KARP				S	**Sn**	**08 28 34.3**	**+0.2**
KARP	**Karpathos**	**1.12**	**235**	*e*P	**Pn**	**08 28 19.9**	**+0.3**
KARP				*e*S	**Sn**	**08 28 34.0**	**-0.1**
KARP	**Karpathos**	**1.12**	**235**	P	**Pn**	**08 28 19.9**	**+0.3**
KARP				*e*S	**Sn**	**08 28 34.0**	**-0.1**
BODT	**Bodrum**	**1.17**	**318**	*e*PN	**Pn**	**08 28 20.4**	**+0.2**
BODT	**Bodrum**	**1.17**	**318**	*e*Pn	**Pn**	**08 28 20.4**	**+0.2**
MLSB	**Milas**	**1.17**	**340**	*e*PN	**Pn**	**08 28 20.7**	**+0.5**
MLSB	**Milas**	**1.17**	**340**	*e*Pn	**Pn**	**08 28 20.7**	**+0.5**
ELL	**Elmali**	**1.42**	**67**	*e*PN	Pn	08 28 23.3	-0.3
ELL	**Elmali**	**1.42**	**67**	*e*Pn	Pn	08 28 23.3	-0.3
GOLH	**Golhisar**	**1.46**	**44**	*i* P	**Pn**	**08 28 25.4**	**+1.3**
GOLH				*i* S	**Sn**	**08 28 42.7**	**+0.4**
GOLH	**Golhisar**	**1.46**	**44**	*i* P	**Pn**	**08 28 25.4**	**+1.3**
GOLH				*i* S	**Sn**	**08 28 42.7**	**+0.4**
AYDN	**Tasoluk**	**1.50**	**347**	*i* P	**Pn**	**08 28 25.3**	**+0.7**
AYDN				*i* S	**Sn**	**08 28 43.4**	**+0.2**
AYDN	**Tasoluk**	**1.50**	**347**	*i* P	**Pn**	**08 28 25.3**	**+0.7**
AYDN				*i* S	**Sn**	**08 28 43.4**	**+0.2**
DNZL	**Cakiroluk**	**1.61**	**22**	*i* P	**Pn**	**08 28 26.7**	**+0.4**
DNZL				*i* S	**Sn**	**08 28 45.0**	**-1.0**
DNZL	**Cakiroluk**	**1.61**	**22**	*i* P	**Pn**	**08 28 26.7**	**+0.4**
DNZL				*i* S	**Sn**	**08 28 45.0**	**-1.0**
KORT	**Korkueli**	**1.84**	**64**	*i* P	**Pn**	**08 28 30.2**	**+0.8**
KORT				*e*S	**Sn**	**08 28 50.7**	**-1.0**
KORT	**Korkueli**	**1.84**	**64**	*i* P	**Pn**	**08 28 30.2**	**+0.8**
KORT				*e*S	**Sn**	**08 28 50.7**	**-1.0**
SMG	**Samos**	**1.91**	**323**	P	**Pn**	**08 28 30.2**	**+0.1**
SMG				S	**Sn**	**08 28 52.8**	**-0.2**
SMG	**Samos**	**1.91**	**323**	*e*P	**Pn**	**08 28 30.2**	**+0.1**
SMG				*e*S	**Sn**	**08 28 53.0**	**0.0**
SMG	**Samos**	**1.91**	**323**	P	**Pn**	**08 28 30.2**	**+0.1**
SMG				*e*S	**Sn**	**08 28 53.0**	**0.0**
ZKR	**Zakros**	**2.00**	**238**	P	**Pn**	**08 28 32.7**	**+1.3**
ZKR				S	**Sn**	**08 28 55.9**	**+0.5**
ZKR	**Zakros**	**2.00**	**238**	*e*P	**Pn**	**08 28 32.1**	**+0.7**
ZKR				*e*S	**Sn**	**08 28 55.3**	**-0.1**
ZKR	**Zakros**	**2.00**	**238**	*e*P	**Pn**	**08 28 32.1**	**+0.7**
ZKR				*e*S	**Sn**	**08 28 55.3**	**-0.1**
BCK	**Bucak**	**2.23**	**55**	*e*PN	**Pn**	**08 28 35.1**	**+0.5**
BCK	**Bucak**	**2.23**	**55**	*e*Pn	**Pn**	**08 28 35.2**	**+0.5**
KULA	**Kula-Manisa**	**2.33**	**7**	*e*PN	**Pn**	**08 28 37.2**	**+1.2**
KULA	**Kula-Manisa**	**2.33**	**7**	*e*Pn	**Pn**	**08 28 37.2**	**+1.2**
KHL	**Karahalli**	**2.34**	**25**	*e*PN	**Pn**	**08 28 36.0**	**-0.1**
KHL	**Karahalli**	**2.34**	**25**	*e*Pn	**Pn**	**08 28 36.0**	**-0.1**
NPS	**Neapolis**	**2.37**	**248**	P	**Pn**	**08 28 36.5**	**+0.1**
NPS				S	**Sn**	**08 29 02.9**	**-1.4**
NPS	**Neapolis**	**2.37**	**248**	*e*P	**Pn**	**08 28 36.6**	**+0.1**
NPS				*e*S	**Sn**	**08 29 03.0**	**-1.4**
NPS	**Neapolis**	**2.37**	**248**	P	**Pn**	**08 28 36.5**	**+0.1**
NPS				*e*S	**Sn**	**08 29 03.0**	**-1.4**
KHAL	**Karahalli**	**2.37**	**23**	*i* P	**Pn**	**08 28 36.3**	**-0.3**
KHAL				*e*S	**Sn**	**08 29 02.2**	**-2.4**
KHAL	**Karahalli**	**2.37**	**23**	*i* P	**Pn**	**08 28 36.3**	**-0.3**
KHAL				*e*S	**Sn**	**08 29 02.2**	**-2.4**
APE	**Apeiranthos**	**2.38**	**292**	*e*PN	**Pn**	**08 28 37.6**	**+0.9**
APE	**Apeiranthos**	**2.38**	**292**	*e*P	**Pn**	**08 28 37.3**	**+0.6**
APE	**Apeiranthos**	**2.38**	**292**	*e*P	**Pn**	**08 28 37.3**	**+0.6**
APE	**Apeiranthos**	**2.38**	**292**	*e*Pn	**Pn**	**08 28 37.6**	**+0.9**
ISP	**Isparta**	**2.41**	**47**	*e*PN	**Pn**	**08 28 38.2**	**+1.1**
ISP	**Isparta**	**2.41**	**47**	*e*Pn	**Pn**	**08 28 38.2**	**+1.1**
XRY	**Khrisi**	**2.49**	**239**	*e*P	**Pn**	**08 28 38.8**	**+0.7**
XRY	**Khrisi**	**2.49**	**239**	*e*P	**Pn**	**08 28 38.8**	**+0.7**
LAST	**Lasithi**	**2.51**	**247**	P	**Pn**	**08 28 38.6**	**+0.2**
LAST				S	**Sn**	**08 29 07.1**	**-0.8**
LAST	**Lasithi**	**2.51**	**247**	*e*P	**Pn**	**08 28 38.7**	**+0.3**
LAST				*e*S	**Sn**	**08 29 07.1**	**-0.8**
LAST	**Lasithi**	**2.51**	**247**	P	**Pn**	**08 28 38.6**	**+0.2**
LAST				S	**Sn**	**08 29 07.1**	**-0.8**
SUTC	**Sutluce-Ispart**	**2.52**	**59**	*e*PN	**Pn**	**08 28 39.2**	**+0.6**
SUTC	**Sutluce-Ispart**	**2.52**	**59**	*e*Pn	**Pn**	**08 28 39.3**	**+0.6**
IDI	**Anoyia**	**2.91**	**253**	P	**Pn**	**08 28 44.2**	**+0.3**
IDI				S	**Sn**	**08 29 14.9**	**-2.8**
IDI	**Anoyia**	**2.91**	**253**	*e*P	**Pn**	**08 28 44.0**	**+0.1**
IDI	**Anoyia**	**2.91**	**253**	*e*P	**Pn**	**08 28 44.0**	**+0.1**
SIVA	**Sivas**	**3.07**	**248**	P	**Pn**	**08 28 47.8**	**+1.8**
SIVA				S	**Sn**	**08 29 20.5**	**-1.0**
SIVA	**Sivas**	**3.07**	**248**	*e*P	**Pn**	**08 28 47.5**	**+1.5**
SIVA				*e*S	**Sn**	**08 29 21.7**	**+0.2**
SIVA	**Sivas**	**3.07**	**248**	*e*P	**Pn**	**08 28 47.5**	**+1.5**
SIVA				*e*S	**Sn**	**08 29 21.7**	**+0.2**
GAZI	**Gazipasa**	**3.26**	**88**	*i* P	Pn	08 28 47.1	-1.5
GAZI				*i* S	Sn	08 29 19.0	-7.2
GAZI	**Gazipasa**	**3.26**	**88**	*i* P	Pn	08 28 47.1	-1.5
TVSB	**Tavsanli**	**3.38**	**16**	*e*PN	**Pn**	**08 28 50.5**	**+0.2**
TVSB	**Tavsanli**	**3.38**	**16**	*e*Pn	**Pn**	**08 28 50.5**	**+0.2**
KARN	**Karanos**	**3.64**	**259**	P	**Pn**	**08 28 55.0**	**+1.1**
KARN				S	**Sn**	**08 29 33.8**	**-1.8**
KARN	**Karanos**	**3.64**	**259**	*e*P	**Pn**	**08 28 54.9**	**+1.1**
KARN	**Karanos**	**3.64**	**259**	*e*P	**Pn**	**08 28 54.9**	**+1.1**
KARN				S	**Sn**	**08 29 33.8**	**-1.8**
GVD	**Gavdhos**	**3.69**	**250**	*e*P	**Pn**	**08 28 55.1**	**+0.7**
GVD				*e*S	**Sn**	**08 29 35.6**	**-1.0**
GVD	**Gavdhos**	**3.69**	**250**	*e*P	**Pn**	**08 28 55.1**	**+0.7**
GVD				*e*S	**Sn**	**08 29 35.6**	**-1.0**
KONT	**Konya--Tatoy**	**3.69**	**61**	*e*PN	**Pn**	**08 28 55.5**	**+1.0**
KONT	**Konya--Tatoy**	**3.69**	**61**	*e*Pn	**Pn**	**08 28 55.6**	**+1.0**
KIZT	**Kizilcal**	**3.91**	**46**	*e*PN	**Pn**	**08 28 58.2**	**+0.5**
KIZT	**Kizilcal**	**3.91**	**46**	*e*Pn	**Pn**	**08 28 58.2**	**+0.5**
SLUM		**5.35**	**209**	P	**Pn**	**08 29 15.8**	**-1.4**
AMAG	**Maghara**	**6.90**	**142**	P	Pn	08 29 35.6	-2.9
RSH		**6.92**	**138**	P	Pn	08 29 36.6	-2.1
KOT	**Kottamia**	**6.92**	**154**	P	Pn	08 29 36.5	-2.3
HHAG	**Hagoal**	**7.00**	**152**	P	Pn	08 29 37.3	-2.6
GLL	**Jalalah**	**7.20**	**156**	P	Pn	08 29 40.1	-2.6
SWA2		**7.33**	**200**	P	Pn	08 29 42.5	-1.9
HNKL	**Nakhl**	**7.87**	**141**	P	Pn	08 29 49.0	-2.8
HFRF	**Wahat Farafira**	**9.02**	**180**	P	Pn	08 30 05.7	-1.9
TR2		**9.04**	**148**	P	Pn	08 30 05.9	-2.0

WEL 17 08:29:35.3±0.2, 46°.12S×166°.15E, h32km±1km, ML3.6/14, 2D, Error ellipse: s-maj=2.4km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.37**	**97**	⇓P*	Pb	08 29 44.0	+0.1
PYZ				S*	Sb	08 29 49.8	0.0
PYZ				S*	Sn	08 29 50.1	-0.7
DCZ	**Deep Cove**	**0.95**	**48**	⇓PN	Pn	08 29 52.1	-0.3
DCZ				AML	AML	08 30 06.1	
DCZ				AML	AML	08 30 10.8	
WHZ	**Wether Hill Ro**	**1.27**	**80**	PN	Pb	08 29 57.8	-0.9
WHZ				AML	AML	08 30 20.0	
WHZ				AML	AML	08 30 22.4	
MLZ	**Mavora Lakes**	**1.62**	**62**	AML	AML	08 30 32.1	
MLZ

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSZ	**Suzu**	**1.96**	**82**	P	**Pn**	**08 36 44.0**	**+1.0**
MJAR	**Matsushiro Arr**	**2.72**	**103**	P	**Pn**	**08 36 49.8**	**+1.1**
	0.6nm,0.3s,baz=281,slow=8.6,SNR=6.9						
JHK	**Hiroka**	**3.27**	**88**	P	**Pn**	**08 36 53.8**	**+0.5**
JMM	**Marumori**	**4.71**	**80**	P	**Pn**	**08 37 07.7**	**+0.2**
JFK	**Kawauchi**	**4.75**	**86**	P	**Pn**	**08 37 07.4**	**-0.6**
JRG	**Rokugo**	**5.00**	**62**	P	**Pn**	**08 37 11.4**	**+0.9**
JMK	**Ichinoseki**	**5.27**	**69**	P	**Pn**	**08 37 14.4**	**+1.0**
BSO1	**Boso 1**	**5.53**	**116**	P	**Pn**	**08 37 15.2**	**-0.6**
USRK	**Ussuriysk Arra**	**7.33**	**343**	P	**P**	**08 37 37.5**	**0.0**
	0.3nm,0.3s,baz=163,slow=11,SNR=6.1						
ASAJ	**Asahikawa**	**9.04**	**38**	P	**Pn**	**08 37 54.9**	**-1.5**
	1.2nm,0.3s,baz=238,slow=9.5,SNR=7.1						
WRA	**Warramunga Arr**	**56.84**	**181**	P	**P**	**08 44 56.6**	**-0.5**
	0.2nm,0.4s,baz=355,slow=7.3,SNR=5.0						

IDC 17 08:46:22.4±1.0, 2°41N×127°20E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.8/24, mbtmp4.0/9, Error ellipse: s-maj=93.5km s-min=15.1km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.44**	**184**	P	P	08 51 02.0	+0.5
	2.3nm,0.7s,baz=12,slow=11,SNR=5.3						
WRA	**Warramunga Arr**	**23.29**	**163**	P	P	08 51 31.4	-0.6
	7.2nm,0.8s,baz=341,slow=11,SNR=54						
WRA				PcP	PcP	08 55 20.0	+0.1
	0.6nm,1.0s,baz=338,slow=2.6,SNR=3.2						
ASAR	**Alice Springs**	**26.73**	**166**	P	P	08 52 03.1	-0.7
	0.8nm,0.6s,baz=350,slow=7.6,SNR=11						
ASAR				PcP	PcP	08 55 27.6	+0.2
	0.6nm,0.4s,baz=354,slow=2.2,SNR=8.7						
STKA	**Stephens Creek**	**36.73**	**159**	P	P	08 53 32.0	+0.4
	4.4nm,0.7s,baz=343,slow=8.3,SNR=9.4						
MKAR	**Makanchi Array**	**58.90**	**325**	P	P	08 56 23.3	-0.1
	0.6nm,0.5s,baz=122,slow=8.1,SNR=8.3						
KURBB	**Kurchatov Arra**	**63.10**	**328**	P	P	08 56 51.3	-0.4
	0.7nm,0.4s,baz=126,slow=6.3,SNR=6.7						
BVAR	**Borovoye Array**	**68.68**	**327**	P	P	08 57 28.1	+0.5
	0.6nm,0.6s,baz=107,slow=9.7,SNR=3.5						
AKTO	**Aktyubinsk**	**74.98**	**322**	P	P	08 58 05.2	-0.4
	0.9nm,0.5s,baz=109,slow=8.8,SNR=4.5						
VNDA	**Vanda**	**82.06**	**173**	P	P	08 58 43.7	-0.4
	0.8nm,0.8s,baz=301,slow=6.6,SNR=4.1						

IDC 17 08:50:23.7±3.0, 64°.65N×31°.31E, h0km, mb1 2.8/3, mb1mx2.7/28, mbtmp2.7/3, ML2.4/3, Error ellipse: s-maj=45.0km s-min=11.4km az=107.0
HEL 17 08:50:24.1, 64°.83N×31°.04E, h0km, ML1.4, Explosion
CSEM 17 08:50:25.0±0.8, 64°.80N×30°.50E, h2km, ML1.4, Error ellipse: s-maj=21.3km s-min=6.1km az=100.0, Mining explosion.
UPP 17 08:50:30.2, 64°.83N×29°.69E, h0km, ML1.9, Suspected Mining explosion.

ISC 17 08:50:24.5±1.5, 64°.86N±0°.04×30°.88E±0°.09, h0km, n54, σ1s86/61, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.24**	**341**	*e*P	**Pg**	**08 50 47.3**	**-0.9**
KU6				*e*SB	**Sg**	**08 51 04.1**	**-0.1**
KU6				MSG		08 51 04.1	
	comp=Z,2.6nm,0.2s						
KU6				*e*RG	Rg	08 51 13.7	
KU6	**Riekki**	**1.24**	**341**	P	**Pg**	**08 50 47.2**	**-0.9**
MSF	**Maaselka**	**1.30**	**325**	*e*PB	**Pg**	**08 50 48.2**	**-1.2**
MSF				*e*SN	**Sg**	**08 51 07.4**	**+1.1**
MSF				MSG		08 51 07.4	
	comp=Z,1.1nm,0.4s						
MSF	**Maaselka**	**1.30**	**325**	Pb	**Pg**	**08 50 48.2**	**-1.2**
MSF				Sn	**Sg**	**08 51 07.4**	**+1.1**
	comp=Z,1.1nm,0.4s						
OUL	**Oulu**	**2.13**	**278**	*e*PB	**Pn**	**08 51 00.6**	**-0.6**
OUL				*e*SG	**Sn**	**08 51 27.2**	**-1.1**
OUL				MSG		08 51 27.2	
	comp=Z,1.1nm,0.4s						
VRF	**Varrio**	**2.94**	**351**	*e*P	**Pn**	**08 51 14.0**	**+1.6**
	baz=176						
VRF				*e*SG	**Sb**	**08 51 55.8**	**+1.6**
VRF				MSG		08 51 55.8	
	comp=Z,0.9nm,0.4s						
VRF	**Varrio**	**2.94**	**351**	P	**Pn**	**08 51 14.0**	**+1.6**
KAF	**Kangasniemi**	**3.44**	**219**	*e*P	**Pn**	**08 51 19.1**	**-0.1**
KAF	**Kangasniemi**	**3.44**	**219**	P	**Pn**	**08 51 19.1**	**-0.1**
KEF	**Keuruu**	**3.82**	**228**	*e*P	**Pn**	**08 51 24.0**	**-0.4**
KEF				*e*SG	**Sb**	**08 52 22.0**	**+2.7**
KEF				MSG		08 52 22.0	
	comp=Z,1.4nm,0.4s						
KEF	**Keuruu**	**3.82**	**228**	SG	**Sb**	**08 52 22.0**	**+2.7**
KEF				MSG		08 52 22.0	
	comp=Z,1.4nm,0.4s						
KEF	**Keuruu**	**3.82**	**228**	Sg	**Sb**	**08 52 22.0**	**+2.7**
KEF	**Keuruu**	**3.82**	**228**	P	**Pn**	**08 51 24.0**	**-0.4**
KEF				Sg	**Sb**	**08 52 22.0**	**+2.7**
	comp=Z,1.4nm,0.4s						
PAJU	**Pajala**	**3.85**	**308**	*e*P	**Pn**	**08 51 24.4**	**-0.4**
PAJU	**Pajala**	**3.85**	**308**	P	**Pn**	**08 51 24.4**	**-0.4**
SJUU	**Sjulsmark**	**3.96**	**284**	*e*P	**Pn**	**08 51 25.6**	**-0.8**
SJUU	**Sjulsmark**	**3.96**	**284**	P	**Pn**	**08 51 25.6**	**-0.8**
ERTU	**Ertsjaerv**	**3.97**	**299**	*e*P	**Pn**	**08 51 26.6**	**+0.1**
ERTU	**Ertsjaerv**	**3.97**	**299**	P	**Pn**	**08 51 26.6**	**+0.1**
FIA0	**FINESS Array S**	**4.06**	**215**	*e*P	**Pn**	**08 51 26.3**	**-1.5**
	baz=33						
FIA0				*e*SG	**Sb**	**08 52 29.3**	**+2.9**
FIA0				MSG		08 52 29.3	
	comp=Z,1.3nm,0.3s						
FIA0	**FINESS Array S**	**4.06**	**215**	SG	**Sb**	**08 52 29.3**	**+2.9**
FIA0				MSG		08 52 29.3	
	comp=Z,1.3nm,0.3s						
FIA0	**FINESS Array S**	**4.06**	**215**	Sg	**Sb**	**08 52 29.3**	**+2.9**
FIA0	**FINESS Array S**	**4.06**	**215**	P	**Pn**	**08 51 26.3**	**-1.5**
FIA0				Sg	**Sb**	**08 52 29.3**	**+2.9**
	comp=Z,1.3nm,0.3s						
FINES	**FINESS Array B**	**4.06**	**215**	Pn	**Pn**	**08 51 26.4**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=33,slow=14,SNR=4.8						
FINES				Lg	Lg	08 52 26.8	
	comp=Z,0.6nm,0.3s,baz=36,slow=29,SNR=6.9						
MASU	**Masugnsbyn**	**4.44**	**310**	*e*P	**Pn**	**08 51 34.4**	**+1.3**
MASU	**Masugnsbyn**	**4.44**	**310**	P	**Pn**	**08 51 34.3**	**+1.3**
UMAU	**Umeaa**	**4.54**	**262**	*e*P	**Pn**	**08 51 31.8**	**-2.5**
UMAU	**Umeaa**	**4.54**	**262**	P	**Pn**	**08 51 31.8**	**-2.5**
LILU	**Lilltraesk**	**4.69**	**280**	*e*P	**Pn**	**08 51 35.0**	**-1.3**
LILU	**Lilltraesk**	**4.69**	**280**	P	**Pn**	**08 51 35.0**	**-1.3**
SVAU	**Svanoeiden**	**4.87**	**271**	*e*P	**Pn**	**08 51 37.2**	**-1.7**
SVAU	**Svanoeiden**	**4.87**	**271**	P	**Pn**	**08 51 37.1**	**-1.7**
ARCES	**ARCESS Array B**	**5.13**	**338**	Pn	**Pn**	**08 51 42.2**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=155,slow=13,SNR=21						
ARCES				Lg	Lg	08 53 01.1	
	comp=Z,0.3nm,0.3s,baz=151,slow=33,SNR=6.7						
RAF	**Rauma**	**5.67**	**231**	PG	**Pn**	**08 51 48.4**	**-1.4**
RAF				SG		08 51 54.6	
RAF	**Rauma**	**5.67**	**231**	Pg	**Pn**	**08 51 48.4**	**-1.4**
RAF				Sg	Pb	08 51 54.6	-9.5
AAL	**Aland**	**6.88**	**232**	*e*P	**Pn**	**08 52 04.4**	**-2.0**
AAL	**Aland**	**6.88**	**232**	PG	**Pn**	**08 52 06.4**	**-0.1**
AAL	**Aland**	**6.88**	**232**	Pg	**Pn**	**08 52 06.3**	**-0.1**
AAL	**Aland**	**6.88**	**232**	P	**Pn**	**08 52 04.4**	**-2.0**
GRAU	**Graesoe**	**7.28**	**237**	*e*P	**Pn**	**08 52 09.3**	**-2.6**
GRAU	**Graesoe**	**7.28**	**237**	P	**Pn**	**08 52 09.3**	**-2.6**
ROTU	**Roteberg**	**7.64**	**250**	*e*P	**Pn**	**08 52 14.7**	**-2.1**
ROTU	**Roteberg**	**7.64**	**250**	P	**Pn**	**08 52 14.7**	**-2.1**
FLYU	**Flymyra**	**7.66**	**238**	*e*P	**Pn**	**08 52 14.6**	**-2.5**
FLYU	**Flymyra**	**7.66**	**238**	P	**Pn**	**08 52 14.6**	**-2.5**
NRTU	**Norrtaelje**	**7.72**	**233**	*e*P	**Pn**	**08 52 15.5**	**-2.4**
NRTU	**Norrtaelje**	**7.72**	**233**	P	**Pn**	**08 52 15.5**	**-2.4**
OSTU	**Oestervaala**	**7.86**	**240**	*e*P	**Pn**	**08 52 17.5**	**-2.3**
OSTU	**Oestervaala**	**7.86**	**240**	P	**Pn**	**08 52 17.5**	**-2.3**
BACU	**Backbrunna**	**8.13**	**238**	*e*P	Pn	08 52 20.4	-3.1
BACU	**Backbrunna**	**8.13**	**238**	P	Pn	08 52 20.4	-3.1
NYNU	**Nynaeshamn**	**8.44**	**232**	*e*P	**Pn**	**08 52 25.0**	**-2.7**
NYNU	**Nynaeshamn**	**8.44**	**232**	P	**Pn**	**08 52 25.0**	**-2.7**
NOA	**NORSAR Array B**	**9.72**	**256**	Pn	**Pn**	**08 52 43.2**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=68,slow=14,SNR=2.4						

NEIC 17 08:54:42.8, 37°.03S×177°.59E, h208km, MG4.1(WEL), After WEL.

WEL 17 08:54:53.2±0.4, 37°.39S×177°.15E, h134km±3km, ML3.8/11, 5C-2D, Error ellipse: s-maj=2.6km s-min=1.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.66**	**226**	Pn	Pn	08 55 13.6	-0.1
OPRZ	**Ohinepanea**	**0.66**	**226**	⇑PN	Pn	08 55 13.6	-0.1
MARZ	**Manawahe**	**0.71**	**212**	Pn	Pn	08 55 14.2	+0.1
MARZ	**Manawahe**	**0.71**	**212**	PN	Pn	08 55 14.1	0.0
URZ	**Urewera**	**0.87**	**182**	Pn	Pn	08 55 14.9	-0.4
URZ	**Urewera**	**0.87**	**182**	PN	Pn	08 55 15.2	-0.2
URZ				AML	AML	08 55 31.8	
URZ				AML	AML	08 55 38.3	
MXZ	**Matakaoa Point**	**0.94**	**101**	PN	Pn	08 55 16.3	+0.4
MXZ				SN	Sn	08 55 33.7	+0.6
MXZ				AML	AML	08 55 37.4	
TARZ	**Mount Tarawera**	**0.99**	**211**	Pn	Pn	08 55 17.0	+0.5
TARZ	**Mount Tarawera**	**0.99**	**211**	PN	Pn	08 55 16.9	+0.4
MWZ	**Matawai**	**0.99**	**163**	Pn	Pn	08 55 16.3	-0.2
MWZ	**Matawai**	**0.99**	**163**	⇑PN	Pn	08 55 17.3	-0.2
MWZ				AML	AML	08 55 40.3	
MWZ				AML	AML	08 55 40.4	
MWZ				AML	AML	08 55 42.6	
MWZ				AML	AML	08 55 42.6	
RRRZ	**Republican Roa**	**1.08**	**208**	Pn	Pn	08 55 17.7	+0.5
RRRZ	**Republican Roa**	**1.08**	**208**	*e*PN	Pn	08 55 17.2	-0.1
PUZ	**Puketiti**	**1.11**	**128**	Pn	Pn	08 55 17.3	-0.3
PUZ	**Puketiti**	**1.11**	**128**	⇑PN	Pn	08 55 17.3	-0.3
PUZ				AML	AML	08 55 42.1	
PUZ				AML	AML	08 55 44.8	
PRRZ	**Plateau Road**	**1.26**	**208**	Pn	Pn	08 55 19.6	+0.6
PRRZ	**Plateau Road**	**1.26**	**208**	PN	Pn	08 55 19.3	+0.3
PRRZ				SN	Sn	08 55 39.6	+0.8
ALRZ	**Allen Road**	**1.34**	**208**	Pn	Pn	08 55 20.4	+0.5
ALRZ	**Allen Road**	**1.34**	**208**	PN	Pn	08 55 20.3	+0.5
CNGZ	**Carnagh Statio**	**1.38**	**143**	Pn	Pn	08 55 20.5	+0.3
CNGZ	**Carnagh Statio**	**1.38**	**143**	PN	Pn	08 55 20.3	+0.1
RAHZ	**Arahi**	**1.53**	**182**	Pn	Pn	08 55 22.1	+0.2
RAHZ	**Arahi**	**1.53**	**182**	PN	Pn	08 55 21.9	0.0
PRGZ	**Paritu Road**	**1.64**	**160**	Pn	Pn	08 55 24.0	+0.8
PRGZ	**Paritu Road**	**1.64**	**160**	*e*PN	Pn	08 55 23.7	+0.5
KNZ	**Kokohu**	**1.68**	**166**	Pn	Pn	08 55 23.1	-0.5
KNZ	**Kokohu**	**1.68**	**166**	*e*PN	Pn	08 55 22.9	-0.7
NMHZ	**Naumai**	**1.73**	**189**	Pn	Pn	08 55 24.9	+0.6
NMHZ	**Naumai**	**1.73**	**189**	PN	Pn	08 55 24.6	+0.3
BKZ	**Black Stump Fm**	**1.85**	**196**	Pn	Pn	08 55 25.4	-0.3
BKZ	**Black Stump Fm**	**1.85**	**196**	PN	Pn	08 55 25.3	-0.4
BKZ				SN	Sn	08 55 50.1	-0.5
BKZ				AML	AML	08 55 59.7	
MHGZ	**Mahia Peninsul**	**1.86**	**162**	Pn	Pn	08 55 26.1	+0.3
MHGZ	**Mahia Peninsul**	**1.86**	**162**	*e*PN	Pn	08 55 25.6	-0.2
KRVZ	**Karewarewa**	**2.08**	**214**	Pn	Pn	08 55 29.8	+1.3
KRVZ	**Karewarewa**	**2.08**	**214**	PN	Pn	08 55 29.6	+1.1
MCHZ	**McNeill Hill**	**2.08**	**190**	Pn	Pn	08 55 29.2	+0.8
MCHZ	**McNeill Hill**	**2.08**	**190**	*e*PN	Pn	08 55 29.0	+0.6
WTVZ	**West Tongariro**	**2.12**	**215**	Pn	Pn	08 55 30.1	+1.1
WTVZ	**West Tongariro**	**2.12**	**215**	PN	Pn	08 55 29.9	+0.9
OTVZ	**Oturere**	**2.12**	**213**	Pn	Pn	08 55 30.1	+1.0
OTVZ	**Oturere**	**2.12**	**213**	PN	Pn	08 55 30.1	+1.0
HIZ	**Hauiti**	**2.13**	**237**	Pn	Pn	08 55 30.8	+1.8
HIZ	**Hauiti**	**2.13**	**237**	PN	Pn	08 55 30.7	+1.7
TWVZ	**Taurewa**	**2.16**	**218**	Pn	Pn	08 55 30.6	+1.2
TWVZ	**Taurewa**	**2.16**	**218**	PN	Pn	08 55 30.6	+1.2
NGZ	**Ngauruhoe**	**2.16**	**214**	Pn	Pn	08 55 30.8	+1.3
NGZ	**Ngauruhoe**	**2.16**	**214**	PN	Pn	08 55 30.6	+1.0
WPVZ	**Whakapapa**	**2.21**	**214**	Pn	Pn	08 55 31.3	+1.2
WPVZ	**Whakapapa**	**2.21**	**214**	PN	Pn	08 55 31.1	+1.0
TUVZ	**Tukino**	**2.22**	**212**	Pn	Pn	08 55 30.9	+0.7
TUVZ	**Tukino**	**2.22**	**212**	PN	Pn	08 55 30.9	+0.7
WHVZ	**Whangaehu Hut**	**2.25**	**212**	PN	Pn	08 55 31.6	+0.8
WHVZ				SN	Sn	08 55 59.9	+0.2
BHHZ	**Black Hill Sta**	**2.27**	**202**	Pn	Pn	08 55 30.3	-0.4
BHHZ	**Black Hill Sta**	**2.27**	**202**	*e*PN	Pn	08 55 30.2	-0.5
CKHZ	**Cape Kidnapper**	**2.27**	**181**	Pn	Pn	08 55 32.1	+1.4
WNVZ	**Wahianoa**	**2.29**	**212**	Pn	Pn	08 55 31.9	+0.7
WNVZ	**Wahianoa**	**2.29**	**212**	PN	Pn	08 55 31.5	+0.3
MOVZ	**Moawhango**	**2.30**	**208**	Pn	Pn	08 55 31.0	-0.1
MOVZ	**Moawhango**	**2.30**	**208**	PN	Pn	08 55 31.0	-0.1
PKVZ	**Pokaka**	**2.37**	**216**	Pn	Pn	08 55 33.1	+1.1
PKVZ	**Pokaka**	**2.37**	**216**	PN	Pn	08 55 33.1	+1.1
MTVZ	**Mangateitei**	**2.39**	**213**	Pn	Pn	08 55 33.2	+0.9
MTVZ	**Mangateitei**	**2.39**	**213**	⇑PN	Pn	08 55 33.2	+0.9
KAHZ	**Kahuranaki**	**2.42**	**185**	Pn	Pn	08 55 31.9	-0.6
KAHZ	**Kahuranaki**	**2.42**	**185**	PN	Pn	08 55 31.9	-0.6
PNHZ	**Pukenui**	**2.63**	**196**	Pn	Pn	08 55 34.0	-1.3
PNHZ	**Pukenui**	**2.63**	**196**	PN	Pn	08 55 34.0	-1.3
PXZ	**Pawanui**	**2.65**	**185**	Pn	Pn	08 55 34.6	-0.8
PXZ	**Pawanui**	**2.65**	**185**	⇓PN	Pn	08 55 34.6	-0.8
PXZ				AML	AML	08 56 09.1	
WPHZ	**Waipukurau**	**2.73**	**191**	Pn	Pn	08 55 35.4	-1.1
WPHZ	**Waipukurau**	**2.73**	**191**	*e*PN	Pn	08 55 34.8	-1.7
TSZ	**Takapari Road**	**2.83**	**199**	Pn	Pn	08 55 36.3	-1.5
TSZ	**Takapari Road**	**2.83**	**199**	PN	Pn	08 55 36.2	-1.6
TSZ				AML	AML	08 56 22.6	
TSZ				AML	AML	08 56 26.8	
PRHZ	**Porangahau**	**2.91**	**188**	Pn	Pn	08 55 37.4	-1.3
PRHZ	**Porangahau**	**2.91**	**188**	PN	Pn	08 55 37.3	-1.4
WAZ	**Wanganui**	**2.91**	**215**	Pn	Pn	08 55 39.5	+0.6
WAZ	**Wanganui**	**2.91**	**215**	PN	Pn	08 55 39.1	+0.3
DVHZ	**Dannevirke**	**3.01**	**194**	Pn	Pn	08 55 38.6	-1.5
DVHZ	**Dannevirke**	**3.01**	**194**	PN	Pn	08 55 38.5	-1.6
KHEZ	**Kahui Hut**	**3.11**	**231**	*e*PN	Pn	08 55 45.8	+4.2
ANWZ	**Angora Road**	**3.12**	**190**	PN	Pn	08 55 39.9	-1.5
POWZ	**Post Office Ro**	**3.19**	**199**	Pn	Pn	08 55 41.7	-0.7
POWZ	**Post Office Ro**	**3.19**	**199**	*e*PN	Pn	08 55 40.9	-1.5
PRWZ	**Pori Road**	**3.29**	**196**	*e*PN	Pn	08 55 42.3	-1.5
BFZ	**Birch Farm**	**3.36**	**192**	Pn	Pn	08 55 42.6	-2.1
BFZ	**Birch Farm**	**3.36**	**192**	PN	Pn	08 55 42.5	-2.2
MRZ	**Mangatainoka R**	**3.49**	**200**	PN	Pn	08 55 44.3	-2.1
MRZ				SN	Sn	08 56 23.6	-4.0
MRZ				AML	AML	08 56 24.0	
TIWZ	**Tintock**	**3.53**	**196**	Pn	Pn	08 55 45.0	-1.8
TIWZ	**Tintock**	**3.53**	**196**	PN	Pn	08 55 44.9	-1.9
HOWZ	**Holdsworth Sta**	**3.73**	**199**	Pn	Pn	08 55 47.2	-2.3
HOWZ	**Holdsworth Sta**	**3.73**	**199**	PN	Pn	08 55 47.0	-2.5
OGWZ	**Otaki Gorge**	**3.76**	**204**	Pn	Pn	08 55 47.8	-2.0
OGWZ	**Otaki Gorge**	**3.76**	**204**	PN	Pn	08 55 47.8	-2.0
TMWZ	**Te Maipa**	**3.84**	**194**	Pn	Pn	08 55 48.7	-2.3
TMWZ	**Te Maipa**	**3.84**	**194**	⇓PN	Pn	08 55 48.7	-2.3
KIW	**Kapiti Island**	**3.88**	**206**	Pn	Pn	08 55 49.7	-1.8
KIW	**Kapiti Island**	**3.88**	**206**	PN	Pn	08 55 49.7	-1.8
KIW				AML	AML	08 56 48.2	
MTW	**Mount Morrison**	**3.98**	**198**	Pn	Pn	08 55 49.9	-2.8
MTW	**Mount Morrison**	**3.98**	**198**	PN	Pn	08 55 49.9	-2.8
CAW	**Cannon Point**	**4.05**	**203**	Pn	Pn	08 55 51.2	-2.5
CAW	**Cannon Point**	**4.05**	**203**	PN	Pn	08 55 51.2	-2.5
CAW				AML	AML	08 56 57.1	
CAW				AML	AML	08 56 57.6	
TRWZ	**Traveller**	**4.16**	**195**	Pn	Pn	08 55 52.6	-2.6
TRWZ	**Traveller**	**4.16**	**195**	PN	Pn	08 55 52.5	-2.7
DUWZ	**D'Urville Isla**	**4.24**	**215**	Pn	Pn	08 55 54.2	-1.9
DUWZ	**D'Urville Isla**	**4.24**	**215**	PN	Pn	08 55 54.1	-2.0
MSWZ	**Moikau Station**	**4.28**	**199**	Pn	Pn	08 55 54.9	-1.9
MSWZ	**Moikau Station**	**4.28**	**199**	PN	Pn	08 55 54.9	-1.9
SNZO	**South Karori**	**4.35**	**205**	Pn	Pn	08 55 55.0	-2.7
SNZO	**South Karori**	**4.35**	**205**	PN	Pn	08 55 55.0	-2.7
TCW	**Tory Channel**	**4.42**	**209**	Pn	Pn	08 55 56.1	-2.5
TCW	**Tory Channel**	**4.42**	**209**	PN	Pn	08 55 56.1	-2.5
TCW				AML	AML	08 56 46.4	
PLWZ	**Palliser**	**4.43**	**199**	Pn	Pn	08 55 55.8	-3.0
PLWZ	**Palliser**	**4.43**	**199**	*e*PN	Pn	08 55 55.4	-3.4
TUWZ	**Tuamarina**	**4.74**	**211**	Pn	Pn	08 55 60.0	-2.9
TUWZ	**Tuamarina**	**4.74**	**211**	PN	Pn	08 55 60.0	-2.9
NNZ	**Nelson**	**4.81**	**216**	Pn	Pn	08 56 02.4	-1.5
NNZ	**Nelson**	**4.81**	**216**	PN	Pn	08 56 02.4	-1.5
QRZ	**Quartz Range**	**4.97**	**225**	Pn	Pn	08 56 04.1	-1.9
QRZ	**Quartz Range**	**4.97**	**225**	PN	Pn	08 56 04.1	-1.9
BSWZ	**Blackbirch Sta**	**5.01**	**209**	Pn	Pn	08 56 03.6	-2.8
THZ	**Tophouse**	**5.46**	**216**	Pn	Pn	08 56 10.1	-2.5
THZ	**Tophouse**	**5.46**	**216**	⇑PN	Pn	08 56 10.1	-2.5
THZ				SN	Sn	08 57 09.8	-4.7
KHZ	**Kahutara**	**5.74**	**208**	Pn	Pn	08 56 12.8	-3.3
KHZ	**Kahutara**	**5.74**	**208**	*e*PN	Pn	08 56 12.7	-3.4
LTZ	**Lake Taylor**	**6.56**	**213**	Pn	Pn	08 56 20.3	-6.9
OXZ	**Oxford**	**7.10**	**212**	*e*PN	Pn	08 56 29.9	-4.6
OXZ				SN	Sn	08 57 44.3	-9.4
MQZ	**McQueen's Vall**	**7.18**	**207**	*e*PN	Pn	08 56 30.2	-5.3
MQZ				SN	Sn	08 57 45.7	-10
WVZ	**Waitaha Valley**	**7.50**	**219**	*e*PN	Pn	08 56 35.6	-4.3

AUST 17 09:00:12.4±0.2, 4°.19N×125°.73E, h102km, Error ellipse: s-maj=0.9km s-min=0.7km az=17.0
IDC 17 09:00:14.0±0.5, 4°.19N×125°.59E, h122km±4km, mb4.4/32, mb1 4.5/34, mb1mx4.5/37, mbtmp4.4/34, MS3.6/4, Ms1 3.6/4, ms1mx3.0/36, Error ellipse: s-maj=12.6km s-min=6.6km az=83.0
MOS 17 09:00:13.7±1.3, 4°.25N×125°.58E, h132km, mb4.8/22, Error ellipse: s-maj=12.4km s-min=6.7km az=110.9
NEIC 17 09:00:14.4±0.2, 4°.20N×125°.71E, mb4.8/24, Error ellipse: s-maj=6.9km s-min=4.9km az=75.0
ISCJB 17 09:00:14.0±0.3, 4°.26N±0°.02×125°.89E±0°.02, h137km±2km, mb4.8/92, Error ellipse: s-maj=4.0km s-min=2.8km az=169.4
GCMT 17 09:00:15.7±0.3, 4°.10N×125°.77E, h130km±4km, MW5.0, Moment Tensor Solution. s15,c17; s69,c90; Moment tensor: Scale 10^16 Nm; Mrr=0.99±.14; Mθθ=1.55±.13; Mφφ=2.54±.17; Mrθ=0.68±.08; Mrφ=1.03±.14; Mθφ=-2.47±.12; Best double couple: M0=3.50000×10^16 NP1:φs=236.00000°, δ37.00000°, λ-17.00000°. NP2:φs=340.00000°, δ80.00000°, λ-126.00000°. Principal axes: T 3.8800, Plg26.0000°, Azm97.0000°; N -0.8200, Plg35.0000°, Azm347.0000°; P -3.0600, Plg44.0000°, Azm215.0000°; Data Used: G IU II IC CN.
BJI 17 09:00:15.9, 4°.20N×125°.70E, h136km, mB4.9/20, mb4.8/33
BKK 17 09:00:15.3±0.4, 4°.N±3°×12°.6E±°, h134km±4km, M5.0/30, mB5.4/16, mb5.1/30, MLv5.6/5, Mw(mB)4.8/16, Mwp8.2/1
DJA 17 09:00:16.8±0.3, 4°.N±3°×12°.6E±°, h128km±3km, M5.2/62, mb5.2/62, mB5.6/33, MLv5.6/12, Mw(mB)5.1/33, Mwp5.5/1
MAN 17 09:00:16, 4°.37N×125°.70E, h102km, mb5.4, ML4.4, MS4.7

ISC 17 09:00:15.0±0.3, 4°.17N±0°.03×125°.82E±0°.04, h132km±2km, h132km:pP-P, n533, σ1s59/582, mb4.9/101, 122C-96D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.09**	**336**	*e*P	**Pn**	**09 00 48.2**	**-2.1**
GSPH				*i* S	**Sn**	**09 01 14.0**	**-3.4**
MATI	**Mati**	**2.79**	**9**	*e*P	**Pn**	**09 00 58.5**	**-0.5**
MATI				*e*S	**Sn**	**09 01 28.9**	**-4.1**
MNI	**Manado**	**2.88**	**200**	P	**Pn**	**09 01 00.0**	**-0.2**
DAV	**Davao City (W)**	**2.89**	**355**	*e*Pn	**Pn**	**09 01 00.8**	**+0.6**
DAV				*e*Sn	**Sn**	**09 01 32.1**	**-3.1**
DAV	**Davao City (W)**	**2.89**	**355**	P	**Pn**	**09 01 01.4**	**+1.1**
DAV	**Davao City (W)**	**2.89**	**355**	P	**Pn**	**09 01 00.3**	**+0.1**
	202nm,0.3s,baz=40,slow=3.7,SNR=11						
DAV				S	**Sn**	**09 01 33.9**	**-1.3**
	247nm,0.3s,baz=297,slow=16,SNR=4.3						
DAV		

346nm,1.1s
JAGI Jajag, Banyuwa 17.12 223 P **Pn** **09 04 07.4 +1.0**
JAGI Jajag, Banyuwa 17.12 223 P **Pn** **09 04 06.6 +0.1**
baz=17,SNR=10.0
GMJI Gumukmas 17.47 225 P **Pn** **09 04 12.3 +1.7**
110nm,0.9s
MTN Manton Dam 17.71 163 P **P** **09 04 11.7 -0.8**
baz=18,SNR=10
MTN S **S** **09 07 27.1 -2.7**
baz=18,SNR=5.1
KDU Kakadu 18.00 159 P **P** **09 04 15.2 -0.5**
baz=18,SNR=10
KDU S Sn 09 07 48.7 +10
baz=18,SNR=3.4
PWJI Pagerwojo 18.50 229 P **Pn** **09 04 25.3 +2.4**
73nm,1.0s,19µm
TPI Tanjungpandan 19.41 250 P **P** **09 04 32.2 +1.1**
216nm,1.0s,2µm
UGM Wanagama 19.41 232 *e*Pn **Pn** **09 04 33.7 0.0**
UGM Wanagama 19.41 232 P **P** **09 04 32.1 +0.9**
baz=19,SNR=3.7
BJII Banjamegara 19.72 235 P **Pn** **09 04 36.4 -0.9**
188nm,1.7s,3µm
KNRA Kununurra 19.93 172 P **P** **09 04 36.8 +0.2**
baz=20,SNR=32
KNRA S **Sn** **09 08 21.5 -3.4**
baz=20,SNR=5.8
PPBI Pangkal Pinang 20.65 253 P **P** **09 04 45.1 +0.7**
96nm,1.3s
GUMO Guam 21.00 62 *e*P **P** **09 04 51.1 +2.9**
133nm,1.0s
GUMO *e*S **S** **09 08 38.4 +3.5**
LEM Lembang 21.20 239 P **P** **09 04 52.5 +2.0**
100nm,0.9s
CISI Cisompet, Garu 21.41 237 P P 09 05 00.9 +8.2
QIZ Qiongzhong 21.48 315 P **P** **09 04 53.8 +0.5**
QIZ sP **sP** **09 05 34.3 +0.4**
QIZ S **S** **09 08 45.0 +1.2**
QIZ pmax pmax
comp=Z,39nm,1.4s
QIZ LR LR
comp=Z,230nm,15.1s
QIZ Qiongzhong 21.48 315 *e*P **P** **09 04 53.5 +0.2**
comp=Z,57nm,1.3s
CBJI Citeko 21.66 241 P **P** **09 04 57.8 +2.5**
comp=Z,487nm,1.2s,comp=Z,26µm
DBJI Dramaga 21.82 241 P **P** **09 04 58.9 +2.0**
comp=Z,134nm,1.5s
MYKOM Kota Tinggi 22.07 264 P **P** **09 05 01.6 +2.1**
MYKOM Kota Tinggi 22.07 264 P **P** **09 05 01.0 +1.5**
comp=Z,94nm,1.1s,comp=Z,1µm
FITZ Fitzroy Crossi 22.13 180 *e*P **P** **09 04 59.0 -1.1**
comp=Z,12nm,0.3s
FITZ S **S** **09 08 51.8 -3.2**
FITZ *e*PcP **PcP** **09 08 52.9 +0.4**
FITZ Fitzroy Crossi 22.13 180 P **P** **09 04 59.6 -0.5**
comp=Z,126nm,0.7s,baz=8.7,slow=9.5,SNR=185
FITZ S **S** **09 08 51.8 -3.2**
comp=Z,9.0nm,0.8s,baz=179,slow=17,SNR=4.4
FITZ Fitzroy Crossi 22.13 180 P **P** **09 04 59.1 -1.0**
baz=22,SNR=141
FITZ S **S** **09 08 53.3 -1.7**
baz=22,SNR=3.8
PMBI Palembang 22.18 252 P **P** **09 05 03.4 +2.7**
comp=Z,612nm,1.1s
BTDF Bukit Timah Da 22.19 263 P **P** **09 05 01.3 +0.5**
baz=22,SNR=3.8
BTDF P **P** **09 05 01.3 +0.5**
baz=22,SNR=3.8
KGM Kluang 22.57 265 P **P** **09 05 04.9 +0.4**
KTGM Kuala Trenggan 22.64 274 P **P** **09 05 06.8 +1.6**
JOW Kunigami 22.66 6 *e*P **P** **09 05 05.6 +0.4**
comp=Z,15nm,0.8s
KLSI 22.83 248 P **P** **09 05 07.4 +0.4**
comp=Z,101nm,1.0s,comp=Z,1µm
UBPT Khong Chiam 22.86 300 P **P** **09 05 07.4 +0.1**
comp=Z,88nm,1.5s,comp=Z,2µm
UBPT Khong Chiam 22.86 300 P **P** **09 05 07.4 +0.1**
comp=Z,88nm,1.5s,comp=Z,2µm
LWLI Liwa 23.57 247 P **P** **09 05 15.8 +1.8**
comp=Z,226nm,1.1s
RGRI Rengat 23.89 260 P P 09 05 30.3 +14
FRIM Kepong 24.16 269 P **P** **09 05 20.8 +1.6**
PANO Nakornpanom 24.47 303 P **P** **09 05 22.1 +0.2**
comp=Z,74nm,1.1s,comp=Z,16µm
KSI Kapahiang 24.47 252 P **P** **09 05 25.8 +3.7**
comp=Z,231nm,1.7s,comp=Z,12µm
MASI Maura Aman, Be 24.66 253 P **P** **09 05 26.7 +3.0**
comp=Z,916nm,0.9s,comp=Z,7µm
IPM Ipoh 24.73 272 *e*P **P** **09 05 23.5 -0.8**
IPM Ipoh 24.73 272 P **P** **09 05 25.1 +0.8**
IPM Ipoh 24.73 272 P **P** **09 05 25.0 +0.7**
comp=Z,111nm,1.4s,comp=Z,1µm
CHBT CHBT 24.73 292 P **P** **09 05 25.5 +1.2**
comp=Z,55nm,0.8s
CHBT CHBT 24.73 292 P **P** **09 05 25.5 +1.2**
comp=Z,55nm,0.8s
COEN Coen 24.92 137 *e*P **P** **09 05 27.3 +1.3**
comp=Z,128nm,0.7s
COEN Coen 24.92 137 P **P** **09 05 26.8 +0.8**
baz=25,SNR=12
BKNI Bangkinang 25.05 262 P **P** **09 05 29.6 +2.3**
comp=Z,334nm,1.1s,comp=Z,3µm
KULM Kulim 25.11 274 *e*P **P** **09 05 28.8 +1.0**
comp=Z,98nm,1.2s
KULM Kulim 25.11 274 P **P** **09 05 29.2 +1.4**
KULM Kulim 25.11 274 P **P** **09 05 30.0 +2.2**
comp=Z,76nm,1.3s
PMG Port Moresby 25.18 122 *e*P **P** **09 05 29.5 +1.1**
PMG Port Moresby 25.18 122 P **P** **09 05 28.9 +0.5**
comp=Z,22nm,0.7s,baz=172,slow=16,SNR=8.4
WRAB Tennant Creek 25.38 161 P **P** **09 05 30.2 0.0**
comp=Z,545nm,0.8s,SNR=14
WRAB Tennant Creek 25.38 161 *e*P **P** **09 05 30.1 -0.1**
WRAB pmax pmax
comp=Z,71nm,0.8s
WRAB Tennant Creek 25.38 161 *e*P **P** **09 05 30.1 -0.1**
comp=Z,71nm,0.8s
WRA Warramunga Arr 25.38 161 P **P** **09 05 30.1 -0.1**
WRA S **S** **09 09 43.3 -3.9**
WRA ScP **ScP** **09 12 26.1 -0.5**
WRA Warramunga Arr 25.38 161 P **P** **09 05 30.1 -0.1**
comp=Z,47nm,0.7s,baz=341,slow=10,SNR=142
WRA S **S** **09 09 43.3 -3.9**
comp=Z,12nm,1.0s,baz=339,slow=16,SNR=8.5
WRA ScP **ScP** **09 12 26.1 -0.5**
comp=Z,2.6nm,0.8s,baz=339,slow=2.8,SNR=6.9
PPI Padang Panjang 25.81 260 P **P** **09 05 35.2 +1.0**
comp=Z,76nm,1.7s,comp=Z,1µm
MBWA Marble Bar 25.87 193 *e*P **P** **09 05 34.3 -0.2**
CHAI Chaiyaphum 26.16 298 P **P** **09 05 36.4 -0.9**
comp=Z,19nm,1.0s
NAYO Nakonayok 26.16 294 P **P** **09 05 39.4 +2.1**
comp=Z,29nm,1.0s,comp=Z,1µm
PSI Prapat 26.88 268 P **P** **09 05 43.2 -0.7**
PSI PcP **PcP** **09 09 02.9 -0.2**
PSI Prapat 26.88 268 P **P** **09 05 43.2 -0.7**
comp=Z,15nm,0.8s,baz=136,slow=2.7,SNR=5.8
PSI PcP **PcP** **09 09 02.9 -0.2**
comp=Z,12nm,0.6s,baz=196,slow=2.7,SNR=4.8
PBKT Sadao Pong 27.33 299 P **P** **09 05 51.5 +3.8**
comp=Z,34nm,0.8s
PBKT Sadao Pong 27.33 299 P **P** **09 05 51.5 +3.8**
comp=Z,34nm,0.8s
LOEI Loei 27.47 301 P **P** **09 05 45.6 -3.4**
comp=Z,47nm,1.1s,comp=Z,614nm
NANT Nan 28.52 303 P P 09 06 02.8 +4.4
comp=Z,58nm,0.3s
MTSU Mount Surprise 28.70 141 P **P** **09 06 02.1 +2.1**
baz=29,SNR=5.0
GYA Guiyang 28.76 322 P **P** **09 06 02.0 +1.5**
GYA pP **pP** **09 06 31.6 +2.7**
GYA sP **sP** **09 06 48.8 +4.7**
GYA PP **PnPn** **09 07 01.3 +2.8**
GYA S **S** **09 10 41.3 +0.7**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.7s
AS31 Alice Springs 28.77 164 *e*P **P** **09 06 00.8 +0.3**
AS31 *e*S **S** **09 10 39.7 -0.8**
ASAR Alice Springs 28.77 164 P **P** **09 06 00.8 +0.3**
ASAR PcP **PcP** **09 09 07.0 -0.5**
ASAR S **S** **09 10 39.0 -1.5**
ASAR ScP **ScP** **09 12 36.7 -0.1**
ASAR Alice Springs 28.77 164 P **P** **09 06 00.8 +0.3**
comp=Z,8.6nm,0.5s,baz=341,slow=7.0,SNR=189
ASAR PcP **PcP** **09 09 07.0 -0.5**
comp=Z,5.3nm,0.6s,baz=343,slow=2.5,SNR=6.8
ASAR S **S** **09 10 39.0 -1.5**
comp=Z,5.2nm,0.8s,baz=353,slow=20,SNR=7.2
ASAR ScP **ScP** **09 12 36.7 -0.1**
comp=Z,3.5nm,0.7s,baz=339,slow=3.1,SNR=7.4
JNU Nakatsue 29.19 9 *e*P **P** **09 06 04.3 +0.2**
JNU Nakatsue 29.19 9 P **P** **09 06 04.1 0.0**
comp=Z,12nm,0.8s,baz=152,slow=7.6,SNR=8.0
CMAR Chiang Mai Arr 29.87 300 P **P** **09 06 10.2 -0.1**
CMAR PcP **PcP** **09 09 11.6 +1.2**
CMAR ScP **ScP** **09 12 41.0 +0.6**
CMAR Chiang Mai Arr 29.87 300 P **P** **09 06 10.2 -0.1**
comp=Z,3.0nm,0.7s,baz=120,slow=7.4,SNR=16
CMAR PcP **PcP** **09 09 11.6 +1.2**
comp=Z,6.1nm,0.8s,baz=163,slow=1.0,SNR=16
CMAR ScP **ScP** **09 12 41.0 +0.6**
comp=Z,2.7nm,0.5s,baz=150,slow=1.8,SNR=20
CMMT Chiang Mai 30.01 301 P **P** **09 06 12.7 +1.1**
comp=Z,18nm,0.8s
CMMT Chiang Mai 30.01 301 P **P** **09 06 12.7 +1.1**
comp=Z,18nm,0.8s
CHTO Chiang Mai 30.02 301 *e*P **P** **09 06 10.7 -0.9**
CHTO pmax pmax
comp=Z,68nm,2.2s
CHTO Chiang Mai 30.02 301 *e*P **P** **09 06 10.7 -0.9**
comp=Z,68nm,2.2s
CHTO Chiang Mai 30.02 301 P **P** **09 06 12.8 +1.2**
comp=Z,12nm,1.1s
CHTO Chiang Mai 30.02 301 P **P** **09 06 12.8 +1.2**
comp=Z,12nm,1.1s
KMI Kunming 30.43 315 P **P** **09 06 17.3 +1.9**
KMI pP **pP** **09 06 46.8 +3.0**
KMI sP **sP** **09 07 03.4 +4.3**
KMI S **S** **09 11 06.8 -0.1**
KMI pmax pmax
comp=Z,6.0nm,0.9s
KMI pmax pmax
comp=Z,100nm,6.1s
KMI LR LR
comp=N,100nm,20.5s
KMI LR LR
comp=E,140nm,18.2s
KMI LR LR
comp=Z,180nm,20.5s
CTA Charters Tower 31.37 141 P **P** **09 06 25.1 +1.6**
CTA ScP **ScP** **09 12 47.1 +1.8**
CTA Charters Tower 31.37 141 P **P** **09 06 25.1 +1.6**
comp=Z,6.0nm,0.7s,baz=328,slow=12,SNR=7.7
CTA ScP **ScP** **09 12 47.1 +1.8**
comp=Z,4.7nm,0.8s,baz=326,slow=6.8,SNR=4.9
CTAO Charters Tower 31.37 141 *e*P **P** **09 06 25.4 +1.9**
CTAO pmax pmax
comp=Z,10.0nm,0.9s
CTAO Charters Tower 31.37 141 *e*P **P** **09 06 25.4 +1.9**
comp=Z,9.9nm,0.9s
MEEK Meekatharra 31.41 192 P **P** **09 06 22.9 -0.8**
baz=32,SNR=19
KSAR Wonju Array Be 33.17 3 P **P** **09 06 39.6 +0.7**
KSAR PcP **PcP** **09 09 19.9 +1.0**
KSAR ScP **ScP** **09 12 51.7 +0.6**
KSRS Korea Array 33.18 3 P **P** **09 06 39.6 +0.6**
comp=Z,11nm,0.7s,baz=183,slow=9.9,SNR=40
KSRS PcP **PcP** **09 09 19.9 +1.0**
comp=Z,3.1nm,0.6s,baz=177,slow=2.5,SNR=10
KSRS ScP **ScP** **09 12 51.7 +0.6**
comp=Z,1.0nm,0.6s,baz=198,slow=3.5,SNR=5.8
MAT Matsushiro 34.17 18 P **P** **09 06 46.6 -1.1**
MJAR Matsushiro Arr 34.17 18 P **P** **09 06 47.0 -0.7**
MJAR pP **pP** **09 07 15.4 -1.0**
MJAR ScP **ScP** **09 12 54.9 +0.2**
MJAR Matsushiro Arr 34.17 18 P **P** **09 06 47.0 -0.7**
comp=Z,2.5nm,0.6s,baz=199,slow=9.0,SNR=7.4
MJAR pP **pP** **09 07 15.4 -1.0**
comp=Z,7.2nm,0.9s,baz=195,slow=9.7,SNR=7.9
MJAR ScP **ScP** **09 12 54.9 +0.2**
comp=Z,0.6nm,0.4s,baz=212,slow=4.4,SNR=4.8
MORW Morawa 34.36 195 P **P** **09 06 48.7 -0.7**
baz=34,SNR=18
FORT Forrest 34.82 177 *e*P **P** **09 06 53.4 +0.2**
comp=Z,152nm,0.6s
FORT Forrest 34.82 177 P **P** **09 06 53.5 +0.3**
baz=35,SNR=34
BLDU Ballidu 35.67 194 P **P** **09 06 59.8 -0.7**
baz=36,SNR=21
KLBR Kellerberrin 36.38 192 P **P** **09 07 06.2 -0.5**
baz=37,SNR=16
HNR Honiara 36.60 112 LR LR 09 20 46.9
comp=Z,98nm,19.6s,baz=295,slow=34
BJT Baijiatuau 36.74 348 *e*P **P** **09 07 09.3 -0.3**
comp=Z,9.9nm,0.6s
BJI Beijing 36.76 348 P **P** **09 07 11.9 +2.2**
BJI S **S** **09 12 47.8 +4.0**
BJI pmax pmax
comp=Z,12nm,0.6s
BJI pmax pmax
comp=Z,100nm,3.5s
BJI LR LR
comp=N,92nm,16.9s
BJI LR LR
comp=E,97nm,15.6s
BJI LR LR
comp=Z,40nm,18.2s
LZH Lanzhou 37.67 330 *e*P **P** **09 07 17.3 -0.4**
LZH pP **pP** **09 07 49.0 +2.2**
LZH sP **sP** **09 08 05.0 +3.1**
LZH pmax pmax
comp=Z,14nm,1.0s
LZH pmax pmax
comp=Z,120nm,6.5s
LZH LR LR
comp=N,190nm,17.8s
LZH LR LR
comp=E,200nm,16.6s
LZH LR LR
comp=Z,220nm,19.2s
RMQ Roma 37.71 145 S S 09 13 11.1 +13
baz=38,SNR=7.8
NWAO Narrogin (SRO) 37.78 192 P **P** **09 07 18.2 -0.2**
NWAO Narrogin (SRO) 37.78 192 P **P** **09 07 18.2 -0.2**
comp=Z,27nm,0.6s,baz=19,slow=9.4,SNR=25
BBOO Buckleboo 38.04 166 *e*P **P** **09 07 21.4 +0.7**
comp=Z,1µm,0.9s
BBOO Buckleboo 38.04 166 P **P** **09 07 21.3 +0.7**
baz=38,SNR=68
BBOO S **S** **09 13 03.9 +0.5**
baz=38,SNR=7.2
EIDS Eidsvold 38.26 141 *e*P **P** **09 07 23.4 +0.8**
EIDS Eidsvold 38.26 141 P **P** **09 07 23.4 +0.8**
baz=38,SNR=9.8
STKA Stephens Creek 38.87 158 *e*P **P** **09 07 28.7 +1.1**
comp=Z,7.0nm,0.9s
STKA PcP **PcP** **09 09 36.9 +0.9**
STKA S **S** **09 13 15.6 -0.3**
STKA Stephens Creek 38.87 158 P **P** **09 07 28.6 +1.1**
comp=Z,23nm,0.7s,baz=326,slow=7.9,SNR=49
STKA PcP **PcP** **09 09 36.9 +0.9**
comp=Z,7.1nm,0.6s,baz=322,slow=7.1,SNR=3.1
STKA S **S** **09 13 15.6 -0.3**
comp=Z,8.1nm,0.9s,baz=135,slow=18,SNR=8.1
STKA Stephens Creek 38.87 158 P **P** **09 07 28.7 +1.1**
baz=39,SNR=49
SHL Shillong 38.88 307 *e*P P 09 07 23.0 -5.0
RKGY Rocky Gully 39.46 192 P **P** **09 07 33.7 +1.2**
baz=40,SNR=5.2
CN2 Changchun 39.47 360 *e*P P 09 07 36.8 +4.4
CN2 *ep*P pP 09 08 07.9 +6.2
CN2 *es*P sP 09 08 24.3 +7.6
CN2 *e*S **S** **09 13 28.8 +4.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,100nm,13.0s
CN2 LR LR
comp=E,100nm,13.0s
CN2 LR LR
comp=Z,100nm,14.0s
USRK Ussuriysk Arra 40.23 7 P **P** **09 07 39.6 +0.9**
comp=Z,13nm,0.6s,baz=194,slow=6.6,SNR=30
CMSA Cobar Meteorol 40.24 153 P **P** **09 07 40.3 +1.3**
baz=40,SNR=16
MDJ Mudanjiang 40.42 4 P **P** **09 07 41.8 +1.6**
MDJ pP **pP** **09 08 11.3 +1.7**
MDJ sP **sP** **09 08 25.4 +0.8**
MDJ S **S** **09 13 40.6 +1.9**
MDJ pmax pmax
comp=Z,36nm,0.9s
MDJ pmax pmax
comp=Z,97nm,3.9s
MDJ LR LR
comp=N,36nm,24.5s
MDJ LR LR
comp=E,69nm,32.7s
MDJ LR LR
comp=Z,52nm,30.0s
MDJ Mudanjiang 40.42 4 *e*P **P** **09 07 41.3 +1.1**
comp=Z,30nm,0.8s
MDJ *ep*P **pP** **09 08 09.3 -0.4**
GTA Gaotai 42.26 330 *e*P **P** **09 07 54.5 -1.0**
GTA pP **pP** **09 08 25.0 -0.1**
GTA sP **sP** **09 08 42.8 +2.7**
GTA S **S** **09 14 04.1 -2.2**
GTA pmax pmax
comp=Z,55nm,5.2s
GTA LR LR
comp=N,90nm,15.7s
GTA LR LR
comp=E,120nm,15.7s
GTA LR LR
comp=Z,110nm,17.6s
ASAJ Asahikawa 42.45 18 *e*P **P** **09 07 57.7 +0.9**
comp=Z,4.7nm,0.7s
ASAJ Asahikawa 42.45 18 P **P** **09 07 58.3 +1.5**
comp=Z,12nm,0.7s,baz=231,slow=15,SNR=8.9
TAPN Taplejung 43.02 306 *e*P **P** **09 08 01.4 -0.7**
comp=Z,21nm,0.7s
ODAN Odare 43.08 306 *e*P **P** **09 08 01.1 -1.3**
comp=Z,34nm,0.7s
ARPS Mount Arapiles 43.39 161 P **P** **09 08 06.0 +1.6**
baz=44,SNR=16
RAMN Ramite 43.75 305 *e*P **P** **09 08 06.9 -1.0**
comp=Z,21nm,0.6s
YNG Young 43.79 153 P **P** **09 08 10.1 +2.4**
baz=44,SNR=7.0
JIRN Jiri 44.38 306 *e*P **P** **09 08 11.6 -1.4**
comp=Z,23nm,0.6s
GUN Gumba 44.73 306 *e*P **P** **09 08 14.3 -1.5**
comp=Z,29nm,0.6s
HABR Khabarovsk 44.84 9 P **P** **09 08 14.3 -1.5**
HABR *e**PP **pP** **09 08 45.2 -0.6**
HABR *e**SP **sP** **09 09 01.3 +0.7**
HABR *e*S **S** **09 14 41.7 -1.6**
HABR *e**SS **sS** **09 15 36.5 +1.3**
HABR pmax pmax
comp=N,62nm,2.3s
HABR pmax pmax
comp=E,53nm,2.3s
HABR pmax pmax
comp=Z,68nm,2.3s
HABR MLR MLR
comp=Z,103nm,17.0s
CAN Canberra 44.91 153 *e*P **P** **09 08 19.1 +2.4**
CAN *e**PP **pP** **09 08 46.5 -0.1**
CAN pmax pmax
comp=Z,17nm,1.0s
CAN Canberra 44.91 153 *e*P **P** **09 08 19.1 +2.4**
comp=Z,17nm,1.0s
CAN *ep*P **pP** **09 08 46.5 -0.1**
PKI Pulchoki 44.98 305 *e*P **P** **09 08 15.7 -2.0**
PKIN Phulchoki 44.99 305 *e*P **P** **09 08 16.2 -1.5**
comp=Z,8.8nm,0.5s
CNB Canberra Magne 45.07 153 P **P** **09 08 20.7 +2.7**
baz=45,SNR=5.5
KLR Kul'dur 45.18 5 *e*P P 09 08 15.2 -3.3
KLR pmax pmax
comp=Z,64nm,1.8s
DMN Daman 45.24 305 *e*P **P** **09 08 18.5 -1.2**
TOO Toolangi 45.38 158 P **P** **09 08 22.8 +2.4**
baz=46,SNR=8.5
ULN Ulaanbaatar 46.42 343 *e*P **P** **09 08 26.8 -1.8**
comp=Z,2.2nm,0.6s
ULN *e*PcP **PcP** **09 10 01.7 +0.5**
KOLN Koldanda 46.53 305 *e*P **P** **09 08 28.4 -1.3**
comp=Z,40nm,0.6s
SONM Songino Array 46.60 342 P **P** **09 08 28.2 -1.6**
SONM PcP **PcP** **09 10 02.0 +0.3**
SONM pPcP 09 10 32.6
SONM ScP **ScP** **09 13 42.4 -0.8**
SONM Songino Array 46.60 342 P **P** **09 08 28.2 -1.6**
comp=Z,2.4nm,0.6s,baz=156,slow=9.4,SNR=14
SONM PcP **PcP** **09 10 02.0 +0.3**
comp=Z,15nm,0.7s,baz=164,slow=3.3,SNR=29
SONM pPcP 09 10 32.6
comp=Z,5.4nm,0.8s,baz=159,slow=4.4,SNR=7.0
SONM ScP **ScP** **09 13 42.4 -0.8**
comp=Z,1.3nm,0.7s,baz=154,slow=3.5,SNR=4.6
DANN Dangsing 46.62 306 *e*P **P** **09 08 29.0 -1.6**
comp=Z,53nm,0.7s
MOO Moorlands 50.29 159 P **P** **09 08 59.4 +1.4**
baz=50,SNR=3.2
WMQ Urumqi 51.85 325 P **P** **09 09 10.5 +0.7**
WMQ pP **pP** **09 09 42.9 +2.4**
WMQ PP **PP** **09 11 10.9 +1.9**
WMQ LR LR
comp=N,130nm,29.9s
WMQ LR LR
comp=E,89nm,32.9s
WMQ LR LR
comp=Z,43nm,17.8s
HVS Khovu-Aksy 53.96 336 *i* P **P** **09 09 24.2 -1.0**
HVS pmax pmax
comp=Z,34nm,1.1s
PETK Petropavlovsk- 55.37 23 P **P** **09 09 36.1 +0.9**
PETK *PP **pP** **09 10 03.4 -2.9**
PETK Petropavlovsk- 55.37 23 P **P** **09 09 36.1 +0.9**
PETK pP **pP** **09 10 03.4 -2.9**
PETK ScP **ScP** **09 14 20.3 -0.4**
PETK Petropavlovsk- 55.37 23 P **P** **09 09 36.1 +0.9**
comp=Z,3.8nm,0.7s,baz=189,slow=8.6,SNR=11
PETK pP **pP** **09 10 03.4 -2.9**
comp=Z,8.8nm,0.8s,baz=189,slow=5.9,SNR=4.2
PETK ScP **ScP** **09 14 20.3 -0.4**
comp=Z,1.7nm,0.7s,baz=191,slow=7.0,SNR=3.7
MSVF Nonsavu 55.92 115 *e*P **P** **09 09 37.9 -1.9**
MSVF pmax pmax
comp=Z,45nm,1.1s
MSVF Nonsavu 55.92 115 *e*P **P** **09 09 37.9 -1.9**
comp=Z,45nm,1.1s
MK31 Makanchi Array 56.68 326 *e*P **P** **09 09 43.3 -1.4**
MK31 Makanchi Array 56.68 326 *e*P **P** **09 09 43.3 -1.4**
MK31 *e*ScP **ScP** **09 14 25.0 -1.7**
MKAR Makanchi Array 56.68 326 *ce*P **P** **09 09 43.2 -1.5**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 56.68 326 P **P** **09 09 43.1 -1.6**
MKAR pP **pP** **09 10 13.2 -2.7**
MKAR ScP **ScP** **09 14 24.4 -2.2**
MKAR Makanchi Array 56.68 326 P **P** **09 09 43.1 -1.6**
comp=Z,3.8nm,0.5s,baz=120,slow=8.5,SNR=36
MKAR pP **pP** **09 10 13.2 -2.7**
comp=Z,2.6nm,0.7s,baz=120,slow=8.6,SNR=3.4
MKAR ScP **ScP** **09 14 24.4 -2.2**
comp=Z,2.5nm,0.6s,baz=126,slow=4.2,SNR=7.0
YAK Yakutsk 57.80 2 *e*P **P** **09 09 51.7 -0.5**
YAK *e* 09 10 18.9
YAK pmax pmax
comp=Z,49nm,0.8s
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,6.0nm,0.9s
AAK Ala-Archa 59.42 318⇑ *e*P **P** **09 10 03.4 -0.6**
AAK pmax pmax
comp=Z,14nm,1.7s
AAK Ala-Archa 59.42 318 P **P** **09 10 03.2 -0.8**
AAK Ala-Archa 59.42 318 P **P** **09 10 03.2 -0.8**
comp=Z,1.5nm,0.3s,baz=127,slow=9.4,SNR=4.2
ZALV Zalesovo Beam 59.79 333 P **P** **09 10 03.5 -2.6**
ZALV Zalesovo Beam 59.79 333 P **P** **09 10 03.5 -2.6**
ZALV Zalesovo Beam 59.79 333 P **P** **09 10 03.5 -2.6**
comp=Z,1.5nm,0.3s,baz=128,slow=6.7,SNR=8.5
KURBB Kurchatov Arra 60.88 328 P **P** **09 10 11.9 -1.7**
comp=Z,5.4nm,0.7s,baz=130,slow=6.3,SNR=36
KURK Kurchatov 60.88 328 P **P** **09 10 11.9 -1.7**
KURK Kurchatov 60.88 328 P **P** **09 10 11.9 -1.7**
FX1 Attu Island--F 62.16 30 P **P** **09 10 23.2 +1.0**
FX1 Attu Island--F 62.16 30 P **P** **09 10 23.2 +1.0**
comp=Z,69nm,1.3s,baz=198,slow=3.2,SNR=3.7
KKAR Karatay Array 62.29 317 *e*P **P** **09 10 21.7 -1.6**
KKAR pmax pmax
comp=Z,10.0nm,1.0s

KKAR **Karatay Array** 62.29 317 *e*P P 09 10 21.7 -1.6
comp=Z,9.9nm,1.0s
BVAR **Borovoye Array** 66.46 327 P P 09 10 48.6 -1.6
BVAR *PP PcP 09 11 19.5 +0.8
BVAR **Borovoye Array** 66.46 327 P P 09 10 48.6 -1.6
BVAR pP PcP 09 11 19.5 +0.8
BVAR **Borovoye Array** 66.46 327 P P 09 10 48.6 -1.6
comp=Z,4.4nm,0.8s,baz=123,slow=7.3,SNR=14
BVAR pP PcP 09 11 19.5 +0.8
comp=Z,3.6nm,0.8s,baz=130,slow=8.0,SNR=2.8
BRVK **Borovoye** 66.53 327⇑ *e*P P 09 10 49.2 -1.4
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK **Borovoye** 66.53 327 *e*P P 09 10 49.1 -1.5
comp=Z,7.1nm,0.8s
TIXI **Tiksi** 67.42 1*d i*P P 09 10 55.1 -0.7
TIXI pmax pmax
comp=Z,64nm,1.7s
BILL **Bilibino** 69.36 15 *e*P P 09 11 09.4 +1.4
BILL pmax pmax
comp=Z,17nm,0.6s
BILL MLR MLR
comp=Z,100nm,20.0s
ABKAR **Akbulak array** 71.24 321 *e*P P 09 11 18.6 -1.1
comp=Z,2.8nm,0.6s
ABKAR *e*PcP PcP 09 11 37.9 -1.1
AKTO **Aktyubinsk** 72.75 322 LR LR 09 46 06.7
comp=Z,40nm,21.5s,baz=278,slow=38
ARU **Arti** 74.08 328*d i*P P 09 11 34.8 -1.7
ARU 09 14 19.1
ARU S S 09 20 57.1 -1.4
ARU SS SS 09 25 40.6 -5.5
ARU pmax pmax
comp=Z,9.0nm,1.0s
RAYN **Ar Rayn** 79.47 293 P P 09 12 05.0 -2.5
comp=Z,48nm,0.8s,SNR=5.6
KDAK **Kodiak Island** 82.00 32 P P 09 12 21.4 +1.3
KDAK **Kodiak Island** 82.00 32 P P 09 12 21.4 +1.3
comp=Z,5.5nm,0.7s,baz=211,slow=12,SNR=11
KIV **Kislovodsk** 82.18 314 *e*P P 09 12 22.2 +0.7
KIV *e* 09 15 30.4
KIV *e*SS SS 09 27 49.1 +0.6
KIV pmax pmax
comp=Z,4.0nm,0.8s
COLD **Coldfoot** 83.84 23 *e*P P 09 12 31.5 +2.0
comp=Z,11nm,0.9s
COLD *e*pP pP 09 13 05.3 +2.4
MAW **Mawson** 83.85 200 P P 09 12 29.9 +0.5
MAW **Mawson** 83.85 200 P P 09 12 29.9 +0.5
comp=Z,11nm,0.9s,baz=46,slow=5.8,SNR=19
MAW **Mawson** 83.85 200 P P 09 12 29.9 +0.5
baz=84,SNR=13
VNDA **Vanda** 83.98 173 P P 09 12 30.7 +0.8
VNDA **Vanda** 83.98 173 P P 09 12 30.7 +0.8
comp=Z,17nm,0.9s,baz=317,slow=6.4,SNR=47
MCK **McKinley** 84.18 26 *e*P P 09 12 31.9 +0.6
MCK pmax pmax
comp=Z,4.0nm,0.7s
MCK **McKinley** 84.18 26 *e*P P 09 12 31.9 +0.6
comp=Z,3.6nm,0.7s
SBA **Scott Base** 84.89 172 *e*P P 09 12 36.2 +1.7
SBA pmax pmax
comp=Z,12nm,1.0s
SBA **Scott Base** 84.89 172 *e*P P 09 12 36.2 +1.7
comp=Z,12nm,1.0s
ILAR **Eielson Array** 85.10 25 P P 09 12 35.5 -0.4
ILAR pP pP 09 13 06.6 -2.8
ILAR PKKPbc PKKPbc 09 30 41.6 -3.1
ILAR **Eielson Array** 85.10 25 P P 09 12 35.5 -0.4
comp=Z,0.7nm,0.6s,baz=245,slow=4.9,SNR=16
ILAR pP pP 09 13 06.6 -2.8
comp=Z,2.7nm,1.1s,baz=267,slow=5.4,SNR=6.3
ILAR PKKPbc PKKPbc 09 30 41.6 -3.1
comp=Z,0.2nm,0.7s,baz=47,slow=2.4,SNR=5.1
TMCR **Tamitsa** 85.31 334 *e*P P 09 12 35.5 -1.3
TMCR pmax pmax
comp=Z,19nm,0.8s
OBN **Obninsk** 86.18 325 *e*P P 09 12 40.5 -0.8
OBN *e* 09 22 52.0
OBN *e*SS SS 09 28 44.8 -1.8
OBN pmax pmax
comp=Z,5.0nm,0.8s
KMBO **Kilima Mbogo** 88.65 269 P P 09 12 53.3 -1.1
KMBO **Kilima Mbogo** 88.65 269 P P 09 12 53.3 -1.1
comp=Z,1.1nm,0.3s,baz=62,slow=23,SNR=4.4
BRTR **Keskin Array B** 89.04 310 P P 09 12 53.7 -1.9
BRTR **Keskin Array B** 89.04 310 P P 09 12 53.7 -1.9
comp=Z,2.3nm,0.8s,baz=134,slow=6.3,SNR=11
KEV **Kevo** 89.17 340 *ep* P 09 13 52.8 -1.5
comp=Z,2.8nm,0.5s
KEV **Kevo** 89.17 340 *e*P P 09 12 53.8 -1.5
KEV pmax pmax
comp=Z,3.0nm,0.5s
ARCES **ARCESS Array B** 89.72 340 P P 09 12 56.6 -1.3
ARCES **ARCESS Array B** 89.72 340 P P 09 12 56.6 -1.3
comp=Z,8.8nm,0.6s,baz=78,slow=6.3,SNR=33
INK **Inuvik** 90.09 21 P P 09 12 59.9 +0.2
INK **Inuvik** 90.09 21 P P 09 12 59.9 +0.2
comp=Z,2.0nm,0.9s,baz=282,slow=3.5,SNR=4.2
KAF **Kangasniemi** 90.79 332 *ep* P 09 13 01.2 -1.8
comp=Z,2.4nm,0.5s
KAF **Kangasniemi** 90.79 332 *e*P P 09 13 01.2 -1.8
KAF pmax pmax
comp=Z,2.0nm,0.5s
FINES **FINESS Array B** 91.02 332 P P 09 13 01.8 -2.3
FINES **FINESS Array B** 91.02 332 P P 09 13 01.8 -2.3
comp=Z,3.7nm,0.7s,baz=117,slow=6.6,SNR=10
VSU **Vasula** 91.22 329 *i* P P 09 13 03.8 -1.3
VSU pmax pmax
comp=Z,18nm,0.9s
SYO **Syowa Base** 92.51 201⇑ *e*P P 09 13 09.6 -1.2
QSPA **South Pole Qui** 94.07 180 *e*P P 09 13 19.3 +1.0
comp=Z,21nm,1.1s
QSPA *e*PP PP 09 17 04.9 -1.2
KOLS **Kolonicke sedl** 95.72 320 *e*P P 09 13 25.3 -0.8
KOLS **Kolonicke sedl** 95.72 320 *e*P P 09 13 25.3 -0.8
NB2 **NORSAR Subarra** 97.99 333 P P 09 13 34.1 -2.0
comp=Z,3.1nm,0.7s,baz=66,slow=4.6
NB2 **NORSAR Subarra** 97.99 333 P P 09 13 34.1 -2.0
baz=66,slow=4.6
NOA **NORSAR Array B** 97.99 333 P P 09 13 33.8 -2.3
NOA pP pP 09 14 05.6 -4.4
NOA **NORSAR Array B** 97.99 333 P P 09 13 33.8 -2.3
comp=Z,2.8nm,0.7s,baz=67,slow=4.6,SNR=19
NOA pP pP 09 14 05.6 -4.4
comp=Z,0.8nm,0.7s,baz=65,slow=4.6,SNR=2.8
NOA LR LR 09 58 14.5
comp=Z,34nm,21.8s,baz=55,slow=36
B15A **Bradely Ranch,** 107.17 37 ⇓P 09 18 26.8
baz=107
NVAR **Mina Array Bea** 107.29 48 PKiKP PKiKP 09 18 27.3 +0.8
NVAR PKKPbc PKKPbc 09 29 43.1 -0.7
NVAR PKKP PKKPdf 09 29 57.4 +1.1
NVAR **Mina Array Bea** 107.29 48 PKiKP PKiKP 09 18 27.3 +0.8
comp=Z,0.6nm,0.7s,baz=262,slow=2.9,SNR=6.1
NVAR PKKPbc PKKPbc 09 29 43.1 -0.7
comp=Z,1.6nm,0.7s,baz=140,slow=4.3,SNR=5.3
NVAR PKKP PKKPdf 09 29 57.4 +1.1
comp=Z,1.4nm,0.8s,baz=123,slow=4.8,SNR=5.0
C15A **Salmond Ranch,** 107.39 37 ⇑P 09 18 26.8
baz=107
I12A **Atlanta** 107.51 42 ⇓P 09 18 27.7
baz=108
C16A **Fuhringer Ranc** 107.90 37 ⇓P 09 18 28.3
baz=108
A17A **Triple J Farms** 107.97 35 ⇓P 09 18 27.9
baz=108
HLID **Hailey** 108.08 42 ⇓P 09 18 28.9
baz=108
MPMC **Manual Prospec** 108.70 50 ⇓P 09 18 30.5
baz=109
FURC **Furnace Creek,** 109.04 49 ⇑P 09 18 30.6
baz=109
C19A **Slack Wire Ran** 109.52 36 ⇑P 09 18 30.9
baz=109
MURC **Murrieta** 109.75 52 ⇑P 09 18 31.1
baz=110
D19A **Cripps Ranch,** 109.91 36 ⇑P 09 18 31.6
baz=110
F18A **Big Timber** 110.02 38 ⇑P 09 18 31.3
baz=110
C20A **Veseth Ranch,** 110.14 35 ⇑P 09 18 32.3
baz=110
E19A **Rath Farm, Rou** 110.31 37 ⇓P 09 18 32.9
baz=110
DUG **Dugway** 110.56 44 ⇓P 09 18 33.8
baz=110
C21A **Desert Coulee** 110.60 35 ⇓P 09 18 33.2
baz=110
D22A **Cohagen** 111.49 35 ⇑P 09 18 35.3
baz=111
PDAR **Pinedale Array** 111.62 41 PKiKP PKiKP 09 18 34.9 +0.3
PDAR PKKPbc PKKPbc 09 29 26.7 -3.5
PDAR PKKPab PKKPab 09 29 37.1 -2.3
PDAR **Pinedale Array** 111.62 41 PKiKP PKiKP 09 18 34.9 +0.3
comp=Z,0.6nm,0.5s,baz=194,slow=3.3,SNR=8.1
PDAR PKKPbc PKKPbc 09 29 26.7 -3.5
comp=Z,0.4nm,0.6s,baz=130,slow=5.2,SNR=3.6
PDAR PKKPab PKKPab 09 29 37.1 -2.3
comp=Z,4.3nm,0.7s,baz=123,slow=6.2,SNR=20
L18A **Fontenelle, Gr** 111.70 42 ⇓P 09 18 35.7
baz=112
J19A **Crowheart** 111.71 40 ⇓P 09 18 35.7
baz=112
W13A **Hualapai Mount** 111.79 50 ⇓P 09 18 36.3
baz=112
I20A **Worland** 111.96 39 ⇑P 09 18 35.3
baz=112
D23A **Lindsay** 112.03 35 ⇑P 09 18 35.7
baz=112
K19A **Absolon Red Bu** 112.05 40 ⇓P 09 18 35.5
baz=112
L19A **Farson** 112.06 41 ⇑P 09 18 36.3
baz=112
Q16A **Castle Valley** 112.25 45 ⇓P 09 18 36.9
baz=112
E23A **Ismay** 112.35 36 ⇓P 09 18 36.3
baz=112
G22A **Birney** 112.45 37 ⇑P 09 18 36.5
baz=112
K20A **Yellowstone Ra** 112.46 40 ⇑P 09 18 36.9
baz=112
I21A **Big Trails, Te** 112.56 39 ⇑P 09 18 36.8
baz=112
F23A **Volborg** 112.71 36 ⇑P 09 18 37.0
baz=113
L20A **Wamsutter** 112.77 41 ⇓P 09 18 38.0
baz=113
E24A **Baker** 112.89 35 ⇓P 09 18 37.0
baz=113
I22A **9 Mile Ranch,** 113.02 38 ⇓P 09 18 37.7
baz=113
M20A **Sweetwater, Wa** 113.12 41 ⇓P 09 18 37.7
baz=113
K21A **Alcova** 113.17 40 ⇑P 09 18 38.2
baz=113
J22A **Midwest** 113.27 39 ⇑P 09 18 37.9
baz=113
N20A **Spence Gulch,** 113.39 42 ⇓P 09 18 39.0
baz=113
L21A **Rawlins** 113.43 41 ⇓P 09 18 38.6
baz=113
E25A **Miller Ranch,** 113.44 35 ⇑P 09 18 38.6
baz=113
P19A **Cripple Cowboy** 113.46 43 ⇓P 09 18 39.2
baz=113
G24A **Alzada** 113.50 36 ⇑P 09 18 38.8
baz=113
M21A **Separation Pea** 113.61 41 ⇑P 09 18 39.5
baz=114,SNR=8.8
O20A **White River Ci** 113.73 43 ⇑P 09 18 39.9
baz=114
J23A **Dilts Ranch, B** 113.85 39 ⇓P 09 18 39.9
baz=114
X16A **Lo Mia Camp, P** 113.91 50 ⇑P 09 18 40.8
baz=114
N21A **Black Mountain** 113.92 42 ⇑P 09 18 40.0
baz=114
P20A **De Beque** 113.92 43 ⇓P 09 18 40.2
baz=114
L22A **Ellis Ranch, M** 114.00 40 ⇑P 09 18 40.1
baz=114
Q20A **Ridgley Place,** 114.24 44 ⇓P PKPdf 09 18 40.8 +1.2
baz=114
I25A **Rochford** 114.63 37 ⇑P PKPdf 09 18 40.6 +0.4
baz=114
S20A **Disappointment** 114.71 45 ⇑P PKPdf 09 18 42.5 +1.8
baz=115
O22A **Kremmling** 114.85 42 ⇑P PKPdf 09 18 41.3 +0.4
baz=115
N23A **Red Feather La** 114.89 41 ⇑P PKPdf 09 18 41.9 +1.0
baz=115
MVCO **Mesa Verde** 114.89 46 ⇓P PKPdf 09 18 42.1 +1.1
baz=115
G27A **Dupree** 114.92 35 ⇑P PKPdf 09 18 41.3 +0.7
baz=115
P22A **Eagle** 114.99 43 ⇓P PKPdf 09 18 42.4 +1.2
baz=115
I26A **New Underwood** 115.15 37 ⇓P PKPdf 09 18 41.4 +0.3
baz=115
S21A **Coal Bank Pass** 115.19 45 ⇓P PKPdf 09 18 43.3 +1.6
baz=115
O23A **Lake Granby, G** 115.25 42 ⇓P PKPdf 09 18 43.1 +1.4
baz=115,SNR=5.3
H27A **Howes** 115.27 36 ⇑P PKPdf 09 18 41.8 +0.6
baz=115
I27A **Quinn** 115.61 36 ⇑P PKPdf 09 18 42.4 +0.4
baz=116
R22A **Saguache, Gunn** 115.65 44 ⇓P PKPdf 09 18 44.0 +1.5
baz=116
ISCO **Idaho Springs** 115.66 42 *e*PKIKP PKPdf 09 18 43.1 +0.6
ISCO **Idaho Springs** 115.66 42 *e*PKPdf PKPdf 09 18 43.1 +0.6
ISCO **Idaho Springs** 115.66 42 ⇑P PKPdf 09 18 43.1 +0.6
baz=116
T21A **Navajo Lake** 115.68 45 ⇑P PKPdf 09 18 44.2 +1.7
baz=116
G28A **Parade** 115.68 35 ⇓P PKPdf 09 18 42.6 +0.6
baz=116
P23A **Jefferson** 115.72 42 ⇑P PKPdf 09 18 43.7 +1.1
baz=116
W20A **Ramah** 115.82 48 ⇑P PKPdf 09 18 43.9 +1.0
baz=116
S22A **4UR Ranch, Cre** 115.83 44 ⇑P PKPdf 09 18 44.0 +1.1
baz=116
U21A **Nageezi** 115.85 46 ⇓P PKPdf 09 18 44.3 +1.4
baz=116
V21A **Milan** 116.15 47 ⇓P PKPdf 09 18 44.6 +1.2
baz=116
I28A **Midland** 116.17 36 ⇓P PKPdf 09 18 43.3 +0.3
baz=116
P24A **Kohler Place,** 116.27 42 ⇑P PKPdf 09 18 44.3 +0.8
baz=116
Y20A **Horse Springs,** 116.43 49 ⇓P PKPdf 09 18 45.4 +1.4
baz=116
U22A **Llaves** 116.45 46 ⇑P PKPdf 09 18 45.7 +1.7
baz=116
J28A **Allard Ranch,** 116.46 37 ⇑P PKPdf 09 18 44.1 +0.5
baz=116
ESDC **Sonseca Array** 116.53 318 PKP PKPdf 09 18 43.3 -0.5
ESDC **Sonseca Array** 116.53 318 PKP PKPdf 09 18 43.3 -0.5
comp=Z,0.2nm,0.3s,baz=49,slow=1.7,SNR=4.1
Z20A **Nine Sixteen R** 116.61 50 ⇓P PKPdf 09 18 46.0 +1.7
baz=117
X21A **Alamocita Cree** 116.64 48 ⇓P PKPdf 09 18 45.9 +1.5
baz=117
T23A **Casias Ranch,** 116.72 45 ⇑P PKPdf 09 18 46.2 +1.6
baz=117
SDCO **Great Sand Dun** 116.75 44 *e*PKPdf PKPdf 09 18 45.9 +1.3
P25A **Willow Gulch B** 116.76 42 ⇓P PKPdf 09 18 45.6 +1.2
baz=117,SNR=5.4
R24A **Sanders Place,** 116.78 43 ⇑P PKPdf 09 18 45.8 +1.2
baz=117
319A **Douglas** 116.79 52 ⇓P PKPdf 09 18 46.0 +1.3
baz=117
120A **U Bar Ranch, L** 116.81 50 ⇑P PKPdf 09 18 46.4 +1.7
baz=117
Y21A **Point of Rocks** 116.92 48 ⇑P PKPdf 09 18 46.7 +1.7
baz=117
U23A **El Rito** 116.94 46 ⇓P PKPdf 09 18 46.7 +1.8
baz=117
S24A **Houchin Ranch,** 117.00 44 ⇓P PKPdf 09 18 46.5 +1.3
baz=117
Q25A **Bedland, Calha** 117.02 42 ⇑P PKPdf 09 18 45.7 +0.7
baz=117,SNR=6.6
Z21A **St. Cloud Mine** 117.22 49 ⇓P PKPdf 09 18 47.1 +1.5
baz=117
V23A **Ortiz Mt. (NFS** 117.22 46 ⇑P PKPdf 09 18 47.5 +2.0
baz=117
P26A **Davis Ranch, A** 117.28 41 ⇑P PKPdf 09 18 46.7 +1.3
baz=117
R25A **Fountain Ranch** 117.38 43 ⇓P PKPdf 09 18 46.8 +1.2
baz=117
ANMO **Albuquerque** 117.39 47 *e*PKPdf PKPdf 09 18 47.1 +1.3
121A **Cookes Peak, D** 117.47 50 ⇑P PKPdf 09 18 47.5 +1.5
baz=117
Y22A **Socorro** 117.48 48 ⇓P PKPdf 09 18 47.8 +1.8
baz=117
Q26A **Hugo** 117.50 42 ⇓P PKPdf 09 18 47.3 +1.4
baz=117
O27A **Beecher Island** 117.51 40 ⇑P PKPdf 09 18 47.0 +1.2
baz=117
S25A **Robets Cordova** 117.53 43 ⇑P PKPdf 09 18 46.7 +0.7
baz=118
X23A **Hourglass Bar** 117.76 47 ⇓P PKPdf 09 18 47.7 +1.1
baz=118
Z22A **Elephant Butte** 117.78 49 ⇑P PKPdf 09 18 48.1 +1.6
baz=118
P27A **Ficken Ranch,** 117.78 41 ⇑P PKPdf 09 18 47.2 +0.8
baz=118
T25A **Trinidad** 117.80 44 ⇓P PKPdf 09 18 48.0 +1.4
baz=118,SNR=5.3
R26A **Arlington** 117.87 42 ⇑P PKPdf 09 18 47.9 +1.3
baz=118
V24A **Rampart Ranch,** 117.89 46 ⇑P PKPdf 09 18 48.8 +2.0
baz=118
122A **Conniff Cattle** 117.99 50 ⇓P PKPdf 09 18 48.8 +1.8
baz=118
W24A **Lazy 6 Ranch,** 118.03 46 ⇑P PKPdf 09 18 49.0 +1.9
baz=118
Y23A **Lovelace Mesa,** 118.15 48 ⇑P PKPdf 09 18 48.8 +1.5
baz=118
U25A **Circle Dot Ran** 118.17 45 ⇑P PKPdf 09 18 48.7 +1.4
baz=118,SNR=5.3
222A **Williams Famil** 118.17 50 ⇑P PKPdf 09 18 48.6 +1.3
baz=118
V25A **Rancho No Teng** 118.30 45 ⇓P PKPdf 09 18 49.1 +1.5
baz=118,SNR=8.5
R27A **Eads** 118.31 42 ⇑P PKPdf 09 18 48.2 +0.8
baz=118
T26A **Comanche Natio** 118.35 44 ⇑P PKPdf 09 18 48.8 +1.2
baz=118,SNR=7.8
Q28A **Sharon Springs** 118.54 41 ⇑P PKPdf 09 18 48.6 +0.8
baz=118
Y24A **Capitan** 118.61 48 ⇑P PKPdf 09 18 49.7 +1.5
baz=119
O29A **4D Ranch, Culb** 118.61 39 ⇓P PKPdf 09 18 48.5 +0.7
baz=118
U26A **Atchley Ranch,** 118.64 44 ⇑P PKPdf 09 18 49.5 +1.3
baz=119,SNR=6.4
W25A **X Bar L Ranch,** 118.71 46 ⇑P PKPdf 09 18 49.6 +1.3
baz=119
V26A **Tequesquite Ra** 118.91 45 ⇓P PKPdf 09 18 49.6 +1.0
baz=119,SNR=6.1
R28A **Tribune** 118.94 42 ⇑P PKPdf 09 18 49.7 +1.1
baz=119
Z24A **Sheeppen Canyo** 118.94 48 ⇑P PKPdf 09 18 50.1 +1.2
baz=119
T27A **Campo** 119.00 43 ⇓P PKPdf 09 18 50.4 +1.6
baz=119
124A **Stringfield Ra** 119.16 49 ⇑P PKPdf 09 18 50.4 +1.1
baz=119
Y25A **Mesa, Roswell** 119.16 47 ⇑P PKPdf 09 18 50.5 +1.3
baz=119
Q29A **Oakley** 119.19 41 ⇑P PKPdf 09 18 49.7 +0.7
baz=119
U27A **Thompson Grove** 119.26 44 ⇓P PKPdf 09 18 50.7 +1.4
baz=119,SNR=7.2
W26A **Owens Ranch, T** 119.27 46 ⇑P PKPdf 09 18 50.8 +1.5
baz=119
S28A **Manter** 119.29 42 ⇑P PKPdf 09 18 49.8 +0.6
baz=119
R29A **Marienthal** 119.34 41 ⇑P PKPdf 09 18 50.5 +1.2
baz=119
T28A **Walsh** 119.39 43 ⇑P PKPdf 09 18 50.5 +1.0
baz=119
224A **Cornudas Mount** 119.39 50 ⇑P PKPdf 09 18 51.3 +1.6
baz=119
Z25A **Roswell** 119.44 48 ⇓P PKPdf 09 18 51.4 +1.7
baz=119
BGNE **Belgrade** 119.50 37 ⇓P PKPdf 09 18 49.8 +0.3
baz=119
X26A **CR and CF Fran** 119.50 46 ⇓P PKPdf 09 18 50.9 +1.1
baz=120,SNR=5.5
Q30A **Quinter** 119.63 40 ⇑P PKPdf 09 18 50.6 +0.8
baz=120
324A **Moseley Ranch,** 119.70 50 ⇓P PKPdf 09 18 51.4 +1.1
baz=120
125A **Gardner Draw,** 119.78 49 ⇓P PKPdf 09 18 51.6 +1.2
baz=120
W27A **Bowe Ranch, En** 119.78 45 ⇓P PKPdf 09 18 51.7 +1.4
baz=120,SNR=5.7
S29A **Ulysses** 119.79 42 ⇓P PKPdf 09 18 51.5 +1.3
baz=120
Y26A **Elida** 119.80 47 ⇑P PKPdf 09 18 51.7 +1.3
baz=120
T29A **Hugoton** 119.92 42 ⇑P PKPdf 09 18 51.7 +1.2
baz=120
X27A **F and S Farms,** 119.97 46 ⇑P PKPdf 09 18 51.5 +0.8
baz=120
R30A **Dighton** 119.98 41 ⇑P PKPdf 09 18 51.5 +1.0
baz=120
Z26A **Caprock** 119.99 48 ⇑P PKPdf 09 18 51.7 +1.0
baz=120
V28A **Channing** 120.03 44 ⇓P PKPdf 09 18 52.0 +1.2
baz=120
325A **Bean Ranch, Si** 120.12 50 ⇑P PKPdf 09 18 52.0 +0.8
baz=120
SCHQ **Schefferville** 120.27 8 PKP PKPdf 09 18 50.9 +0.4
SCHQ **Schefferville** 120.27 8 PKP PKPdf 09 18 50.9 +0.4
comp=Z,3.8nm,0.4s,baz=254,slow=2.3,SNR=15
Y27A **Causey** 120.30 47 ⇓P PKPdf 09 18 52.5 +1.2
baz=120,SNR=6.5
U29A **Oasis Ranch, S** 120.32 43 ⇑P PKPdf 09 18 52.4 +1.2
baz=120
425A **Indio Mountain** 120.37 51 ⇓P PKPdf 09 18 52.8 +1.2
baz=120
226B **Tecolote Peak,** 120.41 49 ⇓P PKPdf 09 18 52.9 +1.3
baz=120
V29A **Stinnett** 120.45 44 ⇓P PKPdf 09 18 52.9 +1.4
baz=120
R31A **Burdett** 120.47 41 ⇓P PKPdf 09 18 52.7 +1.2
baz=120
T30A **Plains** 120.50 42 ⇑P PKPdf 09 18 52.9 +1.3
baz=120
MSTX **Muleshoe** 120.53 46 ⇑P PKPdf 09 18 52.5 +0.7
baz=120,SNR=6.3
X28A **Dimmitt** 120.67 46 ⇓P PKPdf 09 18 53.0 +1.0
baz=121,SNR=6.6
U30A **WK&E Inc. Balk** 120.69 43 ⇑P PKPdf 09 18 53.3 +1.3
baz=121
W29A **Amarillo** 120.75 45 ⇓P PKPdf 09 18 53.0 +0.9
baz=121
326A **Caldwell Ranch** 120.91 50 ⇓P PKPdf 09 18 53.4 +0.8
baz=121
Y28A **McKinney Farm,** 120.94 46 ⇑P PKPdf 09 18 53.6 +1.1
baz=121
T31A **Randall Ranch,** 121.04 42 ⇑P PKPdf 09 18 53.5 +1.0
baz=121
X29A **Tulia** 121.06 45 ⇓P PKPdf 09 18 53.7 +1.0
baz=121,SNR=5.3
Z28A **Tucker Farm, M** 121.15 47 ⇑P PKPdf 09 18 53.8 +0.8
baz=121
426A **McDonald Obser** 121.16 50 ⇓P PKPdf 09 18 54.3 +1.1
baz=121
U31A **Nine Bar Ranch** 121.32 43 ⇑P PKPdf 09 18 54.7 +1.6
baz=121
Y29A **Porterfield Fa** 121.38 46 ⇓P PKPdf 09 18 54.5 +1.1
baz=121,SNR=6.8
526A **Mary Lane Ranc** 121.39 51 ⇓P PKPdf 09 18 54.5 +1.0
baz=121
128A **Castleberry Fa** 121.41 48 ⇑P PKPdf 09 18 54.3 +0.8
baz=121,SNR=5.4
427A **Hayter Ranch,** 121.56 50 ⇑P PKPdf 09 18 54.8 +1.0
baz=122,SNR=7.2
228A **UT Block 9, Go** 121.57 48 ⇓P PKPdf 09 18 54.7 +0.9
baz=122
626A **Big Bend Ranch** 121.58 52 ⇑P PKPdf 09 18 54.9 +1.0
baz=122
X30A **Coker Ranch, T** 121.65 45 ⇓P PKPdf 09 18 54.8 +1.0
baz=122
V31A **Spring Creek L** 121.66 43 ⇑P PKPdf 09 18 55.5 +1.7
baz=122
Z29A **Hungry Hill Ra** 121.66 47 ⇑P PKPdf 09 18 55.0 +1.1
baz=122,SNR=8.0
527A **Woodward Ranch** 121.72 51 ⇓P PKPdf 09 18 55.2 +0.9
baz=122,SNR=5.5
328A **Wristen Ranch,** 121.76 49 ⇑P PKPdf 09 18 55.2 +1.1
baz=122,SNR=9.7
129A **Stewart Farms,** 121.86 47 ⇓P PKPdf 09 18 55.3 +1.0
baz=122,SNR=8.0
W31A **Holland Ranch,** 121.90 44 ⇑P PKPdf 09 18 55.3 +1.0
baz=122

TORD	**Torodi Ar. Bea**	**121.92**	**288**	PKP	**PKPdf**	**09 18 54.0**	**-0.7**
TORD				pPKP	**pPKPdf**	**09 19 26.0**	**-4.1**
TORD				SKP		09 22 16.5	
TORD	**Torodi Ar. Bea**	**121.92**	**288**	PKP	**PKPdf**	**09 18 54.0**	**-0.7**
	comp=Z,9.2nm,0.9s,baz=47,slow=1.9,SNR=44						
TORD				pPKP	**pPKPdf**	**09 19 26.0**	**-4.1**
	comp=Z,4.1nm,0.8s,baz=56,slow=1.8,SNR=6.3						
TORD				SKP		09 22 16.5	
	comp=Z,0.6nm,0.8s,baz=44,slow=1.8,SNR=3.6						
Y30A	**Stafford Cattl**	**121.93**	**46**	⇓P	**PKPdf**	**09 18 55.4**	**+1.0**
	baz=122,SNR=6.6						
TXAR	**Lajitas Array**	**122.04**	**52**	PKP	**PKPdf**	**09 18 55.9**	**+1.1**
TXAR				pPKP	**pPKPdf**	**09 19 25.5**	**-4.6**
TXAR				SKP		09 22 19.1	
TXAR	**Lajitas Array**	**122.04**	**52**	PKP	**PKPdf**	**09 18 55.9**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=236,slow=1.1,SNR=24						
TXAR				pPKP	**pPKPdf**	**09 19 25.5**	**-4.6**
	comp=Z,0.6nm,0.8s,baz=192,slow=1.3,SNR=3.0						
TXAR				SKP		09 22 19.1	
	comp=Z,0.3nm,0.7s,baz=316,slow=2.5,SNR=3.9						
Z30A	**Sanderson Ranc**	**122.06**	**46**	⇓P	**PKPdf**	**09 18 55.5**	**+0.9**
	baz=122,SNR=13						
428A	**Kincaid Ranch,**	**122.16**	**50**	⇑P	**PKPdf**	**09 18 56.4**	**+1.4**
	baz=122,SNR=10						
X31A	**McDonald Ranch**	**122.18**	**44**	⇑P	**PKPdf**	**09 18 56.0**	**+1.2**
	baz=122						
627A	**Terlingua Ranc**	**122.21**	**51**	⇑P	**PKPdf**	**09 18 56.2**	**+1.1**
	baz=122,SNR=7.2						
229A	**Bryant Ranch,**	**122.22**	**48**	⇑P	**PKPdf**	**09 18 56.2**	**+1.2**
	baz=122						
329A	**Wagon Wheel Ra**	**122.33**	**49**	⇑P	**PKPdf**	**09 18 55.9**	**+0.7**
	baz=122						
Y31A	**Rekieta Farm,**	**122.33**	**45**	⇓P	**PKPdf**	**09 18 56.4**	**+1.3**
	baz=122						
528A	**Cox Ranch, San**	**122.35**	**50**	⇓P	**PKPdf**	**09 18 56.5**	**+1.1**
	baz=122,SNR=5.9						
130A	**Snyder**	**122.53**	**47**	⇑P	**PKPdf**	**09 18 56.9**	**+1.3**
	baz=122						
628A	**Black Gap, Mar**	**122.58**	**51**	⇓P	**PKPdf**	**09 18 56.9**	**+1.2**
	baz=123						
Z31A	**Sharp Cattle R**	**122.75**	**46**	⇑P	**PKPdf**	**09 18 56.7**	**+0.8**
	baz=123						
230A	**Sterling City**	**122.78**	**48**	⇑P	**PKPdf**	**09 18 57.2**	**+1.1**
	baz=123						
529A	**Stev Forest Ra**	**122.80**	**50**	⇑P	**PKPdf**	**09 18 57.2**	**+1.0**
	baz=123,SNR=10						
429A	**Davenport Ranc**	**122.81**	**49**	⇑P	**PKPdf**	**09 18 57.1**	**+0.9**
	baz=123,SNR=12						
Y32A	**R-V Farms, Ver**	**122.89**	**45**	⇑P	**PKPdf**	**09 18 57.1**	**+0.9**
	baz=123						
131A	**Roby**	**122.91**	**46**	⇓P	**PKPdf**	**09 18 57.3**	**+1.0**
	baz=123						
WMOK	**Wichita Mounta**	**122.95**	**44**	*e*PKIKP	**PKPdf**	**09 18 56.8**	**+0.5**
WMOK	**Wichita Mounta**	**122.95**	**44**	*e*PKPdf	**PKPdf**	**09 18 56.8**	**+0.5**
330A	**Mertzon**	**122.97**	**48**	⇑P	**PKPdf**	**09 18 57.5**	**+1.1**
	baz=123						
430A	**Baggett Ranch,**	**123.23**	**49**	⇓P	**PKPdf**	**09 18 58.0**	**+1.0**
	baz=123,SNR=8.8						
Z32A	**Haskell**	**123.23**	**45**	⇓P	**PKPdf**	**09 18 58.4**	**+1.5**
	baz=123						
231A	**Bronte**	**123.34**	**47**	⇓P	**PKPdf**	**09 18 58.1**	**+1.0**
	baz=123						
530A	**J-C Ranch, Com**	**123.46**	**50**	⇑P	**PKPdf**	**09 18 58.7**	**+1.3**
	baz=123,SNR=8.4						
ABTX	**Abilene, Hawle**	**123.47**	**46**	⇑P	**PKPdf**	**09 18 58.7**	**+1.4**
	baz=123						
331A	**San Angelo**	**123.58**	**48**	⇓P	**PKPdf**	**09 18 58.7**	**+1.1**
	baz=124						
431A	**Sonora**	**123.75**	**49**	⇓P	**PKPdf**	**09 18 58.8**	**+0.8**
	baz=124,SNR=9.6						
332A	**Millersview**	**124.04**	**47**	⇓P	**PKPdf**	**09 18 59.9**	**+1.4**
	baz=124						
531A	**Rocksprings**	**124.05**	**49**	⇑P	**PKPdf**	**09 18 60.0**	**+1.4**
	baz=124,SNR=7.8						
432A	**Menard**	**124.26**	**48**	⇓P	**PKPdf**	**09 19 00.1**	**+1.2**
	baz=124						
631A	**Perdido Creek**	**124.39**	**50**	⇑P	**PKPdf**	**09 19 00.7**	**+1.6**
	baz=124,SNR=7.5						
JCT	**Junction City**	**124.45**	**48**	*e*PKIKP	**PKPdf**	**09 19 00.6**	**+1.3**
JCT	**Junction City**	**124.45**	**48**	*e*PKPdf	**PKPdf**	**09 19 00.6**	**+1.3**
JCT	**Junction City**	**124.45**	**48**	⇑P	**PKPdf**	**09 19 00.8**	**+1.5**
	baz=124						
532A	**Rocksprings**	**124.55**	**49**	⇓P	**PKPdf**	**09 19 00.5**	**+1.0**
	baz=124						
632A	**Uvalde**	**124.95**	**49**	⇑P	**PKPdf**	**09 19 01.9**	**+1.7**
	baz=125						
732A	**Laxson Ranch,**	**125.19**	**50**	⇑P	**PKPdf**	**09 19 02.1**	**+1.4**
	baz=125						
MIAR	**Mount Ida**	**126.55**	**41**	*e*PKIKP	**PKPdf**	**09 19 04.5**	**+1.4**
MIAR	**Mount Ida**	**126.55**	**41**	*e*PKPdf	**PKPdf**	**09 19 04.5**	**+1.4**
DBIC	**Dimbokro**	**129.60**	**282**	PKP	**PKPdf**	**09 19 09.3**	**-0.1**
DBIC				pPKP	**pPKPdf**	**09 19 41.1**	**-3.7**
DBIC	**Dimbokro**	**129.60**	**282**	PKP	**PKPdf**	**09 19 09.3**	**-0.1**
	comp=Z,7.4nm,0.7s,baz=72,slow=3.5,SNR=8.1						
DBIC				pPKP	**pPKPdf**	**09 19 41.1**	**-3.7**
	comp=Z,6.7nm,1.0s,baz=344,slow=7.7,SNR=3.3						
TKL	**Tuckaleechee C**	**131.63**	**33**	SKPbc	**SKPab**	**09 22 27.1**	**+0.1**
TKL	**Tuckaleechee C**	**131.63**	**33**	SKPbc	**SKPab**	**09 22 27.1**	**+0.1**
	comp=Z,6.7nm,0.6s,baz=185,slow=3.9,SNR=17						
PLCA	**Paso Flores**	**140.73**	**160**	PKPpre	PKPpre	09 19 23.4	
PLCA				SKPbc	**SKPbc**	**09 22 53.9**	**-0.2**
PLCA	**Paso Flores**	**140.73**	**160**	PKhKP	PKPpre	09 19 23.4	
	comp=Z,2.4nm,1.1s,baz=160,slow=4.0,SNR=3.3						
PLCA				SKPbc	**SKPbc**	**09 22 53.9**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=179,slow=4.1,SNR=5.1						
TRQA	**Tornquist**	**145.53**	**169**	*e*PKPdf	**PKPab**	**09 19 39.0**	**+0.2**
CFAA	**Coronel Fontan**	**149.68**	**156**	PKPbc	**PKPbc**	**09 19 49.6**	**-0.3**
CFAA	**Coronel Fontan**	**149.68**	**156**	PKPbc	**PKPbc**	**09 19 49.6**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=235,slow=3.2,SNR=6.5						
LPAZ	**La Paz**	**161.76**	**132**	PKP	**PKPdf**	**09 20 02.6**	**+0.4**
LPAZ	**La Paz**	**161.76**	**132**	PKP	**PKPdf**	**09 20 02.6**	**+0.4**
	comp=Z,1.6nm,0.9s,baz=228,slow=1.6,SNR=8.7						
SIV	**San Ignacio**	**166.44**	**151**	PKP	**PKPdf**	**09 20 06.8**	**+1.1**
SIV				PKPab	**PKPab**	**09 21 09.7**	**+1.9**
SIV	**San Ignacio**	**166.44**	**151**	PKP	**PKPdf**	**09 20 06.8**	**+1.1**
	comp=Z,1.1nm,0.9s,baz=258,slow=1.8,SNR=4.5						
SIV				PKPab	**PKPab**	**09 21 09.7**	**+1.9**
	comp=Z,2.7nm,0.9s,baz=204,slow=4.2,SNR=7.0						
BDFB	**Brasilia**	**167.09**	**208**	PKPab	**PKPab**	**09 21 10.1**	**-0.7**
BDFB	**Brasilia**	**167.09**	**208**	PKPab	**PKPab**	**09 21 10.1**	**-0.7**
	comp=Z,7.2nm,0.8s,baz=164,slow=3.4,SNR=6.9						

WEL 17 09:01:23.3±0.3, 46°33'S×165°84'E, h33km, ML3.5/12, 1C, Error ellipse: s-maj=2.8km s-min=2.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.61**	**74**	⇑PN	Pn	09 01 35.4	-0.2
PYZ				SN	Sb	09 01 43.4	-0.7
DCZ	**Deep Cove**	**1.26**	**47**	PN	Pn	09 01 44.1	-0.4
DCZ				SN	Sn	09 01 59.0	-1.2
DCZ				AML	AML	09 02 01.6	
APZ	**The Paps**	**1.56**	**109**	PN	Pb	09 01 50.9	-0.8
MLZ	**Mavora Lakes**	**1.91**	**60**	PN	Pn	09 01 55.4	+1.8
MLZ				AML	AML	09 02 25.7	
MLZ				AML	AML	09 02 26.5	
MSZ	**Milford Sound**	**2.22**	**42**	PN	Pn	09 01 58.6	+0.9
MSZ				AML	AML	09 02 36.4	
MSZ				AML	AML	09 02 44.9	
SYZ	**Scrubby Hill**	**2.29**	**96**	*e*PN	Pn	09 02 01.2	+2.5
TUZ	**Tuapeka**	**2.67**	**83**	*e*PN	Pn	09 02 06.5	+2.7
TUZ				AML	AML	09 02 50.4	
EAZ	**Earnscleugh**	**2.67**	**67**	PN	Pn	09 02 06.7	+2.8
EAZ				AML	AML	09 02 44.0	
WKZ	**Wanaka**	**2.69**	**57**	PN	Pn	09 02 07.2	+2.9
JCZ	**Jackson Bay**	**3.06**	**43**	*e*PN	Pn	09 02 11.4	+2.0
JCZ				AML	AML	09 03 09.2	
ODZ	**Otahua Downs**	**3.61**	**71**	PN	Pn	09 02 17.8	+1.0
LBZ	**Lake Benmore**	**3.63**	**59**	*e*PN	Pn	09 02 18.8	+1.7
FOZ	**Fox Glacier**	**3.89**	**46**	*e*PN	Pn	09 02 22.9	+2.2
RPZ	**Rata Peaks**	**4.53**	**57**	PN	Pn	09 02 30.1	+0.6
WVZ	**Waitaha Valley**	**4.77**	**49**	*e*PN	Pn	09 02 33.7	+0.8
DSZ	**Denniston Nort**	**6.29**	**45**	*e*PN	Pn	09 02 53.9	+0.2
THZ	**Tophouse**	**6.84**	**51**	*e*PN	Pn	09 03 00.8	-0.5

*IDC **17** 09:03:34.4±0.8, 2°24'N×126°87'E, h0km, mb4.2/12, mb1 4.3/12, mb1mx4.1/24, mbtmp4.2/12, Error ellipse: s-maj=37.8km s-min=14.0km az=75.0*
*NEIC **17** 09:03:35.7±0.4, 2°21'N×126°87'E, h10km, mb4.2/2, Error ellipse: s-maj=16.0km s-min=6.8km az=67.0*
ISC 17 09:03:42.4±0.7, 2°19'N±0°10'×126°9'E±0°2', h63km, n28, σ1§03/27, mb4.2/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**11.31**	**290**	*e*Pn	Pn	09 06 17.5	-3.8
FITZ	**Fitzroy Crossi**	**20.20**	**183**	*e*P	**P**	**09 08 10.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**20.20**	**183**	P	**P**	**09 08 12.4**	**+0.3**
	5.4nm,0.8s,baz=5.8,slow=11,SNR=2.9						
WRAB	**Tennant Creek**	**23.17**	**162**	*e*P	**P**	**09 08 42.5**	**-1.2**
	8.1nm,0.6s						
WRA	**Warramunga Arr**	**23.18**	**162**	P	**P**	**09 08 42.5**	**-1.3**
WRA				ScP	ScP	09 16 13.6	+10
WRA	**Warramunga Arr**	**23.18**	**162**	P	**P**	**09 08 42.5**	**-1.3**
	4.6nm,0.5s,baz=339,slow=11,SNR=5.4						
WRA				ScP	ScP	09 16 13.6	+10
	2.1nm,0.9s,baz=329,slow=4.1,SNR=5.3						
ASAR	**Alice Springs**	**26.59**	**165**	P	**P**	**09 09 14.7**	**-0.2**
ASAR	**Alice Springs**	**26.59**	**165**	P	**P**	**09 09 14.7**	**-0.2**
	2.6nm,0.8s,baz=346,slow=6.9,SNR=3.1						
CMAR	**Chiang Mai Arr**	**31.80**	**302**	P	**P**	**09 10 00.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**31.80**	**302**	P	**P**	**09 10 00.4**	**-0.8**
	0.9nm,0.4s,baz=122,slow=6.5,SNR=3.0						
KSAR	**Wonju Array Be**	**35.10**	**1**	P	**P**	**09 10 29.6**	**0.0**
KSRS	**Korea Array**	**35.11**	**1**	P	**P**	**09 10 29.6**	**-0.1**
	0.6nm,0.5s,baz=182,slow=7.3,SNR=3.0						
NWAO	**Narrogin (SRO)**	**36.09**	**194**	P	**P**	**09 10 38.3**	**+0.1**
NWAO	**Narrogin (SRO)**	**36.09**	**194**	P	**P**	**09 10 38.3**	**+0.1**
	9.7nm,0.8s,baz=18,slow=9.6,SNR=3.6						
STKA	**Stephens Creek**	**36.64**	**159**	*e*P	**P**	**09 10 43.2**	**+0.3**
STKA	**Stephens Creek**	**36.64**	**159**	P	**P**	**09 10 42.9**	**-0.1**
	11nm,0.8s,baz=340,slow=7.8,SNR=4.3						
SONM	**Songino Array**	**48.80**	**342**	P	**P**	**09 12 20.1**	**-1.3**
SONM	**Songino Array**	**48.80**	**342**	P	**P**	**09 12 20.1**	**-1.3**
	0.7nm,0.7s,baz=161,slow=7.7,SNR=3.1						
MK31	**Makanchi Array**	**58.90**	**326**	*e*P	**P**	**09 13 34.5**	**-0.5**
MKAR	**Makanchi Array**	**58.90**	**326**	P	**P**	**09 13 34.5**	**-0.5**
MKAR	**Makanchi Array**	**58.90**	**326**	P	**P**	**09 13 34.5**	**-0.5**
	1.5nm,0.5s,baz=119,slow=8.3,SNR=5.6						
KURBB	**Kurchatov Arra**	**63.11**	**328**	P	**P**	**09 14 02.9**	**-0.4**
	2.3nm,0.5s,baz=130,slow=6.1,SNR=8.1						
KURK	**Kurchatov**	**63.12**	**328**	P	**P**	**09 14 02.9**	**-0.4**
ABKAR	**Akbulak array**	**73.44**	**321**	*e*P	**P**	**09 15 08.1**	**+0.2**
	0.5nm,0.3s						
KDAK	**Kodiak Island**	**83.11**	**32**	P	**P**	**09 16 01.9**	**+0.7**
KDAK	**Kodiak Island**	**83.11**	**32**	P	**P**	**09 16 01.9**	**+0.7**
	3.4nm,0.7s,baz=283,slow=3.6,SNR=5.5						
BRTR	**Keskin Array B**	**91.11**	**310**	P	**P**	**09 16 43.2**	**+2.5**
BRTR	**Keskin Array B**	**91.11**	**310**	P	**P**	**09 16 43.2**	**+2.5**
	0.7nm,0.8s,baz=99,slow=4.5,SNR=3.1						

WEL 17 09:16:15.8±0.2, 46°30S×165°80E, h33km, ML4.0/17, 3C-1D, Error ellipse: s-maj=2.2km s-min=1.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.63**	**78**	⇓PN	Pn	09 16 27.9	-0.5
PYZ				SN	Sb	09 16 36.6	-0.5
DCZ	**Deep Cove**	**1.25**	**50**	PN	Pn	09 16 36.6	-0.4
DCZ				SN	Sn	09 16 51.5	-1.2
DCZ				AML	AML	09 16 53.3	
DCZ				AML	AML	09 16 53.4	
DCZ				AML	AML	09 16 54.4	
WHZ	**Wether Hill Ro**	**1.55**	**76**	PN	Pn	09 16 42.2	+1.1
WHZ				AML	AML	09 17 03.0	
WHZ				AML	AML	09 17 04.9	
APZ	**The Paps**	**1.60**	**110**	PN	Pn	09 16 43.1	+1.1
MLZ	**Mavora Lakes**	**1.91**	**61**	PN	Pn	09 16 47.6	+1.4
MLZ				AML	AML	09 17 16.8	
MLZ				AML	AML	09 17 18.7	
MSZ	**Milford Sound**	**2.21**	**43**	PN	Pn	09 16 50.8	+0.6
MSZ				AML	AML	09 17 26.5	
MSZ				AML	AML	09 17 29.0	
MSZ				AML	AML	09 17 36.6	
MSZ				AML	AML	09 17 36.6	
SYZ	**Scrubby Hill**	**2.32**	**97**	PN	Pn	09 16 53.4	+1.7
EAZ	**Earnscleugh**	**2.68**	**68**	⇑PN	Pn	09 16 59.3	+2.7
EAZ				AML	AML	09 17 33.5	
EAZ				AML	AML	09 17 34.4	
TUZ	**Tuapeka**	**2.69**	**84**	⇑PN	Pn	09 16 59.0	+2.2
TUZ				AML	AML	09 17 42.9	
TUZ				AML	AML	09 17 43.0	
WKZ	**Wanaka**	**2.70**	**58**	PN	Pn	09 16 59.6	+2.6
WKZ				AML	AML	09 17 41.7	
WKZ				AML	AML	09 17 47.8	
JCZ	**Jackson Bay**	**3.05**	**44**	PN	Pn	09 17 03.5	+1.6
JCZ				AML	AML	09 17 51.2	
JCZ				AML	AML	09 17 52.6	
ODZ	**Otahua Downs**	**3.62**	**71**	PN	Pn	09 17 10.3	+0.7
ODZ				AML	AML	09 18 13.5	
LBZ	**Lake Benmore**	**3.64**	**60**	PN	Pn	09 17 11.2	+1.4
LBZ				AML	AML	09 17 58.6	
FOZ	**Fox Glacier**	**3.89**	**47**	PN	Pn	09 17 15.4	+2.2
RPZ	**Rata Peaks**	**4.53**	**57**	PN	Pn	09 17 22.7	+0.5
RPZ				AML	AML	09 18 53.3	
WVZ	**Waitaha Valley**	**4.77**	**49**	*e*PN	Pn	09 17 25.7	+0.3
OXZ	**Oxford**	**5.34**	**58**	⇑PN	Pn	09 17 33.1	-0.1
LTZ	**Lake Taylor**	**5.81**	**55**	PN	Pn	09 17 39.5	-0.2

*IDC **17** 09:18:42.9±0.5, 1°34'N×78°86'W, h0km, mb4.3/20, mb1 4.5/22, mb1mx4.4/30, mbtmp4.4/22, ML4.3/2, MS3.9/7, Ms1 3.9/7, ms1mx3.5/26, Error ellipse: s-maj=27.4km s-min=9.8km az=66.0*
*ISCJB **17** 09:18:44.3±0.2, 1°24N±0°02'×79°13W±0°04, h10km, mb4.5/82, MS4.0/6, Error ellipse: s-maj=5.5km s-min=2.2km az=155.7*
*BJI **17** 09:18:44.4, 1°10N×79°00W, h10km, mB5.3/2, Ms5.2/1, Ms7 4.8/1*
*NEIC **17** 09:18:45.1±0.3, 1°20N×78°93W, h10km, mb4.6/68, MD4.7(IGQ), Error ellipse: s-maj=12.7km s-min=5.2km az=62.0*
NEIC Felt at Guayaquil, Ibarra, Portoviejo and San Lorenzo, Ecuador.
*IGQ **17** 09:18:45.2, 1°03N×79°15W, h11km±78km, Mb4.7, Ms4.6, Error ellipse: s-maj=4.4km s-min=1.6km az=3.4*
ISC 17 09:18:44.4±0.3, 1°18N±0°03'×79°08W±0°05, h10km, n521, σ1§13/522, mb4.6/82, MS4.0/6, 178C-178D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LITE	**Lita**	**0.81**	**117**	⇓S	**Sn**	**09 19 13.2**	**-1.0**
COTA	**Cotacachi**	**1.12**	**138**	⇑P	**Pb**	**09 19 05.7**	**-0.5**
OTAV	**Otavalo**	**1.13**	**146**	⇑P	**Pg**	**09 19 05.2**	**-1.0**
OTAV	**Otavalo**	**1.13**	**146**	⇑S	**Sn**	**09 19 21.2**	**-0.7**
OTAV	**Otavalo**	**1.13**	**146**	*e*Pg	**Pg**	**09 19 05.0**	**-1.2**
OTAV				*e*Sg	**Sg**	**09 19 19.4**	**-1.6**
YANA	**Yana**	**1.39**	**158**	P	**Pn**	**09 19 09.8**	**-0.5**
PINO	**Pino**	**1.41**	**160**	⇑P	**Pn**	**09 19 09.9**	**-0.8**
MAG1	**Magdalena**	**1.42**	**209**	⇓P	**Pn**	**09 19 09.5**	**-0.9**
TERV	**Terraza Guagua**	**1.43**	**160**	⇑P	**Pn**	**09 19 10.2**	**-0.7**
GGP	**Refugio Guagua**	**1.43**	**160**	⇑P	**Pn**	**09 19 10.2**	**-0.8**
JUA2	**San Juan 2**	**1.47**	**161**	⇑P	**Pn**	**09 19 10.7**	**-0.7**
CAYA	**Cayambe**	**1.55**	**135**	⇓P	**Pb**	**09 19 13.3**	**-0.3**
CAYR	**Refugio Cayamb**	**1.58**	**137**	P	**Pb**	**09 19 13.9**	**-0.2**
JAMA	**Jama**	**1.82**	**218**	S	**Sn**	**09 19 38.1**	**-0.9**
JAMA	**Jama**	**1.82**	**218**	P	Pn	09 19 14.4	-1.4
PITA	**Cotopaxi Volc**	**1.85**	**159**	⇑P	**Pn**	**09 19 17.7**	**+1.1**
ANTI	**Antisana**	**1.86**	**150**	⇑P	**Pb**	**09 19 18.0**	**-0.9**
CHAR	**Charly**	**1.89**	**132**	P	**Pg**	**09 19 19.7**	**-1.0**
CONE	**Cono NE Rev Vo**	**1.90**	**131**	⇑P	**Pg**	**09 19 19.6**	**-1.3**
NAS2	**Nasa**	**1.92**	**161**	P	**Pn**	**09 19 19.0**	**+1.5**
LAV4	**Lava4-Reventad**	**1.93**	**131**	⇑P	**Pg**	**09 19 19.9**	**-1.5**
CAMI	**Rancho Maria**	**1.93**	**163**	P	**Pn**	**09 19 19.2**	**+1.5**
VC1	**Cotopaxi 1**	**1.93**	**159**	⇑P	**Pn**	**09 19 19.2**	**+1.4**
BNAS	**Cotopaxi Volca**	**1.94**	**162**	⇑P	**Pn**	**09 19 19.4**	**+1.5**
BREF	**Cotopaxi Volca**	**1.95**	**161**	⇑S	**Sg**	**09 19 49.3**	**+2.2**
BREF	**Cotopaxi Volca**	**1.95**	**161**	⇑P	**Pn**	**09 19 19.6**	**+1.5**
BTAM	**Cotopaxi Volca**	**1.97**	**160**	⇑P	**Pn**	**09 19 19.8**	**+1.5**
BTAM	**Cotopaxi Volca**	**1.97**	**160**	⇑S	**Sg**	**09 19 48.7**	**+1.0**
COV1	**Cotopaxi Volc**	**1.98**	**158**	⇑P	**Pn**	**09 19 19.7**	**+1.2**
MOV1	**Cotopaxi Vol s**	**1.99**	**161**	⇓P	**Pn**	**09 19 20.0**	**+1.4**
TAMB	**Tambo**	**2.00**	**159**	⇑P	**Pn**	**09 19 20.2**	**+1.5**
BMOR	**Cotopaxi Volca**	**2.00**	**162**	⇑P	**Pn**	**09 19 20.1**	**+1.3**
PISA	**Pisayambo**	**2.33**	**163**	⇓P	**Pb**	**09 19 25.7**	**-1.1**
JUI6	**Juive**	**2.66**	**167**	P	**Pn**	**09 19 30.1**	**+2.5**
RUN5	**Runtun**	**2.66**	**166**	P	**Pn**	**09 19 30.3**	**+2.6**
BRUN	**Tungurahua Vol**	**2.67**	**165**	S	**Sb**	**09 20 08.2**	**+2.7**
BRUN	**Tungurahua Vol**	**2.67**	**165**	P	**Pn**	**09 19 30.1**	**+2.3**
BBIL	**Ulba Tungurahu**	**2.68**	**167**	⇓P	**Pb**	**09 19 31.2**	**-1.5**
BIL2	**Estacion Bilba**	**2.68**	**167**	⇓P	**Pb**	**09 19 31.1**	**-1.5**
BULB	**Ulba Tungurahu**	**2.69**	**165**	S	**Sg**	**09 20 11.9**	**+1.1**
BULB	**Ulba Tungurahu**	**2.69**	**165**	P	**Pn**	**09 19 30.4**	**+2.3**
IGUA	**Igualata**	**2.69**	**170**	P	**Pn**	**09 19 30.5**	**+2.2**
RETU	**Refugio**	**2.69**	**166**	P	**Pn**	**09 19 30.8**	**+2.5**
BMAS	**Trigal station**	**2.73**	**167**	⇑P	**Pn**	**09 19 30.8**	**+2.1**
ARRY	**Arrayan**	**2.74**	**167**	P	**Pn**	**09 19 30.8**	**+2.0**
PAT1	**Patacocha**	**2.75**	**166**	P	**Pn**	**09 19 31.2**	**+2.2**
CHIS	**Cerro-Chispas-**	**2.76**	**217**	P	**Pn**	**09 19 27.9**	**-0.8**
ROSC	**El Rosal**	**5.99**	**52**	*e*Pn	Pn	09 20 16.2	+2.7
ROSC				*e*Sn	**Sn**	**09 21 21.8**	**-0.6**
ROSC	**El Rosal**	**5.99**	**52**	Pn	Pn	09 20 16.4	+2.9
	5.6nm,0.3s,baz=240,slow=6.5,SNR=10						
ROSC				Sn	**Sn**	**09 21 22.5**	**+0.1**
	1.2nm,0.3s,baz=270,slow=20,SNR=2.3						
ROSC				LR	LR	09 22 47.4	
	comp=Z,685nm,19.2s,baz=3.9,slow=43						
ATAH	**Atahualpa**	**8.29**	**175**	Pn	**Pn**	**09 20 47.1**	**+1.9**
ATAH				Sn	Sn	09 22 26.4	+7.3
ATAH	**Atahualpa**	**8.29**	**175**	Pn	**Pn**	**09 20 47.1**	**+1.9**
	3.1nm,0.3s,baz=1.5,slow=6.6,SNR=15						
ATAH				Sn	Sn	09 22 26.4	+7.3
	1.0nm,0.3s,baz=184,slow=14,SNR=4.3						
ATAH				LR	LR	09 24 09.7	
	comp=Z,639nm,18.2s,baz=134,slow=39						
NNA	**Nana**	**13.27**	**170**	*e*Pn	**Pn**	**09 21 51.9**	**-1.1**
NNA				*e*Sn	**Sn**	**09 24 16.6**	**-4.2**
NNA	**Nana**	**13.27**	**170**	Pn	**Pn**	**09 21 54.5**	**+1.5**
	1.6nm,0.3s,baz=327,slow=9.8,SNR=5.5						
NNA				Sn	**Sn**	**09 24 22.6**	**+1.8**
	0.9nm,0.3s,baz=196,slow=18,SNR=2.7						
TGUH	**Tegucigalpa,Un**	**15.14**	**328**	*e*Pn	**Pn**	**09 22 19.7**	**+1.2**
	25nm,1.0s						
SAML	**Samuel**	**18.77**	**123**	*e*P	**P**	**09 23 02.9**	**-0.9**
	7.1nm,0.6s						
LPAZ	**La Paz**	**20.45**	**149**	*e*P	**P**	**09 23 22.9**	**0.0**
	44nm,0.6s						
LPAZ	**La Paz**	**20.45**	**149**	P	**P**	**09 23 23.5**	**+0.6**
	36nm,0.6s,baz=341,slow=7.0,SNR=139						
LPAZ				LR	LR	09 32 56.1	
	comp=Z,390nm,18.3s,baz=84,slow=42						
TEIG	**Tepich**	**20.95**	**335**	P	**P**	**09 23 28.2**	**+0.6**
TEIG	**Tepich**	**20.95**	**335**	P	**P**	**09 23 28.2**	**+0.6**
	9.2nm,0.8s,baz=263,slow=11,SNR=6.1						
SIV	**San Ignacio**	**24.65**	**135**	P	**P**	**09 24 05.9**	**+0.3**
SIV	**San Ignacio**	**24.65**	**135**	P	**P**	**09 24 05.9**	**+0.3**
	6.0nm,0.6s,baz=320,slow=9.7,SNR=22						
SIV				LR	LR	09 34 09.9	
	comp=Z,470nm,19.4s,slow=38						
LVC	**Limon Verde**	**25.64**	**158**	*e*P	**P**	**09 24 16.2**	**+1.5**
	20nm,0.6s						
LVC	**Limon Verde**	**25.64**	**158**	P	**P**	**09 24 16.5**	**+1.8**
	14nm,0.5s,baz=314,slow=7.5,SNR=24						

	baz=38							
128A	Castleberry Fa	38.25	327	⇓P	P	09	26	04.9 -0.1
	baz=38							
Z29A	Hungry Hill Ra	38.33	329	⇑P	P	09	26	06.1 +0.5
	baz=38,SNR=9.2							
425A	Indio Mountain	38.34	323	⇑P	P	09	26	06.0 +0.3
	baz=38							
Y30A	Stafford Cattl	38.41	330	⇓P	P	09	26	06.1 -0.2
	baz=39							
X31A	McDonald Ranch	38.58	332	⇓P	P	09	26	07.6 0.0
	baz=39							
Z28A	Tucker Farm, M	38.71	328	⇓P	P	09	26	08.8 -0.1
	baz=39,SNR=6.4							
MVL	Millersville	38.72	3	eP	P	09	26	10.4 +1.8
	24nm,1.4s							
325A	Bean Ranch, Si	38.74	323	⇓P	P	09	26	09.3 +0.1
	baz=39							
226B	Tecolote Peak,	38.78	325	⇓P	P	09	26	09.8 +0.4
	baz=39,SNR=10							
Y29A	Porterfield Fa	38.79	329	⇑P	P	09	26	09.7 +0.2
	baz=39,SNR=11							
X30A	Coker Ranch, T	38.85	331	⇑P	P	09	26	09.9 -0.1
	baz=39							
324A	Moseley Ranch,	39.10	323	⇑P	P	09	26	12.2 0.0
	baz=39,SNR=9.4							
Y28A	McKinney Farm,	39.12	329	⇑P	P	09	26	12.6 +0.3
	baz=39,SNR=7.7							
225A	Deer Hill, Car	39.19	324	⇑P	P	09	26	12.8 -0.1
	baz=39							
MNTX	Cornudas Mount	39.22	323	eP	P	09	26	13.8 +0.7
	6.3nm,1.3s							
X29A	Tulia	39.26	330	⇑P	P	09	26	14.2 +0.7
	baz=40,SNR=8.3							
MSTX	Muleshoe	39.44	328	⇓P	P	09	26	15.2 +0.2
	baz=40,SNR=30							
125A	Gardner Draw,	39.49	325	⇓P	P	09	26	15.7 +0.3
	baz=40							
Z26A	Caprock	39.56	326	⇓P	P	09	26	16.9 +0.9
	baz=40,SNR=17							
X28A	Dimmitt	39.57	329	⇑P	P	09	26	16.6 +0.6
	baz=40,SNR=16							
224A	Cornudas Mount	39.57	324	⇓P	P	09	26	16.2 0.0
	baz=40							
Y27A	Causey	39.58	328	⇑P	P	09	26	16.6 +0.4
	baz=40,SNR=39							
AMTX	Amarillo	39.60	330	eP	P	09	26	16.3 0.0
	7.3nm,0.9s							
W29A	Amraillo	39.77	331	⇑P	P	09	26	18.2 +0.5
	baz=40							
Y26A	Elida	39.97	327	⇑P	P	09	26	20.1 +0.7
	baz=40,SNR=18							
124A	Stringfield Ra	39.98	324	⇓P	P	09	26	20.2 +0.5
	baz=40,SNR=7.3							
Z25A	Roswell	39.98	326	⇑P	P	09	26	20.6 +1.1
	baz=40,SNR=24							
X27A	F and S Farms,	40.14	329	⇑P	P	09	26	21.9 +1.1
	baz=40,SNR=6.5							
Z24A	Sheeppen Canyo	40.38	325	⇓P	P	09	26	24.2 +1.2
	baz=41,SNR=7.9							
X26A	CR and CF Fran	40.44	328	⇓P	P	09	26	24.2 +0.9
	baz=41							
W27A	Bowe Ranch, En	40.44	329	⇑P	P	09	26	24.3 +1.0
	baz=41,SNR=12							
Y25A	Mesa, Roswell	40.44	326	⇑P	P	09	26	24.7 +1.3
	baz=41,SNR=11							
U30A	WK&E Inc. Balk	40.45	333	⇑P	P	09	26	24.3 +1.1
	baz=41							
W26A	Owens Ranch, T	40.83	328	⇓P	P	09	26	27.9 +1.4
	baz=41,SNR=8.8							
Y24A	Capitan	40.86	326	⇑P	P	09	26	28.1 +1.2
	baz=41,SNR=6.3							
122A	Conniff Cattle	40.90	323	⇑P	P	09	26	28.6 +1.5
	baz=41							
BINY	Binghamton	40.93	4	eP	P	09	26	28.6 +1.5
	22nm,1.4s							
Y23A	Lovelace Mesa,	41.22	325	⇓P	P	09	26	31.3 +1.5
	baz=41,SNR=9.6							
T29A	Hugoton	41.25	333	⇓P	P	09	26	31.1 +1.2
	baz=42							
121A	Cookes Peak, D	41.26	322	⇑P	P	09	26	31.7 +1.5
	baz=42,SNR=9.6							
Z22A	Elephant Butte	41.26	324	⇓P	P	09	26	31.6 +1.5
	baz=42,SNR=6.5							
W25A	X Bar L Ranch,	41.29	328	⇓P	P	09	26	31.7 +1.3
	baz=42,SNR=30							
220A	Playas Peak, P	41.30	321	⇑P	P	09	26	31.7 +1.3
	baz=42,SNR=13							
V26A	Tequesquite Ra	41.38	329	⇓P	P	09	26	32.6 +1.5
	baz=42,SNR=32							
U27A	Thompson Grove	41.39	331	⇓P	P	09	26	31.9 +0.8
	baz=42,SNR=18							
R31A	Burdett	41.42	335	⇓P	P	09	26	31.9 +0.6
	baz=42							
319A	Douglas	41.44	319	⇓P	P	09	26	31.8 +0.3
	baz=42,SNR=8.4							
S29A	Ulysses	41.55	333	⇑P	P	09	26	33.7 +1.3
	baz=42							
T28A	Walsh	41.60	332	⇑P	P	09	26	33.8 +1.0
	baz=42							
BNM	Barren Site	41.70	325	eP	P	09	26	35.5 +1.7
	8.0nm,1.2s							
Z21A	St. Cloud Mine	41.72	323	⇓P	P	09	26	34.8 +0.8
	baz=42							
R30A	Dighton	41.74	335	⇑P	P	09	26	35.1 +1.2
	baz=42,SNR=7.0							
Y22A	Socorro	41.75	324	⇓P	P	09	26	34.8 +0.7
	baz=42							
120A	U Bar Ranch, L	41.79	321	⇓P	P	09	26	35.4 +0.9
	baz=42							
W24A	Lazy 6 Ranch,	41.79	327	⇓P	P	09	26	35.7 +1.1
	baz=42,SNR=7.9							
U26A	Atchley Ranch,	41.82	330	⇓P	P	09	26	36.2 +1.4
	baz=42,SNR=30							
V25A	Rancho No Teng	41.84	328	⇑P	P	09	26	36.1 +1.2
	baz=42,SNR=26							
T27A	Campo	41.84	331	⇑P	P	09	26	35.7 +0.8
	baz=42							
S28A	Manter	41.88	333	⇓P	P	09	26	35.9 +0.8
	baz=42							
Q31A	Ellis	41.98	336	⇓P	P	09	26	36.6 +0.8
	baz=42							
V24A	Rampart Ranch,	42.11	328	⇑P	P	09	26	38.3 +1.2
	baz=42,SNR=12							
TRQA	Tornquist	42.12	160	eP	P	09	26	37.2 +0.4
	39nm,0.8s							
Z20A	Nine Sixteen R	42.15	322	⇑P	P	09	26	38.6 +1.2
	baz=42,SNR=7.0							
U25A	Circle Dot Ran	42.17	329	⇓P	P	09	26	38.7 +1.2
	baz=42,SNR=11							
W23A	Werner Place,	42.17	326	⇑P	P	09	26	38.7 +1.1
	baz=42,SNR=9.8							
LAZ	Ladron	42.18	325	eP	P	09	26	36.1 -1.6
	2.0nm,0.9s							
X22A	Bernardo	42.18	325	⇑P	P	09	26	38.4 +0.7
	baz=42							
ANMO	Albuquerque	42.18	326	eP	P	09	26	39.0 +1.3
	13nm,0.9s							
ANMO	Albuquerque	42.18	326	P	P	09	26	39.1 +1.4
	12nm,0.9s,baz=144,slow=8.9,SNR=39							
Y21A	Point of Rocks	42.21	324	⇓P	P	09	26	39.1 +1.1
	baz=42							
R29A	Marienthal	42.23	334	⇑P	P	09	26	39.0 +1.2
	baz=42							
Q30A	Quinter	42.30	335	⇓P	P	09	26	39.9 +1.5
	baz=42							
T26A	Comanche Natio	42.36	331	⇑P	P	09	26	40.1 +1.0
	baz=43							
PLCA	Paso Flores	42.44	170	eP	P	09	26	40.2 +0.7
PLCA	Paso Flores	42.44	170	P	P	09	26	39.6 +0.1
	18nm,0.8s,baz=340,slow=9.4,SNR=39							
R28A	Tribune	42.46	333	⇓P	P	09	26	40.7 +0.9
	baz=43,SNR=8.8							
Q29A	Oakley	42.54	335	⇓P	P	09	26	41.3 +0.8
	baz=43							
Y20A	Horse Springs,	42.56	323	⇑P	P	09	26	42.1 +1.2
	baz=43,SNR=11							
X21A	Alamocita Cree	42.59	324	⇑P	P	09	26	42.4 +1.4
	baz=43,SNR=7.6							
V23A	Ortiz Mt. (NFS	42.61	327	⇓P	P	09	26	42.0 +0.7
	baz=43,SNR=6.9							
U24A	Moreno Valley	42.63	328	⇓P	P	09	26	42.6 +1.2
	baz=43,SNR=7.1							
S26A	Kim	42.65	331	⇑P	P	09	26	42.8 +1.4
	baz=43,SNR=9.1							
T25A	Trinidad	42.74	330	⇓P	P	09	26	43.5 +1.3
	baz=43,SNR=12							
P30A	Selden	42.78	336	⇑P	P	09	26	43.2 +0.9
	baz=43							
R27A	Eads	42.86	332	⇓P	P	09	26	44.1 +1.0
	baz=43,SNR=22							
W21A	San Fidel	42.98	325	⇓P	P	09	26	44.8 +0.5
	baz=43,SNR=5.5							
TUC	Tucson	43.01	319	eP	P	09	26	47.1 +2.8
	30nm,1.0s							
U23A	El Rito	43.05	327	⇑P	P	09	26	46.3 +1.5
	baz=43,SNR=27							
Q28A	Sharon Springs	43.06	334	⇓P	P	09	26	45.3 +0.6
	baz=43,SNR=5.1							
X20A	Quemado	43.07	324	⇓P	P	09	26	46.0 +1.0
	baz=43							
V22A	San Miguel Ran	43.14	326	⇓P	P	09	26	46.4 +0.9
	baz=43							
S25A	Robets Cordova	43.16	330	⇓P	P	09	26	46.9 +1.3
	baz=43,SNR=14							
R26A	Arlington	43.18	332	⇓P	P	09	26	47.1 +1.4
	baz=43,SNR=19							
KSCO	Kaye Shedlock'	43.37	333	⇓P	P	09	26	48.8 +1.6
	baz=44							
P28A	Saint Francis	43.45	334	⇑P	P	09	26	49.2 +1.4
	baz=44							
U22A	Llaves	43.45	327	⇓P	P	09	26	49.6 +1.6
	baz=44,SNR=12							
V21A	Milan	43.47	326	⇑P	P	09	26	49.6 +1.4
	baz=44,SNR=5.4							
W20A	Ramah	43.48	324	⇑P	P	09	26	49.7 +1.4
	baz=44,SNR=6.5							
T23A	Casias Ranch,	43.50	328	⇑P	P	09	26	49.6 +1.2
	baz=44,SNR=9.8							
O29A	4D Ranch, Culb	43.50	336	⇓P	P	09	26	49.5 +1.3
	baz=44							
S24A	Houchin Ranch,	43.53	329	⇑P	P	09	26	50.0 +1.3
	baz=44,SNR=9.6							
Q26A	Hugo	43.71	332	⇓P	P	09	26	51.3 +1.3
	baz=44							
SDCO	Great Sand Dun	43.76	329	eP	P	09	26	52.0 +1.4
	18nm,1.0s							
P27A	Ficken Ranch,	43.79	334	⇑P	P	09	26	51.8 +1.2
	baz=44							
U21A	Nageezi	43.93	326	⇑P	P	09	26	53.0 +1.2
	baz=44,SNR=13							
R24A	Sanders Place,	43.93	330	⇓P	P	09	26	52.9 +1.0
	baz=44							
T22A	Edith	43.94	327	⇓P	P	09	26	52.9 +0.9
	baz=44							
Q25A	Bedland, Calha	44.05	332	⇓P	P	09	26	54.1 +1.3
	baz=44							
214A	Organ Pipe Nat	44.14	317	⇑P	P	09	26	54.7 +1.3
	baz=44,SNR=10							
P26A	Davis Ranch, A	44.14	333	⇓P	P	09	26	54.1 +0.7
	baz=44							
W18A	Petrified Fore	44.21	323	⇓P	P	09	26	55.1 +1.0
	baz=44,SNR=10.0							
R23A	Moffat	44.26	329	⇓P	P	09	26	55.8 +1.2
	baz=44,SNR=13							
T21A	Navajo Lake	44.27	327	⇓P	P	09	26	55.5 +0.9
	baz=44							
N28A	Pribbeno Ranch	44.28	335	⇓P	P	09	26	55.5 +1.1
	baz=44,SNR=6.0							
U20A	Newcomb	44.37	325	⇑P	P	09	26	56.6 +1.2
	baz=45,SNR=12							
S22A	4UR Ranch, Cre	44.45	328	⇑P	P	09	26	57.0 +0.9
	baz=45,SNR=12							
P25A	Willow Gulch B	44.48	332	⇑P	P	09	26	57.3 +1.1
	baz=45,SNR=5.7							
Q24A	Divide	44.52	331	⇓P	P	09	26	57.5 +0.8
	baz=45							
R22A	Saguache, Gunn	44.77	329	⇓P	P	09	26	59.9 +1.2
	baz=45,SNR=10							
X16A	Lo Mia Camp, P	44.79	321	⇓P	P	09	26	59.6 +0.8
	baz=45,SNR=15							
N27A	Arnerson Farm,	44.80	335	⇑P	P	09	27	00.1 +1.5
	baz=45							
P24A	Kohler Place,	44.84	331	⇑P	P	09	26	59.7 +0.7
	baz=45							
S21A	Coal Bank Pass	44.90	327	⇓P	P	09	27	00.4 +0.7
	baz=45							
MVCO	Mesa Verde	44.96	326	eP	P	09	27	01.3 +1.2
	20nm,1.6s							
MVCO	Mesa Verde	44.96	326	⇑P	P	09	27	00.9 +0.8
	baz=45							
ECSD	EROS Data Cent	45.16	342	eP	P	09	26	59.5 -1.8
	9.6nm,1.3s							
P23A	Jefferson	45.18	331	⇑P	P	09	27	02.7 +0.8
	baz=45,SNR=8.4							
113A	Mohawk Valley,	45.28	318	⇓P	P	09	27	03.3 +1.0
	baz=46,SNR=12							
R21A	Cimarron	45.29	328	⇓P	P	09	27	03.8 +1.1
	baz=46,SNR=6.8							
Q22A	Crest Butte,	45.33	329	⇑P	P	09	27	04.1 +1.0
	baz=46,SNR=24							
S20A	Disappointment	45.33	327	⇑P	P	09	27	04.2 +1.1
	baz=46,SNR=5.9							
O24A	Longmont	45.39	332	⇓P	P	09	27	04.3 +0.9
	baz=46							
ISCO	Idaho Springs	45.40	331	eP	P	09	27	04.5 +0.9
	2.5nm,0.8s							
ISCO	Idaho Springs	45.40	331	⇑P	P	09	27	03.8 +0.2
	baz=46							
WUAZ	Wupatki	45.47	322	eP	P	09	27	05.8 +1.7
	21nm,1.0s							
WUAZ	Wupatki	45.47	322	⇑P	P	09	27	04.8 +0.7
	baz=46,SNR=15							
Y14A	Wickenburg	45.48	319	⇓P	P	09	27	04.9 +0.8
	baz=46,SNR=9.1							
SPMN	St. Paul	45.50	346	⇑P	P	09	27	04.2 +0.2
	baz=46							
SMCO	Snowmass	45.60	329	eP	P	09	27	06.9 +1.6
	7.9nm,0.8s							
R20A	Redvale	45.60	327	⇑P	P	09	27	05.7 +0.6
	baz=46							
PV01	Paradox Valley	45.66	327	eP	P	09	27	06.9 +1.2
	399nm,1.0s							
P22A	Eagle	45.80	330	⇓P	P	09	27	07.9 +1.1
	baz=46,SNR=6.9							
N24A	Carr	45.86	333	⇓P	P	09	27	07.5 +0.4
	baz=46							
O23A	Lake Granby, G	45.86	331	⇓P	P	09	27	08.3 +0.9
	baz=46,SNR=6.9							
M25A	Palm-Egli Farm	45.98	334	⇑P	P	09	27	08.9 +0.9
	baz=46							
PV04	Paradox Valley	46.03	327	eP	P	09	27	11.7 +3.2
P21A	Newcastle	46.10	329	⇑P	P	09	27	09.9 +0.9
	baz=46,SNR=12							
Q20A	Ridgley Place,	46.11	328	⇑P	P	09	27	10.1 +0.9
	baz=46							
O22A	Kremmling	46.13	331	⇓P	P	09	27	09.9 +0.4
	baz=46,SNR=5.9							
K27A	Flueckinger Fa	46.25	336	⇑P	P	09	27	11.0 +0.9
	baz=46							
M24A	Cheyenne	46.34	333	⇓P	P	09	27	11.7 +0.7
	baz=46							
Y12C	Blythe	46.37	318	⇓P	P	09	27	11.6 +0.6
	baz=47							
N23A	Red Feather La	46.41	332	⇓P	P	09	27	12.1 +0.5
	baz=47,SNR=5.7							
J28A	Allard Ranch,	46.47	338	⇓P	P	09	27	12.0 +0.2
	baz=47							
PHWY	Pilot Hill	46.50	333	eP	P	09	27	14.5 +2.2
	12nm,1.3s							
BRSD	Miller	46.55	340	⇓P	P	09	27	12.6 +0.3
	baz=47							
P20A	De Beque	46.57	329	⇑P	P	09	27	13.4 +0.6
	baz=47							
N22A	Wattenberg Ran	46.58	331	⇓P	P	09	27	13.8 +0.8
	baz=47							
U15A	North Rim	46.63	323	⇓P	P	09	27	13.7 +0.3
	baz=47,SNR=11							
O21A	Pagoda	46.63	330	⇑P	P	09	27	14.2 +1.0
	baz=47							
W13A	Hualapai Mount	46.77	320	⇑P	P	09	27	14.3 -0.1
	baz=47,SNR=5.9							
K25A	Mack Ranch, Ha	46.85	335	⇓P	P	09	27	15.4 +0.6
	baz=47							
L24A	Wheatland	46.85	334	⇑P	P	09	27	15.7 +0.8
	baz=47							
BC3	Big Chuckawall	46.94	317	⇑P	P	09	27	15.1 -0.6
	baz=47,SNR=5.8							
I28A	Midland	46.94	338	⇑P	P	09	27	15.0 -0.3
	baz=47							
O20A	White River Ci	46.96	329	⇓P	P	09	27	15.9 +0.1
	baz=47							
P19A	Cripple Cowboy	46.97	328	⇓P	P	09	27	16.4 +0.4
	baz=47							
IRM	Iron Mountain	47.03	318	⇑P	P	09	27	17.2 +1.0
	baz=47,SNR=6.6							
N21A	Black Mountain	47.07	330	⇓P	P	09	27	16.7 0.0
	baz=47							
M22A	Cedar Creek Ra	47.11	332	⇓P	P	09	27	17.2 +0.1
	baz=47							
MONP	Monument Peak	47.16	316	⇑P	P	09	27	18.3 +0.7
	baz=47,SNR=6.7							
L23A	Garrett	47.26	333	⇓P	P	09	27	19.2 +1.0
	baz=48,SNR=7.7							
I27A	Quinn	47.33	338	⇓P	P	09	27	18.8 +0.3
	baz=48							
SRU	San Rafael	47.43	327	eP	P	09	27	20.7 +1.2
	11nm,1.0s							
J25A	Sunshine Ranch	47.46	336	⇓P	P	09	27	20.3 +0.8
	baz=48							
N20A	Spence Gulch,	47.49	330	⇓P	P	09	27	20.8 +0.8
	baz=48,SNR=7.2							
BELC	Belle Mtn. Jos	47.51	317	⇓P	P	09	27	20.1 0.0
	baz=48							
L22A	Ellis Ranch, M	47.53	332	⇓P	P	09	27	21.3 +1.1
	baz=48							
PFO	Pinyon Flat Ob	47.59	317	⇑P	P	09	27	21.3 +0.5
	baz=48							
I26A	New Underwood	47.61	337	⇑P	P	09	27	21.3 +0.6
	baz=48							
RWWY	Rawlins	47.63	331	eP	P	09	27	23.8 +2.8
	13nm,1.0s							
M21A	Separation Pea	47.64	331	⇑P	P	09	27	21.7 +0.6
	baz=48							
109C	Camp Elliot, M	47.64	315	⇑P	P	09	27	21.8 +0.8
	baz=48							
K23A	Bowen Ranch, D	47.73	334	⇓P	P	09	27	22.6 +0.9
	baz=48							
GMRC	Granite Mounta	47.74	318	⇑P	P	09	27	23.0 +1.2
	baz=48,SNR=5.9							
J24A	Dixon Ranch, L	47.77	335	⇑P	P	09	27	23.2 +1.2
	baz=48							
G28A	Parade	47.77	339	⇑P	P	09	27	22.4 +0.5
	baz=48							
H27A	Howes	47.82	338	⇓P	P	09	27	22.4 +0.1
	baz=48							
L21A	Rawlins	47.91	332	⇓P	P	09	27	24.0 +0.8
	baz=48							
MSU	Marysvale	47.95	325	eP	P	09	27	25.4 +1.8
M20A	Sweetwater, Wa	47.95	331	⇓P	P	09	27	24.3 +0.7
	baz=48							
I25A	Rochford	47.95	336	⇑P	P	09	27	24.4 +0.9
	baz=48							
MVU	Marysvale	47.96	325	eP	P	09	27	25.3 +1.6
	6.9nm,1.0s							
CCUT	Cedar City	48.01	323	eP	P	09	27	27.6 +3.6
	7.8nm,1.3s							
K22A	Casper	48.05	333	⇑P	P	09	27	24.9 +0.6
	baz=48							
H26A	Fairpoint	48.07	337	⇑P	P	09	27	24.4 +0.2
	baz=48							
MURC	Murrieta	48.10	316	⇓P	P	09	27	24.7 0.0
	baz=48							
RSSD	Black Hills	48.16	336	eP	P	09	27	26.3 +1.2
	21nm,0.8s							
I24A	Kuemmerle Ranc	48.19	335	⇓P	P	09	27	26.1 +0.8
	baz=48							
ARUT	Antelope Range	48.21	323	eP	P	09	27	27.5 +1.9
	4.8nm,1.0s							
HEC	Hector,Ludlow	48.21	318	⇓P	P	09	27	26.2 +0.7
	baz=48							
J23A	Dilts Ranch, B	48.22	334	⇓P	P	09	27	25.5 0.0
	baz=48							
BBRC	Big Bear Solar	48.28	317	⇑P	P	09	27	26.2 0.0
	baz=48							
TUQ	Turquoise Moun	48.30	319	⇓P	P	09	27	26.3 0.0
	baz=48							
K21A	Alcova	48.38	332	⇓P	P	09	27	27.0 +0.2
	baz=49							
H25A	Fruitdale	48.40	337	⇑P	P	09	27	27.6 +0.8
	baz=49							
G27A	Dupree	48.40	339	⇓P	P	09	27	26.9 +0.1
	baz=49							
L20A	Wamsutter	48.41	331	⇑P	P	09	27	27.6 +0.5
	baz=49							
SHPR	Sheep Range	48.46	321	eP	P	09	27	30.4 +2.9
J22A	Midwest	48.63	333	⇓P	P	09	27	29.3 +0.6
	baz=49,SNR=18							
DAU	Daniels Canyon	48.75	327	eP	P	09	27	30.7 +0.9
BFSC	Mount Baldy Ra	48.78	317	⇓P	P	09	27	30.1 +0.2
	baz=49							
GSC	Goldstone	48.80	318	eP	P	09	27	33.5 +3.5
	12nm,1.0s							
GSC	Goldstone	48.80	318	⇓P	P	09	27	30.6 +0.5
	baz=49,SNR=8.9							
SHOC	Shoshone	48.81	319	⇑P	P	09	27	30.9 +0.9
	baz=49,SNR=7.3							
H24A	Dirks Ranch, A	48.89	336	⇓P	P	09	27	31.5 +1.0
	baz=49							
K20A	Yellowstone Ra	48.91	331	⇓P	P	09	27	31.0 +0.2
	baz=49,SNR=7.4							
JLU	Jordanelle	48.98	327	eP	P	09	27	32.4 +0.8
	4.3nm,0.7s							
L19A	Farson	48.99	330	⇑P	P	09	27	31.7 +0.2
	baz=49							
I22A	9 Mile Ranch,	49.02	334	⇓P	P	09	27	32.2 +0.7
	baz=49							
J21A	Lysite	49.02	333	⇓P	P	09	27	32.4 +0.7
	baz=49							
AGMN	Agassiz Nation	49.12	345	eP	P	09	27	32.0 -0.1
M17A	Scullys Gap (B	49.19	329	⇓P	P	09	27	33.3 +0.2
	baz=49							
L18A	Fontenelle, Gr	49.20	330	⇓P	P	09	27	33.1 0.0
	baz=49							
K19A	Absolon Red Bu	49.28	331	⇑P	P	09	27	33.9 +0.2
	baz=50,SNR=6.4							
G24A	Alzada	49.31	337	⇓P	P	09	27	33.9 +0.1
	baz=50,SNR=6.6							
I21A	Big Trails, Te	49.31	333	⇓P	P	09	27	33.8 -0.1
	baz=50,SNR=7.0							
EDW2	Edwards Air Fo	49.36	317	⇓P	P	09	27	35.2 +0.9
	baz=50,SNR=5.2							
DUG	Dugway

I18A	Diamond G Ranc	50.40	331	⇓P		P	09 27 42.9	+0.6
	baz=51							
E23A	Ismay	50.62	337	⇑P		P	09 27 44.8	+1.1
	baz=51							
PKM	Peak Mountain	50.63	316	⇑P		P	09 27 44.6	+0.5
	baz=51,SNR=5.7							
VES	Vestal, Richgr	50.64	318	⇑P		P	09 27 44.2	+0.3
	baz=51							
SNOW	Snow King Moun	50.68	330	*e*P		P	09 27 45.0	+0.6
	7.1nm,1.1s							
LOHW	Long Hollow	50.72	331	*e*P		P	09 27 47.1	+2.4
	5.6nm,1.2s							
H19A	Powell	50.75	333	⇓P		P	09 27 45.4	+0.6
	baz=51							
D24A	Glendive	50.76	338	⇑P		P	09 27 45.5	+0.8
	baz=51,SNR=19							
G20A	Bridger	50.82	334	⇓P		P	09 27 45.3	0.0
	baz=51							
E22A	Miles City	50.83	336	⇑P		P	09 27 45.3	+0.1
	baz=51,SNR=8.0							
MOOW	Moose Ponds	50.89	331	*e*P		P	09 27 46.3	+0.3
	3.8nm,0.9s							
I17A	Pilgrim Ck.	50.93	331	⇑P		P	09 27 46.4	+0.1
	baz=51							
ULM	Lac du Bonnet	50.94	346	P		P	09 27 44.2	-1.6
	8.0nm,0.6s							
ULM	Lac du Bonnet	50.94	346	P		P	09 27 44.2	-1.6
	8.7nm,0.6s,baz=158,slow=7.4,SNR=8.5							
SMMC	Simmler	50.97	316	⇓P		P	09 27 46.9	+0.4
	baz=51							
RCTC	Rector, Farmer	51.00	318	⇑P		P	09 27 47.5	+0.9
	baz=51							
H18A	Shoshone NF, C	51.07	332	⇓P		P	09 27 47.6	+0.4
	baz=51							
D23A	Lindsay	51.14	337	⇓P		P	09 27 48.0	+0.4
	baz=51,SNR=12							
C24A	Savage	51.14	338	⇓P		P	09 27 47.8	+0.2
	baz=51,SNR=6.1							
MTUM	Tungsten Hills	51.15	319	*e*P		P	09 27 51.3	+3.3
RLMT	Red Lodge	51.22	333	*e*P		P	09 27 48.7	+0.3
	5.0nm,0.8s							
F20A	Billings	51.25	334	⇑P		P	09 27 48.5	+0.1
	baz=51							
D22A	Cohagen	51.50	337	⇑P		P	09 27 50.8	+0.5
	baz=52,SNR=18							
G18A	Lazy EL Ranch,	51.51	333	⇑P		P	09 27 50.4	-0.1
	baz=52							
NVAR	Mina Array Bea	51.61	321	P		P	09 27 52.3	+0.9
NVAR	Mina Array Bea	51.61	321	P		P	09 27 52.3	+0.9
	6.9nm,0.9s,baz=132,slow=6.9,SNR=37							
F19A	Roth Farm, Mol	51.64	334	⇑P		P	09 27 51.4	0.0
	baz=52							
C23A	Lambert	51.65	338	⇑P		P	09 27 51.1	-0.3
	baz=52							
D21A	La Casta Ranch	51.76	336	⇑P		P	09 27 53.0	+0.8
	baz=52,SNR=12							
E20A	Meyer Farm, Mu	51.79	335	⇓P		P	09 27 53.1	+0.6
	baz=52,SNR=20							
H16A	Russell Place,	51.84	331	⇓P		P	09 27 53.6	+0.6
	baz=52,SNR=5.8							
DGMT	Dagmar	51.85	339	*e*P		P	09 27 55.4	+2.6
	12nm,1.0s							
DGMT	Dagmar	51.85	339	⇑P		P	09 27 52.8	0.0
	baz=52							
C22A	Vida	51.88	337	⇑P		P	09 27 53.6	+0.6
	baz=52,SNR=12							
GCMT	Greycliff	51.91	333	*e*P		P	09 27 54.1	+0.6
	6.2nm,0.9s							
QLMT	Earthquake Lak	52.02	331	*e*P		P	09 27 57.0	+2.7
F18A	Big Timber	52.02	333	⇓P		P	09 27 54.7	+0.4
	baz=52,SNR=27							
E19A	Rath Farm, Rou	52.04	334	⇓P		P	09 27 54.7	+0.3
	baz=52,SNR=7.3							
G17A	Pierce Place,	52.05	332	⇑P		P	09 27 55.0	+0.4
	baz=52,SNR=5.2							
B23A	Brockton	52.13	338	⇓P		P	09 27 55.5	+0.6
	baz=52,SNR=13							
BMN	Battle Mountai	52.16	323	*e*P		P	09 27 58.6	+3.2
	8.6nm,0.9s							
A24A	Westby	52.16	339	⇑P		P	09 27 55.9	+0.7
	baz=52,SNR=6.1							
B22A	Reddig Ranch S	52.37	338	⇓P		P	09 27 57.2	+0.4
	baz=53							
WAKR	Walker	52.38	320	*e*P		P	09 28 00.2	+3.1
I14A	Mackay	52.38	329	⇑P		P	09 27 57.4	+0.3
	baz=53							
C21A	Desert Coulee	52.42	336	⇑P		P	09 27 57.6	+0.5
	baz=53,SNR=10							
F17A	Fitzpatrick Pl	52.45	333	⇓P		P	09 27 57.8	+0.3
	baz=53,SNR=5.2							
E18A	Harlowton	52.62	334	⇓P		P	09 27 58.9	+0.2
	baz=53,SNR=5.3							
D19A	Cripps Ranch,	52.63	335	⇑P		P	09 27 58.9	+0.2
	baz=53,SNR=22							
HLID	Hailey	52.63	328	*e*P		P	09 27 59.6	+0.7
	5.6nm,1.1s							
HLID	Hailey	52.63	328	⇑P		P	09 27 59.1	+0.2
	baz=53,SNR=6.0							
C20A	Veseth Ranch,	52.69	336	⇓P		P	09 27 58.9	-0.2
	baz=53							
MCMT	McKenzie Canyo	52.71	330	*e*P		P	09 28 01.1	+1.6
	2.0nm,1.1s							
BOZ	Bozeman (W)	52.72	332	*e*P		P	09 27 59.7	+0.3
	9.9nm,1.1s							
CMB	Columbia Colle	52.73	319	*e*P		P	09 28 01.6	+2.0
	28nm,2.3s							
B21A	Ellsworth Farm	52.87	337	⇑P		P	09 28 00.7	+0.3
	baz=53,SNR=8.0							
A22A	Carney Farms,	52.91	338	⇑P		P	09 28 01.3	+0.5
	baz=53,SNR=7.9							
E17A	Martinsdale	52.96	333	⇓P		P	09 28 01.6	+0.3
	baz=53,SNR=9.6							
DLMT	Dillon	52.97	331	*e*P		P	09 28 04.0	+2.7
	4.8nm,1.2s							
D18A	Linhart Farms,	53.05	334	⇑P		P	09 28 01.8	-0.1
	baz=53							
C19A	Slack Wire Ran	53.15	335	⇓P		P	09 28 03.0	+0.5
	baz=53,SNR=13							
I12A	Atlanta	53.17	328	⇓P		P	09 28 03.2	+0.3
	baz=53,SNR=5.2							
LRM	Limekiln Ridge	53.23	331	*e*P		P	09 28 03.7	+0.3
MFID	Camas Ranch	53.29	327	⇑P		P	09 28 04.0	+0.3
	baz=54,SNR=8.9							
D17A	Six Diamond Ra	53.41	334	⇑P		P	09 28 04.6	+0.1
	baz=54,SNR=9.8							
H12A	Diamond D Ranc	53.54	329	⇓P		P	09 28 06.3	+0.7
	baz=54,SNR=8.3							
A20A	Cobblestone Ra	53.59	337	⇓P		P	09 28 05.9	+0.1
	baz=54							
HRY	Holter Researc	53.60	332	*e*P		P	09 28 06.7	+0.8
EGMT	Eagleton	53.67	335	*e*P		P	09 28 06.3	0.0
	7.4nm,0.9s							
EGMT	Eagleton	53.67	335	⇓P		P	09 28 06.3	0.0
	baz=54							
BEKR	Beckworth	53.74	321	*e*P		P	09 28 08.8	+1.6
	4.2nm,1.0s							
A19A	Klindworth Far	53.96	336	⇓P		P	09 28 08.2	-0.3
	baz=54							
B18A	Beardsley Farm	53.97	335	⇑P		P	09 28 09.0	+0.5
	baz=54,SNR=10							
G12A	Big Creek, Yel	54.18	329	⇑P		P	09 28 10.2	-0.1
	baz=54							
WVOR	Wild Horse Val	54.24	324	*e*P		P	09 28 11.7	+1.0
	12nm,1.1s							
B17A	L&G Farms, Che	54.32	334	⇑P		P	09 28 11.3	+0.2
	baz=54							
C16A	Fuhringer Ranc	54.37	333	⇓P		P	09 28 11.4	-0.1
	baz=55							
A18A	Metzger Ranch,	54.40	335	⇑P		P	09 28 11.8	+0.1
	baz=55,SNR=12							
CHMT	Chamberlain Mo	54.41	332	*e*P		P	09 28 14.1	+2.1
	0.8nm,0.8s							
SCHQ	Schefferville	54.41	9	P		P	09 28 10.1	-1.5
SCHQ	Schefferville	54.41	9	P		P	09 28 10.1	-1.5
	6.9nm,1.1s,baz=202,slow=12,SNR=3.7							
C15A	Salmond Ranch,	54.74	333	⇓P		P	09 28 14.7	+0.4
	baz=55,SNR=8.2							
A17A	Triple J Farms	54.78	335	⇓P		P	09 28 14.1	-0.3
	baz=55							
B16A	M & M Farms, S	54.81	334	⇓P		P	09 28 14.7	0.0
	baz=55							
B15A	Bradely Ranch,	55.12	333	⇑P		P	09 28 17.3	+0.4
	baz=55							
D13A	Huson	55.12	331	⇑P		P	09 28 17.2	+0.3
	baz=55,SNR=7.8							
A16A	West Butte Ran	55.17	334	⇑P		P	09 28 17.3	0.0
	baz=55							
E12A	Beaver Dam Sad	55.19	330	⇓P		P	09 28 17.5	0.0
	baz=55,SNR=7.0							
C14A	Swan Lake	55.26	332	⇑P		P	09 28 17.8	-0.2
	baz=56							
YBMT	Yellow Bay	55.45	332	*e*P		P	09 28 21.9	+2.5
	6.2nm,0.9s							
B14A	Marquette Ranc	55.47	333	⇑P		P	09 28 19.8	+0.3
	baz=56,SNR=17							
JTMT	Jette	55.49	332	*e*P		P	09 28 20.7	+1.0
C13A	Hot Springs	55.59	332	⇓P		P	09 28 20.9	+0.6
	baz=56							
BSMT	Bassoo Peak	55.81	332	*e*P		P	09 28 22.7	+0.7
A14A	Double T Ranch	55.99	333	⇓P		P	09 28 23.3	+0.1
	baz=56							
B13A	Whitefish	56.03	332	⇑P		P	09 28 23.1	-0.4
	baz=56							
C12B	Naegeli Ranch,	56.04	331	⇑P		P	09 28 23.9	+0.4
	baz=56,SNR=16							
WALA	Waterton Lakes	56.27	333	*e*P		P	09 28 25.6	+0.4
	0.2nm,0.9s							
YBH	Yreka Blue Hor	56.27	322	P		P	09 28 24.1	-1.2
YBH	Yreka Blue Hor	56.27	322	P		P	09 28 24.1	-1.2
	2.9nm,0.8s,baz=114,slow=3.7,SNR=7.2							
A13A	Flathead Natio	56.41	333	⇓P		P	09 28 26.3	+0.1
	baz=57							
KHMM	Horse Mountain	56.45	320	*e*P		P	09 28 29.8	+3.1
	19nm,1.0s							
C11A	Tepee Creek (N	56.51	331	⇑P		P	09 28 27.2	+0.3
	baz=57							
FFC	Flin Flon	56.57	344	*e*P		P	09 28 26.8	-0.3
	5.1nm,0.9s							
B12A	Libby	56.62	332	⇓P		P	09 28 27.7	0.0
	baz=57							
KRMB	Red Mountain	56.91	321	*e*P		P	09 28 30.6	+0.7
	9.3nm,1.0s							
NEW	Newport	57.22	331	*e*P		P	09 28 32.8	+0.9
	4.3nm,1.0s							
NEW	Newport	57.22	331	⇑P		P	09 28 31.7	-0.2
	baz=57							
LON	Longmire	58.67	327	*e*P		P	09 28 43.8	+1.7
	5.8nm,1.0s							
NLWA	Neilton Lookou	60.19	327	*e*P		P	09 28 55.9	+3.3
	6.7nm,0.9s							
YKA	Yellowknife Ar	66.67	343	P		P	09 29 33.6	-1.5
YKA	Yellowknife Ar	66.67	343	P		P	09 29 33.6	-1.5
	3.2nm,0.9s,baz=136,slow=6.1,SNR=9.9							
DBIC	Dimbokro	74.20	83	LR		LR	10 02 43.5	
	comp=Z,63nm,18.7s,baz=162,slow=36							
SUMG	Summit	75.63	12	*e*P		P	09 30 30.3	+0.5
	12nm,1.0s							
SUMG	Summit	75.63	12	*i* P		P	09 30 30.2	+0.5
	7.2nm,0.9s							
EGAK	Eagle	77.34	337	*e*P		P	09 30 41.5	+2.4
	5.2nm,1.1s							
ESDC	Sonseca Array	77.81	50	P		P	09 30 42.6	+0.3
ESDC	Sonseca Array	77.81	50	P		P	09 30 42.6	+0.3
	0.3nm,0.3s,baz=265,slow=5.2,SNR=4.2							
XMAS	Kiritimati	78.33	272	*e*P		P	09 30 45.6	-0.1
	43nm,0.9s							
ILAR	Eielson Array	79.61	336	P		P	09 30 51.3	-0.3
ILAR	Eielson Array	79.61	336	P		P	09 30 51.3	-0.3
	1.6nm,1.0s,baz=114,slow=4.2,SNR=11							
TORD	Torodi Ar. Bea	80.75	77	P		P	09 30 57.7	-1.1
TORD	Torodi Ar. Bea	80.75	77	P		P	09 30 57.7	-1.1
	0.6nm,0.6s,baz=273,slow=6.4,SNR=5.3							
TORD				LR		LR	10 09 07.2	
	comp=Z,74nm,19.1s,baz=155,slow=38							
TAM	Tamanrasset	84.57	67	*e*P		P	09 31 20.3	+1.5
	4.8nm,0.8s							
VNA1	Neumayer--Stat	84.83	162	*e*P		P	09 31 19.7	+0.9
SNAA	Sanae	86.80	162	*e*P		P	09 31 28.7	0.0
SNAA	Sanae	86.80	162	P		P	09 31 27.6	-1.1
SNAA	Sanae	86.80	162	P		P	09 31 27.6	-1.1
	1.3nm,0.9s,baz=258,slow=7.5,SNR=8.6							
QSPA	South Pole Qui	91.22	180	*e*P		P	09 31 50.4	+0.7
	11nm,1.1s							
ZALV	Zalesovo Beam	123.46	11	PKP		PKPdf	09 37 41.9	-0.1
ZALV	Zalesovo Beam	123.46	11	PKP		PKPdf	09 37 41.9	-0.1
	1.4nm,0.5s,baz=279,slow=2.8,SNR=5.7							
MKAR	Makanchi Array	129.50	17	PKP		PKPdf	09 37 53.4	-0.5
MKAR	Makanchi Array	129.50	17	PKP		PKPdf	09 37 53.4	-0.5
	0.8nm,0.9s,baz=4.6,slow=3.0,SNR=5.8							
SONM	Songino Array	130.95	355	PKP		PKPdf	09 37 54.8	-1.9
SONM	Songino Array	130.95	355	PKP		PKPdf	09 37 54.8	-1.9
	1.6nm,1.0s,baz=255,slow=2.2,SNR=3.0							
WMQ	Urumqi	133.66	13	PKP		PKPdf	09 38 02.4	+0.6
HHC	Hu-ho-hao-te	137.06	348	*e*PKP		PKPdf	09 38 07.0	-1.3
HHC				PP		PP	09 40 54.0	+3.3
HHC				PKS		PKSdf	09 41 41.1	-3.5
HHC				SKS		SKSdf	09 45 16.8	-2.8
HHC				SKKS		SKKSac	09 47 45.6	-1.5
HHC				SS		SS	09 58 58.3	+2.8
HHC				AMB		AMB		
	comp=Z,98nm,5.2s							
HHC				LR		LR		
	comp=N,210nm,20.8s							
HHC				LR		LR		
	comp=E,180nm,20.6s							
HHC				LR		LR		
	comp=Z,160nm,21.0s							
ASAR	Alice Springs	140.99	232	PKPpre		PKPpre	09 38 07.2	
ASAR	Alice Springs	140.99	232	PKhKP		PKPpre	09 38 07.3	
	comp=Z,0.4nm,0.8s,baz=122,slow=3.8,SNR=3.4							
WRA	Warramunga Arr	142.37	238	PKPpre		PKPpre	09 38 12.7	
WRA	Warramunga Arr	142.37	238	PKhKP		PKPpre	09 38 12.7	
	comp=Z,1.8nm,0.9s,baz=120,slow=2.9,SNR=12							
LZH	Lanzhou	142.82	356	*e*PKP		PKPdf	09 38 14.4	-4.6
LZH				pPKP		PKiKP	09 38 18.8	-3.3
LZH				sPKP			09 38 20.5	
CD2	Chengdu	147.97	355	*e*PKPbc		PKPdf	09 38 27.1	-0.7
FITZ	Fitzroy Crossi	150.47	234	*e*PKPdf		PKPdf	09 38 32.3	+0.3
FITZ				*e*PKPbc		PKPbc	09 38 37.8	+0.4
FITZ				*e*PKPab		PKPab	09 38 44.8	+1.0
CMAR	Chiang Mai Arr	160.39	6	PKPab		PKPab	09 39 25.2	-0.6
CMAR	Chiang Mai Arr	160.39	6	PKPab		PKPab	09 39 25.2	-0.6
	comp=Z,1.0nm,0.4s,baz=342,slow=5.7,SNR=3.6							

WEL 17 09:19:17.2±0.2, 45.49S×166.61E, h21km±1km, ML3.3/14, 1D, Error ellipse: s-maj=1.8km s-min=0.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
DCZ	Deep Cove	0.38	88	⇓P*	Pb	09 19	25.0	-0.1
DCZ				S*	Sb	09 19	30.0	-0.5
DCZ				AML	AML	09 19	30.6	
PYZ	Puysegur Point	0.68	176	P*	Pb	09 19	29.5	-0.9
PYZ				S*	Sb	09 19	38.5	-0.9
WHZ	Wether Hill Ro	1.02	114	PN	Pb	09 19	36.2	0.0
WHZ				AML	AML	09 19	53.7	
WHZ				AML	AML	09 19	58.6	
MLZ	Mavora Lakes	1.11	83	PN	Pn	09 19	36.5	-1.0
MLZ				AML	AML	09 19	51.7	
MLZ				AML	AML	09 20	00.7	
MSZ	Milford Sound	1.24	49	PN	Pn	09 19	39.1	-0.1
MSZ				AML	AML	09 20	01.3	
MSZ				AML	AML	09 20	01.3	
APZ	The Paps	1.65	145	*e*PN	Pb	09 19	48.8	+1.9
WKZ	Wanaka	1.83	70	AML	AML	09 20	22.9	
WKZ				AML	AML	09 20	23.2	
EAZ	Earnscleugh	1.92	83	AML	AML	09 17	36.6	
EAZ				AML	AML	09 20	20.0	
EAZ				AML	AML	09 20	20.2	
EAZ				AML	AML	09 20	20.2	
SYZ	Scrubby Hill	2.05	122	PN	Pb	09 19	53.0	-0.7
JCZ	Jackson Bay	2.08	48	*e*PN	Pb	09 19	55.0	+0.6
JCZ				AML	AML	09 20	28.3	
JCZ				AML	AML	09 20	28.6	
TUZ	Tuapeka	2.17	103	AML	AML	09 20	26.6	
LBZ	Lake Benmore	2.77	68	*e*PN	Pn	09 20	00.9	+0.6
ODZ	Otahua Downs	2.88	83	PN	Pn	09 20	02.4	+0.6
RPZ	Rata Peaks	3.64	62	PN	Pn	09 20	13.7	+1.5
WVZ	Waitaha Valley	3.82	52	*e*PN	Pn	09 20	16.2	+1.5
OXZ	Oxford	4.45	63	*e*PN	Pn	09 20	24.6	+1.2
THZ	Tophouse	5.89	53	*e*PN	Pn	09 20	45.0	+1.6

IDC 17 09:25:10.2±2.0, 2.14N×126.62E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/20, mbtmp3.8/3, Error ellipse: s-maj=184.6km s-min=27.3km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
WRA	Warramunga Arr	23.22	161	P	P	09 30	18.8	-0.2
	1.0nm,0.6s,baz=340,slow=11,SNR=10							
STKA	Stephens Creek	36.70	158	P	P	09 32	19.2	+0.1
	4.2nm,1.0s,baz=336,slow=12,SNR=3.3							
MKAR	Makanchi Array	58.80	326	P	P	09 35	10.3	-0.1
	0.3nm,0.5s,baz=126,slow=8.2,SNR=4.1							

WEL 17 09:32:18.5±0.4, 46.08S×166.10E, h25km±2km, ML3.5/13, 1C-1D, Error ellipse: s-maj=4.1km s-min=1.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
PYZ	Puysegur Point	0.42	103	⇓P*	Pb	09 32	27.1	-0.2
PYZ				S*	Sb	09 32	32.9	-0.5
PYZ				S*	Sn	09 32	32.9	-2.9
DCZ	Deep Cove	0.95	51	⇑PN	Pn	09 32	35.2	-1.0
DCZ				AML	AML	09 32	48.1	
DCZ				AML	AML	09 32	48.7	
WHZ	Wether Hill Ro	1.30	83	PN	Pn	09 32	41.1	0.0
WHZ				AML	AML	09 32	57.8	
WHZ				AML	AML	09 32	59.4	
APZ	The Paps	1.51	121	PN	Pn	09 32	44.0	0.0
APZ				SN	Sn	09 33	02.1	-0.8
MLZ	Mavora Lakes	1.63	64	*e*PN	Pn	09 32	46.2	+0.6
MLZ				AML	AML	09 33	10.0	
MLZ				AML	AML	09 33	11.5	
MSZ	Milford Sound	1.91	43	AML	AML	09 33	27.6	
MSZ				AML	AML	09 33	30.7	
SYZ	Scrubby Hill	2.16	103	PN	Pn	09 32	53.6	+0.8
SYZ				SN	Sn	09 33	19.6	+0.9
EAZ	Earnscleugh	2.41	71	*e*PN	Pn	09 32	58.1	+1.9
EAZ				AML	AML	09 33	30.2	
EAZ				AML	AML	09 33	33.5	
TUZ	Tuapeka	2.47	88	PN	Pn	09 32	58.5	+1.4
TUZ				SN	Sn	09 33	27.7	+1.3
TUZ				AML	AML	09 33	31.5	
JCZ	Jackson Bay	2.75	44	AML	AML	09 33	48.5	
JCZ				AML	AML	09 33	54.5	
ODZ	Otahua Downs	3.36	74	PN	Pn	09 33	09.5	+0.2

IDC 17 09:52:09.8±0.7, 2.22N×126.81E, h0km, mb4.0/11, mb1 4.1/11, mb1mx4.0/21, mbtmp4.0/11, MS3.1/2, Ms1 3.2/2, ms1mx2.8/37, Error ellipse: s-maj=44.6km s-min=13.4km az=74.0
NEIC 17 09:52:11.3±0.6, 2.21N×126.84E, h10km, mb4.3/1, Error ellipse: s-maj=36.4km s-min=9.0km az=71.0
ISCJB 17 09:52:15.7±0.5, 2.16N±0.08×126.7E±0.2, h63km, mb4.0/11, Error ellipse: s-maj=31.5km s-min=9.0km az=164.9

ISC 17 09:52:17.8±0.8, 2.2N±0.1×126.9E±0.3, h63km, n25, σ1°92/24, mb4.0/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
FITZ	Fitzroy Crossi	20.22	183	P	P	09 56	46.8	-0.9
FITZ	Fitzroy Crossi	20.22	183	P	P	09 56	46.8	-0.9
	4.2nm,1.1s,baz=21,slow=5.4,SNR=5.3							
WRAB	Tennant Creek	23.20	162	*e*P	P	09 57	18.4	-1.1
	7.6nm,0.9s							
WRA	Warramunga Arr	23.21	162	P	P	09 57	18.3	-1.3
WRA	Warramunga Arr	23.21	162	P	P	09 57	18.3	-1.3
	5.4nm,0.7s,baz=343,slow=10,SNR=23							
AS31	Alice Springs	26.62	165	*e*P	P	09 57	48.6	-2.0
ASAR	Alice Springs	26.62	165	P	P	09 57	50.7	+0.1
ASAR	Alice Springs	26.62	165	P	P	09 57	50.7	+0.1
	1.2nm,0.7s,baz=348,slow=7.6,SNR=13							
CMAR	Chiang Mai Arr	31.77	302	P	P	09 58	36.4	+0.1
CMAR	Chiang Mai Arr	31.77	302	P	P	09 58	36.4	+0.1
	1.1nm,0.3s,baz=119,slow=7.2,SNR=7.0							
CMAR				LR	LR	10 11	15.0	
	comp=Z,25nm,20.7s,baz=10.0,slow=36							
KSAR	Wonju Array Be	35.08	1	P	P	09 59	05.3	+0.5
KSRS	Korea Array	35.09	1	P	P	09 59	05.3	+0.4
	0.8nm,0.5s,baz=177,slow=8.3,SNR=4.4							
STKA	Stephens Creek	36.67	159	*e*P	P	09 59	18.9	+0.2
STKA	Stephens Creek	36.67	159	P	P	09 59	18.7	+0.1
	5.6nm,0.8s,baz=339,slow=11,SNR=8.8							
USRK	Ussuriysk Arra	42.06	6	P	P	10 00	03.0	-0.3
	1.4nm,0.6s,baz=197,slow=5.9,SNR=2.7							
SONM	Songino Array	48.77	342	P	P	10 00	56.5	-0.1
SONM	Songino Array	48.77	342	P	P	10 00	56.4	-0.1
	1.3nm,0.9s,baz=161,slow=14,SNR=4.4							
PETK	Petropavlovsk-	56.78	22	LR	LR	10 26	32.8	
	comp=Z,28nm,19.6s,baz=340,slow=36							
MK31	Makanchi Array	58.87	326	*e*P	P	10 02	10.0	-0.2
MKAR	Makanchi Array	58.87	326	P	P	10 02	09.9	-0.3
MKAR	Makanchi Array	58.87	326	P	P	10 02	09.9	-0.3
	1.2nm,0.6s,baz=123,slow=8.6,SNR=15							
ZALV	Zalesovo Beam	61.99	333	P	P	10 02	30.3	-1.0
ZALV	Zalesovo Beam	61.99	333	P	P	10 02	30.3	-1.0
	0.4nm,0.3s,baz=101,slow=6.0,SNR=2.4							
VNDA	Vanda	81.91	173	*e*P	P	10 04	32.9	+2.8
VNDA	Vanda	81.91	173	P	P	10 04	30.8	+0.7
	1.3nm,1.0s,baz=309,slow=7.5,SNR=5.4							

IDC 17 09:57:03.6±2.1, 6.38S×129.96E, h0km, mb3.2/1, mb1 3.5/4, mb1mx3.4/20, mbtmp3.3/4, ML3.4/3, MS3.4/2, Ms1 3.4/2, ms1mx3.0/11, Error ellipse: s-maj=89.2km s-min=27.9km az=77.0
*ISCJB 17 09:57:28.9±1.3, 8.16S±0.08×129.13

baz=80,slow=37
APA0 Apatity Array 0.24 254 Pg Pg 11 00 00 29.0 -0.2
baz=114,slow=16,SNR=90
APA0 Lg Lg 11 00 00 33.7
baz=93,slow=35,SNR=162
VRF Varrio 1.52 275 PG Pn 11 00 00 52.5 -0.3
baz=93
VRF SG Sg 11 01 14.2 +0.7
VRF MSG 11 01 14.2
comp=Z,11nm,0.4s
VRF Varrio 1.52 275 Pg Pn 11 00 00 52.4 -0.4
VRF Sg Sg 11 01 14.2 +0.7
KU6 Riekki 2.21 223 PN Pn 11 01 02.9 +0.7
KU6 SG Sg 11 01 35.0 -0.5
KU6 MSG 11 01 35.0
comp=Z,4.5nm,0.4s
KU6 Riekki 2.21 223 Pn Pn 11 01 02.8 +0.6
KU6 Sg Sg 11 01 35.0 -0.5
MSF Maaselka 2.52 228 PN Pb 11 01 11.1 +0.5
MSF SG Sg 11 01 46.8 +1.1
MSF MSG 11 01 46.8
comp=Z,2.3nm,0.4s
MSF Maaselka 2.52 228 Pn Pb 11 01 11.1 +0.5
MSF Sg Sg 11 01 46.8 +1.1
SGF Sodankyl 2.72 268 PN Pb 11 01 13.7 -0.2
SGF SG Sg 11 01 53.0 +1.1
SGF MSG 11 01 53.0
comp=Z,4.2nm,0.4s
SGF Sodankyl 2.72 268 Pn Pb 11 01 13.7 -0.2
SGF Sg Sg 11 01 53.0 +1.1
KEV Kevo 3.19 314 PN Pn 11 01 16.1 +0.5
KEV SG Sg 11 02 08.0 +1.2
KEV MSG 11 02 08.0
comp=Z,4.5nm,0.4s
KEV Kevo 3.19 314 Pn Pn 11 01 16.1 +0.5
KEV Sg Sg 11 02 08.0 +1.2
ARA0 ARCESS Array S 3.50 306 Pn Pn 11 01 19.9 -0.2
baz=124,slow=16
ARA0 Sn Sn 11 02 02.7 +0.7
baz=118,slow=28
ARA0 Lg Lg 11 02 16.4
baz=116,slow=37
ARA0 ARCESS Array S 3.50 306 Pn Pn 11 01 19.9 -0.2
baz=124,slow=16
ARA0 Sn Sn 11 02 02.7 +0.7
baz=118,slow=28
ARA0 Lg Lg 11 02 16.4
baz=116,slow=37
ARA0 ARCESS Array S 3.50 306 PN Pn 11 01 19.5 -0.5
baz=121
ARA0 SG Sg 11 02 16.4 -0.7
ARA0 MSG 11 02 16.4
comp=Z,6.7nm,0.4s
ARA0 ARCESS Array S 3.50 306 Pn Pn 11 01 19.9 -0.1
baz=124,slow=15,SNR=50
ARA0 Sn Sn 11 02 02.7 +0.7
baz=118,slow=26,SNR=50
ARA0 Lg Lg 11 02 16.4
baz=116,slow=34
FIA0 FINESS Array S 7.04 211 Lg Lg 11 03 57.9
baz=41,slow=28
FIA0 FINESS Array S 7.04 211 Lg Lg 11 03 57.9
baz=41,slow=28
FIA0 FINESS Array S 7.04 211 Lg Lg 11 03 57.9
baz=41,slow=26

JMA 17 10:02:13.6, 32°.30N×132°.23E, h16km±2km, M3.6, 2C-2D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTSN	**Tsuno**	**0.62**	**265**	⇓P		Pg		10 02 25.3	-0.5
JTSN				*e*S		Sg		10 02 33.7	-0.3
JKIT	**Kitakata**	**0.73**	**296**	⇓P		Pg		10 02 27.5	-0.4
JKIT				*e*S		Sb		10 02 37.8	0.0
JTO	**Tosashimizu**	**0.74**	**41**	P		Pg		10 02 27.5	-0.6
JTO				*e*S		Sg		10 02 37.4	-0.5
JUS	**Usuki**	**0.86**	**332**	P		Pb		10 02 30.0	-0.2
JUS				S		Sg		10 02 41.9	+0.1
UWA2	**Uwa jima 2**	**0.97**	**20**	⇑P		Pb		10 02 31.6	-0.5
UWA2				*e*S		Sb		10 02 44.6	-0.1
JTZ	**Takazaki**	**1.05**	**248**	P		Pb		10 02 32.8	-0.6
JTZ				*e*S		Sb		10 02 47.2	+0.3
JNAR	**Kushima--Naru**	**1.12**	**227**	⇑P		Pg		10 02 35.3	0.0

WEL 17 10:05:42.9±0.2, 45°.54S×166°.66E, h23km±1km, ML3.5/15, Error ellipse: s-maj=2.0km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.35**	**80**	P*		Pb		10 05 50.3	-0.2
DCZ				S*		Sb		10 05 55.0	-0.7
DCZ				S*		Sn		10 05 55.0	-3.8
DCZ				AML		AML		10 05 55.3	
DCZ				AML		AML		10 05 55.5	
PYZ	**Puysegur Point**	**0.63**	**179**	P*		Pb		10 05 54.3	-0.9
PYZ				S*		Sb		10 06 02.9	-0.8
PYZ				S*		Sn		10 06 03.4	-2.4
WHZ	**Wether Hill Ro**	**0.97**	**112**	PN		Pn		10 06 01.1	0.0
WHZ				AML		AML		10 06 21.0	
WHZ				AML		AML		10 06 24.4	
MLZ	**Mavora Lakes**	**1.08**	**80**	PN		Pn		10 06 02.1	-0.6
MLZ				AML		AML		10 06 23.2	
MLZ				AML		AML		10 06 25.2	
MSZ	**Milford Sound**	**1.25**	**46**	*e*PN		Pb		10 06 05.9	+0.2
MSZ				AML		AML		10 06 25.5	
MSZ				AML		AML		10 06 28.1	
MSZ				AML		AML		10 06 28.2	
MSZ				AML		AML		10 06 34.8	
APZ	**The Paps**	**1.59**	**145**	PN		Pb		10 06 12.3	+0.7
WKZ	**Wanaka**	**1.81**	**68**	PN		Pb		10 06 14.8	-0.6
WKZ				AML		AML		10 06 41.7	
WKZ				AML		AML		10 06 41.7	
WKZ				AML		AML		10 06 45.4	
WKZ				AML		AML		10 06 46.7	
EAZ	**Earnscleugh**	**1.89**	**82**	*e*PN		Pb		10 06 15.6	-1.1
EAZ				AML		AML		10 06 43.2	
EAZ				AML		AML		10 06 43.2	
EAZ				AML		AML		10 06 43.9	
EAZ				AML		AML		10 06 44.0	
SYZ	**Scrubby Hill**	**1.99**	**121**	*e*PN		Pb		10 06 17.9	-0.5
JCZ	**Jackson Bay**	**2.09**	**46**	*e*PN		Pb		10 06 20.7	+0.4
JCZ				AML		AML		10 06 54.1	
JCZ				AML		AML		10 06 58.4	
TUZ	**Tuapeka**	**2.12**	**102**	PN		Pb		10 06 19.9	-0.7
TUZ				AML		AML		10 06 51.3	
TUZ				AML		AML		10 06 51.3	
LBZ	**Lake Benmore**	**2.75**	**66**	PN		Pn		10 06 27.8	+2.1
LBZ				AML		AML		10 07 05.7	
HHSZ	**Highcliff Hill**	**2.78**	**99**	*e*PN		Pn		10 06 28.6	+2.6
ODZ	**Otahua Downs**	**2.85**	**81**	PN		Pn		10 06 28.5	+1.5
RPZ	**Rata Peaks**	**3.63**	**61**	PN		Pn		10 06 39.3	+1.6
OXZ	**Oxford**	**4.44**	**62**	*e*PN		Pn		10 06 49.2	+0.4

*IDC **17** 10:25:30.1±2.0, 22°.11S×170°.28E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/19, mbtmp3.8/4, ML4.3/1, MS3.6/10, Ms1 3.7/10, ms1mx3.5/25, Error ellipse: s-maj=52.9km s-min=34.7km az=26.0*
*NOU **17** 10:25:33.6±0.7, 20°.75S×170°.00E, h30km, MD2.9, ML2.6*
*ISCJB **17** 10:25:34.0±2.0, 22°.5S±0°.5×170°.1E±0°.1, h25km, mb3.7/3, MS3.7/7, Error ellipse: s-maj=67.2km s-min=10.0km az=14.6*

ISC 17 10:25:35.5±1.6, 22°.4S±0°.4×170°.1E±0°.1, h25km, n19, σ0s46/15, mb3.6/3, MS3.7/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**2.98**	**273**	*e*P		**Pn**		**10 26 21.4**	**+0.2**
BAYA				*e*S		**Sn**		**10 26 56.0**	**-0.1**
BAYA				AMP				10 26 58.8	
comp=Z,15nm,0.0s									
LASL	**Noumea**	**3.29**	**272**	*e*P		**Pn**		**10 26 25.2**	**-0.3**
MVNO	**Noumea**	**3.38**	**271**	*e*P		**Pn**		**10 26 26.2**	**-0.6**
MVNO				*e*S		**Sn**		**10 27 06.2**	**+0.1**
DZM	**Mont Dzumac**	**3.39**	**274**	Pn		**Pn**		**10 26 27.4**	**+0.4**
comp=Z,28nm,0.3s,baz=90,slow=20,SNR=371									
DZM				Sn		**Sn**		**10 27 07.0**	**+0.4**
comp=Z,52nm,0.3s,baz=90,slow=24,SNR=8.5									
DZM				LR		LR		10 27 40.4	
comp=Z,390nm,18.6s,baz=59,slow=37									
NOUC	**Port Laguerre**	**3.52**	**274**	*e*P		**Pn**		**10 26 29.1**	**+0.5**
NOUC				*e*S		**Sn**		**10 27 09.5**	**-0.1**
NOUC				AMP				10 27 12.6	
comp=Z,91nm,1.1s									
HNR	**Honiara**	**16.13**	**321**	LR		LR		10 34 49.1	
comp=Z,167nm,18.3s,baz=40,slow=35									
URZ	**Urewera**	**16.95**	**161**	LR		LR		10 34 45.4	
comp=Z,258nm,19.8s,baz=238,slow=32									
RPZ	**Rata Peaks**	**21.31**	**178**	LR		LR		10 37 48.1	
comp=Z,281nm,19.2s,baz=3.4,slow=34									
STKA	**Stephens Creek**	**27.01**	**243**	LR		LR		10 42 23.4	
comp=Z,100nm,19.7s,baz=35,slow=37									
ASAR	**Alice Springs**	**33.28**	**261**	P		**P**		**10 32 11.6**	**+0.3**
comp=Z,0.3nm,0.8s,baz=82,slow=8.9,SNR=4.8									
ASAR				LR		LR		10 43 59.6	
comp=Z,93nm,20.7s,baz=277,slow=33									
WRA	**Warramunga Arr**	**33.38**	**267**	P		**P**		**10 32 11.3**	**-0.9**
comp=Z,0.4nm,0.5s,baz=100,slow=8.5,SNR=7.4									
VNDA	**Vanda**	**55.35**	**182**	LR		LR		10 57 22.2	
comp=Z,99nm,18.2s,baz=223,slow=34									
QSPA	**South Pole Qui**	**67.70**	**180**	P		**P**		**10 36 30.7**	**+0.2**
comp=Z,2.0nm,0.9s,baz=29,slow=8.1,SNR=4.7									
PETK	**Petropavlovsk-**	**75.92**	**352**	LR		LR		11 03 22.2	
comp=Z,47nm,20.7s,baz=214,slow=30									
CMAR	**Chiang Mai Arr**	**80.51**	**294**	LR		LR		11 14 03.2	
comp=Z,24nm,18.7s,baz=190,slow=36									
TXAR	**Lajitas Array**	**97.55**	**62**	LR		LR		11 18 06.9	
comp=Z,44nm,18.4s,baz=0.0,slow=32									
BRG	**Berggiesshubel**	**146.01**	**333**	*e*P		**PKPdf**		**10 45 11.8**	**-0.3**
comp=Z,5.2nm,1.1s									
CLL	**Collm**	**146.07**	**334**	*e*P		**PKPdf**		**10 45 12.0**	**-0.2**
comp=Z,4.0nm,0.7s									
GERES	**GERESS Array B**	**147.60**	**330**	PKPbc		**PKPdf**		**10 45 15.7**	**+0.7**
comp=Z,0.7nm,0.6s,baz=57,slow=3.6,SNR=4.6									

IDC 17 10:44:42.6±2.7, 8°.98S×113°.12E, h0km, mb3.0/3, mb1 3.2/3, mb1mx3.1/20, mbtmp3.0/3, Error ellipse: s-maj=149.3km s-min=25.8km az=48.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.23**	**120**	P		P		10 49 50.8	-0.9
0.3nm,0.7s,baz=292,slow=12,SNR=3.0									
ASAR	**Alice Springs**	**24.67**	**129**	P		P		10 50 06.2	+0.8
0.2nm,0.5s,baz=312,slow=8.6,SNR=6.3									
MKAR	**Makanchi Array**	**61.96**	**336**	P		P		10 55 04.3	-0.1
0.2nm,0.7s,baz=148,slow=8.5,SNR=2.7									

IDC 17 10:46:36.2±7.0, 2°.72N×126°.15E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/21, mbtmp3.6/3, Error ellipse: s-maj=174.3km s-min=109.8km az=72.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.91**	**161**	P		P		10 51 53.4	+1.3
0.9nm,0.4s,baz=340,slow=10,SNR=23									
ASAR	**Alice Springs**	**27.29**	**164**	P		P		10 52 22.2	-0.5
0.2nm,0.5s,baz=340,slow=7.2,SNR=6.5									
STKA	**Stephens Creek**	**37.41**	**158**	P		P		10 53 50.3	-0.8
2.6nm,1.0s,baz=315,slow=10.0,SNR=3.1									

TAP 17 11:01:14.0, 23°.04N×120°.29E, h16km, ML3.7, 19C-8D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TAI1	**Yung-k'ang**	**0.06**	**269**	⇑*i*P		Pg		11 01 17.5	+0.5
baz=267									
TAI1				*i*S		Sg		11 01 20.5	+1.5
baz=267									
CHN3	**Shinhua**	**0.08**	**63**	⇑*i*P		Pg		11 01 18.1	+0.9
baz=64									
CHN3				S		Sg		11 01 21.4	+2.0
baz=64									
SCLT	**Jiali**	**0.16**	**326**	⇓*i*P		Pb		11 01 19.1	+0.5
baz=329									
SCLT				S		Sb		11 01 23.0	+1.4
baz=329									
TWM1	**Shoushan**	**0.25**	**151**	⇓*e*P		Pb		11 01 21.5	+1.4
baz=159									
CHN1	**Nanshi**	**0.26**	**57**	⇑*i*P		Pb		11 01 20.7	+0.3
baz=57									
SGST	**Jiashian**	**0.27**	**81**	⇑*i*P		Pb		11 01 21.4	+0.9
baz=73									
SGST				*e*S		Sn		11 01 27.4	-1.8
baz=73									
TWK	**Hsinying**	**0.29**	**39**	⇑*i*P		Pb		11 01 21.4	+0.5
baz=54									
TWK				*e*S		Sb		11 01 27.1	+1.6
baz=54									
WTP	**Ta-pu**	**0.36**	**56**	⇑*i*P		Pb		11 01 22.3	+0.2
baz=57									
WTP				*e*S		Sb		11 01 28.9	+1.3
baz=57									
SGLT	**Jiouru**	**0.36**	**149**	*e*P		Pn		11 01 23.6	-1.0
baz=150									
CHN4	**Tsaushan**	**0.42**	**42**	⇑*i*P		Pb		11 01 23.2	+0.3
baz=43									
CHN4				*e*S		Sn		11 01 30.9	-1.8
baz=43									
STYT	**Tauyuan**	**0.45**	**74**	⇑*e*P		Pb		11 01 24.2	+0.7
baz=75									
STYT				*e*S		Sb		11 01 31.5	+1.4
baz=75									
CHY	**Chiayi**	**0.47**	**15**	⇑*e*P		Pb		11 01 24.6	+0.7
baz=17									
CHY				*e*S		Sb		11 01 32.2	+1.6
baz=17									
KAU	**Kaohsiung**	**0.47**	**178**	*e*P		Pb		11 01 24.9	+1.0
baz=189									
CHN2	**Minshiung**	**0.52**	**19**	*e*P		Pb		11 01 25.4	+0.8
baz=20									
CHN2				*e*S		Sn		11 01 34.2	-1.0
baz=20									
WSF	**Szhu**	**0.60**	**354**	⇓*e*P		Pb		11 01 26.6	+0.6
baz=355									
WSF				*e*S		Sn		11 01 36.1	-1.1
baz=355									
CHN5	**Tsauling**	**0.66**	**33**	⇑*i*P		Pb		11 01 27.6	+0.4
baz=33									
CHN5				*e*S		Sn		11 01 37.6	-1.2
baz=33									
ALS	**Alishan**	**0.67**	**45**	⇑*e*P		Pb		11 01 27.6	0.0
baz=46									
ALS				*e*S		Sn		11 01 38.6	-0.9
baz=46									
ELDTW	**Lidau**	**0.69**	**77**	⇑*e*P		Pb		11 01 28.2	+0.5
baz=89									
ELDTW				*e*S		Sn		11 01 38.8	-0.8
baz=89									
WGK	**Gukeng**	**0.69**	**21**	*e*P		Pn		11 01 28.4	-0.7
baz=22									
WGK				*e*S		Sn		11 01 39.5	+0.1
baz=22									
TWP	**Hsiaoliuchiu**	**0.69**	**174**	*e*P		Pn		11 01 29.4	+0.3
baz=186									
TWP				*e*S		Sn		11 01 41.1	+1.6
baz=186									
SCZT	**Fangliau**	**0.73**	**155**	⇓*e*P		Pn		11 01 29.6	0.0
baz=141									
SCZT				*e*S		Sn		11 01 40.9	+0.5
baz=141									
TWG	**Pinlang**	**0.75**	**107**	⇓*e*P		Pn		11 01 29.7	-0.2
baz=114									
TWG				*e*S		Sn		11 01 40.8	-0.2
baz=114									
ECL	**Taimali**	**0.76**	**126**	*e*P		Pn		11 01 29.4	-0.6
baz=126									
YUS	**Yu-Shan**	**0.76**	**54**	⇑*e*P		Pg		11 01 29.6	+0.2
baz=66									
YUS				S		Sn		11 01 41.7	-0.4
baz=66									
WTCT	**Ta-ch'eng**	**0.82**	**359**	⇓*e*P		Pg		11 01 29.9	0.0
WTCT				S		Sn		11 01 42.2	-0.4
EAST	**Anshuo**	**0.83**	**142**	⇓*e*P		Pn		11 01 31.5	+0.4
baz=142									
PNG	**Penghu**	**0.85**	**308**	⇑*i*P		Pb		11 01 30.1	-0.3
baz=308									
PNG				*e*S		Sb		11 01 41.7	0.0
baz=308									
TAW	**Tawu**	**0.88**	**140**	*e*P		Pn		11 01 32.2	+0.5
baz=130									
TAW				*e*S		Sn		11 01 44.7	+0.6
baz=130									
WNT	**Mingjian**	**0.91**	**23**	*e*P		Pg		11 01 31.6	0.0
baz=24									
WNT				*e*S		Sn		11 01 44.9	+0.1
baz=24									
TWF1	**Yuli**	**0.98**	**71**	⇓*e*P		Pn		11 01 33.4	+0.4
baz=72									
TWF1				S		Sn		11 01 47.4	+0.8
baz=72									
CHKT	**Chengkung**	**0.99**	**86**	*e*P		Pg		11 01 34.4	+1.2
baz=87									
CHKT				*e*S		Sn		11 01 49.2	+2.4
baz=87									
TYC	**Yuchr**	**1.00**	**31**	⇑*e*P		Pn		11 01 33.3	-0.1
baz=32									
TYC				*e*S		Sn		11 01 48.0	+0.8
baz=32									
SMLT	**Sun Moon Lake**	**1.01**	**34**	⇑*i*P		Pb		11 01 33.4	+0.1
baz=34									
SMLT				*e*S		Sn		11 01 48.0	+0.5
baz=34									
EHY	**Hungye**	**1.06**	**64**	⇑*e*P		Pg		11 01 34.7	+0.3
baz=65									
EHY				S		Sn		11 01 49.8	+1.3
baz=65									
HEN	**Hengchun**	**1.11**	**158**	*e*P		Pg		11 01 35.4	-0.1
baz=159									
TCU	**Taichung**	**1.16**	**18**	*e*P		Pb		11 01 35.7	+0.1
baz=19									
TWK1	**Hengchun**	**1.19**	**156**	*e*P		Pb		11 01 36.2	0.0
baz=158									
TSEB	**Hengchuen, Pin**	**1.27**	**153**	*e*P		Pg		11 01 38.8	+0.4
baz=171									
ESL	**Shilin**	**1.30**	**54**	P		Pb		11 01 38.5	+0.4
baz=55									
ESL				*e*S		Sg		11 01 56.1	0.0
baz=55									
TWQ1	**Liyutan**	**1.37**	**19**	⇑P		Pb		11 01 39.5	+0.2
baz=19									
TWQ1				*e*S		Sg		11 01 58.4	0.0
baz=19									
WHF	**Hehuan Shan**	**1.42**	**39**	*e*P		Pb		11 01 40.5	-0.1
baz=32									
NSY	**Sanyi**	**1.44**	**17**	P		Pb		11 01 40.8	+0.4
baz=19									
TWT	**Tachien**	**1.46**	**34**	⇑*e*P		Pb		11 01 40.5	-0.4
baz=25									
LAY	**Lan-yu**	**1.53**	**130**	*e*P		Pn		11 01 40.5	-0.2
baz=133									
TWD	**Chiawan**	**1.58**	**49**	*e*P		Pb		11 01 42.8	0.0
baz=49									
NNS	**Nan Shan**	**1.71**	**35**	*e*P		Pb		11 01 44.4	-0.8
baz=21									
NSTT	**Nanjuang**	**1.71**	**22**	*e*P		Pn		11 01 43.5	+0.4
baz=23									
NSK	**Sanguang**	**1.90**	**31**	*e*P		Pn		11 01 46.8	+1.0
baz=14									
ENA	**Nanau**	**1.92**	**44**	*e*P		Pb		11 01 47.8	-0.7
baz=59									
ENTT	**Nioudou**	**1.98**	**36**	*e*P		Pb		11 01 48.7	-0.8
baz=18									
ENTT				*e*S		Sb		11 02 15.0	+1.0
baz=18									
TWE	**Neicheng**	**2.09**	**37**	*e*P		Pb		11 01 50.5	-1.1
baz=21									
TWC	**Suao**	**2.12**	**42**	*e*P		Pb		11 01 50.6	-1.3
baz=58									
KNM	**Kinmen**	**2.18**	**309**	*e*P		Pb		11 01 52.5	-0.6
baz=309									

WEL 17 11:01:46.2±0.2, 38°.35S×177°.40E, h53km±2km, ML3.7/8, 2C-21D, Error ellipse: s-maj=1.7km s-min=1.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**0.10**	**82**	⇑PN		Pn		11 01 54.4	0.0
MWZ				SN		Sn		11 02 00.3	0.0
MWZ				AML		AML		11 02 01.3	
MWZ				AML		AML		11 02 01.7	
URZ	**Urewera**	**0.24**	**291**	⇓PN		Pn		11 01 54.5	-0.6
URZ				SN		Sn		11 02 00.6	-0.9
URZ				AML		AML		11 02 00.6	
EDRZ	**Edgecumbe**	**0.57**	**295**	⇓PN		Pn		11 01 58.5	-0.1
RAHZ	**Arahi**	**0.62**	**203**	PN		Pn		11 01 59.1	0.0
RAHZ				SN		Sn		11 02 09.1	+0.7
CNGZ	**Carnagh Statio**	**0.65**	**102**	⇓PN		Pn		11 02 01.2	+1.8
MARZ	**Manawahe**	**0.68**	**302**	PN		Pn		11 01 59.6	-0.2
PRGZ	**Paritu Road**	**0.69**	**147**	PN		Pn		11 01 59.9	-0.1
RRRZ	**Republican Roa**	**0.70**	**270**	⇓PN		Pn		11 01 59.7	-0.4
KNZ	**Kokohu**	**0.70**	**162**	⇓PN		Pn		11 01 59.9	-0.2
KNZ				AML		AML		11 02 13.7	
KNZ				AML		AML		11 02 14.3	
TARZ	**Mount Tarawera**	**0.71**	**279**	⇓PN		Pn		11 02 00.3	-0.1
PUZ	**Puketiti**	**0.73**	**68**	⇓PN		Pn		11 02 01.9	+1.4
PUZ				AML		AML		11 02 21.7	
PUZ				AML		AML		11 02 25.0	
PRRZ	**Plateau Road**	**0.81**	**259**	⇓PN		Pn		11 02 00.9	-0.6
HLRZ	**Highlands Stat**	**0.83**	**276**	PN		Pn		11 02 01.4	-0.4
OPRZ	**Ohinepanea**	**0.83**	**307**	PN		Pn		11 02 01.3	-0.5
WIZ	**White Island**	**0.84**	**348**	PN		Pn		11 02 01.9	+0.1
OMRZ	**Omania**	**0.84**	**286**	PN		Pn		11 02 01.6	-0.4
ALRZ	**Allen Road**	**0.86**	**255**	⇓PN		Pn		11 02 01.6	-0.5
LIRZ	**Lichensteins R**	**0.87**	**293**	PN		Pn		11 02 02.1	-0.1
HRRZ	**Handcock Road**	**0.88**	**267**	⇓PN		Pn		11 02 02.0	-0.4
NMHZ	**Naumai**	**0.88**	**212**	⇓PN		Pn		11 02 03.0	+0.5
MHGZ	**Mahia Peninsul**	**0.90**	**154**	⇓PN		Pn		11 02 02.6	-0.1
UTU	**Utuhina**	**0.97**	**280**	PN		Pn		11 02 03.5	0.0
KARZ	**Kaharoa**	**0.97**	**289**	⇓PN		Pn		11 02 03.3	-0.3
BKZ	**Black Stump Fm**	**1.08**	**221**	PN		Pn		11 02 04.6	-0.5
BKZ				AML		AML		11 02 23.0	
BKZ				AML		AML		11 02 23.3	
TGRZ	**Tauranga**	**1.09**	**304**	PN		Pn		11 02 04.8	-0.4
HATZ	**Hinemaiaia**	**1.16**	**242**	PN		Pn		11 02 05.6	-0.6
MCHZ	**McNeill Hill**	**1.22**	**206**	⇓PN		Pn		11 02 06.9	-0.1
CKHZ	**Cape Kidnapper**	**1.33**	**191**	PN		Pn		11 02 07.4	-1.0
RITZ	**Rihia Road**	**1.36**	**242**	PN		Pn		11 02 08.7	-0.2
TLZ	**Tolley Road**	**1.46**	**270**	PN		Pn		11 02 09.8	-0.6
KATZ	**Kakaramea**	**1.47**	**244**	PN		Pn		11 02 10.7	+0.1
KAHZ	**Kahuranaki**	**1.50**	**196**	PN		Pn		11 02 09.7	-1.1
BHHZ	**Black Hill Sta**	**1.54**	**222**	⇑PN		Pn		11 02 11.3	-0.1
OTVZ	**Oturere**	**1.58**	**238**	PN		Pn		11 02 11.9	-0.2
WTVZ	**West Tongariro**	**1.61**	**241**	PN		Pn		11 02 12.5	+0.1
TOZ	**Tahuroa Road**	**1.62**	**292**	⇓PN		Pn		11 02 12.1	-0.3
NGZ	**Ngauruhoe**	**1.63**	**239**	PN		Pn		11 02 12.6	-0.1
TUVZ	**Tukino**	**1.64**	**236**	PN		Pn		11 02 12.8	-0.1
MOVZ	**Moawhango**	**1.66**	**230**	PN		Pn		11 02 12.5	-0.5
WPVZ	**Whakapapa**	**1.68**	**239**	PN		Pn		11 02 13.0	-0.4
WHVZ	**Whangaehu Hut**	**1.69**	**236**	PN		Pn		11 02 13.1	-0.6
WNVZ	**Wahianoa**	**1.71**	**235**	PN		Pn		11 02 13.5	-0.4
PXZ	**Pawanui**	**1.73**	**194**	PN		Pn		11 02 11.7	-2.2
PXZ				AML		AML		11 03 04.5	
PXZ				AML		AML		11

PAWZ	**Paruwai Farm**	**3.39**	**206**	*e*PN	Pn	11 02 32.0	-4.6
WCZ	**Waipu Caves**	**3.43**	**314**	PN	Pn	11 02 37.7	+0.6
WCZ				SN	Sn	11 03 17.5	+1.1
PLWZ	**Palliser**	**3.62**	**206**	PN	Pn	11 02 35.0	-4.7
MQZ	**McQueen's Vall**	**6.44**	**212**	SN	Sn	11 04 19.2	-11
CTZ	**Chatham Island**	**7.03**	**142**	*e*PN	Pn	11 03 25.0	-1.4

*ISCJB **17** 11:07:46.4±0.9, 32°.55N±0'.02×76°.68E±0'.03, h15km±7km, mb4.4/43, MS3.6/14, Error ellipse: s-maj=5.2km s-min=3.1km az=142.4*
*IDC **17** 11:07:47.1±0.6, 32°.67N×76°.65E, h0km, mb4.3/21, mb1 4.4/24, mb1mx4.3/33, mbtmp4.3/24, ML4.5/3, MS3.5/9, Ms1 3.6/9, ms1mx3.1/44, Error ellipse: s-maj=17.3km s-min=10.5km az=39.0*
*NDI **17** 11:07:48.5±2.5, 32°.49N×76°.21E, h33km, ML4.6, mb4.6(NEIC)*
*BJI **17** 11:07:48.7, 32°.53N×76°.26E, h47km, mB4.8/19, mb4.7/30, Ms4.0/18, Ms7 3.9/16*
*MOS **17** 11:07:50.2±1.2, 32°.70N×76°.63E, h33km, mb4.7/20, Error ellipse: s-maj=10.7km s-min=5.8km az=101.9*
*NNC **17** 11:07:50.2±4.0, 32°.86N×76°.32E, h0km, mb4.6, Error ellipse: s-maj=53.0km s-min=36.4km az=117.0*
*NEIC **17** 11:07:52.4±0.5, 32°.72N×76°.71E, h35km, mb4.6/9, Error ellipse: s-maj=10.7km s-min=7.9km az=216.0*
NEIC Felt at Brahmaur, Dharmsala, Kangra, Mohala and Rakh.
ISC 17 11:07:52.2±0.6, 32°.51N±0'.04×76.72E±0'.04, h42km±5km, n152, σ1§83/182, mb4.5/45, MS3.6/14, 11C-9D, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**0.44**	**234**						
DHRM				*e*P		Pn		11 07 49.8	-13
DHRM				*e*S		Sn		11 07 53.0	-17
DHRM				AML		AML		11 07 53.6	
	comp=N,51μm,0.2s								
DHRM				AML		AML		11 07 53.9	
	comp=E,78μm,0.2s								
DLH	**Dalhousie**	**0.64**	**273**	*ex*		**Sn**		**11 08 13.0**	**-1.2**
SDNR	**Sundarnagar**	**1.03**	**168**	*e*P		**Pn**		**11 08 05.0**	**-5.2**
SDNR				*e*4		**Pn**		**11 08 09.0**	**-1.2**
SMLA	**Simla**	**1.43**	**164**	*e*P		**Pn**		**11 08 13.3**	**-2.3**
SMLA				*e*S		**Sn**		**11 08 33.3**	**+0.1**
NHN	**Nahan**	**2.03**	**166**	*e*P		**Pn**		**11 08 22.5**	**-1.5**
NHN				*e*S		**Sn**		**11 08 49.0**	**+0.8**
CKA	**Chakrata**	**2.04**	**151**	*e*P		**Pn**		**11 08 23.3**	**-0.9**
CKA				*e*4		Sb		11 08 52.2	
DDI	**Dehra Dun**	**2.46**	**152**	*e*P		**Pn**		**11 08 29.7**	**-0.2**
DDI				*e*S		**Sn**		**11 08 59.7**	**+1.0**
DDI				AML		AML		11 09 08.9	
	comp=E,4μm,0.2s								
DDI				AML		AML		11 09 09.3	
	comp=N,5μm,0.2s								
KKR	**Kurukshetra**	**2.54**	**178**	*e*P		**Pn**		**11 08 29.0**	**-2.0**
KKR				*e*S		**Sn**		**11 08 57.7**	**-3.0**
GTU	**Guttu**	**2.63**	**138**	*e*P		**Pn**		**11 08 33.5**	**+1.2**
GTU				*e*4		Sb		11 09 07.5	
CHCP	**Chirah Chowk**	**3.12**	**292**	P		**Pn**		**11 08 37.0**	**-1.9**
ABI	**ADIBADRI**	**3.17**	**137**	*e*P		**Pn**		**11 08 40.5**	**+0.8**
ABI				*e*4		Sb		11 09 20.6	
NDI	**New Delhi**	**3.84**	**173**	*e*P		Pn		11 08 44.5	-4.2
NDI				*e*PG				11 08 54.0	
NDI				*e*SN		**Sn**		**11 09 28.0**	**-4.6**
NDI				*e*SG				11 09 47.0	
AYAN	**Aya Nagar**	**4.03**	**175**	*e*P		Pn		11 08 48.3	-3.1
AYAN				*e*S		**Sn**		**11 09 32.5**	**-4.7**
THW	**Thamme Wali**	**4.21**	**275**	P		Pn		11 08 49.3	-4.5
PTH	**Pithoragarh**	**4.21**	**134**	*ex*		Pn		11 09 01.3	+7.3
PTH				*ex*		Sn		11 09 52.8	+11
CEP	**Cherat**	**4.24**	**289**	P		Pn		11 08 51.4	-3.0
CEP				S		**Sn**		**11 09 38.0**	**-4.7**
AJM	**Ajmer**	**6.28**	**197**	*e*P		Pn		11 09 17.0	-5.3
AJM				*i* x		x		11 11 00.0	
KBL	**Kabul**	**6.72**	**290**	*e*P		**Pn**		**11 09 28.3**	**-0.3**
KBL				*e*				11 10 43.2	
KBL	**Kabul**	**6.72**	**290**	*e*Pn		**Pn**		**11 09 28.3**	**-0.3**
KBL				*e*Sn		**Sn**		**11 10 43.1**	**-0.8**
DANN	**Dangsing**	**7.36**	**122**	*e*Pn		**Pn**		**11 09 38.5**	**+1.2**
DANN				*e*Sn		**Sn**		**11 11 00.2**	**+0.5**
	comp=N,111nm,0.5s								
KOLN	**Koldanda**	**7.60**	**127**	*e*Pn		**Pn**		**11 09 41.0**	**+0.4**
KOLN				*e*Sn		**Sn**		**11 11 07.1**	**+1.5**
	comp=N,107nm,0.6s								
DMN	**Daman**	**8.75**	**122**	*e*Pn		**Pn**		**11 09 56.6**	**+0.1**
DMN				*e*Sn		**Sn**		**11 11 33.1**	**-0.9**
	comp=N,109nm,0.7s								
KKN	**Kakani**	**8.78**	**120**	*e*Pn		**Pn**		**11 09 56.6**	**-0.1**
KKN				*e*Sn		**Sn**		**11 11 33.0**	**-1.5**
	comp=N,79nm,0.6s								
PKIN	**Phulchoki**	**8.98**	**121**	*e*Pn		**Pn**		**11 09 59.4**	**-0.2**
PKIN				*e*Sn		**Sn**		**11 11 37.5**	**-2.1**
	comp=N,86nm,0.5s								
PKI	**Pulchoki**	**8.99**	**121**	*e*Pn		**Pn**		**11 09 59.4**	**-0.4**
PKI				*e*Sn		**Sn**		**11 11 37.5**	**-2.5**
	comp=N,95nm,0.6s								
GUN	**Gumba**	**9.15**	**118**	*e*Pn		**Pn**		**11 10 01.0**	**-1.0**
JIRN	**Jiri**	**9.52**	**118**	*e*Pn		**Pn**		**11 10 06.6**	**-0.5**
JIRN				*e*Sn		**Sn**		**11 11 48.5**	**-4.4**
	comp=N,172nm,0.6s								
JBP	**Jabalpur**	**9.74**	**162**	⇑*i*P		**Pn**		**11 10 08.2**	**-1.6**
JBP				*e*S		Sn		11 11 47.8	-10
RAMN	**Ramite**	**10.22**	**120**	*e*Pn		**Pn**		**11 10 14.7**	**-1.8**
RAMN				*e*Sn		**Sn**		**11 12 05.5**	**-4.4**
	comp=N,58nm,0.5s								
AAK	**Ala-Archa**	**10.26**	**351**	⇑*e*P		**Pn**		**11 10 17.0**	**+0.1**
AAK				pmax		pmax			
	comp=Z,20nm,0.6s								
AAK	**Ala-Archa**	**10.26**	**351**	*e*Pn		**Pn**		**11 10 15.2**	**-1.7**
AAK				Sn		**Sn**		**11 12 12.1**	**+1.4**
AAK	**Ala-Archa**	**10.26**	**351**	Pn		**Pn**		**11 10 16.7**	**-0.2**
	comp=Z,2.3nm,0.3s,baz=150,slow=5.6,SNR=14								
AAK				Sn		**Sn**		**11 12 12.1**	**+1.4**
	comp=Z,1.3nm,0.3s,baz=338,slow=15,SNR=3.0								
AAK				LR		LR		11 14 32.3	
	comp=Z,309nm,19.3s,baz=164,slow=40								
TKM2	**Tokmak 2**	**10.43**	**355**	⇑P		**Pn**		**11 10 18.5**	**-0.8**
	comp=Z,11nm,0.6s								
TKM2				⇑S		**Sn**		**11 12 16.3**	**+1.4**
	comp=Z,9.4nm,0.7s								
TAPN	**Taplejung**	**10.83**	**116**	*e*Pn		**Pn**		**11 10 22.8**	**-2.1**
TAPN				*e*Sn		**Sn**		**11 12 19.7**	**-5.3**
	comp=Z,50nm,0.6s								
ODAN	**Odare**	**10.85**	**119**	*e*Pn		**Pn**		**11 10 23.9**	**-1.3**
NGP	**Nagpur**	**11.50**	**169**	*e*4		Pn		11 10 27.4	-6.5
NGP				*e*S		Sn		11 12 28.5	-13
KK31	**Karatay Array**	**11.65**	**337**	⇓P		Pn		11 10 32.5	-3.4
	comp=Z,18nm,0.7s,baz=151,slow=14,SNR=189								
KK31				⇑S		Sn		11 12 34.4	-10
	comp=Z,42nm,0.7s,baz=155,slow=22								
KK31	**Karatay Array**	**11.65**	**337**	*ce*P		Pn		11 10 32.7	-3.2
KK31				pmax		pmax			
	comp=Z,7.0nm,0.2s								
KKAR	**Karatay Array**	**11.65**	**337**	*e*P		Pn		11 10 32.0	-3.9
KKAR				*e*				11 12 33.7	
KKAR	**Karatay Array**	**11.65**	**337**	*e*Pn		Pn		11 10 32.0	-3.9
KKAR				*e*Sn		Sn		11 12 33.7	-11
WMQ	**Urumqi**	**14.20**	**34**	P		**Pn**		**11 11 10.3**	**-0.3**
WMQ				PP		**PnPn**		**11 11 21.8**	**+3.1**
WMQ				S		**Sn**		**11 13 46.4**	**-0.4**
WMQ				SS		**S**		**11 14 03.9**	**-2.1**
WMQ				PcP		**PcP**		**11 16 29.0**	**+2.1**
WMQ				pmax		pmax			
	comp=Z,29nm,0.9s								
WMQ				pmax		pmax			
	comp=Z,23nm,3.8s								
WMQ				LR		LR			
	comp=N,230nm,11.1s								
WMQ				LR		LR			
	comp=E,180nm,5.9s								
WMQ				LR		LR			
	comp=Z,190nm,19.9s								
MK31	**Makanchi Array**	**14.89**	**15**	⇑P		**Pn**		**11 11 18.8**	**-1.0**
	comp=Z,10nm,0.7s								
MK31				⇓S		Sn		11 13 57.9	-5.6
	comp=Z,8.1nm,0.7s								
MK31	**Makanchi Array**	**14.89**	**15**	*e*P		**Pn**		**11 11 17.4**	**-2.4**
MK31				*e*				11 13 59.3	
MK31	**Makanchi Array**	**14.89**	**15**	*e*Pn		**Pn**		**11 11 17.4**	**-2.4**
MK31				*e*Sn		**Sn**		**11 13 59.3**	**-4.2**
MKAR	**Makanchi Array**	**14.89**	**15**	P		**Pn**		**11 11 18.7**	**-1.1**
MKAR								11 14 05.0	
MKAR						pmax	pmax		
	comp=Z,3.0nm,0.3s								
MKAR						smax	smax		
	comp=N,1.0nm,0.3s								
MKAR	**Makanchi Array**	**14.89**	**15**	*e*Pn		**Pn**		**11 11 17.8**	**-2.0**
MKAR						Sn		**Sn**	**11 14 05.0**	**+1.5**
MKAR	**Makanchi Array**	**14.89**	**15**	Pn		**Pn**		**11 11 18.6**	**-1.1**
	comp=N,2.9nm,0.3s,baz=198,slow=13,SNR=66								
MKAR						Sn		**Sn**	**11 14 05.0**	**+1.5**
	comp=N,1.3nm,0.3s,baz=204,slow=24,SNR=5.4								
SHL	**Shillong**	**14.95**	**114**	*e*4		**P**		**11 11 26.0**	**+0.2**
SHL				*e*S		Sn		11 13 56.0	-9.4
HYB	**Hyderabad**	**15.12**	**173**	*i* P		**P**		**11 11 31.0**	**+3.5**
HYB				*e*S		S		11 14 34.0	+8.9
KURBB	**Kurchatov Arra**	**18.15**	**4**	⇓P		**P**		**11 11 57.9**	**-2.9**
	comp=N,15nm,0.7s								
KURBB	**Kurchatov Arra**	**18.15**	**4**	P		**P**		**11 11 58.2**	**-2.6**
	comp=N,0.7nm,0.3s,baz=194,slow=11,SNR=48								
KURK	**Kurchatov**	**18.25**	**4**	P		**P**		**11 11 58.2**	**-3.7**
KURK	**Kurchatov**	**18.25**	**4**	P		**P**		**11 11 58.2**	**-3.7**
GTA	**Gaotai**	**19.89**	**63**	P		**Pn**		**11 12 22.0**	**-0.1**
GTA				pP		**pP**		**11 12 31.3**	**+0.9**
GTA				S		**Sn**		**11 16 04.8**	**0.0**
GTA				sS		**sS**		**11 16 18.4**	**+0.1**
GTA				pmax		pmax			
	comp=E,14nm,0.8s								
GTA				pmax		pmax			
	comp=E,100nm,4.7s								
GTA				LR		LR			
	comp=N,140nm,17.1s								
GTA				LR		LR			
	comp=E,220nm,16.2s								
GTA				LR		LR			
	comp=Z,270nm,17.1s								
VOSK	**Vostochnaya**	**20.63**	**350**	⇑P		**P**		**11 12 26.1**	**-1.8**
	comp=Z,14nm,0.8s								
VOSK	**Vostochnaya**	**20.63**	**350**	P		**P**		**11 12 26.0**	**-1.8**
VOSK				pmax		pmax			
	comp=Z,14nm,0.8s								
AB31	**Akbulak array**	**20.91**	**328**	⇓P		**P**		**11 12 29.3**	**-1.7**
	comp=Z,6.4nm,0.6s,baz=136,slow=12,SNR=74								
AB31	**Akbulak array**	**20.91**	**328**	*ce*P		**P**		**11 12 29.0**	**-2.0**
AB31				pmax		pmax			
	comp=Z,7.0nm,0.5s								
ABKAR	**Akbulak array**	**20.91**	**328**	*e*P		**P**		**11 12 29.0**	**-2.0**
BVA0	**Borovoye Array**	**21.01**	**349**	⇓P		**P**		**11 12 30.8**	**-1.1**
	comp=Z,39nm,1.0s,baz=162,slow=12,SNR=147								
BVA0	**Borovoye Array**	**21.01**	**349**	*i* P		**P**		**11 12 30.8**	**-1.1**
BVA0				pmax		pmax			
	comp=Z,44nm,0.9s								
BVAR	**Borovoye Array**	**21.01**	**349**	P		**P**		**11 12 30.9**	**-1.0**
BVAR	**Borovoye Array**	**21.01**	**349**	P		**P**		**11 12 30.9**	**-1.0**
BVAR	**Borovoye Array**	**21.01**	**349**	P		**P**		**11 12 30.9**	**-1.0**
	comp=Z,26nm,0.8s,baz=163,slow=11,SNR=108								
BVAR						LR	LR	11 21 26.5	
	comp=Z,119nm,19.8s,baz=281,slow=39								
BRVK	**Borovoye**	**21.06**	**349**	*d* iP		**P**		**11 12 31.0**	**-1.5**
BRVK				pmax		pmax			
	comp=Z,64nm,1.0s								
BRVK				MLR		MLR			
	comp=Z,131nm,18.0s								
BRVK	**Borovoye**	**21.06**	**349**	*e*P		**P**		**11 12 31.2**	**-1.3**
	comp=Z,51nm,0.9s								
ZAA0	**Zalesovo Array**	**22.20**	**13**	*e*P		**P**		**11 12 43.0**	**-1.6**
ZALV	**Zalesovo Beam**	**22.20**	**13**	P		**P**		**11 12 43.6**	**-1.1**
ZALV	**Zalesovo Beam**	**22.20**	**13**	P		**P**		**11 12 43.6**	**-1.1**
ZALV	**Zalesovo Beam**	**22.20**	**13**	P		**P**		**11 12 43.6**	**-1.1**
	comp=Z,11nm,0.5s,baz=202,slow=10,SNR=38								
HVS	**Khovu-Aksy**	**22.41**	**29**	⇓*e*P		**P**		**11 12 47.8**	**+0.7**
HVS				pmax		pmax			
	comp=Z,99nm,1.7s								
AKTO	**Aktyubinsk**	**22.63**	**328**	⇓P		**P**		**11 12 47.5**	**-1.9**
	comp=Z,26nm,0.8s								
AKTO	**Aktyubinsk**	**22.63**	**328**	P		**P**		**11 12 48.1**	**-1.2**
AKTO				S		**S**		**11 16 55.8**	**+1.5**
AKTO				pmax		pmax			
	comp=Z,20nm,0.8s								
AKTO				smax		smax			
	comp=N,1.0nm,0.7s								
AKTO	**Aktyubinsk**	**22.63**	**328**	P		**P**		**11 12 48.1**	**-1.2**
AKTO				S		**S**		**11 16 55.8**	**+1.5**
AKTO	**Aktyubinsk**	**22.63**	**328**	P		**P**		**11 12 48.1**	**-1.2**
	comp=N,20nm,0.8s,baz=125,slow=10,SNR=71								
AKTO				S		**S**		**11 16 55.8**	**+1.5**
	comp=N,1.4nm,0.7s,baz=105,slow=20,SNR=4.7								
LZH	**Lanzhou**	**22.66**	**73**	*e*P		**P**		**11 12 51.3**	**+1.2**
LZH				pP		**pP**		**11 13 02.6**	**+2.2**
LZH				pmax		pmax			
	comp=Z,32nm,1.0s								
LZH				pmax		pmax			
	comp=Z,67nm,6.2s								
LZH				LR		LR			
	comp=N,160nm,14.0s								
LZH				LR		LR			
	comp=E,160nm,16.2s								
LZH				LR		LR			
	comp=Z,200nm,19.0s								
NVS	**Novosibirsk**	**22.80**	**10**	⇑*i*P		**P**		**11 12 48.6**	**-2.4**
NVS				*e*S		S		11 16 47.2	-10
NVS				pmax		pmax			
	comp=N,7.0nm,0.5s								
NVS				pmax		pmax			
	comp=E,3.0nm,0.5s								
NVS				pmax		pmax			
	comp=Z,10.0nm,0.5s								
NVS				smax		smax			
	comp=E,25nm,2.7s								
CD2	**Chengdu**	**23.04**	**87**	*e*P		**P**		**11 12 54.3**	**+0.4**
CD2				PP		**PnPn**		**11 13 24.3**	**+4.5**
CD2				S		**S**		**11 16 57.6**	**-4.1**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CD2				pmax		pmax			
	comp=Z,40nm,4.4s								
CD2				LR		LR			
	comp=E,360nm,11.8s								
CD2				LR		LR			
	comp=Z,230nm,14.3s								
KMI	**Kunming**	**23.92**	**101**	P		**P**		**11 13 03.3**	**+0.8**
KMI				S		**S**		**11 17 10.9**	**-5.5**
KMI				pmax		pmax			
	comp=Z,9.0nm,0.6s								
KMI				pmax		pmax			
	comp=Z,140nm,4.9s								
KMI				LR		LR			
	comp=N,72nm,12.6s								
KMI				LR		LR			
	comp=E,120nm,12.6s								
KMI				LR		LR			
	comp=Z,78nm,12.4s								
CHTO	**Chiang Mai**	**24.17**	**119**	*e*P		**P**		**11 13 04.2**	**-0.4**
CHTO				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CHTO	**Chiang Mai**	**24.17**	**119**	*e*P		**P**		**11 13 04.2**	**-0.4**
	comp=Z,9.6nm,0.8s								
CMAR	**Chiang Mai Arr**	**24.39**	**120**	P		**P**		**11 13 06.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**24.39**	**120**	P		**P**		**11 13 06.8**	**+0.2**
	comp=Z,11nm,0.8s,baz=308,slow=9.0,SNR=22								
KRAR	**Krasnoyarsk**	**26.06**	**21**	*i* P		**P**		**11 13 25.1**	**+3.7**
KRAR				pmax		pmax			
	comp=Z,13nm,0.5s								
ARU	**Arti**	**27.03**	**338**	*c* iP		**P**		**11 13 29.5**	**-0.7**
ARU								11 14 12.1	
ARU								11 16 45.6	
ARU				S		**S**		**11 18 08.3**	**+3.5**
ARU				SS		**SnSn**		**11 19 14.5**	**+0.9**
ARU				pmax		pmax			
	comp=Z,19nm,1.7s								
ARU				MLR		MLR			
	comp=Z,144nm,12.0s								
SONM	**Songino Array**	**27.14**	**47**	P		**P**		**11 13 33.3**	**+1.9**
SONM	**Songino Array**	**27.14**	**47**	P		**P**		**11 13 33.3**	**+1.9**
	comp=Z,3.2nm,0.8s,baz=245,slow=8.7,SNR=20								
SONM						LR	LR	11 25 33.0	
	comp=Z,76nm,18.7s,baz=27,slow=39								
ULN	**Ulaanbaatar**	**27.57**	**47**	*e*P		**P**		**11 13 37.0**	**+1.7**
	comp=Z,4.5nm,0.8s								
HHC	**Hu-ho-hao-te**	**29.01**	**63**	*e*P		**P**		**11 13 47.3**	**-0.9**
HHC				PP		**PnPn**		**11 14 41.4**	**+0.1**
HHC				PcP		**PcP**		**11 16 56.6**	**+0.7**
HHC				S		**S**		**11 18 33.9**	**-2.7**
HHC				ScP		**ScP**		**11 20 34.1**	**+0.1**
HHC				PcS		**PcS**		**11 20 38.3**	**-0.4**
HHC				ScS		**ScS**		**11 24 26.0**	**-2.0**
HHC				pmax		pmax			
	comp=Z,26nm,1.0s								
HHC				pmax		pmax			
	comp=Z,150nm,5.0s								
HHC				LR		LR			
	comp=N,170nm,12.4s								
HHC				LR		LR			
	comp=E,240nm,12.3s								
HHC				LR		LR			
	comp=Z,220nm,11.5s								
BRTR	**Keskin Array B**	**35.27**	**294**	P		**P**		**11 14 41.9**	**-1.1**
BRTR	**Keskin Array B**	**35.27**	**294**	P		**P**		**11 14 41.9**	**-1.1**
	comp=Z,5.0nm,0.8s,baz=99,slow=7.6,SNR=22								
NJ2	**Nanjing**	**35.46**	**79**	*e*P		**P**		**11 14 44.0**	**-0.6**
NJ2				pmax		pmax			
	comp=Z,30nm,1.1s								
OBN	**Obninsk**	**36.02**	**321**	*e*P		**P**		**11 14 48.1**	**-0.9**
OBN				*e*SS		SS		11 22 51.9	-11
OBN				pmax		pmax			
	comp=Z,5.0nm,1.0s								
KIEV	**Kiev**	**39.13**	**312**	*e*P		**P**		**11 15 16.6**	**+1.2**
KIEV				pmax		pmax			
	comp=Z,3.0nm,0.5s								
KIEV	**Kiev**	**39.13**	**312**	*e*P		**P**		**11 15 16.6**	**+1.2**
	comp=Z,2.9nm,0.5s								
CN2	**Changchun**	**39.42**	**59**	*e*P		**P**		**11 15 18.6**	**+0.6**
CN2				*e*S		**S**		**11 21 16.3**	**-0.5**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
KSAR	**Wonju Array Be**	**41.80**	**68**	P		**P**		**11 15 37.9**	**+0.2**
KSRS	**Korea Array**	**41.83**	**68**	P		**P**		**11 15 37.9**	**0.0**
	comp=Z,2.7nm,0.9s,baz=277,slow=7.7,SNR=9.1								
KSRS				LR		LR		11 35 01.8	
	comp=Z,77nm,19.1s,baz=135,slow=39								
MDJ	**Mudanjiang**	**42.39**	**58**	P		**P**		**11 15 41.8**	**-0.6**
MDJ				pmax		pmax			
	comp=Z,9.0nm,0.9s								
MDJ				pmax		pmax			
	comp=Z,58nm,3.9s								
FINES	**FINESS Array B**	**43.40**	**327**	P		**P**		**11 15 49.7**	**-0.7**
FINES	**FINESS Array B**	**43.40**	**327**	P		**P**		**11 15 49.7**	**-0.7**
	comp=Z,5.5nm,0.8s,baz=110,slow=11,SNR=9.0								
KOLS	**Kolonicke sedl**	**43.44**	**309**	*e*P		**P**		**11 15 51.3**	**+0.4**
KOLS	**Kolonicke sedl**	**43.44**	**309**	*e*P		**P**		**11 15 51.3**	**+0.4**
KAF	**Kangasniemi**	**43.51**	**328**	*e*p		**P**		**11 15 49.7**	**-1.5**
	comp=Z,3.1nm,0.6s								
KAF	**Kangasniemi**	**43.51**	**328**	*e*P		**P**		**11 15 49.7**	**-1.5**
KAF				pmax		pmax			
	comp=Z,3.0nm,0.6s								
KECS	**Kecovo**	**44.62**	**308**	*e*P		**P**		**11 16 02.9**	**+2.6**
KECS	**Kecovo**	**44.62**	**308**	*e*P		**P**		**11 16 02.9**	**+2.6**
VYHS	**Vyhne**	**45.72**	**308**	*e*P		**P**		**11 16 09.8**	**+0.7**
VYHS	**Vyhne**	**45.72**	**308**	*e*P		**P**		**11 16 09.8**	**+0.7**
ARCES	**ARCESS Array B**	**46.62**	**338**	P		**P**		**11 16 16.0**	**+0.2**
ARCES	**ARCESS Array B**	**46.62**	**338**	P		**P**		**11 16 16.0**	**+0.2**
	comp=Z,10nm,0.9s,baz=112,slow=9.1,SNR=15								
ARCES				LR		LR		11 37 26.8	
	comp=Z,84nm,18.0s,baz=96,slow=38								
KSP	**Ksiaz**	**47.31**	**311**	*e*P		**P**		**11 16 20.2**	**-1.3**
TIXI	**Tiksi**	**47.81**	**20**	*d* iP		**P**		**11 16 26.4**	**+1.4**
TIXI				pmax		pmax			
	comp=Z,9.0nm,0.8s								
CUC	**Castrocucco**	**48.85**	**297**	*e*P		**P**		**11 16 32.4**	**-1.2**
	comp=Z,8.2nm,0.8s								
CLL	**Collm**	**49.37**	**312**	*i* P		**P**		**11 16 36.6**	**-0.7**
CLL	**Collm**	**49.37**	**312**	*i* (P)		**P**		**11 16 36.6**	**-0.7**
MAJO	**Matsushiro**	**50.07**	**67**	*e*P		**P**		**11 16 40.6**	**-2.3**
MAJO				pmax		pmax			
	comp=Z,11nm,0.7s								
MAJO	**Matsushiro**	**50.07**	**67**	*e*P		**P**		**11 16 40.5**	**-2.3**
	comp=Z,11nm,0.7s								
MAT	**Matsushiro**	**50.07**	**67**	P		**P**		**11 16 42.2**	**-0.7**
MJAR	**Matsushiro Arr**	**50.07**	**67**	P		**P**		**11 16 43.2**	**+0.3**
MJAR	**Matsushiro Arr**	**50.07**	**67**	P		**P**		**11 16 43.2**	**+0.3**
	comp=Z,5.8nm,0.8s,baz=284,slow=10.0,SNR=20								
KMBO	**Kilima Mbogo**	**50.08**	**236**	LR		LR		11 36 11.9	
	comp=Z,44nm,19.4s,baz=100,slow=34								
NB2	**NORSAR Subarra**	**50.38**	**325**	P		**P**		**11 16 43.0**	**-1.9**
	comp=Z,3.6nm,0.8s,baz=94,slow=7.4								
NOA	**NORSAR Array B**	**50.38**	**325**	P		**P**		**11 16 43.4**	**-1.4**
NOA	**NORSAR Array B**	**50.38**	**325**	P		**P**		**11 16 43.4**	**-1.4**
	comp=Z,2.3nm,0.7s,baz=95,slow=7.5,SNR=10								
NOA				LR		LR		11 39 32.3	
	comp=Z,34nm,19.0s,baz=95,slow=38								
ASAJ	**Asahikawa**	**51.70**	**57**	P		**P**		**11 16 54.8**	**-0.3**
ASAJ	**Asahikawa**	**51.70**	**57**	P		**P**		**11 16 54.8**	**-0.3**
	comp=Z,4.0nm,0.7s,baz=265,slow=6.6,SNR=4.7								
KEST	**Kesra**	**54.87**	**293**	P		**P**		**11 17 19.7**	**+1.2**
KEST	**Kesra**	**54.87**	**293**	P		**P**		**11 17 19.7**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=83,slow=8.1,SNR=3.3								
JMIC	**Jan Mayen**	**58.10**	**

DBJI	**Dramaga**	**2.85**	**311**	P		**Pn**	**11 14 02.6**	**+1.2**
XMI	**Christmas Isla**	**3.77**	**238**	P		Pn	11 14 12.5	-1.4
	baz=3.8,SNR=10							
XMI				S		Sn	11 14 51.8	-5.3
	baz=3.8,SNR=6.8							
XMIS	**Christmas Isla**	**3.82**	**238**	P		Pn	11 14 12.8	-1.8
	baz=3.8,SNR=45							
XMIS				S		Sn	11 14 50.9	-7.4
	baz=3.8,SNR=18							
JAGI	**Jajag, Banyuwa**	**5.17**	**91**	P		**Pn**	**11 14 34.3**	**+1.1**
	baz=5.2,SNR=9.9							
FITZ	**Fitzroy Crossi**	**18.88**	**122**	P		**Pn**	**11 17 36.7**	**+0.9**
	0.1nm,0.3s,baz=301,slow=12,SNR=10							
FITZ				S		Sn	11 20 52.3	-14
	0.1nm,0.3s,baz=202,slow=19,SNR=3.1							
MEEK	**Meekatharra**	**20.30**	**154**	P		Pn	11 17 56.5	+3.7
	baz=20,SNR=5.1							
MEEK				S		S	11 21 27.5	-8.2
	baz=20,SNR=6.6							
KNRA	**Kununurra**	**20.68**	**112**	P		**P**	**11 17 54.8**	**+0.3**
	baz=21,SNR=6.6							
MTN	**Manton Dam**	**22.26**	**103**	P		**P**	**11 18 11.7**	**+0.2**
	baz=22,SNR=5.1							
MTN				S		S	11 21 46.9	-27
	baz=22,SNR=3.1							
KDU	**Kakadu**	**23.52**	**102**	P		**P**	**11 18 23.2**	**-1.3**
	baz=24,SNR=3.3							
WRA	**Warramunga Arr**	**27.12**	**118**	P		**P**	**11 18 55.8**	**-1.4**
	1.2nm,0.6s,baz=290,slow=12,SNR=18							
ASAR	**Alice Springs**	**28.31**	**125**	P		**P**	**11 19 07.7**	**-0.1**
	0.6nm,0.5s,baz=301,slow=8.6,SNR=9.2							
MTSU	**Mount Surprise**	**35.70**	**109**	P		**P**	**11 20 13.2**	**+0.5**
	baz=36,SNR=7.7							
STKA	**Stephens Creek**	**38.27**	**132**	P		**P**	**11 20 34.0**	**-0.3**
	2.2nm,0.4s,baz=308,slow=7.7,SNR=17							
STKA	**Stephens Creek**	**38.27**	**132**	P		**P**	**11 20 34.5**	**+0.3**
	baz=38,SNR=13							
SONM	**Songino Array**	**56.07**	**358**	P		P	11 22 49.0	-3.6
	0.7nm,0.6s,baz=178,slow=7.9,SNR=5.7							
MKAR	**Makanchi Array**	**59.89**	**339**	P		P	11 23 15.9	-3.4
	0.6nm,0.4s,baz=150,slow=8.5,SNR=11							
ZALV	**Zalesovo Beam**	**65.40**	**345**	P		P	11 23 52.2	-3.7
	1.1nm,0.3s,baz=142,slow=6.1,SNR=4.4							

IDC 17 11:14:39.5±1.2, 20.16N×145.09E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/25, mbtmp3.8/5, MS3.2/1, Ms1 3.2/1, ms1mx2.5/38, Error ellipse: s-maj=88.3km s-min=22.7km az=105.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.22**	**195**	P	P	11 22 26.4	+0.1
	1.3nm,0.6s,baz=18,slow=8.2,SNR=11						
FITZ	**Fitzroy Crossi**	**42.54**	**208**	P	P	11 22 37.9	+0.8
	1.1nm,0.4s,baz=18,slow=6.3,SNR=5.5						
FITZ				LR	LR	11 36 50.0	
	comp=Z,30nm,21.9s,baz=66,slow=31						
ASAR	**Alice Springs**	**44.90**	**195**	P	P	11 22 54.6	-1.5
	0.3nm,0.4s,baz=13,slow=6.8,SNR=7.2						
ILAR	**Eielson Array**	**62.60**	**27**	P	P	11 25 05.6	+0.3
	0.4nm,0.9s,baz=264,slow=5.4,SNR=4.4						
FINES	**FINESS Array B**	**85.33**	**335**	P	P	11 27 17.9	-0.3
	0.8nm,0.4s,baz=70,slow=4.1,SNR=8.3						

GUC 17 11:42:50.5±1.0, 32.59S×71.59W, h4km±4km, MD3.8, ML3.0, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.62**	**128**	*e*P	Pb	11 43 03.7	-0.6
ROCH				*e*S	Sb	11 43 13.3	-0.4
ROCH				AML	AML	11 43 14.7	
	comp=N,983nm,0.3s						
PTCH	**Petorca**	**0.65**	**60**	*e*P	Pb	11 43 04.6	+0.2
CHNG	**Los Chungos**	**0.70**	**6**	*e*P	Pb	11 43 05.0	-0.3
CHNG				*e*S	Sb	11 43 15.9	+0.4
JACH	**Jahuel**	**0.85**	**97**	*e*P	Pb	11 43 07.7	-0.3
PEL	**Peldehue**	**0.94**	**126**⇑	*e*P	Pg	11 43 08.4	-0.3
PEL				*e*S	Sb	11 43 22.8	+0.2
PEL				AML	AML	11 43 24.7	
	comp=E,1μm,0.4s						
PCH	**Pirque**	**1.37**	**139**⇓	*i*P	Pn	11 43 15.2	-1.4
PCH				*i*S	Sb	11 43 35.0	0.0
CMCH	**Combarbala**	**1.50**	**20**	*e*P	Pn	11 43 17.2	-1.1
CMCH				*i*S	Sn	11 43 37.6	-0.7
CMCH				AML	AML	11 43 43.2	
	comp=E,998nm,0.6s						
CHCH	**Chadas Angostu**	**1.56**	**150**⇓	*i*P	Pn	11 43 18.1	-1.1
CACH	**El Canelo**	**1.74**	**152**	*e*P	Pn	11 43 20.8	-0.9
TLL	**Tololo Astrono**	**2.50**	**16**	*e*P	Pn	11 43 33.9	+1.5
TLL				*i*S	Sb	11 44 06.0	-1.8
TLL				AML	AML	11 44 26.6	
	comp=E,43nm,0.7s						

*TIR **17** 11:45:14.6±1.2, 40.71N×19.69E, h71km±4km, ML3.8*
*ATH **17** 11:45:15.4, 40.87N×19.29E, h33km±10km, MD3.6/13*
*SKO **17** 11:45:16.7, 40.65N×19.49E, h0km*
*PDG **17** 11:45:17.5±0.3, 40.69N×19.54E, h12km, ML3.0/8, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*BEO **17** 11:45:17.5±0.9, 40.54N×19.40E, h14km±4km, ML3.2/1*
*CSEM **17** 11:45:17.4±0.1, 40.68N×19.49E, h2km, ML3.1/8, Error ellipse: s-maj=3.5km s-min=1.8km az=66.0*
*THE **17** 11:45:17.8, 40.76N×19.58E, h0km±3km, ML3.1/8, Error ellipse: s-maj=4.7km s-min=1.6km az=285.0*

ISC 17 11:45:17.3±1.2, 40.69N±0.02×19.54E±0.02, h3km±10km, n148, σ1§12/226, 15C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.70**	**20**	*e*PG	**Pg**	**11 45 30.9**	**+0.1**
TIR	**Tirane**	**0.70**	**20**	P	**Pg**	**11 45 31.0**	**+0.1**
TIR	**Tirane**	**0.70**	**20**	*e*Pg	**Pn**	**11 45 34.5**	**+0.3**
TIR				*e*Sg	**Sn**	**11 45 46.4**	**+0.8**
TIR	**Tirane**	**0.70**	**20**	P	**Pg**	**11 45 31.0**	**+0.1**
SRN	**Sarande**	**0.88**	**156**	*e*PG	**Pg**	**11 45 33.7**	**-0.4**
SRN				*i* SG	**Sn**	**11 45 49.1**	**-0.7**
SRN	**Sarande**	**0.88**	**156**	P	**Pg**	**11 45 33.3**	**-0.8**
SRN				S	**Sn**	**11 45 49.3**	**-0.5**
SRN	**Sarande**	**0.88**	**156**	P	**Pg**	**11 45 33.3**	**-0.8**
SRN	**Sarande**	**0.88**	**156**	*e*Pg	**Pg**	**11 45 33.7**	**-0.4**
	SNR=91						
SRN				*i* Sg	**Sn**	**11 45 49.1**	**-0.7**
	SNR=91						
KBN	**Korca**	**0.95**	**93**	*e*PG	**Pg**	**11 45 33.0**	**-2.5**
KBN				*i* SG	**Sg**	**11 45 46.8**	**-1.0**
KBN	**Korca**	**0.95**	**93**	P	**Pg**	**11 45 33.0**	**-2.5**
KBN				S	**Sg**	**11 45 47.0**	**-0.8**
KBN	**Korca**	**0.95**	**93**	*e*Pg	**Pg**	**11 45 33.0**	**-2.5**
	SNR=91						
KBN				S	**Sg**	**11 45 47.0**	**-0.8**
KEK	**Kerkira**	**0.99**	**169**	P	**Pn**	**11 45 37.9**	**-0.2**
KEK				S	**Sn**	**11 45 53.2**	**+0.5**
KEK	**Kerkira**	**0.99**	**169**	*e*PN	**Pn**	**11 45 38.2**	**+0.1**
KEK				*e*SN	**Sn**	**11 45 54.7**	**+2.0**
KEK	**Kerkira**	**0.99**	**169**	P	**Pn**	**11 45 37.9**	**-0.2**
KEK	**Kerkira**	**0.99**	**169**	*e*Pn	**Pn**	**11 45 38.2**	**+0.1**
KEK				*e*Sn	**Sn**	**11 45 54.7**	**+2.0**
NEST	**Nestorio**	**1.18**	**103**	P	**Pg**	**11 45 37.9**	**-2.0**
NEST				S	**Sn**	**11 45 58.9**	**+1.4**
PHP	**Peshkopia**	**1.21**	**34**	*e*PN	**Pb**	**11 45 39.5**	**-1.4**
PHP				*i* SN	**Sn**	**11 45 59.1**	**+1.0**
PHP	**Peshkopia**	**1.21**	**34**	P	**Pb**	**11 45 39.7**	**-1.1**
PHP	**Peshkopia**	**1.21**	**34**	P	**Pb**	**11 45 39.7**	**-1.1**
PHP				*i* Sn	**Sn**	**11 45 59.1**	**+1.0**
ULC	**Ulcinj**	**1.30**	**350**⇑	*i*Pg	**Pn**	**11 45 41.5**	**-0.9**
ULC				*e*Sg	**Sn**	**11 46 01.8**	**+1.5**
ULC	**Ulcinj**	**1.30**	**350**⇑	*i*Pg	**Pn**	**11 45 41.5**	**-0.9**
ULC				*e*Sg	**Sn**	**11 46 01.8**	**+1.5**
IGT	**Igoumenitsa**	**1.30**	**152**	P	**Pg**	**11 45 42.9**	**+0.7**
IGT				S	**Sn**	**11 46 02.6**	**+2.3**
IGT	**Igoumenitsa**	**1.30**	**152**	P	**Pg**	**11 45 42.9**	**+0.7**
PUK	**Puka**	**1.38**	**11**	*e*PN	**Pn**	**11 45 43.8**	**+0.2**
PUK				*i* SN	**Sg**	**11 46 04.0**	**+2.3**
PUK	**Puka**	**1.38**	**11**	*e*Pn	**Pn**	**11 45 43.8**	**+0.2**
	SNR=40						
PUK				*i* Sn	**Sg**	**11 46 04.0**	**+2.3**
	SNR=40						
BIA	**Bitola**	**1.39**	**76**	P	**Pn**	**11 45 41.2**	**-2.5**
BIA				S	**Sb**	**11 46 02.4**	**+0.2**
BIA	**Bitola**	**1.39**	**76**	*e*Pn	**Pn**	**11 45 42.0**	**-1.8**
BIA	**Bitola**	**1.39**	**76**	*e*Pn	**Pn**	**11 45 41.9**	**-1.8**
BIA				S	**Sb**	**11 46 02.4**	**+0.2**
FNA	**Florina**	**1.40**	**85**	P	**Pn**	**11 45 41.5**	**-2.3**
FNA				S	**Sg**	**11 46 03.8**	**+1.6**
FNA	**Florina**	**1.40**	**85**	*e*PN	**Pn**	**11 45 41.8**	**-2.0**
FNA				*e*SN	**Sg**	**11 46 03.5**	**+1.3**
FNA	**Florina**	**1.40**	**85**	*e*Pn	**Pn**	**11 45 41.8**	**-2.0**
FNA				*e*Sn	**Sg**	**11 46 03.5**	**+1.3**
JAN	**Janina**	**1.44**	**135**	P	**Pn**	**11 45 44.1**	**-0.2**
JAN	**Janina**	**1.44**	**135**	*e*PB	**Pb**	**11 45 45.2**	**+0.5**
JAN				*e*SN	**Sg**	**11 46 06.1**	**+2.7**
JAN	**Janina**	**1.44**	**135**	P	**Pn**	**11 45 44.1**	**-0.2**
JAN	**Janina**	**1.44**	**135**	*e*Pb	**Pb**	**11 45 45.2**	**+0.5**
JAN				*e*Sn	**Sg**	**11 46 06.1**	**+2.7**
BUM	**Brajici-Budva**	**1.69**	**343**⇑	*i*Pn	**Pn**	**11 45 47.5**	**-0.3**
BUM				*e*SN	**Sg**	**11 46 11.8**	**+0.3**
BUM	**Brajici-Budva**	**1.69**	**343**⇑	*i*Pn	**Pn**	**11 45 47.5**	**-0.3**
BUM				*e*Sn	**Sg**	**11 46 11.8**	**+0.3**
BCI	**Bajram Curri**	**1.73**	**13**	*e*PN	**Pb**	**11 45 49.4**	**-0.3**
BCI				*i* SN	**Sg**	**11 46 13.3**	**+0.6**
BCI	**Bajram Curri**	**1.73**	**13**	*e*Pn	**Pb**	**11 45 49.4**	**-0.3**
	SNR=40						
BCI				*i* Sn	**Sg**	**11 46 13.3**	**+0.6**
	SNR=40						
KZN	**Kozani**	**1.74**	**102**	P	**Pn**	**11 45 49.4**	**+0.9**
KZN				S	**Sg**	**11 46 13.5**	**+0.3**
KZN	**Kozani**	**1.74**	**102**	*e*PN	**Pn**	**11 45 48.9**	**+0.4**
KZN				*e*SN	**Sb**	**11 46 13.1**	**+0.8**
KZN	**Kozani**	**1.74**	**102**	*e*Pn	**Pn**	**11 45 48.9**	**+0.4**
KZN	**Kozani**	**1.74**	**102**	P	**Pn**	**11 45 49.4**	**+0.9**
KZN				*e*Sn	**Sb**	**11 46 13.1**	**+0.8**
PDG	**Podgorica**	**1.76**	**353**	*e*Pg	**Pb**	**11 45 50.2**	**0.0**
PDG				*e*Sg	**Sg**	**11 46 17.4**	**+3.7**
PDG	**Podgorica**	**1.76**	**353**⇑	*i*Pn	**Pn**	**11 45 48.5**	**-0.2**
PDG	**Podgorica**	**1.76**	**353**	*e*Pg	**Pb**	**11 45 50.2**	**0.0**
PDG				*e*Sn	**Sg**	**11 46 13.6**	**-0.1**
PDG				*e*Sg	**Sg**	**11 46 17.4**	**+3.7**
TTG	**Podgorica**	**1.76**	**353**⇑	*i*Pn	**Pn**	**11 45 48.5**	**-0.2**
TTG				*e*Sn	**Sg**	**11 46 13.6**	**-0.1**
SKO	**Skopje**	**1.92**	**47**	P	**Pb**	**11 45 52.5**	**-0.5**
SKO				S	**Sb**	**11 46 17.3**	**-0.1**
SKO	**Skopje**	**1.92**	**47**	*e*Pn	**Pb**	**11 45 53.1**	**+0.1**
SKO				*e*Sn	**Sb**	**11 46 18.8**	**+1.4**
SKO	**Skopje**	**1.92**	**47**	*e*Pn	**Pb**	**11 45 52.8**	**-0.2**
SKO				*e*Sn	**Sb**	**11 46 17.9**	**+0.5**
SKO	**Skopje**	**1.92**	**47**	P	**Pb**	**11 45 52.5**	**-0.5**
SKO	**Skopje**	**1.92**	**47**	*e*Pn	**Pb**	**11 45 52.8**	**-0.2**
SKO				S	**Sb**	**11 46 17.3**	**-0.1**
HCY	**Herceg Novi**	**1.93**	**336**⇓	*i*Pn	**Pn**	**11 45 51.1**	**+0.1**
HCY				*e*Sn	**Sb**	**11 46 16.6**	**-1.0**
HCY	**Herceg Novi**	**1.93**	**336**⇓	*i*Pn	**Pn**	**11 45 51.1**	**+0.1**
HCY				*e*Sn	**Sb**	**11 46 16.6**	**-1.0**
PVY	**Plav**	**1.93**	**9**⇑	*i*Pn	**Pn**	**11 45 51.6**	**+0.4**
PVY				*e*Sn	**Sb**	**11 46 17.9**	**0.0**
PVY	**Plav**	**1.93**	**9**⇑	*i*Pn	**Pn**	**11 45 51.6**	**+0.4**
PVY				*e*Sn	**Sb**	**11 46 17.9**	**0.0**
LKD2	**Lefkada island**	**2.08**	**155**	P	**Pn**	**11 45 53.9**	**+0.8**
LKD2				S	**Sg**	**11 46 23.5**	**-0.6**
LKD2	**Lefkada island**	**2.08**	**155**	*e*PN	**Pn**	**11 45 53.6**	**+0.5**
LKD2				*e*SN	**Sb**	**11 46 21.6**	**-0.4**
LKD2	**Lefkada island**	**2.08**	**155**	*e*Pn	**Pn**	**11 45 53.6**	**+0.5**
LKD2	**Lefkada island**	**2.08**	**155**	P	**Pn**	**11 45 53.9**	**+0.8**
NKY	**Niksic**	**2.17**	**349**⇓	*i*Pn	**Pn**	**11 45 54.8**	**+0.4**
NKY				*e*Sn	**Sb**	**11 46 23.1**	**-1.4**
NKY	**Niksic**	**2.17**	**349**⇓	*i*Pn	**Pn**	**11 45 54.8**	**+0.4**
NKY				*e*Sn	**Sb**	**11 46 23.1**	**-1.4**
GRG	**Griva**	**2.19**	**82**	P	**Pn**	**11 45 54.5**	**-0.1**
GRG				S	**Sn**	**11 46 23.3**	**+1.1**
GRG	**Griva**	**2.19**	**82**	*e*PN	**Pn**	**11 45 54.3**	**-0.3**
GRG				*e*SN	**Sn**	**11 46 22.6**	**+0.4**
GRG	**Griva**	**2.19**	**82**	P	**Pn**	**11 45 54.5**	**-0.1**
GRG				*e*Sn	**Sn**	**11 46 22.6**	**+0.4**
GRG				S	**Sn**	**11 46 23.3**	**+1.1**
BEY	**Berane**	**2.20**	**7**⇑	*i*Pn	**Pn**	**11 45 55.7**	**+0.8**
BEY				*e*Sn	**Sb**	**11 46 24.4**	**-1.1**
IVA	**Berane**	**2.20**	**7**⇑	*i*Pn	**Pn**	**11 45 55.7**	**+0.8**
IVA				*e*Sn	**Sb**	**11 46 24.4**	**-1.1**
THL	**Klokotos Trika**	**2.20**	**120**	P	**Pn**	**11 45 56.1**	**+1.3**
THL	**Klokotos Trika**	**2.20**	**120**	*e*PN	**Pn**	**11 45 55.1**	**+0.3**
THL				*e*SN	**Sb**	**11 46 24.1**	**-1.3**
THL	**Klokotos Trika**	**2.20**	**120**	*e*Pn	**Pn**	**11 45 55.1**	**+0.3**
THL	**Klokotos Trika**	**2.20**	**120**	P	**Pn**	**11 45 56.1**	**+1.3**
THL				*e*Sn	**Sb**	**11 46 24.1**	**-1.3**
LIT	**Litokhoron**	**2.33**	**104**	P	**Pn**	**11 45 56.8**	**+0.3**
LIT	**Litokhoron**	**2.33**	**104**	*e*PN	**Pn**	**11 45 57.0**	**+0.5**
LIT	**Litokhoron**	**2.33**	**104**	*e*Pn	**Pn**	**11 45 57.0**	**+0.5**
BRY	**Bratogost**	**2.34**	**342**⇑	*i*Pn	**Pn**	**11 45 57.1**	**+0.3**
BRY				*e*Sn	**Sn**	**11 46 27.1**	**+1.0**
BRY	**Bratogost**	**2.34**	**342**⇑	*i*Pn	**Pn**	**11 45 57.1**	**+0.3**
BRY				*e*Sn	**Sn**	**11 46 27.1**	**+1.0**
VAY	**Valandovo**	**2.38**	**74**	*e*Pn	**Pn**	**11 45 56.9**	**-0.3**
VAY	**Valandovo**	**2.38**	**74**	*e*Pn	**Pn**	**11 45 57.9**	**+0.7**
VAY	**Valandovo**	**2.38**	**74**	*e*Pn	**Pn**	**11 45 57.9**	**+0.7**
EVR	**Evrytania**	**2.48**	**135**	*e*PN	**Pn**	**11 46 00.3**	**+1.5**
EVR	**Evrytania**	**2.48**	**135**	*e*Pn	**Pn**	**11 46 00.3**	**+1.5**
UPM	**Unac-Piva**	**2.56**	**350**	*e*Pn	**Pn**	**11 46 00.0**	**+0.1**
UPM				*e*Sn	**Sn**	**11 46 32.1**	**+0.4**
UPM	**Unac-Piva**	**2.56**	**350**	*e*Pn	**Pn**	**11 46 00.0**	**+0.1**
UPM				*e*Sn	**Sn**	**11 46 32.1**	**+0.4**
STON	**Ston**	**2.58**	**328**	*e*Pn	**Pn**	**11 45 59.6**	**-0.4**
STON				Sn	**Sn**	**11 46 31.4**	**-0.6**
STON	**Ston**	**2.58**	**328**	*e*Pn	**Pn**	**11 45 59.6**	**-0.4**
STON				Sn	**Sn**	**11 46 31.3**	**-0.6**
KNT	**Kendrikon**	**2.59**	**78**	P	**Pn**	**11 45 59.9**	**-0.2**
KNT				S	**Sn**	**11 46 31.8**	**-0.3**
KNT	**Kendrikon**	**2.59**	**78**	P	**Pn**	**11 45 59.9**	**-0.2**
KNT				S	**Sn**	**11 46 31.8**	**-0.3**
SJES	**Sjenica**	**2.59**	**7**	*e*Sn	**Sb**	**11 46 34.8**	**-2.1**
SJES	**Sjenica**	**2.59**	**7**	*e*Sn	**Sb**	**11 46 34.8**	**-2.1**
MAKR	**Makrakomi, Fth**	**2.60**	**129**	P	**Pn**	**11 46 01.7**	**+1.4**
MAKR	**Makrakomi, Fth**	**2.60**	**129**	P	**Pn**	**11 46 01.7**	**+1.4**
VLS	**Valsamata**	**2.63**	**162**	*e*PN	**Pn**	**11 45 59.9**	**-0.8**
VLS	**Valsamata**	**2.63**	**162**	*e*Pn	**Pn**	**11 45 59.9**	**-0.8**
PLE	**Pljevlja**	**2.65**	**358**⇑	*i*Pn	**Pn**	**11 46 01.0**	**0.0**
PLE				*e*Sn	**Sn**	**11 46 34.8**	**+1.1**
PLE	**Pljevlja**	**2.65**	**358**⇑	*i*Pn	**Pn**	**11 46 01.0**	**0.0**
PLE				*e*Sn	**Sn**	**11 46 34.8**	**+1.1**
AGG	**Agios Georgios**	**2.71**	**127**	P	**Pn**	**11 46 02.9**	**+1.0**
AGG				S	**Sb**	**11 46 37.8**	**-2.4**
AGG	**Agios Georgios**	**2.71**	**127**	*e*PN	**Pn**	**11 46 02.9**	**+1.0**
AGG	**Agios Georgios**	**2.71**	**127**	P	**Pn**	**11 46 02.9**	**+1.0**
AGG				S	**Sb**	**11 46 37.8**	**-2.4**
BARS	**Barje**	**2.73**	**38**	*e*Pn	**Pn**	**11 46 03.3**	**+1.3**
BARS	**Barje**	**2.73**	**38**	*e*Pn	**Pn**	**11 46 03.3**	**+1.3**
KFL	**Anninata**	**2.75**	**159**	P	**Pn**	**11 46 01.6**	**-0.7**
KFL				S	**Sb**	**11 46 41.1**	**-0.1**
KFL	**Anninata**	**2.75**	**159**	P	**Pn**	**11 46 01.6**	**-0.7**
SELS	**Selova**	**2.79**	**24**	*e*Pn	**Pn**	**11 46 02.8**	**-0.1**
AXS	**Araxos**	**2.86**	**150**	P	**Pn**	**11 46 04.1**	**+0.2**
AXS	**Araxos**	**2.86**	**150**	P	**Pn**	**11 46 04.1**	**+0.2**
SOH	**Sokhos**	**2.90**	**86**	*e*PN	**Pn**	**11 46 04.3**	**-0.1**
SOH				*e*SN	**Sn**	**11 46 40.6**	**+0.8**
SOH	**Sokhos**	**2.90**	**86**	*e*Pn	**Pn**	**11 46 04.3**	**-0.1**
SOH				*e*Sn	**Sn**	**11 46 40.6**	**+0.8**
PLG	**Polygyros**	**2.99**	**95**	*e*PN	**Pn**	**11 46 05.9**	**+0.2**
PLG	**Polygyros**	**2.99**	**95**	*e*Pn	**Pn**	**11 46 05.9**	**+0.2**
RLS	**Riolos of Patr**	**3.02**	**150**	*e*PN	**Pn**	**11 46 06.9**	**+0.9**
RLS	**Riolos of Patr**	**3.02**	**150**	*e*Pn	**Pn**	**11 46 06.9**	**+0.9**
XOR	**Xorichti**	**3.10**	**114**	P	**Pn**	**11 46 07.2**	**+0.1**
XOR				S	**Sb**	**11 46 48.1**	**-3.1**
XOR	**Xorichti**	**3.10**	**114**	P	**Pn**	**11 46 07.2**	**+0.1**
NEO	**Neokhori**	**3.15**	**115**	*e*PN	**Pn**	**11 46 07.9**	**+0.1**
NEO	**Neokhori**	**3.15**	**115**	*e*Pn	**Pn**	**11 46 07.9**	**+0.1**
BBLS	**Lazići**	**3.18**	**358**	*e*Pn	**Pn**	**11 46 09.5**	**+1.2**
BBLS	**Lazići**	**3.18**	**358**	*e*Pn	**Pn**	**11 46 09.5**	**+1.2**
GRUS	**Gruza**	**3.32**	**15**	*e*Pn	**Pn**	**11 46 11.2**	**+1.1**
GRUS	**Gruza**	**3.32**	**15**	*e*Pn	**Pn**	**11 46 11.2**	**+1.1**
KLV	**Kalavryta, Ach**	**3.32**	**142**	P	**Pn**	**11 46 11.3**	**+1.0**
KLV	**Kalavryta, Ach**	**3.32**	**142**	P	**Pn**	**11 46 11.3**	**+1.0**
NVR	**Nevrokopi**	**3.33**	**77**	*e*PN	**Pn**	**11 46 10.0**	**-0.4**
NVR	**Nevrokopi**	**3.33**	**77**	*e*Pn	**Pn**	**11 46 10.0**	**-0.4**
VTS	**Vitosha**	**3.34**	**54**	P	**Pn**	**11 46 11.1**	**+0.5**
VTS				S	**Sn**	**11 46 50.6**	**-0.3**
VTS	**Vitosha**	**3.34**	**54**⇑	*i*P	**Pn**	**11 46 11.2**	**+0.6**
VTS	**Vitosha**	**3.34**	**54**	*e*Pn	**Pn**	**11 46 11.9**	**+1.3**
VTS				*e*Sn	**Sn**	**11 46 52.3**	**+1.4**
VTS	**Vitosha**	**3.34**	**54**	P	**Pn**	**11 46 11.1**	**+0.5**
VTS	**Vitosha**	**3.34**	**54**	*e*Pn	**Pn**	**11 46 11.9**	**+1.3**
VTS				S	**Sn**	**11 46 50.6**	**-0.3**
VTS				*e*Sn	**Sn**	**11 46 52.3**	**+1.4**
LKR	**Lokris**	**3.35**	**126**	*e*PN	**Pn**	**11 46 11.8**	**+1.2**
LKR	**Lokris**	**3.35**	**126**	*e*Pn	**Pn**	**11 46 11.8**	**+1.2**
DIVS	**Divibare**	**3.43**	**5**	*e*Pn	**Pn**	**11 46 12.4**	**+0.7**
DIVS	**Divibare**	**3.43**	**5**	*e*Pn	**Pn**	**11 46 12.4**	**+0.7**
ZAPS	**Zavoj**	**3.46**	**41**	*e*Sn	**Sn**	**11 46 54.9**	**+1.2**
ZAPS	**Zavoj**	**3.46**	**41**	*e*Sn	**Sn**	**11 46 54.9**	**+1.2**
AOS	**Alonnisos**	**3.66**	**113**	*e*PN	**Pn**	**11 46 15.8**	**+0.9**
AOS	**Alonnisos**	**3.66**	**113**	*e*Pn	**Pn**	**11 46 15.8**	**+0.9**
TEKS	**Tekeris**	**3.86**	**360**	*e*Pn	**Pn**	**11 46 19.0**	**+1.4**
TEKS	**Tekeris**	**3.86**	**360**	*e*Pn	**Pn**	**11 46 19.0**	**+1.4**
UDBI	**Udbina**	**4.75**	**325**	*e*Pn	**Pn**	**11 46 30.9**	**+1.1**
UDBI				Sn	**Sn**	**11 47 24.7**	**-0.7**
UDBI	**Udbina**	**4.75**	**325**	*e*Pn	**Pn**	**11 46 30.9**	**+1.1**
UDBI				Sn	**Sn**	**11 47 24.7**	**-0.7**
BZS	**Buzias**	**5.16**	**16**⇓	*i*P	**Pn**	**11 46 36.3**	**+0.9**
BZS	**Buzias**	**5.16**	**16**	*e*Pn	**Pn**	**11 46 36.6**	**+1.2**
BZS	**Buzias**	**5.16**	**16**⇓	*i*P	**Pn**	**11 46 36.3**	**+0.9**
BZS	**Buzias**	**5.16**	**16**	*e*Pn	**Pn**	**11 46 36.6**	**+1.2**
NVLJ	**Novalja**	**5.19**	**320**	*e*Pn	**Pn**	**11 46 34.2**	**-1.5**
NVLJ				Sn	**Sn**	**11 47 34.1**	**-2.1**
NVLJ	**Novalja**	**5.19**	**320**	*e*Pn	**Pn**	**11 46 34.2**	**-1.5**
NVLJ				Sn	**Sn**	**11 47 34.0**	**-2.1**
GZR	**Gura Zlata**	**5.27**	**26**⇓	*i*P	Pn	11 46 32.8	-4.2
GZR	**Gura Zlata**	**5.27**	**26**⇓	*i*P	Pn	11 46 32.8	-4.2

*NEIC **17** 11:49:23.9, 29.84S×70.77W, h76km, MG3.8(GUC), After GUC.*
NEIC Felt [II] at Andacollo, Coquimbo, La Higuera, La Serena and Vicuna.

GUC 17 11:49:23.9±0.8, 29.84S×70.77W, h76km±4km, ML3.8, 2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**0.33**	**186**	*e*P	Pn	11 49 37.0	+0.7
TLL				*i* S	Sn	11 49 46.7	+1.2
TLL	**Tololo Astrono**	**0.33**	**186**	*e*P	Pn	11 49 37.0	+0.7
TLL				*i* S	Sn	11 49 46.7	+1.2
TLL				AML	AML	11 49 48.9	
	comp=E,3μm,0.5s						
LCO	**Las Campanas**	**0.83**	**4**	*e*Pn	Pn	11 49 42.1	+1.0
LCO				*e*Sn	Sn	11 49 54.2	+0.4
LCO	**Las Campanas**	**0.83**	**4**	*e*P	Pn	11 49 41.5	+0.4
LCO				*e*S	Sn	11 49 54.8	+1.1
CMCH	**Combarbala**	**1.35**	**189**⇓	*e*P	Pn

MSZ	**Milford Sound**	**1.77**	**63**	*e*PN	Pn	11 57 43.6	0.0		
MSZ				AML	AML	11 58 14.0			
MSZ				AML	AML	11 58 15.1			
MSZ				AML	AML	11 58 20.8			
MSZ				AML	AML	11 58 25.6			
APZ	**The Paps**	**2.06**	**131**	PN	Pn	11 57 48.3	+0.6		
WKZ	**Wanaka**	**2.42**	**75**	*e*PN	Pn	11 57 55.2	+2.5		
WKZ				AML	AML	11 58 32.6			
WKZ				AML	AML	11 58 36.9			
WKZ				AML	AML	11 58 38.3			
WKZ				AML	AML	11 58 39.9			
EAZ	**Earnscleugh**	**2.54**	**85**	PN	Pn	11 57 56.0	+1.8		
EAZ				AML	AML	11 58 34.0			
EAZ				AML	AML	11 58 35.8			
JCZ	**Jackson Bay**	**2.59**	**58**	PN	Pn	11 57 55.3	+0.3		
JCZ				AML	AML	11 58 44.4			
JCZ				AML	AML	11 58 52.2			
SYZ	**Scrubby Hill**	**2.59**	**115**	PN	Pn	11 57 56.1	+1.1		
TUZ	**Tuapeka**	**2.77**	**101**	PN	Pn	11 57 58.8	+1.4		
TUZ				AML	AML	11 58 43.7			
TUZ				AML	AML	11 58 44.4			
LBZ	**Lake Benmore**	**3.35**	**72**	PN	Pn	11 58 06.3	+0.8		
LBZ				AML	AML	11 59 12.7			
FOZ	**Fox Glacier**	**3.43**	**57**	PN	Pn	11 58 07.4	+0.9		
HHSZ	**Highcliff Hill**	**3.44**	**98**	PN	Pn	11 58 08.0	+1.4		
ODZ	**Otahua Downs**	**3.50**	**84**	AML	AML	11 59 07.1			
RPZ	**Rata Peaks**	**4.20**	**67**	*e*PN	Pn	11 58 17.1	-0.1		
WVZ	**Waitaha Valley**	**4.34**	**58**	*e*PN	Pn	11 58 18.1	-0.8		
OXZ	**Oxford**	**5.02**	**67**	PN	Pn	11 58 30.1	+1.7		
DSZ	**Denniston Nort**	**5.79**	**52**	*e*PN	Pn	11 58 38.3	-0.7		
QRZ	**Quartz Range**	**6.82**	**49**	*e*PN	Pn	11 58 52.6	-0.5		
NNZ	**Nelson**	**7.03**	**55**	*e*PN	Pn	11 58 55.6	-0.3		

WEL 17 12:19:40.1±0.2, 45°42S×166°56E, h22km±1km, ML3.8/18, Error ellipse: s-maj=2.2km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.42**	**99**	P*	Pb	12 19 48.7	-0.2
DCZ				S*	Sb	12 19 54.1	-0.7
DCZ				AML	AML	12 19 54.7	
DCZ				AML	AML	12 19 55.5	
DCZ				AML	AML	12 19 55.5	
PYZ	**Puysegur Point**	**0.76**	**174**	P*	Pb	12 19 53.8	-0.8
PYZ				S*	Sb	12 20 04.2	-0.3
WHZ	**Wether Hill Ro**	**1.08**	**117**	PN	Pn	12 19 59.8	-0.1
WHZ				AML	AML	12 20 18.2	
WHZ				AML	AML	12 20 25.4	
MLZ	**Mavora Lakes**	**1.14**	**87**	PN	Pn	12 20 00.1	-0.6
MLZ				AML	AML	12 20 15.8	
MLZ				AML	AML	12 20 16.1	
MSZ	**Milford Sound**	**1.22**	**53**	PN	Pn	12 20 01.1	-0.7
MSZ				AML	AML	12 20 21.3	
MSZ				AML	AML	12 20 21.3	
MSZ				AML	AML	12 20 23.9	
MSZ				AML	AML	12 20 24.0	
APZ	**The Paps**	**1.73**	**146**	PN	Pn	12 20 09.9	+1.0
WKZ	**Wanaka**	**1.83**	**72**	PN	Pb	12 20 12.6	-0.5
WKZ				AML	AML	12 20 42.4	
WKZ				AML	AML	12 20 42.8	
WKZ				AML	AML	12 20 42.8	
WKZ				AML	AML	12 20 52.8	
EAZ	**Earnscleugh**	**1.95**	**86**	PN	Pb	12 20 13.4	-1.4
EAZ				AML	AML	12 20 43.6	
EAZ				AML	AML	12 20 45.1	
EAZ				AML	AML	12 20 45.1	
JCZ	**Jackson Bay**	**2.06**	**50**	*e*PN	Pb	12 20 16.1	-0.9
JCZ				AML	AML	12 20 53.3	
JCZ				AML	AML	12 20 53.7	
SYZ	**Scrubby Hill**	**2.12**	**123**	*e*PN	Pb	12 20 16.5	-1.2
TUZ	**Tuapeka**	**2.22**	**105**	PN	Pb	12 20 17.8	-1.7
TUZ				AML	AML	12 20 51.2	
TUZ				AML	AML	12 20 51.4	
LBZ	**Lake Benmore**	**2.77**	**69**	*e*PN	Pn	12 20 24.1	+0.9
LBZ				AML	AML	12 21 25.4	
LBZ				AML	AML	12 21 25.5	
FOZ	**Fox Glacier**	**2.90**	**51**	*e*PN	Pb	12 20 28.5	-2.6
FOZ				AML	AML	12 21 16.1	
FOZ				AML	AML	12 21 18.2	
ODZ	**Otahua Downs**	**2.91**	**84**	PN	Pn	12 20 25.8	+0.8
ODZ				AML	AML	12 21 06.3	
ODZ				AML	AML	12 21 06.3	
RPZ	**Rata Peaks**	**3.63**	**64**	*e*PN	Pn	12 20 35.1	+0.1
RPZ				AML	AML	12 21 29.7	
RPZ				AML	AML	12 21 29.8	
WVZ	**Waitaha Valley**	**3.80**	**54**	*e*PN	Pn	12 20 38.2	+0.9
OXZ	**Oxford**	**4.45**	**64**	PN	Pn	12 20 46.9	+0.7
DSZ	**Denniston Nort**	**5.29**	**48**	*e*PN	Pn	12 20 58.6	+0.8
THZ	**Tophouse**	**5.88**	**54**	*e*PN	Pn	12 21 08.0	+2.1
QRZ	**Quartz Range**	**6.33**	**46**	*e*PN	Pn	12 21 12.5	+0.5

*NEIC **17** 12:34:04.8, 45°86S×165°91E, h12km, ML4.5(WEL), After WEL.*
*WEL **17** 12:34:11.5±0.2, 45°56S×166°56E, h21km±1km, ML4.3/20, Error ellipse: s-maj=1.9km s-min=0.9km az=90.0*
*IDC **17** 12:34:11.1±1.3, 45°45S×166°41E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.6/14, mbtmp3.6/3, ML4.1/1, MS3.4/3, Ms1 3.3/3, ms1mx3.1/15, Error ellipse: s-maj=48.4km s-min=25.6km az=177.0*
ISC 17 12:34:12.2±0.8, 45°64S±0°04×166°59E±0°07, h21km±4km, n49, σ1°81/49, 2C, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.43**	**68**	⇑P*	**Pb**	**12 34 20.2**	**-0.8**
DCZ				S*	**Sb**	**12 34 25.6**	**-1.2**
DCZ				S*	**Sn**	**12 34 25.8**	**-4.4**
DCZ				AML	AML	12 34 26.3	
DCZ				AML	AML	12 34 26.3	
PYZ	**Puysegur Point**	**0.53**	**173**	P*	**Pn**	**12 34 25.4**	**+0.8**
PYZ				S*	**Sb**	**12 34 31.1**	**+1.0**
WHZ	**Wether Hill Ro**	**0.98**	**105**	PN	**Pn**	**12 34 30.7**	**-0.1**
WHZ				AML	AML	12 34 53.8	
WHZ				AML	AML	12 34 55.8	
MLZ	**Mavora Lakes**	**1.15**	**76**	Pn	**Pn**	**12 34 31.8**	**-1.2**
MLZ	**Mavora Lakes**	**1.15**	**76**	⇑PN	**Pn**	**12 34 31.8**	**-1.2**
MLZ				AML	AML	12 34 54.3	
MLZ				AML	AML	12 34 56.2	
MSZ	**Milford Sound**	**1.35**	**45**	Pn	**Pn**	**12 34 33.5**	**-2.3**
MSZ				Sn	**Sb**	**12 34 55.7**	**+2.1**
MSZ	**Milford Sound**	**1.35**	**45**	*e*PN	**Pb**	**12 34 35.1**	**-1.7**
MSZ				SN	**Sb**	**12 34 55.5**	**+1.9**
MSZ				AML	AML	12 34 56.3	
MSZ				AML	AML	12 34 56.3	
MSZ				AML	AML	12 34 56.4	
APZ	**The Paps**	**1.54**	**141**	Pn	Pn	12 34 32.8	-5.6
APZ	**The Paps**	**1.54**	**141**	PN	**Pn**	**12 34 35.9**	**-2.5**
WKZ	**Wanaka**	**1.90**	**65**	Pn	**Pb**	**12 34 44.0**	**-2.1**
WKZ				Sn	**Sb**	**12 35 13.4**	**+4.1**
WKZ	**Wanaka**	**1.90**	**65**	PN	**Pb**	**12 34 44.0**	**-2.1**
WKZ				AML	AML	12 35 19.6	
WKZ				AML	AML	12 35 19.7	
WKZ				AML	AML	12 35 20.5	
WKZ				AML	AML	12 35 20.6	
EAZ	**Earnscleugh**	**1.95**	**79**	Pn	**Pb**	**12 34 45.3**	**-1.7**
EAZ				Sn	**Sb**	**12 35 14.6**	**+3.7**
EAZ	**Earnscleugh**	**1.95**	**79**	PN	**Pb**	**12 34 45.2**	**-1.8**
EAZ				AML	AML	12 35 15.0	
EAZ				AML	AML	12 35 15.2	
EAZ				AML	AML	12 35 15.2	
EAZ				AML	AML	12 35 24.1	
SYZ	**Scrubby Hill**	**1.99**	**118**	Pn	**Pn**	**12 34 42.1**	**-2.4**
SYZ	**Scrubby Hill**	**1.99**	**118**	*e*PN	**Pn**	**12 34 44.8**	**+0.3**
TUZ	**Tuapeka**	**2.15**	**100**	Pn	**Pn**	**12 34 46.3**	**-0.5**
TUZ	**Tuapeka**	**2.15**	**100**	PN	**Pn**	**12 34 46.0**	**-0.8**
TUZ				AML	AML	12 35 21.9	
TUZ				AML	AML	12 35 22.2	
JCZ	**Jackson Bay**	**2.20**	**45**	Pn	**Pb**	**12 34 48.6**	**-2.7**
JCZ	**Jackson Bay**	**2.20**	**45**	PN	**Pb**	**12 34 48.4**	**-2.9**
JCZ				AML	AML	12 35 25.4	
JCZ				AML	AML	12 35 28.8	
LBZ	**Lake Benmore**	**2.84**	**65**	Pn	**Pn**	**12 34 57.5**	**+1.3**
LBZ	**Lake Benmore**	**2.84**	**65**	PN	**Pn**	**12 34 56.0**	**-0.2**
LBZ				AML	AML	12 35 40.6	
LBZ				AML	AML	12 35 51.4	
ODZ	**Otahua Downs**	**2.92**	**80**	Pn	**Pn**	**12 34 57.2**	**-0.1**
ODZ	**Otahua Downs**	**2.92**	**80**	PN	**Pn**	**12 34 56.7**	**-0.6**
ODZ				AML	AML	12 35 37.3	
ODZ				AML	AML	12 35 37.3	
ODZ				AML	AML	12 35 50.3	
ODZ				AML	AML	12 35 50.3	
FOZ	**Fox Glacier**	**3.03**	**48**	Pn	Pb	12 35 00.8	-4.7
FOZ	**Fox Glacier**	**3.03**	**48**	*e*PN	Pb	12 35 00.4	-5.0
FOZ				AML	AML	12 35 53.3	
FOZ				AML	AML	12 35 58.9	
RPZ	**Rata Peaks**	**3.72**	**60**	Pn	**Pn**	**12 35 08.9**	**+0.5**
RPZ				Sn	**Sn**	**12 35 54.8**	**+3.3**
RPZ	**Rata Peaks**	**3.72**	**60**	Pn	**Pn**	**12 35 09.4**	**+1.0**
	15nm,0.3s,baz=231,slow=5.7,SNR=25						
RPZ				Sn	**Sn**	**12 35 54.8**	**+3.3**
	13nm,0.3s,baz=82,slow=20,SNR=11						
RPZ	**Rata Peaks**	**3.72**	**60**	*e*PN	**Pn**	**12 35 07.3**	**-1.1**
RPZ				AML	AML	12 35 58.2	
RPZ				AML	AML	12 36 17.4	
WVZ	**Waitaha Valley**	**3.92**	**51**	Pn	**Pn**	**12 35 11.4**	**+0.2**
WVZ	**Waitaha Valley**	**3.92**	**51**	*e*PN	**Pn**	**12 35 11.0**	**-0.2**
WVZ				AML	AML	12 36 18.6	
WVZ				AML	AML	12 36 30.3	
OXZ	**Oxford**	**4.53**	**61**	*e*PN	**Pn**	**12 35 19.6**	**+0.1**
DSZ	**Denniston Nort**	**5.42**	**46**	Pn	**Pn**	**12 35 32.0**	**+0.2**
DSZ	**Denniston Nort**	**5.42**	**46**	*e*PN	**Pn**	**12 35 31.5**	**-0.3**
THZ	**Tophouse**	**5.99**	**52**	AML	AML	12 36 58.8	
QRZ	**Quartz Range**	**6.47**	**44**	Pn	**Pn**	**12 35 46.2**	**0.0**
QRZ	**Quartz Range**	**6.47**	**44**	*e*PN	**Pn**	**12 35 45.5**	**-0.7**
URZ	**Urewera**	**10.75**	**50**	LR	LR	12 41 09.2	
	comp=Z,115nm,19.2s,baz=230,slow=39						
STKA	**Stephens Creek**	**23.73**	**297**	LR	LR	12 46 32.2	
	comp=Z,94nm,19.8s,baz=207,slow=32						
ASAR	**Alice Springs**	**34.33**	**299**	P	**P**	**12 40 57.7**	**+0.4**
ASAR	**Alice Springs**	**34.33**	**299**	P	**P**	**12 40 57.7**	**+0.4**
	0.4nm,0.9s,baz=132,slow=9.0,SNR=3.7						
HNR	**Honiara**	**36.53**	**349**	LR	LR	12 54 30.6	
	comp=Z,76nm,19.0s,baz=149,slow=34						
WRA	**Warramunga Arr**	**36.89**	**303**	P	**P**	**12 41 19.3**	**0.0**
WRA	**Warramunga Ar**	**36.89**	**303**	P	**P**	**12 41 19.3**	**0.0**
	0.6nm,0.9s,baz=145,slow=9.0,SNR=2.9						
PDAR	**Pinedale Array**	**115.26**	**54**	PKP	PKPdf	12 52 55.8	+4.1
PDAR	**Pinedale Array**	**115.26**	**54**	PKP	PKPdf	12 52 55.8	+4.1
	0.2nm,0.7s,baz=225,slow=2.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**145.17**	**206**	PKPbc	**PKPdf**	**12 53 49.1**	**+0.8**
TORD	**Torodi Ar. Bea**	**145.17**	**206**	PKPbc	**PKPdf**	**12 53 49.1**	**+0.8**
	3.6nm,0.7s,baz=160,slow=2.1,SNR=23						
BRTR	**Keskin Array B**	**145.32**	**277**	PKPbc	**PKPdf**	**12 53 49.2**	**+1.2**
BRTR	**Keskin Array B**	**145.32**	**277**	PKPbc	**PKPdf**	**12 53 49.2**	**+1.2**
	1.2nm,0.8s,baz=126,slow=4.1,SNR=4.4						

WEL 17 12:40:55.7±0.4, 46°10S×165°92E, h26km±2km, ML3.6/14, Error ellipse: s-maj=4.0km s-min=2.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.54**	**97**	P*	Pb	12 41 06.9	+0.3
PYZ				S*	Sb	12 41 13.3	-0.7
DCZ	**Deep Cove**	**1.07**	**55**	PN	Pn	12 41 14.0	-0.9
DCZ				AML	AML	12 41 15.0	
DCZ				AML	AML	12 41 15.0	
DCZ				AML	AML	12 41 15.0	
DCZ				SN	Sn	12 41 27.9	-0.9
WHZ	**Wether Hill Ro**	**1.43**	**82**	PN	Pn	12 41 20.1	+0.1
WHZ				AML	AML	12 41 40.7	
WHZ				AML	AML	12 41 42.3	
APZ	**The Paps**	**1.61**	**118**	PN	Pn	12 41 22.7	+0.3
APZ				SN	Sn	12 41 41.4	-1.0
MLZ	**Mavora Lakes**	**1.75**	**65**	PN	Pn	12 41 25.2	+0.8
MLZ				AML	AML	12 41 52.0	
MLZ				AML	AML	12 41 52.1	
MSZ	**Milford Sound**	**2.01**	**46**	*e*PN	Pn	12 41 28.2	+0.3
MSZ				AML	AML	12 42 06.5	
MSZ				AML	AML	12 42 06.5	
MSZ				AML	AML	12 42 08.1	
SYZ	**Scrubby Hill**	**2.28**	**102**	PN	Pn	12 41 32.0	+0.5
WKZ	**Wanaka**	**2.53**	**61**	AML	AML	12 42 13.6	
WKZ				AML	AML	12 42 16.2	
EAZ	**Earnscleugh**	**2.53**	**71**	PN	Pn	12 41 36.8	+1.7
EAZ				AML	AML	12 42 14.0	
EAZ				AML	AML	12 42 16.1	
TUZ	**Tuapeka**	**2.59**	**88**	PN	Pn	12 41 37.0	+1.1
TUZ				SN	Sn	12 42 08.2	+1.7
TUZ				AML	AML	12 42 12.5	
JCZ	**Jackson Bay**	**2.86**	**46**	*e*PN	Pn	12 41 41.5	+1.8
JCZ				AML	AML	12 42 30.5	
JCZ				AML	AML	12 42 30.6	
LBZ	**Lake Benmore**	**3.47**	**62**	PN	Pn	12 41 48.5	+0.5
ODZ	**Otahua Downs**	**3.48**	**74**	*e*PN	Pn	12 41 47.4	-0.8

*NIED **17** 12:46:00, 22°70N×124°20E, h8km, Mw4.1 Best double couple: M0 1.58000×10^15 NP1:φs=304.00000°, δ73.00000°, λ-81.00000°. NP2:φs=95.00000°, δ19.00000°, λ-117.00000°.*
*ISCJB **17** 12:46:37.0±0.5, 22°64N±0°03×124°10E±0°03, h11km, mb3.9/15, MS3.1/3, Error ellipse: s-maj=5.0km s-min=4.2km az=145.6*
*IDC **17** 12:46:36.9±0.7, 22°43N×123°95E, h0km, mb3.9/12, mb1 4.1/14, mb1mx4.0/26, mbtmp3.9/14, ML3.5/2, MS3.1/5, Ms1 3.1/5, ms1mx2.8/34, Error ellipse: s-maj=28.8km s-min=14.8km az=74.0*
*NEIC **17** 12:46:38.4±0.4, 22°48N×123°97E, h10km, mb4.2/4, Error ellipse: s-maj=8.8km s-min=6.7km az=220.0*
*JMA **17** 12:46:40.3±0.3, 22°68N×124°17E, h52km, M3.6*
ISC 17 12:46:38.8±0.7, 22°67N±0°06×124°14E±0°04, h11km, n57, σ1°86/64, mb3.9/15, MS3.1/3, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.41**	**348**	*e*S	**Sn**	**12 47 21.7**	**-1.4**
JKRS	**Kuro-shima**	**1.57**	**356**	P	**Pn**	**12 47 06.4**	**-0.1**
JKRS				*e*S	**Sb**	**12 47 26.0**	**-1.6**
JIJ	**Ishigaki jima**	**1.69**	**0**	P	**Pn**	**12 47 07.6**	**-0.6**
JIJ				*e*S	**Sn**	**12 47 27.4**	**-2.4**
IRIF	**Iriomote-Funau**	**1.70**	**347**	P	**Pn**	**12 47 08.4**	**0.0**
IRIF				*e*S	**Sb**	**12 47 29.2**	**-2.2**
JTJ	**Tarama**	**2.03**	**15**	P	**Pn**	**12 47 12.5**	**-0.4**
JTJ				*e*S	**Sn**	**12 47 32.7**	**-1.1**
YOJ	**Yonaguni jima**	**2.06**	**330**	P	**Pn**	**12 47 13.5**	**+0.1**
YOJ				*e*S	**Sn**	**12 47 37.5**	**-1.6**
JMJ	**Miyako jima 2**	**2.38**	**26**	P	**Pn**	**12 47 18.2**	**+0.4**
JMJ				*e*S	**Sn**	**12 47 46.0**	**-1.1**
JOGS	**Gusukube**	**2.38**	**29**	P	**Pn**	**12 47 17.7**	**-0.1**
JOGS				*e*S	**Sn**	**12 47 45.8**	**-1.3**
YULB	**Yu-li**	**2.71**	**286**	*e*Pn	**Pn**	**12 47 19.9**	**-2.4**
YULB				*e*Sn	**Sn**	**12 47 53.5**	**-1.7**
NACB	**Ninganchiao**	**2.77**	**303**	*e*Pn	**Pn**	**12 47 21.1**	**-1.9**
NACB				*e*Sn	**Sn**	**12 47 53.4**	**-3.3**
SSLB	**Suanglung**	**3.13**	**291**	*e*Pn	**Pn**	**12 47 26.7**	**-1.4**
SSLB				*e*Sn	**Sn**	**12 48 02.2**	**-3.4**
YHNB	**Yeheng**	**3.22**	**309**	*e*Pn	**Pn**	**12 47 29.2**	**-0.2**
TPUB	**Ta-pu**	**3.29**	**282**	*e*Pn	**Pn**	**12 47 29.8**	**-0.5**
TPUB				*e*Sn	**Sn**	**12 48 07.7**	**-1.8**
JKE	**Kume jima 2**	**4.37**	**33**	P	**Pn**	**12 47 43.7**	**-1.4**
JKE				*e*S	**Sn**	**12 48 31.5**	**-4.5**
JAGN	**Aguni-jima**	**4.82**	**35**	P	**Pn**	**12 47 50.5**	**-0.8**
JIH	**Iheya**	**5.57**	**38**	P	**Pn**	**12 48 01.0**	**-0.6**
JOW	**Kunigami**	**5.60**	**41**	P	**Pn**	**12 48 00.8**	**-1.2**
JOW				*e*S	**Sn**	**12 49 01.9**	**-4.5**
JTK	**Tokunoshima**	**6.71**	**40**	P	**Pn**	**12 48 14.7**	**-2.5**
JTK				*e*S	Sn	12 49 25.8	-7.8
JAMN	**Amaminishikomi**	**7.18**	**38**	P	Pn	12 48 20.8	-2.9
JAMN				*e*S	**Sn**	**12 49 40.4**	**-4.9**
JMZ	**Minamidaito 2**	**7.19**	**63**	P	Pn	12 48 16.9	-3.9
JAM	**Amami Oshima**	**7.55**	**40**	P	**Pn**	**12 48 26.5**	**-2.4**
KSAR	**Wonju Array Be**	**15.07**	**12**	Pn	**Pn**	**12 50 13.4**	**+1.7**
KSRS	**Korea Array**	**15.09**	**12**	Pn	**Pn**	**12 50 13.4**	**+1.4**
	0.1nm,0.3s,baz=194,slow=12,SNR=4.6						
KSRS				LR	LR	12 56 15.9	
	comp=Z,51nm,19.5s,baz=339,slow=38						
DAV	**Davao City (W)**	**15.57**	**175**	LR	LR	12 56 13.0	
	comp=Z,70nm,20.1s,baz=222,slow=38						
MAT	**Matsushiro**	**18.43**	**38**	P	**Pn**	**12 50 56.6**	**+2.3**
MAJO	**Matsushiro**	**18.43**	**38**	*e*P	**Pn**	**12 50 57.0**	**+2.7**
	14nm,0.9s						
MJAR	**Matsushiro Arr**	**18.43**	**38**	P	**Pn**	**12 50 56.8**	**+2.5**
MJAR	**Matsushiro Arr**	**18.43**	**38**	P	**Pn**	**12 50 56.8**	**+2.5**
	0.2nm,0.3s,baz=226,slow=11,SNR=22						
USRK	**Ussuriysk Arra**	**22.43**	**15**	P	**P**	**12 51 41.4**	**+3.8**
	3.4nm,0.8s,baz=188,slow=9.8,SNR=5.5						
ASAJ	**Asahikawa**	**26.25**	**31**	LR	LR	13 02 57.6	
	comp=Z,39nm,18.3s,baz=339,slow=37						
SONM	**Songino Array**	**28.85**	**335**	P	**P**	**12 52 38.1**	**+0.7**
SONM	**Songino Array**	**28.85**	**335**	P	**P**	**12 52 38.1**	**+0.7**
	1.3nm,0.6s,baz=136,slow=8.4,SNR=9.1						
SONM				LR	LR	13 05 04.0	
	comp=Z,50nm,18.8s,baz=227,slow=38						
PEA0B	**Petropavlovsk-**	**39.67**	**31**	*e*P	P	12 54 18.0	+7.3
MKAR	**Makanchi Array**	**41.31**	**316**	P	**P**	**12 54 25.3**	**+0.9**
MKAR	**Makanchi Array**	**41.31**	**316**	P	**P**	**12 54 25.3**	**+0.9**
	1.9nm,0.6s,baz=102,slow=8.7,SNR=20						
ZAA0	**Zalesovo Array**	**42.99**	**327**	*e*P	**P**	**12 54 38.3**	**+0.4**
ZALV	**Zalesovo Beam**	**42.99**	**327**	P	**P**	**12 54 38.5**	**+0.6**
ZALV	**Zalesovo Beam**	**42.99**	**327**	P	**P**	**12 54 38.5**	**+0.6**
	3.8nm,0.6s,baz=111,slow=7.3,SNR=8.0						
ZALV				LR	LR	13 13 51.1	
	comp=Z,27nm,18.1s,baz=69,slow=38						
WRAB	**Tennant Creek**	**43.50**	**166**	*e*P	**P**	**12 54 41.1**	**-1.3**
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**43.51**	**166**	P	P	12 54 40.1	-2.4
WRA	**Warramunga Ar**	**43.51**	**166**	P	P	12 54 40.1	-2.4
	1.4nm,0.7s,baz=347,slow=8.7,SNR=15						
TKM2	**Tokmak 2**	**44.83**	**309**	*e*P	**P**	**12 54 54.5**	**+1.3**
	2.8nm,0.7s						
KURK	**Kurchatov**	**44.99**	**320**	P	**P**	**12 54 54.9**	**+0.9**
KURBB	**Kurchatov Arra**	**45.01**	**320**	P	**P**	**12 54 54.9**	**+0.7**
	1.8nm,0.7s,baz=112,slow=8.3,SNR=13						
ASAR	**Alice Springs**	**47.03**	**168**	P	**P**	**12 55 09.5**	**-0.9**
ASAR	**Alice Springs**	**47.03**	**168**	P	**P**	**12 55 09.5**	**-0.9**
	0.4nm,0.6s,baz=359,slow=6.9,SNR=15						
ABKAR	**Akbulak array**	**56.43**	**315**	*e*P	**P**	**12 56 20.5**	**+0.1**
	2.4nm,0.7s						
STKA	**Stephens Creek**	**56.76**	**162**	P	**P**	**12 56 21.4**	**-1.4**
STKA	**Stephens Creek**	**56.76**	**162**	P	**P**	**12 56 21.4**	**-1.4**
	1.3nm,0.6s,baz=321,slow=6.4,SNR=5.0						
ILAR	**Eielson Array**	**69.31**	**27**	P	**P**	**12 57 47.7**	**+1.7**
ILAR	**Eielson Array**	**69.31**	**27**	P	**P**	**12 57 47.7**	**+1.7**
	0.1nm,0.5s,baz=270,slow=6.3,SNR=3.4						
NOA	**NORSAR Array B**	**80.81**	**333**	P	P	**12 58 51.7**	**-0.7**
NOA	**NORSAR Array B**	**80.81**	**333**	P	P	**12 58 51.7**	**-0.7**
	0.4nm,0.7s,baz=58,slow=5.7,SNR=4.0						
GERES	**GERESS Array B**	**85.72**	**322**	P	**P**	**12 59 18.0**	**-0.1**
GERES	**GERESS Array B**	**85.72**	**322**	P	**P**	**12 59 18.0**	**-0.1**
	0.4nm,0.4s,baz=54,slow=5.0,SNR=4.6						
NVAR	**Mina Array Bea**	**95.65**	**44**	P	**P**	**13 00 06.5**	**+1.4**
NVAR	**Mina Array Bea**	**95.65**	**44**	P	**P**	**13 00 06.5**	**+1.4**
	0.2nm,0.7s,baz=287,slow=3.7,SNR=3.1						

*MOS **17** 12:53:13.8±1.2, 49°08N×156°30E, h33km, mb4.6/1, Error ellipse: s-maj=36.2km s-min=10.3km az=79.7*
KRSC 17 12:53:16.4±1.0, 49°38N×156°96E, h5km±5km, ML4.7, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.41**	**338**	⇑*i*PN	Pn	12 53 38.5	-4.2
SKR				*i* S	Sb	12 53 55.5	-6.0
SKR				pmax	pmax		
	comp=N,230nm,0.3s						
SKR				pmax	pmax		
	comp=Z,360nm,0.3s						
SKR				pmax	pmax		
	comp=E,120nm,0.4s						
SKR				smax	smax		
	comp=N,3μm,0.3s						
SKR				smax	smax		
	comp=E,2μm,0.3s						
SKR				smax	smax		
	comp=N,3μm,1.0s						
SKR				smax	smax		
	comp=E,2μm,1.0s						
SKR	**Severo-Kuril's**	**1.41**	**338**	P	Pn	12 53 40.6	-2.1
SKR				*i* S	Sb	12 53 57.9	-3.6
PAU	**Pauzhetka**	**2.09**	**357**	PN	Pn	12 53 52.6	+0.5
PAU				S	Sn	12 54 19.3	+0.8
PAU	**Pauzhetka**	**2.09**	**357**	P	Pn	12 53 52.6	+0.5
PAU				*i* S	Sn	12 54 19.3	+0.8
MIPR	**Malaya Ipel'ka**	**2.90**	**358**	P	Pn	12 54 03.8	+0.5
ASAK	**Asacha**	**3.06**	**11**	P	Pn	12 54 08.2	+2.6
ASAK				*i* S	Sb	12 54 46.4	-2.9
MTVR	**Mutnovka**	**3.20**	**14**	P	Pn	12 54 09.9	+2.4
MTVR				*i* S	Sb	12 54 49.8	-3.6
RUS	**Russkaya**	**3.21**	**17**	PN	Pn	12 54 09.5	+2.1
RUS	**Russkaya**	**3.21**	**17**	P	Pn	12 54 09.5	+2.1
RUS				*i* S	Sn	12 54 48.6	+2.5
APC	**Apacha**	**3.55**	**2**	P	Pn	12 54 14.5	+2.4
PET	**Petropavlovsk**	**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.16**	**41**	Pn	Pn	13 06 16.2	-0.3
	66nm,0.3s,baz=236,slow=3.6,SNR=113						
AFI				Sn	Sn	13 06 38.5	-5.6
	139nm,0.3s,baz=213,slow=23,SNR=14						
WRA	**Warramunga Arr**	**49.96**	**257**	P	P	13 14 35.2	-0.2
	0.3nm,0.9s,baz=95,slow=7.0,SNR=6.5						
ASAR	**Alice Springs**	**50.21**	**252**	P	P	13 14 37.2	-0.1
	0.9nm,0.5s,baz=87,slow=7.7,SNR=32						
NVAR	**Mina Array Bea**	**74.34**	**42**	P	P	13 17 19.2	+0.2
	0.6nm,0.7s,baz=225,slow=10,SNR=5.1						

WEL 17 13:05:59.0±0.4, 46°18S×165°94E, h12km, ML3.5/12, 1C-1D, Error ellipse: s-maj=3.0km s-min=1.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.52**	**89**	⇓P*	Pg	13 06 09.3	+0.2
PYZ				S*	Sg	13 06 15.8	-0.2
DCZ	**Deep Cove**	**1.10**	**51**	⇑P*	Pb	13 06 17.7	-2.2
DCZ				AML	AML	13 06 26.7	
DCZ				AML	AML	13 06 33.1	
DCZ				AML	AML	13 06 33.1	
WHZ	**Wether Hill Ro**	**1.43**	**79**	PN	Pn	13 06 23.3	-1.4
WHZ				SN	Sn	13 06 42.0	-1.5
WHZ				AML	AML	13 06 46.0	
APZ	**The Paps**	**1.56**	**116**	PN	Pn	13 06 26.0	-0.6
APZ				SN	Sn	13 06 45.1	-1.7
MLZ	**Mavora Lakes**	**1.77**	**63**	*e*PN	Pn	13 06 24.8	-4.7
MLZ				AML	AML	13 06 55.6	
MLZ				AML	AML	13 06 56.2	
MSZ	**Milford Sound**	**2.06**	**44**	AML	AML	13 07 08.6	
SYZ	**Scrubby Hill**	**2.25**	**100**	PN	Pn	13 06 35.8	-0.1
EAZ	**Earnscleugh**	**2.54**	**69**	*e*PN	Pn	13 06 37.6	-2.5
EAZ				AML	AML	13 07 18.7	
EAZ				AML	AML	13 07 21.5	
WKZ	**Wanaka**	**2.55**	**59**	*e*PN	Pn	13 06 40.2	0.0
TUZ	**Tuapeka**	**2.58**	**86**	*e*PN	Pn	13 06 39.9	-0.7
TUZ				AML	AML	13 07 16.3	

WEL 17 13:08:31.1±0.2, 45°35S×166°70E, h21km±1km, ML2.8/9, 1D, Error ellipse: s-maj=1.6km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.35**	**112**	⇓P*	Pb	13 08 38.5	0.0
DCZ				S*	Sb	13 08 42.9	-0.6
DCZ				AML	AML	13 08 43.6	
DCZ				AML	AML	13 08 44.3	
PYZ	**Puysegur Point**	**0.82**	**181**	P*	Pb	13 08 45.5	-1.2
WHZ	**Wether Hill Ro**	**1.03**	**122**	PN	Pb	13 08 50.0	-0.3
WHZ				SN	Sb	13 09 03.6	+0.2
MLZ	**Mavora Lakes**	**1.04**	**90**	PN	Pb	13 08 49.5	-1.0
MLZ				S*	Sb	13 09 03.1	-0.6
MSZ	**Milford Sound**	**1.10**	**53**	PN	Pb	13 08 52.6	+1.2
MSZ				AML	AML	13 09 10.5	
WKZ	**Wanaka**	**1.72**	**73**	*e*PN	Pb	13 09 01.9	-0.2
ODZ	**Otahua Downs**	**2.81**	**85**	*e*PN	Pn	13 09 15.6	+0.9

IDC 17 13:09:29.6±1.8, 37°29N×143°00E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.4/25, mbtmp3.5/6, ML3.1/2, Error ellipse: s-maj=39.0km s-min=26.0km az=70.0
JMA 17 13:09:32.6±0.2, 37°41N×142°91E, h43km, M3.4
ISC 17 13:09:29.6±3.6, 37°42N±0°07×142°95E±0°10, h4km±22km, n18, σ1s73/24, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.63**	**310**	P	**Pn**	**13 09 59.6**	**+0.5**
JIO				*e*S	**Sn**	**13 10 19.3**	**-1.3**
JFK	**Kawauchi**	**1.65**	**269**	P	**Pb**	**13 09 59.6**	**-1.0**
ONAJ	**Iwakimizuishiy**	**1.74**	**260**	P	**Pb**	**13 10 00.8**	**-1.4**
ONAJ				*e*S	**Sn**	**13 10 21.7**	**-1.7**
JMM	**Marumori**	**1.77**	**285**	P	**Pn**	**13 10 01.2**	**+0.2**
JMK	**Ichinoseki**	**2.05**	**319**	P	**Pn**	**13 10 05.4**	**+0.6**
JFT	**Otama**	**2.08**	**274**	P	**Pb**	**13 10 06.7**	**-1.2**
JOM	**Ohasama**	**2.43**	**328**	P	**Pn**	**13 10 10.7**	**+0.6**
JYK	**Kaneyama**	**2.53**	**307**	P	**Pn**	**13 10 12.7**	**+1.2**
JAG	**Ashikaga**	**2.97**	**252**	P	**Pn**	**13 10 18.6**	**+1.1**
JRY	**Ryogami san**	**3.54**	**248**	P	**Pn**	**13 10 26.1**	**+0.7**
JRY				*e*S	**Sn**	**13 11 05.2**	**-2.5**
JOD2	**Odawara 2**	**3.79**	**237**	P	**Pn**	**13 10 29.1**	**+0.4**
JOD2				*e*S	**Sn**	**13 11 10.8**	**-2.9**
MJAR	**Matsushiro Arr**	**3.89**	**258**	Pn	**Pn**	**13 10 30.1**	**-0.1**
	1.6nm,0.3s,baz=99,slow=16,SNR=15						
MJAR				Sn	**Sn**	**13 11 19.1**	**+2.7**
	0.8nm,0.3s,baz=74,slow=14,SNR=4.6						
MAT	**Matsushiro**	**3.90**	**258**	P	Pn	13 10 32.9	+2.7
MAT				*e*S	**Sn**	**13 11 16.6**	**+0.2**
ASAJ	**Asahikawa**	**6.70**	**358**	Pn	**Pn**	**13 11 11.1**	**+2.4**
	0.4nm,0.3s,baz=197,slow=14,SNR=4.2						
ASAJ				Sn	**Sn**	**13 12 21.6**	**-3.8**
	baz=152,slow=16,SNR=2.4						
SONM	**Songino Array**	**28.59**	**303**	P	**P**	**13 15 28.6**	**+1.8**
	0.9nm,0.7s,baz=98,slow=10,SNR=4.4						
MKAR	**Makanchi Array**	**44.95**	**302**	P	**P**	**13 17 46.9**	**+1.2**
	0.3nm,0.5s,baz=77,slow=8.0,SNR=3.6						
WRA	**Warramunga Arr**	**57.63**	**190**	P	**P**	**13 19 20.9**	**+0.1**
	1.0nm,1.2s,baz=9.8,slow=7.3,SNR=3.4						
ASAR	**Alice Springs**	**61.35**	**189**	P	**P**	**13 19 46.3**	**-0.3**
	0.2nm,0.8s,baz=358,slow=6.3,SNR=2.7						

IDC 17 13:20:50.6±1.9, 1°89N×126°53E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=119.0km s-min=24.3km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.89**	**182**	P	Pn	13 25 25.0	-0.2
	0.1nm,0.3s,baz=17,slow=15,SNR=7.9						
WRA	**Warramunga Arr**	**23.01**	**161**	P	P	13 25 56.9	-0.4
	0.4nm,0.3s,baz=337,slow=11,SNR=22						
ASAR	**Alice Springs**	**26.40**	**165**	P	P	13 26 28.6	-0.4
	0.4nm,0.3s,baz=345,slow=12,SNR=17						
MKAR	**Makanchi Array**	**58.95**	**326**	P	P	13 30 51.9	0.0
	0.1nm,0.4s,baz=127,slow=6.0,SNR=5.3						

IDC 17 13:47:33.8±0.6, 12°33N×87°56W, h0km, mb4.3/14, mb1 4.5/14, mb1mx4.3/24, mbtmp4.3/14, MS3.5/5, Ms1 3.5/5, ms1mx3.1/26, Error ellipse: s-maj=30.6km s-min=13.3km az=65.0
ISCJB 17 13:47:39.0±0.4, 12°24N±0°05×87°74W±0°05, h58km±3km, mb4.4/43, MS3.5/4, Error ellipse: s-maj=10.1km s-min=3.3km az=44.3
CASC 17 13:47:39.5±1.9, 12°24N×87°75W, h36km±999km, MD4.3, ML3.9
NEIC 17 13:47:42.7±1.1, 12°37N×87°59W, h72km±10km, mb4.5/29, Error ellipse: s-maj=15.7km s-min=5.3km az=56.0
ISC 17 13:47:39.6±0.5, 12°26N±0°05×87°73W±0°05, h39km±2km, n304, σ1s10/319, mb4.5/43, MS3.5/4, 98C-103D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.02**	**354**	*e*P	**Pn**	**13 47 58.2**	**+0.7**
CNCH				*e*S	**Sn**	**13 48 11.1**	**+0.5**
CNGN	**Cerro Negro**	**1.04**	**77**	*e*P	**Pn**	**13 47 57.7**	**0.0**
COPN	**Copaltepe**	**1.12**	**94**	*e*P	**Pn**	**13 47 58.8**	**+0.1**
BLLM	**Bellamira**	**1.27**	**337**	*e*P	**Pn**	**13 48 01.0**	**0.0**
BLLM				*e*S	**Sn**	**13 48 18.1**	**+1.2**
VSM	**San Miguel**	**1.28**	**336**	*e*P	**Pn**	**13 48 01.3**	**+0.1**
HUEN		**1.53**	**87**	*e*P	**Pn**	**13 48 04.6**	**+0.3**
CAHU	**Cacacuatique**	**1.57**	**343**	*e*P	**Pn**	**13 48 06.2**	**+1.0**
SNVI	**San Vicente**	**1.72**	**321**	*e*P	**Pn**	**13 48 07.2**	**-0.1**
SNVI				*e*S	**Sn**	**13 48 29.6**	**+1.5**
TGUH	**Tegucigalpa,Un**	**1.84**	**14**	*e*Pn	**Pn**	**13 48 10.6**	**+1.9**
TGUH				*e*Sn	**Sn**	**13 48 28.4**	**-2.3**
LFRS	**El Faro**	**1.88**	**316**	*e*P	**Pn**	**13 48 08.6**	**-0.7**
LBRS	**Las Brisas**	**1.95**	**319**	*e*P	**Pn**	**13 48 10.4**	**+0.1**
SNET	**Serv Nac Est T**	**2.04**	**314**	AML	AML	13 48 38.4	
	comp=Z,1μm,0.4s						
BOQS	**Boqueron**	**2.10**	**314**	*e*P	**Pn**	**13 48 12.6**	**+0.1**
SBLS	**San Blas**	**2.42**	**311**	*e*P	**Pn**	**13 48 17.2**	**+0.3**
SNJE	**San Jose**	**2.43**	**311**	*e*P	**Pn**	**13 48 17.1**	**+0.2**
RTR	**El Retiro**	**2.48**	**311**	*e*P	**Pn**	**13 48 17.5**	**-0.1**
GBS2	**Las Lilas**	**2.64**	**122**	*i* P	**Pn**	**13 48 20.0**	**+0.2**
RBDL	**Robledal**	**2.65**	**314**	*e*P	**Pn**	**13 48 20.7**	**+0.8**
GB1A	**Borinquen Arri**	**2.70**	**122**	*i* P	**Pn**	**13 48 20.5**	**-0.1**
LIM1	**Limonal**	**2.88**	**122**	*i* P	Sn	13 48 41.4	-15
VCR	**Vista de Mar**	**2.96**	**136**	*e*P	**Pn**	**13 48 22.7**	**-1.4**
AMAS	**Alto Masis**	**3.15**	**121**	*i* P	**Pn**	**13 48 27.2**	**+0.5**
AMAS				*i* S	**Sn**	**13 49 03.8**	**+0.7**
MRL	**Marmol**	**3.38**	**326**	*e*P	Pn	13 48 33.5	+3.5
MRL				*e*S	Sn	13 49 19.2	+10
FUG	**Fuego 3**	**3.73**	**306**	*e*P	**Pn**	**13 48 35.8**	**+1.0**
FUG				*e*S	**Sn**	**13 49 17.6**	**0.0**
CGA2	**Cerro Gallo 2**	**3.91**	**124**	*e*P	**Pn**	**13 48 38.8**	**+1.6**
JAT	**Jato**	**4.32**	**299**	*e*P	**Pn**	**13 48 42.2**	**-0.5**
QCR	**Quepos**	**4.50**	**128**	*e*P	**Pn**	**13 48 45.9**	**+0.6**
URSC	**Urasca**	**4.57**	**121**	*e*P	**Pn**	**13 48 47.7**	**+1.3**
BUS	**Buena Vista**	**4.74**	**124**	*e*P	**Pn**	**13 48 50.7**	**+1.7**
BUS				*e*S	**Sn**	**13 49 43.8**	**+0.8**
ACR	**Cerro Adams**	**5.74**	**128**	*e*P	**Pn**	**13 49 03.4**	**+1.0**
TEIG	**Tepich**	**7.94**	**356**	*e*Pn	**Pn**	**13 49 34.3**	**+1.8**
	comp=Z,36nm,1.1s						
TEIG	**Tepich**	**7.94**	**356**	Pn	Pn	13 49 35.7	+3.2
	comp=Z,1.7nm,0.3s,baz=165,slow=12,SNR=8.4						
BCIP	**Isla Barro Col**	**8.35**	**111**	*e*Pn	**Pn**	**13 49 39.5**	**+1.4**
ROSC	**El Rosal**	**15.15**	**118**	LR	LR	13 57 27.2	
	comp=Z,85nm,19.2s,baz=262,slow=39						
TIGA	**Tifton**	**19.47**	**11**	⇑P	**Pn**	**13 52 06.2**	**+1.6**
	baz=19						
732A	**Laxson Ranch,**	**19.97**	**327**	⇓P	**Pn**	**13 52 09.7**	**-0.9**
	baz=20,SNR=16						
632A	**Uvalde**	**20.50**	**329**	⇑P	Pn	13 52 15.6	-1.2
	baz=20,SNR=12						
LRAL	**Lakeview Retre**	**20.69**	**2**	*e*P	**P**	**13 52 16.3**	**-0.1**
	comp=Z,5.1nm,0.6s						
631A	**Perdido Creek**	**20.83**	**327**	⇑P	**P**	**13 52 18.5**	**+0.5**
	baz=21						
532A	**Rocksprings**	**21.06**	**329**	⇑P	**P**	**13 52 21.4**	**+0.8**
	baz=21,SNR=16						
JCT	**Junction City**	**21.30**	**330**	*e*P	**P**	**13 52 22.6**	**-0.5**
	comp=Z,16nm,0.6s						
JCT	**Junction City**	**21.30**	**330**	⇓P	**P**	**13 52 23.6**	**+0.5**
	baz=21,SNR=11						
ATAH	**Atahualpa**	**21.39**	**154**	P	**P**	**13 52 25.4**	**+0.9**
ATAH	**Atahualpa**	**21.39**	**154**	P	**P**	**13 52 25.4**	**+0.9**
	comp=Z,10nm,0.8s,baz=323,slow=9.6,SNR=5.6						
531A	**Rocksprings**	**21.42**	**328**	⇑P	**P**	**13 52 25.0**	**+0.7**
	baz=22,SNR=5.6						
432A	**Menard**	**21.62**	**331**	⇓P	**P**	**13 52 25.7**	**-0.8**
	baz=22						
530A	**J-C Ranch, Com**	**21.82**	**327**	⇑P	**P**	**13 52 29.4**	**+0.7**
	baz=22,SNR=6.0						
431A	**Sonora**	**21.86**	**329**	⇓P	**P**	**13 52 29.3**	**+0.2**
	baz=22,SNR=15						
332A	**Millersview**	**22.02**	**332**	⇑P	**P**	**13 52 31.6**	**+0.8**
	baz=22,SNR=18						
628A	**Black Gap, Mar**	**22.19**	**323**	⇑P	**P**	**13 52 33.2**	**+0.5**
	baz=22,SNR=22						
430A	**Baggett Ranch,**	**22.27**	**328**	⇑P	**P**	**13 52 34.7**	**+1.2**
	baz=22,SNR=11						
529A	**Stev Forest Ra**	**22.28**	**325**	⇑P	**P**	**13 52 33.2**	**-0.5**
	baz=22						
331A	**San Angelo**	**22.29**	**330**	⇑P	**P**	**13 52 33.7**	**+0.1**
	baz=22,SNR=9.7						
232A	**Coleman**	**22.40**	**333**	⇓P	**P**	**13 52 35.3**	**+0.3**
	baz=22,SNR=12						
627A	**Terlingua Ranc**	**22.46**	**322**	⇑P	**P**	**13 52 36.7**	**+1.0**
	baz=22,SNR=39						
429A	**Davenport Ranc**	**22.49**	**327**	⇑P	**P**	**13 52 35.7**	**-0.2**
	baz=22,SNR=10.0						
TXAR	**Lajitas Array**	**22.55**	**321**	P	**P**	**13 52 37.5**	**+0.9**
TXAR				PcP	**PcP**	**13 56 28.2**	**-1.1**
TXAR				ScP	**ScP**	**14 00 09.7**	**+5.6**
TXAR	**Lajitas Array**	**22.55**	**321**	P	**P**	**13 52 37.5**	**+0.9**
	comp=Z,6.5nm,0.6s,baz=135,slow=10,SNR=52						
TXAR				PcP	**PcP**	**13 56 28.2**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=134,slow=3.6,SNR=3.5						
TXAR				ScP	**ScP**	**14 00 09.7**	**+5.6**
	comp=Z,0.3nm,0.6s,baz=153,slow=7.0,SNR=3.5						
528A	**Cox Ranch, San**	**22.63**	**324**	⇑P	**P**	**13 52 37.0**	**-0.5**
	baz=23,SNR=11						
330A	**Mertzon**	**22.73**	**329**	⇑P	**P**	**13 52 37.8**	**-0.6**
	baz=23						
MIAR	**Mount Ida**	**22.81**	**347**	*e*P	**P**	**13 52 38.1**	**-1.1**
	comp=Z,13nm,0.8s						
626A	**Big Bend Ranch**	**22.99**	**321**	⇓P	**P**	**13 52 41.5**	**+0.3**
	baz=23,SNR=9.8						
428A	**Kincaid Ranch,**	**23.00**	**325**	⇓P	**P**	**13 52 41.0**	**-0.3**
	baz=23,SNR=9.1						
ABTX	**Abilene, Hawle**	**23.03**	**334**	⇓P	**P**	**13 52 40.2**	**-1.2**
	baz=23,SNR=8.9						
230A	**Sterling City**	**23.09**	**330**	⇓P	**P**	**13 52 41.3**	**-0.9**
	baz=23						
527A	**Woodward Ranch**	**23.10**	**323**	⇓P	**P**	**13 52 42.0**	**-0.4**
	baz=23						
329A	**Wagon Wheel Ra**	**23.21**	**328**	⇓P	**P**	**13 52 42.4**	**-0.9**
	baz=23						
526A	**Mary Lane Ranc**	**23.32**	**322**	⇑P	**P**	**13 52 44.9**	**+0.3**
	baz=23,SNR=14						
131A	**Roby**	**23.40**	**332**	⇑P	**P**	**13 52 44.0**	**-1.2**
	baz=23						
427A	**Hayter Ranch,**	**23.50**	**324**	⇓P	**P**	**13 52 46.4**	**+0.2**
	baz=24						
229A	**Bryant Ranch,**	**23.51**	**329**	⇓P	**P**	**13 52 46.5**	**+0.3**
	baz=24,SNR=11						
KMSC	**Kings Mountain**	**23.51**	**13**	⇑P	**P**	**13 52 47.7**	**+1.6**
	baz=24						
Z32A	**Haskell**	**23.55**	**335**	⇓P	**P**	**13 52 46.5**	**0.0**
	baz=24,SNR=6.2						
TKL	**Tuckaleechee C**	**23.57**	**8**	P	**P**	**13 52 47.0**	**+0.3**
TKL				ScP	**ScP**	**14 00 10.8**	**+4.2**
TKL	**Tuckaleechee C**	**23.57**	**8**	P	**P**	**13 52 47.0**	**+0.3**
	comp=Z,19nm,0.9s,baz=179,slow=11,SNR=7.5						
TKL				ScP	**ScP**	**14 00 10.8**	**+4.2**
	comp=Z,9.2nm,0.5s,baz=106,slow=7.5,SNR=14						
328A	**Wristen Ranch,**	**23.57**	**326**	⇑P	**P**	**13 52 46.7**	**-0.1**
	baz=24,SNR=24						
130A	**Snyder**	**23.61**	**331**	⇓P	**P**	**13 52 46.4**	**-0.7**
	baz=24,SNR=6.9						
426A	**McDonald Obser**	**23.73**	**323**	⇓P	**P**	**13 52 48.7**	**+0.2**
	baz=24,SNR=19						
Z31A	**Sharp Cattle R**	**23.84**	**334**	⇑P	**P**	**13 52 49.0**	**-0.3**
	baz=24,SNR=7.2						
228A	**UT Block 9, Go**	**24.03**	**328**	⇓P	**P**	**13 52 50.9**	**-0.3**
	baz=24,SNR=7.7						
129A	**Stewart Farms,**	**24.07**	**330**	⇑P	**P**	**13 52 51.8**	**+0.3**
	baz=24						
Y32A	**R-V Farms, Ver**	**24.14**	**336**	⇑P	**P**	**13 52 52.2**	**+0.2**
	baz=24						
326A	**Caldwell Ranch**	**24.17**	**324**	⇓P	**P**	**13 52 52.2**	**-0.3**
	baz=24,SNR=20						
Z30A	**Sanderson Ranc**	**24.25**	**332**	⇑P	**P**	**13 52 52.9**	**-0.2**
	baz=24,SNR=16						
227A	**Bennet, Jal**	**24.32**	**326**	⇓P	**P**	**13 52 53.8**	**0.0**
	baz=24						
128A	**Castleberry Fa**	**24.37**	**329**	⇑P	**P**	**13 52 53.9**	**-0.4**
	baz=24,SNR=9.5						
425A	**Indio Mountain**	**24.38**	**322**	⇑P	**P**	**13 52 55.0**	**+0.5**
	baz=24						
Y31A	**Rekieta Farm,**	**24.44**	**334**	⇓P	**P**	**13 52 54.5**	**-0.3**
	baz=24,SNR=6.7						
Z29A	**Hungry Hill Ra**	**24.50**	**331**	⇓P	**P**	**13 52 55.3**	**-0.2**
	baz=24,SNR=24						
WMOK	**Wichita Mounta**	**24.53**	**338**	*e*P	**P**	**13 52 53.3**	**-2.3**
	comp=Z,7.3nm,0.9s						
Y30A	**Stafford Cattl**	**24.64**	**333**	⇑P	**P**	**13 52 57.3**	**+0.6**
	baz=25,SNR=16						
TUL1	**Tulsa**	**24.65**	**344**	⇓P	**P**	**13 52 55.9**	**-0.8**
	baz=25						
325A	**Bean Ranch, Si**	**24.79**	**323**	⇓P	**P**	**13 52 58.4**	**+0.2**
	baz=25,SNR=6.4						
226B	**Tecolote Peak,**	**24.85**	**325**	⇓P	**P**	**13 52 59.4**	**+0.7**
	baz=25,SNR=18						
Z28A	**Tucker Farm, M**	**24.86**	**330**	⇑P	**P**	**13 52 58.7**	**0.0**
	baz=25,SNR=6.9						
127A	**Arkansas Junct**	**24.87**	**327**	⇓P	**P**	**13 52 58.7**	**-0.1**
	baz=25						
X31A	**McDonald Ranch**	**24.90**	**335**	⇑P	**P**	**13 52 58.8**	**-0.1**
	baz=25,SNR=7.5						
Y29A	**Porterfield Fa**	**24.98**	**332**	⇓P	**P**	**13 52 59.7**	**-0.1**
	baz=25						
X30A	**Coker Ranch, T**	**25.11**	**334**	⇑P	**P**	**13 53 01.2**	**+0.2**
	baz=25,SNR=16						
324A	**Moseley Ranch,**	**25.15**	**322**	⇑P	**P**	**13 53 01.9**	**+0.4**
	baz=25						
126A	**Clayton Basin,**	**25.20**	**326**	⇓P	**P**	**13 53 01.8**	**0.0**
	baz=25						
225A	**Deer Hill, Car**	**25.24**	**324**	⇑P	**P**	**13 53 03.2**	**+0.9**
	baz=25,SNR=5.8						
MNTX	**Cornudas Mount**	**25.27**	**323**	*e*P	**P**	**13 53 01.1**	**-1.2**
	comp=Z,9.8nm,1.3s						
Y28A	**McKinney Farm,**	**25.29**	**331**	⇓P	**P**	**13 53 02.4**	**-0.3**
	baz=25						
X29A	**Tulia**	**25.48**	**332**	⇓P	**P**	**13 53 04.3**	**0.0**
	baz=26,SNR=6.3						
125A	**Gardner Draw,**	**25.56**	**325**	⇓P	**P**	**13 53 05.9**	**+0.8**
	baz=26,SNR=10						
MSTX	**Muleshoe**	**25.59**	**330**	⇑P	**P**	**13 53 05.4**	**0.0**
	baz=26,SNR=17						
224A	**Cornudas Mount**	**25.62**	**323**	⇑P	**P**	**13 53 06.6**	**+0.8**
	baz=26,SNR=9.4						
Z26A	**Caprock**	**25.66**	**327**	⇓P	**P**	**13 53 06.6**	**+0.6**
	baz=26,SNR=6.8						
Y27A	**Causey**	**25.72**	**329**	⇑P	**P**	**13 53 06.7**	**+0.2**
	baz=26,SNR=19						
X28A	**Dimmitt**	**25.77**	**332**	⇓P	**P**	**13 53 06.7**	**-0.3**
	baz=26						
AMTX	**Amarillo**	**25.84**	**333**	*e*P	**P**	**13 53 06.3**	**-1.3**
	comp=Z,12nm,0.6s						
V31A	**Spring Creek L**	**25.84**	**337**	⇓P	**P**	**13 53 07.5**	**-0.1**
	baz=26						
W29A	**Amraillo**	**26.02**	**333**	⇑P	**P**	**13 53 09.7**	**+0.4**
	baz=26						
124A	**Stringfield Ra**	**26.04**	**324**	⇑P	**P**	**13 53 11.5**	**+1.9**
	baz=26,SNR=14						
Z25A	**Roswell**	**26.06**	**326**	⇑P	**P**	**13 53 10.5**	**+0.8**
	baz=26,SNR=6.1						
Y26A	**Elida**	**26.08**	**328**	⇓P	**P**	**13 53 10.0**	**+0.1**
	baz=26,SNR=15						
Z24A	**Sheeppen Canyo**	**26.45**	**325**	⇑P	**P**	**13 53 15.3**	**+2.0**
	baz=26,SNR=13						
Y25A	**Mesa, Roswell**	**26.54**	**327**	⇓P	**P**	**13 53 15.2**	**+1.2**
	baz=27,SNR=15						
X26A	**CR and CF Fran**	**26.57**	**329**	⇓P	**P**	**13 53 15.1**	**+0.8**
	baz=27,SNR=5.2						
W27A	**Bowe Ranch, En**	**26.62**	**331**	⇓P	**P**	**13 53 15.4**	**+0.6**
	baz=27,SNR=9.9						
V28A	**Channing**	**26.81**	**333**	⇑P	**P**	**13 53 17.4**	**+1.0**
	baz=27						
Z23A	**Rita Site, Whi**	**26.89**	**324**	⇓P	**P**	**13 53 18.6**	**+1.4**
	baz=27						
Y24A	**Capitan**	**26.94**	**326**	⇓P	**P**	**13 53 19.1**	**+1.4**
	baz=27						
T31A	**Randall Ranch,**	**26.96**	**339**	⇓P	**P**	**13 53 17.9**	**+0.3**
	baz=27						
X25A	**Clemmons Ranch**	**26.99**	**328**	⇑P	**P**	**13 53 19.2**	**+1.1**
	baz=27						
Y23A	**Lovelace Mesa,**	**27.28**	**325**	⇑P	**P**	**13 53 21.4**	**+0.6**
	baz=27						
121A	**Cookes Peak, D**	**27.31**	**321**	⇓P	**P**	**13 53 23.4**	**+2.4**
	baz=27,SNR=6.0						
Z22A	**Elephant Butte**	**27.32**	**323**	⇑P	**P**	**13 53 23.0**	**+2.0**
	baz=27,SNR=5.1						
220A	**Playas Peak, P**	**27.35**	**319**	⇓P	**P**	**13 53 23.5**	**+2.1**
	baz=27,SNR=7.1						
W25A	**X Bar L Ranch,**	**27.43**	**329**	⇑P	**P**	**13 53 23.0**	**+1.0**
	baz=28,SNR=12						
319A	**Douglas**	**27.51**	**317**	⇑P	**P**	**13 53 25.2**	**+2.4**
	baz=28						
V26A	**Tequesquite Ra**	**27.56**	**331**	⇓P	**P**	**13 53 23.7**	**+0.5**
	baz=28,SNR=9.2						
U27A	**Thompson Grove**	**27.63**	**333**	⇓P	**P**	**13 53 24.5**	**+0.8**
	baz=28						
BNM	**Barren Site**	**27.77**	**325**	*e*P	**P**	**13 53 25.4**	**+0.3**
	comp=Z,12nm,1.3s						
Z21A	**St. Cloud Mine**	**27.77**	**322**	⇓P	**P**	**13 53 27.0**	**+1.8**
	baz=28,SNR=6.2						
Y22A	**Socorro**	**27.80**	**324**	⇓P	**P**	**13 53 27.2**	**+1.8**
	baz=28						
W24A	**Lazy 6 Ranch,**	**27.90**	**328**	⇓P	**P**	**13 53 27.1**	**+0.8**
	baz=28						
LENM	**Lemitar**	**27.97**	**324**	*e*P	**P**	**13 53 26.2**	**-0.7**
	comp=Z,5.0nm,0.8s						
V25A	**Rancho No Teng**	**28.00**	**330**	⇑P	**P**	**13 53 27.8**	**+0.7**
	baz=28,SNR=13						
Z20A	**Nine Sixteen R**	**28.20**	**321**	⇓P	**P**	**13 53 30.7**	**+1.8**
	baz=28						
W23A	**Warner Place,**	**28.26**	**327**	⇓P	**P**	**13 53 30.6**	**+1.1**
	baz=28						
Y21A	**Point of Rocks**	**28.27**	**323**	⇑P	**P**	**13 53 31.2**	**+1.6**
	baz=28						
U25A	**Circle Dot Ran**	**28.34**	**331**	⇑P	**P**	**13 53 30.9**	**+0.7**
	baz=28						
Y20A	**Horse Springs,**	**28.61**	**322**

	baz=35								
M17A	**Scullys Gap (B**	**35.34**	**330**	⇓P		**P**	**13 54 31.8**	**+0.2**
	baz=35								
J21A	**Lysite**	**35.35**	**335**	⇑P		**P**	**13 54 31.9**	**+0.3**
	baz=35,SNR=9.4								
L18A	**Fontenelle, Gr**	**35.38**	**331**	⇑P		**P**	**13 54 32.3**	**+0.4**
	baz=35								
I22A	**9 Mile Ranch,**	**35.42**	**336**	⇑P		**P**	**13 54 32.2**	**+0.1**
	baz=36								
H24A	**Dirks Ranch, A**	**35.44**	**339**	⇑P		**P**	**13 54 32.8**	**+0.6**
	baz=36								
DUG	**Dugway**	**35.53**	**326**	⇓P		**P**	**13 54 34.0**	**+0.9**
	baz=36								
K19A	**Absolon Red Bu**	**35.53**	**333**	⇓P		**P**	**13 54 33.6**	**+0.4**
	baz=36								
H23A	**Clabaugh Cattl**	**35.58**	**338**	⇑P		**P**	**13 54 33.9**	**+0.5**
	baz=36								
J20A	**Shoshoni**	**35.63**	**334**	⇓P		**P**	**13 54 34.2**	**+0.3**
	baz=36								
I21A	**Big Trails, Te**	**35.67**	**335**	⇑P		**P**	**13 54 34.6**	**+0.2**
	baz=36								
BW06	**Boulder Array**	**35.81**	**332**	*e*P		**P**	**13 54 33.7**	**-1.9**
	comp=Z,4.0nm,1.0s								
PDAR	**Pinedale Array**	**35.81**	**332**	P		**P**	**13 54 35.3**	**-0.3**
PDAR				PcP		**PcP**	**13 57 02.4**	**-0.4**
PDAR	**Pinedale Array**	**35.81**	**332**	P		**P**	**13 54 35.3**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=129,slow=9.5,SNR=14								
PDAR				PcP		**PcP**	**13 57 02.3**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=159,slow=5.4,SNR=4.6								
I20A	**Worland**	**36.13**	**335**	⇑P		**P**	**13 54 38.6**	**+0.4**
	baz=36,SNR=5.3								
H21A	**Big Horn, Sher**	**36.25**	**336**	⇑P		**P**	**13 54 39.5**	**+0.2**
	baz=36								
H20A	**Greybull**	**36.52**	**335**	⇓P		**P**	**13 54 41.9**	**+0.4**
	baz=37								
AGMN	**Agassiz Nation**	**36.56**	**351**	*e*P		**P**	**13 54 39.7**	**-2.0**
	comp=Z,18nm,1.1s								
I19A	**Meeteetse**	**36.57**	**334**	⇓P		**P**	**13 54 42.8**	**+0.7**
	baz=37								
E25A	**Miller Ranch,**	**36.61**	**342**	⇓P		**P**	**13 54 42.8**	**+0.6**
	baz=37								
G21A	**Lodge Grass**	**36.82**	**337**	⇑P		**P**	**13 54 44.6**	**+0.6**
	baz=37								
MDND	**Maddock**	**36.84**	**347**	⇓P		**P**	**13 54 44.6**	**+0.5**
	baz=37								
SNOW	**Snow King Moun**	**36.90**	**332**	*e*P		**P**	**13 54 45.2**	**+0.2**
	comp=Z,13nm,0.6s								
F22A	**Rosebud**	**36.93**	**338**	⇑P		**P**	**13 54 45.5**	**+0.5**
	baz=37								
LOHW	**Long Hollow**	**36.95**	**332**	*e*P		**P**	**13 54 43.8**	**-1.5**
	comp=Z,5.5nm,0.6s								
E24A	**Baker**	**36.95**	**341**	⇑P		**P**	**13 54 45.6**	**+0.5**
	baz=37								
TPAW	**Teton Pass**	**37.02**	**332**	*e*P		**P**	**13 54 45.8**	**-0.2**
	comp=Z,13nm,0.8s								
RRI2	**Red Ridge**	**37.08**	**331**	*e*P		**P**	**13 54 46.6**	**+0.1**
	comp=Z,10nm,0.8s								
MOOW	**Moose Ponds**	**37.12**	**332**	*e*P		**P**	**13 54 46.2**	**-0.6**
	comp=Z,3.3nm,0.6s								
G20A	**Bridger**	**37.21**	**336**	⇑P		**P**	**13 54 47.4**	**0.0**
	baz=37								
E23A	**Ismay**	**37.22**	**340**	⇑P		**P**	**13 54 47.6**	**+0.3**
	baz=37								
IMW	**Indian Meadow**	**37.32**	**332**	*e*P		**P**	**13 54 48.1**	**-0.5**
	comp=Z,6.0nm,0.6s								
FLWY	**Flagg Ranch**	**37.36**	**332**	*e*P		**P**	**13 54 49.4**	**+0.6**
	comp=Z,8.2nm,0.6s								
H18A	**Shoshone NF, C**	**37.37**	**334**	⇓P		**P**	**13 54 49.3**	**+0.4**
	baz=37,SNR=20								
E22A	**Miles City**	**37.39**	**339**	⇑P		**P**	**13 54 49.1**	**+0.3**
	baz=37								
D24A	**Glendive**	**37.45**	**341**	⇓P		**P**	**13 54 50.0**	**+0.8**
	baz=38								
RLMT	**Red Lodge**	**37.56**	**335**	*e*P		**P**	**13 54 49.9**	**-0.5**
	comp=Z,4.9nm,0.8s								
F20A	**Billings**	**37.66**	**336**	⇑P		**P**	**13 54 51.4**	**+0.3**
	baz=38								
NVAR	**Mina Array Bea**	**37.66**	**319**	P		**P**	**13 54 53.2**	**+1.8**
NVAR				PcP		**PcP**	**13 57 08.5**	**+0.1**
NVAR				ScP		**ScP**	**14 00 58.1**	**+5.2**
NVAR	**Mina Array Bea**	**37.66**	**319**	P		**P**	**13 54 53.2**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=132,slow=8.5,SNR=6.3								
NVAR				PcP		**PcP**	**13 57 08.5**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=142,slow=2.2,SNR=8.9								
NVAR				ScP		**ScP**	**14 00 58.1**	**+5.2**
	comp=Z,1.4nm,0.8s,baz=141,slow=4.8,SNR=9.1								
NVAR				LR		LR	14 11 26.1		
	comp=Z,78nm,19.2s,baz=52,slow=38								
D23A	**Lindsay**	**37.78**	**340**	⇑P		**P**	**13 54 52.5**	**+0.4**
	baz=38								
G18A	**Lazy EL Ranch,**	**37.84**	**335**	⇑P		**P**	**13 54 53.0**	**+0.2**
	baz=38								
F19A	**Roth Farm, Mol**	**38.02**	**336**	⇓P		**P**	**13 54 54.4**	**+0.2**
	baz=38,SNR=6.9								
D22A	**Cohagen**	**38.09**	**340**	⇓P		**P**	**13 54 55.1**	**+0.4**
	baz=38,SNR=5.8								
H16A	**Russell Place,**	**38.09**	**333**	⇑P		**P**	**13 54 55.6**	**+0.7**
	baz=38,SNR=8.1								
E20A	**Meyer Farm, Mu**	**38.24**	**337**	⇑P		**P**	**13 54 56.5**	**+0.5**
	baz=38,SNR=9.0								
D21A	**La Casta Ranch**	**38.30**	**339**	⇑P		**P**	**13 54 57.0**	**+0.5**
	baz=38								
C23A	**Lambert**	**38.33**	**341**	⇓P		**P**	**13 54 57.1**	**+0.4**
	baz=38								
F18A	**Big Timber**	**38.38**	**335**	⇓P		**P**	**13 54 57.6**	**+0.4**
	baz=38,SNR=7.3								
E19A	**Rath Farm, Rou**	**38.46**	**336**	⇓P		**P**	**13 54 58.0**	**+0.2**
	baz=38								
ULM	**Lac du Bonnet**	**38.47**	**352**	P		**P**	**13 54 56.3**	**-1.4**
ULM	**Lac du Bonnet**	**38.47**	**352**	P		**P**	**13 54 56.3**	**-1.4**
	comp=Z,8.7nm,0.9s,baz=175,slow=6.6,SNR=4.3								
C22A	**Vida**	**38.51**	**340**	⇓P		**P**	**13 54 58.3**	**+0.2**
	baz=38,SNR=7.1								
SIV	**San Ignacio**	**38.52**	**136**	P		**P**	**13 54 58.1**	**-0.5**
SIV	**San Ignacio**	**38.52**	**136**	P		**P**	**13 54 58.1**	**-0.5**
	comp=Z,14nm,0.7s,baz=320,slow=9.2,SNR=57								
I14A	**Mackay**	**38.54**	**330**	⇓P		**P**	**13 54 59.3**	**+0.6**
	baz=39								
DGMT	**Dagmar**	**38.62**	**342**	*e*P		**P**	**13 54 57.9**	**-1.2**
	comp=Z,12nm,0.7s								
DGMT	**Dagmar**	**38.62**	**342**	⇑P		**P**	**13 54 59.5**	**+0.4**
	baz=39								
HLID	**Hailey**	**38.76**	**329**	*e*P		**P**	**13 55 00.9**	**+0.3**
	comp=Z,2.1nm,0.8s								
HLID	**Hailey**	**38.76**	**329**	⇑P		**P**	**13 55 01.2**	**+0.7**
	baz=39								
F17A	**Fitzpatrick Pl**	**38.77**	**334**	⇓P		**P**	**13 55 01.2**	**+0.7**
	baz=39								
B23A	**Brockton**	**38.85**	**342**	⇓P		**P**	**13 55 01.2**	**+0.2**
	baz=39,SNR=8.5								
MCMT	**McKenzie Canyo**	**38.92**	**331**	*e*P		**P**	**13 55 03.3**	**+1.4**
	comp=Z,5.3nm,0.7s								
A24A	**Westby**	**38.97**	**343**	⇓P		**P**	**13 55 02.3**	**+0.3**
	baz=39								
C21A	**Desert Coulee**	**38.98**	**339**	⇓P		**P**	**13 55 02.2**	**0.0**
	baz=39								
BOZ	**Bozeman (W)**	**38.99**	**333**	*e*P		**P**	**13 55 00.8**	**-1.7**
	comp=Z,5.9nm,1.0s								
E18A	**Harlowton**	**38.99**	**336**	⇑P		**P**	**13 55 02.5**	**+0.1**
	baz=39								
B22A	**Reddig Ranch S**	**39.03**	**341**	⇓P		**P**	**13 55 02.9**	**+0.4**
	baz=39								
D19A	**Cripps Ranch,**	**39.08**	**337**	⇓P		**P**	**13 55 03.2**	**+0.2**
	baz=39,SNR=5.2								
DLMT	**Dillon**	**39.20**	**332**	*e*P		**P**	**13 55 03.1**	**-1.1**
	comp=Z,9.6nm,1.0s								
I12A	**Atlanta**	**39.29**	**328**	⇑P		**P**	**13 55 06.0**	**+1.0**
	baz=39								
E17A	**Martinsdale**	**39.30**	**335**	⇑P		**P**	**13 55 05.5**	**+0.5**
	baz=39								
D18A	**Linhart Farms,**	**39.46**	**336**	⇓P		**P**	**13 55 06.5**	**+0.3**
	baz=40								
LRM	**Limekiln Ridge**	**39.49**	**333**	*e*P		**P**	**13 55 05.8**	**-0.9**
	comp=Z,110nm,1.2s								
A22A	**Carney Farms,**	**39.61**	**341**	⇑P		**P**	**13 55 07.9**	**+0.5**
	baz=40								
C19A	**Slack Wire Ran**	**39.61**	**337**	⇑P		**P**	**13 55 08.0**	**+0.5**
	baz=40								
H12A	**Diamond D Ranc**	**39.69**	**329**	⇑P		**P**	**13 55 08.7**	**+0.4**
	baz=40,SNR=9.4								
D17A	**Six Diamond Ra**	**39.78**	**335**	⇓P		**P**	**13 55 09.2**	**+0.3**
	baz=40,SNR=8.3								
A21A	**Bergtoll Ranch**	**39.93**	**340**	⇓P		**P**	**13 55 10.6**	**+0.5**
	baz=40								
A20A	**Cobblestone Ra**	**40.17**	**339**	⇓P		**P**	**13 55 11.9**	**-0.2**
	baz=40,SNR=5.3								
WVOR	**Wild Horse Val**	**40.29**	**324**	*e*P		**P**	**13 55 13.6**	**+0.3**
	comp=Z,2.2nm,0.8s								
C16A	**Fuhringer Ranc**	**40.73**	**335**	⇓P		**P**	**13 55 17.4**	**+0.6**
	baz=41								
C15A	**Salmond Ranch,**	**41.07**	**334**	⇓P		**P**	**13 55 19.4**	**-0.2**
	baz=41,SNR=8.9								
BMO	**Blue Mountains**	**41.15**	**328**	*e*P		**P**	**13 55 17.9**	**-2.3**
	comp=Z,2.6nm,1.1s								
A17A	**Triple J Farms**	**41.24**	**337**	⇓P		**P**	**13 55 21.0**	**+0.1**
	baz=41								
D13A	**Huson**	**41.36**	**332**	⇓P		**P**	**13 55 21.9**	**0.0**
	baz=41,SNR=7.3								
E12A	**Beaver Dam Sad**	**41.38**	**331**	⇑P		**P**	**13 55 21.7**	**-0.5**
	baz=41,SNR=11								
B15A	**Bradely Ranch,**	**41.47**	**335**	⇓P		**P**	**13 55 22.6**	**-0.3**
	baz=42,SNR=6.0								
B14A	**Marquette Ranc**	**41.80**	**334**	⇓P		**P**	**13 55 26.1**	**+0.4**
	baz=42								
C13A	**Hot Springs**	**41.85**	**333**	⇑P		**P**	**13 55 26.5**	**+0.6**
	baz=42								
A15A	**Johnson Ranch,**	**42.06**	**335**	⇓P		**P**	**13 55 28.0**	**+0.3**
	baz=42								
C12B	**Naegeli Ranch,**	**42.28**	**332**	⇑P		**P**	**13 55 29.5**	**0.0**
	baz=42								
B13A	**Whitefish**	**42.33**	**334**	⇑P		**P**	**13 55 29.9**	**+0.1**
	baz=42								
A14A	**Double T Ranch**	**42.34**	**335**	⇓P		**P**	**13 55 30.1**	**+0.1**
	baz=42,SNR=13								
A13A	**Flathead Natio**	**42.73**	**334**	⇑P		**P**	**13 55 33.6**	**+0.5**
	baz=43								
C11A	**Tepee Creek (N**	**42.73**	**332**	⇓P		**P**	**13 55 33.4**	**+0.3**
	baz=43								
NEW	**Newport**	**43.44**	**332**	⇑P		**P**	**13 55 38.3**	**-0.5**
	baz=44								
SCHQ	**Schefferville**	**45.54**	**17**	P		**P**	**13 55 54.0**	**-1.4**
SCHQ	**Schefferville**	**45.54**	**17**	P		**P**	**13 55 54.0**	**-1.4**
	comp=Z,6.6nm,0.5s,baz=217,slow=10,SNR=17								
SCHQ				LR		LR	14 17 00.7		
	comp=Z,43nm,18.8s,baz=111,slow=39								
NLWA	**Neilton Lookou**	**46.28**	**326**	*e*P		**P**	**13 56 00.5**	**-0.9**
	comp=Z,16nm,1.5s								
BDFB	**Brasilia**	**48.10**	**124**	P		**P**	**13 56 15.0**	**-1.1**
BDFB	**Brasilia**	**48.10**	**124**	P		**P**	**13 56 15.0**	**-1.1**
	comp=Z,5.3nm,0.6s,baz=273,slow=9.3,SNR=6.3								
BDFB				LR		LR	14 18 53.2		
	comp=Z,91nm,21.9s,baz=352,slow=39								
YKA	**Yellowknife Ar**	**53.72**	**345**	P		**P**	**13 56 56.3**	**-1.2**
YKA				PcP		**PcP**	**13 58 02.2**	**-1.0**
YKA	**Yellowknife Ar**	**53.72**	**345**	P		**P**	**13 56 56.3**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=135,slow=8.0,SNR=10.0								
YKA				PcP		**PcP**	**13 58 02.2**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=149,slow=3.9,SNR=5.0								
PLCA	**Paso Flores**	**55.07**	**164**	P		**P**	**13 57 07.0**	**-0.7**
PLCA	**Paso Flores**	**55.07**	**164**	P		**P**	**13 57 07.0**	**-0.7**
	comp=Z,3.6nm,0.8s,baz=347,slow=8.3,SNR=6.6								
ILAR	**Eielson Array**	**66.08**	**336**	P		**P**	**13 58 21.2**	**-1.2**
ILAR	**Eielson Array**	**66.08**	**336**	P		**P**	**13 58 21.2**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=118,slow=4.7,SNR=12								
NOA	**NORSAR Array B**	**83.67**	**29**	P		**P**	**14 00 02.5**	**-1.7**
NOA	**NORSAR Array B**	**83.67**	**29**	P		**P**	**14 00 02.5**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=286,slow=5.1,SNR=2.7								
ASAR	**Alice Springs**	**138.94**	**248**	PKP		**PKPdf**	**14 07 02.2**	**-0.6**
ASAR	**Alice Springs**	**138.94**	**248**	PKP		**PKPdf**	**14 07 02.2**	**-0.6**
	comp=Z,1.1nm,1.0s,baz=108,slow=2.1,SNR=7.6								
WRA	**Warramunga Arr**	**138.95**	**254**	PKP		**PKPdf**	**14 07 02.7**	**-0.2**
WRA	**Warramunga Arr**	**138.95**	**254**	PKP		**PKPdf**	**14 07 02.7**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=93,slow=2.4,SNR=15								
FITZ	**Fitzroy Crossi**	**147.31**	**256**	PKPbc		**PKPbc**	**14 07 19.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**147.31**	**256**	PKPbc		**PKPbc**	**14 07 19.9**	**-0.1**
	comp=Z,3.0nm,1.0s,baz=32,slow=3.2,SNR=4.6								
CMAR	**Chiang Mai Arr**	**148.78**	**348**	PKP		**PKPdf**	**14 07 20.4**	**+0.3**
CMAR				PKPbc		**PKPbc**	**14 07 23.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**148.78**	**348**	PKP		**PKPdf**	**14 07 20.4**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=20,slow=2.9,SNR=12								
CMAR				PKPbc		**PKPbc**	**14 07 23.4**	**-0.4**
	comp=Z,3.4nm,0.7s,baz=336,slow=3.0,SNR=14								

WEL 17 13:49:27.5±0.2, 45°.49S×166°.62E, h22km±1km, ML4.0/18, 1C-4D, Error ellipse: s-maj=2.0km s-min=0.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
DCZ	**Deep Cove**	**0.38**	**88**	P*	Pb	13 49 35.4	0.0	
DCZ				S*	Sb	13 49 40.4	-0.3	
DCZ				S*	Sb	13 49 40.4	-0.3	
DCZ				AML	AML	13 49 40.7		
DCZ				AML	AML	13 49 40.7		
PYZ	**Puysegur Point**	**0.68**	**176**	P*	Pb	13 49 40.0	-0.7	
PYZ				S*	Sb	13 49 48.7	-0.9	
PYZ				S*	Sn	13 49 48.8	-2.9	
WHZ	**Wether Hill Ro**	**1.01**	**114**	⇓PN	Pb	13 49 46.1	-0.3	
WHZ				AML	AML	13 50 03.8		
WHZ				AML	AML	13 50 15.5		
MLZ	**Mavora Lakes**	**1.10**	**83**	⇓PN	Pn	13 49 47.0	-0.8	
MLZ				SN	Sb	13 50 01.1	-0.8	
MLZ				AML	AML	13 50 02.9		
MSZ	**Milford Sound**	**1.24**	**49**	PN	Pn	13 49 48.1	-1.4	
MSZ				AML	AML	13 50 10.6		
MSZ				AML	AML	13 50 10.6		
MSZ				AML	AML	13 50 17.2		
MSZ				AML	AML	13 50 17.3		
APZ	**The Paps**	**1.64**	**145**	⇑PN	Pb	13 49 56.3	-0.9	
WKZ	**Wanaka**	**1.82**	**69**	PN	Pb	13 49 59.1	-1.1	
WKZ				AML	AML	13 50 28.3		
WKZ				AML	AML	13 50 28.3		
WKZ				AML	AML	13 50 33.7		
WKZ				AML	AML	13 50 33.7		
EAZ	**Earnscleugh**	**1.91**	**83**	⇓PN	Pb	13 50 00.4	-1.3	
EAZ				AML	AML	13 50 27.0		
EAZ				AML	AML	13 50 27.0		
EAZ				AML	AML	13 50 31.0		
EAZ				AML	AML	13 50 31.0		
SYZ	**Scrubby Hill**	**2.04**	**122**	PN	Pb	13 50 02.8	-1.0	
JCZ	**Jackson Bay**	**2.08**	**48**	PN	Pb	13 50 03.4	-1.3	
JCZ				AML	AML	13 50 37.4		
JCZ				AML	AML	13 50 38.9		
TUZ	**Tuapeka**	**2.16**	**103**	PN	Pb	13 50 04.3	-1.6	
TUZ				AML	AML	13 50 36.6		
TUZ				AML	AML	13 50 39.3		
LBZ	**Lake Benmore**	**2.76**	**68**	*e*PN	Pn	13 50 11.0	+0.5	
LBZ				AML	AML	13 50 49.3		
LBZ				AML	AML	13 51 05.2		
ODZ	**Otahua Downs**	**2.88**	**82**	⇓PN	Pn	13 50 12.5	+0.5	
ODZ				AML	AML	13 50 52.1		
ODZ				AML	AML	13 50 52.1		
ODZ				AML	AML	13 51 03.9		
FOZ	**Fox Glacier**	**2.92**	**50**	AML	AML	13 51 06.6		
FOZ				AML	AML	13 51 07.4		
RPZ	**Rata Peaks**	**3.63**	**62**	AML	AML	13 51 29.2		
RPZ				AML	AML	13 51 40.3		
DSZ	**Denniston Nort**	**5.31**	**47**	PN	Pn	13 50 46.9	+1.3	
QRZ	**Quartz Range**	**6.36**	**45**	PN	Pn	13 51 01.4	+1.5	

*AUST **17** 14:11:08.2, 45°.96S×166°.47E, h0km*

WEL 17 14:11:09.0±0.2, 46°.02S×166°.48E, h33km, ML3.9/18, 1C-2D, Error ellipse: s-maj=2.2km s-min=0.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PYZ	**Puysegur Point**	**0.20**	**137**	⇑P*	Pn	14 11 15.4	-0.1	
PYZ				S*	Sb	14 11 19.7	-0.4	
PYZ				S*	Sn	14 11 19.9	+0.9	
DCZ	**Deep Cove**	**0.72**	**41**	PN	Pn	14 11 22.4	-0.4	
DCZ				SN	Sn	14 11 32.5	-0.1	
DCZ				AML	AML	14 11 32.7		
DCZ				AML	AML	14 11 32.7		
DCZ				AML	AML	14 11 41.4		
WHZ	**Wether Hill Ro**	**1.03**	**84**	⇓PN	Pb	14 11 28.2	-0.1	
WHZ				SN	Sb	14 11 42.2	+0.7	
WHZ				AML	AML	14 11 44.4		
APZ	**The Paps**	**1.32**	**129**	PN	Pn	14 11 31.7	+0.4	
MLZ	**Mavora Lakes**	**1.36**	**61**	⇓PN	Pb	14 11 33.4	-0.6	
MLZ				AML	AML	14 11 57.2		
MLZ				AML	AML	14 12 02.6		
MSZ	**Milford Sound**	**1.69**	**38**	PN	Pn	14 11 36.7	+0.5	
MSZ				AML	AML	14 12 09.9		
MSZ				AML	AML	14 12 09.9		
MSZ				AML	AML	14 12 12.7		
MSZ				AML	AML	14 12 12.8		
SYZ	**Scrubby Hill**	**1.91**	**107**	PN	Pn	14 11 40.7	+1.4	
EAZ	**Earnscleugh**	**2.13**	**69**	PN	Pb	14 11 44.7	-2.2	
EAZ				AML	AML	14 12 15.8		
EAZ				AML	AML	14 12 16.5		
EAZ				AML	AML	14 12 16.6		
EAZ				AML	AML	14 12 24.0		
WKZ	**Wanaka**	**2.15**	**57**	PN	Pb	14 11 45.9	-1.4	
WKZ				AML	AML	14 12 19.4		
WKZ				AML	AML	14 12 22.2		
TUZ	**Tuapeka**	**2.20**	**89**	PN	Pn	14 11 45.0	+1.9	
TUZ				AML	AML	14 12 15.0		
TUZ				AML	AML	14 12 18.0		
JCZ	**Jackson Bay**	**2.53**	**41**	*e*PN	Pb	14 11 51.1	-2.7	
JCZ				AML	AML	14 12 34.6		
JCZ				AML	AML	14 12 35.1		
HHSZ	**Highcliff Hill**	**2.87**	**89**	PN	Pn	14 11 54.9	+2.4	
ODZ	**Otahua Downs**	**3.08**	**73**	PN	Pn	14 11 56.1	+0.7	
ODZ				AML	AML	14 12 48.7		
ODZ				AML	AML	14 12 55.4		
LBZ	**Lake Benmore**	**3.08**	**59**	*e*PN	Pn	14 11 56.9	+1.5	
LBZ				AML	AML	14 12 15.9		
LBZ				AML	AML	14 13 09.9		
FOZ	**Fox Glacier**	**3.35**	**44**	*e*PN	Pn	14 12 02.6	+3.6	
FOZ				AML	AML	14 13 03.7		
FOZ				AML	AML	14 13 05.7		
RPZ	**Rata Peaks**	**3.98**	**56**	*e*PN	Pn	14 12 08.6	+0.8	
RPZ				AML	AML	14 13 29.3		
RPZ				AML	AML	14 13 42.6		
WVZ	**Waitaha Valley**	**4.23**	**47**	*e*PN	Pn	14 12 13.5	+2.3	
OXZ	**Oxford**	**4.79**	**58**	*e*PN	Pn	14 12 20.0	+1.1	
LTZ	**Lake Taylor**	**5.26**	**54**	*e*PN	Pn	14 12 26.6	+1.3	
DSZ	**Denniston Nort**	**5.75**	**44**	*e*PN	Pn	14 12 34.0	+2.0	
THZ	**Tophouse**	**6.29**	**50**	*e*PN	Pn	14 12 41.2	+1.6	
QRZ	**Quartz Range**	**6.80**	**42**	*e*PN	Pn	14 12 49.4	+2.9	
NNZ	**Nelson**	**6.93**	**49**	*e*PN	Pn	14 12 51.7	+3.4	
MCQ	**Macquarie Isla**	**9.76**	**207**	P	Pn	14 13 33.8	+7.0	
	baz=9.8,SNR=3.5							
MILA	**Mila**	**15.74**	**299**	P	Pn	14 14 48.4	+0.2	
	baz=16,SNR=6.6							

*IDC **17** 14:13:06.8±2.4, 36°.96N×72°.99E, h0km, mb3.5/1, mb1 3.6/6, mb1mx3.3/30, mbtmp3.5/6, ML3.2/5, Error ellipse: s-maj=59.5km s-min=23.0km az=86.0*

*NNC **17** 14:13:14.0±4.7, 37°.06N×72°.85E, h90km±73km, mb3.1, mpv3.4, Error ellipse: s-maj=36.9km s-min=28.5km az=171.0*

ISC 17 14:13:17.5±3.2, 37°.2N±0°.2×72°.8E±0°.2, h152km, n10, c2851/12, 3C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
AAK	**Ala-Archa**	**5.60**	**13**	Pn	**Pn**	**14 14 37.0**		**-2.0**
	0.6nm,0.3s,baz=150,slow=8.1,SNR=4.2							
AAK				Sn	**Sn**	**14 15 46.3**		**+3.7**
	0.3nm,0.3s,baz=323,slow=17,SNR=7.3							
TKM2	**Tokmak 2**	**6.12**	**20**	⇑P	**Pn**	**14 14 43.2**		**-2.7**
	1.3nm,0.5s							
TKM2				⇓S	**Sn**	**14 15 54.7**		**-0.5**
	3.4nm,0.7s							
KK31	**Karatay Array**	**6.17**	**344**	⇑P	**Pn**	**14 14 44.2**		**-2.2**
	0.9nm,0.2s,baz=159,slow=12,SNR=37							
KK31				⇓S	**Sn**	**14 15 54.9**		**-1.2**
	3.5nm,0.6s,baz=161,slow=23,SNR=6.1							
MKAR	**Makanchi Array**	**11.91**	**33**	Pn	**Pn**	**14 16 01.7**		**-0.7**
	0.0nm,0.3s,baz=216,slow=14,SNR=2.9							
KURBB	**Kurchatov Arra**	**14.05**	**15**	Pn	**Pn**	**14 16 28.7**		**-1.0**
	0.0nm,0.3s,baz=208,slow=13,SNR=4.2							
AB31	**Akbulak array**	**15.25**	**326**	⇓P	**Pn**	**14 16 43.9**		**-0.8**
	0.3nm,0.4s,baz=136,slow=11,SNR=7.2							
AKTO	**Aktyubinsk**	**16.97**	**326**	⇑P	**Pn**	**14 17 08.2**		**+2.5**
	1.7nm,0.7s							
AKTO	**Aktyubinsk**	**16.97**	**326**	P	**Pn**	**14 17 09.6**		**+3.9**
	0.3nm,0.3s,baz=122,slow=11,SNR=4.7							
ZALV	**Zalesovo Beam**	**18.71**	**23**	P	**Pn**	**14 17 27.5**		**+1.2**
	0.1nm,0.3s,baz=214,slow=10,SNR=9.9							
WRA	**Warramunga Arr**	**81.14**	**123**	P	P	14 25 23.0		+6.9
	0.3nm,0.7s,baz=325,slow=5.0,SNR=3.2							

WEL 17 14:19:06.8±0.1, 45°.43S×166°.62E, h22km, ML4.4/22, 2D, Error ellipse: s-maj=1.4km s-min=0.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
DCZ	**Deep Cove**	**0.38**	**98**	⇓P*	Pb	14 19 14.7	

σ1$51/13, **mb3.9**/8,**1C**,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.98**	**355**	*eP*	Pn	14 29 56.7	-4.0
MATI				*eS*	**Sn**	**14 30 24.1**	**-1.2**
DAV	**Davao City (W)**	**2.26**	**338**	LR	LR	14 31 16.4	
	comp=Z,450nm,19.3s,baz=214,slow=47						
CTBH	**Cotabato--PC H**	**3.12**	**316**	⇑*iP*	**Pn**	**14 30 13.3**	**-2.4**
BUKP	**Musuan**	**3.20**	**335**	*eP*	**Pn**	**14 30 14.9**	**-1.9**
PAGZ	**Pagadian**	**4.17**	**314**	*eP*	**Pn**	**14 30 29.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**22.93**	**182**	P	**P**	**14 34 22.8**	**-1.4**
	2.6nm,1.0s,baz=355,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**25.94**	**163**	P	**P**	**14 34 51.2**	**-0.4**
	2.3nm,0.6s,baz=344,slow=10,SNR=9.1						
ASAR	**Alice Springs**	**29.38**	**166**	P	**P**	**14 35 22.9**	**+0.6**
	1.2nm,0.8s,baz=347,slow=7.3,SNR=7.6						
STKA	**Stephens Creek**	**39.38**	**159**	P	**P**	**14 36 47.0**	**-1.4**
	2.2nm,0.9s,baz=323,slow=11,SNR=4.0						
SONM	**Songino Array**	**46.04**	**341**	P	**P**	**14 37 44.1**	**+1.9**
	0.8nm,0.6s,baz=159,slow=8.0,SNR=6.5						
MKAR	**Makanchi Array**	**56.38**	**325**	P	**P**	**14 38 59.5**	**+0.2**
	0.9nm,0.6s,baz=121,slow=8.2,SNR=14.						
MKAR				PcP	**PcP**	**14 39 56.7**	**+1.4**
	0.4nm,0.4s,baz=114,slow=4.5,SNR=4.8						
KURBB	**Kurchatov Arra**	**60.55**	**327**	P	**P**	**14 39 28.8**	**+0.7**
	1.7nm,0.8s,baz=124,slow=6.7,SNR=13						
FINES	**FINESS Array B**	**90.61**	**332**	P	**P**	**14 42 20.5**	**+1.1**
	1.3nm,0.6s,baz=64,slow=4.4,SNR=9.1						

*ISCJB **17** 14:33:40.9±1.1, 15°.57N±0°.06×98°.96W±0°.04, h42km±7km, mb4.5/47, MS3.8/7, Error ellipse: s-maj=10.8km s-min=5.4km az=16.8*

*MEX **17** 14:33:42.6±0.4, 15°.53N×98°.99W, h16km±12km, MD4.3*

*NEIC **17** 14:33:45.0±1.6, 15°.90N×98°.84W, h41km±8km, mb4.4/44, MD4.3(MEX), Error ellipse: s-maj=20.8km s-min=8.2km az=191.0*

*IDC **17** 14:33:45.4±4.9, 16°.47N×98°.66W, h0km, mb4.3/8, mb1 4.4/11, mb1mx4.2/25, mbtmp4.2/11, ML3.7/3, MS3.6/7, Ms1 3.7/7, ms1mx3.4/33, Error ellipse: s-maj=89.9km s-min=26.6km az=3.0*

*BJI **17** 14:33:53.3, 16°.20N×98°.70W, h75km, mB5.1/2, Ms5.3/1, Ms7 5.0/1*

ISC 17 14:33:40.6±2.2,**15°.73N**±0°.07×**98°.90W**×0°.04,**h5**km±12km, **n389**,σ1$12/357,**mb4.6**/47,**MS3.8**/8,**159C-122D**,**Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.99**	**49**	*eP*	**Pg**	**14 34 00.6**	**+0.8**
PNIG				*eS*	**Sn**	**14 34 15.3**	**-0.4**
PNIG	**Pinotepa**	**0.99**	**49**	*eP*	**Pg**	**14 34 00.6**	**+0.8**
PNIG				*eS*	**Sn**	**14 34 15.3**	**-0.4**
ACX	**Acapulco**	**1.46**	**321**	*eP*	Pn	14 34 06.6	-1.0
ACX				*eS*	**Sb**	**14 34 25.5**	**-1.6**
ACX	**Acapulco**	**1.46**	**321**	*eP*	Pn	14 34 06.6	-1.0
ACX				*eS*	**Sb**	**14 34 25.5**	**-1.6**
CAIG	**El Cayaco**	**1.85**	**315**	*eP*	Pn	14 34 12.2	-0.8
CAIG				*i S*	**Sn**	**14 34 34.2**	**-2.5**
CAIG	**El Cayaco**	**1.85**	**315**	*eP*	Pn	14 34 12.2	-0.8
CAIG				*i S*	**Sn**	**14 34 34.2**	**-2.5**
UTMO	**Huajuapan**	**2.34**	**27**	*eP*	**Pn**	**14 34 19.9**	**0.0**
UTMO				*eS*	**Sb**	**14 34 50.9**	**-1.7**
UTMO	**Huajuapan**	**2.34**	**27**	*eP*	**Pn**	**14 34 19.9**	**0.0**
UTMO				*eS*	**Sb**	**14 34 50.9**	**-1.7**
OXX	**Oaxaca**	**2.49**	**57**	*eP*	**Pn**	**14 34 22.4**	**+0.4**
OXX				*i S*	**Sn**	**14 34 53.3**	**+0.5**
OXX	**Oaxaca**	**2.49**	**57**	*eP*	**Pn**	**14 34 22.4**	**+0.4**
OXX				*i S*	**Sn**	**14 34 53.3**	**+0.5**
HUIG	**Huatulco**	**2.69**	**89**	*eP*	Pn	14 34 23.8	-0.9
HUIG				*eS*	**Sn**	**14 34 55.8**	**-1.8**
HUIG	**Huatulco**	**2.69**	**89**	*eP*	Pn	14 34 23.8	-0.9
HUIG				*eS*	**Sn**	**14 34 55.8**	**-1.8**
PLIG	**Platanillo**	**2.71**	**348**	*eP*	**Pn**	**14 34 25.4**	**+0.6**
PLIG				*eS*	**Sn**	**14 34 59.3**	**+1.2**
PLIG	**Platanillo**	**2.71**	**348**	*eP*	**Pn**	**14 34 25.4**	**+0.6**
PLIG				*eS*	**Sn**	**14 34 59.3**	**+1.2**
ARIG	**Puente Sto Nin**	**2.88**	**332**	*eP*	**Pn**	**14 34 27.3**	**0.0**
ARIG				*eS*	**Sn**	**14 35 01.8**	**-0.6**
YAIG	**Yautepec**	**3.12**	**357**	*eP*	**Pn**	**14 34 32.2**	**+1.6**
YAIG				*i S*	**Sn**	**14 35 08.7**	**+0.5**
YAIG	**Yautepec**	**3.12**	**357**	*eP*	**Pn**	**14 34 32.2**	**+1.6**
PPM	**Popocatepetl**	**3.33**	**5**	*eP*	**Pn**	**14 34 35.3**	**+1.5**
PPM				*i S*	**Sn**	**14 35 16.2**	**+2.3**
PPM	**Popocatepetl**	**3.33**	**5**	*eP*	**Pn**	**14 34 35.3**	**+1.5**
TEIG	**Tepich**	**11.05**	**65**	Pn	Pn	14 36 18.2	-1.2
TEIG				Sn	Sn	14 38 17.2	-6.3
TEIG	**Tepich**	**11.05**	**65**	Pn	Pn	14 36 18.2	-1.2
	0.7nm,0.3s,baz=223,slow=12,SNR=4.2						
TEIG				Sn	Sn	14 38 17.2	-6.3
	0.8nm,0.3s,baz=19,slow=21,SNR=6.0						
TEIG				LR	LR	14 40 38.1	
	comp=Z,133nm,21.2s,baz=135,slow=39						
732A	**Laxson Ranch,**	**12.97**	**356**	⇑P	**Pn**	**14 36 44.2**	**-1.4**
	baz=13						
631A	**Perdido Creek**	**13.70**	**354**	⇑P	Pn	14 36 53.9	-1.7
	baz=14						
632A	**Uvalde**	**13.73**	**357**	⇓P	Pn	14 36 54.4	-1.7
	baz=14						
628A	**Black Gap, Mar**	**14.17**	**346**	⇓P	**Pn**	**14 37 01.1**	**-1.0**
	baz=14						
TXAR	**Lajitas Array**	**14.23**	**343**	Pn	**Pn**	**14 37 01.7**	**-1.3**
TXAR				Lg	Lg	14 41 02.9	
TXAR	**Lajitas Array**	**14.23**	**343**	Pn	**Pn**	**14 37 01.7**	**-1.3**
	0.1nm,0.3s,baz=171,slow=16,SNR=6.0						
TXAR				Lg	Lg	14 41 02.9	
	0.0nm,0.3s,baz=171,slow=18,SNR=3.5						
627A	**Terlingua Ranc**	**14.27**	**344**	⇓P	**Pn**	**14 37 02.1**	**-1.4**
	baz=14						
532A	**Rocksprings**	**14.36**	**357**	⇑P	Pn	14 37 02.4	-2.2
	baz=14						
531A	**Rocksprings**	**14.44**	**354**	⇑P	Pn	14 37 03.8	-2.0
	baz=14						
530A	**J-C Ranch, Com**	**14.52**	**352**	⇓P	**Pn**	**14 37 05.5**	**-1.4**
	baz=14						
626A	**Big Bend Ranch**	**14.57**	**342**	⇑P	**Pn**	**14 37 07.0**	**-0.7**
	baz=14						
529A	**Stev Forest Ra**	**14.64**	**349**	⇓P	**Pn**	**14 37 07.5**	**-1.1**
	baz=15,SNR=5.7						
JCT	**Junction City**	**14.70**	**357**	*e*Pn	Pn	14 37 06.2	-3.2
JCT	**Junction City**	**14.70**	**357**	⇓P	**Pn**	**14 37 07.8**	**-1.6**
	baz=15						
528A	**Cox Ranch, San**	**14.80**	**347**	⇓P	**Pn**	**14 37 09.9**	**-0.9**
	baz=15						
431A	**Sonora**	**14.96**	**354**	⇓P	**Pn**	**14 37 11.5**	**-1.5**
	baz=15,SNR=11						
527A	**Woodward Ranch**	**14.98**	**344**	⇑P	**Pn**	**14 37 12.3**	**-0.9**
	baz=15						
526A	**Mary Lane Ranc**	**15.04**	**342**	⇑P	**Pn**	**14 37 13.5**	**-0.5**
	baz=15,SNR=9.4						
429A	**Davenport Ranc**	**15.07**	**350**	⇓P	Pn	14 37 12.7	-1.8
	baz=15						
432A	**Menard**	**15.10**	**357**	⇓P	Pn	14 37 12.4	-2.3
	baz=15						
430A	**Baggett Ranch,**	**15.14**	**352**	⇑P	Pn	14 37 13.6	-1.7
	baz=15						
428A	**Kincaid Ranch,**	**15.32**	**348**	⇓P	**Pn**	**14 37 17.9**	**+0.1**
	baz=15,SNR=16						
331A	**San Angelo**	**15.57**	**355**	⇑P	**Pn**	**14 37 19.6**	**-1.3**
	baz=16,SNR=5.1						
426A	**McDonald Obser**	**15.59**	**343**	⇑P	**Pn**	**14 37 20.3**	**-1.0**
	baz=16,SNR=9.4						
332A	**Millersview**	**15.60**	**357**	⇑P	**Pn**	**14 37 19.4**	**-1.9**
	baz=16						
427A	**Hayter Ranch,**	**15.60**	**345**	⇓P	**Pn**	**14 37 20.6**	**-0.8**
	baz=16,SNR=7.4						
330A	**Mertzon**	**15.74**	**353**	⇓P	**Pn**	**14 37 21.9**	**-1.3**
	baz=16,SNR=6.0						
328A	**Wristen Ranch,**	**15.98**	**348**	⇓P	**Pn**	**14 37 25.4**	**-0.9**
	baz=16,SNR=8.8						
425A	**Indio Mountain**	**15.98**	**341**	⇑P	**Pn**	**14 37 25.4**	**-1.0**
	baz=16,SNR=11						
232A	**Coleman**	**16.10**	**358**	⇓P	**Pn**	**14 37 26.3**	**-1.4**
	baz=16,SNR=7.0						
231A	**Bronte**	**16.18**	**356**	⇑P	**Pn**	**14 37 26.6**	**-2.2**
	baz=16,SNR=6.5						
326A	**Caldwell Ranch**	**16.19**	**344**	⇑P	**Pn**	**14 37 27.8**	**-1.2**
	baz=16,SNR=6.7						
230A	**Sterling City**	**16.21**	**353**	⇑P	**Pn**	**14 37 26.8**	**-2.4**
	baz=16						
WHTX	**Lake Whitney**	**16.24**	**4**	⇑P	**Pn**	**14 37 27.0**	**-2.6**
	baz=16,SNR=8.2						
325A	**Bean Ranch, Si**	**16.52**	**341**	⇑P	**Pn**	**14 37 32.4**	**-1.0**
	baz=16,SNR=20						
228A	**UT Block 9, Go**	**16.65**	**349**	⇑P	**Pn**	**14 37 33.3**	**-1.6**
	baz=17						
324A	**Moseley Ranch,**	**16.75**	**340**	⇓P	**Pn**	**14 37 35.3**	**-0.9**
	baz=17,SNR=9.7						
ABTX	**Abilene, Hawle**	**16.83**	**358**	⇑P	**Pn**	**14 37 35.5**	**-1.6**
	baz=17,SNR=7.2						
130A	**Snyder**	**16.89**	**354**	⇑P	**Pn**	**14 37 36.0**	**-1.9**
	baz=17						
131A	**Roby**	**16.92**	**356**	⇑P	**Pn**	**14 37 36.4**	**-1.9**
	baz=17,SNR=5.6						
MNTX	**Cornudas Mount**	**16.96**	**341**	*e*Pn	**Pn**	**14 37 36.0**	**-2.7**
	7.9nm,1.3s						
226B	**Tecolote Peak,**	**16.96**	**345**	⇑P	**Pn**	**14 37 37.2**	**-1.7**
	baz=17						
129A	**Stewart Farms,**	**17.04**	**351**	⇓P	**Pn**	**14 37 37.6**	**-2.2**
	baz=17						
128A	**Castleberry Fa**	**17.12**	**350**	⇑P	**Pn**	**14 37 39.0**	**-1.9**
	baz=17,SNR=14						
225A	**Deer Hill, Car**	**17.17**	**343**	⇑P	**Pn**	**14 37 40.1**	**-1.4**
	baz=17,SNR=7.1						
224A	**Cornudas Mount**	**17.35**	**341**	⇓P	**Pn**	**14 37 42.7**	**-1.0**
	baz=17,SNR=7.1						
Z32A	**Haskell**	**17.50**	**358**	⇓P	**Pn**	**14 37 43.1**	**-2.4**
	baz=17,SNR=6.9						
Z31A	**Sharp Cattle R**	**17.55**	**357**	⇑P	**Pn**	**14 37 44.3**	**-1.7**
	baz=18,SNR=6.0						
Z30A	**Sanderson Ranc**	**17.59**	**354**	⇓P	**Pn**	**14 37 45.1**	**-1.6**
	baz=18,SNR=8.1						
Z29A	**Hungry Hill Ra**	**17.63**	**352**	⇓P	**Pn**	**14 37 45.9**	**-1.3**
	baz=18,SNR=14						
125A	**Gardner Draw,**	**17.64**	**344**	⇑P	**Pn**	**14 37 46.5**	**-0.9**
	baz=18,SNR=13						
Z28A	**Tucker Farm, M**	**17.76**	**350**	⇓P	**Pn**	**14 37 47.7**	**-1.1**
	baz=18,SNR=7.1						
124A	**Stringfield Ra**	**17.91**	**342**	⇓P	**Pn**	**14 37 50.0**	**-0.8**
	baz=18,SNR=7.7						
222A	**Williams Famil**	**17.93**	**337**	⇓P	**Pn**	**14 37 50.3**	**-0.6**
	baz=18						
Z26A	**Caprock**	**18.06**	**346**	⇑P	**Pn**	**14 37 51.1**	**-1.4**
	baz=18						
Y30A	**Stafford Cattl**	**18.16**	**355**	⇓P	**Pn**	**14 37 51.9**	**-1.8**
	baz=18						
Y31A	**Rekieta Farm,**	**18.19**	**356**	⇑P	**Pn**	**14 37 52.2**	**-1.8**
	baz=18						
Y32A	**R-V Farms, Ver**	**18.20**	**359**	⇑P	**Pn**	**14 37 52.1**	**-2.0**
	baz=18						
Y29A	**Porterfield Fa**	**18.22**	**353**	⇑P	**Pn**	**14 37 52.7**	**-1.8**
	baz=18						
319A	**Douglas**	**18.23**	**330**	⇑P	**Pn**	**14 37 54.0**	**-0.5**
	baz=18,SNR=10						
220A	**Playas Peak, P**	**18.33**	**333**	⇓P	**Pn**	**14 37 55.1**	**-0.7**
	baz=18,SNR=8.7						
Y28A	**McKinney Farm,**	**18.35**	**351**	⇓P	**Pn**	**14 37 53.8**	**-2.2**
	baz=18						
122A	**Conniff Cattle**	**18.42**	**338**	⇓P	**Pn**	**14 37 55.4**	**-1.5**
	baz=18						
Z24A	**Sheeppen Canyo**	**18.47**	**343**	⇑P	**Pn**	**14 37 56.3**	**-1.3**
	baz=18,SNR=12						
Y27A	**Causey**	**18.48**	**349**	⇑P	**Pn**	**14 37 56.0**	**-1.7**
	baz=18,SNR=10						
MSTX	**Muleshoe**	**18.49**	**350**	⇑P	**Pn**	**14 37 55.9**	**-1.9**
	baz=18,SNR=19						
121A	**Cookes Peak, D**	**18.57**	**336**	⇑P	**P**	**14 37 57.3**	**-1.3**
	baz=18,SNR=7.1						
Y26A	**Elida**	**18.65**	**347**	⇑P	**P**	**14 37 57.7**	**-1.8**
	baz=19,SNR=30						
Z23A	**Rita Site, Whi**	**18.67**	**340**	⇓P	**P**	**14 37 58.0**	**-1.7**
	baz=19						
X30A	**Coker Ranch, T**	**18.72**	**355**	⇑P	**P**	**14 37 58.1**	**-2.1**
	baz=19,SNR=9.5						
X29A	**Tulia**	**18.80**	**353**	⇓P	**P**	**14 37 59.2**	**-1.9**
	baz=19						
X31A	**McDonald Ranch**	**18.84**	**357**	⇑P	**P**	**14 37 59.6**	**-1.9**
	baz=19						
Y25A	**Mesa, Roswell**	**18.85**	**345**	⇓P	**P**	**14 38 00.1**	**-1.6**
	baz=19,SNR=7.5						
Z22A	**Elephant Butte**	**18.91**	**339**	⇓P	**P**	**14 38 02.1**	**-0.2**
	baz=19,SNR=10.0						
Y24A	**Capitan**	**19.05**	**343**	⇑P	**P**	**14 38 03.2**	**-0.8**
	baz=19,SNR=16						
Z21A	**St. Cloud Mine**	**19.21**	**337**	⇓P	**P**	**14 38 05.9**	**+0.2**
	baz=19,SNR=6.5						
AMTX	**Amarillo**	**19.23**	**353**	*e*Pn	P	14 38 02.3	-3.6
	18nm,1.0s						
Y23A	**Lovelace Mesa,**	**19.23**	**342**	⇓P	**P**	**14 38 05.5**	**-0.4**
	baz=19,SNR=11						
X26A	**CR and CF Fran**	**19.25**	**348**	⇑P	**P**	**14 38 05.4**	**-0.7**
	baz=19,SNR=25						
MIAR	**Mcmt Ida**	**19.34**	**13**	*eP*	**P**	**14 38 04.0**	**-2.9**
	12nm,1.0s						
W31A	**Holland Ranch,**	**19.39**	**357**	⇑P	**P**	**14 38 06.7**	**-0.8**
	baz=19						
Z20A	**Nine Sixteen R**	**19.40**	**335**	⇑P	**P**	**14 38 08.0**	**+0.2**
	baz=19,SNR=6.7						
W29A	**Amraillo**	**19.46**	**353**	⇓P	**P**	**14 38 07.6**	**-0.8**
	baz=19						
Y22A	**Socorro**	**19.53**	**340**	⇑P	**P**	**14 38 08.3**	**-0.9**
	baz=20						
W27A	**Bowe Ranch, En**	**19.61**	**350**	⇑P	**P**	**14 38 08.7**	**-1.3**
	baz=20,SNR=8.4						
BNM	**Barren Site**	**19.61**	**341**	*eP*	**P**	**14 38 07.8**	**-2.4**
	10nm,1.2s						
X24A	**Lazy VL Ranch,**	**19.65**	**344**	⇓P	**P**	**14 38 09.8**	**-0.7**
	baz=20						
TUC	**Tucson**	**19.72**	**329**	*eP*	**P**	**14 38 10.8**	**-0.4**
	37nm,1.0s						
LENM	**Lemitar**	**19.74**	**340**	*eP*	**P**	**14 38 10.1**	**-1.4**
W26A	**Owens Ranch, T**	**19.76**	**348**	⇑P	**P**	**14 38 10.9**	**-0.7**
	baz=20						
Y21A	**Point of Rocks**	**19.84**	**338**	⇑P	**P**	**14 38 12.9**	**+0.2**
	baz=20,SNR=13						
X23A	**Hourglass Bar**	**19.88**	**342**	⇓P	**P**	**14 38 13.0**	**0.0**
	baz=20,SNR=7.8						
LAZ	**Ladron**	**20.01**	**340**	*eP*	**P**	**14 38 12.8**	**-1.7**
	4.5nm,1.2s						
Y20A	**Horse Springs,**	**20.01**	**336**	⇓P	**P**	**14 38 14.8**	**+0.3**
	baz=20,SNR=14						
W25A	**X Bar L Ranch,**	**20.03**	**347**	⇑P	**P**	**14 38 13.3**	**-1.3**
	baz=20,SNR=6.7						
W24A	**Lazy 6 Ranch,**	**20.25**	**344**	⇓P	**P**	**14 38 16.7**	**-0.4**
	baz=20,SNR=15						
X21A	**Alamocita Cree**	**20.27**	**338**	⇓P	**P**	**14 38 17.6**	**+0.2**
	baz=20,SNR=15						
TUL1	**Tulsa**	**20.29**	**7**	⇓P	**P**	**14 38 15.1**	**-2.1**
	baz=20						
ANMO	**Albuquerque**	**20.30**	**342**	*eP*	**P**	**14 38 15.6**	**-2.0**
	11nm,1.1s						
ANMO				Lg	Lg	14 44 17.4	
ANMO	**Albuquerque**	**20.30**	**342**	P	**P**	**14 38 16.8**	**-0.8**
	0.2nm,0.3s,baz=176,slow=13,SNR=9.8						
ANMO				Lg	Lg	14 44 17.4	
	baz=108,slow=20,SNR=2.0						
ANMO				LR	LR	14 46 37.2	
	comp=Z,280nm,18.4s,baz=9.8,slow=39						
W23A	**Werner Place,**	**20.41**	**343**	⇑P	**P**	**14 38 17.9**	**-0.9**
	baz=20						
V26A	**Tequesquite Ra**	**20.45**	**349**	⇑P	**P**	**14 38 18.5**	**-0.6**
	baz=20,SNR=24						
214A	**Organ Pipe Nat**	**20.52**	**324**	⇓P	**P**	**14 38 20.8**	**+0.9**
	baz=20,SNR=6.6						
V25A	**Rancho No Teng**	**20.66**	**347**	⇑P	**P**	**14 38 20.6**	**-1.0**
	baz=21						
V24A	**Rampart Ranch,**	**20.71**	**345**	⇑P	**P**	**14 38 21.4**	**-0.7**
	baz=21,SNR=6.5						
U28A	**Mallet**	**20.77**	**352**	⇓P	**P**	**14 38 21.5**	**-1.2**
	baz=21						
U27A	**Thompson Grove**	**20.90**	**351**	⇑P	**P**	**14 38 23.3**	**-0.8**
	baz=21,SNR=6.4						
V23A	**Ortiz Mt. (NFS**	**20.97**	**343**	⇓P	**P**	**14 38 24.6**	**-0.2**
	baz=21,SNR=7.5						
U26A	**Atchley Ranch,**	**21.02**	**349**	⇓P	**P**	**14 38 24.7**	**-0.7**
	baz=21,SNR=23						
W20A	**Ramah**	**21.14**	**338**	⇑P	**P**	**14 38 27.2**	**+0.5**
	baz=21,SNR=21						
U25A	**Circle Dot Ran**	**21.16**	**348**	⇑P	**P**	**14 38 25.7**	**-1.1**
	baz=21						
X18A	**Snowflake**	**21.19**	**334**	⇑P	**P**	**14 38 27.2**	**0.0**
	baz=21						
T30A	**Plains**	**21.28**	**356**	⇓P	**P**	**14 38 26.8**	**-1.3**
	baz=21						
T31A	**Randall Ranch,**	**21.29**	**358**	⇓P	**P**	**14 38 26.8**	**-1.3**
	baz=21						
V22A	**San Miguel Ran**	**21.33**	**342**	⇓P	**P**	**14 38 28.2**	**-0.7**
	baz=21,SNR=13						
U24A	**Moreno Valley**	**21.36**	**346**	⇑P	**P**	**14 38 28.8**	**-0.4**
	baz=21						
T27A	**Campo**	**21.51**	**352**	⇑P	**P**	**14 38 30.0**	**-0.6**
	baz=21,SNR=8.0						
U23A	**El Rito**	**21.52**	**344**	⇓P	**P**	**14 38 30.3**	**-0.5**
	baz=21,SNR=38						
GNAR	**Gosnell**	**21.66**	**20**	*eP*	**P**	**14 38 29.5**	**-2.5**
	1μm,1.2s						
113A	**Mohawk Valley,**	**21.66**	**324**	⇑P	**P**	**14 38 32.9**	**+0.8**
	baz=22,SNR=6.0						
Z14A	**Wintersburg**	**21.67**	**327**	⇑P	**P**	**14 38 32.7**	**+0.5**
	baz=22						
V20A	**Brimhall**	**21.73**	**339**	⇓P	**P**	**14 38 32.8**	**-0.3**
	baz=22,SNR=12						
X16A	**Lo Mia Camp, P**	**21.76**	**331**	⇓P	**P**	**14 38 34.1**	**+0.8**
	baz=22,SNR=12						
S30A	**Montezuma**	**21.86**	**357**	⇓P	**P**	**14 38 32.8**	**-1.5**
	baz=22						
T25A	**Trinidad**	**21.87**	**348**	⇑P	**P**	**14 38 34.4**	**-0.2**
	baz=22,SNR=9.4						
S29A	**Ulysses**	**21.89**	**355**	⇑P	**P**	**14 38 33.2**	**-1.4**
	baz=22						
S28A	**Manter**	**21.93**	**354**	⇓P	**P**	**14 38 33.8**	**-1.3**
	baz=22						
U21A	**Nageezi**	**22.04**	**341**	⇓P	**P**	**14 38 36.2**	**-0.1**
	baz=22,SNR=36						
T23A	**Casias Ranch,**	**22.14**	**345**	⇑P	**P**	**14 38 36.9**	**-0.6**
	baz=22						
Y14A	**Wickenburg**	**22.14**	**327**	⇑P	**P**	**14 38 38.0**	**+0.6**
	baz=22,SNR=18						
S27A	**Las Animas**	**22.15**	**352**	⇓P	**P**	**14 38 36.7**	**-0.8**
	baz=22						
S26A	**Kim**	**22.17**	**350**	⇑P	**P**	**14 38 37.2**	**-0.5**
	baz=22,SNR=11						
U20A	**Newcomb**	**22.27**	**339**	⇑P	**P**	**14 38 38.2**	**-0.6**
	baz=22						
T22A	**Edith**	**22.35**	**343**	⇓P	**P**	**14 38 39.9**	**+0.1**
	baz=22,SNR=14						
S25A	**Robets Cordova**	**22.38**	**348**	⇑P	**P**	**14 38 39.6**	**-0.5**
	baz=22,SNR=18						
UTMT	**University of**	**22.39**	**22**	*eP*	**P**	**14 38 39.6**	**-0.3**
GOGA	**Godfrey**	**22.46**	**36**	*eP*	**P**	**14 38 39.3**	**-1.4**
GLA	**Glamis**	**22.48**	**323**	*eP*	**P**	**14 38 40.5**	**-0.5**
	32nm,1.1s						
GLA	**Glamis**	**22.48**	**323**	⇑P	**P**	**14 38 42.2**	**+1.2**
	baz=22,SNR=9.4						
R30A	**Dighton**	**22.50**	**357**	⇑P	**P**	**14 38 40.0**	**-1.1**
	baz=22						
T21A	**Navajo Lake**	**22.52**	**342**	⇑P	**P**	**14 38 41.3**	**-0.2**
	baz=22,SNR=7.7						
S24A	**Houchin Ranch,**	**22.52**	**347**	⇓P	**P**	**14 38 41.1**	**-0.5**
	baz=22,SNR=5.5						
WVT	**Waverly**	**22.59**	**24**	*eP*	P	14 38 37.5	-4.6
	30nm,1.0s						
WUAZ	**Wupatki**	**22.64**	**333**	*eP*	**P**	**14 38 41.8**	**-1.0**
	38nm,1.2s						
WUAZ	**Wupatki**	**22.64**	**333**	⇑P	**P**	**14 38 43.8**	**+1.0**
	baz=23,SNR=20						
R28A	**Tribune**	**22.67**	**354**	⇓P	**P**	**14 38 41.8**	**-1.1**
	baz=23						
R29A	**Marienthal**	**22.69**	**355**	⇓P	**P**	**14 38 42.4**	**-0.8**
	baz=23						
SDCO	**Great Sand Dun**	**22.69**	**346**	*eP*	**P**	**14 38 41.4**	**-2.0**
	10nm,1.2s						
R27A	**Eads**	**22.73**	**352**	⇓P	**P**	**14 38 43.0**	**-0.6**
	baz=23,SNR=12						
S23A	**Nye Farm, Mont**	**22.77**	**345**	⇑P	**P**	**14 38 43.4**	**-0.8**
	baz=23						
Y12C	**Blythe**	**22.82**	**325**	⇓P	**P**	**14 38 45.6**	**+1.2**
	baz=23						
R25A	**Fountain Ranch**	**22.83**	**349**	⇑P	**P**	**14 38 44.2**	**-0.5**
	baz=23,SNR=12						
R26A	**Arlington**	**22.84**	**351**	⇑P	**P**	**14 38 44.1**	**-0.6**
	baz=23,SNR=15						
SWSC	**Sam W. Stewart**	**22.97**	**321**	⇑P	**P**	**14 38 47.1**	**+1.1**
	baz=23						
PDMCI	**Parker Dam,Lak**	**23.02**	**326**	⇑P	**P**	**14 38 47.2**	**+0.7**
	baz=23						
S22A	**4UR Ranch, Cre**	**23.02**	**344**	⇑P	**P**	**14 38 46.6**	**-0.2**
	baz=23,SNR=22						
MVCO	**Mesa Verde**	**23.02**	**340**	*eP*	P	14 38 44.1	-2.7
	61nm,1.3s						
MVCO	**Mesa Verde**	**23.02**	**340**	⇓P	**P**	**14 38 46.6**	**-0.2**
	baz=23,SNR=18						
R24A	**Sanders Place,**	**23.07**	**347**	⇓P	**P**	**14 38 46.9**	**-0.4**
	baz=23,SNR=9.0						
Q29A	**Oakley**	**23.14**	**356**	⇑P	**P**	**14 38 46.1**	**-1.7**
	baz=23						

P22A	**Eagle** baz=25,SNR=11	24.75	345	⇑P	P	14 39 03.7	+0.3
TZTN	**Tazewell** 50nm,1.4s	24.82	31	*e*P	P	14 39 00.7	-3.2
TUQ	**Turquoise Moun** baz=25,SNR=14	24.84	325	⇑P	P	14 39 05.9	+1.8
P21A	**Newcastle** baz=25	24.86	344	⇓P	P	14 39 04.2	-0.1
CIS	**Catalina Islan** baz=25	24.91	318	⇑P	P	14 39 06.3	+1.7
KMSC	**Kings Mountain** baz=25	24.93	36	⇓P	P	14 39 04.0	-0.8
N28A	**Pribbeno Ranch** baz=25	24.97	355	⇑P	P	14 39 05.0	-0.2
P20A	**De Beque** baz=25,SNR=8.9	25.09	342	⇓P	P	14 39 07.5	+1.0
O23A	**Lake Granby, G** baz=25,SNR=6.2	25.14	347	⇓P	P	14 39 07.5	+0.5
N27A	**Anderson Farm,** baz=25,SNR=6.6	25.18	354	⇓P	P	14 39 07.3	+0.2
CCUT	**Cedar City** 6.5nm,1.2s	25.22	332	*e*P	P	14 39 09.6	+1.9
GSC	**Goldstone** 13nm,1.0s	25.23	324	*e*P	P	14 39 06.9	-0.8
GSC	**Goldstone** baz=25,SNR=8.3	25.23	324	⇓P	P	14 39 09.5	+1.8
O22A	**Kremmling** baz=25,SNR=14	25.23	346	⇓P	P	14 39 08.6	+0.7
SHPR	**Sheep Range**	25.25	328	*e*P	P	14 39 06.4	-1.4
OGNE	**Ogallala** 45nm,0.9s	25.27	354	*e*P	P	14 39 04.6	-3.3
OGNE	**Ogallala** baz=25,SNR=5.3	25.27	354	⇑P	P	14 39 08.5	+0.6
N26A	**Koester Ranch,** baz=25	25.29	352	⇑P	P	14 39 08.7	+0.6
SHOC	**Shoshone** baz=25	25.38	326	⇑P	P	14 39 10.5	+1.7
P19A	**Cripple Cowboy** baz=25,SNR=23	25.39	342	⇓P	P	14 39 10.0	+0.8
SRU	**San Rafael** 28nm,1.1s	25.42	339	*e*P	P	14 39 07.7	-1.8
Q16A	**Castle Valley** baz=25,SNR=13	25.49	337	⇑P	P	14 39 11.0	+1.0
O21A	**Pagoda** baz=25,SNR=9.8	25.51	345	⇑P	P	14 39 11.3	+1.0
MVU	**Marysvale** 15nm,1.2s	25.53	335	*e*P	P	14 39 09.1	-1.4
N24A	**Carr** baz=26,SNR=5.2	25.54	349	⇑P	P	14 39 11.3	+0.9
EDW2	**Edwards Air Fo** baz=26	25.63	322	⇑P	P	14 39 12.8	+1.6
O20A	**White River Ci** baz=26	25.64	343	⇑P	P	14 39 12.2	+0.7
N23A	**Red Feather La** baz=26	25.81	348	⇓P	P	14 39 13.0	0.0
N22A	**Wattenberg Ran** baz=26	25.83	347	⇑P	P	14 39 13.7	+0.5
TMUT	**Trail Mountain** 13nm,1.0s	25.83	338	*e*P	P	14 39 12.0	-1.3
LRMC	**Laurel Mountai** baz=26	25.86	323	⇑P	P	14 39 15.3	+1.9
M27A	**Reverse DX Ran** baz=26	25.88	354	⇑P	P	14 39 14.0	+0.6
M26A	**McRoberts Ranc** baz=26	25.90	353	⇑P	P	14 39 13.9	+0.2
M25A	**Palm-Egli Farm** baz=26	26.00	351	⇑P	P	14 39 15.3	+0.7
N21A	**Black Mountain** baz=26,SNR=14	26.04	345	⇓P	P	14 39 16.0	+1.0
PHWY	**Pilot Hill** 12nm,0.9s	26.10	349	*e*P	P	14 39 14.4	-1.3
HDIL	**Hopedale** 45nm,0.9s	26.11	17	*e*P	P	14 39 11.4	-4.0
FURC	**Furnace Creek,** baz=26	26.11	326	⇓P	P	14 39 17.2	+1.7
M24A	**Cheyenne** baz=26,SNR=9.3	26.15	350	⇓P	P	14 39 16.6	+0.6
L28A	**Connealy Angus** baz=26	26.28	356	⇑P	P	14 39 17.6	+0.5
N20A	**Spence Gulch,** baz=26	26.30	344	⇑P	P	14 39 17.8	+0.4
ISA	**Isabella** 11nm,1.2s	26.45	322	*e*P	P	14 39 18.3	-0.4
ISA	**Isabella** baz=26,SNR=5.6	26.45	322	⇓P	P	14 39 20.7	+2.0
SFIN	**Scholer Farm** baz=26	26.62	20	⇓P	P	14 39 19.5	-0.5
L25A	**Engebretsen Ra** baz=27	26.69	352	⇑P	P	14 39 20.9	+0.1
M21A	**Separation Pea** baz=27,SNR=11	26.80	346	⇓P	P	14 39 23.3	+1.3
DAU	**Daniels Canyon**	26.84	339	*e*P	P	14 39 21.2	-1.2
RWWY	**Rawlins** 38nm,1.5s	26.84	346	*e*P	P	14 39 20.9	-1.4
M20A	**Sweetwater, Wa** baz=27	26.89	344	⇓P	P	14 39 23.3	+0.5
R11A	**Troy Canyon, C** baz=27,SNR=7.3	26.90	330	⇓P	P	14 39 24.4	+1.6
L23A	**Garrett** baz=27	26.93	349	⇓P	P	14 39 23.7	+0.6
L22A	**Ellis Ranch, M** baz=27	27.00	348	⇑P	P	14 39 24.1	+0.4
K27A	**Flueckinger Fa** baz=27	27.03	355	⇑P	P	14 39 24.3	+0.4
DUG	**Dugway** 5.3nm,1.0s	27.22	336	*e*P	P	14 39 24.5	-1.1
DUG	**Dugway** baz=27	27.22	336	⇓P	P	14 39 26.7	+1.1
L20A	**Wamsutter** baz=27	27.42	345	⇓P	P	14 39 27.8	+0.3
K23A	**Bowen Ranch, D** baz=28	27.54	349	⇓P	P	14 39 29.0	+0.6
M17A	**Scullys Gap (B** baz=28	27.59	341	⇓P	P	14 39 30.5	+1.4
K22A	**Casper** baz=28	27.61	348	⇓P	P	14 39 29.6	+0.5
J28A	**Allard Ranch,** baz=28	27.67	356	⇓P	P	14 39 30.2	+0.7
K21A	**Alcova** baz=28,SNR=6.4	27.75	347	⇓P	P	14 39 31.1	+0.7
L19A	**Farson** baz=28	27.78	343	⇓P	P	14 39 31.2	+0.5
J25A	**Sunshine Ranch** baz=28	27.88	352	⇑P	P	14 39 32.0	+0.5
BGU	**Big Grassy Mou** 17nm,1.9s	27.93	337	*e*P	P	14 39 33.1	+1.0
J24A	**Dixon Ranch, L** baz=28	27.94	351	⇓P	P	14 39 32.9	+0.9
ECSD	**EROS Data Cent** 6.3nm,0.8s	27.98	4	*e*P	P	14 39 28.8	-3.4
K20A	**Yellowstone Ra** baz=28	28.03	345	⇑P	P	14 39 32.6	-0.3
NVAR	**Mina Array Bea**	28.33	327	P	P	14 39 37.3	+1.6
NVAR	**Mina Array Bea** 3.9nm,1.0s,baz=150,slow=10.0,SNR=25	28.33	327	P	P	14 39 37.3	+1.6
NVAR	comp=Z,260nm,18.6s,baz=185,slow=39			LR	LR	14 51 38.9	
I27A	**Quinn** baz=28	28.37	355	⇑P	P	14 39 35.9	+0.1
BW06	**Boulder Array** 3.5nm,0.9s	28.45	343	*e*P	P	14 39 34.6	-2.1
PDAR	**Pinedale Array**	28.45	343	P	P	14 39 36.7	0.0
PDAR	**Pinedale Array** 4.4nm,0.9s,baz=144,slow=10,SNR=14	28.45	343	P	P	14 39 36.7	0.0
PDAR	comp=Z,236nm,18.2s,baz=171,slow=37			LR	LR	14 51 07.3	
J21A	**Lysite** baz=28	28.47	347	⇓P	P	14 39 37.3	+0.5
HVU	**Hansel Valley** 8.6nm,1.0s	28.58	338	*e*P	P	14 39 36.1	-1.7
J20A	**Shoshoni** baz=29	28.62	346	⇑P	P	14 39 38.5	+0.3
ELK	**Elko**	28.68	334	P	P	14 39 39.7	+0.9
ELK	**Elko** 1.2nm,0.7s,baz=143,slow=11,SNR=4.1	28.68	334	P	P	14 39 39.7	+0.9
ELK	comp=Z,280nm,19.9s,baz=151,slow=41			LR	LR	14 52 50.0	
J19A	**Crowheart** baz=29	28.78	344	⇓P	P	14 39 39.7	+0.1
I21A	**Big Trails, Te** baz=29	28.88	347	⇑P	P	14 39 41.1	+0.6
H28A	**Mission Ridge** baz=29	28.91	357	⇓P	P	14 39 40.7	+0.2
H27A	**Howes** baz=29	28.93	355	⇓P	P	14 39 41.1	+0.4
H25A	**Fruitdale** baz=29	29.07	353	⇓P	P	14 39 42.5	+0.5
I20A	**Worland**	29.20	346	⇓P	P	14 39 44.1	+0.8
G28A	**Parade** baz=29	29.30	357	⇑P	P	14 39 44.4	+0.4
I19A	**Meeteetse** baz=29	29.49	345	⇑P	P	14 39 46.3	+0.4
TPAW	**Teton Pass** 14nm,1.3s	29.51	342	*e*P	P	14 39 44.4	-1.8
LOHW	**Long Hollow** 5.9nm,0.9s	29.52	343	*e*P	P	14 39 44.1	-2.1
H21A	**Big Horn, Sher** baz=30	29.61	348	⇑P	P	14 39 47.2	+0.3
G27A	**Dupree** baz=30	29.66	356	⇓P	P	14 39 47.2	0.0
H20A	**Greybull** baz=30	29.68	347	⇑P	P	14 39 47.7	+0.2
MOOW	**Moose Ponds** 4.0nm,1.0s	29.69	343	*e*P	P	14 39 45.0	-2.7
G24A	**Alzada** baz=30	29.87	352	⇑P	P	14 39 49.5	+0.4
G22A	**Birney** baz=30	30.05	350	⇑P	P	14 39 50.8	+0.1
H16A	**Russell Place,** baz=31	30.71	343	⇑P	P	14 39 57.1	+0.4
HLID	**Hailey** 2.4nm,0.9s	30.73	338	*e*P	P	14 39 54.1	-2.7
HLID	**Hailey** baz=31	30.73	338	⇑P	P	14 39 57.5	+0.6
G17A	**Pierce Place,** baz=31	31.14	344	⇑P	P	14 40 01.4	+1.0
MFID	**Camas Ranch** 10nm,1.2s	31.14	336	*e*P	P	14 39 59.9	-0.6
MFID	**Camas Ranch** baz=31	31.14	336	⇑P	P	14 40 01.4	+1.0
E22A	**Miles City** baz=31	31.17	351	⇑P	P	14 40 01.0	+0.4
F19A	**Roth Farm, Mol** baz=31	31.19	346	⇑P	P	14 40 01.6	+0.8
I12A	**Atlanta** baz=31	31.20	337	⇓P	P	14 40 01.7	+0.7
F18A	**Big Timber** baz=31	31.42	345	⇓P	P	14 40 03.3	+0.5
E21A	**Keefer Ranch,** baz=31	31.46	349	⇑P	P	14 40 03.5	+0.3
D24A	**Glendive** baz=32	31.61	353	⇑P	P	14 40 04.7	+0.3
E20A	**Meyer Farm, Mu** baz=32	31.63	348	⇑P	P	14 40 05.0	+0.3
F17A	**Fitzpatrick Pl** baz=32	31.66	344	⇑P	P	14 40 05.6	+0.6
BOZ	**Bozeman (W)** 2.4nm,0.9s	31.68	343	*e*P	P	14 40 03.5	-1.7
DLMT	**Dillon** 12nm,1.0s	31.71	341	*e*P	P	14 40 04.0	-1.4
E19A	**Bath Farm, Rou** baz=32	31.73	347	⇑P	P	14 40 05.7	+0.2
H12A	**Diamond D Ranc** baz=32	31.74	338	⇓P	P	14 40 06.7	+1.0
D21A	**La Casta Ranch** baz=32	31.96	350	⇓P	P	14 40 08.0	+0.5
MDND	**Maddock** baz=32	32.03	359	⇑P	P	14 40 08.2	+0.1
LRM	**Limekiln Ridge**	32.08	342	*e*P	P	14 40 07.3	-1.5
E18A	**Harlowton** baz=32	32.09	346	⇑P	P	14 40 09.3	+0.6
E17A	**Martinsdale** baz=32	32.22	344	⇑P	P	14 40 10.8	+0.8
C23A	**Lambert** baz=32	32.40	352	⇓P	P	14 40 11.5	+0.2
D19A	**Cripps Ranch,** baz=32	32.42	347	⇓P	P	14 40 11.6	+0.1
C22A	**Vida** baz=32	32.44	351	⇑P	P	14 40 11.7	0.0
D18A	**Linhart Farms,** baz=33,SNR=5.8	32.65	346	⇓P	P	14 40 13.6	0.0
D17A	**Six Diamond Ra** baz=33,SNR=13	32.82	345	⇑P	P	14 40 14.9	-0.3
BMO	**Blue Mountains** 4.0nm,1.1s	32.93	336	*e*P	P	14 40 10.3	-5.7
DGMT	**Dagmar** baz=33	32.94	354	⇓P	P	14 40 16.0	0.0
C19A	**Slack Wire Ran** baz=33	32.99	347	⇓P	P	14 40 16.7	+0.1
B23A	**Brockton** baz=33	33.02	353	⇑P	P	14 40 17.0	+0.2
YBH	**Yreka Blue Hor** comp=Z,55nm,21.8s,baz=141,slow=41	33.05	326	LR	LR	14 55 55.9	
CHMT	**Chamberlain Mo**	33.30	342	*e*P	P	14 40 17.4	-2.0
A24A	**Westby** baz=33	33.36	354	⇑P	P	14 40 19.9	+0.1
SADO	**Sadowa** comp=Z,55nm,20.6s,baz=339,slow=41	33.42	26	LR	LR	14 55 51.2	
E12A	**Beaver Dam Sad** baz=34,SNR=5.9	33.61	339	⇑P	P	14 40 22.0	-0.1
C16A	**Fuhringer Ranc** baz=34	33.69	344	⇑P	P	14 40 23.2	+0.5
D13A	**Huson** baz=34,SNR=10.0	33.84	341	⇑P	P	14 40 23.7	-0.2
C15A	**Salmond Ranch,** baz=34	33.90	343	⇓P	P	14 40 24.6	0.0
B17A	**L&G Farms, Che** baz=34	33.91	346	⇓P	P	14 40 24.9	+0.4
SWMT	**Swartz Lake**	34.06	342	*e*P	P	14 40 21.8	-4.2
A19A	**Klindworth Far** baz=34	34.07	348	⇑P	P	14 40 26.2	+0.3
C13A	**Hot Springs** baz=34	34.39	341	⇑P	P	14 40 28.8	0.0
A17A	**Triple J Farms** baz=34	34.50	346	⇓P	P	14 40 29.9	+0.2
ULM	**Lac du Bonnet**	34.52	3	P	P	14 40 28.0	-1.7
ULM	**Lac du Bonnet** 11nm,1.0s,baz=191,slow=10,SNR=5.7	34.52	3	P	P	14 40 28.0	-1.7
B14A	**Marquette Ranc** baz=35	34.62	343	⇑P	P	14 40 31.0	+0.2
B13A	**Whitefish** baz=35,SNR=5.0	34.98	342	⇓P	P	14 40 34.0	+0.2
A15A	**Johnson Ranch,** baz=35	35.03	344	⇑P	P	14 40 34.6	+0.2
C11A	**Tepee Creek (N** baz=35	35.08	340	⇓P	P	14 40 35.0	+0.3
A14A	**Double T Ranch** baz=35	35.22	343	⇑P	P	14 40 36.4	+0.5
A12A	**Yaak River Ran** baz=36	35.84	341	⇓P	P	14 40 41.7	+0.5
LON	**Longmire** 4.0nm,1.0s	36.33	333	*e*P	P	14 40 43.6	-1.8
FFC	**Flin Flon** 10nm,1.0s	38.98	357	*e*P	P	14 41 05.6	-2.1
SCHQ	**Schefferville**	46.22	25	P	P	14 42 06.2	-0.3
SCHQ	**Schefferville** 5.7nm,0.9s,baz=228,slow=6.7,SNR=6.0	46.22	25	P	P	14 42 06.2	-0.3
YKA	**Yellowknife Ar**	48.00	350	P	P	14 42 20.2	-0.1
YKA	**Yellowknife Ar** 2.1nm,0.9s,baz=160,slow=7.3,SNR=11	48.00	350	P	P	14 42 20.2	-0.1
RKT	**Rikitea** 154nm,26.0s	52.31	223	*e*LR	LR	14 58 16.8	
RKT	**Rikitea** 7.5nm,0.3s	52.31	223	*e*T	T	15 39 32.8	
ILAR	**Eielson Array**	58.69	338	P	P	14 43 40.2	+1.3
ILAR	**Eielson Array** 3.6nm,1.0s,baz=142,slow=5.1,SNR=27	58.69	338	P	P	14 43 40.2	+1.3
TRF	**Thorofare Moun** 11nm,1.0s	59.28	336	*e*P	P	14 43 42.3	-0.9
PPT2	**Papeete2** 73nm,26.0s	59.92	238	*e*LR	LR	15 01 30.1	
TBI	**Tubuai** 7.9nm,0.2s	62.86	233	*e*T	T	15 52 35.8	
HHC	**Hu-ho-hao-te**	117.01	334	SS	SS	15 09 28.3	-15
HHC				AMB	AMB		
HHC	comp=Z,110nm,5.3s			LR	LR		
HHC	comp=N,160nm,20.7s			LR	LR		
HHC	comp=E,140nm,20.8s			LR	LR		
HHC	comp=Z,110nm,20.8s						
WMQ	**Urumqi**	120.43	354	PKP	PKPdf	14 52 34.8	+1.2
LZH	**Lanzhou**	124.15	338	*e*PKP	PKPdf	14 52 47.0	+5.9
KSH	**Kashi**	124.83	5	*e*PKP	PKPdf	14 52 42.8	+0.6
KSH				sPKP		14 53 17.6	
KSH				PP	PP	14 54 33.0	+4.6
KSH				SKS	SKSdf	14 59 41.9	-13
KSH				SKKS	SKKSac	15 01 15.9	-13
KSH				AMB	AMB		
KSH	comp=Z,180nm,8.3s			LR	LR		
KSH	comp=N,140nm,11.9s			LR	LR		
KSH	comp=E,110nm,7.6s			LR	LR		
KSH	comp=Z,120nm,7.4s			LR	LR		
CD2	**Chengdu**	128.76	335	*e*PKP	PKPdf	14 52 50.4	+0.5

MAN ***17*** *14:35:27.5˚45N×126˚37E,h107km,mb4.8,ML3.8,MS3.8*
ISCJB ***17*** *14:35:28.8±0.5,5˚45N±0˚04×126˚27E±0˚07,h104km±8km, mb3.8/6,Error ellipse: s-maj=11.7km s-min=6.3km az=163.1*
IDC ***17*** *14:35:30.6±2.1,5˚71N×126˚49E,h121km±16km,mb3.6/6, mb1 3.7/6,mb1mx3.4/24,mbtmp3.6/6,Error ellipse: s-maj=97.4km s-min=14.8km az=67.0*
DJA ***17*** *14:35:39.2±1.2,5˚N±8˚×12˚6E±˚,h100km±31km,M4.5/5, mb4.5/5,mB4.9/2,MLv4.5/5,Mw(mB)4.2/2*

ISC 17 14:35:30.1±0.9,5˚48N±0˚05×126˚31E±0˚07,h101km±11km, n23,σ1°56/28,mb3.9/6,2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	1.45	358	*e*P	**Pn**	**14 35 54.9**	**-1.0**
MATI				*e*S	**Sn**	**14 36 15.9**	**+0.5**
GSPH	**General Santos**	1.48	294	*e*P	Pn	14 35 52.7	-3.6
GSPH				*e*S	**Sn**	**14 36 13.0**	**-3.1**
DAV	**Davao City (W)** 59nm,0.3s,baz=239,slow=5.9,SNR=4.4	1.73	335	P	**Pn**	**14 35 58.9**	**-0.4**
DAV				S	**Sn**	**14 36 21.9**	**+0.3**
DMPH	**Davao City--Mi** 115nm,0.3s,baz=18,slow=17,SNR=4.1	1.78	333	⇑*e*P	**Pn**	**14 35 58.6**	**-1.3**
DMPH				*e*S	**Sn**	**14 36 21.1**	**-1.5**
KCP	**Kidapawan**	1.94	321	⇓*i*P	**Pn**	**14 36 03.2**	**+1.2**
KCP				*i*S	**Sn**	**14 36 29.7**	**+3.3**
CTBH	**Cotabato--PC H**	2.68	310	⇑*i*P	**Pn**	**14 36 10.5**	**-1.1**
BUKP	**Musuan**	2.68	333	*e*P	**Pn**	**14 36 11.8**	**+0.1**
BUTP	**Butuan**	3.53	349	*e*P	**Pn**	**14 36 24.5**	**+1.5**
PAGZ	**Pagadian**	3.74	309	*e*P	**Pn**	**14 36 25.3**	**-0.4**
IPIL	**Ipil**	4.36	302	*e*P	**Pn**	**14 36 34.8**	**+0.6**
TNTI	**Ternate**	4.80	167	P	**Pn**	**14 36 40.4**	**+0.3**
TNTI				S	**Sn**	**14 37 32.8**	**-1.8**
GTOI	**Gorontalo** 122nm,0.8s,1μm0.4nm	5.83	214	P	**Pn**	**14 36 54.8**	**+0.7**
GTOI				S	**Sn**	**14 37 57.5**	**-2.2**
LBMI	**Labuha** 42nm,0.9s,0.2nm	6.20	169	P	**Pn**	**14 36 59.3**	**+0.2**
MRSI	**Marisa** 142nm,0.7s,1μm0.5nm	6.61	221	P	**Pn**	**14 37 06.3**	**+1.5**
LUWI	**Luwuk** 55nm,1.4s,0.2nm	7.38	209	P	Pn	14 37 19.6	+4.4
LUWI				S	Sn	14 38 45.6	+8.2
SWI	**Sorong**	8.01	142	S	**Sn**	**14 38 52.9**	**+0.1**
SBUM	**Sibu**	14.37	258	P	**P**	**14 38 55.2**	**+2.3**
FITZ	**Fitzroy Crossi** 0.8nm,0.3s,baz=8,slow=11,SNR=11	23.45	182	P	**P**	**14 40 31.1**	**+0.6**
WRA	**Warramunga Arr** 0.7nm,0.6s,baz=344,slow=9.9,SNR=18	26.47	163	P	**P**	**14 40 57.9**	**-0.1**
ASAR	**Alice Springs** 1.5nm,0.6s,baz=347,slow=7.2,SNR=39	29.91	166	P	**P**	**14 41 28.9**	**+0.3**
STKA	**Stephens Creek** 5.4nm,0.7s,baz=331,slow=9.8,SNR=11	39.91	160	P	**P**	**14 42 54.4**	**+0.1**
MKAR	**Makanchi Array** 0.8nm,0.5s,baz=128,slow=7.7,SNR=6.3	55.89	325	P	**P**	**14 44 55.2**	**-2.2**
KURBB	**Kurchatov Arra** 0.5nm,0.5s,baz=129,slow=7.3,SNR=4.0	60.05	327	P	**P**	**14 45 23.9**	**-2.3**

BJI ***17*** *14:35:40.3,31˚38N×103˚90E,h25km,mB4.9/12,mb4.9/27, ML4.6/14,Ms4.4/38,Ms7 4.1/34*
NEIC ***17*** *14:35:40.9±0.2,31˚39N×104˚14E,h10km,mb4.9/30,Error ellipse: s-maj=5.0km s-min=4.5km az=49.0*
NEIC Felt [V] at Deyang and [III] at Chengdu. Also felt at Jiangyou and Mianyang.
ISCJB ***17*** *14:35:40.6±0.8,31˚33N±0˚02×104˚09E±0˚03,h22km±6km, mb4.8/79,MS4.0/22,Error ellipse: s-maj=4.3km s-min=4.2km az=23.9*
MOS ***17*** *14:35:42.4±0.9,31˚33N×104˚07E,h33km,mb5.0/30,Error ellipse: s-maj=8.6km s-min=5.5km az=97.3*
IDC ***17*** *14:35:42.6±3.8,31˚34N×104˚02E,h19km±23km,mb4.5/27, mb1 4.6/29,mb1mx4.5/35,mbtmp4.5/29,ML3.8/2,MS3.8/11, Ms1 3.8/11,ms1mx3.4/40,Error ellipse: s-maj=14.2km s-min=9.4km az=57.0*
BKK ***17*** *14:35:44.2±0.4,32˚N±4˚×10˚4E±˚,h10km,M4.7/16, mB5.0/4,mb4.8/16,Mw(mB)4.4/4*
DJA ***17*** *14:35:45.0±2.0,31˚N±4˚×10˚4E±˚,h38km±17km,M4.9/11, mB5.8/1,mb4.9/11,Mw(mB)5.4/1*

ISC 17 14:35:42.3±0.5,31˚36N±0˚03×104˚11E±0˚04,h17km±2km, n214,σ1°45/251,mb4.8/79,MS3.9/22,13C-2D,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	0.54	214	Pg	**Pg**	**14 35 51.3**	**-1.8**
CD2				Sg	**Sg**	**14 35 59.5**	**-0.8**
CD2	comp=N,31μm,0.7s			smax	smax		
CD2	comp=E,29μm,0.5s			smax	smax		
LZH	**Lanzhou**	4.72	357	Pn	**Pn**	**14 36 55.4**	**+2.5**
LZH				Pg	**Pg**	**14 37 10.5**	**-2.2**
LZH				Sg	**Sg**	**14 38 12.8**	**-1.1**
LZH	comp=N,740nm,1.0s			smax	smax		
LZH	comp=E,1μm,1.2s			smax	smax		
LZH	comp=N,4μm,7.0s			LR	LR		
LZH	comp=E,4μm,6.3s			LR	LR		
LZH	comp=Z,5μm,7.8s			LR	LR		
ENH	**Enshi**	4.75	102	*e*Pn	**Pn**	**14 36 52.7**	**-0.5**
GYA	**Guiyang**	5.37	155	Pn	Pn	14 37 05.4	+3.7
GYA				Sn	**Sn**	**14 38 08.6**	**+5.4**
GYA				Sg	Sb	14 38 27.1	+7.2
GYA	comp=N,2μm,1.1s			smax	smax		
GYA	comp=E,2μm,1.2s			smax	smax		
GYA	comp=N,1μm,10.3s			LR	LR		
GYA	comp=E,1μm,11.0s			LR	LR		
GYA	comp=Z,2μm,10.2s			LR	LR		
KMI	**Kunming**	6.33	191	Pn	**Pn**	**14 37 15.9**	**+0.9**
KMI				Sn	**Sn**	**14 38 27.0**	**0.0**
KMI	comp=N,140nm,0.8s			smax	smax		
KMI	comp=E,160nm,0.8s			smax	smax		
KMI	comp=N,1μm,11.5s			LR	LR		
KMI	comp=E,2μm,11.1s			LR	LR		
KMI	comp=Z,2μm,10.2s			LR	LR		
GTA	**Gaotai**	8.77	338	*e*P	**Pn**	**14 37 50.3**	**+1.9**
GTA				pP		14 37 54.3	
GTA				sP		14 37 55.6	
GTA				sS	Sn	14 39 36.0	+9.2
GTA	comp=Z,83nm,5.5s			pmax	pmax		
GTA	comp=N,2μm,11.9s			LR	LR		
GTA	comp=E,2μm,12.6s			LR	LR		
GTA	comp=Z,2μm,11.4s			LR	LR		
WHN	**Wuhan**	8.83	93	⇑P	**Pn**	**14 37 51.8**	**+2.7**
WHN				S	**Sn**	**14 39 26.1**	**-2.1**
WHN	comp=N,2μm,5.4s			LR	LR		
WHN	comp=E,6μm,7.8s			LR	LR		
WHN	comp=Z,6μm,8.2s			LR	LR		
HHC	**Hu-ho-hao-te**	11.22	30	*e*P	**Pn**	**14 38 21.3**	**-0.7**
HHC				PP	**PnPn**	**14 38 30.0**	**+0.2**
HHC				S	**Sn**	**14 40 26.9**	**-0.1**
HHC				SS	**SnSn**	**14 40 40.3**	**+1.2**
HHC				PcS	**PcS**	**14 47 50.8**	**-0.2**
HHC				ScS	**ScS**	**14 51 22.5**	**-2.0**

HHC pmax pmax
comp=Z,17nm,1.1s
HHC pmax pmax
comp=Z,250nm,5.2s
HHC LR LR
comp=N,2µm,6.9s
HHC LR LR
comp=E,1µm,7.5s
HHC LR LR
comp=Z,1µm,7.9s
LSA Lhasa 11.30 265 P **Pn** **14 38 24.5 +1.1**
LSA Lhasa 11.30 265 *e*P **Pn** **14 38 22.5 -0.9**
LSA pmax pmax
comp=Z,11nm,0.6s
LSA Lhasa 11.30 265 *e*Pn **Pn** **14 38 22.5 -0.9**
comp=Z,11nm,0.6s
TIA Tai'an 11.86 62 *e*P **Pn** **14 38 32.1 +1.5**
TIA S Sn 14 40 52.8 +10
TIA LR LR
comp=N,730nm,10.7s
TIA LR LR
comp=E,1µm,10.1s
TIA LR LR
comp=Z,590nm,11.3s
SHL Shillong 12.20 245 *e*P **Pn** **14 38 36.0 +0.5**
CMAI Chiengmai2 12.26 203 P **Pn** **14 38 38.2 +1.9**
comp=Z,25nm,1.2s
NJ2 Nanjing 12.57 83 *e*P **Pn** **14 38 39.4 -1.0**
NJ2 pmax pmax
comp=Z,10.0nm,1.2s
NJ2 LR LR
comp=N,3µm,7.6s
NJ2 LR LR
comp=E,3µm,8.4s
NJ2 LR LR
comp=Z,3µm,11.5s
BJI Beijing 13.07 45 P **Pn** **14 38 46.3 -0.8**
BJI pmax pmax
comp=Z,8.0nm,0.5s
BJI LR LR
comp=N,910nm,4.9s
BJI LR LR
comp=E,550nm,5.5s
QIZ Qiongzhong 13.32 156 P **Pn** **14 38 48.5 -2.2**
QIZ S **Sn** **14 41 17.4 -1.0**
QIZ LR LR
comp=N,800nm,11.6s
QIZ LR LR
comp=Z,1µm,12.7s
CHTO Chiang Mai 13.33 202 *e*P **Pn** **14 38 50.1 -0.7**
CHTO Chiang Mai 13.33 202 *e*Pn **Pn** **14 38 50.1 -0.7**
CHTO Chiang Mai 13.33 202 P **Pn** **14 38 49.9 -0.9**
comp=Z,21nm,0.8s
CHTO Chiang Mai 13.33 202 P Pn 14 38 54.8 +4.0
comp=Z,9.9nm,1.0s
CMMT Chiang Mai 13.33 202 P **Pn** **14 38 49.9 -0.9**
comp=Z,20nm,0.8s
CMMT Chiang Mai 13.33 202 P Pn 14 38 54.7 +3.9
comp=Z,19nm,0.8s
LAMP Lampang 13.41 199 P Pn 14 38 55.1 +3.3
comp=Z,13nm,0.7s,comp=Z,96nm
CMAR Chiang Mai Arr 13.67 201 Pn **Pn** **14 38 56.6 +1.2**
CMAR PcP **PcP** **14 44 19.9 -0.4**
CMAR Chiang Mai Arr 13.67 201 Pn **Pn** **14 38 56.6 +1.2**
comp=Z,0.2nm,0.3s,baz=9.6,slow=12,SNR=26
CMAR PcP **PcP** **14 44 19.9 -0.4**
comp=Z,0.3nm,0.3s,baz=304,slow=1.7,SNR=5.9
PANO Nakornpanom 14.15 178 P **Pn** **14 39 03.8 +1.8**
comp=Z,58nm,1.1s,comp=Z,2µm
PBKT Sadao Pong 15.00 192 P **Pn** **14 39 11.7 -1.8**
comp=Z,43nm,0.8s
PBKT Sadao Pong 15.00 192 P **P** **14 39 18.8 -0.1**
comp=Z,43nm,0.8s
ODAN Odare 15.29 257 *e*P **Pn** **14 39 14.0 -3.5**
comp=Z,30nm,0.7s
CHAI Chaiyaphum 15.51 188 P **P** **14 39 24.5 -0.1**
comp=Z,14nm,0.8s,comp=Z,259nm
RAMN Ramite 15.91 258 *e*P **Pn** **14 39 21.7 -4.0**
comp=Z,39nm,0.9s
JIRN Jiri 16.03 261 *e*P **Pn** **14 39 25.1 -2.2**
comp=Z,38nm,0.7s
GUN Gumba 16.22 262 *e*P **Pn** **14 39 26.8 -2.9**
comp=Z,87nm,0.8s
SONM Songino Array 16.55 5 Pn **Pn** **14 39 34.0 +0.4**
SONM Lg Lg 14 44 30.1
SONM Songino Array 16.55 5 Pn **Pn** **14 39 34.0 +0.4**
comp=Z,0.2nm,0.3s,baz=188,slow=14,SNR=37
SONM Lg Lg 14 44 30.1
comp=Z,0.1nm,0.3s,baz=177,slow=30,SNR=2.7
SONM LR LR 14 46 34.3
comp=Z,241nm,19.4s,baz=43,slow=39
ULN Ulaanbaatar 16.64 7 *e*Pn **Pn** **14 39 33.3 -1.5**
comp=Z,10nm,0.9s
ULN *e*ScP **ScP** **14 47 57.4 -0.7**
ULN Ulaanbaatar 16.64 7 P **Pn** **14 39 34.1 -0.7**
comp=Z,13nm,1.0s
SSLB Suanglung 16.72 113 *e*Pn **Pn** **14 39 34.0 -1.8**
comp=Z,48nm,0.9s
PKI Pulchoki 16.72 262 *e*P **Pn** **14 39 32.5 -3.6**
comp=Z,72nm,0.9s
PKIN Phulchoki 16.73 262 *e*P **Pn** **14 39 32.7 -3.4**
comp=Z,47nm,0.8s
KKN Kakani 16.76 263 *e*P **Pn** **14 39 33.2 -3.3**
comp=Z,77nm,0.8s
DMN Daman 16.96 262 *e*P **Pn** **14 39 35.8 -3.3**
comp=Z,113nm,0.9s
NAYO Nakonayok 17.16 189 P P 14 39 48.4 +5.6
comp=Z,157nm,1.0s
DANN Dangsing 17.91 266 *e*P **Pn** **14 39 46.9 -3.9**
comp=Z,31nm,0.6s
WMQ Urumqi 17.96 318 P **P** **14 39 52.1 +0.4**
WMQ pP **pP** **14 39 55.4 -1.1**
WMQ sP **sP** **14 39 58.6 -0.2**
WMQ PP **PnPn** **14 40 06.9 +4.8**
WMQ S **Sn** **14 43 09.1 -2.0**
WMQ sS **S** **14 43 14.8 -2.4**
WMQ PcP **PcP** **14 44 28.9 +2.6**
WMQ ScP **ScP** **14 48 02.5 +1.7**
WMQ PcS **PcS** **14 48 04.1 +1.4**
WMQ ScS **ScS** **14 51 41.4 +0.2**
WMQ pmax pmax
comp=Z,21nm,1.5s
WMQ pmax pmax
comp=Z,120nm,4.0s
WMQ LR LR
comp=N,1µm,9.2s
WMQ LR LR
comp=E,960nm,10.6s
WMQ LR LR
comp=Z,310nm,12.0s
KOLN Koldanda 18.20 264 *e*P **Pn** **14 39 49.7 -4.6**
comp=Z,31nm,0.7s
SNY Shenyang 18.76 51 ||P Pn 14 40 09.1 +8.2
SNY S S 14 43 46.8 +14
SNY pmax pmax
comp=Z,20nm,0.8s
SNY pmax pmax
comp=Z,110nm,3.5s
SNY LR LR
comp=N,150nm,6.0s
SNY LR LR
comp=E,330nm,15.3s
SNY LR LR
comp=Z,380nm,15.1s
ZAK Zakamensk 19.02 358 *e*P **Pn** **14 40 04.7 +0.7**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
INCN Inchon 19.54 66 *e*P **P** **14 40 08.3 -0.7**
comp=Z,31nm,0.8s
TLY Talaya 20.31 359 *e*P Pn 14 40 27.9 +8.6
TLY pmax pmax
comp=Z,13nm,0.9s
TLY MLR MLR
comp=Z,312nm,11.0s
MOY Mondy 20.42 354 *e*P Pn 14 40 20.8 0.0
MOY pmax pmax
comp=Z,32nm,1.7s
KSAR Wonju Array Be 20.51 66 P Pn 14 40 21.3 -0.4
KSRS Korea Array 20.54 66 P Pn 14 40 21.3 -0.8
comp=Z,27nm,0.8s,baz=260,slow=10,SNR=81
KSRS LR LR 14 48 05.1
comp=Z,65nm,19.9s,baz=104,slow=36
IRK Irkutsk 20.87 0 *e*P Pn 14 40 24.7 -1.2
IRK pmax pmax
comp=Z,74nm,0.9s
CN2 Changchun 20.91 48 *e*P Pn 14 40 26.1 -0.3
CN2 *e*pP pP 14 40 29.8 +1.1
CN2 PP **PnPn** **14 40 47.8 +5.3**
CN2 *e*S **S** **14 44 12.5 -3.8**
CN2 pmax pmax
comp=Z,300nm,0.7s
CN2 pmax pmax
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,300nm,16.0s
CN2 LR LR
comp=E,200nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
HVS Khovu-Aksy 21.21 342*c* *i*P **P** **14 40 28.4 +1.3**
HVS pmax pmax
comp=Z,175nm,0.8s
HVS MLR MLR
comp=Z,2µm,14.0s
HIA Hailar 21.42 29 *e*P **P** **14 40 27.7 -1.6**
comp=Z,18nm,0.6s
JNU Nakatsue 22.69 78 *e*P **P** **14 40 40.2 -2.9**
comp=Z,7.1nm,0.9s
JNU Nakatsue 22.69 78 P **P** **14 40 44.4 +1.3**
comp=Z,8.5nm,0.8s,baz=302,slow=6.4,SNR=7.3
JNU LR LR 14 50 37.5
comp=Z,444nm,18.4s,baz=78,slow=39
MKAR Makanchi Array 22.79 319 P **P** **14 40 44.0 0.0**
MKAR 14 44 34.9
MKAR Makanchi Array 22.79 319 P **P** **14 40 44.0 0.0**
MKAR PcP **PcP** **14 44 34.9 -0.2**
MKAR ScP **ScP** **14 48 12.1 0.0**
MKAR Makanchi Array 22.79 319 P **P** **14 40 44.0 0.0**
comp=Z,16nm,1.0s,baz=122,slow=10,SNR=34
MKAR PcP **PcP** **14 44 34.9 -0.2**
comp=Z,0.9nm,0.7s,baz=129,slow=2.0,SNR=3.5
MKAR ScP **ScP** **14 48 12.1 0.0**
comp=Z,1.0nm,0.8s,baz=116,slow=5.0,SNR=5.7
MKAR LR LR 14 50 28.8
comp=Z,298nm,19.7s,baz=117,slow=39
MDJ Mudanjiang 23.94 49 P **P** **14 40 56.4 +1.0**
MDJ pP **pP** **14 40 59.3 -1.3**
MDJ PcP **PcP** **14 44 38.3 +0.8**
MDJ S **S** **14 45 10.5 -0.6**
MDJ ScP **ScP** **14 48 16.6 +1.4**
MDJ ScS **ScS** **14 52 03.9 +1.9**
MDJ pmax pmax
comp=Z,71nm,0.8s
MDJ pmax pmax
comp=Z,110nm,4.1s
MDJ LR LR
comp=N,140nm,11.5s
MDJ LR LR
comp=E,180nm,11.8s
MDJ LR LR
comp=Z,250nm,12.9s
MDJ Mudanjiang 23.94 49 *e*P **P** **14 40 55.0 -0.4**
comp=Z,81nm,1.0s
KSH Kashi 24.26 297 *e*P **P** **14 41 02.8 +4.2**
KSH sP **sP** **14 41 10.3 +4.3**
KSH PP PnPn 14 41 36.9 +8.5
KSH sS **sS** **14 45 25.4 +0.2**
KSH PcS **PcS** **14 48 20.8 +2.4**
KSH pmax pmax
comp=Z,10.0nm,1.1s
KSH pmax pmax
comp=Z,60nm,2.8s
KSH LR LR
comp=N,290nm,8.6s
KSH LR LR
comp=E,290nm,10.7s
KSH LR LR
comp=Z,410nm,15.4s
VLA Vladivostok 24.92 54 *i*P **P** **14 41 05.5 +1.1**
VLA pmax pmax
comp=Z,64nm,0.8s
USRK Ussuriysk Arra 25.36 52 P **P** **14 41 09.5 +1.1**
comp=Z,25nm,0.8s,baz=253,slow=9.1,SNR=19
AAK Ala-Archa 26.07 304 P **P** **14 41 15.6 +0.6**
AAK Ala-Archa 26.07 304 P **P** **14 41 15.6 +0.6**
AAK Ala-Archa 26.07 304 P **P** **14 41 15.6 +0.6**
comp=Z,2.2nm,0.3s,baz=141,slow=6.5,SNR=3.0
AAK LR LR 14 53 33.7
comp=Z,339nm,18.8s,baz=62,slow=41
ZALV Zalesovo Beam 26.50 334 *i*P **P** **14 41 18.7 +0.2**
ZALV pmax pmax
comp=Z,17nm,0.7s
ZALV Zalesovo Beam 26.50 334 P **P** **14 41 18.8 +0.2**
ZALV Zalesovo Beam 26.50 334 P **P** **14 41 18.8 +0.2**
comp=Z,17nm,0.7s,baz=134,slow=8.5,SNR=67
ZALV LR LR 14 52 45.9
comp=Z,206nm,19.9s,baz=339,slow=39
KURBB Kurchatov Arra 27.04 323 P **P** **14 41 23.5 0.0**
comp=Z,12nm,0.9s,baz=130,slow=9.2,SNR=76
KURBB PcP **PcP** **14 44 44.0 -0.4**
comp=Z,1.8nm,0.6s,baz=120,slow=2.3,SNR=8.2
KURK Kurchatov 27.05 323 P **P** **14 41 23.5 -0.1**
KURK 14 44 44.0
KURK Kurchatov 27.05 323 P **P** **14 41 23.5 -0.1**
KURK PcP **PcP** **14 44 44.0 -0.4**
KLR Kul'dur 27.39 41 *e*P **P** **14 41 24.0 -2.7**
KLR MLR MLR
comp=N,500nm,12.5s
KLR MLR MLR
comp=Z,900nm,12.5s
NVS Novosibirsk 27.78 334 *e*P **P** **14 41 34.4 +4.4**
NVS pmax pmax
comp=N,14nm,2.5s
NVS pmax pmax
comp=Z,19nm,2.5s
NVS pmax pmax
comp=E,9.0nm,2.2s
MAT Matsushiro 28.66 70 P **P** **14 41 38.0 -0.1**
MAT S **S** **14 46 26.4 +0.2**
MJAR Matsushiro Arr 28.66 70 P **P** **14 41 38.8 +0.6**
MJAR PcP **PcP** **14 44 48.9 +0.2**
MJAR Matsushiro Arr 28.66 70 P **P** **14 41 38.8 +0.6**
comp=E,3.1nm,0.7s,baz=272,slow=11,SNR=15
MJAR PcP **PcP** **14 44 48.9 +0.2**
comp=E,1.6nm,1.0s,baz=255,slow=4.4,SNR=4.1
MJAR LR LR 14 53 35.4
comp=E,143nm,18.9s,baz=185,slow=37
PSI Prapat 28.82 191 P **P** **14 41 40.2 +0.4**
PSI Prapat 28.82 191 P **P** **14 41 40.2 +0.4**
comp=E,9.1nm,0.5s,baz=316,slow=10,SNR=10
HABR Khabarovsk 28.98 45 *e*P **P** **14 41 39.9 -0.9**
HABR *e*PPP PPP 14 42 39.8
HABR *e* 14 44 48.0
HABR *e*S **S** **14 46 31.6 +0.7**
HABR *e*SS **SnSn** **14 47 55.9 +1.8**
HABR *e* 14 52 23.4
HABR pmax pmax
comp=E,50nm,2.3s
HABR pmax pmax
comp=N,25nm,2.3s
HABR pmax pmax
comp=Z,61nm,2.3s
HABR MLR MLR
comp=Z,132nm,15.0s
KKAR Karatay Array 29.02 303 *e*P **P** **14 41 40.2 -1.1**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 29.02 303 *e*P **P** **14 41 40.2 -1.1**
comp=Z,2.5nm,0.8s
MYLDM Lahad Datu 29.34 150 P **P** **14 41 43.9 -0.4**
comp=Z,46nm,1.4s
SBUM Sibu 29.75 164 P **P** **14 41 48.1 +0.1**
comp=Z,23nm,1.0s
KSM Kuching 30.30 168 *e*P **P** **14 41 53.3 +0.6**
comp=Z,14nm,0.8s
BRVK Borovoye 32.67 322*c* *i*P **P** **14 42 13.3 0.0**
BRVK pmax pmax
comp=Z,5.0nm,0.7s
BRVK MLR MLR
comp=Z,253nm,19.0s
BRVK Borovoye 32.67 322 *e*P **P** **14 42 13.7 +0.3**
comp=Z,4.8nm,0.7s
ASAJ Asahikawa 32.70 56 P **P** **14 42 14.6 +0.9**
ASAJ Asahikawa 32.70 56 P **P** **14 42 14.6 +0.9**
comp=Z,8.4nm,0.8s,baz=287,slow=12,SNR=4.8
ERM Erimo 32.81 60 *i*P **P** **14 42 15.2 +0.5**
YSS Yuzh-Sakhalins 33.39 51 *e*P **P** **14 42 21.0 +1.3**
YSS pmax pmax
comp=Z,40nm,1.1s
YAK Yakutsk 34.87 21 *e*P **P** **14 42 31.7 -0.6**
YAK pmax pmax
comp=Z,15nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK MLR MLR
comp=E,82nm,11.0s
YAK MLR MLR
comp=N,49nm,10.0s
YAK MLR MLR
comp=Z,106nm,11.0s
ABKAR Akbulak array 37.51 311 *e*P **P** **14 42 55.1 0.0**
KAPI Kappang 39.13 155 *e*P **P** **14 43 08.8 -0.2**
comp=Z,20nm,0.9s
KAPI Kappang 39.13 155 P **P** **14 43 06.9 -2.1**
comp=Z,24nm,1.1s
KAPI Kappang 39.13 155 P **P** **14 43 08.1 -0.8**
comp=Z,10nm,0.5s,baz=343,slow=11,SNR=7.3
SVE Sverdlovsk 39.30 323||*e*P **P** **14 43 10.6 +0.6**
SVE pmax pmax
comp=Z,21nm,1.1s
ARU Arti 40.24 322*c* *i*P **P** **14 43 18.0 +0.2**
ARU 14 44 50.0
ARU 14 45 21.6
ARU S **S** **14 49 26.9 +2.9**
ARU SS SS 14 52 13.6 -8.6
ARU pmax pmax
comp=Z,16nm,1.0s
SOKR Solikamsk 42.19 326*c* *i*P **P** **14 43 34.5 +0.7**
SOKR pmax pmax
comp=Z,30nm,1.1s
PETK Petropavlovsk- 44.00 44 P **P** **14 43 49.0 +0.4**
PETK Petropavlovsk- 44.00 44 P **P** **14 43 49.0 +0.4**
PETK Petropavlovsk- 44.00 44 P **P** **14 43 49.0 +0.4**
comp=Z,5.9nm,0.8s,baz=229,slow=5.7,SNR=16
PETK LR LR 15 04 11.3
comp=Z,77nm,18.4s,baz=62,slow=39
MIB Mutribah 48.43 284 *e*P **P** **14 44 22.7 -1.1**
MIB AMb AMB 14 44 24.1
comp=Z,35nm,0.7s
RDF Al-Radifah 48.52 282 *e*P **P** **14 44 24.0 -0.4**
RDF AMb AMB 14 44 29.1
comp=Z,25nm,0.8s
NAY Al-Naaiem 48.67 283 *e*P **P** **14 44 24.6 -1.1**
NAY AMb AMB 14 44 25.9
comp=Z,28nm,0.7s
KIV Kislovodsk 49.18 303||*e*P **P** **14 44 30.4 +0.9**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,100nm,16.0s
BILL Bilibino 50.94 25*c* *i*P **P** **14 44 42.5 +0.1**
BILL *e*SS **SS** **14 55 33.1 +0.6**
BILL pmax pmax
comp=Z,14nm,1.0s
TMCR Tamitsa 51.87 329 *e*P **P** **14 44 49.7 +0.4**
TMCR *e* 14 46 02.8
TMCR pmax pmax
comp=Z,73nm,0.4s
OBN Obninsk 52.30 318 *i*P **P** **14 44 52.5 -0.1**
OBN *e*SS **SS** **14 55 57.8 +3.6**
OBN pmax pmax
comp=Z,13nm,1.1s
OBN MLR MLR
comp=Z,100nm,16.0s
FITZ Fitzroy Crossi 53.34 154 *e*P **P** **14 45 00.1 -0.6**
comp=Z,12nm,0.9s
FITZ Fitzroy Crossi 53.34 154 P **P** **14 45 00.7 0.0**
comp=Z,11nm,0.9s,baz=355,slow=8.1,SNR=15
KEV Kevo 56.50 336 *e*p **P** **14 45 22.3 -0.7**
comp=Z,11nm,0.6s
KEV Kevo 56.50 336 *e*P **P** **14 45 22.3 -0.7**
KEV pmax pmax
comp=Z,11nm,0.6s
BRTR Keskin Array B 56.62 299 P **P** **14 45 24.3 -0.3**
BRTR Keskin Array B 56.62 299 P **P** **14 45 24.3 -0.3**
comp=Z,1.0nm,0.7s,baz=89,slow=6.5,SNR=5.7
ARCES ARCESS Array B 57.03 336 P **P** **14 45 26.9 +0.1**
ARCES PcP **PcP** **14 46 21.5 -0.2**
ARCES ARCESS Array B 57.03 336 P **P** **14 45 26.9 +0.1**
comp=Z,5.1nm,0.6s,baz=76,slow=7.5,SNR=23
ARCES PcP **PcP** **14 46 21.5 -0.2**
comp=Z,2.4nm,0.6s,baz=73,slow=4.2,SNR=7.3
KAF Kangasniemi 57.18 327 *e*p **P** **14 45 27.0 -0.9**
comp=Z,4.6nm,0.7s
KAF Kangasniemi 57.18 327 *e*P **P** **14 45 27.0 -0.9**
KAF pmax pmax
comp=Z,5.0nm,0.7s
FINES FINESS Array B 57.36 326 P **P** **14 45 29.0 -0.2**
FINES FINESS Array B 57.36 326 P **P** **14 45 29.0 -0.2**
comp=Z,9.0nm,0.8s,baz=85,slow=8.0,SNR=23
VSU Vasula 57.40 322 *i*P **P** **14 45 29.4 -0.1**
VSU pmax pmax
comp=Z,30nm,0.9s
PMG Port Moresby 57.80 127 P **P** **14 45 33.3 +0.3**
PMG Port Moresby 57.80 127 P **P** **14 45 33.3 +0.3**
comp=Z,24nm,0.8s,baz=68,slow=4.3,SNR=4.5
WRAB Tennant Creek 58.68 146 *e*P **P** **14 45 38.0 -0.9**
WRAB pmax pmax
comp=Z,79nm,0.9s
WRAB Tennant Creek 58.68 146 *e*P **P** **14 45 38.0 -0.9**
comp=Z,78nm,0.9s
WRA Warramunga Arr 58.68 146 P **P** **14 45 39.2 +0.3**
WRA Warramunga Arr 58.68 146 P **P** **14 45 39.2 +0.3**
comp=Z,36nm,0.5s,baz=339,slow=7.9,SNR=351
ASAR Alice Springs 61.70 149 P **P** **14 46 00.0 +0.4**
ASAR PcP **PcP** **14 46 41.0 +0.1**
ASAR Alice Springs 61.70 149 P **P** **14 46 00.0 +0.4**
comp=Z,4.9nm,0.6s,baz=340,slow=6.5,SNR=50
ASAR PcP **PcP** **14 46 41.0 +0.1**
comp=Z,3.1nm,0.8s,baz=332,slow=4.5,SNR=6.2
KOLS Kolonicke sedl 62.01 312 *e*P P 14 45 57.3 -4.2
KOLS Kolonicke sedl 62.01 312 *e*P P 14 45 57.3 -4.2
VYHS Vyhne 64.31 313 *e*P **P** **14 46 15.6 -1.2**
VYHS pmax pmax
comp=Z,4.0nm,1.4s
VYHS Vyhne 64.31 313 *e*P **P** **14 46 15.6 -1.2**
NB2 NORSAR Subarra 64.45 327 P **P** **14 46 16.0 -1.5**
comp=Z,3.3nm,0.6s,baz=73,slow=6.9
NOA NORSAR Array B 64.45 327 P **P** **14 46 16.5 -0.9**
NOA NORSAR Array B 64.45 327 P **P** **14 46 16.5 -0.9**
comp=Z,3.6nm,0.7s,baz=73,slow=6.7,SNR=21
NOA LR LR 15 17 53.6
comp=Z,33nm,18.3s,baz=90,slow=39
CTA Charters Tower 65.20 136 P **P** **14 46 23.6 +0.7**
CTA Charters Tower 65.20 136 P **P** **14 46 23.6 +0.7**
comp=Z,3.7nm,0.5s,baz=309,slow=7.3,SNR=8.3
BRG Berggiesshubel 66.48 316 *e*P **P** **14 46 30.6 -0.2**
comp=Z,3.6nm,0.7s
BRG *e* 14 46 42.2
comp=Z,4.7nm,0.8s
BRG
comp=N,120nm,10.9s
BRG
comp=E,85nm,14.4s
BRG
comp=Z,212nm,12.4s
BRG Berggiesshubel 66.48 316 *e*P **P** **14 46 30.5 -0.2**
comp=Z,4.0nm,0.6s
BRG Berggiesshubel 66.48 316 *e*P **P** **14 46 30.6 -0.2**
BRG *e* 14 46 42.2
BRG pmax pmax
comp=Z,5.0nm,0.7s
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG MLR MLR
comp=N,5µm,10.9s
BRG MLR MLR
comp=E,120nm,14.4s
BRG MLR MLR
comp=Z,85nm,12.4s
COLD Coldfoot 67.24 24 *e*P **P** **14 46 34.4 -0.9**
comp=Z,16nm,0.9s
GERES GERESS Array B 67.37 314 P **P** **14 46 35.6 -1.0**
GERES GERESS Array B 67.37 314 P **P** **14 46 35.6 -1.0**
comp=Z,0.6nm,0.3s,baz=75,slow=5.7,SNR=7.2
GERES LR LR 15 17 40.2
comp=Z,100nm,19.4s,baz=279,slow=37
GUNZ Gunzen 67.62 316 *e*P **P** **14 46 37.8 -0.3**
comp=Z,6.0nm,0.8s
ROTZ Rotzenmuhle 67.93 316 *e*P **P** **14 46 40.3 +0.3**
comp=Z,4.0nm,0.7s
PPLA Purkeypile 68.44 29 *e*P **P** **14 46 41.8 -1.3**
comp=Z,16nm,0.9s
TRF Thorofare Moun 68.95 28 *e*P **P** **14 46 45.4 -1.0**
comp=Z,3.9nm,0.8s
COLA College 69.20 26 *e*P **P** **14 46 45.3 -2.3**

COLA					pmax	pmax			
	comp=Z,99nm,0.8s								
COLA	**College**	**69.20**	**26**	*eP*	**P**		**14 46 45.3**	**-2.3**	
	comp=Z,99nm,0.8s								
RSO	**Redoubt South**	**69.30**	**31**	*eP*	**P**		**14 46 47.9**	**-0.7**	
	comp=Z,35nm,0.9s								
MCK	**McKinley**	**69.34**	**27**	*eP*	**P**		**14 46 47.1**	**-1.5**	
MCK					pmax	pmax			
	comp=Z,8.0nm,0.8s								
MCK	**McKinley**	**69.34**	**27**	*eP*	**P**		**14 46 47.1**	**-1.5**	
	comp=Z,8.2nm,0.8s								
ILAR	**Eielson Array**	**69.61**	**26**	P	**P**		**14 46 49.6**	**-0.6**	
ILAR	**Eielson Array**	**69.61**	**26**	P	**P**		**14 46 49.6**	**-0.6**	
	comp=Z,2.9nm,0.8s,baz=284,slow=5.2,SNR=25								
PMR	**Palmer**	**70.32**	**29**	*eP*	**P**		**14 46 52.3**	**-2.2**	
PMR					pmax	pmax			
	comp=Z,19nm,0.9s								
PMR	**Palmer**	**70.32**	**29**	*eP*	**P**		**14 46 52.3**	**-2.2**	
	comp=Z,19nm,0.9s								
SML	**Sawmill**	**70.54**	**29**	*eP*	**P**		**14 46 54.6**	**-1.4**	
SML					pmax	pmax			
	comp=Z,7.0nm,0.9s								
SML	**Sawmill**	**70.54**	**29**	*eP*	**P**		**14 46 54.6**	**-1.4**	
	comp=Z,6.9nm,0.9s								
OHAK	**Old Harbor**	**70.55**	**34**	*eP*	**P**		**14 46 55.1**	**-0.9**	
	comp=Z,18nm,0.9s								
CDF	**Champ du Feu**	**71.44**	**316**	*eP*	**P**		**14 47 01.2**	**-0.5**	
CDF	**Champ du Feu**	**71.44**	**316**	*eP*	**P**		**14 47 01.2**	**-0.5**	
CDF	**Champ du Feu**	**71.44**	**316**	*eP*	**P**		**14 47 01.2**	**-0.5**	
EGAK	**Eagle**	**71.67**	**24**	*eP*	**P**		**14 47 00.4**	**-2.3**	
	comp=Z,3.6nm,0.9s								
MENT	**Mentasta**	**71.77**	**26**	*eP*	**P**		**14 47 03.7**	**+0.3**	
STKA	**Stephens Creek**	**72.22**	**147**	P	**P**		**14 47 06.6**	**+0.3**	
STKA	**Stephens Creek**	**72.22**	**147**	P	**P**		**14 47 06.6**	**+0.3**	
	comp=Z,6.3nm,0.7s,baz=322,slow=5.9,SNR=14								
BAIF	**Baives**	**72.48**	**318**	*eP*	**P**		**14 47 07.7**	**-0.1**	
	comp=Z,9.6nm,0.7s								
BAIF	**Baives**	**72.48**	**318**	*eP*	**P**		**14 47 07.7**	**-0.1**	
BAIF					pmax	pmax			
	comp=Z,10.0nm,0.7s								
BAIF	**Baives**	**72.48**	**318**	*eP*	**P**		**14 47 07.7**	**-0.1**	
	comp=Z,9.6nm,0.7s								
BMRM	**Bremner River**	**72.51**	**28**	*eP*	**P**		**14 47 07.6**	**-0.3**	
	comp=Z,29nm,1.1s								
CABF	**La Chapelle**	**72.97**	**314**	*eP*	**P**		**14 47 10.5**	**-0.5**	
CABF	**La Chapelle**	**72.97**	**314**	*eP*	**P**		**14 47 10.5**	**-0.5**	
CABF	**La Chapelle**	**72.97**	**314**	*eP*	**P**		**14 47 10.5**	**-0.5**	
PGF	**Pioggiola**	**72.99**	**310**	*eP*	**P**		**14 47 11.0**	**-0.1**	
	comp=Z,11nm,0.6s								
PGF	**Pioggiola**	**72.99**	**310**	*eP*	**P**		**14 47 11.0**	**-0.1**	
PGF					pmax	pmax			
	comp=Z,11nm,0.6s								
PGF	**Pioggiola**	**72.99**	**310**	*eP*	**P**		**14 47 11.0**	**-0.1**	
	comp=Z,11nm,0.6s								
LPG	**La Plagne**	**73.08**	**313**	⇑*iP*	**P**		**14 47 11.9**	**0.0**	
	comp=Z,21nm,0.8s								
LPG	**La Plagne**	**73.08**	**313**	⇑*iP*	**P**		**14 47 11.9**	**0.0**	
LPG					pmax	pmax			
	comp=Z,21nm,0.8s								
LPG	**La Plagne**	**73.08**	**313**	⇑*iP*	**P**		**14 47 11.9**	**0.0**	
	comp=Z,21nm,0.8s								
LPL	**La Plagne**	**73.08**	**313**	⇑*iP*	**P**		**14 47 11.8**	**0.0**	
	comp=Z,15nm,0.6s								
LPL	**La Plagne**	**73.08**	**313**	⇑*iP*	**P**		**14 47 11.8**	**0.0**	
LPL					pmax	pmax			
	comp=Z,15nm,0.6s								
LPL	**La Plagne**	**73.08**	**313**	⇑*iP*	**P**		**14 47 11.8**	**0.0**	
	comp=Z,15nm,0.6s								
SUMG	**Summit**	**73.19**	**349**	*i* P	**P**		**14 47 12.3**	**+0.1**	
SUMG					pmax	pmax			
	comp=Z,5.0nm,0.8s								
SUMG	**Summit**	**73.19**	**349**	*i* P	**P**		**14 47 12.3**	**+0.1**	
	comp=Z,4.9nm,0.8s								
ORIF	**Oris-en-Rattie**	**73.90**	**313**	*eP*	**P**		**14 47 16.1**	**-0.3**	
	comp=Z,15nm,1.0s								
ORIF				*eR*					
	comp=Z,158nm,18.2s								
ORIF	**Oris-en-Rattie**	**73.90**	**313**	*eP*	**P**		**14 47 16.1**	**-0.3**	
ORIF					pmax	pmax			
	comp=Z,15nm,1.0s								
ORIF	**Oris-en-Rattie**	**73.90**	**313**	*eP*	**P**		**14 47 16.1**	**-0.3**	
	comp=Z,15nm,1.0s								
AVF	**Avril sur Loir**	**74.54**	**316**	*eP*	**P**		**14 47 19.4**	**-0.6**	
	comp=Z,8.5nm,0.8s								
AVF	**Avril sur Loir**	**74.54**	**316**	*eP*	**P**		**14 47 19.4**	**-0.6**	
AVF					pmax	pmax			
	comp=Z,9.0nm,0.8s								
AVF	**Avril sur Loir**	**74.54**	**316**	*eP*	**P**		**14 47 19.4**	**-0.6**	
	comp=Z,8.5nm,0.8s								
VIVF	**Saint-Julien-l**	**74.68**	**313**	*eP*	**P**		**14 47 20.5**	**-0.4**	
VIVF	**Saint-Julien-l**	**74.68**	**313**	*eP*	**P**		**14 47 20.5**	**-0.4**	
VIVF	**Saint-Julien-l**	**74.68**	**313**	*eP*	**P**		**14 47 20.5**	**-0.4**	
TCF	**Toulx Ste Croi**	**75.48**	**315**	*eP*	**P**		**14 47 25.2**	**-0.3**	
TCF	**Toulx Ste Croi**	**75.48**	**315**	*eP*	**P**		**14 47 25.2**	**-0.3**	
TCF	**Toulx Ste Croi**	**75.48**	**315**	*eP*	**P**		**14 47 25.2**	**-0.3**	
SKAG	**Skagway**	**77.11**	**27**	*eP*	**P**		**14 47 34.2**	**-0.3**	
	comp=Z,11nm,0.9s								
DZM	**Mont Dzumac**	**79.92**	**123**	LR	LR		15 23 08.1		
	comp=Z,350nm,20.7s,baz=0.0,slow=36								
SFJD	**Kangerlussuaq**	**80.09**	**350**	P	**P**		**14 47 50.7**	**0.0**	
SFJD	**Kangerlussuaq**	**80.09**	**350**	P	**P**		**14 47 50.7**	**0.0**	
	comp=Z,7.6nm,0.5s,baz=68,slow=5.9,SNR=4.2								
YKA	**Yellowknife Ar**	**81.45**	**17**	P	**P**		**14 47 58.4**	**+0.3**	
YKA	**Yellowknife Ar**	**81.45**	**17**	P	**P**		**14 47 58.4**	**+0.3**	
	comp=Z,3.8nm,0.7s,baz=330,slow=5.1,SNR=19								
ESDC	**Sonseca Array**	**82.85**	**312**	P	**P**		**14 48 05.8**	**-0.2**	
ESDC	**Sonseca Array**	**82.85**	**312**	P	**P**		**14 48 05.7**	**-0.2**	
	comp=Z,0.2nm,0.3s,baz=51,slow=3.9,SNR=3.0								
FFC	**Flin Flon**	**91.37**	**15**	*eP*	**P**		**14 48 46.3**	**-0.7**	
	comp=Z,7.3nm,1.1s								
TORD	**Torodi Ar. Bea**	**93.56**	**288**	P	**P**		**14 48 57.5**	**-0.4**	
TORD	**Torodi Ar. Bea**	**93.56**	**288**	P	**P**		**14 48 57.5**	**-0.4**	
	comp=Z,1.2nm,0.8s,baz=43,slow=3.5,SNR=6.0								

DJA 17 14:45:07.3±0.6,3˚S±7˚×12˚2E±1˚0,h10km,M3.7/3, MLv3.7/3,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.95**	**23**	P	Pn	14 45 41.3	+0.9
TTSI	**Tana Toraja**	**2.19**	**265**	P	Pn	14 45 45.0	+1.2
SPSI	**Sidrap Palu**	**2.49**	**243**	P	Pn	14 45 49.3	+1.4
BKSI	**Bulukumba**	**3.10**	**217**	P	Pn	14 45 55.5	-0.8
BSSI	**Bau Bau, Buton**	**3.61**	**205**	P	Pn	14 46 05.6	+2.3

*ISCJB **17** 14:45:32.4±0.5, 15˚.73N×0˚.04×98˚.91W×0˚.03,h10km, mb4.5/48,MS3.7/11,Error ellipse: s-maj=6.3km s-min=4.5km az=7.8*

*MEX **17** 14:45:32.7±0.8, 15˚.57N×98˚.97W,h5km,MD4.3*

*IDC **17** 14:45:37.9±5.0, 16˚.30N×98˚.69W,h0km,mb4.3/10, mb1 4.4/13,mb1mx4.2/27,mbtmp4.2/13,ML3.8/3,MS3.7/11, Ms1 3.6/11,ms1mx3.4/36,Error ellipse: s-maj=90.3km s-min=24.5km az=2.0*

*NEIC **17** 14:45:38.1±1.1, 16˚.19N×98˚.85W,h10km,mb4.6/40, MD4.3(MEX),Error ellipse: s-maj=17.2km s-min=6.3km az=182.0*

*BJI **17** 14:45:44.1, 16˚.80N×98˚.70W,h10km,Ms7 4.7/2*

ISC 17 14:45:37.6±2.0,16˚.16N±0˚.07×98˚.80W±0˚.04,h6km±9km, n382,σ1§11/394,mb4.6/48,MS3.6/10,108C-144D,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.68**	**70**	*eP*	**Pb**	**14 45 52.6**	**+0.6**
PNIG				*i* S	**Sn**	**14 46 06.0**	**+1.1**
PNIG	**Pinotepa**	**0.68**	**70**	*eP*	**Pb**	**14 45 52.6**	**+0.6**
PNIG				*i* S	**Sn**	**14 46 06.0**	**+1.1**
ACX	**Acapulco**	**1.24**	**305**	*eP*	Pg	14 45 57.8	-3.5
ACX	**Acapulco**	**1.24**	**305**	*eP*	Pg	14 45 57.8	-3.5
HMTT	**Tlapaneco**	**1.64**	**8**	*eP*	**Pn**	**14 46 06.6**	**-0.6**
HMTT				*i* S	**Sg**	**14 46 35.0**	**+4.6**
CAIG	**El Cayaco**	**1.66**	**302**	*eP*	Pn	14 46 02.2	-5.2
CAIG				*i* S	**Sn**	**14 46 26.3**	**-2.7**
CAIG	**El Cayaco**	**1.66**	**302**	*eP*	Pn	14 46 02.2	-5.2
PLIG	**Platanillo**	**2.32**	**343**	*eP*	**Pn**	**14 46 15.8**	**-0.7**
PLIG				*i* S	**Sg**	**14 46 50.7**	**-1.4**
PLIG	**Platanillo**	**2.32**	**343**	*eP*	**Pn**	**14 46 15.8**	**-0.7**
PLIG				*i* S	**Sg**	**14 46 50.7**	**-1.4**
ARIG	**Puente Sto Nin**	**2.58**	**325**	*eP*	**Pn**	**14 46 17.7**	**-2.2**
ARIG				*i* S	**Sn**	**14 46 53.6**	**+2.0**
HUIG	**Huatulco**	**2.62**	**98**	*i* P	Pn	14 46 15.3	-5.1
HUIG				*i* S	**Sn**	**14 46 47.2**	**-5.4**
TPIG	**Tehuac#an**	**2.63**	**31**	*eP*	**Pn**	**14 46 21.1**	**+0.2**
TPIG				*i* S	**Sg**	**14 46 59.6**	**-2.5**
TPIG	**Tehuac#an**	**2.63**	**31**	*eP*	**Pn**	**14 46 21.1**	**+0.2**
TPIG				*i* S	**Sg**	**14 46 59.6**	**-2.5**
YAIG	**Yautepec**	**2.70**	**355**	*eP*	**Pn**	**14 46 21.5**	**-0.3**
YAIG				*i* S	**Sb**	**14 46 59.8**	**-0.1**
YAIG	**Yautepec**	**2.70**	**355**	*eP*	**Pn**	**14 46 21.5**	**-0.3**
YAIG				*i* S	**Sb**	**14 46 59.8**	**-0.1**
PPM	**Popocatepetl**	**2.89**	**3**	*eP*	**Pn**	**14 46 25.0**	**+0.3**
PPM				*i* P	Pb	14 46 25.9	-4.1
PPM				*i* S	**Sb**	**14 47 06.9**	**+1.1**
PPM	**Popocatepetl**	**2.89**	**3**	*eP*	**Pn**	**14 46 25.0**	**+0.3**
PPM				*i* S	**Sb**	**14 47 06.9**	**+1.1**
ZIIG	**Zihuatanejo**	**2.93**	**300**	*eP*	Pn	14 46 20.9	-3.9
ZIIG				*i* S	**Sn**	**14 46 57.5**	**-2.8**
ZIIG	**Zihuatanejo**	**2.93**	**300**	*eP*	Pn	14 46 20.9	-3.9
TEIG	**Tepich**	**10.78**	**66**	Pn	**Pn**	**14 48 11.9**	**-0.8**
TEIG				Sn	**Sn**	**14 50 10.9**	**-2.9**
TEIG	**Tepich**	**10.78**	**66**	Pn	**Pn**	**14 48 11.9**	**-0.8**
	0.7nm,0.3s,baz=270,slow=17,SNR=4.6						
TEIG				Sn	**Sn**	**14 50 10.9**	**-2.9**
	1.0nm,0.3s,baz=180,slow=20,SNR=4.4						
631A	**Perdido Creek**	**13.29**	**353**	⇑P	**Pn**	**14 48 45.8**	**-1.2**
	baz=13						
632A	**Uvalde**	**13.31**	**356**	⇑P	**Pn**	**14 48 46.4**	**-0.9**
	baz=13						
628A	**Black Gap, Mar**	**13.79**	**345**	⇑P	**Pn**	**14 48 52.8**	**-1.0**
	baz=14						
TXAR	**Lajitas Array**	**13.85**	**342**	Pn	**Pn**	**14 48 56.0**	**+1.2**
TXAR	**Lajitas Array**	**13.85**	**342**	Pn	**Pn**	**14 48 56.0**	**+1.2**
	0.1nm,0.3s,baz=163,slow=13,SNR=8.0						
TXAR				LR	LR	14 54 14.1	
	comp=Z,245nm,21.6s,baz=0.0,slow=38						
627A	**Terlingua Ranc**	**13.89**	**343**	⇓P	**Pn**	**14 48 54.4**	**-0.8**
	baz=14,SNR=5.7						
532A	**Rocksprings**	**13.94**	**356**	⇓P	**Pn**	**14 48 55.1**	**-0.8**
	baz=14						
531A	**Rocksprings**	**14.03**	**354**	⇓P	**Pn**	**14 48 56.3**	**-0.8**
	baz=14						
530A	**J-C Ranch, Com**	**14.12**	**351**	⇓P	**Pn**	**14 48 57.6**	**-0.7**
	baz=14						
626A	**Big Bend Ranch**	**14.20**	**341**	⇓P	**Pn**	**14 48 58.2**	**-1.3**
	baz=14						
529A	**Stev Forest Ra**	**14.25**	**348**	⇓P	**Pn**	**14 48 58.5**	**-1.6**
	baz=14,SNR=6.8						
JCT	**Junction City**	**14.28**	**356**	*e*Pn	**Pn**	**14 49 00.3**	**-0.2**
JCT	**Junction City**	**14.28**	**356**	⇓P	**Pn**	**14 48 59.7**	**-0.8**
	baz=14						
528A	**Cox Ranch, San**	**14.41**	**346**	⇓P	**Pn**	**14 49 01.3**	**-1.0**
	baz=14						
431A	**Sonora**	**14.55**	**354**	⇓P	**Pn**	**14 49 03.3**	**-1.0**
	baz=15,SNR=12						
527A	**Woodward Ranch**	**14.60**	**343**	⇓P	**Pn**	**14 49 05.9**	**+0.9**
	baz=15,SNR=7.6						
526A	**Mary Lane Ranc**	**14.66**	**342**	⇑P	**Pn**	**14 49 05.9**	**+0.1**
	baz=15,SNR=7.5						
429A	**Davenport Ranc**	**14.67**	**349**	⇓P	**Pn**	**14 49 05.2**	**-0.8**
	baz=15						
432A	**Menard**	**14.68**	**357**	⇓P	**Pn**	**14 49 05.1**	**-0.8**
	baz=15						
428A	**Kincaid Ranch,**	**14.93**	**347**	⇑P	**Pn**	**14 49 09.9**	**+0.5**
	baz=15,SNR=18						
331A	**San Angelo**	**15.15**	**355**	⇓P	**Pn**	**14 49 13.0**	**+0.6**
	baz=15,SNR=5.2						
332A	**Millersview**	**15.18**	**357**	⇓P	**Pn**	**14 49 11.6**	**-1.1**
	baz=15						
426A	**McDonald Obser**	**15.21**	**343**	⇑P	**Pn**	**14 49 12.9**	**-0.4**
	baz=15,SNR=8.9						
427A	**Hayter Ranch,**	**15.21**	**345**	⇓P	**Pn**	**14 49 13.6**	**+0.3**
	baz=15,SNR=8.5						
330A	**Mertzon**	**15.33**	**352**	⇑P	**Pn**	**14 49 13.5**	**-1.2**
	baz=15,SNR=7.3						
328A	**Wristen Ranch,**	**15.59**	**347**	⇓P	**Pn**	**14 49 16.9**	**-1.2**
	baz=16,SNR=9.6						
425A	**Indio Mountain**	**15.62**	**340**	⇑P	**Pn**	**14 49 17.8**	**-0.8**
	baz=16,SNR=6.4						
232A	**Coleman**	**15.68**	**357**	⇓P	**Pn**	**14 49 17.2**	**-2.1**
	baz=16,SNR=9.9						
231A	**Bronte**	**15.76**	**355**	⇓P	**Pn**	**14 49 18.9**	**-1.5**
	baz=16,SNR=6.6						
230A	**Sterling City**	**15.80**	**353**	⇓P	**Pn**	**14 49 19.7**	**-1.1**
	baz=16						
WHTX	**Lake Whitney**	**15.81**	**4**	⇓P	**Pn**	**14 49 19.1**	**-1.8**
	baz=16,SNR=9.9						
325A	**Bean Ranch, Si**	**16.15**	**341**	⇓P	**Pn**	**14 49 24.9**	**-0.7**
	baz=16,SNR=16						
324A	**Moseley Ranch,**	**16.39**	**339**	⇑P	**Pn**	**14 49 28.5**	**0.0**
	baz=16,SNR=8.8						
ABTX	**Abilene, Hawle**	**16.41**	**357**	⇓P	**Pn**	**14 49 28.3**	**-0.4**
	baz=16,SNR=7.8						
131A	**Roby**	**16.50**	**355**	⇓P	**Pn**	**14 49 29.2**	**-0.7**
	baz=16,SNR=6.2						
226B	**Tecolote Peak,**	**16.58**	**344**	⇑P	**Pn**	**14 49 29.8**	**-1.1**
	baz=17						
MNTX	**Cornudas Mount**	**16.59**	**340**	*e*Pn	**Pn**	**14 49 29.6**	**-1.3**
	8.6nm,1.3s						
129A	**Stewart Farms,**	**16.63**	**351**	⇑P	**Pn**	**14 49 30.4**	**-1.1**
	baz=17						
128A	**Castleberry Fa**	**16.73**	**349**	⇓P	**Pn**	**14 49 32.1**	**-0.7**
	baz=17,SNR=14						
225A	**Deer Hill, Car**	**16.80**	**342**	⇑P	**Pn**	**14 49 33.3**	**-0.4**
	baz=17,SNR=8.0						
127A	**Arkansas Junct**	**16.95**	**347**	⇓P	**Pn**	**14 49 34.1**	**-1.5**
	baz=17						
224A	**Cornudas Mount**	**16.98**	**340**	⇓P	**Pn**	**14 49 35.6**	**-0.5**
	baz=17,SNR=5.9						
126A	**Clayton Basin,**	**17.08**	**345**	⇓P	**Pn**	**14 49 36.3**	**-0.9**
	baz=17						
Z32A	**Haskell**	**17.08**	**358**	⇓P	**Pn**	**14 49 36.1**	**-1.1**
	baz=17,SNR=6.9						
Z31A	**Sharp Cattle R**	**17.12**	**356**	⇓P	**Pn**	**14 49 36.8**	**-0.9**
	baz=17						
Z30A	**Sanderson Ranc**	**17.18**	**353**	⇓P	**Pn**	**14 49 36.5**	**-2.0**
	baz=17,SNR=7.0						
Z29A	**Hungry Hill Ra**	**17.23**	**352**	⇑P	**Pn**	**14 49 38.1**	**-0.9**
	baz=17,SNR=11						
125A	**Gardner Draw,**	**17.26**	**343**	⇑P	**Pn**	**14 49 39.5**	**-0.1**
	baz=17,SNR=17						
Z28A	**Tucker Farm, M**	**17.36**	**350**	⇑P	**Pn**	**14 49 40.4**	**-0.4**
	baz=17,SNR=7.0						
124A	**Stringfield Ra**	**17.54**	**341**	⇓P	**Pn**	**14 49 43.3**	**+0.2**
	baz=18,SNR=7.5						
Y31A	**Rekieta Farm,**	**17.77**	**356**	⇓P	**Pn**	**14 49 44.2**	**-1.5**
	baz=18						
319A	**Douglas**	**17.91**	**330**	⇓P	**P**	**14 49 48.3**	**0.0**
	baz=18,SNR=8.4						
Y28A	**McKinney Farm,**	**17.94**	**351**	⇓P	**Pn**	**14 49 47.0**	**-0.9**
	baz=18						
220A	**Playas Peak, P**	**18.00**	**332**	⇓P	**Pn**	**14 49 49.0**	**+0.3**
	baz=18,SNR=10						
Y27A	**Causey**	**18.08**	**348**	⇓P	**Pn**	**14 49 49.6**	**-0.1**
	baz=18,SNR=8.0						
MSTX	**Muleshoe**	**18.09**	**349**	⇓P	**Pn**	**14 49 49.6**	**-0.2**
	baz=18,SNR=18						
Z24A	**Sheeppen Canyo**	**18.09**	**342**	⇑P	**Pn**	**14 49 50.0**	**0.0**
	baz=18,SNR=10						
121A	**Cookes Peak, D**	**18.22**	**335**	⇑P	**P**	**14 49 52.1**	**+0.4**
	baz=18,SNR=8.8						
Y26A	**Elida**	**18.26**	**347**	⇓P	**Pn**	**14 49 51.5**	**-0.3**
	baz=18,SNR=23						
X30A	**Coker Ranch, T**	**18.30**	**355**	⇓P	**Pn**	**14 49 51.9**	**-0.4**
	baz=18,SNR=6.8						
Z23A	**Rita Site, Whi**	**18.30**	**340**	⇓P	**Pn**	**14 49 52.3**	**-0.1**
	baz=18						
X29A	**Tulia**	**18.39**	**352**	⇓P	**Pn**	**14 49 52.8**	**-0.6**
	baz=18						
Y25A	**Mesa, Roswell**	**18.47**	**344**	⇓P	**Pn**	**14 49 53.8**	**-0.6**
	baz=18						
Z22A	**Elephant Butte**	**18.55**	**338**	⇑P	**P**	**14 49 55.5**	**+0.2**
	baz=19,SNR=9.3						
Y24A	**Capitan**	**18.67**	**343**	⇑P	**Pn**	**14 49 57.1**	**+0.1**
	baz=19,SNR=10						
X26A	**CR and CF Fran**	**18.86**	**347**	⇓P	**P**	**14 49 59.0**	**+0.3**
	baz=19,SNR=27						
Z21A	**St. Cloud Mine**	**18.86**	**336**	⇓P	**Pn**	**14 50 00.0**	**+0.7**
	baz=19,SNR=14						
Y23A	**Lovelace Mesa,**	**18.86**	**341**	⇑P	**P**	**14 49 59.0**	**+0.2**
	baz=19,SNR=9.2						
MIAR	**Mount Ida**	**18.90**	**13**	*eP*	**P**	**14 49 57.9**	**-1.1**
W31A	**Holland Ranch,**	**18.97**	**357**	⇑P	**P**	**14 49 59.4**	**-0.4**
	baz=19						
W29A	**Amraillo**	**19.05**	**353**	⇑P	**P**	**14 50 00.5**	**-0.3**
	baz=19						
Z20A	**Nine Sixteen R**	**19.06**	**334**	⇑P	**P**	**14 50 01.3**	**+0.4**
	baz=19,SNR=6.9						
Y22A	**Socorro**	**19.17**	**339**	⇑P	**P**	**14 50 02.5**	**+0.3**
	baz=19						
W27A	**Bowe Ranch, En**	**19.21**	**349**	⇓P	**P**	**14 50 01.8**	**-0.7**
	baz=19,SNR=8.3						
BNM	**Barren Site**	**19.25**	**340**	*e*P	**P**	**14 50 03.1**	**0.0**
	8.1nm,1.0s						
W28A	**Vega**	**19.26**	**352**	⇑P	**P**	**14 50 03.2**	**+0.1**
	baz=19						
Y22D	**IRIS PASSCAL I**	**19.28**	**339**	⇓P	**P**	**14 50 03.6**	**+0.3**
	baz=19						
W26A	**Owens Ranch, T**	**19.37**	**348**	⇓P	**P**	**14 50 03.7**	**-0.5**
	baz=19						
TUC	**Tucson**	**19.41**	**328**	*e*P	**P**	**14 50 03.9**	**-0.8**
	18nm,1.4s						
Y21A	**Point of Rocks**	**19.49**	**337**	⇓P	**Pn**	**14 50 06.7**	**-0.2**
	baz=20,SNR=9.1						
V30A	**Spur Ranch, Mi**	**19.59**	**355**	⇑P	**P**	**14 50 05.8**	**-0.8**
	baz=20						
W25A	**X Bar L Ranch,**	**19.64**	**346**	⇓P	**P**	**14 50 07.1**	**-0.2**
	baz=20						
LAZ	**Ladron**	**19.65**	**339**	*e*P	**P**	**14 50 06.7**	**-0.7**
	3.6nm,1.1s						
Y20A	**Horse Springs,**	**19.67**	**336**	⇑P	**P**	**14 50 08.2**	**+0.6**
	baz=20,SNR=12						
V28A	**Channing**	**19.75**	**352**	⇓P	**P**	**14 50 08.0**	**-0.4**
	baz=20						
TUL1	**Tulsa**	**19.85**	**7**	⇑P	**P**	**14 50 08.8**	**-0.6**
	baz=20						
W24A	**Lazy 6 Ranch,**	**19.87**	**344**	⇓P	**P**	**14 50 10.3**	**+0.5**
	baz=20,SNR=20						
X21A	**Alamocita Cree**	**19.92**	**338**	⇓P	**P**	**14 50 10.5**	**+0.1**
	baz=20,SNR=11						
ANMO	**Albuquerque**	**19.93**	**341**	*e*P	**P**	**14 50 09.3**	**-1.1**
	8.0nm,1.0s						
ANMO	**Albuquerque**	**19.93**	**341**	P	**P**	**14 50 10.3**	**-0.1**
	0.3nm,0.3s,baz=146,slow=14,SNR=7.2						
ANMO				LR	LR	14 58 31.0	
	comp=Z,336nm,19.2s,baz=50,slow=39						
W23A	**Werner Place,**	**20.03**	**342**	⇓P	**P**	**14 50 11.7**	**0.0**
	baz=20						
V26A	**Tequesquite Ra**	**20.05**	**348**	⇑P	**P**	**14 50 11.9**	**+0.1**
	baz=20,SNR=24						
214A	**Organ Pipe Nat**	**20.24**	**323**	⇓P	**P**	**14 50 14.7**	**+1.0**
	baz=20,SNR=6.1						
X20A	**Quemado**	**20.27**	**336**	⇓P	**P**	**14 50 14.2**	**0.0**
	baz=20						
V25A	**Rancho No Teng**	**20.27**	**346**	⇓P	**P**	**14 50 13.9**	**-0.4**
	baz=20,SNR=9.5						
V24A	**Rampart Ranch,**	**20.32**	**345**	⇓P	**P**	**14 50 14.4**	**-0.5**
	baz=20,SNR=7.2						
U28A	**Mallet**	**20.36**	**352**	⇓P	**P**	**14 50 14.7**	**-0.5**
	baz=20						
U27A	**Thompson Grove**	**20.49**	**351**	⇑P	**P**	**14 50 16.2**	**-0.3**
	baz=20,SNR=10						
V23A	**Ortiz Mt. (NFS**	**20.59**	**343**	⇓P	**P**	**14 50 17.1**	**-0.6**
	baz=21,SNR=9.5						
U26A	**Atchley Ranch,**	**20.63**	**349**	⇓P	**P**	**14 50 17.7**	**-0.3**
	baz=21,SNR=13						
U25A	**Circle Dot Ran**	**20.77**	**347**	⇓P	**P**	**14 50 18.7**	**-0.9**
	baz=21						
W20A	**Ramah**	**20.79**	**337**	⇓P	**P**	**14 50 20.8**	**+0.9**
	baz=21,SNR=9.3						
V22A	**San Miguel Ran**	**20.96**	**341**	⇓P	**P**	**14 50 21.9**	**+0.2**
	baz=21,SNR=13						
T28A	**Walsh**	**21.08**	**353**	⇓P	**P**	**14 50 22.6**	**-0.3**
	baz=21						
T27A	**Campo**	**21.11**	**351**	⇓P	**P**	**14 50 22.7**	**-0.4**
	baz=21						
U23A	**El Rito**	**21.14**	**343**	⇓P	**P**	**14 50 23.9**	**+0.3**
	baz=21,SNR=72						
GNAR	**Gosnell**	**21.22**	**20**	*e*P	**P**	**14 50 23.4**	**-0.8**
	1µm,1.2s						
T26A	**Comanche Natio**	**21.36**	**349**	⇓P	**P**	**14 50 25.5**	**-0.4**
	baz=21						

S20A	Disappointment baz=23,SNR=15	23.18	340	⇓P	P	14 50 45.8	+0.5
IRM	Iron Mountain baz=23,SNR=7.7	23.18	324	P	P	14 50 46.2	+1.0
W13A	Hualapai Mount baz=23,SNR=9.0	23.20	327	⇓P	P	14 50 46.4	+0.9
P30A	Selden baz=23	23.33	357	⇑P	P	14 50 45.9	-0.8
Q24A	Divide baz=23	23.39	347	⇓P	P	14 50 47.0	-0.5
R21A	Cimarron baz=24,SNR=12	23.42	342	⇓P	P	14 50 48.2	+0.4
P29A	Atwood baz=24	23.43	356	⇓P	P	14 50 47.0	-0.6
P28A	Saint Francis baz=24,SNR=7.1	23.47	354	⇑P	P	14 50 48.5	+0.4
U15A	North Rim baz=24,SNR=18	23.48	332	P	P	14 50 49.6	+1.2
R20A	Redvale baz=24,SNR=13	23.51	341	P	P	14 50 49.6	+1.0
PV01	Paradox Valley 5μm,1.8s	23.52	340	eP	P	14 50 48.2	-0.6
P27A	Ficken Ranch, baz=24,SNR=6.3	23.54	353	⇑P	P	14 50 49.4	+0.6
BELC	Belle Mtn. Jos baz=24	23.56	322	⇑P	P	14 50 50.3	+1.1
PFO	Pinyon Flat Ob	23.57	321	P	P	14 50 49.8	+0.6
PFO	Pinyon Flat Ob 2.2nm,0.7s,baz=119,slow=13,SNR=3.6	23.57	321	P	P	14 50 49.8	+0.6
PFO				LR	LR	15 01 49.2	
PFO	comp=Z,126nm,18.8s,baz=126,slow=41 Pinyon Flat Ob baz=24	23.57	321	⇓P	P	14 50 50.2	+1.0
TKL	Tuckaleechee C	23.60	32	P	P	14 50 49.4	0.0
TKL	Tuckaleechee C 7.5nm,0.8s,baz=212,slow=11,SNR=5.3	23.60	32	P	P	14 50 49.4	0.0
P26A	Davis Ranch, A baz=24	23.65	351	⇓P	P	14 50 49.8	-0.2
Q22A	Crested Butte, baz=24	23.71	344	⇑P	P	14 50 50.5	-0.2
P25A	Willow Gulch B baz=24,SNR=7.0	23.73	350	P	P	14 50 51.2	+0.4
LDFC	Landfair 12nm,0.8s	23.84	325	eP	P	14 50 52.5	+0.7
Q21A	Lamborn Mesa, baz=24,SNR=8.3	23.86	343	⇓P	P	14 50 53.4	+1.2
PV04	Paradox Valley	23.86	340	eP	P	14 50 52.6	+0.5
GMRC	Granite Mounta baz=24,SNR=5.5	23.92	324	P	P	14 50 54.1	+1.4
P23A	Jefferson baz=24,SNR=8.1	23.93	346	⇑P	P	14 50 53.8	+0.9
O29A	4D Ranch, Culb baz=24,SNR=5.4	23.94	356	⇓P	P	14 50 52.7	0.0
O30A	MW Ranch, Wils baz=24	23.95	358	⇑P	P	14 50 52.9	+0.1
O28A	Krutsinger Ran baz=24	24.02	354	⇑P	P	14 50 53.1	-0.4
SMCO	Snowmass 22nm,1.0s	24.02	344	eP	P	14 50 53.3	-0.6
O27A	Beecher Island baz=24	24.15	353	⇑P	P	14 50 55.2	+0.5
Q20A	Ridgley Place, baz=24,SNR=7.8	24.19	342	⇑P	P	14 50 55.6	+0.5
ISCO	Idaho Springs 51nm,1.7s	24.29	347	eP	P	14 50 57.3	+1.1
ISCO	Idaho Springs baz=24,SNR=13	24.29	347	⇑P	P	14 50 56.5	+0.3
O25A	Wiggins baz=24	24.31	350	⇓P	P	14 50 56.5	+0.3
O26A	Horse Wrangler baz=24	24.31	352	⇑P	P	14 50 56.3	+0.1
HEC	Hector,Ludlow baz=24	24.34	323	⇓P	P	14 50 57.7	+1.2
P22A	Eagle baz=24,SNR=13	24.36	345	⇑P	P	14 50 57.4	+0.6
TZTN	Tazewell 23nm,1.0s	24.41	31	eP	P	14 50 57.8	+0.8
P21A	Newcastle baz=24,SNR=7.7	24.47	344	⇓P	P	14 50 58.1	+0.3
O24A	Longmont baz=24	24.49	348	⇑P	P	14 50 57.8	-0.1
KMSC	Kings Mountain baz=25	24.52	36	⇑P	P	14 50 58.9	+0.8
TUQ	Turquoise Moun baz=24,SNR=13	24.55	325	⇑P	P	14 50 59.6	+1.1
N28A	Pribbeno Ranch baz=25	24.55	355	⇓P	P	14 50 58.5	+0.1
P20A	De Beque baz=25,SNR=10	24.72	342	⇓P	P	14 51 00.9	+0.9
O23A	Lake Granby, G baz=25,SNR=11	24.75	347	⇑P	P	14 51 01.1	+0.7
N27A	Anderson Farm, baz=25	24.77	353	⇑P	P	14 51 01.0	+0.6
O22A	Kremmling baz=25,SNR=26	24.85	346	⇑P	P	14 51 01.8	+0.5
OGNE	Ogallala 36nm,0.9s	24.85	354	eP	P	14 50 59.1	-1.9
OGNE	Ogallala baz=25	24.85	354	⇑P	P	14 51 01.3	+0.3
CCUT	Cedar City 66nm,2.9s	24.89	332	eP	P	14 51 01.2	-0.4
SHPR	Sheep Range	24.94	327	eP	P	14 51 01.9	-0.1
GSC	Goldstone 19nm,1.3s	24.95	323	eP	P	14 51 03.3	+1.3
GSC	Goldstone baz=25,SNR=7.0	24.95	323	⇑P	P	14 51 03.5	+1.4
P19A	Cripple Cowboy baz=25,SNR=30	25.02	341	⇑P	P	14 51 03.6	+0.9
SRU	San Rafael 24nm,1.0s	25.06	338	eP	P	14 51 02.6	-0.5
SHOC	Shoshone baz=25	25.09	325	⇑P	P	14 51 04.9	+1.8
O21A	Pagoda baz=25,SNR=9.3	25.13	344	⇑P	P	14 51 04.5	+0.8
Q16A	Castle Valley baz=25,SNR=7.2	25.13	337	⇓P	P	14 51 04.6	+0.9
N24A	Carr baz=25,SNR=6.2	25.14	349	⇑P	P	14 51 04.1	+0.4
MVU	Marysvale 14nm,1.2s	25.19	335	eP	P	14 51 03.5	-0.8
O20A	White River Ci baz=25,SNR=9.8	25.26	343	⇑P	P	14 51 06.5	+1.7
EDW2	Edwards Air Fo baz=25	25.36	321	⇓P	P	14 51 07.7	+2.0
N23A	Red Feather La baz=26,SNR=7.8	25.41	347	P	P	14 51 07.6	+1.3
N22A	Wattenberg Ran baz=26,SNR=5.2	25.43	346	⇓P	P	14 51 07.2	+0.7
M27A	Reverse DX Ran baz=26	25.47	354	⇓P	P	14 51 07.0	+0.3
TMUT	Trail Mountain 13nm,0.9s	25.48	337	eP	P	14 51 08.4	+1.4
M26A	McRoberts Ranc baz=26	25.49	352	⇓P	P	14 51 07.5	+0.6
LRMC	Laurel Mountai baz=26,SNR=6.5	25.59	322	⇑P	P	14 51 09.4	+1.6
M25A	Palm-Egli Farm baz=26	25.59	351	⇓P	P	14 51 08.4	+0.6
N21A	Black Mountain baz=26,SNR=26	25.65	345	⇑P	P	14 51 09.4	+0.9
HDIL	Hopedale 43nm,1.0s	25.67	17	eP	P	14 51 07.0	-1.3
PHWY	Pilot Hill	25.70	348	eP	P	14 51 08.4	-0.6
M24A	Cheyenne baz=26,SNR=9.6	25.75	350	⇓P	P	14 51 10.0	+0.7
MPMC	Manual Prospec baz=26,SNR=6.8	25.88	323	⇓P	P	14 51 12.0	+1.4
M23A	Laramie baz=26	25.92	348	⇑P	P	14 51 11.5	+0.6
N20A	Spence Gulch, baz=26,SNR=11	25.92	343	⇓P	P	14 51 11.1	+0.2
M22A	Cedar Creek Ra baz=26	26.04	347	⇓P	P	14 51 12.5	+0.5
ISA	Isabella 7.0nm,1.0s	26.18	322	eP	P	14 51 13.4	+0.2
ISA	Isabella baz=26	26.18	322	⇑P	P	14 51 14.7	+1.6
SFIN	Scholer Farm baz=26	26.18	21	⇑P	P	14 51 13.4	+0.4
L25A	Engebretsen Ra baz=26	26.28	351	⇓P	P	14 51 14.7	+0.6
M21A	Separation Pea baz=26,SNR=11	26.41	345	⇓P	P	14 51 15.9	+0.5
DAU	Daniels Canyon	26.48	338	eP	P	14 51 15.9	-0.1
CWC	Cottonwood Cre baz=26	26.49	323	⇑P	P	14 51 17.6	+1.6
BLA	Blacksburg 36nm,1.2s	26.53	34	eP	P	14 51 16.0	-0.3
L23A	Garrett baz=27	26.54	348	⇑P	P	14 51 17.2	+0.7
R11A	Troy Canyon, C baz=27,SNR=7.5	26.58	329	⇓P	P	14 51 18.0	+1.1
L22A	Ellis Ranch, M baz=27	26.60	347	⇓P	P	14 51 17.7	+0.7
VES	Vestal, Richgr baz=27	26.67	321	⇓P	P	14 51 19.2	+1.7
L21A	Rawlins baz=27	26.75	346	⇑P	P	14 51 19.0	+0.6
M19A	Rock Springs baz=27	26.79	343	⇑P	P	14 51 19.4	+0.7
DUG	Dugway 5.3nm,1.0s	26.87	336	eP	P	14 51 19.3	-0.1
M17A	Scullys Gap (B baz=27,SNR=6.7	27.22	340	⇓P	P	14 51 23.6	+0.9
K21A	Alcova baz=27,SNR=7.9	27.36	346	⇓P	P	14 51 23.9	+0.1
L19A	Farson baz=27	27.40	343	⇓P	P	14 51 24.7	+0.5
J25A	Sunshine Ranch baz=28,SNR=5.3	27.47	352	⇓P	P	14 51 25.5	+0.8
ECSD	EROS Data Cent 7.1nm,0.8s	27.54	3	eP	P	14 51 23.9	-1.4
BGU	Big Grassy Mou 7.3nm,1.3s	27.58	336	eP	P	14 51 25.6	-0.2
HWUT	Hardware Ranch 6.1nm,1.0s	27.64	339	eP	P	14 51 25.7	-0.7
K20A	Yellowstone Ra baz=28	27.64	345	⇑P	P	14 51 27.1	+0.7
I28A	Midland baz=28	27.82	356	⇓P	P	14 51 27.7	-0.1
J22A	Midwest baz=28	27.94	348	⇓P	P	14 51 29.5	+0.5
NVAR	Mina Array Bea	28.04	326	P	P	14 51 30.9	+0.9
NVAR	Mina Array Bea 3.1nm,0.9s,baz=148,slow=9.3,SNR=25	28.04	326	P	P	14 51 30.9	+0.9
BW06	Boulder Array 6.3nm,1.0s	28.07	343	eP	P	14 51 28.9	-1.3
PDAR	Pinedale Array	28.07	343	P	P	14 51 30.9	+0.7
PDAR	Pinedale Array 4.5nm,0.9s,baz=144,slow=9.1,SNR=26	28.07	343	P	P	14 51 30.9	+0.7
PDAR				LR	LR	15 03 03.2	
J21A	comp=Z,203nm,21.5s,baz=174,slow=37 Lysite baz=28	28.08	347	⇓P	P	14 51 31.2	+0.9
I25A	Rochford baz=28	28.08	352	⇑P	P	14 51 31.0	+0.7
HVU	Hansel Valley 7.1nm,1.0s	28.23	338	eP	P	14 51 32.9	+1.3
J20A	Shoshoni baz=28	28.23	346	⇓P	P	14 51 32.2	+0.6
ELK	Elko	28.34	333	P	P	14 51 33.8	+1.1
ELK	Elko 1.9nm,1.0s,baz=161,slow=6.3,SNR=3.4	28.34	333	P	P	14 51 33.8	+1.1
ELK				LR	LR	15 04 49.8	
J19A	comp=Z,247nm,18.2s,baz=150,slow=41 Crowheart baz=28,SNR=6.0	28.39	344	P	P	14 51 33.6	+0.5
I22A	9 Mile Ranch, baz=28	28.40	348	⇑P	P	14 51 33.5	+0.4
H28A	Mission Ridge baz=28	28.48	357	⇓P	P	14 51 34.3	+0.6
I21A	Big Trails, Te baz=28,SNR=7.8	28.49	347	P	P	14 51 34.9	+1.0
H27A	Howes baz=29	28.52	355	⇑P	P	14 51 34.2	+0.2
I20A	Worland baz=29	28.81	346	⇑P	P	14 51 37.3	+0.6
G28A	Parade baz=29	28.88	357	⇓P	P	14 51 37.8	+0.6
TPAW	Teton Pass 7.0nm,0.9s	29.14	342	eP	P	14 51 39.2	-0.6
LOHW	Long Hollow	29.15	342	eP	P	14 51 37.7	-2.1
MOOW	Moose Ponds	29.31	342	eP	P	14 51 39.2	-2.1
SPMN	St. Paul baz=30	29.41	9	⇓P	P	14 51 42.1	+0.3
IMW	Indian Meadow	29.51	342	eP	P	14 51 42.9	-0.1
H19A	Powell baz=30	29.69	345	⇑P	P	14 51 45.1	+0.5
H18A	Shoshone NF, C baz=30	29.87	344	⇓P	P	14 51 47.2	+1.0
RLMT	Red Lodge 6.6nm,1.0s	30.19	345	eP	P	14 51 48.2	-0.8
H16A	Russell Place, baz=30	30.33	342	⇓P	P	14 51 51.2	+0.9
I14A	Mackay baz=30	30.34	339	⇑P	P	14 51 51.0	+0.6
HLID	Hailey baz=30	30.37	337	⇓P	P	14 51 51.9	+1.3
E25A	Miller Ranch, baz=30	30.49	354	⇓P	P	14 51 52.2	+0.7
F20A	Billings baz=31	30.57	347	⇓P	P	14 51 52.9	+0.7
ATAH	Atahualpa comp=Z,113nm,19.0s,baz=175,slow=31	30.72	137	LR	LR	15 01 42.8	
MFID	Camas Ranch 8.1nm,1.1s	30.80	335	eP	P	14 51 53.6	-0.7
MFID	Camas Ranch baz=31	30.80	335	⇑P	P	14 51 55.0	+0.7
F19A	Roth Farm, Mol baz=31	30.80	346	⇓P	P	14 51 54.6	+0.3
I12A	Atlanta baz=31	30.84	337	⇑P	P	14 51 55.6	+0.8
F18A	Big Timber baz=31	31.03	345	⇑P	P	14 51 56.9	+0.6
E21A	Keefer Ranch, baz=31	31.07	349	⇓P	P	14 51 57.0	+0.4
D24A	Glendive baz=31	31.20	353	⇑P	P	14 51 58.0	+0.2
E20A	Meyer Farm, Mu baz=32	31.24	348	⇑P	P	14 51 58.3	+0.2
F17A	Fitzpatrick Pl baz=31	31.27	344	⇓P	P	14 51 59.2	+0.7
BOZ	Bozeman (W) 3.1nm,0.8s	31.30	343	eP	P	14 51 57.1	-1.7
DLMT	Dillon	31.34	341	eP	P	14 51 58.6	-0.5
E19A	Rath Farm, Rou baz=31,SNR=6.1	31.34	347	P	P	14 51 59.9	+0.9
H12A	Diamond D Ranc baz=31,SNR=10	31.39	338	P	P	14 52 01.1	+1.5
D21A	La Casta Ranch baz=32	31.56	349	⇓P	P	14 52 01.7	+0.8
MDND	Maddock baz=32	31.60	359	⇑P	P	14 52 01.5	+0.3
MOD	Modoc	31.62	329	eP	P	14 52 00.8	-0.9
E18A	Harlowton baz=32	31.70	345	⇑P	P	14 52 02.8	+0.6
LRM	Limekiln Ridge	31.70	342	eP	P	14 52 02.2	-0.2
E17A	Martinsdale baz=32	31.84	344	⇑P	P	14 52 04.1	+0.6
C23A	Lambert baz=32	31.99	352	⇓P	P	14 52 05.4	+0.8
D19A	Cripps Ranch, baz=32	32.02	347	⇑P	P	14 52 05.9	+0.8
C22A	Vida baz=32	32.03	351	⇓P	P	14 52 05.9	+0.9
D18A	Linhart Farms, baz=32	32.26	346	⇑P	P	14 52 07.9	+0.7
C21A	Desert Coulee baz=32	32.31	350	⇓P	P	14 52 08.3	+0.8
D17A	Six Diamond Ra baz=32,SNR=17	32.44	345	⇑P	P	14 52 09.5	+0.8
DGMT	Dagmar 18nm,1.0s	32.52	353	eP	P	14 52 10.3	+1.0
DGMT	Dagmar baz=33	32.52	353	⇓P	P	14 52 09.7	+0.4
BMO	Blue Mountains 10nm,1.6s	32.58	335	eP	P	14 52 07.9	-2.1
C19A	Slack Wire Ran baz=33	32.60	347	⇓P	P	14 52 10.5	+0.5
B23A	Brockton baz=33	32.61	352	⇑P	P	14 52 10.9	+0.8
YBH	Yreka Blue Hor comp=Z,70nm,20.7s,baz=141,slow=41	32.76	326	LR	LR	15 07 49.0	
A24A	Westby baz=33	32.95	354	⇑P	P	14 52 13.8	+0.7
SADO	Sadowa	32.99	26	P	P	14 52 13.3	-0.1
SADO	Sadowa 8.1nm,1.0s,baz=266,slow=7.7,SNR=4.5	32.99	26	P	P	14 52 13.3	-0.1
SADO				LR	LR	15 07 55.5	
E12A	comp=Z,93nm,20.4s,baz=176,slow=41 Beaver Dam Sad baz=33,SNR=6.8	33.25	339	P	P	14 52 15.9	+0.1
SLMT	Seeley Lake	33.30	342	eP	P	14 52 16.8	+0.5
C16A	Fuhringer Ranc baz=33	33.31	344	⇓P	P	14 52 16.5	+0.2
B18A	Beardsley Farm baz=33	33.38	347	⇓P	P	14 52 17.3	+0.4
D13A	Huson bar=34,SNR=9.9	33.47	340	P	P	14 52 18.0	+0.4
A20A	Cobblestone Ra baz=34	33.47	349	⇓P	P	14 52 18.2	+0.6
C15A	Salmond Ranch, baz=34,SNR=5.7	33.52	343	P	P	14 52 18.5	+0.3
B17A	L&G Farms, Che baz=34	33.52	345	⇑P	P	14 52 18.8	+0.7
A19A	Klindworth Far baz=34	33.67	348	⇓P	P	14 52 20.3	+0.8
SWMT	Swartz Lake	33.69	341	eP	P	14 52 20.2	+0.6
C13A	Hot Springs baz=34	34.02	341	⇑P	P	14 52 22.8	+0.3
ULM	Lac du Bonnet	34.08	3	P	P	14 52 22.1	-0.8
ULM	Lac du Bonnet 15nm,1.2s,baz=186,slow=9.6,SNR=5.6	34.08	3	P	P	14 52 22.1	-0.8
ULM				LR	LR	15 09 38.7	
B14A	comp=Z,24nm,21.0s,baz=44,slow=42 Marquette Ranc baz=34	34.24	343	⇑P	P	14 52 25.0	+0.5
A16A	West Butte Ran baz=34	34.33	345	⇑P	P	14 52 25.9	+0.7
B13A	Whitefish baz=35	34.60	342	⇑P	P	14 52 28.7	+1.2
C11A	Tepee Creek (N baz=35	34.71	339	⇓P	P	14 52 28.9	+0.5
A14A	Double T Ranch baz=35	34.84	343	⇑P	P	14 52 30.4	+0.8
NEW	Newport 3.9nm,0.8s	35.38	339	⇑P	P	14 52 35.2	+1.0
A12A	Yaak River Ran baz=36	35.47	341	⇑P	P	14 52 35.9	+1.0
LON	Longmire 3.4nm,1.0s	36.00	333	eP	P	14 52 38.5	-1.0
FFC	Flin Flon 2.1nm,0.8s	38.56	357	eP	P	14 53 00.6	-0.5
LPAZ	La Paz comp=Z,65nm,18.6s,baz=235,slow=35	44.22	135	LR	LR	15 11 20.0	
SCHQ	Schefferville	45.79	25	P	P	14 53 59.8	-0.2
SCHQ	Schefferville 5.8nm,0.8s,baz=226,slow=9.3,SNR=5.7	45.79	25	P	P	14 53 59.8	-0.2
YKA	Yellowknife Ar	47.60	350	P	P	14 54 13.8	-0.2
YKA	Yellowknife Ar 2.2nm,0.9s,baz=158,slow=7.4,SNR=9.9	47.60	350	P	P	14 54 13.8	-0.2
EGAK	Eagle 3.9nm,0.8s	56.34	340	eP	P	14 55 18.2	-1.1
ILAR	Eielson Array	58.33	338	P	P	14 55 33.4	+0.1
ILAR	Eielson Array 3.6nm,1.0s,baz=144,slow=5.0,SNR=27	58.33	338	P	P	14 55 33.4	+0.1
TRF	Thorofare Moun 10nm,1.0s	58.94	336	eP	P	14 55 36.0	-1.7
AFI	Afiamalu comp=Z,163nm,19.3s,baz=99,slow=29	78.05	252	LR	LR	15 23 06.3	
HHC	Hu-ho-hao-te	116.67	335	ePKP	PKPdf	15 04 25.0	+1.6
HHC				PP	PP	15 05 32.4	+3.6
HHC				PKS	PKSdf	15 08 00.6	+0.4
HHC				SKS	SKSdf	15 11 36.3	-0.1
HHC				SKKS	SKKSac	15 12 26.8	-6.1
HHC				SS	SS	15 21 32.5	-3.3
HHC				LR	LR		
WMQ	comp=Z,95nm,20.5s Urumqi	120.02	355	PKP	PKPdf	15 04 34.0	+4.3
LZH	Lanzhou	123.79	338	ePKP	PKPdf	15 04 37.4	+0.1
LZH				sPKP		15 04 41.0	
KSH	Kashi	124.40	5	ePKP	PKPdf	15 04 45.1	+6.8
KSH				PP	PP	15 06 33.1	+11
KSH				PKS	PKSdf	15 08 21.3	+6.2
KSH				SKS	SKSdf	15 11 55.9	+4.7
KSH				SKKS	SKKSac	15 13 25.9	+2.5
KSH				LR	LR		
	comp=Z,130nm,8.7s						

IDC 17 15:15:10.6±6.0, 12.02S×165.97E, h44km±48km, mb3.8/8, mb1 3.9/9, mb1mx3.7/21, mbtmpg3.8/9, ML4.2/1, Error ellipse: s-maj=45.3km s-min=23.3km az=72.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara 5.6nm,0.3s,baz=28,slow=5.4,SNR=7.3	6.45	293	P	Pn	15 16 44.0	+0.9
HNR				S	Sn	15 17 55.0	-0.5
STKA	4.6nm,0.3s,baz=192,slow=20,SNR=3.7 Stephens Creek 1.6nm,0.7s,baz=97,slow=8.1,SNR=3.6	29.91	225	P	P	15 21 15.1	+0.8
WRA	Warramunga Arr 1.0nm,0.6s,baz=84,slow=8.7,SNR=15	31.37	251	P	P	15 21 27.3	-0.2
ASAR	Alice Springs 1.0nm,0.7s,baz=71,slow=9.8,SNR=2.1	32.57	245	P	P	15 21 37.6	-0.4
ASAR				PcP	PcP	15 24 23.6	-0.3
VNDA	0.8nm,0.7s,baz=69,slow=2.5,SNR=8.9 Vanda	65.53	181	P	P	15 25 49.1	0.0
CMAR	0.6nm,0.6s,baz=317,slow=6.2,SNR=5.9 Chiang Mai Arr 0.5nm,0.6s,baz=120,slow=5.4,SNR=2.7	72.70	294	P	P	15 26 35.6	+1.1
QSPA	South Pole Qui 1.1nm,0.7s,baz=118,slow=2.6,SNR=13	78.00	180	P	P	15 27 03.9	-0.4
SONM	Songino Array 0.4nm,0.4s,baz=143,slow=5.9,SNR=4.9	79.58	324	P	P	15 27 13.0	-0.2
MKAR	Makanchi Array 2.2nm,0.6s,baz=90,slow=6.2,SNR=25	94.38	317	P	P	15 28 25.4	-0.4

TIR 17 15:22:57.3±2.2, 41.03N×21.41E, h0km±8km, ML3.0
SKO 17 15:22:59.3, 41.02N×21.40E, h5km, M2.6, ML2.9
PDG 17 15:22:59.9±0.2, 41.02N×21.41E, h5km±1km, ML3.0/7, Error ellipse: s-maj=0.5km s-min=0.5km az=0.0
BEO 17 15:22:59.7±0.5, 40.97N×21.41E, h0km, ML3.0/1
THE 17 15:22:59.8, 41.03N×21.34E, h0km±2km, ML2.9/9, Error ellipse: s-maj=2.0km s-min=0.8km az=283.0
ATH 17 15:23:00.2, 40.96N×21.44E, h16km±1km, MD3.6/17
CSEM 17 15:23:00.1±0.1, 40.99N×21.43E, h2km, ML2.9/9, Error ellipse: s-maj=2.9km s-min=2.5km az=67.0

ISC 17 15:22:58.8±0.8, 41.03N±0.01×21.36E±0.01, h3km±5km, n130, σ1.924/190, 10C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIA	Bitola	0.03	259	P	Pg	15 22 59.5	-0.1
BIA	Bitola	0.03	259	ePg	Pg	15 22 59.7	+0.1
BIA				eSg	Sg	15 23 00.5	+0.3
BIA	Bitola	0.03	259	ePg	Pg	15 22 59.7	+0.1
BIA				eSg	Sg	15 23 00.5	+0.3
FNA	Florina	0.24	177	P	Pg	15 23 04.0	+0.5
FNA				S	Sg	15 23 07.5	+0.9
FNA	Florina	0.24	177	ePB	Pg	15 23 04.0	+0.5
FNA				eSB	Sg	15 23 07.2	+0.6
FNA	Florina	0.24	177	P	Pg	15 23 04.0	+0.5
FNA				eSb	Sg	15 23 07.2	+0.6
KBN	Korca	0.59	227	ePG	Pg	15 23 09.8	-0.4
KBN				*i* SG	Sb	15 23 20.3	-0.4
KBN	Korca	0.59	227	P	Pg	15 23 10.2	0.0
KBN				S	Sg	15 23 18.8	+1.0
KBN	Korca SNR=91	0.59	227	ePg	Pg	15 23 09.8	-0.4
KBN	Korca	0.59	227	P	Pg	15 23 10.2	0.0
KBN				S	Sg	15 23 18.8	+1.0
KBN				*i* Sg	Sb	15 23 20.3	-0.4
	SNR=91						
NEST	Nestorio	0.65	201	P	Pg	15 23 11.4	0.0
NEST				S	Sb	15 23 21.8	-0.7
NEST	Nestorio	0.65	201	P	Pg	15 23 11.4	0.0
NEST				S	Sb	15 23 21.8	-0.7
KZN	Kozani	0.78	156	P	Pg	15 23 14.1	+0.3
KZN				S	Sn	15 23 27.2	-2.0
KZN	Kozani	0.78	156	ePN	Pg	15 23 14.1	+0.3
KZN	Kozani	0.78	156	P	Pg	15 23 14.1	+0.3
GRG	Griva	0.79	95	P	Pg	15 23 14.6	+0.6
GRG				S	Sb	15 23 27.1	+0.6
GRG	Griva	0.79	95	ePN	Pg	15 23 14.7	+0.7
GRG	Griva	0.79	95	ePn	Pg	15 23 14.7	+0.7
SKO	Skopje	0.95	4	P	Pb	15 23 17.9	-0.1
SKO				S	Sb	15 23 31.0	0.0
SKO	Skopje	0.95	4	ePg	Pn	15 23 18.5	-0.7
SKO				eSg	Sn	15 23 31.6	-1.7
SKO				eLg	Lg	15 23 31.8	
	comp=E,474nm,0.8s						
SKO				eLg	Lg	15 23 34.1	
	comp=N,422nm,0.4s						
SKO	Skopje	0.95	4	⇑*i*Pg	Pb	15 23 17.7	-0.3

SKO				*e*Sg	**Sb**	**15 23 31.0**	**0.0**	
SKO	**Skopje**	**0.95**	**4**	*e*Pg	**Pb**	**15 23 17.9**	**-0.1**	
SKO	**Skopje**	**0.95**	**4**	*e*Pg	**Pn**	**15 23 18.4**	**-0.7**	
SKO				*S*	**Sb**	**15 23 31.0**	**0.0**	
SKO				*e*Lg	Lg	15 23 34.0		
	comp=N,422nm,0.4s							
PHP	**Peshkopia**	**0.95**	**314**	*e*PN	**Pg**	**15 23 16.1**	**-1.1**	
PHP				*i* SN	**Sn**	**15 23 31.7**	**-1.8**	
PHP	**Peshkopia**	**0.95**	**314**	*P*	**Pg**	**15 23 16.6**	**-0.6**	
PHP				*S*	**Sn**	**15 23 31.7**	**-1.8**	
VAY	**Valandovo**	**0.96**	**72**	*P*	**Pg**	**15 23 16.6**	**-0.7**	
VAY				*S*	**Sg**	**15 23 29.4**	**-0.3**	
VAY	**Valandovo**	**0.96**	**72**	*e*Pg	**Pg**	**15 23 17.3**	**0.0**	
VAY				*e*Sg	**Sg**	**15 23 30.4**	**+0.7**	
VAY				*e*Lg	Lg	15 23 30.6		
	comp=N,218nm,0.7s							
VAY				*e*Lg	Lg	15 23 31.2		
	comp=E,334nm,1.0s							
VAY	**Valandovo**	**0.96**	**72**	⇑*i*Pg	**Pg**	**15 23 16.6**	**-0.7**	
VAY				*e*Sg	**Sg**	**15 23 29.3**	**-0.4**	
VAY	**Valandovo**	**0.96**	**72**	*P*	**Pg**	**15 23 16.6**	**-0.7**	
VAY	**Valandovo**	**0.96**	**72**	*e*Pg	**Pg**	**15 23 17.2**	**0.0**	
VAY				*S*	**Sg**	**15 23 29.4**	**-0.3**	
VAY				*e*Lg	Lg	15 23 31.2		
	comp=E,334nm,1.0s							
KNT	**Kendrikon**	**1.17**	**83**	*P*	**Pb**	**15 23 21.6**	**-0.2**	
KNT				*S*	**Sn**	**15 23 40.0**	**+1.3**	
KNT	**Kendrikon**	**1.17**	**83**	*P*	**Pb**	**15 23 21.6**	**-0.2**	
TIR	**Tirane**	**1.17**	**286**	*e*PN	**Pn**	**15 23 22.6**	**+0.4**	
TIR				*i* SN	Sn	15 23 43.5	+4.8	
TIR	**Tirane**	**1.17**	**286**	⇑*i*Pn	**Pn**	**15 23 23.1**	**+0.9**	
TIR	**Tirane**	**1.17**	**286**	⇓*i*Pn	**Pn**	**15 23 23.1**	**+0.9**	
TIR				*i* Sn	Sn	15 23 43.5	+4.8	
LIT	**Litokhoron**	**1.26**	**137**	*P*	**Pg**	**15 23 23.6**	**+0.6**	
LIT	**Litokhoron**	**1.26**	**137**	*P*	**Pg**	**15 23 23.6**	**+0.6**	
JAN	**Janina**	**1.42**	**196**	*e*PN	**Pg**	**15 23 26.2**	**+0.1**	
PUK	**Puka**	**1.50**	**313**	*e*PN	**Pn**	**15 23 26.3**	**-0.5**	
PUK				*i* SN	**Sg**	**15 23 50.6**	**+3.6**	
PUK	**Puka**	**1.50**	**313**	*e*Pn	**Pn**	**15 23 26.3**	**-0.5**	
	SNR=40							
PUK				*i* Sn	**Sg**	**15 23 50.6**	**+3.6**	
	SNR=40							
SOH	**Sokhos**	**1.52**	**97**	*P*	**Pb**	**15 23 27.7**	**-0.1**	
SOH				*S*	**Sg**	**15 23 49.2**	**+1.4**	
SOH	**Sokhos**	**1.52**	**97**	*e*PN	**Pb**	**15 23 27.6**	**-0.2**	
SOH	**Sokhos**	**1.52**	**97**	*P*	**Pb**	**15 23 27.7**	**-0.1**	
SOH				*S*	**Sg**	**15 23 49.2**	**+1.4**	
THL	**Klokotos Trika**	**1.54**	**161**	*P*	**Pb**	**15 23 27.9**	**-0.1**	
THL				*S*	**Sg**	**15 23 49.2**	**+0.8**	
THL	**Klokotos Trika**	**1.54**	**161**	*e*PN	**Pb**	**15 23 28.0**	**-0.1**	
THL	**Klokotos Trika**	**1.54**	**161**	*P*	**Pb**	**15 23 27.9**	**-0.1**	
THL				*S*	**Sg**	**15 23 49.2**	**+0.8**	
SRN	**Sarande**	**1.54**	**223**	*e*PN	**Pg**	**15 23 28.6**	**+0.2**	
SRN				*i* SN	**Sg**	**15 23 52.3**	**+3.9**	
SRN	**Sarande**	**1.54**	**223**	*P*	**Pg**	**15 23 28.7**	**+0.3**	
SRN	**Sarande**	**1.54**	**223**	*P*	**Pg**	**15 23 28.7**	**+0.3**	
SRN				*i* Sn	**Sg**	**15 23 52.3**	**+3.9**	
	SNR=40							
IGT	**Igoumenitsa**	**1.69**	**208**	*P*	**Pg**	**15 23 30.8**	**-0.3**	
IGT	**Igoumenitsa**	**1.69**	**208**	*P*	**Pg**	**15 23 30.8**	**-0.3**	
SRS	**Serrai**	**1.69**	**86**	*P*	**Pb**	**15 23 30.8**	**+0.2**	
SRS				*S*	**Sg**	**15 23 54.1**	**+0.9**	
SRS	**Serrai**	**1.69**	**86**	*P*	**Pb**	**15 23 30.8**	**+0.2**	
SRS				*S*	**Sg**	**15 23 54.1**	**+0.9**	
PLG	**Polygyros**	**1.71**	**112**	*e*PN	**Pb**	**15 23 30.4**	**-0.6**	
PLG	**Polygyros**	**1.71**	**112**	*e*Pn	**Pb**	**15 23 30.4**	**-0.6**	
KEK	**Kerkira**	**1.77**	**223**	*P*	**Pg**	**15 23 32.8**	**0.0**	
KEK	**Kerkira**	**1.77**	**223**	*e*PN	**Pg**	**15 23 32.5**	**-0.3**	
KEK	**Kerkira**	**1.77**	**223**	*e*Pn	**Pg**	**15 23 32.5**	**-0.3**	
KEK	**Kerkira**	**1.77**	**223**	*P*	**Pg**	**15 23 32.8**	**0.0**	
BARS	**Barje**	**1.82**	**11**	⇓*i*Pn	**Pb**	**15 23 32.1**	**-0.8**	
BARS				*e*Sg	**Sg**	**15 24 00.1**	**+2.7**	
BARS	**Barje**	**1.82**	**11**	⇓*i*Pn	**Pb**	**15 23 32.1**	**-0.8**	
BARS				*e*Sg	**Sg**	**15 24 00.1**	**+2.7**	
ULC	**Ulcinj**	**1.84**	**301**	⇓*i*Pn	**Pg**	**15 23 34.0**	**-0.2**	
ULC				*e*Sn	**Sg**	**15 24 01.1**	**+3.0**	
ULC	**Ulcinj**	**1.84**	**301**	⇓*i*Pn	**Pg**	**15 23 34.0**	**-0.2**	
ULC				*e*Sn	**Sg**	**15 24 01.1**	**+3.0**	
PVY	**Plav**	**1.89**	**327**	⇓*i*Pn	**Pg**	**15 23 35.0**	**0.0**	
PVY				*e*Sn	**Sg**	**15 24 01.8**	**+2.4**	
PVY	**Plav**	**1.89**	**327**	⇓*i*Pn	**Pg**	**15 23 35.0**	**0.0**	
PVY				*e*Sn	**Sg**	**15 24 01.8**	**+2.4**	
NVR	**Nevrokopi**	**1.92**	**79**	*P*	**Pn**	**15 23 32.8**	**+0.3**	
NVR	**Nevrokopi**	**1.92**	**79**	*e*PN	**Pb**	**15 23 33.2**	**-1.3**	
NVR	**Nevrokopi**	**1.92**	**79**	*P*	**Pn**	**15 23 32.8**	**+0.3**	
NVR	**Nevrokopi**	**1.92**	**79**	*e*Pn	**Pb**	**15 23 33.2**	**-1.3**	
PAIG	**Paliouri**	**2.08**	**121**	*e*PB	**Pn**	**15 23 34.6**	**-0.1**	
PAIG	**Paliouri**	**2.08**	**121**	*e*Pb	**Pn**	**15 23 34.6**	**-0.1**	
VTS	**Vitosha**	**2.09**	**41**	*P*	**Pb**	**15 23 36.4**	**-1.1**	
VTS	**Vitosha**	**2.09**	**41**	⇑*i*Pn	**Pb**	**15 23 36.1**	**-1.4**	
VTS				*e*Sn	**Sb**	**15 24 03.4**	**-0.5**	
VTS	**Vitosha**	**2.09**	**41**	*P*	**Pb**	**15 23 36.4**	**-1.1**	
VTS				*e*Sn	**Sb**	**15 24 03.4**	**-0.5**	
MAKR	**Makrakomi, Fth**	**2.10**	**163**	*P*	**Pb**	**15 23 36.1**	**-1.4**	
MAKR	**Makrakomi, Fth**	**2.10**	**163**	*P*	**Pb**	**15 23 36.1**	**-1.4**	
PDG	**Podgorica**	**2.11**	**312**	*e*Pn	**Pb**	**15 23 37.8**	**+0.1**	
PDG				*e*Sg	**Sg**	**15 24 07.6**	**+1.0**	
PDG	**Podgorica**	**2.11**	**312**	*e*Pn	**Pb**	**15 23 37.8**	**+0.1**	
PDG				*e*Sg	**Sg**	**15 24 07.6**	**+1.0**	
TTG	**Podgorica**	**2.11**	**312**	⇑*i*Pn	**Pb**	**15 23 38.1**	**+0.4**	
TTG				*e*Sn	**Sg**	**15 24 07.9**	**+1.3**	
EVR	**Evrytania**	**2.13**	**171**	*e*PN	**Pn**	**15 23 36.4**	**+0.9**	
AGG	**Agios Georgios**	**2.13**	**159**	*P*	**Pb**	**15 23 36.7**	**-1.5**	
AGG	**Agios Georgios**	**2.13**	**159**	*e*PB	**Pn**	**15 23 35.7**	**+0.3**	
AGG	**Agios Georgios**	**2.13**	**159**	*e*Pb	**Pn**	**15 23 35.7**	**+0.3**	
AGG	**Agios Georgios**	**2.13**	**159**	*P*	**Pb**	**15 23 36.7**	**-1.5**	
BEY	**Berane**	**2.15**	**330**	⇓*i*Pn	**Pb**	**15 23 38.2**	**-0.2**	
BEY				*e*Sn	**Sg**	**15 24 08.2**	**+0.4**	
IVA	**Berane**	**2.15**	**330**	⇓*i*Pn	**Pb**	**15 23 38.2**	**-0.2**	
IVA				*e*Sn	**Sg**	**15 24 08.2**	**+0.4**	
XOR	**Xorichti**	**2.17**	**139**	*P*	**Pn**	**15 23 36.4**	**+0.4**	
XOR				*S*	**Sb**	**15 24 06.1**	**-0.1**	
XOR	**Xorichti**	**2.17**	**139**	*P*	**Pn**	**15 23 36.4**	**+0.4**	
SELS	**Selova**	**2.20**	**355**	*e*Pn	**Pb**	**15 23 37.4**	**-1.9**	
BUM	**Brajici-Budva**	**2.25**	**305**	⇑*i*Pn	**Pb**	**15 23 39.8**	**-0.3**	
BUM				*e*Sn	**Sg**	**15 24 11.2**	**+0.2**	
BUM	**Brajici-Budva**	**2.25**	**305**	⇑*i*Pn	**Pb**	**15 23 39.8**	**-0.3**	
BUM				*e*Sn	**Sg**	**15 24 11.2**	**+0.2**	
LKD2	**Lefkada island**	**2.30**	**194**	*P*	**Pb**	**15 23 40.3**	**-0.7**	
LKD2	**Lefkada island**	**2.30**	**194**	*e*PN	**Pb**	**15 23 39.3**	**-1.7**	
LKD2	**Lefkada island**	**2.30**	**194**	*e*Pn	**Pb**	**15 23 39.3**	**-1.7**	
LKD2	**Lefkada island**	**2.30**	**194**	*P*	**Pb**	**15 23 40.3**	**-0.7**	
KAVA	**Kavala**	**2.39**	**90**	*P*	**Pn**	**15 23 39.9**	**+1.0**	
KAVA	**Kavala**	**2.39**	**90**	*P*	**Pn**	**15 23 39.9**	**+1.0**	
ZAPS	**Zavoj**	**2.44**	**22**	*e*Pn	**Pb**	**15 23 41.4**	**-2.0**	
SJES	**Sjenica**	**2.46**	**336**	*e*Pn	**Pb**	**15 23 42.2**	**-1.6**	
SJES				*e*Sg	**Sg**	**15 24 18.7**	**+0.8**	
NKY	**Niksic**	**2.51**	**316**	⇑*i*Pn	**Pb**	**15 23 43.4**	**-1.3**	
NKY				*e*Sn	**Sb**	**15 24 17.2**	**+1.1**	
NKY	**Niksic**	**2.51**	**316**	⇑*i*Pn	**Pb**	**15 23 43.4**	**-1.3**	
NKY				*e*Sn	**Sb**	**15 24 17.2**	**+1.1**	
HCY	**Herceg Novi**	**2.57**	**304**	⇓*i*Pn	**Pb**	**15 23 44.0**	**-1.6**	
HCY				*e*Sn	**Sb**	**15 24 18.8**	**+1.1**	
HCY	**Herceg Novi**	**2.57**	**304**	⇓*i*Pn	**Pb**	**15 23 44.0**	**-1.6**	
HCY				*e*Sn	**Sb**	**15 24 18.8**	**+1.1**	
EFP	**Efpalio**	**2.63**	**171**	*e*PB	**Pb**	**15 23 44.2**	**-2.4**	
EFP	**Efpalio**	**2.63**	**171**	*e*Pb	**Pb**	**15 23 44.2**	**-2.4**	
AOS	**Alonnisos**	**2.68**	**133**	*e*PN	**Pn**	**15 23 42.7**	**-0.2**	
AOS	**Alonnisos**	**2.68**	**133**	*e*Pn	**Pn**	**15 23 42.7**	**-0.2**	
KALE	**Kalithea**	**2.70**	**167**	*e*PB	**Pn**	**15 23 44.9**	**+1.7**	
KALE	**Kalithea**	**2.70**	**167**	*e*Pb	**Pn**	**15 23 44.9**	**+1.7**	
TRIZ	**Trizonia**	**2.71**	**168**	*e*PN	**Pn**	**15 23 43.7**	**+0.4**	
TRIZ	**Trizonia**	**2.71**	**168**	*e*Pn	**Pn**	**15 23 43.7**	**+0.4**	
PLD	**Plovdiv**	**2.73**	**66**	*e*Pn	**Pn**	**15 23 44.8**	**+1.2**	
BRY	**Bratogost**	**2.82**	**313**	⇓*i*Pn	**Pb**	**15 23 47.5**	**-2.4**	
BRY				*e*Sn	**Sb**	**15 24 24.4**	**-0.5**	
BRY	**Bratogost**	**2.82**	**313**	⇓*i*Pn	**Pb**	**15 23 47.5**	**-2.4**	
BRY				*e*Sn	**Sb**	**15 24 24.4**	**-0.5**	
LAKA	**Lakka**	**2.82**	**170**	*e*PB	**Pb**	**15 23 47.3**	**-2.6**	
LAKA	**Lakka**	**2.82**	**170**	*e*Pb	**Pb**	**15 23 47.3**	**-2.6**	
UPM	**Unac-Piva**	**2.84**	**321**	*e*Pn	**Pb**	**15 23 48.3**	**-2.0**	
UPM				*e*Sn	**Sb**	**15 24 25.2**	**-0.4**	
UPM	**Unac-Piva**	**2.84**	**321**	*e*Pn	**Pb**	**15 23 48.3**	**-2.0**	
UPM				*e*Sn	**Sb**	**15 24 25.2**	**-0.4**	
GRUS	**Gruza**	**2.90**	**351**	⇓*i*Pn	**Pn**	**15 23 47.3**	**+1.3**	
GRUS				*e*Sg	**Sg**	**15 24 34.0**	**+2.0**	
GRUS	**Gruza**	**2.90**	**351**	⇓*i*Pn	**Pn**	**15 23 47.3**	**+1.3**	
GRUS				*e*Sg	**Sg**	**15 24 34.0**	**+2.0**	
BBLS	**Lazići**	**3.19**	**334**	*e*Pn	**Pb**	**15 23 53.3**	**-2.9**	
BBLS	**Lazići**	**3.19**	**334**	*e*Pn	**Pb**	**15 23 53.3**	**-2.9**	
DIVS	**Divibare**	**3.23**	**342**	*e*Pn	**Pn**	**15 23 52.1**	**+1.5**	
DIVS	**Divibare**	**3.23**	**342**	*e*Pn	**Pn**	**15 23 52.1**	**+1.5**	
PYL	**PYLOS**	**4.13**	**176**	*e*PN	**Pn**	**15 24 04.5**	**+1.6**	
PYL	**PYLOS**	**4.13**	**176**	*e*PN	**Pn**	**15 24 04.5**	**+1.6**	
UDBI	**Udbina**	**5.40**	**312**	*i* Pn	Pn	15 24 23.0	+2.6	
UDBI	**Udbina**	**5.40**	**312**	*i* Pn	Pn	15 24 23.0	+2.6	
NVLJ	**Novalja**	**5.94**	**309**	*e*Pn	**Pn**	**15 24 28.5**	**+0.8**	
NVLJ				*S*	**Sn**	**15 25 35.9**	**-0.3**	
NVLJ	**Novalja**	**5.94**	**309**	*e*Pn	**Pn**	**15 24 28.4**	**+0.8**	

CSEM ***17*** *15:24:47.8±0.3, 41°.91N×46°.89E, h20km, mb3.9, Error ellipse: s-maj=6.5km s-min=6.0km az=74.0*
MOS ***17*** *15:24:47.2±0.7, 41°.92N×46°.85E, h22km, mb3.9/1, Error ellipse: s-maj=19.1km s-min=9.8km az=89.7*

ISC 17 15:24:47.3±1.1, 41°.93N±0°.03×46°.87E±0°.03, h17km±9km, n26, σ0°61/51, 1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMKR	**Kumukh**	**0.27**	**40**	*i* PG	**Pn**	**15 24 56.5**	**-0.1**
KMKR				*i* S	**Sn**	**15 25 03.5**	**+1.1**
KMKR				pmax	pmax		
	comp=Z,70nm,0.2s						
KMKR	**Kumukh**	**0.27**	**40**	*i* Pg	**Pn**	**15 24 56.5**	**-0.1**
	comp=Z,70nm,0.2s						
KMKR				*i* Sg	**Sn**	**15 25 03.5**	**+1.1**
XNZR	**Khunzakh**	**0.62**	**349**	*e*PG	**Pn**	**15 25 01.0**	**-0.5**
XNZR				*e*S	**Sn**	**15 25 11.0**	**-0.3**
XNZR	**Khunzakh**	**0.62**	**349**	*e*Pg	**Pn**	**15 25 01.0**	**-0.5**
XNZR				*e*Sg	**Sn**	**15 25 11.0**	**-0.3**
ARKR	**Arakani**	**0.68**	**8**	*e*PG	**Pb**	**15 25 01.5**	**+0.8**
ARKR				*e*S	**Sn**	**15 25 12.5**	**0.0**
ARKR				pmax	pmax		
	comp=Z,61nm,0.2s						
ARKR	**Arakani**	**0.68**	**8**	*e*Pg	**Pb**	**15 25 01.5**	**+0.8**
	comp=Z,61nm,0.2s						
ARKR				*e*Sg	**Sn**	**15 25 12.5**	**0.0**
AKT	**Akhty**	**0.79**	**124**	*e*PG	**Pg**	**15 25 02.0**	**-0.6**
AKT				*e*S	**Sb**	**15 25 13.5**	**+0.6**
AKT				pmax	pmax		
	comp=Z,97nm,0.2s						
AKT	**Akhty**	**0.79**	**124**	*e*Pg	**Pg**	**15 25 02.0**	**-0.6**
	comp=Z,97nm,0.2s						
AKT				*e*Sg	**Sb**	**15 25 13.5**	**+0.6**
UNCR	**Uncukul**	**0.79**	**356**	⇓*i*PG	**Pg**	**15 25 02.3**	**-0.4**
UNCR				*e*S	**Sn**	**15 25 14.5**	**-0.6**
UNCR				pmax	pmax		
	comp=Z,135nm,0.2s						
UNCR	**Uncukul**	**0.79**	**356**	*i* Pg	**Pg**	**15 25 02.3**	**-0.4**
	comp=Z,135nm,0.2s						
UNCR				*e*Sg	**Sn**	**15 25 14.5**	**-0.6**
KRNR	**Karanay**	**0.90**	**2**	*e*PG	**Pb**	**15 25 04.0**	**-0.5**
KRNR				*e*S	**Sg**	**15 25 17.0**	**+0.4**
KRNR	**Karanay**	**0.90**	**2**	*e*Pg	**Pb**	**15 25 04.0**	**-0.5**
KRNR				*e*Sg	**Sg**	**15 25 17.0**	**+0.4**
BUJR	**Buynaksk**	**0.91**	**11**	*e*PG	**Pb**	**15 25 04.5**	**-0.2**
BUJR				*e*S	**Sn**	**15 25 18.5**	**+0.3**
BUJR				pmax	pmax		
	comp=Z,94nm,0.2s						
BUJR	**Buynaksk**	**0.91**	**11**	*e*Pg	**Pb**	**15 25 04.5**	**-0.2**
	comp=Z,94nm,0.2s						
BUJR				*e*Sg	**Sn**	**15 25 18.5**	**+0.3**
KSMR	**Kasumkent**	**1.00**	**109**	*e*PG	**Pg**	**15 25 06.0**	**-0.6**
KSMR				*e*S	**Sn**	**15 25 20.0**	**-0.2**
KSMR	**Kasumkent**	**1.00**	**109**	*e*Pg	**Pg**	**15 25 06.0**	**-0.6**
KSMR				*i* Sg	**Sn**	**15 25 20.0**	**-0.2**
DBC	**Dubki**	**1.09**	**359**	*e*PG	**Pb**	**15 25 06.4**	**-1.3**
DBC				*i* S	**Sb**	**15 25 22.4**	**+0.7**
DBC	**Dubki**	**1.09**	**359**	*e*Pg	**Pb**	**15 25 06.4**	**-1.3**
DBC				*i* Sg	**Sb**	**15 25 22.4**	**+0.7**
DGRG	**David-gareji**	**1.22**	**247**	*P*	**Pn**	**15 25 09.3**	**-0.2**
DGRG				*S*	**Sg**	**15 25 27.7**	**+1.0**
DGRG	**David-gareji**	**1.22**	**247**	*P*	**Pn**	**15 25 09.3**	**-0.2**
DGRG				*S*	**Sg**	**15 25 27.7**	**+1.0**
SEAG	**Tbilisi Sea**	**1.55**	**265**	*P*	**Pn**	**15 25 14.3**	**+0.2**
SEAG				*S*	**Sn**	**15 25 33.4**	**-0.5**
TBLG	**Delisi**	**1.60**	**264**	*e*PG	**Pn**	**15 25 14.8**	**-0.1**
TBLG	**Delisi**	**1.60**	**264**	*P*	**Pn**	**15 25 14.8**	**-0.1**
TBLG				*S*	**Sn**	**15 25 34.4**	**-0.8**
TBLG	**Delisi**	**1.60**	**264**	*P*	**Pn**	**15 25 14.8**	**-0.1**
TBLG				*S*	**Sn**	**15 25 34.4**	**-0.8**
DUS	**Dusheti**	**1.62**	**276**	*P*	**Pb**	**15 25 17.0**	**+0.2**
DUS				*S*	**Sb**	**15 25 37.6**	**+0.6**
DUS	**Dusheti**	**1.62**	**276**	*P*	**Pb**	**15 25 17.0**	**+0.2**
DUS				*S*	**Sb**	**15 25 37.6**	**+0.6**

IDC ***17*** *15:43:30.7±8.0, 0°.92N×123°.76E, h260km±86km, mb3.3/5, mb1 3.4/6, mb1mx3.1/23, mbtmp3.3/6, Error ellipse: s-maj=54.2km s-min=19.8km az=70.0*
DJA ***17*** *15:43:33.3±1.5, 1°.N±11°×12°.4E±°, h263km±17km, M3.6/5, MLv3.6/5*
ISCJB ***17*** *15:43:34.1±0.9, 0°.5N±0°.1×124°.03E±0°.08, h250km, mb3.7/5, Error ellipse: s-maj=17.9km s-min=11.6km az=174.8*

ISC 17 15:43:33.9±1.5, 0°.6N±0°.2×123°.94E±0°.07, h250km, n12, σ1°05/12, mb3.6/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.06**	**136**	*P*	**Pn**	**15 44 07.2**	**+1.2**
GTOI	**Gorontalo**	**0.93**	**271**	*P*	**Pn**	**15 44 09.6**	**+1.1**
MRSI	**Marisa**	**2.01**	**266**	*P*	**Pn**	**15 44 16.3**	**-0.1**
LUWI	**Luwuk**	**2.02**	**215**	*P*	**Pn**	**15 44 17.6**	**+1.1**
LUWI				*S*	**S**	**15 44 50.7**	**+0.5**
TNTI	**Ternate**	**3.43**	**87**	*P*	**Pn**	**15 44 30.8**	**-0.3**
LBMI	**Labuha**	**3.77**	**109**	*P*	**Pn**	**15 44 35.5**	**+0.5**
LBMI				*S*	**S**	**15 45 25.4**	**+1.9**
FITZ	**Fitzroy Crossi**	**18.67**	**175**	*P*	**P**	**15 47 33.4**	**-0.5**
	0.5nm,0.3s,baz=354,slow=11,SNR=17						
WRA	**Warramunga Arr**	**22.83**	**154**	*P*	**P**	**15 48 14.7**	**-0.9**
	2.9nm,0.3s,baz=337,slow=9.7,SNR=91						
ASAR	**Alice Springs**	**26.00**	**159**	*P*	**P**	**15 48 43.3**	**-0.9**
	0.4nm,0.4s,baz=339,slow=7.1,SNR=29						
STKA	**Stephens Creek**	**36.38**	**154**	*P*	**P**	**15 50 14.0**	**-0.6**
	2.4nm,1.1s,baz=338,slow=10,SNR=3.5						
USRK	**Ussuriysk Arra**	**43.99**	**8**	*P*	*P*	15 51 10.4	-6.1
	1.2nm,0.4s,baz=185,slow=6.1,SNR=4.1						
MKAR	**Makanchi Array**	**58.60**	**328**	*P*	*P*	15 52 58.0	-6.8
	0.5nm,0.4s,baz=124,slow=7.9,SNR=12						
MKAR				*PcP*	*PcP*	15 53 46.0	-6.1
	0.4nm,0.5s,baz=167,slow=3.1,SNR=6.7						

IDC 17 16:02:58.2±0.9, 30°.74N×83°.37E, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.7/29, mbtmp3.7/11, ML3.3/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/35, Error ellipse: s-maj=27.5km s-min=20.4km az=72.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**13.83**	**332**	LR	LR	16 12 03.3	
	comp=Z,62nm,18.3s,baz=301,slow=39						
MKAR	**Makanchi Array**	**16.05**	**357**	Pn	Pn	16 06 45.0	-0.3
	0.0nm,0.3s,baz=172,slow=12,SNR=3.4						
CMAR	**Chiang Mai Arr**	**18.68**	**127**	P	Pn	16 07 19.6	+1.3
	0.1nm,0.3s,baz=308,slow=9.2,SNR=7.1						
KURBB	**Kurchatov Arra**	**20.19**	**351**	P	P	16 07 34.0	-0.3
	2.0nm,0.8s,baz=174,slow=9.5,SNR=8.5						
ZALV	**Zalesovo Beam**	**23.22**	**2**	P	P	16 08 06.3	-0.4
	1.3nm,0.7s,baz=190,slow=8.8,SNR=7.6						
SONM	**Songino Array**	**24.54**	**39**	P	P	16 08 20.0	+0.4
	1.2nm,0.8s,baz=223,slow=11,SNR=7.8						
FINES	**FINESS Array B**	**47.97**	**327**	P	P	16 11 38.5	+0.1
	1.8nm,0.7s,baz=111,slow=10,SNR=8.7						
NOA	**NORSAR Array B**	**55.06**	**326**	P	P	16 12 31.4	-0.1
	0.5nm,0.7s,baz=60,slow=7.9,SNR=3.5						
ASAR	**Alice Springs**	**72.62**	**132**	P	P	16 14 26.9	-0.8
	0.6nm,0.9s,baz=314,slow=5.8,SNR=6.0						
TORD	**Torodi Ar. Bea**	**76.32**	**277**	P	P	16 14 49.7	+0.1
	0.9nm,1.0s,baz=72,slow=5.0,SNR=3.3						
ILAR	**Eielson Array**	**77.08**	**20**	P	P	16 14 52.7	-0.3
	1.1nm,0.8s,baz=300,slow=4.6,SNR=7.7						
BOSA	**Boshof**	**80.93**	**229**	P	P	16 15 15.0	+0.3
	1.1nm,0.5s,baz=54,slow=3.8,SNR=4.8						

IDC 17 16:04:17.1±2.4, 11°.44N×143°.45E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/26, mbtmp3.8/6, Error ellipse: s-maj=81.6km s-min=23.4km az=81.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.45**	**196**	P	P	16 10 49.1	-0.2
	0.3nm,0.6s,baz=19,slow=9.9,SNR=4.6						
ASAR	**Alice Springs**	**36.12**	**195**	P	P	16 11 21.2	+0.1
	0.3nm,0.8s,baz=25,slow=11,SNR=5.2						
CMAR	**Chiang Mai Arr**	**43.47**	**285**	P	P	16 12 22.1	-0.4
	1.7nm,0.7s,baz=85,slow=6.1,SNR=11						
MKAR	**Makanchi Array**	**62.09**	**317**	P	P	16 14 40.1	+0.3
	0.3nm,0.6s,baz=100,slow=7.6,SNR=4.7						
KURBB	**Kurchatov Arra**	**65.38**	**321**	P	P	16 15 01.6	+0.2
	1.2nm,0.6s,baz=106,slow=6.7,SNR=15						
BVAR	**Borovoye Array**	**70.76**	**322**	P	P	16 15 34.9	-0.3
	2.0nm,0.5s,baz=100,slow=6.8,SNR=12						

IDC ***17*** *16:10:55.4±1.3, 7°.21S×128°.87E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.6/20, mbtmp3.8/5, ML4.0/2, Error ellipse: s-maj=108.8km s-min=22.2km az=64.0*
AUST ***17*** *16:11:06.4, 7°.48S×129°.04E, h200km*
ISCJB ***17*** *16:11:08.1±0.8, 7°.63S±0°.06×128°.8E±0°.1, h131km, mb3.4/3, Error ellipse: s-maj=15.6km s-min=7.9km az=166.5*

ISC 17 16:11:10.2±1.3, 7°.71S±0°.09×128°.8E±0°.1, h131km, n11, σ1°66/13, mb3.4/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**4.88**	**245**	P	Pn	16 12 25.4	+3.5
	baz=5.2,SNR=13						
MTN	**Manton Dam**	**5.61**	**156**	P	**Pn**	**16 12 32.8**	**+1.3**
	baz=5.7,SNR=52						
MTN				S	**Sn**	**16 13 35.7**	**+0.8**
	baz=5.7,SNR=5.4						
FAKI	**Fak Fak**	**5.89**	**36**	P	Pn	16 12 30.1	-5.2
	baz=5.6,SNR=8.1						
KDU	**Kakadu**	**6.15**	**144**	P	**Pn**	**16 12 38.9**	**+0.2**
	baz=6.2,SNR=78						
KDU				S	**Sn**	**16 13 45.9**	**-2.0**
	baz=6.2,SNR=7.9						
KNRA	**Kununurra**	**7.92**	**180**	P	**Pn**	**16 13 04.3**	**+1.8**
	baz=8.2,SNR=12						
KNRA				S	**Sn**	**16 14 29.3**	**-1.3**
	baz=8.2,SNR=5.3						
FITZ	**Fitzroy Crossi

mb3.6/2,MS3.7/5,Error ellipse: s-maj=12.9km s-min=5.8km az=176.4
*NEIC **17** 16:40:03.4,46°.39S×165°.69E,h12km,ML5.1(WEL),After WEL.*

ISC 17 16:40:01.9±2.8,46°.28S±0°.08×165°.66E±0°.08,h10km±15km, n68,σ0°99/49,MS3.8/5,1D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.72**	**81**	P*	**Pn**	**16 40 16.8**	**-1.3**
PYZ				S*	**Sb**	**16 40 26.5**	**+0.1**
PYZ	**Puysegur Point**	**0.72**	**81**	⇓Pn	**Pb**	**16 40 16.6**	**0.0**
PYZ				Sn	**Sg**	**16 40 26.3**	**+1.1**
DCZ	**Deep Cove**	**1.32**	**53**	Pn	**Pn**	**16 40 25.4**	**-1.0**
DCZ	**Deep Cove**	**1.32**	**53**	PN	**Pn**	**16 40 25.2**	**-1.2**
DCZ				SN	**Sn**	**16 40 43.3**	**-0.6**
DCZ				AML	AML	16 40 59.7	
DCZ				AML	AML	16 41 02.0	
DCZ				AML	AML	16 41 02.0	
WHZ	**Wether Hill Ro**	**1.64**	**77**	Pn	**Pb**	**16 40 31.4**	**-0.8**
WHZ	**Wether Hill Ro**	**1.64**	**77**	PN	**Pb**	**16 40 31.1**	**-1.1**
WHZ				SN	**Sn**	**16 40 51.9**	**-0.1**
WHZ				AML	AML	16 41 02.4	
APZ	**The Paps**	**1.70**	**110**	Pn	**Pn**	**16 40 31.1**	**-0.5**
APZ	**The Paps**	**1.70**	**110**	PN	**Pn**	**16 40 31.0**	**-0.6**
MLZ	**Mavora Lakes**	**1.99**	**63**	Pn	**Pb**	**16 40 36.8**	**-1.5**
MLZ	**Mavora Lakes**	**1.99**	**63**	PN	**Pb**	**16 40 36.5**	**-1.7**
MLZ				AML	AML	16 41 10.6	
MLZ				AML	AML	16 41 15.8	
MSZ	**Milford Sound**	**2.27**	**46**	Pn	**Pn**	**16 40 40.1**	**+0.7**
MSZ	**Milford Sound**	**2.27**	**46**	PN	**Pn**	**16 40 40.0**	**+0.6**
MSZ				AML	AML	16 41 26.6	
MSZ				AML	AML	16 41 26.6	
MSZ				AML	AML	16 41 27.3	
MSZ				AML	AML	16 41 27.4	
SYZ	**Scrubby Hill**	**2.42**	**97**	Pn	**Pn**	**16 40 41.8**	**+0.4**
SYZ				Sn	**Sn**	**16 41 09.7**	**-1.5**
SYZ	**Scrubby Hill**	**2.42**	**97**	PN	**Pn**	**16 40 41.9**	**+0.4**
EAZ	**Earnscleugh**	**2.76**	**69**	Pn	**Pn**	**16 40 47.5**	**+1.3**
EAZ	**Earnscleugh**	**2.76**	**69**	PN	**Pn**	**16 40 47.6**	**+1.3**
EAZ				AML	AML	16 41 26.3	
EAZ				AML	AML	16 41 26.3	
EAZ				AML	AML	16 41 26.4	
EAZ				AML	AML	16 41 26.4	
WKZ	**Wanaka**	**2.77**	**60**	Pn	Pn	16 40 48.4	+2.0
WKZ	**Wanaka**	**2.77**	**60**	PN	Pn	16 40 48.0	+1.6
WKZ				AML	AML	16 41 36.4	
WKZ				AML	AML	16 41 36.4	
WKZ				AML	AML	16 41 40.6	
WKZ				AML	AML	16 41 40.6	
TUZ	**Tuapeka**	**2.78**	**85**	Pn	**Pn**	**16 40 46.8**	**+0.3**
TUZ	**Tuapeka**	**2.78**	**85**	PN	**Pn**	**16 40 46.8**	**+0.3**
TUZ				AML	AML	16 41 25.8	
TUZ				AML	AML	16 41 31.7	
JCZ	**Jackson Bay**	**3.11**	**46**	Pn	Pn	16 40 53.3	+2.2
JCZ	**Jackson Bay**	**3.11**	**46**	*e*PN	Pn	16 40 52.8	+1.7
JCZ				AML	AML	16 41 49.2	
JCZ				AML	AML	16 41 57.2	
HHSZ	**Highcliff Hill**	**3.46**	**85**	Pn	**Pn**	**16 40 56.4**	**+0.6**
ODZ	**Otahua Downs**	**3.71**	**72**	*e*Pn	**Pn**	**16 40 58.5**	**-0.7**
ODZ				*e*Sn	**Sn**	**16 41 44.0**	**+1.0**
ODZ	**Otahua Downs**	**3.71**	**72**	PN	**Pn**	**16 40 58.5**	**-0.7**
ODZ				AML	AML	16 41 48.2	
ODZ				AML	AML	16 42 04.4	
ODZ				AML	AML	16 42 06.8	
ODZ				AML	AML	16 42 06.8	
LBZ	**Lake Benmore**	**3.71**	**61**	Pn	**Pn**	**16 40 59.9**	**+0.6**
LBZ	**Lake Benmore**	**3.71**	**61**	PN	**Pn**	**16 40 59.4**	**+0.1**
LBZ				AML	AML	16 41 47.7	
LBZ				AML	AML	16 42 06.9	
FOZ	**Fox Glacier**	**3.95**	**48**	Pn	Pn	16 41 04.9	+2.4
FOZ	**Fox Glacier**	**3.95**	**48**	*e*PN	Pn	16 41 04.4	+1.9
FOZ				AML	AML	16 42 19.0	
FOZ				AML	AML	16 42 19.2	
RPZ	**Rata Peaks**	**4.61**	**58**	Pn	**Pn**	**16 41 11.4**	**-0.2**
RPZ				Sn	**Sn**	**16 42 05.6**	**+0.4**
RPZ	**Rata Peaks**	**4.61**	**58**	Pn	**Pn**	**16 41 11.4**	**-0.2**
	7.0nm,0.3s,baz=207,slow=5.2,SNR=46						
RPZ				Sn	**Sn**	**16 42 05.6**	**+0.4**
	31nm,0.3s,baz=67,slow=19,SNR=8.9						
RPZ				LR	LR	16 43 00.6	
	comp=Z,708nm,19.1s,baz=213,slow=40						
RPZ	**Rata Peaks**	**4.61**	**58**	PN	**Pn**	**16 41 11.3**	**-0.3**
RPZ				AML	AML	16 42 23.9	
RPZ				AML	AML	16 42 45.2	
WVZ	**Waitaha Valley**	**4.84**	**50**	PN	**Pn**	**16 41 15.0**	**+0.3**
WVZ				AML	AML	16 42 22.3	
WVZ				AML	AML	16 42 47.8	
OXZ	**Oxford**	**5.42**	**59**	Pn	**Pn**	**16 41 21.7**	**-1.0**
LTZ	**Lake Taylor**	**5.88**	**56**	*e*Pn	**Pn**	**16 41 28.1**	**-1.0**
LTZ				AML	AML	16 42 44.2	
LTZ				AML	AML	16 43 07.6	
DSZ	**Denniston Nort**	**6.34**	**47**	*e*PN	**Pn**	**16 41 35.0**	**-0.4**
KHZ	**Kahutara**	**6.84**	**58**	AML	AML	16 43 12.3	
THZ	**Tophouse**	**6.91**	**52**	AML	AML	16 43 22.7	
THZ				AML	AML	16 43 25.0	
QRZ	**Quartz Range**	**7.39**	**45**	AML	AML	16 43 27.0	
QRZ				AML	AML	16 43 40.1	
NNZ	**Nelson**	**7.54**	**51**	PN	Pn	16 41 54.0	+2.2
URZ	**Urewera**	**11.66**	**51**	*e*Pn	**Pn**	**16 42 48.2**	**-0.1**
URZ	**Urewera**	**11.66**	**51**	Pn	**Pn**	**16 42 47.9**	**-0.4**
	0.4nm,0.3s,baz=260,slow=6.1,SNR=3.1						
URZ				Sn	Sn	16 44 52.4	-6.1
	0.2nm,0.3s,baz=147,slow=18,SNR=2.1						
MOO	**Moorlands**	**13.76**	**280**	P	P	16 43 19.9	-5.7
	baz=14,SNR=4.8						
TOO	**Toolangi**	**17.31**	**293**	P	P	16 44 07.7	+2.7
	baz=17,SNR=7.1						
RAO	**Raoul Island**	**21.32**	**43**	*e*P	**P**	**16 44 49.1**	**+0.3**
STKA	**Stephens Creek**	**23.46**	**299**	LR	LR	16 53 08.6	
	comp=Z,144nm,18.3s,baz=205,slow=33						
ASAR	**Alice Springs**	**34.08**	**301**	P	P	16 46 49.0	+2.4
ASAR	**Alice Springs**	**34.08**	**301**	P	P	16 46 49.0	+2.4
	0.4nm,0.6s,baz=132,slow=8.1,SNR=4.7						
WRA	**Warramunga Arr**	**36.71**	**305**	P	P	16 47 11.5	+2.3
WRA	**Warramunga Arr**	**36.71**	**305**	P	P	16 47 11.5	+2.3
	0.9nm,0.8s,baz=140,slow=7.9,SNR=3.8						
NWAO	**Narrogin (SRO)**	**39.03**	**272**	LR	LR	17 01 33.5	
	comp=Z,83nm,21.2s,baz=105,slow=33						
TBI	**Tubuai**	**42.65**	**73**	*e*LR	LR	16 59 39.2	
	142nm,38.5s						
FITZ	**Fitzroy Crossi**	**43.31**	**297**	LR	LR	17 05 48.1	
	comp=Z,109nm,20.3s,baz=111,slow=36						
PPT2	**Papeete2**	**46.68**	**67**	*e*LR	LR	17 01 32.1	
	141nm,30.2s						
PPT	**Papeete**	**46.70**	**67**	LR	LR	17 04 51.8	
	comp=Z,116nm,18.3s,baz=171,slow=32						
MAW	**Mawson**	**52.65**	**208**	LR	LR	17 11 45.8	
	comp=Z,97nm,18.1s,baz=120,slow=36						
RKT	**Rikitea**	**52.66**	**85**	*e*LR	LR	17 04 14.2	
	127nm,39.0s						
UGM	**Wanagama**	**60.58**	**291**	P	P	16 50 15.9	+3.1
	baz=61,SNR=7.1						
TORD	**Torodi Ar. Bea**	**144.30**	**207**	PKP	**PKPdf**	**16 59 38.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**144.30**	**207**	PKP	**PKPdf**	**16 59 38.7**	**+0.3**
	1.5nm,0.8s,baz=154,slow=2.4,SNR=6.2						
BRTR	**Keskin Array B**	**144.75**	**277**	PKP	PKPdf	16 59 40.8	+2.1
BRTR	**Keskin Array B**	**144.75**	**277**	PKP	PKPdf	16 59 40.8	+2.1
	1.4nm,1.0s,baz=129,slow=4.9,SNR=4.0						
SCHQ	**Schefferville**	**146.30**	**56**	PKPbc	**PKPab**	**16 59 43.1**	**+0.4**
SCHQ	**Schefferville**	**146.30**	**56**	PKPbc	**PKPab**	**16 59 43.1**	**+0.4**
	1.6nm,0.5s,baz=245,slow=4.0,SNR=4.7						
ARCES	**ARCESS Array B**	**149.51**	**334**	PKPbc	**PKPab**	**16 59 52.9**	**-2.1**
ARCES	**ARCESS Array B**	**149.51**	**334**	PKPbc	**PKPab**	**16 59 52.9**	**-2.1**
	2.0nm,0.8s,baz=80,slow=2.8,SNR=5.5						
FINES	**FINESS Array B**	**152.32**	**318**	PKPbc	**PKPbc**	**16 59 58.8**	**+2.0**
FINES	**FINESS Array B**	**152.32**	**318**	PKPbc	**PKPbc**	**16 59 58.8**	**+2.0**
	1.7nm,0.7s,baz=87,slow=7.1,SNR=6.2						

*DDA **17** 16:46:21.4,34°.96N×30°.06E,h25km,MD3.6*
*ISK **17** 16:46:27.7,35°.33N×30°.32E,h32km,ML3.0*

CSEM 17 16:46:25.7±0.5,35°.39N×30°.31E,h2km,MD3.6,Error ellipse: s-maj=17.1km s-min=5.9km az=19.0,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKAS	**Kas**	**1.01**	**326**	*i* P	Pg	16 46 44.5	-0.9
AKAS				*i* S	Sn	16 47 08.1	+5.9
AKAS	**Kas**	**1.01**	**326**	*i* P	Pg	16 46 44.5	-0.9

ELL	**Elmali**	**1.39**	**347**	*e*PN	Pb	16 46 53.2	+0.6
ELL	**Elmali**	**1.39**	**347**	*e*Pn	Pb	16 46 53.2	+0.6
FETY	**Fethiye**	**1.59**	**322**	*e*PN	Pn	16 46 54.6	-0.3
FETY				*e*SN	Sn	16 47 14.6	-1.4
FETY	**Fethiye**	**1.59**	**322**	*e*Pn	Pn	16 46 54.6	-0.3
FETY				*e*Sn	Sn	16 47 14.6	-1.5
GAZI	**Gazipasa**	**1.83**	**62**	*i* P	Pn	16 46 57.3	-1.0
GAZI				*i* S	Sg	16 47 24.3	-0.5
GAZI	**Gazipasa**	**1.83**	**62**	*i* P	Pn	16 46 57.3	-1.0
GAZI				*i* S	Sg	16 47 24.3	-0.4
GOLH	**Golhisar**	**1.94**	**342**	*i* P	Pn	16 46 58.2	-1.6
GOLH				*i* S	Sg	16 47 40.0	+12
GOLH	**Golhisar**	**1.94**	**342**	*i* P	Pn	16 46 58.2	-1.6
DALY	**Dalyan (Mu˘la**	**1.95**	**317**	*e*PN	Pn	16 47 00.5	+0.7
DALY	**Dalyan (Mu˘la**	**1.95**	**317**	*e*Pn	Pn	16 47 00.5	+0.7
BCK	**Bucak**	**2.08**	**6**	*e*PN	Pn	16 47 02.0	+0.3
BCK	**Bucak**	**2.08**	**6**	*e*Pn	Pn	16 47 02.0	+0.3
SUTC	**Sutluce-Ispart**	**2.15**	**15**	*e*PN	Pn	16 47 03.3	+0.5
SUTC	**Sutluce-Ispart**	**2.15**	**15**	*e*Pn	Pn	16 47 03.3	+0.5
YER	**Yerkesik**	**2.39**	**317**	*e*PN	Pn	16 47 06.8	+0.8
YER	**Yerkesik**	**2.39**	**317**	*e*Pn	Pn	16 47 06.8	+0.9
CSS	**Prodhromos**	**2.51**	**99**	*e*PN	Pn	16 47 07.9	+0.3
CSS	**Prodhromos**	**2.51**	**99**	*e*Pn	Pn	16 47 07.9	+0.3
DAT	**Datca**	**2.58**	**302**	*e*PN	Pn	16 47 08.2	-0.5
DAT	**Datca**	**2.58**	**302**	*e*Pn	Pn	16 47 08.2	-0.5
LFK	**Lefkose**	**2.64**	**92**	*e*PN	Pn	16 47 08.6	-0.7
LFK	**Lefkose**	**2.64**	**92**	*e*Pn	Pn	16 47 08.6	-0.8
IKL	**Isikli**	**2.87**	**72**	*e*PN	Pn	16 47 12.6	+0.1
IKL	**Isikli**	**2.87**	**72**	*e*Pn	Pn	16 47 12.6	+0.1
BODT	**Bodrum**	**2.94**	**305**	*e*PN	Pn	16 47 14.5	+1.0
BODT	**Bodrum**	**2.94**	**305**	*e*Pn	Pn	16 47 14.5	+1.0
KARA	**Karaisali**	**4.26**	**63**	*e*PN	Pn	16 47 31.7	+0.1
KARA	**Karaisali**	**4.26**	**63**	*e*Pn	Pn	16 47 31.7	+0.1

WEL 17 17:10:11.5±0.2,45°.87S×166°.40E,h26km±1km,ML3.4/13, 2C,Error ellipse: s-maj=2.8km s-min=0.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.36**	**147**	⇑P*	Pb	17 10 19.2	-0.3
PYZ				S*	Sb	17 10 24.3	-0.7
PYZ				S*	Sn	17 10 24.4	-2.9
DCZ	**Deep Cove**	**0.66**	**54**	⇑P*	Pb	17 10 23.8	-0.5
DCZ				S*	Sb	17 10 32.9	-0.2
DCZ				AML	AML	17 10 33.4	
DCZ				AML	AML	17 10 33.4	
DCZ				AML	AML	17 10 33.9	
WHZ	**Wether Hill Ro**	**1.08**	**92**	PN	Pn	17 10 31.0	+0.1
WHZ				AML	AML	17 10 48.9	
WHZ				AML	AML	17 10 51.0	
MLZ	**Mavora Lakes**	**1.35**	**68**	*e*PN	Pn	17 10 34.7	0.0
MLZ				AML	AML	17 10 57.6	
MLZ				AML	AML	17 10 57.7	
APZ	**The Paps**	**1.47**	**132**	PN	Pn	17 10 36.0	-0.2
MSZ	**Milford Sound**	**1.61**	**43**	AML	AML	17 11 07.7	
MSZ				AML	AML	17 11 14.2	
MSZ				AML	AML	17 11 14.2	
SYZ	**Scrubby Hill**	**2.02**	**110**	*e*PN	Pn	17 10 44.9	+1.0
WKZ	**Wanaka**	**2.12**	**62**	PN	Pb	17 10 48.9	-0.4
EAZ	**Earnscleugh**	**2.14**	**74**	PN	Pb	17 10 48.4	-1.2
EAZ				AML	AML	17 10 52.4	
EAZ				AML	AML	17 11 16.5	
TUZ	**Tuapeka**	**2.26**	**93**	PN	Pn	17 10 49.0	+1.9
TUZ				AML	AML	17 11 21.1	
JCZ	**Jackson Bay**	**2.46**	**44**	AML	AML	17 11 35.3	
JCZ				AML	AML	17 11 36.3	
LBZ	**Lake Benmore**	**3.06**	**62**	*e*PN	Pn	17 11 00.2	+2.0
ODZ	**Otahua Downs**	**3.10**	**76**	PN	Pn	17 10 59.8	+1.1
OXZ	**Oxford**	**4.76**	**60**	*e*PN	Pn	17 11 23.6	+2.1

WEL 17 17:12:23.6±0.1,45°.88S×167°.02E,h13km±2km,ML2.8/10, 1C,Error ellipse: s-maj=0.9km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.37**	**220**	P*	Pg	17 12 31.2	+0.1
PYZ				S*	Sg	17 12 36.0	-0.2
DCZ	**Deep Cove**	**0.41**	**13**	P*	Pg	17 12 31.7	-0.1
DCZ				S*	Sg	17 12 37.8	+0.5
DCZ				AML	AML	17 12 38.1	
DCZ				AML	AML	17 12 38.5	
WHZ	**Wether Hill Ro**	**0.65**	**91**	⇑P*	Pg	17 12 35.8	-0.4
WHZ				S*	Sg	17 12 44.7	-0.1
WHZ				AML	AML	17 12 45.9	
MLZ	**Mavora Lakes**	**0.97**	**57**	P*	Pb	17 12 41.2	-1.2
MLZ				S*	Sg	17 12 54.2	-0.8
APZ	**The Paps**	**1.16**	**145**	P*	Pb	17 12 44.5	-1.2
APZ				S*	Sb	17 12 59.7	-1.0
MSZ	**Milford Sound**	**1.37**	**28**	*e*PN	Pn	17 12 47.6	-0.8
MSZ				AML	AML	17 13 06.3	
MSZ				AML	AML	17 13 07.0	
SYZ	**Scrubby Hill**	**1.61**	**115**	PN	Pn	17 12 51.3	-0.4
SYZ				SN	Sn	17 13 11.8	-0.6
EAZ	**Earnscleugh**	**1.73**	**69**	PN	Pn	17 12 54.3	+0.8
EAZ				SN	Sn	17 13 16.2	+0.7
WKZ	**Wanaka**	**1.76**	**54**	PN	Pb	17 12 55.0	-0.7
TUZ	**Tuapeka**	**1.82**	**93**	PN	Pn	17 12 55.4	+0.8
TUZ				SN	Sn	17 13 18.5	+0.8
TUZ				AML	AML	17 13 19.5	
ODZ	**Otahua Downs**	**2.68**	**73**	*e*PN	Pn	17 13 05.8	-0.7

*IDC **17** 17:25:17.1±0.6,3°.64N×126°.62E,h0km,mb4.0/14, mb1 4.1/14,mb1mx4.0/23,mbtmp4.0/14,MS3.5/2, Ms1 3.5/2,ms1mx2.6/33,Error ellipse: s-maj=33.6km s-min=13.6km az=75.0*
*ISCJB **17** 17:25:22.6±0.4,3°.57N±0°.06×126°.69E±0°.09,h53km, mb3.9/14,MS3.5/2,Error ellipse: s-maj=14.7km s-min=6.0km az=153.9*
*AUST **17** 17:25:34.5,3°.00N×127°.00E,h100km*
*MAN **17** 17:25:36,4°.37N×126°.27E,h75km,mb4.8,ML3.7,MS3.8*

ISC 17 17:25:24.2±0.5,3°.67N±0°.07×126°.7E±0°.1,h53km,n31, σ1938/26,mb4.0/14,1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**3.29**	**352**	*e*P	**Pn**	**17 26 15.0**	**+1.8**
MATI				*e*S	**Sn**	**17 26 47.1**	**-4.0**
CTBH	**Cotabato--PC H**	**4.30**	**325**	⇓*i* P	Pn	17 26 30.1	+3.0
BUKP	**Musuan**	**4.49**	**339**	*e*P	Pn	17 26 32.8	+3.0
PAGZ	**Pagadian**	**5.32**	**321**	*e*P	**Pn**	**17 26 43.2**	**+2.1**
IPIL	**Ipil**	**5.81**	**315**	*e*P	**Pn**	**17 26 48.9**	**+1.0**
LUWI	**Luwuk**	**6.12**	**220**	P	Pn	17 26 57.2	+5.0
	baz=5.8,SNR=12						
SWI	**Sorong**	**6.39**	**135**	P	**Pn**	**17 26 56.0**	**+0.1**
	baz=5.7,SNR=6.3						
FAKI	**Fak Fak**	**8.57**	**140**	P	**Pn**	**17 27 27.1**	**+1.4**
	baz=7.9,SNR=3.2						
MTN	**Manton Dam**	**16.98**	**165**	P	**Pn**	**17 29 15.3**	**-2.9**
	baz=16,SNR=6.6						
KDU	**Kakadu**	**17.23**	**161**	P	P	17 29 27.4	+5.2
	baz=17,SNR=4.0						
KNRA	**Kununurra**	**19.33**	**174**	P	**P**	**17 29 45.7**	**+0.5**
	baz=19,SNR=11						
FITZ	**Fitzroy Crossi**	**21.66**	**183**	P	**P**	**17 30 09.3**	**-1.2**
	3.4nm,0.9s,baz=14,slow=13,SNR=3.7						
CISI	**Cisompet, Garu**	**21.92**	**239**	S	S	17 33 56.6	-16
	baz=22,SNR=5.9						
WRA	**Warramunga Arr**	**24.63**	**163**	P	**P**	**17 30 39.2**	**-0.8**
	5.5nm,0.8s,baz=337,slow=10,SNR=14						
BKNI	**Bangkinang**	**25.88**	**263**	P	P	17 31 00.6	+9.2
	baz=26,SNR=3.1						
ASAR	**Alice Springs**	**28.06**	**166**	P	**P**	**17 31 10.4**	**-0.5**
	0.2nm,0.3s,baz=347,slow=7.3,SNR=11						
ASAR				PcP	**PcP**	**17 34 25.6**	**+0.9**
	0.4nm,0.4s,baz=356,slow=2.2,SNR=7.1						
CMAR	**Chiang Mai Arr**	**30.89**	**301**	P	**P**	**17 31 35.8**	**-0.2**
	0.6nm,0.5s,baz=117,slow=6.9,SNR=5.8						
PATS	**Pohnpei**	**31.61**	**83**	S	**S**	**17 36 47.2**	**-0.7**
	baz=31,SNR=3.2						
KSRS	**Korea Array**	**33.64**	**2**	P	**P**	**17 32 00.2**	**+0.4**
	3.3nm,0.9s,baz=177,slow=9.5,SNR=5.6						
MJAR	**Matsushiro Arr**	**34.38**	**16**	LR	LR	17 44 31.7	
	comp=Z,72nm,18.7s,baz=165,slow=34						
STKA	**Stephens Creek**	**38.08**	**159**	P	**P**	**17 32 37.8**	**-0.1**
	1.9nm,0.6s,baz=344,slow=9.0,SNR=7.4						
STKA	**Stephens Creek**	**38.08**	**159**	P	**P**	**17 32 39.2**	**+1.3**
	baz=38,SNR=5.3						

USRK	**Ussuriysk Arra**	**40.63**	**6**	P	**P**	**17 32 59.1**	**+0.2**
	0.5nm,0.4s,baz=184,slow=7.8,SNR=4.1						
SONM	**Songino Array**	**47.35**	**341**	P	**P**	**17 33 53.2**	**+0.2**
	0.7nm,0.6s,baz=157,slow=8.2,SNR=5.8						
PETK	**Petropavlovsk-**	**55.48**	**22**	P	**P**	**17 34 54.3**	**+0.7**
	2.3nm,0.7s,baz=180,slow=5.6,SNR=4.0						
MKAR	**Makanchi Array**	**57.60**	**325**	P	**P**	**17 35 08.7**	**-0.1**
	1.6nm,0.6s,baz=121,slow=8.2,SNR=22						
MKAR				PcP	**PcP**	**17 36 02.1**	**+0.5**
	0.5nm,0.7s,baz=95,slow=5.7,SNR=2.4						
ZALV	**Zalesovo Beam**	**60.63**	**333**	P	**P**	**17 35 28.8**	**-0.8**
	0.4nm,0.4s,baz=127,slow=6.2,SNR=3.4						
ILAR	**Eielson Array**	**85.16**	**25**	P	**P**	**17 37 55.2**	**+0.7**
	0.3nm,0.6s,baz=269,slow=4.5,SNR=2.7						
BRTR	**Keskin Array B**	**90.05**	**310**	P	**P**	**17 38 18.6**	**-0.2**
	0.9nm,0.9s,baz=145,slow=5.3,SNR=3.7						
ARCES	**ARCESS Array B**	**90.50**	**340**	P	**P**	**17 38 19.7**	**-0.4**
	3.4nm,1.0s,baz=64,slow=5.5,SNR=5.5						
NOA	**NORSAR Array B**	**98.83**	**334**	LR	LR	18 28 48.4	
	comp=Z,16nm,18.5s,baz=240,slow=39						

DJA 17 17:40:55.7±1.0,1°N±8°×126°E±°,h27km±15km,M3.5/7, MLv3.5/7,Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.29**	**101**	P	Pn	17 41 17.3	-0.7
MNI	**Manado**	**1.32**	**288**	P	Pn	17 41 19.0	+0.5
MNI				S	Sn	17 41 34.1	-1.2
GAMI	**Galela, Maluku**	**1.87**	**65**	P	Pn	17 41 26.3	+0.4
KMSI	**Cibinong**	**2.17**	**258**	P	Pn	17 41 30.6	+0.6
LBMI	**Labuha**	**2.17**	**140**	P	Pn	17 41 29.5	-0.6
GTOI	**Gorontalo**	**3.11**	**263**	P	Pn	17 41 44.3	+1.2
LUWI	**Luwuk**	**3.91**	**238**	P	Pn	17 41 54.3	+0.2

WEL 17 17:51:24.5±0.2,46°.18S×165°.72E,h33km,ML3.9/16, Error ellipse: s-maj=2.0km s-min=1.5km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.67**	**89**	PN	Pn	17 51 37.3	-0.3
PYZ				SN	Sb	17 51 46.3	-0.7
DCZ	**Deep Cove**	**1.23**	**56**	PN	Pn	17 51 44.8	-0.4
DCZ				SN	Sn	17 52 00.6	0.0
DCZ				AML	AML	17 52 01.8	
DCZ				AML	AML	17 52 04.7	
DCZ				AML	AML	17 52 08.2	
WHZ	**Wether Hill Ro**	**1.58**	**80**	PN	Pn	17 51 51.5	+1.4
WHZ				AML	AML	17 52 21.1	
WHZ				AML	AML	17 52 24.4	
APZ	**The Paps**	**1.70**	**113**	PN	Pn	17 51 53.3	+1.4
MLZ	**Mavora Lakes**	**1.91**	**65**	PN	Pn	17 51 55.9	+1.1
MLZ				AML	AML	17 52 24.8	
MLZ				AML	AML	17 52 29.9	
MSZ	**Milford Sound**	**2.17**	**47**	PN	Pn	17 51 59.4	+1.2
MSZ				AML	AML	17 52 37.1	
MSZ				AML	AML	17 52 37.1	
MSZ				AML	AML	17 52 43.0	
MSZ				AML	AML	17 52 43.0	
SYZ	**Scrubby Hill**	**2.40**	**100**	PN	Pn	17 52 03.5	+2.1
WKZ	**Wanaka**	**2.69**	**61**	PN	Pn	17 52 07.9	+2.5
WKZ				AML	AML	17 52 48.1	
WKZ				AML	AML	17 52 53.0	
EAZ	**Earnscleugh**	**2.69**	**71**	PN	Pn	17 52 07.9	+2.5
EAZ				AML	AML	17 52 46.7	
EAZ				AML	AML	17 52 50.6	
TUZ	**Tuapeka**	**2.73**	**87**	PN	Pn	17 52 08.3	+2.2
TUZ				AML	AML	17 52 47.2	
TUZ				AML	AML	17 52 50.5	
JCZ	**Jackson Bay**	**3.01**	**47**	*e*PN	Pn	17 52 11.5	+1.6
JCZ				AML	AML	17 53 04.6	
JCZ				AML	AML	17 53 11.5	
LBZ	**Lake Benmore**	**3.63**	**62**	*e*PN	Pn	17 52 19.6	+1.3
LBZ				AML	AML	17 53 26.1	
ODZ	**Otahua Downs**	**3.64**	**74**	PN	Pn	17 52 18.8	+0.3
ODZ				AML	AML	17 53 28.6	
RPZ	**Rata Peaks**	**4.52**	**59**	*e*PN	Pn	17 52 30.9	+0.3

IDC 17 17:54:37.1±29.0,20°.85S×178°.50W,h425km±271km, mb3.1/5,mb1 3.2/5,mb1mx2.9/20,mbtmp3.1/5,MS3.1/1, Ms1 3.1/1,ms1mx2.7/8,Error ellipse: s-maj=153.4km s-min=105.2km az=75.0,Fiji Islands region

| Code | Station Name | Δ

0.3nm,0.6s,baz=216,slow=4.5,SNR=3.5
PDAR Pinedale Array 89.01 43 P P 18 34 00.1 -0.5
0.3nm,0.8s,baz=224,slow=4.1,SNR=4.7
BVAR Borovoye Array 118.41 320 PKP PKPdf 18 39 48.3 0.0
0.6nm,0.3s,baz=124,slow=2.0,SNR=7.5
BRTR Keskin Array B 146.16 312 PKPbc PKPbc 18 40 42.2 -0.5
0.6nm,0.6s,baz=161,slow=5.2,SNR=3.7
GERES GERESS Array B 149.64 344 PKPbc PKPbc 18 40 50.3 -0.8
0.3nm,0.5s,baz=335,slow=4.3,SNR=3.7

WEL 17 18:29:49.0±0.4, 46°29S×165°67E, h33km, ML3.6/12, 1D, Error ellipse: s-maj=3.9km s-min=3.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.71**	**81**	⇓P	Pn	18 30 02.4	-0.4
PYZ				SN	Sn	18 30 12.1	-0.5
DCZ	**Deep Cove**	**1.32**	**53**	PN	Pn	18 30 11.0	0.0
DCZ				SN	Sn	18 30 27.3	-0.1
DCZ				AML	AML	18 30 28.9	
DCZ				AML	AML	18 30 29.9	
WHZ	**Wether Hill Ro**	**1.63**	**77**	PN	Pn	18 30 16.7	+1.3
WHZ				SN	Sb	18 30 37.4	-1.4
APZ	**The Paps**	**1.69**	**110**	PN	Pn	18 30 17.6	+1.3
MLZ	**Mavora Lakes**	**1.99**	**63**	*e*PN	Pn	18 30 20.9	+0.5
MLZ				AML	AML	18 30 52.7	
MLZ				AML	AML	18 30 53.4	
MSZ	**Milford Sound**	**2.27**	**45**	*e*PN	Pn	18 30 25.5	+1.4
MSZ				AML	AML	18 31 07.8	
MSZ				AML	AML	18 31 09.7	
EAZ	**Earnscleugh**	**2.76**	**69**	PN	Pn	18 30 33.7	+2.8
EAZ				AML	AML	18 31 22.8	
EAZ				AML	AML	18 31 23.6	
WKZ	**Wanaka**	**2.77**	**59**	*e*PN	Pb	18 30 34.5	-3.3
TUZ	**Tuapeka**	**2.78**	**85**	PN	Pn	18 30 33.4	+2.3
TUZ				AML	AML	18 31 17.8	
TUZ				AML	AML	18 31 19.5	
JCZ	**Jackson Bay**	**3.11**	**46**	*e*PN	Pn	18 30 38.4	+2.6
JCZ				AML	AML	18 31 38.1	
JCZ				AML	AML	18 31 42.2	
ODZ	**Otahua Downs**	**3.70**	**72**	PN	Pn	18 30 44.9	+1.0

IDC 17 18:36:10.2±2.1, 16°03S×175°64W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.6/20, mbtmp4.0/4, ML2.0/1, Error ellipse: s-maj=170.3km s-min=31.3km az=154.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.29**	**61**	Pn	Pn	18 37 16.8	0.0
	5.2nm,0.3s,baz=233,slow=5.1,SNR=5.6						
AFI				Sn	Sn	18 37 58.2	-9.4
	38nm,0.3s,baz=47,slow=22,SNR=22						
STKA	**Stephens Creek**	**41.86**	**240**	P	P	18 44 01.5	-0.7
	1.0nm,0.8s,baz=83,slow=8.3,SNR=5.5						
WRA	**Warramunga Arr**	**47.60**	**257**	P	P	18 44 48.3	0.0
	0.4nm,0.4s,baz=91,slow=7.2,SNR=14						
ASAR	**Alice Springs**	**47.87**	**252**	P	P	18 44 50.5	+0.2
	3.8nm,0.5s,baz=87,slow=8.5,SNR=152						

WEL 17 18:56:48.0±0.1, 45°62S×166°51E, h21km, ML3.5/14, 1C, Error ellipse: s-maj=1.6km s-min=0.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.47**	**73**	P*	Pb	18 56 57.2	-0.4
DCZ				S*	Sb	18 57 03.4	-0.7
DCZ				AML	AML	18 57 03.5	
DCZ				AML	AML	18 57 03.7	
DCZ				AML	AML	18 57 03.7	
PYZ	**Puysegur Point**	**0.56**	**168**	⇑P*	Pb	18 56 58.3	-0.9
PYZ				S*	Sb	18 57 05.9	-1.1
WHZ	**Wether Hill Ro**	**1.04**	**106**	PN	Pb	18 57 07.1	-0.3
WHZ				AML	AML	18 57 25.4	
WHZ				AML	AML	18 57 27.0	
MLZ	**Mavora Lakes**	**1.20**	**78**	PN	Pn	18 57 08.7	-0.9
MLZ				SN	Sb	18 57 23.8	-1.4
MLZ				AML	AML	18 57 24.2	
MSZ	**Milford Sound**	**1.38**	**47**	*e*PN	Pn	18 57 11.2	-0.7
MSZ				AML	AML	18 57 37.3	
MSZ				AML	AML	18 57 37.3	
MSZ				AML	AML	18 57 37.4	
MSZ				AML	AML	18 57 37.4	
APZ	**The Paps**	**1.59**	**140**	PN	Pn	18 57 14.8	-0.2
WKZ	**Wanaka**	**1.94**	**67**	*e*PN	Pb	18 57 21.7	-1.0
WKZ				AML	AML	18 57 52.6	
WKZ				AML	AML	18 57 52.6	
EAZ	**Earnscleugh**	**2.01**	**80**	*e*PN	Pb	18 57 22.3	-1.5
EAZ				AML	AML	18 57 49.0	
EAZ				AML	AML	18 57 50.0	
SYZ	**Scrubby Hill**	**2.05**	**118**	PN	Pn	18 57 22.5	+1.4
TUZ	**Tuapeka**	**2.21**	**100**	PN	Pb	18 57 26.1	-1.1
TUZ				AML	AML	18 57 58.3	
TUZ				AML	AML	18 57 58.5	
JCZ	**Jackson Bay**	**2.22**	**47**	*e*PN	Pb	18 57 26.1	-1.5
JCZ				AML	AML	18 58 06.0	
JCZ				AML	AML	18 58 11.0	
LBZ	**Lake Benmore**	**2.88**	**66**	*e*PN	Pn	18 57 34.4	+1.7
ODZ	**Otahua Downs**	**2.97**	**80**	PN	Pn	18 57 34.2	+0.3

CSEM 17 19:00:03.4, 33°84N×25°31E, h13km, MD3.3, After ATH
ATH 17 19:00:03.4, 33°84N×25°31E, h13km±2km, MD3.3/6
ISCJB 17 19:00:04.2±0.7, 33°79N±0°05×25°42E±0°06, h17km, mb3.5/4, Error ellipse: s-maj=9.7km s-min=4.4km az=44.4
IDC 17 19:00:04.5±1.3, 33°92N×25°33E, h0km, mb3.5/4, mb1 3.6/7, mb1mx3.5/27, mbtmp3.5/7, ML3.4/3, MS2.3/1, Ms1 2.3/1, ms1mx1.6/36, Error ellipse: s-maj=35.6km s-min=24.1km az=155.0
ISC 17 19:00:06.4±0.9, 33°94N±0°06×25°35E±0°05, h17km, n24, σ0s94/33, mb3.5/4, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**1.16**	**338**	*e*PB	**Pn**	**19 00 26.9**	**-1.0**
SIVA				*e*SB	**Sg**	**19 00 45.1**	**+0.9**
SIVA	**Sivas**	**1.16**	**338**	*e*Pb	**Pn**	**19 00 26.9**	**-1.0**
SIVA				*e*Sb	**Sg**	**19 00 45.1**	**+0.9**
LAST	**Lasithi**	**1.22**	**5**	*e*PG	**Pn**	**19 00 28.2**	**-0.6**
LAST				*e*SB	**Sg**	**19 00 46.6**	**+0.5**
LAST	**Lasithi**	**1.22**	**5**	*e*Pg	**Pn**	**19 00 28.2**	**-0.6**
LAST				*e*Sb	**Sg**	**19 00 46.6**	**+0.5**
NPS	**Neapolis**	**1.34**	**9**	*e*PG	**Pb**	**19 00 30.4**	**-0.7**
NPS	**Neapolis**	**1.34**	**9**	*e*Pg	**Pb**	**19 00 30.4**	**-0.7**
GVD	**Gavdhos**	**1.38**	**311**	*e*PB	**Pb**	**19 00 30.5**	**-1.2**
GVD	**Gavdhos**	**1.38**	**311**	*e*Pb	**Pb**	**19 00 30.5**	**-1.2**
IDI	**Anoyia**	**1.40**	**344**	*e*PG	**Pn**	**19 00 30.6**	**-0.6**
IDI				*e*SB	**Sg**	**19 00 51.0**	**-0.6**
IDI	**Anoyia**	**1.40**	**344**	*e*Pg	**Pn**	**19 00 30.6**	**-0.6**
IDI				*e*Sb	**Sg**	**19 00 51.0**	**-0.6**
VAM	**Vamos**	**1.74**	**327**	*e*PN	**Pn**	**19 00 35.7**	**-0.2**
VAM	**Vamos**	**1.74**	**327**	*e*Pn	**Pn**	**19 00 35.7**	**-0.2**
KARN	**Karanos**	**1.88**	**321**	*e*PN	**Pn**	**19 00 37.9**	**+0.1**
KARN				*e*SN	**Sb**	**19 01 03.8**	**+0.4**
KARN	**Karanos**	**1.88**	**321**	*e*Pn	**Pn**	**19 00 37.9**	**+0.1**
KARN				*e*Sn	**Sb**	**19 01 03.8**	**+0.4**
KARP	**Karpathos**	**2.19**	**42**	*e*PN	**Pn**	**19 00 43.4**	**+1.3**
KARP	**Karpathos**	**2.19**	**42**	*e*Pn	**Pn**	**19 00 43.4**	**+1.3**
MMAI	**Mount Meron Ar**	**8.45**	**93**	Pn	**Pn**	**19 02 08.2**	**+0.1**
	0.6nm,0.3s,baz=278,slow=12,SNR=5.6						
MMAI				Sn	**Sn**	**19 03 41.6**	**-1.6**
	0.7nm,0.3s,baz=270,slow=27,SNR=4.4						
EIL	**Elat**	**9.21**	**115**	Pn	**Pn**	**19 02 19.1**	**+0.6**
	0.3nm,0.3s,baz=193,slow=19,SNR=4.9						
EIL				Sn	**Sn**	**19 03 59.3**	**-2.5**
	0.1nm,0.3s,baz=11,slow=18,SNR=2.4						
VRAC	**Vranov**	**16.67**	**340**	LR	LR	19 09 05.0	
	comp=Z,12nm,21.8s,baz=308,slow=32						
GERES	**GERESS Array B**	**17.23**	**333**	P	**P**	**19 04 07.0**	**-0.8**
	0.1nm,0.3s,baz=146,slow=12,SNR=13						
TORD	**Torodi Ar. Bea**	**29.84**	**232**	P	**P**	**19 06 13.2**	**+0.3**
	0.2nm,0.4s,baz=35,slow=7.8,SNR=6.6						
MKAR	**Makanchi Array**	**44.32**	**56**	P	**P**	**19 08 16.2**	**+0.7**
	0.6nm,0.6s,baz=275,slow=7.1,SNR=12						
ZALV	**Zalesovo Beam**	**45.74**	**45**	P	**P**	**19 08 27.0**	**+0.4**
	0.6nm,0.4s,baz=268,slow=8.6,SNR=3.7						
SONM	**Songino Array**	**60.14**	**50**	P	**P**	**19 10 14.4**	**+1.3**
	0.1nm,0.4s,baz=302,slow=8.3,SNR=2.5						

IDC 17 19:07:32.5±1.2, 2°35N×127°08E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/21, mbtmp3.7/7, Error ellipse: s-maj=73.2km s-min=16.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.37**	**184**	P	Pn	19 12 12.0	-0.8
	1.6nm,0.7s,baz=6.3,slow=9.2,SNR=6.4						
WRA	**Warramunga Arr**	**23.27**	**162**	P	P	19 12 41.2	-0.7
	1.4nm,0.5s,baz=339,slow=11,SNR=16						
ASAR	**Alice Springs**	**26.70**	**166**	P	P	19 13 13.2	-0.4
	0.2nm,0.5s,baz=345,slow=7.8,SNR=12						
ASAR				PcP	PcP	19 16 37.4	-0.1
	0.3nm,0.6s,baz=350,slow=2.0,SNR=5.6						
CMAR	**Chiang Mai Arr**	**31.88**	**302**	P	P	19 13 59.5	-0.3
	0.5nm,0.4s,baz=107,slow=6.0,SNR=5.2						
STKA	**Stephens Creek**	**36.72**	**159**	P	P	19 14 41.7	+0.2
	4.2nm,1.0s,baz=330,slow=12,SNR=7.4						
SONM	**Songino Array**	**48.71**	**342**	P	P	19 16 19.4	+0.5
	0.3nm,0.7s,baz=190,slow=7.5,SNR=3.7						
MKAR	**Makanchi Array**	**58.88**	**326**	P	P	19 17 32.9	-0.4
	0.6nm,0.5s,baz=121,slow=7.7,SNR=13						

JMA 17 19:19:26.7±0.3, 33°37N×142°41E, h90km, M3.1
IDC 17 19:19:30.1±1.1, 33°05N×141°51E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/24, mbtmp3.4/6, ML3.3/1, MS3.1/1, Ms1 3.3/1, ms1mx2.3/26, Error ellipse: s-maj=30.5km s-min=24.4km az=53.0
ISC 17 19:19:23.7±3.1, 33°3N±0°1×142°7E±0°2, h86km±40km, n20, σ1s71/25, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.96**	**314**	P	**Pn**	**19 19 56.0**	**+1.3**
BSO1				*e*S	**Sn**	**19 20 17.4**	**-1.0**
BSO2	**Boso 2**	**2.16**	**312**	*e*S	**Sn**	**19 20 23.9**	**+0.3**
BSO3	**Boso 3**	**2.35**	**310**	P	**Pn**	**19 20 01.2**	**+1.1**
BSO3				*e*S	**Sn**	**19 20 27.8**	**-0.3**
JHJ2	**Mitsune**	**2.42**	**266**	P	**Pn**	**19 20 02.1**	**+0.8**
JHJ2				*e*S	**Sn**	**19 20 28.3**	**-1.9**
JHCJ	**Hachijojimakas**	**2.44**	**265**	P	**Pn**	**19 20 02.2**	**+0.6**
JHCJ				*e*S	**Sn**	**19 20 28.8**	**-1.9**
BSO4	**Boso 4**	**2.58**	**311**	*e*S	**Sn**	**19 20 32.7**	**-1.1**
JOD2	**Odawara 2**	**3.56**	**304**	P	**Pn**	**19 20 17.2**	**+0.4**
JOD2				*e*S	**Sn**	**19 20 55.7**	**-2.2**
JYN	**Shimob**	**4.07**	**304**	P	**Pn**	**19 20 25.3**	**+1.7**
JYN				*e*S	**Sn**	**19 21 09.2**	**-0.9**
JAG	**Ashikaga**	**4.09**	**320**	P	**Pn**	**19 20 25.6**	**+1.6**
JAG				*e*S	**Sn**	**19 21 08.6**	**-2.1**
JRY	**Ryogami san**	**4.13**	**312**	P	**Pn**	**19 20 26.1**	**+1.6**
JRY				*e*S	**Sn**	**19 21 11.7**	**+0.1**
JFT	**Otama**	**4.62**	**336**	P	**Pn**	**19 20 32.7**	**+1.6**
JFT				*e*S	**Sn**	**19 21 21.4**	**-2.1**
MJAR	**Matsushiro Arr**	**4.90**	**312**	Pn	**Pn**	**19 20 37.1**	**+2.2**
	1.7nm,0.3s,baz=154,slow=11,SNR=21						
MJAR				Sn	**Sn**	**19 21 29.3**	**-1.0**
	1.2nm,0.3s,baz=124,slow=26,SNR=6.9						
MAT	**Matsushiro**	**4.90**	**312**	P	Pn	19 20 37.5	+2.6
MAT				S	**Sn**	**19 21 30.1**	**-0.2**
JMK	**Ichinoseki**	**5.76**	**348**	P	**Pn**	**19 20 47.7**	**+1.1**
JMK				*e*S	**Sn**	**19 21 47.2**	**-4.0**
SONM	**Songino Array**	**30.84**	**309**	P	P	19 25 42.3	+11
	0.1nm,0.4s,baz=118,slow=8.5,SNR=2.1						
CMAR	**Chiang Mai Arr**	**41.74**	**260**	LR	LR	19 43 32.5	
	comp=Z,22nm,19.6s,baz=95,slow=35						
MKAR	**Makanchi Array**	**47.05**	**305**	P	P	19 27 59.3	+13
	0.4nm,0.5s,baz=88,slow=11,SNR=5.0						
ILAR	**Eielson Array**	**52.12**	**31**	P	P	19 28 46.5	+22
	0.3nm,0.7s,baz=264,slow=5.3,SNR=4.0						
WRA	**Warramunga Arr**	**53.55**	**190**	P	P	19 28 49.1	+13
	0.2nm,0.3s,baz=4.9,slow=7.5,SNR=6.6						
NVAR	**Mina Array Bea**	**76.39**	**53**	P	P	19 31 27.5	+24
	0.3nm,0.7s,baz=273,slow=5.9,SNR=2.5						

IDC 17 19:22:26.4±2.0, 45°74S×166°34E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.6/14, mbtmp3.6/2, Error ellipse: s-maj=112.6km s-min=42.2km az=44.0
ISCJB 17 19:22:27.4±1.1, 46°3S±0°1×165°71E±0°09, h16km, mb3.6/2, Error ellipse: s-maj=15.3km s-min=9.0km az=6.9
WEL 17 19:22:28.6±0.5, 46°35S×165°67E, h33km, ML4.2/14, Error ellipse: s-maj=4.4km s-min=3.7km az=90.0
ISC 17 19:22:28.6±1.1, 46°34S±0°10×165°72E±0°08, h16km, n24, σ0s90/25, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.69**	**76**	PN	**Pb**	**19 22 42.3**	**+0.1**
PYZ				SN	**Sg**	**19 22 51.6**	**+0.4**
DCZ	**Deep Cove**	**1.32**	**50**	PN	**Pn**	**19 22 50.6**	**-1.8**
APZ	**The Paps**	**1.64**	**108**	PN	**Pn**	**19 22 56.2**	**-0.6**
MLZ	**Mavora Lakes**	**1.98**	**61**	PN	**Pn**	**19 23 01.2**	**-0.2**
MSZ	**Milford Sound**	**2.28**	**44**	PN	**Pn**	**19 23 04.9**	**-0.6**
SYZ	**Scrubby Hill**	**2.37**	**96**	PN	**Pn**	**19 23 07.0**	**+0.2**
EAZ	**Earnscleugh**	**2.74**	**68**	PN	**Pn**	**19 23 12.4**	**+0.5**
EAZ				AML	AML	19 23 57.2	
EAZ				AML	AML	19 23 57.2	
EAZ				AML	AML	19 24 01.2	
EAZ				AML	AML	19 24 01.2	
TUZ	**Tuapeka**	**2.75**	**83**	PN	**Pn**	**19 23 12.1**	**+0.1**
TUZ				AML	AML	19 23 53.6	
TUZ				AML	AML	19 23 59.0	
WKZ	**Wanaka**	**2.76**	**58**	*e*PN	**Pn**	**19 23 12.1**	**-0.1**
WKZ				AML	AML	19 24 02.1	
WKZ				AML	AML	19 24 02.1	
WKZ				AML	AML	19 24 07.3	
WKZ				AML	AML	19 24 07.3	
JCZ	**Jackson Bay**	**3.12**	**45**	*e*PN	**Pn**	**19 23 18.1**	**+0.9**
JCZ				AML	AML	19 24 15.0	
JCZ				AML	AML	19 24 15.1	
ODZ	**Otahua Downs**	**3.69**	**71**	PN	**Pn**	**19 23 23.6**	**-1.2**
ODZ				AML	AML	19 24 37.9	
ODZ				AML	AML	19 24 38.1	
LBZ	**Lake Benmore**	**3.70**	**60**	*e*PN	**Pn**	**19 23 24.9**	**-0.3**
LBZ				AML	AML	19 24 33.2	
LBZ				AML	AML	19 24 40.4	
FOZ	**Fox Glacier**	**3.95**	**47**	*e*PN	**Pn**	**19 23 29.0**	**+0.5**
FOZ				AML	AML	19 24 44.8	
FOZ				AML	AML	19 24 45.7	
RPZ	**Rata Peaks**	**4.60**	**57**	PN	**Pn**	**19 23 36.1**	**-1.4**
RPZ				AML	AML	19 25 06.9	
RPZ				AML	AML	19 25 07.7	
WVZ	**Waitaha Valley**	**4.84**	**49**	*e*PN	**Pn**	**19 23 40.5**	**-0.2**
OXZ	**Oxford**	**5.41**	**58**	PN	**Pn**	**19 23 47.0**	**-1.6**
LTZ	**Lake Taylor**	**5.88**	**55**	PN	**Pn**	**19 23 56.0**	**+1.0**
DSZ	**Denniston Nort**	**6.35**	**46**	PN	**Pn**	**19 24 00.5**	**-0.9**
THZ	**Tophouse**	**6.91**	**51**	*e*PN	**Pn**	**19 24 09.8**	**+0.6**
ASAR	**Alice Springs**	**34.15**	**301**	P	**P**	**19 29 13.5**	**+0.6**
	0.6nm,0.6s,baz=133,slow=8.4,SNR=13						
WRA	**Warramunga Arr**	**36.78**	**305**	P	**P**	**19 29 35.2**	**-0.4**
	0.6nm,0.8s,baz=137,slow=7.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	**144.27**	**207**	PKPbc	**PKPdf**	**19 42 02.7**	**-1.3**
	0.7nm,0.9s,baz=159,slow=1.6,SNR=3.1						
BRTR	**Keskin Array B**	**144.80**	**277**	PKPbc	**PKPdf**	**19 42 04.2**	**-0.2**
	0.5nm,0.6s,baz=106,slow=3.1,SNR=3.4						
ARCES	**ARCESS Array B**	**149.57**	**334**	PKPbc	**PKPbc**	**19 42 17.4**	**+1.5**
	2.2nm,0.9s,baz=50,slow=2.8,SNR=4.5						

WEL 17 19:23:02.0±0.2, 45°68S×166°52E, h21km±1km, ML3.9/8, Error ellipse: s-maj=2.8km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.49**	**66**	P*	Pb	19 23 10.6	-1.3
DCZ				S*	Sb	19 23 17.3	-1.4
DCZ				AML	AML	19 23 17.9	
DCZ				AML	AML	19 23 18.2	
DCZ				AML	AML	19 23 18.2	
PYZ	**Puysegur Point**	**0.50**	**167**	*e*P*	Pn	19 23 13.6	-0.4
PYZ				S*	Sb	19 23 17.6	-1.4
MLZ	**Mavora Lakes**	**1.21**	**75**	PN	Pn	19 23 22.8	-1.0
MLZ				AML	AML	19 23 38.3	
MLZ				AML	AML	19 23 38.5	
APZ	**The Paps**	**1.54**	**139**	SN	Sn	19 23 45.6	-2.1

JMA 17 19:27:13.4±0.5, 23°69N×125°88E, h28km, M3.5
IDC 17 19:27:14.6±1.5, 23°87N×125°51E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/24, mbtmp3.7/7, ML3.4/1, Error ellipse: s-maj=56.5km s-min=30.3km az=67.0
ISC 17 19:27:14.4±4.6, 23°8N±0°1×125°85E±0°06, h18km±29km, n17, σ0s85/19, mb3.6/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**1.07**	**338**	P	**Pb**	**19 27 33.8**	**-0.6**
JOGS				*e*S	**Sb**	**19 27 49.3**	**+1.3**
JMJ	**Miyako jima 2**	**1.16**	**334**	P	**Pn**	**19 27 35.8**	**+0.1**
JMJ				*e*S	**Sb**	**19 27 50.8**	**+0.1**
JTJ	**Tarama**	**1.36**	**310**	P	**Pn**	**19 27 38.1**	**-0.4**
JTJ				*e*S	**Sb**	**19 27 56.9**	**+0.5**
JIJ	**Ishigaki jima**	**1.67**	**291**	P	**Pn**	**19 27 43.1**	**+0.4**
JIJ				*e*S	**Sn**	**19 28 02.1**	**-1.5**
JKRS	**Kuro-shima**	**1.75**	**286**	P	**Pn**	**19 27 43.3**	**-0.4**
JKRS				*e*S	**Sn**	**19 28 04.6**	**-0.9**
IRIF	**Iriomote-Funau**	**2.02**	**287**	P	**Pn**	**19 27 47.8**	**+0.3**
IRIF				*e*S	**Sn**	**19 28 12.4**	**+0.2**
JKE	**Kume jima 2**	**2.69**	**18**	P	**Pn**	**19 27 56.8**	**0.0**
JJT2	**Tamagusuku 2**	**2.93**	**36**	P	**Pn**	**19 27 59.5**	**-0.5**
JTK	**Tokunoshima**	**4.89**	**34**	P	**Pn**	**19 28 26.1**	**-0.9**
JAMN	**Amaminishikomi**	**5.37**	**33**	P	**Pn**	**19 28 33.6**	**0.0**
MJAR	**Matsushiro Arr**	**16.61**	**37**	Pn	**P**	**19 31 10.4**	**+1.7**
	0.1nm,0.3s,baz=236,slow=13,SNR=3.8						
MKAR	**Makanchi Array**	**41.64**	**315**	P	**P**	**19 35 02.1**	**+0.6**
	0.4nm,0.5s,baz=101,slow=8.8,SNR=9.3						
ZALV	**Zalesovo Beam**	**42.97**	**325**	P	**P**	**19 35 11.4**	**-0.8**
	0.4nm,0.5s,baz=108,slow=9.3,SNR=3.0						
ASAR	**Alice Springs**	**47.79**	**170**	P	P	19 35 54.7	+3.9
	0.3nm,0.5s,baz=355,slow=14,SNR=2.8						
FINES	**FINESS Array B**	**73.94**	**330**	P	P	19 38 50.5	+2.3
	0.3nm,0.4s,baz=38,slow=5.3,SNR=3.4						
BRTR	**Keskin Array B**	**76.83**	**308**	P	P	19 39 07.5	+2.0
	1.0nm,0.8s,baz=67,slow=5.6,SNR=4.4						
GERES	**GERESS Array B**	**85.83**	**322**	P	P	19 39 55.3	+2.3
	0.1nm,0.3s,baz=35,slow=3.6,SNR=3.8						

MAN 17 19:27:27, 18°18N×121°14E, h33km, mb4.2, ML3.0, MS2.7, 3C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.52**	**287**	⇑*i*P	Pn	19 27 38.0	-0.1
PIP				*e*S	Sn	19 27 49.3	+3.5
ABRA	**Dolores**	**0.67**	**218**	*e*P	Pb	19 27 41.6	+1.3
ABRA				*e*S	Sb	19 27 49.1	-0.3
SIPP	**Brgy, Tapao**	**0.70**	**249**	⇑*e*P	Pb	19 27 42.4	+1.6
SIPP				*i* S	Sb	19 27 57.5	+7.3
CVP	**Callao Caves**	**0.80**	**126**	⇑*i*P	Pn	19 27 42.3	+0.3
CVP				*i* S	Sb	19 27 57.5	+4.4
CAUP	**Cauayan**	**1.39**	**152**	*e*P	Pb	19 27 52.0	-0.4
PALP	**Palanan**	**1.65**	**132**	⇓*e*P	Pn	19 27 53.1	-0.6
BALP	**Baler**	**2.46**	**170**	*e*P	Pn	19 28 05.0	+0.1

IDC 17 19:29:02.7±1.2, 2°14N×126°61E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/20, mbtmp3.6/6, Error ellipse: s-maj=211.0km s-min=17.2km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.22**	**161**	P	P	19 34 11.2	-0.4
	2.7nm,0.5s,baz=342,slow=11,SNR=18						
ASAR	**Alice Springs**	**26.62**	**165**	P	P	19 34 43.1	+0.1
	0.5nm,0.6s,baz=345,slow=7.8,SNR=10						
ASAR				PcP	PcP	19 38 07.2	-0.3
	0.2nm,0.5s,baz=357,slow=2.4,SNR=4.2						
STKA	**Stephens Creek**	**36.70**	**158**	P	P	19 36 11.7	+0.1
	4.2nm,1.0s,baz=315,slow=14,SNR=4.5						
SONM	**Songino Array**	**48.76**	**342**	P	P	19 37 49.2	-0.2
	0.1nm,0.4s,baz=162,slow=6.1,SNR=2.5						
MKAR	**Makanchi Array**	**58.79**	**326**	P	P	19 39 02.7	-0.1
	0.3nm,0.4s,baz=119,slow=7.9,SNR=5.9						
ZALV	**Zalesovo Beam**	**61.94**	**333**	P	P	19 39 24.2	0.0
	0.2nm,0.3s,baz=132,slow=9.9,SNR=2.4						

ISCJB 17 19:34:02.3±0.8, 76°74N±0°06×8°2E±0°3, h10km, mb3.3/5, MS3.1/1, Error ellipse: s-maj=10.4km s-min=8.2km az=32.1
CSEM 17 19:34:02.3±1.0, 76°87N×7°61E, h10km, ML3.1, Error ellipse: s-maj=29.6km s-min=9.4km az=89.0
NAO 17 19:34:03.4±3.3, 76°81N×7°99E, ML3.1
IDC 17 19:34:03.4±0.9, 76°74N×7°35E, h0km, mb3.4/5, mb1 3.6/8, mb1mx3.4/28, mbtmp3.4/8, ML2.9/3, MS2.9/2, Ms1 2.8/2, ms1mx2.4/28, Error ellipse: s-maj=19.6km s-min=16.2km az=68.0
BER 17 19:34:04.0±3.1, 76°80N×7°62E, h10km, MD1.7, ML2.3, ML3.1(NAO)
ISC 17 19:34:03.2±0.9, 76°81N±0°06×8°14E±0°08, h10km, n18, σ1s97/27, mb3.3/5, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**1.70**	**80**	*e*P	**Pb**	**19 34 34.1**	**-0.3**
HSP				*e*S

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.79**	**80**	⇓PN	Pn	19 39 18.5	-0.5
PYZ				SN	Sn	19 39 28.6	-1.0
PYZ				SN	Sb	19 39 29.4	-0.5
DCZ	**Deep Cove**	**1.39**	**54**	PN	Pn	19 39 26.8	-0.4
DCZ				AML	AML	19 39 38.0	
DCZ				AML	AML	19 39 52.4	
DCZ				AML	AML	19 39 52.4	
DCZ				AML	AML	19 40 01.5	
WHZ	**Wether Hill Ro**	**1.71**	**77**	PN	Pn	19 39 32.8	+1.1
WHZ				AML	AML	19 39 54.7	
WHZ				AML	AML	19 40 01.3	
MLZ	**Mavora Lakes**	**2.06**	**63**	*e*PN	Pn	19 39 37.0	+0.4
MLZ				AML	AML	19 40 14.8	
MLZ				AML	AML	19 40 15.9	
MSZ	**Milford Sound**	**2.33**	**46**	PN	Pn	19 39 41.2	+1.0
MSZ				AML	AML	19 40 25.5	
MSZ				AML	AML	19 40 31.3	
SYZ	**Scrubby Hill**	**2.48**	**96**	*e*PN	Pn	19 39 43.0	+0.7
EAZ	**Earnscleugh**	**2.83**	**69**	PN	Pn	19 39 49.1	+1.9
EAZ				AML	AML	19 40 33.3	
EAZ				AML	AML	19 40 37.8	
WKZ	**Wanaka**	**2.84**	**60**	PN	Pn	19 39 50.2	+2.9
TUZ	**Tuapeka**	**2.85**	**84**	PN	Pn	19 39 48.3	+1.0
TUZ				SN	Sn	19 40 20.4	-0.1
TUZ				AML	AML	19 40 29.8	
JCZ	**Jackson Bay**	**3.18**	**46**	*e*PN	Pn	19 39 53.9	+1.9
JCZ				AML	AML	19 40 51.1	
JCZ				AML	AML	19 40 51.3	
ODZ	**Otahua Downs**	**3.78**	**72**	PN	Pn	19 39 60.0	-0.1
LBZ	**Lake Benmore**	**3.78**	**61**	PN	Pn	19 40 01.5	+1.3
FOZ	**Fox Glacier**	**4.01**	**48**	*e*PN	Pn	19 40 05.5	+2.2

WEL 17 19:58:58.3±0.3, 45°48S×166°60E, h24km±1km, ML3.3/14, 1C, Error ellipse: s-maj=3.1km s-min=1.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.39**	**90**	⇑P*	Pb	19 59 06.6	0.0
DCZ				S*	Sb	19 59 11.7	-0.6
DCZ				AML	AML	19 59 12.6	
DCZ				AML	AML	19 59 12.6	
DCZ				AML	AML	19 59 12.7	
PYZ	**Puysegur Point**	**0.69**	**175**	P*	Pb	19 59 10.4	-1.3
PYZ				S*	Sb	19 59 20.1	-0.7
WHZ	**Wether Hill Ro**	**1.03**	**114**	*e*PN	Pb	19 59 17.6	+0.1
WHZ				AML	AML	19 59 32.6	
MLZ	**Mavora Lakes**	**1.12**	**84**	PN	Pn	19 59 17.6	-1.0
MLZ				AML	AML	20 00 30.0	
MLZ				AML	AML	20 00 31.0	
MSZ	**Milford Sound**	**1.24**	**50**	*e*PN	Pn	19 59 19.5	-0.7
MSZ				AML	AML	19 59 45.4	
MSZ				AML	AML	19 59 45.4	
MSZ				AML	AML	19 59 45.9	
APZ	**The Paps**	**1.66**	**145**	*e*PN	Pb	19 59 27.5	-0.8
APZ				SN	Sn	19 59 47.2	+0.5
WKZ	**Wanaka**	**1.83**	**70**	*e*PN	Pb	19 59 30.5	-0.7
WKZ				AML	AML	20 00 55.5	
EAZ	**Earnscleugh**	**1.93**	**84**	*e*PN	Pb	19 59 31.6	-1.1
EAZ				AML	AML	20 00 02.2	
EAZ				AML	AML	20 00 03.4	
SYZ	**Scrubby Hill**	**2.06**	**122**	*e*PN	Pb	19 59 34.2	-0.9
JCZ	**Jackson Bay**	**2.08**	**48**	*e*PN	Pb	19 59 35.3	-0.3
JCZ				AML	AML	20 00 09.2	
JCZ				AML	AML	20 01 07.0	
TUZ	**Tuapeka**	**2.18**	**104**	PN	Pb	19 59 35.5	-1.5
TUZ				AML	AML	20 00 46.7	
LBZ	**Lake Benmore**	**2.77**	**68**	*e*PN	Pn	19 59 44.1	+2.9
ODZ	**Otahua Downs**	**2.89**	**83**	PN	Pn	19 59 43.8	+0.9

WEL 17 19:59:20.7±0.3, 46°45S×165°77E, h33km, ML3.4/9, Error ellipse: s-maj=3.1km s-min=2.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.69**	**66**	PN	Pn	19 59 33.5	-0.6
PYZ				SN	Sb	19 59 43.2	-0.6
DCZ	**Deep Cove**	**1.37**	**45**	SN	Sn	20 00 00.3	-0.1
DCZ				AML	AML	20 00 03.9	
APZ	**The Paps**	**1.58**	**105**	SN	Sb	20 00 08.5	-0.4
WHZ	**Wether Hill Ro**	**1.61**	**71**	PN	Pn	19 59 48.3	+1.5
WHZ				SN	Sb	20 00 08.9	-0.9
WHZ				AML	AML	20 00 11.3	
MLZ	**Mavora Lakes**	**2.01**	**58**	SN	Sn	20 00 18.1	+1.8
SYZ	**Scrubby Hill**	**2.33**	**93**	PN	Pn	19 59 58.3	+1.7
EAZ	**Earnscleugh**	**2.76**	**65**	SN	Sn	20 00 37.5	+2.9
ODZ	**Otahua Downs**	**3.69**	**69**	*e*PN	Pn	20 00 17.6	+2.3

IDC 17 20:11:55.0±1.2, 10°23S×123°98E, h0km, mb4.0/2, mb1 3.7/5, mb1mx3.6/20, mbtmp3.6/5, ML3.3/3, Error ellipse: s-maj=103.5km s-min=24.4km az=64.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.99**	**169**	PN	Pn	20 13 51.4	-1.1
	0.3nm,0.3s,baz=353,slow=13,SNR=13						
FITZ				SN	Sn	20 15 15.2	-8.5
	2.0nm,0.3s,baz=163,slow=3.4,SNR=12						
WRA	**Warramunga Arr**	**13.90**	**135**	Pn	Pn	20 15 13.4	0.0
	0.1nm,0.3s,baz=313,slow=14,SNR=5.8						
WRA				SN	Sn	20 17 39.8	-8.8
	0.5nm,0.3s,baz=309,slow=24,SNR=10						
ASAR	**Alice Springs**	**16.38**	**146**	Pn	Pn	20 15 47.0	+0.4
	0.2nm,0.3s,baz=318,slow=12,SNR=14						
ASAR				SN	Sn	20 18 39.8	-9.4
	0.3nm,0.3s,baz=311,slow=22,SNR=12						
MKAR	**Makanchi Array**	**67.86**	**330**	P	P	20 22 55.3	0.0
	1.2nm,0.6s,baz=137,slow=7.7,SNR=14						
ZALV	**Zalesovo Beam**	**72.01**	**337**	P	P	20 23 20.1	-0.5
	0.4nm,0.3s,baz=140,slow=7.5,SNR=5.2						
TORD	**Torodi Ar. Bea**	**123.50**	**279**	PKP	PKPdf	20 30 56.1	+0.6
	0.3nm,0.7s,baz=86,slow=2.0,SNR=2.1						

IDC 17 20:12:25.5±56.0, 16°59S×177°23W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/19, mbtmp4.1/3, Error ellipse: s-maj=1032.0km s-min=164.9km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.26**	**240**	P	P	20 20 04.8	+0.4
	3.0nm,1.0s,baz=81,slow=12,SNR=6.7						
WRA	**Warramunga Arr**	**45.99**	**258**	P	P	20 20 50.6	-0.4
	0.3nm,0.4s,baz=96,slow=7.5,SNR=5.9						
ASAR	**Alice Springs**	**46.24**	**253**	P	P	20 20 52.5	-0.4
	3.1nm,0.6s,baz=88,slow=8.3,SNR=19						

*NIED **17** 20:16:00, 33.50N×131.90E, h68km, Mw4.4 Best double couple: M0 4.13000×10^15 NP1:φs319.00000°, δ66.00000°, λ123.00000°. NP2:φs81.00000°, δ40.00000°, λ40.00000°.*

*BJI **17** 20:16:39.1, 32.98N×132.40E, h79km, mB4.6/20, mb4.5/29, Ms4.1/10, Ms7 4.3/3*

*ISCJB **17** 20:16:44.1±0.2, 33.46N±0.03×131.87E±0.03, h79km±2km, mb4.4/54, Error ellipse: s-maj=4.8km s-min=3.9km az=165.2*

*MOS **17** 20:16:44.7±0.9, 33.48N×131.87E, h89km, mb4.7/18, Error ellipse: s-maj=9.9km s-min=6.5km az=101.5*

*NEIC **17** 20:16:45.0±0.3, 33.46N×131.79E, mb4.6/14, MW4.3(NIED), Error ellipse: s-maj=9.3km s-min=6.9km az=147.0*

NEIC Felt [II] at Iwakuni, Honshu. Also felt at Hiroshima. Felt at Beppu and Oita, Kyushu. Recorded [3 JMA] in Yamaguchi, [2 JMA] in Hiroshima and [1 JMA] in Okayama and Shimane, Honshu. Recorded [2 JMA] in Kumamoto and Oita and [1 JMA] in Fukuoka and Miyazaki, Kyushu. Also recorded [2 JMA] in Ehime and Kochi and [1 JMA] in Kagawa and Tokushima, Shikoku.

*IDC **17** 20:16:45.7±0.5, 33.51N×131.79E, h77km±4km, mb3.9/21, mb1 4.1/24, mb1mx4.1/30, mbtmp4.0/24, MS3.2/8, Ms1 3.3/8, ms1mx3.0/42, Error ellipse: s-maj=10.2km s-min=8.1km az=128.0*

*JMA **17** 20:16:45.6, 33.49N×131.91E, h70km±1km, M4.3 Broadband fault plane solution: P waves. NP1: φs317.00000°, δ74.00000°, λ114.00000°. NP2: φs79.00000°, δ29.00000°, λ36.00000°. Principal axes: T Plg55.0000°, Azm257.0000°; N Plg23.0000°, Azm129.0000°; P Plg25.0000°, Azm28.0000°;*

JMA Felt III J1.

ISC 17 20:16:45.3±0.4, 33°45N±0°04×131°89E±0°03, h77km±2km, h76km:pP-P, n147, σ1°33/196, mb4.4/54, 13C-5D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKI	**Kunimi**	**0.33**	**304**	⇑P	Pn	20 16 56.9	-0.5
JKI				*e*S	Sn	20 17 05.1	-1.2
JUS	**Usuki**	**0.40**	**197**	⇓P	Pn	20 16 57.9	-0.1
JUS				*e*S	Sn	20 17 06.5	-0.8
OIT2	**Oita 2**	**0.41**	**245**	⇓P	Pn	20 16 57.9	-0.1
OIT2				*e*S	Sn	20 17 06.8	-0.6
JNA	**Nagahama**	**0.50**	**77**	⇑P	Pn	20 16 58.2	-0.6
JNA				*e*S	Sn	20 17 07.5	-1.2
UWA2	**Uwa jima 2**	**0.66**	**111**	⇑P	Pn	20 16 59.7	-0.6
UWA2				S	Sn	20 17 10.1	-1.3
JHM	**Kurahashi**	**0.87**	**37**	⇓P	Pn	20 17 02.1	-0.5
JHM				*e*S	Sn	20 17 14.4	-1.1
JNU	**Nakatsue**	**0.91**	**249**	*e*Pn	Pn	20 17 03.2	0.0
JNU				S	Sn	20 17 16.6	+0.2
JNU				*e*Sn	Sn	20 17 16.8	+0.3
JNU	**Nakatsue**	**0.91**	**249**	P	Pn	20 17 03.1	0.0
	926nm,0.3s,baz=62,slow=2.8						
JNU				S	Sn	20 17 16.6	+0.2
	648nm,0.3s,baz=198,slow=17,SNR=45						
JTO	**Tosashimizu**	**0.96**	**127**	⇑P	Pn	20 17 03.4	-0.3
JTO				*e*S	Sn	20 17 16.1	-1.4
JKU	**Kubokawa**	**0.99**	**98**	⇑P	Pn	20 17 03.4	-0.7
JKU				*e*S	Sn	20 17 17.1	-1.0
JIU2	**Izumi 2**	**1.28**	**225**	⇓P	Pn	20 17 08.0	+0.3
KSRS	**Korea Array**	**5.14**	**322**	P	Pn	20 18 00.5	+0.7
	4.7nm,0.3s,baz=142,slow=15,SNR=50						
KSRS				S	Sn	20 18 56.1	-1.6
	7.2nm,0.3s,baz=140,slow=25,SNR=7.2						
KSRS				LR	LR	20 20 11.6	
	comp=Z,146nm,21.7s,baz=166,slow=41						
KSAR	**Wonju Array Be**	**5.16**	**322**	P	Pn	20 18 00.5	+0.6
KSAR				S	Sn	20 18 56.1	-1.9
MAJO	**Matsushiro**	**6.03**	**57**	*e*P	Pn	20 18 13.3	+1.4
MAJO	**Matsushiro**	**6.03**	**57**	*e*Pn	Pn	20 18 13.3	+1.4
MAT	**Matsushiro**	**6.03**	**57**	P	Pn	20 18 13.2	+1.3
MAT				S	Sn	20 19 21.4	+1.8
MJAR	**Matsushiro Arr**	**6.03**	**57**	P	Pn	20 18 13.5	+1.6
MJAR				S	Sn	20 19 12.1	-7.5
MJAR	**Matsushiro Arr**	**6.03**	**57**	P	Pn	20 18 13.5	+1.6
	11nm,0.3s,baz=244,slow=14,SNR=235						
MJAR				S	Sn	20 19 12.1	-7.5
	3.1nm,0.3s,baz=216,slow=17,SNR=6.8						
JOW	**Kunigami**	**7.30**	**206**	*e*Pn	Pn	20 18 29.2	-0.1
USRK	**Ussuriysk Arra**	**10.74**	**0**	P	Pn	20 19 18.5	+2.5
	1.0nm,0.3s,baz=193,slow=13,SNR=17						
USRK				LR	LR	20 23 02.9	
	comp=Z,131nm,20.6s,baz=333,slow=35						
NJ2	**Nanjing**	**11.07**	**266**	*e*P	Pn	20 19 18.4	-2.3
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
MDJ	**Mudanjiang**	**11.29**	**352**	P	Pn	20 19 26.5	+2.8
MDJ				S	Sn	20 21 29.6	+1.6
MDJ				PcP	PcP	20 25 12.3	+0.3
MDJ				ScP	ScP	20 28 38.1	+0.2
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,60nm,3.6s						
CN2	**Changchun**	**11.49**	**336**	*e*P	Pn	20 19 21.8	-4.6
CN2				PP		20 19 33.0	
CN2				*es*P		20 19 48.3	
CN2				*e*S	Sn	20 21 26.4	-6.5
CN2				LR	LR		
	comp=N,200nm,10.0s						
CN2				LR	LR		
	comp=E,100nm,10.0s						
CN2				LR	LR		
	comp=Z,200nm,11.0s						
ERM	**Erimo**	**12.34**	**43**	*e*P	Pn	20 19 39.1	+1.2
ERM	**Erimo**	**12.34**	**43**	*e*Pn	Pn	20 19 39.1	+1.2
ASAJ	**Asahikawa**	**13.52**	**35**	*e*Pn	Pn	20 19 53.3	-0.4
ASAJ	**Asahikawa**	**13.52**	**35**	P	Pn	20 19 53.6	0.0
	comp=Z,0.6nm,0.3s,baz=244,slow=9.2,SNR=11						
ASAJ				LR	LR	20 24 53.1	
	comp=Z,62nm,18.7s,baz=197,slow=36						
BJI	**Beijing**	**14.21**	**302**	P	P	20 20 10.6	+2.8
BJI				S	Sn	20 22 38.3	-0.6
BJI				pmax	pmax		
	comp=Z,70nm,0.9s						
BJI				pmax	pmax		
	comp=Z,160nm,3.5s						
BJI				LR	LR		
	comp=N,190nm,23.7s						
BJI				LR	LR		
	comp=E,97nm,25.2s						
BJI				LR	LR		
	comp=Z,52nm,20.3s						
WHN	**Wuhan**	**15.16**	**264**	⇓P	P	20 20 20.9	+2.4
HABR	**Khabarovsk**	**15.20**	**8**	*e*P	Pn	20 20 14.5	-0.9
HABR				*e*S	Sn	20 23 00.6	-2.1
HABR				pmax	pmax		
	comp=E,41nm,2.0s						
HABR				pmax	pmax		
	comp=N,63nm,2.5s						
HABR				pmax	pmax		
	comp=Z,119nm,3.3s						
KLR	**Kul'dur**	**15.77**	**360**	*e*P	Pn	20 20 21.3	-1.4
KLR				pmax	pmax		
	comp=E,28nm,1.6s						
KLR				pmax	pmax		
	comp=Z,62nm,1.6s						
YSS	**Yuzh-Sakhalins**	**15.81**	**28**	*e*P	Pn	20 20 21.0	-2.2
HHC	**Hu-ho-hao-te**	**17.79**	**300**	*e*P	P	20 20 43.3	-4.3
HHC				PP	pP	20 21 00.4	-2.5
HHC				sP	sP	20 21 12.3	-0.4
HHC				S	Sn	20 23 52.3	-13
HHC				SS	SnSn	20 24 18.4	-2.0
HHC				PcP	PcP	20 25 20.0	-1.1
HHC				ScP	ScP	20 28 44.8	-4.7
HHC				PcS	PcS	20 28 54.4	-3.2
HHC	**Hu-ho-hao-te**	**17.79**	**300**	ScS	ScS	20 32 23.4	-6.5
HHC				pmax	pmax		
	comp=Z,23nm,1.2s						
HHC				pmax	pmax		
	comp=Z,120nm,5.2s						
HHC				LR	LR		
	comp=N,180nm,9.7s						
HHC				LR	LR		
	comp=E,230nm,9.0s						
HHC				LR	LR		
	comp=Z,190nm,9.3s						
XAN	**Xi'an**	**19.11**	**278**	P	Pn	20 21 05.9	+2.2
XAN				pP	pP	20 21 17.0	-0.5
XAN				pmax	pmax		
	comp=Z,35nm,7.7s						
ENH	**Enshi**	**19.29**	**267**	*e*Pn	P	20 21 03.3	-0.7
	comp=Z,31nm,1.0s						
GYA	**Guiyang**	**22.91**	**259**	*e*P	P	20 21 42.5	-0.5
GYA				pP	pP	20 22 01.4	+2.5
GYA				sP	sP	20 22 10.8	+2.3
GYA				PP	PnPn	20 22 14.0	+3.0
GYA				S	S	20 25 41.4	-5.7
GYA				sS	Sn	20 26 11.0	+2.3
GYA				ScP	ScP	20 29 01.8	-0.1
GYA				PcS	PcS	20 29 10.3	0.0
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LZH	**Lanzhou**	**23.16**	**284**	⇑P	P	20 21 44.8	-0.6
LZH				pP	pP	20 22 03.3	+1.7
LZH				sP	sP	20 22 10.0	-1.2
LZH				pmax	pmax		
	comp=Z,62nm,1.0s						
LZH				pmax	pmax		
	comp=Z,150nm,5.9s						
ULN	**Ulaanbaatar**	**23.58**	**315**	*e*P	P	20 21 49.5	+0.3
	comp=Z,20nm,0.8s						
CD2	**Chengdu**	**23.92**	**272**	*e*P	P	20 21 48.8	-3.4
CD2				pP	pP	20 22 09.0	-0.6
CD2				sP	sP	20 22 19.5	+0.6
CD2				PP	PnPn	20 22 25.3	+0.6
CD2				S	S	20 25 53.3	-10
CD2				sS	Sn	20 26 28.1	-4.6
CD2				pmax	pmax		
	comp=Z,20nm,1.2s						
CD2				pmax	pmax		
	comp=Z,100nm,4.8s						
CD2				LR	LR		
	comp=E,250nm,10.7s						
SONM	**Songino Array**	**23.96**	**314**	P	P	20 21 52.9	+0.4
SONM				PcP	PcP	20 25 32.9	+0.1
SONM	**Songino Array**	**23.96**	**314**	P	P	20 21 52.9	+0.4
	comp=E,13nm,0.6s,baz=132,slow=9.6,SNR=102						
SONM				PcP	PcP	20 25 32.8	+0.1
	comp=E,0.4nm,0.8s,baz=132,slow=2.1,SNR=3.2						
GTA	**Gaotai**	**26.40**	**292**	P	P	20 22 16.8	+2.1
GTA				pP	pP	20 22 38.6	+6.1
GTA				S	S	20 26 45.3	+2.6
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,59nm,4.8s						
KMI	**Kunming**	**26.68**	**260**	P	P	20 22 16.5	-1.0
KMI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PETK	**Petropavlovsk-**	**26.94**	**35**	LR	LR	20 32 06.6	
	comp=Z,37nm,21.3s,baz=324,slow=34						
ZAK	**Zakamensk**	**26.96**	**317**	*e*P	P	20 22 19.5	-0.1
ZAK				*e*		20 22 35.0	
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HVS	**Khovu-Aksy**	**32.85**	**314**	*c i*P	P	20 23 12.1	+0.4
HVS				pmax	pmax		
	comp=Z,26nm,0.7s						
CMAR	**Chiang Mai Arr**	**33.01**	**251**	P	P	20 23 14.3	+1.0
CMAR	**Chiang Mai Arr**	**33.01**	**251**	P	P	20 23 14.3	+1.0
	comp=Z,1.3nm,0.8s,baz=52,slow=7.4,SNR=12						
CMAR				LR	LR	20 37 33.6	
	comp=Z,25nm,18.6s,baz=90,slow=38						
WMQ	**Urumqi**	**35.67**	**300**	P	P	20 23 37.3	+1.2
WMQ				pP	pP	20 23 55.3	+0.9
WMQ				sP	sP	20 24 04.4	+1.1
WMQ				PP	PP	20 24 59.6	+1.3
WMQ				pmax	pmax		
	comp=Z,7.0nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,99nm,4.8s						
ODAN	**Odare**	**38.81**	**272**	*e*P	P	20 24 02.7	-0.4
	comp=Z,6.1nm,0.5s						
ZALV	**Zalesovo Beam**	**38.82**	**316**	P	P	20 24 02.2	-0.3
ZALV						20 26 11.4	
ZALV	**Zalesovo Beam**	**38.82**	**316**	P	P	20 24 02.2	-0.3
ZALV				PcP	PcP	20 26 11.4	-0.8
ZALV	**Zalesovo Beam**	**38.82**	**316**	P	P	20 24 02.2	-0.3
	comp=Z,1.4nm,0.4s,baz=99,slow=9.2,SNR=9.6						
ZALV				PcP	PcP	20 26 11.4	-0.8
	comp=Z,0.4nm,0.5s,baz=86,slow=4.5,SNR=3.6						
ZALV				LR	LR	20 40 29.8	
	comp=Z,44nm,21.6s,baz=72,slow=37						
RAMN	**Ramite**	**39.44**	**273**	*e*P	P	20 24 07.8	-0.5
	comp=Z,4.9nm,0.5s						
MKAR	**Makanchi Array**	**39.56**	**305**	P	P	20 24 08.2	-0.7
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**39.56**	**305**	*e*P	P	20 24 04.3	-4.6
MKAR	**Makanchi Array**	**39.56**	**305**	P	P	20 24 08.2	-0.7
	comp=Z,1.9nm,0.7s,baz=91,slow=11,SNR=18						
GUN	**Gumba**	**39.71**	**275**	*e*P	P	20 24 10.3	-0.4
	comp=Z,34nm,0.7s						
BILL	**Bilibino**	**39.84**	**19**	*e*P	P	20 24 12.8	+2.0
BILL				*e*		20 26 08.8	
BILL				pmax	pmax		
	comp=Z,16nm,0.9s						
BILL				MLR	MLR		
	comp=Z,100nm,24.0s						
NVS	**Novosibirsk**	**39.92**	**317**	*e*P	P	20 24 10.2	-1.4
NVS				*e*		20 24 45.0	
NVS				pmax	pmax		
	comp=N,4.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,6.0nm,1.1s						
PKIN	**Phulchoki**	**40.22**	**274**	*e*P	P	20 24 14.4	-0.4
KKN	**Kakani**	**40.25**	**275**	*e*P	P	20 24 14.8	-0.2
DMN	**Daman**	**40.45**	**275**	*e*P	P	20 24 15.9	-0.8
DANN	**Dangsing**	**41.33**	**276**	*e*P	P	20 24 23.5	-0.4
	comp=Z,30nm,0.6s						
KOLN	**Koldanda**	**41.65**	**276**	*e*P	P	20 24 26.5	0.0
KSH	**Kashi**	**44.76**	**295**	*e*P	P	20 24 55.1	+3.8
KSH				pP	pP	20 25 12.9	+2.8
KSH				sP	sP	20 25 22.3	+3.4
KSH				PP	PP	20 26 42.4	+5.4
KSH				PcS	PcS	20 30 27.3	+1.3
KSH				S	S	20 31 27.3	+4.6
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,110nm,4.4s						
KSH				LR	LR		
	comp=N,110nm,7.7s						
KSH				LR	LR		
	comp=E,96nm,5.1s						
KSH				LR	LR		
	comp=Z,130nm,7.5s						
AAK	**Ala-Archa**	**45.36**	**299**	*e*P	P	20 24 55.8	-0.3
AAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BVAR	**Borovoye Array**	**47.30**	**314**	P	P	20 25 10.7	-0.2
BVAR						20 26 39.3	
BVAR	**Borovoye Array**	**47.30**	**314**	P	P	20 25 10.7	-0.2
BVAR				PcP	PcP	20 26 39.3	-1.5
BVAR	**Borovoye Array**	**47.30**	**314**	P	P	20 25 10.7	-0.2
	comp=Z,8.2nm,0.7s,baz=98,slow=9.3,SNR=62						
BVAR				PcP	PcP	20 26 39.3	-1.5
	comp=Z,1.0nm,0.8s,baz=83,slow=3.6,SNR=2.7						
BRVK	**Borovoye**	**47.36**	**314**	*c i*P	P	20 25 11.3	-0.1
BRVK				pmax	pmax		
	comp=Z,17nm,1.1s						
BRVK	**Borovoye**	**47.36**	**314**	*e*P	P	20 25 11.1	-0.3
	comp=Z,10nm,0.7s						
KKAR	**Karatay Array**	**48.18**	**300**	*e*P	P	20 25 17.1	-0.8
KKAR				pmax	pmax		
	comp=Z,12nm,0.9s						
KKAR	**Karatay Array**	**48.18**	**300**	*e*P	P	20 25 17.1	-0.8
	comp=Z,12nm,0.9s						
SVE	**Sverdlovsk**	**52.70**	**319**	⇑*e*P	P	20 25 52.0	+0.3
SVE				pmax	pmax		
	comp=Z,17nm,1.1s						
WRA	**Warramunga Arr**	**53.14**	**177**	P	P	20 25 55.5	+0.1
WRA				PcP	PcP	20 27 03.3	+0.7
WRA	**Warramunga Arr**	**53.14**	**177**	P	P	20 25 55.5	+0.1
	comp=Z,2.9nm,0.7s,baz=353,slow=8.0,SNR=22						
WRA				PcP	PcP	20 27 03.3	+0.7
	comp=Z,0.8nm,1.0s,baz=349,slow=4.1,SNR=5.0						
ARU	**Arti**	**53.88**	**319**	*c i*P	P	20 25 59.8	-0.6
ARU						20 27 58.3	
ARU				S	S	20 33 28.4	-1.2
ARU				SS	SKiKP	20 37 06.8	+1.0
ARU				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ABKAR	**Akbulak array**	**54.25**	**310**	*e*P	P	20 26 02.2	-1.0
	comp=Z,4.1nm,0.6s						
KDAK	**Kodiak Island**	**54.88**	**39**	pP	pP	20 26 27.8	+0.7
KDAK	**Kodiak Island**	**54.88**	**39**	pP	pP	20 26 27.8	+0.7
	comp=Z,2.5nm,0.6s,baz=106,slow=1.2,SNR=1.7						
AKTO	**Aktyubinsk**	**55.23**	**312**	LR	LR	20 50 27.0	
	comp=Z,32nm,19.7s,baz=258,slow=37						
ILAR	**Eielson Array**	**56.61**	**30**	P	P	20 26 20.8	+0.9
ILAR				pP	pP	20

KEV					pmax	pmax		
	comp=Z,8.0nm,0.5s							
ARCES	**ARCESS Array B**	**64.49**	**338**		P	**P**	**20 27 12.8**	**-0.7**
ARCES	**ARCESS Array B**	**64.49**	**338**		P	**P**	**20 27 12.8**	**-0.7**
	comp=Z,2.8nm,0.5s,baz=65,slow=8.0,SNR=26							
STKA	**Stephens Creek**	**65.62**	**171**		P	**P**	**20 27 22.3**	**+1.2**
STKA	**Stephens Creek**	**65.62**	**171**		P	**P**	**20 27 22.3**	**+1.2**
	comp=Z,3.2nm,0.4s,baz=354,slow=4.7,SNR=32							
OBN	**Obninsk**	**66.14**	**321**	*i*	P	**P**	**20 27 23.2**	**-1.1**
OBN				*e*			20 27 52.4	
OBN				*e*			20 29 48.1	
OBN					pmax	pmax		
	comp=Z,7.0nm,0.9s							
KBZ	**Khabaz**	**67.14**	**308**		P	**P**	**20 27 30.5**	**-0.3**
KBZ	**Khabaz**	**67.14**	**308**		P	**P**	**20 27 30.5**	**-0.3**
KBZ	**Khabaz**	**67.14**	**308**		P	**P**	**20 27 30.5**	**-0.3**
	comp=Z,3.5nm,0.8s,baz=153,slow=3.4,SNR=7.5							
KIV	**Kislovodsk**	**67.18**	**308**	*c i*	P	**P**	**20 27 30.8**	**-0.5**
KIV				*e*	SS	SS	20 40 38.3	-1.5
KIV					pmax	pmax		
	comp=Z,8.0nm,1.0s							
MSVF	**Nonsavu**	**67.30**	**132**	*e*	P	**P**	**20 27 31.1**	**-1.1**
MSVF	**Nonsavu**	**67.30**	**132**	*e*	P	**P**	**20 27 31.1**	**-1.1**
NWAO	**Narrogin (SRO)**	**67.45**	**193**		P	**P**	**20 27 32.7**	**-0.1**
NWAO	**Narrogin (SRO)**	**67.45**	**193**		P	**P**	**20 27 32.7**	**-0.1**
	comp=Z,17nm,1.0s,baz=8.1,slow=7.1,SNR=2.9							
KAF	**Kangasniemi**	**67.75**	**331**	*e*	p	**P**	**20 27 33.3**	**-1.1**
	comp=Z,2.4nm,0.6s							
KAF	**Kangasniemi**	**67.75**	**331**	*e*	P	**P**	**20 27 33.3**	**-1.1**
KAF					pmax	pmax		
	comp=Z,2.0nm,0.6s							
FINES	**FINESS Array B**	**68.18**	**330**		P	**P**	**20 27 36.0**	**-1.0**
FINES	**FINESS Array B**	**68.18**	**330**		P	**P**	**20 27 36.0**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=78,slow=6.6,SNR=25							
ANN	**Anapa**	**70.19**	**311**	*e*	P	P	20 27 41.3	-8.5
ANN				*e*	PP	pP	20 28 05.0	-4.9
ANN					pmax	pmax		
	comp=Z,13nm,0.9s							
YKA	**Yellowknife Ar**	**70.66**	**27**		P	**P**	**20 27 51.2**	**-1.2**
YKA	**Yellowknife Ar**	**70.66**	**27**		P	**P**	**20 27 51.2**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=304,slow=5.9,SNR=3.1							
NB2	**NORSAR Subarra**	**74.24**	**334**		P	**P**	**20 28 12.5**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=48,slow=6.2							
NOA	**NORSAR Array B**	**74.24**	**334**		P	**P**	**20 28 12.7**	**-1.0**
NOA	**NORSAR Array B**	**74.24**	**334**		P	**P**	**20 28 12.7**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=48,slow=5.8,SNR=6.4							
BRTR	**Keskin Array B**	**75.13**	**308**		P	**P**	**20 28 18.9**	**-0.5**
BRTR	**Keskin Array B**	**75.13**	**308**		P	**P**	**20 28 18.9**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=110,slow=5.4,SNR=11							
VYHS	**Vyhne**	**78.94**	**321**	*e*	P	**P**	**20 28 40.3**	**-0.1**
BSMT	**Bassoo Peak**	**79.48**	**39**	*e*	P	**P**	**20 28 46.1**	**+2.4**
BMO	**Blue Mountains**	**79.95**	**42**	*e*	P	**P**	**20 28 47.1**	**+0.9**
	comp=Z,3.5nm,1.2s							
BMO				*e*	pP	**pP**	**20 29 06.8**	**+0.1**
CLL	**Collm**	**80.01**	**326**	⇑*i*	P	**P**	**20 28 45.5**	**-0.6**
CLL					pmax	pmax		
	comp=Z,37nm,1.1s							
CLL	**Collm**	**80.01**	**326**	⇑*i*	P	**P**	**20 28 45.5**	**-0.6**
	comp=Z,5.0nm,1.1s							
SWMT	**Swartz Lake**	**80.11**	**39**	*e*	P	**P**	**20 28 48.3**	**+1.4**
FFC	**Flin Flon**	**80.74**	**28**	*e*	P	**P**	**20 28 50.4**	**+0.4**
FFC					pmax	pmax		
	comp=Z,7.0nm,0.8s							
FFC	**Flin Flon**	**80.74**	**28**	*e*	P	**P**	**20 28 50.4**	**+0.4**
	comp=Z,7.2nm,0.8s							
KHC	**Kasperske Hory**	**81.19**	**324**	*e*	P	**P**	**20 28 52.2**	**-0.4**
KHC	**Kasperske Hory**	**81.19**	**324**	*e*	P	**P**	**20 28 52.2**	**-0.4**
GERES	**GERESS Array B**	**81.32**	**324**		P	**P**	**20 28 53.0**	**-0.4**
GERES	**GERESS Array B**	**81.32**	**324**		P	**P**	**20 28 53.0**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=39,slow=5.1,SNR=6.0							
MFID	**Camas Ranch**	**81.68**	**43**	*e*	P	**P**	**20 28 52.3**	**-3.0**
	comp=Z,5.6nm,1.2s							
EGMT	**Eagleton**	**81.95**	**37**	*e*	P	**P**	**20 28 57.9**	**+1.2**
	comp=Z,7.5nm,0.9s							
EGMT				*e*	pP	**pP**	**20 29 16.9**	**-0.4**
DLMT	**Dillon**	**82.23**	**40**	*e*	P	**P**	**20 28 59.5**	**+1.2**
	comp=Z,5.8nm,0.8s							
DLMT				*e*	pP	**pP**	**20 29 19.2**	**+0.3**
HLID	**Hailey**	**82.39**	**42**	*e*	P	**P**	**20 29 00.6**	**+1.5**
	comp=Z,20nm,2.1s							
NVAR	**Mina Array Bea**	**83.27**	**48**		P	**P**	**20 29 06.2**	**+2.3**
NVAR					pP	**pP**	**20 29 25.2**	**+0.6**
NVAR	**Mina Array Bea**	**83.27**	**48**		P	**P**	**20 29 06.2**	**+2.3**
	comp=Z,1.0nm,0.6s,baz=306,slow=5.0,SNR=7.8							
NVAR					pP	**pP**	**20 29 25.2**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=308,slow=5.3,SNR=14							
DUG	**Dugway**	**85.47**	**44**	*e*	P	**P**	**20 29 14.4**	**-0.4**
DUG					pmax	pmax		
	comp=Z,3.0nm,0.7s							
DUG	**Dugway**	**85.47**	**44**	*e*	P	**P**	**20 29 14.4**	**-0.4**
	comp=Z,2.7nm,0.7s							
PDAR	**Pinedale Array**	**85.59**	**40**		P	**P**	**20 29 16.9**	**+1.3**
PDAR					pP	**pP**	**20 29 35.9**	**-0.4**
PDAR	**Pinedale Array**	**85.59**	**40**		P	**P**	**20 29 16.9**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=205,slow=1.6,SNR=7.1							
PDAR					pP	**pP**	**20 29 35.9**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=251,slow=0.3,SNR=3.9							
ULM	**Lac du Bonnet**	**86.57**	**28**		P	**P**	**20 29 20.1**	**+0.3**
ULM	**Lac du Bonnet**	**86.57**	**28**		P	**P**	**20 29 20.1**	**+0.3**
	comp=Z,3.8nm,0.5s,baz=318,slow=3.2,SNR=3.5							
RSSD	**Black Hills**	**87.52**	**37**	*e*	P	**P**	**20 29 23.9**	**-1.0**
RSSD					pmax	pmax		
	comp=Z,6.0nm,1.1s							
RSSD	**Black Hills**	**87.52**	**37**	*e*	P	**P**	**20 29 23.9**	**-1.0**
	comp=Z,5.5nm,1.1s							
PHWY	**Pilot Hill**	**88.80**	**39**	*e*	P	P	20 29 27.6	-3.5
	comp=Z,16nm,1.1s							
PPT	**Papeete**	**90.34**	**111**		LR	LR	21 03 57.1	
	comp=Z,81nm,20.7s,baz=193,slow=31							
TXAR	**Lajitas Array**	**98.36**	**47**		pP	pP	20 30 36.7	+0.6
TXAR	**Lajitas Array**	**98.36**	**47**		pP	pP	20 30 36.7	+0.6
	comp=Z,0.3nm,0.6s,baz=300,slow=3.7,SNR=4.3							
SAML	**Samuel**	**151.93**	**33**	*e*	PKPbc	**PKPbc**	**20 36 31.8**	**-0.3**
SAML				*e*	PKPab	**PKPab**	**20 36 41.5**	**+0.1**

WEL 17 20:24:27.1±0.2, 46°13'S×166°14'E, h32km±1km, ML3.9/13, 2C, Error ellipse: s-maj=1.6km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.38**	**96**	⇑P*		Pb	20 24 35.9	+0.1
PYZ				S*		Sb	20 24 41.7	-0.1
PYZ				S*		Sn	20 24 42.0	-0.6
DCZ	**Deep Cove**	**0.96**	**48**	⇑PN		Pn	20 24 44.0	-0.3
DCZ				SN		Sn	20 24 56.3	-0.6
DCZ				AML		AML	20 24 56.9	
DCZ				AML		AML	20 24 57.3	
WHZ	**Wether Hill Ro**	**1.28**	**80**	PN		Pb	20 24 49.8	-0.9
WHZ				AML		AML	20 25 08.6	
WHZ				AML		AML	20 25 10.2	
APZ	**The Paps**	**1.46**	**120**	PN		Pn	20 24 51.8	+0.5
MLZ	**Mavora Lakes**	**1.63**	**62**	PN		Pn	20 24 54.7	+1.1
MLZ				SN		Sb	20 25 16.7	0.0
MLZ				AML		AML	20 25 19.5	
MSZ	**Milford Sound**	**1.93**	**42**	PN		Pn	20 24 59.0	+1.4
MSZ				AML		AML	20 25 10.1	
MSZ				AML		AML	20 25 26.9	
SYZ	**Scrubby Hill**	**2.12**	**102**	*e*PN		Pn	20 25 01.4	+1.2
EAZ	**Earnscleugh**	**2.40**	**69**	PN		Pb	20 25 07.0	-2.6
EAZ				SN		Sb	20 25 36.7	-2.0
EAZ				AML		AML	20 25 38.6	
WKZ	**Wanaka**	**2.41**	**58**	PN		Pb	20 25 07.8	-2.0
WKZ				AML		AML	20 25 10.9	
WKZ				AML		AML	20 25 14.6	
TUZ	**Tuapeka**	**2.44**	**87**	PN		Pn	20 25 06.9	+2.2
TUZ				AML		AML	20 25 40.7	
TUZ				AML		AML	20 25 41.6	
JCZ	**Jackson Bay**	**2.77**	**43**	*e*PN		Pn	20 25 11.9	+2.5
ODZ	**Otahua Downs**	**3.35**	**73**	PN		Pn	20 25 18.2	+1.1
LBZ	**Lake Benmore**	**3.35**	**60**	PN		Pn	20 25 19.3	+2.1
THZ	**Tophouse**	**6.55**	**51**	*e*PN		Pn	20 26 03.6	+2.3

NEIC 17 20:25:08.8, 45°43S×166°65E, h10km, ML4.5(WEL), After WEL.

WEL 17 20:25:09.6±0.1, 45°42S×166°70E, h22km, ML4.5/20, 1D, Error ellipse: s-maj=1.2km s-min=0.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.33**	**101**	⇓P*		Pb	20 25 16.7	+0.1
DCZ				S*		Sb	20 25 21.0	-0.5
DCZ				S*		Sn	20 25 21.4	-3.7
DCZ				AML		AML	20 25 21.5	
DCZ				AML		AML	20 25 21.8	
PYZ	**Puysegur Point**	**0.75**	**181**	P*		Pb	20 25 23.3	-0.7
PYZ				S*		Sb	20 25 32.5	-1.2
PYZ	**Puysegur Point**	**0.75**	**181**	P*		Pb	20 25 23.3	-0.7
PYZ				S*		Sb	20 25 32.3	-1.4
PYZ				S*		Sn	20 25 32.5	-3.1
WHZ	**Wether Hill Ro**	**0.99**	**119**	P*		Pb	20 25 27.9	-0.2
WHZ	**Wether Hill Ro**	**0.99**	**119**	PN		Pb	20 25 27.9	-0.2
WHZ				AML		AML	20 25 42.4	
WHZ				AML		AML	20 25 42.5	
MLZ	**Mavora Lakes**	**1.04**	**87**	P*		Pn	20 25 28.1	-0.8
MLZ				S*		Sb	20 25 41.2	-1.0
MLZ	**Mavora Lakes**	**1.04**	**87**	PN		Pn	20 25 28.1	-0.9
MLZ				S*		Sb	20 25 41.2	-1.0
MSZ	**Milford Sound**	**1.15**	**50**	P*		Pn	20 25 29.9	-0.4
MSZ	**Milford Sound**	**1.15**	**50**	PN		Pn	20 25 29.9	-0.4
MSZ				AML		AML	20 25 49.2	
MSZ				AML		AML	20 25 49.2	
MSZ				AML		AML	20 25 50.7	
MSZ				AML		AML	20 25 50.7	
APZ	**The Paps**	**1.67**	**148**	PN		Pb	20 25 38.9	-0.9
WKZ	**Wanaka**	**1.74**	**71**	AML		AML	20 26 06.9	
WKZ				AML		AML	20 26 06.9	
WKZ				AML		AML	20 26 11.6	
WKZ				AML		AML	20 26 11.7	
EAZ	**Earnscleugh**	**1.85**	**85**	*e*PN		Pn	20 25 40.1	+0.1
EAZ				AML		AML	20 26 09.5	
EAZ				AML		AML	20 26 09.5	
EAZ				AML		AML	20 26 10.4	
EAZ				AML		AML	20 26 10.5	
JCZ	**Jackson Bay**	**1.99**	**48**	AML		AML	20 26 15.8	
JCZ				AML		AML	20 26 16.7	
SYZ	**Scrubby Hill**	**2.04**	**124**	*e*PN		Pb	20 25 44.2	-1.6
TUZ	**Tuapeka**	**2.12**	**106**	*e*PN		Pb	20 25 45.7	-1.6
TUZ				AML		AML	20 26 18.7	
TUZ				AML		AML	20 26 19.7	
LBZ	**Lake Benmore**	**2.68**	**69**	*e*PN		Pn	20 25 53.6	+2.1
LBZ				AML		AML	20 26 39.6	
LBZ				AML		AML	20 26 40.7	
LBZ				AML		AML	20 26 40.7	
HHSZ	**Highcliff Hill**	**2.77**	**101**	*e*PN		Pn	20 25 53.9	+1.2
ODZ	**Otahua Downs**	**2.81**	**84**	Pn		Pn	20 25 53.7	+0.5
ODZ	**Otahua Downs**	**2.81**	**84**	*e*PN		Pn	20 25 53.4	+0.2
ODZ				AML		AML	20 26 31.7	
ODZ				AML		AML	20 26 32.1	
FOZ	**Fox Glacier**	**2.83**	**50**	*e*PN		Pn	20 25 55.4	+2.0
FOZ				AML		AML	20 26 43.4	
FOZ				AML		AML	20 26 43.4	
FOZ				AML		AML	20 26 48.3	
FOZ				AML		AML	20 26 48.3	
RPZ	**Rata Peaks**	**3.55**	**63**	*e*Pn		Pn	20 26 05.0	+1.6
RPZ	**Rata Peaks**	**3.55**	**63**	*e*PN		Pn	20 26 03.7	+0.4
RPZ				AML		AML	20 27 06.2	
RPZ				AML		AML	20 27 10.0	
WVZ	**Waitaha Valley**	**3.73**	**52**	Pn		Pn	20 26 06.5	+0.7
WVZ	**Waitaha Valley**	**3.73**	**52**	PN		Pn	20 26 06.5	+0.7
WVZ				AML		AML	20 27 00.2	
WVZ				AML		AML	20 27 13.7	
OXZ	**Oxford**	**4.36**	**63**	*e*PN		Pn	20 26 15.3	+0.8
MQZ	**McQueen's Vall**	**4.58**	**70**	*e*PN		Pn	20 26 18.7	+1.2
MQZ				AML		AML	20 27 28.1	
THZ	**Tophouse**	**5.80**	**53**	Pn		Pn	20 26 58.6	+2.0
THZ	**Tophouse**	**5.80**	**53**	*e*PN		Pn	20 26 35.7	+1.4
QRZ	**Quartz Range**	**6.26**	**45**	*e*PN		Pn	20 26 41.1	+0.4
TUWZ	**Tuamarina**	**6.61**	**55**	Pn		Pn	20 26 48.6	+3.3
TUWZ	**Tuamarina**	**6.61**	**55**	PN		Pn	20 26 48.6	+3.3
SNZO	**South Karori**	**7.13**	**58**	*e*Pn		Pn	20 26 56.6	+4.1
SNZO				*e*Sn		Sn	20 28 10.5	-2.4
TAU	**Tasmania Unive**	**14.14**	**273**	*e*Pn		Pn	20 28 26.2	-2.1

WEL 17 20:42:27.0±0.2, 46°13S×166°18E, h33km, ML3.8/14, 2C, Error ellipse: s-maj=1.9km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.35**	**97**	⇑P*		Pb	20 42 35.6	+0.1
PYZ				S*		Sb	20 42 40.9	-0.4
PYZ				S*		Sn	20 42 41.3	-0.3
DCZ	**Deep Cove**	**0.94**	**47**	⇑PN		Pn	20 42 43.6	-0.3
DCZ				SN		Sn	20 42 52.8	-3.4
DCZ				AML		AML	20 42 56.6	
WHZ	**Wether Hill Ro**	**1.25**	**80**	AML		AML	20 43 11.6	
WHZ				AML		AML	20 43 11.9	
APZ	**The Paps**	**1.44**	**120**	PN		Pn	20 42 51.7	+0.9
MLZ	**Mavora Lakes**	**1.60**	**62**	PN		Pn	20 42 54.1	+1.1
MLZ				AML		AML	20 43 20.0	
MLZ				AML		AML	20 43 21.5	
MSZ	**Milford Sound**	**1.91**	**41**	*e*PN		Pn	20 42 58.6	+1.4
MSZ				AML		AML	20 43 36.0	
MSZ				AML		AML	20 43 36.7	
SYZ	**Scrubby Hill**	**2.09**	**102**	*e*PN		Pn	20 43 01.5	+1.8
EAZ	**Earnscleugh**	**2.37**	**69**	*e*PN		Pn	20 43 06.2	+2.6
EAZ				AML		AML	20 43 37.8	
EAZ				AML		AML	20 43 37.8	
EAZ				AML		AML	20 43 40.6	
WKZ	**Wanaka**	**2.38**	**58**	PN		Pb	20 43 07.6	-1.7
WKZ				AML		AML	20 43 40.0	
WKZ				AML		AML	20 43 41.2	
TUZ	**Tuapeka**	**2.41**	**87**	*e*PN		Pn	20 43 06.6	+2.4
TUZ				AML		AML	20 43 39.9	
TUZ				AML		AML	20 43 40.2	
JCZ	**Jackson Bay**	**2.75**	**43**	*e*PN		Pn	20 43 12.0	+3.1
JCZ				AML		AML	20 44 01.1	
JCZ				AML		AML	20 44 01.8	
ODZ	**Otahua Downs**	**3.32**	**73**	*e*PN		Pn	20 43 17.5	+0.9
LBZ	**Lake Benmore**	**3.32**	**60**	*e*PN		Pn	20 43 18.9	+2.2

ISCJB 17 20:48:33.0±0.2, 43°70N±0°01×105°30W±0°02, h0km, mb4.4/1, MS3.1/1, Error ellipse: s-maj=2.3km s-min=2.0km az=154.9

NEIC 17 20:48:34.3±0.4, 43°75N×105°24W, h0km, ML3.0, Error ellipse: s-maj=5.3km s-min=4.9km az=194.0, Suspected Mining explosion.

NEIC 65 km [40 miles] SSE of Gillette.

IDC 17 20:48:35.0±1.3, 44°30N×105°99W, h0km, mb4.2/1, mb1 4.3/3, mb1mx3.5/27, mbtmp4.1/3, ML3.6/2, MS2.9/2, Ms1 2.9/2, ms1mx2.4/39, Error ellipse: s-maj=51.8km s-min=8.1km az=144.0

ISC 17 20:48:33.6±0.7, 43°69N±0°02×105°30W±0°02, h0km, n189, σ0°78/212, 66C-90D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.30**	**337**	⇓P		**Pg**	**20 48 40.2**	**+0.9**
	baz=0.3,SNR=59							
I23A				⇓S		**Sg**	**20 48 44.1**	**+1.0**
	baz=0.3							
I23A	**Meade Ranch, G**	**0.30**	**337**	⇓P		**Pg**	**20 48 40.2**	**+0.9**
	baz=0.3,SNR=59							
I23A				⇓S		**Sg**	**20 48 44.1**	**+1.0**
	baz=0.3							
J23A	**Dilts Ranch, B**	**0.34**	**213**	⇓P		**Pg**	**20 48 40.5**	**+0.5**
	baz=0.4,SNR=373							
J23A				⇑S		**Sg**	**20 48 44.8**	**+0.5**
	baz=0.4							
J23A	**Dilts Ranch, B**	**0.34**	**213**	⇓P		**Pg**	**20 48 40.5**	**+0.5**
	baz=0.4,SNR=373							
J23A				⇑S		**Sg**	**20 48 44.8**	**+0.5**
	baz=0.4							
I24A	**Kuemmerle Ranc**	**0.52**	**70**	⇓P		**Pg**	**20 48 44.1**	**+0.6**
	baz=0.5,SNR=457							
I24A				⇓S		**Sg**	**20 48 51.0**	**+0.8**
	baz=0.5							
I24A	**Kuemmerle Ranc**	**0.52**	**70**	⇓P		**Pg**	**20 48 44.1**	**+0.6**
	baz=0.5,SNR=457							
I24A				⇓S		**Sg**	**20 48 51.0**	**+0.8**
	baz=0.5							
J24A	**Dixon Ranch, L**	**0.59**	**127**	⇑P		**Pg**	**20 48 45.1**	**+0.3**
	baz=0.6,SNR=78							
J24A	**Dixon Ranch, L**	**0.59**	**127**	⇑P		**Pg**	**20 48 45.1**	**+0.3**
	baz=0.6,SNR=78							
H23A	**Clabaugh Cattl**	**0.88**	**355**	⇓P		**Pg**	**20 48 50.1**	**-0.3**
	baz=0.8,SNR=50							
I22A	**9 Mile Ranch,**	**0.88**	**284**	⇑P		**Pg**	**20 48 50.2**	**-0.3**
	baz=0.9,SNR=507							
I22A				⇑S		**Sg**	**20 49 02.0**	**+0.2**
	baz=0.9							
I22A	**9 Mile Ranch,**	**0.88**	**284**	⇑P		**Pg**	**20 48 50.2**	**-0.3**
	baz=0.9,SNR=507							
I22A				⇑S		**Sg**	**20 49 02.0**	**+0.2**
	baz=0.9							
J22A	**Midwest**	**0.90**	**253**	⇓P		**Pg**	**20 48 50.2**	**-0.5**
	baz=1.0,SNR=228							
J22A	**Midwest**	**0.90**	**253**	⇓P		**Pg**	**20 48 50.2**	**-0.5**
	baz=1.0,SNR=228							
K23A	**Bowen Ranch, D**	**0.96**	**194**	⇓P		**Pg**	**20 48 52.0**	**0.0**
	baz=1.0,SNR=5.5							
K23A	**Bowen Ranch, D**	**0.96**	**194**	⇓P		**Pg**	**20 48 52.0**	**0.0**
	baz=1.0,SNR=5.5							
RSSD	**Black Hills**	**1.01**	**64**	*e*Pg		**Pg**	**20 48 52.9**	**-0.1**
K24A	**Anderson Ranch**	**1.03**	**160**	P		**Pg**	**20 48 53.1**	**-0.1**
	baz=1.1,SNR=192							
K24A	**Anderson Ranch**	**1.03**	**160**	P		**Pg**	**20 48 53.1**	**-0.1**
	baz=1.1,SNR=192							
J25A	**Sunshine Ranch**	**1.13**	**105**	⇑P		**Pg**	**20 48 55.0**	**-0.2**
	baz=1.1,SNR=236							
J25A	**Sunshine Ranch**	**1.13**	**105**	⇑P		**Pg**	**20 48 55.0**	**-0.2**
	baz=1.1,SNR=236							
H22A	**Clearmont**	**1.18**	**321**	⇓P		**Pg**	**20 48 56.1**	**-0.1**
	baz=1.2,SNR=171							
H22A	**Clearmont**	**1.18**	**321**	⇓P		**Pg**	**20 48 56.1**	**-0.1**
	baz=1.2,SNR=171							
I25A	**Rochford**	**1.18**	**73**	P		**Pg**	**20 48 55.9**	**-0.3**
	baz=1.1,SNR=173							
I25A	**Rochford**	**1.18**	**73**	P		**Pg**	**20 48 55.9**	**-0.3**
	baz=1.1,SNR=173							
H24A	**Dirks Ranch, A**	**1.19**	**27**	P		**Pg**	**20 48 55.6**	**-0.8**
	baz=1.1,SNR=256							
H24A	**Dirks Ranch, A**	**1.19**	**27**	P		**Pg**	**20 48 55.6**	**-0.8**
	baz=1.1,SNR=256							
K22A	**Casper**	**1.37**	**221**	P		**Pg**	**20 48 58.7**	**-1.0**
	baz=1.4,SNR=176							
K22A				⇓S		**Sb**	**20 49 18.4**	**+0.2**
	baz=1.4							
K22A	**Casper**	**1.37**	**221**	P		**Pg**	**20 48 58.7**	**-1.0**
	baz=1.4,SNR=176							
K22A				⇓S		**Sb**	**20 49 18.4**	**+0.2**
	baz=1.4							
I21A	**Big Trails, Te**	**1.45**	**276**	P		**Pn**	**20 48 59.7**	**-1.5**
	baz=1.5,SNR=324							
I21A	**Big Trails, Te**	**1.45**	**276**	P		**Pn**	**20 48 59.7**	**-1.5**
	baz=1.5,SNR=324							
K25A	**Mack Ranch, Ha**	**1.50**	**135**	⇑P		**Pn**	**20 49 01.7**	**-0.2**
	baz=1.5,SNR=108							
K25A	**Mack Ranch, Ha**	**1.50**	**135**	⇑P		**Pn**	**20 49 01.7**	**-0.2**
	baz=1.5,SNR=108							
G23A	**Biddle**	**1.52**	**358**	P		**Pn**	**20 49 01.5**	**-0.5**
	baz=1.5,SNR=163							
G23A	**Biddle**	**1.52**	**358**	P		**Pn**	**20 49 01.5**	**-0.5**
	baz=1.5,SNR=163							
H25A	**Fruitdale**	**1.54**	**52**	⇑P		**Pn**	**20 49 02.3**	**-0.1**
	baz=1.5,SNR=33							
H25A	**Fruitdale**	**1.54**	**52**	⇑P		**Pn**	**20 49 02.3**	**-0.1**
	baz=1.5,SNR=33							
H21A	**Big Horn, Sher**	**1.57**	**308**	⇓P		**Pn**	**20 49 02.6**	**-0.1**
	baz=1.6,SNR=251							
H21A	**Big Horn, Sher**	**1.57**	**308**	⇓P		**Pn**	**20 49 02.6**	**-0.1**
	baz=1.6,SNR=251							
J21A	**Lysite**	**1.60**	**258**	⇑P		**Pn**	**20 49 02.3**	**-1.0**
	baz=1.7,SNR=124							
J21A	**Lysite**	**1.60**	**258**	⇑P		**Pn**	**20 49 02.3**	**-1.0**
	baz=1.7,SNR=124							
L23A	**Garrett**	**1.60**	**191**	⇓P		**Pn**	**20 49 02.7**	**-0.6**
	baz=1.7,SNR=238							
L23A				⇓S		**Sn**	**20 49 25.0**	**+0.2**
	baz=1.7							
L23A	**Garrett**	**1.60**	**191**	⇓P		**Pn**	**20 49 02.7**	**-0.6**
	baz=1.7,SNR=238							
L23A				⇓S		**Sn**	**20 49 25.0**	**+0.2**
	baz=1.7							
L24A	**Wheatland**	**1.67**	**170**	⇓P		**Pn**	**20 49 04.2**	**0.0**
	baz=1.7,SNR=16							
L24A	**Wheatland**	**1.67**	**170**	⇓P		**Pn**	**20 49 04.2**	**0.0**
	baz=1.7,SNR=16							
G22A	**Birney**	**1.69**	**336**	⇑P		**Pn**	**20 49 04.5**	**+0.1**
	baz=1.7,SNR=211							
G22A	**Birney**	**1.69**	**336**	⇑P		**Pn**	**20 49 04.5**	**+0.1**
	baz=1.7,SNR=211							
G24A	**Alzada**	**1.76**	**21**	⇓P		**Pn**	**20 49 05.7**	**+0.3**
	baz=1.7,SNR=66							
G24A	**Alzada**	**1.76**	**21**	⇓P		**Pn**	**20 49 05.7**	**+0.3**
	baz=1.7,SNR=66							
K21A	**Alcova**	**1.77**	**234**	⇓P		**Pn**	**20 49 05.7**	**0.0**
	baz=1.8,SNR=293							
K21A	**Alcova**	**1.77**	**234**	⇓P		**Pn**	**20 49 05.7**	**0.0**
	baz=1.8,S

baz=2.3
M24A ⇑Sb Sg 20 49 45.5 -0.2
baz=2.3
L21A Rawlins 2.30 222 ⇓Pb Pn 20 49 13.9 +1.0
baz=2.4,SNR=97
L21A Rawlins 2.30 222 ⇓Pb Pn 20 49 13.9 +1.0
baz=2.4,SNR=97
PHWY Pilot Hill 2.39 183 ePn Pn 20 49 15.1 +0.9
RWWY Rawlins 2.44 216 ePn Sn 20 49 16.4 +1.5
K27A Flueckinger Fa 2.45 113 ⇓S Sn 20 49 46.3 +0.7
baz=2.4
K27A Flueckinger Fa 2.45 113 ⇓S Sn 20 49 46.3 +0.7
baz=2.4
G20A Bridger 2.59 307 ⇑P Pn 20 49 16.5 -0.3
baz=2.6,SNR=163
G20A Bridger 2.59 307 ⇑P Pn 20 49 16.5 -0.3
baz=2.6,SNR=163
E22A Miles City 2.79 351 ⇓P Pn 20 49 19.2 -0.3
baz=2.7,SNR=6.0
E22A Miles City 2.79 351 ⇓P Pn 20 49 19.2 -0.3
baz=2.7,SNR=6.0
E23A Ismay 2.81 360 P Pn 20 49 19.9 +0.1
baz=2.8,SNR=34
E23A Ismay 2.81 360 P Pn 20 49 19.9 +0.1
baz=2.8,SNR=34
H19A Powell 2.83 292 ⇑Sb Sb 20 50 00.9 +0.8
baz=2.8
H19A Powell 2.83 292 ⇑Sb Sb 20 50 00.9 +0.8
baz=2.8
N23A Red Feather La 2.83 190 ⇓P Pn 20 49 21.1 +0.9
baz=2.9,SNR=46
N23A Red Feather La 2.83 190 ⇓P Pn 20 49 21.1 +0.9
baz=2.9,SNR=46
F20A Billings 2.93 317 ⇓P Pn 20 49 21.3 -0.2
baz=2.9,SNR=53
F20A Billings 2.93 317 ⇓P Pn 20 49 21.3 -0.2
baz=2.9,SNR=53
G27A Dupree 2.94 54 ⇓P Pn 20 49 22.5 +0.8
baz=2.9,SNR=20
G27A Dupree 2.94 54 ⇓P Pn 20 49 22.5 +0.8
baz=2.9,SNR=20
E21A Keefer Ranch, 3.12 337 ⇓P Pn 20 49 23.5 -0.5
baz=3.1
E21A Keefer Ranch, 3.12 337 ⇓P Pn 20 49 23.5 -0.5
baz=3.1
RLMT Red Lodge 3.18 298 ePn Pn 20 49 25.5 +0.4
BW06 Boulder Array 3.24 255 ePn Pn 20 49 26.8 +0.9
PDAR Pinedale Array 3.24 255 Pn Pn 20 49 26.7 +0.8
PDAR Pg Pb 20 49 32.1 0.0
PDAR Pinedale Array 3.24 255 Pn Pn 20 49 26.7 +0.8
3.3nm,0.3s,baz=72,slow=15,SNR=80
PDAR Pg Pb 20 49 32.1 0.0
11nm,0.3s,baz=62,slow=19,SNR=58
PDAR Lg Lg 20 50 10.6
17nm,0.3s,baz=60,slow=33,SNR=12
H18A Shoshone NF, C 3.29 289 ⇑P Pn 20 49 26.8 +0.2
baz=3.3,SNR=15
H18A Shoshone NF, C 3.29 289 ⇑P Pn 20 49 26.8 +0.2
baz=3.3,SNR=15
F19A Roth Farm, Mol 3.38 311 ⇑P Pn 20 49 28.0 +0.3
baz=3.4,SNR=161
F19A Roth Farm, Mol 3.38 311 ⇑P Pn 20 49 28.0 +0.3
baz=3.4,SNR=161
E20A Meyer Farm, Mu 3.46 326 ⇓P Pn 20 49 28.3 -0.4
baz=3.4,SNR=7.4
E20A Meyer Farm, Mu 3.46 326 ⇓P Pn 20 49 28.3 -0.4
baz=3.4,SNR=7.4
G18A Lazy EL Ranch, 3.46 300 ⇓P Pn 20 49 29.2 +0.4
baz=3.5,SNR=85
G18A Lazy EL Ranch, 3.46 300 ⇓P Pn 20 49 29.2 +0.4
baz=3.5,SNR=85
D23A Lindsay 3.49 1 ⇓P Pn 20 49 29.4 +0.3
baz=3.4,SNR=39
D23A Lindsay 3.49 1 ⇓P Pn 20 49 29.4 +0.3
baz=3.4,SNR=39
D22A Cohagen 3.52 350 ⇑P Pn 20 49 29.6 +0.1
baz=3.5,SNR=10.0
D22A Cohagen 3.52 350 ⇑P Pn 20 49 29.6 +0.1
baz=3.5,SNR=10.0
N27A Anderson Farm, 3.54 144 ⇓P Pn 20 49 30.8 +1.0
baz=3.6,SNR=14
N27A Anderson Farm, 3.54 144 ⇓P Pn 20 49 30.8 +1.0
baz=3.6,SNR=14
D21A La Casta Ranch 3.58 341 ⇓P Pn 20 49 30.3 -0.1
baz=3.5,SNR=12
D21A La Casta Ranch 3.58 341 ⇓P Pn 20 49 30.3 -0.1
baz=3.5,SNR=12
OGNE Ogallala 3.66 137 ePn Pn 20 49 33.2 +1.7
E19A Rath Farm, Rou 3.71 320 ⇓P Pn 20 49 31.8 -0.4
baz=3.7,SNR=27
E19A Rath Farm, Rou 3.71 320 ⇓P Pn 20 49 31.8 -0.4
baz=3.7,SNR=27
GCMT Greycliff 3.75 306 ePn Pn 20 49 33.4 +0.5
LOHW Long Hollow 3.85 271 ePn Pn 20 49 36.8 +2.6
ISCO Idaho Springs 3.89 184 ePn Pn 20 49 36.2 +1.3
FLWY Flagg Ranch 3.92 278 Pn Pn 20 49 38.2 +2.9
MOOW Moose Ponds 3.95 273 ePn Pn 20 49 37.9 +2.3
SNOW Snow King Moun 3.97 269 Pn Pn 20 49 38.6 +2.7
IMW Indian Meadow 4.09 275 ePn Pn 20 49 38.7 +1.2
TPAW Teton Pass 4.11 269 ePn Pn 20 49 39.2 +1.4
G17A Pierce Place, 4.22 295 ⇑P Pn 20 49 38.6 -0.6
baz=4.2
G17A Pierce Place, 4.22 295 ⇑P Pn 20 49 38.6 -0.6
baz=4.2
AHID Auburn Hatcher 4.34 260 ePn Pn 20 49 42.1 +1.2
E18A Harlowton 4.35 313 ⇓P Pn 20 49 41.1 +0.1
baz=4.3,SNR=14
E18A Harlowton 4.35 313 ⇓P Pn 20 49 41.1 +0.1
baz=4.3,SNR=14
P26A Davis Ranch, A 4.38 160 ⇓P Pn 20 49 41.7 +0.3
baz=4.4,SNR=9.8
P26A Davis Ranch, A 4.38 160 ⇓P Pn 20 49 41.7 +0.3
baz=4.4,SNR=9.8
RRI2 Red Ridge 4.39 268 ePn Pn 20 49 42.7 +1.0
O28A Krutsinger Ran 4.43 142 ⇓P Pn 20 49 41.8 -0.2
baz=4.4,SNR=7.3
O28A Krutsinger Ran 4.43 142 ⇓P Pn 20 49 41.8 -0.2
baz=4.4,SNR=7.3
P27A Ficken Ranch, 4.61 153 ⇑P Pn 20 49 44.4 -0.2
baz=4.6,SNR=5.2
P27A Ficken Ranch, 4.61 153 ⇑P Pn 20 49 44.4 -0.2
baz=4.6,SNR=5.2
B22A Reddig Ranch S 4.64 354 ⇑P Pn 20 49 45.2 +0.2
baz=4.6,SNR=5.6
B22A Reddig Ranch S 4.64 354 ⇑P Pn 20 49 45.2 +0.2
baz=4.6,SNR=5.6
SMCO Snowmass 4.68 196 Pn Pn 20 49 48.5 +2.7
E17A Martinsdale 4.81 307 ⇑P Pn 20 49 47.6 +0.1
baz=4.8,SNR=8.6
E17A Martinsdale 4.81 307 ⇑P Pn 20 49 47.6 +0.1
baz=4.8,SNR=8.6
Q25A Bedland, Calha 4.83 170 ⇑P Pn 20 49 48.0 +0.2
baz=4.9,SNR=5.9
Q25A Bedland, Calha 4.83 170 ⇑P Pn 20 49 48.0 +0.2
baz=4.9,SNR=5.9
BOZ Bozeman (W) 4.92 296 ePn Pn 20 49 47.2 -1.7
HWUT Hardware Ranch 5.07 248 ePn Pn 20 49 51.6 +0.7
7.4nm,0.4s
D17A Six Diamond Ra 5.13 314 ⇑P Pn 20 49 52.0 +0.2
baz=5.1,SNR=53
D17A Six Diamond Ra 5.13 314 ⇑P Pn 20 49 52.0 +0.2
baz=5.1,SNR=53
P29A Atwood 5.23 140 ⇓P Pn 20 49 53.4 +0.3
baz=5.2,SNR=5.9
P29A Atwood 5.23 140 ⇓P Pn 20 49 53.4 +0.3
baz=5.2,SNR=5.9
EGMT Eagleton 5.34 326 ePn Pn 20 49 54.6 0.0
11nm,0.3s
DLMT Dillon 5.48 290 ePn Pn 20 49 57.8 +1.3
2.9nm,0.3s
DAU Daniels Canyon 5.51 236 ePn Pn 20 49 59.7 +2.6
5.9nm,0.4s
HRY Holter Researc 5.51 306 ePn Pn 20 49 57.5 +0.4
7.7nm,0.3s
MCMT McKenzie Canyo 5.54 284 ePn Pn 20 50 00.9 +3.4
1.4nm,0.3s
R26A Arlington 5.56 165 ⇓P Pn 20 49 57.9 +0.2
baz=5.6,SNR=8.9
R26A Arlington 5.56 165 ⇓P Pn 20 49 57.9 +0.2
baz=5.6,SNR=8.9
SPUT South Promonto 5.79 248 ePn Pn 20 50 02.2 +1.3
3.3nm,0.3s
PV04 Paradox Valley 5.95 208 ePn Pn 20 50 04.3 +1.2
R28A Tribune 5.96 153 ⇑P Pn 20 50 03.3 +0.2
baz=6.0,SNR=11
R28A Tribune 5.96 153 ⇑P Pn 20 50 03.3 +0.2
baz=6.0,SNR=11

SRU San Rafael 6.03 222 ePn Pn 20 50 04.4 +0.3
9.5nm,0.4s
S25A Robets Cordova 6.06 173 ⇓P Pn 20 50 04.8 +0.3
baz=6.1,SNR=9.4
S25A Robets Cordova 6.06 173 ⇓P Pn 20 50 04.8 +0.3
baz=6.1,SNR=9.4
C16A Fuhringer Ranc 6.10 315 ⇑P Pn 20 50 04.8 -0.2
baz=6.1,SNR=7.6
C16A Fuhringer Ranc 6.10 315 ⇑P Pn 20 50 04.8 -0.2
baz=6.1,SNR=7.6
TMUT Trail Mountain 6.24 227 ePn Pn 20 50 08.4 +1.3
ECSD EROS Data Cent 6.30 87 ePn Pn 20 50 07.8 +0.1
5.3nm,0.3s
CHMT Chamberlain Mo 6.47 303 ePn Pn 20 50 10.4 +0.2
1.2nm,0.3s
B16A M & M Farms, S 6.49 319 ⇑P Pn 20 50 10.1 -0.3
baz=6.5,SNR=14
B16A M & M Farms, S 6.49 319 ⇑P Pn 20 50 10.1 -0.3
baz=6.5,SNR=14
DUG Dugway 6.60 241 ePn Pn 20 50 12.7 +0.7
2.8nm,0.3s
DUG Dugway 6.60 241 ⇓P Pn 20 50 11.7 -0.2
baz=6.7,SNR=15
DUG Dugway 6.60 241 ⇓P Pn 20 50 11.7 -0.2
baz=6.7,SNR=15
T27A Campo 6.91 163 ⇓P Pn 20 50 16.6 +0.4
baz=7.0,SNR=6.3
T27A Campo 6.91 163 ⇓P Pn 20 50 16.6 +0.4
baz=7.0,SNR=6.3
SWMT Swartz Lake 7.20 305 ePn Pn 20 50 20.2 +0.1
2.6nm,0.3s
MVU Marysvale 7.35 228 ePn Pn 20 50 23.7 +1.4
YBMT Yellow Bay 7.38 307 ePn Pn 20 50 23.9 +1.2
4.2nm,0.3s
ULM Lac du Bonnet 9.20 41 Pn Pn 20 50 45.8 -1.5
ULM Lac du Bonnet 9.20 41 Pn Pn 20 50 45.8 -1.5
3.5nm,0.3s,baz=231,slow=14,SNR=13
ULM Lg Lg 20 53 21.8
0.6nm,0.3s,baz=131,slow=19,SNR=2.1
TKL Tuckaleechee C 18.38 109 LR LR 21 01 11.7
comp=Z,23nm,21.7s,baz=301,slow=40
PETK Petropavlovsk- 60.27 316 LR LR 21 23 05.4
comp=Z,14nm,20.9s,baz=205,slow=35
ARCES ARCESS Array B 61.47 18 P P 20 58 49.9 -1.5
2.0nm,0.7s,baz=327,slow=7.6,SNR=4.4

CSEM 17 20:59:00.4±1.1, 76°.85N×7°.42E, h10km, ML3.2, Error ellipse: s-maj=33.8km s-min=11.5km az=89.0
ISCJB 17 20:59:01.5±0.6, 76°.82N±0°.05×8°.2E±0°.2, h10km, mb3.6/10, MS3.3/5, Error ellipse: s-maj=8.3km s-min=7.3km az=13.4
BER 17 20:59:01.8±1.8, 76°.79N×7°.45E, h10km, MD1.8, ML2.4, ML3.2(NAO)
NAO 17 20:59:02.3±3.1, 76°.80N×8°.16E, ML3.2
IDC 17 20:59:02.5±0.8, 76°.79N×7°.30E, h0km, mb3.6/10, mb1 3.8/13, mb1mx3.6/31, mbtmp3.6/13, ML3.0/3, MS3.1/11, Ms1 3.1/11, ms1mx2.9/34, Error ellipse: s-maj=18.5km s-min=14.1km az=48.0

ISC 17 20:59:02.4±0.8, 76°.82N±0°.06×8°.26E±0°.08, h10km, n33, σ2°.924/31, mb3.6/10, MS3.3/5, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSP	Hornsund	1.67	80	eP	Pn	20 59 32.4	+0.8
HSP				eS	Sn	20 59 52.4	-0.7
SPA0	Spitsbergen Ar	2.23	48	Pn	Pn	20 59 40.7	+1.3
	baz=233,slow=12						
SPA0				Sn	Sn	21 00 07.5	+0.5
	baz=238,slow=22						
SPA0	Spitsbergen Ar	2.23	48	Pn	Pn	20 59 40.7	+1.3
	baz=233,slow=12						
SPA0				Sn	Sn	21 00 07.5	+0.5
	baz=238,slow=22						
SPA0	Spitsbergen Ar	2.23	48	Pn	Pn	20 59 40.7	+1.3
	baz=233,slow=12,SNR=628						
SPA0				Sn	Sn	21 00 07.4	+0.5
	baz=238,slow=22,SNR=0.4						
SPITS	Spitsbergen Ar	2.23	48	Pn	Pn	20 59 40.7	+1.3
	baz=219,slow=17,SNR=209						
SPITS				Sn	Sn	21 00 07.9	+1.0
	baz=239,slow=26,SNR=18						
KBS	Kingsbay	2.26	18	Pn	Pn	20 59 38.3	-1.4
KBS				Sn	Sn	21 00 04.1	-3.5
KBS	Kingsbay	2.26	18	Pn	Pn	20 59 38.3	-1.4
KBS				Sn	Sn	21 00 04.1	-3.5
KBS				AML	AML	21 00 08.2	
	comp=Z,48nm,0.3s						
KBS	Kingsbay	2.26	18	Pn	Pn	20 59 38.3	-1.4
KBS				Sn	Sn	21 00 04.1	-3.5
	comp=Z,48nm,0.3s,SNR=50						
DAG	Danmarks Havn	6.13	283	i P	Pn	21 00 28.0	-4.9
DAG				i S	Sn	21 01 29.2	-14
JMIC	Jan Mayen	7.44	227	LR	LR	21 02 51.9	
	comp=Z,119nm,18.6s,baz=75,slow=32						
ARA0	ARCESS Array S	8.80	137	Pn	Pn	21 01 09.3	-0.1
	baz=334,slow=12						
ARA0				Sn	Sn	21 02 42.8	-5.9
	baz=330,slow=22						
ARA0	ARCESS Array S	8.80	137	Pn	Pn	21 01 09.3	-0.1
	baz=334,slow=12						
ARA0				Sn	Sn	21 02 42.8	-5.9
	baz=330,slow=22						
ARA0	ARCESS Array S	8.80	137	Pn	Pn	21 01 09.4	-0.1
	baz=334,slow=12						
ARCES	ARCESS Array B	8.80	137	Pn	Pn	21 01 10.2	+0.7
	comp=Z,0.2nm,0.3s,baz=331,slow=12,SNR=5.0						
ARCES				Sn	Sn	21 02 41.7	-6.9
	comp=Z,1.0nm,0.3s,baz=328,slow=18,SNR=9.0						
ARCES				LR	LR	21 04 38.8	
	comp=Z,81nm,20.8s,baz=238,slow=38						
KEV	Kevo	8.85	133	ep	Pn	21 01 13.5	+3.4
	comp=Z,2.1nm,0.6s						
NOA	NORSAR Array B	15.88	175	LR	LR	21 08 18.6	
	comp=Z,28nm,18.4s,baz=0.0,slow=35						
KAF	Kangasniemi	15.93	148	ep	Pn	21 02 46.6	+0.4
	comp=Z,6.0nm,0.9s						
FINES	FINESS Array B	16.55	149	Pn	P	21 02 55.6	-1.1
	comp=Z,0.1nm,0.3s,baz=359,slow=10,SNR=4.0						
FINES				LR	LR	21 09 21.6	
	comp=Z,56nm,19.8s,baz=38,slow=37						
HFS	Hagfors	16.87	171	Pn	P	21 03 02.7	+2.5
	comp=Z,0.1nm,0.3s,baz=12,slow=7.4,SNR=4.0						
HFS				LR	LR	21 08 31.6	
	comp=Z,52nm,19.7s,baz=21,slow=34						
SFJD	Kangerlussuaq	19.68	272	LR	LR	21 10 26.4	
	comp=Z,61nm,18.9s,baz=301,slow=35						
AKTO	Aktyubinsk	32.53	115	LR	LR	21 19 40.5	
	comp=Z,31nm,19.7s,baz=40,slow=38						
BVAR	Borovoye Array	32.81	100	P	P	21 05 39.5	+4.2
	comp=Z,0.2nm,0.4s,baz=354,slow=14,SNR=3.3						
ZALV	Zalesovo Beam	35.25	85	LR	LR	21 25 23.6	
	comp=Z,31nm,18.1s,baz=66,slow=45						
KURBB	Kurchatov Arra	36.90	93	P	P	21 06 14.9	+4.2
	comp=Z,0.5nm,0.9s,baz=341,slow=7.6,SNR=4.7						
ILAR	Eielson Array	37.80	343	P	P	21 06 20.4	+2.3
	comp=Z,0.8nm,1.0s,baz=358,slow=6.7,SNR=7.5						
MKAR	Makanchi Array	41.36	91	P	P	21 06 52.4	+4.4
	comp=Z,0.6nm,0.9s,baz=348,slow=6.3,SNR=3.1						
MKAR				LR	LR	21 26 11.9	
	comp=Z,37nm,18.9s,baz=117,slow=39						
ULM	Lac du Bonnet	44.74	298	LR	LR	21 25 40.0	
	comp=Z,44nm,18.7s,baz=344,slow=36						
KDAK	Kodiak Island	45.11	346	P	P	21 07 19.8	+1.7
	comp=Z,11nm,1.2s,baz=346,slow=4.2,SNR=3.2						
SONM	Songino Array	45.78	69	P	P	21 07 27.5	+3.7
	comp=Z,0.1nm,0.4s,baz=330,slow=8.3,SNR=2.3						
PDAR	Pinedale Array	54.58	307	P	P	21 08 30.0	-0.5
	comp=Z,0.7nm,0.9s,baz=48,slow=8.6,SNR=3.9						
MJAR	Matsushiro Arr	62.72	44	P	P	21 09 28.5	+1.5
	comp=Z,0.2nm,0.3s,baz=350,slow=6.7,SNR=4.1						
TORD	Torodi Ar. Bea	63.76	187	P	P	21 09 35.5	+1.4
	comp=Z,1.1nm,0.9s,baz=354,slow=3.8,SNR=5.4						
TXAR	Lajitas Array	66.45	298	P	P	21 09 51.7	+0.1
	comp=Z,1.3nm,0.8s,baz=37,slow=6.0,SNR=4.3						
TXAR				LR	LR	21 39 51.2	
	comp=Z,51nm,20.0s,baz=185,slow=37						

IDC 17 21:09:33.6±1.0, 10°.29S×123°.86E, h0km, mb3.7/3, mb1 3.7/6, mb1mx3.5/20, mbtmp3.6/6, ML3.3/3, Error ellipse: s-maj=77.4km s-min=22.1km az=61.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	7.96	168	Pn	Pn	21 11 29.8	-0.7
	0.3nm,0.3s,baz=263,slow=21,SNR=14						
FITZ				Sn	Sn	21 12 53.5	-7.9
	1.5nm,0.3s,baz=274,slow=19,SNR=10						
WRA	Warramunga Arr	13.94	135	Pn	Pn	21 12 52.0	-0.6
	0.1nm,0.3s,baz=306,slow=15,SNR=6.4						
WRA				Sn	Sn	21 15 19.3	-8.9
	0.3nm,0.3s,baz=312,slow=24,SNR=6.9						
ASAR	Alice Springs	16.40	145	Pn	Pn	21 13 25.3	0.0
	0.1nm,0.3s,baz=316,slow=12,SNR=12						
ASAR				Sn	Sn	21 16 18.7	-9.4
	0.2nm,0.3s,baz=313,slow=22,SNR=8.8						
SONM	Songino Array	59.91	346	P	P	21 19 42.0	+0.5
	0.3nm,0.5s,baz=169,slow=7.8,SNR=3.9						
MKAR	Makanchi Array	67.86	331	P	P	21 20 33.5	-0.2
	0.9nm,0.6s,baz=136,slow=7.0,SNR=12						
ZALV	Zalesovo Beam	72.02	337	P	P	21 20 58.5	-0.7
	0.3nm,0.4s,baz=162,slow=5.6,SNR=3.2						
TORD	Torodi Ar. Bea	123.39	279	PKP	PKPdf	21 28 34.4	+0.6
	0.2nm,0.7s,baz=163,slow=1.5,SNR=2.3						
ROSC	El Rosal	161.19	105	PKPab	PKPab	21 30 21.0	-0.2
	16nm,0.5s,baz=274,slow=19,SNR=5.6						

IDC 17 21:31:27.6±0.9, 35°.25S×106°.08W, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.0/18, mbtmp4.0/6, MS3.8/11, Ms1 3.8/11, ms1mx3.6/24, Error ellipse: s-maj=30.5km s-min=26.7km az=78.0
ISCJB 17 21:31:28.1±0.9, 35°.3S±0°.2×106°.1W±0°.2, h15km, mb4.0/7, MS3.8/11, Error ellipse: s-maj=27.3km s-min=19.7km az=147.6
NEIC 17 21:31:28.7±0.6, 35°.31S×106°.16W, h10km, mb4.5/2, Error ellipse: s-maj=19.2km s-min=14.7km az=52.0

ISC 17 21:31:29.9±0.9, 35°.3S±0°.2×106°.1W±0°.2, h15km, n28, σ0°.676/20, mb4.0/7, MS3.9/11, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	Paso Flores	28.37	112	LR	LR	21 44 51.6	
	comp=Z,110nm,20.4s,baz=354,slow=28						
USHA	Ushuaia	32.44	139	LR	LR	21 48 34.0	
	comp=Z,318nm,19.5s,baz=200,slow=32						
TRQA	Tornquist	35.22	108	eP	P	21 38 23.8	+0.2
LPAZ	La Paz	38.74	71	P	P	21 38 54.9	+0.5
LPAZ	La Paz	38.74	71	P	P	21 38 54.9	+0.5
	1.0nm,0.6s,baz=19,slow=0.6,SNR=5.2						
LPAZ				LR	LR	21 52 01.2	
	comp=Z,55nm,19.5s,baz=232,slow=32						
PPT2	Papeete2	42.39	283	eLQ	LQ	21 48 52.0	
	406nm,26.5s						
PPT2				eLR	LR	21 49 55.0	
	60nm,24.2s						
CPUP	Villa Florida	42.44	92	LR	LR	21 54 49.3	
	comp=Z,87nm,19.9s,baz=41,slow=33						
SIV	San Ignacio	44.44	76	P	P	21 39 40.3	-0.2
SIV	San Ignacio	44.44	76	P	P	21 39 40.3	-0.2
	3.7nm,0.6s,baz=250,slow=9.5,SNR=14						
ROSC	El Rosal	49.83	43	LR	LR	21 57 27.3	
	comp=Z,107nm,19.4s,baz=214,slow=31						
QSPA	South Pole Qui	54.92	180	eP	P	21 40 59.6	-0.2
	7.0nm,1.2s						
QSPA	South Pole Qui	54.92	180	P	P	21 41 00.2	+0.4
	2.0nm,0.8s,baz=118,slow=3.3,SNR=9.1						
BDFB	Brasilia	55.16	85	LR	LR	22 02 35.2	
	comp=Z,101nm,18.9s,baz=151,slow=34						
URZ	Urewera	59.91	242	LR	LR	22 03 28.5	
	comp=Z,97nm,18.5s,baz=132,slow=32						
RPZ	Rata Peaks	62.00	235	LR	LR	22 03 29.2	
	comp=Z,147nm,18.2s,baz=55,slow=31						
TXAR	Lajitas Array	64.32	2	P	P	21 42 04.8	0.0
TXAR	Lajitas Array	64.32	2	P	P	21 42 04.8	0.0
	0.5nm,0.7s,baz=185,slow=9.1,SNR=5.2						
NVAR	Mina Array Bea	74.22	350	P	P	21 43 06.4	+0.2
NVAR	Mina Array Bea	74.22	350	P	P	21 43 06.4	+0.2
	0.6nm,0.6s,baz=197,slow=5.6,SNR=4.8						
PDAR	Pinedale Array	77.75	357	P	P	21 43 25.6	-0.6
PDAR	Pinedale Array	77.75	357	P	P	21 43 25.6	-0.6
	1.1nm,0.8s,baz=148,slow=6.5,SNR=7.3						
PDAR				LR	LR	22 13 37.1	
	comp=Z,19nm,18.1s,baz=349,slow=33						
HLID	Hailey	78.85	354	eP	P	21 43 32.1	-0.1
	4.0nm,1.0s						
STKA	Stephens Creek	87.84	232	LR	LR	22 17 16.4	
	comp=Z,100nm,20.5s,baz=204,slow=31						
HNR	Honiara	87.86	260	LR	LR	22 16 48.2	
	comp=Z,43nm,19.1s,baz=91,slow=31						
BRTR	Keskin Array B	147.91	70	PKPbc	PKPbc	21 51 14.2	-0.3
BRTR	Keskin Array B	147.91	70	PKPbc	PKPbc	21 51 14.2	-0.3
	2.0nm,1.0s,baz=185,slow=4.6,SNR=8.2						
SONM	Songino Array	152.88	308	PKPbc	PKPbc	21 51 24.8	-1.4
SONM				PKPab	PKPab	21 51 38.9	+1.5
SONM	Songino Array	152.88	308	PKPbc	PKPbc	21 51 24.8	-1.4
	0.7nm,0.9s,baz=116,slow=3.4,SNR=4.6						
SONM				PKPab	PKPab	21 51 38.9	+1.5
	0.6nm,0.7s,baz=105,slow=1.9,SNR=3.6						

AUST 17 21:41:08.7±0.0, 16°.73S×176°.94W, h171km, Error ellipse: s-maj=5.2km s-min=1.4km az=338.0
ISCJB 17 21:41:55.5±0.7, 17°.8S±0°.2×178°.7W±0°.2, h579km, mb3.7/8, Error ellipse: s-maj=33.0km s-min=13.6km az=152.9
IDC 17 21:41:58.9±5.6, 17°.93S×178°.71W, h608km±68km, mb3.2/8, mb1 3.5/8, mb1mx3.1/21, mbtmp3.2/8, Error ellipse: s-maj=32.8km s-min=26.0km az=137.0

ISC 17 21:41:56.4±0.8, 17°.9S±0°.3×178°.7W±0°.2, h579km, n20, σ0°.84/18, mb3.8/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHI	Lord Howe Isla	24.32	232	S	S	21 50 46.5	+38
	baz=26,SNR=3.4						
CTA	Charters Tower	33.22	260	P	P	21 47 47.0	+0.1
	2.4nm,0.5s,baz=94,slow=13,SNR=3.9						
CNB	Canberra Magne	33.26	232	P	P	21 47 48.2	+1.2
	baz=35,SNR=10.0						
CMSA	Cobar Meteorol	34.96	240	P	P	21 48 01.8	+0.6
	baz=37,SNR=14						
STKA	Stephens Creek	38.44	241	P	P	21 48 30.6	+1.0
	4.4nm,0.5s,baz=96,slow=10,SNR=38						
STKA	Stephens Creek	38.44	241	P	P	21 48 30.8	+1.1
	baz=40,SNR=24						
BBOO	Buckleboo	43.22	241	P	P	21 49 08.1	+0.6
	baz=45,SNR=11						
WRA	Warramunga Arr	44.41	260	P	P	21 49 15.9	-1.0
	1.6nm,0.3s,baz=93,slow=8.1,SNR=39						
ASAR	Alice Springs	44.58	254	P	P	21 49 18.4	+0.3
	22nm,0.6s,baz=88,slow=8.4,SNR=311						
KDU	Kakadu	47.33	269	P	P	21 49 39.3	+0.3
	baz=49,SNR=6.1						
KNRA	Kununurra	50.26	264	P	P	21 50 01.0	+0.3
	baz=52,SNR=5.6						
MEEK	Meekatharra	58.23	249	P	P	21 50 56.0	-0.5
	baz=60,SNR=5.3						
KLBR	Kellerberrin	58.63	244	P	P	21 50 58.6	-0.4
	baz=60,SNR=7.2						
QSPA	South Pole Qui	72.18	180	P	P	21 52 22.4	-0.7
	1.8nm,1.0s,baz=213,slow=4.5,SNR=7.0						
NVAR	Mina Array Bea	79.56	44	P	P	21 53 04.6	+0.2
	0.2nm,0.5s,baz=232,slow=6.7,SNR=1.3						
TXAR	Lajitas Array	86.17	58	P	P	21 53 38.8	+1.3
	0.4nm,0.7s,baz=271,slow=5.0,SNR=3.0						
PDAR	Pinedale Array	87.49	44	P	P	21 53 43.0	-0.5
	0.3nm,0.5s,baz=231,slow=5.6,SNR=3.2						
MKAR	Makanchi Array	108.95	314	PKiKP	PKiKP	21 59 19.2	-1.5
	0.2nm,0.5s,baz=163,slow=0.9,SNR=3.6						
BRTR	Keskin Array B	144.60	315	PKP	PKPbc	22 00 28.2	-0.1
	1.1nm,1.0s,baz=23,slow=4.7,SNR=3.4						
GERES	GERESS Array B	147.52	345	PKPbc	PKPbc	22 00 35.8	-0.4
	0.3nm,0.5s,baz=20,slow=3.1,SNR=4.6						

WEL 17 21:49:38.5±0.2, 45°.46S×166°.59E, h21km±1km, ML3.7/15, Error ellipse: s-maj=1.8km s-min=0.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	Deep Cove	0.40	93	P*	Pb	21 49 46.5	-0.1
DCZ				S*	Sb	21 49 51.7	-0.5
DCZ				AML	AML	21 49 52.3	
DCZ				AML	AML	21 49 52.3	
DCZ				AML	AML	21 49 52.5	
PYZ	Puysegur Point	0.71	175	P*	Pb	21 49 51.4	-0.9

WHZ					AML	AML	21 50 20.5		
MLZ	**Mavora Lakes**	**1.12**		**85**	PN	Pn	21 49 58.2	-0.8	
MLZ					AML	AML	21 50 20.7		
MLZ					AML	AML	21 50 22.6		
MSZ	**Milford Sound**	**1.23**		**51**	AML	AML	21 50 21.8		
MSZ					AML	AML	21 50 22.1		
MSZ					AML	AML	21 50 24.2		
MSZ					AML	AML	21 50 24.2		
WKZ	**Wanaka**	**1.83**		**71**	AML	AML	21 50 38.4		
WKZ					AML	AML	21 50 38.4		
WKZ					AML	AML	21 50 39.2		
WKZ					AML	AML	21 50 39.6		
EAZ	**Earnscleugh**	**1.93**		**84**	AML	AML	21 48 54.6		
EAZ					AML	AML	21 48 54.7		
EAZ					ePN	Pn	21 50 11.1	+1.0	
EAZ					AML	AML	21 50 40.1		
EAZ					AML	AML	21 50 41.3		
JCZ	**Jackson Bay**	**2.07**		**49**	ePN	Pb	21 50 15.9	+0.4	
JCZ					AML	AML	21 50 47.2		
JCZ					AML	AML	21 50 52.1		
SYZ	**Scrubby Hill**	**2.08**	**122**		ePN	Pb	21 50 14.4	-1.0	
TUZ	**Tuapeka**	**2.19**	**104**		ePN	Pb	21 50 15.6	-1.7	
TUZ					AML	AML	21 50 48.4		
TUZ					AML	AML	21 50 48.5		
LBZ	**Lake Benmore**	**2.77**		**69**	PN	Pn	21 50 23.8	+2.2	
ODZ	**Otahua Downs**	**2.89**		**83**	PN	Pn	21 50 23.9	+0.6	
ODZ					AML	AML	21 51 02.6		
ODZ					AML	AML	21 51 02.6		
ODZ					AML	AML	21 51 04.1		
ODZ					AML	AML	21 51 04.1		
FOZ	**Fox Glacier**	**2.91**		**51**	ePN	Pn	21 50 25.2	+1.6	

NEIC ***17*** *21:53:44.8±1.3, 8˚.82S×118˚.98E, h143km±13km, mb4.3/7, Error ellipse: s-maj=20.2km s-min=7.4km az=58.0*
IDC ***17*** *21:53:46.2±2.0, 8˚.68S×119˚.13E, h148km±18km, mb3.9/11, mb1 3.8/13, mb1mx3.7/22, mbtmp3.8/13, Error ellipse: s-maj=25.1km s-min=11.9km az=71.0*

ISC 17 21:53:40.8±0.5, 8˚.93S±0˚.07×118˚.8E±0˚.1, h102km, n50, σ1°81/60, mb4.4/18, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.00**	**14**	*e*Pn		**Pn**	**21 54 43.1**	**+3.0**
KAPI	**Kappang**	**4.00**	**14**	P		**Pn**	**21 54 42.7**	**+2.7**
	15nm,0.3s,baz=196,slow=7.8,SNR=63							
KAPI				S		**Sn**	**21 55 27.1**	**+1.2**
	baz=102,slow=20,SNR=2.2							
FITZ	**Fitzroy Crossi**	**11.29**	**145**	*e*Pn		**Pn**	**21 56 20.7**	**+1.7**
FITZ	**Fitzroy Crossi**	**11.29**	**145**	P		**Pn**	**21 56 20.5**	**+1.5**
	0.9nm,0.3s,baz=355,slow=7.9,SNR=11							
FITZ				S		**Sn**	**21 58 17.7**	**-5.6**
	3.5nm,0.3s,baz=179,slow=22,SNR=8.4							
WRA	**Warramunga Arr**	**18.60**	**128**	P		**P**	**21 57 50.1**	**-0.1**
WRA				S		S	22 01 07.9	-9.2
WRA	**Warramunga Arr**	**18.60**	**128**	P		**P**	**21 57 50.1**	**-0.1**
	0.2nm,0.3s,baz=302,slow=12,SNR=8.0							
WRA				S		S	22 01 07.9	-9.2
	0.5nm,0.3s,baz=304,slow=24,SNR=5.0							
WRAB	**Tennant Creek**	**18.61**	**128**	*e*P		**P**	**21 57 50.9**	**+0.6**
WRAB				*e*S		S	22 01 07.5	-10
ASAR	**Alice Springs**	**20.59**	**137**	P		**P**	**21 58 12.9**	**+1.1**
ASAR				S		**S**	**22 01 59.2**	**+2.7**
ASAR				ScP		**ScP**	**22 05 41.6**	**-4.8**
ASAR	**Alice Springs**	**20.59**	**137**	P		**P**	**21 58 12.9**	**+1.1**
	0.9nm,0.5s,baz=314,slow=9.5,SNR=12							
ASAR				S		**S**	**22 01 59.2**	**+2.7**
	2.0nm,0.8s,baz=306,slow=22,SNR=3.8							
ASAR				ScP		**ScP**	**22 05 41.6**	**-4.8**
	1.2nm,0.7s,baz=325,slow=1.6,SNR=6.6							
NWAO	**Narrogin (SRO)**	**23.93**	**183**	P		**P**	**21 58 49.4**	**+4.0**
	20nm,0.9s,baz=34,slow=11,SNR=11							
COEN	**Coen**	**24.41**	**104**	*e*P		**P**	**21 58 49.2**	**-0.7**
STKA	**Stephens Creek**	**31.14**	**140**	P		**P**	**21 59 51.2**	**+1.3**
	1.7nm,0.8s,baz=314,slow=12,SNR=4.1							
CMAR	**Chiang Mai Arr**	**33.52**	**324**	P		**P**	**22 00 12.8**	**+1.9**
CMAR				PcP		**PcP**	**22 02 50.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**33.52**	**324**	P		**P**	**22 00 12.8**	**+1.9**
	3.8nm,0.5s,baz=158,slow=7.2,SNR=41							
CMAR				PcP		**PcP**	**22 02 50.0**	**+0.4**
	0.9nm,0.7s,baz=186,slow=2.5,SNR=5.3							
CHTO	**Chiang Mai**	**33.80**	**325**	*e*P		**P**	**22 00 14.2**	**+0.9**
	5.6nm,0.9s							
LSA	**Lhasa**	**46.72**	**326**	*e*P		**P**	**22 02 01.2**	**+1.0**
	5.0nm,0.4s							
ODAN	**Odare**	**46.83**	**320**	*e*P		**P**	**22 02 01.5**	**+0.6**
	32nm,0.8s							
KSAR	**Wonju Array Be**	**46.90**	**10**	P		**P**	**22 01 59.9**	**-1.0**
KSRS	**Korea Array**	**46.92**	**10**	P		**P**	**22 01 59.9**	**-1.2**
	1.8nm,0.8s,baz=195,slow=8.4,SNR=4.0							
TAPN	**Taplejung**	**46.98**	**321**	*e*P		**P**	**22 02 02.6**	**+0.5**
	36nm,0.7s							
RAMN	**Ramite**	**47.40**	**320**	*e*P		**P**	**22 02 05.9**	**+0.6**
	20nm,0.7s							
JIRN	**Jiri**	**48.15**	**320**	*e*P		**P**	**22 02 12.0**	**+0.7**
GUN	**Gumba**	**48.52**	**320**	*e*P		**P**	**22 02 14.8**	**+0.7**
	48nm,0.7s							
PKI	**Pulchoki**	**48.59**	**319**	*e*P		**P**	**22 02 14.7**	**+0.1**
PKIN	**Phulchoki**	**48.60**	**319**	*e*P		**P**	**22 02 14.7**	**+0.1**
	5.7nm,0.4s							
DMN	**Daman**	**48.81**	**319**	*e*P		**P**	**22 02 16.6**	**+0.4**
KKN	**Kakani**	**48.82**	**319**	*e*P		**P**	**22 02 16.7**	**+0.5**
KOLN	**Koldanda**	**49.90**	**318**	*e*P		**P**	**22 02 24.6**	**+0.2**
	13nm,0.5s							
DANN	**Dangsing**	**50.18**	**319**	*e*P		**P**	**22 02 27.0**	**+0.3**
	43nm,0.6s							
USRK	**Ussuriysk Arra**	**54.21**	**12**	P		**P**	**22 02 54.0**	**-1.8**
	2.3nm,0.5s,baz=200,slow=6.8,SNR=6.6							
ULN	**Ulaanbaatar**	**57.49**	**351**	*e*P		**P**	**22 03 18.6**	**-0.7**
	3.2nm,0.6s							
SONM	**Songino Array**	**57.57**	**350**	P		**P**	**22 03 19.5**	**-0.4**
SONM				pP		pP	22 03 57.6	+13
SONM	**Songino Array**	**57.57**	**350**	P		**P**	**22 03 19.5**	**-0.4**
	9.7nm,0.6s,baz=166,slow=8.3,SNR=84							
SONM				pP		pP	22 03 57.6	+13
	1.9nm,0.9s,baz=164,slow=9.8,SNR=2.9							
KBL	**Kabul**	**63.89**	**315**	*e*P		**P**	**22 04 01.7**	**-1.5**
	1.7nm,0.4s							
MKAR	**Makanchi Array**	**64.30**	**333**	P		**P**	**22 04 04.8**	**-0.5**
MKAR				pP		**PcP**	**22 04 38.4**	**-0.7**
MKAR	**Makanchi Array**	**64.30**	**333**	P		**P**	**22 04 04.8**	**-0.5**
	2.4nm,0.4s,baz=154,slow=6.1,SNR=68							
MKAR				pP		**PcP**	**22 04 38.4**	**-0.7**
	0.7nm,0.7s,baz=130,slow=5.4,SNR=2.1							
AAK	**Ala-Archa**	**65.30**	**325**	*e*P		**P**	**22 04 11.9**	**-0.2**
	3.0nm,0.7s							
KKAR	**Karatay Array**	**67.87**	**324**	*e*P		**P**	**22 04 27.6**	**-0.7**
	0.7nm,0.5s							
ZAA0	**Zalesovo Array**	**68.90**	**339**	*e*P		**P**	**22 04 32.6**	**-1.8**
ZALV	**Zalesovo Beam**	**68.90**	**339**	P		**P**	**22 04 33.0**	**-1.4**
ZALV	**Zalesovo Beam**	**68.90**	**339**	P		**P**	**22 04 33.0**	**-1.4**
	3.9nm,0.3s,baz=141,slow=5.5,SNR=37							
PETK	**Petropavlovsk-**	**70.09**	**24**	P		**P**	**22 04 40.4**	**-1.3**
PETK	**Petropavlovsk-**	**70.09**	**24**	P		**P**	**22 04 40.4**	**-1.3**
	1.7nm,0.7s,baz=199,slow=8.8,SNR=6.4							
ABKAR	**Akbulak array**	**77.38**	**325**	*e*P		**P**	**22 05 23.2**	**-1.3**
	0.8nm,0.5s							
KMBO	**Kilima Mbogo**	**81.46**	**270**	P		**P**	**22 05 50.0**	**+2.3**
KMBO	**Kilima Mbogo**	**81.46**	**270**	P		**P**	**22 05 50.0**	**+2.3**
	1.9nm,0.8s,baz=61,slow=19,SNR=4.8							
BRTR	**Keskin Array B**	**91.93**	**310**	P		**P**	**22 06 36.5**	**-1.7**
BRTR	**Keskin Array B**	**91.93**	**310**	P		**P**	**22 06 36.5**	**-1.7**
	0.2nm,0.5s,baz=101,slow=4.6,SNR=4.4							
TORD	**Torodi Ar. Bea**	**118.24**	**280**	PKP		**PKPdf**	**22 12 16.7**	**-0.4**
TORD				pPKP		pPKPdf	22 12 55.6	+11
TORD	**Torodi Ar. Bea**	**118.24**	**280**	PKP		**PKPdf**	**22 12 16.7**	**-0.4**
	0.9nm,0.8s,baz=49,slow=2.1,SNR=12							
TORD				pPKP		pPKPdf	22 12 55.7	+11
	0.4nm,0.9s,baz=61,slow=4.0,SNR=1.7							

WEL 17 22:17:25.9±0.4, 46˚.15S×165˚.77E, h12km, ML3.5/13, 1D, Error ellipse: s-maj=3.8km s-min=2.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.64**	**92**	⇓P*		Pg	22 17 38.1	-0.2
PYZ				S*		Sg	22 17 47.2	+0.4
DCZ	**Deep Cove**	**1.18**	**56**	P*		Pn	22 17 46.6	-1.7
DCZ				AML		AML	22 17 48.1	
DCZ				AML		AML	22 18 05.1	
WHZ	**Wether Hill Ro**	**1.54**	**81**	PN		Pn	22 17 52.4	-0.9
WHZ				AML		AML	22 18 15.2	
WHZ				AML		AML	22 18 15.8	
APZ	**The Paps**	**1.68**	**115**	PN		Pn	22 17 53.9	-1.4
MLZ	**Mavora Lakes**	**1.87**	**65**	*e*PN		Pn	22 17 57.0	-0.8
MLZ				AML		AML	22 18 25.0	
MLZ				AML		AML	22 18 26.8	
MSZ	**Milford Sound**	**2.12**	**47**	AML		AML	22 18 38.2	
MSZ				AML		AML	22 18 46.5	
SYZ	**Scrubby Hill**	**2.37**	**101**	PN		Pn	22 18 04.6	0.0
WKZ	**Wanaka**	**2.64**	**61**	PN		Pn	22 18 10.4	+1.9
EAZ	**Earnscleugh**	**2.65**	**71**	PN		Pn	22 18 09.8	+1.3
EAZ				AML		AML	22 18 47.7	
EAZ				AML		AML	22 18 52.0	
TUZ	**Tuapeka**	**2.70**	**87**	PN		Pn	22 18 09.7	+0.6
TUZ				AML		AML	22 18 43.6	
TUZ				AML		AML	22 18 46.9	
JCZ	**Jackson Bay**	**2.97**	**47**	*e*PN		Pn	22 18 13.9	+0.9
JCZ				AML		AML	22 19 05.6	
ODZ	**Otahua Downs**	**3.60**	**74**	PN		Pn	22 18 20.7	-0.8

MEX 17 22:34:11.1±0.5, 15˚.78N×93˚.80W, h119km±11km, MD4.3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TGIG		**1.19**	**33**	*e*P		Pn	22 34 34.5	-0.6
TGIG				*i* S		Sn	22 34 51.2	-2.0
THIG		**1.72**	**120**	*e*P		Pn	22 34 39.3	-1.7
THIG				*i* S		Sn	22 35 02.3	-1.5
HUIG	**Huatulco**	**2.22**	**270**	*e*P		Pn	22 34 45.8	-1.5
HUIG				*e*S		Sn	22 35 13.5	-1.6
TUIG	**Tuzandepetl**	**2.32**	**345**	*i* P		Pn	22 34 47.3	-1.2
TUIG				*i* S		Sn	22 35 15.0	-2.3
PNIG	**Pinotepa**	**4.20**	**279**	*e*P		Pn	22 35 12.3	-1.1
PNIG				*i* S		Sn	22 36 00.6	-1.1
UTMO	**Huajuapan**	**4.34**	**299**	*i* P		Pn	22 35 14.8	-0.6
UTMO				*i* S		Sn	22 36 02.8	-2.7
PLIG	**Platanillo**	**6.04**	**296**	*e*P		Pn	22 35 37.1	-1.1
PLIG				*i* S		Sn	22 36 44.6	-1.6
CAIG	**El Cayaco**	**6.33**	**282**	*i* P		Pn	22 35 41.5	-0.6
CAIG				*i* S		Sn	22 36 51.4	-1.6
ARIG	**Puente Sto Nin**	**6.74**	**293**	*i* P		Pn	22 35 46.1	-1.5
ARIG				*i* S		Sn	22 37 01.2	-1.7

IDC 17 22:35:20.9±2.7, 4˚.44S×104˚.74W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/18, mbtmp3.9/6, MS3.6/8, Ms1 3.6/8, ms1mx3.5/20, Error ellipse: s-maj=195.6km s-min=25.5km az=59.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**26.34**	**97**	LR		LR	22 48 38.0	
	comp=Z,144nm,19.0s,baz=95,slow=30							
NNA	**Nana**	**28.58**	**107**	LR		LR	22 49 24.8	
	comp=Z,157nm,20.1s,baz=317,slow=30							
TEIG	**Tepich**	**29.37**	**33**	LR		LR	22 51 05.5	
	comp=Z,100nm,21.7s,baz=157,slow=32							
TXAR	**Lajitas Array**	**33.60**	**2**	LR		LR	22 52 51.9	
	comp=Z,92nm,20.8s,baz=110,slow=31							
LPAZ	**La Paz**	**37.80**	**111**	LR		LR	22 56 06.6	
	comp=Z,89nm,18.5s,baz=63,slow=33							
CFAA	**Coronel Fontan**	**43.61**	**133**	P		P	22 43 27.5	+0.2
	0.2nm,0.3s,baz=281,slow=5.2,SNR=3.2							
NVAR	**Mina Array Bea**	**44.47**	**345**	P		P	22 43 34.9	+0.6
	0.7nm,0.8s,baz=161,slow=5.7,SNR=4.2							
NVAR				LR		LR	22 57 59.7	
	comp=Z,65nm,18.9s,baz=130,slow=31							
PLCA	**Paso Flores**	**47.41**	**145**	LR		LR	23 00 03.0	
	comp=Z,80nm,21.5s,baz=354,slow=31							
YBH	**Yreka Blue Hor**	**48.79**	**342**	P		P	22 44 08.7	+0.8
	1.7nm,0.9s,baz=191,slow=5.2,SNR=2.8							
YKA	**Yellowknife Ar**	**67.17**	**355**	P		P	22 46 15.7	-0.7
	0.9nm,0.7s,baz=165,slow=4.9,SNR=4.6							
INK	**Inuvik**	**75.32**	**349**	P		P	22 47 05.3	-0.3
	2.6nm,1.0s,baz=170,slow=6.5,SNR=4.1							
ILAR	**Eielson Array**	**75.68**	**343**	P		P	22 47 07.6	-0.3
	1.2nm,0.9s,baz=163,slow=4.9,SNR=9.1							
PETK	**Petropavlovsk-**	**98.08**	**323**	LR		LR	23 25 03.5	
	comp=Z,27nm,21.8s,baz=260,slow=30							
ZALV	**Zalesovo Beam**	**130.03**	**353**	PKP		PKPdf	22 54 32.7	-0.1
	0.5nm,0.6s,baz=330,slow=2.3,SNR=2.9							
MKAR	**Makanchi Array**	**137.37**	**353**	PKP		PKPdf	22 54 44.7	-2.2
	0.5nm,0.9s,baz=7.6,slow=2.2,SNR=2.8							

ISCJB ***17*** *22:43:30.6±0.4, 24˚.03N±0˚.02×122˚.29E±0˚.02, h15km±4km, Error ellipse: s-maj=4.0km s-min=2.6km az=155.4*
TAP ***17*** *22:43:31.7, 24˚.08N×122˚.25E, h44km, ML3.8, C*
JMA ***17*** *22:43:32.0±0.2, 24˚.74N×122˚.32E, h69km, M3.0*

ISC 17 22:43:29.8±1.1, 24˚.03N±0˚.03×122˚.29E±0˚.02, h25km±14km, n54, σ0°89/79, 12C-7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.57**	**299**	*e*P		**Pn**	**22 43 42.9**	**+0.4**
	baz=296							
EHP				*e*S		**Sn**	**22 43 51.9**	**+0.7**
	baz=296							
HWA	**Hwalien**	**0.63**	**265**	*e*P		**Pn**	**22 43 43.7**	**+0.6**
	baz=251							
TWD	**Chiawan**	**0.64**	**275**	⇓*i*P		**Pn**	**22 43 43.6**	**+0.3**
	baz=270							
TWD				S		**Sn**	**22 43 52.0**	**-0.6**
	baz=270							
ENA	**Nanau**	**0.64**	**309**	⇑*i*P		Pn	22 43 43.9	+0.5
	baz=312							
ENA				S		**Sn**	**22 43 52.9**	**+0.2**
	baz=312							
TWC	**Suao**	**0.70**	**325**	⇑*i*P		Pn	22 43 44.4	+0.2
	baz=330							
TWC				S		**Sn**	**22 43 53.0**	**-1.3**
	baz=330							
ESF	**Shoufeng Towns**	**0.73**	**258**	*e*P		**Pn**	**22 43 45.0**	**+0.4**
	baz=249							
TEGC	**Jichi Village**	**0.76**	**245**	*e*P		**Pn**	**22 43 45.6**	**+0.7**
	baz=232							
YOJ	**Yonaguni jima**	**0.79**	**57**	⇑*i*P		Pn	22 43 46.8	+1.5
	baz=61							
YOJ				S		**Sn**	**22 43 57.8**	**+1.4**
	baz=61							
YOJ	**Yonaguni jima**	**0.79**	**57**	P		Pn	22 43 46.8	+1.5
YOJ				S		**Sn**	**22 43 57.6**	**+1.3**
ESL	**Shilin**	**0.81**	**255**	*e*P		**Pn**	**22 43 45.8**	**+0.1**
	baz=243							
ILA	**Ilan**	**0.88**	**326**	*e*P		Pn	22 43 47.7	+1.0
	baz=326							
ILA				*e*S		**Sn**	**22 43 59.3**	**+0.6**
	baz=326							
TWE	**Neicheng**	**0.89**	**321**	⇑*i*P		Pn	22 43 47.7	+0.8
	baz=325							
TWE				*e*S		**Sn**	**22 43 58.6**	**-0.4**
	baz=325							
ENTT	**Nioudou**	**0.90**	**313**	⇑*i*P		Pn	22 43 47.4	+0.5
	baz=303							
ENTT				*e*S		**Sn**	**22 43 58.6**	**-0.5**
	baz=303							
NNS	**Nan Shan**	**0.93**	**296**	⇑*e*P		**Pn**	**22 43 47.9**	**+0.4**
	baz=294							
NNS				S		**Sn**	**22 43 59.5**	**-0.6**
	baz=294							
WHF	**Hehuan Shan**	**0.94**	**277**	*e*P		**Pn**	**22 43 48.5**	**+0.6**
	baz=274							
WHF				*e*S		**Sn**	**22 44 00.3**	**-0.6**
	baz=274							
EHY	**Hungye**	**1.03**	**240**	*e*P		**Pb**	**22 43 49.1**	**+0.2**
	baz=247							
TWT	**Tachien**	**1.04**	**283**	*e*P		**Pb**	**22 43 48.8**	**-0.5**
	baz=270							
TWT				*e*S		**Sn**	**22 44 02.6**	**-0.3**
	baz=270							
NSK	**Sanguang**	**1.07**	**307**	⇑*i*P		Pb	22 43 49.9	+0.2
	baz=305							
NSK				*e*S		**Sn**	**22 44 01.9**	**-1.5**
	baz=305							
TWF1	**Yuli**	**1.13**	**234**	⇓*i*P		**Pb**	**22 43 51.2**	**+0.5**
	baz=243							
TWF1				*e*S		**Sb**	**22 44 05.3**	**+0.2**
	baz=243							
NWF	**Wu-fen Shan**	**1.14**	**336**	*e*P		Pb	22 43 51.0	+0.1
	baz=349							
NWF				*e*S		**Sn**	**22 44 04.1**	**-1.0**
	baz=349							
TWA	**Mucha**	**1.15**	**326**	⇓P		Pb	22 43 51.7	+0.7
	baz=325							
TWA				*e*S		**Sn**	**22 44 05.6**	**+0.4**
	baz=325							
CHKT	**Chengkung**	**1.25**	**223**	⇓*e*P		**Pb**	**22 43 52.4**	**-0.5**
	baz=213							
CHKT				*e*S		**Sn**	**22 44 06.8**	**-1.0**
	baz=213							
SMLT	**Sun Moon Lake**	**1.28**	**264**	⇓P		**Pb**	**22 43 53.6**	**+0.3**
	baz=255							
SMLT				*e*S		**Sb**	**22 44 08.7**	**-0.7**
	baz=255							
TYC	**Yuchr**	**1.32**	**265**	⇓P		**Pb**	**22 43 54.0**	**+0.2**
	baz=262							
TYC				*e*S		**Sb**	**22 44 09.4**	**-0.9**
	baz=262							
NSTT	**Nanjuang**	**1.32**	**297**	⇑*i*P		Pb	22 43 54.4	+0.5
	baz=295							
NSTT				*e*S		**Sb**	**22 44 10.1**	**-0.3**
	baz=295							
TWS1	**Kuangyinshan**	**1.33**	**324**	⇑P		Pb	22 43 54.1	0.0
	baz=322							
TWS1				*e*S		**Sb**	**22 44 10.1**	**-0.6**
	baz=322							
YUS	**Yu-Shan**	**1.34**	**247**	P		**Pb**	**22 43 55.0**	**+0.4**
	baz=244							
YUS				*e*S		**Sb**	**22 44 10.5**	**-0.9**
	baz=244							
IRIF	**Iriomote-Funau**	**1.35**	**77**	P		**Pb**	**22 43 55.0**	**+0.6**
IRIF				S		**Sb**	**22 44 12.4**	**+1.1**
NCU	**National Centr**	**1.37**	**313**	*e*P		**Pb**	**22 43 54.8**	**-0.1**
	baz=312							
TWY	**Chenhua**	**1.39**	**333**	*e*P		**Pb**	**22 43 54.7**	**-0.5**
	baz=345							
TWQ1	**Liyutan**	**1.42**	**283**	⇑P		**Pb**	**22 43 56.2**	**+0.5**
	baz=280							
TWQ1				*e*S		**Sb**	**22 44 13.3**	**0.0**
	baz=280							
HSN	**Hsinchu**	**1.43**	**303**	*e*P		**Pb**	**22 43 55.3**	**-0.5**
	baz=303							
ELDTW	**Lidau**	**1.44**	**235**	*e*P		**Pb**	**22 43 55.2**	**-0.8**
	baz=223							
NSY	**Sanyi**	**1.45**	**286**	⇑*e*P		**Pb**	**22 43 56.6**	**+0.5**
	baz=283							
NSY				*e*S		**Sb**	**22 44 14.8**	**+0.7**
	baz=283							
ALS	**Alishan**	**1.46**	**250**	⇑*e*P		**Pb**	**22 43 56.9**	**+0.5**
	baz=247							
WNT	**Mingjian**	**1.48**	**264**	*e*P		**Pb**	**22 43 57.5**	**+0.9**
	baz=262							
WNT				*e*S		**Sb**	**22 44 15.7**	**+0.8**
	baz=262							
TCU	**Taichung**	**1.48**	**275**	*e*P		**Pb**	**22 43 57.1**	**+0.5**
	baz=272							
TCU				*e*S		**Sb**	**22 44 15.9**	**+0.9**
	baz=272							
CHN5	**Tsauling**	**1.54**	**254**	*e*P		**Pb**	**22 43 58.1**	**+0.4**
	baz=252							
CHN5				*e*S		**Sb**	**22 44 17.0**	**+0.2**
	baz=252							
JKRS	**Kuro-shima**	**1.58**	**82**	P		**Pb**	**22 43 59.2**	**+0.8**
JKRS				S		**Sb**	**22 44 19.5**	**+1.5**
STYT	**Tauyuan**	**1.65**	**239**	*e*P		**Pb**	**22 43 59.4**	**-0.2**
	baz=236							
STYT				*e*S		**Sb**	**22 44 19.8**	**-0.1**
	baz=236							
CHN4	**Tsaushan**	**1.69**	**247**	*e*P		**Pb**	**22 44 00.5**	**+0.2**
	baz=245							
CHN4				*e*S		**Sb**	**22 44 21.7**	**+0.5**
	baz=245							
WTP	**Ta-pu**	**1.72**	**243**	⇓*e*P		**Pb**	**22 44 00.9**	**+0.1**
	baz=241							
WTP				*e*S		**Sb**	**22 44 22.6**	**+0.6**
	baz=241							
JIJ	**Ishigaki jima**	**1.73**	**78**	P		**Pb**	**22 44 00.0**	**-0.8**
JIJ				S		**Sb**	**22 44 20.6**	**-1.5**
CHN2	**Minshiung**	**1.73**	**254**	*e*P		**Pb**	**22 44 01.3**	**+0.3**
	baz=251							
CHN2				*e*S		**Sb**	**22 44 23.7**	**+1.3**
	baz=251							
CHY	**Chiayi**	**1.79**	**253**	*e*P		**Pb**	**22 44 03.0**	**+1.1**
	baz=251							
TWK	**Hsinying**	**1.82**	**246**	*e*P		**Pb**	**22 44 02.1**	**-0.4**
	baz=243							
TWK				*e*S		**Sb**	**22 44 24.7**	**-0.1**
	baz=243							
CHN1	**Nanshi**	**1.82**	**243**	*e*P		**Pb**	**22 44 02.2**	**-0.3**
	baz=241							
CHN1				*e*S		**Sb**	**22 44 25.0**	**+0.1**
	baz=241							
SGST	**Jiashian**	**1.83**	**239**	*e*P		**Pb**	**22 44 02.6**	**0.0**
	baz=237							
SGST				*e*S		**Sb**	**22 44 25.6**	**+0.5**
	baz=237							
WSF	**Szhu**	**1.93**	**259**	*e*S		**Sb**	**22 44 28.1**	**0.0**
	baz=256							
CHN8	**Yiju**	**2.02**	**251**	*e*P		**Pb**	**22 44 03.7**	**-2.2**
	baz=249							
CHN8				*e*S		**Sb**	**22 44 30.3**	**-0.3**
	baz=249							
TWM1	**Shoushan**	**2.09**	**235**	*e*P		**Pb**	**22 44 08.0**	**+0.9**
	baz=224							
SCZT	**Fangliau**	**2.25**	**223**	*e*P		**Pb**	**22 44 08.0**	**-1.8**
	baz=218							
JTJ	**Tarama**	**2.28**	**74**	*e*S		**Sb**	**22 44 34.1**	**-4.0**
PNG	**Penghu**	**2.55**	**260**	*e*P		Pb	22 44 10.8	-4.0
	baz=259	

	151nm,0.4s								
LNSS	**Leonessa**	**0.48**	**316**	Pg	**Pg**	**22**	**54**	**49.8**	**-0.9**
	151nm,0.4s								
GUAR	**Guarcino**	**0.48**	**196**	Pg	**Pg**	**22**	**54**	**50.4**	**-0.4**
	114nm,0.3s								
GUAR	**Guarcino**	**0.48**	**196**	Pg	**Pg**	**22**	**54**	**50.4**	**-0.4**
	114nm,0.3s								
CERT	**Cerreto**	**0.49**	**231**	Pg	**Pg**	**22**	**54**	**50.1**	**-0.8**
	206nm,0.5s								
CERT	**Cerreto**	**0.49**	**231**	Pg	**Pg**	**22**	**54**	**50.1**	**-0.8**
	206nm,0.5s								
POFI	**Posta Fibreno**	**0.57**	**163**	Pg	**Pg**	**22**	**54**	**51.3**	**-1.1**
	60nm,0.4s								
POFI	**Posta Fibreno**	**0.57**	**163**	Pg	**Pg**	**22**	**54**	**51.3**	**-1.1**
	60nm,0.4s								
SDI	**San Donato**	**0.60**	**156**	Pg	**Pg**	**22**	**54**	**52.0**	**-1.0**
	79nm,0.2s								
SDI	**San Donato**	**0.60**	**156**	Pg	**Pg**	**22**	**54**	**52.0**	**-1.0**
	79nm,0.2s								
MTCE	**Montecelio**	**0.60**	**247**	Pg	**Pg**	**22**	**54**	**52.0**	**-1.1**
	65nm,0.6s								
MTCE	**Montecelio**	**0.60**	**247**	Pg	**Pg**	**22**	**54**	**52.0**	**-1.1**
	65nm,0.6s								
NRCA	**Norcia**	**0.64**	**334**	Pg	**Pg**	**22**	**54**	**52.4**	**-1.4**
	47nm,0.6s								
NRCA	**Norcia**	**0.64**	**334**	Pg	**Pg**	**22**	**54**	**52.4**	**-1.4**
	47nm,0.6s								
CAFR	**Castel Frentan**	**0.64**	**93**	Pg	**Pg**	**22**	**54**	**53.1**	**-0.7**
CAFR	**Castel Frentan**	**0.64**	**93**	Pg	**Pg**	**22**	**54**	**53.1**	**-0.7**
OFFI	**Offida**	**0.69**	**12**	Pg	**Pg**	**22**	**54**	**54.5**	**-0.3**
	225nm,0.6s								
OFFI	**Offida**	**0.69**	**12**	Pg	**Pg**	**22**	**54**	**54.5**	**-0.3**
	225nm,0.6s								
GIUL	**Giuliano Di Ro**	**0.72**	**194**	Pg	**Pg**	**22**	**54**	**54.3**	**-1.0**
	49nm,0.5s								
GIUL	**Giuliano Di Ro**	**0.72**	**194**	Pg	**Pg**	**22**	**54**	**54.3**	**-1.0**
	49nm,0.5s								
RNI2	**Rionero Sannit**	**0.74**	**138**	Pg	**Pg**	**22**	**54**	**54.9**	**-0.9**
	142nm,0.7s								
RNI2	**Rionero Sannit**	**0.74**	**138**	Pg	**Pg**	**22**	**54**	**54.9**	**-0.9**
	142nm,0.7s								
CERA	**Filignano**	**0.77**	**149**	Pg	**Pg**	**22**	**54**	**54.6**	**-1.7**
	95nm,0.5s								
CERA	**Filignano**	**0.77**	**149**	Pg	**Pg**	**22**	**54**	**54.6**	**-1.7**
	95nm,0.5s								
FDMO	**Fiordimonte**	**0.83**	**339**	Pg	**Pg**	**22**	**54**	**55.7**	**-1.7**
	33nm,0.4s								
FDMO	**Fiordimonte**	**0.83**	**339**	Pg	**Pg**	**22**	**54**	**55.7**	**-1.7**
	33nm,0.4s								
MIDA	**Miranda**	**0.84**	**137**	Pg	**Pg**	**22**	**54**	**55.9**	**-1.7**
	57nm,0.3s								
MIDA	**Miranda**	**0.84**	**137**	Pg	**Pg**	**22**	**54**	**55.9**	**-1.7**
	57nm,0.3s								
NVLJ	**Novalja**	**2.51**	**23**	*e*Pn	**Pn**	**22**	**55**	**23.1**	**+0.5**
NVLJ				Sn	**Sn**	**22**	**55**	**53.4**	**+0.1**
NVLJ	**Novalja**	**2.51**	**23**	*e*Pn	**Pn**	**22**	**55**	**23.0**	**+0.5**
NVLJ				Sn	**Sn**	**22**	**55**	**53.4**	**+0.1**
UDBI	**Udbina**	**2.81**	**35**	*i* Pn	**Pn**	**22**	**55**	**27.6**	**+0.9**
UDBI				Sn	**Sn**	**22**	**56**	**01.8**	**+1.1**
STON	**Ston**	**3.17**	**77**	*e*Pn	**Pn**	**22**	**55**	**32.3**	**+0.7**
STON				Sn	**Sn**	**22**	**56**	**09.2**	**-0.4**
STON	**Ston**	**3.17**	**77**	*e*Pn	**Pn**	**22**	**55**	**32.2**	**+0.7**
STON				Sn	**Sn**	**22**	**56**	**09.1**	**-0.4**

CSEM ***17*** *23:11:12.0±0.5, 41°.04N×25°.85E, h2km, MD2.8, Error ellipse: s-maj=8.9km s-min=4.6km az=94.0*
DDA ***17*** *23:11:20.7, 40°.33N×26°.32E, h7km, MD2.8*
ISK 17 23:11:12.2, 41°.05N×25°.92E, h6km, MD2.8, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
ENEZ	**Enez**	**0.36**	**150**	*e*PG	Pg	23	11	19.6	+0.4
ENEZ				*e*SG	Sg	23	11	24.5	+0.4
ENEZ	**Enez**	**0.36**	**150**	*e*Pg	Pg	23	11	19.6	+0.3
ENEZ				*e*Sg	Sg	23	11	24.5	+0.5
GELI	**Tayfur-Gelibol**	**0.78**	**147**	*e*PG	Pg	23	11	27.5	+0.3
GELI	**Tayfur-Gelibol**	**0.78**	**147**	*e*Pg	Pg	23	11	27.5	+0.3
LPK	**Lapseki**	**0.93**	**136**	*e*PG	Pb	23	11	31.2	+0.3
LPK	**Lapseki**	**0.93**	**136**	*e*Pg	Pb	23	11	31.2	+0.4
EDRB	**Edirne**	**1.01**	**38**	*e*PG	Pb	23	11	31.9	-0.2
EDRB				*e*SG	Sb	23	11	45.5	-0.2
EDRB	**Edirne**	**1.01**	**38**	*e*Pg	Pb	23	11	32.0	-0.1
EDRB				*e*Sg	Sb	23	11	45.5	-0.2
RKY	**Sarkoy-Tekirda**	**1.02**	**110**	*e*PG	Pn	23	11	33.0	-0.2
RKY	**Sarkoy-Tekirda**	**1.02**	**110**	*e*Pg	Pn	23	11	33.0	-0.2
SART	**Tekirdag**	**1.03**	**110**	*i* P	Pg	23	11	31.1	-1.0
SART				*i* S	Sg	23	11	45.8	+0.4
SART	**Tekirdag**	**1.03**	**110**	*i* P	Pg	23	11	31.1	-0.9
SART				*i* S	Sg	23	11	45.8	+0.4
MFT	**Murefte**	**1.07**	**104**	*e*PG	Pn	23	11	33.6	-0.2
MFT				*e*SG	Sb	23	11	48.0	+0.4
MFT	**Murefte**	**1.07**	**104**	*e*Pg	Pn	23	11	33.6	-0.2
MFT				*e*Sg	Sb	23	11	48.0	+0.5
BOZC	**Bozcaada**	**1.21**	**175**	*i* P	Pg	23	11	31.1	-4.4
BOZC				*i* S	Sg	23	11	48.2	-3.0
KRBG	**Karabiga-Canak**	**1.24**	**122**	*e*PN	Pn	23	11	37.0	+0.9
KRBG	**Karabiga-Canak**	**1.24**	**122**	*e*Pn	Pn	23	11	37.0	+0.9
EZN	**Ezine**	**1.26**	**166**	*e*PN	Pn	23	11	35.9	-0.4
EZN	**Ezine**	**1.26**	**166**	*e*Pn	Pn	23	11	35.9	-0.5
PHSR	**Pinarhisar**	**1.34**	**64**	*e*PN	Pg	23	11	38.6	+0.6
PHSR	**Pinarhisar**	**1.34**	**64**	*e*Pn	Pg	23	11	38.6	+0.6
GONE	**Gonen-Balikesi**	**1.68**	**126**	*e*PN	Pb	23	11	43.1	-0.5
GONE	**Gonen-Balikesi**	**1.68**	**126**	*e*Pn	Pb	23	11	43.1	-0.5
SLVT	**Silivri**	**1.74**	**83**	*e*PN	Pb	23	11	44.4	-0.2
SLVT	**Silivri**	**1.74**	**83**	*e*Pn	Pb	23	11	44.4	-0.2
CTKS	**Kestanelik-??a**	**1.97**	**84**	*e*PN	Pb	23	11	47.3	-1.1
CTKS	**Kestanelik-??a**	**1.97**	**84**	*e*Pn	Pb	23	11	47.3	-1.1

MOS ***17*** *23:18:56.5±1.0, 17°.88S×178°.55W, h562km, mb4.5/15, Error ellipse: s-maj=13.4km s-min=9.1km az=48.5*
IDC ***17*** *23:18:56.6±1.4, 17°.97S×178°.47W, h558km±17km, mb3.8/21, mb1 4.0/23, mb1mx4.0/27, mbtmp3.8/23, Error ellipse: s-maj=13.8km s-min=9.3km az=128.0*
BJI ***17*** *23:18:57.1, 18°.55S×178°.24W, h607km, mB4.5/6, mb4.7/15*
NEIC ***17*** *23:18:58.1±0.2, 17°.92S×178°.53W, mb4.6/60, Error ellipse: s-maj=8.6km s-min=4.3km az=139.0*
ISCJB ***17*** *23:18:58.1±0.7, 17°.98S±0°.06×178°.55W±0°.04, h587km±8km, mb4.5/88, Error ellipse: s-maj=9.4km s-min=5.1km az=149.2*
AUST ***17*** *23:19:00.0, 18°.05S×178°.47W, h600km*
ISC 17 23:18:59.0±0.4, 18°.08S±0°.06×178°.43W±0°.05, h590km±3km, h591km: pP-P, n513, σ0§95/537, mb4.5/88, 140C-129D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
MSVF	**Nonsavu**	**3.37**	**275**	*e*P	**P**	**23**	**20**	**19.7**	**0.0**
MSVF	**Nonsavu**	**3.37**	**275**	*e*P	**P**	**23**	**20**	**19.7**	**0.0**
MSVF				*e*S	**S**	**23**	**21**	**27.2**	**+1.8**
AFI	**Afiamalu**	**7.62**	**58**	*e*P	P	23	20	51.1	-3.5
AFI				*e*S	S	23	22	22.9	-6.3
AFI	**Afiamalu**	**7.62**	**58**	P	P	23	20	50.7	-3.9
	15nm,0.3s,baz=302,slow=23,SNR=13								
AFI				S	S	23	22	21.7	-7.5
	4.2nm,0.3s,baz=53,slow=20,SNR=3.5								
NIUE	**Niue**	**8.12**	**98**	P	**P**	**23**	**20**	**58.5**	**-0.7**
	baz=8.2,SNR=11								
NIUE				S	S	23	22	45.7	+8.0
	baz=8.2,SNR=3.7								
DZM	**Mont Dzumac**	**14.75**	**252**	P	**P**	**23**	**22**	**04.6**	**-0.7**
DZM	**Mont Dzumac**	**14.75**	**252**	P	**P**	**23**	**22**	**04.6**	**-0.7**
	3.2nm,0.3s,baz=90,slow=24,SNR=28								
NOUC	**Port Laguerre**	**14.89**	**252**	*e*P	**P**	**23**	**22**	**05.6**	**-0.8**
NFK	**Norfolk Island**	**16.57**	**226**	S	S	23	25	38.0	+31
	baz=17,SNR=5.6								
OUZ	**Omahuta**	**18.49**	**201**	*e*P	**P**	**23**	**22**	**42.2**	**+3.0**
	775nm,2.9s								
URZ	**Urewera**	**20.48**	**190**	*e*P	**P**	**23**	**22**	**56.4**	**-0.9**
	239nm,1.7s								
URZ				S	**S**	**23**	**26**	**06.6**	**-3.1**
URZ	**Urewera**	**20.48**	**190**	P	**P**	**23**	**22**	**56.6**	**-0.7**
	14nm,0.6s,baz=54,slow=4.5,SNR=5.2								
URZ				S	**S**	**23**	**26**	**06.6**	**-3.1**
	15nm,0.9s,baz=38,slow=19,SNR=2.8								
KHZ	**Kahutara**	**25.20**	**194**	*e*P	**P**	**23**	**23**	**39.6**	**+0.4**
	68nm,1.5s								
RPZ	**Rata Peaks**	**27.05**	**197**	*e*P	**P**	**23**	**23**	**56.1**	**+0.5**
	293nm,2.3s								
RPZ	**Rata Peaks**	**27.05**	**197**	P	**P**	**23**	**23**	**53.9**	**-1.6**
	5.9nm,0.8s,baz=16,slow=18,SNR=2.7								
ODZ	**Otahua Downs**	**28.39**	**196**	*e*P	**P**	**23**	**24**	**07.0**	**-0.1**
	102nm,1.6s								
XMAS	**Kiritimati**	**28.76**	**48**	*e*P	**P**	**23**	**24**	**11.4**	**+0.6**
	123nm,1.1s								
EIDS	**Eidsvold**	**29.19**	**250**	*e*P	**P**	**23**	**24**	**14.0**	**-0.4**
	43nm,0.8s								
EIDS	**Eidsvold**	**29.19**	**250**	P	**P**	**23**	**24**	**14.0**	**-0.4**
	baz=29,SNR=16								
ARMA	**Armidale**	**29.84**	**240**	*e*P	**P**	**23**	**24**	**21.0**	**+0.9**
	39nm,0.8s								
ARMA	**Armidale**	**29.84**	**240**	P	**P**	**23**	**24**	**20.9**	**+0.9**
	baz=30,SNR=32								
KWAJ	**Kwajalein Atol**	**30.06**	**332**	*e*P	**P**	**23**	**24**	**21.0**	**-0.9**
KWAJ				pmax	pmax				
	comp=Z,169nm,1.3s								
KWAJ	**Kwajalein Atol**	**30.06**	**332**	*e*P	**P**	**23**	**24**	**21.0**	**-0.9**
	comp=Z,169nm,1.3s								
MGCD	**Mangrove Creek**	**31.18**	**235**	P	**P**	**23**	**24**	**32.5**	**+1.2**
	baz=31,SNR=21								
MGCD				S	S	23	28	50.5	-6.3
	baz=31,SNR=13								
RMQ	**Roma**	**31.42**	**249**	P	**P**	**23**	**24**	**34.2**	**+0.7**
	baz=31,SNR=12								
CNB	**Canberra Magne**	**33.31**	**233**	P	**P**	**23**	**24**	**50.4**	**+1.1**
	baz=33,SNR=70								
CTAO	**Charters Tower**	**33.40**	**261**	*e*P	**P**	**23**	**24**	**49.8**	**-0.5**
CTAO				pmax	pmax				
	comp=Z,45nm,0.8s								
CTAO	**Charters Tower**	**33.40**	**261**	*e*P	**P**	**23**	**24**	**49.8**	**-0.5**
	comp=Z,45nm,0.8s								
CAN	**Canberra**	**33.58**	**233**	*e*P	**P**	**23**	**24**	**52.3**	**+0.6**
CAN				pmax	pmax				
	comp=Z,90nm,1.4s								
CAN	**Canberra**	**33.58**	**233**	*e*P	**P**	**23**	**24**	**52.3**	**+0.6**
	comp=Z,90nm,1.4s								
YNG	**Yong**	**33.68**	**235**	P	**P**	**23**	**24**	**53.5**	**+1.0**
	baz=34,SNR=7.4								
MILA	**Mila**	**34.16**	**230**	P	**P**	**23**	**24**	**57.4**	**+0.9**
	baz=34,SNR=10								
PMG	**Port Moresby**	**34.47**	**280**	*e*P	**P**	**23**	**24**	**59.1**	**-0.1**
	comp=Z,146nm,1.0s								
CMSA	**Cobar Meteorol**	**35.05**	**241**	P	**P**	**23**	**25**	**04.3**	**+0.5**
	baz=35,SNR=97								
MTSU	**Mount Surprise**	**35.37**	**264**	P	**P**	**23**	**25**	**06.2**	**-0.5**
	baz=35,SNR=22								
TOO	**Toolangi**	**37.05**	**231**	P	**P**	**23**	**25**	**21.1**	**+0.9**
	baz=37,SNR=26								
COEN	**Coen**	**37.09**	**271**	*e*P	**P**	**23**	**25**	**20.9**	**+0.1**
	comp=Z,533nm,0.9s								
COEN	**Coen**	**37.09**	**271**	P	**P**	**23**	**25**	**20.9**	**+0.1**
	baz=37,SNR=37								
MOO	**Moorlands**	**37.95**	**223**	P	**P**	**23**	**25**	**28.6**	**+1.1**
	baz=38,SNR=4.2								
MOO				S	ScP	23	30	11.3	-8.4
	baz=38,SNR=4.9								
TAU	**Tasmania Unive**	**38.10**	**222**	*e*P	**P**	**23**	**25**	**29.7**	**+1.0**
TAU				pmax	pmax				
	comp=Z,45nm,1.1s								
TAU	**Tasmania Unive**	**38.10**	**222**	*e*P	**P**	**23**	**25**	**29.7**	**+1.0**
	comp=Z,45nm,1.1s								
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**23**	**25**	**33.0**	**+0.7**
STKA				PcP	**PcP**	**23**	**27**	**30.6**	**+1.0**
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**23**	**25**	**33.0**	**+0.7**
	comp=Z,82nm,0.9s,baz=89,slow=9.1,SNR=132								
STKA				PcP	**PcP**	**23**	**27**	**30.6**	**+1.0**
	comp=Z,4.4nm,0.6s,baz=39,slow=6.5,SNR=2.9								
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**23**	**25**	**33.2**	**+0.9**
	baz=38,SNR=109								
ARPS	**Mount Arapiles**	**39.53**	**234**	P	**P**	**23**	**25**	**40.9**	**+0.6**
	baz=40,SNR=9.4								
JAY	**Jayapura**	**42.94**	**286**	P	**P**	**23**	**26**	**07.4**	**-0.1**
	baz=43,SNR=21								
JAY				S	S	23	32	05.8	+15
	baz=43,SNR=3.5								
BBOO	**Buckleboo**	**43.31**	**241**	*e*P	**P**	**23**	**26**	**10.3**	**+0.2**
	comp=Z,1μm,0.8s								
BBOO	**Buckleboo**	**43.31**	**241**	P	**P**	**23**	**26**	**10.3**	**+0.2**
	baz=43,SNR=9.0								
WRAB	**Tennant Creek**	**44.57**	**260**	*e*P	**P**	**23**	**26**	**18.7**	**-1.3**
WRAB				*e*		23	27	50.0	
WRAB				pmax	pmax				
	comp=Z,42nm,0.6s								
WRAB	**Tennant Creek**	**44.57**	**260**	*e*P	**P**	**23**	**26**	**18.7**	**-1.3**
	comp=Z,42nm,0.6s								
WRAB				*e*PcP	**PcP**	**23**	**27**	**50.0**	**-0.1**
WRA	**Warramunga Arr**	**44.58**	**260**	P	**P**	**23**	**26**	**18.9**	**-1.2**
WRA				PcP	**PcP**	**23**	**27**	**50.2**	**+0.1**
WRA	**Warramunga Arr**	**44.58**	**260**	P	**P**	**23**	**26**	**18.9**	**-1.2**
	comp=Z,41nm,0.7s,baz=93,slow=7.4,SNR=574								
WRA				PcP	**PcP**	**23**	**27**	**50.2**	**+0.1**
	comp=Z,3.0nm,0.5s,baz=90,slow=4.0,SNR=5.8								
ASAR	**Alice Springs**	**44.73**	**254**	P	**P**	**23**	**26**	**20.9**	**-0.3**
ASAR				PcP	**PcP**	**23**	**27**	**50.3**	**-0.3**
ASAR				ScP	**ScP**	**23**	**30**	**50.0**	**+2.7**
ASAR				S	**S**	**23**	**32**	**12.8**	**-3.3**
ASAR	**Alice Springs**	**44.73**	**254**	P	**P**	**23**	**26**	**20.9**	**-0.3**
	comp=Z,235nm,0.7s,baz=88,slow=8.4,SNR=2214								
ASAR				PcP	**PcP**	**23**	**27**	**50.3**	**-0.3**
	comp=Z,5.5nm,0.5s,baz=102,slow=4.3,SNR=4.3								
ASAR				ScP	**ScP**	**23**	**30**	**50.0**	**+2.7**
	comp=Z,1.9nm,1.0s,baz=100,slow=5.1,SNR=4.3								
ASAR				S	**S**	**23**	**32**	**12.8**	**-3.3**
	comp=Z,2.6nm,1.1s,baz=93,slow=18,SNR=7.9								
KDU	**Kakadu**	**47.53**	**269**	P	**P**	**23**	**26**	**41.5**	**-0.9**
	baz=48,SNR=32								
KDU				S	**S**	**23**	**32**	**55.4**	**+0.2**
	baz=48,SNR=3.4								
MTN	**Manton Dam**	**48.77**	**269**	P	**P**	**23**	**26**	**50.6**	**-1.1**
	baz=49,SNR=15								
FORT	**Forrest**	**49.92**	**245**	*e*P	**P**	**23**	**26**	**59.3**	**-0.5**
	comp=Z,74nm,0.6s								
FORT	**Forrest**	**49.92**	**245**	P	**P**	**23**	**26**	**59.3**	**-0.5**
	baz=50,SNR=30								
KNRA	**Kununurra**	**50.45**	**264**	P	**P**	**23**	**27**	**03.2**	**-0.8**
	baz=50,SNR=26								
FAKI	**Fak Fak**	**50.59**	**281**	P	**P**	**23**	**27**	**04.3**	**-0.7**
	baz=51,SNR=4.8								
SWI	**Sorong**	**52.26**	**283**	P	**P**	**23**	**27**	**16.8**	**-0.2**
	baz=52,SNR=8.3								
SOEI	**Soe**	**56.05**	**270**	P	**P**	**23**	**27**	**44.6**	**+0.9**
	baz=56,SNR=12								
MBWA	**Marble Bar**	**58.01**	**256**	*e*P	**P**	**23**	**27**	**56.3**	**-0.6**
	comp=Z,145nm,1.8s								
MEEK	**Meharra**	**58.35**	**249**	P	**P**	**23**	**27**	**58.3**	**-0.8**
	baz=58,SNR=32								
KLBR	**Kellerberrin**	**58.73**	**244**	P	**P**	**23**	**28**	**00.9**	**-0.6**
	baz=59,SNR=39								
BLDU	**Ballidu**	**59.69**	**245**	P	**P**	**23**	**28**	**07.3**	**-0.6**
	baz=60,SNR=24								
SBA	**Scott Base**	**60.25**	**184**	*e*P	P	23	28	14.0	+3.3
SBA				pmax	pmax				
	comp=Z,46nm,1.9s								
SBA	**Scott Base**	**60.25**	**184**	*e*P	P	23	28	14.0	+3.3
	comp=Z,46nm,1.9s								
VNDA	**Vanda**	**60.27**	**185**	P	**P**	**23**	**28**	**12.4**	**+1.5**
VNDA	**Vanda**	**60.27**	**185**	P	**P**	**23**	**28**	**12.4**	**+1.5**
	comp=Z,1.9nm,0.6s,baz=356,slow=6.4,SNR=12								
MORW	**Morawa**	**60.39**	**246**	P	**P**	**23**	**28**	**12.0**	**-0.6**
	baz=60,SNR=18								
KAPI	**Kappang**	**61.69**	**274**	*e*P	**P**	**23**	**28**	**18.9**	**-2.3**
	comp=Z,125nm,2.2s								
MJAR	**Matsushiro Arr**	**68.03**	**323**	P	**P**	**23**	**28**	**59.3**	**-1.3**
MJAR	**Matsushiro Arr**	**68.03**	**323**	P	**P**	**23**	**28**	**59.3**	**-1.3**
	comp=Z,3.3nm,0.5s,baz=168,slow=6.4,SNR=12								
KKM	**Kota Kinabalu**	**68.77**	**284**	P	**P**	**23**	**29**	**05.6**	**-0.1**
	baz=69,SNR=3.3								
UGM	**Wanagama**	**69.62**	**268**	*e*P	**P**	**23**	**29**	**10.3**	**-0.4**
	comp=Z,80nm,0.6s								
UGM	**Wanagama**	**69.62**	**268**	P	**P**	**23**	**29**	**10.2**	**-0.4**
	baz=70,SNR=17								
FX1	**Attu Island--F**	**71.04**	**355**	P	**P**	**23**	**29**	**16.5**	**-1.6**
FX1	**Attu Island--F**	**71.04**	**355**	P	**P**	**23**	**29**	**16.5**	**-1.6**
	comp=Z,11nm,0.6s,baz=153,slow=4.5,SNR=3.6								
QSPA	**South Pole Qui**	**71.97**	**180**	*e*P	**P**	**23**	**29**	**24.8**	**+1.1**
	comp=Z,13nm,0.9s								
KSM	**Kuching**	**72.69**	**277**	*e*P	**P**	**23**	**29**	**28.8**	**+0.2**
	comp=Z,57nm,0.9s								
KSM	**Kuching**	**72.69**	**277**	P	**P**	**23**	**29**	**27.6**	**-1.0**
	baz=73,SNR=6.5								
PETK	**Petropavlovsk-**	**73.84**	**345**	P	**P**	**23**	**29**	**33.6**	**-0.6**
PETK	**Petropavlovsk-**	**73.84**	**345**	P	**P**	**23**	**29**	**33.6**	**-0.6**
PETK	**Petropavlovsk-**	**73.84**	**345**	P	**P**	**23**	**29**	**33.6**	**-0.6**
	comp=Z,3.1nm,0.6s,baz=134,slow=8.5,SNR=4.8								
KSRS	**Korea Array**	**74.82**	**318**	P	**P**	**23**	**29**	**40.3**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=144,slow=4.7,SNR=3.6								
KSAR	**Wonju Array Be**	**74.83**	**318**	P	**P**	**23**	**29**	**40.3**	**+0.2**
VLA	**Vladivostok**	**76.08**	**325**	*i* P	P	23	29	51.7	+4.8
BSC	**Santa Cruz Isl**	**76.25**	**47**	⇓P	**P**	**23**	**29**	**48.4**	**+0.3**
	baz=76								
SAO	**San Andreas Ge**	**76.56**	**44**	*e*P	**P**	**23**	**29**	**50.8**	**+1.1**
SAO				pmax	pmax				
	comp=Z,16nm,0.8s								
SAO	**San Andreas Ge**	**76.56**	**44**	*e*P	**P**	**23**	**29**	**50.8**	**+1.1**
	comp=Z,16nm,0.8s								
PKM	**Peak Mountain**	**76.61**	**46**	⇓P	**P**	**23**	**29**	**51.1**	**+0.9**
	baz=77								
USRK	**Ussuriysk Arra**	**76.75**	**326**	P	**P**	**23**	**29**	**51.7**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=95,slow=5.8,SNR=3.3								
109C	**Camp Elliot, M**	**77.45**	**49**	⇑P	**P**	**23**	**29**	**54.9**	**+0.3**
	baz=78								
VES	**Vestal, Richgr**	**77.63**	**46**	⇓P	**P**	**23**	**29**	**56.2**	**+0.7**
	baz=78								
MURC	**Murrieta**	**77.75**	**48**	⇑P	**P**	**23**	**29**	**56.8**	**+0.6**
	baz=78								
BFSC	**Mount Baldy Ra**	**77.76**	**48**	⇓P	**P**	**23**	**29**	**56.8**	**+0.3**
	baz=78								
EDW2	**Edwards Air Fo**	**77.86**	**47**	⇑P	**P**	**23**	**29**	**57.5**	**+0.6**
	baz=78,SNR=10								
MONP	**Monument Peak**	**77.94**	**49**	⇓P	**P**	**23**	**29**	**58.4**	**+0.8**
	baz=78								
ISA	**Isabella**	**77.95**	**46**	*e*P	**P**	**23**	**29**	**58.4**	**+1.0**
ISA				pmax	pmax				
	comp=Z,16nm,0.9s								
ISA	**Isabella**	**77.95**	**46**	*e*P	**P**	**23**	**29**	**58.4**	**+1.0**
	comp=Z,16nm,0.9s								
ISA	**Isabella**	**77.95**	**46**	⇑P	**P**	**23**	**29**	**57.9**	**+0.6**
	baz=78,SNR=8.7								
CMB	**Columbia Colle**	**77.98**	**43**	*e*P	**P**	**23**	**29**	**57.8**	**+0.4**
CMB				pmax	pmax				
	comp=Z,13nm,1.0s								
CMB	**Columbia Colle**	**77.98**	**43**	*e*P	**P**	**23**	**29**	**57.8**	**+0.4**
	comp=Z,14nm,1.0s								
NJ2	**Nanjing**	**78.03**	**310**	*e*P	**P**	**23**	**29**	**59.3**	**+1.6**
NJ2				pmax	pmax				
	comp=Z,20nm,1.5s								
DVTC	**Desert V Tower**	**78.06**	**50**	⇓P	**P**	**23**	**29**	**59.2**	**+1.2**
	baz=78								
HABR	**Khabarovsk**	**78.15**	**330**	*e*P	**P**	**23**	**29**	**57.4**	**-0.6**
HABR				*e**PP	**pP**	**23**	**32**	**00.5**	**-0.9**
HABR				*e*		23	33	04.6	
HABR				S	**S**	**23**	**39**	**04.6**	**-0.3**
HABR				*e*		23	39	22.9	
HABR				*e*SSS	SSS	23	47	56.2	
HABR				pmax	pmax				
	comp=E,12nm,0.8s								
HABR				pmax	pmax				
	comp=Z,20nm,1.6s								
HABR				pmax	pmax				
	comp=N,14nm,1.1s								
HABR				MLR	MLR				
	comp=Z,53nm,19.0s								
PFO	**Pinyon Flat Ob**	**78.28**	**49**	P	**P**	**23**	**29**	**59.9**	**+0.6**
PFO	**Pinyon Flat Ob**	**78.28**	**49**	P	**P**	**23**	**29**	**59.9**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=244,slow=4.4,SNR=3.3								
PFO	**Pinyon Flat Ob**	**78.28**	**49**	⇑P	**P**	**23**	**30**	**00.0**	**+

319A	**Douglas**	82.54	54	⇓P		P		23 30 22.9	+1.5
	baz=83,SNR=11								
U15A	**North Rim**	82.65	48	⇑P		P		23 30 23.1	+1.1
	baz=83,SNR=28								
ELK	**Elko**	82.80	43	*e*P		P		23 30 22.6	0.0
WUAZ	**Wupatki**	82.87	49	*e*P		P		23 30 24.0	+1.0
	comp=Z,16nm,1.0s								
WUAZ	**Wupatki**	82.87	49	⇓P		P		23 30 23.9	+1.0
	baz=83,SNR=6.4								
TBM	**Table Mountain**	83.11	36	P		P		23 30 23.9	+0.2
DIV	**Divide**	83.17	15	*e*P		P		23 30 23.1	-0.7
HAWA	**Hanford**	83.25	37	*e*P		P		23 30 24.3	-0.1
	comp=Z,17nm,1.0s								
BMRM	**Bremner River**	83.33	16	*e*P		P		23 30 23.7	-0.8
	comp=Z,9.5nm,0.7s								
220A	**Playas Peak, P**	83.35	54	⇑P		P		23 30 26.7	+1.3
	baz=84,SNR=7.0								
X18A	**Snowflake**	83.45	51	⇑P		P		23 30 26.9	+1.0
	baz=84								
BMO	**Blue Mountains**	83.69	39	*e*P		P		23 30 26.7	0.0
	comp=Z,34nm,2.0s								
MAW	**Mawson**	83.69	200	P		P		23 30 26.8	+0.5
MAW	**Mawson**	83.69	200	P		P		23 30 26.8	+0.5
	comp=Z,5.4nm,0.7s,baz=125,slow=6.5,SNR=14								
MAW	**Mawson**	83.69	200	P		P		23 30 27.2	+1.0
	baz=84,SNR=21								
MVU	**Marysvale**	83.70	46	*e*P		P		23 30 28.1	+1.0
	comp=Z,3.0nm,0.9s								
MSU	**Marysvale**	83.73	46	*e*P		P		23 30 28.1	+0.9
MSU				pmax		pmax			
	comp=Z,8.0nm,0.6s								
MSU	**Marysvale**	83.73	46	*e*P		P		23 30 28.1	+0.9
	comp=Z,8.2nm,0.6s								
MFID	**Camas Ranch**	83.82	41	*e*P		P		23 30 27.4	0.0
	comp=Z,11nm,1.0s								
MFID	**Camas Ranch**	83.82	41	⇑P		P		23 30 27.8	+0.4
	baz=84								
Z20A	**Nine Sixteen R**	83.83	52	⇑P		P		23 30 28.8	+1.0
	baz=84								
W18A	**Petrified Fore**	83.88	50	⇓P		P		23 30 28.6	+0.7
	baz=84								
221A	**Mesquite Ranch**	83.97	54	⇓P		P		23 30 29.6	+1.1
	baz=84								
DUG	**Dugway**	84.12	45	⇓P		P		23 30 29.3	+0.3
	baz=84								
TRF	**Thorofare Moun**	84.18	12	*e*P		P		23 30 27.0	-1.8
121A	**Cookes Peak, D**	84.19	53	⇓P		P		23 30 30.9	+1.3
	baz=84,SNR=6.0								
Y20A	**Horse Springs,**	84.34	52	⇓P		P		23 30 31.5	+1.1
	baz=84,SNR=6.7								
ENH	**Enshi**	84.35	304	*e*P		P		23 30 30.0	-0.2
	comp=Z,9.2nm,0.6s								
I12A	**Atlanta**	84.44	41	⇓P		P		23 30 31.2	+0.6
	baz=85								
X20A	**Quemado**	84.53	51	⇑P		P		23 30 32.3	+1.1
	baz=85								
222A	**Williams Famil**	84.53	54	⇑P		P		23 30 32.1	+0.8
	baz=85								
Z21A	**St. Cloud Mine**	84.61	53	⇑P		P		23 30 32.8	+1.1
	baz=85								
Q16A	**Castle Valley**	84.61	46	⇓P		P		23 30 32.5	+1.0
	baz=85								
MCK	**McKinley**	84.71	13	*e*P		P		23 30 30.0	-1.2
MCK				pmax		pmax			
	comp=Z,9.0nm,0.9s								
MCK	**McKinley**	84.71	13	*e*P		P		23 30 30.0	-1.2
	comp=Z,8.8nm,0.9s								
HLID	**Hailey**	84.77	41	*e*P		P		23 30 32.9	+0.7
	comp=Z,6.7nm,0.8s								
HLID	**Hailey**	84.77	41	⇑P		P		23 30 32.9	+0.7
	baz=85								
W20A	**Ramah**	84.78	51	⇑P		P		23 30 33.2	+0.7
	baz=85								
PAX	**Paxson**	84.82	14	*e*P		P		23 30 30.8	-1.1
PAX				pmax		pmax			
	comp=Z,5.0nm,1.0s								
PAX	**Paxson**	84.82	14	*e*P		P		23 30 30.8	-1.1
	comp=Z,4.8nm,1.0s								
Y21A	**Point of Rocks**	84.91	52	⇓P		P		23 30 34.2	+1.1
	baz=85,SNR=7.0								
H12A	**Diamond D Ranc**	85.01	40	⇑P		P		23 30 33.5	+0.2
	baz=85								
X21A	**Alamocita Cree**	85.02	52	⇑P		P		23 30 33.5	-0.2
	baz=85								
G12A	**Big Creek, Yel**	85.02	39	⇑P		P		23 30 33.6	+0.3
	baz=85								
GYA	**Guiyang**	85.11	300	*e*P		P		23 30 25.0	-9.1
GYA				pP		pP		23 32 40.8	+0.4
GYA				sP		sP		23 33 37.3	-2.4
GYA				PP		**PP**		**23 34 05.0**	**+2.2**
GYA				SKS		**SKSac**		**23 40 01.8**	**-1.6**
GYA				S		**S**		**23 40 15.3**	**-0.4**
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
Z22A	**Elephant Butte**	85.12	53	⇑P		P		23 30 34.9	+0.8
	baz=85,SNR=7.3								
SRU	**San Rafael**	85.15	46	*e*P		P		23 30 33.6	-0.5
SRU				pmax		pmax			
	comp=Z,6.0nm,0.8s								
SRU	**San Rafael**	85.15	46	*e*P		P		23 30 33.6	-0.5
	comp=Z,6.3nm,0.8s								
Y22A	**Socorro**	85.41	52	⇑P		P		23 30 36.1	+0.7
	baz=86								
324A	**Moseley Ranch,**	85.51	55	⇑P		P		23 30 36.6	+0.7
	baz=86,SNR=9.7								
E12A	**Beaver Dam Sad**	85.56	38	⇓P		P		23 30 35.5	-0.3
	baz=86								
I14A	**Mackay**	85.56	41	⇑P		P		23 30 36.6	+0.6
	baz=86								
425A	**Indio Mountain**	85.63	56	⇓P		P		23 30 37.6	+1.1
	baz=86,SNR=9.3								
NEW	**Newport**	85.66	36	⇑P		P		23 30 36.0	-0.1
	baz=86								
MNTX	**Cornudas Mount**	85.69	55	*e*P		P		23 30 37.5	+0.8
	comp=Z,3.4nm,1.2s								
V21A	**Milan**	85.72	50	⇓P		P		23 30 37.0	+0.1
	baz=86								
224A	**Cornudas Mount**	85.74	54	⇓P		P		23 30 38.0	+1.0
	baz=86,SNR=9.5								
BNM	**Barren Site**	85.76	52	*e*P		P		23 30 36.8	-0.4
	comp=Z,3.3nm,1.2s								
626A	**Big Bend Ranch**	85.82	57	⇓P		P		23 30 38.8	+1.4
	baz=86,SNR=13								
325A	**Bean Ranch, Si**	85.88	55	⇓P		P		23 30 38.5	+0.7
	baz=86,SNR=7.6								
PV04	**Paradox Valley**	85.95	48	*e*P		P		23 30 38.8	+0.9
U21A	**Nageezi**	85.97	50	⇑P		P		23 30 38.7	+0.5
	baz=86,SNR=14								
124A	**Stringfield Ra**	86.05	54	⇑P		P		23 30 39.2	+0.6
	baz=86,SNR=5.2								
526A	**Mary Lane Ranc**	86.05	57	⇑P		P		23 30 39.8	+1.2
	baz=86,SNR=8.0								
ILAR	**Eielson Array**	86.06	13	P		P		23 30 35.9	-1.7
ILAR				PP		**PP**		**23 34 10.6**	**+1.2**
ILAR	**Eielson Array**	86.06	13	P		P		23 30 35.9	-1.7
	comp=Z,1.9nm,0.5s,baz=231,slow=5.6,SNR=20								
ILAR				PP		**PP**		**23 34 10.6**	**+1.2**
	comp=Z,1.2nm,1.0s,baz=223,slow=7.4,SNR=5.5								
S20A	**Disappointment**	86.08	48	⇓P		P		23 30 39.3	+0.7
	baz=86								
Y23A	**Lovelace Mesa,**	86.10	53	⇓P		P		23 30 39.4	+0.6
	baz=86								
TXAR	**Lajitas Array**	86.10	58	P		P		23 30 40.4	+1.6
TXAR	**Lajitas Array**	86.10	58	P		P		23 30 40.4	+1.6
	comp=Z,8.6nm,0.8s,baz=224,slow=5.2,SNR=60								
M17A	**Scullys Gap (B**	86.16	44	⇓P		P		23 30 39.0	+0.1
	baz=86								
ANMO	**Albuquerque**	86.22	52	*e*P		P		23 30 39.5	+0.2
	comp=Z,5.5nm,1.0s								
ANMO	**Albuquerque**	86.22	52	P		P		23 30 39.5	+0.2
	comp=Z,4.1nm,1.0s,baz=216,slow=5.6,SNR=8.2								
R20A	**Redvale**	86.23	48	⇓P		P		23 30 39.9	+0.6
	baz=86								
X23A	**Hourglass Bar**	86.27	52	⇑P		P		23 30 40.3	+0.7
	baz=86								
225A	**Deer Hill, Car**	86.29	55	⇑P		P		23 30 40.5	+0.8
	baz=86								
C12B	**Naegeli Ranch,**	86.30	37	⇑P		P		23 30 39.7	+0.5
	baz=86								
V22A	**San Miguel Ran**	86.30	50	⇑P		P		23 30 40.3	+0.6
	baz=86								
T21A	**Navajo Lake**	86.30	49	⇑P		P		23 30 40.3	+0.6
	baz=86								
426A	**McDonald Obser**	86.34	56	⇓P		P		23 30 41.0	+1.0
	baz=86,SNR=10								
XAN	**Xi'an**	86.35	307	P		P		23 30 40.6	+0.9
XAN				pP		**pP**		**23 32 49.8**	**+3.2**
XAN						PP		23 34 15.8	+3.3
XAN						SKS		**SKSac**	23 40 09.1	-1.4
XAN						S		**S**	23 40 27.1	+0.1
XAN						pmax		pmax		
	comp=Z,4.0nm,0.9s									
XAN						pmax		pmax		
	comp=Z,25nm,5.7s									
Z24A	**Sheeppen Canyo**	86.37	53	⇓P		P		23 30 40.6	+0.5
	baz=86									
627A	**Terlingua Ranc**	86.37	58	⇑P		P		23 30 41.6	+1.5
	baz=86,SNR=25									
MCMT	**McKenzie Canyo**	86.38	40	*e*P		P		23 30 40.4	+0.4
	comp=Z,7.6nm,1.1s									
S21A	**Coal Bank Pass**	86.41	49	⇑P		P		23 30 40.7	+0.4
	baz=86,SNR=7.3									
P19A	**Cripple Cowboy**	86.45	46	⇑P		P		23 30 40.6	+0.3
	baz=87									
527A	**Woodward Ranch**	86.47	57	⇑P		P		23 30 41.3	+0.8
	baz=87,SNR=12									
U22A	**Llaves**	86.53	50	⇓P		P		23 30 41.2	+0.4
	baz=87									
Y24A	**Capitan**	86.56	53	⇑P		P		23 30 41.2	+0.3
	baz=87									
BILL	**Bilibino**	86.60	354	*i* P		P		23 30 41.0	+0.9
BILL				*e**PP		**pP**		23 32 46.6	-0.4
BILL				*e*S		**SKSac**		23 40 11.6	+1.2
BILL				pmax		pmax				
	comp=Z,17nm,1.0s									
RRI2	**Red Ridge**	86.62	42	*e*P		P		23 30 42.2	+1.1
	comp=Z,17nm,0.9s									
Q20A	**Ridgley Place,**	86.62	47	⇑P		P		23 30 41.8	+0.7
	baz=87									
326A	**Caldwell Ranch**	86.64	56	⇑P		P		23 30 42.1	+0.9
	baz=87									
125A	**Gardner Draw,**	86.64	54	⇑P		P		23 30 42.1	+0.8
	baz=87									
V23A	**Ortiz Mt. (NFS**	86.76	51	⇑P		P		23 30 42.7	+0.9
	baz=87									
BSMT	**Baseo Peak**	86.77	37	*e*P		P		23 30 41.5	0.0
I16A	**Newdale**	86.77	42	⇓P		P		23 30 42.7	+1.0
	baz=87									
T22A	**Edith**	86.77	49	⇑P		P		23 30 42.2	+0.3
	baz=87									
226B	**Tecolote Peak,**	86.79	55	⇑P		P		23 30 42.6	+0.7
	baz=87,SNR=5.6									
C13A	**Hot Springs**	86.80	37	⇑P		P		23 30 41.4	-0.1
	baz=87									
P20A	**De Beque**	86.80	47	⇑P		P		23 30 42.2	+0.3
	baz=87									
DLMT	**Dillon**	86.80	40	*e*P		P		23 30 42.4	+0.7
Z25A	**Roswell**	86.85	54	⇑P		P		23 30 43.1	+0.9
	baz=87									
R21A	**Cimarron**	86.89	48	⇑P		P		23 30 43.1	+0.7
	baz=87,SNR=6.7									
427A	**Hayter Ranch,**	86.91	56	⇓P		P		23 30 43.7	+1.2
	baz=87,SNR=6.0									
TPAW	**Teton Pass**	86.93	42	*e*P		P		23 30 43.2	+0.7
	comp=Z,7.3nm,1.0s									
U23A	**El Rito**	87.00	50	⇓P		P		23 30 43.9	+0.9
	baz=87									
SNOW	**Snow King Moun**	87.04	42	*e*P		P		23 30 44.2	+1.2
	comp=Z,15nm,1.0s									
W24A	**Lazy 6 Ranch,**	87.11	52	⇓P		P		23 30 44.1	+0.6
	baz=87									
LRM	**Limekiln Ridge**	87.12	40	*e*P		P		23 30 43.8	+0.5
IMW	**Indian Meadow**	87.13	42	*e*P		P		23 30 44.2	+0.8
IMW				*e*PP		**PP**		23 34 15.9	-2.8
528A	**Cox Ranch, San**	87.13	57	⇓P		P		23 30 44.9	+1.3
	baz=87,SNR=9.1									
126A	**Clayton Basin,**	87.13	54	⇑P		P		23 30 43.9	+0.3
	baz=87									
S22A	**4UR Ranch, Cre**	87.14	49	⇑P		P		23 30 44.3	+0.6
	baz=87									
M19A	**Rock Springs**	87.18	45	⇑P		P		23 30 44.0	+0.3
	baz=87									
MOOW	**Moose Ponds**	87.18	42	*e*P		P		23 30 43.8	+0.1
	comp=Z,3.8nm,1.0s									
CHMT	**Chamberlain Mo**	87.18	39	*e*P		P		23 30 43.3	-0.3
O20A	**White River Ci**	87.19	46	⇑P		P		23 30 44.3	+0.5
	baz=87									
LOHW	**Long Hollow**	87.21	42	*e*P		P		23 30 44.3	+0.5
	comp=Z,20nm,1.6s									
B13A	**Whitefish**	87.22	37	⇓P		P		23 30 42.9	-0.6
	baz=87									
QLMT	**Earthquake Lak**	87.26	41	*e*P		P		23 30 45.5	+1.5
H16A	**Russell Place,**	87.32	41	⇓P		P		23 30 45.3	+1.0
	baz=87,SNR=13									
L19A	**Farson**	87.32	44	⇑P		P		23 30 44.8	+0.4
	baz=87,SNR=6.7									
HHC	**Hu-ho-hao-te**	87.38	314	*e*P		P		23 30 45.5	+1.0
HHC				pP		**pP**		23 32 52.8	+1.1
HHC				sP		**sP**		23 33 51.3	+0.5
HHC				PP		**PP**		23 34 24.3	+3.7
HHC				SKS		**SKSac**		23 40 15.8	-0.7
HHC				S		**S**		23 40 35.8	-0.7
HHC				SS		**SS**		23 46 43.4	+3.2
HHC				pmax		pmax				
	comp=Z,45nm,1.0s									
HHC				pmax		pmax				
	comp=Z,240nm,5.2s									
EGAK	**Eagle**	87.39	15	*e*P		P		23 30 42.2	-1.6
	comp=Z,7.3nm,1.1s									
R22A	**Saguache, Gunn**	87.39	48	⇑P		P		23 30 45.4	+0.5
	baz=88									
Z26A	**Caprock**	87.41	54	⇑P		P		23 30 45.4	+0.6
	baz=88,SNR=6.3									
V24A	**Rampart Ranch,**	87.42	51	⇑P		P		23 30 45.5	+0.5
	baz=88									
428A	**Kincaid Ranch,**	87.43	57	⇑P		P		23 30 45.5	+0.5
	baz=88									
N20A	**Spence Gulch,**	87.48	46	⇑P		P		23 30 45.3	+0.2
	baz=88									
BW06	**Boulder Array**	87.49	43	*e*P		P		23 30 44.8	-0.4
	comp=Z,2.3nm,0.6s									
PDAR	**Pinedale Array**	87.49	43	P		P		23 30 45.0	-0.1
PDAR				pP		**pP**		23 32 49.0	-3.4
PDAR				PP		**PP**		23 34 18.3	-3.2
PDAR	**Pinedale Array**	87.49	43	P		P		23 30 45.0	-0.1
	comp=Z,5.6nm,0.8s,baz=223,slow=3.0,SNR=37									
PDAR				pP		**pP**		23 32 49.0	-3.4
	comp=Z,0.3nm,0.4s,baz=241,slow=1.9,SNR=2.4									
PDAR				PP		**PP**		23 34 18.3	-3.2
	comp=Z,0.8nm,0.8s,baz=245,slow=6.4,SNR=7.0									
BOZ	**Bozeman (W)**	87.53	40	*e*P		P		23 30 45.0	-0.2
BOZ				pmax		pmax				
	comp=Z,6.0nm,1.4s									
BOZ	**Bozeman (W)**	87.53	40	*e*P		P		23 30 45.0	-0.2
	comp=Z,6.4nm,1.4s									
529A	**Stev Forest Ra**	87.57	57	⇓P		P		23 30 46.2	+0.6
	baz=88,SNR=8.8									
328A	**Wristen Ranch,**	87.58	56	⇓P		P		23 30 46.1	+0.5
	baz=88									
H17A	**Grant Village**	87.59	42	⇑P		P		23 30 47.1	+1.5
	baz=88									
I18A	**Diamond G Ranc**	87.75	43	⇓P		P		23 30 46.3	0.0
	baz=88									
Y26A	**Elida**	87.79	53	⇑P		P		23 30 46.8	+0.2
	baz=88									
W25A	**X Bar L Ranch,**	87.82	52	⇓P		P		23 30 46.6	-0.1
	baz=88									
M20A	**Sweetwater, Wa**	87.82	45	⇑P		P		23 30 46.6	-0.2
	baz=88									
KMI	**Kunming**	87.89	297	P		P		23 30 48.4	+1.0
KMI				pmax		pmax				
	comp=Z,14nm,1.0s									
B14A	**Marquette Ranc**	87.90	37	⇓P		P		23 30 46.4	-0.3
	baz=88,SNR=20									
L20A	**Wamsutter**	87.95	45	⇓P		P		23 30 47.8	+0.5
	baz=88,SNR=9.7									
N21A	**Black Mountain**	87.95	46	⇑P		P		23 30 48.0	+0.6
	baz=88,SNR=5.4									
V25A	**Rancho No Teng**	87.96	51	⇓P		P		23 30 47.5	0.0
	baz=88									
K19A	**Absolon Red Bu**	87.98	44	⇓P		P		23 30 47.0	-0.4
	baz=88,SNR=6.2									
C15A	**Salmond Ranch,**	87.99	38	⇓P		P		23 30 47.1	-0.1
	baz=88									
429A	**Davenport Ranc**	88.02	57	⇓P		P		23 30 48.4	+0.7
	baz=88,SNR=25									
228A	**UT Block 9, Go**	88.04	55	⇓P		P		23 30 48.5	+0.8
	baz=88									
R23A	**Moffat**	88.04	49	⇓P		P		23 30 48.5	+0.6
	baz=88									
J19A	**Crowheart**	88.05	43	⇓P		P		23 30 47.7	0.0
	baz=88,SNR=8.3									
K20A	**Yellowstone Ra**	88.24	44	⇑P		P		23 30 48.3	-0.3
	baz=88,SNR=9.9									
F17A	**Fitzpatrick Pl**	88.25	40	⇑P		P		23 30 49.4	+0.9
	baz=88									
S24A	**Houchin Ranch,**	88.25	49	⇑P		P		23 30 49.4	+0.4
	baz=88									
329A	**Wagon Wheel Ra**	88.28	56	⇓P		P		23 30 49.2	+0.3
	baz=88									
Y27A	**Causey**	88.28	54	⇓P		P		23 30 49.3	+0.4
	baz=88									
B15A	**Bradely Ranch,**	88.28	38	⇑P		P		23 30 47.9	-0.7
	baz=88									
530A	**J-C Ranch, Com**	88.29	58	⇓P		P		23 30 49.7	+0.7
	baz=88,SNR=5.4									
H18A	**Shoshone NF, C**	88.30	42	⇑P		P		23 30 49.9	+1.1
	baz=88									
128A	**Castleberry Fa**	88.31	55	⇓P		P		23 30 49.5	+0.5
	baz=88,SNR=5.5									
O22A	**Kremmling**	88.37	47	⇑P		P		23 30 49.8	+0.4
	baz=88,SNR=6.0									
M21A	**Separation Pea**	88.43	45	⇑P		P		23 30 49.8	+0.3
	baz=88									
I19A	**Meeteetse**	88.44	42	⇓P		P		23 30 49.9	+0.4
	baz=89,SNR=5.8									
A15A	**Johnson Ranch,**	88.52	37	⇓P		P		23 30 49.4	-0.2
	baz=89									
V26A	**Tequesquite Ra**	88.56	52	⇑P		P		23 30 49.8	-0.4
	baz=89									
L21A	**Rawlins**	88.58	45	⇑P		P		23 30 50.4	+0.2
	baz=89									
430A	**Baggett Ranch,**	88.61	57	⇓P		P		23 30 50.6	+0.2
	baz=89									
MSTX	**Muleshoe**	88.61	54	⇑P		P		23 30 50.6	+0.2
	baz=89									
X27A	**F and S Farms,**	88.62	53	⇓P		P		23 30 51.0	+0.6
	baz=89									
631A	**Perdido Creek**	88.63	59	⇑P		P		23 30 51.4	+0.9
	baz=89,SNR=12									
T25A	**Trinidad**	88.63	50	⇓P		P		23 30 51.2	+0.6
	baz=89									
G18A	**Lazy EL Ranch,**	88.66	41	⇓P		P		23 30 51.4	+0.9
	baz=89									
N22A	**Wattenberg Ran**	88.70	46	⇑P		P		23 30 51.6	+0.7
	baz=89,SNR=6.1									
J20A	**Shoshoni**	88.72	43	⇑P		P		23 30 51.3	+0.6
	baz=89,SNR=9.1									
H19A	**Powell**	88.73	42	⇑P		P		23 30 51.5	+0.7
	baz=89,SNR=5.3									
RLMT	**Red Lodge**	88.76	41	*e*P		P		23 30 50.5	-0.5
	comp=Z,7.1nm,1.0s									
129A	**Stewart Farms,**	88.80	55	⇓P		P		23 30 51.7	+0.4
	baz=89									
S25A	**Robets Cordova**	88.83	50	⇓P		P		23 30 51.4	0.0
	baz=89									
U26A	**Atchley Ranch,**	88.83	51	⇑P		P		23 30 51.6	+0.2
	baz=89									
D17A	**Six Diamond Ra**	88.83	39	⇓P		P		23 30 51.6	+0.4
	baz=89,SNR=7.6									
B16A	**M & M Farms, S**	88.83	38	⇑P		P		23 30 51.1	+0.1
	baz=89									
F18A	**Big Timber**	88.84	41	⇑P		P		23 30 52.0	+0.8
	baz=89									
M22A	**Cedar Creek Ra**	88.86	46	⇑P		P		23 30 52.2	+0.6
	baz=89									
ISCO	**Idaho Springs**	88.86	47	⇓P		P		23 30 52.3	+0.6
	baz=89									
732A	**Laxson Ranch,**	88.88	59	⇑P		P		23 30 52.8	+1.1
	baz=89									
330A	**Mertzon**	88.88	57	⇓P		P		23 30 52.0	+0.3
	baz=89									
CMAR	**Chiang Mai Arr**	88.92	290	P		P		23 30 53.1	+1.1
CMAR	**Chiang Mai Arr**	88.92	290	P		P		23 30 53.1	+1.1
	comp=Z,4.2nm,0.8s,baz=113,slow=2.7,SNR=18									
531A	**Rocksprings**	88.93	58	⇓P		P		23 30 52.6	+0.7
	baz=89,SNR=8.2									
K21A	**Alcova**	88.95	44	⇓P		P		23 30 52.1	+0.2
	baz=89									
I20A	**Worland**	88.95	43	⇑P		P		23 30 52.0	+0.3
	baz=89,SNR=5.9									
C17A	**Wharram Farm,**	89.01	39	⇓P		P		23 30 52.0	+0.1
	baz=89,SNR=7.6									
E18A	**Harlowton**	89.02	40	⇑P		P		23 30 52.6	+0.5
	baz=89									
431A	**Sonora**	89.07	57	⇑P		P		23 30 52.7	+0.2
	baz=89									
N23A	**Red Feather La**	89.09	46	⇓P		P		23 30 53.3	+0.6
	baz=89,SNR=5.5									
J21A	**Lysite**	89.13	44	⇑P		P		23 30 53.2	+0.5
	baz=89,SNR=14									
CD2	**Chengdu**	89.14	303	*e*P		P		23 30 53.3	+0.4
CD2				pP		**pP**		23 33 01.3	+0.7
CD2				sP		**sP**		23 33 58.5	-1.1
CD2				pmax		pmax				
	comp=Z,10.0nm,0.9s									
CD2				pmax		pmax				
	comp=Z,30nm,6.2s									
L22A	**Ellis Ranch, M**	89.24	45	⇓P		P		23 30 53

baz=91
Y31A Rekieta Farm, 90.54 54 ⇑P **P 23 30 59.7 +0.5**
baz=91
C20A Veseth Ranch, 90.70 40 ⇓P **P 23 31 00.8 +1.1**
baz=91
Z32A Haskell 90.91 55 ⇑P **P 23 31 01.6 +0.6**
baz=91
L25A Engebretsen Ra 90.96 46 ⇓P **P 23 31 02.1 +0.9**
baz=91
LZH Lanzhou 90.98 308 *e*P **P 23 31 02.3 +0.9**
LZH pP **pP 23 33 11.5 +2.0**
LZH sP **sP 23 34 10.8 +2.5**
LZH pmax pmax
comp=Z,17nm,1.0s
X31A McDonald Ranch 91.00 54 ⇑P **P 23 31 01.9 +0.5**
baz=91
R28A Tribune 91.00 50 ⇓P **P 23 31 01.9 +0.5**
baz=91
D21A La Casta Ranch 91.04 40 ⇑P **P 23 31 02.1 +0.8**
baz=91
U30A WK&E Inc. Balk 91.18 52 ⇓P **P 23 31 02.8 +0.6**
baz=91
Y32A R-V Farms, Ver 91.19 55 ⇑P **P 23 31 02.7 +0.5**
baz=91
W31A Holland Ranch, 91.23 53 ⇓P **P 23 31 03.3 +0.8**
baz=91
VNA1 Neumayer--Stat 91.24 177 *e*P **P 23 31 03.3 +1.6**
Q28A Sharon Springs 91.26 49 ⇑P **P 23 31 03.2 +0.6**
baz=91
G23A Biddle 91.26 43 ⇑P **P 23 31 03.0 +0.6**
baz=91
A20A Cobblestone Ra 91.27 38 ⇑P **P 23 31 02.8 +0.5**
baz=91
C21A Desert Coulee 91.31 40 ⇓P **P 23 31 03.2 +0.7**
baz=91
N27A Anderson Farm, 91.42 47 ⇓P **P 23 31 03.6 +0.3**
baz=92
F23A Volborg 91.47 42 ⇑P **P 23 31 04.1 +0.8**
baz=92
V31A Spring Creek L 91.52 53 ⇓P **P 23 31 04.8 +1.1**
baz=92
B21A Ellsworth Farm 91.61 39 ⇓P **P 23 31 04.3 +0.5**
baz=92
H24A Dirks Ranch, A 91.62 43 ⇓P **P 23 31 04.0 0.0**
baz=92
K26A Motz Farm, Whi 91.72 45 ⇓P **P 23 31 05.3 +0.7**
baz=92
U31A Nine Bar Ranch 91.72 52 ⇓P **P 23 31 05.2 +0.5**
baz=92
Q29A Oakley 91.81 50 ⇓P **P 23 31 05.7 +0.6**
baz=92
E23A Ismay 91.85 41 ⇓P **P 23 31 05.4 +0.4**
baz=92
I25A Rochford 91.86 44 ⇓P **P 23 31 05.5 +0.2**
baz=92
A21A Bergtoll Ranch 91.91 39 ⇑P **P 23 31 06.2 +0.9**
baz=92
C22A Vida 92.01 40 ⇓P **P 23 31 06.4 +0.7**
baz=92
T31A Randall Ranch, 92.12 52 ⇓P **P 23 31 06.8 +0.4**
baz=92
F24A Ekalaka 92.13 42 ⇑P **P 23 31 06.9 +0.6**
baz=92
B22A Reddig Ranch S 92.17 40 ⇑P **P 23 31 07.1 +0.7**
baz=92
H25A Fruitdale 92.19 44 ⇓P **P 23 31 07.6 +0.9**
baz=92
D23A Lindsay 92.19 41 ⇑P **P 23 31 07.4 +0.9**
baz=92
Q30A Quinter 92.39 50 ⇑P **P 23 31 08.7 +1.0**
baz=92
C23A Lambert 92.46 40 ⇓P **P 23 31 08.8 +1.0**
baz=93
C24A Savage 92.82 41 ⇑P **P 23 31 10.3 +0.9**
baz=93
B23A Brockton 92.85 40 ⇓P **P 23 31 10.4 +0.9**
baz=93
SONM Songino Array 93.67 319 P **P 23 31 13.3 -0.1**
SONM Songino Array 93.67 319 P **P 23 31 13.3 -0.1**
comp=Z,0.3nm,0.5s,baz=117,slow=3.7,SNR=13
MKAR Makanchi Array 109.24 314 PKiKP **PKiKP 23 36 21.5 -1.3**
MKAR Makanchi Array 109.24 314 PKiKP **PKiKP 23 36 21.5 -1.3**
comp=Z,0.5nm,0.5s,baz=129,slow=0.9,SNR=12
BRVK Borovoye 117.03 321 *i* PKiKP **PKPdf 23 36 36.9 -0.5**
ARU Arti 122.98 326 *i* PKiKP **PKPdf 23 36 48.2 -0.5**
ARU 23 38 34.2
ARU 23 42 52.8
FINES FINESS Array B 133.35 344 PKP **PKPdf 23 37 06.7 -1.6**
FINES FINESS Array B 133.35 344 PKP **PKPdf 23 37 06.7 -1.6**
comp=Z,1.5nm,1.0s,baz=90,slow=0.2,SNR=5.3
KIV Kislovodsk 136.97 316 *e*PKiKP **PKPdf 23 37 16.3 +0.6**
KIV *e*SS SS 23 57 34.1 +6.8
KIV pmax pmax
comp=Z,3.0nm,0.9s
DRWC Darouich 144.03 308 *e*P PKPbc 23 37 26.9 -1.3
LEOM Leova 144.13 328 ⇓PKiKP PKPbc 23 37 27.9 -0.1
LEOM Leova 144.13 328 ⇓P PKPbc 23 37 27.9 -0.1
KWP Kalwaria Pacla 144.22 336 ⇓PKiKP PKPbc 23 37 28.0 -0.3
KWP Kalwaria Pacla 144.22 336 ⇓P PKPbc 23 37 28.0 -0.3
KWP Kalwaria Pacla 144.22 336 *e*PKP PKPbc 23 37 27.9 -0.4
ROOS tl_alroos 144.37 304 *e*P PKPbc 23 37 29.2 -0.1
ZALF Zalf 144.69 302 *e*P **PKPdf 23 37 29.9 +0.1**
TLCR 144.70 326 ⇑PKiKP **PKPab 23 37 30.3 -0.3**
TLCR 144.70 326 ⇑P **PKPab 23 37 30.3 -0.3**
BURAR Bucovina Array 144.76 332 ⇑PKiKP PKPbc 23 37 30.5 +0.4
BURAR Bucovina Array 144.76 332 ⇑P PKPbc 23 37 30.5 +0.4
BRTR Keskin Array B 144.89 315 PKP **PKPdf 23 37 30.2 +0.2**
BRTR Keskin Array B 144.89 315 PKP **PKPdf 23 37 30.2 +0.2**
comp=Z,6.9nm,1.0s,baz=130,slow=4.6,SNR=29
TESR Tescani 144.90 329 ⇓*i*P PKPbc 23 37 30.3 -0.1
STHS Stebnicka Huta 144.94 337 *e*PKiKP PKPbc 23 37 30.5 0.0
STHS Stebnicka Huta 144.94 337 *e*PKP PKPbc 23 37 30.5 0.0
KOLS Kolonicke sedl 144.95 336 *e*PKiKP PKPbc 23 37 30.9 +0.4
KOLS Kolonicke sedl 144.95 336 *e*PKP PKPbc 23 37 30.9 +0.4
CFR Carcaliu 145.07 326 ⇓PKiKP PKPbc 23 37 30.9 0.0
CFR Carcaliu 145.07 326 ⇓*i*P PKPbc 23 37 30.9 0.0
UZH Uzhgorod 145.19 336 *e*PKiKP **PKPdf 23 37 28.6 -1.5**
UZH *e* 23 39 31.2
SALA Sala 145.24 302 *e*P **PKPdf 23 37 30.5 -0.4**
NIE Niedzica 145.27 338 *e*PKP2 **PKPab 23 37 33.3 +0.5**
NIE Niedzica 145.27 338 *e*PKP **PKPab 23 37 33.3 +0.5**
TOTH TOTAH 145.30 303 *e*P **PKPbc 23 37 32.1 +0.1**
VRI Vrincioaia 145.31 329 ⇑PKiKP **PKPdf 23 37 31.0 +0.6**
VRI Vrincioaia 145.31 329 ⇑*i*P **PKPdf 23 37 31.0 +0.6**
TRPA Tarpa 145.50 335 ⇑*i*P **PKPdf 23 37 31.0 +0.4**
CLL Collm 145.63 347 *i* PKiKP **PKPbc 23 37 32.4 0.0**
CLL pmax pmax
comp=Z,8.0nm,0.7s
CLL Collm 145.63 347 *i* PKPbc **PKPbc 23 37 32.4 0.0**
comp=Z,3.0nm,0.7s
OKC Ostrava-Krasne 145.63 341 *e*PKiKP **PKPdf 23 37 31.0 +0.2**
OKC Ostrava-Krasne 145.63 341 *e*PKP **PKPdf 23 37 31.0 +0.2**
UPC Upice 145.65 344 *e*PKP2 **PKPbc 23 37 32.9 +0.4**
UPC Upice 145.65 344 *e*PKP **PKPbc 23 37 32.9 +0.4**
BRBR Barbar 145.66 303 *e*P **PKPdf 23 37 31.8 +0.1**
DPC Dobruska-Polom 145.71 343 *e*PKP2 **PKPbc 23 37 33.1 +0.4**
DPC Dobruska-Polom 145.71 343 *e*PKP **PKPbc 23 37 33.1 +0.4**
TCHB Talchebab 145.87 302 *e*P **PKPdf 23 37 31.8 0.0**
DOPR Dopca 145.90 330 ⇓*i*P **PKPbc 23 37 32.8 -0.5**
MLR Muntele Rosu 145.97 329 ⇑*i*P **PKPbc 23 37 32.9 -0.8**
KECS Kecovo 146.00 337 *e*PKP2 **PKPbc 23 37 33.6 +0.1**
KECS Kecovo 146.00 337 *e*PKP **PKPbc 23 37 33.6 +0.1**
DRGR 146.48 333 ⇓PKiKP **PKPbc 23 37 34.7 -0.3**
DRGR 146.48 333 ⇓*i*P **PKPbc 23 37 34.7 -0.3**
PRU Pruhonice 146.51 345 *e*PKP2 **PKPbc 23 37 35.0 +0.2**
PRU Pruhonice 146.51 345 *e*PKP **PKPbc 23 37 35.0 +0.2**
VYHS Vyhne 146.57 339 *e*PKP2 **PKPbc 23 37 35.0 -0.1**
VYHS Vyhne 146.57 339 *e*PKP **PKPbc 23 37 35.0 -0.1**
ARR Arges 146.69 330 ⇓*i*P **PKPbc 23 37 36.3 +0.7**
GOLR 146.92 329 ⇑*i*P **PKPab 23 37 38.7 -0.8**
KHC Kasperske Hory 147.54 345 *e*PKP2 **PKPbc 23 37 37.8 +0.1**
KHC Kasperske Hory 147.54 345 *e*PKP **PKPbc 23 37 37.8 +0.1**
GERES GERESS Array B 147.77 345 PKPbc **PKPbc 23 37 38.2 -0.2**
GERES GERESS Array B 147.77 345 PKPbc **PKPbc 23 37 38.2 -0.2**
comp=Z,1.2nm,0.5s,baz=29,slow=2.6,SNR=10
BZS Buzias 147.88 333 ⇑PKiKP **PKPbc 23 37 38.1 -0.5**
BZS Buzias 147.88 333 ⇑*i*P **PKPbc 23 37 38.1 -0.5**
VTS Vitosha 149.42 328 ⇑*i*P **PKPbc 23 37 42.6 -0.1**
LJU Ljubljana 150.12 342 *i* PKPbc **PKPbc 23 37 43.7 -0.3**
BOJS Bojanci 150.38 340 *i* PKPbc **PKPbc 23 37 44.7 +0.1**
TORD Torodi Ar. Bea 175.09 181 PKP **PKPdf 23 38 01.6 -1.2**
TORD PKPab **PKPab 23 39 42.9 +0.6**
TORD Torodi Ar. Bea 175.09 181 PKP **PKPdf 23 38 01.6 -1.2**
comp=Z,0.6nm,0.9s,baz=222,slow=1.9,SNR=2.9
TORD PKPab **PKPab 23 39 42.9 +0.6**
comp=Z,0.6nm,0.9s,baz=163,slow=4.8,SNR=3.6

*IDC **17** 23:33:38.0±1.0, 45.2°S×166.7°E, h0km, mb3.9/6, mb1 4.2/7, mb1mx4.0/17, mbtmp4.0/7, ML4.3/1, MS3.5/5, Ms1 3.6/5, ms1mx3.2/25, Error ellipse: s-maj=34.6km s-min=23.3km az=39.0*
*ISCJB **17** 23:33:38.7±0.5, 45.1°S±0.0°×166.1°E±0.0°, h15km, mb3.9/6, MS3.5/5, Error ellipse: s-maj=6.3km s-min=5.5km az=144.5*
*WEL **17** 23:33:39.4±0.2, 45.1°S×166.6°E, h21km±1km, ML4.4/22, Error ellipse: s-maj=1.9km s-min=0.9km az=90.0*
ISC 17 23:33:39.7±0.7, 45.5°S±0.0°×166.5°E±0.0°, h15km, n35, σ1§06/31, mb3.9/6, MS3.4/5, 1C-1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.42**	**81**	⇑P*		**Pg**		**23 33 48.0**	**-0.1**
DCZ				S*		**Sg**		**23 33 53.7**	**0.0**
DCZ					AML	AML		23 33 54.0	
DCZ					AML	AML		23 33 54.0	
DCZ					AML	AML		23 33 54.0	
PYZ	**Puysegur Point**	**0.63**	**173**	⇓P*		**Pg**		**23 33 51.3**	**-0.7**
PYZ				S*		**Sb**		**23 33 60.0**	**-1.1**
WHZ	**Wether Hill Ro**	**1.03**	**110**	PN		**Pb**		**23 33 58.4**	**-0.8**
WHZ					AML	AML		23 34 19.9	
WHZ					AML	AML		23 34 22.0	
MLZ	**Mavora Lakes**	**1.15**	**81**	PN		**Pb**		**23 33 59.6**	**-1.6**
MLZ					AML	AML		23 34 15.8	
MLZ					AML	AML		23 34 16.6	
MSZ	**Milford Sound**	**1.30**	**48**	PN		**Pn**		**23 34 01.2**	**-2.1**
MSZ					AML	AML		23 34 24.4	
MSZ					AML	AML		23 34 24.4	
MSZ					AML	AML		23 34 24.7	
MSZ					AML	AML		23 34 24.7	
APZ	**The Paps**	**1.62**	**143**	PN		**Pn**		**23 34 07.8**	**0.0**
WKZ	**Wanaka**	**1.87**	**68**	*e*PN		**Pn**		**23 34 11.6**	**+0.4**
WKZ					AML	AML		23 34 42.9	
WKZ					AML	AML		23 34 42.9	
WKZ					AML	AML		23 34 44.8	
WKZ					AML	AML		23 34 44.8	
EAZ	**Earnscleugh**	**1.96**	**82**	PN		**Pn**		**23 34 13.0**	**+0.6**
EAZ					AML	AML		23 34 42.9	
EAZ					AML	AML		23 34 42.9	
EAZ					AML	AML		23 34 43.0	
EAZ					AML	AML		23 34 43.0	
SYZ	**Scrubby Hill**	**2.05**	**120**	*e*PN		**Pn**		**23 34 14.1**	**+0.5**
JCZ	**Jackson Bay**	**2.14**	**47**	PN		**Pn**		**23 34 15.4**	**+0.4**
JCZ					AML	AML		23 34 55.2	
JCZ					AML	AML		23 34 57.1	
TUZ	**Tuapeka**	**2.18**	**102**	PN		**Pb**		**23 34 17.3**	**-1.6**
TUZ					AML	AML		23 34 49.0	
TUZ					AML	AML		23 34 50.0	
LBZ	**Lake Benmore**	**2.81**	**67**	PN		**Pn**		**23 34 23.6**	**-0.5**
LBZ					AML	AML		23 35 14.2	
LBZ					AML	AML		23 35 22.2	
HHSZ	**Highcliff Hill**	**2.84**	**98**	PN		**Pn**		**23 34 26.0**	**+1.4**
ODZ	**Otahua Downs**	**2.92**	**82**	PN		**Pn**		**23 34 25.1**	**-0.5**
ODZ					AML	AML		23 35 06.9	
ODZ					AML	AML		23 35 16.6	
ODZ					AML	AML		23 35 16.6	
ODZ					AML	AML		23 35 20.9	
FOZ	**Fox Glacier**	**2.98**	**50**	PN		**Pn**		**23 34 27.8**	**+1.4**
FOZ					AML	AML		23 35 21.1	
FOZ					AML	AML		23 35 21.1	
FOZ					AML	AML		23 35 24.9	
FOZ					AML	AML		23 35 24.9	
RPZ	**Rata Peaks**	**3.69**	**62**	Pn		**Pn**		**23 34 36.9**	**+0.8**
	26nm,0.3s,baz=205,slow=4.3,SNR=92								
RPZ				Sn		**Sn**		**23 35 21.4**	**+2.1**
	40nm,0.3s,baz=358,slow=20,SNR=9.5								
RPZ	**Rata Peaks**	**3.69**	**62**	*e*PN		**Pn**		**23 34 34.6**	**-1.6**
RPZ					AML	AML		23 35 28.8	
RPZ					AML	AML		23 35 44.8	
WVZ	**Waitaha Valley**	**3.88**	**52**	*e*PN		**Pn**		**23 34 38.3**	**-0.4**
WVZ					AML	AML		23 35 48.8	
WVZ					AML	AML		23 35 50.9	
LTZ	**Lake Taylor**	**4.94**	**58**		AML	AML		23 36 00.2	
LTZ					AML	AML		23 36 05.8	
THZ	**Tophouse**	**5.95**	**53**		AML	AML		23 36 28.5	
THZ					AML	AML		23 36 36.5	
QRZ	**Quartz Range**	**6.42**	**45**		AML	AML		23 36 33.4	
QRZ					AML	AML		23 36 37.3	
STKA	**Stephens Creek**	**23.67**	**297**	P		**P**		**23 38 51.8**	**+1.2**
	3.0nm,0.9s,baz=138,slow=14,SNR=3.5								
VNDA	**Vanda**	**32.14**	**182**	LR		LR		23 52 43.6	
	comp=Z,60nm,18.4s,baz=256,slow=36								
ASAR	**Alice Springs**	**34.27**	**298**	P		**P**		**23 40 24.4**	**-0.9**
	1.3nm,0.9s,baz=141,slow=9.8,SNR=9.1								
HNR	**Honiara**	**36.43**	**349**	LR		LR		23 52 58.6	
	comp=Z,32nm,18.1s,baz=145,slow=32								
WRA	**Warramunga Arr**	**36.82**	**303**	P		**P**		**23 40 46.0**	**-1.1**
	2.6nm,0.9s,baz=142,slow=8.7,SNR=9.5								
NWAO	**Narrogin (SRO)**	**39.64**	**271**	LR		LR		23 53 48.7	
	comp=Z,55nm,20.9s,baz=334,slow=31								
FITZ	**Fitzroy Crossi**	**43.56**	**295**	P		**P**		**23 41 43.0**	**0.0**
	0.9nm,0.6s,baz=135,slow=5.7								
FITZ				LR		LR		23 59 29.7	
	comp=Z,72nm,18.1s,baz=284,slow=36								
QSPA	**South Pole Qui**	**44.58**	**180**	P		**P**		**23 41 52.3**	**+1.5**
	2.2nm,1.1s,baz=349,slow=3.9,SNR=6.8								
CMAR	**Chiang Mai Arr**	**88.28**	**299**	P		**P**		**23 46 31.4**	**+0.9**
	0.8nm,0.3s,baz=163,slow=4.4,SNR=3.8								
CPUP	**Villa Florida**	**98.08**	**141**	LR		LR		00 27 19.7	
	comp=Z,81nm,21.4s,baz=341,slow=33								
TORD	**Torodi Ar. Bea**	**145.25**	**206**	PKPbc		**PKPbc**		**23 53 16.3**	**-0.4**
	5.3nm,0.8s,baz=151,slow=1.9,SNR=29								
BRTR	**Keskin Array B**	**145.29**	**277**	PKPbc		**PKPab**		**23 53 16.4**	**0.0**
	2.9nm,0.9s,baz=140,slow=5.5,SNR=10								
ARCES	**ARCESS Array B**	**149.12**	**334**	PKPbc		**PKPbc**		**23 53 25.6**	**-0.4**
	4.5nm,1.1s,baz=70,slow=3.9,SNR=4.7								
FINES	**FINESS Array B**	**152.18**	**319**	PKPbc		**PKPbc**		**23 53 33.6**	**+0.2**
	2.1nm,0.8s,baz=52,slow=3.1,SNR=4.8								

*IDC **17** 23:41:04.5±0.7, 7.4°N×36.1°W, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.0/26, mbtmp4.1/11, ML4.1/1, MS3.6/16, Ms1 3.6/16, ms1mx3.5/27, Error ellipse: s-maj=25.6km s-min=16.5km az=140.0*
*NEIC **17** 23:41:05.8±0.5, 7.3°N×36.1°W, h10km, mb4.5/2, Error ellipse: s-maj=14.7km s-min=11.7km az=129.0*
ISC 17 23:41:05.9±0.7, 7.1°N±0.0°×36.1°W±0.1°, h10km, n34, σ1§79/25, mb4.2/12, MS3.7/15, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**12.90**	**179**	*e*Pn		**Pn**		**23 44 11.0**	**+1.5**
RCBR				*e*Sn		**Sn**		**23 46 29.6**	**-3.6**
RCBR	**Riachuelo**	**12.90**	**179**	Pn		Pn		23 44 13.2	+3.7
	1.0nm,0.3s,baz=1.1,slow=16,SNR=15								
RCBR				Sn		**Sn**		**23 46 29.3**	**-3.9**
	1.5nm,0.3s,baz=263,slow=16,SNR=10								
RCBR				LR		LR		23 48 19.9	
	comp=Z,128nm,19.4s,baz=350,slow=33								
SACV	**Santiago Islan**	**14.49**	**57**	*e*Pn		Pn		23 44 24.0	-7.2
	65nm,0.8s								
BDFB	**Brasilia**	**25.55**	**208**	P		**P**		**23 46 38.0**	**+2.7**
BDFB	**Brasilia**	**25.55**	**208**	P		**P**		**23 46 38.0**	**+2.7**
	5.1nm,0.7s,baz=70,slow=22,SNR=5.8								
BDFB				LR		LR		23 56 13.5	
	comp=Z,139nm,19.0s,baz=349,slow=35								
GRGR	**Grenville**	**25.68**	**283**	*e*P		**P**		**23 46 34.4**	**-2.0**
SAML	**Samuel**	**31.39**	**240**	*e*P		**P**		**23 47 27.1**	**-0.3**
	5.9nm,1.0s								
SIV	**San Ignacio**	**33.78**	**227**	P		**P**		**23 47 49.9**	**+1.6**
SIV	**San Ignacio**	**33.78**	**227**	P		**P**		**23 47 49.9**	**+1.6**
	2.1nm,0.8s,baz=82,slow=7.9,SNR=7.9								
TORD	**Torodi Ar. Bea**	**37.62**	**78**	P		**P**		**23 48 21.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**37.62**	**78**	P		**P**		**23 48 21.1**	**-0.3**
	3.8nm,1.0s,baz=272,slow=7.3,SNR=11								
TORD				LR		LR		00 01 48.1	
	comp=Z,115nm,18.9s,baz=220,slow=33								
CPUP	**Villa Florida**	**39.16**	**211**	LR		LR		00 04 55.4	
	comp=Z,153nm,18.8s,baz=205,slow=36								
LPAZ	**La Paz**	**39.36**	**233**	P		**P**		**23 48 37.2**	**+0.7**
LPAZ	**La Paz**	**39.36**	**233**	P		**P**		**23 48 37.2**	**+0.7**
	3.9nm,0.8s,baz=51,slow=5.5,SNR=18								
LPAZ				LR		LR		00 04 04.1	
	comp=Z,108nm,18.7s,baz=209,slow=35								

KEST Kesra 50.31 49 P **P 23 50 03.5 +0.4**
KEST Kesra 50.31 49 P **P 23 50 03.5 +0.4**
1.6nm,0.9s,baz=237,slow=4.3,SNR=4.4
KEST LR LR 00 09 12.8
comp=Z,59nm,22.0s,baz=199,slow=34
GERES GERESS Array B 58.92 36 LR LR 00 13 01.9
comp=Z,52nm,20.6s,baz=279,slow=33
NOA NORSAR Array B 64.17 23 LR LR 00 14 04.2
comp=Z,47nm,21.3s,baz=245,slow=31
TXAR Lajitas Array 67.00 299 LR LR 00 19 49.5
comp=Z,22nm,18.8s,baz=15,slow=35
BOSA Boshof 68.93 124 P **P 23 52 13.2 +1.5**
BOSA Boshof 68.93 124 P **P 23 52 13.2 +1.5**
3.6nm,1.0s,baz=358,slow=1.6,SNR=3.7
BOSA LR LR 00 17 46.6
comp=Z,51nm,18.1s,baz=345,slow=32
BRTR Keskin Array B 69.88 50 P **P 23 52 16.9 -0.5**
BRTR Keskin Array B 69.88 50 P **P 23 52 16.9 -0.5**
1.6nm,0.9s,baz=252,slow=4.6,SNR=7.0
BRTR LR LR 00 22 29.2
comp=Z,36nm,20.3s,baz=48,slow=36
FINES FINESS Array B 70.66 27 P **P 23 52 20.3 -1.2**
FINES FINESS Array B 70.66 27 P **P 23 52 20.3 -1.2**
3.1nm,0.9s,baz=225,slow=3.7,SNR=5.7
FINES LR LR 00 20 19.7
comp=Z,60nm,19.8s,baz=74,slow=33
ASF Jabal al Asfar 71.82 59 LR LR 00 26 56.9
comp=Z,23nm,18.6s,baz=215,slow=38
PDAR Pinedale Array 73.05 312 P **P 23 52 36.8 +0.1**
PDAR Pinedale Array 73.05 312 P **P 23 52 36.8 +0.1**
0.4nm,0.6s,baz=92,slow=6.4,SNR=3.7
PDAR LR LR 00 19 28.6
comp=Z,56nm,19.0s,baz=340,slow=32
ARCES ARCESS Array B 73.62 19 LR LR 00 21 23.2
comp=Z,34nm,18.3s,baz=257,slow=33
LOHW Long Hollow 73.90 313 *e*P **P 23 52 39.1 -2.5**
HWUT Hardware Ranch 74.43 311 *e*P **P 23 52 44.8 +0.1**
5.6nm,0.9s
NVAR Mina Array Bea 79.51 308 P P 23 53 10.4 -3.0
NVAR Mina Array Bea 79.51 308 P P 23 53 10.4 -3.0
0.2nm,0.6s,baz=87,slow=6.7,SNR=2.4
ILAR Eielson Array 92.25 336 LR LR 00 34 25.0
comp=Z,46nm,19.4s,baz=131,slow=35

*IDC **18** 00:00:19.6±0.7, 35.7°N×70.6°E, h0km, mb3.9/12, mb1 4.1/17, mb1mx3.9/30, mbtmp4.0/17, ML4.2/5, Error ellipse: s-maj=17.5km s-min=15.5km az=137.0*
*NEIC **18** 00:00:30.6±2.4, 36.0°N×70.6°E, h86km±21km, mb4.3/1, Error ellipse: s-maj=21.8km s-min=12.1km az=183.0*
*MOS **18** 00:00:30.6±1.0, 36.1°N×70.7°E, h97km, mb4.4/5, Error ellipse: s-maj=14.3km s-min=5.8km az=79.6*
*ISCJB **18** 00:00:31.7±0.3, 36.2°N±0.0°×70.7°E±0.0°, h110km, mb3.8/15, Error ellipse: s-maj=5.6km s-min=3.5km az=150.5*
*BJI **18** 00:00:35.9, 36.7°N×70.6°E, h109km, mB4.2/2, mb4.1/4*
*NNC **18** 00:00:39.7±4.3, 36.7°N×70.5°E, h117km±48km, mb3.9, mpv4.5, Error ellipse: s-maj=33.3km s-min=20.8km az=17.0*
ISC 18 00:00:33.1±0.5, 36.2°N±0.0°×70.8°E±0.0°, h110km, n106, σ1§56/108, mb3.9/15, 6C-10D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.60**	**159**	⇓P		**Pn**		**00 01 16.1**	**+2.1**
CEP				S		**Sn**		**00 01 48.0**	**+2.6**
CHCP	**Chirah Chowk**	**3.29**	**142**	P		**Pn**		**00 01 25.2**	**+2.1**
THW	**Thamme Wali**	**3.55**	**167**	⇓P		**Pn**		**00 01 26.9**	**+0.4**
KSH	**Kashi**	**5.22**	**50**	P		**Pn**		**00 01 47.6**	**-1.3**
KSH				S		Sn		00 02 38.8	-9.1
KSH				smax	smax				
	comp=N,550nm,0.5s								
KSH				smax	smax				
	comp=E,490nm,0.5s								
THN	**Thein Dam**	**5.58**	**132**	*e*P		**Pn**		**00 01 51.2**	**-2.5**
THN				*e*S		**Sn**		**00 02 57.5**	**+0.9**
DLH	**Dalhousie**	**5.66**	**130**	*e*P		**Pn**		**00 01 57.0**	**+2.0**
DLH				*e*S		**Sn**		**00 02 58.0**	**-0.8**
AML	**Almayashu**	**6.27**	**20**	*i* PN		**Pn**		**00 02 04.6**	**+1.2**
AML	**Almayashu**	**6.27**	**20**	P		**Pn**		**00 02 04.6**	**+1.2**
	SNR=95								
UCH	**Uchtor**	**6.61**	**25**	P		**Sn**		**00 03 23.3**	**+1.1**
	SNR=8.0								
KZA	**Kyzart**	**6.75**	**29**	*i* PN		**Pn**		**00 02 10.9**	**+1.0**
KZA	**Kyzart**	**6.75**	**29**	P		**Pn**		**00 02 10.9**	**+1.0**
	SNR=33								
EKS2	**Erkin-Say**	**6.78**	**19**	P		**Pn**		**00 02 11.6**	**+1.5**
	SNR=38								
KK31	**Karatay Array**	**6.83**	**358**	P		**Pn**		**00 02 11.1**	**+0.5**
	comp=E,18nm,0.5s,baz=185,slow=13,SNR=283								
KK31				⇑S		**Sn**		**00 03 23.3**	**-3.5**
	comp=E,80nm,0.8s,baz=178,slow=15,SNR=5.8								
KKAR	**Karatay Array**	**6.83**	**358**	*e*PN		**Pn**		**00 02 10.8**	**+0.2**
KKAR	**Karatay Array**	**6.83**	**358**	*e*Pn		**Pn**		**00 02 10.8**	**+0.2**
KKAR				*e*Sn		**Sn**		**00 03 23.5**	**-3.4**
AAK	**Ala-Archa**	**6.97**	**23**	*c i* PN		**Pn**		**00 02 14.2**	**+1.6**
AAK	**Ala-Archa**	**6.97**	**23**	P		**Pn**		**00 02 14.2**	**+1.6**
	SNR=34								
AAK	**Ala-Archa**	**6.97**	**23**	*e*Pn		**Pn**		**00 02 13.8**	**+1.1**
AAK				*e*Sn		**Sn**		**00 03 28.0**	**-2.4**
AAK	**Ala-Archa**	**6.97**	**23**	Pn		**Pn**		**00 02 14.3**	**+1.6**
	comp=E,7.8nm,0.3s,baz=176,slow=7.2,SNR=70								
AAK				Sn		**Sn**		**00 03 31.7**	**+1.3**
	comp=E,9.7nm,0.3s,baz=317,slow=22,SNR=16								
SDNR	**Sundarnagar**	**6.99**	**131**	*e*P		**Pn**		**00 02 10.0**	**-2.9**
KBK	**Karagaybulak**	**7.14**	**25**	*i* PN		**Pn**		**00 02 17.1**	**+2.1**
KBK	**Karagaybulak**	**7.14**	**25**	P		**Pn**		**00 02 17.1**	**+2.1**
	SNR=12								
FRU	**Bishkek**	**7.18**	**23**	*e*PN		**Pn**		**00 02 17.0**	**+1.5**
FRU				pmax	pmax				
	comp=Z,22nm,1.4s								
FRU				pmax	pmax				
	comp=E,177nm,1.6s								
ULHL	**Ulahol**	**7.31**	**34**	*i* PN		**Pn**		**00 02 18.9**	**+1.6**
ULHL	**Ulahol**	**7.31**	**34**	P		**Pn**		**00 02 18.9**	**+1.6**
	SNR=10								
SMLA	**Simla**	**7.37**	**132**	*i* P		Pn		00 02 15.1	-3.0
SMLA				*i* S		**Sn**		**00 03 36.8**	**-3.3**
SMLA				*i* S		**Sn**		**00 03 37.4**	**-2.7**
SMLA					AML	AML		00 03 40.8	
	comp=E,697nm,0.2s								
SMLA					AML	AML		00 03 42.5	
	comp=N,544nm,0.3s								
CHMS	**Chumysh**	**7.38**	**23**	*i* PN		**Pn**		**00 02 19.5**	**+1.4**
CHMS	**Chumysh**	**7.38**	**23**	P		**Pn**		**00

comp=E,7.4nm,0.3s
ABKAR eSn Sn 00 06 34.1 -16
KURBB Kurchatov Arra 15.39 19 ⇓P **P 00 04 07.9 +1.6**
comp=E,14nm,0.6s
KURBB Kurchatov Arra 15.39 19 Pn **Pn 00 04 02.0 -2.0**
comp=E,0.1nm,0.3s,baz=211,slow=12,SNR=14
KURK Kurchatov 15.50 19 P **Pn 00 04 02.1 -3.3**
KURK Kurchatov 15.50 19 Pn **Pn 00 04 02.0 -3.3**
JIRN Jiri 15.61 119 eP **Pn 00 04 06.9 -0.5**
comp=E,16nm,0.3s
RAMN Ramite 16.33 120 eP **Pn 00 04 14.7 -1.5**
comp=E,14nm,0.4s
VOSK Vostochnaya 16.45 0 ⇑P **Pn 00 04 17.3 +0.1**
comp=E,3.9nm,0.6s
BVA0 Borovoye Array 16.76 359 P **P 00 04 21.2 -0.1**
comp=E,5.8nm,1.1s,baz=170,slow=13,SNR=21
BVAR Borovoye Array 16.76 359 P **P 00 04 21.6 +0.3**
BVAR Borovoye Array 16.76 359 P **P 00 04 21.6 +0.3**
BVAR Borovoye Array 16.76 359 P **P 00 04 21.6 +0.3**
comp=E,0.6nm,0.3s,baz=169,slow=12,SNR=16
BRVK Borovoye 16.79 359 ⇑P **Pn 00 04 20.8 -0.6**
comp=E,6.6nm,0.9s
BRVK Borovoye 16.79 359 *i* P **P 00 04 22.1 +0.4**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
TAPN Taplejung 16.88 117 eP **P 00 04 23.3 +0.1**
comp=Z,8.8nm,0.3s
AKTO Aktyubinsk 16.90 331 ⇑P **P 00 04 23.3 +0.3**
comp=Z,13nm,0.7s
AKTO ⇓S Sn 00 07 22.1 -8.6
comp=Z,11nm,1.1s
AKTO Aktyubinsk 16.90 331 P **Pn 00 04 22.4 -0.4**
AKTO S Sn 00 07 18.9 -12
AKTO pmax pmax
comp=Z,2.0nm,0.3s
AKTO Aktyubinsk 16.90 331 P **Pn 00 04 22.4 -0.4**
AKTO S Sn 00 07 18.9 -12
AKTO Aktyubinsk 16.90 331 P **Pn 00 04 22.4 -0.4**
comp=Z,2.1nm,0.3s,baz=148,slow=14,SNR=56
AKTO S Sn 00 07 18.9 -12
comp=Z,0.2nm,0.3s,baz=127,slow=20,SNR=4.7
ZALV Zalesovo Beam 20.19 24 *i* P Pn 00 05 00.7 -1.0
ZALV pmax pmax
comp=Z,42nm,0.5s
ZALV Zalesovo Beam 20.19 24 P Pn 00 05 00.7 -1.0
ZALV Zalesovo Beam 20.19 24 P Pn 00 05 00.7 -1.0
comp=Z,42nm,0.5s,baz=217,slow=10,SNR=133
NVS Novosibirsk 20.45 21 ⇓*i* P **P 00 05 02.5 +0.9**
NVS pmax pmax
comp=N,15nm,1.0s
NVS pmax pmax
comp=E,8.0nm,1.0s
NVS pmax pmax
comp=Z,20nm,1.0s
MIB Mutribah 20.68 259 eP **P 00 05 03.1 -1.2**
MIB AMb AMB 00 05 11.4
comp=Z,34nm,0.9s
GNI Garni 20.82 289 P Pn 00 05 08.0 -1.4
GNI Garni 20.82 289 P Pn 00 05 08.0 -1.4
comp=Z,5.4nm,0.7s,baz=164,slow=11,SNR=5.8
RDF Al-Radifah 20.89 256 eP **P 00 05 06.1 -0.4**
RDF AMb AMB 00 05 06.9
comp=Z,24nm,0.7s
NAY Al-Naaiem 20.99 257 eP **P 00 05 06.5 -1.1**
NAY AMb AMB 00 05 16.1
comp=Z,10nm,0.9s
SVE Sverdlovsk 21.68 345 eP **P 00 05 16.1 +1.4**
SVE pmax pmax
comp=Z,11nm,1.0s
ARU Arti 21.80 342 *d i* P **P 00 05 18.4 +2.4**
ARU 00 05 52.7
ARU S **S 00 09 10.6 +0.4**
ARU SS SnSn 00 09 57.0 +11
ARU pmax pmax
comp=Z,14nm,1.7s
HVS Khovu-Aksy 22.11 41 *i* P **P 00 05 23.6 +4.1**
HVS pmax pmax
comp=Z,32nm,1.3s
KBZ Khabaz 22.57 298 P **P 00 05 24.2 +0.1**
KBZ Khabaz 22.57 298 P **P 00 05 24.2 +0.1**
KBZ Khabaz 22.57 298 P **P 00 05 24.2 +0.1**
comp=Z,1.2nm,0.7s,baz=125,slow=8.2,SNR=3.5
SONM Songino Array 28.59 55 P P 00 06 22.8 +3.9
SONM Songino Array 28.59 55 P P 00 06 22.8 +3.9
comp=Z,1.0nm,0.7s,baz=255,slow=9.4,SNR=6.8
BRTR Keskin Array B 29.36 288 P **P 00 06 26.2 +0.5**
BRTR Keskin Array B 29.36 288 P **P 00 06 26.2 +0.5**
comp=Z,0.9nm,0.7s,baz=105,slow=8.0,SNR=7.5
FINES FINESS Array B 37.59 326 P **P 00 07 37.6 +1.1**
FINES FINESS Array B 37.59 326 P **P 00 07 37.6 +1.1**
comp=Z,1.4nm,0.7s,baz=140,slow=15,SNR=7.6
ARCES ARCESS Array B 41.30 338 P **P 00 08 09.6 +2.3**
ARCES ARCESS Array B 41.30 338 P **P 00 08 09.6 +2.3**
comp=Z,0.9nm,0.4s,baz=114,slow=8.1,SNR=18
NB2 NORSAR Suburra 44.47 323 P **P 00 08 32.7 -0.3**
comp=Z,1.1nm,0.5s,baz=96,slow=7.9
NOA NORSAR Array B 44.47 323 P **P 00 08 33.0 0.0**
NOA NORSAR Array B 44.47 323 P **P 00 08 33.0 0.0**
comp=Z,1.8nm,0.7s,baz=98,slow=7.9,SNR=6.9
KEST Kesra 48.96 289 eP **P 00 09 06.6 -1.8**
KEST Kesra 48.96 289 P **P 00 09 09.2 +0.8**
comp=Z,0.6nm,0.7s,baz=268,slow=6.0,SNR=4.4
TORD Torodi Ar. Bea 65.56 269 P **P 00 11 03.0 -2.3**
TORD Torodi Ar. Bea 65.56 269 P **P 00 11 03.0 -2.3**
comp=Z,2.3nm,0.5s,baz=48,slow=6.1,SNR=75
ILAR Eielson Array 75.04 16 P **P 00 12 04.3 +2.0**
ILAR Eielson Array 75.04 16 P **P 00 12 04.3 +2.0**
comp=Z,0.3nm,0.7s,baz=342,slow=4.3,SNR=4.6
BOSA Boshof 77.47 220 P **P 00 12 16.0 -0.5**
BOSA Boshof 77.47 220 P **P 00 12 16.0 -0.5**
comp=Z,1.6nm,0.5s,baz=181,slow=16,SNR=9.1
WRA Warramunga Arr 82.00 122 P **P 00 12 40.0 -1.0**
WRA Warramunga Arr 82.00 122 P **P 00 12 40.0 -1.0**
comp=Z,0.4nm,0.4s,baz=323,slow=4.8,SNR=9.8
ASAR Alice Springs 84.25 125 P **P 00 12 51.9 -0.8**
ASAR Alice Springs 84.25 125 P **P 00 12 51.9 -0.8**
comp=Z,0.3nm,0.6s,baz=297,slow=4.4,SNR=4.4
PLCA Paso Flores 149.60 250 PKPbc **PKPbc 00 20 10.1 +0.5**
PLCA Paso Flores 149.60 250 PKPbc **PKPbc 00 20 10.1 +0.5**
comp=Z,1.6nm,1.1s,baz=65,slow=14,SNR=3.1

IDC 18 00:13:04.2±9.9, 4°22S×127°24E, h557km±139km, mb2.6/2, mb1 2.7/4, mb1mx2.5/22, mbtmp2.5/4, Error ellipse: s-maj=133.7km s-min=34.2km az=53.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.89**	**186**	P	P	00 16 03.6	+1.4
	0.2nm,0.3s,baz=357,slow=13,SNR=9.6						
WRA	**Warramunga Arr**	**17.10**	**157**	P	P	00 16 32.9	-0.6
	0.1nm,0.3s,baz=334,slow=10,SNR=9.3						
ASAR	**Alice Springs**	**20.38**	**162**	P	P	00 17 03.5	+0.1
	0.6nm,0.5s,baz=340,slow=7.1,SNR=12						
MKAR	**Makanchi Array**	**64.41**	**327**	P	P	00 22 45.9	-0.1
	0.8nm,0.7s,baz=109,slow=7.9,SNR=8.2						

*MAN **18** 00:15:53, 12°.27N×125°.40E, h92km, mb4.7, ML3.6, MS3.6*
MAN INTENSITY II - TAFT & BORONGAN SAMAR.
*ISCJB **18** 00:15:54.3±0.7, 12°.01N±0°.07×125°.67E±0°.09, h36km, mb4.0/11, Error ellipse: s-maj=13.9km s-min=8.2km az=26.0*
*IDC **18** 00:16:00.6±6.6, 11°.73N×125°.13E, h75km±60km, mb3.7/11, mb1 3.8/11, mb1mx3.6/23, mbtmp3.7/11, Error ellipse: s-maj=52.0km s-min=13.8km az=70.0*

ISC 18 00:15:56.1±0.8, 12°.10N±0°.07×125°.6E±0°.1, h36km, n18, σ1§70/22, mb4.0/11, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**1.43**	**223**	eP	**Pn**	**00 16 18.0**	**-1.6**
MSLP	**Maasin**	**2.09**	**201**	eP	**Pn**	**00 16 29.4**	**+0.8**
MSLP				eS	**Sn**	**00 16 57.0**	**+3.7**
LLP	**Lapu-Lapu**	**2.40**	**222**	eP	**Pn**	**00 16 35.7**	**+2.8**
LLP				eS	**Sn**	**00 17 01.2**	**+0.2**
RCP	**Roxas**	**2.85**	**259**	⇑eP	**Pn**	**00 16 38.3**	**-0.8**
TBP	**Tagbilaran**	**2.95**	**216**	eP	**Pn**	**00 16 38.8**	**-1.6**
TBP				eS	Sx	00 16 47.0	
GUIM	**Jordan**	**3.30**	**244**	eP	**Pn**	**00 16 43.7**	**-1.6**
USRK	**Ussuriysk Arra**	**32.45**	**9**	P	P	00 22 27.0	+4.1
	2.0nm,0.8s,baz=180,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**32.98**	**165**	P	**P**	**00 22 25.8**	**-2.0**
	0.4nm,0.7s,baz=348,slow=8.8,SNR=3.8						
WRA				PcP	**PcP**	**00 25 09.6**	**-1.9**
	0.5nm,0.6s,baz=336,slow=2.6,SNR=5.4						
ASAR	**Alice Springs**	**36.47**	**167**	P	**P**	**00 22 56.4**	**-1.5**
	0.3nm,0.3s,baz=344,slow=7.2,SNR=10						
ASAR				PcP	**PcP**	**00 25 20.3**	**-1.2**
	0.5nm,0.4s,baz=346,slow=3.0,SNR=6.3						
SONM	**Songino Array**	**39.08**	**339**	P	**P**	**00 23 22.2**	**+2.3**
	1.0nm,0.4s,baz=157,slow=9.8,SNR=6.8						
STKA	**Stephens Creek**	**46.34**	**161**	P	**P**	**00 24 18.1**	**-0.6**
	1.5nm,0.5s,baz=338,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**50.19**	**322**	P	**P**	**00 24 49.8**	**+1.5**
	2.3nm,0.8s,baz=120,slow=8.7,SNR=19						
MKAR				PcP	**PcP**	**00 26 07.1**	**-0.2**
	0.4nm,0.6s,baz=108,slow=3.5,SNR=2.8						
ZALV	**Zalesovo Beam**	**52.72**	**331**	P	**P**	**00 25 07.5**	**+0.5**
	0.6nm,0.3s,baz=115,slow=6.7,SNR=6.8						
KBZ	**Khabaz**	**76.50**	**312**	P	**P**	**00 27 41.1**	**-1.4**
	0.8nm,0.7s,baz=88,slow=3.5,SNR=3.7						
ARCES	**ARCESS Array B**	**82.26**	**340**	P	**P**	**00 28 14.6**	**+1.1**
	2.2nm,0.6s,baz=80,slow=6.3,SNR=17						
BRTR	**Keskin Array B**	**83.87**	**309**	P	**P**	**00 28 21.8**	**-0.8**
	0.5nm,0.7s,baz=113,slow=4.1,SNR=3.7						
FINES	**FINESS Array B**	**83.98**	**332**	P	**P**	**00 28 22.7**	**+0.2**
	1.3nm,0.9s,baz=48,slow=6.2,SNR=5.6						
TXAR	**Lajitas Array**	**117.11**	**48**	PKP	**PKPdf**	**00 34 39.2**	**+1.1**
	0.1nm,0.5s,baz=32,slow=3.6,SNR=2.5						

WEL 18 00:27:33.1±0.4, 45°.81S×166°.34E, h20km±1km, ML3.9/18, 3C, Error ellipse: s-maj=4.4km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.43**	**147**	⇑P*	Pg	00 27 41.5	-0.5
PYZ				S*	Sg	00 27 47.2	-0.8
DCZ	**Deep Cove**	**0.66**	**60**	⇑P*	Pb	00 27 45.3	-0.6
DCZ				S*	Sb	00 27 53.5	-1.2
DCZ				AML	AML	00 27 54.0	
DCZ				AML	AML	00 27 54.0	
DCZ				AML	AML	00 27 54.3	
WHZ	**Wether Hill Ro**	**1.12**	**95**	PN	Pn	00 27 53.1	-0.7
WHZ				AML	AML	00 28 13.6	
WHZ				AML	AML	00 28 16.0	
MLZ	**Mavora Lakes**	**1.37**	**71**	⇑PN	Pn	00 27 56.7	-0.5
MLZ				AML	AML	00 28 20.9	
MLZ				AML	AML	00 28 23.4	
APZ	**The Paps**	**1.53**	**132**	PN	Pn	00 27 58.4	-1.1
MSZ	**Milford Sound**	**1.60**	**45**	PN	Pn	00 27 59.0	-1.2
MSZ				AML	AML	00 28 29.5	
MSZ				AML	AML	00 28 29.5	
MSZ				AML	AML	00 28 39.2	
MSZ				AML	AML	00 28 39.2	
SYZ	**Scrubby Hill**	**2.07**	**112**	PN	Pn	00 28 07.0	+0.2
WKZ	**Wanaka**	**2.13**	**63**	PN	Pb	00 28 09.4	-1.7
WKZ				AML	AML	00 28 42.5	
WKZ				AML	AML	00 28 42.5	
WKZ				AML	AML	00 28 43.4	
EAZ	**Earnscleugh**	**2.16**	**76**	PN	Pb	00 28 10.2	-1.4
EAZ				AML	AML	00 28 15.2	
EAZ				AML	AML	00 28 39.7	
TUZ	**Tuapeka**	**2.30**	**95**	PN	Pn	00 28 11.4	+1.4
TUZ				AML	AML	00 28 44.4	
TUZ				AML	AML	00 28 51.7	
JCZ	**Jackson Bay**	**2.44**	**45**	PN	Pb	00 28 14.3	-2.2
JCZ				AML	AML	00 28 56.6	
JCZ				AML	AML	00 28 58.3	
LBZ	**Lake Benmore**	**3.07**	**64**	ePN	Pn	00 28 22.2	+1.7
LBZ				AML	AML	00 28 46.7	
LBZ				AML	AML	00 30 53.0	
ODZ	**Otahua Downs**	**3.12**	**77**	PN	Pn	00 28 21.8	+0.5
ODZ				AML	AML	00 29 02.7	
ODZ				AML	AML	00 29 02.7	
ODZ				AML	AML	00 29 16.0	
ODZ				AML	AML	00 29 19.2	
FOZ	**Fox Glacier**	**3.28**	**48**	PN	Pn	00 28 26.7	+3.4
FOZ				AML	AML	00 29 22.2	
FOZ				AML	AML	00 29 25.8	
RPZ	**Rata Peaks**	**3.96**	**60**	PN	Pn	00 28 34.1	+1.3
RPZ				AML	AML	00 29 22.5	
RPZ				AML	AML	00 29 22.8	

*ISCJB **18** 00:34:35.3±0.3, 6°.18S±0°.02×130°.26E±0°.04, h90km, mb4.2/8, Error ellipse: s-maj=5.7km s-min=3.5km az=178.9*
*NEIC **18** 00:34:35.5±2.7, 6°.09S×130°.41E, h79km±29km, mb4.3/3, Error ellipse: s-maj=16.0km s-min=14.7km az=94.0*
*IDC **18** 00:34:36.6±5.7, 6°.18S×130°.34E, h89km±57km, mb3.9/6, mb1 4.2/9, mb1mx3.9/19, mbtmp4.0/9, ML4.6/3, MS2.9/2, Ms1 2.9/2, ms1mx2.2/27, Error ellipse: s-maj=41.8km s-min=28.7km az=58.0*
*AUST **18** 00:34:40.7, 6°.48S×130°.54E, h60km*
*DJA **18** 00:34:40.0±0.3, 6°.5±4°×13°.1E±°, h140km±10km, M4.8/9, mb4.9/7, mB5.3/5, MLv4.7/9, Mw(mB)4.8/5*

ISC 18 00:34:36.3±0.5, 6°.27S±0°.04×130°.37E±0°.05, h90km, n59, σ1§88/65, mb4.1/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.80**	**345**	P	Pn	00 35 10.8	+4.9
BNDI	**Bandanaira**	**1.80**	**345**	P	Pn	00 35 11.1	+5.1
	baz=2.1,SNR=12						
MSAI	**Masohi**	**3.24**	**334**	P	Pn	00 35 29.0	+3.8
FAKI	**Fak Fak**	**3.82**	**29**	P	**Pn**	**00 35 35.3**	**+2.3**
FAKI				S	**Sn**	**00 36 18.1**	**+1.2**
FAKI	**Fak Fak**	**3.82**	**29**	P	Pn	00 35 36.0	+3.0
	baz=3.9,SNR=30						
FAKI				S	**Sn**	**00 36 18.1**	**+1.2**
	baz=3.9,SNR=11						
NLAI	**Namlea**	**4.44**	**313**	P	Pn	00 35 48.1	+6.8
SWI	**Sorong**	**5.45**	**9**	P	**Pn**	**00 35 56.4**	**+1.3**
	53nm,0.7s,6µm1.4nm						
SWI				S	**Sn**	**00 36 53.7**	**-2.8**
	53nm,0.7s,6µm1.4nm						
SWI	**Sorong**	**5.45**	**9**	P	**Pn**	**00 35 57.5**	**+2.4**
	baz=5.7,SNR=11						
SWI				S	**Sn**	**00 36 53.7**	**-2.8**
	baz=5.7,SNR=7.1						
RKPI	**Ransiki, Papua**	**6.07**	**39**	P	**Pn**	**00 36 05.0**	**+1.4**
	107nm,0.5s,5µm1.6nm						
RKPI				S	**Sn**	**00 37 12.5**	**+0.9**
	107nm,0.5s,5µm1.6nm						
LBMI	**Labuha**	**6.29**	**333**	S	**Sn**	**00 37 16.8**	**-0.2**
MTN	**Manton Dam**	**6.57**	**173**	P	Pn	00 36 16.1	+5.7
	baz=6.4,SNR=23						
MTN				S	**Sn**	**00 37 27.8**	**+3.9**
	baz=6.4,SNR=9.8						
KDU	**Kakadu**	**6.70**	**162**	P	Pn	00 36 17.3	+5.2
	baz=6.5,SNR=267						
KDU				S	**Sn**	**00 37 29.9**	**+2.8**
	baz=6.5,SNR=9.0						
SOEI	**Soe**	**6.96**	**240**	P	Pn	00 36 21.3	+5.5
	150nm,0.9s,0.5nm						
SOEI	**Soe**	**6.96**	**240**	P	Pn	00 36 21.4	+5.5
	baz=7.0,SNR=18						
SOEI				S	Sn	00 37 41.9	+8.3
	baz=7.0,SNR=3.5						
BAKI	**Biak**	**7.63**	**49**	P	**Pn**	**00 36 26.4**	**+1.5**
BATI	**Baumata**	**7.70**	**239**	P	Pn	00 36 30.4	+4.6
	118nm,1.0s,1µm0.3nm						
KNRA	**Kununurra**	**9.48**	**189**	P	**Pn**	**00 36 53.0**	**+3.0**
	baz=9.4,SNR=35						
KNRA				S	**Sn**	**00 38 31.4**	**-3.4**
	baz=9.4,SNR=6.0						
WSI	**Waingapu**	**10.53**	**251**	S	**Sn**	**00 39 00.2**	**-0.2**
	baz=11,SNR=3.4						
KAPI	**Kappang**	**10.64**	**276**	LR	LR	00 41 05.1	
	comp=Z,43nm,18.4s,baz=22,slow=37						
FITZ	**Fitzroy Crossi**	**12.63**	**201**	P	**Pn**	**00 37 32.9**	**+0.2**
	3.3nm,0.3s,baz=35,slow=11,SNR=85						
FITZ				S	Sn	00 39 43.0	-8.6
	1.8nm,0.3s,baz=18,slow=19,SNR=3.0						
WRAB	**Tennant Creek**	**14.12**	**164**	ePn	**Pn**	**00 37 53.4**	**+1.2**
WRAB				eSn	**Sn**	**00 40 23.5**	**-4.2**
WRA	**Warramunga Arr**	**14.12**	**165**	P	**Pn**	**00 37 53.4**	**+1.0**
WRA				S	**Sn**	**00 40 23.5**	**-4.4**
WRA	**Warramunga Arr**	**14.12**	**165**	P	**Pn**	**00 37 53.4**	**+1.0**
	2.6nm,0.3s,baz=344,slow=13,SNR=53						
WRA				S	**Sn**	**00 40 23.5**	**-4.4**
	4.8nm,0.3s,baz=343,slow=22,SNR=12						
COEN	**Coen**	**14.73**	**122**	ePn	**Pn**	**00 38 00.9**	**+0.7**
COEN				eSn	**Sn**	**00 40 37.8**	**-4.8**
COEN	**Coen**	**14.73**	**122**	P	P	00 38 07.0	+3.1
	baz=14,SNR=5.5						
COEN				S	**Sn**	**00 40 41.4**	**-1.2**
	baz=14,SNR=4.9						
MTKI	**Muara Teweh, K**	**16.32**	**288**	P	**Pn**	**00 38 20.4**	**+0.2**
AS31	**Alice Springs**	**17.62**	**169**	eP	**Pn**	**00 38 37.8**	**+1.6**
AS31				eSn	**Sn**	**00 41 50.9**	**-1.6**
ASAR	**Alice Springs**	**17.62**	**169**	P	**Pn**	**00 38 39.0**	**+2.8**
ASAR				S	**Sn**	**00 41 50.4**	**-2.1**
ASAR	**Alice Springs**	**17.62**	**169**	P	**Pn**	**00 38 39.0**	**+2.8**
	2.0nm,0.3s,baz=341,slow=9.3,SNR=84						
ASAR				S	**Sn**	**00 41 50.4**	**-2.1**
	1.1nm,0.3s,baz=349,slow=26,SNR=7.0						
MBWA	**Marble Bar**	**18.03**	**214**	eP	**Pn**	**00 38 42.8**	**+1.7**
	4.7nm,0.4s						
MEEK	**Meekatharra**	**23.14**	**208**	P	**P**	**00 39 37.3**	**+2.2**
	baz=23,SNR=5.5						
CMAR	**Chiang Mai Arr**	**39.55**	**309**	P	**P**	**00 41 58.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**39.55**	**309**	P	**P**	**00 41 58.0**	**-0.9**
	1.7nm,0.6s,baz=137,slow=7.3,SNR=8.7						
CHTO	**Chiang Mai**	**39.76**	**309**	eP	**P**	**00 42 00.0**	**-0.6**
	2.3nm,0.6s						
ODAN	**Odare**	**53.06**	**310**	eP	**P**	**00 43 44.2**	**-0.7**
	14nm,0.5s						
TAPN	**Taplejung**	**53.08**	**311**	eP	**P**	**00 43 44.5**	**-0.6**
	23nm,0.4s						
RAMN	**Ramite**	**53.71**	**310**	eP	**P**	**00 43 49.3**	**-0.4**
	39nm,0.4s						
JIRN	**Jiri**	**54.39**	**311**	eP	**P**	**00 43 54.2**	**-0.6**
	10nm,0.2s						
GUN	**Gumba**	**54.76**	**311**	eP	**P**	**00 43 56.7**	**-0.7**
	32nm,0.4s						
PKI	**Pulchoki**	**54.94**	**310**	eP	**P**	**00 43 57.6**	**-1.1**
	5.5nm,0.3s						
PKIN	**Phulchoki**	**54.95**	**310**	eP	**P**	**00 43 57.5**	**-1.2**
	3.9nm,0.2s						
KKN	**Kakani**	**55.15**	**310**	eP	**P**	**00 43 59.3**	**-0.8**
	9.1nm,0.3s						
DMN	**Daman**	**55.19**	**310**	eP	**P**	**00 43 59.6**	**-0.8**
	11nm,0.5s						
KOLN	**Koldanda**	**56.42**	**309**	eP	**P**	**00 44 08.6**	**-0.6**
	6.7nm,0.3s						
DANN	**Dangsing**	**56.59**	**310**	eP	**P**	**00 44 09.7**	**-0.7**
	6.9nm,0.4s						
ULN	**Ulaanbaatar**	**57.69**	**342**	eP	**P**	**00 44 16.6**	**-1.0**
	2.5nm,0.5s						
SONM	**Songino Array**	**57.88**	**341**	P	**P**	**00 44 19.3**	**+0.3**
SONM	**Songino Array**	**57.88**	**341**	P	**P**	**00 44 19.3**	**+0.3**
	1.0nm,0.6s,baz=158,slow=7.6,SNR=8.2						
PETK	**Petropavlovsk-**	**63.52**	**18**	P	**P**	**00 44 57.1**	**+0.1**
PETK	**Petropavlovsk-**	**63.52**	**18**	P	**P**	**00 44 57.1**	**+0.1**
	1.5nm,0.6s,baz=194,slow=5.4,SNR=5.5						
PETK				LR	LR	01 07 58.5	
	comp=Z,12nm,20.7s,baz=66,slow=32						
MK31	**Makanchi Array**	**67.82**	**326**	eP	**P**	**00 45 24.9**	**0.0**
MKAR	**Makanchi Array**	**67.82**	**326**	P	**P**	**00 45 25.1**	**+0.3**
MKAR				PcP	**PcP**	**00 45 50.4**	**-0.4**
MKAR	**Makanchi Array**	**67.82**	**326**	P	**P**	**00 45 25.1**	**+0.3**
	4.4nm,0.6s,baz=126,slow=7.8,SNR=56						
MKAR				PcP	**PcP**	**00 45 50.4**	**-0.4**
	0.7nm,0.5s,baz=127,slow=4.4,SNR=4.5						
ZALV	**Zalesovo Beam**	**71.10**	**334**	P	**P**	**00 45 43.8**	**-1.0**
ZALV	**Zalesovo Beam**	**71.10**	**334**	P	**P**	**00 45 43.8**	**-1.0**
	1.5nm,0.5s,baz=113,slow=4.5,SNR=7.1						
ILAR	**Eielson Array**	**92.54**	**25**	P	**P**	**00 47 35.5**	**-1.7**
ILAR	**Eielson Array**	**92.54**	**25**	P	**P**	**00 47 35.5**	**-1.7**
	0.6nm,0.7s,baz=279,slow=3.3,SNR=5.6						
TORD	**Torodi Ar. Bea**	**129.02**	**282**	PKP	**PKPdf**	**00 53 34.9**	**0.0**
TORD	**Torodi Ar. Bea**	**129.02**	**282**	PKP	**PKPdf**	**00 53 34.9**	**0.0**
	0.5nm,0.8s,baz=79,slow=2.0,SNR=8.4						

WEL 18 00:37:05.2±0.2, 45°.43S×166°.70E, h25km±1km, ML3.6/15, Error ellipse: s-maj=2.1km s-min=1.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.32**	**98**	P*	Pb	00 37 12.6	+0.1
DCZ				S*	Sb	00 37 17.2	-0.3
DCZ				AML	AML	00 37 17.5	
DCZ				AML	AML	00 37 22.9	
DCZ				AML	AML	00 37 22.9	
PYZ	**Puysegur Point**	**0.73**	**181**	P*	Pb	00 37 18.7	-0.7
PYZ				S*	Sb	00 37 27.9	-1.1
WHZ	**Wether Hill Ro**	**0.99**	**118**	PN	Pn	00 37 22.8	-0.7
WHZ				SN	Sn	00 37 36.5	-0.2
WHZ				AML	AML	00 37 46.8	
MLZ	**Mavora Lakes**	**1.04**	**86**	ePN	Pn	00 37 22.8	-1.4
MLZ				AML	AML	00 37 45.7	
MLZ				AML	AML	00 37 46.6	
MSZ	**Milford Sound**	**1.16**	**49**	PN	Pn	00 37 25.2	-0.5
MSZ				SN	Sb	00 37 44.6	+3.6
MSZ				AML	AML	00 37 46.2	
MSZ				AML	AML	00 37 46.3	
MSZ				AML	AML	00 37 48.9	
APZ	**The Paps**	**1.66**	**148**	ePN	Pb	00 37 34.1	-1.1
WKZ	**Wanaka**	**1.75**	**71**	ePN	Pb	00 37 35.8	-0.9
WKZ				AML	AML	00 38 08.8	
WKZ				AML	AML	00 38 10.1	
EAZ	**Earnscleugh**	**1.85**	**85**	ePN	Pb	00 37 37.4	-0.9
EAZ				AML	AML	00 38 05.2	
EAZ				AML	AML	00 38 06.9	
JCZ	**Jackson Bay**	**2.00**	**48**	AML	AML	00 38 11.8	
JCZ				AML	AML	00 38 13.3	
SYZ	**Scrubby Hill**	**2.03**	**124**	ePN	Pb	00 37 39.9	-1.4
TUZ	**Tuapeka**	**2.12**	**105**	ePN	Pb	00 37 41.2	-1.7
TUZ				AML	AML	00 38 15.1	
TUZ				AML	AML	00 38 19.1	
LBZ	**Lake Benmore**	**2.69**	**68**	ePN	Pn	00 37 49.5	+2.7
LBZ				AML	AML	00 38 32.2	
ODZ	**Otahua Downs**	**2.81**	**83**	ePN	Pn	00 37 49.6	+1.1
RPZ	**Rata Peaks**	**3.55**	**63**	PN	Pn	00 38 00.6	+1.8

IDC 18 00:49:04.0±6.6, 22°.09S×170°.52E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.6/3, MS4.2/1, Ms1 4.2/1, ms1mx2.9/20, Error ellipse: s-maj=279.9km s-min=40.8km az=151.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**21.57**	**179**	LR	LR	01 00 01.2	
	comp=Z,622nm,19.7s,baz=25,slow=30						
ASAR	**Alice Springs**	**33.72**	**260**	P	P	00 55 46.6	-0.8
	0.4nm,0.3s,baz=96,slow=7.7,SNR=9.6						
WRA	**Warramunga Arr**	**33.79**	**267**	P	P	00 55 48.9	+0.8
	0.2nm,0.3s,baz=95,slow=8.3,SNR=1.8						
ILAR	**Eielson Array**	**92.59**	**17**	P	P	01 02 17.0	0.0
	0.2nm,0.4s,baz=226,slow=7.8,SNR=5.0						

*ISCJB **18** 00:57:24.4

MLZ				AML	AML	00 58 07.3	
MSZ	**Milford Sound**	**1.10**	**51**	P*	**Pn**	**00 57 44.0**	**-2.1**
MSZ	**Milford Sound**	**1.10**	**51**	PN	**Pn**	**00 57 44.0**	**-2.1**
MSZ				AML	AML	00 58 03.4	
MSZ				AML	AML	00 58 10.4	
APZ	**The Paps**	**1.70**	**150**	PN	**Pb**	**00 57 54.7**	**-1.4**
WKZ	**Wanaka**	**1.71**	**72**	Pn	**Pb**	**00 57 55.3**	**-1.0**
WKZ	**Wanaka**	**1.71**	**72**	PN	**Pn**	**00 57 55.1**	**+0.6**
WKZ				AML	AML	00 58 27.1	
WKZ				AML	AML	00 58 28.2	
EAZ	**Earnscleugh**	**1.82**	**86**	Pn	**Pn**	**00 57 56.7**	**+0.7**
EAZ	**Earnscleugh**	**1.82**	**86**	PN	**Pn**	**00 57 56.6**	**+0.6**
EAZ				AML	AML	00 58 26.0	
EAZ				AML	AML	00 58 26.4	
JCZ	**Jackson Bay**	**1.94**	**49**	Pn	**Pn**	**00 57 57.7**	**-0.1**
JCZ	**Jackson Bay**	**1.94**	**49**	PN	**Pn**	**00 57 57.7**	**-0.1**
JCZ				AML	AML	00 58 32.9	
JCZ				AML	AML	00 58 32.9	
SYZ	**Scrubby Hill**	**2.04**	**126**	Pn	**Pn**	**00 57 59.5**	**+0.5**
SYZ	**Scrubby Hill**	**2.04**	**126**	PN	**Pn**	**00 57 59.3**	**+0.3**
TUZ	**Tuapeka**	**2.11**	**107**	Pn	**Pn**	**00 58 00.7**	**+0.8**
TUZ	**Tuapeka**	**2.11**	**107**	PN	**Pn**	**00 58 00.3**	**+0.4**
TUZ				AML	AML	00 58 34.4	
TUZ				AML	AML	00 58 39.4	
LBZ	**Lake Benmore**	**2.64**	**69**	PN	**Pn**	**00 58 07.0**	**-0.3**
LBZ				AML	AML	00 58 45.8	
LBZ				AML	AML	00 58 46.0	
LBZ				AML	AML	00 58 46.0	
LBZ				AML	AML	00 58 46.6	
HHSZ	**Highcliff Hill**	**2.75**	**102**	PN	**Pn**	**00 58 09.2**	**+0.3**
ODZ	**Otahua Downs**	**2.78**	**85**	*e*Pn	**Pn**	**00 58 08.9**	**-0.3**
ODZ				*e*Sn	**Sn**	**00 58 38.9**	**-3.6**
ODZ	**Otahua Downs**	**2.78**	**85**	⇑PN	**Pn**	**00 58 08.8**	**-0.3**
ODZ				AML	AML	00 58 47.4	
ODZ				AML	AML	00 58 47.4	
ODZ				AML	AML	00 58 48.1	
ODZ				AML	AML	00 58 55.2	
FOZ	**Fox Glacier**	**2.78**	**50**	Pn	**Pn**	**00 58 10.1**	**+0.9**
FOZ	**Fox Glacier**	**2.78**	**50**	*e*PN	**Pn**	**00 58 09.8**	**+0.6**
FOZ				AML	AML	00 59 01.1	
FOZ				AML	AML	00 59 01.7	
FOZ				AML	AML	00 59 02.0	
FOZ				AML	AML	00 59 02.2	
RPZ	**Rata Peaks**	**3.50**	**63**	*e*Pn	**Pn**	**00 58 18.4**	**-0.7**
RPZ				*e*Sn	**Sn**	**00 58 59.9**	**-0.5**
RPZ	**Rata Peaks**	**3.50**	**63**	PN	**Pn**	**00 58 18.0**	**-1.1**
RPZ				AML	AML	00 59 10.0	
RPZ				AML	AML	00 59 10.2	
WVZ	**Waitaha Valley**	**3.68**	**53**	*e*PN	**Pn**	**00 58 20.6**	**-0.9**
WVZ				AML	AML	00 59 26.0	
WVZ				AML	AML	00 59 26.9	
MQZ	**McQueen's Vall**	**4.54**	**71**	PN	**Pn**	**00 58 33.9**	**+0.4**
MQZ				AML	AML	00 59 28.5	
MQZ				AML	AML	00 59 30.6	
LTZ	**Lake Taylor**	**4.75**	**59**	AML	AML	00 59 39.1	
LTZ				AML	AML	00 59 41.1	
DSZ	**Denniston Nort**	**5.17**	**47**	PN	**Pn**	**00 58 41.4**	**-0.6**
KHZ	**Kahutara**	**5.74**	**61**	*e*Pn	**Pn**	**00 58 49.6**	**-0.2**
	50nm,0.8s						
KHZ				*e*Sn	**Sn**	**00 59 52.9**	**-2.4**
KHZ	**Kahutara**	**5.74**	**61**	AML	AML	01 00 04.1	
THZ	**Tophouse**	**5.75**	**53**	AML	AML	01 00 02.7	
THZ				AML	AML	01 00 06.6	
QRZ	**Quartz Range**	**6.22**	**45**	AML	AML	01 00 13.1	
QRZ				AML	AML	01 00 14.4	
NNZ	**Nelson**	**6.38**	**52**	AML	AML	01 00 18.0	
NNZ				AML	AML	01 00 19.3	
TUWZ	**Tuamarina**	**6.56**	**56**	*e*PN	**Pn**	**00 58 60.0**	**-1.2**
TUWZ				AML	AML	01 00 24.3	
TUWZ				AML	AML	01 00 24.3	
TCW	**Tory Channel**	**6.90**	**56**	AML	AML	01 00 29.7	
TCW				AML	AML	01 00 32.8	
SNZO	**South Karori**	**7.09**	**58**	*e*Pn	Pn	00 58 55.7	-13
SNZO				*e*Sn	**Sn**	**01 00 31.5**	**+2.9**
MRZ	**Mangatainoka R**	**8.01**	**57**	AML	AML	01 00 56.5	
MRZ				AML	AML	01 00 58.8	
OUZ	**Omahuta**	**11.41**	**30**	*e*Pn	**Pn**	**01 00 06.8**	**-0.8**
OUZ				*e*Sn	**Sn**	**01 02 10.6**	**-4.1**
NJ2	**Nanjing**	**88.47**	**321**	*e*P	P	01 10 19.6	+3.0
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MDJ	**Mudanjiang**	**95.47**	**334**	P	P	01 10 50.8	+2.0
MDJ				PP	**PP**	**01 14 41.3**	**+1.1**
MDJ				S	**S**	**01 22 08.1**	**+3.9**
MDJ				pmax	pmax		
	comp=Z,14nm,2.8s						
MDJ				pmax	pmax		
	comp=Z,79nm,4.4s						
LZH	**Lanzhou**	**98.97**	**313**	*e*P	Pdif	01 11 06.3	+1.3
LZH				pP	pP	01 11 10.3	+0.2
LZH				sP	sP	01 11 12.3	+0.5
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC	**Hu-ho-hao-te**	**99.03**	**321**	*e*P	Pdif	01 11 04.6	-0.5
HHC				pP	pP	01 11 09.4	-0.7
HHC				sP	sP	01 11 11.6	-0.3
HHC				PP	**PP**	**01 15 10.4**	**+2.6**
HHC				SKS	**SKSac**	**01 21 41.5**	**-1.0**
HHC				S	**S**	**01 22 32.6**	**-2.5**
HHC				sS	sS	01 22 41.5	-2.0
HHC				SS	**SS**	**01 29 26.3**	**+2.4**
HHC				pmax	pmax		
	comp=Z,21nm,0.9s						
HHC				LR	LR		
	comp=N,230nm,18.8s						
HHC				LR	LR		
	comp=E,290nm,18.0s						
HHC				LR	LR		
	comp=Z,200nm,17.1s						
WMQ	**Urumqi**	**113.11**	**309**	PKP	**PKiKP**	**01 16 02.0**	**+0.6**
KSH	**Kashi**	**117.19**	**300**	*e*PKPbc	PKPdf	01 16 16.5	+7.0
KSH				PP	PP	01 17 33.3	+13
KSH				PKS	PKSdf	01 19 50.9	+4.7
KSH				SKS	SKSdf	01 23 27.8	+6.9
KSH				SKKS	**SKKSac**	**01 24 24.0**	**+3.9**
KSH	**Kashi**	**117.19**	**300**	SS	SS	01 33 38.5	+8.9
KSH				AMB	AMB		
	comp=Z,71nm,9.5s						
KSH				LR	LR		
	comp=N,130nm,4.5s						
KSH				LR	LR		
	comp=E,140nm,7.4s						
KSH				LR	LR		
	comp=Z,160nm,6.7s						

WEL 18 01:08:21.0±0.4, 46°03S×165°98E, h22km±2km, ML3.9/15, 1D, Error ellipse: s-maj=3.9km s-min=2.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.51**	**106**	⇓P*	Pb	01 08 30.8	-0.4
PYZ				S*	Sb	01 08 38.8	+0.5
DCZ	**Deep Cove**	**0.99**	**57**	AML	AML	01 08 51.9	
DCZ				AML	AML	01 08 58.7	
WHZ	**Wether Hill Ro**	**1.38**	**85**	PN	Pn	01 08 44.7	-0.2
WHZ				AML	AML	01 09 05.5	
WHZ				AML	AML	01 09 07.0	
APZ	**The Paps**	**1.61**	**121**	*e*PN	Pn	01 08 47.4	-0.7
MLZ	**Mavora Lakes**	**1.68**	**67**	*e*PN	Pn	01 08 49.3	+0.2
MLZ				AML	AML	01 09 15.8	
MLZ				AML	AML	01 09 16.3	
MSZ	**Milford Sound**	**1.93**	**46**	*e*PN	Pn	01 08 53.3	+0.9
MSZ				AML	AML	01 09 35.0	
MSZ				AML	AML	01 09 41.6	
SYZ	**Scrubby Hill**	**2.25**	**104**	*e*PN	Pn	01 08 57.2	+0.3
WKZ	**Wanaka**	**2.45**	**62**	*e*PN	Pn	01 09 01.5	+1.9
WKZ				AML	AML	01 09 37.4	
WKZ				AML	AML	01 09 49.2	
EAZ	**Earnscleugh**	**2.47**	**72**	*e*PN	Pn	01 09 01.2	+1.4
EAZ				AML	AML	01 09 37.3	
EAZ				AML	AML	01 09 39.9	
TUZ	**Tuapeka**	**2.55**	**90**	PN	Pn	01 09 02.0	+1.1
TUZ				AML	AML	01 09 40.6	
TUZ				AML	AML	01 09 42.1	
JCZ	**Jackson Bay**	**2.77**	**46**	PN	Pn	01 09 06.5	+2.3
JCZ				AML	AML	01 09 56.6	
JCZ				AML	AML	01 09 57.7	
LBZ	**Lake Benmore**	**3.40**	**63**	*e*PN	Pn	01 09 12.9	+0.3
LBZ				AML	AML	01 10 13.0	
LBZ				AML	AML	01 10 15.4	
ODZ	**Otahua Downs**	**3.42**	**75**	*e*PN	Pn	01 09 12.3	-0.6
ODZ				AML	AML	01 10 15.2	
FOZ	**Fox Glacier**	**3.61**	**48**	AML	AML	01 10 22.9	

WEL 18 01:13:47.5±0.4, 46°08S×166°10E, h27km±1km, ML4.0/16, 1C-1D, Error ellipse: s-maj=4.0km s-min=1.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.41**	**102**	⇓P*	Pb	01 13 56.1	-0.3
PYZ				S*	Sb	01 14 02.4	-0.1
DCZ	**Deep Cove**	**0.96**	**51**	⇑PN	Pn	01 14 04.4	-0.8
DCZ				SN	Sb	01 14 16.6	-1.0
DCZ				AML	AML	01 14 18.2	
DCZ				AML	AML	01 14 18.2	
DCZ				AML	AML	01 14 21.7	
WHZ	**Wether Hill Ro**	**1.30**	**82**	PN	Pn	01 14 10.1	+0.2
WHZ				AML	AML	01 14 28.7	
WHZ				AML	AML	01 14 29.0	
APZ	**The Paps**	**1.51**	**121**	PN	Pn	01 14 12.4	-0.4
MLZ	**Mavora Lakes**	**1.63**	**64**	PN	Pn	01 14 15.3	+0.9
MLZ				AML	AML	01 14 40.3	
MLZ				AML	AML	01 14 42.6	
MSZ	**Milford Sound**	**1.91**	**43**	PN	Pn	01 14 17.8	-0.5
MSZ				AML	AML	01 14 53.4	
MSZ				AML	AML	01 14 53.8	
MSZ				AML	AML	01 14 54.5	
MSZ				AML	AML	01 14 54.5	
SYZ	**Scrubby Hill**	**2.16**	**103**	PN	Pn	01 14 22.9	+1.3
EAZ	**Earnscleugh**	**2.41**	**70**	*e*PN	Pn	01 14 26.7	+1.6
EAZ				AML	AML	01 14 59.9	
EAZ				AML	AML	01 14 60.0	
EAZ				AML	AML	01 15 01.6	
EAZ				AML	AML	01 15 01.7	
WKZ	**Wanaka**	**2.41**	**60**	PN	Pb	01 14 27.7	-2.4
WKZ				AML	AML	01 15 01.1	
WKZ				AML	AML	01 15 02.4	
TUZ	**Tuapeka**	**2.47**	**88**	PN	Pn	01 14 27.8	+1.9
TUZ				AML	AML	01 14 59.2	
TUZ				AML	AML	01 15 05.8	
JCZ	**Jackson Bay**	**2.75**	**44**	AML	AML	01 15 21.6	
JCZ				AML	AML	01 15 24.3	
LBZ	**Lake Benmore**	**3.35**	**61**	PN	Pn	01 14 38.9	+0.8
LBZ				SN	Sn	01 15 18.1	+1.2
LBZ				AML	AML	01 15 19.9	
ODZ	**Otahua Downs**	**3.36**	**74**	PN	Pn	01 14 38.1	-0.1
ODZ				AML	AML	01 15 36.0	
ODZ				AML	AML	01 15 38.1	

IDC 18 01:23:58.5±5.5, 17°96S×178°62W, h562km±60km, mb3.3/9, mb1 3.6/9, mb1mx3.4/19, mbtmp3.3/9, Error ellipse: s-maj=29.2km s-min=18.0km az=124.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.43**	**260**	P	P	01 31 20.0	-0.3
	1.2nm,0.5s,baz=92,slow=6.9,SNR=41						
WRA				PcP	PcP	01 32 52.0	+0.3
	0.6nm,0.4s,baz=92,slow=3.8,SNR=5.5						
ASAR	**Alice Springs**	**44.59**	**254**	P	P	01 31 22.0	+0.5
	14nm,0.6s,baz=89,slow=8.2,SNR=206						
ASAR				PcP	PcP	01 32 52.2	0.0
	1.0nm,0.4s,baz=102,slow=3.8,SNR=6.9						
MJAR	**Matsushiro Arr**	**67.83**	**323**	P	P	01 34 00.4	-0.8
	1.8nm,0.6s,baz=164,slow=6.8,SNR=6.0						
PETK	**Petropavlovsk-**	**73.68**	**345**	P	P	01 34 34.6	-0.6
	2.9nm,0.7s,baz=132,slow=8.2,SNR=7.2						
NVAR	**Mina Array Bea**	**79.60**	**44**	P	P	01 35 08.7	+0.5
	0.6nm,0.6s,baz=228,slow=9.1,SNR=6.8						
MAW	**Mawson**	**83.74**	**200**	P	P	01 35 28.9	+0.4
	0.8nm,0.4s,baz=156,slow=10.0,SNR=5.1						
ILAR	**Eielson Array**	**85.98**	**13**	P	P	01 35 37.9	-1.4
	0.6nm,0.4s,baz=223,slow=5.2,SNR=9.7						
TXAR	**Lajitas Array**	**86.19**	**58**	P	P	01 35 42.4	+1.2
	1.2nm,0.9s,baz=213,slow=4.9,SNR=10						
PDAR	**Pinedale Array**	**87.53**	**44**	P	P	01 35 47.4	0.0
	0.7nm,0.5s,baz=233,slow=4.4,SNR=8.2						
ARCES	**ARCESS Array B**	**126.33**	**350**	PKP	PKPdf	01 41 57.4	+0.2
	3.2nm,1.0s,baz=318,slow=1.6,SNR=4.7						
FINES	**FINESS Array B**	**133.18**	**344**	PKP	PKPdf	01 42 09.6	-0.7
	2.4nm,0.9s,baz=342,slow=2.4,SNR=4.7						
BRTR	**Keskin Array B**	**144.68**	**315**	PKP	PKPdf	01 42 31.9	-0.1
	2.7nm,0.8s,baz=116,slow=2.3,SNR=18						
UPC	**Upice**	**145.48**	**343**	*e*P	PKPbc	01 42 34.3	0.0
DPC	**Dobruska-Polom**	**145.54**	**343**	*e*P	PKPbc	01 42 34.8	+0.3
BRG	**Berggiesshubel**	**145.67**	**346**	*e*(P)	PKPbc	01 42 34.3	-0.5
	3.6nm,1.0s						
PVCC	**Panska Ves**	**145.84**	**345**	*e*P	PKPbc	01 42 35.6	+0.3
PRU	**Pruhonice**	**146.34**	**345**	*e*P	PKPbc	01 42 36.8	+0.1
KHC	**Kasperske Hory**	**147.38**	**345**	*e*P	PKPbc	01 42 39.4	-0.1
KHC				*ex*	x	01 42 42.8	
GERES	**GERESS Array B**	**147.61**	**345**	PKPbc	PKPbc	01 42 40.0	-0.3
	2.2nm,0.5s,baz=23,slow=3.1,SNR=20						
TORD	**Torodi Ar. Bea**	**175.21**	**184**	PKPab	PKPab	01 44 42.4	-2.5
	3.3nm,0.8s,baz=142,slow=2.2,SNR=27						

*BJI **18** 01:25:03.9, 45°51S×166°45E, h7km, mB5.6/6, mb5.4/11, Ms5.0/5, Ms7 4.9/4*

*IDC **18** 01:25:03.1±2.4, 45°26S×166°60E, h0km, mb3.6/1, mb1 4.2/2, mb1mx3.7/15, mbtmp4.1/2, ML4.8/1, MS3.3/5, Ms1 3.3/5, ms1mx3.0/19, Error ellipse: s-maj=104.1km s-min=29.0km az=169.0*

*ISCJB **18** 01:25:04.2±0.5, 45°35S±0°04×166°72E±0°06, h15km, mb5.1/7, MS3.9/8, Error ellipse: s-maj=5.9km s-min=5.1km az=18.8*

*WEL **18** 01:25:04.2±0.2, 45°36S×166°66E, h22km±1km, ML4.8/27, Error ellipse: s-maj=2.1km s-min=1.6km az=90.0*

*NEIC **18** 01:25:04.6, 45°42S×166°65E, h12km, ML4.8(WEL), After WEL.*

ISC 18 01:25:05.5±0.5, 45°41S±0°04×166°73E±0°04, h15km, n72, σ1s71/82, mb5.5/7, MS3.7/8, 1C-5D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.31**	**104**	⇓P*	**Pg**	**01 25 11.9**	**0.0**
DCZ				S*	**Sb**	**01 25 17.1**	**-0.4**
DCZ	**Deep Cove**	**0.31**	**104**	⇓P*	**Pg**	**01 25 11.9**	**0.0**
DCZ				S*	**Sb**	**01 25 16.9**	**-0.6**
DCZ				AML	AML	01 25 17.2	
DCZ				AML	AML	01 25 17.2	
DCZ				AML	AML	01 25 17.2	
PYZ	**Puysegur Point**	**0.76**	**183**	P*	**Pg**	**01 25 18.7**	**-1.7**
PYZ				S*	**Sg**	**01 25 28.5**	**-2.0**
PYZ	**Puysegur Point**	**0.76**	**183**	⇑P*	**Pg**	**01 25 18.7**	**-1.7**
PYZ				S*	**Sg**	**01 25 28.4**	**-2.1**
WHZ	**Wether Hill Ro**	**0.98**	**120**	P*	**Pb**	**01 25 23.2**	**-1.0**
WHZ	**Wether Hill Ro**	**0.98**	**120**	⇓PN	**Pb**	**01 25 23.3**	**-1.0**
WHZ				AML	AML	01 25 41.1	
WHZ				AML	AML	01 25 42.0	
MLZ	**Mavora Lakes**	**1.02**	**87**	P*	**Pb**	**01 25 23.1**	**-1.8**
MLZ	**Mavora Lakes**	**1.02**	**87**	⇓PN	**Pb**	**01 25 23.1**	**-1.8**
MLZ				AML	AML	01 25 37.5	
MLZ				AML	AML	01 25 47.6	
MSZ	**Milford Sound**	**1.12**	**50**	P*	**Pb**	**01 25 23.5**	**-3.1**
MSZ	**Milford Sound**	**1.12**	**50**	PN	**Pb**	**01 25 23.5**	**-3.1**
MSZ				AML	AML	01 25 45.9	
MSZ				AML	AML	01 25 46.0	
MSZ				AML	AML	01 25 46.0	
MSZ				AML	AML	01 25 46.0	
APZ	**The Paps**	**1.67**	**149**	Pn	**Pn**	**01 25 34.7**	**+0.4**
APZ	**The Paps**	**1.67**	**149**	PN	**Pn**	**01 25 34.6**	**+0.3**
WKZ	**Wanaka**	**1.72**	**71**	Pn	**Pn**	**01 25 34.8**	**-0.2**
WKZ	**Wanaka**	**1.72**	**71**	PN	**Pn**	**01 25 34.5**	**-0.4**
WKZ				AML	AML	01 26 07.2	
WKZ				AML	AML	01 26 07.2	
WKZ				AML	AML	01 26 07.6	
WKZ				AML	AML	01 26 07.6	
EAZ	**Earnscleugh**	**1.82**	**85**	Pn	**Pn**	**01 25 36.3**	**0.0**
EAZ	**Earnscleugh**	**1.82**	**85**	PN	**Pn**	**01 25 36.3**	**0.0**
EAZ				AML	AML	01 26 06.0	
EAZ				AML	AML	01 26 06.1	
EAZ				AML	AML	01 26 08.5	
EAZ				AML	AML	01 26 08.5	
JCZ	**Jackson Bay**	**1.96**	**48**	Pn	**Pn**	**01 25 37.3**	**-1.0**
JCZ				AML	AML	01 26 12.6	
JCZ				AML	AML	01 26 12.6	
SYZ	**Scrubby Hill**	**2.02**	**125**	Pn	**Pn**	**01 25 39.4**	**+0.3**
SYZ	**Scrubby Hill**	**2.02**	**125**	PN	**Pn**	**01 25 39.0**	**-0.1**
TUZ	**Tuapeka**	**2.11**	**106**	Pn	**Pn**	**01 25 40.0**	**-0.2**
TUZ	**Tuapeka**	**2.11**	**106**	PN	**Pn**	**01 25 39.9**	**-0.3**
TUZ				AML	AML	01 26 11.8	
TUZ				AML	AML	01 26 19.1	
LBZ	**Lake Benmore**	**2.66**	**69**	Pn	**Pn**	**01 25 46.8**	**-1.0**
LBZ	**Lake Benmore**	**2.66**	**69**	PN	**Pn**	**01 25 46.8**	**-1.0**
LBZ				AML	AML	01 26 26.3	
LBZ				AML	AML	01 26 26.3	
LBZ				AML	AML	01 26 39.3	
LBZ				AML	AML	01 26 39.3	
HHSZ	**Highcliff Hill**	**2.75**	**101**	PN	**Pn**	**01 25 48.9**	**-0.3**
ODZ	**Otahua Downs**	**2.79**	**84**	Pn	**Pn**	**01 25 48.7**	**-0.9**
ODZ	**Otahua Downs**	**2.79**	**84**	⇓PN	**Pn**	**01 25 48.7**	**-0.9**
ODZ				AML	AML	01 26 27.2	
ODZ				AML	AML	01 26 27.3	
ODZ				AML	AML	01 26 39.8	
ODZ				AML	AML	01 26 39.8	
FOZ	**Fox Glacier**	**2.80**	**50**	Pn	**Pn**	**01 25 49.6**	**-0.2**
FOZ	**Fox Glacier**	**2.80**	**50**	PN	**Pn**	**01 25 49.6**	**-0.2**
FOZ				AML	AML	01 26 37.8	
FOZ				AML	AML	01 26 37.8	
FOZ				AML	AML	01 26 39.3	
FOZ				AML	AML	01 26 39.3	
RPZ	**Rata Peaks**	**3.52**	**63**	Pn	**Pn**	**01 25 59.5**	**-0.2**
RPZ				Sn	**Sn**	**01 26 42.8**	**+1.7**
RPZ	**Rata Peaks**	**3.52**	**63**	Pn	**Pn**	**01 25 59.5**	**-0.2**
	86nm,0.3s,baz=223,slow=6.1,SNR=92						
RPZ				Sn	**Sn**	**01 26 42.8**	**+1.7**
	62nm,0.3s,baz=47,slow=20,SNR=3.2						
RPZ				LR	LR	01 27 11.0	
	comp=Z,307nm,21.5s,baz=46,slow=36						
RPZ	**Rata Peaks**	**3.52**	**63**	AML	AML	01 27 04.5	
RPZ				AML	AML	01 27 07.2	
WVZ	**Waitaha Valley**	**3.70**	**52**	AML	AML	01 27 10.2	
WVZ				AML	AML	01 27 13.0	
OXZ	**Oxford**	**4.33**	**63**	*e*PN	**Pn**	**01 26 10.1**	**-0.8**
MQZ	**McQueen's Vall**	**4.56**	**70**	AML	AML	01 27 34.0	
MQZ				AML	AML	01 27 47.2	
LTZ	**Lake Taylor**	**4.77**	**59**	AML	AML	01 27 22.4	
LTZ				AML	AML	01 27 41.3	
DSZ	**Denniston Nort**	**5.19**	**47**	Pn	**Pn**	**01 26 20.7**	**-1.9**
DSZ	**Denniston Nort**	**5.19**	**47**	*e*PN	**Pn**	**01 26 20.5**	**-2.1**
KHZ	**Kahutara**	**5.75**	**61**	Pn	**Pn**	**01 26 30.8**	**+0.5**
KHZ	**Kahutara**	**5.75**	**61**	*e*PN	**Pn**	**01 26 30.7**	**+0.4**
KHZ				AML	AML	01 27 42.7	
KHZ				AML	AML	01 27 53.1	
THZ	**Tophouse**	**5.77**	**53**	Pn	**Pn**	**01 26 30.0**	**-0.7**
THZ	**Tophouse**	**5.77**	**53**	PN	**Pn**	**01 26 30.0**	**-0.7**
THZ				AML	AML	01 27 42.3	
THZ				AML	AML	01 27 43.5	
QRZ	**Quartz Range**	**6.24**	**45**	Pn	**Pn**	**01 26 34.9**	**-2.2**
QRZ	**Quartz Range**	**6.24**	**45**	PN	**Pn**	**01 26 34.9**	**-2.2**
QRZ				AML	AML	01 27 52.8	
QRZ				AML	AML	01 27 54.6	
NNZ	**Nelson**	**6.40**	**52**	Pn	**Pn**	**01 26 38.5**	**-0.8**
NNZ	**Nelson**	**6.40**	**52**	PN	**Pn**	**01 26 38.5**	**-0.8**
NNZ				AML	AML	01 27 59.0	
NNZ				AML	AML	01 28 00.5	
TUWZ	**Tuamarina**	**6.58**	**55**	Pn	**Pn**	**01 26 42.9**	**+1.1**
TUWZ	**Tuamarina**	**6.58**	**55**	PN	**Pn**	**01 26 42.7**	**+1.0**
TUWZ				AML	AML	01 28 06.5	
TUWZ				AML	AML	01 28 09.8	
MRZ	**Mangatainoka R**	**8.03**	**57**	AML	AML	01 28 38.7	
NGZ	**Ngauruhoe**	**9.05**	**50**	Pn	Pn	01 27 07.5	-8.2
STKA	**Stephens Creek**	**23.71**	**296**	LR	LR	01 37 54.2	
	comp=Z,81nm,19.4s,baz=25,slow=33						
VNDA	**Vanda**	**32.28**	**182**	LR	LR	01 42 09.2	
	comp=Z,61nm,21.2s,baz=14,slow=32						
WRA	**Warramunga Arr**	**36.85**	**303**	P	**P**	**01 32 11.6**	**-1.6**
WRA	**Warramunga Arr**	**36.85**	**303**	P	**P**	**01 32 11.6**	**-1.6**
	0.8nm,0.9s,baz=140,slow=8.0,SNR=2.7						
PPT	**Papeete**	**45.67**	**67**	LR	LR	01 51 49.3	
	comp=Z,16nm,18.1s,baz=180,slow=35						
MAW	**Mawson**	**53.78**	**207**	LR	LR	01 57 10.4	
	comp=Z,53nm,20.7s,baz=91,slow=36						
NJ2	**Nanjing**	**88.49**	**321**	*e*P	**P**	**01 37 58.9**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
KMI	**Kunming**	**91.13**	**305**	P	**P**	**01 38 11.1**	**+1.2**
KMI				sP	**sP**	**01 38 17.8**	**+1.1**
KMI				pmax	pmax		
	comp=Z,11nm,0.5s						
CD2	**Chengdu**	**95.03**	**310**	*e*P	**P**	**01 38 28.4**	**+0.9**
CD2				pP	**pP**	**01 38 33.3**	**+0.8**
CD2				sP	**sP**	**01 38 35.3**	**+1.0**
CD2				PP	**PP**	**01 42 20.8**	**+3.4**
CD2				SKS	**SKSac**	**01 49 02.5**	**0.0**
CD2				S	**S**	**01 49 40.8**	**-0.7**
CD2				sS	**sS**	**01 49 48.5**	**-1.3**
CD2				SS	**SS**	**01 56 11.3**	**+3.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,30nm,6.2s						
CD2				LR	LR		
	comp=E,150nm,18.8s						
CD2				LR	LR		
	comp=Z,140nm,16.2s						
MDJ	**Mudanjiang**	**95.49**	**334**	P	**P**	**01 38 30.1**	**+0.9**
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,120nm,6.6s						
MDJ				LR	LR		
	comp=N,11nm,20.8s						
MDJ				LR	LR		
	comp=E,27nm,19.9s						
LZH	**Lanzhou**	**98.98**	**313**	*e*P	Pdif	01 38 46.3	+0.9
LZH				pP	pP	01 38 51.3	+0.9
LZH				sP	sP	01 38 53.4	+1.2
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC	**Hu-ho-hao-te**	**99.04**	**321**	*e*P

MAN 18 01:36:13,18°.37N×120°.93E,h48km,mb4.0,ML2.8,MS2.5, 2C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.30**	**262**	⇑*iP*	Pn	01 36 23.8	+1.8
PIP				*eS*	Sn	01 36 31.7	+3.4
APYP	**Conner**	**0.58**	**149**	*eP*	Pn	01 36 26.8	+1.6
APYP				*eS*	Sn	01 36 37.1	+3.2
SIPP	**Brgy, Tapao**	**0.63**	**226**	⇓*iP*	Pn	01 36 27.6	+1.9
SIPP				*eS*	Sn	01 36 39.2	+4.3
ABRA	**Dolores**	**0.74**	**196**	*eP*	Pn	01 36 27.8	+0.5
ABRA				*eS*	Sn	01 36 39.8	+2.2
CAUP	**Cauayan**	**1.65**	**149**	*eP*	Pn	01 36 42.1	+2.5
PALP	**Palanan**	**1.93**	**132**	⇑*eP*	Pn	01 36 45.0	+1.7
PALP				*eS*	Sn	01 37 11.8	+5.4
BALP	**Baler**	**2.68**	**167**	*eP*	Pn	01 36 54.6	+0.9

MEX 18 01:39:48.3±0.4,16°.14N×98°.10W,h5km,MD3.8,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.25**	**353**	*eP*	Pg	01 39 52.3	-0.9
PNIG				*eS*	Sg	01 39 56.8	+0.2
HUIG	**Huatulco**	**1.95**	**101**	*iP*	Pn	01 40 19.1	-3.0
HUIG				*eS*	Sn	01 40 42.6	-4.3
PLIG	**Platanillo**	**2.61**	**329**	*eP*	Pn	01 40 28.2	-3.1
PLIG				*eS*	Sn	01 40 59.6	-3.9
YAIG	**Yautepec**	**2.86**	**341**	*iP*	Pn	01 40 32.3	-2.5
YAIG				*iS*	Sn	01 41 05.9	-3.9
ARIG	**Puente Sto Nin**	**3.02**	**315**	*iP*	Pn	01 40 34.0	-2.9
ARIG				*eS*	Sn	01 41 10.2	-3.4

IDC ***18*** *01:45:48.4±2.1,6°.69S×129°.84E,h0km,mb3.4/1, mb1 3.8/4,mb1mx3.6/20,mbtmp3.6/4,ML3.7/3,Error ellipse: s-maj=89.1km s-min=27.6km az=77.0*

ISCJB ***18*** *01:45:58.0±0.7,7°.11S±0°.05×130°.1E±0°.1,h104km, mb3.1/1,Error ellipse: s-maj=15.6km s-min=7.0km az=13.5*

AUST ***18*** *01:46:01.3±99.0,7°.00S×129°.94E,h82km,Error ellipse: s-maj=1.8km s-min=1.7km az=243.0*

ISC 18 01:45:58.3±1.0,7°.21S±0°.07×130°.0E±0°.1,h104km,n9, σ3$40/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.83**	**28**	P	**Pn**	**01 47 09.4**	**+0.5**
	baz=4.7,SNR=6.1						
FAKI				S	**Sn**	**01 48 00.6**	**-3.2**
	baz=4.7,SNR=5.8						
MTN	**Manton Dam**	**5.72**	**168**	P	Pn	01 47 28.1	+7.2
	baz=6.0,SNR=5.5						
KDU	**Kakadu**	**5.99**	**156**	P	Pn	01 47 30.7	+6.2
	baz=6.2,SNR=9.7						
SOEI	**Soe**	**6.17**	**245**	P	Pn	01 47 31.0	+3.9
	baz=6.3,SNR=3.9						
KNRA	**Kununurra**	**8.50**	**188**	P	Pn	01 48 02.4	+3.7
	baz=8.8,SNR=3.6						
FITZ	**Fitzroy Crossi**	**11.62**	**201**	Pn	**Pn**	**01 48 42.2**	**+1.4**
	0.5nm,0.3s,baz=44,slow=13,SNR=24						
FITZ				Sn	**Sn**	**01 50 44.1**	**-4.6**
	1.1nm,0.3s,baz=74,slow=18,SNR=10						
WRA	**Warramunga Arr**	**13.36**	**162**	Pn	**Pn**	**01 49 05.1**	**+1.2**
	0.3nm,0.3s,baz=343,slow=13,SNR=14						
WRA				Sn	**Sn**	**01 51 28.4**	**-2.6**
	0.8nm,0.3s,baz=340,slow=22,SNR=10						
ASAR	**Alice Springs**	**16.80**	**167**	P	**P**	**01 49 52.5**	**+4.6**
	0.3nm,0.3s,baz=347,slow=9.7,SNR=24						
ASAR				S	**Sn**	**01 52 51.6**	**-2.5**
	0.2nm,0.3s,baz=350,slow=26,SNR=7.0						
MKAR	**Makanchi Array**	**68.37**	**327**	P	**P**	**01 56 48.7**	**0.0**
	0.1nm,0.3s,baz=126,slow=7.3,SNR=3.1						

IDC ***18*** *01:51:32.2±2.5,52°.02N×176°.34E,h0km,mb3.5/4, mb1 3.8/6,mb1mx3.5/29,mbtmp3.5/6,ML3.4/2,Error ellipse: s-maj=101.6km s-min=13.6km az=14.0*

NEIC ***18*** *01:51:33.6,51°.41N×175°.85E,h17km,ML3.1(AEIC),After AEIC.*

ISC 18 01:51:34.5±1.2,51°.6N±0°.2×175°.98E±0°.06,h25km,n14, σ0$76/18,mb3.7/4,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.59**	**314**	P	**Pn**	**01 52 00.8**	**-0.1**
SMY				S	**Sb**	**01 52 22.2**	**-0.5**
LSNW	**Little Sitkin**	**1.61**	**77**	P	**Pn**	**01 52 01.2**	**-0.1**
LSSE	**Little Sitkin**	**1.64**	**79**	P	**Pn**	**01 52 01.8**	**+0.1**
LSPA	**Little Sitkin**	**1.64**	**78**	P	**Pn**	**01 52 02.2**	**+0.5**
LSPA				S	**Sb**	**01 52 24.1**	**-0.3**
AMKA	**Amchitka**	**2.10**	**96**	P	**Pn**	**01 52 07.3**	**-0.7**
FX1	**Attu Island--F**	**2.13**	**307**	P	**Pn**	**01 52 08.4**	**0.0**
FX1				S	**Sn**	**01 52 34.4**	**+0.4**
FX1	**Attu Island--F**	**2.13**	**307**	Pn	**Pn**	**01 52 07.4**	**-1.0**
	50nm,0.3s,baz=206,slow=6.4,SNR=122						
FX1				Sn	**Sn**	**01 52 34.5**	**+0.4**
	33nm,0.3s,baz=322,slow=18,SNR=8.0						
CEAP	**Semis' Anvil P**	**2.27**	**79**	P	**Pn**	**01 52 10.8**	**+0.5**
CERAA	**Semis' Rag'd T**	**2.32**	**82**	P	**Pn**	**01 52 11.0**	**0.0**
PETK	**Petropavlovsk-**	**11.27**	**285**	Pn	**Pn**	**01 54 14.0**	**+0.2**
	0.2nm,0.3s,baz=99,slow=18,SNR=6.1						
NVAR	**Mina Array Bea**	**46.74**	**79**	P	**P**	**02 00 01.2**	**-0.3**
	0.4nm,0.7s,baz=287,slow=5.6,SNR=4.2						
MKAR	**Makanchi Array**	**57.26**	**305**	P	**P**	**02 01 21.7**	**+2.1**
	0.1nm,0.4s,baz=66,slow=5.1,SNR=3.0						
TXAR	**Lajitas Array**	**61.81**	**78**	P	**P**	**02 01 50.6**	**-0.7**
	0.6nm,0.7s,baz=311,slow=4.6,SNR=7.2						
FINES	**FINESS Array B**	**64.73**	**345**	P	**P**	**02 02 08.9**	**-1.0**
	1.2nm,1.0s,baz=25,slow=6.3,SNR=3.5						

IDC ***18*** *02:01:42.1±1.2,37°.08N×142°.22E,h0km,mb3.4/4, mb1 3.7/6,mb1mx3.5/25,mbtmp3.4/6,ML2.8/2,MS2.6/1, Ms1 2.6/1,ms1mx2.1/23,Error ellipse: s-maj=31.4km s-min=24.5km az=88.0*

ISCJB ***18*** *02:01:46.4±1.2,37°.16N±0°.05×142°.03E±0°.10, h45km±12km,mb3.5/4,Error ellipse: s-maj=13.1km s-min=7.3km az=17.5*

JMA ***18*** *02:01:46.8±0.1,37°.18N×141°.99E,h46km±4km,M4.0*

JMA Felt I J1.

NIED ***18*** *02:02:00,37°.20N×142°.00E,h32km,Mw3.6 Best double couple: M03.28000×10¹⁴ NP1:φ=248.00000°,δ59.00000°, λ=-46.00000°. NP2:φ=6.00000°,δ52.00000°,λ=-139.00000°.*

ISC 18 02:01:46.0±3.5,37°.18N±0°.06×142°.07E±0°.09,h26km±25km, n18,σ1$58/29,mb3.4/4,4C-1D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.97**	**281**	⇑P	**Pn**	**02 02 03.3**	**-0.7**
JFK				S	**Sn**	**02 02 15.0**	**-2.0**
ONAJ	**Iwakimizuishiy**	**1.02**	**266**	P	**Pn**	**02 02 04.1**	**-0.6**
ONAJ				S	**Sn**	**02 02 16.4**	**-1.8**
JMM	**Marumori**	**1.22**	**304**	P	**Pn**	**02 02 07.1**	**-0.4**
JMM				*eS*	**Sn**	**02 02 21.9**	**-1.3**
JHO	**Hitachi**	**1.33**	**245**	P	**Pn**	**02 02 08.1**	**-0.8**
JHO				*eS*	**Sn**	**02 02 23.8**	**-2.0**
JIO	**Ouri**	**1.39**	**336**	⇓P	**Pn**	**02 02 09.9**	**+0.1**
JIO				*eS*	**Sn**	**02 02 25.8**	**-1.5**
JFT	**Otama**	**1.42**	**284**	⇑P	**Pn**	**02 02 10.6**	**+0.4**
JFT				*eS*	**Sn**	**02 02 27.4**	**-0.7**
JOU	**Okura**	**1.62**	**317**	⇑P	**Pn**	**02 02 13.3**	**+0.3**
JOU				*eS*	**Sn**	**02 02 33.2**	**+0.1**
JMK	**Ichinoseki**	**1.89**	**339**	P	**Pn**	**02 02 17.1**	**+0.5**
JMK				*eS*	**Sn**	**02 02 39.7**	**+0.1**
JYS	**Shirataka**	**1.90**	**304**	⇑P	**Pn**	**02 02 17.6**	**+0.8**
JYS				*eS*	**Sn**	**02 02 40.7**	**+0.9**
JFY	**Yanaizu**	**1.90**	**278**	P	**Pn**	**02 02 17.3**	**+0.5**
JFY				*eS*	**Sn**	**02 02 39.7**	**+0.2**
MJAR	**Matsushiro Arr**	**3.16**	**260**	Pn	**Pn**	**02 02 35.9**	**+1.7**
	5.6nm,0.3s,baz=124,slow=9.2,SNR=25						
MJAR				Sn	**Sb**	**02 03 18.5**	**-1.1**
	7.3nm,0.3s,baz=68,slow=6.6,SNR=6.2						
MAT	**Matsushiro**	**3.16**	**260**	P	**Pn**	**02 02 36.0**	**+1.9**
MAT				S	**Sn**	**02 03 16.3**	**+5.3**
ASAJ	**Asahikawa**	**6.94**	**3**	LR	LR	02 06 44.4	
	comp=Z,46nm,19.8s,baz=164,slow=43						
USRK	**Ussuriysk Arra**	**10.37**	**316**	Pn	**Pn**	**02 04 15.5**	**+2.5**
	0.1nm,0.3s,baz=155,slow=14,SNR=3.1						
MKAR	**Makanchi Array**	**44.48**	**302**	P	**P**	**02 09 54.5**	**-0.6**
	0.3nm,0.6s,baz=88,slow=9.9,SNR=3.6						
ILAR	**Eielson Array**	**49.09**	**32**	P	**P**	**02 10 31.3**	**+0.5**
	0.2nm,0.6s,baz=282,slow=7.1,SNR=2.7						
WRA	**Warramunga Arr**	**57.28**	**189**	P	**P**	**02 11 30.6**	**-0.8**
	0.9nm,0.5s,baz=7.1,slow=7.3,SNR=15						
ASAR	**Alice Springs**	**61.01**	**189**	P	**P**	**02 11 57.0**	**-0.2**
	0.2nm,0.5s,baz=22,slow=12,SNR=5.4						

IDC 18 02:07:39.8±1.8,2°.65N×127°.70E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.6/21,mbtmp3.7/5,Error ellipse: s-maj=101.1km s-min=23.2km az=69.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.72**	**186**	P	Pn	02 12 23.8	-0.5
	2.2nm,0.8s,baz=7.4,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**23.38**	**164**	P	P	02 12 49.3	-1.1
	1.4nm,0.5s,baz=341,slow=11,SNR=15						
ASAR	**Alice Springs**	**26.85**	**167**	P	P	02 13 21.7	-0.6
	0.2nm,0.5s,baz=342,slow=7.7,SNR=4.0						
STKA	**Stephens Creek**	**36.79**	**160**	P	P	02 14 49.7	+0.3
	2.0nm,0.7s,baz=333,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**58.99**	**325**	P	P	02 17 41.3	-0.1
	0.5nm,0.5s,baz=113,slow=8.8,SNR=6.8						

WEL 18 02:28:10.5±0.3,45°.46S×166°.60E,h23km±1km,ML3.6/16, 1C-4D,Error ellipse: s-maj=3.1km s-min=2.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.39**	**93**	⇓P*	Pb	02 28 18.5	-0.2
DCZ				S*	Sb	02 28 23.6	-0.7
DCZ				S*	Sn	02 28 23.9	-3.4
DCZ				AML	AML	02 28 24.3	
PYZ	**Puysegur Point**	**0.71**	**175**	⇑P*	Pb	02 28 23.8	-0.4
PYZ				S*	Sb	02 28 33.1	-0.5
WHZ	**Wether Hill Ro**	**1.04**	**115**	PN	Pn	02 28 29.4	-0.3
WHZ				AML	AML	02 28 43.7	
WHZ				AML	AML	02 28 44.1	
MLZ	**Mavora Lakes**	**1.11**	**85**	⇓PN	Pn	02 28 29.9	-0.8
MLZ				AML	AML	02 28 43.9	
MLZ				AML	AML	02 28 44.4	
MSZ	**Milford Sound**	**1.23**	**51**	PN	Pn	02 28 31.1	-1.1
MSZ				AML	AML	02 28 51.3	
MSZ				AML	AML	02 28 53.3	
MSZ				AML	AML	02 28 53.3	
MSZ				AML	AML	02 28 53.5	
APZ	**The Paps**	**1.68**	**145**	PN	Pb	02 28 40.0	-0.8
WKZ	**Wanaka**	**1.82**	**71**	PN	Pn	02 28 41.6	+1.1
WKZ				AML	AML	02 29 10.2	
WKZ				AML	AML	02 29 11.3	
EAZ	**Earnscleugh**	**1.92**	**84**	⇓PN	Pn	02 28 43.3	+1.5
EAZ				AML	AML	02 29 11.7	
EAZ				AML	AML	02 29 12.3	
JCZ	**Jackson Bay**	**2.07**	**49**	*e*PN	Pn	02 28 45.4	+1.5
JCZ				AML	AML	02 29 20.0	
JCZ				AML	AML	02 29 20.6	
SYZ	**Scrubby Hill**	**2.07**	**122**	PN	Pb	02 28 46.1	-1.2
TUZ	**Tuapeka**	**2.18**	**104**	AML	AML	02 29 17.1	
TUZ				AML	AML	02 29 19.1	
LBZ	**Lake Benmore**	**2.76**	**68**	*e*PN	Pn	02 28 53.6	+0.2
LBZ				AML	AML	02 29 31.8	
ODZ	**Otahua Downs**	**2.89**	**83**	⇓PN	Pn	02 28 55.5	+0.5
ODZ				AML	AML	02 29 34.9	
FOZ	**Fox Glacier**	**2.91**	**50**	AML	AML	02 29 49.3	
RPZ	**Rata Peaks**	**3.63**	**63**	AML	AML	02 29 53.2	
WVZ	**Waitaha Valley**	**3.81**	**53**	*e*PN	Pn	02 29 08.5	+0.8

WEL 18 02:28:56.2±0.3,45°.48S×166°.64E,h22km±1km,ML4.1/19, 1D,Error ellipse: s-maj=2.7km s-min=1.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.36**	**91**	⇓P*	Pb	02 29 03.7	-0.2
DCZ				S*	Sb	02 29 08.4	-0.8
DCZ				AML	AML	02 29 09.1	
PYZ	**Puysegur Point**	**0.69**	**178**	P*	Pb	02 29 09.0	-0.7
PYZ				S*	Sb	02 29 17.9	-0.9
WHZ	**Wether Hill Ro**	**1.01**	**115**	PN	Pb	02 29 14.7	-0.3
WHZ				AML	AML	02 29 30.8	
WHZ				AML	AML	02 29 42.1	
MSZ	**Milford Sound**	**1.22**	**49**	PN	Pn	02 29 17.5	-0.3
MSZ				AML	AML	02 29 38.7	
MSZ				AML	AML	02 29 38.7	
MSZ				AML	AML	02 29 41.0	
MSZ				AML	AML	02 29 41.0	
APZ	**The Paps**	**1.65**	**146**	PN	Pb	02 29 25.2	-0.7
WKZ	**Wanaka**	**1.80**	**70**	*e*PN	Pn	02 29 27.1	+1.1
WKZ				AML	AML	02 29 55.2	
WKZ				AML	AML	02 29 55.2	
WKZ				AML	AML	02 30 08.3	
WKZ				AML	AML	02 30 08.3	
EAZ	**Earnscleugh**	**1.90**	**84**	PN	Pn	02 29 28.6	+1.4
EAZ				AML	AML	02 29 58.1	
EAZ				AML	AML	02 29 58.1	
EAZ				AML	AML	02 29 58.3	
EAZ				AML	AML	02 29 58.3	
SYZ	**Scrubby Hill**	**2.04**	**122**	*e*PN	Pn	02 29 30.8	+1.6
JCZ	**Jackson Bay**	**2.06**	**48**	PN	Pb	02 29 34.7	+1.7
JCZ				AML	AML	02 30 03.2	
JCZ				AML	AML	02 30 03.7	
TUZ	**Tuapeka**	**2.15**	**104**	*e*PN	Pb	02 29 33.0	-1.5
TUZ				AML	AML	02 30 05.5	
TUZ				AML	AML	02 30 06.7	
LBZ	**Lake Benmore**	**2.74**	**68**	AML	AML	02 30 18.6	
LBZ				AML	AML	02 30 26.1	
HHSZ	**Highcliff Hill**	**2.81**	**100**	PN	Pn	02 29 42.3	+2.5
ODZ	**Otahua Downs**	**2.86**	**83**	PN	Pn	02 29 40.7	+0.2
ODZ				AML	AML	02 30 20.7	
ODZ				AML	AML	02 30 34.1	
ODZ				AML	AML	02 30 34.8	
ODZ				AML	AML	02 30 34.8	
FOZ	**Fox Glacier**	**2.90**	**50**	AML	AML	02 30 34.3	
FOZ				AML	AML	02 30 36.0	
RPZ	**Rata Peaks**	**3.61**	**62**	AML	AML	02 30 55.5	
RPZ				AML	AML	02 30 57.3	
WVZ	**Waitaha Valley**	**3.80**	**52**	AML	AML	02 30 59.0	
WVZ				AML	AML	02 30 59.8	
LTZ	**Lake Taylor**	**4.87**	**58**	AML	AML	02 31 17.6	

BJI ***18*** *02:41:24.7,34°.33N×37°.90W,h6km,mB5.3/4,mb5.3/7, Ms5.2/6,Ms7 4.7/6*

ISCJB ***18*** *02:41:26.3±0.2,34°.24N±0°.05×37°.37W±0°.03,h10km, mb4.8/167,MS4.1/41,Error ellipse: s-maj=7.6km s-min=3.0km az=174.6*

IDC ***18*** *02:41:26.4±0.5,34°.22N×37°.40W,h0km,mb4.5/25, mb1 4.6/25,mb1mx4.6/29,mbtmp4.4/25,MS4.0/31, Ms1 4.0/31,ms1mx4.0/37,Error ellipse: s-maj=15.0km s-min=11.6km az=9.0*

MOS ***18*** *02:41:26.4±0.7,34°.24N×37°.36W,h10km,mb5.0/62, MS4.1/7,Error ellipse: s-maj=8.2km s-min=4.8km az=137.6*

SZGRF ***18*** *02:41:27.5,33°.98N×37°.95W,h33km,mb4.5,Northern Mid-Atlantic Ridge*

NEIC ***18*** *02:41:28.1±0.1,34°.21N×37°.35W,h10km,mb4.8/99,Error ellipse: s-maj=5.0km s-min=2.3km az=177.0*

CSEM ***18*** *02:41:28.2±0.1,34°.25N×37°.36W,h10km,mb4.9/99,Ms3.8, Mw5.0,Error ellipse: s-maj=5.3km s-min=2.2km az=174.0*

PDA ***18*** *02:41:28.0,34°.21N×37°.35W,h10km,mb4.8*

GCMT ***18*** *02:41:32.6±0.2,34°.32N×37°.38W,h12km,MW5.0, Moment Tensor Solution. s23,c28; s77,c121; Moment tensor: Scale 10¹⁶Nm; Mrr=3.67±.11; Mθθ2.82±.12; Mφφ0.85±.11; Mrθ=0.36±.34; Mrφ2.13±.08; Mθφ=1.10±.38; Best double couple: M04.10000×10¹⁶ NP1:φ=250.00000°, δ40.00000°,λ=-71.00000°. NP2:φ=46.00000°,δ53.00000°, λ=-105.00000°. Principal axes: T 4.2800, Plg6.0000°, Azm146.0000°; N -0.3600, Plg12.0000°, Azm55.0000°; P -3.9300, Plg76.0000°, Azm265.0000°; Data Used: ll lU lC G CN.*

ISC 18 02:41:29.0±0.5,34°.20N±0°.06×37°.37W±0°.05,h17km±2km, h16km:pP-P,n856,σ0$92/877,mb4.8/167,MS4.2/42,

168C-165D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSET	**Sete Cidades**	**10.10**	**66**	*e*P	**Pn**	**02 43 53.1**	**-0.2**
	100nm,0.6s						
PSET	**Sete Cidades**	**10.10**	**66**	*e*P	**Pn**	**02 43 53.1**	**-0.2**
	100nm,0.6s						
CMLA	**Cha da Macela**	**10.23**	**66**	*e*P	**Pn**	**02 43 53.1**	**-2.0**
	38nm,0.6s						
CMLA	**Cha da Macela**	**10.23**	**66**	*e*P	**Pn**	**02 43 53.4**	**-1.7**
CMLA	**Cha da Macela**	**10.23**	**66**	*e*Pn	**Pn**	**02 43 53.4**	**-1.7**
CMLA	**Cha da Macela**	**10.23**	**66**	*e*P	**Pn**	**02 43 53.1**	**-2.0**
	38nm,0.6s						
BART	**Pico Bartolome**	**10.51**	**67**	*e*P	**Pn**	**02 43 55.9**	**-3.0**
	38nm,0.6s						
BART	**Pico Bartolome**	**10.51**	**67**	*e*P	**Pn**	**02 43 55.9**	**-3.0**
	38nm,0.6s						
EVOP	**Sao Brissos**	**23.89**	**71**	*e*P	**P**	**02 46 37.7**	**-4.1**
EVOP				pmax	pmax		
	comp=Z,33nm,1.1s						
EVOP	**Sao Brissos**	**23.89**	**71**	*e*P	**P**	**02 46 37.7**	**-4.1**
	comp=Z,33nm,1.1s						
EVOP	**Sao Brissos**	**23.89**	**71**	*e*P	**P**	**02 46 37.7**	**-4.1**
	comp=Z,33nm,1.1s						
EVO	**Evora**	**23.98**	**71**	*e*P	P	02 46 37.7	-4.9
	comp=Z,33nm,1.1s						
EVO				*e*R			
	comp=Z,208nm,21.0s						
EMMW	**East Machias**	**25.36**	**303**	*e*P	**P**	**02 46 55.2**	**+0.2**
	comp=Z,47nm,1.0s						
EMMW	**East Machias**	**25.36**	**303**	*e*P	**P**	**02 46 55.2**	**+0.2**
	comp=Z,47nm,1.0s						
BBTS	**Babate**	**27.07**	**131**	LR	LR	02 55 10.0	
	comp=Z,737nm,19.2s,baz=332,slow=30						
ESDC	**Sonseca Array**	**27.16**	**69**	P	**P**	**02 47 11.3**	**-0.2**
ESDC	**Sonseca Array**	**27.16**	**69**	P	**P**	**02 47 11.3**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=273,slow=7.5,SNR=4.3						
ESDC				LR	LR	02 55 26.6	
	comp=Z,147nm,20.5s,baz=270,slow=31						
ESDC	**Sonseca Array**	**27.16**	**69**	P	**P**	**02 47 11.3**	**-0.2**
MDT	**Midelt**	**27.29**	**84**	P	**P**	**02 47 13.3**	**+0.5**
MDT	**Midelt**	**27.29**	**84**	P	**P**	**02 47 13.3**	**+0.5**
	comp=Z,3.7nm,1.0s,baz=287,slow=11,SNR=2.0						
MDT				LR	LR	02 55 42.4	
	comp=Z,234nm,20.5s,baz=71,slow=31						
MDT	**Midelt**	**27.29**	**84**	P	**P**	**02 47 13.3**	**+0.5**
HRV	**Adam Dziewonsk**	**27.91**	**297**	*e*P	**P**	**02 47 18.4**	**+0.3**
HRV				pmax	pmax		
	comp=Z,19nm,1.0s						
HRV	**Adam Dziewonsk**	**27.91**	**297**	*e*P	**P**	**02 47 18.4**	**+0.3**
	comp=Z,19nm,1.0s						
HRV	**Adam Dziewonsk**	**27.91**	**297**	*e*P	**P**	**02 47 18.4**	**+0.3**
	comp=Z,19nm,1.0s						
ROSF	**Rostrenen**	**28.99**	**51**	*e*P	**P**	**02 47 27.7**	**0.0**
	comp=Z,106nm,1.4s						
ROSF	**Rostrenen**	**28.99**	**51**	*e*P	**P**	**02 47 27.7**	**0.0**
ROSF				pmax	pmax		
	comp=Z,106nm,1.4s						
ROSF	**Rostrenen**	**28.99**	**51**	*e*P	**P**	**02 47 27.7**	**0.0**
	comp=Z,106nm,1.4s						
ROSF	**Rostrenen**	**28.99**	**51**	*e*P	**P**	**02 47 27.7**	**0.0**
	comp=Z,106nm,1.4s						
SCHQ	**Schefferville**	**29.09**	**324**	P	**P**	**02 47 28.1**	**-0.4**
SCHQ				PcP	**PcP**	**02 50 36.2**	**+0.1**
SCHQ	**Schefferville**	**29.09**	**324**	P	**P**	**02 47 28.1**	**-0.4**
	comp=Z,9.9nm,0.8s,baz=133,slow=8.4,SNR=9.9						
SCHQ				PcP	**PcP**	**02 50 36.2**	**+0.1**
	comp=Z,4.9nm,0.8s,baz=106,slow=7.0,SNR=4.8						
SCHQ				LR	LR	02 57 52.3	
	comp=Z,705nm,19.6s,baz=91,slow=34						
SCHQ	**Schefferville**	**29.09**	**324**	P	**P**	**02 47 28.1**	**-0.4**
SCHQ	**Schefferville**	**29.09**	**324**	PcP	**PcP**	**02 50 36.2**	**+0.1**
SJPF	**Ste Jean**	**29.41**	**62**	*e*P	**P**	**02 47 31.3**	**-0.2**
	comp=Z,49nm,1.2s						
SJPF	**Ste Jean**	**29.41**	**62**	*e*P	**P**	**02 47 31.3**	**-0.2**
SJPF				pmax	pmax		
	comp=Z,49nm,1.2s						
SJPF	**Ste Jean**	**29.41**	**62**	*e*P	**P**	**02 47 31.3**	**-0.2**
	comp=Z,49nm,1.2s						
SJPF	**Ste Jean**	**29.41**	**62**	*e*P	**P**	**02 47 31.3**	**-0.2**
	comp=Z,49nm,1.2s						
SGMF	**Saint Gilles**	**29.43**	**51**	*e*P	**P**	**02 47 31.2**	**-0.3**
SGMF	**Saint Gilles**	**29.43**	**51**	*e*P	**P**	**02 47 31.2**	**-0.3**
SGMF	**Saint Gilles**	**29.43**	**51**	*e*P	**P**	**02 47 31.2**	**-0.3**
SGMF	**Saint Gilles**	**29.43**	**51**	*e*P	**P**	**02 47 31.2**	**-0.3**
ACCN	**Adirondack Com**	**29.54**	**299**	*e*P	**P**	**02 47 33.1**	**+0.5**
	comp=Z,12nm,0.9s						
ACCN	**Adirondack Com**	**29.54**	**299**	*e*P	**P**	**02 47 33.2**	**+0.5**
	comp=Z,12nm,0.9s						
ETSF	**Etsaut**	**29.88**	**62**	*e*P	**P**	**02 47 35.3**	**-0.4**
	comp=Z,17nm,1.0s						
ETSF	**Etsaut**	**29.88**	**62**	*e*P	**P**	**02 47 35.3**	**-0.4**
ETSF				pmax	pmax		
	comp=Z,17nm,1.0s						
ETSF	**Etsaut**	**29.88**	**62**	*e*P	**P**	**02 47 35.3**	**-0.4**
	comp=Z,17nm,1.0s						
ETSF	**Etsaut**	**29.88**	**62**	*e*P	**P**	**02 47 35.3**	**-0.4**
	comp=Z,17nm,1.0s						
GRR	**Gorron**	**30.56**	**51**	*e*P	**P**	**02 47 42.3**	**+0.8**
	comp=Z,49nm,1.2s						
GRR	**Gorron**	**30.56**	**51**	*e*P	**P**	**02 47 42.3**	**+0.8**
GRR				pmax	pmax		
	comp=Z,49nm,1.2s						
GRR	**Gorron**	**30.56**	**51**	*e*P	**P**	**02 47 42.3**	**+0.8**
	comp=Z,49nm,1.2s						
GRR	**Gorron**	**30.56**	**51**	*e*P	**P**	**02 47 42.3**	**+0.8**
	comp=Z,49nm,1.2s						
MFF	**Saint Martin d**	**30.65**	**55**	*e*P	**P**	**02 47 43.2**	**+0.8**
MFF	**Saint Martin d**	**30.65**	**55**	*e*P	**P**	**02 47 43.2**	**+0.8**
MFF	**Saint Martin d**	**30.65**	**55**	*e*P	**P**	**02 47 43.2**	**+0.8**
MFF	**Saint Martin d**	**30.65**	**55**	*e*P	**P**	**02 47 43.2**	**+0.8**
FLN	**La Foliniere**	**30.89**	**51**	*e*P	**P**

SMF	**Signal de Mont**	**33.37**	**56**	*e*P		**P**	**02 48 06.7**	**+0.4**
SMF				pmax		pmax			
	comp=Z,31nm,1.2s								
SMF	**Signal de Mont**	**33.37**	**56**	*e*P		**P**	**02 48 06.7**	**+0.4**
	comp=Z,31nm,1.2s								
SMF	**Signal de Mont**	**33.37**	**56**	*e*P		**P**	**02 48 06.7**	**+0.4**
	comp=Z,31nm,1.2s								
LOR	**Lormes**	**33.46**	**54**	*e*P		**P**	**02 48 07.5**	**+0.4**
	comp=Z,19nm,1.1s								
LOR				*e*R					
	comp=Z,152nm,19.8s								
LOR	**Lormes**	**33.46**	**54**	*e*P		**P**	**02 48 07.5**	**+0.4**
	comp=Z,19nm,1.1s								
LOR	**Lormes**	**33.46**	**54**	*e*P		**P**	**02 48 07.5**	**+0.4**
	comp=Z,19nm,1.1s								
BAIF	**Baives**	**34.17**	**50**	*e*P		**P**	**02 48 12.7**	**-0.5**
	comp=Z,37nm,1.0s								
BAIF	**Baives**	**34.17**	**50**	*e*P		**P**	**02 48 12.7**	**-0.5**
BAIF				pmax		pmax			
	comp=Z,37nm,1.0s								
BAIF	**Baives**	**34.17**	**50**	*e*P		**P**	**02 48 12.7**	**-0.5**
	comp=Z,37nm,1.0s								
BAIF	**Baives**	**34.17**	**50**	*e*P		**P**	**02 48 12.7**	**-0.5**
	comp=Z,37nm,1.0s								
SFTF	**Sexfontaines**	**34.38**	**53**	*e*P		**P**	**02 48 15.4**	**+0.3**
	comp=Z,25nm,0.9s								
SFTF	**Sexfontaines**	**34.38**	**53**	*e*P		**P**	**02 48 15.4**	**+0.3**
	comp=Z,25nm,0.9s								
SFTF	**Sexfontaines**	**34.38**	**53**	*e*P		**P**	**02 48 15.4**	**+0.3**
	comp=Z,25nm,0.9s								
MEZF	**Maizieres J'vi**	**34.44**	**53**	*e*P		**P**	**02 48 15.8**	**+0.3**
	comp=Z,83nm,1.2s								
MEZF	**Maizieres J'vi**	**34.44**	**53**	*e*P		**P**	**02 48 15.8**	**+0.3**
	comp=Z,83nm,1.2s								
MEZF	**Maizieres J'vi**	**34.44**	**53**	*e*P		**P**	**02 48 15.8**	**+0.3**
	comp=Z,83nm,1.2s								
GIVF	**Givet**	**34.56**	**50**	*e*P		**P**	**02 48 16.4**	**-0.2**
	comp=Z,40nm,1.1s								
GIVF	**Givet**	**34.56**	**50**	*e*P		**P**	**02 48 16.4**	**-0.2**
GIVF				pmax		pmax			
	comp=Z,40nm,1.1s								
GIVF	**Givet**	**34.56**	**50**	*e*P		**P**	**02 48 16.4**	**-0.2**
	comp=Z,40nm,1.1s								
GIVF	**Givet**	**34.56**	**50**	*e*P		**P**	**02 48 16.4**	**-0.2**
	comp=Z,40nm,1.1s								
CABF	**La Chapelle**	**34.91**	**56**	*e*P		**P**	**02 48 19.1**	**-0.7**
	comp=Z,115nm,1.7s								
CABF	**La Chapelle**	**34.91**	**56**	*e*P		**P**	**02 48 19.1**	**-0.7**
CABF				pmax		pmax			
	comp=Z,115nm,1.7s								
CABF	**La Chapelle**	**34.91**	**56**	*e*P		**P**	**02 48 19.1**	**-0.7**
	comp=Z,115nm,1.7s								
CABF	**La Chapelle**	**34.91**	**56**	*e*P		**P**	**02 48 19.1**	**-0.7**
	comp=Z,115nm,1.7s								
THEF	**They Montfort**	**35.02**	**53**	*e*P		**P**	**02 48 21.3**	**+0.7**
THEF	**They Montfort**	**35.02**	**53**	*e*P		**P**	**02 48 21.3**	**+0.7**
WLF	**Walferdange**	**35.33**	**51**	*e*P		**P**	**02 48 23.5**	**+0.3**
	comp=Z,26nm,1.4s								
WLF	**Walferdange**	**35.33**	**51**	*e*P		**P**	**02 48 23.6**	**+0.3**
WLF				pmax		pmax			
	comp=Z,17nm,1.1s								
WLF	**Walferdange**	**35.33**	**51**	*e*P		**P**	**02 48 23.6**	**+0.3**
	comp=Z,17nm,1.1s								
WLF	**Walferdange**	**35.33**	**51**	*e*P		**P**	**02 48 23.6**	**+0.3**
	comp=Z,17nm,1.1s								
LOMF	**Lomont**	**35.48**	**55**	*e*P		**P**	**02 48 23.0**	**-1.7**
LOMF	**Lomont**	**35.48**	**55**	*e*P		**P**	**02 48 23.0**	**-1.7**
HINF	**Hinteralfeld**	**35.54**	**54**	*e*P		**P**	**02 48 25.5**	**+0.3**
HINF	**Hinteralfeld**	**35.54**	**54**	*e*P		**P**	**02 48 25.5**	**+0.3**
HINF	**Hinteralfeld**	**35.54**	**54**	*e*P		**P**	**02 48 25.5**	**+0.3**
HINF	**Hinteralfeld**	**35.54**	**54**	*e*P		**P**	**02 48 25.5**	**+0.3**
MOF	**Molkenrain**	**35.74**	**54**	*e*P		**P**	**02 48 24.1**	**-2.8**
MOF	**Molkenrain**	**35.74**	**54**	*e*P		**P**	**02 48 24.1**	**-2.8**
CDF	**Champ du Feu**	**35.89**	**53**	*e*P		**P**	**02 48 28.0**	**-0.2**
	comp=Z,36nm,1.0s								
CDF	**Champ du Feu**	**35.89**	**53**	*e*P		**P**	**02 48 28.0**	**-0.2**
CDF				pmax		pmax			
	comp=Z,37nm,1.0s								
CDF	**Champ du Feu**	**35.89**	**53**	*e*P		**P**	**02 48 28.0**	**-0.2**
	comp=Z,36nm,1.0s								
CDF	**Champ du Feu**	**35.89**	**53**	*e*P		**P**	**02 48 28.0**	**-0.2**
	comp=Z,36nm,1.0s								
RUP	**Ruppelstein**	**35.92**	**51**	*e*P		**P**	**02 48 28.9**	**+0.5**
KMSC	**Kings Mountain**	**35.95**	**284**	⇑P		**P**	**02 48 28.8**	**+0.1**
	baz=36								
BBS	**Basel-Blauen**	**35.95**	**55**	*e*P		**P**	**02 48 29.1**	**+0.4**
ABH	**Alteburg**	**36.26**	**51**	*e*P		**P**	**02 48 31.0**	**-0.2**
LANF	**Langenberg**	**36.31**	**52**	*e*P		**P**	**02 48 29.7**	**-1.9**
LANF	**Langenberg**	**36.31**	**52**	*e*P		**P**	**02 48 29.7**	**-1.9**
FELD	**Feldberg im Sc**	**36.32**	**54**	*e*P		**P**	**02 48 32.0**	**+0.1**
BFO	**Black Forest**	**36.58**	**53**	*e*P		**P**	**02 48 34.3**	**+0.2**
	comp=Z,18nm,1.1s								
BFO	**Black Forest**	**36.58**	**53**	*e*P		**P**	**02 48 34.2**	**+0.2**
BFO				pmax		pmax			
	comp=Z,15nm,1.0s								
BFO	**Black Forest**	**36.58**	**53**	*e*P		**P**	**02 48 34.2**	**+0.2**
	comp=Z,15nm,1.0s								
BFO	**Black Forest**	**36.58**	**53**	*e*P		**P**	**02 48 34.2**	**+0.2**
	comp=Z,15nm,1.0s								
SPAK	**Spaichingen-Ko**	**36.87**	**54**	*e*P		**P**	**02 48 37.3**	**+0.8**
TOD	**Tromm**	**37.03**	**51**	*e*P		**P**	**02 48 37.9**	**+0.1**
STU	**Stuttgart**	**37.20**	**53**	*e*P		**P**	**02 48 39.2**	**0.0**
	comp=Z,20nm,1.0s								
STU	**Stuttgart**	**37.20**	**53**	*e*P		**P**	**02 48 39.6**	**+0.4**
STU				pmax		pmax			
	comp=Z,10.0nm,0.8s								
STU	**Stuttgart**	**37.20**	**53**	*e*P		**P**	**02 48 39.6**	**+0.4**
	comp=Z,9.6nm,0.8s								
STU	**Stuttgart**	**37.20**	**53**	*e*P		**P**	**02 48 39.6**	**+0.4**
	comp=Z,10.0nm,0.8s								
SCO	**Scoresbysund**	**37.30**	**8**	*e*P		P	02 48 43.7	+4.0
SCO				pmax		pmax			
	comp=Z,9.0nm,0.8s								
SCO	**Scoresbysund**	**37.30**	**8**	*i* P		P	02 48 43.7	+4.0
	comp=Z,8.5nm,0.8s								
KEST	**Kesra**	**38.03**	**74**	P		**P**	**02 48 47.5**	**+1.0**
KEST	**Kesra**	**38.03**	**74**	P		**P**	**02 48 47.5**	**+1.0**
	comp=Z,1.8nm,0.7s,baz=18,slow=2.2,SNR=5.5								
KEST	**Kesra**	**38.03**	**74**	P		**P**	**02 48 47.5**	**+1.0**
CPCT	**Cooper Cave**	**38.44**	**286**	*e*P		**P**	**02 48 50.2**	**+0.3**
CPCT	**Cooper Cave**	**38.44**	**286**	*e*P		**P**	**02 48 50.2**	**+0.3**
SUMG	**Summit**	**38.45**	**359**	*e*P		**P**	**02 48 50.7**	**+0.8**
SUMG				pmax		pmax			
	comp=Z,87nm,1.9s								
SUMG	**Summit**	**38.45**	**359**	*e*P		**P**	**02 48 50.7**	**+0.8**
	comp=Z,87nm,1.9s								
SUMG	**Summit**	**38.45**	**359**	*i* P		**P**	**02 48 50.7**	**+0.8**
	comp=Z,10nm,0.8s								
SUMG	**Summit**	**38.45**	**359**	*e*P		**P**	**02 48 50.7**	**+0.8**
	comp=Z,87nm,1.9s								
GRFO	**Grafenberg**	**38.60**	**51**	*e*P		**P**	**02 48 51.9**	**+0.8**
GRFO	**Grafenberg**	**38.60**	**51**	*e*P		**P**	**02 48 51.9**	**+0.8**
GRFO	**Grafenberg**	**38.60**	**51**	*e*P		**P**	**02 48 51.9**	**+0.8**
GRA1	**Grafenberg Arr**	**38.60**	**51**	*e*P		**P**	**02 48 51.2**	**+0.1**
	comp=Z,2.0nm,1.0s								
GRF	**Grafenberg Arr**	**38.60**	**51**	*e*P		**P**	**02 48 51.2**	**+0.1**
	comp=Z,20nm,1.0s								
GRF	**Grafenberg Arr**	**38.60**	**51**	*e*P		**P**	**02 48 51.2**	**+0.1**
GRF				pmax		pmax			
	comp=Z,2.0nm,1.0s								
TIGA	**Tifton**	**38.69**	**279**	⇓P		**P**	**02 48 52.1**	**+0.1**
	baz=39								
WTTA	**Wattenberg**	**38.74**	**55**	⇑*i*P		**P**	**02 48 52.0**	**-0.5**
	comp=Z,16nm,0.9s								
MOX	**Moxa**	**38.94**	**50**	*e*P		**P**	**02 48 54.0**	**+0.1**
	comp=Z,8.0nm,1.2s								
MOX	**Moxa**	**38.94**	**50**	*e*P		**P**	**02 48 54.0**	**+0.1**
MOX				pmax		pmax			
	comp=Z,2.0nm,1.2s								
MOX	**Moxa**	**38.94**	**50**	*e*P		**P**	**02 48 54.0**	**+0.1**
	comp=Z,2.0nm,1.2s								
TAM	**Tamanrasset**	**39.12**	**95**	*e*P		**P**	**02 48 56.9**	**+1.1**
TAM				pmax		pmax			
	comp=Z,6.0nm,0.9s								
TAM	**Tamanrasset**	**39.12**	**95**	*e*P		**P**	**02 48 56.9**	**+1.1**
	comp=Z,6.1nm,0.9s								
TAM	**Tamanrasset**	**39.12**	**95**	*e*P		**P**	**02 48 56.9**	**+1.1**
	comp=Z,6.0nm,0.9s								
BLO	**Bloomington**	**39.34**	**292**	*e*P		**P**	**02 49 00.3**	**+2.9**
BLO	**Bloomington**	**39.34**	**292**	*e*P		**P**	**02 49 00.3**	**+2.9**
BLO	**Bloomington**	**39.34**	**292**	*e*P		**P**	**02 49 00.3**	**+2.9**
TANN	**Tannenbergstha**	**39.46**	**50**	*e*P		**P**	**02 48 58.6**	**+0.3**
	comp=Z,7.0nm,1.3s								
RJOB	**Jochberg**	**39.54**	**55**	*e*P		**P**	**02 48 59.0**	**0.0**
	comp=Z,14nm,1.1s								
SDV	**Santo Domingo**	**39.59**	**238**	*e*P		**P**	**02 49 01.5**	**+1.7**
SDV	**Santo Domingo**	**39.59**	**238**	*e*P		**P**	**02 49 01.5**	**+1.7**
SFIN	**Scholer Farm**	**39.61**	**294**	⇑P		**P**	**02 48 59.2**	**-0.4**
	baz=40								
CLL	**Collm**	**39.88**	**49**	*e*P		**P**	**02 49 01.5**	**-0.2**
	comp=Z,7.0nm,0.9s								
CLL	**Collm**	**39.88**	**49**	⇑*i*P		**P**	**02 49 02.1**	**+0.4**
CLL				*e*S		**S**	**02 55 09.0**	**+3.4**
CLL				pmax		pmax			
	comp=Z,7.0nm,1.4s								
CLL	**Collm**	**39.88**	**49**	⇑*i*P		**P**	**02 49 02.1**	**+0.4**
	comp=Z,10.0nm,1.4s								
CLL				*i* sP		**sP**	**02 49 06.8**	**-2.1**
CLL				*e*S		**S**	**02 55 09.0**	**+3.4**
CLL				*e*SS		**SnSn**	**02 58 12.0**	**+7.1**
CLL				L		L	03 02 00.0		
	comp=Z,200nm,19.3s								
CLL	**Collm**	**39.88**	**49**	*i* P		**P**	**02 49 02.1**	**+0.4**
	comp=Z,7.0nm,1.4s								
CLL				*e*S		**S**	**02 55 09.0**	**+3.4**
JMIC	**Jan Mayen**	**39.96**	**14**	LR		LR	03 00 15.4		
	comp=Z,128nm,20.8s,baz=212,slow=28								
KHC	**Kasperske Hory**	**40.10**	**52**	*e*P		**P**	**02 49 03.4**	**-0.2**
KHC				pmax		pmax			
	comp=Z,10.0nm,1.1s								
KHC	**Kasperske Hory**	**40.10**	**52**	*e*P		**P**	**02 49 03.4**	**-0.2**
KHC	**Kasperske Hory**	**40.10**	**52**	*e*P		**P**	**02 49 03.4**	**-0.2**
	comp=Z,10nm,1.1s								
KHC	**Kasperske Hory**	**40.10**	**52**	*e*P		**P**	**02 49 03.4**	**-0.2**
	comp=Z,10.0nm,1.1s								
AQU	**L'Aquila**	**40.17**	**63**	*e*P		**P**	**02 49 05.3**	**+1.0**
	comp=Z,39nm,1.1s								
AQU	**L'Aquila**	**40.17**	**63**	*e*P		**P**	**02 49 05.3**	**+1.0**
	comp=Z,39nm,1.1s								
GEC2	**GERESS Array S**	**40.17**	**53**	*e*P		**P**	**02 49 04.3**	**0.0**
	comp=Z,6.0nm,0.9s								
GEC2	**GERESS Array S**	**40.17**	**53**	*e*P		**P**	**02 49 04.3**	**0.0**
GEC2				pmax		pmax			
	comp=Z,34nm,0.9s								
GEC2	**GERESS Array S**	**40.17**	**53**	*e*P		**P**	**02 49 04.3**	**0.0**
	comp=Z,34nm,0.9s								
GERES	**GERESS Array B**	**40.17**	**53**	P		**P**	**02 49 04.7**	**+0.4**
GERES	**GERESS Array B**	**40.17**	**53**	P		**P**	**02 49 04.7**	**+0.4**
	comp=Z,3.5nm,0.8s,baz=266,slow=8.0,SNR=13								
GERES				LR		LR	03 02 30.7		
	comp=Z,82nm,20.8s,baz=275,slow=32								
GERES	**GERESS Array B**	**40.17**	**53**	P		**P**	**02 49 04.7**	**+0.4**
BRG	**Berggiesshubel**	**40.44**	**50**	*e*P		**P**	**02 49 05.0**	**-1.3**
	comp=Z,7.2nm,1.1s								
BRG	**Berggiesshubel**	**40.44**	**50**	*e*P		**P**	**02 49 06.3**	**0.0**
	comp=Z,7.0nm,1.1s								
BRG	**Berggiesshubel**	**40.44**	**50**	*e*P		**P**	**02 49 05.0**	**-1.3**
BRG				pmax		pmax			
	comp=Z,2.0nm,1.2s								
BRG	**Berggiesshubel**	**40.44**	**50**	*e*P		**P**	**02 49 05.0**	**-1.3**
	comp=Z,2.0nm,1.2s								
DBIC	**Dimbokro**	**40.64**	**125**	P		**P**	**02 49 07.9**	**-0.5**
DBIC	**Dimbokro**	**40.64**	**125**	P		**P**	**02 49 07.9**	**-0.5**
	comp=Z,6.5nm,0.7s,baz=308,slow=6.6,SNR=9.7								
DBIC				LR		LR	03 04 17.7		
	comp=Z,349nm,18.2s,baz=298,slow=34								
DBIC	**Dimbokro**	**40.64**	**125**	P		**P**	**02 49 07.9**	**-0.5**
OBKA	**Obir**	**40.74**	**56**	⇓*i*P		**P**	**02 49 08.6**	**-0.4**
	comp=Z,18nm,0.9s								
PRU	**Pruhonice**	**40.77**	**51**	*e*P		**P**	**02 49 09.9**	**+0.8**
PRU				MLR		MLR			
	comp=Z,100nm,16.8s								
PRU	**Pruhonice**	**40.77**	**51**	*e*P		**P**	**02 49 09.9**	**+0.8**
PRU				AMS		AMS	03 05 20.0		
	comp=Z,100nm,16.8s								
PRU	**Pruhonice**	**40.77**	**51**	*e*P		**P**	**02 49 09.9**	**+0.8**
	comp=Z,100nm,16.8s								
PVCC	**Panska Ves**	**40.81**	**50**	*e*P		**P**	**02 49 10.0**	**+0.6**
PVCC				MLR		MLR			
	comp=Z,300nm,14.4s								
PVCC	**Panska Ves**	**40.81**	**50**	*e*P		**P**	**02 49 10.0**	**+0.6**
PVCC				AMS		AMS	03 05 30.0		
	comp=Z,300nm,14.4s								
PVCC	**Panska Ves**	**40.81**	**50**	*e*P		**P**	**02 49 10.0**	**+0.6**
	comp=Z,300nm,14.4s								
LIC	**Lamto**	**40.85**	**126**	*e*P		**P**	**02 49 09.4**	**-0.7**
	comp=Z,13nm,0.6s								
LIC				*e*R					
	comp=Z,632nm,21.2s								
LIC	**Lamto**	**40.85**	**126**	*e*P		**P**	**02 49 09.4**	**-0.7**
	comp=Z,13nm,0.6s								
LIC	**Lamto**	**40.85**	**126**	*e*P		**P**	**02 49 09.4**	**-0.7**
	comp=Z,13nm,0.6s								
NB2	**NORSAR Subarra**	**40.92**	**34**	P		**P**	**02 49 10.7**	**+0.5**
	comp=Z,13nm,1.0s,baz=253,slow=9.3								
NOA	**NORSAR Array B**	**40.92**	**34**	P		**P**	**02 49 11.1**	**+0.8**
NOA	**NORSAR Array B**	**40.92**	**34**	P		**P**	**02 49 11.1**	**+0.8**
	comp=Z,7.4nm,0.9s,baz=253,slow=8.6,SNR=14								
NOA				LR		LR	03 03 18.3		
	comp=Z,81nm,20.0s,baz=270,slow=32								
NOA	**NORSAR Array B**	**40.92**	**34**	P		**P**	**02 49 11.1**	**+0.8**
WVT	**Waverly**	**40.92**	**288**	*e*P		**P**	**02 49 10.7**	**+0.2**
WVT				*e*			02 51 09.7		
WVT				pmax		pmax			
	comp=Z,14nm,1.1s								
WVT	**Waverly**	**40.92**	**288**	*e*P		**P**	**02 49 10.7**	**+0.2**
	comp=Z,14nm,1.1s								
WVT				*e*PcP		**PcP**	**02 51 09.7**	**-1.1**
WVT	**Waverly**	**40.92**	**288**	*e*P		**P**	**02 49 10.7**	**+0.2**
	comp=Z,14nm,1.1s								
TORD	**Torodi Ar. Bea**	**41.12**	**111**	P		**P**	**02 49 12.8**	**+0.4**
TORD				PcP		**PcP**	**02 51 11.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**41.12**	**111**	P		**P**	**02 49 12.8**	**+0.4**
	comp=Z,7.0nm,1.0s,baz=308,slow=7.2,SNR=22								
TORD				PcP		**PcP**	**02 51 11.2**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=305,slow=2.9,SNR=4.2								
TORD				LR		LR	03 04 34.5		
	comp=Z,555nm,20.2s,baz=300,slow=34								
TORD	**Torodi Ar. Bea**	**41.12**	**111**	P		**P**	**02 49 12.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**41.12**	**111**	PcP		**PcP**	**02 51 11.2**	**-0.6**
UPC	**Upice**	**41.73**	**50**	*e*P		**P**	**02 49 17.5**	**+0.5**
UPC	**Upice**	**41.73**	**50**	*e*P		**P**	**02 49 17.5**	**+0.5**
UPC	**Upice**	**41.73**	**50**	*e*P		**P**	**02 49 17.5**	**+0.5**
DPC	**Dobruska-Polom**	**41.92**	**51**	*e*P		**P**	**02 49 19.0**	**+0.4**
DPC	**Dobruska-Polom**	**41.92**	**51**	*e*P		**P**	**02 49 19.0**	**+0.4**
DPC				AMS		AMS	03 06 30.0		
DPC	**Dobruska-Polom**	**41.92**	**51**	*e*P		**P**	**02 49 19.0**	**+0.4**
CUC	**Castrocucco**	**42.29**	**66**	*e*P		**P**	**02 49 20.8**	**-1.0**
	comp=Z,10nm,0.9s								
CUC	**Castrocucco**	**42.29**	**66**	*e*P		**P**	**02 49 20.8**	**-1.0**
	comp=Z,10nm,0.9s								
OXF	**Oxford**	**42.56**	**286**	*e*P		**P**	**02 49 24.2**	**+0.3**
OXF				pmax		pmax			
	comp=Z,22nm,1.0s								
OXF	**Oxford**	**42.56**	**286**	*e*P		**P**	**02 49 24.2**	**+0.3**
	comp=Z,22nm,1.0s								
OXF	**Oxford**	**42.56**	**286**	*e*P		**P**	**02 49 24.2**	**+0.3**
	comp=Z,22nm,1.0s								
MORC	**Moravsky Berou**	**42.70**	**51**	*e*P		**P**	**02 49 25.0**	**0.0**
MORC				pmax		pmax			
	comp=Z,6.0nm,1.1s								
MORC	**Moravsky Berou**	**42.70**	**51**	*e*P		**P**	**02 49 25.0**	**0.0**
	comp=Z,5.8nm,1.1s								
MORC	**Moravsky Berou**	**42.70**	**51**	*e*P		**P**	**02 49 25.0**	**0.0**
	comp=Z,6.0nm,1.1s								
OKC	**Ostrava-Krasne**	**43.09**	**51**	AMS		AMS	03 07 30.0		
	comp=Z,100nm,19.5s								
TIP	**Timpagrande**	**43.15**	**67**	*e*P		**P**	**02 49 28.8**	**0.0**
	comp=Z,8.1nm,0.9s								
TIP	**Timpagrande**	**43.15**	**67**	*e*P		**P**	**02 49 28.8**	**0.0**
	comp=Z,8.1nm,0.9s								
SPMN	**St. Paul**	**43.26**	**302**	⇑P		**P**	**02 49 29.2**	**-0.3**
	baz=43								
DAG	**Danmarks Havn**	**43.51**	**6**	*e*P		P	02 49 36.0	+5.0
DAG				pmax		pmax			
	comp=Z,7.0nm,0.8s								
DAG	**Danmarks Havn**	**43.51**	**6**	*i* P		P	02 49 36.0	+5.0
	comp=Z,9.5nm,0.8s								
VYHS	**Vyhne**	**43.58**	**53**	*e*P		**P**	**02 49 31.5**	**-0.5**
VYHS				pmax		pmax			
	comp=Z,3.0nm,1.1s								
VYHS	**Vyhne**	**43.58**	**53**	*e*P		**P**	**02 49 31.5**	**-0.5**
VYHS	**Vyhne**	**43.58**	**53**	*e*P		**P**	**02 49 31.5**	**-0.5**
	comp=Z,3.0nm,1.1s								
PSZ	**Piszkesteto**	**44.31**	**54**	*e*P		**P**	**02 49 37.0**	**-1.0**
PSZ				pmax		pmax			
	comp=Z,6.0nm,1.0s								
PSZ	**Piszkesteto**	**44.31**	**54**	*e*P		**P**	**02 49 37.0**	**-1.0**
	comp=Z,5.6nm,1.0s								
PSZ	**Piszkesteto**	**44.31**	**54**	*e*P		**P**	**02 49 37.0**	**-1.0**
	comp=Z,6.0nm,1.0s								
UALR	**University of**	**44.82**	**287**	*e*P		**P**	**02 49 42.0**	**-0.1**
	comp=Z,22nm,0.8s								
UALR	**University of**	**44.82**	**287**	*e*P		**P**	**02 49 42.0**	**-0.1**
	comp=Z,22nm,0.8s								
ULM	**Lac du Bonnet**	**45.01**	**309**	P		**P**	**02 49 42.5**	**-0.9**
ULM	**Lac du Bonnet**	**45.01**	**309**	P		**P**	**02 49 42.5**	**-0.9**
	comp=Z,7.9nm,0.7s,baz=104,slow=8.1,SNR=6.7								
ULM				LR		LR	03 08 05.5		
	comp=Z,657nm,19.2s,baz=91,slow=36								
ULM	**Lac du Bonnet**	**45.01**	**309**	P		**P**	**02 49 42.5**	**-0.9**
ROSC	**El Rosal**	**45.01**	**238**	LR		LR	03 06 16.1		
	comp=Z,117nm,19.1s,baz=16,slow=33								
AGMN	**Agassiz Nation**	**45.11**	**307**	*e*P		**P**	**02 49 44.0**	**-0.3**
	comp=Z,9.0nm,0.6s								
AGMN				*e*PcP		**PcP**	**02 51 24.4**	**-0.3**
AGMN	**Agassiz Nation**	**45.11**	**307**	*e*P		**P**	**02 49 44.0**	**-0.3**
	comp=Z,9.0nm,0.6s								
STHS	**Stebnicka Huta**	**45.12**	**52**	*e*P		**P**	**02 49 45.9**	**+1.5**
STHS				pmax		pmax			
	comp=Z,6.0nm,1.0s								
STHS	**Stebnicka Huta**	**45.12**	**52**	*e*P		**P**	**02 49 45.9**	**+1.5**
STHS	**Stebnicka Huta**	**45.12**	**52**	*e*P		**P**	**02 49 45.9**	**+1.5**
	comp=Z,6.0nm,1.0s								
BZS	**Buzias**	**45.71**	**57**	⇓P		**P**	**02 49 49.8**	**+0.7**
BZS	**Buzias**	**45.71**	**57**	⇓*i*P		**P**	**02 49 49.8**	**+0.7**
BZS	**Buzias**	**45.71**	**57**	P		**P**	**02 49 49.8**	**+0.7**
KOLS	**Kolonicke sedl**	**45.83**	**53**	*e*P		**P**	**02 49 50.9**	**+1.0**
KOLS				pmax		pmax			
	comp=Z,104nm,3.3s								
KOLS	**Kolonicke sedl**	**45.83**	**53**	*e*P		**P**	**02 49 50.9**	**+1.0**
KOLS	**Kolonicke sedl**	**45.83**	**53**	*e*P		**P**	**02 49 50.9**	**+1.0**
	comp=Z,104nm,3.3s								
UZH	**Uzhgorod**	**45.86**	**53**	*e*P		P	02 49 45.6	-4.6
UZH				*i*			02 49 47.8		
UZH				*e*			02 49 50.2		
KWP	**Kalwaria Pacla**	**46.06**	**52**	⇑P		**P**	**02 49 52.6**	**+0.8**
KWP	**Kalwaria Pacla**	**46.06**	**52**	*e*P		**P**	**02 49 52.5**	**+0.8**
	comp=Z,12nm,0.8s								
KWP	**Kalwaria Pacla**	**46.06**	**52**	⇑*i*P		**P**	**02 49 52.6**	**+0.8**
KWP	**Kalwaria Pacla**	**46.06**	**52**	*e*P		**P**	**02 49 52.7**	**+0.9**
KWP	**Kalwaria Pacla**	**46.06**	**52**	*e*P		**P**	**02 49 52.5**	**+0.8**
	comp=Z,12nm,0.8s								
ECSD	**EROS Data Cent**	**46.16**	**300**	*e*P		**P**	**02 49 52.5**	**-0.2**
	comp=Z,87nm,2.1s								
ECSD	**EROS Data Cent**	**46.16**	**300**	*e*P		**P**	**02 49 52.5**	**-0.2**
	comp=Z,87nm,2.1s								
DRGR		**46.32**	**55**	⇑P		**P**	**02 49 54.1**	**+0.1**
DRGR		**46.32**	**55**	⇑*i*P		**P**	**02 49 54.1**	**+0.1**
DRGR		**46.32**	**55**	⇑*i*P		**P**	**02 49 54.1**	**+0.1**
GZR	**Gura Zlata**	**46.55**	**57**	⇑*i*P		**P**	**02 49 56.5**	**+0.7**
KSU1	**Kansas State U**	**47.05**	**294**	*e*P		**P**	**02 49 59.3**	**-0.4**
	comp=Z,19nm,0.7s								
KSU1	**Kansas State U**	**47.05**	**294**	*e*P		**P**	**02 49 59.3**	**-0.4**
	comp=Z,19nm,0.7s								
TUL1	**Tulsa**	**47.23**	**290**	⇑P		**P**	**02 50 00.8**	**-0.3**
	baz=47								
VTS	**Vitosha**	**47.32**	**61**	⇓P		**P**	**02 50 02.6**	**+0.7**
VTS	**Vitosha**	**47.32**	**61**	⇓*i*P		**P**

baz=50
S30A Montezuma 50.35 293 ⇓P P 02 50 25.2 0.0
baz=50
Q29A Oakley 50.40 295 ⇓P P 02 50 25.1 -0.5
baz=50,SNR=7.8
V31A Spring Creek L 50.42 291 ⇑P P 02 50 25.9 +0.2
baz=50,SNR=7.7
BDFB Brasilia 50.59 193 P P 02 50 27.6 +0.5
BDFB Brasilia 50.59 193 P P 02 50 27.6 +0.5
comp=Z,11nm,0.8s,baz=72,slow=26,SNR=16
BDFB LR LR 03 09 38.2
comp=Z,96nm,19.2s,baz=341,slow=33
BDFB Brasilia 50.59 193 P P 02 50 27.6 +0.5
R29A Marienthal 50.65 294 ⇑P P 02 50 27.3 -0.1
baz=50
TIRR Tirgusor 50.65 58 ⇑P P 02 50 26.4 -0.8
TIRR Tirgusor 50.65 58 ⇑/P P 02 50 26.4 -0.8
TIRR Tirgusor 50.65 58 ⇑/P P 02 50 26.4 -0.8
Y32A R-V Farms, Ver 50.66 288 ⇑P P 02 50 27.2 -0.2
baz=51,SNR=9.2
O28A Krutsinger Ran 50.67 297 ⇓P P 02 50 27.6 0.0
baz=51
W31A Holland Ranch, 50.68 290 ⇑P P 02 50 27.6 -0.1
baz=51
P28A Saint Francis 50.80 296 ⇓P P 02 50 28.1 -0.5
baz=51
U30A WK&E Inc. Balk 50.82 292 ⇑P P 02 50 28.5 -0.2
baz=51
S29A Ulysses 50.86 293 ⇓P P 02 50 28.7 -0.4
baz=51
X31A McDonald Ranch 50.88 289 ⇑P P 02 50 28.8 -0.4
baz=51
Z32A Haskell 50.91 288 ⇓P P 02 50 29.3 -0.1
baz=51
C24A Savage 50.92 306 ⇓P P 02 50 29.1 -0.2
baz=51
Q28A Sharon Springs 51.00 295 ⇓P P 02 50 29.9 -0.2
baz=51
B23A Brockton 51.12 308 ⇓P P 02 50 31.1 +0.3
baz=51
I25A Rochford 51.15 302 ⇑P P 02 50 31.1 -0.2
baz=51
OTAV Otavalo 51.17 238 *eP* P 02 50 32.4 +0.4
comp=Z,49nm,1.4s
OTAV Otavalo 51.17 238 *eP* P 02 50 32.4 +0.4
comp=Z,49nm,1.4s
R28A Tribune 51.18 294 ⇑P P 02 50 31.2 -0.3
baz=51,SNR=19
F24A Ekalaka 51.26 304 ⇑P P 02 50 31.4 -0.5
baz=51
ABTX Abilene, Hawle 51.27 287 ⇑P P 02 50 32.2 +0.1
baz=51
Y31A Rekieta Farm, 51.31 289 ⇑P P 02 50 32.4 0.0
baz=51
J25A Sunshine Ranch 51.35 301 ⇑P P 02 50 32.3 -0.3
baz=51
P27A Ficken Ranch, 51.42 296 ⇓P P 02 50 33.0 -0.3
baz=51
Z31A Sharp Cattle R 51.43 288 ⇓P P 02 50 33.0 -0.4
baz=51,SNR=9.0
S28A Manter 51.46 294 ⇓P P 02 50 33.2 -0.4
baz=51,SNR=6.1
D23A Lindsay 51.51 306 ⇑P P 02 50 33.6 -0.1
baz=51
232A Coleman 51.53 286 ⇑P P 02 50 33.9 -0.1
baz=51,SNR=7.3
X30A Coker Ranch, T 51.64 289 ⇑P P 02 50 34.6 -0.3
baz=52
E23A Ismay 51.71 305 ⇓P P 02 50 34.5 -0.7
baz=52
L25A Engebretsen Ra 51.76 300 ⇓P P 02 50 35.9 +0.1
baz=52
T28A Walsh 51.76 293 ⇑P P 02 50 36.0 +0.2
baz=52
O26A Horse Wrangler 51.78 297 ⇓P P 02 50 36.0 0.0
baz=52
332A Millersview 51.78 285 ⇓P P 02 50 35.6 -0.4
baz=52,SNR=13
Y30A Stafford Cattl 51.84 289 ⇑P P 02 50 36.1 -0.3
baz=52
131A Roby 51.84 287 ⇓P P 02 50 36.2 -0.3
baz=52
F23A Volborg 51.94 304 ⇑P P 02 50 36.5 -0.5
baz=52
R27A Eads 51.94 295 ⇑P P 02 50 37.0 -0.2
baz=52
P26A Davis Ranch, A 51.99 296 ⇓P P 02 50 37.6 0.0
baz=52
432A Menard 52.00 285 ⇓P P 02 50 37.2 -0.5
baz=52
W29A Amraillo 52.02 290 ⇑P P 02 50 37.9 +0.1
baz=52
231A Bronte 52.04 286 ⇑P P 02 50 37.7 -0.3
baz=52,SNR=7.8
AMTX Amarillo 52.12 290 *eP* P 02 50 38.9 +0.3
comp=Z,8.9nm,0.7s
AMTX Amarillo 52.12 290 *eP* P 02 50 38.8 +0.3
comp=Z,8.9nm,0.7s
JCT Junction City 52.15 284 *eP* P 02 50 38.6 -0.2
JCT pmax pmax
comp=Z,14nm,0.9s
JCT Junction City 52.15 284 *eP* P 02 50 38.6 -0.2
comp=Z,14nm,0.9s
JCT Junction City 52.15 284 *eP* P 02 50 38.6 -0.2
comp=Z,14nm,0.9s
JCT Junction City 52.15 284 ⇓P P 02 50 38.5 -0.2
baz=52,SNR=10.0
Z30A Sanderson Ranc 52.22 288 ⇑P P 02 50 38.7 -0.5
baz=52,SNR=12
T27A Campo 52.24 293 ⇓P P 02 50 39.0 -0.4
baz=52
Q26A Hugo 52.30 296 ⇓P P 02 50 39.8 -0.1
baz=52
130A Snyder 52.33 287 ⇑P P 02 50 40.1 +0.1
baz=52
331A San Angelo 52.35 285 ⇓P P 02 50 40.2 0.0
baz=52
532A Rocksprings 52.37 284 ⇑P P 02 50 40.0 -0.4
baz=52
R26A Arlington 52.42 295 ⇑P P 02 50 40.6 -0.2
baz=52
Y29A Porterfield Fa 52.45 289 ⇑P P 02 50 40.9 -0.1
baz=52
632A Uvalde 52.50 283 ⇓P P 02 50 41.4 0.0
baz=52,SNR=20
M24A Cheyenne 52.56 299 ⇓P P 02 50 41.5 -0.3
baz=52
J23A Dilts Ranch, B 52.58 302 ⇑P P 02 50 41.5 -0.4
baz=52
P25A Willow Gulch B 52.61 297 ⇓P P 02 50 42.4 +0.2
baz=52
S26A Kim 52.64 294 ⇓P P 02 50 42.5 0.0
baz=52
X28A Dimmitt 52.65 290 ⇑P P 02 50 42.7 +0.2
baz=52
Z29A Hungry Hill Ra 52.68 288 ⇑P P 02 50 42.4 -0.3
baz=53,SNR=9.1
230A Sterling City 52.69 286 ⇑P P 02 50 42.8 +0.1
baz=53,SNR=14
431A Sonora 52.73 285 ⇓P P 02 50 42.8 -0.3
baz=53,SNR=5.8
Q25A Bedland, Calha 52.84 296 ⇓P P 02 50 44.1 +0.2
baz=53
531A Rocksprings 52.87 284 ⇑P P 02 50 43.7 -0.4
baz=53,SNR=6.9
T26A Comanche Natio 52.87 294 ⇑P P 02 50 44.0 -0.2
baz=53,SNR=8.1
330A Mertzon 52.91 286 ⇑P P 02 50 44.5 +0.1
baz=53,SNR=12
732A Laxson Ranch, 52.95 282 ⇑P P 02 50 44.9 +0.3
baz=53
L23A Garrett 53.02 300 ⇑P P 02 50 44.7 -0.6
baz=53
129A Stewart Farms, 53.03 288 ⇑P P 02 50 45.1 -0.2
baz=53
R25A Fountain Ranch 53.10 295 ⇓P P 02 50 46.0 +0.2
baz=53
I22A 9 Mile Ranch, 53.11 302 ⇑P P 02 50 45.7 -0.1
baz=53,SNR=11
W27A Bowe Ranch, En 53.14 291 ⇓P P 02 50 45.9 -0.2
baz=53
631A Perdido Creek 53.17 283 ⇑P P 02 50 45.8 -0.5
baz=53,SNR=14
430A Baggett Ranch, 53.19 285 ⇑P P 02 50 46.4 0.0
baz=53,SNR=20
229A Bryant Ranch, 53.22 287 ⇑P P 02 50 46.6 -0.1
baz=53
J22A Midwest 53.23 302 ⇓P P 02 50 46.1 -0.6
baz=53,SNR=20
C20A Veseth Ranch, 53.25 307 ⇓P P 02 50 46.7 0.0
baz=53
G21A Lodge Grass 53.29 304 ⇓P P 02 50 46.1 -0.9
baz=53
S25A Robets Cordova 53.36 294 ⇓P P 02 50 48.1 +0.3
baz=53
V26A Tequesquite Ra 53.46 292 ⇓P P 02 50 48.4 -0.1
baz=53,SNR=13
K22A Casper 53.46 301 ⇓P P 02 50 47.8 -0.6
baz=53
A19A Klindworth Far 53.47 309 ⇓P P 02 50 47.9 -0.4
baz=53
D20A Manuel Ranch, 53.48 307 ⇓P P 02 50 47.7 -0.6
baz=53
Q24A Divide 53.50 296 ⇑P P 02 50 48.6 -0.3
baz=53
T25A Trinidad 53.51 294 ⇓P P 02 50 49.0 +0.2
baz=53,SNR=10
530A J-C Ranch, Com 53.51 285 ⇓P P 02 50 48.5 -0.3
baz=53,SNR=9.4
128A Castleberry Fa 53.52 288 ⇓P P 02 50 48.8 -0.1
baz=53
N23A Red Feather La 53.53 299 ⇑P P 02 50 49.1 +0.1
baz=53,SNR=11
329A Wagon Wheel Ra 53.53 286 ⇓P P 02 50 48.8 -0.2
baz=53
L22A Ellis Ranch, M 53.56 300 ⇑P P 02 50 49.2 -0.1
baz=53
ISCO Idaho Springs 53.60 297 *eP* P 02 50 50.1 +0.4
ISCO pmax pmax
comp=Z,7.0nm,0.8s
ISCO Idaho Springs 53.60 297 *eP* P 02 50 50.1 +0.4
comp=Z,6.5nm,0.8s
ISCO Idaho Springs 53.60 297 *eP* P 02 50 50.1 +0.4
comp=Z,6.5nm,0.8s
ISCO Idaho Springs 53.60 297 ⇑P P 02 50 49.6 -0.1
baz=54,SNR=15
E20A Meyer Farm, Mu 53.61 306 ⇑P P 02 50 49.2 -0.2
baz=54
Y27A Causey 53.61 290 ⇓P P 02 50 49.3 -0.3
baz=54
I21A Big Trails, Te 53.70 302 ⇓P P 02 50 49.2 -1.0
baz=54,SNR=12
O23A Lake Granby, G 53.70 298 ⇓P P 02 50 50.7 +0.3
baz=54,SNR=7.7
B19A Brinkman Farms 53.70 308 ⇑P P 02 50 49.8 -0.1
baz=54
U25A Circle Dot Ran 53.74 293 ⇑P P 02 50 50.9 +0.3
baz=54,SNR=6.0
429A Davenport Ranc 53.78 285 ⇓P P 02 50 50.4 -0.4
baz=54,SNR=6.6
228A UT Block 9, Go 53.78 287 ⇓P P 02 50 50.6 -0.2
baz=54
M22A Cedar Creek Ra 53.86 299 ⇑P P 02 50 51.5 +0.1
baz=54
OBN Obninsk 53.86 43 ⇓*i*P P 02 50 50.4 -0.5
OBN *e*S S 02 58 15.0 -10
OBN pmax pmax
comp=Z,75nm,1.2s
OBN MLR MLR
comp=Z,100nm,17.0s
OBN Obninsk 53.86 43 *i* P P 02 50 50.4 -0.5
comp=Z,75nm,1.2s
X26A CR and CF Fran 53.89 291 ⇑P P 02 50 51.6 -0.1
baz=54
P23A Jefferson 53.89 297 ⇑P P 02 50 52.5 +0.7
baz=54,SNR=13
N22A Wattenberg Ran 53.92 299 ⇓P P 02 50 51.8 -0.2
baz=54
J21A Lysite 53.93 302 ⇑P P 02 50 51.6 -0.3
baz=54
C19A Slack Wire Ran 53.93 308 ⇑P P 02 50 51.9 +0.2
baz=54
S24A Houchin Ranch, 53.95 295 ⇑P P 02 50 52.4 +0.2
baz=54
D19A Cripps Ranch, 53.95 307 ⇑P P 02 50 51.9 +0.1
baz=54
G20A Bridger 53.98 304 ⇓P P 02 50 51.8 -0.4
baz=54
K21A Alcova 53.98 301 ⇓P P 02 50 51.7 -0.6
baz=54,SNR=8.4
H20A Greybull 54.02 303 ⇓P P 02 50 52.2 -0.2
baz=54
E19A Rath Farm, Rou 54.06 306 ⇑P P 02 50 52.0 -0.7
baz=54
V25A Rancho No Teng 54.08 292 ⇑P P 02 50 52.6 -0.5
baz=54
SDCO Great Sand Dun 54.14 295 *eP* P 02 50 54.0 +0.4
comp=Z,5.7nm,1.0s
SDCO Great Sand Dun 54.14 295 *eP* P 02 50 54.0 +0.4
comp=Z,5.7nm,1.0s
W25A X Bar L Ranch, 54.17 292 ⇓P P 02 50 53.5 -0.2
baz=54
O22A Kremmling 54.18 298 ⇓P P 02 50 53.8 -0.1
baz=54,SNR=13
A18A Metzger Ranch, 54.18 309 ⇓P P 02 50 53.2 -0.3
baz=54
RWWY Rawlins 54.22 300 *eP* P 02 50 54.2 +0.1
comp=Z,42nm,1.5s
RWWY Rawlins 54.22 300 *eP* P 02 50 54.2 +0.1
comp=Z,42nm,1.5s
328A Wristen Ranch, 54.23 287 ⇑P P 02 50 53.5 -0.5
baz=54,SNR=5.3
529A Stev Forest Ra 54.23 285 ⇓P P 02 50 53.8 -0.3
baz=54,SNR=7.2
R23A Moffat 54.24 295 ⇓P P 02 50 54.4 +0.1
baz=54
I20A Worland 54.25 303 ⇑P P 02 50 53.8 -0.4
baz=54,SNR=8.2
L21A Rawlins 54.25 300 ⇑P P 02 50 54.3 0.0
baz=54
B18A Beardsley Farm 54.26 308 ⇑P P 02 50 54.0 0.0
baz=54
F19A Roth Farm, Mol 54.32 305 ⇑P P 02 50 54.8 +0.3
baz=54
EGMT Eagleton 54.33 308 ⇑P P 02 50 54.8 +0.2
baz=54
M21A Separation Pea 54.35 300 ⇓P P 02 50 54.9 -0.1
baz=54,SNR=7.3
428A Kincaid Ranch, 54.37 286 ⇓P P 02 50 55.2 0.0
baz=54,SNR=12
227A Bennet, Jal 54.38 287 ⇓P P 02 50 56.0 +0.8
baz=54
J20A Shoshoni 54.38 302 ⇑P P 02 50 55.3 +0.2
baz=54
U24A Moreno Valley 54.40 293 ⇑P P 02 50 56.2 +0.7
baz=54
Z26A Caprock 54.47 289 ⇑P P 02 50 56.5 +0.7
baz=54
P22A Eagle 54.50 297 ⇑P P 02 50 56.2 0.0
baz=54
YKA Yellowknife Ar 54.51 326 P P 02 50 56.5 +1.0
YKA PcP PcP 02 51 58.4 -0.3
YKA Yellowknife Ar 54.51 326 P P 02 50 56.5 +1.0
comp=Z,2.9nm,0.8s,baz=85,slow=6.8,SNR=9.6
YKA PcP PcP 02 51 58.4 -0.3
comp=Z,3.7nm,0.8s,baz=81,slow=4.2,SNR=9.9
YKA Yellowknife Ar 54.51 326 P P 02 50 56.5 +1.0
S23A Nye Farm, Mont 54.53 295 ⇓P P 02 50 56.4 0.0
baz=54
V24A Rampart Ranch, 54.62 292 ⇓P P 02 50 57.6 +0.5
baz=54
H19A Powell 54.65 304 ⇓P P 02 50 57.3 +0.2
baz=54
528A Cox Ranch, San 54.66 285 ⇑P P 02 50 57.2 -0.1
baz=55,SNR=8.1
N21A Black Mountain 54.71 299 ⇓P P 02 50 57.8 +0.1
baz=55
126A Clayton Basin, 54.72 288 ⇓P P 02 50 57.3 -0.4
baz=55
K20A Yellowstone Ra 54.75 301 ⇓P P 02 50 57.3 -0.5
baz=55
T23A Casias Ranch, 54.77 294 ⇑P P 02 50 59.0 +0.8
baz=55
E18A Harlowton 54.79 306 ⇑P P 02 50 58.6 +0.6
baz=55
SMCO Snowmass 54.79 297 *eP* P 02 50 59.0 +0.5
comp=Z,6.2nm,0.9s
SMCO Snowmass 54.79 297 *eP* P 02 50 59.0 +0.5
comp=Z,6.2nm,0.9s
GCMT Greycliff 54.82 305 *eP* P 02 50 58.2 -0.1
comp=Z,21nm,1.7s
GCMT Greycliff 54.82 305 *eP* P 02 50 58.2 -0.1
comp=Z,21nm,1.7s
F18A Big Timber 54.83 306 ⇓P P 02 50 58.5 +0.2
baz=55
I19A Meeteetse 54.83 303 ⇑P P 02 50 58.7 +0.2
baz=55
Q22A Crested Butte, 54.84 297 ⇑P P 02 50 59.3 +0.6
baz=55
G18A Lazy EL Ranch, 54.87 305 ⇓P P 02 50 59.8 +1.1
baz=55
427A Hayter Ranch, 54.89 286 ⇑P P 02 50 58.9 -0.1
baz=55,SNR=7.5
W24A Lazy 6 Ranch, 54.90 292 ⇓P P 02 50 59.6 +0.5
baz=55
R22A Saguache, Gunn 54.93 296 ⇑P P 02 51 00.8 +1.4
baz=55,SNR=9.1
L20A Wamsutter 54.94 301 ⇑P P 02 50 59.5 +0.2
baz=55,SNR=8.2
B17A L&G Farms, Che 54.95 309 ⇑P P 02 50 58.4 -0.6
baz=55
M20A Sweetwater, Wa 54.98 300 ⇓P P 02 50 59.9 +0.3
baz=55,SNR=8.2
628A Black Gap, Mar 55.01 284 ⇓P P 02 50 59.7 0.0
baz=55,SNR=8.9
P21A Newcastle 55.03 297 ⇓P P 02 51 00.5 +0.5
baz=55
Z25A Roswell 55.04 289 ⇓P P 02 51 00.3 +0.3
baz=55,SNR=12
226B Tecolote Peak, 55.04 288 ⇑P P 02 51 00.1 +0.1
baz=55
K19A Absolon Red Bu 55.06 302 ⇑P P 02 50 59.5 -0.6
baz=55,SNR=10
J19A Crowheart 55.08 302 ⇑P P 02 50 59.8 -0.4
baz=55,SNR=8.4
C17A Wharram Farm, 55.08 308 ⇑P P 02 50 59.9 -0.2
baz=55
H18A Shoshone NF, C 55.12 304 ⇓P P 02 51 00.6 +0.1
baz=55
U23A El Rito 55.12 293 ⇓P P 02 51 01.3 +0.6
baz=55
S22A 4UR Ranch, Cre 55.13 295 ⇓P P 02 51 01.4 +0.5
baz=55
X24A Lazy VL Ranch, 55.14 291 ⇑P P 02 51 01.3 +0.4
baz=55
D17A Six Diamond Ra 55.15 307 ⇓P P 02 51 00.6 0.0
baz=55
326A Caldwell Ranch 55.18 287 ⇑P P 02 51 01.2 +0.2
baz=55
125A Gardner Draw, 55.22 289 ⇓P P 02 51 01.6 +0.3
baz=55,SNR=8.6
N20A Spence Gulch, 55.23 299 ⇑P P 02 51 01.8 +0.4
baz=55,SNR=12
A16A West Butte Ran 55.30 309 ⇑P P 02 51 02.6 +0.9
baz=55
V23A Ortiz Mt. (NFS 55.31 293 ⇓P P 02 51 03.0 +1.0
baz=55,SNR=6.9
527A Woodward Ranch 55.33 285 ⇓P P 02 51 01.9 -0.3
baz=55,SNR=29
Q21A Lamborn Mesa, 55.34 297 ⇑P P 02 51 03.1 +0.9
baz=55
Y24A Capitan 55.37 290 ⇑P P 02 51 02.4 0.0
baz=55
627A Terlingua Ranc 55.42 285 ⇓P P 02 51 02.6 -0.2
baz=55
O20A White River Ci 55.42 298 ⇑P P 02 51 02.7 -0.1
baz=55,SNR=9.8
T22A Edith 55.43 294 ⇓P P 02 51 03.6 +0.7
baz=55
E17A Martinsdale 55.45 306 ⇑P P 02 51 03.2 +0.4
baz=55
F17A Fitzpatrick Pl 55.46 306 ⇓P P 02 51 02.7 -0.2
baz=55,SNR=9.6
426A McDonald Obser 55.46 286 ⇓P P 02 51 03.5 +0.3
baz=55
R21A Cimarron 55.47 296 ⇓P P 02 51 03.7 +0.4
baz=55,SNR=9.8
W23A Werner Place, 55.49 292 ⇑P P 02 51 03.8 +0.5
baz=55
I18A Diamond G Ranc 55.49 303 ⇓P P 02 51 03.7 +0.4
baz=55
225A Deer Hill, Car 55.55 288 ⇑P P 02 51 03.9 +0.1
baz=55,SNR=6.4
BW06 Boulder Array 55.58 302 *eP* P 02 51 03.3 -0.6
comp=Z,12nm,1.1s
BW06 Boulder Array 55.58 302 *eP* P 02 51 03.3 -0.6
comp=Z,12nm,1.1s
PDAR Pinedale Array 55.58 302 P P 02 51 03.4 -0.5
PDAR Pinedale Array 55.58 302 P P 02 51 03.4 -0.5
comp=Z,9.0nm,1.0s,baz=80,slow=7.9,SNR=23
PDAR LR LR 03 13 18.9
comp=Z,202nm,20.9s,baz=85,slow=34
PDAR Pinedale Array 55.58 302 P P 02 51 03.4 -0.5
U22A Llaves 55.61 294 ⇓P P 02 51 04.8 +0.6
baz=56,SNR=7.0
L19A Farson 55.63 301 ⇑P P 02 51 04.4 +0.1
baz=56
BRTR Keskin Array B 55.65 62 P P 02 51 04.3 -0.1
BRTR Keskin Array B 55.65 62 P P 02 51 04.3 -0.1
comp=Z,7.2nm,1.0s,baz=284,slow=5.0,SNR=21
BRTR LR LR 03 14 27.0
comp=Z,32nm,18.5s,baz=105,slow=36
BRTR Keskin Array B 55.65 62 P P 02 51 04.3 -0.1
G17A Pierce Place, 55.67 305 ⇑P P 02 51 04.7 +0.3
baz=56
C16A Fuhringer Ranc 55.68 308 ⇓P P 02 51 04.5 +0.1
baz=56
TXAR Lajitas Array 55.69 285 P P 02 51 04.8 0.0
TXAR Lajitas Array 55.69 285 P P 02 51 04.8 0.0
comp=Z,6.3nm,1.0s,baz=92,slow=7.2,SNR=48
TXAR LR LR 03 13 47.6
comp=Z,313nm,19.1s,baz=0.0,slow=35
TXAR Lajitas Array 55.69 285 P P 02 51 04.8 0.0
X23A Hourglass Bar 55.72 291 ⇑P P 02 51 05.3 +0.3
baz=56
P20A De Beque 55.73 298 ⇑P P 02 51 05.4 +0.4
baz=56
526A Mary Lane Ranc 55.74 286 ⇓P P 02 51 05.5 +0.3
baz=56,SNR=7.8
ANMO Albuquerque 55.80 292 *eP* P 02 51 06.1 +0.6
comp=Z,4.2nm,0.9s
ANMO Albuquerque 55.80 292 *eP* P 02 51 06.1 +0.6
comp=Z,4.2nm,0.9s
V22A San Miguel Ran 55.81 293 ⇑P P 02 51 06.2 +0.6
baz=56
124A Stringfield Ra 55.83 289 ⇓P P 02 51 06.2 +0.4
baz=56,SNR=39
Q20A Ridgley Place, 55.84 297 ⇓P P 02 51 06.0 +0.3
baz=56,SNR=5.8
Y23A Lovelace Mesa, 55.85 291 ⇓P P 02 51 06.5 +0.6
baz=56,SNR=6.0
S21A Coal Bank Pass 55.88 295 ⇓P P 02 51 06.7 +0.5
baz=56
T21A Navajo Lake 55.91 295 ⇑P P 02 51 07.1 +0.7
baz=56
325A Bean Ranch, Si 55.94 287 ⇑P P 02 51 06.5 -0.1
baz=56,SNR=7.8
626A Big Bend Ranch 55.98 285 ⇑P P 02 51 07.2 +0.4
baz=56,SNR=11
FLWY Flagg Ranch 55.99 304 *eP* P 02 51 07.2 +0.4
comp=Z,35nm,1.6s
FLWY Flagg Ranch 55.99 304 *eP* P 02 51 07.2 +0.4
comp=Z,35nm,1.6s
O19A Miners Draw (B 56.02 299 ⇓P P 02 51 07.3 +0.3
baz=56
A15A Johnson Ranch, 56.02 310 ⇓P P 02 51 07.3 +0.5
baz=56
LOHW Long Hollow 56.06 303 *eP* P 02 51 06.7 -0.6
comp=Z,3.1nm,0.8s
LOHW Long Hollow 56.06 303 *eP* P 02 51 06.7 -0.6
comp=Z,3.1nm,0.8s
B15A Bradely Ranch, 56.08 309 ⇓P P 02 51 07.5 +0.2
baz=56
224A Cornudas Mount 56.11 288 ⇑P P 02 51 07.8 0.0
baz=56,SNR=10
MOOW Moose Ponds 56.12 303 *eP* P 02 51 06.7 -1.0
comp=Z,13nm,1.5s
MOOW Moose Ponds 56.12 303 *eP* P 02 51 06.7 -1.0
comp=Z,13nm,1.5s
P19A Cripple Cowboy 56.12 298 ⇑P P 02 51 07.7 -0.1
baz=56,SNR=7.8
MNTX Cornudas Mount 56.14 288 *eP* P 02 51 07.3 -0.5
comp=Z,2.0nm,0.9s
MNTX Cornudas Mount 56.14 288 *eP* P 02 51 07.3 -0.5
comp=Z,2.0nm,0.9s
R20A Redvale 56.15 296 ⇓P P 02 51 08.5 +0.5
baz=56
L18A Fontenelle, Gr 56.17 301 ⇑P P 02 51 08.3 +0.2
baz=56,SNR=12
BOZ Bozeman (W) 56.18 306 *eP* P 02 51 08.0 -0.1
BOZ pmax pmax
comp=Z,3.0nm,0.8s
BOZ Bozeman (W) 56.18 306 *eP* P 02 51 08.0 -0.1
comp=Z,2.7nm,0.8s

BOZ	Bozeman (W)	56.18	306	*e*P		P	02 51 08.0	-0.1
	comp=Z,2.7nm,0.8s								
H16A	Russell Place,	56.19	304	⇓P		P	02 51 08.5	+0.2
	baz=56								
VSR	Storozhevoye	56.19	47	*e*P		P	02 51 07.1	-0.7
VSR				pmax		pmax			
	comp=Z,20nm,0.9s								
VSR				pmax		pmax			
	comp=N,3.0nm,0.5s								
VSR				pmax		pmax			
	comp=E,10.0nm,1.0s								
VSR	Storozhevoye	56.19	47	*e*P		P	02 51 07.1	-0.7	
	comp=E,3.0nm,0.5s								
U21A	Nageezi	56.20	294	⇓P		P	02 51 08.9	+0.5	
	baz=56								
SNOW	Snow King Moun	56.21	303	*e*P		P	02 51 08.9	+0.4	
	comp=E,14nm,1.0s								
SNOW	Snow King Moun	56.21	303	*e*P		P	02 51 08.9	+0.4	
	comp=E,14nm,1.0s								
IMW	Indian Meadow	56.21	303	*e*P		P	02 51 08.4	-0.1	
	comp=E,11nm,0.9s								
IMW	Indian Meadow	56.21	303	*e*P		P	02 51 08.4	-0.1	
	comp=E,11nm,0.9s								
Z23A	Rita Site, Whi	56.23	290	⇑P		P	02 51 09.2	+0.6	
	baz=56								
C15A	Salmond Ranch,	56.25	308	⇓P		P	02 51 08.4	-0.2	
	baz=56								
S20A	Disappointment	56.25	296	⇑P		P	02 51 09.3	+0.4	
	baz=56								
PV01	Paradox Valley	56.31	296	*e*P		P	02 51 09.4	+0.2	
	comp=E,1µm,1.5s								
PV01	Paradox Valley	56.31	296	*e*P		P	02 51 09.4	+0.2	
	comp=E,1µm,1.5s								
REDW	Red Top Meadow	56.31	303	*e*P		P	02 51 08.9	-0.2	
	comp=E,38nm,1.6s								
REDW	Red Top Meadow	56.31	303	*e*P		P	02 51 08.9	-0.2	
	comp=E,38nm,1.6s								
324A	Moseley Ranch,	56.32	288	⇑P		P	02 51 08.6	-0.7	
	baz=56,SNR=7.6								
TPAW	Teton Pass	56.34	303	*e*P		P	02 51 09.4	0.0	
	comp=E,30nm,1.6s								
TPAW	Teton Pass	56.34	303	*e*P		P	02 51 09.4	0.0	
	comp=E,30nm,1.6s								
X22A	Bernardo	56.38	292	⇓P		P	02 51 10.0	+0.3	
	baz=56								
A14A	Double T Ranch	56.46	310	⇓P		P	02 51 10.4	+0.5	
	baz=56								
B14A	Marquette Ranc	56.52	309	⇑P		P	02 51 10.9	+0.4	
	baz=56								
Y22A	Socorro	56.55	291	⇑P		P	02 51 11.5	+0.6	
	baz=56,SNR=6.2								
MVCO	Mesa Verde	56.57	295	*e*P		P	02 51 12.1	+1.1	
	comp=E,32nm,1.3s								
MVCO	Mesa Verde	56.57	295	*e*P		P	02 51 12.1	+1.1	
	comp=E,32nm,1.3s								
MVCO	Mesa Verde	56.57	295	⇑P		P	02 51 12.2	+1.1	
	baz=56,SNR=13								
I16A	Newdale	56.60	304	⇓P		P	02 51 11.8	+0.7	
	baz=56								
RRI2	Red Ridge	56.64	303	*e*P		P	02 51 10.5	-1.0	
	comp=E,20nm,1.3s								
RRI2	Red Ridge	56.64	303	*e*P		P	02 51 10.5	-1.0	
	comp=E,20nm,1.3s								
W21A	San Fidel	56.65	293	⇓P		P	02 51 11.7	0.0	
	baz=56								
AHID	Auburn Hatcher	56.66	302	*e*P		P	02 51 11.9	+0.3	
	comp=E,43nm,1.5s								
AHID	Auburn Hatcher	56.66	302	*e*P		P	02 51 11.9	+0.3	
	comp=E,43nm,1.5s								
LRM	Limekiln Ridge	56.69	306	*e*P		P	02 51 12.4	+0.6	
	comp=E,44nm,1.2s								
LRM	Limekiln Ridge	56.69	306	*e*P		P	02 51 12.4	+0.6	
	comp=E,44nm,1.2s								
M17A	Scullys Gap (B	56.76	301	⇓P		P	02 51 12.4	+0.1	
	baz=57								
CHMT	Chamberlain Mo	56.91	307	*e*P		P	02 51 13.6	+0.3	
	comp=E,4.8nm,1.4s								
CHMT	Chamberlain Mo	56.91	307	*e*P		P	02 51 13.6	+0.3	
	comp=E,4.8nm,1.4s								
DLMT	Dillon	56.92	306	*e*P		P	02 51 13.5	+0.2	
	comp=E,23nm,1.4s								
DLMT	Dillon	56.92	306	*e*P		P	02 51 13.5	+0.2	
	comp=E,23nm,1.4s								
X21A	Alamocita Cree	57.00	292	⇓P		P	02 51 15.1	+1.0	
	baz=57,SNR=9.7								
CSS	Prodhromos	57.03	68	*e*P		P	02 51 14.1	0.0	
	comp=E,12nm,0.9s								
CSS	Prodhromos	57.03	68	*e*P		P	02 51 14.1	0.0	
	comp=E,12nm,0.9s								
Y21A	Point of Rocks	57.07	291	⇑P		P	02 51 15.8	+1.1	
	baz=57,SNR=8.7								
SWMT	Swartz Lake	57.23	308	*e*P		P	02 51 15.7	+0.2	
SWMT	Swartz Lake	57.23	308	*e*P		P	02 51 15.7	+0.2	
B13A	Whitefish	57.29	309	⇓P		P	02 51 15.2	-0.5	
	baz=57								
W20A	Ramah	57.30	293	⇑P		P	02 51 17.1	+0.8	
	baz=57								
HWUT	Hardware Ranch	57.35	301	*e*P		P	02 51 16.4	-0.1	
	comp=E,6.5nm,0.8s								
HWUT	Hardware Ranch	57.35	301	*e*P		P	02 51 16.4	-0.1	
	comp=E,6.5nm,0.8s								
SRU	San Rafael	57.42	298	*e*P		P	02 51 17.1	+0.1	
SRU				pmax		pmax			
	comp=Z,9.0nm,0.9s								
SRU	San Rafael	57.42	298	*e*P		P	02 51 17.1	+0.1	
	comp=Z,8.5nm,0.9s								
SRU	San Rafael	57.42	298	*e*P		P	02 51 17.1	+0.1	
	comp=Z,8.5nm,0.9s								
X20A	Quemado	57.51	292	⇑P		P	02 51 18.3	+0.5	
	baz=57								
DAU	Daniels Canyon	57.52	300	*e*P		P	02 51 18.0	+0.1	
DAU				pmax		pmax			
	comp=Z,6.0nm,0.7s								
DAU	Daniels Canyon	57.52	300	*e*P		P	02 51 18.0	+0.1	
	comp=Z,6.3nm,0.7s								
DAU	Daniels Canyon	57.52	300	*e*P		P	02 51 18.0	+0.1	
	comp=Z,6.3nm,0.7s								
C13A	Hot Springs	57.55	309	⇓P		P	02 51 16.9	-0.8	
	baz=57								
JLU	Jordanelle	57.60	300	*e*P		P	02 51 18.5	+0.2	
	comp=Z,11nm,0.9s								
JLU	Jordanelle	57.60	300	*e*P		P	02 51 18.5	+0.2	
	comp=Z,11nm,0.9s								
BSMT	Bassoo Peak	57.64	309	*e*P		P	02 51 18.0	-0.5	
	comp=Z,1.6nm,0.7s								
BSMT	Bassoo Peak	57.64	309	*e*P		P	02 51 18.0	-0.5	
	comp=Z,1.6nm,0.7s								
Y20A	Horse Springs,	57.65	291	⇑P		P	02 51 19.3	+0.5	
	baz=58								
121A	Cookes Peak, D	57.71	290	⇓P		P	02 51 19.5	+0.3	
	baz=58								
I14A	Mackay	57.93	304	⇓P		P	02 51 20.8	+0.2	
	baz=58								
Q16A	Castle Valley	57.96	298	⇓P		P	02 51 21.1	+0.2	
	baz=58								
SPUT	South Promonto	58.08	301	*e*P		P	02 51 21.5	-0.1	
	comp=Z,12nm,1.3s								
SPUT	South Promonto	58.08	301	*e*P		P	02 51 21.5	-0.1	
	comp=Z,12nm,1.3s								
Z20A	Nine Sixteen R	58.12	291	⇑P		P	02 51 22.4	+0.5	
	baz=58,SNR=6.7								
LPAZ	La Paz	58.13	215	P		P	02 51 23.1	+0.5	
LPAZ	La Paz	58.13	215	P		P	02 51 23.1	+0.5	
	comp=Z,13nm,0.9s,baz=16,slow=8.2,SNR=48								
LPAZ				LR		LR	03 12 53.1		
	comp=Z,106nm,21.4s,baz=220,slow=32								
LPAZ	La Paz	58.13	215	P		P	02 51 23.1	+0.5	
NLU	North Lily Min	58.27	299	*e*P		P	02 51 23.3	+0.3	
	comp=Z,10.0nm,1.1s								
NLU	North Lily Min	58.27	299	*e*P		P	02 51 23.3	+0.3	
	comp=Z,10.0nm,1.1s								
120A	U Bar Ranch, L	58.37	290	⇓P		P	02 51 24.3	+0.6	
	baz=58,SNR=6.3								
220A	Playas Peak, P	58.53	289	⇑P		P	02 51 25.0	+0.2	
	baz=58								
E12A	Beaver Dam Sad	58.58	307	⇑P		P	02 51 25.0	+0.1	
	baz=58								
C11A	Tepee Creek (N	58.59	309	⇑P		P	02 51 25.2	+0.3	
	baz=58								
BGU	Big Grassy Mou	58.62	301	*e*P		P	02 51 25.2	-0.1	
	comp=Z,5.0nm,0.7s								
BGU	Big Grassy Mou	58.62	301	*e*P		P	02 51 25.2	-0.1	
	comp=Z,5.0nm,0.7s								
X18A	Snowflake	58.63	293	⇑P		P	02 51 25.8	+0.3	
	baz=58								
H12A	Diamond D Ranc	58.69	305	⇓P		P	02 51 26.6	+0.7	
	baz=58,SNR=8.6								
HLID	Hailey	58.71	304	*e*P		P	02 51 26.3	+0.3	
	comp=Z,13nm,1.6s								
HLID				*e*PcP		PcP	02 52 16.4	+0.6	
HLID	Hailey	58.71	304	*e*P		P	02 51 26.3	+0.3	
	comp=Z,13nm,1.6s								
HLID	Hailey	58.71	304	⇓P		P	02 51 26.2	+0.3	
	baz=59								
DUG	Dugway	58.72	300	*e*P		P	02 51 26.4	+0.4	
DUG				pmax		pmax			
	comp=Z,11nm,1.0s								
DUG	Dugway	58.72	300	*e*P		P	02 51 26.4	+0.4	
	comp=Z,11nm,1.0s								
DUG	Dugway	58.72	300	*e*P		P	02 51 26.4	+0.4	
	comp=Z,11nm,1.0s								
DUG	Dugway	58.72	300	⇑P		P	02 51 26.3	+0.4	
	baz=59,SNR=17								
SOC	Sochi	58.74	56	*c i*P		P	02 51 26.3	+0.4	
SOC				*e*			02 53 34.9		
SOC				*e*S		S	02 59 29.9	-0.2	
SOC				pmax		pmax			
	comp=Z,6.0nm,0.7s								
SOC	Sochi	58.74	56	*i* P		P	02 51 26.3	+0.4	
	comp=Z,6.0nm,0.7s								
SOC				*e*S		S	02 59 29.9	-0.2	
G12A	Big Creek, Yel	58.82	306	⇓P		P	02 51 26.8	0.0	
	baz=59								
MSU	Marysvale	58.84	298	*e*P		P	02 51 27.7	+0.7	
MSU				pmax		pmax			
	comp=Z,3.0nm,0.5s								
MSU	Marysvale	58.84	298	*e*P		P	02 51 27.7	+0.7	
	comp=Z,2.6nm,0.5s								
MSU	Marysvale	58.84	298	*e*P		P	02 51 27.7	+0.7	
	comp=Z,2.6nm,0.5s								
MVU	Marysvale	58.87	298	*e*P		P	02 51 28.0	+0.8	
	comp=Z,14nm,1.3s								
MVU	Marysvale	58.87	298	*e*P		P	02 51 28.0	+0.8	
	comp=Z,14nm,1.3s								
NEW	Newport	59.01	310	*e*P		P	02 51 27.2	-0.6	
	comp=Z,7.8nm,1.0s								
NEW	Newport	59.01	310	*e*P		P	02 51 27.2	-0.6	
	comp=Z,7.8nm,1.0s								
NEW	Newport	59.01	310	⇑P		P	02 51 27.4	-0.4	
	baz=59								
319A	Douglas	59.33	289	⇓P		P	02 51 31.1	+0.7	
	baz=59								
WUAZ	Wupatki	59.34	294	*e*P		P	02 51 31.5	+1.1	
	comp=Z,7.1nm,0.8s								
WUAZ	Wupatki	59.34	294	*e*P		P	02 51 31.5	+1.1	
	comp=Z,7.1nm,0.8s								
WUAZ	Wupatki	59.34	294	⇓P		P	02 51 31.1	+0.7	
	baz=59,SNR=6.3								
MALT	Malatya	59.64	62	⇑*i*P		P	02 51 47.5	+15	
U15A	North Rim	59.69	296	⇑P		P	02 51 33.1	+0.2	
	baz=60,SNR=12								
MFID	Camas Ranch	59.73	304	*e*P		P	02 51 33.0	+0.1	
	comp=Z,23nm,1.7s								
MFID	Camas Ranch	59.73	304	*e*P		P	02 51 33.0	+0.1	
	comp=Z,23nm,1.7s								
MFID	Camas Ranch	59.73	304	⇑P		P	02 51 33.6	+0.7	
	baz=60								
X16A	Lo Mia Camp, P	59.81	293	⇓P		P	02 51 34.5	+0.8	
	baz=60								
CCUT	Cedar City	60.06	297	*e*P		P	02 51 36.0	+0.5	
	comp=Z,6.6nm,1.0s								
CCUT	Cedar City	60.06	297	*e*P		P	02 51 36.0	+0.5	
	comp=Z,6.6nm,1.0s								
BMO	Blue Mountains	60.24	306	*e*P		P	02 51 35.8	-0.6	
	comp=Z,3.2nm,1.0s								
BMO				*e*PcP		PcP	02 52 22.3	+0.5	
BMO	Blue Mountains	60.24	306	*e*P		P	02 51 35.8	-0.6	
	comp=Z,3.2nm,1.0s								
KIV	Kislovodsk	60.63	55	⇑*e*P		P	02 51 39.7	+0.6	
KIV				*e*			02 53 49.8		
KIV				*e*S		S	03 00 14.1	+19	
KIV				pmax		pmax			
	comp=Z,14nm,1.6s								
KIV				MLR		MLR			
	comp=Z,100nm,20.0s								
KIV	Kislovodsk	60.63	55	*e*P		P	02 51 39.7	+0.6	
	comp=Z,14nm,1.6s								
KBZ	Khabaz	60.86	55	P		P	02 51 41.7	+1.2	
KBZ	Khabaz	60.86	55	P		P	02 51 41.6	+1.2	
KBZ	Khabaz	60.86	55	P		P	02 51 41.6	+1.2	
	comp=Z,11nm,0.9s,baz=301,slow=5.7,SNR=20								
KBZ	Khabaz	60.86	55	P		P	02 51 41.7	+1.2	
HAWA	Hanford	61.18	308	*e*P		P	02 51 42.0	-0.6	
	comp=Z,28nm,1.6s								
HAWA	Hanford	61.18	308	*e*P		P	02 51 42.0	-0.6	
	comp=Z,28nm,1.6s								
Y14A	Wickenburg	61.19	293	⇓P		P	02 51 43.8	+0.8	
	baz=61								
Z14A	Wintersburg	61.38	293	⇓P		P	02 51 44.7	+0.5	
	baz=61								
R11A	Troy Canyon, C	61.39	299	⇓P		P	02 51 44.8	+0.4	
	baz=61								
W13A	Hualapai Mount	61.39	295	⇑P		P	02 51 45.8	+1.2	
	baz=61								
SHPR	Sheep Range	61.79	297	*e*P		P	02 51 47.9	+0.7	
	comp=Z,3.3nm,0.9s								
SHPR	Sheep Range	61.79	297	*e*P		P	02 51 47.9	+0.7	
	comp=Z,3.3nm,0.9s								
214A	Organ Pipe Nat	61.85	291	⇓P		P	02 51 48.1	+0.6	
	baz=62								
ZEI	Tsey	61.88	56	*e*P		P	02 51 48.4	+0.7	
ZEI				pmax		pmax			
	comp=Z,20nm,1.0s								
ZEI	Tsey	61.88	56	*e*P		P	02 51 48.4	+0.7	
	comp=Z,20nm,1.0s								
PDMCI	Parker Dam,Lak	61.91	294	⇑P		P	02 51 48.8	+1.0	
	baz=62								
WVOR	Wild Horse Val	62.01	304	*e*P		P	02 51 49.2	+0.7	
WVOR				pmax		pmax			
	comp=Z,25nm,1.4s								
WVOR	Wild Horse Val	62.01	304	*e*P		P	02 51 49.1	+0.7	
	comp=Z,26nm,1.4s								
WVOR	Wild Horse Val	62.01	304	*e*P		P	02 51 49.2	+0.7	
	comp=Z,26nm,1.4s								
113A	Mohawk Valley,	62.25	292	⇑P		P	02 51 50.6	+0.6	
	baz=62								
LDFC	Landfair	62.32	295	*e*P		P	02 51 52.1	+1.4	
	comp=Z,14nm,1.0s								
LDFC	Landfair	62.32	295	*e*P		P	02 51 52.1	+1.4	
	comp=Z,14nm,1.0s								
LON	Longmire	62.52	310	*e*P		P	02 51 53.2	+1.5	
LON				pmax		pmax			
	comp=Z,4.0nm,0.7s								
LON	Longmire	62.52	310	*e*P		P	02 51 53.2	+1.5	
	comp=Z,4.2nm,0.7s								
LON	Lgmire	62.52	310	*e*P		P	02 51 53.2	+1.5	
	comp=Z,4.2nm,0.7s								
IRM	Iron Mountain	62.73	294	⇓P		P	02 51 54.2	+0.9	
	baz=63								
TUQ	Turquoise Moun	62.79	296	⇑P		P	02 51 53.9	+0.1	
	baz=63								
GMRC	Granite Mounta	62.86	295	⇑P		P	02 51 54.6	+0.3	
	baz=63								
SHOC	Shoshone	62.86	296	⇑P		P	02 51 55.0	+0.8	
	baz=63								
GLA	Glamis	62.94	293	⇓P		P	02 51 55.8	+1.1	
	baz=63								
FURC	Furnace Creek,	63.06	297	⇑P		P	02 51 56.6	+1.2	
	baz=63								
CPUP	Villa Florida	63.11	200	LR		LR	03 17 22.4		
	comp=Z,109nm,21.6s,baz=11,slow=34								
BC3	Big Chuckawall	63.16	294	⇓P		P	02 51 56.8	+0.5	
	baz=63								
GRAC	Grapevine Rang	63.22	298	⇓P		P	02 51 57.0	+0.4	
	baz=63								
NVAR	Mina Array Bea	63.32	300	P		P	02 51 57.4	0.0	
NVAR	Mina Array Bea	63.32	300	P		P	02 51 57.4	0.0	
	comp=Z,4.2nm,0.7s,baz=73,slow=6.3,SNR=22								
NVAR				LR		LR	03 20 00.9		
	comp=Z,211nm,18.4s,baz=308,slow=37								
NVAR	Mina Array Bea	63.32	300	P		P	02 51 57.4	0.0	
HEC	Hector,Ludlow	63.34	295	⇑P		P	02 51 58.5	+1.0	
	baz=63								
MOD	Modoc	63.36	304	*e*P		P	02 51 58.3	+0.8	
	comp=Z,8.2nm,1.1s								
MOD	Modoc	63.36	304	*e*P		P	02 51 58.3	+0.8	
	comp=Z,8.2nm,1.1s								
BELC	Belle Mtn. Jos	63.43	294	⇓P		P	02 51 59.0	+0.8	
	baz=63								
GNI	Garni	63.48	58	*e*P		P	02 51 58.4	0.0	
	comp=Z,9.8nm,0.8s								
GNI	Garni	63.48	58	*e*P		P	02 51 58.4	0.0	
	comp=Z,10.0nm,0.8s								
GSC	Goldstone	63.50	296	*e*P		P	02 51 59.6	+1.1	
GSC				pmax		pmax			
	comp=Z,4.0nm,0.7s								
GSC	Goldstone	63.50	296	*e*P		P	02 51 59.6	+1.1	
	comp=Z,4.4nm,0.7s								
GSC	Goldstone	63.50	296	*e*P		P	02 51 59.6	+1.1	
	comp=Z,4.4nm,0.7s								
GSC	Goldstone	63.50	296	⇑P		P	02 51 59.4	+0.9	
	baz=63								
MPMC	Manual Prospec	63.69	297	⇓P		P	02 52 01.0	+1.1	
	baz=64								
PFO	Pinyon Flat Ob	63.94	294	⇑P		P	02 52 02.2	+0.7	
	baz=64								
BEKR	Beckworth	64.21	302	*e*P		P	02 52 00.9	-2.3	
	comp=Z,3.2nm,1.0s								
BEKR	Beckworth	64.21	302	*e*P		P	02 52 00.9	-2.3	
	comp=Z,3.2nm,1.0s								
MONP	Monument Peak	64.22	293	⇑P		P	02 52 03.0	-0.4	
	baz=64								
MURC	Murrieta	64.51	294	⇓P		P	02 52 05.1	0.0	
	baz=64								
EDW2	Edwards Air Fo	64.56	296	⇑P		P	02 52 06.2	+0.8	
	baz=64								
BFSC	Mount Baldy Ra	64.58	295	⇑P		P	02 52 06.0	+0.4	
	baz=64								
ISA	Isabella	64.58	297	*e*P		P	02 52 07.1	+1.5	
ISA				pmax		pmax			
	comp=Z,5.0nm,0.8s								
ISA	Isabella	64.58	297	*e*P		P	02 52 07.1	+1.5	
	comp=Z,5.4nm,0.8s								
ISA	Isabella	64.58	297	*e*P		P	02 52 07.1	+1.5	
	comp=Z,5.4nm,0.8s								
ISA	Isabella	64.58	297	⇑P		P	02 52 06.6	+1.0	
	baz=64								
RCTC	Rector, Farmer	64.88	298	⇓P		P	02 52 08.3	+0.9	
	baz=65								
HUMO	Hull Mountain	64.88	306	*e*P		P	02 52 06.1	-1.2	
	comp=Z,2.9nm,0.7s								
HUMO	Hull Mountain	64.88	306	*e*P		P	02 52 06.1	-1.2	
	comp=Z,2.9nm,0.7s								
CMB	Columbia Colle	64.98	300	*e*P		P	02 52 08.3	+0.2	
CMB				pmax		pmax			
	comp=Z,23nm,1.8s								
CMB	Columbia Colle	64.98	300	*e*P		P	02 52 08.3	+0.2	
	comp=Z,23nm,1.8s								
CMB	Columbia Colle	64.98	300	*e*P		P	02 52 08.3	+0.2	
	comp=Z,23nm,1.8s								
EGAK	Eagle	65.11	333	*e*P		P	02 52 09.1	+0.8	
	comp=Z,6.5nm,0.8s								
EGAK	Eagle	65.11	333	*e*P		P	02 52 09.1	+0.8	
	comp=Z,6.5nm,0.8s								
ARU	Arti	65.31	37	*d i*P		P	02 52 09.6	-0.2	
ARU							02 52 39.5		
ARU							02 54 29.9		
ARU				S		S	03 00 51.7	-1.0	
ARU				pmax		pmax			
	comp=Z,12nm,1.2s								
ARU	Arti	65.31	37	*i* P		P	02 52 09.6	-0.2	
	comp=Z,12nm,1.2s								
ARU	Arti	65.31	37	PcP		PcP	02 52 39.5	-2.5	
SVE	Sverdlovsk	66.17	37	⇑*e*P		P	02 52 15.3	-0.1	
SVE				pmax		pmax			
	comp=Z,12nm,1.0s								
SVE	Sverdlovsk	66.17	37	*e*P		P	02 52 15.3	-0.1	
	comp=Z,12nm,1.0s								
COLD	Coldfoot	67.03	337	*e*P		P	02 52 21.8	+1.1	
	comp=Z,3.8nm,0.9s								
COLD	Coldfoot	67.03	337	*e*P		P	02 52 21.8	+1.1	
	comp=Z,3.8nm,0.9s								
ILAR	Eielson Array	67.24	334	P		P	02 52 22.8	+0.7	
ILAR	Eielson Array	67.24	334	P		P	02 52 22.8	+0.7	
	comp=Z,1.9nm,0.9s,baz=48,slow=4.9,SNR=17								
ILAR				LR		LR	03 20 15.4		
	comp=Z,135nm,20.1s,baz=333,slow=35								
ILAR	Eielson Array	67.24	334	P		P	02 52 22.8	+0.7	
AKTO	Aktyubinsk	67.64	44	LR		LR	03 21 19.7		
	comp=Z,120nm,18.8s,baz=100,slow=35								
PAX	Paxson	67.66	332	*e*P		P	02 52 25.6	+0.7	
PAX				pmax		pmax			
	comp=Z,6.0nm,0.8s								
PAX	Paxson	67.66	332	*e*P		P	02 52 25.6	+0.7	
	comp=Z,6.4nm,0.8s								
PAX	Paxson	67.66	332	*e*P		P	02 52 25.6	+0.7	
	comp=Z,6.3nm,0.8s								
BMRM	Bremner River	68.36	330	*e*P		P	02 52 29.9	+0.6	
	comp=Z,7.9nm,0.8s								
BMRM	Bremner River	68.36	330	*e*P		P	02 52 29.9	+0.6	
	comp=Z,7.9nm,0.8s								
MCK	McKinley	68.56	334	*e*P		P	02 52 31.5	+1.1	
MCK				pmax		pmax			
	comp=Z,9.0nm,1.1s								
MCK	McKinley	68.56	334	*e*P		P	02 52 31.5	+1.1	
	comp=Z,9.4nm,1.1s								
MCK	McKinley	68.56	334	*e*P		P	02 52 31.5	+1.1	
	comp=Z,9.4nm,1.1s								
TRF	Thorofare Moun	69.22	334	*e*P		P	02 52 35.5	+0.8	
	comp=Z,11nm,1.3s								
TRF	Thorofare Moun	69.22	334	*e*P		P	02 52 35.5	+0.8	
	comp=Z,11nm,1.3s								
ABKAR	Akbulak array	69.29	44	*e*P		P	02 52 35.3	+0.1	
	comp=Z,9.8nm,1.0s								
ABKAR	Akbulak array	69.29	44	*e*P		P	02 52 35.3	+0.1	
	comp=Z,9.8nm,1.0s								
PMR	Palmer	69.85	332	*e*P		P	02 52 39.7	+1.3	
PMR				pmax		pmax			
	comp=Z,13nm,0.8s								
PMR	Palmer	69.85	332	*e*P		P	02 52 39.7	+1.3	
	comp=Z,13nm,0.8s								
PMR	Palmer	69.85	332	*e*P		P	02 52 39.7	+1.3	
	comp=Z,13nm,0.8s

ZALV	**Zalesovo Beam**	**79.03**	**31**	P		**P**		**02 53 32.0**	**+0.1**
ZALV	**Zalesovo Beam**	**79.03**	**31**	P		**P**		**02 53 32.0**	**+0.1**
ZALV	**Zalesovo Beam**	**79.03**	**31**	P		**P**		**02 53 32.0**	**+0.1**
	comp=Z,3.1nm,0.7s,baz=297,slow=6.7,SNR=14								
ZALV				LR		LR		03 24 45.5	
	comp=Z,60nm,20.2s,baz=253,slow=33								
ZALV	**Zalesovo Beam**	**79.03**	**31**	P		**P**		**02 53 32.0**	**+0.1**
LSZ	**Lusaka**	**79.37**	**117**	*e*P		**P**		**02 53 34.7**	**+0.2**
	comp=Z,19nm,1.3s								
LSZ	**Lusaka**	**79.37**	**117**	*e*P		**P**		**02 53 34.7**	**+0.2**
	comp=Z,19nm,1.3s								
PLCA	**Paso Flores**	**80.59**	**205**	LR		LR		03 31 31.0	
	comp=Z,167nm,18.0s,baz=189,slow=37								
KRAR	**Krasnoyarsk**	**80.66**	**26**	*i* P		**P**		**02 53 41.8**	**+1.1**
KRAR				pmax		pmax			
	comp=Z,11nm,0.3s								
KRAR	**Krasnoyarsk**	**80.66**	**26**	*i* P		**P**		**02 53 41.8**	**+1.1**
	comp=Z,11nm,0.3s								
AAK	**Ala-Archa**	**81.38**	**44⇑**	*e*P		**P**		**02 53 45.7**	**+0.6**
AAK				pmax		pmax			
	comp=Z,16nm,1.0s								
AAK				MLR		MLR			
	comp=Z,252nm,19.0s								
AAK	**Ala-Archa**	**81.38**	**44**	*e*P		**P**		**02 53 46.0**	**+0.9**
	comp=Z,6.0nm,0.9s								
AAK	**Ala-Archa**	**81.38**	**44**	*e*P		**P**		**02 53 45.7**	**+0.6**
	comp=Z,252nm,19.0s								
MKAR	**Makanchi Array**	**82.83**	**37**	P		**P**		**02 53 52.5**	**0.0**
MKAR	**Makanchi Array**	**82.83**	**37**	P		**P**		**02 53 52.5**	**0.0**
MKAR	**Makanchi Array**	**82.83**	**37**	P		**P**		**02 53 52.5**	**0.0**
	comp=Z,7.4nm,0.9s,baz=317,slow=5.1,SNR=48								
MKAR				LR		LR		03 30 33.9	
	comp=Z,76nm,18.4s,baz=172,slow=36								
MKAR	**Makanchi Array**	**82.83**	**37**	P		**P**		**02 53 52.5**	**0.0**
KSH	**Kashi**	**84.23**	**46**	P		**P**		**02 54 01.3**	**+1.4**
KSH				sP		**sP**		**02 54 07.9**	**+0.5**
KSH				PP		**PP**		**02 57 16.0**	**+2.2**
KSH				SKS		**SKSac**		**03 04 20.4**	**-2.5**
KSH				S		**S**		**03 04 23.9**	**-0.7**
KSH				SS		**SS**		**03 09 54.3**	**+1.3**
KSH				pmax		pmax			
	comp=Z,20nm,0.9s								
KSH				pmax		pmax			
	comp=Z,110nm,3.7s								
KSH				LR		LR			
	comp=N,130nm,5.6s								
KSH				LR		LR			
	comp=E,150nm,5.7s								
KSH				LR		LR			
	comp=Z,130nm,8.7s								
BOSA	**Boshof**	**86.08**	**128**	P		**P**		**02 54 09.8**	**+0.7**
BOSA	**Boshof**	**86.08**	**128**	P		**P**		**02 54 09.8**	**+0.7**
	comp=Z,4.8nm,0.9s,baz=335,slow=5.3,SNR=6.2								
BOSA				LR		LR		03 32 16.6	
	comp=Z,87nm,18.7s,baz=346,slow=35								
BOSA	**Boshof**	**86.08**	**128**	P		**P**		**02 54 09.8**	**+0.7**
WMQ	**Urumqi**	**87.63**	**36**	P		**P**		**02 54 17.8**	**+1.3**
WMQ				pP		**pP**		**02 54 22.5**	**+0.4**
WMQ				sP		**sP**		**02 54 24.8**	**+0.7**
WMQ				PP		**PP**		**02 57 45.4**	**+4.4**
PETK	**Petropavlovsk-**	**92.07**	**351**	LR		LR		03 35 07.6	
	comp=Z,154nm,19.6s,baz=28,slow=35								
SONM	**Songino Array**	**92.12**	**23**	P		**P**		**02 54 35.9**	**-1.7**
SONM	**Songino Array**	**92.12**	**23**	P		**P**		**02 54 35.9**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=305,slow=5.2,SNR=3.8								
SONM				LR		LR		03 36 42.6	
	comp=Z,70nm,18.8s,baz=100,slow=36								
SONM	**Songino Array**	**92.12**	**23**	P		**P**		**02 54 35.9**	**-1.7**
GTA	**Gaotai**	**96.73**	**32**	*e*P		**P**		**02 54 58.8**	**-0.1**
GTA				pP		**pP**		**02 55 03.6**	**-0.8**
GTA				sP		**sP**		**02 55 05.9**	**-0.5**
GTA				pmax		pmax			
	comp=Z,4.0nm,1.8s								
HHC	**Hu-ho-hao-te**	**100.02**	**23**	*e*P		**Pdif**		**02 55 10.6**	**-3.0**
HHC				sP		sP		02 55 17.8	-3.3
HHC				PP		**PP**		**02 59 17.8**	**+0.1**
HHC				SKS		**SKSac**		**03 05 47.1**	**-4.8**
HHC				S		**Sdif**		**03 06 40.0**	**-7.8**
HHC				SS		**SS**		**03 13 37.4**	**-1.5**
HHC				LR		LR			
	comp=N,270nm,17.7s								
HHC				LR		LR			
	comp=E,290nm,17.3s								
HHC				LR		LR			
	comp=Z,280nm,17.9s								
MDJ	**Mudanjiang**	**100.66**	**9**	P		**Pdif**		**02 55 14.4**	**-1.8**
MDJ				pmax		pmax			
	comp=Z,7.0nm,2.7s								
MDJ				pmax		pmax			
	comp=Z,250nm,14.5s								
CN2	**Changchun**	**100.80**	**13**	*e*P		**Pdif**		**02 55 15.8**	**-1.0**
CN2				*e*S		**Sdif**		**03 06 47.8**	**-6.1**
CN2				LR		LR			
	comp=N,300nm,13.0s								
CN2				LR		LR			
	comp=E,200nm,13.0s								
CN2				LR		LR			
	comp=Z,200nm,12.0s								
LZH	**Lanzhou**	**101.25**	**31**	*e*P		**Pdif**		**02 55 18.1**	**-1.1**
LZH				pP		pP		02 55 22.9	-2.0
LZH				sP				02 55 25.1	
LZH				pmax		pmax			
	comp=Z,10.0nm,1.0s								
YUK	**Yuzh-Kuril'sk**	**102.08**	**358**	*d* iP		Pdif		02 55 10.0	-12
YUK				*i*				02 59 29.8	
YUK				*i* PPP		PPP		03 01 43.3	
YUK				*e*SS		SS		03 14 15.5	+8.7
YUK				MLR		MLR			
	comp=Z,155nm,20.0s								
CD2	**Chengdu**	**105.58**	**34**	Pdif		**Pdif**		**02 55 37.9**	**-0.5**
CD2				PP		**PP**		**03 00 02.4**	**+2.8**
CD2				SS		SS		03 14 55.3	-0.8
CD2				AMB		AMB			
	comp=Z,60nm,8.2s								
CD2				LR		LR			
	comp=E,120nm,12.2s								
CD2				LR		LR			
	comp=Z,140nm,19.2s								
KMI	**Kunming**	**109.89**	**38**	PKP		**PKiKP**		**02 59 59.6**	**-0.5**
KMI				sPKP				03 00 02.8	
NJ2	**Nanjing**	**110.40**	**21**	*e*PKP		**PKiKP**		**02 59 56.3**	**-4.2**
WRA	**Warramunga Arr**	**164.00**	**29**	PKP		**PKPdf**		**03 01 30.7**	**-1.2**
WRA				PKPab		**PKPab**		**03 02 23.1**	**-1.6**
WRA	**Warramunga Arr**	**164.00**	**29**	PKP		**PKPdf**		**03 01 30.7**	**-1.2**
	comp=Z,1.7nm,1.1s,baz=280,slow=1.5,SNR=5.1								
WRA				PKPab		**PKPab**		**03 02 23.1**	**-1.6**
	comp=Z,2.1nm,0.8s,baz=349,slow=4.6,SNR=6.8								
WRA	**Warramunga Arr**	**164.00**	**29**	PKIKP		**PKPdf**		**03 01 30.7**	**-1.2**
ASAR	**Alice Springs**	**167.02**	**38**	PKP		**PKPdf**		**03 01 33.5**	**-0.8**
ASAR				PKPab		**PKPab**		**03 02 37.9**	**-0.2**
ASAR	**Alice Springs**	**167.02**	**38**	PKP		**PKPdf**		**03 01 33.5**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=261,slow=0.5,SNR=6.3								
ASAR				PKPab		**PKPab**		**03 02 37.9**	**-0.2**
	comp=Z,2.4nm,0.9s,baz=332,slow=4.4,SNR=12								
ASAR	**Alice Springs**	**167.02**	**38**	PKIKP		**PKPdf**		**03 01 33.5**	**-0.8**
ASAR	**Alice Springs**	**167.02**	**38**	PKPab		**PKPab**		**03 02 37.8**	**-0.2**

NIED ***18*** *02:45:00.3, 31.70N, 142.10E, h5km, Mw4.4 Best double couple: M0=4.12000×10[15] NP1: ϕ=329.00000°, δ=76.00000°, λ=67.00000°. NP2: ϕ=209.00000°, δ=27.00000°, λ=147.00000°.*

IDC ***18*** *02:45:17.8±0.6, 31.51N, 141.86E, h0km, mb4.4/14, mb1 4.6/16, mb1mx4.4/25, mbtmp4.3/16, ML3.2/2, MS3.6/5, Ms1 3.6/5, ms1mx3.3/31, Error ellipse: s-maj=21.9km s-min=16.7km az=73.0*

ISCJB ***18*** *02:45:19.2±1.2, 31.60N±0.03, 141.82E±0.05, h14km±7km, mb4.5/58, MS4.0/11, Error ellipse: s-maj=7.4km s-min=4.6km az=147.9*

JMA ***18*** *02:45:19.8±0.3, 31.66N, 142.05E, h41km, M4.2*

MOS ***18*** *02:45:21.8±1.2, 31.51N, 141.81E, h33km, mb4.8/26, MS4.0/4, Error ellipse: s-maj=14.9km s-min=6.3km az=108.5*

BJI ***18*** *02:45:21.3, 31.50N, 142.30E, h54km, mB4.8/21, mb4.5/25, Ms4.4/18, Ms7 4.1/17*

NEIC ***18*** *02:45:24.8±1.2, 31.55N, 141.81E, h47km±10km, mb4.5/26, MW4.3(NIED), Error ellipse: s-maj=9.2km s-min=7.5km az=86.0*

ISC 18 02:45:20.7±1.7, 31.62N±0.05, 141.90E±0.06, h15km±10km, n146, σ1.9s36/164, mb4.5/58, MS4.0/11, 6C-3D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.31**	**311**	P	**Pn**		**02 45 57.4**	**-0.8**
JHJ2				*e*S	**Sn**		**02 46 24.6**	**-1.8**
BSO1	**Boso 1**	**3.13**	**346**	P	**Pn**		**02 46 08.3**	**-0.7**
BSO1				*e*S	**Sn**		**02 46 44.9**	**-0.9**
JKO	**Kozu shima**	**3.46**	**319**	P	**Pn**		**02 46 13.5**	**-0.6**
JKO				*e*S	**Sn**		**02 46 55.5**	**+0.7**
JOD2	**Odawara 2**	**4.33**	**328**	P	**Pn**		**02 46 25.9**	**-0.1**
JOD2				*e*S	**Sn**		**02 47 15.4**	**-0.9**
CBIJ	**Chichi jima**	**4.51**	**177**	P	**Pn**		**02 46 27.8**	**-0.7**
CBIJ				*e*S	**Sn**		**02 47 17.5**	**-3.2**
JYT	**Yasato**	**4.81**	**343**	P	**Pn**		**02 46 32.2**	**-0.5**
JRY	**Ryogami san**	**5.05**	**331**	P	**Pn**		**02 46 36.5**	**+0.6**
JRY				S	**Sn**		**02 47 31.8**	**-2.2**
JHO	**Hitachi**	**5.10**	**348**	P	**Pn**		**02 46 35.2**	**-1.5**
JHO				S	**Sn**		**02 47 31.1**	**-4.2**
JAO	**Obara**	**5.32**	**314**	P	Pn		02 46 43.4	+3.7
MJAR	**Matsushiro Arr**	**5.79**	**329**	Pn	**Pn**		**02 46 47.0**	**+0.9**
MJAR				Sn	**Sn**		**02 47 52.3**	**0.0**
MJAR	**Matsushiro Arr**	**5.79**	**329**	Pn	**Pn**		**02 46 47.0**	**+0.9**
	6.0nm,0.3s,baz=152,slow=11,SNR=27							
MJAR				Sn	**Sn**		**02 47 52.3**	**0.0**
	2.7nm,0.3s,baz=96,slow=20,SNR=5.0							
MAJO	**Matsushiro**	**5.79**	**329**	*e*P	**Pn**		**02 46 47.0**	**+0.9**
MAJO				pmax	pmax			
	comp=Z,55nm,0.8s							
MAJO	**Matsushiro**	**5.79**	**329**	*e*Pn	**Pn**		**02 46 47.0**	**+0.9**
	comp=Z,56nm,0.8s							
MAT	**Matsushiro**	**5.79**	**329**	P	**Pn**		**02 46 47.0**	**+0.9**
MAT				S	**Sn**		**02 47 51.2**	**-1.1**
MAT	**Matsushiro**	**5.79**	**329**	P	**Pn**		**02 46 47.2**	**+1.1**
MAT				*e*S	**Sn**		**02 47 52.0**	**-0.3**
JNU	**Nakatsue**	**9.44**	**282**	*e*Pn	Pn		02 47 39.5	+3.2
ERM	**Erimo**	**10.43**	**5**	*i* P	**Pn**		**02 47 47.1**	**-2.6**
YUK	**Yuzh-Kuril'sk**	**12.79**	**13**	*i* iP	Pn		02 48 12.6	-9.3
YUK				pmax	pmax			
	comp=N,36nm,0.4s							
YUK				pmax	pmax			
	comp=E,52nm,0.4s							
YUK				pmax	pmax			
	comp=Z,44nm,0.4s							
YUK				MLR	MLR			
	comp=Z,131nm,16.0s							
KSRS	**Korea Array**	**12.90**	**301**	LR	LR		02 53 11.8	
	comp=Z,175nm,19.5s,baz=168,slow=37							
USRK	**Ussuriysk Arra**	**14.78**	**331**	Pn	**Pn**		**02 48 48.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=141,slow=11,SNR=7.7							
YSS	**Yuzh-Sakhalins**	**15.33**	**2**	*e*P	**P**		**02 49 00.0**	**-1.2**
YSS				MLR	MLR			
	comp=Z,400nm,14.0s							
YSS				MLR	MLR			
	comp=N,400nm,15.0s							
YSS				MLR	MLR			
	comp=E,300nm,15.0s							
MDJ	**Mudanjiang**	**16.17**	**327**	P	**P**		**02 49 09.4**	**-1.1**
MDJ				pP	Pn		02 49 22.3	+15
MDJ				S	**Sn**		**02 52 08.6**	**+2.2**
MDJ				SS	S		02 52 28.8	+9.3
MDJ				pmax	pmax			
	comp=Z,12nm,1.1s							
MDJ				pmax	pmax			
	comp=Z,47nm,3.6s							
HABR	**Khabarovsk**	**17.62**	**345**	*e*P	**P**		**02 49 25.6**	**-0.9**
HABR				*e*			02 52 42.9	
HABR				pmax	pmax			
	comp=Z,48nm,2.3s							
HABR				pmax	pmax			
	comp=N,25nm,1.4s							
HABR				pmax	pmax			
	comp=E,33nm,1.8s							
HABR				MLR	MLR			
	comp=Z,117nm,16.0s							
GUMO	**Guam**	**18.15**	**171**	*e*P	**P**		**02 49 32.7**	**+0.2**
	comp=Z,148nm,1.2s							
KLR	**Kul'dur**	**19.18**	**339**	*e*P	**P**		**02 49 40.2**	**-3.5**
NJ2	**Nanjing**	**19.58**	**277**	*e*P	**Pn**		**02 49 49.6**	**0.0**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
BJI	**Beijing**	**22.43**	**299**	P	**P**		**02 50 19.3**	**+0.4**
BJI				S	**S**		**02 54 22.3**	**-2.4**
BJI				pmax	pmax			
	comp=Z,11nm,0.8s							
BJI				pmax	pmax			
	comp=Z,83nm,6.7s							
HIA	**Hailar**	**24.25**	**323**	*e*P	**P**		**02 50 36.3**	**-0.8**
	comp=Z,24nm,0.9s							
HHC	**Hu-ho-hao-te**	**26.04**	**299**	*e*P	**P**		**02 50 51.1**	**-2.4**
HHC				pP	pP		02 51 05.5	+7.5
HHC				sP	sP		02 51 13.0	+13
HHC				PP	**PnPn**		**02 51 34.9**	**+3.5**
HHC				S	S		02 55 15.6	-8.4
HHC				sS	sS		02 55 40.3	+8.8
HHC				pmax	pmax			
	comp=Z,35nm,1.0s							
HHC				pmax	pmax			
	comp=Z,160nm,5.1s							
HHC				LR	LR			
	comp=N,380nm,13.0s							
HHC				LR	LR			
	comp=E,600nm,12.4s							
HHC				LR	LR			
	comp=Z,350nm,14.2s							
ULN	**Ulaanbaatar**	**31.00**	**312**	*e*P	**P**		**02 51 38.6**	**+0.9**
	comp=Z,29nm,1.8s							
SONM	**Songino Array**	**31.41**	**311**	P	**P**		**02 51 41.8**	**+0.5**
SONM	**Songino Array**	**31.41**	**311**	P	**P**		**02 51 41.8**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=120,slow=8.2,SNR=14							
SONM				LR	LR		03 04 54.8	
	comp=Z,119nm,19.9s,baz=158,slow=37							
LZH	**Lanzhou**	**31.78**	**289**	*e*P	**P**		**02 51 45.5**	**+0.8**
LZH				pP	PP		02 51 57.1	-59
LZH				sP	sP		02 52 01.6	+10
LZH				PP	**PnPn**		**02 52 51.1**	**+2.2**
LZH				*e*S	S		02 56 47.6	-6.9
LZH				pmax	pmax			
	comp=Z,15nm,1.0s							
LZH				pmax	pmax			
	comp=Z,110nm,5.7s							
LZH				LR	LR			
	comp=N,240nm,11.3s							
LZH				LR	LR			
	comp=E,280nm,12.5s							
LZH				LR	LR			
	comp=Z,460nm,14.5s							
CD2	**Chengdu**	**32.50**	**279**	*e*P	**P**		**02 51 51.3**	**+0.3**
CD2				pP	PP		02 52 04.5	-60
CD2				sP	sP		02 52 10.9	+14
CD2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CD2				pmax	pmax			
	comp=Z,30nm,6.2s							
ZAK	**Zakamensk**	**34.16**	**315**	*e*P	**P**		**02 52 04.8**	**-0.5**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.4s							
TLY	**Talaya**	**34.38**	**317**	*e*P	**P**		**02 52 08.4**	**+1.4**
TLY				*e*			02 53 49.3	
TLY				*e*S	S		02 57 25.7	-8.5
TLY				pmax	pmax			
	comp=Z,8.0nm,1.4s							
GTA	**Gaotai**	**34.88**	**295**	*e*P	**P**		**02 52 12.8**	**+1.2**
GTA				pP	pP		02 52 25.0	+8.8
GTA				sP	sP		02 52 30.3	+12
GTA				S	**S**		**02 57 39.3**	**-3.1**
GTA				pmax	pmax			
	comp=Z,3.0nm,1.2s							
GTA				pmax	pmax			
	comp=Z,88nm,5.2s							
GTA				LR	LR			
	comp=N,160nm,17.1s							
GTA				LR	LR			
	comp=E,320nm,17.8s							
GTA				LR	LR			
	comp=Z,140nm,17.6s							
KMI	**Kunming**	**34.92**	**269**	P	P		02 52 14.5	+2.2
BILL	**Bilibino**	**39.14**	**14⇓**	*e*P	**P**		**02 52 48.2**	**+0.9**
BILL				*e*S	**S**		**02 58 48.5**	**+2.2**
BILL				pmax	pmax			
	comp=Z,19nm,2.1s							
HVS	**Khovu-Aksy**	**40.23**	**313**	*d* iP	**P**		**02 52 57.9**	**+1.1**
HVS				pmax	pmax			
	comp=Z,88nm,1.0s							
WMQ	**Urumqi**	**43.85**	**302**	P	**P**		**02 53 27.1**	**+0.7**
WMQ				pP	pP		02 53 39.4	+8.3
WMQ				sP	sP		02 53 44.8	+12
WMQ				PP	**PcP**		**02 55 11.3**	**-1.3**
WMQ				LR	LR			
	comp=N,49nm,25.7s							
WMQ				LR	LR			
	comp=E,110nm,24.0s							
WMQ				LR	LR			
	comp=Z,57nm,20.0s							
COEN	**Coen**	**45.33**	**178**	*e*P	**P**		**02 53 38.5**	**+0.2**
ZALV	**Zalesovo Beam**	**45.98**	**316**	P	**P**		**02 53 43.7**	**+0.5**
ZALV							02 55 18.8	
ZALV	**Zalesovo Beam**	**45.98**	**316**	P	**P**		**02 53 43.7**	**+0.5**
ZALV				PcP	**PcP**		**02 55 18.8**	**-0.9**
ZALV	**Zalesovo Beam**	**45.98**	**316**	P	**P**		**02 53 43.7**	**+0.5**
	comp=Z,2.6nm,0.4s,baz=96,slow=8.8,SNR=13							
ZALV				PcP	**PcP**		**02 55 18.8**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=96,slow=2.4,SNR=3.6							
ODAN	**Odare**	**47.40**	**279**	*e*P	**P**		**02 53 54.2**	**-0.7**
	comp=Z,13nm,0.4s							
RAMN	**Ramite**	**48.03**	**279**	*e*P	**P**		**02 53 59.1**	**-0.7**
	comp=Z,15nm,0.7s							
JIRN	**Jiri**	**48.14**	**280**	*e*P	**P**		**02 53 59.5**	**-1.3**
	comp=Z,19nm,0.4s							
GUN	**Gumba**	**48.33**	**281**	*e*P	**P**		**02 54 00.9**	**-1.3**
	comp=Z,36nm,0.8s							
PKI	**Pulchoki**	**48.83**	**280**	*e*P	**P**		**02 54 05.4**	**-0.7**
	comp=Z,6.6nm,0.4s							
PKIN	**Phulchoki**	**48.84**	**281**	*e*P	**P**		**02 54 05.3**	**-0.8**
DMN	**Daman**	**49.07**	**281**	*e*P	**P**		**02 54 07.4**	**-0.4**
	comp=Z,9.6nm,0.4s							
DANN	**Dangsing**	**49.96**	**282**	*e*P	**P**		**02 54 14.6**	**0.0**
	comp=Z,15nm,0.4s							
KOLN	**Koldanda**	**50.28**	**281**	*e*P	**P**		**02 54 17.6**	**+0.6**
WRAB	**Tennant Creek**	**51.76**	**189**	*e*P	**P**		**02 54 26.5**	**-1.3**
WRAB				pmax	pmax			
	comp=Z,36nm,1.1s							
WRAB	**Tennant Creek**	**51.76**	**189**	*e*P	**P**		**02 54 26.5**	**-1.3**
	comp=Z,36nm,1.1s							
WRA	**Warramunga Arr**	**51.77**	**189**	P	**P**		**02 54 26.6**	**-1.3**
WRA	**Warramunga Arr**	**51.77**	**189**	P	**P**		**02 54 26.6**	**-1.3**
	comp=Z,6.4nm,0.3s,baz=6.5,slow=7.6,SNR=226							
MCK	**McKinley**	**52.97**	**31**	*e*P	**P**		**02 54 35.9**	**-0.5**
MCK				pmax	pmax			
	comp=Z,7.0nm,1.1s							
MCK	**McKinley**	**52.97**	**31**	*e*P	**P**		**02 54 35.9**	**-0.5**
	comp=Z,6.7nm,1.1s							
KSH	**Kashi**	**53.14**	**298**	*e*P	P		02 54 43.5	+5.4
KSH				sP	sP		02 55 06.6	+22
KSH				PP	PP		02 56 45.4	+7.5
KSH				S	**S**		**03 02 09.4**	**+1.1**
KSH				sS	sS		03 02 36.9	+21
KSH				SS	**SS**		**03 05 50.0**	**+2.5**
KSH				pmax	pmax			
	comp=Z,6.0nm,1.0s							
KSH				pmax	pmax			
	comp=Z,77nm,8.9s							
KSH				LR	LR			
	comp=N,120nm,5.2s							
KSH				LR	LR			
	comp=E,100nm,6.4s							
KSH				LR	LR			
	comp=Z,230nm,6.0s							
SML	**Sawmill**	**53.19**	**34**	*e*P	**P**		**02 54 39.5**	**+1.5**
SML				pmax	pmax			
	comp=Z,15nm,2.3s							
SML	**Sawmill**	**53.19**	**34**	*e*P	**P**		**02 54 39.5**	**+1.5**
	comp=Z,15nm,2.3s							
AAK	**Ala-Archa**	**53.56**	**302⇑**	*e*P	**P**		**02 54 41.4**	**+0.2**
AAK				pmax	pmax			
	comp=Z,12nm,1.7s							
AAK	**Ala-Archa**	**53.56**	**302**	*e*P	**P**		**02 54 41.1**	**-0.1**
	comp=Z,1.9nm,0.5s							
ILAR	**Eielson Array**	**53.91**	**30**	P	**P**		**02 54 43.2**	**0.0**
ILAR	**Eielson Array**	**53.91**	**30**	P	**P**		**02 54 43.2**	**0.0**
	comp=Z,5.9nm,1.1s,baz=265,slow=6.3,SNR=21							
PAX	**Paxson**	**54.52**	**32**	*e*P	**P**		**02 54 50.1**	**+2.3**
PAX				pmax	pmax			
	comp=Z,7.0nm,1.3s							
PAX	**Paxson**	**54.52**	**32**	*e*P	**P**		**02 54 50.1**	**+2.3**
	comp=Z,7.1nm,1.3s							
BRVK	**Borovoye**	**54.67**	**315⇑**	*e*P	**P**		**02 54 49.8**	**+0.9**
BRVK				pmax	pmax			
	comp=Z,5.0nm,0.8s							
BRVK	**Borovoye**	**54.67**	**315**	*e*P	**P**		**02 54 49.0**	**+0.1**
	comp=Z,4.6nm,0.8s							
ASAR	**Alice Springs**	**55.50**	**189**	P	**P**		**02 54 54.1**	**-1.1**
ASAR	**Alice Springs**	**55.50**	**189**	P	**P**		**02 54 54.1**	**-1.1**
	comp=Z,3.9nm,0.4s,baz=12,slow=6.6,SNR=89							
KKAR	**Karatay Array**	**56.31**	**303**	*e*P	**P**		**02 55 01.1**	**+0.2**
KKAR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
KKAR	**Karatay Array**	**56.31**	**303**	*e*P	**P**		**02 55 01.1**	**+0.2**
	comp=Z,10nm,0.8s							
SVE	**Sverdlovsk**	**59.53**	**321⇑**	*e*P	**P**		**02 55 23.4**	**+0.1**
SVE				pmax	pmax			
	comp=Z,11nm,1.0s							
ARU	**Arti**	**60.74**	**321**	*c i*P	**P**		**02 55 31.0**	**-0.5**
ARU							02 56 11.4	
ARU							02 57 43.0	
ARU				S	**S**		**03 03 47.3**	**-0.5**
ARU				SS	SS		03 07 38.7	-7.3
ARU				pmax	pmax			
	comp=Z,14nm,1.0s							
ABKAR	**Akbulak array**	**61.81**	**313**	*e*P	**P**		**02 55 38.8**	**-0.1**
FORT	**Forrest**	**63.43**	**193**	*e*P	**P**		**02 55 49.1**	**-0.6**
	comp=Z,18nm,0.6s							
YKA	**Yellowknife Ar**	**68.31**	**29**	P	**P**		**02 56 21.2**	**+0.3**
YKA	**Yellowknife Ar**	**68.31**	**29**	P	**P**		**02 56 21.2**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=291,slow=5.5,SNR=4.7							
ARCES	**ARCESS Array B**	**69.21**	**340**	P	**P**		**02 56 28.0**	**+1.6**
ARCES	**ARCESS Array B**	**69.21**	**340**	P	**P**		**02 56 28.0**	**+1.6**
	comp=Z,2.3nm,0.9s,baz=0.0,slow=3.8,SNR=3.6							
ARCES				LR	LR		03 32 24.8	
	comp=Z,45nm,18.7s,baz=39,slow=41							
MAK	**Makhachkala**	**72.17**	**310**	*e*P	P		02 56 36.9	-8.0
MAK				MLR	MLR			
	comp=Z,245nm,17.0s							
OBN	**Obninsk**	**72.70**	**325⇑**	*e*P	**P**		**02 56 47.9**	**+0.1**
OBN				*e*			02 59 27.9	
OBN				*e*S	**S**		**03 06 07.9**	**-4.5**
OBN				pmax	pmax			
	comp=Z,12nm,1.4s							
OBN				ML

IMW	**Indian Meadow**	**79.72**	**45**	*e*P	**P**	**02 57 29.3**	**+0.9**
	comp=Z,4.3nm,0.9s						
MOOW	**Moose Ponds**	**79.92**	**45**	*e*P	**P**	**02 57 29.8**	**+0.4**
	comp=Z,2.6nm,1.2s						
TPAW	**Teton Pass**	**79.94**	**45**	*e*P	**P**	**02 57 30.5**	**+0.9**
	comp=Z,3.1nm,0.8s						
LOHW	**Long Hollow**	**80.08**	**45**	*e*P	**P**	**02 57 31.0**	**+0.7**
	comp=Z,3.5nm,1.1s						
DUG	**Dugway**	**80.62**	**48**	*e*P	**P**	**02 57 33.8**	**+0.7**
DUG				pmax	pmax		
	comp=Z,3.0nm,1.2s						
DUG	**Dugway**	**80.62**	**48**	*e*P	**P**	**02 57 33.8**	**+0.7**
	comp=Z,2.7nm,1.2s						
HWUT	**Hardware Ranch**	**80.62**	**47**	*e*P	**P**	**02 57 33.4**	**+0.2**
	comp=Z,4.4nm,1.0s						
BW06	**Boulder Array**	**81.19**	**45**	*e*P	**P**	**02 57 37.0**	**+0.7**
	comp=Z,2.0nm,1.0s						
PDAR	**Pinedale Array**	**81.19**	**45**	P	**P**	**02 57 36.5**	**+0.3**
PDAR	**Pinedale Array**	**81.19**	**45**	P	**P**	**02 57 36.5**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=212,slow=1.4,SNR=9.7						
BRTR	**Keskin Array B**	**82.77**	**312**	P	**P**	**02 57 43.6**	**-0.8**
BRTR	**Keskin Array B**	**82.77**	**312**	P	**P**	**02 57 43.6**	**-0.8**
	comp=Z,2.8nm,1.0s,baz=130,slow=3.2,SNR=12						
BRTR				LR	LR	03 38 50.1	
	comp=Z,23nm,20.1s,baz=246,slow=39						
KWP	**Kalwaria Pacla**	**82.78**	**325**	*e*P	**P**	**02 57 44.0**	**-0.1**
KWP				pmax	pmax		
	comp=Z,14nm,1.0s						
KWP	**Kalwaria Pacla**	**82.78**	**325**	*e*P	**P**	**02 57 44.0**	**-0.1**
	comp=Z,14nm,1.0s						
KWP	**Kalwaria Pacla**	**82.78**	**325**	*e*P	**P**	**02 57 44.4**	**+0.3**
KOLS	**Kolonicke sedl**	**83.45**	**325**	*e*P	**P**	**02 57 49.4**	**+1.8**
KOLS	**Kolonicke sedl**	**83.45**	**325**	*e*P	**P**	**02 57 49.4**	**+1.8**
STHS	**Stebnicka Huta**	**83.63**	**326**	*e*P	**P**	**02 57 49.6**	**+1.0**
STHS				pmax	pmax		
	comp=Z,5.0nm,1.2s						
STHS	**Stebnicka Huta**	**83.63**	**326**	*e*P	**P**	**02 57 49.6**	**+1.0**
NIE	**Niedzica**	**84.07**	**326**	*e*P	**P**	**02 57 53.1**	**+2.2**
NIE	**Niedzica**	**84.07**	**326**	*e*P	**P**	**02 57 53.1**	**+2.2**
KECS	**Kecovo**	**84.63**	**325**	*e*P	**P**	**02 57 55.2**	**+1.6**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KECS	**Kecovo**	**84.63**	**325**	*e*P	**P**	**02 57 55.2**	**+1.6**
MORC	**Moravsky Berou**	**85.12**	**328**	*e*P	**P**	**02 57 55.6**	**-0.6**
MORC				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MORC	**Moravsky Berou**	**85.12**	**328**	*e*P	**P**	**02 57 55.6**	**-0.6**
	comp=Z,1.7nm,0.7s						
PSZ	**Piszkesteto**	**85.31**	**325**	*e*P	**P**	**02 57 57.4**	**+0.2**
PSZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PSZ	**Piszkesteto**	**85.31**	**325**	*e*P	**P**	**02 57 57.4**	**+0.2**
	comp=Z,4.7nm,0.9s						
VYHS	**Vyhne**	**85.42**	**326**	*e*P	**P**	**02 57 57.5**	**-0.1**
VYHS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VYHS	**Vyhne**	**85.42**	**326**	*e*P	**P**	**02 57 57.5**	**-0.1**
CLL	**Collm**	**86.00**	**331**	*i* P	**P**	**02 58 00.0**	**-0.4**
CLL				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CLL	**Collm**	**86.00**	**331**	*i* P	**P**	**02 58 00.0**	**-0.4**
	comp=Z,5.0nm,1.0s						
ESK	**Eskdalemuir**	**88.39**	**341**	*i* P	**P**	**02 58 14.1**	**+2.2**
TXAR	**Lajitas Array**	**93.09**	**53**	P	**P**	**02 58 34.9**	**+0.4**
TXAR	**Lajitas Array**	**93.09**	**53**	P	**P**	**02 58 34.9**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=292,slow=2.5,SNR=21						
TORD	**Torodi Ar. Bea**	**121.37**	**313**	PKP	**PKPdf**	**03 04 11.6**	**-2.5**
TORD	**Torodi Ar. Bea**	**121.37**	**313**	PKP	**PKPdf**	**03 04 11.6**	**-2.5**
	comp=Z,0.8nm,0.9s,baz=60,slow=1.3,SNR=5.1						
SAML	**Samuel**	**147.57**	**51**	*e*PKPbc	**PKPbc**	**03 05 04.3**	**-0.8**
ASCN	**Ascension**	**147.68**	**312**	*e*PKPbc	**PKPdf**	**03 05 01.9**	**-0.7**
LPAZ	**La Paz**	**148.74**	**68**	PKPbc	**PKPbc**	**03 05 08.6**	**-0.3**
LPAZ	**La Paz**	**148.74**	**68**	PKPbc	**PKPbc**	**03 05 08.6**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=354,slow=8.1,SNR=7.5						

*IDC **18** 03:13:10.8±0.8,39˚.40N×73˚.93E,h0km,mb4.0/10, mb1 4.2/14,mb1mx4.0/30,mbtmp4.0/14,ML4.0/4,MS3.2/1, Ms1 3.2/1,ms1mx2.4/37,Error ellipse: s-maj=17.3km s-min=13.3km az=95.0*

*BJI **18** 03:13:10.1,39˚.40N×73˚.50E,h7km,mb3.9/3,ML3.7/2, Ms3.5/1,Ms7 3.5/1*

*MOS **18** 03:13:14.3±1.4,39˚.36N×73˚.58E,h33km,mb4.4/5,Error ellipse: s-maj=11.4km s-min=4.7km az=87.6*

*ISCJB **18** 03:13:15.8±0.4,39˚.58N±0˚.03×73˚.43E±0˚.05,h29km, mb4.0/17,MS3.2/1,Error ellipse: s-maj=6.1km s-min=4.4km az=179.3*

*NEIC **18** 03:13:17.8±1.9,39˚.51N×73˚.66E,h47km±16km,mb4.4/5, Error ellipse: s-maj=19.8km s-min=9.6km az=179.0*

*NNC **18** 03:13:17.2±2.7,39˚.79N×73˚.46E,h0km,mb4.3,mpv4.0, Error ellipse: s-maj=27.7km s-min=13.3km az=176.0*

ISC 18 03:13:17.9±0.5,39˚.64N±0˚.04×73˚.55E±0˚.06,h29km,n101, σ1§99/100,mb4.1/17,7C-11D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.88**	**93**	⇑*i*Pg	Pn	03 13 38.6	-10
KSH				Sg	Sn	03 13 57.9	-13
KSH				smax	smax		
	comp=N,990nm,0.4s						
KSH				smax	smax		
	comp=E,660nm,0.4s						
AML	**Almayashu**	**2.49**	**2**	*i* PN	**Pn**	**03 13 58.5**	**+1.6**
AML	**Almayashu**	**2.49**	**2**	P	**Pn**	**03 13 58.5**	**+1.6**
	SNR=174						
UCH	**Uchtor**	**2.69**	**15**	*i* PN	**Pn**	**03 14 02.2**	**+2.5**
UCH	**Uchtor**	**2.69**	**15**	P	**Pn**	**03 14 02.1**	**+2.5**
	SNR=12						
KZA	**Kyzart**	**2.76**	**27**	*i* PN	**Pn**	**03 14 01.8**	**+1.2**
KZA	**Kyzart**	**2.76**	**27**	P	**Pn**	**03 14 01.8**	**+1.2**
	SNR=73						
EKS2	**Erkin-Say**	**3.03**	**3**	*e*PN	**Pn**	**03 14 06.1**	**+2.1**
EKS2				*e*	Sn	03 14 46.9	+7.6
EKS2	**Erkin-Say**	**3.03**	**3**	P	**Pn**	**03 14 06.2**	**+2.1**
	SNR=50						
EKS2	**Erkin-Say**	**3.03**	**3**	*e*Pn	**Pn**	**03 14 06.1**	**+2.1**
EKS2				*e*Sn	Sn	03 14 46.9	+7.6
AAK	**Ala-Archa**	**3.08**	**13**	*d* PN	**Pn**	**03 14 06.7**	**+2.0**
AAK	**Ala-Archa**	**3.08**	**13**	P	**Pn**	**03 14 06.9**	**+2.2**
	SNR=45						
AAK	**Ala-Archa**	**3.08**	**13**	Pn	**Pn**	**03 14 06.9**	**+2.2**
AAK				Sn	**Sb**	**03 14 48.3**	**-0.9**
AAK	**Ala-Archa**	**3.08**	**13**	Pn	**Pn**	**03 14 06.9**	**+2.2**
	comp=E,18nm,0.3s,baz=151,slow=7.2,SNR=78						
AAK				Sn	**Sb**	**03 14 48.3**	**-0.9**
	comp=E,21nm,0.3s,baz=284,slow=22,SNR=5.8						
KBK	**Karagaybulak**	**3.19**	**19**	*i* PN	**Pn**	**03 14 08.5**	**+2.1**
KBK	**Karagaybulak**	**3.19**	**19**	P	**Pn**	**03 14 08.5**	**+2.1**
	SNR=16						
FRU	**Bishkek**	**3.29**	**14**	*e*PN	**Pn**	**03 14 10.0**	**+2.4**
FRU				*i*	**Sb**	**03 14 58.0**	**+2.7**
FRU				pmax	pmax		
	comp=Z,90nm,1.4s						
FRU				smax	smax		
	comp=N,1μm,1.9s						
ULHL	**Ulahol**	**3.31**	**37**	*i* PN	**Pn**	**03 14 08.5**	**+0.6**
ULHL	**Ulahol**	**3.31**	**37**	P	**Pn**	**03 14 08.6**	**+0.6**
	SNR=81						
CHMS	**Chumysh**	**3.48**	**15**	*i* PN	**Pn**	**03 14 12.0**	**+1.9**
CHMS	**Chumysh**	**3.48**	**15**	P	**Pn**	**03 14 12.0**	**+1.9**
	SNR=18						
TKM2	**Tokmak 2**	**3.62**	**24**	⇑Pn	**Pn**	**03 14 14.0**	**+1.7**
	comp=N,38nm,0.6s						
TKM2				⇓Lg	Lg	03 15 09.3	
	comp=N,241nm,1.5s						
TKM2	**Tokmak 2**	**3.62**	**24**	PN	**Pn**	**03 14 13.9**	**+1.7**
TKM2					**Sn**	**03 14 59.0**	**+4.8**
TKM2				pmax	pmax		
	comp=Z,38nm,0.6s						
TKM2				smax	smax		
	comp=Z,42nm,0.6s						
TKM2	**Tokmak 2**	**3.62**	**24**	P	**Pn**	**03 14 13.8**	**+1.5**
	SNR=20						
TKM2	**Tokmak 2**	**3.62**	**24**	*e*Pn	**Pn**	**03 14 13.6**	**+1.3**
TKM2				*e*Sn	**Sn**	**03 14 56.2**	**+2.0**
USP	**Ospenovka**	**3.70**	**11**	*i* PN	**Pn**	**03 14 15.3**	**+2.2**
USP	**Ospenovka**	**3.70**	**11**	P	**Pn**	**03 14 15.3**	**+2.2**
	SNR=23						
KK31	**Karatay Array**	**4.15**	**328**	⇑Pn	**Pn**	**03 14 21.9**	**+2.5**
	comp=Z,11nm,0.3s,baz=130,slow=12,SNR=410						
KK31				⇓Lg	Lg	03 15 26.2	
	comp=Z,36nm,0.4s,baz=128,slow=28,SNR=4.2						
KK31	**Karatay Array**	**4.15**	**328**	*i* PN	**Pn**	**03 14 21.8**	**+2.5**
KK31				pmax	pmax		
	comp=Z,13nm,0.2s						
KKAR	**Karatay Array**	**4.15**	**328**	*e*PN	**Pn**	**03 14 21.6**	**+2.3**
KKAR	**Karatay Array**	**4.15**	**328**	*e*Pn	**Pn**	**03 14 21.6**	**+2.3**
KNDC	**Almaty**	**4.40**	**35**	⇓Lg	Lg	03 15 30.7	
	comp=Z,254nm,0.8s						
CEP	**Cherat**	**5.95**	**193**	P	**Pn**	**03 14 47.0**	**+2.8**
CEP				S	**Sn**	**03 15 56.0**	**+4.5**
CHCP	**Chirah Chowk**	**5.97**	**182**	P	**Pn**	**03 14 46.0**	**+1.6**
THW	**Thamme Wali**	**6.98**	**193**	P	**Pn**	**03 14 59.0**	**+0.7**
THN	**Thein Dam**	**7.40**	**166**	*e*P	**Pn**	**03 15 02.5**	**-1.4**
THN				*e*S	**Sn**	**03 16 29.0**	**+2.1**
MK31	**Makanchi Array**	**9.58**	**39**	⇑Pn	**Pn**	03 15 38.9	+5.0
	comp=Z,1.6nm,0.7s,baz=222,slow=15,SNR=7.5						
MK31	**Makanchi Array**	**9.58**	**39**	*e*P	**Pn**	**03 15 34.6**	**+0.8**
MK31	**Makanchi Array**	**9.58**	**39**	*e*Pn	**Pn**	**03 15 34.5**	**+0.8**
MKAR	**Makanchi Array**	**9.58**	**39**	P	**Pn**	**03 15 34.6**	**+0.8**
MKAR	**Makanchi Array**	**9.58**	**39**	Pn	**Pn**	**03 15 34.6**	**+0.8**
MKAR				Lg	Lg	03 18 14.1	
MKAR	**Makanchi Array**	**9.58**	**39**	Pn	**Pn**	**03 15 34.6**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=222,slow=16,SNR=7.9						
MKAR				Lg	Lg	03 18 14.1	
	comp=Z,0.3nm,0.3s,baz=230,slow=26,SNR=3.7						
KURBB	**Kurchatov Arra**	**11.53**	**16**	⇓Pn	**Pn**	**03 16 01.2**	**+0.8**
	comp=Z,1.9nm,0.8s						
KURBB	**Kurchatov Arra**	**11.53**	**16**	Pn	Pn	03 15 55.6	-4.8
	comp=Z,0.0nm,0.3s,baz=201,slow=15,SNR=2.8						
KURBB				Lg	Lg	03 19 11.3	
	comp=Z,0.1nm,0.3s,baz=355,slow=21,SNR=5.2						
KURK	**Kurchatov**	**11.64**	**16**	P	Pn	03 15 55.6	-6.3
KURK	**Kurchatov**	**11.64**	**16**	Pn	Pn	03 15 55.6	-6.3
KURK				Lg	Lg	03 19 11.3	
VOSK	**Vostochnaya**	**13.21**	**353**	⇓Pn	**Pn**	**03 16 22.3**	**-1.1**
	comp=Z,2.8nm,0.6s						
BVA0	**Borovoye Array**	**13.57**	**352**	⇓Pn	**Pn**	**03 16 26.9**	**-1.3**
	comp=Z,5.3nm,0.5s,baz=221,slow=37,SNR=18						
BVA0	**Borovoye Array**	**13.57**	**352**	*i* P	**Pn**	**03 16 28.3**	**0.0**
BVA0				pmax	pmax		
	comp=Z,9.0nm,0.5s						
BVAR	**Borovoye Array**	**13.57**	**352**	P	**Pn**	**03 16 27.4**	**-0.9**
BVAR	**Borovoye Array**	**13.57**	**352**	Pn	**Pn**	**03 16 27.4**	**-0.9**
BVAR				Lg	Lg	03 20 24.9	
BVAR	**Borovoye Array**	**13.57**	**352**	Pn	**Pn**	**03 16 27.4**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=159,slow=13,SNR=16						
BVAR				Lg	Lg	03 20 24.9	
	comp=Z,0.3nm,0.3s,baz=157,slow=30,SNR=3.1						
BRVK	**Borovoye**	**13.61**	**352**	⇓Pn	**Pn**	**03 16 27.6**	**-1.3**
	comp=Z,13nm,0.6s						
BRVK	**Borovoye**	**13.61**	**352**	*e*P	**Pn**	**03 16 27.9**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**13.61**	**352**	*e*Pn	**Pn**	**03 16 27.9**	**-0.9**
	comp=Z,3.4nm,0.8s						
BRVK				*e*P	**P**	**03 16 38.4**	**+0.9**
AB31	**Akbulak array**	**13.65**	**319**	⇑Pn	**Pn**	**03 16 28.6**	**-0.8**
	comp=Z,1.6nm,0.5s,baz=136,slow=13,SNR=34						
AB31				⇑Sn	**Sn**	**03 19 01.9**	**+1.9**
	comp=Z,2.5nm,0.6s						
AB31	**Akbulak array**	**13.65**	**319**	*i* P	**Pn**	**03 16 28.6**	**-0.8**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.2s						
ABKAR	**Akbulak array**	**13.65**	**319**	*e*Pn	**Pn**	**03 16 28.6**	**-0.8**
	comp=Z,2.4nm,0.4s						
ABKAR				*e*Sn	**Sn**	**03 18 59.5**	**-0.5**
AKTO	**Aktyubinsk**	**15.37**	**320**	⇓Pn	**Pn**	**03 16 53.4**	**+0.8**
	comp=Z,9.8nm,0.8s						
AKTO				⇓Sn	**Sn**	**03 19 45.4**	**+3.6**
	comp=Z,2.3nm,0.8s						
AKTO	**Aktyubinsk**	**15.37**	**320**	P	**Pn**	**03 16 52.8**	**+0.2**
AKTO						03 19 35.4	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**15.37**	**320**	Pn	**Pn**	**03 16 52.8**	**+0.2**
AKTO				Sn	**Sn**	**03 19 35.4**	**-6.4**
AKTO	**Aktyubinsk**	**15.37**	**320**	Pn	**Pn**	**03 16 52.8**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=123,slow=9.1,SNR=30						
AKTO				Sn	**Sn**	**03 19 35.4**	**-6.4**
	comp=Z,0.2nm,0.3s,baz=149,slow=18,SNR=2.1						
ZALV	**Zalesovo Beam**	**16.23**	**24**	*e*P	**Pn**	**03 17 01.9**	**-1.7**
ZALV	**Zalesovo Beam**	**16.23**	**24**	Pn	**Pn**	**03 17 01.9**	**-1.7**
ZALV	**Zalesovo Beam**	**16.23**	**24**	Pn	**Pn**	**03 17 01.9**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=210,slow=12,SNR=7.5						
NVS	**Novosibirsk**	**16.54**	**20**	*e*P	**Pn**	**03 17 06.0**	**-1.6**
NVS				pmax	pmax		
	comp=N,7.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,3.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SVE	**Sverdlovsk**	**19.17**	**338**	⇓*e*P	**P**	**03 17 39.9**	**+1.0**
SVE				pmax	pmax		
	comp=Z,12nm,1.2s						
ARU	**Arti**	**19.49**	**334**	*c* iP	**P**	**03 17 43.4**	**+1.0**
ARU				S	**Sn**	**03 21 26.5**	**+5.1**
ARU				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GTA	**Gaotai**	**20.24**	**82**	*e*P	Pn	03 17 54.1	+1.1
GTA				pP	pP	03 17 58.8	+0.1
GTA				sP	sP	03 18 01.3	-1.1
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GNI	**Garni**	**22.07**	**281**	*e*P	**P**	**03 18 09.2**	**-1.5**
	comp=Z,18nm,1.1s						
ZAK	**Zakamensk**	**23.45**	**53**	*e*P	P	03 18 17.9	-6.9
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s						
SONM	**Songino Array**	**24.96**	**60**	P	**P**	**03 18 36.4**	**-2.4**
SONM	**Songino Array**	**24.96**	**60**	P	**P**	**03 18 36.4**	**-2.4**
	comp=Z,0.4nm,0.6s,baz=251,slow=9.0,SNR=3.6						
BRTR	**Keskin Array B**	**30.54**	**283**	P	**P**	**03 19 29.6**	**+0.6**
BRTR	**Keskin Array B**	**30.54**	**283**	P	**P**	**03 19 29.6**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=95,slow=8.8,SNR=7.7						
KIEV	**Kiev**	**32.70**	**305**	*e*P	**P**	**03 19 46.9**	**-0.7**
KIEV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIEV	**Kiev**	**32.70**	**305**	*e*P	**P**	**03 19 46.9**	**-0.7**
	comp=Z,4.8nm,0.9s						
FINES	**FINESS Array B**	**36.10**	**323**	P	**P**	**03 20 16.9**	**+0.1**
FINES	**FINESS Array B**	**36.10**	**323**	P	**P**	**03 20 16.9**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=112,slow=9.7,SNR=24						
ARCES	**ARCESS Array B**	**39.07**	**335**	P	**P**	**03 20 41.6**	**-0.3**
ARCES	**ARCESS Array B**	**39.07**	**335**	P	**P**	**03 20 41.6**	**-0.3**
	comp=Z,1.9nm,0.4s,baz=109,slow=8.7,SNR=26						
KSRS	**Korea Array**	**42.03**	**75**	LR	LR	03 40 27.4	
	comp=Z,33nm,21.0s,baz=5.0,slow=39						
TIXI	**Tiksi**	**42.11**	**23**	*e*P	**P**	**03 21 08.5**	**+1.6**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GERES	**GERESS Array B**	**42.84**	**303**	P	**P**	**03 21 14.0**	**+0.7**
GERES	**GERESS Array B**	**42.84**	**303**	P	**P**	**03 21 14.0**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=55,slow=16,SNR=3.5						
NB2	**NORSAR Subarra**	**43.15**	**321**	P	**P**	**03 21 14.9**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=91,slow=7.9						
NOA	**NORSAR Array B**	**43.15**	**321**	P	**P**	**03 21 14.9**	**-0.7**
NOA	**NORSAR Array B**	**43.15**	**321**	P	**P**	**03 21 14.9**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=91,slow=7.8,SNR=9.0						
TAM	**Tamanrasset**	**59.25**	**275**	*e*P	**P**	**03 23 15.7**	**-1.3**
TAM				pmax	pmax		
	comp=Z,3.0nm,1.1s						
TAM	**Tamanrasset**	**59.25**	**275**	*e*P	**P**	**03 23 15.7**	**-1.3**
	comp=Z,3.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**67.80**	**269**	P	**P**	**03 24 11.8**	**-1.7**
TORD	**Torodi Ar. Bea**	**67.80**	**269**	P	**P**	**03 24 11.8**	**-1.7**
	comp=Z,2.4nm,0.5s,baz=47,slow=5.4,SNR=89						
LSZ	**Lusaka**	**69.07**	**227**	*e*P	**P**	**03 24 18.8**	**-2.5**
	comp=Z,1.9nm,0.7s						
COLA	**College**	**70.90**	**17**	*e*P	**P**	**03 24 30.4**	**-1.4**
COLA				pmax	pmax		
	comp=Z,11nm,0.6s						
COLA	**College**	**70.90**	**17**	*e*P	**P**	**03 24 30.4**	**-1.4**
	comp=Z,11nm,0.6s						
ILAR	**Eielson Array**	**71.20**	**17**	P	P	03 24 30.8	-2.9
ILAR	**Eielson Array**	**71.20**	**17**	P	P	03 24 30.8	-2.9
	comp=Z,0.7nm,0.8s,baz=319,slow=5.4,SNR=13						
WRA	**Warramunga Arr**	**82.00**	**124**	P	P	03 25 31.4	-4.0
WRA	**Warramunga Arr**	**82.00**	**124**	P	P	03 25 31.4	-4.0
	comp=Z,1.7nm,0.8s,baz=325,slow=5.0,SNR=11						
ASAR	**Alice Springs**	**84.45**	**127**	P	P	03 25 44.0	-3.9
ASAR	**Alice Springs**	**84.45**	**127**	P	P	03 25 44.0	-3.9
	comp=Z,0.9nm,0.8s,baz=319,slow=5.0,SNR=10.0						

IDC 18 03:37:09.1±1.7,10˚.44S×123˚.66E,h0km,mb3.8/1, mb1 3.5/4,mb1mx3.4/20,mbtmp3.4/4,ML3.1/3,Error ellipse: s-maj=120.5km s-min=26.8km az=61.0,Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**7.86**	**166**	Pn	Pn	03 39 05.4	+0.7
	0.2nm,0.3s,baz=184,slow=9.2,SNR=9.1						
FITZ				Sn	Sn	03 40 29.1	-5.4
	1.0nm,0.3s,baz=223,slow=5.8,SNR=10.0						
WRA	**Warramunga Arr**	**13.98**	**134**	Pn	Pn	03 40 27.1	-1.5
	0.1nm,0.3s,baz=306,slow=14,SNR=6.3						
WRA				Sn	Sn	03 42 55.8	-8.9
	0.2nm,0.3s,baz=165,slow=5.7,SNR=6.9						
ASAR	**Alice Springs**	**16.39**	**145**	Pn	Pn	03 41 01.1	+0.4
	0.1nm,0.3s,baz=317,slow=12,SNR=6.8						
ASAR				Sn	Sn	03 43 55.5	-8.0
	0.1nm,0.3s,baz=314,slow=22,SNR=6.7						
MKAR	**Makanchi Array**	**67.89**	**331**	P	P	03 48 09.4	0.0
	0.6nm,0.6s,baz=132,slow=8.2,SNR=7.5						

*IDC **18** 03:51:11.8±2.8,46˚.09S×166˚.20E,h0km,mb3.4/2, mb1 3.6/3,mb1mx3.5/15,mbtmp3.4/3,ML3.3/1,Error ellipse: s-maj=74.2km s-min=28.5km az=170.0*

*ISCJB **18** 03:51:13.6±0.9,45˚.94S±0˚.06×166˚.12E±0˚.08,h14km, mb3.3/2,Error ellipse: s-maj=9.6km s-min=8.0km az=26.8*

*WEL **18** 03:51:16.2±0.5,46˚.03S×166˚.26E,h28km±1km,ML3.7/11, Error ellipse: s-maj=5.5km s-min=1.9km az=90.0*

ISC 18 03:51:14.4±1.2,46˚.02S±0˚.06×166˚.18E±0˚.07,h14km,n14, σ0§75/18,1D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.38**	**114**	⇓P*	**Pb**	**03 51 23.4**	**+0.4**
PYZ				S*	**Sb**	**03 51 28.9**	**+0.2**
DCZ	**Deep Cove**	**0.87**	**52**	PN	**Pg**	**03 51 31.1**	**-0.1**
DCZ				SN	**Sg**	**03 51 42.0**	**-0.6**
DCZ				SN	**Sb**	**03 51 42.3**	**-0.4**
DCZ				AML	AML	03 51 43.3	
DCZ				AML	AML	03 51 44.1	
WHZ	**Wether Hill Ro**	**1.24**	**85**	PN	**Pn**	**03 51 37.1**	**-0.2**
WHZ				AML	AML	03 51 58.9	
WHZ				AML	AML	03 51 59.2	
APZ	**The Paps**	**1.50**	**124**	PN	**Pn**	**03 51 40.0**	**-0.8**
MLZ	**Mavora Lakes**	**1.55**	**65**	PN	**Pn**	**03 51 42.2**	**+0.6**
MLZ				AML	AML	03 52 06.6	
MLZ				AML	AML	03 52 09.0	
MSZ	**Milford Sound**	**1.82**	**43**	*e*PN	**Pn**	**03 51 45.8**	**+0.5**
MSZ				AML	AML	03 52 09.6	
MSZ				AML	AML	03 52 10.2	
WKZ	**Wanaka**	**2.33**	**60**	PN	**Pb**	**03 51 55.5**	**-0.6**
WKZ				AML	AML	03 52 26.4	
WKZ				AML	AML	03 52 30.9	
EAZ	**Earnscleugh**	**2.33**	**71**	PN	**Pn**	**03 51 54.3**	**+2.0**
EAZ				AML	AML	03 52 25.3	
EAZ				AML	AML	03 52 26.2	
TUZ	**Tuapeka**	**2.41**	**90**	PN	**Pn**	**03 51 54.4**	**+1.1**
TUZ				AML	AML	03 52 27.4	
TUZ				AML	AML	03 52 28.0	
ODZ	**Otahua Downs**	**3.29**	**74**	PN	**Pn**	**03 52 05.6**	**+0.2**
RPZ	**Rata Peaks**	**4.16**	**58**	Pn	**Pn**	**03 52 17.8**	**+0.4**
	1.8nm,0.3s,baz=72,slow=14,SNR=7.9						
RPZ				Sn	**Sn**	**03 53 05.7**	**-0.1**
	5.4nm,0.3s,baz=118,slow=20,SNR=7.8						
ASAR	**Alice Springs**	**34.26**	**300**	P	**P**	**03 58 00.3**	**+0.4**
	0.2nm,0.6s,baz=136,slow=8.3,SNR=5.4						
WRA	**Warramunga Arr**	**36.86**	**304**	P	**P**	**03 58 21.8**	**-0.5**
	0.4nm,0.6s,baz=136,slow=7.9,SNR=7.8						
TORD	**Torodi Ar. Bea**	**144.71**	**207**	PKP	**PKPab**	**04 10 49.7**	**+0.1**
	0.4nm,0.9s,baz=163,slow=2.4,SNR=2.6						

WEL 18 03:52:01.3±0.5,44˚.54S×167˚.03E,h5km,ML3.5/14,1D, Error ellipse: s-maj=3.6km s-min=3.0km az=0.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.65**	**102**

JCZ	**Jackson Bay**	**2.69**	**43**	PN	**Pn**	**03 59 27.7**	**+1.7**
JCZ				AML	AML	03 59 36.7	
JCZ				AML	AML	03 59 38.2	
LBZ	**Lake Benmore**	**3.28**	**61**	PN	**Pn**	**03 59 34.9**	**+1.0**
LBZ				AML	AML	04 00 34.8	
LBZ				AML	AML	04 00 53.5	
ODZ	**Otahua Downs**	**3.29**	**74**	PN	**Pn**	**03 59 34.2**	**+0.1**
ODZ				AML	AML	04 00 28.9	
ODZ				AML	AML	04 00 37.9	
FOZ	**Fox Glacier**	**3.52**	**46**	*e*PN	**Pn**	**03 59 39.1**	**+1.8**
RPZ	**Rata Peaks**	**4.17**	**58**	Pn	**Pn**	**03 59 46.3**	**0.0**
	3.4nm,0.3s,baz=216,slow=7.9,SNR=8.8						
RPZ				Sn	**Sn**	**04 00 34.3**	**-0.6**
	6.8nm,0.3s,baz=18,slow=20,SNR=7.3						
ASAR	**Alice Springs**	**34.29**	**300**	P	**P**	**04 05 29.3**	**+0.4**
	0.8nm,0.6s,baz=133,slow=8.1,SNR=13						
WRA	**Warramunga Arr**	**36.90**	**304**	P	**P**	**04 05 50.9**	**-0.3**
	0.9nm,0.7s,baz=137,slow=7.8,SNR=14						
TORD	**Torodi Ar. Bea**	**144.67**	**207**	PKP	**PKPab**	**04 18 17.6**	**-0.5**
	0.3nm,0.6s,baz=146,slow=1.4,SNR=5.7						
ARCES	**ARCESS Array B**	**149.47**	**334**	PKPbc	**PKPbc**	**04 18 30.3**	**-0.1**
	1.9nm,0.9s,baz=90,slow=0.3,SNR=3.6						
FINES	**FINESS Array B**	**152.40**	**318**	PKPbc	**PKPbc**	**04 18 37.6**	**+0.2**
	0.4nm,0.5s,baz=36,slow=7.3,SNR=3.3						

IDC 18 04:04:46.4±1.8, 17°.97S×167°.40E, h0km, mb4.1/5, mb1 4.3/6, mb1mx3.9/19, mbtmp4.1/6, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/33, Error ellipse: s-maj=47.0km s-min=26.6km az=114.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.17**	**192**	Pn		Pn		04 05 52.7	+1.2
	4.3nm,0.3s,baz=270,slow=24,SNR=30								
DZM				Sn		Sn		04 06 39.5	-1.6
	2.7nm,0.3s,baz=268,slow=24,SNR=2.5								
STKA	**Stephens Creek**	**27.10**	**234**	P		P		04 10 31.6	+0.6
	4.0nm,0.9s,baz=63,slow=16,SNR=3.7								
ASAR	**Alice Springs**	**31.77**	**254**	P		P		04 11 11.6	-1.0
	1.2nm,0.7s,baz=82,slow=8.5,SNR=13								
FITZ	**Fitzroy Crossi**	**39.65**	**263**	P		P		04 12 19.9	-0.3
	2.2nm,0.9s,baz=109,slow=11,SNR=5.0								
PPT	**Papeete**	**40.91**	**96**	LR		LR		04 25 36.8	
	comp=Z,25nm,19.1s,baz=160,slow=31								
CMAR	**Chiang Mai Arr**	**76.39**	**295**	P		P		04 16 39.3	+1.1
	2.1nm,0.8s,baz=134,slow=4.7,SNR=4.6								
ILAR	**Eielson Array**	**89.56**	**18**	P		P		04 17 44.7	-0.6
	0.5nm,0.7s,baz=236,slow=5.1,SNR=8.8								

*DDA **18** 04:20:39.7,34°.32N×26°.57E,h12km,MD3.7*
*ATH **18** 04:20:54.9,35°.07N×27°.27E,h7km±4km,MD3.1/5*
*CSEM **18** 04:20:57.0±0.7,35°.25N×27°.16E,h2km,ML2.9/1, Error ellipse: s-maj=19.2km s-min=5.3km az=150.0*
*THE **18** 04:20:58.8,35°.36N×27°.11E,h2km±1km,ML2.9/1, Error ellipse: s-maj=2.7km s-min=0.7km az=134.0*

ISC 18 04:20:55.2±1.5, 35°.18N±0°.05×27°.23E±0°.03, h2km±10km, n37, σ1$06/58, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.37**	**352**	P		**Pg**		**04 21 03.4**	**+1.0**
KARP				S		**Sg**		**04 21 05.8**	**-1.5**
KARP	**Karpathos**	**0.37**	**352**	*e*PB		**Pg**		**04 21 03.5**	**+1.0**
KARP				*e*SB		**Sb**		**04 21 11.2**	**+0.4**
KARP	**Karpathos**	**0.37**	**352**	P		**Pg**		**04 21 03.4**	**+1.0**
KARP				S		**Sg**		**04 21 05.8**	**-1.5**
KARP				*e*Sb		**Sb**		**04 21 11.2**	**+0.4**
ZKR	**Zakros**	**0.83**	**266**	*e*PG		**Pg**		**04 21 11.0**	**-0.1**
ZKR	**Zakros**	**0.83**	**266**	*e*Pg		**Pg**		**04 21 11.0**	**-0.1**
ARG	**Arkhangelos**	**1.27**	**35**	P		**Pn**		**04 21 20.4**	**+0.5**
ARG				S		**Sn**		**04 21 38.0**	**+0.5**
ARG	**Arkhangelos**	**1.27**	**35**	*e*PB		**Pn**		**04 21 20.5**	**+0.5**
ARG				*e*SB		**Sn**		**04 21 38.9**	**+1.4**
ARG	**Arkhangelos**	**1.27**	**35**	P		**Pn**		**04 21 20.4**	**+0.5**
ARG				S		**Sn**		**04 21 38.0**	**+0.5**
NPS	**Neapolis**	**1.32**	**274**	P		**Pb**		**04 21 21.3**	**+0.6**
NPS				S		**Sn**		**04 21 39.1**	**+0.2**
NPS	**Neapolis**	**1.32**	**274**	*e*PG		**Pn**		**04 21 20.7**	**0.0**
NPS				*e*SB		**Sn**		**04 21 39.4**	**+0.5**
NPS	**Neapolis**	**1.32**	**274**	P		**Pb**		**04 21 21.3**	**+0.6**
NPS				S		**Sn**		**04 21 39.1**	**+0.2**
LAST	**Lasithi**	**1.43**	**270**	P		**Pn**		**04 21 22.4**	**+0.2**
LAST				S		**Sb**		**04 21 41.1**	**-0.2**
LAST	**Lasithi**	**1.43**	**270**	*e*PB		**Pn**		**04 21 22.6**	**+0.4**
LAST	**Lasithi**	**1.43**	**270**	*e*Pb		**Pn**		**04 21 22.6**	**+0.4**
LAST				S		**Sb**		**04 21 41.1**	**-0.2**
DAT	**Datca**	**1.57**	**10**	*e*PG		**Pn**		**04 21 24.4**	**+0.2**
BODT	**Bodrum**	**1.88**	**2**	*e*PG		**Pn**		**04 21 28.4**	**0.0**
IDI	**Anoyia**	**1.92**	**274**	P		**Pn**		**04 21 29.7**	**+0.8**
IDI				S		**Sn**		**04 21 53.7**	**+0.2**
IDI	**Anoyia**	**1.92**	**274**	P		**Pn**		**04 21 29.7**	**+0.8**
IDI				S		**Sn**		**04 21 53.7**	**+0.2**
DALY	**Dalyan (Mu¨la**	**2.00**	**35**	*e*PG		**Pn**		**04 21 29.6**	**-0.4**
TURN	**Turunc**	**2.03**	**33**	*i* P		Pn		04 21 26.3	-4.0
TURN				*i* S		**Sb**		**04 21 57.4**	**-1.0**
TURN	**Turunc**	**2.03**	**33**	*i* P		Pn		04 21 26.3	-4.0
TURN				*i* S		**Sb**		**04 21 57.4**	**-1.0**
YER	**Yerkesik**	**2.13**	**23**	*e*PG		**Pn**		**04 21 32.1**	**+0.3**
AKAS	**Kas**	**2.21**	**61**	*i* P		**Pn**		**04 21 31.1**	**-1.8**
AKAS				*i* S		**Sn**		**04 22 01.6**	**+0.8**
AKAS	**Kas**	**2.21**	**61**	*i* P		**Pn**		**04 21 31.1**	**-1.8**
AKAS				*i* S		**Sn**		**04 22 01.6**	**+0.8**
APE	**Apeiranthos**	**2.33**	**324**	*e*PG		**Pn**		**04 21 35.2**	**+0.6**
APE	**Apeiranthos**	**2.33**	**324**	P		**Pn**		**04 21 34.2**	**-0.4**
APE				S		**Sn**		**04 22 01.6**	**-2.3**
APE	**Apeiranthos**	**2.33**	**324**	P		**Pn**		**04 21 34.2**	**-0.4**
APE				S		**Sn**		**04 22 01.6**	**-2.3**
VAM	**Vamos**	**2.49**	**276**	*e*PN		**Pb**		**04 21 39.5**	**-1.1**
VAM	**Vamos**	**2.49**	**276**	*e*Pn		**Pb**		**04 21 39.5**	**-1.1**
KARN	**Karanos**	**2.72**	**276**	P		**Pn**		**04 21 40.8**	**+1.0**
KARN				S		**Sn**		**04 22 12.6**	**-0.6**
KARN	**Karanos**	**2.72**	**276**	*e*PB		**Pn**		**04 21 41.0**	**+1.2**
KARN	**Karanos**	**2.72**	**276**	P		**Pn**		**04 21 40.8**	**+1.0**
KARN				S		**Sn**		**04 22 12.6**	**-0.6**
GOLH	**Golhisar**	**2.79**	**42**	*i* P		**Pn**		**04 21 41.3**	**+0.4**
GOLH				*i* S		**Sg**		**04 22 25.7**	**+0.8**
KYTH	**Kithira**	**3.58**	**289**	P		**Pn**		**04 21 51.6**	**-0.1**
KYTH	**Kithira**	**3.58**	**289**	P		**Pn**		**04 21 51.6**	**-0.1**
VLI	**Veliai**	**3.80**	**295**	*e*PN		**Pn**		**04 21 57.8**	**+3.0**
VLI	**Veliai**	**3.80**	**295**	*e*Pn		**Pn**		**04 21 57.8**	**+3.0**

*MOS **18** 04:22:19.5±1.0,5°.21S×145°.87E,h33km,mb4.8/11, Error ellipse: s-maj=13.6km s-min=8.4km az=91.8*
*BJI **18** 04:22:21.6,5°.29S×146°.38E,h71km,mB5.0/16,mb4.8/24, Ms4.9/16,MS7 4.6/14*
*ISCJB **18** 04:22:24.4±0.8,5°.30S±0°.03×145°.98E±0°.04,h78km±7km, mb4.7/56, Error ellipse: s-maj=7.3km s-min=4.8km az=167.9*
*IDC **18** 04:22:25.3±2.1,5°.36S×145°.84E,h73km±20km,mb4.5/20, mb1 4.6/22,mb1mx4.6/25,mbtmp4.5/22,MS4.0/19, Ms1 4.1/19,ms1mx3.9/28, Error ellipse: s-maj=13.8km s-min=9.1km az=87.0*
*NEIC **18** 04:22:27.2±1.1,5°.30S×145°.87E,h91km±10km,mb4.8/26, Error ellipse: s-maj=7.6km s-min=6.7km az=68.0*
*AUST **18** 04:22:27.5±0.0,5°.45S×145°.96E,h81km, Error ellipse: s-maj=0.8km s-min=0.6km az=38.0*
*GCMT **18** 04:22:29.2±0.2,5°.21S×145°.90E,h85km±2km,MW5.0, Moment Tensor Solution. s48,c57; s78,c126; Moment tensor: Scale 10^{16}Nm; Mrr3.84±.12; Mθθ-5.22±.12; Mφφ1.38±.14; Mrθ-1.06±.11; Mrφ0.08±.15; Mθφ-0.01±.10; Best double couple: M0 4.70000×10^{16} NP1:φs91.00000°, δ38.00000°, λ91.00000°. NP2:φs270.00000°, δ52.00000°, λ89.00000°. Principal axes: T 3.9600, Plg83.0000°, Azm177.0000°; N 1.3800, Plg0.0000°, Azm271.0000°; P -5.3400, Plg7.0000°, Azm1.0000°; Data Used: II IU IC G CN.*
*DJA **18** 04:22:33.2±3.0,5°.22S×14°.6E±2°.0,h142km±21km, M4.9/10,mB5.4/3,mb5.0/10,Mw(mB)4.8/3*

ISC 18 04:22:26.0±0.3, 5°.35S±0°.04×145°.97E±0°.05, h77km±2km, h77km:pP-P,n180,σ1$40/219, mb4.8/56, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.57**	**23**	P		**Pn**		**04 23 19.3**	**+0.3**
	baz=3.7,SNR=6.6								

PMG	**Port Moresby**	**4.20**	**164**	*e*Pn		**Pn**	**04 23 27.6**	**+0.1**
PMG				S		**Sn**	**04 24 14.5**	**-1.0**
PMG				*e*Sn		Sn	04 24 15.7	+0.3
PMG	**Port Moresby**	**4.20**	**164**	P		**Pn**	**04 23 27.7**	**+0.1**
	184nm,0.3s,baz=41,slow=5.2,SNR=337							
PMG				S		**Sn**	**04 24 14.5**	**-1.0**
	99nm,0.3s,baz=14,slow=9.6,SNR=4.8							
PMG				LR		LR	04 25 34.3	
	comp=Z,6μm,18.7s,baz=165,slow=45							
JAY	**Jayapura**	**5.96**	**298**	P		**Pn**	**04 23 52.5**	**+0.8**
	baz=6.0,SNR=3.4							
RABL	**Rabaul**	**6.28**	**80**	P		Pn	04 24 01.9	+5.9
	baz=6.3,SNR=5.2							
COEN	**Coen**	**8.98**	**198**	*e*Pn		**Pn**	**04 24 34.2**	**+1.2**
COEN				*e*Sn		**Sn**	**04 26 11.1**	**-1.5**
COEN	**Coen**	**8.98**	**198**	P		**Pn**	**04 24 34.2**	**+1.2**
	baz=8.9,SNR=282							
COEN				S		**Sn**	**04 26 10.1**	**-2.4**
	baz=8.9,SNR=6.5							
MTSU	**Mount Surprise**	**12.81**	**187**	P		**Pn**	**04 25 26.6**	**+1.6**
	baz=13,SNR=14							
FAKI	**Fak Fak**	**13.89**	**279**	P		**P**	**04 25 45.7**	**+0.5**
	baz=14,SNR=4.1							
HNR	**Honiara**	**14.44**	**107**	P		**P**	**04 25 51.7**	**+0.4**
HNR	**Honiara**	**14.44**	**107**	P		**P**	**04 25 51.7**	**+0.4**
	23nm,0.3s,baz=234,slow=8.4,SNR=4.5							
CTA	**Charters Tower**	**14.65**	**179**	P		**P**	**04 25 52.6**	**-1.0**
CTA				S		**Sn**	**04 28 28.5**	**-2.1**
CTA	**Charters Tower**	**14.65**	**179**	P		**P**	**04 25 52.6**	**-1.0**
	6.1nm,0.3s,baz=358,slow=14,SNR=31							
CTA				S		**Sn**	**04 28 28.5**	**-2.1**
	1.0nm,0.3s,baz=83,slow=18,SNR=3.8							
CTAO	**Charters Tower**	**14.65**	**179**	*e*P		**P**	**04 25 52.8**	**-0.8**
CTAO				*e*			04 28 31.1	
CTAO	**Charters Tower**	**14.65**	**179**	*e*P		**P**	**04 25 52.8**	**-0.8**
CTAO				*e*Sn		**Sn**	**04 28 31.1**	**+0.5**
KDU	**Kakadu**	**15.18**	**240**	P		**Pn**	**04 25 57.0**	**+0.8**
	baz=15,SNR=76							
SWI	**Sorong**	**15.34**	**286**	P		**P**	**04 26 02.0**	**+0.7**
	baz=15,SNR=5.0							
MTN	**Manton Dam**	**16.42**	**242**	P		**Pn**	**04 26 12.3**	**+0.6**
	baz=36,SNR=57							
AAI	**Ambon**	**17.79**	**275**	P		**Pn**	**04 26 29.7**	**+1.0**
	203nm,0.7s,5μm							
AAI	**Ambon**	**17.79**	**275**	P		**Pn**	**04 26 31.1**	**+2.4**
	baz=18,SNR=4.0							
WRAB	**Tennant Creek**	**18.38**	**217**	*e*P		**P**	**04 26 34.1**	**-0.8**
WRAB				pmax		pmax		
	comp=Z,22nm,0.6s							
WRAB	**Tennant Creek**	**18.38**	**217**	*e*P		**P**	**04 26 34.1**	**-0.8**
	comp=Z,22nm,0.6s							
WRA	**Warramunga Arr**	**18.39**	**217**	P		**P**	**04 26 33.6**	**-1.4**
WRA	**Warramunga Arr**	**18.39**	**217**	P		**P**	**04 26 33.6**	**-1.4**
	comp=Z,3.7nm,0.3s,baz=35,slow=12,SNR=100							
NLAI	**Namlea**	**18.93**	**276**	P		**Pn**	**04 26 42.0**	**-0.4**
	comp=Z,163nm,0.9s,comp=Z,1μm							
KNRA	**Kununurra**	**19.76**	**237**	P		**P**	**04 26 49.0**	**-0.9**
	baz=20,SNR=30							
EIDS	**Eidsvold**	**20.50**	**167**	*e*P		**P**	**04 26 59.1**	**+1.2**
	comp=Z,39nm,0.7s							
EIDS	**Eidsvold**	**20.50**	**167**	P		**P**	**04 26 59.1**	**+1.2**
	baz=20,SNR=11							
RMQ	**Roma**	**21.18**	**173**	P		**P**	**04 27 08.0**	**+2.8**
	baz=21,SNR=50							
ASAR	**Alice Springs**	**21.60**	**211**	P		**P**	**04 27 08.9**	**-0.9**
ASAR				S		**S**	**04 31 02.5**	**-2.6**
ASAR	**Alice Springs**	**21.60**	**211**	P		**P**	**04 27 08.9**	**-0.9**
	comp=Z,8.5nm,0.5s,baz=45,slow=7.7,SNR=175							
ASAR				S		**S**	**04 31 02.5**	**-2.6**
	comp=Z,3.9nm,0.9s,baz=34,slow=22,SNR=5.1							
ASAR				LR		LR	04 36 16.3	
	comp=Z,143nm,20.6s,baz=24,slow=39							
SOEI	**Soe**	**21.95**	**257**	P		**P**	**04 27 15.6**	**+2.0**
	comp=Z,202nm,0.9s,comp=Z,2μm							
SOEI	**Soe**	**21.95**	**257**	P		**P**	**04 27 14.4**	**+0.8**
	baz=22,SNR=5.3							
LUWI	**Luwuk**	**23.55**	**280**	P		**P**	**04 27 32.7**	**+2.9**
	baz=24,SNR=3.3							
FITZ	**Fitzroy Crossi**	**23.56**	**236**	P		**P**	**04 27 28.0**	**-1.8**
FITZ	**Fitzroy Crossi**	**23.56**	**236**	P		**P**	**04 27 28.0**	**-1.8**
	comp=Z,22nm,0.4s,baz=55,slow=7.6,SNR=119							
FITZ				LR		LR	04 38 39.4	
	comp=Z,404nm,18.8s,baz=184,slow=42							
FITZ	**Fitzroy Crossi**	**23.56**	**236**	P		**P**	**04 27 29.3**	**-0.5**
	baz=24,SNR=64							
ARMA	**Armidale**	**25.50**	**169**	*e*P		**P**	**04 27 48.2**	**+0.9**
	comp=Z,18nm,0.8s							
ARMA	**Armidale**	**25.50**	**169**	P		**P**	**04 27 48.7**	**+1.3**
	baz=26,SNR=17							
DZM	**Mt Dzumac**	**25.86**	**132**	*e*P		**P**	**04 27 51.3**	**+0.6**
	comp=Z,58nm,1.1s							
DZM				*e*LR		LR	04 34 34.9	
	comp=Z,1μm,28.2s							
DZM	**Mont Dzumac**	**25.86**	**132**	*e*P		**P**	**04 27 50.4**	**-0.3**
	comp=Z,15nm,0.7s							
DZM	**Mont Dzumac**	**25.86**	**132**	P		**P**	**04 27 50.7**	**0.0**
	comp=Z,15nm,0.6s,baz=272,slow=24,SNR=15							
DZM				LR		LR	04 37 13.8	
	comp=Z,423nm,19.6s,baz=0.1,slow=34							
CMSA	**Cobar Meteorol**	**26.05**	**181**	P		**P**	**04 27 53.1**	**+0.9**
	baz=26,SNR=11							
KAPI	**Kappang**	**26.11**	**270**	*e*P		**P**	**04 27 52.9**	**0.0**
	comp=Z,23nm,0.8s							
KAPI	**Kappang**	**26.11**	**270**	P		**P**	**04 27 51.7**	**-1.3**
	comp=Z,21nm,0.8s,baz=60,slow=9.0,SNR=9.0							
STKA	**Stephens Creek**	**26.70**	**188**	P		**P**	**04 27 58.1**	**0.0**
STKA	**Stephens Creek**	**26.70**	**188**	P		**P**	**04 27 58.1**	**0.0**
	comp=Z,21nm,0.8s,baz=0.6,slow=8.9,SNR=20							
STKA				LR		LR	04 40 00.7	
	comp=Z,340nm,18.1s,baz=22,slow=40							
STKA	**Stephens Creek**	**26.70**	**188**	P		**P**	**04 27 58.4**	**+0.3**
	baz=27,SNR=6.9							
LHI	**Lord Howe Isla**	**28.79**	**156**	S		S	04 33 15.5	+15
	baz=29,SNR=3.2							
BBOO	**Buckleboo**	**28.84**	**197**	P		**P**	**04 28 18.3**	**+1.2**
	baz=29,SNR=13							
YNG	**Young**	**28.89**	**176**	P		**P**	**04 28 18.8**	**+1.2**
	baz=29,SNR=14							
MBWA	**Marble Bar**	**29.90**	**236**	*e*P		**P**	**04 28 28.2**	**+1.5**
CAN	**Canberra**	**29.95**	**175**	*e*P		**P**	**04 28 28.0**	**+0.9**
CAN				pmax		pmax		
	comp=Z,11nm,0.9s							
CAN	**Canberra**	**29.95**	**175**	*e*P		**P**	**04 28 28.0**	**+0.9**
	comp=Z,11nm,0.9s							
FORT	**Forrest**	**30.39**	**212**	*e*P		**P**	**04 28 30.5**	**-0.4**
	comp=Z,80nm,0.7s							
FORT	**Forrest**	**30.39**	**212**	P		**P**	**04 28 31.2**	**+0.3**
	baz=30,SNR=20							
ARPS	**Mount Arapiles**	**31.50**	**186**	P		**P**	**04 28 42.9**	**+2.4**
	baz=32,SNR=5.4							
MILA	**Mila**	**31.69**	**175**	P		**P**	**04 28 43.3**	**+0.9**
	baz=32,SNR=7.1							
KKM	**Kota Kinabalu**	**31.79**	**290**	*e*P		**P**	**04 28 42.2**	**-1.3**
	comp=Z,5.3nm,0.5s							
TOO	**Toolangi**	**32.07**	**181**	P		**P**	**04 28 47.0**	**+1.3**
	baz=32,SNR=7.8							
MEEK	**Meekatharra**	**33.60**	**228**	P		**P**	**04 28 59.2**	**0.0**
	baz=34,SNR=73							
MSVF	**Nonsavu**	**33.69**	**114**	*e*P		**P**	**04 29 01.5**	**+1.5**
MSVF				pmax		pmax		
	comp=Z,42nm,1.0s							
MSVF	**Nonsavu**	**33.69**	**114**	*e*P		**P**	**04 29 01.5**	**+1.5**
	comp=Z,42nm,1.0s							
UGM	**Wanagama**	**35.29**	**264**	P		**P**	**04 29 13.4**	**-0.5**
	baz=35,SNR=4.0							
KSM	**Kuching**	**36.26**	**280**	P		**P**	**04 29 22.5**	**+0.4**
	baz=36,SNR=3.0							
MORW	**Morawa**	**36.85**	**227**	P		**P**	**04 29 27.3**	**+0.3**
	baz=37,SNR=11							
MOO	**Moorlands**	**36.95**	**178**	P		**P**	**04 29 29.1**	**+1.5**
	baz=37,SNR=3.4							
KLBR	**Kellerberrin**	**37.15**	**222**	P		**P**	**04 29 29.2**	**-0.3**
	baz=37,SNR=31							
BLDU	**Balliduu**	**37.27**	**224**	P		**P**	**04 29 30.6**	**+0.1**
	baz=37,SNR=37							
YHNB	**Yeheng**	**38.26**	**322**	*e*P		**P**	**04 29 39.6**	**+0.6**
	comp=Z,73nm,1.1s							
NWAO	**Narrogin (SRO)**	**38.33**	**221**	P		**P**	**04 29 39.5**	**+0.1**
NWAO	**Narrogin (SRO)**	**38.33**	**221**	P		**P**	**04 29 39.5**	**+0.1**
	comp=Z,15nm,0.6s,baz=62,slow=10.0,SNR=10.0							
NWAO				LR		LR	04 46 14.5	
	comp=Z,459nm,21.6s,baz=17,slow=37							
OUZ	**Omahuta**	**39.15**	**143**	*e*P		**P**	**04 29 47.9**	**+1.6**
	comp=Z,38nm,0.7s							
RKGY	**Rocky Gully**	**39.58**	**219**	P		**P**	**04 29 50.6**	**+0.7**
	baz=40,SNR=14							
XMI	**Christmas Isla**	**40.19**	**260**	P		**P**	**04 29 55.9**	**+0.7**
	baz=40,SNR=3.7							
XMIS	**Christmas Isla**	**40.23**	**260**	*e*P		**P**	**04 29 55.9**	**+0.3**
	comp=Z,765nm,1.0s							
XMIS	**Christmas Isla**	**40.23**	**260**	P		**P**	**04 29 56.1**	**+0.5**
	baz=40,SNR=3.5							
MJAR	**Matsushiro Arr**	**42.30**	**351**	P		**P**	**04 30 11.4**	**-0.8**
MJAR	**Matsushiro Arr**	**42.30**	**351**	P		**P**	**04 30 11.4**	**-0.8**
	comp=Z,5.2nm,1.0s,baz=182,slow=8.2,SNR=9.7							
MAJO	**Matsushiro**	**42.30**	**351**	*e*P		**P**	**04 30 10.9**	**-1.3**
MAJO				pmax		pmax		
	comp=Z,16nm,1.1s							
MAJO	**Matsushiro**	**42.30**	**351**	*e*P		**P**	**04 30 10.9**	**-1.3**
	comp=Z,16nm,1.1s							
MAT	**Matsushiro**	**42.30**	**351**	P		**P**	**04 30 11.3**	**-0.9**
MAT				S		**S**	**04 36 23.4**	**-4.1**
AFI	**Afiamalu**	**42.46**	**105**	P		**P**	**04 30 15.0**	**+1.1**
AFI	**Afiamalu**	**42.46**	**105**	P		**P**	**04 30 15.0**	**+1.1**
	comp=Z,25nm,0.6s,baz=84,slow=19,SNR=4.3							
AFI				LR		LR	04 45 56.7	
	comp=Z,134nm,19.3s,baz=310,slow=33							
URZ	**Urewera**	**43.28**	**144**	P		**P**	**04 30 21.1**	**+1.0**
URZ	**Urewera**	**43.28**	**144**	P		**P**	**04 30 21.1**	**+1.0**
	comp=Z,19nm,0.6s,baz=318,slow=1.5,SNR=14							
URZ				LR		LR	04 46 18.2	
	comp=Z,210nm,19.1s,baz=122,slow=33							
RPZ	**Rata Peaks**	**44.14**	**154**	*e*P		**P**	**04 30 27.5**	**+0.6**
	comp=Z,38nm,0.7s							
RPZ	**Rata Peaks**	**44.14**	**154**	P		**P**	**04 30 27.8**	**+0.8**
	comp=Z,39nm,0.7s,baz=275,slow=4.9,SNR=14							
RPZ				LR		LR	04 45 29.9	
	comp=Z,509nm,20.7s,baz=236,slow=31							
NJ2	**Nanjing**	**45.28**	**327**	*e*P		**P**	**04 30 35.3**	**-0.8**
NJ2				pmax		pmax		
	comp=Z,20nm,1.0s							
KSRS	**Korea Array**	**45.79**	**340**	P		**P**	**04 30 39.1**	**-0.9**
	comp=Z,8.9nm,0.9s,baz=154,slow=8.9,SNR=13							
KSAR	**Wonju Array Be**	**45.79**	**340**	P		**P**	**04 30 39.1**	**-0.9**
WHN	**Wuhan**	**46.79**	**322**	P		**P**	**04 30 48.3**	**+0.3**
GYA	**Guiyang**	**49.49**	**312**	*e*P		**P**	**04 31 10.0**	**+1.0**
GYA				pP		**pP**	**04 31 28.6**	**+0.4**
GYA				sP		**sP**	**04 31 37.3**	**+0.4**
GYA				PP		**PP**	**04 33 04.3**	**+0.3**
GYA				ScP		**ScP**	**04 36 17.4**	**-1.5**
GYA				S		**S**	**04 38 11.8**	**+0.6**
GYA				sS		**sS**	**04 38 42.3**	**-1.5**
GYA				SS		**SS**	**04 41 39.3**	**-5.0**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
GYA				pmax		pmax		
	comp=Z,90nm,4.9s							
GYA				LR		LR		
	comp=N,490nm,17.8s							
GYA				LR		LR		
	comp=E,460nm,18.0s							
GYA				LR		LR		
	comp=Z,480nm,17.5s							
USRK	**Ussuriysk Arra**	**50.91**	**347**	P		**P**	**04 31 19.0**	**-0.2**
	comp=Z,9.5nm,0.6s,baz=172,slow=6.7,SNR=18							
KMI	**Kunming**	**51.79**	**308**	P		**P**	**04 31 26.6**	**+0.1**
KMI				pP		**pP**	**04 31 47.8**	**+2.0**
KMI				sP		**sP**	**04 31 58.0**	**+3.5**
KMI				S		**S**	**04 38 42.4**	**-1.0**
KMI				pmax		pmax		
	comp=Z,6.0nm,0.8s							
KMI				LR		LR		
	comp=N,240nm,21.8s							
KMI				LR		LR		
	comp=E,230nm,24.0s							
KMI				LR		LR		
	comp=Z,250nm,21.2s							
MDJ	**Mudanjiang**	**51.87**	**345**	P		**P**	**04 31 26.3**	**-0.2**
MDJ				pP		**pP**	**04 31 42.9**	**-2.9**
MDJ				sP		**sP**	**04 31 52.3**	**-2.1**
MDJ				S		**S**	**04 38 46.8**	**+3.4**
MDJ				pmax		pmax		
	comp=Z,8.0nm,1.3s							
MDJ				pmax		pmax		
	comp=Z,69nm,3.7s							
CMAR	**Chiang Mai Arr**	**52.04**	**298**	P		**P**	**04 31 28.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**52.04**	**298**	P		**P**	**04 31 28.

WMQ	**Urumqi**	**71.63**	**320**	P	**P**	**04 33 39.5**	**0.0**
WMQ				pP	**pP**	**04 33 59.5**	**-0.2**
WMQ				sP	**sP**	**04 34 08.0**	**-0.2**
WMQ				PP	**PP**	**04 36 21.0**	**+1.5**
WMQ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
WMQ				pmax	pmax		
	comp=Z,130nm,5.6s						
WMQ				LR	LR		
	comp=N,410nm,16.7s						
WMQ				LR	LR		
	comp=E,300nm,17.8s						
HVS	**Khovu-Aksy**	**71.82**	**328**	*i* P	**P**	**04 33 40.6**	**+0.1**
HVS				pmax	pmax		
	comp=Z,63nm,1.2s						
VNDA	**Vanda**	**72.62**	**176**	P	**P**	**04 33 45.1**	**+0.5**
VNDA	**Vanda**	**72.62**	**176**	P	**P**	**04 33 45.1**	**+0.5**
	comp=Z,14nm,0.6s,baz=330,slow=6.9,SNR=79						
VNDA				LR	LR	05 02 06.9	
	comp=Z,167nm,20.6s,baz=352,slow=33						
SBA	**Scott Base**	**73.28**	**175**	*e*P	**P**	**04 33 49.5**	**+0.9**
SBA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SBA	**Scott Base**	**73.28**	**175**	*e*P	**P**	**04 33 49.5**	**+0.9**
	comp=Z,5.6nm,0.6s						
MKAR	**Makanchi Array**	**76.35**	**321**	P	**P**	**04 34 05.8**	**-1.1**
MKAR	**Makanchi Array**	**76.35**	**321**	P	**P**	**04 34 05.8**	**-1.1**
MKAR	**Makanchi Array**	**76.35**	**321**	P	**P**	**04 34 05.8**	**-1.1**
	comp=Z,2.4nm,0.8s,baz=98,slow=6.8,SNR=16						
TIXI	**Tiksi**	**77.67**	**355**	*i* P	**P**	**04 34 13.0**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ZALV	**Zalesovo Beam**	**77.92**	**328**	P	**P**	**04 34 13.7**	**-1.8**
ZALV	**Zalesovo Beam**	**77.92**	**328**	P	**P**	**04 34 13.7**	**-1.8**
ZALV	**Zalesovo Beam**	**77.92**	**328**	P	**P**	**04 34 13.7**	**-1.8**
	comp=Z,1.3nm,0.5s,baz=103,slow=6.3,SNR=5.4						
ZALV				LR	LR	05 06 18.1	
	comp=Z,126nm,21.4s,baz=249,slow=34						
KSH	**Kashi**	**78.18**	**312**	*e*P	**P**	**04 34 18.0**	**+0.6**
KSH				pP	**pP**	**04 34 38.4**	**+0.5**
KSH				sP	**sP**	**04 34 47.5**	**+1.2**
KSH				S	**S**	**04 44 06.5**	**+0.2**
KSH				SKS	**SKSac**	**04 44 21.3**	**-4.1**
KSH				sS	**sS**	**04 44 41.4**	**+0.2**
KSH				SS	**SS**	**04 49 12.8**	**+2.8**
KSH				pmax	pmax		
	comp=Z,94nm,5.3s						
KSH				LR	LR		
	comp=N,110nm,6.1s						
KSH				LR	LR		
	comp=E,150nm,5.7s						
KSH				LR	LR		
	comp=Z,240nm,6.0s						
KDAK	**Kodiak Island**	**79.82**	**29**	LR	LR	05 02 47.7	
	comp=Z,78nm,20.9s,baz=282,slow=30						
AAK	**Ala-Archa**	**80.16**	**315**	*i* P	**P**	**04 34 28.1**	**-0.1**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MAW	**Mawson**	**82.45**	**203**	P	**P**	**04 34 39.3**	**-0.3**
MAW	**Mawson**	**82.45**	**203**	P	**P**	**04 34 39.3**	**-0.3**
	comp=Z,13nm,0.8s,baz=82,slow=6.5,SNR=27						
MAW				LR	LR	05 11 31.7	
	comp=Z,131nm,18.3s,baz=81,slow=36						
MAW	**Mawson**	**82.45**	**203**	P	**P**	**04 34 39.7**	**+0.1**
	baz=82,SNR=8.0						
PMR	**Palmer**	**83.07**	**26**	*e*P	**P**	**04 34 41.7**	**-1.2**
PMR				pmax	pmax		
	comp=Z,6.0nm,1.1s						
PMR	**Palmer**	**83.07**	**26**	*e*P	**P**	**04 34 41.7**	**-1.2**
	comp=Z,5.9nm,1.1s						
PMR				*e*pP	**pP**	**04 35 01.4**	**-2.1**
KKAR	**Karatay Array**	**83.11**	**314**	*e*P	**P**	**04 34 42.7**	**-0.8**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KKAR	**Karatay Array**	**83.11**	**314**	*e*P	**P**	**04 34 42.7**	**-0.8**
	comp=Z,1.1nm,0.6s						
TRF	**Thorofare Moun**	**83.39**	**24**	*e*P	**P**	**04 34 43.4**	**-1.3**
	comp=Z,2.4nm,0.8s						
SML	**Sawmill**	**83.51**	**26**	*e*P	**P**	**04 34 44.4**	**-0.8**
SML				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SML	**Sawmill**	**83.51**	**26**	*e*P	**P**	**04 34 44.4**	**-0.8**
	comp=Z,3.4nm,1.0s						
MCK	**McKinley**	**84.06**	**24**	*e*P	**P**	**04 34 46.3**	**-1.6**
MCK				pmax	pmax		
	comp=Z,17nm,1.1s						
MCK	**McKinley**	**84.06**	**24**	*e*P	**P**	**04 34 46.3**	**-1.6**
	comp=Z,17nm,1.1s						
MCK				*e*pP	**pP**	**04 35 07.6**	**-1.1**
QSPA	**South Pole Qui**	**84.61**	**180**	*e*P	**P**	**04 34 50.2**	**-0.7**
	comp=Z,16nm,0.7s						
COLA	**College**	**84.96**	**23**	*e*P	**P**	**04 34 50.4**	**-2.0**
COLA				pmax	pmax		
	comp=Z,65nm,1.1s						
COLA	**College**	**84.96**	**23**	*e*P	**P**	**04 34 50.4**	**-2.0**
	comp=Z,64nm,1.1s						
COLD	**Coldfoot**	**85.09**	**21**	*e*P	**P**	**04 34 52.7**	**-0.4**
	comp=Z,5.1nm,1.1s						
COLD				*e*pP	**pP**	**04 35 13.8**	**0.0**
ILAR	**Eielson Array**	**85.30**	**23**	P	**P**	**04 34 52.3**	**-1.8**
ILAR	**Eielson Array**	**85.30**	**23**	P	**P**	**04 34 52.3**	**-1.8**
	comp=Z,8.2nm,0.9s,baz=254,slow=4.6,SNR=48						
ILAR				LR	LR	05 11 40.7	
	comp=Z,62nm,18.4s,baz=298,slow=35						
BRVK	**Borovoye**	**85.71**	**324**	*i* P	**P**	**04 34 57.4**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRVK	**Borovoye**	**85.71**	**324**	*e*P	**P**	**04 34 55.7**	**-0.8**
	comp=Z,6.0nm,1.0s						
EGAK	**Eagle**	**87.60**	**24**	*e*P	**P**	**04 35 04.6**	**-0.8**
	comp=Z,14nm,1.3s						
EGAK				*e*pP	**pP**	**04 35 26.3**	**0.0**
KOLS	**Kolonicke sedl**	**115.72**	**322**	*e*P	**Pdif**	**04 37 13.0**	**+0.4**
KOLS	**Kolonicke sedl**	**115.72**	**322**	PDIF	**Pdif**	**04 37 13.0**	**+0.4**
STHS	**Stebnicka Huta**	**116.14**	**323**	*e*P	**Pdif**	**04 37 16.4**	**+1.9**
STHS	**Stebnicka Huta**	**116.14**	**323**	PDIF	**Pdif**	**04 37 16.4**	**+1.9**
KECS	**Kecovo**	**116.98**	**323**	*e*P	**Pdif**	**04 37 17.7**	**-0.5**
KECS	**Kecovo**	**116.98**	**323**	PDIF	**Pdif**	**04 37 17.7**	**-0.5**
CLL	**Collm**	**119.87**	**328**	*e*PS	PS	04 52 21.0	-1.5
CLL				*e*SS	SS	04 58 51.0	-0.1
TIP	**Timpagrande**	**123.20**	**314**	*e*PKPdf	**PKPdf**	**04 41 14.6**	**+0.2**
PLCA	**Paso Flores**	**123.22**	**147**	PKP	**PKPdf**	**04 41 14.4**	**-0.1**
PLCA	**Paso Flores**	**123.22**	**147**	PKP	**PKPdf**	**04 41 14.4**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=237,slow=2.3,SNR=3.8						
TSUM	**Tsumeb**	**123.64**	**243**	*e*PKPdf	**PKPdf**	**04 41 16.2**	**+0.3**
ESK	**Eskdalemuir**	**124.39**	**339**	*i* PKIKP	**PKPdf**	**04 41 17.0**	**+0.9**
TRQA	**Tornquist**	**129.60**	**151**	*e*PKPdf	**PKPdf**	**04 41 26.6**	**0.0**
CFAA	**Coronel Fontan**	**130.87**	**141**	PKP	**PKPdf**	**04 41 28.3**	**-1.0**
CFAA	**Coronel Fontan**	**130.87**	**141**	PKP	**PKPdf**	**04 41 28.3**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=165,slow=1.4,SNR=8.9						
LPAZ	**La Paz**	**140.00**	**123**	PKPpre	PKPpre	04 41 39.6	
LPAZ	**La Paz**	**140.00**	**123**	PKhKP	PKPpre	04 41 39.6	
	comp=Z,0.8nm,0.5s,baz=249,slow=3.6,SNR=5.6						
CPUP	**Villa Florida**	**141.25**	**145**	PKPpre	PKPpre	04 41 40.6	
CPUP	**Villa Florida**	**141.25**	**145**	PKhKP	PKPpre	04 41 40.6	
	comp=Z,1.4nm,0.5s,baz=222,slow=4.2,SNR=7.4						
TORD	**Torodi Ar. Bea**	**143.93**	**285**	PKP	PKPab	04 41 51.0	0.0
TORD	**Torodi Ar. Bea**	**143.93**	**285**	PKP	PKPab	04 41 51.0	0.0
	comp=Z,1.5nm,0.6s,baz=67,slow=3.6,SNR=32						
SAML	**Samuel**	**147.65**	**116**	*e*PKPbc	**PKPbc**	**04 42 01.7**	**-1.2**
DBIC	**Dimbokro**	**150.96**	**274**	PKPbc	**PKPbc**	**04 42 11.2**	**+0.1**
DBIC	**Dimbokro**	**150.96**	**274**	PKPbc	**PKPbc**	**04 42 11.2**	**+0.1**
	comp=Z,9.4nm,0.8s,baz=122,slow=1.5,SNR=9.4						
CAM4	**Nova Friburgo**	**151.22**	**163**	*i*	**PKPdf**	**04 42 01.4**	**-4.4**
CAM4				*i*	**PKPbc**	**04 42 12.9**	**+1.1**
CAM4				*i*	**PKPab**	**04 42 17.2**	**-2.5**
CAM4				*i*		04 42 20.7	
CAM4				*i*		04 42 49.1	
CAM4				*i*		04 42 58.7	
BDFB	**Brasilia**	**154.97**	**147**	PKPbc	**PKPbc**	**04 42 19.6**	**-0.4**
BDFB	**Brasilia**	**154.97**	**147**	PKPbc	**PKPbc**	**04 42 19.6**	**-0.4**
	comp=Z,4.3nm,0.5s,baz=177,slow=1.9,SNR=12						

WEL 18 04:24:00.2±0.3, 45.75S×166.53E, h22km±1km, ML3.6/14, 1C, Error ellipse: s-maj=4.4km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.43**	**166**	⇑P*	Pb	04 24 08.6	-0.6
PYZ				S*	Sb	04 24 14.1	-1.2
DCZ	**Deep Cove**	**0.52**	**59**	P*	Pb	04 24 10.1	-0.4
DCZ				S*	Sb	04 24 16.5	-1.1
DCZ				AML	AML	04 24 17.1	
DCZ				AML	AML	04 24 17.2	
WHZ	**Wether Hill Ro**	**1.00**	**99**	AML	AML	04 24 36.0	
WHZ				AML	AML	04 24 36.7	
MLZ	**Mavora Lakes**	**1.22**	**72**	PN	Pn	04 24 21.4	-0.6
MLZ				AML	AML	04 24 43.1	
MLZ				AML	AML	04 24 43.3	
MSZ	**Milford Sound**	**1.46**	**43**	PN	Pn	04 24 24.0	-1.2
MSZ				AML	AML	04 24 56.6	
MSZ				AML	AML	04 24 56.6	
MSZ				AML	AML	04 24 57.6	
MSZ				AML	AML	04 24 57.6	
SYZ	**Scrubby Hill**	**1.98**	**114**	PN	Pn	04 24 33.7	+1.3
WKZ	**Wanaka**	**1.98**	**63**	AML	AML	04 25 02.9	
WKZ				AML	AML	04 25 19.2	
EAZ	**Earnscleugh**	**2.02**	**76**	PN	Pb	04 24 34.8	-1.4
EAZ				AML	AML	04 25 03.2	
EAZ				AML	AML	04 25 03.7	
TUZ	**Tuapeka**	**2.18**	**97**	PN	Pb	04 24 37.1	-1.8
TUZ				AML	AML	04 25 04.7	
TUZ				AML	AML	04 25 14.3	
JCZ	**Jackson Bay**	**2.30**	**44**	*e*PN	Pb	04 24 39.2	-2.0
JCZ				AML	AML	04 25 21.2	
JCZ				AML	AML	04 25 21.3	
LBZ	**Lake Benmore**	**2.93**	**64**	*e*PN	Pn	04 24 47.0	+1.6
ODZ	**Otahua Downs**	**2.98**	**78**	*e*PN	Pn	04 24 46.1	-0.1
FOZ	**Fox Glacier**	**3.14**	**47**	*e*PN	Pn	04 24 51.3	+3.1

IDC 18 04:26:21.0±1.5, 2.44N×126.02E, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.9/21, mbtmp4.2/5, MS4.0/1, Ms1 4.0/1, ms1mx3.1/28, Error ellipse: s-maj=166.2km s-min=21.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.70**	**160**	P	P	04 31 34.5	-0.2
	1.3nm,0.3s,baz=339,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**27.06**	**164**	P	P	04 32 05.4	-0.1
	1.3nm,0.7s,baz=346,slow=7.7,SNR=4.1						
STKA	**Stephens Creek**	**37.20**	**158**	P	P	04 33 34.4	+0.3
	6.3nm,0.7s,baz=326,slow=10,SNR=6.1						
MKAR	**Makanchi Array**	**58.21**	**326**	P	P	04 36 17.3	+0.2
	0.9nm,0.4s,baz=119,slow=8.1,SNR=7.3						
ARCES	**ARCESS Array B**	**91.41**	**340**	LR	LR	05 29 11.0	
	comp=Z,69nm,19.9s,baz=54,slow=41						
FINES	**FINESS Array B**	**92.62**	**332**	P	P	04 39 33.8	-0.7
	2.1nm,0.9s,baz=85,slow=4.2,SNR=5.6						

*IDC **18** 04:32:40.5±0.7, 4.77N×126.25E, h0km, mb4.0/15, mb1 4.1/15, mb1mx4.0/22, mbtmp4.0/15, MS3.7/8, Ms1 3.7/8, ms1mx3.3/29, Error ellipse: s-maj=38.7km s-min=15.1km az=75.0*

*BJI **18** 04:32:48.0, 3.99N×127.07E, h46km, mB5.0/23, mb4.9/33, Ms4.5/23, Ms7 4.2/23*

*MOS **18** 04:32:54.5±1.4, 5.06N×126.82E, h33km, mb5.2/25, Error ellipse: s-maj=23.0km s-min=9.0km az=108.2*

*ISCJB **18** 04:32:55.2±0.8, 4.93N±0.04×126.70E±0.05, h40km±8km, mb4.7/63, MS4.0/21, Error ellipse: s-maj=9.1km s-min=6.3km az=151.3*

*NEIC **18** 04:32:56.1±3.7, 4.98N×126.75E, h34km±26km, mb5.0/20, Error ellipse: s-maj=14.0km s-min=8.0km az=69.0*

*AUST **18** 04:33:04.8±15.0, 4.64N×126.59E, h113km, Error ellipse: s-maj=4.3km s-min=1.5km az=228.0*

*DJA **18** 04:33:10.3±0.4, 4.N×3.×12.6E±., h54km±10km, M4.5/10, mB5.4/2, mb4.6/10, ML4.5/8, Mw(mB)4.9/2, Mwp6.0/1*

ISC 18 04:32:57.0±0.5, 4.99N±0.04×126.80E±0.06, h42km±3km, h42km:pP-P, n143, σ1°68/147, mb4.8/63, MS3.9/21, 6C-3D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.40**	**330**	*e*Pn	**Pn**	**04 33 31.2**	**-2.7**
DAV	**Davao City (W)**	**2.40**	**330**	P	**Sn**	**04 33 59.6**	**-2.5**
DAV	**Davao City (W)**	**2.40**	**330**	Pn	**Pn**	**04 33 32.9**	**-1.0**
	52nm,0.3s,baz=64,slow=4.9,SNR=5.1						
GAMI	**Galela, Maluku**	**3.28**	**163**	P	**Pn**	**04 33 45.1**	**-0.8**
CTBH	**Cotabato--PC H**	**3.38**	**311**	⇑*i*P	Pn	04 33 36.1	-11
MNI	**Manado**	**4.03**	**209**	P	**Pn**	**04 33 54.8**	**-1.4**
TNTI	**Ternate**	**4.22**	**172**	P	**Pn**	**04 33 58.6**	**-0.3**
TNTI				S	Sn	04 34 34.0	-13
KMSI	**Cibinong**	**5.21**	**213**	P	**Pn**	**04 34 12.1**	**-0.3**
KMSI				S	Sn	04 34 59.1	-12
LBMI	**Labuha**	**5.63**	**173**	P	**Pn**	**04 34 17.5**	**-0.7**
GTOI	**Gorontalo**	**5.75**	**221**	P	**Pn**	**04 34 17.9**	**-1.9**
MRSI	**Marisa**	**6.61**	**227**	P	Pn	04 34 25.8	-5.8
	109nm,0.9s,1μm0.4nm						
MRSI				S	Sn	04 35 37.0	-8.7
	109nm,0.9s,1μm0.4nm						
LUWI	**Luwuk**	**7.21**	**214**	P	**Pn**	**04 34 39.8**	**-0.2**
SWI	**Sorong**	**7.32**	**142**	P	Pn	04 34 45.4	+4.0
	23nm,1.0s,0.1nm						
RKPI	**Ransiki, Papua**	**9.79**	**131**	P	Pn	04 35 23.1	+7.7
	52nm,1.4s,8μm48μm						
KKM	**Kota Kinabalu**	**10.59**	**276**	*e*Pn	**Pn**	**04 35 25.5**	**-0.9**
KKM	**Kota Kinabalu**	**10.59**	**276**	P	**Pn**	**04 35 26.1**	**-0.3**
TTSI	**Tana Toraja**	**10.60**	**221**	P	**Pn**	**04 35 24.8**	**-1.6**
	48nm,1.0s						
KAPI	**Kappang**	**12.18**	**215**	*e*Pn	**Pn**	**04 35 46.2**	**-1.8**
KBKI	**Kotabaru**	**13.44**	**232**	P	**Pn**	**04 36 06.3**	**+1.0**
	27nm,1.4s						
BBKI	**Banjar Baru**	**14.60**	**235**	P	**Pn**	**04 36 23.3**	**+2.3**
	86nm,0.9s						
SBUM	**Sibu**	**14.77**	**261**	P	**P**	**04 36 28.1**	**-0.4**
	21nm,0.9s						
KSM	**Kuching**	**16.83**	**259**	*e*Pn	**Pn**	**04 36 50.9**	**+1.2**
	21nm,0.9s						
KSM	**Kuching**	**16.83**	**259**	P	**P**	**04 36 51.4**	**0.0**
	28nm,1.2s						
KSM	**Kuching**	**16.83**	**259**	P	**P**	**04 36 52.4**	**+1.0**
	baz=17,SNR=4.1						
MTN	**Manton Dam**	**18.23**	**166**	P	**P**	**04 37 03.0**	**-3.8**
	baz=18,SNR=3.3						
GMJI	**Gumukmas**	**18.73**	**225**	P	**Pn**	**04 37 14.8**	**+1.7**
QIZ	**Qiongzhong**	**21.65**	**312**	P	**P**	**04 37 44.9**	**+0.9**
QIZ				S	**S**	**04 41 42.9**	**+1.3**
QIZ				LR	LR		
	comp=Z,340nm,13.2s						
FITZ	**Fitzroy Crossi**	**22.97**	**183**	*e*P	**P**	**04 37 57.1**	**-0.9**
	comp=Z,20nm,1.1s						
FITZ	**Fitzroy Crossi**	**22.97**	**183**	P	P	04 37 47.1	-11
	comp=Z,1.1nm,0.5s,baz=346,slow=12,SNR=3.9						
FITZ	**Fitzroy Crossi**	**22.97**	**183**	P	**P**	**04 37 57.3**	**-0.7**
	baz=23,SNR=4.7						
PMG	**Port Moresby**	**24.82**	**125**	LR	LR	04 48 30.4	
	comp=Z,105nm,18.3s,baz=267,slow=38						
COEN	**Coen**	**24.86**	**139**	*e*P	**P**	**04 38 15.6**	**-0.3**
IPM	**Ipam**	**25.70**	**270**	*e*P	**P**	**04 38 23.2**	**-0.2**
	comp=Z,13nm,0.9s						
WRAB	**Tennant Creek**	**25.85**	**164**	P	**P**	**04 38 24.2**	**-0.6**
	comp=Z,180nm,1.0s,SNR=6.3						
WRAB	**Tennant Creek**	**25.85**	**164**	*e*P	**P**	**04 38 24.5**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,44nm,1.1s						
WRAB	**Tennant Creek**	**25.85**	**164**	*e*P	**P**	**04 38 24.5**	**-0.3**
	comp=Z,44nm,1.1s						
WRA	**Warramunga Arr**	**25.86**	**164**	P	P	04 38 13.2	-12
	comp=Z,2.0nm,0.5s,baz=343,slow=10,SNR=13						
KULM	**Kulim**	**26.05**	**272**	*e*P	**P**	**04 38 27.0**	**+0.3**
	comp=Z,13nm,1.0s						
BKNI	**Bangkinang**	**26.14**	**261**	P	**P**	**04 38 30.2**	**+2.7**
MBWA	**Marble Bar**	**26.89**	**195**	*e*P	**P**	**04 38 33.1**	**-1.1**
	comp=Z,28nm,1.1s						
NJ2	**Nanjing**	**27.94**	**345**	*e*P	**P**	**04 38 45.8**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
WHN	**Wuhan**	**28.00**	**337**	P	**P**	**04 38 46.5**	**+2.5**
GYA	**Guiyang**	**28.75**	**320**	P	**P**	**04 38 52.8**	**+1.9**
GYA				pP	pP	04 39 05.4	+3.1
GYA				sP	sP	04 39 11.5	+4.1
GYA				PP	**PnPn**	**04 39 48.4**	**+5.4**
GYA				S	**S**	**04 43 37.3**	**-0.4**
GYA				sS	sS	04 44 01.0	+4.2
GYA				ScP	ScP	04 45 29.5	-9.2
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.8s						
GYA				LR	LR		
	comp=N,520nm,17.6s						
GYA				LR	LR		
	comp=E,480nm,18.1s						
GYA				LR	LR		
	comp=Z,500nm,17.8s						
ASAR	**Alice Springs**	**29.31**	**167**	P	P	04 38 45.4	-10
	comp=Z,1.0nm,1.1s,baz=346,slow=6.8,SNR=4.1						
CMAR	**Chiang Mai Arr**	**30.32**	**299**	P	P	04 38 54.8	-10
	comp=Z,1.1nm,0.3s,baz=122,slow=8.6,SNR=3.7						
KMI	**Kunming**	**30.56**	**313**	P	P	04 39 11.8	+4.7
KMI				pP	pP	04 39 21.5	+2.9
KMI				sP	sP	04 39 27.0	+3.3
KMI				S	**S**	**04 44 05.3**	**-1.1**
KMI				sS	sS	04 44 30.3	+4.7
KMI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KMI				LR	LR		
	comp=N,180nm,21.1s						
KMI				LR	LR		
	comp=E,190nm,24.7s						
KMI				LR	LR		
	comp=Z,250nm,21.6s						
CTAO	**Charters Tower**	**31.41**	**143**	*e*P	**P**	**04 39 15.0**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,13nm,1.1s						
CTAO	**Charters Tower**	**31.41**	**143**	*e*P	**P**	**04 39 15.0**	**+0.7**
	comp=Z,13nm,1.1s						
KSRS	**Korea Array**	**32.33**	**2**	P	P	04 39 15.2	-7.0
	comp=Z,0.8nm,0.7s,baz=172,slow=9.8,SNR=2.8						
MEEK	**Meekatharra**	**32.42**	**194**	P	**P**	**04 39 21.4**	**-1.8**
	baz=32,SNR=3.7						
MJAR	**Matsushiro Arr**	**33.11**	**17**	LR	LR	04 51 41.2	
	comp=Z,94nm,18.7s,baz=220,slow=34						
CD2	**Chengdu**	**33.69**	**323**	P	**P**	**04 39 33.3**	**-1.0**
CD2				pP	pP	04 39 48.9	+3.1
CD2				sP	**sP**	**04 39 52.0**	**+1.1**
CD2				PP	**PnPn**	**04 40 47.0**	**-0.2**
CD2				S	**S**	**04 44 52.8**	**-1.9**
CD2				pmax	pmax		
	comp=Z,20nm,1.2s						
CD2				pmax	pmax		
	comp=Z,100nm,4.8s						
CD2				LR	LR		
	comp=E,560nm,15.6s						
CD2				LR	LR		
	comp=Z,500nm,16.8s						
HNR	**Honiara**	**36.00**	**113**	LR	LR	04 52 52.0	
	comp=Z,116nm,18.1s,baz=303,slow=33						
BJT	**Baijiatuao**	**36.17**	**346**	*e*P	**P**	**04 39 54.8**	**-0.6**
	comp=Z,71nm,1.0s						
LZH	**Lanzhou**	**37.47**	**329**	*e*P	**P**	**04 40 07.8**	**+1.0**
LZH				pP	**pP**	**04 40 16.8**	**-1.6**
LZH				sP	**sP**	**04 40 21.5**	**-2.0**
LZH				PP	**PnPn**	**04 41 37.0**	**+3.1**
LZH				*e*S	**S**	**04 45 53.4**	**+0.6**
LZH				pmax	pmax		
	comp=Z,24nm,1.0s						
LZH				pmax	pmax		
	comp=Z,220nm,4.1s						
LZH				LR	LR		
	comp=N,430nm,13.9s						
LZH				LR	LR		
	comp=E,300nm,13.7s						
LZH				LR	LR		
	comp=E,510nm,15.6s						
HHC	**Hu-ho-hao-te**	**38.24**	**341**	*e*P	**P**	**04 40 13.8**	**+0.7**
HHC				pP	**pP**	**04 40 26.0**	**+1.2**
HHC				sP	**sP**	**04 40 31.3**	**+1.5**
HHC				PP	**PnPn**	**04 41 46.8**	**+3.7**
HHC				S	**S**	**04 46 05.3**	**+1.1**
HHC				pmax	pmax		
	comp=Z,39nm,1.1s						
HHC				pmax	pmax		
	comp=Z,220nm,5.0s						
HHC				LR	LR		
	comp=N,390nm,14.1s						
HHC				LR	LR		
	comp=E,440nm,14.3s						
HHC				LR	LR		
	comp=Z,270nm,13.7s						
EIDS	**Eidsvold**	**38.30**	**143**	*e*P	**P**	**04 40 13.3**	**-0.3**
	comp=Z,42nm,1.3s						
EIDS	**Eidsvold**	**38.30**	**143**	P	**P**	**04 40 14.5**	**+0.9**
	baz=38,SNR=5.1						
STKA	**Stephens Creek**	**39.27**	**160**	P	P	04 40 12.5	-9.3
	comp=Z,3.1nm,0.8s,baz=332,slow=15,SNR=2.8						
STKA	**Stephens Creek**	**39.27**	**160**	P	**P**	**04 40 19.2**	**-2.6**
	baz=39,SNR=4.1						
USRK	**Ussuriysk Arra**	**39.32**	**6**	P	P	04 40 14.2	-7.8
	comp=Z,0.6nm,0.5s,baz=185,slow=7.6,SNR=2.7						
MDJ	**Mudanjiang**	**39.55**	**3**	P	**P**	**04 40 25.1**	**+1.2**
MDJ				pP	**pP**	**04 40 36.3**	**+0.7**
MDJ				PP	**PP**	**04 41 56.3**	**+1.0**
MDJ				S	**S**	**04 46 26.1**	**+2.6**
MDJ				pmax	pmax		
	comp=Z,21nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,72nm,3.1s						
CMSA	**Cobar Meteorol**	**40.54**	**155**	P	**P**	**04 40 32.6**	**+0.3**
	baz=40,SNR=7.4						
ASAJ	**Asahikawa**	**41.38**	**17**	LR	LR	04 58 01.1	
	comp=Z,84nm,18.8s,baz=347,slow=36						
GTA	**Gaotai**	**42.07**	**328**	*e*P	**P**	**04 40 44.4**	**-0.5**
GTA				pP	**pP**	**04 40 56.6**	**-0.1**
GTA				sP	**sP**	**04 41 02.1**	**+0.4**
GTA				S	**S**	**04 47 01.3**	**-0.2**
GTA				pmax	pmax		
	comp=Z,6.0nm,2.4s						
GTA				pmax	pmax		
	comp=Z,160nm,6.2s						
GTA				LR	LR		
	comp=N,190nm,18.5s						
GTA				LR	LR		
	comp=E,170nm,20.9s						
GTA				LR	LR		
	comp=Z,170nm,17.1s						
ARMA	**Armidale**	**42.47**	**148**	*e*P	**P**	**04 40 50.7**	**+2.4**
	comp=Z,118nm,2.0s						
ARMA	**Armidale**	**42.47**	**148**	P	P	04 40 53.4

comp=Z,1.3nm,0.6s,baz=199,slow=11,SNR=2.8
MKAR Makanchi Array 56.58 325 P P 04 42 24.3 -11
comp=Z,1.4nm,0.7s,baz=122,slow=8.4,SNR=11
YAK Yakutsk 56.96 2 *e*P **P** **04 42 38.0 +0.2**
YAK pmax pmax
comp=Z,43nm,1.0s
YAK pmax pmax
comp=N,30nm,1.3s
KSH Kashi 57.22 314 *e*P **P** **04 42 40.4 +0.1**
KSH PP **PP** **04 44 49.4 +1.7**
KSH PcS **PcS** **04 47 32.9 -2.7**
KSH S **S** **04 50 29.9 -3.4**
KSH sS sS 04 50 57.0 +3.4
KSH pmax pmax
comp=Z,9.0nm,1.3s
KSH pmax pmax
comp=Z,78nm,4.3s
KSH LR LR
comp=N,110nm,6.1s
KSH LR LR
comp=E,150nm,5.7s
KSH LR LR
comp=Z,240nm,6.0s
AAK Ala-Archa 59.48 317↑ *e*P **P** **04 42 55.8 -0.3**
AAK pmax pmax
comp=Z,7.0nm,0.7s
AAK MLR MLR
comp=Z,175nm,23.0s
AAK Ala-Archa 59.48 317 *e*P **P** **04 42 56.0 -0.1**
ZALV Zalesovo Beam 59.51 333 *i* P **P** **04 42 56.9 +1.1**
ZALV pmax pmax
comp=Z,5.0nm,0.9s
ZALV Zalesovo Beam 59.51 333 P P 04 42 44.2 -12
comp=Z,0.5nm,0.4s,baz=102,slow=6.1,SNR=1.9
KURBB Kurchatov Arra 60.73 327 P P 04 42 52.7 -12
comp=Z,1.6nm,0.5s,baz=125,slow=6.4,SNR=14
KURK Kurchatov 60.73 327 P **P** **04 43 02.9 -1.4**
comp=Z,99nm,0.6s,SNR=5.5
NVS Novosibirsk 60.79 333 *e*P P 04 43 00.7 -3.9
NVS pmax pmax
comp=Z,7.0nm,1.1s
NVS pmax pmax
comp=N,5.0nm,1.2s
NVS pmax pmax
comp=E,4.0nm,1.0s
KKAR Karatay Array 62.37 317 *e*P **P** **04 43 14.2 -1.4**
KKAR Karatay Array 62.37 317 *e*P **P** **04 43 14.2 -1.4**
BRVK Borovoye 66.39 327↓ *e*P **P** **04 43 40.1 -1.5**
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK Borovoye 66.39 327 *e*P **P** **04 43 40.5 -1.1**
TIXI Tiksi 66.59 1↑ *e*P **P** **04 43 42.6 +0.1**
TIXI pmax pmax
comp=Z,19nm,1.2s
BILL Bilibino 68.33 15↑ *e*P **P** **04 43 51.2 -2.4**
BILL *e*S **S** **04 52 47.3 -4.0**
BILL pmax pmax
comp=Z,52nm,1.2s
BILL MLR MLR
comp=Z,900nm,20.0s
ABKAR Akbulak array 71.23 320 *e*P **P** **04 44 10.1 -1.7**
SVE Sverdlovsk 72.94 328↓ *e*P **P** **04 44 20.7 -1.1**
SVE pmax pmax
comp=Z,13nm,1.0s
ARU Arti 73.92 328 *c i*P **P** **04 44 25.9 -1.7**
ARU S **SKiKP** **04 53 55.5 +2.4**
ARU SS **SS** **04 58 35.3 -6.0**
ARU pmax pmax
comp=Z,11nm,1.2s
SVW2 Sparrevohn 79.67 29 *e*P **P** **04 45 01.6 +1.6**
RSO Redoubt South 80.97 30 *e*P **P** **04 45 09.1 +1.8**
KBZ Khabaz 82.18 313 LR LR 05 27 40.5
comp=Z,59nm,19.4s,baz=33,slow=40
KIV Kislovodsk 82.33 314↓ *e*P **P** **04 45 13.5 -1.1**
KIV *e*S **S** **04 55 25.1 -2.6**
KIV pmax pmax
comp=Z,2.0nm,0.4s
TRF Thorofare Moun 82.39 27 *e*P **P** **04 45 14.3 -0.3**
comp=Z,24nm,1.3s
COLD Coldfoot 82.72 23 *e*P **P** **04 45 17.7 +1.6**
comp=Z,13nm,1.1s
PMR Palmer 82.81 29 *e*P **P** **04 45 16.7 +0.1**
PMR pmax pmax
comp=Z,17nm,1.1s
PMR Palmer 82.81 29 *e*P **P** **04 45 16.7 +0.1**
comp=Z,17nm,1.1s
MCK McKinley 83.01 26 *e*P **P** **04 45 17.9 +0.2**
MCK pmax pmax
comp=Z,34nm,1.2s
MCK McKinley 83.01 26 *e*P **P** **04 45 17.9 +0.2**
comp=Z,34nm,1.2s
SML Sawmill 83.20 28 *e*P **P** **04 45 19.2 +0.5**
SML pmax pmax
comp=Z,11nm,1.2s
SML Sawmill 83.20 28 *e*P **P** **04 45 19.2 +0.5**
comp=Z,11nm,1.2s
COLA College 83.54 25 *e*P **P** **04 45 20.4 +0.1**
COLA pmax pmax
comp=Z,21nm,1.0s
COLA College 83.54 25 *e*P **P** **04 45 20.4 +0.1**
comp=Z,21nm,1.0s
ILAR Eielson Array 83.95 25 P P 04 45 12.6 -10
comp=Z,0.3nm,0.6s,baz=250,slow=5.8,SNR=4.6
DIV Divide 84.42 29 *e*P **P** **04 45 26.5 +1.5**
comp=Z,64nm,1.3s
PAX Paxson 84.56 27 *e*P **P** **04 45 26.6 +0.9**
PAX pmax pmax
comp=Z,9.0nm,1.2s
PAX Paxson 84.56 27 *e*P **P** **04 45 26.6 +0.9**
comp=Z,8.7nm,1.2s
VORD Divnogorie 84.59 321 *e*P **P** **04 45 24.7 -1.2**
VORD pmax pmax
comp=Z,4.0nm,0.3s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.6s
VSR Storozhevoye 84.67 321 *e*P **P** **04 45 27.9 +1.6**
VSR *i* 04 55 38.5
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=N,7.0nm,0.5s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,20nm,0.6s
VSR pmax pmax
comp=N,50nm,1.4s
VSR pmax pmax
comp=E,10.0nm,0.4s
BMRM Bremner River 84.99 29 *e*P **P** **04 45 28.3 +0.5**
comp=E,30nm,1.2s
TMCR Tamitsa 85.01 334 *e*P **P** **04 45 27.4 -0.4**
TMCR pmax pmax
comp=Z,27nm,1.0s
PPT Papeete 85.43 108 LR LR 05 23 14.5
comp=Z,30nm,18.2s,baz=350,slow=35
OBN Obninsk 86.08 325↑ *e*P **P** **04 45 31.4 -1.9**
OBN *e*S **S** **04 56 06.8 +2.4**
OBN pmax pmax
comp=Z,22nm,1.0s
OBN MLR MLR
comp=Z,100nm,24.0s
BRTR Keskin Array B 89.28 310 P P 04 45 39.3 -10
comp=Z,0.2nm,0.5s,baz=72,slow=4.7,SNR=2.3
BRTR LR LR 05 29 54.9
comp=Z,26nm,20.8s,baz=226,slow=39
ARCES ARCESS Array B 89.30 340 P P 04 45 38.6 -10
comp=Z,1.4nm,0.7s,baz=63,slow=5.6,SNR=4.3
FINES FINESS Array B 90.77 332 P P 04 45 44.2 -11
comp=Z,0.5nm,0.5s,baz=70,slow=6.3,SNR=7.3
UZH Uzhgorod 95.80 320 *e*P **P** **04 46 19.0 +0.1**
STHS Stebnicka Huta 96.27 321 *e*P **P** **04 46 23.2 +2.1**
STHS Stebnicka Huta 96.27 321 *e*P **P** **04 46 23.2 +2.1**
NOA NORSAR Array B 97.70 334 P P 04 46 15.1 -12
comp=Z,1.0nm,0.9s,baz=64,slow=4.7,SNR=2.5
NOA LR LR 05 35 08.5
comp=Z,68nm,20.3s,baz=45,slow=38
BRG Berggiesshubel 100.28 324 *e*(P) **Pdif** **04 46 40.6 +1.6**
comp=Z,3.4nm,0.4s
BRG Berggiesshubel 100.28 324 *e*P **Pdif** **04 46 40.6 +1.6**
BRG pmax pmax
comp=Z,7.0nm,0.4s
CLL Collm 100.67 324 *e*P **Pdif** **04 46 40.0 -0.7**
CLL Collm 100.67 324 *e*Pdif **Pdif** **04 46 40.0 -0.7**
CLL *e*PP **PP** **04 50 46.0 -2.0**
MNTX Cornudas Mount 118.39 50 *e*PKPdf **PKPdf** **04 51 41.1 +0.5**
PMSA Palmer Station 119.82 175 *e*PKPdf **PKPdf** **04 51 43.4 +1.1**
WMOK Wichita Mounta 121.69 44 *e*PKIKP **PKPdf** **04 51 45.7 -1.2**
WMOK Wichita Mounta 121.69 44 *e*PKPdf **PKPdf** **04 51 45.7 -1.2**
TORD Torodi Ar. Bea 122.59 289 PKP PKPdf 04 51 36.4 -13
comp=Z,0.3nm,0.8s,baz=46,slow=2.1,SNR=2.5
JCT Junction City 123.18 49 *e*PKIKP **PKPdf** **04 51 48.3 -1.6**
JCT Junction City 123.18 49 *e*PKPdf **PKPdf** **04 51 48.3 -1.6**
WVT Waverly 127.80 36 *e*PKIKP **PKPdf** **04 51 59.0 +0.5**
WVT Waverly 127.80 36 *e*PKPdf **PKPdf** **04 51 59.0 +0.5**
WVL Waterville 128.51 15 *e*PKPdf **PKPdf** **04 51 58.0 -1.6**
TRQA Tornquist 146.12 168 *e*PKPbc **PKPdf** **04 52 33.0 +0.8**
SAML Samuel 169.34 112 *e*PKPdf **PKPdf** **04 53 02.1 +1.2**

WEL 18 04:42:52.4±0.5, 46°32S×165°77E, h33km, ML3.5/10, Error ellipse: s-maj=5.0km s-min=3.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.65**	**77**	PN	Pn	04 43 04.1	-1.2
PYZ				SN	Sb	04 43 13.9	-0.4
PYZ				SN	Sn	04 43 14.4	-0.1
DCZ	**Deep Cove**	**1.28**	**50**	PN	Pn	04 43 13.4	-0.5
DCZ				SN	Sb	04 43 31.5	-0.6
DCZ				AML	AML	04 43 52.7	
WHZ	**Wether Hill Ro**	**1.58**	**75**	PN	Pn	04 43 19.4	+1.4
WHZ				AML	AML	04 43 40.8	
WHZ				AML	AML	04 43 44.7	
APZ	**The Paps**	**1.62**	**109**	PN	Pn	04 43 18.7	+0.1
MLZ	**Mavora Lakes**	**1.94**	**61**	PN	Pn	04 43 24.5	+1.4
MLZ				AML	AML	04 44 01.9	
MLZ				AML	AML	04 44 02.7	
MSZ	**Milford Sound**	**2.24**	**43**	*e*PN	Pb	04 43 30.8	-1.3
MSZ				AML	AML	04 44 16.2	
MSZ				AML	AML	04 44 17.7	
SYZ	**Scrubby Hill**	**2.34**	**97**	PN	Pn	04 43 29.8	+1.3
EAZ	**Earnscleugh**	**2.71**	**68**	PN	Pn	04 43 35.6	+2.0
EAZ				AML	AML	04 44 21.1	
EAZ				AML	AML	04 44 23.6	
ODZ	**Otahua Downs**	**3.65**	**71**	PN	Pn	04 43 46.6	+0.1

*ISCJB **18** 04:48:02.1±0.5, 32°85N±0°07×75°66E±0°09, h46km±10km, mb3.5/2, Error ellipse: s-maj=15.7km s-min=7.4km az=138.0*
*NDI **18** 04:48:03.9±2.7, 32°73N×75°65E, h29km±9km, ML3.3*
*IDC **18** 04:48:03.1±11.0, 33°76N×73°78E, h0km, mb3.5/2, mb1 3.5/4, mb1mx3.3/28, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=337.5km s-min=29.7km az=132.0*
*NNC **18** 04:48:13.7±3.5, 34°09N×75°33E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=46.3km s-min=22.8km az=44.0*
ISC 18 04:48:02.6±1.2, 32°76N±0°06×75°65E±0°07, h32km±11km, n18, σ1ş75/17, 3C-1D, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**0.33**	**170**	*i* PG	**Pb**	**04 48 10.0**	**-0.6**
THN				*e*SG	**Sn**	**04 48 17.5**	**+0.8**
JMU	**Jammu**	**0.63**	**267**	*e*PG	**Pn**	**04 48 16.0**	**+0.7**
JMU				*e*SG	**Sn**	**04 48 26.0**	**+1.8**
BHK	**Bhakra**	**1.49**	**154**	*e*PN	**Pb**	**04 48 30.4**	**+0.8**
BHK				*e*SN	**Sb**	**04 48 48.8**	**+0.6**
SDNR	**Sundarnagar**	**1.68**	**138**	*e*PN	**Pn**	**04 48 31.0**	**+1.2**
SDNR				*e*SN	**Sn**	**04 48 51.0**	**+0.8**
SMLA	**Simla**	**2.07**	**141**	*i* P	**Pn**	**04 48 36.9**	**+1.8**
SMLA				*i* x	Sb	04 49 12.5	+7.5
KALG	**Kalgarh**	**4.19**	**140**	*ex*	Pn	04 49 10.8	+6.5
NDI	**New Delhi**	**4.28**	**161**	*ex*	Pb	04 49 24.0	+6.9
AYAN	**Aya Nagar**	**4.45**	**163**	*e*S	**Sn**	**04 49 55.9**	**-2.5**
SONA	**Sohna**	**4.66**	**164**	*e*P	**Pn**	**04 49 11.7**	**+1.1**
SONA				*e*S	**Sn**	**04 49 59.7**	**-4.0**
SONA				AML	AML	04 50 04.1	
	comp=E,69nm,0.1s						
SONA				AML	AML	04 50 04.4	
	comp=N,33nm,0.3s						
AGRA	**Agra**	**5.86**	**160**	*ex*	x	04 49 16.7	
AGRA				*ex*	x	04 50 06.1	
AGRA				AML	AML	04 50 15.6	
	comp=E,48nm,0.3s						
AGRA				AML	AML	04 50 15.8	
	comp=N,50nm,0.3s						
TKM2	**Tokmak 2**	**10.15**	**360**	↓Pn	**Pn**	**04 50 25.3**	**-0.9**
	comp=N,0.9nm,0.6s						
KK31	**Karatay Array**	**11.09**	**340**	↑Pn	**Pn**	**04 50 37.7**	**-1.2**
	comp=N,1.0nm,0.3s,baz=150,slow=11,SNR=51						
KK31				Sn	Sn	04 52 31.9	-10
	comp=N,3.3nm,0.7s,baz=155,slow=25,SNR=13						
MK31	**Makanchi Array**	**14.91**	**18**	↑Pn	**Pn**	**04 51 31.9**	**+1.0**
	comp=N,0.2nm,0.5s,baz=201,slow=14,SNR=13						
MKAR	**Makanchi Array**	**14.91**	**18**	Pn	**Pn**	**04 51 31.8**	**+0.8**
	comp=N,0.2nm,0.3s,baz=199,slow=13,SNR=11						
KURBB	**Kurchatov Arra**	**17.98**	**6**	P	Pn	04 52 04.9	-4.9
	baz=195,slow=11,SNR=2.5						
AB31	**Akbulak array**	**20.23**	**329**	↑Pn	Pn	04 52 37.1	+0.1
	comp=N,0.4nm,0.2s,baz=124,slow=13,SNR=16						
ZALV	**Zalesovo Beam**	**22.17**	**14**	P	**P**	**04 52 54.2**	**-1.4**
	comp=N,0.5nm,0.3s,baz=209,slow=12,SNR=3.0						
TORD	**Torodi Ar. Bea**	**69.60**	**273**	P	P	04 59 04.5	-4.4
	comp=N,0.5nm,0.7s,baz=49,slow=5.5,SNR=7.3						

WEL 18 04:50:59.0±0.3, 46°31S×165°76E, h33km, ML3.7/10, 1D, Error ellipse: s-maj=3.0km s-min=2.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.66**	**78**	↓PN	Pn	04 51 11.7	-0.3
PYZ				SN	Sb	04 51 20.6	-0.5
DCZ	**Deep Cove**	**1.28**	**50**	PN	Pn	04 51 20.0	-0.5
DCZ				SN	Sn	04 51 36.5	0.0
DCZ				AML	AML	04 51 37.6	
DCZ				AML	AML	04 51 37.9	
DCZ				AML	AML	04 51 44.2	
WHZ	**Wether Hill Ro**	**1.58**	**76**	PN	Pn	04 51 25.9	+1.2
WHZ				AML	AML	04 51 49.3	
WHZ				AML	AML	04 51 52.5	
APZ	**The Paps**	**1.63**	**110**	PN	Pn	04 51 26.8	+1.4
MLZ	**Mavora Lakes**	**1.94**	**61**	PN	Pn	04 51 30.6	+0.9
MLZ				AML	AML	04 52 00.8	
MLZ				AML	AML	04 52 14.5	
MSZ	**Milford Sound**	**2.24**	**44**	*e*PN	Pn	04 51 34.6	+0.9
SYZ	**Scrubby Hill**	**2.35**	**97**	*e*PN	Pn	04 51 36.9	+1.6
EAZ	**Earnscleugh**	**2.71**	**68**	PN	Pn	04 51 42.4	+2.2
EAZ				AML	AML	04 52 24.5	
EAZ				AML	AML	04 52 31.9	
ODZ	**Otahua Downs**	**3.65**	**72**	PN	Pn	04 51 53.7	+0.5

IDC 18 04:55:42.7±3.2, 7°46S×125°38E, h450km±44km, mb3.1/2, mb1 3.1/6, mb1mx2.9/21, mbtmp3.0/6, Error ellipse: s-maj=91.5km s-min=16.2km az=55.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**6.10**	**293**	P	P	04 57 17.5	-0.6
	1.2nm,0.3s,baz=146,slow=8.9,SNR=4.5						
FITZ	**Fitzroy Crossi**	**10.58**	**179**	P	P	04 58 05.6	-0.6
	0.2nm,0.3s,baz=0.8,slow=8.4,SNR=8.2						
WRA	**Warramunga Arr**	**15.15**	**146**	P	P	04 58 54.7	-0.8
	0.7nm,0.3s,baz=325,slow=12,SNR=98						
ASAR	**Alice Springs**	**18.07**	**154**	P	P	04 59 26.3	+0.1
	0.5nm,0.3s,baz=342,slow=14,SNR=38						
STKA	**Stephens Creek**	**28.61**	**150**	P	P	05 01 01.1	+0.1
	0.9nm,0.4s,baz=316,slow=11,SNR=3.1						
MKAR	**Makanchi Array**	**66.18**	**329**	P	P	05 05 44.5	+0.1
	0.7nm,0.5s,baz=134,slow=7.7,SNR=9.6						

IDC 18 04:59:45.6±3.2, 23°00N×140°29E, h0km, mb3.5/3, mb1 3.5/3, mb1mx3.3/23, mbtmp3.5/3, Error ellipse: s-maj=155.5km s-min=31.8km az=77.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.80**	**188**	P	P	05 08 17.1	-0.1
	0.3nm,1.0s,baz=15,slow=7.7,SNR=2.6						
MKAR	**Makanchi Array**	**51.84**	**312**	P	P	05 08 55.4	-0.2
	0.4nm,0.7s,baz=94,slow=8.5,SNR=5.2						
FINES	**FINESS Array B**	**80.84**	**334**	P	P	05 12 01.2	+0.1
	0.9nm,0.9s,baz=75,slow=7.4,SNR=6.2						

*MOS **18** 05:09:41.9±1.6, 52°40N×160°96E, h25km, mb3.9/5, Error ellipse: s-maj=13.6km s-min=10.4km az=98.7*
*IDC **18** 05:09:41.5±1.1, 52°63N×160°73E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.5/27, mbtmp3.7/6, ML4.0/1, Error ellipse: s-maj=37.6km s-min=14.0km az=2.0*
*KRSC **18** 05:09:43.9±0.8, 52°36N×160°85E, h20km±19km, ML4.2*
ISC 18 05:09:42.4±1.4, 52°28N±0°05×160°90E±0°04, h24km±9km, n56, σ1ş84/80, mb3.8/9, 1C-3D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.47**	**277**	PN	**Pb**	**05 10 08.8**	**-0.3**
RUS				S	**Sb**	**05 10 27.1**	**-0.2**
RUS	**Russkaya**	**1.47**	**277**	*i* P	**Pb**	**05 10 08.8**	**-0.3**
RUS				*e*S	**Sb**	**05 10 27.1**	**-0.2**
PET	**Petropavlovsk**	**1.56**	**300**	PN	**Pn**	**05 10 09.5**	**+0.8**
PET				S	**Sn**	**05 10 28.2**	**+0.1**
PET	**Petropavlovsk**	**1.56**	**300**	*i* P	**Pn**	**05 10 09.5**	**+0.8**
PET				*e*S	**Sn**	**05 10 28.2**	**+0.1**
UGLR	**Uglovaya**	**1.57**	**307**	*i* P	**Pn**	**05 10 09.3**	**+0.4**
UGLR				S	**Sn**	**05 10 28.0**	**-0.6**
SMAR	**Somma**	**1.61**	**309**	P	**Pn**	**05 10 09.8**	**+0.2**
SMAR				S	**Sn**	**05 10 28.5**	**-1.3**
AVH	**Avacha**	**1.65**	**308**	P	**Pn**	**05 10 10.6**	**+0.7**
AVH				*e*S	**Sn**	**05 10 30.3**	**-0.1**
KRER	**Koryakskii**	**1.66**	**309**	*e*P	**Pn**	**05 10 10.9**	**+0.6**
KRER				*e*S	**Sn**	**05 10 30.6**	**-0.4**
MTVR	**Mutnovka**	**1.68**	**278**	*i* P	**Pb**	**05 10 12.0**	**-0.7**
MTVR				*e*S	**Sb**	**05 10 32.5**	**-0.9**
KOK	**Koryaka**	**1.71**	**307**	*e*P	**Pn**	**05 10 11.5**	**+0.7**
KOK				S	**Sn**	**05 10 31.3**	**-0.7**
GRL	**Gorelyy**	**1.75**	**280**	*i* P	**Pb**	**05 10 14.2**	**+0.2**
GRL				*e*S	**Sb**	**05 10 36.6**	**+1.0**
ASAK	**Asacha**	**1.84**	**274**	P	**Pb**	**05 10 14.9**	**-0.6**
ASAK				*e*S	**Sb**	**05 10 37.8**	**-0.3**
PETK	**Petropavlovsk-**	**2.12**	**294**	*e*PN	**Pn**	**05 10 17.7**	**+1.3**
PETK				pmax	pmax		
	comp=Z,53nm,0.3s						
PETK	**Petropavlovsk-**	**2.12**	**294**	Pn	**Pn**	**05 10 16.7**	**+0.4**
	comp=Z,53nm,0.3s,baz=98,slow=18,SNR=316						
PETK				Sn	**Sb**	**05 10 45.8**	**-0.2**
	comp=Z,14nm,0.3s,baz=83,slow=20,SNR=6.5						
GNL	**Ganaly**	**2.29**	**310**	*e*P	**Pn**	**05 10 20.3**	**+1.6**
GNL				*e*S	**Sn**	**05 10 46.8**	**+0.6**
APC	**Apacha**	**2.37**	**287**	*e*P	**Pb**	**05 10 22.5**	**-1.9**
APC				*e*S	**Sb**	**05 10 50.6**	**-2.6**
MIPR	**Malaya Ipel'ka**	**2.55**	**272**	*e*P	**Pb**	**05 10 25.2**	**-2.2**
MIPR				S	**Sb**	**05 10 55.7**	**-2.5**
PAU	**Pauzhetka**	**2.66**	**254**	PN	**Pn**	**05 10 26.3**	**+2.5**
PAU	**Pauzhetka**	**2.66**	**254**	P	**Pn**	**05 10 26.3**	**+2.5**
TUMR	**Tumrok**	**3.05**	**352**	P	**Pn**	**05 10 30.1**	**+0.9**
SKR	**Severo-Kuril's**	**3.39**	**244**	*e*PN	**Pn**	**05 10 33.5**	**-0.3**
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR	**Severo-Kuril's**	**3.39**	**244**	P	**Pn**	**05 10 35.2**	**+1.4**
SKR				S	**Sn**	**05 11 13.0**	**-0.2**
KMNR	**Kamenistaya**	**3.51**	**354**	P	**Pn**	**05 10 37.8**	**+2.3**
KMNR				*e*S	**Sn**	**05 11 17.7**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**3.67**	**358**	P	**Pn**	**05 10 40.5**	**+2.7**
BZGR				*e*S	**Sn**	**05 11 21.3**	**+0.9**
BZMR	**Bezymyannaya**	**3.67**	**356**	P	**Pn**	**05 10 39.9**	**+2.1**
KIRR	**Kirishev**	**3.70**	**355**	P	Pn	05 10 41.5	+3.3
BZWR	**Bezymyannyi-We**	**3.70**	**356**	P	**Pn**	**05 10 39.9**	**+1.6**
KPT	**Kopyto**	**3.72**	**354**	P	**Pn**	**05 10 40.9**	**+2.5**
KPT				S	**Sn**	**05 11 22.0**	**+0.5**
ZLN	**Zelenaya**	**3.75**	**359**	P	**Pn**	**05 10 41.5**	**+2.7**
ZLN				S	**Sn**	**05 11 23.6**	**+1.4**
LGNR	**Loginova**	**3.82**	**358**	P	Pn	05 10 43.8	+3.9
LGNR				*e*S	**Sn**	**05 11 27.7**	**+3.6**
CIRR	**Tsirk**	**3.85**	**359**	P	**Pn**	**05 10 42.3**	**+2.1**
ESO	**Esso**	**3.88**	**341**	PN	**Pn**	**05 10 42.3**	**+1.8**
ESO	**Esso**	**3.88**	**341**	*e*P	**Pn**	**05 10 42.3**	**+1.8**
KRSR	**Krestovskiy**	**3.95**	**357**	P	Pn	05 10 44.7	+3.1
KRSR				S	**Sn**	**05 11 29.1**	**+1.8**
SRDR	**Sredinnyy**	**4.11**	**351**	P	**Pn**	**05 10 45.9**	**+2.2**
KBG	**Krutoberegovo**	**4.12**	**14**	S	**Sn**	**05 11 32.9**	**+1.6**
BKI	**Bering**	**4.20**	**44**	PN	**Pn**	**05 10 44.4**	**-0.5**
BKI	**Bering**	**4.20**	**44**	*e*P	**Pn**	**05 10 44.4**	**-0.5**
BKI				*e*S	**Sn**	**05 11 27.9**	**-5.3**
BDR	**Baidarnaya**	**4.30**	**2**	P	Pn	05 10 49.6	+3.2
BDR				*e*S	**Sn**	**05 11 37.4**	**+1.5**
SRKR	**Sorokina**	**4.39**	**2**	P	**Pn**	**05 10 50.1**	**+2.5**
SRKR				S	**Sn**	**05 11 38.5**	**+0.5**
FX1	**Attu Island--F**	**7.50**	**81**	Pn	**Pn**	**05 11 31.9**	**+1.7**
	comp=Z,7.6nm,0.3s,baz=281,slow=23,SNR=48						
BILL	**Bilibino**	**16.03**	**7**↑	*e*P	**Pn**	**05 13 25.4**	**-0.5**
BILL				*e*S	**Sn**	**05 16 16.2**	**-6.5**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.2s						
YAK	**Yakutsk**	**19.35**	**312**	*e*P	**P**	**05 14 04.2**	**-1.6**
YAK				pmax	pmax		
	comp=Z,12nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.4s						
MJA0	**Matsu Arr-Jizo**	**22.43**	**234**	*e*P	P	05 14 47.7	+8.3
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MJAR	**Matsushiro Arr**	**22.45**	**234**	P	**P**	**05 14 43.7**	**+4.2**
	comp=Z,1.9nm,0.6s,baz=11,slow=12,SNR=5.3						
TIXI	**Tiksi**	**24.03**	**336**	*e*P	**P**	**05 14 54.1**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MKAR	**Makanchi Array**	**48.96**	**297**	*e*P	**P**	**05 18 25.5**	**-1.0**
MKAR	**Makanchi Array**	**48.96**	**297**	P	**P**	**05 18 25.5**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=58,slow=5.9,SNR=8.4						
ARU	**Arti**	**54.33**	**318**	*d i*P	**P**	**05 19 08.7**	**+2.2**
ARU						05 21 06.0	
ARU				S	**S**	**05 26 41.2**	**-1.4**
ARU				pmax	pmax		
	comp=Z,11nm,2.5s						
FINES	**FINESS Array B**	**61.07**	**337**	P	**P**	**05 19 54.6**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=31,slow=9.6,SNR=12						
OBN	**Obninsk**	**63.47**	**328**↓	*e*P	**P**	**05 20 09.6**	**-0.3**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s						
NOA	**NORSAR Array B**	**64.46**	**344**	P	**P**	**05 20 17.0**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=23,slow=5.8,SNR=3.8						
KIV	**Kislovodsk**	**70.37**	**317**↓	*e*P	**P**	**05 20 53.4**	**-0.7**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,100nm,17.0s						
TXAR	**Lajitas Array**	**70.50**	**67**	P	**P**	**05 20 57.4**	**+2.2**
	comp=Z,0.1nm,0.7s,baz=283,slow=5.4,SNR=3.3						
CLL	**Collm**	**73.29**	**340**	*i* P	**P**	**05 21 12.7**	**+1.3**
CLL				*e*S	**S**	**05 30 35.0**	**-3.2**
CLL	**Collm**	**73.29**	**340**	*i* P	**P**	**05 21 12.7**	**+1.3**

WEL 18 05:09:42.2±0.4, 46°06S×166°18E, h28km±1km, ML3.6/15, 1D, Error ellipse: s-maj=4.4km s-min=1.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.37**	**108**	↓P*	Pb	05 09 50.1	-0.4
PYZ				S*	Sb	05 09 55.8	-0.2
DCZ	**Deep Cove**	**0.90**	**50**	PN	Pn	05 09 58.2	-0.8
DCZ				AML	AML	05 10 10.9	
DCZ				AML	AML	05 10 11.7	
DCZ				AML	AML	05 10 11.7	
WHZ	**Wether Hill Ro**	**1.24**	**83**	PN	Pn	05 10 04.0	+0.2
WHZ				SN	Sn	05 10 19.5	-0.2
WHZ				AML	AML	05 10 21.9	
APZ	**The Paps**	**1.47**	**122**	PN	Pn	05 10 06.0	-1.0
MLZ	**Mavora Lakes**	**1.57**	**64**	PN	Pn	05 10 09.2	+0.9
MLZ				AML	AML	05 10 34.0	
MLZ				AML	AML	05 10 40.8	
MSZ	**Milford Sound**	**1.85**	**42**	*e*PN	Pn	05 10 12.9	+0.7
MSZ				A

EAZ					AML	AML	05 10 54.8		
EAZ					AML	AML	05 10 54.8		
EAZ					AML	AML	05 10 58.0		
WKZ	**Wanaka**	**2.35**	**59**	*e*PN	Pb	05 10 22.0	-1.8		
WKZ					AML	AML	05 10 59.2		
TUZ	**Tuapeka**	**2.41**	**89**	PN	Pn	05 10 21.2	+1.5		
TUZ					AML	AML	05 10 53.8		
TUZ					AML	AML	05 10 56.4		
JCZ	**Jackson Bay**	**2.70**	**44**	PN	Pn	05 10 26.8	+2.9		
JCZ					AML	AML	05 11 13.5		
JCZ					AML	AML	05 11 17.2		
LBZ	**Lake Benmore**	**3.29**	**61**	PN	Pn	05 10 33.8	+1.9		
ODZ	**Otahua Downs**	**3.30**	**74**	PN	Pn	05 10 32.7	+0.7		
ODZ					AML	AML	05 11 28.6		

IDC 18 05:12:38.8±5.2, 11°.35N×143°.20E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/24, mbtmp3.7/4, Error ellipse: s-maj=131.2km s-min=43.8km az=164.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**43.26**	**285**	P	P	05 20 42.5	+0.1
	1.7nm,0.7s,baz=86,slow=6.4,SNR=6.4						
SONM	**Songino Array**	**47.66**	**327**	P	P	05 21 17.2	+0.2
	0.3nm,0.6s,baz=124,slow=7.7,SNR=2.4						
MKAR	**Makanchi Array**	**61.98**	**317**	P	P	05 23 00.3	-0.5
	0.8nm,0.8s,baz=95,slow=8.1,SNR=6.1						
ILAR	**Eielson Array**	**71.28**	**25**	P	P	05 23 60.0	+0.1
	0.2nm,0.5s,baz=240,slow=6.6,SNR=4.0						

WEL 18 05:24:17.4±0.2, 46°.15S×166°.01E, h33km, ML3.8/16, 1C-1D, Error ellipse: s-maj=2.2km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.47**	**93**	⇓PN	Pb	05 24 27.3	-0.1
PYZ				SN	Sn	05 24 35.2	+0.3
DCZ	**Deep Cove**	**1.04**	**50**	PN	Pn	05 24 35.1	-0.5
DCZ				SN	Sn	05 24 48.3	-0.8
DCZ				AML	AML	05 24 50.7	
DCZ				AML	AML	05 24 50.7	
WHZ	**Wether Hill Ro**	**1.38**	**80**	PN	Pn	05 24 41.3	+1.1
WHZ				AML	AML	05 25 02.8	
WHZ				AML	AML	05 25 07.2	
APZ	**The Paps**	**1.53**	**117**	PN	Pn	05 24 43.0	+0.6
MLZ	**Mavora Lakes**	**1.71**	**63**	AML	AML	05 25 13.6	
MLZ				AML	AML	05 25 14.4	
MSZ	**Milford Sound**	**2.00**	**43**	PN	Pn	05 24 49.8	+1.0
MSZ				AML	AML	05 25 22.9	
MSZ				AML	AML	05 25 25.4	
MSZ				AML	AML	05 25 33.3	
MSZ				AML	AML	05 25 33.3	
EAZ	**Earnscleugh**	**2.49**	**70**	PN	Pn	05 24 57.6	+2.0
EAZ				AML	AML	05 25 34.1	
EAZ				AML	AML	05 25 35.3	
WKZ	**Wanaka**	**2.50**	**59**	AML	AML	05 25 34.5	
WKZ				AML	AML	05 25 42.3	
TUZ	**Tuapeka**	**2.53**	**87**	⇑PN	Pn	05 24 58.0	+1.9
TUZ				AML	AML	05 25 33.3	
TUZ				AML	AML	05 25 33.9	
JCZ	**Jackson Bay**	**2.84**	**44**	AML	AML	05 25 54.6	
JCZ				AML	AML	05 25 55.2	
LBZ	**Lake Benmore**	**3.44**	**61**	AML	AML	05 26 14.8	
ODZ	**Otahua Downs**	**3.44**	**73**	AML	AML	05 26 05.2	
WVZ	**Waitaha Valley**	**4.56**	**49**	*e*PN	Pn	05 25 24.3	+0.2

IDC 18 05:29:50.8±7.7, 5°.27S×146°.53E, h105km±77km, mb3.1/3, mb1 3.3/5, mb1mx3.1/19, mbtmp3.1/5, ML3.2/2, Error ellipse: s-maj=68.9km s-min=28.5km az=144.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.15**	**171**	P	Pn	05 30 52.5	+0.4
	5.7nm,0.3s,baz=276,slow=10,SNR=9.7						
PMG				S	Sn	05 31 40.0	+0.3
	2.8nm,0.3s,baz=184,slow=21,SNR=4.1						
WRA	**Warramunga Arr**	**18.80**	**218**	P	P	05 34 02.0	-0.2
	0.1nm,0.3s,baz=39,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**21.97**	**212**	P	P	05 34 37.0	+0.6
	0.2nm,0.4s,baz=36,slow=7.9,SNR=5.7						
FITZ	**Fitzroy Crossi**	**24.07**	**236**	P	P	05 34 56.4	-0.2
	1.8nm,0.3s,baz=47,slow=12,SNR=28						
ILAR	**Eielson Array**	**85.00**	**23**	P	P	05 42 14.1	-0.2
	0.4nm,0.9s,baz=224,slow=7.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**144.46**	**285**	PKP	PKPdf	05 49 15.8	-0.2
	0.2nm,0.6s,baz=66,slow=3.2,SNR=3.1						

WEL 18 06:13:14.0±0.3, 45°.52S×166°.68E, h22km±2km, ML3.5/15, 1C-1D, Error ellipse: s-maj=2.7km s-min=1.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.34**	**82**	⇓P*	Pb	06 13 21.2	0.0
DCZ				S*	Sb	06 13 25.6	-0.7
DCZ				AML	AML	06 13 25.9	
DCZ				AML	AML	06 13 26.0	
DCZ				AML	AML	06 13 26.2	
PYZ	**Puysegur Point**	**0.65**	**180**	P*	Pb	06 13 25.5	-1.1
PYZ				S*	Sb	06 13 33.7	-1.6
WHZ	**Wether Hill Ro**	**0.96**	**113**	P*	Pb	06 13 31.8	-0.2
WHZ				AML	AML	06 13 53.4	
WHZ				AML	AML	06 13 59.1	
MLZ	**Mavora Lakes**	**1.07**	**81**	⇑PN	Pn	06 13 32.5	-1.1
MLZ				AML	AML	06 13 47.7	
MLZ				AML	AML	06 13 48.9	
MSZ	**Milford Sound**	**1.23**	**47**	*e*PN	Pn	06 13 34.1	-1.6
MSZ				AML	AML	06 13 55.0	
MSZ				AML	AML	06 13 55.0	
MSZ				AML	AML	06 13 55.3	
MSZ				AML	AML	06 13 55.3	
APZ	**The Paps**	**1.59**	**146**	PN	Pn	06 13 41.7	+0.8
WKZ	**Wanaka**	**1.79**	**68**	PN	Pb	06 13 45.0	-1.2
WKZ				AML	AML	06 14 13.8	
WKZ				AML	AML	06 14 14.3	
EAZ	**Earnscleugh**	**1.88**	**82**	PN	Pb	06 13 46.3	-1.2
EAZ				AML	AML	06 13 49.3	
EAZ				AML	AML	06 14 16.1	
SYZ	**Scrubby Hill**	**1.99**	**122**	PN	Pb	06 13 49.2	-0.3
JCZ	**Jackson Bay**	**2.07**	**46**	*e*PN	Pb	06 13 50.3	-0.7
JCZ				AML	AML	06 14 24.3	
JCZ				AML	AML	06 14 25.9	
TUZ	**Tuapeka**	**2.11**	**103**	PN	Pb	06 13 50.9	-0.6
TUZ				AML	AML	06 14 21.2	
TUZ				AML	AML	06 14 21.8	
LBZ	**Lake Benmore**	**2.73**	**67**	PN	Pn	06 13 59.0	+2.4
LBZ				AML	AML	06 14 33.9	
LBZ				AML	AML	06 14 37.1	
ODZ	**Otahua Downs**	**2.84**	**82**	PN	Pn	06 13 58.3	+0.3
ODZ				AML	AML	06 14 36.3	

WEL 18 06:25:19.7±0.2, 45°.50S×166°.68E, h22km±1km, ML3.8/17, Error ellipse: s-maj=2.3km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.34**	**87**	P*	Pb	06 25 26.9	0.0
DCZ				S*	Sb	06 25 32.0	+0.1
DCZ				AML	AML	06 25 32.6	
DCZ				AML	AML	06 25 32.6	
DCZ				AML	AML	06 25 33.4	
PYZ	**Puysegur Point**	**0.67**	**180**	P*	Pb	06 25 32.1	-0.7
PYZ				S*	Sb	06 25 41.0	-0.6
WHZ	**Wether Hill Ro**	**0.97**	**115**	PN	Pb	06 25 37.8	-0.1
WHZ				AML	AML	06 25 57.9	
WHZ				AML	AML	06 26 01.9	
MLZ	**Mavora Lakes**	**1.06**	**83**	PN	Pn	06 25 38.3	-1.1
MLZ				AML	AML	06 25 52.9	
MLZ				AML	AML	06 25 53.8	
MSZ	**Milford Sound**	**1.21**	**48**	PN	Pn	06 25 39.5	-1.8
MSZ				AML	AML	06 26 01.8	
MSZ				AML	AML	06 26 01.8	
MSZ				AML	AML	06 26 04.2	
				AML	AML	06 26 04.2	
APZ	**The Paps**	**1.62**	**146**	PN	Pb	06 25 48.3	-0.6
WKZ	**Wanaka**	**1.79**	**69**	PN	Pn	06 25 50.2	+0.9
WKZ				AML	AML	06 26 20.7	
WKZ				AML	AML	06 26 20.7	
WKZ				AML	AML	06 26 22.1	
WKZ				AML	AML	06 26 22.2	
EAZ	**Earnscleugh**	**1.87**	**83**	PN	Pn	06 25 51.5	+1.1
EAZ				AML	AML	06 26 19.2	
EAZ				AML	AML	06 26 19.2	
EAZ				AML	AML	06 26 20.9	
SYZ	**Scrubby Hill**	**2.01**	**122**	PN	Pb	06 25 54.7	-0.7
JCZ	**Jackson Bay**	**2.05**	**47**	*e*PN	Pb	06 25 54.8	-1.6
JCZ				AML	AML	06 26 26.4	
JCZ				AML	AML	06 26 26.9	
TUZ	**Tuapeka**	**2.12**	**104**	PN	Pb	06 25 56.0	-1.4
TUZ				AML	AML	06 26 28.7	
TUZ				AML	AML	06 26 30.8	
LBZ	**Lake Benmore**	**2.73**	**67**	PN	Pn	06 26 02.0	-0.2
LBZ				AML	AML	06 26 44.6	
LBZ				AML	AML	06 26 48.1	
ODZ	**Otahua Downs**	**2.84**	**82**	PN	Pn	06 26 03.8	+0.1
ODZ				AML	AML	06 26 58.0	
ODZ				AML	AML	06 26 58.3	
FOZ	**Fox Glacier**	**2.89**	**49**	AML	AML	06 26 57.4	
FOZ				AML	AML	06 27 01.1	
RPZ	**Rata Peaks**	**3.60**	**62**	*e*PN	Pn	06 26 13.2	-0.9
RPZ				AML	AML	06 27 01.5	
RPZ				AML	AML	06 27 03.3	
WVZ	**Waitaha Valley**	**3.79**	**52**	*e*PN	Pn	06 26 15.4	-1.3

WEL 18 06:46:23.0±0.6, 46°.07S×166°.19E, h27km±1km, ML3.5/13, 1D, Error ellipse: s-maj=6.1km s-min=2.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.36**	**107**	⇓P*	Pb	06 46 30.6	-0.4
PYZ				S*	Sb	06 46 36.1	-0.4
DCZ	**Deep Cove**	**0.89**	**49**	PN	Pn	06 46 38.8	-0.9
DCZ				SN	Sb	06 46 50.2	-1.2
DCZ				AML	AML	06 46 52.2	
DCZ				AML	AML	06 46 53.1	
DCZ				AML	AML	06 46 53.1	
WHZ	**Wether Hill Ro**	**1.24**	**83**	PN	Pn	06 46 44.6	+0.1
WHZ				SN	Sn	06 47 00.5	+0.2
WHZ				AML	AML	06 47 06.4	
WHZ	**Wether Hill Ro**	**1.24**	**83**	PN	Pn	06 46 44.6	+0.1
WHZ				SN	Sn	06 47 00.5	+0.2
WHZ				AML	AML	06 47 06.4	
APZ	**The Paps**	**1.46**	**122**	PN	Pn	06 46 46.8	-0.8
APZ	**The Paps**	**1.46**	**122**	PN	Pn	06 46 46.7	-0.9
MLZ	**Mavora Lakes**	**1.56**	**63**	PN	Pn	06 46 49.8	+0.8
MLZ				AML	AML	06 47 14.3	
MLZ				AML	AML	06 47 21.8	
MLZ	**Mavora Lakes**	**1.56**	**63**	PN	Pn	06 46 49.7	+0.7
MLZ				AML	AML	06 47 14.3	
MLZ				AML	AML	06 47 21.8	
MSZ	**Milford Sound**	**1.85**	**42**	PN	Pn	06 46 54.1	+1.2
MSZ				AML	AML	06 47 34.6	
MSZ				AML	AML	06 47 35.6	
SYZ	**Scrubby Hill**	**2.10**	**104**	PN	Pn	06 46 57.1	+0.8
EAZ	**Earnscleugh**	**2.34**	**70**	AML	AML	06 47 34.9	
EAZ				AML	AML	06 47 45.7	
EAZ	**Earnscleugh**	**2.34**	**70**	PN	Pn	06 47 01.5	+1.9
EAZ				AML	AML	06 47 34.9	
EAZ				AML	AML	06 47 45.7	
WKZ	**Wanaka**	**2.34**	**59**	PN	Pb	06 47 03.0	-1.6
WKZ				AML	AML	06 47 38.4	
TUZ	**Tuapeka**	**2.40**	**89**	AML	AML	06 47 34.6	
TUZ				AML	AML	06 47 35.5	
TUZ	**Tuapeka**	**2.40**	**89**	PN	Pn	06 47 02.0	+1.6
TUZ				AML	AML	06 47 34.6	
TUZ				AML	AML	06 47 35.5	
LBZ	**Lake Benmore**	**3.28**	**61**	*e*PN	Pn	06 47 14.3	+1.7
ODZ	**Otahua Downs**	**3.29**	**74**	*e*PN	Pn	06 47 12.8	+0.1

IDC 18 06:47:04.3±1.9, 51°.46N×170°.02W, h0km, mb3.4/2, mb1 3.9/4, mb1mx3.5/28, mbtmp3.6/4, ML3.1/2, Error ellipse: s-maj=73.7km s-min=17.8km az=4.0
ISCJB 18 06:47:11.9±2.3, 52°.1N±0°.1×170°.0W±0°.2, h33km±23km, mb3.2/2, Error ellipse: s-maj=25.2km s-min=10.3km az=139.6
NEIC 18 06:47:11.6, 52°.31N×170°.17W, h20km, ML3.3(AEIC), After AEIC.
ISC 18 06:47:09.5±3.8, 52°.1N±0°.1×169°.8W±0°.1, h16km±26km, n16, σ1s29/21, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.04**	**33**	P	**Pb**	**06 47 28.7**	**-0.4**
NIKH				S	**Sb**	**06 47 41.8**	**-0.7**
OKSP	**Okmok Steeple**	**1.47**	**38**	P	**Pn**	**06 47 35.4**	**+0.1**
OKSO	**Okmok South**	**1.60**	**38**	P	**Pn**	**06 47 37.2**	**+0.2**
OKSO				S	**Sn**	**06 47 56.3**	**-1.1**
OKCE	**Okmok Cone E**	**1.65**	**36**	P	**Pn**	**06 47 37.9**	**+0.1**
OKCE				S	**Sb**	**06 47 59.3**	**-0.8**
OKTU	**Okmok Mt. Tuli**	**1.67**	**39**	P	**Pn**	**06 47 38.8**	**-0.9**
OKTG	**Magazine Ridge**	**1.74**	**41**	P	**Pn**	**06 47 39.4**	**+0.5**
OKFG				S	**Sn**	**06 48 00.2**	**-0.5**
MREP	**Makushin Rep't**	**2.52**	**46**	P	**Pn**	**06 47 51.2**	**+1.6**
MSW	**Makushin Switc**	**2.57**	**44**	P	**Pn**	**06 47 51.2**	**+0.9**
MSW				S	**Sn**	**06 48 22.6**	**+1.3**
MTBL	**Makushin Table**	**2.65**	**44**	P	**Pn**	**06 47 52.7**	**+1.1**
AKRB	**Akutan Reef Bi**	**3.03**	**47**	P	**Pn**	**06 47 58.0**	**+1.3**
AKGG	**Akutan Green G**	**3.11**	**46**	P	**Pn**	**06 47 58.6**	**+0.9**
AKUT	**Akutan**	**3.17**	**49**	P	**Pn**	**06 47 59.7**	**+1.2**
FX1	**Attu Island--F**	**10.42**	**281**	Pn	**Pn**	**06 49 37.8**	**-0.2**
	0.4nm,0.3s,baz=79,slow=5.2,SNR=4.1						
ILAR	**Eielson Array**	**17.32**	**34**	P	**P**	**06 51 15.0**	**+3.5**
	0.1nm,0.3s,baz=239,slow=10,SNR=4.1						
PDAR	**Pinedale Array**	**40.72**	**79**	P	**P**	**06 54 48.4**	**-0.9**
	0.3nm,0.5s,baz=329,slow=3.2,SNR=5.1						
TXAR	**Lajitas Array**	**53.02**	**88**	P	**P**	**06 56 24.4**	**-1.1**
	0.2nm,0.6s,baz=296,slow=6.0,SNR=4.3						

IDC 18 06:53:50.2±1.7, 23°.94N×124°.22E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.4/24, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=107.4km s-min=27.9km az=76.0
ISCJB 18 06:53:52.0±0.5, 24°.80N±0°.03×122°.20E±0°.02, h91km±4km, mb3.3/1, Error ellipse: s-maj=4.8km s-min=2.9km az=159.7
JMA 18 06:53:51.9±0.3, 24°.96N×122°.23E, h87km, M3.2
TAP 18 06:53:51.9, 24°.80N×122°.16E, h93km, ML4.2, C
ISC 18 06:53:52.1±1.0, 24°.79N±0°.04×122°.20E±0°.03, h91km±6km, n62, σ0s87/113, 10D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.29**	**320**	*i* P	**Pn**	**06 54 05.8**	**+0.2**
	baz=315						
TWB1				*i* S	**Sn**	**06 54 15.7**	**0.0**
	baz=315						
TWC	**Suao**	**0.36**	**241**	⇓*i* P	**Pn**	**06 54 06.0**	**+0.1**
	baz=241						
TWC				*e*S	**Sn**	**06 54 16.1**	**-0.2**
	baz=241						
ILA	**Ilan**	**0.41**	**267**	P	**Pn**	**06 54 06.6**	**+0.4**
	baz=260						
ILA				S	**Sn**	**06 54 17.1**	**+0.2**
	baz=260						
NWF	**Wu-fen Shan**	**0.47**	**307**	⇓*i* P	**Pn**	**06 54 07.0**	**+0.1**
	baz=302						
NWF				S	**Sn**	**06 54 17.7**	**-0.1**
	baz=302						
TWE	**Neicheng**	**0.49**	**262**	⇓*i* P	**Pn**	**06 54 07.1**	**+0.3**
	baz=265						
TWE				S	**Sn**	**06 54 17.8**	**0.0**
	baz=265						
ENA	**Nanau**	**0.55**	**229**	⇓*i* P	**Pn**	**06 54 07.8**	**+0.5**
	baz=218						
ENA				S	**Sn**	**06 54 19.5**	**+0.8**
	baz=218						
TWA	**Mucha**	**0.59**	**289**	⇓*i* P	**Pn**	**06 54 07.6**	**-0.1**
	baz=289						
TWA				S	**Sn**	**06 54 18.7**	**-0.6**
	baz=289						
ENTT	**Nioudou**	**0.59**	**256**	⇓*i* P	**Pn**	**06 54 08.2**	**+0.5**
	baz=255						
ENTT				*e*S	**Sn**	**06 54 19.6**	**+0.2**
	baz=255						
EHP	**Heping Village**	**0.63**	**221**	*e*P	**Pn**	**06 54 08.7**	**+0.6**
	baz=210						
EHP				*e*S	**Sn**	**06 54 21.0**	**+1.1**
	baz=210						
TAP1	**Taipei**	**0.66**	**293**	*e*P	**Pn**	**06 54 08.2**	**-0.1**
	baz=292						
TAP1				*e*S	**Sn**	**06 54 19.7**	**-0.7**
	baz=292						
TAP	**Taipei**	**0.68**	**292**	*e*P	**Pn**	**06 54 08.1**	**-0.4**
	baz=292						
TAP				S	**Sn**	**06 54 19.8**	**-0.9**
	baz=292						
TWY	**Chenhua**	**0.73**	**312**	P	**Pn**	**06 54 09.1**	**+0.1**
	baz=313						
TWY				*e*S	**Sn**	**06 54 21.6**	**0.0**
	baz=313						
NSK	**Sanguang**	**0.77**	**262**	⇓*i* P	**Pn**	**06 54 09.6**	**+0.1**
	baz=268						
NSK				S	**Sn**	**06 54 22.4**	**-0.1**
	baz=268						
TWS1	**Kuangyinshan**	**0.77**	**294**	P	**Pn**	**06 54 09.4**	**+0.1**
	baz=294						
TWS1				S	**Sn**	**06 54 22.1**	**-0.2**
	baz=294						
YOJ	**Yonaguni jima**	**0.81**	**113**	P	**Pn**	**06 54 10.0**	**+0.2**
YOJ				S	**Sn**	**06 54 23.5**	**+0.5**
NNS	**Nan Shan**	**0.82**	**245**	⇓*i* P	**Pn**	**06 54 10.8**	**+0.7**
	baz=234						
NNS				S	**Sn**	**06 54 24.3**	**+0.8**
	baz=234						
PCYT	**Pengchaiyu**	**0.85**	**352**	P	**Pn**	**06 54 10.5**	**+0.3**
	baz=351						
PCYT				*e*S	**Sn**	**06 54 23.1**	**-0.6**
	baz=351						
TWD	**Chiawan**	**0.89**	**218**	*i* P	**Pn**	**06 54 10.5**	**-0.2**
	baz=209						
TWD				S	**Sn**	**06 54 24.8**	**+0.2**
	baz=209						
NCU	**National Centr**	**0.94**	**281**	*e*P	**Pn**	**06 54 11.5**	**+0.4**
	baz=288						
NCU				*e*S	**Sn**	**06 54 26.2**	**+0.8**
	baz=288						
HWA	**Hwalien**	**0.97**	**214**	*e*P	**Pn**	**06 54 11.4**	**-0.1**
	baz=203						
HWA				*e*S	**Sn**	**06 54 27.1**	**+1.0**
	baz=203						
WHF	**Hehuan Shan**	**1.06**	**233**	P	**Pn**	**06 54 13.2**	**+0.2**
	baz=225						
WHF				*e*S	**Sn**	**06 54 28.8**	**+0.1**
	baz=225						
TWT	**Tachien**	**1.07**	**240**	⇓*i* P	**Pn**	**06 54 13.9**	**+1.1**
	baz=231						
TWT				S	**Sn**	**06 54 29.3**	**+0.9**
	baz=231						
NSTT	**Nanjuang**	**1.10**	**262**	⇓*i* P	**Pn**	**06 54 13.2**	**+0.2**
	baz=260						
NSTT				S	**Sn**	**06 54 28.6**	**-0.2**
	baz=260						
ESF	**Shoufeng Towns**	**1.11**	**215**	*e*P	**Pn**	**06 54 14.5**	**+1.4**
	baz=221						
HSN	**Hsinchu**	**1.11**	**271**	P	**Pn**	**06 54 13.2**	**0.0**
	baz=262						
HSN				*e*S	**Sn**	**06 54 28.4**	**-0.6**
	baz=262						
ESL	**Shilin**	**1.19**	**216**	*e*P	**Pn**	**06 54 13.4**	**-0.7**
	baz=220						
ESL				*e*S	**Sn**	**06 54 29.2**	**-1.5**
	baz=220						
NSY	**Sanyi**	**1.36**	**255**	P	**Pn**	**06 54 16.7**	**+0.6**
	baz=252						
NSY				*e*S	**Sn**	**06 54 34.6**	**+0.3**
	baz=252						
TWQ1	**Liyutan**	**1.37**	**252**	P	**Pn**	**06 54 16.6**	**+0.4**
	baz=249						
TWQ1				S	**Sn**	**06 54 34.5**	**0.0**
	baz=249						
IRIF	**Iriomote-Funau**	**1.47**	**108**	P	**Pn**	**06 54 17.4**	**0.0**
IRIF				S	**Sn**	**06 54 36.9**	**+0.3**
SMLT	**Sun Moon Lake**	**1.49**	**233**	P	**Pn**	**06 54 18.6**	**+0.8**
	baz=225						
SMLT				*e*S	**Sn**	**06 54 38.2**	**+0.9**
	baz=225						
EHY	**Hungye**	**1.50**	**212**	*e*P	**Pn**	**06 54 17.3**	**-0.6**
	baz=208						
EHY				*e*S	**Sn**	**06 54 35.6**	**-1.9**
	baz=208						
TYC	**Yuchr**	**1.50**	**235**	P	**Pn**	**06 54 18.7**	**+0.7**
	baz=231						
TYC				*e*S	**Sn**	**06 54 38.4**	**+0.9**
	baz=231						
TCU	**Taichung**	**1.52**	**246**	P	**Pn**	**06 54 18.6**	**+0.4**
	baz=251						
TCU				*e*S	**Sn**	**06 54 37.8**	**-0.1**
	baz=251						
HATJ	**Hateruma jima**	**1.64**	**116**	*e*S	**Sn**	**06 54 42.5**	**+2.0**
TWF1	**Yuli**	**1.65**	**210**	*e*P	**Pn**	**06 54 18.8**	**-1.0**
	baz=212						
TWF1				*e*S	**Sn**	**06 54 39.0**	**-1.8**
	baz=212						
WNT	**Mingjian**	**1.65**	**237**	*e*P	**Pn**	**06 54 20.4**	**+0.7**
	baz=243						
WNT				*e*S	**Sn**	**06 54 41.9**	**+1.1**
	baz=243						
YUS	**Yu-Shan**	**1.72**	**222**	P	**Pn**	**06 54 21.7**	**+0.5**
	baz=210						
YUS				*e*S	**Sn**	**06 54 44.0**	**+0.8**
	baz=210						
JKRS	**Kuro-shima**	**1.74**	**108**	P	**Pn**	**06 54 21.7**	**+0.8**
JKRS				S	**Sn**	**06 54 43.4**	**+0.6**
ALS	**Alishan**	**1.80**	**225**	*i* P	**Pn**	**06 54 23.1**	**+1.1**
	baz=232						
ALS				*e*S	**Sn**	**06 54 45.8**	**+1.2**
	baz=232						
JIJ	**Ishigaki jima**	**1.82**	**103**	P	**Pn**	**06 54 22.3**	**+0.3**
JIJ				S	**Sn**	**06 54 44.4**	**-0.3**
CHN5	**Tsauling**	**1.82**	**230**	P	**Pn**	**06 54 22.6**	**+0.4**
	baz=235						
CHN5				*e*S	**Sn**	**06 54 46.0**	**+1.1**
	baz=235						
CHKT	**Chengkung**	**1.84**	**205**	*e*P	**Pn**	**06 54 22.9**	**+0.6**
	baz=191						
CHKT				*e*S	**Sn**	**06 54 43.4**	**-1.9**
	baz=191						
WGK	**Gukeng**	**1.85**	**234**	*e*P	**Pn**	**06 54 23.2**	**+0.8**
	baz=230						
WGK				*e*S	**Sn**	**06 54 46.0**	**+0.5**
	baz=230						
ELDTW	**Lidau**	**1.92**	**214**	*e*P	**Pn**	**06 54 23.0**	**-0.4**
	baz=206						
ELDTW				*e*S	**Sn**	**06 54 46.5**	**-0.7**
	baz=206						
CHN2	**Minshiung**	**2.01**	**232**	*e*P	**Pn**	**06 54 25.5**	**+1.0**
	baz=237						
CHN2				*e*S	**Sn**	**06 54 49.7**	**+0.6**
	baz=237						
CHN4	**Tsaushan**	**2.05**	**226**	*e*P	**Pn**	**06 54 25.9**	**+1.0**
	baz=222						
CHN4				*e*S	**Sn**	**06 54 50.8**	**+0.8**
	baz=222						
CHY	**Chiayi**	**2.07**	**232**	P	**Pn**	**06 54 26.1**	**+0.9**
	baz=237						
CHY				*e*S	**Sn**	**06 54 51.5**	**+1.0**
	baz=237						
STYT	**Tauyuan**	**2.08**	**219**	*e*P	**Pn**	**06 54 26.8**	**+1.3**
	baz=215						
STYT				*e*S	**Sn**	**06 54 52.3**	**+1.3**
	baz=215						
WTP	**Ta-pu**	**2.11**	**224**	P	**Pn**	**06 54 26.5**	**+0.7**
	baz=230						
WTP				*e*S	**Sn**	**06 54 52.7**	**+1.1**
	baz=230		

baz=199
TWM1 Shoushan 2.54 220 *e*P Pn 06 54 33.5 +2.0
baz=215
PNG Penghu 2.70 244 *e*P Pn 06 54 32.6 -1.0
baz=241
LAY Lan-yu 2.80 192 *e*P Pn 06 54 33.7 -1.2
baz=188
LAY *e*S Sn 06 55 05.3 -2.6
baz=188
SCZT Fangliau 2.81 211 *e*P Pn 06 54 36.2 +1.2
baz=206
SCZT *e*S Sn 06 55 08.5 +0.5
baz=206
JMJ Miyako jima 2 2.81 89 *e*S Sn 06 55 08.6 +0.3
KSRS Korea Array 13.54 20 Pn P 06 57 06.6 +0.5
0.3nm,0.3s,baz=196,slow=12,SNR=4.6
SONM Songjino Array 26.19 335 P pP 06 59 40.8 +2.2
0.7nm,0.8s,baz=146,slow=8.7,SNR=4.3
WRA Warramunga Arr 46.00 164 P P 07 02 05.2 -1.2
0.5nm,0.7s,baz=347,slow=8.7,SNR=8.2

WEL 18 07:05:09.2±0.4, 46.24S×165.97E, h30km±2km, ML3.6/14, 1D, Error ellipse: s-maj=3.9km s-min=1.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.50**	**82**	‖P*	Pb	07 05 19.5	-0.1
PYZ				S*	Sb	07 05 27.2	+0.5
DCZ	**Deep Cove**	**1.12**	**48**	PN	Pn	07 05 28.3	-0.6
DCZ				AML	AML	07 05 54.0	
DCZ				AML	AML	07 05 54.0	
DCZ				AML	AML	07 05 58.0	
DCZ				AML	AML	07 05 58.0	
WHZ	**Wether Hill Ro**	**1.42**	**77**	PN	Pn	07 05 33.8	+0.8
WHZ				AML	AML	07 05 54.1	
WHZ				AML	AML	07 05 55.1	
APZ	**The Paps**	**1.51**	**114**	PN	Pn	07 05 33.7	-0.7
APZ				SN	Sn	07 05 50.2	-2.9
MLZ	**Mavora Lakes**	**1.78**	**61**	PN	Pn	07 05 39.5	+1.4
MLZ				AML	AML	07 06 07.7	
MLZ				AML	AML	07 06 12.9	
MSZ	**Milford Sound**	**2.09**	**42**	*e*PN	Pn	07 05 43.4	+1.3
MSZ				AML	AML	07 06 23.7	
MSZ				AML	AML	07 06 25.0	
MSZ				AML	AML	07 06 34.5	
SYZ	**Scrubby Hill**	**2.21**	**99**	*e*PN	Pn	07 05 44.5	+0.6
EAZ	**Earnscleugh**	**2.54**	**68**	PN	Pn	07 05 50.2	+1.7
EAZ				AML	AML	07 06 21.6	
EAZ				AML	AML	07 06 35.8	
TUZ	**Tuapeka**	**2.56**	**85**	*e*PN	Pn	07 05 49.6	+0.9
TUZ				AML	AML	07 06 25.4	
TUZ				AML	AML	07 06 27.9	
WKZ	**Wanaka**	**2.56**	**58**	*e*PN	Pb	07 05 52.1	-2.5
WKZ				AML	AML	07 06 33.2	
WKZ				AML	AML	07 06 37.5	
JCZ	**Jackson Bay**	**2.93**	**43**	*e*PN	Pn	07 05 55.9	+2.0
JCZ				AML	AML	07 06 50.7	
JCZ				AML	AML	07 06 50.9	
ODZ	**Otahua Downs**	**3.49**	**72**	PN	Pn	07 06 01.2	-0.2
ODZ				AML	AML	07 07 06.9	
LBZ	**Lake Benmore**	**3.50**	**60**	*e*PN	Pn	07 06 02.6	+1.0
LBZ				AML	AML	07 06 52.0	

WEL 18 07:12:23.2±0.3, 45.46S×166.69E, h20km±1km, ML3.5/15, 1D, Error ellipse: s-maj=2.7km s-min=1.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.32**	**93**	‖P*	Pb	07 12 30.1	-0.1
DCZ				S*	Sb	07 12 34.5	-0.6
DCZ				AML	AML	07 12 35.0	
DCZ				AML	AML	07 12 35.0	
DCZ				AML	AML	07 12 35.0	
PYZ	**Puysegur Point**	**0.70**	**181**	P*	Pb	07 12 35.9	-1.0
PYZ				S*	Sb	07 12 44.8	-1.4
WHZ	**Wether Hill Ro**	**0.98**	**117**	P*	Pb	07 12 41.3	-0.3
WHZ				S*	Sb	07 12 54.3	+0.2
WHZ				AML	AML	07 12 57.5	
MLZ	**Mavora Lakes**	**1.05**	**84**	P*	Pb	07 12 41.4	-1.4
MLZ				AML	AML	07 12 55.3	
MLZ				AML	AML	07 12 56.3	
MSZ	**Milford Sound**	**1.18**	**48**	*e*PN	Pb	07 12 45.2	+0.3
MSZ				AML	AML	07 13 03.3	
MSZ				AML	AML	07 13 03.3	
MSZ				AML	AML	07 13 03.5	
MSZ				AML	AML	07 13 03.5	
APZ	**The Paps**	**1.64**	**147**	PN	Pb	07 12 52.0	-0.8
WKZ	**Wanaka**	**1.76**	**70**	PN	Pb	07 12 54.1	-0.9
WKZ				AML	AML	07 13 24.5	
WKZ				AML	AML	07 13 25.3	
WKZ				AML	AML	07 13 28.8	
WKZ				AML	AML	07 13 28.8	
EAZ	**Earnscleugh**	**1.86**	**84**	PN	Pn	07 12 55.2	+1.3
EAZ				AML	AML	07 13 23.8	
EAZ				AML	AML	07 13 24.1	
EAZ				AML	AML	07 13 24.1	
SYZ	**Scrubby Hill**	**2.02**	**123**	PN	Pn	07 12 57.2	+1.2
JCZ	**Jackson Bay**	**2.02**	**47**	PN	Pb	07 12 59.6	+0.1
JCZ				AML	AML	07 13 30.0	
JCZ				AML	AML	07 13 31.4	
TUZ	**Tuapeka**	**2.12**	**104**	PN	Pb	07 12 59.4	-1.5
TUZ				AML	AML	07 13 28.0	
TUZ				AML	AML	07 13 29.2	
LBZ	**Lake Benmore**	**2.70**	**68**	PN	Pn	07 13 07.4	+1.8
LBZ				AML	AML	07 13 25.3	
LBZ				AML	AML	07 13 45.4	
ODZ	**Otahua Downs**	**2.82**	**83**	PN	Pn	07 13 07.2	+0.1
ODZ				AML	AML	07 13 40.5	
FOZ	**Fox Glacier**	**2.86**	**50**	*e*PN	Pb	07 13 11.0	-2.6
WVZ	**Waitaha Valley**	**3.76**	**52**	PN	Pn	07 13 19.9	-0.1
MQZ	**McQueen's Vall**	**4.60**	**70**	PN	Pn	07 13 32.2	+0.6
QRZ	**Quartz Range**	**6.30**	**45**	PN	Pn	07 13 54.7	-0.3

*LDG **18** 07:18:04.1±0.6, 34.84N×4.05W, h2km, Ml2.9/3, Error ellipse: s-maj=13.7km s-min=6.0km az=172.0*
*CNRM **18** 07:18:06.6, 35.11N×3.70W, h19km, MD3.0*
*CSEM **18** 07:18:06.9±0.2, 35.09N×4.02W, h15km, ML3.0/9, Error ellipse: s-maj=3.9km s-min=3.3km az=112.0*
*ISCJB **18** 07:18:06.5±0.4, 35.11N±0.02×4.09W±0.03, h18km±5km, Error ellipse: s-maj=4.4km s-min=3.2km az=21.1*
*MDD **18** 07:18:07.3±0.4, 35.05N×3.95W, h10km±3km, mb4.0/1, mbLg2.5/12, Error ellipse: s-maj=4.3km s-min=2.9km az=84.0, PRXIMO*
*INMG **18** 07:18:07.3±1.1, 35.12N×4.02W, h7km±5km, ML2.3, Error ellipse: s-maj=2.8km s-min=2.6km az=6.0*

ISC 18 07:18:06.2±0.8, 35.06N±0.02×4.01W±0.03, h14km±5km, n98, σt1.22/161, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPAL	**Palemas**	**0.18**	**19**	P	**Pg**	**07 18 11.0**	**+0.5**
MPAL				S	**Sb**	**07 18 15.0**	**+0.3**
MPAL	**Palemas**	**0.18**	**19**	*i* P	**Pg**	**07 18 11.0**	**+0.5**
MPAL				*i* S	**Sb**	**07 18 15.0**	**+0.3**
TOU	**Touzarine**	**0.23**	**114**	P	**Pg**	**07 18 10.0**	**-1.4**
TOU				S	**Sg**	**07 18 14.0**	**-0.9**
TOU	**Touzarine**	**0.23**	**114**	P	**Pg**	**07 18 10.0**	**-1.4**
TOU				S	**Sg**	**07 18 14.0**	**-0.9**
EMEL	**Melilla**	**0.90**	**74**	P	**Pb**	**07 18 23.3**	**-0.3**
92nm,0.1s,SNR=9.8							
EMEL				S	**Sb**	**07 18 35.3**	**-0.1**
290nm,0.2s,SNR=7.9							
EMLI	**Melilla**	**0.90**	**74**	P	**Pb**	**07 18 23.3**	**-0.4**
92nm,0.1s,SNR=9.8							
EMLI				S	**Sb**	**07 18 35.3**	**-0.3**
290nm,0.2s,SNR=7.9							
TZK	**Tazeka**	**0.98**	**188**	P	**Pb**	**07 18 26.0**	**+0.9**
TZK				S	**Sb**	**07 18 39.0**	**+1.1**
TZK	**Tazeka**	**0.98**	**188**	*i* P	**Pb**	**07 18 26.0**	**+0.9**
TZK				*i* S	**Sb**	**07 18 39.0**	**+1.1**
ZAI	**Zaio**	**1.04**	**94**	P	Pb	07 18 21.0	-5.1
ZAI				S	Sb	07 18 32.0	-7.7
EALB	**Alboran**	**1.19**	**42**	P	**Pn**	**07 18 28.6**	**+0.2**
5.6nm,0.1s,SNR=7.9							
EALB				S	**Sb**	**07 18 43.7**	**-0.1**
79nm,0.2s,SNR=7.9							
TGT	**Taghat**	**1.31**	**221**	P	**Pb**	**07 18 32.0**	**+1.4**
TGT				S	**Sn**	**07 18 48.0**	**+0.6**
TGT	**Taghat**	**1.31**	**221**	*i* P	**Pb**	**07 18 32.0**	**+1.4**
TGT				*i* S	**Sn**	**07 18 48.0**	**+0.6**
ECEU	**Ceuta**	**1.39**	**307**	P	**Pn**	**07 18 29.8**	**-1.5**
4.2nm,0.1s,SNR=6.7							
ECEU				S	**Sn**	**07 18 49.0**	**-0.5**
18nm,0.2s,SNR=6.6							
ECEU	**Ceuta**	**1.39**	**307**	P	**Pn**	**07 18 29.8**	**-1.5**
4.2nm,0.1s,SNR=6.7							
ECEU				S	**Sn**	**07 18 49.0**	**-0.5**
18nm,0.2s,SNR=6.6							
EGUA	**Guajares**	**1.81**	**11**	P	**Pn**	**07 18 35.7**	**-1.3**
17nm,0.3s,SNR=7.9							
EGUA				S	**Sn**	**07 18 59.1**	**-0.7**
73nm,0.4s,SNR=7.9							
EGUA	**Guajares**	**1.81**	**11**	P	**Pn**	**07 18 35.7**	**-1.3**
17nm,0.3s,SNR=7.9							
EGUA				S	**Sn**	**07 18 59.1**	**-0.7**
73nm,0.4s,SNR=7.9							
MIF	**Mishlifen**	**1.93**	**212**	P	**Pb**	**07 18 41.0**	**-0.3**
MIF				S	**Sn**	**07 19 04.0**	**+1.0**
MIF	**Mishlifen**	**1.93**	**212**	*i* P	**Pb**	**07 18 41.0**	**-0.3**
MIF				*i* S	**Sn**	**07 19 04.0**	**+1.0**
ERON	**Agron**	**1.96**	**5**	P	**Pn**	**07 18 38.5**	**-0.7**
1.8nm,0.1s,SNR=7.9							
ERON	**Agron**	**1.96**	**5**	P	**Pn**	**07 18 38.5**	**-0.7**
1.8nm,0.1s,SNR=7.9							
EBER	**Berja**	**2.05**	**26**	P	**Pn**	**07 18 39.2**	**-1.3**
1.9nm,0.2s,SNR=12							
EBER				S	**Sn**	**07 19 04.8**	**-1.1**
16nm,0.4s,SNR=7.9							
EBER	**Berja**	**2.05**	**26**	P	**Pn**	**07 18 39.2**	**-1.3**
1.9nm,0.2s,SNR=12							
EBER				S	**Sn**	**07 19 04.8**	**-1.1**
16nm,0.4s,SNR=7.9							
CZD	**Col de Zad**	**2.19**	**203**	P	**Pn**	**07 18 44.0**	**+1.5**
CZD				S	**Sn**	**07 19 10.0**	**+0.4**
CZD	**Col de Zad**	**2.19**	**203**	*e*P	**Pn**	**07 18 44.0**	**+1.5**
CZD				*i* S	**Sn**	**07 19 10.0**	**+0.4**
EQUE	**Quentar**	**2.19**	**12**	P	**Pn**	**07 18 42.2**	**-0.1**
0.5nm,0.1s,SNR=7.9							
EQUE				S	**Sn**	**07 19 10.1**	**+0.7**
0.7nm,0.1s,SNR=7.9							
EQUE	**Quentar**	**2.19**	**12**	P	**Pn**	**07 18 42.2**	**-0.1**
0.5nm,0.1s,SNR=7.9							
EQUE				S	**Sn**	**07 19 10.1**	**+0.7**
0.7nm,0.1s,SNR=7.9							
ECOG	**Cogollos-Vega**	**2.25**	**9**	P	**Pn**	**07 18 42.9**	**-0.2**
0.7nm,0.1s,SNR=7.9							
ECOG	**Cogollos-Vega**	**2.25**	**9**	P	**Pn**	**07 18 42.9**	**-0.2**
0.7nm,0.1s,SNR=7.9							
ELUQ	**Luque**	**2.51**	**355**	P	**Pn**	**07 18 48.3**	**+1.7**
3.9nm,0.2s,SNR=7.9							
ELUQ	**Luque**	**2.51**	**355**	P	**Pn**	**07 18 48.3**	**+1.7**
3.9nm,0.2s,SNR=7.9							
EQES	**Quesada**	**2.84**	**15**	P	**Pn**	**07 18 53.2**	**+1.9**
1.3nm,0.1s,SNR=14							
EQES				S	**Sn**	**07 19 26.7**	**+1.3**
10nm,0.3s,SNR=7.9							
EQES	**Quesada**	**2.84**	**15**	P	**Pn**	**07 18 53.2**	**+1.9**
1.3nm,0.1s,SNR=14							
EQES				S	**Sn**	**07 19 26.7**	**+1.3**
10nm,0.3s,SNR=7.9							
EHUE	**Huescar**	**2.98**	**22**	P	**Pn**	**07 18 54.3**	**+1.1**
0.6nm,0.1s,SNR=7.9							
EHUE				S	**Sn**	**07 19 30.9**	**+2.2**
1.6nm,0.2s,SNR=7.9							
EHUE	**Huescar**	**2.98**	**22**	P	**Pn**	**07 18 54.3**	**+1.1**
0.6nm,0.1s,SNR=7.9							
EHUE				S	**Sn**	**07 19 30.9**	**+2.2**
1.6nm,0.2s,SNR=7.9							
ZFT	**Errachidia**	**3.03**	**185**	P	**Pn**	**07 18 54.0**	**+0.1**
ZFT				S	**Sn**	**07 19 28.0**	**-2.1**
ZFT	**Errachidia**	**3.03**	**185**	*e*P	**Pn**	**07 18 54.0**	**+0.1**
ZFT				S	**Sn**	**07 19 28.0**	**-2.1**
EBAN	**Banos Encina**	**3.11**	**3**	S	**Sn**	**07 19 35.4**	**+3.6**
2.0nm,0.2s,SNR=7.9							
EBAN	**Banos Encina**	**3.11**	**3**	S	**Sn**	**07 19 35.4**	**+3.6**
2.0nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**3.14**	**352**	P	**Pn**	**07 18 56.3**	**+1.0**
0.8nm,0.1s,SNR=11							
EADA				S	**Sn**	**07 19 34.5**	**+2.0**
0.7nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**3.14**	**352**	P	**Pn**	**07 18 56.3**	**+1.0**
0.8nm,0.1s,SNR=11							
EADA				S	**Sn**	**07 19 34.5**	**+2.0**
0.7nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**3.22**	**340**	P	**Pn**	**07 18 56.9**	**+0.5**
1.6nm,0.2s,SNR=14							
ECAB				S	**Sn**	**07 19 34.9**	**+0.4**
2.5nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**3.22**	**340**	P	**Pn**	**07 18 56.9**	**+0.5**
1.6nm,0.2s,SNR=14							
ECAB				S	**Sn**	**07 19 34.9**	**+0.4**
2.5nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.45**	**322**	P	**Pn**	**07 18 59.5**	**0.0**
1.6nm,0.2s,SNR=20							
EMIN				S	**Sn**	**07 19 38.4**	**-1.8**
1.5nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.45**	**322**	P	**Pn**	**07 18 59.5**	**0.0**
1.6nm,0.2s,SNR=20							
EMIN				S	**Sn**	**07 19 38.4**	**-1.8**
1.5nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**3.74**	**312**	P	**Pn**	**07 19 03.5**	**0.0**
1.3nm,0.1s,SNR=7.9							
EGRO				S	**Sn**	**07 19 47.0**	**-0.2**
3.9nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**3.74**	**312**	P	**Pn**	**07 19 03.5**	**0.0**
1.3nm,0.1s,SNR=7.9							
EGRO				S	**Sn**	**07 19 47.0**	**-0.2**
3.9nm,0.2s,SNR=7.9							
PVAQ	**Vaqueiros**	**3.80**	**309**	*e*Pn	**Pn**	**07 19 04.3**	**-0.1**
PVAQ				*e*Sn	**Sn**	**07 19 47.2**	**-1.7**
PVAQ				A	A	07 19 50.8	
6.5nm,0.4s							
PVAQ	**Vaqueiros**	**3.80**	**309**	Pn	**Pn**	**07 19 04.3**	**-0.1**
PVAQ				Sn	**Sn**	**07 19 47.2**	**-1.7**
6.5nm,0.4s							
PVAQ	**Vaqueiros**	**3.80**	**309**	Pn	**Pn**	**07 19 04.3**	**-0.1**
PVAQ				*e*Sn	**Sn**	**07 19 47.2**	**-1.7**
6.5nm,0.4s							
PBDV	**Barranco-do-Ve**	**3.85**	**306**	*e*Pn	**Pn**	**07 19 05.1**	**+0.1**
PBDV				*e*Sn	**Sn**	**07 19 48.6**	**-1.5**
PBDV				A	A	07 19 57.3	
4.7nm,0.3s							
PBDV	**Barranco-do-Ve**	**3.85**	**306**	Pn	**Pn**	**07 19 05.1**	**+0.1**
PBDV				Sn	**Sn**	**07 19 48.6**	**-1.5**
4.7nm,0.3s							
PBDV	**Barranco-do-Ve**	**3.85**	**306**	Pn	**Pn**	**07 19 05.1**	**+0.1**
PBDV				*e*Sn	**Sn**	**07 19 48.6**	**-1.5**
4.7nm,0.3s							
PBAR	**Barrancos**	**3.95**	**323**	*e*Pn	**Pn**	**07 19 06.5**	**+0.1**
PBAR				*e*Sn	**Sn**	**07 19 51.9**	**-0.6**
PBAR				A	A	07 19 57.5	
3.1nm,0.3s							
PBAR	**Barrancos**	**3.95**	**323**	Pn	**Pn**	**07 19 06.5**	**+0.1**
PBAR				Sn	**Sn**	**07 19 51.9**	**-0.6**
3.1nm,0.3s							
PBAR	**Barrancos**	**3.95**	**323**	Pn	**Pn**	**07 19 06.5**	**+0.1**
PBAR				*e*Sn	**Sn**	**07 19 51.9**	**-0.6**
3.1nm,0.3s							
ETOB	**Tobarra**	**4.09**	**28**	P	**Pn**	**07 19 10.3**	**+1.9**
0.8nm,0.1s,SNR=8.7							
ETOB	**Tobarra**	**4.09**	**28**	P	**Pn**	**07 19 10.3**	**+1.9**
0.8nm,0.1s,SNR=8.7							
PCVE	**Castro Verde**	**4.14**	**310**	*e*Pn	**Pn**	**07 19 09.3**	**+0.2**
PCVE				*e*Sn	**Sn**	**07 19 57.0**	**-0.3**
PCVE				A	A	07 19 59.5	
5.7nm,0.4s							
PCVE	**Castro Verde**	**4.14**	**310**	Pn	**Pn**	**07 19 09.3**	**+0.2**
PCVE				Sn	**Sn**	**07 19 57.0**	**-0.3**
5.7nm,0.4s							
PCVE	**Castro Verde**	**4.14**	**310**	Pn	**Pn**	**07 19 09.3**	**+0.2**
PCVE				*e*Sn	**Sn**	**07 19 57.0**	**-0.3**
5.7nm,0.4s							
MORF	**Marmelete**	**4.37**	**302**	*e*Pn	**Pn**	**07 19 13.9**	**+1.7**
MORF				A	A	07 20 07.5	
4.2nm,0.3s							
MORF	**Marmelete**	**4.37**	**302**	Pn	**Pn**	**07 19 13.9**	**+1.7**
MORF	**Marmelete**	**4.37**	**302**	*e*Pn	**Pn**	**07 19 13.9**	**+1.7**
4.2nm,0.3s							
EBAD	**Badajoz**	**4.41**	**328**	P	**Pn**	**07 19 12.6**	**0.0**
1.2nm,0.1s,SNR=8.3							
EBAD				S	**Sn**	**07 20 04.8**	**+1.1**
5.7nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**4.41**	**328**	P	**Pn**	**07 19 12.6**	**0.0**
1.2nm,0.1s,SNR=8.3							
EBAD				S	**Sn**	**07 20 04.8**	**+1.1**
5.7nm,0.2s,SNR=7.9							
PFVI	**Vila Bisbo**	**4.41**	**299**	*e*Pn	**Pn**	**07 19 13.9**	**+1.1**
PFVI				*e*Sn	**Sn**	**07 20 02.4**	**-1.6**
PFVI				A	A	07 20 07.7	
3.3nm,0.3s							
PFVI	**Vila Bisbo**	**4.41**	**299**	Pn	**Pn**	**07 19 13.9**	**+1.1**
1.7nm,0.1s,SNR=6.8							
PFVI	**Vila Bisbo**	**4.41**	**299**	Pn	**Pn**	**07 19 13.9**	**+1.1**
1.7nm,0.1s,SNR=6.8							
PFVI				*e*Sn	**Sn**	**07 20 02.4**	**-1.6**
3.3nm,0.3s							
PTEO	**Sao Teotonio**	**4.54**	**304**	*e*Pn	**Pn**	**07 19 15.8**	**+1.3**
PTEO				*e*Sn	**Sn**	**07 20 05.7**	**-1.4**
PTEO				A	A	07 20 08.9	
6.1nm,0.4s							
PTEO	**Sao Teotonio**	**4.54**	**304**	Pn	**Pn**	**07 19 15.8**	**+1.3**
PTEO				Sn	**Sn**	**07 20 05.7**	**-1.4**
3.1nm,0.4s							
PTEO	**Sao Teotonio**	**4.54**	**304**	Pn	**Pn**	**07 19 15.8**	**+1.3**
PTEO				*e*Sn	**Sn**	**07 20 05.7**	**-1.4**
6.1nm,0.4s							
ESDC	**Sonseca Array**	**4.61**	**0**	P	**Pn**	**07 19 16.6**	**+1.1**
0.8nm,0.3s,baz=180,slow=14,SNR=11							
ESDC	**Sonseca Array**	**4.61**	**0**	P	**Pn**	**07 19 16.6**	**+1.1**
0.8nm,0.3s,baz=180,slow=14,SNR=11							
EVO	**Evora**	**4.72**	**318**	*e*Pn	**Pn**	**07 19 17.6**	**+0.5**
EVO				*e*Sn	**Sn**	**07 20 10.2**	**-1.4**
5.9nm,0.4s							
PNCL	**Nicolau / Gran**	**4.74**	**311**	*e*Pn	**Pn**	**07 19 17.5**	**+0.2**
PNCL				*e*Sn	**Sn**	**07 20 10.4**	**-1.7**
PNCL				A	A	07 20 15.3	
2.8nm,0.4s							
PNCL	**Nicolau / Gran**	**4.74**	**311**	*e*Pn	**Pn**	**07 19 17.5**	**+0.2**
PNCL				*e*Sn	**Sn**	**07 20 10.4**	**-1.7**
2.8nm,0.4s							
PESTR	**Estremoz**	**4.76**	**324**	*e*Pn	**Pn**	**07 19 18.5**	**+0.9**
PESTR	**Estremoz**	**4.76**	**324**	Pn	**Pn**	**07 19 18.5**	**+0.9**
PESTR	**Estremoz**	**4.76**	**324**	Pn	**Pn**	**07 19 18.5**	**+0.9**
EVOP	**Sao Brissos**	**4.78**	**318**	*e*Pn	**Pn**	**07 19 17.6**	**-0.2**
EVOP				*e*Sn	**Sn**	**07 20 10.2**	**-2.8**
3.0nm,0.4s							
MOE	**Montemor**	**4.91**	**316**	*e*Sn	**Sn**	**07 20 14.4**	**-1.7**
MOE	**Montemor**	**4.91**	**316**	Sn	**Sn**	**07 20 14.4**	**-1.7**
MOE	**Montemor**	**4.91**	**316**	Sn	**Sn**	**07 20 14.4**	**-1.7**
EPLA	**Plasencia**	**5.26**	**342**	P	**Pn**	**07 19 24.9**	**+0.5**
2.1nm,0.2s,SNR=12							
EPLA	**Plasencia**	**5.26**	**342**	P	**Pn**	**07 19 24.9**	**+0.5**
2.1nm,0.2s,SNR=12							
GUD	**Guadarrama**	**5.58**	**359**	P	**Pn**	**07 19 29.0**	**+0.1**
3.1nm,0.4s,SNR=4.0							
GUD	**Guadarrama**	**5.58**	**359**	P	**Pn**	**07 19 29.0**	**+0.1**
3.1nm,0.4s,SNR=4.0							
MVO	**Moncorvo**	**6.54**	**340**	Pn	**Pn**	**07 19 42.7**	**+0.6**
2.5nm,0.1s,SNR=15							
MVO	**Moncorvo**	**6.54**	**340**	Pn	**Pn**	**07 19 42.7**	**+0.6**
2.5nm,0.1s,SNR=15							
ECAL	**Calabor**	**7.20**	**344**	P	**Pn**	**07 19 52.1**	**+1.0**
3.2nm,0.2s,SNR=8.2							
ECAL	**Calabor**	**7.20**	**344**	P	**Pn**	**07 19 52.1**	**+1.0**
3.2nm,0.2s,SNR=8.2							
ETSF	**Etsaut**	**8.28**	**18**	*e*Pn	**Pn**	**07 20 05.6**	**-0.3**
ETSF				*e*Sn	**Sn**	**07 21 36.6**	**-2.6**
0.4nm,0.2s							
ETSF	**Etsaut**	**8.28**	**18**	Pn	**Pn**	**07 20 05.6**	**-0.3**
ETSF				*e*Sn	**Sn**	**07 21 36.6**	**-2.6**
0.2nm,0.2s							
SJPF	**Ste Jean**	**8.33**	**14**	*e*Pn	**Pn**	**07 20 06.9**	**+0.3**
SJPF				*e*Sn	**Sn**	**07 21 37.4**	**-3.0**
0.8nm,0.3s							
SJPF	**Ste Jean**	**8.33**	**14**	Pn	**Pn**	**07 20 06.9**	**+0.3**
EPF	**Esparros**	**8.65**	**22**	*e*Pn	**Pn**	**07 20 10.2**	**-0.8**
EPF	**Esparros**	**8.65**	**22**	Pn	**Pn**	**07 20 10.2**	**-0.8**

*CSEM **18** 07:19:17.1, 37.96N×26.08W, h4km, ML2.5, After PDA*

PDA 18 07:19:17.1±1.2, 37.96N×26.08W, h4km±5km, MD3.7, ML2.5, Error ellipse: s-maj=7.5km s-min=1.9km az=39.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSET	**Sete Cidades**	**0.31**	**116**	*e*P	Pg	07 19 22.5	-0.7
PSET				*e*S	Sg	07 19 27.2	-0.2
PSET				A	A	07 19 40.9	
442nm,0.4s							
PSET	**Sete Cidades**	**0.31**	**116**	*e*P	Pg	07 19 22.5	-0.7
PSET				*e*S	Sg	07 19 27.2	-0.2
PDA	**Ponta Delgada**	**0.39**	**123**	*e*S	Sg	07 19 29.8	+0.1
PDA	**Ponta Delgada**	**0.39**	**123**	*e*S	Sg	07 19 29.8	+0.1
CMLA	**Cha da Macela**	**0.48**	**114**	*e*P	Pg	07 19 25.2	-1.2
CMLA				A	A	07 19 45.0	
448nm,0.4s							
CMLA	**Cha da Macela**	**0.48**	**114**	*e*P	Pg	07 19 25.2	-1.2
BART	**Pico Bartolome**	**0.74**	**104**	*e*P	Pg	07 19 29.3	-2.2
BART				*e*S	Sg	07 19 38.7	-2.5
BART				A	A	07 19 50.1	
72nm,0.7s							
BART	**Pico Bartolome**	**0.74**	**104**	*e*P	Pg	07 19 29.3	-2.2
BART				*e*S	Sg	07 19 38.7	-2.5
ADH	**Angra Heroismo**	**1.15**	**308**	*e*P	Pg	07 19 34.9	-4.2
ADH				*e*S	Sg	07 19 48.5	-5.4
ADH				A	A	07 19 53.0	
72nm,0.5s							
ADH	**Angra Heroismo**	**1.15**	**308**	*e*P	Pg	07 19 34.9	-4.2
ADH				*e*S	Sg	07 19 48.5	-5.4
PSMA	**Santa Maria**	**1.22**	**142**	*e*P	Pg	07 19 36.2	-4.4
PSMA				*e*S	Sg	07 19 50.5	-6.0
PSMA

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVM	**Montagne Vaucl**	**0.58**	**215**	*e*P	Pn	07 23 15.5	+1.3
FDF	**Fort de France**	**0.66**	**243**	⇓*i*P	Pn	07 23 16.5	+1.3
FDF	**Fort de France**	**0.66**	**243**	⇓*e*P	Pn	07 23 16.6	+1.4
FDF				⇓*e*S	Sn	07 23 26.8	+2.2
FDF				⇓*e*S	Sn	07 23 26.8	+2.2
DWS	**Wesley**	**0.91**	**306**	*e*P	Pb	07 23 21.2	+2.4
DWS				*e*S	Sn	07 23 34.0	+3.2
DVCT	**Vielle Casse P**	**1.01**	**305**	*e*P	Pb	07 23 20.6	+0.1
DVCT				*e*S	Sb	07 23 36.5	+3.0
SLW	**Petit Monier**	**1.08**	**201**	*e*P	Pb	07 23 21.5	-0.3
MGG	**Marie-Galante**	**1.15**	**320**	*e*P	Pb	07 23 22.8	-0.1
SLB	**Belfond**	**1.29**	**202**	*e*P	Pb	07 23 26.7	+1.3
SLB				*e*S	Sb	07 23 43.5	+1.9
TBG	**Guadaloupe-3**	**1.34**	**308**	⇓*i*P	Pb	07 23 25.7	-0.4
MCLT	**Moule a Chique**	**1.37**	**196**	*e*P	Pb	07 23 26.9	+0.2
MCLT				*e*S	Sb	07 23 44.8	+0.9
DOG	**Dongo Capester**	**1.43**	**314**	*e*P	Pb	07 23 27.3	-0.5
PHG	**Guadaloupe-2**	**1.44**	**313**	*e*P	Pb	07 23 27.4	-0.5
HMG	**Houelmont**	**1.46**	**310**	*e*P	Pb	07 23 27.8	-0.4
BCG	**Bois Riant Cap**	**1.47**	**315**	*e*P	Pb	07 23 27.6	-0.8
LZG	**Guadaloupe-1**	**1.62**	**313**	*e*P	Pb	07 23 30.1	-0.8
SEG	**Port Louis**	**1.64**	**326**	*e*P	Pb	07 23 30.3	-1.0
SVB	**Belmont**	**1.88**	**201**	*e*P	Pn	07 23 33.4	+1.3
SVB				*e*S	Sn	07 23 56.4	+1.5
SKI	**Saint Kitts**	**3.11**	**318**	*e*P	Pn	07 23 51.2	+2.2
SKI				*e*S	Sn	07 24 26.8	+1.6

IDC 18 07:24:35.2±7.3, 4.79S×145.61E, h130km±74km, mb3.5/3, mb1 3.6/5, mb1mx3.3/19, mbtmp3.4/5, Error ellipse: s-maj=65.2km s-min=24.8km az=144.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.83**	**162**	P	Pn	07 25 47.7	+1.6
	1.8nm,0.3s,baz=293,slow=13,SNR=4.4						
PMG				S	Sn	07 26 40.7	-0.6
	2.9nm,0.3s,baz=16,slow=22,SNR=4.4						
WRA	**Warramunga Arr**	**18.64**	**215**	P	P	07 28 43.1	+0.1
	0.5nm,0.3s,baz=35,slow=12,SNR=33						
ASAR	**Alice Springs**	**21.90**	**210**	P	P	07 29 18.6	+0.6
	0.7nm,0.3s,baz=46,slow=7.0,SNR=23						
FITZ	**Fitzroy Crossi**	**23.59**	**234**	P	P	07 29 33.7	-0.6
	2.5nm,0.5s,baz=66,slow=8.0,SNR=8.9						
ILAR	**Eielson Array**	**84.93**	**23**	P	P	07 36 55.3	0.0
	1.1nm,0.7s,baz=251,slow=5.4,SNR=16						

*IDC **18** 07:37:56.4±1.5, 16.76S×173.34W, h0km, mb4.3/8, mb1 4.6/8, mb1mx4.2/20, mbtmp4.3/8, MS3.7/13, Ms1 3.7/13, ms1mx3.5/30, Error ellipse: s-maj=71.8km s-min=20.2km az=143.0*

*ISCJB **18** 07:38:04.7±0.5, 16.5S±0.1×173.70W±0.10, h66km, mb4.3/20, Error ellipse: s-maj=16.8km s-min=10.9km az=142.8*

*NEIC **18** 07:38:04.5±2.8, 16.51S×173.59W, h50km±24km, mb4.5/11, Error ellipse: s-maj=22.0km s-min=10.0km az=134.0*

ISC 18 07:38:06.4±0.8, 16.5S±0.1×173.7W±0.1, h66km, n46, σ0.9 89/32, mb4.5/20, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.11**	**36**	*e*Pn	Pn	07 38 44.2	-9.0
AFI				Sn	Sn	07 39 14.3	-15
AFI				TT		07 42 13.8	
AFI	**Afiamalu**	**3.11**	**36**	Pn	Pn	07 38 43.7	-10
	11nm,0.3s,baz=73,slow=3.1,SNR=22						
AFI				Sn	Sn	07 39 14.3	-15
	30nm,0.3s,baz=57,slow=22,SNR=5.6						
AFI				LR	LR	07 39 48.9	
	comp=Z,211nm,21.6s,baz=227,slow=35						
AFI				T	T	07 42 13.8	
	18nm,0.3s,baz=134,slow=13,SNR=4.8						
MSVF	**Nonsavu**	**8.04**	**260**	*e*Pn	Pn	07 40 09.2	+8.6
FUNA	**Funafuti**	**10.53**	**318**	*e*Pn	**Pn**	**07 40 34.2**	**-0.4**
PPT	**Papeete**	**23.05**	**96**	LR	LR	07 48 55.6	
	comp=Z,303nm,21.1s,baz=310,slow=29						
PPT2	**Papeete2**	**23.05**	**96**	*e*LR	LR	07 48 15.4	
	357nm,24.2s						
TBI	**Tubuai**	**23.74**	**111**	*e*LR	LR	07 48 39.6	
	485nm,26.0s						
HNR	**Honiara**	**26.64**	**282**	LR	LR	07 52 50.5	
	comp=Z,486nm,20.2s,baz=101,slow=33						
ARMA	**Armidale**	**34.60**	**240**	*e*P	**P**	**07 44 48.8**	**-0.6**
	9.9nm,0.7s						
CTAO	**Charters Tower**	**38.18**	**258**	*e*P	**P**	**07 45 20.8**	**+0.9**
	8.2nm,1.1s						
STKA	**Stephens Creek**	**43.30**	**241**	P	**P**	**07 46 01.5**	**-0.5**
STKA	**Stephens Creek**	**43.30**	**241**	P	**P**	**07 46 01.5**	**-0.5**
	8.9nm,0.8s,baz=94,slow=9.3,SNR=10						
STKA				LR	LR	08 02 59.1	
	comp=Z,89nm,18.6s,baz=24,slow=35						
WRAB	**Tennant Creek**	**49.36**	**258**	*e*P	**P**	**07 46 49.9**	**+0.2**
	6.4nm,1.1s						
WRA	**Warramunga Arr**	**49.37**	**258**	P	**P**	**07 46 49.1**	**-0.7**
WRA	**Warramunga Arr**	**49.37**	**258**	P	**P**	**07 46 49.1**	**-0.7**
	1.5nm,0.5s,baz=94,slow=7.2,SNR=20						
ASAR	**Alice Springs**	**49.56**	**253**	P	**P**	**07 46 50.6**	**-0.5**
ASAR	**Alice Springs**	**49.56**	**253**	P	**P**	**07 46 50.6**	**-0.5**
	18nm,0.7s,baz=88,slow=8.4,SNR=235						
ASAR				LR	LR	08 07 48.4	
	comp=Z,118nm,18.7s,baz=77,slow=36						
FORT	**Forrest**	**54.73**	**244**	*e*P	**P**	**07 47 27.8**	**-1.5**
	27nm,1.0s						
FITZ	**Fitzroy Crossi**	**57.76**	**259**	LR	LR	08 12 01.6	
	comp=Z,78nm,19.1s,baz=83,slow=35						
SBA	**Scott Base**	**62.19**	**185**	*e*P	**P**	**07 48 21.4**	**+1.0**
	4.6nm,0.8s						
SBA				*e*		07 48 35.5	
VNDA	**Vanda**	**62.31**	**186**	LR	LR	08 11 15.9	
	comp=Z,43nm,20.4s,baz=200,slow=32						
MJAR	**Matsushiro Arr**	**69.58**	**320**	LR	LR	08 14 00.1	
	comp=Z,48nm,21.9s,baz=200,slow=31						
PETK	**Petropavlovsk-**	**73.56**	**342**	P	**P**	**07 49 33.3**	**+1.2**
PETK	**Petropavlovsk-**	**73.56**	**342**	P	**P**	**07 49 33.3**	**+1.2**
	4.4nm,0.8s,baz=151,slow=9.8,SNR=9.7						
QSPA	**South Pole Qui**	**73.59**	**180**	*e*P	**P**	**07 49 32.4**	**-0.1**
	5.6nm,1.0s						
QSPA				*e*		07 49 44.2	
NVAR	**Mina Array Bea**	**75.27**	**42**	P	**P**	**07 49 41.3**	**-1.4**
NVAR	**Mina Array Bea**	**75.27**	**42**	P	**P**	**07 49 41.3**	**-1.4**
	1.0nm,0.8s,baz=227,slow=10,SNR=6.8						
TPUB	**Ta-pu**	**75.40**	**300**	*e*P	P	07 49 36.4	-7.2
	54nm,0.6s						
MOD	**Modoc**	**76.10**	**38**	*e*P	**P**	**07 49 49.1**	**+1.8**
	7.0nm,1.3s						
MOD				*e*		07 50 00.1	
KSRS	**Korea Array**	**76.74**	**316**	LR	LR	08 18 06.3	
	comp=Z,26nm,21.4s,baz=150,slow=31						
CCUT	**Cedar City**	**78.05**	**45**	*e*P	**P**	**07 49 58.3**	**-0.2**
	2.8nm,1.2s						
CCUT				*e*		07 50 11.4	
MSU	**Marysvale**	**79.34**	**45**	*e*P	**P**	**07 50 04.4**	**-1.2**
	3.0nm,1.1s						
MSU				*e*		07 50 18.3	
TXAR	**Lajitas Array**	**81.40**	**56**	LR	LR	08 18 01.5	
	comp=Z,48nm,19.7s,baz=0.0,slow=30						
MCMT	**McKenzie Canyo**	**82.22**	**39**	*e*P	**P**	**07 50 20.3**	**-0.5**
	1.2nm,1.1s						
MCMT				*e*		07 50 34.0	
IMW	**Indian Meadow**	**82.91**	**40**	*e*P	**P**	**07 50 23.7**	**-0.7**
	3.7nm,1.1s						
IMW				*e*		07 50 37.3	
PDAR	**Pinedale Array**	**83.21**	**42**	P	**P**	**07 50 24.9**	**-1.0**
PDAR	**Pinedale Array**	**83.21**	**42**	P	**P**	**07 50 24.9**	**-1.0**
	0.7nm,0.6s,baz=204,slow=3.9,SNR=7.5						
PDAR				LR	LR	08 21 58.2	
	comp=Z,40nm,18.9s,baz=88,slow=32						
ILAR	**Eielson Array**	**83.52**	**11**	P	**P**	**07 50 26.7**	**0.0**
ILAR	**Eielson Array**	**83.52**	**11**	P	**P**	**07 50 26.7**	**0.0**
	0.3nm,0.6s,baz=214,slow=5.5,SNR=6.1						
CMAR	**Chiang Mai Arr**	**92.71**	**288**	P	**P**	**07 51 12.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**92.71**	**288**	P	**P**	**07 51 12.8**	**+0.9**
	0.7nm,0.3s,baz=111,slow=3.7,SNR=4.8						
CMAR				LR	LR	08 28 04.5	
	comp=Z,30nm,19.8s,baz=240,slow=32						
LPAZ	**La Paz**	**99.68**	**110**	LR	LR	08 26 42.5	
	comp=Z,52nm,18.1s,baz=143,slow=30						
BRTR	**Keskin Array B**	**146.81**	**320**	PKPbc	**PKPab**	**07 57 42.6**	**-0.4**
BRTR	**Keskin Array B**	**146.81**	**320**	PKPbc	**PKPab**	**07 57 42.6**	**-0.4**
	2.4nm,0.7s,baz=91,slow=2.9,SNR=9.8						
GERES	**GERESS Array B**	**147.14**	**351**	PKPbc	**PKPab**	**07 57 43.3**	**-0.6**
GERES	**GERESS Array B**	**147.14**	**351**	PKPbc	**PKPab**	**07 57 43.3**	**-0.6**
	0.3nm,0.5s,baz=347,slow=5.5,SNR=5.1						

WEL 18 07:51:32.7±0.3, 45.40S×166.68E, h23km±1km, ML3.7/17, Error ellipse: s-maj=2.9km s-min=1.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.35**	**104**	P*	Pb	07 51 40.2	0.0
DCZ				S*	Sb	07 51 45.0	-0.4
DCZ				AML	AML	07 51 45.2	
DCZ				AML	AML	07 51 45.3	
DCZ				AML	AML	07 51 45.5	
PYZ	**Puysegur Point**	**0.77**	**180**	*e*P*	Pb	07 51 46.4	-1.1
PYZ				S*	Sb	07 51 55.5	-2.0
WHZ	**Wether Hill Ro**	**1.02**	**120**	PN	Pn	07 51 51.3	-0.3
WHZ				AML	AML	07 52 05.8	
WHZ				AML	AML	07 52 06.6	
MLZ	**Mavora Lakes**	**1.06**	**88**	PN	Pn	07 51 51.3	-0.9
MLZ				AML	AML	07 52 13.9	
MLZ				AML	AML	07 52 14.4	
MSZ	**Milford Sound**	**1.15**	**51**	PN	Pn	07 51 52.5	-0.8
MSZ				AML	AML	07 52 13.1	
MSZ				AML	AML	07 52 13.1	
MSZ				AML	AML	07 52 15.3	
MSZ				AML	AML	07 52 15.3	
APZ	**The Paps**	**1.70**	**148**	*e*PN	Pb	07 52 03.9	+0.6
WKZ	**Wanaka**	**1.75**	**72**	PN	Pb	07 52 03.4	-0.8
WKZ				AML	AML	07 52 31.1	
WKZ				AML	AML	07 52 31.1	
WKZ				AML	AML	07 52 34.4	
WKZ				AML	AML	07 52 34.4	
EAZ	**Earnscleugh**	**1.86**	**86**	PN	Pb	07 52 05.1	-1.0
EAZ				AML	AML	07 52 33.6	
EAZ				AML	AML	07 52 33.6	
EAZ				AML	AML	07 52 34.0	
SYZ	**Scrubby Hill**	**2.06**	**124**	*e*PN	Pn	07 52 07.0	+1.1
TUZ	**Tuapeka**	**2.15**	**106**	*e*PN	Pb	07 52 09.2	-1.7
TUZ				AML	AML	07 52 43.1	
TUZ				AML	AML	07 52 49.9	
LBZ	**Lake Benmore**	**2.69**	**69**	*e*PN	Pn	07 52 16.0	+1.4
LBZ				AML	AML	07 53 06.7	
HHSZ	**Highcliff Hill**	**2.79**	**101**	*e*PN	Pn	07 52 17.6	+1.6
ODZ	**Otahua Downs**	**2.83**	**84**	PN	Pn	07 52 17.1	+0.7
ODZ				AML	AML	07 52 54.6	
FOZ	**Fox Glacier**	**2.83**	**51**	*e*PN	Pn	07 52 17.6	+1.2
FOZ				AML	AML	07 53 06.1	
FOZ				AML	AML	07 53 07.9	
RPZ	**Rata Peaks**	**3.55**	**63**	*e*PN	Pn	07 52 27.6	+1.2
RPZ				AML	AML	07 53 17.2	

IDC 18 07:57:25.2±61.0, 20.62S×179.63E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.9/3, Error ellipse: s-maj=1101.0km s-min=156.0km az=82.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.74**	**244**	P	P	08 04 24.4	-1.5
	2.9nm,1.0s,baz=68,slow=5.4,SNR=3.8						
ASAR	**Alice Springs**	**42.33**	**257**	P	P	08 05 21.0	-0.3
	1.7nm,0.9s,baz=90,slow=8.4,SNR=6.1						
WRA	**Warramunga Arr**	**42.39**	**263**	P	P	08 05 22.6	+0.9
	0.5nm,0.5s,baz=94,slow=7.7,SNR=12						

IDC 18 07:58:43.4±3.2, 3.25S×150.80E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/19, mbtmp3.9/4, Error ellipse: s-maj=103.6km s-min=29.4km az=107.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.09**	**223**	P	P	08 03 51.0	-0.1
	3.5nm,0.8s,baz=48,slow=10.0,SNR=25						
ASAR	**Alice Springs**	**26.05**	**217**	P	P	08 04 19.2	+0.5
	1.4nm,0.7s,baz=52,slow=8.1,SNR=17						
FITZ	**Fitzroy Crossi**	**28.73**	**237**	P	P	08 04 42.4	-0.4
	2.9nm,0.9s,baz=96,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**77.85**	**319**	P	P	08 10 42.6	-0.4
	0.4nm,0.8s,baz=104,slow=6.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**147.92**	**290**	PKPbc	PKPbc	08 18 31.6	-0.1
	0.5nm,0.8s,baz=105,slow=3.1,SNR=2.5						

WEL 18 08:13:19.7±0.3, 45.48S×166.29E, h12km, ML3.8/14, Error ellipse: s-maj=3.0km s-min=1.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.61**	**90**	P*	Pg	08 13 31.2	-0.4
DCZ				S*	Sg	08 13 39.4	-0.3
DCZ				S*	Sb	08 13 39.9	-0.9
DCZ				AML	AML	08 13 47.5	
DCZ				AML	AML	08 13 47.6	
PYZ	**Puysegur Point**	**0.74**	**158**	*e*P*	Pg	08 13 33.5	-0.7
PYZ				S*	Sg	08 13 44.3	+0.4
WHZ	**Wether Hill Ro**	**1.24**	**110**	*e*P*	Pn	08 13 41.7	-1.1
WHZ				AML	AML	08 14 05.0	
WHZ				AML	AML	08 14 05.3	
MLZ	**Mavora Lakes**	**1.34**	**85**	PN	Pn	08 13 42.9	-1.3
MLZ				AML	AML	08 14 02.8	
MLZ				AML	AML	08 14 09.1	
MSZ	**Milford Sound**	**1.42**	**56**	*e*PN	Pn	08 13 45.0	-0.2
MSZ				AML	AML	08 14 15.6	
MSZ				AML	AML	08 14 15.6	
MSZ				AML	AML	08 14 18.2	
MSZ				AML	AML	08 14 18.2	
APZ	**The Paps**	**1.80**	**139**	*e*PN	Pn	08 13 49.4	-1.2
WKZ	**Wanaka**	**2.04**	**72**	*e*PN	Pb	08 13 56.1	-0.6
WKZ				AML	AML	08 14 30.6	
WKZ				AML	AML	08 14 35.1	
EAZ	**Earnscleugh**	**2.15**	**85**	PN	Pb	08 13 57.2	-1.3
EAZ				AML	AML	08 14 28.4	
EAZ				AML	AML	08 14 28.4	
EAZ				AML	AML	08 14 32.1	
EAZ				AML	AML	08 14 32.1	
JCZ	**Jackson Bay**	**2.25**	**52**	*e*PN	Pb	08 14 01.4	+0.9
JCZ				AML	AML	08 14 38.1	
JCZ				AML	AML	08 14 40.9	
SYZ	**Scrubby Hill**	**2.25**	**119**	*e*PN	Pb	08 13 58.6	-1.7
TUZ	**Tuapeka**	**2.39**	**103**	PN	Pb	08 14 00.8	-1.9
TUZ				AML	AML	08 14 32.1	
TUZ				AML	AML	08 14 38.7	
LBZ	**Lake Benmore**	**2.98**	**70**	*e*PN	Pn	08 14 08.3	+1.5
LBZ				AML	AML	08 14 47.8	
LBZ				AML	AML	08 15 27.9	
ODZ	**Otahua Downs**	**3.11**	**84**	*e*PN	Pn	08 14 08.6	0.0
ODZ				AML	AML	08 14 49.6	
ODZ				AML	AML	08 15 03.9	
RPZ	**Rata Peaks**	**3.83**	**64**	*e*PN	Pn	08 14 19.1	+0.6
RPZ				AML	AML	08 15 18.7	
RPZ				AML	AML	08 15 42.2	
WVZ	**Waitaha Valley**	**4.00**	**55**	*e*PN	Pn	08 14 22.1	+1.4

*IDC **18** 08:32:07.9±2.0, 46.22S×166.07E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, ML3.9/1, Error ellipse: s-maj=63.2km s-min=28.3km az=169.0*

*ISCJB **18** 08:32:09.6±0.9, 46.05S±0.08×165.94E±0.09, h12km, mb3.4/2, Error ellipse: s-maj=11.8km s-min=8.8km az=170.2*

*WEL **18** 08:32:10.8±0.4, 46.16S×165.96E, h30km±2km, ML4.1/18, Error ellipse: s-maj=3.9km s-min=1.9km az=90.0*

ISC 18 08:32:09.9±1.1, 46.15S±0.08×165.98E±0.08, h12km, n22, σ1.9 04/22, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.49**	**92**	P*	**Pb**	**08 32 20.9**	**+0.5**
DCZ	**Deep Cove**	**1.06**	**51**	PN	**Pb**	**08 32 29.5**	**-0.7**
DCZ				SN	**Sb**	**08 32 42.8**	**-1.2**
DCZ				AML	AML	08 32 44.5	
DCZ				AML	AML	08 32 44.5	
DCZ				AML	AML	08 32 45.2	
WHZ	**Wether Hill Ro**	**1.40**	**80**	PN	**Pn**	**08 32 35.2**	**0.0**
WHZ				AML	AML	08 32 57.4	
WHZ				AML	AML	08 32 57.9	
APZ	**The Paps**	**1.55**	**117**	*e*PN	**Pn**	**08 32 36.8**	**-0.5**
MLZ	**Mavora Lakes**	**1.73**	**63**	PN	**Pn**	**08 32 40.7**	**+0.8**
MLZ				AML	AML	08 33 07.3	
MLZ				AML	AML	08 33 11.6	
MSZ	**Milford Sound**	**2.02**	**44**	PN	**Pn**	**08 32 44.0**	**+0.3**
MSZ				AML	AML	08 33 25.7	
MSZ				AML	AML	08 33 25.7	
MSZ				AML	AML	08 33 26.1	
MSZ				AML	AML	08 33 26.2	
SYZ	**Scrubby Hill**	**2.22**	**101**	*e*PN	**Pn**	**08 32 47.7**	**+1.2**
EAZ	**Earnscleugh**	**2.51**	**70**	PN	**Pn**	**08 32 52.4**	**+2.0**
EAZ				AML	AML	08 33 29.2	
EAZ				AML	AML	08 33 30.1	
EAZ				AML	AML	08 33 30.2	
EAZ				AML	AML	08 33 35.9	
WKZ	**Wanaka**	**2.51**	**59**	PN	**Pn**	**08 32 52.7**	**+2.1**
WKZ				AML	AML	08 33 32.3	
WKZ				AML	AML	08 33 34.0	
TUZ	**Tuapeka**	**2.55**	**87**	PN	**Pn**	**08 32 52.3**	**+1.2**
TUZ				AML	AML	08 33 26.3	
TUZ				AML	AML	08 33 34.4	
JCZ	**Jackson Bay**	**2.86**	**44**	*e*PN	**Pn**	**08 32 57.1**	**+1.7**
JCZ				AML	AML	08 33 48.9	
JCZ				AML	AML	08 33 49.3	
LBZ	**Lake Benmore**	**3.45**	**61**	*e*PN	**Pn**	**08 33 03.9**	**+0.4**
LBZ				AML	AML	08 33 50.7	
LBZ				AML	AML	08 34 12.8	
ODZ	**Otahua Downs**	**3.46**	**73**	PN	**Pn**	**08 33 03.1**	**-0.4**
ODZ				AML	AML	08 34 04.1	
ODZ				AML	AML	08 34 04.5	
FOZ	**Fox Glacier**	**3.69**	**47**	AML	AML	08 34 25.2	
RPZ	**Rata Peaks**	**4.35**	**58**	Pn	**Pn**	**08 33 16.0**	**+0.1**
	6.0nm,0.3s,baz=211,slow=7.1,SNR=24						
RPZ				Sn	**Sn**	**08 34 06.6**	**+0.1**
	7.5nm,0.3s,baz=351,slow=22,SNR=10.0						
RPZ	**Rata Peaks**	**4.35**	**58**	PN	**Pn**	**08 33 15.9**	**+0.1**
RPZ				AML	AML	08 34 17.6	
RPZ				AML	AML	08 34 42.1	
WVZ	**Waitaha Valley**	**4.58**	**50**	*e*PN	**Pn**	**08 33 18.9**	**0.0**
ASAR	**Alice Springs**	**34.21**	**300**	P	**P**	**08 38 55.5**	**+0.1**
	0.4nm,0.9s,baz=125,slow=8.0,SNR=4.5						
WRA	**Warramunga Arr**	**36.82**	**305**	P	**P**	**08 39 18.5**	**+0.7**
	0.7nm,1.1s,baz=139,slow=7.8,SNR=3.2						
TORD	**Torodi Ar. Bea**	**144.52**	**207**	PKP	PKPbc	08 51 45.1	+0.1
	0.5nm,0.6s,baz=150,slow=2.1,SNR=6.2						
BRTR	**Keskin Array B**	**144.95**	**277**	PKPbc	**PKPdf**	**08 51 46.7**	**0.0**
	0.9nm,0.8s,baz=132,slow=4.3,SNR=3.9						
ARCES	**ARCESS Array B**	**149.49**	**334**	PKPbc	**PKPbc**	**08 51 56.2**	**-1.5**
	1.9nm,0.9s,baz=29,slow=2.8,SNR=4.0						

IDC 18 08:33:47.9±1.1, 24.07S×67.01W, h172km±13km, mb3.4/1, mb1 3.5/7, mb1mx3.3/21, mbtmp3.4/7, Error ellipse: s-maj=17.6km s-min=16.2km az=73.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.27**	**309**	P	Pn	08 34 29.2	+1.5
	26nm,0.3s,baz=137,slow=5.1,SNR=316						
LVC				S	Sn	08 34 58.8	+0.2
	42nm,0.3s,baz=264,slow=21,SNR=46						
CFAA	**Coronel Fontan**	**7.59**	**188**	P	Pn	08 35 34.2	-1.6
	0.1nm,0.3s,baz=52,slow=12,SNR=9.7						
CFAA				S	Sn	08 36 53.3	-7.8
	0.1nm,0.3s,baz=269,slow=20,SNR=3.3						
LPAZ	**La Paz**	**7.81**	**352**	P	Pn	08 35 38.4	-1.2
	2.3nm,0.3s,baz=167,slow=9.6,SNR=58						
LPAZ				S	Sn	08 37 06.2	-1.5
	0.1nm,0.3s,baz=342,slow=18,SNR=5.2						
CPUP	**Villa Florida**	**9.05**	**106**	P	Pn	08 35 55.4	+0.3
	0.2nm,0.3s,baz=279,slow=19,SNR=3.6						
SIV	**San Ignacio**	**9.78**	**36**	P	Pn	08 36 04.8	-0.1
	0.4nm,0.3s,baz=227,slow=15,SNR=13						
PLCA	**Paso Flores**	**16.88**	**189**	P	P	08 37 33.7	+0.3
	0.1nm,0.3s,baz=190,slow=23,SNR=3.4						
BDFB	**Brasilia**	**19.72**	**68**	P	P	08 38 05.3	+0.7
	1.6nm,0.3s,baz=245,slow=12,SNR=27						
TORD	**Torodi Ar. Bea**	**76.60**	**69**	P	P	08 45 19.5	-0.5
	1.0nm,0.8s,baz=262,slow=5.8,SNR=10						
ASAR	**Alice Springs**	**128.39**	**205**	PKP	PKPdf	08 52 34.5	-0.3
	0.3nm,0.5s,baz=136,slow=1.4,SNR=4.2						
WRA	**Warramunga Arr**	**131.56**	**207**	PKP	PKPdf	08 52 40.7	-0.2
	0.2nm,0.4s,baz=158,slow=1.6,SNR=7.6						
MKAR	**Makanchi Array**	**146.58**	**40**	PKPbc	PKPbc	08 53 08.9	-0.2
	0.1nm,0.4s,baz=266,slow=3.9,SNR=3.5						

IDC 18 08:40:18.2±1.2, 11.49N×139.41E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.4/23, mbtmp3.3/4, Error ellipse: s-maj=62.0km s-min=25.4km az=95.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.63**	**189**	P	P	08 46 42.7	-0.5
	0.5nm,0.8s,baz=6.7,slow=9.7,SNR=4.5						
ASAR	**Alice Springs**	**35.35**	**189**	P	P	08 47 16.1	+0.4
	0.3nm,0.6s,baz=19,slow=12,SNR=4.2						
MKAR	**Makanchi Array**	**59.37**	**318**	P	P	08 50 22.4	-0.1
	0.3nm,0.6s,baz=99,slow=9.5,SNR=4.8						
ILAR	**Eielson Array**	**72.74**	**26**	P	P	08 51 48.1	+0.1
	0.2nm,0.7s,baz=251,slow=6.2,SNR=3.2						

IDC 18 09:03:23.3±18.0, 22.77S×175.25W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/21, mbtmp4.0/5, Error ellipse: s-maj=342.3km s-min=154.1km az=83.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.87**	**267**	P	P	09 10 25.8	+0.5
	3.2nm,0.3s,baz=94,slow=9.2,SNR=5.3						
STKA	**Stephens Creek**

MLZ				AML	AML	09 17 05.5		
MSZ	**Milford Sound**	**1.67**	**38**	Pn	**Pn**	**09 16 44.9**	**-0.1**	
MSZ	**Milford Sound**	**1.67**	**38**	PN	**Pn**	**09 16 44.9**	**-0.1**	
MSZ				AML	AML	09 17 18.2		
MSZ				AML	AML	09 17 18.3		
MSZ				AML	AML	09 17 23.5		
MSZ				AML	AML	09 17 23.5		
SYZ	**Scrubby Hill**	**1.93**	**107**	Pn	**Pn**	**09 16 49.4**	**+0.8**	
SYZ	**Scrubby Hill**	**1.93**	**107**	PN	**Pn**	**09 16 48.9**	**+0.4**	
EAZ	**Earnscleugh**	**2.13**	**70**	Pn	**Pn**	**09 16 53.1**	**+1.8**	
EAZ	**Earnscleugh**	**2.13**	**70**	PN	**Pn**	**09 16 53.1**	**+1.8**	
EAZ				AML	AML	09 17 26.3		
EAZ				AML	AML	09 17 26.3		
EAZ				AML	AML	09 17 32.3		
EAZ				AML	AML	09 17 32.4		
WKZ	**Wanaka**	**2.13**	**58**	Pn	**Pb**	**09 16 54.2**	**-1.4**	
WKZ				Sn	**Sb**	**09 17 24.4**	**+2.8**	
WKZ	**Wanaka**	**2.13**	**58**	PN	**Pb**	**09 16 54.1**	**-1.4**	
WKZ				AML	AML	09 17 24.7		
WKZ				AML	AML	09 17 26.3		
WKZ				AML	AML	09 17 30.5		
WKZ				AML	AML	09 17 37.0		
TUZ	**Tuapeka**	**2.20**	**90**	Pn	**Pn**	**09 16 53.3**	**+1.0**	
TUZ	**Tuapeka**	**2.20**	**90**	PN	**Pn**	**09 16 53.3**	**+1.0**	
TUZ				AML	AML	09 17 22.8		
TUZ				AML	AML	09 17 23.2		
JCZ	**Jackson Bay**	**2.51**	**41**	Pn	**Pb**	**09 17 00.1**	**-1.9**	
JCZ	**Jackson Bay**	**2.51**	**41**	PN	**Pb**	**09 17 00.1**	**-1.9**	
JCZ				AML	AML	09 17 43.0		
JCZ				AML	AML	09 17 44.7		
HHSZ	**Highcliff Hill**	**2.88**	**89**	PN	**Pn**	**09 17 03.2**	**+1.6**	
LBZ	**Lake Benmore**	**3.07**	**60**	Pn	**Pn**	**09 17 05.1**	**+0.8**	
LBZ	**Lake Benmore**	**3.07**	**60**	PN	**Pn**	**09 17 05.1**	**+0.8**	
LBZ				AML	AML	09 18 06.0		
LBZ				AML	AML	09 18 06.5		
ODZ	**Otahua Downs**	**3.08**	**74**	*e*Pn	**Pn**	**09 17 05.2**	**+0.8**	
ODZ	**Otahua Downs**	**3.08**	**74**	PN	**Pn**	**09 17 04.6**	**+0.3**	
ODZ				AML	AML	09 18 03.8		
ODZ				AML	AML	09 18 03.8		
ODZ				AML	AML	09 18 03.9		
ODZ				AML	AML	09 18 03.9		
FOZ	**Fox Glacier**	**3.33**	**44**	AML	AML	09 18 11.7		
FOZ				AML	AML	09 18 24.5		
RPZ	**Rata Peaks**	**3.97**	**57**	*e*Pn	**Pn**	**09 17 17.5**	**+0.9**	
RPZ				Sn	**Sn**	**09 18 04.9**	**+2.6**	
RPZ				*e*Sn	Sb	09 18 05.5	-8.9	
RPZ	**Rata Peaks**	**3.97**	**57**	Pn	**Pn**	**09 17 17.2**	**+0.5**	
	12nm,0.3s,baz=220,slow=4.9,SNR=63							
RPZ				Sn	**Sn**	**09 18 04.9**	**+2.6**	
	34nm,0.3s,baz=333,slow=23,SNR=10.0							
RPZ	**Rata Peaks**	**3.97**	**57**	*e*PN	**Pn**	**09 17 16.6**	**-0.1**	
RPZ				AML	AML	09 18 37.7		
RPZ				AML	AML	09 18 43.6		
WVZ	**Waitaha Valley**	**4.21**	**48**	*e*PN	**Pn**	**09 17 21.9**	**+1.9**	
WVZ				AML	AML	09 18 37.7		
WVZ				AML	AML	09 18 48.5		
MQZ	**McQueen's Vall**	**4.95**	**65**	AML	AML	09 19 19.2		
LTZ	**Lake Taylor**	**5.25**	**54**	*e*Pn	**Pn**	**09 17 34.6**	**+0.4**	
LTZ				AML	AML	09 18 35.7		
LTZ				AML	AML	09 18 57.8		
KHZ	**Kahutara**	**6.21**	**57**	*e*Pn	**Pn**	**09 17 46.6**	**-0.7**	
	28nm,0.8s							
KHZ				*e*Sn	**Sn**	**09 18 59.1**	**+1.8**	
THZ	**Tophouse**	**6.28**	**50**	*e*PN	**Pn**	**09 17 48.7**	**+0.3**	
THZ				AML	AML	09 19 08.1		
THZ				AML	AML	09 19 18.8		
QRZ	**Quartz Range**	**6.79**	**43**	AML	AML	09 19 30.1		
QRZ				AML	AML	09 19 37.9		
NNZ	**Nelson**	**6.92**	**49**	*e*PN	**Pn**	**09 18 00.1**	**+3.1**	
URZ	**Urewera**	**11.04**	**49**	Pn	**Pn**	**09 18 53.8**	**+0.2**	
URZ				Sn	**Sn**	**09 20 51.7**	**-4.3**	
URZ	**Urewera**	**11.04**	**49**	Pn	**Pn**	**09 18 53.8**	**+0.2**	
	0.4nm,0.3s,baz=270,slow=11,SNR=2.4							
URZ				Sn	**Sn**	**09 20 51.7**	**-4.3**	
	1.0nm,0.3s,baz=105,slow=13,SNR=1.8							
STKA	**Stephens Creek**	**23.82**	**298**	LR	LR	09 28 38.4		
	comp=Z,81nm,20.2s,baz=207,slow=31							
VNDA	**Vanda**	**31.69**	**182**	LR	LR	09 32 09.3		
	comp=Z,64nm,21.3s,baz=341,slow=30							
ASAR	**Alice Springs**	**34.43**	**299**	P	**P**	**09 23 03.5**	**+0.8**	
ASAR	**Alice Springs**	**34.43**	**299**	P	**P**	**09 23 03.5**	**+0.8**	
	0.6nm,0.7s,baz=131,slow=8.4,SNR=7.9							
WRA	**Warramunga Arr**	**37.02**	**304**	P	**P**	**09 23 25.1**	**+0.2**	
WRA	**Warramunga Arr**	**37.02**	**304**	P	**P**	**09 23 25.1**	**+0.2**	
	1.0nm,1.0s,baz=138,slow=7.6,SNR=4.9							
QSPA	**South Pole Qui**	**44.13**	**180**	*e*P	**P**	**09 24 24.9**	**+1.5**	
TORD	**Torodi Ar. Bea**	**144.82**	**206**	PKP	**PKPab**	**09 35 50.5**	**-0.6**	
TORD	**Torodi Ar. Bea**	**144.82**	**206**	PKP	**PKPab**	**09 35 50.5**	**-0.6**	
	1.6nm,1.1s,baz=188,slow=2.6,SNR=6.1							
BRTR	**Keskin Array B**	**145.28**	**277**	PKPbc	**PKPbc**	**09 35 52.4**	**+0.2**	
BRTR	**Keskin Array B**	**145.28**	**277**	PKPbc	**PKPbc**	**09 35 52.4**	**+0.2**	
	0.8nm,0.8s,baz=126,slow=6.4,SNR=3.9							
ARCES	**ARCESS Array B**	**149.49**	**334**	PKPbc	**PKPdf**	**09 36 00.2**	**+1.9**	
ARCES	**ARCESS Array B**	**149.49**	**334**	PKPbc	**PKPdf**	**09 36 00.2**	**+1.9**	
	2.5nm,0.7s,baz=68,slow=6.7,SNR=6.1							
FINES	**FINESS Array B**	**152.48**	**318**	PKPab	**PKPab**	**09 36 18.0**	**-2.4**	
FINES	**FINESS Array B**	**152.48**	**318**	PKPab	**PKPab**	**09 36 18.0**	**-2.4**	
	2.1nm,1.0s,baz=96,slow=4.9,SNR=3.3							

IDC ***18*** *09:24:11.9±0.6,42˚.14S×88˚.21E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.2/24, mbtmp4.2/14, MS4.2/32, Ms1 4.2/32, ms1mx4.1/41, Error ellipse: s-maj=19.2km s-min=16.0km az=130.0*

ISCJB ***18*** *09:24:12.3±0.5, 42˚.19S±0˚.09×88˚.2E±0˚.1, h17km, mb4.4/17, MS4.3/32, Error ellipse: s-maj=13.9km s-min=12.9km az=36.3*

NEIC ***18*** *09:24:13.0±0.5, 42˚.18S×88˚.15E, h10km, mb4.9/4, Error ellipse: s-maj=15.4km s-min=14.6km az=117.0*

GCMT ***18*** *09:24:15.1±0.2, 42˚.04S×88˚.27E, h14km±1km, MW5.0, Moment Tensor Solution. s21,c24; s77,c109; Moment tensor: Scale 10^16 Nm; Mrr=-1.11±.15; Mθθ=4.12±.16; Mϕϕ=-3.01±.11; Mrθ=-0.24±.26; Mθϕ=0.08±.10; Mϕr=1.18±.29; Best double couple: M0=3.90000×10^16 NP1:ϕs=227.00000°, δ=70.00000°, λ=-163.00000°. NP2:ϕs=131.00000°, δ=74.00000°, λ=-21.00000°. Principal axes: T 4.1300, Plg3.0000°, Azm180.0000°; N -0.5500, Plg64.0000°, Azm275.0000°; P -3.5800, Plg26.0000°, Azm89.0000°; Data Used: IC IU II G CN.*

ISC 18 09:24:14.4±0.4, 42˚.16S±0˚.10×88˚.2E±0˚.1, h17km, n71, σ1°41/56, mb4.3/17, MS4.3/32, 5D, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**24.74**	**78**	LR	LR	09 37 17.3	
	comp=Z,624nm,18.8s,baz=224,slow=32						
MAW	**Mawson**	**28.92**	**200**	P	**P**	**09 30 11.9**	**-0.2**
MAW	**Mawson**	**28.92**	**200**	P	**P**	**09 30 11.9**	**-0.2**
	7.3nm,1.0s,baz=41,slow=15,SNR=5.6						
MAW				LR	LR	09 39 15.1	
	comp=Z,1μm,20.8s,baz=31,slow=31						
FITZ	**Fitzroy Crossi**	**39.86**	**65**	LR	LR	09 45 55.6	
	comp=Z,190nm,20.6s,baz=236,slow=33						
OPO	**Ambohidratompo**	**41.91**	**291**	LR	LR	09 45 37.0	
	comp=Z,243nm,19.5s,baz=213,slow=31						
ASAR	**Alice Springs**	**42.05**	**79**	P	**P**	**09 32 04.2**	**-1.0**
ASAR				PcP	**PcP**	**09 33 58.7**	**-1.3**
ASAR	**Alice Springs**	**42.05**	**79**	P	**P**	**09 32 04.2**	**-1.0**
	3.2nm,0.8s,baz=224,slow=7.1,SNR=30						
ASAR				PcP	**PcP**	**09 33 58.7**	**-1.3**
	1.6nm,0.8s,baz=220,slow=2.0,SNR=6.9						
ASAR				LR	LR	09 47 33.8	
	comp=Z,776nm,20.8s,baz=236,slow=33						
STKA	**Stephens Creek**	**43.26**	**94**	P	**P**	**09 32 13.9**	**-1.0**
STKA				PcP	**PcP**	**09 34 04.7**	**+0.8**
STKA	**Stephens Creek**	**43.26**	**94**	P	**P**	**09 32 13.9**	**-1.0**
	3.6nm,0.8s,baz=166,slow=11,SNR=3.5						
STKA				PcP	**PcP**	**09 34 04.7**	**+0.8**
	2.1nm,0.8s,baz=262,slow=7.1,SNR=2.6						
STKA				LR	LR	09 47 57.2	
	comp=Z,344nm,19.5s,baz=97,slow=33						
WRA	**Warramunga Arr**	**44.69**	**75**	P	**P**	**09 32 26.0**	**-0.5**
WRA				PcP	**PcP**	**09 34 07.6**	**-1.3**
WRA	**Warramunga Arr**	**44.69**	**75**	P	**P**	**09 32 26.0**	**-0.5**
	4.1nm,0.9s,baz=233,slow=8.1,SNR=12						
WRA				PcP	**PcP**	**09 34 07.6**	**-1.3**
	1.2nm,1.0s,baz=224,slow=2.6,SNR=4.0						
WRA				LR	LR	09 49 11.8	
	comp=Z,536nm,21.3s,baz=225,slow=34						

VNDA	**Vanda**	**45.72**	**163**	P	**P**	**09 32 34.1**	**+0.1**	
VNDA	**Vanda**	**45.72**	**163**	P	**P**	**09 32 34.1**	**+0.1**	
	2.1nm,0.8s,baz=282,slow=6.6,SNR=9.5							
VNDA				LR	LR	09 49 20.2		
	comp=Z,361nm,21.8s,baz=274,slow=33							
PSI	**Prapat**	**45.81**	**15**	P	**P**	**09 32 35.4**	**-0.1**	
PSI	**Prapat**	**45.81**	**15**	P	**P**	**09 32 35.4**	**-0.1**	
	7.0nm,1.0s,baz=176,slow=13,SNR=7.0							
SBA	**Scott Base**	**46.79**	**163**	*e*P	**P**	**09 32 39.4**	**-3.0**	
	9.9nm,1.0s							
QSPA	**South Pole Qui**	**47.99**	**180**	*e*P	**P**	**09 32 51.6**	**-0.5**	
	58nm,1.3s							
QSPA				ScP	**ScP**	**09 38 15.4**	**+1.9**	
QSPA	**South Pole Qui**	**47.99**	**180**	P	**P**	**09 32 51.8**	**-0.3**	
	20nm,0.9s,baz=304,slow=3.5,SNR=30							
QSPA				ScP	**ScP**	**09 38 15.4**	**+1.9**	
	1.2nm,0.9s,baz=304,slow=7.6,SNR=2.0							
SNAA	**Sanae**	**50.93**	**204**	P	**P**	**09 33 16.0**	**+1.7**	
SNAA	**Sanae**	**50.93**	**204**	P	**P**	**09 33 16.0**	**+1.7**	
	2.0nm,1.1s,baz=144,slow=7.0,SNR=14							
BOSA	**Boshof**	**51.94**	**264**	LR	LR	09 50 35.8		
	comp=Z,414nm,20.5s,baz=146,slow=30							
CTA	**Charters Tower**	**53.30**	**84**	P	**P**	**09 33 32.2**	**-0.3**	
CTA	**Charters Tower**	**53.30**	**84**	P	**P**	**09 33 32.2**	**-0.3**	
	6.7nm,0.9s,baz=225,slow=15,SNR=4.4							
LBTB	**Lobatse**	**53.69**	**268**	P	**P**	**09 33 34.2**	**-1.3**	
LBTB	**Lobatse**	**53.69**	**268**	P	**P**	**09 33 34.2**	**-1.3**	
	2.9nm,0.9s,baz=137,slow=4.3,SNR=4.1							
LSZ	**Lusaka**	**57.70**	**279**	*e*P	**P**	**09 34 02.1**	**-2.4**	
	15nm,1.0s							
RPZ	**Rata Peaks**	**58.19**	**122**	LR	LR	09 54 57.3		
	comp=Z,347nm,19.9s,baz=278,slow=32							
PMG	**Port Moresby**	**60.90**	**75**	LR	LR	09 59 33.7		
	comp=Z,624nm,18.3s,baz=228,slow=35							
CMAR	**Chiang Mai Arr**	**61.13**	**12**	LR	LR	09 55 33.0		
	comp=Z,156nm,20.2s,baz=190,slow=31							
KMBO	**Kilima Mbogo**	**61.19**	**298**	P	**P**	**09 34 28.9**	**+0.3**	
KMBO	**Kilima Mbogo**	**61.19**	**298**	P	**P**	**09 34 28.9**	**+0.3**	
	2.3nm,0.8s,baz=359,slow=1.1,SNR=4.4							
KMBO				LR	LR	09 54 06.4		
	comp=Z,76nm,18.6s,baz=100,slow=29							
URZ	**Urewera**	**64.97**	**120**	LR	LR	09 58 52.5		
	comp=Z,125nm,18.2s,baz=25,slow=32							
MBAR	**Mbarara**	**65.96**	**293**	LR	LR	09 59 25.7		
	comp=Z,136nm,18.1s,baz=136,slow=32							
HNR	**Honiara**	**70.24**	**85**	LR	LR	10 00 41.2		
	comp=Z,170nm,20.2s,baz=311,slow=31							
JNU	**Nakatsue**	**84.57**	**35**	LR	LR	10 09 33.1		
	comp=Z,57nm,21.0s,baz=214,slow=32							
KKAR	**Karatay Array**	**86.35**	**347**	*e*P	**P**	**09 36 54.9**	**-0.2**	
	6.0nm,1.1s							
EIL	**Elat**	**86.66**	**316**	LR	LR	10 08 26.0		
	comp=Z,118nm,21.0s,baz=103,slow=31							
ASF	**Jabal al Asfar**	**87.69**	**319**	LR	LR	10 14 05.9		
	comp=Z,42nm,18.1s,baz=186,slow=34							
MKAR	**Makanchi Array**	**88.72**	**356**	P	**P**	**09 37 04.7**	**-1.8**	
MKAR	**Makanchi Array**	**88.72**	**356**	P	**P**	**09 37 04.7**	**-1.8**	
	0.4nm,0.8s,baz=152,slow=8.0,SNR=3.5							
MKAR				LR	LR	10 15 45.3		
	comp=Z,135nm,18.2s,baz=60,slow=35							
MMAI	**Mount Meron Ar**	**89.11**	**318**	LR	LR	10 10 53.1		
	comp=Z,78nm,21.4s,baz=145,slow=31							
MJAR	**Matsushiro Arr**	**90.69**	**38**	LR	LR	10 15 31.4		
	comp=Z,38nm,18.4s,baz=235,slow=34							
SONM	**Songino Array**	**91.06**	**12**	P	**P**	**09 37 19.5**	**+2.1**	
SONM	**Songino Array**	**91.06**	**12**	P	**P**	**09 37 19.5**	**+2.1**	
	1.7nm,1.1s,baz=200,slow=6.1,SNR=5.4							
SONM				LR	LR	10 17 09.4		
	comp=Z,180nm,18.2s,baz=185,slow=35							
USRK	**Ussuriysk Arra**	**94.53**	**30**	LR	LR	10 19 41.3		
	comp=Z,72nm,18.4s,baz=334,slow=35							
KBZ	**Khabaz**	**94.66**	**329**	LR	LR	10 15 54.6		
	comp=Z,92nm,19.1s,baz=188,slow=33							
PLCA	**Paso Flores**	**95.26**	**196**	LR	LR	10 21 11.2		
	comp=Z,258nm,18.6s,baz=179,slow=36							
BRTR	**Keskin Array B**	**95.33**	**321**	P	**P**	**09 37 38.6**	**+1.2**	
BRTR	**Keskin Array B**	**95.33**	**321**	P	**P**	**09 37 38.6**	**+1.2**	
	1.1nm,1.0s,baz=163,slow=10,SNR=2.5							
BRTR				LR	LR	10 17 08.4		
	comp=Z,88nm,20.0s,baz=282,slow=33							
ZALV	**Zalesovo Beam**	**95.78**	**358**	LR	LR	10 19 19.5		
	comp=Z,116nm,19.1s,baz=247,slow=34							
AKTO	**Aktyubinsk**	**95.91**	**341**	LR	LR	10 18 41.7		
	comp=Z,140nm,19.7s,baz=156,slow=34							
BVAR	**Borovoye Array**	**96.04**	**349**	LR	LR	10 20 17.4		
	comp=Z,148nm,18.2s,baz=182,slow=35							
TORD	**Torodi Ar. Bea**	**96.11**	**282**	LR	LR	10 15 54.9		
	comp=Z,131nm,20.2s,baz=125,slow=32							
DBIC	**Dimbokro**	**96.66**	**273**	LR	LR	10 15 06.9		
	comp=Z,119nm,18.4s,baz=123,slow=32							
PPT2	**Papeete2**	**100.24**	**125**	*e*LR	LR	10 10 45.0		
	110nm,22.5s							
ILAR	**Eielson Array**	**141.89**	**35**	PKP	**PKPdf**	**09 43 42.5**	**-1.6**	
ILAR	**Eielson Array**	**141.89**	**35**	PKP	**PKPdf**	**09 43 42.5**	**-1.6**	
	0.4nm,0.7s,baz=257,slow=3.6,SNR=3.6							
DAWY	**Dawson**	**145.22**	**139**	⇓Pn	PKPbc	09 43 43.8	-5.9	
INK	**Inuvik**	**145.82**	**26**	⇓Pn	**PKPdf**	**09 43 49.3**	**-1.4**	
INK	**Inuvik**	**145.82**	**26**	PKPbc	**PKPdf**	**09 43 50.0**	**-0.8**	
INK	**Inuvik**	**145.82**	**26**	PKPbc	**PKPdf**	**09 43 50.0**	**-0.8**	
	8.0nm,0.9s,baz=275,slow=4.0,SNR=19							
HYT	**Haines Junctio**	**146.89**	**40**	⇑Pn	**PKPab**	**09 43 56.8**	**+0.4**	
DHRN	**Dharma Camp**	**150.87**	**22**	⇓Pn	**PKPbc**	**09 44 07.6**	**+2.9**	
ROMN	**Roman Lake**	**153.21**	**25**	⇓Pn	**PKPbc**	**09 44 11.6**	**+1.5**	
GALN	**Gameti Lake**	**153.57**	**25**	⇓Pn	**PKPbc**	**09 44 15.2**	**+4.2**	
NVAR	**Mina Array Bea**	**159.51**	**92**	PKPab	**PKPab**	**09 44 50.9**	**+0.7**	
NVAR	**Mina Array Bea**	**159.51**	**92**	PKPab	**PKPab**	**09 44 50.9**	**+0.7**	
	0.5nm,0.7s,baz=223,slow=8.6,SNR=3.4							
TXAR	**Lajitas Array**	**164.03**	**139**	PKPab	**PKPab**	**09 45 11.1**	**+1.1**	
TXAR	**Lajitas Array**	**164.03**	**139**	PKPab	**PKPab**	**09 45 11.1**	**+1.1**	
	0.3nm,1.0s,baz=207,slow=5.7,SNR=2.5							
PDAR	**Pinedale Array**	**166.91**	**81**	PKP	**PKPdf**	**09 44 20.0**	**+1.0**	
PDAR				PKPab	**PKPab**	**09 45 23.3**	**+0.7**	
PDAR	**Pinedale Array**	**166.91**	**81**	PKP	**PKPdf**	**09 44 20.0**	**+1.0**	
	0.2nm,0.4s,baz=169,slow=5.4,SNR=2.9							
PDAR				PKPab	**PKPab**	**09 45 23.3**	**+0.7**	
	0.9nm,0.8s,baz=250,slow=3.0,SNR=5.7							

IDC 18 09:32:53.0±4.0, 19˚.24N×121˚.32E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/24, mbtmp3.4/3, Error ellipse: s-maj=333.7km s-min=28.2km az=61.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.98**	**161**	P	P	09 40 37.7	-0.2
	0.6nm,0.9s,baz=342,slow=8.9,SNR=4.3						
MKAR	**Makanchi Array**	**42.07**	**320**	P	P	09 40 46.4	-0.2
	0.4nm,0.9s,baz=117,slow=8.3,SNR=4.0						
ASAR	**Alice Springs**	**44.38**	**163**	P	P	09 41 05.3	-0.1
	0.3nm,0.9s,baz=343,slow=7.2,SNR=5.6						

IDC ***18*** *09:54:29.2±6.4, 34˚.90N×21˚.67E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.4/30, mbtmp3.6/6, ML2.9/1, MS3.6/3, Ms1 3.6/3, ms1mx2.5/44, Error ellipse: s-maj=121.2km s-min=34.0km az=15.0*

ATH ***18*** *09:54:37.6, 35˚.45N×22˚.07E, h5km±3km, MD3.6/20, ML3.4*

CSEM ***18*** *09:54:40.9±0.4, 35˚.63N×22˚.30E, h5km, ML3.3/6, Error ellipse: s-maj=10.4km s-min=3.7km az=46.0*

THE ***18*** *09:54:44.4, 35˚.67N×22˚.37E, h37km±13km, ML3.3/6, Error ellipse: s-maj=14.0km s-min=0.6km az=54.0*

ISC 18 09:54:41.0±1.3, 35˚.62N±0˚.04×22˚.29E±0˚.04, h16km±8km, n115, σ1°35/142, mb3.6/5, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANKY	**Antikythira Is**	**0.86**	**73**	P	**Pn**	**09 54 58.2**	**-0.2**
ANKY				S	**Sb**	**09 55 09.8**	**+1.0**
ANKY	**Antikythira Is**	**0.86**	**73**	*e*PN	**Pn**	**09 54 58.7**	**+0.3**
ANKY				*e*SB	**Sn**	**09 55 12.5**	**+1.9**
ANKY	**Antikythira Is**	**0.86**	**73**	P	**Pn**	**09 54 58.2**	**-0.2**
ANKY	**Antikythira Is**	**0.86**	**73**	*e*Pn	**Pn**	**09 54 58.7**	**+0.3**
ANKY				S	**Sb**	**09 55 09.8**	**+1.0**
ANKY				*e*Sb	**Sn**	**09 55 12.5**	**+1.9**
KYTH	**Kithira**	**0.89**	**43**	P	**Pn**	**09 54 58.9**	**0.0**
KYTH	**Kithira**	**0.89**	**43**	*e*PN	**Pn**	**09 54 58.9**	**0.0**
KYTH	**Kithira**	**0.89**	**43**	P	**Pn**	**09 54 58.9**	**0.0**
DYR	**Agios Nikonas**	**1.14**	**2**	P	**Pb**	**09 55 02.3**	**0.0**
DYR				S	**Sg**	**09 55 17.4**	**-0.5**
DYR	**Agios Nikonas**	**1.14**	**2**	*e*PG	**Pb**	**09 55 02.2**	**0.0**
DYR				*e*SB	**Sn**	**09 55 21.3**	**+3.8**
DYR	**Agios Nikonas**	**1.14**	**2**	P	**Pb**	**09 55 02.3**	**0.0**
DYR				S	**Sg**	**09 55 17.4**	**-0.5**
DYR				*e*Sb	**Sn**	**09 55 21.3**	**+3.8**

VLI	**Veliai**	**1.21**	**25**	P	**Pg**	**09 55 04.0**	**-0.3**	
VLI				S	**Sg**	**09 55 18.8**	**-1.4**	
VLI	**Veliai**	**1.21**	**25**	*e*PG	**Pg**	**09 55 04.1**	**-0.3**	
VLI				*e*SB	Sn	09 55 25.7	+6.4	
VLI	**Veliai**	**1.21**	**25**	*e*Pg	**Pg**	**09 55 04.1**	**-0.3**	
VLI				S	**Sg**	**09 55 18.8**	**-1.4**	
PYL	**PYLOS**	**1.34**	**341**	P	**Pg**	**09 55 05.8**	**-1.1**	
PYL				S	**Sb**	**09 55 22.8**	**0.0**	
PYL	**PYLOS**	**1.34**	**341**	*e*PB	**Pg**	**09 55 06.0**	**-0.9**	
PYL				*e*SB	**Sg**	**09 55 25.6**	**+1.2**	
PYL	**PYLOS**	**1.34**	**341**	*e*Pb	**Pg**	**09 55 06.0**	**-0.9**	
PYL				S	**Sb**	**09 55 22.8**	**0.0**	
PYL				*e*Sb	**Sg**	**09 55 25.6**	**+1.2**	
KARN	**Karanos**	**1.35**	**99**	P	**Pb**	**09 55 05.5**	**-0.4**	
KARN				S	**Sb**	**09 55 21.9**	**-1.0**	
KARN	**Karanos**	**1.35**	**99**	*e*PB	**Pg**	**09 55 06.0**	**-1.0**	
KARN				*e*SB	**Sg**	**09 55 27.3**	**+2.8**	
KARN	**Karanos**	**1.35**	**99**	P	**Pb**	**09 55 05.5**	**-0.4**	
KARN	**Karanos**	**1.35**	**99**	*e*Pb	**Pg**	**09 55 06.0**	**-1.0**	
KARN				S	**Sb**	**09 55 21.9**	**-1.0**	
KARN				*e*Sb	**Sg**	**09 55 27.3**	**+2.8**	
VAM	**Vamos**	**1.57**	**97**	P	**Pb**	**09 55 09.2**	**-0.5**	
VAM				S	**Sn**	**09 55 28.1**	**-0.2**	
VAM	**Vamos**	**1.57**	**97**	*e*PN	**Pg**	**09 55 10.7**	**-0.6**	
VAM				*e*SN	**Sg**	**09 55 34.2**	**+2.4**	
VAM	**Vamos**	**1.57**	**97**	P	**Pb**	**09 55 09.2**	**-0.5**	
VAM	**Vamos**	**1.57**	**97**	*e*Pn	**Pg**	**09 55 10.7**	**-0.6**	
VAM				S	**Sn**	**09 55 28.1**	**-0.2**	
ITM	**Ithomi**	**1.58**	**349**	P	**Pn**	**09 55 09.1**	**+0.7**	
ITM	**Ithomi**	**1.58**	**349**	*e*PN	**Pg**	**09 55 10.2**	**-1.2**	
ITM				*e*SN	**Sg**	**09 55 33.2**	**+1.2**	
ITM	**Ithomi**	**1.58**	**349**	P	**Pn**	**09 55 09.1**	**+0.7**	
ITM	**Ithomi**	**1.58**	**349**	*e*Pn	**Pg**	**09 55 10.2**	**-1.2**	
ITM				*e*Sn	**Sg**	**09 55 33.2**	**+1.2**	
GVD	**Gavdhos**	**1.67**	**117**	P	**Pb**	**09 55 10.4**	**-0.9**	
GVD				S	**Sn**	**09 55 31.4**	**+0.8**	
GVD	**Gavdhos**	**1.67**	**117**	*e*PG	**Pb**	**09 55 10.5**	**-0.9**	
GVD	**Gavdhos**	**1.67**	**117**	P	**Pb**	**09 55 10.4**	**-0.9**	
GVD				S	**Sn**	**09 55 31.4**	**+0.8**	
VLX	**Vlachokerasia**	**1.74**	**2**	P	**Pb**	**09 55 12.3**	**-0.4**	
VLX				S	**Sn**	**09 55 32.4**	**-0.2**	
VLX	**Vlachokerasia**	**1.74**	**2**	*e*PN	**Pg**	**09 55 14.2**	**-0.3**	
VLX				*e*SN	**Sg**	**09 55 40.0**	**+2.8**	
VLX	**Vlachokerasia**	**1.74**	**2**	P	**Pb**	**09 55 12.3**	**-0.4**	
VLX	**Vlachokerasia**	**1.74**	**2**	*e*Pn	**Pg**	**09 55 14.2**	**-0.3**	
VLX				S	**Sn**	**09 55 32.4**	**-0.2**	
AMT	**Artemida-Makis**	**1.96**	**346**	P	**Pb**	**09 55 15.3**	**-1.0**	
AMT				S	**Sn**	**09 55 38.0**	**+0.1**	
AMT	**Artemida-Makis**	**1.96**	**346**	*e*PG	**Pb**	**09 55 17.0**	**+0.7**	
AMT	**Artemida-Makis**	**1.96**	**346**	P	**Pb**	**09 55 15.3**	**-1.0**	
AMT	**Artemida-Makis**	**1.96**	**346**	*e*Pg	**Pb**	**09 55 17.0**	**+0.7**	
AMT				S	**Sn**	**09 55 38.0**	**+0.1**	

ASAR				PcP	PcP	10 05 32.1	+0.7
	0.3nm,0.5s,baz=345,slow=2.7,SNR=7.0						
STKA	**Stephens Creek**	**40.53**	**161**	P	P	10 03 59.1	-0.2
	1.7nm,0.8s,baz=315,slow=15,SNR=2.6						
SONM	**Songino Array**	**44.88**	**340**	P	P	10 04 36.3	+1.8
	0.4nm,0.7s,baz=160,slow=4.6,SNR=3.6						
MKAR	**Makanchi Array**	**55.58**	**324**	P	P	10 05 54.2	-1.0
	0.5nm,0.5s,baz=129,slow=6.8,SNR=6.2						
BVAR	**Borovoye Array**	**65.28**	**326**	P	P	10 07 00.4	-0.7
	0.9nm,0.6s,baz=131,slow=8.1,SNR=5.4						
TORD	**Torodi Ar. Bea**	**122.40**	**290**	PKP	PKPdf	10 15 14.2	-0.7
	0.3nm,0.7s,baz=56,slow=3.1,SNR=2.3						

*ISCJB **18** 09:59:52.6±0.3,40.°78N±0.°02×29.°85E±0.°02,h10km±2km, mb3.3/4, Error ellipse: s-maj=2.9km s-min=2.3km az=136.1*
*ISK **18** 09:59:52.4,40.°73N×29.°84E,h6km,ML3.6*
*IDC **18** 09:59:52.6±1.1,40.°70N×29.°86E,h0km,mb3.4/5, mb1 3.4/8,mb1mx3.3/29,mbtmp3.4/8,ML3.3/3, Error ellipse: s-maj=22.1km s-min=13.5km az=51.0*
*DDA **18** 09:59:52.5,40.°72N×29.°82E,h20km,ML3.4*
*CSEM **18** 09:59:53.2±0.1,40.°73N×29.°83E,h5km,ML3.6, Error ellipse: s-maj=2.3km s-min=1.6km az=39.0*

ISC 18 09:59:53.2±0.9, 40.°73N±0.°02×29.°85E±0.°02, h8km±6km, n186, σ0°76/220, mb3.3/4, 11C-18D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRT	**Hereke**	**0.16**	**304**	*e*PG	**Pg**	**09 59 56.4**	**-0.3**
HRT				*e*SG	**Sg**	**09 59 59.1**	**+0.1**
HRT	**Hereke**	**0.16**	**304**	*e*Pg	**Pg**	**09 59 56.4**	**-0.3**
HRT				*e*Sg	**Sg**	**09 59 59.1**	**+0.1**
ADVT	**Abdulvahap**	**0.31**	**196**	*e*PG	**Pg**	**09 59 59.1**	**-0.2**
ADVT				*e*SG	**Sg**	**10 00 03.2**	**-0.2**
ADVT	**Abdulvahap**	**0.31**	**196**	*e*Pg	**Pg**	**09 59 59.1**	**-0.2**
ADVT				*e*Sg	**Sg**	**10 00 03.2**	**-0.2**
SPNC	**Sapanca-Adapaz**	**0.35**	**97**	*e*PG	**Pg**	**09 59 59.9**	**-0.3**
SPNC				*e*SG	**Sg**	**10 00 05.8**	**+1.0**
SPNC	**Sapanca-Adapaz**	**0.35**	**97**	*e*Pg	**Pg**	**09 59 59.9**	**-0.3**
SPNC				*e*Sg	**Sg**	**10 00 05.8**	**+1.0**
YLV	**Yalova**	**0.40**	**246**	*e*PG	**Pg**	**10 00 01.4**	**+0.4**
YLV				*e*SG	**Sg**	**10 00 06.8**	**+0.6**
YLV	**Yalova**	**0.40**	**246**	*e*Pg	**Pg**	**10 00 01.4**	**+0.4**
YLV				*e*Sg	**Sg**	**10 00 06.8**	**+0.6**
SILT	**Sile**	**0.45**	**340**	*e*PG	**Pg**	**10 00 01.8**	**-0.2**
SILT				*e*SG	**Sg**	**10 00 08.5**	**+0.6**
SILT	**Sile**	**0.45**	**340**	*e*Pg	**Pg**	**10 00 01.8**	**-0.2**
SILT				*e*Sg	**Sg**	**10 00 08.5**	**+0.6**
CAVI	**Cavuskoy**	**0.53**	**180**	*e*PG	**Pg**	**10 00 03.3**	**-0.1**
CAVI	**Cavuskoy**	**0.53**	**180**	*e*Pg	**Pg**	**10 00 03.3**	**-0.1**
GPA	**Golpazari**	**0.56**	**141**	*e*PG	**Pg**	**10 00 03.7**	**-0.4**
GPA	**Golpazari**	**0.56**	**141**	*e*Pg	**Pg**	**10 00 03.7**	**-0.4**
BUY	**Buyukada**	**0.57**	**283**	*e*PG	**Pg**	**10 00 04.1**	**-0.1**
BUY				*e*SG	**Sg**	**10 00 12.2**	**+0.6**
BUY	**Buyukada**	**0.57**	**283**	*i* P	**Pg**	**10 00 03.9**	**-0.3**
BUY				*i* S	**Sg**	**10 00 12.0**	**+0.4**
BUY	**Buyukada**	**0.57**	**283**	*i* P	**Pg**	**10 00 03.9**	**-0.3**
BUY				*i* S	**Sg**	**10 00 12.0**	**+0.4**
GEMT	**Gemlik**	**0.58**	**240**	*e*PG	**Pg**	**10 00 03.6**	**-0.8**
GEMT	**Gemlik**	**0.58**	**240**	*e*Pg	**Pg**	**10 00 03.6**	**-0.8**
GULT	**Gulveren**	**0.59**	**120**	*e*PG	**Pg**	**10 00 04.1**	**-0.5**
GULT	**Gulveren**	**0.59**	**120**	*e*Pg	**Pg**	**10 00 04.1**	**-0.5**
ISK	**Istanbul-Kandi**	**0.69**	**300**	*e*PG	**Pg**	**10 00 05.9**	**-0.5**
ISK	**Istanbul-Kandi**	**0.69**	**300**	*e*Pg	**Pg**	**10 00 05.9**	**-0.5**
ARMT	**Armutlu**	**0.77**	**258**	*e*PG	**Pg**	**10 00 07.2**	**-0.8**
ARMT	**Armutlu**	**0.77**	**258**	*e*Pg	**Pg**	**10 00 07.2**	**-0.8**
ULDT	**Uludag**	**0.80**	**223**	*i* P	**Pg**	**10 00 08.1**	**-0.5**
ULDT				*i* S	**Sg**	**10 00 18.7**	**-0.3**
ULDT	**Uludag**	**0.80**	**223**	*i* P	**Pg**	**10 00 08.1**	**-0.5**
ULDT				*i* S	**Sg**	**10 00 18.7**	**-0.3**
KLYT	**Kilyos**	**0.80**	**311**	*e*PG	**Pg**	**10 00 08.2**	**-0.4**
KLYT	**Kilyos**	**0.80**	**311**	*e*Pg	**Pg**	**10 00 08.2**	**-0.4**
MDNY	**Mudanya-Bursa**	**0.82**	**244**	*e*PG	**Pg**	**10 00 08.6**	**-0.4**
MDNY	**Mudanya-Bursa**	**0.82**	**244**	*e*Pg	**Pg**	**10 00 08.6**	**-0.4**
BGKT	**Bogazkoy**	**0.93**	**299**	*e*PG	**Pg**	**10 00 10.6**	**-0.5**
BGKT	**Bogazkoy**	**0.93**	**299**	*e*Pg	**Pg**	**10 00 10.6**	**-0.5**
BORA	**Eskisehir**	**0.97**	**151**	*i* P	**Pg**	**10 00 11.3**	**-0.5**
BORA				*i* S	**Sg**	**10 00 24.8**	**+0.4**
BORA	**Eskisehir**	**0.97**	**151**	*i* P	**Pg**	**10 00 11.3**	**-0.5**
BORA				*i* S	**Sg**	**10 00 24.8**	**+0.4**
ORLT	**Orhaneli**	**1.00**	**227**	*e*PG	**Pg**	**10 00 11.8**	**-0.5**
ORLT	**Orhaneli**	**1.00**	**227**	*e*Pg	**Pg**	**10 00 11.8**	**-0.5**
MDUB	**Mudurnu**	**1.06**	**104**	*e*PG	**Pg**	**10 00 13.3**	**-0.3**
MDUB	**Mudurnu**	**1.06**	**104**	*e*Pg	**Pg**	**10 00 13.3**	**-0.3**
CTKS	**Kestanelik-??a**	**1.13**	**297**	*e*PN	**Pg**	**10 00 14.1**	**-0.9**
CTKS	**Kestanelik-??a**	**1.13**	**297**	*e*Pn	**Pg**	**10 00 14.1**	**-0.9**
KCTX	**Karacabey (Bur**	**1.23**	**248**	*e*PN	**Pb**	**10 00 15.9**	**-0.8**
KCTX	**Karacabey (Bur**	**1.23**	**248**	*e*Pn	**Pb**	**10 00 15.9**	**-0.8**
TVSB	**Tavsanli**	**1.31**	**193**	*e*PN	**Pn**	**10 00 17.7**	**-0.2**
TVSB	**Tavsanli**	**1.31**	**193**	*e*Pn	**Pn**	**10 00 17.7**	**-0.2**
SLVT	**Silivri**	**1.34**	**292**	*e*PN	**Pn**	**10 00 18.0**	**-0.2**
SLVT	**Silivri**	**1.34**	**292**	*e*Pn	**Pn**	**10 00 18.0**	**-0.2**
KDZE	**Karadeniz Ereo**	**1.34**	**64**	*e*PN	**Pn**	**10 00 16.9**	**-1.4**
KDZE	**Karadeniz Ereo**	**1.34**	**64**	*e*Pn	**Pn**	**10 00 16.9**	**-1.4**
CTYL	**Yal??k??y-??at**	**1.39**	**303**	*e*PN	**Pn**	**10 00 18.7**	**-0.2**
CTYL	**Yal??k??y-??at**	**1.39**	**303**	*e*Pn	**Pn**	**10 00 18.7**	**-0.2**
ESKT	**Eskisehir**	**1.43**	**147**	*e*PN	**Pn**	**10 00 19.4**	**-0.3**
ESKT	**Eskisehir**	**1.43**	**147**	*e*Pn	**Pn**	**10 00 19.4**	**-0.3**
SEYT	**Eskypehyr**	**1.43**	**147**	*i* P	**Pn**	**10 00 19.4**	**-0.2**
SEYT	**Eskypehyr**	**1.43**	**147**	*i* P	**Pn**	**10 00 19.4**	**-0.2**
DST	**Dursunbey**	**1.47**	**220**	*e*PN	**Pb**	**10 00 20.5**	**-0.3**
DST	**Dursunbey**	**1.47**	**220**	*e*Pn	**Pb**	**10 00 20.5**	**-0.3**
BNT	**Bandirma**	**1.52**	**256**	*e*PN	**Pn**	**10 00 20.8**	**+0.2**
BNT	**Bandirma**	**1.52**	**256**	*e*Pn	**Pn**	**10 00 20.8**	**+0.2**
DURS	**Dursunbey**	**1.54**	**223**	*i* P	**Pn**	**10 00 20.5**	**-0.6**
DURS				*i* S	**Sg**	**10 00 42.7**	**-0.1**
DURS	**Dursunbey**	**1.54**	**223**	*i* P	**Pn**	**10 00 20.5**	**-0.6**
DURS				*i* S	**Sg**	**10 00 42.7**	**-0.1**
ALT	**Altintas**	**1.69**	**173**	*e*PN	**Pb**	**10 00 24.0**	**-0.5**
ALT	**Altintas**	**1.69**	**173**	*e*Pn	**Pb**	**10 00 24.0**	**-0.5**
TKR	**Tekirdag**	**1.77**	**279**	*e*PN	**Pn**	**10 00 24.0**	**-0.2**
TKR	**Tekirdag**	**1.77**	**279**	*e*Pn	**Pn**	**10 00 24.0**	**-0.2**
GONE	**Gonen-Balikesi**	**1.79**	**248**	*e*PN	**Pn**	**10 00 24.0**	**-0.3**
GONE	**Gonen-Balikesi**	**1.79**	**248**	*e*Pn	**Pn**	**10 00 24.0**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.81**	**134**	*e*PN	**Pn**	**10 00 24.5**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.81**	**134**	*e*Pn	**Pn**	**10 00 24.5**	**-0.4**
BALB	**Balikesir**	**1.86**	**235**	*e*PN	**Pn**	**10 00 24.8**	**-0.6**
BALB	**Balikesir**	**1.86**	**235**	*e*Pn	**Pn**	**10 00 24.8**	**-0.6**
DEMI	**Demirci**	**1.90**	**208**	*i* P	**Pn**	**10 00 25.7**	**-0.3**
DEMI				*i* S	**Sg**	**10 00 53.6**	**-0.6**
DEMI	**Demirci**	**1.90**	**208**	*i* P	**Pn**	**10 00 25.7**	**-0.3**
DEMI				*i* S	**Sg**	**10 00 53.6**	**-0.6**
MFT	**Murefte**	**1.95**	**273**	*e*PN	**Pn**	**10 00 27.3**	**+0.6**
MFT	**Murefte**	**1.95**	**273**	*e*Pn	**Pn**	**10 00 27.3**	**+0.6**
KRBG	**Karabiga-Canak**	**1.97**	**261**	*e*PN	**Pn**	**10 00 27.4**	**+0.5**
KRBG	**Karabiga-Canak**	**1.97**	**261**	*e*Pn	**Pn**	**10 00 27.4**	**+0.5**
PHSR	**Pinarhisar**	**1.97**	**298**	*e*PN	**Pn**	**10 00 26.9**	**0.0**
PHSR	**Pinarhisar**	**1.97**	**298**	*e*Pn	**Pn**	**10 00 26.9**	**0.0**
SART	**Tekirdag**	**2.03**	**270**	*i* P	**Pn**	**10 00 27.6**	**-0.2**
SART				*i* S	**Sn**	**10 00 53.5**	**+0.2**
SART	**Tekirdag**	**2.03**	**270**	*i* P	**Pn**	**10 00 27.6**	**-0.2**
SART				*i* S	**Sn**	**10 00 53.5**	**+0.2**
RKY	**Sarkoy-Tekirda**	**2.03**	**270**	*e*PN	**Pn**	**10 00 27.7**	**-0.1**
RKY	**Sarkoy-Tekirda**	**2.03**	**270**	*e*Pn	**Pn**	**10 00 27.7**	**-0.1**
BOLV	**Bolvadin**	**2.18**	**157**	*i* P	**Pb**	**10 00 30.7**	**+0.8**
BOLV				*i* S	**Sb**	**10 01 01.2**	**+1.0**
BOLV	**Bolvadin**	**2.18**	**157**	*i* P	**Pn**	**10 00 30.7**	**+0.8**
BOLV				*i* S	**Sb**	**10 01 01.2**	**+1.0**
SAFT	**Safranbolu**	**2.21**	**76**	*e*PN	**Pn**	**10 00 30.4**	**+0.2**
SAFT	**Safranbolu**	**2.21**	**76**	*e*Pn	**Pn**	**10 00 30.4**	**+0.2**
SHUT	**Suhut-Afyon**	**2.24**	**166**	*e*PN	**Pn**	**10 00 31.2**	**+0.5**
SHUT	**Suhut-Afyon**	**2.24**	**166**	*e*Pn	**Pn**	**10 00 31.3**	**+0.5**
LPK	**Lapseki**	**2.38**	**262**	*e*PN	**Pn**	**10 00 32.7**	**+0.2**
LPK	**Lapseki**	**2.38**	**262**	*e*Pn	**Pn**	**10 00 32.7**	**+0.2**
LOD	**Lodumlu**	**2.38**	**110**	*e*PN	**Pn**	**10 00 33.2**	**+0.5**
LOD	**Lodumlu**	**2.38**	**110**	*e*Pn	**Pn**	**10 00 33.2**	**+0.5**
KULA	**Kula-Manisa**	**2.40**	**203**	*e*PN	**Pn**	**10 00 33.9**	**+1.1**
KULA	**Kula-Manisa**	**2.40**	**203**	*e*Pn	**Pn**	**10 00 33.9**	**+1.1**
ANTO	**Ankara**	**2.41**	**110**	*e*PN	**Pn**	**10 00 33.8**	**+0.8**
ANTO	**Ankara**	**2.41**	**110**	⇓*i*P	**Pb**	**10 00 35.5**	**-1.4**
ANTO	**Ankara**	**2.41**	**110**	*e*Pn	**Pn**	**10 00 33.8**	**+0.8**
ANTO	**Ankara**	**2.41**	**110**	⇓*i*P	**Pb**	**10 00 35.5**	**-1.4**
KHL	**Karahalli**	**2.42**	**186**	*e*PN	**Pn**	**10 00 34.2**	**+1.1**
KHL	**Karahalli**	**2.42**	**186**	*e*Pn	**Pn**	**10 00 34.2**	**+1.1**
KIZT	**Kizilcal**	**2.42**	**139**	*e*PN	**Pn**	**10 00 33.0**	**-0.2**
KIZT	**Kizilcal**	**2.42**	**139**	*e*Pn	**Pn**	**10 00 33.0**	**-0.2**
AKHS	**Akhisar**	**2.42**	**221**	*i* P	**Pn**	**10 00 32.5**	**-0.7**
AKHS				*i* S	**Sn**	**10 01 04.0**	**+1.0**
AKHS	**Akhisar**	**2.42**	**221**	*i* P	**Pn**	**10 00 32.5**	**-0.7**
AKHS				*i* S	**Sn**	**10 01 04.0**	**+1.0**
GELI	**Tayfur-Gelibol**	**2.59**	**264**	*e*PN	**Pn**	**10 00 36.4**	**+1.0**
GELI	**Tayfur-Gelibol**	**2.59**	**264**	*e*Pn	**Pn**	**10 00 36.4**	**+1.0**
EDRB	**Edirne**	**2.59**	**297**	*e*PN	**Pn**	**10 00 35.7**	**+0.3**
EDRB	**Edirne**	**2.59**	**297**	*e*Pn	**Pn**	**10 00 35.7**	**+0.3**
AFSR	**Af˙ar-Bala (A**	**2.79**	**116**	*e*PN	**Pn**	**10 00 39.0**	**+0.8**
AFSR	**Af˙ar-Bala (A**	**2.79**	**116**	*e*Pn	**Pn**	**10 00 39.0**	**+0.8**
ENEZ	**Enez**	**2.81**	**271**	*e*PN	**Pn**	**10 00 39.5**	**+1.1**
ENEZ	**Enez**	**2.81**	**271**	*e*Pn	**Pn**	**10 00 39.5**	**+1.1**
AYVA	**Ayvalik**	**2.81**	**241**	*i* P	**Pg**	**10 00 47.3**	**+0.2**
AYVA				*i* S	**Sg**	**10 01 22.8**	**-0.6**
EZN	**Ezine**	**2.84**	**253**	*e*PN	**Pn**	**10 00 40.1**	**+1.3**
EZN	**Ezine**	**2.84**	**253**	*e*Pn	**Pn**	**10 00 40.1**	**+1.3**
ALN	**Alexandroupoli**	**2.89**	**275**	*e*PB	**Pb**	**10 00 44.7**	**-0.3**
ISP	**Isparta**	**2.95**	**170**	*e*PN	**Pn**	**10 00 41.7**	**+1.2**
ISP	**Isparta**	**2.95**	**170**	⇓*i*P	**Pn**	**10 00 41.3**	**+0.8**
ISP	**Isparta**	**2.95**	**170**	⇓*i*P	**Pn**	**10 00 41.3**	**+0.8**
ISP	**Isparta**	**2.95**	**170**	*e*Pn	**Pn**	**10 00 41.7**	**+1.2**
IZM	**Izmir**	**3.07**	**221**	*e*PN	**Pn**	**10 00 41.9**	**-0.1**
IZM	**Izmir**	**3.07**	**221**	*e*Pn	**Pn**	**10 00 41.9**	**-0.1**
BRTR	**Keskin Array B**	**3.07**	**108**	Pn	**Pn**	**10 00 42.1**	**-0.1**
	1.6nm,0.3s,baz=280,slow=12,SNR=22						
BRTR				Sn	**Sn**	**10 01 18.6**	**-0.6**
	1.6nm,0.3s,baz=315,slow=12,SNR=5.3						
PRK	**Paraskevi**	**3.12**	**243**	*e*PN	**Pn**	**10 00 43.0**	**+0.3**
TOS	**Tosya**	**3.18**	**83**	*e*PN	**Pn**	**10 00 44.4**	**+0.8**
TOS	**Tosya**	**3.18**	**83**	*e*Pn	**Pn**	**10 00 44.4**	**+0.8**
LADK	**Ladik-KONYA**	**3.19**	**142**	*e*PN	**Pn**	**10 00 44.0**	**+0.2**
LADK	**Ladik-KONYA**	**3.19**	**142**	*e*Pn	**Pn**	**10 00 44.0**	**+0.2**
MANR	**Mangalia**	**3.22**	**344**	S	**Sn**	**10 01 21.4**	**-1.3**
MANR	**Mangalia**	**3.22**	**344**	S	**Sn**	**10 01 21.4**	**-1.3**
RDO	**Rodhopi**	**3.29**	**279**	*e*PN	**Pn**	**10 00 45.1**	**+0.1**
SMTH	**Samothraki Isl**	**3.30**	**267**	*e*PN	**Pn**	**10 00 43.8**	**-1.4**
SUTC	**Sutluce-Ispart**	**3.37**	**164**	*e*PN	**Pn**	**10 00 47.3**	**+1.0**
SUTC	**Sutluce-Ispart**	**3.37**	**164**	*e*Pn	**Pn**	**10 00 47.3**	**+1.0**
KONT	**Konya--Tatoy**	**3.40**	**144**	*e*PN	**Pn**	**10 00 47.8**	**+1.3**
KONT	**Konya--Tatoy**	**3.40**	**144**	*e*Pn	**Pn**	**10 00 47.8**	**+1.3**
LIA	**Limnos Island**	**3.66**	**258**	*e*PN	**Pn**	**10 00 50.7**	**+0.6**
CORM	**Corum**	**3.69**	**97**	*e*PN	**Pn**	**10 00 52.1**	**+1.4**
CORM	**Corum**	**3.69**	**97**	*e*Pn	**Pn**	**10 00 52.1**	**+1.4**
CHOS	**Chios island**	**3.75**	**233**	*e*PN	**Pn**	**10 00 51.3**	**-0.2**
SMG	**Samos**	**3.82**	**219**	*e*PB	**Pg**	**10 01 04.4**	**-1.9**
TIRR	**Tirgusor**	**3.87**	**345**	⇑*i*P	**Pn**	**10 00 52.6**	**-0.4**
TIRR	**Tirgusor**	**3.87**	**345**	S	**Sn**	**10 01 36.5**	**-2.2**
TIRR	**Tirgusor**	**3.87**	**345**	⇑*i*P	**Pn**	**10 00 52.6**	**-0.4**
TIRR				S	**Sn**	**10 01 36.5**	**-2.2**
TLCR		**4.52**	**351**	⇓*i*P	**Pn**	**10 01 02.3**	**+0.4**
TLCR		**4.52**	**351**	S	**Sn**	**10 01 53.0**	**-1.6**
TLCR		**4.52**	**351**	⇓*i*P	**Pn**	**10 01 02.3**	**+0.4**
TLCR				S	**Sn**	**10 01 53.0**	**-1.6**
NVR	**Nevrokopi**	**4.57**	**280**	*e*PN	**Pn**	**10 01 02.6**	**-0.1**
CFR	**Carcaliu**	**4.62**	**345**	⇑*i*P	**Pn**	**10 01 03.4**	**+0.1**
CFR	**Carcaliu**	**4.62**	**345**	⇑*i*P	**Pn**	**10 01 03.4**	**+0.1**
AOS	**Alonnisos**	**4.84**	**253**	*e*PN	**Pn**	**10 01 06.0**	**-0.4**
ISR	**Istrita**	**5.01**	**332**	⇓*i*P	**Pn**	**10 01 09.7**	**+0.9**
ISR	**Istrita**	**5.01**	**332**	S	**Sn**	**10 02 05.5**	**-1.4**
ISR	**Istrita**	**5.01**	**332**	⇓*i*P	**Pn**	**10 01 09.7**	**+0.9**
ISR				S	**Sn**	**10 02 05.5**	**-1.4**
VTS	**Vitosha**	**5.31**	**293**	⇑*i*P	**Pn**	**10 01 13.2**	**+0.3**
VTS	**Vitosha**	**5.31**	**293**	S	**Sn**	**10 02 13.4**	**-1.0**
VTS	**Vitosha**	**5.31**	**293**	⇑*i*P	**Pn**	**10 01 13.2**	**+0.3**
VTS				S	**Sn**	**10 02 13.4**	**-1.0**
MLR	**Muntele Rosu**	**5.55**	**330**	⇓*i*P	**Pn**	**10 01 17.7**	**+1.5**
MLR	**Muntele Rosu**	**5.55**	**330**	Pn	**Pn**	**10 01 17.6**	**+1.4**
	0.5nm,0.3s,baz=112,slow=6.3,SNR=10						
MLR				Sn	**Sn**	**10 02 21.0**	**+0.8**
	0.2nm,0.3s,baz=65,slow=23,SNR=1.4						
MLR	**Muntele Rosu**	**5.55**	**330**	⇓*i*P	**Pn**	**10 01 17.7**	**+1.5**
VRI	**Vrincioaia**	**5.62**	**337**	⇓*i*P	**Pn**	**10 01 18.0**	**+1.0**
VRI	**Vrincioaia**	**5.62**	**337**	S	**Sn**	**10 02 23.1**	**+1.4**
VRI	**Vrincioaia**	**5.62**	**337**	⇓*i*P	**Pn**	**10 01 18.0**	**+1.0**
VRI				S	**Sn**	**10 02 23.1**	**+1.4**
PLOR	**Plostina**	**5.62**	**337**	⇓*i*P	**Pn**	**10 01 17.8**	**+0.6**
PLOR	**Plostina**	**5.62**	**337**	⇓*i*P	**Pn**	**10 01 17.8**	**+0.6**
VOIR		**5.87**	**325**	⇑*i*P	**Pn**	**10 01 21.0**	**+0.4**
VOIR		**5.87**	**325**	⇑*i*P	**Pn**	**10 01 21.0**	**+0.4**
DOPR	**Dopca**	**6.16**	**330**	⇓*i*P	**Pn**	**10 01 25.5**	**+1.0**
DOPR	**Dopca**	**6.16**	**330**	⇓*i*P	**Pn**	**10 01 25.5**	**+1.0**
BARS	**Barje**	**6.36**	**292**	*e*Pn	**Pn**	**10 01 27.9**	**+0.7**
LOT	**Lotru**	**6.48**	**319**	⇑*i*P	**Pn**	**10 01 29.2**	**+0.2**
LOT	**Lotru**	**6.48**	**319**	⇑*i*P	**Pn**	**10 01 29.2**	**+0.2**
SELS	**Selova**	**6.96**	**294**	*e*Pn	**Pn**	**10 01 35.2**	**-0.3**
GZR	**Gura Zlata**	**6.96**	**314**	⇓*i*P	**Pn**	**10 01 35.5**	**-0.1**
GZR	**Gura Zlata**	**6.96**	**314**	⇓*i*P	**Pn**	**10 01 35.5**	**-0.1**
GRUS	**Gruza**	**7.47**	**298**	*e*Pn	**Pn**	**10 01 43.5**	**+1.1**
BURAR	**Bucovina Array**	**7.64**	**336**	⇑*i*P	**Pn**	**10 01 45.8**	**+0.9**
MMAI	**Mount Meron Ar**	**8.89**	**148**	Pn	**Pn**	**10 02 03.0**	**+1.0**
	0.8nm,0.3s,baz=297,slow=26,SNR=3.9						
KOLS	**Kolonicke sedl**	**9.80**	**329**	*e*PN	**Pn**	**10 02 14.1**	**-0.4**
KECS	**Kecovo**	**10.22**	**322**	*e*PN	**Pn**	**10 02 18.8**	**-1.4**
FINES	**FINESS Array B**	**20.87**	**355**	P	Pn	**10 04 37.1**	**-0.8**
	0.4nm,0.5s,baz=137,slow=25,SNR=3.2						
HFS	**Hagfors**	**21.87**	**338**	P	**P**	**10 04 48.3**	**+2.1**
	2.4nm,1.0s,baz=143,slow=22,SNR=2.9						
ESDC	**Sonseca Array**	**25.76**	**279**	P	**P**	**10 05 24.8**	**+0.4**
	0.5nm,0.6s,baz=72,slow=8.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**36.91**	**230**	P	**P**	**10 07 02.7**	**+0.2**
	0.3nm,0.6s,baz=33,slow=6.7,SNR=2.2						
MKAR	**Makanchi Array**	**37.77**	**63**	P	**P**	**10 07 09.8**	**+0.2**
	0.3nm,0.7s,baz=274,slow=7.1,SNR=3.3						

WEL 18 10:05:01.8±0.2, 45.°50S×166.°70E, h22km±1km, ML3.3/13, 2D, Error ellipse: s-maj=2.6km s-min=1.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.32**	**86**	⇓P*	Pb	10 05 08.9	+0.1
DCZ				S*	Sb	10 05 13.7	+0.1
DCZ				AML	AML	10 05 14.1	
DCZ				AML	AML	10 05 14.2	
DCZ				AML	AML	10 05 14.2	
PYZ	**Puysegur Point**	**0.67**	**181**	P*	Pb	10 05 14.1	-0.7
PYZ				S*	Sb	10 05 23.1	-0.7
WHZ	**Wether Hill Ro**	**0.96**	**115**	AML	AML	10 05 38.2	
WHZ				AML	AML	10 05 45.1	
MLZ	**Mavora Lakes**	**1.05**	**82**	⇓PN	Pn	10 05 20.3	-1.0
MLZ				AML	AML	10 05 35.7	
MLZ				AML	AML	10 05 37.0	
MSZ	**Milford Sound**	**1.20**	**47**	AML	AML	10 05 41.6	
MSZ				AML	AML	10 05 41.6	
MSZ				AML	AML	10 05 43.9	
MSZ				AML	AML	10 05 43.9	
WKZ	**Wanaka**	**1.77**	**69**	AML	AML	10 06 00.5	
WKZ				AML	AML	10 06 00.7	
EAZ	**Earnscleugh**	**1.86**	**83**	PN	Pb	10 05 33.7	-1.3
EAZ				AML	AML	10 06 01.9	
EAZ				AML	AML	10 06 02.7	
JCZ	**Jackson Bay**	**2.04**	**47**	*e*PN	Pb	10 05 37.8	-0.6
TUZ	**Tuapeka**	**2.10**	**104**	PN	Pb	10 05 38.2	-1.0
ODZ	**Otahua Downs**	**2.82**	**82**	PN	Pn	10 05 46.0	+0.4
FOZ	**Fox Glacier**	**2.88**	**49**	*e*PN	Pn	10 05 49.0	+2.6

WEL 18 10:06:13.9±0.2, 46.°06S×166.°18E, h32km, ML3.3/11, 1D, Error ellipse: s-maj=2.0km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.36**	**108**	⇓P*	Pb	10 06 22.2	-0.2
PYZ				S*	Sb	10 06 28.3	+0.2
DCZ	**Deep Cove**	**0.89**	**50**	PN	Pn	10 06 30.1	-0.2
DCZ				SN	Sn	10 06 41.4	-0.7
DCZ				AML	AML	10 06 42.5	
WHZ	**Wether Hill Ro**	**1.24**	**83**	PN	Pb	10 06 36.1	-0.7
WHZ				SN	Sb	10 06 52.5	0.0
MLZ	**Mavora Lakes**	**1.56**	**64**	PN	Pb	10 06 41.0	-1.3
TUZ	**Tuapeka**	**2.41**	**89**	AML	AML	10 06 07.5	
JCZ	**Jackson Bay**	**2.69**	**44**	AML	AML	10 06 08.9	
JCZ				AML	AML	10 06 16.2	

*IDC **18** 10:22:57.0±1.2,3.°50S×100.°53E, h0km, mb4.2/13, mb1 4.3/13,mb1mx4.1/26,mbtmp4.2/13,MS3.5/3, Ms1 3.5/3,ms1mx2.9/40, Error ellipse: s-maj=36.6km s-min=17.1km az=51.0*
*ISCJB **18** 10:22:59.3±0.9,3.°5S×100.°6E±0.°1,h29km, mb4.3/16, MS3.6/3, Error ellipse: s-maj=23.5km s-min=10.7km az=140.2*
*NEIC **18** 10:23:02.4±0.7,3.°47S×100.°59E,h35km, mb4.4/4, Error ellipse: s-maj=18.9km s-min=8.1km az=52.0*

ISC 18 10:23:01.2±1.1, 3.°5S±0.°2×100.°5E±0.°2, h29km, n65, σ0°53/58, mb4.3/16, MS3.6/3, 10C-20D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**7.99**	**4**	Pn	**Pn**	**10 24 56.4**	**+1.0**
KAPI	**Kappang**	**19.23**	**95**	*e*P	**P**	**10 27 23.0**	**-0.2**
	29nm,1.2s						
CMAR	**Chiang Mai Arr**	**21.92**	**356**	P	**P**	**10 27 50.6**	**-1.8**
CMAR	**Chiang Mai Arr**	**21.92**	**356**	P	**P**	**10 27 50.6**	**-1.8**
	2.8nm,0.8s,baz=187,slow=8.9,SNR=9.5						
WRA	**Warramunga Arr**	**36.77**	**119**	P	**P**	**10 30 06.3**	**-0.3**
WRA	**Warramunga Arr**	**36.77**	**119**	P	**P**	**10 30 06.3**	**-0.3**
	0.7nm,0.3s,baz=303,slow=8.3,SNR=22						
WRAB	**Tennant

MKAR	**Makanchi Array**	**49.05**	**309**	P		**P**	**10 42 06.8**	**-0.5**
	0.2nm,0.4s,baz=88,slow=9.8,SNR=5.5							
ILAR	**Eielson Array**	**58.24**	**29**	P		**P**	**10 43 12.5**	**+0.4**
	0.2nm,0.3s,baz=251,slow=5.6,SNR=4.3							
FINES	**FINESS Array B**	**76.98**	**333**	P		**P**	**10 45 06.7**	**-0.2**
	0.7nm,0.3s,baz=59,slow=4.2,SNR=9.3							

IDC 18 10:43:50.0±1.5, 1°94'N×96°54'E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.5/27, mbtmp3.6/8, ML3.5/2, Error ellipse: s-maj=37.8km s-min=19.6km az=50.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.53**	**70**	Pn	Pn	10 44 31.6	-0.9
	2.8nm,0.3s,baz=278,slow=10,SNR=13						
PSI				Sn	Sn	10 45 06.0	+1.8
	6.3nm,0.3s,baz=146,slow=20,SNR=5.0						
CMAR	**Chiang Mai Arr**	**16.59**	**8**	Pn	Pn	10 47 44.4	+0.3
	0.1nm,0.3s,baz=201,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**42.98**	**122**	P	P	10 51 52.5	+1.1
	0.2nm,0.3s,baz=302,slow=9.1,SNR=6.3						
ASAR	**Alice Springs**	**44.36**	**127**	P	P	10 52 01.3	-1.2
	0.3nm,0.7s,baz=302,slow=7.1,SNR=3.5						
MKAR	**Makanchi Array**	**46.38**	**346**	P	P	10 52 18.3	+0.2
	0.6nm,0.7s,baz=156,slow=7.2,SNR=7.4						
SONM	**Songino Array**	**46.51**	**9**	P	P	10 52 18.0	-1.3
	0.3nm,0.3s,baz=200,slow=7.1,SNR=3.5						
KURBB	**Kurchatov Arra**	**50.86**	**345**	P	P	10 52 52.8	+0.3
	0.3nm,0.4s,baz=165,slow=7.4,SNR=3.8						
ZALV	**Zalesovo Beam**	**52.73**	**351**	P	P	10 53 06.6	+0.1
	2.2nm,0.5s,baz=187,slow=8.5,SNR=3.9						

IDC 18 10:53:13.3±1.7, 4°35N×127°13E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.5/24, mbtmp3.5/5, Error ellipse: s-maj=108.1km s-min=20.2km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.36**	**184**	P	P	10 58 12.6	-0.4
	2.2nm,0.9s,baz=349,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**25.16**	**164**	P	P	10 58 41.2	+0.7
	0.6nm,0.4s,baz=344,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.62**	**167**	P	P	10 59 11.0	-0.6
	0.3nm,0.7s,baz=346,slow=6.9,SNR=5.3						
MKAR	**Makanchi Array**	**57.28**	**325**	P	P	11 03 03.6	+0.8
	0.2nm,0.4s,baz=119,slow=7.9,SNR=6.3						
KURBB	**Kurchatov Arra**	**61.44**	**327**	P	P	11 03 30.5	-0.9
	0.4nm,0.6s,baz=132,slow=6.2,SNR=4.9						

PGC 18 11:11:03.8±4.6, 50°50N×130°30W, h10km, Mw3.5/6, 4D, 204km west of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.39**	**83**	↑P	Pn	11 11 27.2	-2.1
PHC	**Port Hardy**	**1.84**	**82**	↑P	Pn	11 11 33.7	-1.7
PHC				↓S	Sn	11 11 54.5	-4.2
MAYB	**Maynard**	**2.00**	**92**	↑P	Pn	11 11 35.8	-2.0
EDB	**Eliza Dome**	**2.14**	**106**	↑P	Pn	11 11 37.4	-2.1
BBB	**Bella Bella**	**2.18**	**38**	↓P	Pn	11 11 38.2	-1.8
BBB				↑S	Sn	11 12 03.0	-4.0
ETB	**Estevan Point**	**2.68**	**113**	↓P	Pn	11 11 45.3	-1.6
VIB	**Van Inlet**	**3.09**	**334**	↑P	Pn	11 11 51.3	-1.4
TOFB	**Tofino**	**3.15**	**114**	↓P	Pn	11 11 52.0	-1.3

*IDC **18** 11:11:49.1±0.7, 39°41S×167°48W, h0km, mb4.1/9, mb1 4.4/10, mb1mx4.2/20, mbtmp4.1/10, ML4.7/1, MS3.2/3, Ms1 3.2/3, ms1mx3.0/19, Error ellipse: s-maj=32.7km s-min=18.7km az=8.0*

ISC 18 11:11:50.3±0.7, 39°9S±0'.2×167°5W±0'.1, h10km, n33, σ1°03/18, mb4.1/10, MS3.4/3, South Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTZ	**Chatham Island**	**7.81**	**238**	PN	**Pn**	**11 13 43.5**	**-0.4**
CTZ				Sn	Sn	11 15 06.5	-5.9
CNGZ	**Carnagh Statio**	**11.19**	**273**	*e*PN	**Pn**	**11 14 31.6**	**+1.4**
PUZ	**Puketiti**	**11.24**	**275**	*e*PN	**Pn**	**11 14 30.9**	**-0.1**
PUZ				SN	Sn	11 16 25.6	-11
MWZ	**Matawai**	**11.74**	**273**	*e*PN	**Pn**	**11 14 37.6**	**-0.2**
MWZ				SN	Sn	11 16 36.3	-13
URZ	**Urewera**	**12.08**	**273**	Pn	**Pn**	**11 14 43.8**	**+1.4**
	4.4nm,0.3s,baz=130,slow=4.6,SNR=13						
URZ				Sn	Sn	11 16 46.3	-11
	1.7nm,0.3s,baz=162,slow=16,SNR=2.2						
ANWZ	**Angora Road**	**12.28**	**262**	SN	Sn	11 16 51.0	-11
BKZ	**Black Stump Fm**	**12.39**	**268**	*e*PN	**Pn**	**11 14 47.2**	**+0.5**
BKZ				SN	Sn	11 16 52.4	-12
TBI	**Tubuai**	**22.47**	**48**	*e*T	T	11 39 16.2	
	71nm,0.3s						
PAE	**Paea**	**27.06**	**40**	*e*T	T	11 44 56.0	
	8.1nm,0.2s						
TVO	**Taravao**	**27.12**	**41**	*e*T	T	11 45 01.5	
	36nm,0.3s						
PPT2	**Papeete2**	**27.12**	**40**	*e*LR	LR	11 24 06.0	
	93nm,27.5s						
PPT2	**Papeete2**	**27.12**	**40**	*e*T	T	11 45 01.5	
	21nm,0.3s						
PPT	**Papeete**	**27.14**	**40**	LR	LR	11 26 33.3	
	comp=Z,18nm,18.5s,baz=315,slow=33						
TIAR	**Tiarei**	**27.26**	**40**	*e*T	T	11 45 11.6	
	24nm,0.3s						
MEH	**Mehetia**	**27.65**	**43**	*e*T	T	11 45 42.0	
	231nm,0.3s						
RKT	**Rikitea**	**32.16**	**68**	*e*T	T	11 51 36.9	
	16nm,0.2s						
VNDA	**Vanda**	**39.86**	**190**	P	**P**	**11 19 22.4**	**-1.1**
	0.4nm,0.4s,baz=100,slow=12,SNR=4.9						
VNDA				LR	LR	11 31 53.4	
	comp=Z,47nm,18.3s,baz=121,slow=39						
HNR	**Honiara**	**41.95**	**307**	LR	LR	11 32 15.7	
	comp=Z,52nm,20.1s,baz=201,slow=29						
CTA	**Charters Tower**	**44.10**	**283**	P	**P**	**11 19 59.3**	**+0.5**
	4.1nm,0.6s,baz=104,slow=12,SNR=8.4						
QSPA	**South Pole Qui**	**50.23**	**180**	P	P	11 20 51.5	+5.2
	0.7nm,0.7s,baz=295,slow=2.0,SNR=5.5						
ASAR	**Alice Springs**	**51.50**	**270**	P	**P**	**11 20 56.3**	**0.0**
	3.0nm,0.7s,baz=118,slow=5.9,SNR=20						
WRA	**Warramunga Arr**	**52.25**	**274**	P	**P**	**11 21 08.7**	**-0.6**
	1.0nm,0.5s,baz=122,slow=7.4,SNR=5.8						
FITZ	**Fitzroy Crossi**	**61.00**	**270**	P	**P**	**11 22 04.2**	**+0.1**
	2.9nm,0.8s,baz=164,slow=7.4,SNR=3.9						
PLCA	**Paso Flores**	**69.84**	**127**	P	**P**	**11 23 03.7**	**+2.6**
	3.1nm,0.9s,baz=268,slow=4.5,SNR=5.7						
LPAZ	**La Paz**	**86.68**	**108**	P	**P**	**11 24 35.7**	**+0.3**
	0.8nm,0.6s,baz=217,slow=5.6,SNR=4.0						
NVAR	**Mina Array Bea**	**90.04**	**36**	P	**P**	**11 24 49.0**	**-1.2**
	0.1nm,0.3s,baz=216,slow=7.6,SNR=3.0						
TXAR	**Lajitas Array**	**90.87**	**52**	P	**P**	**11 24 53.3**	**-0.8**
	0.2nm,0.6s,baz=216,slow=4.5,SNR=3.5						
DIB	**Dawson Inlet,**	**97.55**	**20**	T	T	13 13 22.0	
	SNR=100						
VIB	**Van Inlet**	**97.58**	**20**	T	T	13 13 22.6	
AKTO	**Aktyubinsk**	**146.72**	**304**	PKPbc	**PKPbc**	**11 31 31.1**	**-0.7**
	0.8nm,0.7s,baz=135,slow=5.7,SNR=3.7						
ARCES	**ARCESS Array B**	**149.51**	**351**	PKPbc	**PKPbc**	**11 31 37.9**	**-0.7**
	5.2nm,0.7s,baz=8.6,slow=2.3,SNR=29						
TORD	**Torodi Ar. Bea**	**151.69**	**157**	PKPbc	**PKPbc**	**11 31 45.9**	**+0.5**
	0.4nm,0.5s,baz=172,slow=2.9,SNR=3.7						
FINES	**FINESS Array B**	**156.88**	**343**	PKPbc	PKPdf	11 31 54.1	+9.2
	1.2nm,0.9s,baz=341,slow=4.6,SNR=4.1						

*IDC **18** 11:12:40.8±1.3, 45°57S×166°43E, h0km, mb3.8/2, mb1 4.2/3, mb1mx3.8/15, mbtmp4.0/3, ML4.3/1, MS3.6/4, Ms1 3.6/4, ms1mx3.2/19, Error ellipse: s-maj=49.8km s-min=26.8km az=173.0*

*ISCJB **18** 11:12:41.6±1.0, 45°.63S±0'.04×166°.43E±0'.06, h12km±5km, mb3.8/2, MS3.6/3, Error ellipse: s-maj=8.3km s-min=5.5km az=33.3*

*NEIC **18** 11:12:42.9, 45°.67S×166°.55E, h6km, ML4.5(WEL), After WEL.*

*WEL **18** 11:12:43.3±0.2, 45°.65S×166°.50E, h20km±1km, ML4.5/21, Error ellipse: s-maj=2.7km s-min=1.1km az=90.0*

ISC 18 11:12:41.9±1.5, 45°.63S±0'.04×166°.44E±0'.06, h10km±9km, n50, σ1°26/53, MS3.4/3, 1C-4D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.53**	**74**	↓Pg	**Pg**	**11 12 52.6**	**+0.5**
DCZ				Sg	**Sg**	**11 12 58.9**	**-0.2**
DCZ	**Deep Cove**	**0.53**	**74**	↓P*	**Pg**	**11 12 52.6**	**+0.5**
DCZ				S*	**Sg**	**11 12 58.9**	**-0.2**
DCZ				AML	AML	11 12 59.1	
DCZ				AML	AML	11 12 59.3	
DCZ				AML	AML	11 12 59.4	
PYZ	**Puysegur Point**	**0.56**	**162**	Pg	**Pg**	**11 12 53.3**	**+0.5**
PYZ				Sg	**Sg**	**11 13 00.3**	**0.0**
PYZ	**Puysegur Point**	**0.56**	**162**	↑P*	**Pg**	**11 12 53.3**	**+0.5**
PYZ				S*	**Sg**	**11 13 00.3**	**0.0**
WHZ	**Wether Hill Ro**	**1.09**	**105**	P*	**Pb**	**11 13 02.1**	**-0.7**
WHZ	**Wether Hill Ro**	**1.09**	**105**	AML	AML	11 13 23.5	
WHZ				AML	AML	11 13 25.0	
MLZ	**Mavora Lakes**	**1.25**	**78**	↓P*	**Pn**	**11 13 04.2**	**-1.3**
MLZ				S*	**Sb**	**11 13 19.7**	**-2.2**
MLZ	**Mavora Lakes**	**1.25**	**78**	↓PN	**Pn**	**11 13 04.3**	**-1.3**
MLZ				SN	**Sb**	**11 13 19.7**	**-2.2**
MLZ				AML	AML	11 13 28.3	
MSZ	**Milford Sound**	**1.43**	**48**	Pn	**Pn**	**11 13 06.2**	**-1.7**
MSZ	**Milford Sound**	**1.43**	**48**	PN	**Pn**	**11 13 06.2**	**-1.7**
MSZ				AML	AML	11 13 38.5	
MSZ				AML	AML	11 13 38.5	
MSZ				AML	AML	11 13 38.7	
MSZ				AML	AML	11 13 38.7	
APZ	**The Paps**	**1.62**	**139**	Pn	**Pn**	**11 13 09.7**	**-0.9**
APZ	**The Paps**	**1.62**	**139**	PN	**Pn**	**11 13 09.7**	**-0.9**
WKZ	**Wanaka**	**1.99**	**67**	Pn	**Pn**	**11 13 16.6**	**+0.8**
WKZ	**Wanaka**	**1.99**	**67**	PN	**Pn**	**11 13 16.5**	**+0.8**
WKZ				AML	AML	11 13 47.9	
WKZ				AML	AML	11 13 47.9	
WKZ				AML	AML	11 13 48.3	
WKZ				AML	AML	11 13 52.2	
EAZ	**Earnscleugh**	**2.06**	**80**	Pn	**Pn**	**11 13 17.6**	**+0.9**
EAZ	**Earnscleugh**	**2.06**	**80**	PN	**Pn**	**11 13 17.6**	**+0.9**
EAZ				AML	AML	11 13 47.4	
EAZ				AML	AML	11 13 47.4	
EAZ				AML	AML	11 13 54.7	
EAZ				AML	AML	11 13 54.8	
SYZ	**Scrubby Hill**	**2.09**	**117**	Pn	**Pn**	**11 13 18.4**	**+1.4**
SYZ	**Scrubby Hill**	**2.09**	**117**	PN	**Pn**	**11 13 18.3**	**+1.4**
TUZ	**Tuapeka**	**2.26**	**99**	Pn	**Pn**	**11 13 21.3**	**+1.9**
TUZ	**Tuapeka**	**2.26**	**99**	PN	**Pn**	**11 13 21.3**	**+1.9**
TUZ				AML	AML	11 13 51.3	
TUZ				AML	AML	11 13 52.6	
JCZ	**Jackson Bay**	**2.27**	**48**	Pn	**Pn**	**11 13 21.5**	**+1.9**
JCZ	**Jackson Bay**	**2.27**	**48**	PN	**Pn**	**11 13 21.3**	**+1.7**
JCZ				AML	AML	11 14 00.4	
JCZ				AML	AML	11 14 03.7	
HHSZ	**Highcliff Hill**	**2.92**	**97**	PN	**Pn**	**11 13 30.5**	**+2.0**
LBZ	**Lake Benmore**	**2.94**	**66**	Pn	**Pn**	**11 13 28.8**	**+0.1**
LBZ	**Lake Benmore**	**2.94**	**66**	PN	**Pn**	**11 13 28.6**	**-0.1**
LBZ				AML	AML	11 14 09.8	
LBZ				AML	AML	11 14 11.5	
LBZ				AML	AML	11 14 33.3	
LBZ				AML	AML	11 14 33.3	
ODZ	**Otahua Downs**	**3.02**	**80**	*e*Pn	**Pn**	**11 13 30.4**	**+0.5**
ODZ				Sn	**Sn**	**11 14 09.0**	**+2.8**
ODZ	**Otahua Downs**	**3.02**	**80**	PN	**Pn**	**11 13 29.6**	**-0.3**
ODZ				AML	AML	11 14 07.9	
ODZ				AML	AML	11 14 08.9	
ODZ				AML	AML	11 14 08.9	
ODZ				AML	AML	11 14 24.2	
FOZ	**Fox Glacier**	**3.11**	**50**	Pn	**Pn**	**11 13 33.6**	**+2.6**
FOZ	**Fox Glacier**	**3.11**	**50**	PN	**Pn**	**11 13 33.6**	**+2.6**
FOZ				AML	AML	11 14 28.7	
FOZ				AML	AML	11 14 28.7	
FOZ				AML	AML	11 14 30.3	
FOZ				AML	AML	11 14 30.4	
RPZ	**Rata Peaks**	**3.81**	**61**	*e*Pn	**Pn**	**11 13 41.1**	**+0.5**
RPZ				*e*Sn	**Sn**	**11 14 25.6**	**0.0**
RPZ				Sn	**Sn**	**11 14 26.9**	**+1.4**
RPZ	**Rata Peaks**	**3.81**	**61**	Pn	**Pn**	**11 13 40.5**	**-0.2**
	21nm,0.3s,baz=226,slow=5.3,SNR=82						
RPZ				Sn	**Sn**	**11 14 26.9**	**+1.4**
	39nm,0.3s,baz=356,slow=20,SNR=11						
RPZ				LR	LR	11 14 37.0	
	comp=Z,577nm,20.8s,baz=236,slow=31						
RPZ	**Rata Peaks**	**3.81**	**61**	PN	**Pn**	**11 13 40.1**	**-0.6**
RPZ				AML	AML	11 14 37.1	
RPZ				AML	AML	11 14 51.6	
WVZ	**Waitaha Valley**	**4.00**	**52**	AML	AML	11 14 38.8	
WVZ				AML	AML	11 14 40.3	
LTZ	**Lake Taylor**	**5.07**	**58**	AML	AML	11 15 00.0	
LTZ				AML	AML	11 15 01.6	
THZ	**Tophouse**	**6.08**	**53**	AML	AML	11 15 27.7	
THZ				AML	AML	11 15 30.6	
RAO	**Raoul Island**	**20.47**	**42**	LR	LR	11 24 18.4	
	comp=Z,718nm,21.1s,baz=256,slow=34						
STKA	**Stephens Creek**	**23.63**	**297**	LR	LR	11 26 15.1	
	comp=Z,100nm,18.2s,baz=206,slow=34						
ASAR	**Alice Springs**	**34.23**	**299**	P	**P**	**11 19 28.6**	**+0.7**
ASAR	**Alice Springs**	**34.23**	**299**	P	**P**	**11 19 28.6**	**+0.7**
	1.0nm,0.7s,baz=134,slow=8.6,SNR=6.2						
WRA	**Warramunga Arr**	**36.79**	**303**	P	**P**	**11 19 49.2**	**-0.7**
WRA	**Warramunga Arr**	**36.79**	**303**	P	**P**	**11 19 49.2**	**-0.7**
	1.7nm,1.0s,baz=146,slow=9.1,SNR=6.0						
PPT	**Papeete**	**45.95**	**67**	LR	LR	11 36 06.1	
	comp=Z,45nm,18.9s,baz=98,slow=31						
TORD	**Torodi Ar. Bea**	**145.13**	**207**	PKPbc	**PKPbc**	**11 32 19.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**145.13**	**207**	PKPbc	**PKPbc**	**11 32 19.1**	**-0.3**
	1.8nm,0.7s,baz=160,slow=2.1,SNR=9.4						
BRTR	**Keskin Array B**	**145.21**	**277**	PKPbc	**PKPbc**	**11 32 19.1**	**-0.1**
BRTR	**Keskin Array B**	**145.21**	**277**	PKPbc	**PKPbc**	**11 32 19.1**	**-0.1**
	1.0nm,0.7s,baz=134,slow=6.3,SNR=6.7						
ARCES	**ARCESS Array B**	**149.16**	**334**	PKPbc	**PKPbc**	**11 32 28.5**	**-0.8**
ARCES	**ARCESS Array B**	**149.16**	**334**	PKPbc	**PKPbc**	**11 32 28.5**	**-0.8**
	1.9nm,0.8s,baz=56,slow=2.3,SNR=2.5						
FINES	**FINESS Array B**	**152.19**	**319**	PKPbc	**PKPbc**	**11 32 37.0**	**+0.5**
FINES	**FINESS Array B**	**152.19**	**319**	PKPbc	**PKPbc**	**11 32 37.0**	**+0.5**
	1.0nm,0.9s,baz=66,slow=3.5,SNR=2.8						

IDC 18 11:15:12.2±8.7, 11°01S×123°59E, h125km±104km, mb3.5/3, mb1 3.3/6, mb1mx3.2/20, mbtmp3.2/6, ML3.2/3, Error ellipse: s-maj=80.5km s-min=61.3km az=45.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**7.32**	**165**	P	Pn	11 16 56.8	+0.3
	0.2nm,0.3s,baz=356,slow=10,SNR=17						
FITZ				S	Sn	11 18 18.5	+0.3
	1.6nm,0.3s,baz=173,slow=7.8,SNR=9.4						
WRA	**Warramunga Arr**	**13.64**	**132**	P	Pn	11 18 18.8	-1.8
	0.1nm,0.3s,baz=300,slow=13,SNR=9.1						
WRA				S	Sn	11 20 46.3	-4.8
	0.4nm,0.3s,baz=300,slow=20,SNR=8.5						
ASAR	**Alice Springs**	**15.97**	**143**	P	P	11 18 51.6	+0.6
	0.1nm,0.3s,baz=317,slow=12,SNR=17						
ASAR				S	Sn	11 21 44.0	-3.3
	0.2nm,0.3s,baz=314,slow=22,SNR=6.6						
SONM	**Songino Array**	**60.55**	**347**	P	P	11 25 09.2	-0.2
	0.2nm,0.3s,baz=163,slow=10,SNR=2.3						
MKAR	**Makanchi Array**	**68.35**	**331**	P	P	11 26 00.4	+0.3
	0.7nm,0.5s,baz=132,slow=7.8,SNR=9.7						
ZALV	**Zalesovo Beam**	**72.58**	**337**	P	P	11 26 25.3	-0.2
	0.6nm,0.3s,baz=133,slow=6.1,SNR=1.6						

GUC 18 11:25:01.9±0.8, 27°08S×70°79W, h34km±5km, ML3.6, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.03**	**286**	*e*P	Pb	11 25 07.8	+0.2
CDCH				*i* S	Sb	11 25 11.4	0.0
CDCH				AML	AML	11 25 12.6	
	comp=E,8μm,0.3s						
CPCH	**Copiapo**	**0.48**	**126**	↓*i* P	Pb	11 25 11.7	-0.6
CPCH				*i* S	Sn	11 25 19.8	+0.2
CPCH				AML	AML	11 25 21.0	
	comp=N,36μm,0.1s						
LCO	**Las Campanas**	**1.93**	**178**	*e*P	Pn	11 25 34.1	+1.4
LCO				*e*S	Sb	11 25 59.0	-1.8
LCO				AML	AML	11 26 05.2	
	comp=N,210nm,0.5s						
TLL	**Tololo Astrono**	**3.08**	**180**	*e*P	Pn	11 25 50.3	+1.8
TLL				*i* S	Sn	11 26 26.9	+2.5
TLL				AML	AML	11 26 45.3	
	comp=N,127nm,0.5s						

WEL 18 12:06:28.3±0.4, 45°.86S×166°.35E, h22km±1km, ML4.1/18, 1D, Error ellipse: s-maj=4.2km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.39**	**143**	↓P*	Pb	12 06 36.1	-0.2
PYZ				S*	Sb	12 06 41.4	-0.4
DCZ	**Deep Cove**	**0.69**	**56**	P*	Pb	12 06 40.6	-0.9
DCZ				S*	Sb	12 06 49.8	-0.8
DCZ				AML	AML	12 06 50.0	
DCZ				AML	AML	12 06 50.0	
DCZ				AML	AML	12 06 50.2	
MLZ	**Mavora Lakes**	**1.38**	**69**	PN	Pn	12 06 51.9	-0.4
MLZ				AML	AML	12 07 14.4	
MLZ				AML	AML	12 07 14.8	
APZ	**The Paps**	**1.50**	**131**	PN	Pn	12 06 53.1	-0.8
MSZ	**Milford Sound**	**1.63**	**44**	AML	AML	12 07 27.3	
MSZ				AML	AML	12 07 27.4	
MSZ				AML	AML	12 07 28.1	
MSZ				AML	AML	12 07 28.2	
SYZ	**Scrubby Hill**	**2.06**	**110**	PN	Pn	12 07 02.0	+0.6
WKZ	**Wanaka**	**2.15**	**62**	PN	Pn	12 07 04.4	+1.6
WKZ				AML	AML	12 07 40.2	
WKZ				AML	AML	12 07 42.4	
WKZ				AML	AML	12 07 42.4	
EAZ	**Earnscleugh**	**2.18**	**74**	PN	Pb	12 07 05.7	-1.2
EAZ				AML	AML	12 07 09.4	
EAZ				AML	AML	12 07 10.4	
TUZ	**Tuapeka**	**2.30**	**94**	PN	Pn	12 07 06.2	+1.3
TUZ				AML	AML	12 07 36.9	
TUZ				AML	AML	12 07 38.9	
JCZ	**Jackson Bay**	**2.48**	**45**	*e*PN	Pb	12 07 10.1	-2.0
JCZ				AML	AML	12 07 52.1	
JCZ				AML	AML	12 07 56.2	
LBZ	**Lake Benmore**	**3.09**	**63**	AML	AML	12 08 09.9	
LBZ				AML	AML	12 08 14.6	
ODZ	**Otahua Downs**	**3.13**	**76**	PN	Pn	12 07 16.8	+0.5
ODZ				AML	AML	12 07 29.8	
ODZ				AML	AML	12 08 10.3	
FOZ	**Fox Glacier**	**3.31**	**47**	PN	Pn	12 07 21.5	+2.7
FOZ				AML	AML	12 08 20.8	
FOZ				AML	AML	12 08 27.9	
RPZ	**Rata Peaks**	**3.98**	**59**	*e*PN	Pn	12 07 28.1	0.0
RPZ				AML	AML	12 08 18.4	
RPZ				AML	AML	12 08 50.6	
WVZ	**Waitaha Valley**	**4.20**	**50**	*e*PN	Pn	12 07 32.5	+1.5
WVZ				AML	AML	12 08 51.2	
WVZ				AML	AML	12 08 51.8	
OXZ	**Oxford**	**4.79**	**60**	*e*PN	Pn	12 07 38.7	-0.4
LTZ	**Lake Taylor**	**5.25**	**56**	PN	Pn	12 07 45.6	+0.1
DSZ	**Denniston Nort**	**5.70**	**46**	PN	Pn	12 07 52.7	+1.0
THZ	**Tophouse**	**6.27**	**52**	PN	Pn	12 08 01.6	+2.1

IDC 18 12:22:04.0±1.5, 16°.80S×172°.27W, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.1/21, mbtmp4.0/8, MS3.4/2, Ms1 3.4/2, ms1mx2.9/26, Error ellipse: s-maj=59.3km s-min=20.9km az=143.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.91**	**9**	Pn	Pn	12 22 40.7	-11
	30nm,0.3s,baz=44,slow=2.5,SNR=34						
AFI				Sn	Sn	12 23 07.4	-20
	91nm,0.3s,baz=335,slow=22,SNR=8.4						
PPT2	**Papeete2**	**21.69**	**95**	*e*LR	LR	12 32 09.0	
	104nm,25.8s						
HNR	**Honiara**	**28.01**	**282**	LR	LR	12 36 25.7	
	comp=Z,83nm,19.8s,baz=137,slow=31						
STKA	**Stephens Creek**	**44.30**	**241**	P	P	12 30 15.9	0.0
	7.3nm,1.1s,baz=67,slow=13,SNR=5.5						
WRA	**Warramunga Arr**	**50.60**	**258**	P	P	12 31 04.5	-0.6
	0.5nm,0.6s,baz=95,slow=6.8,SNR=9.3						
ASAR	**Alice Springs**	**50.73**	**253**	P	P	12 31 05.8	-0.3
	2.4nm,0.8s,baz=87,slow=7.7,SNR=25						
MJAR	**Matsushiro Arr**	**70.70**	**320**	P	P	12 33 22.3	+0.3
	1.1nm,0.9s,baz=139,slow=11,SNR=3.7						
PETK	**Petropavlovsk-**	**74.29**	**342**	P	P	12 33 43.1	+0.1
	0.8nm,0.4s,baz=229,slow=9.4,SNR=11						
NVAR	**Mina Array Bea**	**74.65**	**41**	P	P	12 33 46.3	+0.6
	1.1nm,0.6s,baz=229,slow=9.4,SNR=11						
TXAR	**Lajitas Array**	**80.50**	**56**	LR	LR	13 02 51.1	
	comp=Z,24nm,19.7s,baz=5.0,slow=30						
PDAR	**Pinedale Array**	**82.59**	**41**	P	P	12 34 29.0	-0.4
	0.4nm,0.8s,baz=217,slow=4.7,SNR=3.6						
ILAR	**Eielson Array**	**83.61**	**11**	P	P	12 34 32.5	-1.3
	1.5nm,0.7s,baz=224,slow=6.0,SNR=25						
BRTR	**Keskin Array B**	**147.92**	**321**	PKPbc	PKPbc	12 41 52.7	+0.9
	0.7nm,0.5s,baz=108,slow=1.7,SNR=4.8						

*IDC **18** 12:46:02.4±5.2, 46°.62N×149°.47E, h142km±60km, mb2.9/2, mb1 3.1/5, mb1mx2.9/26, mbtmp2.9/5, Error ellipse: s-maj=119.2km s-min=36.4km az=140.0*

*ISCJB **18** 12:46:03.4±1.1, 45°.0N±0'.2×149°.9E±0'.2, h200km, m

MSZ					AML	AML	12 52 06.2		
MSZ					AML	AML	12 52 06.9		
SYZ	**Scrubby Hill**	**1.61**	**115**		PN	Pn	12 51 49.9	-0.6	
EAZ	**Earnscleugh**	**1.73**	**69**		PN	Pn	12 51 53.2	+0.9	
EAZ					AML	AML	12 52 17.4		
EAZ					AML	AML	12 52 17.5		
EAZ					AML	AML	12 52 18.3		
EAZ					AML	AML	12 52 18.3		
WKZ	**Wanaka**	**1.76**	**54**		PN	Pb	12 51 53.8	-0.9	
WKZ					AML	AML	12 52 20.6		
WKZ					AML	AML	12 52 20.6		
WKZ					AML	AML	12 52 23.6		
WKZ					AML	AML	12 52 23.6		
TUZ	**Tuapeka**	**1.82**	**93**		PN	Pn	12 51 54.2	+0.7	
TUZ					AML	AML	12 52 18.4		
TUZ					AML	AML	12 52 19.7		
JCZ	**Jackson Bay**	**2.19**	**35**		PN	Pb	12 52 00.4	-1.6	
ODZ	**Otahua Downs**	**2.68**	**73**		PN	Pn	12 52 05.2	-0.2	
ODZ					AML	AML	12 52 19.6		
ODZ					AML	AML	12 52 38.4		
ODZ					AML	AML	12 52 49.2		
ODZ					AML	AML	12 52 50.1		
LBZ	**Lake Benmore**	**2.69**	**57**		PN	Pn	12 52 05.4	-0.1	
LBZ					AML	AML	12 52 47.1		
LBZ					AML	AML	12 53 11.1		
FOZ	**Fox Glacier**	**3.00**	**40**	*e*PN	Pb		12 52 13.2	-2.5	
RPZ	**Rata Peaks**	**3.60**	**54**	*e*PN	Pn		12 52 16.8	-1.1	

IDC 18 13:06:19.6±21.0, 42°05.5S×88°04.1E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.7/19, mbtmp3.6/3, MS3.6/8, Ms1 3.6/8, ms1mx3.3/22, Error ellipse: s-maj=509.2km s-min=47.1km az=37.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**24.79**	**78**	LR	LR	13 18 56.9	
	comp=Z,130nm,19.7s,baz=192,slow=30						
MAW	**Mawson**	**29.00**	**200**	LR	LR	13 21 16.1	
	comp=Z,161nm,20.6s,baz=193,slow=31						
FITZ	**Fitzroy Crossi**	**39.88**	**65**	LR	LR	13 29 47.4	
	comp=Z,47nm,18.6s,baz=170,slow=35						
ASAR	**Alice Springs**	**42.11**	**79**	P	P	13 14 13.9	+0.4
	0.9nm,0.7s,baz=224,slow=7.4,SNR=18						
ASAR				LR	LR	13 29 36.0	
	comp=Z,130nm,18.8s,baz=248,slow=33						
WRA	**Warramunga Arr**	**44.74**	**75**	P	P	13 14 33.9	-0.9
	0.7nm,0.8s,baz=231,slow=8.0,SNR=4.9						
VNDA	**Vanda**		**45.86 163**	LR	LR	13 31 53.9	
	comp=Z,56nm,18.7s,baz=322,slow=34						
BOSA	**Boshof**		**51.87 264**	LR	LR	13 32 12.9	
	comp=Z,59nm,18.5s,baz=250,slow=30						
CMAR	**Chiang Mai Arr**	**61.04**	**12**	P	P	13 16 35.0	0.0
	0.4nm,0.5s,baz=211,slow=4.7,SNR=2.5						
CMAR				LR	LR	13 40 40.9	
	comp=Z,24nm,18.4s,baz=195,slow=34						
MKAR	**Makanchi Array**	**88.60**	**356**	LR	LR	13 55 37.6	
	comp=Z,266nm,20.2s,baz=355,slow=33						

MEX 18 13:09:02.6±0.3, 16°83N×100°12W, h35km±3km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.26**	**327**	*i* P	Pn	13 09 08.7	-1.7
CAIG				*i* S	Sn	13 09 13.5	-3.1
ARIG	**Puente Sto Nin**	**1.46**	**351**	*i* P	Pn	13 09 24.9	-1.7
ARIG				*i* S	Sn	13 09 42.1	-2.4
ZIIG	**Zihuatanejo**	**1.50**	**301**	*i* P	Pn	13 09 26.2	-0.9
ZIIG				*e*S	Sn	13 09 43.4	-2.0
PLIG	**Platanillo**	**1.66**	**21**	*i* P	Pn	13 09 27.9	-1.5
PLIG				*e*S	Sn	13 09 47.5	-2.1
PNIG	**Pinotepa**	**1.96**	**102**	*i* P	Pn	13 09 32.1	-1.3
PNIG				*i* S	Sn	13 09 54.0	-2.6
YAIG	**Yautepec**	**2.26**	**26**	*i* P	Pn	13 09 36.5	-1.2
YAIG				*i* S	Sn	13 10 02.4	-2.1

WEL 18 13:14:49.8±0.1, 46°17S×166°18E, h33km, ML4.0/17, 1D, Error ellipse: s-maj=1.3km s-min=0.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.35**	**90**	⇓P*	Pb	13 14 58.0	-0.1
PYZ				S*	Sn	13 15 04.1	-0.1
DCZ	**Deep Cove**	**0.97**	**45**	PN	Pn	13 15 06.8	-0.3
DCZ				AML	AML	13 15 20.7	
DCZ				AML	AML	13 15 21.3	
WHZ	**Wether Hill Ro**	**1.26**	**78**	PN	Pb	13 15 12.2	-0.7
WHZ				AML	AML	13 15 31.3	
WHZ				AML	AML	13 15 32.8	
APZ	**The Paps**	**1.41**	**119**	PN	Pn	13 15 13.6	+0.4
MLZ	**Mavora Lakes**	**1.62**	**60**	*e*PN	Pn	13 15 17.3	+1.3
MLZ				AML	AML	13 15 41.4	
MLZ				AML	AML	13 15 43.8	
MSZ	**Milford Sound**	**1.94**	**40**	*e*PN	Pn	13 15 21.5	+1.2
MSZ				AML	AML	13 15 47.8	
MSZ				AML	AML	13 15 49.2	
MSZ				AML	AML	13 15 55.1	
MSZ				AML	AML	13 15 56.7	
SYZ	**Scrubby Hill**	**2.08**	**101**	*e*PN	Pn	13 15 24.3	+2.0
EAZ	**Earnscleugh**	**2.38**	**68**	PN	Pb	13 15 29.8	-2.1
EAZ				AML	AML	13 16 03.1	
EAZ				AML	AML	13 16 03.1	
EAZ				AML	AML	13 16 03.2	
EAZ				AML	AML	13 16 03.2	
WKZ	**Wanaka**	**2.40**	**57**	*e*PN	Pb	13 15 30.3	-2.1
WKZ				AML	AML	13 16 02.6	
WKZ				AML	AML	13 16 03.2	
WKZ				AML	AML	13 16 05.9	
WKZ				AML	AML	13 16 08.8	
TUZ	**Tuapeka**	**2.41**	**86**	PN	Pn	13 15 29.3	+2.4
TUZ				AML	AML	13 16 05.6	
TUZ				AML	AML	13 16 08.3	
JCZ	**Jackson Bay**	**2.78**	**42**	*e*PN	Pn	13 15 35.1	+3.0
JCZ				AML	AML	13 16 21.5	
JCZ				AML	AML	13 16 21.6	
ODZ	**Otahua Downs**	**3.33**	**72**	PN	Pn	13 15 40.2	+0.7
ODZ				AML	AML	13 16 33.8	
ODZ				AML	AML	13 16 41.4	
LBZ	**Lake Benmore**	**3.34**	**59**	*e*PN	Pn	13 15 41.8	+2.1
LBZ				AML	AML	13 16 23.6	
LBZ				AML	AML	13 16 26.4	
FOZ	**Fox Glacier**	**3.60**	**45**	*e*PN	Pn	13 15 47.0	+3.8
RPZ	**Rata Peaks**	**4.24**	**56**	AML	AML	13 16 46.8	
RPZ				AML	AML	13 16 50.9	
WVZ	**Waitaha Valley**	**4.49**	**48**	*e*PN	Pn	13 15 56.5	+1.1

IDC 18 13:14:54.0±1.9, 4°73S×144°92E, h0km, mb3.3/4, mb1 3.6/5, mb1mx3.5/17, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=56.9km s-min=28.7km az=107.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.29**	**213**	P	Pn	13 19 08.4	-1.1
	0.1nm,0.3s,baz=33,slow=11,SNR=8.3						
ASAR	**Alice Springs**		**21.61 208**	P	P	13 19 44.7	-1.2
	0.2nm,0.6s,baz=29,slow=11,SNR=3.9						
CMAR	**Chiang Mai Arr**	**50.83**	**298**	P	P	13 23 57.7	+0.8
	0.6nm,0.5s,baz=107,slow=6.0,SNR=3.6						
MKAR	**Makanchi Array**	**75.21**	**321**	P	P	13 26 39.0	+0.3
	0.2nm,0.5s,baz=114,slow=6.4,SNR=3.4						
ILAR	**Eielson Array**	**85.15**	**24**	P	P	13 27 31.8	0.0
	0.2nm,0.7s,baz=243,slow=4.0,SNR=2.5						

WEL 18 13:16:10.7±0.2, 45°50S×166°63E, h20km±1km, ML3.8/18, Error ellipse: s-maj=2.0km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.37**	**87**	P*	Pg	13 16 18.3	-0.2
DCZ				S*	Sg	13 16 23.1	-0.7
DCZ				AML	AML	13 16 23.7	
DCZ				AML	AML	13 16 23.7	
DCZ				AML	AML	13 16 23.7	
PYZ	**Puysegur Point**	**0.67**	**177**	P*	Pb	13 16 23.1	-0.7
PYZ				S*	Sb	13 16 31.4	-1.3
WHZ	**Wether Hill Ro**	**1.00**	**114**	P*	Pb	13 16 29.1	-0.4
WHZ				AML	AML	13 16 43.8	
WHZ				AML	AML	13 16 46.8	
MLZ	**Mavora Lakes**	**1.09**	**83**	PN	Pn	13 16 30.0	-1.0
MLZ				AML	AML	13 16 44.3	
MLZ				AML	AML	13 16 45.9	
MSZ	**Milford Sound**	**1.23**	**49**	*e*PN	Pn	13 16 32.2	-0.6
MSZ				AML	AML	13 16 53.6	
MSZ				AML	AML	13 16 55.1	
APZ	**The Paps**	**1.64**	**145**	*e*PN	Pb	13 16 39.5	-0.8
WKZ	**Wanaka**	**1.81**	**69**	*e*PN	Pb	13 16 43.7	+0.3
WKZ				AML	AML	13 17 11.3	
WKZ				AML	AML	13 17 12.4	
EAZ	**Earnscleugh**	**1.90**	**83**	PN	Pb	13 16 45.6	-1.2
EAZ				AML	AML	13 17 09.2	
EAZ				AML	AML	13 17 09.4	
SYZ	**Scrubby Hill**	**2.03**	**122**	*e*PN	Pb	13 16 46.0	-1.0
JCZ	**Jackson Bay**	**2.08**	**48**	*e*PN	Pg	13 16 50.1	-0.7
JCZ				AML	AML	13 17 22.8	
JCZ				AML	AML	13 17 23.1	
TUZ	**Tuapeka**	**2.15**	**103**	*e*PN	Pb	13 16 47.4	-1.6
TUZ				AML	AML	13 17 17.1	
TUZ				AML	AML	13 17 18.0	
LBZ	**Lake Benmore**	**2.75**	**68**	AML	AML	13 17 34.2	
LBZ				AML	AML	13 17 35.7	
ODZ	**Otahua Downs**	**2.87**	**82**	PN	Pn	13 16 55.8	+0.4
ODZ				AML	AML	13 17 35.1	
ODZ				AML	AML	13 17 35.8	
FOZ	**Fox Glacier**	**2.92**	**50**	AML	AML	13 17 48.7	
RPZ	**Rata Peaks**	**3.62**	**62**	AML	AML	13 17 53.9	
RPZ				AML	AML	13 17 54.1	

IGQ 18 13:21:47.3, 2°80S×80°85W, h6km±160km, Mb4.1, Ms3.9, 2C-8D, Error ellipse: s-maj=11.0km s-min=2.9km az=12.1, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**1.74**	**4**	S	Sb	13 22 42.2	+0.3
CHIS	**Cerro-Chispas-**	**1.74**	**4**	P	Pb	13 22 19.2	-0.5
BMAS	**Trigal station**	**2.70**	**62**	⇓P	Pn	13 22 33.0	+1.3
MACE	**Macas**	**2.71**	**79**	P	Pn	13 22 33.4	+1.8
ARRY	**Arrayan**	**2.72**	**62**	⇓S	Sn	13 23 06.4	+0.8
ARRY	**Arrayan**	**2.72**	**62**	⇓P	Pn	13 22 33.0	+1.0
PAT1	**Patacocha**	**2.73**	**62**	P	Pb	13 22 34.9	-2.3
PAT1	**Patacocha**	**2.73**	**62**	S	Sn	13 23 08.3	+2.1
BPAT	**Tungurahua Vol**	**2.74**	**62**	P	Pn	13 22 34.3	+1.9
BULB	**Ulba Tungurahu**	**2.79**	**61**	P	Pn	13 22 34.3	+1.3
BRUN	**Tungurahua Vol**	**2.80**	**61**	P	Pn	13 22 34.3	+1.3
MAG1	**Magdalena**	**2.91**	**22**	P	Pn	13 22 36.2	+2.0
PISA	**Pisayambo**	**3.01**	**55**	P	Pn	13 22 38.7	+2.5
BMOR	**Cotopaxi Volca**	**3.15**	**49**	P	Pn	13 22 40.4	+2.2
BMOR	**Cotopaxi Volca**	**3.15**	**49**	S	Sb	13 23 22.7	-1.0
CAMI	**Rancho Maria**	**3.15**	**48**	P	Pb	13 22 42.5	-1.9
BNAS	**Cotopaxi Volca**	**3.17**	**48**	P	Pn	13 22 40.9	+2.4
MOV1	**Cotopaxi Vol s**	**3.18**	**49**	P	Pn	13 22 40.5	+1.8
NAS2	**Nasa**	**3.20**	**48**	P	Pb	13 22 42.3	-3.0
BREF	**Cotopaxi Volca**	**3.21**	**49**	⇓P	Pn	13 22 42.0	+2.9
BTAM	**Cotopaxi Volca**	**3.24**	**49**	P	Pn	13 22 42.2	+2.8
TAMB	**Tambo**	**3.25**	**50**	P	Pn	13 22 41.3	+1.8
VC1	**Cotopaxi 1**	**3.25**	**49**	P	Pn	13 22 42.4	+2.8
COV1	**Cotopaxi Volc**	**3.28**	**50**	P	Pn	13 22 42.2	+2.1
PITA	**Cotopaxi Volc**	**3.29**	**47**	P	Pn	13 22 42.9	+2.9
JUA2	**San Juan 2**	**3.41**	**41**	P	Pn	13 22 43.6	+2.0
TERV	**Terraza Guagua**	**3.44**	**41**	S	Sb	13 23 28.6	-3.4
TERV	**Terraza Guagua**	**3.44**	**41**	P	Pn	13 22 44.7	+2.5
GGP	**Refugio Guagua**	**3.45**	**41**	⇑S	Sn	13 23 27.6	+3.5
GGP	**Refugio Guagua**	**3.45**	**41**	⇑P	Pn	13 22 44.1	+1.8
PINO	**Pino**	**3.45**	**41**	⇓P	Pn	13 22 43.9	+1.5
ANTI	**Antisana**	**3.56**	**49**	P	Pn	13 22 46.9	+3.1
OTAV	**Otavalo**	**3.85**	**39**	⇓S	Sn	13 23 35.3	+1.5
OTAV	**Otavalo**	**3.85**	**39**	⇓P	Pn	13 22 49.0	+1.3
COTA	**Cotacachi**	**4.00**	**39**	P	Pn	13 22 52.3	+2.5
CAYA	**Cayambe**	**4.04**	**45**	⇓P	Pb	13 22 55.3	-4.3

IDC 18 13:26:05.0±18.0, 14°49S×170°64E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.9/5, Error ellipse: s-maj=315.3km s-min=111.1km az=70.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**23.93**	**253**	P	P	13 31 21.8	+0.8
	1.5nm,0.4s,baz=355,slow=12,SNR=4.3						
STKA	**Stephens Creek**	**31.67**	**232**	P	P	13 32 29.8	-0.5
	3.5nm,1.1s,baz=52,slow=12,SNR=4.9						
WRA	**Warramunga Arr**	**35.05**	**256**	P	P	13 32 58.8	-1.2
	0.1nm,0.3s,baz=84,slow=8.3,SNR=7.0						
ASAR	**Alice Springs**	**35.81**	**250**	P	P	13 33 05.8	-0.8
	2.1nm,0.5s,baz=76,slow=9.3,SNR=61						
FITZ	**Fitzroy Crossi**	**43.27**	**259**	P	P	13 34 10.1	+1.4
	0.5nm,0.3s,baz=91,slow=8.7,SNR=7.0						

*ISCJB **18** 13:33:27.1±1.0, 46°.4N±0°.1×152°.6E±0°.2, h52km, mb3.6/5, Error ellipse: s-maj=26.6km s-min=5.5km az=137.5*
*MOS **18** 13:33:29.1±1.2, 46°.57N×152°.56E, h66km, mb4.0/3, Error ellipse: s-maj=21.7km s-min=11.8km az=57.0*
*IDC **18** 13:33:30.1±3.9, 46°.41N×152°.92E, h54km±30km, mb3.2/4, mb1 3.4/6, mb1mx3.2/26, mbtmp3.3/6, ML3.4/2, Error ellipse: s-maj=52.0km s-min=27.3km az=163.0*

ISC 18 13:33:28.4±1.4, 46°.4N±0°.2×152°.7E±0°.1, h52km, n27, σ2s 18/30, mb3.6/5, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.58**	**253**	*i* PN	**Pn**	**13 34 24.2**	**+2.7**
SKR	**Severo-Kuril's**	**4.87**	**26**	PN	**Pn**	**13 34 39.0**	**-0.1**
SKR				*e*S	**Sn**	**13 35 29.5**	**-4.6**
SKR				smax	smax		
	comp=N,80nm,0.9s						
SKR				smax	smax		
	comp=E,80nm,0.9s						
YUK	**Yuzh-Kuril'sk**	**5.38**	**247**	*d* PN	**Pn**	**13 34 47.6**	**+1.5**
YUK				S	**Sn**	**13 35 50.1**	**+3.4**
YUK				pmax	pmax		
	comp=N,14nm,0.3s						
YUK				pmax	pmax		
	comp=Z,33nm,0.7s						
YUK				pmax	pmax		
	comp=E,28nm,0.3s						
YUK				pmax	pmax		
	comp=Z,128nm,2.1s						
YUK				smax	smax		
	comp=E,25nm,0.6s						
YUK				smax	smax		
	comp=N,83nm,0.0s						
YUK				smax	smax		
	comp=N,90nm,2.6s						
YUK				smax	smax		
	comp=E,250nm,2.6s						
NEM2	**Nemuro 2**	**5.80**	**241**	P	**Pn**	**13 34 50.3**	**-1.5**
NEM2				*e*S	**Sn**	**13 35 53.7**	**-3.3**
JRA	**Rausu**	**5.90**	**248**	P	**Pn**	**13 34 51.1**	**+1.9**
JAK	**Akkeshi**	**6.64**	**242**	P	**Pn**	**13 35 02.1**	**-1.3**
JAK				*e*S	**Sn**	**13 36 13.9**	**-3.8**
JTKR	**Abashiri--Toko**	**6.68**	**252**	P	**Pn**	**13 35 06.0**	**+2.1**
JMP	**Maruseppu**	**7.03**	**254**	P	Pn	13 35 12.6	+3.9
JAR	**Ashorobuto**	**7.07**	**247**	P	**Pn**	**13 35 10.8**	**+1.6**
JOB	**Onbets**	**7.23**	**245**	P	**Pn**	**13 35 11.6**	**+0.2**
JOB				*e*S	**Sn**	**13 36 31.1**	**-0.9**
PETK	**Petropavlovsk-**	**7.48**	**24**	*e*PN	**Pn**	**13 35 16.3**	**+1.5**
PETK	**Petropavlovsk-**	**7.48**	**24**	P	**Pn**	**13 35 15.1**	**+0.4**
	comp=E,0.3nm,0.3s,baz=188,slow=14,SNR=9.9						
JKK2	**Kamakawa 2**	**7.49**	**254**	P	**Pn**	**13 35 17.6**	**+2.6**
ASAJ	**Asahikawa**	**7.50**	**256**	P	Pn	13 35 18.6	+3.5
	comp=E,0.7nm,0.3s,baz=99,slow=14,SNR=7.5						
JCH	**Churui**	**7.67**	**244**	P	**Pn**	**13 35 17.4**	**-0.1**
JCH				*e*S	**Sn**	**13 36 39.7**	**-3.3**
PET	**Petropavlovsk**	**7.69**	**28**	*e*PN	**Pn**	**13 35 18.6**	**+1.0**
ERM	**Erimo**	**8.14**	**241**	*e*PN	**Pn**	**13 35 25.5**	**+1.7**
JNBK	**Urakawa-nobuka**	**8.24**	**244**	P	**Pn**	**13 35 24.9**	**-0.3**
JKB	**Kayabe**	**9.53**	**246**	P	**Pn**	**13 35 42.1**	**-0.7**
JANG	**Nango**	**10.12**	**238**	*e*S	Sn	13 37 34.1	-8.9
JIO	**Ouri**	**11.54**	**231**	*e*S	Sn	13 38 06.4	-11
MKAR	**Makanchi Array**	**46.88**	**298**	*e*P	**P**	**13 41 54.1**	**+0.8**
MKAR	**Makanchi Array**	**46.88**	**298**	P	**P**	**13 41 55.3**	**+2.0**
	comp=E,0.2nm,0.4s,baz=65,slow=8.5,SNR=4.4						
ARU	**Arti**	**55.12**	**318**	*d* P	**P**	**13 42 54.3**	**-0.6**
ARU				S	**S**	**13 50 30.2**	**-3.4**
ARU				pmax	pmax		
	comp=Z,6.0nm,2.5s						
FINES	**FINESS Array B**	**64.27**	**335**	P	**P**	**13 43 59.3**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=38,slow=9.6,SNR=5.3						
NOA	**NORSAR Array B**	**68.50**	**341**	P	**P**	**13 44 26.2**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=28,slow=6.5,SNR=3.7						
TXAR	**Lajitas Array**	**77.91**	**60**	P	**P**	**13 45 21.6**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=294,slow=4.5,SNR=2.3						

KRSC 18 13:36:29.5±1.0, 52°50N×160°66E, h5km±5km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.31**	**268**	*i* P	Pn	13 36 54.5	0.0
RUS				*e*S	Sn	13 37 12.8	+0.4
UGLR	**Uglovaya**	**1.32**	**303**	*e*P	Pg	13 36 55.0	0.0
PET	**Petropavlovsk**	**1.33**	**294**	*i* P	Pg	13 36 55.0	+0.1
PET				*e*S	Sn	13 37 13.6	+0.9
SMAR	**Somma**	**1.36**	**305**	P	Pg	13 36 56.0	+0.1
AVH	**Avacha**	**1.39**	**304**	*e*P	Pg	13 36 56.3	-0.1
AVH				*e*S	Sn	13 37 15.8	+1.2
KRER	**Koryakskii**	**1.41**	**306**	*e*P	Pg	13 36 57.2	+0.4
KRER				*e*S	Sg	13 37 17.4	+2.1
KOK	**Koryaka**	**1.46**	**304**	*e*P	Pb	13 36 57.3	0.0
KOK				*e*S	Sg	13 37 17.7	+1.0
MTVR	**Mutnovka**	**1.52**	**270**	*e*P	Pn	13 36 57.6	+0.1
MTVR				*e*S	Sb	13 37 18.1	+0.2
GRL	**Gorelyy**	**1.58**	**273**	P	Pb	13 36 59.1	-0.3
GRL				*e*S	Sg	13 37 20.6	0.0
ASAK	**Asacha**	**1.69**	**267**	*e*P	Pb	13 37 00.7	-0.5
ASAK				*e*S	Sb	13 37 23.3	+0.4
GNL	**Ganaly**	**2.03**	**307**	*e*P	Pb	13 37 06.2	-0.8
GNL				*e*S	Sb	13 37 33.1	+0.4
APC	**Apacha**	**2.17**	**283**	*e*P	Pb	13 37 07.9	-1.4
APC				*e*S	Sb	13 37 35.9	-0.6
MIPR	**Malaya Ipel'ka**	**2.40**	**266**	P	Pn	13 37 10.6	+1.1
TUMR	**Tumrok**	**2.81**	**354**	P	Pn	13 37 16.2	+1.0
KMNR	**Kamenistaya**	**3.27**	**356**	P	Pn	13 37 22.1	+0.5
KPT	**Kopyto**	**3.48**	**356**	P	Pn	13 37 25.4	+1.0
ESO	**Esso**	**3.62**	**342**	P	Pn	13 37 28.2	+2.0
SMKR	**Semkarok**	**4.12**	**6**	P	Pn	13 37 34.2	+1.1

*IDC **18** 13:45:42.4±8.0, 45°.19S×166°.98E, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/14, mbtmp3.7/2, MS3.2/1, Ms1 3.1/1, ms1mx2.6/24, Error ellipse: s-maj=573.3km s-min=75.2km az=42.0*
*ISCJB **18** 13:45:43.6±0.9, 46°.12S±0°.08×165°.95E±0°.08, h12km, mb3.6/2, MS3.0/1, Error ellipse: s-maj=12.0km s-min=7.4km az=10.2*
*WEL **18** 13:45:45.5±0.3, 46°.15S×166°.05E, h30km±2km, ML4.3/20, Error ellipse: s-maj=3.2km s-min=2.3km az=90.0*

ISC 18 13:45:44.7±1.2, 46°17S±0°08×166°06E±0°07, h12km, n22, σ0s 95/22, 1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.43**	**90**	P*	**Pb**	**13 45 54.9**	**+0.7**
PYZ				S*	**Sb**	**13 46 01.7**	**+1.0**
DCZ	**Deep Cove**	**1.03**	**48**	PN	**Pb**	**13 46 03.5**	**-0.9**
DCZ				AML	AML	13 46 16.9	
DCZ				AML	AML	13 46 16.9	
DCZ				SN	**Sb**	**13 46 17.7**	**-0.2**
DCZ				AML	AML	13 46 18.0	
WHZ	**Wether Hill Ro**	**1.34**	**79**	PN	**Pn**	**13 46 09.1**	**-0.1**
WHZ				SN	**Sb**	**13 46 26.8**	**-0.1**
WHZ				AML	AML	13 46 31.2	
APZ	**The Paps**	**1.49**	**117**	PN	**Pn**	**13 46 10.7**	**-0.6**
MLZ	**Mavora Lakes**	**1.69**	**62**	PN	**Pn**	**13 46 14.6**	**+0.5**
MLZ				AML	AML	13 46 40.0	
MLZ				AML	AML	13 46 43.1	
MSZ	**Milford Sound**	**1.99**	**42**	PN	**Pn**	**13 46 18.4**	**+0.3**
MSZ				AML	AML	13 46 52.2	
MSZ				AML	AML	13 46 52.2	
MSZ				AML	AML	13 46 53.3	
MSZ				AML	AML	13 46 53.3	
SYZ	**Scrubby Hill**	**2.17**	**101**	PN	**Pn**	**13 46 20.9**	**+0.4**
EAZ	**Earnscleugh**	**2.46**	**69**	⇓PN	**Pn**	**13 46 26.4**	**+1.8**
EAZ				AML	AML	13 47 05.9	
EAZ				AML	AML	13 47 05.9	
EAZ				AML	AML	13 47 12.1	
EAZ				AML	AML	13 47 12.1	
WKZ	**Wanaka**	**2.47**	**58**	PN	**Pb**	**13 46 27.3**	**-1.7**
WKZ				AML	AML	13 47 05.5	
WKZ				AML	AML	13 47 05.6	
WKZ				AML	AML	13 47 06.3	
WKZ				AML	AML	13 47 06.4	
TUZ	**Tuapeka**	**2.50**	**86**	AML	AML	13 46 58.4	
TUZ				AML	AML	13 47 03.5	
JCZ	**Jackson Bay**	**2.83**	**43**	*e*PN	**Pn**	**13 46 31.5**	**+1.7**
JCZ				AML	AML	13 47 20.8	
JCZ				AML	AML	13 47 22.1	
ODZ	**Otahua Downs**	**3.41**	**72**	PN	**Pn**	**13 46 37.3**	**-0.3**
ODZ				AML	AML	13 47 33.4	
ODZ				AML	AML	13 47 33.4	
ODZ				AML	AML	13 47 36.3	
LBZ	**Lake Benmore**	**3.41**	**60**	*e*PN	**Pn**	**13 46 38.2**	**+0.5**
LBZ				AML	AML	13 47 18.3	
LBZ				AML	AML	13 47 48.0	
FOZ	**Fox Glacier**	**3.67**	**46**	*e*PN	**Pn**	**13 46 42.9**	**+1.8**
FOZ				AML	AML	13 47 50.1	
FOZ				AML	AML	13 47 53.9	
RPZ	**Rata Peaks**	**4.31**	**57**	*e*PN	**Pn**	**13 46 49.4**	**-0.6**
RPZ				AML	AML	13 47 42.6	
RPZ				AML	AML	13 48 14.8	
WVZ	**Waitaha Valley**	**4.55**	**49**	*e*PN	**Pn**	**13 46 53.4**	**+0.2**
WVZ				AML	AML	13 47 52.3	
OXZ	**Oxford**	**5.12**	**58**	PN	**Pn**	**13 47 00.4**	**-0.8**
THZ	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.51**	**164**	P*	Pb	13 56 40.0	-0.7
PYZ				S*	Sb	13 56 46.8	-0.8
DCZ	**Deep Cove**	**0.52**	**67**	⇑P*	Pb	13 56 40.2	-0.5
DCZ				S*	Sb	13 56 46.6	-1.1
DCZ				AML	AML	13 56 46.8	
DCZ				AML	AML	13 56 46.9	
DCZ				AML	AML	13 56 46.9	
WHZ	**Wether Hill Ro**	**1.05**	**102**	PN	Pb	13 56 49.4	-0.5
WHZ				AML	AML	13 57 11.4	
WHZ				AML	AML	13 57 11.7	
MLZ	**Mavora Lakes**	**1.24**	**75**	PN	Pn	13 56 51.7	-0.8
MLZ				AML	AML	13 57 08.6	
MLZ				AML	AML	13 57 08.9	
MSZ	**Milford Sound**	**1.44**	**46**	AML	AML	13 57 22.0	
MSZ				AML	AML	13 57 22.1	
MSZ				AML	AML	13 57 22.2	
APZ	**The Paps**	**1.56**	**138**	PN	Pn	13 56 56.8	-0.1
WKZ	**Wanaka**	**1.99**	**66**	*e*PN	Pb	13 57 04.6	-1.2
WKZ				AML	AML	13 57 39.3	
WKZ				AML	AML	13 57 40.0	
EAZ	**Earnscleugh**	**2.04**	**78**	*e*PN	Pb	13 57 05.7	-1.0
EAZ				AML	AML	13 57 34.1	
EAZ				AML	AML	13 57 34.9	
EAZ				AML	AML	13 57 37.0	
EAZ				AML	AML	13 57 41.3	
TUZ	**Tuapeka**	**2.22**	**98**	AML	AML	13 57 02.1	
TUZ				PN	Pb	13 57 08.6	-1.2
TUZ				AML	AML	13 57 16.2	
JCZ	**Jackson Bay**	**2.28**	**46**	*e*PN	Pb	13 57 09.8	-1.2
JCZ				AML	AML	13 57 47.3	
JCZ				AML	AML	13 57 47.9	
LBZ	**Lake Benmore**	**2.93**	**65**	*e*PN	Pn	13 57 18.3	+2.6
LBZ				AML	AML	13 57 56.0	
LBZ				AML	AML	13 58 00.5	
ODZ	**Otahua Downs**	**3.00**	**79**	PN	Pn	13 57 18.4	+1.6

*BKK **18** 13:59:38.6±1.1,16˚S±16˚×17˚4W±2˙0,h10km,M5.7/16, mB6.1/3,mb5.7/16,Mw(mB)5.7/3*
*AUST **18** 14:00:14.4±0.0, 15˚86S×175˚13W,h289km, Error ellipse: s-maj=1.3km s-min=1.3km az=314.0*
*ISCJB **18** 14:00:14.5±0.6, 15˚79S±0˙04×175˚25W±0˙04, h305km±6km, mb4.7/86, Error ellipse: s-maj=7.9km s-min=4.8km az=146.2*
*MOS **18** 14:00:14.6±1.3, 15˚71S×175˚33W,h299km,mb5.0/13, Error ellipse: s-maj=11.1km s-min=8.7km az=139.4*
*DJA **18** 14:00:16.0±1.0,16˚S±10˙×17˚5W±˚, h292km±14km, M5.6/24,mB5.7/9,mb5.2/24,MLv6.5/1,Mw(mB)5.2/9*
*NEIC **18** 14:00:16.5±0.2, 15˚78S×175˚30W,mb4.7/45, Error ellipse: s-maj=9.9km s-min=5.6km az=144.0*
*BJI **18** 14:00:16.1, 15˚80S×175˚40W,h300km,mB4.8/15, mb4.4/20*
*IDC **18** 14:00:18.5±0.5, 15˚78S×175˚33W,h326km±4km,mb4.2/23, mb1 4.3/24,mb1mx4.2/29,mbtmp4.2/24, Error ellipse: s-maj=12.0km s-min=8.5km az=130.0*
*GCMT **18** 14:00:20.1±0.3, 15˚86S×175˚25W,h319km±2km,MW5.3, Moment Tensor Solution. s52,c71; Moment tensor: Scale 10¹⁷Nm; Mrr0.00; Mθθ0.00; Mϕϕ0.00; Mrθ0.00; Mrϕ0.00; Mθϕ0.00; Best double couple: Mo1.10000×10¹⁷ NP1:ϕ34.00000°,δ63.00000°,λ-154.00000°. NP2: ϕ291.00000°,δ67.00000°,λ-29.00000°. Principal axes: T 1.0400, Plg3.0000°, Azm343.0000°; N 0.0300, Plg54.0000°, Azm77.0000°; P -1.0800, Plg36.0000°, Azm251.0000°; Data Used: II IU IC G CN.*

ISC 18 14:00:16.4±0.3, 15.77S±0.05×175.19W±0.05, h312km±2km, h312km:pP-P,n441,σ1§42/493, mb4.7/86, 74C-73D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.78**	**61**	*e*Pn	**Pn**	**14 01 20.1**	**-1.0**
AFI				S	**S**	**14 02 09.3**	**-3.6**
AFI				*e*S	S	14 02 12.4	-0.5
AFI	**Afiamalu**	**3.78**	**61**	P	**Pn**	**14 01 20.0**	**-1.0**
	553nm,0.3s,baz=246,slow=1.9,SNR=406						
AFI				S	**S**	**14 02 09.3**	**-3.6**
	baz=285,slow=20,SNR=1.9						
NIUE	**Niue**	**6.00**	**124**	P	**Pn**	**14 01 46.1**	**0.0**
	baz=5.9,SNR=28						
NIUE				S	**S**	**14 02 57.7**	**-0.7**
	baz=5.9,SNR=17						
MSVF	**Nonsavu**	**6.77**	**252**	*e*P	**Pn**	**14 01 57.4**	**+2.1**
MSVF	**Nonsavu**	**6.77**	**252**	*e*Pn	**Pn**	**14 01 57.4**	**+2.1**
FUNA	**Funafuti**	**9.05**	**322**	*e*Pn	**Pn**	**14 02 17.8**	**-1.2**
RAO	**Raoul Island**	**13.66**	**190**	P	P	14 03 12.8	-5.2
RAO	**Raoul Island**	**13.66**	**190**	P	P	14 03 12.8	-5.2
	304nm,0.3s,baz=199,slow=21,SNR=4.1						
RAR	**Rarotonga**	**15.59**	**113**	*e*P	**Pn**	**14 03 40.4**	**-0.9**
RAR	**Rarotonga**	**15.59**	**113**	P	**P**	**14 03 34.7**	**-4.6**
	3.4nm,0.3s,baz=51,slow=0.0,SNR=2.5						
LASL	**Noumea**	**18.43**	**247**	*e*P	**P**	**14 04 08.9**	**-1.1**
DZM	**Mont Dzumac**	**18.47**	**247**	*e*P	**P**	**14 04 08.5**	**-2.1**
	73nm,0.7s						
DZM	**Mont Dzumac**	**18.47**	**247**	P	**P**	**14 04 08.7**	**-1.9**
	3.8nm,0.3s,baz=91,slow=23,SNR=20						
NOUC	**Port Laguerre**	**18.60**	**247**	*e*P	**P**	**14 04 08.2**	**-3.7**
TARA	**Tarawa**	**20.68**	**324**	*e*P	**P**	**14 04 32.8**	**-0.6**
	144nm,0.7s						
URZ	**Urewera**	**23.41**	**195**	*e*P	**P**	**14 04 55.2**	**-3.0**
	56nm,0.9s						
URZ	**Urewera**	**23.41**	**195**	P	**P**	**14 04 56.8**	**-1.4**
	32nm,0.8s,baz=332,slow=2.5,SNR=13						
HNR	**Honiara**	**25.06**	**282**	*e*P	**P**	**14 05 10.4**	**-3.0**
	181nm,1.1s						
HNR	**Honiara**	**25.06**	**282**	P	**P**	**14 05 13.9**	**+0.6**
	37nm,0.5s,baz=206,slow=9.4,SNR=4.9						
SNZO	**South Karori**	**26.92**	**197**	*e*P	**P**	**14 05 28.3**	**-1.3**
	557nm,2.2s						
RPZ	**Rata Peaks**	**30.22**	**200**	*e*P	**P**	**14 05 57.7**	**-1.0**
	649nm,2.7s						
RPZ	**Rata Peaks**	**30.22**	**200**	P	**P**	**14 05 58.8**	**0.0**
	19nm,0.8s,baz=70,slow=16,SNR=5.1						
EIDS	**Eidsvold**	**32.92**	**248**	*e*P	**P**	**14 06 20.4**	**-2.0**
	24nm,1.0s						
EIDS	**Eidsvold**	**32.92**	**248**	P	**P**	**14 06 20.6**	**-1.8**
	baz=33,SNR=10						
ARMA	**Armidale**	**33.68**	**238**	*e*P	**P**	**14 06 26.8**	**-2.3**
	32nm,0.6s						
ARMA	**Armidale**	**33.68**	**238**	P	**P**	**14 06 28.8**	**-0.3**
	baz=34,SNR=68						
MGCD	**Mangrove Creek**	**35.04**	**234**	P	**P**	**14 06 40.4**	**-0.1**
	baz=35,SNR=12						
RMQ	**Roma**	**35.17**	**246**	P	**P**	**14 06 40.9**	**-0.8**
	baz=35,SNR=32						
CTA	**Charters Tower**	**36.88**	**257**	P	**P**	**14 06 55.4**	**-0.8**
CTA	**Charters Tower**	**36.88**	**257**	P	**P**	**14 06 55.4**	**-0.8**
	20nm,0.4s,baz=86,slow=10,SNR=42						
CTAO	**Charters Tower**	**36.88**	**257**	*e*P	**P**	**14 06 53.4**	**-2.8**
CTAO				pmax	pmax		
	comp=Z,44nm,0.7s						
CTAO	**Charters Tower**	**36.88**	**257**	*e*P	**P**	**14 06 53.4**	**-2.8**
	comp=Z,44nm,0.7s						
CNB	**Canberra Magne**	**37.17**	**232**	P	**P**	**14 06 58.1**	**-0.3**
	baz=37,SNR=43						
PMG	**Port Moresby**	**37.25**	**275**	*e*P	**P**	**14 06 58.6**	**-0.7**
	comp=Z,190nm,1.0s						
PMG	**Port Moresby**	**37.25**	**275**	P	**P**	**14 06 59.9**	**+0.6**
	comp=Z,218nm,1.0s,comp=Z,2μm						
PMG	**Port Moresby**	**37.25**	**275**	P	**P**	**14 07 00.1**	**+0.8**
	comp=Z,216nm,1.1s,baz=96,slow=8.4,SNR=18						
CAN	**Canberra**	**37.45**	**232**	*e*P	**P**	**14 06 59.4**	**-1.3**
CAN				pmax	pmax		
	comp=Z,72nm,1.1s						
CAN	**Canberra**	**37.45**	**232**	*e*P	**P**	**14 06 59.4**	**-1.3**
	comp=Z,72nm,1.1s						
YNG	**Young**	**37.54**	**234**	P	**P**	**14 07 01.3**	**-0.2**
	baz=38,SNR=4.7						
MILA	**Mila**	**38.01**	**229**	P	**P**	**14 07 05.3**	**-0.1**
	baz=38,SNR=8.3						
MTSU	**Mount Surprise**	**38.76**	**261**	P	**P**	**14 07 11.5**	**-0.3**
	baz=39,SNR=327						
CMSA	**Cobar Meteorol**	**38.89**	**239**	P	**P**	**14 07 11.6**	**-1.1**
	baz=39,SNR=135						
COEN	**Coen**	**40.24**	**267**	*e*P	**P**	**14 07 22.2**	**-1.7**
COEN	**Coen**	**40.24**	**267**	P	**P**	**14 07 24.7**	**+0.8**
	baz=40,SNR=126						
KIP	**Kipapa**	**40.62**	**25**	*e*P	**P**	**14 07 26.2**	**-0.6**
KIP				pmax	pmax		
	comp=Z,102nm,1.3s						
TOO	**Toolangi**	**40.91**	**230**	P	**P**	**14 07 28.8**	**-0.4**
	baz=41,SNR=29						
STKA	**Stephens Creek**	**42.37**	**240**	P	**P**	**14 07 40.5**	**-0.4**
STKA				PcP	**PcP**	**14 09 27.4**	**-0.5**
STKA	**Stephens Creek**	**42.37**	**240**	P	**P**	**14 07 40.5**	**-0.4**
	comp=Z,21nm,0.4s,baz=86,slow=8.9,SNR=172						
STKA				PcP	**PcP**	**14 09 27.4**	**-0.5**
	comp=Z,7.1nm,0.7s,baz=70,slow=3.4,SNR=4.3						
STKA	**Stephens Creek**	**42.37**	**240**	P	**P**	**14 07 40.5**	**-0.4**
	baz=42,SNR=140						
ARPS	**Mount Arapiles**	**43.40**	**233**	P	**P**	**14 07 48.3**	**-0.7**
	baz=43,SNR=9.9						
JAY	**Jayapura**	**45.38**	**282**	P	**P**	**14 08 05.3**	**+0.3**
	baz=46,SNR=13						
BBOO	**Buckleboo**	**47.14**	**240**	*e*P	**P**	**14 08 17.2**	**-1.2**
BBOO	**Buckleboo**	**47.14**	**240**	P	**P**	**14 08 17.6**	**-0.7**
	baz=47,SNR=71						
WRAB	**Tennant Creek**	**48.08**	**257**	*e*P	**P**	**14 08 24.0**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,160nm,0.8s						
WRAB	**Tennant Creek**	**48.08**	**257**	*e*P	**P**	**14 08 24.0**	**-1.6**
	comp=Z,160nm,0.8s						
WRA	**Warramunga Arr**	**48.09**	**257**	P	**P**	**14 08 25.1**	**-0.6**
WRA				PcP	**PcP**	**14 09 48.4**	**+0.2**
WRA	**Warramunga Arr**	**48.09**	**257**	P	**P**	**14 08 25.1**	**-0.6**
	comp=Z,88nm,0.4s,baz=90,slow=7.3,SNR=1350						
WRA				PcP	**PcP**	**14 09 48.4**	**+0.2**
	comp=Z,14nm,1.0s,baz=82,slow=4.1,SNR=4.6						
ASAR	**Alice Springs**	**48.36**	**252**	P	**P**	**14 08 27.8**	**0.0**
ASAR	**Alice Springs**	**48.36**	**252**	P	**P**	**14 08 27.8**	**0.0**
	comp=Z,719nm,0.6s,baz=87,slow=8.0,SNR=6119						
BAKI	**Biak**	**50.15**	**282**	P	**P**	**14 08 41.0**	**-0.3**
	comp=Z,88nm,1.3s						
KDU	**Kakadu**	**50.73**	**266**	P	**P**	**14 08 45.2**	**-0.3**
	baz=51,SNR=79						
MTN	**Manton Dam**	**51.99**	**266**	P	**P**	**14 08 54.0**	**-0.8**
	baz=52,SNR=43						
FAKI	**Fak Fak**	**53.26**	**278**	P	**P**	**14 09 03.8**	**-0.4**
	baz=53,SNR=4.3						
FORT	**Forrest**	**53.72**	**243**	*e*P	**P**	**14 09 05.7**	**-1.6**
	comp=Z,224nm,0.7s						
FORT	**Forrest**	**53.72**	**243**	P	**P**	**14 09 06.2**	**-1.0**
	baz=54,SNR=103						
KNRA	**Kununurra**	**53.81**	**262**	P	**P**	**14 09 07.3**	**-0.8**
	baz=54,SNR=23						
FITZ	**Fitzroy Crossi**	**56.45**	**259**	P	**P**	**14 09 26.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**56.45**	**259**	P	**P**	**14 09 26.7**	**-0.1**
	comp=Z,3.9nm,0.3s,baz=118,slow=4.1,SNR=41						
FITZ	**Fitzroy Crossi**	**56.45**	**259**	P	**P**	**14 09 26.5**	**-0.3**
	baz=56,SNR=62						
LBMI	**Labuha**	**58.47**	**279**	P	**P**	**14 09 39.5**	**-1.4**
	comp=Z,120nm,1.1s,comp=Z,3μm						
TNTI	**Ternate**	**59.04**	**281**	P	**P**	**14 09 46.3**	**+1.5**
	comp=Z,100nm,1.1s						
SOEI	**Soe**	**59.19**	**268**	P	**P**	**14 09 45.2**	**-0.8**
	comp=Z,188nm,1.0s						
SOEI	**Soe**	**59.19**	**268**	P	**P**	**14 09 47.5**	**+1.5**
	baz=59,SNR=8.4						
BATI	**Baumata**	**59.68**	**267**	P	P	14 09 40.1	-9.1
MBWA	**Marble Bar**	**61.61**	**254**	*e*P	**P**	**14 10 00.4**	**-1.6**
	comp=Z,47nm,0.8s						
MEEK	**Meekatharra**	**62.08**	**248**	P	**P**	**14 10 04.2**	**-0.9**
	baz=62,SNR=24						
KLBR	**Kellerberrin**	**62.55**	**242**	P	**P**	**14 10 07.2**	**-0.8**
	baz=62,SNR=18						
SBA	**Scott Base**	**62.76**	**184**	*e*P	**P**	**14 10 07.3**	**-1.2**
SBA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SBA	**Scott Base**	**62.76**	**184**	*e*P	**P**	**14 10 07.3**	**-1.2**
	comp=Z,9.5nm,0.8s						
VNDA	**Vanda**	**62.84**	**185**	P	**P**	**14 10 11.1**	**+1.9**
VNDA	**Vanda**	**62.84**	**185**	P	**P**	**14 10 11.1**	**+1.9**
	comp=Z,8.2nm,1.0s,baz=10,slow=6.0,SNR=25						
NWAO	**Narrogin (SRO)**	**62.94**	**241**	P	**P**	**14 10 09.9**	**-0.6**
NWAO	**Narrogin (SRO)**	**62.94**	**241**	P	**P**	**14 10 09.9**	**-0.6**
	comp=Z,20nm,0.8s,baz=77,slow=4.0,SNR=10						
RKGY	**Rocky Gully**	**63.11**	**239**	P	**P**	**14 10 11.8**	**+0.1**
	baz=63,SNR=7.0						
BLDU	**Ballidu**	**63.49**	**243**	P	**P**	**14 10 13.8**	**-0.4**
	baz=63,SNR=22						
CTBH	**Cotabato--PC H**	**64.17**	**286**	⇑*i*P	**P**	**14 10 19.8**	**+1.0**
MORW	**Morawa**	**64.17**	**245**	P	**P**	**14 10 18.1**	**-0.6**
	baz=64,SNR=3.1						
KAPI	**Kappang**	**64.67**	**272**	P	**P**	**14 10 21.3**	**-0.8**
KAPI	**Kappang**	**64.67**	**272**	P	**P**	**14 10 21.3**	**-0.8**
	comp=Z,14nm,0.8s,baz=172,slow=6.0,SNR=4.9						
MJAR	**Matsushiro Arr**	**68.12**	**321**	P	**P**	**14 10 43.4**	**+0.1**
MJAR	**Matsushiro Arr**	**68.12**	**321**	P	**P**	**14 10 43.4**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=146,slow=5.9,SNR=12						
MYLDM	**Lahad Datu**	**68.84**	**282**	P	**P**	**14 10 50.9**	**+2.7**
TSM	**Tawau**	**69.15**	**281**	P	**P**	**14 10 51.3**	**+1.2**
JAGI	**Jajag, Banyuwa**	**69.21**	**267**	P	**P**	**14 10 49.4**	**-1.2**
	baz=69,SNR=13						
CASY	**Casey**	**69.36**	**205**	*e*P	**P**	**14 10 47.6**	**-2.8**
SDKM	**Sandakan**	**70.22**	**282**	P	**P**	**14 10 57.5**	**+0.9**
JNU	**Nakatsue**	**70.80**	**314**	*e*P	**P**	**14 10 59.6**	**-0.2**
	comp=Z,5.1nm,0.7s						
JNU	**Nakatsue**	**70.80**	**314**	P	**P**	**14 11 00.1**	**+0.4**
	comp=Z,13nm,0.8s,baz=107,slow=5.9,SNR=8.7						
ASAJ	**Asahikawa**	**70.96**	**329**	P	**P**	**14 10 59.9**	**-0.5**
ASAJ	**Asahikawa**	**70.96**	**329**	P	**P**	**14 10 59.9**	**-0.5**
	comp=Z,7.1nm,0.9s,baz=234,slow=5.8,SNR=5.6						
KKM	**Kota Kinabalu**	**71.27**	**282**	*e*P	**P**	**14 11 00.3**	**-2.7**
KKM	**Kota Kinabalu**	**71.27**	**282**	P	**P**	**14 11 03.9**	**+0.9**
KKM	**Kota Kinabalu**	**71.27**	**282**	P	**P**	**14 11 03.1**	**+0.1**
	comp=Z,64nm,1.1s,comp=Z,683nm						
KKM	**Kota Kinabalu**	**71.27**	**282**	P	**P**	**14 11 03.7**	**+0.7**
	baz=71,SNR=16						
PETK	**Petropavlovsk-**	**72.47**	**343**	P	**P**	**14 11 09.3**	**+0.2**
PETK	**Petropavlovsk-**	**72.47**	**343**	P	**P**	**14 11 09.3**	**+0.2**
PETK	**Petropavlovsk-**	**72.47**	**343**	P	**P**	**14 11 09.3**	**+0.2**
	comp=Z,11nm,0.8s,baz=122,slow=8.9,SNR=24						
SAO	**San Andreas Ge**	**72.76**	**43**	*e*P	**P**	**14 11 13.6**	**+2.4**
SAO				pmax	pmax		
	comp=Z,11nm,1.1s						
SAO	**San Andreas Ge**	**72.76**	**43**	*e*P	**P**	**14 11 13.6**	**+2.4**
	comp=Z,11nm,1.1s						
UGM	**Wanagama**	**72.83**	**266**	P	**P**	**14 11 12.4**	**+0.2**
	baz=73,SNR=4.9						
SMMC	**Simmler**	**72.89**	**45**	⇓P	**P**	**14 11 13.8**	**+1.7**
	baz=73						
CHGN	**Chignik**	**73.16**	**10**	*e*P	**P**	**14 11 13.1**	**0.0**
BTM	**Bintulu**	**73.36**	**278**	P	**P**	**14 11 16.3**	**+1.1**
VES	**Vestal, Richgr**	**73.80**	**45**	⇓P	**P**	**14 11 18.6**	**+1.3**
	baz=74						
SBUM	**Sibu**	**73.96**	**277**	P	**P**	**14 11 19.4**	**+0.7**
SBUM	**Sibu**	**73.96**	**277**	P	**P**	**14 11 19.2**	**+0.5**
	comp=Z,30nm,1.1s						
EDW2	**Edwards Air Fo**	**74.03**	**46**	⇓P	**P**	**14 11 20.2**	**+1.5**
	baz=74						
MONP	**Monument Peak**	**74.09**	**48**	⇓P	**P**	**14 11 20.5**	**+1.2**
	baz=74						
ISA	**Isabella**	**74.12**	**45**	*e*P	**P**	**14 11 19.3**	**+0.1**
ISA				pmax	pmax		
	comp=Z,11nm,1.3s						
ISA	**Isabella**	**74.12**	**45**	*e*P	**P**	**14 11 19.3**	**+0.1**
	comp=Z,11nm,1.3s						
ISA	**Isabella**	**74.12**	**45**	⇑P	**P**	**14 11 20.4**	**+1.1**
	baz=74,SNR=7.5						
CMB	**Columbia Colle**	**74.18**	**42**	*e*P	**P**	**14 11 17.9**	**-1.6**
CMB				pmax	pmax		
	comp=Z,9.0nm,1.2s						
CMB	**Columbia Colle**	**74.18**	**42**	*e*P	**P**	**14 11 17.9**	**-1.6**
	comp=Z,9.0nm,1.2s						
QSPA	**South Pole Qui**	**74.28**	**180**	P	**P**	**14 11 20.6**	**+0.9**
QSPA	**South Pole Qui**	**74.28**	**180**	P	**P**	**14 11 20.6**	**+0.9**
	comp=Z,11nm,0.8s,baz=36,slow=1.4,SNR=59						
LRMC	**Laurel Mountai**	**74.56**	**46**	⇓P	**P**	**14 11 23.1**	**+1.3**
	baz=75						
SWSC	**Sam W. Stewart**	**74.56**	**49**	⇓P	**P**	**14 11 22.7**	**+1.0**
	baz=75						
BELC	**Belle Mtn. Jos**	**74.96**	**48**	⇓P	**P**	**14 11 25.1**	**+1.0**
	baz=75						
MTUM	**Tungsten Hills**	**74.99**	**44**	*e*P	**P**	**14 11 26.4**	**+2.1**
MPMC	**Manual Prospec**	**75.01**	**45**	⇓P	**P**	**14 11 25.5**	**+1.1**
	baz=75,SNR=6.1						
WAKR	**Walker**	**75.06**	**42**	*e*P	**P**	**14 11 24.6**	**-0.1**
GSC	**Goldstone**	**75.07**	**46**	⇓P	**P**	**14 11 26.0**	**+1.3**
	baz=75						
HEC	**Hector,Ludlow**	**75.16**	**47**	⇓P	**P**	**14 11 26.2**	**+1.0**
	baz=75						
BC3	**Big Chuckawall**	**75.17**	**48**	⇑P	**P**	**14 11 26.6**	**+1.2**
	baz=75						
KSM	**Kuching**	**75.51**	**276**	*e*P	**P**	**14 11 25.4**	**-2.1**
	comp=Z,78nm,1.1s						
KSM				*e*PP	**PP**	**14 14 17.6**	**-4.0**
KSM	**Kuching**	**75.51**	**276**	P	**P**	**14 11 28.1**	**+0.7**
KSM	**Kuching**	**75.51**	**276**	P	**P**	**14 11 28.0**	**+0.5**
	comp=Z,73nm,1.1s,comp=Z,890nm						
KSM	**Kuching**	**75.51**	**276**	P	**P**	**14 11 28.2**	**+0.7**
	baz=76,SNR=24						
CISI	**Cisompet, Garu**	**75.52**	**266**	P	**P**	**14 11 26.8**	**-0.8**
	baz=76,SNR=5.1						
GRAC	**Grapevine Rang**	**75.59**	**44**	⇑P	**P**	**14 11 29.0**	**+1.4**
	baz=76,SNR=5.6						
GMRC	**Granite Mounta**	**75.60**	**47**	⇑P	**P**	**14 11 28.8**	**+1.0**
	baz=76						
IRM	**Iron Mountain**	**75.65**	**48**	⇑P	**P**	**14 11 29.1**	**+1.2**
	baz=76						
FURC	**Furnace Creek,**	**75.66**	**45**	⇑P	**P**	**14 11 29.3**	**+1.5**
	baz=76						
SHOC	**Shoshone**	**75.75**	**46**	⇑P	**P**	**14 11 29.6**	**+1.2**
	baz=76						
NVAR	**Mina Array Bea**	**75.76**	**43**	P	**P**	**14 11 30.1**	**+1.4**
NVAR				pP	**pP**	**14 12 44.7**	**+4.5**
NVAR	**Mina Array Bea**	**75.76**	**43**	P	**P**	**14 11 30.1**	**+1.4**
	comp=Z,1.9nm,0.6s,baz=226,slow=8.8,SNR=17						
NVAR				pP	**pP**	**14 12 44.7**	**+4.5**
	comp=Z,1.8nm,0.8s,baz=229,slow=9.6,SNR=4.5						
TUQ	**Turquoise Moun**	**75.76**	**46**	⇑P	**P**	**14 11 29.5**	**+0.9**
	baz=76						
LEM	**Lembang**	**75.89**	**267**	P	**P**	**14 11 30.6**	**+0.8**
	baz=76,SNR=5.1						
LDFC	**Landfair**	**76.14**	**47**	*e*P	**P**	**14 11 29.5**	**-1.3**
	comp=Z,15nm,1.1s						
MIR	**Mirnyy**	**76.39**	**204**	⇑*i*P	**P**	**14 11 33.0**	**+1.6**
MIR				pmax	pmax		
	comp=Z,56nm,1.5s						
PDMCI	**Parker Dam,Lak**	**76.44**	**48**	⇓P	**P**	**14 11 33.8**	**+1.5**
	baz=77						
MOD	**Modoc**	**76.48**	**39**	*e*P	**P**	**14 11 31.7**	**-0.8**
	comp=Z,7.7nm,1.1s						
MOD				*e*pP	**pP**	**14 12 43.8**	**-0.4**
SHPR	**Sheep Range**	**76.84**	**46**	*e*P	**P**	**14 11 36.4**	**+1.7**
SHPR				*e*pP	**pP**	**14 12 47.4**	**+1.0**
Z14A	**Wintersburg**	**76.85**	**50**	⇑P	**P**	**14 11 36.1**	**+1.5**
	baz=77						
W13A	**Hualapai Mount**	**77.02**	**48**	⇓P	**P**	**14 11 37.1**	**+1.3**
	baz=77						
Y14A	**Wickenburg**	**77.08**	**49**	⇓P	**P**	**14 11 37.3**	**+1.3**
	baz=77						
R11A	**Troy Canyon, C**	**77.51**	**44**	⇓P	**P**	**14 11 39.7**	**+1.3**
	baz=78						
HABR	**Khabarovsk**	**77.74**	**329**	*e*P	**P**	**14 11 38.0**	**-1.1**
HABR				*e**PP	**pP**	**14 12 47.1**	**-3.9**
HABR				*e**SP	**sP**	**14 13 19.2**	**-4.8**
HABR				*e*S	**S**	**14 21 03.9**	**-0.9**
HABR				*e*		14 21 27.2	
HABR				SS	**SS**	**14 26 10.9**	**-2.2**
HABR				pmax	pmax		
	comp=N,7.0nm,0.7s						
HABR				pmax	pmax		
	comp=E,28nm,1.7s						
HABR				pmax	pmax		
	comp=Z,41nm,2.0s						
HABR				MLR	MLR		
	comp=Z,51nm,21.0s						
WVOR	**Wild Horse Val**	**77.80**	**39**	*e*P	**P**	**14 11 39.0**	**-0.8**
WVOR				pmax	pmax		
	comp=Z,6.0nm,1.2s						
WVOR	**Wild Horse Val**	**77.80**	**39**	*e*P	**P**	**14 11 39.0**	**-0.8**
	comp=Z,5.7nm,1.2s						
TUC	**Tucson**	**77.96**	**51**	*e*P	**P**	**14 11 39.9**	**-0.9**
TUC				*e**PP	**pP**	**14 12 52.6**	**-0.2**
TUC				pmax	pmax		
	comp=Z,75nm,1.9s						
TUC	**Tucson**	**77.96**	**51**	*e*P	**P**	**14 11 39.9**	**-0.9**
	comp=Z,75nm,1.9s						
TUC				*e*pP	**pP**	**14 12 52.6**	**-0.2**
SVW2	**Sparrevohn**	**78.19**	**10**	*e*P	**P**	**14 11 41.7**	**+0.3**
	comp=Z,8.0nm,1.0s						
MDJ	**Mudanjiang**	**78.28**	**323**	P	**P**	**14 11 44.1**	**+1.9**
MDJ				S	**S**	**14 21 07.0**	**-3.7**
MDJ				SS	**SS**	**14 26 20.8**	**-0.5**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,61nm,3.8s						
MDJ				LR	LR		
	comp=N,69nm,47.1s						
MDJ				LR	LR		
	comp=E,68nm,42.6s						
MDJ				LR	LR		
	comp=Z,45nm,31.4s						
X16A	**Lo Mia Camp, P**	**78.45**	**49**	⇑P	**P**	**14 11 44.9**	**+1.3**
	baz=79						
CCUT	**Cedar City**	**78.61**	**46**	*e*P	**P**	**14 11 46.9**	**+2.4**
	comp=Z,9.6nm,1.7s						
CCUT				*e*pP	**pP**	**14 12 57.0**	**+0.4**
319A	**Douglas**	**78.68**	**53**	⇑P	**P**	**14 11 46.7**	**+1.8**
	baz=79						
U15A	**North Rim**	**78.80

SRU	San Rafael	81.32	45	eP	P	14 12 00.7	+1.9
	comp=Z,10nm,1.4s						
324A	Moseley Ranch,	81.64	54	⇑P	P	14 12 01.9	+1.3
	baz=82						
SKAG	Skagway	81.64	19	eP	P	14 11 58.2	-1.5
425A	Indio Mountain	81.77	55	⇑P	P	14 12 02.6	+1.3
	baz=82						
I14A	Mackay	81.79	40	⇑P	P	14 12 02.7	+1.6
	baz=82						
MYKOM	Kota Tinggi	81.79	274	P	P	14 12 02.4	+0.8
MYKOM	Kota Tinggi	81.79	274	P	P	14 12 02.1	+0.5
	comp=Z,35nm,1.2s						
MCK	McKinley	81.81	11	eP	P	14 11 58.6	-1.9
MCK				pmax	pmax		
	comp=Z,14nm,0.9s						
MCK	McKinley	81.81	11	eP	P	14 11 58.6	-1.9
	comp=Z,14nm,0.9s						
MCK				epP	pP	14 13 18.9	+5.6
E12A	Beaver Dam Sad	81.84	37	⇓P	P	14 12 02.2	+1.0
	baz=82						
PAX	Paxson	81.84	13	eP	P	14 12 01.0	+0.2
PAX				pmax	pmax		
	comp=Z,11nm,1.5s						
PAX	Paxson	81.84	13	eP	P	14 12 01.0	+0.2
	comp=Z,11nm,1.5s						
224A	Cornudas Mount	81.87	54	⇓P	P	14 12 03.1	+1.3
	baz=82						
626A	Big Bend Ranch	81.96	56	⇑P	P	14 12 03.3	+1.1
	baz=82						
NEW	Newport	81.98	35	⇓P	P	14 12 02.8	+0.9
	baz=82						
325A	Bean Ranch, Si	82.02	54	⇓P	P	14 12 03.7	+1.1
	baz=82						
PV04	Paradox Valley	82.11	47	eP	P	14 12 02.3	-0.6
PV04				epP	pP	14 13 14.2	-1.5
U21A	Nageezi	82.11	49	⇑P	P	14 12 03.9	+0.9
	baz=82						
124A	Stringfield Ra	82.18	53	⇓P	P	14 12 04.7	+1.2
	baz=82						
526A	Mary Lane Ranc	82.19	56	⇓P	P	14 12 04.6	+1.1
	baz=82						
C11A	Tepee Creek (N	82.23	36	⇓P	P	14 12 04.4	+1.2
	baz=82						
Y23A	Lovelace Mesa,	82.23	52	⇑P	P	14 12 04.5	+0.8
	baz=82						
S20A	Disappointment	82.23	47	⇓P	P	14 12 04.5	+0.9
	baz=82						
TXAR	Lajitas Array	82.25	57	P	P	14 12 04.9	+1.2
TXAR				pP	pP	14 13 20.6	+4.1
TXAR	Lajitas Array	82.25	57	P	P	14 12 04.9	+1.2
	comp=Z,0.7nm,0.7s,baz=215,slow=4.1,SNR=4.0						
TXAR				pP	pP	14 13 20.6	+4.1
	comp=Z,1.7nm,1.0s,baz=240,slow=7.1,SNR=4.5						
M17A	Scullys Gap (B	82.35	43	⇓P	P	14 12 04.9	+0.8
	baz=83						
KGM	Kluang	82.36	274	P	P	14 12 05.4	+0.8
T21A	Navajo Lake	82.45	48	⇑P	P	14 12 05.9	+1.1
	baz=83						
S21A	Coal Bank Pass	82.56	48	⇑P	P	14 12 06.2	+0.8
	baz=83						
527A	Woodward Ranch	82.61	56	⇑P	P	14 12 06.6	+1.0
	baz=83						
P19A	Cripple Cowboy	82.62	45	⇑P	P	14 12 06.8	+1.2
	baz=83						
MCMT	McKenzie Canyo	82.62	39	eP	P	14 12 04.9	-0.6
	comp=Z,2.4nm,1.1s						
Y24A	Capitan	82.70	52	⇑P	P	14 12 07.3	+1.3
	baz=83						
Q20A	Ridgley Place,	82.78	46	⇑P	P	14 12 07.6	+1.2
	baz=83						
O19A	Miners Draw (B	82.83	45	⇓P	P	14 12 07.8	+1.3
	baz=83						
V23A	Ortiz Mt. (NFS	82.90	50	⇓P	P	14 12 08.4	+1.3
	baz=83						
226B	Tecolote Peak,	82.93	54	⇓P	P	14 12 08.2	+1.1
	baz=83						
628A	Black Gap, Mar	82.93	57	⇑P	P	14 12 08.3	+1.2
	baz=83						
P20A	De Beque	82.97	46	⇓P	P	14 12 08.6	+1.4
	baz=83						
L18A	Fontenelle, Gr	82.98	43	⇓P	P	14 12 08.7	+1.4
	baz=83						
Z25A	Roswell	82.98	53	⇑P	P	14 12 08.5	+1.1
	baz=83						
I16A	Newdale	82.99	41	⇓P	P	14 12 08.8	+1.5
	baz=83						
427A	Hayter Ranch,	83.05	55	⇓P	P	14 12 09.1	+1.3
	baz=83						
R21A	Cimarron	83.05	47	⇑P	P	14 12 08.9	+1.1
	baz=83						
COLA	College	83.05	11	eP	P	14 12 05.7	-1.1
COLA				pmax	pmax		
	comp=Z,83nm,0.9s						
COLA	College	83.05	11	eP	P	14 12 05.7	-1.1
	comp=Z,83nm,0.9s						
DLMT	Dillon	83.05	39	eP	P	14 12 07.2	-0.3
	comp=Z,8.9nm,1.3s						
DLMT				epP	pP	14 13 19.0	-1.5
BSMT	Bassoo Peak	83.06	36	eP	P	14 12 05.0	-2.6
BSMT				epP	pP	14 13 19.7	-0.8
U23A	El Rito	83.14	49	⇓P	P	14 12 10.0	+1.7
	baz=83						
TPAW	Teton Pass	83.14	41	eP	P	14 12 06.4	-1.8
	comp=Z,4.5nm,0.8s						
TPAW				epP	pP	14 13 27.0	+5.8
REDW	Red Top Meadow	83.14	41	eP	P	14 12 08.0	-0.1
	comp=Z,8.8nm,1.1s						
ILAR	Eielson Array	83.14	12	P	P	14 12 07.2	-0.2
ILAR				pP	pP	14 13 25.7	+5.4
ILAR	Eielson Array	83.14	12	P	P	14 12 07.2	-0.2
	comp=Z,4.4nm,0.4s,baz=214,slow=5.4,SNR=154						
ILAR				pP	pP	14 13 25.7	+5.4
	comp=Z,3.1nm,1.1s,baz=216,slow=5.3,SNR=4.2						
W24A	Lazy 6 Ranch,	83.25	51	⇑P	P	14 12 09.9	+1.1
	baz=84						
Y25A	Mesa, Roswell	83.26	52	⇓P	P	14 12 09.9	+1.1
	baz=84						
S22A	4UR Ranch, Cre	83.29	48	⇓P	P	14 12 10.4	+1.3
	baz=84						
IMW	Indian Meadow	83.35	41	eP	P	14 12 09.6	+0.4
	comp=Z,5.8nm,1.0s						
O20A	White River Ci	83.35	45	⇑P	P	14 12 10.1	+0.9
	baz=84						
M19A	Rock Springs	83.36	44	⇓P	P	14 12 10.3	+1.0
	baz=84						
LOHW	Long Hollow	83.42	41	eP	P	14 12 12.5	+3.0
	comp=Z,25nm,2.3s						
KTGM	Kuala Trenggan	83.47	277	P	P	14 12 11.2	+1.1
QLMT	Earthquake Lak	83.50	40	eP	P	14 12 10.2	+0.3
L19A	Farson	83.51	43	⇓P	P	14 12 11.0	+1.0
	baz=84						
B13A	Whitefish	83.53	36	⇓P	P	14 12 10.4	+0.7
	baz=84						
Z26A	Caprock	83.54	53	⇑P	P	14 12 11.5	+1.2
	baz=84						
R22A	Saguache, Gunn	83.55	47	⇓P	P	14 12 11.4	+1.0
	baz=84						
H16A	Russell Place,	83.55	40	⇑P	P	14 12 11.7	+1.6
	baz=84,SNR=12						
C14A	Swan Lake	83.61	37	⇑P	P	14 12 10.7	+0.5
	baz=84						
N20A	Spence Gulch,	83.66	45	⇓P	P	14 12 11.6	+0.8
	baz=84						
BW06	Boulder Array	83.69	42	eP	P	14 12 09.5	-1.5
	comp=Z,3.0nm,0.9s						
PDAR	Pinedale Array	83.69	42	P	P	14 12 11.6	+0.6
PDAR				pP	pP	14 13 30.0	+6.0
PDAR	Pinedale Array	83.69	42	P	P	14 12 11.6	+0.6
	comp=Z,1.6nm,0.7s,baz=215,slow=3.6,SNR=16						
PDAR				pP	pP	14 13 30.0	+6.0
	comp=Z,1.5nm,1.1s,baz=210,slow=3.4,SNR=3.4						
Q22A	Crested Butte,	83.71	47	⇑P	P	14 12 12.1	+0.9
	baz=84						
328A	Wristen Ranch,	83.72	55	⇓P	P	14 12 12.2	+1.1
	baz=84						
H17A	Grant Village	83.82	41	⇑P	P	14 12 13.0	+1.4
	baz=84						
W25A	X Bar L Ranch,	83.96	51	⇓P	P	14 12 13.3	+1.0
	baz=84						
N21A	Black Mountain	84.13	45	⇑P	P	14 12 14.6	+1.4
	baz=84						
L20A	Wamsutter	84.14	44	⇑P	P	14 12 14.5	+1.4
	baz=84						
429A	Davenport Ranc	84.16	56	⇓P	P	14 12 14.8	+1.4
	baz=84						
K19A	Absolon Red Bu	84.18	43	⇑P	P	14 12 14.1	+0.8
	baz=84						
HRY	Holter Researc	84.19	38	eP	P	14 12 14.4	+1.2
B14A	Marquette Ranc	84.19	36	⇑P	P	14 12 14.4	+1.2
	baz=84						
J19A	Crowheart	84.25	42	⇑P	P	14 12 14.6	+0.9
	baz=84						
C15A	Salmond Ranch,	84.28	37	⇑P	P	14 12 14.6	+1.0
	baz=84,SNR=6.6						
FRIM	Kepong	84.33	275	P	P	14 12 15.4	+0.9
EGAK	Eagle	84.38	14	eP	P	14 12 12.5	-1.0
	comp=Z,7.1nm,0.8s						
EGAK				epP	pP	14 13 26.2	-0.5
S24A	Houchin Ranch,	84.40	49	⇑P	P	14 12 15.5	+0.8
	baz=85						
128A	Castleberry Fa	84.45	54	⇑P	P	14 12 16.0	+1.2
	baz=85						
F17A	Fitzpatrick Pl	84.50	39	⇑P	P	14 12 16.0	+1.2
	baz=85						
B15A	Bradely Ranch,	84.58	37	⇓P	P	14 12 15.5	+0.5
	baz=85						
I19A	Meeteetse	84.65	42	⇓P	P	14 12 15.9	+0.3
	baz=85						
E17A	Martinsdale	84.65	39	⇑P	P	14 12 16.0	+0.4
	baz=85						
BILL	Bilibino	84.65	353	⇓eP	P	14 12 15.5	+0.7
BILL				e		14 15 35.1	
BILL				eS	S	14 22 11.1	-3.7
BILL				pmax	pmax		
	comp=Z,25nm,1.2s						
COLD	Coldfoot	84.78	10	eP	P	14 12 15.2	-0.3
	comp=Z,5.2nm,0.9s						
COLD				epP	pP	14 13 30.9	+2.1
C16A	Fuhringer Ranc	84.79	37	⇓P	P	14 12 16.8	+0.7
	baz=85						
F18A	Big Timber	85.08	40	⇓P	P	14 12 18.3	+0.7
	baz=85						
D17A	Six Diamond Ra	85.09	38	⇑P	P	14 12 18.3	+0.6
	baz=85,SNR=7.6						
B16A	M & M Farms, S	85.12	37	⇑P	P	14 12 17.9	+0.2
	baz=85						
IPM	Ipoh	85.24	276	eP	P	14 12 18.3	-0.8
	comp=Z,42nm,0.8s						
IPM	Ipoh	85.24	276	P	P	14 12 19.7	+0.7
IPM	Ipoh	85.24	276	P	P	14 12 19.8	+0.7
	comp=Z,61nm,1.1s						
E18A	Harlowton	85.27	39	⇑P	P	14 12 19.8	+1.2
	baz=86						
C17A	Wharram Farm,	85.28	38	⇓P	P	14 12 19.1	+0.5
	baz=86,SNR=9.2						
A16A	West Butte Ran	85.45	36	⇑P	P	14 12 19.9	+0.5
	baz=86						
532A	Rocksprings	85.58	57	⇓P	P	14 12 21.2	+0.8
	baz=86						
B17A	L&G Farms, Che	85.58	37	⇑P	P	14 12 20.7	+0.7
	baz=86						
I21A	Big Trails, Te	85.64	42	⇓P	P	14 12 20.9	+0.4
	baz=86						
KULM	Kulim	85.83	277	P	P	14 12 22.5	+0.6
E19A	Rath Farm, Rou	85.91	39	⇓P	P	14 12 22.4	+0.7
	baz=86						
P25A	Willow Gulch B	85.92	47	⇓P	P	14 12 22.6	+0.6
	baz=86						
432A	Menard	85.93	57	⇑P	P	14 12 23.1	+1.0
	baz=86						
A17A	Triple J Farms	85.96	37	⇑P	P	14 12 22.5	+0.7
	baz=86,SNR=7.4						
SKNT	Sakolnakorn	86.08	289	P	P	14 12 24.2	+1.2
	comp=Z,69nm,1.1s						
C19A	Slack Wire Ran	86.35	38	⇓P	P	14 12 25.0	+1.2
	baz=87						
GYA	Guiyang	86.70	299	P	P	14 12 27.3	+1.3
GYA				pP	pP	14 13 38.9	-0.6
GYA				sP	sP	14 14 10.8	-1.4
GYA				PP	PP	14 15 55.0	+1.6
GYA				SKS	SKSac	14 22 21.3	-1.5
GYA				S	S	14 22 35.6	-1.1
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PSI	Prapat	86.80	274	P	P	14 12 26.6	-0.1
	baz=87,SNR=10						
MAW	Mawson	86.89	199	P	P	14 12 26.5	+0.6
MAW	Mawson	86.89	199	P	P	14 12 26.5	+0.6
	comp=Z,18nm,0.7s,baz=127,slow=6.3,SNR=28						
MAW	Mawson	86.89	199	P	P	14 12 26.6	+0.7
	baz=87,SNR=16						
XAN	Xi'an	87.45	306	P	P	14 12 30.5	+1.2
XAN				pP	pP	14 13 44.3	+1.3
XAN				sP	sP	14 14 17.8	+2.2
XAN				PP	PP	14 16 03.3	+4.1
XAN				SKS	SKSac	14 22 24.6	-2.3
XAN				S	S	14 22 42.5	-0.9
XAN				SS	SS	14 28 42.4	+5.3
XAN				pmax	pmax		
	comp=Z,5.0nm,1.4s						
XAN				pmax	pmax		
	comp=Z,47nm,5.0s						
PBKT	Sadao Pong	88.71	288	P	P	14 12 35.0	-0.5
	comp=Z,9.7nm,1.5s						
PBKT	Sadao Pong	88.71	288	P	P	14 12 38.6	+3.1
INK	Inuvik	89.04	14	P	P	14 12 35.9	+0.1
INK	Inuvik	89.04	14	P	P	14 12 35.9	+0.1
	comp=Z,1.3nm,0.5s,baz=199,slow=0.8,SNR=5.7						
DGMT	Dagmar	89.59	39	⇑P	P	14 12 40.4	+1.4
	baz=90						
KMI	Kunming	89.64	296	P	P	14 12 42.3	+2.4
KMI				pP	pP	14 13 53.5	-0.5
KMI				S	S	14 23 02.8	-1.6
KMI				SS	SS	14 29 10.6	+1.2
KMI				pmax	pmax		
	comp=Z,17nm,1.4s						
KMI				LR	LR		
	comp=Z,39nm,24.0s						
CD2	Chengdu	90.54	302	eP	P	14 12 44.6	+0.8
CD2				pP	pP	14 13 57.3	-0.6
CD2				sP	sP	14 14 28.5	-1.8
CD2				PP	PP	14 16 26.5	+2.8
CD2				SKS	SKSac	14 22 45.0	-0.1
CD2				S	S	14 23 11.0	-1.0
CD2				SS	SS	14 29 24.0	+2.2
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,50nm,6.2s						
CMAR	Chiang Mai Arr	91.10	289	P	P	14 12 48.4	+1.8
CMAR	Chiang Mai Arr	91.10	289	P	P	14 12 48.4	+1.8
	comp=Z,7.3nm,0.9s,baz=92,slow=2.6,SNR=32						
YKA	Yellowknife Ar	91.12	24	P	P	14 12 46.8	+1.1
YKA				pP	pP	14 14 04.0	+4.2
YKA	Yellowknife Ar	91.12	24	P	P	14 12 46.7	+1.1
	comp=Z,1.3nm,0.7s,baz=239,slow=4.1,SNR=5.3						
YKA				pP	pP	14 14 04.0	+4.2
	comp=Z,1.1nm,0.9s,baz=243,slow=4.1,SNR=2.4						
CMMT	Chiang Mai	91.19	289	P	P	14 12 48.4	+1.4
	comp=Z,16nm,1.1s						
CHTO	Chiang Mai	91.20	289	eP	P	14 12 44.7	-2.3
CHTO	Chiang Mai	91.20	289	eP	P	14 12 44.7	-2.3
CHTO	Chiang Mai	91.20	289	P	P	14 12 48.5	+1.5
	comp=Z,18nm,1.1s						
LZH	Lanzhou	92.06	307	eP	P	14 12 52.1	+1.2
LZH				pP	pP	14 14 07.8	+2.8
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
SNAA	Sanae	92.62	178	eP	P	14 12 53.3	+0.6
VNA1	Neumayer--Stat	93.33	176	eP	P	14 12 56.4	+0.6
ULN	Ulaanbaatar	93.57	319	P	P	14 12 59.9	+2.4
SONM	Songino Array	93.97	319	P	P	14 12 59.4	0.0
SONM				pP	pP	14 14 16.3	+2.8
SONM				PP	PP	14 16 45.6	-4.6
SONM	Songino Array	93.97	319	P	P	14 12 59.4	0.0
	comp=Z,0.9nm,0.8s,baz=116,slow=5.3,SNR=5.6						
SONM				pP	pP	14 14 16.3	+2.8
	comp=Z,0.1nm,0.4s,baz=160,slow=4.6,SNR=1.1						
SONM				PP	PP	14 16 45.6	-4.6
	comp=Z,0.8nm,1.0s,baz=122,slow=5.6,SNR=4.3						
TIXI	Tiksi	94.90	345	d iP	P	14 13 03.9	+1.1
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.4s						
ZALV	Zalesovo Beam	108.46	322	PKiKP	PKiKP	14 18 07.8	+0.1
ZALV	Zalesovo Beam	108.46	322	PKiKP	PKiKP	14 18 07.8	+0.1
	comp=Z,0.6nm,0.3s,baz=90,slow=1.9,SNR=4.2						
MKAR	Makanchi Array	109.86	315	PKiKP	PKiKP	14 18 10.1	-0.6
MKAR	Makanchi Array	109.86	315	PKiKP	PKiKP	14 18 10.1	-0.6
	comp=Z,1.4nm,0.7s,baz=139,slow=0.4,SNR=12						
KSH	Kashi	114.31	307	ePKP	PKPdf	14 18 14.8	-4.7
KSH				PP	PP	14 19 23.1	+2.5
KSH				AMB	AMB		
	comp=Z,140nm,7.2s						
KSH				LR	LR		
	comp=N,110nm,7.7s						
KSH				LR	LR		
	comp=E,140nm,6.3s						
KSH				LR	LR		
	comp=Z,140nm,7.0s						
SVE	Sverdlovsk	121.53	328	ePKIKP	PKPdf	14 18 33.0	+0.3
SVE				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ARU	Arti	122.74	328	i PKIKP	PKPdf	14 18 35.3	+0.3
ARU						14 20 14.8	
ARU						14 25 05.6	
ARCES	ARCESS Array B	124.72	351	PKP	PKPdf	14 18 38.4	-0.1
ARCES	ARCESS Array B	124.72	351	PKP	PKPdf	14 18 38.4	-0.1
	comp=Z,6.7nm,0.8s,baz=355,slow=1.9,SNR=17						
BOSA	Boshof	131.65	204	PKP	PKPdf	14 18 55.0	+1.8
BOSA	Boshof	131.65	204	PKP	PKPdf	14 18 55.0	+1.8
	comp=Z,1.7nm,0.7s,baz=330,slow=13,SNR=4.2						
FINES	FINESS Array B	131.91	346	PKP	PKPdf	14 18 52.1	-0.2
FINES	FINESS Array B	131.91	346	PKP	PKPdf	14 18 52.1	-0.2
	comp=Z,2.6nm,0.8s,baz=32,slow=5.1,SNR=7.4						
OBN	Obninsk	133.74	335	⇓i PKIKP	PKPdf	14 18 56.6	+0.6
OBN				pmax	pmax		
	comp=Z,11nm,0.7s						
NOA	NORSAR Array B	134.55	356	PKP	PKPdf	14 18 57.6	+0.2
NOA	NORSAR Array B	134.55	356	PKP	PKPdf	14 18 57.6	+0.2
	comp=Z,1.0nm,0.7s,baz=13,slow=4.0,SNR=3.3						
HFS	Hagfors	135.23	354	PKP	PKPdf	14 18 59.0	+0.3
HFS	Hagfors	135.23	354	PKP	PKPdf	14 18 59.0	+0.3
	comp=Z,2.4nm,0.8s,baz=20,slow=2.4,SNR=3.5						
KIV	Kislovodsk	137.37	319	⇑i PKIKP	PKPdf	14 19 01.7	-1.5
KIV				e		14 21 54.7	
KIV				e		14 25 35.1	
KIV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
EKA	Eskdalemuir Ar	140.04	7	PKP	PKPdf	14 19 09.7	+2.1
EKA	Eskdalemuir Ar	140.04	7	PKP	PKPdf	14 19 09.7	+2.1
	comp=Z,1.2nm,0.8s,baz=351,slow=2.3,SNR=3.4						
TSUM	Tsumeb	143.05	200	ePKPdf	PKPbc	14 19 12.3	+0.2
OJC	Ojcow	143.56	344	ePKIKP	PKPdf	14 19 14.3	+0.2
OJC	Ojcow	143.56	344	ePKP	PKPdf	14 19 14.3	+0.2
KMBO	Kilima Mbogo	143.82	245	ePKPdf	PKPbc	14 19 15.2	+0.7
KMBO				PKP	PKPdf	14 19 15.3	-0.6
KMBO	Kilima Mbogo	143.82	245	PKP	PKPdf	14 19 15.3	-0.6
	comp=Z,23nm,0.9s,baz=67,slow=5.5,SNR=39						
STHS	Stebnicka Huta	143.87	342	ePKIKP	PKPdf	14 19 14.0	-0.7
STHS	Stebnicka Huta	143.87	342	ePKP	PKPdf	14 19 14.0	-0.7
CLL	Collm	143.94	351	ePKP	PKPdf	14 19 15.3	+0.6
CLL	Collm	143.94	351	i PKIKP	PKPdf	14 19 15.5	+0.8
CLL				pmax	pmax		
	comp=Z,5.0nm,1.4s						
CLL	Collm	143.94	351	i PKPdf	PKPdf	14 19 15.5	+0.8
	comp=Z,12nm,1.4s						
CLL				epPKPdf	pPKPdf	14 20 32.0	-0.9
CLL				ePP	PP	14 22 32.0	+1.0
KOLS	Kolonicke sedl	143.97	340	ePKIKP	PKPbc	14 19 14.0	+0.4
KOLS	Kolonicke sedl	143.97	340	ePKP	PKPbc	14 19 14.0	+0.4
KOLS				e		14 20 34.4	
BURAR	Bucovina Array	144.04	336	⇑PKIKP	PKPdf	14 19 14.6	-0.5
BURAR	Bucovina Array	144.04	336	⇑iP	PKPdf	14 19 14.6	-0.5
NIE	Niedzica	144.14	343	ePKIKP	PKPdf	14 19 16.1	+0.9
NIE	Niedzica	144.14	343	ePKP	PKPdf	14 19 16.1	+0.9
BRG	Berggiesshubel	144.22	350	ePKP	PKPdf	14 19 17.6	+2.4
	comp=Z,6.9nm,1.1s						
BRG	Berggiesshubel	144.22	350	ePKIKP	PKPdf	14 19 17.6	+2.4
BRG				pmax	pmax		
	comp=Z,20nm,1.1s						
UZH	Uzhgorod	144.22	340	ePKHKP	PKPab	14 19 12.0	-2.0
UZH				i		14 19 14.6	
UZH				e		14 20 32.0	
DPC	Dobruska-Polom	144.27	347	ePKIKP	PKPdf	14 19 15.0	-0.4
DPC				e		14 20 33.4	
DPC	Dobruska-Polom	144.27	347	ePKP	PKPdf	14 19 15.0	-0.4
DPC				epPKP	pPKPdf	14 20 33.4	-0.2
DPC				ex	x	14 20 41.3	
OKC	Ostrava-Krasne	144.33	345	ePKIKP	PKPdf	14 19 15.6	+0.2
OKC	Ostrava-Krasne	144.33	345	ePKP	PKPdf	14 19 15.6	+0.2
TESR	Tescani	144.35	334	⇓iP	PKPab	14 19 14.6	0.0
CFR	Carcaliu	144.71	331	⇑PKIKP	PKPdf	14 19 16.5	+0.3
CFR	Carcaliu	144.71	331	⇑iP	PKPdf	14 19 16.5	+0.3
VRI	Vrincioaia	144.82	333	⇓PKIKP	PKPab	14 19 17.1	+0.6
VRI	Vrincioaia	144.82	333	⇓iP	PKPab	14 19 17.1	+0.6
PLN	Plauen	144.86	352	ePKP	PKPab	14 19 16.7	+0.3
PLOR	Plostina	144.87	333	⇑PKIKP	PKPab	14 19 17.1	+0.4
PLOR	Plostina	144.87	333	⇑iP	PKPab	14 19 17.1	+0.4
WERD	Werda	144.88	352	ePKP	PKPbc	14 19 16.3	+1.0
TANN	Tannenbergstha	144.89	351	ePKP	PKPab	14 19 16.9	+0.3
PRA	Prague	144.91	349	PKP	PKPab	14 19 17.0	+0.4
PRA				pPKP	pPKPdf	14 20 36.0	+1.4
KECS	Kecovo	144.92	342	ePKIKP	PKPab	14 19 17.2	+0.5
KECS	Kecovo	144.92	342	ePKP	PKPab	14 19 17.2	+0.5
PRU	Pruhonice	144.97	349	ePKIKP	PKPab	14 19 16.9	+0.1
PRU				e		14 20 35.8	
PRU	Pruhonice	144.97	349	ePKP	PKPab	14 19 16.9	+0.1
PRU				epPKP	pPKPdf	14 20 35.8	+1.1
PRU				ex	x	14 20 43.3	
WERN	Wernitzgruen	145.03	352	ePKP	PKPab	14 19 17.1	0.0
ROHR	Rohrbach	145.09	352	ePKP	PKPab	14 19 17.3	0.0
TIRR	Tirgusor	145.12	330	ePKIKP	PKPbc	14 19 17.3	+0.2
TIRR	Tirgusor	145.12	330	ePKPdf	PKPbc	14 19 17.3	+0.2
DOPR	Dopca	145.31	334	⇑iP	PKPab	14 19 19.6	+1.3
BRTR	Keskin Array B	145.33	319	PKPbc	PKPab	14 19 19.1	+0.3
BRTR				pPKPbc	pPKPbc	14 20 37.2	+2.2
BRTR	Keskin Array B	145.33	319	PKPbc	PKPab	14 19 19.1	+0.3
	comp=Z,22nm,0.8s,baz=103,slow=2.2,SNR=92						
BRTR				pPKPbc	pPKPbc	14 20 37.2	+2.2
	comp=Z,5.7nm,1.0s,baz=100,slow=1.5,SNR=5.9						
VYHS	Vyhne	145.39	344	ePKP2	PKPbc	14 19 17.8	-0.1
VYHS	Vyhne	145.39	344	ePKP	PKPbc	14 19 17.8	-0.1
VYHS				e		14 20 37.0	
MLR

SPITS	**Spitsbergen Ar**	**4.11**	**113**	Pn	Pn	14 01 31.4	-2.9	
	baz=318,slow=4.8,SNR=576							
SPITS				Sn	Sn	14 02 18.2	-4.7	
	baz=322,slow=12,SNR=1.2							
SPITS				LR	LR	14 03 03.8		
	comp=Z,102nm,18.1s,baz=250,slow=37							
JMIC	**Jan Mayen**	**9.58**	**192**	Pn	Pn	14 02 48.8	-0.3	
	5.1nm,0.3s,baz=262,slow=5.2,SNR=6.4							
JMIC				Sn	Sn	14 04 28.2	-9.1	
	2.9nm,0.3s,baz=177,slow=16,SNR=2.9							
SUMG	**Summit**	**11.24**	**246**	*i* P	Pn	14 03 07.8	-4.6	
SUMG				*i* S	Sn	14 05 07.5	-11	
ARCES	**ARCESS Array B**	**12.82**	**132**	Pn	Pn	14 03 34.2	+0.8	
	0.1nm,0.3s,baz=328,slow=12,SNR=3.5							
ARCES				LR	LR	14 08 09.7		
	comp=Z,21nm,19.4s,baz=169,slow=36							
FINES	**FINESS Array B**	**20.68**	**140**	P	P	14 05 11.5	+0.2	
	1.1nm,0.7s,baz=346,slow=11,SNR=3.6							
ILAR	**Eielson Array**	**33.70**	**333**	P	P	14 07 12.7	+0.3	
	0.7nm,1.0s,baz=7.0,slow=7.2,SNR=6.6							
MKAR	**Makanchi Array**	**43.34**	**85**	P	P	14 08 33.8	+0.2	
	0.4nm,0.7s,baz=359,slow=7.2,SNR=3.9							
PDAR	**Pinedale Array**	**50.94**	**295**	P	P	14 09 33.3	+0.1	
	0.1nm,0.4s,baz=47,slow=4.0,SNR=3.1							
TXAR	**Lajitas Array**	**63.16**	**286**	P	P	14 10 59.1	-0.5	
	0.6nm,0.6s,baz=32,slow=4.5,SNR=9.1							

*NEIC **18** 14:21:24.8±0.3,4°.27N×127°.76E,h35km,mb4.5/7,Error ellipse: s-maj=10.2km s-min=6.0km az=88.0*
*ISCJB **18** 14:21:26.5±0.3,4°.34N±0°.03×127°.89E±0°.04,h66km, mb4.2/29,Error ellipse: s-maj=5.3km s-min=4.1km az=176.0*
*IDC **18** 14:21:30.2±2.2,4°.24N×127°.81E,h85km±20km,mb4.0/23, mb1 4.1/24,mb1mx4.0/30,mbtmp4.0/24,MS3.3/5, Ms1 3.3/5,ms1mx2.9/31,Error ellipse: s-maj=20.0km s-min=8.9km az=78.0*
*AUST **18** 14:21:31.4±0.0,4°.25N×127°.82E,h102km,Error ellipse: s-maj=1.2km s-min=0.9km az=8.0*
*DJA **18** 14:21:31.9±0.9,4°.N±6°×12°.8E±°,h78km±41km,M5.2/5, mB5.5/4,mb5.3/5,MLv5.3/2,Mw(mB)4.9/4*

ISC 18 14:21:28.4±0.4,**4°.29N**±0°.04×**127°.85E**±0°.05,**h66**km,**n104, s154**/106,**mb4.3/29,1D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.53**	**188**	P	**Pn**	**14 22 23.5**	**+2.7**
TNTI				S	**Sn**	**14 23 07.0**	**+5.6**
DAV	**Davao City (W)**	**3.56**	**321**	P	**Pn**	**14 22 21.9**	**+0.6**
DAV				S	**Sn**	**14 23 06.8**	**+4.6**
DAV	**Davao City (W)**	**3.56**	**321**	P	**Pn**	**14 22 21.9**	**+0.6**
	22nm,0.3s,baz=135,slow=2.9,SNR=1.7						
DAV				S	**Sn**	**14 23 06.8**	**+4.6**
	66nm,0.3s,baz=274,slow=23,SNR=3.8						
DAV				LR	LR	14 23 32.7	
	comp=Z,181nm,21.1s,baz=198,slow=34						
MNI	**Manado**	**4.12**	**227**	P	**Pn**	**14 22 30.2**	**+1.2**
MNI				S	**Sn**	**14 23 15.9**	**-0.1**
CTBH	**Cotabato--PC H**	**4.62**	**309**	‖*i*P	**Pn**	**14 22 38.7**	**+3.1**
LBMI	**Labuha**	**4.91**	**184**	P	**Pn**	**14 22 42.8**	**+3.1**
LBMI				S	Sn	14 23 44.8	+10
CGP	**Cagayan de Oro**	**5.19**	**323**	*e*P	Pn	14 22 48.3	+4.8
CGP				*e*S	Sn	14 23 49.5	+7.5
KMSI	**Cibinong**	**5.34**	**226**	P	**Pn**	**14 22 47.5**	**+1.9**
	2µm,0.8s,12µm						
GTOI	**Gorontalo**	**6.04**	**233**	P	**Pn**	**14 22 56.5**	**+1.3**
	400nm,1.0s,3µm						
SWI	**Sorong**	**6.15**	**146**	P	Pn	14 23 00.2	+3.5
	54nm,1.1s						
SWI	**Sorong**	**6.15**	**146**	P	**Pn**	**14 22 59.7**	**+3.0**
	baz=6.2,SNR=7.4						
SWI				S	**Sn**	**14 24 05.9**	**+0.1**
	baz=6.2,SNR=7.8						
MRSI	**Marisa**	**7.01**	**237**	P	**Pn**	**14 23 10.2**	**+1.7**
	375nm,1.0s,4µm						
MRSI				S	**Sn**	**14 24 25.5**	**-1.3**
	375nm,1.0s,4µm						
PALU	**Palau**	**7.26**	**65**	P	**Pn**	**14 23 14.3**	**+2.5**
	baz=7.3,SNR=14						
PALU				S	**Sn**	**14 24 29.6**	**-3.3**
	baz=7.3,SNR=4.5						
LUWI	**Luwuk**	**7.33**	**224**	P	Pn	14 23 16.2	+3.3
LUWI	**Luwuk**	**7.33**	**224**	P	**Pn**	**14 23 15.5**	**+2.6**
	baz=7.3,SNR=13						
AAI	**Ambon**	**7.93**	**177**	P	Pn	14 23 26.8	+5.6
	baz=7.9,SNR=4.6						
FAKI	**Fak Fak**	**8.41**	**148**	P	Pn	14 23 31.1	+3.5
	baz=8.4,SNR=12						
TTSI	**Tana Toraja**	**10.84**	**228**	P	**Pn**	**14 24 03.9**	**+3.1**
KKM	**Kota Kinabalu**	**11.71**	**279**	P	**Pn**	**14 24 15.6**	**+2.7**
	baz=12,SNR=4.2						
KAPI	**Kappang**	**12.28**	**221**	P	Pn	14 24 17.1	-3.4
KAPI				S	Sn	14 26 27.1	-8.7
KAPI	**Kappang**	**12.28**	**221**	P	Pn	14 24 17.1	-3.4
	1.2nm,0.3s,baz=113,slow=3.7,SNR=5.7						
KAPI				S	Sn	14 26 27.1	-8.7
	0.9nm,0.3s,baz=72,slow=20,SNR=2.7						
SOEI	**Soe**	**14.40**	**194**	S	Sn	14 27 11.2	-16
	baz=14,SNR=5.6						
SBUM	**Sibu**	**15.71**	**264**	P	**Pn**	**14 25 06.2**	**+0.5**
MTN	**Manton Dam**	**17.33**	**169**	P	**P**	**14 25 26.5**	**-0.1**
	baz=17,SNR=18						
KDU	**Kakadu**	**17.48**	**165**	P	**Pn**	**14 25 27.9**	**0.0**
	baz=18,SNR=14						
KSM	**Kuching**	**17.74**	**261**	*e*Pn	**Pn**	**14 25 26.6**	**-4.4**
	30nm,0.6s						
KSM	**Kuching**	**17.74**	**261**	P	**P**	**14 25 31.1**	**+0.1**
KSM	**Kuching**	**17.74**	**261**	P	**P**	**14 25 31.1**	**+0.1**
	baz=18,SNR=21						
JAGI	**Jajag, Banyuwa**	**18.63**	**227**	P	**Pn**	**14 25 43.3**	**+1.4**
	baz=19,SNR=3.0						
KNRA	**Kununurra**	**19.86**	**177**	P	**P**	**14 25 54.9**	**+0.7**
	baz=20,SNR=16						
FITZ	**Fitzroy Crossi**	**22.36**	**186**	*e*P	**P**	**14 26 20.0**	**-1.1**
FITZ	**Fitzroy Crossi**	**22.36**	**186**	P	**P**	**14 26 19.4**	**-1.7**
	3.6nm,0.5s,baz=5.0,slow=7.8,SNR=38						
FITZ				S	S	14 30 05.2	-18
	1.0nm,0.5s,baz=130,slow=18,SNR=3.8						
FITZ	**Fitzroy Crossi**	**22.36**	**186**	P	**P**	**14 26 21.3**	**+0.2**
	baz=22,SNR=20						
WRAB	**Tennant Creek**	**24.91**	**165**	*e*P	**P**	**14 26 43.4**	**-2.0**
	18nm,0.9s						
WRA	**Warramunga Arr**	**24.91**	**165**	P	**P**	**14 26 45.3**	**-0.2**
WRA	**Warramunga Arr**	**24.91**	**165**	P	**P**	**14 26 45.3**	**-0.2**
	7.8nm,0.5s,baz=344,slow=10,SNR=70						
MBWA	**Marble Bar**	**26.52**	**197**	*e*P	**P**	**14 26 58.7**	**-1.2**
	9.1nm,1.0s						
ASAR	**Alice Springs**	**28.41**	**168**	P	**P**	**14 27 16.8**	**-0.1**
ASAR				PcP	**PcP**	**14 30 27.0**	**-1.0**
ASAR	**Alice Springs**	**28.41**	**168**	P	**P**	**14 27 16.8**	**-0.1**
	2.4nm,0.4s,baz=351,slow=7.3,SNR=54						
ASAR				PcP	**PcP**	**14 30 27.0**	**-1.0**
	0.6nm,0.4s,baz=352,slow=2.1,SNR=4.1						
PSI	**Prapat**	**28.90**	**268**	P	**P**	**14 27 19.8**	**-1.8**
PSI	**Prapat**	**28.90**	**268**	P	**P**	**14 27 19.8**	**-1.8**
	3.6nm,0.8s,baz=106,slow=2.8,SNR=5.1						
PATS	**Pohnpei**	**30.42**	**84**	S	**S**	**14 32 30.6**	**-0.8**
	baz=30,SNR=3.4						
CMAR	**Chiang Mai Arr**	**31.56**	**299**	P	**P**	**14 27 44.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**31.56**	**299**	P	**P**	**14 27 44.6**	**-0.3**
	2.1nm,0.7s,baz=111,slow=6.9,SNR=12						
MEEK	**Meekatharra**	**32.02**	**196**	P	**P**	**14 27 47.9**	**-0.8**
	baz=32,SNR=12						
KSAR	**Wonju Array Be**	**32.99**	**0**	P	**P**	**14 27 56.5**	**-0.6**
KSRS	**Korea Array**	**33.01**	**0**	P	**P**	**14 27 56.5**	**-0.7**
	2.1nm,0.7s,baz=180,slow=11,SNR=5.8						
KSRS				LR	LR	14 42 58.4	
	comp=Z,18nm,19.5s,baz=331,slow=39						
MJAR	**Matsushiro Arr**	**33.48**	**15**	P	**P**	**14 28 00.6**	**-0.8**
MJAR	**Matsushiro Arr**	**33.48**	**15**	P	**P**	**14 28 00.6**	**-0.8**
	0.9nm,0.5s,baz=184,slow=9.5,SNR=7.9						
MJAR				LR	LR	14 39 43.5	
	comp=Z,70nm,18.9s,baz=85,slow=33						
MORW	**Morawa**	**35.05**	**198**	P	**P**	**14 28 14.9**	**-0.2**
	baz=35,SNR=5.8						
BLDU	**Ballidu**	**36.31**	**196**	P	**P**	**14 28 25.6**	**-0.2**
	baz=36,SNR=10						
KLBR	**Kellerberrin**	**36.96**	**194**	P	**P**	**14 28 31.2**	**-0.1**
	baz=37,SNR=6.1						
BBOO	**Buckleboo**	**37.71**	**169**	P	**P**	**14 28 37.8**	**+0.1**
	baz=38,SNR=16						
STKA	**Stephens Creek**	**38.28**	**161**	P	**P**	**14 28 42.5**	**+0.1**
STKA	**Stephens Creek**	**38.28**	**161**	P	**P**	**14 28 42.5**	**+0.1**
	8.6nm,0.6s,baz=337,slow=9.0,SNR=17						
STKA	**Stephens Creek**	**38.28**	**161**	P	**P**	**14 28 42.5**	**+0.1**
	baz=38,SNR=14						
NWAO	**Narrogin (SRO)**	**38.36**	**194**	P	**P**	**14 28 43.3**	**+0.2**
NWAO	**Narrogin (SRO)**	**38.36**	**194**	P	**P**	**14 28 43.3**	**+0.2**
	6.4nm,0.5s,baz=85,slow=2.3,SNR=10.0						
USRK	**Ussuriysk Arra**	**39.91**	**5**	P	**P**	**14 28 55.1**	**-0.8**
	1.1nm,0.6s,baz=188,slow=8.1,SNR=3.2						
SHL	**Shillong**	**40.45**	**305**	*e*P	**P**	**14 29 02.0**	**+1.0**
ARMA	**Armidale**	**41.34**	**148**	*e*P	**P**	**14 29 08.0**	**-0.1**
ARMA	**Armidale**	**41.34**	**148**	P	**P**	**14 29 11.0**	**+2.9**
	baz=42,SNR=9.4						
ASAJ	**Asahikawa**	**41.74**	**16**	P	**P**	**14 29 12.7**	**+1.6**
ASAJ	**Asahikawa**	**41.74**	**16**	P	**P**	**14 29 12.7**	**+1.6**
	2.4nm,0.4s,baz=67,slow=20,SNR=8.6						
ARPS	**Mount Arapiles**	**42.89**	**163**	P	**P**	**14 29 21.0**	**+0.6**
	baz=43,SNR=9.7						
TAPN	**Taplejung**	**44.59**	**305**	*e*P	**P**	**14 29 33.7**	**-1.0**
	10nm,0.4s						
ODAN	**Odare**	**44.66**	**304**	*e*P	**P**	**14 29 34.4**	**-0.8**
	15nm,0.6s						
RAMN	**Ramite**	**45.35**	**304**	*e*P	**P**	**14 29 39.7**	**-0.9**
	14nm,0.7s						
JIRN	**Jiri**	**45.96**	**305**	*e*P	**P**	**14 29 44.8**	**-0.8**
	16nm,0.5s						
DZM	**Mont Dzumac**	**45.96**	**126**	LR	LR	14 48 24.7	
	comp=Z,65nm,20.7s,baz=180,slow=35						
GUN	**Gumba**	**46.31**	**305**	*e*P	**P**	**14 29 47.6**	**-0.7**
	21nm,0.7s						
PKIN	**Phulchoki**	**46.58**	**304**	*e*P	**P**	**14 29 50.1**	**-0.2**
	29nm,0.4s						
KKN	**Kakani**	**46.75**	**305**	*e*P	**P**	**14 29 51.2**	**-0.4**
ULN	**Ulaanbaatar**	**46.94**	**341**	*e*P	**P**	**14 29 51.5**	**-1.2**
	2.4nm,0.6s						
SONM	**Songino Array**	**47.13**	**340**	P	**P**	**14 29 54.8**	**+0.6**
SONM				PcP	**PcP**	**14 31 25.6**	**+0.6**
SONM	**Songino Array**	**47.13**	**340**	P	**P**	**14 29 54.8**	**+0.6**
	1.0nm,0.6s,baz=156,slow=8.3,SNR=8.2						
SONM				PcP	**PcP**	**14 31 25.6**	**+0.6**
	0.6nm,0.7s,baz=164,slow=3.1,SNR=2.4						
KOLN	**Koldanda**	**48.13**	**304**	*e*P	**P**	**14 30 01.6**	**-0.7**
	18nm,0.5s						
DANN	**Dangsing**	**48.20**	**305**	*e*P	**P**	**14 30 02.0**	**-1.0**
	31nm,0.6s						
PETK	**Petropavlovsk-**	**54.50**	**22**	P	**P**	**14 30 49.8**	**+0.5**
PETK	**Petropavlovsk-**	**54.50**	**22**	P	**P**	**14 30 49.8**	**+0.5**
	4.6nm,0.9s,baz=179,slow=5.0,SNR=6.3						
MKAR	**Makanchi Array**	**57.74**	**325**	P	**P**	**14 31 12.8**	**+0.2**
MKAR	**Makanchi Array**	**57.74**	**325**	P	**P**	**14 31 12.8**	**+0.2**
	2.6nm,0.3s,baz=115,slow=7.7,SNR=48						
TKM2	**Tokmak 2**	**60.07**	**318**	*e*P	**P**	**14 31 27.5**	**-1.5**
ZALV	**Zalesovo Beam**	**60.60**	**332**	P	**P**	**14 31 31.9**	**-0.2**
ZALV	**Zalesovo Beam**	**60.60**	**332**	P	**P**	**14 31 31.9**	**-0.2**
	1.1nm,0.4s,baz=126,slow=7.1,SNR=4.1						
KURK	**Kurchatov**	**61.87**	**327**	P	**P**	**14 31 40.1**	**-0.7**
KURBB	**Kurchatov Arra**	**61.88**	**327**	P	**P**	**14 31 40.1**	**-0.7**
	5.6nm,0.6s,baz=126,slow=6.3,SNR=34						
BVAR	**Borovoye Array**	**67.46**	**327**	P	**P**	**14 32 16.7**	**-0.5**
BVAR	**Borovoye Array**	**67.46**	**327**	P	**P**	**14 32 16.7**	**-0.5**
	1.2nm,0.6s,baz=126,slow=10,SNR=5.3						
CASY	**Casey**	**71.51**	**187**	*e*P	**P**	**14 32 39.5**	**-2.2**
	7.2nm,0.9s						
AKTO	**Aktyubinsk**	**73.92**	**321**	P	**P**	**14 32 56.9**	**+0.4**
AKTO	**Aktyubinsk**	**73.92**	**321**	P	**P**	**14 32 56.9**	**+0.4**
	1.2nm,0.5s,baz=98,slow=8.1,SNR=5.4						
PMR	**Palmer**	**82.92**	**29**	*e*P	**P**	**14 33 45.3**	**-0.5**
	6.2nm,0.6s						
SML	**Sawmill**	**83.32**	**28**	*e*P	**P**	**14 33 47.6**	**-0.3**
	1.7nm,0.5s						
VNDA	**Vanda**	**83.84**	**173**	P	**P**	**14 33 50.1**	**-0.2**
VNDA	**Vanda**	**83.84**	**173**	P	**P**	**14 33 50.1**	**-0.2**
	1.5nm,0.7s,baz=316,slow=7.3,SNR=5.3						
VNDA				LR	LR	15 12 26.8	
	comp=Z,37nm,19.0s,baz=74,slow=36						
ILAR	**Eielson Array**	**84.12**	**25**	P	**P**	**14 33 50.8**	**-1.2**
ILAR	**Eielson Array**	**84.12**	**25**	P	**P**	**14 33 50.8**	**-1.2**
	0.6nm,0.9s,baz=251,slow=5.9,SNR=5.8						
MAW	**Mawson**	**84.67**	**200**	P	**P**	**14 33 53.3**	**-1.2**
MAW	**Mawson**	**84.67**	**200**	P	**P**	**14 33 53.3**	**-1.2**
	1.9nm,0.8s,baz=36,slow=5.0,SNR=4.3						
ARCES	**ARCESS Array B**	**90.31**	**340**	P	**P**	**14 34 22.0**	**+0.2**
ARCES	**ARCESS Array B**	**90.31**	**340**	P	**P**	**14 34 22.0**	**+0.2**
	1.7nm,0.9s,baz=89,slow=6.5,SNR=3.5						
FINES	**FINESS Array B**	**91.86**	**332**	P	**P**	**14 34 29.6**	**+0.4**
FINES	**FINESS Array B**	**91.86**	**332**	P	**P**	**14 34 29.6**	**+0.4**
	1.5nm,0.8s,baz=66,slow=1.7,SNR=3.9						

*IDC **18** 14:24:30.5±2.6,30°.75N×57°.06E,h0km,mb3.7/6, mb1 3.8/7,mb1mx3.5/29,mbtmp3.7/7,Error ellipse: s-maj=67.1km s-min=23.8km az=152.0*
*THR **18** 14:24:31.9±0.4,30°.79N×57°.16E,h15km±4km,ML3.5*
*CSEM **18** 14:24:32.0±0.3,30°.82N×57°.22E,h2km,ML3.5,Error ellipse: s-maj=8.9km s-min=5.3km az=130.0*
*TEH **18** 14:24:36.6,30°.99N×57°.15E,h24km,ML3.7*

ISC 18 14:24:31.3±1.4,**30°.87N**±0°.04×**57°.18E**±0°.03,**h0**km±11km, **n41,σ1s43/49,mb3.6/6,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.95**	**202**	*e*Pg	**Pg**	**14 24 48.6**	**-0.9**
KRBR	**Kerman**	**0.95**	**202**	*e*Pg	**Pg**	**14 24 48.6**	**-0.9**
IBAF	**Bafgh**	**1.56**	**298**	*e*Pn	**Pg**	**14 25 01.6**	**+0.5**
IBAF				*e*Sg	**Sg**	**14 25 23.3**	**+2.0**
IBAF				*e*		14 25 26.2	
	comp=Z,28µm,0.5s						
IBAF	**Bafgh**	**1.56**	**298**	*e*Pn	**Pg**	**14 25 01.6**	**+0.5**
IKOO	**Kooshah**	**2.20**	**45**	*e*Pn	**Pn**	**14 25 10.1**	**+0.8**
IKOO				*e*		14 25 49.3	
	comp=Z,12µm,0.2s						
IKOO	**Kooshah**	**2.20**	**45**	*e*Pn	**Pn**	**14 25 10.1**	**+0.8**
IMEH	**Mehriz**	**2.26**	**284**	*e*Pn	**Pn**	**14 25 11.9**	**+1.8**
IMEH				*e*		14 25 48.9	
	comp=Z,5µm,0.2s						
IMEH	**Mehriz**	**2.26**	**284**	*e*Pn	**Pn**	**14 25 11.9**	**+1.8**
ITEG	**Tejag**	**2.43**	**33**	*e*Pn	**Pn**	**14 25 13.3**	**+0.9**
ITEG				*e*Sg	**Sg**	**14 25 49.1**	**-0.2**
ITEG				*e*		14 26 02.2	
	comp=Z,5µm,0.2s						
ITEG	**Tejag**	**2.43**	**33**	*e*Pn	**Pn**	**14 25 13.3**	**+0.9**
ITEG				*e*Sg	**Sg**	**14 25 49.1**	**-0.2**
ICHK	**Chekchek**	**2.73**	**301**	*e*Pn	**Pn**	**14 25 17.9**	**+1.3**
ICHK				*e*		14 26 17.1	
	comp=Z,2µm,0.2s						
ICHK	**Chekchek**	**2.73**	**301**	*e*Pn	**Pn**	**14 25 17.9**	**+1.3**
TABS	**Tabas**	**2.78**	**359**	*e*Pn	**Pn**	**14 25 18.6**	**+1.5**
TABS				*e*Sg	**Sg**	**14 26 00.9**	**+0.4**
TABS				AML	AML	14 26 14.9	
	comp=N,262nm,0.1s						
TABS	**Tabas**	**2.78**	**359**	*e*Pn	**Pn**	**14 25 18.6**	**+1.5**
TABS				*e*Sg	**Sg**	**14 26 00.9**	**+0.4**
IDAH	**Dahanechah**	**2.96**	**50**	*e*Pn	**Pn**	**14 25 21.7**	**+2.0**
IDAH				*e*Sg	**Sg**	**14 26 07.6**	**+1.3**
IDAH				*e*		14 26 16.0	
	comp=Z,2µm,0.3s						
IDAH	**Dahanechah**	**2.96**	**50**	*e*Pn	**Pn**	**14 25 21.7**	**+2.0**
IDAH				*e*Sg	**Sg**	**14 26 07.6**	**+1.3**
ISAD	**Sadrabad**	**3.16**	**290**	*e*Pn	**Pn**	**14 25 24.0**	**+1.4**
ISAD				*e*		14 26 22.1	
	comp=Z,2µm,0.2s						
ISAD	**Sadrabad**	**3.16**	**290**	*e*Pn	**Pn**	**14 25 24.0**	**+1.4**
BNDS	**Bandar-Abbas**	**3.56**	**195**	*e*Pn	**Pn**	**14 25 27.8**	**-0.2**
BNDS				AML	AML	14 26 32.2	
	comp=E,74nm,0.9s						
BNDS	**Bandar-Abbas**	**3.56**	**195**	*e*Pn	**Pn**	**14 25 27.8**	**-0.2**
ISRV	**Sarvestan**	**3.82**	**248**	*e*Pn	**Pn**	**14 25 34.4**	**+2.8**
ISRV				*e*		14 25 49.9	
	comp=Z,740nm,0.3s						
ISRV	**Sarvestan**	**3.82**	**248**	*e*Pn	**Pn**	**14 25 34.4**	**+2.8**
NASN	**Na'in**	**4.19**	**299**	*e*Pn	**Pn**	**14 25 38.1**	**+1.4**
NASN				*e*Sg	**Sg**	**14 26 42.7**	**-3.2**
NASN				AML	AML	14 26 57.1	
	comp=N,40nm,0.6s						
NASN	**Na'in**	**4.19**	**299**	*e*Pn	**Pn**	**14 25 38.1**	**+1.4**
IZEF	**Zefreh**	**4.59**	**297**	*e*Pn	**Pn**	**14 25 43.3**	**+1.1**
IZEF				*e*		14 27 01.3	
	comp=Z,298nm,0.2s						
IZEF	**Zefreh**	**4.59**	**297**	*e*Pn	**Pn**	**14 25 43.3**	**+1.1**
IANJ	**Anjilo**	**5.34**	**330**	*e*Pn	**Pn**	**14 25 53.1**	**+0.6**
IANJ				*e*		14 27 37.4	
	comp=Z,240nm,0.3s						
IANJ	**Anjilo**	**5.34**	**330**	*e*Pn	**Pn**	**14 25 53.1**	**+0.6**
ISRO	**Mashad**	**5.76**	**19**	*e*Sg	**Sg**	**14 27 32.9**	**-3.3**
IAKL	**Akhelmad**	**5.87**	**13**	*e*Pn	**Pn**	**14 26 01.4**	**+1.6**
IAKL				*e*		14 26 38.1	
	comp=Z,131nm,0.2s						
ISFR	**Sfrayin**	**6.21**	**6**	*e*Pn	**Pn**	**14 26 04.8**	**+0.3**
ISFR				*e*		14 28 08.2	
	comp=Z,198nm,0.3s						
ISFR	**Sfrayin**	**6.21**	**6**	*e*Pn	**Pn**	**14 26 04.8**	**+0.3**
ISHV	**Shirvan**	**6.67**	**4**	*e*Pn	**Pn**	**14 26 10.8**	**+0.1**
ISHV				*e*		14 28 51.7	
	comp=Z,391nm,0.5s						
ISHV	**Shirvan**	**6.67**	**4**	*e*Pn	**Pn**	**14 26 10.8**	**+0.1**
AKTO	**Aktyubinsk**	**19.56**	**2**	P	**Pn**	**14 29 02.2**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=180,slow=10,SNR=4.0						
BVAR	**Borovoye Array**	**24.15**	**20**	P	**P**	**14 29 49.9**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=201,slow=7.7,SNR=6.0						
MKAR	**Makanchi Array**	**25.06**	**44**	P	**P**	**14 29 57.5**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=243,slow=9.1,SNR=5.0						
KURBB	**Kurchatov Arra**	**25.36**	**33**	P	**P**	**14 30 00.8**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=232,slow=9.1,SNR=7.8						
ZALV	**Zalesovo Beam**	**30.46**	**33**	P	**P**	**14 30 45.7**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=243,slow=10,SNR=8.4						
GERES	**GERESS Array B**	**37.30**	**311**	P	**P**	**14 31 43.4**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=119,slow=11,SNR=4.0						
TORD	**Torodi Ar. Bea**	**53.84**	**264**	P	**P**	**14 33 55.1**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=55,slow=7.0,SNR=6.0						

*CSEM **18** 14:25:29.7±0.2,41°.30N×43°.83E,h2km,mb4.0,Error ellipse: s-maj=4.6km s-min=3.7km az=142.0*
*TIF **18** 14:25:29.1,41°.38N×43°.86E,h16km±1km*
*MOS **18** 14:25:30.9±1.1,41°.27N×43°.97E,h12km,mb4.0/1,Error ellipse: s-maj=23.7km s-min=9.5km az=85.0*
*DDA **18** 14:25:31.2,41°.23N×44°.01E,h51km,MD3.1*

ISC 18 14:25:29.7±1.0,**41°.32N**±0°.02×**43°.84E**±0°.02,**h8**km±8km, **n37,σ0s55/64,1C-1D,Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.28**	**289**	P	**Pg**	**14 25 35.3**	**-0.1**
AKH				S	**Sg**	**14 25 39.1**	**0.0**
AKH	**Akhalkalaki**	**0.28**	**289**	P	**Pg**	**14 25 35.3**	**-0.1**
AKH				S	**Sg**	**14 25 39.1**	**0.0**
KZR	**Kazreti**	**0.44**	**81**	P	**Pg**	**14 25 38.2**	**0.0**
KZR				S	**Sg**	**14 25 44.3**	**+0.3**
KZR	**Kazreti**	**0.44**	**81**	P	**Pg**	**14 25 38.2**	**0.0**
KZR				S	**Sg**	**14 25 44.3**	**+0.3**
TBLG	**Delisi**	**0.79**	**58**	*e*PG	**Pg**	**14 25 44.3**	**-0.6**
TBLG	**Delisi**	**0.79**	**58**	P	**Pg**	**14 25 44.4**	**-0.6**
TBLG				S	**Sg**	**14 25 55.4**	**+0.2**
TBLG	**Delisi**	**0.79**	**58**	P	**Pg**	**14 25 44.4**	**-0.5**
TBLG				S	**Sg**	**14 25 55.4**	**+0.2**
DIGO	**Kars**	**0.97**	**202**	*i* P	**Pg**	**14 25 48.0**	**-0.4**
DIGO				*i* S	**Sg**	**14 26 01.2**	**+0.2**
DIGO	**Kars**	**0.97**	**202**	*i* P	**Pg**	**14 25 48.0**	**-0.4**
DIGO				*i* S	**Sg**	**14 26 01.2**	**+0.2**
DUS	**Dusheti**	**1.00**	**40**	P	**Pn**	**14 25 50.1**	**-0.1**
DUS				S	**Sb**	**14 26 03.4**	**+0.5**
DUS	**Dusheti**	**1.00**	**40**	P	**Pn**	**14 25 50.1**	**-0.1**
DUS				S	**Sb**	**14 26 03.4**	**+0.5**
DGRG	**David-gareji**	**1.16**	**83**	*e*PG	**Pb**	**14 25 51.4**	**-0.6**
DGRG	**David-gareji**	**1.16**	**83**	P	**Pb**	**14 25 51.5**	**-0.6**
DGRG				S	**Sn**	**14 26 08.9**	**+0.6**
DGRG	**David-gareji**	**1.16**	**83**	P	**Pb**	**14 25 51.5**	**-0.6**
DGRG				S	**Sn**	**14 26 08.9**	**+0.6**
ONI	**Oni**	**1.30**	**347**	P	**Pn**	**14 25 53.2**	**-1.2**
ONI				S	**Sb**	**14 26 10.8**	**-0.7**
GNI	**Garni**	**1.35**	**149**	*e*Pg	**Pb**	**14 25 55.5**	**+0.1**
ARTV	**Artvin**

PYZ	**Puysegur Point**	**0.41**	**101**	ǁP*	Pb	14 40 33.9	0.0		
PYZ				S*	Sb	14 40 40.4	+0.2		
DCZ	**Deep Cove**	**0.96**	**51**	PN	Pn	14 40 41.3	-0.4		
DCZ				SN	Sn	14 40 53.4	-0.9		
DCZ				AML	AML	14 40 55.7			
DCZ				AML	AML	14 40 55.8			
DCZ				AML	AML	14 40 56.6			
WHZ	**Wether Hill Ro**	**1.30**	**82**	PN	Pb	14 40 47.9	-0.7		
WHZ				AML	AML	14 41 08.1			
WHZ				AML	AML	14 41 09.5			
APZ	**The Paps**	**1.50**	**120**	*e*PN	Pn	14 40 50.6	+1.2		
MLZ	**Mavora Lakes**	**1.63**	**64**	*e*PN	Pb	14 40 53.2	-0.9		
MLZ				SN	Sb	14 41 13.3	-1.0		
MLZ				AML	AML	14 41 20.4			
EAZ	**Earnscleugh**	**2.41**	**70**	*e*PN	Pn	14 41 01.1	-0.6		
WKZ	**Wanaka**	**2.41**	**60**	*e*PN	Pb	14 41 05.4	-1.9		
WKZ				AML	AML	14 41 38.8			
TUZ	**Tuapeka**	**2.46**	**88**	*e*PN	Pn	14 41 05.2	+2.7		
TUZ				AML	AML	14 41 15.1			
JCZ	**Jackson Bay**	**2.76**	**44**	PN	Pn	14 41 08.0	+1.3		
JCZ				AML	AML	14 41 59.5			
JCZ				AML	AML	14 42 00.5			
ODZ	**Otahua Downs**	**3.36**	**74**	PN	Pn	14 41 15.2	+0.4		
ODZ				AML	AML	14 41 18.8			

WEL 18 14:42:56.5±0.4, 44°47S×167°11E, h5km, ML2.7/6, Error ellipse: s-maj=2.8km s-min=2.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.62**	**109**	P*	Pg	14 43 08.8	+0.4
MSZ				SG	Sg	14 43 17.0	+0.5
MSZ				AML	AML	14 43 18.1	
MSZ				AML	AML	14 43 18.2	
MSZ				AML	AML	14 43 18.5	
MSZ	**Milford Sound**	**0.62**	**109**	P*	Pg	14 43 08.8	+0.4
MSZ				SG	Sg	14 43 16.9	+0.4
MSZ				AML	AML	14 43 18.2	
DCZ	**Deep Cove**	**1.00**	**178**	P*	Pg	14 43 15.1	-0.6
DCZ	**Deep Cove**	**1.00**	**178**	P*	Pg	14 43 15.1	-0.7
DCZ				S*	Sg	14 43 27.0	-1.8
MLZ	**Mavora Lakes**	**1.16**	**139**	P*	Pg	14 43 18.0	-0.7
MLZ				S*	Sg	14 43 34.0	+0.1
MLZ	**Mavora Lakes**	**1.16**	**139**	P*	Pg	14 43 17.9	-0.8
MLZ				S*	Sb	14 43 34.3	-0.1
JCZ	**Jackson Bay**	**1.25**	**72**	P*	Pg	14 43 19.6	-1.0
WKZ	**Wanaka**	**1.41**	**105**	PN	Pn	14 43 22.9	0.0
WKZ	**Wanaka**	**1.41**	**105**	PN	Pn	14 43 22.8	0.0
WKZ				S*	Sb	14 43 41.0	-0.7
WHZ	**Wether Hill Ro**	**1.54**	**158**	SN	Sn	14 43 44.5	-0.5
EAZ	**Earnscleugh**	**1.74**	**117**	PN	Pn	14 43 27.6	+0.3
EAZ				AML	AML	14 43 32.2	
EAZ	**Earnscleugh**	**1.74**	**117**	PN	Pn	14 43 27.6	+0.2
ODZ	**Otahua Downs**	**2.58**	**104**	PN	Pn	14 43 38.5	-0.4

*IDC **18** 14:44:20.2±1.8, 3°.59S×129°.61E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.3/21, mbtmp3.3/4, ML2.8/2, Error ellipse: s-maj=118.7km s-min=25.6km az=78.0*

*AUST **18** 14:45:50.5, 3°.17S×130°.97E, h20km*

ISC 18 14:44:21.3±1.3, 3°.7S±0°.1×129°.9E±0°.1, h10km, n9, σ1§15/5, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.45**	**73**	S	**Sn**	**14 45 30.9**	**-0.4**
	baz=1.3,SNR=3.1						
SWI	**Sorong**	**3.09**	**26**	S	**Sb**	**14 45 55.2**	**+1.0**
	baz=2.3,SNR=6.0						
LUWI	**Luwuk**	**7.59**	**290**	P	Sn	14 47 54.3	+16
	baz=8.5,SNR=4.9						
MTN	**Manton Dam**	**9.20**	**173**	P	Sn	14 48 06.1	-12
	baz=9.7,SNR=6.5						
KDU	**Kakadu**	**9.32**	**164**	P	Sn	14 48 09.5	-11
	baz=9.6,SNR=6.5						
FITZ	**Fitzroy Crossi**	**14.95**	**196**	Pn	**Pn**	**14 47 53.6**	**+0.7**
	0.0nm,0.3s,baz=220,slow=18,SNR=2.0						
FITZ				Sn	Sn	14 50 12.0	-27
	0.0nm,0.3s,baz=112,slow=17,SNR=2.2						
WRA	**Warramunga Arr**	**16.75**	**165**	Pn	**P**	**14 48 18.1**	**-0.4**
	0.0nm,0.3s,baz=347,slow=13,SNR=3.8						
WRA				Sn	Sn	14 51 02.9	-20
	0.1nm,0.3s,baz=353,slow=20,SNR=4.2						
ASAR	**Alice Springs**	**20.26**	**169**	P	Pn	14 48 58.6	-0.4
	0.6nm,0.5s,baz=346,slow=11,SNR=23						
SONM	**Songino Array**	**55.27**	**341**	P	**P**	**14 53 54.2**	**-0.8**
	0.1nm,0.3s,baz=155,slow=7.5,SNR=2.9						

WEL 18 14:59:16.9±0.1, 46°17S×166°02E, h30km±1km, ML3.5/8, Error ellipse: s-maj=1.4km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.46**	**90**	P*	Pb	14 59 26.7	0.0
PYZ				S*	Sb	14 59 33.6	+0.1
DCZ	**Deep Cove**	**1.05**	**49**	PN	Pn	14 59 35.1	-0.4
DCZ				SN	Sn	14 59 48.5	-0.7
DCZ				AML	AML	14 59 49.9	
DCZ				AML	AML	14 59 50.4	
DCZ				AML	AML	14 59 50.6	
WHZ	**Wether Hill Ro**	**1.37**	**79**	PN	Pb	14 59 41.0	-1.0
WHZ				AML	AML	15 00 01.5	
APZ	**The Paps**	**1.52**	**117**	PN	Pn	14 59 42.9	+0.9
APZ				SN	Sb	15 00 02.3	-1.0
MLZ	**Mavora Lakes**	**1.72**	**62**	*e*PN	Pb	14 59 46.6	-1.3
MSZ	**Milford Sound**	**2.01**	**43**	AML	AML	15 00 21.5	
MSZ				AML	AML	15 00 23.9	
EAZ	**Earnscleugh**	**2.49**	**69**	SN	Sb	15 00 28.2	-2.9
WKZ	**Wanaka**	**2.50**	**59**	AML	AML	15 00 33.3	
TUZ	**Tuapeka**	**2.53**	**86**	SN	Sn	15 00 28.6	+3.1
ODZ	**Otahua Downs**	**3.44**	**73**	PN	Pn	15 00 09.5	+1.2

*ISCJB **18** 15:05:19.4±0.5, 0°.01N±0°.07×123°.16E±0°.08, h162km, mb3.6/10, Error ellipse: s-maj=12.6km s-min=8.2km az=150.3*

*IDC **18** 15:05:21.6±4.4, 0°.02S×123°.17E, h170km±42km, mb3.4/10, mb1 3.6/11, mb1mx3.4/23, mbtmp3.4/11, Error ellipse: s-maj=38.6km s-min=11.5km az=65.0*

*AUST **18** 15:05:28.1±1.3, 0°.10S×123°.69E, h234km, Error ellipse: s-maj=1.8km s-min=1.5km az=314.0*

ISC 18 15:05:20.8±0.6, 0°.01S±0°.08×123°.20E±0°.09, h162km, n24, σ1§10/27, mb3.7/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.11**	**203**	P	**Pn**	**15 05 47.1**	**-0.6**
	baz=1.3,SNR=129						
AAI	**Ambon**	**6.19**	**126**	P	**Pn**	**15 06 52.8**	**+2.6**
	baz=5.8,SNR=3.9						
FAKI	**Fak Fak**	**9.50**	**108**	P	**Pn**	**15 07 34.4**	**+0.2**
	baz=9.0,SNR=3.1						
FAKI				S	**Sn**	**15 09 16.4**	**-3.3**
	baz=9.0,SNR=4.4						
PALU	**Palau**	**13.41**	**57**	P	**Pn**	**15 08 25.5**	**+0.5**
	baz=13,SNR=3.3						
MTN	**Manton Dam**	**14.98**	**149**	P	**Pn**	**15 08 45.1**	**+0.5**
	baz=15,SNR=20						
KDU	**Kakadu**	**15.60**	**144**	P	**P**	**15 08 52.5**	**-0.4**
	baz=15,SNR=5.9						
KNRA	**Kununurra**	**16.51**	**161**	P	**Pn**	**15 09 04.4**	**+1.2**
	baz=16,SNR=3.6						
CISI	**Cisompet, Garu**	**17.07**	**244**	P	Pn	15 09 16.6	+6.5
	baz=18,SNR=3.0						
FITZ	**Fitzroy Crossi**	**18.14**	**173**	P	**P**	**15 09 21.2**	**+0.4**
	0.5nm,0.3s,baz=16,slow=8.0,SNR=17						
FITZ	**Fitzroy Crossi**	**18.14**	**173**	P	**P**	**15 09 21.2**	**+0.4**
	baz=18,SNR=10						
WRA	**Warramunga Arr**	**22.62**	**152**	P	**P**	**15 10 07.5**	**-0.6**
	2.1nm,0.5s,baz=330,slow=10,SNR=40						
WRA				PcP	**PcP**	**15 13 55.5**	**-0.1**
	0.5nm,1.0s,baz=332,slow=2.2,SNR=4.8						
ASAR	**Alice Springs**	**25.71**	**157**	P	**P**	**15 10 36.3**	**0.0**
	0.3nm,0.4s,baz=333,slow=7.8,SNR=10						
ASAR				PcP	**PcP**	**15 14 02.2**	**-0.1**
	0.7nm,0.3s,baz=343,slow=2.0,SNR=14						
LHMI	**Lhok Sumawe**	**26.72**	**282**	S	S	15 14 44.9	-24
	baz=27,SNR=4.6						
CMAR	**Chiang Mai Arr**	**30.08**	**309**	P	**P**	**15 11 16.8**	**+1.6**
	0.7nm,0.5s,baz=135,slow=6.5,SNR=5.4						
STKA	**Stephens Creek**	**36.16**	**153**	P	**P**	**15 12 07.8**	**+0.1**
	5.4nm,0.9s,baz=330,slow=6.8,SNR=9.3						
STKA				PcP	**PcP**	**15 14 29.8**	**-0.2**
	0.8nm,0.6s,baz=333,slow=4.5,SNR=5.1						
STKA	**Stephens Creek**	**36.16**	**153**	P	**P**	**15 12 08.2**	**+0.5**
	baz=36,SNR=7.0						
LHI	**Lord Howe Isla**	**46.20**	**136**	P	P	15 13 40.2	+11
	baz=46,SNR=4.1						
SONM	**Songino Array**	**49.85**	**345**	P	**P**	**15 13 57.7**	**+0.1**
	0.8nm,0.5s,baz=163,slow=11,SNR=6.1						
SONM				PcP	**PcP**	**15 15 15.0**	**-0.7**
	0.3nm,0.5s,baz=145,slow=5.3,SNR=2.6						
MKAR	**Makanchi Array**	**58.73**	**328**	P	**P**	**15 15 01.2**	**-0.4**
	0.5nm,0.5s,baz=121,slow=8.6,SNR=14						
MKAR				PcP	**PcP**	**15 15 48.9**	**-0.8**
	0.6nm,0.6s,baz=154,slow=2.7,SNR=5.6						
PETK	**Petropavlovsk-**	**60.22**	**23**	P	**P**	**15 15 12.8**	**+1.1**
	1.1nm,0.7s,baz=207,slow=6.0,SNR=2.5						
KURBB	**Kurchatov Arra**	**63.07**	**330**	P	**P**	**15 15 29.7**	**-1.2**
	0.6nm,0.5s,baz=139,slow=6.2,SNR=12						
VNDA	**Vanda**	**80.21**	**172**	P	**P**	**15 17 13.1**	**+0.3**
	0.6nm,0.6s,baz=299,slow=7.5,SNR=5.7						
ILAR	**Eielson Array**	**89.98**	**25**	P	**P**	**15 18 01.5**	**-0.1**
	0.3nm,0.5s,baz=251,slow=5.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**120.60**	**285**	PKP	**PKPdf**	**15 23 53.3**	**-1.1**
	0.3nm,0.6s,baz=70,slow=2.2,SNR=5.6						

WEL 18 15:14:22.8±0.3, 46°08S×166°03E, h33km±2km, ML3.5/15, 1D, Error ellipse: s-maj=3.1km s-min=2.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.46**	**101**	ǁPN	Pb	15 14 32.7	-0.1
PYZ				SN	Sb	15 14 39.8	+0.1
DCZ	**Deep Cove**	**0.99**	**53**	PN	Pn	15 14 40.3	-0.1
DCZ				AML	AML	15 14 53.9	
DCZ				AML	AML	15 14 53.9	
DCZ				AML	AML	15 14 55.4	
DCZ				AML	AML	15 14 55.4	
WHZ	**Wether Hill Ro**	**1.35**	**83**	*e*PN	Pb	15 14 46.5	-1.1
WHZ				AML	AML	15 15 06.9	
WHZ				AML	AML	15 15 11.3	
APZ	**The Paps**	**1.55**	**120**	PN	Pn	15 14 49.1	+1.0
APZ				SN	Sn	15 15 08.7	+1.5
MLZ	**Mavora Lakes**	**1.68**	**65**	PN	Pb	15 14 51.5	-1.6
MLZ				AML	AML	15 15 17.3	
MLZ				AML	AML	15 15 17.9	
MSZ	**Milford Sound**	**1.95**	**44**	*e*PN	Pn	15 14 54.5	+1.0
MSZ				AML	AML	15 15 34.7	
MSZ				AML	AML	15 15 37.7	
SYZ	**Scrubby Hill**	**2.21**	**103**	*e*PN	Pb	15 14 59.8	-2.2
WKZ	**Wanaka**	**2.45**	**60**	*e*PN	Pb	15 15 04.2	-2.1
WKZ				AML	AML	15 15 47.2	
EAZ	**Earnscleugh**	**2.45**	**71**	*e*PN	Pb	15 15 03.6	-2.7
EAZ				AML	AML	15 15 41.1	
EAZ				AML	AML	15 15 43.8	
TUZ	**Tuapeka**	**2.52**	**88**	*e*PN	Pn	15 15 03.4	+2.0
TUZ				AML	AML	15 15 39.1	
TUZ				AML	AML	15 15 48.9	
JCZ	**Jackson Bay**	**2.79**	**45**	*e*PN	Pn	15 15 08.6	+3.3
JCZ				AML	AML	15 15 58.3	
JCZ				AML	AML	15 15 58.6	
LBZ	**Lake Benmore**	**3.39**	**61**	*e*PN	Pn	15 15 15.5	+2.0
LBZ				AML	AML	15 16 32.6	
ODZ	**Otahua Downs**	**3.41**	**74**	*e*PN	Pn	15 15 14.9	+1.2
FOZ	**Fox Glacier**	**3.62**	**47**	*e*PN	Pn	15 15 19.6	+3.0

AUST 18 15:14:29.2±2.4, 30°.29S×117°.68E, h20km, Error ellipse: s-maj=1.5km s-min=1.0km az=263.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLDU	**Ballidu**	**0.90**	**249**	P	Pb	15 14 45.5	-0.6
	baz=0.9,SNR=59						
BLDU				S	Sn	15 15 00.8	+1.7
	baz=0.9,SNR=6.3						
KLBR	**Kellerberrin**	**1.30**	**177**	P	Pn	15 14 52.4	+0.1
	baz=1.3,SNR=131						
KLBR				S	Sb	15 15 09.6	+0.2
	baz=1.3,SNR=16						
MORW	**Morawa**	**1.87**	**310**	P	Pn	15 15 00.6	+0.5
	baz=1.9,SNR=8.6						
MORW				S	Sn	15 15 24.1	+0.9
	baz=1.9,SNR=5.9						
MEEK	**Meekatharra**	**3.73**	**13**	S	Pn	15 15 25.2	-0.5
	baz=27,SNR=9.0						
MEEK	**Meekatharra**	**3.73**	**13**	P	Pn	15 15 25.3	-0.5
	baz=3.7,SNR=5.1						
JAGI	**Jajag, Banyuwa**	**21.96**	**351**	P	P	15 19 21.7	-0.1
	baz=22,SNR=3.8						

IDC 18 15:15:33.4±2.1, 2°.34N×127°.12E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, Error ellipse: s-maj=168.9km s-min=25.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.25**	**163**	P	P	15 20 42.5	-0.1
	0.7nm,0.4s,baz=340,slow=11,SNR=15						
ASAR	**Alice Springs**	**26.68**	**166**	P	P	15 21 14.5	+0.1
	0.1nm,0.3s,baz=358,slow=8.3,SNR=3.1						
MKAR	**Makanchi Array**	**58.91**	**326**	P	P	15 25 34.4	-0.1
	0.2nm,0.5s,baz=130,slow=7.2,SNR=6.0						

*ISCJB **18** 15:32:46.6±0.5, 18°.03N±0°.05×100°.58W±0°.04, h56km±5km, mb4.1/12, MS3.3/4, Error ellipse: s-maj=8.5km s-min=5.6km az=146.3*

*IDC **18** 15:32:47.8±1.2, 18°.11N×100°.18W, h55km±4km, mb3.8/11, mb1 4.0/14, mb1mx3.9/25, mbtmp3.8/14, MS3.3/6, Ms1 3.3/6, ms1mx3.0/29, Error ellipse: s-maj=25.4km s-min=19.5km az=4.0*

*MEX **18** 15:32:49.1±0.5, 18°.03N×100°.59W, h48km±4km, MD4.0*

ISC 18 15:32:47.6±0.6, 18°.03N±0°.05×100°.56W±0°.05, h57km±4km, n30, σ1§37/40, mb3.9/12, MS3.3/4, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.32**	**39**	*i* P	**Pn**	**15 32 57.1**	**-0.5**
ARIG				*e*S	**Sn**	**15 33 03.0**	**-2.0**
ZIIG	**Zihuatanejo**	**0.96**	**244**	*i* P	**Pn**	**15 33 04.5**	**-0.4**
ZIIG				*e*S	**Sn**	**15 33 15.5**	**-2.2**
CAIG	**El Cayaco**	**1.01**	**164**	*i* P	**Pn**	**15 33 05.5**	**-0.2**
CAIG				*e*S	**Sn**	**15 33 18.4**	**-0.8**
PLIG	**Platanillo**	**1.07**	**70**	*i* P	**Pn**	**15 33 06.6**	**0.0**
PLIG				*e*S	**Sn**	**15 33 19.3**	**-1.4**
YAIG	**Yautepec**	**1.65**	**60**	*i* P	**Pn**	**15 33 14.0**	**-0.3**
YAIG				*i* S	**Sn**	**15 33 34.2**	**-0.3**
UNM	**Universidad Na**	**1.84**	**45**	*i* P	**Pn**	**15 33 17.3**	**+0.2**
UNM				*e*S	**Sn**	**15 33 38.2**	**-1.3**
PPM	**Popocatepetl**	**2.11**	**60**	*i* P	**Pn**	**15 33 21.2**	**+0.3**
PPM				*i* S	**Sn**	**15 33 46.4**	**+0.1**
PNIG	**Pinotepa**	**2.84**	**125**	*i* P	**Pn**	**15 33 31.6**	**+1.1**
TPIG	**Tehuac#an**	**3.07**	**82**	*e*P	**Pn**	**15 33 34.9**	**+1.1**
TPIG				*i* S	**Sn**	**15 34 09.2**	**-0.2**
TXAR	**Lajitas Array**	**11.61**	**346**	P	**Pn**	**15 35 32.9**	**+2.3**
	0.1nm,0.3s,baz=162,slow=15,SNR=15						
TXAR				LR	LR	15 40 27.4	
	comp=Z,57nm,20.2s,baz=0.0,slow=40						
TEIG	**Tepich**	**11.82**	**77**	P	Pn	15 35 28.8	-4.6
	0.9nm,0.3s,baz=260,slow=3.8,SNR=5.1						
TEIG				S	Sn	15 37 36.6	-7.2
	0.8nm,0.3s,baz=45,slow=23,SNR=6.2						
ANMO	**Albuquerque**	**17.65**	**344**	P	**P**	**15 36 52.1**	**+2.2**
	0.2nm,0.3s,baz=155,slow=14,SNR=13						
ANMO				LR	LR	15 44 15.9	
	comp=Z,74nm,19.2s,baz=196,slow=39						
PFO	**Pinyon Flat Ob**	**21.06**	**321**	LR	LR	15 45 44.2	
	comp=Z,30nm,18.8s,baz=162,slow=37						
TKL	**Tuckaleechee C**	**23.02**	**37**	P	**P**	**15 37 44.4**	**-3.5**
	1.5nm,0.3s,baz=205,slow=11,SNR=4.2						
NVAR	**Mina Array Bea**	**25.55**	**326**	P	**P**	**15 38 13.6**	**+2.2**
	2.7nm,0.6s,baz=149,slow=10,SNR=20						
NVAR				sP	**sP**	**15 38 33.8**	**+1.6**
	1.6nm,0.6s,baz=150,slow=10,SNR=4.6						
PDAR	**Pinedale Array**	**25.82**	**345**	P	**P**	**15 38 13.9**	**+0.3**
	2.4nm,0.8s,baz=150,slow=11,SNR=17						
PDAR				sP	**sP**	**15 38 33.8**	**-0.9**
	1.1nm,0.7s,baz=155,slow=8.2,SNR=3.7						
ELK	**Elko**	**25.93**	**334**	LR	LR	15 50 22.5	
	comp=Z,68nm,20.1s,baz=5.2,slow=40						
SADO	**Sadowa**	**32.13**	**29**	P	**P**	**15 39 07.0**	**-2.5**
	12nm,0.4s,baz=260,slow=7.4,SNR=22						
ULM	**Lac du Bonnet**	**32.36**	**6**	P	**P**	**15 39 10.1**	**-1.4**
	3.0nm,0.4s,baz=192,slow=8.5,SNR=3.0						
ATAH	**Atahualpa**	**33.23**	**137**	LR	LR	15 50 01.4	
	comp=Z,70nm,21.5s,baz=312,slow=31						
SCHQ	**Schefferville**	**44.87**	**27**	P	**P**	**15 40 54.3**	**-1.8**
	1.8nm,0.4s,baz=207,slow=7.3,SNR=8.5						
YKA	**Yellowknife Ar**	**45.49**	**351**	P	**P**	**15 40 59.7**	**-1.2**
	0.6nm,0.6s,baz=160,slow=7.3,SNR=2.8						
SIV	**San Ignacio**	**51.54**	**129**	LR	LR	16 00 12.4	
	comp=Z,228nm,21.6s,slow=32						
ILAR	**Eielson Array**	**55.98**	**338**	P	**P**	**15 42 20.9**	**+1.0**
	0.3nm,0.6s,baz=151,slow=5.5,SNR=4.1						
ILAR				pP	**pP**	**15 42 35.0**	**-0.2**
	0.3nm,0.4s,baz=149,slow=5.3,SNR=2.5						
ILAR				sP	**sP**	**15 42 42.0**	**+0.3**
	1.0nm,0.8s,baz=147,slow=5.9,SNR=4.7						
PETK	**Petropavlovsk-**	**82.60**	**323**	P	**P**	**15 45 06.2**	**+1.6**
	1.1nm,0.6s,baz=81,slow=8.9,SNR=4.1						
PETK				sP	**sP**	**15 45 28.4**	**+1.3**
	1.3nm,0.5s,baz=87,slow=10,SNR=3.2						
ESDC	**Sonseca Array**	**83.62**	**50**	P	**P**	**15 45 09.8**	**-0.3**
	0.4nm,0.6s,baz=291,slow=5.0,SNR=3.6						
NOA	**NORSAR Array B**	**84.44**	**27**	P	**P**	**15 45 14.3**	**+0.4**
	0.7nm,0.6s,baz=307,slow=5.2,SNR=3.3						
ARCES	**ARCESS Array B**	**84.78**	**17**	P	**P**	**15 45 16.8**	**+1.4**
	4.6nm,0.9s,baz=316,slow=6.8,SNR=5.1						
ARCES				sP	**sP**	**15 45 37.8**	**-0.2**
	2.2nm,0.7s,baz=309,slow=5.8,SNR=2.3						
WRA	**Warramunga Arr**	**128.24**	**259**	PKP	**PKPdf**	**15 51 48.6**	**+0.2**
	0.7nm,0.8s,baz=90,slow=1.8,SNR=6.3						
WRA				pPKP	**pPKPdf**	**15 52 05.5**	**+0.2**
	0.4nm,0.6s,baz=87,slow=2.4,SNR=3.0						
ASAR	**Alice Springs**	**129.04**	**254**	PKP	**PKPdf**	**15 51 49.9**	**0.0**
	0.1nm,0.2s,baz=48,slow=1.9,SNR=5.7						

*IDC **18** 15:33:44.6±0.5, 45°.52S×166°.62E, h0km, mb4.6/14, mb1 4.7/16, mb1mx4.6/23, mbtmp4.6/16, ML4.5/2, MS4.4/13, Ms1 4.4/13, ms1mx4.2/25, Error ellipse: s-maj=17.9km s-min=13.9km az=64.0*

*ISCJB **18** 15:33:45.2±0.7, 45°.47S±0°.03×166°.59E±0°.04, h18km±6km, mb4.8/26, MS4.5/21, Error ellipse: s-maj=6.1km s-min=4.2km az=142.1*

*NEIC **18** 15:33:46.6, 45°.57S×166°.65E, h8km, mb5.0/12, ML5.4(WEL), After WEL.*

NEIC Felt at Queenstown.

*WEL **18** 15:33:46.8±0.2, 45°.54S×166°.65E, h23km±1km, ML5.3/28, Error ellipse: s-maj=1.4km s-min=0.8km az=90.0*

WEL Felt from Canterbury to Fiordland, maximum reported intensity MM 4.

*BJI **18** 15:33:47.0, 45°.42S×166°.91E, h30km, mB5.4/6, mb5.5/12, Ms5.3/10, Ms7 4.9/12*

*MOS **18** 15:33:48.9±1.0, 45°.73S×166°.03E, h33km, mb5.2/7, Error ellipse: s-maj=24.5km s-min=12.9km az=121.3*

*GCMT **18** 15:33:49.8±0.3, 45°.46S×166°.42E, h22km±1km, MW5.1, Moment Tensor Solution. s31,c36; s60,c94; Moment tensor: Scale 10^{16}Nm; M_{rr}3.08±.21; $M_{\theta\theta}$-0.04±.12; $M_{\phi\phi}$-3.03±.13; $M_{r\theta}$-2.56±.26; $M_{\theta\phi}$-0.48±.10; $M_{\phi r}$-2.96±.25; Best double couple: $M_0$5.00000×10^{16} NP1:$\theta_8$352.00000°, δ23.00000°, λ.52.00000°. NP2:$\phi_9$212.00000°, δ72.00000°, λ105.00000°. Principal axes: T 5.2300, Plg61.0000°, Azm144.0000°; N -0.5100, Plg14.0000°, Azm28.0000°; P -4.7100, Plg25.0000°, Azm291.0000°; Data Used: IU II IC G CN.*

*DJA **18** 15:34:04.4±2.7, 46°.5±8°.16°.6E±1°.8, h129km±20km, M4.8/16, mB5.2/1, mb4.8/16, Mw(mB)4.6/1*

ISC 18 15:33:48.6±0.4, 45°.56S±0°.03×166°.72E±0°.04, h29km±2km, n191, σ1§48/214, mb5.0/26, MS4.6/21, 6C-13D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.32**	**75**	ǁPg	**Pb**	**15 33 54.4**	**-1.8**
DCZ				Sg	**Sb**	**15 33 59.4**	**-2.0**
DCZ	**Deep Cove**	**0.32**	**75**	ǁP*	**Pb**	**15 33 54.4**	**-1.8**
DCZ				S*	**Sb**	**15 33 59.2**	**-2.1**
DCZ				AML	AML	15 33 59.5	
DCZ				AML	AML	15 34 00.4	
DCZ				AML	AML	15 34 00.4	
PYZ	**Puysegur Point**	**0.61**	**182**	P*	**Pb**	**15 33 58.4**	**-2.4**
PYZ				S*	**Sb**	**15 34 06.9**	**-2.2**
PYZ	**Puysegur Point**	**0.61**	**182**	P*	**Pb**	**15 33 59.0**	**-1.8**
PYZ				S*	**Sb**	**15 34 06.4**	**-2.7**
WHZ	**Wether Hill Ro**	**0.93**	**112**	*e*Pn	**Pn**	**15 34 04.5**	**-1.1**
WHZ				P*	**Pn**	**15 34 04.7**	**-0.9**
WHZ	**Wether Hill Ro**	**0.93**	**112**	PN	**Pn**	**15 34 04.7**	**-0.9**
WHZ				AML	AML	15 34 25.2	
WHZ				AML	AML	15 34 26.7	
MLZ	**Mavora Lakes**	**1.05**	**79**	P*	**Pn**	**15 34 05.8**	**-1.5**
MLZ	**Mavora Lakes**	**1.05**	**79**	PN	**Pn**	**15 34 05.8**	**-1.5**
MLZ				AML	AML	15 34 22.0	
MLZ				AML	AML	15 34 29.3	
MSZ	**Milford Sound**	**1.23**	**45**	P*	**Pn**	**15 34 07.4**	**-2.5**
MSZ	**Milford Sound**	**1.23**	**45**	PN	**Pn**	**15 34 07.4**	**-2.5**
MSZ				AML	AML	15 34 32.7	
MSZ				AML	AML	15 34 32.7	
MSZ				AML	AML	15 34 40.2	
MSZ				AML	AML	15 34 40.2	
APZ	**The Paps**	**1.55**	**146**	Pn	**Pn**	**15 34 14.5**	**+0.2**
APZ	**The Paps**	**1.55**	**146**	PN	**Pn**	**15 34 14.5**	**+

WVZ	**Waitaha Valley**	**3.81**	**51**	PN	**Pn**	**15 34 44.5**	**-0.7**
WVZ				AML	AML	15 35 51.0	
WVZ				AML	AML	15 35 58.5	
OXZ	**Oxford**	**4.42**	**62**	*e*PN	**Pn**	**15 34 51.8**	**-1.8**
MQZ	**McQueen's Vall**	**4.62**	**68**	*e*PN	**Pn**	**15 34 54.7**	**-1.7**
MQZ				AML	AML	15 35 50.9	
MQZ				AML	AML	15 35 52.6	
CRLZ	**Canterbury Las**	**4.66**	**67**	Pn	**Pn**	**15 34 57.1**	**+0.2**
CRLZ	**Canterbury Las**	**4.66**	**67**	*e*PN	**Pn**	**15 34 56.8**	**-0.1**
CRLZ				AML	AML	15 35 53.8	
CRLZ				AML	AML	15 36 38.0	
LTZ	**Lake Taylor**	**4.87**	**57**	Pn	**Pn**	**15 34 58.1**	**-1.7**
LTZ	**Lake Taylor**	**4.87**	**57**	PN	**Pn**	**15 34 58.1**	**-1.7**
LTZ				AML	AML	15 36 09.3	
LTZ				AML	AML	15 36 11.8	
DSZ	**Denniston Nort**	**5.31**	**46**	Pn	**Pn**	**15 35 05.9**	**+0.1**
DSZ	**Denniston Nort**	**5.31**	**46**	*e*PN	**Pn**	**15 35 05.5**	**-0.3**
KHZ	**Kahutara**	**5.84**	**60**	*e*Pn	**Pn**	**15 35 12.5**	**-0.6**
KHZ				*e*Sn	**Sn**	**15 36 19.6**	**+0.6**
KHZ	**Kahutara**	**5.84**	**60**	*e*PN	**Pn**	**15 35 13.1**	**0.0**
KHZ				AML	AML	15 36 31.1	
KHZ				AML	AML	15 36 32.3	
THZ	**Tophouse**	**5.88**	**52**	Pn	**Pn**	**15 35 13.0**	**-0.8**
THZ	**Tophouse**	**5.88**	**52**	*e*PN	**Pn**	**15 35 12.9**	**-0.8**
THZ				AML	AML	15 36 28.7	
THZ				AML	AML	15 36 33.2	
QRZ	**Quartz Range**	**6.36**	**44**	AML	AML	15 36 38.1	
QRZ				AML	AML	15 36 40.9	
NNZ	**Nelson**	**6.51**	**51**	Pn	**Pn**	**15 35 22.5**	**+0.2**
NNZ	**Nelson**	**6.51**	**51**	*e*PN	**Pn**	**15 35 22.3**	**0.0**
TUWZ	**Tuamarina**	**6.68**	**54**	Pn	**Pn**	**15 35 26.2**	**+1.5**
TUWZ	**Tuamarina**	**6.68**	**54**	AML	AML	15 36 50.7	
TUWZ				AML	AML	15 36 53.5	
TCW	**Tory Channel**	**7.01**	**54**	Pn	**Pn**	**15 35 31.2**	**+2.0**
TCW	**Tory Channel**	**7.01**	**54**	AML	AML	15 37 02.6	
TCW				AML	AML	15 37 05.9	
DUWZ	**D'Urville Isla**	**7.09**	**50**	AML	AML	15 37 00.6	
DUWZ				AML	AML	15 37 01.3	
SNZO	**South Karori**	**7.20**	**57**	*e*Pn	**Pn**	**15 35 30.4**	**-1.4**
SNZO				*e*Sn	**Sn**	**15 36 50.0**	**-2.5**
PKE	**Pukeiti**	**8.33**	**43**	Pn	Pn	15 35 50.7	+3.4
VRZ	**Vera Road**	**8.76**	**46**	AML	AML	15 37 39.5	
VRZ				AML	AML	15 37 41.9	
FWVZ	**Far West T-bar**	**9.07**	**49**	Pn	Pn	15 36 00.9	+3.2
RVAZ	**Riverhead Bore**	**10.59**	**37**	*e*PN	Pn	15 36 21.1	+2.9
URZ	**Urewera**	**10.63**	**50**	Pn	**Pn**	**15 36 17.8**	**-1.0**
URZ				Sn	Sn	15 38 10.2	-6.7
URZ	**Urewera**	**10.63**	**50**	Pn	**Pn**	**15 36 17.8**	**-1.0**
	1.1nm,0.3s,baz=240,slow=7.9,SNR=4.5						
URZ				Sn	Sn	15 38 10.2	-6.7
	5.0nm,0.3s,baz=61,slow=7.4,SNR=3.8						
WCZ	**Waipu Caves**	**11.21**	**34**	Pn	**Pn**	**15 36 25.6**	**-1.1**
WCZ	**Waipu Caves**	**11.21**	**34**	PN	**Pn**	**15 36 25.7**	**-1.1**
WCZ				AML	AML	15 36 37.8	
WCZ				AML	AML	15 38 41.6	
OUZ	**Omahuta**	**11.58**	**29**	*e*Pn	**Pn**	**15 36 30.2**	**-1.5**
OUZ				*e*Sn	**Sn**	**15 38 38.7**	**-1.3**
TAU	**Tasmania Unive**	**14.15**	**274**	Pn	Pn	15 37 02.0	-4.9
	356nm,0.5s,SNR=11						
TAU	**Tasmania Unive**	**14.15**	**274**	*e*P	Pn	15 37 02.5	-4.4
TAU	**Tasmania Unive**	**14.15**	**274**	*e*Pn	Pn	15 37 02.5	-4.4
CAN	**Canberra**	**16.89**	**301**	*e*P	**Pn**	**15 37 40.0**	**-2.8**
CAN				pmax	pmax		
	comp=Z,67nm,1.1s						
CAN	**Canberra**	**16.89**	**301**	*e*Pn	**Pn**	**15 37 40.0**	**-2.8**
	comp=Z,67nm,1.1s						
ARMA	**Armidale**	**19.18**	**317**	*e*P	**P**	**15 38 08.4**	**-1.6**
	comp=Z,48nm,1.2s						
DZM	**Mont Dzumac**	**23.43**	**359**	P	**P**	**15 38 56.7**	**+1.3**
DZM	**Mont Dzumac**	**23.43**	**359**	P	**P**	**15 38 56.7**	**+1.3**
	comp=Z,10nm,0.8s,baz=271,slow=24,SNR=4.4						
EIDS	**Eidsvold**	**23.75**	**323**	*e*P	**P**	**15 38 57.2**	**-1.1**
	comp=Z,200nm,1.9s						
STKA	**Stephens Creek**	**23.77**	**296**	P	**P**	**15 38 59.5**	**+1.0**
STKA	**Stephens Creek**	**23.77**	**296**	P	**P**	**15 38 59.5**	**+1.0**
	comp=Z,22nm,0.8s,baz=126,slow=10,SNR=32						
STKA				LR	LR	15 47 27.7	
	comp=Z,2μm,18.4s,baz=86,slow=35						
BBOO	**Buckleboo**	**26.78**	**288**	*e*P	**P**	**15 39 24.2**	**-1.7**
	comp=Z,577nm,0.9s						
CTA	**Charters Tower**	**30.50**	**320**	P	**P**	**15 39 59.4**	**+0.4**
CTA	**Charters Tower**	**30.50**	**320**	P	**P**	**15 39 59.4**	**+0.4**
	comp=Z,7.0nm,0.9s,baz=145,slow=7.7,SNR=5.3						
CTA				LR	LR	15 50 53.5	
	comp=Z,1μm,20.1s,baz=82,slow=34						
CTAO	**Charters Tower**	**30.50**	**320**	*e*P	**P**	**15 39 57.7**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,15nm,1.1s						
CTAO	**Charters Tower**	**30.50**	**320**	*e*P	**P**	**15 39 57.7**	**-1.4**
	comp=Z,15nm,1.1s						
VNDA	**Vanda**	**32.13**	**182**	P	**P**	**15 40 14.1**	**+1.3**
VNDA	**Vanda**	**32.13**	**182**	P	**P**	**15 40 14.1**	**+1.3**
	comp=Z,1.4nm,0.9s,baz=8.7,slow=4.8,SNR=5.5						
VNDA				LR	LR	15 51 00.6	
	comp=Z,774nm,18.9s,baz=17,slow=32						
SBA	**Scott Base**	**32.40**	**180**	*e*P	**P**	**15 40 14.2**	**-1.0**
SBA				pmax	pmax		
	comp=Z,108nm,2.5s						
SBA	**Scott Base**	**32.40**	**180**	*e*P	**P**	**15 40 14.2**	**-1.0**
	comp=Z,108nm,2.5s						
AS31	**Alice Springs**	**34.37**	**298**	*e*P	**P**	**15 40 31.0**	**-2.0**
ASAR	**Alice Springs**	**34.37**	**298**	P	**P**	**15 40 32.2**	**-0.8**
ASAR				PcP	**PcP**	**15 43 08.9**	**+0.5**
ASAR	**Alice Springs**	**34.37**	**298**	P	**P**	**15 40 32.2**	**-0.8**
	comp=Z,24nm,1.1s,baz=141,slow=8.4,SNR=64						
ASAR				PcP	**PcP**	**15 43 08.9**	**+0.5**
	comp=Z,1.9nm,0.9s,baz=133,slow=3.9,SNR=3.4						
ASAR				LR	LR	15 54 09.8	
	comp=Z,1μm,19.1s,baz=138,slow=36						
CASY	**Casey**	**36.00**	**215**	*e*P	**P**	**15 40 44.6**	**-1.9**
	comp=Z,33nm,1.6s						
WRA	**Warramunga Arr**	**36.92**	**303**	P	**P**	**15 40 53.7**	**-1.1**
WRA				PcP	**PcP**	**15 43 16.4**	**+0.5**
WRA	**Warramunga Arr**	**36.92**	**303**	P	**P**	**15 40 53.7**	**-1.1**
	comp=Z,25nm,1.1s,baz=142,slow=8.9,SNR=52						
WRA				PcP	**PcP**	**15 43 16.4**	**+0.5**
	comp=Z,2.5nm,0.9s,baz=135,slow=3.0,SNR=4.2						
WRA				LR	LR	15 55 18.6	
	comp=Z,1μm,19.1s,baz=130,slow=35						
WRAB	**Tennant Creek**	**36.92**	**303**	P	**P**	**15 40 53.5**	**-1.4**
	comp=Z,143nm,1.2s,SNR=10						
WRAB	**Tennant Creek**	**36.92**	**303**	*e*P	**P**	**15 40 53.5**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,31nm,1.1s						
WRAB	**Tennant Creek**	**36.92**	**303**	*e*P	**P**	**15 40 53.5**	**-1.4**
	comp=Z,31nm,1.1s						
NWAO	**Narrogin (SRO)**	**39.75**	**271**	LR	LR	15 53 46.3	
	comp=Z,326nm,21.3s,baz=103,slow=30						
TBI	**Tubuai**	**41.73**	**73**	*e*LR	LR	15 53 07.0	
	comp=Z,516nm,29.5s						
FITZ	**Fitzroy Crossi**	**43.66**	**295**	*e*P	**P**	**15 41 49.7**	**-0.9**
	comp=Z,32nm,1.4s						
FITZ	**Fitzroy Crossi**	**43.66**	**295**	P	**P**	**15 41 50.0**	**-0.6**
	comp=Z,12nm,0.9s,baz=158,slow=10,SNR=14						
QSPA	**South Pole Qui**	**44.56**	**180**	P	**P**	**15 41 59.2**	**+1.6**
QSPA	**South Pole Qui**	**44.56**	**180**	P	**P**	**15 41 59.2**	**+1.6**
	comp=Z,13nm,0.9s,baz=22,slow=2.9,SNR=33						
QSPA				LR	LR	15 59 55.1	
	comp=Z,147nm,18.7s,baz=206,slow=35						
MBWA	**Marble Bar**	**45.35**	**286**	*e*P	**P**	**15 42 02.4**	**-1.8**
	comp=Z,33nm,1.2s						
PPT2	**Papeete2**	**45.72**	**67**	*e*S	**S**	**15 48 49.4**	**+0.7**
	comp=Z,120nm,26.0s						
PPT2				eLR	LR	15 55 07.7	
	comp=Z,468nm,23.0s,baz=228						
PPT	**Papeete**	**45.74**	**67**	LR	LR	15 58 06.1	
	comp=Z,263nm,19.7s,baz=212,slow=32						
JAY	**Jayapura**	**48.56**	**324**	P	**P**	**15 42 29.4**	**+0.1**
RKT	**Rikitea**	**51.86**	**85**	*e*LR	LR	15 57 52.7	
	comp=Z,987nm,23.0s,baz=229						
MAW	**Mawson**	**53.64**	**208**	P	**P**	**15 43 06.5**	**-0.2**
MAW	**Mawson**	**53.64**	**208**	P	**P**	**15 43 06.5**	**-0.2**
	comp=Z,3.6nm,0.6s,baz=125,slow=10,SNR=6.9						
MAW				LR	LR	16 05 40.4	
	comp=Z,157nm,19.1s,baz=292,slow=36						
KAPI	**Kappang**	**57.35**	**300**	P	**P**	**15 43 34.2**	**+0.1**
	comp=Z,35nm,1.0s						
KAPI	**Kappang**	**57.35**	**300**	P	**P**	**15 43 34.2**	**+0.1**
	comp=Z,12nm,0.5s,baz=82,slow=11,SNR=5.5						
SYO	**Syowa Base**	**59.27**	**200**	*e*P	**P**	**15 43 46.0**	**-0.7**
SNAA	**Sanae**	**62.84**	**184**	*e*P	**P**	**15 44 11.8**	**+0.7**
SNAA	**Sanae**	**62.84**	**184**	*e*PcP	**PcP**	**15 44 45.8**	**-3.4**
SNAA	**Sanae**	**62.84**	**184**	*e*P	**P**	**15 44 10.2**	**-0.9**
	comp=Z,14nm,1.1s						
SNAA	**Sanae**	**62.84**	**184**	P	**P**	**15 44 11.9**	**+0.9**
	comp=Z,3.0nm,0.9s,baz=180,slow=5.2,SNR=16						
VNA1	**Neumayer--Stat**	**64.05**	**182**	*e*P	**P**	**15 44 20.0**	**+1.1**
PSI	**Prapat**	**76.66**	**288**	P	**P**	**15 45 35.4**	**-1.6**
PSI	**Prapat**	**76.66**	**288**	P	**P**	**15 45 35.4**	**-1.6**
	comp=Z,4.0nm,0.9s,baz=143,slow=7.8,SNR=4.3						
PLCA	**Paso Flores**	**79.99**	**140**	LR	LR	16 15 02.7	
	comp=Z,271nm,19.9s,baz=183,slow=31						
QIZ	**Qiongzhong**	**82.38**	**307**	P	**P**	**15 46 07.8**	**+0.1**
QIZ				S	**S**	**15 56 27.6**	**+5.7**
QIZ				LR	LR		
	comp=Z,330nm,21.9s						
MJAR	**Matsushiro Arr**	**85.68**	**337**	P	**P**	**15 46 24.2**	**0.0**
MJAR	**Matsushiro Arr**	**85.68**	**337**	P	**P**	**15 46 24.2**	**0.0**
	comp=Z,1.1nm,0.9s,baz=161,slow=5.5,SNR=3.2						
CMAR	**Chiang Mai Arr**	**88.38**	**298**	P	**P**	**15 46 39.0**	**+1.4**
CMAR	**Chiang Mai Arr**	**88.38**	**298**	P	**P**	**15 46 39.0**	**+1.4**
	comp=Z,8.7nm,0.9s,baz=153,slow=3.3,SNR=39						
CMAR				LR	LR	16 27 29.1	
	comp=Z,152nm,20.7s,baz=155,slow=36						
CFAA	**Coronel Fontan**	**88.46**	**136**	P	**P**	**15 46 38.6**	**+0.5**
CFAA	**Coronel Fontan**	**88.46**	**136**	P	**P**	**15 46 38.6**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=236,slow=3.6,SNR=3.2						
CHTO	**Chiang Mai**	**88.65**	**299**	*e*P	**P**	**15 46 38.2**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,18nm,1.5s						
CHTO	**Chiang Mai**	**88.65**	**299**	*e*P	**P**	**15 46 38.2**	**-0.8**
	comp=Z,18nm,1.5s						
WHN	**Wuhan**	**89.41**	**317**	P	**P**	**15 46 43.8**	**+1.6**
GYA	**Guiyang**	**90.05**	**309**	*e*P	**P**	**15 46 45.8**	**+0.3**
GYA				pP	**pP**	**15 46 57.5**	**+2.6**
GYA				sP	sP	15 47 04.3	+6.0
GYA				PP	**PP**	**15 50 22.0**	**+2.6**
GYA				SKS	**SKSac**	**15 57 11.8**	**-2.5**
GYA				S	**S**	**15 57 35.5**	**-1.2**
GYA				sS	**sS**	**15 57 52.6**	**+0.3**
GYA				SS	**SS**	**16 03 38.0**	**+1.7**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.4s						
GYA				LR	LR		
	comp=N,550nm,20.6s						
GYA				LR	LR		
	comp=E,490nm,21.1s						
GYA				LR	LR		
	comp=Z,510nm,20.8s						
KMI	**Kunming**	**91.21**	**305**	P	**P**	**15 46 53.3**	**+2.3**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CD2	**Chengdu**	**95.12**	**310**	*e*P	**P**	**15 47 08.4**	**-0.3**
CD2				pP	**pP**	**15 47 19.5**	**+1.3**
CD2				sP	**sP**	**15 47 23.6**	**+2.1**
CD2				PP	**PP**	**15 51 01.3**	**+2.2**
CD2				SKS	**SKSac**	**15 57 40.1**	**-2.1**
CD2				S	**S**	**15 58 18.1**	**-3.5**
CD2				sS	**sS**	**15 58 37.3**	**0.0**
CD2				SS	**SS**	**16 04 50.0**	**+1.2**
CD2				pmax	pmax		
	comp=Z,50nm,8.0s						
CD2				LR	LR		
	comp=E,410nm,19.0s						
CD2				LR	LR		
	comp=Z,370nm,16.2s						
MDJ	**Mudanjiang**	**95.63**	**334**	P	**P**	**15 47 11.8**	**+1.2**
MDJ				pP	**pP**	**15 47 21.3**	**+1.3**
MDJ				pmax	pmax		
	comp=Z,8.0nm,2.2s						
MDJ				LR	LR		
	comp=Z,79nm,24.5s						
CPUP	**Villa Florida**	**98.00**	**141**	LR	LR	16 26 56.8	
	comp=Z,248nm,19.9s,baz=178,slow=32						
PETK	**Petropavlovsk-**	**98.59**	**355**	LR	LR	16 28 57.8	
	comp=Z,74nm,20.9s,baz=199,slow=34						
LZH	**Lanzhou**	**99.08**	**313**	*e*P	**Pdif**	**15 47 27.3**	**+0.6**
LZH				pP	**pP**	**15 47 37.8**	**+1.7**
LZH				sP	**sP**	**15 47 41.6**	**+2.1**
LZH				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC	**Hu-ho-hao-te**	**99.16**	**321**	*e*P	**Pdif**	**15 47 25.4**	**-1.4**
HHC				pP	**pP**	**15 47 36.0**	**-0.2**
HHC				sP	**sP**	**15 47 40.0**	**+0.4**
HHC				PP	**PP**	**15 51 31.3**	**+1.2**
HHC				SKS	**SKSac**	**15 58 00.3**	**-2.4**
HHC				S	**S**	**15 58 51.8**	**-4.1**
HHC				sS	**sS**	**15 59 08.5**	**-3.1**
HHC				SS	**SS**	**16 05 46.0**	**+0.4**
HHC				LR	LR		
	comp=N,400nm,18.0s						
HHC				LR	LR		
	comp=E,300nm,17.7s						
HHC				LR	LR		
	comp=Z,440nm,18.6s						
WMQ	**Urumqi**	**113.21**	**309**	PKP	**PKiKP**	**15 52 21.1**	**-1.6**
WMQ				LR	LR		
	comp=N,59nm,22.2s						
WMQ				LR	LR		
	comp=E,73nm,28.3s						
WMQ				LR	LR		
	comp=Z,96nm,22.2s						
ILAR	**Eielson Array**	**115.81**	**20**	PKP	**PKPdf**	**15 52 27.6**	**+0.7**
ILAR	**Eielson Array**	**115.81**	**20**	PKP	**PKPdf**	**15 52 27.6**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=202,slow=1.9,SNR=3.6						
KSH	**Kashi**	**117.26**	**300**	*e*PKP	**PKPdf**	**15 52 34.6**	**+3.9**
KSH				PKS	**PKSdf**	**15 56 10.3**	**+2.9**
KSH				SKS	**SKSdf**	**15 59 41.8**	**+1.3**
KSH				AMB	AMB		
	comp=Z,95nm,6.6s						
KSH				LR	LR		
	comp=N,130nm,4.8s						
KSH				LR	LR		
	comp=E,160nm,4.9s						
KSH				LR	LR		
	comp=Z,140nm,17.4s						
MKAR	**Makanchi Array**	**118.05**	**309**	PKIKP	**PKPdf**	**15 52 31.5**	**-0.3**
MKAR	**Makanchi Array**	**118.05**	**309**	PKP	**PKPdf**	**15 52 31.5**	**-0.3**
MKAR	**Makanchi Array**	**118.05**	**309**	PKP	**PKPdf**	**15 52 31.5**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=181,slow=2.1,SNR=10						
ZALV	**Zalesovo Beam**	**121.03**	**317**	PKIKP	**PKPdf**	**15 52 36.2**	**-1.1**
ZALV	**Zalesovo Beam**	**121.03**	**317**	PKP	**PKPdf**	**15 52 36.1**	**-1.1**
ZALV	**Zalesovo Beam**	**121.03**	**317**	PKP	**PKPdf**	**15 52 36.1**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=159,slow=5.6,SNR=2.2						
VORD	**Divnogorie**	**145.21**	**298**	*e*PKIKP	**PKPab**	**15 53 22.0**	**-0.2**
VORD				pmax	pmax		
	comp=Z,30nm,1.1s						
VORD				pmax	pmax		
	comp=N,9.0nm,0.5s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.6s						
SCHQ	**Schefferville**	**145.28**	**55**	PKPbc	**PKPdf**	**15 53 23.7**	**+1.3**
SCHQ	**Schefferville**	**145.28**	**55**	PKPbc	**PKPdf**	**15 53 23.7**	**+1.3**
	comp=E,6.1nm,0.7s,baz=232,slow=3.1,SNR=6.1						
TOA0	**Torodi Ar. Sit**	**145.28**	**206**	*e*PKPdf	**PKPdf**	**15 53 23.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**145.28**	**206**	PKPbc	**PKPbc**	**15 53 23.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**145.28**	**206**	PKPbc	**PKPbc**	**15 53 23.2**	**-0.1**
	comp=E,22nm,0.8s,baz=149,slow=2.6,SNR=123						
SPITS	**Spitsbergen Ar**	**145.31**	**350**	PKPbc	**PKPbc**	**15 53 20.9**	**-0.9**
SPITS	**Spitsbergen Ar**	**145.31**	**350**	PKPbc	**PKPbc**	**15 53 20.9**	**-0.9**
	comp=E,29nm,1.0s,baz=77,slow=7.3,SNR=5.9						
VSR	**Storozhevoye**	**145.34**	**299**	*e*PKIKP	**PKPdf**	**15 53 22.4**	**-0.2**
VSR				pmax	pmax		
	comp=Z,30nm,1.2s						
VSR				pmax	pmax		
	comp=N,6.0nm,0.5s						
VSR				pmax	pmax		
	comp=E,30nm,1.1s						
BRTR	**Keskin Array B**	**145.39**	**277**	PKPbc	**PKPab**	**15 53 23.6**	**+0.1**
BRTR	**Keskin Array B**	**145.39**	**277**	PKPbc	**PKPab**	**15 53 23.6**	**+0.1**
	comp=E,11nm,0.9s,baz=145,slow=4.5,SNR=51						
APA	**Apatity**	**147.36**	**329**	*e*PKP2	**PKPab**	**15 53 30.2**	**+0.2**
APA				MLR	MLR		
	comp=Z,100nm,20.0s						
KEV	**Kevo**	**148.61**	**334**	*e*p	**PKPbc**	**15 53 31.2**	**-0.1**
KEV	**Kevo**	**148.61**	**334**	*e*PKP2	**PKPbc**	**15 53 31.2**	**-0.1**
ARCES	**ARCESS Array B**	**149.18**	**335**	PKPbc	**PKPbc**	**15 53 32.9**	**+0.2**
ARCES	**ARCESS Array B**	**149.18**	**335**	PKPbc	**PKPbc**	**15 53 32.9**	**+0.2**
	comp=Z,8.2nm,0.7s,baz=64,slow=2.8,SNR=18						
TIRR	**Tirgusor**	**150.73**	**283**	*i*P	**PKPbc**	**15 53 38.2**	**+0.9**
CFR	**Carcaliu**	**151.13**	**284**	*i*P	**PKPbc**	**15 53 39.3**	**+1.2**
KIEV	**Kiev**	**151.48**	**296**	*e*PKPbc	**PKPbc**	**15 53 38.2**	**-0.6**
KAF	**Kangasniemi**	**151.96**	**320**	*e*p	**PKPbc**	**15 53 39.6**	**+0.1**
	comp=Z,8.0nm,0.5s						
VRI	**Vrincioaia**	**152.26**	**285**	*i*P	**PKPab**	**15 53 50.5**	**-0.3**
FINES	**FINESS Array B**	**152.26**	**319**	PKPbc	**PKPbc**	**15 53 40.4**	**+0.1**
FINES	**FINESS Array B**	**152.26**	**319**	PKPbc	**PKPbc**	**15 53 40.4**	**+0.1**
	comp=Z,4.7nm,0.5s,baz=88,slow=4.0,SNR=50						
TESR	**Tescani**	**152.46**	**286**	*i*P	**PKPab**	**15 53 51.9**	**+0.3**
MLR	**Muntele Rosu**	**152.70**	**284**	*i*P	**PKPbc**	**15 53 43.0**	**+1.1**
VOIR		**153.30**	**284**	PKP2	**PKPab**	**15 53 57.5**	**+2.2**
VOIR		**153.30**	**284**	*i*P	**PKPab**	**15 53 57.5**	**+2.2**
ARR	**Arges**	**153.56**	**283**	*i*P	**PKPbc**	**15 53 45.1**	**+1.3**
BURAR	**Bucovina Array**	**153.64**	**288**	PKP2	**PKPab**	**15 53 58.1**	**+1.4**
BURAR	**Bucovina Array**	**153.64**	**288**	*i*P	**PKPab**	**15 53 58.1**	**+1.4**
VTS	**Vitosha**	**153.76**	**277**	PKP2	**PKPab**	**15 53 56.3**	**-1.1**
VTS	**Vitosha**	**153.76**	**277**	*i*P	**PKPab**	**15 53 56.3**	**-1.1**
BZS	**Buzias**	**155.69**	**283**	PKP2	**PKPab**	**15 54 05.4**	**0.0**
BZS	**Buzias**	**155.69**	**283**	*i*P	**PKPab**	**15 54 05.4**	**0.0**
KOLS	**Kolonicke sedl**	**155.77**	**291**	*e*PKIKP	**PKPdf**	**15 53 39.6**	**+0.7**
KOLS				*e*		15 53 51.6	
KOLS	**Kolonicke sedl**	**155.77**	**291**	*e*PKP	**PKPdf**	**15 53 39.6**	**+0.7**
KOLS				*e*		15 53 51.6	
KOLS				*e*		15 54 06.6	
STHS	**Stebnicka Huta**	**156.48**	**292**	*e*PKP2	**PKPab**	**15 54 09.6**	**+0.9**
STHS	**Stebnicka Huta**	**156.48**	**292**	*e*PKP	**PKPab**	**15 54 09.6**	**+0.9**
VYHS	**Vyhne**	**158.00**	**289**	*e*PKIKP	**PKPdf**	**15 53 46.1**	**+4.4**
VYHS				*e*		15 54 11.7	
VYHS	**Vyhne**	**158.00**	**289**	*e*PKP	**PKPdf**	**15 53 46.1**	**+4.4**
VYHS				*e*		15 54 11.7	
NOA	**NORSAR Array B**	**158.88**	**326**	PKPab	**PKPab**	**15 54 18.3**	**-0.4**
NOA	**NORSAR Array B**	**158.88**	**326**	PKPab	**PKPab**	**15 54 18.3**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=58,slow=4.4,SNR=3.8						
BRG	**Berggiesshubel**	**161.15**	**296**	*e*P	**PKPab**	**15 54 29.5**	**+0.6**
	comp=Z,5.5nm,1.0s						
BRG	**Berggiesshubel**	**161.15**	**296**	*e*PKP2	**PKPab**	**15 54 29.5**	**+0.6**
BRG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GERES	**GERESS Array B**	**161.41**	**290**	PKPab	**PKPab**	**15 54 30.7**	**+0.4**
GERES	**GERESS Array B**	**161.41**	**290**	PKPab	**PKPab**	**15 54 30.7**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=93,slow=6.7,SNR=11						

NIED ***18*** *15:34:00,40.40N×142.10E,h44km,Mw3.4 Best double couple: M0 1.23000×10^14 NP1:φs57.00000°,δ84.00000°, λ129.00000°. NP2:φs154.00000°,δ40.00000°,λ10.00000°.*

ISCJB ***18*** *15:34:39.5±0.8,40.39N±0.04×142.07E±0.09,h57km±6km, mb3.5/4,MS2.6/1,Error ellipse: s-maj=12.1km s-min=6.2km az=5.6*

JMA ***18*** *15:34:40.2±0.1,40.35N×142.09E,h50km±1km,M3.7*

JMA Felt I J1.

IDC ***18*** *15:34:42.1±3.6,40.45N×142.07E,h68km±21km,mb3.3/4, mb1 3.4/7,mb1mx3.2/26,mbtmp3.3/7,MS2.7/1,Ms1 2.7/1, ms1mx2.0/11,Error ellipse: s-maj=61.3km s-min=17.6km az=113.0*

ISC 18 15:34:40.5±1.2,40.38N±0.04×142.04E±0.08,h50km±9km, n15,σ0.82/24,mb3.6/4,1C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.40**	**270**		↓P	**Pn**	**15 34 50.8**	**+0.1**
JANG					S	**Sn**	**15 34 58.2**	**+0.3**
JTH	**Tanohata**	**0.46**	**197**		↑P	**Pn**	**15 34 50.9**	**-0.4**
JTH					S	**Sn**	**15 34 58.6**	**-0.4**
JKZ	**Kuzumaki**	**0.67**	**234**		↓P	**Pn**	**15 34 54.1**	**+0.2**
JKZ					*e*S	**Sn**	**15 35 03.8**	**+0.2**
JTM	**Tenmabayashi**	**0.84**	**299**		↓P	**Pn**	**15 34 56.1**	**-0.1**
JTM					*e*S	**Sn**	**15 35 07.6**	**0.0**
JOM	**Ohasama**	**1.07**	**213**		↓P	**Pn**	**15 34 59.2**	**+0.1**
JOM					*e*S	**Sn**	**15 35 12.7**	**-0.2**
JAH	**Hinai**	**1.09**	**261**		↓P	**Pn**	**15 34 59.8**	**+0.4**
JAH					S	**Sn**	**15 35 14.1**	**+0.7**
JOT	**Ohata**	**1.25**	**324**		P	**Pn**	**15 35 01.4**	**-0.3**
JOT					*e*S	**Sn**	**15 35 16.9**	**-0.5**
JRG	**Rokugo**	**1.46**	**228**		P	**Pn**	**15 35 04.7**	**+0.3**
JRG					*e*S	**Sn**	**15 35 23.7**	**+1.3**
**

332A	Millersview	34.96 318	⇓P	P	15 50 05.1	+0.3
	baz=35					
232A	Coleman	35.22 319	⇓P	P	15 50 07.1	+0.2
	baz=35					
530A	J-C Ranch, Com	35.32 315	⇓P	P	15 50 08.0	+0.1
	baz=35,SNR=7.1					
331A	San Angelo	35.38 317	⇑P	P	15 50 08.8	+0.5
	baz=35					
430A	Baggett Ranch,	35.62 316	⇑P	P	15 50 10.0	-0.5
	baz=36					
ABTX	Abilene, Hawle	35.69 320	⇓P	P	15 50 11.0	+0.1
	baz=36					
231A	Bronte	35.69 318	⇑P	P	15 50 11.0	0.0
	baz=36					
SFIN	Scholer Farm	35.73 341	⇑P	P	15 50 11.8	+0.7
	baz=36					
529A	Stev Forest Ra	35.93 314	⇓P	P	15 50 12.9	-0.2
	baz=36					
330A	Mertzon	35.95 317	⇑P	P	15 50 13.0	-0.2
	baz=36					
429A	Davenport Ranc	35.98 315	⇓P	P	15 50 13.4	-0.2
	baz=36					
Z32A	Haskell	36.02 321	⇑P	P	15 50 14.3	+0.5
	baz=36					
628A	Black Gap, Mar	36.06 312	⇑P	P	15 50 14.4	+0.1
	baz=36					
230A	Sterling City	36.19 317	⇓P	P	15 50 16.0	+0.7
	baz=36					
131A	Roby	36.20 319	⇑P	P	15 50 16.3	+0.9
	baz=36					
627A	Terlingua Ranc	36.41 312	⇓P	P	15 50 17.5	+0.2
	baz=36,SNR=10					
130A	Snyder	36.53 318	⇓P	P	15 50 18.2	0.0
	baz=37					
329A	Wagon Wheel Ra	36.55 316	⇑P	P	15 50 18.2	-0.1
	baz=37,SNR=5.6					
TXAR	Lajitas Array	36.56 312	P	P	15 50 18.5	0.0
	2.1nm,0.6s,baz=127,slow=9.0,SNR=25					
TXAR			PcP	PcP	15 52 39.9	+1.1
	0.7nm,0.6s,baz=128,slow=5.5,SNR=7.7					
428A	Kincaid Ranch,	36.60 314	⇑P	P	15 50 19.4	+0.5
	baz=37,SNR=6.0					
229A	Bryant Ranch,	36.71 317	⇑P	P	15 50 20.0	+0.3
	baz=37					
Y31A	Rekieta Farm,	36.95 321	⇓P	P	15 50 22.4	+0.8
	baz=37					
527A	Woodward Ranch	36.95 313	⇑P	P	15 50 22.3	+0.4
	baz=37,SNR=6.0					
626A	Big Bend Ranch	37.02 312	⇑P	P	15 50 22.8	+0.4
	baz=37					
328A	Wristen Ranch,	37.06 315	⇓P	P	15 50 22.4	-0.3
	baz=37					
Z30A	Sanderson Ranc	37.07 319	⇑P	P	15 50 22.1	-0.6
	baz=37					
427A	Hayter Ranch,	37.18 314	⇓P	P	15 50 23.4	-0.4
	baz=37,SNR=7.1					
X31A	McDonald Ranch	37.21 322	⇑P	P	15 50 24.0	+0.2
	baz=37					
526A	Mary Lane Ranc	37.25 312	⇓P	P	15 50 24.1	-0.4
	baz=37					
Y30A	Stafford Cattl	37.29 320	⇑P	P	15 50 25.2	+0.6
	baz=37					
Z29A	Hungry Hill Ra	37.43 319	⇓P	P	15 50 25.6	-0.1
	baz=38,SNR=7.3					
426A	McDonald Obser	37.53 313	⇓P	P	15 50 27.1	+0.2
	baz=38,SNR=11					
W31A	Holland Ranch,	37.56 322	⇓P	P	15 50 26.5	-0.3
	baz=38					
128A	Castleberry Fa	37.56 317	⇑P	P	15 50 27.2	+0.3
	baz=38,SNR=9.8					
X30A	Coker Ranch, T	37.65 321	⇓P	P	15 50 27.9	+0.4
	baz=38					
227A	Bennet, Jal	37.76 316	⇓P	P	15 50 28.9	+0.4
	baz=38					
Y29A	Porterfield Fa	37.78 319	⇑P	P	15 50 29.1	+0.4
	baz=38					
X29A	Tulia	38.17 320	⇓P	P	15 50 32.1	+0.1
	baz=38					
Y28A	McKinney Farm,	38.19 319	⇑P	P	15 50 32.2	+0.1
	baz=38					
425A	Indio Mountain	38.29 313	⇓P	P	15 50 33.2	0.0
	baz=38					
226B	Tecolote Peak,	38.41 315	⇑P	P	15 50 34.6	+0.6
	baz=38					
X28A	Dimmitt	38.53 320	⇓P	P	15 50 35.4	+0.4
	baz=39					
W29A	Amraillo	38.57 321	⇑P	P	15 50 35.9	+0.6
	baz=39					
325A	Bean Ranch, Si	38.59 313	⇑P	P	15 50 35.7	0.0
	baz=39					
Y27A	Causey	38.77 318	⇓P	P	15 50 37.1	0.0
	baz=39					
225A	Deer Hill, Car	38.89 315	⇓P	P	15 50 38.9	+0.8
	baz=39					
Z26A	Caprock	38.96 317	⇓P	P	15 50 38.6	0.0
	baz=39,SNR=9.7					
324A	Moseley Ranch,	39.00 313	⇓P	P	15 50 39.2	+0.2
	baz=39,SNR=6.1					
MNTX	Cornudas Mount	39.06 314	*e*P	P	15 50 39.1	-0.3
	4.3nm,0.7s					
125A	Gardner Draw,	39.08 315	⇓P	P	15 50 39.9	+0.3
	baz=39,SNR=8.0					
RCBR	Riachuelo	39.09 108	P	P	15 50 40.9	+1.1
	4.5nm,0.9s,baz=280,slow=6.1,SNR=2.7					
Y26A	Elida	39.24 318	⇑P	P	15 50 41.3	+0.4
	baz=39					
224A	Cornudas Mount	39.37 314	⇑P	P	15 50 42.8	+0.7
	baz=39,SNR=18					
W27A	Bowe Ranch, En	39.43 320	⇓P	P	15 50 43.0	+0.5
	baz=40					
Z25A	Roswell	39.47 316	⇑P	P	15 50 43.4	+0.6
	baz=40,SNR=7.1					
X26A	CR and CF Fran	39.60 318	⇓P	P	15 50 44.9	+0.9
	baz=40					
124A	Stringfield Ra	39.66 315	⇓P	P	15 50 45.3	+0.8
	baz=40					
Y25A	Mesa, Roswell	39.82 317	⇑P	P	15 50 46.6	+0.8
	baz=40					
R30A	Dighton	39.89 326	⇑P	P	15 50 46.1	-0.1
	baz=40					
W26A	Owens Ranch, T	39.90 319	⇓P	P	15 50 46.5	+0.1
	baz=40					
Z24A	Sheeppen Canyo	39.95 316	⇑P	P	15 50 47.2	+0.3
	baz=40					
X25A	Clemmons Ranch	40.15 318	⇓P	P	15 50 49.1	+0.6
	baz=40					
Y24A	Capitan	40.33 316	⇓P	P	15 50 50.9	+0.9
	baz=40,SNR=11					
V26A	Tequesquite Ra	40.35 320	⇓P	P	15 50 50.8	+0.7
	baz=40					
W25A	X Bar L Ranch,	40.43 319	⇓P	P	15 50 51.6	+0.8
	baz=40					
Z23A	Rita Site, Whi	40.51 315	⇓P	P	15 50 52.5	+1.0
	baz=40					
222A	Williams Famil	40.52 313	⇓P	P	15 50 52.4	+0.8
	baz=40					
X24A	Lazy VL Ranch,	40.69 317	⇑P	P	15 50 54.3	+1.3
	baz=41					
Y23A	Lovelace Mesa,	40.76 316	⇑P	P	15 50 54.9	+1.3
	baz=41					
R28A	Tribune	40.80 325	⇓P	P	15 50 54.2	+0.4
	baz=41					
V25A	Rancho No Teng	40.91 319	⇓P	P	15 50 56.1	+1.4
	baz=41					
221A	Mesquite Ranch	40.97 312	⇑P	P	15 50 56.4	+1.1
	baz=41					
Z22A	Elephant Butte	41.02 314	⇑P	P	15 50 57.4	+1.7
	baz=41					
W24A	Lazy 6 Ranch,	41.05 318	⇓P	P	15 50 56.9	+0.9
	baz=41					
T26A	Comanche Natio	41.09 322	⇑P	P	15 50 57.2	+1.0
	baz=41					
U25A	Circle Dot Ran	41.11 320	⇓P	P	15 50 57.3	+0.9
	baz=41					
121A	Cookes Peak, D	41.24 313	⇑P	P	15 50 58.6	+1.1
	baz=41					
V24A	Rampart Ranch,	41.26 319	⇓P	P	15 50 58.6	+0.9
	baz=41					
S26A	Kim	41.30 322	⇓P	P	15 50 58.9	+1.1
	baz=41					
R27A	Eads	41.34 324	⇓P	P	15 50 58.6	+0.5
	baz=41					
220A	Playas Peak, P	41.47 312	⇑P	P	15 51 00.2	+0.9
	baz=42,SNR=6.1					
T25A	Trinidad	41.57 321	⇓P	P	15 51 01.5	+1.3
	baz=42					
N30A	Hueftle Ranch,	41.59 329	⇓P	P	15 51 02.4	+2.3
	baz=42					

ANMO	Albuquerque	41.60 317	P	P	15 51 01.8	+1.4
	0.3nm,0.3s,baz=131,slow=9.8,SNR=3.8					
R26A	Arlington	41.73 323	⇓P	P	15 51 01.9	+0.6
	baz=42					
X22A	Bernardo	41.73 316	⇓P	P	15 51 02.9	+1.4
	baz=42					
319A	Douglas	41.78 311	⇓P	P	15 51 02.6	+0.7
	baz=42					
120A	U Bar Ranch, L	41.86 312	⇓P	P	15 51 03.8	+1.2
	baz=42					
V23A	Ortiz Mt. (NFS	41.88 318	⇓P	P	15 51 04.1	+1.4
	baz=42					
S25A	Robets Cordova	41.92 322	⇓P	P	15 51 04.2	+1.2
	baz=42					
Z20A	Nine Sixteen R	42.12 313	⇓P	P	15 51 05.6	+1.0
	baz=42					
R25A	Fountain Ranch	42.13 322	⇑P	P	15 51 05.4	+0.8
	baz=42					
Q26A	Hugo	42.18 324	⇓P	P	15 51 06.0	+1.0
	baz=42					
U23A	El Rito	42.22 319	⇑P	P	15 51 06.8	+1.3
	baz=42					
X21A	Alamocita Cree	42.24 315	⇑P	P	15 51 06.4	+0.8
	baz=42,SNR=5.8					
Y20A	Horse Springs,	42.37 314	⇓P	P	15 51 08.0	+1.2
	baz=42,SNR=5.7					
S24A	Houchin Ranch,	42.38 321	⇑P	P	15 51 08.3	+1.4
	baz=42					
V22A	San Miguel Ran	42.45 318	⇓P	P	15 51 08.5	+1.1
	baz=42					
U22A	Llaves	42.68 318	⇓P	P	15 51 10.4	+1.1
	baz=43					
R24A	Sanders Place,	42.69 322	⇑P	P	15 51 10.2	+0.9
	baz=43,SNR=7.0					
X20A	Quemado	42.79 315	⇑P	P	15 51 11.0	+0.9
	baz=43					
T22A	Edith	43.09 319	⇑P	P	15 51 13.9	+1.4
	baz=43					
W20A	Ramah	43.10 316	⇓P	P	15 51 13.8	+1.2
	baz=43					
R23A	Moffat	43.11 321	⇑P	P	15 51 13.9	+1.2
	baz=43					
U21A	Nageezi	43.24 318	⇓P	P	15 51 14.9	+1.1
	baz=43					
V20A	Brimhall	43.44 317	⇑P	P	15 51 17.1	+1.8
	baz=44					
S22A	4UR Ranch, Cre	43.47 320	⇑P	P	15 51 16.9	+1.3
	baz=44					
T21A	Navajo Lake	43.48 319	⇓P	P	15 51 16.8	+1.2
	baz=44					
R22A	Saguache, Gunn	43.71 321	⇑P	P	15 51 18.9	+1.4
	baz=44					
X18A	Snowflake	43.81 314	⇑P	P	15 51 19.2	+1.0
	baz=44					
P23A	Jefferson	43.85 323	⇓P	P	15 51 20.2	+1.6
	baz=44					
ISCO	Idaho Springs	43.98 323	*e*P	P	15 51 18.7	-1.0
	2.2nm,0.8s					
ISCO	Idaho Springs	43.98 323	⇑P	P	15 51 20.4	+0.7
	baz=44,SNR=5.1					
S21A	Coal Bank Pass	44.04 319	⇓P	P	15 51 21.1	+1.0
	baz=44					
Q22A	Crested Butte,	44.19 321	⇓P	P	15 51 22.8	+1.4
	baz=44					
MVCO	Mesa Verde	44.24 318	⇓P	P	15 51 22.5	+0.8
	baz=44					
S20A	Disappointment	44.50 319	⇓P	P	15 51 24.7	+0.9
	baz=44,SNR=8.6					
R20A	Redvale	44.72 320	⇑P	P	15 51 26.7	+1.2
	baz=45					
214A	Organ Pipe Nat	44.73 309	⇑P	P	15 51 26.7	+1.3
	baz=45					
O22A	Kremmling	44.77 323	⇓P	P	15 51 26.3	+0.4
	baz=45,SNR=6.0					
X16A	Lo Mia Camp, P	44.82 313	⇓P	P	15 51 27.4	+1.1
	baz=45					
N23A	Red Feather La	44.88 324	⇓P	P	15 51 28.1	+1.3
	baz=45					
P21A	Newcastle	44.92 322	⇑P	P	15 51 28.5	+1.4
	baz=45					
Q20A	Ridgley Place,	45.11 321	⇑P	P	15 51 30.2	+1.7
	baz=45					
WUAZ	Wupatki	45.31 315	*e*P	P	15 51 30.3	+0.2
	8.7nm,1.0s					
WUAZ	Wupatki	45.31 315	⇓P	P	15 51 30.9	+0.8
	baz=45,SNR=7.2					
O21A	Pagoda	45.36 322	⇓P	P	15 51 31.8	+1.3
	baz=45					
Z14A	Wintersburg	45.44 311	⇑P	P	15 51 32.1	+1.1
	baz=45					
L23A	Garrett	45.53 326	⇑P	P	15 51 32.8	+0.9
	baz=46					
AGMN	Agassiz Nation	45.67 339	*e*P	P	15 51 32.4	-0.1
	2.6nm,0.6s					
N21A	Black Mountain	45.72 323	⇓P	P	15 51 34.3	+0.9
	baz=46					
Y14A	Wickenburg	45.74 312	⇑P	P	15 51 33.6	+0.2
	baz=46,SNR=6.7					
I25A	Rochford	45.78 329	⇑P	P	15 51 33.9	+0.3
	baz=46					
M21A	Separation Pea	46.16 324	⇓P	P	15 51 38.8	+2.1
	baz=46					
N20A	Spence Gulch,	46.21 323	⇓P	P	15 51 38.4	+1.2
	baz=46					
J23A	Dilts Ranch, B	46.31 327	⇑P	P	15 51 39.1	+1.4
	baz=46					
U15A	North Rim	46.41 315	⇑P	P	15 51 39.7	+0.8
	baz=46,SNR=5.6					
O19A	Miners Draw (B	46.42 321	⇓P	P	15 51 39.2	+0.5
	baz=46					
G25A	Newell	46.46 330	⇓P	P	15 51 38.9	+0.1
	baz=46					
M20A	Sweetwater, Wa	46.57 323	⇑P	P	15 51 40.5	+0.6
	baz=47					
F26A	Lodgepole	46.58 332	⇑P	P	15 51 40.0	+0.3
	baz=47					
GLA	Glamis	46.73 310	⇓P	P	15 51 42.0	+0.9
	baz=47					
K21A	Alcova	46.74 325	⇓P	P	15 51 42.1	+0.8
	baz=47					
MDND	Maddock	46.75 336	⇓P	P	15 51 41.8	+0.8
	baz=47					
J22A	Midwest	46.82 327	⇓P	P	15 51 42.2	+0.4
	baz=47					
I22A	9 Mile Ranch,	47.14 327	⇓P	P	15 51 44.8	+0.6
	baz=47					
J21A	Lysite	47.31 326	⇓P	P	15 51 46.2	+0.6
	baz=47					
ULM	Lac du Bonnet	47.33 340	P	P	15 51 44.4	-1.0
	3.5nm,0.4s,baz=146,slow=7.6,SNR=3.2					
K20A	Yellowstone Ra	47.38 325	⇓P	P	15 51 46.5	+0.3
	baz=47,SNR=5.5					
MVU	Marysvale	47.41 318	*e*P	P	15 51 46.2	-0.4
	6.4nm,1.0s					
I21A	Big Trails, Te	47.53 326	⇑P	P	15 51 47.4	+0.2
	baz=48					
H22A	Fairmont	47.54 328	⇓P	P	15 51 47.8	+0.5
	baz=48					
L19A	Farson	47.63 323	⇓P	P	15 51 48.4	+0.2
	baz=48					
J20A	Shoshoni	47.67 325	⇓P	P	15 51 49.0	+0.7
	baz=48					
K19A	Absolon Red Bu	47.78 324	⇓P	P	15 51 49.4	+0.2
	baz=48					
G22A	Birney	47.93 328	⇑P	P	15 51 50.7	+0.5
	baz=48					
L18A	Fontenelle, Gr	47.93 323	⇑P	P	15 51 51.1	+0.6
	baz=48,SNR=7.5					
M17A	Scullys Gap (B	48.05 322	⇓P	P	15 51 51.2	-0.2
	baz=48					
I20A	Worland	48.08 326	⇑P	P	15 51 51.9	+0.5
	baz=48,SNR=5.7					
SCHQ	Schefferville	48.13 5	P	P	15 51 52.2	+0.7
	3.4nm,0.5s,baz=203,slow=7.2,SNR=11					
BW06	Boulder Array	48.16 324	*e*P	P	15 51 51.4	-0.8
	2.6nm,1.0s					
PDAR	Pinedale Array	48.16 324	P	P	15 51 52.0	-0.2
	1.4nm,0.6s,baz=126,slow=8.8,SNR=14					
PDAR			PcP	PcP	15 53 16.6	-0.7
	0.3nm,0.5s,baz=113,slow=2.1,SNR=2.9					
J19A	Crowheart	48.17 325	⇑P	P	15 51 52.4	+0.2
	baz=48					
E23A	Ismay	48.31 330	⇓P	P	15 51 53.1	0.0
	baz=48					
G21A	Lodge Grass	48.41 328	⇓P	P	15 51 54.0	+0.1
	baz=48					
TUQ	Turquoise Moun	48.56 312	⇓P	P	15 51 55.7	+0.4
	baz=49					

HEC	Hector,Ludlow	48.61 311	⇑P	P	15 51 56.2	+0.5
	baz=49					
I19A	Meeteetse	48.62 326	⇓P	P	15 51 56.0	+0.3
	baz=49					
HWUT	Hardware Ranch	48.68 321	*e*P	P	15 51 56.0	-0.2
	2.2nm,0.7s					
DUG	Dugway	48.70 319	⇓P	P	15 51 57.4	+1.1
	baz=49					
G20A	Bridger	48.95 327	⇓P	P	15 51 57.7	-0.4
	baz=49,SNR=7.0					
SHOC	Shoshone	49.02 312	⇓P	P	15 51 59.2	+0.5
	baz=49					
GSC	Goldstone	49.16 312	⇑P	P	15 52 00.3	+0.5
	baz=49					
E21A	Keefer Ranch,	49.23 329	⇑P	P	15 52 00.6	+0.5
	baz=49					
REDW	Red Top Meadow	49.27 324	*e*P	P	15 52 01.0	+0.3
	7.3nm,1.2s					
LOHW	Long Hollow	49.27 324	*e*P	P	15 52 00.3	-0.4
	1.6nm,0.4s					
F20A	Billings	49.29 328	⇓P	P	15 52 01.2	+0.6
	baz=49					
A24A	Westby	49.46 333	⇑P	P	15 52 02.9	+1.1
	baz=50					
C22A	Vida	49.47 331	⇑P	P	15 52 02.3	+0.4
	baz=50,SNR=7.8					
D21A	La Casita Ranch	49.55 330	⇓P	P	15 52 03.5	+1.0
	baz=50					
B23A	Brockton	49.57 332	⇓P	P	15 52 03.9	+1.3
	baz=50					
R11A	Troy Canyon, C	49.63 316	⇓P	P	15 52 04.1	+0.6
	baz=50					
IMW	Indian Meadow	49.64 324	*e*P	P	15 52 02.2	-1.3
	2.4nm,0.5s					
FURC	Furnace Creek,	49.69 313	⇓P	P	15 52 04.8	+1.1
	baz=50					
G18A	Lazy EL Ranch,	49.74 327	⇓P	P	15 52 04.0	-0.1
	baz=50					
E20A	Meyer Farm, Mu	49.74 329	⇓P	P	15 52 04.8	+0.7
	baz=50,SNR=6.5					
F19A	Roth Farm, Mol	49.75 327	⇑P	P	15 52 04.3	+0.2
	baz=50					
EDW2	Edwards Air Fo	49.88 311	⇑P	P	15 52 05.8	+0.5
	baz=50					
A23A	Redstone	49.88 333	⇑P	P	15 52 06.5	+1.6
	baz=50					
LRMC	Laurel Mountai	49.89 311	⇑P	P	15 52 06.3	+0.9
	baz=50					
I16A	Newdale	49.95 324	⇓P	P	15 52 06.9	+1.2
	baz=50					
E19A	Rath Farm, Rou	50.06 328	⇑P	P	15 52 07.0	+0.6
	baz=50					
C21A	Desert Coulee	50.12 331	⇓P	P	15 52 07.9	+1.1
	baz=50					
F18A	Big Timber	50.19 327	⇓P	P	15 52 08.1	+0.6
	baz=50,SNR=6.0					
H16A	Russell Place,	50.30 325	⇓P	P	15 52 09.7	+1.3
	baz=50					
A22A	Carney Farms,	50.37 332	⇓P	P	15 52 09.7	+1.0
	baz=50,SNR=7.0					
B21A	Ellsworth Farm	50.49 331	⇑P	P	15 52 11.0	+1.4
	baz=51					
ELK	Elko	50.56 319	P	P	15 52 10.3	-0.2
	0.5nm,0.4s,baz=107,slow=6.9,SNR=4.2					
D19A	Cripps Ranch,	50.57 329	⇓P	P	15 52 10.7	+0.5
	baz=51,SNR=5.1					
F17A	Fitzpatrick Pl	50.71 327	⇓P	P	15 52 12.1	+0.7
	baz=51					
E18A	Harlowton	50.72 328	⇑P	P	15 52 12.1	+0.6
	baz=51					
C19A	Slack Wire Ran	51.03 329	⇑P	P	15 52 14.4	+0.8
	baz=51					
E17A	Martinsdale	51.16 327	⇓P	P	15 52 15.1	+0.3
	baz=51,SNR=5.5					
A20A	Cobblestone Ra	51.24 331	⇓P	P	15 52 16.1	+0.8
	baz=51					
MCMT	McKenzie Canyo	51.30 324	*e*P	P	15 52 16.4	+0.5
	1.2nm,0.6s					
DLMT	Dillon	51.46 325	*e*P	P	15 52 17.0	0.0
	2.7nm,1.0s					
D17A	Six Diamond Ra	51.50 328	⇑P	P	15 52 18.0	+0.7
	baz=52					
HLID	Hailey	51.52 322	*e*P	P	15 52 17.6	+0.1
	2.3nm,0.8s					
HLID	Hailey	51.52 322	⇓P	P	15 52 18.5	+1.0
	baz=52					
NVAR	Mina Array Bea	51.58 315	P	P	15 52 18.4	+0.3
	1.2nm,0.7s,baz=120,slow=7.0,SNR=10					
NVAR			PcP	PcP	15 53 30.4	+0.5
	0.4nm,0.5s,baz=140,slow=4.7,SNR=3.7					
EGMT	Eagleton	51.58 329	⇓P	P	15 52 18.5	+0.7
	baz=52					
B18A	Beardsley Farm	51.83 329	⇑P	P	15 52 20.3	+0.6
	baz=52,SNR=5.6					
C17A	Wharram Farm,	51.85 328	⇓P	P	15 52 20.3	+0.6
	baz=52					
I12A	Atlanta	52.08 322	⇑P	P	15 52 22.1	+0.4
	baz=52					
MFID	Camas Ranch	52.31 321	*e*P	P	15 52 22.8	-0.5
	3.1nm,0.7s					
MFID	Camas Ranch	52.31 321	⇓P	P	15 52 23.6	+0.3
	baz=52,SNR=5.1					
H12A	Diamond D Ranc	52.32 323	⇑P	P	15 52 23.3	-0.1
	baz=52,SNR=5.9					
B16A	M & M Farms, S	52.83 328	⇑P	P	15 52 27.7	+0.7
	baz=53					
C15A	Salmond Ranch,	52.91 327	⇓P	P	15 52 29.0	+1.3
	baz=53					
G12A	Big Creek, Yel	52.92 323	⇓P	P	15 52 28.3	+0.5
	baz=53					
B15A	Bradely Ranch,	53.22 328	⇑P	P	15 52 30.9	+1.0
	baz=53					
C14A	Swan Lake	53.52 327	⇓P	P	15 52 32.6	+0.5
	baz=54					
B14A	Marquette Ranc	53.62 328	⇓P	P	15 52 33.3	+0.5
	baz=54					
E12A	Beaver Dam Sad	53.77 325	⇓P	P	15 52 33.8	-0.2
	baz=54					
C13A	Hot Springs	53.92 326	⇓P	P	15 52 35.5	+0.5
	baz=54					
A14A	Double T Ranch	54.07 328	⇑P	P	15 52 35.8	-0.2
	baz=54					
B13A	Whitefish	54.27 327	⇑P	P	15 52 37.5	0.0
	baz=54					
C11A	Tepee Creek (N	54.95 326	⇑P	P	15 52 42.3	0.0
	baz=55,SNR=5.0					
NEW	Newport	55.67 326	⇑P	P	15 52 47.1	-0.4
	baz=56					
YKA	Yellowknife Ar	63.31 340	P	P	15 53 39.3	-0.2
	3.6nm,0.6s,baz=134,slow=6.6,SNR=19					
ILAR	Eielson Array	77.02 335	P	P	15 55 02.7	-0.2
	0.5nm,0.5s,baz=109,slow=4.4,SNR=6.1					
ZALV	Zalesovo Beam	116.64 14	PKP	PKPdf	16 01 53.2	0.0
	0.5nm,0.4s,baz=325,slow=1.8,SNR=2.9					
MKAR	Makanchi Array	122.28 20	PKP	PKPdf	16 02 03.5	-0.8
	0.2nm,0.4s,baz=324,slow=2.0,SNR=6.6					
SONM	Songmo Array	125.58 1	PKP	PKPdf	16 02 10.9	+0.1
	0.1nm,0.4s,baz=287,slow=1.8,SNR=4.0					
WMQ	Urumqi	126.65 17	P	PKPdf	16 02 14.5	+1.7
LZH	Lanzhou	137.22 4	*e*PKP	PKPdf	16 02 33.1	0.0
LZH			sPKP		16 03 32.8	
LZH			LR	LR		
	comp=N,210nm,16.0s					
LZH			LR	LR		
	comp=Z,250nm,19.8s					
ASAR	Alice Springs	149.21 234	PKP	PKPdf	16 02 53.7	-0.5
	comp=Z,2.9nm,0.5s,baz=118,slow=3.4,SNR=32					
ASAR			PKPbc	PKPbc	16 02 57.2	-1.4
	comp=Z,2.9nm,0.5s,baz=118,slow=3.5,SNR=8.6					
WRA	Warramunga Arr	150.45 241	PKP	PKPdf	16 02 55.9	-0.3
	comp=Z,2.7nm,0.4s,baz=108,slow=2.7,SNR=5.5					
WRA			PKPbc	PKPbc	16 03 00.5	-1.2
	comp=Z,2.7nm,0.4s,baz=109,slow=2.6,SNR=74					
CMAR	Chiang Mai Arr	153.65 17	PKPbc	PKPbc	16 03 08.8	-0.2
	comp=Z,0.9nm,0.6s,baz=316,slow=3.2,SNR=7.7					

CSEM ***18*** *15:46:04.2, 37.97N×26.06W, h5km, ML3.5, After PDA*

PDA 18 15:46:04.2±1.2, 37.97N×26.06W, h5km±5km, MD3.6, ML3.5, Error ellipse: s-maj=7.8km s-min=1.8km az=39.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PSET	**Sete Cidades**	**0.30**	**120**	*e*P	Pg		15 46

PSET	**Sete Cidades**	**0.30**	**120**	*e*P	Pg	15 46 09.6	-0.6
PSET				*e*S	Sg	15 46 14.5	+0.3
PDA	**Ponta Delgada**	**0.38**	**126**	*e*P	Pg	15 46 10.7	-0.9
PDA				*e*S	Sg	15 46 16.4	-0.2
PDA				A	A	15 46 18.8	
	912nm,0.2s						
PDA	**Ponta Delgada**	**0.38**	**126**	*e*P	Pg	15 46 10.7	-0.9
PDA				*e*S	Sg	15 46 16.4	-0.2
CMLA	**Cha da Macela**	**0.47**	**116**	*e*P	Pg	15 46 12.5	-0.8
CMLA				A	A	15 46 28.2	
	5µm,0.4s						
CMLA	**Cha da Macela**	**0.47**	**116**	*e*P	Pg	15 46 12.5	-0.8
BART	**Pico Bartolome**	**0.73**	**105**	*e*P	Pg	15 46 16.2	-2.1
BART				*e*S	Sg	15 46 25.1	-2.8
BART				A	A	15 46 37.3	
	781nm,0.6s						
BART	**Pico Bartolome**	**0.73**	**105**	*e*P	Pg	15 46 16.2	-2.1
BART				*e*S	Sg	15 46 25.1	-2.8
ADH	**Angra Heroismo**	**1.15**	**307**	*e*P	Pg	15 46 22.3	-4.0
ADH				*e*S	Sg	15 46 35.6	-5.6
ADH				A	A	15 46 40.1	
	847nm,0.3s						
ADH	**Angra Heroismo**	**1.15**	**307**	*e*P	Pg	15 46 22.3	-4.0
ADH				*e*S	Sg	15 46 35.6	-5.6
PSMA	**Santa Maria**	**1.22**	**143**	*e*P	Pg	15 46 23.0	-4.7
PSMA				*e*S	Sg	15 46 37.5	-6.1
PSMA				A	A	15 46 47.0	
	130nm,0.5s						
PSMN	**Pico do Norte,**	**1.25**	**141**	*e*P	Pg	15 46 23.2	-5.0
PSMN				*e*S	Sg	15 46 37.5	-6.9
PSMN				A	A	15 46 43.8	
	77nm,0.7s						
PSMN	**Pico do Norte,**	**1.25**	**141**	*e*P	Pg	15 46 23.2	-5.0
PSMN				*e*S	Sg	15 46 37.5	-6.9
PID	**Ribeirinha**	**1.69**	**287**	*e*P	Pn	15 46 29.4	-5.1
PID				*e*S	Sn	15 46 49.0	-7.5
PID	**Ribeirinha**	**1.69**	**287**	*e*P	Pn	15 46 29.4	-5.1
PID				*e*S	Sn	15 46 49.0	-7.5
PMAN	**Manadas**	**1.73**	**293**	*e*P	Pn	15 46 30.5	-4.4
PMAN				*e*S	Sn	15 46 49.3	-8.1
PMAN				A	A	15 46 51.7	
	186nm,0.3s						
PMAN	**Manadas**	**1.73**	**293**	*e*P	Pn	15 46 30.5	-4.4
PMAN				*e*S	Sn	15 46 49.3	-8.1
PGRA	**Graciosa**	**1.84**	**305**	*e*P	Pn	15 46 31.5	-5.0
PGRA				*e*S	Sn	15 46 52.2	-8.0
PGRA				A	A	15 46 59.2	
	185nm,0.3s						
PGRA	**Graciosa**	**1.84**	**305**	*e*P	Pn	15 46 31.5	-5.0
PGRA				*e*S	Sn	15 46 52.2	-8.0
ROSA	**Rosais**	**1.87**	**294**	*e*P	Pn	15 46 31.8	-5.1
ROSA				*e*S	Sn	15 46 53.0	-8.0
ROSA				A	A	15 46 55.8	
	98nm,0.1s						
ROSA	**Rosais**	**1.87**	**294**	*e*P	Pn	15 46 31.8	-5.1
ROSA				*e*S	Sn	15 46 53.0	-8.0
PICO	**Pico**	**1.94**	**286**	*e*P	Pn	15 46 33.0	-4.9
PICO				*e*S	Sn	15 46 54.9	-7.8
PICO	**Pico**	**1.94**	**286**	*e*P	Pn	15 46 33.0	-4.9
PICO				*e*S	Sn	15 46 54.9	-7.8
PCAN	**Candelaria**	**1.98**	**285**	*e*P	Pn	15 46 33.6	-4.8
PCAN				*e*S	Sn	15 46 56.1	-7.4
PCAN				A	A	15 47 01.8	
	144nm,0.3s						
PCAN	**Candelaria**	**1.98**	**285**	*e*P	Pn	15 46 33.6	-4.8
PCAN				*e*S	Sn	15 46 56.1	-7.4
HOR	**Horta**	**2.10**	**286**	*e*S	Sn	15 46 58.3	-8.2
HOR	**Horta**	**2.10**	**286**	*e*S	Sn	15 46 58.3	-8.2
CALA	**Caldeira**	**2.17**	**287**	*e*P	Pn	15 46 35.8	-5.3
CALA				*e*S	Sn	15 47 00.7	-7.8
CALA	**Caldeira**	**2.17**	**287**	*e*P	Pn	15 46 35.8	-5.3
CALA				*e*S	Sn	15 47 00.7	-7.8
PCED	**Cedros**	**2.18**	**288**	*e*P	Pn	15 46 35.9	-5.3
PCED				*e*S	Sn	15 47 00.4	-8.2
PCED				A	A	15 47 03.4	
	112nm,0.5s						
PCED	**Cedros**	**2.18**	**288**	*e*P	Pn	15 46 35.9	-5.3
PCED				*e*S	Sn	15 47 00.4	-8.2

IDC 18 16:04:17.9±61.0, 21°27S×179°56W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.9/3, Error ellipse: s-maj=1095.0km s-min=158.2km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.14**	**245**	P	P	16 11 21.2	-0.8
	2.8nm,1.0s,baz=107,slow=14,SNR=4.4						
ASAR	**Alice Springs**	**42.93**	**258**	P	P	16 12 18.6	-0.2
	1.9nm,0.9s,baz=93,slow=7.9,SNR=14						
WRA	**Warramunga Arr**	**43.06**	**263**	P	P	16 12 20.3	+0.4
	0.5nm,0.4s,baz=96,slow=8.3,SNR=12						

*CSEM **18** 16:14:13.0±1.1, 76°.77N×8°.08E, h10km, ML2.9, Error ellipse: s-maj=31.4km s-min=12.3km az=80.0*
*BER **18** 16:14:13.4±2.6, 76°.78N×7°.57E, h10km, MD2.2, ML2.2, ML2.9(NAO)*
*NAO **18** 16:14:14.6±3.2, 76°.79N×8°.56E, ML2.9*
ISC 18 16:14:10.4±2.3, 76°.80N±0°.07×7°.3E±0°.1, h10km, n12, σ2°15/19, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**1.90**	**80**	*e*P	**Pn**	**16 14 43.7**	**+0.9**
HSP				*e*S	**Sn**	**16 15 05.2**	**-1.5**
KBS	**Kingsbay**	**2.35**	**23**	Pn	**Pn**	**16 14 50.2**	**+1.2**
KBS				Sn	**Sn**	**16 15 14.9**	**-3.0**
KBS	**Kingsbay**	**2.35**	**23**	Pn	**Pn**	**16 14 50.2**	**+1.2**
KBS				*e*Sn	**Sn**	**16 15 15.2**	**-2.7**
KBS				AML	AML	16 15 19.4	
	comp=Z,30nm,0.4s						
KBS	**Kingsbay**	**2.35**	**23**	Pn	**Pn**	**16 14 50.2**	**+1.2**
KBS				*e*Sn	**Sn**	**16 15 15.2**	**-2.7**
	comp=Z,30nm,0.4s,SNR=50						
SPA0	**Spitsbergen Ar**	**2.42**	**51**	Pn	**Pn**	**16 14 52.3**	**+2.3**
	baz=228,slow=14						
SPA0				Sn	**Sn**	**16 15 18.1**	**-1.5**
	baz=214,slow=14						
SPA0	**Spitsbergen Ar**	**2.42**	**51**	Pn	**Pn**	**16 14 52.3**	**+2.3**
	baz=228,slow=14						
SPA0				*e*Sn	**Sn**	**16 15 18.7**	**-0.8**
SPA0	**Spitsbergen Ar**	**2.42**	**51**	Pn	**Pn**	**16 14 52.3**	**+2.3**
	baz=228,slow=13,SNR=248						
SPA0				*e*Sn	**Sn**	**16 15 18.7**	**-0.8**
	SNR=50						
BJO	**Bjornoya**	**3.75**	**122**	*e*Sn	**Sn**	**16 15 49.2**	**-3.2**
BJO				AML	AML	16 15 53.8	
	comp=Z,12nm,0.3s						
BJO	**Bjornoya**	**3.75**	**122**	*e*Sn	**Sn**	**16 15 49.2**	**-3.2**
	comp=Z,12nm,0.3s,SNR=50						
ARA0	**ARCESS Array S**	**8.95**	**135**	Pn	**Pn**	**16 16 20.6**	**+1.0**
	baz=330,slow=11						
ARA0				Sn	Sn	16 17 53.0	-7.3
	baz=330,slow=22						
ARA0	**ARCESS Array S**	**8.95**	**135**	Pn	**Pn**	**16 16 20.6**	**+1.0**
	baz=330,slow=11						
ARA0				Sn	Sn	16 17 53.0	-7.3
	baz=330,slow=22						
ARA0	**ARCESS Array S**	**8.95**	**135**	Pn	**Pn**	**16 16 20.6**	**+1.0**
	baz=330,slow=11						

WEL 18 16:15:15.0±0.2, 45°.55S×166°.66E, h25km±1km, ML3.3/14, Error ellipse: s-maj=2.5km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.35**	**79**	P*	Pb	16 15 22.9	0.0
DCZ				S*	Sb	16 15 27.8	-0.3
DCZ				AML	AML	16 15 28.0	
DCZ				AML	AML	16 15 28.1	
DCZ				AML	AML	16 15 28.2	
PYZ	**Puysegur Point**	**0.62**	**179**	P*	Pb	16 15 26.6	-0.6
PYZ				S*	Sb	16 15 34.6	-1.0
MLZ	**Mavora Lakes**	**1.08**	**80**	PN	Pn	16 15 33.3	-1.4
MLZ				AML	AML	16 15 52.7	
MLZ				AML	AML	16 16 03.1	
MSZ	**Milford Sound**	**1.25**	**46**	AML	AML	16 16 01.8	
MSZ				AML	AML	16 16 01.9	
MSZ				AML	AML	16 16 02.9	
MSZ				AML	AML	16 16 17.4	
APZ	**The Paps**	**1.58**	**145**	*e*PN	Pn	16 15 42.2	+0.7
WKZ	**Wanaka**	**1.81**	**67**	PN	Pb	16 15 46.9	-0.8
WKZ				AML	AML	16 16 17.3	
EAZ	**Earnscleugh**	**1.89**	**81**	*e*PN	Pb	16 15 47.7	-1.2
EAZ				AML	AML	16 16 16.3	
EAZ				AML	AML	16 16 18.4	
JCZ	**Jackson Bay**	**2.10**	**46**	AML	AML	16 16 31.1	
JCZ				AML	AML	16 16 33.9	
TUZ	**Tuapeka**	**2.12**	**102**	PN	Pb	16 15 52.3	-0.4
TUZ				AML	AML	16 16 23.8	
TUZ				AML	AML	16 16 29.0	
LBZ	**Lake Benmore**	**2.76**	**66**	*e*PN	Pb	16 16 00.9	-2.8
ODZ	**Otahua Downs**	**2.86**	**81**	*e*PN	Pn	16 16 00.0	+1.0

WEL 18 16:16:42.7±0.2, 45°.49S×166°.68E, h21km±1km, ML3.2/15, 1D, Error ellipse: s-maj=2.3km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.33**	**88**	↓P*	Pb	16 16 49.8	0.0
DCZ				S*	Sb	16 16 54.4	-0.3
DCZ				AML	AML	16 16 54.8	
DCZ				AML	AML	16 16 55.0	
DCZ				AML	AML	16 16 55.0	
PYZ	**Puysegur Point**	**0.68**	**180**	P*	Pb	16 16 54.8	-1.0
WHZ	**Wether Hill Ro**	**0.98**	**115**	P*	Pb	16 17 00.9	0.0
WHZ				AML	AML	16 17 17.0	
WHZ				AML	AML	16 17 17.3	
MLZ	**Mavora Lakes**	**1.06**	**83**	PN	Pn	16 17 01.2	-1.1
MLZ				AML	AML	16 17 19.6	
MSZ	**Milford Sound**	**1.21**	**48**	*e*PN	Pn	16 17 04.0	-0.2
MSZ				AML	AML	16 17 23.3	
MSZ				AML	AML	16 17 23.3	
MSZ				AML	AML	16 17 27.2	
MSZ				AML	AML	16 17 27.2	
APZ	**The Paps**	**1.62**	**146**	PN	Pb	16 17 12.7	+0.8
WKZ	**Wanaka**	**1.78**	**69**	*e*PN	Pb	16 17 13.9	-0.8
EAZ	**Earnscleugh**	**1.87**	**83**	PN	Pn	16 17 14.5	+1.1
EAZ				SN	Sb	16 17 38.1	-1.0
EAZ				AML	AML	16 17 42.9	
EAZ				AML	AML	16 17 43.4	
SYZ	**Scrubby Hill**	**2.01**	**122**	PN	Pb	16 17 18.3	-0.2
JCZ	**Jackson Bay**	**2.05**	**47**	*e*PN	Pb	16 17 19.7	+0.4
JCZ				AML	AML	16 17 51.2	
JCZ				AML	AML	16 17 52.7	
TUZ	**Tuapeka**	**2.12**	**104**	PN	Pb	16 17 19.4	-0.9
TUZ				AML	AML	16 17 47.9	
LBZ	**Lake Benmore**	**2.72**	**67**	AML	AML	16 17 21.0	
LBZ				AML	AML	16 17 22.2	
LBZ				*e*PN	Pn	16 17 27.5	+2.3
ODZ	**Otahua Downs**	**2.83**	**82**	PN	Pn	16 17 26.8	+0.2
ODZ				AML	AML	16 18 31.3	

MEX 18 16:27:04.6±0.4, 18°.11N×100°.50W, h61km±5km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.22**	**40**	*i* P	Pn	16 27 13.0	-1.3
ARIG				*e*S	Sn	16 27 19.4	-2.1
PLIG	**Platanillo**	**0.98**	**73**	*i* P	Pn	16 27 20.6	-2.0
PLIG				*i* S	Sn	16 27 34.1	-1.9
PLIG				*e*S	Sn	16 27 34.8	-1.1
ZIIG	**Zihuatanejo**	**1.05**	**242**	*i* P	Pn	16 27 21.9	-1.5
ZIIG				*i* S	Sn	16 27 35.5	-1.8
CAIG	**El Cayaco**	**1.08**	**168**	*i* P	Pn	16 27 22.4	-1.4
CAIG				*i* S	Sn	16 27 36.0	-2.0
CAIG				*e*S	Sn	16 27 36.2	-1.8

*JMA **18** 16:40:50.4±0.2, 31°.33N×142°.11E, h27km, M3.8*
*IDC **18** 16:40:50.3±1.0, 31°.17N×141°.80E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.6/23, mbtmp3.4/7, ML3.4/1, Error ellipse: s-maj=33.1km s-min=21.7km az=76.0*
*ISCJB **18** 16:40:52.4±0.6, 31°.21N±0°.06×141°.6E±0°.2, h29km, mb3.5/6, Error ellipse: s-maj=24.0km s-min=5.4km az=163.0*
ISC 18 16:40:54.4±0.8, 31°.24N±0°.08×141°.8E±0°.2, h29km, n13, σ1ᵍ01/15, mb3.4/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**3.48**	**348**	P	**Pn**	**16 41 44.1**	**-1.9**
CBIJ	**Chichi jima**	**4.14**	**176**	P	**Pn**	**16 41 55.1**	**-0.6**
CBIJ				*e*S	**Sn**	**16 42 42.7**	**-0.4**
JOD2	**Odawara 2**	**4.62**	**331**	P	**Pn**	**16 42 01.8**	**-0.4**
JOD2				*e*S	**Sn**	**16 42 54.6**	**-0.3**
JAG	**Ashikaga**	**5.53**	**340**	P	**Pn**	**16 42 14.0**	**-0.8**
MJAR	**Matsushiro Arr**	**6.08**	**331**	Pn	**Pn**	**16 42 21.6**	**-0.7**
	1.0nm,0.3s,baz=149,slow=11,SNR=18						
MAT	**Matsushiro**	**6.08**	**331**	P	**Pn**	**16 42 22.9**	**+0.6**
MAT				*e*S	**Sn**	**16 43 30.2**	**-0.8**
ASAJ	**Asahikawa**	**12.87**	**2**	Pn	Pn	16 43 51.3	-3.9
	0.2nm,0.3s,baz=138,slow=26,SNR=6.1						
SONM	**Songino Array**	**31.61**	**312**	P	**P**	**16 47 16.4**	**+1.7**
	0.2nm,0.4s,baz=97,slow=12,SNR=2.4						
MKAR	**Makanchi Array**	**47.67**	**307**	P	**P**	**16 49 27.5**	**-0.7**
	0.2nm,0.5s,baz=85,slow=9.4,SNR=5.2						
WRA	**Warramunga Arr**	**51.40**	**189**	P	**P**	**16 49 56.5**	**-0.2**
	0.4nm,0.3s,baz=6.5,slow=7.6,SNR=10						
ASAR	**Alice Springs**	**55.12**	**189**	P	**P**	**16 50 23.8**	**-0.2**
	0.2nm,0.6s,baz=4.6,slow=5.9,SNR=11						
NVAR	**Mina Array Bea**	**78.22**	**52**	P	**P**	**16 52 53.2**	**+1.5**
	0.2nm,0.7s,baz=294,slow=5.6,SNR=2.5						
TXAR	**Lajitas Array**	**93.37**	**53**	P	**P**	**16 54 07.0**	**-0.2**
	0.2nm,0.7s,baz=282,slow=1.3,SNR=3.8						

*MOS **18** 17:06:33.5±0.8, 0°.89N×29°.28W, h10km, mb5.4/48, MS4.2/5, Error ellipse: s-maj=10.4km s-min=4.2km az=58.2*
*ISCJB **18** 17:06:33.8±0.2, 0°.81N±0°.05×29°.25W±0°.04, h12km, mb5.0/155, MS4.3/41, Error ellipse: s-maj=7.5km s-min=4.5km az=147.9*
*IDC **18** 17:06:33.9±0.4, 0°.94N×29°.30W, h0km, mb4.5/28, mb1 4.6/28, mb1mx4.6/31, mbtmp4.5/28, ML5.3/1, MS4.3/37, Ms1 4.2/37, ms1mx4.2/51, Error ellipse: s-maj=14.0km s-min=10.7km az=152.0*
*NEIC **18** 17:06:35.2±0.2, 0°.85N×29°.32W, h10km, mb5.2/74, Error ellipse: s-maj=6.0km s-min=4.1km az=146.0*
*BJI **18** 17:06:35.8, 0°.89N×29°.45W, h14km, mB5.3/7, Ms5.3/6, Ms7 4.8/7*
*SZGRF **18** 17:06:36.3, 0°.18S×28°.07W, h33km, mb5.1, Central Mid-Atlantic Ridge*
*GCMT **18** 17:06:40.4±0.2, 0°.92N×29°.24W, h23km±1km, MW5.1, Moment Tensor Solution. s60,c87; s83,c138; Moment tensor: Scale 10^{16}Nm; M_{rr}0.36±.15; $M_{\theta\theta}$1.67±.13; $M_{\phi\phi}$-2.03±.15; $M_{r\theta}$-0.54±.21; $M_{r\phi}$-6.07±.13; $M_{\theta\phi}$-0.01±.22; Best double couple: $M_0$6.40000×10^{16} NP1:ϕ_s352.00000°, δ85.00000°, λ1.00000°. NP2:ϕ_s261.00000°, δ89.00000°, λ175.00000°. Principal axes: T 6.2000, Plg4.0000°, Azm216.0000°; N 0.3400, Plg85.0000°, Azm69.0000°; P -6.5400, Plg3.0000°, Azm307.0000°; Data Used: IU II IC CN G.*
ISC 18 17:06:35.6±0.3, 0°.88N±0°.06×29°.32W±0°.06, h12km, n539, σ1ᵍ03/541, mb5.1/155, MS4.3/42, 61C-26D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**9.36**	**225**	*e*Pn	**Pn**	**17 08 47.6**	**-2.9**
RCBR				Sn	Sn	17 10 24.4	-11
RCBR	**Riachuelo**	**9.36**	**225**	Pn	**Pn**	**17 08 47.5**	**-3.0**
	15nm,0.3s,baz=36,slow=14,SNR=78						
RCBR				Sn	Sn	17 10 24.4	-11
	1.6nm,0.3s,baz=119,slow=19,SNR=3.6						
RCBR				LR	LR	17 11 43.9	
	comp=Z,2µm,18.1s,baz=44,slow=33						
SACV	**Santiago Islan**	**15.09**	**22**	*e*Pn	**Pn**	**17 10 06.3**	**-2.5**
SACV				*e*Sn	Sn	17 12 36.0	-20
ASCN	**Ascension**	**17.30**	**121**	*e*Pn	**Pn**	**17 10 33.8**	**-3.4**
	107nm,0.4s						
BBTS	**Babate**	**18.63**	**42**	P	**P**	**17 10 50.7**	**-2.6**
BBTS	**Babate**	**18.63**	**42**	P	**P**	**17 10 50.7**	**-2.6**
	9.4nm,0.3s,baz=232,slow=2.5,SNR=18						
BBTS				LR	LR	17 16 21.7	
	comp=Z,939nm,20.9s,baz=207,slow=32						
BDFB	**Brasilia**	**24.71**	**228**	P	**P**	**17 11 56.3**	**-0.8**
BDFB	**Brasilia**	**24.71**	**228**	P	**P**	**17 11 56.3**	**-0.8**
	4.6nm,0.6s,baz=61,slow=7.1,SNR=8.0						
BDFB				LR	LR	17 20 35.1	
	comp=Z,1µm,19.5s,baz=32,slow=34						
LIC	**Lamto**	**24.81**	**77**	⇑*i*P	**P**	**17 11 56.6**	**-1.3**
	217nm,0.8s,baz=256						
LIC				*e*R			
	2µm,19.5s						
LIC	**Lamto**	**24.81**	**77**	⇑*i*P	**P**	**17 11 56.6**	**-1.3**
	217nm,0.8s						
DBIC	**Dimbokro**	**25.07**	**76**	P	**P**	**17 11 59.1**	**-1.1**
DBIC	**Dimbokro**	**25.07**	**76**	P	**P**	**17 11 59.1**	**-1.1**
	132nm,0.9s,baz=239,slow=12,SNR=41						
DBIC				LR	LR	17 19 54.9	
	comp=Z,1µm,18.7s,baz=236,slow=32						
TORD	**Torodi Ar. Bea**	**33.05**	**67**	P	**P**	**17 13 10.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**33.05**	**67**	P	**P**	**17 13 10.7**	**-0.7**
	10.0nm,0.8s,baz=255,slow=8.2,SNR=48						
TORD				LR	LR	17 24 35.5	
	comp=Z,544nm,21.1s,baz=240,slow=33						
FUL	**Funchal**	**33.70**	**19**	*e*T	T	17 48 26.2	
PMAR	**Madeira**	**33.76**	**19**	*e*T	T	17 48 27.3	
PMOZ	**Porto Moniz, M**	**33.76**	**19**	*e*LR	LR	17 22 15.5	
	347nm,20.0s						
PMOZ	**Porto Moniz, M**	**33.76**	**19**	*e*T	T	17 48 29.0	
SAML	**Samuel**	**35.12**	**253**	*e*P	**P**	**17 13 29.4**	**+0.1**
	11nm,1.1s						
SIV	**San Ignacio**	**35.55**	**241**	P	**P**	**17 13 33.4**	**+0.3**
SIV	**San Ignacio**	**35.55**	**241**	P	**P**	**17 13 33.4**	**+0.3**
	5.4nm,0.9s,baz=92,slow=9.5,SNR=14						
SIV				LR	LR	17 27 26.7	
	comp=Z,2µm,18.2s,slow=35						
PSMA	**Santa Maria**	**36.14**	**6**	*e*T	T	17 51 27.7	
PSMN	**Pico do Norte,**	**36.16**	**6**	*e*T	T	17 51 28.0	
CMLA	**Cha da Macela**	**36.87**	**5**	*e*T	T	17 52 22.8	
GRON	**Grota Negra**	**36.87**	**5**	*e*T	T	17 52 21.5	
BART	**Pico Bartolome**	**36.91**	**5**	*e*T	T	17 52 23.1	
CPUP	**Villa Florida**	**38.23**	**223**	P	**P**	**17 13 56.2**	**+0.5**
CPUP	**Villa Florida**	**38.23**	**223**	P	**P**	**17 13 56.2**	**+0.5**
	3.3nm,0.9s,baz=34,slow=10,SNR=4.1						
CPUP				LR	LR	17 29 14.8	
	comp=Z,2µm,18.8s,baz=51,slow=36						
TAM	**Tamanrasset**	**40.25**	**55**	*e*P	**P**	**17 14 13.1**	**+0.2**
TAM				pmax	pmax		
	comp=Z,29nm,1.2s						
TAM	**Tamanrasset**	**40.25**	**55**	*e*P	**P**	**17 14 13.1**	**+0.2**
	comp=Z,29nm,1.2s						
MORF	**Marmelete**	**40.96**	**25**	*e*P	**P**	**17 14 19.1**	**+0.8**
	comp=Z,15nm,1.2s						
MORF	**Marmelete**	**40.96**	**25**	*e*P	**P**	**17 14 17.9**	**-0.4**
MORF				*e*S	**S**	**17 20 31.1**	**+0.9**
PTEO	**Sao Teotonio**	**41.13**	**25**	*e*P	**P**	**17 14 21.2**	**+1.5**
	comp=Z,132nm,1.5s						
PBDV	**Barranco-do-Ve**	**41.22**	**26**	*e*P	**P**	**17 14 21.6**	**+1.1**
	comp=Z,66nm,1.2s						
PBDV				*e*S	S	17 20 43.7	+10
PVAQ	**Vaqueiros**	**41.45**	**26**	*e*P	**P**	**17 14 23.4**	**+1.1**
	comp=Z,44nm,1.8s						
PVAQ				*e*S	**S**	**17 20 40.3**	**+2.9**
PVAQ				*e*LR	LR	17 25 56.5	
	comp=Z,174nm,20.0s						
PCVE	**Castro Verde**	**41.50**	**26**	*e*P	**P**	**17 14 23.9**	**+1.2**
	comp=Z,56nm,1.3s						
PCVE				*e*S	S	17 20 47.9	+10
MESJ	**Messejana**	**41.59**	**25**	*e*P	**P**	**17 14 23.1**	**-0.3**
MESJ				AMb	AMB	17 14 51.0	
	comp=Z,28nm,1.8s						
MESJ				*e*S	**S**	**17 20 40.6**	**+1.1**
MESJ	**Messejana**	**41.59**	**25**	*e*P	**P**	**17 14 23.1**	**-0.3**
	comp=Z,28nm,1.8s						
MESJ				*e*S	**S**	**17 20 40.6**	**+1.1**
MESJ	**Messejana**	**41.59**	**25**	*e*P	**P**	**17 14 23.1**	**-0.3**
MESJ				*e*S	**S**	**17 20 40.6**	**+1.1**
PNCL	**Nicolau / Gran**	**41.69**	**25**	*e*P	**P**	**17 14 25.4**	**+1.1**
	comp=Z,40nm,1.4s						
PNCL				*e*S	**S**	**17 20 45.2**	**+4.3**
PBEJ	**Beja**	**41.90**	**26**	*e*P	**P**	**17 14 27.0**	**+1.0**
	comp=Z,34nm,1.6s						
LPAZ	**La Paz**	**41.93**	**244**	P	**P**	**17 14 27.9**	**+0.6**
LPAZ	**La Paz**	**41.93**	**244**	P	**P**	**17 14 27.9**	**+0.6**
	comp=Z,8.4nm,1.0s,baz=60,slow=6.3,SNR=25						
LPAZ				LR	LR	17 31 10.2	
	comp=Z,534nm,20.5s,baz=244,slow=35						
PMAFR	**Mafra**	**42.10**	**23**	*e*S	**S**	**17 20 50.5**	**+3.5**
PACT	**Alcochete**	**42.12**	**24**	*e*P	**P**	**17 14 28.6**	**+0.9**
	comp=Z,240nm,1.2s						
EVOP	**Sao Brissos**	**42.21**	**25**	*e*P	**P**	**17 14 28.8**	**+0.3**
EVOP				pmax	pmax		
	comp=Z,49nm,1.1s						
EVOP	**Sao Brissos**	**42.21**	**25**	*e*P	**P**	**17 14 28.8**	**+0.3**
	comp=Z,49nm,1.1s						
EVO	**Evora**	**42.26**	**25**	*e*P	**P**	**17 14 28.8**	**-0.1**
	comp=Z,49nm,1.1s						
EVO				*e*R			
	comp=Z,410nm,21.0s						
EVO	**Evora**	**42.26**	**25**	*e*P	**P**	**17 14 30.1**	**+1.2**
	comp=Z,43nm,1.8s						
PBAR	**Barrancos**	**42.39**	**26**	*e*P	**P**	**17 14 30.6**	**+0.6**
	comp=Z,20nm,2.1s						
PBAR				*e*S	S	17 20 57.2	+6.0
PMTG	**Montargil**	**42.62**	**24**	*e*P	**P**	**17 14 32.9**	**+1.0**
	comp=Z,42nm,1.5s						
PMTG				*e*S	**S**	**17 20 58.5**	**+3.8**
PESTR	**Estremoz**	**42.72**	**25**	*e*P	**P**	**17 14 33.9**	**+1.2**
	comp=Z,36nm,1.3s						
PESTR				*e*S	**S**	**17 20 57.5**	**+1.3**
PTOM	**Tomar**	**43.02**	**24**	*e*P	**P**	**17 14 36.5**	**+1.5**
	comp=Z,72nm,1.5s						
PMRV	**Marv??o**	**43.28**	**25**	*e*P	**P**	**17 14 38.4**	**+1.2**
	comp=Z,63nm,1.7s						
PMRV				*e*S	S	17 21 10.5	+6.2
PMRV				*e*LR	LR	17 26 53.4	
	comp=Z,218nm,18.0s						
PCBR	**Castelo Branco**	**43.59**	**25**	*e*P	**P**	**17 14 40.8**	**+1.2**
	comp=Z,33nm,1.5s					

ETSF **Etsaut** 49.12 28⇑*iP* P 17 15 24.6 +1.4
comp=Z,56nm,0.9s
ETSF **Etsaut** 49.12 28⇑*iP* P 17 15 24.6 +1.4
ETSF pmax pmax
comp=Z,57nm,0.9s
ETSF **Etsaut** 49.12 28⇑*iP* P 17 15 24.6 +1.4
comp=Z,56nm,0.9s
ATE **Arette** 49.20 28 *eP* P 17 15 25.4 +1.6
ATAH **Atahualpa** 49.60 260 P P 17 15 28.1 +0.4
ATAH **Atahualpa** 49.60 260 P P 17 15 28.1 +0.4
comp=Z,4.9nm,0.8s,baz=60,slow=20,SNR=2.6
EPF **Esparros** 49.65 28 *eP* P 17 15 28.6 +1.4
comp=Z,62nm,1.1s
EPF **Esparros** 49.65 28 *eP* P 17 15 28.6 +1.4
EPF pmax pmax
comp=Z,62nm,1.1s
EPF **Esparros** 49.65 28 *eP* P 17 15 28.6 +1.4
comp=Z,62nm,1.1s
MELF **Melles** 49.73 29 *eP* P 17 15 29.6 +1.7
KEST **Kesra** 49.90 42 *eP* P 17 15 29.8 +0.4
KEST **Kesra** 49.90 42 P P 17 15 29.4 0.0
comp=Z,7.3nm,0.8s,baz=230,slow=4.8,SNR=7.2
KEST LR LR 17 36 37.0
comp=Z,215nm,19.5s,baz=196,slow=36
TSUM **Tsumeb** 50.16 116 *eP* P 17 15 31.8 +0.1
comp=Z,12nm,1.0s
TSUM **Tsumeb** 50.16 116 P P 17 15 32.9 +1.2
comp=Z,6.7nm,0.9s,baz=286,slow=7.7,SNR=9.7
TSUM LR LR 17 33 42.2
comp=Z,290nm,18.0s,baz=295,slow=32
MTLF **Montolieu** 50.79 30 *eP* P 17 15 35.9 +0.1
comp=Z,61nm,1.4s
MTLF **Montolieu** 50.79 30 *eP* P 17 15 35.9 +0.1
MTLF pmax pmax
comp=Z,61nm,1.4s
MTLF **Montolieu** 50.79 30 *eP* P 17 15 35.9 +0.1
comp=Z,61nm,1.4s
LFF **La Frestale** 51.29 27⇑*iP* P 17 15 40.3 +0.8
comp=Z,128nm,1.1s
LFF **La Frestale** 51.29 27⇑*iP* P 17 15 40.3 +0.8
LFF pmax pmax
comp=Z,128nm,1.1s
LFF **La Frestale** 51.29 27⇑*iP* P 17 15 40.3 +0.8
comp=Z,128nm,1.1s
CAF **Calviac** 51.89 28 *eP* P 17 15 44.6 +0.5
comp=Z,55nm,1.2s
CAF **Calviac** 51.89 28 *eP* P 17 15 44.6 +0.5
CAF pmax pmax
comp=Z,55nm,1.2s
CAF **Calviac** 51.89 28 *eP* P 17 15 44.6 +0.5
comp=Z,55nm,1.2s
RJF **Les Rejaudoux** 51.92 27 *eP* P 17 15 44.5 +0.2
comp=Z,86nm,1.5s
RJF **Les Rejaudoux** 51.92 27 *eP* P 17 15 44.5 +0.2
RJF pmax pmax
comp=Z,87nm,1.5s
RJF **Les Rejaudoux** 51.92 27 *eP* P 17 15 44.5 +0.2
comp=Z,86nm,1.5s
LASF **Ste Croix** 52.14 30⇑*iP* P 17 15 46.4 +0.5
comp=Z,72nm,1.3s
LASF **Ste Croix** 52.14 30⇑*iP* P 17 15 46.4 +0.5
comp=Z,72nm,1.3s
MFF **Saint Martin d** 52.19 25 *eP* P 17 15 46.6 +0.4
comp=Z,107nm,1.5s
MFF **Saint Martin d** 52.19 25 *eP* P 17 15 46.6 +0.4
MFF pmax pmax
comp=Z,107nm,1.5s
MFF **Saint Martin d** 52.19 25 *eP* P 17 15 46.6 +0.4
comp=Z,107nm,1.5s
ROSF **Rostrenen** 52.35 22 *eP* P 17 15 47.8 +0.4
comp=Z,89nm,1.3s
ROSF **Rostrenen** 52.35 22 *eP* P 17 15 47.8 +0.4
ROSF pmax pmax
comp=Z,89nm,1.3s
ROSF **Rostrenen** 52.35 22 *eP* P 17 15 47.8 +0.4
comp=Z,89nm,1.3s
SGMF **Saint Gilles** 52.55 22 *eP* P 17 15 49.4 +0.5
comp=Z,165nm,1.5s
SGMF **Saint Gilles** 52.55 22 *eP* P 17 15 49.4 +0.5
SGMF pmax pmax
comp=Z,165nm,1.5s
SGMF **Saint Gilles** 52.55 22 *eP* P 17 15 49.4 +0.5
comp=Z,165nm,1.5s
LBL **Lubilhac** 52.68 29 *eP* P 17 15 51.1 +1.1
PYM **Petit Puy Mans** 52.95 28 *eP* P 17 15 53.6 +1.6
TCF **Toulx Ste Croi** 52.98 27 *eP* P 17 15 52.6 +0.4
comp=Z,78nm,1.3s
TCF **Toulx Ste Croi** 52.98 27 *eP* P 17 15 52.6 +0.4
TCF pmax pmax
comp=Z,78nm,1.3s
TCF **Toulx Ste Croi** 52.98 27 *eP* P 17 15 52.6 +0.4
comp=Z,78nm,1.3s
LMR **La Mourre** 52.99 32 *eP* P 17 15 53.3 +1.1
LMR **La Mourre** 52.99 32 *eP* P 17 15 53.3 +1.1
LMR **La Mourre** 52.99 32 *eP* P 17 15 53.3 +1.1
VIVF **Saint-Julien-l** 53.10 30⇑*iP* P 17 15 53.8 +0.7
comp=Z,74nm,1.3s
VIVF **Saint-Julien-l** 53.10 30⇑*iP* P 17 15 53.8 +0.7
VIVF pmax pmax
comp=Z,74nm,1.3s
VIVF **Saint-Julien-l** 53.10 30⇑*iP* P 17 15 53.8 +0.7
comp=Z,74nm,1.3s
AGO **Saint Agoulin** 53.23 28 *eP* P 17 15 55.3 +1.3
GRR **Gorron** 53.32 23 *eP* P 17 15 54.9 +0.3
GRR **Gorron** 53.32 23 *eP* P 17 15 54.9 +0.3
GRR **Gorron** 53.32 23 *eP* P 17 15 54.9 +0.3
BGF **Bois d'Agland** 53.48 27 *eP* P 17 15 56.4 +0.6
comp=Z,92nm,1.4s
BGF **Bois d'Agland** 53.48 27 *eP* P 17 15 56.4 +0.6
BGF pmax pmax
comp=Z,92nm,1.4s
BGF **Bois d'Agland** 53.48 27 *eP* P 17 15 56.4 +0.6
comp=Z,92nm,1.4s
ORIF **Oris-en-Rattie** 53.75 31 *eP* P 17 15 59.1 +1.1
comp=Z,18nm,1.0s
ORIF *eR*
comp=Z,283nm,19.5s
ORIF **Oris-en-Rattie** 53.75 31 *eP* P 17 15 59.1 +1.1
ORIF pmax pmax
comp=Z,19nm,1.0s
ORIF **Oris-en-Rattie** 53.75 31 *eP* P 17 15 59.1 +1.1
comp=Z,18nm,1.0s
SBF **Sospel** 53.84 32 *eP* P 17 15 59.0 +0.4
comp=Z,140nm,1.3s
SBF **Sospel** 53.84 32 *eP* P 17 15 59.0 +0.4
SBF pmax pmax
comp=Z,140nm,1.3s
SBF **Sospel** 53.84 32 *eP* P 17 15 59.0 +0.4
comp=Z,140nm,1.3s
AVF **Avril sur Loir** 53.88 27 *eP* P 17 15 59.2 +0.5
AVF **Avril sur Loir** 53.88 27 *eP* P 17 15 59.2 +0.5
AVF **Avril sur Loir** 53.88 27 *eP* P 17 15 59.2 +0.5
SMF **Signal de Mont** 54.00 28⇑*iP* P 17 16 00.3 +0.7
comp=Z,53nm,1.3s
SMF **Signal de Mont** 54.00 28⇑*iP* P 17 16 00.3 +0.7
SMF pmax pmax
comp=Z,53nm,1.3s
SMF **Signal de Mont** 54.00 28⇑*iP* P 17 16 00.3 +0.7
comp=Z,53nm,1.3s
MBDF **Montbardon** 54.08 31 *eP* P 17 16 01.4 +1.0
comp=Z,51nm,1.3s
MBDF **Montbardon** 54.08 31 *eP* P 17 16 01.4 +1.0
MBDF pmax pmax
comp=Z,51nm,1.3s
MBDF **Montbardon** 54.08 31 *eP* P 17 16 01.4 +1.0
comp=Z,51nm,1.3s
SSF **Saint Saulge** 54.16 27 *eP* P 17 16 01.1 +0.4
comp=Z,18nm,1.1s
SSF **Saint Saulge** 54.16 27 *eP* P 17 16 01.1 +0.4
SSF pmax pmax
comp=Z,18nm,1.1s
SSF **Saint Saulge** 54.16 27 *eP* P 17 16 01.1 +0.4
comp=Z,18nm,1.1s
BNI **Bardonecchia** 54.26 31 *eP* P 17 16 02.3 +0.6
BNI pmax pmax
comp=Z,43nm,1.4s
BNI **Bardonecchia** 54.26 31 *eP* P 17 16 02.2 +0.6
comp=Z,43nm,1.4s
LOR **Lormes** 54.47 27⇑*iP* P 17 16 03.3 +0.3
comp=Z,38nm,1.2s
LOR *eR*
comp=Z,264nm,19.5s
LOR **Lormes** 54.47 27⇑*iP* P 17 16 03.3 +0.3
comp=Z,38nm,1.2s
LPG **La Plagne** 54.60 31 *eP* P 17 16 05.4 +1.1
comp=Z,68nm,1.5s
LPG **La Plagne** 54.60 31 *eP* P 17 16 05.4 +1.1
LPG pmax pmax
comp=Z,68nm,1.5s
LPG **La Plagne** 54.60 31 *eP* P 17 16 05.4 +1.1
comp=Z,68nm,1.5s
LPL **La Plagne** 54.60 31 *eP* P 17 16 05.3 +1.0
comp=Z,65nm,1.5s
LPL **La Plagne** 54.60 31 *eP* P 17 16 05.3 +1.0
LPL pmax pmax
comp=Z,65nm,1.5s
LPL **La Plagne** 54.60 31 *eP* P 17 16 05.3 +1.0
comp=Z,65nm,1.5s
CABF **La Chapelle** 55.05 29 *eP* P 17 16 07.7 +0.4
comp=Z,118nm,1.5s
CABF **La Chapelle** 55.05 29 *eP* P 17 16 07.7 +0.4
CABF pmax pmax
comp=Z,118nm,1.5s
CABF **La Chapelle** 55.05 29 *eP* P 17 16 07.7 +0.4
comp=Z,118nm,1.5s
SFTF **Sexfontaines** 55.70 27 *eP* P 17 16 12.2 +0.3
comp=Z,89nm,1.4s
SFTF **Sexfontaines** 55.70 27 *eP* P 17 16 12.2 +0.3
comp=Z,89nm,1.4s
PLCA **Paso Flores** 55.84 217 LR LR 17 39 40.9
comp=Z,227nm,21.7s,baz=33,slow=36
MEZF **Maizieres J'vi** 55.92 27 *eP* P 17 16 13.6 +0.1
comp=Z,19nm,0.7s
MEZF **Maizieres J'vi** 55.92 27 *eP* P 17 16 13.6 +0.1
comp=Z,19nm,0.7s
LOMF **Lomont** 55.93 29 *eP* P 17 16 14.6 +0.9
THEF **They Montfort** 56.15 28 *eP* P 17 16 15.7 +0.6
HINF **Hinteralfeld** 56.27 29⇑*iP* P 17 16 16.1 +0.1
comp=Z,104nm,1.6s
HINF **Hinteralfeld** 56.27 29⇑*iP* P 17 16 16.1 +0.1
HINF pmax pmax
comp=Z,104nm,1.6s
HINF **Hinteralfeld** 56.27 29⇑*iP* P 17 16 16.1 +0.1
comp=Z,104nm,1.6s
PAGF **Fort de Pagny** 56.27 27⇑*iP* P 17 16 16.2 +0.2
comp=Z,17nm,1.1s
PAGF **Fort de Pagny** 56.27 27⇑*iP* P 17 16 16.2 +0.2
comp=Z,17nm,1.1s
AQU **L'Aquila** 56.31 37 *eP* P 17 16 16.7 +0.3
comp=Z,44nm,1.0s
MOF **Molkenrain** 56.43 29 *eP* P 17 16 17.6 +0.4
ECH **Echery** 56.70 28 *eP* P 17 16 19.3 +0.3
BAIF **Baives** 56.71 25 *eP* P 17 16 19.1 +0.1
comp=Z,159nm,1.9s
BAIF **Baives** 56.71 25 *eP* P 17 16 19.1 +0.1
BAIF pmax pmax
comp=Z,159nm,1.9s
BAIF **Baives** 56.71 25 *eP* P 17 16 19.1 +0.1
comp=Z,159nm,1.9s
CDF **Champ du Feu** 56.89 28⇑*iP* P 17 16 20.6 +0.1
comp=Z,76nm,1.2s
CDF **Champ du Feu** 56.89 28⇑*iP* P 17 16 20.6 +0.1
CDF pmax pmax
comp=Z,76nm,1.2s
CDF **Champ du Feu** 56.89 28⇑*iP* P 17 16 20.6 +0.1
comp=Z,76nm,1.2s
GIVF **Givet** 57.00 26 *eP* P 17 16 21.1 0.0
GIVF **Givet** 57.00 26 *eP* P 17 16 21.1 0.0
GIVF **Givet** 57.00 26 *eP* P 17 16 21.1 0.0
BFO **Black Forest** 57.34 29 *eP* P 17 16 24.1 +0.5
comp=Z,42nm,1.5s
BFO **Black Forest** 57.34 29 *eP* P 17 16 23.4 -0.2
BFO pmax pmax
comp=Z,56nm,1.7s
BFO **Black Forest** 57.34 29 *eP* P 17 16 23.4 -0.2
comp=Z,56nm,1.7s
DAVA **Damus** 57.41 31⇑*iP* P 17 16 24.2 -0.1
comp=Z,36nm,1.3s,SNR=6.2
LANF **Langenberg** 57.54 28 *eP* P 17 16 25.6 +0.6
FETA **Feichten** 57.67 31⇓*iP* P 17 16 25.9 -0.2
comp=Z,28nm,1.5s,SNR=8.0
MEM **Membach** 57.89 26 P P 17 16 28.7 +1.3
comp=Z,21nm,1.8s
RETA **Reutte** 57.99 31⇑*iP* P 17 16 27.8 -0.4
comp=Z,30nm,1.2s,SNR=8.4
STU **Stuttgart** 58.06 29 *eP* P 17 16 28.7 +0.1
comp=Z,62nm,2.0s
FUR **Furstenfeldbru** 58.69 31 *eP* P 17 16 33.2 +0.1
comp=Z,112nm,1.8s
FUR **Furstenfeldbru** 58.69 31 *eP* P 17 16 33.2 +0.1
FUR pmax pmax
comp=Z,88nm,1.8s
TNS **Taunus Mts** 58.71 27 *eP* P 17 16 33.5 +0.3
comp=Z,30nm,1.4s
TNS **Taunus Mts** 58.71 27 *eP* P 17 16 33.5 +0.3
TNS pmax pmax
comp=Z,46nm,1.4s
CADS **Cadrg** 58.79 34 *eP* P 17 16 34.1 +0.2
MYKA **Terra Mystica** 58.98 33⇑*iP* P 17 16 36.1 +1.0
comp=Z,44nm,1.7s
LBTB **Lobatse** 59.01 120 P P 17 16 35.4 -0.4
LBTB **Lobatse** 59.01 120 P P 17 16 35.4 -0.4
comp=Z,5.7nm,0.8s,baz=291,slow=6.2,SNR=8.6
LBTB LR LR 17 36 47.9
comp=Z,230nm,20.9s,baz=301,slow=31
BUG **Bochum-Univer** 59.04 26 *eP* P 17 16 37.2 +1.8
comp=Z,16nm,1.0s
LSZ **Lusaka** 59.05 108 P P 17 16 35.9 -0.3
comp=Z,6.4nm,0.9s
LSZ **Lusaka** 59.05 108 P P 17 16 35.6 -0.7
comp=Z,2.4nm,0.7s,baz=345,slow=7.4,SNR=5.3
LJU **Ljubljana** 59.12 34 *eP* P 17 16 36.7 +0.6
GRFO **Grafenberg** 59.66 29 *eP* P 17 16 38.9 -0.9
GRFO pmax pmax
comp=Z,40nm,1.4s
GRFO **Grafenberg** 59.66 29 *eP* P 17 16 38.9 -0.9
comp=Z,40nm,1.4s
GRF **Grafenberg Arr** 59.66 29 *eP* P 17 16 40.0 +0.2
comp=Z,55nm,1.6s
GRF **Grafenberg Arr** 59.66 29 *eP* P 17 16 40.0 +0.2
GRF pmax pmax
comp=Z,20nm,1.6s
DOBS **Dobrina** 59.71 35 *eP* P 17 16 40.5 +0.3
SOKA **Soboth** 59.78 34⇑*iP* P 17 16 40.7 0.0
comp=Z,36nm,1.3s
BOSA **Boshof** 59.85 124 P P 17 16 41.4 -0.3
BOSA **Boshof** 59.85 124 P P 17 16 41.4 -0.3
comp=Z,4.6nm,0.8s,baz=283,slow=8.4,SNR=8.6
BOSA LR LR 17 36 30.1
comp=Z,219nm,21.6s,baz=322,slow=30
IBBN **Ibbenburen** 59.88 25 *eP* P 17 16 41.6 +0.5
comp=Z,28nm,1.3s
MOA **Molln** 60.06 32⇑*iP* P 17 16 42.0 -0.5
comp=Z,19nm,0.8s,SNR=9.6
WET **Wettzell** 60.14 31 *eP* P 17 16 43.0 -0.1
comp=Z,19nm,1.1s
WET **Wettzell** 60.14 31 *eP* P 17 16 43.0 -0.1
WET pmax pmax
comp=Z,25nm,1.1s
ROTZ **Rotzenmuhle** 60.20 30 *eP* P 17 16 43.6 +0.2
comp=Z,33nm,1.4s
GEC2 **GERESS Array S** 60.37 31 *eP* P 17 16 44.8 0.0
comp=Z,35nm,1.4s
GEC2 **GERESS Array S** 60.37 31 *eP* P 17 16 44.8 0.0
GEC2 pmax pmax
comp=Z,6.0nm,1.4s
GERES **GERESS Array B** 60.37 31 P P 17 16 44.7 -0.1
GERES **GERESS Array B** 60.37 31 P P 17 16 44.7 -0.1
comp=Z,8.2nm,0.8s,baz=224,slow=5.6,SNR=59
GERES LR LR 17 40 54.2
comp=Z,127nm,19.6s,baz=32,slow=34
ARSA **Arzberg** 60.38 34⇑*iP* P 17 16 44.6 -0.2
comp=Z,15nm,0.9s,SNR=6.2
MOX **Moxa** 60.48 29 *eP* P 17 16 45.9 +0.5
comp=Z,44nm,1.8s
MOX **Moxa** 60.48 29 *eP* P 17 16 45.9 +0.5
MOX pmax pmax
comp=Z,8.0nm,1.8s
KHC **Kasperske Hory** 60.48 31 *iP* P 17 16 45.5 0.0
KHC *e* 17 16 49.6
KHC MLR MLR
comp=Z,200nm,16.0s
KHC **Kasperske Hory** 60.48 31 *iP* P 17 16 45.5 0.0
KHC *epP* **pP** 17 16 49.6 +0.3
KHC AMS AMS 17 40 20.0
comp=Z,200nm,16.0s
KHC **Kasperske Hory** 60.48 31 *eP* P 17 16 45.0 -0.5
comp=Z,41nm,1.4s
TEIG **Tepich** 60.69 293 LR LR 17 37 41.5
comp=Z,78nm,21.2s,baz=218,slow=31
TANN **Tannenbergstha** 60.74 29 *eP* P 17 16 47.6 +0.4
comp=Z,44nm,1.6s
NRDL **Niedersach Rie** 61.03 26 *eP* P 17 16 50.1 +1.1
comp=Z,66nm,2.0s
TZTN **Tazewell** 61.33 312 P P 17 16 55.6 +4.2
comp=Z,30nm,1.1s
PRA **Prague** 61.51 30 P P 17 16 53.0 +0.7
PRA AMS AMS 17 40 30.0
PRU **Pruhonice** 61.51 31 *iP* P 17 16 52.4 +0.1
PRU *e* 17 16 57.2
PRU MLR MLR
comp=Z,100nm,13.9s
PRU **Pruhonice** 61.51 31 *iP* P 17 16 52.4 +0.1
PRU *epP* **pP** 17 16 57.2 +1.0
PRU AMS AMS 17 40 10.0
comp=Z,100nm,13.9s
PKS9 **Tamasi** 61.57 35⇓*eP* P 17 16 54.1 +1.3
TREC **Trest** 61.58 32 *iP* P 17 16 53.1 +0.2
TREC **Trest** 61.58 32 *iP* P 17 16 53.1 +0.2
CLL **Collm** 61.58 29 *eP* P 17 16 53.2 +0.4
comp=Z,26nm,1.7s
CLL **Collm** 61.58 29 *iP* P 17 16 53.9 +1.1
CLL *ePS* **PnS** 17 25 27.0 -1.9
CLL pmax pmax
comp=Z,12nm,1.7s
CLL **Collm** 61.58 29 *iP* P 17 16 53.9 +1.1
comp=Z,26nm,1.7s
CLL *i* 17 17 04.5
CLL *eS* **S** 17 25 14.0 -0.5
CLL L L 17 40 00.0
comp=Z,100nm,21.5s
PKSM **Moragy** 61.58 36⇓*eP* P 17 16 53.3 +0.4
PKSM **Moragy** 61.58 36⇓*iP* P 17 16 53.3 +0.4
BRG **Berggiesshubel** 61.76 30 *eP* P 17 16 54.2 +0.2
comp=Z,13nm,1.1s
BRG **Berggiesshubel** 61.76 30 *eP* P 17 16 54.3 +0.2
comp=Z,13nm,1.1s
BRG **Berggiesshubel** 61.76 30 *eP* P 17 16 54.2 +0.2
BRG pmax pmax
comp=Z,6.0nm,1.1s
ZST **Bratislava** 61.80 33 *eP* P 17 16 54.0 -0.4
ZST *e* 17 17 01.0
ZST **Bratislava** 61.80 33 *eP* P 17 16 54.0 -0.4
ZST *epP* **pP** 17 17 01.0 +2.8
PVCC **Panska Ves** 61.86 30 *iP* P 17 16 54.9 +0.2
PVCC **Panska Ves** 61.86 30 *iP* P 17 16 54.9 +0.2
CSKK **Cs‡kako** 61.98 35⇓*eP* P 17 16 56.6 +1.0
PKS2 **Kecel** 62.06 36⇓*eP* P 17 16 57.3 +1.2
KKB **Krupnik** 62.24 42 *eP* P 17 16 58.0 +0.6
PKS7 **Kunszentmiklos** 62.33 35⇓*eP* P 17 16 59.0 +1.1
BUD **Budapest** 62.48 35⇓*eP* P 17 17 00.0 +1.1
MMB **Musomiste** 62.55 42 *eP* P 17 16 59.6 0.0
DPC **Dobruska-Polom** 62.64 31 *iP* P 17 16 59.8 -0.2
DPC *e* 17 17 04.8
DPC **Dobruska-Polom** 62.64 31 *iP* P 17 16 59.8 -0.2
DPC *epP* **pP** 17 17 04.8 +0.9
VTS **Vitosha** 62.65 41 ⇑P P 17 17 01.5 +1.1
VTS **Vitosha** 62.65 41 *eP* P 17 17 01.4 +1.1
VTS **Vitosha** 62.65 41 ⇑*iP* P 17 17 01.5 +1.1
PKSN **Nyarlorinc** 62.66 36⇓*eP* P 17 17 01.8 +1.7
KSP **Ksiaz** 62.92 31⇓*eP* P 17 17 02.2 +0.4
VYHS **Vyhne** 62.93 34 *eP* P 17 17 02.0 +0.1
VYHS pmax pmax
comp=Z,10.0nm,1.2s
VYHS **Vyhne** 62.93 34 *eP* P 17 17 02.0 +0.1
MORC **Moravsky Berou** 62.94 32 *eP* P 17 17 01.8 -0.2
MORC pmax pmax
comp=Z,27nm,1.3s
MORC **Moravsky Berou** 62.94 32 *eP* P 17 17 01.8 -0.2
comp=Z,27nm,1.3s
BZS **Buzias** 63.06 38 ⇑P P 17 17 03.3 +0.5
BZS **Buzias** 63.06 38 ⇑*iP* P 17 17 03.3 +0.5
PSZ **Piszkesteto** 63.21 35 ⇓P P 17 17 04.0 +0.1
PSZ **Piszkesteto** 63.21 35 *eP* P 17 17 04.1 +0.2
comp=Z,49nm,0.9s
PSZ **Piszkesteto** 63.21 35⇓*iP* P 17 17 04.0 +0.1
PSZ **Piszkesteto** 63.21 35⇓*eP* P 17 17 05.0 +1.1
RZN **Rozhen** 63.26 43 *eP* P 17 17 05.5 +1.0
OKC **Ostrava-Krasne** 63.30 32 *iP* P 17 17 04.7 +0.4
OKC *e* 17 17 09.4
OKC **Ostrava-Krasne** 63.30 32 *iP* P 17 17 04.7 +0.4
OKC *epP* **pP** 17 17 09.4 +1.2
MPEP **Malo Peshtene** 63.34 41 *eP* P 17 17 05.7 +1.0
KDZ **Kurdzhali** 63.72 43 *eP* P 17 17 07.5 +0.2
KECS **Kecovo** 63.85 34 *eP* P 17 17 09.2 +1.2
KECS pmax pmax
comp=Z,5.0nm,1.0s
KECS **Kecovo** 63.85 34 *eP* P 17 17 09.2 +1.2
KECS *epP* **pP** 17 17 13.5 +1.6
DIM **Dimitrovgrad** 63.97 43 *eP* P 17 17 10.3 +1.4
WCI **Wyandotte Cave** 63.98 313 P P 17 17 08.5 -0.7
WCI pmax pmax
comp=Z,8.0nm,0.8s
WCI **Wyandotte Cave** 63.98 313 P P 17 17 08.4 -0.7
comp=Z,7.5nm,0.8s
NIE **Niedzica** 64.25 34 *eP* P 17 17 13.1 +2.4
NIE **Niedzica** 64.25 34 *eP* P 17 17 13.1 +2.4
DRGR 64.29 37 ⇑P P 17 17 11.5 +0.5
DRGR 64.29 37 ⇑*iP* P 17 17 11.5 +0.5
LOT **Lotru** 64.31 39⇑*iP* P 17 17 03.7 -7.5
OJC **Ojcow** 64.40 33 *eP* P 17 17 12.1 +0.5
OJC **Ojcow** 64.40 33 *eP* P 17 17 12.1 +0.5
OJC **Ojcow** 64.40 33 *eP* P 17 17 12.1 +0.5
SZH **Strazhica** 64.74 42 *eP* P 17 17 14.4 +0.4
STHS **Stebnicka Huta** 64.76 34 *eP* P 17 17 15.1 +1.1
STHS pmax pmax
comp=Z,3.0nm,0.8s
STHS **Stebnicka Huta** 64.76 34 *eP* P 17 17 15.1 +1.1
CJR **Cluj-Napoca** 64.79 37⇓*iP* P 17 17 11.7 -2.6
ARR **Arges** 64.81 39⇑*iP* P 17 17 15.2 +0.7
TRPA **Tarpa** 64.85 36⇑*iP* P 17 17 15.0 +0.5
TRPA **Tarpa** 64.85 36⇑*eP* P 17 17 15.0 +0.5
JMB **Yambol** 64.85 43 *eP* P 17 17 15.2 +0.5
UZH **Uzhgorod** 64.95 35⇓*iP* P 17 17 14.8 -0.4
UZH *e* 17 17 19.4
UZH *e* 17 17 43.6
KOLS **Kolonicke sedl** 65.09 35 *eP* P 17 17 16.6 +0.4
KOLS pmax pmax
comp=Z,9.0nm,1.4s
KOLS **Kolonicke sedl** 65.09 35 *eP* P 17 17 16.6 +0.4
KOLS *epP* **pP** 17 17 22.0 +1.9
VOIR 65.10 39 ⇓P P 17 17 16.9 +0.5
VOIR 65.10 39 ⇓*iP* P 17 17 16.9 +0.5
OXF **Oxford** 65.14 308 P P 17 17 15.6 -1.1
OXF pmax pmax
comp=Z,15nm,0.8s
OXF **Oxford** 65.14 308 P P 17 17 15.6 -1.1
comp=Z,15nm,0.8s
DOPR **Dopca** 65.55 39⇑*iP* P 17 17 10.4 -8.8
MLR **Muntele Rosu** 65.69 39⇓*iP* P 17 17 20.5 +0.2
ISR **Istrita** 65.92 40 ⇓P P 17 17 21.7 +0.1
ISR **Istrita** 65.92 40 ⇓*iP* P 17 17 21.7 +0.1
BURAR **Bucovina Array** 66.19 37 ⇓P P 17 17 23.7 +0.3
BURAR **Bucovina Array** 66.19 37 ⇓*iP* P 17 17 23.7 +0.3
PLOR **Plostina** 66.30 39 ⇑P P 17 17 23.9 -0.1
PLOR **Plostina** 66.30 39 ⇑*iP* P 17 17 23.9 -0.1
VRI **Vrincioaia** 66.35 39 ⇑P P 17 17 24.3 0.0
VRI **Vrincioaia** 66.35 39 ⇑*iP* P 17 17 24.3 0.0
LVV **L'vov** 66.53 35 *iP* P 17 17 24.5 -0.9
TESR **Tescani** 66.58 39⇑*iP* P 17 17 26.0 +0.2
KMBO **Kilima Mbogo** 66.60 92 *eP* P 17 17 28.2 +1.4
comp=Z,12nm,1.2s
KMBO **Kilima Mbogo** 66.60 92 P P 17 17 27.8 +0.9
comp=Z,3.9nm,0.7s,baz=216,slow=23,SNR=7.2
KMBO LR LR 17 43 05.3
comp=Z,229nm,18.1s,baz=100,slow=33
TIRR **Tirgusor** 66.86 41 ⇓P P 17 17 26.8 -0.8
TIRR **Tirgusor** 66.86 41 ⇓*iP* P 17 17 26.8 -0.8
CFR **Carcaliu** 66.97 40 ⇑P P 17 17 27.7 -0.5
CFR **Carcaliu** 66.97 40 ⇑*iP* P 17 17 27.7 -0.5
TLCR 67.41 41 ⇓P P 17 17 31.1 0.0
TLCR 67.41 41 ⇓*iP* P 17 17 31.1 0.0
NB2 **NORSAR Subarra** 67.47 20 P P 17 17 31.3 +0.2
comp=Z,3.2nm,0.7s,baz=225,slow=6.5
NOA **NORSAR Array B** 67.47 20 P P 17 17 31.4 +0.2
NOA **NORSAR Array B** 67.47 20 P P 17 17 31.4 +0.2
comp=Z,11nm,1.0s,baz=224,slow=6.3,SNR=14
NOA LR LR 17 45 19.0
comp=Z,147nm,18.8s,baz=220,slow=34
SUW **Suwalki** 68.19 30 *eP* P 17 17 35.6 -0.2
SUW pmax pmax
comp=Z,71nm,0.9s
SUW **Suwalki** 68.19 30 *eP* P 17 17 35.6 -0.2
comp=Z,71nm,0.9s
SUW **Suwalki** 68.19 30 *eP* P 17 17 35.8 0.0

ANTO	**Ankara**	**68.30**	**47**	⇓P		**P**	**17 17 37.1**	**+0.2**
ANTO	**Ankara**	**68.30**	**47**	*e*P		**P**	**17 17 36.3**	**-0.6**
	comp=Z,22nm,1.0s							
ANTO	**Ankara**	**68.30**	**47**	⇓*i*P		**P**	**17 17 37.1**	**+0.2**
BRTR	**Keskin Array B**	**68.88**	**47**	P		**P**	**17 17 40.6**	**0.0**
BRTR				PP		**PP**	**17 20 09.7**	**-3.2**
BRTR	**Keskin Array B**	**68.88**	**47**	P		**P**	**17 17 40.6**	**0.0**
	comp=Z,9.1nm,0.8s,baz=225,slow=5.1,SNR=52							
BRTR				PP		**PP**	**17 20 09.7**	**-3.2**
	comp=Z,2.8nm,0.9s,baz=233,slow=7.6,SNR=4.3							
BRTR				LR		LR	17 48 32.2	
	comp=Z,177nm,20.8s,baz=84,slow=37							
ASF	**Jabal al Asfar**	**69.51**	**56**	LR		LR	17 49 12.8	
	comp=Z,190nm,19.6s,baz=108,slow=37							
KIEV	**Kiev**	**69.89**	**35**	*e*P		**P**	**17 17 46.2**	**-0.3**
KIEV				pmax		pmax		
	comp=Z,46nm,1.0s							
KIEV	**Kiev**	**69.89**	**35**	*e*P		**P**	**17 17 46.1**	**-0.3**
	comp=Z,46nm,1.0s							
NACGM	**Naroch**	**70.45**	**31**	*e*		**P**	**17 17 47.0**	**-2.8**
TUL1	**Tulsa**	**70.55**	**308**	P		**P**	**17 17 51.1**	**+0.3**
	baz=71							
SUMG	**Summit**	**71.82**	**357**	*e*P		**P**	**17 17 57.6**	**-0.7**
SUMG				pmax		pmax		
	comp=Z,6.0nm,0.9s							
SUMG	**Summit**	**71.82**	**357**	*e*P		**P**	**17 17 57.9**	**-0.4**
	comp=Z,80nm,2.0s							
SUMG	**Summit**	**71.82**	**357**	*i* P		**P**	**17 17 57.6**	**-0.7**
	comp=Z,6.1nm,0.9s							
MALT	**Malatya**	**72.10**	**50**	⇑*i*P		P	17 18 15.6	+15
632A	**Uvalde**	**72.61**	**301**	P		**P**	**17 18 03.5**	**+0.1**
	baz=73							
732A	**Laxson Ranch,**	**72.64**	**300**	P		**P**	**17 18 03.7**	**+0.1**
	baz=73							
WMOK	**Wichita Mounta**	**72.69**	**306**	*e*P		**P**	**17 18 02.2**	**-1.5**
WMOK				pmax		pmax		
	comp=Z,3.0nm,0.9s							
WMOK	**Wichita Mounta**	**72.69**	**306**	*e*P		**P**	**17 18 02.2**	**-1.5**
	comp=Z,3.2nm,0.9s							
VNA1	**Neumayer--Stat**	**72.75**	**173**	*e*P		P	17 18 08.0	+4.7
JCT	**Junction City**	**72.77**	**302**	*e*P		**P**	**17 18 03.6**	**-0.8**
JCT				pmax		pmax		
	comp=Z,18nm,1.0s							
JCT	**Junction City**	**72.77**	**302**	*e*P		**P**	**17 18 03.5**	**-0.8**
	comp=Z,18nm,1.0s							
JCT	**Junction City**	**72.77**	**302**	P		**P**	**17 18 04.4**	**0.0**
	baz=73							
532A	**Rocksprings**	**72.81**	**301**	P		**P**	**17 18 03.9**	**-0.7**
	baz=73							
432A	**Menard**	**72.83**	**302**	P		**P**	**17 18 03.7**	**-1.0**
	baz=73							
332A	**Millersview**	**72.87**	**303**	P		**P**	**17 18 04.1**	**-0.9**
	baz=73							
ABTX	**Abilene, Hawle**	**73.00**	**304**	P		**P**	**17 18 05.3**	**-0.3**
	baz=73							
ANN	**Anapa**	**73.04**	**43**	*e*P		**P**	**17 18 02.8**	**-2.8**
ANN				pmax		pmax		
	comp=Z,48nm,1.4s							
ECSD	**EROS Data Cent**	**73.12**	**316**	*e*P		**P**	**17 18 04.6**	**-1.5**
	comp=Z,7.7nm,1.0s							
631A	**Perdido Creek**	**73.27**	**300**	P		**P**	**17 18 07.1**	**-0.2**
	baz=73							
FINES	**FINESS Array B**	**73.37**	**24**	P		**P**	**17 18 05.8**	**-1.3**
FINES	**FINESS Array B**	**73.37**	**24**	P		**P**	**17 18 05.8**	**-1.3**
	comp=Z,12nm,0.8s,baz=208,slow=3.7,SNR=30							
FINES				LR		LR	17 46 54.6	
	comp=Z,231nm,21.0s,baz=234,slow=33							
331A	**San Angelo**	**73.44**	**302**	P		**P**	**17 18 07.7**	**-0.6**
	baz=74							
431A	**Sonora**	**73.49**	**302**	P		**P**	**17 18 08.2**	**-0.4**
	baz=74							
AGMN	**Agassiz Nation**	**73.91**	**320**	*e*P		**P**	**17 18 09.5**	**-1.2**
	comp=Z,9.3nm,1.0s							
530A	**J-C Ranch, Com**	**74.03**	**301**	P		**P**	**17 18 11.5**	**-0.4**
	baz=74							
430A	**Baggett Ranch,**	**74.04**	**302**	P		**P**	**17 18 11.2**	**-0.7**
	baz=74							
330A	**Mertzon**	**74.08**	**302**	P		**P**	**17 18 11.7**	**-0.4**
	baz=74							
Z30A	**Sanderson Ranc**	**74.34**	**304**	P		**P**	**17 18 13.1**	**-0.5**
	baz=74							
SNAA	**Sanae**	**74.42**	**172**	*e*P		P	17 18 16.1	+2.9
SNAA	**Sanae**	**74.42**	**172**	*e*P		**P**	**17 18 13.0**	**-0.2**
	comp=Z,6.5nm,1.0s							
SNAA	**Sanae**	**74.42**	**172**	P		**P**	**17 18 13.1**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=14,slow=8.3,SNR=4.2							
429A	**Davenport Ranc**	**74.58**	**301**	P		**P**	**17 18 14.4**	**-0.7**
	baz=75							
Z29A	**Hungry Hill Ra**	**74.82**	**304**	P		**P**	**17 18 16.0**	**-0.4**
	baz=75							
Y29A	**Porterfield Fa**	**74.89**	**305**	P		**P**	**17 18 16.3**	**-0.5**
	baz=75							
428A	**Kincaid Ranch,**	**75.27**	**301**	P		**P**	**17 18 19.2**	**+0.2**
	baz=75							
628A	**Black Gap, Mar**	**75.28**	**300**	P		**P**	**17 18 17.9**	**-1.2**
	baz=75							
Y28A	**McKinney Farm,**	**75.37**	**305**	P		**P**	**17 18 19.3**	**-0.2**
	baz=75							
OBN	**Obninsk**	**75.69**	**33**	⇑*i*P		**P**	**17 18 21.4**	**+0.7**
OBN				*e*			17 21 12.9	
OBN				*e*S		S	17 28 08.4	+6.4
OBN				pmax		pmax		
	comp=Z,13nm,1.2s							
OBN				MLR		MLR		
	comp=Z,100nm,18.0s							
627A	**Terlingua Ranc**	**75.71**	**300**	P		**P**	**17 18 21.1**	**-0.5**
	baz=76							
RAYN	**Ar Rayn**	**75.74**	**66**	*e*P		**P**	**17 18 22.5**	**+0.6**
	comp=Z,22nm,1.3s							
R28A	**Tribune**	**75.76**	**309**	P		**P**	**17 18 21.6**	**-0.1**
	baz=76							
427A	**Hayter Ranch,**	**75.90**	**301**	P		**P**	**17 18 22.3**	**-0.3**
	baz=76							
TXAR	**Lajitas Array**	**75.93**	**300**	P		**P**	**17 18 22.4**	**-0.5**
TXAR	**Lajitas Array**	**75.93**	**300**	P		**P**	**17 18 22.4**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=112,slow=5.1,SNR=33							
TXAR				LR		LR	17 46 58.0	
	comp=Z,89nm,21.7s,baz=180,slow=32							
VSR	**Storozhevoye**	**75.97**	**37**	*e*P		**P**	**17 18 22.4**	**-0.1**
VSR				pmax		pmax		
	comp=Z,30nm,1.1s							
VSR				pmax		pmax		
	comp=N,20nm,1.2s							
VSR				pmax		pmax		
	comp=E,20nm,1.0s							
VORD	**Divnogorie**	**75.97**	**37**	*e*P		**P**	**17 18 22.4**	**-0.1**
VORD				pmax		pmax		
	comp=Z,10.0nm,0.8s							
VORD				pmax		pmax		
	comp=N,10.0nm,0.9s							
VORD				pmax		pmax		
	comp=E,30nm,0.9s							
527A	**Woodward Ranch**	**75.99**	**301**	P		**P**	**17 18 23.2**	**0.0**
	baz=76							
DAG	**Danmarks Havn**	**76.04**	**3**	*e*P		**P**	**17 18 22.5**	**+0.1**
DAG				pmax		pmax		
	comp=Z,4.0nm,1.0s							
DAG	**Danmarks Havn**	**76.04**	**3**	*i* P		**P**	**17 18 22.5**	**+0.1**
	comp=Z,4.4nm,1.0s							
Y27A	**Causey**	**76.11**	**305**	P		**P**	**17 18 23.2**	**-0.7**
	baz=76							
626A	**Big Bend Ranch**	**76.36**	**300**	P		**P**	**17 18 25.5**	**+0.1**
	baz=76							
526A	**Mary Lane Ranc**	**76.39**	**301**	P		**P**	**17 18 25.9**	**+0.4**
	baz=76							
426A	**McDonald Obser**	**76.41**	**301**	P		**P**	**17 18 25.6**	**-0.1**
	baz=76							
MOS	**Moscow**	**76.46**	**32**	*e*P		**P**	**17 18 24.3**	**-0.9**
MOS				*e*			17 18 30.0	
MOS				pmax		pmax		
	comp=Z,56nm,1.3s							
MOS				pmax		pmax		
	comp=Z,100nm,1.5s							
KIV	**Kislovodsk**	**76.49**	**45**	⇓*i*P		**P**	**17 18 26.1**	**+0.4**
KIV				*e*			17 21 15.6	
KIV				*e*S		**S**	**17 28 11.4**	**-0.1**
KIV				*e*SS		**SS**	**17 33 03.2**	**-3.2**
KIV				pmax		pmax		
	comp=Z,20nm,1.2s							
KIV				MLR		MLR		
	comp=Z,100nm,20.0s							
R27A	**Eads**	**76.51**	**309**	P		**P**	**17 18 26.1**	**+0.1**
	baz=77							
KBZ	**Khabaz**	**76.59**	**45**	P		**P**	**17 18 26.0**	**-0.2**
KBZ	**Khabaz**	**76.59**	**45**	P		**P**	**17 18 25.9**	**-0.2**
KBZ	**Khabaz**	**76.59**	**45**	P		**P**	**17 18 25.9**	**-0.2**
	comp=Z,7.9nm,1.0s,baz=280,slow=3.0,SNR=11							
226B	**Tecolote Peak,**	**76.70**	**303**	P		**P**	**17 18 27.6**	**+0.4**
	baz=77							
S26A	**Kim**	**76.93**	**308**	P		**P**	**17 18 28.3**	**-0.1**
	baz=77							
T26A	**Comanche Natio**	**76.96**	**308**	P		**P**	**17 18 28.9**	**+0.2**
	baz=77							
U26A	**Atchley Ranch,**	**76.96**	**307**	P		**P**	**17 18 28.1**	**-0.6**
	baz=77							
R26A	**Arlington**	**77.02**	**309**	P		**P**	**17 18 29.2**	**+0.3**
	baz=77							
125A	**Gardner Draw,**	**77.19**	**303**	P		**P**	**17 18 29.6**	**-0.3**
	baz=77							
G27A	**Dupree**	**77.20**	**316**	P		**P**	**17 18 29.6**	**-0.1**
	baz=77							
425A	**Indio Mountain**	**77.24**	**301**	P		**P**	**17 18 30.4**	**+0.1**
	baz=77							
GNI	**Garni**	**77.28**	**49**	LR		LR	17 53 59.4	
	comp=Z,144nm,20.5s,baz=263,slow=37							
325A	**Bean Ranch, Si**	**77.30**	**302**	P		**P**	**17 18 30.7**	**+0.1**
	baz=77							
Z25A	**Roswell**	**77.32**	**304**	P		**P**	**17 18 30.8**	**+0.1**
	baz=77							
Y25A	**Mesa, Roswell**	**77.38**	**304**	P		**P**	**17 18 30.4**	**-0.6**
	baz=77							
X25A	**Clemmons Ranch**	**77.43**	**305**	P		**P**	**17 18 31.4**	**+0.1**
	baz=78							
ARCES	**ARCESS Array B**	**77.47**	**17**	P		**P**	**17 18 30.2**	**-0.4**
ARCES	**ARCESS Array B**	**77.47**	**17**	P		**P**	**17 18 30.2**	**-0.4**
	comp=Z,5.8nm,1.0s,baz=6.7,slow=8.4,SNR=3.5							
ARCES				LR		LR	17 47 22.0	
	comp=Z,147nm,19.6s,baz=231,slow=32							
U25A	**Circle Dot Ran**	**77.49**	**307**	P		**P**	**17 18 30.9**	**-0.7**
	baz=78							
OPO	**Ambohidratompo**	**77.50**	**109**	LR		LR	17 48 39.1	
	comp=Z,168nm,18.3s,baz=88,slow=33							
MNTX	**Cornudas Mount**	**77.68**	**302**	*e*P		**P**	**17 18 31.2**	**-1.5**
	comp=Z,7.4nm,1.2s							
324A	**Moseley Ranch,**	**77.74**	**302**	P		**P**	**17 18 32.2**	**-0.9**
	baz=78							
224A	**Cornudas Mount**	**77.84**	**303**	P		**P**	**17 18 32.7**	**-1.0**
	baz=78							
NAY	**Al-Naaiem**	**77.85**	**60**	*e*P		**P**	**17 18 33.2**	**-0.4**
NAY				AMb		AMB	17 18 34.7	
	comp=Z,21nm,1.0s							
124A	**Stringfield Ra**	**77.86**	**303**	P		**P**	**17 18 32.6**	**-1.3**
	baz=78							
MIB	**Mutribah**	**77.99**	**60**	*e*P		**P**	**17 18 33.9**	**-0.4**
MIB				AMb		AMB	17 18 36.0	
	comp=Z,36nm,1.0s							
Y24A	**Capitan**	**77.99**	**304**	P		**P**	**17 18 34.0**	**-0.5**
	baz=78							
W24A	**Lazy 6 Ranch,**	**78.13**	**306**	P		**P**	**17 18 35.0**	**-0.3**
	baz=78							
UMR	**Umm Al-Rimmam**	**78.29**	**60**	*e*P		**P**	**17 18 35.6**	**-0.4**
UMR				AMb		AMB	17 18 37.4	
	comp=Z,73nm,1.1s							
S24A	**Houchin Ranch,**	**78.30**	**308**	P		**P**	**17 18 37.1**	**+0.8**
	baz=78							
SDCO	**Great Sand Dun**	**78.54**	**308**	*e*P		**P**	**17 18 37.5**	**-0.1**
	comp=Z,6.3nm,1.3s							
M24A	**Cheyenne**	**78.57**	**312**	P		**P**	**17 18 38.0**	**+0.4**
	baz=79							
V23A	**Ortiz Mt. (NFS**	**78.83**	**306**	P		**P**	**17 18 39.7**	**+0.6**
	baz=79							
ISCO	**Idaho Springs**	**78.91**	**310**	*e*P		**P**	**17 18 40.0**	**+0.4**
ISCO				pmax		pmax		
	comp=Z,35nm,2.1s							
ISCO	**Idaho Springs**	**78.91**	**310**	*e*P		**P**	**17 18 40.0**	**+0.4**
	comp=Z,35nm,2.1s							
ANMO	**Albuquerque**	**78.95**	**305**	P		**P**	**17 18 40.9**	**+1.1**
ANMO	**Albuquerque**	**78.95**	**305**	P		**P**	**17 18 40.9**	**+1.1**
	comp=Z,1.9nm,0.9s,baz=87,slow=6.2,SNR=4.4							
Z22A	**Elephant Butte**	**79.18**	**304**	P		**P**	**17 18 41.0**	**-0.1**
	baz=79							
FFC	**Flin Flon**	**79.32**	**326**	*e*P		**P**	**17 18 40.4**	**-0.7**
FFC				pmax		pmax		
	comp=Z,11nm,1.4s							
FFC	**Flin Flon**	**79.32**	**326**	*e*P		**P**	**17 18 40.4**	**-0.7**
	comp=Z,11nm,1.4s							
N23A	**Red Feather La**	**79.32**	**311**	P		**P**	**17 18 42.0**	**+0.2**
	baz=79							
U22A	**Llaves**	**79.44**	**307**	P		**P**	**17 18 43.3**	**+0.8**
	baz=80							
LAZ	**Ladron**	**79.45**	**305**	*e*P		**P**	**17 18 42.7**	**+0.2**
S22A	**4UR Ranch, Cre**	**79.58**	**308**	P		**P**	**17 18 43.4**	**0.0**
	baz=80							
R22A	**Saguache, Gunn**	**79.59**	**309**	P		**P**	**17 18 43.1**	**-0.3**
	baz=80							
O22A	**Kremmling**	**79.67**	**311**	P		**P**	**17 18 44.1**	**+0.3**
	baz=80							
121A	**Cookes Peak, D**	**79.80**	**303**	P		**P**	**17 18 44.7**	**+0.2**
	baz=80							
SMCO	**Snowmass**	**79.87**	**310**	P		**P**	**17 18 43.9**	**-1.1**
	comp=Z,3.9nm,1.0s							
X21A	**Alamocita Cree**	**79.99**	**305**	P		**P**	**17 18 45.7**	**+0.2**
	baz=80							
U21A	**Nageezi**	**80.09**	**307**	P		**P**	**17 18 46.8**	**+0.8**
	baz=80							
S21A	**Coal Bank Pass**	**80.33**	**308**	P		**P**	**17 18 47.1**	**-0.3**
	baz=80							
220A	**Playas Peak, P**	**80.37**	**302**	P		**P**	**17 18 46.7**	**-0.8**
	baz=80							
N21A	**Black Mountain**	**80.48**	**311**	P		**P**	**17 18 48.8**	**+0.7**
	baz=80							
Z20A	**Nine Sixteen R**	**80.53**	**303**	P		**P**	**17 18 48.5**	**+0.2**
	baz=81							
X20A	**Quemado**	**80.58**	**305**	P		**P**	**17 18 49.4**	**+0.7**
	baz=81							
I21A	**Big Trails, Te**	**80.71**	**314**	P		**P**	**17 18 49.3**	**+0.2**
	baz=81							
J21A	**Lysite**	**80.76**	**314**	P		**P**	**17 18 49.3**	**-0.1**
	baz=81							
SPITS	**Spitsbergen Ar**	**80.85**	**9**	LR		LR	17 50 58.1	
	comp=Z,58nm,18.2s,baz=160,slow=33							
O20A	**White River Ci**	**80.96**	**310**	P		**P**	**17 18 50.9**	**+0.3**
	baz=81							
PV01	**Paradox Valley**	**81.00**	**308**	*e*P		**P**	**17 18 50.6**	**-0.3**
N20A	**Spence Gulch,**	**81.05**	**311**	P		**P**	**17 18 51.3**	**+0.2**
	baz=81							
B21A	**Ellsworth Farm**	**81.18**	**319**	P		**P**	**17 18 51.9**	**+0.5**
	baz=81							
I20A	**Worland**	**81.33**	**314**	P		**P**	**17 18 52.8**	**+0.4**
	baz=81							
P19A	**Cripple Cowboy**	**81.47**	**310**	P		**P**	**17 18 53.7**	**+0.3**
	baz=82							
PDAR	**Pinedale Array**	**82.23**	**313**	P		**P**	**17 18 57.9**	**+0.6**
PDAR	**Pinedale Array**	**82.23**	**313**	P		**P**	**17 18 57.9**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=93,slow=6.5,SNR=9.2							
PDAR				LR		LR	17 50 04.5	
	comp=Z,137nm,21.3s,baz=110,slow=32							
TUC	**Tucson**	**82.31**	**302**	*e*P		**P**	**17 18 57.9**	**+0.2**
TUC				pmax		pmax		
	comp=Z,3.0nm,1.0s							
TUC	**Tucson**	**82.31**	**302**	*e*P		**P**	**17 18 57.9**	**+0.2**
	comp=Z,3.4nm,1.0s							
SRU	**San Rafael**	**82.61**	**309**	*e*P		**P**	**17 18 59.3**	**0.0**
SRU	**San Rafael**	**82.61**	**309**	*e*P		**P**	**17 18 59.3**	**0.0**
D18A	**Linhart Farms,**	**82.88**	**317**	P		**P**	**17 19 01.0**	**+0.6**
	baz=83							
E18A	**Harlowton**	**82.89**	**317**	P		**P**	**17 19 01.1**	**+0.6**
	baz=83							
X16A	**Lo Mia Camp, P**	**83.00**	**304**	P		**P**	**17 19 02.1**	**+0.7**
	baz=83							
WUAZ	**Wupatki**	**83.01**	**306**	*e*P		**P**	**17 19 02.1**	**+0.7**
	comp=Z,9.1nm,1.0s							
REDW	**Red Top Meadow**	**83.23**	**313**	*e*P		**P**	**17 19 01.8**	**-0.6**
IMW	**Indian Meadow**	**83.34**	**314**	*e*P		**P**	**17 19 05.5**	**+2.4**
SYO	**Syowa Base**	**83.38**	**160**	⇓*e*pP		pP	17 19 05.2	-1.1
E17A	**Martinsdale**	**83.52**	**317**	P		**P**	**17 19 04.4**	**+0.5**
	baz=84							
MSU	**Marysvale**	**83.86**	**308**	*e*P		**P**	**17 19 06.3**	**+0.5**
MSU				*e*			17 19 10.6	
MSU	**Marysvale**	**83.86**	**308**	*e*P		**P**	**17 19 06.3**	**+0.5**
MSU				*e*		**PcP**	**17 19 10.6**	**+0.7**
MVU	**Marysvale**	**83.88**	**308**	*e*P		**P**	**17 19 06.2**	**+0.2**
MVU				*e*		**PcP**	**17 19 10.8**	**+0.8**
214A	**Organ Pipe Nat**	**84.01**	**302**	P		**P**	**17 19 07.3**	**+0.8**
	baz=84							
Y14A	**Wickenburg**	**84.26**	**304**	P		**P**	**17 19 08.6**	**+0.8**
	baz=84							
DUG	**Dugway**	**84.45**	**310**	*e*P		**P**	**17 19 08.5**	**-0.2**
DUG				pmax		pmax		
	comp=Z,13nm,1.6s							
DUG	**Dugway**	**84.45**	**310**	*e*P		**P**	**17 19 08.5**	**-0.2**
	comp=Z,13nm,1.6s							
LRM	**Limekiln Ridge**	**84.57**	**316**	*e*P		**P**	**17 19 09.8**	**+0.5**
DLMT	**Dillon**	**84.64**	**315**	*e*P		**P**	**17 19 09.9**	**+0.4**
	comp=Z,12nm,1.4s							
BGU	**Big Grassy Mou**	**84.66**	**311**	*e*P		**P**	**17 19 09.1**	**-0.7**
	comp=Z,6.2nm,1.3s							
MCMT	**McKenzie Canyo**	**84.78**	**315**	*e*P		**P**	**17 19 11.5**	**+1.1**
C15A	**Salmond Ranch,**	**84.83**	**318**	P		**P**	**17 19 11.5**	**+1.1**
	baz=85							
B15A	**Bradely Ranch,**	**84.84**	**318**	P		**P**	**17 19 09.9**	**-0.5**
	baz=85							
A15A	**Johnson Ranch,**	**85.00**	**319**	P		**P**	**17 19 11.4**	**+0.1**
	baz=85							
CHMT	**Chamberlain Mo**	**85.20**	**317**	*e*P		**P**	**17 19 11.5**	**-0.9**
	comp=Z,4.0nm,1.4s							
SWMT	**Swartz Lake**	**85.75**	**317**	*e*P		**P**	**17 19 14.8**	**-0.2**
	comp=Z,4.3nm,1.1s							
HLID	**Hailey**	**85.83**	**313**	*e*P		**P**	**17 19 15.0**	**-0.6**
	comp=Z,3.8nm,1.0s							
HLID	**Hailey**	**85.83**	**313**	P		**P**	**17 19 15.5**	**0.0**
	baz=86							
IRM	**Iron Mountain**	**86.05**	**304**	P		**P**	**17 19 17.1**	**+0.4**
	baz=86							
H12A	**Diamond D Ranc**	**86.19**	**314**	P		**P**	**17 19 17.7**	**+0.4**
	baz=86							
BSMT	**Bassoo Peak**	**86.30**	**318**	*e*P		**P**	**17 19 17.6**	**-0.2**
ELK	**Elko**	**86.33**	**311**	*e*P		**P**	**17 19 18.8**	**+0.6**
	comp=Z,7.4nm,1.4s							
I12A	**Atlanta**	**86.36**	**314**	P		**P**	**17 19 18.4**	**+0.1**
	baz=86							
R11A	**Troy Canyon, C**	**86.52**	**308**	P		**P**	**17 19 18.9**	**-0.2**
	baz=86							
G12A	**Big Creek, Yel**	**86.55**	**315**	P		**P**	**17 19 19.5**	**+0.4**
	baz=87							
E12A	**Beaver Dam Sad**	**86.77**	**316**	P		**P**	**17 19 20.4**	**+0.2**
	baz=87							
YKA	**Yellowknife Ar**	**87.03**	**332**	P		**P**	**17 19 21.6**	**+0.8**
YKA	**Yellowknife Ar**	**87.03**	**332**	P		**P**	**17 19 21.6**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=80,slow=5.2,SNR=2.9							
HEC	**Hector,Ludlow**	**87.04**	**305**	P		**P**	**17 19 21.8**	**+0.3**
	baz=87							
GSC	**Goldstone**	**87.44**	**305**	P		**P**	**17 19 23.6**	**+0.1**
	baz=88							
AKTO	**Aktyubinsk**	**87.62**	**40**	LR		LR	17 58 07.3	
	comp=Z,90nm,22.0s,baz=106,slow=35							
BMO	**Blue Mountains**	**87.95**	**315**	*e*P		**P**	**17 19 26.7**	**+0.9**
BMO				pmax		pmax		
	comp=Z,8.0nm,1.4s							
BMO	**Blue Mountains**	**87.95**	**315**	*e*P		**P**	**17 19 26.6**	**+0.9**
	comp=Z,7.7nm,1.4s							
ARU	**Arti**	**88.09**	**34**	*c i*P		**P**	**17 19 26.4**	**+0.4**
ARU							17 22 52.0	
ARU				S		**SKSac**	**17 29 51.2**	**-3.2**
ARU				pmax		pmax		
	comp=Z,15nm,1.7s							
NVAR	**Mina Array Bea**	**88.66**	**308**	P		**P**	**17 19 29.2**	**-0.2**
NVAR	**Mina Array Bea**	**88.66**	**308**	P		**P**	**17 19 29.2**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=105,slow=4.7,SNR=11							
SVE	**Sverdlovsk**	**89.25**	**33**	⇑*e*P		**P**	**17 19 32.7**	**+1.3**
SVE				pmax		pmax		
	comp=Z,13nm,1.3s							
QSPA	**South Pole Qui**	**90.95**	**180**	P		**P**	**17 19 41.0**	**+1.7**
QSPA	**South Pole Qui**	**90.95**	**180**	P		**P**	**17 19 41.0**	**+1.7**
	comp=Z,4.0nm,1.0s,baz=214,slow=5.2,SNR=6.3							
MAW	**Mawson**	**91.65**	**157**	P		**P**	**17 19 44.0**	**+1.6**
MAW	**Mawson**	**91.65**	**157**	P		**P**	**17 19 44.0**	**+1.6**
	comp=Z,2.2nm,0.6s,baz=270,slow=14,SNR=1.6							
MAW				LR		LR	17 50 25.9	
	comp=Z,66nm,21.8s,baz=161,slow=29							
INK	**Inuvik**	**94.42**	**339**	LR		LR	17 57 04.7	
	comp=Z,154nm,22.0s,baz=80,slow=32							
BBB	**Bella Bella**	**94.70**	**322**	LR		LR	17 58 25.7	
	comp=Z,92nm,19.3s,baz=51,slow=33							
BVAR	**Borovoye Array**	**95.14**	**37**	LR		LR	18 02 04.5	
	comp=Z,114nm,19.9s,baz=293,slow=35							
AAK	**Ala-Archa**	**99.55**	**47**	LR		LR	18 05 57.5	
	comp=Z,72nm,21.0s,baz=261,slow=36							
KSH	**Kashi**	**101.20**	**50**	*e*P		**Pdif**	**17 20 27.8**	**+1.2**
KSH				PP		**PP**	**17 24 37.4**	**+2.0**
KSH				SKS			17 31 04.3	
KSH				S		SKKSac	17 32 00.3	+18
KSH				pmax		pmax		
	comp=Z,69nm,4.2s							
KSH				LR		LR		
	comp=N,91nm,4.4s							
KSH				LR		LR		
	comp=E,96nm,6.5s							
KSH				LR		LR		
	comp=Z,220nm,6.2s							
SONM	**Songino Array**	**118.10**	**32**	PP		PP	17 26 30.0	-7.2
SONM	**Songino Array**	**118.10**	**32**	PP		PP	17 26 30.0	-7.2
	comp=Z,0.8nm,1.0s,baz=285,slow=7.5,SNR=4.6							
LZH	**Lanzhou**	**123.03**	**45**	*e*PKP		**PKPdf**	**17 25 30.4**	**-2.4**
LZH				PP		PP	17 27 20.6	+9.1
LZH				SKKS			17 34 02.6	
LZH				AMB		AMB		
	comp=Z,110nm,5.8s							
LZH				LR		LR		
	comp=N,310nm,15.7s							
LZH				LR		LR		
	comp=E,260nm,16.9s							
LZH				LR		LR		
	comp=Z,430nm,19.0s							
CD2	**Chengdu**	**125.39**	**50**	*e*PKP		**PKPdf**	**17 25 36.1**	**-1.2**
CD2				PP		**PP**	**17 27 30.5**	**+3.1**
CD2				SKS		**SKSdf**	**17 32 45.4**	**-4.1**
CD2				SKKS		**SKKSac**	**17 34 21.1**	**-5.3**
CD2				SS		**SS**	**17 44 25.3**	**-0.5**
CD2				AMB		AMB		
	comp=Z,100nm,10.2s							
CD2				LR		LR		
	comp=E,120nm,22.2s							
CD2				LR		LR		
	comp=Z,100nm,24.1s							
CMAR	**Chiang Mai Arr**	**125.66**	**67**	PKP		**PKPdf**	**17 25 40.5**	**+2.5**

DCZ					AML	AML	17 07 34.8	
DCZ					AML	AML	17 07 34.9	
MLZ	**Mavora Lakes**	**1.88**	**65**	PN	**Pn**	**17 07 14.7**	**-0.1**
MLZ					AML	AML	17 07 50.7	
MLZ					AML	AML	17 07 51.7	
SYZ	**Scrubby Hill**	**2.36**	**100**	PN	Pn	17 07 22.7	+1.3
WKZ	**Wanaka**	**2.65**	**61**	PN	Pn	17 07 26.7	+1.2
WKZ					AML	AML	17 08 17.6	
WKZ					AML	AML	17 08 25.9	
EAZ	**Earnscleugh**	**2.65**	**70**	PN	**Pn**	**17 07 26.5**	**+1.0**
EAZ				SN	**Sn**	**17 07 58.6**	**+2.3**
EAZ					AML	AML	17 08 04.5	
EAZ					AML	AML	17 08 14.0	
EAZ					AML	AML	17 08 14.0	
TUZ	**Tuapeka**	**2.70**	**87**	⇓PN	**Pn**	**17 07 26.8**	**+0.8**
TUZ					AML	AML	17 08 07.4	
TUZ					AML	AML	17 08 21.9	
JCZ	**Jackson Bay**	**2.98**	**46**	*e*PN	**Pn**	**17 07 30.7**	**+0.7**
JCZ					AML	AML	17 08 32.3	
JCZ					AML	AML	17 08 35.1	
LBZ	**Lake Benmore**	**3.59**	**62**	PN	**Pn**	**17 07 38.3**	**-0.1**
LBZ					AML	AML	17 08 40.6	
LBZ					AML	AML	17 08 42.4	
ODZ	**Otahua Downs**	**3.60**	**73**	PN	**Pn**	**17 07 37.5**	**-1.0**
ODZ				SN	**Sn**	**17 08 19.4**	**-0.3**
ODZ					AML	AML	17 08 34.5	
RPZ	**Rata Peaks**	**4.49**	**59**	Pn	**Pn**	**17 07 49.5**	**-1.2**
	5.3nm,0.3s,baz=160,slow=3.8,SNR=17							
RPZ				Sn	**Sn**	**17 08 41.1**	**-0.5**
	7.3nm,0.3s,baz=1.2,slow=11,SNR=8.7							
WVZ	**Waitaha Valley**	**4.71**	**51**	AML	AML	17 08 58.3	
ASAR	**Alice Springs**	**34.09**	**300**	P	P	17 13 26.8	+0.4
	0.3nm,0.6s,baz=134,slow=7.9,SNR=5.5							
WRA	**Warramunga Arr**	**36.72**	**305**	P	P	17 13 49.2	+0.3
	0.3nm,0.7s,baz=147,slow=10,SNR=3.1							
TORD	**Torodi Ar. Bea**	**144.43**	**207**	PKP	**PKPdf**	**17 26 17.9**	**0.0**
	0.5nm,0.6s,baz=146,slow=0.8,SNR=3.0							
BRTR	**Keskin Array B**	**144.81**	**277**	PKP	**PKPdf**	**17 26 18.6**	**+0.5**
	0.3nm,0.7s,baz=151,slow=3.3,SNR=2.8							

WEL 18 17:13:09.6±0.4, 45°38S×165°82E, h33km, ML3.6/15, Error ellipse: s-maj=3.9km s-min=2.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.95**	**96**	PN	Pn	17 13 25.9	-0.6
DCZ				SN	Sn	17 13 37.8	-1.0
DCZ				AML	AML	17 13 39.3	
DCZ				AML	AML	17 13 39.5	
DCZ				AML	AML	17 13 40.2	
PYZ	**Puysegur Point**	**0.99**	**143**	*e*PN	Pn	17 13 26.5	-0.6
PYZ				SN	Sn	17 13 39.2	-0.9
WHZ	**Wether Hill Ro**	**1.58**	**110**	AML	AML	17 14 01.0	
WHZ				AML	AML	17 14 01.4	
MSZ	**Milford Sound**	**1.66**	**65**	PN	Pn	17 13 36.4	+0.1
MSZ				AML	AML	17 14 11.6	
MSZ				AML	AML	17 14 12.6	
MLZ	**Mavora Lakes**	**1.66**	**90**	PN	Pn	17 13 34.1	-2.3
MLZ				AML	AML	17 14 01.6	
MLZ				AML	AML	17 14 02.2	
WKZ	**Wanaka**	**2.33**	**77**	*e*PN	Pn	17 13 47.5	+1.8
WKZ				AML	AML	17 14 30.9	
EAZ	**Earnscleugh**	**2.47**	**88**	*e*PN	Pn	17 13 46.2	-1.2
EAZ				AML	AML	17 14 20.4	
EAZ				AML	AML	17 14 20.5	
JCZ	**Jackson Bay**	**2.47**	**59**	AML	AML	17 14 36.1	
JCZ				AML	AML	17 14 38.7	
TUZ	**Tuapeka**	**2.74**	**103**	*e*PN	Pn	17 13 53.1	+2.0
TUZ				AML	AML	17 14 32.3	
TUZ				AML	AML	17 14 34.0	
LBZ	**Lake Benmore**	**3.26**	**74**	AML	AML	17 14 37.9	
ODZ	**Otahua Downs**	**3.43**	**86**	*e*PN	Pn	17 14 00.7	+0.1

WEL 18 17:14:11.0±0.3, 45°71S×166°28E, h20km±1km, ML3.9/18, 1D, Error ellipse: s-maj=3.1km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.54**	**149**	⇓P*	Pb	17 14 20.9	-1.0
PYZ				S*	Sb	17 14 28.5	-0.8
DCZ	**Deep Cove**	**0.66**	**70**	P*	Pb	17 14 23.0	-0.8
DCZ				S*	Sb	17 14 32.2	-0.4
DCZ				AML	AML	17 14 32.2	
DCZ				AML	AML	17 14 32.7	
DCZ				AML	AML	17 14 32.7	
WHZ	**Wether Hill Ro**	**1.19**	**100**	PN	Pn	17 14 31.9	-0.6
WHZ				AML	AML	17 14 51.0	
WHZ				AML	AML	17 14 53.6	
MLZ	**Mavora Lakes**	**1.38**	**76**	PN	Pn	17 14 34.7	-0.5
MLZ				AML	AML	17 14 58.9	
MLZ				AML	AML	17 15 01.7	
MSZ	**Milford Sound**	**1.56**	**49**	*e*PN	Pn	17 14 36.9	-0.7
MSZ				AML	AML	17 15 03.8	
MSZ				AML	AML	17 15 03.8	
MSZ				AML	AML	17 15 08.4	
MSZ				AML	AML	17 15 08.4	
APZ	**The Paps**	**1.64**	**134**	PN	Pn	17 14 38.7	0.0
WKZ	**Wanaka**	**2.13**	**67**	*e*PN	Pb	17 14 48.2	-0.7
WKZ				AML	AML	17 15 19.8	
WKZ				AML	AML	17 15 25.9	
SYZ	**Scrubby Hill**	**2.16**	**114**	PN	Pn	17 14 46.0	+0.2
EAZ	**Earnscleugh**	**2.19**	**79**	PN	Pn	17 14 47.2	+1.0
EAZ				AML	AML	17 15 19.6	
EAZ				AML	AML	17 15 20.6	
EAZ				AML	AML	17 15 20.7	
TUZ	**Tuapeka**	**2.36**	**97**	PN	Pn	17 14 49.4	+0.8
TUZ				AML	AML	17 15 21.4	
TUZ				AML	AML	17 15 21.6	
JCZ	**Jackson Bay**	**2.40**	**48**	AML	AML	17 15 33.9	
JCZ				AML	AML	17 15 34.8	
LBZ	**Lake Benmore**	**3.07**	**66**	AML	AML	17 15 20.6	
LBZ				AML	AML	17 15 55.7	
ODZ	**Otahua Downs**	**3.15**	**79**	PN	Pn	17 14 59.2	-0.2
ODZ				AML	AML	17 15 54.8	
ODZ				AML	AML	17 16 29.0	
FOZ	**Fox Glacier**	**3.24**	**50**	AML	AML	17 15 16.0	
FOZ				AML	AML	17 16 05.9	
WVZ	**Waitaha Valley**	**4.14**	**52**	AML	AML	17 16 37.1	

*IDC **18** 17:35:33.1±1.2, 45°.50S×166°.61E, h0km, mb3.8/3, mb1 1.4/4, mb1mx3.9/14, mbtmp4.0/4, ML4.7/1, MS3.6/4, Ms1 3.6/4, ms1mx3.2/22, Error ellipse: s-maj=45.6km s-min=24.6km az=180.0*

*ISCJB **18** 17:35:34.6±0.7, 45°.47S±0°.06×166°.59E±0°.05, h15km, mb3.7/3, MS3.6/3, Error ellipse: s-maj=9.1km s-min=5.4km az=7.2*

*NEIC **18** 17:35:35.6, 45°.55S×166°.66E, h8km, ML4.5(WEL), After WEL.*

*WEL **18** 17:35:35.8±0.2, 45°.55S×166°.65E, h22km±1km, ML4.5/23, Error ellipse: s-maj=2.1km s-min=1.1km az=90.0*

ISC 18 17:35:35.3±0.7, 45°50S±0°05×166°62E±0°05, h15km, n60, σ0°98/58, mb3.8/3, MS3.4/3, 1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.38**	**87**	Pg	**Pb**	**17 35 43.4**	**-0.3**
DCZ				**Sg**	**Sg**	**17 35 48.2**	**+0.1**
DCZ	**Deep Cove**	**0.38**	**87**	⇓P*	**Pb**	**17 35 43.4**	**-0.3**
DCZ				S*	**Sg**	**17 35 48.2**	**+0.1**
DCZ				AML	AML	17 35 48.4	
DCZ				AML	AML	17 35 48.5	
DCZ				AML	AML	17 35 48.8	
WHZ	**Wether Hill Ro**	**1.01**	**113**	P*	**Pb**	**17 35 53.6**	**-0.9**
WHZ	**Wether Hill Ro**	**1.01**	**113**	P*	**Pb**	**17 35 53.6**	**-0.9**
WHZ				AML	AML	17 36 14.9	
WHZ				AML	AML	17 36 16.7	
MLZ	**Mavora Lakes**	**1.10**	**83**	P*	**Pb**	**17 35 54.8**	**-1.3**
MLZ				S*	**Sb**	**17 36 09.4**	**-1.0**
MLZ	**Mavora Lakes**	**1.10**	**83**	PN	**Pb**	**17 35 54.8**	**-1.3**
MLZ				SN	**Sb**	**17 36 09.4**	**-1.0**
MLZ				AML	AML	17 36 10.4	
MSZ	**Milford Sound**	**1.24**	**49**	P*	**Pn**	**17 35 56.3**	**-1.8**
MSZ	**Milford Sound**	**1.24**	**49**	AML	AML	17 36 23.5	
MSZ				AML	AML	17 36 25.7	
MSZ				AML	AML	17 36 25.8	
MSZ				AML	AML	17 36 31.0	
APZ	**The Paps**	**1.64**	**145**	Pn	**Pn**	**17 36 03.5**	**-0.1**
APZ	**The Paps**	**1.64**	**145**	PN	**Pn**	**17 36 03.5**	**-0.1**
WKZ	**Wanaka**	**1.82**	**69**	Pn	**Pn**	**17 36 06.8**	**+0.6**
WKZ	**Wanaka**	**1.82**	**69**	PN	**Pn**	**17 36 06.5**	**+0.4**
WKZ				AML	AML	17 36 36.7	
WKZ				AML	AML	17 36 36.8	
WKZ				AML	AML	17 36 38.5	
WKZ				AML	AML	17 36 38.6	
EAZ	**Earnscleugh**	**1.91**	**83**	Pn	**Pn**	**17 36 08.1**	**+0.7**
EAZ	**Earnscleugh**	**1.91**	**83**	PN	**Pn**	**17 36 07.8**	**+0.4**
EAZ				AML	AML	17 36 36.5	
EAZ				AML	AML	17 36 36.5	
EAZ				AML	AML	17 36 36.8	
EAZ				AML	AML	17 36 36.8	
SYZ	**Scrubby Hill**	**2.04**	**121**	Pn	**Pn**	**17 36 10.2**	**+1.2**
SYZ	**Scrubby Hill**	**2.04**	**121**	PN	**Pn**	**17 36 10.2**	**+1.2**
JCZ	**Jackson Bay**	**2.09**	**48**	Pn	**Pb**	**17 36 11.6**	**-1.3**
JCZ	**Jackson Bay**	**2.09**	**48**	*e*PN	**Pn**	**17 36 10.3**	**+0.5**
JCZ				AML	AML	17 36 52.3	
JCZ				AML	AML	17 36 54.8	
TUZ	**Tuapeka**	**2.16**	**103**	Pn	**Pn**	**17 36 11.9**	**+1.3**
TUZ	**Tuapeka**	**2.16**	**103**	AML	AML	17 36 43.9	
TUZ				AML	AML	17 36 44.3	
LBZ	**Lake Benmore**	**2.77**	**67**	Pn	**Pn**	**17 36 18.8**	**-0.3**
LBZ	**Lake Benmore**	**2.77**	**67**	PN	**Pn**	**17 36 18.6**	**-0.5**
LBZ				AML	AML	17 36 55.5	
LBZ				AML	AML	17 36 55.5	
LBZ				AML	AML	17 37 10.7	
LBZ				AML	AML	17 37 10.7	
HHSZ	**Highcliff Hill**	**2.81**	**99**	PN	**Pn**	**17 36 21.3**	**+1.5**
ODZ	**Otahua Downs**	**2.88**	**82**	Pn	**Pn**	**17 36 20.2**	**-0.4**
ODZ	**Otahua Downs**	**2.88**	**82**	PN	**Pn**	**17 36 20.0**	**-0.6**
ODZ				AML	AML	17 37 03.0	
ODZ				AML	AML	17 37 03.0	
ODZ				AML	AML	17 37 09.1	
ODZ				AML	AML	17 37 09.1	
FOZ	**Fox Glacier**	**2.93**	**50**	Pn	**Pn**	**17 36 24.1**	**+2.9**
FOZ	**Fox Glacier**	**2.93**	**50**	*e*PN	**Pn**	**17 36 23.1**	**+1.9**
FOZ				AML	AML	17 37 17.0	
FOZ				AML	AML	17 37 17.0	
FOZ				AML	AML	17 37 18.7	
FOZ				AML	AML	17 37 18.7	
RPZ	**Rata Peaks**	**3.63**	**62**	Pn	**Pn**	**17 36 31.0**	**0.0**
RPZ				Sn	**Sn**	**17 37 15.5**	**+1.9**
RPZ	**Rata Peaks**	**3.63**	**62**	Pn	**Pn**	**17 36 31.0**	**0.0**
	61nm,0.3s,baz=194,slow=3.8,SNR=160						
RPZ				Sn	**Sn**	**17 37 15.5**	**+1.9**
	27nm,0.3s,baz=327,slow=3.4,SNR=3.1						
RPZ				LR	LR	17 38 02.7	
	comp=Z,547nm,18.1s,baz=277,slow=41						
RPZ	**Rata Peaks**	**3.63**	**62**	*e*PN	**Pn**	**17 36 30.0**	**-1.0**
RPZ				AML	AML	17 37 17.5	
RPZ				AML	AML	17 37 18.6	
WVZ	**Waitaha Valley**	**3.82**	**52**	Pn	**Pn**	**17 36 34.5**	**+0.9**
WVZ	**Waitaha Valley**	**3.82**	**52**	*e*PN	**Pn**	**17 36 34.0**	**+0.4**
OXZ	**Oxford**	**4.45**	**63**	PN	**Pn**	**17 36 42.1**	**-0.1**
MQZ	**McQueen's Vall**	**4.67**	**70**	Pn	**Pn**	**17 36 45.8**	**+0.6**
MQZ	**McQueen's Vall**	**4.67**	**70**	*e*PN	**Pn**	**17 36 45.4**	**+0.2**
MQZ				AML	AML	17 37 40.3	
MQZ				AML	AML	17 37 42.6	
LTZ	**Lake Taylor**	**4.89**	**58**	Pn	**Pn**	**17 36 49.7**	**+1.4**
LTZ	**Lake Taylor**	**4.89**	**58**	AML	AML	17 37 54.2	
LTZ				AML	AML	17 37 59.9	
DSZ	**Denniston Nort**	**5.31**	**47**	Pn	**Pn**	**17 36 55.7**	**+1.6**
THZ	**Tophouse**	**5.89**	**53**	AML	AML	17 38 22.4	
THZ				AML	AML	17 38 22.4	
QRZ	**Quartz Range**	**6.36**	**45**	AML	AML	17 38 28.3	
QRZ				AML	AML	17 38 29.7	
NNZ	**Nelson**	**6.53**	**51**	AML	AML	17 38 37.6	
STKA	**Stephens Creek**	**23.68**	**296**	P	**P**	**17 40 47.4**	**+1.1**
STKA	**Stephens Creek**	**23.68**	**296**	P	**P**	**17 40 47.4**	**+1.1**
	2.5nm,0.8s,baz=119,slow=13,SNR=4.7						
STKA				LR	LR	17 49 15.1	
	comp=Z,100nm,18.8s,baz=37,slow=35						
ASAR	**Alice Springs**	**34.28**	**298**	P	**P**	**17 42 20.9**	**0.0**
ASAR	**Alice Springs**	**34.28**	**298**	P	**P**	**17 42 20.9**	**0.0**
	0.9nm,0.9s,baz=133,slow=5.6,SNR=8.8						
WRA	**Warramunga Arr**	**36.83**	**303**	P	**P**	**17 42 42.1**	**-0.8**
WRA	**Warramunga Arr**	**36.83**	**303**	P	**P**	**17 42 42.1**	**-0.8**
	1.9nm,1.1s,baz=142,slow=8.1,SNR=4.6						
FITZ	**Fitzroy Crossi**	**43.57**	**295**	LR	LR	18 00 17.0	
	comp=Z,48nm,20.1s,baz=198,slow=34						
USRK	**Ussuriysk Arra**	**94.45**	**336**	LR	LR	18 27 03.8	
	comp=Z,77nm,19.1s,baz=121,slow=33						
KURBB	**Kurchatov Arra**	**122.22**	**311**	PKP	**PKPdf**	**17 54 27.7**	**-1.0**
	0.2nm,0.5s,baz=107,slow=3.2,SNR=4.0						
KURK	**Kurchatov**	**122.22**	**311**	PKP	**PKPdf**	**17 54 27.7**	**-1.0**
TORD	**Torodi Ar. Bea**	**145.30**	**206**	PKPbc	**PKPbc**	**17 55 12.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**145.30**	**206**	PKPbc	**PKPbc**	**17 55 12.0**	**-0.4**
	3.6nm,0.6s,baz=148,slow=2.5,SNR=62						
BRTR	**Keskin Array B**	**145.32**	**277**	PKPbc	**PKPab**	**17 55 12.2**	**+0.1**
BRTR	**Keskin Array B**	**145.32**	**277**	PKPbc	**PKPab**	**17 55 12.2**	**+0.1**
	0.5nm,0.6s,baz=159,slow=6.2,SNR=3.4						
ARCES	**ARCESS Array B**	**149.10**	**335**	PKPbc	**PKPbc**	**17 55 21.8**	**+0.2**
ARCES	**ARCESS Array B**	**149.10**	**335**	PKPbc	**PKPbc**	**17 55 21.8**	**+0.2**
	1.8nm,0.7s,baz=60,slow=2.9,SNR=5.7						
KAF	**Kangasniemi**	**151.87**	**320**	*ep*	**PKPbc**	**17 55 28.5**	**+0.2**
FINES	**FINESS Array B**	**152.18**	**319**	PKPbc	**PKPbc**	**17 55 29.3**	**+0.3**
FINES	**FINESS Array B**	**152.18**	**319**	PKPbc	**PKPbc**	**17 55 29.3**	**+0.3**
	1.6nm,0.5s,baz=91,slow=3.7,SNR=20						

WEL 18 17:36:17.9±0.2, 45°54S×166°64E, h20km±1km, ML4.1/14, 1D, Error ellipse: s-maj=2.1km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.37**	**80**	⇓P*	Pb	17 36 25.4	-0.2
DCZ				S*	Sb	17 36 30.2	-0.6
DCZ				AML	AML	17 36 30.5	
DCZ				AML	AML	17 36 30.6	
DCZ				AML	AML	17 36 30.7	
WHZ	**Wether Hill Ro**	**0.98**	**111**	*e*P*	Pn	17 36 36.7	+0.2
WHZ				S*	Sb	17 36 49.2	+0.5
WHZ				AML	AML	17 36 49.6	
MLZ	**Mavora Lakes**	**1.10**	**80**	PN	Pn	17 36 37.0	-1.1
MLZ				SN	Sb	17 36 50.3	-1.9
MLZ				AML	AML	17 36 52.3	
MSZ	**Milford Sound**	**1.26**	**47**	*e*PN	Pb	17 36 45.6	+4.7
MSZ				AML	AML	17 37 00.2	
MSZ				AML	AML	17 37 01.0	
APZ	**The Paps**	**1.60**	**144**	*e*PN	Pb	17 36 46.8	+0.1
APZ				SN	Sn	17 37 05.3	+0.3
WKZ	**Wanaka**	**1.83**	**68**	AML	AML	17 37 17.0	
WKZ				AML	AML	17 37 17.1	
EAZ	**Earnscleugh**	**1.91**	**82**	AML	AML	17 37 18.7	
EAZ				AML	AML	17 37 18.8	
JCZ	**Jackson Bay**	**2.10**	**47**	AML	AML	17 37 28.9	
JCZ				AML	AML	17 37 29.7	
TUZ	**Tuapeka**	**2.14**	**102**	SN	Sb	17 37 22.8	+0.8
TUZ				AML	AML	17 37 25.1	

IDC 18 17:47:16.8±9.1, 20°18S×178°04W, h556km±107km, mb3.0/9, mb1 3.3/9, mb1mx3.1/18, mbtmp3.0/9, Error ellipse: s-maj=49.8km s-min=30.3km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.90**	**244**	P	P	17 53 47.3	+0.2
	3.0nm,0.9s,baz=132,slow=15,SNR=3.2						
ASAR	**Alice Springs**	**44.56**	**256**	P	P	17 54 40.0	+0.1
	1.2nm,0.5s,baz=90,slow=6.8,SNR=42						
ASAR				PcP	PcP	17 56 10.7	-0.2
	0.3nm,0.6s,baz=107,slow=4.0,SNR=4.8						
WRA	**Warramunga Arr**	**44.61**	**262**	P	P	17 54 39.6	-0.8
	1.0nm,0.6s,baz=98,slow=7.9,SNR=14						
FITZ	**Fitzroy Crossi**	**53.04**	**262**	P	P	17 55 42.4	-0.2
	0.8nm,0.5s,baz=81,slow=6.5,SNR=8.0						
MJAR	**Matsushiro Arr**	**69.93**	**324**	P	P	17 57 32.8	+0.3
	1.0nm,0.6s,baz=159,slow=6.4,SNR=6.1						
NVAR	**Mina Array Bea**	**80.82**	**43**	P	P	17 58 33.2	0.0
	0.6nm,0.8s,baz=223,slow=9.6,SNR=4.5						
TXAR	**Lajitas Array**	**86.91**	**57**	P	P	17 59 03.9	+0.6
	0.2nm,0.5s,baz=256,slow=3.6,SNR=3.4						
ILAR	**Eielson Array**	**88.01**	**13**	P	P	17 59 07.1	-0.4
	0.3nm,0.7s,baz=224,slow=3.8,SNR=3.7						
PDAR	**Pinedale Array**	**88.75**	**43**	P	P	17 59 10.7	-1.1
	0.5nm,0.8s,baz=129,slow=2.1,SNR=4.5						

*CSEM **18** 17:49:12.9±0.2, 34°.02N×25°.54E, h2km, ML2.9/2, Error ellipse: s-maj=8.6km s-min=5.2km az=65.0*

*IDC **18** 17:49:12.7±1.9, 34°.12N×25°.51E, h0km, mb3.8/6, mb1 3.9/11, mb1mx3.7/29, mbtmp3.7/11, ML3.6/5, Error ellipse: s-maj=41.3km s-min=21.4km az=12.0*

*ATH **18** 17:49:15.8, 34°.19N×25°.44E, h18km±1km, MD3.5/15*

*THE **18** 17:49:18.8, 34°.39N×25°.43E, h0km±1km, ML2.9/2, Error ellipse: s-maj=3.1km s-min=0.9km az=185.0*

ISC 18 17:49:12.9±1.4, 34°06N±0°04×25°48E±0°03, h7km±10km, n71, σ1°26/98, mb3.8/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.10**	**360**	P	**Pb**	**17 49 34.2**	**-0.2**
LAST				S	**Sg**	**17 49 45.4**	**-3.0**
LAST	**Lasithi**	**1.10**	**360**	*e*PN	**Pb**	**17 49 34.2**	**-0.2**
LAST				*e*SN	**Sg**	**17 49 48.1**	**-0.3**
LAST	**Lasithi**	**1.10**	**360**	P	**Pb**	**17 49 34.2**	**-0.2**
LAST				*e*Sn	**Sg**	**17 49 48.1**	**-0.3**
SIVA	**Sivas**	**1.11**	**330**	P	**Pb**	**17 49 34.6**	**+0.2**
SIVA				S	**Sg**	**17 49 47.6**	**-0.9**
SIVA	**Sivas**	**1.11**	**330**	*e*PN	**Pb**	**17 49 34.5**	**+0.2**
SIVA				*e*SN	**Sg**	**17 49 47.8**	**-0.7**
SIVA	**Sivas**	**1.11**	**330**	P	**Pb**	**17 49 34.6**	**+0.2**
SIVA				*e*Sn	**Sg**	**17 49 47.8**	**-0.7**
NPS	**Neapolis**	**1.21**	**5**	P	**Pn**	**17 49 36.0**	**-0.2**
NPS				S	**Sb**	**17 49 49.9**	**-2.1**
NPS	**Neapolis**	**1.21**	**5**	*e*PN	**Pn**	**17 49 36.1**	**-0.2**
NPS				*e*SN	**Sb**	**17 49 50.7**	**-1.3**
NPS	**Neapolis**	**1.21**	**5**	*e*Pn	**Pn**	**17 49 36.1**	**-0.2**
NPS				*e*Sn	**Sb**	**17 49 50.7**	**-1.3**
ZKR	**Zakros**	**1.22**	**30**	P	**Pn**	**17 49 36.7**	**+0.4**
ZKR				S	**Sb**	**17 49 52.4**	**+0.1**
ZKR	**Zakros**	**1.22**	**30**	*e*PN	**Pn**	**17 49 36.8**	**+0.4**
ZKR				*e*SN	**Sb**	**17 49 53.1**	**+0.8**
ZKR	**Zakros**	**1.22**	**30**	*e*Pn	**Pn**	**17 49 36.8**	**+0.4**
ZKR				*e*Sn	**Sb**	**17 49 53.8**	**-1.5**
IDI	**Anoyia**	**1.32**	**339**	P	**Pb**	**17 49 38.5**	**+0.4**
IDI				S	**Sb**	**17 49 52.7**	**-2.6**
IDI	**Anoyia**	**1.32**	**339**	*e*PN	**Pb**	**17 49 38.8**	**+0.7**
IDI				*e*SN	**Sb**	**17 49 53.8**	**-1.5**
IDI	**Anoyia**	**1.32**	**339**	P	**Pb**	**17 49 38.5**	**+0.4**
IDI	**Anoyia**	**1.32**	**339**	*e*Pn	**Pb**	**17 49 38.8**	**+0.7**
IDI				*e*Sn	**Sb**	**17 49 53.8**	**-1.5**
GVD	**Gavdhos**	**1.39**	**305**	P	**Pg**	**17 49 40.0**	**+0.4**
GVD	**Gavdhos**	**1.39**	**305**	*e*PN	**Pg**	**17 49 40.0**	**+0.4**
GVD				*e*SN	**Sg**	**17 49 58.2**	**+0.6**
GVD	**Gavdhos**	**1.39**	**305**	P	**Pg**	**17 49 40.0**	**+0.4**
GVD				*e*Sn	**Sg**	**17 49 58.2**	**+0.6**
VAM	**Vamos**	**1.71**	**322**	P	**Pb**	**17 49 44.6**	**-0.1**
VAM	**Vamos**	**1.71**	**322**	*e*PN	**Pb**	**17 49 44.8**	**+0.1**
VAM	**Vamos**	**1.71**	**322**	*e*Pn	**Pb**	**17 49 44.8**	**+0.1**
KARN	**Karanos**	**1.86**	**317**	P	**Pb**	**17 49 47.3**	**0.0**
KARN	**Karanos**	**1.86**	**317**	*e*PN	**Pb**	**17 49 47.7**	**+0.4**
KARN	**Karanos**	**1.86**	**317**	P	**Pb**	**17 49 47.3**	**0.0**
KARN	**Karanos**	**1.86**	**317**	*e*Pn	**Pb**	**17 49 47.7**	**+0.4**
KARP	**Karpathos**	**2.03**	**42**	P	**Pb**	**17 49 50.1**	**-0.1**
KARP				S	**Sn**	**17 50 15.1**	**+1.8**
KARP	**Karpathos**	**2.03**	**42**	*e*PN	**Pb**	**17 49 50.5**	**+0.3**
KARP				*e*SN	**Sb**	**17 50 15.3**	**-0.4**
KARP	**Karpathos**	**2.03**	**42**	P	**Pb**	**17 49 50.1**	**-0.1**
KARP	**Karpathos**	**2.03**	**42**	*e*Pn	**Pb**	**17 49 50.5**	**+0.3**
KARP				*e*Sn	**Sb**	**17 50 15.3**	**-0.4**
SANT	**Santorini**	**2.31**	**360**	*e*PB	**Pn**	**17 49 53.0**	**+1.6**
SANT	**Santorini**	**2.31**	**360**	*e*Pb	**Pn**	**17 49 53.0**	**+1.6**
THR3	**Thira Island,**	**2.35**	**358**	P	**Pn**	**17 49 53.5**	**+1.6**
THR3	**Thira Island,**	**2.35**	**358**	P	**Pn**	**17 49 53.5**	**+1.6**
ANKY	**Antikythira Is**	**2.54**	**316**	P	**Pn**	**17 49 57.0**	**+2.4**
ANKY	**Antikythira Is**	**2.54**	**316**	*e*PB	**Pb**	**17 49 57.7**	**-1.2**
ANKY	**Antikythira Is**	**2.54**	**316**	P	**Pn**	**17 49 57.0**	**+2.4**
ANKY	**Antikythira Is**	**2.54**	**316**	*e*Pb	**Pb**	**17 49 57.7**	**-1.2**
SLUM		**2.57**	**185**	P	**Pn**	**17 49 55.5**	**+0.6**
SLUM				S	**Sn**	**17 50 24.3**	**-2.1**
KYTH	**Kithira**	**2.99**	**319**	P	**Pn**	**17 50 03.3**	**+2.5**
KYTH	**Kithira**	**2.99**	**319**	*e*PN	**Pn**	**17 50 03.3**	**+2.5**
KYTH	**Kithira**	**2.99**	**319**	P	**Pn**	**17 50 03.3**	**+2.5**
APE	**Apeiranthos**	**3.01**	**1**	P	**Pn**	**17 50 02.2**	**+1.2**
APE				S	**Sn**	**17 50 36.1**	**-1.3**
APE	**Apeiranthos**	**3.01**	**1**	*e*PN	**Pn**	**17 50 02.5**	**+1.5**
APE				*e*SN	**Sn**	**17 50 38.3**	**+0.9**
APE	**Apeiranthos**	**3.01**	**1**	P	**Pn**	**17 50 02.2**	**+1.2**
APE	**Apeiranthos**	**3.01**	**1**	*e*Pn	**Pn**	**17 50 02.5**	**+1.5**
APE				S	**Sn**	**17 50 36.1**	**-1.3**
APE				*e*Sn	**Sn**	**17 50 38.3**	**+0.9

0.2nm,0.3s,baz=319,slow=22,SNR=9.9
MKAR Makanchi Array 66.61 329 P P 19 02 08.2 0.0
0.5nm,0.6s,baz=118,slow=7.9,SNR=4.9

WEL 18 18:55:42.5±0.3, 45.70S×166.29E, h20km±1km, ML3.8/19, 2C-1D, Error ellipse: s-maj=2.7km s-min=0.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.54**	**150**	⇓*P*	Pb	18 55 52.5	-0.9
PYZ				*S*	Sb	18 55 59.8	-0.9
DCZ	**Deep Cove**	**0.65**	**70**	⇑*P*	Pb	18 55 54.2	-0.8
DCZ				*S*	Sb	18 56 03.3	-0.3
DCZ				AML	AML	18 56 04.1	
DCZ				AML	AML	18 56 04.7	
DCZ				AML	AML	18 56 04.9	
WHZ	**Wether Hill Ro**	**1.18**	**100**	PN	Pn	18 56 03.1	-0.7
WHZ				AML	AML	18 56 23.5	
WHZ				AML	AML	18 56 23.8	
MLZ	**Mavora Lakes**	**1.37**	**76**	⇑*P*	Pn	18 56 05.7	-0.8
MLZ				SN	Sn	18 56 23.3	-0.9
MLZ				AML	AML	18 56 27.0	
MSZ	**Milford Sound**	**1.55**	**49**	PN	Pn	18 56 07.9	-1.0
MSZ				AML	AML	18 56 37.0	
MSZ				AML	AML	18 56 37.1	
MSZ				AML	AML	18 56 37.2	
MSZ				AML	AML	18 56 37.3	
APZ	**The Paps**	**1.64**	**135**	*e*PN	Pn	18 56 09.2	-1.0
WKZ	**Wanaka**	**2.11**	**67**	*e*PN	Pn	18 56 17.9	+1.1
WKZ				AML	AML	18 56 52.5	
WKZ				AML	AML	18 56 52.5	
WKZ				AML	AML	18 56 55.6	
SYZ	**Scrubby Hill**	**2.15**	**114**	*e*PN	Pn	18 56 17.1	-0.1
EAZ	**Earnscleugh**	**2.17**	**79**	*e*PN	Pn	18 56 18.1	+0.5
EAZ				AML	AML	18 56 50.1	
EAZ				AML	AML	18 56 53.6	
EAZ				AML	AML	18 56 56.8	
TUZ	**Tuapeka**	**2.35**	**97**	*e*PN	Pn	18 56 20.4	+0.5
TUZ				AML	AML	18 56 53.8	
TUZ				AML	AML	18 56 53.8	
JCZ	**Jackson Bay**	**2.39**	**48**	*e*PN	Pn	18 56 20.0	-0.7
JCZ				AML	AML	18 56 59.4	
JCZ				AML	AML	18 57 00.2	
LBZ	**Lake Benmore**	**3.06**	**66**	*e*PN	Pn	18 56 29.7	0.0
LBZ				AML	AML	18 59 01.3	
ODZ	**Otahua Downs**	**3.14**	**80**	PN	Pn	18 56 30.3	-0.5
ODZ				AML	AML	18 57 25.6	
ODZ				AML	AML	18 57 25.9	
FOZ	**Fox Glacier**	**3.23**	**50**	*e*PN	Pn	18 56 32.6	+0.5
FOZ				AML	AML	18 57 31.2	
RPZ	**Rata Peaks**	**3.93**	**61**	*e*PN	Pn	18 56 40.4	-1.4
RPZ				AML	AML	18 57 54.3	
RPZ				AML	AML	18 58 15.7	
WVZ	**Waitaha Valley**	**4.13**	**52**	*e*PN	Pn	18 56 43.0	-1.4
WVZ				AML	AML	18 57 24.0	
WVZ				AML	AML	18 58 16.4	
OXZ	**Oxford**	**4.75**	**62**	*e*PN	Pn	18 56 53.3	+0.3

MEX 18 18:56:51.8±0.4, 18.01N×100.55W, h46km±10km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.33**	**35**	*i* P	Pn	18 56 59.4	-1.6
ARIG				*e*S	Sn	18 57 05.8	-1.6
ZIIG	**Zihuatanejo**	**0.96**	**245**	*i* P	Pn	18 57 07.0	-2.0
ZIIG				*e*S	Sn	18 57 20.2	-1.3
CAIG	**El Cayaco**	**0.99**	**164**	*i* P	Pn	18 57 07.8	-1.6
CAIG				*e*S	Sn	18 57 19.8	-2.5
PLIG	**Platanillo**	**1.06**	**69**	*i* P	Pn	18 57 08.8	-1.7
PLIG				*e*S	Sn	18 57 22.7	-1.5
YAIG	**Yautepec**	**1.64**	**59**	*i* P	Pn	18 57 16.5	-1.9
YAIG				*i* S	Sn	18 57 36.4	-2.0

CASC 18 19:01:14.6±2.3, 9.59N×84.10W, h46km±14km, MD3.7, 4C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QCR	**Quepos**	**0.17**	**202**	⇓*i P*	Pn	19 01 22.5	+0.1
BUS	**Buena Vista**	**0.34**	**95**	⇑*e P*	Pn	19 01 24.0	-0.4
SJS	**Escuela Geolog**	**0.35**	**7**	⇑*e P*	Pn	19 01 23.9	-0.2
SJS				*e*S	Sn	19 01 31.9	+1.0
URSC	**Urasca**	**0.40**	**52**	⇓*i P*	Pn	19 01 24.4	-0.3
CGA2	**Cerro Gallo 2**	**0.56**	**320**	⇑*e P*	Pn	19 01 26.2	-0.4
JCR	**Jicaral**	**1.03**	**285**	⇑*e P*	Pn	19 01 32.4	-0.4
JCR				*e*S	Sn	19 01 46.2	+0.1
CEDE	**Laguna Cede¯–o**	**1.07**	**327**	*i* P	Pn	19 01 33.5	+0.1
CEDE				*i* S	Sn	19 01 49.8	+2.5
ACR	**Cerro Adams**	**1.31**	**135**	⇓*e P*	Pn	19 01 36.3	-0.2
ACR				*e*S	Sn	19 01 55.5	+2.7
AMAS	**Alto Masis**	**1.35**	**319**	*i* P	Pn	19 01 37.5	+0.3
AMAS				*i* S	Sn	19 01 56.0	+2.1
PTEN	**Parque Tenorio**	**1.42**	**322**	*i* P	Pn	19 01 38.8	+0.7
PTEN				*i* S	Sn	19 01 58.4	+2.7
CNI	**Changuinola**	**1.57**	**96**	*e*P	Pn	19 01 39.8	-0.3
CNI				*e*S	Sn	19 01 59.7	+0.5
MESS	**Mesas**	**1.57**	**317**	*i* P	Pn	19 01 39.7	-0.5
BRU2	**Volcan**	**1.60**	**119**	*e*P	Pn	19 01 40.4	-0.3
BRU2				*e*S	Sn	19 02 00.7	+0.5
VCR	**Vista de Mar**	**1.60**	**290**	*e*P	Pn	19 01 40.1	-0.5
VCR				*e*S	Sn	19 02 00.3	+0.1
TBS2		**1.63**	**119**	*e*P	Pn	19 01 39.9	-1.2
TBS2				*e*S	Sn	19 02 02.1	+1.1
BRU	**Baru**	**1.71**	**117**	*e*P	Pn	19 01 42.5	0.0
BRU				*e*S	Sn	19 02 03.7	+0.2

WEL 18 19:26:24.0±0.2, 35.83S×178.91E, h174km±6km, ML3.6/3, Error ellipse: s-maj=5.2km s-min=3.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**2.30**	**193**	PN	Pn	19 27 04.0	0.0
PUZ				AML	AML	19 27 20.7	
PUZ				SN	Sn	19 27 34.1	-1.2
URZ	**Urewera**	**2.82**	**210**	PN	Pn	19 27 10.7	+0.6
URZ				SN	Sn	19 27 46.5	+0.4
BKZ	**Black Stump Fm**	**3.85**	**209**	PN	Pn	19 27 23.5	+0.5

IDC 18 19:51:39.4±1.2, 6.29S×130.86E, h0km, mb3.8/5, mb1 4.1/8, mb1mx3.9/19, mbtmp3.9/8, ML4.1/3, Error ellipse: s-maj=42.8km s-min=23.2km az=87.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.80**	**203**	Pn	Pn	19 54 43.0	+0.3
	1.7nm,0.3s,baz=34,slow=11,SNR=63						
FITZ				Sn	Sn	19 56 57.0	-9.1
	2.1nm,0.3s,baz=173,slow=15,SNR=11						
WRA	**Warramunga Arr**	**13.99**	**166**	Pn	Pn	19 54 58.1	-0.9
	0.5nm,0.3s,baz=348,slow=13,SNR=27						
WRA				Sn	Sn	19 57 24.4	-11
	2.8nm,0.3s,baz=332,slow=22,SNR=9.3						
ASAR	**Alice Springs**	**17.52**	**171**	P	Pn	19 55 45.4	0.0
	0.7nm,0.3s,baz=347,slow=10,SNR=62						
ASAR				S	Sn	19 58 50.0	-11
	0.6nm,0.3s,baz=356,slow=28,SNR=6.0						
CMAR	**Chiang Mai Arr**	**39.95**	**309**	P	P	19 59 15.2	-0.6
	1.0nm,0.8s,baz=153,slow=7.6,SNR=6.5						
MJAR	**Matsushiro Arr**	**43.16**	**9**	P	P	19 59 40.3	-1.6
	0.8nm,0.7s,baz=153,slow=8.5,SNR=4.2						
SONM	**Songino Array**	**58.05**	**341**	P	P	20 01 34.8	+0.4
	0.2nm,0.4s,baz=152,slow=8.6,SNR=3.3						
PETK	**Petropavlovsk-**	**63.39**	**18**	P	P	20 02 11.2	+0.6
	1.3nm,0.6s,baz=202,slow=7.4,SNR=3.5						
MKAR	**Makanchi Array**	**68.11**	**326**	P	P	20 02 41.5	+0.2
	0.7nm,0.3s,baz=116,slow=7.4,SNR=30						

WEL 18 20:11:52.7±0.2, 45.54S×166.63E, h22km±1km, ML3.5/15, 1C-1D, Error ellipse: s-maj=2.8km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.37**	**80**	*P**	Pb	20 12 00.3	-0.3
DCZ				*S**	Sb	20 12 04.8	-1.2
DCZ				AML	AML	20 12 05.4	
DCZ				AML	AML	20 12 05.5	
DCZ				AML	AML	20 12 05.5	
PYZ	**Puysegur Point**	**0.63**	**177**	⇑*P**	Pb	20 12 04.3	-0.8
PYZ				*S**	Sb	20 12 12.1	-1.3
WHZ	**Wether Hill Ro**	**0.98**	**111**	PN	Pb	20 12 10.8	-0.4
WHZ				AML	AML	20 12 28.6	
WHZ				AML	AML	20 12 32.1	
MLZ	**Mavora Lakes**	**1.10**	**80**	⇓PN	Pn	20 12 11.8	-1.1
MLZ				AML	AML	20 12 29.7	
MLZ				AML	AML	20 12 38.0	
MSZ	**Milford Sound**	**1.26**	**47**	*e*PN	Pn	20 12 13.1	-1.9
MSZ				AML	AML	20 12 35.6	
MSZ				AML	AML	20 12 35.6	
MSZ				AML	AML	20 12 38.6	
MSZ				AML	AML	20 12 38.6	
APZ	**The Paps**	**1.60**	**144**	PN	Pn	20 12 20.5	+0.8
WKZ	**Wanaka**	**1.83**	**68**	PN	Pn	20 12 24.2	+1.3
WKZ				AML	AML	20 12 53.9	
WKZ				AML	AML	20 12 57.6	
EAZ	**Earnscleugh**	**1.91**	**82**	PN	Pn	20 12 25.1	+1.1
EAZ				AML	AML	20 12 53.3	
EAZ				AML	AML	20 12 53.9	
EAZ				AML	AML	20 12 54.1	
SYZ	**Scrubby Hill**	**2.01**	**121**	*e*PN	Pb	20 12 28.1	-0.4
JCZ	**Jackson Bay**	**2.11**	**47**	*e*PN	Pb	20 12 28.8	-1.6
JCZ				AML	AML	20 13 09.0	
JCZ				AML	AML	20 13 10.0	
TUZ	**Tuapeka**	**2.14**	**102**	*e*PN	Pb	20 12 29.4	-1.4
TUZ				AML	AML	20 13 00.5	
TUZ				AML	AML	20 13 01.3	
LBZ	**Lake Benmore**	**2.77**	**67**	*e*PN	Pn	20 12 38.2	+2.3
LBZ				AML	AML	20 12 42.4	
LBZ				AML	AML	20 13 48.6	
ODZ	**Otahua Downs**	**2.87**	**81**	*e*PN	Pn	20 12 37.5	+0.3

*BGS **18** 20:32:08.3±1.8, 33.77N×45.38E, h33km, mb5.0*
*BJI **18** 20:32:23.6, 35.80N×43.30E, h7km, mB5.1/36, mb5.1/47, Ms4.8/39, Ms7 4.6/32*
*SZGRF **18** 20:32:25.8, 35.61N×43.14E, h33km, mb5.2, MS3.7, Iraq*
*NSSC **18** 20:32:25.8±1.8, 36.34N×43.35E, h189km±31km, MD3.0, ML5.3*
*IDC **18** 20:32:26.1±0.4, 35.88N×43.42E, h0km, mb4.8/33, mb1 4.9/41, mb1mx4.9/41, mbtmp4.8/41, ML3.9/5, MS4.3/29, Ms1 4.3/29, ms1mx4.1/45, Error ellipse: s-maj=10.2km s-min=8.4km az=156.0*
*THR **18** 20:32:27.3±0.9, 35.81N×43.22E, h18km±13km, ML4.6*
*TEH **18** 20:32:27.9, 35.86N×42.97E, h18km, ML5.0*
*ISK **18** 20:32:28.6, 35.74N×43.27E, h32km, ML5.3*
*CSEM **18** 20:32:28.3±0.1, 35.86N×43.35E, h12km, mb5.2/99, Ms4.8, Mw5.1, Error ellipse: s-maj=3.0km s-min=2.5km az=10.0*
*NEIC **18** 20:32:30.0±1.2, 35.89N×43.35E, h26km±8km, mb5.3/114, Error ellipse: s-maj=4.3km s-min=3.3km az=179.0*
NEIC Felt [IV] at Baghdad, Dahuk and Mosul; [III] at Arbil, Bayji and Sinjar; [II] at Kirkuk and Tall 'Afar. Also felt at Ad Diwaniyah, Al Khalis, Al Qadisiah, An Najaf al Ashraf, 'Aqrah, As Sulaymaniyah, Ba'qubah, Tikrit and Zakhu. Felt at Marivan, Orumiyeh, Oshnaviyeh and Sanandaj, Iran. Also felt at Al Jubayhah, Jordan. Felt [II] at Ra's al 'Ayn, Syria. Also felt at Al Hasakah and Dayr az Zawr. Felt [II] at Ceylanpinar and Diyarbakir, Turkey. Also felt at Batman, Idil, Kiziltepe, Mardin, Semdinli and Yuksekova.
*MOS **18** 20:32:29.4±1.0, 35.84N×43.27E, h33km, mb5.5/80, MS4.1/23, Error ellipse: s-maj=4.9km s-min=3.0km az=121.5*
*ISCJB **18** 20:32:29.2±0.4, 35.78N±0.01×43.33E±0.01, h33km±3km, mb5.1/246, MS4.4/52, Error ellipse: s-maj=2.3km s-min=1.7km az=15.6*
*GCMT **18** 20:32:29.3±0.2, 35.90N×43.19E, h12km, MW5.1, Moment Tensor Solution. s27,c39; s71,c122; Moment tensor: Scale 10^{16}Nm; M_{rr}3.83±.10; $M_{\theta\theta}$-4.34±.08; $M_{\phi\phi}$0.51±.09; $M_{r\theta}$-0.80±.27; $M_{\theta\phi}$1.64±.08; $M_{\phi r}$-2.01±.37; Best double couple: M_o4.90000×10^{16} NP1:ϕ_s132.00000°,δ50.00000°, λ128.00000°. NP2:ϕ_s262.00000°,δ53.00000°,λ53.00000°. Principal axes: T 5.0000, Plg62.0000°, Azm109.0000°; N -0.1500, Plg28.0000°, Azm286.0000°; P -4.8500, Plg1.0000°, Azm17.0000°; Data Used: II IU IC G CN.*
*BKK **18** 20:32:32.9±0.3, 35.76N±6.4×4.4E±0.4, h10km, M5.7/21, mB5.8/8, mb5.4/21, MLv6.2/1, Mw(mB)5.3/8*
*DDA **18** 20:32:37.1, 36.47N×43.10E, h27km, ML5.1*
*DJA **18** 20:32:41.5±0.9, 35.76N±6.2×4.4E±0.4, h83km±11km, M5.8/13, mB5.9/7, mb5.2/13, MLv6.3/1, Mw(mB)5.5/7*
*PDG **18** 20:33:15.6, 35.80N×43.60E, h30km, mb5.2/1*

ISC 18 20:32:28.9±0.3, 35.84N±0.02×43.41E±0.02, h16km±1km, h16km:pP-P,n1413,σ1934/1553, mb5.2/258, MS4.3/56, 250C-111D, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUKT	**Cukurca**	**1.41**	**6**	*e*PN	**Pn**	**20 32 53.6**	**-0.4**
CUKT				*e*SN	**Sb**	**20 32 53.9**	**+0.2**
CUKT	**Cukurca**	**1.41**	**6**	*e*Pn	**Pn**	**20 32 53.6**	**-0.4**
CUKT				*e*Sn	**Sb**	**20 32 12.9**	**+0.2**
HAKT	**HAKKARI**	**1.73**	**8**	*i* P	**Pn**	**20 32 58.9**	**+0.4**
HAKT				*i* S	**Sn**	**20 33 20.8**	**+0.5**
HAKT	**HAKKARI**	**1.73**	**8**	*i* P	**Pn**	**20 32 58.9**	**+0.4**
HAKT				*i* S	**Sn**	**20 33 20.8**	**+0.5**
SIRT	**Sirnak**	**1.83**	**335**	*e*PN	**Pn**	**20 32 59.4**	**-0.3**
SIRT				*e*SN	**Sn**	**20 33 21.3**	**-1.3**
SIRT	**Sirnak**	**1.83**	**335**	*e*Pn	**Pn**	**20 32 59.4**	**-0.3**
SIRT				*e*Sn	**Sn**	**20 33 21.3**	**-1.3**
SIRN	**S¨–rnak**	**1.84**	**334**	*i* P	**Pn**	**20 32 59.4**	**-0.4**
SIRN				*i* S	**Sn**	**20 33 22.1**	**-0.7**
SIRN	**S¨–rnak**	**1.84**	**334**	*i* P	**Pn**	**20 32 59.4**	**-0.4**
SIRN				*i* S	**Sn**	**20 33 22.1**	**-0.7**
MZRK	**Al-Mazaregh**	**2.24**	**270**	*e*P	**Pb**	**20 33 07.8**	**-1.2**
MZRK				*e*S	**Sb**	**20 33 36.4**	**-0.1**
MZRK	**Al-Mazaregh**	**2.24**	**270**	*e*P	**Pb**	**20 33 07.5**	**-1.5**
MZRK				*e*S	**Sb**	**20 33 36.9**	**+0.4**
MZRK				AML	AML	20 33 50.1	
	comp=E,26μm,0.4s						
MZRK				AML	AML	20 33 55.8	
	comp=Z,46μm,0.4s						
MZRK				AML	AML	20 33 58.4	
	comp=N,37μm,0.6s						
MZRK	**Al-Mazaregh** SNR=45	**2.24**	**270**	*e*P	**Pb**	**20 33 07.5**	**-1.5**
MZRK				*e*S	**Sb**	**20 33 36.9**	**+0.4**
	comp=N,37μm,0.6s,SNR=40						
GEVA	**Gevas**	**2.48**	**354**	*i* P	**Pn**	**20 33 09.1**	**+0.3**
GEVA				*i* S	**Sb**	**20 33 41.9**	**-1.7**
GEVA	**Gevas**	**2.48**	**354**	*i* P	**Pn**	**20 33 09.1**	**+0.3**
GEVA				*i* S	**Sb**	**20 33 41.9**	**-1.7**
MARD	**Mardin**	**2.58**	**306**	*i* P	**Pn**	**20 33 12.2**	**+2.1**
MARD				*i* S	**Sn**	**20 33 40.6**	**-0.5**
KBSD	**Kabsdagh**	**2.59**	**297**	*e*P	**Pn**	**20 33 08.8**	**-1.3**
KBSD				*e*S	**Sn**	**20 33 38.2**	**-3.0**
KBSD				AML	AML	20 33 49.5	
	comp=E,22μm,0.5s						
KBSD				AML	AML	20 33 54.1	
	comp=Z,16μm,0.5s						
KBSD				AML	AML	20 33 57.3	
	comp=N,39μm,0.5s						
KBSD	**Kabsdagh**	**2.59**	**297**	*e*P	**Pn**	**20 33 08.6**	**-1.5**
KBSD				*e*S	**Sn**	**20 33 36.2**	**-5.0**
KBSD				AML	AML	20 33 49.6	
	comp=E,22μm,0.5s						
KBSD				AML	AML	20 33 54.1	
	comp=Z,16μm,0.5s						
KBSD				AML	AML	20 33 57.3	
	comp=N,39μm,0.5s						
KBSD	**Kabsdagh** SNR=45	**2.59**	**297**	*e*P	**Pn**	**20 33 08.6**	**-1.5**
KBSD				*e*S	**Sn**	**20 33 36.2**	**-5.0**
	comp=N,39μm,0.5s,SNR=40						
BEST	**Besiri**	**2.67**	**321**	*e*P	**Pn**	**20 33 12.7**	**+1.4**
BEST				*e*S	**Sn**	**20 33 40.2**	**-3.1**
TVAN	**Van**	**2.68**	**360**	*i* P	**Pn**	**20 33 13.0**	**+1.4**
TVAN				*e*S	Sn	20 33 31.6	-12
TVAN	**Van**	**2.68**	**360**	*i* P	**Pn**	**20 33 13.0**	**+1.4**
TVAN				*e*S	Sn	20 33 31.6	-12
IDHR	**Dehrash**	**2.69**	**114**	*e*Pn	**Pb**	**20 33 15.1**	**-1.6**
IDHR				*e*		20 33 53.9	
	comp=Z,34μm,0.2s						
IDHR	**Dehrash**	**2.69**	**114**	*e*Pn	**Pb**	**20 33 15.1**	**-1.6**
SFNV	**Sufian**	**2.73**	**283**	*e*P	**Pn**	**20 33 11.4**	**-0.7**
SFNV				*e*S	**Sn**	**20 33 43.9**	**-1.0**
SFNV				AML	AML	20 34 00.6	
	comp=Z,12μm,0.8s						
SFNV				AML	AML	20 34 01.7	
	comp=E,23μm,0.6s						
SFNV				AML	AML	20 34 02.8	
	comp=N,29μm,0.5s						
SFNV	**Sufian**	**2.73**	**283**	*e*P	**Pn**	**20 33 11.4**	**-0.7**
SFNV				*e*S	**Sn**	**20 33 43.3**	**-1.6**
SFNV				AML	AML	20 34 00.7	
	comp=Z,12μm,0.8s						
SFNV				AML	AML	20 34 01.7	
	comp=E,23μm,0.6s						
SFNV				AML	AML	20 34 02.9	
	comp=N,29μm,0.5s						
SFNV	**Sufian** SNR=45	**2.73**	**283**	*e*P	**Pn**	**20 33 11.4**	**-0.7**
SFNV				*e*S	**Sn**	**20 33 43.3**	**-1.6**
	comp=N,29μm,0.5s,SNR=40						
IAZR	**Azarshahr**	**2.76**	**48**	*e*Pn	**Pn**	**20 33 15.2**	**+2.6**
IAZR				*e*		20 34 02.2	
	comp=Z,23μm,0.2s						
IAZR	**Azarshahr**	**2.76**	**48**	*e*Pn	**Pn**	**20 33 15.2**	**+2.6**
TATV	**Tatvan**	**2.81**	**341**	*i* P	**Pn**	**20 33 13.1**	**-0.3**
TATV				*e*S	**Sn**	**20 33 47.7**	**+0.7**
TATV	**Tatvan**	**2.81**	**341**	*i* P	**Pn**	**20 33 13.1**	**-0.3**
TATV				*e*S	**Sn**	**20 33 47.7**	**+0.7**
IGHG	**Ghaleghazi**	**3.00**	**119**	*e*Pn	**Pb**	**20 33 19.5**	**-2.5**
IGHG				*e*		20 34 32.8	
	comp=Z,82μm,0.4s						
IGHG	**Ghaleghazi**	**3.00**	**119**	*e*Pn	**Pb**	**20 33 19.5**	**-2.5**
ISHB	**Shabestar**	**3.01**	**35**	*e*Pn	**Pn**	**20 33 17.7**	**+1.6**
ISHB				*e*		20 33 27.0	
	comp=Z,90μm,0.3s						
ISHB	**Shabestar**	**3.01**	**35**	*e*Pn	**Pn**	**20 33 17.7**	**+1.6**
ILIN	**Lien**	**3.04**	**107**	*e*Pn	**Pb**	**20 33 20.1**	**-2.7**
ILIN				*e*Sn	**Sb**	**20 33 59.0**	**-0.8**
ILIN				*e*		20 34 16.0	
	comp=N,40μm,0.4s						
ILIN	**Lien**	**3.04**	**107**	*e*Pn	**Pb**	**20 33 20.1**	**-2.7**
ILIN				*e*Sn	**Sb**	**20 33 59.0**	**-0.8**
IVIS	**Veis**	**3.11**	**114**	*e*Pn	**Pb**	**20 33 20.7**	**-3.1**
IVIS				*e*		20 34 28.3	
	comp=Z,61μm,0.3s						
IVIS	**Veis**	**3.11**	**114**	*e*Pn	**Pb**	**20 33 20.7**	**-3.1**
ITBZ	**Tabriz**	**3.24**	**42**	*e*Pn	**Pn**	**20 33 20.8**	**+1.6**
ITBZ				*e*		20 34 23.5	
	comp=Z,46μm,0.5s						
ITBZ	**Tabriz**	**3.24**	**42**	*e*Pn	**Pn**	**20 33 20.8**	**+1.6**
DIY	**Diyarbakir**	**3.28**	**310**	*e*PN	**Pn**	**20 33 18.2**	**-1.4**
DIY	**Diyarbakir**	**3.28**	**310**	*e*Pn	**Pn**	**20 33 18.2**	**-1.4**
SNGE	**Sanandaj**	**3.30**	**102**	*e*Pn	**Pn**	**20 33 22.8**	**+2.8**
SNGE	**Sanandaj**	**3.30**	**102**	*e*Pn	**Pn**	**20 33 22.8**	**+2.8**
MNKR	**ALMNKUR**	**3.36**	**273**	*e*P	**Pn**	**20 33 20.5**	**-0.5**
MNKR				*e*S	**Sn**	**20 33 59.6**	**-0.8**
MNKR				AML	AML	20 34 20.0	
	comp=E,43μm,0.4s						
MNKR				AML	AML	20 34 21.3	
	comp=Z,26μm,0.7s						
MNKR				AML	AML	20 34 22.0	
	comp=N,72μm,0.7s						
MNKR	**ALMNKUR**	**3.36**	**273**	*e*P	**Pn**	**20 33 20.5**	**-0.2**
MNKR	**ALMNKUR** SNR=45	**3.36**	**273**	*e*P	**Pn**	**20 33 20.5**	**-0.2**
IBDR	**Badra**	**3.43**	**142**	*e*Pn	**Pn**	**20 33 24.0**	**+2.4**
IBDR				*e*Sn	**Sn**	**20 34 05.5**	**+3.7**
KSRV	**Kasrt alli**	**3.58**	**272**	*e*P	**Pn**	**20 33 23.0**	**-0.7**
KSRV				*e*S	**Sn**	**20 34 07.5**	**+1.8**
KSRV				AML	AML	20 34 27.7	
	comp=N,10μm,0.5s						
KSRV				AML	AML	20 34 30.8	
	comp=E,10μm,0.5s						
KSRV				AML	AML	20 34 38.4	
	comp=Z,8μm,0.7s						
TUTA	**Tutak**	**3.59**	**353**	*i* P	**Pn**	**20 33 24.5**	**+0.5**
TUTA				*i* S	**Sb**	**20 34 18.8**	**+3.4**
TUTA	**Tutak**	**3.59**	**353**	*i* P	**Pn**	**20 33 24.5**	**+0.5**
TUTA				*i* S	**Sb**	**20 34 18.8**	**+3.4**
BNGL	**BINGOL**	**3.59**	**331**	*i* P	**Pn**	**20 33 23.6**	**-0.4**
BNGL				*e*S	**Sn**	**20 34 05.4**	**-0.8**
MAKU	**Maku**	**3.65**	**16**	*e*Pn	**Pn**	**20 33 26.0**	**+1.2**
MAKU				*e*Sg	**Sg**	**20 34 23.3**	**-2.8**
MAKU				AML	AML	20 34 26.8	
	comp=E,535nm,0.7s						
MAKU	**Maku**	**3.65**	**16**	*e*Pn	**Pn**	**20 33 26.0**	**+1.2**
AGRB	**Hanur-Agry**	**3.74**	**355**	*e*PN	**Pn**	**20 33 27.4**	**+1.3**
AGRB	**Hanur-Agry**	**3.74**	**355**	*e*Pn	**Pn**	**20 33 27.4**	**+1.3**
IKOM	**Komasi**	**3.75**	**115**	*e*Pn	Pn	20 33 29.6	+3.4
IKOM				*e*		20 34 40.4	
	comp=Z,59μm,0.3s						
IKOM	**Komasi**	**3.75**	**115**	*e*Pn	Pn	20 33 29.6	+3.4
IHRS	**Heris**	**3.81**	**48**	*e*Pn	**Pn**	**20 33 29.6**	**+2.5**
IHRS				*e*		20 34 40.9	
	comp=Z,11μm,0.5s						
IHRS	**Heris**	**3.81**	**48**	*e*Pn	**Pn**	**20 33 29.6**	**+2.5**
BINT	**Bingol**	**3.82**	**323**	*e*Pn	**Pn**	**20 33 27.4**	**+0.3**
BNGB	**Bing¨¶l**	**3.82**	**326**	*e*PN	**Pn**	**20 33 27.4**	**+0.3**
ISRB	**Sarab**	**3.94**	**59**	*e*Pn	**Pn**	**20 33 31.5**	**+2.6**
ISRB				*e*		20 34 38.6	
	comp=Z,37μm,0.3s						
ISRB	**Sarab**	**3.94**	**59**	*e*Pn	**Pn**	**20 33 31.5**	**+2.6**
URFA	**Urfa**	**4.02**	**295**	*e*PN	**Pn**	**20 33 29.1**	**-0.8**
URFA	**Urfa**	**4.02**	**295**	*e*Pn	**Pn**	**20 33 29.1**	**-0.8**
JHLN	**Al Jahlan**	**4.05**	**269**	*e*P	**Pn**	**20 33 29.1**	**-1.0**
JHLN				*e*S	**Sn**	**20 33 15.4**	**-1.8**
SVRC	**Sivrice-ELAZID**	**4.14**	**309**	*e*PN	**Pn**	**20 33 31.4**	**-0.2**
SVRC	**Sivrice-ELAZID**	**4.14**	**309**	*e*Pn	**Pn**	**20 33 31.4**	**-0.2**
ZNJK	**Zanjan**	**4.34**	**77**	*e*Pn	**Pn**	**20 33 36.7**	**+2.3**
ZNJK	**Zanjan**	**4

IRAZ *e* 20 35 41.0
comp=Z,13µm,0.5s
IRAZ Razeghan 5.33 93 *e*Pn **Pn** **20 33 50.2 +2.3**
DBAD Bademkaya 5.34 346 *i* P **Pn** **20 33 49.9 +1.9**
DBAD *i* S **Sg** **20 35 18.5 -1.8**
DBAD Bademkaya 5.34 346 *i* P **Pn** **20 33 49.9 +1.9**
DBAD *i* S **Sg** **20 35 18.5 -1.8**
DAGI Agillar 5.36 348 *e*P **Pn** **20 33 49.4 +1.2**
DAGI *e*S **Sg** **20 35 22.4 +1.5**
DARE Darende-Malaty 5.46 302 *e*PN **Pn** **20 33 49.9 +0.2**
ARTV Artvin 5.46 348 *i* P **Pn** **20 33 51.2 +1.5**
ARTV *e*S **Sg** **20 35 25.1 +0.9**
ARTV Artvin 5.46 348 *i* P **Pn** **20 33 51.2 +1.5**
ARTV *e*S **Sg** **20 35 25.1 +0.9**
KMRS Kahramanmaras 5.49 290 *e*PN **Pn** **20 33 49.3 -0.7**
KMRS Kahramanmaras 5.49 290 *e*Pn **Pn** **20 33 49.3 -0.7**
GUMT Gumushane 5.55 327 *e*Pn **Pn** **20 33 51.8 +0.8**
GUMT Gumushane 5.55 327 *e*Pn **Pn** **20 33 51.8 +0.8**
AKH Akhalkalaki 5.56 1 P Pg 20 34 11.5 -3.8
ASAO Ashtian 5.57 101 *e*Pn Pn 20 33 54.6 +3.4
ASAO AML AML 20 35 36.6
comp=E,368nm,0.3s
KZR Kazreti 5.59 8 P Pg 20 34 11.2 -4.6
DBOC Borcka 5.66 347 *i* P **Pn** **20 33 54.1 +1.8**
DBOC *i* S **Sb** **20 35 14.6 -0.3**
DBOC Borcka 5.66 347 *i* P **Pn** **20 33 54.1 +1.8**
DBOC *i* S **Sb** **20 35 14.6 -0.3**
PZAR Pazar-Rize 5.68 340 *e*PN **Pn** **20 33 54.1 +1.6**
PZAR Pazar-Rize 5.68 340 *e*Pn **Pn** **20 33 54.1 +1.6**
BCA Borcka 5.77 346 *e*PN **Pn** **20 33 55.7 +1.9**
BCA Borcka 5.77 346 *e*Pn **Pn** **20 33 55.7 +1.9**
DGRG David-gareji 5.81 15 P Pb 20 34 14.9 +5.2
HTY Hatay 5.91 275 *e*PN **Pn** **20 33 54.4 -1.2**
HTY Hatay 5.91 275 *e*Pn **Pn** **20 33 54.4 -1.2**
TBLG Delisi 5.97 10 *e*P Pn 20 34 00.9 +4.4
TBLG Delisi 5.97 10 P Pn 20 34 01.0 +4.4
TBLG Delisi 5.97 10 P Pn 20 34 01.0 +4.4
THKV Tehran--Karaj 6.06 87 *e*Pn **Pn** **20 34 00.7 +2.7**
SARI SarD1z-Kayseri 6.15 297 *e*PN **Pn** **20 33 58.9 -0.2**
ESPY Espiye-Giresun 6.26 325 *e*PN **Pn** **20 34 02.2 +1.6**
ESPY Espiye-Giresun 6.26 325 *e*Pn **Pn** **20 34 02.2 +1.6**
CEYT Ceyhan 6.29 283 *e*PN **Pn** **20 34 00.1 -0.8**
CEYT Ceyhan 6.29 283 *e*Pn **Pn** **20 34 00.1 -0.8**
KOZT Kozan 6.31 287 *e*PN **Pn** **20 34 00.9 -0.4**
KOZT Kozan 6.31 287 *e*Pn **Pn** **20 34 00.9 -0.4**
HWQ Hawqa 6.32 258 *e*P **Pn** **20 34 01.4 -0.1**
DUS Dusheti 6.32 9 P Pn 20 34 05.5 +4.1
SVSK Karacayir 6.50 311 *e*PN **Pn** **20 34 04.8 +1.0**
SVSK Karacayir 6.50 311 *e*Pn **Pn** **20 34 04.8 +1.0**
ASF Jabal al Asfar 6.53 238 Pn **Pn** **20 34 04.2 -0.1**
ASF Jabal al Asfar 6.53 238 Pn **Pn** **20 34 04.2 -0.1**
ASF LR LR 20 36 48.1
comp=E,2µm,21.9s,baz=282,slow=40
KRTS Karatas 6.54 279 *e*PN **Pn** **20 34 03.8 -0.5**
KRTS Karatas 6.54 279 *e*Pn **Pn** **20 34 03.8 -0.5**
GHVR GHOM 6.60 100 *e*Pn **Pn** **20 34 07.4 +2.1**
RSDY Resadiye-TOKAT 6.61 315 *e*PN **Pn** **20 34 06.4 +1.1**
RSDY Resadiye-TOKAT 6.61 315 *e*Pn **Pn** **20 34 06.4 +1.1**
BHL Bhannes 6.66 255 *e*P **Pn** **20 34 06.7 +0.6**
RCY Rachaya 6.67 252 *e*P **Pn** **20 34 06.7 +0.4**
BNN Bunyan 6.73 299 *e*PN **Pn** **20 34 08.0 +0.8**
BNN Bunyan 6.73 299 *e*Pn **Pn** **20 34 08.0 +0.8**
ONI Oni 6.74 0 P Pn 20 34 10.9 +3.8
IVRN Varamin 6.84 95 *e*Pn **Pn** **20 34 10.8 +2.2**
IVRN Varamin 6.84 95 *e*Pn **Pn** **20 34 10.8 +2.2**
MIB Mutribah 6.87 150 *e*P **Pn** **20 34 09.9 +1.1**
MIB AML AML 20 35 33.5
comp=Z,925nm,0.7s
MIB Mutribah 6.87 150 *e*P **Pn** **20 34 09.9 +1.1**
KARA Karaisali 6.88 284 *e*PN **Pn** **20 34 08.7 -0.3**
KARA Karaisali 6.88 284 *e*Pn **Pn** **20 34 08.7 -0.3**
KSHT Keshet 6.90 248 Pn **Pn** **20 34 09.8 +0.4**
KSDI Kefar Szold 6.92 250 Pn **Pn** **20 34 09.9 +0.3**
KSDI Sn Sn 20 35 38.7 +11
CHVG Ch'k'valeri 6.94 352 P Pn 20 34 15.9 +6.0
ZEI Tsey 6.95 3 *e*P Pn 20 34 13.5 +3.4
ZEI pmax pmax
comp=Z,110nm,1.5s
DAMV Damavand 6.96 89 *e*Pn **Pn** **20 34 12.8 +2.4**
TOKT Tokat 7.02 312 *e*PN **Pn** **20 34 11.9 +0.9**
TOKT Tokat 7.02 312 *e*Pn **Pn** **20 34 11.9 +0.9**
MMAI Mount Meron Ar 7.19 249 Pn **Pn** **20 34 13.4 0.0**
MMAI Lg Lg 20 36 15.6
MMAI Mount Meron Ar 7.19 249 Pn **Pn** **20 34 13.4 0.0**
comp=Z,18nm,0.3s,baz=66,slow=15,SNR=72
MMAI Lg Lg 20 36 15.6
comp=Z,143nm,0.3s,baz=80,slow=28,SNR=5.8
MMAI Mount Meron Ar 7.19 249 Pn **Pn** **20 34 13.4 0.0**
MMAI Lg Lg 20 36 15.6
MMC7 Mount Meron ar 7.20 249 Pn **Pn** **20 34 13.9 +0.4**
UMR Umm Al-Rimmam 7.24 149 *e*P **Pn** **20 34 14.8 +0.8**
UMR AML AML 20 35 38.5
comp=Z,730nm,0.4s
UMR Umm Al-Rimmam 7.24 149 *e*P **Pn** **20 34 14.8 +0.8**
NAY Al-Naaiem 7.33 153 *e*P **Pn** **20 34 15.9 +0.8**
NAY AML AML 20 35 39.7
comp=Z,375nm,0.5s
NAY Al-Naaiem 7.33 153 *e*P **Pn** **20 34 15.9 +0.8**
ISFB Sefidab 7.39 99 *e*Pn **Pn** **20 34 17.4 +1.3**
ISFB Sefidab 7.39 99 *e*Pn **Pn** **20 34 17.4 +1.3**
NIG Nigde 7.40 290 *e*PN **Pn** **20 34 15.8 -0.6**
NIG Nigde 7.40 290 *e*Pn **Pn** **20 34 15.8 -0.6**
MMLI Mount Malkishu 7.44 245 Pn **Pn** **20 34 17.0 +0.2**
MMLI Sn Sn 20 35 50.8 +10
HMDT Nahal Hemdat 7.46 244 Pn **Pn** **20 34 16.9 -0.1**
BLGI Bet Lehem HaGe 7.48 248 Pn **Pn** **20 34 17.6 +0.4**
EREN Erenkoy 7.53 270 *e*PN **Pn** **20 34 16.8 -1.1**
EREN Erenkoy 7.53 270 *e*Pn **Pn** **20 34 16.8 -1.1**
KBD Kabd 7.56 150 *e*P **Pn** **20 34 19.2 +0.8**
KBD AML AML 20 35 50.8
comp=Z,588nm,0.7s
KBD Kabd 7.56 150 *e*P **Pn** **20 34 19.2 +0.8**
OFRI 'Ofer 7.68 248 Pn **Pn** **20 34 20.9 +0.8**
RDF Al-Radifah 7.73 152 *e*P **Pn** **20 34 22.1 +1.4**
RDF AML AML 20 35 51.2
comp=Z,554nm,0.5s
RDF Al-Radifah 7.73 152 *e*P **Pn** **20 34 22.1 +1.4**
MAK Makhachkala 7.78 23 *e*P **Pn** **20 34 21.6 +0.2**
MAK *e*S **Sn** **20 35 50.9 +1.8**
MAK pmax pmax
comp=Z,279nm,1.5s
MAK MLR MLR
comp=Z,7µm,17.0s
KVT Kavak 7.79 314 *e*PN **Pn** **20 34 22.3 +0.7**
KVT Kavak 7.79 314 *e*Pn **Pn** **20 34 22.3 +0.7**
SLTI Sal'it 7.82 245 Pn **Pn** **20 34 21.7 -0.3**
SLTI Sn Sn 20 36 00.4 +10
KBZ Khabaz 7.89 357 P **Pn** **20 34 25.7 +2.9**
KBZ Khabaz 7.89 357 Pn **Pn** **20 34 25.6 +2.9**
KBZ Khabaz 7.89 357 Pn **Pn** **20 34 25.6 +2.9**
comp=Z,1.2nm,0.3s,baz=185,slow=9.3,SNR=53
KBZ LR LR 20 38 01.4
comp=Z,5µm,20.7s,baz=181,slow=43
KBZ Khabaz 7.89 357 Pn **Pn** **20 34 25.6 +2.8**
IKL Isikli 7.89 276 *e*PN **Pn** **20 34 21.9 -1.0**
IKL Isikli 7.89 276 *e*Pn **Pn** **20 34 21.9 -1.0**
DSI Dead Sea 7.93 240 Pn **Pn** **20 34 23.4 -0.1**
LFK Lefkose 8.07 269 *e*PN **Pn** **20 34 24.5 -0.9**
LFK Lefkose 8.07 269 *e*Pn **Pn** **20 34 24.5 -0.9**
KIV Kislovodsk 8.12 356⇑ *e*P Pn 20 34 29.8 +3.6
KIV *e*S **Sn** **20 35 54.4 -3.2**
KIV pmax pmax
comp=Z,234nm,1.2s
KIV MLR MLR
comp=Z,3µm,18.0s
KIV Kislovodsk 8.12 356 Pn Pn 20 34 30.1 +3.9
comp=Z,839nm,1.0s,SNR=56
CORM Corum 8.17 305 *e*PN **Pn** **20 34 27.4 +0.6**
CORM Corum 8.17 305 *e*Pn **Pn** **20 34 27.5 +0.6**
SOC Sochi 8.24 341 *e*P **Pn** **20 34 28.6 +1.0**
SOC *e* 20 36 00.5
SOC pmax pmax
comp=Z,45nm,0.7s
SOC MLR MLR
comp=Z,2µm,11.0s
SULT Sultanhani-AKS 8.26 289 *e*PN **Pn** **20 34 27.8 -0.2**
SULT Sultanhani-AKS 8.26 289 *e*Pn **Pn** **20 34 27.8 -0.2**
CSS Prodhromos 8.28 267 *e*PN **Pn** **20 34 27.1 -1.1**
CSS Prodhromos 8.28 267 *e*Pn **Pn** **20 34 28.5 +0.3**
CSS Prodhromos 8.28 267 Pn **Pn** **20 34 27.5 -0.8**
NASN Na'in 8.34 109 *e*Pn **Pn** **20 34 31.2 +1.7**
NASN Sn **Sn** **20 36 02.6 -0.9**
DIKM Dikmen 8.61 315 *e*PN **Pn** **20 34 33.6 +0.8**
DIKM Dikmen 8.61 315 *e*Pn **Pn** **20 34 33.6 +0.8**
BRTR Keskin Array B 8.65 300 Pn **Pn** **20 34 33.9 +0.4**
BRTR Sn **Sn** **20 36 09.8 -1.0**
BRTR Keskin Array B 8.65 300 Pn **Pn** **20 34 33.9 +0.4**
comp=Z,0.6nm,0.3s,baz=113,slow=9.5,SNR=38
BRTR Sn **Sn** **20 36 09.8 -1.0**
comp=Z,1.4nm,0.3s,baz=114,slow=18,SNR=4.4
BRTR Keskin Array B 8.65 300 Pn **Pn** **20 34 33.9 +0.4**
BRTR Sn **Sn** **20 36 09.8 -1.0**
ZFRI Zfri 8.68 235 Pn **Pn** **20 34 34.3 +0.6**
RTMI Retamim 8.71 239 Pn **Pn** **20 34 34.7 +0.5**
PRNI Paran 8.93 235 Pn **Pn** **20 34 37.9 +0.8**
TOS Tosya 9.01 308 *e*PN **Pn** **20 34 38.8 +0.5**
TOS Tosya 9.01 308 *e*Pn **Pn** **20 34 38.8 +0.5**
CANT Cankiri 9.05 305 *e*PN **Pn** **20 34 39.1 +0.2**
HRFI Mount Harif 9.11 233 Pn **Pn** **20 34 39.9 +0.2**
KRMI Paran Flat 9.26 234 Pn **Pn** **20 34 41.9 +0.1**
ANTO Ankara 9.31 299 *e*P **Pn** **20 34 45.6 +3.2**
ANTO Ankara 9.31 299 P Pn 20 34 49.3 +6.9
SNR=11
ANTO Ankara 9.31 299 *e*Pn **Pn** **20 34 45.6 +3.2**
ANTO Ankara 9.31 299⇑ *i*P **Pn** **20 34 44.5 +2.1**
ANTO Ankara 9.31 299 *e*Pn **Pn** **20 34 45.6 +3.2**
ANTO Ankara 9.31 299 P Pn 20 34 49.3 +6.9
SNR=11
MBRI Mt Berech 9.35 232 Pn **Pn** **20 34 43.1 +0.1**
EIL Elat 9.41 232 Pn **Pn** **20 34 44.3 +0.5**
EIL Lg Lg 20 37 25.7
EIL Elat 9.41 232 Pn **Pn** **20 34 44.3 +0.5**
comp=Z,4.5nm,0.3s,baz=33,slow=6.6,SNR=38
EIL Lg Lg 20 37 25.7
comp=Z,11nm,0.3s,baz=339,slow=12,SNR=3.8
EIL LR LR 20 39 08.8
comp=Z,2µm,18.6s,baz=52,slow=43
EIL Elat 9.41 232 Pn **Pn** **20 34 44.3 +0.5**
EIL Lg Lg 20 37 25.7
BZK Bozkurt 9.54 313 *e*PN **Pn** **20 34 46.2 +0.8**
BZK Bozkurt 9.54 313 *e*Pn **Pn** **20 34 46.3 +0.8**
ANN Anapa 10.04 335 *e*P Pn 20 34 58.2 +5.9
ANN *e*S Sn 20 36 51.3 +6.7
ANN pmax pmax
comp=Z,64nm,1.5s
ANN MLR MLR
comp=Z,2µm,17.0s
MRVT Maraveh tapeh 10.33 76 *e*Pn **Pn** **20 34 59.2 +2.8**
SIM Simferopol' 11.52 325 *e*P **Pn** **20 35 15.6 +3.0**
SIM *e*S **Sn** **20 37 26.0 +5.1**
SIM pmax pmax
comp=Z,22nm,1.1s
RAYN Ar Rayn 12.41 171 Pn **Pn** **20 35 23.5 -1.4**
comp=Z,544nm,0.9s,SNR=55
KARP Karpathos 13.22 273 P **Pn** **20 35 36.5 +0.6**
KARP Karpathos 13.22 273 *e*P **Pn** **20 35 35.2 -0.7**
PRK Paraskevi 14.02 289 P **Pn** **20 35 47.5 +0.8**
PRK Paraskevi 14.02 289 *e*P **Pn** **20 35 49.5 +2.8**
PSN Preselentsi 14.08 308 *i* P **Pn** **20 35 48.2 +0.7**
CHOS Chios island 14.08 286 P **Pn** **20 35 48.8 +1.1**
CHOS Chios island 14.08 286 *e*P **Pn** **20 35 49.9 +2.2**
TIRR Tirgusor 14.32 311 *e*P **Pn** **20 35 50.9 0.0**
TIRR Tirgusor 14.32 311 *e*Pn **Pn** **20 35 50.9 0.0**
TIRR Tirgusor 14.32 311⇑ *i*P **Pn** **20 35 52.5 +1.6**
TIRR Tirgusor 14.32 311 *e*Pn **Pn** **20 35 50.9 0.0**
TIRR Tirgusor 14.32 311⇑ *i*P **Pn** **20 35 52.5 +1.6**
APE Apeiranthos 14.45 280 P **Pn** **20 35 54.1 +1.4**
APE Apeiranthos 14.45 280⇑ *i*P **Pn** **20 35 51.6 -1.1**
APE Apeiranthos 14.45 280 P **Pn** **20 35 54.1 +1.4**
SANT Santorini 14.53 277 *e*Pn **Pn** **20 35 53.4 -0.4**
SANT Santorini 14.53 277 *e*Pn **Pn** **20 35 53.4 -0.4**
LAST Lasithi 14.63 273 P **Pn** **20 35 56.0 +0.8**
SMTH Samothraki Isl 14.80 294 P **Pn** **20 35 59.9 +2.4**
SMTH Samothraki Isl 14.80 294 *e*P **Pn** **20 35 59.4 +1.9**
BANOM Banah 14.82 128 P Pn **20 35 55.5 -2.3**
SNR=13
BANOM Banah 14.82 128 P **Pn** **20 35 54.8 -3.1**
SNR=46
CFR Carcaliu 14.88 313⇓ *i*P **Pn** **20 35 59.7 +1.3**
LIA Limnos Island 14.95 291 P **Pn** **20 36 01.1 +1.6**
LIA Limnos Island 14.95 291 *e*P **Pn** **20 36 01.4 +1.9**
RDO Rodhopi 14.96 296 P **Pn** **20 35 57.6 -1.9**
RDO Rodhopi 14.96 296 *e*P **Pn** **20 35 59.5 0.0**
IDI Anoyia 15.09 273 P **Pn** **20 36 02.2 +0.8**
IDI Anoyia 15.09 273 *e*P **P** **20 36 04.1 -2.5**
IDI Anoyia 15.09 273 *e*Pn **Pn** **20 36 01.5 +0.1**
comp=Z,66nm,0.7s
IDI Anoyia 15.09 273 *e*Pn **Pn** **20 36 01.5 +0.1**
comp=Z,66nm,0.7s
NAZ Nazwa, Dubai 15.11 132 P **Pn** **20 35 59.1 -2.5**
ASUD Al Ashush, Dub 15.18 134 P **Pn** **20 36 00.4 -2.2**
SIVA Sivas 15.19 272 P **P** **20 36 05.3 -2.3**
FAQ Al Faqa, Dubai 15.25 133 P **Pn** **20 36 01.1 -2.4**
SZH Strazhica 15.37 304 *i* P **Pn** **20 36 06.6 +1.6**
MRMA Marari 15.38 284 P **Pn** **20 36 06.9 +1.7**
VORD Divnogorie 15.41 350 *e*P **Pn** **20 36 06.8 +1.4**
VORD *e*S **Sn** **20 38 58.3 +2.7**
VORD pmax pmax
comp=Z,70nm,1.1s
VORD pmax pmax
comp=N,170nm,1.3s
VORD pmax pmax
comp=E,20nm,0.6s
VORD smax smax
comp=E,380nm,3.0s
VORD smax smax
comp=Z,420nm,4.8s
VORD smax smax
comp=N,190nm,1.8s
VORD MLR MLR
comp=Z,340nm,10.0s
VORD MLR MLR
comp=N,400nm,11.0s
VORD MLR MLR
comp=E,300nm,16.0s
UOSS Wadi Hilu 15.47 131 Pn **Pn** **20 36 03.0 -3.4**
comp=E,2µm,0.7s,SNR=20
HATD Hatta, Dubai 15.51 132 P **Pn** **20 36 03.6 -3.4**
ASHO Ashiyiah 15.57 132 P **Pn** **20 36 05.1 -2.7**
SNR=89
KIS Kishinev 15.59 320⇓ *i*P **Pn** **20 36 06.0 -1.9**
comp=E,200nm,2.0s
KIS Kishinev 15.59 320 *e*PP P 20 36 20.0 +8.0
KIS *e*S S 20 39 08.0 -7.5
KIS *e*LQ LQ 20 41 19.0
KIS *e*LR LR 20 41 50.0
comp=E,900nm,14.0s
KIS Kishinev 15.59 320K *i*P **Pn** **20 36 06.0 -1.9**
KIS *e*S S 20 39 08.0 -7.5
KIS pmax pmax
comp=Z,200nm,2.0s
KIS pmax pmax
comp=Z,400nm,5.0s
KIS MLR MLR
comp=Z,900nm,14.0s
KIS MLR MLR
comp=N,300nm,10.0s
KIS MLR MLR
comp=E,400nm,10.0s
VAM Vamos 15.63 274 P **Pn** **20 36 08.7 +0.2**
VAM Vamos 15.63 274 *e*P **Pn** **20 36 09.9 +1.4**
VSR Storozhevoye 15.67 350 *e*P **Pn** **20 36 09.3 +0.5**
VSR *e*S **Sn** **20 39 01.6 -0.4**
VSR pmax pmax
comp=Z,80nm,0.9s
VSR pmax pmax
comp=N,170nm,1.1s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR smax smax
comp=E,310nm,2.7s
VSR smax smax
comp=Z,150nm,3.4s
VSR smax smax
comp=N,150nm,3.0s
VSR MLR MLR
comp=Z,450nm,10.0s
VSR MLR MLR
comp=N,260nm,13.0s
VSR MLR MLR
comp=E,330nm,16.0s
KAVA Kavala 15.67 295 P **Pn** **20 36 09.2 +0.3**
RZN Rozhen 15.70 297 *i* P **Pn** **20 36 10.4 +0.9**
PETR Petresti 15.71 314⇓ *i*P **Pn** **20 36 10.6 +1.2**
PVL Pavlikeni 15.76 303 *i* P **P** **20 36 12.5 -1.4**
SULR 15.77 309⇑ *i*P **P** **20 36 15.4 +1.4**
PTL Penteli 15.79 284 P **Pn** **20 36 11.7 +1.3**
ISR Istrita 15.80 311⇓ *i*P **Pn** **20 36 12.3 +1.6**
GVD Gavdhos 15.81 272 *e*Pn **Pn** **20 36 10.4 -0.3**
GVD Gavdhos 15.81 272 *e*Pn **Pn** **20 36 10.4 -0.3**
PLD Plovdiv 15.82 299 P **Pn** **20 36 12.3 +1.4**
PLD Plovdiv 15.82 299 *i* P **Pn** **20 36 12.5 +1.6**
PLD Plovdiv 15.82 299 *i* P **Pn** **20 36 12.5 +1.6**
ATHU Athens Univers 15.85 284 P **Pn** **20 36 12.1 +0.9**
AOS Alonnisos 15.85 288 P **Pn** **20 36 12.7 +1.4**
AOS Alonnisos 15.85 288 *e*P **Pn** **20 36 10.7 -0.6**
KARN Karanos 15.86 274 P **Pn** **20 36 10.0 -1.5**
ATH Athens Observa 15.90 284 *e*P **Pn** **20 36 13.5 +1.6**
ZIMR 15.90 305 P **P** **20 36 14.3 -1.2**
OUR Ouranopolis 15.94 292 P **Pn** **20 36 12.3 0.0**
NAIG Nisos Aigina 16.07 283 *e*P **P** **20 36 15.8 -1.6**
VRI Vrincioaia 16.08 314⇓ *i*P **Pn** **20 36 14.7 +0.5**
PAIG Paliouri 16.10 291 P **Pn** **20 36 13.8 -0.6**
PAIG Paliouri 16.10 291 *e*P **Pn** **20 36 15.6 +1.2**
PLOR Plostina 16.12 313⇑ *i*P **Pn** **20 36 15.0 +0.3**
VOR Voronezh 16.17 351 P **Pn** **20 36 15.0 -0.2**
VOR pmax pmax
comp=Z,250nm,1.4s
NVR Nevrokopi 16.23 296 P **Pn** **20 36 16.9 +0.8**
NVR Nevrokopi 16.23 296 *e*P **Pn** **20 36 17.0 +0.8**
DID Didima 16.27 282 P **Pn** **20 36 17.4 +0.7**
DID Didima 16.27 282 *e*P **Pn** **20 36 16.4 -0.3**
DIDY Didyma 16.29 282 P **Pn** **20 36 17.4 +0.3**
ANKY Antikythira Is 16.31 276 P **Pn** **20 36 17.7 +0.6**
PGB Panagyurishte 16.34 300 *i* P **Pn** **20 36 18.2 +0.7**
PLG Polygyros 16.35 292 P **Pn** **20 36 16.9 -0.8**
PLG Polygyros 16.35 292 *e*P **Pn** **20 36 19.0 +1.3**
MLR Muntele Rosu 16.36 311 Pn **Pn** **20 36 18.2 +0.4**
MLR Muntele Rosu 16.36 311⇓ *i*P **P** **20 36 19.5 -1.2**
MLR Muntele Rosu 16.36 311 Pn **Pn** **20 36 18.2 +0.4**
comp=Z,0.0nm,0.3s,baz=121,slow=11,SNR=14
MLR Muntele Rosu 16.36 311 Pn **Pn** **20 36 18.2 +0.4**
MLR Muntele Rosu 16.36 311⇓ *i*P **P** **20 36 19.5 -1.2**
NEO Neokhori 16.37 288 P **P** **20 36 20.0 -0.8**
NEO Neokhori 16.37 288 *e*P **Pn** **20 36 19.3 +1.3**
SRS Serrai 16.38 295 P **Pn** **20 36 14.6 -3.4**
IAS Iasi 16.38 319 P **P** **20 36 21.0 +0.2**
XOR Xorichti 16.40 288 P **Pn** **20 36 17.7 -0.7**
TESR Tescani 16.48 315⇓ *i*P **Pn** **20 36 18.5 -0.8**
KYTH Kithira 16.49 278 P **Pn** **20 36 19.2 -0.2**
KYTH Kithira 16.49 278 *e*P **Pn** **20 36 19.6 +0.4**
LTK Loutraki 16.49 284 P **Pn** **20 36 19.2 -0.3**
LTK Loutraki 16.49 284 *e*P **Pn** **20 36 20.2 +0.7**
SOH Sokhos 16.50 294 P **Pn** **20 36 20.8 +1.2**
SOH Sokhos 16.50 294 *e*P **P** **20 36 21.3 -0.9**
VLI Veliai 16.54 279 P **Pn** **20 36 18.5 -1.5**
VLI Veliai 16.54 279 *e*P **Pn** **20 36 21.1 +1.1**
THE Thessaloniki 16.75 293 P **Pn** **20 36 23.1 +0.4**
AXAR Agios Charalam 16.77 286 P **Pn** **20 36 19.7 -3.3**
DSF Desfina 16.85 285 P **P** **20 36 26.0 -0.1**
ARQ Araqi 16.87 134 P **Pn** **20 36 22.4 -1.9**
SNR=44
ARQ Araqi 16.87 134 P **Pn** **20 36 22.4 -1.9**
SNR=44
VOIR 16.88 310 P **P** **20 36 28.1 +1.7**
VOIR 16.88 310⇑ *i*P **Pn** **20 36 25.0 +0.6**
VOIR 16.88 310⇑ *i*P **Pn** **20 36 25.0 +0.6**
MPEP Malo Peshtene 16.89 302 *i* P **Pn** **20 36 25.1 +0.6**
KNT Kendrikon 16.90 294 P **Pn** **20 36 23.9 -0.8**
KKB Krupnik 16.92 297 *i* P **Pn** **20 36 25.3 +0.4**
VLX Vlachokerasia 16.96 281 P **P** **20 36 27.0 -0.3**
VLX Vlachokerasia 16.96 281 *e*P **P** **20 36 27.2 -0.1**
GUR Goura 16.98 283 P **Pn** **20 36 25.9 +0.1**
GUR Goura 16.98 283 *e*P **Pn** **20 36 25.9 +0.1**
DYR Agios Nikonas 17.02 279 P **Pn** **20 36 26.1 -0.1**
DYR Agios Nikonas 17.02 279 *e*P **Pn** **20 36 25.9 -0.3**
VTS Vitosha 17.03 299 P **Pn** **20 36 26.2 -0.2**
VTS Vitosha 17.03 299 *i* P **Pn** **20 36 27.1 +0.7**
VTS Vitosha 17.03 299⇑ *i*P **P** **20 36 27.3 -0.8**
VTS Vitosha 17.03 299 *i* P **Pn** **20 36 27.1 +0.7**
AGG Agios Georgios 17.04 287 P **P** **20 36 27.4 -0.8**
AGG Agios Georgios 17.04 287 *e*P **Pn** **20 36 26.7 +0.3**
ARR Arges 17.11 310⇑ *i*P **P** **20 36 28.8 -0.1**
KLV Kalavryta, Ach 17.14 284 P **Pn** **20 36 28.5 +0.8**
KLV Kalavryta, Ach 17.14 284 *e*P **Pn** **20 36 27.7 0.0**
KALE Kalithea 17.16 285 *e*P **Pn** **20 36 28.5 +0.6**
MAKR Makrakomi, Fth 17.19 287 P **P** **20 36 29.3 -0.6**
TRIZ Trizonia 17.21 285 *e*P **P** **20 36 29.3 -0.7**
GRG Griva 17.23 294 P **Pn** **20 36 29.5 +0.7**
LAKA Lakka 17.28 284 P **Pn** **20 36 30.1 +0.7**
ITM Ithomi 17.32 281 P **Pn** **20 36 28.5 -1.5**
ITM Ithomi 17.32 281 *e*P **Pn** **20 36 29.7 -0.3**
THL Klokotos Trika 17.33 289 P **Pn** **20 36 28.5 -1.5**
THL Klokotos Trika 17.33 289 *e*P **Pn** **20 36 30.6 +0.6**
EFP Efpalio 17.34 285 P **P** **20 36 30.8 -0.6**
EFP Efpalio 17.34 285 *e*P **Pn** **20 36 28.4 -1.7**
EVR Evrytania 17.44 287 P **P** **20 36 32.3 -0.4**
EVR Evrytania 17.44 287 *e*P **P** **20 36 33.3 +0.6**
PYL PYLOS 17.48 280 *e*P **Pn** **20 36 29.4 -2.5**
AMT Artemida-Makis 17.49 282 P **Pn** **20 36 32.4 +0.4**
AMT Artemida-Makis 17.49 282 *e*P **Pn** **20 36 30.3 -1.7**
KZN Kozani 17.60 291 P **P** **20 36 34.7 +0.3**
KZN Kozani 17.60 291 *e*P **Pn** **20 36 33.4 -0.1**
RLS Riolos of Patr 17.68 284 P **Pn** **20 36 34.0 -0.3**
RLS Riolos of Patr 17.68 284 *e*P **Pn** **20 36 32.1 -2.2**
LOT Lotru 17.69 309⇓ *i*P **P** **20 36 35.9 +0.5**
BSY Bisya 17.72 134 P **Pn** **20 36 32.8 -2.2**
SNR=56
BSYO Bisya 17.75 134 P **Pn** **20 36 32.8 -2.6**
SNR=56
BURAR Bucovina Array 17.92 317⇓ *i*P **P** **20 36 38.0 +0.1**
FNA Florina 17.97 293 P **Pn** **20 36 36.3 -1.7**
FNA Florina 17.97 293 *e*P **Pn** **20 36 36.8 -1.2**
SMDO Samad 17.99 131 P **Pn** **20 36 36.0 -2.4**
SNR=79
SMDO Samad 17.99 131 P **Pn** **20 36 36.0 -2.4**
SNR=79
AKTO Aktyubinsk 18.01 31 P **Pn** **20 36 36.7 -1.7**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO MLR MLR
comp=Z,779nm,19.7s
AKTO Aktyubinsk 18.01 31 P **Pn** **20 36 36.7 -1.7**
AKTO Aktyubinsk 18.01 31 P **Pn** **20 36 36.7 -1.7**
comp=Z,0.9nm,0.3s,baz=218,slow=9.7,SNR=57
AKTO LR LR 20 45 06.3
comp=Z,779nm,19.7s,baz=210,slow=42
AKTO Aktyubinsk 18.01 31 P **Pn** **20 36 36.7 -1.7**
KIEV Kiev 18.05 330 *e*P **Pn** **20 36 37.5 -1.2**
KIEV pmax pmax
comp=Z,55nm,0.8s
KIEV Kiev 18.05 330 *e*P **Pn** **20 36 37.5 -1.2**
comp=Z,55nm,0.8s
KIEV Kiev 18.05 330 *e*P **Pn** **20 36 37.5 -1.2**
comp=Z,55nm,0.8s
SKO Skopje 18.14 296 P **P** **20 36 43.2 +2.9**
NEST Nestorio 18.16 291 P **P** **20 36 41.7 +1.1**
JAN Janina 18.23 289 P **P** **20 36 42.8 +1.4**
JAN Janina 18.23 289 *e*P **P** **20 36 43.4 +2.0**
GZR Gura Zlata 18.30 308⇓ *i*P **P** **20 36 43.4 +1.3**
LKD2 Lefkada island 18.33 286 P **Pn** **20 36 41.3 -1.1**
LKD2 Lefkada island 18.33 286 *e*P **Pn** **20 36 41.4 -1.0**
VLS Valsamata 18.37 284 P **P** **20 36 40.9 -1.9**
VLS Valsamata 18.37 284 *e*P **P** **20 36 41.1 -1.7**
KBN Korca 18.39 292 P **Pn** **20 36 44.0 +0.9**
DEV Deva 18.43 309 P **Pn** **20 36 44.8 +1.4**
JMDO Jabal Madar 18.54 132 P **P** **20 36 43.3 -1.5**
SNR=25
JMDO Jabal Madar 18.54 132 P **P** **20 36 43.3 -1.5**
SNR=25
IGT Igoumenitsa 18.62 288 P **P** **20 36 44.0 -1.6**
SRN Sarande 18.91 289 P **P** **20 36 48.7 0.0**
BMR Baia Mare 18.93 315 P **Pn** **20 36 50.4 +0.9**
BMR Baia Mare 18.93 315⇑ *i*P **Pn** **20 36 49.7 +0.2**
BMR Baia Mare 18.93 315⇑ *i*P **Pn** **20 36 49.7 +0.2**
DRGR 18.95 312 P **Pn** **20 36 50.1 +0.2**
DRGR 18.95 312⇑ *i*P **Pn** **20 36 50.1 +0.2**
DRGR 18.95 312⇑ *i*P **Pn** **20 36 50.1 +0.2**
KEK Kerkira 19.05 289 P **P** **20 36 48.7 -1.6**
BZS Buzias 19.14 307⇑ *i*P P 20 36 43.2 -8.0
TIR Tirane 19.18 294 *e*P **Pn** **20 36 52.5 -0.2**
TIR pmax pmax
comp=Z,249nm,1.4s
TIR Tirane 19.18 294 *e*P **Pn** **20 36 52.5 -0.2**
comp=Z,249nm,1.4s
TIR Tirane 19.18 294 *e*P **Pn** **20 36 52.5 -0.2**

comp=Z,249nm,1.4s
PVY Plav 19.35 298⇑ *i*P **Pn 20 36 54.5 -0.3**
BEY Berane 19.46 298⇑ *i*P **Pn 20 36 56.1 0.0**
IVA Berane 19.46 298⇑ *i*P **Pn 20 36 56.1 0.0**
DIVS Divibare 19.71 302 P **P 20 36 56.4 -1.1**
TRPA Tarpa 19.71 315⇑ *i*P **P 20 36 57.4 0.0**
ULC Ulcinj 19.75 295⇑ *i*P **Pn 20 36 58.7 -0.7**
ULC Ulcinj 19.75 295⇑ *i*P **Pn 20 36 58.8 -0.7**
PDG Podgorica 19.82 297⇑ *i*P **Pn 20 36 59.8 -0.5**
TTG Podgorica 19.82 297⇑ *i*P **Pn 20 36 59.8 -0.5**
OBN Obninsk 19.84 348⇓ *e*P **P 20 36 57.2 -1.6**
OBN *e*S **S 20 40 36.7 -4.8**
OBN pmax pmax
comp=Z,55nm,1.0s
OBN MLR MLR
comp=Z,200nm,16.0s
OBN Obninsk 19.84 348 P **P 20 36 57.5 -1.3**
comp=Z,378nm,0.7s,SNR=8.2
LVV L'vov 19.85 321 *e*P **P 20 36 56.7 -2.2**
LVV MLR MLR
comp=Z,300nm,17.0s
LVV MLR MLR
comp=N,200nm,16.0s
LVV MLR MLR
comp=E,300nm,16.0s
LJBD Adjabya 19.98 262 *i*P **Pn 20 37 03.3 +1.0**
comp=E,480nm,1.3s,SNR=35
BUM Brajici-Budva 20.06 296⇑ *i*P **P 20 37 02.0 +0.6**
BUM Brajici-Budva 20.06 296⇑ *i*P **P 20 37 02.0 +0.6**
NKY Niksic 20.09 298⇑ *i*P **P 20 37 02.1 +0.3**
NKY Niksic 20.09 298⇑ *i*P **P 20 37 02.1 +0.3**
UZH Uzhgorod 20.11 316 *e*P **P 20 36 59.7 -2.1**
UZH *e* 20 37 30.0
UZH *e*S S 20 40 38.7 -8.3
UZH *e*SS **SnSn 20 41 03.1 -0.9**
UZH MLR MLR
comp=N,500nm,13.0s
UZH MLR MLR
comp=E,700nm,13.0s
UPM Unac-Piva 20.24 299⇑ *i*P **P 20 37 03.9 +0.4**
UPM Unac-Piva 20.24 299⇑ *i*P **P 20 37 03.9 +0.4**
KOLS Kolonicke sedl 20.28 317 *e*P **P 20 37 03.7 0.0**
KOLS pmax pmax
comp=Z,54nm,1.1s
KOLS Kolonicke sedl 20.28 317 *e*P **P 20 37 03.7 0.0**
KOLS *e*S **S 20 40 48.5 -2.0**
MOS Moscow 20.29 351 *e*P **P 20 37 04.0 +0.3**
MOS *e* 20 37 21.6
MOS *e*S **S 20 40 46.5 -3.9**
MOS pmax pmax
comp=Z,100nm,1.3s
MOS pmax pmax
comp=Z,85nm,1.1s
MOS MLR MLR
comp=Z,700nm,19.0s
HCY Herceg Novi 20.38 296⇑ *i*P **P 20 37 05.5 +0.8**
HCY Herceg Novi 20.38 296⇑ *i*P **P 20 37 05.6 +0.8**
SANA San'a 20.38 178 *e*P Pn 20 37 07.5 +0.1
ABTO Aybut 20.40 152 P **P 20 37 05.5 +0.3**
SNR=6.0
ABTO Aybut 20.40 152 P **P 20 37 05.5 +0.3**
SNR=6.0
KWP Kalwaria Pacla 20.43 319 *e*P **P 20 37 04.9 -0.4**
KWP pmax pmax
comp=Z,71nm,1.1s
KWP Kalwaria Pacla 20.43 319 *e*P **P 20 37 04.9 -0.4**
comp=Z,71nm,1.1s
KWP Kalwaria Pacla 20.43 319⇓ *i*P **P 20 37 05.2 -0.1**
KWP Kalwaria Pacla 20.43 319 *e*P **P 20 37 05.1 -0.2**
KWP *e*S Sn 20 41 03.8 +6.5
KWP LMZ LR 20 45 07.7
KWP Kalwaria Pacla 20.43 319⇓ *i*P **P 20 37 05.2 -0.1**
BRY Bratogost 20.44 298⇑ *i*P **P 20 37 06.0 +0.5**
BRY Bratogost 20.44 298⇑ *i*P **P 20 37 06.1 +0.5**
PKSN Nyarlorinc 20.76 309⇓ *e*P Pn 20 37 10.4 -0.8
LKFR Kufra 20.97 242 *i*P Pn 20 37 12.9 -1.0
comp=Z,99nm,1.1s,SNR=34
LKFR *e*S Sn 20 41 10.5 0.0
SNR=37
PKS2 Kecel 21.02 308⇓ *e*P **P 20 37 12.8 +1.2**
STON Ston 21.04 297 P **P 20 37 11.0 -0.8**
KECS Kecovo 21.08 314 *e*P **P 20 37 12.4 +0.1**
KECS pmax pmax
comp=Z,29nm,1.1s
KECS Kecovo 21.08 314 *e*P **P 20 37 12.4 +0.1**
STHS Stebnicka Huta 21.11 317 *e*P **P 20 37 12.9 +0.2**
STHS pmax pmax
comp=Z,37nm,1.2s
STHS Stebnicka Huta 21.11 317 *e*P **P 20 37 12.9 +0.2**
PSZ Piszkesteto 21.17 312 *e*P **P 20 37 12.8 -0.6**
PSZ pmax pmax
comp=Z,57nm,0.9s
PSZ Piszkesteto 21.17 312 *e*P **P 20 37 12.8 -0.6**
comp=Z,57nm,0.9s
PSZ Piszkesteto 21.17 312⇓ *i*P **P 20 37 12.9 -0.5**
PSZ Piszkesteto 21.17 312⇓ *e*P **P 20 37 13.7 +0.3**
PSZ Piszkesteto 21.17 312⇓ *i*P **P 20 37 12.9 -0.5**
PKS7 Kunszentmiklos 21.26 309⇓ *e*P **P 20 37 15.0 +0.8**
PKSM Moragy 21.29 307 P **P 20 37 14.4 -0.1**
PKSM Moragy 21.29 307⇑ *i*P **P 20 37 14.3 -0.2**
PKSM Moragy 21.29 307⇑ *e*P **P 20 37 14.8 +0.3**
PKSM Moragy 21.29 307⇑ *i*P **P 20 37 14.3 -0.2**
TIP Timpagrande 21.38 287 *e*P **P 20 37 14.1 -1.5**
comp=Z,86nm,1.1s
TIP Timpagrande 21.38 287 *e*P **P 20 37 14.1 -1.5**
comp=Z,86nm,1.1s
BUD Budapest 21.52 310⇑ *e*P **P 20 37 17.3 +0.3**
MICGM Minsk 21.55 335⇓ *e*P **P 20 37 13.0 -4.2**
MNK Minsk 21.56 335⇓ *e*P **P 20 37 13.0 -4.4**
MNK *e*S S 20 41 06.0 -10
MNK pmax pmax
comp=Z,240nm,1.5s
MNK pmax pmax
comp=N,210nm,1.5s
MNK pmax pmax
comp=E,230nm,1.5s
NIE Niedzica 21.64 316 *e*P **P 20 37 20.0 +1.7**
NIE Niedzica 21.64 316 *e*P **P 20 37 20.0 +1.7**
NIE epP **pP 20 37 26.6 +3.6**
PKS9 Tamasi 21.65 307⇓ *e*P **P 20 37 19.0 +0.6**
BDHA Al Bayda' 21.86 174 *e*P **P 20 37 23.4 +2.3**
BDHA AMb AMB 20 37 24.7
comp=Z,286nm,1.2s
BDHA Al Bayda' 21.86 174 *e*P **P 20 37 23.4 +2.3**
comp=Z,143nm,1.2s
MUKL Al Mukalla 21.87 165 *i*S **S 20 41 24.5 +2.5**
PKSG 21.88 310⇓ *e*P **P 20 37 21.5 +0.6**
LBOS 21.94 175 *e*P **P 20 37 24.2 +2.2**
LBOS AMb AMB 20 37 26.1
comp=Z,718nm,1.5s
CSKK Cs˙‡kako 21.95 309⇓ *e*P **P 20 37 22.4 +0.8**
VYHS Vyhne 22.06 313 *e*P **P 20 37 22.5 -0.3**
VYHS pmax pmax
comp=Z,35nm,1.4s
VYHS Vyhne 22.06 313 *e*P **P 20 37 22.5 -0.3**
VYHS *e*S **S 20 41 30.5 +5.0**
CEL Celeste 22.07 284 *e*P **P 20 37 21.0 -2.0**
comp=Z,58nm,0.8s
CEL Celeste 22.07 284 *e*P **P 20 37 21.0 -2.0**
comp=Z,58nm,0.8s
CUC Castrocucco 22.12 289 *e*P **P 20 37 23.3 -0.3**
comp=Z,67nm,1.0s
CUC Castrocucco 22.12 289 *e*P **P 20 37 23.3 -0.3**
comp=Z,67nm,1.0s
NACGM Naroch 22.25 334 *e*P **P 20 37 20.0 -4.8**
OJC Ojcow 22.33 317 *e*P **P 20 37 24.5 -1.2**
OJC *e**PP **pP 20 37 32.5 +2.1**
OJC *e*S **S 20 41 29.3 -1.2**
OJC MLR MLR
comp=Z,400nm,16.3s
OJC Ojcow 22.33 317 *e*P **P 20 37 24.8 -0.9**
comp=Z,35nm,0.8s
OJC Ojcow 22.33 317 *e*P **P 20 37 24.5 -1.2**
OJC *e*pP **pP 20 37 32.5 +2.1**
OJC *e*S **S 20 41 29.3 -1.2**
OJC L L 20 49 52.9
comp=Z,400nm,16.3s
OJC Ojcow 22.33 317 *e*P **P 20 37 24.8 -0.9**
comp=Z,35nm,0.8s
BEHE Becsehely 22.59 306⇓ *e*P **P 20 37 27.0 -1.5**
BEL Belsk 22.70 322 *e*P **P 20 37 29.2 -0.4**
BEL *e*S **S 20 41 40.6 +3.4**
UDBI Udbina 22.75 301 P **P 20 37 28.5 -1.8**
ZST Bratislava 22.99 311 *e*P **P 20 37 31.4 -1.3**
ZST *e*S **S 20 41 41.0 -1.4**
ZST Bratislava 22.99 311 *e*P **P 20 37 31.4 -1.3**
ZST *e*S **S 20 41 41.0 -1.4**
SUW Suwalki 22.99 329 *e*P **P 20 37 31.5 -1.2**
SUW pmax pmax
comp=Z,321nm,1.1s
SUW Suwalki 22.99 329 *e*P **P 20 37 31.5 -1.2**
comp=Z,321nm,1.1s
SUW Suwalki 22.99 329 *e*P **P 20 37 31.5 -1.2**
SUW *e*S **S 20 41 44.0 +1.7**
SUW LMZ LR 20 49 05.0
SUW Suwalki 22.99 329 *e*P **P 20 37 31.5 -1.2**
comp=Z,321nm,1.1s
LZLA Zalla 23.01 259 *i*P **P 20 37 35.5 +2.4**
comp=Z,139nm,1.2s,SNR=33
LZLA *e*S **S 20 41 48.4 +5.4**
SNR=29
ARU Arti 23.01 22*c* *i*P **P 20 37 32.2 -0.6**
ARU PPP PPP 20 38 05.5
ARU S **S 20 41 40.8 -1.8**
ARU SS **SnSn 20 42 17.0 +2.0**
ARU pmax pmax
comp=Z,45nm,1.0s
ARU MLR MLR
comp=Z,2µm,18.0s
ARU Arti 23.01 22 P **P 20 37 32.5 -0.3**
comp=Z,1µm,1.0s,SNR=22
OKC Ostrava-Krasne 23.07 315⇑ *e*S **S 20 41 43.2 -0.5**
OKC AMS AMS 20 49 10.0
comp=Z,400nm,12.9s
BOJS Bojanci 23.34 303 *i*P **P 20 37 35.7 -0.5**
NVLJ Novalja 23.38 301 P **P 20 37 32.1 -4.5**
MORC Moravsky Berou 23.39 315 *e*P **P 20 37 35.7 -1.1**
MORC pmax pmax
comp=Z,96nm,1.7s
MORC Moravsky Berou 23.39 315 *e*P **P 20 37 35.7 -1.1**
comp=Z,96nm,1.7s
MORC Moravsky Berou 23.39 315 *e*P **P 20 37 35.7 -1.1**
comp=Z,96nm,1.7s
CEP Cherat 23.45 87 P **P 20 37 39.0 +1.4**
CEP S **S 20 41 53.0 +2.5**
THW Thamme Wali 23.56 89 P **P 20 37 38.2 -0.4**
ARSA Arzberg 23.65 307⇓ *i*P **P 20 37 39.3 -0.1**
comp=Z,68nm,1.1s,SNR=29
ARSA Arzberg 23.65 307 P **P 20 37 39.3 -0.1**
comp=Z,68nm,1.1s,SNR=29
VRAC Vranov 23.75 313 P **P 20 37 39.4 -0.8**
VRAC Vranov 23.75 313 P **P 20 37 39.4 -0.8**
comp=Z,32nm,1.1s,baz=114,slow=8.3,SNR=34
VRAC LR LR 20 48 44.7
comp=Z,354nm,18.2s,baz=117,slow=41
VRAC Vranov 23.75 313 P **P 20 37 39.4 -0.8**
LMSR Misrath 23.75 270 *i*P **P 20 37 41.6 +1.2**
comp=Z,228nm,1.1s,SNR=28
SOKA Soboth 23.80 306⇑ *i*P **P 20 37 40.7 -0.2**
comp=Z,82nm,1.4s
SOKA Soboth 23.80 306 P **P 20 37 40.7 -0.2**
comp=Z,82nm,1.4s
LJU Ljubljana 23.96 304 *i*P **P 20 37 42.5 +0.1**
KRLC Kraliky 23.96 315 *e*P **P 20 37 42.2 -0.2**
KRLC Kraliky 23.96 315⇑ *e*P **P 20 37 42.2 -0.2**
SVE Sverdlovsk 23.99 24*d* *i*P **P 20 37 42.7 +0.2**
SVE *e* 20 38 20.2
SVE *e*S **S 20 42 00.0 +1.5**
SVE pmax pmax
comp=Z,107nm,1.3s
SVE MLR MLR
comp=Z,1µm,24.0s
OBKA Obir 24.07 305⇑ *i*P **P 20 37 43.6 +0.2**
SNR=19
OBKA Obir 24.07 305 P **P 20 37 43.6 +0.2**
SNR=19
AQU L'Aquila 24.10 295 *e*P **P 20 37 43.7 0.0**
comp=Z,127nm,1.3s
AQU L'Aquila 24.10 295 *e*P **P 20 37 43.7 0.0**
comp=Z,127nm,1.3s
LJFR Jufra 24.19 262 *i*P **P 20 37 45.3 +0.7**
comp=Z,69nm,1.4s,SNR=28
LJFR *e*S **S 20 42 06.5 +4.4**
SNR=29
ATD Arta Tunnel 24.21 181 LR LR 20 47 30.2
comp=Z,1µm,19.1s,baz=175,slow=37
JAVS Javornik 24.24 304 *i*P **P 20 37 44.5 -0.5**
AML Almayashu 24.28 66 *i*P **P 20 37 47.4 +1.6**
AML Almayashu 24.28 66 P **P 20 37 47.4 +1.6**
SNR=7.9
DPC Dobruska-Polom 24.35 315⇑ *i*P **P 20 37 45.5 -0.4**
DPC Dobruska-Polom 24.35 315⇑ *i*P **P 20 37 45.5 -0.4**
DPC *e*S **S 20 42 08.9 +4.4**
DPC AMS AMS 20 52 20.0
VOY Vojsko 24.39 304 *e*P **P 20 37 46.0 -0.4**
VOY *e* 20 38 05.7
VOY *e* 20 38 29.2
TREC Trest 24.40 312 *e*P **P 20 37 46.4 0.0**
TREC MLR MLR
comp=Z,400nm,12.5s
TREC Trest 24.40 312⇑ *e*P **P 20 37 46.4 0.0**
TREC AMS AMS 20 52 00.0
comp=Z,400nm,12.5s
CADS Cadrg 24.54 304 *i*P **P 20 37 47.4 -0.3**
CHCP Chirah Chowk 24.58 86 P **P 20 37 48.8 +0.6**
KSP Ksiaz 24.59 316⇑ *e*P **P 20 37 47.7 -0.3**
KSP *e*S **S 20 42 09.0 +0.8**
KSP Ksiaz 24.59 316 *e*P **P 20 37 47.8 -0.3**
KSP *e*S **S 20 42 15.4 +7.2**
KSP LMZ LR 20 47 51.8
MOA Molln 24.65 308 *i*P **P 20 37 48.5 -0.2**
comp=Z,168nm,1.1s,SNR=54
MOA Molln 24.65 308 P **P 20 37 48.5 -0.2**
comp=Z,168nm,1.1s,SNR=54
MYKA Terra Mystica 24.71 305⇑ *i*P **P 20 37 48.9 -0.3**
comp=Z,72nm,1.6s
MYKA Terra Mystica 24.71 305 P **P 20 37 48.9 -0.3**
comp=Z,72nm,1.6s
AAK Ala-Archa 24.92 65*c* *i*P **P 20 37 52.3 +1.0**
AAK pmax pmax
comp=Z,30nm,1.2s
AAK Ala-Archa 24.92 65 P **P 20 37 51.7 +0.4**
SNR=13
AAK Ala-Archa 24.92 65 P **P 20 37 50.9 -0.4**
AAK Ala-Archa 24.92 65 P **P 20 37 50.9 -0.4**
comp=Z,3.7nm,0.7s,baz=235,slow=7.0,SNR=11
AAK LR LR 20 50 22.1
comp=Z,530nm,18.0s,baz=271,slow=43
AAK Ala-Archa 24.92 65 P **P 20 37 51.7 +0.4**
SNR=13
USP Ospenovka 24.99 63 *i*P **P 20 37 53.2 +1.4**
USP Ospenovka 24.99 63 P **P 20 37 53.2 +1.4**
SNR=15
KBA Koelnbreinsper 25.02 306⇑ *i*P **P 20 37 52.2 0.0**
comp=Z,270nm,1.4s,SNR=34
KBA Koelnbreinsper 25.02 306 P **P 20 37 52.2 0.0**
comp=Z,270nm,1.4s,SNR=34
FRU Bishkek 25.03 64⇑ *i*P **P 20 37 52.5 +0.4**
FRU *e* 20 38 06.0
FRU *e* 20 38 26.0
FRU *e*S **S 20 42 16.0 +0.5**
FRU pmax pmax
comp=Z,200nm,2.1s
LSHF Shwairf 25.12 265 *i*P **P 20 37 53.5 +0.5**
comp=Z,114nm,1.6s,SNR=28
LSHF *e*S **S 20 42 23.5 +6.4**
SNR=29
CHMS Chumysh 25.14 64 *i*P **P 20 37 54.3 +1.2**
CHMS Chumysh 25.14 64 P **P 20 37 54.4 +1.2**
SNR=11
VSU Vasula 25.17 339*d* *i*P **P 20 37 52.7 -0.4**
VSU pmax pmax
comp=Z,180nm,1.0s
PRU Pruhonice 25.24 313⇑ *i*P **P 20 37 53.6 -0.3**
PRU MLR MLR
comp=Z,400nm,14.4s
PRU Pruhonice 25.24 313⇑ *i*P **P 20 37 53.6 -0.3**
PRU *e*S **S 20 42 24.0 +5.3**
PRU AMS AMS 20 50 00.0
comp=Z,400nm,14.4s
KBK Karagaybulak 25.25 65 *i*P **P 20 37 55.9 +1.6**
KBK Karagaybulak 25.25 65 P **P 20 37 55.9 +1.6**
SNR=23
GKP Gorka Klasztor 25.30 322 *e*P **P 20 37 55.6 +1.2**
GKP *e*S **S 20 42 25.4 +5.8**
GKP LMZ LR 20 51 20.9
SOKR Solikamsk 25.32 16*c* *i*P **P 20 37 54.8 +0.4**
SOKR S **S 20 42 19.8 +0.2**
SOKR SS SnSn 20 43 23.5 +12
SOKR pmax pmax
comp=Z,90nm,0.9s
SOKR MLR MLR
comp=Z,2µm,21.0s
GEC2 GERESS Array S 25.33 310 *e*P **P 20 37 54.1 -0.8**
comp=Z,67nm,0.9s
GEC2 GERESS Array S 25.33 310 *e*P **P 20 37 54.1 -0.8**
GEC2 pmax pmax
comp=Z,35nm,0.9s
GERES GERESS Array B 25.33 310 P **P 20 37 54.1 -0.8**
GERES GERESS Array B 25.33 310 P **P 20 37 54.1 -0.8**
comp=Z,34nm,0.8s,baz=108,slow=8.6,SNR=128
GERES GERESS Array B 25.33 310 P **P 20 37 54.1 -0.8**
PRA Prague 25.34 313⇑ P **P 20 37 54.0 -0.8**
PRA AMS AMS 20 50 30.0
GHAR Gharyan 25.37 270 *i*P **P 20 37 56.3 +1.0**
comp=Z,283nm,0.8s,SNR=28
KZA Kyzart 25.43 66 *i*P **P 20 37 57.9 +1.7**
KZA Kyzart 25.43 66 P **P 20 37 58.0 +1.7**
SNR=9.4
PVCC Panska Ves 25.44 314 *e*P **P 20 37 55.6 -0.1**
PVCC MLR MLR
comp=Z,500nm,12.0s
PVCC Panska Ves 25.44 314⇑ *e*P **P 20 37 55.6 -0.1**
PVCC AMS AMS 20 51 50.0
comp=Z,500nm,12.0s
KHC Kasperske Hory 25.51 311⇑ *i*P **P 20 37 55.7 -0.7**
KHC *e* 20 38 07.7
KHC *e*S **S 20 42 27.1 +4.0**
KHC MLR MLR
comp=Z,400nm,13.4s
KHC Kasperske Hory 25.51 311⇑ *i*P **P 20 37 55.7 -0.7**
KHC *e*pP pP 20 38 07.7 +6.3
KHC *e*S **S 20 42 27.1 +4.0**
KHC AMS AMS 20 52 10.0
comp=Z,400nm,13.4s
KHC Kasperske Hory 25.51 311 *e*P **P 20 37 55.6 -0.7**
KHC Kasperske Hory 25.51 311 *e*P **P 20 37 55.6 -0.8**
BRVK Borovoye 25.54 39 P **P 20 37 57.2 +0.6**
comp=Z,168nm,0.9s,SNR=21
BRVK Borovoye 25.54 39 *e*P **P 20 37 57.0 +0.4**
BRVK pmax pmax
comp=Z,51nm,1.0s
BRVK Borovoye 25.54 39 *e*P **P 20 37 57.0 +0.4**
comp=Z,51nm,1.0s
BRVK Borovoye 25.54 39 *e*P **P 20 37 57.0 +0.4**
comp=Z,51nm,1.0s
BVAR Borovoye Array 25.58 39 P **P 20 37 57.3 +0.3**
BVAR Borovoye Array 25.58 39 P **P 20 37 57.3 +0.3**
BVAR PKiKP **PKiKP 20 49 08.1 +0.4**
BVAR Borovoye Array 25.58 39 P **P 20 37 57.3 +0.3**
comp=Z,18nm,0.8s,baz=224,slow=8.3,SNR=116
BVAR PKiKP **PKiKP 20 49 08.1 +0.4**
comp=Z,0.8nm,0.8s,baz=94,slow=4.5,SNR=3.8
BVAR Borovoye Array 25.58 39 P **P 20 37 57.3 +0.3**
TKM2 Tokmak 2 25.75 64 *i*P **P 20 38 00.0 +1.1**
TKM2 Tokmak 2 25.75 64 P **P 20 38 00.0 +1.1**
SNR=9.8
WET Wettzell 25.95 310 *e*P **P 20 37 59.4 -1.0**
comp=Z,35nm,1.3s
WET Wettzell 25.95 310 *e*P **P 20 37 59.4 -1.0**
WET pmax pmax
comp=Z,19nm,1.3s
BRG Berggiesshubel 25.95 315 *e*P **P 20 37 59.6 -0.7**
comp=Z,27nm,1.4s
BRG S S 20 42 43.0 +13
BRG *e* 20 44 57.4
comp=Z,17nm,2.1s
BRG
comp=N,332nm,21.8s
BRG
comp=E,391nm,12.6s
BRG
comp=Z,383nm,13.2s
BRG Berggiesshubel 25.95 315 *e*P **P 20 37 59.7 -0.6**
comp=Z,27nm,1.1s
BRG Berggiesshubel 25.95 315 *e*P **P 20 37 59.6 -0.7**
BRG pmax pmax
comp=Z,13nm,1.4s
BRG MLR MLR
comp=N,17µm,21.8s
BRG MLR MLR
comp=E,332nm,12.6s
BRG MLR MLR
comp=Z,391nm,13.2s
KSH Kashi 25.95 72 P **P 20 37 59.6 -1.0**
KSH sP **sP 20 38 06.4 -1.3**
KSH PP **PnPn 20 38 39.5 +1.3**
KSH S **S 20 42 24.5 -5.9**
KSH SS **SnSn 20 43 28.6 +1.3**
KSH PcS **PcS 20 45 10.8 +1.0**
KSH pmax pmax
comp=Z,24nm,0.6s
KSH pmax pmax
comp=Z,160nm,5.7s
KSH LR LR
comp=N,750nm,13.2s
KSH LR LR
comp=E,580nm,14.1s
ULHL Ulahol 26.18 66 *i*P **P 20 38 04.6 +1.8**
ULHL Ulahol 26.18 66 P **P 20 38 04.6 +1.8**
SNR=23
WTTA Wattenberg 26.20 306 *i*P **P 20 38 02.0 -0.9**
comp=E,78nm,1.3s,SNR=27
WTTA Wattenberg 26.20 306 P **P 20 38 02.0 -0.9**
comp=E,78nm,1.3s,SNR=27
WATA Walderalm 26.25 306 *i*P **P 20 38 02.4 -0.9**
comp=E,117nm,1.2s,SNR=40
WATA Walderalm 26.25 306 P **P 20 38 02.4 -0.9**
comp=E,117nm,1.2s,SNR=40
ALAS Alassa 26.37 273 *i*P **P 20 38 05.6 +1.3**
comp=E,209nm,1.1s,SNR=28
ROTZ Rotzenmuhle 26.57 311 *e*P **P 20 38 05.7 -0.2**
comp=Z,119nm,1.4s
CLL Collm 26.66 315 *e*P **P 20 38 05.8 -1.0**
comp=Z,55nm,1.4s
CLL Collm 26.66 315⇑ *i*P **P 20 38 05.8 -1.0**
CLL pmax pmax
comp=Z,26nm,1.4s
CLL Collm 26.66 315⇑ *i*P **P 20 38 05.8 -1.0**
comp=Z,55nm,1.4s
CLL *e*Plp 20 38 09.0
CLL *e*(S) S 20 42 52.0 +11
CLL L L 20 55 00.0
comp=Z,200nm,18.1s
FUR Furstenfeldbru 26.66 307 *e*P **P 20 38 05.9 -1.0**
comp=Z,135nm,1.0s
FUR Furstenfeldbru 26.66 307 *e*P **P 20 38 05.9 -1.0**
FUR pmax pmax
comp=Z,112nm,1.0s
FETA Feichten 26.74 305⇓ *i*P **P 20 38 07.0 -0.7**
comp=Z,106nm,1.3s,SNR=29
FETA Feichten 26.74 305 P **P 20 38 07.0 -0.7**
comp=Z,106nm,1.3s,SNR=29
RETA Reutte 26.83 306 *i*P **P 20 38 07.3 -1.1**
comp=Z,50nm,1.4s,SNR=12
RETA Reutte 26.83 306 P **P 20 38 07.3 -1.1**
comp=Z,50nm,1.4s,SNR=12
VSL Villasalto 27.09 288 *e*P **P 20 38 10.2 -0.6**
comp=Z,72nm,0.8s
VSL Villasalto 27.09 288 *e*P **P 20 38 10.2 -0.6**
comp=Z,72nm,0.8s
GRF Grafenberg Arr 27.15 311 *e*P **P 20 38 10.6 -0.6**
comp=Z,115nm,1.2s
GRF *e*L L 20 52 51.2
comp=Z,236nm,20.4s
GRF Grafenberg Arr 27.15 311 *e*P **P 20 38 10.6 -0.6**
GRF pmax pmax
comp=Z,55nm,1.2s
GRF MLR MLR
comp=Z,115µm,20.4s
GRFO Grafenberg 27.15 311 *e*P **P 20 38 10.3 -0.9**
GRFO pmax pmax
comp=Z,85nm,1.1s
GRFO Grafenberg 27.15 311 *e*P **P 20 38 10.3 -0.9**
comp=Z,85nm,1.1s
GRFO Grafenberg 27.15 311 *e*P **P 20 38 10.3 -0.9**
comp=Z,85nm,1.1s
DAVOX Davos/Dischmat 27.26 304 P **P 20 38 11.9 -0.6**
DAVOX Davos/Dischmat 27.26 304 P **P 20 38 11.9 -0.6**
comp=Z,13nm,0.8s,baz=115,slow=8.8,SNR=13
DAVOX Davos/Dischmat 27.26 304 P **P 20 38 11.9 -0.6**
PGF Pioggiola 27.36 295 *e*P **P 20 38 12.5 -0.8**
comp=Z,108nm,1.0s
PGF Pioggiola 27.36 295 *e*P **P 20 38 12.5 -0.8**
PGF pmax pmax

PGF **Pioggiola** 27.36 295 *e*P P 20 38 12.5 -0.8
comp=Z,108nm,1.0s
PGF **Pioggiola** 27.36 295 *e*P P 20 38 12.5 -0.8
comp=Z,54nm,1.0s
DAVA **Damuels** 27.37 305 *i* P P 20 38 12.3 -1.1
comp=Z,67nm,0.7s,SNR=24
DAVA **Damuels** 27.37 305 P P 20 38 12.3 -1.1
comp=Z,67nm,0.7s,SNR=24
BSD **Bornholm Skovb** 27.45 324 *e*P P 20 38 12.9 -0.9
BSD pmax pmax
comp=Z,35nm,1.1s
BSD **Bornholm Skovb** 27.45 324 *i* P P 20 38 12.9 -0.9
comp=Z,35nm,1.0s
KEST **Kesra** 27.56 280 P P 20 38 16.0 +0.9
KEST **Kesra** 27.56 280 P P 20 38 16.0 +0.9
comp=Z,46nm,1.2s,baz=243,slow=1.7,SNR=17
KEST **Kesra** 27.56 280 P P 20 38 16.0 +0.9
TUE **Stuetta** 27.56 303 *e*P P 20 38 14.3 -0.9
comp=Z,63nm,1.6s
TUE **Stuetta** 27.56 303 *e*P P 20 38 14.3 -0.9
comp=Z,63nm,1.6s
FINES **FINESS Array B** 27.88 342 P P 20 38 16.0 -1.6
FINES PKiKP **PKiKP** 20 49 07.9 -0.8
FINES **FINESS Array B** 27.88 342 P P 20 38 16.0 -1.6
comp=Z,7.3nm,0.7s,baz=148,slow=8.2,SNR=40
FINES PKiKP **PKiKP** 20 49 07.9 -0.8
comp=Z,0.8nm,0.8s,baz=300,slow=3.8,SNR=3.3
FINES LR LR 20 51 15.2
comp=Z,694nm,19.7s,baz=147,slow=41
FINES **FINESS Array B** 27.88 342 P P 20 38 16.0 -1.6
FINES **FINESS Array B** 27.88 342 PKiKP **PKiKP** 20 49 07.9 -0.8
STU **Stuttgart** 28.16 308 *e*P P 20 38 18.6 -1.6
comp=Z,58nm,1.4s
STU **Stuttgart** 28.16 308 *e*P P 20 38 17.9 -2.3
STU pmax pmax
comp=Z,35nm,1.1s
STU **Stuttgart** 28.16 308 *e*P P 20 38 17.9 -2.3
comp=Z,35nm,1.1s
STU **Stuttgart** 28.16 308 *e*P P 20 38 17.9 -2.3
comp=Z,35nm,1.1s
SPAK **Spaichingen-Ko** 28.27 306 *e*P P 20 38 20.4 -0.9
CLZ **Clausthal** 28.39 315 *e*P P 20 38 21.7 -0.6
comp=Z,37nm,1.4s
CLZ **Clausthal** 28.39 315 *e*P P 20 38 21.7 -0.6
CLZ pmax pmax
comp=Z,32nm,1.4s
KAF **Kangasniemi** 28.40 343 *e*p P 20 38 21.5 -0.7
KAF **Kangasniemi** 28.40 343 *e*P P 20 38 21.5 -0.7
SAOF **Saorge** 28.50 298 *e*P P 20 38 23.2 -0.2
SAOF **Saorge** 28.50 298 *e*P P 20 38 23.2 -0.2
TMCR **Tamitsa** 28.54 355 *e*P P 20 38 20.9 -2.5
TMCR *e* 20 39 11.1
TMCR *e* 20 41 32.8
TMCR pmax pmax
comp=Z,43nm,1.3s
SBF **Sospel** 28.58 297⇑*i*P P 20 38 23.7 -0.4
comp=Z,142nm,1.0s
SBF **Sospel** 28.58 297⇑*i*P P 20 38 23.7 -0.4
SBF pmax pmax
comp=Z,142nm,1.0s
SBF **Sospel** 28.58 297⇑*i*P P 20 38 23.7 -0.4
comp=Z,142nm,1.0s
SBF **Sospel** 28.58 297⇑*i*P P 20 38 23.7 -0.4
comp=Z,71nm,1.0s
AUTN **L'Aution** 28.60 298 *e*P P 20 38 23.8 -0.6
AUTN **L'Aution** 28.60 298 *e*P P 20 38 23.8 -0.6
BFO **Black Forest** 28.61 307 *e*P P 20 38 22.3 -2.0
BFO pmax pmax
comp=Z,8.0nm,0.8s
BFO **Black Forest** 28.61 307 *e*P P 20 38 22.3 -2.0
comp=Z,7.8nm,0.8s
BFO **Black Forest** 28.61 307 *e*P P 20 38 22.3 -2.0
comp=Z,7.8nm,0.8s
TOD **Tromm** 28.62 310 *e*P P 20 38 22.8 -1.6
TOUF **Mont Tournerai** 28.73 298 *e*P P 20 38 25.6 0.0
TOUF **Mont Tournerai** 28.73 298 *e*P P 20 38 25.6 0.0
FELD **Feldberg im Sc** 28.73 306 *e*P P 20 38 24.1 -1.4
NRDL **Niedersach Rie** 28.78 316 *e*P P 20 38 24.9 -0.7
comp=Z,25nm,1.6s
BBS **Basel-Blauen** 28.98 305 *e*P P 20 38 26.7 -0.9
TNS **Taunus Mts** 29.02 311 *e*P P 20 38 27.3 -0.6
comp=Z,64nm,1.6s
TNS **Taunus Mts** 29.02 311 *e*P P 20 38 27.3 -0.6
TNS pmax pmax
comp=Z,30nm,1.6s
LANF **Langenberg** 29.10 308 *e*P P 20 38 28.8 +0.2
LANF **Langenberg** 29.10 308 *e*P P 20 38 28.8 +0.2
MBDF **Montbardon** 29.12 299⇑*i*P P 20 38 28.4 -0.6
comp=Z,121nm,1.2s
MBDF **Montbardon** 29.12 299⇑*i*P P 20 38 28.4 -0.6
MBDF pmax pmax
comp=Z,121nm,1.2s
MBDF **Montbardon** 29.12 299⇑*i*P P 20 38 28.4 -0.6
comp=Z,121nm,1.2s
MBDF **Montbardon** 29.12 299⇑*i*P P 20 38 28.4 -0.6
comp=Z,60nm,1.2s
FRF **La Foret Royal** 29.14 297 *e*P P 20 38 28.3 -0.7
comp=Z,194nm,1.4s
FRF **La Foret Royal** 29.14 297 *e*P P 20 38 28.3 -0.7
FRF pmax pmax
comp=Z,194nm,1.4s
FRF **La Foret Royal** 29.14 297 *e*P P 20 38 28.3 -0.7
comp=Z,194nm,1.4s
FRF **La Foret Royal** 29.14 297 *e*P P 20 38 28.3 -0.7
comp=Z,97nm,1.4s
LPG **La Plagne** 29.21 301⇑*i*P P 20 38 29.0 -1.0
comp=Z,66nm,1.0s
LPG **La Plagne** 29.21 301⇑*i*P P 20 38 29.0 -1.0
LPG pmax pmax
comp=Z,66nm,1.0s
LPG **La Plagne** 29.21 301⇑*i*P P 20 38 29.0 -1.0
comp=Z,66nm,1.0s
LPG **La Plagne** 29.21 301⇑*i*P P 20 38 29.0 -1.0
comp=Z,33nm,1.0s
BNI **Bardonecchia** 29.22 300 *e*P P 20 38 29.1 -0.7
BNI pmax pmax
comp=Z,110nm,1.2s
BNI **Bardonecchia** 29.22 300 *e*P P 20 38 29.1 -0.7
comp=Z,110nm,1.2s
BNI **Bardonecchia** 29.22 300 *e*P P 20 38 29.1 -0.7
comp=Z,110nm,1.2s
KURBB **Kurchatov Arra** 29.22 49 P P 20 38 30.6 +1.0
comp=Z,15nm,0.7s,baz=260,slow=9.2,SNR=115
KURBB PcP **PcP** 20 41 36.9 +0.4
comp=Z,9.5nm,0.9s,baz=252,slow=3.3,SNR=9.8
KURBB PKiKP **PKiKP** 20 49 09.3 -0.6
comp=Z,0.7nm,0.8s,baz=217,slow=0.5,SNR=6.8
LMR **La Mourre** 29.23 296 *e*P P 20 38 29.2 -0.6
comp=Z,114nm,1.4s
LMR **La Mourre** 29.23 296 *e*P P 20 38 29.2 -0.6
LMR pmax pmax
comp=Z,114nm,1.4s
LMR **La Mourre** 29.23 296 *e*P P 20 38 29.2 -0.6
comp=Z,114nm,1.4s
LMR **La Mourre** 29.23 296 *e*P P 20 38 29.2 -0.6
comp=Z,57nm,1.4s
LPL **La Plagne** 29.23 301⇑*i*P P 20 38 29.1 -0.9
comp=Z,46nm,1.0s
LPL **La Plagne** 29.23 301⇑*i*P P 20 38 29.1 -0.9
LPL pmax pmax
comp=Z,46nm,1.0s
LPL **La Plagne** 29.23 301⇑*i*P P 20 38 29.1 -0.9
comp=Z,46nm,1.0s
LPL **La Plagne** 29.23 301⇑*i*P P 20 38 29.1 -0.9
comp=Z,23nm,1.0s
MOF **Molkenrain** 29.30 305 *e*P P 20 38 29.3 -1.2
MOF **Molkenrain** 29.30 305 *e*P P 20 38 29.3 -1.2
KURK **Kurchatov** 29.30 48 P P 20 38 30.8 +0.4
comp=Z,162nm,0.9s,SNR=22
KURK **Kurchatov** 29.30 48 P P 20 38 30.6 +0.2
KURK 20 41 36.9
KURK *i* 20 49 09.3
KURK **Kurchatov** 29.30 48 P P 20 38 30.6 +0.2
KURK PcP **PcP** 20 41 36.9 +0.2
KURK PKiKP **PKiKP** 20 49 09.3 -0.6
KURK **Kurchatov** 29.30 48 P P 20 38 30.6 +0.2
CDF **Champ du Feu** 29.32 307⇑*i*P P 20 38 30.3 -0.3
comp=Z,24nm,1.0s
CDF **Champ du Feu** 29.32 307⇑*i*P P 20 38 30.3 -0.3
CDF pmax pmax
comp=Z,24nm,1.0s
CDF **Champ du Feu** 29.32 307⇑*i*P P 20 38 30.3 -0.3
comp=Z,24nm,1.0s
CDF **Champ du Feu** 29.32 307⇑*i*P P 20 38 30.3 -0.3
comp=Z,12nm,1.0s

RSL **Roselend** 29.32 301 *e*P P 20 38 29.6 -1.2
RSL **Roselend** 29.32 301 *e*P P 20 38 29.6 -1.2
ECH **Echery** 29.36 306 *e*P P 20 38 28.9 -2.0
ECH pmax pmax
comp=Z,22nm,1.0s
ECH **Echery** 29.36 306 *e*P P 20 38 28.9 -2.0
comp=Z,22nm,1.0s
ECH **Echery** 29.36 306 *e*P P 20 38 28.9 -2.0
comp=Z,22nm,1.0s
LOMF **Lomont** 29.42 304 *e*P P 20 38 30.6 -0.9
LOMF **Lomont** 29.42 304 *e*P P 20 38 30.6 -0.9
HINF **Hinteralfeld** 29.48 305⇑*i*P P 20 38 30.6 -1.4
comp=Z,40nm,1.3s
HINF **Hinteralfeld** 29.48 305⇑*i*P P 20 38 30.6 -1.4
HINF pmax pmax
comp=Z,40nm,1.3s
HINF **Hinteralfeld** 29.48 305⇑*i*P P 20 38 30.6 -1.4
comp=Z,40nm,1.3s
HINF **Hinteralfeld** 29.48 305⇑*i*P P 20 38 30.6 -1.4
comp=Z,20nm,1.3s
ORIF **Oris-en-Rattie** 29.77 299⇑*i*P P 20 38 32.8 -1.9
comp=Z,38nm,0.9s
ORIF *e*R
comp=Z,296nm,19.5s
ORIF **Oris-en-Rattie** 29.77 299⇑*i*P P 20 38 32.8 -1.9
ORIF pmax pmax
comp=Z,38nm,0.9s
ORIF **Oris-en-Rattie** 29.77 299⇑*i*P P 20 38 32.8 -1.9
comp=Z,38nm,0.9s
ORIF **Oris-en-Rattie** 29.77 299⇑*i*P P 20 38 32.8 -1.9
comp=Z,19nm,0.9s
CABF **La Chapelle** 29.81 303⇑*i*P P 20 38 34.2 -0.8
comp=Z,88nm,0.9s
CABF **La Chapelle** 29.81 303⇑*i*P P 20 38 34.2 -0.8
CABF pmax pmax
comp=Z,88nm,0.9s
CABF **La Chapelle** 29.81 303⇑*i*P P 20 38 34.2 -0.8
comp=Z,88nm,0.9s
CABF **La Chapelle** 29.81 303⇑*i*P P 20 38 34.2 -0.8
comp=Z,44nm,0.9s
SMRF **Simiane la Rot** 29.93 297 *e*P P 20 38 35.4 -0.7
SMRF **Simiane la Rot** 29.93 297 *e*P P 20 38 35.4 -0.7
SMRF **Simiane la Rot** 29.93 297 *e*P P 20 38 35.4 -0.7
IBBN **Ibbenburen** 30.06 314 *e*P P 20 38 37.1 +0.1
comp=Z,58nm,1.5s
THEF **They Montfort** 30.13 306 *e*P P 20 38 36.4 -1.3
THEF **They Montfort** 30.13 306 *e*P P 20 38 36.4 -1.3
WLF **Walferdange** 30.31 309 P P 20 38 38.3 -1.0
comp=Z,20nm,1.6s
WLF **Walferdange** 30.31 309 *e*P P 20 38 38.5 -0.8
comp=Z,36nm,1.1s
WLF **Walferdange** 30.31 309 *e*P P 20 38 37.2 -2.1
WLF pmax pmax
comp=Z,32nm,1.0s
WLF **Walferdange** 30.31 309 *e*P P 20 38 37.2 -2.1
comp=Z,32nm,1.0s
WLF **Walferdange** 30.31 309 P P 20 38 38.3 -1.0
comp=Z,20nm,1.6s
PAGF **Fort de Pagny** 30.36 307⇑*i*P P 20 38 38.6 -1.1
comp=Z,20nm,1.2s
PAGF **Fort de Pagny** 30.36 307⇑*i*P P 20 38 38.6 -1.1
comp=Z,20nm,1.2s
PAGF **Fort de Pagny** 30.36 307⇑*i*P P 20 38 38.6 -1.1
comp=Z,9.9nm,1.2s
VIVF **Saint-Julien-l** 30.62 299⇑*i*P P 20 38 40.8 -1.4
comp=Z,86nm,1.2s
VIVF **Saint-Julien-l** 30.62 299⇑*i*P P 20 38 40.8 -1.4
VIVF pmax pmax
comp=Z,86nm,1.2s
VIVF **Saint-Julien-l** 30.62 299⇑*i*P P 20 38 40.8 -1.4
comp=Z,86nm,1.2s
VIVF **Saint-Julien-l** 30.62 299⇑*i*P P 20 38 40.8 -1.4
comp=Z,43nm,1.2s
SSB **Saint Sauveur** 30.74 300 *e*P P 20 38 41.2 -2.0
SSB pmax pmax
comp=Z,22nm,1.1s
SSB **Saint Sauveur** 30.74 300 *e*P P 20 38 41.2 -2.0
comp=Z,22nm,1.1s
SSB **Saint Sauveur** 30.74 300 *e*P P 20 38 41.2 -2.0
comp=Z,22nm,1.1s
SFTF **Sexfontaines** 30.75 306⇑*i*P P 20 38 41.9 -1.3
comp=Z,120nm,1.2s
SFTF **Sexfontaines** 30.75 306⇑*i*P P 20 38 41.9 -1.3
comp=Z,120nm,1.2s
SFTF **Sexfontaines** 30.75 306⇑*i*P P 20 38 41.9 -1.3
comp=Z,60nm,1.2s
MEZF **Maizieres J'vi** 30.79 306⇑*i*P P 20 38 42.4 -1.1
comp=Z,141nm,1.0s
MEZF **Maizieres J'vi** 30.79 306⇑*i*P P 20 38 42.4 -1.1
comp=Z,141nm,1.0s
MEZF **Maizieres J'vi** 30.79 306⇑*i*P P 20 38 42.4 -1.1
comp=Z,71nm,1.0s
MKAR **Makanchi Array** 30.89 57 P P 20 38 45.2 +0.7
MKAR **Makanchi Array** 30.89 57 P P 20 38 45.2 +0.7
MKAR **Makanchi Array** 30.89 57 P P 20 38 45.2 +0.7
comp=Z,11nm,0.8s,baz=261,slow=7.3,SNR=74
MKAR LR LR 20 53 30.9
comp=Z,342nm,18.6s,baz=261,slow=41
MKAR **Makanchi Array** 30.89 57 P P 20 38 45.2 +0.7
HFS **Hagfors** 30.92 331 P P 20 38 43.9 -0.7
HFS **Hagfors** 30.92 331 P P 20 38 43.9 -0.7
comp=Z,26nm,0.5s,baz=134,slow=11,SNR=73
HFS LR LR 20 52 20.2
comp=Z,487nm,21.8s,baz=125,slow=39
HFS **Hagfors** 30.92 331 P P 20 38 43.9 -0.7
MUD **Monsted U'grnd** 30.93 323 *i* P P 20 38 45.4 +0.7
MUD pmax pmax
comp=Z,37nm,1.0s
MUD **Monsted U'grnd** 30.93 323 *i* P P 20 38 45.4 +0.7
comp=Z,37nm,1.0s
MUD *e* 20 44 48.9
LASF **Ste Croix** 31.17 298 *e*P P 20 38 46.1 -0.9
comp=Z,177nm,1.3s
LASF **Ste Croix** 31.17 298 *e*P P 20 38 46.1 -0.9
comp=Z,177nm,1.3s
LASF **Ste Croix** 31.17 298 *e*P P 20 38 46.1 -0.9
comp=Z,88nm,1.3s
GIVF **Givet** 31.24 309 *e*P P 20 38 46.8 -0.7
comp=Z,23nm,0.9s
GIVF **Givet** 31.24 309 *e*P P 20 38 46.8 -0.7
GIVF pmax pmax
comp=Z,23nm,0.9s
GIVF **Givet** 31.24 309 *e*P P 20 38 46.8 -0.7
comp=Z,23nm,0.9s
GIVF **Givet** 31.24 309 *e*P P 20 38 46.8 -0.7
comp=Z,12nm,0.9s
SMF **Signal de Mont** 31.35 302⇑*i*P P 20 38 47.2 -1.3
comp=Z,74nm,1.0s
SMF **Signal de Mont** 31.35 302⇑*i*P P 20 38 47.2 -1.3
SMF pmax pmax
comp=Z,74nm,1.0s
SMF **Signal de Mont** 31.35 302⇑*i*P P 20 38 47.2 -1.3
comp=Z,74nm,1.0s
SMF **Signal de Mont** 31.35 302⇑*i*P P 20 38 47.2 -1.3
comp=Z,37nm,1.0s
DOU **Dourbes** 31.39 309 P P 20 38 48.6 -0.2
comp=Z,15nm,1.6s
LOR **Lormes** 31.40 304⇑*i*P P 20 38 47.3 -1.7
comp=Z,49nm,1.2s
LOR *e*R
comp=Z,392nm,20.2s
LOR **Lormes** 31.40 304⇑*i*P P 20 38 47.3 -1.7
comp=Z,49nm,1.2s
LOR **Lormes** 31.40 304⇑*i*P P 20 38 47.3 -1.7
comp=Z,24nm,1.2s
SSF **Saint Saulge** 31.62 303⇑*i*P P 20 38 49.6 -1.3
comp=Z,57nm,1.0s
SSF **Saint Saulge** 31.62 303⇑*i*P P 20 38 49.6 -1.3
SSF pmax pmax
comp=Z,57nm,1.0s
SSF **Saint Saulge** 31.62 303⇑*i*P P 20 38 49.6 -1.3
comp=Z,57nm,1.0s
SSF **Saint Saulge** 31.62 303⇑*i*P P 20 38 49.6 -1.3
comp=Z,28nm,1.0s
BAIF **Baives** 31.62 309⇑*i*P P 20 38 50.2 -0.7
comp=Z,84nm,1.2s
BAIF **Baives** 31.62 309⇑*i*P P 20 38 50.2 -0.7
BAIF pmax pmax
comp=Z,84nm,1.2s
BAIF **Baives** 31.62 309⇑*i*P P 20 38 50.2 -0.7
comp=Z,84nm,1.2s
BAIF **Baives** 31.62 309⇑*i*P P 20 38 50.2 -0.7
comp=Z,42nm,1.2s
LBL **Lubilhac** 31.65 300 *e*P P 20 38 51.5 +0.2
LBL **Lubilhac** 31.65 300 *e*P P 20 38 51.5 +0.2
AVF **Avril sur Loir** 31.70 303⇑*i*P P 20 38 50.3 -1.2
comp=Z,77nm,1.0s

AVF **Avril sur Loir** 31.70 303⇑*i*P P 20 38 50.3 -1.2
AVF pmax pmax
comp=Z,77nm,1.0s
AVF **Avril sur Loir** 31.70 303⇑*i*P P 20 38 50.3 -1.2
comp=Z,38nm,1.0s
AGO **Saint Agoulin** 31.79 301 *e*P P 20 38 52.5 +0.1
AGO **Saint Agoulin** 31.79 301 *e*P P 20 38 52.5 +0.1
PYM **Petit Puy Mans** 31.85 301 *e*P P 20 38 52.5 -0.5
PYM **Petit Puy Mans** 31.85 301 *e*P P 20 38 52.5 -0.5
BGF **Bois d'Agland** 32.02 302⇑*i*P P 20 38 53.2 -1.2
comp=Z,45nm,1.2s
BGF **Bois d'Agland** 32.02 302⇑*i*P P 20 38 53.2 -1.2
BGF pmax pmax
comp=Z,45nm,1.2s
BGF **Bois d'Agland** 32.02 302⇑*i*P P 20 38 53.2 -1.2
comp=Z,45nm,1.2s
BGF **Bois d'Agland** 32.02 302⇑*i*P P 20 38 53.2 -1.2
comp=Z,45nm,1.2s
FRNF **Fournols** 32.14 300 *e*P P 20 38 55.4 -0.2
FRNF **Fournols** 32.14 300 *e*P P 20 38 55.4 -0.2
HYF **Humbligny** 32.23 303 *e*P P 20 38 55.6 -0.7
HYF **Humbligny** 32.23 303 *e*P P 20 38 55.6 -0.7
HYF **Humbligny** 32.23 303 *e*P P 20 38 55.6 -0.7
APA **Apatity** 32.29 353⇑*i*P P 20 38 56.2 -0.3
APA *i* 20 39 58.4
APA *i* S S 20 44 08.0 -1.1
APA pmax pmax
comp=Z,32nm,1.2s
APA MLR MLR
comp=Z,300nm,13.0s
KONO **Kongsberg** 32.33 328 P P 20 38 56.1 -0.8
KONO **Kongsberg** 32.33 328 P P 20 38 56.1 -0.8
KONO **Kongsberg** 32.33 328 P P 20 38 56.1 -0.8
MTLF **Montolieu** 32.36 296 *e*P P 20 38 56.3 -1.1
comp=Z,79nm,1.5s
MTLF **Montolieu** 32.36 296 *e*P P 20 38 56.3 -1.1
MTLF pmax pmax
comp=Z,79nm,1.5s
MTLF **Montolieu** 32.36 296 *e*P P 20 38 56.3 -1.1
comp=Z,79nm,1.5s
MTLF **Montolieu** 32.36 296 *e*P P 20 38 56.3 -1.1
comp=Z,39nm,1.5s
TCF **Toulx Ste Croi** 32.44 302⇑*i*P P 20 38 57.3 -0.8
comp=Z,113nm,1.2s
TCF **Toulx Ste Croi** 32.44 302⇑*i*P P 20 38 57.3 -0.8
TCF pmax pmax
comp=Z,113nm,1.2s
TCF **Toulx Ste Croi** 32.44 302⇑*i*P P 20 38 57.3 -0.8
comp=Z,113nm,1.2s
TCF **Toulx Ste Croi** 32.44 302⇑*i*P P 20 38 57.3 -0.8
comp=Z,56nm,1.2s
NB2 **NORSAR Subarra** 32.45 331 P P 20 38 56.7 -1.3
comp=Z,18nm,0.9s,baz=126,slow=9.3
NB2 **NORSAR Subarra** 32.45 331 P P 20 38 56.7 -1.3
comp=Z,18nm,0.9s,SNR=0.3
NOA **NORSAR Array B** 32.45 331 P P 20 38 56.7 -1.3
NOA PcP **PcP** 20 41 44.6 -0.2
NOA **NORSAR Array B** 32.45 331 P P 20 38 56.7 -1.3
comp=Z,9.0nm,0.7s,baz=126,slow=8.8,SNR=32
NOA PcP **PcP** 20 41 44.6 -0.2
comp=Z,1.2nm,0.7s,baz=142,slow=3.6,SNR=3.3
NOA LR LR 20 53 48.5
comp=Z,443nm,18.1s,baz=135,slow=40
NOA **NORSAR Array B** 32.45 331 P P 20 38 56.7 -1.3
NOA **NORSAR Array B** 32.45 331 PcP **PcP** 20 41 44.6 -0.2
CAF **Calviac** 32.48 299⇑*i*P P 20 38 57.5 -1.0
comp=Z,96nm,1.3s
CAF **Calviac** 32.48 299⇑*i*P P 20 38 57.5 -1.0
CAF pmax pmax
comp=Z,96nm,1.3s
CAF **Calviac** 32.48 299⇑*i*P P 20 38 57.5 -1.0
comp=Z,96nm,1.3s
CAF **Calviac** 32.48 299⇑*i*P P 20 38 57.5 -1.0
comp=Z,48nm,1.3s
RJF **Les Rejaudoux** 32.88 300⇑*i*P P 20 39 01.4 -0.6
comp=Z,171nm,1.1s
RJF **Les Rejaudoux** 32.88 300⇑*i*P P 20 39 01.4 -0.6
RJF pmax pmax
comp=Z,171nm,1.1s
RJF **Les Rejaudoux** 32.88 300⇑*i*P P 20 39 01.4 -0.6
comp=Z,171nm,1.1s
RJF **Les Rejaudoux** 32.88 300⇑*i*P P 20 39 01.4 -0.6
comp=Z,85nm,1.1s
NVS **Novosibirsk** 33.23 43⇑*i*P P 20 39 04.5 -0.3
NVS *e* 20 41 46.4
NVS *e*S S 20 44 20.4 -3.6
NVS pmax pmax
comp=Z,23nm,1.1s
NVS pmax pmax
comp=N,6.0nm,0.8s
NVS pmax pmax
comp=E,6.0nm,0.8s
NVS smax smax
comp=N,8.0nm,1.6s
NVS smax smax
comp=E,2.0nm,1.4s
LFF **La Frestale** 33.42 299⇑*i*P P 20 39 05.9 -0.8
comp=E,131nm,1.3s
LFF **La Frestale** 33.42 299⇑*i*P P 20 39 05.9 -0.8
LFF pmax pmax
comp=Z,131nm,1.3s
LFF **La Frestale** 33.42 299⇑*i*P P 20 39 05.9 -0.8
comp=Z,131nm,1.3s
LFF **La Frestale** 33.42 299⇑*i*P P 20 39 05.9 -0.8
comp=Z,66nm,1.3s
EPF **Esparros** 33.74 296 *e*P P 20 39 08.5 -1.0
comp=Z,60nm,1.4s
EPF **Esparros** 33.74 296 *e*P P 20 39 08.5 -1.0
EPF pmax pmax
comp=Z,60nm,1.4s
EPF **Esparros** 33.74 296 *e*P P 20 39 08.5 -1.0
comp=Z,60nm,1.4s
EPF **Esparros** 33.74 296 *e*P P 20 39 08.5 -1.0
comp=Z,30nm,1.4s
ZALV **Zalesovo Beam** 33.86 45 P P 20 39 09.6 -0.7
ZALV 20 41 48.6
ZALV **Zalesovo Beam** 33.86 45 P P 20 39 09.6 -0.7
ZALV PcP **PcP** 20 41 48.6 -0.3
ZALV **Zalesovo Beam** 33.86 45 P P 20 39 09.6 -0.7
comp=Z,3.0nm,0.4s,baz=258,slow=9.0,SNR=16
ZALV PcP **PcP** 20 41 48.6 -0.3
comp=Z,3.7nm,0.8s,baz=248,slow=6.1,SNR=3.6
ZALV **Zalesovo Beam** 33.86 45 P P 20 39 09.6 -0.7
ZALV **Zalesovo Beam** 33.86 45 PcP **PcP** 20 41 48.6 -0.3
MFF **Saint Martin d** 34.09 302⇑*i*P P 20 39 11.0 -1.4
comp=Z,42nm,0.8s
MFF **Saint Martin d** 34.09 302⇑*i*P P 20 39 11.0 -1.4
MFF pmax pmax
comp=Z,42nm,0.8s
MFF **Saint Martin d** 34.09 302⇑*i*P P 20 39 11.0 -1.4
comp=Z,42nm,0.8s
MFF **Saint Martin d** 34.09 302⇑*i*P P 20 39 11.0 -1.4
comp=Z,21nm,0.8s
LDF **La Druitiere** 34.21 306 *e*P P 20 39 11.4 -2.1
comp=Z,87nm,1.4s
LDF **La Druitiere** 34.21 306 *e*P P 20 39 11.4 -2.1
LDF pmax pmax
comp=Z,87nm,1.4s
LDF **La Druitiere** 34.21 306 *e*P P 20 39 11.4 -2.1
comp=Z,87nm,1.4s
LDF **La Druitiere** 34.21 306 *e*P P 20 39 11.4 -2.1
comp=Z,43nm,1.4s
PYUN **Piuthan** 34.27 92 *e*P P 20 39 15.1 +0.6
comp=Z,107nm,1.1s
ETSF **Etsaut** 34.40 295 *e*P P 20 39 14.2 -1.1
comp=Z,47nm,1.3s
ETSF **Etsaut** 34.40 295 *e*P P 20 39 14.2 -1.1
ETSF pmax pmax
comp=Z,47nm,1.3s
ETSF **Etsaut** 34.40 295 *e*P P 20 39 14.2 -1.1
comp=Z,47nm,1.3s
ETSF **Etsaut** 34.40 295 *e*P P 20 39 14.2 -1.1
comp=Z,24nm,1.3s
FLN **La Foliniere** 34.46 306⇑*i*P P 20 39 14.6 -1.1
comp=Z,106nm,1.4s
FLN *e*R
comp=Z,272nm,18.8s
FLN **La Foliniere** 34.46 306⇑*i*P P 20 39 14.6 -1.1
FLN pmax pmax
comp=Z,106nm,1.4s
FLN **La Foliniere** 34.46 306⇑*i*P P 20 39 14.6 -1.1
comp=Z,106nm,1.4s
FLN **La Foliniere** 34.46 306⇑*i*P P 20 39 14.6 -1.1
comp=Z,53nm,1.4s

WMQ **Urumqi** 34.59 63 P **P** 20 39 18.1 +1.2
WMQ pP **pP** 20 39 22.5 +0.6
WMQ sP **sP** 20 39 25.1 +1.1
WMQ PP **PP** 20 40 34.6 -0.7
WMQ PcP **PcP** 20 41 52.8 +1.5
WMQ S **S** 20 44 46.0 +0.6
WMQ sS **sS** 20 44 53.3 -0.4
WMQ ScP **ScP** 20 45 36.3 +0.5
WMQ SS **SnSn** 20 46 57.8 +0.5
WMQ ScS **ScS** 20 49 37.8 -0.9
WMQ pmax pmax
comp=Z,33nm,0.8s
WMQ pmax pmax
comp=Z,250nm,3.8s
WMQ LR LR
comp=N,470nm,14.6s
WMQ LR LR
comp=E,380nm,14.3s
WMQ LR LR
comp=Z,430nm,21.3s
GRR **Gorron** 34.68 305⇑ *i*P **P** 20 39 15.8 -1.7
comp=Z,106nm,1.1s
GRR **Gorron** 34.68 305⇑ *i*P **P** 20 39 15.8 -1.7
GRR pmax pmax
comp=Z,106nm,1.1s
GRR **Gorron** 34.68 305⇑ *i*P **P** 20 39 15.8 -1.7
comp=Z,106nm,1.1s
GRR **Gorron** 34.68 305⇑ *i*P **P** 20 39 15.8 -1.7
comp=Z,53nm,1.1s
DANN **Dangsing** 34.80 91 *e*P **P** 20 39 20.1 +0.9
comp=Z,285nm,0.9s
SJPF **Ste Jean** 34.88 296 *e*P **P** 20 39 18.2 -1.2
comp=Z,112nm,1.4s
SJPF **Ste Jean** 34.88 296 *e*P **P** 20 39 18.2 -1.2
SJPF pmax pmax
comp=Z,112nm,1.4s
SJPF **Ste Jean** 34.88 296 *e*P **P** 20 39 18.2 -1.2
comp=Z,112nm,1.4s
SJPF **Ste Jean** 34.88 296 *e*P **P** 20 39 18.2 -1.2
comp=Z,56nm,1.4s
KOLN **Koldanda** 34.90 92 *e*P **P** 20 39 20.3 +0.4
comp=Z,77nm,1.2s
ARCES **ARCESS Array B** 35.15 349 P **P** 20 39 21.3 -0.1
ARCES PcP **PcP** 20 41 51.9 -0.4
ARCES **ARCESS Array B** 35.15 349 P **P** 20 39 21.3 -0.1
comp=Z,10nm,0.9s,baz=145,slow=7.1,SNR=21
ARCES PcP **PcP** 20 41 51.9 -0.4
comp=Z,4.4nm,0.7s,baz=183,slow=3.7,SNR=4.4
ARCES LR LR 20 54 41.8
comp=Z,570nm,18.3s,baz=154,slow=38
ARCES **ARCESS Array B** 35.15 349 P **P** 20 39 21.3 -0.1
ARE0 **ARCESS Array S** 35.15 349 P **P** 20 39 20.6 -0.8
ARE0 **ARCESS Array S** 35.15 349 P **P** 20 39 20.6 -0.8
WOL **Wolverton** 35.24 310 *e*P **P** 20 39 21.5 -0.9
WOL AMB AMB 20 39 22.9
comp=Z,135nm,1.9s
WOL **Wolverton** 35.24 310 *e*P **P** 20 39 21.5 -0.9
TAM **Tamanrasset** 35.28 259 *e*P **P** 20 39 24.3 +1.1
TAM pmax pmax
comp=Z,40nm,1.0s
TAM **Tamanrasset** 35.28 259 *e*P **P** 20 39 24.3 +1.1
comp=Z,40nm,1.0s
TAM **Tamanrasset** 35.28 259 *e*P **P** 20 39 24.3 +1.1
comp=Z,40nm,1.0s
SWN1 **Swindon** 35.63 310 *e*P **P** 20 39 24.9 -0.8
SWN1 AMB AMB 20 39 29.2
comp=Z,170nm,3.3s
SWN1 **Swindon** 35.63 310 *e*P **P** 20 39 24.9 -0.8
SGMF **Saint Gilles** 35.80 305⇑ *i*P **P** 20 39 25.8 -1.4
comp=Z,202nm,1.3s
SGMF **Saint Gilles** 35.80 305⇑ *i*P **P** 20 39 25.8 -1.4
SGMF pmax pmax
comp=Z,203nm,1.3s
SGMF **Saint Gilles** 35.80 305⇑ *i*P **P** 20 39 25.8 -1.4
comp=Z,202nm,1.3s
SGMF **Saint Gilles** 35.80 305⇑ *i*P **P** 20 39 25.8 -1.4
comp=Z,101nm,1.3s
HYB **Hyderabad** 36.12 111 *i* P **P** 20 39 29.5 -0.8
DMN **Daman** 36.18 91 *e*P **P** 20 39 31.7 +0.7
comp=Z,135nm,1.0s
QUIF **Quistinic** 36.19 304 *e*P **P** 20 39 28.7 -1.9
comp=Z,105nm,1.0s
QUIF **Quistinic** 36.19 304 *e*P **P** 20 39 28.7 -1.9
QUIF pmax pmax
comp=Z,105nm,1.0s
QUIF **Quistinic** 36.19 304 *e*P **P** 20 39 28.7 -1.9
comp=Z,105nm,1.0s
QUIF **Quistinic** 36.19 304 *e*P **P** 20 39 28.7 -1.9
comp=Z,52nm,1.0s
KKN **Kakani** 36.25 91 *e*P **P** 20 39 32.1 +0.5
comp=Z,97nm,0.9s
ROSF **Rostrenen** 36.28 305⇑ *i*P **P** 20 39 29.7 -1.6
comp=Z,71nm,0.8s
ROSF **Rostrenen** 36.28 305⇑ *i*P **P** 20 39 29.7 -1.6
ROSF pmax pmax
comp=Z,71nm,0.8s
ROSF **Rostrenen** 36.28 305⇑ *i*P **P** 20 39 29.7 -1.6
comp=Z,71nm,0.8s
ROSF **Rostrenen** 36.28 305⇑ *i*P **P** 20 39 29.7 -1.6
comp=Z,36nm,0.8s
PKIN **Phulchoki** 36.43 91 *e*P **P** 20 39 33.6 +0.4
comp=Z,70nm,0.9s
MCH1 **Michaelchurch** 36.43 311 *e*P **P** 20 39 30.8 -1.8
MCH1 AMB AMB 20 39 33.7
comp=Z,70nm,1.8s
MCH1 **Michaelchurch** 36.43 311 *e*P **P** 20 39 30.8 -1.8
HLM1 **Long Mynd** 36.44 312 *e*P **P** 20 39 31.6 -1.0
HLM1 AMB AMB 20 39 34.8
comp=Z,38nm,1.7s
HLM1 **Long Mynd** 36.44 312 *e*P **P** 20 39 31.6 -1.0
PKI **Pulchoki** 36.45 91 *e*P **P** 20 39 33.8 +0.4
comp=Z,116nm,1.0s
GUN **Gumba** 36.69 90 *e*P **P** 20 39 36.3 +0.8
comp=Z,304nm,0.9s
HEX **Exmoor** 36.82 309 *e*P **P** 20 39 34.8 -1.1
HEX **Exmoor** 36.82 309 *e*P **P** 20 39 34.8 -1.1
ESY **Stoneypath** 36.93 318 *e*P **P** 20 39 35.8 -0.9
ESY **Stoneypath** 36.93 318 *e*P **P** 20 39 35.8 -0.9
JIRN **Jiri** 37.04 90 *e*P **P** 20 39 39.3 +0.8
comp=Z,130nm,0.7s
DRUM **Mains of Drumt** 37.10 319 *e*P **P** 20 39 37.5 -0.7
DRUM AMB AMB 20 39 39.7
comp=Z,81nm,2.0s
DRUM **Mains of Drumt** 37.10 319 *e*P **P** 20 39 37.5 -0.7
EKA **Eskdalemuir Ar** 37.10 317 P **P** 20 39 37.6 -0.6
EKA **Eskdalemuir Ar** 37.10 317 P **P** 20 39 37.6 -0.6
comp=Z,3.5nm,0.5s,baz=102,slow=9.4,SNR=17
EKA **Eskdalemuir Ar** 37.10 317 P **P** 20 39 37.6 -0.6
ESK **Eskdalemuir** 37.12 316 *e*P **P** 20 39 37.1 -1.2
ESK AMB AMB 20 39 41.1
comp=Z,35nm,1.8s
ESK **Eskdalemuir** 37.12 316 *e*P **P** 20 39 37.2 -1.2
WPM1 **Penmaenmawr** 37.16 313 *e*P **P** 20 39 37.4 -1.4
WPM1 **Penmaenmawr** 37.16 313 *e*P **P** 20 39 37.3 -1.4
KMBO **Kilima Mbogo** 37.23 190 *e*P **P** 20 39 38.2 -1.7
KMBO **Kilima Mbogo** 37.23 190 P **P** 20 39 40.6 +0.7
comp=Z,5.2nm,1.0s,baz=19,slow=14,SNR=5.2
KMBO LR LR 20 55 27.5
comp=Z,908nm,18.1s,baz=98,slow=37
KMBO **Kilima Mbogo** 37.23 190 *e*P **P** 20 39 38.2 -1.7
EDI **Edinburgh** 37.24 317 *e*P **P** 20 39 38.0 -1.4
EDI AMB AMB 20 39 39.9
comp=Z,101nm,1.8s
EDI **Edinburgh** 37.24 317 *e*P **P** 20 39 38.0 -1.4
ESDC **Sonseca Array** 37.31 290 P **P** 20 39 39.6 -0.7
ESDC PcP **PcP** 20 41 58.6 -0.8
ESDC **Sonseca Array** 37.31 290 P **P** 20 39 39.6 -0.7
comp=Z,7.8nm,0.7s,baz=67,slow=8.2,SNR=38
ESDC PcP **PcP** 20 41 58.6 -0.8
comp=Z,2.2nm,0.8s,baz=47,slow=2.8,SNR=5.7
ESDC **Sonseca Array** 37.31 290 P **P** 20 39 39.6 -0.7
ESDC **Sonseca Array** 37.31 290 PcP **PcP** 20 41 58.6 -0.8
MME1 **Meikle Cairn** 37.45 320 *e*P **P** 20 39 39.9 -1.3
MME1 **Meikle Cairn** 37.45 320 *e*P **P** 20 39 39.9 -1.3
PAB **San Pablo** 37.63 290 *e*P **P** 20 39 42.3 -0.7
PAB pmax pmax
comp=Z,48nm,1.4s
PAB **San Pablo** 37.63 290 *e*P **P** 20 39 42.3 -0.7
comp=Z,48nm,1.4s
PAB **San Pablo** 37.63 290 *e*P **P** 20 39 42.3 -0.7
comp=Z,48nm,1.4s
RAMN **Ramite** 37.66 91 *e*P **P** 20 39 43.9 +0.3
comp=Z,137nm,0.7s
MCD **Coleburn Disti** 37.67 320 *e*P **P** 20 39 42.3 -0.8
MCD **Coleburn Disti** 37.67 320 *e*P **P** 20 39 42.3 -0.8

EAB **Aberfoyle** 37.93 318 *e*P **P** 20 39 44.2 -1.0
EAB **Aberfoyle** 37.93 318 *e*P **P** 20 39 44.2 -1.0
PGBU **Glenifferbraes** 37.94 317 *e*P **P** 20 39 44.4 -0.9
PGBU AMB AMB 20 39 45.5
comp=Z,73nm,2.8s
PGBU **Glenifferbraes** 37.94 317 *e*P **P** 20 39 44.4 -0.9
MBAR **Mbarara** 38.13 201 LR LR 20 55 54.2
comp=Z,829nm,18.7s,baz=6.6,slow=37
MVH1 **Achvaich** 38.24 320 *e*P **P** 20 39 46.6 -1.2
MVH1 **Achvaich** 38.24 320 *e*P **P** 20 39 46.6 -1.2
ODAN **Odare** 38.34 91 *e*P **P** 20 39 49.8 +0.4
comp=Z,192nm,1.2s
TAPN **Taplejung** 38.40 90 *e*P **P** 20 39 50.5 +0.6
comp=Z,84nm,0.7s
HVS **Khovu-Aksy** 38.76 51 *c i*P **P** 20 39 53.6 +1.2
HVS pmax pmax
comp=Z,272nm,1.2s
MVO **Moncorvo** 39.38 293 *e*P **P** 20 39 57.3 -0.4
comp=Z,22nm,2.1s
MVO **Moncorvo** 39.38 293 *e*LR LR 20 57 03.4
comp=Z,167nm,18.0s
MVO **Moncorvo** 39.38 293 *e*P **P** 20 39 57.3 -0.4
comp=Z,22nm,2.1s
PVRL **Vila Real** 39.88 294 *e*P **P** 20 40 01.0 -0.8
comp=Z,31nm,1.8s
PVRL **Vila Real** 39.88 294 *e*P **P** 20 40 01.0 -0.8
comp=Z,31nm,1.8s
MTE **Manteigas** 39.90 292 *e*P **P** 20 40 01.8 -0.2
comp=Z,49nm,1.1s
MTE **Manteigas** 39.90 292 *e*LR LR 20 56 29.0
comp=Z,151nm,18.0s
MTE **Manteigas** 39.90 292 *e*P **P** 20 40 01.8 -0.2
comp=Z,49nm,1.1s
POLO **Lamas de Olo** 39.92 294 *e*P **P** 20 40 01.4 -0.8
comp=Z,17nm,1.5s
POLO **Lamas de Olo** 39.92 294 *e*P **P** 20 40 01.4 -0.8
comp=Z,17nm,1.5s
PCBR **Castelo Branco** 39.95 292 *e*P **P** 20 40 01.9 -0.4
comp=Z,69nm,1.6s
PCBR **Castelo Branco** 39.95 292 *e*P **P** 20 40 01.9 -0.4
comp=Z,69nm,1.6s
PBAR **Barrancos** 39.95 289 *e*P **P** 20 40 01.7 -0.7
comp=Z,74nm,1.3s
PBAR *e*S **S** 20 46 07.0 0.0
PBAR **Barrancos** 39.95 289 *e*P **P** 20 40 01.7 -0.7
comp=Z,74nm,1.3s
PBAR *e*S **S** 20 46 07.0 0.0
PMRV **Marv??o** 39.96 291 *e*P **P** 20 40 01.6 -0.9
comp=Z,33nm,1.6s
PMRV *e*S **S** 20 46 12.4 +5.2
PMRV *e*LR LR 20 56 10.8
comp=Z,141nm,16.0s
PMRV **Marv??o** 39.96 291 *e*P **P** 20 40 01.6 -0.9
comp=Z,33nm,1.6s
PMRV *e*S **S** 20 46 12.4 +5.2
PVIS **Viseu** 40.10 293 *e*P **P** 20 40 03.5 -0.2
comp=Z,37nm,1.9s
PVIS **Viseu** 40.10 293 *e*P **P** 20 40 03.5 -0.2
comp=Z,37nm,1.9s
PGAV **Gavieira, Arco** 40.18 295 *e*LR LR 20 57 00.5
comp=Z,116nm,16.0s
PESTR **Estremoz** 40.23 290 *e*P **P** 20 40 03.7 -1.0
comp=Z,46nm,1.1s
PESTR **Estremoz** 40.23 290 *e*P **P** 20 40 03.7 -1.0
comp=Z,46nm,1.1s
LSA **Lhasa** 40.29 85 P **P** 20 40 06.3 +0.4
LSA **Lhasa** 40.29 85 *e*P **P** 20 40 06.2 +0.4
LSA pmax pmax
comp=Z,71nm,1.3s
LSA **Lhasa** 40.29 85 *e*P **P** 20 40 06.2 +0.4
comp=Z,71nm,1.3s
LSA **Lhasa** 40.29 85 *e*P **P** 20 40 06.2 +0.4
comp=Z,71nm,1.3s
EVO **Evora** 40.62 290⇑ *i*P **P** 20 40 07.4 -0.6
comp=Z,86nm,1.5s
EVO *e*R
comp=Z,193nm,19.8s
PBEJ **Beja** 40.62 289 *e*P **P** 20 40 07.3 -0.7
comp=Z,64nm,1.5s
PBEJ **Beja** 40.62 289 *e*P **P** 20 40 07.3 -0.7
comp=Z,64nm,1.5s
PVAQ **Vaqueiros** 40.66 288 *e*P **P** 20 40 07.5 -0.7
comp=Z,69nm,1.3s
PVAQ *e*S **S** 20 46 18.9 +1.4
PVAQ **Vaqueiros** 40.66 288 *e*P **P** 20 40 07.5 -0.7
comp=Z,69nm,1.3s
PVAQ *e*S **S** 20 46 18.9 +1.4
PMTG **Montargil** 40.67 291 *e*P **P** 20 40 07.5 -0.8
comp=Z,46nm,1.5s
PMTG **Montargil** 40.67 291 *e*P **P** 20 40 07.5 -0.8
comp=Z,46nm,1.5s
PTOM **Tomar** 40.70 291 *e*P **P** 20 40 08.3 -0.3
comp=Z,105nm,1.4s
PTOM **Tomar** 40.70 291 *e*P **P** 20 40 08.3 -0.3
comp=Z,105nm,1.4s
EVOP **Sao Brissos** 40.71 290⇑ *i*P **P** 20 40 07.4 -1.2
EVOP pmax pmax
comp=Z,87nm,1.5s
EVOP **Sao Brissos** 40.71 290⇑ *i*P **P** 20 40 07.4 -1.2
comp=Z,86nm,1.5s
EVOP **Sao Brissos** 40.71 290⇑ *i*P **P** 20 40 07.4 -1.2
comp=Z,43nm,1.5s
PCVE **Castro Verde** 40.85 288 *e*P **P** 20 40 09.0 -0.8
comp=Z,73nm,1.6s
PCVE *e*S **S** 20 46 25.9 +5.5
PCVE **Castro Verde** 40.85 288 *e*P **P** 20 40 09.0 -0.8
comp=Z,73nm,1.6s
PCVE *e*S **S** 20 46 25.9 +5.5
PBDV **Barranco-do-Ve** 40.86 288 *e*P **P** 20 40 09.4 -0.6
comp=Z,69nm,1.5s
PBDV *e*S S 20 46 27.0 +6.4
PBDV **Barranco-do-Ve** 40.86 288 *e*P **P** 20 40 09.4 -0.6
comp=Z,69nm,1.5s
PBDV *e*S S 20 46 27.0 +6.4
PNCL **Nicolau / Gran** 41.11 289 *e*P **P** 20 40 11.4 -0.6
comp=Z,36nm,1.4s
PNCL *e*S **S** 20 46 30.1 +5.8
PNCL **Nicolau / Gran** 41.11 289 *e*P **P** 20 40 11.4 -0.6
comp=Z,36nm,1.4s
PNCL *e*S **S** 20 46 30.1 +5.8
MOY **Mondy** 43.33 50 *e*P **P** 20 40 31.8 +1.7
MOY pmax pmax
comp=Z,29nm,1.8s
TOA0 **Torodi Ar. Sit** 43.73 250 *e*P **P** 20 40 32.4 -1.2
TOA0 **Torodi Ar. Sit** 43.73 250 *e*P **P** 20 40 32.4 -1.2
TORD **Torodi Ar. Bea** 43.73 250 P **P** 20 40 31.9 -1.6
TORD PcP **PcP** 20 42 20.5 +0.1
TORD **Torodi Ar. Bea** 43.73 250 P **P** 20 40 31.9 -1.6
comp=Z,20nm,0.9s,baz=56,slow=4.8,SNR=47
TORD PcP **PcP** 20 42 20.5 +0.1
comp=Z,5.1nm,0.7s,baz=48,slow=3.5,SNR=6.4
TORD LR LR 21 02 28.6
comp=Z,190nm,18.0s,baz=50,slow=41
TORD **Torodi Ar. Bea** 43.73 250 P **P** 20 40 32.0 -1.6
TORD **Torodi Ar. Bea** 43.73 250 PcP **PcP** 20 42 20.5 +0.1
SPITS **Spitsbergen Ar** 43.97 352 P **P** 20 40 33.9 -0.9
SPITS **Spitsbergen Ar** 43.97 352 P **P** 20 40 33.9 -0.9
comp=Z,18nm,0.8s,baz=144,slow=18,SNR=8.2
SPITS LR LR 21 02 01.7
comp=Z,241nm,19.8s,baz=145,slow=40
SPITS **Spitsbergen Ar** 43.97 352 P **P** 20 40 33.9 -0.9
GTA **Gaotai** 44.20 68 ⇑P **P** 20 40 38.1 +0.9
GTA pP **pP** 20 40 42.6 +0.3
GTA sP **sP** 20 40 45.1 +0.7
GTA S **S** 20 47 12.3 +2.3
GTA sS **sS** 20 47 20.8 +2.4
GTA SS **SS** 20 50 24.8 -3.0
GTA pmax pmax
comp=Z,25nm,1.6s
GTA pmax pmax
comp=Z,210nm,5.5s
GTA LR LR
comp=N,270nm,17.3s
GTA LR LR
comp=E,310nm,19.0s
GTA LR LR
comp=Z,250nm,19.0s
JMIC **Jan Mayen** 44.36 338 LR LR 21 00 28.2
comp=Z,223nm,18.1s,baz=243,slow=38
PALK **Pallekele** 44.39 121 *e*P **P** 20 40 39.4 +0.5
comp=Z,55nm,1.2s
PALK **Pallekele** 44.39 121 *e*P **P** 20 40 39.4 +0.5
comp=Z,55nm,1.2s
IMP **Imphal** 44.55 90 *e*P **P** 20 40 40.0 -0.2
ZAK **Zakamensk** 44.85 52⇓ *i*P **P** 20 40 43.1 +0.9
ZAK *e* 20 42 23.4

ZAK pmax pmax
comp=Z,12nm,1.0s
TLY **Talaya** 44.98 50 *e*P **P** 20 40 44.5 +1.3
TLY pmax pmax
comp=Z,8.0nm,0.5s
TLY MLR MLR
comp=Z,330nm,19.0s
IRK **Irkutsk** 45.33 49 *e*P **P** 20 40 45.8 -0.1
IRK *e* 20 42 24.5
IRK pmax pmax
comp=Z,91nm,0.7s
SONM **Songino Array** 47.20 55 P **P** 20 41 01.3 +0.4
SONM PcP **PcP** 20 42 32.5 +0.4
SONM **Songino Array** 47.20 55 P **P** 20 41 01.3 +0.4
comp=Z,3.4nm,0.6s,baz=277,slow=9.4,SNR=36
SONM PcP **PcP** 20 42 32.5 +0.4
comp=Z,8.8nm,0.9s,baz=271,slow=3.7,SNR=15
SONM LR LR 21 03 52.2
comp=Z,422nm,18.3s,baz=282,slow=40
SONM **Songino Array** 47.20 55 P **P** 20 41 01.3 +0.4
BORG **Borgarnes** 47.52 328 LR LR 21 02 25.3
comp=Z,149nm,19.1s,baz=150,slow=38
ULN **Ulaanbaatar** 47.63 55 P **P** 20 41 05.3 +1.1
SNR=17
ULN **Ulaanbaatar** 47.63 55 *e*P **P** 20 41 04.7 +0.5
comp=Z,37nm,1.0s
ULN **Ulaanbaatar** 47.63 55 P **P** 20 41 05.3 +1.1
comp=Z,39nm,1.1s,comp=Z,427nm
ULN **Ulaanbaatar** 47.63 55 P **P** 20 41 05.3 +1.1
SNR=17
LZH **Lanzhou** 48.19 71 ⇑P **P** 20 41 09.8 +1.1
LZH pP **pP** 20 41 13.0 -0.9
LZH sP **sP** 20 41 16.1 +0.2
LZH PP **PP** 20 42 59.0 -2.0
LZH *e*S **S** 20 48 08.1 +0.6
LZH sS **sS** 20 48 18.5 +2.6
LZH pmax pmax
comp=Z,30nm,1.0s
LZH pmax pmax
comp=Z,220nm,4.1s
LZH LR LR
comp=N,470nm,14.4s
LZH LR LR
comp=E,350nm,13.2s
LZH LR LR
comp=Z,670nm,15.0s
CD2 **Chengdu** 49.95 77 *e*P **P** 20 41 22.8 +0.7
CD2 pP **pP** 20 41 27.3 0.0
CD2 sP **sP** 20 41 30.0 +0.7
CD2 PcP **PcP** 20 42 43.4 +1.2
CD2 PP **PP** 20 43 18.5 +1.6
CD2 S **S** 20 48 32.0 0.0
CD2 sS **sS** 20 48 38.8 -1.7
CD2 ScS **ScS** 20 51 11.8 -1.3
CD2 SS **SS** 20 52 01.1 -3.6
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 pmax pmax
comp=Z,140nm,6.2s
CD2 LR LR
comp=E,460nm,16.8s
CD2 LR LR
comp=Z,320nm,17.8s
CMAI **Chiengmai2** 51.02 93 P **P** 20 41 29.6 -0.9
comp=Z,21nm,0.8s,comp=Z,20µm
CHTO **Chiang Mai** 51.51 94 *e*P **P** 20 41 33.1 -0.8
CHTO pmax pmax
comp=Z,16nm,0.8s
CHTO **Chiang Mai** 51.51 94 *e*P **P** 20 41 33.1 -0.8
comp=Z,16nm,0.8s
CHTO **Chiang Mai** 51.51 94 P **P** 20 41 33.2 -0.7
comp=Z,31nm,1.0s
CHTO **Chiang Mai** 51.51 94 *e*P **P** 20 41 33.1 -0.8
comp=Z,16nm,0.8s
CHTO **Chiang Mai** 51.51 94 P **P** 20 41 33.2 -0.7
comp=Z,31nm,1.0s
CMMT **Chiang Mai** 51.51 94 P **P** 20 41 32.7 -1.3
comp=Z,28nm,0.9s
CMMT **Chiang Mai** 51.51 94 P **P** 20 41 33.1 -0.9
comp=Z,28nm,0.9s
KMI **Kunming** 51.55 85 P **P** 20 41 34.0 -0.5
KMI pP **pP** 20 41 38.6 -1.0
KMI sP **sP** 20 41 40.8 -0.8
KMI S **S** 20 48 58.4 +3.7
KMI SS **SS** 20 52 27.0 -3.7
KMI pmax pmax
comp=Z,20nm,1.0s
KMI pmax pmax
comp=Z,88nm,3.5s
KMI LR LR
comp=N,460nm,21.6s
KMI LR LR
comp=E,190nm,27.4s
CMAR **Chiang Mai Arr** 51.69 94 P **P** 20 41 34.7 -0.6
CMAR **Chiang Mai Arr** 51.69 94 P **P** 20 41 34.7 -0.6
comp=E,14nm,0.7s,baz=297,slow=8.4,SNR=98
CMAR LR LR 21 08 31.0
comp=E,126nm,18.7s,baz=280,slow=42
CMAR **Chiang Mai Arr** 51.69 94 P **P** 20 41 34.7 -0.6
CRAI **Chiangrai** 51.95 91 P P 20 41 31.6 -5.6
LAMP **Lampang** 52.21 94 P **P** 20 41 39.3 +0.1
comp=E,14nm,0.8s,comp=E,107nm
HHC **Hu-ho-hao-te** 52.47 63 *e*P **P** 20 41 41.8 +0.8
HHC pP **pP** 20 41 46.4 +0.2
HHC sP **sP** 20 41 48.9 +0.7
HHC PP **PP** 20 43 41.0 +1.4
HHC S **S** 20 49 06.3 -0.4
HHC sS **sS** 20 49 13.8 -1.5
HHC SS **SS** 20 52 42.0 -2.4
HHC pmax pmax
comp=Z,67nm,1.2s
HHC pmax pmax
comp=Z,250nm,5.0s
HHC LR LR
comp=N,550nm,14.3s
HHC LR LR
comp=E,540nm,14.1s
HHC LR LR
comp=Z,430nm,14.3s
XAN **Xi'an** 52.81 72 P **P** 20 41 43.5 0.0
XAN pmax pmax
comp=Z,11nm,1.1s
XAN pmax pmax
comp=Z,29nm,5.4s
DBIC **Dimbokro** 52.81 249 P **P** 20 41 42.8 -0.8
DBIC **Dimbokro** 52.81 249 P **P** 20 41 42.8 -0.8
comp=Z,15nm,0.6s,baz=33,slow=10.0,SNR=20
DBIC LR LR 21 04 38.4
comp=Z,538nm,18.1s,baz=36,slow=37
DBIC **Dimbokro** 52.81 249 P **P** 20 41 42.8 -0.8
LSZ **Lusaka** 52.84 199 *e*P **P** 20 41 45.8 +1.9
LSZ **Lusaka** 52.84 199 *e*P **P** 20 41 45.6 +1.7
comp=Z,8.4nm,1.0s
LSZ **Lusaka** 52.84 199 *e*P **P** 20 41 45.6 +1.7
comp=Z,8.4nm,1.0s
NANT **Nan** 52.94 93 P **P** 20 41 44.2 -0.4
comp=Z,77nm,0.9s
LIC **Lamto** 53.23 248⇑ *i*P **P** 20 41 46.0 -0.7
comp=Z,58nm,0.7s
LIC *e*R
comp=Z,417nm,18.8s
LIC **Lamto** 53.23 248⇑ *i*P **P** 20 41 46.0 -0.7
comp=Z,58nm,0.7s
LIC **Lamto** 53.23 248⇑ *i*P **P** 20 41 46.0 -0.7
comp=Z,29nm,0.7s
SUMG **Summit** 53.81 338 *e*P **P** 20 41 50.9 +0.2
SUMG pmax pmax
comp=Z,25nm,1.1s
SUMG **Summit** 53.81 338 *e*P **P** 20 41 50.9 +0.2
comp=Z,26nm,1.1s
SUMG **Summit** 53.81 338 *i* P **P** 20 41 51.0 +0.2
comp=Z,13nm,1.1s
SUMG **Summit** 53.81 338 *e*P **P** 20 41 50.9 +0.2
comp=Z,26nm,1.1s
LOEI **Loei** 54.06 94 P **P** 20 41 54.4 +1.5
comp=Z,56nm,0.8s
GYA **Guiyang** 54.12 81⇑ *i*P **P** 20 41 52.8 -0.5
GYA PP **PP** 20 43 57.6 +2.8
GYA ScP **ScP** 20 46 57.3 +1.9
GYA S **S** 20 49 30.0 +0.5
GYA SS **SS** 20 53 11.8 +0.8
GYA pmax pmax
comp=Z,20nm,0.6s
GYA pmax pmax
comp=Z,100nm,3.9s
GYA LR LR

	comp=N,620nm,20.2s									
GYA					LR	LR				
	comp=E,510nm,21.0s									
GYA					LR	LR				
	comp=Z,640nm,20.5s									
PBKT	**Sadao Pong**	**54.32**	**95**		P	**P**		**20**	**41**	**54.1**	**-0.6**
	comp=Z,30nm,1.0s,comp=Z,1µm									
PBKT	**Sadao Pong**	**54.32**	**95**		P	**P**		**20**	**41**	**54.4**	**-0.3**
	comp=Z,30nm,1.0s,comp=Z,1µm									
ENH	**Enshi**	**54.73**	**76**		P	**P**		**20**	**41**	**57.1**	**-0.4**
	comp=Z,11nm,0.9s									
ENH	**Enshi**	**54.73**	**76**		P	**P**		**20**	**41**	**57.2**	**-0.4**
	comp=Z,11nm,0.9s									
TIXI	**Tiksi**	**55.02**	**23**	*c*	*i*P	**P**		**20**	**41**	**59.3**	**+0.3**
TIXI					pmax	pmax				
	comp=Z,22nm,1.2s									
TIXI					MLR	MLR				
	comp=Z,617nm,19.0s									
CHAI	**Chaiyaphum**	**55.50**	**95**		P	**P**		**20**	**42**	**03.6**	**+0.3**
	comp=Z,5.4nm,0.9s									
HIA	**Hailar**	**55.51**	**51**		*e*P	**P**		**20**	**42**	**03.3**	**+0.3**
	comp=Z,14nm,0.8s									
HIA	**Hailar**	**55.51**	**51**		*e*P	**P**		**20**	**42**	**03.3**	**+0.3**
	comp=Z,14nm,0.8s									
NAYO	**Nakonayok**	**55.83**	**97**		P	**P**		**20**	**42**	**05.6**	**0.0**
	comp=Z,204nm,1.0s									
BJI	**Beijing**	**56.05**	**62**		P	**P**		**20**	**42**	**07.4**	**+0.5**
BJI					S	**S**		**20**	**49**	**54.5**	**-0.3**
BJI					SS	**SS**		**20**	**53**	**44.6**	**+3.9**
BJI					pmax	pmax					
	comp=Z,21nm,0.6s										
BJI					pmax	pmax					
	comp=Z,210nm,4.5s										
BJI					LR	LR					
	comp=N,390nm,17.4s										
BJI					LR	LR					
	comp=E,340nm,18.9s										
BJT	**Baijiatuao**	**56.06**	**62**		P	**P**		**20**	**42**	**06.8**	**-0.2**
BJT	**Baijiatuao**	**56.06**	**62**		P	**P**		**20**	**42**	**06.8**	**-0.2**
SKNT	**Sakolnakorn**	**56.55**	**93**		P	**P**		**20**	**42**	**09.9**	**-0.9**
	comp=E,56nm,1.1s										
PANO	**Nakornpanom**	**56.97**	**92**		P	**P**		**20**	**42**	**13.0**	**-0.8**
	comp=E,300nm,1.1s										
BBTS	**Babate**	**57.28**	**265**		LR	LR		21	08	38.7	
	comp=E,82nm,19.4s,baz=134,slow=38										
YAK	**Yakutsk**	**57.38**	**34**		*e*P	**P**		**20**	**42**	**15.3**	**-0.7**
YAK					pmax	pmax					
	comp=E,16nm,1.6s										
YAK					pmax	pmax					
	comp=Z,22nm,0.9s										
YAK					pmax	pmax					
	comp=N,13nm,1.8s										
YAK					MLR	MLR					
	comp=N,209nm,18.0s										
WHN	**Wuhan**	**58.42**	**73**		P	**P**		**20**	**42**	**24.4**	**+0.6**
TSUM	**Tsumeb**	**59.96**	**208**		*e*P	**P**		**20**	**42**	**36.1**	**+1.5**
TSUM	**Tsumeb**	**59.96**	**208**		*e*P	**P**		**20**	**42**	**36.0**	**+1.4**
	comp=N,16nm,1.5s										
TSUM	**Tsumeb**	**59.96**	**208**		*e*P	**P**		**20**	**42**	**36.0**	**+1.4**
	comp=N,16nm,1.5s										
QIZ	**Qiongzhong**	**60.24**	**87**		P	**P**		**20**	**42**	**38.6**	**+2.0**
QIZ					S	**S**		**20**	**50**	**52.1**	**+1.9**
QIZ					LR	LR					
	comp=Z,220nm,21.8s										
DL2	**Dalian**	**60.39**	**61**		P	**P**		**20**	**42**	**35.4**	**-1.9**
DL2					S	**S**		**20**	**50**	**48.5**	**-3.0**
DL2					pmax	pmax					
	comp=Z,77nm,6.8s										
DL2					LR	LR					
	comp=Z,190nm,4.1s										
PSI	**Prapat**	**60.80**	**109**		P	**P**		**20**	**42**	**39.1**	**-1.5**
PSI	**Prapat**	**60.80**	**109**		P	**P**		**20**	**42**	**39.1**	**-1.5**
	comp=Z,9.5nm,0.7s,baz=309,slow=6.7,SNR=11										
CN2	**Changchun**	**61.08**	**55**		*e*P	**P**		**20**	**42**	**41.8**	**-0.1**
CN2					*e*S	**S**		**20**	**50**	**58.3**	**-1.9**
CN2					pmax	pmax					
	comp=Z,10.0nm,0.6s										
CN2					LR	LR					
	comp=N,400nm,17.0s										
CN2					LR	LR					
	comp=E,300nm,17.0s										
CN2					LR	LR					
	comp=Z,300nm,16.0s										
NJ2	**Nanjing**	**61.23**	**70**		*e*P	**P**		**20**	**42**	**42.8**	**-0.3**
NJ2					pmax	pmax					
	comp=Z,30nm,1.0s										
IPM	**Ipoh**	**61.37**	**106**		*e*P	**P**		**20**	**42**	**41.8**	**-2.5**
	comp=Z,19nm,0.9s										
IPM	**Ipoh**	**61.37**	**106**		P	**P**		**20**	**42**	**42.3**	**-2.0**
	comp=Z,26nm,1.1s										
IPM	**Ipoh**	**61.37**	**106**		*e*P	**P**		**20**	**42**	**41.8**	**-2.5**
	comp=Z,19nm,0.9s										
KLR	**Kul'dur**	**62.89**	**47**		*e*P	P		20	42	50.0	-4.0
KLR					pmax	pmax					
	comp=Z,50nm,1.8s										
SLR	**Silverton**	**62.89**	**195**		*e*P	**P**		**20**	**42**	**56.0**	**+1.7**
SLR					AMB	AMB		20	42	56.9	
	comp=Z,15nm,1.1s										
WIN	**Windhoek**	**63.21**	**207**		*e*P	**P**		**20**	**42**	**58.6**	**+2.1**
KSR	**Koster**	**63.31**	**197**		*e*P	**P**		**20**	**42**	**58.9**	**+1.8**
MDJ	**Mudanjiang**	**63.47**	**53**		P	P		20	42	54.5	-3.4
MDJ					S	**S**		**20**	**51**	**33.3**	**+3.0**
MDJ					SS	**SS**		**20**	**55**	**41.5**	**+4.7**
MDJ					pmax	pmax					
	comp=Z,140nm,4.3s										
MDJ					LR	LR					
	comp=E,180nm,33.9s										
ERPM	**east rand prop**	**63.49**	**195**		*e*P	**P**		**20**	**42**	**59.1**	**+0.8**
ERPM					AMB	AMB		20	43	00.5	
	comp=Z,22nm,4.0s										
POGA	**Pongola**	**63.85**	**192**		*e*P	**P**		**20**	**43**	**01.9**	**+1.4**
POGA					AMB	AMB		20	43	02.7	
	comp=Z,22nm,0.9s										
PRYS	**Parys**	**64.24**	**196**		*e*P	**P**		**20**	**43**	**03.5**	**+0.2**
PRYS					AMB	AMB		20	43	04.5	
	comp=Z,11nm,1.3s										
SWZ	**Schweizer**	**64.97**	**198**		*e*P	**P**		**20**	**43**	**08.0**	**0.0**
SWZ					AMB	AMB		20	43	10.8	
	comp=Z,27nm,3.8s										
HABR	**Khabarovsk**	**65.19**	**47**		*e*P	**P**		**20**	**43**	**08.0**	**-1.1**
HABR					*e*PPP	PPP		20	47	04.3	
HABR					S	**S**		**20**	**51**	**49.1**	**-2.2**
HABR					*e*			20	53	00.1	
HABR					pmax	pmax					
	comp=E,41nm,1.3s										
HABR					pmax	pmax					
	comp=N,81nm,2.9s										
HABR					pmax	pmax					
	comp=Z,115nm,2.9s										
HABR					MLR	MLR					
	comp=Z,335nm,24.0s										
USRK	**Ussuriysk Arra**	**65.19**	**52**		P	**P**		**20**	**43**	**08.4**	**-0.8**
	comp=Z,10nm,0.8s,baz=282,slow=5.5,SNR=28										
USRK					LR	LR		21	14	36.4	
	comp=Z,266nm,19.7s,baz=90,slow=39										
KSAR	**Wonju Array Be**	**65.47**	**61**		P	**P**		**20**	**43**	**10.7**	**-0.4**
KSAR	**Wonju Array Be**	**65.47**	**61**		P	**P**		**20**	**43**	**10.7**	**-0.4**
KSRS	**Korea Array**	**65.49**	**61**		P	**P**		**20**	**43**	**10.7**	**-0.5**
	comp=Z,11nm,0.8s,baz=290,slow=7.0,SNR=20										
KSRS					LR	LR		21	16	39.4	
	comp=Z,133nm,18.0s,baz=118,slow=40										
BOSA	**Boshof**	**66.36**	**197**		P	**P**		**20**	**43**	**17.3**	**+0.5**
BOSA	**Boshof**	**66.36**	**197**		P	**P**		**20**	**43**	**17.3**	**+0.5**
	comp=Z,9.4nm,0.9s,baz=24,slow=6.3,SNR=17										
BOSA					LR	LR		21	14	39.5	
	comp=Z,380nm,18.9s,baz=9.2,slow=38										
BOSA	**Boshof**	**66.36**	**197**		P	**P**		**20**	**43**	**17.3**	**+0.5**
SEY	**Seymchan**	**66.57**	**28**		*e*P	**P**		**20**	**43**	**19.7**	**+1.9**
YHNB	**Yeheng**	**66.66**	**76**		*e*P	**P**		**20**	**43**	**19.7**	**+0.6**
	comp=Z,53nm,1.1s										
YHNB	**Yeheng**	**66.66**	**76**		*e*P	**P**		**20**	**43**	**19.7**	**+0.6**
	comp=Z,53nm,1.1s										
BILL	**Bilibino**	**68.02**	**20**	⇓	*e*P	**P**		**20**	**43**	**28.1**	**+1.2**
BILL					*e*			20	45	53.3	
BILL					pmax	pmax					
	comp=Z,22nm,1.2s										
BILL					MLR	MLR					
	comp=Z,900nm,21.0s										
YSS	**Yuzh-Sakhalins**	**70.47**	**46**		*e*P	P		20	43	36.7	-5.7
YSS					*e*			20	43	42.0	
KSM	**Kuching**	**70.51**	**103**		*e*P	**P**		**20**	**43**	**41.7**	**-1.4**
	comp=Z,11nm,1.1s										
KSM	**Kuching**	**70.51**	**103**		*e*P	**P**		**20**	**43**	**41.7**	**-1.4**
	comp=Z,11nm,1.1s										
SBUM	**Sibu**	**71.44**	**101**		P	**P**		**20**	**43**	**47.7**	**-1.1**
SCHQ	**Schefferville**	**71.77**	**325**		P	**P**		**20**	**43**	**50.2**	**0.0**
SCHQ	**Schefferville**	**71.77**	**325**		P	**P**		**20**	**43**	**50.2**	**0.0**
	comp=Z,12nm,0.7s,baz=58,slow=6.9,SNR=17										
SCHQ	**Schefferville**	**71.77**	**325**		P	**P**		**20**	**43**	**50.2**	**0.0**
MAJO	**Matsushiro**	**73.09**	**57**		*e*P	**P**		**20**	**43**	**57.4**	**-1.0**
MAJO					pmax	pmax					
	comp=Z,7.0nm,0.9s										
MAJO	**Matsushiro**	**73.09**	**57**		*e*P	**P**		**20**	**43**	**57.4**	**-1.0**
	comp=Z,7.3nm,0.9s										
MAJO	**Matsushiro**	**73.09**	**57**		*e*P	**P**		**20**	**43**	**57.4**	**-1.0**
	comp=Z,7.3nm,0.9s										
MAT	**Matsushiro**	**73.09**	**57**		P	**P**		**20**	**43**	**57.4**	**-1.0**
MAT					S	**S**		**20**	**53**	**25.8**	**+0.6**
MJAR	**Matsushiro Arr**	**73.09**	**57**		P	**P**		**20**	**43**	**57.4**	**-1.0**
MJAR	**Matsushiro Arr**	**73.09**	**57**		P	**P**		**20**	**43**	**57.4**	**-1.0**
	comp=Z,7.5nm,1.1s,baz=297,slow=5.9,SNR=13										
MJAR					LR	LR		21	19	37.4	
	comp=Z,202nm,19.9s,baz=300,slow=39										
MJAR	**Matsushiro Arr**	**73.09**	**57**		P	**P**		**20**	**43**	**57.4**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**73.89**	**47**		P	**P**		**20**	**44**	**03.7**	**+0.8**
YUK					*e*			20	46	46.6	
YUK					*e*PPP	PPP		20	48	32.1	
YUK					*i* S	**S**		**20**	**53**	**35.3**	**+1.3**
YUK					*i* SS	**SS**		**20**	**58**	**13.4**	**-4.0**
YUK					*i* SSS	SSS		21	01	31.5	
PETK	**Petropavlovsk-**	**74.72**	**35**		P	**P**		**20**	**44**	**05.7**	**-1.9**
PETK	**Petropavlovsk-**	**74.72**	**35**		P	**P**		**20**	**44**	**05.7**	**-1.9**
PETK	**Petropavlovsk-**	**74.72**	**35**		P	**P**		**20**	**44**	**05.7**	**-1.9**
	comp=Z,11nm,0.9s,baz=253,slow=1.5,SNR=18										
PETK					LR	LR		21	24	01.5	
	comp=Z,251nm,18.4s,baz=191,slow=41										
PETK	**Petropavlovsk-**	**74.72**	**35**		P	**P**		**20**	**44**	**05.7**	**-1.9**
COLD	**Coldfoot**	**76.73**	**5**		*e*P	**P**		**20**	**44**	**19.1**	**+0.3**
	comp=Z,24nm,1.0s										
COLD	**Coldfoot**	**76.73**	**5**		*e*P	**P**		**20**	**44**	**19.1**	**+0.3**
	comp=Z,24nm,1.0s										
PQI	**Presque Isle**	**77.39**	**319**		*e*P	**P**		**20**	**44**	**22.6**	**-0.3**
	comp=Z,120nm,1.3s										
PQI	**Presque Isle**	**77.39**	**319**		*e*P	**P**		**20**	**44**	**22.6**	**-0.3**
	comp=Z,120nm,1.3s										
COLA	**College**	**79.23**	**5**		*e*P	**P**		**20**	**44**	**33.3**	**+0.5**
COLA					pmax	pmax					
	comp=Z,191nm,0.9s										
COLA	**College**	**79.23**	**5**		*e*P	**P**		**20**	**44**	**33.2**	**+0.5**
	comp=Z,191nm,0.9s										
COLA	**College**	**79.23**	**5**		*e*P	**P**		**20**	**44**	**33.2**	**+0.5**
	comp=Z,191nm,0.9s										
ILAR	**Eielson Array**	**79.39**	**4**		P	**P**		**20**	**44**	**33.3**	**-0.4**
ILAR					PKKPbc	**PKKPbc**		**21**	**03**	**22.4**	**-0.7**
ILAR	**Eielson Array**	**79.39**	**4**		P	**P**		**20**	**44**	**33.3**	**-0.4**
	comp=Z,9.3nm,0.9s,baz=328,slow=4.2,SNR=76										
ILAR					PKKPbc	**PKKPbc**		**21**	**03**	**22.4**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=194,slow=2.0,SNR=5.9										
ILAR					LR	LR		21	24	49.8	
	comp=Z,158nm,19.4s,baz=192,slow=40										
ILAR	**Eielson Array**	**79.39**	**4**		P	**P**		**20**	**44**	**33.3**	**-0.4**
EGAK	**Eagle**	**79.65**	**2**		*e*P	**P**		**20**	**44**	**35.1**	**0.0**
	comp=Z,31nm,1.0s										
EGAK	**Eagle**	**79.65**	**2**		*e*P	**P**		**20**	**44**	**35.1**	**0.0**
	comp=Z,31nm,1.0s										
MCK	**McKinley**	**80.28**	**6**		*e*P	**P**		**20**	**44**	**38.3**	**-0.2**
MCK					pmax	pmax					
	comp=Z,45nm,1.2s										
MCK	**McKinley**	**80.28**	**6**		*e*P	**P**		**20**	**44**	**38.3**	**-0.2**
	comp=Z,45nm,1.2s										
MCK	**McKinley**	**80.28**	**6**		*e*P	**P**		**20**	**44**	**38.3**	**-0.2**
	comp=Z,45nm,1.2s										
YKA	**Yellowknife Ar**	**80.42**	**350**		P	**P**		**20**	**44**	**39.2**	**0.0**
YKA					PKKPbc	**PKKPbc**		**21**	**03**	**21.6**	**+0.7**
YKA	**Yellowknife Ar**	**80.42**	**350**		P	**P**		**20**	**44**	**39.2**	**0.0**
	comp=Z,16nm,0.9s,baz=16,slow=5.8,SNR=45										
YKA					PKKPbc	**PKKPbc**		**21**	**03**	**21.6**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=180,slow=4.3,SNR=3.9										
YKA	**Yellowknife Ar**	**80.42**	**350**		P	**P**		**20**	**44**	**39.2**	**0.0**
TRF	**Thorofare Moun**	**80.44**	**6**		*e*P	**P**		**20**	**44**	**38.4**	**-1.2**
	comp=Z,23nm,1.2s										
TRF	**Thorofare Moun**	**80.44**	**6**		*e*P	**P**		**20**	**44**	**38.4**	**-1.2**
	comp=Z,22nm,1.2s										
PPLA	**Purkeypile**	**80.81**	**7**		*e*P	**P**		**20**	**44**	**41.5**	**0.0**
	comp=Z,28nm,1.2s										
PPLA	**Purkeypile**	**80.81**	**7**		*e*P	**P**		**20**	**44**	**41.5**	**0.0**
	comp=Z,28nm,1.2s										
LBNH	**Lisbon**	**81.06**	**319**		*e*P	**P**		**20**	**44**	**43.5**	**+0.4**
LBNH					pmax	pmax					
	comp=Z,50nm,1.2s										
LBNH	**Lisbon**	**81.06**	**319**		*e*P	**P**		**20**	**44**	**43.5**	**+0.4**
	comp=Z,50nm,1.2s										
LBNH	**Lisbon**	**81.06**	**319**		*e*P	**P**		**20**	**44**	**43.5**	**+0.4**
	comp=Z,50nm,1.2s										
MENT	**Mentasta**	**81.39**	**3**		P	**P**		**20**	**44**	**44.9**	**+0.4**
MENT	**Mentasta**	**81.39**	**3**		P	**P**		**20**	**44**	**44.9**	**+0.4**
FRNY	**Flat Rock**	**81.54**	**320**		*e*P	**P**		**20**	**44**	**45.2**	**-0.3**
	comp=Z,45nm,1.3s										
FRNY	**Flat Rock**	**81.54**	**320**		*e*P	**P**		**20**	**44**	**45.2**	**-0.3**
	comp=Z,45nm,1.3s										
HNH	**Hanover**	**81.61**	**319**		*e*P	**P**		**20**	**44**	**46.3**	**+0.3**
	comp=Z,63nm,1.1s										
HNH	**Hanover**	**81.61**	**319**		*e*P	**P**		**20**	**44**	**46.3**	**+0.3**
	comp=Z,63nm,1.1s										
MDV	**Middlebury**	**81.89**	**319**		*e*P	**P**		**20**	**44**	**47.5**	**+0.1**
MDV	**Middlebury**	**81.89**	**319**		*e*P	**P**		**20**	**44**	**47.5**	**+0.1**
LONY	**Lake Ozonia**	**82.20**	**320**		*e*P	**P**		**20**	**44**	**49.0**	**-0.1**
	comp=Z,28nm,0.9s										
LONY	**Lake Ozonia**	**82.20**	**320**		*e*P	**P**		**20**	**44**	**49.0**	**-0.1**
	comp=Z,28nm,0.9s										
SML	**Sawmill**	**82.23**	**6**		*e*P	**P**		**20**	**44**	**48.7**	**-0.2**
SML					pmax	pmax					
	comp=Z,11nm,0.8s										
SML	**Sawmill**	**82.23**	**6**		*e*P	**P**		**20**	**44**	**48.7**	**-0.2**
	comp=Z,11nm,0.8s										
SML	**Sawmill**	**82.23**	**6**		*e*P	**P**		**20**	**44**	**48.7**	**-0.2**
	comp=Z,11nm,0.8s										
PMR	**Palmer**	**82.38**	**6**		*e*P	**P**		**20**	**44**	**50.1**	**+0.5**
PMR					pmax	pmax					
	comp=Z,33nm,1.0s										
PMR	**Palmer**	**82.38**	**6**		*e*P	**P**		**20**	**44**	**50.0**	**+0.5**
	comp=Z,33nm,1.0s										
PMR	**Palmer**	**82.38**	**6**		*e*P	**P**		**20**	**44**	**50.0**	**+0.5**
	comp=Z,33nm,1.0s										
BRYW	**Bryant College**	**82.40**	**317**		*e*P	**P**		**20**	**44**	**50.4**	**+0.2**
	comp=Z,42nm,1.0s										
BRYW	**Bryant College**	**82.40**	**317**		*e*P	**P**		**20**	**44**	**50.4**	**+0.2**
	comp=Z,42nm,1.0s										
ACCN	**Adirondack Com**	**82.57**	**319**		*e*P	**P**		**20**	**44**	**50.8**	**-0.2**
	comp=Z,37nm,1.1s										
ACCN	**Adirondack Com**	**82.57**	**319**		*e*P	**P**		**20**	**44**	**50.8**	**-0.2**
	comp=Z,37nm,1.1s										
DIV	**Divide**	**83.08**	**4**		*e*P	**P**		**20**	**44**	**54.4**	**+0.9**
	comp=Z,43nm,0.9s										
DIV	**Divide**	**83.08**	**4**		*e*P	**P**		**20**	**44**	**54.3**	**+0.9**
	comp=Z,43nm,0.9s										
RSO	**Redoubt South**	**83.13**	**8**		*e*P	**P**		**20**	**44**	**53.6**	**-0.2**
	comp=Z,21nm,0.8s										
RSO	**Redoubt South**	**83.13**	**8**		*e*P	**P**		**20**	**44**	**53.6**	**-0.2**
	comp=Z,21nm,0.8s										
BMRM	**Bremner River**	**83.31**	**4**		*e*P	**P**		**20**	**44**	**54.0**	**-0.6**
	comp=Z,16nm,1.0s										
BMRM	**Bremner River**	**83.31**	**4**		*e*P	**P**		**20**	**44**	**54.0**	**-0.6**
	comp=Z,16nm,1.0s										
BINY	**Binghamton**	**84.62**	**319**		*e*P	**P**		**20**	**45**	**00.8**	**-0.8**
	comp=Z,30nm,1.0s										
BINY	**Binghamton**	**84.62**	**319**		*e*P	**P**		**20**	**45**	**00.8**	**-0.8**
	comp=Z,30nm,1.0s										
PNL	**Peninsula**	**84.81**	**1**		*e*P	**P**		**20**	**45**	**02.6**	**+0.4**
	comp=Z,37nm,1.0s										
PNL	**Peninsula**	**84.81**	**1**		*e*P	**P**		**20**	**45**	**02.6**	**+0.4**
	comp=Z,37nm,1.0s										
FFC	**Flin Flon**	**85.01**	**341**		P	**P**		**20**	**45**	**03.9**	**+0.6**
	comp=Z,98nm,1.3s,SNR=8.5										
FFC	**Flin Flon**	**85.01**	**341**	*c*	*e*P	**P**		**20**	**45**	**03.8**	**+0.5**
FFC	**Flin Flon**	**85.01**	**341**		*e*P	**P**		**20**	**45**	**03.1**	**-0.1**
	comp=Z,23nm,1.1s										
FFC	**Flin Flon**	**85.01**	**341**		*e*P	**P**		**20**	**45**	**03.2**	**-0.1**
	comp=Z,23nm,1.1s										
KDAK	**Kodiak Island**	**85.77**	**9**		P	**P**		**20**	**45**	**08.9**	**+2.0**
	comp=Z,362nm,1.0s,SNR=6.2										
KDAK	**Kodiak Island**	**85.77**	**9**		*e*P	**P**		**20**	**45**	**07.6**	**+0.7**
	comp=Z,56nm,1.0s										
KDAK	**Kodiak Island**	**85.77**	**9**		*e*P	**P**		**20**	**45**	**07.6**	**+0.7**
	comp=Z,56nm,1.0s										
OHAK	**Old Harbor**	**86.22**	**9**		*e*P	**P**		**20**	**45**	**09.9**	**+0.7**
	comp=Z,45nm,1.2s										
OHAK	**Old Harbor**	**86.22**	**9**		*e*P	**P**		**20**	**45**	**09.9**	**+0.7**
	comp=Z,45nm,1.2s										
CHGN	**Chignik**	**86.36**	**12**		*e*P	**P**		**20**	**45**	**08.1**	**-1.8**
CHGN	**Chignik**	**86.36**	**12**		*e*P	**P**		**20**	**45**	**08.1**	**-1.8**
ULM	**Lac du Bonnet**	**87.04**	**335**		P	**P**		**20**	**45**	**13.3**	**0.0**
ULM	**Lac du Bonnet**	**87.04**	**335**		P	**P**		**20**	**45**	**13.3**	**0.0**
	comp=Z,9.6nm,0.9s,baz=45,slow=4.5,SNR=6.8										
ULM	**Lac du Bonnet**	**87.04**	**335**		P	**P**		**20**	**45**	**13.4**	**0.0**
COWI	**Conover**	**87.92**	**329**		*e*P	**P**		**20**	**45**	**16.9**	**-0.8**
	comp=Z,13nm,0.9s										
COWI	**Conover**	**87.92**	**329**		*e*P	**P**		**20**	**45**	**16.9**	**-0.8**
	comp=Z,13nm,0.9s										
WRAK	**Wrangell Islan**	**88.03**	**358**		*e*P	**P**		**20**	**45**	**19.1**	**+1.1**
	comp=Z,25nm,0.8s										
WRAK	**Wrangell Islan**	**88.03**	**358**		*e*P	**P**		**20**	**45**	**19.1**	**+1.1**
	comp=Z,25nm,0.8s										
AGMN	**Agassiz Nation**	**88.69**	**334**		*e*P	**P**		**20**	**45**	**19.9**	**-1.5**
	comp=Z,8.4nm,0.9s										
AGMN	**Agassiz Nation**	**88.69**	**334**		*e*P	**P**		**20**	**45**	**19.9**	**-1.5**
	comp=Z,8.4nm,0.9s										
CRAG	**Craig**	**89.00**	**358**		P	**P**		**20**	**45**	**20.8**	**-1.8**
CRAG	**Craig**	**89.00**	**358**		P	**P**		**20**	**45**	**20.8**	**-1.8**
SPMN	**St. Paul**	**90.12**	**331**	⇑	P	**P**		**20**	**45**	**27.7**	**-0.4**
	baz=90,SNR=6.5										
MDND	**Maddock**	**90.36**	**336**	⇓	P	**P**		**20**	**45**	**28.6**	**-0.6**
	baz=90										
A24A	**Westby**	**90.77**	**339**	⇑	P	**P**		**20**	**45**	**30.8**	**-0.2**
	baz=90										
A23A	**Redstone**	**90.98**	**340**	⇓	P	**P**		**20**	**45**	**32.0**	**-0.1**
	baz=91										
DGMT	**Dagmar**	**91.23**	**339**	⇓	P	**P**		**20**	**45**	**33.1**	**-0.1**
	baz=91										
A22A	**Carney Farms,**	**91.24**	**340**	⇑	P	**P**		**20**	**45**	**33.3**	**0.0**
	baz=91										
B23A	**Brockton**	**91.46**	**340**	⇓	P	**P**		**20**	**45**	**34.1**	**-0.3**
	baz=91										
A21A	**Bergtoll Ranch**	**91.51**	**341**	⇑	P	**P**		**20**	**45**	**34.5**	**0.0**
	baz=91										
SFIN	**Scholer Farm**	**91.55**	**324**	⇑	P	**P**		**20**	**45**	**33.9**	**-0.9**
	baz=91										
A20A	**Cobblestone Ra**	**91.88**	**342**	⇑	P	**P**		**20**	**45**	**35.7**	**-0.5**
	baz=92										
B22A	**Reddig Ranch S**	**91.89**	**340**	⇓	P	**P**		**20**	**45**	**36.8**	**+0.5**
	baz=92										
A19A	**Klindworth Far**	**92.04**	**342**	⇓	P	**P**		**20**	**45**	**37.6**	**+0.6**
	baz=92,SNR=15										
B21A	**Ellsworth Farm**	**92.06**	**341**	⇑	P	**P**		**20**	**45**	**37.4**	**+0.4**
	baz=92										
C23A	**Lambert**	**92.12**	**339**	⇑	P	**P**		**20**	**45**	**38.0**	**+0.6**
	baz=92										
C24A	**Savage**	**92.14**	**339**	⇑	P	**P**		**20**	**45**	**37.7**	**+0.2**
	baz=92										
B20A	**Solberg Farm,**	**92.31**	**341**	⇑	P	**P**		**20**	**45**	**38.1**	**-0.2**
	baz=92										

FITZ	Fitzroy Crossi	94.33	109	P		P	20 45 47.7	-0.1
FITZ	Fitzroy Crossi	94.33	109	P		P	20 45 47.7	-0.1
	comp=Z,6.9nm,0.8s,baz=275,slow=3.6,SNR=14							
FITZ	Fitzroy Crossi	94.33	109	P		P	20 45 47.7	-0.1
E19A	Rath Farm, Rou	94.33	341	⇑P		P	20 45 47.9	+0.2
	baz=94,SNR=11							
BSMT	Bassoo Peak	94.43	345	*e*P		P	20 45 47.5	-0.7
	comp=Z,4.6nm,0.9s							
BSMT	Bassoo Peak	94.43	345	*e*P		P	20 45 47.5	-0.7
	comp=Z,4.6nm,0.9s							
NEW	Newport	94.48	347	*e*P		P	20 45 47.7	-0.5
	comp=Z,14nm,1.2s							
NEW	Newport	94.48	347	*e*P		P	20 45 47.7	-0.5
	comp=Z,14nm,1.2s							
NEW	Newport	94.48	347	⇑P		P	20 45 48.4	+0.2
	baz=94,SNR=8.4							
I27A	Quinn	94.50	336	⇓P		P	20 45 48.8	+0.4
	baz=94							
H25A	Fruitdale	94.51	337	⇓P		P	20 45 48.8	+0.4
	baz=94							
E18A	Harlowton	94.53	342	⇓P		P	20 45 49.0	+0.4
	baz=94							
G23A	Biddle	94.54	338	⇓P		P	20 45 48.8	+0.2
	baz=94							
C13A	Hot Springs	94.55	345	⇑P		P	20 45 48.8	+0.2
	baz=94							
SWMT	Swartz Lake	94.59	345	P		P	20 45 49.3	+0.4
	comp=Z,8.4nm,1.2s							
SWMT	Swartz Lake	94.59	345	P		P	20 45 49.3	+0.4
	comp=Z,8.4nm,1.2s							
SIUC	Southern Illin	94.66	324	*e*P		P	20 45 48.5	-0.7
	comp=Z,43nm,1.1s							
SIUC	Southern Illin	94.66	324	*e*P		P	20 45 48.5	-0.7
	comp=Z,43nm,1.1s							
H24A	Dirks Ranch, A	94.69	338	⇑P		P	20 45 49.1	-0.3
	baz=94							
G22A	Birney	94.79	339	⇑P		P	20 45 49.6	-0.2
	baz=94							
E17A	Martinsdale	94.86	342	⇑P		P	20 45 50.3	+0.1
	baz=94,SNR=8.2							
F19A	Roth Farm, Mol	94.94	341	⇑P		P	20 45 51.1	+0.7
	baz=94							
CHMT	Chamberlain Mo	94.99	344	*e*P		P	20 45 50.3	-0.5
	comp=Z,7.3nm,1.2s							
CHMT	Chamberlain Mo	94.99	344	*e*P		P	20 45 50.3	-0.5
	comp=Z,7.3nm,1.2s							
G21A	Lodge Grass	95.04	340	⇓P		P	20 45 51.0	+0.1
	baz=95							
K29A	Lazy Trails An	95.05	334	⇑P		P	20 45 51.2	+0.2
	baz=95							
I25A	Rochford	95.09	337	⇑P		P	20 45 51.6	+0.3
	baz=95							
F18A	Big Timber	95.09	342	⇓P		P	20 45 51.7	+0.5
	baz=95							
RSSD	Black Hills	95.09	337	*e*P		P	20 45 51.1	-0.3
RSSD				pmax		pmax		
	comp=Z,5.0nm,0.8s							
RSSD	Black Hills	95.09	337	*e*P		P	20 45 51.1	-0.3
	comp=Z,4.9nm,0.8s							
RSSD	Black Hills	95.09	337	*e*P		P	20 45 51.1	-0.3
	comp=Z,4.9nm,0.8s							
G20A	Bridger	95.33	340	⇑P		P	20 45 52.2	-0.1
	baz=95,SNR=6.5							
F17A	Fitzpatrick Pl	95.33	342	⇑P		P	20 45 52.9	+0.6
	baz=95,SNR=8.4							
H22A	Clearmont	95.37	339	⇑P		P	20 45 52.6	+0.2
	baz=95							
K28A	Ten Mile Ranch	95.46	335	⇓P		P	20 45 53.3	+0.4
	baz=95							
I24A	Kuemmerle Ranc	95.52	337	⇑P		P	20 45 53.2	0.0
	baz=95							
H21A	Big Horn, Sher	95.54	339	⇓P		P	20 45 53.4	+0.1
	baz=95							
UTMT	University of	95.59	323	P		P	20 45 50.9	-2.6
	comp=Z,130nm,1.6s							
UTMT	University of	95.59	323	P		P	20 45 50.9	-2.6
	comp=Z,130nm,1.6s							
J25A	Sunshine Ranch	95.68	337	⇓P		P	20 45 54.3	+0.4
	baz=95							
I23A	Meade Ranch, G	95.68	338	⇑P		P	20 45 53.8	-0.1
	baz=95							
L29A	Maesberg Ranch	95.72	334	⇓P		P	20 45 54.4	+0.3
	baz=95							
G17A	Pierce Place,	95.90	342	⇑P		P	20 45 55.4	+0.5
	baz=96							
H20A	Greybull	95.94	340	⇓P		P	20 45 55.5	+0.4
	baz=96							
E12A	Beaver Dam Sad	95.96	346	⇓P		P	20 45 55.6	+0.5
	baz=96							
J24A	Dixon Ranch, L	96.00	337	⇑P		P	20 45 55.1	-0.2
	baz=96							
H19A	Powell	96.05	341	⇑P		P	20 45 55.8	+0.2
	baz=96							
I22A	9 Mile Ranch,	96.05	339	⇓P		P	20 45 55.9	+0.2
	baz=96							
K26A	Motz Farm, Whi	96.09	336	⇓P		P	20 45 56.0	+0.3
	baz=96							
H18A	Shoshone NF, C	96.22	341	⇓P		P	20 45 56.5	0.0
	baz=96							
L27A	T5 Ranch, Ells	96.35	335	⇑P		P	20 45 57.3	+0.4
	baz=96							
I21A	Big Trails, Te	96.36	339	⇓P		P	20 45 57.1	+0.1
	baz=96							
K25A	Mack Ranch, Ha	96.40	336	⇓P		P	20 45 57.3	+0.1
	baz=96							
I20A	Worland	96.47	340	⇓P		P	20 45 57.5	0.0
	baz=96							
J22A	Midwest	96.49	338	⇓P		P	20 45 57.1	-0.6
	baz=96							
M28A	Bar X Bar Ranc	96.63	334	⇓P		P	20 45 59.4	+1.1
	baz=96							
I19A	Meeteetse	96.63	340	⇑P		P	20 45 58.7	+0.4
	baz=96							
J21A	Lysite	96.83	339	⇑P		P	20 45 59.4	+0.1
	baz=96							
L25A	Engebretsen Ra	96.84	336	⇓P		P	20 45 59.5	+0.3
	baz=96							
N29A	Votaw Ranch, W	96.86	333	⇑P		P	20 45 59.3	0.0
	baz=96							
J20A	Shoshoni	97.01	339	⇑P		Pdif	20 46 00.2	+0.1
	baz=97							
G12A	Big Creek, Yel	97.14	345	⇓P		Pdif	20 46 01.0	+0.3
	baz=97							
K22A	Casper	97.20	338	⇑P		P	20 46 00.4	-0.5
	baz=97							
L24A	Wheatland	97.25	337	⇓P		P	20 46 01.0	-0.1
	baz=97							
J19A	Crowheart	97.36	340	⇓P		P	20 46 01.6	0.0
	baz=97							
K21A	Alcova	97.43	339	⇑P		P	20 46 01.9	0.0
	baz=97							
L23A	Garrett	97.43	337	⇑P		P	20 46 01.7	-0.3
	baz=97							
M25A	Palm-Egli Farm	97.51	336	⇑P		P	20 46 02.1	-0.2
	baz=97							
P31A	Stockton	97.53	332	⇑P		P	20 46 02.2	-0.1
	baz=97							
O29A	4D Ranch, Culb	97.53	333	⇓P		P	20 46 02.0	-0.4
	baz=97							
H12A	Diamond D Ranc	97.59	345	⇓P		P	20 46 02.6	0.0
	baz=97							
K19A	Absolon Red Bu	97.71	340	⇓P		P	20 46 03.1	-0.2
	baz=97							
M24A	Cheyenne	97.73	336	⇑P		P	20 46 03.1	-0.3
	baz=97							
BMO	Blue Mountains	97.80	346	*e*P		P	20 46 02.0	-1.5
	comp=Z,5.4nm,1.3s							
BMO	Blue Mountains	97.80	346	*e*P		P	20 46 02.0	-1.5
	comp=Z,5.4nm,1.3s							
PDAR	Pinedale Array	97.97	340	P		P	20 46 03.6	-0.8
PDAR	Pinedale Array	97.97	340	P		P	20 46 03.6	-0.8
	comp=Z,0.6nm,0.8s,baz=56,slow=3.7,SNR=6.1							
PDAR				LR		LR	21 36 06.7	
	comp=Z,104nm,19.0s,baz=31,slow=39							
PDAR	Pinedale Array	97.97	340	P		P	20 46 03.6	-0.8
L21A	Rawlins	98.08	338	⇓P		P	20 46 04.7	-0.2
	baz=98							
L20A	Wamsutter	98.32	339	⇑P		P	20 46 05.9	-0.1
	baz=98							
Q30A	Quinter	98.32	332	⇓P		Pdif	20 46 06.1	+0.2
	baz=98							
N24A	Carr	98.33	336	⇑P		P	20 46 05.9	-0.2
	baz=98							
I12A	Atlanta	98.37	344	⇓P		P	20 46 05.7	-0.4
	baz=98							
M21A	Separation Pea	98.40	338	⇓P		P	20 46 06.3	-0.1
	baz=98							
HLID	Hailey	98.43	344	⇑P		P	20 46 06.3	-0.2
	baz=98							
L19A	Farson	98.53	340	⇓P		P	20 46 06.3	-0.6
	baz=98							
N23A	Red Feather La	98.61	337	⇓P		P	20 46 07.1	-0.3
	baz=98							
Q29A	Oakley	98.69	333	⇓P		P	20 46 07.4	-0.2
	baz=98							
Q28A	Sharon Springs	98.85	333	⇓Pdiff		P	20 46 08.2	-0.1
	baz=98							
MFID	Camas Ranch	98.88	345	⇓Pdiff		P	20 46 08.1	-0.2
	baz=98							
R30A	Dighton	98.95	332	⇑Pdiff		P	20 46 08.3	-0.4
	baz=99							
TUL1	Tulsa	99.14	328	⇓Pdiff		Pdif	20 46 08.2	-1.3
	baz=99							
N20A	Spence Gulch,	99.38	339	⇑Pdiff		Pdif	20 46 09.3	-1.5
	baz=99							
O22A	Kremmling	99.47	337	⇓Pdiff		Pdif	20 46 10.1	-1.3
	baz=99							
ISCO	Idaho Springs	99.50	336	⇑Pdiff		Pdif	20 46 09.9	-1.5
	baz=99							
P23A	Jefferson	99.96	336	⇑Pdiff		Pdif	20 46 12.5	-1.1
	baz=100							
S28A	Manter	100.17	333	⇓Pdiff		Pdif	20 46 13.8	-0.4
	baz=100							
R25A	Fountain Ranch	100.54	335	⇓Pdiff		Pdif	20 46 14.8	-1.1
	baz=100							
R23A	Moffat	101.02	336	⇓Pdiff		Pdif	20 46 17.2	-1.0
	baz=101							
S25A	Robets Cordova	101.03	335	⇓Pdiff		Pdif	20 46 17.1	-1.0
	baz=101							
WRA	Warramunga Arr	102.12	106	P		Pdif	20 46 23.8	+0.9
WRA	Warramunga Arr	102.12	106	P		Pdif	20 46 23.8	+0.9
	comp=Z,0.7nm,0.8s,baz=314,slow=3.6,SNR=3.8							
WRA	Warramunga Arr	102.12	106	P		Pdif	20 46 23.8	+0.9
T22A	Edith	102.45	336	⇑Pdiff		Pdif	20 46 23.5	-1.0
	baz=102							
V22A	San Miguel Ran	103.45	336	⇑Pdiff		Pdif	20 46 29.2	+0.2
	baz=103							
ASAR	Alice Springs	103.83	109	Pdif		Pdif	20 46 30.6	+0.2
ASAR	Alice Springs	103.83	109	Pdiff		Pdif	20 46 30.6	+0.2
	comp=Z,0.6nm,0.8s,baz=297,slow=4.4,SNR=7.5							
NVAR	Mina Array Bea	104.19	345	PP		PP	20 50 49.0	0.0
NVAR				PKKPbc		PKKPbc	21 02 20.5	+0.7
NVAR	Mina Array Bea	104.19	345	PP		PP	20 50 49.0	0.0
	comp=Z,0.5nm,0.7s,baz=42,slow=6.8,SNR=3.7							
NVAR				PKKPbc		PKKPbc	21 02 20.5	+0.7
	comp=Z,0.9nm,0.7s,baz=188,slow=5.5,SNR=5.3							
NVAR	Mina Array Bea	104.19	345	PP		PP	20 50 49.0	0.0
X21A	Alamocita Cree	105.08	336	⇑Pdiff		Pdif	20 46 35.7	-0.5
	baz=105							
STKA	Stephens Creek	113.88	113	PKiKP		PKiKP	20 51 06.1	-0.8
STKA	Stephens Creek	113.88	113	PKiKP		PKiKP	20 51 06.1	-0.8
	comp=Z,4.0nm,1.0s,baz=270,slow=5.1,SNR=4.0							
STKA	Stephens Creek	113.88	113	PKiKP		PKiKP	20 51 06.1	-0.8
LPAZ	La Paz	116.68	269	PKP		PKPdf	20 51 14.3	+0.8
LPAZ	La Paz	116.68	269	PKP		PKPdf	20 51 14.3	+0.8
	comp=Z,0.9nm,0.7s,baz=24,slow=5.0,SNR=4.3							
LPAZ	La Paz	116.68	269	PKIKP		PKPdf	20 51 14.3	+0.8
DRV	Dumont d'Urvil	124.88	151	SP		SP	21 03 02.0	-11
QSPA	South Pole Qui	125.67	180	*e*PKPdf		PKPdf	20 51 27.9	-0.7
QSPA	South Pole Qui	125.67	180	*e*PKIKP		PKPdf	20 51 27.9	-0.7
PLCA	Paso Flores	129.03	243	PKP		PKPdf	20 51 37.3	+1.5
PLCA	Paso Flores	129.03	243	PKP		PKPdf	20 51 37.3	+1.5
	comp=Z,8.8nm,1.1s,baz=130,slow=3.7,SNR=7.0							
PLCA	Paso Flores	129.03	243	PKIKP		PKPdf	20 51 37.3	+1.5
VNDA	Vanda	130.78	165	PKP		PKPdf	20 51 38.9	+0.9
VNDA	Vanda	130.78	165	PKP		PKPdf	20 51 38.9	+0.9
	comp=Z,0.5nm,0.4s,baz=270,slow=4.0,SNR=3.9							
VNDA	Vanda	130.78	165	PKIKP		PKPdf	20 51 38.9	+0.9

ATH ***18*** *20:44:24.5,35.˚68N×25.˚99E,h34km±2km,MD3.3/9*
THE ***18*** *20:44:26.2,35.˚64N×25.˚95E,h22km±1km,ML2.4/3,Error ellipse: s-maj=1.8km s-min=0.6km az=215.0*

CSEM 18 20:44:25.5±0.2,35.˚67N×25.˚98E,h25km±2km,ML2.4/3, Error ellipse: s-maj=3.4km s-min=3.1km az=141.0, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NPS	Neapolis	0.51	217	P		P	Pb	20 44 35.6	-0.3
NPS				S		S	Sb	20 44 43.0	+0.1
NPS	Neapolis	0.51	217	*e*PN		P	Pb	20 44 35.7	-0.2
NPS				*e*SN		S	Sb	20 44 43.1	+0.2
NPS	Neapolis	0.51	217	P		P	Pb	20 44 35.6	-0.3
NPS				S		S	Sb	20 44 43.0	+0.1
ZKR	Zakros	0.59	161	P		P	Pb	20 44 37.6	+0.4
ZKR				S		S	Sb	20 44 46.1	+0.9
ZKR	Zakros	0.59	161	P		P	Pb	20 44 37.6	+0.4
ZKR				S		S	Sb	20 44 46.1	+0.9
LAST	Lasithi	0.66	219	P		P	Pb	20 44 38.1	-0.3
LAST				S		S	Sb	20 44 47.0	-0.3
LAST	Lasithi	0.66	219	*e*PN		P	Pb	20 44 38.0	-0.4
LAST				*e*SN		S	Sb	20 44 47.5	+0.2
LAST	Lasithi	0.66	219	P		P	Pb	20 44 38.1	-0.3
LAST				S		S	Sb	20 44 47.0	-0.3
THR1	Thera Island	0.82	329	P		P	Pb	20 44 41.0	-0.1
THR1	Thera Island	0.82	329	P		P	Pb	20 44 41.0	-0.1
SANT	Santorini	0.82	329	P		P	Pn	20 44 41.5	0.0
SANT				S		S	Sn	20 44 52.7	-0.2
SANT	Santorini	0.82	329	*e*PN		P	Pb	20 44 41.0	-0.1
SANT				*e*SN		S	Sb	20 44 51.9	+0.1
SANT	Santorini	0.82	329	*e*Pn		P	Pn	20 44 41.0	-0.1
SANT	Santorini	0.82	329	P		P	Pn	20 44 41.5	0.0
SANT				*e*Sn		S	Sb	20 44 51.9	+0.1
SANT				S		S	Sn	20 44 52.7	-0.2
KARP	Karpathos	0.97	97	P		P	Pn	20 44 43.4	-0.2
KARP				S		S	Sn	20 44 56.9	+0.3
KARP	Karpathos	0.97	97	*e*PN		P	Pn	20 44 43.1	-0.5
KARP	Karpathos	0.97	97	*e*Pn		P	Pn	20 44 43.1	-0.5
KARP	Karpathos	0.97	97	P		P	Pn	20 44 43.4	-0.2
KARP				S		S	Sn	20 44 56.9	+0.3
IDI	Anoyia	0.97	247	P		P	Pn	20 44 42.9	-0.8
IDI				S		S	Sb	20 44 55.4	-0.8
IDI	Anoyia	0.97	247	*e*PN		P	Pn	20 44 43.0	-0.7
IDI	Anoyia	0.97	247	*e*Pn		P	Pn	20 44 43.0	-0.7
IDI				S		S	Sb	20 44 55.4	-0.8
SIVA	Sivas	1.16	236	P		P	Pn	20 44 46.1	-0.1
SIVA				S		S	Sn	20 45 00.5	-0.7
SIVA	Sivas	1.16	236	*e*PN		P	Pb	20 44 47.1	+0.2
SIVA				*e*SN		S	Sb	20 45 02.1	+0.6
SIVA	Sivas	1.16	236	P		P	Pn	20 44 46.1	-0.1
SIVA	Sivas	1.16	236	*e*Pn		P	Pb	20 44 47.1	+0.2
SIVA				S		S	Sn	20 45 00.5	-0.7
SIVA				*e*Sn		S	Sb	20 45 02.1	+0.6
APE	Apeiranthos	1.44	345	P		P	Pn	20 44 50.0	-0.1
APE				S		S	Sb	20 45 09.3	-0.5
APE	Apeiranthos	1.44	345	*e*PN		P	Pn	20 44 49.9	-0.2
APE	Apeiranthos	1.44	345	*e*Pn		P	Pn	20 44 49.9	-0.2
APE				S		S	Sb	20 45 09.3	-0.5
VAM	Vamos	1.48	260	*e*PN		P	Pb	20 44 51.8	-0.5
VAM	Vamos	1.48	260	*e*Pn		P	Pb	20 44 51.8	-0.5
ARG	Arkhangelos	1.82	72	*e*PN		P	Pn	20 44 55.2	-0.1
ARG	Arkhangelos	1.82	72	*e*Pn		P	Pn	20 44 55.2	-0.1

IDC ***18*** *20:51:36.5±1.1,34.˚84N×24.˚17E,h0km,mb3.9/11, mb1 3.9/15,mb1mx3.8/33,mbtmp3.8/15,ML3.5/4,Error ellipse: s-maj=23.6km s-min=17.3km az=167.0*
ISCJB ***18*** *20:51:37.9±0.8,34.˚60N±0.˚04×24.˚19E±0.˚04,h20km±5km, mb3.7/11,Error ellipse: s-maj=7.7km s-min=4.7km az=21.4*
CSEM ***18*** *20:51:40.5±0.4,34.˚77N×24.˚20E,h10km,MD3.7,Error ellipse: s-maj=9.7km s-min=4.3km az=16.0*
ATH ***18*** *20:51:40.1,34.˚79N×24.˚18E,h23km±1km,MD3.7/23, ML3.1*
THE ***18*** *20:51:41.8,34.˚85N×24.˚22E,h0km±1km,ML3.0/5,Error ellipse: s-maj=1.6km s-min=0.6km az=188.0*

ISC 18 20:51:41.1±0.9,34.˚80N±0.˚06×24.˚19E±0.˚03,h16km±5km, n86,σ1.˚25/107,mb3.8/11,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.10	296	P		P	Pg	20 51 43.9	-0.5
GVD				S		S	Sg	20 51 47.0	+0.3
GVD	Gavdhos	0.10	296	*e*PB		P	Pg	20 51 44.0	-0.5
GVD				*e*SB		S	Sg	20 51 47.5	+0.8
GVD	Gavdhos	0.10	296	P		P	Pg	20 51 43.9	-0.5
GVD				S		S	Sg	20 51 47.0	+0.3
SIVA	Sivas	0.55	66	P		P	Pb	20 51 51.9	-0.5
SIVA				*e*Sn		S	Sb	20 51 59.8	-0.3
SIVA				S		S	Sb	20 52 00.2	+0.1
SIVA	Sivas	0.55	66	*e*PN		P	Pg	20 51 51.8	-0.3
SIVA				*e*SN		S	Sb	20 51 59.8	-0.3
SIVA	Sivas	0.55	66	P		P	Pb	20 51 51.9	-0.5
SIVA				*e*Sn		S	Sb	20 51 59.8	-0.3
SIVA				S		S	Sb	20 52 00.2	+0.1
VAM	Vamos	0.61	1	P		P	Pg	20 51 52.5	-0.6
VAM				S		S	Sb	20 52 01.4	-0.4
VAM	Vamos	0.61	1	*e*PN		P	Pg	20 51 52.5	-0.6
VAM				*e*SN		S	Sb	20 52 02.3	+0.5
VAM	Vamos	0.61	1	P		P	Pg	20 51 52.5	-0.6
VAM				S		S	Sb	20 52 01.4	-0.4
VAM				*e*Sn		S	Sb	20 52 02.3	+0.5
KARN	Karanos	0.64	340	P		P	Pg	20 51 52.9	-0.9
KARN				S		S	Sb	20 52 03.2	+0.4
KARN	Karanos	0.64	340	*e*PN		P	Pg	20 51 52.8	-1.0
KARN				*e*SN		S	Sb	20 52 02.4	-0.4
KARN	Karanos	0.64	340	P		P	Pg	20 51 52.9	-0.9
KARN				*e*Sn		S	Sb	20 52 02.4	-0.4
KARN				S		S	Sb	20 52 03.2	+0.4
IDI	Anoyia	0.75	49	P		P	Pg	20 51 54.8	-1.0
IDI				S		S	Sb	20 52 06.1	+0.1
IDI	Anoyia	0.75	49	*e*PN		P	Pg	20 51 54.8	-1.0
IDI	Anoyia	0.75	49	P		P	Pg	20 51 54.8	-1.0
IDI				S		S	Sb	20 52 06.1	+0.1
LAST	Lasithi	1.12	71	P		P	Pg	20 52 01.6	-1.1
LAST				S		S	Sn	20 52 19.0	+1.7
LAST	Lasithi	1.12	71	*e*PN		P	Pg	20 52 01.3	-1.4
LAST	Lasithi	1.12	71	*e*Pn		P	Pg	20 52 01.3	-1.4
LAST	Lasithi	1.12	71	P		P	Pg	20 52 01.6	-1.1
LAST				S		S	Sn	20 52 19.0	+1.7
NPS	Neapolis	1.25	68	P		P	Pb	20 52 04.8	+0.4
NPS				S		S	Sn	20 52 22.6	+2.0
NPS	Neapolis	1.25	68	*e*PN		P	Pg	20 52 04.3	-1.0
NPS	Neapolis	1.25	68	*e*Pn		P	Pg	20 52 04.3	-1.0
NPS	Neapolis	1.25	68	P		P	Pb	20 52 04.8	+0.4
NPS				S		S	Sn	20 52 22.6	+2.0
ANKY	Antikythira Is	1.29	326	P		P	Pg	20 52 05.2	-0.8
ANKY				S		S	Sn	20 52 23.5	+2.0
ANKY	Antikythira Is	1.29	326	*e*PN		P	Pg	20 52 05.4	-0.6
ANKY	Antikythira Is	1.29	326	P		P	Pg	20 52 05.2	-0.8
ANKY				S		S	Sn	20 52 23.5	+2.0
ZKR	Zakros	1.69	79	*e*PN		P	Pn	20 52 11.4	+1.4
ZKR	Zakros	1.69	79	*e*Pn		P	Pn	20 52 11.4	+1.4
KYTH	Kithira	1.75	328	P		P	Pn	20 52 12.2	+1.3
KYTH	Kithira	1.75	328	*e*PN		P	Pn	20 52 12.1	+1.2
KYTH	Kithira	1.75	328	P		P	Pn	20 52 12.2	+1.3
SANT	Santorini	1.88	33	*e*PB		P	Pn	20 52 13.0	+0.4
SANT	Santorini	1.88	33	*e*Pb		P	Pn	20 52 13.0	+0.4
THR3	Thira Island,	1.89	31	P		P	Pn	20 52 14.0	+1.3
THR3	Thira Island,	1.89	31	P		P	Pn	20 52 14.0	+1.3
VLI	Veliai	2.17	332	P		P	Pn	20 52 18.0	+1.4
VLI				S		S	Sn	20 52 46.0	+2.8
VLI	Veliai	2.17	332	*e*PB		P	Pn	20 52 17.6	+1.0
VLI	Veliai	2.17	332	*e*Pb		P	Pn	20 52 17.6	+1.0
VLI	Veliai	2.17	332	P		P	Pn	20 52 18.0	+1.4
VLI				S		S	Sn	20 52 46.0	+2.8
APE	Apeiranthos	2.51	25	P		P	Pn	20 52 21.7	+0.3
APE				S		S	Sn	20 52 54.1	+2.4
APE	Apeiranthos	2.51	25	*e*PN		P	Pn	20 52 21.6	+0.2
APE	Apeiranthos	2.51	25	*e*Pn		P	Pn	20 52 21.6	+0.2
APE				S		S	Sn	20 52 54.1	+2.4
KARP	Karpathos	2.54	72	P		P	Pn	20 52 23.0	+1.2
KARP				S		S	Sn	20 52 55.0	+2.5
KARP	Karpathos	2.54	72	*e*PB		P	Pn	20 52 23.6	+1.8
KARP	Karpathos	2.54	72	P		P	Pn	20 52 23.0	+1.2
KARP	Karpathos	2.54	72	*e*Pb		P	Pn	20 52 23.6	+1.8
KARP				S		S	Sn	20 52 55.0	+2.5
DID	Didima	2.81	344	P		P	Pn	20 52 25.8	+0.3
DID				S		S	Sn	20 53 01.1	+2.0
DID	Didima	2.81	344	*e*PN		P	Pn	20 52 25.7	+0.3
DID	Didima	2.81	344	P		P	Pn	20 52 25.8	+0.3
DID				S		S	Sn	20 53 01.1	+2.0
ITM	Ithomi	3.00	323	*e*PN		P	Pn	20 52 29.0	+0.9
ITM	Ithomi	3.00	323	*e*Pn		P	Pn	20 52 29.0	+0.9
ATH	Athens Observa	3.19	353	*e*PN		P	Pn	20 52 30.6	0.0
ATH	Athens Observa	3.19	353	*e*Pn		P	Pn	20 52 30.6	0.0
PTL	Penteli	3.26	355	*e*PN		P	Pn	20 52 31.6	0.0
PTL	Penteli	3.26	355	*e*Pn		P	Pn	20 52 31.6	0.0
LTK	Loutraki	3.37	343	*e*PN		P	Pn	20 52 33.2	+0.1
LTK	Loutraki	3.37	343	*e*Pn		P	Pn	20 52 33.2	+0.1
GUR	Goura	3.47	335	P		P	Pn	20 52 35.9	+1.4
GUR	Goura	3.47	335	*e*PN		P	Pn	20 52 36.0	+1.4
GUR	Goura	3.47

1.2nm,0.3s,baz=52,slow=6.1,SNR=3.5
PMG LR LR 22 03 08.2
comp=Z,40nm,20.4s,baz=71,slow=31
WRA Warramunga Arr 23.96 233 P P 22 04 19.6 +0.8
2.5nm,0.7s,baz=58,slow=9.7,SNR=10.0
ASAR Alice Springs 26.46 226 P P 22 04 40.9 -0.6
0.8nm,0.8s,baz=57,slow=9.5,SNR=6.5
TORD Torodi Ar. Bea 152.16 287 PKPbc PKPbc 22 19 00.9 -0.2
0.6nm,0.8s,baz=70,slow=1.8,SNR=5.3

WEL 18 22:02:50.7±0.2, 45°50S×166°54E, h22km±1km, ML4.3/22, 1D, Error ellipse: s-maj=2.2km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.43**	**87**	⇓P*	Pb	22 02 59.3	-0.2
DCZ				S*	Sb	22 03 05.9	+0.4
DCZ				AML	AML	22 03 06.0	
DCZ				AML	AML	22 03 06.1	
DCZ				AML	AML	22 03 06.4	
PYZ	**Puysegur Point**	**0.67**	**172**	P*	Pb	22 03 03.1	-0.8
PYZ				S*	Sb	22 03 12.2	-0.6
WHZ	**Wether Hill Ro**	**1.06**	**112**	PN	Pn	22 03 09.9	-0.4
WHZ				AML	AML	22 03 32.6	
WHZ				AML	AML	22 03 32.6	
MLZ	**Mavora Lakes**	**1.16**	**83**	PN	Pn	22 03 10.8	-0.8
MLZ				AML	AML	22 03 26.5	
MLZ				AML	AML	22 03 35.2	
MSZ	**Milford Sound**	**1.28**	**50**	PN	Pn	22 03 12.4	-0.9
MSZ				AML	AML	22 03 39.7	
MSZ				AML	AML	22 03 39.7	
MSZ				AML	AML	22 03 41.1	
MSZ				AML	AML	22 03 41.2	
APZ	**The Paps**	**1.67**	**143**	PN	Pn	22 03 19.6	+0.9
WKZ	**Wanaka**	**1.88**	**70**	PN	Pn	22 03 22.8	+1.3
WKZ				AML	AML	22 03 54.5	
WKZ				AML	AML	22 03 54.5	
WKZ				AML	AML	22 03 57.5	
WKZ				AML	AML	22 03 57.5	
EAZ	**Earnscleugh**	**1.97**	**83**	AML	AML	22 03 56.5	
EAZ				AML	AML	22 03 56.6	
EAZ				AML	AML	22 03 57.6	
SYZ	**Scrubby Hill**	**2.09**	**121**	PN	Pb	22 03 26.6	-1.2
JCZ	**Jackson Bay**	**2.13**	**49**	*e*Pn	Pn	22 03 26.2	+1.1
JCZ				AML	AML	22 07 58.2	
JCZ				AML	AML	22 07 58.6	
TUZ	**Tuapeka**	**2.21**	**103**	PN	Pn	22 03 28.0	+1.9
TUZ				AML	AML	22 04 02.6	
TUZ				AML	AML	22 04 02.8	
LBZ	**Lake Benmore**	**2.82**	**68**	PN	Pn	22 03 36.0	+0.5
LBZ				AML	AML	22 04 24.0	
LBZ				AML	AML	22 04 31.2	
LBZ				AML	AML	22 04 31.2	
ODZ	**Otahua Downs**	**2.93**	**83**	PN	Pn	22 03 36.5	+0.5
ODZ				AML	AML	22 04 15.1	
ODZ				AML	AML	22 04 15.1	
ODZ				AML	AML	22 04 15.4	
ODZ				AML	AML	22 04 15.5	
FOZ	**Fox Glacier**	**2.97**	**50**	*e*Pn	Pn	22 03 39.0	+2.5
FOZ				AML	AML	22 04 30.5	
FOZ				AML	AML	22 04 30.5	
FOZ				AML	AML	22 04 32.4	
FOZ				AML	AML	22 04 32.5	
RPZ	**Rata Peaks**	**3.68**	**63**	PN	Pn	22 03 46.1	-0.3
RPZ				AML	AML	22 04 35.1	
RPZ				AML	AML	22 04 36.0	
WVZ	**Waitaha Valley**	**3.87**	**53**	*e*Pn	Pn	22 03 49.6	+0.8
WVZ				AML	AML	22 08 51.4	
WVZ				AML	AML	22 08 51.9	
LTZ	**Lake Taylor**	**4.94**	**59**	AML	AML	22 05 09.5	
LTZ				AML	AML	22 05 25.4	
THZ	**Tophouse**	**5.94**	**53**	AML	AML	22 05 37.0	
THZ				AML	AML	22 05 41.9	
QRZ	**Quartz Range**	**6.40**	**45**	AML	AML	22 06 07.8	
QRZ				AML	AML	22 06 38.8	
NNZ	**Nelson**	**6.57**	**52**	*e*PN	Pn	22 04 29.4	+3.4

WEL 18 22:06:45.2±0.2, 45°54S×166°60E, h17km±1km, ML4.4/18, Error ellipse: s-maj=2.1km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.39**	**81**	P*	Pg	22 06 53.0	-0.3
DCZ				S*	Sg	22 06 58.6	-0.1
DCZ				AML	AML	22 06 58.7	
DCZ				AML	AML	22 06 58.7	
DCZ				AML	AML	22 06 59.0	
PYZ	**Puysegur Point**	**0.63**	**175**	P*	Pg	22 06 56.8	-0.9
PYZ				S*	Sg	22 07 04.8	-1.4
WHZ	**Wether Hill Ro**	**1.01**	**111**	P*	Pb	22 07 03.4	-0.8
WHZ				AML	AML	22 07 25.2	
WHZ				AML	AML	22 07 28.8	
MLZ	**Mavora Lakes**	**1.12**	**81**	P*	Pg	22 07 04.5	-1.7
MLZ				S*	Sb	22 07 19.2	-1.4
MLZ				AML	AML	22 07 33.4	
MSZ	**Milford Sound**	**1.28**	**48**	*e*PN	Pn	22 07 06.3	-2.0
MSZ				AML	AML	22 07 28.8	
MSZ				AML	AML	22 07 28.9	
MSZ				AML	AML	22 07 29.0	
MSZ				AML	AML	22 07 29.0	
APZ	**The Paps**	**1.61**	**144**	PN	Pn	22 07 13.0	0.0
WKZ	**Wanaka**	**1.85**	**68**	PN	Pn	22 07 16.6	+0.4
WKZ				AML	AML	22 07 46.4	
WKZ				AML	AML	22 07 46.4	
WKZ				AML	AML	22 07 50.3	
WKZ				AML	AML	22 07 50.3	
EAZ	**Earnscleugh**	**1.93**	**82**	PN	Pn	22 07 18.0	+0.7
EAZ				AML	AML	22 07 47.8	
EAZ				AML	AML	22 07 49.8	
EAZ				AML	AML	22 07 52.5	
EAZ				AML	AML	22 07 52.6	
SYZ	**Scrubby Hill**	**2.03**	**120**	PN	Pn	22 07 20.0	+1.4
TUZ	**Tuapeka**	**2.16**	**102**	PN	Pn	22 07 22.1	+1.7
TUZ				AML	AML	22 07 53.1	
TUZ				AML	AML	22 07 55.6	
LBZ	**Lake Benmore**	**2.79**	**67**	PN	Pn	22 07 28.6	-0.5
LBZ				AML	AML	22 08 09.5	
LBZ				AML	AML	22 08 26.0	
ODZ	**Otahua Downs**	**2.89**	**82**	PN	Pn	22 07 30.0	-0.6
ODZ				AML	AML	22 08 10.3	
ODZ				AML	AML	22 08 24.1	
ODZ				AML	AML	22 08 24.1	
FOZ	**Fox Glacier**	**2.96**	**49**	*e*PN	Pn	22 07 32.2	+0.8
FOZ				AML	AML	22 08 30.8	
FOZ				AML	AML	22 08 34.8	
RPZ	**Rata Peaks**	**3.66**	**62**	*e*Pn	Pn	22 07 39.8	-1.3
RPZ				AML	AML	22 08 49.3	
RPZ				AML	AML	22 08 52.6	
OXZ	**Oxford**	**4.48**	**62**	*e*PN	Pn	22 07 51.5	-0.8
DSZ	**Denniston Nort**	**5.35**	**47**	*e*PN	Pn	22 08 03.8	-0.5
THZ	**Tophouse**	**5.93**	**53**	*e*PN	Pn	22 08 15.1	+2.8
THZ				AML	AML	22 09 31.3	
THZ				AML	AML	22 09 33.3	

*ISCJB **18** 22:19:03.1±0.4, 55°60S±0°07×27°8W±0°1, h26km, mb4.8/21, MS4.0/13, Error ellipse: s-maj=12.1km s-min=8.4km az=151.4*
*NEIC **18** 22:19:09.9±1.4, 55°68S×27°92W, h72km±12km, mb5.0/10, Error ellipse: s-maj=9.7km s-min=7.6km az=57.0*
*IDC **18** 22:19:09.9±1.8, 55°63S×27°77W, h71km±14km, mb4.6/11, mb1 4.6/13, mb1mx4.5/18, mbtmp4.6/13, MS3.9/13, Ms1 3.9/13, ms1mx3.8/22, Error ellipse: s-maj=18.7km s-min=14.2km az=69.0*
ISC 18 22:19:04.2±0.4, 55°64S±0°07×27°77W±0°09, h26km, n73, σ1§99/75, mb5.0/20, MS4.0/13, 5D, South Sandwick Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.30**	**158**	*e*P	**P**	**22 23 06.7**	**+2.0**
SNAA	**Sanae**	**19.25**	**156**	*e*P	**P**	**22 23 27.7**	**+1.4**
SNAA	**Sanae**	**19.25**	**156**	*e*P	**P**	**22 23 27.5**	**+1.2**
SNAA				ScP	**ScP**	**22 31 17.1**	**-4.8**
SNAA	**Sanae**	**19.25**	**156**	P	**P**	**22 23 27.7**	**+1.4**
	11nm,0.3s,baz=309,slow=9.8,SNR=1529						
SNAA				ScP	**ScP**	**22 31 17.1**	**-4.8**
	0.1nm,0.3s,baz=343,slow=1.9,SNR=16						
PMSA	**Palmer Station**	**19.93**	**228**	*e*P	**P**	**22 23 32.9**	**-0.7**
PMSA	**Palmer Station**	**19.93**	**228**	P	**Pn**	**22 23 35.5**	**+0.2**
	2.6nm,0.3s,baz=3.8,slow=10,SNR=5.0						
TRQA	**Tornquist**	**28.86**	**293**	*e*P	**P**	**22 25 01.2**	**+0.8**
	5.2nm,0.6s						
QSPA	**South Pole Qui**	**34.61**	**180**	*e*P	**P**	**22 25 52.1**	**+1.3**
	39nm,0.8s						
CPUP	**Villa Florida**	**36.30**	**312**	P	**P**	**22 26 05.6**	**+0.2**
CPUP				ScP	**ScP**	**22 32 08.9**	**-5.2**
CPUP	**Villa Florida**	**36.30**	**312**	P	**P**	**22 26 05.6**	**+0.2**
	2.8nm,0.6s,baz=133,slow=5.4,SNR=7.7						
CPUP				ScP	**ScP**	**22 32 08.9**	**-5.2**
	3.5nm,0.8s,baz=115,slow=3.5,SNR=6.3						
CPUP				LR	LR	22 40 17.8	
	comp=Z,115nm,18.1s,baz=125,slow=35						
LCO	**Las Campanas**	**40.44**	**293**	*e*P	**P**	**22 26 40.0**	**-0.6**
MAW	**Mawson**	**40.67**	**144**	P	**P**	**22 26 42.3**	**+0.6**
MAW				ScP	**ScP**	**22 32 25.5**	**-4.7**
MAW	**Mawson**	**40.67**	**144**	P	**P**	**22 26 42.3**	**+0.6**
	5.3nm,0.5s,baz=236,slow=9.1,SNR=8.9						
MAW				ScP	**ScP**	**22 32 25.5**	**-4.7**
	5.6nm,0.7s,baz=263,slow=11,SNR=8.0						
MAW				LR	LR	22 40 28.7	
	comp=Z,144nm,21.7s,baz=348,slow=31						
BDFB	**Brasilia**	**42.84**	**331**	P	**P**	**22 27 01.0**	**+0.9**
BDFB	**Brasilia**	**42.84**	**331**	P	**P**	**22 27 01.0**	**+0.9**
	2.3nm,0.6s,baz=190,slow=7.9,SNR=5.1						
BDFB				LR	LR	22 42 13.2	
	comp=Z,187nm,19.6s,baz=356,slow=32						
LVC	**Limon Verde**	**44.81**	**300**	*e*P	**P**	**22 27 17.1**	**+1.1**
	12nm,0.7s						
BOSA	**Boshof**	**46.19**	**77**	P	**P**	**22 27 27.6**	**+0.8**
BOSA	**Boshof**	**46.19**	**77**	P	**P**	**22 27 27.6**	**+0.8**
	18nm,0.8s,baz=218,slow=6.4,SNR=40						
BOSA				LR	LR	22 44 13.1	
	comp=Z,105nm,18.5s,baz=170,slow=32						
SBA	**Scott Base**	**46.47**	**184**	*e*P	**P**	**22 27 29.9**	**+1.7**
	23nm,0.9s						
VNDA	**Vanda**	**46.97**	**183**	P	**P**	**22 27 33.6**	**+1.5**
VNDA	**Vanda**	**46.97**	**183**	P	**P**	**22 27 33.6**	**+1.5**
	31nm,0.8s,baz=183,slow=5.9,SNR=71						
VNDA				LR	LR	22 44 41.4	
	comp=Z,169nm,21.3s,baz=168,slow=33						
TSUM	**Tsumeb**	**49.77**	**62**	*e*P	**P**	**22 27 55.1**	**+0.6**
	20nm,1.4s						
LPAZ	**La Paz**	**49.87**	**306**	P	**P**	**22 27 57.0**	**+1.1**
LPAZ	**La Paz**	**49.87**	**306**	P	**P**	**22 27 57.0**	**+1.1**
	17nm,0.6s,baz=146,slow=5.8,SNR=86						
LPAZ				LR	LR	22 48 14.5	
	comp=Z,76nm,19.4s,baz=62,slow=35						
SAML	**Samuel**	**54.28**	**315**	*e*P	**P**	**22 28 27.7**	**-0.3**
	20nm,0.7s						
CASY	**Casey**	**54.40**	**161**	*e*P	**P**	**22 28 29.3**	**+1.1**
	16nm,0.9s						
LSZ	**Lusaka**	**58.53**	**70**	*e*P	**P**	**22 28 58.8**	**+0.3**
	12nm,0.8s						
DBIC	**Dimbokro**	**64.93**	**25**	P	**P**	**22 29 41.7**	**+0.4**
DBIC	**Dimbokro**	**64.93**	**25**	P	**P**	**22 29 41.7**	**+0.4**
	8.1nm,0.5s,baz=171,slow=6.6,SNR=21						
DBIC				LR	LR	22 50 33.9	
	comp=Z,98nm,21.2s,baz=151,slow=29						
OTAV	**Otavalo**	**69.16**	**304**	*e*P	**P**	**22 30 09.6**	**+0.9**
	3.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**72.86**	**30**	P	**P**	**22 30 31.3**	**+0.7**
TORD	**Torodi Ar. Bea**	**72.86**	**30**	P	**P**	**22 30 31.3**	**+0.7**
	40nm,0.6s,baz=199,slow=6.5,SNR=597						
TORD				LR	LR	22 56 08.6	
	comp=Z,82nm,18.4s,baz=190,slow=30						
KMBO	**Kilima Mbogo**	**75.20**	**70**	LR	LR	23 00 48.1	
	comp=Z,48nm,18.4s,baz=103,slow=33						
RPZ	**Rata Peaks**	**79.74**	**194**	LR	LR	22 59 25.0	
	comp=Z,232nm,20.5s,baz=116,slow=30						
TAM	**Tamanrasset**	**83.10**	**31**	*e*P	**P**	**22 31 28.8**	**+1.3**
	12nm,1.2s						
URZ	**Urewera**	**84.08**	**199**	LR	LR	23 00 48.6	
	comp=Z,166nm,20.9s,baz=104,slow=30						
STKA	**Stephens Creek**	**92.36**	**171**	P	**P**	**22 32 12.9**	**+0.8**
STKA	**Stephens Creek**	**92.36**	**171**	P	**P**	**22 32 12.9**	**+0.8**
	2.0nm,0.8s,baz=164,slow=18,SNR=3.0						
STKA				LR	LR	23 12 37.6	
	comp=Z,91nm,18.4s,baz=204,slow=35						
KEST	**Kesra**	**96.38**	**30**	LR	LR	23 10 00.6	
	comp=Z,29nm,20.2s,baz=255,slow=32						
ESDC	**Sonseca Array**	**97.09**	**18**	P	**P**	**22 32 34.0**	**+0.7**
ESDC	**Sonseca Array**	**97.09**	**18**	P	**P**	**22 32 34.0**	**+0.7**
	0.9nm,0.6s,baz=191,slow=4.1,SNR=12						
ASAR	**Alice Springs**	**99.48**	**163**	P	**Pdif**	**22 32 43.3**	**-1.4**
ASAR				PP	**PP**	**22 36 43.9**	**-3.4**
ASAR	**Alice Springs**	**99.48**	**163**	P	**Pdif**	**22 32 43.3**	**-1.4**
	1.3nm,0.9s,baz=174,slow=2.7,SNR=11						
ASAR				PP	**PP**	**22 36 43.9**	**-3.4**
	1.1nm,0.7s,baz=193,slow=6.5,SNR=7.5						
BRTR	**Keskin Array B**	**108.37**	**46**	PP	PP	22 37 58.5	+3.8
BRTR	**Keskin Array B**	**108.37**	**46**	PP	PP	22 37 58.5	+3.8
	1.1nm,0.8s,baz=178,slow=8.0,SNR=7.0						
PDAR	**Pinedale Array**	**119.85**	**303**	PKP	**PKPdf**	**22 37 50.1**	**-1.3**
PDAR	**Pinedale Array**	**119.85**	**303**	PKP	**PKPdf**	**22 37 50.1**	**-1.3**
	0.3nm,0.6s,baz=208,slow=3.1,SNR=3.1						
NVAR	**Mina Array Bea**	**120.93**	**294**	PKP	**PKPdf**	**22 37 54.6**	**+0.9**
NVAR	**Mina Array Bea**	**120.93**	**294**	PKP	**PKPdf**	**22 37 54.6**	**+0.9**
	0.4nm,0.5s,baz=138,slow=4.0,SNR=3.8						
FINES	**FINESS Array B**	**124.17**	**28**	PKP	**PKPdf**	**22 37 58.2**	**-0.6**
FINES	**FINESS Array B**	**124.17**	**28**	PKP	**PKPdf**	**22 37 58.2**	**-0.6**
	2.7nm,0.5s,baz=166,slow=1.8,SNR=41						
ARCES	**ARCESS Array B**	**130.68**	**22**	PKP	**PKPdf**	**22 38 10.3**	**-0.8**
ARCES				PP	**PP**	**22 40 27.5**	**-0.2**
ARCES	**ARCESS Array B**	**130.68**	**22**	PKP	**PKPdf**	**22 38 10.3**	**-0.8**
	1.9nm,0.7s,baz=196,slow=1.4,SNR=15						
ARCES				PP	**PP**	**22 40 27.5**	**-0.2**
	1.2nm,0.6s,baz=190,slow=6.2,SNR=4.4						
YKA	**Yellowknife Ar**	**135.65**	**318**	PKP	**PKPdf**	**22 38 20.0**	**-0.6**
YKA				SKPbc	SKPbc	22 41 44.0	-5.8
YKA	**Yellowknife Ar**	**135.65**	**318**	PKP	**PKPdf**	**22 38 20.0**	**-0.6**
	1.6nm,0.6s,baz=132,slow=2.0,SNR=11						
YKA				SKPbc	SKPbc	22 41 44.0	-5.8
	1.8nm,0.8s,baz=133,slow=2.2,SNR=7.7						
YKW3	**Yellowknife Ar**	**135.69**	**319**	⇓Pn	**PKPdf**	**22 38 19.8**	**-0.9**
MKAR	**Makanchi Array**	**137.07**	**71**	SKPbc	**SKPbc**	**22 41 50.0**	**-4.8**
MKAR	**Makanchi Array**	**137.07**	**71**	SKPbc	**SKPbc**	**22 41 50.0**	**-4.8**
	0.7nm,0.7s,baz=268,slow=2.4,SNR=4.0						
CTLN	**Castor Lake**	**137.27**	**320**	⇓Pg	**PKPdf**	**22 38 22.2**	**-1.4**
DHRN	**Dharma Camp**	**139.86**	**323**	⇓Pg	**PKPdf**	**22 38 27.6**	**-0.6**
ZALV	**Zalesovo Beam**	**142.48**	**64**	PKPpre	PKPpre	22 38 28.6	
ZALV	**Zalesovo Beam**	**142.48**	**64**	PKhKP	PKPpre	22 38 28.6	
	1.0nm,0.5s,baz=226,slow=5.0,SNR=6.2						
HYT	**Haines Junctio**	**144.28**	**308**	⇑Pn	**PKPab**	**22 38 34.9**	**+0.4**
INK	**Inuvik**	**145.28**	**321**	⇓Pn	**PKPbc**	**22 38 36.4**	**-1.3**
DAWY	**Dawson**	**146.27**	**313**	⇓Pn	**PKPdf**	**22 38 40.0**	**+0.3**
ILAR	**Eielson Array**	**149.60**	**312**	PKPbc	**PKPbc**	**22 38 49.4**	**-0.4**
ILAR	**Eielson Array**	**149.60**	**312**	PKPbc	**PKPbc**	**22 38 49.4**	**-0.4**
	11nm,0.7s,baz=129,slow=2.0,SNR=92						
MCK	**McKinley**	**150.26**	**310**	*e*PKPbc	**PKPbc**	**22 38 51.1**	**-0.3**
OHAK	**Old Harbor**	**150.50**	**296**	*e*PKPbc	**PKPbc**	**22 38 51.7**	**-0.4**
TRF	**Thorofare Moun**	**150.79**	**309**	*e*PKPbc	**PKPdf**	**22 38 51.8**	**+4.6**
SONM	**Songino Array**	**151.03**	**86**	PKPbc	**PKPbc**	**22 38 53.8**	**0.0**
SONM	**Songino Array**	**151.03**	**86**	PKPbc	**PKPbc**	**22 38 53.8**	**0.0**
	1.9nm,0.5s,baz=220,slow=3.7,SNR=19						
COLD	**Coldfoot**	**151.30**	**317**	*e*PKPbc	**PKPbc**	**22 38 54.1**	**+0.4**

*ATH **18** 22:45:59.9, 40°28N×23°89E, h29km±6km, MD3.1/7*
*CSEM **18** 22:46:00.9±0.2, 40°28N×23°93E, h12km, ML1.7/9, Error ellipse: s-maj=3.6km s-min=3.0km az=74.0*
*ISCJB **18** 22:46:01.0±0.5, 40°27N±0°02×23°92E±0°03, h10km±3km, Error ellipse: s-maj=4.3km s-min=3.9km az=162.0*
*THE **18** 22:46:01.4, 40°27N×23°92E, h10km±1km, ML1.7/9, Error ellipse: s-maj=1.0km s-min=0.5km az=51.0*
ISC 18 22:46:00.9±0.8, 40°29N±0°02×23°93E±0°03, h14km±5km, n33, σ0§54/58, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUR	**Ouranopolis**	**0.06**	**40**	P	**Pg**	**22 46 03.9**	**+0.3**
OUR				S	**Sg**	**22 46 05.1**	**-0.3**
OUR	**Ouranopolis**	**0.06**	**40**	P	**Pg**	**22 46 03.9**	**+0.3**
OUR				S	**Sg**	**22 46 05.1**	**-0.3**
PLG	**Polygyros**	**0.38**	**284**	P	**Pg**	**22 46 08.5**	**0.0**
PLG				S	**Sg**	**22 46 13.8**	**+0.1**
PLG	**Polygyros**	**0.38**	**284**	*e*PB	**Pg**	**22 46 08.5**	**0.0**
PLG				*e*SB	**Sg**	**22 46 13.3**	**-0.4**
PLG	**Polygyros**	**0.38**	**284**	P	**Pg**	**22 46 08.5**	**0.0**
PLG				*e*Sb	**Sg**	**22 46 13.3**	**-0.4**
PAIG	**Paliouri**	**0.41**	**208**	P	**Pg**	**22 46 09.3**	**+0.3**
PAIG				S	**Sb**	**22 46 15.1**	**-0.8**
PAIG	**Paliouri**	**0.41**	**208**	*e*PB	**Pg**	**22 46 09.0**	**0.0**
PAIG				*e*SB	**Sg**	**22 46 14.8**	**+0.3**
PAIG	**Paliouri**	**0.41**	**208**	*e*Pb	**Pg**	**22 46 09.0**	**0.0**
PAIG	**Paliouri**	**0.41**	**208**	P	**Pg**	**22 46 09.3**	**+0.3**
PAIG				*e*Sb	**Sg**	**22 46 14.8**	**+0.3**
PAIG				S	**Sb**	**22 46 15.1**	**-0.8**
SOH	**Sokhos**	**0.69**	**321**	P	**Pg**	**22 46 14.2**	**-0.2**
SOH				S	**Sb**	**22 46 25.2**	**+1.0**
SOH	**Sokhos**	**0.69**	**321**	*e*PN	**Pg**	**22 46 14.0**	**-0.4**
SOH				*e*SN	**Sg**	**22 46 23.6**	**+0.1**
SOH	**Sokhos**	**0.69**	**321**	P	**Pg**	**22 46 14.2**	**-0.2**
SOH				*e*Sn	**Sg**	**22 46 23.6**	**+0.1**
SOH				S	**Sb**	**22 46 25.2**	**+1.0**
HORT	**Hortiatis**	**0.71**	**296**	P	**Pg**	**22 46 14.3**	**-0.3**
HORT				S	**Sb**	**22 46 25.0**	**+0.4**
HORT	**Hortiatis**	**0.71**	**296**	P	**Pg**	**22 46 14.3**	**-0.3**
HORT				S	**Sb**	**22 46 25.0**	**+0.4**
KAVA	**Kavala**	**0.84**	**32**	P	**Pg**	**22 46 17.3**	**+0.2**
KAVA				S	**Sn**	**22 46 30.2**	**-0.2**
KAVA	**Kavala**	**0.84**	**32**	P	**Pg**	**22 46 17.3**	**+0.2**
KAVA				S	**Sn**	**22 46 30.2**	**-0.2**
SRS	**Serrai**	**0.87**	**343**	P	**Pb**	**22 46 18.2**	**+0.4**
SRS				S	**Sn**	**22 46 30.9**	**-0.3**
SRS	**Serrai**	**0.87**	**343**	P	**Pb**	**22 46 18.2**	**+0.4**
SRS				S	**Sn**	**22 46 30.9**	**-0.3**
LIA	**Limnos Island**	**1.04**	**112**	P	**Pb**	**22 46 20.6**	**0.0**
LIA				S	**Sn**	**22 46 35.9**	**+0.6**
LIA	**Limnos Island**	**1.04**	**112**	*e*PN	**Pb**	**22 46 20.5**	**0.0**
LIA	**Limnos Island**	**1.04**	**112**	P	**Pb**	**22 46 20.6**	**0.0**
LIA				S	**Sn**	**22 46 35.9**	**+0.6**
NVR	**Nevrokopi**	**1.06**	**357**	P	**Pb**	**22 46 21.0**	**-0.1**
NVR	**Nevrokopi**	**1.06**	**357**	*e*PN	**Pb**	**22 46 20.3**	**-0.8**
NVR	**Nevrokopi**	**1.06**	**357**	*e*Pn	**Pb**	**22 46 20.3**	**-0.8**
NVR	**Nevrokopi**	**1.06**	**357**	P	**Pb**	**22 46 21.0**	**-0.1**
AOS	**Alonnisos**	**1.11**	**182**	P	**Pb**	**22 46 21.4**	**-0.5**
AOS				S	**Sn**	**22 46 38.1**	**+0.9**
AOS	**Alonnisos**	**1.11**	**182**	P	**Pb**	**22 46 21.4**	**-0.5**
AOS				S	**Sn**	**22 46 38.1**	**+0.9**
KNT	**Kendrikon**	**1.18**	**319**	P	**Pg**	**22 46 23.4**	**-0.1**
KNT				S	**Sn**	**22 46 40.3**	**+1.5**
KNT	**Kendrikon**	**1.18**	**319**	P	**Pg**	**22 46 23.4**	**-0.1**
KNT				S	**Sn**	**22 46 40.3**	**+1.5**
SMTH	**Samothraki Isl**	**1.24**	**81**	*e*PN	**Pn**	**22 46 23.7**	**-0.1**
SMTH	**Samothraki Isl**	**1.24**	**81**	*e*Pn	**Pn**	**22 46 23.7**	**-0.1**
RDO	**Rodhopi**	**1.50**	**54**	*e*PB	**Pn**	**22 46 26.5**	**-0.8**
RDO	**Rodhopi**	**1.50**	**54**	*e*Pb	**Pn**	**22 46 26.5**	**-0.8**

*IDC **18** 23:01:44.7±1.5, 30°91S×179°70W, h308km±14km, mb3.7/7, mb1 3.9/7, mb1mx3.6/18, mbtmp3.7/7, Error ellipse: s-maj=19.6km s-min=15.4km az=143.0*
*AUST **18** 23:02:07.8, 29°73S×178°64E, h450km*
ISC 18 23:01:43.4±0.6, 31°02S±0°10×179°6W±0°1, h300km, n71, σ1§40/37, mb4.0/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.25**	**39**	P	**Pn**	**23 02 34.0**	**+1.7**
	202nm,0.3s,baz=134,slow=21,SNR=13						
RAO				S	S	23 03 05.5	-5.7
	330nm,0.3s,baz=70,slow=22,SNR=6.0						
MXZ	**Matakaoa Point**	**6.77**	**195**	*e*PN	**Pn**	**23 03 22.4**	**+0.6**
PUZ	**Puketiti**	**7.27**	**194**	*e*PN	Pn	23 03 23.2	-4.8
PUZ				SN	S	23 04 42.5	-10
CNGZ	**Carnagh Statio**	**7.68**	**193**	*e*PN	**Pn**	**23 03 34.0**	**+1.1**
MWZ	**Matawai**	**7.69**	**197**	PN	Pn	23 03 29.6	-3.5
URZ	**Urewera**	**7.73**	**200**	P	Pn	23 03 31.0	-2.6
	3.5nm,0.3s,baz=352,slow=22,SNR=40						
URZ				S	S	23 04 55.7	-7.1
	22nm,0.3s,baz=46,slow=1.8,SNR=4.5						
URZ	**Urewera**	**7.73**	**200**	*e*PN	Pn	23 03 28.9	-4.7
URZ				SN	S	23 04 55.7	-7.1
PRGZ	**Paritu Road**	**8.17**	**194**	*e*PN	**Pn**	**23 03 38.8**	**-0.1**
KNZ	**Kokohu**	**8.31**	**195**	*e*PN	Pn	23 03 35.6	-4.9
KNZ				SN	S	23 05 06.9	-9.8
RAHZ	**Arahi**	**8.35**	**198**	PN	**Pn**	**23 03 39.6**	**-1.5**
MHGZ	**Mahia Peninsul**	**8.38**	**194**	PN	**Pn**	**23 03 40.4**	**-1.2**
BKZ	**Black Stump Fm**	**8.76**	**201**	PN	Pn	23 03 41.5	-4.6
BKZ				SN	S	23 05 17.5	-8.6
HIZ	**Hauiti**	**8.78**	**210**	*e*PN	**Pn**	**23 03 49.2**	**+2.8**
MCHZ	**McNeill Hill**	**8.95**	**199**	*e*PN	**Pn**	**23 03 46.7**	**-1.8**
CKHZ	**Cape Kidnapper**	**9.05**	**197**	PN	Pn	23 03 46.3	-3

	10nm,0.5s								
FINES	**FINESS Array B**	**145.25**	**339**	PKPbc	**PKPdf**	**23 20 44.4**	**-0.2**		
	8.2nm,0.4s,baz=58,slow=4.2,SNR=17								
NB2	**NORSAR Subarra1**	**149.14**	**350**	PKP	**PKPbc**	**23 20 55.2**	**-0.5**		
	comp=Z,2.9nm,0.5s,baz=18,slow=2.6								
NOA	**NORSAR Array B**	**149.14**	**350**	PKPbc	**PKPbc**	**23 20 55.5**	**-0.2**		
	comp=Z,4.1nm,0.6s,baz=14,slow=4.1,SNR=17								
HFS	**Hagfors**	**149.56**	**347**	PKPbc	**PKPbc**	**23 20 56.0**	**-0.6**		
	comp=Z,3.2nm,0.4s,baz=117,slow=2.3,SNR=30								
HFS				PKPab	**PKPab**	**23 21 02.3**	**-0.5**		
	comp=Z,3.3nm,0.4s,baz=48,slow=4.4,SNR=20								
BRTR	**Keskin Array B**	**151.70**	**297**	PKPbc	**PKPbc**	**23 21 01.6**	**-0.9**		
	comp=Z,0.9nm,0.5s,baz=126,slow=3.9,SNR=8.9								
EKA	**Eskdalemuir Ar**	**155.56**	**5**	PKPab	**PKPab**	**23 21 28.4**	**+0.1**		
	comp=Z,0.3nm,0.4s,baz=334,slow=2.1,SNR=5.3								
TORD	**Torodi Ar. Bea**	**162.18**	**184**	PKPab	**PKPab**	**23 21 57.5**	**-0.5**		
	comp=Z,0.7nm,0.8s,baz=162,slow=3.2,SNR=7.2								

WEL 18 23:14:04.9±0.4, 46.15S×165.82E, h12km, ML3.5/14, Error ellipse: s-maj=3.2km s-min=2.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.60**	**92**	P*	Pg	23 14 16.5	-0.2
PYZ				S*	Sg	23 14 24.7	+0.1
DCZ	**Deep Cove**	**1.15**	**55**	P*	Pb	23 14 25.1	-1.6
DCZ				S*	Sb	23 14 39.4	-2.2
DCZ				AML	AML	23 14 50.0	
DCZ				AML	AML	23 14 50.0	
DCZ				AML	AML	23 14 54.5	
WHZ	**Wether Hill Ro**	**1.51**	**81**	PN	Pn	23 14 30.8	-1.0
WHZ				SN	Sn	23 14 49.6	-1.7
WHZ				AML	AML	23 14 59.7	
APZ	**The Paps**	**1.65**	**115**	PN	Pn	23 14 32.9	-0.8
MLZ	**Mavora Lakes**	**1.83**	**65**	PN	Pn	23 14 35.4	-0.9
MLZ				AML	AML	23 15 03.2	
MSZ	**Milford Sound**	**2.10**	**46**	AML	AML	23 15 26.4	
MSZ				AML	AML	23 15 27.6	
SYZ	**Scrubby Hill**	**2.33**	**101**	*e*PN	Pn	23 14 43.2	+0.2
WKZ	**Wanaka**	**2.61**	**61**	*e*PN	Pn	23 14 49.1	+2.1
WKZ				AML	AML	23 15 30.9	
WKZ				AML	AML	23 15 33.1	
EAZ	**Earnscleugh**	**2.61**	**71**	*e*PN	Pn	23 14 48.6	+1.6
EAZ				AML	AML	23 15 28.2	
EAZ				AML	AML	23 15 30.3	
TUZ	**Tuapeka**	**2.66**	**87**	*e*PN	Pn	23 14 48.3	+0.7
TUZ				AML	AML	23 15 22.5	
TUZ				AML	AML	23 15 23.8	
JCZ	**Jackson Bay**	**2.94**	**46**	*e*PN	Pn	23 14 52.8	+1.3
JCZ				AML	AML	23 15 49.6	
JCZ				AML	AML	23 17 47.4	
ODZ	**Otahua Downs**	**3.56**	**74**	PN	Pn	23 14 59.6	-0.4

WEL 18 23:19:16.0±0.4, 45.57S×166.47E, h17km±2km, ML2.8/6, Error ellipse: s-maj=4.0km s-min=1.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.49**	**79**	P*	Pg	23 19 24.8	-0.9
DCZ				S*	Sg	23 19 31.8	-0.6
DCZ				AML	AML	23 19 32.8	
DCZ				AML	AML	23 19 33.4	
DCZ				AML	AML	23 19 33.4	
PYZ	**Puysegur Point**	**0.61**	**166**	S*	Sg	23 19 35.4	-1.0
WHZ	**Wether Hill Ro**	**1.08**	**108**	*e*P*	Pb	23 19 35.6	-0.6
WHZ				AML	AML	23 19 57.6	
MLZ	**Mavora Lakes**	**1.22**	**80**	*e*PN	Pn	23 19 37.0	-1.3
MSZ	**Milford Sound**	**1.36**	**49**	*e*PN	Pn	23 19 40.2	0.0
MSZ				AML	AML	23 20 01.1	
MSZ				AML	AML	23 20 05.7	
APZ	**The Paps**	**1.65**	**141**	PN	Pn	23 19 44.3	+0.1
APZ				SN	Sn	23 20 03.8	-1.1

WEL 18 23:21:05.3±0.3, 46.09S×166.24E, h32km±1km, ML2.8/6, Error ellipse: s-maj=3.2km s-min=2.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.32**	**104**	P*	Pb	23 21 13.0	-0.2
PYZ				S*	Sb	23 21 18.8	+0.1
DCZ	**Deep Cove**	**0.89**	**47**	PN	Pn	23 21 21.2	-0.3
DCZ				SN	Sn	23 21 33.2	0.0
DCZ				AML	AML	23 21 33.8	
WHZ	**Wether Hill Ro**	**1.21**	**81**	PN	Pb	23 21 27.0	-0.7
APZ	**The Paps**	**1.42**	**122**	PN	Pn	23 21 29.3	+0.4
MLZ	**Mavora Lakes**	**1.55**	**62**	*e*PN	Pb	23 21 32.9	-0.5
EAZ	**Earnscleugh**	**2.32**	**69**	*e*PN	Pb	23 21 45.1	-1.3
EAZ				AML	AML	23 22 16.6	

IDC 18 23:27:34.3±1.5, 3.17N×123.03E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/23, mbtmp3.3/4, Error ellipse: s-maj=220.4km s-min=22.5km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.52**	**155**	P	P	23 33 03.8	-0.9
	0.4nm,0.7s,baz=330,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**28.70**	**159**	P	P	23 33 34.4	+1.0
	0.3nm,0.6s,baz=337,slow=7.1,SNR=5.3						
MKAR	**Makanchi Array**	**55.96**	**327**	P	P	23 37 15.7	+1.2
	0.2nm,0.5s,baz=115,slow=8.7,SNR=5.3						
KURBB	**Kurchatov Arra**	**60.26**	**329**	P	P	23 37 43.1	-1.4
	0.1nm,0.5s,baz=121,slow=7.7,SNR=4.3						

WEL 18 23:31:15.9±0.2, 45.48S×166.61E, h21km±1km, ML3.8/18, 1C, Error ellipse: s-maj=2.6km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.38**	**90**	P*	Pb	23 31 23.8	0.0
DCZ				S*	Sb	23 31 28.8	-0.5
DCZ				AML	AML	23 31 28.8	
DCZ				AML	AML	23 31 28.8	
DCZ				AML	AML	23 31 29.3	
PYZ	**Puysegur Point**	**0.69**	**176**	P*	Pb	23 31 28.6	-0.7
PYZ				S*	Sb	23 31 37.4	-1.0
WHZ	**Wether Hill Ro**	**1.02**	**114**	PN	Pb	23 31 34.6	-0.4
WHZ				AML	AML	23 31 52.3	
WHZ				AML	AML	23 31 56.8	
MLZ	**Mavora Lakes**	**1.11**	**84**	⇑PN	Pn	23 31 35.4	-0.9
MLZ				AML	AML	23 31 50.6	
MLZ				AML	AML	23 31 58.8	
MSZ	**Milford Sound**	**1.23**	**50**	PN	Pn	23 31 36.9	-1.0
MSZ				AML	AML	23 31 58.5	
MSZ				AML	AML	23 31 58.5	
MSZ				AML	AML	23 31 58.6	
MSZ				AML	AML	23 31 58.6	
APZ	**The Paps**	**1.66**	**145**	PN	Pn	23 31 44.6	+0.8
WKZ	**Wanaka**	**1.82**	**70**	PN	Pb	23 31 47.7	-1.0
WKZ				AML	AML	23 32 15.7	
WKZ				AML	AML	23 32 16.6	
WKZ				AML	AML	23 32 16.6	
WKZ				AML	AML	23 32 22.1	
EAZ	**Earnscleugh**	**1.92**	**84**	PN	Pb	23 31 48.8	-1.4
EAZ				AML	AML	23 32 13.9	
EAZ				AML	AML	23 32 14.3	
EAZ				AML	AML	23 32 18.4	
EAZ				AML	AML	23 32 18.7	
SYZ	**Scrubby Hill**	**2.06**	**122**	*e*PN	Pb	23 31 51.4	-1.1
JCZ	**Jackson Bay**	**2.08**	**48**	*e*PN	Pb	23 31 52.8	-0.3
JCZ				AML	AML	23 32 24.7	
JCZ				AML	AML	23 32 27.2	
TUZ	**Tuapeka**	**2.17**	**104**	*e*PN	Pb	23 31 52.9	-1.6
TUZ				AML	AML	23 32 21.8	
TUZ				AML	AML	23 32 27.1	
LBZ	**Lake Benmore**	**2.76**	**68**	*e*PN	Pn	23 31 59.2	+0.2
LBZ				AML	AML	23 32 40.1	
LBZ				AML	AML	23 32 58.6	
ODZ	**Otahua Downs**	**2.88**	**83**	PN	Pn	23 32 01.1	+0.5
ODZ				AML	AML	23 32 40.0	
FOZ	**Fox Glacier**	**2.92**	**50**	*e*PN	Pn	23 32 03.6	+2.6
FOZ				AML	AML	23 32 57.1	
FOZ				AML	AML	23 32 57.7	
RPZ	**Rata Peaks**	**3.63**	**62**	*e*PN	Pn	23 32 11.8	+0.8
RPZ				AML	AML	23 33 18.1	
RPZ				AML	AML	23 33 18.4	
WVZ	**Waitaha Valley**	**3.81**	**52**	*e*PN	Pn	23 32 14.1	+0.7
OXZ	**Oxford**	**4.45**	**63**	*e*PN	Pn	23 32 21.9	-0.2

WEL 18 23:47:58.0±0.2, 45.51S×166.45E, h21km±1km, ML3.7/17, 1D, Error ellipse: s-maj=2.0km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.49**	**86**	P*	Pb	23 48 07.5	-0.4
DCZ				S*	Sb	23 48 14.5	-0.2
DCZ				AML	AML	23 48 15.3	
DCZ				AML	AML	23 48 15.4	
DCZ				AML	AML	23 48 15.4	
PYZ	**Puysegur Point**	**0.68**	**166**	P*	Pb	23 48 10.5	-0.7
PYZ				S*	Sb	23 48 18.5	-1.6
WHZ	**Wether Hill Ro**	**1.11**	**111**	PN	Pn	23 48 18.0	-0.4
WHZ				AML	AML	23 48 42.3	
WHZ				AML	AML	23 48 43.3	
MLZ	**Mavora Lakes**	**1.22**	**83**	⇓PN	Pn	23 48 19.1	-0.8
MLZ				AML	AML	23 48 36.9	
MLZ				AML	AML	23 48 44.8	
MSZ	**Milford Sound**	**1.34**	**52**	PN	Pn	23 48 20.7	-0.8
MSZ				AML	AML	23 48 45.1	
MSZ				AML	AML	23 48 45.1	
MSZ				AML	AML	23 48 54.8	
MSZ				AML	AML	23 48 54.8	
APZ	**The Paps**	**1.70**	**142**	PN	Pn	23 48 27.5	+1.0
WKZ	**Wanaka**	**1.94**	**70**	*e*PN	Pn	23 48 30.8	+1.0
WKZ				AML	AML	23 49 04.1	
WKZ				AML	AML	23 49 04.1	
WKZ				AML	AML	23 49 05.8	
WKZ				AML	AML	23 49 05.8	
EAZ	**Earnscleugh**	**2.03**	**83**	PN	Pb	23 48 32.7	-1.6
EAZ				AML	AML	23 49 03.1	
EAZ				AML	AML	23 49 03.1	
EAZ				AML	AML	23 49 04.3	
EAZ				AML	AML	23 49 04.6	
SYZ	**Scrubby Hill**	**2.13**	**120**	PN	Pb	23 48 34.7	-1.3
JCZ	**Jackson Bay**	**2.18**	**50**	PN	Pb	23 48 36.1	-0.8
JCZ				AML	AML	23 49 11.1	
JCZ				AML	AML	23 49 25.6	
TUZ	**Tuapeka**	**2.27**	**102**	PN	Pb	23 48 36.4	-1.8
TUZ				AML	AML	23 49 09.6	
TUZ				AML	AML	23 49 11.0	
LBZ	**Lake Benmore**	**2.88**	**68**	PN	Pn	23 48 43.3	+0.6
LBZ				AML	AML	23 49 24.2	
LBZ				AML	AML	23 49 29.4	
ODZ	**Otahua Downs**	**3.00**	**83**	PN	Pn	23 48 45.0	+0.7
ODZ				AML	AML	23 49 10.0	
ODZ				AML	AML	23 49 24.6	
ODZ				AML	AML	23 49 26.2	
ODZ				AML	AML	23 49 46.4	
FOZ	**Fox Glacier**	**3.02**	**51**	AML	AML	23 49 40.8	
OXZ	**Oxford**	**4.56**	**63**	*e*PN	Pn	23 49 05.5	-0.3

WEL 18 23:56:18.2±0.4, 46.08S×165.94E, h26km±2km, ML3.5/14, 1D, Error ellipse: s-maj=3.8km s-min=1.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.52**	**100**	⇓P*	Pb	23 56 28.4	-0.4
PYZ				S*	Sb	23 56 35.9	-0.2
DCZ	**Deep Cove**	**1.04**	**55**	PN	Pn	23 56 36.5	-0.5
DCZ				SN	Sn	23 56 50.1	-0.6
DCZ				AML	AML	23 56 51.6	
DCZ				AML	AML	23 56 51.7	
DCZ				AML	AML	23 56 51.9	
WHZ	**Wether Hill Ro**	**1.41**	**83**	PN	Pn	23 56 42.4	+0.2
WHZ				AML	AML	23 57 05.2	
WHZ				AML	AML	23 57 06.7	
APZ	**The Paps**	**1.60**	**119**	PN	Pn	23 56 44.5	-0.3
MLZ	**Mavora Lakes**	**1.73**	**66**	PN	Pn	23 56 47.3	+0.8
MLZ				AML	AML	23 57 15.5	
MLZ				AML	AML	23 57 17.4	
MSZ	**Milford Sound**	**1.98**	**46**	AML	AML	23 57 28.7	
MSZ				AML	AML	23 57 31.0	
SYZ	**Scrubby Hill**	**2.26**	**103**	*e*PN	Pn	23 56 54.9	+1.1
WKZ	**Wanaka**	**2.50**	**61**	*e*PN	Pn	23 56 59.4	+2.3
WKZ				AML	AML	23 57 44.4	
WKZ				AML	AML	23 57 47.6	
EAZ	**Earnscleugh**	**2.51**	**71**	*e*PN	Pn	23 56 58.9	+1.7
EAZ				AML	AML	23 57 42.6	
EAZ				AML	AML	23 57 48.2	
TUZ	**Tuapeka**	**2.57**	**89**	*e*PN	Pn	23 56 59.3	+1.1
TUZ				AML	AML	23 57 34.3	
TUZ				AML	AML	23 57 34.4	
JCZ	**Jackson Bay**	**2.83**	**46**	*e*PN	Pn	23 57 03.6	+1.8
JCZ				AML	AML	23 57 55.4	
JCZ				AML	AML	23 57 57.9	
LBZ	**Lake Benmore**	**3.44**	**62**	*e*PN	Pn	23 57 11.3	+1.2
ODZ	**Otahua Downs**	**3.46**	**74**	PN	Pn	23 57 10.7	+0.4
WVZ	**Waitaha Valley**	**4.55**	**50**	*e*PN	Pn	23 57 25.9	+0.6

IDC 18 23:58:59.1±1.1, 24.50N×127.45E, h39km±7km, mb3.3/7, mb1 3.5/8, mb1mx3.3/26, mbtmp3.3/8, ML3.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.0/19, Error ellipse: s-maj=58.3km s-min=13.1km az=69.0, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**15.15**	**35**	Pn	Pn	00 02 29.9	-0.5
	0.1nm,0.3s,baz=214,slow=7.6,SNR=3.0						
ASAJ	**Asahikawa**	**23.16**	**29**	LR	LR	00 14 34.3	
	comp=Z,32nm,18.9s,baz=278,slow=40						
SONM	**Songino Array**	**28.65**	**330**	P	P	00 04 53.1	+0.9
	0.1nm,0.3s,baz=145,slow=3.5,SNR=3.2						
SONM				pP	pP	00 05 04.1	+1.1
	0.5nm,0.7s,baz=120,slow=8.8,SNR=3.0						
MKAR	**Makanchi Array**	**42.19**	**313**	P	P	00 06 47.5	-0.6
	0.3nm,0.6s,baz=100,slow=8.8,SNR=3.9						
MKAR				pP	pP	00 06 58.8	-0.5
	0.6nm,0.5s,baz=98,slow=10,SNR=6.0						
FITZ	**Fitzroy Crossi**	**42.38**	**183**	P	P	00 06 50.2	+0.4
	0.9nm,0.7s,baz=7.8,slow=16,SNR=3.0						
ZALV	**Zalesovo Beam**	**43.21**	**324**	P	P	00 06 55.4	-0.8
	0.4nm,0.4s,baz=108,slow=8.2,SNR=2.7						
WRA	**Warramunga Arr**	**44.68**	**171**	P	P	00 07 08.0	-0.4
	0.8nm,0.4s,baz=353,slow=8.8,SNR=11						
WRA				pP	pP	00 07 19.1	-0.5
	1.8nm,0.7s,baz=355,slow=8.8,SNR=7.2						
ASAR	**Alice Springs**	**48.29**	**172**	P	P	00 07 36.6	0.0
	0.3nm,0.6s,baz=357,slow=14,SNR=4.5						
ASAR				pP	pP	00 07 47.8	-0.2
	0.6nm,0.8s,baz=355,slow=7.9,SNR=3.5						
BVAR	**Borovoye Array**	**51.11**	**319**	P	P	00 07 57.4	-0.4
	0.6nm,0.7s,baz=101,slow=6.0,SNR=3.8						
BVAR				pP	pP	00 08 09.3	+0.2
	0.5nm,0.5s,baz=84,slow=7.7,SNR=3.8						

TIR ***19*** *00:00:09.5, 42.23N×20.71E, h11km, ML3.4*
PDG ***19*** *00:00:11.6±0.3, 42.23N×20.67E, h11km, ML2.6/9, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
CSEM ***19*** *00:00:11.5±0.1, 42.19N×20.62E, h2km, ML2.5, Error ellipse: s-maj=2.4km s-min=2.1km az=56.0*
THE ***19*** *00:00:11.9, 42.16N×20.64E, h0km±2km, ML2.3/4, Error ellipse: s-maj=2.8km s-min=1.0km az=318.0*
BEO ***19*** *00:00:12.9±0.3, 42.20N×20.66E, h7km±2km, ML2.5/1*
SKO ***19*** *00:00:14.8, 41.93N×20.80E, h18km, M2.3, ML2.5*

ISC 19 00:00:11.4±1.1, 42.20N±0.01×20.67E±0.01, h5km±9km, n98, σ1.906/166, 22C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCI	**Bajram Curri**	**0.48**	**291**	*e*PG	**Pg**	**00 00 28.0**	**-0.6**
BCI				*i* SG	**Sg**	**00 00 26.7**	**-0.1**
BCI	**Bajram Curri**	**0.48**	**291**	*e*Pg	**Pg**	**00 00 20.0**	**-0.6**
BCI				*i* Sg	**Sg**	**00 00 26.7**	**-0.1**
PHP	**Peshkopia**	**0.54**	**199**	*e*PG	**Pg**	**00 00 20.7**	**-1.1**
PHP				*i* SG	**Sg**	**00 00 28.2**	**-0.6**
PHP	**Peshkopia**	**0.54**	**199**	P	**Pg**	**00 00 20.7**	**-1.1**
PHP				S	**Sg**	**00 00 28.2**	**-0.6**
PHP	**Peshkopia**	**0.54**	**199**	P	**Pg**	**00 00 20.7**	**-1.1**
PHP				S	**Sg**	**00 00 28.2**	**-0.6**

PUK	**Puka**	**0.60**	**255**	*e*PG	**Pg**	**00 00 22.4**	**-0.5**
PUK				*i* SG	**Sg**	**00 00 32.0**	**+1.3**
PUK	**Puka**	**0.60**	**255**	*e*Pg	**Pg**	**00 00 22.4**	**-0.5**
PUK				*i* Sg	**Sg**	**00 00 32.0**	**+1.3**
SKO	**Skopje**	**0.61**	**111**	P	**Pg**	**00 00 24.2**	**+1.0**
SKO				S	**Sn**	**00 00 35.8**	**-1.3**
SKO	**Skopje**	**0.61**	**111**	⇑*i*Pg	**Pb**	**00 00 24.6**	**0.0**
SKO				*e*Sg	**Sb**	**00 00 33.0**	**-0.6**
SKO				*e*Lg	Lg	00 00 33.3	
	comp=E,130nm,0.2s						
SKO				*e*Lg	Lg	00 00 33.3	
	comp=N,290nm,0.3s						
SKO	**Skopje**	**0.61**	**111**	⇑*i*Pg	**Pg**	**00 00 24.1**	**+0.9**
SKO				*e*Sg	**Sg**	**00 00 32.2**	**+1.0**
SKO	**Skopje**	**0.61**	**111**	P	**Pg**	**00 00 24.2**	**+1.0**
SKO				*e*Sg	**Sb**	**00 00 33.0**	**-0.6**
SKO				*e*Lg	Lg	00 00 33.3	
	comp=N,290nm,0.3s						
SKO				S	**Sn**	**00 00 35.8**	**-1.3**
PVY	**Plav**	**0.66**	**307**	⇑*i*Pg	**Pg**	**00 00 23.1**	**-1.0**
PVY				*e*Sg	**Sg**	**00 00 33.7**	**+1.0**
BEY	**Berane**	**0.89**	**320**	*e*Pg	**Pg**	**00 00 27.8**	**-0.6**
BEY				*e*Sg	**Sb**	**00 00 41.4**	**-0.1**
IVA	**Berane**	**0.89**	**320**	*e*Pg	**Pg**	**00 00 27.8**	**-0.6**
IVA				*e*Sg	**Sb**	**00 00 41.4**	**-0.1**
TIR	**Tirane**	**1.04**	**216**	*e*PN	**Pb**	**00 00 31.6**	**-0.3**
TIR				*i* SN	**Sn**	**00 00 47.2**	**-0.4**
TIR	**Tirane**	**1.04**	**216**	P	**Pb**	**00 00 31.1**	**-0.8**
TIR				S	**Sg**	**00 00 45.4**	**+0.6**
TIR	**Tirane**	**1.04**	**216**	*e*Pg	**Pn**	**00 00 32.5**	**-0.2**
TIR	**Tirane**	**1.04**	**216**	P	**Pb**	**00 00 31.1**	**-0.8**
TIR	**Tirane**	**1.04**	**216**	*e*Pn	**Pb**	**00 00 31.6**	**-0.3**
TIR	**Tirane**	**1.04**	**216**	*e*Pg	**Pn**	**00 00 32.5**	**-0.2**
TIR				S	**Sg**	**00 00 45.4**	**+0.6**
TIR				*i* Sn	**Sn**	**00 00 47.2**	**-0.4**
BARS	**Barje**	**1.05**	**53**	*e*Pg	**Pn**	**00 00 32.4**	**-0.4**
BARS				*e*Sg	**Sn**	**00 00 47.2**	**-0.6**
BARS	**Barje**	**1.05**	**53**	*e*Pg	**Pn**	**00 00 32.4**	**-0.4**
BARS				*e*Sg	**Sn**	**00 00 47.2**	**-0.6**
SELS	**Selova**	**1.07**	**18**	*e*Pg	**Pb**	**00 00 32.4**	**-0.1**
SELS				*e*Sg	**Sb**	**00 00 46.5**	**-0.3**
PDG	**Podgorica**	**1.08**	**283**	P	**Pb**	**00 00 30.9**	**-1.6**
PDG				S	**Sn**	**00 00 47.8**	**-0.7**
PDG	**Podgorica**	**1.08**	**283**	⇓*i*Pg	**Pb**	**00 00 30.7**	**-1.7**
PDG				*e*Sg	**Sb**	**00 00 46.4**	**-0.5**
PDG	**Podgorica**	**1.08**	**283**	P	**Pb**	**00 00 30.9**	**-1.6**
PDG				*e*Sg	**Sb**	**00 00 46.4**	**-0.5**
PDG				S	**Sn**	**00 00 47.8**	**-0.7**
TTG	**Podgorica**	**1.08**	**283**	⇓*i*Pg	**Pb**	**00 00 30.8**	**-1.7**
TTG				*e*Sg	**Sn**	**00 00 48.5**	**0.0**
ULC	**Ulcinj**	**1.09**	**258**	⇑*i*Pg	**Pb**	**00 00 31.6**	**-1.1**
ULC				*e*Sg	**Sn**	**00 00 48.-**	**-0.3**
ULC	**Ulcinj**	**1.09**	**258**	⇑*i*Pg	**Pb**	**00 00 31.6**	**-1.1**
ULC				*e*Sg	**Sn**	**00 00 48.5**	**-0.3**
SJES	**Sjenica**	**1.18**	**334**	*e*Pg	**Pb**	**00 00 33.2**	**-1.2**
BIA	**Bitola**	**1.27**	**157**	P	**Pn**	**00 00 34.6**	**-1.4**
BIA				S	**Sg**	**00 00 53.1**	**+0.8**
BIA	**Bitola**	**1.27**	**157**	*e*Pn	**Pn**	**00 00 34.5**	**-1.4**
BIA				*e*Lg	Lg	00 00 54.0	
	comp=E,47nm,0.2s						
BIA				*e*Sn	**Sg**	**00 00 54.6**	**+2.3**
BIA				*e*Lg	Lg	00 00 54.7	
	comp=N,62nm,0.3s						
BIA	**Bitola**	**1.27**	**157**	*e*Pn	**Pn**	**00 00 34.5**	**-1.4**
BIA				*e*Lg	Lg	00 00 54.0	
	comp=E,47nm,0.2s						
BIA				*e*Sn	**Sg**	**00 00 54.6**	**+2.3**
BIA				*e*Lg	Lg	00 00 54.7	
	comp=N,62nm,0.3s						
BIA	**Bitola**	**1.27**	**157**	P	**Pn**	**00 00 34.6**	**-1.4**
BIA				S	**Sg**	**00 00 53.1**	**+0.8**
BIA				*e*Sn	**Sg**	**00 00 54.6**	**+2.3**
BIA				*e*Lg	Lg	00 00 54.7	
	comp=N,62nm,0.3s						
BUM	**Brajici-Budva**	**1.32**	**275**	⇑*i*Pg	**Pn**	**00 00 35.8**	**-0.8**
BUM				*e*Sg	**Sg**	**00 00 56.5**	**+2.6**
BUM	**Brajici-Budva**	**1.32**	**275**	⇑*i*Pg	**Pn**	**00 00 35.8**	**-0.8**
BUM				*e*Sg	**Sg**	**00 00 56.5**	**+2.6**
NKY	**Niksic**	**1.39**	**297**	⇓*i*Pg	**Pn**	**00 00 37.3**	**-0.2**
NKY				*e*Sg	**Sg**	**00 00 57.8**	**+1.9**
NKY	**Niksic**	**1.39**	**297**	⇓*i*Pg	**Pn**	**00 00 37.3**	**-0.2**
NKY				*e*Sg	**Sg**	**00 00 57.8**	**+1.9**
PLE	**Pljevlja**	**1.47**	**321**	⇑*i*Pg	**Pn**	**00 00 38.9**	**+0.1**
PLE				*e*Sg	**Sg**	**00 01 00.5**	**+1.8**
PLE	**Pljevlja**	**1.47**	**321**	⇑*i*Pg	**Pn**	**00 00 38.9**	**+0.1**
PLE				*e*Sg	**Sg**	**00 01 00.5**	**+1.8**
FNA	**Florina**	**1.51**	**159**	P	**Pn**	**00 00 38.9**	**-0.3**
FNA				S	**Sb**	**00 00 59.9**	**+0.5**
FNA	**Florina**	**1.51**	**159**	P	**Pn**	**00 00 38.9**	**-0.3**
FNA				S	**Sb**	**00 00 59.9**	**+0.5**
KBN	**Korca**	**1.58**	**177**	*e*PN	**Pb**	**00 00 41.7**	**+0.6**
KBN				*i* SN	**Sg**	**00 01 02.3**	**+0.3**
KBN	**Korca**	**1.58**	**177**	*e*Pn	**Pb**	**00 00 41.7**	**+0.6**
KBN				*i* Sn	**Sg**	**00 01 02.3**	**+0.3**
HCY	**Herceg Novi**	**1.63**	**279**	⇑*i*Pn	**Pn**	**00 00 40.9**	**+0.1**
HCY				*e*Sn	**Sg**	**00 01 04.2**	**+0.3**
HCY	**Herceg Novi**	**1.63**	**279**	⇑*i*Pn	**Pn**	**00 00 40.9**	**+0.1**
HCY				*e*Sn	**Sg**	**00 01 04.2**	**+0.3**
UPM	**Unac-Piva**	**1.64**	**308**	*e*Pn	**Pn**	**00 00 41.2**	**0.0**
UPM				*e*Sn	**Sg**	**00 01 04.3**	**+0.1**
UPM	**Unac-Piva**	**1.64**	**308**	*e*Pn	**Pn**	**00 00 41.2**	**0

AGG	Agios Georgios	3.42	158	P		Pn	00 01 05.7	+0.4
AGG	Agios Georgios	3.42	158	P		Pn	00 01 05.7	+0.4
BZS	Buzias	3.48	11	⇓*i*P		Pn	00 01 06.3	0.0
BZS	Buzias	3.48	11	*e*Sn		Sn	00 01 47.0	-0.9
BZS	Buzias	3.48	11	⇓*i*P		Pn	00 01 06.3	0.0
BZS				*e*Sn		Sn	00 01 47.0	-0.9
GZR	Gura Zlata	3.54	25	⇓*i*P		Pn	00 01 04.2	-2.9
GZR	Gura Zlata	3.54	25	⇓*i*P		Pn	00 01 04.2	-2.9
LOT	Lotru	3.95	34	⇑*i*P		Pn	00 01 15.7	+3.0
LOT	Lotru	3.95	34	⇑*i*P		Pn	00 01 15.7	+3.0
UDBI	Udbina	4.27	305	Sn		Sn	00 02 11.8	+4.4
UDBI	Udbina	4.27	305	Sn		Sn	00 02 11.7	+4.4
PKSM	Moragy	4.27	341	⇑*i*P		Pn	00 01 16.0	-1.0
PKSM	Moragy	4.27	341	⇑*i*P		Pn	00 01 16.0	-1.0
DRGR		4.82	17	⇑*i*P		Pg	00 01 40.8	-2.9
NVLJ	Novalja	4.84	301	*e*Pn		Pn	00 01 25.5	+0.6
NVLJ				Sn		Sn	00 02 22.9	+1.5
NVLJ	Novalja	4.84	301	*e*Pn		Pn	00 01 25.5	+0.6
NVLJ				Sn		Sn	00 02 22.9	+1.5

*ISCJB **19** 00:03:49.5±0.4, 40°.03S±0°.02×176°.85E±0°.05, h57km±3km, mb3.9/6, MS3.6/5, Error ellipse: s-maj=6.2km s-min=3.4km az=20.6.*

*NEIC **19** 00:03:51.1, 39°.98S×176°.85E, h48km, ML4.3(WEL), After WEL.*

NEIC Felt in the Hawke Bay area.

*WEL **19** 00:03:51.1±0.1, 39°.99S×176°.84E, h46km±1km, ML4.3/21, Error ellipse: s-maj=1.2km s-min=0.7km az=90.0*

WEL Felt in Hawke"s Bay.

*IDC **19** 00:03:51.5±0.8, 39°.84S×176°.65E, h36km±5km, mb3.8/6, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, ML3.7/1, MS3.7/6, Ms1 3.7/6, ms1mx3.3/25, Error ellipse: s-maj=20.6km s-min=18.6km az=70.0*

ISC 19 00:03:51.0±0.6, 40°.00S±0°.03×176°.77E±0°.03, h46km±4km, n188, σ1§10/194, mb3.9/6, MS3.6/5, 7C-6D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.08**	**118**	Pn	**Pn**	**00 03 58.3**	**+0.1**
PXZ				Sn	**Sn**	**00 04 04.1**	**+0.7**
PXZ	**Pawanui**	**0.08**	**118**	PN	**Pn**	**00 03 58.3**	**+0.1**
PXZ				SN	**Sn**	**00 04 04.1**	**+0.7**
PXZ				AML	AML	00 04 04.5	
PXZ				AML	AML	00 04 04.5	
PXZ				AML	AML	00 04 06.6	
KAHZ	**Kahuranaki**	**0.21**	**21**	Pn	**Pn**	**00 03 58.6**	**-0.5**
KAHZ				Sn	**Sn**	**00 04 04.7**	**0.0**
KAHZ	**Kahuranaki**	**0.21**	**21**	⇓PN	**Pn**	**00 03 58.5**	**-0.5**
KAHZ				SN	**Sn**	**00 04 04.5**	**-0.3**
WPHZ	**Waipukurau**	**0.27**	**255**	Pn	**Pn**	**00 03 59.4**	**0.0**
WPHZ	**Waipukurau**	**0.27**	**255**	⇓PN	**Pn**	**00 03 59.4**	**0.0**
WPHZ				SN	**Sn**	**00 04 06.0**	**+0.6**
PRHZ	**Porangahau**	**0.29**	**201**	⇑Pn	**Pn**	**00 04 00.6**	**+0.9**
PRHZ	**Porangahau**	**0.29**	**201**	⇑PN	**Pn**	**00 04 00.6**	**+0.9**
CKHZ	**Cape Kidnapper**	**0.41**	**35**	Pn	**Pn**	**00 04 00.7**	**-0.2**
CKHZ	**Cape Kidnapper**	**0.41**	**35**	⇓PN	**Pn**	**00 04 00.7**	**-0.2**
CKHZ				SN	**Sn**	**00 04 07.7**	**-0.2**
PNHZ	**Pukenui**	**0.45**	**280**	Pn	**Pn**	**00 04 00.8**	**-0.6**
PNHZ	**Pukenui**	**0.45**	**280**	PN	**Pn**	**00 04 00.8**	**-0.6**
ANWZ	**Angora Road**	**0.52**	**206**	PN	**Pn**	**00 04 03.5**	**+1.3**
MCHZ	**McNeill Hill**	**0.56**	**354**	Pn	**Pn**	**00 04 02.2**	**-0.5**
MCHZ	**McNeill Hill**	**0.56**	**354**	⇑PN	**Pn**	**00 04 02.2**	**-0.5**
MCHZ				SN	**Sn**	**00 04 10.0**	**-1.1**
DVHZ	**Dannevirke**	**0.56**	**237**	Pn	**Pn**	**00 04 03.3**	**+0.6**
DVHZ	**Dannevirke**	**0.56**	**237**	PN	**Pn**	**00 04 03.3**	**+0.6**
TSZ	**Takapari Road**	**0.63**	**264**	Pn	**Pn**	**00 04 03.4**	**-0.2**
TSZ	**Takapari Road**	**0.63**	**264**	PN	**Pn**	**00 04 03.5**	**-0.2**
TSZ				AML	AML	00 04 13.1	
TSZ				AML	AML	00 04 13.8	
BHHZ	**Black Hill Sta**	**0.75**	**313**	Pn	**Pn**	**00 04 04.4**	**-0.9**
BHHZ	**Black Hill Sta**	**0.75**	**313**	PN	**Pn**	**00 04 04.4**	**-0.9**
BFZ	**Birch Farm**	**0.79**	**210**	Pn	**Pn**	**00 04 06.6**	**+0.8**
BFZ	**Birch Farm**	**0.79**	**210**	PN	**Pn**	**00 04 06.6**	**+0.8**
BFZ				AML	AML	00 04 20.4	
BFZ				AML	AML	00 04 20.6	
BFZ				AML	AML	00 04 20.6	
BFZ				AML	AML	00 04 20.9	
PRWZ	**Pori Road**	**0.83**	**227**	⇑PN	**Pn**	**00 04 07.3**	**+1.0**
BKZ	**Black Stump Fm**	**0.86**	**345**	Pn	**Pn**	**00 04 05.9**	**-0.8**
BKZ	**Black Stump Fm**	**0.86**	**345**	PN	**Pn**	**00 04 05.9**	**-0.8**
BKZ				AML	AML	00 04 17.4	
BKZ				AML	AML	00 04 17.4	
POWZ	**Post Office Ro**	**0.87**	**242**	Pn	**Pn**	**00 04 07.4**	**+0.6**
POWZ	**Post Office Ro**	**0.87**	**242**	⇓PN	**Pn**	**00 04 07.4**	**+0.6**
MOVZ	**Moawhango**	**0.98**	**306**	Pn	**Pn**	**00 04 08.3**	**-0.2**
MOVZ	**Moawhango**	**0.98**	**306**	⇑PN	**Pn**	**00 04 08.3**	**-0.2**
TIWZ	**Tintock**	**1.03**	**221**	Pn	**Pn**	**00 04 09.8**	**+0.7**
TIWZ	**Tintock**	**1.03**	**221**	PN	**Pn**	**00 04 09.8**	**+0.7**
RAHZ	**Arahi**	**1.10**	**13**	PN	**Pn**	**00 04 09.6**	**-0.4**
WNVZ	**Wahianoa**	**1.13**	**306**	Pn	**Pn**	**00 04 10.9**	**+0.4**
WNVZ	**Wahianoa**	**1.13**	**306**	PN	**Pn**	**00 04 10.9**	**+0.4**
MRZ	**Mangatainoka R**	**1.13**	**234**	Pn	**Pn**	**00 04 11.0**	**+0.6**
MRZ	**Mangatainoka R**	**1.13**	**234**	PN	**Pn**	**00 04 10.7**	**+0.3**
MRZ				AML	AML	00 04 26.8	
MRZ				AML	AML	00 04 43.5	
TUVZ	**Tukino**	**1.13**	**310**	Pn	**Pn**	**00 04 11.1**	**+0.5**
TUVZ	**Tukino**	**1.13**	**310**	PN	**Pn**	**00 04 10.9**	**+0.4**
WHVZ	**Whangaehu Hut**	**1.16**	**300**	PN	**Pn**	**00 04 11.2**	**+0.2**
TRVZ	**Turoa**	**1.18**	**306**	Pn	**Pn**	**00 04 11.4**	**+0.2**
TRVZ	**Turoa**	**1.18**	**306**	PN	**Pn**	**00 04 11.4**	**+0.2**
MTVZ	**Mangateitei**	**1.18**	**301**	Pn	**Pn**	**00 04 11.9**	**+0.8**
MTVZ	**Mangateitei**	**1.18**	**301**	⇑PN	**Pn**	**00 04 11.9**	**+0.8**
DRZ	**Dome Shelter**	**1.18**	**307**	Pn	**Pn**	**00 04 11.9**	**+0.6**
DRZ	**Dome Shelter**	**1.18**	**307**	⇓PN	**Pn**	**00 04 11.9**	**+0.6**
OTVZ	**Oturere**	**1.19**	**314**	Pn	**Pn**	**00 04 11.5**	**+0.1**
OTVZ	**Oturere**	**1.19**	**314**	PN	**Pn**	**00 04 11.5**	**+0.1**
KNZ	**Kokohu**	**1.20**	**36**	Pn	**Pn**	**00 04 10.6**	**-0.7**
KNZ	**Kokohu**	**1.20**	**36**	PN	**Pn**	**00 04 10.6**	**-0.7**
KNZ				AML	AML	00 04 55.4	
KNZ				AML	AML	00 05 01.9	
FWVZ	**Far West T-bar**	**1.20**	**308**	Pn	**Pn**	**00 04 11.5**	**0.0**
FWVZ	**Far West T-bar**	**1.20**	**308**	PN	**Pn**	**00 04 11.5**	**0.0**
MHGZ	**Mahia Peninsul**	**1.21**	**46**	Pn	**Pn**	**00 04 11.3**	**-0.2**
MHGZ	**Mahia Peninsul**	**1.21**	**46**	PN	**Pn**	**00 04 11.3**	**-0.2**
NGZ	**Ngauruhoe**	**1.22**	**312**	Pn	**Pn**	**00 04 11.8**	**0.0**
NGZ	**Ngauruhoe**	**1.22**	**312**	PN	**Pn**	**00 04 11.8**	**0.0**
HATZ	**Hinemaiaia**	**1.22**	**334**	Pn	**Pn**	**00 04 11.5**	**-0.2**
HATZ	**Hinemaiaia**	**1.22**	**334**	PN	**Pn**	**00 04 11.5**	**-0.2**
WPVZ	**Whakapapa**	**1.23**	**309**	PN	**Pn**	**00 04 12.4**	**+0.5**
RITZ	**Rihia Road**	**1.24**	**325**	Pn	**Pn**	**00 04 12.1**	**+0.2**
RITZ	**Rihia Road**	**1.24**	**325**	PN	**Pn**	**00 04 12.0**	**+0.2**
KRVZ	**Karewarewa**	**1.26**	**315**	Pn	**Pn**	**00 04 12.3**	**+0.1**
KRVZ	**Karewarewa**	**1.26**	**315**	PN	**Pn**	**00 04 12.6**	**+0.4**
WTVZ	**West Tongariro**	**1.27**	**313**	Pn	**Pn**	**00 04 12.9**	**+0.5**
WTVZ	**West Tongariro**	**1.27**	**313**	PN	**Pn**	**00 04 12.4**	**+0.1**
TMWZ	**Te Maipa**	**1.30**	**211**	Pn	**Pn**	**00 04 12.8**	**+0.1**
TMWZ	**Te Maipa**	**1.30**	**211**	PN	**Pn**	**00 04 12.8**	**+0.1**
PKVZ	**Pokaka**	**1.31**	**302**	Pn	**Pn**	**00 04 13.2**	**+0.3**
PKVZ	**Pokaka**	**1.31**	**302**	PN	**Pn**	**00 04 13.3**	**+0.5**
HOWZ	**Holdsworth Sta**	**1.32**	**226**	Pn	**Pn**	**00 04 13.0**	**0.0**
HOWZ	**Holdsworth Sta**	**1.32**	**226**	PN	**Pn**	**00 04 13.0**	**0.0**
KATZ	**Kakaramea**	**1.32**	**320**	Pn	**Pn**	**00 04 13.6**	**+0.5**
KATZ	**Kakaramea**	**1.32**	**320**	PN	**Pn**	**00 04 13.6**	**+0.5**
RATZ	**Rangitukua**	**1.37**	**325**	Pn	**Pn**	**00 04 13.7**	**0.0**
RATZ	**Rangitukua**	**1.37**	**325**	PN	**Pn**	**00 04 13.7**	**0.0**
PRGZ	**Paritu Road**	**1.37**	**39**	Pn	**Pn**	**00 04 13.0**	**-0.7**
PRGZ	**Paritu Road**	**1.37**	**39**	PN	**Pn**	**00 04 13.0**	**-0.7**
TWVZ	**Taurewa**	**1.39**	**311**	Pn	**Pn**	**00 04 14.2**	**+0.2**
TWVZ	**Taurewa**	**1.39**	**311**	PN	**Pn**	**00 04 14.6**	**+0.6**
WAZ	**Wanganui**	**1.40**	**279**	Pn	**Pn**	**00 04 15.6**	**+1.5**
WAZ	**Wanganui**	**1.40**	**279**	PN	**Pn**	**00 04 15.6**	**+1.5**
ALRZ	**Allen Road**	**1.47**	**347**	Pn	**Pn**	**00 04 14.6**	**-0.5**
ALRZ	**Allen Road**	**1.47**	**347**	⇑PN	**Pn**	**00 04 14.6**	**-0.5**
WHTZ	**Whakaora**	**1.47**	**334**	Pn	**Pn**	**00 04 15.2**	**+0.1**
WHTZ	**Whakaora**	**1.47**	**334**	PN	**Pn**	**00 04 15.2**	**+0.1**
OGWZ	**Otaki Gorge**	**1.47**	**236**	Pn	**Pn**	**00 04 15.2**	**+0.1**
OGWZ	**Otaki Gorge**	**1.47**	**236**	⇓PN	**Pn**	**00 04 15.2**	**+0.1**
MTWZ	**Mount Morrison**	**1.51**	**219**	Pn	**Pn**	**00 04 15.2**	**-0.5**
MTWZ	**Mount Morrison**	**1.51**	**219**	PN	**Pn**	**00 04 15.1**	**-0.5**
MTWZ				AML	AML	00 04 36.0	
MTWZ				AML	AML	00 04 40.3	
WATZ	**Wairara**	**1.52**	**328**	Pn	**Pn**	**00 04 15.3**	**-0.4**
WATZ	**Wairara**	**1.52**	**328**	PN	**Pn**	**00 04 15.3**	**-0.4**
PRRZ	**Plateau Road**	**1.52**	**349**	Pn	**Pn**	**00 04 15.3**	**-0.5**
PRRZ	**Plateau Road**	**1.52**	**349**	PN	**Pn**	**00 04 15.3**	**-0.5**
TRWZ	**Traveller**	**1.63**	**210**	Pn	**Pn**	**00 04 17.0**	**-0.2**
TRWZ	**Traveller**	**1.63**	**210**	PN	**Pn**	**00 04 16.9**	**-0.2**
TRWZ				AML	AML	00 04 38.8	
TRWZ				AML	AML	00 04 40.2	
HRRZ	**Handcock Road**	**1.65**	**346**	Pn	**Pn**	**00 04 17.0**	**-0.5**
HRRZ	**Handcock Road**	**1.65**	**346**	PN	**Pn**	**00 04 17.0**	**-0.5**
KIW	**Kapiti Island**	**1.67**	**238**	Pn	**Pn**	**00 04 17.9**	**+0.2**
KIW	**Kapiti Island**	**1.67**	**238**	PN	**Pn**	**00 04 17.9**	**+0.2**
KIW				AML	AML	00 04 42.1	
KIW				AML	AML	00 04 56.0	
RRRZ	**Republican Roa**	**1.67**	**353**	Pn	**Pn**	**00 04 17.1**	**-0.7**
RRRZ	**Republican Roa**	**1.67**	**353**	PN	**Pn**	**00 04 17.0**	**-0.8**
CAW	**Cannon Point**	**1.71**	**229**	Pn	**Pn**	**00 04 18.1**	**-0.3**
CAW	**Cannon Point**	**1.71**	**229**	PN	**Pn**	**00 04 18.0**	**-0.3**
CAW				AML	AML	00 04 40.5	
CAW				AML	AML	00 04 40.7	
PAWZ	**Paruwai Farm**	**1.72**	**216**	Pn	**Pn**	**00 04 18.1**	**-0.4**
PAWZ	**Paruwai Farm**	**1.72**	**216**	PN	**Pn**	**00 04 18.0**	**-0.4**
PAWZ				AML	AML	00 04 41.3	
PAWZ				AML	AML	00 04 43.5	
URZ	**Urewera**	**1.75**	**9**	Pn	**Pn**	**00 04 17.7**	**-1.2**
URZ				Sn	**Sn**	**00 04 38.3**	**-1.7**
URZ	**Urewera**	**1.75**	**9**	Pn	**Pn**	**00 04 17.7**	**-1.2**
	46nm,0.3s,baz=217,slow=6.1,SNR=226						
URZ				Sn	**Sn**	**00 04 38.3**	**-1.7**
	138nm,0.3s,baz=180,slow=19,SNR=21						
URZ				LR	LR	00 04 45.5	
	comp=Z,525nm,21.2s,baz=179,slow=33						
URZ	**Urewera**	**1.75**	**9**	PN	**Pn**	**00 04 17.7**	**-1.2**
URZ				AML	AML	00 04 58.7	
URZ				AML	AML	00 04 59.8	
MWZ	**Matawai**	**1.76**	**20**	Pn	**Pn**	**00 04 17.9**	**-1.1**
MWZ	**Matawai**	**1.76**	**20**	PN	**Pn**	**00 04 17.9**	**-1.1**
MWZ				AML	AML	00 04 41.4	
MWZ				AML	AML	00 04 49.5	
MWZ				AML	AML	00 05 00.2	
MWZ				AML	AML	00 05 00.2	
MSWZ	**Moikau Station**	**1.83**	**219**	Pn	**Pn**	**00 04 19.0**	**-1.0**
MSWZ	**Moikau Station**	**1.83**	**219**	AML	AML	00 04 42.7	
MSWZ				AML	AML	00 04 43.1	
CNGZ	**Carnagh Statio**	**1.88**	**37**	Pn	**Pn**	**00 04 19.9**	**-0.7**
CNGZ	**Carnagh Statio**	**1.88**	**37**	PN	**Pn**	**00 04 19.8**	**-0.7**
PLWZ	**Palliser**	**1.95**	**216**	Pn	**Pn**	**00 04 20.5**	**-1.1**
WEL	**Wellington**	**2.00**	**229**	Pn	**Pn**	**00 04 21.8**	**-0.5**
WEL	**Wellington**	**2.00**	**229**	PN	**Pn**	**00 04 21.5**	**-0.7**
BHW	**Baring Head**	**2.02**	**225**	Pn	**Pn**	**00 04 22.1**	**-0.4**
BHW	**Baring Head**	**2.02**	**225**	PN	**Pn**	**00 04 22.0**	**-0.6**
BHW				AML	AML	00 04 47.1	
BHW				AML	AML	00 04 47.9	
HIZ	**Hauiti**	**2.10**	**314**	Pn	**Pn**	**00 04 23.6**	**0.0**
HIZ	**Hauiti**	**2.10**	**314**	PN	**Pn**	**00 04 23.6**	**0.0**
MHEZ	**Mangahewa**	**2.11**	**295**	Pn	**Pn**	**00 04 25.4**	**+1.7**
DREZ	**Durham Road**	**2.15**	**291**	*e*Pn	**Pn**	**00 04 26.1**	**+1.8**
DFE	**Dawson Falls**	**2.17**	**287**	Pn	Pn	00 04 29.6	+5.0
NEZ	**North Egmont**	**2.19**	**288**	Pn	**Pn**	**00 04 27.6**	**+2.7**
PUZ	**Puketiti**	**2.24**	**31**	Pn	**Pn**	**00 04 24.0**	**-1.6**
PUZ	**Puketiti**	**2.24**	**31**	PN	**Pn**	**00 04 24.3**	**-1.3**
PUZ				AML	AML	00 04 52.8	
PUZ				AML	AML	00 04 54.9	
TCW	**Tory Channel**	**2.26**	**237**	Pn	**Pn**	**00 04 25.1**	**-0.7**
TCW	**Tory Channel**	**2.26**	**237**	PN	**Pn**	**00 04 25.1**	**-0.7**
TCW				AML	AML	00 04 54.2	
TCW				AML	AML	00 04 54.5	
DUWZ	**D'Urville Isla**	**2.32**	**249**	Pn	**Pn**	**00 04 26.6**	**-0.2**
DUWZ	**D'Urville Isla**	**2.32**	**249**	PN	**Pn**	**00 04 26.3**	**-0.4**
TOZ	**Tahuroa Road**	**2.47**	**336**	Pn	**Pn**	**00 04 28.0**	**-0.7**
TOZ	**Tahuroa Road**	**2.47**	**336**	PN	**Pn**	**00 04 27.9**	**-0.7**
TUWZ	**Tuamarina**	**2.58**	**235**	Pn	**Pn**	**00 04 29.1**	**-1.3**
TUWZ	**Tuamarina**	**2.58**	**235**	PN	**Pn**	**00 04 29.0**	**-1.3**
TUWZ				AML	AML	00 05 00.9	
TUWZ				AML	AML	00 05 05.8	
MXZ	**Matakaoa Point**	**2.71**	**27**	AML	AML	00 05 03.1	
MXZ				AML	AML	00 05 07.9	
BSWZ	**Blackbirch Sta**	**2.79**	**231**	Pn	**Pn**	**00 04 31.9**	**-1.2**
BSWZ	**Blackbirch Sta**	**2.79**	**231**	PN	**Pn**	**00 04 31.9**	**-1.2**
BSWZ				AML	AML	00 05 08.4	
BSWZ				AML	AML	00 05 08.7	
NNZ	**Nelson**	**2.86**	**244**	Pn	**Pn**	**00 04 33.8**	**-0.3**
NNZ	**Nelson**	**2.86**	**244**	PN	**Pn**	**00 04 33.8**	**-0.3**
KBAZ	**Karaka Road Bo**	**3.25**	**332**	PN	**Pn**	**00 04 39.7**	**+0.3**
QRZ	**Quartz Range**	**3.35**	**254**	Pn	**Pn**	**00 04 40.0**	**-0.7**
QRZ	**Quartz Range**	**3.35**	**254**	PN	**Pn**	**00 04 40.2**	**-0.6**
THZ	**Tophouse**	**3.42**	**238**	Pn	**Pn**	**00 04 40.5**	**-1.4**
THZ	**Tophouse**	**3.42**	**238**	PN	**Pn**	**00 04 40.3**	**-1.6**
KHZ	**Kahutara**	**3.44**	**224**	Pn	**Pn**	**00 04 40.1**	**-1.9**
KHZ	**Kahutara**	**3.44**	**224**	PN	**Pn**	**00 04 40.1**	**-1.9**
KHZ				AML	AML	00 05 23.9	
KHZ				AML	AML	00 05 24.2	
DSZ	**Denniston Nort**	**4.16**	**244**	PN	**Pn**	**00 04 50.3**	**-1.6**
LTZ	**Lake Taylor**	**4.38**	**229**	Pn	**Pn**	**00 04 53.6**	**-1.5**
LTZ	**Lake Taylor**	**4.38**	**229**	PN	**Pn**	**00 04 53.6**	**-1.5**
MQZ	**McQueen's Vall**	**4.82**	**218**	Pn	**Pn**	**00 04 59.2**	**-1.7**
OXZ	**Oxford**	**4.86**	**225**	PN	**Pn**	**00 04 58.9**	**-2.7**
WVZ	**Waitaha Valley**	**5.48**	**234**	Pn	**Pn**	**00 05 07.7**	**-2.3**
WVZ	**Waitaha Valley**	**5.48**	**234**	PN	**Pn**	**00 05 07.5**	**-2.4**
RPZ	**Rata Peaks**	**5.66**	**227**	Pn	**Pn**	**00 05 11.8**	**-0.7**
RPZ				Sn	**Sn**	**00 06 10.6**	**-5.6**
RPZ	**Rata Peaks**	**5.66**	**227**	PN	**Pn**	**00 05 11.8**	**-0.7**
	2.1nm,0.3s,baz=61,slow=13,SNR=2.6						
RPZ				Sn	**Sn**	**00 06 10.6**	**-5.6**
	24nm,0.3s,baz=26,slow=19,SNR=49						
CTZ	**Chatham Island**	**6.19**	**129**	Pn	**Pn**	**00 05 21.1**	**+1.5**
FOZ	**Fox Glacier**	**6.38**	**234**	Pn	Pn	00 05 18.8	-3.6
FOZ	**Fox Glacier**	**6.38**	**234**	PN	Pn	00 05 18.6	-3.8
LBZ	**Lake Benmore**	**6.57**	**226**	Pn	**Pn**	**00 05 23.3**	**-1.7**
ODZ	**Otahua Downs**	**6.78**	**220**	Pn	**Pn**	**00 05 26.2**	**-1.6**
JCZ	**Jackson Bay**	**7.22**	**233**	Pn	**Pn**	**00 05 31.9**	**-2.1**
WKZ	**Wanaka**	**7.50**	**227**	Pn	Pn	00 05 27.9	-10
DZM	**Mont Dzumac**	**19.91**	**331**	LR	LR	00 15 11.5	
	comp=Z,232nm,18.4s,baz=193,slow=34						
STKA	**Stephens Creek**	**29.47**	**275**	P	**P**	**00 09 50.6**	**+0.1**
STKA				pP	**pP**	**00 10 01.6**	**-1.0**
STKA	**Stephens Creek**	**29.47**	**275**	P	**P**	**00 09 50.6**	**+0.1**
	3.7nm,0.9s,baz=103,slow=6.8,SNR=3.3						
STKA				pP	**pP**	**00 10 01.6**	**-1.0**
	1.8nm,0.7s,baz=97,slow=9.4,SNR=2.0						
STKA				LR	LR	00 20 52.7	
	comp=Z,107nm,18.9s,baz=77,slow=35						
HNR	**Honiara**	**33.93**	**329**	LR	LR	00 22 17.5	
	comp=Z,118nm,19.8s,baz=242,slow=33						
VNDA	**Vanda**	**38.15**	**185**	LR	LR	00 22 48.9	
	comp=Z,53nm,20.3s,baz=286,slow=30						
ASAR	**Alice Springs**	**39.49**	**281**	P	**P**	**00 11 17.9**	**+0.8**
ASAR				pP	**pP**	**00 11 28.6**	**-0.9**
ASAR	**Alice Springs**	**39.49**	**281**	P	**P**	**00 11 17.9**	**+0.8**
	2.1nm,0.8s,baz=124,slow=7.8,SNR=12						
ASAR				pP	**pP**	**00 11 28.6**	**-0.9**
	1.8nm,0.9s,baz=132,slow=8.5,SNR=5.8						
PMG	**Port Moresby**	**40.28**	**311**	LR	LR	00 25 50.6	
	comp=Z,92nm,20.5s,baz=192,slow=33						
WRA	**Warramunga Arr**	**41.37**	**286**	P	**P**	**00 11 32.9**	**+0.2**
WRA				pP	**pP**	**00 11 43.5**	**-1.6**
WRA	**Warramunga Arr**	**41.37**	**286**	P	**P**	**00 11 32.9**	**+0.2**
	0.5nm,0.3s,baz=124,slow=8.3,SNR=13						
WRA				pP	**pP**	**00 11 43.5**	**-1.6**
	2.1nm,0.8s,baz=128,slow=7.4,SNR=6.8						
FITZ	**Fitzroy Crossi**	**48.99**	**281**	P	**P**	**00 12 33.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**48.99**	**281**	P	**P**	**00 12 33.7**	**+0.6**
	1.6nm,0.6s,baz=134,slow=10,SNR=6.0						
QSPA	**South Pole Qui**	**50.13**	**180**	P	P	00 12 45.5	+4.1
QSPA	**South Pole Qui**	**50.13**	**180**	P	P	00 12 45.5	+4.1
	0.6nm,0.6s,baz=358,slow=2.4,SNR=5.8						
KAPI	**Kappang**	**61.83**	**289**	LR	LR	00 42 18.4	
	comp=Z,105nm,18.5s,baz=302,slow=37						
PLCA	**Paso Flores**	**78.98**	**134**	P	**P**	**00 15 53.0**	**+3.0**
PLCA	**Paso Flores**	**78.98**	**134**	P	**P**	**00 15 53.0**	**+3.0**
	1.0nm,0.7s,baz=198,slow=8.4,SNR=3.6						
ARCES	**ARCESS Array B**	**146.74**	**342**	PKPbc	**PKPbc**	**00 23 27.2**	**+0.6**
ARCES	**ARCESS Array B**	**146.74**	**342**	PKPbc	**PKPbc**	**00 23 27.2**	**+0.6**
	4.0nm,1.1s,baz=20,slow=4.0,SNR=4.0						
BRTR	**Keskin Array B**	**151.83**	**281**	PKPbc	**PKPbc**	**00 23 41.5**	**+0.9**
BRTR	**Keskin Array B**	**151.83**	**281**	PKPbc	**PKPbc**	**00 23 41.5**	**+0.9**
	1.9nm,0.9s,baz=123,slow=4.6,SNR=11						
FINES	**FINESS Array B**	**152.05**	**330**	PKPbc	**PKPbc**	**00 23 40.5**	**+0.4**
FINES	**FINESS Array B**	**152.05**	**330**	PKPbc	**PKPbc**	**00 23 40.6**	**+0.4**
	1.6nm,1.0s,baz=48,slow=2.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**152.91**	**191**	PKPbc	**PKPbc**	**00 23 45.0**	**+1.5**
TORD				pPKPbc	**pPKPbc**	**00 23 56.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**152.91**	**191**	PKPbc	**PKPbc**	**00 23 45.0**	**+1.5**
	1.2nm,0.8s,baz=174,slow=2.9,SNR=6.2						
TORD				pPKPbc	**pPKPbc**	**00 23 56.6**	**-1.0**
	4.4nm,1.0s,baz=167,slow=3.0,SNR=13						

WEL 19 00:04:47.5±0.4, 46°.07S×166°.15E, h28km±1km, ML3.6/13, Error ellipse: s-maj=4.7km s-min=1.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.39**	**105**	P*	Pb	00 04 55.7	-0.3
PYZ				S*	Sb	00 05 01.2	-0.7
DCZ	**Deep Cove**	**0.92**	**51**	PN	Pn	00 05 03.7	-0.7
DCZ				AML	AML	00 05 04.1	
DCZ				AML	AML	00 05 04.1	
DCZ				SN	Sb	00 05 16.0	-0.7
DCZ				AML	AML	00 05 17.4	
WHZ	**Wether Hill Ro**	**1.27**	**83**	PN	Pn	00 05 09.5	+0.2
WHZ				*e*SN	Sn	00 05 26.0	+0.5
WHZ				AML	AML	00 05 26.4	
APZ	**The Paps**	**1.49**	**122**	PN	Pn	00 05 11.9	-0.4
MLZ	**Mavora Lakes**	**1.59**	**64**	PN	Pn	00 05 14.9	+1.1
MLZ				AML	AML	00 05 37.3	
MLZ				AML	AML	00 05 40.4	
MSZ	**Milford Sound**	**1.88**	**43**	PN	Pn	00 05 18.7	+1.1
MSZ				AML	AML	00 05 53.4	
MSZ				AML	AML	00 05 56.9	
SYZ	**Scrubby Hill**	**2.13**	**104**	PN	Pn	00 05 22.2	+1.1
SYZ				*e*SN	Sn	00 05 48.0	+1.4
EAZ	**Earnscleugh**	**2.37**	**71**	AML	AML	00 05 58.2	
EAZ				AML	AML	00 05 58.9	
EAZ				AML	AML	00 06 01.2	
EAZ				AML	AML	00 06 03.5	
WKZ	**Wanaka**	**2.37**	**60**	AML	AML	00 05 59.5	
WKZ				AML	AML	00 06 06.5	
TUZ	**Tuapeka**	**2.43**	**89**	PN	Pn	00 05 27.1	+1.8
TUZ				AML	AML	00 06 00.4	
TUZ				AML	AML	00 06 02.1	

IDC 19 00:22:03.7±9.2, 12°.98N×143°.41E, h200km±90km, mb3.3/11, mb1 3.5/11, mb1mx3.4/24, mbtmp3.3/11, Error ellipse: s-maj=30.2km s-min=13.6km az=79.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**23.92**	**350**	P	P	00 26 58.6	-0.9
	1.1nm,0.8s,baz=166,slow=9.5,SNR=4.3						
WRA	**Warramunga Arr**	**33.92**	**195**	P	P	00 28 27.9	-0.2
	2.3nm,0.7s,baz=9.0,slow=9.4,SNR=21						
ASAR	**Alice Springs**	**37.59**	**194**	P	P	00 28 59.4	+0.1
	1.0nm,0.5s,ba

comp=Z,0.8nm,0.5s,baz=99,slow=4.9,SNR=3.7
ASAR Alice Springs 50.59 190 P **P 00 35 45.4 -1.1**
ASAR Alice Springs 50.59 190 P **P 00 35 45.4 -1.1**
comp=Z,0.6nm,0.4s,baz=13,slow=7.8,SNR=15
MKAR Makanchi Array 51.01 310 P **P 00 35 48.6 -0.9**
MKAR Makanchi Array 51.01 310 P **P 00 35 48.6 -0.9**
MKAR Makanchi Array 51.01 310 P **P 00 35 48.6 -0.9**
comp=Z,0.5nm,0.6s,baz=90,slow=9.0,SNR=8.8
ILAR Eielson Array 58.09 28 P **P 00 36 40.6 0.0**
ILAR Eielson Array 58.09 28 P **P 00 36 40.6 0.0**
comp=Z,0.3nm,0.6s,baz=254,slow=5.5,SNR=3.7
STKA Stephens Creek 58.09 181 P **P 00 36 40.4 -0.5**
STKA Stephens Creek 58.09 181 P **P 00 36 40.4 -0.5**
comp=Z,1.1nm,0.4s,baz=346,slow=8.4,SNR=3.2
INK Inuvik 63.44 24 P **P 00 37 17.5 +0.6**
INK Inuvik 63.44 24 P **P 00 37 17.5 +0.6**
comp=Z,1.2nm,0.5s,baz=218,slow=13,SNR=3.9
ARU Arti 65.00 322 P **P 00 37 27.7 +0.3**
SPITS Spitsbergen Ar 70.97 350 P **P 00 38 07.0 +2.5**
SPITS Spitsbergen Ar 70.97 350 P **P 00 38 07.0 +2.5**
comp=Z,9.5nm,0.9s,baz=220,slow=3.3,SNR=3.0
YKA Yellowknife Ar 72.52 28 P **P 00 38 14.2 +0.2**
YKA Yellowknife Ar 72.52 28 P **P 00 38 14.2 +0.2**
comp=Z,0.3nm,0.5s,baz=303,slow=5.0,SNR=2.6
KEV Kevo 73.58 341 *eP* P 00 38 28.9 +8.7
comp=Z,0.3nm,0.4s
KEV Kevo 73.58 341 *eP* P 00 38 28.9 +8.7
ARCES ARCESS Array B 74.14 341 P **P 00 38 23.9 +0.3**
ARCES ARCESS Array B 74.14 341 P **P 00 38 23.9 +0.3**
comp=Z,1.5nm,0.6s,baz=59,slow=7.3,SNR=9.7
KAF Kangasniemi 78.07 334 *eP* **P 00 38 45.5 -0.5**
comp=Z,1.1nm,0.4s
KAF Kangasniemi 78.07 334 *eP* **P 00 38 45.5 -0.5**
KAF pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 78.55 334 P **P 00 38 49.1 +0.5**
FINES FINESS Array B 78.55 334 P **P 00 38 49.1 +0.5**
comp=Z,4.3nm,0.6s,baz=68,slow=5.0,SNR=42
KBZ Khabaz 78.56 313 P **P 00 38 49.4 +0.4**
KBZ Khabaz 78.56 313 P **P 00 38 49.4 +0.4**
KBZ Khabaz 78.56 313 P **P 00 38 49.4 +0.4**
comp=Z,5.8nm,0.8s,baz=60,slow=3.7,SNR=17
NVAR Mina Array Bea 80.68 52 P **P 00 39 01.6 +0.6**
NVAR Mina Array Bea 80.68 52 P **P 00 39 01.6 +0.6**
comp=Z,0.2nm,0.2s,baz=258,slow=6.9,SNR=2.6
NOA NORSAR Array B 84.21 338 P **P 00 39 18.4 -0.3**
NOA NORSAR Array B 84.21 338 P **P 00 39 18.4 -0.3**
comp=Z,1.8nm,0.7s,baz=45,slow=5.0,SNR=8.5
PDAR Pinedale Array 84.44 45 P **P 00 39 19.4 -1.1**
PDAR Pinedale Array 84.44 45 P **P 00 39 19.4 -1.1**
comp=Z,0.3nm,0.3s,baz=23,slow=4.9,SNR=3.3
BRTR Keskin Array B 86.55 313 P **P 00 39 30.8 -0.1**
BRTR Keskin Array B 86.55 313 P **P 00 39 30.8 -0.1**
comp=Z,1.0nm,0.7s,baz=78,slow=3.7,SNR=9.2
GERES GERESS Array B 92.11 329 P **P 00 39 57.8 +0.9**
GERES GERESS Array B 92.11 329 P **P 00 39 57.8 +0.9**
comp=Z,0.4nm,0.6s,baz=59,slow=8.1,SNR=2.7
TXAR Lajitas Array 95.75 53 P **P 00 40 15.4 +1.4**
TXAR Lajitas Array 95.75 53 P **P 00 40 15.4 +1.4**
comp=Z,0.2nm,0.6s,baz=204,slow=2.0,SNR=2.9
TORD Torodi Ar. Bea 125.12 311 PKP **PKPdf 00 45 48.0 -0.6**
TORD Torodi Ar. Bea 125.12 311 PKP **PKPdf 00 45 48.0 -0.6**
comp=Z,0.6nm,0.9s,baz=63,slow=0.3,SNR=3.7
PLCA Paso Flores 149.30 126 PKPbc **PKPbc 00 46 36.7 +0.4**
PLCA Paso Flores 149.30 126 PKPbc **PKPbc 00 46 36.7 +0.4**
comp=Z,0.9nm,0.7s,baz=20,slow=13,SNR=3.5
LPAZ La Paz 149.84 76 PKPbc **PKPbc 00 46 40.0 +1.0**
LPAZ La Paz 149.84 76 PKPbc **PKPbc 00 46 40.0 +1.0**
comp=Z,1.4nm,0.6s,baz=305,slow=2.9,SNR=5.1

*IDC **19** 00:27:20.4±0.7,26°.44N×142°.54E, h0km, mb4.1/16, mb1 4.3/18, mb1mx4.2/25, mbtmp4.0/18, ML3.3/2, MS3.2/2, Ms1 3.2/2, ms1mx2.7/28, Error ellipse: s-maj=22.9km s-min=18.8km az=93.0*
*ISCJB **19** 00:27:23.3±0.6, 26°.55N±0°.05×142°.70E±0°.07, h31km, mb4.0/16, Error ellipse: s-maj=9.2km s-min=6.8km az=159.1*
*JMA **19** 00:27:23.8±0.1, 26°.37N×142°.38E, h56km, M4.0*
ISC 19 00:27:25.3±0.7, 26°.46N±0°.08×142°.5E±0°.1, h31km, n28, σ1s10/32, mb4.0/16, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**0.33**	**301**	P	**Pn**	**00 27 33.7**	**-0.3**
JHHJ				*e*S	**Sn**	**00 27 40.7**	**+1.0**
CBIJ	**Chichi jima**	**0.69**	**336**	*e*S	**Sn**	**00 27 49.3**	**+0.6**
BSO4	**Boso 4**	**8.70**	**348**	*e*S	**Sn**	**00 31 09.3**	**+3.4**
JOD2	**Odawara 2**	**9.25**	**342**	P	**Pn**	**00 29 37.2**	**+0.7**
JHU	**Hanno**	**9.76**	**344**	P	**Pn**	**00 29 42.3**	**-1.2**
JHU				*e*S	**Sn**	**00 31 30.7**	**-1.3**
JHO	**Hitachi**	**10.25**	**351**	P	**Pn**	**00 29 49.0**	**-1.3**
JAG	**Ashikaga**	**10.27**	**346**	P	**Pn**	**00 29 48.5**	**-2.0**
JAG				*e*S	**Sn**	**00 31 45.0**	**+0.5**
MJAR	**Matsushiro Arr**	**10.70**	**341**	Pn	**Pn**	**00 29 54.5**	**-1.8**
	0.5nm,0.3s,baz=141,slow=12,SNR=4.1						
MJAR				LR	LR	00 33 33.1	
	comp=Z,109nm,20.4s,baz=175,slow=35						
ASAJ	**Asahikawa**	**17.62**	**0**	LR	LR	00 38 54.9	
	comp=Z,88nm,19.1s,baz=154,slow=39						
USRK	**Ussuriysk Arra**	**19.63**	**337**	P	**Pn**	**00 31 52.1**	**-0.6**
	0.3nm,0.3s,baz=147,slow=12,SNR=5.2						
SONM	**Songino Array**	**35.37**	**317**	P	**P**	**00 34 19.6**	**+1.5**
	0.5nm,0.6s,baz=130,slow=7.1,SNR=3.6						
SONM				PcP	**PcP**	**00 36 48.2**	**+0.4**
	0.5nm,0.6s,baz=132,slow=2.1,SNR=3.3						
CMAR	**Chiang Mai Arr**	**40.88**	**269**	P	**P**	**00 35 04.8**	**+0.1**
	2.2nm,0.7s,baz=57,slow=8.4,SNR=5.8						
WRA	**Warramunga Arr**	**46.80**	**191**	P	**P**	**00 35 52.1**	**0.0**
	7.2nm,0.5s,baz=12,slow=8.5,SNR=7.1						
ZALV	**Zalesovo Beam**	**50.15**	**319**	P	**P**	**00 36 17.7**	**+0.1**
	0.4nm,0.3s,baz=117,slow=8.5,SNR=3.8						
ZALV				PcP	**PcP**	**00 37 36.5**	**-0.2**
	1.1nm,0.6s,baz=108,slow=3.3,SNR=3.9						
ASAR	**Alice Springs**	**50.52**	**190**	P	**P**	**00 36 20.4**	**-0.3**
	0.7nm,0.4s,baz=17,slow=9.4,SNR=5.5						
MKAR	**Makanchi Array**	**51.09**	**310**	P	**P**	**00 36 24.5**	**-0.4**
	0.5nm,0.6s,baz=90,slow=8.8,SNR=2.9						
ILAR	**Eielson Array**	**58.14**	**28**	P	**P**	**00 37 14.3**	**-1.3**
	0.4nm,0.6s,baz=267,slow=5.5,SNR=3.5						
INK	**Inuvik**	**63.49**	**24**	P	**P**	**00 37 52.3**	**+0.3**
	0.9nm,0.4s,baz=195,slow=10,SNR=2.5						
ARCES	**ARCESS Array B**	**74.23**	**341**	P	**P**	**00 39 00.3**	**+1.5**
	4.7nm,1.0s,baz=70,slow=7.0,SNR=3.7						
FINES	**FINESS Array B**	**78.64**	**334**	P	**P**	**00 39 24.2**	**+0.3**
	2.6nm,0.5s,baz=68,slow=6.7,SNR=4.7						
KBZ	**Khabaz**	**78.64**	**313**	P	**P**	**00 39 24.7**	**+0.4**
	6.0nm,0.8s,baz=95,slow=2.4,SNR=7.6						
NVAR	**Mina Array Bea**	**80.69**	**52**	P	**P**	**00 39 36.5**	**+0.7**
	0.3nm,0.3s,baz=302,slow=4.1,SNR=2.5						
NB2	**NORSAR Subarra**	**84.30**	**338**	P	**P**	**00 39 54.5**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=44,slow=5.1						
NOA	**NORSAR Array B**	**84.30**	**338**	P	**P**	**00 39 53.8**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=45,slow=5.1,SNR=5.0						
BRTR	**Keskin Array B**	**86.64**	**313**	P	**P**	**00 40 05.8**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=84,slow=4.4,SNR=5.5						
GERES	**GERESS Array B**	**92.20**	**329**	P	**P**	**00 40 31.2**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=35,slow=3.6,SNR=3.1						
TXAR	**Lajitas Array**	**95.76**	**53**	P	**P**	**00 40 49.1**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=332,slow=3.1,SNR=2.2						
TORD	**Torodi Ar. Bea**	**125.21**	**311**	PKP	**PKPdf**	**00 46 23.1**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=29,slow=3.3,SNR=3.5						

MEX 19 00:29:56.5±0.3, 14°.75N×94°.65W, h20km±21km, MD4.2, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.73**	**306**	*i* P	Pn	00 30 22.5	-3.0
HUIG				*e*S	Sn	00 30 43.1	-4.0
TGIG		**2.49**	**36**	*i* P	Pn	00 30 33.6	-2.5
TGIG				*e*S	Sn	00 31 02.4	-3.5
PNIG	**Pinotepa**	**3.73**	**296**	*i* P	Pn	00 30 51.0	-2.0
PNIG				*i* S	Sn	00 31 32.9	-3.5
CAIG	**El Cayaco**	**5.87**	**294**	*i* P	Pn	00 31 21.6	-0.8
CAIG				*i* S	Sn	00 32 26.5	-2.6
PLIG	**Platanillo**	**5.90**	**309**	*i* P	Pn	00 31 21.4	-1.5
PLIG				*i* S	Sn	00 32 27.0	-3.0

WEL 19 00:36:36.1±0.3, 46°.16S×165°.88E, h12km, ML3.8/14, 1C, Error ellipse: s-maj=3.0km s-min=1.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.56**	**92**	P*	Pg	00 36 47.1	+0.2
PYZ				*S**	Sg	00 36 54.5	+0.2
DCZ	**Deep Cove**	**1.12**	**53**	⇑P*	Pb	00 36 55.3	-2.0
DCZ				S*	Sb	00 37 09.7	-2.1
DCZ				AML	AML	00 37 10.5	
DCZ				AML	AML	00 37 10.5	
DCZ				AML	AML	00 37 20.6	
WHZ	**Wether Hill Ro**	**1.46**	**80**	PN	Pn	00 37 01.2	-1.1
WHZ				SN	Sn	00 37 19.6	-1.8
WHZ				AML	AML	00 37 24.0	
APZ	**The Paps**	**1.60**	**116**	PN	Pn	00 37 03.1	-1.2
APZ				SN	Sn	00 37 24.0	-1.0
MLZ	**Mavora Lakes**	**1.79**	**64**	PN	Pn	00 37 06.3	-0.6
MLZ				AML	AML	00 37 34.4	
MLZ				AML	AML	00 37 35.0	
SYZ	**Scrubby Hill**	**2.29**	**101**	PN	Pn	00 37 14.6	+1.0
EAZ	**Earnscleugh**	**2.57**	**70**	PN	Pn	00 37 18.7	+1.1
EAZ				AML	AML	00 37 56.3	
EAZ				AML	AML	00 37 59.9	
WKZ	**Wanaka**	**2.57**	**60**	AML	AML	00 37 57.5	
WKZ				AML	AML	00 38 09.0	
TUZ	**Tuapeka**	**2.62**	**87**	PN	Pn	00 37 19.4	+1.2
TUZ				AML	AML	00 37 53.5	
TUZ				AML	AML	00 37 59.5	
JCZ	**Jackson Bay**	**2.91**	**45**	AML	AML	00 38 12.0	
JCZ				AML	AML	00 38 19.3	
ODZ	**Otahua Downs**	**3.52**	**73**	AML	AML	00 38 29.8	

*IDC **19** 00:46:32.5±2.2, 6°.81S×130°.66E, h0km, mb3.4/1, mb1 4.1/4, mb1mx3.7/19, mbtmp3.8/4, ML4.0/3, Error ellipse: s-maj=83.4km s-min=28.1km az=79.0*
*ISCJB **19** 00:46:40.0±0.6, 7°.02S±0°.04×130°.62E±0°.06, h78km, mb3.2/1, Error ellipse: s-maj=9.2km s-min=5.4km az=7.7*
*AUST **19** 00:46:40.9, 6°.97S×130°.54E, h100km*
ISC 19 00:46:40.6±0.8, 7°.05S±0°.05×130°.64E±0°.09, h78km, n14, σ2s82/16, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.40**	**21**	P	**Pn**	**00 47 46.5**	**+1.5**
FAKI	baz=4.4,SNR=21						
				S	**Sn**	**00 48 34.3**	**-0.8**
	baz=4.4,SNR=12						
MTN	**Manton Dam**	**5.78**	**175**	P	Pn	00 48 07.9	+4.0
	baz=5.9,SNR=11						
MTN				S	**Sn**	**00 49 10.7**	**+1.8**
	baz=5.9,SNR=12						
KDU	**Kakadu**	**5.89**	**162**	P	Pn	00 48 08.8	+3.5
	baz=6.0,SNR=58						
KDU				S	**Sn**	**00 49 12.8**	**+1.3**
	baz=6.0,SNR=9.7						
SWI	**Sorong**	**6.17**	**6**	P	**Pn**	**00 48 10.1**	**+0.9**
	baz=6.2,SNR=7.2						
SWI				S	**Sn**	**00 49 14.2**	**-4.2**
	baz=6.2,SNR=6.2						
SOEI	**Soe**	**6.86**	**246**	P	Pn	00 48 20.9	+2.2
	baz=6.8,SNR=3.8						
SOEI				S	**Sn**	**00 49 36.6**	**+1.3**
	baz=6.8,SNR=3.4						
KNRA	**Kununurra**	**8.77**	**192**	P	**Pn**	**00 48 46.7**	**+1.9**
	baz=8.9,SNR=12						
KNRA				S	**Sn**	**00 50 18.3**	**-3.7**
	baz=8.9,SNR=8.8						
FITZ	**Fitzroy Crossi**	**12.02**	**203**	Pn	**Pn**	**00 49 27.2**	**-1.8**
	1.4nm,0.3s,baz=27,slow=13,SNR=48						
FITZ				Sn	Sn	00 51 32.5	-8.8
	1.9nm,0.3s,baz=105,slow=16,SNR=8.0						
WRA	**Warramunga Arr**	**13.31**	**165**	Pn	**Pn**	**00 49 45.5**	**-0.9**
	0.6nm,0.3s,baz=349,slow=13,SNR=16						
WRA				Sn	**Sn**	**00 52 07.1**	**-5.7**
	1.9nm,0.3s,baz=338,slow=22,SNR=11						
COEN	**Coen**	**14.10**	**120**	P	**P**	**00 50 00.9**	**-1.2**
	baz=14,SNR=7.7						
ASAR	**Alice Springs**	**16.82**	**170**	P	**P**	**00 50 33.6**	**+1.4**
	0.4nm,0.3s,baz=352,slow=9.3,SNR=22						
ASAR				S	Sn	00 53 28.6	-9.2
	0.4nm,0.3s,baz=349,slow=27,SNR=9.6						
MTSU	**Mount Surprise**	**17.29**	**131**	P	**P**	**00 50 41.6**	**+4.1**
	baz=18,SNR=15						
KKM	**Kota Kinabalu**	**19.40**	**312**	P	Pn	00 51 14.7	+12
	baz=19,SNR=3.3						
CISI	**Cisompet, Garu**	**22.64**	**267**	P	P	00 51 28.4	-7.2
	baz=23,SNR=3.9						
MKAR	**Makanchi Array**	**68.61**	**327**	P	**P**	**00 57 36.3**	**+1.0**
	0.2nm,0.5s,baz=128,slow=7.2,SNR=3.6						

WEL 19 00:53:08.0±0.2, 46°.17S×166°.01E, h38km±10km, ML3.5/11, Error ellipse: s-maj=5.2km s-min=2.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.47**	**90**	PN	Pn	00 53 18.0	-0.2
PYZ				SN	Sn	00 53 25.2	-0.2
DCZ	**Deep Cove**	**1.06**	**50**	PN	Pn	00 53 26.2	-0.1
DCZ				SN	Sn	00 53 38.9	-0.9
DCZ				AML	AML	00 53 41.3	
DCZ				AML	AML	00 53 42.6	
WHZ	**Wether Hill Ro**	**1.38**	**79**	PN	Pn	00 53 32.3	+1.6
WHZ				SN	Sn	00 53 50.4	+2.6
WHZ				AML	AML	00 53 56.4	
MLZ	**Mavora Lakes**	**1.73**	**62**	PN	Pn	00 53 37.4	+1.9
MLZ				AML	AML	00 54 04.0	
MLZ				AML	AML	00 54 05.0	
SYZ	**Scrubby Hill**	**2.20**	**101**	*e*PN	Pn	00 53 44.1	+2.1
EAZ	**Earnscleugh**	**2.50**	**69**	PN	Pn	00 53 48.5	+2.5
EAZ				AML	AML	00 54 24.2	
EAZ				AML	AML	00 54 24.9	
WKZ	**Wanaka**	**2.51**	**59**	AML	AML	00 54 25.8	
TUZ	**Tuapeka**	**2.53**	**86**	PN	Pn	00 53 49.3	+2.8
TUZ				AML	AML	00 54 22.0	
TUZ				AML	AML	00 54 25.4	
JCZ	**Jackson Bay**	**2.86**	**44**	AML	AML	00 54 43.4	
JCZ				AML	AML	00 54 46.3	
LBZ	**Lake Benmore**	**3.45**	**60**	PN	Pn	00 54 00.8	+1.7

WEL 19 01:02:06.7±0.6, 35°.49S×177°.99E, h259km±6km, ML3.7/4, Error ellipse: s-maj=17.5km s-min=8.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**2.85**	**194**	PN	Pn	01 02 58.8	+0.7
URZ				SN	S	01 03 38.7	-0.2
MWZ	**Matawai**	**2.86**	**187**	PN	Pn	01 02 58.1	-0.2
MWZ				SN	S	01 03 38.6	-0.6
KNZ	**Kokohu**	**3.53**	**184**	PN	Pn	01 03 05.6	+0.2
BFZ	**Birch Farm**	**5.36**	**194**	PN	Pn	01 03 28.0	+1.0
BFZ				SN	S	01 04 29.7	-1.7
MRZ	**Mangatainoka R**	**5.50**	**200**	PN	Pn	01 03 29.1	+0.3
MRZ				SN	S	01 04 32.5	-2.0
OGWZ	**Otaki Gorge**	**5.76**	**202**	PN	Pn	01 03 32.7	+0.8
OGWZ				SN	S	01 04 40.1	-0.3
TUWZ	**Tuamarina**	**6.73**	**207**	PN	Pn	01 03 44.8	+0.9

*ISCJB **19** 01:11:21.5±0.5, 37°.82N±0°.02×37°.01E±0°.02, h3km±4km, Error ellipse: s-maj=2.9km s-min=2.4km az=37.9*
*ISK **19** 01:11:21.1, 37°.83N×37°.01E, h6km, ML3.7*
*DDA **19** 01:11:21.4, 37°.87N×36°.97E, h20km, MD3.4*
*CSEM **19** 01:11:22.7±0.1, 37°.78N×37°.03E, h10km, ML3.7, Error ellipse: s-maj=2.9km s-min=2.5km az=116.0*
*NSSC **19** 01:11:23.3±1.5, 37°.81N×37°.03E, h20km±43km, ML3.4*
ISC 19 01:11:21.8±1.0, 37°.82N±0°.02×37°.03E±0°.02, h8km±9km, n131, σ1s17/189, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMRS	**Kahramanmaras**	**0.33**	**198**	PG	**Pg**	**01 11 28.4**	**+0.1**
KMRS				SG	**Sg**	**01 11 33.0**	**+0.5**
KMRS	**Kahramanmaras**	**0.33**	**198**	*i* Pg	**Pg**	**01 11 28.4**	**+0.1**
KMRS				*i* Sg	**Sg**	**01 11 33.0**	**+0.5**
GZT	**Gaziantep**	**0.63**	**137**	*i* P	**Pg**	**01 11 34.6**	**+0.6**
GZT				*i* S	**Sn**	**01 11 46.3**	**-1.3**
DARE	**Darende-Malaty**	**0.84**	**25**	*e*PG	**Pg**	**01 11 36.5**	**-1.4**
DARE				*e*SG	**Sg**	**01 11 49.5**	**+0.6**
AKCD	**Akcadag**	**0.85**	**56**	*i* P	**Pg**	**01 11 37.5**	**-0.8**
AKCD				*i* S	**Sb**	**01 11 50.7**	**-0.1**
AKCD	**Akcadag**	**0.85**	**56**	*i* P	**Pg**	**01 11 37.5**	**-0.8**
AKCD				*i* S	**Sb**	**01 11 50.7**	**-0.1**
PINB	**Pinarbasi**	**0.99**	**330**	*i* P	**Pg**	**01 11 39.2**	**-1.7**
PINB				*i* S	**Sg**	**01 11 52.0**	**-1.8**
PINB	**Pinarbasi**	**0.99**	**330**	*i* P	**Pg**	**01 11 39.2**	**-1.7**
PINB				*i* S	**Sg**	**01 11 52.0**	**-1.8**
KOZT	**Kozan**	**1.01**	**251**	*e*PG	**Pg**	**01 11 40.6**	**-0.6**
KOZT				*e*SG	**Sb**	**01 11 55.8**	**+0.7**
KOZT	**Kozan**	**1.01**	**251**	*e*Pg	**Pg**	**01 11 40.6**	**-0.6**
KOZT				*e*Sg	**Sb**	**01 11 55.8**	**+0.7**
KUZU	**Kuzuini**	**1.04**	**178**	*i* P	**Pn**	**01 11 43.6**	**+0.8**
KUZU				*i* S	**Sn**	**01 11 57.4**	**-0.2**
KUZU	**Kuzuini**	**1.04**	**178**	*i* P	**Pn**	**01 11 43.6**	**+0.8**
KUZU				*i* S	**Sn**	**01 11 57.4**	**-0.2**
ATAB	**Bozova**	**1.06**	**109**	*i* P	**Pn**	**01 11 42.9**	**-0.2**
ATAB				*i* S	**Sn**	**01 11 58.3**	**+0.2**
ATAB	**Bozova**	**1.06**	**109**	*i* P	**Pn**	**01 11 42.9**	**-0.2**
ATAB				*i* S	**Sn**	**01 11 58.3**	**+0.2**
MYA	**Malataya**	**1.22**	**65**	*e*PN	**Pn**	**01 11 44.0**	**-1.3**
MYA				*e*SN	**Sn**	**01 12 02.1**	**+0.1**
MYA	**Malataya**	**1.22**	**65**	*e*Pn	**Pn**	**01 11 44.0**	**-1.3**
MYA				*e*Sn	**Sn**	**01 12 02.1**	**+0.1**
CEYT	**Ceyhan**	**1.30**	**232**	*e*PN	**Pn**	**01 11 45.4**	**-0.9**
CEYT				*e*SN	**Sg**	**01 12 04.9**	**+1.3**
CEYT	**Ceyhan**	**1.30**	**232**	*e*Pn	**Pn**	**01 11 45.4**	**-0.9**
CEYT				*e*Sn	**Sg**	**01 12 04.9**	**+1.3**
BNN	**Bunyan**	**1.39**	**318**	*e*PN	**Pn**	**01 11 46.6**	**-1.2**
BNN				*e*SN	**Sn**	**01 12 06.0**	**-0.4**
BNN	**Bunyan**	**1.39**	**318**	*e*Pn	**Pn**	**01 11 46.6**	**-1.2**
BNN				*e*Sn	**Sn**	**01 12 06.0**	**-0.4**
COBT	**Iskenderun**	**1.43**	**206**	*i* P	**Pn**	**01 11 48.0**	**+0.2**
COBT				*i* S	**Sb**	**01 12 07.7**	**+0.3**
COBT	**Iskenderun**	**1.43**	**206**	*i* P	**Pn**	**01 11 48.6**	**+0.2**
COBT				*i* S	**Sb**	**01 12 07.7**	**+0.3**
URFA	**Urfa**	**1.47**	**104**	*e*PN	**Pn**	**01 11 49.0**	**+0.2**
URFA	**Urfa**	**1.47**	**104**	*e*Pn	**Pn**	**01 11 49.0**	**+0.2**
YURE	**YUREGIR**	**1.49**	**229**	*i* P	**Pb**	**01 11 49.4**	**-0.4**
YURE				*e*S	**Sg**	**01 12 11.6**	**+1.9**
YURE	**YUREGIR**	**1.49**	**229**	*i* P	**Pb**	**01 11 49.4**	**-0.4**
YURE				*e*S	**Sg**	**01 12 11.6**	**+1.9**
KARA	**Karaisali**	**1.66**	**251**	*e*PN	**Pn**	**01 11 51.0**	**-0.4**
KARA	**Karaisali**	**1.66**	**251**	*e*Pn	**Pn**	**01 11 51.0**	**-0.4**
ELZG	**Elazig**	**1.69**	**66**	*i* P	**Pb**	**01 11 53.0**	**-0.3**
ELZG				*i* S	**Sg**	**01 12 16.1**	**0.0**
ELZG	**Elazig**	**1.69**	**66**	*i* P	**Pb**	**01 11 53.0**	**-0.3**
ELZG				*i* S	**Sg**	**01 12 16.1**	**0.0**
KRTS	**Karatas**	**1.81**	**227**	*e*PN	**Pn**	**01 11 53.0**	**-0.3**
KRTS	**Karatas**	**1.81**	**227**	*e*Pn	**Pn**	**01 11 53.1**	**-0.3**
BTCH	**Batrach**	**1.83**	**195**	*e*P	**Pb**	**01 11 55.0**	**-0.7**
BTCH				*e*S	**Sn**	**01 12 16.5**	**-0.7**
BTCH				AML	AML	01 12 26.4	
	comp=Z,947nm,0.3s						
BTCH				AML	AML	01 12 27.8	
	comp=E,758nm,0.4s						
BTCH				AML	AML	01 12 31.0	
	comp=N,978nm,0.4s						
BTCH	**Batrach**	**1.83**	**195**	*e*P	**Pb**	**01 11 55.0**	**-0.7**
	SNR=57						
BTCH				*e*S	**Sn**	**01 12 16.5**	**-0.7**
	comp=N,978nm,0.4s,SNR=58						
HTY	**Hatay**	**1.83**	**203**	*e*PN	**Pn**	**01 11 54.4**	**+0.7**
HTY	**Hatay**	**1.83**	**203**	*e*Pn	**Pn**	**01 11 54.4**	**+0.7**
KEMA	**Kemaliye**	**1.85**	**38**	*i* P	**Pn**	**01 11 55.0**	**+1.0**
KEMA				*i* S	**Sb**	**01 12 19.6**	**+0.2**
KEMA	**Kemaliye**	**1.85**	**38**	*i* P	**Pn**	**01 11 55.0**	**+1.0**
KEMA				*i* S	**Sb**	**01 12 19.6**	**+0.2**
GULE	**Gulek**	**1.86**	**254**	*i* P	**Pn**	**01 11 54.7**	**+0.4**
GULE				*i* S	**Sb**	**01 12 20.8**	**+0.9**
GULE	**Gulek**	**1.86**	**254**	*i* P	**Pn**	**01 11 54.7**	**+0.4**
GULE				*i* S	**Sb**	**01 12 20.8**	**+0.9**
SVRC	**Sivrice-ELAZID**	**1.88**	**72**	*e*PN	**Pn**	**01 11 55.5**	**+0.9**
SVRC	**Sivrice-ELAZID**	**1.88**	**72**	*e*Pn	**Pn**	**01 11 55.5**	**+0.9**
YAYL	**Yayladag**	**1.92**	**203**	*i* P	**Pn**	**01 11 55.1**	**+0.1**
YAYL				*i* S	**Sn**	**01 12 19.9**	**+0.4**
YAYL	**Yayladag**	**1.92**	**203**	*i* P	**Pn**	**01 11 55.1**	**+0.1**
YAYL				*i* S	**Sn**	**01 12 19.9**	**+0.4**
NIG	**Nigde**	**1.93**	**280**	*e*PN	**Pn**	**01 11 55.4**	**+0.1**
NIG	**Nigde**	**1.93**	**280**	*e*Pn	**Pn**	**01 11 55.4**	**+0.1**
AVNT	**Avonos**	**1.96**	**300**	*i* P	**Pn**	**01 11 55.7**	**+0.1**
AVNT				*i* S	**Sb**	**01 12 22.0**	**-0.6**
AVNT	**Avonos**	**1.96**	**300**	*i* P	**Pn**	**01 11 55.7**	**+0.1**
AVNT				*i* S	**Sb**	**01 12 22.0**	**-0.6**
SCER	**sogukcermik**	**2.04**	**2**	*i* P	**Pb**	**01 11 58.7**	**-0.7**
SCER				*i* S	**Sb**	**01 12 26.5**	**+1.5**
SCER	**sogukcermik**	**2.04**	**2**	*i* P	**Pb**	**01 11 58.7**	**-0.7**
SCER				*i* S	**Sb**	**01 12 26.5**	**+1.5**
SVSK	**Karacayir**	**

ERBA				*i* S		**Sb**	**01 12 49.8**	**+1.2**
ERBA	**Erbaa**	**2.87**	**356**	*i* P		**Pn**	**01 12 10.2**	**+2.2**
KELT	**Kelkit**	**2.91**	**36**	*i* P		**Pn**	**01 12 09.9**	**+1.3**
KELT				*i* S		**Sn**	**01 12 44.3**	**+0.4**
KELT	**Kelkit**	**2.91**	**36**	*i* P		**Pn**	**01 12 09.9**	**+1.3**
KELT				*i* S		**Sn**	**01 12 44.3**	**+0.4**
CORM	**Corum**	**3.01**	**322**	*e*PN		**Pn**	**01 12 11.1**	**+1.1**
CORM	**Corum**	**3.01**	**322**	*e*Pn		**Pn**	**01 12 11.1**	**+1.1**
BNGB	**Bing¶ll**	**3.10**	**67**	*e*PN		**Pn**	**01 12 12.7**	**+1.5**
IKL	**Isikli**	**3.10**	**241**	*e*PN		**Pn**	**01 12 11.5**	**+0.4**
IKL	**Isikli**	**3.10**	**241**	*e*Pn		**Pn**	**01 12 11.5**	**+0.4**
GUMT	**Gumushane**	**3.26**	**35**	*e*PN		**Pn**	**01 12 15.0**	**+1.6**
GUMT	**Gumushane**	**3.26**	**35**	*e*Pn		**Pn**	**01 12 15.0**	**+1.6**
CTKT	**Corum**	**3.30**	**329**	*i* P		**Pn**	**01 12 16.5**	**+2.5**
CTKT				*e*S		**Sb**	**01 12 58.7**	**-2.4**
CTKT	**Corum**	**3.30**	**329**	*i* P		**Pn**	**01 12 16.5**	**+2.5**
CTKT				*e*S		**Sb**	**01 12 58.7**	**-2.4**
KVT	**Kavak**	**3.35**	**347**	*e*PN		**Pn**	**01 12 16.1**	**+1.6**
KVT	**Kavak**	**3.35**	**347**	*e*Pn		**Pn**	**01 12 16.1**	**+1.6**
ESPY	**Espiye-Giresun**	**3.37**	**23**	*e*PN		**Pn**	**01 12 16.2**	**+1.4**
ESPY	**Espiye-Giresun**	**3.37**	**23**	*e*Pn		**Pn**	**01 12 16.2**	**+1.4**
ERMK	**Ermenek**	**3.49**	**252**	*i* P		**Pn**	**01 12 18.7**	**+2.1**
ERMK				*e*S		**Sb**	**01 13 03.4**	**-3.1**
ERMK	**Ermenek**	**3.49**	**252**	*i* P		**Pn**	**01 12 18.7**	**+2.1**
AFSR	**Af˙ar-Bala (A**	**3.50**	**299**	*e*PN		**Pn**	**01 12 17.8**	**+1.1**
AFSR	**Af˙ar-Bala (A**	**3.50**	**299**	*e*Pn		**Pn**	**01 12 17.8**	**+1.1**
BAYT	**Ayd¨–ntepe-Bay**	**3.54**	**42**	*e*PN		**Pn**	**01 12 18.8**	**+1.6**
BAYT	**Ayd¨–ntepe-Bay**	**3.54**	**42**	*e*Pn		**Pn**	**01 12 18.8**	**+1.6**
LADK	**Ladik-KONYA**	**3.70**	**277**	*e*PN		**Pn**	**01 12 20.5**	**+1.0**
LADK	**Ladik-KONYA**	**3.70**	**277**	*e*Pn		**Pn**	**01 12 20.5**	**+1.0**
LFK	**Lefkose**	**3.78**	**229**	*e*PN		**Pn**	**01 12 21.5**	**+0.9**
LFK	**Lefkose**	**3.78**	**229**	*e*Pn		**Pn**	**01 12 21.5**	**+0.9**
CANT	**Cankiri**	**3.84**	**318**	*e*PN		**Pn**	**01 12 22.7**	**+1.3**
ANTO	**Ankara**	**3.89**	**303**	*e*PN		**Pn**	**01 12 23.8**	**+1.8**
ANTO	**Ankara**	**3.89**	**303**	*e*Pn		**Pn**	**01 12 23.8**	**+1.8**
LOD	**Lodumlu**	**3.92**	**303**	*e*PN		**Pn**	**01 12 23.9**	**+1.5**
LOD	**Lodumlu**	**3.92**	**303**	*e*Pn		**Pn**	**01 12 23.9**	**+1.5**
TOS	**Tosya**	**3.97**	**325**	*e*PN		**Pn**	**01 12 24.5**	**+1.4**
TOS	**Tosya**	**3.97**	**325**	*e*Pn		**Pn**	**01 12 24.5**	**+1.4**
EZM	**Erzurum**	**3.98**	**57**	*e*PN		**Pn**	**01 12 24.9**	**+1.5**
BYBT	**Boyabat**	**4.04**	**335**	*e*PN		**Pn**	**01 12 25.1**	**+1.1**
BYBT	**Boyabat**	**4.04**	**335**	*e*Pn		**Pn**	**01 12 25.1**	**+1.1**
DIKM	**Dikmen**	**4.07**	**341**	*e*PN		**Pn**	**01 12 25.5**	**+1.2**
DIKM	**Dikmen**	**4.07**	**341**	*e*Pn		**Pn**	**01 12 25.5**	**+1.2**
CSS	**Prodhromos**	**4.12**	**227**	*e*PN		**Pn**	**01 12 26.6**	**+1.4**
CSS	**Prodhromos**	**4.12**	**227**	*e*Pn		**Pn**	**01 12 26.6**	**+1.4**
KIZT	**Kizilcal**	**4.18**	**286**	*e*PN		**Pn**	**01 12 26.7**	**+0.6**
KIZT	**Kizilcal**	**4.18**	**286**	*e*Pn		**Pn**	**01 12 26.7**	**+0.6**
LEF	**Lefka**	**4.28**	**232**	*e*PN		**Pn**	**01 12 28.8**	**+1.4**
LEF	**Lefka**	**4.28**	**232**	*e*Pn		**Pn**	**01 12 28.8**	**+1.4**
SIRT	**Sirnak**	**4.31**	**93**	*e*PN		**Pn**	**01 12 30.4**	**+2.6**
SIRT	**Sirnak**	**4.31**	**93**	*e*Pn		**Pn**	**01 12 30.4**	**+2.6**
SVRH	**Sivrihisar-ESK**	**4.61**	**292**	*e*PN		**Pn**	**01 12 32.8**	**+0.9**
SVRH	**Sivrihisar-ESK**	**4.61**	**292**	*e*Pn		**Pn**	**01 12 32.8**	**+0.9**
SUTC	**Sutluce-Ispart**	**4.79**	**268**	*e*PN		**Pn**	**01 12 35.3**	**+0.8**
SUTC	**Sutluce-Ispart**	**4.79**	**268**	*e*Pn		**Pn**	**01 12 35.3**	**+0.8**

IDC 19 01:17:11.5±53.0, 16°34S×175°15W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/19, mbtmp3.9/3, Error ellipse: s-maj=995.2km s-min=186.1km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.11**	**240**	P	P	01 25 06.0	+0.5
	1.5nm,0.8s,baz=66,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**47.99**	**258**	P	P	01 25 52.0	-0.7
	0.2nm,0.4s,baz=95,slow=8.3,SNR=6.8						
ASAR	**Alice Springs**	**48.22**	**253**	P	P	01 25 54.3	-0.1
	1.5nm,0.4s,baz=87,slow=8.1,SNR=43						

IDC 19 01:24:18.0±2.2, 22°17S×174°37W, h0km, mb4.1/6, mb1 4.3/6, mb1mx3.9/22, mbtmp4.1/6, Error ellipse: s-maj=161.4km s-min=32.9km az=160.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.72**	**266**	P	P	01 31 27.8	+0.6
	6.2nm,0.3s,baz=99,slow=10,SNR=14						
STKA	**Stephens Creek**	**40.17**	**246**	P	P	01 31 56.4	+0.2
	1.0nm,0.6s,baz=95,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**47.45**	**258**	P	P	01 32 54.2	-0.7
	1.5nm,0.6s,baz=94,slow=7.1,SNR=18						
WRA	**Warramunga Arr**	**47.74**	**263**	P	P	01 32 56.0	-1.1
	1.2nm,0.3s,baz=102,slow=7.8,SNR=14						
FITZ	**Fitzroy Crossi**	**56.17**	**263**	P	P	01 34 00.6	+0.6
	1.2nm,0.6s,baz=102,slow=9.3,SNR=7.0						
TXAR	**Lajitas Array**	**85.14**	**56**	P	P	01 36 56.5	0.0
	0.2nm,0.8s,baz=233,slow=7.5,SNR=2.4						

*IDC **19** 01:24:23.6±0.9, 14°55N×147°29E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/24, mbtmp3.9/11, Error ellipse: s-maj=30.1km s-min=20.3km az=90.0*

*ISCJB **19** 01:24:26.8±0.7, 14°51N±0°08×147°15E±0°09, h33km, mb4.1/18, Error ellipse: s-maj=15.0km s-min=8.6km az=36.5*

*NEIC **19** 01:24:28.9±0.6, 14°52N×147°15E, h35km, mb4.4/7, Error ellipse: s-maj=17.6km s-min=10.5km az=103.0*

ISC 19 01:24:28.6±0.8, 14°5N±0°1×147°1E±0°1, h33km, n34, σ1§04/35, mb4.2/18, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.38**	**248**	*e*Pn	**Pn**	**01 25 04.3**	**-1.1**
GUMO				*e*Sn	**Sn**	**01 25 33.1**	**-0.4**
MJAR	**Matsushiro Arr**	**23.36**	**342**	P	**P**	**01 29 32.2**	**-2.1**
MJAR	**Matsushiro Arr**	**23.36**	**342**	P	**P**	**01 29 32.2**	**-2.1**
	1.2nm,0.6s,baz=159,slow=9.1,SNR=4.3						
MAJO	**Matsushiro**	**23.36**	**342**	*e*P	**P**	**01 29 34.0**	**-0.3**
	6.6nm,0.8s						
KSRS	**Korea Array**	**28.54**	**327**	P	**P**	**01 30 20.9**	**-0.4**
	2.4nm,0.8s,baz=144,slow=9.1,SNR=3.7						
KSAR	**Wonju Array Be**	**28.55**	**327**	P	**P**	**01 30 20.9**	**-0.5**
KAPI	**Kappang**	**33.37**	**236**	*e*P	**P**	**01 31 03.2**	**-0.9**
	4.0nm,0.6s						
WRAB	**Tennant Creek**	**36.45**	**201**	*e*P	**P**	**01 31 31.4**	**+0.8**
	4.9nm,0.9s						
WRA	**Warramunga Arr**	**36.47**	**201**	P	**P**	**01 31 29.8**	**-1.0**
WRA	**Warramunga Arr**	**36.47**	**201**	P	**P**	**01 31 29.8**	**-1.0**
	0.5nm,0.7s,baz=21,slow=9.0,SNR=4.9						
ASAR	**Alice Springs**	**40.08**	**199**	P	**P**	**01 32 02.2**	**+1.1**
ASAR	**Alice Springs**	**40.08**	**199**	P	**P**	**01 32 02.2**	**+1.1**
	0.3nm,0.6s,baz=18,slow=9.3,SNR=3.6						
CMAR	**Chiang Mai Arr**	**46.28**	**282**	P	**P**	**01 32 53.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**46.28**	**282**	P	**P**	**01 32 53.0**	**+1.5**
	0.9nm,0.4s,baz=79,slow=5.7,SNR=6.7						
KULM	**Kulim**	**46.62**	**264**	*e*P	**P**	**01 32 54.7**	**+0.5**
	2.6nm,0.6s						
ULN	**Ulaanbaatar**	**46.93**	**324**	*e*P	**P**	**01 32 57.3**	**+0.9**
	1.7nm,0.6s						
SONM	**Songino Array**	**47.30**	**323**	P	**P**	**01 32 59.7**	**+0.6**
SONM	**Songino Array**	**47.30**	**323**	P	**P**	**01 32 59.7**	**+0.6**
	1.5nm,0.6s,baz=136,slow=7.2,SNR=8.1						
ZALV	**Zalesovo Beam**	**62.19**	**324**	P	**P**	**01 34 46.2**	**-0.6**
ZALV	**Zalesovo Beam**	**62.19**	**324**	P	**P**	**01 34 46.2**	**-0.6**
	1.2nm,0.5s,baz=114,slow=7.3,SNR=5.5						
MKAR	**Makanchi Array**	**62.38**	**315**	P	**P**	**01 34 48.8**	**+0.5**
MKAR	**Makanchi Array**	**62.38**	**315**	P	**P**	**01 34 48.8**	**+0.5**
	2.1nm,0.4s,baz=90,slow=7.6,SNR=22						
TKM2	**Tokmak 2**	**66.80**	**311**	*e*P	**P**	**01 35 16.2**	**-1.2**
	5.1nm,1.3s						
ILAR	**Eielson Array**	**66.81**	**25**	P	**P**	**01 35 16.9**	**+0.1**
ILAR	**Eielson Array**	**66.81**	**25**	P	**P**	**01 35 16.9**	**+0.1**
	0.5nm,0.6s,baz=246,slow=6.3,SNR=8.3						
BRVK	**Borovoye**	**70.66**	**321**	*e*P	**P**	**01 35 42.1**	**+1.2**
	5.5nm,0.8s						
YKA	**Yellowknife Ar**	**81.04**	**28**	P	**P**	**01 36 38.5**	**-1.6**
YKA	**Yellowknife Ar**	**81.04**	**28**	P	**P**	**01 36 38.5**	**-1.6**
	0.9nm,0.7s,baz=282,slow=5.6,SNR=3.0						
FINES	**FINESS Array B**	**91.26**	**336**	P	**P**	**01 37 31.3**	**+0.8**
FINES	**FINESS Array B**	**91.26**	**336**	P	**P**	**01 37 31.3**	**+0.8**
	1.8nm,0.8s,baz=57,slow=7.0,SNR=5.9						
DBIC	**Dimbokro**	**145.16**	**305**	PKPbc	**PKPdf**	**01 44 04.8**	**+0.9**
DBIC	**Dimbokro**	**145.16**	**305**	PKPbc	**PKPdf**	**01 44 04.8**	**+0.9**
	5.1nm,0.7s,baz=14,slow=4.8,SNR=5.2						
LPAZ	**La Paz**	**145.97**	**98**	PKPbc	**PKPdf**	**01 44 06.0**	**0.0**
LPAZ	**La Paz**	**145.97**	**98**	PKPbc	**PKPdf**	**01 44 06.0**	**0.0**
	1.0nm,0.6s,baz=303,slow=1.1,SNR=4.2						

WEL 19 01:40:19.1±0.3, 45°67S×166°31E, h17km±1km, ML3.7/15, 2D, Error ellipse: s-maj=2.8km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.56**	**153**	P*	Pg	01 40 29.4	-0.8
PYZ				S*	Sg	01 40 36.6	-1.1
DCZ	**Deep Cove**	**0.62**	**72**	⇓P*	Pg	01 40 30.5	-0.8
DCZ				AML	AML	01 40 38.8	
DCZ				AML	AML	01 40 38.8	
DCZ				S*	Sg	01 40 38.9	-0.8
DCZ				AML	AML	01 40 39.1	
WHZ	**Wether Hill Ro**	**1.17**	**102**	PN	Pn	01 40 39.8	-0.7
WHZ				AML	AML	01 41 00.0	
WHZ				AML	AML	01 41 01.7	
MLZ	**Mavora Lakes**	**1.35**	**77**	⇓PN	Pn	01 40 42.2	-1.0
MLZ				SN	Sn	01 40 59.1	-1.5
MLZ				AML	AML	01 41 00.2	
MSZ	**Milford Sound**	**1.52**	**49**	PN	Pb	01 40 46.3	-0.5
MSZ				AML	AML	01 41 09.0	
MSZ				AML	AML	01 41 08.1	
MSZ				AML	AML	01 41 09.1	
MSZ				AML	AML	01 41 09.1	
APZ	**The Paps**	**1.64**	**136**	PN	Pn	01 40 47.0	-0.2
APZ				SN	Sn	01 41 07.6	-0.4
WKZ	**Wanaka**	**2.09**	**67**	PN	Pb	01 40 55.6	-0.9
WKZ				AML	AML	01 41 25.9	
WKZ				AML	AML	01 41 33.5	
SYZ	**Scrubby Hill**	**2.15**	**115**	PN	Pn	01 40 55.2	+1.2
EAZ	**Earnscleugh**	**2.15**	**79**	PN	Pb	01 40 56.3	-1.3
EAZ				AML	AML	01 41 27.4	
EAZ				AML	AML	01 41 27.7	
EAZ				AML	AML	01 41 29.1	
EAZ				AML	AML	01 41 32.1	
TUZ	**Tuapeka**	**2.34**	**98**	AML	AML	01 41 30.4	
TUZ				AML	AML	01 41 30.9	
JCZ	**Jackson Bay**	**2.36**	**48**	AML	AML	01 41 42.4	
JCZ				AML	AML	01 41 44.4	
LBZ	**Lake Benmore**	**3.03**	**66**	PN	Pn	01 41 07.9	+1.6
LBZ				AML	AML	01 41 48.6	
LBZ				AML	AML	01 41 54.0	
ODZ	**Otahua Downs**	**3.12**	**80**	PN	Pn	01 41 08.5	+1.1

*ISCJB **19** 01:47:56.1±0.2, 37°34N±0°03×141°84E±0°03, h24km, mb4.3/55, MS3.4/6, Error ellipse: s-maj=4.2km s-min=2.8km az=162.2*

*MOS **19** 01:47:57.0±0.9, 37°32N×141°80E, h33km, mb4.6/21, Error ellipse: s-maj=8.8km s-min=6.3km az=91.9*

*JMA **19** 01:47:57.8±0.2, 37°35N×141°78E, h42km±3km, M4.5*

JMA Felt II J1.

*NEIC **19** 01:47:59.9±0.7, 37°35N×141°75E, h41km±6km, mb4.4/25, Error ellipse: s-maj=6.9km s-min=4.6km az=142.0*

NEIC Recorded [2 JMA] in Fukushima and [1 JMA] in Miyagi and Tochigi.

*IDC **19** 01:47:59.5±0.7, 37°35N×141°75E, h38km±5km, mb4.0/23, mb1 4.1/29, mb1mx4.1/34, mbtmp4.0/29, ML3.7/5, MS3.3/9, Ms1 3.3/9, ms1mx3.0/39, Error ellipse: s-maj=14.0km s-min=11.9km az=137.0*

*NIED **19** 01:48:00, 37°40N×141°80E, h35km, Mw4.2 Best double couple: M0 2.65000×10¹⁵ NP1:φs=85.00000°, δ66.00000°, λ109.00000°. NP2:φs=225.00000°, δ30.00000°, λ54.00000°.*

*BJI **19** 01:48:01.2, 37°94N×141°35E, h39km, mb4.1/1*

ISC 19 01:47:57.8±0.4, 37°34N±0°04×141°81E±0°04, h24km, h24km:pP-P, n158, σ1§58/194, mb4.3/55, MS3.5/6, 5C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.74**	**273**	⇓P	**Pb**	**01 48 11.7**	**-0.5**
JFK				S	**Sb**	**01 48 21.0**	**-0.9**
ONAJ	**Iwakimizuishiy**	**0.84**	**254**	⇑P	**Pb**	**01 48 13.0**	**-0.8**
ONAJ				S	**Sb**	**01 48 23.5**	**-1.2**
JMM	**Marumori**	**0.96**	**304**	⇓P	**Pb**	**01 48 14.7**	**-1.2**
JMM				S	**Sb**	**01 48 26.6**	**-1.6**
JIO	**Ouri**	**1.17**	**342**	⇓P	**Pn**	**01 48 17.7**	**-1.0**
JIO				S	**Sn**	**01 48 31.4**	**-2.6**
JFT	**Otama**	**1.19**	**279**	⇓P	**Pn**	**01 48 18.8**	**-0.1**
JFT				S	**Sn**	**01 48 33.2**	**-1.1**
JHO	**Hitachi**	**1.23**	**234**	⇑P	**Pn**	**01 48 18.0**	**-1.5**
JHO				S	**Sn**	**01 48 32.5**	**-2.8**
JOU	**Okura**	**1.37**	**319**	⇓P	**Pn**	**01 48 20.9**	**-0.6**
JOU				S	**Sn**	**01 48 37.9**	**-1.0**
JYS	**Shirataka**	**1.64**	**303**	P	**Pn**	**01 48 25.3**	**+0.1**
JYS				S	**Sb**	**01 48 46.4**	**-1.2**
JFY	**Yanaizu**	**1.68**	**273**	P	**Pn**	**01 48 26.0**	**+0.3**
JFY				S	**Sn**	**01 48 46.8**	**+0.3**
JMK	**Ichinoseki**	**1.68**	**344**	⇓P	**Pn**	**01 48 25.2**	**-0.5**
MJAR	**Matsushiro Arr**	**2.99**	**256**	Pn	**Pn**	**01 48 44.4**	**+0.7**
MJAR				Sn	**Sb**	**01 49 22.7**	**-3.8**
MJAR	**Matsushiro Arr**	**2.99**	**256**	Pn	**Pn**	**01 48 44.4**	**+0.7**
	6.9nm,0.3s,baz=82,slow=16,SNR=50						
MJAR				Sn	**Sb**	**01 49 22.7**	**-3.8**
	18nm,0.3s,baz=89,slow=26,SNR=4.9						
MJAR				LR	LR	01 50 13.9	
	comp=Z,703nm,18.2s,baz=90,slow=46						
MAJO	**Matsushiro**	**2.99**	**256**	*e*P	**Pn**	**01 48 44.8**	**+1.0**
MAJO				*e*		01 49 19.3	
MAJO	**Matsushiro**	**2.99**	**256**	*e*Pn	**Pn**	**01 48 44.8**	**+1.0**
MAJO				*e*Sn	**Sn**	**01 49 19.3**	**+0.4**
MAT	**Matsushiro**	**2.99**	**256**	P	**Pn**	**01 48 44.9**	**+1.1**
MAT				S	**Sn**	**01 49 21.6**	**+2.7**
ERM	**Erimo**	**4.79**	**12**	*e*P	**Pn**	**01 49 08.8**	**+0.4**
ERM				*e*		01 50 02.2	
ERM	**Erimo**	**4.79**	**12**	*e*Pn	**Pn**	**01 49 08.8**	**+0.4**
ERM				*e*Sn	**Sn**	**01 50 02.2**	**-0.9**
ASAJ	**Asahikawa**	**6.80**	**5**	Pn	**Pn**	**01 49 35.7**	**-0.4**
ASAJ				Sn	**Sn**	**01 50 54.5**	**+1.8**
ASAJ	**Asahikawa**	**6.80**	**5**	Pn	**Pn**	**01 49 35.7**	**-0.4**
	3.1nm,0.3s,baz=226,slow=9.6,SNR=21						
ASAJ				Sn	**Sn**	**01 50 54.5**	**+1.8**
	5.2nm,0.3s,baz=357,slow=33,SNR=9.5						
YUK	**Yuzh-Kuril'sk**	**7.36**	**23**	*c*P	**Pn**	**01 49 46.4**	**+2.6**
YUK				*i* S	**Sn**	**01 51 03.0**	**-3.5**
YUK				pmax	pmax		
	comp=E,20nm,0.2s						
YUK				pmax	pmax		
	comp=Z,48nm,0.5s						
YUK				pmax	pmax		
	comp=N,21nm,0.5s						
YUK				smax	smax		
	comp=N,64nm,0.3s						
YUK				smax	smax		
	comp=N,88nm,0.5s						
KUR	**Kuril'sk**	**9.11**	**28**	*e*S	**Sn**	**01 51 44.0**	**-5.4**
KUR				smax	smax		
	comp=N,60nm,0.5s						
KUR				smax	smax		
	comp=E,110nm,0.5s						
YSS	**Yuzh-Sakhalins**	**9.64**	**4**	*e*P	**Pn**	**01 50 16.7**	**+1.8**
JNU	**Nakatsue**	**9.88**	**248**	Pn	**Pn**	**01 50 18.6**	**+0.2**
JNU	**Nakatsue**	**9.88**	**248**	Pn	**Pn**	**01 50 18.6**	**+0.2**
	comp=E,0.3nm,0.3s,baz=34,slow=18,SNR=3.1						
JNU				LR	LR	01 54 27.7	
	comp=E,113nm,20.1s,baz=136,slow=39						
USRK	**Ussuriysk Arra**	**10.11**	**316**	Pn	**Pn**	**01 50 22.6**	**+1.2**
	comp=E,0.3nm,0.3s,baz=185,slow=23,SNR=4.4						
USRK				LR	LR	01 53 49.9	
	comp=E,191nm,22.0s,baz=335,slow=35						
KSRS	**Korea Array**	**11.05**	**275**	Pn	**Pn**	**01 50 36.7**	**+2.4**
	comp=E,0.1nm,0.3s,baz=84,slow=14,SNR=2.9						
KSRS				LR	LR	01 54 37.1	
	comp=E,102nm,18.2s,baz=8.9,slow=36						
KSAR	**Wonju Array Be**	**11.08**	**275**	Pn	**Pn**	**01 50 36.7**	**+1.9**
HABR	**Khabarovsk**	**12.18**	**338**	*e*P	**P**	**01 51 04.9**	**+2.9**
HABR				S	**Sn**	**01 52 58.8**	**-5.7**
	comp=Z,17nm,1.1s			pmax	pmax		
HABR				pmax	pmax		
	comp=N,21nm,1.5s						
HABR				pmax	pmax		
	comp=E,54nm,2.7s						
HABR				MLR	MLR		
	comp=Z,196nm,17.0s						
KLR	**Kul'dur**	**13.95**	**332**	*e*P	**Pn**	**01 51 15.2**	**+1.4**
PETK	**Petropavlovsk-**	**19.27**	**30**	P	**P**	**01 52 19.8**	**-0.7**
PETK	**Petropavlovsk-**	**19.27**	**30**	P	**P**	**01 52 19.8**	**-0.7**
PETK	**Petropavlovsk-**	**19.27**	**30**	P	**P**	**01 52 19.8**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=212,slow=8.2,SNR=4.1						
PETK				LR	LR	01 59 30.9	
	comp=Z,28nm,20.3s,baz=266,slow=36						
FX1	**Attu Island--F**	**26.76**	**44**	P	**P**	**01 53 34.9**	**-0.6**
FX1	**Attu Island--F**	**26.76**	**44**	P	**P**	**01 53 34.9**	**-0.6**
	comp=Z,19nm,0.9s,baz=209,slow=13,SNR=3.8						
FX1				LR	LR	02 02 33.2	
	comp=Z,25nm,20.3s,baz=288,slow=33						
ULN	**Ulaanbaatar**	**27.45**	**304**	*e*P	**P**	**01 53 42.1**	**+0.1**
	comp=Z,2.4nm,0.6s						
ENH	**Enshi**	**27.67**	**265**	*e*P	**P**	**01 53 44.0**	**0.0**
	comp=Z,11nm,0.7s						
SONM	**Songino Array**	**27.88**	**303**	P	**P**	**01 53 46.0**	**+0.2**
SONM	**Songino Array**	**27.88**	**303**	P	**P**	**01 53 46.0**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=105,slow=9.3,SNR=10						
TLY	**Talaya**	**30.37**	**310**	*e*P	**P**	**01 54 08.1**	**+0.4**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,48nm,13.0s						
ZALV	**Zalesovo Beam**	**41.94**	**312**	P	**P**	**01 55 45.8**	**-0.6**
ZALV						01 57 40.4	
ZALV	**Zalesovo Beam**	**41.94**	**312**	P	**P**	**01 55 45.8**	**-0.6**
ZALV				PcP	**PcP**	**01 57 40.4**	**-1.1**
ZALV	**Zalesovo Beam**	**41.94**	**312**	P	**P**	**01 55 45.8**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=87,slow=7.9,SNR=8.0						
ZALV				PcP	**PcP**	**01 57 40.4**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=79,slow=3.1,SNR=3.0						
MKAR	**Makanchi Array**	**44.23**	**302**	P	**P**	**01 56 04.5**	**-0.6**
MKAR	**Makanchi Array**	**44.23**	**302**	P	**P**	**01 56 04.5**	**-0.6**
MKAR	**Makanchi Array**	**44.23**	**302**	P	**P**	**01 56 04.5**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=83,slow=8.7,SNR=24						
KURK	**Kurchatov**	**45.99**	**308**	P	**P**	**01 56 18.8**	**-0.2**
KURK				*PP	**pP**	**01 56 29.1**	**+2.7**
KURK	**Kurchatov**	**45.99**	**308**	P	**P**	**01 56 18.8**	**-0.2**
KURK				pP	**pP**	**01 56 29.1**	**+2.7**
KURBB	**Kurchatov Arra**	**46.06**	**308**	P	**P**	**01 56 18.8**	**-0.7**
	comp=Z,4.2nm,0.5s,baz=83,slow=8.1,SNR=35						
KURBB				pP	**pP**	**01 56 29.1**	**+2.2**
	comp=Z,12nm,0.8s,baz=82,slow=8.5,SNR=20						
KDAK	**Kodiak Island**	**46.66**	**42**	P	**P**	**01 56 23.8**	**-0.4**
KDAK	**Kodiak Island**	**46.66**	**42**	P	**P**	**01 56 23.8**	**-0.4**
	comp=Z,9.6nm,0.6s,baz=293,slow=5.6,SNR=15						
MCK	**McKinley**	**48.21**	**34**	*e*P	**P**	**01 56 35.3**	**-0.8**
MCK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MCK	**McKinley**	**48.21**	**34**	*e*P	**P**	**01 56 35.3**	**-0.8**
	comp=Z,4.7nm,0.8s						
COLA	**College**	**48.66**	**32**	*e*P	**P**	**01 56 39.6**	**+0.1**
COLA				pmax	pmax		
	comp=Z,13nm,0.7s						
COLA	**College**	**48.66**	**32**	*e*P	**P**	**01 56 39.6**	**+0.1**
	comp=Z,13nm,0.7s						
ILAR	**Eielson Array**	**49.07**	**33**	P	**P**	**01 56 42.8**	**+0.1**
ILAR				pP	**pP**	**01 56 54.6**	**+4.5**
ILAR	**Eielson Array**	**49.07**	**33**	P	**P**	**01 56 42.8**	**+0.1**
	comp=Z,4.6nm,0.7s,baz=266,slow=6.5,SNR=45						
ILAR				pP	**pP**	**01 56 54.6**	**+4.5**
	comp=Z,1.4nm,0.8s,baz=263,slow=6.2,SNR=4.1						
TKM2	**Tokmak 2**	**49.76**	**298**	*e*P	**P**	**01 56 48.4**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TKM2	**Tokmak 2**	**49.76**	**298**	*e*P	**P**	**01 56 48.4**	**-0.2**
	comp=Z,4.6nm,0.6s						
BVAR	**Borovoye Array**	**50.60**	**312**	P	**P**	**01 56 53.8**	**-0.7**
BVAR				*PP	**pP**	**01 57 05.8**	**+3.8**
BVAR						01 58 11.3	
BVAR	**Borovoye Array**	**50.60**	**312**	P	**P**	**01 56 53.8**	**-0.7**
BVAR				pP	**pP**	**01 57 05.8**	**+3.8**
BVAR				PcP	**PcP**	**01 58 11.3**	**-0.6**
BVAR	**Borovoye Array**	**50.60**	**312**	P	**P**	**01 56 53.8**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=74,slow=6.7,SNR=7.4						
BVAR				pP	**pP**	**01 57 05.8

CMB	**Columbia Colle**	**73.44**	**55**	*eP*	**P**	**01 59 29.2**	**+1.0**
	comp=Z,2.7nm,0.8s							
LRM	**Limekiln Ridge**	**73.71**	**45**	*eP*	**P**	**01 59 30.9**	**+0.9**
DLMT	**Dillon**	**73.91**	**45**	*eP*	**P**	**01 59 32.0**	**+1.0**
HLID	**Hailey**	**73.94**	**47**	*eP*	**P**	**01 59 31.6**	**+0.4**
	comp=Z,0.9nm,0.8s							
NB2	**NORSAR Subarra**	**74.03**	**337**	P	**P**	**01 59 30.6**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=41,slow=6.2							
NOA	**NORSAR Array B**	**74.03**	**337**	P	**P**	**01 59 30.6**	**-0.6**
NOA				pP	**pP**	**01 59 42.4**	**+3.4**
NOA	**NORSAR Array B**	**74.03**	**337**	P	**P**	**01 59 30.6**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=39,slow=5.8,SNR=3.7							
NOA				pP	**pP**	**01 59 42.4**	**+3.4**
	comp=Z,1.2nm,0.7s,baz=39,slow=5.9,SNR=4.5							
NOA				LR	LR	02 34 29.2		
	comp=Z,47nm,20.4s,baz=0.0,slow=38							
KIEV	**Kiev**	**74.26**	**322**	*eP*	**P**	**01 59 31.7**	**-1.0**
KIEV				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KIEV	**Kiev**	**74.26**	**322**	*eP*	**P**	**01 59 31.7**	**-1.0**
	comp=Z,4.0nm,0.8s							
BOZ	**Bozeman (W)**	**74.27**	**44**	*eP*	**P**	**01 59 33.5**	**+0.4**
BOZ				pmax	pmax			
	comp=Z,4.0nm,0.9s							
BOZ	**Bozeman (W)**	**74.27**	**44**	*eP*	**P**	**01 59 33.5**	**+0.4**
	comp=Z,3.5nm,0.9s							
NVAR	**Mina Array Bea**	**74.56**	**53**	P	**P**	**01 59 35.8**	**+0.8**
NVAR	**Mina Array Bea**	**74.56**	**53**	P	**P**	**01 59 35.8**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=274,slow=6.6,SNR=8.9							
IMW	**Indian Meadow**	**75.74**	**45**	*eP*	**P**	**01 59 43.4**	**+1.7**
TPAW	**Teton Pass**	**75.98**	**46**	*eP*	**P**	**01 59 43.8**	**+0.6**
	comp=Z,2.4nm,0.7s							
LOHW	**Long Hollow**	**76.10**	**46**	*eP*	**P**	**01 59 44.5**	**+0.8**
	comp=Z,1.9nm,0.8s							
REDW	**Red Top Meadow**	**76.12**	**46**	*eP*	**P**	**01 59 45.7**	**+1.8**
HWUT	**Hardware Ranch**	**76.79**	**48**	*eP*	**P**	**01 59 47.8**	**+0.1**
DUG	**Dugway**	**76.92**	**49**	*eP*	**P**	**01 59 48.8**	**+0.4**
DUG				pmax	pmax			
	comp=Z,3.0nm,0.9s							
DUG	**Dugway**	**76.92**	**49**	*eP*	**P**	**01 59 48.8**	**+0.4**
	comp=Z,3.0nm,0.9s							
BW06	**Boulder Array**	**77.23**	**46**	*eP*	**P**	**01 59 50.0**	**-0.2**
	comp=Z,1.8nm,0.8s							
PDAR	**Pinedale Array**	**77.23**	**46**	P	**P**	**01 59 50.3**	**+0.1**
PDAR	**Pinedale Array**	**77.23**	**46**	P	**P**	**01 59 50.3**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=263,slow=2.1,SNR=11							
ULM	**Lac du Bonnet**	**79.08**	**34**	P	**P**	**01 59 59.5**	**-0.5**
ULM	**Lac du Bonnet**	**79.08**	**34**	P	**P**	**01 59 59.5**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=307,slow=20,SNR=2.3							
RSSD	**Black Hills**	**79.39**	**42**	*eP*	**P**	**02 00 01.6**	**-0.5**
RSSD	**Black Hills**	**79.39**	**42**	*eP*	**P**	**02 00 01.6**	**-0.5**
MORC	**Moravsky Berou**	**80.28**	**327**	*eP*	**P**	**02 00 05.7**	**-0.8**
MORC				pmax	pmax			
	comp=Z,3.0nm,1.1s							
MORC	**Moravsky Berou**	**80.28**	**327**	*eP*	**P**	**02 00 05.7**	**-0.8**
	comp=Z,3.3nm,1.1s							
DPC	**Dobruska-Polom**	**80.37**	**328**	*eP*	**P**	**02 00 07.4**	**+0.4**
DPC	**Dobruska-Polom**	**80.37**	**328**	*eP*	**P**	**02 00 07.4**	**+0.4**
PSZ	**Piszkesteto**	**80.59**	**325**	*eP*	**P**	**02 00 08.0**	**-0.3**
PSZ				pmax	pmax			
	comp=Z,10.0nm,1.4s							
PSZ	**Piszkesteto**	**80.59**	**325**	*eP*	**P**	**02 00 08.0**	**-0.3**
	comp=Z,10nm,1.4s							
CLL	**Collm**	**80.99**	**330**	*i* P	**P**	**02 00 10.0**	**-0.3**
CLL				pmax	pmax			
	comp=Z,5.0nm,0.9s							
PRU	**Pruhonice**	**81.39**	**329**	*eP*	**P**	**02 00 12.4**	**0.0**
PRU	**Pruhonice**	**81.39**	**329**	*eP*	**P**	**02 00 12.4**	**0.0**
KHC	**Kasperske Hory**	**82.45**	**329**	*eP*	**P**	**02 00 18.1**	**0.0**
KHC	**Kasperske Hory**	**82.45**	**329**	*eP*	**P**	**02 00 18.1**	**0.0**
GERES	**GERESS Array B**	**82.62**	**328**	P	**P**	**02 00 18.0**	**-1.1**
GERES	**GERESS Array B**	**82.62**	**328**	P	**P**	**02 00 18.0**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=48,slow=6.3,SNR=3.8							
TUC	**Tucson**	**83.15**	**54**	*eP*	**P**	**02 00 22.2**	**+0.1**
TUC	**Tucson**	**83.15**	**54**	*eP*	**P**	**02 00 22.1**	**+0.1**
ANMO	**Albuquerque**	**84.15**	**50**	*eP*	**P**	**02 00 27.7**	**+0.4**
	comp=Z,1.2nm,0.8s							
SCHQ	**Schefferville**	**84.96**	**16**	P	**P**	**02 00 30.7**	**-0.1**
SCHQ	**Schefferville**	**84.96**	**16**	P	**P**	**02 00 30.7**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=350,slow=6.1,SNR=3.0							
MNTX	**Cornudas Mount**	**87.00**	**52**	*eP*	**P**	**02 00 40.7**	**-0.6**
AMTX	**Amarillo**	**87.06**	**47**	*eP*	**P**	**02 00 41.4**	**-0.2**
	comp=Z,7.7nm,0.8s							
WMOK	**Wichita Mounta**	**88.84**	**46**	*eP*	**P**	**02 00 49.8**	**-0.3**
WMOK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
WMOK	**Wichita Mounta**	**88.84**	**46**	*eP*	**P**	**02 00 49.8**	**-0.3**
	comp=Z,2.6nm,1.0s							
TXAR	**Lajitas Array**	**89.69**	**53**	P	**P**	**02 00 54.5**	**+0.2**
TXAR	**Lajitas Array**	**89.69**	**53**	P	**P**	**02 00 54.5**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=302,slow=2.9,SNR=16							
KEST	**Kesra**	**94.97**	**323**	*eP*	**P**	**02 01 17.3**	**-1.2**
TORD	**Torodi Ar. Bea**	**117.34**	**315**	PKP	**PKPdf**	**02 06 39.1**	**-2.7**
TORD	**Torodi Ar. Bea**	**117.34**	**315**	PKP	**PKPdf**	**02 06 39.1**	**-2.7**
	comp=Z,0.7nm,1.0s,baz=4.4,slow=1.8,SNR=4.3							
LPAZ	**La Paz**	**146.27**	**60**	PKPbc	**PKPbc**	**02 07 37.0**	**-0.5**
LPAZ	**La Paz**	**146.27**	**60**	PKPbc	**PKPbc**	**02 07 37.0**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=328,slow=4.3,SNR=8.1							
LVC	**Limon Verde**	**149.77**	**70**	*e*PKPbc	**PKPbc**	**02 07 44.2**	**-2.2**

MEX 19 02:26:13.2±1.3, 15.98N×95.52W, h16km±18km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.60**	**250**	*i* P	Pg	02 26 22.4	-2.7
HUIG				*i* S	Sg	02 26 31.2	-1.9
TGIG		**2.44**	**71**	*i* P	Pn	02 26 50.1	-2.4
TGIG				*e*S	Sn	02 27 17.5	-4.5
PNIG	**Pinotepa**	**2.54**	**280**	*i* P	Pn	02 26 51.8	-2.0
PNIG				*i* S	Sn	02 27 19.1	-5.2

IDC 19 02:26:43.8±2.1, 1.69S×128.87E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.6/21, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=106.8km s-min=25.8km az=71.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**16.61**	**191**	Pn	Pn	02 30 38.7	+0.5
	0.2nm,0.3s,baz=1.7,slow=13,SNR=5.4						
WRA	**Warramunga Arr**	**18.91**	**164**	P	P	02 31 05.3	-0.9
	0.2nm,0.3s,baz=343,slow=12,SNR=7.9						
ASAR	**Alice Springs**	**22.38**	**168**	P	P	02 31 44.2	+0.3
	2.8nm,0.4s,baz=346,slow=12,SNR=85						
MKAR	**Makanchi Array**	**63.21**	**326**	P	P	02 37 14.1	0.0
	0.6nm,0.7s,baz=111,slow=7.9,SNR=4.3						

IDC ***19*** *02:38:50.0±4.3, 31.87N×140.53E, h48km±38km, mb3.2/7, mb1 3.4/8, mb1mx3.2/25, mbtmp3.2/8, ML2.4/1, Error ellipse: s-maj=47.7km s-min=26.0km az=75.0*

ISCJB ***19*** *02:39:01.5±1.1, 32.21N±0.09×140.3E±0.3, h150km, mb3.2/7, Error ellipse: s-maj=33.6km s-min=11.8km az=170.6*

JMA ***19*** *02:39:01.3±0.3, 32.06N×140.23E, h129km, M3.1*

ISC 19 02:39:01.3±1.1, 32.1N±0.1×140.4E±0.3, h150km, n11, σ1s94/13, mb3.2/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.12**	**335**	P	**Pn**	**02 39 25.3**	**-1.8**
JHJ2				*e*S	**Sn**	**02 39 43.6**	**-3.3**
JRY	**Ryogami san**	**4.10**	**343**	P	**Pn**	**02 40 03.4**	**+0.6**
JRY				*e*S	**Sn**	**02 40 49.8**	**-0.9**
JAG	**Ashikaga**	**4.39**	**350**	P	**Pn**	**02 40 05.6**	**-1.0**
JAG				*e*S	**Sn**	**02 40 55.5**	**-2.0**
MJAR	**Matsushiro Arr**	**4.79**	**339**	P	Pn	02 40 02.9	-9.0
	0.1nm,0.3s,baz=150,slow=13,SNR=2.7						
MKAR	**Makanchi Array**	**46.17**	**306**	P	**P**	**02 47 11.1**	**+0.3**
	0.2nm,0.5s,baz=97,slow=9.0,SNR=4.0						
KURBB	**Kurchatov Array**	**48.49**	**311**	P	**P**	**02 47 29.0**	**+0.4**
	0.2nm,0.4s,baz=88,slow=7.8,SNR=2.9						
WRA	**Warramunga Arr**	**52.06**	**187**	P	**P**	**02 47 53.5**	**-2.2**
	0.5nm,1.1s,baz=6.7,slow=7.9,SNR=2.7						
FINES	**FINESS Array B**	**72.79**	**333**	P	**P**	**02 50 15.5**	**+2.6**
	1.2nm,0.8s,baz=70,slow=6.8,SNR=11						
NOA	**NORSAR Array B**	**78.40**	**337**	P	**P**	**02 50 45.8**	**+0.8**
	1.0nm,0.9s,baz=45,slow=9.9,SNR=3.1						
BRTR	**Keskin Array B**	**81.48**	**312**	P	**P**	**02 51 04.4**	**+2.4**
	0.3nm,0.5s,baz=130,slow=6.1,SNR=3.6						
TXAR	**Lajitas Array**	**93.83**	**52**	P	**P**	**02 52 02.3**	**+0.4**
	0.1nm,0.7s,baz=294,slow=4.5,SNR=2.2						
TXAR				pP	PcP	02 52 10.6	+8.3
	0.3nm,0.4s,baz=294,slow=5.2,SNR=8.2						

KRSC 19 02:40:52.1±0.7, 51.08N×157.82E, h74km±74km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.74**	**302**	*e*P	Pn	02 41 08.5	+0.8
PAU				*i* S	Sn	02 41 20.5	+1.2
SKR	**Severo-Kuril's**	**1.15**	**250**	*e*P	Pn	02 41 12.9	+0.3
SKR				*i* S	Sn	02 41 28.3	+0.3
ASAK	**Asacha**	**1.31**	**2**	*e*P	Pn	02 41 16.4	+1.6
ASAK				*i* S	Sn	02 41 34.1	+2.3
MIPR	**Malaya Ipel'ka**	**1.37**	**332**	*e*P	Pn	02 41 14.7	-0.8
RUS	**Russkaya**	**1.42**	**17**	*e*P	Pn	02 41 18.3	+2.2
RUS				*i* S	Sn	02 41 37.5	+3.3
MTVR	**Mutnovka**	**1.42**	**9**	*e*P	Pn	02 41 18.3	+1.9
MTVR				*i* S	Sn	02 41 37.6	+3.0
GRL	**Gorelyy**	**1.48**	**6**	*e*P	Pn	02 41 19.0	+1.9
GRL				*i* S	Sn	02 41 38.7	+2.7
PET	**Petropavlovsk**	**2.01**	**14**	*e*P	Pn	02 41 25.5	+1.5
PET				*i* S	Sn	02 41 50.1	+1.9
UGLR	**Uglovaya**	**2.22**	**16**	*e*P	Pn	02 41 29.4	+2.5
UGLR				*i* S	Sn	02 41 56.9	+3.4
AVH	**Avacha**	**2.26**	**14**	*e*P	Pn	02 41 29.9	+2.5
AVH				*i* S	Sn	02 41 58.1	+3.7
SMAR	**Somma**	**2.27**	**15**	*e*P	Pn	02 41 29.3	+1.6
KOK	**Koryaka**	**2.27**	**12**	*e*P	Pn	02 41 29.9	+2.3
KOK				*i* S	Sn	02 41 58.1	+3.4
KRER	**Koryakskii**	**2.30**	**14**	*e*P	Pn	02 41 30.3	+2.2
GNL	**Ganaly**	**2.62**	**2**	*e*P	Pn	02 41 32.6	+0.3
BKI	**Bering**	**6.41**	**47**	*e*P	Pn	02 42 25.7	+2.0
BKI				*i* S	Sn	02 43 31.6	-3.8

ISCJB ***19*** *02:41:42.8±0.6, 30.10S±0.05×69.17W±0.08, h116km±7km, mb3.2/3, Error ellipse: s-maj=11.7km s-min=7.0km az=157.6*

IDC ***19*** *02:41:44.4±1.6, 30.11S×69.10W, h112km±13km, mb3.0/3, mb1 3.3/7, mb1mx3.2/21, mbtmp3.2/7, MS3.0/3, Ms1 3.0/3, ms1mx2.8/8, Error ellipse: s-maj=34.6km s-min=14.2km az=81.0*

GUC ***19*** *02:41:45.7±0.6, 30.02S×69.67W, h145km, ML4.1*

ISC 19 02:41:43.9±0.9, 30.14S±0.05×69.24W±0.07, h113km±10km, n18, σ1s39/19, mb3.2/3, 3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**1.35**	**268**	*i*P	**Pn**	**02 42 10.9**	**+1.5**
TLL				*i* S	**Sn**	**02 42 30.0**	**+1.2**
TLL				AML	AML	02 42 32.2	
	comp=N,3μm,0.4s						
LCO	**Las Campanas**	**1.69**	**311**	*i*P	**Pn**	**02 42 13.8**	**+0.3**
LCO				*i* S	**Sn**	**02 42 35.9**	**-0.1**
LCO				AML	AML	02 42 37.8	
	comp=N,1μm,0.4s						
CFAA	**Coronel Fontan**	**1.70**	**150**	P	**Pn**	**02 42 14.1**	**+0.7**
	baz=320,slow=15						
CFAA				S	**Sn**	**02 42 35.4**	**-0.4**
	comp=N,46nm,0.3s,baz=68,slow=19,SNR=23						
CMCH	**Combarbala**	**1.84**	**235**	*i*P	**Pn**	**02 42 13.6**	**-1.5**
CMCH				*i* S	**Sn**	**02 42 36.7**	**-2.1**
CMCH				AML	AML	02 42 38.3	
	comp=N,3μm,0.3s						
CHNG	**Los Chungos**	**2.61**	**227**	AML	AML	02 42 57.9	
	comp=E,305nm,0.3s						
CPCH	**Copiapo**	**2.93**	**340**	*i*P	**Pn**	**02 42 29.7**	**+0.5**
CPCH				*i* S	**Sn**	**02 43 03.5**	**-0.5**
CPCH				AML	AML	02 43 07.5	
	comp=N,4μm,0.1s						
CDCH	**Caldera**	**3.36**	**335**	AML	AML	02 43 21.7	
	comp=N,162nm,0.3s						
LVC	**Limon Verde**	**7.50**	**2**	P	**Pn**	**02 43 29.2**	**-1.6**
	comp=N,1.1nm,0.3s,baz=212,slow=6.7,SNR=18						
LVC				S	**Sn**	**02 44 51.4**	**-3.1**
	comp=N,0.8nm,0.3s,baz=252,slow=20,SNR=2.3						
PLCA	**Paso Flores**	**10.63**	**185**	LR	LR	02 48 41.1	
	comp=N,63nm,18.3s,baz=173,slow=39						
CPUP	**Villa Florida**	**11.17**	**73**	P	Pn	02 44 17.1	-3.2
	comp=N,0.8nm,0.3s,baz=223,slow=12,SNR=7.7						
LPAZ	**La Paz**	**13.82**	**4**	P	**Pn**	**02 44 57.5**	**+1.9**
	comp=N,0.1nm,0.3s,baz=187,slow=7.8,SNR=7.8						
SIV	**San Ignacio**	**15.95**	**30**	P	**P**	**02 45 23.0**	**-0.3**
	comp=N,0.2nm,0.3s,baz=224,slow=9.7,SNR=7.3						
SIV				LR	LR	02 51 43.2	
	comp=N,70nm,21.0s,slow=38						
ROSC	**El Rosal**	**35.13**	**351**	LR	LR	03 02 28.1	
	comp=N,30nm,21.9s,baz=18,slow=35						
SNAA	**Sanae**	**54.30**	**159**	P	**P**	**02 50 58.2**	**+0.1**
	comp=N,0.6nm,1.1s,baz=46,slow=14,SNR=9.4						
TXAR	**Lajitas Array**	**67.64**	**328**	P	**P**	**02 52 29.6**	**+0.9**
	comp=N,0.1nm,0.6s,baz=161,slow=8.5,SNR=2.7						
TORD	**Torodi Ar. Bea**	**80.64**	**69**	P	**P**	**02 53 44.8**	**+0.2**
	comp=N,0.2nm,0.5s,baz=275,slow=5.6,SNR=5.4						
WRA	**Warramunga Arr**	**125.28**	**207**	PKP	**PKPdf**	**03 00 31.3**	**-0.7**
	comp=N,0.3nm,0.6s,baz=159,slow=1.8,SNR=5.0						
ZALV	**Zalesovo Beam**	**149.70**	**31**	PKPbc	**PKPbc**	**03 01 20.4**	**+0.5**
	comp=N,0.5nm,0.4s,baz=288,slow=1.4,SNR=2.8						

ISCJB ***19*** *02:46:17.9±0.3, 27.58S±0.04×63.24W±0.06, h562km, mb4.3/52, Error ellipse: s-maj=6.6km s-min=5.6km az=158.8*

NEIC ***19*** *02:46:18.6±0.6, 27.60S×63.24W, h561km±6km, mb4.4/31, Error ellipse: s-maj=10.1km s-min=6.0km az=56.0*

IDC ***19*** *02:46:19.2±0.5, 27.58S×63.36W, h565km±5km, mb3.7/14, mb1 3.9/20, mb1mx3.8/24, mbtmp3.7/20, Error ellipse: s-maj=11.1km s-min=10.2km az=86.0*

ISC 19 02:46:18.8±0.3, 27.57S±0.06×63.35W±0.07, h562km, n387, σ1s00/401, mb4.3/51, 147C-133D, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPUP	**Villa Florida**	**5.51**	**78**	P	**P**	**02 47 54.7**	**+1.0**
	66nm,0.3s,baz=234,slow=8.7,SNR=209						
CPUP				S	**S**	**02 49 12.4**	**+1.2**
	3.7nm,0.3s,baz=201,slow=17,SNR=1.3						
CFAA	**Coronel Fontan**	**5.86**	**225**	P	**P**	**02 47 57.2**	**+0.5**
	6.0nm,0.3s,baz=48,slow=8.1,SNR=69						
CFAA				S	**S**	**02 49 16.0**	**-0.8**
	1.6nm,0.3s,baz=180,slow=19,SNR=21						
LCO	**Las Campanas**	**6.64**	**256**	*e*P	**P**	**02 48 04.5**	**+0.4**
LVC	**Limon Verde**	**7.05**	**313**	*e*P	**P**	**02 48 08.8**	**+0.7**
	61nm,0.4s						
LVC				*e*S	**S**	**02 49 35.9**	**-1.6**
LVC	**Limon Verde**	**7.05**	**313**	P	**P**	**02 48 09.6**	**+1.5**
	28nm,0.3s,baz=136,slow=5.3,SNR=100						
LVC				S	**S**	**02 49 35.7**	**-1.8**
	14nm,0.3s,baz=161,slow=3.2,SNR=7.2						
TRQA	**Tornquist**	**10.52**	**174**	*e*P	**P**	**02 48 40.5**	**-1.6**
SIV	**San Ignacio**	**11.71**	**11**	P	**P**	**02 48 54.9**	**+0.3**
	0.6nm,0.3s,baz=209,slow=9.4,SNR=41						
SIV				S	**S**	**02 51 05.6**	**+2.9**
	baz=198,slow=14,SNR=4.5						
LPAZ	**La Paz**	**12.07**	**337**	P	**P**	**02 48 58.9**	**0.0**
	1.5nm,0.3s,baz=118,slow=5.5,SNR=47						
LPAZ				S	**S**	**02 51 08.3**	**-2.1**
	baz=161,slow=18,SNR=3.5						
SAML	**Samuel**	**18.52**	**1**	*e*P	**P**	**02 50 00.9**	**-0.1**
	16nm,0.9s						
SAML				*e*S	**S**	**02 52 58.0**	**-3.6**
BDFB	**Brasilia**	**18.53**	**53**	P	**P**	**02 50 01.5**	**+0.3**
	2.7nm,0.3s,baz=229,slow=8.4,SNR=53						
BDFB				S	**S**	**02 52 58.4**	**-3.5**
	0.1nm,0.3s,baz=128,slow=20,SNR=2.0						
OTAV	**Otavalo**	**31.22**	**330**	*e*P	**P**	**02 51 55.2**	**+1.5**
	7.7nm,1.2s						
RCBR	**Riachuelo**	**33.88**	**55**	*e*P	**P**	**02 52 15.9**	**+0.1**
	33nm,1.2s						
RCBR	**Riachuelo**	**33.88**	**55**	P	**P**	**02 52 15.9**	**+0.1**
	7.2nm,0.9s,baz=245,slow=8.5,SNR=6.6						
VNA1	**Neumayer--Stat**	**52.89**	**160**	*e*P	**P**	**02 54 43.5**	**+1.2**
SNAA	**Sanae**	**54.90**	**160**	*e*P	**P**	**02 54 56.5**	**-0.1**
SNAA	**Sanae**	**54.90**	**160**	*e*P	**P**	**02 54 56.6**	**0.0**
	9.9nm,1.0s						
SNAA	**Sanae**	**54.90**	**160**	P	**P**	**02 54 56.4**	**-0.2**
	2.4nm,0.8s,baz=278,slow=5.6,SNR=28						
SNAA				pP	**pP**	**02 56 44.9**	**+1.1**
	2.5nm,1.0s,baz=302,slow=6.7,SNR=7.3						

QSPA	**South Pole Qui**	**62.65**	**180**	*e*P	**P**	**02 55 49.4**	**+0.7**
	9.1nm,0.8s						
KMSC	**Kings Mountain**	**64.65**	**344**	⇓P	**P**	**02 56 02.2**	**+0.6**
	baz=65						
LIC	**Lamto**	**65.55**	**68**	⇑*i*P	**P**	**02 56 07.5**	**-0.3**
	16nm,0.7s,baz=273						
LIC	**Lamto**	**65.55**	**68**	⇑*i*P	**P**	**02 56 07.5**	**-0.3**
	16nm,0.7s						
CPCT	**Cooper Cave**	**65.79**	**341**	*e*P	**P**	**02 56 08.6**	**-0.2**
DBIC	**Dimbokro**	**65.94**	**68**	P	**P**	**02 56 09.9**	**-0.2**
	9.3nm,0.4s,baz=208,slow=6.3,SNR=49						
732A	**Laxson Ranch,**	**66.07**	**325**	⇓P	**P**	**02 56 11.1**	**+0.4**
	baz=66,SNR=5.4						
632A	**Uvalde**	**66.61**	**326**	⇑P	**P**	**02 56 14.8**	**+0.8**
	baz=67						
631A	**Perdido Creek**	**66.93**	**325**	⇓P	**P**	**02 56 16.2**	**+0.2**
	baz=67,SNR=6.5						
532A	**Rocksprings**	**67.18**	**326**	⇓P	**P**	**02 56 18.1**	**+0.6**
	baz=68,SNR=7.3						
JCT	**Junction City**	**67.41**	**326**	*e*P	**P**	**02 56 19.4**	**+0.5**
	33nm,1.7s						
JCT	**Junction City**	**67.41**	**326**	⇓P	**P**	**02 56 19.3**	**+0.4**
	baz=68						
WVT	**Waverly**	**67.43**	**339**	*e*P	**P**	**02 56 18.0**	**-0.9**
	9.3nm,0.6s						
531A	**Rocksprings**	**67.53**	**325**	⇑P	**P**	**02 56 20.4**	**+0.8**
	baz=68						
WHTX	**Lake Whitney**	**67.55**	**329**	⇓P	**P**	**02 56 20.0**	**+0.3**
	baz=68						
432A	**Menard**	**67.73**	**327**	⇑P	**P**	**02 56 21.1**	**+0.2**
	baz=68						
UALR	**University of**	**67.80**	**334**	*e*P	**P**	**02 56 21.5**	**+0.4**
530A	**J-C Ranch, Com**	**67.92**	**325**	⇑P	**P**	**02 56 22.6**	**+0.6**
	baz=68						
431A	**Sonora**	**67.98**	**326**	⇑P	**P**	**02 56 22.5**	**0.0**
	baz=68						
GNAR	**Gosnell**	**68.01**	**337**	*e*P	**P**	**02 56 23.3**	**+0.9**
	1μm,1.2s						
MIAR	**Mount Ida**	**68.08**	**333**	*e*P	**P**	**02 56 22.8**	**-0.1**
	4.2nm,0.8s						
332A	**Millersview**	**68.12**	**327**	⇑P	**P**	**02 56 23.6**	**+0.3**
	baz=68,SNR=13						
628A	**Black Gap, Mar**	**68.19**	**323**	⇓P	**P**	**02 56 24.5**	**+0.7**
	baz=68,SNR=6.2						
529A	**Stev Forest Ra**	**68.35**	**324**	⇑P	**P**	**02 56 25.2**	**+0.5**
	baz=69,SNR=7.8						
430A	**Baggett Ranch,**	**68.38**	**325**	⇓P	**P**	**02 56 25.1**	**+0.2**
	baz=69,SNR=9.3						
331A	**San Angelo**	**68.40**	**326**	⇓P	**P**	**02 56 25.1**	**+0.2**
	baz=69,SNR=7.0						
627A	**Terlingua Ranc**	**68.43**	**323**	⇓P	**P**	**02 56 25.6**	**+0.3**
	baz=69,SNR=5.8						
TXAR	**Lajitas Array**	**68.49**	**323**	P	**P**	**02 56 26.0**	**+0.4**
	1.1nm,0.4s,baz=149,slow=7.2,SNR=37						
232A	**Coleman**	**68.49**	**327**	⇓P	**P**	**02 56 25.9**	**+0.4**
	baz=69,SNR=13						
PARMO	**Parma**	**68.55**	**337**	*e*P	**P**	**02 56 25.9**	**+0.2**
429A	**Davenport Ranc**	**68.58**	**325**	⇓P	**P**	**02 56 26.7**	**+0.6**
	baz=69,SNR=17						
528A	**Cox Ranch, San**	**68.68**	**324**	⇑P	**P**	**02 56 26.9**	**+0.1**
	baz=69						
330A	**Mertzon**	**68.85**	**326**	⇑P	**P**	**02 56 27.5**	**-0.1**
	baz=69						
231A	**Bronte**	**68.86**	**327**	⇑P	**P**	**02 56 27.8**	**+0.1**
	baz=69						
626A	**Big Bend Ranch**	**68.92**	**322**	⇓P	**P**	**02 56 29.0**	**+0.9**
	baz=69,SNR=8.3						
SYO	**Syowa Base**	**69.03**	**158**	⇑*e*P	**P**	**02 56 27.0**	**-1.1**
428A	**Kincaid Ranch,**	**69.07**	**324**	⇑P	**P**	**02 56 29.4**	**+0.3**
	baz=69						
ABTX	**Abilene, Hawle**	**69.10**	**328**	⇓P	**P**	**02 56 29.4**	**+0.3**
	baz=70						
527A	**Woodward Ranch**	**69.10**	**323**	⇓P	**P**	**02 56 29.7**	**+0.4**
	baz=69,SNR=5.2						
230A	**Sterling City**	**69.21**	**326**	⇓P	**P**	**02 56 30.1**	**+0.2**
	baz=70						
526A	**Mary Lane Ranc**	**69.29**	**323**	⇓P	**P**	**02 56 31.1**	**+0.7**
	baz=70,SNR=6.5						
329A	**Wagon Wheel Ra**	**69.32**	**325**	⇓P	**P**	**02 56 30.4**	**-0.1**
	baz=70

Y26A **Elida** 72.19 325 ⇓P P 02 56 48.9 +1.4
baz=72
Z24A **Sheeppen Canyo** 72.52 324 ⇓P P 02 56 49.8 +0.4
baz=73
LONY **Lake Ozonia** 72.57 352 eP P 02 56 50.0 +0.8
X26A **CR and CF Fran** 72.69 326 ⇑P P 02 56 50.9 +0.6
baz=73,SNR=5.0
W27A **Bowe Ranch, En** 72.73 327 ⇑P P 02 56 51.3 +0.8
baz=73
U30A **WK&E Inc. Balk** 72.79 329 ⇑P P 02 56 51.8 +1.1
baz=73
T31A **Randall Ranch,** 72.82 330 ⇓P P 02 56 52.0 +1.2
baz=73
V28A **Channing** 72.88 328 ⇓P P 02 56 52.5 +1.2
baz=73
Z23A **Rita Site, Whi** 72.92 323 ⇓P P 02 56 52.8 +1.2
baz=73
U29A **Oasis Ranch, S** 73.00 329 ⇑P P 02 56 53.6 +1.6
baz=73
W26A **Owens Ranch, T** 73.09 326 ⇓P P 02 56 53.5 +0.9
baz=73
220A **Playas Peak, P** 73.14 321 ⇓P P 02 56 53.7 +0.8
baz=74,SNR=5.1
319A **Douglas** 73.17 320 ⇓P P 02 56 54.0 +1.0
baz=74
S31A **Mullinville** 73.17 331 ⇑P P 02 56 53.8 +0.9
baz=74
121A **Cookes Peak, D** 73.20 322 ⇓P P 02 56 54.5 +1.2
baz=74
KSU1 **Kansas State U** 73.24 334 eP P 02 56 53.0 -0.1
Z22A **Elephant Butte** 73.30 323 ⇑P P 02 56 55.1 +1.2
baz=74
Y23A **Lovelace Mesa,** 73.34 324 ⇑P P 02 56 55.1 +1.0
baz=74
U28A **Mallet** 73.39 328 ⇑P P 02 56 54.8 +0.6
baz=74
W25A **X Bar L Ranch,** 73.54 326 ⇑P P 02 56 55.6 +0.5
baz=74
TSUM **Tsumeb** 73.58 103 eP P 02 56 56.1 +0.3
12nm,0.9s
T29A **Hugoton** 73.59 329 ⇑P P 02 56 56.8 +1.5
baz=74
V26A **Tequesquite Ra** 73.67 327 ⇓P P 02 56 56.6 +0.7
baz=74
120A **U Bar Ranch, L** 73.68 321 ⇓P P 02 56 57.0 +1.1
baz=74
U27A **Thompson Grove** 73.71 328 ⇓P P 02 56 56.8 +0.8
baz=74
Z21A **St. Cloud Mine** 73.73 322 ⇓P P 02 56 57.4 +1.0
baz=74
R31A **Burdett** 73.75 331 ⇑P P 02 56 56.7 +0.5
baz=74
S29A **Ulysses** 73.89 330 ⇑P P 02 56 57.9 +0.9
baz=74,SNR=5.9
T28A **Walsh** 73.94 329 ⇑P P 02 56 57.7 +0.4
baz=74
W24A **Lazy 6 Ranch,** 74.01 325 ⇑P P 02 56 58.5 +0.6
baz=74,SNR=9.9
Z20A **Nine Sixteen R** 74.08 322 ⇑P P 02 56 58.9 +0.6
baz=74
V25A **Rancho No Teng** 74.11 326 ⇑P P 02 56 59.1 +0.7
baz=74,SNR=7.5
U26A **Atchley Ranch,** 74.12 327 ⇑P P 02 56 59.2 +0.8
baz=74
T27A **Campo** 74.17 328 ⇓P P 02 56 59.2 +0.5
baz=74,SNR=6.9
S28A **Manter** 74.22 329 ⇑P P 02 56 59.7 +0.8
baz=75,SNR=8.8
Y21A **Point of Rocks** 74.26 323 ⇑P P 02 57 00.4 +1.0
baz=75
LAZ **Ladron** 74.28 324 eP P 02 57 00.6 +1.1
0.5nm,0.7s
Q31A **Ellis** 74.29 332 ⇑P P 02 57 00.5 +1.3
baz=75
ANMO **Albuquerque** 74.34 324 eP P 02 57 00.7 +1.0
2.3nm,0.9s
V24A **Rampart Ranch,** 74.34 326 ⇑P P 02 57 00.4 +0.5
baz=75
Y20A **Horse Springs,** 74.56 322 ⇑P P 02 57 02.5 +1.4
baz=75,SNR=5.3
Q30A **Quinter** 74.62 331 ⇑P P 02 57 02.1 +1.0
baz=75,SNR=6.3
X21A **Alamocita Cree** 74.65 323 ⇓P P 02 57 02.6 +1.0
baz=75
P31A **Stockton** 74.72 332 ⇑P P 02 57 02.3 +0.7
baz=75,SNR=6.1
R28A **Tribune** 74.80 330 ⇓P P 02 57 03.0 +0.8
baz=75
V23A **Ortiz Mt. (NFS** 74.82 325 ⇓P P 02 57 03.5 +1.1
baz=75
Q29A **Oakley** 74.88 330 ⇓P P 02 57 03.1 +0.6
baz=75,SNR=6.6
TORD **Torodi Ar. Bea** 74.88 66 P P 02 57 02.5 -0.5
16nm,0.8s,baz=278,slow=7.7,SNR=128
TORD pP pP 02 59 01.9 +1.7
2.0nm,0.7s,baz=256,slow=5.7,SNR=5.4
S26A **Kim** 74.98 328 ⇑P P 02 57 04.3 +1.1
baz=75,SNR=8.3
T25A **Trinidad** 75.04 327 ⇓P P 02 57 05.0 +1.4
baz=75,SNR=7.0
W21A **San Fidel** 75.09 324 ⇓P P 02 57 05.4 +1.4
baz=75
X20A **Quemado** 75.11 323 ⇑P P 02 57 05.3 +1.2
baz=76
R27A **Eads** 75.20 329 ⇑P P 02 57 05.1 +0.7
baz=76,SNR=5.2
U23A **El Rito** 75.28 325 ⇑P P 02 57 05.7 +0.7
baz=76
V22A **San Miguel Ran** 75.32 325 ⇓P P 02 57 06.9 +1.6
baz=76,SNR=8.4
Q28A **Sharon Springs** 75.40 330 ⇑P P 02 57 06.7 +1.3
baz=76
P29A **Atwood** 75.45 331 ⇑P P 02 57 06.9 +1.2
baz=76
S25A **Robets Cordova** 75.47 327 ⇑P P 02 57 07.2 +1.3
baz=76,SNR=9.6
R26A **Arlington** 75.51 328 ⇑P P 02 57 06.9 +0.8
baz=76
W20A **Ramah** 75.55 323 ⇑P P 02 57 07.4 +0.9
baz=76
O30A **MW Ranch, Wils** 75.56 332 ⇓P P 02 57 07.6 +1.4
baz=76
214A **Organ Pipe Nat** 75.64 318 ⇓P P 02 57 08.2 +1.3
baz=76
U22A **Llaves** 75.65 325 ⇑P P 02 57 08.5 +1.4
baz=76
R25A **Fountain Ranch** 75.78 328 ⇓P P 02 57 08.6 +0.9
baz=76
S24A **Houchin Ranch,** 75.83 327 ⇓P P 02 57 09.6 +1.5
baz=76,SNR=7.6
X18A **Snowflake** 75.89 322 ⇑P P 02 57 09.6 +1.2
baz=76
V20A **Brimhall** 76.05 324 ⇓P P 02 57 10.4 +1.2
baz=76
Q26A **Hugo** 76.05 329 ⇓P P 02 57 10.5 +1.4
baz=76
U21A **Nageezi** 76.10 325 ⇑P P 02 57 10.9 +1.3
baz=76,SNR=7.0
P27A **Ficken Ranch,** 76.14 330 ⇓P P 02 57 10.8 +1.2
baz=76
T22A **Edith** 76.17 325 ⇑P P 02 57 11.3 +1.4
baz=76
BOSA **Boshof** 76.21 115 P P 02 57 10.2 -0.2
13nm,0.7s,baz=236,slow=2.7,SNR=27
R24A **Sanders Place,** 76.24 327 ⇑P P 02 57 11.7 +1.4
baz=77,SNR=6.8
O28A **Krutsinger Ran** 76.25 331 ⇓P P 02 57 11.4 +1.3
baz=77
N29A **Votaw Ranch, W** 76.33 332 ⇑P P 02 57 12.0 +1.5
baz=77
Q25A **Bedland, Calha** 76.38 328 ⇑P P 02 57 12.0 +1.0
baz=77
T21A **Navajo Lake** 76.47 325 ⇓P P 02 57 12.9 +1.3
baz=77
R23A **Moffat** 76.56 327 ⇑P P 02 57 13.2 +1.1
baz=77
N28A **Pribbeno Ranch** 76.61 331 ⇓P P 02 57 13.4 +1.3
baz=77
O27A **Beecher Island** 76.61 330 ⇑P P 02 57 13.1 +1.0
baz=77
M30A **Dale-Ortello V** 76.62 333 ⇓P P 02 57 13.3 +1.3
baz=77
X16A **Lo Mia Camp, P** 76.63 321 ⇑P P 02 57 13.8 +1.3
baz=77
S22A **4UR Ranch, Cre** 76.70 326 ⇓P P 02 57 14.0 +1.1
baz=77
113A **Mohawk Valley,** 76.78 318 ⇓P P 02 57 14.0 +0.9
baz=77

P25A **Willow Gulch B** 76.82 329 ⇑P P 02 57 14.4 +1.0
baz=77
Q24A **Divide** 76.84 328 ⇓P P 02 57 14.8 +1.1
baz=77
O26A **Horse Wrangler** 77.02 330 ⇓P P 02 57 15.6 +1.2
baz=77
MAW **Mawson** 77.04 162 P P 02 57 13.2 -0.7
2.4nm,0.5s,baz=242,slow=10,SNR=3.5
S21A **Coal Bank Pass** 77.12 325 ⇑P P 02 57 16.4 +1.2
baz=78,SNR=6.2
M28A **Bar X Bar Ranc** 77.12 332 ⇓P P 02 57 16.1 +1.3
baz=78
MVCO **Mesa Verde** 77.14 325 ⇓P P 02 57 16.4 +1.2
baz=78
N27A **Anderson Farm,** 77.14 331 ⇑P P 02 57 16.5 +1.6
baz=78
Y14A **Wickenburg** 77.17 319 ⇑P P 02 57 16.5 +1.2
baz=78
ECSD **EROS Data Cent** 77.24 336 eP P 02 57 15.2 -0.1
O25A **Wiggins** 77.28 329 ⇓P P 02 57 17.3 +1.5
baz=78
WUAZ **Wupatki** 77.40 322 ⇓P P 02 57 17.9 +1.3
baz=78
S20A **Disappointment** 77.54 325 ⇑P P 02 57 18.8 +1.4
baz=78
R21A **Cimarron** 77.54 326 ⇓P P 02 57 19.0 +1.6
baz=78
Q22A **Crested Butte,** 77.61 327 ⇑P P 02 57 19.3 +1.5
baz=78,SNR=5.5
ISCO **Idaho Springs** 77.72 328 eP P 02 57 19.1 +0.6
4.7nm,0.9s
ISCO **Idaho Springs** 77.72 328 ⇓P P 02 57 19.9 +1.5
baz=78
R20A **Redvale** 77.82 325 ⇓P P 02 57 20.5 +1.6
baz=78,SNR=8.9
PV01 **Paradox Valley** 77.88 325 eP P 02 57 20.5 +1.3
643nm,1.3s
SMCO **Snowmass** 77.89 327 eP P 02 57 20.3 +0.8
7.6nm,1.0s
Y12C **Blythe** 77.93 318 ⇓P P 02 57 20.9 +1.7
baz=78
P22A **Eagle** 78.11 327 ⇑P P 02 57 21.7 +1.3
baz=78
O23A **Lake Granby, G** 78.19 328 ⇓P P 02 57 22.3 +1.4
baz=79
Q20A **Ridgley Place,** 78.37 326 ⇓P P 02 57 23.3 +1.6
baz=79
P21A **Newcastle** 78.39 327 ⇑P P 02 57 23.3 +1.4
baz=79
O22A **Kremmling** 78.45 328 ⇓P P 02 57 23.6 +1.3
baz=79
MONP **Monument Peak** 78.47 317 ⇑P P 02 57 23.7 +1.3
baz=79
W13A **Hualapai Mount** 78.51 320 ⇑P P 02 57 23.7 +1.1
baz=79
U15A **North Rim** 78.58 322 ⇓P P 02 57 24.5 +1.5
baz=79,SNR=8.3
M24A **Cheyenne** 78.69 329 ⇑P P 02 57 25.0 +1.6
baz=79
N23A **Red Feather La** 78.74 328 ⇓P P 02 57 25.1 +1.3
baz=79
P20A **De Beque** 78.83 326 ⇑P P 02 57 25.7 +1.5
baz=79
N22A **Waxenberg Ran** 78.91 328 ⇓P P 02 57 25.9 +1.3
baz=79
M23A **Laramie** 79.09 329 ⇑P P 02 57 26.9 +1.3
baz=80
I28A **Midland** 79.20 333 ⇓P P 02 57 26.4 +0.6
baz=80
P19A **Cripple Cowboy** 79.23 326 ⇑P P 02 57 27.6 +1.3
baz=80,SNR=7.7
O20A **White River Ci** 79.25 327 ⇓P P 02 57 27.4 +1.0
baz=80,SNR=6.0
EYMN **Ely** 79.31 341 eP P 02 57 25.7 -0.5
4.9nm,0.6s
GMRC **Granite Mounta** 79.32 318 ⇓P P 02 57 27.9 +1.1
baz=80,SNR=5.2
N21A **Black Mountain** 79.38 327 ⇑P P 02 57 28.7 +1.6
baz=80
HEC **Hector,Ludlow** 79.75 318 ⇓P P 02 57 30.3 +1.3
baz=80
J25A **Sunshine Ranch** 79.79 331 ⇑P P 02 57 30.4 +1.3
baz=80
N20A **Spence Gulch,** 79.80 327 ⇑P P 02 57 30.4 +1.1
baz=80
O19A **Miners Draw (B** 79.81 326 ⇑P P 02 57 30.5 +1.2
baz=80
Q16A **Castle Valley** 79.81 324 ⇓P P 02 57 30.8 +1.4
baz=80
L22A **Ellis Ranch, M** 79.87 329 ⇑P P 02 57 31.1 +1.5
baz=80
RWWY **Rawlins** 79.96 328 eP P 02 57 30.9 +0.8
15nm,1.2s
M21A **Separation Pea** 79.97 328 ⇑P P 02 57 31.0 +0.8
baz=80,SNR=6.3
CCUT **Cedar City** 79.98 322 eP P 02 57 31.8 +1.5
7.2nm,1.2s
G28A **Parade** 80.00 334 ⇓P P 02 57 30.8 +0.8
baz=80
K23A **Bowen Ranch, D** 80.07 330 ⇓P P 02 57 31.7 +1.1
baz=80
H27A **Howes** 80.09 333 ⇑P P 02 57 31.4 +0.9
baz=80
J24A **Dixon Ranch, L** 80.11 331 ⇓P P 02 57 31.9 +1.2
baz=80
L21A **Rawlins** 80.25 328 ⇑P P 02 57 32.4 +0.8
baz=81,SNR=9.6
M20A **Sweetwater, Wa** 80.27 327 ⇑P P 02 57 32.8 +1.1
baz=81
I25A **Rochford** 80.27 332 ⇓P P 02 57 32.7 +1.1
baz=81
GSC **Goldstone** 80.36 318 ⇑P P 02 57 33.4 +1.3
baz=81
K22A **Casper** 80.39 329 ⇑P P 02 57 33.7 +1.4
baz=81
K21A **Alcova** 80.71 329 ⇑P P 02 57 34.9 +0.9
baz=81,SNR=7.7
L20A **Wamsutter** 80.74 328 ⇑P P 02 57 35.1 +1.0
baz=81
M19A **Rock Springs** 80.74 327 ⇑P P 02 57 35.6 +1.4
baz=81
G26A **Maurine** 80.84 333 ⇓P P 02 57 34.8 +0.4
baz=81
J22A **Midwest** 80.97 330 ⇑P P 02 57 35.8 +0.6
baz=81
G25A **Newell** 81.09 333 ⇓P P 02 57 36.3 +0.6
baz=82
H24A **Dirk Ranch, A** 81.20 332 ⇓P P 02 57 36.8 +0.5
baz=82
K20A **Yellowstone Ra** 81.24 328 ⇓P P 02 57 37.3 +0.6
baz=82
MPMC **Manual Prospec** 81.28 318 ⇓P P 02 57 37.9 +0.8
baz=82
L19A **Farson** 81.29 327 ⇑P P 02 57 38.0 +1.0
baz=82,SNR=5.7
F26A **Lodgepole** 81.33 333 ⇑P P 02 57 37.9 +1.0
baz=82
I22A **9 Mile Ranch,** 81.36 330 ⇓P P 02 57 37.5 +0.4
baz=82,SNR=7.7
J21A **Lysite** 81.36 329 ⇑P P 02 57 37.5 +0.3
baz=82
M17A **Scullys Gap (B** 81.46 326 ⇓P P 02 57 38.1 +0.2
baz=82
L18A **Fontenelle, Gr** 81.49 327 ⇓P P 02 57 38.9 +0.8
baz=82,SNR=13
DUG **Dugway** 81.60 324 ⇓P P 02 57 38.9 +0.4
baz=82
K19A **Absolon Red Bu** 81.61 328 ⇓P P 02 57 38.8 +0.3
baz=82,SNR=8.4
G24A **Alzada** 81.61 332 ⇑P P 02 57 38.5 +0.1
baz=82
I21A **Big Trails, Te** 81.65 329 ⇓P P 02 57 38.8 +0.1
baz=82,SNR=6.0
J20A **Shoshoni** 81.66 329 ⇓P P 02 57 39.7 +1.0
baz=82
R11A **Troy Canyon, C** 81.78 321 ⇓P P 02 57 40.4 +0.9
baz=82
MDND **Maddock** 81.84 336 ⇓P P 02 57 40.0 +0.6
baz=82,SNR=7.7
BW06 **Boulder Array** 81.90 328 eP P 02 57 40.1 0.0
1.4nm,0.8s
PDAR **Pinedale Array** 81.90 328 P P 02 57 40.4 +0.3
2.1nm,0.6s,baz=128,slow=8.4,SNR=20
G23A **Biddle** 81.92 331 ⇓P P 02 57 40.0 +0.1
baz=82,SNR=5.1
HWUT **Hardware Ranch** 82.01 326 eP P 02 57 41.1 +0.4
4.9nm,0.7s
J19A **Crowheart** 82.04 328 ⇓P P 02 57 41.1 +0.4
baz=82,SNR=5.2
F24A **Ekalaka** 82.04 332 ⇓P P 02 57 41.1 +0.6
baz=82
SCHQ **Schefferville** 82.12 358 P P 02 57 40.8 +0.2
9.9nm,0.8s,baz=190,slow=6.0,SNR=7.2
I20A **Worland** 82.14 329 ⇑P P 02 57 41.7 +0.5
baz=82,SNR=7.0
H21A **Big Horn, Sher** 82.18 330 ⇑P P 02 57 41.6 +0.2
baz=82
G22A **Birney** 82.32 331 ⇑P P 02 57 42.1 +0.1
baz=83
F23A **Volborg** 82.34 332 ⇑P P 02 57 42.3 +0.2
baz=83
H20A **Greybull** 82.50 330 ⇓P P 02 57 43.2 +0.2
baz=83
E24A **Baker** 82.57 333 ⇓P P 02 57 43.9 +0.7
baz=83
ULM **Lac du Bonnet** 82.67 340 P P 02 57 43.2 -0.3
4.3nm,0.5s,baz=163,slow=2.3,SNR=6.8
G21A **Lodge Grass** 82.72 330 ⇓P P 02 57 44.5 +0.5
baz=83
F22A **Rosebud** 82.75 331 ⇑P P 02 57 44.7 +0.6
baz=83
H19A **Powell** 83.09 329 ⇑P P 02 57 46.6 +0.7
baz=83
G20A **Bridger** 83.16 330 ⇑P P 02 57 46.1 -0.2
baz=84,SNR=5.6
TAM **Tamanrasset** 83.23 60 eP P 02 57 47.4 +0.3
12nm,1.2s
NVAR **Mina Array Bea** 83.37 320 P P 02 57 47.8 +0.2
0.9nm,0.8s,baz=146,slow=4.2,SNR=5.4
C24A **Savage** 83.40 333 ⇑P P 02 57 48.2 +1.0
baz=84
H18A **Shoshone NF, C** 83.40 329 ⇑P P 02 57 47.8 +0.2
baz=84,SNR=6.4
IMW **Indian Meadow** 83.41 328 eP P 02 57 48.2 +0.5
4.6nm,1.0s
D23A **Lindsay** 83.42 333 ⇓P P 02 57 48.2 +0.8
baz=84
EVOP **Sao Brissos** 83.60 40 eP P 02 57 46.6 -1.8
25nm,1.0s
I16A **Newdale** 83.66 327 ⇓P P 02 57 49.6 +0.8
baz=84
EVO **Evora** 83.66 40 eP P 02 57 46.6 -2.1
25nm,1.0s
G18A **Lazy EL Ranch,** 83.85 329 ⇓P P 02 57 49.9 +0.2
baz=84
F19A **Roth Farm, Mol** 83.98 330 ⇓P P 02 57 50.4 +0.2
baz=84,SNR=5.8
DGMT **Dagmar** 84.07 334 ⇑P P 02 57 51.1 +0.5
baz=84
D21A **La Casta Ranch** 84.08 332 ⇓P P 02 57 51.1 +0.4
baz=84
E20A **Meyer Farm, Mu** 84.12 331 ⇑P P 02 57 51.4 +0.5
baz=84
H16A **Russell Place,** 84.16 328 ⇓P P 02 57 52.2 +0.9
baz=84
F18A **Big Timber** 84.36 329 ⇓P P 02 57 52.4 +0.2
baz=85,SNR=7.1
E19A **Rath Farm, Rou** 84.38 330 ⇑P P 02 57 52.4 +0.3
baz=85,SNR=6.7
LSZ **Lusaka** 84.40 104 eP P 02 57 53.4 +0.2
40nm,1.4s
D20A **Manuel Ranch,** 84.58 331 ⇓P P 02 57 53.4 +0.3
baz=85
I14A **Mackay** 84.66 326 ⇓P P 02 57 55.2 +1.4
baz=85,SNR=10.0
C21A **Desert Coulee** 84.72 332 ⇑P P 02 57 54.2 +0.4
baz=85
F17A **Fitzpatrick Pl** 84.79 329 ⇑P P 02 57 55.0 +0.7
baz=85
HLID **Hailey** 84.87 325 eP P 02 57 55.6 +0.8
9.4nm,0.9s
HLID **Hailey** 84.87 325 ⇑P P 02 57 56.1 +1.3
baz=85,SNR=19
E18A **Harlowton** 84.96 330 ⇑P P 02 57 55.6 +0.5
baz=85
D19A **Cripps Ranch,** 84.96 331 ⇓P P 02 57 55.5 +0.5
baz=85
C20A **Veseth Ranch,** 85.01 332 ⇓P P 02 57 55.4 +0.2
baz=85
MCMT **McKenzie Canyo** 85.02 327 eP P 02 57 56.5 +1.0
5.3nm,1.1s
B21A **Ellsworth Farm** 85.16 333 ⇓P P 02 57 56.3 +0.4
baz=86
A22A **Carney Farms,** 85.17 333 ⇑P P 02 57 56.5 +0.5
baz=86
E17A **Martinsdale** 85.30 329 ⇓P P 02 57 57.5 +0.7
baz=86
D18A **Linhart Farms,** 85.39 330 ⇓P P 02 57 58.2 +1.0
baz=86
I12A **Atlanta** 85.40 325 ⇓P P 02 57 58.4 +1.0
baz=86,SNR=13
C19A **Slack Wire Ran** 85.47 331 ⇓P P 02 57 58.2 +0.8
baz=86
MFID **Camas Ranch** 85.48 325 ⇓P P 02 57 58.4 +0.8
baz=86
D17A **Six Diamond Ra** 85.75 330 ⇓P P 02 57 59.2 +0.3
baz=86,SNR=6.5
H12A **Diamond D Ranc** 85.80 326 ⇑P P 02 57 59.6 +0.4
baz=86
A20A **Cobblestone Ra** 85.89 332 ⇑P P 02 57 59.8 +0.4
baz=86
B19A **Brinkman Farms** 85.99 332 ⇓P P 02 58 00.2 +0.4
baz=86
EGMT **Eagleton** 86.00 331 ⇑P P 02 58 00.3 +0.3
baz=86
C17A **Wharram Farm,** 86.15 330 ⇑P P 02 58 01.0 +0.3
baz=86
B18A **Beardsley Farm** 86.30 331 ⇓P P 02 58 01.9 +0.5
baz=87
G12A **Big Creek, Yel** 86.45 326 ⇓P P 02 58 02.6 +0.3
baz=87
B17A **L&G Farms, Che** 86.66 330 ⇑P P 02 58 03.3 +0.2
baz=87
C16A **Fuhringer Ranc** 86.71 330 ⇑P P 02 58 03.9 +0.6
baz=87
ESDC **Sonseca Array** 86.78 42 P P 02 58 03.9 0.0
1.1nm,0.6s,baz=244,slow=4.9,SNR=11
C15A **Salmond Ranch,** 87.08 329 ⇑P P 02 58 05.8 +0.7
baz=87,SNR=16
A17A **Triple J Farms** 87.11 331 ⇓P P 02 58 05.7 +0.5
baz=88
E12A **Beaver Dam Sad** 87.49 327 ⇓P P 02 58 07.5 +0.4
baz=88
A16A **West Butte Ran** 87.50 331 ⇑P P 02 58 07.7 +0.7
baz=88
SWMT **Swartz Lake** 87.53 328 eP P 02 58 07.7 +0.5
5.3nm,1.1s
C14A **Swan Lake** 87.60 329 ⇑P P 02 58 08.3 +0.8
baz=88
B14A **Marquette Ranc** 87.81 329 ⇑P P 02 58 08.5 0.0
baz=88
C13A **Hot Springs** 87.92 328 ⇓P P 02 58 09.5 +0.5
baz=88,SNR=6.8
A15A **Johnson Ranch,** 88.03 330 ⇓P P 02 58 09.5 0.0
baz=88
BSMT **Bassoo Peak** 88.14 328 eP P 02 58 10.3 +0.2
5.0nm,1.0s
A14A **Double T Ranch** 88.33 330 ⇑P P 02 58 10.8 -0.1
baz=89
B13A **Whitefish** 88.37 329 ⇑P P 02 58 11.2 +0.1
baz=89
FFC **Flin Flon** 88.44 339 eP P 02 58 11.6 +0.5
5.3nm,1.1s
A13A **Flathead Natio** 88.75 329 ⇓P P 02 58 13.3 +0.4
baz=89
LFF **La Frestale** 92.79 40 eP P 02 58 31.0 -0.4
11nm,0.7s
LFF **La Frestale** 92.79 40 eP P 02 58 31.0 -0.4
11nm,0.7s
AVF **Avril sur Loir** 95.35 39 eP P 02 58 42.3 -0.8
4.1nm,0.7s
AVF **Avril sur Loir** 95.35 39 eP P 02 58 42.3 -0.8
4.1nm,0.7s
SMF **Signal de Mont** 95.54 40 eP P 02 58 43.5 -0.5
SMF **Signal de Mont** 95.54 40 eP P 02 58 43.5 -0.5
SSF **Saint Saulge** 95.59 39 eP P 02 58 43.2 -1.0
3.2nm,0.6s
SSF **Saint Saulge** 95.59 39 eP P 02 58 43.2 -1.0
3.2nm,0.6s
LOR **Lormes** 95.91 39 eP P 02 58 44.7 -0.9
8.4nm,0.9s
LOR **Lormes** 95.91 39 eP P 02 58 44.7 -0.9
8.4nm,0.9s
LPL **La Plagne** 96.59 42 eP P 02 58 49.2 +0.2
8.3nm,0.9s
LPL **La Plagne** 96.59 42 eP P 02 58 49.2 +0.2

8.3nm,0.9s
YKA Yellowknife Ar 98.61 339 P Pdif 02 58 56.3 -0.9
0.6nm,0.6s,baz=146,slow=2.7,SNR=3.7
BR131 Keskin Array S 112.11 56 *e*PKP **PKiKP 03 03 50.6 -0.4**
BRTR Keskin Array B 112.11 56 PKiKP **PKiKP 03 03 49.6 -1.3**
0.6nm,0.9s,baz=186,slow=1.2,SNR=4.6
KIEV Kiev 112.36 43 *e*PKP **PKiKP 03 03 49.7 -1.2**
FINES FINESS Array B 113.55 32 PKiKP **PKiKP 03 03 51.3 -1.5**
2.2nm,1.0s,baz=248,slow=10,SNR=3.9
ARCES ARCESS Array B 115.13 23 PKiKP **PKPdf 03 03 55.3 -0.4**
2.2nm,0.8s,baz=278,slow=2.6,SNR=4.9
ARCES PKKPbc **PKKPbc 03 14 32.3 -2.3**
1.9nm,0.9s,baz=97,slow=3.2,SNR=5.1
ASAR Alice Springs 126.41 200 PKP **PKPdf 03 04 18.1 -0.7**
2.3nm,0.6s,baz=141,slow=1.8,SNR=34
ASAR SKPbc SKiKP 03 06 32.6 -30
0.4nm,0.8s,baz=160,slow=1.5,SNR=3.4
AS31 Alice Springs 126.41 200 *e*PKPdf **PKPdf 03 04 18.3 -0.6**
WRA Warramunga Arr 129.76 202 PKP **PKPdf 03 04 24.7 -0.6**
1.4nm,0.3s,baz=163,slow=1.6,SNR=42
WRA SKPbc SKPbc 03 06 53.7 -1.9
3.9nm,0.5s,baz=155,slow=3.3,SNR=75
WRAB Tennant Creek 129.76 202 *e*PKPdf **PKPdf 03 04 24.9 -0.4**
BRVK Borovoye 137.46 40 *e*PKPdf **PKPdf 03 04 39.1 +0.5**
PETK Petropavlovsk- 140.44 322 PKP **PKPdf 03 04 44.0 0.0**
1.9nm,0.7s,baz=66,slow=3.5,SNR=2.6
EKS2 Erkin-Say 142.25 55 *e*PKPdf **PKPdf 03 04 44.5 -3.3**
AAK Ala-Archa 142.78 55 *e*PKPdf **PKPdf 03 04 46.7 -2.0**
TKM2 Tokmak 2 143.53 54 *e*PKPdf PKPab 03 04 48.9 0.0
ZALV Zalesovo Beam 144.80 33 PKP PKPbc 03 04 52.2 +0.1
15nm,0.6s,baz=304,slow=4.8,SNR=78
ZALV SKPbc **SKPbc 03 07 37.8 -0.4**
1.8nm,0.6s,baz=291,slow=2.9,SNR=4.4
MK31 Makanchi Array 146.93 45 *e*PKPdf **PKPdf 03 04 55.9 +0.4**
MK31 *e*PKPbc **PKPbc 03 04 58.6 +0.1**
MK31 *e*PKPab **PKPab 03 05 02.0 +0.2**
MKAR Makanchi Array 146.93 45 PKP **PKPdf 03 04 56.2 +0.7**
14nm,0.6s,baz=286,slow=1.9,SNR=80
MKAR PKPbc **PKPbc 03 04 58.6 +0.1**
14nm,0.6s,baz=302,slow=2.6,SNR=78
MKAR pPKPbc pPKPbc 03 07 07.3 -0.2
3.9nm,0.8s,baz=304,slow=2.8,SNR=13
MKAR SKPbc **SKPbc 03 07 43.5 +0.2**
0.7nm,0.7s,baz=283,slow=2.7,SNR=2.3
KOLN Koldanda 150.78 82 *e*P **PKPdf 03 04 59.5 -3.0**
DANN Dangsing 150.99 81 *e*P **PKPdf 03 05 03.4 +0.5**
DMN Daman 152.08 83 *e*P **PKPdf 03 05 05.7 +1.2**
KKN Kakani 152.25 82 *e*P **PKPdf 03 05 05.8 +1.1**
PKIN Phulchoki 152.33 83 *e*P **PKPdf 03 05 05.8 +0.9**
PKI Pulchoki 152.34 83 *e*P **PKPdf 03 05 05.8 +0.8**
IPM Ipoh 152.63 144 *e*PKPbc **PKPbc 03 05 12.4 -0.6**
GUN Gumba 152.80 82 *e*P **PKPdf 03 05 09.3 +3.6**
KULM Kulim 153.12 143 *e*PKPbc **PKPbc 03 05 13.3 -0.7**
RAMN Ramite 153.31 84 *e*P **PKPdf 03 05 08.5 +2.2**
ODAN Odare 153.99 85 *e*P **PKPdf 03 05 11.6 +4.4**
SONM Songino Array 158.24 19 PKP **PKPdf 03 05 12.3 +0.4**
2.3nm,0.9s,baz=249,slow=1.3,SNR=11
SONM PKPab **PKPab 03 05 50.3 +0.5**
1.0nm,0.6s,baz=305,slow=2.4,SNR=5.8

*IDC **19** 03:07:18.3±1.2,34°.21N×25°.74E,h0km,mb3.8/8, mb1 3.8/10,mb1mx3.6/28,mbtmp3.7/10,ML3.4/3,Error ellipse: s-maj=24.4km s-min=20.7km az=2.0*
*THE **19** 03:07:24.9,34°.21N×25°.93E,h2km±1km,ML2.8/2,Error ellipse: s-maj=2.2km s-min=0.8km az=174.0*
*CSEM **19** 03:07:24.2±0.2,34°.15N×26°.03E,h20km,Mw3.9,Error ellipse: s-maj=4.9km s-min=3.8km az=75.0*
*DDA **19** 03:07:24.9,34°.26N×26°.19E,h25km,MD3.4*
*HLW **19** 03:07:26.5,34°.08N×26°.23E,h31km±34km,Md3.5,Ml3.0*
*ATH **19** 03:07:29.7,35°.75N×26°.06E,h38km±6km,MD3.3/4*
ISC 19 03:07:23.1±1.4,**34°.16N**±0°.04×**25°.98E**±0°.04,**h13**km±10km, **n74,σ1°20/81,mb3.7/9,Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.98**	**11**	P	**Pg**	**03 07 43.1**	**+1.1**
ZKR				S	**Sb**	**03 07 57.1**	**+2.3**
ZKR	**Zakros**	**0.98**	**11**	*e*PN	**Pg**	**03 07 43.5**	**+1.5**
ZKR				*e*SN	**Sg**	**03 07 52.7**	**-2.0**
ZKR	**Zakros**	**0.98**	**11**	P	**Pg**	**03 07 43.1**	**+1.1**
ZKR	**Zakros**	**0.98**	**11**	*e*Pn	**Pg**	**03 07 43.5**	**+1.5**
ZKR				*e*Sn	**Sg**	**03 07 52.7**	**-2.0**
ZKR				S	**Sb**	**03 07 57.1**	**+2.3**
LAST	**Lasithi**	**1.08**	**338**	P	**Pg**	**03 07 43.9**	**-0.2**
LAST				S	**Sg**	**03 07 59.1**	**+0.9**
LAST	**Lasithi**	**1.08**	**338**	*e*PN	**Pg**	**03 07 44.5**	**+0.4**
LAST				*e*SN	**Sg**	**03 07 56.2**	**-2.0**
LAST	**Lasithi**	**1.08**	**338**	P	**Pg**	**03 07 43.9**	**-0.2**
LAST	**Lasithi**	**1.08**	**338**	*e*Pn	**Pg**	**03 07 44.5**	**+0.4**
LAST				*e*Sn	**Sg**	**03 07 56.2**	**-2.0**
LAST				S	**Sg**	**03 07 59.1**	**+0.9**
NPS	**Neapolis**	**1.15**	**345**	P	**Pb**	**03 07 44.9**	**+0.1**
NPS				S	**Sb**	**03 08 01.0**	**+1.3**
NPS	**Neapolis**	**1.15**	**345**	P	**Pb**	**03 07 44.9**	**+0.1**
NPS				S	**Sb**	**03 08 01.0**	**+1.3**
SIVA	**Sivas**	**1.29**	**312**	P	**Pn**	**03 07 47.2**	**+0.3**
SIVA				S	**Sb**	**03 08 05.3**	**+1.4**
SIVA	**Sivas**	**1.29**	**312**	P	**Pn**	**03 07 47.2**	**+0.3**
SIVA				S	**Sb**	**03 08 05.3**	**+1.4**
IDI	**Anoyia**	**1.44**	**322**	P	**Pn**	**03 07 49.6**	**+0.5**
IDI				S	**Sn**	**03 08 08.4**	**+0.4**
IDI	**Anoyia**	**1.44**	**322**	*e*PN	**Pn**	**03 07 49.8**	**+0.7**
IDI				*e*SN	Sn	03 08 04.4	-3.6
IDI	**Anoyia**	**1.44**	**322**	P	**Pn**	**03 07 49.6**	**+0.5**
IDI				*e*Sn	Sn	03 08 04.4	-3.6
IDI				S	**Sn**	**03 08 08.4**	**+0.4**
KARP	**Karpathos**	**1.69**	**35**	P	**Pn**	**03 07 53.9**	**+1.4**
KARP				S	**Sn**	**03 08 16.1**	**+2.0**
KARP	**Karpathos**	**1.69**	**35**	P	**Pn**	**03 07 53.9**	**+1.4**
VAM	**Vamos**	**1.93**	**311**	P	**Pn**	**03 07 56.1**	**+0.5**
VAM	**Vamos**	**1.93**	**311**	P	**Pn**	**03 07 56.1**	**+0.5**
KARN	**Karanos**	**2.10**	**307**	P	**Pn**	**03 07 58.7**	**+0.6**
KARN	**Karanos**	**2.10**	**307**	*e*PN	**Pn**	**03 07 58.7**	**+0.6**
KARN	**Karanos**	**2.10**	**307**	P	**Pn**	**03 07 58.7**	**+0.6**
THR1	**Thera Island**	**2.25**	**349**	P	**Pn**	**03 07 59.4**	**-0.8**
THR1	**Thera Island**	**2.25**	**349**	P	**Pn**	**03 07 59.4**	**-0.8**
THR3	**Thira Island,**	**2.30**	**348**	P	**Pn**	**03 07 59.8**	**-0.9**
THR3	**Thira Island,**	**2.30**	**348**	P	**Pn**	**03 07 59.8**	**-0.9**
LTBQ	**Tobruq** SNR=50	**2.71**	**220**	*i* P	**Pn**	**03 08 08.5**	**+2.0**
LTBQ				*e*S	**Sn**	**03 08 38.8**	**-0.4**
	22nm,0.5s,SNR=50						
SLUM		**2.73**	**194**	S	**Sn**	**03 08 38.9**	**-0.8**
	baz=199						
SLUM				AMP		03 08 00.0	
	comp=E,90μm,0.2s,logA/T=5.7,baz=199						
SLUM		**2.73**	**194**	P	**Pn**	**03 08 07.5**	**+0.8**
SLUM				S	**Sn**	**03 08 38.9**	**-0.8**
ANKY	**Antikythira Is**	**2.78**	**309**	P	**Pn**	**03 08 08.5**	**+1.1**
ANKY	**Antikythira Is**	**2.78**	**309**	P	**Pn**	**03 08 08.5**	**+1.1**
APE	**Apeiranthos**	**2.93**	**353**	P	Pn	03 08 08.0	-1.5
APE				S	Sn	03 08 40.3	-4.3
APE	**Apeiranthos**	**2.93**	**353**	P	Pn	03 08 08.0	-1.5
KYTH	**Kithira**	**3.21**	**312**	P	**Pn**	**03 08 13.2**	**-0.1**
KYTH	**Kithira**	**3.21**	**312**	P	**Pn**	**03 08 13.2**	**-0.1**
TURN	**Turunc**	**3.45**	**38**	*i* P	Pn	03 08 14.8	-1.8
TURN				*i* S	Sn	03 08 48.0	-9.5
TURN	**Turunc**	**3.45**	**38**	*i* P	Pn	03 08 14.8	-1.8
AKAS	**Kas**	**3.62**	**54**	*i* P	**Pn**	**03 08 19.3**	**+0.2**
AKAS				*i* S	Sn	03 08 57.1	-4.7
AKAS	**Kas**	**3.62**	**54**	*i* P	**Pn**	**03 08 19.3**	**+0.2**
AKAS				*i* S	Sn	03 08 57.1	-4.7
AYDN	**Tasoluk**	**3.82**	**23**	*i* P	**Pn**	**03 08 22.1**	**+0.3**
AYDN				*i* S	Sn	03 08 54.9	-12
AYDN	**Tasoluk**	**3.82**	**23**	*i* P	**Pn**	**03 08 22.1**	**+0.3**
GOLH	**Golhisar**	**4.24**	**42**	*i* P	**Pn**	**03 08 28.3**	**+0.8**
GOLH				*e*S	Sn	03 09 12.0	-4.9
GOLH	**Golhisar**	**4.24**	**42**	*i* P	**Pn**	**03 08 28.3**	**+0.8**
GOLH				*e*S	Sn	03 09 12.0	-4.9
KORT	**Korkueli**	**4.55**	**50**	*e*P	**Pn**	**03 08 32.9**	**+1.0**
KORT				*i* S	**Sn**	**03 09 24.9**	**+0.1**
KORT	**Korkueli**	**4.55**	**50**	*e*P	**Pn**	**03 08 32.9**	**+1.0**
KORT				*i* S	**Sn**	**03 09 24.9**	**+0.1**
SWA2		**4.92**	**185**	P	**Pn**	**03 08 37.6**	**+0.8**
	baz=189						
SWA2				AMP		03 09 00.0	
	comp=E,50μm,0.3s,logA/T=5.2,baz=189						
SWA2				S	**Sn**	**03 09 31.4**	**-2.2**
	baz=189						
SWA2		**4.92**	**185**	P	**Pn**	**03 08 37.6**	**+0.8**
SWA2				S	**Sn**	**03 09 31.4**	**-2.2**
LJBD	**Adjabya** SNR=48	**5.86**	**238**	*i* P	**Pn**	**03 08 50.7**	**+1.0**
ERMK	**Ermenek**	**6.18**	**64**	*i* P	**Pn**	**03 08 55.1**	**+0.8**
ERMK				*e*S	Sn	03 09 49.8	-15
ERMK	**Ermenek**	**6.18**	**64**	*i* P	**Pn**	**03 08 55.1**	**+0.8**
HSAF	**As Saff** baz=133	**6.55**	**132**	P	**Pn**	**03 08 58.5**	**-0.8**
HSAF	**As Saff**	**6.55**	**132**	P	**Pn**	**03 08 58.5**	**-0.8**
SUZ		**7.24**	**125**	P	**Pn**	**03 09 08.3**	**-0.3**
	baz=125						
SUZ		**7.24**	**125**	P	**Pn**	**03 09 08.3**	**-0.3**
HFRF	**Wahat Farafira** baz=164	**7.27**	**163**	P	**Pn**	**03 09 09.7**	**+0.6**
HFRF				AMP		03 10 00.0	
	comp=N,10μm,0.1s,logA/T=5.0,baz=164						
HFRF	**Wahat Farafira**	**7.27**	**163**	P	**Pn**	**03 09 09.7**	**+0.6**
MMAI	**Mount Meron Ar** comp=N,1.4nm,0.3s,baz=277,slow=12,SNR=3.5	**7.95**	**96**	Pn	Pn	03 09 16.3	-2.1
MMAI				Sn	Sn	03 10 43.4	-4.8
	comp=N,2.1nm,0.3s,baz=299,slow=21,SNR=4.0						
HNKL	**Nakhl** baz=120	**7.99**	**120**	P	**Pn**	**03 09 17.8**	**-1.2**
HNKL	**Nakhl**	**7.99**	**120**	P	**Pn**	**03 09 17.8**	**-1.2**
BRTR	**Keskin Array B** comp=N,0.1nm,0.3s,baz=226,slow=8.5,SNR=3.0	**8.27**	**46**	Pn	Pn	03 09 21.4	-1.5
BRTR				Sn	**Sn**	**03 10 52.4**	**-4.0**
	comp=N,0.1nm,0.3s,baz=217,slow=25,SNR=2.7						
TR2		**8.77**	**129**	P	**Pn**	**03 09 28.7**	**-1.0**
	baz=129						
TR2		**8.77**	**129**	P	**Pn**	**03 09 28.7**	**-1.0**
EIL	**Elat** comp=N,1.2nm,0.3s,baz=263,slow=11,SNR=13	**8.84**	**118**	Pn	**Pn**	**03 09 29.7**	**-0.9**
EIL				Sn	Sn	03 11 03.1	-7.1
	comp=N,0.8nm,0.3s,baz=255,slow=20,SNR=4.3						
HKAT	**Jabal Katrina** baz=127	**8.86**	**127**	P	**Pn**	**03 09 29.9**	**-1.1**
HKAT	**Jabal Katrina**	**8.86**	**127**	P	**Pn**	**03 09 29.9**	**-1.1**
HFS	**Hagfors** comp=N,2.1nm,1.0s,baz=153,slow=8.1,SNR=3.0	**27.21**	**347**	P	P	03 13 02.5	-3.9
FINES	**FINESS Array B** comp=N,0.7nm,0.4s,baz=164,slow=11,SNR=11	**27.30**	**0**	P	P	03 13 03.4	-3.9
KAF	**Kangasniemi** comp=N,0.3nm,0.3s	**27.98**	**0**	*ep*	P	03 13 09.5	-3.8
EKA	**Eskdalemuir Ar** comp=N,1.1nm,0.8s,baz=125,slow=7.4,SNR=2.3	**29.25**	**325**	P	P	03 13 20.9	-3.8
TORD	**Torodi Ar. Bea** comp=N,0.3nm,0.5s,baz=35,slow=8.7,SNR=3.0	**30.39**	**232**	P	P	03 13 31.0	-4.1
ARCES	**ARCESS Array B** comp=N,2.2nm,0.8s,baz=179,slow=8.9,SNR=8.2	**35.43**	**360**	P	P	03 14 14.4	-4.2
MKAR	**Makanchi Array** comp=N,0.8nm,0.5s,baz=271,slow=8.2,SNR=8.7	**43.77**	**56**	P	P	03 15 27.1	-1.3
ZALV	**Zalesovo Beam** comp=N,0.3nm,0.3s,baz=282,slow=6.8,SNR=2.1	**45.22**	**45**	P	P	03 15 37.3	-2.5
SONM	**Songino Array** comp=N,0.3nm,0.6s,baz=278,slow=9.8,SNR=2.6	**59.60**	**50**	P	P	03 17 25.6	-1.2

WEL 19 03:19:04.3±0.3,**38°.13S**×**178°.96E**,**h33km**,**ML3.5/5**,**1C, Error ellipse: s-maj=2.6km s-min=1.7km az=90.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.56**	**276**	⇑P	Pb	03 19 15.4	-0.5
PUZ				SN	Sb	03 19 23.7	-0.1
PUZ				AML	AML	03 19 28.7	
CNGZ	**Carnagh Statio**	**0.69**	**239**	PN	Pn	03 19 17.1	-0.6
CNGZ				eSN	Sb	03 19 27.1	-0.2
MXZ	**Matakaoa Point**	**0.77**	**318**	AML	AML	03 19 34.3	
MXZ				AML	AML	03 19 34.6	
MWZ	**Matawai**	**1.14**	**259**	PN	Pn	03 19 23.9	-0.2
MWZ				SN	Sn	03 19 37.9	-0.8
MWZ				AML	AML	03 19 40.2	
MWZ				AML	AML	03 19 44.0	
MWZ				AML	AML	03 19 44.0	
PRGZ	**Paritu Road**	**1.16**	**226**	PN	Pn	03 19 23.8	-0.4
MHGZ	**Mahia Peninsul**	**1.31**	**219**	PN	Pn	03 19 25.9	-0.4
KNZ	**Kokohu**	**1.34**	**228**	PN	Pn	03 19 25.9	-0.9
KNZ				SN	Sn	03 19 42.4	-1.1
KNZ				AML	AML	03 19 48.1	
URZ	**Urewera**	**1.46**	**264**	PN	Pn	03 19 29.4	+1.0
URZ				AML	AML	03 19 51.4	
URZ				AML	AML	03 19 53.2	
BKZ	**Black Stump Fm**	**2.19**	**241**	PN	Pn	03 19 38.5	0.0
BKZ				SN	Sn	03 20 03.7	-0.8

WEL 19 03:21:23.7±0.6,**46°.09S**×**166°.16E**,**h26km**±2km,**ML3.3**/7, **1D,Error ellipse: s-maj=6.2km s-min=2.5km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.37**	**102**	⇓P*	Pb	03 21 31.7	-0.2
PYZ				S*	Sb	03 21 37.4	-0.1
WHZ	**Wether Hill Ro**	**1.26**	**82**	PN	Pn	03 21 45.7	0.0
WHZ				SN	Sn	03 22 00.2	-1.6
WHZ				AML	AML	03 22 03.6	
WHZ	**Wether Hill Ro**	**1.26**	**82**	PN	Pn	03 21 45.7	0.0
WHZ				SN	Sn	03 22 00.2	-1.6
WHZ				AML	AML	03 22 03.5	
APZ	**The Paps**	**1.47**	**121**	*e*PN	Pn	03 21 48.1	-0.4

WEL 19 03:21:27.7±0.4,**45°.36S**×**166°.71E**,**h22km**±1km,**ML3.0**/10, **1D,Error ellipse: s-maj=3.5km s-min=2.1km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.33**	**111**	⇓P*	Pb	03 21 35.0	+0.1
DCZ				S*	Sb	03 21 39.2	-0.6
DCZ				AML	AML	03 21 40.1	
DCZ				AML	AML	03 21 40.5	
DCZ				AML	AML	03 21 40.5	
MLZ	**Mavora Lakes**	**1.03**	**90**	PN	Pn	03 21 46.0	-0.9
MLZ				S*	Sb	03 21 59.2	-0.8
MSZ	**Milford Sound**	**1.10**	**52**	*e*PN	Pb	03 21 48.6	+0.5
MSZ				AML	AML	03 22 06.9	
MSZ				AML	AML	03 22 07.4	
EAZ	**Earnscleugh**	**1.83**	**87**	PN	Pb	03 21 59.8	-0.8
EAZ				AML	AML	03 22 36.9	
JCZ	**Jackson Bay**	**1.94**	**49**	AML	AML	03 22 36.0	
JCZ				AML	AML	03 22 37.0	
ODZ	**Otahua Downs**	**2.80**	**85**	PN	Pn	03 22 11.9	+0.8

CASC 19 03:25:38.8±1.9,**13°.18N**×**89°.58W**,**h33km**±5km,**MD3.5, ML3.4,1C,El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.61**	**34**	*e*P	Pb	03 25 50.9	-0.4
SNET				*e*S	Sn	03 26 01.1	+1.0
SNET				AML	AML	03 26 03.2	
	comp=Z,1μm,0.2s						
BOQS	**Boqueron**	**0.63**	**28**	⇑*i*P	Pn	03 25 51.5	-0.3
SBLS	**San Blas**	**0.66**	**356**	*e*P	Pn	03 25 51.8	-0.4
LFRS	**El Faro**	**0.67**	**48**	*e*P	Pn	03 25 51.9	-0.3
SNJE	**San Jose**	**0.69**	**358**	*e*P	Pn	03 25 52.2	-0.4
RTR	**El Retiro**	**0.72**	**355**	*e*P	Pn	03 25 52.6	-0.4
LFU	**La Fuente**	**0.73**	**38**	*e*P	Pn	03 25 52.9	0.0
LFU				*e*S	Sb	03 26 04.8	+1.7
LBRS	**Las Brisas**	**0.76**	**43**	*e*P	Pn	03 25 53.4	0.0
SNVI	**San Vicente**	**0.84**	**59**	*e*P	Pn	03 25 54.2	-0.4
SNVI				*e*P	Pb	03 25 54.3	-1.0
SNVI				*e*S	Sb	03 26 06.7	+0.3
RBDL	**Robledal**	**0.94**	**354**	*e*P	Pn	03 25 55.8	-0.2
VSM	**San Miguel**	**1.29**	**79**	*e*P	Pn	03 26 00.9	-0.1
BLLM	**Bellamira**	**1.33**	**78**	*e*S	Sn	03 26 18.4	+0.5
CAHU	**Cacacuatique**	**1.46**	**66**	*e*P	Pn	03 26 02.5	-0.6
NBG	**Las Nubes**	**1.59**	**332**	*e*P	Pn	03 26 05.3	+0.2
NBG				*e*S	Sn	03 26 23.9	-0.9
CNCH	**Conchagua**	**1.70**	**86**	*e*P	Pn	03 26 06.0	-0.4
CNCH				*e*S	Sn	03 26 27.6	+0.4
MRL	**Marmol**	**1.88**	**357**	*e*P	Pn	03 26 09.8	+0.9
MRL				*e*S	Sn	03 26 25.0	-6.7
JAT	**Jato**	**2.30**	**300**	*e*P	Pn	03 26 14.9	+0.5
JAT				*e*S	Sb	03 26 44.8	-2.9

*IDC **19** 03:25:49.0±1.5,45°.32S×165°.85E,h0km,mb3.8/2, mb1 4.1/3,mb1mx3.8/15,mbtmp3.8/3,ML3.8/1,Error ellipse: s-maj=51.8km s-min=26.9km az=179.0*
*WEL **19** 03:25:50.6±0.2,45°.45S×165°.76E,h33km,ML4.2/19,Error ellipse: s-maj=2.4km s-min=1.5km az=90.0*
ISC 19 03:25:49.6±2.2,**45°.44S**±0°.08×**165°.86E**±0°.07,**h8km**±13km, **n21,σ0°26/16,Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.91**	**93**	PN	**Pb**	**03 26 07.8**	**+0.1**
DCZ				SN	**Sb**	**03 26 19.9**	**0.0**
DCZ				AML	AML	03 26 20.8	
DCZ				AML	AML	03 26 22.4	
DCZ				AML	AML	03 26 22.5	
PYZ	**Puysegur Point**	**0.93**	**142**	PN	**Pg**	**03 26 07.3**	**-0.2**
PYZ				SN	**Sb**	**03 26 20.1**	**-0.3**
WHZ	**Wether Hill Ro**	**1.53**	**108**	PN	**Pb**	**03 26 18.4**	**+0.1**
WHZ				*e*SN	**Sg**	**03 26 39.0**	**+0.1**
WHZ				AML	AML	03 26 49.7	
MLZ	**Mavora Lakes**	**1.63**	**88**	PN	**Pn**	**03 26 18.5**	**-0.2**
MLZ				AML	AML	03 26 41.9	
MLZ				AML	AML	03 26 52.1	
MSZ	**Milford Sound**	**1.66**	**63**	AML	AML	03 26 52.3	
MSZ				AML	AML	03 26 52.3	
MSZ				AML	AML	03 26 56.1	
MSZ				AML	AML	03 27 04.6	
APZ	**The Paps**	**2.03**	**134**	PN	**Pn**	**03 26 24.5**	**+0.4**
APZ				SN	**Sn**	**03 26 49.4**	**-0.3**
WKZ	**Wanaka**	**2.32**	**76**	AML	AML	03 27 14.3	
WKZ				AML	AML	03 27 18.9	
EAZ	**Earnscleugh**	**2.44**	**86**	AML	AML	03 27 03.0	
EAZ				AML	AML	03 27 03.0	
EAZ				AML	AML	03 27 08.1	
EAZ				AML	AML	03 27 25.9	
JCZ	**Jackson Bay**	**2.48**	**58**	AML	AML	03 27 26.7	
JCZ				AML	AML	03 27 28.7	
SYZ	**Scrubby Hill**	**2.54**	**117**	PN	**Pn**	**03 26 31.4**	**+0.4**
TUZ	**Tuapeka**	**2.69**	**102**	AML	AML	03 27 16.3	
TUZ				AML	AML	03 27 18.7	
LBZ	**Lake Benmore**	**3.25**	**73**	AML	AML	03 27 21.9	
LBZ				AML	AML	03 27 56.4	
FOZ	**Fox Glacier**	**3.32**	**57**	AML	AML	03 27 21.9	
FOZ				AML	AML	03 27 54.6	
ODZ	**Otahua Downs**	**3.40**	**85**	AML	AML	03 27 43.4	
ODZ				AML	AML	03 27 44.1	
RPZ	**Rata Peaks**	**4.09**	**67**	Pn	**Pn**	**03 26 52.6**	**+0.1**
	6.3nm,0.3s,baz=315,slow=18,SNR=18						
RPZ				Sn	**Sn**	**03 27 40.5**	**0.0**
	12nm,0.3s,baz=159,slow=8.6,SNR=9.1						
RPZ	**Rata Peaks**	**4.09**	**67**	AML	AML	03 28 12.6	
RPZ				AML	AML	03 28 17.6	
WVZ	**Waitaha Valley**	**4.23**	**58**	AML	AML	03 28 34.7	
WVZ				AML	AML	03 33 23.5	
ASAR	**Alice Springs**	**33.78**	**299**	P	**P**	**03 32 31.7**	**-0.3**
	1.0nm,1.0s,baz=143,slow=10,SNR=4.8						
WRA	**Warramunga Ar**	**36.35**	**304**	P	**P**	**03 32 54.2**	**0.0**
	1.6nm,0.9s,baz=142,slow=9.1,SNR=6.1						
BRTR	**Keskin Array B**	**144.78**	**278**	PKP	**PKPdf**	**03 45 27.1**	**+0.3**
	0.7nm,0.6s,baz=114,slow=3.1,SNR=5.5						
TORD	**Torodi Ar. Bea**	**145.11**	**208**	PKPbc	**PKPab**	**03 45 27.4**	**0.0**
	0.8nm,0.6s,baz=158,slow=3.0,SNR=19						

*ISCJB **19** 03:28:19.6±0.3,41°.67S±0°.06×42°.26E±0°.08,h10km, mb4.5/35,MS4.2/24, Error ellipse: s-maj=10.1km s-min=6.6km az=140.1*
*IDC **19** 03:28:19.5±0.5,41°.66S×42°.23E,h0km,mb4.4/25, mb1 4.5/27,mb1mx4.4/33,mbtmp4.4/27,ML4.1/2,MS4.2/26, Ms1 4.2/26,ms1mx4.1/34,Error ellipse: s-maj=17.4km s-min=12.2km az=72.0*
*NEIC **19** 03:28:21.0±0.3,41°.66S×42°.25E,h10km,mb4.8/15,Error ellipse: s-maj=11.4km s-min=7.8km az=73.0*
*GCMT **19** 03:28:24.8±0.2,41°.62S×42°.82E,h22km±1km,MW5.1, Moment Tensor Solution. s42,c56; s83,c128; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.60±.22; $M_{\theta\theta}$1.34±.18; $M_{\phi\phi}$-0.74±.18; $M_{r\theta}$-0.46±.28; $M_{\theta\phi}$5.82±.15; $M_{r\phi}$-2.69±.36; Best double couple: $M_0$6.50000×10^{16} NP1:φ275.00000°, δ65.00000°,λ-2.00000°. NP2:φ6.00000°,δ88.00000°, λ-155.00000°. Principal axes: T 6.8200, Plg16.0000°, Azm138.0000°; N -0.6100, Plg65.0000°, Azm9.0000°; P -6.2100, Plg19.0000°, Azm233.0000°; Data Used: II IU G IC CN.*
ISC 19 03:28:21.1±0.4,**41°.66S**±0°.08×**42°.25E**±0°.10,**h10km**,**n113, σ1°03/105,mb4.5/35,MS4.2/24,7C-7D,Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRM	**Grahamstown**	**15.00**	**299**	*e*P	**Pn**	**03 31 52.2**	**-1.0**
GRM				AMB	AMB	03 31 53.8	
	comp=Z,74nm,0.7s						
KSD	**Kokstad**	**15.17**	**313**	*e*P	**Pn**	**03 31 55.7**	**+0.2**
KSD				AMB	AMB	03 31 56.2	
	comp=Z,206nm,2.6s						
BUFB	**Buffelsbos**	**15.70**	**293**	*e*P	**Pn**	**03 32 01.1**	**-1.2**
BUFB				AMB	AMB	03 32 04.9	
	comp=Z,24nm,0.7s						
POGA	**Pongola**	**16.71**	**325**	*e*P	**Pn**	**03 32 15.8**	**+0.5**
POGA				AMB	AMB	03 32 16.7	
	comp=Z,71nm,2.7s						
HVD	**Gariep Dam**	**17.43**	**304**	*e*P	**P**	**03 32 26.1**	**+0.5**
HVD				AMB	AMB	03 32 28.0	
	comp=Z,104nm,1.6s						
BOSA	**Boshof**	**18.99**	**308**	P	**Pn**	**03 32 44.0**	**+0.4**
BOSA				S	Sn

TSUM	**Tsumeb**	**30.68 309**	*e*P	**P**	**03 34 35.4**	**-0.7**
TSUM	**Tsumeb**	**30.68 309**	*e*P	**P**	**03 34 36.3**	**+0.2**
	comp=Z,35nm,1.4s						
SNAA	**Sanae**	**37.29 202**	*e*P	**P**	**03 35 33.7**	**+0.8**
SNAA	**Sanae**	**37.29 202**	*e*P	**P**	**03 35 33.3**	**+0.4**
	comp=Z,9.4nm,1.0s						
SNAA	**Sanae**	**37.29 202**	P	**P**	**03 35 33.7**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=69,slow=6.7,SNR=16						
VNA1	**Neumayer--Stat**	**38.45 204**	*e*P	**P**	**03 35 44.6**	**+2.0**
KMBO	**Kilima Mbogo**	**40.60 352**	LR	LR	03 51 08.4		
	comp=Z,313nm,19.4s,baz=302,slow=34						
MBAR	**Mbarara**	**42.17 343**	LR	LR	03 51 29.9		
	comp=Z,408nm,19.8s,baz=166,slow=33						
QSPA	**South Pole Qui**	**48.55 180**	*e*P	**P**	**03 37 02.7**	**-1.5**
	comp=Z,33nm,1.4s						
QSPA	**South Pole Qui**	**48.55 180**	P	**P**	**03 37 02.3**	**-1.9**
	comp=Z,10nm,1.1s,baz=220,slow=4.9,SNR=10.0						
VNDA	**Vanda**	**55.54 167**	P	**P**	**03 37 54.4**	**-1.5**
VNDA	**Vanda**	**55.54 167**	P	**P**	**03 37 54.4**	**-1.5**
	comp=Z,2.6nm,0.9s,baz=246,slow=8.7,SNR=12						
VNDA			LR	LR	04 00 07.7		
	comp=Z,178nm,19.6s,baz=229,slow=34						
SBA	**Scott Base**	**56.14 168**	*e*P	**P**	**03 37 59.9**	**-0.2**
	comp=Z,18nm,1.4s						
DBIC	**Dimbokro**	**64.52 306**	LR	LR	04 02 37.3		
	comp=Z,210nm,19.9s,baz=128,slow=32						
TORD	**Torodi Ar. Bea**	**66.11 316**	P	**P**	**03 39 09.2**	**+0.7**
TORD	**Torodi Ar. Bea**	**66.11 316**	P	**P**	**03 39 09.2**	**+0.7**
	comp=Z,2.8nm,0.7s,baz=139,slow=5.3,SNR=18						
TORD			LR	LR	04 05 36.7		
	comp=Z,148nm,20.5s,baz=145,slow=34						
KULM	**Kulim**	**70.71 64**	*e*P	**P**	**03 39 36.8**	**-0.6**
	comp=Z,19nm,1.2s						
TAM	**Tamanrasset**	**72.59 325**	*e*P	**P**	**03 39 50.2**	**+1.6**
	comp=Z,3.9nm,1.2s						
FITZ	**Fitzroy Crossi**	**73.35 100**	P	**P**	**03 39 55.3**	**+2.0**
FITZ	**Fitzroy Crossi**	**73.35 100**	P	**P**	**03 39 55.3**	**+2.0**
	comp=Z,4.4nm,0.8s,baz=225,slow=11,SNR=3.5						
ASF	**Jabal al Asfar**	**73.63 355**	P	**P**	**03 39 55.0**	**+0.4**
ASF	**Jabal al Asfar**	**73.63 355**	P	**P**	**03 39 55.0**	**+0.4**
	comp=Z,2.5nm,0.5s						
MMAI	**Mount Meron Ar**	**74.57 354**	P	**P**	**03 40 00.7**	**+0.7**
MMAI	**Mount Meron Ar**	**74.57 354**	P	**P**	**03 40 00.7**	**+0.7**
	comp=Z,11nm,1.0s,baz=152,slow=5.5,SNR=7.9						
TRQA	**Tornquist**	**74.87 232**	*e*P	**P**	**03 40 01.7**	**-0.2**
	comp=Z,4.9nm,0.8s						
ASAR	**Alice Springs**	**75.85 109**	P	**P**	**03 40 08.7**	**+0.9**
ASAR	**Alice Springs**	**75.85 109**	P	**P**	**03 40 08.7**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=236,slow=5.5,SNR=4.7						
ASAR			LR	LR	04 06 37.3		
	comp=Z,275nm,20.9s,baz=230,slow=30						
STKA	**Stephens Creek**	**75.85 120**	LR	LR	04 05 59.5		
	comp=Z,319nm,20.5s,baz=212,slow=30						
CSS	**Prodhromos**	**76.69 352**	*e*P	**P**	**03 40 11.6**	**-0.4**
	comp=Z,12nm,1.0s						
PLCA	**Paso Flores**	**77.89 226**	P	**P**	**03 40 18.9**	**-0.2**
PLCA	**Paso Flores**	**77.89 226**	P	**P**	**03 40 18.9**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=130,slow=9.7,SNR=10						
PLCA			LR	LR	04 06 36.1		
	comp=Z,149nm,20.6s,baz=166,slow=30						
WRA	**Warramunga Arr**	**78.53 106**	P	**P**	**03 40 24.7**	**+1.8**
WRA	**Warramunga Arr**	**78.53 106**	P	**P**	**03 40 24.7**	**+1.8**
	comp=Z,1.6nm,0.9s,baz=223,slow=4.7,SNR=4.6						
WRA			LR	LR	04 10 05.5		
	comp=Z,181nm,19.8s,baz=260,slow=32						
CMAR	**Chiang Mai Arr**	**79.50 54**	P	**P**	**03 40 26.3**	**-1.7**
CMAR	**Chiang Mai Arr**	**79.50 54**	P	**P**	**03 40 26.3**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=237,slow=6.3,SNR=2.9						
CMAR			LR	LR	04 11 43.0		
	comp=Z,62nm,18.0s,baz=215,slow=33						
CPUP	**Villa Florida**	**79.62 244**	P	**P**	**03 40 28.5**	**-0.2**
CPUP	**Villa Florida**	**79.62 244**	P	**P**	**03 40 28.5**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=88,slow=6.9,SNR=7.2						
CPUP			LR	LR	04 08 37.9		
	comp=Z,120nm,21.6s,baz=353,slow=30						
BDFB	**Brasilia**	**79.97 258**	P	**P**	**03 40 30.2**	**-0.7**
BDFB	**Brasilia**	**79.97 258**	P	**P**	**03 40 30.2**	**-0.7**
	comp=Z,4.7nm,1.0s,baz=96,slow=8.2,SNR=5.7						
BDFB			LR	LR	04 07 24.1		
	comp=Z,176nm,21.8s,baz=38,slow=29						
BR131	**Keskin Array S**	**81.38 353**	*e*P	**P**	**03 40 36.8**	**-0.9**
	comp=Z,4.7nm,0.9s						
BRTR	**Keskin Array B**	**81.38 353**	P	**P**	**03 40 36.9**	**-0.9**
BRTR	**Keskin Array B**	**81.38 353**	P	**P**	**03 40 36.9**	**-0.9**
	comp=Z,4.3nm,0.9s,baz=175,slow=8.7,SNR=26						
BRTR			LR	LR	04 15 08.6		
	comp=Z,112nm,18.9s,baz=324,slow=34						
KEST	**Kesra**	**82.71 334**	P	**P**	**03 40 46.0**	**+1.1**
KEST	**Kesra**	**82.71 334**	P	**P**	**03 40 46.0**	**+1.1**
	comp=Z,2.6nm,0.9s,baz=143,slow=3.4,SNR=6.0						
KEST			LR	LR	04 19 50.8		
	comp=Z,120nm,18.7s,baz=324,slow=37						
VTS	**Vitosha**	**85.61 346**	⇓*i*P	**P**	**03 40 57.9**	**-1.6**
MDT	**Midelt**	**85.74 322**	P	**P**	**03 41 00.2**	**-0.2**
MDT	**Midelt**	**85.74 322**	P	**P**	**03 41 00.2**	**-0.2**
	comp=Z,5.2nm,1.1s,baz=170,slow=9.0,SNR=6.2						
TIRR	**Tirgusor**	**86.62 350**	⇓*i*P	**P**	**03 41 04.1**	**-0.1**
CFR	**Carcaliu**	**87.37 350**	⇑*i*P	**P**	**03 41 07.8**	**0.0**
AQU	**L'Aquila**	**87.59 339**	*e*P	**P**	**03 41 08.7**	**-0.3**
	comp=Z,21nm,1.0s						
MLR	**Muntele Rosu**	**87.98 349**	P	**P**	**03 41 11.0**	**+0.1**
MLR	**Muntele Rosu**	**87.98 349**	⇓*i*P	**P**	**03 41 11.1**	**+0.1**
MLR	**Muntele Rosu**	**87.98 349**	P	**P**	**03 41 11.0**	**+0.1**
	comp=Z,2.2nm,1.0s,baz=153,slow=5.8,SNR=18						
ARR	**Arges**	**88.06 348**	⇓*i*P	**P**	**03 41 11.2**	**-0.1**
VOIR		**88.06 348**	⇓*i*P	**P**	**03 41 11.3**	**0.0**
PLOR	**Plostina**	**88.23 349**	⇓*i*P	**P**	**03 41 12.2**	**+0.2**
VRI	**Vrincioaia**	**88.23 349**	⇑*i*P	**P**	**03 41 11.9**	**-0.1**
LOT	**Lotru**	**88.28 347**	⇑*i*P	**P**	**03 41 13.9**	**+1.5**
GZR	**Gura Zlata**	**88.40 346**	⇓*i*P	**P**	**03 41 13.1**	**+0.3**
EKS2	**Erkin-Say**	**88.62 23**	*e*P	**P**	**03 41 13.0**	**-1.1**
	comp=Z,2.0nm,0.8s						
BZS	**Buzias**	**88.82 346**	⇑*i*P	**P**	**03 41 14.1**	**-0.7**
DEV	**Deva**	**88.85 347**	⇑*i*P	**P**	**03 41 15.6**	**+0.7**
DRGR		**89.76 347**	⇑*i*P	**P**	**03 41 19.6**	**+0.4**
BURAR	**Bucovina Array**	**90.16 349**	⇑*i*P	**P**	**03 41 22.0**	**+0.9**
URZ	**Urewera**	**90.44 146**	LR	LR	04 16 37.6		
	comp=Z,98nm,20.0s,baz=221,slow=32						
ESDC	**Sonseca Array**	**91.19 326**	P	**P**	**03 41 25.0**	**-1.1**
ESDC	**Sonseca Array**	**91.19 326**	P	**P**	**03 41 25.0**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=152,slow=4.8,SNR=9.6						
ESDC			LR	LR	04 23 11.4		
	comp=Z,78nm,18.3s,baz=130,slow=36						
BNI	**Bardonecchia**	**92.01 336**	*e*P	**P**	**03 41 31.0**	**+1.2**
	comp=Z,9.5nm,0.9s						
DAVOX	**Davos/Dischmat**	**92.64 338**	P	**P**	**03 41 31.9**	**-0.9**
DAVOX	**Davos/Dischmat**	**92.64 338**	P	**P**	**03 41 31.9**	**-0.9**
	comp=Z,2.7nm,0.6s,baz=214,slow=3.6,SNR=4.3						
KIEV	**Kiev**	**92.68 352**	*e*P	**P**	**03 41 31.7**	**-0.8**
	comp=Z,5.4nm,1.1s						
VRAC	**Vranov**	**93.36 344**	P	**P**	**03 41 36.1**	**+0.3**
VRAC	**Vranov**	**93.36 344**	P	**P**	**03 41 36.1**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=240,slow=8.1,SNR=2.0						
GERES	**GERESS Array B**	**93.57 342**	LR	LR	04 27 32.5		
	comp=Z,79nm,18.6s,baz=283,slow=38						
LPAZ	**La Paz**	**93.79 244**	LR	LR	04 20 57.3		
	comp=Z,76nm,19.6s,baz=122,slow=34						
PMG	**Port Moresby**	**94.75 107**	LR	LR	04 18 43.2		
	comp=Z,184nm,18.2s,baz=74,slow=32						
MKAR	**Makanchi Array**	**94.99 26**	P	**P**	**03 41 41.6**	**-1.7**
MKAR	**Makanchi Array**	**94.99 26**	P	**P**	**03 41 41.6**	**-1.7**
	comp=Z,1.4nm,0.9s,baz=221,slow=6.4,SNR=7.2						
MKAR			LR	LR	04 21 32.4		
	comp=Z,35nm,19.3s,baz=27,slow=34						
CLL	**Collm**	**96.03 342**	eSS	SS	03 59 42.0	+3.7	
MIAR	**Mount Ida**	**144.83 273**	*e*PKPdf	**PKPab**	**03 47 57.1**	**-0.1**
JCT	**Junction City**	**147.60 262**	*e*PKPdf	**PKPdf**	**03 48 03.4**	**+0.4**
JCT			*e*PKPbc	**PKPbc**	**03 48 05.6**	**-0.1**
JCT			*e*PKPab	**PKPab**	**03 48 08.5**	**+0.6**
TXAR	**Lajitas Array**	**149.84 257**	PKPbc	**PKPbc**	**03 48 11.9**	**+0.3**
TXAR	**Lajitas Array**	**149.84 257**	PKPbc	**PKPbc**	**03 48 11.9**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=132,slow=4.8,SNR=28						
ULM	**Lac du Bonnet**	**149.99 301**	PKPbc	**PKPbc**	**03 48 10.3**	**-0.8**
ULM	**Lac du Bonnet**	**149.99 301**	PKPbc	**PKPbc**	**03 48 10.3**	**-0.8**
	comp=Z,1.6nm,0.3s,baz=15,slow=2.1,SNR=3.1						
MNTX	**Cornudas Mount**	**152.34 259**	*e*PKPab	**PKPab**	**03 48 27.4**	**+0.1**
FFC	**Flin Flon**	**153.13 311**	*e*PKPdf	**PKPdf**	**03 48 10.1**	**-0.7**
FFC			*e*PKPbc	**PKPbc**	**03 48 17.2**	**-1.0**
FFC			*e*PKPab	**PKPab**	**03 48 28.4**	**-1.5**
YKA	**Yellowknife Ar**	**155.01 334**	PKPab	**PKPab**	**03 48 37.1**	**-0.4**
YKA	**Yellowknife Ar**	**155.01 334**	PKPab	**PKPab**	**03 48 37.1**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=41,slow=4.9,SNR=4.4						

*THE **19** 03:36:07.4,33.°93N×25.°39E,h0km±3km,ML2.7/1,Error ellipse: s-maj=8.3km s-min=1.2km az=192.0*
*CSEM **19** 03:36:08.1±1.4,33.°96N×25.°36E,h2km,ML2.7/1,Error ellipse: s-maj=25.5km s-min=16.7km az=7.0*
*IDC **19** 03:36:08.1±1.4,33.°95N×25.°61E,h0km,mb3.6/4, mb1 3.5/6,mb1mx3.4/27,mbtmp3.5/6,ML3.3/2,Error ellipse: s-maj=58.1km s-min=23.1km az=142.0*
*ATH **19** 03:36:08.4,33.°88N×25.°52E,h46km,MD3.2/5*

ISC 19 03:36:06.7±2.4,33.°9N±0.°1×25.°39E±0.°06,h4km±11km,n24, σ0.°79/33,mb3.6/4,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**1.22**	**337**	P	**Pg**	**03 36 30.2**	**+0.2**
SIVA				S	**Sn**	**03 36 46.7**	**-0.7**
SIVA	**Sivas**	**1.22**	**337**	*e*P	**Pg**	**03 36 30.6**	**+0.6**
SIVA				*e*S	**Sn**	**03 36 47.0**	**-0.4**
SIVA	**Sivas**	**1.22**	**337**	P	**Pg**	**03 36 30.2**	**+0.2**
SIVA				*e*S	**Sn**	**03 36 47.0**	**-0.4**
LAST	**Lasithi**	**1.26**	**3**	P	**Pn**	**03 36 29.8**	**-1.4**
LAST				S	**Sn**	**03 36 48.4**	**-0.3**
LAST	**Lasithi**	**1.26**	**3**	*e*P	**Pn**	**03 36 30.0**	**-1.2**
LAST				*e*S	**Sn**	**03 36 47.8**	**-0.9**
LAST	**Lasithi**	**1.26**	**3**	P	**Pn**	**03 36 29.8**	**-1.4**
LAST				S	**Sn**	**03 36 48.4**	**-0.3**
ZKR	**Zakros**	**1.39**	**29**	P	**Pn**	**03 36 32.2**	**-0.7**
ZKR				S	**Sg**	**03 36 51.9**	**+0.5**
ZKR	**Zakros**	**1.39**	**29**	*e*P	**Pn**	**03 36 32.2**	**-0.7**
ZKR	**Zakros**	**1.39**	**29**	P	**Pn**	**03 36 32.2**	**-0.7**
ZKR				S	**Sg**	**03 36 51.9**	**+0.5**
IDI	**Anoyia**	**1.45**	**344**	P	**Pn**	**03 36 33.2**	**-0.5**
IDI	**Anoyia**	**1.45**	**344**	*e*P	**Pg**	**03 36 34.5**	**+0.1**
IDI	**Anoyia**	**1.45**	**344**	P	**Pn**	**03 36 33.2**	**-0.5**
VAM	**Vamos**	**1.80**	**327**	*e*P	**Pg**	**03 36 40.3**	**-0.8**
VAM	**Vamos**	**1.80**	**327**	*e*P	**Pg**	**03 36 40.3**	**-0.8**
KARP	**Karpathos**	**2.20**	**41**	P	**Pb**	**03 36 46.7**	**-0.3**
KARP				S	**Sb**	**03 37 14.9**	**+0.2**
KARP	**Karpathos**	**2.20**	**41**	P	**Pb**	**03 36 46.7**	**-0.3**
KARP				S	**Sb**	**03 37 14.9**	**+0.2**
APE	**Apeiranthos**	**3.17**	**2**	P	**Pn**	**03 36 58.4**	**+1.0**
APE	**Apeiranthos**	**3.17**	**2**	P	**Pn**	**03 36 58.4**	**+1.0**
BRTR	**Keskin Array B**	**8.80**	**46**	Pn	**Pn**	**03 38 13.8**	**-1.1**
	0.1nm,0.3s,baz=229,slow=13,SNR=3.0						
GERES	**GERESS Array B**	**17.29**	**333**	P	**P**	**03 40 11.7**	**+1.2**
	0.1nm,0.3s,baz=147,slow=13,SNR=5.2						
TORD	**Torodi Ar. Bea**	**29.84**	**232**	P	P	03 42 18.7	+3.5
	0.2nm,0.6s,baz=32,slow=8.9,SNR=5.1						
KURBB	**Kurchatov Arra**	**41.78**	**50**	P	**P**	**03 43 57.8**	**+0.7**
	0.6nm,0.6s,baz=278,slow=8.8,SNR=4.6						
MKAR	**Makanchi Array**	**44.32**	**55**	P	**P**	**03 44 18.6**	**+0.9**
	0.7nm,0.7s,baz=280,slow=7.0,SNR=5.8						
ZALV	**Zalesovo Beam**	**45.75**	**45**	P	**P**	**03 44 28.9**	**0.0**
	0.4nm,0.3s,baz=278,slow=9.9,SNR=2.8						

WEL 19 03:43:56.5±0.3,46.°21S×165.°88E,h33km,ML4.1/17,1C, Error ellipse: s-maj=3.1km s-min=2.0km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.56**	**86**	⇑PN	Pb	03 44 07.5	-0.5
PYZ				SN	Sn	03 44 16.7	+0.5
DCZ	**Deep Cove**	**1.15**	**51**	PN	Pn	03 44 16.1	-0.1
DCZ				AML	AML	03 44 31.0	
DCZ				AML	AML	03 44 31.1	
DCZ				AML	AML	03 44 31.7	
DCZ				AML	AML	03 44 31.7	
WHZ	**Wether Hill Ro**	**1.47**	**79**	PN	Pn	03 44 21.8	+1.1
WHZ				SN	Sb	03 44 41.1	-0.6
WHZ				AML	AML	03 44 42.8	
APZ	**The Paps**	**1.58**	**114**	PN	Pn	03 44 23.3	+1.0
APZ				*e*SN	Sn	03 44 42.5	+0.8
MLZ	**Mavora Lakes**	**1.82**	**63**	PN	Pn	03 44 27.0	+1.4
MLZ				*e*SN	Sn	03 44 48.4	+0.9
MLZ				AML	AML	03 44 56.1	
MSZ	**Milford Sound**	**2.10**	**44**	PN	Pn	03 44 30.6	+1.3
MSZ				AML	AML	03 45 01.9	
MSZ				AML	AML	03 45 09.4	
MSZ				AML	AML	03 45 12.2	
MSZ				AML	AML	03 45 12.3	
SYZ	**Scrubby Hill**	**2.28**	**100**	PN	Pn	03 44 33.5	+1.7
EAZ	**Earnscleugh**	**2.59**	**69**	AML	AML	03 45 14.1	
EAZ				AML	AML	03 45 14.9	
EAZ				AML	AML	03 45 15.2	
EAZ				AML	AML	03 45 17.4	
WKZ	**Wanaka**	**2.60**	**59**	AML	AML	03 45 17.3	
WKZ				AML	AML	03 45 17.3	
WKZ				AML	AML	03 45 20.5	
WKZ				AML	AML	03 45 20.5	
TUZ	**Tuapeka**	**2.62**	**86**	AML	AML	03 45 12.1	
TUZ				AML	AML	03 45 12.3	
JCZ	**Jackson Bay**	**2.95**	**45**	AML	AML	03 45 33.7	
JCZ				AML	AML	03 45 35.8	
ODZ	**Otahua Downs**	**3.54**	**73**	PN	Pn	03 44 49.9	+0.8
ODZ				AML	AML	03 45 46.9	
ODZ				AML	AML	03 45 47.4	
LBZ	**Lake Benmore**	**3.54**	**61**	AML	AML	03 45 39.1	
FOZ	**Fox Glacier**	**3.78**	**47**	AML	AML	03 46 03.2	
WVZ	**Waitaha Valley**	**4.67**	**50**	PN	Pn	03 45 05.8	+1.2
DSZ	**Denniston Nort**	**6.17**	**46**	PN	Pn	03 45 26.5	+1.1

WEL 19 03:45:39.0±0.2,45.°68S×166.°39E,h18km±1km,ML4.1/18, 2C,Error ellipse: s-maj=2.4km s-min=0.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.53**	**158**	P*	Pg	03 45 48.9	-0.8
PYZ				S*	Sg	03 45 56.2	-0.7
DCZ	**Deep Cove**	**0.57**	**70**	⇑P*	Pg	03 45 49.6	-0.7
DCZ				AML	AML	03 45 57.0	
DCZ				S*	Sg	03 45 57.2	-0.8
DCZ				AML	AML	03 45 57.4	
DCZ				AML	AML	03 45 57.6	
WHZ	**Wether Hill Ro**	**1.11**	**102**	PN	Pn	03 45 59.0	-0.7
WHZ				S*	Sb	03 46 13.3	-0.6
WHZ				AML	AML	03 46 22.0	
MLZ	**Mavora Lakes**	**1.29**	**76**	⇑PN	Pn	03 46 01.3	-1.0
MLZ				SN	Sn	03 46 17.9	-1.3
MLZ				AML	AML	03 46 29.0	
MSZ	**Milford Sound**	**1.48**	**48**	PN	Pn	03 46 04.2	-0.5
MSZ				AML	AML	03 46 34.0	
MSZ				AML	AML	03 46 34.0	
MSZ				AML	AML	03 46 35.1	
MSZ				AML	AML	03 46 35.2	
APZ	**The Paps**	**1.60**	**137**	PN	Pn	03 46 06.1	-0.5
APZ				SN	Sn	03 46 27.0	+0.1
WKZ	**Wanaka**	**2.04**	**66**	AML	AML	03 46 48.6	
WKZ				AML	AML	03 46 48.8	
WKZ				AML	AML	03 46 50.1	
WKZ				AML	AML	03 46 54.6	
SYZ	**Scrubby Hill**	**2.10**	**115**	PN	Pn	03 46 14.4	+1.2
EAZ	**Earnscleugh**	**2.10**	**79**	AML	AML	03 46 45.3	
EAZ				AML	AML	03 46 45.3	
EAZ				AML	AML	03 46 48.2	
EAZ				AML	AML	03 46 48.2	
TUZ	**Tuapeka**	**2.28**	**98**	AML	AML	03 46 48.3	
TUZ				AML	AML	03 46 49.7	
JCZ	**Jackson Bay**	**2.32**	**47**	AML	AML	03 47 00.4	
JCZ				AML	AML	03 47 03.2	
LBZ	**Lake Benmore**	**2.98**	**66**	PN	Pn	03 46 27.1	+1.7
LBZ				AML	AML	03 47 35.0	
ODZ	**Otahua Downs**	**3.06**	**80**	PN	Pn	03 46 25.6	-0.9
ODZ				AML	AML	03 47 07.7	
ODZ				AML	AML	03 47 20.2	
FOZ	**Fox Glacier**	**3.16**	**49**	AML	AML	03 47 25.9	
FOZ				AML	AML	03 47 28.2	
WVZ	**Waitaha Valley**	**4.06**	**52**	AML	AML	03 47 37.4	
OXZ	**Oxford**	**4.67**	**62**	PN	Pn	03 46 48.9	+0.3
DSZ	**Denniston Nort**	**5.55**	**47**	PN	Pn	03 47 00.8	0.0

IDC 19 04:02:29.0±2.6,22.°24S×70.°57W,h0km,mb3.4/2, mb1 3.6/3,mb1mx3.4/17,mbtmp3.4/3,ML3.4/1,Error ellipse: s-maj=67.9km s-min=45.8km az=27.0,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**6.36**	**22**	Pn	Pn	04 04 04.6	-0.2
	0.4nm,0.3s,baz=204,slow=7.0,SNR=10						
TXAR	**Lajitas Array**	**60.38**	**327**	P	P	04 12 40.2	0.0
	0.2nm,0.6s,baz=148,slow=11,SNR=4.0						
TORD	**Torodi Ar. Bea**	**79.06**	**71**	P	P	04 14 35.8	0.0
	0.2nm,0.4s,baz=250,slow=6.0,SNR=11						

IDC 19 04:05:51.8±6.0,30.°76S×179.°57W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.6/17,mbtmp3.6/2,Error ellipse: s-maj=232.3km s-min=61.1km az=156.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**41.74**	**268**	P	P	04 13 42.4	-0.5
	0.5nm,0.6s,baz=106,slow=8.2,SNR=7.2						
WRA	**Warramunga Arr**	**42.76**	**273**	P	P	04 13 51.6	+0.4
	0.5nm,0.4s,baz=114,slow=8.0,SNR=12						
FINES	**FINESS Array B**	**145.00**	**339**	PKPbc	PKPbc	04 25 28.7	-0.9
	0.9nm,0.8s,baz=20,slow=2.8,SNR=3.7						

MEX 19 04:10:23.9±0.4,18.°23N×103.°46W,h5km,MD3.7,Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.12**	**61**	*i* P	Pg	04 10 26.0	-0.4
MMIG				*e*S	Sg	04 10 28.7	+0.5
ZIIG	**Zihuatanejo**	**2.00**	**108**	*i* P	Pn	04 10 54.9	-3.5
ZIIG				*i* S	Sn	04 11 19.0	-4.7
ARIG	**Puente Sto Nin**	**2.96**	**89**	*i* P	Pn	04 11 09.0	-2.6
ARIG				*e*S	Sn	04 11 43.6	-3.9

*IDC **19** 04:13:28.8±2.8,11.°63N×85.°64W,h0km,mb3.8/7, mb1 4.1/7,mb1mx3.8/23,mbtmp3.8/7,MS3.0/1,Ms1 3.0/1, ms1mx2.6/27,Error ellipse: s-maj=60.7km s-min=52.9km az=95.0*
*ISCJB **19** 04:13:35.8±0.8,11.°3N±0.°1×86.°6W±0.°1,h54km±10km, mb3.7/7,MS2.8/1,Error ellipse: s-maj=29.9km s-min=6.1km az=41.7*
*CASC **19** 04:13:35.4±4.9,11.°22N×86.°66W,h37km±51km,MD4.0*

ISC 19 04:13:35.5±1.2,11.°2N±0.°1×86.°7W±0.°1,h37km±2km,n25, σ1.°61/28,mb3.7/7,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NY14	**Universidad de**	**1.22**	**116**	*i* P	**Pn**	**04 13 54.9**	**-1.1**
GBS2	**Las Lilas**	**1.23**	**107**	*i* P	**Pn**	**04 13 55.6**	**-0.5**
LAPC	**Finca la Perla**	**1.27**	**110**	*i* P	**Pn**	**04 13 55.4**	**-1.3**
BUEV	**Buena Vista**	**1.28**	**108**	*i* P	**Pn**	**04 13 56.6**	**-0.3**
GB1A	**Borinquen Arri**	**1.28**	**107**	*i* P	**Pn**	**04 13 56.5**	**-0.5**
GB1A				*i* S	**Sn**	**04 14 14.5**	**+1.5**
VCR	**Vista de Mar**	**1.46**	**137**	*e*P	**Pn**	**04 14 00.7**	**+1.3**
CUI	**Cuipilapa**	**1.55**	**110**	*i* P	**Pn**	**04 14 00.5**	**-0.2**
CUI				*i* S	**Sn**	**04 14 19.6**	**0.0**
PTEN	**Parque Tenorio**	**1.70**	**106**	*i* P	**Pn**	**04 14 03.9**	**+1.3**
JCR	**Jicaral**	**2.02**	**131**	*e*P	**Pn**	**04 14 04.9**	**-2.1**
CNCH	**Conchagua**	**2.37**	**331**	*e*P	**Pn**	**04 14 13.8**	**+1.9**
CNCH				*e*S	**Sn**	**04 14 37.5**	**-2.3**
CGA2	**Cerro Gallo 2**	**2.45**	**118**	*e*P	**Pn**	**04 14 15.6**	**+2.6**
CGA2				*e*S	Sn	04 14 48.4	+6.7
BLLM	**Bellamira**	**2.72**	**325**	*e*P	**Pn**	**04 14 19.0**	**+2.3**
SJS	**Escuela Geolog**	**2.84**	**116**	*e*P	**Pn**	**04 14 19.5**	**+1.0**
TGUH	**Tegucigalpa,Un**	**2.91**	**348**	*e*P	Pn	04 14 21.7	-2.5
URSC	**Urasca**	**3.13**	**115**	*e*P	**Pn**	**04 14 24.5**	**+2.1**
LFRS	**El Faro**	**3.37**	**316**	*e*P	**Pn**	**04 14 26.9**	**+1.2**
LFRS				*e*S	**Sn**	**04 15 01.7**	**-2.9**
TXAR	**Lajitas Array**	**24.04**	**321**	P	**P**	**04 18 47.2**	**-0.1**
	2.0nm,0.7s,baz=135,slow=10.0,SNR=32						
TXAR				LR	LR	04 30 54.4	
	comp=Z,34nm,19.4s,baz=180,slow=43						
TKL	**Tuckaleechee C**	**24.49**	**6**	P	P	04 18 44.2	-7.1
	3.1nm,0.9s,baz=153,slow=9.0,SNR=2.7						
ANMO	**Albuquerque**	**29.73**	**326**	P	**P**	**04 19 39.3**	**+0.7**
	0.4nm,0.3s,baz=139,slow=8.0,SNR=3.7						
PDAR	**Pinedale Array**	**37.24**	**332**	P	**P**	**04 20 43.9**	**0.0**
	0.6nm,0.6s,baz=129,slow=9.4,SNR=7.3						
NVAR	**Mina Array Bea**	**39.16**	**319**	P	**P**	**04 21 02.2**	**+2.2**
	0.6nm,0.7s,baz=140,slow=6.6,SNR=4.8						
NVAR				PcP	**PcP**	**04 23 09.0**	**-0.1**
	0.7nm,0.6s,baz=112,slow=4.3,SNR=6

THZ	**Tophouse**	**5.95**	**52**	AML	AML	04 19 43.4		
QRZ	**Quartz Range**	**6.43**	**44**	AML	AML	04 20 54.9		
QRZ				AML	AML	04 20 56.9		
MOO	**Moorlands**	**14.34**	**276**	P	**Pn**	**04 21 20.9**	**-1.5**	
	baz=14,SNR=3.2							
LHI	**Lord Howe Isla**	**15.25**	**335**	S	**Sn**	**04 24 27.6**	**+4.3**	
	baz=16,SNR=3.6							
TOO	**Toolangi**	**17.70**	**290**	P	**P**	**04 22 07.0**	**+0.2**	
	baz=18,SNR=4.6							
TORD	**Torodi Ar. Bea**	**145.21**	**206**	PKPbc	**PKPbc**	**04 37 36.7**	**-0.2**	
	2.2nm,0.7s,baz=149,slow=2.1,SNR=35							
ARCES	**ARCESS Array B**	**149.19**	**334**	PKPbc	**PKPbc**	**04 37 44.8**	**-1.8**	
	1.7nm,0.7s,baz=48,slow=3.8,SNR=3.7							
FINES	**FINESS Array B**	**152.26**	**319**	PKPbc	**PKPbc**	**04 37 53.5**	**-0.4**	
	1.5nm,0.9s,baz=101,slow=3.9,SNR=4.5							

TAP 19 04:29:23.2, 23′.29N × 120°.54E, h13 km ± 1 km, ML1.2, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWK	**Hsinying**	**0.05**	**241**	*i* P	Pg	04 29 26.1	+0.3
	baz=230						
TWK				S	Sg	04 29 27.9	+0.3
	baz=230						
CHN4	**Tsaushan**	**0.08**	**41**	*i* P	Pg	04 29 26.5	+0.5
	baz=40						
CHN4				S	Sg	04 29 28.8	+0.9
	baz=40						
WTP	**Ta-pu**	**0.08**	**123**	*i* P	Pg	04 29 26.7	+0.6
	baz=121						
WTP				*i* S	Sg	04 29 29.0	+0.9
	baz=121						
CHN1	**Nanshi**	**0.11**	**185**	P	Pb	04 29 27.0	-0.2
	baz=184						
CHN1				*e*S	Sb	04 29 29.5	-0.3
	baz=184						
STYT	**Tauyuan**	**0.24**	**122**	*e*P	Pg	04 29 28.6	+0.2
	baz=121						
CHN5	**Tsauling**	**0.33**	**23**	*e*P	Pg	04 29 29.9	-0.2
	baz=22						

*MAN **19** 04:29:31, 15°.15N × 125°.13E, h37 km, mb4.8, ML3.7, MS3.7*
*IDC **19** 04:29:35.7 ± 1.2, 14°.22N × 124°.59E, h0 km, mb3.5/5, mb1 3.7/5, mb1mx3.5/23, mbtmp3.5/5, Error ellipse: s-maj=46.2km s-min=20.3km az=68.0*

ISC 19 04:29:37.1 ± 1.2, 14°.3N ± 0°.1 × 124°.6E ± 0°.1, h10 km, n10, σ1°25/9, mb3.5/5, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUQP	**San Andres**	**2.07**	**244**	*e*P	**Sn**	**04 30 39.0**	**+1.2**
GQP	**Guinayangan**	**2.10**	**261**	‖*e*P	**Pg**	**04 30 16.5**	**-0.9**
BOAC	**Boac**	**2.77**	**254**	*e*P	**Pb**	**04 30 27.3**	**+0.5**
BOAC				*e*S	Sg	04 31 12.2	+5.9
LQP	**Lukban**	**2.95**	**268**	*e*P	**Pb**	**04 30 29.3**	**-0.7**
PALP	**Palanan**	**3.48**	**324**	‖*e*P	Pg	04 30 51.3	+7.6
KSRS	**Korea Array**	**23.29**	**7**	P	**P**	**04 34 44.5**	**-0.6**
	2.3nm,0.7s,baz=186,slow=9.2,SNR=5.4						
CMAR	**Chiang Mai Arr**	**24.94**	**283**	P	**P**	**04 34 59.9**	**-1.0**
	0.7nm,0.4s,baz=94,slow=6.7,SNR=4.3						
WRA	**Warramunga Arr**	**35.32**	**164**	P	**P**	**04 36 31.4**	**-1.2**
	0.6nm,0.9s,baz=345,slow=9.3,SNR=3.3						
ASAR	**Alice Springs**	**38.78**	**166**	P	**P**	**04 37 02.6**	**+0.6**
	0.8nm,0.7s,baz=346,slow=6.5,SNR=16						
MKAR	**Makanchi Array**	**47.88**	**321**	P	**P**	**04 38 17.3**	**+1.9**
	0.1nm,0.5s,baz=124,slow=13,SNR=3.4						

*IDC **19** 04:44:28.3 ± 1.9, 40°.73N × 122°.68E, h0 km, mb4.0/1, mb1 3.7/3, mb1mx3.3/26, mbtmp3.7/3, ML2.8/2, MS2.9/1, Ms1 2.9/1, ms1mx2.2/27, Error ellipse: s-maj=31.4km s-min=19.8km az=33.0*
*BJI **19** 04:44:29.0, 40°.69N × 122°.67E, h6 km, ML3.9/7, Ms4.3/1, Ms7 3.7/1*

ISC 19 04:44:30.5 ± 1.3, 40°.78N ± 0°.07 × 122°.7E ± 0°.1, h10 km, n6, σ2°13/7, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DL2	**Dalian**	**2.04**	**204**	Pg	**Pn**	**04 45 04.3**	**-0.6**
DL2				Sg	**Sn**	**04 45 30.9**	**+0.4**
DL2				smax	smax		
	comp=N,1μm,0.8s						
DL2				smax	smax		
	comp=E,510nm,0.8s						
CN2	**Changchun**	**3.65**	**33**	*e*Pg	**Pb**	**04 45 37.3**	**+2.3**
CN2				Sg	**Sg**	**04 46 25.5**	**-2.1**
CN2				smax	smax		
	comp=N,400nm,0.6s						
CN2				smax	smax		
	comp=E,300nm,0.6s						
KSRS	**Korea Array**	**5.25**	**128**	Pn	**Pn**	**04 45 47.3**	**-1.8**
	comp=E,0.7nm,0.3s,baz=309,slow=14,SNR=8.0						
KSRS				Pg	**Pb**	**04 46 04.6**	**+2.2**
	comp=E,2.2nm,0.3s,baz=311,slow=18,SNR=14						
KSRS				Lg	Lg	04 47 12.9	
	comp=E,24nm,0.3s,baz=310,slow=30,SNR=29						
USRK	**Ussuriysk Arra**	**7.68**	**61**	Pn	**Pn**	**04 46 21.9**	**-0.4**
	comp=E,0.7nm,0.3s,baz=251,slow=12,SNR=8.2						
USRK				Pg	Pb	04 46 48.9	+5.2
	comp=E,1.2nm,0.3s,baz=238,slow=17,SNR=6.3						
USRK				Lg	Lg	04 48 32.5	
	comp=E,3.0nm,0.3s,baz=240,slow=22,SNR=12						
ASAJ	**Asahikawa**	**15.07**	**71**	LR	LR	04 52 57.8	
	comp=E,44nm,18.5s,baz=3.2,slow=34						
FINES	**FINESS Array B**	**58.09**	**326**	P	P	04 54 23.1	-0.5
	comp=E,1.6nm,0.9s,baz=69,slow=6.3,SNR=6.3						

MEX 19 04:58:21.6 ± 1.2, 17°.46N × 94°.64W, h149 km ± 37 km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGIG		**1.61**	**115**	*i* P	Pn	04 58 51.6	-0.8
TGIG				*i* S	Sn	04 59 13.4	-2.5
HUIG	**Huatulco**	**2.19**	**220**	*i* P	Pn	04 58 56.9	-2.2
HUIG				*i* S	Sn	04 59 26.6	-1.1
CCIG	**Comitan**	**2.67**	**116**	*i* P	Pn	04 59 03.9	-1.1
CCIG				*i* S	Sn	04 59 36.2	-2.4

*CSEM **19** 05:09:23.6, 38°.73N × 21°.30E, h26 km, MD3.0, After ATH*

ATH 19 05:09:23.6, 38°.73N × 21°.30E, h26 km, MD3.0/16, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.44**	**65**	*e*PB	Pb	05 09 33.0	0.0
EVR				*e*SB	Sb	05 09 40.2	+0.8
EVR	**Evrytania**	**0.44**	**65**	*e*Pb	Pb	05 09 33.0	0.0
EVR				*e*Sb	Sb	05 09 40.2	+0.8
LKD2	**Lefkada island**	**0.51**	**277**	*e*PN	Pb	05 09 34.0	0.0
LKD2				*e*SN	Sb	05 09 41.8	+0.7
LKD2	**Lefkada island**	**0.51**	**277**	*e*Pn	Pb	05 09 34.0	0.0
LKD2				*e*Sn	Sb	05 09 41.8	+0.7
EFP	**Efpalio**	**0.56**	**122**	*e*PN	Pb	05 09 35.2	+0.3
EFP				*e*SN	Sn	05 09 44.2	-0.2
EFP	**Efpalio**	**0.56**	**122**	*e*Pn	Pb	05 09 35.2	+0.3
EFP				*e*Sn	Sn	05 09 44.2	-0.2
PSA1	**Psathopyrgos**	**0.61**	**131**	*e*PN	Pn	05 09 36.2	-0.4
PSA1				*e*SN	Sn	05 09 44.8	-0.7
RLS	**Riolos of Patr**	**0.68**	**169**	*e*PN	Pb	05 09 37.1	+0.2
RLS				*e*SN	Sn	05 09 47.4	0.0
RLS	**Riolos of Patr**	**0.68**	**169**	*e*Pn	Pb	05 09 37.1	+0.2
RLS				*e*Sn	Sn	05 09 47.4	0.0
TRIZ	**Trizonia**	**0.71**	**121**	*e*PN	Pn	05 09 38.2	+0.3
TRIZ				*e*SN	Sn	05 09 48.3	+0.4
TRIZ	**Trizonia**	**0.71**	**121**	*e*Pn	Pn	05 09 38.2	+0.3
TRIZ				*e*Sn	Sn	05 09 48.3	+0.4
LAKA	**Lakka**	**0.72**	**132**	*e*PN	Pn	05 09 38.2	0.0
LAKA				*e*SN	Sb	05 09 47.6	+0.4
LAKA	**Lakka**	**0.72**	**132**	*e*Pn	Pn	05 09 38.2	0.0
LAKA				*e*Sn	Sb	05 09 47.6	+0.4
KALE	**Kalithea**	**0.74**	**117**	*e*PN	Pn	05 09 38.3	-0.2
KALE				*e*SN	Sn	05 09 48.8	-0.2
KALE	**Kalithea**	**0.74**	**117**	*e*Pn	Pn	05 09 38.3	-0.2
KALE				*e*Sn	Sn	05 09 48.8	-0.2
VLS	**Valsamata**	**0.79**	**226**	*e*PN	Pn	05 09 39.0	0.0
VLS				*e*SN	Sn	05 09 50.6	+0.7
VLS	**Valsamata**	**0.79**	**226**	*e*Pn	Pn	05 09 39.0	0.0
VLS				*e*Sn	Sn	05 09 50.6	+0.7
AGG	**Agios Georgios**	**0.85**	**70**	*e*PN	Pn	05 09 40.3	+0.3
AGG				*e*SN	Sn	05 09 52.8	+1.0
AGG	**Agios Georgios**	**0.85**	**70**	*e*Pn	Pn	05 09 40.3	+0.3
AGG				*e*Sn	Sn	05 09 52.8	+1.0
KLV	**Kalavryta, Ach**	**0.96**	**135**	*e*PN	Pb	05 09 41.9	+0.3
KLV				*e*SN	Sn	05 09 55.6	+1.3
KLV	**Kalavryta, Ach**	**0.96**	**135**	*e*Pn	Pb	05 09 41.9	+0.3
KLV				*e*Sn	Sn	05 09 55.6	+1.3
JAN	**Janina**	**0.99**	**339**	*e*PN	Pb	05 09 42.9	+0.7
JAN				*e*SN	Sn	05 09 56.9	+1.8
JAN	**Janina**	**0.99**	**339**	*e*Pn	Pb	05 09 42.9	+0.7
JAN				*e*Sn	Sn	05 09 56.9	+1.8
THL	**Klokotos Trika**	**1.00**	**33**	*e*PN	Pb	05 09 42.9	+0.6
THL				*e*SN	Sn	05 09 56.7	+1.4
THL	**Klokotos Trika**	**1.00**	**33**	*e*Pn	Pb	05 09 42.9	+0.6
THL				*e*Sn	Sn	05 09 56.7	+1.4
GUR	**Goura**	**1.14**	**134**	*e*PN	Pb	05 09 45.2	+0.4
GUR				*e*SN	Sb	05 10 01.4	+2.1
GUR	**Goura**	**1.14**	**134**	*e*Pn	Pb	05 09 45.2	+0.4
GUR				*e*Sn	Sb	05 10 01.4	+2.1
AMT	**Artemida-Makis**	**1.24**	**165**	*e*PN	Pb	05 09 47.2	+0.8
AMT				*e*SN	Sb	05 10 04.1	+2.1
AMT	**Artemida-Makis**	**1.24**	**165**	*e*Pn	Pb	05 09 47.2	+0.8
AMT				*e*Sn	Sb	05 10 04.1	+2.1
ITM	**Ithomi**	**1.62**	**162**	*e*PN	Pb	05 09 52.8	-0.1
ITM	**Ithomi**	**1.62**	**162**	*e*Pn	Pb	05 09 52.8	-0.1
PYL	**PYLOS**	**1.86**	**169**	*e*PB	Pb	05 09 55.7	-1.3
PYL	**PYLOS**	**1.86**	**169**	*e*Pb	Pb	05 09 55.7	-1.3

TIR 19 05:10:19.9, 39°.41N × 20°.69E, h11 km, ML3.6, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRN	**Sarande**	**0.71**	**312**	*e*PG	Pg	05 10 33.3	-0.4
SRN				*i* SG	Sb	05 10 45.0	+0.9
KBN	**Korca**	**1.22**	**4**	*e*PN	Pg	05 10 44.7	+1.2
KBN				*i* SN	Sn	05 11 01.3	+1.7
TIR	**Tirane**	**2.04**	**342**	*e*PN	Pb	05 10 57.2	+0.2
TIR				*i* SN	Sg	05 11 25.6	0.0
PHP	**Peshkopia**	**2.29**	**355**	*e*PN	Pb	05 10 59.8	-1.5
PUK	**Puka**	**2.70**	**347**	*e*PN	Pn	05 11 05.0	+1.6

*DJA **19** 05:11:20.1 ± 3.3, 47°.S × 24°.16°.8E ± 2°.3, h43 km ± 23 km, M4.8/6, mB5.5/6, mb4.6/6, Mw(mB)5.0/6*
*BJI **19** 05:11:25.9, 45°.65S × 166°.39E, h10 km, mB5.4/11, mb5.5/16, Ms5.3/11, Ms7 4.9/10*
*NEIC **19** 05:11:32.8, 45°.38S × 166°.11E, h5 km, mb4.9/7, ML5.3(WEL), After WEL.*
NEIC Felt in Southland.
*ISCJB **19** 05:11:33.8 ± 1.1, 45°.38S ± 0°.03 × 166°.24E ± 0°.04, h8 km ± 7 km, mb4.9/21, MS4.9/18, Error ellipse: s-maj=5.3km s-min=4.2km az=7.9*
*WEL **19** 05:11:33.7 ± 0.4, 45°.38S × 166°.10E, h12 km, ML5.2/26, Error ellipse: s-maj=3.7km s-min=1.3km az=90.0*
WEL Felt from Otago to Southland, maximum reported intensity MM 4.
*IDC **19** 05:11:34.4 ± 0.6, 45°.40S × 166°.42E, h0 km, mb4.4/9, mb1 4.6/11, mb1mx4.5/18, mbtmp4.4/11, ML4.4/2, MS4.8/11, Ms1 4.8/11, ms1mx4.7/18, Error ellipse: s-maj=18.9km s-min=16.9km az=69.0*
*AUST **19** 05:11:36.3 ± 0.7, 45°.50S × 166°.35E, h0 km, Error ellipse: s-maj=1.2km s-min=0.7km az=12.0*
*GCMT **19** 05:11:39.9 ± 0.1, 45°.44S × 166°.02E, h12 km, MW5.4, Moment Tensor Solution. s84,c126; s97,c172; Moment tensor: Scale 10^{17}Nm; M_{rr} 1.13±.02; $M_{\theta\theta}$ -0.05±.02; $M_{\phi\phi}$ -1.08±.02; $M_{r\theta}$ 0.00±.05; $M_{\theta\phi}$ -0.37±.02; $M_{\phi r}$ -1.41±.04; Best double couple: $M_0$1.80000×10^{17} NP1:ϕ_s31.00000°, δ22.00000°, λ116.00000°. NP2:ϕ_s184.00000°, δ71.00000°, λ80.00000°. Principal axes: T 1.8300, Plg63.0000°, Azm79.0000°; N 0.0000, Plg9.0000°, Azm187.0000°; P -1.8300, Plg25.0000°, Azm282.0000°; Data Used: II IU IC G CN.*

ISC 19 05:11:36.3 ± 1.0, 45°.42S ± 0°.04 × 166°.33E ± 0°.04, h15 km ± 5 km, n151, σ1°78/150, mb4.8/21, MS4.9/19, 1C-1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.58**	**96**	Pn	**Pg**	**05 11 47.2**	**-0.5**
DCZ	**Deep Cove**	**0.58**	**96**	P*	**Pg**	**05 11 47.1**	**-0.5**
DCZ				*e*S*	**Sn**	**05 11 58.1**	**-1.1**
DCZ				AML	AML	05 12 03.9	
DCZ				AML	AML	05 12 04.6	
DCZ				AML	AML	05 12 04.6	
PYZ	**Puysegur Point**	**0.79**	**162**	P*	**Pg**	**05 11 50.3**	**-1.3**
PYZ	**Puysegur Point**	**0.79**	**162**	P*	**Pg**	**05 11 50.1**	**-1.5**
PYZ				*e*S*	**Sb**	**05 12 02.2**	**0.0**
WHZ	**Wether Hill Ro**	**1.23**	**113**	*e*Pn	**Pn**	**05 11 58.7**	**-0.2**
WHZ				Sn	Sg	05 12 21.8	+5.9
WHZ	**Wether Hill Ro**	**1.23**	**113**	PN	**Pn**	**05 11 57.9**	**-1.0**
WHZ				AML	AML	05 12 23.0	
WHZ				AML	AML	05 12 24.9	
MLZ	**Mavora Lakes**	**1.30**	**87**	Pn	**Pn**	**05 11 58.6**	**-1.3**
MLZ	**Mavora Lakes**	**1.30**	**87**	‖PN	**Pn**	**05 11 58.6**	**-1.3**
MLZ				*e*SN	**Sg**	**05 12 17.9**	**-0.2**
MLZ				AML	AML	05 12 25.8	
MSZ	**Milford Sound**	**1.35**	**57**	Pn	**Pn**	**05 11 59.6**	**-1.0**
MSZ	**Milford Sound**	**1.35**	**57**	PN	**Pn**	**05 11 59.7**	**-1.0**
MSZ				AML	AML	05 12 30.8	
MSZ				AML	AML	05 12 37.0	
MSZ				AML	AML	05 12 38.8	
MSZ				AML	AML	05 12 38.8	
APZ	**The Paps**	**1.82**	**141**	Pn	**Pn**	**05 12 07.1**	**0.0**
APZ				Sn	**Sb**	**05 12 31.8**	**-0.3**
APZ	**The Paps**	**1.82**	**141**	*e*PN	**Pn**	**05 12 07.1**	**0.0**
APZ				*e*SN	**Sn**	**05 12 30.2**	**+0.2**
APZ				*e*SN	**Sb**	**05 12 32.2**	**+0.2**
WKZ	**Wanaka**	**1.99**	**74**	Pn	**Pb**	**05 12 11.1**	**-1.1**
WKZ	**Wanaka**	**1.99**	**74**	PN	**Pn**	**05 12 09.2**	**-0.2**
WKZ				AML	AML	05 12 55.3	
WKZ				AML	AML	05 12 55.3	
WKZ				AML	AML	05 13 09.7	
WKZ				AML	AML	05 13 09.7	
EAZ	**Earnscleugh**	**2.11**	**86**	Pn	**Pn**	**05 12 12.2**	**+1.2**
EAZ	**Earnscleugh**	**2.11**	**86**	AML	AML	05 12 48.3	
EAZ				AML	AML	05 12 48.3	
EAZ				AML	AML	05 12 54.7	
EAZ				AML	AML	05 12 54.7	
JCZ	**Jackson Bay**	**2.19**	**53**	Pn	**Pn**	**05 12 11.3**	**-1.0**
JCZ	**Jackson Bay**	**2.19**	**53**	PN	**Pn**	**05 12 11.6**	**-0.7**
JCZ				AML	AML	05 12 58.9	
JCZ				AML	AML	05 13 06.5	
SYZ	**Scrubby Hill**	**2.25**	**121**	Pn	**Pn**	**05 12 13.7**	**+0.7**
SYZ	**Scrubby Hill**	**2.25**	**121**	PN	**Pn**	**05 12 13.5**	**+0.5**
TUZ	**Tuapeka**	**2.37**	**104**	Pn	**Pn**	**05 12 16.3**	**+1.7**
TUZ	**Tuapeka**	**2.37**	**104**	AML	AML	05 12 57.7	
TUZ				AML	AML	05 12 58.9	
LBZ	**Lake Benmore**	**2.92**	**71**	Pn	**Pn**	**05 12 22.5**	**+0.2**
LBZ	**Lake Benmore**	**2.92**	**71**	PN	**Pn**	**05 12 22.5**	**+0.2**
LBZ				AML	AML	05 13 02.7	
LBZ				AML	AML	05 13 03.0	
LBZ				AML	AML	05 13 29.7	
LBZ				AML	AML	05 13 35.1	
HHSZ	**Highcliff Hill**	**3.03**	**100**	PN	**Pn**	**05 12 23.2**	**-0.5**
FOZ	**Fox Glacier**	**3.03**	**54**	Pn	**Pn**	**05 12 24.6**	**+0.9**
FOZ	**Fox Glacier**	**3.03**	**54**	PN	**Pn**	**05 12 24.3**	**+0.6**
FOZ				AML	AML	05 13 19.5	
FOZ				AML	AML	05 13 22.4	
FOZ				AML	AML	05 13 31.4	
FOZ				AML	AML	05 13 37.0	
ODZ	**Otahua Downs**	**3.07**	**85**	Pn	**Pn**	**05 12 24.5**	**+0.3**
ODZ	**Otahua Downs**	**3.07**	**85**	PN	**Pn**	**05 12 24.3**	**+0.1**
ODZ				AML	AML	05 13 04.8	
ODZ				AML	AML	05 13 08.3	
ODZ				AML	AML	05 13 27.4	
ODZ				AML	AML	05 13 39.4	
RPZ	**Rata Peaks**	**3.78**	**65**	Pn	**Pn**	**05 12 33.5**	**-0.5**
RPZ				Sn	**Sn**	**05 13 20.1**	**+1.8**
RPZ	**Rata Peaks**	**3.78**	**65**	Pn	**Pn**	**05 12 33.4**	**-0.5**
	87nm,0.3s,baz=220,slow=5.4,SNR=38						
RPZ				Sn	**Sn**	**05 13 20.1**	**+1.8**
	46nm,0.3s,baz=195,slow=20,SNR=3.6						
RPZ	**Rata Peaks**	**3.78**	**65**	PN	**Pn**	**05 12 33.5**	**-0.5**
RPZ				AML	AML	05 13 31.8	
RPZ				AML	AML	05 13 34.6	
WVZ	**Waitaha Valley**	**3.94**	**55**	PN	**Pn**	**05 12 35.6**	**-0.5**
WVZ				AML	AML	05 13 55.0	
WVZ				AML	AML	05 13 59.1	
MQZ	**McQueen's Vall**	**4.83**	**71**	Pn	**Pn**	**05 12 48.5**	**+0.1**
MQZ	**McQueen's Vall**	**4.83**	**71**	PN	**Pn**	**05 12 47.6**	**-0.8**
MQZ				AML	AML	05 13 48.3	
MQZ				AML	AML	05 14 02.6	
DSZ	**Denniston Nort**	**5.41**	**49**	Pn	**Pn**	**05 12 54.7**	**-1.8**
DSZ	**Denniston Nort**	**5.41**	**49**	PN	**Pn**	**05 12 54.5**	**-1.9**
KHZ	**Kahutara**	**6.01**	**63**	*e*Pn	**Pn**	**05 13 07.2**	**+2.6**
THZ	**Tophouse**	**6.01**	**55**	AML	AML	05 14 25.2	
THZ				AML	AML	05 14 27.1	
QRZ	**Quartz Range**	**6.45**	**47**	Pn	**Pn**	**05 13 09.9**	**-0.8**
QRZ	**Quartz Range**	**6.45**	**47**	AML	AML	05 15 02.2	
QRZ				AML	AML	05 15 12.9	
NNZ	**Nelson**	**6.64**	**53**	Pn	**Pn**	**05 13 14.2**	**+0.9**
NNZ	**Nelson**	**6.64**	**53**	AML	AML	05 15 47.3	
NNZ				AML	AML	05 16 14.6	
TUWZ	**Tuamarina**	**6.83**	**57**	Pn	**Pn**	**05 13 17.5**	**+1.7**
TUWZ	**Tuamarina**	**6.83**	**57**	AML	AML	05 14 54.5	
TUWZ				AML	AML	05 14 55.0	
TCW	**Tory Channel**	**7.16**	**57**	Pn	Pn	05 13 23.5	+3.1
TCW	**Tory Channel**	**7.16**	**57**	AML	AML	05 14 59.5	
TCW				AML	AML	05 15 00.9	
DUWZ	**D'Urville Isla**	**7.22**	**53**	Pn	**Pn**	**05 13 21.5**	**+0.2**
DUWZ	**D'Urville Isla**	**7.22**	**53**	AML	AML	05 15 00.2	
DUWZ				AML	AML	05 15 09.2	
SNZO	**South Karori**	**7.35**	**59**	Pn	**Pn**	**05 13 23.2**	**+0.2**
SNZO				*e*Sn	**Sn**	**05 14 51.3**	**+5.1**
BHHZ	**Black Hill Sta**	**9.31**	**54**	Pn	Pn	05 13 58.8	+8.8
URZ	**Urewera**	**10.76**	**52**	*e*Pn	**Pn**	**05 14 09.2**	**-0.5**
URZ				*e*Sn	Sn	05 16 16.3	+6.5
URZ	**Urewera**	**10.76**	**52**	Pn	**Pn**	**05 14 09.2**	**-0.5**
	1.1nm,0.3s,baz=216,slow=7.0,SNR=5.2						
OUZ	**Omahuta**	**11.59**	**31**	*e*Pn	**Pn**	**05 14 23.2**	**+2.1**
OUZ				*e*Sn	**Sn**	**05 16 27.1**	**-3.1**
TAU	**Tasmania Unive**	**13.88**	**274**	*e*Pn	Pn	05 14 46.2	-6.1
TAU				*e*Sn	Sn	05 17 14.0	-12
MOO	**Moorlands**	**14.11**	**275**	P	**Pn**	**05 14 54.3**	**-1.3**
	baz=14,SNR=7.9						
CNB	**Canberra Magne**	**16.37**	**302**	P	**P**	**05 15 31.3**	**+2.9**
	baz=16,SNR=7.9						
CAN	**Canberra**	**16.59**	**301**	*e*Pn	**Pn**	**05 15 24.4**	**-3.9**
	174nm,1.6s						
CAN				*e*Sn	**Sn**	**05 18 29.7**	**-2.5**
TOO	**Toolangi**	**17.44**	**289**	P	**P**	**05 15 40.8**	**+0.6**
	baz=17,SNR=12						
YNG	**Young**	**17.65**	**303**	P	**P**	**05 15 44.1**	**+1.7**
	baz=18,SNR=6.6						
ARMA	**Armidale**	**18.90**	**317**	*e*P	**Pn**	**05 15 57.4**	**+0.4**
	48nm,1.4s						
ARMA				*e*Sn	**S**	**05 19 35.9**	**+5.2**
ARMA	**Armidale**	**18.90**	**317**	P	**Pn**	**05 15 59.2**	**+2.2**
	baz=19,SNR=4.3						
CMSA	**Cobar Meteorol**	**21.21**	**304**	P	**P**	**05 16 21.9**	**+0.5**
	baz=21,SNR=10						
DZM	**Mont Dzumac**	**23.29**	**0**	P	**P**	**05 16 45.4**	**+1.8**
DZM	**Mont Dzumac**	**23.29**	**0**	P	**P**	**05 16 45.4**	**+1.8**
	12nm,1.1s,baz=89,slow=24,SNR=3.5						
STKA	**Stephens Creek**	**23.47**	**297**	P	**P**	**05 16 47.0**	**+1.8**
STKA	**Stephens Creek**	**23.47**	**297**	P	**P**	**05 16 47.0**	**+1.8**
	9.0nm,1.0s,baz=137,slow=10,SNR=4.1						
STKA					LR	05 24 13.2	
	comp=Z,4μm,18.8s,baz=128,slow=32						
STKA	**Stephens Creek**	**23.47**	**297**	P	P	05 16 51.4	+6.2
	baz=24,SNR=5.8						
EIDS	**Eidsvold**	**23.48**	**323**	*e*P	**P**	**05 16 47.0**	**+1.6**
	85nm,1.3s						
EIDS				*e*Sn	**S**	**05 21 03.0**	**+4.6**
EIDS	**Eidsvold**	**23.48**	**323**	P	**P**	**05 16 47.4**	**+2.1**
	baz=24,SNR=4.7						
RMQ	**Roma**	**23.56**	**317**	P	**P**	**05 16 48.0**	**+1.8**
	baz=24,SNR=4.6						
CTAO	**Charters Tower**	**30.22**	**320**	P	**P**	**05 17 44.0**	**-2.3**
	20nm,1.3s						
VNDA	**Vanda**	**32.26**	**182**	P	**P**	**05 18 05.0**	**+1.3**
VNDA	**Vanda**	**32.26**	**182**	P	**P**	**05 18 05.0**	**+1.3**
	1.5nm,1.1s,baz=1.5,slow=10,SNR=4.7						
VNDA					LR	05 28 31.2	
	comp=Z,2μm,19.8s,baz=20,slow=32						
ASAR	**Alice Springs**	**34.06**	**299**	P	**P**	**05 18 21.1**	**+1.1**
ASAR	**Alice Springs**	**34.06**	**299**	P	**P**	**05 18 21.1**	**+1.1**
	4.0nm,0.9s,baz=134,slow=7.9,SNR=17						
ASAR					LR	05 31 54.7	
	comp=Z,2μm,19.8s,baz=133,slow=36						
WRA	**Warramunga Arr**	**36.62**	**303**	P	**P**	**05 18 41.6**	**-0.5**
WRA	**Warramunga Arr**	**36.62**	**303**	P	**P**	**05 18 41.6**	**-0.5**
	7.5nm,0.9s,baz=135,slow=7.5,SNR=18						
WRA					LR	05 33 13.9	
	comp=Z,2μm,18.5s,baz=145,slow=36						
WRAB	**Tennant Creek**	**36.62**	**303**	*e*P	**P**	**05 18 41.6**	**-0.4**
	16nm,0.9s						
TBI	**Tubuai**	**41.95**	**73**	*e*S	**S**	**05 25 43.8**	**-0.7**
	801nm,31.2s						
TBI				*e*LR	LR	05 31 01.7	
	2μm,35.0s,baz=209			

GYA	**Guiyang**	**89.76**	**309**	*e*P	P	05 24 27.0	-7.1
GYA				pP	**PcP**	**05 24 33.6**	**-1.8**
GYA				PP	PP	05 28 01.0	-5.8
GYA				SKS	SKSac	05 34 54.3	-10
GYA				S	**SKKSac**	**05 35 14.3**	**-2.7**
GYA				SS	SS	05 41 14.8	-8.3
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,110nm,5.2s						
GYA				LR	LR		
	comp=N,470nm,19.2s						
GYA				LR	LR		
	comp=E,390nm,20.0s						
GYA				LR	LR		
	comp=Z,440nm,19.5s						
KMI	**Kunming**	**90.91**	**306**	P	P	05 24 33.1	-6.5
KMI				pP	**PcP**	**05 24 38.5**	**-2.1**
KMI				sP	sP	05 24 40.6	-5.6
KMI				PP	PP	05 28 10.6	-5.5
KMI				SKS	SKSac	05 35 02.1	-9.0
KMI				S	**SKKSac**	**05 35 23.8**	**-2.1**
KMI				sS	**S**	**05 35 34.8**	**-1.5**
KMI				SS	SS	05 41 30.9	-9.1
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KMI				LR	LR		
	comp=N,390nm,16.7s						
KMI				LR	LR		
	comp=E,390nm,14.1s						
KMI				LR	LR		
	comp=Z,410nm,22.9s						
CD2	**Chengdu**	**94.82**	**310**	*e*P	P	05 24 49.4	-7.9
CD2				pP	**PcP**	**05 24 55.3**	**-2.4**
CD2				sP	sP	05 24 57.8	-6.2
CD2				PP	PP	05 28 40.6	-6.0
CD2				SKS	SKSac	05 35 23.1	-9.1
CD2				S	**SKKSac**	**05 35 59.0**	**+4.7**
CD2				SS	SS	05 42 26.1	-10
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,40nm,6.2s						
CD2				LR	LR		
	comp=E,120nm,18.2s						
CD2				LR	LR		
	comp=Z,140nm,16.8s						
MDJ	**Mudanjiang**	**95.38**	**335**	P	P	05 24 54.9	-4.6
MDJ				S	**S**	**05 36 11.3**	**-3.3**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,210nm,4.2s						
MDJ				LR	LR		
	comp=N,510nm,21.3s						
MDJ				LR	LR		
	comp=E,570nm,27.1s						
MDJ				LR	LR		
	comp=Z,470nm,25.2s						
CN2	**Changchun**	**95.98**	**332**	*e*P	P	05 24 57.8	-4.4
BJI	**Beijing**	**96.23**	**324**	P	P	05 24 58.1	-5.3
BJI				PP	PP	05 28 51.3	-6.0
BJI				S	**S**	**05 36 21.8**	**-0.3**
BJI				SS	**SS**	**05 42 50.5**	**-4.8**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BJI				pmax	pmax		
	comp=Z,110nm,3.7s						
BJI				LR	LR		
	comp=N,650nm,20.2s						
BJI				LR	LR		
	comp=E,940nm,18.8s						
BJI				LR	LR		
	comp=Z,640nm,20.0s						
BOSA	**Boshof**	**98.25**	**214**	LR	LR	06 06 06.3	
	comp=Z,394nm,18.6s,baz=162,slow=33						
CPUP	**Villa Florida**	**98.28**	**141**	LR	LR	06 04 51.0	
	comp=Z,384nm,18.6s,baz=190,slow=32						
PETK	**Petropavlovsk-**	**98.43**	**355**	LR	LR	06 02 33.2	
	comp=Z,322nm,21.4s,baz=80,slow=31						
LZH	**Lanzhou**	**98.79**	**313**	*e*P	P	05 25 08.6	-6.7
LZH				pP	Pdif	05 25 13.4	-1.9
LZH				sP	sP	05 25 15.8	-6.2
LZH				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC	**Hu-ho-hao-te**	**98.88**	**321**	*e*P	P	05 25 07.6	-7.9
HHC				pP	**PcP**	**05 25 12.4**	**-3.1**
HHC				sP	sP	05 25 14.8	-7.4
HHC				PP	PP	05 29 11.0	-6.8
HHC				S	SKKSac	05 36 33.4	+10
HHC				SS	SS	05 43 23.8	-9.1
HHC				pmax	pmax		
	comp=Z,38nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,5.2s						
HHC				LR	LR		
	comp=N,510nm,17.1s						
HHC				LR	LR		
	comp=E,410nm,18.0s						
HHC				LR	LR		
	comp=Z,360nm,17.7s						
GTA	**Gaotai**	**103.39**	**313**	*e*P	**Pdif**	**05 25 32.9**	**-2.7**
GTA				pP		05 25 37.8	
GTA				sP		05 25 39.9	
LPM	**Los Pinos Moun**	**111.60**	**63**	*e*PKPdf	PKiKP	05 30 03.0	-7.1
WMQ	**Urumqi**	**112.92**	**310**	PKP	PKiKP	05 30 04.4	-7.7
ILAR	**Eielson Array**	**115.77**	**20**	PKP	**PKPdf**	**05 30 16.6**	**-0.2**
ILAR	**Eielson Array**	**115.77**	**20**	PKP	**PKPdf**	**05 30 16.6**	**-0.2**
	comp=Z,1.8nm,1.0s,baz=273,slow=3.3,SNR=7.0						
KSH	**Kashi**	**116.96**	**300**	*e*PKPbc	**PKPdf**	**05 30 20.9**	**+0.8**
KSH				PP	**PP**	**05 31 32.1**	**+2.0**
KSH				PKS	**PKSdf**	**05 33 56.3**	**-0.6**
KSH				SKS	**SKSdf**	**05 37 31.8**	**+0.2**
KSH				SKKS	**SKKSac**	**05 38 25.8**	**-3.9**
KSH				AMB	AMB		
	comp=Z,42nm,4.6s						
KSH				LR	LR		
	comp=N,120nm,7.3s						
KSH				LR	LR		
	comp=E,150nm,5.5s						
KSH				LR	LR		
	comp=Z,150nm,7.9s						
MKAR	**Makanchi Array**	**117.75**	**309**	PKP	**PKPdf**	**05 30 23.4**	**+2.2**
MKAR	**Makanchi Array**	**117.75**	**309**	PKP	**PKPdf**	**05 30 23.4**	**+2.2**
	comp=Z,0.4nm,0.8s,baz=96,slow=1.4,SNR=5.0						
YKA	**Yellowknife Ar**	**124.52**	**34**	PKP	**PKPdf**	**05 30 32.9**	**-0.9**
YKA	**Yellowknife Ar**	**124.52**	**34**	PKP	**PKPdf**	**05 30 32.8**	**-0.9**
	comp=Z,1.8nm,1.0s,baz=226,slow=1.8,SNR=6.2						
WCI	**Wyandotte Cave**	**127.09**	**70**	*e*PKPdf	**PKPdf**	**05 30 38.3**	**-1.1**
BRTR	**Keskin Array B**	**145.11**	**278**	PKPbc	**PKPdf**	**05 31 12.8**	**-0.1**
BRTR	**Keskin Array B**	**145.11**	**278**	PKPbc	**PKPdf**	**05 31 12.8**	**-0.1**
	comp=Z,3.6nm,1.0s,baz=131,slow=3.8,SNR=16						
TORD	**Torodi Ar. Bea**	**145.29**	**207**	PKPbc	**PKPbc**	**05 31 12.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**145.29**	**207**	PKPbc	**PKPbc**	**05 31 12.9**	**-0.5**
	comp=Z,10nm,0.6s,baz=153,slow=1.8,SNR=39						
SCHQ	**Schefferville**	**145.42**	**55**	PKPbc	**PKPdf**	**05 31 12.3**	**-0.4**
SCHQ	**Schefferville**	**145.42**	**55**	PKPbc	**PKPdf**	**05 31 12.3**	**-0.4**
	comp=Z,11nm,1.0s,baz=289,slow=1.4,SNR=5.7						
KEV	**Kevo**	**148.37**	**334**	*ep*	**PKPbc**	**05 31 20.6**	**-0.1**
	comp=Z,0.6nm,0.4s						
ARCES	**ARCESS Array B**	**148.94**	**334**	PKPbc	**PKPbc**	**05 31 22.1**	**-0.1**
ARCES	**ARCESS Array B**	**148.94**	**334**	PKPbc	**PKPbc**	**05 31 22.1**	**-0.1**
	comp=Z,13nm,0.8s,baz=104,slow=2.5,SNR=18						
SUMG	**Summit**	**150.41**	**15**	*e*PKPdf	**PKPdf**	**05 31 21.2**	**+0.2**
SUMG	**Summit**	**150.41**	**15**	*i* P	**PKPdf**	**05 31 21.4**	**+0.5**
TIRR	**Tirgusor**	**150.44**	**283**	*e*PKPbc	**PKPbc**	**05 31 27.6**	**+1.0**
KIEV	**Kiev**	**151.17**	**296**	*e*PKPbc	**PKPbc**	**05 31 28.7**	**+0.6**
KIEV				*e*PKPab	**PKPab**	**05 31 35.9**	**-0.1**
KAF	**Kangasniemi**	**151.68**	**320**	*ep*	**PKPbc**	**05 31 26.6**	**-2.3**
	comp=Z,0.8nm,0.4s						
FIA1	**FINESS Array S**	**151.98**	**319**	*e*PKPab	**PKPbc**	**05 31 30.6**	**+1.0**
FINES	**FINESS Array B**	**151.98**	**319**	PKPbc	**PKPbc**	**05 31 29.9**	**+0.3**
FINES	**FINESS Array B**	**151.98**	**319**	PKPbc	**PKPbc**	**05 31 29.9**	**+0.3**
	comp=Z,5.4nm,0.9s,baz=103,slow=3.3,SNR=13						
TAM	**Tamanrasset**	**152.53**	**221**	*e*PKPbc	**PKPbc**	**05 31 33.3**	**+1.0**
TAM				*e*PKPab	**PKPab**	**05 31 42.5**	**-0.2**
KOLS	**Kolonicke sedl**	**155.46**	**291**	*e*PKP	**PKPdf**	**05 31 32.1**	**+3.6**
KOLS				*e*		05 31 40.0	
STHS	**Stebnicka Huta**	**156.18**	**292**	*e*PKP	**PKPdf**	**05 31 34.2**	**+4.8**
STHS				*e*		05 31 59.1	
KECS	**Kecovo**	**156.60**	**290**	*e*PKP	**PKPab**	**05 32 02.5**	**+3.3**
BRG	**Berggiesshubel**	**160.85**	**296**	*e*PKP	PKPdf	05 31 48.7	+14
	comp=Z,9.0nm,1.4s						
CLL	**Collm**	**161.38**	**298**	*e*PKPdf	**PKPdf**	**05 31 36.0**	**+0.5**
CLL				*e*PP	PP	05 36 12.0	+8.2
CLL				*e*SKKSac	SKKSac	05 42 50.0	-0.8
CLL				*e*		05 43 38.0	
CLL				*e*PSKS		05 46 24.0	
CLL				*e*PPS	PPS	05 49 42.0	
CLL				*e*		05 51 00.0	
CLL				*e*SS	SS	05 56 36.0	+16
CLL				*e*PSS	PSS	05 57 18.0	
CLL				*e*SSS	SSS	06 02 36.0	
CLL				*e*		06 06 04.0	
CLL				*e*SSSS		06 06 47.0	
CLL				Lm	MLR	07 00 00.0	
	comp=Z,300nm,18.5s						
ESDC	**Sonseca Array**	**170.82**	**235**	PKPab	**PKPab**	**05 33 01.3**	**-0.6**
ESDC	**Sonseca Array**	**170.82**	**235**	PKPab	**PKPab**	**05 33 01.3**	**-0.6**
	comp=Z,1.0nm,0.9s,baz=133,slow=4.3,SNR=6.4						

ISCJB ***19*** *05:29:56.8±0.9, 33°.49N±0°.04×140°.82E±0°.09, h71km±9km, mb3.9/3, Error ellipse: s-maj=11.9km s-min=6.4km az=3.5*
JMA ***19*** *05:29:57.3±0.1, 33°.54N×140°.84E, h56km±5km, M3.4*
IDC ***19*** *05:30:09.2±2.9, 34°.73N×139°.86E, h251km±25km, mb3.3/3, mb1 3.5/4, mb1mx3.0/25, mbtmp3.2/4, Error ellipse: s-maj=122.3km s-min=25.2km az=63.0*

ISC 19 05:29:57.6±1.5, 33°.49N±0°.05×140°.85E±0°.09, h57km±16km, n17, σ0s84/27, mb3.9/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.94**	**247**	P	**Pn**	**05 30 15.0**	**+0.3**
JHJ2				S	**Sn**	**05 30 27.9**	**+0.5**
JHCJ	**Hachijojimakas**	**0.97**	**245**	P	**Pn**	**05 30 15.2**	**+0.1**
JHCJ				S	**Sn**	**05 30 28.0**	**-0.1**
BSO1	**Boso 1**	**1.17**	**5**	P	**Pn**	**05 30 17.0**	**-0.2**
JMY	**Miyakejima3**	**1.26**	**298**	P	**Pn**	**05 30 18.5**	**-0.4**
BSO3	**Boso 3**	**1.34**	**348**	P	**Pn**	**05 30 19.6**	**-0.2**
BSO3				*e*S	**Sn**	**05 30 37.1**	**+0.7**
BSO4	**Boso 4**	**1.56**	**344**	P	**Pn**	**05 30 23.1**	**+0.3**
BSO4				S	**Sn**	**05 30 42.9**	**+1.0**
JKO	**Kozu shima**	**1.59**	**297**	P	**Pn**	**05 30 23.4**	**+0.1**
JKO				*e*S	**Sn**	**05 30 42.7**	**-0.1**
JIM2	**Oshima 3**	**1.70**	**317**	P	**Pn**	**05 30 24.5**	**-0.4**
JIM2				S	**Sn**	**05 30 44.2**	**-1.4**
JIZS	**Izushimoda**	**2.04**	**307**	P	**Pn**	**05 30 30.0**	**+0.4**
JIZS				S	**Sn**	**05 30 53.7**	**-0.2**
KTJJ	**Kamata 2**	**2.06**	**315**	P	**Pn**	**05 30 29.7**	**-0.1**
KTJJ				S	**Sn**	**05 30 53.0**	**-1.3**
JOD2	**Odawara 2**	**2.29**	**321**	P	**Pn**	**05 30 32.9**	**-0.1**
JOD2				S	**Sn**	**05 30 58.4**	**-1.7**
TK02	**Tokai 2**	**2.62**	**281**	P	**Pn**	**05 30 38.4**	**+1.2**
MJAR	**Matsushiro Arr**	**3.74**	**325**	P	**Pn**	**05 30 53.8**	**+1.1**
	3.1nm,0.3s,baz=146,slow=11,SNR=19						
MJAR				S	**Sn**	**05 31 36.3**	**+0.8**
	1.9nm,0.3s,baz=73,slow=22,SNR=5.3						
MAT	**Matsushiro**	**3.74**	**325**	P	**Pn**	**05 30 54.3**	**+1.5**
MAT				S	**Sn**	**05 31 36.8**	**+1.2**
MKAR	**Makanchi Array**	**45.69**	**305**	P	P	05 37 54.0	-19
	0.3nm,0.6s,baz=94,slow=8.5,SNR=4.6						
WRA	**Warramunga Arr**	**53.49**	**188**	P	**P**	**05 39 11.9**	**-0.3**
	3.8nm,0.5s,baz=5.6,slow=7.5,SNR=41						
ASAR	**Alice Springs**	**57.22**	**188**	P	**P**	**05 39 38.5**	**-0.5**
	0.4nm,0.4s,baz=5.6,slow=6.9,SNR=15						

WEL 19 05:52:47.4±0.2, 45°.41S×166°.71E, h21km±1km, ML4.1/19, Error ellipse: s-maj=1.9km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.32**	**102**	P*	Pb	05 52 54.4	+0.1
DCZ				S*	Sb	05 52 58.6	-0.5
DCZ				AML	AML	05 52 59.1	
DCZ				AML	AML	05 52 59.2	
DCZ				AML	AML	05 52 59.2	
PYZ	**Puysegur Point**	**0.76**	**182**	P*	Pb	05 53 00.9	-0.9
PYZ				S*	Sb	05 53 09.5	-2.2
WHZ	**Wether Hill Ro**	**0.99**	**120**	*e*P*	Pb	05 53 05.7	-0.1
WHZ				S*	Sb	05 53 18.8	+0.3
WHZ				AML	AML	05 53 20.3	
MLZ	**Mavora Lakes**	**1.03**	**87**	P*	Pb	05 53 05.5	-1.1
MLZ				S*	Sb	05 53 18.6	-1.1
MLZ				AML	AML	05 53 19.3	
MSZ	**Milford Sound**	**1.14**	**50**	AML	AML	05 53 25.6	
MSZ				AML	AML	05 53 25.7	
MSZ				AML	AML	05 53 25.7	
MSZ				AML	AML	05 53 25.7	
WKZ	**Wanaka**	**1.73**	**71**	*e*PN	Pn	05 53 16.4	0.0
WKZ				AML	AML	05 53 47.1	
WKZ				AML	AML	05 53 48.6	
WKZ				AML	AML	05 53 48.6	
WKZ				AML	AML	05 53 50.7	
EAZ	**Earnscleugh**	**1.84**	**85**	PN	Pn	05 53 18.6	+0.9
EAZ				AML	AML	05 53 43.6	
EAZ				AML	AML	05 53 48.2	
EAZ				AML	AML	05 53 48.2	
EAZ				AML	AML	05 53 48.6	
JCZ	**Jackson Bay**	**1.98**	**48**	PN	Pn	05 53 21.2	+1.3
JCZ				AML	AML	05 53 52.8	
JCZ				AML	AML	05 53 55.2	
TUZ	**Tuapeka**	**2.12**	**106**	AML	AML	05 53 56.7	
TUZ				AML	AML	05 54 00.3	
LBZ	**Lake Benmore**	**2.67**	**69**	AML	AML	05 54 10.7	
LBZ				AML	AML	05 54 17.4	
ODZ	**Otahua Downs**	**2.80**	**84**	PN	Pn	05 53 31.2	+0.2
ODZ				AML	AML	05 54 10.3	
ODZ				AML	AML	05 54 12.9	
ODZ				AML	AML	05 54 12.9	
ODZ				AML	AML	05 54 13.6	
FOZ	**Fox Glacier**	**2.82**	**50**	PN	Pn	05 53 33.6	+2.4
FOZ				AML	AML	05 54 22.3	
FOZ				AML	AML	05 54 22.9	
RPZ	**Rata Peaks**	**3.54**	**63**	AML	AML	05 54 32.2	
RPZ				AML	AML	05 54 33.6	
WVZ	**Waitaha Valley**	**3.72**	**52**	PN	Pn	05 53 44.1	+0.5
WVZ				AML	AML	05 54 47.3	
OXZ	**Oxford**	**4.35**	**63**	PN	Pn	05 53 53.8	+1.5
DSZ	**Denniston Nort**	**5.21**	**47**	PN	Pn	05 54 04.3	+0.2
THZ	**Tophouse**	**5.79**	**53**	PN	Pn	05 54 12.7	+0.5
THZ				AML	AML	05 55 24.6	

WEL 19 05:54:31.9±0.4, 46°.14S×166°.09E, h30km±1km, ML3.8/15, 3C, Error ellipse: s-maj=4.3km s-min=2.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.41**	**95**	⇑P*	Pb	05 54 40.8	-0.2
PYZ				*e*S*	Sb	05 54 46.5	-0.6
DCZ	**Deep Cove**	**0.99**	**49**	⇑PN	Pn	05 54 49.3	-0.5
DCZ				AML	AML	05 54 49.6	
DCZ				AML	AML	05 54 49.6	
DCZ				AML	AML	05 54 49.6	
DCZ				SN	Sn	05 54 59.8	-2.9
WHZ	**Wether Hill Ro**	**1.31**	**80**	⇑PN	Pn	05 54 54.6	+0.4
WHZ				SN	Sn	05 55 09.2	-1.5
WHZ				AML	AML	05 55 14.0	
MLZ	**Mavora Lakes**	**1.66**	**62**	PN	Pb	05 55 00.4	-1.4
MLZ				SN	Sn	05 55 16.6	-2.7
MLZ				AML	AML	05 55 26.6	
MSZ	**Milford Sound**	**1.95**	**42**	PN	Pn	05 55 04.0	+1.0
MSZ				AML	AML	05 55 31.1	
MSZ				AML	AML	05 55 36.1	
MSZ				AML	AML	05 55 38.4	
MSZ				AML	AML	05 55 40.7	
SYZ	**Scrubby Hill**	**2.15**	**102**	PN	Pn	05 55 07.7	+2.0
EAZ	**Earnscleugh**	**2.43**	**69**	AML	AML	05 55 46.5	
EAZ				AML	AML	05 55 47.3	
EAZ				AML	AML	05 55 47.3	
EAZ				AML	AML	05 55 53.0	
WKZ	**Wanaka**	**2.44**	**59**	AML	AML	05 55 44.6	
WKZ				AML	AML	05 55 52.7	
WKZ				AML	AML	05 55 53.4	
WKZ				AML	AML	05 55 54.9	
TUZ	**Tuapeka**	**2.47**	**87**	PN	Pn	05 55 12.6	+2.5
TUZ				AML	AML	05 55 45.9	
TUZ				AML	AML	05 55 46.2	
JCZ	**Jackson Bay**	**2.79**	**43**	PN	Pn	05 55 16.6	+1.9
JCZ				AML	AML	05 56 06.1	
JCZ				AML	AML	05 56 09.0	
ODZ	**Otahua Downs**	**3.38**	**73**	PN	Pn	05 55 23.5	+0.9
LBZ	**Lake Benmore**	**3.38**	**60**	AML	AML	05 55 40.8	
LBZ				AML	AML	05 56 04.9	

CSEM ***19*** *05:57:19.7, 38°.56N×29°.77W, h5km, ML2.4, After PDA*
PDA 19 05:57:19.7±0.8, 38°.56N×29°.77W, h5km, MD3.5, ML2.4, Error ellipse: s-maj=10.1km s-min=6.3km az=168.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CALA	**Caldeira**	**0.84**	**88**	*e*S	Sg	05 57 43.7	-3.2
CALA	**Caldeira**	**0.84**	**88**	*e*S	Sg	05 57 43.7	-3.2
PCED	**Cedros**	**0.84**	**85**	*e*P	Pg	05 57 33.2	-2.7
PCED				*e*S	Sg	05 57 43.1	-3.7
PCED				A	A	05 57 44.2	
	28nm,0.2s						
PCED	**Cedros**	**0.84**	**85**	*e*P	Pg	05 57 33.2	-2.7
PCED				*e*S	Sg	05 57 43.1	-3.7
HOR	**Horta**	**0.90**	**92**	*e*P	Pg	05 57 33.8	-3.1
HOR				*e*S	Sg	05 57 44.9	-3.6
HOR	**Horta**	**0.90**	**92**	*e*P	Pg	05 57 33.8	-3.1
HOR				*e*S	Sg	05 57 44.9	-3.6
PCAN	**Candelaria**	**1.01**	**95**	*e*P	Pg	05 57 35.6	-3.6
PCAN				*e*S	Sg	05 57 47.6	-4.8
PCAN				A	A	05 57 48.2	
	22nm,0.2s						
PCAN	**Candelaria**	**1.01**	**95**	*e*P	Pg	05 57 35.6	-3.6
PCAN				*e*S	Sg	05 57 47.6	-4.8
PICO	**Pico**	**1.06**	**93**	*e*P	Pg	05 57 36.7	-3.4
PICO				*e*S	Sg	05 57 48.9	-5.0
PICO	**Pico**	**1.06**	**93**	*e*P	Pg	05 57 36.7	-3.4
PICO				*e*S	Sg	05 57 48.9	-5.0
ROSA	**Rosais**	**1.21**	**82**	*e*P	Pg	05 57 38.5	-4.4
ROSA				*e*S	Sg	05 57 52.2	-6.4
ROSA				A	A	05 57 53.8	
	52nm,0.2s						
ROSA	**Rosais**	**1.21**	**82**	*e*P	Pg	05 57 38.5	-4.4
ROSA				*e*S	Sg	05 57 52.2	-6.4
PMAN	**Manadas**	**1.32**	**86**	*e*S	Sg	05 57 55.5	-6.7
PMAN				A	A	05 57 56.3	
	11nm,0.1s						
PMAN	**Manadas**	**1.32**	**86**	*e*S	Sg	05 57 55.5	-6.7
PGRA	**Graciosa**	**1.48**	**71**	*e*S	Sn	05 57 59.0	-7.6
PGRA				A	A	05 57 59.2	
	13nm,0.4s						
PGRA	**Graciosa**	**1.48**	**71**	*e*S	Sn	05 57 59.0	-7.6

IDC 19 05:58:53.0±7.4, 15°.45S×177°.16W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/19, mbtmp3.9/3, Error ellipse: s-maj=329.3km s-min=34.1km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.30**	**257**	P	P	06 07 20.5	-0.5
	0.8nm,0.6s,baz=91,slow=6.7,SNR=18						
ASAR	**Alice Springs**	**46.65**	**252**	P	P	06 07 23.9	+0.2
	2.4nm,0.5s,baz=86,slow=8.5,SNR=56						
ILAR	**Eielson Array**	**83.23**	**13**	P	P	06 11 21.0	0.0
	0.4nm,0.6s,baz=224,slow=5.0,SNR=8.2						

NIED ***19*** *06:02:00.33°.20N×141°.40E, h5km, Mw4.7 Best double couple: Mo1.33000×10^16 NP1:φ=18.00000°, δ65.00000°, λ112.00000°. NP2:φ=154.00000°, δ33.00000°, λ50.00000°.*
IDC ***19*** *06:02:26.8±0.4, 32°.98N×141°.41E, h0km, mb4.7/35, mb1 4.8/38, mb1mx4.8/40, mbtmp4.7/38, ML2.7/2, MS4.1/9, Ms1 4.1/9, ms1mx3.8/31, Error ellipse: s-maj=12.1km s-min=10.5km az=79.0*
BJI ***19*** *06:02:28.2, 33°.07N×141°.56E, h30km, mB5.0/32, mb4.8/43, Ms4.5/42, Ms7 4.3/41*
ISCJB ***19*** *06:02:29.5±0.9, 33°.00N±0°.03×141°.38E±0°.03, h26km±6km, mb4.8/174, MS4.4/28, Error ellipse: s-maj=4.3km s-min=3.5km az=16.2*
MOS ***19*** *06:02:30.6±0.8, 33°.02N×141°.36E, h33km, mb5.3/60, MS4.1/7, Error ellipse: s-maj=8.4km s-min=4.4km az=115.6*
JMA ***19*** *06:02:30.5±0.2, 33°.21N×141°.41E, h16km, M4.7*
NEIC ***19*** *06:02:32.4±0.1, 33°.04N×141°.31E, h35km, mb4.8/85, MW4.7(NIED), Error ellipse: s-maj=4.2km s-min=3.2km az=157.0*
BKK ***19*** *06:02:33.6±1.0, 33°N±11°×14°.1E±1°.4, h10km, M5.2/11, mB5.3/1, mb5.2/11, Mw(mB)4.7/1*
TEH ***19*** *06:02:33.0, 33°.05N×141°.25E, h35km, ML4.7*
DJA ***19*** *06:02:42.9±4.3, 33°N±12°×14°.1E±1°.7, h113km±49km, M5.2/7, mB5.2/1, mb5.2/7, Mw(mB)4.6/1*

ISC 19 06:02:31.4±0.5, 33°.09N±0°.04×141°.37E±0°.04, h27km±2km, h27km:pP-P, n488, σ1s02/535, mb4.9/174, MS4.4/28, 31C-16D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.30**	**272**	⇓P	**Pb**	**06 02 54.7**	**-0.5**
JHJ2				*e*S	**Sb**	**06 03 12.1**	**+0.6**
JHCJ	**Hachijojimakas**	**1.32**	**270**	P	**Pn**	**06 02 54.7**	**+0.7**
BSO1	**Boso 1**	**1.60**	**348**	⇓P	**Pn**	**06 02 57.3**	**-0.1**
BSO2	**Boso 2**	**1.74**	**343**	*e*S	**Sn**	**06 03 19.9**	**-0.7**
JMY	**Miyakejima3**	**1.83**	**303**	P	**Pn**	**06 03 02.2**	**+1.0**
JMY				*e*S	**Sb**	**06 03 24.9**	**-2.0**
BSO3	**Boso 3**	**1.85**	**338**	P	**Pn**	**06 03 01.2**	**+0.1**
BSO4	**Boso 4**	**2.08**	**336**	P	**Pn**	**06 03 04.4**	**0.0**
JKO	**Kozu shima**	**2.16**	**301**	P	**Pn**	**06 03 06.4**	**+0.8**
JKO				*e*S	**Sb**	**06 03 33.4**	**-2.8**
KTR	**Katsuura**	**2.23**	**337**	P	**Pn**	**06 03 06.9**	**+0.3**
KTR				*e*S	**Sn**	**06 03 33.7**	**+0.4**
JIM2	**Oshima 3**	**2.29**	**316**	P	**Pn**	**06 03 08.0**	**+0.6**
JIZS	**Izushimoda**	**2.63**	**309**	P	**Pn**	**06 03 12.9**	**+0.8**
JOD2	**Odawara 2**	**2.88**	**320**	⇑P	**Pn**	**06 03 16.1**	**+0.6**
JOD2				*e*S	**Sn**	**06 03 50.0**	**+0.7**
TK02	**Tokai 2**	**3.14**	**287**	P	**Pn**	**06 03 21.0**	**+2.2**
TK02				*e*S	**Sn**	**06 03 56.9**	**+1.6**
SHZ3	**Shizuoka 3**	**3.28**	**308**	P	**Pn**	**06 03 23.8**	**+2.7**
JYN	**Shimob**	**3.35**	**317**	P	**Pn**	**06 03 23.9**	**+1.8**
JRY	**Ryogami san**	**3.56**	**326**	P	**Pn**	**06 03 25.5**	**+0.6**
JAG	**Ashikaga**	**3.69**	**335**	P	**Pn**	**06 03 27.4**	**+0.8**
JAG				*e*S	**Sn**	**06 04 09.9**	**+0.8**
MJAR	**Matsushiro Arr**	**4.32**	**324**	Pn	**Pn**	**06 03 35.8**	**+0.5**
MJAR				Sn	**

YSS	**Yuzh-Sakhalins**	**13.89**	4⇑	*e*P		**Pn**	**06 05 43.5**	**-2.9**
YSS				pmax		pmax		
	comp=Z,60nm,1.0s							
MDJ	**Mudanjiang**	**14.70**	**325**	P		**Pn**	**06 05 57.9**	**+0.4**
MDJ				S		Sn	06 08 44.3	+4.9
MDJ				pmax		pmax		
	comp=Z,17nm,1.0s							
MDJ				pmax		pmax		
	comp=Z,170nm,4.5s							
MDJ				LR		LR		
	comp=N,580nm,24.2s							
MDJ				LR		LR		
	comp=E,510nm,28.2s							
MDJ				LR		LR		
	comp=Z,450nm,22.1s							
MDJ	**Mudanjiang**	**14.70**	**325**	*e*Pn		**Pn**	**06 05 57.0**	**-0.5**
	comp=Z,21nm,0.8s							
HABR	**Khabarovsk**	**16.09**	**345**	*e*P		**P**	**06 06 21.0**	**+2.3**
HABR				*e*			06 09 10.4	
HABR				pmax		pmax		
	comp=N,43nm,1.6s							
HABR				pmax		pmax		
	comp=Z,88nm,1.6s							
HABR				pmax		pmax		
	comp=E,49nm,1.6s							
HABR				MLR		MLR		
	comp=Z,704nm,19.0s							
CN2	**Changchun**	**16.40**	**315**	*e*P		**P**	**06 06 20.8**	**-1.4**
CN2				*e*S		**Sn**	**06 09 21.4**	**+0.6**
CN2				pmax		pmax		
	comp=Z,20nm,0.5s							
CN2				pmax		pmax		
	comp=Z,400nm,4.0s							
CN2				LR		LR		
	comp=N,600nm,15.0s							
CN2				LR		LR		
	comp=E,600nm,15.0s							
CN2				LR		LR		
	comp=Z,600nm,17.0s							
KLR	**Kul'dur**	**17.66**	**339**	*e*P		Pn	06 06 29.2	-6.0
NJ2	**Nanjing**	**19.00**	**273**	*e*P		**P**	**06 06 51.4**	**+0.4**
NJ2				pP		**pP**	**06 06 58.0**	**-0.4**
NJ2				sP		**sP**	**06 07 03.0**	**+1.1**
NJ2				S		**Sn**	**06 10 22.3**	**-1.5**
NJ2				PcP		**PcP**	**06 11 16.0**	**+0.4**
NJ2				ScP		**ScP**	**06 14 50.0**	**+0.5**
NJ2				PcS		**PcS**	**06 14 53.0**	**+0.4**
NJ2				pmax		pmax		
	comp=Z,20nm,1.4s							
NJ2				pmax		pmax		
	comp=Z,120nm,4.0s							
NJ2				LR		LR		
	comp=N,420nm,14.2s							
NJ2				LR		LR		
	comp=E,700nm,12.3s							
NJ2				LR		LR		
	comp=Z,800nm,15.2s							
TATO	**Taipei**	**19.15**	**250**	*e*Pn		**P**	**06 06 53.5**	**+0.9**
	comp=Z,646nm,2.1s							
YHNB	**Yeheng**	**19.39**	**250**	*e*P		**P**	**06 06 54.5**	**-0.8**
	comp=Z,93nm,0.8s							
NACB	**Ningan chiao**	**19.47**	**248**	*e*Pn		**P**	**06 06 56.0**	**-0.2**
	comp=Z,29nm,0.7s							
GUMO	**Guam**	**19.67**	**170**	*e*Pn		**P**	**06 06 59.3**	**+0.9**
	comp=Z,216nm,0.9s							
YULB	**Yu-li**	**20.12**	**246**	*e*P		**P**	**06 07 02.3**	**-0.9**
	comp=Z,37nm,0.8s							
SSLB	**Suanglung**	**20.17**	**248**	*e*P		**P**	**06 07 03.4**	**-0.4**
	comp=Z,88nm,0.9s							
SKR	**Severo-Kuril's**	**20.66**	**27**	*e*P		**P**	**06 07 06.0**	**-2.9**
SKR				pmax		pmax		
	comp=E,90nm,1.0s							
SKR				pmax		pmax		
	comp=Z,90nm,1.0s							
TPUB	**Ta-pu**	**20.68**	**247**	*e*P		**P**	**06 07 08.4**	**-0.9**
	comp=Z,62nm,0.7s							
TPUB				*e*S		**S**	**06 10 57.8**	**-1.3**
BJI	**Beijing**	**21.35**	**296**	P		**P**	**06 07 15.3**	**-1.1**
BJI				pmax		pmax		
	comp=Z,12nm,0.8s							
BJI				pmax		pmax		
	comp=Z,170nm,5.0s							
BJI				LR		LR		
	comp=N,170nm,19.6s							
BJI				LR		LR		
	comp=E,880nm,17.9s							
BJI				LR		LR		
	comp=Z,640nm,19.6s							
HIA	**Hailar**	**22.82**	**321**	*e*P		**P**	**06 07 31.6**	**-0.5**
	comp=Z,49nm,0.8s							
WHN	**Wuhan**	**23.08**	**271**	P		**P**	**06 07 34.8**	**-0.1**
WHN				LR		LR		
	comp=N,1μm,11.1s							
WHN				LR		LR		
	comp=E,2μm,13.9s							
WHN				LR		LR		
	comp=Z,2μm,18.6s							
PETK	**Petropavlovsk-**	**23.19**	**25**	P		**P**	**06 07 35.7**	**-0.1**
PETK	**Petropavlovsk-**	**23.19**	**25**	P		**P**	**06 07 35.7**	**-0.1**
PETK	**Petropavlovsk-**	**23.19**	**25**	P		**P**	**06 07 35.7**	**-0.1**
	comp=Z,3.2nm,0.7s,baz=203,slow=7.2,SNR=5.3							
HHC	**Hu-ho-hao-te**	**24.96**	**297**	*e*P		**P**	**06 07 50.3**	**-2.3**
HHC				pP		**pP**	**06 07 59.8**	**-0.8**
HHC				sP		**sP**	**06 08 03.6**	**-0.4**
HHC				PP		**PnPn**	**06 08 27.5**	**+1.5**
HHC				S		S	06 12 08.5	-6.2
HHC				sS		**sS**	**06 12 23.3**	**-4.5**
HHC				pmax		pmax		
	comp=Z,63nm,1.3s							
HHC				pmax		pmax		
	comp=Z,290nm,5.0s							
HHC				LR		LR		
	comp=N,670nm,14.5s							
HHC				LR		LR		
	comp=E,950nm,15.7s							
HHC				LR		LR		
	comp=Z,1μm,15.7s							
BTO	**Baotou**	**26.09**	**296**	*e*P		**P**	**06 08 03.0**	**+0.1**
CLNS	**Chul'man**	**26.32**	**339**	*e*P		**P**	**06 08 05.5**	**+0.8**
CLNS				*e**PP		pP	06 08 15.9	+3.2
CLNS				*e*			06 08 45.4	
CLNS				*e*			06 11 31.0	
CLNS				*e*S		**S**	**06 12 34.9**	**-0.8**
CLNS				pmax		pmax		
	comp=Z,14nm,0.8s							
CLNS				pmax		pmax		
	comp=Z,25nm,1.0s							
CLNS				pmax		pmax		
	comp=E,9.0nm,0.8s							
CLNS				pmax		pmax		
	comp=E,17nm,1.0s							
CLNS				pmax		pmax		
	comp=Z,15nm,1.0s							
CLNS				pmax		pmax		
	comp=N,18nm,1.0s							
CLNS				smax		smax		
	comp=N,202nm,11.9s							
CLNS				smax		smax		
	comp=E,120nm,13.8s							
CLNS				MLR		MLR		
	comp=E,257nm,15.0s							
CLNS				MLR		MLR		
	comp=N,304nm,15.0s							
CLNS				MLR		MLR		
	comp=Z,442nm,16.0s							
XAN	**Xi'an**	**27.00**	**281**	P		**P**	**06 08 10.3**	**-0.8**
XAN				pmax		pmax		
	comp=Z,4.0nm,0.8s							
XAN				LR		LR		
	comp=E,200nm,15.9s							
XAN				LR		LR		
	comp=Z,180nm,14.6s							
ENH	**Enshi**	**27.22**	**273**	*e*P		**P**	**06 08 12.1**	**-1.0**
	comp=Z,61nm,0.9s							
CIT	**Chita**	**27.62**	**322**	*e*P		**P**	**06 08 17.9**	**+1.4**
ULN	**Ulaanbaatar**	**29.70**	**310**	*e*P		**P**	**06 08 36.9**	**+1.7**
	comp=Z,30nm,0.8s							
ULN	**Ulaanbaatar**	**29.70**	**310**	P		**P**	**06 08 36.8**	**+1.6**
	comp=Z,41nm,0.9s,comp=Z,389nm							
YAK	**Yakutsk**	**29.92**	**349**	*e*P		**P**	**06 08 36.0**	**-0.7**
YAK				*e**PP		pP	06 08 49.7	+5.0
YAK				*e*			06 09 35.2	
YAK				*e*S		**S**	**06 13 29.6**	**-2.5**
YAK				*e*S		S	06 13 33.1	+1.0
YAK				pmax		pmax		
	comp=Z,21nm,1.0s							
YAK				pmax		pmax		
	comp=N,5.0nm,1.1s							
YAK				pmax		pmax		
	comp=E,2.0nm,1.0s							
YAK				pmax		pmax		
	comp=Z,16nm,1.0s							
YAK				pmax		pmax		
	comp=N,21nm,1.5s							
YAK				pmax		pmax		
	comp=E,48nm,2.3s							
YAK				smax		smax		
	comp=N,77nm,3.5s							
YAK				smax		smax		
	comp=E,41nm,2.9s							
YAK				MLR		MLR		
	comp=Z,305nm,13.0s							
YAK				MLR		MLR		
	comp=E,69nm,14.0s							
YAK				MLR		MLR		
	comp=N,328nm,15.0s							
SONM	**Songino Array**	**30.12**	**310**	P		**P**	**06 08 40.8**	**+2.0**
SONM	**Songino Array**	**30.12**	**310**	P		**P**	**06 08 40.8**	**+2.0**
	comp=N,22nm,0.9s,baz=116,slow=8.8,SNR=82							
SONM				LR		LR	06 21 06.9	
	comp=N,239nm,18.7s,baz=333,slow=37							
FX1	**Attu Island--F**	**30.16**	**39**	P		**P**	**06 08 40.6**	**+1.6**
FX1	**Attu Island--F**	**30.16**	**39**	P		**P**	**06 08 40.6**	**+1.6**
	comp=N,5.5nm,0.7s,baz=266,slow=11,SNR=5.2							
FX1				LR		LR	06 18 38.9	
	comp=N,210nm,19.6s,baz=1.3,slow=32							
GYA	**Guiyang**	**30.74**	**267**	P		**P**	**06 08 43.8**	**-0.7**
GYA				pP		**pP**	**06 08 55.0**	**+2.4**
GYA				PP		**PnPn**	**06 09 46.3**	**+1.5**
GYA				PcP		**PcP**	**06 11 42.4**	**+0.6**
GYA				S		**S**	**06 13 44.0**	**-2.1**
GYA				sS		sS	06 14 01.9	+2.5
GYA				ScP		**ScP**	**06 15 22.8**	**+0.2**
GYA				SS		**SnSn**	**06 15 25.4**	**+0.1**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.6s							
GYA				pmax		pmax		
	comp=Z,120nm,5.0s							
GYA				LR		LR		
	comp=N,490nm,17.8s							
GYA				LR		LR		
	comp=E,470nm,18.0s							
GYA				LR		LR		
	comp=Z,510nm,17.5s							
LZH	**Lanzhou**	**30.91**	**286**	*e*P		**P**	**06 08 46.8**	**+0.8**
LZH				pP		**pP**	**06 08 54.3**	**+0.2**
LZH				sP		**sP**	**06 08 57.3**	**-0.1**
LZH				PP		**PnPn**	**06 09 49.0**	**+2.0**
LZH				*e*S		**S**	**06 13 47.4**	**-1.3**
LZH				sS		**sS**	**06 14 00.3**	**-1.7**
LZH				SS		**SnSn**	**06 15 28.3**	**-1.1**
LZH				pmax		pmax		
	comp=Z,13nm,1.0s							
LZH				pmax		pmax		
	comp=Z,130nm,4.2s							
LZH				LR		LR		
	comp=N,520nm,14.0s							
LZH				LR		LR		
	comp=E,330nm,12.6s							
LZH				LR		LR		
	comp=Z,980nm,16.2s							
CD2	**Chengdu**	**31.86**	**276**	*e*P		**P**	**06 08 52.8**	**-1.5**
CD2				pP		**pP**	**06 09 02.5**	**+0.2**
CD2				sP		sP	06 09 06.8	+1.1
CD2				PP		**PnPn**	**06 09 59.8**	**+0.6**
CD2				S		**S**	**06 14 00.1**	**-3.3**
CD2				sS		**sS**	**06 14 15.5**	**-1.2**
CD2				pmax		pmax		
	comp=Z,30nm,1.2s							
CD2				pmax		pmax		
	comp=Z,120nm,6.2s							
CD2				LR		LR		
	comp=E,1μm,15.6s							
CD2				LR		LR		
	comp=Z,1μm,17.8s							
ZAK	**Zakamensk**	**32.82**	**313**	*e*P		**P**	**06 09 04.1**	**+1.6**
ZAK				pmax		pmax		
	comp=Z,9.0nm,1.5s							
IRK	**Irkutsk**	**32.84**	**317**	*e*P		P	06 08 52.0	-11
IRK				pmax		pmax		
	comp=Z,30nm,0.6s							
TLY	**Talaya**	**33.01**	**316**	*e*P		**P**	**06 09 05.2**	**+1.1**
TLY				pmax		pmax		
	comp=Z,19nm,1.0s							
TLY				MLR		MLR		
	comp=Z,295nm,15.0s							
GTA	**Gaotai**	**33.88**	**293**	⇑P		**P**	**06 09 12.0**	**+0.1**
GTA				pP		**pP**	**06 09 21.8**	**+1.8**
GTA				sP		sP	06 09 25.6	+2.3
GTA				PcP		**PcP**	**06 11 50.8**	**+0.6**
GTA				S		**S**	**06 14 32.8**	**-1.9**
GTA				sS		**sS**	**06 14 48.4**	**+0.3**
GTA				SS		**SnSn**	**06 16 39.4**	**-1.7**
GTA				pmax		pmax		
	comp=Z,42nm,1.3s							
GTA				pmax		pmax		
	comp=Z,240nm,5.2s							
GTA				LR		LR		
	comp=N,400nm,20.9s							
GTA				LR		LR		
	comp=E,430nm,17.3s							
GTA				LR		LR		
	comp=Z,500nm,16.9s							
KMI	**Kunming**	**34.52**	**267**	P		**P**	**06 09 18.4**	**+0.7**
KMI				pP		pP	06 09 28.6	+2.8
KMI				S		**S**	**06 14 42.9**	**-2.2**
KMI				LR		LR		
	comp=N,280nm,13.4s							
KMI				LR		LR		
	comp=E,330nm,11.5s							
KMI				LR		LR		
	comp=Z,280nm,17.3s							
MOY	**Mondy**	**34.57**	**315**	*e*P		P	06 09 22.8	+5.0
SKNT	**Sakolnakorn**	**37.25**	**254**	P		P	06 09 51.1	+10
HVS	**Khovu-Aksy**	**38.91**	**312**	*c i*P		**P**	**06 09 55.5**	**+0.8**
HVS				pmax		pmax		
	comp=Z,82nm,1.0s							
LOEI	**Loei**	**39.18**	**257**	P		P	06 09 53.7	-3.5
	comp=Z,35nm,0.9s							
TIXI	**Tiksi**	**39.20**	**354**	⇓*e*P		**P**	**06 09 53.7**	**-3.0**
TIXI				pmax		pmax		
	comp=Z,5.0nm,0.8s							
PAYA	**Payao**	**39.40**	**260**	P		P	06 10 03.2	+4.1
PBKT	**Sadao Pong**	**39.90**	**256**	P		P	06 09 59.0	-4.2
PBKT	**Sadao Pong**	**39.90**	**256**	P		P	06 09 57.4	-5.8
	comp=Z,27nm,0.9s							
PBKT				P		pP	06 10 02.9	-8.5
	comp=Z,27nm,0.9s							
LAMP	**Lampang**	**40.01**	**259**	P		**P**	**06 10 04.5**	**+0.4**
	comp=Z,7.2nm,0.8s							
KRAR	**Krasnoyarsk**	**40.36**	**319**	⇑*i*P		**P**	**06 10 07.4**	**+0.9**
KRAR				pmax		pmax		
	comp=Z,25nm,0.5s							
CMMT	**Chiang Mai**	**40.43**	**260**	P		**P**	**06 10 06.8**	**-0.8**
	comp=Z,18nm,0.9s							
CMMT	**Chiang Mai**	**40.43**	**260**	P		**P**	**06 10 07.4**	**-0.2**
	comp=Z,18nm,0.9s							
CHTO	**Chiang Mai**	**40.43**	**260**	*e*P		**P**	**06 10 07.3**	**-0.3**
CHTO				pmax		pmax		
	comp=Z,14nm,0.9s							
CHTO	**Chiang Mai**	**40.43**	**260**	*e*P		**P**	**06 10 07.3**	**-0.3**
	comp=Z,14nm,0.9s							
CHTO	**Chiang Mai**	**40.43**	**260**	P		**P**	**06 10 06.7**	**-0.9**
	comp=Z,21nm,0.9s							
CHTO	**Chiang Mai**	**40.43**	**260**	P		**P**	**06 10 07.5**	**-0.1**
	comp=Z,21nm,2.1s							
CMAR	**Chiang Mai Arr**	**40.61**	**260**	P		**P**	**06 10 08.8**	**-0.2**
CMAR				PcP		**PcP**	**06 12 10.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**40.61**	**260**	P		**P**	**06 10 08.8**	**-0.2**
	comp=Z,6.0nm,0.7s,baz=47,slow=7.6,SNR=19							
CMAR				PcP		**PcP**	**06 12 10.9**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=16,slow=1.6,SNR=7.0							
CMAR				LR		LR	06 28 16.5	
	comp=Z,249nm,19.5s,baz=45,slow=38							
LSA	**Lhasa**	**42.68**	**279**	*e*P		**P**	**06 10 25.2**	**-1.2**
LSA				pmax		pmax		
	comp=Z,10.0nm,0.6s							
LSA	**Lhasa**	**42.68**	**279**	*e*P		**P**	**06 10 25.2**	**-1.2**
	comp=Z,9.7nm,0.6s							
WMQ	**Urumqi**	**42.70**	**301**	P		**P**	**06 10 27.3**	**+1.3**
WMQ	**Urumqi**	**42.70**	**301**	P		**P**	**06 10 26.6**	**+0.6**
WMQ				pP		pP	06 10 36.4	+2.1
WMQ				sP		sP	06 10 40.4	+2.8
WMQ				PP		**PP**	**06 12 08.5**	**+3.3**
WMQ				pmax		pmax		
	comp=Z,65nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,150nm,3.9s							
WMQ				LR		LR		
	comp=N,200nm,13.0s							
WMQ				LR		LR		
	comp=E,410nm,12.4s							
WMQ				LR		LR		
	comp=Z,150nm,17.3s							
KSM	**Kuching**	**42.88**	**229**	*e*P		**P**	**06 10 27.9**	**+0.3**
	comp=Z,15nm,1.0s							
ZALV	**Zalesovo Beam**	**44.62**	**315**	P		**P**	**06 10 41.6**	**+0.4**
ZALV							06 12 23.6	
ZALV	**Zalesovo Beam**	**44.62**	**315**	P		**P**	**06 10 41.6**	**+0.4**
ZALV				PcP		**PcP**	**06 12 23.6**	**0.0**
ZALV	**Zalesovo Beam**	**44.62**	**315**	P		**P**	**06 10 41.6**	**+0.4**
	comp=Z,11nm,0.8s,baz=100,slow=6.8,SNR=40							
ZALV				PcP		**PcP**	**06 12 23.6**	**0.0**
	comp=Z,8.6nm,0.8s,baz=93,slow=2.9,SNR=6.4							
NVS	**Novosibirsk**	**45.61**	**317**	⇑*i*P		**P**	**06 10 47.4**	**-1.6**
NVS				pmax		pmax		
	comp=N,3.0nm,0.7s							
NVS				pmax		pmax		
	comp=E,8.0nm,0.7s							
NVS				pmax		pmax		
	comp=Z,9.0nm,0.7s							
MKAR	**Makanchi Array**	**46.28**	**305**	P		**P**	**06 10 55.2**	**+0.7**
MKAR	**Makanchi Array**	**46.28**	**305**	P		**P**	**06 10 55.1**	**+0.7**
MKAR				ScP		**ScP**	**06 16 22.0**	**+0.9**
MKAR	**Makanchi Array**	**46.28**	**305**	P		**P**	**06 10 55.1**	**+0.7**
	comp=Z,16nm,0.6s,baz=89,slow=9.7,SNR=186							
MKAR				ScP		**ScP**	**06 16 22.0**	**+0.9**
	comp=Z,1.1nm,1.0s,baz=98,slow=6.0,SNR=3.7							
TAPN	**Taplejung**	**46.31**	**278**	*e*P		**P**	**06 10 55.2**	**-0.1**
	comp=Z,35nm,0.8s							
ODAN	**Odare**	**46.75**	**277**	*e*P		**P**	**06 10 58.5**	**-0.2**
	comp=Z,69nm,0.8s							
RAMN	**Ramite**	**47.37**	**278**	*e*P		**P**	**06 11 03.4**	**-0.2**
	comp=Z,144nm,0.8s							
JIRN	**Jiri**	**47.46**	**279**	*e*P		**P**	**06 11 04.7**	**+0.3**
	comp=Z,136nm,0.7s							
GUN	**Gumba**	**47.63**	**279**	*e*P		**P**	**06 11 06.0**	**+0.3**
	comp=Z,86nm,0.8s							
PKI	**Pulchoki**	**48.14**	**279**	*e*P		**P**	**06 11 09.2**	**-0.4**
	comp=Z,55nm,0.9s							
PKIN	**Phulchoki**	**48.15**	**279**	*e*P		**P**	**06 11 09.2**	**-0.4**
	comp=Z,26nm,0.6s							
KKN	**Kakani**	**48.17**	**279**	*e*P		**P**	**06 11 09.8**	**+0.1**
	comp=Z,84nm,0.8s							
DMN	**Daman**	**48.38**	**279**	*e*P		**P**	**06 11 11.1**	**-0.3**
	comp=Z,52nm,0.8s							
KURK	**Kurchatov**	**48.41**	**311**	P		**P**	**06 11 11.6**	**+0.6**
KURK							06 12 36.9	
KURK	**Kurchatov**	**48.41**	**311**	P		**P**	**06 11 11.6**	**+0.6**
KURK				PcP		**PcP**	**06 12 36.9**	**-0.1**
KURBB	**Kurchatov Arra**	**48.48**	**311**	P		**P**	**06 11 11.6**	**+0.1**
	comp=Z,25nm,0.8s,baz=87,slow=7.5,SNR=184							
KURBB				PcP		**PcP**	**06 12 36.9**	**-0.3**
	comp=Z,5.5nm,0.8s,baz=84,slow=4.1,SNR=6.6							
DANN	**Dangsing**	**49.23**	**281**	*e*P		**P**	**06 11 18.3**	**+0.4**
	comp=Z,100nm,0.7s							
KOLN	**Koldanda**	**49.57**	**280**	*e*P		**P**	**06 11 20.6**	**+0.2**
	comp=Z,27nm,0.6s							
PYUN	**Piuthan**	**49.95**	**281**	*e*P		**P**	**06 11 23.8**	**+0.4**
	comp=Z,128nm,0.5s							
KDAK	**Kodiak Island**	**50.11**	**40**	P		**P**	**06 11 23.4**	**-0.4**
KDAK	**Kodiak Island**	**50.11**	**40**	P		**P**	**06 11 23.4**	**-0.4**
	comp=Z,9.6nm,0.7s,baz=314,slow=20,SNR=9.9							
PPLA	**Purkeypile**	**50.46**	**33**	*e*P		**P**	**06 11 28.0**	**+1.4**
	comp=Z,12nm,1.1s							
ULHL	**Ulahol**	**51.24**	**300**	*i* P		**P**	**06 11 32.9**	**+0.1**
ULHL	**Ulahol**	**51.24**	**300**	P		**P**	**06 11 33.0**	**+0.1**
	SNR=6.9							
TKM2	**Tokmak 2**	**51.56**	**301**	*i* P		**P**	**06 11 36.5**	**+1.3**
TKM2	**Tokmak 2**	**51.56**	**301**	P		**P**	**06 11 36.6**	**+1.3**
	SNR=15							
COLD	**Coldfoot**	**51.64**	**27**	*e*P		**P**	**06 11 35.6**	**+0.4**
	comp=Z,3.8nm,1.0s							
PMR	**Palmer**	**51.85**	**35**	*e*P		**P**	**06 11 37.5**	**+0.7**
PMR				pmax		pmax		
	comp=Z,14nm,1.1s							
PMR	**Palmer**	**51.85**	**35**	*e*P		**P**	**06 11 37.5**	**+0.7**
	comp=Z,14nm,1.1s							
MCK	**McKinley**	**51.96**	**32**	*e*P		**P**	**06 11 37.9**	**+0.2**
MCK	**McKinley**	**51.96**	**32**	*e*P		**P**	**06 11 37.9**	**+0.2**
KZA	**Kyzart**	**51.99**	**300**	*i* P		**P**	**06 11 40.3**	**+1.5**
KZA	**Kyzart**	**51.99**	**300**	P		**P**	**06 11 40.3**	**+1.5**
	SNR=15							
KSH	**Kashi**	**52.07**	**297**	P		P	06 11 43.3	+4.3
KSH				sP		sP	06 11 57.0	+6.3
KSH				PP		PP	06 13 42.5	+5.3
KSH				PcS		**PcS**	**06 16 51.6**	**+2.4**
KSH				S		**S**	**06 19 04.8**	**+3.5**
KSH				sS		sS	06 19 20.1	+5.0
KSH				pmax		pmax		
	comp=Z,23nm,1.0s							
KSH				pmax		pmax		
	comp=Z,130nm,3.9s							
KSH				LR		LR		
	comp=N,140nm,7.6s							
KSH				LR		LR		
	comp=E,130nm,11.3s							
KSH				LR		LR		
	comp=Z,310nm,15.4s							
KBK	**Karagaybulak**	**52.08**	**301**	*i* P		**P**	**06 11 40.2**	**+1.1**
KBK	**Karagaybulak**	**52.08**	**301**	P		**P**	**06 11 40.2**	**+1.1**
	SNR=18							
SML	**Sawmill**	**52.23**	**34**	*e*P		**P**	**06 11 40.3**	**+0.6**
SML				pmax		pmax		
	comp=Z,3.0nm,0.8s							
SML	**Sawmill**	**52.23**	**34**	*e*P		**P**	**06 11 40.3**	**+0.6**
	comp=Z,2.8nm,0.8s							
USP	**Ospenovka**	**52.27**	**302**	*i* P		**P**	**06 11 41.1**	**+0.7**
USP	**Ospenovka**	**52.27**	**302**	P		**P**	**06 11 41.1**	**+0.7**
	SNR=12							
FRU	**Bishkek**	**52.28**	**301**	*e*P		**P**	**06 11 40.0**	**-0.4**
FRU				*i*			06 11 51.0	
FRU				pmax		pmax		
	comp=Z,53nm,1.6s							
AAK	**Ala-Archa**	**52.41**	**301**	*c i*P		**P**	**06 11 42.0**	**+0.4**
AAK				pmax		pmax		
	comp=Z,17nm,0.8s							
AAK	**Ala-Archa**	**52.41**	**301**	P		**P**	**06 11 42.6**	**+1.1**
	SNR=7.5							
AAK	**Ala-Archa**	**52.41**	**301**	P		**P**	**06 11 41.3**	**-0.3**
AAK	**Ala-Archa**	**52.41**	**301**	P		**P**	**06 11 41.3**	**-0.3**
	comp=Z,6.9nm,0.8s,baz=80,slow=3.4,SNR=15							
ILAR	**Eielson Array**	**52.87**	**31**	P		**P**	**06 11 43.7**	**-0.7**
ILAR	**Eielson Array**	**52.87**	**31**	P		**P**	**06 11 43.7**	**-0.7**
	comp=Z,6.2nm,0.7s,baz=268,slow=6.1,SNR=63							
ILAR				LR		LR	06 35 59.3	
	comp=Z,113nm,18.9s,baz=267,slow=38							
EKS2	**Erkin-Say**	**52.92**	**301**	P		**P**	**06 11 46.0**	**+0.7**
	SNR=7.3							
AML	**Almayashu**	**53.11**	**301**	*i* P		**P**	**06 11 48.5**	**+1.5**
AML	**Almayashu**	**53.11**	**301**	P		**P**	**06 11 48.5**	**+1.5**
	SNR=21							
WRAB	**Tennant Creek**	**53.15**	**188**	*e*P		**P**	**06 11 46.1**	**-0.8**
WRAB				pmax		pmax		
	comp=Z,23nm,0.6s							
WRAB	**Tennant Creek**	**53.15**	**188**	*e*P		**P**	**06 11 46.1**	**-0.8**
	comp=Z,22nm,0.6s							
WRA	**Warramunga Arr**	**53.16**	**188**	P		**P**	**06 11 45.2**	**-1.7**
WRA	**Warramunga Arr**	**53.16**	**188**	P		**P**	**06 11 45.2**	**-1.7**
	comp=Z,23nm,0.4s,baz=5.6,slow=7.5,SNR=264							
WRA				LR		LR	06 34 07.9	
	comp=Z,118nm,18.5s,baz=95,slow=36							
BVAR	**Borovoye Array**	**53.26**	**315**	P		**P**	**06 11 47.8**	**+0.4**

EGAK Eagle 55.32 31 *e*P P 06 12 01.6 -0.6
comp=Z,2.7nm,0.7s
AS31 Alice Springs 56.88 188 *e*P P 06 12 13.2 -0.6
ASAR Alice Springs 56.88 188 P P 06 12 13.4 -0.4
ASAR S S 06 20 04.8 -1.1
ASAR Alice Springs 56.88 188 P P 06 12 13.4 -0.4
comp=Z,7.6nm,0.7s,baz=8.2,slow=9.7,SNR=77
ASAR S S 06 20 04.8 -1.1
comp=Z,1.6nm,1.0s,baz=14,slow=16,SNR=6.2
MBWA Marble Bar 57.76 204 *e*P P 06 12 19.8 -0.3
comp=Z,28nm,0.8s
INK Inuvik 57.93 26 P P 06 12 20.6 -0.1
INK Inuvik 57.93 26 P P 06 12 20.6 -0.1
comp=Z,6.1nm,0.8s,baz=294,slow=7.8,SNR=7.5
SVE Sverdlovsk 58.12 320⇓ *i*P P 06 12 22.8 +0.6
SVE pmax pmax
comp=Z,45nm,0.8s
HYB Hyderabad 58.14 271 *i* P P 06 12 23.0 0.0
ARU Arti 59.33 320 *c i*P P 06 12 30.7 +0.1
ARU *PP pP 06 12 41.4 +2.3
ARU 06 14 42.3
ARU S S 06 20 37.8 +0.6
ARU pmax pmax
comp=Z,42nm,0.8s
SOKR Solikamsk 59.47 324⇓ *i*P P 06 12 44.4 +13
SOKR pmax pmax
comp=Z,10.0nm,0.8s
SOKR MLR MLR
comp=Z,470nm,27.0s
AKTO Aktyubinsk 61.33 314 P P 06 12 45.0 +0.5
AKTO pmax pmax
comp=Z,11nm,0.8s
AKTO Aktyubinsk 61.33 314 P P 06 12 45.0 +0.5
AKTO Aktyubinsk 61.33 314 P P 06 12 45.0 +0.5
comp=Z,11nm,0.8s,baz=86,slow=11,SNR=23
DLBC Dease Lake 61.78 37 P P 06 12 48.2 +0.7
DLBC Dease Lake 61.78 37 P P 06 12 48.2 +0.7
comp=Z,4.7nm,0.9s,baz=295,slow=11,SNR=9.7
KBS Kingsbay 64.53 350 *ce*P P 06 13 07.6 +2.3
KBS pmax pmax
comp=Z,28nm,1.2s
STKA Stephens Creek 64.61 180 P P 06 13 06.6 +0.3
STKA Stephens Creek 64.61 180 P P 06 13 06.6 +0.3
comp=Z,7.2nm,0.9s,baz=344,slow=9.8,SNR=7.3
ISFR Sfrayin 66.20 300 *e*P P 06 13 18.3 +1.2
TMCR Tamitsa 66.20 332 *e*P P 06 13 15.7 -0.6
TMCR *e* 06 13 44.6
TMCR pmax pmax
comp=Z,24nm,1.0s
APA Apatity 66.28 336⇑ *e*P P 06 13 17.8 +1.1
APA MLR MLR
comp=Z,300nm,18.0s
KEV Kevo 67.12 340 *e*p P 06 13 36.2 +14
comp=Z,0.5nm,0.3s
KEV Kevo 67.12 340 *e*P P 06 13 36.2 +14
KEV pmax pmax
comp=Z,1.0nm,0.3s
YKA Yellowknife Ar 67.25 29 P P 06 13 22.2 -0.8
YKA Yellowknife Ar 67.25 29 P P 06 13 22.2 -0.8
comp=Z,3.7nm,0.8s,baz=295,slow=6.2,SNR=17
ARCES ARCESS Array B 67.68 340 P P 06 13 24.6 -1.1
ARCES ARCESS Array B 67.68 340 P P 06 13 24.6 -1.1
comp=Z,5.8nm,0.9s,baz=49,slow=8.5,SNR=7.4
DAG Danmarks Havn 69.70 355 *i* P P 06 13 37.8 -0.3
DAG pmax pmax
comp=Z,8.0nm,0.9s
DAG Danmarks Havn 69.70 355 *i* P P 06 13 37.8 -0.3
comp=Z,9.6nm,0.9s
MOS Moscow 70.41 324 *e*P P 06 13 53.4 +11
MOS pmax pmax
comp=Z,54nm,1.4s
ILAS Lasjerd 70.60 300 *e*P P 06 13 45.9 +1.3
MAK Makhachkala 70.89 309 *e*P P 06 13 55.5 +10
MAK MLR MLR
comp=Z,462nm,15.0s
OBN Obninsk 71.25 324 *e*P P 06 13 47.9 0.0
OBN *i* 06 13 54.8
OBN *i* 06 14 05.6
OBN pmax pmax
comp=Z,36nm,2.5s
KAF Kangasniemi 71.80 333 *e*p P 06 13 50.0 -1.1
comp=Z,1.1nm,0.4s
KAF Kangasniemi 71.80 333 *e*P P 06 13 50.0 -1.1
KAF pmax pmax
comp=Z,1.0nm,0.4s
VSR Storozhevoye 71.89 320 *e*P P 06 13 51.6 -0.2
VSR pmax pmax
comp=Z,20nm,0.9s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,20nm,1.0s
VORD Divnogorie 71.95 319 *e*P P 06 13 51.9 -0.3
VORD pmax pmax
comp=Z,7.0nm,0.5s
VORD pmax pmax
comp=N,7.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.9s
IZEF Zefreh 72.21 298 *e*P P 06 13 55.7 +1.2
FINES FINESS Array B 72.29 333 P P 06 13 54.2 +0.2
FINES FINESS Array B 72.29 333 P P 06 13 54.2 +0.2
comp=E,13nm,0.8s,baz=70,slow=6.3,SNR=33
IKLH Kolahrood 72.56 299 *e*P P 06 13 57.6 +1.0
NEW Newport 73.00 43 *e*P P 06 13 59.7 +1.1
comp=E,3.6nm,0.9s
IPAR Pars 73.12 295 *e*P P 06 14 00.3 +0.3
ISRV Sarvestan 73.29 294 *e*P P 06 14 00.9 -0.1
ZEI Tsey 73.31 310 *e*P P 06 14 00.3 -0.5
ZEI pmax pmax
comp=Z,13nm,0.8s
IPIR Pirpir 73.38 298 *e*P P 06 14 02.8 +1.4
KBZ Khabaz 73.47 312 P P 06 14 02.6 +1.3
KBZ Khabaz 73.47 312 P P 06 14 02.6 +1.3
KBZ Khabaz 73.47 312 P P 06 14 02.6 +1.3
comp=Z,23nm,0.8s,baz=83,slow=3.5,SNR=56
KBZ LR LR 06 48 05.5
comp=Z,238nm,19.0s,baz=141,slow=37
KIV Kislovodsk 73.48 312 *e*P P 06 14 01.8 +0.2
KIV pmax pmax
comp=Z,30nm,0.9s
ONI Oni 73.68 310 P P 06 14 04.1 +1.4
VSU Vasula 73.84 330⇑ *i*P P 06 14 03.2 -0.1
VSU pmax pmax
comp=Z,36nm,1.0s
SUMG Summit 74.62 360 *e*P P 06 14 08.9 +0.8
SUMG pmax pmax
comp=Z,17nm,0.8s
SUMG Summit 74.62 360 *e*P P 06 14 08.9 +0.8
comp=Z,17nm,0.8s
SUMG Summit 74.62 360 *i* P P 06 14 09.0 +0.8
comp=Z,19nm,1.0s
BMO Blue Mountains 74.66 46 *e*P P 06 14 08.8 +0.4
comp=Z,5.6nm,1.1s
JTMT Jette 74.90 43 *e*P P 06 14 10.5 +0.6
comp=Z,3.7nm,0.8s
WVOR Wild Horse Val 75.08 49 *e*P P 06 14 11.2 +0.2
WVOR pmax pmax
comp=Z,4.0nm,1.0s
WVOR Wild Horse Val 75.08 49 *e*P P 06 14 11.2 +0.2
comp=Z,4.2nm,1.0s
SWMT Swartz Lake 75.19 43 *e*P P 06 14 11.9 +0.4
comp=Z,7.9nm,1.0s
BEKR Beckworth 75.29 52 *e*P P 06 14 12.5 +0.2
comp=Z,3.2nm,0.9s
SOC Sochi 75.52 313 *c i*P P 06 14 11.7 -1.6
SOC *e* 06 14 23.1
SOC *e*PPP PPP 06 18 45.2
SOC *e*S S 06 23 51.0 -1.1
SOC *e* 06 24 38.8
SOC pmax pmax
comp=Z,19nm,0.8s
SLMT Seeley Lake 75.62 43 *e*P P 06 14 13.7 -0.4
comp=Z,6.7nm,0.9s
CHMT Chamberlain Mo 75.94 43 *e*P P 06 14 15.5 -0.4
SCO Scoresbysund 76.03 354 *i* P P 06 14 16.7 +1.0
SCO pmax pmax
comp=Z,10.0nm,0.8s
SCO Scoresbysund 76.03 354 *i* P P 06 14 16.7 +1.0
comp=Z,10nm,0.8s
CMB Columbia Colle 76.21 54 *e*P P 06 14 17.7 +0.2
CMB pmax pmax
comp=Z,8.0nm,1.2s
CMB Columbia Colle 76.21 54 *e*P P 06 14 17.6 +0.2
comp=Z,8.2nm,1.2s

ANN Anapa 76.25 315 *e*P P 06 14 25.3 +7.9
ANN pmax pmax
comp=Z,37nm,1.1s
MFID Camas Ranch 76.32 47 *e*P P 06 14 17.4 -0.6
comp=Z,5.0nm,0.9s
HRY Holter Researc 76.86 43 *e*P P 06 14 21.5 +0.4
comp=Z,6.1nm,0.7s
LRM Limekiln Ridge 77.01 44 *e*P P 06 14 22.6 +0.6
comp=Z,7.0nm,0.7s
FFC Flin Flon 77.05 32 *ce*P P 06 14 22.3 +0.5
DLMT Dillon 77.18 44 *e*P P 06 14 23.6 +0.7
comp=Z,16nm,1.3s
EGMT Eagleton 77.27 41 *e*P P 06 14 22.4 -0.9
comp=Z,13nm,1.1s
UMR Umm Al-Rimmam 77.29 297 *e*P P 06 14 23.3 -0.3
UMR AMb AMB 06 14 24.7
comp=Z,54nm,0.8s
MCMT McKenzie Canyo 77.33 45 *e*P P 06 14 23.5 -0.4
comp=Z,0.9nm,0.8s
NVAR Mina Array Bea 77.40 52 P P 06 14 25.1 +0.8
NVAR Mina Array Bea 77.40 52 P P 06 14 25.1 +0.8
comp=Z,1.8nm,0.8s,baz=294,slow=5.8,SNR=15
KIEV Kiev 77.42 323 *e*P P 06 14 23.4 -0.5
KIEV pmax pmax
comp=Z,19nm,0.6s
KIEV Kiev 77.42 323 *e*P P 06 14 23.4 -0.5
comp=Z,19nm,0.6s
MIB Mutribah 77.44 297 *e*P P 06 14 24.1 -0.4
MIB AMb AMB 06 14 25.4
comp=Z,63nm,0.8s
KBD Kabd 77.50 297 *e*P P 06 14 24.4 -0.3
KBD AMb AMB 06 14 26.5
comp=Z,33nm,0.9s
BOZ Bozeman (W) 77.58 43 *e*P P 06 14 25.6 +0.5
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 77.58 43 *e*P P 06 14 25.6 +0.5
comp=Z,4.0nm,0.8s
HFS Hagfors 77.67 336 P P 06 14 24.7 -0.5
HFS Hagfors 77.67 336 P P 06 14 24.7 -0.5
comp=Z,14nm,0.8s,baz=11,slow=1.5,SNR=19
RDF Al-Radifah 77.74 296 *e*P P 06 14 25.8 -0.3
RDF AMb AMB 06 14 27.6
comp=Z,79nm,1.0s
NAY Al-Naaiem 77.80 297 *e*P P 06 14 26.2 -0.2
NAY AMb AMB 06 14 27.5
comp=Z,46nm,0.8s
NB2 NORSAR Subarra 77.81 338 P P 06 14 25.8 -0.2
comp=Z,18nm,0.9s,baz=40,slow=5.6
NB2 NORSAR Subarra 77.81 338 P P 06 14 25.8 -0.2
baz=40,slow=5.6
NOA NORSAR Array B 77.81 338 P P 06 14 25.9 0.0
NOA NORSAR Array B 77.81 338 P P 06 14 25.9 0.0
comp=Z,13nm,0.8s,baz=40,slow=5.6,SNR=40
SIM Simferopol' 78.13 316 *e*P P 06 14 28.5 +0.5
SIM *e* 06 14 39.0
SIM pmax pmax
comp=Z,18nm,0.7s
ELK Elko 78.14 49 *e*P P 06 14 29.3 +0.8
comp=Z,2.4nm,0.8s
QLMT Eanquake Lak 78.17 44 *e*P P 06 14 29.2 +0.7
comp=Z,1.4nm,1.0s
SUW Suwalki 78.20 328 *e*P P 06 14 28.5 +0.3
URZ Urewera 78.38 152 P P 06 14 29.6 +0.4
URZ Urewera 78.38 152 P P 06 14 29.6 +0.4
comp=Z,21nm,1.0s,baz=82,slow=14,SNR=3.4
GCMT Greycliff 78.62 42 *e*P P 06 14 31.3 +0.4
comp=Z,3.1nm,0.9s
IMW Indian Meadow 78.99 45 *e*P P 06 14 34.1 +0.9
comp=Z,4.7nm,0.9s
FLWY Flagg Ranch 79.02 44 *e*P P 06 14 35.4 +2.1
comp=Z,9.2nm,1.0s
MALT Malatya 79.19 309⇑ *i*P P 06 14 51.4 +17
MOOW Moose Ponds 79.19 45 *e*P P 06 14 35.5 +1.3
comp=Z,5.7nm,1.3s
TPAW Teton Pass 79.22 45 *e*P P 06 14 34.9 +0.5
comp=Z,10.0nm,1.1s
RLMT Red Lodge 79.24 43 *e*P P 06 14 35.4 +1.0
comp=Z,7.2nm,1.1s
SNOW Snow King Moun 79.35 45 *e*P P 06 14 34.7 -0.4
comp=Z,6.6nm,1.1s
REDW Red Top Meadow 79.35 45 *e*P P 06 14 36.6 +1.5
comp=Z,11nm,1.3s
LOHW Long Hollow 79.35 45 *e*P P 06 14 36.1 +1.1
comp=Z,4.6nm,1.3s
HWUT Hardware Ranch 79.94 47 *e*P P 06 14 38.5 +0.3
comp=Z,9.9nm,1.1s
DUG Dugway 79.98 48 *e*P P 06 14 38.9 +0.5
DUG pmax pmax
comp=Z,6.0nm,0.9s
DUG Dugway 79.98 48 *e*P P 06 14 38.9 +0.5
comp=Z,5.5nm,0.9s
GSC Goldstone 80.11 54 *e*P P 06 14 39.9 +0.8
GSC pmax pmax
comp=Z,5.0nm,0.9s
GSC Goldstone 80.11 54 *e*P P 06 14 39.9 +0.8
comp=Z,4.9nm,0.9s
PDAR Pinedale Array 80.47 45 P P 06 14 41.0 -0.1
PDAR Pinedale Array 80.47 45 P P 06 14 41.0 -0.1
comp=Z,0.9nm,0.8s,baz=266,slow=2.1,SNR=7.0
NLU North Lily Min 80.58 48 *e*P P 06 14 42.8 +1.0
comp=Z,4.9nm,0.9s
JLU Jordanelle 80.60 48 *e*P P 06 14 42.5 +0.6
comp=Z,6.6nm,1.2s
DAU Daniels Canyon 80.83 48 *e*P P 06 14 43.9 +0.7
DAU pmax pmax
comp=Z,6.0nm,0.8s
DAU Daniels Canyon 80.83 48 *e*P P 06 14 43.9 +0.7
comp=Z,5.7nm,0.8s
ARUT Antelope Range 80.95 51 *e*P P 06 14 44.6 +0.9
ARUT pmax pmax
comp=Z,8.0nm,0.9s
ARUT Antelope Range 80.95 51 *e*P P 06 14 44.6 +0.9
comp=Z,7.8nm,0.9s
CCUT Cedar City 81.14 51 *e*P P 06 14 45.0 +0.2
comp=Z,3.1nm,0.8s
KWP Kalwaria Pacla 81.32 325 *e*P P 06 14 46.1 +0.9
KWP pmax pmax
comp=Z,46nm,1.0s
KWP Kalwaria Pacla 81.32 325 *e*P P 06 14 46.1 +0.9
comp=Z,46nm,1.0s
KWP Kalwaria Pacla 81.32 325⇓ *i*P P 06 14 46.5 +1.3
KWP Kalwaria Pacla 81.32 325 *e*P P 06 14 46.0 +0.9
TESR Tescani 81.35 321⇑ *i*P P 06 14 45.9 +0.5
CFR Carcaliu 81.38 319⇓ *i*P P 06 14 45.9 +0.3
LDFC Landfair 81.38 54 *e*P P 06 14 45.5 -0.5
comp=Z,9.9nm,0.9s
BURAR Bucovina Array 81.39 322⇑ *i*P P 06 14 46.2 +0.4
BRTR Keskin Array B 81.45 312 P P 06 14 46.6 +0.4
BRTR Keskin Array B 81.45 312 P P 06 14 46.6 +0.4
comp=Z,12nm,0.8s,baz=108,slow=3.4,SNR=51
PETR Petresti 81.53 320⇓ *i*P P 06 14 48.3 +1.9
TIRR Tirgusor 81.68 318 *e*P P 06 14 47.7 +0.5
TIRR pmax pmax
comp=Z,3.0nm,0.7s
TIRR Tirgusor 81.68 318 *e*P P 06 14 47.6 +0.5
comp=Z,2.6nm,0.7s
TIRR Tirgusor 81.68 318⇑ *i*P P 06 14 47.7 +0.5
VRI Vrincioaia 81.72 320⇓ *i*P P 06 14 48.6 +1.2
PLOR Plostina 81.77 320⇓ *i*P P 06 14 48.4 +0.7
KOLS Kolonicke sedl 82.00 324 *e*P P 06 14 49.2 +0.4
KOLS pmax pmax
comp=Z,9.0nm,1.1s
KOLS Kolonicke sedl 82.00 324 *e*P P 06 14 49.2 +0.4
KOLS *ep*P pP 06 15 00.0 +2.4
MUD Monsted U'grnd 82.02 335 *e*P P 06 14 47.9 -0.8
MUD pmax pmax
comp=Z,8.0nm,0.9s
MUD Monsted U'grnd 82.02 335 *i* P P 06 14 47.9 -0.8
comp=Z,8.2nm,0.8s
SRU San Rafael 82.05 48 *e*P P 06 14 49.9 +0.4
SRU pmax pmax
comp=Z,11nm,0.7s
SRU San Rafael 82.05 48 *e*P P 06 14 49.9 +0.4
comp=Z,11nm,0.7s
STHS Stebnicka Huta 82.17 325 *e*P P 06 14 50.4 +0.7
STHS pmax pmax
comp=Z,8.0nm,1.0s
STHS Stebnicka Huta 82.17 325 *e*P P 06 14 50.4 +0.7
STHS *ep*P pP 06 15 01.7 +3.2
UZH Uzhgorod 82.19 324 *e*P P 06 14 50.1 +0.3
UZH *e* 06 14 58.9
UZH *e* 06 15 01.9
ISR Istrita 82.29 320⇑ *i*P P 06 14 51.8 +1.3
OJC Ojcow 82.30 326 *e*P P 06 14 50.7 +0.3
OJC Ojcow 82.30 326 *e*P P 06 14 50.7 +0.3

MLR Muntele Rosu 82.38 320 P P 06 14 51.5 +0.4
MLR Muntele Rosu 82.38 320⇓ *i*P P 06 14 51.6 +0.6
MLR Muntele Rosu 82.38 320 P P 06 14 51.5 +0.4
comp=Z,0.6nm,0.5s,baz=341,slow=6.5,SNR=7.5
TRPA Tarpa 82.41 324⇓ *i*P P 06 14 51.9 +1.0
TRPA Tarpa 82.41 324⇑ *e*P P 06 14 51.9 +1.0
NIE Niedzica 82.61 326 *e*P P 06 14 54.5 +2.5
NIE Niedzica 82.61 326 *e*P P 06 14 54.5 +2.5
PMOR Pomariorio Ree 82.65 113 *e*T T 07 47 05.7
comp=Z,3.9nm,0.3s
ULM Lac du Bonnet 82.82 33 P P 06 14 52.6 -0.5
ULM Lac du Bonnet 82.82 33 P P 06 14 52.6 -0.5
comp=Z,1.7nm,0.6s,baz=111,slow=8.6,SNR=2.7
VOIR 82.89 321⇓ *i*P P 06 14 54.5 +0.9
PPT Papeete 82.92 116 LR LR 06 42 45.3
comp=Z,279nm,21.6s,baz=296,slow=29
PPT2 Papeete2 82.93 116 *e*LR LR 06 41 23.2
comp=Z,151nm,23.2s
ARR Arges 83.16 321⇓ *i*P P 06 14 56.6 +1.6
KECS Kecovo 83.17 325 *e*P P 06 14 55.3 +0.4
KECS pmax pmax
comp=Z,5.0nm,1.0s
KECS Kecovo 83.17 325 *e*P P 06 14 55.3 +0.4
DRGR 83.22 323⇑ *i*P P 06 14 55.9 +0.6
OKC Ostrava-Krasne 83.33 327 *e*P P 06 14 55.9 +0.2
OKC Ostrava-Krasne 83.33 327 *e*P P 06 14 55.9 +0.2
KSP Ksiaz 83.44 329 *e*P P 06 14 56.3 +0.1
KSP *e*PP pP 06 15 04.9 -0.1
KSP Ksiaz 83.44 329 *e*P P 06 14 56.7 +0.5
PV04 Paradox Valley 83.49 48 *e*P P 06 14 57.7 +0.7
LOT Lotru 83.56 321⇑ *i*P P 06 14 57.7 +0.5
WUAZ Wupatki 83.62 52 *e*P P 06 14 58.5 +0.8
comp=Z,6.1nm,1.0s
MORC Moravsky Berou 83.64 327 *e*P P 06 14 57.2 -0.2
MORC pmax pmax
comp=Z,7.0nm,0.9s
MORC Moravsky Berou 83.64 327 *e*P P 06 14 57.2 -0.2
comp=Z,7.3nm,0.9s
DPC Dobruska-Polom 83.78 328 *e*P P 06 14 58.5 +0.4
DPC *e* 06 15 09.3
DPC Dobruska-Polom 83.78 328 *e*P P 06 14 58.5 +0.4
DPC *ep*P pP 06 15 09.3 +2.4
DPC AMS AMS 07 04 50.0
PSZ Piszkesteto 83.85 325 *e*P P 06 14 59.3 +0.8
PSZ pmax pmax
comp=Z,21nm,0.9s
PSZ Piszkesteto 83.85 325 *e*P P 06 14 59.3 +0.8
comp=Z,21nm,0.9s
PSZ Piszkesteto 83.85 325⇓ *i*P P 06 14 59.4 +0.9
PSZ Piszkesteto 83.85 325⇑ *e*P P 06 14 59.4 +0.9
PV01 Paradox Valley 83.86 48 *e*P P 06 14 59.2 +0.2
comp=Z,764nm,1.0s
VYHS Vyhne 83.95 326 *e*P P 06 14 59.8 +0.8
VYHS pmax pmax
comp=Z,9.0nm,1.0s
VYHS Vyhne 83.95 326 *e*P P 06 14 59.8 +0.8
GZR Gura Zlata 84.12 322⇑ *i*P P 06 15 00.1 +0.2
AGMN Agassiz Nation 84.20 34 *e*P P 06 14 59.3 -0.9
comp=Z,3.5nm,0.9s
VRAC Vranov 84.41 327 P P 06 15 02.2 +0.9
VRAC Vranov 84.41 327 P P 06 15 02.2 +0.9
comp=Z,11nm,0.9s,baz=38,slow=4.8,SNR=17
PVCC Panska Ves 84.42 329 *e*P P 06 15 01.9 +0.7
PVCC *e* 06 15 08.7
PVCC Panska Ves 84.42 329 *e*P P 06 15 01.9 +0.7
PVCC *ep*P pP 06 15 08.7 -1.4
BRG Berggiesshubel 84.43 330 *e*P P 06 15 01.4 +0.1
comp=Z,8.9nm,0.9s
BRG *e* 06 15 13.0
comp=Z,8.0nm,0.8s
BRG
comp=N,163nm,16.8s
BRG
comp=E,2μm,17.8s
BRG
comp=Z,306nm,19.1s
BRG Berggiesshubel 84.43 330 *e*P P 06 15 01.2 -0.1
comp=Z,75nm,2.5s
BRG *ep*P pP 06 15 12.5 +2.4
BRG Berggiesshubel 84.43 330 *e*P P 06 15 01.4 +0.1
BRG *e* 06 15 13.0
BRG pmax pmax
comp=Z,9.0nm,0.9s
BRG pmax pmax
comp=Z,9.0nm,0.8s
BRG MLR MLR
comp=N,8μm,16.8s
BRG MLR MLR
comp=E,163nm,17.8s
BRG MLR MLR
comp=Z,2μm,19.1s
MVCO Mesa Verde 84.46 49 *e*P P 06 15 02.4 +0.3
comp=Z,4.6nm,1.0s
CSS Prodhromos 84.47 308 *e*P P 06 15 02.2 +0.3
comp=Z,17nm,0.9s
CLL Collm 84.50 330 *e*P P 06 15 01.4 -0.2
comp=Z,20nm,0.9s
CLL Collm 84.50 330⇑ *i*P P 06 15 01.3 -0.3
CLL *i* *PP pP 06 15 12.6 +2.2
CLL pmax pmax
comp=Z,20nm,0.9s
CLL Collm 84.50 330⇑ *i*P P 06 15 01.3 -0.3
comp=Z,20nm,0.9s
CLL *i* pP pP 06 15 12.6 +2.2
CLL *es*P sP 06 15 18.0 +4.4
ISP Isparta 84.54 312⇑ *i*P P 06 15 02.6 +0.3
BZS Buzias 84.57 322⇓ *i*P P 06 15 02.3 +0.2
SMOL Smolenice 84.60 326 *ep*P pP 06 15 15.1 +4.1
ISCO Idaho Springs 84.64 45 *e*P P 06 15 03.2 +0.2
ISCO pmax pmax
comp=Z,2.0nm,0.8s
ISCO Idaho Springs 84.64 45 *e*P P 06 15 03.2 +0.2
comp=Z,2.0nm,0.8s
FBE Freiberg 84.64 330 *e*P P 06 15 02.5 +0.1
comp=Z,20nm,1.0s
PRU Pruhonice 84.83 329 *e*P P 06 15 03.6 +0.3
PRU *e* 06 15 13.1
PRU MLR MLR
comp=Z,300nm,18.7s
PRU Pruhonice 84.83 329 *e*P P 06 15 03.6 +0.3
PRU *ep*P pP 06 15 13.1 +1.0
PRU AMS AMS 06 59 40.0
comp=Z,300nm,18.7s
TREC Trest 84.92 328 *e*P P 06 15 04.3 +0.4
TREC MLR MLR
comp=Z,300nm,17.2s
TREC Trest 84.92 328 *e*P P 06 15 04.3 +0.4
TREC AMS AMS 07 01 00.0
comp=Z,300nm,17.2s
ZST Bratislava 84.98 326 *e*P P 06 15 03.8 -0.3
ZST Bratislava 84.98 326 *e*P P 06 15 03.8 -0.3
NEUB Neuenburg 85.08 331 *e*P P 06 15 04.4 -0.2
comp=Z,21nm,0.9s
GUNZ Gunzen 85.49 330 *e*P P 06 15 06.7 0.0
comp=Z,10.0nm,1.1s
WERN Wernitzgruen 85.53 330 *e*P P 06 15 06.9 0.0
comp=Z,10.0nm,1.0s
KHC Kasperske Hory 85.89 329 *e*P P 06 15 09.0 +0.3
KHC *e* 06 15 20.2
KHC MLR MLR
comp=Z,200nm,16.0s
KHC Kasperske Hory 85.89 329 *e*P P 06 15 09.0 +0.3
KHC *ep*P pP 06 15 20.2 +2.7
KHC AMS AMS 06 57 40.0
comp=Z,200nm,16.0s
KHC Kasperske Hory 85.89 329 *e*P P 06 15 08.9 +0.3
comp=Z,4.7nm,0.9s
ROTZ Rotzenmuhle 86.00 330 *e*P P 06 15 09.8 +0.6
comp=Z,11nm,1.4s
GERES GERESS Array B 86.04 328 P P 06 15 09.6 0.0
GERES GERESS Array B 86.04 328 P P 06 15 09.6 0.0
comp=Z,2.0nm,0.7s,baz=28,slow=6.0,SNR=18
GRFO Grafenberg 86.47 330 *e*P P 06 15 12.0 +0.5
GRFO pmax pmax
comp=Z,27nm,1.4s
GRFO Grafenberg 86.47 330 *e*P P 06 15 12.0 +0.5
comp=Z,27nm,1.4s
TBI Tubuai 86.55 121 *e*LR LR 06 43 11.7
comp=Z,160nm,26.0s
EKA Eskdalemuir Ar 86.83 341 P P 06 15 12.7 -0.5
EKA Eskdalemuir Ar 86.83 341 P P 06 15 12.7 -0.5
comp=Z,3.7nm,0.9s,baz=30,slow=5.1,SNR=6.1
ECSD EROS Data Cent 87.04 38 *e*P P 06 15 13.8 -0.7
comp=Z,5.9nm,0.8s
CDF Champ du Feu 89.09 331 *e*P P 06 15 23.6 -0.6

comp=Z,8.9nm,0.8s
CDF Champ du Feu 89.09 331 *e*P **P** 06 15 23.6 -0.6
CDF pmax pmax
comp=Z,9.0nm,0.8s
CDF Champ du Feu 89.09 331 *e*P **P** 06 15 23.6 -0.6
comp=Z,8.9nm,0.8s
SCHQ Schefferville 89.14 16 P **P** 06 15 24.3 +0.1
SCHQ Schefferville 89.14 16 P **P** 06 15 24.3 +0.1
comp=Z,3.7nm,0.8s,baz=358,slow=4.9,SNR=4.8
DAVOX Davos/Dischmat 89.29 329 P **P** 06 15 24.8 -0.5
DAVOX Davos/Dischmat 89.29 329 P **P** 06 15 24.8 -0.5
comp=Z,2.7nm,0.3s,baz=54,slow=8.7,SNR=4.9
HINF Hinteralfeld 89.73 331 *e*P **P** 06 15 27.0 -0.2
HINF Hinteralfeld 89.73 331 *e*P **P** 06 15 27.0 -0.2
HINF Hinteralfeld 89.73 331 *e*P **P** 06 15 27.0 -0.2
MEZF Maizieres J'vi 89.89 333 *e*P **P** 06 15 27.9 +0.1
MEZF Maizieres J'vi 89.89 333 *e*P **P** 06 15 27.9 +0.1
SFTF Sexfontaines 90.14 332 *e*P **P** 06 15 28.4 -0.6
SFTF Sexfontaines 90.14 332 *e*P **P** 06 15 28.4 -0.6
CABF La Chapelle 91.01 331 *e*P **P** 06 15 32.5 -0.7
comp=Z,32nm,1.2s
CABF La Chapelle 91.01 331 *e*P **P** 06 15 32.5 -0.7
CABF pmax pmax
comp=Z,33nm,1.2s
CABF La Chapelle 91.01 331 *e*P **P** 06 15 32.5 -0.7
comp=Z,32nm,1.2s
LPL La Plagne 91.63 330 *e*P **P** 06 15 35.8 -0.4
LPL La Plagne 91.63 330 *e*P **P** 06 15 35.8 -0.4
LPL La Plagne 91.63 330 *e*P **P** 06 15 35.8 -0.4
LPG La Plagne 91.63 330 *e*P **P** 06 15 35.9 -0.5
LPG La Plagne 91.63 330 *e*P **P** 06 15 35.9 -0.5
LPG La Plagne 91.63 330 *e*P **P** 06 15 35.9 -0.5
SSF Saint Saulge 91.67 333 *e*P **P** 06 15 35.8 -0.3
comp=Z,12nm,1.0s
SSF Saint Saulge 91.67 333 *e*P **P** 06 15 35.8 -0.3
SSF pmax pmax
comp=Z,12nm,1.0s
SSF Saint Saulge 91.67 333 *e*P **P** 06 15 35.8 -0.3
comp=Z,12nm,1.0s
LDF La Druitiere 91.71 336 *e*P **P** 06 15 35.6 -0.7
LDF La Druitiere 91.71 336 *e*P **P** 06 15 35.6 -0.7
LDF La Druitiere 91.71 336 *e*P **P** 06 15 35.6 -0.7
SMF Signal de Mont 91.88 332 *e*P **P** 06 15 36.6 -0.5
SMF Signal de Mont 91.88 332 *e*P **P** 06 15 36.6 -0.5
SMF Signal de Mont 91.88 332 *e*P **P** 06 15 36.6 -0.5
AVF Avril sur Loir 91.95 333⇑*i*P **P** 06 15 37.1 -0.3
comp=Z,21nm,0.9s
AVF Avril sur Loir 91.95 333⇑*i*P **P** 06 15 37.1 -0.3
AVF pmax pmax
comp=Z,21nm,0.9s
AVF Avril sur Loir 91.95 333⇑*i*P **P** 06 15 37.1 -0.3
comp=Z,21nm,0.9s
GRR Gorron 92.14 336 *e*P **P** 06 15 37.9 -0.3
comp=Z,20nm,0.9s
GRR Gorron 92.14 336 *e*P **P** 06 15 37.9 -0.3
GRR pmax pmax
comp=Z,20nm,0.9s
GRR Gorron 92.14 336 *e*P **P** 06 15 37.9 -0.3
comp=Z,20nm,0.9s
MBDF Montbardon 92.24 329 *e*P **P** 06 15 38.6 -0.4
comp=Z,14nm,0.9s
MBDF Montbardon 92.24 329 *e*P **P** 06 15 38.6 -0.4
MBDF pmax pmax
comp=Z,14nm,0.9s
MBDF Montbardon 92.24 329 *e*P **P** 06 15 38.6 -0.4
comp=Z,14nm,0.9s
BGF Bois d'Agland 92.34 333 *e*P **P** 06 15 38.8 -0.4
BGF Bois d'Agland 92.34 333 *e*P **P** 06 15 38.8 -0.4
BGF Bois d'Agland 92.34 333 *e*P **P** 06 15 38.8 -0.4
ORIF Oris-en-Rattie 92.47 330 *e*P **P** 06 15 39.5 -0.5
comp=Z,12nm,0.8s
ORIF Oris-en-Rattie 92.47 330 *e*P **P** 06 15 39.5 -0.5
ORIF pmax pmax
comp=Z,12nm,0.8s
ORIF Oris-en-Rattie 92.47 330 *e*P **P** 06 15 39.5 -0.5
comp=Z,12nm,0.8s
TXAR Lajitas Array 92.56 52 P **P** 06 15 41.0 +0.3
TXAR Lajitas Array 92.56 52 P **P** 06 15 41.0 +0.3
comp=Z,1.3nm,0.6s,baz=305,slow=2.9,SNR=23
TCF Toulx Ste Croi 92.81 333 *e*P **P** 06 15 41.1 -0.3
comp=Z,17nm,1.0s
TCF Toulx Ste Croi 92.81 333 *e*P **P** 06 15 41.1 -0.3
TCF pmax pmax
comp=Z,17nm,1.0s
TCF Toulx Ste Croi 92.81 333 *e*P **P** 06 15 41.1 -0.3
comp=Z,17nm,1.0s
SGMF Saint Gilles 92.83 337 *e*P **P** 06 15 41.2 -0.2
SGMF Saint Gilles 92.83 337 *e*P **P** 06 15 41.2 -0.2
SGMF Saint Gilles 92.83 337 *e*P **P** 06 15 41.2 -0.2
ROSF Rostrenen 92.99 337 *e*P **P** 06 15 42.0 -0.2
ROSF Rostrenen 92.99 337 *e*P **P** 06 15 42.0 -0.2
ROSF Rostrenen 92.99 337 *e*P **P** 06 15 42.0 -0.2
VIVF Saint-Julien-l 93.02 331 *e*P **P** 06 15 42.0 -0.4
comp=Z,17nm,0.9s
VIVF Saint-Julien-l 93.02 331 *e*P **P** 06 15 42.0 -0.4
VIVF pmax pmax
comp=Z,17nm,0.9s
VIVF Saint-Julien-l 93.02 331 *e*P **P** 06 15 42.0 -0.4
comp=Z,17nm,0.9s
MFF Saint Martin d 93.42 335 *e*P **P** 06 15 44.1 -0.1
MFF Saint Martin d 93.42 335 *e*P **P** 06 15 44.1 -0.1
MFF Saint Martin d 93.42 335 *e*P **P** 06 15 44.1 -0.1
RJF Les Rejaudoux 93.90 333 *e*P **P** 06 15 45.6 -0.8
comp=Z,9.4nm,0.8s
RJF Les Rejaudoux 93.90 333 *e*P **P** 06 15 45.6 -0.8
RJF pmax pmax
comp=Z,9.0nm,0.8s
RJF Les Rejaudoux 93.90 333 *e*P **P** 06 15 45.6 -0.8
comp=Z,9.4nm,0.8s
LASF Ste Croix 93.99 331 *e*P **P** 06 15 46.7 -0.2
LASF Ste Croix 93.99 331 *e*P **P** 06 15 46.7 -0.2
CAF Calviac 94.00 332 *e*P **P** 06 15 47.0 0.0
comp=Z,23nm,1.0s
CAF Calviac 94.00 332 *e*P **P** 06 15 47.0 0.0
CAF pmax pmax
comp=Z,23nm,1.0s
CAF Calviac 94.00 332 *e*P **P** 06 15 47.0 0.0
comp=Z,23nm,1.0s
JCT Junction City 94.32 49 P **P** 06 15 46.8 -1.9
JCT pmax pmax
comp=Z,3.0nm,0.3s
JCT Junction City 94.32 49 P **P** 06 15 46.8 -1.9
comp=Z,2.9nm,0.3s
MIAR Mount Ida 95.24 43 *e*P **P** 06 15 52.5 -0.3
MIAR pmax pmax
comp=Z,5.0nm,1.0s
MIAR Mount Ida 95.24 43 *e*P **P** 06 15 52.5 -0.3
comp=Z,5.2nm,1.0s
MTLF Montolieu 95.26 331 *e*P **P** 06 15 52.5 -0.2
MTLF Montolieu 95.26 331 *e*P **P** 06 15 52.5 -0.2
MTLF Montolieu 95.26 331 *e*P **P** 06 15 52.5 -0.2
EPF Esparros 96.27 332 *e*P **P** 06 15 57.3 -0.1
EPF Esparros 96.27 332 *e*P **P** 06 15 57.3 -0.1
EPF Esparros 96.27 332 *e*P **P** 06 15 57.3 -0.1
TORD Torodi Ar. Bea 120.05 313 PKP **PKPdf** 06 21 19.1 -1.0
TORD PP PP 06 22 32.5 -12
TORD Torodi Ar. Bea 120.05 313 PKP **PKPdf** 06 21 19.1 -1.0
comp=Z,0.9nm,0.6s,baz=20,slow=1.5,SNR=12
TORD PP PP 06 22 32.5 -12
comp=Z,1.1nm,0.9s,baz=36,slow=7.6,SNR=4.5
QSPA South Pole Qui 122.84 180 *e*PKPdf **PKPdf** 06 21 23.2 -0.8
BOSA Boshof 125.71 256 PKP **PKPdf** 06 21 29.2 -1.6
BOSA Boshof 125.71 256 PKP **PKPdf** 06 21 29.2 -1.6
comp=Z,3.9nm,0.9s,baz=291,slow=20,SNR=3.6
SAML Samuel 146.97 49 *e*PKPdf **PKPdf** 06 22 09.8 -0.3
SAML *e*PKPbc **PKPbc** 06 22 11.8 -0.3
LPAZ La Paz 148.56 65 *e*PKPbc **PKPbc** 06 22 17.4 +0.3
LPAZ La Paz 148.56 65 PKPbc **PKPbc** 06 22 17.4 +0.3
comp=Z,7.0nm,0.7s,baz=355,slow=4.0,SNR=32
USHA Ushuaia 149.84 145 PKPbc **PKPbc** 06 22 18.9 +0.6
USHA Ushuaia 149.84 145 PKPbc **PKPbc** 06 22 18.9 +0.6
comp=Z,7.9nm,0.8s,baz=285,slow=13,SNR=3.5
LVC Limon Verde 151.36 76 PKPbc **PKPbc** 06 22 23.3 0.0
LVC Limon Verde 151.36 76 PKPbc **PKPbc** 06 22 23.3 0.0
comp=Z,8.3nm,0.8s,baz=270,slow=3.5,SNR=4.4
SIV San Ignacio 153.51 55 PKP **PKPdf** 06 22 19.7 -0.6
SIV PKPbc **PKPbc** 06 22 27.8 -0.2
SIV San Ignacio 153.51 55 PKP **PKPdf** 06 22 19.7 -0.6
comp=Z,1.3nm,0.8s,baz=225,slow=5.0,SNR=5.2
SIV PKPbc **PKPbc** 06 22 27.8 -0.2
comp=Z,1.9nm,0.6s,baz=299,slow=2.3,SNR=8.7
CPUP Villa Florida 162.43 72 PKPab **PKPab** 06 23 18.0 -0.6
CPUP Villa Florida 162.43 72 PKPab **PKPab** 06 23 18.0 -0.6
comp=Z,1.1nm,0.6s,baz=1.5,slow=6.3,SNR=3.6

CSEM ***19*** *06:22:57.9,38.49N×29.75W,h10km,ML2.7,After PDA*
PDA 19 06:22:57.9±1.0,38.49N×29.75W,h10km,MD3.7,ML2.7,
Error ellipse: s-maj=9.8km s-min=5.5km az=152.0,
Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.83**	**83**	*e*P	Pg	06 23 10.8	-3.2
CALA				*e*S	Sg	06 23 21.0	-3.9
CALA	**Caldeira**	**0.83**	**83**	*e*P	Pg	06 23 10.8	-3.2
CALA				*e*S	Sg	06 23 21.0	-3.9
PCED	**Cedros**	**0.83**	**80**	*e*P	Pg	06 23 10.8	-3.2
PCED				*e*S	Sg	06 23 20.4	-4.5
PCED				A	A	06 23 21.6	
	68nm,0.2s						
PCED	**Cedros**	**0.83**	**80**	*e*P	Pg	06 23 10.8	-3.2
PCED				*e*S	Sg	06 23 20.4	-4.5
HOR	**Horta**	**0.88**	**87**	*e*P	Pg	06 23 11.5	-3.4
HOR				*e*S	Sg	06 23 21.9	-4.5
HOR	**Horta**	**0.88**	**87**	*e*P	Pg	06 23 11.5	-3.4
HOR				*e*S	Sg	06 23 21.9	-4.5
PCAN	**Candelaria**	**0.99**	**91**	*e*P	Pg	06 23 12.8	-4.3
PCAN				*e*S	Sg	06 23 24.5	-5.6
PCAN				A	A	06 23 24.8	
	44nm,0.4s						
PCAN	**Candelaria**	**0.99**	**91**	*e*P	Pg	06 23 12.8	-4.3
PCAN				*e*S	Sg	06 23 24.5	-5.6
PICO	**Pico**	**1.04**	**89**	*e*P	Pg	06 23 14.3	-3.7
PICO				*e*S	Sg	06 23 26.0	-5.7
PICO	**Pico**	**1.04**	**89**	*e*P	Pg	06 23 14.3	-3.7
PICO				*e*S	Sg	06 23 26.0	-5.7
ROSA	**Rosais**	**1.21**	**79**	*e*P	Pn	06 23 16.4	-4.4
ROSA				*e*S	Sb	06 23 30.3	-6.2
ROSA				A	A	06 23 31.2	
	160nm,0.3s						
ROSA	**Rosais**	**1.21**	**79**	*e*P	Pn	06 23 16.4	-4.4
ROSA				*e*S	Sb	06 23 30.3	-6.2
PID	**Ribeirinha**	**1.28**	**92**	*e*P	Pn	06 23 17.5	-4.4
PID				*e*S	Sb	06 23 31.7	-7.1
PID	**Ribeirinha**	**1.28**	**92**	*e*P	Pn	06 23 17.5	-4.4
PID				*e*S	Sb	06 23 31.7	-7.1
PMAN	**Manadas**	**1.31**	**83**	*e*P	Pn	06 23 17.9	-4.4
PMAN				*e*S	Sb	06 23 32.6	-6.9
PMAN				A	A	06 23 33.7	
	27nm,0.1s						
PMAN	**Manadas**	**1.31**	**83**	*e*P	Pn	06 23 17.9	-4.4
PMAN				*e*S	Sb	06 23 32.6	-6.9
PGRA	**Graciosa**	**1.48**	**68**	*e*S	Sn	06 23 36.3	-7.9
PGRA				A	A	06 23 36.6	
	21nm,0.3s						
PGRA	**Graciosa**	**1.48**	**68**	*e*S	Sn	06 23 36.3	-7.9
PDA	**Ponta Delgada**	**3.31**	**102**	*e*P	Pn	06 23 45.4	-4.3
PDA	**Ponta Delgada**	**3.31**	**102**	*e*P	Pn	06 23 45.4	-4.3
BART	**Pico Bartolome**	**3.68**	**100**	*e*P	Pn	06 23 50.9	-4.1
BART	**Pico Bartolome**	**3.68**	**100**	*e*P	Pn	06 23 50.9	-4.1
PSMA	**Santa Maria**	**3.96**	**111**	*e*P	Pn	06 23 54.1	-4.5

TAP 19 06:23:59.6,24.07N×121.65E,h9km,ML3.9,18C-1D,B,
Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.05**	**277**	⇑*i*P	Pg	06 24 01.7	+0.2
	baz=278						
TWD				*i* S	Sg	06 24 03.0	+0.1
	baz=278						
HWA	**Hwalien**	**0.11**	**204**	⇓*i*P	Pg	06 24 02.7	+0.6
	baz=198						
HWA				*e*S	Sg	06 24 05.0	+1.1
	baz=198						
ESF	**Shoufeng Towns**	**0.24**	**213**	*e*P	Pg	06 24 04.7	+0.2
	baz=221						
ESF				*e*S	Sg	06 24 08.1	+0.3
	baz=221						
EHP	**Heping Village**	**0.25**	**19**	*e*P	Pg	06 24 03.8	-0.9
	baz=20						
ESL	**Shilin**	**0.33**	**218**	⇑*i*P	Pg	06 24 06.1	0.0
	baz=225						
ESL				*e*S	Sg	06 24 10.4	-0.1
	baz=225						
WHF	**Hehuan Shan**	**0.36**	**281**	⇑*i*P	Pg	06 24 07.1	-0.1
	baz=281						
WHF				S	Sg	06 24 12.3	-0.2
	baz=281						
ENA	**Nanau**	**0.36**	**13**	*i*P	Pg	06 24 06.9	+0.1
	baz=15						
ENA				S	Sg	06 24 11.5	-0.1
	baz=15						
TEGC	**Jichi Village**	**0.38**	**196**	*e*P	Pb	06 24 08.6	+0.2
	baz=188						
TEGC				*e*S	Sb	06 24 16.3	+1.9
	baz=188						
NNS	**Nan Shan**	**0.45**	**325**	⇑*i*P	Pg	06 24 08.7	+0.3
	baz=325						
NNS				*e*S	Sg	06 24 14.9	+0.4
	baz=325						
TWT	**Tachien**	**0.47**	**292**	⇑*i*P	Pb	06 24 09.7	-0.6
	baz=291						
TWT				S	Sg	06 24 16.4	+1.0
	baz=291						
TWC	**Suao**	**0.56**	**19**	*e*P	Pg	06 24 10.6	0.0
	baz=12						
TWC				*e*S	Sg	06 24 18.6	+0.7
	baz=12						
ENTT	**Nioudou**	**0.57**	**352**	⇑*i*P	Pg	06 24 11.1	+0.4
	baz=353						
ENTT				*i* S	Sb	06 24 19.1	-0.9
	baz=353						
EHY	**Hungye**	**0.64**	**208**	⇑P	Pg	06 24 11.8	-0.2
	baz=214						
EHY				S	Sb	06 24 21.8	-0.3
	baz=214						
TWE	**Neicheng**	**0.64**	**1**	⇑*i*P	Pg	06 24 12.4	+0.3
	baz=3.0						
TWE				S	Sg	06 24 20.9	+0.4
	baz=3.0						
NSK	**Sanguang**	**0.66**	**336**	⇑*i*P	Pb	06 24 13.0	-0.4
	baz=329						
NSK				S	Sg	06 24 21.2	+0.2
	baz=329						
ILA	**Ilan**	**0.69**	**7**	*e*P	Pb	06 24 13.6	-0.3
	baz=8.0						
ILA				*e*S	Sg	06 24 22.7	+0.6
	baz=8.0						
SMLT	**Sun Moon Lake**	**0.71**	**255**	⇑*i*P	Pg	06 24 13.9	+0.4
	baz=254						
SMLT				*e*S	Sg	06 24 23.3	+0.4
	baz=254						
TYC	**Yuchr**	**0.75**	**257**	⇑*i*P	Pg	06 24 14.3	+0.3
	baz=256						
TYC				*i* S	Sb	06 24 24.4	-0.6
	baz=256						
TWF1	**Yuli**	**0.79**	**204**	*e*P	Pg	06 24 14.2	-0.6
	baz=218						
NSTT	**Nanjuang**	**0.81**	**313**	P	Pb	06 24 16.0	+0.1
	baz=313						
NSTT				*e*S	Sb	06 24 26.8	-0.1
	baz=313						
TWQ1	**Liyutan**	**0.85**	**289**	⇑*e*P	Pn	06 24 17.2	-0.5
	baz=301						
TWQ1				*e*S	Sn	06 24 30.0	-0.3
	baz=301						
YUS	**Yu-Shan**	**0.87**	**228**	⇑*i*P	Pg	06 24 16.7	-0.2
	baz=227						
YUS				*e*S	Sb	06 24 30.3	+0.7
	baz=227						
NSY	**Sanyi**	**0.88**	**293**	*e*P	Pn	06 24 18.1	-0.1
	baz=293						
TCU	**Taichung**	**0.90**	**275**	⇑*i*P	Pn	06 24 18.8	+0.4
	baz=269						
TCU				*e*S	Sn	06 24 32.6	+1.2
	baz=269						
TWA	**Mucha**	**0.90**	**356**	*e*P	Pb	06 24 17.7	+0.2
	baz=346						
TWA				*e*S	Sg	06 24 28.2	-0.7
	baz=346						
WNT	**Mingjian**	**0.91**	**258**	*e*P	Pn	06 24 18.4	-0.1
	baz=251						
WNT				*e*S	Sn	06 24 31.9	+0.2
	baz=251						
HSN	**Hsinchu**	**0.95**	**320**	*e*P	Pn	06 24 20.0	+0.8
	baz=322						
ALS	**Alishan**	**0.96**	**234**	⇑*i*P	Pg	06 24 18.5	+0.1
	baz=235						
TAP1	**Taipei**	**0.97**	**353**	*e*P	Pg	06 24 17.1	-1.1
	baz=343						
TAP1				*e*S	Sb	06 24 31.2	-0.2
	baz=343						
TWB1	**Santiao Chiao**	**0.98**	**18**	*e*P	Pg	06 24 18.3	-0.1
	baz=10.0						
NCU	**National Centr**	**0.99**	**335**	*e*P	Pn	06 24 20.5	+0.8
	baz=334						
NWF	**Wu-fen Shan**	**1.00**	**7**	*e*P	Pb	06 24 19.2	+0.1
	baz=6.0						
CHKT	**Chengkung**	**1.00**	**195**	*e*P	Pg	06 24 17.8	-1.1
	baz=196						
CHN5	**Tsauling**	**1.01**	**242**⇑	*i*P	Pn	06 24 20.1	+0.1
	baz=231						
CHN5				S	Sn	06 24 35.5	+1.0
	baz=231						
ELDTW	**Lidau**	**1.06**	**214**	*e*P	Pg	06 24 19.9	-0.1
	baz=223						
ELDTW				*e*S	Sn	06 24 35.1	-0.6
	baz=223						
WGK	**Gukeng**	**1.07**	**249**	*e*P	Pn	06 24 21.1	+0.4
	baz=250						
TWY	**Chenhua**	**1.20**	**358**	*e*P	Pg	06 24 24.8	+2.2
	baz=344						
CHN2	**Minshiung**	**1.21**	**244**	*e*P	Pb	06 24 22.5	-0.1
	baz=243						
CHN2				*e*S	Sn	06 24 41.9	+2.8
	baz=243						
CHN4	**Tsaushan**	**1.21**	**234**	*e*P	Pg	06 24 23.7	+0.9
	baz=225						
CHN4				*e*S	Sn	06 24 42.1	+2.9
	baz=225						
STYT	**Tauyuan**	**1.22**	**222**	*e*P	Pb	06 24 23.0	0.0
	baz=221						
STYT				*e*S	Sn	06 24 40.7	+1.1
	baz=221						
WTP	**Ta-pu**	**1.26**	**229**	⇑P	Pg	06 24 24.2	+0.3
	baz=228						
WTP				*e*S	Sn	06 24 42.1	+1.6
	baz=228						
CHY	**Chiayi**	**1.26**	**243**	*e*P	Pg	06 24 24.6	+0.8
	baz=242						
CHY				*e*S	Sn	06 24 43.5	+3.0
	baz=242						
WTCT	**Ta-ch'eng**	**1.27**	**261**	*e*P	Pg	06 24 24.4	+0.4
	baz=260						
WTCT				*e*S	Sn	06 24 42.6	+1.9
	baz=260						
YOJ	**Yonaguni jima**	**1.30**	**72**	*e*P	Pn	06 24 23.3	-0.6
	baz=70						
TWK	**Hsinying**	**1.34**	**233**	*e*P	Pb	06 24 24.7	-0.2
	baz=233						
TWK				*e*S	Sg	06 24 44.4	+1.7
	baz=233						
CHN1	**Nanshi**	**1.36**	**230**	*e*P	Pn	06 24 24.9	+0.2
	baz=219						
CHN1				*e*S	Sg	06 24 45.6	+2.2
	baz=219						
WSF	**Szhu**	**1.38**	**252**	*e*S	Sg	06 24 46.0	+2.0
	baz=251						
SGST	**Jiashian**	**1.39**	**225**	*e*P	Pb	06 24 26.0	+0.2
	baz=216						
SGST				*e*S	Sg	06 24 47.2	+2.7
	baz=216						
CHN8	**Yiju**	**1.51**	**242**	*e*S	Sg	06 24 49.9	+1.8
	baz=242						
TWM1	**Shoushan**	**1.68**	**222**	*e*P	Pg	06 24 31.5	-0.4
	baz=224						
SCZT	**Fangliau**	**1.94**	**209**	*e*P	Pb	06 24 34.5	-0.6
	baz=202						

OTT ***19*** *06:44:33.6±0.3,67.74N×54.97W,h18km,mb4.7/3,*
ML3.8/7,Western Greenland. 386km east from
Qikiqtarjuaq, Nu
ISC 19 06:44:30.2±1.0,67.7N±0.1×54.86W±0.06,h10km,n15,
σ1s08/16,1C,Davis Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**1.78**	**111**	PN	**Pg**	**06 45 04.4**	**+0.2**
SFJD				SN	**Sb**	**06 45 26.2**	**+1.0**
SFJD				Trac		06 45 27.5	
	comp=Z,3μm,0.2s						
SFJD	**Kangerlussuaq**	**1.78**	**111**	⇑*i*P	**Pg**	**06 45 04.5**	**+0.2**
FRB	**Frobisher Bay**	**6.88**	**241**	PN	Pn	06 46 15.5	+4.6
FRB				SN	**Sn**	**06 47 28.1**	**-0.9**
SUMG	**Summit**	**7.42**	**41**	*i* P	**Pn**	**06 46 19.0**	**+0.4**
GIFN	**Gifford Fjord,**	**9.91**	**296**	PN	**Pn**	**06 46 53.4**	**+1.1**
GIFN				mb		06 46 54.0	
	comp=Z,1.9nm,0.3s						
GIFN				SN	Sn	06 48 34.8	-8.6
GIFN				Trac		06 48 42.4	
	comp=Z,2.6nm,0.2s						
ILON	**Igloolik, Nuna**	**9.99**	**292**	PN	**Pn**	**06 46 54.8**	**+1.4**
ILON				mb		06 46 57.2	
	comp=Z,1.0nm,0.1s						
ILON				SN	Sn	06 48 38.9	-6.4
ILON				Trac		06 48 43.8	
	comp=Z,2.9nm,0.2s						
LAIN	**Lailor River,**	**10.62**	**291**	PN	**Pn**	**06 47 03.5**	**+1.4**
LAIN				mb		06 47 08.3	
	comp=Z,1.2nm,0.1s						
LAIN				SN	Sn	06 48 52.3	-8.5
LAIN				Trac		06 48 58.0	
	comp=Z,2.3nm,0.2s						
AP3N	**Apex site 3 Nu**	**10.91**	**293**	PN	**Pn**	**06 47 07.2**	**+1.2**
AP3N				SN	Sn	06 48 58.5	-9.5
SCO	**Scoresbysund**	**11.99**	**62**	*i* P	**Pn**	**06 47 19.2**	**-1.6**
QILN	**Qililugaq Expl**	**12.21**	**280**	PN	**Pn**	**06 47 24.2**	**+0.5**
QILN				SN	Sn	06 49 30.0	-10
QILN				Trac		06 49 35.5	
	comp=Z,1.7nm,0.2s						
KUGN	**Kugaaruk Camp,**	**13.15**	**288**	PN	**Pn**	**06 47 36.7**	**0.0**
KUGN				mb		06 47 40.2	
	comp=Z,5.5nm,0.6s						
KUGN				SN	Sn	06 49 49.4	-13
KUGN				Trac		06 49 54.1	
	comp=Z,5.4nm,0.7s						
DAG	**Danmarks Havn**	**13.99**	**34**	*i* P	**Pn**	**06 47 46.4**	**-1.7**
STLN	**Stellar Camp,**	**14.45**	**286**	PN	**Pn**	**06 47 55.3**	**+0.9**
STLN				mb		06 47 56.7	
	comp=Z,1.1nm,0.2s						
STLN				SN	Sn	06 50 23.8	-10
STLN				Trac		06 50 27.1	
	comp=Z,3.0nm,0.4s						
BULN	**Bullion Camp,**	**14.82**	**283**	PN	**Pn**	**06 47 59.0**	**-0.4**
BULN				mb		06 48 02.4	
	comp=Z,1.3nm,0.3s						
BULN				SN	Sn	06 50 31.8	-12
BULN				Trac		06 50 36.5	
	comp=Z,1.2nm,0.2s						
SEDN	**First Sedna Si**	**15.56**	**271**	PN	**Pn**	**06 48 09.3**	**+0.1**
SEDN				SN	Sn	06 50 51.0	-10

GUC 19 06:49:57.3±0.8,32.48S×71.91W,h20km±13km,MD3.7,
ML2.9,7C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.59**	**158**	⇓*i*P	Pb	06 50 08.3	-0.7
CHNG	**Los Chungos**	**0.69**	**30**	⇑*i*P	Pb	06 50 10.3	-0.3
CHNG				*i* S	Sb	06 50 19.9	+0.2
PTCH	**Petorca**	**0.85**	**76**	⇓*i*P	Pb	06 50 12.9	-0.6
PTCH				*i* S	Sb	06 50 24.1	-0.5
ROCH	**El Roble**	**0.90**	**123**	⇓*i*P	Pb	06 50 13.3	-1.2
ROCH				AML	AML	06 50 27.6	
	comp=N,407nm,0.2s						
JACH	**Jahuel**	**1.13**	**101**	⇑*i*P	Pn	06 50 17.0	-1.1
PEL	**Peldehue**	**1.22**	**123**	⇑*i*P	Pn	06 50 18.6	-0.7
PEL				*i* S	Sb	06 50 34.5	-0.7
PEL				AML	AML	06 50 37.4	
	comp=E,864nm,0.3s						
TACH	**Talagante**	**1.42**	**145**	⇓*i*P	Pn	06 50 21.8	-0.3
TACH				*i* S	Sn	06 50 39.7	-0.5
SAN	**Santiago**	**1.43**	**133**	*e*P	Pn	06 50 22.2	+0.1
SAN				*i* S	Sn	06 50 40.6	+0.3
STL	**Santa Lucia**	**1.43**	**132**	*e*P	Pn	06 50 22.0	-0.1
STL				*i* S	Sb	06 50 40.9	-0.2
CMCH	**Combarbala**	**1.51**	**31**	⇑*i*P	Pn	06 50 22.8	-0.6
CMCH				*i* S	Sn	06 50 42.8	+0.3
CMCH				AML	AML	06 50 48.6	
	comp=E,644nm,0.5s						
ANTU	**Antumapu**	**1.52**	**136**	*e*P	Pn	06 50 23.6	+0.1
ANTU				*i* S	Sb	06 50 43.4	-0.5

ANTU					AML	AML	06 50 48.9	
	comp=E,295nm,0.4s							
LNV	**Longovilo**	**1.53**	**164**	⇑	iP	Pn	06 50 22.0	-1.4
PCH	**Pirque**	**1.63**	**135**	⇑	iP	Pn	06 50 25.2	+0.2
PCH					*i* S	Sn	06 50 46.2	+0.7
SJCH	**San Jose de Ma**	**1.74**	**132**		*e*P	Pn	06 50 25.5	-1.0
SJCH					*i* S	Sn	06 50 48.3	+0.1
SJCH					AML	AML	06 50 55.4	
	comp=N,109nm,0.4s							
CHCH	**Chadas Angostu**	**1.79**	**144**	⇑	iP	Pn	06 50 27.6	+0.5
CHCH					*i* S	Sb	06 50 51.1	-0.5
CACH	**El Canelo**	**1.96**	**147**		*i* P	Pn	06 50 30.6	+1.0
CACH					*i* S	Sb	06 50 57.2	+0.5
LMEL	**Las Melosas**	**1.97**	**134**	⇓	iP	Pn	06 50 30.5	+0.7
LMEL					*e*S	Sb	06 50 56.7	-0.4
LMEL					AML	AML	06 50 59.0	
	comp=N,182nm,0.2s							
TLL	**Tololo Astrono**	**2.49**	**23**		*e*P	Pn	06 50 38.5	+1.4
TLL					AML	AML	06 51 18.6	
	comp=N,87nm,0.6s							

IDC ***19*** *07:16:39.9±0.6, 15°.04S×173°.91W, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.2/21, mbtmp4.1/11, MS4.1/22, Ms1 4.1/22, ms1mx4.0/34, Error ellipse: s-maj=30.2km s-min=17.6km az=127.0*

NEIC ***19*** *07:16:45.3±0.5, 15°.04S×173°.95W, h35km, mb4.5/2, Error ellipse: s-maj=22.8km s-min=13.2km az=129.0*

ISCJB ***19*** *07:16:48.0±0.6, 15°.1S±0°.1×174°.0W±0°.2, h73km, mb3.9/12, Error ellipse: s-maj=27.5km s-min=15.6km az=39.6*

GCMT ***19*** *07:16:51.9±0.3, 14°.97S×173°.23W, h12km, MW5.2, Moment Tensor Solution. s21,c23; s68,c86; Moment tensor: Scale 10^16Nm; Mrr~1.01±.11; Mθφ~1.29±.13; Mφφ~0.27±.09; Mrθ~8.29±.31; Mθθ~0.75±.10; Mrφ~0.24±.26; Best double couple: M0~8.40000×10^16 NP1:φs=322.00000°, δ6.00000°, λ-40.00000°. NP2:φs=92.00000°, δ86.00000°, λ-95.00000°. Principal axes: T 8.5700, Plg41.0000°, Azm186.0000°; N -0.3200, Plg5.0000°, Azm92.0000°; P -8.2400, Plg49.0000°, Azm357.0000°; Data Used: II IU IC G CN.*

ISC 19 07:16:49.6±0.7, 15°.1S±0°.2×174°.0W±0°.2, h73km, n51, σ0.75/29, mb4.1/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.41**	**62**	Pn	P	Pn	07 17 15.3	-12
AFI				Sn		Sn	07 17 35.3	-20
AFI	**Afiamalu**	**2.41**	**62**	Pn	P	Pn	07 17 15.3	-12
	311nm,0.3s,baz=180,slow=2.1,SNR=284							
AFI				Sn		Sn	07 17 35.3	-20
	387nm,0.3s,baz=35,slow=14,SNR=6.0							
AFI				LR		LR	07 18 00.3	
	comp=Z,3μm,20.3s,baz=276,slow=34							
RAR	**Rarotonga**	**14.82**	**117**	LR		LR	07 24 05.6	
	comp=Z,584nm,19.0s,baz=315,slow=30							
PPT2	**Papeete2**	**23.54**	**100**	*e*LR		LR	07 27 07.3	
	329nm,28.8s							
URZ	**Urewera**	**24.43**	**197**	LR		LR	07 30 36.9	
	comp=Z,720nm,18.3s,baz=39,slow=34							
TBI	**Tubuai**	**24.55**	**113**	*e*LR		LR	07 27 42.7	
	617nm,28.0s							
RPZ	**Rata Peaks**	**31.30**	**201**	LR		LR	07 34 19.3	
	comp=Z,910nm,21.7s,baz=20,slow=34							
STKA	**Stephens Creek**	**43.74**	**239**	LR		LR	07 39 37.6	
	comp=Z,151nm,19.3s,baz=32,slow=32							
WRA	**Warramunga Arr**	**49.39**	**257**	P		**P**	**07 25 31.6**	**-0.7**
WRA	**Warramunga Arr**	**49.39**	**257**	P		**P**	**07 25 31.6**	**-0.7**
	1.0nm,0.4s,baz=89,slow=7.1,SNR=22							
ASAR	**Alice Springs**	**49.70**	**252**	P		**P**	**07 25 34.7**	**0.0**
ASAR	**Alice Springs**	**49.70**	**252**	P		**P**	**07 25 34.7**	**0.0**
	6.2nm,0.6s,baz=85,slow=8.0,SNR=91							
ASAR				LR		LR	07 45 15.4	
	comp=Z,176nm,21.3s,baz=95,slow=34							
VNDA	**Vanda**	**63.67**	**186**	P		**P**	**07 27 13.2**	**+0.4**
VNDA	**Vanda**	**63.67**	**186**	P		**P**	**07 27 13.2**	**+0.4**
	1.2nm,0.7s,baz=6.9,slow=5.8,SNR=9.3							
VNDA				LR		LR	07 48 07.0	
	comp=Z,131nm,21.8s,baz=80,slow=30							
DAV	**Davao City (W)**	**63.81**	**286**	LR		LR	07 50 14.7	
	comp=Z,61nm,21.1s,baz=195,slow=32							
NWAO	**Narrogin (SRO)**	**64.31**	**240**	LR		LR	07 53 18.7	
	comp=Z,154nm,20.1s,baz=282,slow=34							
MJAR	**Matsushiro Arr**	**68.32**	**320**	LR		LR	07 51 28.7	
	comp=Z,161nm,21.4s,baz=150,slow=31							
JNU	**Nakatsue**	**71.16**	**313**	LR		LR	07 52 26.1	
	comp=Z,165nm,21.4s,baz=0.3,slow=30							
PETK	**Petropavlovsk-**	**72.13**	**343**	P		**P**	**07 28 07.0**	**+0.9**
PETK	**Petropavlovsk-**	**72.13**	**343**	P		**P**	**07 28 07.0**	**+0.9**
	1.3nm,0.7s,baz=145,slow=10.0,SNR=4.7							
PETK				LR		LR	07 53 09.5	
	comp=Z,56nm,20.7s,baz=71,slow=30							
YBH	**Yreka Blue Hor**	**73.65**	**37**	P		**P**	**07 28 15.5**	**0.0**
YBH	**Yreka Blue Hor**	**73.65**	**37**	P		**P**	**07 28 15.5**	**0.0**
	2.6nm,0.8s,baz=158,slow=7.7,SNR=4.3							
NVAR	**Mina Array Bea**	**74.44**	**42**	P		**P**	**07 28 20.3**	**0.0**
NVAR	**Mina Array Bea**	**74.44**	**42**	P		**P**	**07 28 20.3**	**0.0**
	2.1nm,0.8s,baz=226,slow=10,SNR=13							
NVAR				LR		LR	07 52 52.2	
	comp=Z,242nm,22.0s,baz=135,slow=29							
QSPA	**South Pole Qui**	**74.99**	**180**	*e*P		**P**	**07 28 22.9**	**-0.1**
	7.0nm,1.1s							
QSPA	**South Pole Qui**	**74.99**	**180**	P		**P**	**07 28 22.8**	**-0.1**
	4.7nm,0.9s,baz=32,slow=3.7,SNR=11							
KSRS	**Korea Array**	**75.53**	**316**	LR		LR	07 54 25.7	
	comp=Z,91nm,21.8s,baz=285,slow=30							
USRK	**Ussuriysk Arra**	**76.77**	**323**	LR		LR	07 56 37.5	
	comp=Z,196nm,21.6s,baz=58,slow=31							
TXAR	**Lajitas Array**	**80.88**	**56**	P		**P**	**07 28 56.3**	**+0.1**
TXAR	**Lajitas Array**	**80.88**	**56**	P		**P**	**07 28 56.3**	**+0.1**
	0.8nm,1.0s,baz=223,slow=4.6,SNR=5.0							
TXAR				LR		LR	07 58 20.3	
	comp=Z,101nm,18.1s,baz=0.0,slow=31							
COLA	**College**	**82.12**	**11**	P		**P**	**07 29 02.8**	**+1.0**
	3.8nm,0.8s							
ILAR	**Eielson Array**	**82.21**	**11**	P		**P**	**07 29 02.0**	**-0.2**
ILAR	**Eielson Array**	**82.21**	**11**	P		**P**	**07 29 02.0**	**-0.2**
	0.5nm,0.6s,baz=227,slow=6.6,SNR=13							
ILAR				LR		LR	07 58 23.0	
	comp=Z,134nm,21.2s,baz=313,slow=30							
PDAR	**Pinedale Array**	**82.37**	**42**	P		**P**	**07 29 03.9**	**-0.1**
PDAR	**Pinedale Array**	**82.37**	**42**	P		**P**	**07 29 03.9**	**-0.1**
	0.6nm,0.7s,baz=201,slow=2.9,SNR=5.5							
PDAR				LR		LR	07 59 57.9	
	comp=Z,168nm,19.4s,baz=245,slow=32							
MAW	**Mawson**	**87.95**	**199**	LR		LR	08 05 43.1	
	comp=Z,194nm,20.6s,baz=249,slow=34							
INK	**Inuvik**	**88.06**	**14**	LR		LR	08 01 24.3	
	comp=Z,111nm,20.5s,baz=80,slow=30							
YKA	**Yellowknife Ar**	**90.00**	**24**	P		**P**	**07 29 40.9**	**+0.3**
YKA	**Yellowknife Ar**	**90.00**	**24**	P		**P**	**07 29 40.9**	**+0.3**
	0.2nm,0.6s,baz=315,slow=6.9,SNR=3.3							
PLCA	**Paso Flores**	**90.15**	**132**	LR		LR	08 01 18.1	
	comp=Z,142nm,20.4s,baz=184,slow=30							
SONM	**Songino Array**	**94.22**	**318**	LR		LR	08 06 45.4	
	comp=Z,95nm,21.4s,baz=5.2,slow=32							
DPC	**Dobruska-Polom**	**143.81**	**349**	*e*P		PKPdf	07 36 35.8	+19
DPC				*ex*		x	07 36 42.6	
PRU	**Pruhonice**	**144.47**	**351**	*e*P		PKPdf	07 36 30.9	+13
PRU				*ex*		x	07 36 39.8	
VYHS	**Vyhne**	**145.02**	**345**	*e*PKP		PKPdf	07 36 32.7	+14
KHC	**Kasperske Hory**	**145.45**	**351**	*e*P		PKPab	07 36 34.4	+15
KHC				*ex*		x	07 36 43.4	
BRTR	**Keskin Array B**	**145.54**	**321**	PKPbc		**PKPdf**	**07 36 20.1**	**+0.2**
BRTR	**Keskin Array B**	**145.54**	**321**	PKPbc		**PKPdf**	**07 36 20.1**	**+0.2**
	1.3nm,0.8s,baz=90,slow=2.7,SNR=6.4							
GERES	**GERESS Array B**	**145.71**	**351**	PKPbc		**PKPab**	**07 36 20.9**	**+0.2**
GERES	**GERESS Array B**	**145.71**	**351**	PKPbc		**PKPab**	**07 36 20.9**	**+0.2**
	0.2nm,0.4s,baz=35,slow=4.9,SNR=5.2							
ESDC	**Sonseca Array**	**153.95**	**18**	PKPab		**PKPab**	**07 36 52.2**	**-2.3**
ESDC	**Sonseca Array**	**153.95**	**18**	PKPab		**PKPab**	**07 36 52.2**	**-2.3**
	0.1nm,0.3s,baz=312,slow=3.7,SNR=3.1							

IDC 19 07:32:40.4±1.1, 55°.99S×27°.29W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/16, mbtmp4.1/3, Error ellipse: s-maj=45.6km s-min=29.4km az=90.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**46.63**	**183**	P		P	07 41 09.6	0.0
	2.2nm,0.7s,baz=192,slow=4.6,SNR=17							
LPAZ	**La Paz**	**50.30**	**305**	P		P	07 41 39.4	0.0
	1.7nm,0.7s,baz=165,slow=7.8,SNR=9.6							
TORD	**Torodi Ar. Bea**	**73.03**	**30**	P		P	07 44 12.0	+0.1
	0.7nm,0.4s,baz=199,slow=6.5,SNR=14							
ILAR	**Eielson Array**	**150.03**	**312**	PKPbc		PKPbc	07 52 30.4	-0.9
	0.3nm,0.7s,baz=130,slow=3.9,SNR=6.7							

WEL 19 07:38:55.8±0.2, 45°.68S×166°.53E, h22km±1km, ML4.1/18, 2C-1D, Error ellipse: s-maj=2.9km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.48**	**65**	⇑	P*	Pb	07 39 05.2	-0.4
DCZ					S*	Sb	07 39 11.1	-1.1
DCZ					AML	AML	07 39 11.5	
DCZ					AML	AML	07 39 11.9	
DCZ					AML	AML	07 39 11.9	
PYZ	**Puysegur Point**	**0.50**	**168**	⇓	P*	Pb	07 39 05.3	-0.6
PYZ					S*	Sb	07 39 11.8	-1.0
WHZ	**Wether Hill Ro**	**1.01**	**103**	*e*	SN	Sb	07 39 27.8	+0.2
WHZ					AML	AML	07 39 34.9	
MLZ	**Mavora Lakes**	**1.20**	**74**	⇑	PN	Pn	07 39 16.6	-0.8
MLZ					SN	Sb	07 39 31.3	-1.9
MLZ					AML	AML	07 39 40.2	
MSZ	**Milford Sound**	**1.41**	**45**		AML	AML	07 39 45.6	
MSZ					AML	AML	07 39 45.6	
MSZ					AML	AML	07 39 50.0	
MSZ					AML	AML	07 39 50.0	
APZ	**The Paps**	**1.53**	**139**		PN	Pn	07 39 21.7	-0.3
APZ					SN	Sn	07 39 41.4	+0.1
WKZ	**Wanaka**	**1.95**	**65**		AML	AML	07 39 57.5	
WKZ					AML	AML	07 39 59.8	
WKZ					AML	AML	07 39 59.9	
WKZ					AML	AML	07 40 05.2	
EAZ	**Earnscleugh**	**2.01**	**78**		PN	Pb	07 39 30.6	-0.9
EAZ					AML	AML	07 39 58.4	
EAZ					AML	AML	07 39 58.4	
EAZ					AML	AML	07 39 58.8	
EAZ					AML	AML	07 39 58.9	
SYZ	**Scrubby Hill**	**2.01**	**116**		PN	Pb	07 39 30.4	-1.1
TUZ	**Tuapeka**	**2.19**	**98**		PN	Pb	07 39 33.8	-0.8
TUZ					AML	AML	07 40 02.5	
TUZ					AML	AML	07 40 02.6	
JCZ	**Jackson Bay**	**2.26**	**45**		PN	Pn	07 39 33.6	+1.6
JCZ					AML	AML	07 40 13.0	
JCZ					AML	AML	07 40 15.5	
LBZ	**Lake Benmore**	**2.90**	**65**		PN	Pn	07 39 42.4	+1.7
LBZ					AML	AML	07 40 36.3	
LBZ					AML	AML	07 40 46.2	
ODZ	**Otahua Downs**	**2.97**	**79**		PN	Pn	07 39 42.6	+1.0
ODZ					AML	AML	07 40 21.3	
ODZ					AML	AML	07 40 31.3	
FOZ	**Fox Glacier**	**3.09**	**48**		PN	Pn	07 39 46.1	+2.7
FOZ					AML	AML	07 40 40.1	
FOZ					AML	AML	07 40 41.0	
RPZ	**Rata Peaks**	**3.78**	**60**		PN	Pn	07 39 53.6	+0.8
RPZ					AML	AML	07 41 03.9	
RPZ					AML	AML	07 41 05.1	
WVZ	**Waitaha Valley**	**3.98**	**51**		PN	Pn	07 39 56.4	+0.8
DSZ	**Denniston Nort**	**5.48**	**46**		PN	Pn	07 40 17.6	+1.3

WEL 19 07:40:36.7±0.4, 44°.52S×175°.68E, h33km, ML3.8/7, 1D, Error ellipse: s-maj=3.0km s-min=2.9km az=90.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**2.33**	**289**		PN	Pn	07 41 09.4	-3.2
KHZ	**Kahutara**	**2.62**	**323**		PN	Pn	07 41 15.6	-1.1
KHZ					SN	Sn	07 41 45.6	-1.7
PLWZ	**Palliser**	**2.97**	**354**		PN	Pn	07 41 20.5	-1.0
PLWZ					SN	Sn	07 41 53.2	-2.8
LTZ	**Lake Taylor**	**3.03**	**304**		PN	Pn	07 41 20.4	-1.9
LTZ					AML	AML	07 41 54.1	
LTZ					AML	AML	07 41 55.3	
BSWZ	**Blackbirch Sta**	**3.10**	**334**		PN	Pn	07 41 22.6	-0.7
MSWZ	**Moikau Station**	**3.12**	**354**		PN	Pn	07 41 22.3	-1.3
MSWZ					SN	Sn	07 41 58.0	-1.8
TRWZ	**Traveller**	**3.12**	**0**		PN	Pn	07 41 22.8	-0.8
TUWZ	**Tuamarina**	**3.34**	**337**		PN	Pn	07 41 25.5	-1.1
TUWZ					SN	Sn	07 42 03.5	-1.6
MTW	**Mount Morrison**	**3.37**	**358**		PN	Pn	07 41 25.6	-1.3
TMWZ	**Te Maipa**	**3.42**	**3**		PN	Pn	07 41 26.7	-1.0
THZ	**Tophouse**	**3.43**	**323**		PN	Pn	07 41 27.3	-0.5
THZ					SN	Sn	07 42 05.7	-1.7
THZ					AML	AML	07 42 09.6	
CAW	**Cannon Point**	**3.44**	**352**		PN	Pn	07 41 27.5	-0.5
CAW					SN	Sn	07 42 05.5	-2.1
CAW					AML	AML	07 42 06.9	
TCW	**Tory Channel**	**3.47**	**342**		PN	Pn	07 41 27.8	-0.5
TCW					SN	Sn	07 42 05.2	-3.0
KIW	**Kapiti Island**	**3.70**	**351**		PN	Pn	07 41 31.2	-0.4
NNZ	**Nelson**	**3.71**	**332**		PN	Pn	07 41 30.7	-0.9
OGWZ	**Otaki Gorge**	**3.72**	**354**		PN	Pn	07 41 31.2	-0.6
OGWZ					SN	Sn	07 42 11.4	-3.1
DUWZ	**D'Urville Isla**	**3.94**	**340**		PN	Pn	07 41 34.4	-0.4
PRWZ	**Pori Road**	**3.97**	**3**		PN	Pn	07 41 34.6	-0.7
PRHZ	**Porangahau**	**4.31**	**10**		PN	Pn	07 41 38.7	-1.3
QRZ	**Quartz Range**	**4.37**	**327**		PN	Pn	07 41 40.5	-0.9
TSZ	**Takapari Road**	**4.47**	**3**	⇓	PN	Pn	07 41 41.4	-0.7
TSZ					AML	AML	07 41 41.9	
EAZ	**Earnscleugh**	**4.59**	**259**		PN	Pn	07 41 41.9	-1.8
WKZ	**Wanaka**	**4.76**	**264**		PN	Pn	07 41 44.8	-1.4
WAZ	**Wanganui**	**4.79**	**354**		AML	AML	07 42 47.0	
WAZ					AML	AML	07 42 56.9	
KAHZ	**Kahuranaki**	**4.81**	**11**		PN	Pn	07 41 45.4	-1.3
PKVZ	**Pokaka**	**5.24**	**357**		PN	Pn	07 41 52.6	-0.1
WHVZ	**Whangaehu Hut**	**5.24**	**359**		PN	Pn	07 41 52.5	-0.5
BKZ	**Black Stump Fm**	**5.39**	**7**		PN	Pn	07 41 53.4	-1.3
MLZ	**Mavora Lakes**	**5.39**	**259**		PN	Pn	07 41 53.8	-1.1
MSZ	**Milford Sound**	**5.54**	**266**		AML	AML	07 41 54.8	
MWZ	**Matawai**	**6.34**	**13**		PN	Pn	07 42 05.8	-1.9
URZ	**Urewera**	**6.35**	**10**		PN	Pn	07 42 06.1	-1.8

ISCJB ***19*** *07:54:43.4±0.5, 27°.90N±0°.05×139°.5E±0°.1, h478km, mb3.3/10, Error ellipse: s-maj=14.2km s-min=6.1km az=169.4*

JMA ***19*** *07:54:45.7±0.1, 28°.15N×140°.43E, h506km, M4.0*

IDC ***19*** *07:54:45.1±2.1, 27°.91N×139°.73E, h491km±26km, mb2.9/9, mb1 3.1/11, mb1mx3.0/25, mbtmp2.9/11, Error ellipse: s-maj=27.8km s-min=10.9km az=92.0*

ISC 19 07:54:44.6±0.8, 27°.95N±0°.08×139°.6E±0°.2, h478km, n19, σ1.9/20/25, mb3.4/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.42**	**110**		P	**P**	**07 55 50.9**	**+0.8**
CBIJ					S	**S**	**07 56 42.8**	**-0.4**
JHHJ	**Haha-jima-NKT**	**2.62**	**120**		P	**P**	**07 55 52.9**	**+1.6**
JHHJ					S	**S**	**07 56 45.9**	**+0.5**
JIE	**Ise**	**6.89**	**339**		P	P	07 56 33.2	+4.4
JHU	**Hanno**	**7.88**	**358**		P	**P**	**07 56 39.7**	**+0.6**
JHU					*e*S	**S**	**07 58 11.6**	**-1.5**
JRY	**Ryogami san**	**8.06**	**356**		P	**P**	**07 56 42.4**	**+1.4**
JRY					*e*S	**S**	**07 58 17.0**	**+0.3**
JAG	**Ashikaga**	**8.45**	**359**		P	**P**	**07 56 45.9**	**+0.8**
JAG					*e*S	**S**	**07 58 21.3**	**-2.8**
MJAR	**Matsushiro Arr**	**8.65**	**352**		P	**P**	**07 56 47.8**	**+0.6**
	1.0nm,0.3s,baz=168,slow=9.9,SNR=9.9							
MJAR					S	**S**	**07 58 29.6**	**+1.6**
	0.2nm,0.3s,baz=143,slow=14,SNR=3.1							
JHO	**Hitachi**	**8.67**	**5**		P	**P**	**07 56 48.8**	**+1.4**
JHO					*e*S	**S**	**07 58 26.4**	**-1.9**
USRK	**Ussuriysk Arra**	**17.33**	**341**		P	**P**	**07 58 20.4**	**+1.1**
	0.5nm,0.3s,baz=174,slow=9.4,SNR=11							
FITZ	**Fitzroy Crossi**	**47.75**	**198**		P	**P**	**08 02 36.8**	**-0.6**
	0.7nm,0.6s,baz=33,slow=12,SNR=3.6							
WRA	**Warramunga Arr**	**47.89**	**187**		P	**P**	**08 02 37.5**	**-1.0**
	0.7nm,0.3s,baz=3.2,slow=7.8,SNR=39							
MKAR	**Makanchi Array**	**48.18**	**309**		P	**P**	**08 02 40.9**	**+0.5**
	0.2nm,0.4s,baz=98,slow=9.0,SNR=3.0							
ASAR	**Alice Springs**	**51.62**	**187**		P	**P**	**08 03 05.1**	**-0.9**
	0.3nm,0.4s,baz=5.0,slow=6.1,SNR=12							
ILAR	**Eielson Array**	**58.06**	**29**		P	**P**	**08 03 50.0**	**-0.6**
	0.4nm,0.4s,baz=246,slow=5.7,SNR=13							
ARCES	**ARCESS Array B**	**71.98**	**340**		P	**P**	**08 05 18.6**	**0.0**
	2.3nm,0.9s,baz=25,slow=9.3,SNR=4.4							
YKA	**Yellowknife Ar**	**72.46**	**28**		P	**P**	**08 05 21.1**	**-0.2**
	0.5nm,0.5s,baz=297,slow=6.2,SNR=4.6							
KAF	**Kangasniemi**	**75.71**	**334**	*ep*		**P**	**08 05 39.2**	**-0.7**
	0.4nm,0.3s							
FINES	**FINESS Array B**	**76.17**	**333**	P		**P**	**08 05 42.0**	**-0.4**
	1.2nm,0.3s,baz=69,slow=5.0,SNR=29							
NOA	**NORSAR Array B**	**81.96**	**337**	P		**P**	**08 06 11.9**	**-1.4**
	0.9nm,0.8s,baz=29,slow=6.6,SNR=3.5							

ISCJB ***19*** *08:04:27.7±0.3, 5°.45S±0°.03×129°.14E±0°.05, h289km±5km, mb3.7/5, Error ellipse: s-maj=7.6km s-min=4.9km az=2.8*

AUST ***19*** *08:04:28.6, 5°.48S×129°.52E, h300km*

DJA ***19*** *08:04:28.5±0.5, 5°.5S±3°×12°.9E±°, h286km±6km, M4.1/11, mb4.3/4, mB5.0/1, MLv4.1/11, Mw(mB)4.3/1*

IDC ***19*** *08:04:32.9±3.9, 5°.66S×128°.73E, h326km±40km, mb3.4/5, mb1 3.6/8, mb1mx3.3/22, mbtmp3.5/8, Error ellipse: s-maj=53.2km s-min=10.6km az=68.0*

ISC 19 08:04:28.1±0.7, 5°.48S±0°.05×129°.14E±0°.06, h281km±8km, n29, σ2.2/02/41, mb3.9/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.22**	**39**	P	P	**Pn**	**08 05 08.3**	**+0.7**
BNDI				S		**S**	**08 05 42.3**	**+3.4**
AAI	**Ambon**	**2.02**	**332**	P	P	**Pn**	**08 05 14.5**	**+1.2**
AAI	**Ambon**	**2.02**	**332**	P	P	**Pn**	**08 05 14.9**	**+1.6**
	baz=2.2,SNR=3.5							
MSAI	**Masohi**	**2.13**	**354**	P	P	**Pn**	**08 05 14.5**	**+0.2**
MSAI				S	S	**S**	**08 05 48.3**	**-2.8**
NLAI	**Namlea**	**3.02**	**318**	P	P	Pn	08 05 26.3	+3.6
NLAI				S	S	**S**	**08 06 07.4**	**+1.1**
FAKI	**Fak Fak**	**4.01**	**51**	P	P	**Pn**	**08 05 35.3**	**+1.8**
FAKI				S	S	**S**	**08 06 22.4**	**-3.3**
FAKI	**Fak Fak**	**4.01**	**51**	P	P	**Pn**	**08 05 34.9**	**+1.4**
	baz=3.7,SNR=59							
FAKI				S	S	**S**	**08 06 23.8**	**-1.9**
	baz=3.7,SNR=21							
SWI	**Sorong**	**5.05**	**25**	P	P	**Pn**	**08 05 46.3**	**+0.7**
SWI	**Sorong**	**5.05**	**25**	P	P	**Pn**	**08 05 46.1**	**+0.6**
	baz=4.9,SNR=14							
SWI				S	S	**S**	**08 06 45.0**	**-2.6**
	baz=4.9,SNR=9.9							
LBMI	**Labuha**	**5.08**	**341**	P	P	**Pn**	**08 05 47.4**	**+1.5**
	68nm,0.6s,0.3nm							
LBMI				S	S	**S**	**08 06 44.7**	**-3.7**
	68nm,0.6s,0.3nm							
RKPI	**Ransiki, Papua**	**6.39**	**52**	S	S	**S**	**08 07 15.7**	**-1.4**
SOEI	**Soe**	**6.43**	**228**	P	P	**Pn**	**08 06 04.0**	**+1.7**
	28nm,0.9s,0.1nm							
SOEI				S	S	**S**	**08 07 16.5**	**-1.7**
	28nm,0.9s,0.1nm							
SOEI	**Soe**	**6.43**	**228**	P	P	**Pn**	**08 06 04.1**	**+1.7**
	baz=6.7,SNR=3.7							
BATI	**Baumata**	**7.17**	**229**	P	P	**Pn**	**08 06 12.2**	**+0.8**
	39nm,0.5s,0.2nm							
MTN	**Manton Dam**	**7.57**	**165**	P	P	**Pn**	**08 06 17.5**	**+1.2**
	baz=7.5,SNR=7.4							
MTN				S	S	**S**	**08 07 40.7**	**-3.0**
	baz=7.5,SNR=5.9							
KDU	**Kakadu**	**7.88**	**156**	P	P	**Pn**	**08 06 21.5**	**+1.5**
	baz=7.8,SNR=32							
KDU				S	S	**S**	**08 07 49.4**	**-1.2**
	baz=7.8,SNR=4.5							
WSI	**Waingapu**	**9.70**	**244**	P	P	P	08 06 54.8	+7.2
	baz=10,SNR=4.6							
KNRA	**Kununurra**	**10.14**	**182**	P	P	**Pn**	**08 06 48.6**	**+0.5**
	baz=10,SNR=13							
KNRA				S	S	**S**	**08 08 38.1**	**-4.1**
	baz=10,SNR=4.1							
FITZ	**Fitzroy Crossi**	**13.00**	**195**	P	P	**Pn**	**08 07 22.8**	**-0.5**
	1.2nm,0.3s,baz=34,slow=12,SNR=27							
FITZ				S	S	**S**	**08 09 42.8**	**-4.8**
	0.3nm,0.3s,baz=311,slow=19,SNR=2.6							
FITZ	**Fitzroy Crossi**	**13.00**	**195**	P	P	**P**	**08 07 25.1**	**+0.9**
	baz=13,SNR=8.8							
WRA	**Warramunga Arr**	**15.24**	**161**	P	P	**Pn**	**08 07 50.2**	**+0.1**
	2.0nm,0.3s,baz=340,slow=11,SNR=152							
WRA				S	S	**S**	**08 10 33.7**	**-2.1**
	0.5nm,0.3s,baz=337,slow=22,SNR=10.0							
ASAR	**Alice Springs**	**18.65**	**166**	P	P	**P**	**08 08 27.7**	**+1.7**
	2.3nm,0.3s,baz=344,slow=12,SNR=174							
ASAR				S	S	**S**	**08 11 42.9**	**-0.6**
	0.1nm,0.3s,baz=348,slow=19,SNR=9.2							
MEEK	**

az=49.0
NEIC Felt [IV] at Samborondon and Velasco Ibarra, [III] at Eloy Alfaro and Guayaquil and [II] at Bahia de Caraquez and Quevedo. Also felt at Alfredo Baquerizo Moreno, Chone, Jipijapa, La Libertad, Manta, Portovelo, Portoviejo, Salinas, Santa Elena and Sucre.

ISC 19 08:35:39.4±0.2,1.76S±0.03×80.45W±0.03,h11km,n1078, σ1.9s24/1150,mb5.3/256,MS4.9/39,240C-246D,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHIS	**Cerro-Chispas-**	**0.76**	**339**	⇓P	**Pg**	**08 35 53.4**	**-0.6**
PECV	**Mancha de Ca P**	**1.05**	**22**	P	**Pb**	**08 35 58.4**	**-1.2**
JAMA	**Jama**	**1.51**	**9**	P	**Pn**	**08 36 05.5**	**-0.9**
MAG1	**Magdalena**	**1.81**	**22**	P	**Pn**	**08 36 10.8**	**+0.3**
RIOE	**Riobamba**	**1.82**	**90**	⇓P	**Pb**	**08 36 12.8**	**-0.1**
IGUA	**Igualata**	**1.83**	**82**	⇓P	**Pg**	**08 36 13.7**	**-0.8**
BIL2	**Estacion Bilba**	**1.97**	**81**	⇓P	**Pg**	**08 36 16.2**	**-1.0**
BBIL	**Ulba Tungurahu**	**1.98**	**81**	⇓S	**Sg**	**08 36 41.8**	**-1.4**
BBIL	**Ulba Tungurahu**	**1.98**	**81**	⇓P	**Pg**	**08 36 16.4**	**-1.1**
BMAS	**Trigal station**	**1.98**	**83**	⇓P	**Pb**	**08 36 16.1**	**+0.4**
JUI6	**Juive**	**2.01**	**81**	⇓P	**Pg**	**08 36 16.6**	**-1.3**
ARRY	**Arrayan**	**2.01**	**83**	⇓P	**Pb**	**08 36 16.1**	**0.0**
PAT1	**Patacocha**	**2.02**	**83**	⇓P	**Pb**	**08 36 16.8**	**+0.3**
RETU	**Refugio**	**2.02**	**81**	⇓P	**Pg**	**08 36 17.2**	**-1.1**
BPAT	**Tungurahua Vol**	**2.03**	**83**	⇓S	**Sg**	**08 36 43.5**	**-1.2**
BPAT	**Tungurahua Vol**	**2.03**	**83**	⇓P	**Pb**	**08 36 16.9**	**+0.3**
RUN5	**Runtun**	**2.05**	**80**	⇓P	**Pb**	**08 36 17.4**	**+0.5**
BULB	**Ulba Tungurahu**	**2.06**	**81**	⇓P	**Pg**	**08 36 17.7**	**-1.3**
BRUN	**Tungurahua Vol**	**2.06**	**81**	⇓S	**Sg**	**08 36 43.9**	**-1.9**
BRUN	**Tungurahua Vol**	**2.06**	**81**	⇓P	**Pb**	**08 36 17.4**	**+0.4**
PISA	**Pisayambo**	**2.18**	**71**	⇓P	**Pb**	**08 36 19.2**	**+0.2**
CAMI	**Rancho Maria**	**2.22**	**61**	⇓P	**Pb**	**08 36 19.8**	**0.0**
BMOR	**Cotopaxi Volca**	**2.24**	**63**	⇓P	**Pb**	**08 36 20.2**	**+0.1**
BMOR	**Cotopaxi Volca**	**2.24**	**63**	⇓S	**Sb**	**08 36 49.1**	**+1.1**
BNAS	**Cotopaxi Volca**	**2.24**	**61**	⇓P	**Pb**	**08 36 20.2**	**0.0**
MOV1	**Cotopaxi Vol s**	**2.26**	**63**	⇓P	**Pb**	**08 36 20.3**	**-0.3**
NAS2	**Nasa**	**2.27**	**61**	P	**Pb**	**08 36 20.7**	**0.0**
BREF	**Cotopaxi Volca**	**2.28**	**62**	⇓P	**Pb**	**08 36 21.3**	**+0.3**
MACE	**Macas**	**2.30**	**102**	⇓S	**Sb**	**08 36 48.1**	**-1.5**
MACE	**Macas**	**2.30**	**102**	⇓P	**Pb**	**08 36 20.1**	**-0.9**
BTAM	**Cotopaxi Volca**	**2.32**	**62**	⇓P	**Pb**	**08 36 21.6**	**+0.1**
BTAM	**Cotopaxi Volca**	**2.32**	**62**	⇓S	**Sg**	**08 36 55.2**	**+1.2**
VC1	**Cotopaxi 1**	**2.33**	**62**	⇓P	**Pb**	**08 36 21.7**	**0.0**
TAMB	**Tambo**	**2.33**	**63**	⇓P	**Pb**	**08 36 21.7**	**-0.1**
PITA	**Cotopaxi Volc**	**2.34**	**59**	⇓P	**Pb**	**08 36 21.4**	**-0.5**
COV1	**Cotopaxi Volc**	**2.37**	**63**	⇓P	**Pb**	**08 36 21.1**	**-1.4**
JUA2	**San Juan 2**	**2.40**	**50**	P	**Pn**	**08 36 20.9**	**+1.9**
TERV	**Terraza Guagua**	**2.42**	**50**	P	**Pb**	**08 36 21.5**	**-1.8**
GGP	**Refugio Guagua**	**2.43**	**50**	⇓P	**Pn**	**08 36 21.3**	**+1.8**
PINO	**Pino**	**2.43**	**49**	⇓P	**Pn**	**08 36 21.3**	**+1.7**
YANA	**Yana**	**2.48**	**49**	P	**Pn**	**08 36 21.8**	**+1.6**
ANTI	**Antisana**	**2.63**	**60**	⇓P	**Pb**	**08 36 25.7**	**-1.2**
OTAV	**Otavalo**	**2.81**	**45**	S	**Sn**	**08 37 01.9**	**+3.0**
OTAV	**Otavalo**	**2.81**	**45**	P	**Pn**	**08 36 26.8**	**+2.1**
OTAV	**Otavalo**	**2.81**	**45**	*e*Pn	**Pn**	**08 36 26.8**	**+2.1**
OTAV				*e*Sn	**Sn**	**08 37 01.7**	**+2.8**
COTA	**Cotacachi**	**2.96**	**45**	P	**Pn**	**08 36 29.5**	**+2.6**
LAV4	**Lava4-Reventad**	**3.27**	**60**	P	**Pb**	**08 36 35.1**	**-2.5**
LITE	**Lita**	**3.29**	**39**	P	**Pn**	**08 36 32.4**	**+1.4**
ATAH	**Atahualpa**	**5.72**	**159**	Pn	Pn	08 37 07.8	+3.1
ATAH				Sn	**Sn**	**08 38 14.8**	**+4.2**
ATAH	**Atahualpa**	**5.72**	**159**	Pn	Pn	08 37 07.8	+3.1
	28nm,0.3s,baz=4.5,slow=7.4,SNR=74						
ATAH				Sn	**Sn**	**08 38 14.8**	**+4.2**
	16nm,0.3s,baz=127,slow=20,SNR=3.5						
ROSC	**El Rosal**	**8.97**	**43**	Pn	**Pn**	**08 37 50.6**	**+1.2**
ROSC	**El Rosal**	**8.97**	**43**	Pn	**Pn**	**08 37 50.6**	**+1.2**
	9.3nm,0.3s,baz=186,slow=1.8,SNR=34						
PAYG	**Puerto Ayora**	**9.89**	**276**	*e*Pn	**Pn**	**08 38 04.2**	**+2.5**
PAYG				*e*Sn	**Sn**	**08 39 50.8**	**-2.0**
NNA	**Nana**	**10.77**	**161**	Pn	**Pn**	**08 38 15.6**	**+1.8**
	3μm,0.4s,SNR=62						
NNA	**Nana**	**10.77**	**161**	*e*Pn	**Pn**	**08 38 15.8**	**+2.0**
NNA				*e*Sn	**Sn**	**08 40 10.8**	**-3.7**
NNA				Sn		08 40 12.4	
NNA	**Nana**	**10.77**	**161**	Pn	**Pn**	**08 38 15.5**	**+1.8**
	36nm,0.3s,baz=319,slow=10,SNR=88						
NNA				Sn	**Sn**	**08 40 12.4**	**-2.1**
	59nm,0.3s,baz=171,slow=18,SNR=9.9						
BCIP	**Isla Barro Col**	**10.87**	**3**	*e*Pn	Pn	08 38 18.8	+3.8
SDV	**Santo Domingo**	**14.40**	**43**	*e*Pn	**Pn**	**08 39 05.2**	**+1.6**
TGUH	**Tegucigalpa,Un**	**17.11**	**337**	*e*Pn	**P**	**08 39 40.7**	**+0.4**
	429nm,1.1s						
SAML	**Samuel**	**18.61**	**113**	*e*P	**P**	**08 39 54.4**	**-2.5**
	647nm,1.3s						
SAML				*e*S	**Sn**	**08 43 21.1**	**-4.3**
LPAZ	**La Paz**	**18.86**	**141**	P	**Pn**	**08 40 01.8**	**+1.0**
LPAZ	**La Paz**	**18.86**	**141**	P	**Pn**	**08 40 01.8**	**+1.0**
	4.6nm,0.3s,baz=333,slow=12,SNR=131						
MTDJ	**Mount Denham**	**20.06**	**8**	*e*Pn	Pn	08 40 16.4	+1.6
	211nm,1.0s						
GTBY	**Guantanamo Bay**	**22.18**	**13**	*e*P	**P**	**08 40 36.5**	**+0.9**
	200nm,1.0s						
TPP	**Pointe-a-Pierr**	**22.39**	**57**	*e*P	**P**	**08 40 41.1**	**+3.1**
TPP	**Pointe-a-Pierr**	**22.39**	**57**	*e*	P	08 40 49.6	+12
SDDR	**Presa de Saban**	**22.49**	**23**	*e*P	**P**	**08 40 41.2**	**+2.1**
	127nm,0.9s						
TRN	**Trinidad (W)**	**22.61**	**57**	*e*P	**P**	**08 40 42.3**	**+2.0**
TRN	**Trinidad (W)**	**22.61**	**57**	*e*	P	08 40 50.3	+10
TBH	**Brigand Hill**	**22.80**	**57**	*e*P	**P**	**08 40 44.9**	**+2.5**
TEIG	**Tepich**	**23.16**	**341**	*e*P	**P**	**08 40 46.6**	**+0.6**
	210nm,1.2s						
TEIG	**Tepich**	**23.16**	**341**	P	**P**	**08 40 46.5**	**+0.6**
	112nm,1.0s,baz=153,slow=8.8,SNR=37						
TEIG				LR	LR	08 48 58.0	
	comp=Z,6μm,19.6s,baz=360,slow=34						
GRGR	**Grenville**	**23.22**	**53**	P	**P**	**08 40 50.8**	**+4.1**
	714nm,0.9s						
GRW	**Mount Saint Ca**	**23.23**	**53**	*e*	P	08 40 54.3	+7.4
TPR	**Prospect**	**23.41**	**56**	*e*	P	08 40 59.7	+11
LVC	**Limon Verde**	**23.57**	**152**	P	**P**	**08 40 52.7**	**+2.3**
LVC	**Limon Verde**	**23.57**	**152**	P	**P**	**08 40 52.7**	**+2.3**
	91nm,1.0s,baz=322,slow=7.5,SNR=57						
LVC				LR	LR	08 51 17.3	
	comp=Z,4μm,20.9s,baz=313,slow=40						
CRPR	**Cabo Rojo, PR**	**23.63**	**33**	*e*P	**P**	**08 40 52.0**	**+1.3**
TOSP	**Speyside**	**23.67**	**56**	*e*P	**P**	**08 40 51.8**	**+0.6**
TOSP	**Speyside**	**23.67**	**56**	*e*	**S**	**08 45 11.1**	**+4.9**
SIV	**San Ignacio**	**23.76**	**128**	P	**P**	**08 40 52.2**	**+0.1**
SIV	**San Ignacio**	**23.76**	**128**	P	**P**	**08 40 52.2**	**+0.1**
	276nm,1.1s,baz=312,slow=10,SNR=252						
SIV				LR	LR	08 51 22.5	
	comp=Z,8μm,18.1s,slow=40						
LSP	**Las Mesas**	**23.78**	**33**	*e*P	**P**	**08 40 54.5**	**+2.2**
MPR	**Mayaguez**	**23.78**	**33**	*e*P	**P**	**08 40 53.7**	**+1.5**
OBIP	**Obispado Ponce**	**23.94**	**34**	*e*P	**P**	**08 40 55.2**	**+1.6**
	105nm,0.8s						
CELP	**Cerrillos**	**23.98**	**34**	*e*P	**P**	**08 40 55.5**	**+1.5**
LRS	**Lares**	**24.00**	**33**	*e*P	**P**	**08 40 56.1**	**+1.7**
AOPR	**Arecibo Observ**	**24.10**	**33**	*e*P	**P**	**08 40 57.0**	**+1.7**
	196nm,0.7s						
SVB	**Belmont**	**24.20**	**51**	*e*P	P	08 41 07.3	+11
SJG	**San Juan**	**24.25**	**35**	*e*P	**P**	**08 40 57.5**	**+0.9**
	448nm,1.5s						
HUMP	**Col San Antoni**	**24.45**	**35**	*e*P	**P**	**08 40 59.7**	**+1.3**
	190nm,1.2s						
CBYP	**Canovanas**	**24.55**	**35**	*e*P	**P**	**08 41 00.3**	**+0.9**
	250nm,1.0s						
MTP	**Monte Pirata**	**24.59**	**36**	*e*P	**P**	**08 40 59.9**	**+0.2**
	71nm,0.8s						
CDVI	**St. Croix**	**24.79**	**38**	*e*P	**P**	**08 41 03.1**	**+1.6**
	679nm,1.2s						
STVI	**Saint Thomas**	**25.14**	**37**	*e*P	**P**	**08 41 06.4**	**+1.8**
	78nm,0.8s						
FDF	**Fort de France**	**25.17**	**49**	*e*P	**P**	**08 41 06.4**	**+1.3**
FDF				pmax	pmax		
	comp=Z,380nm,1.2s						
FDF	**Fort de France**	**25.17**	**49**	*e*P	**P**	**08 41 06.4**	**+1.3**
	comp=Z,380nm,1.2s						
ANWB	**Willy Bob**	**26.66**	**43**	*e*P	**P**	**08 41 18.7**	**+0.2**
	comp=Z,374nm,0.9s						
LCO	**Las Campanas**	**28.65**	**162**	*e*P	**P**	**08 41 37.9**	**+1.3**
DWPF	**Disney**	**29.71**	**358**	*e*P	**P**	**08 41 46.0**	**+0.5**
	comp=Z,72nm,0.8s						
CFAA	**Coronel Fontan**	**31.85**	**160**	P	**P**	**08 42 04.6**	**+0.1**
CFAA				PcP	**PcP**	**08 44 54.4**	**-1.0**
CFAA	**Coronel Fontan**	**31.85**	**160**	P	**P**	**08 42 04.6**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=335,slow=7.8,SNR=39						
CFAA				PcP	**PcP**	**08 44 54.4**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=45,slow=10.0,SNR=3.2						
CFAA				LR	LR	08 54 01.9	
	comp=Z,155nm,18.5s,baz=339,slow=34						
CPUP	**Villa Florida**	**33.03**	**140**	P	**P**	**08 42 14.6**	**-0.3**
CPUP	**Villa Florida**	**33.03**	**140**	P	**P**	**08 42 14.6**	**-0.3**
	comp=Z,13nm,0.9s,baz=310,slow=8.2,SNR=22						
TIGA	**Tifton**	**33.15**	**355**	⇓P	**P**	**08 42 16.1**	**+0.3**
	baz=33,SNR=14						
BRAL	**Brewton**	**33.19**	**350**	*e*P	**P**	**08 42 18.9**	**+2.7**
	comp=Z,148nm,0.9s						
KVTX	**Kingsville**	**33.63**	**331**	*e*P	**P**	**08 42 22.4**	**+2.3**
	comp=Z,115nm,0.9s						
NHSC	**New Hope**	**34.68**	**0**	*e*P	**P**	**08 42 30.1**	**+0.9**
	comp=Z,203nm,1.0s						
BDFB	**Brasilia**	**34.82**	**115**	P	**P**	**08 42 31.1**	**+0.3**
BDFB	**Brasilia**	**34.82**	**115**	P	**P**	**08 42 31.1**	**+0.3**
	comp=Z,80nm,1.0s,baz=278,slow=11,SNR=67						
BDFB				LR	LR	08 57 59.2	
	comp=Z,3μm,18.8s,baz=284,slow=38						
GOGA	**Godfrey**	**35.10**	**356**	*e*P	**P**	**08 42 32.3**	**-0.4**
GOGA	**Godfrey**	**35.10**	**356**	*e*P	**P**	**08 42 32.3**	**-0.4**
VBMS	**Vicksburg**	**35.11**	**345**	*e*P	**P**	**08 42 33.8**	**+0.9**
	comp=Z,36nm,0.8s						
LRAL	**Lakeview Retre**	**35.15**	**350**	*e*P	**P**	**08 42 33.5**	**+0.2**
	comp=Z,96nm,0.8s						
732A	**Laxson Ranch,**	**35.63**	**330**	⇓P	**P**	**08 42 38.0**	**+0.6**
	baz=36,SNR=34						
632A	**Uvalde**	**36.17**	**331**	⇑P	**P**	**08 42 43.3**	**+1.2**
	baz=36						
631A	**Pecilo Creek**	**36.49**	**330**	⇑P	**P**	**08 42 45.7**	**+0.9**
	baz=37,SNR=97						
KMSC	**Kings Mountain**	**36.72**	**359**	⇑P	**P**	**08 42 46.6**	**-0.1**
	baz=37,SNR=36						
532A	**Rocksprings**	**36.75**	**331**	⇓P	**P**	**08 42 48.8**	**+1.7**
	baz=37,SNR=107						
CNNC	**Cliffs of the**	**36.88**	**3**	*e*P	**P**	**08 42 48.5**	**+0.5**
	comp=Z,10.0nm,0.7s						
JCT	**Junction City**	**36.99**	**332**	*e*P	**P**	**08 42 50.4**	**+1.4**
JCT				*e*		08 45 09.9	
JCT				pmax	pmax		
	comp=Z,73nm,0.8s						
JCT	**Junction City**	**36.99**	**332**	*e*P	**P**	**08 42 50.4**	**+1.4**
	comp=Z,73nm,0.8s						
JCT				*e*PcP	**PcP**	**08 45 09.9**	**-0.3**
JCT	**Junction City**	**36.99**	**332**	⇓P	**P**	**08 42 50.5**	**+1.4**
	baz=37,SNR=72						
JCT				⇑S	**S**	**08 48 35.3**	**+0.8**
	baz=37						
JCT				⇑S	**S**	**08 48 35.3**	**+0.8**
	baz=37						
OXF	**Oxford**	**37.05**	**348**	*e*P	**P**	**08 42 49.1**	**-0.3**
OXF				*e*		08 45 10.1	
OXF				pmax	pmax		
	comp=Z,76nm,1.0s						
OXF	**Oxford**	**37.05**	**348**	*e*P	**P**	**08 42 49.1**	**-0.3**
	comp=Z,76nm,1.0s						
OXF				*e*PcP	**PcP**	**08 45 10.1**	**-0.1**
531A	**Rocksprings**	**37.09**	**330**	⇑P	**P**	**08 42 51.4**	**+1.5**
	baz=37,SNR=117						
CPCT	**Cooper Cave**	**37.21**	**354**	*e*P	**P**	**08 42 51.3**	**+0.5**
WHTX	**Lake Whitney**	**37.24**	**336**	⇓P	**P**	**08 42 52.2**	**+1.1**
	baz=37,SNR=22						
432A	**Menard**	**37.31**	**332**	⇓P	**P**	**08 42 53.2**	**+1.4**
	baz=38,SNR=83						
TKL	**Tuckaleechee C**	**37.35**	**356**	P	**P**	**08 42 51.9**	**-0.2**
TKL	**Tuckaleechee C**	**37.35**	**356**	P	**P**	**08 42 51.9**	**-0.2**
	baz=159,slow=9.2						
TKL				LR	LR	08 58 28.3	
	comp=Z,2μm,18.3s,baz=62,slow=37						
530A	**J-R Ranch, Com**	**37.47**	**329**	⇑P	**P**	**08 42 54.4**	**+1.2**
	baz=38,SNR=93						
431A	**Sonora**	**37.54**	**331**	⇓P	**P**	**08 42 55.0**	**+1.2**
	baz=38,SNR=84						
332A	**Millersview**	**37.72**	**332**	⇑P	**P**	**08 42 56.4**	**+1.1**
	baz=38,SNR=64						
628A	**Black Gap, Mar**	**37.76**	**327**	⇑P	**P**	**08 42 57.1**	**+1.4**
	baz=38,SNR=39						
529A	**Stev Forest Ra**	**37.91**	**328**	⇓P	**P**	**08 42 57.9**	**+1.0**
	baz=38,SNR=45						
430A	**Baggett Ranch,**	**37.94**	**330**	⇑P	**P**	**08 42 58.1**	**+0.9**
	baz=38,SNR=33						
331A	**San Angelo**	**37.97**	**332**	⇑P	**P**	**08 42 58.4**	**+1.0**
	baz=38,SNR=73						
627A	**Terlingua Ranc**	**38.01**	**326**	⇓P	**P**	**08 42 58.9**	**+1.0**
	baz=38,SNR=29						
UALR	**University of**	**38.02**	**344**	*e*P	**P**	**08 42 57.8**	**+0.1**
TXAR	**Lajitas Array**	**38.07**	**326**	P	**P**	**08 42 59.4**	**+1.0**
TXAR				PcP	**PcP**	**08 45 13.9**	**+0.3**
TXAR	**Lajitas Array**	**38.07**	**326**	P	**P**	**08 42 59.4**	**+1.0**
	comp=Z,10nm,0.8s,baz=149,slow=10,SNR=87						
TXAR				PcP	**PcP**	**08 45 13.9**	**+0.3**
	comp=Z,13nm,0.8s,baz=155,slow=6.4,SNR=21						
TXAR				LR	LR	08 57 19.7	
	comp=Z,1μm,21.2s,baz=70,slow=34						
232A	**Coleman**	**38.10**	**333**	⇓P	**P**	**08 42 59.6**	**+1.1**
	baz=38,SNR=43						
429A	**Davenport Ranc**	**38.14**	**329**	⇑P	**P**	**08 43 00.0**	**+1.2**
	baz=38,SNR=50						
TZTN	**Tazewell**	**38.22**	**356**	*e*P	**P**	**08 42 59.1**	**-0.2**
	comp=Z,80nm,1.0s						
528A	**Cox Ranch, San**	**38.24**	**328**	⇓P	**P**	**08 43 00.9**	**+1.2**
	baz=38,SNR=32						
WVT	**Waverly**	**38.32**	**350**	*e*P	**P**	**08 42 58.9**	**-1.3**
WVT				pmax	pmax		
	comp=Z,30nm,0.9s						
WVT	**Waverly**	**38.32**	**350**	*e*P	**P**	**08 42 58.9**	**-1.3**
	comp=Z,30nm,0.9s						
HBAR	**Harrisburg**	**38.33**	**347**	*e*P	**P**	**08 43 00.4**	**+0.2**
330A	**Mertzon**	**38.41**	**331**	⇓P	**P**	**08 43 01.9**	**+0.7**
	baz=39,SNR=67						
231A	**Bronte**	**38.44**	**332**	⇑P	**P**	**08 43 02.0**	**+0.6**
	baz=39,SNR=22						
626A	**Big Bend Ranch**	**38.50**	**326**	⇓P	**P**	**08 43 03.0**	**+1.1**
	baz=39,SNR=48						
GNAR	**Gosnell**	**38.58**	**348**	*e*P	**P**	**08 43 02.5**	**+0.2**
	comp=Z,738nm,1.0s						
428A	**Kincaid Ranch,**	**38.63**	**329**	⇓P	**P**	**08 43 04.0**	**+1.0**
	baz=39,SNR=38						
527A	**Woodward Ranch**	**38.67**	**327**	⇑P	**P**	**08 43 04.8**	**+1.4**
	baz=39,SNR=53						
UTMT	**University of**	**38.71**	**349**	*e*P	**P**	**08 43 01.8**	**-1.7**
	comp=Z,111nm,1.0s						
ABTX	**Abilene, Hawle**	**38.72**	**334**	⇓P	**P**	**08 43 04.9**	**+1.3**
	baz=39,SNR=13						
GLAT	**Glass**	**38.72**	**349**	*e*P	**P**	**08 43 03.2**	**-0.3**
BLA	**Blacksburg**	**38.77**	**0**	*e*P	**P**	**08 43 04.4**	**+0.3**
BLA				*e*		08 45 15.0	
BLA				pmax	pmax		
	comp=Z,56nm,1.1s						
BLA	**Blacksburg**	**38.77**	**0**	*e*P	**P**	**08 43 04.4**	**+0.3**
	comp=Z,56nm,1.1s						
BLA				*e*PcP	**PcP**	**08 45 15.0**	**-0.6**
230A	**Sterling City**	**38.78**	**331**	⇑P	**P**	**08 43 05.0**	**+0.8**
	baz=39,SNR=47						
526A	**Mary Lane Ranc**	**38.86**	**326**	⇓P	**P**	**08 43 06.2**	**+1.1**
	baz=39,SNR=59						
329A	**Wagon Wheel Ra**	**38.88**	**330**	⇓P	**P**	**08 43 06.1**	**+1.0**
	baz=39,SNR=90						
131A	**Roby**	**39.09**	**333**	⇓P	**P**	**08 43 08.1**	**+1.2**
	baz=39,SNR=9.4						
427A	**Hayter Ranch,**	**39.10**	**328**	⇑P	**P**	**08 43 07.8**	**+0.8**
	baz=39,SNR=19						
229A	**Bryant Ranch,**	**39.18**	**331**	⇑P	**P**	**08 43 08.4**	**+0.8**
	baz=39,SNR=21						
PARMO	**Parma**	**39.19**	**348**	*e*P	**P**	**08 43 07.7**	**+0.2**
328A	**Wristen Ranch,**	**39.21**	**329**	⇓P	**P**	**08 43 08.8**	**+0.9**
	baz=39,SNR=62						
Z32A	**Haskell**	**39.23**	**334**	⇓P	**P**	**08 43 09.2**	**+1.3**
	baz=39,SNR=40						
130A	**Snyder**	**39.30**	**332**	⇑P	**P**	**08 43 09.6**	**+1.1**
	baz=40,SNR=27						
426A	**McDonald Obser**	**39.30**	**327**	⇓P	**P**	**08 43 09.8**	**+1.0**
	baz=40,SNR=78						
JSRW	**J. Sargeant Re**	**39.33**	**3**	*e*P	**P**	**08 43 08.8**	**+0.2**
Z31A	**Sharp Cattle R**	**39.53**	**334**	⇑P	**P**	**08 43 11.7**	**+1.3**
	baz=40,SNR=37						
327A	**Balmorhea Ranc**	**39.56**	**328**	⇓P	**P**	**08 43 11.5**	**+0.7**
	baz=40						
228A	**UT Block 9, Go**	**39.69**	**330**	⇑P	**P**	**08 43 12.4**	**+0.5**
	baz=40,SNR=15						
129A	**Stewart Farms,**	**39.75**	**331**	⇑P	**P**	**08 43 13.3**	**+0.9**
	baz=40,SNR=44						
326A	**Caldwell Ranch**	**39.77**	**328**	⇓P	**P**	**08 43 13.8**	**+1.2**
	baz=40,SNR=88						
Y32A	**R-V Farms, Ver**	**39.81**	**335**	⇓P	**P**	**08 43 14.0**	**+1.3**
	baz=40,SNR=14						
PLCA	**Paso Flores**	**39.82**	**168**	P	**P**	**08 43 12.7**	**-0.1**
PLCA				PcP	**PcP**	**08 45 18.7**	**-0.1**
PLCA	**Paso Flores**	**39.82**	**168**	P	**P**	**08 43 12.7**	**-0.1**
	comp=Z,7.9nm,0.9s,baz=344,slow=11,SNR=16						
PLCA				PcP	**PcP**	**08 45 18.7**	**-0.1**
	comp=Z,5.6nm,0.8s,baz=348,slow=7.7,SNR=3.6						
PLCA				LR	LR	08 59 32.6	
	comp=Z,845nm,18.1s,baz=352,slow=36						
CBN	**Corbin**	**39.87**	**4**	*e*P	**P**	**08 43 13.9**	**+0.8**
	comp=Z,32nm,0.8s						
TRQA	**Tornquist**	**39.91**	**157**	*e*P	**P**	**08 43 13.4**	**-0.1**
	comp=Z,421nm,2.1s						
425A	**Indio Mountain**	**39.92**	**326**	⇑P	**P**	**08 43 15.1**	**+1.2**
	baz=40,SNR=64						
Z30A	**Sanderson Ranc**	**39.95**	**333**	⇑P	**P**	**08 43 15.0**	**+1.1**
	baz=40,SNR=67						
227A	**Bennet, Jal**	**39.96**	**329**	⇓P	**P**	**08 43 15.2**	**+1.1**
	baz=40,SNR=36						
128A	**Castleberry Fa**	**40.05**	**331**	⇑P	**P**	**08 43 15.6**	**+0.8**
	baz=40,SNR=18						
USIN	**University of**	**40.09**	**351**	*e*P	**P**	**08 43 14.2**	**-0.7**
	comp=Z,103nm,0.9s						
SIUC	**Southern Illin**	**40.11**	**349**	*e*P	**P**	**08 43 14.5**	**-0.6**
	comp=Z,99nm,0.9s						
TUL1	**Tulsa**	**40.12**	**341**	⇑P	**P**	**08 43 15.8**	**+0.5**
	baz=40,SNR=53						
Y31A	**Rekieta Farm,**	**40.12**	**334**	⇑P	**P**	**08 43 17.0**	**+1.6**
	baz=40,SNR=50						
WCI	**Wyandotte Cave**	**40.15**	**353**	*e*P	**P**	**08 43 14.5**	**-1.0**
WCI				*e*		08 45 18.9	
WCI				pmax	pmax		
	comp=Z,48nm,0.8s						
WCI	**Wyandotte Cave**	**40.15**	**353**	*e*P	**P**	**08 43 14.5**	**-1.0**
	comp=Z,48nm,0.8s						
WCI				*e*PcP	**PcP**	**08 45 18.9**	**-1.0**
WMOK	**Wichita Mounta**	**40.17**	**336**	*e*P	**P**	**08 43 16.4**	**+0.6**
WMOK				*e*		08 45 20.1	
WMOK				pmax	pmax		
	comp=Z,61nm,1.1s						
WMOK	**Wichita Mounta**	**40.17**	**336**	*e*P	**P**	**08 43 16.4**	**+0.6**
	comp=Z,61nm,1.1s						
WMOK				*e*PcP	**PcP**	**08 45 20.1**	**0.0**
Z29A	**Hungry Hill Ra**	**40.19**	**332**	⇑P	**P**	**08 43 16.8**	**+0.8**
	baz=40,SNR=67						
Y30A	**Stafford Cattl**	**40.34**	**333**	⇑P	**P**	**08 43 18.6**	**+1.4**
	baz=40,SNR=35						
325A	**Bean Ranch, Si**	**40.35**	**327**	⇓P	**P**	**08 43 18.4**	**+0.9**
	baz=40,SNR=37						
CLNB	**Carlsbad**	**40.47**	**329**	*e*P	**P**	**08 43 19.8**	**+1.5**
	comp=Z,10nm,0.9s						
226B	**Tecolote Peak,**	**40.47**	**328**	⇓P	**P**	**08 43 19.9**	**+1.6**
	baz=41,SNR=69						
127A	**Arkansas Junct**	**40.52**	**330**	⇓P	**P**	**08 43 19.4**	**+0.6**
	baz=41						
Z28A	**Tucker Farm, M**	**40.54**	**331**	⇑P	**P**	**08 43 19.4**	**+0.5**
	baz=41,SNR=10						
X31A	**McDonald Ranch**	**40.57**	**335**	⇓P	**P**	**08 43 20.4**	**+1.3**
	baz=41,SNR=33						
GDL2	**Guadalupe Moun**	**40.67**	**328**	*e*P	**P**	**08 43 21.7**	**+1.7**
Y29A	**Portefield Fa**	**40.67**	**332**	⇓P	**P**	**08 43 21.0**	**+1.0**
	baz=41,SNR=31						
324A	**Moseley Ranch,**	**40.69**	**326**	⇓P	**P**	**08 43 20.8**	**+0.6**
	baz=41,SNR=62						
**

baz=43,SNR=26
V27A Dan Oppiter Fa 42.78 333 ⇓P P 08 43 38.6 +1.3
baz=43,SNR=9.3
121A Cookes Peak, D 42.80 325 ⇑P P 08 43 39.5 +2.0
baz=43,SNR=25
319A Douglas 42.85 323 ⇑P P 08 43 39.5 +1.6
baz=43,SNR=13
Z22A Elephant Butte 42.88 327 ⇓P P 08 43 39.9 +1.8
baz=43,SNR=11
T30A Plains 42.88 336 ⇑P P 08 43 39.3 +1.3
baz=43,SNR=7.7
Y23A Lovelace Mesa, 42.90 328 ⇓P P 08 43 40.0 +1.6
baz=43,SNR=56
S31A Mullinville 42.97 338 ⇓P P 08 43 40.0 +1.4
baz=43,SNR=24
PAL Palisades 42.98 7 eP P 08 43 38.0 -0.6
PAL Palisades 42.98 7 eP P 08 43 38.0 -0.6
U28A Mallet 43.02 334 ⇑P P 08 43 39.8 +0.6
baz=43,SNR=16
X24A Lazy VL Ranch, 43.07 329 ⇑P P 08 43 40.9 +1.1
baz=43,SNR=16
W25A X Bar L Ranch, 43.11 331 ⇑P P 08 43 41.1 +1.1
baz=43,SNR=23
ALLY Alegheny Colle 43.20 0 eP P 08 43 39.5 -0.9
comp=Z,96nm,1.3s
V26A Tequesquite Ra 43.25 332 ⇑P P 08 43 42.5 +1.4
baz=43,SNR=104
T29A Hugoton 43.28 336 ⇑P P 08 43 42.6 +1.3
baz=44,SNR=27
KSU1 Kansas State U 43.29 342 eP P 08 43 41.8 +0.6
comp=Z,269nm,0.8s
KSU1 ePcP PcP PcP 08 45 30.2 0.0
120A U Bar Ranch, L 43.30 324 ⇑P P 08 43 43.2 +1.6
baz=44,SNR=16
Z21A St. Cloud Mine 43.31 326 ⇓P P 08 43 43.4 +1.7
baz=44,SNR=20
U27A Thompson Grove 43.32 333 ⇑P P 08 43 42.9 +1.2
baz=44,SNR=18
S30A Montezuma 43.36 337 ⇓P P 08 43 43.1 +1.2
baz=44,SNR=8.4
BNM Barren Site 43.38 328 eP P 08 43 43.9 +1.7
comp=Z,49nm,1.1s
BNM ePcP PcP PcP 08 45 30.9 0.0
Y22A Socorro 43.39 327 ⇑P P 08 43 43.7 +1.4
baz=44,SNR=27
Y22D IRIS PASSCAL I 43.47 327 ⇓P P 08 43 44.7 +1.8
baz=44
X23A Hourglass Bar 43.48 329 ⇑P P 08 43 44.3 +1.2
baz=44
LPM Los Pinos Moun 43.50 328 eP P 08 43 44.7 +1.5
comp=Z,30nm,1.1s
R31A Burdett 43.57 338 ⇓P P 08 43 45.0 +1.5
baz=44,SNR=41
W24A Lazy 6 Ranch, 43.57 330 ⇑P P 08 43 45.0 +1.3
baz=44,SNR=30
LENM Lemitar 43.57 328 eP P 08 43 45.0 +1.2
LENM ePcP PcP 08 45 32.5 +1.1
T28A Walsh 43.60 335 ⇓P P 08 43 44.6 +0.7
baz=44,SNR=15
S29A Ulysses 43.61 336 ⇓P P 08 43 45.4 +1.5
baz=44,SNR=23
V25A Rancho No Teng 43.68 331 ⇑P P 08 43 45.8 +1.2
baz=44,SNR=68
Z20A Nine Sixteen R 43.69 325 ⇑P P 08 43 46.5 +1.8
baz=44,SNR=30
U26A Atchley Ranch, 43.72 333 ⇑P P 08 43 46.4 +1.5
baz=44,SNR=40
T27A Campo 43.81 334 ⇑P P 08 43 46.5 +0.9
baz=44,SNR=16
Y21A Point of Rocks 43.83 327 ⇑P P 08 43 48.0 +2.0
baz=44,SNR=12
LAZ Ladron 43.84 328 eP P 08 43 47.7 +1.8
comp=Z,19nm,1.0s
R30A Dighton 43.85 337 ⇑P P 08 43 47.4 +1.6
baz=44,SNR=34
X22A Bernardo 43.85 328 ⇑P P 08 43 48.0 +2.0
baz=44,SNR=10
ANMO Albuquerque 43.90 329 eP P 08 43 47.8 +1.4
comp=Z,70nm,0.8s
ANMO Albuquerque 43.90 329 P P 08 43 46.6 +0.2
baz=153,slow=11
ANMO LR LR 09 01 57.9
comp=Z,974nm,18.2s,baz=144,slow=36
S28A Manter 43.90 335 ⇑P P 08 43 47.4 +1.1
baz=44,SNR=22
W23A Werner Place, 43.91 329 ⇑P P 08 43 48.1 +1.6
baz=44,SNR=64
V24A Rampart Ranch, 43.91 330 ⇓P P 08 43 47.8 +1.2
baz=44,SNR=54
BINY Binghamton 43.94 5 eP P 08 43 46.9 +0.4
comp=Z,78nm,0.9s
BINY e 08 45 32.1
U25A Circle Dot Ran 44.03 332 ⇑P P 08 43 48.8 +1.3
baz=44,SNR=26
Y20A Horse Springs, 44.15 326 ⇓P P 08 43 50.3 +1.8
baz=44,SNR=28
Q31A Ellis 44.15 339 ⇓P P 08 43 49.7 +1.5
baz=44,SNR=23
W22A Albuquerque 44.21 328 ⇑P P 08 43 50.6 +1.7
baz=44,SNR=14
X21A Alamocita Cree 44.22 327 ⇑P P 08 43 51.0 +1.9
baz=44,SNR=44
R29A Marienthal 44.31 337 ⇑P P 08 43 50.8 +1.3
baz=44,SNR=7.2
V23A Ortiz Mt. (NFS 44.38 330 ⇓P P 08 43 51.7 +1.4
baz=45,SNR=32
S27A Las Animas 44.41 334 ⇑P P 08 43 51.4 +1.0
baz=45
TUC Tucson 44.41 322 eP P 08 43 51.2 +0.7
TUC Tucson 44.41 322 eP P 08 43 51.2 +0.7
Q30A Quinter 44.43 338 ⇑P P 08 43 51.8 +1.3
baz=45,SNR=5.8
U24A Moreno Valley 44.46 331 ⇑P P 08 43 52.8 +1.8
baz=45,SNR=28
R28A Tribune 44.51 336 ⇑P P 08 43 52.4 +1.2
baz=45,SNR=47
P31A Stockton 44.60 339 ⇓P P 08 43 52.8 +1.0
baz=45,SNR=20
S26A Kim 44.61 334 ⇑P P 08 43 53.5 +1.5
baz=45
RCBR Riachuelo 44.62 96 eP P 08 43 52.7 +0.3
RCBR Riachuelo 44.62 96 P P 08 43 52.3 -0.1
comp=Z,38nm,0.9s,baz=249,slow=11,SNR=18
T25A Trinidad 44.63 332 ⇓P P 08 43 53.7 +1.4
baz=45,SNR=39
Q29A Oakley 44.65 337 ⇑P P 08 43 53.1 +0.9
baz=45,SNR=16
W21A San Fidel 44.66 328 ⇓P P 08 43 54.3 +1.8
baz=45,SNR=10.0
X20A Quemado 44.69 326 ⇑P P 08 43 54.5 +1.8
baz=45
TRY Troy 44.71 7 eP P 08 43 53.7 +1.2
comp=Z,54nm,1.0s
WES Weston 44.71 10 eP P 08 43 52.7 +0.2
WES pmax pmax
comp=Z,79nm,1.3s
WES Weston 44.71 10 eP P 08 43 52.7 +0.2
comp=Z,79nm,1.3s
U23A El Rito 44.84 330 ⇑P P 08 43 55.5 +1.5
baz=45,SNR=108
R27A Eads 44.87 335 ⇓P P 08 43 55.0 +1.0
baz=45,SNR=62
V22A San Miguel Ran 44.88 329 ⇑P P 08 43 55.8 +1.4
baz=45,SNR=27
P30A Selden 44.94 338 ⇓P P 08 43 55.8 +1.3
baz=45,SNR=20
SCIA State Center 44.98 347 eP P 08 43 54.4 -0.3
S25A Robets Cordova 45.07 333 ⇑P P 08 43 57.2 +1.4
baz=45,SNR=34
W20A Ramah 45.12 327 ⇑P P 08 43 57.8 +1.5
baz=45,SNR=13
Q28A Sharon Springs 45.13 336 ⇓P P 08 43 57.2 +1.1
baz=45,SNR=13
R26A Arlington 45.16 334 ⇓P P 08 43 57.7 +1.3
baz=45,SNR=40
V21A Milan 45.17 328 ⇓P P 08 43 58.6 +1.9
baz=45,SNR=30
U22A Llaves 45.21 330 ⇑P P 08 43 58.6 +1.7
baz=45,SNR=35
P29A Atwood 45.25 338 ⇓P P 08 43 58.1 +1.2
baz=45
T23A Casias Ranch, 45.32 331 ⇓P P 08 43 58.9 +1.1
baz=46,SNR=20
ACCN Adirondack Com 45.35 7 eP P 08 43 58.0 +0.4
R25A Fountain Ranch 45.40 333 ⇑P P 08 43 59.8 +1.5
baz=46,SNR=21
KSCO Kaye Shedlock' 45.41 336 ⇑P P 08 43 59.8 +1.4
baz=46,SNR=9.9
S24A Houchin Ranch, 45.41 332 ⇓P P 08 44 00.4 +1.8
baz=46,SNR=19
O30A MW Ranch, Wils 45.43 339 ⇓P P 08 43 59.8 +1.5
baz=46,SNR=18
214A Organ Pipe Nat 45.44 320 ⇓P P 08 44 00.3 +1.7
baz=46,SNR=21
X18A Snowflake 45.49 325 ⇑P P 08 44 00.7 +1.5
baz=46,SNR=23
P28A Saint Francis 45.54 337 ⇓P P 08 44 00.4 +1.1
baz=46,SNR=8.4
V20A Brimhall 45.61 328 ⇓P P 08 44 01.4 +1.3
baz=46,SNR=12
SDCO Great Sand Dun 45.63 332 eP P 08 44 01.7 +1.4
comp=Z,79nm,0.9s
O29A 4D Ranch, Culb 45.65 338 ⇑P P 08 44 01.5 +1.3
baz=46
U21A Nageezi 45.66 329 ⇓P P 08 44 02.3 +1.8
baz=46,SNR=20
FFD Franklin Falls 45.71 9 eP P 08 44 01.4 +1.0
comp=Z,320nm,0.9s
Q26A Hugo 45.71 335 ⇑P P 08 44 02.4 +1.6
baz=46,SNR=16
T22A Edith 45.73 330 ⇑P P 08 44 02.8 +1.7
baz=46,SNR=11
W18A Petrified Fore 45.80 326 ⇑P P 08 44 03.3 +1.8
baz=46,SNR=6.6
S23A Nye Farm, Mont 45.84 332 ⇑P P 08 44 03.2 +1.3
baz=46
R24A Sanders Place, 45.84 333 ⇓P P 08 44 03.5 +1.7
baz=46,SNR=11
HNH Hanover 45.85 8 eP P 08 44 02.1 +0.6
comp=Z,12nm,0.8s
HNH ePcP PcP 08 45 39.1 +0.3
P27A Ficken Ranch, 45.85 336 ⇑P P 08 44 03.3 +1.4
baz=46,SNR=19
NCB Newcomb 45.87 6 eP P 08 44 01.5 -0.2
comp=Z,19nm,1.1s
NCB ePcP PcP 08 45 38.7 -0.2
BGNE Belgrade 45.88 341 ⇑P P 08 44 02.6 +0.8
baz=46,SNR=15
N30A Hueftle Ranch, 45.99 339 ⇑P P 08 44 04.0 +1.2
baz=46
MDV Middlebury 46.02 7 eP P 08 44 03.2 +0.4
Q25A Bedland, Calha 46.02 334 ⇓P P 08 44 04.4 +1.2
baz=46,SNR=19
O28A Krutsinger Ran 46.02 337 ⇑P P 08 44 04.1 +1.0
baz=46
T21A Navajo Lake 46.03 330 ⇓P P 08 44 04.9 +1.5
baz=46,SNR=9.7
U20A Newcomb 46.07 328 ⇓P P 08 44 05.3 +1.6
baz=46,SNR=13
R23A Moffat 46.15 332 ⇑P P 08 44 06.0 +1.7
baz=46,SNR=19
P26A Davis Ranch, A 46.17 335 ⇑P P 08 44 05.7 +1.3
baz=46,SNR=7.7
N29A Votaw Ranch, W 46.20 339 ⇓P P 08 44 05.7 +1.3
baz=46,SNR=8.7
S22A 4UR Ranch, Cre 46.27 331 ⇑P P 08 44 06.7 +1.4
baz=46,SNR=17
X16A Lo Mia Camp, P 46.27 324 ⇓P P 08 44 06.8 +1.5
baz=46,SNR=40
O27A Beecher Island 46.35 337 ⇓P P 08 44 07.2 +1.5
baz=46,SNR=7.8
N28A Pribbeno Ranch 46.42 338 ⇑P P 08 44 07.6 +1.4
baz=47,SNR=11
LBNH Lisbon 46.42 8 eP P 08 44 06.9 +0.8
LBNH pmax pmax
comp=Z,15nm,0.9s
LBNH Lisbon 46.42 8 eP P 08 44 06.9 +0.8
comp=Z,15nm,0.9s
Q24A Divide 46.46 333 ⇑P P 08 44 08.1 +1.3
baz=47,SNR=10.0
Z14A Wintersburg 46.46 322 ⇑P P 08 44 08.0 +1.4
baz=47,SNR=5.6
LONY La Ozonia 46.47 6 eP P 08 44 06.0 -0.5
P25A Willow Gulch B 46.48 335 ⇓P P 08 44 08.1 +1.2
baz=47,SNR=11
GLMI Grayling 46.53 356 eP P 08 44 05.9 -1.0
comp=Z,69nm,0.8s
GLMI ePcP PcP 08 45 41.4 +0.2
M30A Dale-Ortello V 46.56 340 ⇑P P 08 44 08.1 +0.8
baz=47
113A Mohawk Valley, 46.58 320 ⇑P P 08 44 08.8 +1.3
baz=47,SNR=16
R22A Sasche, Gunn 46.62 331 ⇓P P 08 44 09.3 +1.2
baz=47,SNR=24
S21A Coal Bank Pass 46.68 330 ⇓P P 08 44 09.7 +1.1
baz=47,SNR=12
MVCO Mesa Verde 46.69 329 ⇓P P 08 44 09.9 +1.3
baz=47,SNR=11
Q23A Hartsel 46.72 333 ⇓P P 08 44 10.2 +1.3
baz=47
O26A Horse Wrangler 46.73 336 ⇑P P 08 44 09.9 +1.2
baz=47,SNR=9.7
M29A Burnside Ranch 46.77 339 ⇑P P 08 44 10.2 +1.3
baz=47,SNR=28
FRNY Flat Rock 46.79 7 eP P 08 44 09.0 0.0
comp=Z,30nm,1.1s
P24A Kohler Place, 46.80 334 ⇓P P 08 44 10.5 +1.1
baz=47,SNR=7.0
MSNY Massena 46.82 5 eP P 08 44 08.9 -0.2
comp=Z,446nm,0.9s
OGNE Ogallala 46.83 338 ⇑P P 08 44 09.9 +0.5
baz=47
Y14A Wickenburg 46.88 322 ⇓P P 08 44 11.2 +1.2
baz=47,SNR=21
N27A Anderson Farm, 46.91 337 ⇑P P 08 44 11.5 +1.5
baz=47,SNR=14
O25A Wiggins 46.96 335 ⇑P P 08 44 11.3 +0.8
baz=47
M28A Bar X Bar Ranc 46.97 338 ⇑P P 08 44 12.1 +1.5
baz=47,SNR=6.5
WUAZ Wupatki 47.01 325 eP P 08 44 12.7 +1.7
comp=Z,194nm,1.1s
WUAZ Wupatki 47.01 325 ⇑P P 08 44 12.9 +1.9
baz=47,SNR=22
S20A Disappointment 47.10 330 ⇓P P 08 44 13.2 +1.4
baz=47,SNR=13
P23A Jefferson 47.10 333 ⇑P P 08 44 13.7 +1.7
baz=47,SNR=40
R21A Cimarron 47.11 331 ⇓P P 08 44 13.3 +1.4
baz=47,SNR=16
Q22A Crested Butte, 47.19 332 ⇓P P 08 44 14.1 +1.5
baz=47,SNR=45
N26A Koester Ranch, 47.20 336 ⇓P P 08 44 13.6 +1.3
baz=47,SNR=6.4
L29A Maesberg Ranch 47.24 340 ⇑P P 08 44 13.8 +1.2
baz=47,SNR=8.7
ISCO Idaho Springs 47.35 334 eP P 08 44 14.8 +1.0
ISCO e 08 45 44.9
ISCO pmax pmax
comp=Z,30nm,1.0s
ISCO Idaho Springs 47.35 334 eP P 08 44 14.8 +1.0
comp=Z,30nm,1.0s
ISCO ePcP PcP 08 45 44.9 +0.3
ISCO Idaho Springs 47.35 334 ⇑P P 08 44 15.2 +1.4
baz=48,SNR=15
O24A Longmont 47.38 334 ⇓P P 08 44 15.4 +1.6
baz=48,SNR=15
R20A Redvale 47.38 330 ⇓P P 08 44 15.5 +1.6
baz=48,SNR=15
PV01 Paradox Valley 47.44 330 eP P 08 44 15.8 +1.4
comp=Z,4µm,1.0s
GLA Glamis 47.45 320 eP P 08 44 15.8 +1.4
GLA pmax pmax
comp=Z,56nm,1.1s
GLA Glamis 47.45 320 eP P 08 44 15.8 +1.4
comp=Z,56nm,1.1s
GLA Glamis 47.45 320 ⇑P P 08 44 15.8 +1.4
baz=48,SNR=6.2
M27A Reese DX Ran 47.47 338 ⇓P P 08 44 15.4 +1.0
baz=48
SMCO Snowmass 47.47 332 eP P 08 44 16.2 +1.3
comp=Z,50nm,1.0s
Q21A Lamborn Mesa, 47.49 331 ⇑P P 08 44 16.0 +1.2
baz=48,SNR=10.0
N25A Grover 47.53 336 ⇓P P 08 44 16.0 +1.0
baz=48
ECSD EROS Data Cent 47.55 344 eP P 08 44 14.4 -0.6
L28A Connealy Angus 47.56 339 ⇑P P 08 44 16.4 +1.2
baz=48
P22A Eagle 47.70 332 ⇑P P 08 44 17.6 +1.1
baz=48,SNR=13
Y12C Blythe 47.70 321 ⇑P P 08 44 17.4 +1.1
baz=48
M26A McRoberts Ranc 47.71 337 ⇑P P 08 44 17.2 +0.9
baz=48
K29A Lazy Trails An 47.80 340 ⇓P P 08 44 18.3 +1.3
baz=48,SNR=24
PV04 Paradox Valley 47.80 330 eP P 08 44 18.1 +0.9
O23A Lake Granby, G 47.82 334 ⇑P P 08 44 18.8 +1.4
baz=48,SNR=11
PDMCI Parker Dam,Lak 47.83 322 ⇑P P 08 44 18.0 +0.8
baz=48
N24A Carr 47.88 335 ⇑P P 08 44 19.3 +1.6
baz=48,SNR=5.8
Q20A Ridgley Place, 47.93 331 ⇓P P 08 44 19.3 +1.1
baz=48
P21A Newcastle 47.97 332 ⇑P P 08 44 20.4 +1.8
baz=48,SNR=42
SWSC Sam W. Stewart 48.00 319 ⇓P P 08 44 20.1 +1.4
baz=48,SNR=6.3
DVTC Desert V Tower 48.03 319 ⇑P P 08 44 20.1 +1.2
baz=48,SNR=5.1
M25A Palm-Egli Farm 48.04 336 ⇑P P 08 44 20.2 +1.2
baz=48,SNR=6.6
SPMN St. Paul 48.05 348 ⇑P P 08 44 17.7 -1.0
baz=48,SNR=5.9
O22A Kremmling 48.06 333 ⇑P P 08 44 20.1 +0.8
baz=48,SNR=17
K28A Ten Mile Ranch 48.12 339 ⇑P P 08 44 21.0 +1.5
baz=48,SNR=32
L26A Underwood Farm 48.17 337 ⇑P P 08 44 21.3 +1.4
baz=48,SNR=6.3
U15A North Rim 48.18 325 ⇑P P 08 44 22.1 +1.9
baz=48,SNR=14
W13A Hualapai Mount 48.20 323 ⇓P P 08 44 22.0 +1.6
baz=48,SNR=23
BC3 Big Chuckawall 48.23 320 ⇓P P 08 44 21.6 +1.1
baz=48,SNR=15
IRM Iron Mountain 48.37 321 ⇓P P 08 44 22.8 +1.4
baz=48,SNR=41
MONP Monument Peak 48.38 319 ⇓P P 08 44 23.0 +1.2
baz=48
M24A Cheyenne 48.38 335 ⇓P P 08 44 23.1 +1.4
baz=49,SNR=6.8
N23A Red Feather La 48.39 334 ⇑P P 08 44 23.0 +1.2
baz=49,SNR=9.6
P20A De Beque 48.40 331 ⇑P P 08 44 22.8 +1.0
baz=49,SNR=7.5
BAR Barrett 48.42 318 eP P 08 44 23.0 +1.1
comp=Z,33nm,1.0s
K27A Flueckinger Fa 48.43 339 ⇓P P 08 44 22.9 +1.1
baz=49,SNR=9.0
NEE2 Needles Airpor 48.43 322 ⇓P P 08 44 23.0 +1.1
baz=49
PHWY Pilot Hill 48.51 335 eP P 08 44 23.6 +0.8
comp=Z,32nm,1.0s
PHWY ePcP PcP 08 45 48.4 -0.3
O21A Pagoda 48.53 332 ⇓P P 08 44 24.4 +1.5
baz=49,SNR=8.3
N22A Wattenberg Ran 48.54 334 ⇑P P 08 44 24.2 +1.3
baz=49,SNR=8.8
L25A Engebretsen Ra 48.62 337 ⇓P P 08 44 24.9 +1.5
baz=49,SNR=13
J28A Allard Ranch, 48.70 340 ⇑P P 08 44 24.8 +0.9
baz=49,SNR=60
M23A Laramie 48.76 335 ⇑P P 08 44 25.7 +1.1
baz=49
K26A Motz Farm, Whi 48.78 338 ⇓P P 08 44 25.9 +1.3
baz=49
P19A Cripple Cowboy 48.79 331 ⇑P P 08 44 25.8 +0.9
baz=49,SNR=12
BELC Belle Mtn. Jos 48.80 320 ⇑P P 08 44 26.0 +1.0
baz=49,SNR=6.9
O20A White River Ci 48.83 332 ⇑P P 08 44 26.2 +1.1
baz=49,SNR=9.1
109C Camp Elliot, M 48.84 318 ⇑P P 08 44 26.1 +1.0
baz=49,SNR=6.7
PFO Pinyon Flat Ob 48.85 319 P P 08 44 27.0 +1.7
comp=Z,12nm,1.1s,SNR=7.0
PFO Pinyon Flat Ob 48.85 319 eP P 08 44 26.4 +1.0
comp=Z,48nm,1.1s
PFO Pinyon Flat Ob 48.85 319 P P 08 44 25.5 +0.2
comp=Z,13nm,1.0s,baz=119,slow=7.2,SNR=12
PFO LR LR 09 02 50.0
comp=Z,2µm,20.5s,baz=137,slow=33
PFO Pinyon Flat Ob 48.85 319 ⇓P P 08 44 26.5 +1.2
baz=49,SNR=8.8
BRSD Miller 48.88 342 ⇑P P 08 44 25.0 -0.1
baz=49,SNR=36
L24A Wheatland 48.91 336 ⇑P P 08 44 26.7 +1.1
baz=49,SNR=8.4
LDFC Landfair 48.94 322 eP P 08 44 27.8 +1.9
comp=Z,37nm,1.1s
K25A Mack Ranch, Ha 48.97 337 ⇓P P 08 44 27.3 +1.3
baz=49,SNR=5.6
N21A Black Mountain 48.98 333 ⇑P P 08 44 27.5 +1.2
baz=49,SNR=21
GMRC Granite Mounta 49.09 321 ⇓P P 08 44 28.0 +0.9
baz=49,SNR=9.1
M22A Cedar Creek Ra 49.09 334 ⇓P P 08 44 28.1 +0.9
baz=49
SRU San Rafael 49.17 329 eP P 08 44 28.5 +0.8
SRU pmax pmax
comp=Z,103nm,1.1s
SRU San Rafael 49.17 329 eP P 08 44 28.5 +0.8
comp=Z,103nm,1.1s
I28A Midland 49.19 340 ⇑P P 08 44 28.5 +0.9
baz=49
L23A Garrett 49.29 335 ⇓P P 08 44 29.2 +0.6
baz=50,SNR=12
MURC Murrieta 49.33 319 ⇑P P 08 44 29.5 +0.6
baz=50,SNR=12
Q16A Castle Valley 49.37 328 ⇓P P 08 44 30.0 +0.8
baz=50,SNR=11
O19A Miners Draw (B 49.38 331 ⇓P P 08 44 29.9 +0.6
baz=50,SNR=12
N20A Spence Gulch, 49.39 332 ⇓P P 08 44 30.2 +0.8
baz=50
K24A Anderson Ranch 49.43 336 ⇑P P 08 44 30.6 +1.0
baz=50
PQI Presque Isle 49.45 11 eP P 08 44 29.9 +0.5
comp=Z,68nm,1.1s
L22A Ellis Ranch, M 49.53 335 ⇓P P 08 44 31.3 +0.9
baz=50,SNR=11
HEC Hector Ludlow 49.54 321 ⇑P P 08 44 31.9 +1.4
baz=50,SNR=11
I27A Quinn 49.55 340 ⇑P P 08 44 31.5 +1.1
baz=50
BBRC Big Bear Solar 49.56 320 ⇑P P 08 44 32.2 +1.4
baz=50,SNR=12
CCUT Cedar City 49.58 325 eP P 08 44 32.8 +1.8
comp=Z,93nm,1.1s
RWWY Rawlins 49.59 334 eP P 08 44 31.9 +0.9
comp=Z,69nm,1.0s
RWWY ePcP PcP 08 45 51.9 -0.7
M21A Separation Pea 49.59 334 ⇑P P 08 44 32.0 +1.1
baz=50,SNR=5.6
J25A Sunshine Ranch 49.60 338 ⇓P P 08 44 32.3 +1.4
baz=50,SNR=20
MSU Marysvale 49.60 327 eP P 08 44 32.3 +1.2
MSU e 08 45 53.0
MSU pmax pmax
comp=Z,41nm,1.0s
MSU Marysvale 49.60 327 eP P 08 44 32.2 +1.2
comp=Z,42nm,1.0s
MSU ePcP PcP 08 45 53.0 +0.4
MVU Marysvale 49.62 327 eP P 08 44 32.6 +1.4
comp=Z,47nm,1.0s
TMUT Trail Mountain 49.66 329 eP P 08 44 32.6 +0.9
comp=Z,43nm,1.2s
TMUT ePcP PcP 08 45 53.1 +0.1
TUQ Turquoise Moun 49.68 322 ⇓P P 08 44 32.6 +1.0
baz=50,SNR=6.1
H28A Mission Ridge 49.74 341 ⇑P P 08 44 32.3 +0.6
baz=50
K23A Bowen Ranch, D 49.79 336 ⇑P P 08 44 33.3 +0.9
baz=50,SNR=11
ARUT Antelope Range 49.79 326 eP P 08 44 34.3 +1.8
ARUT pmax pmax
comp=Z,81nm,1.0s
ARUT Antelope Range 49.79 326 eP P 08 44 34.2 +1.8
comp=Z,80nm,1.0s
I26A New Underwood 49.80 339 ⇑P P 08 44 33.7 +1.3
baz=50
SCI San Clemente I 49.86 317 ⇓P P 08 44 34.0 +1.1
baz=50
M20A Sweetwater, Wa 49.87 333 ⇓P P 08 44 34.3 +1.2
baz=50,SNR=14
J24A Dixon Ranch, L 49.88 337 ⇓P P 08 44 34.4 +1.4
baz=50
L21A Rawlins 49.88 334 ⇑P P 08 44 34.1 +1.0
baz=50,SNR=7.7
CIS Catalina Islan 50.02 318 ⇑P P 08 44 35.7 +1.6
baz=50

BFSC	Mount Baldy Ra	50.03 319	⇑P		P	08 44 35.3	+1.0
	baz=50,SNR=22						
H27A	Howes	50.05 340	⇓P		P	08 44 35.2	+1.0
	baz=50						
G28A	Parade	50.06 341	⇑P		P	08 44 34.5	+0.3
	baz=50						
K22A	Casper	50.07 335	⇑P		P	08 44 35.2	+0.7
	baz=50,SNR=9.9						
I25A	Rochford	50.11 338	⇓P		P	08 44 36.2	+1.3
	baz=50						
FMP	Fort Macarthur	50.13 318	⇓P		P	08 44 35.5	+0.6
	baz=50						
GSC	Goldstone	50.14 321	eP		P	08 44 36.6	+1.5
GSC			pmax		pmax		
	comp=Z,62nm,1.1s						
GSC	Goldstone	50.14 321	eP		P	08 44 36.5	+1.5
	comp=Z,62nm,1.1s						
GSC	Goldstone	50.14 321	⇑P		P	08 44 36.7	+1.5
	baz=50,SNR=41						
SHOC	Shoshone	50.20 322	⇑P		P	08 44 36.6	+1.2
	baz=50,SNR=9.2						
MWC	Mount Wilson	50.28 319	eP		P	08 44 37.3	+1.0
MWC			e			08 45 54.9	
MWC			pmax		pmax		
	comp=Z,37nm,1.0s						
MWC	Mount Wilson	50.28 319	eP		P	08 44 37.3	+1.0
	comp=Z,37nm,1.0s						
MWC			ePcP		PcP	08 45 54.9	-0.3
H26A	Fairpoint	50.28 339	⇑P		P	08 44 36.8	+0.9
	baz=50						
J23A	Dilts Ranch, B	50.30 336	⇓P		P	08 44 37.4	+1.2
	baz=50						
RSSD	Black Hills	50.31 338	eP		P	08 44 37.2	+0.8
RSSD			pmax		pmax		
	comp=Z,40nm,0.9s						
RSSD	Black Hills	50.31 338	eP		P	08 44 37.2	+0.8
	comp=Z,40nm,0.9s						
I24A	Kuemmerle Ranc	50.31 337	⇑P		P	08 44 37.4	+1.1
	baz=50,SNR=5.2						
M19A	Rock Springs	50.33 332	⇓P		P	08 44 37.0	+0.4
	baz=50						
PASC	Pasadena Art C	50.33 319	eP		P	08 44 37.9	+1.5
	comp=Z,12nm,1.2s						
L20A	Wamsutter	50.35 333	⇑P		P	08 44 38.0	+1.3
	baz=50						
K21A	Alcova	50.37 334	⇑P		P	08 44 37.6	+0.7
	baz=51,SNR=11						
MPU	Maple Canyon	50.42 329	eP		P	08 44 38.1	+0.9
	comp=Z,43nm,0.9s						
EYMN	Ely	50.43 350	eP		P	08 44 35.6	-1.3
	comp=Z,24nm,1.0s						
DECC	Green Verdugo	50.47 319	⇓P		P	08 44 38.7	+1.1
	baz=51						
DAU	Daniels Canyon	50.52 330	eP		P	08 44 39.2	+1.1
DAU			pmax		pmax		
	comp=Z,72nm,1.0s						
DAU	Daniels Canyon	50.52 330	eP		P	08 44 39.2	+1.1
	comp=Z,72nm,1.0s						
H25A	Fruitdale	50.58 339	⇓P		P	08 44 39.3	+1.1
	baz=51						
NLU	North Lily Min	50.60 329	eP		P	08 44 39.9	+1.3
	comp=Z,1.7nm,0.7s						
EDW2	Edwards Air Fo	50.64 320	⇓P		P	08 44 39.9	+1.1
	baz=51,SNR=15						
G27A	Dupree	50.66 341	⇑P		P	08 44 39.4	+0.6
	baz=51						
J22A	Midwest	50.68 336	⇓P		P	08 44 39.8	+0.7
	baz=51,SNR=25						
I23A	Meade Ranch, G	50.73 337	⇓P		P	08 44 40.0	+0.6
	baz=51						
JLU	Jordanelle	50.76 330	eP		P	08 44 40.8	+0.9
	comp=Z,60nm,1.0s						
G26A	Maurine	50.81 340	⇑P		P	08 44 40.4	+0.5
	baz=51						
LRMC	Laurel Mountai	50.81 320	⇑P		P	08 44 41.6	+1.3
	baz=51,SNR=12						
K20A	Yellowstone Ra	50.87 334	⇑P		P	08 44 41.1	+0.5
	baz=51,SNR=16						
BLG	Laguna Peak	50.88 318	⇓P		P	08 44 41.0	+0.5
	baz=51						
L19A	Farson	50.89 332	⇓P		P	08 44 41.6	+0.8
	baz=51,SNR=10.0						
FURC	Furnace Creek,	50.92 322	⇓P		P	08 44 42.2	+1.4
	baz=51,SNR=9.0						
OSI	Osito Adit	50.95 319	⇑P		P	08 44 41.5	+0.3
	baz=51						
CTU	Camp Tracy	50.98 329	eP		P	08 44 42.7	+1.3
	comp=Z,103nm,1.2s						
G25A	Newell	51.01 339	⇑P		P	08 44 42.2	+0.7
	baz=51						
M17A	Scullys Gap (B	51.03 331	⇑P		P	08 44 42.2	+0.4
	baz=51,SNR=16						
J21A	Lysite	51.03 335	⇓P		P	08 44 42.9	+1.1
	baz=51,SNR=12						
H24A	Dirks Ranch, A	51.04 338	⇓P		P	08 44 42.3	+0.5
	baz=51,SNR=22						
MPMC	Manual Prospec	51.05 321	⇓P		P	08 44 43.0	+0.9
	baz=51,SNR=8.6						
L18A	Fontenelle, Gr	51.07 332	⇓P		P	08 44 42.6	+0.4
	baz=51,SNR=8.8						
I22A	9 Mile Ranch,	51.08 336	⇓P		P	08 44 42.8	+0.7
	baz=51						
DUG	Dugway	51.16 328	eP		P	08 44 43.9	+1.1
DUG			pmax		pmax		
	comp=Z,22nm,0.9s						
DUG	Dugway	51.16 328	eP		P	08 44 43.9	+1.1
	comp=Z,22nm,0.9s						
DUG	Dugway	51.16 328	⇓P		P	08 44 43.9	+1.1
	baz=51,SNR=11						
K19A	Absolon Red Bu	51.23 333	⇑P		P	08 44 43.5	+0.2
	baz=51,SNR=15						
J20A	Shoshoni	51.31 334	⇑P		P	08 44 44.8	+0.9
	baz=52,SNR=12						
F26A	Lodgepole	51.32 340	⇑P		P	08 44 44.1	+0.4
	baz=52						
ARVC	Arvin	51.33 319	⇓P		P	08 44 45.1	+1.1
	baz=52,SNR=7.4						
I21A	Big Trails, Te	51.35 335	⇓P		P	08 44 44.4	+0.3
	baz=52,SNR=7.3						
R11A	Troy Canyon, C	51.40 325	⇓P		P	08 44 45.4	+0.8
	baz=52,SNR=22						
ISA	Isabella	51.43 320	eP		P	08 44 46.0	+1.2
ISA			pmax		pmax		
	comp=Z,43nm,1.1s						
ISA	Isabella	51.43 320	eP		P	08 44 46.0	+1.2
	comp=Z,43nm,1.1s						
ISA	Isabella	51.43 320	⇓P		P	08 44 45.7	+0.9
	baz=52,SNR=7.6						
G24A	Alzada	51.49 339	⇑P		P	08 44 45.8	+0.8
	baz=52,SNR=22						
BW06	Boulder Array	51.50 333	eP		P	08 44 45.5	0.0
	comp=Z,29nm,1.0s						
PDAR	Pinedale Array	51.50 333	P		P	08 44 45.4	-0.1
PDAR	Pinedale Array	51.50 333	P		P	08 44 45.4	-0.1
	comp=Z,8.8nm,0.9s,baz=130,slow=7.6,SNR=69						
PDAR			LR		LR	09 07 07.9	
	comp=Z,2µm,18.2s,baz=144,slow=37						
HWUT	Hardware Ranch	51.57 330	eP		P	08 44 46.2	+0.4
	comp=Z,82nm,1.0s						
GRAC	Grapevine Rang	51.58 322	⇓P		P	08 44 47.4	+1.6
	baz=52,SNR=37						
H22A	Clearmont	51.61 337	⇓P		P	08 44 46.5	+0.5
	baz=52,SNR=7.0						
AGMN	Agassiz Nation	51.63 347	eP		P	08 44 45.6	-0.3
	comp=Z,55nm,1.0s						
AGMN			ePcP		PcP	08 45 59.0	-0.6
F25A	Bowman	51.66 340	⇓P		P	08 44 46.8	+0.5
	baz=52						
CWC	Cottonwood Cre	51.66 321	⇑P		P	08 44 47.3	+0.7
	baz=52,SNR=5.6						
J19A	Crowheart	51.67 334	⇓P		P	08 44 46.9	+0.3
	baz=52,SNR=11						
G23A	Biddle	51.74 338	⇓P		P	08 44 47.1	+0.2
	baz=52,SNR=9.8						
SPUT	South Promonto	51.79 329	eP		P	08 44 47.6	+0.2
	comp=Z,84nm,1.0s						
E26A	Carlson Angus	51.80 341	⇑P		P	08 44 47.9	+0.6
	baz=52,SNR=40						
BGU	Big Grassy Mou	51.81 329	eP		P	08 44 48.5	+0.9
	comp=Z,56nm,1.0s						
I20A	Worland	51.81 335	⇓P		P	08 44 47.9	+0.3
	baz=52,SNR=11						
PKM	Peak Mountain	51.84 318	⇑P		P	08 44 48.5	+0.4
	baz=52						
H21A	Big Horn, Sher	51.91 336	⇓P		P	08 44 48.2	-0.1
	baz=52						
VES	Vestal, Richgr	51.93 320	⇑P		P	08 44 48.7	+0.3
	baz=52,SNR=9.9						
F24A	Ekalaka	51.94 339	⇑P		P	08 44 48.6	+0.2
	baz=52,SNR=42						
G22A	Birney	52.10 337	⇓P		P	08 44 49.5	-0.1
	baz=52,SNR=13						
E25A	Miller Ranch,	52.14 340	⇑P		P	08 44 50.1	+0.2
	baz=52,SNR=32						
TIN	Tinemaha	52.14 322	⇓P		P	08 44 50.9	+0.8
	baz=52,SNR=5.8						
MDND	Maddock	52.16 344	⇑P		P	08 44 50.9	+0.9
	baz=52,SNR=84						
F23A	Volborg	52.19 338	⇑P		P	08 44 50.5	+0.3
	baz=52,SNR=27						
H20A	Greybull	52.19 335	⇑P		P	08 44 50.3	0.0
	baz=52						
SMMC	Simmler	52.21 319	⇓P		P	08 44 51.2	+0.7
	baz=52,SNR=5.8						
AHID	Auburn Hatcher	52.22 332	eP		P	08 44 50.8	+0.1
	comp=Z,42nm,1.1s						
AHID			ePcP		PcP	08 46 01.8	-0.4
I19A	Meeteetse	52.26 334	⇓P		P	08 44 51.6	+0.7
	baz=52,SNR=8.8						
HVU	Hansel Valley	52.30 330	eP		P	08 44 51.7	+0.4
HVU			pmax		pmax		
	comp=Z,31nm,1.1s						
HVU	Hansel Valley	52.30 330	eP		P	08 44 51.7	+0.4
	comp=Z,31nm,1.1s						
RCTC	Rector, Farmer	52.32 320	⇓P		P	08 44 51.8	+0.5
	baz=52						
I18A	Diamond G Ranc	52.35 333	⇓P		P	08 44 52.0	+0.2
	baz=52,SNR=20						
G21A	Lodge Grass	52.47 336	⇑P		P	08 44 52.5	+0.1
	baz=53,SNR=12						
E24A	Baker	52.50 339	⇑P		P	08 44 53.1	+0.6
	baz=53,SNR=13						
F22A	Rosebud	52.56 337	⇓P		P	08 44 53.2	+0.2
	baz=53,SNR=12						
REDW	Red Top Meadow	52.56 332	eP		P	08 44 53.9	+0.6
	comp=Z,65nm,1.1s						
SNOW	Snow King Moun	52.59 332	eP		P	08 44 54.0	+0.5
	comp=Z,67nm,1.4s						
LOHW	Long Hollow	52.64 333	eP		P	08 44 54.3	+0.4
	comp=Z,31nm,1.1s						
LOHW			ePcP		PcP	08 46 02.7	-1.1
TPAW	Teton Pass	52.71 332	eP		P	08 44 54.7	+0.3
	comp=Z,40nm,1.1s						
TPAW			ePcP		PcP	08 46 04.4	+0.3
H19A	Powell	52.76 335	⇑P		P	08 44 54.7	+0.1
	baz=53						
RRI2	Red Ridge	52.77 332	eP		P	08 44 55.7	+0.8
	comp=Z,65nm,0.9s						
E23A	Ismay	52.81 339	⇑P		P	08 44 55.3	+0.5
	baz=53						
MOOW	Moose Ponds	52.81 333	eP		P	08 44 55.3	+0.2
	comp=Z,22nm,1.0s						
I17A	Pilgrim Ck.	52.87 333	⇑P		P	08 44 56.4	+0.9
	baz=53,SNR=9.5						
G20A	Bridger	52.88 336	⇓P		P	08 44 55.1	-0.3
	baz=53,SNR=20						
MLAC	Mammoth Lakes	52.88 322	⇑P		P	08 44 56.6	+0.9
	baz=53,SNR=8.1						
F21A	Absaloka Mine,	52.93 337	⇑P		P	08 44 55.9	+0.1
	baz=53,SNR=5.1						
D24A	Glendive	52.99 340	⇑P		P	08 44 57.1	+1.0
	baz=53,SNR=42						
E22A	Miles City	52.99 338	⇓P		P	08 44 56.0	-0.2
	baz=53,SNR=18						
IMW	Indian Meadow	53.02 333	eP		P	08 44 57.1	+0.4
	comp=Z,15nm,0.8s						
IMW			ePcP		PcP	08 46 04.9	-0.4
FLWY	Flagg Ranch	53.05 333	eP		P	08 44 57.6	+0.7
	comp=Z,57nm,1.0s						
H18A	Shoshone NF, C	53.05 334	⇑P		P	08 44 56.8	-0.1
	baz=53,SNR=16						
NVAR	Mina Array Bea	53.06 323	P		P	08 44 58.4	+1.3
NVAR	Mina Array Bea	53.06 323	P		P	08 44 58.4	+1.3
	comp=Z,12nm,0.8s,baz=133,slow=6.8,SNR=62						
NVAR			LR		LR	09 07 07.5	
	comp=Z,1µm,18.5s,baz=236,slow=36						
EFI	East Falkland	53.18 163	P		P	08 44 58.3	+0.9
EFI			pmax		pmax		
	comp=Z,148nm,1.2s						
EFI	East Falkland	53.18 163	P		P	08 44 58.3	+0.9
	comp=Z,148nm,1.2s						
H17A	Grant Village	53.24 333	⇓P		P	08 45 00.5	+2.2
	baz=53						
RLMT	Red Lodge	53.24 335	eP		P	08 44 58.5	+0.3
	comp=Z,16nm,1.1s						
I16A	Newdale	53.25 332	⇓P		P	08 44 58.6	+0.3
	baz=53,SNR=14						
LKWY	Lake	53.29 334	eP		P	08 45 00.2	+1.5
LKWY			pmax		pmax		
	comp=Z,28nm,1.0s						
LKWY	Lake	53.29 334	eP		P	08 45 00.2	+1.5
	comp=Z,28nm,1.0s						
F20A	Billings	53.32 336	⇑P		P	08 44 59.0	+0.3
	baz=54,SNR=14						
D23A	Lindsay	53.35 339	⇓P		P	08 44 59.6	+0.8
	baz=54,SNR=34						
C24A	Savage	53.38 340	⇓P		P	08 44 59.7	+0.7
	baz=54,SNR=32						
YFT	Old Faithful	53.40 333	eP		P	08 45 01.5	+2.0
	comp=Z,87nm,1.2s						
ULM	Lac du Bonnet	53.47 348	P		P	08 44 59.0	-0.5
ULM	Lac du Bonnet	53.47 348	P		P	08 44 59.0	-0.5
	comp=Z,62nm,0.8s,baz=159,slow=7.6,SNR=64						
E21A	Keefer Ranch,	53.51 337	⇓P		P	08 45 00.2	+0.3
	baz=54,SNR=6.1						
G18A	Lazy EL Ranch,	53.52 335	⇓P		P	08 45 00.3	+0.1
	baz=54,SNR=12						
YMR	Madison River	53.62 333	eP		P	08 45 02.4	+1.3
	comp=Z,43nm,1.1s						
D22A	Cohagen	53.68 338	⇑P		P	08 45 01.6	+0.4
	baz=54,SNR=33						
F19A	Roth Farm, Mol	53.69 336	⇑P		P	08 45 01.7	+0.3
	baz=54,SNR=20						
BMN	Battle Mountai	53.74 325	eP		P	08 45 03.3	+1.4
BMN			pmax		pmax		
	comp=Z,88nm,1.1s						
BMN	Battle Mountai	53.74 325	eP		P	08 45 03.3	+1.4
	comp=Z,88nm,1.1s						
H16A	Russell Place,	53.78 333	⇑P		P	08 45 02.9	+0.7
	baz=54,SNR=22						
WAKR	Walker	53.80 322	eP		P	08 45 03.8	+1.3
	comp=Z,40nm,1.1s						
C23A	Lambert	53.88 340	⇓P		P	08 45 03.1	+0.4
	baz=54,SNR=20						
E20A	Meyer Farm, Mu	53.89 337	⇓P		P	08 45 03.3	+0.5
	baz=54,SNR=65						
D21A	La Casta Ranch	53.91 338	⇑P		P	08 45 03.6	+0.6
	baz=54,SNR=29						
GCMT	Greycliff	53.94 335	eP		P	08 45 03.9	+0.7
	comp=Z,24nm,0.9s						
QLMT	Earthquake Lak	53.96 333	eP		P	08 45 05.0	+1.5
	comp=Z,8.2nm,1.2s						
G17A	Pierce Place,	54.03 334	⇑P		P	08 45 05.8	+1.8
	baz=54,SNR=45						
F18A	Big Timber	54.05 335	⇑P		P	08 45 04.7	+0.6
	baz=54,SNR=100						
C22A	Vida	54.08 339	⇓P		P	08 45 05.0	+0.9
	baz=54,SNR=29						
CMB	Columbia Colle	54.09 321	eP		P	08 45 04.9	+0.5
CMB			pmax		pmax		
	comp=Z,25nm,1.1s						
CMB	Columbia Colle	54.09 321	eP		P	08 45 04.9	+0.5
	comp=Z,25nm,1.1s						
DGMT	Dagmar	54.12 341	eP		P	08 45 05.4	+1.0
	comp=Z,29nm,0.9s						
DGMT	Dagmar	54.12 341	⇑P		P	08 45 05.1	+0.7
	baz=54,SNR=11						
E19A	Rath Farm, Rou	54.12 336	⇓P		P	08 45 04.9	+0.5
	baz=54,SNR=47						
I14A	Mackay	54.23 331	⇑P		P	08 45 06.3	+0.8
	baz=54,SNR=19						
D20A	Manuel Ranch,	54.37 337	⇓P		P	08 45 06.9	+0.6
	baz=55,SNR=49						
B23A	Brockton	54.38 340	⇓P		P	08 45 07.5	+1.2
	baz=55,SNR=24						
HLID	Hailey	54.43 330	eP		P	08 45 07.7	+0.7
	comp=Z,32nm,0.9s						
HLID			ePcP		PcP	08 46 11.1	+0.6
HLID	Hailey	54.43 330	⇓P		P	08 45 07.6	+0.7
	baz=55,SNR=74						
A24A	Westby	54.45 341	⇓P		P	08 45 07.7	+1.0
	baz=55,SNR=23						
F17A	Fitzpatrick Pl	54.46 334	⇑P		P	08 45 07.8	+0.7
	baz=55,SNR=22						
PAHR	Pah Rah Range	54.52 323	eP		P	08 45 09.1	+1.4
	comp=Z,16nm,1.1s						
C21A	Desert Coulee	54.59 338	⇓P		P	08 45 08.7	+0.9
	baz=55,SNR=28						
B22A	Reddig Ranch S	54.59 339	⇑P		P	08 45 08.5	+0.7
	baz=55,SNR=8.8						
MCMT	McKenzie Canyo	54.61 332	eP		P	08 45 09.6	+1.3
	comp=Z,9.5nm,1.2s						
MCMT			ePcP		PcP	08 46 11.8	+0.5
E18A	Harlowton	54.66 335	⇑P		P	08 45 09.1	+0.6
	baz=55,SNR=18						
BOZ	Bozeman (W)	54.68 334	eP		P	08 45 09.0	+0.3
BOZ			pmax		pmax		
	comp=Z,48nm,1.1s						
BOZ	Bozeman (W)	54.68 334	eP		P	08 45 09.0	+0.3
	comp=Z,48nm,1.1s						
D19A	Cripps Ranch,	54.73 337	⇑P		P	08 45 09.5	+0.6
	baz=55,SNR=54						
A23A	Redstone	54.77 341	⇓P		P	08 45 10.0	+0.9
	baz=55,SNR=5.6						
C20A	Veseth Ranch,	54.83 338	⇓P		P	08 45 10.3	+0.6
	baz=55,SNR=16						
DLMT	Dillon	54.90 333	eP		P	08 45 11.1	+0.8
	comp=Z,24nm,1.1s						
I12A	Atlanta	54.96 330	⇑P		P	08 45 11.8	+1.1
	baz=55,SNR=16						
E17A	Martinsdale	54.98 335	⇑P		P	08 45 11.5	+0.7
	baz=55,SNR=24						
MFID	Camas Ranch	55.04 329	eP		P	08 45 12.2	+1.0
	comp=Z,80nm,1.1s						
MFID	Camas Ranch	55.04 329	⇓P		P	08 45 12.4	+1.1
	baz=55,SNR=40						
B21A	Ellsworth Farm	55.06 339	⇓P		P	08 45 12.4	+1.2
	baz=55						
D18A	Linhart Farms,	55.12 336	⇑P		P	08 45 12.4	+0.7
	baz=55,SNR=30						
A22A	Carney Farms,	55.15 340	⇓P		P	08 45 12.9	+1.0
	baz=55,SNR=18						
LRM	Limekiln Ridge	55.18 333	eP		P	08 45 12.9	+0.5
	comp=Z,100nm,1.0s						
LRM			ePcP		PcP	08 46 12.2	-1.3
BEKR	Beckworth	55.20 323	eP		P	08 45 13.7	+1.1
	comp=Z,24nm,1.0s						
C19A	Slack Wire Ran	55.26 337	⇑P		P	08 45 13.5	+0.8
	baz=55,SNR=43						
H12A	Diamond D Ranc	55.37 331	⇑P		P	08 45 14.4	+0.7
	baz=56,SNR=9.3						
B20A	Solberg Farm,	55.44 338	⇓P		P	08 45 14.9	+0.9
	baz=56						
D17A	Six Diamond Ra	55.45 335	⇑P		P	08 45 14.7	+0.5
	baz=56,SNR=31						
A21A	Bergtoll Ranch	55.50 339	⇓P		P	08 45 15.1	+0.6
	baz=56						
HRY	Holter Researc	55.59 334	eP		P	08 45 15.9	+0.7
	comp=Z,24nm,0.7s						
EGMT	Eagleton	55.77 337	eP		P	08 45 17.0	+0.6
	comp=Z,60nm,1.0s						
EGMT	Eagleton	55.77 337	⇓P		P	08 45 16.7	+0.3
	baz=56,SNR=54						
A20A	Cobblestone Ra	55.77 338	⇓P		P	08 45 16.9	+0.5
	baz=56,SNR=7.9						
B19A	Brinkman Farms	55.80 337	⇑P		P	08 45 17.3	+0.7
	baz=56,SNR=18						
C17A	Wharram Farm,	55.86 336	⇓P		P	08 45 17.8	+0.7
	baz=56,SNR=38						
WVOR	Wild Horse Val	55.87 326	eP		P	08 45 17.8	+0.5
WVOR			pmax		pmax		
	comp=Z,40nm,1.1s						
WVOR	Wild Horse Val	55.87 326	eP		P	08 45 17.8	+0.5
	comp=Z,40nm,1.1s						
G12A	Big Creek, Yel	56.02 331	⇓P		P	08 45 18.6	+0.2
	baz=56						
B18A	Beardsley Farm	56.08 337	⇓P		P	08 45 19.2	+0.6
	baz=56,SNR=24						
A19A	Klindworth Far	56.11 338	⇑P		P	08 45 19.4	+0.6
	baz=56,SNR=26						
CHMT	Chamberlain Mo	56.37 334	eP		P	08 45 21.2	+0.3
	comp=Z,3.3nm,0.9s						
CHMT			ePP		PP	08 47 31.2	+4.6
LBCM	Butte Creek Ri	56.40 323	P		P	08 45 21.7	+0.5
B17A	L&G Farms, Che	56.40 336	⇓P		P	08 45 21.2	+0.3
	baz=57,SNR=10						
C16A	Fuhringer Ranc	56.41 335	⇑P		P	08 45 21.5	+0.5
	baz=57						
A18A	Metzger Ranch,	56.53 337	⇓P		P	08 45 22.1	+0.3
	baz=57,SNR=26						
LTIM	Timbered Crate	56.69 324	P		P	08 45 23.9	+0.7
SLMT	Seeley Lake	56.73 334	eP		P	08 45 24.1	+0.7
	comp=Z,7.2nm,0.9s						
C15A	Salmond Ranch,	56.75 335	⇑P		P	08 45 24.4	+0.9
	baz=57,SNR=16						
BMO	Blue Mountains	56.81 329	eP		P	08 45 23.7	-0.2
	comp=Z,25nm,1.2s						
B16A	M & M Farms, S	56.87 336	⇓P		P	08 45 24.4	+0.1
	baz=57,SNR=14						
A17A	Triple J Farms	56.88 337	⇓P		P	08 45 25.0	+0.7
	baz=57,SNR=29						
WDC	Whiskeytown Da	56.96 322	eP		P	08 45 23.8	-1.2
WDC			pmax		pmax		
	comp=Z,17nm,1.0s						
WDC	Whiskeytown Da	56.96 322	eP		P	08 45 23.8	-1.2
	comp=Z,17nm,1.0s						
E12A	Beaver Dam Sad	57.07 332	⇑P		P	08 45 26.0	+0.2
	baz=57,SNR=20						
B15A	Bradely Ranch,	57.15 335	⇓P		P	08 45 26.9	+0.6
	baz=57,SNR=18						
SWMT	Swartz Lake	57.16 334	eP		P	08 45 27.0	+0.6
	comp=Z,6.7nm,0.9s						
C14A	Swan Lake	57.24 334	⇑P		P	08 45 27.9	+0.9
	baz=57						
A16A	West Butte Ran	57.25 336	⇑P		P	08 45 27.5	+0.6
	baz=57						
YBMT	Yellow Bay	57.43 334	eP		P	08 45 29.2	+0.9
	comp=Z,22nm,0.9s						
JTMT	Jette	57.46 334	eP		P	08 45 29.4	+0.9
	comp=Z,20nm,0.9s						
B14A	Marquette Ranc	57.49 335	⇑P		P	08 45 29.1	+0.4
	baz=58,SNR=8.7						
SCHQ	Schefferville	57.51 9	P		P	08 45 27.2	-1.3
SCHQ	Schefferville	57.51 9	P		P	08 45 27.2	-1.3
	comp=Z,11nm,0.9s,baz=198,slow=5.3,SNR=7.0						
SCHQ			LR		LR	09 12 49.5	
	comp=Z,526nm,19.1s,baz=356,slow=39						
C13A	Hot Springs	57.54 333	⇑P		P	08 45 29.4	+0.3
	baz=58,SNR=12						
BLMT	Blacktail Moun	57.70 334	eP		P	08 45 31.3	+1.0
	comp=Z,27nm,1.0s						
A15A	Johnson Ranch,	57.74 335	⇑P		P	08 45 30.7	+0.3
	baz=58,SNR=14						
YBH	Yreka Blue Hor	57.76 323	eP		P	08 45 29.9	-0.8
	comp=Z,35nm,1.1s						
BSMT	Bassoo Peak	57.77 333	eP		P	08 45 31.7	+1.0
	comp=Z,25nm,1.0s						
BUOR	Burton Butte	57.82 324	P		P	08 45 31.9	+0.7
KHMM	Horse Mountain	57.87 322	eP		P	08 45 32.8	+1.2
	comp=Z,80nm,1.1s						
C12B	Naegeli Ranch,	57.97 333	⇑P		P	08 45 33.0	+1.0
	baz=58,SNR=29						
B13A	Whitefish	58.02 334	⇑P		P	08 45 33.1	+0.7
	baz=58,SNR=14						
A14A	Double T Ranch	58.02 335	⇑P		P	08 45 32.3	-0.1
	ba

COR Corvallis 59.85 326 *e*P P **08 45 45.5 +0.5**
comp=Z,28nm,0.9s
LON Longmire 60.41 328 *e*P P **08 45 49.4 +0.5**
LON pmax pmax
comp=Z,13nm,0.8s
LON Longmire 60.41 328 *e*P P **08 45 49.4 +0.5**
comp=Z,13nm,0.8s
E03A Lebam 61.21 327 P P **08 45 55.2 +0.9**
NLWA Neilton Lookou 61.91 328 *e*P P **08 46 00.1 +1.0**
comp=Z,30nm,1.1s
VDB Vedder Mountai 62.05 330 P P **08 45 59.9 -0.1**
ROSA Rosais 62.60 44 *e*P P **08 46 05.2 +1.4**
comp=Z,94nm,1.1s
PMAN Manadas 62.67 44 *e*P P **08 46 06.7 +2.4**
comp=Z,53nm,1.0s
PSMA Santa Maria 64.08 47 *e*P P **08 46 12.2 -1.5**
comp=Z,48nm,1.4s
CMLA Cha da Macela 64.11 46 *e*P P **08 46 14.7 +0.8**
comp=Z,47nm,1.1s
CMLA Cha da Macela 64.11 46 *e*P P **08 46 13.3 -0.5**
CMLA pmax pmax
comp=Z,34nm,0.8s
CMLA Cha da Macela 64.11 46 *e*P P **08 46 13.3 -0.5**
comp=Z,34nm,0.8s
BART Pico Bartolome 64.37 46 *e*P P **08 46 15.0 -0.7**
comp=Z,88nm,1.1s
BBTS Babate 65.31 73 P P **08 46 21.2 -0.8**
BBTS Babate 65.31 73 P P **08 46 21.2 -0.8**
comp=Z,19nm,0.5s,baz=275,slow=5.3,SNR=3.5
PMOZ Porto Moniz, M 68.76 54 *e*LR LR 09 09 52.7
comp=Z,346nm,18.0s
YKA Yellowknife Ar 69.08 344 P P **08 46 44.2 -0.9**
YKA Yellowknife Ar 69.08 344 P P **08 46 44.2 -0.9**
comp=Z,9.2nm,1.0s,baz=135,slow=6.3,SNR=56
PPT Papeete 69.58 252 LR LR 09 08 47.2
comp=Z,1µm,21.8s,baz=150,slow=28
PPT2 Papeete2 69.58 252 *e*S S **08 55 59.4 +1.6**
comp=Z,177nm,25.8s
PPT2 Papeete2 69.58 252 *e*LR LR 09 08 02.6
comp=Z,2µm,25.5s,baz=83
LIC Lamto 75.71 83 *e*P P **08 47 25.3 -0.4**
LIC *e*R
comp=Z,1µm,20.8s
LIC Lamto 75.71 83 *e*P P **08 47 25.3 -0.4**
comp=Z,68nm,0.7s
DBIC Dimbokro 75.91 83 P P **08 47 26.8 0.0**
DBIC Dimbokro 75.91 83 P P **08 47 26.8 0.0**
comp=Z,52nm,0.9s,baz=249,slow=4.9,SNR=28
DBIC LR LR 09 18 58.0
comp=Z,1µm,18.9s,baz=248,slow=34
PNL Peninsula 76.38 333 *e*P P **08 47 28.9 +0.2**
comp=Z,30nm,1.1s
PFVI Vila Bisbo 76.50 51 *e*S S **08 57 17.4 +1.7**
PMAFR Mafra 76.56 49 *e*S S **08 57 16.7 +0.4**
PTEO Sao Teotonio 76.67 51 *e*P P **08 47 31.8 +1.2**
comp=Z,64nm,1.3s
PNCL Nicolau / Gran 76.94 50 *e*P P **08 47 32.9 +0.7**
comp=Z,49nm,1.8s
PNCL *e*S S **08 57 21.4 +0.9**
PCVE Castro Verde 77.22 51 *e*S S **08 57 24.5 +1.0**
PBDV Barranco-do-Ve 77.22 51 *e*P P **08 47 35.3 +1.5**
comp=Z,74nm,1.5s
PBDV *e*S S **08 57 22.6 -1.0**
EVOP Sao Brissos 77.34 50 *e*P P **08 47 33.8 -0.6**
EVOP pmax pmax
comp=Z,14nm,0.8s
EVOP Sao Brissos 77.34 50 *e*P P **08 47 33.8 -0.6**
comp=Z,14nm,0.8s
PTOM Tomar 77.36 49 *e*P P **08 47 34.8 +0.2**
comp=Z,36nm,1.8s
PMTG Montargil 77.38 49 *e*P P **08 47 34.0 -0.7**
comp=Z,24nm,1.9s
PMTG *e*S S **08 57 23.4 -1.9**
PVAQ Vaqueiros 77.42 51 *e*P P **08 47 35.6 +0.7**
comp=Z,41nm,2.3s
PVAQ *e*S S **08 57 23.9 -1.8**
PVAQ Vaqueiros 77.42 51 *e*LR LR 09 12 59.6
comp=Z,300nm,20.0s
EVO Evora 77.43 50 *e*P P **08 47 33.8 -1.1**
comp=Z,14nm,0.8s
EVO *e*R
comp=Z,558nm,19.8s
EVO Evora 77.43 50 *e*P P **08 47 34.4 -0.5**
comp=Z,20nm,2.2s
PBEJ Beja 77.43 51 *e*P P **08 47 35.4 +0.4**
comp=Z,20nm,2.5s
PTO Porto 77.57 47 *e*P P **08 47 36.0 +0.4**
comp=Z,41nm,1.9s
PESTR Estremoz 77.82 50 *e*P P **08 47 37.6 +0.4**
comp=Z,31nm,1.6s
PESTR *e*S S **08 57 31.0 +0.9**
PVIS Viseu 78.00 48 *e*P P **08 47 38.0 -0.1**
comp=Z,24nm,1.1s
PGAV Gavieira, Arco 78.00 47 *e*P P **08 47 38.3 +0.1**
comp=Z,30nm,1.7s
PGAV *e*S S **08 57 31.4 -0.7**
PGAV Gavieira, Arco 78.00 47 *e*LR LR 09 13 33.9
comp=Z,273nm,18.0s
PMRV Marv??o 78.09 49 *e*P P **08 47 37.6 -1.1**
comp=Z,18nm,1.2s
PMRV Marv??o 78.09 49 *e*LR LR 09 14 30.5
comp=Z,475nm,20.0s
PBAR Barrancos 78.10 51 *e*P P **08 47 38.6 -0.1**
comp=Z,22nm,1.5s
PBAR *e*S S **08 57 34.9 +1.8**
PCBR Castelo Branco 78.12 49 *e*P P **08 47 39.0 +0.3**
comp=Z,25nm,1.6s
MTE Manteigas 78.19 48 *e*P P **08 47 38.5 -0.7**
comp=Z,25nm,1.9s
MTE *e*S S **08 57 32.3 -1.8**
MTE Manteigas 78.19 48 *e*LR LR 09 13 36.5
comp=Z,447nm,18.0s
POLO Lamas de Olo 78.22 47 *e*P P **08 47 39.8 +0.4**
comp=Z,10nm,1.5s
POLO *e*S S **08 57 33.5 -0.9**
PVRL Vila Real 78.25 47 *e*P P **08 47 39.7 +0.2**
comp=Z,19nm,1.4s
MVO Moncorvo 78.73 48 *e*P P **08 47 42.3 +0.1**
comp=Z,19nm,1.2s
MVO *e*S S **08 57 40.1 +0.2**
MVO Moncorvo 78.73 48 *e*LR LR 09 13 54.9
comp=Z,343nm,20.0s
SUMG Summit 78.77 12⇓*i*P P **08 47 41.7 -0.5**
SUMG pmax pmax
comp=Z,25nm,0.8s
SUMG Summit 78.77 12 *e*P P **08 47 41.6 -0.6**
comp=Z,50nm,1.1s
SUMG Summit 78.77 12⇓*i*P P **08 47 41.7 -0.5**
comp=Z,25nm,0.8s
KIP Kipapa 79.08 292⇑*i*P P **08 47 43.6 -0.8**
KIP pmax pmax
comp=Z,186nm,2.5s
PBRG Braganca 79.08 47 *e*P P **08 47 44.4 +0.3**
comp=Z,21nm,1.7s
PAB San Pablo 80.42 50 *e*P P **08 47 50.9 -0.6**
PAB pmax pmax
comp=Z,12nm,1.0s
PAB San Pablo 80.42 50 *e*P P **08 47 50.9 -0.6**
comp=Z,12nm,1.0s
ESDC Sonseca Array 80.74 49 P P **08 47 53.6 +0.4**
ESDC Sonseca Array 80.74 49 P P **08 47 53.6 +0.4**
comp=Z,8.6nm,0.9s,baz=269,slow=5.2,SNR=34
ESDC LR LR 09 20 44.7
comp=Z,439nm,20.1s,baz=265,slow=34
SCO Scoresbysund 81.56 17⇓*i*P P **08 47 56.3 -0.4**
SCO pmax pmax
comp=Z,7.0nm,1.0s
SCO Scoresbysund 81.56 17⇓*i*P P **08 47 56.3 -0.4**
comp=Z,7.3nm,1.0s
ILAR Eielson Array 81.74 337 P P **08 47 56.1 -1.7**
ILAR PP **PP 08 51 07.2 +2.4**
ILAR Eielson Array 81.74 337 P P **08 47 56.1 -1.7**
comp=Z,2.2nm,0.9s,baz=133,slow=5.0,SNR=2.7
ILAR PP **PP 08 51 07.2 +2.4**
comp=Z,7.1nm,0.9s,baz=108,slow=6.6,SNR=19
ILAR LR LR 09 26 12.7
comp=Z,1µm,18.1s,baz=344,slow=37
VNA1 Neumayer-Stat 82.49 161 *e*P P **08 48 02.1 +0.4**
TORD Torodi Ar. Bea 82.75 77 P P **08 48 03.4 -0.7**
TORD PP PP 08 51 07.4 -6.9
TORD PKKPbc **PKKPbc 09 06 28.3 0.0**
TORD Torodi Ar. Bea 82.75 77 P P **08 48 03.4 -0.7**
comp=Z,12nm,0.9s,baz=300,slow=6.4,SNR=39
TORD PP PP 08 51 07.4 -6.9
comp=Z,2.7nm,0.9s,baz=236,slow=4.1,SNR=3.7
TORD PKKPbc **PKKPbc 09 06 28.3 0.0**
comp=Z,0.5nm,0.7s,baz=53,slow=3.8,SNR=4.4
TORD LR LR 09 22 12.3
comp=Z,1µm,21.4s,baz=245,slow=34
QUIF Quistinic 82.79 41 *e*P P **08 48 03.3 -0.4**
comp=Z,42nm,0.9s
QUIF Quistinic 82.79 41 *e*P P **08 48 03.3 -0.4**
QUIF pmax pmax
comp=Z,42nm,0.9s
QUIF Quistinic 82.79 41 *e*P P **08 48 03.3 -0.4**
comp=Z,42nm,0.9s
ROSF Rostrenen 82.80 41 *e*P P **08 48 03.2 -0.5**
comp=Z,151nm,1.6s
ROSF Rostrenen 82.80 41 *e*P P **08 48 03.2 -0.5**
ROSF pmax pmax
comp=Z,151nm,1.6s
ROSF Rostrenen 82.80 41 *e*P P **08 48 03.2 -0.5**
comp=Z,151nm,1.6s
RSO Redoubt South 82.87 332 *e*P P **08 48 03.7 -0.4**
SGMF Saint Gilles 83.25 41 *e*P P **08 48 05.5 -0.6**
comp=Z,57nm,1.1s
SGMF Saint Gilles 83.25 41 *e*P P **08 48 05.5 -0.6**
SGMF pmax pmax
comp=Z,57nm,1.1s
SGMF Saint Gilles 83.25 41 *e*P P **08 48 05.5 -0.6**
comp=Z,57nm,1.1s
PPLA Purkeypile 83.32 334 *e*P P **08 48 05.3 -1.0**
comp=Z,34nm,1.1s
SJPF Ste Jean 83.33 46 *e*P P **08 48 06.7 +0.1**
comp=Z,65nm,1.1s
SJPF Ste Jean 83.33 46 *e*P P **08 48 06.7 +0.1**
SJPF pmax pmax
comp=Z,65nm,1.1s
SJPF Ste Jean 83.33 46 *e*P P **08 48 06.7 +0.1**
comp=Z,65nm,1.1s
ETSF Etsaut 83.78 47 *e*P P **08 48 09.0 0.0**
comp=Z,26nm,1.0s
ETSF Etsaut 83.78 47 *e*P P **08 48 09.0 0.0**
ETSF pmax pmax
comp=Z,26nm,1.0s
ETSF Etsaut 83.78 47 *e*P P **08 48 09.0 0.0**
comp=Z,26nm,1.0s
COLD Coldfoot 83.88 338 *e*P P **08 48 08.8 -0.1**
comp=Z,6.8nm,1.1s
LABF Labassere 84.27 47⇑*e*P P **08 48 12.2 +0.7**
GRR Gorron 84.39 41 *e*P P **08 48 11.3 -0.6**
comp=Z,94nm,1.1s
GRR Gorron 84.39 41 *e*P P **08 48 11.3 -0.6**
GRR pmax pmax
comp=Z,94nm,1.1s
GRR Gorron 84.39 41 *e*P P **08 48 11.3 -0.6**
comp=Z,94nm,1.1s
SNAA Sanae 84.45 162 *e*P P **08 48 11.3 -0.5**
SNAA Sanae 84.45 162 P P **08 48 11.2 -0.7**
comp=Z,0.3nm,1.8s
SNAA Sanae 84.45 162 P P **08 48 11.2 -0.7**
comp=Z,5.2nm,1.0s,baz=290,slow=4.5,SNR=32
EPF Esparros 84.46 47 *e*P P **08 48 12.3 -0.1**
comp=Z,53nm,1.1s
EPF Esparros 84.46 47 *e*P P **08 48 12.3 -0.1**
EPF pmax pmax
comp=Z,53nm,1.1s
EPF Esparros 84.46 47 *e*P P **08 48 12.3 -0.1**
comp=Z,53nm,1.1s
ALE Alert 84.57 2 P P **08 48 11.6 -0.6**
comp=Z,94nm,1.1s,SNR=6.9
MFF Saint Martin d 84.61 43 *e*P P **08 48 12.7 -0.3**
comp=Z,63nm,0.9s
MFF Saint Martin d 84.61 43 *e*P P **08 48 12.7 -0.3**
MFF pmax pmax
comp=Z,63nm,0.9s
MFF Saint Martin d 84.61 43 *e*P P **08 48 12.7 -0.3**
comp=Z,63nm,0.9s
FLN La Foliniere 84.70 41 *e*P P **08 48 13.1 -0.3**
comp=Z,94nm,1.1s
FLN *e*R
comp=Z,328nm,21.8s
FLN La Foliniere 84.70 41 *e*P P **08 48 13.1 -0.3**
FLN pmax pmax
comp=Z,94nm,1.1s
FLN La Foliniere 84.70 41 *e*P P **08 48 13.1 -0.3**
comp=Z,94nm,1.1s
LDF La Druitiere 84.91 41 *e*P P **08 48 14.1 -0.4**
comp=Z,63nm,1.0s
LDF La Druitiere 84.91 41 *e*P P **08 48 14.1 -0.4**
LDF pmax pmax
comp=Z,63nm,1.0s
LDF La Druitiere 84.91 41 *e*P P **08 48 14.1 -0.4**
comp=Z,63nm,1.0s
LFF La Frestale 84.99 45 *e*P P **08 48 14.5 -0.5**
comp=Z,73nm,1.1s
LFF La Frestale 84.99 45 *e*P P **08 48 14.5 -0.5**
LFF pmax pmax
comp=Z,73nm,1.1s
LFF La Frestale 84.99 45 *e*P P **08 48 14.5 -0.5**
comp=Z,73nm,1.1s
SALF Salau 85.04 47⇑*e*P P **08 48 16.6 +1.2**
DAG Danmarks Havn 85.46 12⇓*i*P P **08 48 16.0 -0.7**
DAG pmax pmax
comp=Z,12nm,0.9s
DAG Danmarks Havn 85.46 12⇓*i*P P **08 48 16.0 -0.7**
comp=Z,14nm,0.9s
RJF Les Rejaudoux 85.58 44 *e*P P **08 48 17.3 -0.7**
comp=Z,46nm,1.1s
RJF Les Rejaudoux 85.58 44 *e*P P **08 48 17.3 -0.7**
RJF pmax pmax
comp=Z,46nm,1.1s
RJF Les Rejaudoux 85.58 44 *e*P P **08 48 17.3 -0.7**
comp=Z,46nm,1.1s
MTLF Montolieu 85.86 47 *e*P P **08 48 18.7 -0.7**
comp=Z,37nm,1.4s
MTLF Montolieu 85.86 47 *e*P P **08 48 18.7 -0.7**
MTLF pmax pmax
comp=Z,37nm,1.4s
MTLF Montolieu 85.86 47 *e*P P **08 48 18.7 -0.7**
comp=Z,37nm,1.4s
CAF Calviac 85.92 45 *e*P P **08 48 19.0 -0.7**
comp=Z,23nm,1.2s
CAF Calviac 85.92 45 *e*P P **08 48 19.0 -0.7**
CAF pmax pmax
comp=Z,23nm,1.2s
CAF Calviac 85.92 45 *e*P P **08 48 19.0 -0.7**
comp=Z,23nm,1.2s
TCF Toulx Ste Croi 86.18 44 *e*P P **08 48 20.1 -0.9**
comp=Z,18nm,0.9s
TCF Toulx Ste Croi 86.18 44 *e*P P **08 48 20.1 -0.9**
TCF pmax pmax
comp=Z,18nm,0.9s
TCF Toulx Ste Croi 86.18 44 *e*P P **08 48 20.1 -0.9**
comp=Z,18nm,0.9s
HYF Humbligny 86.58 43 *e*P P **08 48 22.6 -0.3**
HYF Humbligny 86.58 43 *e*P P **08 48 22.6 -0.3**
BGF Bois d'Agland 86.65 43 *e*P P **08 48 22.6 -0.6**
comp=Z,67nm,1.1s
BGF Bois d'Agland 86.65 43 *e*P P **08 48 22.6 -0.6**
BGF pmax pmax
comp=Z,67nm,1.1s
BGF Bois d'Agland 86.65 43 *e*P P **08 48 22.6 -0.6**
comp=Z,67nm,1.1s
PYM Petit Puy Mans 86.67 44 *e*P P **08 48 23.9 +0.4**
AGO Saint Agoulin 86.79 44 *e*P P **08 48 23.9 -0.1**
TAM Tamanrasset 86.96 67 *e*P P **08 48 25.0 -0.4**
TAM pmax pmax
comp=Z,14nm,0.9s
TAM Tamanrasset 86.96 67 *e*P P **08 48 25.0 -0.4**
comp=Z,14nm,0.9s
AVF Avril sur Loir 87.02 43 *e*P P **08 48 23.9 -1.1**
comp=Z,50nm,1.2s
AVF Avril sur Loir 87.02 43 *e*P P **08 48 23.9 -1.1**
AVF pmax pmax
comp=Z,51nm,1.2s
AVF Avril sur Loir 87.02 43 *e*P P **08 48 23.9 -1.1**
comp=Z,50nm,1.2s
LASF Ste Croix 87.11 46 *e*P P **08 48 24.2 -1.4**
comp=Z,12nm,1.0s
LASF Ste Croix 87.11 46 *e*P P **08 48 24.2 -1.4**
comp=Z,12nm,1.0s
SSF Saint Saulge 87.15 43 *e*P P **08 48 24.6 -1.0**
comp=Z,24nm,1.0s
SSF Saint Saulge 87.15 43 *e*P P **08 48 24.6 -1.0**
SSF pmax pmax
comp=Z,24nm,1.0s
SSF Saint Saulge 87.15 43 *e*P P **08 48 24.6 -1.0**
comp=Z,24nm,1.0s
SMF Signal de Mont 87.34 43 *e*P P **08 48 25.8 -0.8**
comp=Z,34nm,1.1s
SMF Signal de Mont 87.34 43 *e*P P **08 48 25.8 -0.8**
SMF pmax pmax
comp=Z,34nm,1.1s
SMF Signal de Mont 87.34 43 *e*P P **08 48 25.8 -0.8**
comp=Z,34nm,1.1s
LOR Lormes 87.41 43 *e*P P **08 48 26.0 -0.9**
comp=Z,23nm,1.0s
LOR *e*R
comp=Z,344nm,20.8s
LOR Lormes 87.41 43 *e*P P **08 48 26.0 -0.9**
comp=Z,23nm,1.0s
VIVF Saint-Julien-l 87.76 45 *e*P P **08 48 28.2 -0.5**
comp=Z,15nm,1.1s
VIVF Saint-Julien-l 87.76 45 *e*P P **08 48 28.2 -0.5**
VIVF pmax pmax
comp=Z,15nm,1.1s
VIVF Saint-Julien-l 87.76 45 *e*P P **08 48 28.2 -0.5**
comp=Z,15nm,1.1s
BAIF Baives 87.90 40 *e*P P **08 48 28.6 -0.5**
comp=Z,78nm,1.7s
BAIF Baives 87.90 40 *e*P P **08 48 28.6 -0.5**
BAIF pmax pmax
comp=Z,78nm,1.7s
BAIF Baives 87.90 40 *e*P P **08 48 28.6 -0.5**
comp=Z,78nm,1.7s
DOU Dourbes 88.15 40 P P **08 48 30.7 +0.3**
comp=Z,16nm,1.4s
SFTF Sexfontaines 88.28 42 *e*P P **08 48 30.3 -0.8**
comp=Z,101nm,1.2s
SFTF Sexfontaines 88.28 42 *e*P P **08 48 30.3 -0.8**
comp=Z,101nm,1.3s
GIVF Givet 88.30 40 *e*P P **08 48 30.9 -0.2**
comp=Z,91nm,1.1s
GIVF Givet 88.30 40 *e*P P **08 48 30.9 -0.2**
GIVF pmax pmax
comp=Z,91nm,1.1s
GIVF Givet 88.30 40 *e*P P **08 48 30.9 -0.2**
comp=Z,91nm,1.1s
QSPA South Pole Qui 88.31 180 P P **08 48 31.4 +0.5**
QSPA South Pole Qui 88.31 180 P P **08 48 31.4 +0.5**
comp=Z,15nm,0.9s,baz=140,slow=2.6,SNR=34
MEZF Maizieres J'vi 88.32 42 *e*P P **08 48 30.6 -0.6**
comp=Z,48nm,1.0s
MEZF Maizieres J'vi 88.32 42 *e*P P **08 48 30.6 -0.6**
comp=Z,48nm,1.0s
SMRF Simiane la Rot 88.34 46 *e*P P **08 48 31.3 -0.2**
SMRF Simiane la Rot 88.34 46 *e*P P **08 48 31.3 -0.2**
ORIF Oris-en-Rattie 88.62 45 *e*P P **08 48 32.7 -0.2**
comp=Z,21nm,0.9s
ORIF *e*R
comp=Z,336nm,22.5s
ORIF Oris-en-Rattie 88.62 45 *e*P P **08 48 32.7 -0.2**
ORIF pmax pmax
comp=Z,21nm,0.9s
ORIF Oris-en-Rattie 88.62 45 *e*P P **08 48 32.7 -0.2**
comp=Z,21nm,0.9s
PAGF Fort de Pagny 88.77 42 *e*P P **08 48 33.1 -0.2**
comp=Z,17nm,1.0s
PAGF Fort de Pagny 88.77 42 *e*P P **08 48 33.1 -0.2**
comp=Z,17nm,1.0s
CABF La Chapelle 88.88 43 *e*P P **08 48 33.4 -0.6**
comp=Z,24nm,1.0s
CABF La Chapelle 88.88 43 *e*P P **08 48 33.4 -0.6**
CABF pmax pmax
comp=Z,24nm,1.0s
CABF La Chapelle 88.88 43 *e*P P **08 48 33.4 -0.6**
comp=Z,24nm,1.0s
BEBN Eben Emael 88.89 39 P P **08 48 35.1 +1.2**
THEF They Montfort 88.92 42⇑*e*P P **08 48 34.3 +0.2**
LMR La Mourre 88.98 47 *e*P P **08 48 33.4 -1.0**
comp=Z,70nm,1.2s
LMR La Mourre 88.98 47 *e*P P **08 48 33.4 -1.0**
LMR pmax pmax
comp=Z,70nm,1.2s
LMR La Mourre 88.98 47 *e*P P **08 48 33.4 -1.0**
comp=Z,70nm,1.2s
FRF La Foret Royal 89.09 47 *e*P P **08 48 34.0 -1.0**
comp=Z,31nm,0.8s
FRF La Foret Royal 89.09 47 *e*P P **08 48 34.0 -1.0**
FRF pmax pmax
comp=Z,31nm,0.8s
FRF La Foret Royal 89.09 47 *e*P P **08 48 34.0 -1.0**
comp=Z,31nm,0.8s
MEM Membach 89.09 39 P P **08 48 35.2 +0.4**
comp=Z,10nm,1.8s
WLF Walferdange 89.12 40 P P **08 48 35.0 0.0**
comp=Z,20nm,1.2s
WLF Walferdange 89.12 40 *e*P P **08 48 34.6 -0.4**
WLF pmax pmax
comp=Z,25nm,1.0s
WLF Walferdange 89.12 40 *e*P P **08 48 34.6 -0.4**
comp=Z,26nm,1.0s
LPL La Plagne 89.26 45 *e*P P **08 48 35.8 -0.2**
comp=Z,44nm,1.5s
LPL La Plagne 89.26 45 *e*P P **08 48 35.8 -0.2**
LPL pmax pmax
comp=Z,44nm,1.5s
LPL La Plagne 89.26 45 *e*P P **08 48 35.8 -0.2**
comp=Z,44nm,1.5s
LPG La Plagne 89.27 45 *e*P P **08 48 36.1 -0.1**
comp=Z,32nm,1.3s
LPG La Plagne 89.27 45 *e*P P **08 48 36.1 -0.1**
LPG pmax pmax
comp=Z,32nm,1.3s
LPG La Plagne 89.27 45 *e*P P **08 48 36.1 -0.1**
comp=Z,32nm,1.3s
HINF Hinteralfeld 89.47 42 *e*P P **08 48 35.7 -1.0**
comp=Z,31nm,1.3s
HINF Hinteralfeld 89.47 42 *e*P P **08 48 35.7 -1.0**
HINF pmax pmax
comp=Z,31nm,1.3s
HINF Hinteralfeld 89.47 42 *e*P P **08 48 35.7 -1.0**
comp=Z,31nm,1.3s
MOF Molkenrain 89.66 42 *e*P P **08 48 37.5 -0.2**
SBF Sospel 89.68 46 *e*P P **08 48 36.9 -0.9**
SBF Sospel 89.68 46 *e*P P **08 48 36.9 -0.9**
SBF Sospel 89.68 46 *e*P P **08 48 36.9 -0.9**
ECH Echery 89.70 42 *e*P P **08 48 37.4 -0.3**
ECH pmax pmax
comp=Z,17nm,1.1s
ECH Echery 89.70 42 *e*P P **08 48 37.4 -0.3**
comp=Z,17nm,1.1s
ECH Echery 89.70 42⇑*e*P P **08 48 37.8 +0.1**
CDF Champ du Feu 89.79 42 *e*P P **08 48 37.4 -0.8**
comp=Z,22nm,1.1s
CDF Champ du Feu 89.79 42 *e*P P **08 48 37.4 -0.8**
CDF pmax pmax
comp=Z,22nm,1.1s
CDF Champ du Feu 89.79 42 *e*P P **08 48 37.4 -0.8**
comp=Z,22nm,1.1s
LANF Langenberg 90.16 41 *e*P P **08 48 40.6 +0.7**
KEST Kesra 90.85 54 P P **08 48 43.4 0.0**
KEST Kesra 90.85 54 P P **08 48 43.4 0.0**
comp=Z,1.9nm,0.8s,baz=192,slow=7.4,SNR=4.1
FETA Feichten 92.08 43⇓*i*PcP P **08 48 48.7 -0.3**
comp=Z,13nm,1.0s
NOA NORSAR Array B 92.33 29 LR LR 09 31 07.2
comp=Z,166nm,18.2s,baz=270,slow=36
GRF Grafenberg Arr 92.41 41 *e*P P **08 48 51.3 +1.0**
GRF Grafenberg Arr 92.41 41 *e*P P **08 48 51.3 +1.0**
GRB2 Grafenberg Arr 92.71 41 *e*P P **08 48 52.4 +0.7**
comp=Z,13nm,1.1s
GRB5 Grafenberg Arr 92.71 41 *e*P P **08 48 52.3 +0.6**
comp=Z,11nm,1.2s
GRB3 Grafenberg Arr 92.80 41 *e*P P **08 48 53.2 +1.1**
comp=Z,19nm,1.2s
SBA Scott Base 93.00 191 *e*P P **08 48 53.3 +0.9**
SBA pmax pmax
comp=Z,4.0nm,1.0s
SBA Scott Base 93.00 191 *e*P P **08 48 53.2 +0.9**
comp=Z,4.4nm,1.0s
PLN Plauen 93.01 40 *e*P P **08 48 53.9 +0.9**
comp=Z,59nm,1.1s
ROTZ Rotzenmuhle 93.05 40 *e*P P **08 48 54.3 +1.1**
comp=Z,10.0nm,1.3s
WERD Werda 93.10 40 *e*P P **08 48 54.3 +0.8**
comp=Z,9.0nm,1.2s
ROHR Rohrbach 93.11 40 *e*P P **08 48 54.5 +0.9**
WERN Wernitzgruen 93.15 40 *e*P P **08 48 54.9 +1.2**
comp=Z,14nm,1.2s
TANN Tannenbergstha 93.20 40 *e*P P **08 48 54.9 +0.9**
comp=Z,14nm,1.1s
CLL Collm 93.53 39 *e*P P **08 48 56.1 +0.7**
comp=Z,6.0nm,1.1s
CLL Collm 93.53 39 *e*P P **08 48 56.0 +0.7**
CLL *e**PP pP 08 49 06.0 +7.0
CLL *e*S **S 09 00 06.0 +2.2**
CLL pmax pmax
comp=Z,11nm,1.5s

CLL					MLR	MLR			
	comp=Z,300nm,19.3s								
CLL	**Collm**	**93.53**	**39**	*e*P		**P**	**08 48 56.0**	**+0.7**	
	comp=Z,11nm,1.5s								
CLL				*e*			08 49 06.0		
CLL				*e*pP		pP	08 49 11.0	+12	
CLL				*e*S		**S**	**09 00 06.0**	**+2.2**	
CLL				*e*PS		**PS**	**09 01 19.0**	**+0.7**	
CLL				*e*SSS		SSS	09 10 18.0		
CLL					LmV		09 32 00.0		
	comp=Z,300nm,19.3s								
CLL					LmH		09 32 00.0		
	comp=N,200nm,20.4s								
CLL					LmH		09 32 00.0		
	comp=E,200nm,20.0s								
FBE	**Freiberg**	**93.76**	**39**	*e*P		**P**	**08 48 57.7**	**+1.3**	
	comp=Z,23nm,1.5s								
KBA	**Koelnbreinsper**	**93.87**	**43**	⇑ *i*PcP		**P**	**08 48 57.5**	**+0.2**	
	comp=Z,7.3nm,1.0s								
KHC	**Kasperske Hory**	**93.96**	**41**	*e*P		**P**	**08 48 57.8**	**+0.3**	
KHC				*e*			08 49 09.9		
KHC					MLR	MLR			
	comp=Z,300nm,17.1s								
KHC	**Kasperske Hory**	**93.96**	**41**	*e*P		**P**	**08 48 57.8**	**+0.3**	
KHC				*ex*		x	08 49 03.1		
KHC				*e*pP		pP	08 49 09.9	+8.7	
KHC					AMS	AMS	09 31 00.0		
	comp=Z,300nm,17.1s								
GEC2	**GERESS Array S**	**94.05**	**41**	*e*P		**P**	**08 48 58.2**	**+0.2**	
	comp=Z,10.0nm,1.7s								
GEC2	**GERESS Array S**	**94.05**	**41**	*e*P		**P**	**08 48 58.2**	**+0.2**	
GEC2					pmax	pmax			
	comp=Z,67nm,1.7s								
GERES	**GERESS Array B**	**94.05**	**41**	P		**P**	**08 48 58.2**	**+0.2**	
GERES	**GERESS Array B**	**94.05**	**41**	P		**P**	**08 48 58.2**	**+0.2**	
	comp=Z,1.4nm,0.8s,baz=242,slow=2.9,SNR=9.2								
VNDA	**Vanda**	**94.09**	**191**	P		**P**	**08 48 58.0**	**+0.5**	
VNDA	**Vanda**	**94.09**	**191**	P		**P**	**08 48 58.0**	**+0.5**	
	comp=Z,2.2nm,0.8s,baz=111,slow=5.6,SNR=14								
VNDA					LR	LR	09 22 49.1		
	comp=Z,447nm,20.5s,baz=131,slow=30								
BRG	**Berggiesshubel**	**94.13**	**39**	*e*P		**P**	**08 48 59.0**	**+0.8**	
	comp=Z,7.9nm,1.2s								
BRG					S	**S**	**09 00 12.0**	**+2.9**	
BRG				*e*			09 09 48.4		
	comp=Z,9.3nm,1.4s								
BRG	**Berggiesshubel**	**94.13**	**39**	*e*P		**P**	**08 48 59.2**	**+1.0**	
	comp=Z,7.0nm,1.0s								
BRG	**Berggiesshubel**	**94.13**	**39**	*e*P		**P**	**08 48 59.0**	**+0.8**	
BRG					S	**S**	**09 00 12.0**	**+2.9**	
PRA	**Prague**	**94.48**	**40**	P		**P**	**08 49 00.0**	**+0.2**	
PRA					AMS	AMS	09 32 30.0		
PVCC	**Panska Ves**	**94.55**	**40**	*e*P		**P**	**08 49 00.6**	**+0.5**	
PVCC					MLR	MLR			
	comp=Z,400nm,18.1s								
PVCC	**Panska Ves**	**94.55**	**40**	*e*P		**P**	**08 49 00.6**	**+0.5**	
PVCC					AMS	AMS	09 30 50.0		
	comp=Z,400nm,18.1s								
PRU	**Pruhonice**	**94.55**	**40**	*e*P		**P**	**08 48 59.8**	**-0.3**	
PRU				*e*			08 49 06.0		
PRU					MLR	MLR			
	comp=Z,300nm,14.5s								
PRU	**Pruhonice**	**94.55**	**40**	*e*P		**P**	**08 48 59.8**	**-0.3**	
PRU				*ex*		x	08 49 06.0		
PRU					AMS	AMS	09 32 00.0		
	comp=Z,300nm,14.5s								
TREC	**Trest**	**95.20**	**41**		AMS	AMS	09 28 10.0		
	comp=Z,300nm,23.9s								
KSP	**Ksiaz**	**95.62**	**39**	*e*P		**P**	**08 49 05.5**	**+0.5**	
KSP				*e*S		**S**	**09 00 17.0**	**-5.1**	
KSP	**Ksiaz**	**95.62**	**39**	*e*P		**P**	**08 49 05.9**	**+0.9**	
DPC	**Dobruska-Polom**	**95.67**	**40**	*e*P		**P**	**08 49 05.9**	**+0.6**	
DPC				*e*			08 49 14.3		
DPC	**Dobruska-Polom**	**95.67**	**40**	*e*P		**P**	**08 49 05.9**	**+0.6**	
DPC				*ex*		x	08 49 14.3		
ZST	**Bratislava**	**96.35**	**42**	*e*P		**P**	**08 49 08.4**	**+0.1**	
ZST	**Bratislava**	**96.35**	**42**	*e*P		**P**	**08 49 08.4**	**+0.1**	
OKC	**Ostrava-Krasne**	**96.89**	**40**	*e*P		**P**	**08 49 12.3**	**+1.5**	
OKC				*e*			08 49 19.8		
OKC					MLR	MLR			
	comp=Z,200nm,18.2s								
OKC	**Ostrava-Krasne**	**96.89**	**40**	*e*P		**P**	**08 49 12.3**	**+1.5**	
OKC				*ex*		x	08 49 19.8		
OKC					AMS	AMS	09 33 40.0		
	comp=Z,200nm,18.2s								
TSUM	**Tsumeb**	**97.01**	**109**	*e*P		**P**	**08 49 12.6**	**+0.4**	
	comp=Z,14nm,0.9s								
ARCES	**ARCESS Array B**	**97.19**	**20**	LR		LR	09 29 49.8		
	comp=Z,118nm,21.4s,baz=97,slow=33								
VYHS	**Vyhne**	**97.47**	**41**	*e*P		Pdif	08 49 14.2	+0.7	
VYHS					pmax	pmax			
	comp=Z,15nm,2.3s								
VYHS	**Vyhne**	**97.47**	**41**	*e*P		Pdif	08 49 14.2	+0.7	
VYHS				*e*pP		pP	08 49 25.5	+8.3	
FINES	**FINESS Array B**	**99.40**	**28**	LR		LR	09 34 45.1		
	comp=Z,147nm,19.4s,baz=88,slow=36								
KOLS	**Kolonicke sedl**	**99.67**	**41**	*e*P		**Pdif**	**08 49 25.0**	**+1.7**	
KOLS	**Kolonicke sedl**	**99.67**	**41**	PDIF		**Pdif**	**08 49 25.0**	**+1.7**	
DRV	**Dumont d'Urvil**	**105.96**	**196**	SS		SS	09 09 08.0	-5.0	
MOS	**Moscow**	**106.93**	**31**	*e*P		**Pdif**	**08 49 50.9**	**-4.5**	
MOS					pmax	pmax			
	comp=Z,25nm,1.1s								
CASY	**Casey**	**111.66**	**185**	*e*PKPdf		**PKiKP**	**08 54 13.7**	**-0.1**	
KIV	**Kislovodsk**	**114.56**	**42**	*i* PKIKP		PKPdf	08 54 18.3	-1.8	
KIV					pmax	pmax			
	comp=Z,4.0nm,0.8s								
KIV					MLR	MLR			
	comp=Z,100nm,20.0s								
KBZ	**Khabaz**	**114.79**	**42**	PKIKP		PKPdf	08 54 19.8	-0.6	
KBZ	**Khabaz**	**114.79**	**42**	PKP		PKPdf	08 54 19.8	-0.5	
KBZ	**Khabaz**	**114.79**	**42**	PKP		PKPdf	08 54 19.8	-0.5	
	comp=Z,1.7nm,0.7s,baz=253,slow=3.7,SNR=7.1								
ARU	**Arti**	**116.39**	**24**	*i* PKIKP		**PKPdf**	**08 54 22.5**	**-0.6**	
ARU							08 55 29.9		
ARU							09 01 09.6		
KLR	**Kul'dur**	**125.27**	**335**	*e*PKIKP		**PKPdf**	**08 54 36.2**	**-4.2**	
NVS	**Novosibirsk**	**125.43**	**12**	*e*PKIKP		**PKPdf**	**08 54 38.4**	**-2.1**	
ZALV	**Zalesovo Beam**	**126.58**	**11**	PKIKP		**PKPdf**	**08 54 41.8**	**-1.0**	
ZALV	**Zalesovo Beam**	**126.58**	**11**	PKP		**PKPdf**	**08 54 41.8**	**-1.0**	
ZALV	**Zalesovo Beam**	**126.58**	**11**	PKP		**PKPdf**	**08 54 41.8**	**-1.0**	
	comp=Z,25nm,0.9s,baz=311,slow=2.1,SNR=18								
USRK	**Ussuriysk Arra**	**128.90**	**330**	PKP		**PKPdf**	**08 54 47.1**	**-0.4**	
	comp=Z,8.7nm,0.8s,baz=342,slow=1.3,SNR=21								
CTA	**Charters Tower**	**129.34**	**242**	PKP		**PKPdf**	**08 54 48.2**	**-0.8**	
CTA	**Charters Tower**	**129.34**	**242**	PKP		**PKPdf**	**08 54 48.2**	**-0.8**	
	comp=Z,6.3nm,0.9s,baz=231,slow=3.2,SNR=3.9								
MDJ	**Mudanjiang**	**129.74**	**332**	PKP		**PKPdf**	**08 54 49.1**	**0.0**	
MDJ				sPKP			08 55 06.8		
MDJ				PP		**PP**	**08 57 00.1**	**+1.0**	
MDJ				SS		SS	09 14 21.9	-0.3	
MDJ				LR		LR			
	comp=N,91nm,32.1s								
MDJ					LR	LR			
	comp=E,210nm,32.1s								
MDJ					LR	LR			
	comp=Z,230nm,22.6s								
TLY	**Talaya**	**130.13**	**357**	*i* PKIKP		**PKPdf**	**08 54 49.7**	**+0.1**	
TLY					pmax	pmax			
	comp=Z,7.0nm,1.3s								
MJAR	**Matsushiro Arr**	**130.29**	**319**	PKP		**PKPdf**	**08 54 49.8**	**-0.6**	
MJAR	**Matsushiro Arr**	**130.29**	**319**	PKP		**PKPdf**	**08 54 49.8**	**-0.6**	
	comp=Z,5.7nm,0.9s,baz=59,slow=1.6,SNR=14								
MAT	**Matsushiro**	**130.29**	**319**	PKP		**PKPdf**	**08 54 49.3**	**-1.1**	
HVS	**Khovu-Aksy**	**130.55**	**5**	*d* iPKIKP		**PKPdf**	**08 54 50.1**	**-0.4**	
ZAK	**Zakamensk**	**131.45**	**357**	*e*PKIKP		**PKPdf**	**08 54 50.6**	**-1.7**	
ZAK					pmax	pmax			
	comp=Z,4.0nm,1.1s								
CN2	**Changchun**	**132.23**	**335**	*e*PKP		**PKPdf**	**08 54 54.8**	**+1.0**	
MKAR	**Makanchi Array**	**132.68**	**16**	*c* iPKIKP		**PKPdf**	**08 54 53.5**	**-1.1**	
MKAR					pmax	pmax			
	comp=Z,3.0nm,0.6s								
MKAR	**Makanchi Array**	**132.68**	**16**	PKP		**PKPdf**	**08 54 53.6**	**-1.1**	
MKAR	**Makanchi Array**	**132.68**	**16**	PKP		**PKPdf**	**08 54 53.6**	**-1.1**	
	comp=Z,3.4nm,0.6s,baz=341,slow=2.6,SNR=20								
AAK	**Ala-Archa**	**133.53**	**26**	*c* iPKIKP		**PKPdf**	**08 54 57.0**	**+0.5**	
AAK					pmax	pmax			
	comp=Z,39nm,2.5s								
AAK	**Ala-Archa**	**133.53**	**26**	*e*PKPdf		**PKPdf**	**08 54 57.1**	**+0.5**	
SONM	**Songino Array**	**133.72**	**354**	PKPpre		PKPpre	08 54 41.0		
SONM				PKP		**PKPdf**	**08 54 56.2**	**-0.5**	
SONM				PP		**PP**	**08 57 25.2**	**+0.7**	
SONM				SKPbc		**SKPbc**	**08 58 23.1**	**-2.5**	
SONM	**Songino Array**	**133.72**	**354**	PKhKP		PKPpre	08 54 41.0		
	comp=Z,0.8nm,0.7s,baz=334,slow=3.3,SNR=5.2								
SONM				PKP		**PKPdf**	**08 54 56.2**	**-0.5**	
	comp=Z,4.6nm,0.8s,baz=345,slow=1.0,SNR=22								
SONM				PP		**PP**	**08 57 25.2**	**+0.7**	
	comp=Z,1.7nm,1.0s,baz=355,slow=3.3,SNR=4.0								
SONM				SKPbc		**SKPbc**	**08 58 23.1**	**-2.5**	
	comp=Z,0.8nm,0.6s,baz=293,slow=1.1,SNR=3.6								
KSRS	**Korea Array**	**135.92**	**327**	PKP		**PKPdf**	**08 55 00.3**	**-0.6**	
	comp=Z,17nm,0.9s,baz=0.0,slow=1.1,SNR=29								
KSAR	**Wonju Array Be**	**135.95**	**327**	PKP		**PKPdf**	**08 55 00.3**	**-0.7**	
KSH	**Kashi**	**136.71**	**27**	*e*PKP		**PKPdf**	**08 55 03.4**	**+0.9**	
KSH				sPKP			08 55 18.8		
KSH				PP		PP	08 57 50.5	+6.7	
KSH				SKS		**SKSdf**	**09 02 09.0**	**-4.8**	
KSH				SKKS		**SKKSac**	**09 04 36.5**	**-3.4**	
KSH				SS		**SS**	**09 15 47.4**	**+0.5**	
KSH				AMB		AMB			
	comp=Z,160nm,5.6s								
KSH				LR		LR			
	comp=N,180nm,7.4s								
KSH				LR		LR			
	comp=E,140nm,4.8s								
KSH				LR		LR			
	comp=Z,220nm,8.2s								
WMQ	**Urumqi**	**136.81**	**13**	PKP		**PKPdf**	**08 55 02.1**	**-0.4**	
WMQ				LR		LR			
	comp=N,220nm,29.2s								
WMQ				LR		LR			
	comp=E,320nm,33.2s								
WMQ				LR		LR			
	comp=Z,260nm,25.4s								
ASAR	**Alice Springs**	**138.11**	**231**	PKPpre		PKPpre	08 54 57.6		
ASAR				PKP		**PKPdf**	**08 55 04.3**	**-1.1**	
ASAR	**Alice Springs**	**138.11**	**231**	PKhKP		PKPpre	08 54 57.6		
	comp=Z,1.9nm,0.9s,baz=119,slow=3.6,SNR=12								
ASAR				PKP		**PKPdf**	**08 55 04.3**	**-1.1**	
	comp=Z,3.9nm,0.8s,baz=120,slow=2.4,SNR=16								
BJI	**Beijing**	**139.01**	**340**	PKP		**PKPdf**	**08 55 06.9**	**+0.4**	
BJI				PP		**PP**	**08 57 58.8**	**+1.2**	
BJI				SKS		**SKSdf**	**09 02 14.8**	**-2.5**	
BJI				SS		**SS**	**09 16 09.5**	**-3.9**	
BJI				LR		LR			
	comp=N,260nm,25.1s								
BJI				LR		LR			
	comp=E,200nm,22.2s								
BJI				LR		LR			
	comp=Z,230nm,21.1s								
HHC	**Hu-ho-hao-te**	**139.60**	**346**	*e*PKP		**PKPdf**	**08 55 06.3**	**-1.5**	
HHC				PP		**PP**	**08 58 03.4**	**+2.1**	
HHC				PKS		**PKSdf**	**08 58 41.0**	**-2.9**	
HHC				SKS		SKSdf	09 02 10.4	-8.1	
HHC				SKKS		**SKKSac**	**09 04 51.0**	**-5.8**	
HHC				SS		**SS**	**09 16 19.6**	**-0.7**	
HHC				AMB		AMB			
	comp=Z,190nm,8.0s								
HHC				LR		LR			
	comp=N,910nm,19.2s								
HHC				LR		LR			
	comp=E,420nm,19.4s								
HHC				LR		LR			
	comp=Z,700nm,20.8s								
WRAB	**Tennant Creek**	**139.63**	**236**	*e*PKIKP		**PKPdf**	**08 55 08.2**	**-0.1**	
WRAB	**Tennant Creek**	**139.63**	**236**	*e*PKPdf		**PKPdf**	**08 55 08.2**	**-0.1**	
WRA	**Warramunga Arr**	**139.63**	**236**	PKPpre		PKPpre	08 54 57.8		
WRA				PKP		**PKPdf**	**08 55 07.6**	**-0.7**	
WRA	**Warramunga Arr**	**139.63**	**236**	PKhKP		PKPpre	08 54 57.8		
	comp=Z,1.3nm,0.6s,baz=114,slow=2.5,SNR=12								
WRA				PKP		**PKPdf**	**08 55 07.6**	**-0.7**	
	comp=Z,5.9nm,0.8s,baz=120,slow=1.6,SNR=19								
GTA	**Gaotai**	**142.52**	**360**	*e*PKP		PKPdf	08 55 07.9	-5.2	
GTA				PP		**PP**	**08 58 19.8**	**+0.7**	
GTA				SKS		SKSdf	09 02 12.5	-11	
GTA				SKKS		SKKSac	09 05 04.9	-9.0	
GTA				SS		**SS**	**09 16 49.5**	**-4.8**	
GTA				AMB		AMB			
	comp=Z,86nm,5.5s								
GTA				LR		LR			
	comp=N,320nm,18.3s								
GTA				LR		LR			
	comp=E,260nm,19.2s								
GTA				LR		LR			
	comp=Z,390nm,19.5s								
LZH	**Lanzhou**	**145.61**	**354**	*e*PKPbc		**PKPdf**	**08 55 18.8**	**+0.2**	
LZH				pPKP		PKiKP	08 55 29.6	+6.9	
LZH				sPKP			08 55 32.5		
LZH				PKS		**PKSdf**	**08 58 52.8**	**-1.5**	
LZH				SKS		**SKSdf**	**09 02 23.6**	**-4.6**	
LZH				SKKS		**SKKSac**	**09 05 26.9**	**-4.8**	
LZH				SS		**SS**	**09 17 27.3**	**-2.6**	
LZH				AMB		AMB			
	comp=Z,110nm,4.5s								
LZH				LR		LR			
	comp=N,380nm,17.0s								
LZH				LR		LR			
	comp=E,280nm,15.8s								
LZH				LR		LR			
	comp=Z,440nm,18.2s								
XAN	**Xi'an**	**146.71**	**346**	PKPbc		**PKPdf**	**08 55 20.4**	**0.0**	
FITZ	**Fitzroy Crossi**	**147.61**	**231**	PKP		**PKPdf**	**08 55 21.6**	**-0.6**	
FITZ				PKPbc		**PKPbc**	**08 55 24.7**	**-0.2**	
FITZ	**Fitzroy Crossi**	**147.61**	**231**	PKP		**PKPdf**	**08 55 21.6**	**-0.6**	
	comp=Z,26nm,0.7s,baz=145,slow=1.5,SNR=39								
FITZ				PKPbc		**PKPbc**	**08 55 24.7**	**-0.2**	
	comp=Z,26nm,0.7s,baz=168,slow=2.0,SNR=38								
WHN	**Wuhan**	**148.12**	**335**	*e*PKPbc		**PKPdf**	**08 55 22.0**	**-0.8**	
WHN				LR		LR			
	comp=Z,940nm,26.4s								
PYUN	**Piuthan**	**149.39**	**30**	*e*P		**PKPdf**	**08 55 25.6**	**+0.4**	
	comp=Z,134nm,1.0s								
DANN	**Dangsing**	**149.56**	**28**	*e*P		**PKPdf**	**08 55 25.5**	**-0.1**	
	comp=Z,228nm,0.8s								
SSLB	**Suanglung**	**149.85**	**318**	*e*PKPdf		**PKPdf**	**08 55 26.1**	**+0.3**	
KOLN	**Koldanda**	**149.97**	**29**	*e*P		**PKPdf**	**08 55 25.6**	**-0.5**	
	comp=Z,50nm,0.8s								
ENH	**Enshi**	**150.12**	**343**	*e*PKPdf		**PKPdf**	**08 55 25.5**	**-0.6**	
ENH				*e*PKPbc		**PKPbc**	**08 55 30.2**	**-0.9**	
KKN	**Kakani**	**150.73**	**27**	*e*P		**PKPdf**	**08 55 27.0**	**-0.3**	
	comp=Z,100nm,0.7s								
CD2	**Chengdu**	**150.73**	**353**	*e*PKPbc		**PKPdf**	**08 55 26.8**	**-0.2**	
CD2				PKPab		**PKPab**	**08 55 41.3**	**+2.0**	
CD2				PP		**PP**	**08 59 12.3**	**+4.9**	
CD2				SKS		**SKSdf**	**09 02 28.3**	**-6.9**	
CD2				SKKS		**SKKSac**	**09 05 55.4**	**-4.8**	
CD2				SS		**SS**	**09 18 25.8**	**-1.5**	
CD2				AMB		AMB			
	comp=Z,160nm,10.2s								
CD2				LR		LR			
	comp=E,520nm,22.6s								
CD2				LR		LR			
	comp=Z,450nm,21.4s								
DMN	**Daman**	**150.81**	**27**	*e*P		**PKPdf**	**08 55 27.1**	**-0.4**	
	comp=Z,71nm,0.8s								
GUN	**Gumba**	**150.89**	**25**	*e*P		**PKPdf**	**08 55 27.8**	**+0.1**	
	comp=Z,98nm,0.8s								
PKIN	**Phulchoki**	**150.97**	**27**	*e*P		**PKPdf**	**08 55 27.2**	**-0.6**	
	comp=Z,61nm,0.7s								
PKI	**Pulchoki**	**150.98**	**27**	*e*P		**PKPdf**	**08 55 27.3**	**-0.6**	
	comp=Z,80nm,0.8s								
LSA	**Lhasa**	**151.09**	**15**	PKPbc		**PKPdf**	**08 55 28.6**	**+0.5**	
LSA	**Lhasa**	**151.09**	**15**	*e*PKIKP		**PKPdf**	**08 55 28.6**	**+0.5**	
LSA				*e*			08 55 33.9		
LSA	**Lhasa**	**151.09**	**15**	*e*PKPdf		**PKPdf**	**08 55 28.6**	**+0.5**	
LSA				*e*PKPbc		**PKPbc**	**08 55 33.9**	**0.0**	
JIRN	**Jiri**	**151.24**	**25**	*e*P		**PKPdf**	**08 55 27.8**	**-0.5**	
	comp=Z,52nm,0.7s								
RAMN	**Ramite**	**152.04**	**25**	*e*P		**PKPdf**	**08 55 28.7**	**-0.7**	
TAPN	**Taplejung**	**152.14**	**23**	*e*P		**PKPdf**	**08 55 29.0**	**-0.6**	
ODAN	**Odare**	**152.45**	**24**	*e*P		**PKPdf**	**08 55 29.4**	**-0.6**	
GYA	**Guiyang**	**154.51**	**345**	*e*PKPbc		**PKPdf**	**08 55 31.5**	**-1.3**	
GYA				pPKP		**PKiKP**	**08 55 45.8**	**+4.6**	
GYA				sPKP			08 55 52.6		
GYA				PKPab		**PKPab**	**08 55 59.0**	**+3.6**	
GYA				PKS		**PKSdf**	**08 59 04.4**	**-2.9**	
GYA				SKKS			09 06 15.3		
GYA				SS		**SS**	**09 19 06.0**	**-3.1**	
GYA				AMB		AMB			
	comp=Z,140nm,7.9s								
GYA				LR		LR			
	comp=N,190nm,24.8s								
GYA				LR		LR			
	comp=E,150nm,25.0s								
GYA				LR		LR			
	comp=Z,210nm,23.5s								
SHL	**Shillong**	**155.20**	**17**	*e*P		PKPdf	08 55 41.0	+7.1	
KMI	**Kunming**	**156.57**	**353**	PKP		**PKPdf**	**08 55 34.0**	**-1.7**	
KMI				sPKP			08 55 54.1		
KMI				PP		**PP**	**08 59 43.3**	**+2.7**	
KMI				SKKS			09 06 25.5		
KMI				SS		SS	09 19 23.3	-8.1	
KMI				AMB		AMB			
	comp=Z,130nm,3.7s								
KMI				LR		LR			
	comp=N,340nm,14.5s								
KMI				LR		LR			
	comp=E,260nm,15.8s								
KMI				LR		LR			
	comp=Z,320nm,20.7s								
QIZ	**Qiongzhong**	**160.09**	**330**	PKP		**PKPdf**	**08 55 39.9**	**+0.1**	
QIZ				PP		**PP**	**09 00 01.9**	**+1.7**	
QIZ				SS		SS	09 20 08.6	-0.9	
QIZ				LR		LR			
	comp=Z,440nm,21.2s								
QIZ	**Qiongzhong**	**160.09**	**330**	*e*PKPdf		**PKPdf**	**08 55 43.4**	**+3.5**	
QIZ				*e*PKPab		**PKPab**	**08 56 24.1**	**+4.7**	
CMAR	**Chiang Mai Arr**	**163.39**	**2**	PKP		**PKPdf**	**08 55 41.8**	**-1.5**	
CMAR				PKPab		**PKPab**	**08 56 32.9**	**-0.9**	
CMAR	**Chiang Mai Arr**	**163.39**	**2**	PKP		**PKPdf**	**08 55 41.8**	**-1.5**	
	comp=Z,5.4nm,0.9s,baz=292,slow=1.8,SNR=21								
CMAR				PKPab		**PKPab**	**08 56 32.9**	**-0.9**	
	comp=Z,7.8nm,1.0s,baz=340,slow=5.3,SNR=8.8								

ISCJB ***19*** *08:48:43.9±0.3,45°.31S±0'.03×166°.38E±0'.04,h10km, mb4.8/16,MS4.7/16,Error ellipse: s-maj=4.4km s-min=3.5km az=20.8*

IDC ***19*** *08:48:43.2±0.7,45°.48S×166°.39E,h0km,mb4.1/7, mb1 4.3/8,mb1mx4.2/17,mbtmp4.2/8,ML4.3/1,MS4.6/10, Ms1 4.7/10,ms1mx4.4/25,Error ellipse: s-maj=25.2km s-min=19.2km az=44.0*

WEL ***19*** *08:48:43.2±0.3,45°.34S×166°.16E,h12km,ML5.2/24,Error ellipse: s-maj=2.8km s-min=1.2km az=90.0*

WEL Felt Southland.

BJI ***19*** *08:48:43.8,45°.38S×166°.52E,h4km,mB5.4/9,mb5.5/12, Ms5.2/8,Ms7 4.9/8*

AUST ***19*** *08:48:44.9±0.9,45°.53S×166°.31E,h0km,Error ellipse: s-maj=1.3km s-min=0.7km az=16.0*

NEIC ***19*** *08:48:45.9,45°.54S×166°.29E,h12km,mb4.9/6, ML5.2/(WEL),After WEL.*

GCMT ***19*** *08:48:47.1±0.2,45°.41S×166°.07E,h12km,MW5.2, Moment Tensor Solution. s52,c71; s79,c137; Moment tensor: Scale 10^{16}Nm; M_{rr}6.88±.15; $M_{\theta\theta}$-0.49±.15; $M_{\phi\phi}$-6.39±.13; $M_{r\theta}$0.27±.49; $M_{r\phi}$-1.78±.13; $M_{\theta\phi}$-1.64±.40; Best double couple: $M_0$8.90000×10^{16} NP1:ϕ_s26.00000°, δ27.00000°,λ110.00000°. NP2:ϕ_s184.00000°,δ65.00000°, λ80.00000°. Principal axes: T 9.0300, Plg69.0000°, Azm75.0000°; N -0.2700, Plg9.0000°; Azm188.0000°; P -8.7700, Plg19.0000°, Azm281.0000°; Data Used: II IU IC G CN.*

ISC 19 08:48:45.8±0.5,45°.48S±0'.04×166°.42E±0'.03,h13km±2km, n115,σ1§99/128,mb4.8/16,MS4.7/16,1C-4D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						Op ISC	h m s	ISC
DCZ	**Deep Cove**	**0.51**	**90**	P*		**Pg**	**08 48 56.1**	**+0.2**
DCZ				P*		**Pg**	**08 48 56.2**	**+0.3**
DCZ				S*		**Sn**	**08 49 07.1**	**-0.2**
DCZ	**Deep Cove**	**0.51**	**90**	⇓P*		**Pg**	**08 48 56.2**	**+0.3**
DCZ				S*		**Sn**	**08 49 06.0**	**-1.4**
DCZ				AML	AML	08 49 13.0		
DCZ				AML	AML	08 49 13.0		
DCZ				AML	AML	08 49 14.7		
PYZ	**Puysegur Point**	**0.71**	**165**	P*		**Pg**	**08 48 59.3**	**-0.3**
PYZ	**Puysegur Point**	**0.71**	**165**	⇓P*		**Pg**	**08 48 59.4**	**-0.1**
PYZ				S*		**Sn**	**08 49 12.4**	**+0.1**
WHZ	**Wether Hill Ro**	**1.15**	**112**	P*		**Pb**	**08 49 07.2**	**-0.2**
WHZ	**Wether Hill Ro**	**1.15**	**112**	PN		**Pb**	**08 49 07.0**	**-0.4**
WHZ				SN		**Sn**	**08 49 24.8**	**+1.8**
WHZ				AML	AML	08 49 37.4		
MLZ	**Mavora Lakes**	**1.24**	**84**	Pn		**Pn**	**08 49 07.6**	**-1.2**
MLZ	**Mavora Lakes**	**1.24**	**84**	⇓Pn		**Pn**	**08 49 07.6**	**-1.2**
MLZ				*e*SN		**Sg**	**08 49 26.1**	**+0.3**
MLZ				AML	AML	08 49 34.1		
MSZ	**Milford Sound**	**1.34**	**53**	Pn		**Pn**	**08 49 08.7**	**-1.4**
MSZ	**Milford Sound**	**1.34**	**53**	PN		**Pn**	**08 49 08.4**	**-1.7**
MSZ				AML	AML	08 49 43.8		
MSZ				AML	AML	08 49 43.9		
MSZ				AML	AML	08 49 46.9		
MSZ				AML	AML	08 49 52.2		
APZ	**The Paps**	**1.73**	**142**	Pn		**Pn**	**08 49 16.5**	**+0.9**
APZ	**The Paps**	**1.73**	**142**	PN

TUWZ	**Tuamarina**	**6.80**	**56**	Pn	**Pn**	**08 50 25.9**	**+0.7**
SNZO	**South Karori**	**7.33**	**58**	*e*Pn	**Pn**	**08 50 31.8**	**-0.6**
OUZ	**Omahuta**	**11.61**	**31**	*e*Pn	**Pn**	**08 51 29.0**	**-2.1**
	158nm,1.5s						
OUZ				*e*Sn	**Sn**	**08 53 39.8**	**-0.7**
TAU	**Tasmania Unive**	**13.95**	**274**	*e*Pn	Pn	08 51 55.5	-7.4
TAU				*e*Sn	Sn	08 54 31.3	-6.2
MOO	**Moorlands**	**14.18**	**276**	P	Pn	08 52 02.6	-3.6
	baz=14,SNR=7.4						
MILA	**Mila**	**15.45**	**297**	P	**Pn**	**08 52 20.2**	**-3.2**
	baz=15,SNR=8.1						
CNB	**Canberra Magne**	**16.46**	**302**	P	**P**	**08 52 39.4**	**+0.3**
	baz=16,SNR=5.0						
CAN	**Canberra**	**16.67**	**301**	*e*Pn	**Pn**	**08 52 38.7**	**-0.4**
	122nm,1.8s						
CAN				*e*Sn	**Sn**	**08 55 41.8**	**-2.3**
MGCD	**Mangrove Creek**	**17.01**	**311**	P	P	08 52 52.2	+7.2
	baz=17,SNR=4.4						
TOO	**Toolangi**	**17.52**	**289**	P	**Pn**	**08 52 46.9**	**-2.8**
	baz=17,SNR=7.6						
ARMA	**Armidale**	**18.98**	**317**	*e*P	**P**	**08 53 06.5**	**-0.5**
	41nm,1.5s						
ARMA				*e*S	**S**	**08 56 48.0**	**+5.7**
ARMA	**Armidale**	**18.98**	**317**	P	**Pn**	**08 53 08.4**	**+0.7**
	baz=19,SNR=4.8						
STKA	**Stephens Creek**	**23.55**	**297**	P	**P**	**08 53 55.4**	**-0.4**
STKA	**Stephens Creek**	**23.55**	**297**	P	**P**	**08 53 55.4**	**-0.4**
	3.8nm,1.1s,baz=126,slow=12,SNR=3.1						
STKA				LR	LR	09 01 42.0	
	comp=Z,3μm,18.7s,baz=135,slow=33						
STKA	**Stephens Creek**	**23.55**	**297**	P	**P**	**08 53 59.8**	**+4.1**
	baz=24,SNR=3.6						
EIDS	**Eidsvold**	**23.57**	**323**	*e*P	**P**	**08 53 55.9**	**-0.1**
	123nm,1.6s						
EIDS				*e*S	**S**	**08 58 15.5**	**+5.8**
EIDS	**Eidsvold**	**23.57**	**323**	P	**P**	**08 53 56.4**	**+0.5**
	baz=24,SNR=4.5						
RMQ	**Roma**	**23.65**	**317**	P	**P**	**08 54 00.6**	**+3.9**
	baz=24,SNR=4.2						
CTA	**Charters Tower**	**30.30**	**320**	LR	LR	09 05 05.6	
	comp=Z,1μm,20.3s,baz=140,slow=32						
VNDA	**Vanda**	**32.20**	**182**	LR	LR	09 05 40.3	
	comp=Z,1μm,20.6s,baz=20,slow=32						
SBA	**Scott Base**	**32.48**	**180**	*e*P	**P**	**08 55 12.3**	**-3.1**
	17nm,1.8s						
ASAR	**Alice Springs**	**34.15**	**299**	P	**P**	**08 55 29.3**	**-1.3**
ASAR	**Alice Springs**	**34.15**	**299**	P	**P**	**08 55 29.3**	**-1.3**
	5.8nm,1.1s,baz=130,slow=8.4,SNR=7.5						
ASAR				LR	LR	09 09 01.7	
	comp=Z,2μm,18.3s,baz=138,slow=36						
WRA	**Warramunga Arr**	**36.70**	**303**	P	**P**	**08 55 50.6**	**-1.9**
WRA	**Warramunga Arr**	**36.70**	**303**	P	**P**	**08 55 50.6**	**-1.9**
	3.8nm,0.8s,baz=136,slow=7.8,SNR=6.1						
WRA				LR	LR	09 09 09.8	
	comp=Z,1μm,21.6s,baz=145,slow=33						
WRAB	**Tennant Creek**	**36.71**	**303**	*e*P	P	08 55 57.5	+5.0
COEN	**Coen**	**37.07**	**321**	P	**P**	**08 55 53.9**	**-1.7**
	165nm,1.4s						
PMG	**Port Moresby**	**39.58**	**329**	LR	LR	09 10 31.2	
	comp=Z,409nm,21.7s,baz=30,slow=33						
TBI	**Tubuai**	**41.90**	**73**	*e*LR	LR	09 08 15.6	
	2μm,28.2s						
FITZ	**Fitzroy Crossi**	**43.44**	**295**	LR	LR	09 15 02.8	
	comp=Z,1μm,18.9s,baz=143,slow=36						
QSPA	**South Pole Qui**	**44.64**	**180**	P	**P**	**08 56 57.6**	**-0.1**
QSPA	**South Pole Qui**	**44.64**	**180**	P	**P**	**08 56 57.6**	**-0.1**
	2.2nm,0.8s,baz=8.0,slow=2.9,SNR=10.0						
PPT2	**Papeete2**	**45.88**	**67**	*e*LR	LR	09 10 12.4	
	2μm,27.0s						
RKT	**Rikitea**	**52.06**	**85**	*e*LR	LR	09 13 02.2	
	3μm,29.8s,baz=232						
SYO	**Syowa Base**	**59.27**	**200**⇑	*e*P	**P**	**08 58 44.6**	**-1.7**
SYO	**Syowa Base**	**59.27**	**200**⇓	*e*PcP	**PcP**	**08 59 32.6**	**-1.8**
SNAA	**Sanae**	**62.90**	**184**	*e*P	**P**	**08 59 10.2**	**-0.9**
	19nm,1.4s						
SNAA	**Sanae**	**62.90**	**184**	P	**P**	**08 59 09.6**	**-1.4**
	1.4nm,1.1s,baz=183,slow=7.0,SNR=6.8						
PLCA	**Paso Flores**	**80.18**	**140**	P	**P**	**09 00 55.8**	**0.0**
PLCA	**Paso Flores**	**80.18**	**140**	P	**P**	**09 00 55.8**	**0.0**
	1.3nm,0.8s,baz=197,slow=7.8,SNR=3.1						
PLCA				LR	LR	09 28 31.6	
	comp=Z,448nm,20.4s,baz=107,slow=30						
CMAR	**Chiang Mai Arr**	**88.16**	**299**	P	**P**	**09 01 36.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**88.16**	**299**	P	**P**	**09 01 36.7**	**+0.4**
	1.0nm,0.4s,baz=157,slow=2.5,SNR=5.7						
CMAR				LR	LR	09 42 10.8	
	comp=Z,234nm,20.0s,baz=125,slow=36						
NJ2	**Nanjing**	**88.41**	**321**	*e*P	**P**	**09 01 40.0**	**+2.9**
NJ2				pmax	pmax		
	comp=Z,40nm,1.1s						
GYA	**Guiyang**	**89.85**	**309**	*e*P	**P**	**09 01 47.0**	**+2.8**
GYA				PP	**PP**	**09 05 21.8**	**+4.6**
GYA				SKS	S	09 12 15.3	-21
GYA				S	**ScS**	**09 12 37.6**	**-2.7**
GYA				SS	**SS**	**09 18 39.0**	**+4.7**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,110nm,5.0s						
GYA				LR	LR		
	comp=N,490nm,19.8s						
GYA				LR	LR		
	comp=E,370nm,20.0s						
GYA				LR	LR		
	comp=Z,460nm,19.5s						
KMI	**Kunming**	**90.99**	**306**	P	**P**	**09 01 52.4**	**+2.7**
KMI				sP	**sP**	**09 01 57.6**	**+1.8**
KMI				S	**S**	**09 12 47.3**	**+0.4**
KMI				SS	**SS**	**09 18 55.8**	**+4.7**
KMI				pmax	pmax		
	comp=Z,13nm,0.6s						
KMI				pmax	pmax		
	comp=Z,87nm,4.0s						
KMI				LR	LR		
	comp=N,280nm,17.6s						
KMI				LR	LR		
	comp=E,310nm,15.8s						
KMI				LR	LR		
	comp=Z,310nm,16.8s						
CD2	**Chengdu**	**94.91**	**310**	*e*P	**P**	**09 02 09.3**	**+1.8**
CD2				pP	**pP**	**09 02 13.9**	**+2.0**
CD2				sP	**sP**	**09 02 16.8**	**+3.3**
CD2				PP	**PP**	**09 06 00.9**	**+3.9**
CD2				SKS	**SKSac**	**09 12 43.3**	**+0.8**
CD2				S	**S**	**09 13 20.8**	**-0.3**
CD2				SS	**SS**	**09 19 50.6**	**+3.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,30nm,6.8s						
CD2				LR	LR		
	comp=E,180nm,22.0s						
CD2				LR	LR		
	comp=Z,150nm,20.2s						
CN2	**Changchun**	**96.06**	**331**	*e*P	P	09 02 15.8	+3.5
PETK	**Petropavlovsk-**	**98.50**	**355**	LR	LR	09 42 11.8	
	comp=Z,184nm,21.8s,baz=77,slow=33						
LZH	**Lanzhou**	**98.88**	**313**	*e*P	Pdif	09 02 27.0	+1.5
LZH				pP	pP	09 02 31.8	+1.9
LZH				sP	sP	09 02 34.1	+2.6
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**98.97**	**321**	*e*P	**P**	**09 02 25.3**	**-0.3**
HHC				pP	**pP**	**09 02 30.0**	**-0.1**
HHC				sP	**sP**	**09 02 32.3**	**+0.6**
HHC				PP	**PP**	**09 06 28.3**	**+0.1**
HHC				SKS	**SKSac**	**09 13 01.8**	**-1.4**
HHC				S	**S**	**09 13 52.9**	**-2.7**
HHC				sS	**sS**	**09 14 00.8**	**-2.2**
HHC				SS	**SS**	**09 20 44.6**	**+0.6**
HHC				pmax	pmax		
	comp=Z,30nm,0.9s						
HHC				pmax	pmax		
	comp=Z,200nm,5.1s						
HHC				LR	LR		
	comp=N,310nm,18.4s						
HHC				LR	LR		
	comp=E,2μm,17.5s						
HHC				LR	LR		
	comp=Z,380nm,19.6s						
HOPS	**Hopland**	**105.21**	**50**	*e*PKPdf	**PKiKP**	**09 07 07.2**	**-0.3**
WMQ	**Urumqi**	**113.00**	**310**	PKP	**PKiKP**	**09 07 22.1**	**+0.1**
WMQ				LR	LR		
	comp=Z,260nm,26.6s						
KSH	**Kashi**	**117.04**	**300**	*e*PKPbc	PKPdf	09 07 36.5	+6.5
KSH				PP	PP	09 08 52.3	+12
KSH				PKS	PKSdf	09 11 13.4	+6.7
KSH				SKS	**SKSdf**	**09 14 48.3**	**+6.7**
KSH				SKKS	**SKKSac**	**09 15 45.4**	**+5.2**
KSH				AMB	AMB		
	comp=Z,44nm,5.2s						
KSH				LR	LR		
	comp=N,140nm,8.3s						
KSH				LR	LR		
	comp=E,150nm,7.6s						
KSH				LR	LR		
	comp=Z,220nm,17.9s						
KURBB	**Kurchatov Arra**	**122.10**	**311**	PKP	**PKPdf**	**09 07 37.9**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=124,slow=1.9,SNR=5.6						
KURK	**Kurchatov**	**122.10**	**311**	PKP	**PKPdf**	**09 07 37.9**	**-1.3**
YKA	**Yellowknife Ar**	**124.54**	**34**	PKP	**PKPdf**	**09 07 42.4**	**-1.1**
YKA	**Yellowknife Ar**	**124.54**	**34**	PKP	**PKPdf**	**09 07 42.3**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=242,slow=1.7,SNR=5.6						
BRTR	**Keskin Array B**	**145.18**	**278**	PKPbc	**PKPbc**	**09 08 21.6**	**-0.7**
BRTR	**Keskin Array B**	**145.18**	**278**	PKPbc	**PKPbc**	**09 08 21.6**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=150,slow=5.3,SNR=12						
TORD	**Torodi Ar. Bea**	**145.26**	**207**	PKPbc	**PKPbc**	**09 08 21.9**	**-1.2**
TORD	**Torodi Ar. Bea**	**145.26**	**207**	PKPbc	**PKPbc**	**09 08 21.9**	**-1.2**
	comp=Z,5.3nm,0.5s,baz=148,slow=2.5,SNR=41						
ARCES	**ARCESS Array B**	**149.02**	**334**	PKPbc	**PKPbc**	**09 08 32.0**	**-0.1**
ARCES	**ARCESS Array B**	**149.02**	**334**	PKPbc	**PKPbc**	**09 08 32.0**	**-0.1**
	comp=Z,4.2nm,0.8s,baz=65,slow=3.9,SNR=14						
KIEV	**Kiev**	**151.26**	**296**	*e*PKPbc	**PKPbc**	**09 08 37.8**	**-0.2**
FINES	**FINESS Array B**	**152.07**	**319**	PKPbc	**PKPbc**	**09 08 39.1**	**-0.4**
FINES	**FINESS Array B**	**152.07**	**319**	PKPbc	**PKPbc**	**09 08 39.1**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=83,slow=3.6,SNR=20						
ESDC	**Sonseca Array**	**170.84**	**234**	PKPab	**PKPab**	**09 10 11.2**	**-0.5**
ESDC	**Sonseca Array**	**170.84**	**234**	PKPab	**PKPab**	**09 10 11.2**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=141,slow=4.3,SNR=3.6						

NNC 19 08:51:37.8±7.6, 54.28N×86.11E, h0km, mb 3.8, mpv 3.4, 5C-3D, Error ellipse: s-maj=58.3km s-min=41.1km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
KURBB	**Kurchatov Arra**	**5.91**	**235**	⇑Pn	Pn	08 53 07.6		+1.1
	2.7nm,0.4s							
KURBB				⇑Sn	Sn	08 54 17.0		+2.2
	3.3nm,0.5s							
KURBB				⇑Lg	Lg	08 54 44.7		
	13nm,0.6s							
MK31	**Makanchi Array**	**7.88**	**200**	⇑Pn	Pn	08 53 34.1		+0.5
	0.6nm,0.5s,baz=26,slow=13							
MK31				⇑Sn	Sn	08 55 03.6		+0.1
	2.2nm,0.9s							
MK31				⇓Lg	Lg	08 55 47.5		
	4.9nm,1.0s,baz=18,slow=30							
VOSK	**Vostochnaya**	**9.15**	**266**	⇓Pn	Pn	08 53 52.0		+1.0
VOSK				⇓Sn	Sn	08 55 31.1		-3.7
	1.6nm,0.6s							

IDC ***19*** *08:59:01.9±2.5, 3.88S×130.91E, h0km, mb 3.4/1, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=130.0km s-min=27.0km az=76.0*
ISCJB ***19*** *08:59:10.4±0.7, 4.39S±0.04×130.72E±0.06, h33km, mb3.4/1, Error ellipse: s-maj=8.0km s-min=6.1km az=175.6*
AUST ***19*** *08:59:13.1, 4.48S×130.52E, h35km*
ISC 19 08:59:11.8±0.9, 4.46S±0.06×130.75E±0.07, h35km, n17, σ2.966/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
BNDI	**Bandanaira**	**0.84**	**265**	P	**Pn**	**08 59 25.9**		**-1.2**
	baz=0.6,SNR=47							
BNDI				S	**Sn**	**08 59 36.2**		**-2.1**
	baz=0.6,SNR=8.3							
FAKI	**Fak Fak**	**2.14**	**45**	P	Pn	08 59 52.7		+7.6
	baz=2.3,SNR=44							
FAKI				S	Sn	09 00 19.2		+8.8
	baz=2.3,SNR=24							
AAI	**Ambon**	**2.66**	**287**	P	Pn	08 59 44.7		-7.5
	baz=2.5,SNR=23							
SWI	**Sorong**	**3.61**	**8**	P	**Pn**	**09 00 05.4**		**+0.2**
	baz=3.7,SNR=48							
SWI				S	**Sn**	**09 00 45.0**		**-1.6**
	baz=3.7,SNR=14							
MTN	**Manton Dam**	**8.34**	**177**	P	Pn	09 01 14.4		+4.1
	baz=8.4,SNR=9.5							
MTN				S	**Sn**	**09 02 46.4**		**+3.0**
	baz=8.4,SNR=5.7							
KDU	**Kakadu**	**8.36**	**168**	P	Pn	09 01 14.7		+4.2
	baz=8.4,SNR=17							
KDU				S	**Sn**	**09 02 39.4**		**-4.3**
	baz=8.4,SNR=7.2							
KNRA	**Kununurra**	**11.32**	**190**	P	**Pn**	**09 01 54.2**		**+3.1**
	baz=11,SNR=4.1							
KNRA				S	**Sn**	**09 03 53.8**		**-2.6**
	baz=11,SNR=3.5							
WSI	**Waingapu**	**11.59**	**243**	P	**Pn**	**09 01 54.9**		**0.0**
	baz=11,SNR=9.5							
WSI				S	**Sn**	**09 04 07.5**		**+4.5**
	baz=11,SNR=3.2							
PALU	**Palau**	**12.30**	**18**	P	P	09 02 20.2		+3.9
	baz=12,SNR=3.5							
FITZ	**Fitzroy Crossi**	**14.45**	**200**	Pn	**Pn**	**09 02 35.1**		**+1.1**
	0.1nm,0.3s,baz=29,slow=13,SNR=3.9							
FITZ				Sn	Sn	09 05 05.7		-7.3
	0.1nm,0.3s,baz=94,slow=22,SNR=2.3							
FITZ	**Fitzroy Crossi**	**14.45**	**200**	P	**P**	**09 02 37.9**		**-2.4**
	baz=14,SNR=3.3							
COEN	**Coen**	**15.47**	**128**	P	**P**	**09 02 53.9**		**+2.3**
	baz=16,SNR=5.6							
WRA	**Warramunga Arr**	**15.79**	**167**	Pn	**Pn**	**09 02 51.1**		**-0.5**
	0.2nm,0.3s,baz=351,slow=11,SNR=11							
WRA				Sn	Sn	09 05 39.6		-5.9
	0.4nm,0.3s,baz=334,slow=22,SNR=6.7							
MTSU	**Mount Surprise**	**19.00**	**137**	P	Pn	09 03 42.0		+10
	baz=19,SNR=4.6							
ASAR	**Alice Springs**	**19.34**	**171**	P	**Pn**	**09 03 35.8**		**+0.2**
	0.7nm,0.3s,baz=350,slow=11,SNR=40							
ASAR				S	**S**	**09 07 08.7**		**-2.7**
	0.1nm,0.3s,baz=350,slow=17,SNR=7.5							
MEEK	**Meekatharra**	**24.92**	**207**	P	P	09 04 43.0		+11
	baz=25,SNR=4.9							
MKAR	**Makanchi Array**	**66.53**	**326**	P	P	09 09 51.2		-7.0
	0.2nm,0.5s,baz=115,slow=7.7,SNR=3.2							

TAP 19 09:27:17.5, 23.89N×120.20E, h20km, ML4.0, 24C-9D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
WTCT	**Ta-ch'eng**	**0.08**	**109**	⇑*i*P	Pb	09 27 21.4		+0.1
	baz=109							
WTCT				*i* S	Sb	09 27 24.8		+1.0
	baz=109							
WSF	**Szhu**	**0.25**	**175**	⇓*i*P	Pb	09 27 23.8		+0.4
	baz=173							
WSF				*i* S	Sb	09 27 29.1		+1.8
	baz=173							
WGK	**Gukeng**	**0.39**	**121**	⇑*i*P	Pb	09 27 26.6		+0.9
	baz=121							
WGK				*e*S	Sn	09 27 33.7		-1.2
	baz=121							
CHN2	**Minshiung**	**0.44**	**144**	⇑*i*P	Pb	09 27 27.2		+0.7
	baz=144							
CHN2				S	Sn	09 27 34.5		-1.5
	baz=144							
CHY	**Chiayi**	**0.44**	**152**	⇑*i*P	Pb	09 27 27.4		+0.8
	baz=157							
CHY				S	Sn	09 27 34.7		-1.4
	baz=157							
WNT	**Mingjian**	**0.45**	**91**	⇑*i*P	Pb	09 27 27.4		+0.8
	baz=91							
WNT				*i* S	Sn	09 27 34.8		-1.4
	baz=91							
TCU	**Taichung**	**0.51**	**60**	⇓*i*P	Pb	09 27 28.4		+0.7
	baz=60							
TCU				S	Sb	09 27 36.0		+1.3
	baz=60							
CHN5	**Tsauling**	**0.53**	**123**	⇑*i*P	Pb	09 27 28.6		+0.4
	baz=123							
CHN5				S	Sb	09 27 36.4		+0.9
	baz=123							
CHN8	**Yiju**	**0.54**	**179**	⇓*i*P	Pb	09 27 28.8		+0.5
	baz=177							
CHN8				*i* S	Sn	09 27 37.8		-0.7
	baz=177							
TYC	**Yuchr**	**0.60**	**89**	⇑*i*P	Pb	09 27 30.0		+0.7
	baz=88							
TYC				S	Sn	09 27 39.0		-1.1
	baz=88							
SMLT	**Sun Moon Lake**	**0.64**	**90**	⇑*i*P	Pb	09 27 30.8		+0.6
	baz=91							
SMLT				*e*S	Sn	09 27 40.4		-1.0
	baz=91							
CHN4	**Tsaushan**	**0.65**	**146**	⇑*i*P	Pb	09 27 30.6		+0.4
	baz=146							
CHN4				*i* S	Sn	09 27 40.5		-0.7
	baz=146							
PNG	**Penghu**	**0.67**	**241**	⇓P	Pb	09 27 29.9		-0.6
	baz=241							
PNG				*e*S	Sb	09 27 39.0		-0.4
	baz=241							
ALS	**Alishan**	**0.67**	**124**	⇑*i*P	Pb	09 27 31.4		+0.4
	baz=112							
ALS				*e*S	Sb	09 27 41.3		+1.1
	baz=112							
TWK	**Hsinying**	**0.68**	**157**	⇑*i*P	Pn	09 27 31.4		-0.6
	baz=156							
TWK				S	Sn	09 27 41.5		-0.6
	baz=156							
TWQ1	**Liyutan**	**0.70**	**49**	*e*P	Pb	09 27 31.4		+0.4
	baz=49							
TWQ1				*e*S	Sn	09 27 41.9		-0.5
	baz=49							
SCLT	**Jiali**	**0.71**	**180**	⇓P	Pn	09 27 32.0		-0.4
	baz=180							
SCLT				S	Sn	09 27 43.3		+0.5
	baz=180							
NSY	**Sanyi**	**0.73**	**44**	⇓P	Pn	09 27 32.3		-0.5
	baz=45							
NSY				*e*S	Sn	09 27 43.6		+0.2
	baz=45							
WTP	**Ta-pu**	**0.75**	**149**	⇑*i*P	Pb	09 27 32.2		+0.3
	baz=149							
WTP				S	Sn	09 27 42.9		-0.9
	baz=149							
CHN1	**Nanshi**	**0.77**	**157**	⇑P	Pn	09 27 32.7		-0.5
	baz=156							
CHN1				S	Sn	09 27 43.5		-0.7
	baz=156							
YUS	**Yu-Shan**	**0.80**	**120**	⇑*i*P	Pb	09 27 33.6		+0.3
	baz=120							
CHN3	**Shinhua**	**0.82**	**169**	*e*P	Pn	09 27 34.2		+0.2
	baz=169							
CHN3				*e*S	Sn	09 27 47.2		+1.6
	baz=169							
TAI1	**Yung-k'ang**	**0.85**	**178**	⇓*i*P	Pn	09 27 34.2		0.0
	baz=177							
TAI1				*i* S	Sn	09 27 47.3		+1.3
	baz=177							
SGST	**Jiashian**	**0.88**	**156**	⇑P	Pn	09 27 34.7		0.0
	baz=147							
SGST				S	Sn	09 27 47.8		+0.8
	baz=147							
STYT	**Tauyuan**	**0.89**	**145**	⇑*i*P	Pb	09 27 34.6		+0.3
	baz=144							
STYT				S	Sn	09 27 47.2		-0.1
	baz=144							
TWT	**Tachien**	**0.96**	**68**	*e*P	Pb	09 27 35.4		-0.4
	baz=68							
TWT				*e*S	Sb	09 27 48.6		+0.3
	baz=68							
WHF	**Hehuan Shan**	**1.01**	**75**	⇑*i*P	Pn	09 27 37.5		+0.4
	baz=75							
WHF				*e*S	Sn	09 27 51.5		+0.4
	baz=75							
ELDTW	**Lidau**	**1.03**	**133**	*e*P	Pb	09 27 36.7		0.0
	baz=132							
ELDTW				*e*S	Sn	09 27 50.8		0.0
	baz=132							
NSTT	**Nanjuang**	**1.04**	**45**	⇓*i*P	Pb	09 27 36.3		-0.5
	baz=45							
NSTT				S	Sn	09 27 51.2		+0.3
	baz=45							
TWM1	**Shoushan**	**1.08**	**169**	*e*P	Pb	09 27 38.3		+0.8
	baz=151							
EHY	**Hungye**	**1.10**	**110**	⇑P	Pb	09 27 38.1		+0.2
	baz=110							
EHY				*e*S	Sn	09 27 53.8		+1.4
	baz=110							
ESL	**Shilin**	**1.13**	**94**	⇑*i*P	Pb	09 27 38.9		+0.5
	baz=94							
ESL				*e*S	Sn	09 27 54.2		+1.0
	baz=94							
TWF1	**Yuli**	**1.14**	**118**	⇑P	Pb	09 27 38.9		+0.3
	baz=106							
TWF1				*e*S	Sn	09 27 54.2		+0.8
	baz=106							
HSN	**Hsinchu**	**1.15**	**38**	*e*P	Pb	09 27 38.8		+0.2
	baz=50							
HSN				*e*S	Sn	09 27 56.3		+2.7
	baz=50							
SGLT	**Jiouru**	**1.19**	**167**	*e*P	Pb	09 27 41.1		+1.7
	baz=166							
SGLT				*e*S	Sn	09 27 58.4		+3.8
	baz=166							
NNS	**Nan Shan**	**1.21**	**63**	*e*P	Pb	09 27 39.8		0.0
	baz=63							
NNS				S	Sn	09 27 55.3		0.0
	baz=63							
HWA	**Hwalien**	**1.29**	**86**	*e*P	Pb	09 27 41.5		+0.4
	baz=86							
HWA				*e*S	Sb	09 27 59.9		+2.7
	baz=86							
TWD	**Chiawan**	**1.29**	**81**	*e*P	Pb	09 27 41.2		+0.1
	baz=91							
TWD				*e*S	Sb	09 27 58.6		+1.3
	baz=91							
NSK	**Sanguang**	**1.32**	**53**	⇓*e*P	Pn	09 27 40.2		-0.6
	baz=44							
NSK				*e*S	Sb	09 27 58.4		+0.2
	baz=44							
CHKT	**Chengkung**	**1.33**	**126**	*e*P	Pb	09 27 42.0		+0.3
	baz=127							
NCU	**National Centr**	**1.40**	**40**	*e*P	Pn	09 27 41.7		-0.2
	baz=25							
ENTT	**Nioudou**	**1.46**	**59**	⇑*e*P	Pn	09 27 42.8		+0.1
	baz=59							
ENTT				*e*S	Sn	09 28 01.6		+0.4
	baz=59							
ECL	**Taimali**	**1.46**	**151**	*e*P	Pb	09 27 43.8		-0.2
	baz=166							
ENA	**Nanau**	**1.51**	**69**	*e*P	Pb	09 27 44.5		-0.3
	baz=68							
SCZT	**Fangliau**	**1.56**	**165**	⇑P	Pn	09 27 44.8		+0.7
	baz=151							
SCZT				*e*S	Sb	09 28 04.9		-0.1
	baz=151							
TWE	**Neicheng**	**1.58**	**58**	*e*P	Pn	09 27 44.0		-0.3
	baz=49							
TWE				*e*S	Sb	09 28 06.4		+1.0
	baz=49							
EAST	**Anshuo**	**1.61**	**158**	*e*P	Pn	09 27 45.6		+0.7
	baz=158							
TAW	**Tawu**	**1.66**	**157**	*e*P	Pb	09 27 46.5		-0.8
	baz=157							

YOJ	**Yonaguni jima**	**2.63**	**77**	*e*P	Pn	09 27 59.7	+0.9
	baz=75							

KRSC 19 09:28:26.1±0.1, 52.43N×160.63E, h5km±5km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.76**	**331**	*i* P	Pg	09 28 41.2	+0.4
SPN				*e*S	Sg	09 28 51.5	+0.8
NLC	**Nalytchevo**	**1.08**	**314**	*e*P	Pg	09 28 46.9	+0.2
NLC				S	Sb	09 29 01.7	+0.2
RUS	**Russkaya**	**1.30**	**271**	*i* P	Pg	09 28 51.3	+0.4
RUS				*e*S	Sn	09 29 09.3	+0.8
PET	**Petropavlovsk**	**1.34**	**297**	*i* P	Pg	09 28 51.8	0.0
PET				*e*S	Sn	09 29 09.9	+0.3
UGLR	**Uglovaya**	**1.34**	**306**	*e*P	Pb	09 28 52.0	0.0
UGLR				*e*S	Sn	09 29 10.4	+0.3
SMAR	**Somma**	**1.39**	**308**	*e*P	Pn	09 28 52.1	-0.3
AVH	**Avacha**	**1.42**	**307**	*e*P	Pn	09 28 52.5	-0.2
AVH				*e*S	Sg	09 29 12.5	+0.5
KRER	**Koryakskii**	**1.44**	**308**	*e*P	Pn	09 28 53.2	+0.1
KOK	**Koryaka**	**1.49**	**306**	*e*P	Pn	09 28 53.8	+0.2
MTVR	**Mutnovka**	**1.50**	**273**	*i* P	Pb	09 28 54.6	0.0
MTVR				*e*S	Sg	09 29 15.0	+0.4
GRL	**Gorelyy**	**1.57**	**275**	*i* P	Pg	09 28 56.6	+0.3
GRL				*e*S	Sg	09 29 18.0	+1.2
ASAK	**Asacha**	**1.67**	**269**	*e*P	Pb	09 28 57.1	-0.4
ASAK				*e*S	Sb	09 29 18.9	0.0
GNL	**Ganaly**	**2.06**	**309**	*i* P	Pn	09 29 02.8	+1.3
GNL				*e*S	Sn	09 29 28.5	+0.8
APC	**Apacha**	**2.17**	**285**	*e*P	Pb	09 29 04.6	-1.2
APC				*e*S	Sb	09 29 32.0	-1.0
MIPR	**Malaya Ipel'ka**	**2.38**	**268**	*e*P	Pn	09 29 07.6	+1.8
TUMR	**Tumrok**	**2.87**	**354**	*e*P	Pn	09 29 13.8	+1.1
KMNR	**Kamenistaya**	**3.34**	**356**	*e*P	Pn	09 29 21.9	+2.8
KMNR				*e*S	Sn	09 30 01.7	+2.5
BZMR	**Bezymyannaya**	**3.51**	**359**	*e*P	Pn	09 29 23.7	+2.2
BZGR	**Bezymyannyi-Gr**	**3.52**	**1**	*e*P	Pn	09 29 23.4	+1.9
BZGR				*e*S	Sn	09 30 04.2	+0.6
KIRR	**Kirishev**	**3.53**	**357**	P	Pn	09 29 24.1	+2.3
KIRR				*e*S	Sn	09 30 04.9	+0.8
BZWR	**Bezymyannyi-We**	**3.54**	**359**	*e*P	Pn	09 29 23.1	+1.1
KPT	**Kopyto**	**3.55**	**356**	P	Pn	09 29 23.3	+1.3
ZLN	**Zelenaya**	**3.60**	**2**	*e*P	Pn	09 29 24.2	+1.6
ZLN				*e*S	Sn	09 30 05.7	+0.2
LGNR	**Loginova**	**3.66**	**1**	*e*P	Pn	09 29 26.3	+2.6
LGNR				*e*S	Sn	09 30 09.2	+1.7
ESO	**Esso**	**3.68**	**343**	*e*P	Pn	09 29 24.8	+1.1
CIRR	**Tsirk**	**3.69**	**1**	P	Pn	09 29 25.6	+1.6
CIRR				*e*S	Sn	09 30 07.8	-0.2
KRSR	**Krestovskiy**	**3.79**	**359**	*e*S	Sn	09 30 10.2	-0.2
KLY	**Klyuchi**	**3.89**	**0**	P	Pn	09 29 28.4	+1.9
KLY				*e*S	Sn	09 30 12.7	+0.2
SRDR	**Sredinnyy**	**3.93**	**353**	*e*P	Pn	09 29 29.1	+1.9
SMKR	**Semkarok**	**4.19**	**6**	*e*P	Pn	09 29 31.7	+1.0
SMKR				*e*S	Sn	09 30 20.3	+0.2
SRKR	**Sorokina**	**4.25**	**4**	*e*P	Pn	09 29 34.2	+2.7
SRKR				*e*S	Sn	09 30 23.6	+2.2

WEL 19 09:30:53.5±0.5, 46.16S×165.78E, h12km, ML3.5/13, Error ellipse: s-maj=4.2km s-min=2.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.62**	**91**	P*	Pg	09 31 05.5	-0.3
PYZ				S*	Sg	09 31 13.5	-0.5
DCZ	**Deep Cove**	**1.18**	**55**	P*	Pb	09 31 14.0	-1.7
DCZ				S*	Sb	09 31 29.1	-1.8
DCZ				AML	AML	09 31 30.8	
DCZ				AML	AML	09 31 30.8	
DCZ				AML	AML	09 31 31.6	
WHZ	**Wether Hill Ro**	**1.53**	**81**	PN	Pn	09 31 19.6	-1.1
WHZ				SN	Sn	09 31 38.3	-2.2
WHZ				AML	AML	09 31 42.8	
APZ	**The Paps**	**1.67**	**115**	SN	Sn	09 31 41.6	-2.4
MLZ	**Mavora Lakes**	**1.86**	**65**	PN	Pn	09 31 25.2	0.0
MLZ				AML	AML	09 31 56.7	
MLZ				AML	AML	09 31 57.5	
SYZ	**Scrubby Hill**	**2.36**	**100**	PN	Pn	09 31 32.3	+0.3
WKZ	**Wanaka**	**2.64**	**61**	AML	AML	09 32 20.9	
EAZ	**Earnscleugh**	**2.64**	**71**	AML	AML	09 32 13.9	
EAZ				AML	AML	09 32 16.7	
TUZ	**Tuapeka**	**2.69**	**87**	PN	Pn	09 31 36.9	+0.3
TUZ				AML	AML	09 32 11.6	
TUZ				AML	AML	09 32 24.1	
JCZ	**Jackson Bay**	**2.96**	**46**	AML	AML	09 32 37.8	
ODZ	**Otahua Downs**	**3.59**	**74**	PN	Pn	09 31 48.0	-1.0

*NIED **19** 09:33:00, 25.00N×128.10E, h5km, Mw4.2 Best double couple: M₀2.03000×10¹⁵ NP1:φ₁221.00000°, δ62.00000°, λ-107.00000°. NP2:φ₂74.00000°, δ33.00000°, λ-61.00000°.*
*IDC **19** 09:33:52.8±0.7, 24.91N×128.15E, h0km, mb4.1/15, mb1 4.2/19, mb1mx4.2/28, mbtmp4.1/19, ML3.8/4, MS3.7/2, Ms1 3.8/2, ms1mx3.0/44, Error ellipse: s-maj=23.8km s-min=14.6km az=80.0*
*ISCJB **19** 09:33:53.2±1.1, 24.94N±0.03×128.11E±0.03, h15km±8km, mb4.2/26, MS4.3/1, Error ellipse: s-maj=6.4km s-min=4.1km az=142.6*
*NEIC **19** 09:33:54.4±0.4, 24.91N×128.08E, h10km, mb4.5/9, MW4.1(NIED), Error ellipse: s-maj=8.5km s-min=6.5km az=123.0*
*JMA **19** 09:33:56.3±0.3, 25.04N×128.12E, h77km, M3.8*

ISC 19 09:33:55.7±4.2, 24.97N±0.05×128.14E±0.05, h18km±26km, n75, σ1°46/87, mb4.2/26, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**1.21**	**343**	P	**Pn**	**09 34 17.3**	**-0.5**
JJT2				S	**Sb**	**09 34 32.8**	**-0.7**
JAGN	**Aguni-jima**	**1.80**	**333**	P	**Pn**	**09 34 25.4**	**-0.5**
JAGN				S	**Sn**	**09 34 46.8**	**-1.5**
JKE	**Kume jima 2**	**1.82**	**318**	P	**Pn**	**09 34 25.5**	**-0.6**
JKE				S	**Sn**	**09 34 47.2**	**-1.6**
JOW	**Kunigami**	**1.85**	**4**	*e*Pn	**Pn**	**09 34 25.4**	**-1.2**
JOW				*e*Sn	**Sn**	**09 34 46.9**	**-2.7**
JOW	**Kunigami**	**1.85**	**4**	P	**Pn**	**09 34 25.5**	**-1.2**
JOW				S	**Sn**	**09 34 46.3**	**-3.3**
JIH	**Iheya**	**2.06**	**356**	P	**Pn**	**09 34 28.9**	**-0.5**
JIH				S	**Sn**	**09 34 52.1**	**-2.5**
JOGS	**Gusukube**	**2.50**	**266**	P	**Pn**	**09 34 35.2**	**-0.2**
JOGS				S	**Sn**	**09 35 04.1**	**-1.3**
JMJ	**Miyako jima 2**	**2.59**	**267**	P	**Pn**	**09 34 36.5**	**-0.3**
JMJ				S	**Sn**	**09 35 06.2**	**-1.6**
JTK	**Tokunoshima**	**2.89**	**14**	P	**Pn**	**09 34 39.7**	**-1.2**
JTK				S	Sn	09 35 10.6	-4.6
JMZ	**Minamidaito 2**	**2.91**	**73**	P	Pn	09 34 37.9	-3.2
JMZ				*e*S	Sn	09 35 09.4	-6.2
JTJ	**Tarama**	**3.15**	**265**	P	**Pn**	**09 34 43.5**	**-0.9**
JTJ				S	**Sn**	**09 35 18.7**	**-2.8**
JAMN	**Amaminishikomi**	**3.38**	**16**	P	**Pn**	**09 34 46.8**	**-0.8**
JAMN				S	**Sn**	**09 35 23.2**	**-4.2**
JAM	**Amami Oshima**	**3.66**	**21**	P	**Pn**	**09 34 50.0**	**-1.5**
JAM				S	Sn	09 35 29.8	-4.5
JIJ	**Ishigaki jima**	**3.69**	**261**	P	**Pn**	**09 34 50.6**	**-1.3**
JIJ				S	**Sn**	**09 35 30.5**	**-4.4**
JZK	**Kikaishima**	**3.71**	**26**	P	**Pn**	**09 34 52.0**	**-0.1**
JZK				S	**Sn**	**09 35 32.2**	**-3.2**
JKRS	**Kuro-shima**	**3.83**	**260**	P	**Pn**	**09 34 53.3**	**-0.5**
JKRS				*e*S	**Sn**	**09 35 35.8**	**-2.7**
IRIF	**Iriomote-Funau**	**4.07**	**262**	P	**Pn**	**09 34 56.1**	**-0.9**
IRIF				*e*S	**Sn**	**09 35 42.1**	**-2.1**
YOJ	**Yonaguni jima**	**4.70**	**265**	P	**Pn**	**09 35 04.4**	**-1.3**
JNN	**Nakanoshima**	**5.09**	**17**	P	**Pn**	**09 35 10.3**	**-0.8**
NACB	**Ninganchiao**	**6.01**	**264**	*e*Pn	**Pn**	**09 35 21.4**	**-2.5**
	38nm,0.7s						
YHNB	**Yeheng**	**6.16**	**269**	*e*Pn	**Pn**	**09 35 25.7**	**-0.2**
	43nm,0.9s						
YULB	**Yu-li**	**6.45**	**257**	*e*Pn	Pn	09 35 26.3	-3.5
	24nm,0.6s						
SSLB	**Suanglung**	**6.66**	**261**	*e*Pn	**Pn**	**09 35 30.7**	**-2.1**
	15nm,0.4s						
TPUB	**Ta-pu**	**7.06**	**258**	*e*Pn	**Pn**	**09 35 36.7**	**-1.6**
	31nm,0.3s						
JNU	**Nakatsue**	**8.46**	**16**	*e*Pn	**Pn**	**09 35 57.0**	**-0.4**
JNU				Sn	**Sn**	**09 37 29.9**	**-2.7**
JNU	**Nakatsue**	**8.46**	**16**	Pn	**Pn**	**09 35 57.5**	**0.0**
	3.7nm,0.3s,baz=190,slow=7.3,SNR=35						
JNU				Sn	**Sn**	**09 37 29.9**	**-2.7**
	0.3nm,0.3s,baz=41,slow=20,SNR=2.9						
KSAR	**Wonju Array Be**	**12.43**	**359**	Pn	**Pn**	**09 36 52.1**	**+0.4**
KSRS	**Korea Array**	**12.44**	**359**	Pn	**Pn**	**09 36 52.1**	**+0.2**
	0.1nm,0.3s,baz=180,slow=14,SNR=4.3						
KSRS				LR	LR	09 42 29.0	
	comp=Z,104nm,19.6s,baz=90,slow=41						
MJAR	**Matsushiro Arr**	**14.40**	**34**	Pn	**Pn**	**09 37 19.9**	**+1.1**
MJAR	**Matsushiro Arr**	**14.40**	**34**	Pn	**Pn**	**09 37 19.9**	**+1.1**
	0.2nm,0.3s,baz=201,slow=8.2,SNR=3.9						
USRK	**Ussuriysk Arra**	**19.44**	**8**	P	**Pn**	**09 38 22.9**	**+0.6**
	1.4nm,0.3s,baz=188,slow=9.9,SNR=24						
ULN	**Ulaanbaatar**	**28.28**	**329**	*e*P	**P**	**09 39 50.8**	**+2.6**
	1.6nm,0.5s						
SONM	**Songino Array**	**28.57**	**329**	P	**P**	**09 39 50.2**	**-0.5**
SONM	**Songino Array**	**28.57**	**329**	P	**P**	**09 39 50.2**	**-0.5**
	1.6nm,0.6s,baz=146,slow=10,SNR=7.0						
PETK	**Petropavlovsk-**	**35.81**	**31**	P	**P**	**09 40 53.2**	**-0.7**
PETK	**Petropavlovsk-**	**35.81**	**31**	P	**P**	**09 40 53.2**	**-0.7**
	2.7nm,0.9s,baz=212,slow=5.3,SNR=4.9						
MK31	**Makanchi Array**	**42.32**	**313**	*e*P	**P**	**09 41 48.0**	**-0.6**
MKAR	**Makanchi Array**	**42.32**	**313**	P	**P**	**09 41 48.7**	**+0.2**
MKAR	**Makanchi Array**	**42.32**	**313**	P	**P**	**09 41 48.7**	**+0.2**
	2.5nm,0.5s,baz=95,slow=9.7,SNR=39						
FITZ	**Fitzroy Crossi**	**42.89**	**184**	*e*P	**P**	**09 41 53.4**	**+0.1**
	4.8nm,0.9s						
ZALV	**Zalesovo Beam**	**43.20**	**324**	P	**P**	**09 41 56.3**	**+0.8**
ZALV	**Zalesovo Beam**	**43.20**	**324**	P	**P**	**09 41 56.3**	**+0.8**
	3.9nm,0.6s,baz=109,slow=7.6,SNR=13						
WRAB	**Tennant Creek**	**45.04**	**172**	*e*P	**P**	**09 42 10.7**	**+0.1**
	4.4nm,0.7s						
WRA	**Warramunga Arr**	**45.05**	**172**	P	**P**	**09 42 10.1**	**-0.6**
WRA	**Warramunga Arr**	**45.05**	**172**	P	**P**	**09 42 10.1**	**-0.6**
	4.1nm,0.8s,baz=350,slow=8.8,SNR=29						
ASAR	**Alice Springs**	**48.67**	**173**	P	**P**	**09 43 39.0**	**+0.1**
ASAR	**Alice Springs**	**48.67**	**173**	P	**P**	**09 43 39.0**	**+0.1**
	0.5nm,0.5s,baz=1.7,slow=15,SNR=11						
KKAR	**Karatay Array**	**50.08**	**306**	*e*P	**P**	**09 42 50.6**	**+1.0**
	1.3nm,0.5s						
BRVK	**Borovoye**	**51.23**	**319**	*e*P	**P**	**09 42 59.2**	**+1.1**
	6.7nm,0.8s						
FORT	**Forrest**	**55.44**	**180**	*e*P	**P**	**09 43 27.8**	**-1.3**
	23nm,0.8s						
ABKAR	**Akbulak array**	**57.45**	**314**	*e*P	**P**	**09 43 44.5**	**+1.0**
	2.9nm,0.6s						
STKA	**Stephens Creek**	**57.98**	**167**	P	**P**	**09 43 45.5**	**-1.7**
STKA	**Stephens Creek**	**57.98**	**167**	P	**P**	**09 43 45.5**	**-1.7**
	2.4nm,0.9s,baz=191,slow=11,SNR=3.8						
COLA	**College**	**65.16**	**28**	*e*P	**P**	**09 44 36.9**	**+1.6**
	14nm,1.2s						
ILAR	**Eielson Array**	**65.58**	**28**	P	**P**	**09 44 37.4**	**-0.7**
ILAR	**Eielson Array**	**65.58**	**28**	P	**P**	**09 44 37.4**	**-0.7**
	0.4nm,0.7s,baz=265,slow=6.3,SNR=6.2						
KBZ	**Khabaz**	**69.89**	**310**	P	**P**	**09 45 05.2**	**-0.4**
KBZ	**Khabaz**	**69.89**	**310**	P	**P**	**09 45 05.2**	**-0.4**
	5.7nm,0.8s,baz=122,slow=3.5,SNR=14						
KEV	**Kevo**	**70.57**	**339**	*ep*	P	09 45 24.9	+16
	0.6nm,0.4s						
ARCES	**ARCESS Array B**	**71.14**	**339**	LR	LR	10 25 34.6	
	comp=Z,159nm,18.9s,baz=92,slow=44						
KAF	**Kangasniemi**	**73.56**	**331**	*ep*	**P**	**09 45 27.3**	**-0.1**
	0.3nm,0.3s						
FINES	**FINESS Array B**	**73.91**	**331**	P	**P**	**09 45 30.0**	**+0.5**
FINES	**FINESS Array B**	**73.91**	**331**	P	**P**	**09 45 30.0**	**+0.5**
	1.2nm,0.6s,baz=74,slow=6.4,SNR=9.0						
BRTR	**Keskin Array B**	**77.74**	**308**	P	**P**	**09 45 53.0**	**+1.1**
BRTR	**Keskin Array B**	**77.74**	**308**	P	**P**	**09 45 53.0**	**+1.1**
	1.0nm,0.7s,baz=103,slow=5.3,SNR=7.2						
YKA	**Yellowknife Ar**	**79.69**	**25**	P	**P**	**09 46 03.0**	**+0.9**
YKA	**Yellowknife Ar**	**79.69**	**25**	P	**P**	**09 46 02.9**	**+0.9**
	0.7nm,0.7s,baz=302,slow=5.6,SNR=9.1						
HFS	**Hagfors**	**79.89**	**332**	P	**P**	**09 46 03.3**	**+0.2**
HFS	**Hagfors**	**79.89**	**332**	P	**P**	**09 46 03.3**	**+0.2**
	1.3nm,0.7s,baz=145,slow=5.3,SNR=3.9						
NB2	**NORSAR Subarra**	**80.40**	**334**	P	**P**	**09 46 06.2**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=56,slow=5.3						
NOA	**NORSAR Array B**	**80.40**	**334**	P	**P**	**09 46 06.2**	**+0.2**
NOA	**NORSAR Array B**	**80.40**	**334**	P	**P**	**09 46 06.2**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=53,slow=5.5,SNR=5.0						
SUMG	**Summit**	**82.28**	**356**	*e*P	**P**	**09 46 16.9**	**+0.7**
	comp=Z,4.7nm,0.8s						
NVAR	**Mina Array Bea**	**91.43**	**46**	P	**P**	**09 47 02.2**	**+0.8**
NVAR	**Mina Array Bea**	**91.43**	**46**	P	**P**	**09 47 02.2**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=290,slow=4.8,SNR=4.1						

*NEIC **19** 09:34:16.0, 15.80N×92.90W, h159km, MD4.0(MEX), After MEX.*

MEX 19 09:34:16.0±1.0, 15.80N×92.90W, h159km±14km, MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**0.88**	**57**	*i* P	Pn	09 34 39.5	-1.4
CCIG				*i* S	Sn	09 34 57.6	-2.3
CCIG	**Comitan**	**0.88**	**57**	*i* P	Pn	09 34 39.5	-1.4
CCIG				*i* S	Sn	09 34 57.6	-2.3
TGIG		**0.99**	**348**	*i* P	Pn	09 34 40.9	-0.7
TGIG				*i* S	Sn	09 34 58.5	-2.9
TGIG		**0.99**	**348**	*i* P	Pn	09 34 40.9	-0.7
TGIG				*i* S	Sn	09 34 58.5	-2.9
THIG		**1.08**	**145**	*i* P	Pn	09 34 40.5	-1.8
THIG				*e*S	Sn	09 35 01.0	-1.4
THIG		**1.08**	**145**	*i* P	Pn	09 34 40.5	-1.8
THIG				*e*S	Sn	09 35 01.0	-1.4
HUIG	**Huatulco**	**3.09**	**270**	*i* P	Pn	09 35 03.7	-1.2
HUIG				*i* S	Sn	09 35 40.3	-2.4
HUIG	**Huatulco**	**3.09**	**270**	*i* P	Pn	09 35 03.7	-1.2
HUIG				*i* S	Sn	09 35 40.3	-2.4

*IDC **19** 09:49:03.0±0.7, 19.22N×120.13E, h0km, mb4.0/12, mb1 4.2/13, mb1mx4.0/24, mbtmp4.0/13, ML3.2/1, Error ellipse: s-maj=30.4km s-min=14.4km az=72.0*
*MAN **19** 09:49:05, 18.83N×119.30E, h13km, mb4.7, ML3.6, MS3.6*
*NEIC **19** 09:49:08.0±0.4, 19.30N×120.26E, h35km, mb4.2/2, Error ellipse: s-maj=14.2km s-min=6.7km az=89.0*

ISC 19 09:49:05.5±0.6, 18.9N±0.1×119.4E±0.1, h10km, n42, σ1°16/32, mb4.1/14, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**1.39**	**133**	⇓*i* P	**Sn**	**09 49 49.0**	**-0.5**
ABRA	**Dolores**	**1.75**	**134**	*e*P	**Pn**	**09 49 34.6**	**-1.4**
APYP	**Conner**	**2.03**	**120**	*e*P	Pn	09 49 36.0	-3.8
APYP				*e*S	**Sn**	**09 50 07.3**	**+2.1**
CAUP	**Cauayan**	**3.01**	**129**	*e*P	**Pn**	**09 49 53.2**	**-0.1**
SCZP	**Santa Cruz**	**3.13**	**171**	*e*P	**Pn**	**09 49 54.8**	**-0.1**
PALP	**Palanan**	**3.41**	**122**	*e*P	**Pg**	**09 50 11.2**	**+0.4**
BALP	**Baler**	**3.76**	**146**	*e*P	**Pn**	**09 50 05.8**	**+2.3**
TPUB	**Ta-pu**	**4.55**	**15**	*e*Pn	Pn	09 50 05.6	-8.8
TPUB				*e*Sn	Sn	09 50 48.0	-19
YULB	**Yu-li**	**4.83**	**21**	*e*Pn	Pn	09 50 09.2	-9.1
YULB				*e*Sn	Sn	09 50 56.3	-18
SSLB	**Suanglung**	**5.09**	**16**	*e*Pn	Pn	09 50 12.9	-9.0
SSLB				*e*Sn	Sn	09 51 02.0	-19
NACB	**Ninganchiao**	**5.65**	**21**	*e*Pn	Pn	09 50 20.2	-9.4
NACB				*e*Sn	Sn	09 51 17.7	-17
YHNB	**Yeheng**	**6.05**	**17**	*e*Pn	Pn	09 50 27.3	-7.8
	24nm,0.6s						
YHNB				*e*Sn	Sn	09 51 27.3	-17
CMAR	**Chiang Mai Arr**	**19.38**	**272**	PcP	**PcP**	**09 57 53.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**19.38**	**272**	PcP	**PcP**	**09 57 53.2**	**-0.4**
	0.5nm,0.3s,baz=20,slow=1.1,SNR=4.8						
KSAR	**Wonju Array Be**	**19.93**	**20**	P	P	09 53 30.4	-7.1
KSRS	**Korea Array**	**19.95**	**20**	P	P	09 53 30.4	-7.4
	0.1nm,0.3s,baz=201,slow=11,SNR=3.3						
USRK	**Ussuriysk Arra**	**27.37**	**20**	P	P	09 54 45.0	-5.8
	0.9nm,0.5s,baz=248,slow=7.6,SNR=3.1						
MKAR	**Makanchi Array**	**41.18**	**321**	P	**P**	**09 56 51.0**	**+0.7**
MKAR	**Makanchi Array**	**41.18**	**321**	P	**P**	**09 56 51.0**	**+0.7**
	2.5nm,0.9s,baz=123,slow=8.8,SNR=9.8						
WRAB	**Tennant Creek**	**41.27**	**158**	*e*P	**P**	**09 56 50.2**	**-1.0**
	4.6nm,0.8s						
WRA	**Warramunga Arr**	**41.28**	**158**	P	**P**	**09 56 50.0**	**-1.2**
WRA				PcP	**PcP**	**09 58 49.1**	**-0.8**
WRA	**Warramunga Arr**	**41.28**	**158**	P	**P**	**09 56 50.0**	**-1.2**
	3.4nm,0.7s,baz=342,slow=9.0,SNR=22						
WRA				PcP	**PcP**	**09 58 49.1**	**-0.8**
	1.9nm,0.6s,baz=345,slow=3.3,SNR=12						
ZALV	**Zalesovo Beam**	**43.92**	**331**	P	**P**	**09 57 12.1**	**-0.3**
ZALV	**Zalesovo Beam**	**43.92**	**331**	P	**P**	**09 57 12.1**	**-0.3**
	3.1nm,0.6s,baz=121,slow=7.9,SNR=3.8						
ASAR	**Alice Springs**	**44.60**	**161**	P	**P**	**09 57 18.5**	**+0.4**
ASAR	**Alice Springs**	**44.60**	**161**	P	**P**	**09 57 18.5**	**+0.4**
	3.8nm,0.7s,baz=344,slow=7.0,SNR=28						
PETK	**Petropavlovsk-**	**45.20**	**32**	P	P	09 57 17.1	-5.6
PETK	**Petropavlovsk-**	**45.20**	**32**	P	P	09 57 17.1	-5.6
	0.8nm,0.7s,baz=204,slow=5.7,SNR=3.7						
KURK	**Kurchatov**	**45.24**	**324**	P	**P**	**09 57 23.5**	**+0.6**
KURBB	**Kurchatov Arra**	**45.24**	**324**	P	**P**	**09 57 23.5**	**+0.6**
	1.8nm,0.9s,baz=122,slow=8.3,SNR=7.9						
KKAR	**Karatay Array**	**47.54**	**312**	*e*P	**P**	**09 57 42.3**	**+1.1**
	1.0nm,0.6s						
STKA	**Stephens Creek**	**54.78**	**157**	P	**P**	**09 58 34.9**	**-0.6**
STKA	**Stephens Creek**	**54.78**	**157**	P	**P**	**09 58 34.9**	**-0.6**
	3.0nm,0.7s,baz=336,slow=7.6,SNR=7.9						
KBZ	**Khabaz**	**67.55**	**310**	P	**P**	**10 00 04.0**	**+1.9**
KBZ	**Khabaz**	**67.55**	**310**	P	**P**	**10 00 04.0**	**+1.9**
	2.3nm,0.8s,baz=187,slow=6.0,SNR=4.9						
FINES	**FINESS Array B**	**75.18**	**330**	P	P	**10 00 46.9**	**-1.0**
FINES	**FINESS Array B**	**75.18**	**330**	P	P	**10 00 46.9**	**-1.0**
	2.3nm,0.8s,baz=197,slow=5.8,SNR=7.6						
NOA	**NORSAR Array B**	**82.11**	**332**	P	P	**10 01 24.3**	**-1.9**
NOA	**NORSAR Array B**	**82.11**	**332**	P	P	**10 01 24.3**	**-1.9**
	0.6nm,0.7s,baz=59,slow=5.5,SNR=3.3						
CLL	**Collm**	**85.25**	**323**	*e*P	**P**	**10 01 42.0**	**-0.4**
YKA	**Yellowknife Ar**	**88.48**	**22**	P	P	10 01 54.1	-3.8
YKA	**Yellowknife Ar**	**88.48**	**22**	P	P	10 01 54.1	-3.8
	0.7nm,0.9s,baz=318,slow=4.7,SNR=7.6						

*MOS **19** 09:51:41.3±0.8, 55.17N×111.08E, h11km, mb4.3/1, Error ellipse: s-maj=29.5km s-min=13.4km az=87.1*
*BYKL **19** 09:51:42.3±0.2, 55.19N×110.97E, h17km±4km*

ISC 19 09:51:40.0±1.2, 55.17N±0.02×111.08E±0.02, h2km±10km, n34, σ1°84/63, 8C-5D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YLYR	**Ulyunkhan**	**0.30**	**171**	⇑*i* P	**Pb**	**09 51 48.8**	**+0.8**
YLYR				*i* Sg	**Sb**	**09 51 53.9**	**+0.5**
YLYR				Pmax			
	270nm,0.3s						
YLYR				Smax			
	2μm,0.1s						
YLYR	**Ulyunkhan**	**0.30**	**171**	⇑*i* PG	**Pb**	**09 51 48.8**	**+0.8**
YLYR				*e*		09 51 53.7	
YLYR				pmax	pmax		
	comp=Z,270nm,0.1s						
YLYR				smax	smax		
	comp=E,2μm,0.1s						
KMO	**Kumora**	**0.72**	**5**	⇑*i* Pg	**Pb**	**09 51 55.7**	**+0.4**
KMO				*e*Sg	**Sb**	**09 52 05.7**	**+0.1**
KMO				Pmax			
	comp=E,778nm,0.4s						
KMO				Smax			
	comp=E,1μm,1.0s						
KMO	**Kumora**	**0.72**	**5**	*e*PG	**Pb**	**09 51 55.6**	**+0.3**
KMO				*e*		09 52 04.9	
KMO				pmax	pmax		
	comp=Z,780nm,0.3s						
KMO				smax	smax		
	comp=N,1μm,0.5s						
YOA	**Uoyan**	**1.03**	**20**	⇓*i* Pg	**Pn**	**09 52 01.5**	**+0.1**
YOA				*e*Pb	**Pg**	**09 52 02.6**	**+2.8**
YOA				*e*Sg	**Sn**	**09 52 16.1**	**-0.4**
YOA				max			
	comp=N,208nm,0.2s						
YOA				Smax			
	comp=N,2μm,0.5s						
YOA	**Uoyan**	**1.03**	**20**	⇑*i* PG	**Pn**	**09 52 01.6**	**+0.1**
YOA				*i*		09 52 16.6	
YOA				pmax	pmax		
	comp=Z,235nm,0.2s						
YOA				smax	smax		
	comp=N,2μm,0.4s						
NIZ	**Nizh Angarsk**	**1.07**	**305**	⇑*i* Pg	**Pb**	**09 52 01.5**	**+0.3**
	comp=N,24nm,

TRG					max				
	comp=E,48nm,0.3s								
UUDB	**Ulan-Yde**	**3.89**	**213**	*e*Pg		**Pb**	**09 52 51.3**	**+2.1**
UUDB				*e*			09 52 58.8	
UUDB				*e*Sg		**Sg**	**09 53 42.0**	**-2.8**
UUDB					max				
	comp=E,12nm,0.6s								
UUDB					Smax				
	comp=E,85nm,0.9s								
KAB	**Kabansk**	**4.09**	**222**	*e*Sg		**Sg**	**09 53 49.4**	**-1.8**
KAB					Smax				
	comp=E,165nm,1.0s								
VTMR	**Vitim**	**4.36**	**10**	*e*		**Sn**	**09 53 35.2**	**-3.1**
VTMR				*e*Sg		**Sg**	**09 53 58.8**	**-1.0**
CRS	**Chara**	**4.39**	**64**	*e*Pn		**Pn**	**09 52 50.0**	**+2.4**
CRS				*e*			09 52 53.8	
CRS				*e*Pg		**Pg**	**09 53 02.0**	**-2.0**
CRS				*e*Sg		**Sg**	**09 53 59.0**	**-1.8**
CRS				*e*			09 54 02.2	
CRS					Pmax				
	comp=E,8.0nm,0.7s								
CRS					max				
	comp=E,42nm,0.8s								
CRS	**Chara**	**4.39**	**64**	*e*PN		**Pg**	**09 53 02.4**	**-1.6**
CRS				*e*			09 53 58.9	
CRS					pmax	pmax			
	comp=Z,15nm,0.6s								
CRS					smax	smax			
	comp=E,85nm,0.8s								
LSTR	**Listvyanka**	**4.98**	**231**	*e*		**Sn**	**09 53 49.7**	**-4.2**
LSTR				*e*Sg		Sb	09 54 14.1	+5.9
LSTR					Smax				
	comp=E,59nm,1.8s								
TUP	**Tupik**	**5.19**	**95**	*e*Pn		**Pn**	**09 52 59.6**	**+1.0**
TUP				*e*			09 53 07.9	
TUP				*e*Pg		Pb	09 53 15.3	+3.9
TUP				*e*Sn		**Sn**	**09 53 56.2**	**-2.7**
TUP				*e*			09 54 12.2	
TUP				*e*Sg		**Sg**	**09 54 25.1**	**-1.4**
TUP					Pmax				
	comp=E,3.0nm,0.3s								
TUP					Smax				
	comp=E,73nm,0.8s								
TUP	**Tupik**	**5.19**	**95**	*e*PN		**Pn**	**09 52 59.6**	**+1.0**
TUP				*e*			09 53 15.2	
TUP				*e*			09 54 24.2	
TUP					pmax	pmax			
	comp=Z,5.0nm,0.3s								
TUP					smax	smax			
	comp=N,67nm,0.7s								
KHNR	**Khani**	**5.29**	**67**	*e*Pn		Pn	09 53 03.6	+3.7
KHNR				*e*Pg		Pb	09 53 17.5	+4.4
KHNR				*e*Sg		**Sg**	**09 54 28.3**	**-1.4**
TLY	**Talaya**	**5.66**	**235**	*e*Sg		Sb	09 54 34.4	+6.9
TLY					Smax				
	comp=N,19nm,1.0s								
ARS	**Arshan**	**6.10**	**241**	*e*Pg		**Pb**	**09 53 29.6**	**+2.7**
ARS				*e*			09 54 19.6	
ARS				*e*Sg		Sg	09 54 49.0	-6.8
ARS					Pmax				
	comp=N,6.0nm,0.5s								
ARS					Smax				
	comp=N,103nm,0.8s								
YKLR	**Yuktali**	**6.12**	**72**	*e*		**Sn**	**09 54 25.6**	**+3.8**
YKLR				*e*Sg		**Sg**	**09 54 54.1**	**-2.2**
ZAK	**Zakamensk**	**6.74**	**228**	*e*Sg		**Sg**	**09 55 12.0**	**-4.1**
ZAK				*e*			09 55 21.6	
ZAK					max				
	comp=N,10.0nm,1.5s								
MOY	**Mondy**	**6.97**	**244**	*e*Pn		**Pn**	**09 53 22.1**	**-1.1**
MOY				*e*Sn		**Sn**	**09 54 40.4**	**-2.6**
MOY				*e*Sg		Sb	09 55 14.7	+9.2
MOY				*e*			09 55 17.8	
MOY					max				
	comp=N,34nm,2.3s								
ORL	**Orlik**	**7.17**	**253**	*i*Pn		**Pn**	**09 53 26.9**	**+1.1**
ORL				*e*			09 53 45.8	
ORL				*e*Pg		Pb	09 53 49.7	+4.6
ORL				*i* Sn		**Sn**	**09 54 46.3**	**-1.5**
ORL				*i* Sg		Sg	09 55 22.0	-8.0
ORL				*e*			09 55 27.7	
ORL					Pmax				
	comp=N,4.0nm,0.5s								
ORL					max				
	comp=N,17nm,1.1s								

IDC 19 09:52:32.1±2.8, 19°20N×119°97E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.4/4, Error ellipse: s-maj=287.6km s-min=21.3km az=61.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**41.28**	**320**	P	P	10 00 18.9	-0.4
	0.3nm,0.6s,baz=115,slow=6.8,SNR=3.0						
WRA	**Warramunga Arr**	**41.38**	**159**	P	P	10 00 19.6	-0.6
	0.6nm,0.8s,baz=340,slow=9.2,SNR=6.8						
ASAR	**Alice Springs**	**44.73**	**162**	P	P	10 00 47.8	+0.4
	0.5nm,0.6s,baz=340,slow=6.5,SNR=7.1						
KURBB	**Kurchatov Arra**	**45.30**	**324**	P	P	10 00 51.7	+0.1
	0.2nm,0.5s,baz=123,slow=7.7,SNR=3.2						

IDC 19 09:54:35.1±4.2, 19°34N×120°80E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/23, mbtmp3.3/3, Error ellipse: s-maj=373.2km s-min=26.2km az=61.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.23**	**160**	P	P	10 02 21.6	-0.4
	0.4nm,0.7s,baz=341,slow=9.0,SNR=3.2						
MKAR	**Makanchi Array**	**41.69**	**320**	P	P	10 02 25.4	-0.1
	0.2nm,0.6s,baz=112,slow=10,SNR=2.0						
ASAR	**Alice Springs**	**44.61**	**163**	P	P	10 02 49.6	+0.2
	0.2nm,0.4s,baz=342,slow=6.7,SNR=4.2						

IDC 19 09:59:40.5±1.4, 3°69N×126°59E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/24, mbtmp3.7/6, Error ellipse: s-maj=104.3km s-min=18.2km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.67**	**182**	P	P	10 04 32.5	-0.4
	1.4nm,0.8s,baz=355,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**24.69**	**162**	P	P	10 05 03.5	+0.1
	3.4nm,0.9s,baz=342,slow=10.0,SNR=16						
ASAR	**Alice Springs**	**28.11**	**166**	P	P	10 05 33.8	-0.5
	0.3nm,0.6s,baz=354,slow=7.2,SNR=4.4						
STKA	**Stephens Creek**	**38.14**	**159**	P	P	10 07 02.0	+0.5
	1.2nm,0.6s,baz=332,slow=10,SNR=3.5						
MKAR	**Makanchi Array**	**57.51**	**325**	P	P	10 09 32.4	+0.8
	0.5nm,0.5s,baz=113,slow=8.7,SNR=4.7						
KURBB	**Kurchatov Arra**	**61.70**	**327**	P	P	10 09 59.5	-0.9
	0.2nm,0.3s,baz=124,slow=7.7,SNR=3.8						

*IDC **19** 10:00:37.9±0.8, 19°.49N×120°.70E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.7/24, mbtmp3.9/8, MS3.9/3, Ms1 3.9/3, ms1mx3.2/47, Error ellipse: s-maj=81.2km s-min=16.4km az=64.0*

*ISCJB **19** 10:00:38.3±0.7, 19°.72N±0°.09×120°.9E±0°.3, h10km, mb3.8/8, MS3.9/3, Error ellipse: s-maj=35.8km s-min=7.8km az=161.6*

ISC 19 10:00:39.5±0.8, 19°6N±0°.1×121°0E±0°2, h10km, n16, σ0°92/13, mb3.8/8, MS3.9/3, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**1.29**	**195**	*i* P	**Pn**	**10 01 04.8**	**+1.2**
SIPP	**Brgy. Tapao**	**1.72**	**197**	*i* eP	Pg	10 01 22.2	+10
APYP	**Conner**	**1.72**	**172**	*e*P	**Pn**	**10 01 10.6**	**+1.1**
APYP				*e*S	Sg	10 01 45.8	+11
CAUP	**Cauayan**	**2.74**	**163**	*e*P	**Pb**	**10 01 27.7**	**-0.8**
CAUP				*e*S	**Sb**	**10 02 01.2**	**-1.0**
PALP	**Palanan**	**2.85**	**151**	*e*P	Pg	10 01 42.8	+8.6
WRA	**Warramunga Arr**	**41.40**	**161**	P	**P**	**10 08 25.6**	**-0.6**
	1.4nm,0.7s,baz=342,slow=9.2,SNR=7.0						
WRA				PcP	**PcP**	**10 10 24.4**	**0.0**
	0.9nm,0.6s,baz=346,slow=3.5,SNR=7.6						
MKAR	**Makanchi Array**	**41.61**	**320**	P	**P**	**10 08 27.0**	**-0.7**
	1.3nm,0.8s,baz=122,slow=8.8,SNR=9.0						
ZALV	**Zalesovo Beam**	**44.06**	**330**	P	**P**	**10 08 47.2**	**-0.2**
	0.9nm,0.7s,baz=119,slow=8.4,SNR=3.1						
ASAR	**Alice Springs**	**44.79**	**163**	P	**P**	**10 08 53.5**	**-0.1**
	1.2nm,0.5s,baz=343,slow=6.7,SNR=19						
KURBB	**Kurchatov Arra**	**45.58**	**323**	P	**P**	**10 08 58.9**	**-0.7**
	1.2nm,0.8s,baz=121,slow=8.1,SNR=8.9						
HNR	**Honiara**	**48.00**	**123**	LR	LR	10 25 23.3	
	comp=Z,123nm,21.3s,baz=231,slow=31						
NWAO	**Narrogin (SRO)**	**52.33**	**184**	LR	LR	10 31 25.2	
	comp=Z,87nm,21.6s,baz=220,slow=35						
STKA	**Stephens Creek**	**54.85**	**159**	P	**P**	**10 10 11.0**	**+1.0**
	2.4nm,0.7s,baz=342,slow=9.7,SNR=3.2						
AFI	**Afiamalu**	**74.06**	**111**	LR	LR	10 44 44.2	
	comp=Z,111nm,18.9s,baz=143,slow=36						
FINES	**FINESS Array B**	**75.32**	**330**	P	**P**	**10 12 21.9**	**-0.8**
	0.8nm,0.7s,baz=145,slow=5.1,SNR=3.3						
YKA	**Yellowknife Ar**	**87.28**	**23**	P	**P**	**10 13 27.2**	**+1.0**
	0.1nm,0.5s,baz=312,slow=4.3,SNR=3.5						

*CASC **19** 10:01:54.0±6.4, 15°.68N×86°.97W, h2km±118km, MD4.1*
*IDC **19** 10:02:02.0±2.3, 15°.79N×86°.61W, h0km, mb3.6/7, mb1 4.0/8, mb1mx3.8/22, mbtmp3.7/8, ML4.3/1, Error ellipse: s-maj=60.9km s-min=29.4km az=30.0*
*ISCJB **19** 10:02:03.8±0.8, 15°.43N±0°.06×87°.05W±0°.07, h33km, mb3.5/6, Error ellipse: s-maj=10.3km s-min=8.0km az=23.3*

ISC 19 10:02:04.6±0.9, 15°48N±0°.05×87°0W±0°.1, h35km, n13, σ1°93/12, mb3.4/6, Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGUH	**Tegucigalpa,Un**	**1.44**	**189**	*i*	**Pn**	**10 02 25.7**	**-2.4**
	baz=14,slow=5.1						
TGUH				*e*P	**Pn**	**10 02 26.3**	**-1.8**
TGUH				*e*S	**Sn**	**10 02 45.5**	**-0.3**
MRL	**Marmol**	**2.59**	**261**	*e*S	**Sn**	**10 03 15.2**	**+0.6**
NBG	**Las Nubes**	**3.32**	**255**	*e*S	**Sn**	**10 03 31.1**	**-1.5**
TEIG	**Tepich**	**4.86**	**346**	Pn	**Pn**	**10 03 13.2**	**-2.0**
	14nm,0.3s,baz=350,slow=2.8,SNR=10						
TEIG				Sn	**Sn**	**10 04 07.6**	**-2.8**
	20nm,0.3s,baz=256,slow=22,SNR=9.1						
TXAR	**Lajitas Array**	**20.61**	**315**	P	Pn	10 06 43.2	-0.2
	4.7nm,0.9s,baz=134,slow=10,SNR=18						
ANMO	**Albuquerque**	**26.07**	**322**	P	**P**	**10 07 37.8**	**+2.6**
	0.5nm,0.6s,baz=151,slow=13,SNR=3.2						
PDAR	**Pinedale Array**	**33.35**	**329**	P	P	10 08 43.1	+3.5
	0.4nm,0.9s,baz=136,slow=7.4,SNR=5.0						
ULM	**Lac du Bonnet**	**35.41**	**350**	P	**P**	**10 08 57.8**	**+0.7**
	2.4nm,0.7s,baz=165,slow=6.1,SNR=3.0						
NVAR	**Mina Array Bea**	**35.76**	**316**	P	P	10 09 04.2	+3.7
	0.7nm,0.9s,baz=134,slow=7.5,SNR=5.1						
YKA	**Yellowknife Ar**	**50.82**	**344**	P	**P**	**10 11 02.8**	**+1.5**
	0.1nm,0.3s,baz=136,slow=8.1,SNR=5.9						
ESDC	**Sonseca Array**	**75.02**	**52**	P	**P**	**10 13 43.2**	**+0.4**
	0.2nm,0.3s,baz=283,slow=5.0,SNR=5.8						
WRA	**Warramunga Arr**	**140.41**	**257**	PKhKP	PKPpre	10 21 30.6	
	0.5nm,0.8s,baz=83,slow=2.4,SNR=4.0						
CMAR	**Chiang Mai Arr**	**145.76**	**350**	PKPbc	**PKPdf**	**10 21 40.3**	**-0.1**
	1.2nm,0.7s,baz=328,slow=2.9,SNR=5.6						

*ISCJB **19** 10:05:42.6±0.6, 23°.20N±0°.06×93°.78E±0°.06, h58km, mb3.9/16, Error ellipse: s-maj=10.2km s-min=5.9km az=31.6*
*IDC **19** 10:05:42.9±3.4, 23°.23N×94°.07E, h46km±33km, mb3.7/16, mb1 3.8/17, mb1mx3.6/31, mbtmp3.7/17, ML3.0/1, Error ellipse: s-maj=35.3km s-min=11.9km az=54.0*

ISC 19 10:05:44.1±0.8, 23°2N±0°.1×93°79E±0°08, h58km, n32, σ1°61/43, mb4.0/16, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**1.62**	**5**	*i* P	**Pn**	**10 06 09.0**	**-1.5**
IMP				*i* S	**Sn**	**10 06 28.0**	**-2.4**
SHL	**Shillong**	**2.96**	**325**	*e*PN	**Pn**	**10 06 31.0**	**+2.2**
SHL				*e*SN	**Sn**	**10 07 04.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**6.72**	**133**	P	Pn	10 07 16.6	-3.6
	0.1nm,0.3s,baz=310,slow=14,SNR=3.7						
ODAN	**Odare**	**6.87**	**304**	*e*Pn	**Pn**	**10 07 24.6**	**+2.1**
ODAN				*e*Sn	**Sn**	**10 08 38.0**	**-1.4**
	215nm,0.4s						
TAPN	**Taplejung**	**6.90**	**308**	*e*Pn	**Pn**	**10 07 24.3**	**+1.4**
TAPN				*e*Sn	**Sn**	**10 08 38.7**	**-1.6**
	133nm,0.5s						
RAMN	**Ramite**	**7.53**	**302**	*e*Pn	**Pn**	**10 07 33.7**	**+2.2**
JIRN	**Jiri**	**8.20**	**305**	*e*Pn	**Pn**	**10 07 42.9**	**+2.1**
JIRN				*e*Sn	**Sn**	**10 09 09.9**	**-2.3**
	122nm,0.4s						
GUN	**Gumba**	**8.56**	**305**	*e*Pn	**Pn**	**10 07 47.5**	**+1.8**
GUN				*e*Sn	**Sn**	**10 09 19.3**	**-1.8**
	137nm,0.5s						
PKI	**Pulchoki**	**8.76**	**302**	*e*Pn	**Pn**	**10 07 49.8**	**+1.5**
PKIN	**Phulchoki**	**8.77**	**302**	*e*Pn	**Pn**	**10 07 50.0**	**+1.5**
PKIN				*e*Sn	**Sn**	**10 09 23.9**	**-2.1**
	120nm,0.6s						
KKN	**Kakani**	**8.96**	**303**	*e*Pn	**Pn**	**10 07 53.1**	**+2.1**
KKN				*e*Sn	**Sn**	**10 09 28.4**	**-2.2**
	28nm,0.2s						
DMN	**Daman**	**9.01**	**301**	*e*Pn	**Pn**	**10 07 54.0**	**+2.2**
DMN				*e*Sn	**Sn**	**10 09 30.3**	**-1.6**
	76nm,0.7s						
KOLN	**Koldanda**	**10.28**	**299**	*e*Pn	**Pn**	**10 08 10.2**	**+1.1**
KOLN				*e*Sn	**Sn**	**10 09 59.7**	**-3.3**
	75nm,0.4s						
DANN	**Dangsing**	**10.41**	**302**	*e*Pn	**Pn**	**10 08 12.0**	**+1.1**
DANN				*e*Sn	**Sn**	**10 10 03.6**	**-2.6**
	73nm,0.7s						
MKAR	**Makanchi Array**	**25.34**	**341**	P	**P**	**10 11 05.8**	**+0.4**
	4.6nm,0.8s,baz=151,slow=10.0,SNR=29						
MKAR				PcP	**PcP**	**10 14 37.7**	**+0.7**
	0.2nm,0.6s,baz=172,slow=3.6,SNR=2.8						
SONM	**Songino Array**	**26.61**	**19**	P	**P**	**10 11 16.6**	**-0.5**
	0.3nm,0.4s,baz=231,slow=10,SNR=4.0						
KURBB	**Kurchatov Arra**	**29.88**	**340**	P	**P**	**10 11 46.1**	**+0.1**
	2.0nm,0.8s,baz=156,slow=8.0,SNR=15						
KURBB				PcP	**PcP**	**10 14 47.0**	**-0.7**
	0.3nm,0.6s,baz=159,slow=2.6,SNR=5.3						
ZALV	**Zalesovo Beam**	**31.48**	**350**	P	**P**	**10 11 59.9**	**-0.2**
	0.4nm,0.3s,baz=150,slow=6.1,SNR=2.9						
BVAR	**Borovoye Array**	**34.73**	**335**	P	**P**	**10 12 29.1**	**+0.7**
	0.6nm,0.5s,baz=140,slow=11,SNR=4.5						
AKTO	**Aktyubinsk**	**38.90**	**323**	P	**P**	**10 13 05.0**	**+1.1**
	2.4nm,0.7s,baz=116,slow=8.5,SNR=11						
FITZ	**Fitzroy Crossi**	**51.48**	**140**	P	**P**	**10 14 43.9**	**0.0**
	2.4nm,1.0s,baz=340,slow=12,SNR=2.5						
BRTR	**Keskin Array B**	**52.97**	**303**	P	**P**	**10 14 56.6**	**+1.6**
	0.3nm,0.4s,baz=69,slow=7.9,SNR=2.7						
WRA	**Warramunga Arr**	**58.31**	**134**	P	**P**	**10 15 32.1**	**-1.2**
	0.5nm,0.4s,baz=323,slow=7.4,SNR=20						
MLR	**Muntele Rosu**	**58.52**	**310**	P	**P**	**10 15 34.8**	**+0.1**
	1.1nm,0.7s,baz=68,slow=5.7,SNR=9.7						
FINES	**FINESS Array B**	**59.29**	**329**	P	**P**	**10 15 39.7**	**+0.2**
	0.9nm,0.8s,baz=97,slow=8.8,SNR=5.5						
ASAR	**Alice Springs**	**60.71**	**137**	P	**P**	**10 15 48.8**	**-1.0**
	0.6nm,0.5s,baz=318,slow=6.8,SNR=14						
ARCES	**ARCESS Array B**	**60.93**	**338**	P	**P**	**10 15 50.2**	**-0.5**
	2.8nm,0.9s,baz=94,slow=8.8,SNR=5.6						
NB2	**NORSAR Subarra**	**66.45**	**328**	P	**P**	**10 16 25.6**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=84,slow=6.5						
NOA	**NORSAR Array B**	**66.45**	**328**	P	**P**	**10 16 26.7**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=86,slow=6.3,SNR=4.6						
GERES	**GERESS Array B**	**66.53**	**315**	P	**P**	**10 16 29.0**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=79,slow=6.9,SNR=11						
TORD	**Torodi Ar. Bea**	**86.81**	**283**	P	P	10 18 25.6	+2.8
	comp=Z,0.5nm,0.9s,baz=39,slow=5.5,SNR=3.1						
TXAR	**Lajitas Array**	**125.17**	**19**	PKP	**PKPdf**	**10 24 38.3**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=73,slow=1.0,SNR=7.6						

*IDC **19** 10:10:33.1±0.6, 14°.76N×144°.42E, h0km, mb4.2/21, mb1 4.3/21, mb1mx4.2/30, mbtmp4.2/21, MS3.7/3, Ms1 3.7/3, ms1mx3.2/39, Error ellipse: s-maj=24.4km s-min=12.1km az=83.0*
*NEIC **19** 10:10:35.0±4.1, 14°.74N×144°.42E, h12km±26km, mb4.6/5, Error ellipse: s-maj=13.1km s-min=5.0km az=79.0*
*ISCJB **19** 10:10:35.5±0.4, 14°.73N±0°.05×144°.3E±0°.1, h27km, mb4.4/31, MS3.7/3, Error ellipse: s-maj=17.9km s-min=6.6km az=168.2*
*MOS **19** 10:10:36.3±0.9, 14°.74N×144°.33E, h33km, mb4.8/9, Error ellipse: s-maj=20.3km s-min=7.7km az=107.0*

ISC 19 10:10:37.2±0.5, 14°72N±0°.07×144°4E±0°.1, h27km, n65, σ0°66/66, mb4.4/31, MS3.9/3, 4C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.21**	**158**	*e*Pn	**Pn**	**10 10 57.3**	**-1.1**
JNU	**Nakatsue**	**22.06**	**329**	*e*P	**P**	**10 15 29.2**	**-0.9**
	18nm,1.3s						
JNU	**Nakatsue**	**22.06**	**329**	P	**P**	**10 15 30.0**	**0.0**
	18nm,1.0s,baz=123,slow=6.8,SNR=5.7						
MJAR	**Matsushiro Arr**	**22.43**	**347**	P	**P**	**10 15 33.3**	**-0.6**
MJAR	**Matsushiro Arr**	**22.43**	**347**	P	**P**	**10 15 33.3**	**-0.6**
	7.6nm,0.9s,baz=170,slow=9.1,SNR=18						
MAJO	**Matsushiro**	**22.43**	**347**	*e*P	**P**	**10 15 34.8**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,18nm,0.9s						
MAJO	**Matsushiro**	**22.43**	**347**	*e*P	**P**	**10 15 34.8**	**+0.8**
	comp=Z,18nm,0.9s						
MAT	**Matsushiro**	**22.43**	**347**	P	**P**	**10 15 34.8**	**+0.9**
PMG	**Port Moresby**	**24.12**	**173**	P	**P**	**10 15 51.5**	**+0.5**
PMG	**Port Moresby**	**24.12**	**173**	P	**P**	**10 15 51.5**	**+0.5**
	comp=Z,25nm,0.9s,baz=18,slow=6.4,SNR=3.5						
KSRS	**Korea Array**	**26.96**	**330**	P	**P**	**10 16 16.2**	**-0.4**
	comp=Z,4.1nm,0.9s,baz=144,slow=11,SNR=5.3						
KSAR	**Wonju Array Be**	**26.97**	**330**	P	**P**	**10 16 16.2**	**-0.5**
COEN	**Coen**	**28.52**	**182**	*e*P	**P**	**10 16 30.8**	**+0.1**
	comp=Z,174nm,1.3s						
CTA	**Charters Tower**	**34.64**	**177**	P	**P**	**10 17 24.5**	**+0.1**
CTA	**Charters Tower**	**34.64**	**177**	P	**P**	**10 17 24.5**	**+0.1**
	comp=Z,3.7nm,0.8s,baz=353,slow=8.1,SNR=3.1						
CTAO	**Charters Tower**	**34.64**	**177**	*e*P	**P**	**10 17 24.2**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,22nm,1.3s						
CTAO	**Charters Tower**	**34.64**	**177**	*e*P	**P**	**10 17 24.2**	**-0.2**
	comp=Z,22nm,1.3s						
WRAB	**Tennant Creek**	**35.83**	**196**	*e*P	**P**	**10 17 35.5**	**+0.9**
WRAB				pmax	pmax		
	comp=Z,13nm,1.1s						
WRAB	**Tennant Creek**	**35.83**	**196**	*e*P	**P**	**10 17 35.5**	**+0.9**
	comp=Z,13nm,1.1s						
WRA	**Warramunga Arr**	**35.84**	**196**	P	**P**	**10 17 34.9**	**+0.2**
WRA	**Warramunga Arr**	**35.84**	**196**	P	**P**	**10 17 34.9**	**+0.2**
	comp=Z,4.6nm,1.0s,baz=18,slow=9.7,SNR=12						
FITZ	**Fitzroy Crossi**	**37.49**	**210**	*e*P	**P**	**10 17 49.2**	**+0.3**
	comp=Z,9.6nm,1.1s						
FITZ	**Fitzroy Crossi**	**37.49**	**210**	P	**P**	**10 17 49.2**	**+0.3**
	comp=Z,6.8nm,0.9s,baz=42,slow=8.8,SNR=7.9						
ASAR	**Alice Springs**	**39.51**	**195**	P	**P**	**10 18 06.0**	**+0.2**
ASAR	**Alice Springs**	**39.51**	**195**	P	**P**	**10 18 06.0**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=14,slow=13,SNR=6.6						
CMAR	**Chiang Mai Arr**	**43.64**	**281**	P	**P**	**10 18 40.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**43.64**	**281**	P	**P**	**10 18 40.1**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=82,slow=6.9,SNR=12						
CMAR				LR	LR	10 34 02.6	
	comp=Z,47nm,19.7s,baz=80,slow=32						
SONM	**Songino Array**	**45.55**	**324**	P	**P**	**10 18 55.1**	**+0.2**
SONM				PcP	**PcP**	**10 20 34.0**	**+0.8**
SONM	**Songino Array**	**45.55**	**324**	P	**P**	**10 18 55.1**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=136,slow=9.3,SNR=12						
SONM				PcP	**PcP**	**10 20 34.0**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=148,slow=3.2,SNR=3.5						
STKA	**Stephens Creek**	**46.41**	**183**	P	**P**	**10 19 01.6**	**+0.1**
STKA	**Stephens Creek**	**46.41**	**183**	P	**P**	**10 19 01.6**	**+0.1**
	comp=Z,3.5nm,0.9s,baz=337,slow=9.4,SNR=3.3						
YAK	**Yakutsk**	**48.41**	**351**	*e*P	**P**	**10 19 15.9**	**-0.8**
YAK				pmax	pmax		
	comp=Z,17nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.2s						
ZAK	**Zakamensk**	**48.65**	**326**	*e*P	**P**	**10 19 18.4**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
TLY	**Talaya**	**49.16**	**328**	*e*P	**P**	**10 19 24.3**	**+1.6**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AFI	**Afiamalu**	**51.86**	**121**	LR	LR	10 36 09.0	
	comp=Z,104nm,20.7s,baz=140,slow=30						
HVS	**Khovu-Aksy**	**54.40**	**323**	*e*P	**P**	**10 20 02.3**	**+0.4**
HVS				pmax	pmax		
	comp=Z,39nm,1.7s						
TIXI	**Tiksi**	**57.67**	**354**	*i* P	**P**	**10 20 25.4**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MKAR	**Makanchi Array**	**60.37**	**316**	*c*eP	**P**	**10 20 44.2**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MKAR	**Makanchi Array**	**60.37**	**316**	P	**P**	**10 20 44.3**	**+0.3**
MKAR	**Makanchi Array**	**60.37**	**316**	P	**P**	**10 20 44.3**	**+0.3**
	comp=Z,5.4nm,0.9s,baz=95,slow=8.6,SNR=34						
ZALV	**Zalesovo Beam**	**60.45**	**324**	P	**P**	**10 20 43.9**	**-0.5**
ZALV	**Zalesovo Beam**	**60.45**	**324**	P	**P**	**10 20 43.9**	**-0.5**
ZALV	**Zalesovo Beam**	**60.45**	**324**	P	**P**	**10 20 43.9**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=103,slow=6.8,SNR=8.3						
NVS	**Novosibirsk**	**61.58**	**325**	*e*P	**P**	**10 20 50.9**	**-1.2**
KURK	**Kurchatov**	**63.43**	**320**	P	**P**	**10 21 04.6**	**+0.1**
KURK	**Kurchatov**	**63.43**	**320**	P	**P**	**10 21

ARCES ARCESS Array B 118.41 346 PKP PKPdf 10 45 20.6 -1.6
3.0nm,1.0s,baz=82,slow=1.9,SNR=3.8

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*NIED **19** 10:31:00.25˝.00N× 128˚.10E,h5km,Mw4.2 Best double couple: M₀2.17000×10¹⁵ NP1:φ=211.00000°,δ47.00000°, λ-98.00000°. NP2:φ=43.00000°,δ43.00000°,λ-82.00000°.*
*IDC **19** 10:31:05.8±0.6,24˚.94N×128˚.19E,h0km,mb4.1/18, mb1 4.2/22,mb1mx4.2/29,mbtmp4.1/22,ML3.5/3,MS3.6/6, Ms1 3.6/6,ms1mx3.2/37,Error ellipse: s-maj=19.8km s-min=13.0km az=86.0*
*ISCJB **19** 10:31:06.1±1.1,24˚.96N±0˚.03×128˚.10E±0˚.04,h17km±8km, mb4.2/22,MS3.7/5,Error ellipse: s-maj=6.6km s-min=4.2km az=138.7*
*NEIC **19** 10:31:07.0±0.4,24˚.92N×128˚.06E,h10km,mb4.6/5, MW4.2(NIED),Error ellipse: s-maj=8.7km s-min=6.4km az=130.0*
*JMA **19** 10:31:08.7±0.3,25˚.02N×128˚.12E,h75km,M3.8*

ISC 19 10:31:07.7±1.9,25˚.02N±0˚.06×128˚.14E±0˚.05,h12km±11km, n73,σ1§46/82,mb4.2/22,MS3.5/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**1.17**	**343**	P	**Pg**	**10 31 29.7**	**-0.6**
JJT2				S	**Sg**	**10 31 45.4**	**-0.1**
JAGN	**Aguni-jima**	**1.76**	**333**	P	**Pn**	**10 31 38.0**	**0.0**
JAGN				S	**Sn**	**10 31 59.2**	**-1.1**
JKE	**Kume jima 2**	**1.78**	**317**	P	**Pn**	**10 31 37.8**	**-0.5**
JKE				eS	**Sn**	**10 31 59.7**	**-1.2**
JOW	**Kunigami**	**1.81**	**4**	*e*Pn	**Pn**	**10 31 38.0**	**-0.8**
JOW	**Kunigami**	**1.81**	**4**	P	**Pn**	**10 31 38.1**	**-0.6**
JOW				*e*S	**Sn**	**10 31 58.6**	**-3.0**
JIH	**Iheya**	**2.02**	**356**	P	**Pn**	**10 31 41.4**	**-0.1**
JIH				S	**Sn**	**10 32 04.5**	**-2.1**
JOGS	**Gusukube**	**2.49**	**265**	P	**Pn**	**10 31 47.4**	**-0.7**
JOGS				S	**Sn**	**10 32 16.4**	**-2.0**
JMJ	**Miyako jima 2**	**2.59**	**266**	P	**Pn**	**10 31 48.8**	**-0.6**
JMJ				S	**Sn**	**10 32 18.0**	**-2.8**
JTK	**Tokunoshima**	**2.85**	**15**	P	**Pn**	**10 31 52.3**	**-0.7**
JTK				S	**Sn**	**10 32 23.1**	**-4.2**
JMZ	**Minamidaito 2**	**2.90**	**73**	P	Pn	10 31 50.5	-3.2
JMZ				*e*S	Sn	10 32 22.5	-6.0
JTJ	**Tarama**	**3.14**	**264**	P	**Pn**	**10 31 55.7**	**-1.3**
JTJ				S	**Sn**	**10 32 31.0**	**-3.4**
JAMN	**Amaminishikomi**	**3.34**	**16**	P	**Pn**	**10 31 59.5**	**-0.3**
JAMN				S	**Sn**	**10 32 36.4**	**-3.0**
JAM	**Amami Oshima**	**3.63**	**21**	P	**Pn**	**10 32 03.8**	**+0.1**
JAM				eS	**Sn**	**10 32 44.0**	**-2.4**
JZK	**Kikaishima**	**3.67**	**26**	P	**Pn**	**10 32 04.6**	**+0.3**
JZK				*e*S	**Sn**	**10 32 45.3**	**-2.2**
JIJ	**Ishigaki jima**	**3.69**	**261**	P	**Pn**	**10 32 03.0**	**-1.5**
JIJ				S	Sn	10 32 42.7	-5.3
JKRS	**Kuro-shima**	**3.83**	**259**	P	**Pn**	**10 32 05.5**	**-1.0**
JKRS				*e*S	**Sn**	**10 32 47.5**	**-4.0**
HATJ	**Hateruma jima**	**4.06**	**257**	*e*S	Sn	10 32 50.6	-6.4
IRIF	**Iriomote-Funau**	**4.07**	**261**	P	Pn	10 32 05.8	-3.9
YOJ	**Yonaguni jima**	**4.69**	**264**	P	**Pn**	**10 32 17.2**	**-1.1**
JNN	**Nakanoshima**	**5.05**	**17**	P	**Pn**	**10 32 23.2**	**0.0**
NACB	**Ninganchiao**	**6.01**	**263**	*e*Pn	Pn	10 32 33.7	-2.8
	30nm,0.6s						
YHNB	**Yeheng**	**6.15**	**268**	*e*Pn	**Pn**	**10 32 38.5**	**0.0**
	24nm,0.7s						
YULB	**Yu-li**	**6.45**	**257**	*e*Pn	Pn	10 32 38.6	-3.9
	29nm,0.6s						
SSLB	**Suanglung**	**6.66**	**261**	*e*Pn	Pn	10 32 42.5	-3.0
	13nm,0.4s						
TPUB	**Ta-pu**	**7.07**	**258**	*e*Pn	**Pn**	**10 32 49.0**	**-2.0**
	36nm,0.3s						
JNU	**Nakatsue**	**8.42**	**16**	*e*Pn	**Pn**	**10 33 09.4**	**-0.2**
JNU				Sn	**Sn**	**10 34 41.5**	**-3.2**
JNU	**Nakatsue**	**8.42**	**16**	Pn	**Pn**	**10 33 10.1**	**+0.4**
	1.5nm,0.3s,baz=179,slow=5.0,SNR=15						
JNU				Sn	**Sn**	**10 34 41.5**	**-3.2**
	0.2nm,0.3s,baz=195,slow=9.5,SNR=2.3						
KSAR	**Wonju Array Be**	**12.39**	**359**	Pn	**Pn**	**10 34 04.9**	**+1.0**
KSRS	**Korea Array**	**12.40**	**359**	Pn	**Pn**	**10 34 04.9**	**+0.9**
	0.1nm,0.3s,baz=175,slow=13,SNR=4.2						
KSRS				LR	LR	10 40 07.1	
	comp=Z,160nm,18.6s,baz=80,slow=43						
MJAR	**Matsushiro Arr**	**14.37**	**35**	Pn	**Pn**	**10 34 31.6**	**+0.5**
MJAR	**Matsushiro Ar**	**14.37**	**35**	Pn	**Pn**	**10 34 31.6**	**+0.5**
	baz=204,slow=7.9,SNR=3.0						
USRK	**Ussuriysk Arra**	**19.40**	**8**	P	**Pn**	**10 35 35.9**	**+1.4**
	0.7nm,0.3s,baz=187,slow=10.0,SNR=14						
CMAR	**Chiang Mai Arr**	**27.86**	**262**	P	**P**	**10 36 59.6**	**+2.2**
CMAR	**Chiang Mai Ar**	**27.86**	**262**	P	**P**	**10 36 59.6**	**+2.2**
	1.3nm,0.9s,baz=62,slow=7.7,SNR=4.2						
SONM	**Songino Array**	**28.53**	**328**	P	**P**	**10 37 02.8**	**-0.5**
SONM	**Songino Array**	**28.53**	**328**	P	**P**	**10 37 02.8**	**-0.5**
	1.3nm,0.7s,baz=146,slow=11,SNR=7.0						
SONM				LR	LR	10 49 39.0	
	comp=Z,91nm,20.0s,baz=192,slow=39						
PETK	**Petropavlovsk-**	**35.78**	**31**	P	**P**	**10 38 07.0**	**+0.5**
PETK	**Petropavlovsk-**	**35.78**	**31**	P	**P**	**10 38 07.0**	**+0.5**
	3.6nm,1.1s,baz=159,slow=17,SNR=3.9						
MKAR	**Makanchi Array**	**42.29**	**313**	P	**P**	**10 39 01.1**	**-0.1**
MKAR	**Makanchi Array**	**42.29**	**313**	P	**P**	**10 39 01.1**	**-0.1**
	2.1nm,0.5s,baz=97,slow=9.3,SNR=39						
FITZ	**Fitzroy Crossi**	**42.93**	**183**	*e*P	**P**	**10 39 05.3**	**-1.2**
	5.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**42.93**	**183**	P	**P**	**10 39 06.2**	**-0.3**
	3.6nm,0.8s,baz=18,slow=5.6,SNR=11						
FITZ				LR	LR	10 55 00.6	
	comp=Z,57nm,19.4s,baz=82,slow=34						
ZALV	**Zalesovo Beam**	**43.16**	**324**	P	**P**	**10 39 08.7**	**+0.6**
ZALV	**Zalesovo Beam**	**43.16**	**324**	P	**P**	**10 39 08.7**	**+0.6**
	3.9nm,0.6s,baz=108,slow=7.5,SNR=14						
WRAB	**Tennant Creek**	**45.09**	**172**	*e*P	**P**	**10 39 22.5**	**-1.3**
	7.5nm,0.8s						
WRA	**Warramunga Arr**	**45.09**	**172**	P	**P**	**10 39 22.4**	**-1.4**
WRA	**Warramunga Ar**	**45.09**	**172**	P	**P**	**10 39 22.4**	**-1.4**
	4.3nm,0.8s,baz=352,slow=8.6,SNR=26						
ASAR	**Alice Springs**	**48.72**	**173**	P	**P**	**10 39 51.7**	**-0.5**
ASAR	**Alice Springs**	**48.72**	**173**	P	**P**	**10 39 51.7**	**-0.5**
	1.2nm,0.7s,baz=357,slow=7.6,SNR=18						
KKAR	**Karatay Array**	**50.05**	**306**	*e*P	**P**	**10 40 03.6**	**+1.3**
	4.7nm,1.0s						
BRVK	**Borovoye**	**51.19**	**319**	*e*P	**P**	**10 40 11.1**	**+0.3**
	14nm,1.1s						
ABKAR	**Akbulak array**	**57.42**	**314**	*e*P	**P**	**10 40 56.8**	**+0.7**
	8.9nm,0.9s						
STKA	**Stephens Creek**	**58.02**	**166**	P	**P**	**10 40 59.2**	**-1.2**
STKA	**Stephens Creek**	**58.02**	**166**	P	**P**	**10 40 59.2**	**-1.2**
	1.8nm,0.9s,baz=335,slow=14,SNR=2.8						
KDAK	**Kodiak Island**	**63.54**	**36**	P	**P**	**10 41 38.5**	**+0.8**
KDAK	**Kodiak Island**	**63.54**	**36**	P	**P**	**10 41 38.5**	**+0.8**
	3.6nm,0.9s,baz=266,slow=14,SNR=2.8						
ILAR	**Eielson Array**	**65.54**	**28**	P	**P**	**10 41 50.5**	**-0.3**
ILAR	**Eielson Array**	**65.54**	**28**	P	**P**	**10 41 50.5**	**-0.3**
	0.4nm,0.7s,baz=254,slow=5.9,SNR=6.5						
KBZ	**Khabaz**	**69.86**	**310**	P	**P**	**10 42 19.8**	**+1.5**
KBZ	**Khabaz**	**69.86**	**310**	P	**P**	**10 42 19.8**	**+1.5**
	5.3nm,0.8s,baz=90,slow=2.2,SNR=16						
FINES	**FINESS Array B**	**73.87**	**331**	P	**P**	**10 42 42.6**	**+0.5**
FINES	**FINESS Array B**	**73.87**	**331**	P	**P**	**10 42 42.6**	**+0.5**
	1.7nm,0.7s,baz=104,slow=4.9,SNR=7.8						
FINES				LR	LR	11 19 27.9	
	comp=Z,79nm,18.3s,baz=67,slow=39						
BRTR	**Keskin Array B**	**77.71**	**308**	P	**P**	**10 43 05.0**	**+0.3**
BRTR	**Keskin Array B**	**77.71**	**308**	P	**P**	**10 43 05.0**	**+0.3**
	1.5nm,0.8s,baz=101,slow=6.4,SNR=8.5						
YKA	**Yellowknife Ar**	**79.66**	**25**	P	**P**	**10 43 15.2**	**+0.4**
YKA	**Yellowknife Ar**	**79.66**	**25**	P	**P**	**10 43 15.1**	**+0.4**
	0.6nm,0.6s,baz=299,slow=5.1,SNR=11						
NB2	**NORSAR Subarra**	**80.36**	**334**	P	**P**	**10 43 17.8**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=52,slow=5.6						
NOA	**NORSAR Array B**	**80.36**	**334**	P	**P**	**10 43 18.1**	**-0.5**
NOA	**NORSAR Array B**	**80.36**	**334**	P	**P**	**10 43 18.1**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=54,slow=5.4,SNR=6.3						
NOA				LR	LR	11 22 14.9	
	comp=Z,25nm,20.7s,baz=55,slow=38						
GERES	**GERESS Array B**	**86.11**	**323**	P	**P**	**10 43 49.3**	**+0.6**
GERES	**GERESS Array B**	**86.11**	**323**	P	**P**	**10 43 49.3**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=29,slow=3.0,SNR=5.6						
GERES				LR	LR	11 25 13.7	
	comp=Z,66nm,19.4s,baz=32,slow=38						
NVAR	**Mina Array Bea**	**91.40**	**46**	P	**P**	**10 44 15.1**	**+0.9**
NVAR	**Mina Array Bea**	**91.40**	**46**	P	**P**	**10 44 15.1**	**+0.9**
	comp=Z,0.8nm,0.9s,baz=273,slow=4.6,SNR=5.1						

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*NEIC **19** 10:31:58.4,45˚.72S×165˚.99E,h5km,ML4.1(WEL),After WEL.*
*IDC **19** 10:31:59.1±1.4,45˚.60S×166˚.15E,h0km,mb3.4/2, mb1 3.7/3,mb1mx3.5/14,mbtmp3.5/3,ML3.5/1,Error ellipse: s-maj=50.2km s-min=27.0km az=176.0*
*ISCJB **19** 10:32:00.3±1.1,45˚.73S±0˚.05×166˚.10E±0˚.08,h22km±9km, mb3.4/2,Error ellipse: s-maj=9.5km s-min=7.9km az=147.3*
*WEL **19** 10:32:00.2±0.3,45˚.73S×166˚.10E,h12km,ML4.0/19,Error ellipse: s-maj=2.6km s-min=1.1km az=90.0*

ISC 19 10:32:00.3±1.6,45˚.73S±0˚.04×166˚.16E±0˚.07,h11km±10km, n41,σ1§09/40,1C,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.57**	**140**	P*	**Pg**	**10 32 11.6**	**+0.2**
PYZ				Sg	**Sg**	**10 32 19.6**	**+0.7**
PYZ	**Puysegur Point**	**0.57**	**140**	*e*P*	**Pg**	**10 32 11.6**	**+0.2**
PYZ				S*	**Sg**	**10 32 19.6**	**+0.7**
DCZ	**Deep Cove**	**0.74**	**71**	P*	**Pg**	**10 32 14.3**	**-0.3**
DCZ	**Deep Cove**	**0.74**	**71**	P*	**Pg**	**10 32 14.3**	**-0.3**
DCZ				AML	AML	10 32 27.0	
DCZ				AML	AML	10 32 27.0	
DCZ				AML	AML	10 32 27.2	
DCZ				AML	AML	10 32 27.2	
WHZ	**Wether Hill Ro**	**1.26**	**98**	Pn	**Pn**	**10 32 23.0**	**-0.8**
WHZ				S*	**Sn**	**10 32 44.1**	**+3.4**
WHZ	**Wether Hill Ro**	**1.26**	**98**	PN	**Pn**	**10 32 23.2**	**-0.7**
WHZ				SN	**Sb**	**10 32 39.9**	**-0.4**
WHZ				AML	AML	10 32 44.3	
MLZ	**Mavora Lakes**	**1.47**	**76**	Pn	**Pn**	**10 32 25.9**	**-0.7**
MLZ	**Mavora Lakes**	**1.47**	**76**	PN	**Pn**	**10 32 26.0**	**-0.7**
MLZ				SN	**Sn**	**10 32 45.1**	**-0.8**
MLZ				AML	AML	10 32 52.9	
MSZ	**Milford Sound**	**1.64**	**50**	Pn	**Pn**	**10 32 29.3**	**+0.3**
MSZ	**Milford Sound**	**1.64**	**50**	PN	**Pn**	**10 32 29.6**	**+0.6**
MSZ				AML	AML	10 33 00.1	
MSZ				AML	AML	10 33 00.2	
MSZ				AML	AML	10 33 00.6	
MSZ				AML	AML	10 33 07.2	
APZ	**The Paps**	**1.68**	**132**	Pn	**Pn**	**10 32 29.5**	**-0.2**
APZ	**The Paps**	**1.68**	**132**	PN	**Pn**	**10 32 29.2**	**-0.4**
APZ				SN	**Sn**	**10 32 50.5**	**-0.7**
WKZ	**Wanaka**	**2.21**	**67**	Pn	**Pb**	**10 32 38.9**	**-1.4**
WKZ	**Wanaka**	**2.21**	**67**	AML	AML	10 33 14.3	
WKZ				AML	AML	10 33 16.4	
WKZ				AML	AML	10 33 16.4	
WKZ				AML	AML	10 33 16.5	
SYZ	**Scrubby Hill**	**2.23**	**112**	Pn	**Pn**	**10 32 38.2**	**+1.2**
SYZ	**Scrubby Hill**	**2.23**	**112**	PN	**Pn**	**10 32 37.9**	**+0.8**
EAZ	**Earnscleugh**	**2.27**	**78**	Pn	**Pn**	**10 32 39.5**	**+1.8**
EAZ	**Earnscleugh**	**2.27**	**78**	AML	AML	10 33 13.7	
EAZ				AML	AML	10 33 13.8	
EAZ				AML	AML	10 33 18.1	
EAZ				AML	AML	10 33 18.1	
TUZ	**Tuapeka**	**2.44**	**97**	Pn	**Pn**	**10 32 41.4**	**+1.4**
TUZ	**Tuapeka**	**2.44**	**97**	AML	AML	10 33 12.8	
TUZ				AML	AML	10 33 13.3	
JCZ	**Jackson Bay**	**2.48**	**49**	Pn	**Pn**	**10 32 41.3**	**+0.7**
JCZ	**Jackson Bay**	**2.48**	**49**	AML	AML	10 33 25.6	
JCZ				AML	AML	10 33 28.9	
LBZ	**Lake Benmore**	**3.15**	**66**	Pn	**Pn**	**10 32 50.5**	**+0.6**
LBZ	**Lake Benmore**	**3.15**	**66**	AML	AML	10 33 44.7	
LBZ				AML	AML	10 35 21.8	
ODZ	**Otahua Downs**	**3.23**	**79**	Pn	**Pn**	**10 32 51.4**	**+0.4**
ODZ	**Otahua Downs**	**3.23**	**79**	PN	**Pn**	**10 32 51.3**	**+0.4**
ODZ				AML	AML	10 33 37.5	
ODZ				AML	AML	10 33 43.9	
ODZ				AML	AML	10 33 45.2	
ODZ				AML	AML	10 33 46.5	
FOZ	**Fox Glacier**	**3.32**	**51**	Pn	**Pn**	**10 32 53.9**	**+1.8**
FOZ	**Fox Glacier**	**3.32**	**51**	AML	AML	10 33 48.5	
RPZ	**Rata Peaks**	**4.03**	**62**	Pn	**Pn**	**10 33 01.6**	**-0.3**
RPZ	**Rata Peaks**	**4.03**	**62**	Pn	**Pn**	**10 33 01.4**	**-0.5**
	3.2nm,0.3s,baz=283,slow=3.5,SNR=12						
RPZ				Sn	**Sn**	**10 33 49.0**	**-0.1**
	6.9nm,0.3s,baz=183,slow=23,SNR=9.1						
RPZ	**Rata Peaks**	**4.03**	**62**	AML	AML	10 34 06.1	
RPZ				AML	AML	10 34 28.3	
WVZ	**Waitaha Valley**	**4.22**	**53**	Pn	**Pn**	**10 33 05.0**	**+0.6**
DSZ	**Denniston Nort**	**5.71**	**48**	Pn	**Pn**	**10 33 28.0**	**+3.1**
THZ	**Tophouse**	**6.29**	**53**	Pn	**Pn**	**10 33 34.2**	**+1.2**
QRZ	**Quartz Range**	**6.75**	**46**	Pn	**Pn**	**10 33 39.3**	**0.0**
QRZ	**Quartz Range**	**6.75**	**46**	AML	AML	10 34 52.4	
QRZ				AML	AML	10 34 52.7	
ASAR	**Alice Springs**	**34.11**	**299**	P	**P**	**10 38 44.9**	**-0.1**
	0.4nm,0.8s,baz=132,slow=8.2,SNR=8.5						
WRA	**Warramunga Arr**	**36.69**	**304**	P	**P**	**10 39 06.4**	**-0.7**
	0.6nm,1.1s,baz=138,slow=7.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**144.95**	**207**	PKPbc	**PKPab**	**10 51 36.6**	**-0.3**
	0.6nm,0.8s,baz=150,slow=2.0,SNR=3.9						
BRTR	**Keskin Array B**	**145.03**	**277**	PKPbc	**PKPdf**	**10 51 37.1**	**-0.2**
	0.7nm,0.7s,baz=142,slow=4.2,SNR=4.3						
FINES	**FINESS Array B**	**152.13**	**319**	PKPbc	**PKPbc**	**10 51 55.3**	**+0.7**
	1.2nm,0.8s,baz=81,slow=8.6,SNR=2.8						

IDC 19 10:38:24.8±25.0,18˚.69S×173˚.74W,h0km,mb4.3/4, mb1 4.4/4,mb1mx3.8/21,mbtmp4.3/4,Error ellipse: s-maj=475.7km s-min=154.1km az=73.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.71**	**261**	P	P	10 45 43.2	+0.7
	2.9nm,0.5s,baz=82,slow=11,SNR=3.7						
STKA	**Stephens Creek**	**42.19**	**243**	P	P	10 46 19.2	-0.4
	4.0nm,1.0s,baz=86,slow=9.5,SNR=4.5						
WRA	**Warramunga Arr**	**48.86**	**260**	P	P	10 47 12.3	-0.4
	1.1nm,0.3s,baz=96,slow=7.6,SNR=73						
ASAR	**Alice Springs**	**48.86**	**255**	P	P	10 47 12.2	-0.4
	2.8nm,0.6s,baz=90,slow=8.3,SNR=76						

CASC 19 10:42:29.6±3.4,9˚.58N×84˚.85W,h0km±8km,MD4.1,4C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCR	**Jicaral**	**0.37**	**316**	⇓*i*P	Pb	10 42 38.5	-0.7
CGA2	**Cerro Gallo 2**	**0.58**	**41**	⇓*i*P	Pb	10 42 42.3	-0.5
QCR	**Quepos**	**0.70**	**103**	⇓*i*P	Pg	10 42 43.4	+0.4
QCR				*e*S	Sb	10 42 53.9	-0.9
SJS	**Escuela Geolog**	**0.86**	**66**	⇓*i*P	Pg	10 42 46.3	+0.5
SJS				*e*S	Sb	10 43 00.7	+0.7
CEDE	**Laguna Cede˜–o**	**0.91**	**9**	*i* P	Pb	10 42 48.4	-0.1
VCR	**Vista de Mar**	**0.94**	**305**	*e*P	Pg	10 42 46.8	-1.0
AMAS	**Alto Masis**	**1.03**	**352**	*i* P	Pg	10 42 49.9	+0.2
AMAS				*i* S	Sb	10 43 05.2	+0.3
BUS	**Buena Vista**	**1.08**	**91**	⇑*i*P	Pg	10 42 50.4	-0.5
BUS				*e*S	Sb	10 43 06.1	-0.7
URSC	**Urasca**	**1.09**	**76**	⇓*i*P	Pg	10 42 50.7	-0.1
CUI	**Cuipilapa**	**1.11**	**344**	*i* P	Pg	10 42 51.2	+0.2
CUI				*i* S	Sb	10 43 07.2	+0.2
COLC	**Colonia**	**1.13**	**342**	*i* P	Pg	10 42 51.3	-0.1
PTEN	**Parque Tenorio**	**1.14**	**353**	*i* P	Pn	10 42 52.7	-0.2
HORNC	**Hornillas**	**1.17**	**344**	*i* P	Pg	10 42 52.2	0.0
MESS	**Mesas**	**1.20**	**344**	*i* P	Pg	10 42 52.7	0.0
MESS				*i* S	Sg	10 43 08.9	+0.5
NY14	**Universidad de**	**1.25**	**328**	⇑*i*P	Pg	10 42 53.3	-0.5
GPS3	**Bodega del ICE**	**1.27**	**337**	*i* P	Pg	10 42 53.6	-0.5
GPS1	**Guardaparques**	**1.28**	**338**	*i* P	Pg	10 42 54.1	-0.3
GPS1				*i* S	Sn	10 43 12.8	-0.2
LAPC	**Finca la Perla**	**1.31**	**334**	⇑*i*P	Pg	10 42 53.8	-1.0
BUEV	**Buena Vista**	**1.33**	**336**	*i* P	Pg	10 42 54.6	-0.7
GBS3	**Finca Las Im˜¡**	**1.33**	**334**	*i* P	Pg	10 42 54.3	-1.0
GB1A	**Borinquen Arri**	**1.34**	**336**	*i* P	Pg	10 42 54.7	-0.8
GBS2	**Las Lilas**	**1.38**	**335**	*i* P	Pg	10 42 55.1	-1.1
ACR	**Cerro Adams**	**1.90**	**119**	⇑*i*P	Pn	10 43 00.3	-3.1
BRU2	**Volcan**	**2.27**	**110**	*e*P	Pn	10 43 08.1	-0.6
BRU2				*e*S	Sg	10 43 43.3	+0.2
CNI	**Changuinola**	**2.31**	**94**	*e*P	Pn	10 43 06.6	-2.3
CNI				*e*S	Sb	10 43 40.8	-0.5
BRU	**Baru**	**2.39**	**109**	*e*P	Pb	10 43 13.0	-1.2
BRU				*e*S	Sg	10 43 48.9	+1.4
BCIP	**Isla Barro Col**	**4.97**	**94**	*e*P	Pn	10 43 43.7	-1.8
BCIP				*e*S	Sn	10 44 49.3	+5.6

IDC 19 10:50:11.8±0.8,1˚.43N×126˚.22E,h0km,mb3.8/8, mb1 3.9/9,mb1mx3.7/22,mbtmp3.8/9,ML3.5/1,Error ellipse: s-maj=56.7km s-min=15.1km az=74.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.41**	**182**	P	P	10 54 39.9	+0.2
	0.1nm,0.3s,baz=5.1,slow=9.5,SNR=4.6						
WRA	**Warramunga Arr**	**22.68**	**160**	P	P	10 55 14.4	-0.7
	1.3nm,0.4s,baz=339,slow=11,SNR=46						
ASAR	**Alice Springs**	**26.04**	**164**	P	P	10 55 47.0	0.0
	0.5nm,0.3s,baz=346,slow=7.1,SNR=26						
STKA	**Stephens Creek**	**36.19**	**158**	P	P	10 57 16.7	+0.4
	2.1nm,0.6s,baz=329,slow=7.7,SNR=6.7						
SONM	**Songino Array**	**49.32**	**342**	P	P	10 59 03.2	+0.4
	0.2nm,0.4s,baz=152,slow=6.5,SNR=2.7						
PETK	**Petropavlovsk-**	**57.74**	**22**	P	P	11 00 04.2	-0.2
	0.4nm,0.5s,baz=185,slow=8.2,SNR=5.9						
MKAR	**Makanchi Array**	**59.16**	**326**	P	P	11 00 14.3	-0.2
	0.4nm,0.4s,baz=120,slow=7.8,SNR=7.3						
KURBB	**Kurchatov Arra**	**63.40**	**328**	P	P	11 00 42.9	-0.3
	0.3nm,0.3s,baz=126,slow=6.5,SNR=7.1						
VNDA	**Vanda**	**81.22**	**173**	P	P	11 02 29.1	0.0
	0.4nm,0.5s,baz=310,slow=7.3,SNR=4.4						

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*ISCJB **19** 10:59:36.3±0.9,60˚.9S±0˚.2×25˚.4W±0˚.6,h10km,mb3.9/4, Error ellipse: s-maj=49.2km s-min=13.6km az=147.4*
*IDC **19** 10:59:37.5±1.1,60˚.63S×25˚.39W,h0km,mb4.1/4, mb1 4.2/4,mb1mx3.9/15,mbtmp4.0/4,Error ellipse: s-maj=48.9km s-min=30.6km az=37.0*

ISC 19 10:59:38.5±0.8,60˚.8S±0˚.2×25˚.4W±0˚.3,h10km,n11, σ1§11/9,mb4.0/4,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.08**	**152**	*e*Pn	**Pn**	**11 02 30.5**	**+0.1**
VNA1	**Neumayer--Stat**	**12.08**	**152**	*e*Sn	Sn	11 04 32.6	-12
SNAA	**Sanae**	**14.07**	**150**	*e*Pn	**Pn**	**11 02 56.2**	**-1.4**
SNAA	**Sanae**	**14.07**	**150**	*e*Sn	Sn	11 05 16.4	-17
CPUP	**Villa Florida**	**40.71**	**313**	P	**P**	**11 07 17.9**	**-1.1**
	0.6nm,0.3s,baz=150,slow=9.7						
LPAZ	**La Paz**	**53.92**	**306**	P	**P**	**11 09 02.6**	**-0.2**
	1.7nm,0.5s,baz=153,slow=5.6,SNR=11						
TORD	**Torodi Ar. Bea**	**76.80**	**27**	P	**P**	**11 11 30.1**	**0.0**
	1.9nm,0.8s,baz=204,slow=6.1,SNR=19						
ASAR	**Alice Springs**	**94.18**	**161**	P	**P**	**11 12 58.6**	**+1.1**
	0.2nm,0.8s,baz=179,slow=3.7,SNR=4.3						
YKA	**Yellowknife Ar**	**140.24**	**313**	PKP	**PKPdf**	**11 19 06.2**	**+0.4**
	0.2nm,0.6s,baz=131,slow=2.5,SNR=4.3						
SONM	**Songino Array**	**149.79**	**93**	PKPbc	**PKPbc**	**11 19 27.3**	**-0.4**
	0.2nm,0.3s,baz=192,slow=4.3,SNR=3.3						
ILAR	**Eielson Array**	**153.79**	**304**	PKPbc	**PKPbc**	**11 19 37.7**	**+1.6**
	0.8nm,0.9s,baz=132,slow=1.3,SNR=6.1						

GUC 19 11:00:33.1±0.6,32˚.67S×71˚.77W,h22km±4km,MD3.7, ML3.3,4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.37**	**163**	*e*P	Pb	11 00 40.6	-0.5
IHA				*i* S	Sb	11 00 47.0	+0.5
ROCH	**El Roble**	**0.71**	**115**	⇓*i*P	Pb	11 00 46.9	-0.3
ROCH				*i* S	Sb	11 00 56.9	+0.2
ROCH				AML	AML	11 00 59.2	
	comp=N,3µm,0.4s						
CHNG	**Los Chungos**	**0.82**	**17**	⇓*i*P	Pb	11 00 47.9	-0.8
CHNG				*i* S	Sb	11 00 59.0	-0.2
CHNG				AML	AML	11 01 00.5	
	comp=E,862n

WKZ				AML	AML	11 21 22.3	
WKZ				AML	AML	11 21 24.7	
EAZ	**Earnscleugh**	**2.39**	**71**	PN	Pn	11 20 49.6	+2.4
EAZ				AML	AML	11 21 20.6	
EAZ				AML	AML	11 21 22.4	
EAZ				AML	AML	11 21 28.0	
EAZ				AML	AML	11 21 28.1	
EAZ	**Earnscleugh**	**2.39**	**71**	PN	Pn	11 20 49.6	+2.4
EAZ				AML	AML	11 21 20.9	
EAZ				AML	AML	11 21 26.5	
TUZ	**Tuapeka**	**2.46**	**89**	PN	Pn	11 20 49.9	+1.9
TUZ				AML	AML	11 21 21.8	
TUZ				AML	AML	11 21 27.4	
TUZ	**Tuapeka**	**2.46**	**89**	PN	Pn	11 20 49.9	+1.9
TUZ				AML	AML	11 21 21.8	
TUZ				AML	AML	11 21 23.6	
JCZ	**Jackson Bay**	**2.73**	**44**	AML	AML	11 21 40.8	
JCZ				AML	AML	11 21 41.3	
JCZ	**Jackson Bay**	**2.73**	**44**	AML	AML	11 21 41.3	
JCZ				AML	AML	11 21 46.9	
ODZ	**Otahua Downs**	**3.35**	**74**	PN	Pn	11 21 00.8	+0.6
ODZ				AML	AML	11 21 58.1	
FOZ	**Fox Glacier**	**3.57**	**47**	PN	Pn	11 21 05.6	+2.4
WVZ	**Waitaha Valley**	**4.46**	**50**	PN	Pn	11 21 17.1	+1.6
DSZ	**Denniston Nort**	**5.96**	**46**	PN	Pn	11 21 37.2	+1.0

IDC 19 11:34:09.6±1.0, 15°37S×70°79W, h195km±11km, mb3.1/3, mb1 3.5/8, mb1mx3.3/25, mbtmp3.4/8, Error ellipse: s-maj=34.3km s-min=11.2km az=25.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.72**	**110**	P		Pn	11 34 57.1	+0.6
	14nm,0.3s,baz=294,slow=11,SNR=397							
LPAZ				S		Sn	11 35 33.5	+0.4
	2.3nm,0.3s,baz=346,slow=19,SNR=12							
NNA	**Nana**	**6.78**	**299**	P		Pn	11 35 45.2	-1.9
	3.5nm,0.3s,baz=128,slow=12,SNR=8.1							
NNA				S		Sn	11 37 05.7	+1.5
	1.0nm,0.3s,baz=216,slow=19,SNR=2.4							
LVC	**Limon Verde**	**7.42**	**166**	P		Pn	11 35 55.4	-0.3
	8.4nm,0.3s,baz=350,slow=12,SNR=134							
LVC				S		Sn	11 37 14.8	-5.1
	3.6nm,0.3s,baz=0.0,slow=20,SNR=12							
SIV	**San Ignacio**	**9.38**	**95**	P		Pn	11 36 19.0	-2.0
	0.5nm,0.3s,baz=266,slow=13,SNR=8.0							
ATAH	**Atahualpa**	**11.07**	**317**	P		Pn	11 36 42.3	-1.1
	0.3nm,0.3s,baz=142,slow=12,SNR=2.1							
CPUP	**Villa Florida**	**16.63**	**133**	P		Pn	11 37 54.2	+2.4
	0.5nm,0.3s,baz=304,slow=14,SNR=4.4							
TXAR	**Lajitas Array**	**54.62**	**324**	P		P	11 43 18.7	+0.4
	0.2nm,0.6s,baz=153,slow=8.0,SNR=2.6							
TORD	**Torodi Ar. Bea**	**77.10**	**72**	P		P	11 45 41.5	-0.6
	0.8nm,0.7s,baz=239,slow=4.9,SNR=5.6							
YKA	**Yellowknife Ar**	**84.84**	**341**	P		P	11 46 22.4	+0.5
	0.4nm,0.4s,baz=132,slow=5.0,SNR=19							

IDC 19 11:37:49.0±1.4, 24°87N×127°90E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/25, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=59.2km s-min=21.5km az=71.0

JMA 19 11:37:51.9±0.3, 25°01N×128°10E, h75km, M3.1

ISC 19 11:37:49.0±2.1, 24°92N±0°07×127°97E±0°07, h6km±13km, n19, σ1§16/24, mb3.6/4, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.23**	**351**	P		**Pg**	**11 38 13.1**	**+0.5**
JJT2				eS		**Sg**	**11 38 28.8**	**+0.2**
JKE	**Kume jima 2**	**1.76**	**323**	P		**Pn**	**11 38 21.1**	**+1.1**
JKE				eS		**Sn**	**11 38 42.8**	**+0.1**
JAGN	**Aguni-jima**	**1.79**	**339**	P		**Pn**	**11 38 21.3**	**+0.9**
JAGN				eS		**Sn**	**11 38 42.1**	**-1.2**
JOW	**Kunigami**	**1.92**	**8**	P		**Pn**	**11 38 21.4**	**-0.9**
JIH	**Iheya**	**2.10**	**360**	P		**Pn**	**11 38 24.7**	**0.0**
JIH				eS		Sn	11 38 47.6	-3.6
JOGS	**Gusukube**	**2.33**	**267**	P		**Pb**	**11 38 30.5**	**-1.0**
JOGS				eS		**Sb**	**11 38 58.1**	**-2.4**
JMJ	**Miyako jima 2**	**2.43**	**268**	P		**Pb**	**11 38 32.0**	**-1.2**
JTJ	**Tarama**	**2.98**	**265**	P		**Pn**	**11 38 38.8**	**+2.0**
JTJ				eS		**Sn**	**11 39 12.9**	**0.0**
JTK	**Tokunoshima**	**2.99**	**17**	P		**Pn**	**11 38 36.0**	**-0.9**
JTK				S		Sn	11 39 06.5	-6.5
JMZ	**Minamidaito 2**	**3.07**	**72**	P		Pn	11 38 33.8	-4.3
JMZ				eS		Sn	11 39 06.6	-8.5
JAMN	**Amaminishikomi**	**3.48**	**18**	P		**Pn**	**11 38 43.6**	**-0.1**
JAMN				eS		Sn	11 39 19.6	-5.6
JIJ	**Ishigaki jima**	**3.53**	**262**	P		**Pn**	**11 38 45.9**	**+1.6**
JIJ				eS		**Sn**	**11 39 25.3**	**-1.0**
JAM	**Amami Oshima**	**3.77**	**22**	P		**Pn**	**11 38 47.0**	**-0.7**
JAM				eS		Sn	11 39 25.6	-6.8
JZK	**Kikaishima**	**3.83**	**27**	P		**Pn**	**11 38 47.9**	**-0.5**
JNU	**Nakatsue**	**8.56**	**17**	Pn		**Pn**	**11 39 55.0**	**+1.5**
	0.4nm,0.3s,baz=201,slow=8.6,SNR=4.3							
MKAR	**Makanchi Array**	**42.24**	**313**	P		**P**	**11 45 43.6**	**+0.6**
	0.4nm,0.5s,baz=96,slow=9.7,SNR=12							
WRA	**Warramunga Arr**	**45.02**	**172**	P		**P**	**11 46 05.8**	**+0.2**
	1.0nm,0.8s,baz=352,slow=8.9,SNR=9.5							
KURBB	**Kurchatov Arra**	**45.65**	**317**	P		**P**	**11 46 11.3**	**+1.2**
	0.3nm,0.5s,baz=107,slow=8.7,SNR=4.2							
ASAR	**Alice Springs**	**48.64**	**173**	P		**P**	**11 46 34.8**	**+0.9**
	0.4nm,0.8s,baz=360,slow=15,SNR=5.3							

NSSC 19 11:39:41.9±3.3, 5°84S×98°82E, h0km±999km

ISCJB 19 11:39:44.9±0.8, 8°94S±0°03×95°41E±0°02, h7km±5km, mb5.1/121, MS4.5/46, Error ellipse: s-maj=5.4km s-min=3.9km az=0.2

MOS 19 11:39:45.3±1.0, 8°86S×95°50E, h10km, mb5.3/39, MS4.6/11, Error ellipse: s-maj=10.1km s-min=6.1km az=115.6

IDC 19 11:39:45.4±0.4, 8°88S×95°46E, h0km, mb4.8/29, mb1 4.9/29, mb1mx4.8/32, mbtmp4.8/29, MS4.5/21, Ms1 4.5/21, ms1mx4.4/28, Error ellipse: s-maj=13.9km s-min=11.4km az=41.0

BJI 19 11:39:46.7, 9°00S×95°40E, h10km, mB5.1/36, mb5.0/48, Ms4.9/46, Ms7 4.6/45

BKK 19 11:39:48.1±0.3, 9°S±3°×9°5E±°, h10km, M5.4/37, mB5.6/22, mb5.1/37, MLv6.3/1, Mw(mB)5.2/22, Mwp5.7/1

NEIC 19 11:39:48.6±1.9, 8°96S×95°50E, h22km±12km, mb5.1/31, Error ellipse: s-maj=7.0km s-min=5.2km az=57.0

GCMT 19 11:39:51.1±0.2, 8°85S×95°60E, h40km±1km, MW5.4, Moment Tensor Solution. s71,c110; s88,c159; Moment tensor: Scale 10^17Nm; Mrr0.06±.03; Mθθ0.01±.03; Mφφ-0.07±.03; Mrθ-0.16±.03; Mθφ-1.37±.02; Mrφ-0.35±.03; Best double couple: M0 1.40000×10^17 NP1:φ90.00000°, δ76.00000°, λ-175.00000°. NP2:φ359.00000°, δ85.00000°, λ-14.00000°. Principal axes: T 1.3600, Plg6.0000°, Azm45.0000°; N 0.1300, Plg76.0000°, Azm158.0000°; P -1.4800, Plg13.0000°, Azm314.0000°; Data Used: II IU IC G CN.

DJA 19 11:39:58.7±0.8, 9°S±4°×9°6E±°, h61km±6km, M5.3/61, mb5.4/61, mB5.8/46, Mw(mB)5.3/46, Mwp5.8/1

ISC 19 11:39:48.4±0.4, 8°95S±0°04×95°47E±0°04, h19km±1km, h19km:pP-P, n572, σ1§24/605, mb5.1/131, MS4.6/48, 26C-17D, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
COCO	**West Island**	**3.49**	**157**	Pn		Pn	11 40 38.4	-3.2
	54µm,0.6s							
COCO	**West Island**	**3.49**	**157**	eP		Pn	11 40 38.5	-3.2
COCO	**West Island**	**3.49**	**157**	ePn		Pn	11 40 38.5	-3.2
COCO				eSn		Sn	11 41 13.6	-8.8
COCO	**West Island**	**3.49**	**157**	P		**Pn**	**11 40 38.7**	**-2.9**
KSI	**Kapahiang**	**8.82**	**54**	P		**Pn**	**11 41 55.4**	**+0.4**
	3µm,0.8s,26µm							
KSI				S		**Sn**	**11 43 29.8**	**-4.2**
	3µm,0.8s,26µm							
MASI	**Maura Aman, Be**	**8.87**	**50**	P		**Pn**	**11 41 55.7**	**+0.1**
	4µm,0.8s,31µm							
LWLI	**Liwa**	**9.38**	**66**	P		**Pn**	**11 42 03.8**	**+1.1**
	2µm,0.7s,23µm							
LWLI				S		Sn	11 43 37.6	-10
	2µm,0.7s,23µm							
KASI	**Kota Agung**	**9.58**	**70**	P		**Pn**	**11 42 05.8**	**+0.4**
	746nm,0.7s,6µm							
KASI				S		Sn	11 43 40.3	-12
	746nm,0.7s,6µm							
PPI	**Padang Panjang**	**9.76**	**30**	P		**Pn**	**11 42 07.0**	**-0.8**
	1µm,0.7s,12µm							
KLSI		**10.12**	**66**	P		**Pn**	**11 42 14.2**	**+1.4**
	471nm,0.8s,5µm							
XMIS	**Christmas Isla**	**10.15**	**99**	ePn		**Pn**	**11 42 11.7**	**-1.6**
XMIS				eSn		Sn	11 43 50.0	-17
BLSI	**Bandar Lampung**	**10.33**	**71**	P		**Pn**	**11 42 18.5**	**+2.8**
	270nm,1.0s,3µm							
BKNI	**Bangkinang**	**10.76**	**31**	P		**Pn**	**11 42 22.7**	**+1.2**
	1µm,0.8s,10µm							
SBJI	**Serang**	**10.94**	**76**	P		**Pn**	**11 42 23.7**	**-0.3**
	491nm,0.9s,6µm							
SKJI	**Sukabumi**	**11.15**	**81**	P		Pn	11 42 31.1	+4.2
	480nm,1.0s,6µm							
TNG	**Tangerang**	**11.42**	**77**	P		Pn	11 42 35.1	+4.5
	1µm,0.9s,20µm							
DBJI	**Dramaga**	**11.43**	**79**	P		**Pn**	**11 42 30.9**	**+0.2**
	692nm,0.7s,6µm							
CBJI	**Citeko**	**11.56**	**78**	P		**Pn**	**11 42 34.0**	**+1.6**
	2µm,0.9s,16µm							
PSI	**Prapat**	**12.17**	**17**	Pn		**Pn**	**11 42 40.4**	**-0.6**
PSI				Sn		Sn	11 44 49.9	-6.4
PSI	**Prapat**	**12.17**	**17**	Pn		**Pn**	**11 42 40.4**	**-0.6**
	34nm,0.3s,baz=184,slow=8.6,SNR=73							
PSI				Sn		Sn	11 44 49.9	-6.4
	0.4nm,0.3s,baz=129,slow=19,SNR=3.7							
PSI				LR		LR	11 46 34.2	
	comp=Z,3µm,20.2s,baz=197,slow=34							
LEM	**Lembang**	**12.22**	**81**	P		**Pn**	**11 42 43.8**	**+2.1**
	548nm,0.8s,6µm							
CISI	**Cisompet, Garu**	**12.30**	**84**	P		**Pn**	**11 42 43.2**	**+0.5**
	300nm,1.0s,3µm							
PPBI	**Pangkal Pinang**	**12.57**	**58**	P		**Pn**	**11 42 47.2**	**+0.8**
	506nm,1.2s,6µm							
TSI	**Tuntungan**	**12.75**	**14**	P		**Pn**	**11 42 50.6**	**+1.8**
	338nm,1.3s,4µm							
KGM	**Kluang**	**13.41**	**36**	P		**Pn**	**11 42 58.3**	**+0.5**
MYKOM	**Kota Tinggi**	**13.55**	**38**	P		**Pn**	**11 43 00.3**	**+0.7**
MYKOM	**Kota Tinggi**	**13.55**	**38**	P		**Pn**	**11 43 00.4**	**+0.7**
	129nm,1.6s,3µm							
FRIM	**Kepong**	**13.57**	**27**	P		**Pn**	**11 43 00.6**	**+0.6**
TPI	**Tanjungpandan**	**13.59**	**64**	P		**Pn**	**11 43 00.3**	**+0.1**
	78nm,1.3s,1µm							
TGJI	**Tegal**	**13.68**	**82**	P		**Pn**	**11 43 04.3**	**+2.8**
BJII	**Banjamegara**	**14.19**	**85**	P		**Pn**	**11 43 09.9**	**+1.4**
	115nm,1.3s,2µm							
BSI	**Banda Aceh**	**14.35**	**359**	P		**Pn**	**11 43 11.1**	**+0.4**
	125nm,1.9s,2µm							
IPM	**Ipoh**	**14.45**	**23**	ePn		**Pn**	**11 43 13.0**	**+1.1**
IPM	**Ipoh**	**14.45**	**23**	P		**Pn**	**11 43 12.5**	**+0.5**
IPM	**Ipoh**	**14.45**	**23**	P		**Pn**	**11 43 13.1**	**+1.1**
	141nm,1.2s,2µm							
UGM	**Wanagama**	**14.93**	**87**	ePn		**Pn**	**11 43 17.4**	**-1.2**
UGM	**Wanagama**	**14.93**	**87**	P		**P**	**11 43 22.8**	**-1.3**
	201nm,1.3s							
KULM	**Kulim**	**15.06**	**20**	eP		**Pn**	**11 43 20.5**	**+0.2**
	213nm,1.0s							
KULM	**Kulim**	**15.06**	**20**	P		**Pn**	**11 43 20.8**	**+0.5**
KULM	**Kulim**	**15.06**	**20**	P		**Pn**	**11 43 20.8**	**+0.5**
	229nm,0.9s,2µm							
PCJI	**Pacitan**	**15.55**	**88**	P		**P**	**11 43 30.0**	**-1.0**
	168nm,1.8s							
KTGM	**Kuala Trenggan**	**16.11**	**29**	P		**Pn**	**11 43 34.2**	**+0.2**
SJI	**Sawahan**	**16.17**	**87**	P		**P**	**11 43 40.7**	**+2.8**
PWJI	**Pagerwojo**	**16.18**	**88**	P		**Pn**	**11 43 34.7**	**-0.2**
	192nm,1.1s,17µm							
KRKI	**Karangkates**	**16.81**	**89**	P		P	11 43 57.0	+12
SKLT	**Songkhla**	**16.82**	**18**	P		**Pn**	**11 43 43.8**	**+0.9**
	82nm,0.9s,1µm							
SKLT	**Songkhla**	**16.82**	**18**	P		**P**	**11 43 46.2**	**+1.2**
	98nm,1.0s,1µm							
PKDT	**Phuket**	**16.97**	**10**	P		**P**	**11 43 47.1**	**+0.4**
	69nm,1.0s,5µm							
PBKI	**Pangkalan Bun**	**17.26**	**70**	P		**P**	**11 43 50.3**	**+0.3**
GMJI	**Gumukmas**	**17.79**	**89**	P		**P**	**11 43 57.4**	**+1.7**
	102nm,1.6s							
BLJI	**Banyuglugur**	**17.97**	**88**	P		**P**	**11 44 00.2**	**+2.4**
	203nm,1.2s,2µm							
KSM	**Kuching**	**18.05**	**56**	eP		**Pn**	**11 43 58.0**	**-0.3**
	64nm,0.9s							
KSM	**Kuching**	**18.05**	**56**	P		**P**	**11 43 58.9**	**+0.2**
KSM	**Kuching**	**18.05**	**56**	P		**Pn**	**11 43 58.5**	**+0.2**
	78nm,1.1s,2µm							
STKI	**Sintang**	**18.29**	**62**	P		**P**	**11 44 03.3**	**+2.0**
	163nm,1.0s,19µm							
JAGI	**Jajag, Banyuwa**	**18.48**	**90**	P		**Pn**	**11 44 05.6**	**+2.1**
	131nm,1.2s,2µm							
IGBI	**Denpasar**	**19.44**	**91**	P		**Pn**	**11 44 17.4**	**+2.2**
	386nm,1.3s,4µm							
SRBI	**Singaraja**	**19.55**	**89**	P		**Pn**	**11 44 18.0**	**+1.6**
	160nm,0.8s,2µm							
KHKI	**Kahang-Kahang**	**19.92**	**90**	P		**Pn**	**11 44 23.3**	**+2.4**
	93nm,1.0s,1µm							
BBKI	**Banjar Baru**	**20.01**	**75**	P		Pn	11 44 21.7	-0.3
	225nm,1.2s,4µm							
SBUM	**Sibu**	**20.18**	**57**	P		Pn	11 44 23.7	-0.2
SBUM	**Sibu**	**20.18**	**57**	P		Pn	11 44 23.5	-0.4
	134nm,1.2s,2µm14µm							
MTKI	**Muara Teweh, K**	**20.91**	**69**	P		Pn	11 44 31.8	-0.8
	352nm,0.9s							
BTM	**Bintulu**	**21.31**	**56**	P		**P**	**11 44 35.1**	**+0.8**
PALK	**Pallekele**	**21.82**	**317**	P		**P**	**11 44 41.2**	**+1.4**
	569nm,1.1s,SNR=5.7							
PALK	**Pallekele**	**21.82**	**317**	eP		**P**	**11 44 40.2**	**+0.4**
	119nm,1.1s							
PALK	**Pallekele**	**21.82**	**317**	P		**P**	**11 44 41.3**	**+1.4**
PHET	**Kaeng Krachan**	**22.11**	**11**	P		**P**	**11 44 45.4**	**+2.6**
	125nm,0.9s							
CHBT	**CHBT**	**22.61**	**18**	P		**P**	**11 44 49.7**	**+1.5**
	53nm,1.0s							
CHBT	**CHBT**	**22.61**	**18**	P		**P**	**11 44 50.0**	**+1.8**
	56nm,0.8s							
BKB	**Balikpapan**	**22.65**	**71**	P		**P**	**11 44 52.0**	**+3.3**
	231nm,1.1s,3µm							
DGAR	**Diego Garcia**	**22.83**	**272**	eP		**P**	**11 44 48.1**	**-2.5**
NAYO	**Nakonayok**	**23.83**	**14**	P		**P**	**11 45 02.2**	**+1.7**
	66nm,1.0s,1µm							
KAPI	**Kappang**	**24.41**	**82**	eP		**P**	**11 45 04.4**	**-1.5**
	44nm,0.9s							
KAPI	**Kappang**	**24.41**	**82**	P		P	11 45 12.9	+6.9
KAPI	**Kappang**	**24.41**	**82**	P		**P**	**11 45 05.2**	**-0.8**
	22nm,0.7s,baz=286,slow=14,SNR=7.5							
SPSI	**Sidrap Palu**	**24.64**	**80**	P		**P**	**11 45 07.1**	**-0.9**
	67nm,0.8s,702nm							
BKSI	**Bulukumba**	**24.72**	**83**	P		**P**	**11 45 10.6**	**+1.8**
	43nm,1.2s,576nm							
TTSI	**Tana Toraja**	**24.91**	**78**	P		**P**	**11 45 11.3**	**+0.9**
	79nm,1.0s,970nm							
BSSI	**Bau Bau, Buton**	**24.96**	**85**	P		**P**	**11 45 14.5**	**+3.6**
	103nm,0.9s,2µm							
KKM	**Kota Kinabalu**	**25.49**	**55**	eP		**P**	**11 45 16.1**	**+0.3**
	82nm,1.0s							
KKM	**Kota Kinabalu**	**25.49**	**55**	P		**P**	**11 45 18.5**	**+2.7**
CHAI	**Chaiyaphum**	**25.52**	**15**	P		**P**	**11 45 17.1**	**+1.2**
	18nm,1.4s,172nm							
TSM	**Tawau**	**25.92**	**60**	P		**P**	**11 45 18.8**	**-0.9**
PBKT	**Sadao Pong**	**25.93**	**12**	P		**P**	**11 45 20.6**	**+0.9**
	33nm,0.8s,2µm							
PBKT	**Sadao Pong**	**25.93**	**12**	P		**P**	**11 45 20.5**	**+0.9**
	33nm,0.8s,2µm							
UBPT	**Khong Chiam**	**26.03**	**22**	P		**P**	**11 45 20.5**	**-0.1**
	38nm,1.2s							
UBPT	**Khong Chiam**	**26.03**	**22**	P		**P**	**11 45 21.6**	**+1.0**
	38nm,1.2s							
SDKM	**Sandakan**	**26.06**	**57**	P		**P**	**11 45 23.3**	**+2.3**
MBWA	**Marble Bar**	**26.34**	**120**	eP		**P**	**11 45 23.8**	**+0.4**
	26nm,1.0s							
MMRI	**Maumere**	**26.45**	**91**	P		P	11 45 40.5	+16
KDM	**Kudat**	**26.49**	**54**	P		**P**	**11 45 23.9**	**-0.9**
MDRS	**Chennai**	**26.59**	**325**	eP		**P**	**11 45 26.4**	**+0.8**
LOEI	**Loei**	**26.91**	**12**	P		**P**	**11 45 30.1**	**+1.6**
	35nm,1.4s,1µm							
MYLDM	**Lahad Datu**	**26.91**	**59**	P		**P**	**11 45 31.6**	**+3.1**
MYLDM	**Lahad Datu**	**26.91**	**59**	P		**P**	**11 45 30.4**	**+1.8**
	81nm,1.1s							
SKNT	**Sakolnakorn**	**27.10**	**18**	P		**P**	**11 45 31.5**	**+1.3**
	31nm,1.1s							
CMAR	**Chiang Mai Arr**	**27.45**	**7**	P		**P**	**11 45 33.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**27.45**	**7**	P		**P**	**11 45 33.8**	**+0.5**
	4.6nm,0.9s,baz=202,slow=8.7,SNR=19							
CMAR				LR		LR	11 56 12.8	
	comp=Z,926nm,18.6s,baz=200,slow=36							
LAMP	**Lampang**	**27.61**	**9**	P		**P**	**11 45 36.6**	**+1.9**
	4.3nm,1.3s,71nm							
CMMT	**Chiang Mai**	**27.80**	**7**	P		**P**	**11 45 37.9**	**+1.4**
	10nm,1.1s,723nm							
CMMT	**Chiang Mai**	**27.80**	**7**	P		**P**	**11 45 37.9**	**+1.4**
	10nm,1.1s,723nm							
CHTO	**Chiang Mai**	**27.80**	**7**	eP		**P**	**11 45 36.7**	**+0.2**
CHTO				pmax		pmax		
	comp=Z,33nm,0.8s							
CHTO	**Chiang Mai**	**27.80**	**7**	eP		**P**	**11 45 36.7**	**+0.2**
	comp=Z,33nm,0.8s							
CHTO	**Chiang Mai**	**27.80**	**7**	P		**P**	**11 45 38.0**	**+1.5**
	comp=Z,20nm,1.7s							
CHTO	**Chiang Mai**	**27.80**	**7**	P		**P**	**11 45 38.0**	**+1.5**
	comp=Z,20nm,1.7s							
BATI	**Baumata**	**27.83**	**95**	P		P	11 45 53.7	+17
SOEI	**Soe**	**28.42**	**94**	P		P	11 45 56.0	+14
CMAI	**Chiengmai2**	**28.92**	**7**	P		P	11 45 50.3	+3.7
	comp=Z,32nm,0.9s							
VIS	**Vishakhapatnam**	**29.09**	**336**	eP		**P**	**11 45 47.0**	**-1.0**
FITZ	**Fitzroy Crossi**	**30.67**	**110**	eP		**P**	**11 46 02.1**	**+0.1**
	comp=Z,10nm,1.0s							
FITZ	**Fitzroy Crossi**	**30.67**	**110**	P		**P**	**11 46 02.9**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=285,slow=6.0,SNR=5.5							
FITZ				LR		LR	11 55 57.5	
	comp=Z,903nm,21.0s,baz=296,slow=32							
HYB	**Hyderabad**	**31.08**	**327**	*i* P		**P**	**11 46 06.0**	**+0.4**
NWAO	**Narrogin (SRO)**	**31.21**	**143**	eP		**P**	**11 46 06.0**	**-0.6**
	comp=Z,45nm,1.1s							
NWAO	**Narrogin (SRO)**	**31.21**	**143**	P		**P**	**11 46 06.8**	**+0.2**
	comp=Z,46nm,1.2s,baz=308,slow=8.3,SNR=6.4							
NWAO				LR		LR	11 57 01.8	
	comp=Z,851nm,19.5s,baz=304,slow=33							
QIZ	**Qiongzhong**	**31.21**	**27**	P		**P**	**11 46 07.8**	**+1.1**
QIZ				S		**S**	**11 51 12.0**	**-0.1**
QIZ				LR		LR		
	comp=N,890nm,13.7s							
QIZ				LR		LR		
	comp=Z,820nm,20.5s							
TNTI	**Ternate**	**33.21**	**75**	P		**P**	**11 46 23.8**	**-0.6**
	comp=Z,230nm,1.1s,comp=Z,3µm							
RCP	**Roxas**	**33.92**	**54**	eP		**P**	**11 46 31.2**	**+0.7**
GAMI	**Galela, Maluku**	**33.94**	**73**	P		**P**	**11 46 30.3**	**-0.5**
	comp=Z,120nm,0.9s							
TGY	**Tagaytay City**	**34.10**	**48**	LR		LR	12 01 44.2	
	comp=Z,3.3nm,18.0s,baz=180,slow=39							
SHL	**Shillong**	**34.48**	**354**	eS		**S**	**11 52 06.0**	**+2.7**
KMI	**Kunming**	**34.60**	**12**	P		**P**	**11 46 38.8**	**+2.2**
KMI				pP		**pP**	**11 46 44.0**	**+1.5**
KMI				sP		**sP**	**11 46 45.8**	**+0.9**
KMI				PP		**PP**	**11 47 54.8**	**-0.4**
KMI				S		**S**	**11 52 08.6**	**+3.4**
KMI				sS		**sS**	**11 52 16.8**	**+1.7**
KMI				SS		**SnSn**	**11 54 22.9**	**+5.1**
KMI				pmax		pmax		
	comp=Z,25nm,1.3s							
KMI				LR		LR		
	comp=N,870nm,12.2s							
KMI				LR		LR		
	comp=E,2µm,15.8s							
KMI				LR		LR		
	comp=Z,1µm,15.0s							
POO	**Poona**	**34.65**	**322**	eP		**P**	**11 46 37.4**	**+0.5**
ODAN	**Odare**	**36.45**	**348**	eP		**P**	**11 46 52.6**	**+0.1**
	comp=Z,108nm,0.9s							
RAMN	**Ramite**	**36.71**	**347**	eP		**P**	**11 46 54.9**	**+0.2**
	comp=Z,54nm,1.0s							
GYA	**Guiyang**	**36.84**	**17**	P		**P**	**11 46 56.3**	**+0.7**
GYA				PP		**PnPn**	**11 48 20.4**	**+0.5**
GYA				PcP		**PcP**	**11 49 18.5**	**+1.0**
GYA				S		**S**	**11 52 39.3**	**0.0**
GYA				ScP		**ScP**	**11 53 04.0**	**+0.5**
GYA				SS		**SnSn**	**11 55 04.8**	**-7.0**
GYA				ScS		**ScS**	**11 57 10.3**	**-0.4**
GYA				pmax		pmax		
	comp=Z,30nm,1.0s							
GYA				pmax		pmax		
	comp=Z,140nm,3.9s							
GYA				LR		LR		
	comp=N,620nm,16.1s							
GYA				LR		LR		
	comp=E,690nm,17.3s							
GYA				LR		LR		
	comp=Z,670nm,14.2s							
TAPN	**Taplejung**	**36.86**	**348**	eP		**P**	**11 46 56.5**	**+0.5**
	comp=Z,101nm,1.1s							
FORT	**Forrest**	**37.33**	**130**	eP		**P**	**11 47 00.2**	**+0.5**
	comp=Z,62nm,1.1s							
JIRN	**Jiri**	**37.49**	**346**	eP		**P**	**11 47 01.5**	**+0.1**
	comp=Z,92nm,0.8s							
PKI	**Pulchoki**	**37.59**	**345**	eP		**P**	**11 47 01.6**	**-0.7**
	comp=Z,74nm,1.4s							
PKIN	**Phulchoki**	**37.60**	**345**	eP		**P**	**11 47 01.5**	**-0.8**
	comp=Z,26nm,1.1s							
DMN	**Daman**	**37.70**	**345**	eP		**P**	**11 47 02.7**	**-0.4**
	comp=Z,42nm,0.9s							
GUN	**Gumba**	**37.80**

XAN pmax pmax
comp=Z,8.0nm,0.9s
XAN LR LR
comp=N,380nm,22.2s
XAN LR LR
comp=E,330nm,19.5s
XAN LR LR
comp=Z,280nm,16.7s
JAY Jayapura 45.43 85 P **P** **11 48 08.9 +2.4**
comp=Z,19nm,0.8s,comp=Z,6µm
LZH Lanzhou 45.48 10 ⇑P **P** **11 48 07.3 +0.6**
LZH pP **pP** **11 48 11.8 -1.0**
LZH sP **sP** **11 48 13.3 -1.9**
LZH PP **PP** **11 49 52.3 -1.1**
LZH S **S** **11 54 46.0 -1.7**
LZH SS **ScS** **11 58 06.0 +3.4**
LZH pmax pmax
comp=Z,43nm,1.2s
LZH pmax pmax
comp=Z,170nm,4.0s
LZH LR LR
comp=N,400nm,14.9s
LZH LR LR
comp=E,610nm,13.7s
LZH LR LR
comp=Z,780nm,17.7s
NJ2 Nanjing 46.49 28 *e*P **P** **11 48 16.4 +1.9**
NJ2 pmax pmax
comp=Z,20nm,1.2s
NJ2 pmax pmax
comp=Z,120nm,5.0s
NJ2 LR LR
comp=N,740nm,23.6s
NJ2 LR LR
comp=E,860nm,16.6s
NJ2 LR LR
comp=Z,940nm,18.3s
OPO Ambohidratompo 47.73 253 P **P** **11 48 25.7 +1.0**
OPO Ambohidratompo 47.73 253 P **P** **11 48 25.7 +1.0**
comp=Z,13nm,1.1s,baz=76,slow=4.0,SNR=4.2
OPO LR LR 12 03 43.9
comp=Z,345nm,19.5s,baz=84,slow=30
GTA Gaotai 48.28 5 ⇓P **P** **11 48 29.0 +0.5**
GTA pP **pP** **11 48 33.6 -1.0**
GTA sP **sP** **11 48 36.0 -1.0**
GTA S **S** **11 55 28.8 +1.3**
GTA sS **sS** **11 55 35.5 -2.1**
GTA SS **SS** **11 58 52.4 -4.9**
GTA pmax pmax
comp=Z,39nm,1.5s
GTA pmax pmax
comp=Z,210nm,5.0s
GTA LR LR
comp=N,320nm,17.8s
GTA LR LR
comp=E,540nm,17.3s
GTA LR LR
comp=Z,230nm,18.0s
STKA Stephens Creek 48.41 125 P **P** **11 48 30.3 +0.7**
STKA Stephens Creek 48.41 125 P **P** **11 48 30.3 +0.7**
comp=Z,6.5nm,0.8s,baz=293,slow=6.5,SNR=7.6
STKA LR LR 12 08 16.6
comp=Z,1µm,19.3s,baz=281,slow=35
CTAO Charters Tower 50.22 109 *e*P **P** **11 48 44.9 +1.3**
CTAO pmax pmax
comp=Z,21nm,0.9s
CTAO Charters Tower 50.22 109 *e*P **P** **11 48 44.9 +1.3**
comp=Z,22nm,0.9s
KSH Kashi 51.50 341 P **P** **11 48 50.6 -2.4**
KSH sP **sP** **11 49 01.6 +0.1**
KSH PP **PP** **11 50 54.0 +3.5**
KSH S **S** **11 56 14.5 +2.0**
KSH sS **sS** **11 56 21.3 -1.3**
KSH ScS **ScS** **11 58 42.9 +0.3**
KSH pmax pmax
comp=Z,20nm,1.1s
KSH pmax pmax
comp=Z,130nm,5.9s
KSH LR LR
comp=N,730nm,17.5s
KSH LR LR
comp=E,570nm,16.2s
KSH LR LR
comp=Z,130nm,12.0s
HHC Hu-ho-hao-te 51.73 16 *e*P **P** **11 48 55.9 +1.3**
HHC pP **pP** **11 49 00.5 -0.3**
HHC sP **sP** **11 49 03.3 +0.2**
HHC PP **PP** **11 50 54.4 +1.9**
HHC S **S** **11 56 17.8 +2.3**
HHC sS **sS** **11 56 25.8 +0.2**
HHC SS **SS** **11 59 52.8 +0.4**
HHC pmax pmax
comp=Z,47nm,1.0s
HHC pmax pmax
comp=Z,220nm,5.1s
HHC LR LR
comp=N,2µm,15.8s
HHC LR LR
comp=E,930nm,15.3s
HHC LR LR
comp=Z,2µm,15.2s
BJI Beijing 52.38 20 P **P** **11 48 59.8 +0.5**
BJI PP **PP** **11 50 58.9 +0.7**
BJI S **S** **11 56 26.1 +2.0**
BJI pmax pmax
comp=Z,26nm,1.2s
BJI pmax pmax
comp=Z,130nm,4.7s
BJI LR LR
comp=N,760nm,15.2s
BJI LR LR
comp=E,230nm,16.9s
BJI LR LR
comp=Z,430nm,16.9s
WMQ Urumqi 52.99 353 P **P** **11 49 04.5 +0.6**
WMQ pP **pP** **11 49 09.0 -1.1**
WMQ sP **sP** **11 49 11.5 -0.9**
WMQ PcP **PcP** **11 50 13.1 +0.6**
WMQ PP **PP** **11 51 05.8 +1.9**
WMQ ScP **ScP** **11 54 08.6 -0.6**
WMQ S **S** **11 56 32.1 -0.5**
WMQ ScS **ScS** **11 58 50.3 -2.4**
WMQ SS **SS** **12 00 10.4 -1.8**
WMQ pmax pmax
comp=Z,51nm,1.2s
WMQ pmax pmax
comp=Z,79nm,3.8s
WMQ LR LR
comp=N,330nm,15.2s
WMQ LR LR
comp=E,330nm,17.0s
WMQ LR LR
comp=Z,280nm,25.7s
DL2 Dalian 53.47 25 P **P** **11 49 07.3 -0.1**
DL2 S **S** **11 56 39.3 +0.2**
DL2 pmax pmax
comp=Z,37nm,0.9s
DL2 pmax pmax
comp=Z,200nm,3.9s
DL2 LR LR
comp=N,370nm,17.7s
DL2 LR LR
comp=E,450nm,21.4s
DL2 LR LR
comp=Z,340nm,13.9s
JNU Nakatsue 53.72 37 *e*P **P** **11 49 09.8 +0.4**
comp=Z,6.6nm,0.8s
JNU Nakatsue 53.72 37 P **P** **11 49 09.9 +0.5**
comp=Z,16nm,0.9s,baz=211,slow=4.9,SNR=7.2
JNU LR LR 12 11 43.2
comp=Z,287nm,19.4s,baz=51,slow=36
KZA Kyzart 54.05 341 P **P** **11 49 11.7 -0.4**
SNR=8.9
AML Almayashu 54.61 340 P **P** **11 49 16.3 +0.1**
SNR=6.8
TKM2 Tokmak 2 54.71 342 P **P** **11 49 16.4 -0.3**
SNR=17
AAK Ala-Archa 54.80 341 *d* iP **P** **11 49 16.3 -0.9**
AAK pmax pmax
comp=Z,46nm,1.5s
AAK Ala-Archa 54.80 341 P **P** **11 49 17.7 +0.5**
SNR=5.8
AAK Ala-Archa 54.80 341 *e*P **P** **11 49 16.6 -0.7**
comp=Z,16nm,1.2s
AAK Ala-Archa 54.80 341 P **P** **11 49 17.2 0.0**
comp=Z,7.5nm,0.9s,baz=152,slow=7.9,SNR=14

CHMS Chumysh 55.05 342 P **P** **11 49 18.4 -0.4**
SNR=10
EKS2 Erkin-Say 55.05 341 P **P** **11 49 19.3 +0.3**
SNR=31
KSAR Wonju Array Be 55.23 31 P **P** **11 49 20.4 +0.2**
KSRS Korea Array 55.26 31 P **P** **11 49 20.4 0.0**
comp=Z,12nm,0.8s,baz=220,slow=7.8,SNR=28
KSRS LR LR 12 12 13.7
comp=Z,339nm,20.5s,baz=226,slow=35
USP Ospenovka 55.37 341 P **P** **11 49 21.0 -0.2**
SNR=38
ATD Arta Tunnel 56.14 290 P **P** **11 49 28.3 +1.0**
ATD Arta Tunnel 56.14 290 P **P** **11 49 28.3 +1.0**
comp=Z,8.9nm,0.4s,baz=90,slow=23,SNR=6.9
MKAR Makanchi Array 56.73 349 *ce*P **P** **11 49 29.3 -1.5**
MKAR pmax pmax
comp=Z,19nm,1.0s
MKAR Makanchi Array 56.73 349 P **P** **11 49 29.4 -1.5**
MKAR Makanchi Array 56.73 349 P **P** **11 49 29.4 -1.5**
comp=Z,19nm,1.1s,baz=154,slow=8.0,SNR=9.7
SONM Songino Array 57.36 9 P **P** **11 49 35.4 0.0**
SONM Songino Array 57.36 9 P **P** **11 49 35.4 0.0**
comp=Z,6.3nm,0.7s,baz=188,slow=9.0,SNR=41
SONM LR LR 12 15 25.0
comp=Z,761nm,20.4s,baz=186,slow=37
ULN Ulaanbaatar 57.49 9 *e*P **P** **11 49 36.0 -0.4**
comp=Z,27nm,1.6s
ULN Ulaanbaatar 57.49 9 P **P** **11 49 36.2 -0.2**
KMBO Kilima Mbogo 58.45 274 LR LR 12 09 26.5
comp=Z,650nm,22.0s,baz=277,slow=30
RAYN Ar Rayn 58.53 305 P **P** **11 49 43.5 -0.6**
comp=Z,258nm,0.8s,SNR=12
RAYN Ar Rayn 58.53 305 *e*P **P** **11 49 43.7 -0.4**
comp=Z,34nm,0.8s
CN2 Changchun 59.13 25 *e*P **P** **11 49 48.3 +0.6**
CN2 *e*S **S** **11 57 55.6 +1.5**
CN2 SS **SS** **12 01 49.6 +0.8**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,500nm,17.0s
CN2 LR LR
comp=E,500nm,17.0s
CN2 LR LR
comp=Z,600nm,17.0s
ZAK Zakamensk 59.48 6 *e*P **P** **11 49 48.8 -1.3**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
HVS Khovu-Aksy 59.86 359 *d* iP **P** **11 49 51.8 -0.9**
HVS pmax pmax
comp=Z,132nm,1.2s
MAJO Matsushiro 60.48 39 *e*P **P** **11 49 56.6 -0.6**
MAJO pmax pmax
comp=Z,12nm,1.1s
MAJO Matsushiro 60.48 39 *e*P **P** **11 49 56.6 -0.6**
comp=Z,12nm,1.1s
MAT Matsushiro 60.48 39 P **P** **11 49 56.5 -0.7**
MAT S **S** **11 58 10.0 -1.8**
MJAR Matsushiro Arr 60.48 39 P **P** **11 49 56.6 -0.6**
MJAR Matsushiro Arr 60.48 39 P **P** **11 49 56.6 -0.6**
comp=Z,7.9nm,0.9s,baz=224,slow=7.8,SNR=21
TLY Talaya 60.80 6 *e*P **P** **11 49 59.8 +0.8**
TLY pmax pmax
comp=Z,16nm,1.3s
TLY MLR MLR
comp=Z,409nm,17.0s
KURBB Kurchatov Arra 61.13 348 P **P** **11 50 00.3 -1.0**
comp=Z,23nm,0.9s,baz=173,slow=6.6,SNR=204
KURK Kurchatov 61.20 348 P **P** **11 50 00.5 -1.2**
comp=Z,240nm,1.0s,SNR=27
KURK Kurchatov 61.20 348 P **P** **11 50 00.3 -1.4**
KURK Kurchatov 61.20 348 P **P** **11 50 00.3 -1.4**
IRK Irkutsk 61.42 6 *e*P **P** **11 50 02.5 -0.7**
IRK pmax pmax
comp=Z,28nm,1.4s
MDJ Mudanjiang 61.58 27 P **P** **11 50 05.9 +1.4**
MDJ S **S** **11 58 27.3 +1.8**
MDJ SS **SS** **12 02 30.9 +3.7**
MDJ pmax pmax
comp=Z,7.0nm,1.8s
MDJ pmax pmax
comp=Z,190nm,4.6s
MDJ LR LR
comp=N,480nm,21.3s
MDJ LR LR
comp=E,310nm,21.3s
MDJ LR LR
comp=Z,480nm,21.3s
USRK Ussuriysk Arra 62.37 29 P **P** **11 50 10.0 +0.2**
comp=Z,9.7nm,0.5s,baz=231,slow=5.8,SNR=22
USRK LR LR 12 16 25.1
comp=Z,356nm,19.2s,baz=211,slow=35
MAW Mawson 62.50 193 P **P** **11 50 10.7 +0.4**
MAW Mawson 62.50 193 P **P** **11 50 10.7 +0.4**
comp=Z,4.2nm,0.9s,baz=50,slow=3.6,SNR=4.3
MAW LR LR 12 14 02.7
comp=Z,272nm,18.2s,baz=238,slow=33
ZALV Zalesovo Beam 63.30 353 P **P** **11 50 14.9 -0.9**
ZALV Zalesovo Beam 63.30 353 P **P** **11 50 14.9 -0.9**
ZALV Zalesovo Beam 63.30 353 P **P** **11 50 14.9 -0.9**
comp=Z,42nm,0.7s,baz=176,slow=5.6,SNR=182
NVS Novosibirsk 64.38 352 ⇓ *i*P **P** **11 50 20.2 -2.6**
NVS pmax pmax
comp=Z,37nm,1.1s
NVS pmax pmax
comp=N,18nm,1.0s
NVS pmax pmax
comp=E,10.0nm,1.0s
KRAR Krasnoyarsk 64.76 358 ⇑ *i*P **P** **11 50 24.8 -0.5**
KRAR pmax pmax
comp=Z,84nm,1.2s
MBAR Mbarara 64.95 274 P **P** **11 50 26.5 -1.2**
MBAR Mbarara 64.95 274 P **P** **11 50 26.5 -1.2**
comp=Z,4.2nm,0.6s,baz=80,slow=11,SNR=4.5
DRV Dumont d'Urvil 65.02 162 S **S** **11 59 05.0 -2.8**
DRV SS SS 12 03 00.0 -20
DRV L L 12 06 00.0
DRV R 12 09 00.0
BRVK Borovoye 65.39 344 P **P** **11 50 28.1 -1.4**
comp=Z,125nm,0.9s,SNR=8.7
LSZ Lusaka 65.88 257 *e*P **P** **11 50 35.0 +1.4**
comp=Z,9.0nm,1.1s
KLR Kul'dur 66.08 25 *e*P P 11 50 30.0 -4.1
KLR *e*S **S** **11 59 16.5 -4.8**
KLR *e* 12 03 37.5
KLR pmax pmax
comp=Z,70nm,1.8s
KLR MLR MLR
comp=N,600nm,13.5s
KLR MLR MLR
comp=Z,900nm,13.5s
HABR Khabarovsk 66.96 27 *e*P **P** **11 50 37.1 -2.5**
HABR *e**PP pP 11 50 40.4 -5.6
HABR *e**SP sP 11 50 41.7 -6.6
HABR 11 51 05.7
HABR *e* 11 53 04.2
HABR *e*S **S** **11 59 30.5 -1.4**
HABR *e* 12 00 34.5
HABR pmax pmax
comp=E,21nm,2.0s
HABR pmax pmax
comp=Z,27nm,1.6s
HABR pmax pmax
comp=N,80nm,2.9s
HABR MLR MLR
comp=Z,642nm,19.0s
MAK Makhachkala 67.62 324 *e*P P 11 50 40.6 -3.4
MAK *e* 11 53 08.0
MAK *e*S S 11 59 32.9 -7.2
MAK pmax pmax
comp=Z,101nm,1.5s
MAK MLR MLR
comp=Z,241nm,16.0s
GNI Garni 67.66 320 *e*P **P** **11 50 44.5 0.0**
comp=Z,32nm,1.0s
DGRG David-gareji 68.01 322 P **P** **11 50 47.5 +1.0**
BOSA Boshof 68.43 243 P **P** **11 50 50.0 +0.4**
BOSA Boshof 68.43 243 P **P** **11 50 50.0 +0.4**
comp=Z,6.1nm,0.7s,baz=85,slow=7.6,SNR=15
BOSA LR LR 12 15 19.0
comp=Z,452nm,19.6s,baz=93,slow=31
TBLG Delisi 68.56 321 *e*P **P** **11 50 50.2 +0.2**
TBLG Delisi 68.56 321 P **P** **11 50 50.2 +0.2**
DUS Dusheti 68.78 322 P **P** **11 50 52.0 +0.6**

KBSD Kabsdagh 68.78 315 *e*P P 11 50 47.7 -3.7
SFNV Sufian 68.80 315 *e*P **P** **11 50 52.0 +0.4**
AKH Akhalkalaki 69.15 321 P **P** **11 50 54.0 +0.1**
ZALF Zalf 69.20 310 *e*P **P** **11 50 54.6 +0.4**
KSRV Kasrt alli 69.32 314 *e*P **P** **11 50 53.1 -1.7**
SALA Sala 69.56 310 *e*P **P** **11 50 57.2 +0.6**
JHLN Al Jahlan 69.63 313 *e*P P 11 50 52.8 -3.9
ZEI Tsey 69.67 322 *e*P **P** **11 50 57.0 0.0**
ZEI pmax pmax
comp=Z,24nm,1.1s
YSS Yuzh-Sakhalins 69.73 32 *e*P P 11 50 50.0 -7.0
YSS *e* 11 51 16.5
ROOS tl alroos 69.79 311 *e*P **P** **11 51 00.1 +2.3**
ONI Oni 69.83 322 P **P** **11 50 58.5 +0.6**
SYO Syowa Base 69.89 199 ⇑ *e*P **P** **11 50 55.6 -2.1**
SYO Syowa Base 69.89 199 ⇑ *e*pP pP 11 51 04.2 +0.2
TCHB Talchebab 70.13 309 *e*P **P** **11 50 57.5 -2.4**
BRBR Barbar 70.46 310 *e*P **P** **11 51 03.2 +1.1**
HAWK Haweek 70.60 311 *e*P **P** **11 51 03.0 +0.2**
KBZ Khabaz 70.80 322 P **P** **11 51 04.0 +0.3**
KBZ Khabaz 70.80 322 P **P** **11 51 04.0 +0.3**
KBZ Khabaz 70.80 322 P **P** **11 51 04.0 +0.3**
comp=Z,49nm,0.9s,baz=117,slow=5.5,SNR=83
BIDA Albida 70.88 312 *e*P **P** **11 51 05.1 +0.6**
KIV Kislovodsk 71.06 323 *e*P **P** **11 51 04.9 -0.5**
KIV *e* 11 53 40.6
KIV *e*S **S** **12 00 20.8 -0.1**
KIV *e*SS **SS** **12 04 55.3 +0.7**
KIV pmax pmax
comp=Z,53nm,1.0s
KIV pmax pmax
comp=Z,26nm,3.0s
KIV MLR MLR
comp=Z,123nm,18.0s
KIV Kislovodsk 71.06 323 P **P** **11 51 05.7 +0.3**
comp=Z,302nm,1.1s,SNR=8.7
BTCH Batrach 71.23 313 *e*P **P** **11 51 06.0 -0.5**
ARNB Al Arnab 71.50 312 *e*P **P** **11 51 06.9 -1.4**
SVE Sverdlovsk 71.53 341 *c* iP **P** **11 51 07.9 +0.1**
SVE *e*S **S** **12 00 24.3 -1.4**
SVE pmax pmax
comp=Z,95nm,1.0s
SVE MLR MLR
comp=Z,606nm,17.0s
ARU Arti 71.92 339 *d* iP **P** **11 51 09.7 -0.5**
ARU 11 53 44.9
ARU PPP PPP 11 55 31.2
ARU S **S** **12 00 30.1 0.0**
ARU SS **SS** **12 05 05.2 -1.9**
ARU pmax pmax
comp=Z,73nm,1.7s
ARU MLR MLR
comp=Z,333nm,16.0s
ARU Arti 71.92 339 P **P** **11 51 09.7 -0.5**
comp=Z,237nm,0.9s,SNR=11
SOC Sochi 72.67 321 *d* iP **P** **11 51 13.9 -1.0**
SOC *e*S **S** **12 00 42.0 +2.7**
SOC *e* 12 01 05.4
SOC *e*SSS SSS 12 08 28.9
SOC pmax pmax
comp=Z,46nm,1.0s
SOC MLR MLR
comp=Z,236nm,20.0s
CSS Prodhromos 73.08 311 *e*P **P** **11 51 18.1 +0.5**
comp=Z,46nm,0.9s
BRTR Keskin Array B 74.85 315 P **P** **11 51 27.2 -0.8**
BRTR Keskin Array B 74.85 315 P **P** **11 51 27.2 -0.8**
comp=Z,19nm,0.9s,baz=131,slow=7.4,SNR=93
BRTR LR LR 12 24 16.7
comp=Z,104nm,18.8s,baz=326,slow=36
SOKR Solikamsk 74.98 341 *c* iP **P** **11 51 28.4 +0.4**
SOKR pmax pmax
comp=Z,30nm,1.0s
SOKR MLR MLR
comp=Z,540nm,22.0s
ANTO Ankara 75.50 315 ⇑P **P** **11 51 31.4 -0.3**
ANTO Ankara 75.50 315 *e*P **P** **11 51 31.6 -0.1**
comp=Z,39nm,1.0s
ANTO Ankara 75.50 315 ⇑ *i*P **P** **11 51 31.4 -0.3**
VNDA Vanda 76.29 168 LR LR 12 21 23.9
comp=Z,310nm,18.1s,baz=297,slow=33
VORD Divnogorie 76.82 327 *e*P **P** **11 51 37.3 -1.5**
VORD pmax pmax
comp=N,20nm,1.1s
VORD pmax pmax
comp=Z,20nm,1.1s
VORD pmax pmax
comp=E,10.0nm,0.7s
SIM Simferopol' 76.85 320 *de*P **P** **11 51 38.5 -0.6**
SIM pmax pmax
comp=Z,23nm,1.0s
VSR Storozhevoye 77.02 328 *e*P **P** **11 51 37.9 -2.0**
VSR pmax pmax
comp=Z,30nm,1.0s
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,20nm,1.1s
URZ Urewera 77.97 127 P **P** **11 51 45.9 +0.3**
URZ Urewera 77.97 127 P **P** **11 51 45.9 +0.3**
comp=E,13nm,0.9s,baz=259,slow=5.2,SNR=2.2
URZ LR LR 12 23 00.7
comp=E,602nm,21.1s,baz=110,slow=33
IDI Anoyia 79.64 308 *e*P **P** **11 51 54.9 0.0**
comp=E,24nm,0.9s
APE Apeiranthos 79.73 310 ⇑P **P** **11 51 55.1 -0.2**
APE Apeiranthos 79.73 310 ⇑ *i*P **P** **11 51 55.1 -0.2**
TIRR Tirgusor 80.33 318 ⇑P **P** **11 51 58.4 +0.1**
TIRR Tirgusor 80.33 318 *e*P **P** **11 51 58.0 -0.3**
comp=E,29nm,1.0s
TIRR Tirgusor 80.33 318 ⇑ *i*P **P** **11 51 58.4 +0.1**
OBN Obninsk 80.40 330 ⇓ *i*P **P** **11 51 57.7 -0.7**
OBN *i* 11 55 02.0
OBN *i*S **S** **12 01 58.1 -5.3**
OBN pmax pmax
comp=Z,41nm,1.3s
OBN MLR MLR
comp=Z,200nm,18.0s
CFR Carcaliu 80.79 319 ⇑P **P** **11 52 01.0 +0.2**
CFR Carcaliu 80.79 319 ⇑ *i*P **P** **11 52 01.0 +0.2**
PETK Petropavlovsk- 81.13 33 P **P** **11 52 01.8 -0.7**
PETK Petropavlovsk- 81.13 33 P **P** **11 52 01.8 -0.7**
PETK Petropavlovsk- 81.13 33 P **P** **11 52 01.8 -0.7**
comp=Z,4.3nm,0.8s,baz=220,slow=5.8,SNR=12
PETK LR LR 12 32 02.7
comp=Z,93nm,18.0s,baz=68,slow=39
PET Petropavlovsk 81.60 33 *e*P **P** **11 52 04.3 -0.6**
VRI Vrincioaia 81.97 319 ⇓P **P** **11 52 07.5 +0.4**
VRI Vrincioaia 81.97 319 ⇓ *i*P **P** **11 52 07.5 +0.4**
PLOR Plostina 82.01 319 ⇑P **P** **11 52 07.8 +0.5**
PLOR Plostina 82.01 319 ⇑ *i*P **P** **11 52 07.8 +0.5**
TESR Tescani 82.26 319 ⇓ *i*P **P** **11 52 08.5 0.0**
KIEV Kiev 82.32 324 *e*P **P** **11 52 08.2 -0.5**
KIEV pmax pmax
comp=Z,10.0nm,0.9s
KIEV Kiev 82.32 324 *e*P **P** **11 52 08.2 -0.5**
comp=Z,10.0nm,0.9s
PRAR RASCA 82.84 320 ⇑ *i*P **P** **11 52 11.9 +0.3**
VOIR 82.91 318 ⇓P **P** **11 52 12.5 +0.4**
VOIR 82.91 318 ⇓ *i*P **P** **11 52 12.4 +0.4**
ARR Arges 83.17 318 ⇑ *i*P **P** **11 52 13.1 -0.3**
VTS Vitosha 83.22 315 ⇓P **P** **11 52 13.3 -0.5**
VTS Vitosha 83.22 315 ⇓ *i*P **P** **11 52 13.3 -0.5**
TIXI Tiksi 83.42 10 ⇑ *e*P **P** **11 52 12.5 -1.5**
TIXI pmax pmax
comp=Z,16nm,1.6s
BURAR Bucovina Array 83.57 320 ⇑P **P** **11 52 16.5 +1.1**
BURAR Bucovina Array 83.57 320 ⇑ *i*P **P** **11 52 16.5 +1.1**
SNAA Sanae 84.18 198 *e*P P 11 52 27.4 +9.3
SNAA Sanae 84.18 198 *e*P **P** **11 52 19.4 +1.3**
comp=Z,5.8nm,0.9s
TMCR Tamitsa 84.60 338 *e*P **P** **11 52 19.5 -0.6**
TMCR pmax pmax
comp=Z,23nm,1.1s
BZS Buzias 85.25 317 ⇓P **P** **11 52 24.1 +0.2**
BZS Buzias 85.25 317 ⇓ *i*P **P** **11 52 24.1 +0.2**
TRPA Tarpa 85.44 320 ⇑ *i*P **P** **11 52 25.3 +0.6**
UZH Uzhgorod 85.75 320 *e*P **P** **11 52 25.3 -1.0**
UZH *e* 11 52 28.1
UZH *e* 11 52 33.3
UZH *e*S **S** **12 02 54.2 -3.9**
KOLS Kolonicke sedl 85.86 321 *e*P **P** **11 52 28.2 +1.3**
KOLS pmax pmax
comp=Z,21nm,1.0s

KOLS Kolonicke sedl 85.86 321 eP P 11 52 28.2 +1.3
VNA1 Neumayer--Stat 86.13 199 eP P 11 52 38.0 +10
STHS Stebnicka Huta 86.65 321 eP P 11 52 31.5 +0.7
STHS pmax pmax
comp=Z,6.0nm,0.9s
STHS Stebnicka Huta 86.65 321 eP P 11 52 31.5 +0.7
VSU Vasula 86.74 331 i P P 11 52 31.0 +0.1
VSU pmax pmax
comp=Z,136nm,2.5s
KECS Kecovo 86.85 320 eP P 11 52 32.1 +0.4
KECS pmax pmax
comp=Z,8.0nm,0.9s
KECS Kecovo 86.85 320 eP P 11 52 32.1 +0.4
SUW Suwalki 86.98 326 eP P 11 52 31.6 -0.6
SUW pmax pmax
comp=Z,39nm,0.9s
SUW Suwalki 86.98 326 eP P 11 52 31.6 -0.6
comp=Z,39nm,0.9s
VYHS Vyhne 87.91 320 eP P 11 52 37.2 +0.3
VYHS pmax pmax
comp=Z,9.0nm,1.2s
VYHS Vyhne 87.91 320 eP P 11 52 37.2 +0.3
FINES FINESS Array B 88.19 333 P P 11 52 37.4 -0.4
FINES FINESS Array B 88.19 333 P P 11 52 37.4 -0.4
comp=Z,6.8nm,0.8s,baz=104,slow=6.3,SNR=16
KAF Kangasniemi 88.35 334 ep P 11 52 37.6 -1.0
comp=Z,3.6nm,0.7s
KAF Kangasniemi 88.35 334 eP P 11 52 37.6 -1.0
KAF pmax pmax
comp=Z,4.0nm,0.7s
OKC Ostrava-Krasne 88.70 321 i P P 11 52 41.1 +0.5
OKC Ostrava-Krasne 88.70 321 i P P 11 52 41.1 +0.5
SMOL Smolenice 88.81 319 eP P 11 52 41.9 +0.8
SMOL Smolenice 88.81 319 eP P 11 52 41.9 +0.8
ZST Bratislava 88.94 319 eP P 11 52 42.5 +0.8
ZST Bratislava 88.94 319 eP P 11 52 42.5 +0.8
GOLS Golise 89.39 317 i P P 11 52 44.4 +0.5
CRES Cresnjev 89.47 316 i P P 11 52 44.5 +0.3
BOJS Bojanci 89.53 316 i P P 11 52 44.8 +0.2
DPC Dobruska-Polom 89.97 321 i P P 11 52 47.4 +0.8
DPC e 11 52 53.8
DPC Dobruska-Polom 89.97 321 i P P 11 52 47.4 +0.8
DPC epP pP 11 52 53.8 +0.7
KSP Ksiaz 90.11 321 eP P 11 52 48.0 +0.9
KSP e 12 03 16.0
LJU Ljubljana 90.15 317 i P P 11 52 47.8 +0.4
PRU Pruhonice 91.00 320 i P P 11 52 51.4 +0.1
PRU MLR MLR
comp=Z,200nm,18.6s
PRU Pruhonice 91.00 320 i P P 11 52 51.4 +0.1
PRU AMS AMS 12 34 50.0
comp=Z,200nm,18.6s
PRA Prague 91.09 320 P P 11 52 52.0 +0.3
GERES GERESS Array B 91.29 319 P P 11 52 53.1 +0.3
GERES GERESS Array B 91.29 319 P P 11 52 53.1 +0.3
comp=Z,3.5nm,0.8s,baz=108,slow=4.3,SNR=23
ARCES ARCESS Array B 91.47 341 P P 11 52 53.0 -0.1
ARCES ARCESS Array B 91.47 341 P P 11 52 53.0 -0.1
comp=Z,6.8nm,0.8s,baz=108,slow=4.0,SNR=12
BRG Berggiesshubel 91.57 321 eP P 11 52 54.2 +0.3
comp=Z,7.5nm,1.1s
BRG e 11 53 24.1
comp=Z,6.5nm,1.5s
BRG Berggiesshubel 91.57 321 eP P 11 52 54.2 +0.3
BRG pmax pmax
comp=Z,9.0nm,1.1s
BRG pmax pmax
comp=Z,8.0nm,1.5s
KEST Kesra 92.03 306 P P 11 52 57.7 +1.2
KEST Kesra 92.03 306 P P 11 52 57.7 +1.2
comp=Z,5.9nm,0.9s,baz=304,slow=3.4,SNR=12
KEST LR LR 12 29 49.6
comp=Z,69nm,21.2s,baz=239,slow=33
CLL Collm 92.24 321 esP sP 11 53 07.0 +1.2
CLL e 11 53 26.0
CLL eS S 12 03 55.0 -3.9
CLL ePS PS 12 05 10.0 -1.9
CLL eSS SS 12 10 18.0 +8.7
TAM Tamanrasset 93.36 292 eP P 11 53 04.1 +1.0
TAM pmax pmax
comp=Z,2.0nm,0.8s
TAM Tamanrasset 93.36 292 eP P 11 53 04.1 +1.0
comp=Z,2.3nm,0.8s
TORD Torodi Ar. Bea 95.64 282 P P 11 53 13.6 +0.1
TORD Torodi Ar. Bea 95.64 282 P P 11 53 13.6 +0.1
comp=Z,1.5nm,0.9s,baz=90,slow=4.2,SNR=5.9
TORD LR LR 12 36 25.0
comp=Z,146nm,18.8s,baz=85,slow=36
ESDC Sonseca Array 102.90 309 PP PP 11 57 57.5 -2.4
ESDC Sonseca Array 102.90 309 PP PP 11 57 57.5 -2.4
comp=Z,4.2nm,0.9s,baz=83,slow=7.5,SNR=13
TBI Tubuai 108.90 118 eLR LR 12 30 14.3
comp=Z,586nm,23.2s
PPT2 Papeete2 110.56 113 eLR LR 12 31 01.0
comp=Z,339nm,23.8s
YKA Yellowknife Ar 122.27 16 PKP PKPdf 11 58 40.2 -1.6
YKA PP PP 12 00 19.0 +2.2
YKA Yellowknife Ar 122.27 16 PKP PKPdf 11 58 40.2 -1.6
comp=Z,0.7nm,0.8s,baz=335,slow=2.4,SNR=10
YKA PP PP 12 00 19.0 +2.2
comp=Z,0.3nm,0.8s,baz=330,slow=6.5,SNR=4.5
B13A Whitefish 133.32 27 P PKPdf 11 59 03.7 +0.4
baz=133
A15A Johnson Ranch, 133.62 25 P PKPdf 11 59 03.7 -0.3
baz=134
A17A Triple J Farms 134.49 24 P PKPdf 11 59 06.6 +1.0
baz=134
C15A Salmond Ranch, 134.59 26 P PKPdf 11 59 05.8 -0.1
baz=134
A18A Metzger Ranch, 134.85 23 P PKPdf 11 59 06.0 -0.2
baz=135
C16A Fuhringer Ranc 134.95 26 P PKPdf 11 59 05.9 -0.6
baz=135
B17A L&G Farms, Che 134.97 25 P PKPdf 11 59 05.9 -0.5
baz=135
G12A Big Creek, Yel 135.23 31 P PKPdf 11 59 06.7 -0.5
baz=135
BOZ Bozeman (W) 136.65 28 ePKIKP PKPdf 11 59 10.5 +0.7
BOZ Bozeman (W) 136.65 28 ePKPdf PKPdf 11 59 10.4 +0.7
NVAR Mina Array Bea 137.79 41 PKPpre PKPpre 11 59 01.0
NVAR PKP PKiKP 11 59 13.8 -0.4
NVAR Mina Array Bea 137.79 41 PKhKP PKPpre 11 59 01.0
comp=Z,0.3nm,0.8s,baz=276,slow=4.2,SNR=2.8
NVAR PKP PKiKP 11 59 13.7 -0.4
comp=Z,0.4nm,0.7s,baz=256,slow=2.5,SNR=4.0
PDAR Pinedale Array 139.80 29 PKPpre PKPpre 11 59 08.1
PDAR PKP PKPdf 11 59 15.4 -0.3
PDAR Pinedale Array 139.80 29 PKhKP PKPpre 11 59 08.0
comp=Z,0.3nm,0.6s,baz=90,slow=3.0,SNR=3.0
PDAR PKP PKPdf 11 59 15.4 -0.3
comp=Z,0.8nm,0.7s,baz=169,slow=1.5,SNR=7.1
RWWY Rawlins 141.74 28 ePKPdf PKPdf 11 59 19.8 +0.5
N20A Spence Gulch, 141.90 30 P PKPdf 11 59 14.3 -5.4
baz=142
N21A Black Mountain 142.32 29 P PKPdf 11 59 16.1 -4.3
baz=142
O20A White River Ci 142.44 30 P PKPdf 11 59 16.5 -4.1
baz=142
N22A Wattenberg Ran 142.79 28 P PKPdf 11 59 16.7 -4.6
baz=143
N23A Red Feather La 142.95 27 P PKPdf 11 59 17.3 -4.2
baz=143
PV01 Paradox Valley 143.76 33 ePKPdf PKPab 11 59 19.2 -0.7
ECSD EROS Data Cent 143.78 15 ePKPdf PKPbc 11 59 19.9 -0.2
SMCO Snowmass 143.80 30 ePKPdf PKPbc 11 59 21.0 +0.1
Y14A Wickenburg 143.89 42 P PKPab 11 59 20.6 +0.3
baz=144
WUAZ Wupatki 143.95 39 P PKPab 11 59 20.7 +0.2
baz=144
ISCO Idaho Springs 143.97 28 P PKPab 11 59 20.7 0.0
baz=144
Q22A Crested Butte, 144.08 30 P PKPbc 11 59 21.8 +0.2
baz=144
R21A Cimarron 144.13 32 P PKPbc 11 59 21.7 0.0
baz=144
ACCN Adirondack Com 144.41 346 ePKPdf PKPab 11 59 21.1 -0.7
MVCO Mesa Verde 144.47 34 ePKPdf PKPbc 11 59 23.6 +0.8
P24A Kohler Place, 144.53 28 P PKPab 11 59 22.2 -0.4
baz=144
S21A Coal Bank Pass 144.53 33 P PKPbc 11 59 23.7 +0.6
baz=144
X16A Lo Mia Camp, P 144.62 40 P PKPdf 11 59 24.1 -0.5
baz=144
O26A Horse Wrangler 144.63 25 P PKPab 11 59 22.1 -0.8
baz=144
R22A Saguache, Gunn 144.64 31 P PKPbc 11 59 24.1 +0.7
baz=144
Q24A Divide 144.85 28 P PKPab 11 59 22.1 -1.9
baz=145
S22A 4UR Ranch, Cre 144.97 32 P PKPab 11 59 24.2 -0.2
baz=145
O27A Beecher Island 145.02 24 P PKPbc 11 59 22.0 -2.3
baz=145
TRY Troy 145.03 346 ePKPdf PKPbc 11 59 23.8 -0.2
U20A Newcomb 145.06 35 P PKPab 11 59 24.9 +0.3
baz=145
QUA2 Belchertown 145.12 344 ePKPdf PKPbc 11 59 23.8 -0.5
R23A Moffat 145.14 30 P PKPbc 11 59 24.9 0.0
baz=145
T21A Navajo Lake 145.16 33 P PKPab 11 59 25.1 0.0
baz=145
214A Organ Pipe Nat 145.18 45 P PKPbc 11 59 25.0 +0.1
baz=145
P26A Davis Ranch, A 145.18 26 P PKPbc 11 59 23.8 -1.1
baz=145
Q25A Bedland, Calha 145.31 28 P PKPbc 11 59 24.5 -0.9
baz=145
O28A Krutsinger Ran 145.36 24 P PKPbc 11 59 24.2 -1.1
baz=145
S23A Nye Farm, Mont 145.42 31 P PKPbc 11 59 24.9 -0.9
baz=145
R24A Sanders Place, 145.46 29 P PKPbc 11 59 25.4 -0.4
baz=145
T22A Edith 145.48 33 P PKPdf 11 59 26.2 +0.1
baz=145
V20A Brimhall 145.50 36 P PKPdf 11 59 25.0 -1.1
baz=145
BGNE Belgrade 145.50 18 P PKPbc 11 59 25.2 -0.5
baz=145
U21A Nageezi 145.50 34 P PKPdf 11 59 26.0 -0.1
baz=145
P27A Ficken Ranch, 145.51 25 P PKPdf 11 59 24.9 -1.0
baz=145
Q26A Hugo 145.63 27 P PKPdf 11 59 25.6 -0.6
baz=146
SDCO Great Sand Dun 145.64 30 ePKPdf PKPdf 11 59 25.8 -0.6
O29A 4D Ranch, Culb 145.74 22 P PKPdf 11 59 25.5 -0.7
baz=146
P28A Saint Francis 145.84 24 P PKPdf 11 59 26.1 -0.3
baz=146
S24A Houchin Ranch, 145.87 30 P PKPdf 11 59 26.9 +0.1
baz=146
R25A Fountain Ranch 145.91 28 P PKPdf 11 59 26.3 -0.3
baz=146
T23A Casias Ranch, 145.92 32 P PKPbc 11 59 27.6 +0.1
baz=146
W20A Ramah 145.95 36 P PKPbc 11 59 27.7 +0.2
baz=146
KSCO Kaye Shedlock' 145.95 26 P PKPbc 11 59 27.2 -0.1
baz=146
V21A Milan 145.97 35 P PKPab 11 59 27.9 -0.2
baz=146
U22A Llaves 145.98 33 P PKPab 11 59 28.0 -0.1
baz=146
BINY Binghamton 146.04 349 ePKPdf PKPdf 11 59 26.9 +0.3
R26A Arlington 146.18 27 P PKPdf 11 59 27.1 +0.1
baz=146
S25A Robets Cordova 146.23 29 P PKPdf 11 59 27.1 -0.1
baz=146
V22A San Miguel Ran 146.29 34 P PKPab 11 59 29.2 -0.2
baz=146
SCIA State Center 146.29 12 ePKPdf PKPdf 11 59 27.2 +0.3
X20A Quemado 146.35 37 P PKPbc 11 59 29.2 +0.4
baz=146
TUC Tucson 146.36 43 ePKP2 PKPbc 11 59 29.1 +0.4
TUC Tucson 146.36 43 ePKPbc PKPbc 11 59 29.1 +0.4
U23A El Rito 146.37 33 P PKPab 11 59 29.3 -0.3
baz=146
R27A Eads 146.48 27 P PKPdf 11 59 28.0 +0.4
baz=146
T25A Trinidad 146.66 30 P PKPbc 11 59 29.4 -0.2
baz=147
S26A Kim 146.72 28 P PKPdf 11 59 28.8 +0.8
baz=147
Q29A Oakley 146.73 24 P PKPdf 11 59 28.3 +0.4
baz=147
P31A Stockton 146.79 21 P PKPdf 11 59 28.2 +0.3
baz=147
U24A Moreno Valley 146.79 31 P PKPbc 11 59 30.1 0.0
baz=147
V23A Ortiz Mt. (NFS 146.81 33 P PKPab 11 59 31.2 -0.1
baz=147
X21A Alamocita Cree 146.84 37 P PKPbc 11 59 30.9 +0.6
baz=147
R28A Tribune 146.86 25 P PKPdf 11 59 29.1 +0.9
baz=147
Y20A Horse Springs, 146.86 38 P PKPab 11 59 31.1 -0.5
baz=147
Y21A Point of Rocks 147.22 37 P PKPbc 11 59 31.9 +0.6
baz=147
Q31A Ellis 147.24 22 P PKPbc 11 59 30.8 -0.2
baz=147
U25A Circle Dot Ran 147.24 30 P PKPab 11 59 32.1 -0.8
baz=147
ANMO Albuquerque 147.25 35 ePKPbc PKPdf 11 59 30.1 +1.1
LAZ Ladron 147.25 36 ePKPdf PKPbc 11 59 30.5 -0.9
W23A Werner Place, 147.26 34 P PKPbc 11 59 31.8 +0.4
baz=147
Z20A Nine Sixteen R 147.26 39 P PKPbc 11 59 32.1 +0.8
baz=147
V24A Rampart Ranch, 147.31 32 P PKPbc 11 59 31.5 0.0
baz=147
S28A Manter 147.45 26 P PKPbc 11 59 31.8 +0.1
baz=147
R30A Dighton 147.53 23 P PKPbc 11 59 30.6 -1.2
baz=147
V25A Rancho No Teng 147.57 31 P PKPbc 11 59 31.1 -1.1
baz=148
U26A Atchley Ranch, 147.57 30 P PKPdf 11 59 30.8 +1.3
baz=148
LPM Los Pinos Moun 147.61 36 ePKPbc PKPbc 11 59 32.9 +0.6
120A U Bar Ranch, L 147.61 40 P PKPbc 11 59 31.7 -0.6
baz=148
W24A Lazy 6 Ranch, 147.63 33 P PKPbc 11 59 32.1 -0.3
baz=148
Y22A Socorro 147.68 36 P PKPbc 11 59 32.9 +0.4
baz=148
Z21A St. Cloud Mine 147.70 38 P PKPbc 11 59 33.5 +0.9
baz=148
BNM Barren Site 147.73 36 ePKPbc PKPbc 11 59 32.8 +0.1
T28A Walsh 147.75 27 P PKPbc 11 59 31.8 -0.7
baz=148
S29A Ulysses 147.76 25 P PKPbc 11 59 31.8 -0.7
baz=148
R31A Burdett 147.82 22 P PKPbc 11 59 31.8 -0.8
baz=148
319A Douglas 147.94 42 P PKPbc 11 59 34.0 +0.8
baz=148
U27A Thompson Grove 147.99 29 P PKPbc 11 59 32.5 -0.7
baz=148
T29A Hugoton 148.08 26 P PKPbc 11 59 32.9 -0.4
baz=148
KSU1 Kansas State U 148.08 18 ePKPdf PKPdf 11 59 30.5 +0.4
220A Playas Peak, P 148.10 41 P PKPbc 11 59 34.6 +1.0
baz=148
X24A Lazy VL Ranch, 148.10 34 P PKPbc 11 59 33.0 -0.7
baz=148
W25A X Bar L Ranch, 148.13 32 P PKPbc 11 59 33.8 +0.2
baz=148
121A Cookes Peak, D 148.16 39 P PKPbc 11 59 34.4 +0.6
baz=148
Z22A Elephant Butte 148.16 37 P PKPbc 11 59 34.4 +0.6
baz=148
S31A Mullinville 148.42 23 P PKPbc 11 59 34.3 +0.1
baz=148
V27A Dan Oppiter Fa 148.52 29 P PKPbc 11 59 34.2 -0.4
baz=148
122A Conniff Cattle 148.53 38 P PKPbc 11 59 35.0 +0.3
baz=148
X25A Clemmons Ranch 148.55 33 P PKPbc 11 59 34.5 -0.3
baz=148
Y24A Capitan 148.57 35 P PKPbc 11 59 34.8 -0.1
baz=148
SFIN Scholer Farm 148.62 4 P PKPbc 11 59 33.9 -0.6
baz=148
T31A Randall Ranch, 148.80 24 P PKPbc 11 59 35.6 +0.5
baz=149
222A Williams Famil 148.87 39 P PKPbc 11 59 35.7 +0.1
baz=149
U30A WK&E Inc. Balk 148.88 26 P PKPbc 11 59 34.9 -0.6
baz=149
W27A Bowe Ranch, En 148.96 30 P PKPbc 11 59 35.4 -0.3
baz=149
X26A CR and CF Fran 148.98 32 P PKPbc 11 59 35.6 -0.2
baz=149
Y25A Mesa, Roswell 148.99 34 P PKPbc 11 59 35.5 -0.4
baz=149
Z24A Sheeppen Canyo 149.05 35 P PKPbc 11 59 36.6 +0.4
baz=149
X27A F and S Farms, 149.27 31 P PKPbc 11 59 36.4 -0.2
baz=149
124A Stringfield Ra 149.45 36 P PKPbc 11 59 36.9 -0.3
baz=149
Z25A Roswell 149.45 35 P PKPbc 11 59 37.4 +0.3
baz=149
Y26A Elida 149.46 33 P PKPbc 11 59 36.9 -0.1
baz=149
AMTX Amarillo 149.78 29 ePKPbc PKPbc 11 59 38.0 +0.3
X28A Dimmitt 149.83 30 P PKPbc 11 59 37.4 -0.5
baz=150
Y27A Causey 149.84 32 P PKPbc 11 59 37.3 -0.6
baz=150
224A Cornudas Mount 149.85 37 P PKPbc 11 59 38.3 +0.2
baz=150
BLO Bloomington 149.85 3 ePKP2 PKPbc 11 59 36.8 -0.9
BLO Bloomington 149.85 3 ePKPbc PKPbc 11 59 36.8 -0.9
V31A Spring Creek L 149.87 25 P PKPbc 11 59 37.7 -0.2
baz=150
Z26A Caprock 149.87 34 P PKPbc 11 59 37.9 -0.2
baz=150
125A Gardner Draw, 149.94 35 P PKPbc 11 59 38.1 -0.2
baz=150
X29A Tulia 150.13 29 P PKPbc 11 59 38.8 +0.2
baz=150
LPAZ La Paz 150.13 213 PKPbc PKPbc 11 59 40.1 +0.4
LPAZ La Paz 150.13 213 PKPbc PKPbc 11 59 40.1 +0.4
comp=Z,2.5nm,0.9s,baz=147,slow=2.8,SNR=8.6
MNTX Cornudas Mount 150.21 38 ePKPbc PKPbc 11 59 38.6 -0.1
225A Deer Hill, Car 150.25 36 P PKPbc 11 59 39.3 +0.2
baz=150
Y28A McKinney Farm, 150.29 31 P PKPbc 11 59 38.6 -0.4
baz=150
126A Clayton Basin, 150.31 35 P PKPbc 11 59 38.7 -0.4
baz=150
W31A Holland Ranch, 150.32 26 P PKPbc 11 59 38.6 -0.4
baz=150
324A Moseley Ranch, 150.32 38 P PKPbc 11 59 38.9 -0.4
baz=150
GDL2 Guadalupe Moun 150.45 36 ePKPbc PKPbc 11 59 39.2 -0.3
Y29A Porterfield Fa 150.61 30 P PKPbc 11 59 39.6 -0.2
baz=150
226B Tecolote Peak, 150.65 36 P PKPbc 11 59 39.7 -0.3
baz=151
127A Arkansas Junct 150.66 34 P PKPbc 11 59 40.1 +0.1
baz=151
325A Bean Ranch, Si 150.69 38 P PKPbc 11 59 39.6 -0.6
baz=151
Z28A Tucker Farm, M 150.71 32 P PKPbc 11 59 39.2 -0.8
baz=151
X31A McDonald Ranch 150.77 27 P PKPbc 11 59 39.2 -0.9
baz=151
WCI Wyandotte Cave 150.81 3 ePKIKP PKPbc 11 59 38.9 -1.1
WCI Wyandotte Cave 150.81 3 ePKPbc PKPbc 11 59 38.9 -1.1
USIN University of 150.97 5 ePKPbc PKPbc 11 59 39.3 -1.1
Y30A Stafford Cattl 150.98 29 P PKPbc 11 59 40.3 -0.3
baz=151
SIUC Southern Illin 151.05 8 ePKPbc PKPbc 11 59 39.9 -0.7
Z29A Hungry Hill Ra 151.08 31 P PKPbc 11 59 40.3 -0.6
baz=151
425A Indio Mountain 151.09 38 P PKPbc 11 59 40.8 -0.3
baz=151
WMOK Wichita Mounta 151.20 25 ePKIKP PKPbc 11 59 39.8 -1.2
WMOK Wichita Mounta 151.20 25 ePKPbc PKPbc 11 59 39.8 -1.2
Y31A Rekieta Farm, 151.20 28 P PKPbc 11 59 40.1 -1.0
baz=151
TUL1 Tulsa 151.26 19 P PKPbc 11 59 40.0 -1.1
baz=151
Z30A Sanderson Ranc 151.34 30 P PKPbc 11 59 40.5 -1.0
baz=151
129A Stewart Farms, 151.49 32 P PKPbc 11 59 41.3 -0.6
baz=151
426A McDonald Obser 151.75 37 P PKPbc 11 59 42.3 -0.4
baz=152
Z31A Sharp Cattle R 151.79 28 P PKPbc 11 59 42.0 -0.4
baz=152
328A Wristen Ranch, 151.94 35 P PKPbc 11 59 42.4 -0.5
baz=152
427A Hayter Ranch, 151.99 36 P PKPbc 11 59 42.4 -0.7
baz=152
PARMO Parma 152.01 9 ePKPbc PKPbc 11 59 42.3 -0.5
Z32A Haskell 152.11 28 P PKPbc 11 59 42.9 -0.3
baz=152
526A Mary Lane Ranc 152.15 38 P PKPbc 11 59 42.9 -0.6
baz=152
131A Roby 152.20 30 P PKPbc 11 59 42.9 -0.5
baz=152
SAML Samuel 152.28 231 ePKPbc PKPbc 11 59 45.1 +1.1
329A Wagon Wheel Ra 152.32 33 P PKPbc 11 59 43.0 -0.8
baz=152
527A Woodward Ranch 152.38 38 P PKPbc 11 59 43.7 -0.3
baz=152
230A Sterling City 152.47 32 P PKPbc 11 59 43.6 -0.5
baz=152
626A Big Bend Ranch 152.47 39 P PKPbc 11 59 43.6 -0.6
baz=152
428A Kincaid Ranch, 152.50 36 P PKPbc 11 59 44.3 +0.1
baz=152
TZTN Tazewell 152.52 358 ePKPbc PKPbc 11 59 43.0 -1.0
ABTX Abilene, Hawle 152.60 29 P PKPbc 11 59 43.5 -0.8
baz=152
WVT Waverly 152.78 6 ePKIKP PKPbc 11 59 43.5 -1.0
WVT Waverly 152.78 6 ePKPbc PKPbc 11 59 43.5 -1.0
330A Mertzon 152.81 32 P PKPbc 11 59 44.1 -0.8
baz=153
528A Cox Ranch, San 152.85 36 P PKPbc 11 59 44.8 -0.3
baz=153
TXAR Lajitas Array 152.92 39 PKPbc PKPbc 11 59 44.9 -0.3
TXAR Lajitas Array 152.92 39 PKPbc PKPbc 11 59 44.9 -0.3
comp=Z,2.9nm,0.6s,baz=292,slow=3.6,SNR=4.1
627A Terlingua Ranc 153.00 38 P PKPbc 11 59 45.2 -0.2
baz=153
429A Davenport Ranc 153.02 35 P PKPbc 11 59 44.5 -0.9
baz=153
529A Stev Forest Ra 153.21 36 P PKPbc 11 59 45.2 -0.6
baz=153
430A Baggett Ranch, 153.26 33 P PKPbc 11 59 45.4 -0.5
baz=153
331A San Angelo 153.28 31 P PKPbc 11 59 45.0 -0.9
baz=153
628A Black Gap, Mar 153.29 38 P PKPbc 11 59 45.6 -0.3
baz=153
431A Sonora 153.68 33 P PKPbc 11 59 45.7 -1.0
baz=154
530A J-C Ranch, Com 153.70 34 P PKPbc 11 59 46.3 -0.6
baz=154
KMSC Kings Mountain 153.77 354 P PKPbc 11 59 46.2 -0.6
baz=154
432A Menard 153.95 31 P PKPbc 11 59 46.3 -1.0
baz=154
531A Rocksprings 154.12 33 P PKPbc 11 59 46.7 -1.0
baz=154
WHTX Lake Whitney 154.12 26 P PKPbc 11 59 46.2 -1.4
baz=154
JCT Junction City 154.26 32 ePKIKP PKPbc 11 59 47.0 -1.0
JCT Junction City 154.26 32 ePKPbc PKPbc 11 59 47.0 -1.0
JCT Junction City 154.26 32 P PKPbc 11 59 47.3 -0.7
baz=154
532A Rocksprings 154.49 32 P PKPbc 11 59 47.8 -0.7
baz=154

IDC 19 11:41:46.3±3.8, 0.49S×100.53E, h0km, mb4.8/8, mb1 4.8/9, mb1mx4.3/25, mbtmp4.8/9, ML4.5/1, MS4.5/3, Ms1 4.5/3, ms1mx3.8/26, Error ellipse: s-maj=80.5km s-min=45.9km az=174.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	18.89	355	P	P	Pn	11 46 09.0	-0.1
	0.6nm,0.3s,baz=185,slow=11,SNR=18							
KSRS	Korea Array	45.46	31	P	P		11 50 07.0	-0.2
	19nm,0.9s,baz=227,slow=8.6,SNR=9.9							
SONM	Songino Array	48.40	5	P	P		11 50 30.7	+0.4
	4.3nm,0.5s,baz=185,slow=7.9,SNR=7.6							
CN2	Changchun	49.40	24	eP	P		11 50 37.9	0.0
CN2				pmax	pmax			
	comp=Z,40nm,0.8s							
MKAR	Makanchi Array	49.73	344	P	P		11 50 40.0	-0.4
	comp=Z,8.9nm,0.7s,baz=152,slow=7.6,SNR=12							
USRK	Ussuriysk Arra	52.59	28	P	P		11 51 01.4	-0.4

comp=Z,48nm,0.8s,baz=226,slow=5.7,SNR=20
KURBB Kurchatov Arra 54.27 343 P P 11 51 13.8 -0.3
comp=Z,8.4nm,0.8s,baz=165,slow=7.2,SNR=9.3
ZALV Zalesovo Beam 55.80 349 P P 11 51 24.5 -0.6
comp=Z,11nm,0.7s,baz=175,slow=5.5,SNR=3.9
FINES FINESS Array B 83.03 332 P P 11 54 13.9 +0.5
comp=Z,1.4nm,0.8s,baz=107,slow=5.2,SNR=3.6
FINES LR LR 12 38 20.3
comp=Z,376nm,19.5s,baz=275,slow=41
ARCES ARCESS Array B 85.25 340 P P 11 54 24.6 +0.1
comp=Z,2.0nm,0.9s,baz=98,slow=5.0,SNR=5.2
RAR Rarotonga 98.86 111 LR LR 12 38 13.9
comp=Z,167nm,19.1s,baz=315,slow=34
ILAR Eielson Array 99.92 24 LR LR 12 44 18.6
comp=Z,145nm,18.7s,baz=266,slow=38

*NEIC **19** 11:45:57.6, 19°.25N×64°.36W, h66km, MD3.4(RSPR), After RSPR.*

RSPR 19 11:45:57.6, 19°.25N×64°.36W, h66km±6km, MD3.6/13, 34C-15D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABV	**Anegada**	**0.52**	**177**	*e*P	Pn	11 46 10.1	-0.1
ABV	**Anegada**	**0.52**	**177**	*e*P	Pn	11 46 10.1	-0.1
ABV				*e*S	Sn	11 46 18.8	-0.6
ABVI	**Anegada Island**	**0.52**	**177**	*e*P	Pn	11 46 10.1	-0.1
ABVI				*e*S	Sn	11 46 18.8	-0.6
TBVI	**Tortola**	**0.86**	**197**	*e*P	Pn	11 46 13.2	-0.9
TBVI	**Tortola**	**0.86**	**197**	*e*P	Pn	11 46 13.2	-0.9
TBVI	**Tortola**	**0.86**	**197**	*e*P	Pn	11 46 13.2	-0.9
STVI	**Saint Thomas**	**1.05**	**212**	*e*P	Pn	11 46 15.4	-1.2
STVI				*e*S	Sn	11 46 30.4	-0.3
STVI	**Saint Thomas**	**1.05**	**212**	*e*P	Pn	11 46 15.4	-1.2
STVI				*e*S	Sn	11 46 30.4	-0.3
STVI	**Saint Thomas**	**1.05**	**212**	*e*P	Pn	11 46 15.4	-1.2
STVI				*e*S	Sn	11 46 30.4	-0.3
CDVI	**St. Croix**	**1.54**	**195**	*e*P	Pn	11 46 24.9	+2.0
CDVI	**St. Croix**	**1.54**	**195**	*e*P	Pn	11 46 24.9	+2.0
CDVI	**St. Croix**	**1.54**	**195**	*e*P	Pn	11 46 24.9	+2.0
MTP	**Monte Pirata**	**1.61**	**225**	*e*Pn	Pn	11 46 22.9	-1.0
MTP				*e*Sn	Sn	11 46 44.8	+1.1
CBYP	**Canovanas**	**1.72**	**236**	*e*P	Pn	11 46 24.3	-1.1
CBYP	**Canovanas**	**1.72**	**236**	*e*P	Pn	11 46 24.3	-1.1
CBYP	**Canovanas**	**1.72**	**236**	*e*P	Pn	11 46 24.3	-1.1
HUMP	**Col San Antoni**	**1.79**	**232**	*e*P	Pn	11 46 26.1	-0.2
HUMP	**Col San Antoni**	**1.79**	**232**	*e*P	Pn	11 46 26.1	-0.2
HUMP	**Col San Antoni**	**1.79**	**232**	*e*P	Pn	11 46 26.1	-0.2
CPD	**Cerro la Pandu**	**1.91**	**231**	*e*P	Pn	11 46 27.5	-0.4
CPD	**Cerro la Pandu**	**1.91**	**231**	*e*P	Pn	11 46 27.5	-0.4
CPD	**Cerro la Pandu**	**1.91**	**231**	*e*P	Pn	11 46 27.5	-0.4
SJG	**San Juan**	**2.04**	**237**	*e*P	Pn	11 46 28.8	-0.9
SJG	**San Juan**	**2.04**	**237**	*e*S	Sn	11 46 53.5	-0.6
SJG	**San Juan**	**2.04**	**237**	*e*P	Pn	11 46 28.9	-0.8
SJG	**San Juan**	**2.04**	**237**	*e*P	Pn	11 46 28.8	-0.9
SJG				*e*S	Sn	11 46 53.5	-0.6
SJG	**San Juan**	**2.04**	**237**	*e*P	Pn	11 46 28.8	-0.9
SJG	**San Juan**	**2.04**	**237**	*e*P	Pn	11 46 28.9	-0.8
SJG				*e*S	Sn	11 46 53.5	-0.6
CELP	**Cerrillos**	**2.41**	**241**	*e*P	Pn	11 46 34.1	-0.6
CELP	**Cerrillos**	**2.41**	**241**	*e*P	Pn	11 46 34.1	-0.6
CELP	**Cerrillos**	**2.41**	**241**	*e*P	Pn	11 46 34.1	-0.6
AOPR	**Arecibo Observ**	**2.44**	**249**	*e*P	Pn	11 46 34.5	-0.7
AOPR	**Arecibo Observ**	**2.44**	**249**	*e*P	Pn	11 46 34.5	-0.7
AOPR	**Arecibo Observ**	**2.44**	**249**	*e*P	Pn	11 46 34.5	-0.7
OBIP	**Obispado Ponce**	**2.44**	**241**	*e*P	Pn	11 46 35.0	-0.2
OBIP	**Obispado Ponce**	**2.44**	**241**	*e*P	Pn	11 46 35.0	-0.2
OBIP	**Obispado Ponce**	**2.44**	**241**	*e*P	Pn	11 46 35.1	-0.1
LRS	**Lares**	**2.54**	**248**	*e*P	Pn	11 46 36.1	-0.4
LRS	**Lares**	**2.54**	**248**	*e*P	Pn	11 46 36.1	-0.4
LRS	**Lares**	**2.54**	**248**	*e*P	Pn	11 46 36.1	-0.4
GBPR	**Guanica, Bosqu**	**2.71**	**243**	*e*P	Pn	11 46 39.1	+0.4
GBPR	**Guanica, Bosqu**	**2.71**	**243**	*e*P	Pn	11 46 39.1	+0.4
GBPR	**Guanica, Bosqu**	**2.71**	**243**	*e*P	Pn	11 46 39.1	+0.4
AGPR	**Aguadilla, PR**	**2.72**	**254**	*e*P	Pn	11 46 38.4	-0.6
AGPR	**Aguadilla, PR**	**2.72**	**254**	*e*P	Pn	11 46 38.4	-0.6
AGPR	**Aguadilla, PR**	**2.72**	**254**	*e*P	Pn	11 46 38.4	-0.6
LSP	**Las Mesas**	**2.80**	**248**	*e*Pn	Pn	11 46 39.9	-0.1
CRPR	**Cabo Rojo, PR**	**2.89**	**245**	*e*P	Pn	11 46 41.1	-0.1
CRPR	**Cabo Rojo, PR**	**2.89**	**245**	*e*P	Pn	11 46 41.1	-0.1
CRPR	**Cabo Rojo, PR**	**2.89**	**245**	*e*P	Pn	11 46 41.0	+0.4
DR12	**Loma Pena Alta**	**4.77**	**265**	*e*P	Pn	11 47 07.7	+0.6
DR12	**Loma Pena Alta**	**4.77**	**265**	*e*P	Pn	11 47 07.7	+0.6
SDDR	**Presa de Saban** 45nm,0.6s	**6.56**	**269**	*e*Pn	Pn	11 47 31.4	-0.1
SDDR				*e*Sn	Sn	11 48 43.8	-1.1

IDC 19 11:51:50.7±22.0, 4°.09N×124°.31E, h170km±225km, mb3.2/7, mb1 3.3/7, mb1mx3.1/24, mbtmp3.2/7, MS2.9/1, Ms1 2.9/1, ms1mx1.9/16, Error ellipse: s-maj=50.0km s-min=28.9km az=47.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.22**	**23**	LR	LR	11 53 46.1	
comp=Z,208nm,21.5s,baz=234,slow=36							
FITZ	**Fitzroy Crossi**	**22.09**	**177**	P	P	11 56 33.2	+0.9
0.9nm,0.3s,baz=7.7,slow=9.0,SNR=19							
WRA	**Warramunga Arr**	**25.84**	**158**	P	P	11 57 06.0	-0.6
0.5nm,0.3s,baz=339,slow=9.9,SNR=18							
ASAR	**Alice Springs**	**29.13**	**162**	P	P	11 57 35.8	-0.1
0.2nm,0.4s,baz=338,slow=7.7,SNR=7.8							
STKA	**Stephens Creek**	**39.37**	**157**	P	P	11 59 03.6	-0.2
2.0nm,0.9s,baz=345,slow=12,SNR=4.1							
MKAR	**Makanchi Array**	**55.90**	**326**	P	P	12 01 10.8	0.0
0.6nm,0.4s,baz=121,slow=7.7,SNR=14							
PETK	**Petropavlovsk-**	**56.04**	**24**	P	P	12 01 12.2	+0.5
0.4nm,0.5s,baz=198,slow=2.3,SNR=5.0							
KURBB	**Kurchatov Arra**	**60.15**	**328**	P	P	12 01 39.8	-0.5
0.9nm,0.6s,baz=130,slow=6.5,SNR=12							

IDC 19 12:07:29.9±2.6, 9°.92N×126°.50E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/22, mbtmp3.6/4, Error ellipse: s-maj=243.5km s-min=24.5km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.66**	**165**	P	P	12 13 45.3	-1.1
0.7nm,0.6s,baz=344,slow=10,SNR=6.8							
ASAR	**Alice Springs**	**34.15**	**168**	P	P	12 14 18.1	+1.1
0.3nm,0.9s,baz=352,slow=6.9,SNR=5.2							
MKAR	**Makanchi Array**	**52.44**	**323**	P	P	12 16 44.6	+0.1
0.6nm,0.7s,baz=122,slow=9.0,SNR=6.3							
FINES	**FINESS Array B**	**86.31**	**332**	P	P	12 20 13.2	-0.4
1.5nm,0.9s,baz=90,slow=2.5,SNR=3.4							

IDC 19 12:19:35.5±11.0, 1°.78N×127°.21E, h117km±108km, mb3.6/4, mb1 3.6/6, mb1mx3.3/21, mbtmp3.5/6, ML3.8/2, Error ellipse: s-maj=81.8km s-min=19.4km az=57.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**10.05**	**228**	P	Pn	12 21 58.2	+1.5
0.6nm,0.3s,baz=45,slow=14,SNR=3.5							
KAPI				S	Sn	12 23 47.7	0.0
1.4nm,0.3s,baz=30,slow=22,SNR=5.7							
FITZ	**Fitzroy Crossi**	**19.81**	**184**	P	P	12 23 56.9	0.0
0.2nm,0.3s,baz=8.8,slow=13,SNR=9.3							
WRA	**Warramunga Arr**	**22.69**	**162**	P	P	12 24 27.0	-0.3
4.3nm,0.7s,baz=338,slow=11,SNR=42							
ASAR	**Alice Springs**	**26.11**	**166**	P	P	12 24 58.4	-0.3
0.4nm,0.3s,baz=345,slow=7.7,SNR=25							
STKA	**Stephens Creek**	**36.15**	**159**	P	P	12 26 26.7	+0.2
3.2nm,0.7s,baz=344,slow=9.3,SNR=13							
MKAR	**Makanchi Array**	**59.43**	**326**	P	P	12 29 25.7	-0.2
0.4nm,0.3s,baz=116,slow=7.6,SNR=8.6							

JMA 19 12:19:50.2±0.2, 36°.75N×141°.83E, h45km±5km, M3.6, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.90**	**293**	P	Pn	12 20 06.2	-0.3
JFK	**Kawauchi**	**0.98**	**309**	P	Pn	12 20 07.5	-0.1
JHO	**Hitachi**	**1.02**	**263**	P	Pn	12 20 07.8	-0.3
JHO				S	Sn	12 20 22.0	+0.6
JMM	**Marumori**	**1.39**	**324**	P	Pn	12 20 13.7	+0.6
JFT	**Otama**	**1.42**	**303**	P	Pn	12 20 15.0	+1.4
JFT				*e*S	Sn	12 20 32.8	+1.7
JIO	**Ouri**	**1.74**	**347**	P	Pn	12 20 18.9	+0.9
JIO				*e*S	Sn	12 20 38.9	-0.1
JFY	**Yanaizu**	**1.82**	**292**	P	Pn	12 20 20.5	+1.4
JOU	**Okura**	**1.86**	**330**	P	Pn	12 20 21.6	+2.0
JOU				*e*S	Sn	12 20 43.3	+1.4
JAG	**Ashikaga**	**1.94**	**261**	P	Pn	12 20 21.5	+0.8
JKT	**Katashina**	**2.07**	**271**	P	Pn	12 20 24.7	+2.1
MAT	**Matsushiro**	**2.92**	**267**	P	Pn	12 20 36.8	+2.6
MAT				S	Sn	12 21 12.7	+4.6

IDC 19 12:39:32.4±1.5, 11°.96N×145°.98E, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.3/24, mbtmp3.3/3, Error ellipse: s-maj=254.4km s-min=30.0km az=112.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**33.71**	**200**	P	P	12 46 15.4	-0.1
0.8nm,0.8s,baz=22,slow=9.9,SNR=6.2							
ILAR	**Eielson Array**	**69.58**	**25**	P	P	12 50 42.1	-0.9
0.1nm,0.4s,baz=249,slow=5.9,SNR=5.4							
YKA	**Yellowknife Ar**	**83.80**	**27**	P	P	12 52 04.4	+0.9
0.1nm,0.7s,baz=283,slow=5.3,SNR=2.6							

*NIED **19** 12:49:00, 43°.70N×147°.70E, h35km, Mw4.0 Best double couple: M₀1.18000×10¹⁵ NP1:φ₀39.00000°, δ76.00000°, λ91.00000°. NP2:φ₀215.00000°, δ14.00000°, λ86.00000°.*
*JMA **19** 12:49:52.9±0.3, 43°.70N×147°.68E, h0km, M4.5*
*MOS **19** 12:49:52.5±0.9, 43°.90N×148°.04E, h43km, mb4.3/9, Error ellipse: s-maj=10.8km s-min=8.8km az=77.8*
*ISCJB **19** 12:49:53.0±0.9, 43°.91N±0°.05×147°.97E±0°.08, h46km±7km, mb4.0/22, MS3.4/2, Error ellipse: s-maj=11.8km s-min=5.6km az=44.0*
*SKHL **19** 12:49:53.0±0.5, 43°.88N×148°.14E, h50km±20km, mb5.0/3*
*IDC **19** 12:49:55.9±2.5, 44°.01N×147°.86E, h53km±22km, mb3.7/19, mb1 3.9/23, mb1mx3.8/31, mbtmp3.7/23, ML3.4/4, MS3.0/5, Ms1 3.0/5, ms1mx2.8/34, Error ellipse: s-maj=21.3km s-min=13.4km az=154.0*

ISC 19 12:49:53.8±0.7, 43°.89N±0°.07×148°.01E±0°.08, h37km±2km, n60, σ1°.09/68, mb4.0/22, 2C-4D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.35**	**356**	*i*P	Pn	**12 50 15.2**	**-0.8**
KUR				*i* S	Sn	**12 50 31.5**	**-1.1**
KUR				pmax	pmax		
comp=N,240nm,0.4s							
KUR				pmax	pmax		
comp=E,280nm,0.4s							
KUR				pmax	pmax		
comp=Z,1μm,0.4s							
KUR				smax	smax		
comp=N,3μm,0.4s							
KUR				smax	smax		
comp=E,4μm,0.4s							
KUR	**Kuril'sk**	**1.35**	**356**	*i*P	Pn	**12 50 15.2**	**-0.8**
KUR				AMB	AMB	12 50 16.6	
comp=E,1μm,0.3s							
KUR				AMB	AMB	12 50 16.6	
comp=E,240nm,0.4s							
KUR				AMB	AMB	12 50 16.6	
comp=E,280nm,0.4s							
KUR				*i* S	Sn	**12 50 31.5**	**-1.1**
KUR				A	A	12 50 36.2	
comp=E,3μm,0.8s							
KUR				A	A	12 50 36.2	
comp=E,5μm,1.4s							
YUK	**Yuzh-Kuril'sk**	**1.56**	**276**	*d i*PN	Pn	**12 50 18.1**	**-0.8**
YUK				*i* S	Sn	**12 50 37.4**	**-0.4**
YUK				pmax	pmax		
comp=N,105nm,0.2s							
YUK				pmax	pmax		
comp=E,267nm,0.2s							
YUK				pmax	pmax		
comp=Z,508nm,0.2s							
YUK				smax	smax		
comp=N,967nm,0.2s							
YUK				smax	smax		
comp=E,2μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.56**	**276**	*i*P	Pn	**12 50 18.2**	**-0.7**
YUK				AMB	AMB	12 50 21.7	
comp=E,110nm,0.1s							
YUK				AMB	AMB	12 50 21.7	
comp=E,270nm,0.1s							
YUK				AMB	AMB	12 50 21.7	
comp=E,510nm,0.1s							
YUK				*i* S	Sn	**12 50 37.5**	**-0.4**
YUK				A	A	12 50 40.6	
comp=E,970nm,0.2s							
YUK				A	A	12 50 40.6	
comp=E,2μm,0.2s							
NEM2	**Nemuro 2**	**1.73**	**253**	P	Pn	**12 50 20.2**	**-1.0**
NEM2				*e*S	Sn	**12 50 40.1**	**-1.9**
JRA	**Rausu**	**2.09**	**272**	P	Pn	**12 50 26.4**	**+0.2**
JRA				*e*S	Sn	**12 50 50.6**	**-0.3**
JNK	**Nakash**	**2.41**	**264**	P	Pn	**12 50 30.4**	**-0.2**
JAK	**Akkeshi**	**2.58**	**251**	P	Pn	**12 50 32.4**	**-0.5**
JAK				*e*S	Sn	**12 51 01.2**	**-1.7**
JTKR	**Abashiri--Toko**	**2.97**	**273**	P	Pn	**12 50 39.2**	**+1.0**
JAR	**Ashorobuto**	**3.14**	**261**	P	Pn	**12 50 41.4**	**+0.8**
JAR				*e*S	Sn	**12 51 17.4**	**+0.6**
JOB	**Onbets**	**3.20**	**253**	P	Pn	**12 50 41.8**	**+0.3**
JOB				*e*S	Sn	**12 51 18.2**	**-0.1**
JMP	**Maruseppu**	**3.36**	**274**	P	Pn	**12 50 45.2**	**+1.5**
JCH	**Churui**	**3.63**	**251**	P	Pn	**12 50 48.0**	**+0.7**
JKK2	**Kamakawa 2**	**3.81**	**272**	P	Pn	**12 50 52.8**	**+3.0**
ASAJ	**Asahikawa**	**3.91**	**275**	P	Pn	**12 50 52.6**	**+1.3**
comp=E,2.6nm,0.3s,baz=117,slow=27,SNR=33							
ASAJ				LR	LR	12 52 32.6	
comp=E,298nm,20.2s,baz=151,slow=41							
ERM	**Erimo**	**4.03**	**244**	*c i*PN	Pn	**12 50 54.9**	**+2.1**
ERM				pmax	pmax		
comp=Z,197nm,2.5s							
ERM	**Erimo**	**4.03**	**244**	*e*P	Pn	**12 50 54.9**	**+2.1**
JNBK	**Urakawa-nobuka**	**4.17**	**249**	P	Pn	**12 50 55.5**	**+0.6**
YSS	**Yuzh-Sakhalins**	**4.80**	**311**	*e*PN	Pn	**12 51 04.2**	**+0.7**
YSS				pmax	pmax		
comp=Z,20nm,0.5s							
YSS	**Yuzh-Sakhalins**	**4.80**	**311**	*e*P	Pn	**12 51 04.2**	**+0.7**
YSS				AMB	AMB	12 51 05.0	
comp=Z,20nm,0.5s							
TYV	**Tymovskoe**	**7.86**	**334**	*e*P	Pn	**12 51 47.5**	**+2.1**
MJA0	**Matsu Arr-Jizo**	**10.46**	**229**	*e*PN	Pn	**12 52 22.9**	**+1.7**
MJAR	**Matsushiro Arr**	**10.48**	**229**	P	Pn	**12 52 22.0**	**+0.5**
comp=Z,0.3nm,0.3s,baz=30,slow=13,SNR=5.2							
MJAR				LR	LR	12 56 49.8	
comp=Z,33nm,18.6s,baz=10.0,slow=40							
PETK	**Petropavlovsk-**	**11.23**	**31**	*e*PN	Pn	**12 52 32.4**	**+0.9**
PETK				pmax	pmax		
comp=Z,1.0nm,0.3s							
PETK	**Petropavlovsk-**	**11.23**	**31**	P	Pn	**12 52 32.5**	**+0.9**
comp=Z,0.6nm,0.3s,baz=203,slow=14,SNR=18							
USRK	**Ussuriysk Arra**	**11.53**	**277**	LR	LR	12 57 08.3	
comp=Z,108nm,21.2s,baz=40,slow=38							
PET	**Petropavlovsk**	**11.54**	**34**	*i* PN	Pn	12 52 31.2	-4.5
KSRS	**Korea Array**	**16.52**	**254**	P	P	**12 53 44.8**	**-0.1**
comp=Z,0.1nm,0.3s,baz=62,slow=12,SNR=3.3							
KSRS				LR	LR	12 59 24.8	
comp=Z,30nm,21.3s,baz=70,slow=34							
YAK	**Yakutsk**	**21.12**	**336**	*i* P	P	**12 54 35.8**	**+0.9**
SONM	**Songino Array**	**28.99**	**293**	P	P	**12 55 49.0**	**-0.9**
comp=Z,0.4nm,0.4s,baz=86,slow=8.0,SNR=5.4							
SONM				LR	LR	13 08 05.2	
comp=Z,69nm,18.8s,baz=60,slow=38							
WHN	**Wuhan**	**29.71**	**255**	*e*P	P	**12 55 56.6**	**+0.3**
COLA	**College**	**40.59**	**36**	*i* P	P	**12 57 29.4**	**+0.1**
ILAR	**Eielson Array**	**41.01**	**36**	P	P	**12 57 33.0**	**+0.2**
comp=Z,1.6nm,0.8s,baz=271,slow=8.4,SNR=23							
ZALV	**Zalesovo Beam**	**41.41**	**307**	PcP	PcP	**12 59 33.5**	**-0.1**
comp=Z,1.1nm,0.5s,baz=123,slow=1.2,SNR=5.8							
MKAR	**Makanchi Array**	**45.07**	**298**	*e*P	P	**12 58 08.6**	**+2.6**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.9s							
MKAR	**Makanchi Array**	**45.07**	**298**	P	P	**12 58 05.3**	**-0.6**
comp=Z,1.7nm,0.9s,baz=82,slow=8.9,SNR=10							
MKAR				PcP	PcP	**12 59 46.1**	**-0.1**
comp=Z,0.2nm,0.7s,baz=66,slow=4.4,SNR=3.7							
INK	**Inuvik**	**45.97**	**30**	P	P	**12 58 13.3**	**+0.7**
comp=Z,1.3nm,0.4s,baz=318,slow=5.6,SNR=27							
CMAR	**Chiang Mai Arr**	**48.16**	**254**	P	P	**12 58 30.9**	**+0.5**
comp=Z,0.7nm,0.8s,baz=36,slow=7.3,SNR=6.3							
AAK	**Ala-Archa**	**51.86**	**296**	*e*P	P	**12 58 57.9**	**-0.5**
AAK				pmax	pmax		
comp=Z,6.0nm,1.2s							
YKA	**Yellowknife Ar**	**55.34**	**34**	P	P	**12 59 23.8**	**+0.4**
comp=Z,0.5nm,0.5s,baz=302,slow=7.2,SNR=11							
WRA	**Warramunga Arr**	**64.75**	**194**	P	P	**13 00 28.4**	**+0.1**
comp=Z,0.6nm,0.8s,baz=17,slow=7.7,SNR=4.5							
FINES	**FINESS Array B**	**65.03**	**333**	P	P	**13 00 28.0**	**-1.7**
comp=Z,1.6nm,0.6s,baz=38,slow=7.8,SNR=20							
NVAR	**Mina Array Bea**	**66.97**	**58**	P	P	**13 00 44.0**	**+1.1**
comp=Z,0.8nm,0.7s,baz=287,slow=6.7,SNR=6.6							
PDAR	**Pinedale Array**	**69.34**	**50**	P	P	**13 00 57.8**	**+0.1**
comp=Z,0.3nm,0.7s,baz=290,slow=4.3,SNR=3.8							
NB2	**NORSAR Subarra**	**69.69**	**339**	P	P	**13 00 57.9**	**-1.4**
comp=Z,1.0nm,0.4s,baz=31,slow=6.5							
NOA	**NORSAR Array B**	**69.69**	**339**	P	P	**13 00 58.3**	**-1.0**
comp=Z,0.7nm,0.4s,baz=31,slow=6.2,SNR=11							
HFS	**Hagfors**	**69.80**	**338**	P	P	**13 00 58.6**	**-1.3**
comp=Z,1.1nm,0.4s,baz=42,slow=6.8,SNR=14							
KIV	**Kislovodsk**	**70.13**	**312**	*e*P	P	**13 01 03.5**	**+1.2**
KIV				pmax	pmax		
comp=Z,10.0nm,1.0s							
KIV				MLR	MLR		
comp=Z,28nm,18.0s							
KBZ	**Khabaz**	**70.17**	**312**	P	P	**13 01 02.6**	**+0.2**
KBZ				pmax	pmax		
comp=Z,6.0nm,0.8s							
KBZ	**Khabaz**	**70.17**	**312**	P	P	**13 01 02.6**	**+0.2**
comp=Z,5.8nm,0.8s,baz=77,slow=3.8,SNR=13							
COCO	**West Island**	**72.65**	**233**	*i* P	P	**13 01 16.5**	**-1.1**
MLR	**Muntele Rosu**	**77.23**	**322**	P	P	**13 01 44.2**	**+0.3**
comp=Z,0.1nm,0.3s,baz=163,slow=6.2,SNR=4.3							
CLL	**Collm**	**77.47**	**333**	*i* P	P	**13 01 44.2**	**-0.9**
CLL				pmax	pmax		
comp=Z,5.0nm,0.6s							
CLL	**Collm**	**77.47**	**333**	*i* P	P	**13 01 44.2**	**-0.9**
comp=Z,5.0nm,0.6s							
BRTR	**Keskin Array B**	**77.90**	**314**	P	P	**13 01 47.7**	**-0.1**
comp=Z,0.9nm,0.8s,baz=45,slow=3.7,SNR=5.2							
EKA	**Eskdalemuir Ar**	**78.17**	**344**	P	P	**13 01 47.9**	**-0.9**
comp=Z,0.9nm,0.5s,baz=19,slow=5.5,SNR=6.4							
KHC	**Kasperske Hory**	**79.14**	**331**	*i* P	P	**13 01 54.0**	**-0.4**
GERES	**GERESS Array B**	**79.34**	**331**	P	P	**13 01 53.6**	**-1.9**
comp=Z,0.9nm,0.4s,baz=35,slow=5.1,SNR=7.9							
MMAI	**Mount Meron Ar**	**81.89**	**308**	P	P	**13 02 09.9**	**+0.5**
comp=Z,1.4nm,0.5s,baz=62,slow=6.7,SNR=2.9							
TXAR	**Lajitas Array**	**82.05**	**57**	P	P	**13 02 11.1**	**+0.7**
comp=Z,0.6nm,0.7s,baz=288,slow=3.4,SNR=9.2							

*ISCJB **19** 12:49:56.5±0.3, 42°.38N±0°.02×13°.38E±0°.03, h10km±3km, Error ellipse: s-maj=3.5km s-min=2.9km az=149.4*
*ROM **19** 12:49:56.4±0.1, 42°.38N×13°.40E, h10km, Ml3.2/25, Error ellipse: s-maj=1.2km s-min=0.8km az=72.0*
*CSEM **19** 12:49:57.1±0.1, 42°.37N×13°.37E, h2km, ML3.6/10, Error ellipse: s-maj=3.2km s-min=2.6km az=52.0*
*LDG **19** 12:49:59.8±0.3, 42°.37N×13°.42E, h2km, Ml2.6/4, Error ellipse: s-maj=7.3km s-min=4.3km az=132.0*

ISC 19 12:49:57.5±0.9, 42°.38N±0°.02×13°.39E±0°.02, h6km±5km, n81, σ1°.14/108, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQU	**L'Aquila**	**0.03**	**161**	Pg	**Pg**	**12 49 58.2**	**-0.6**
AQU				Sg	**Sg**	**12 49 59.2**	**-0.5**
48μm,0.5s							
AQU	**L'Aquila**	**0.03**	**161**	Pg	**Pg**	**12 49 58.2**	**-0.6**
AQU				Sg	**Sg**	**12 49 59.2**	**-0.5**
48μm,0.5s							
CAMP	**Campotosto**	**0.15**	**6**	Pg	**Pg**	**12 50 00.5**	**-0.2**
CAMP				Sg	**Sg**	**12 50 03.3**	**+0.5**
17μm,1.1s							
CAMP	**Campotosto**	**0.15**	**6**	Pg	**Pg**	**12 50 00.5**	**-0.2**
CAMP				Sg	**Sg**	**12 50 03.3**	**+0.5**
17μm,1.1s							
FIAM	**Fiamignano**	**0.23**	**240**	Pg	**Pg**	**12 50 02.2**	**+0.2**
FIAM				Sg	**Sg**	**12 50 06.0**	**+0.9**
5μm,0.7s							
FIAM	**Fiamignano**	**0.23**	**240**	Pg	**Pg**	**12 50 02.2**	**+0.2**
FIAM				Sg	**Sg**	**12 50 06.0**	**+0.9**
5μm,0.7s							
TERO	**Teramo**	**0.29**	**34**	Pg	**Pg**	**12 50 02.6**	**-0.5**
TERO				Sg	**Sg**	**12 50 07.1**	**+0.1**
6μm,0.7s							
TERO	**Teramo**	**0.29**	**34**	Pg	**Pg**	**12 50 02.6**	**-0.5**
TERO				Sg	**Sg**	**12 50 07.1**	**+0.1**
6μm,0.7s							
VCEL	**Villa Celiera**	**0.34**	**88**	Pg	**Pg**	**12 50 03.9**	**-0.1**
VCEL				Sg	**Sg**	**12 50 08.6**	**+0.1**
9μm,0.9s							
VCEL	**Villa Celiera**	**0.34**	**88**	Pg	**Pg**	**12 50 03.9**	**-0.1**
VCEL				Sg	**Sg**	**12 50 08.6**	**+0.1**
9μm,0.9s							
LNSS	**Leonessa**	**0

	410nm,0.6s						
SDI	**San Donato**	**0.74**	**155**	Pg	**Pg**	**12 50 10.6**	**-1.1**
	410nm,0.6s						
RMP	**Rome, Mte Porz**	**0.77**	**222**	Pg	**Pg**	**12 50 12.0**	**-0.2**
	1µm,1.1s						
RMP	**Rome, Mte Porz**	**0.77**	**222**	Pg	**Pg**	**12 50 12.0**	**-0.2**
	1µm,1.1s						
GUMA	**Gualdo di Mace**	**0.79**	**31**	Pg	**Pg**	**12 50 10.0**	**-2.6**
	3µm,0.5s						
ASSB	**Assisi San Ben**	**0.85**	**321**	Pg	**Pg**	**12 50 12.5**	**-1.3**
	799nm,0.6s						
ASSB	**Assisi San Ben**	**0.85**	**321**	Pg	**Pg**	**12 50 12.5**	**-1.3**
	799nm,0.6s						
CERA	**Filignano**	**0.92**	**149**	Pg	**Pg**	**12 50 13.3**	**-1.7**
	2µm,1.5s						
CERA	**Filignano**	**0.92**	**149**	Pg	**Pg**	**12 50 13.3**	**-1.7**
	2µm,1.5s						
SNTG	**Esanatoglia**	**0.93**	**339**	Pg	**Pg**	**12 50 14.0**	**-1.3**
	176nm,0.4s						
SNTG	**Esanatoglia**	**0.93**	**339**	Pg	**Pg**	**12 50 14.0**	**-1.3**
	176nm,0.4s						
MIDA	**Miranda**	**0.98**	**139**	Pg	**Pg**	**12 50 14.4**	**-1.9**
	1µm,1.4s						
MIDA	**Miranda**	**0.98**	**139**	Pg	**Pg**	**12 50 14.4**	**-1.9**
	1µm,1.4s						
CING	**Cingoli**	**1.00**	**352**	Pg	**Pg**	**12 50 15.1**	**-1.6**
	483nm,0.6s						
CING	**Cingoli**	**1.00**	**352**	Pg	**Pg**	**12 50 15.1**	**-1.6**
	483nm,0.6s						
MGAB	**Montegabbione**	**1.08**	**300**	Pg	**Pg**	**12 50 17.0**	**-1.2**
	644nm,0.8s						
MGAB	**Montegabbione**	**1.08**	**300**	Pg	**Pg**	**12 50 17.0**	**-1.2**
	644nm,0.8s						
PGF	**Pioggiola**	**3.25**	**274**	*e*Pn	**Pn**	**12 50 49.9**	**+0.9**
PGF				*e*Sn	**Sn**	**12 51 27.6**	**-0.5**
	3.4nm,0.4s						
PGF	**Pioggiola**	**3.25**	**274**	*e*Pn	**Pn**	**12 50 49.9**	**+0.9**
PGF				*e*Sn	**Sn**	**12 51 27.6**	**-0.5**
	1.7nm,0.4s						
SBF	**Sospel**	**4.60**	**291**	*e*Pn	**Pn**	**12 51 08.7**	**+1.1**
SBF	**Sospel**	**4.60**	**291**	*e*Pn	**Pn**	**12 51 08.7**	**+1.1**
BBLS	**Lazići**	**4.65**	**69**	*e*Pn	**Pn**	**12 51 10.6**	**+2.4**
FRF	**La Foret Royal**	**5.08**	**286**	*e*Pn	**Pn**	**12 51 15.6**	**+1.5**
FRF				*e*Sn	**Sn**	**12 52 11.2**	**-1.9**
	0.3nm,0.2s						
FRF	**La Foret Royal**	**5.08**	**286**	*e*Pn	**Pn**	**12 51 15.6**	**+1.5**
FRF				*e*Sn	**Sn**	**12 52 11.2**	**-1.9**
	0.2nm,0.2s						
DIVS	**Divibare**	**5.12**	**68**	*e*Pn	**Pn**	**12 51 16.7**	**+2.0**
LMR	**La Mourre**	**5.14**	**283**	*e*Pn	**Pn**	**12 51 15.8**	**+0.9**
LMR	**La Mourre**	**5.14**	**283**	*e*Pn	**Pn**	**12 51 15.8**	**+0.9**
MBDF	**Montbardon**	**5.35**	**298**	*e*Pn	**Pn**	**12 51 19.6**	**+1.7**
MBDF				*e*Sn	**Sn**	**12 52 17.5**	**-2.3**
	3.6nm,0.6s						
MBDF	**Montbardon**	**5.35**	**298**	*e*Pn	**Pn**	**12 51 19.6**	**+1.7**
MBDF				*e*Sn	**Sn**	**12 52 17.5**	**-2.3**
	1.8nm,0.6s						
GRUS	**Gruza**	**5.57**	**72**	*e*Pn	**Pn**	**12 51 21.6**	**+0.8**
SELS	**Selova**	**5.75**	**79**	*e*Pn	**Pn**	**12 51 25.6**	**+2.3**
CABF	**La Chapelle**	**6.72**	**311**	*e*Pn	**Pn**	**12 51 37.6**	**+1.0**
CABF	**La Chapelle**	**6.72**	**311**	*e*Pn	**Pn**	**12 51 37.6**	**+1.0**
HINF	**Hinteralfeld**	**7.13**	**322**	*e*Pn	**Pn**	**12 51 43.0**	**+0.7**
HINF				*e*Sn	**Sn**	**12 53 00.1**	**-3.5**
	3.7nm,0.5s						
HINF	**Hinteralfeld**	**7.13**	**322**	*e*Pn	**Pn**	**12 51 43.0**	**+0.7**
CDF	**Champ du Feu**	**7.40**	**327**	*e*Pn	**Pn**	**12 51 46.7**	**+0.7**
CDF	**Champ du Feu**	**7.40**	**327**	*e*Pn	**Pn**	**12 51 46.7**	**+0.7**

IDC 19 13:04:10.2±4.8, 15°.89N×86°.76W, h0km, mb3.2/3, mb1 3.8/4, mb1mx3.5/21, mbtmp3.5/4, ML4.2/1, Error ellipse: s-maj=102.3km s-min=65.7km az=76.0, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**4.55**	**342**	Pn	Pn	13 05 20.5	+0.2
	13nm,0.3s,baz=11,slow=2.0,SNR=60						
TEIG				Sn	Sn	13 06 14.6	+0.6
	13nm,0.3s,baz=249,slow=23,SNR=25						
TXAR	**Lajitas Array**	**20.52**	**314**	P	P	13 08 50.1	-0.3
	1.6nm,0.9s,baz=134,slow=10,SNR=15						
PDAR	**Pinedale Array**	**33.14**	**329**	P	P	13 10 48.7	+0.1
	0.2nm,0.5s,baz=120,slow=5.3,SNR=2.6						
YKA	**Yellowknife Ar**	**50.50**	**344**	P	P	13 13 09.6	-0.2
	0.2nm,0.8s,baz=135,slow=7.8,SNR=4.1						

WEL 19 13:04:42.1±0.2, 45°.71S×166°.49E, h21km±1km, ML3.6/16, 1D, Error ellipse: s-maj=2.6km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.47**	**164**	||P*	Pb	13 04 51.0	-0.7
PYZ				S*	Sb	13 04 57.1	-1.1
DCZ	**Deep Cove**	**0.52**	**63**	P*	Pb	13 04 52.0	-0.5
DCZ				S*	Sb	13 04 58.4	-1.2
DCZ				AML	AML	13 04 58.9	
DCZ				AML	AML	13 04 59.4	
DCZ				AML	AML	13 04 59.4	
WHZ	**Wether Hill Ro**	**1.03**	**101**	PN	Pb	13 05 00.7	-0.5
WHZ				SN	Sn	13 05 14.8	-0.4
WHZ				AML	AML	13 05 22.4	
MLZ	**Mavora Lakes**	**1.24**	**73**	PN	Pn	13 05 03.4	-0.8
MLZ				SN	Sn	13 05 18.9	-1.4
MLZ				AML	AML	13 05 19.5	
MSZ	**Milford Sound**	**1.45**	**45**	AML	AML	13 05 37.9	
MSZ				AML	AML	13 05 37.9	
MSZ				AML	AML	13 05 39.3	
MSZ				AML	AML	13 05 39.4	
APZ	**The Paps**	**1.53**	**138**	PN	Pn	13 05 07.8	-0.4
WKZ	**Wanaka**	**1.99**	**64**	AML	AML	13 05 47.1	
WKZ				AML	AML	13 05 48.4	
WKZ				AML	AML	13 05 51.4	
WKZ				AML	AML	13 05 55.5	
SYZ	**Scrubby Hill**	**2.02**	**115**	PN	Pn	13 05 16.1	+1.3
EAZ	**Earnscleugh**	**2.04**	**77**	AML	AML	13 05 20.7	
EAZ				AML	AML	13 05 45.1	
EAZ				AML	AML	13 05 49.7	
EAZ				AML	AML	13 05 54.5	
TUZ	**Tuapeka**	**2.21**	**97**	AML	AML	13 05 48.8	
TUZ				AML	AML	13 05 49.0	
JCZ	**Jackson Bay**	**2.30**	**45**	AML	AML	13 05 59.2	
JCZ				AML	AML	13 06 05.5	
ODZ	**Otahua Downs**	**3.00**	**79**	PN	Pn	13 05 29.6	+1.3
ODZ				AML	AML	13 05 56.3	
RPZ	**Rata Peaks**	**3.81**	**60**	AML	AML	13 06 45.4	
WVZ	**Waitaha Valley**	**4.02**	**51**	PN	Pn	13 05 43.6	+1.2
OXZ	**Oxford**	**4.63**	**61**	PN	Pn	13 05 51.2	+0.5

IDC 19 13:07:03.9±1.0, 3°.07S×123°.10E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.6/20, mbtmp3.5/6, ML3.3/1, MS2.9/1, Ms1 2.9/1, ms1mx1.8/18, Error ellipse: s-maj=40.4km s-min=21.6km az=68.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.86**	**240**	Pn	Pn	13 08 04.9	+0.4
	1.9nm,0.3s,baz=88,slow=3.3,SNR=6.6						
KAPI				Sn	Sn	13 08 48.6	-2.0
	2.0nm,0.3s,baz=66,slow=23,SNR=3.6						
KAPI				LR	LR	13 09 54.2	
	comp=Z,149nm,20.4s,baz=168,slow=44						
FITZ	**Fitzroy Crossi**	**15.15**	**171**	Pn	P	13 10 44.1	-0.6
	0.2nm,0.3s,baz=294,slow=17,SNR=8.8						
WRA	**Warramunga Arr**	**20.05**	**148**	P	P	13 11 38.6	-0.2
	1.0nm,0.7s,baz=333,slow=9.7,SNR=10.0						
ASAR	**Alice Springs**	**22.99**	**154**	P	P	13 12 10.8	+0.3
	1.7nm,0.6s,baz=341,slow=14,SNR=17						
STKA	**Stephens Creek**	**33.53**	**151**	P	P	13 13 49.3	+3.8
	2.7nm,1.0s,baz=314,slow=11,SNR=2.9						
SONM	**Songino Array**	**52.76**	**346**	P	P	13 16 22.0	+1.2
	0.4nm,0.6s,baz=170,slow=9.1,SNR=3.3						
MKAR	**Makanchi Array**	**61.27**	**329**	P	P	13 17 20.0	-1.0
	0.6nm,0.7s,baz=127,slow=7.2,SNR=4.5						
ILAR	**Eielson Array**	**92.76**	**25**	P	P	13 20 17.3	-0.6
	0.2nm,0.6s,baz=253,slow=5.6,SNR=2.8						
TORD	**Torodi Ar. Bea**	**121.25**	**283**	PKP	PKPdf	13 25 59.6	-0.5
	0.3nm,0.8s,baz=73,slow=0.5,SNR=2.9						

MEX 19 13:16:59.1±0.3, 16°.38N×98°.13W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.02**	**353**	*i* P	Pg	13 16 59.3	-0.8
PNIG				*e*S	Sg	13 17 00.3	-0.5
HUIG	**Huatulco**	**2.03**	**107**	*i* P	Pn	13 17 31.1	-2.9
HUIG				*e*S	Sn	13 17 55.3	-4.5
TPIG	**Tehuac#an**	**2.16**	**20**	*i* P	Pn	13 17 32.7	-3.3
TPIG				*i* S	Sn	13 17 59.1	-4.2
PLIG	**Platanillo**	**2.40**	**327**	*i* P	Pn	13 17 36.6	-2.6
PLIG				*i* S	Sn	13 18 05.5	-3.5
YAIG	**Yautepec**	**2.63**	**340**	*i* P	Pn	13 17 39.1	-3.4
YAIG				*i* S	Sn	13 18 10.8	-4.2

FUNV 19 13:49:42.6, 12°.89N×67°.20W, h30km, MW3.6, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORCV	**Isla La Orchil**	**1.45**	**137**	*e*P	Pn	13 50 06.2	-0.6
ORCV				*e*S	Sn	13 50 23.3	-1.5
JACV	**Jacura**	**2.40**	**222**	*e*P	Pn	13 50 19.3	-0.6
JACV				*e*S	Sn	13 50 46.2	-2.1
BIRV	**Birongo**	**2.56**	**159**	*e*P	Pn	13 50 20.9	-1.2
BIRV				*e*S	Sn	13 50 50.0	-2.4
MONV	**Montecano**	**2.86**	**251**	*e*P	Pn	13 50 25.6	-0.7
CUPV	**Cœpira**	**3.13**	**154**	*e*P	Pn	13 50 29.6	-0.5
CUPV				*e*S	Sn	13 51 04.0	-2.6
MAPV	**Macapo**	**3.28**	**202**	*e*P	Pn	13 50 30.5	-1.5
SIQV	**Siquisique**	**3.39**	**229**	*e*P	Pn	13 50 32.5	-1.0
SIQV				*e*S	Sn	13 51 10.0	-2.8
TEPV	**Terepaima**	**3.50**	**214**	*e*P	Pn	13 50 33.1	-2.0
PCRV	**Puerto La Cruz**	**3.68**	**137**	*e*P	Pn	13 50 37.3	-0.3
MERV	**Las Mercedes**	**3.72**	**166**	*e*P	Pn	13 50 37.3	-0.8
DABV	**Dabajuro**	**3.89**	**240**	*e*P	Pn	13 50 39.9	-0.6
CURV	**Curarigua**	**3.93**	**224**	*e*P	Pn	13 50 39.4	-1.8
CURV				*e*S	Sn	13 51 22.4	-4.1
BAUV	**El Baul**	**4.00**	**192**	*e*P	Pn	13 50 40.1	-1.9
BAUV				*e*S	Sn	13 51 23.7	-4.3
SANV	**Sanarito**	**4.07**	**215**	*e*P	Pn	13 50 42.1	-1.0
SANV				*e*S	Sn	13 51 25.5	-4.4
PRGV	**PARIAGUAN**	**4.81**	**148**	*e*P	Pn	13 50 58.0	-1.1
VIRV	**Villa del Rosa**	**5.62**	**246**	*e*P	Pn	13 51 02.3	-2.0
VIRV				*e*S	Sn	13 52 00.9	-7.0

WEL 19 13:50:48.4±0.2, 45°.40S×166°.72E, h18km±1km, ML3.6/16, 2D, Error ellipse: s-maj=2.2km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.32**	**105**	||P*	Pg	13 50 54.9	-0.3
DCZ				S*	Sg	13 50 59.4	-0.3
DCZ				AML	AML	13 51 00.0	
DCZ				AML	AML	13 51 00.4	
PYZ	**Puysegur Point**	**0.77**	**182**	P*	Pb	13 51 02.0	-1.4
PYZ				S*	Sb	13 51 10.9	-2.7
WHZ	**Wether Hill Ro**	**0.99**	**121**	||P*	Pb	13 51 06.3	-0.9
WHZ				S*	Sb	13 51 19.8	-0.2
WHZ				AML	AML	13 51 23.6	
MSZ	**Milford Sound**	**1.12**	**50**	PN	Pn	13 51 09.1	-0.1
MSZ				S*	Sg	13 51 24.7	0.0
MSZ				AML	AML	13 51 27.3	
MSZ				AML	AML	13 51 27.4	
MSZ				AML	AML	13 51 27.5	
WKZ	**Wanaka**	**1.72**	**72**	PN	Pn	13 51 18.2	+0.7
WKZ				AML	AML	13 51 48.9	
WKZ				AML	AML	13 51 48.9	
WKZ				AML	AML	13 51 49.0	
WKZ				AML	AML	13 51 49.1	
EAZ	**Earnscleugh**	**1.83**	**86**	AML	AML	13 51 48.8	
EAZ				AML	AML	13 51 49.8	
JCZ	**Jackson Bay**	**1.96**	**48**	AML	AML	13 51 55.9	
JCZ				AML	AML	13 51 56.9	
SYZ	**Scrubby Hill**	**2.04**	**125**	PN	Pn	13 51 22.3	+0.6
TUZ	**Tuapeka**	**2.12**	**106**	AML	AML	13 51 54.0	
TUZ				AML	AML	13 51 56.3	
LBZ	**Lake Benmore**	**2.66**	**69**	AML	AML	13 52 16.7	
RPZ	**Rata Peaks**	**3.52**	**63**	AML	AML	13 51 53.6	
RPZ				AML	AML	13 52 30.9	
WVZ	**Waitaha Valley**	**3.70**	**53**	PN	Pn	13 51 44.2	-0.5
OXZ	**Oxford**	**4.34**	**63**	PN	Pn	13 51 53.5	+0.1
DSZ	**Denniston Nort**	**5.19**	**47**	PN	Pn	13 52 05.6	+0.4
QRZ	**Quartz Range**	**6.24**	**45**	AML	AML	13 52 14.1	

IDC 19 14:18:28.9±29.0, 16°.03S×175°.44W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/20, mbtmp4.2/4, Error ellipse: s-maj=579.9km s-min=148.2km az=84.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.02**	**240**	P	P	14 26 22.4	+0.1
	2.0nm,0.8s,baz=81,slow=11,SNR=5.8						
WRA	**Warramunga Arr**	**47.79**	**257**	P	P	14 27 08.2	-0.3
	0.9nm,0.5s,baz=93,slow=7.0,SNR=28						
ASAR	**Alice Springs**	**48.05**	**252**	P	P	14 27 10.0	-0.5
	7.2nm,0.5s,baz=89,slow=7.8,SNR=249						
FITZ	**Fitzroy Crossi**	**56.16**	**259**	P	P	14 28 11.3	+0.3
	0.5nm,0.3s,baz=80,slow=6.1,SNR=7.8						

IDC 19 14:19:49.6±2.1, 1°.96N×126°.73E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/19, mbtmp3.1/3, Error ellipse: s-maj=182.0km s-min=25.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.01**	**161**	P	P	14 24 56.0	-0.4
	0.4nm,0.5s,baz=340,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**26.41**	**165**	P	P	14 25 28.5	+0.3
	0.2nm,0.8s,baz=344,slow=8.1,SNR=4.9						
MKAR	**Makanchi Array**	**59.01**	**326**	P	P	14 29 51.3	0.0
	0.1nm,0.3s,baz=119,slow=9.2,SNR=2.4						

IDC 19 14:25:26.1±2.2, 2°.20N×126°.70E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/19, mbtmp3.4/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/14, Error ellipse: s-maj=179.7km s-min=26.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.25**	**162**	P	P	14 30 34.3	-0.9
	0.6nm,0.4s,baz=340,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**26.65**	**165**	P	P	14 31 07.7	+1.0
	0.3nm,0.7s,baz=344,slow=11,SNR=5.7						
JNU	**Nakatsue**	**31.01**	**7**	LR	LR	14 42 47.4	
	comp=Z,31nm,19.0s,baz=80,slow=34						
MKAR	**Makanchi Array**	**58.79**	**326**	P	P	14 35 26.1	-0.2
	0.2nm,0.4s,baz=121,slow=8.2,SNR=5.5						

MAN 19 14:33:14, 17°.44N×119°.48E, h13km, mb4.6, ML3.5, MS3.4, 3C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**1.05**	**62**	*i* P	Pn	14 33 34.5	+0.1
ABRA	**Dolores**	**1.19**	**80**	*e*P	Pn	14 33 35.8	-0.6
ABRA				*e*S	Sg	14 33 53.5	+0.9
PIP	**Pasuquin**	**1.40**	**51**	*i* P	Pg	14 33 43.0	+2.0
BCPH	**Baguio City Da**	**1.49**	**135**	*i* P	Pn	14 33 38.6	-2.0
SCZP	**Santa Cruz**	**1.70**	**166**	*e*P	Pn	14 33 43.3	0.1
APYP	**Conner**	**1.73**	**76**	*e*P	Pn	14 33 43.9	0.0
APYP				*e*S	Sb	14 34 06.7	-0.7
BALP	**Baler**	**2.62**	**130**	*e*P	Pn	14 33 58.0	+1.9
PALP	**Palanan**	**2.84**	**97**	*e*P	Pb	14 34 02.0	-2.5

KRSC 19 14:37:32.6±1.2, 52°.05N×158°.77E, h58km±42km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.41**	**338**	*i* P	Pn	14 37 43.5	0.0
RUS				*e*S	Sn	14 37 51.3	-0.1
MTVR	**Mutnovka**	**0.56**	**320**	*i* P	Pn	14 37 45.4	+0.1
MTVR				*e*S	Sn	14 37 54.6	0.0
ASAK	**Asacha**	**0.63**	**302**	*i* P	Pn	14 37 46.3	+0.3
ASAK				*e*S	Sn	14 37 56.2	+0.4
GRL	**Gorelyy**	**0.66**	**320**	*e*P	Pn	14 37 47.0	+0.6
GRL				*e*S	Sn	14 37 57.6	+1.1
PET	**Petropavlovsk**	**0.98**	**356**	*i* P	Pn	14 37 50.7	+0.5
PET				*e*S	Sn	14 38 03.8	+0.5
UGLR	**Uglovaya**	**1.16**	**2**	*e*P	Pn	14 37 53.4	+0.6
UGLR				*e*S	Sn	14 38 08.6	+0.7
NLC	**Nalytchevo**	**1.18**	**17**	*e*P	Pn	14 37 52.2	-0.6
NLC				*e*S	Sn	14 38 06.8	-1.1
SMAR	**Somma**	**1.22**	**1**	*e*P	Pn	14 37 54.3	+0.6
AVH	**Avacha**	**1.22**	**359**	*e*P	Pn	14 37 54.5	+1.0
AVH				*e*S	Sn	14 38 10.2	+1.0
KOK	**Koryaka**	**1.25**	**356**	*e*P	Pn	14 37 55.1	+1.1
KOK				*e*S	Sn	14 38 11.4	+1.5
KRER	**Koryakskii**	**1.26**	**359**	*e*P	Pn	14 37 55.2	+1.0
KRER				*e*S	Sn	14 38 11.5	+1.1
MIPR	**Malaya Ipel'ka**	**1.26**	**281**	*e*P	Pn	14 37 54.3	+0.3
MIPR				*e*S	Sn	14 38 10.4	+0.4
SPN	**Mys Shipunski**	**1.30**	**36**	*e*P	Pn	14 37 55.2	+0.7
SPN				*e*S	Sn	14 38 11.6	+0.7
APC	**Apacha**	**1.32**	**312**	*e*P	Pn	14 37 55.2	+0.4
APC				*e*S	Sn	14 38 11.8	+0.4
PAU	**Pauzhetka**	**1.35**	**245**	*e*P	Pn	14 37 54.8	-0.4
PAU				*e*S	Sn	14 38 11.0	-1.1
GNL	**Ganaly**	**1.72**	**343**	*e*P	Pn	14 38 01.5	+1.1
GNL				*e*S	Sn	14 38 22.5	+1.1
SKR	**Severo-Kuril's**	**2.15**	**232**	*e*P	Pn	14 38 05.9	-0.2
SKR				*e*S	Sn	14 38 30.3	-1.3
TUMR	**Tumrok**	**3.34**	**14**	*e*P	Pn	14 38 24.5	+2.0
ESO	**Esso**	**3.88**	**359**	*e*P	Pn	14 38 31.3	+1.5
BKI	**Bering**	**5.32**	**51**	*e*S	Sn	14 39 44.7	-4.6

IDC ***19*** *14:40:08.7±1.1, 8°.05N×127°.31E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/23, mbtmp3.5/5, Error ellipse: s-maj=35.1km s-min=21.5km az=86.0*
MAN ***19*** *14:40:12, 7°.60N×127°.30E, h34km, mb4.1, ML3.0, MS2.7*
ISCJB ***19*** *14:40:14.9±1.1, 7°.70N±0°.09×127°.09E±0°.09, h46km, mb3.3/5, Error ellipse: s-maj=13.6km s-min=12.6km az=139.9*

ISC 19 14:40:16.2±1.4, 7°.71N±0°.09×127°.0E±0°.1, h46km, n10, σ1°.68/10, mb3.1/5, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.07**	**225**	*e*P	**Pn**	**14 40 33.9**	**-1.0**
MATI				*e*S	**Sn**	**14 40 46.7**	**-1.9**
DAV	**Davao City (W)**	**1.56**	**246**	Pn	**Pn**	**14 40 43.7**	**+2.1**
	40nm,0.3s,baz=9.5,slow=12,SNR=3.1						
BUTP	**Butuan**	**1.87**	**312**	*e*P	**Pn**	**14 40 45.9**	**+0.2**
BUKP	**Musuan**	**1.95**	**275**	*e*P	**Pn**	**14 40 48.4**	**+1.5**
CTBH	**Cotabato--PC H**	**2.79**	**260**	||P	**Pn**	**14 40 59.0**	**+0.5**
FITZ	**Fitzroy Crossi**	**25.68**	**183**	P	**P**	**14 45 43.9**	**+1.8**
	1.7nm,0.8s,baz=350,slow=8.9,SNR=5.9						
WRA	**Warramunga Arr**	**28.41**	**165**	P	**P**	**14 46 07.7**	**+1.0**
	0.4nm,0.8s,baz=341,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**31.90**	**168**	P	**P**	**14 46 38.0**	**+0.5**
	0.1nm,0.3s,baz=342,slow=7.6,SNR=6.8						
MKAR	**Makanchi Array**	**54.51**	**324**	P	**P**	**14 49 37.7**	**-1.8**
	0.5nm,0.7s,baz=122,slow=8.6,SNR=6.6						
ILAR	**Eielson Array**	**81.41**	**26**	P	P	14 52 24.9	-3.2
	0.2nm,0.9s,baz=250,slow=4.7,SNR=2.5						

WEL 19 14:47:32.8±0.4, 45°.49S×165°.82E, h12km, ML3.5/13, Error ellipse: s-maj=2.9km s-min=1.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.91**	**139**	P*	Pg	14 47 49.0	-1.4
PYZ				S*	Sg	14 48 01.1	-1.2
DCZ	**Deep Cove**	**0.94**	**90**	P*	Pg	14 47 49.7	-1.3
DCZ				S*	Sg	14 48 01.5	-1.7
DCZ				AML	AML	14 48 02.0	
DCZ				AML	AML	14 48 02.1	
DCZ				AML	AML	14 48 02.7	
WHZ	**Wether Hill Ro**	**1.55**	**106**	PN	Pn	14 47 59.9	-0.3
WHZ				AML	AML	14 48 30.1	
WHZ				AML	AML	14 48 44.6	
MLZ	**Mavora Lakes**	**1.67**	**86**	PN	Pn	14 48 01.1	-0.8
MLZ				*e*SN	Sn	14 48 20.9	-2.3
MLZ				AML	AML	14 48 27.6	
MSZ	**Milford Sound**	**1.70**	**62**	AML	AML	14 48 30.7	
MSZ				AML	AML	14 48 37.5	
APZ	**The Paps**	**2.02**	**132**	PN	Pn	14 48 06.2	-0.5
WKZ	**Wanaka**	**2.36**	**75**	PN	Pn	14 48 12.1	+0.7
EAZ	**Earnscleugh**	**2.48**	**85**	*e*PN	Pn	14 48 13.2	+0.3
EAZ				AML	AML	14 48 53.4	
EAZ				AML	AML	14 48 55.1	
JCZ	**Jackson Bay**	**2.53**	**57**	AML	AML	14 49 04.0	
SYZ	**Scrubby Hill**	**2.54**	**116**	PN	Pn	14 48 13.6	-0.3
TUZ	**Tuapeka**	**2.71**	**101**	PN	Pn	14 48 16.4	+0.2
TUZ				AML	AML	14 48 50.1	
TUZ				AML	AML	14 49 24.0	

WEL 19 15:21:33.2±0.2, 45°.60S×165°.76E, h33km, ML3.6/14, 3D, Error ellipse: s-maj=2.0km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.85**	**132**	||PN	Pn	15 21 48.4	-0.5
PYZ				SN	Sn	15 21 59.4	-1.0
DCZ	**Deep Cove**	**0.98**	**83**	||PN	Pn	15 21 50.2	-0.5
DCZ				SN	Sn	15 22 02.2	-1.3
DCZ				AML	AML	15 22 04.4	
DCZ				AML	AML	15 22 04.4	
DCZ				AML	AML	15 22 04.6	
WHZ	**Wether Hill Ro**	**1.56**	**102**	PN	Pb	15 22 00.4	-1.1
WHZ				SN	Sb	15 22 20.3	-0.5
WH

WKZ				AML	AML	15 25 55.4	
WKZ				AML	AML	15 26 07.3	
EAZ	**Earnscleugh**	**3.00**	**72**	PN	Pn	15 25 04.1	+0.6
EAZ				AML	AML	15 25 53.9	
EAZ				AML	AML	15 26 00.7	
TUZ	**Tuapeka**	**3.05**	**86**	PN	Pn	15 25 04.4	+0.2
TUZ				SN	Sn	15 25 37.1	-3.5
TUZ				AML	AML	15 25 52.2	
LBZ	**Lake Benmore**	**3.93**	**64**	PN	Pn	15 25 16.5	+0.3
LBZ				AML	AML	15 26 08.8	
LBZ				AML	AML	15 26 36.9	
ODZ	**Otahua Downs**	**3.95**	**75**	PN	Pn	15 25 15.7	-0.9
ODZ				AML	AML	15 26 25.3	
ODZ				AML	AML	15 26 31.5	
FOZ	**Fox Glacier**	**4.12**	**51**	PN	Pn	15 25 21.7	+2.8
WVZ	**Waitaha Valley**	**5.01**	**53**	PN	Pn	15 25 32.0	+0.8
DSZ	**Denniston Nort**	**6.50**	**49**	PN	Pn	15 25 52.2	+0.5

IDC 19 15:30:36.5±8.0, 4°89S×151°76E, h119km±55km, mb3.0/2, mb1 3.2/3, mb1mx3.0/19, mbtmp3.1/3, Error ellipse: s-maj=142.0km s-min=52.3km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.40**	**225**	P	Pn	15 32 08.8	+0.4
	0.7nm,0.3s,baz=310,slow=17,SNR=3.2						
PMG				S	Sn	15 33 20.4	+0.2
	3.0nm,0.3s,baz=247,slow=16,SNR=10						
WRA	**Warramunga Arr**	**22.62**	**227**	P	P	15 35 27.1	-0.5
	0.5nm,0.4s,baz=53,slow=9.7,SNR=6.6						
ASAR	**Alice Springs**	**25.39**	**221**	P	P	15 35 53.9	+0.8
	0.6nm,0.8s,baz=57,slow=7.6,SNR=4.6						
TORD	**Torodi Ar. Bea**	**149.35**	**288**	PKPbc	PKPbc	15 50 11.9	-0.7
	0.2nm,0.3s,baz=65,slow=3.1,SNR=3.6						

WEL 19 15:31:53.0±0.4, 46°08S×166°05E, h25km±1km, ML3.5/14, 1D, Error ellipse: s-maj=3.8km s-min=1.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.45**	**102**	⇓P*	Pb	15 32 02.0	-0.4
PYZ				S*	Sb	15 32 08.5	-0.3
DCZ	**Deep Cove**	**0.98**	**53**	PN	Pn	15 32 10.3	-0.8
DCZ				SN	Sb	15 32 22.7	-1.0
DCZ				AML	AML	15 32 23.7	
DCZ				AML	AML	15 32 25.1	
DCZ				AML	AML	15 32 25.2	
WHZ	**Wether Hill Ro**	**1.34**	**83**	PN	Pn	15 32 16.0	-0.1
WHZ				SN	Sn	15 32 33.2	+0.1
WHZ				AML	AML	15 32 34.9	
APZ	**The Paps**	**1.54**	**120**	PN	Pn	15 32 18.2	-0.7
MLZ	**Mavora Lakes**	**1.66**	**65**	PN	Pn	15 32 21.5	+1.0
MLZ				AML	AML	15 32 47.8	
MLZ				AML	AML	15 32 51.1	
MSZ	**Milford Sound**	**1.93**	**44**	PN	Pn	15 32 25.1	+0.9
MSZ				AML	AML	15 32 59.4	
MSZ				AML	AML	15 33 00.7	
SYZ	**Scrubby Hill**	**2.19**	**103**	PN	Pn	15 32 28.6	+0.8
WKZ	**Wanaka**	**2.44**	**60**	AML	AML	15 33 11.0	
EAZ	**Earnscleugh**	**2.44**	**71**	AML	AML	15 33 07.3	
EAZ				AML	AML	15 33 07.3	
EAZ				AML	AML	15 33 07.5	
TUZ	**Tuapeka**	**2.50**	**89**	AML	AML	15 33 05.1	
TUZ				AML	AML	15 33 18.3	
JCZ	**Jackson Bay**	**2.77**	**45**	AML	AML	15 33 25.2	
ODZ	**Otahua Downs**	**3.39**	**74**	PN	Pn	15 32 44.7	+0.4

CSEM 19 15:34:21.7±0.1, 30°89N×34°98E, h8km, ML3.5, Error ellipse: s-maj=4.3km s-min=3.0km az=124.0, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSH		**1.08**	**274**	P	Pg	15 34 42.2	-0.4
RSH				S	Sn	15 34 57.9	-0.5
HNKL	**Nakhl**	**1.29**	**222**	P	Pn	15 34 45.9	-0.1
HNKL				S	Sn	15 35 04.4	+0.9
AMAG	**Maghara**	**1.54**	**261**	P	Pn	15 34 49.1	-0.5
HBST	**Basata**	**1.68**	**187**	P	Pn	15 34 51.6	+0.2
HBST				S	Sb	15 35 13.7	-0.5
HDHB	**Dhahab**	**2.18**	**188**	P	Pn	15 34 58.0	-0.2
HKAT	**Jabal Katrina**	**2.51**	**200**	P	Pn	15 35 02.8	-0.3

*IDC **19** 15:48:55.0±2.2, 24°18S×179°86E, h502km±22km, mb3.1/6, mb1 3.4/6, mb1mx3.1/17, mbtmp3.1/6, Error ellipse: s-maj=47.1km s-min=15.5km az=160.0*
*ISCJB **19** 15:48:55.2±1.0, 24°3S±0°2×179°9E±0°1, h517km, mb3.6/6, Error ellipse: s-maj=29.3km s-min=15.0km az=159.1*
*AUST **19** 15:49:02.0±0.1, 23°48S×179°72E, h587km±1km, Error ellipse: s-maj=6.5km s-min=2.4km az=240.0*
ISC 19 15:48:56.0±1.0, 24°4S±0°2×180°0E±0°1, h517km, n14, σ1s43/15, mb3.6/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHI	**Lord Howe Isla**	**19.79**	**244**	S	S	15 56 23.7	+20
	baz=20,SNR=3.2						
MTSU	**Mount Surprise**	**33.75**	**274**	P	**P**	**15 54 55.0**	**+0.3**
	baz=33,SNR=11						
STKA	**Stephens Creek**	**34.53**	**249**	P	**P**	**15 55 01.0**	**0.0**
	1.5nm,0.8s,baz=90,slow=12,SNR=7.4						
STKA	**Stephens Creek**	**34.53**	**249**	P	**P**	**15 55 02.1**	**+1.2**
	baz=35,SNR=4.9						
PATS	**Pohnpei**	**37.55**	**323**	S	**S**	**16 00 39.2**	**+1.0**
	baz=37,SNR=3.6						
ASAR	**Alice Springs**	**41.95**	**261**	P	**P**	**15 56 01.0**	**-0.5**
	1.2nm,0.5s,baz=93,slow=7.1,SNR=64						
ASAR				ScP	**ScP**	**16 00 48.6**	**+2.5**
	0.4nm,0.9s,baz=185,slow=11,SNR=4.3						
ASAR				S	**S**	**16 01 40.7**	**-1.9**
	0.3nm,0.7s,baz=103,slow=14,SNR=4.2						
WRA	**Warramunga Arr**	**42.36**	**267**	P	**P**	**15 56 03.9**	**-0.9**
	2.4nm,0.3s,baz=98,slow=8.4,SNR=46						
WRA				ScP	**ScP**	**16 00 50.1**	**+2.4**
	1.8nm,1.1s,baz=106,slow=3.8,SNR=5.6						
KDU	**Kakadu**	**46.32**	**276**	P	P	15 56 28.7	-6.7
	baz=46,SNR=3.8						
KNRA	**Kununurra**	**48.67**	**270**	P	**P**	**15 56 52.4**	**-0.6**
	baz=48,SNR=4.7						
FITZ	**Fitzroy Crossi**	**50.78**	**266**	P	**P**	**15 57 09.6**	**+1.0**
	baz=51,SNR=3.5						
NVAR	**Mina Array Bea**	**85.11**	**44**	P	**P**	**16 00 37.3**	**-0.2**
	0.3nm,0.7s,baz=233,slow=7.6,SNR=3.5						
TXAR	**Lajitas Array**	**90.70**	**58**	P	**P**	**16 01 04.5**	**+0.7**
	0.9nm,0.7s,baz=207,slow=6.3,SNR=13						
ILAR	**Eielson Array**	**92.50**	**14**	P	**P**	**16 01 09.3**	**-1.8**
	0.2nm,0.7s,baz=203,slow=6.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**168.71**	**189**	PKPab	**PKPab**	**16 09 17.1**	**-0.7**
	0.8nm,0.8s,baz=156,slow=3.4,SNR=4.6						

IDC 19 16:05:10.3±2.0, 2°01S×127°80E, h0km, mb3.0/2, mb1 3.4/3, mb1mx3.2/20, mbtmp3.2/3, ML3.6/1, Error ellipse: s-maj=149.7km s-min=26.2km az=67.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.13**	**187**	P	Pn	16 09 06.1	+4.1
	0.0nm,0.3s,baz=351,slow=13,SNR=2.3						
WRA	**Warramunga Arr**	**18.93**	**161**	P	Pn	16 09 34.7	+1.2
	0.2nm,0.3s,baz=340,slow=11,SNR=9.9						
ASAR	**Alice Springs**	**22.32**	**165**	P	P	16 10 07.8	-1.9
	0.3nm,0.8s,baz=345,slow=11,SNR=5.0						
MKAR	**Makanchi Array**	**62.88**	**327**	P	P	16 15 38.5	+0.3
	0.2nm,0.3s,baz=117,slow=7.7,SNR=6.5						

*IDC **19** 16:12:32.8±1.9, 10°12S×116°91E, h0km, mb2.8/2, mb1 3.2/4, mb1mx3.1/21, mbtmp3.0/4, ML3.1/3, Error ellipse: s-maj=59.5km s-min=23.4km az=55.0*
*AUST **19** 16:12:44.0±9.5, 9°99S×117°97E, h2km, Error ellipse: s-maj=1.1km s-min=1.0km az=229.0*
ISC 19 16:12:36.7±1.0, 10°14S±0°07×117°50E±0°08, h34km, n14, σ3s44/10, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**2.80**	**81**	P	**Pn**	**16 13 21.6**	**+2.5**
	baz=2.3,SNR=6.9						
JAGI	**Jajag, Banyuwa**	**3.69**	**296**	P	Pb	16 13 47.2	+5.9
	baz=4.1,SNR=18						
JAGI				S	Sb	16 14 39.6	+14
	baz=4.1,SNR=5.2						
KAPI	**Kappang**	**5.56**	**24**	Pn	**Pn**	**16 14 00.2**	**+3.0**
	3.9nm,0.3s,baz=196,slow=9.3,SNR=40						
KAPI				Sn	**Sn**	**16 14 55.0**	**-4.9**
	5.6nm,0.3s,baz=107,slow=22,SNR=14						
SOEI	**Soe**	**6.68**	**87**	P	Pn	16 14 17.3	+4.6
	baz=6.2,SNR=3.8						
UGM	**Wanagama**	**7.24**	**287**	S	**Sb**	**16 16 07.7**	**+0.2**
	baz=7.6,SNR=3.2						
CISI	**Cisompet, Garu**	**9.90**	**284**	S	Sn	16 17 36.7	+50
	baz=10,SNR=4.0						
FITZ	**Fitzroy Crossi**	**11.18**	**136**	Pn	Pn	16 15 18.7	+4.5
	0.1nm,0.3s,baz=162,slow=15,SNR=7.9						
FITZ				Sn	**Sn**	**16 17 14.2**	**-3.8**
	0.3nm,0.3s,baz=175,slow=20,SNR=6.4						
FITZ	**Fitzroy Crossi**	**11.18**	**136**	S	**Sn**	**16 17 14.5**	**-3.5**
	baz=11,SNR=4.4						
MTN	**Manton Dam**	**13.63**	**103**	P	**P**	**16 15 55.7**	**-0.4**
	baz=13,SNR=3.1						
MEEK	**Meekatharra**	**16.44**	**176**	P	P	16 16 38.4	+11
	baz=17,SNR=4.2						
MEEK				S	**Sn**	**16 19 24.5**	**-2.0**
	baz=17,SNR=12						
WRA	**Warramunga Arr**	**18.94**	**123**	P	**Pn**	**16 16 59.4**	**+3.5**
	0.0nm,0.3s,baz=304,slow=12,SNR=3.1						
BKNI	**Bangkinang**	**19.40**	**301**	P	Pn	16 17 25.7	+24
	baz=20,SNR=5.9						
ASAR	**Alice Springs**	**20.64**	**133**	P	Pn	16 17 21.0	+5.0
	0.2nm,0.7s,baz=305,slow=9.9,SNR=4.4						
MKAR	**Makanchi Array**	**64.81**	**334**	P	**P**	**16 23 11.6**	**-0.5**
	0.1nm,0.5s,baz=159,slow=4.5,SNR=3.5						

WEL 19 16:20:17.9±0.2, 45°55S×166°65E, h22km±1km, ML4.3/23, Error ellipse: s-maj=2.0km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.36**	**79**	P*	Pb	16 20 25.3	-0.4
DCZ				S*	Sb	16 20 29.9	-1.0
DCZ				AML	AML	16 20 30.0	
DCZ				AML	AML	16 20 30.0	
DCZ				AML	AML	16 20 30.3	
PYZ	**Puysegur Point**	**0.62**	**178**	P*	Pb	16 20 29.5	-0.6
PYZ				S*	Sb	16 20 37.4	-1.1
WHZ	**Wether Hill Ro**	**0.97**	**112**	PN	Pb	16 20 35.8	-0.3
WHZ				S*	Sn	16 20 48.9	-0.4
WHZ				AML	AML	16 20 55.5	
MLZ	**Mavora Lakes**	**1.09**	**80**	PN	Pn	16 20 36.6	-1.2
MLZ				eSN	Sb	16 20 51.0	-0.9
MLZ				AML	AML	16 20 51.6	
MSZ	**Milford Sound**	**1.25**	**46**	AML	AML	16 21 02.3	
MSZ				AML	AML	16 21 02.3	
MSZ				AML	AML	16 21 07.3	
MSZ				AML	AML	16 21 07.4	
APZ	**The Paps**	**1.59**	**145**	PN	Pb	16 20 46.1	-0.6
APZ				eSN	Sb	16 21 06.5	+0.2
WKZ	**Wanaka**	**1.82**	**68**	PN	Pb	16 20 49.4	-1.1
WKZ				AML	AML	16 21 17.2	
WKZ				AML	AML	16 21 17.2	
WKZ				AML	AML	16 21 20.2	
WKZ				AML	AML	16 21 20.2	
EAZ	**Earnscleugh**	**1.90**	**81**	PN	Pn	16 20 50.0	+1.1
EAZ				AML	AML	16 21 20.3	
EAZ				AML	AML	16 21 20.4	
EAZ				AML	AML	16 21 20.4	
EAZ				AML	AML	16 21 20.5	
JCZ	**Jackson Bay**	**2.10**	**46**	AML	AML	16 21 28.3	
JCZ				AML	AML	16 21 33.0	
TUZ	**Tuapeka**	**2.12**	**102**	AML	AML	16 21 23.9	
TUZ				AML	AML	16 21 26.4	
LBZ	**Lake Benmore**	**2.76**	**66**	PN	Pn	16 21 01.5	+0.7
LBZ				AML	AML	16 21 37.7	
LBZ				AML	AML	16 21 37.8	
LBZ				AML	AML	16 21 39.0	
LBZ				AML	AML	16 21 39.1	
ODZ	**Otahua Downs**	**2.86**	**81**	PN	Pn	16 21 02.1	0.0
ODZ				AML	AML	16 21 38.7	
ODZ				AML	AML	16 21 38.7	
ODZ				AML	AML	16 21 40.3	
ODZ				AML	AML	16 21 56.5	
FOZ	**Fox Glacier**	**2.94**	**49**	PN	Pn	16 21 05.6	+2.4
FOZ				AML	AML	16 21 54.0	
FOZ				AML	AML	16 21 56.3	
RPZ	**Rata Peaks**	**3.63**	**61**	PN	Pn	16 21 13.7	+0.8
RPZ				AML	AML	16 22 00.1	
RPZ				AML	AML	16 22 00.2	
WVZ	**Waitaha Valley**	**3.83**	**51**	PN	Pn	16 21 15.9	+0.4
WVZ				AML	AML	16 22 11.2	
WVZ				AML	AML	16 22 12.5	
OXZ	**Oxford**	**4.45**	**62**	PN	Pn	16 21 25.0	+1.0
MQZ	**McQueen's Vall**	**4.66**	**69**	PN	Pn	16 21 27.7	+0.9
MQZ				AML	AML	16 22 21.8	
MQZ				AML	AML	16 22 21.8	
CRLZ	**Canterbury Las**	**4.70**	**67**	PN	Pn	16 21 28.9	+1.6
LTZ	**Lake Taylor**	**4.89**	**58**	PN	Pn	16 21 32.5	+2.4
LTZ				AML	AML	16 22 33.1	
LTZ				AML	AML	16 22 42.2	
DSZ	**Denniston Nort**	**5.33**	**46**	PN	Pn	16 21 38.4	+2.2
THZ	**Tophouse**	**5.90**	**52**	PN	Pn	16 21 44.6	+0.6
THZ				AML	AML	16 23 00.6	
THZ				AML	AML	16 23 05.5	
QRZ	**Quartz Range**	**6.38**	**44**	AML	AML	16 23 11.3	
QRZ				AML	AML	16 23 25.2	

WEL 19 16:26:51.6±0.4, 46°08S×165°96E, h12km, ML3.5/14, 2C-2D, Error ellipse: s-maj=3.8km s-min=2.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.51**	**100**	⇓P*	Pg	16 27 01.8	+0.1
PYZ				S*	Sg	16 27 08.0	-0.6
DCZ	**Deep Cove**	**1.03**	**55**	⇑P*	Pb	16 27 09.6	-1.8
DCZ				eS*	Sb	16 27 22.7	-2.2
DCZ				AML	AML	16 27 23.8	
DCZ				AML	AML	16 27 23.8	
DCZ				AML	AML	16 27 23.9	
WHZ	**Wether Hill Ro**	**1.40**	**83**	⇓PN	Pn	16 27 15.8	-1.2
WHZ				SN	Sn	16 27 33.3	-2.2
WHZ				AML	AML	16 27 41.0	
APZ	**The Paps**	**1.60**	**119**	⇑PN	Pn	16 27 18.4	-1.4
APZ				eSN	Sn	16 27 39.4	-1.0
MLZ	**Mavora Lakes**	**1.72**	**66**	AML	AML	16 27 46.5	
MLZ				AML	AML	16 27 46.5	
MSZ	**Milford Sound**	**1.98**	**45**	PN	Pn	16 27 23.6	-1.2
MSZ				AML	AML	16 27 58.6	
MSZ				AML	AML	16 28 05.9	
SYZ	**Scrubby Hill**	**2.25**	**103**	PN	Pn	16 27 28.5	-0.2
WKZ	**Wanaka**	**2.49**	**61**	AML	AML	16 28 15.3	
WKZ				AML	AML	16 28 17.6	
EAZ	**Earnscleugh**	**2.50**	**71**	AML	AML	16 28 10.0	
EAZ				AML	AML	16 28 13.4	
TUZ	**Tuapeka**	**2.56**	**89**	AML	AML	16 28 06.8	
TUZ				AML	AML	16 28 07.7	
JCZ	**Jackson Bay**	**2.82**	**46**	AML	AML	16 28 27.6	
JCZ				AML	AML	16 28 28.2	
ODZ	**Otahua Downs**	**3.45**	**74**	PN	Pn	16 27 44.3	-0.9

IDC 19 16:27:58.7±1.5, 15°85S×176°94W, h365km±16km, mb3.3/8, mb1 3.6/9, mb1mx3.4/20, mbtmp3.3/9, Error ellipse: s-maj=31.6km s-min=12.7km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.35**	**70**	P	Pn	16 29 23.7	+0.7
	5.6nm,0.3s,baz=152,slow=18,SNR=12						
AFI				S	S	16 30 31.1	-0.3
	2.0nm,0.3s,baz=163,slow=19,SNR=3.0						
STKA	**Stephens Creek**	**40.87**	**239**	P	P	16 35 05.9	-0.7
	2.0nm,0.8s,baz=300,slow=23,SNR=4.5						
WRA	**Warramunga Arr**	**46.42**	**257**	P	P	16 35 50.7	+0.1
	0.6nm,0.4s,baz=96,slow=6.5,SNR=16						
ASAR	**Alice Springs**	**46.73**	**252**	P	P	16 35 53.0	0.0
	5.4nm,0.7s,baz=86,slow=8.0,SNR=106						
VNDA	**Vanda**	**62.61**	**185**	P	P	16 37 44.6	-0.1
	0.7nm,0.7s,baz=9.7,slow=7.2,SNR=7.2						
NVAR	**Mina Array Bea**	**76.97**	**44**	P	P	16 39 12.8	+0.5
	0.7nm,0.6s,baz=224,slow=9.6,SNR=6.3						
ILAR	**Eielson Array**	**83.58**	**12**	P	P	16 39 45.9	-0.5
	1.1nm,0.6s,baz=221,slow=5.7,SNR=18						
TXAR	**Lajitas Array**	**83.71**	**57**	P	P	16 39 48.6	+0.7
	1.3nm,0.9s,baz=216,slow=5.7,SNR=15						
PDAR	**Pinedale Array**	**84.90**	**43**	P	P	16 39 53.0	-0.7
	0.5nm,0.7s,baz=220,slow=3.9,SNR=4.7						
ARCES	**ARCESS Array B**	**124.53**	**351**	PKP	PKPdf	16 46 13.7	-0.8
	1.8nm,0.8s,baz=24,slow=4.1,SNR=6.1						
BRTR	**Keskin Array B**	**144.27**	**318**	PKP	PKPbc	16 46 51.8	+0.4
	1.4nm,0.9s,baz=37,slow=0.6,SNR=7.5						
GERES	**GERESS Array B**	**145.96**	**347**	PKPbc	PKPdf	16 46 55.0	+0.3
	0.4nm,0.7s,baz=44,slow=4.1,SNR=3.7						

*IDC **19** 16:53:06.9±2.2, 17°80S×177°71W, h0km, mb4.4/4, mb1 4.5/5, mb1mx3.9/20, mbtmp4.4/5, ML2.1/1, Error ellipse: s-maj=70.2km s-min=27.4km az=139.0*
*ISCJB **19** 16:53:09.6±1.3, 17°8S±0°4×177°6W±0°2, h33km, mb4.3/4, Error ellipse: s-maj=57.1km s-min=13.9km az=150.9*
ISC 19 16:53:11.6±1.6, 17°9S±0°4×177°5W±0°3, h35km, n11, σ1s35/10, mb4.5/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.82**	**55**	Pn	**Pn**	**16 54 49.6**	**+0.4**
	2.3nm,0.3s,baz=170,slow=6.1,SNR=7.6						
AFI				Sn	Sn	16 55 56.4	-9.5
	5.5nm,0.3s,baz=282,slow=21,SNR=7.7						
RMQ	**Roma**	**32.29**	**249**	P	**P**	**16 59 39.6**	**+2.3**
	baz=33,SNR=4.4						
MTSU	**Mount Surprise**	**36.25**	**264**	P	P	17 00 15.4	+3.7
	baz=40,SNR=7.1						
STKA	**Stephens Creek**	**39.36**	**241**	P	**P**	**17 00 37.6**	**-0.3**
	1.3nm,0.5s,baz=101,slow=11,SNR=6.0						
WRA	**Warramunga Arr**	**45.47**	**259**	P	**P**	**17 01 27.1**	**-0.5**
	3.2nm,0.4s,baz=96,slow=7.2,SNR=117						
ASAR	**Alice Springs**	**45.60**	**254**	P	**P**	**17 01 27.6**	**-1.2**
	3.6nm,0.4s,baz=87,slow=8.2,SNR=122						
KDU	**Kakadu**	**48.41**	**269**	P	**P**	**17 01 52.3**	**+1.6**
	baz=52,SNR=5.0						
MTN	**Manton Dam**	**49.65**	**268**	P	**P**	**17 02 00.8**	**+0.5**
	baz=54,SNR=3.3						
KNRA	**Kununurra**	**51.34**	**264**	P	**P**	**17 02 12.6**	**-0.3**
	baz=54,SNR=8.0						
FITZ	**Fitzroy Crossi**	**53.87**	**260**	P	**P**	**17 02 30.5**	**-1.2**
	baz=56,SNR=8.2						
MJAR	**Matsushiro Arr**	**68.45**	**323**	P	**P**	**17 04 09.1**	**-1.0**
	1.9nm,0.6s,baz=153,slow=6.2,SNR=13						

*IDC **19** 17:06:17.1±1.1, 6°75S×129°97E, h0km, mb3.8/4, mb1 4.2/7, mb1mx3.9/20, mbtmp4.1/7, ML4.2/3, Error ellipse: s-maj=58.0km s-min=19.7km az=78.0*
*ISCJB **19** 17:06:27.8±0.5, 7°06S±0°03×130°01E±0°06, h104km, mb3.6/4, Error ellipse: s-maj=8.7km s-min=4.9km az=6.1*
*AUST **19** 17:06:27.6, 6°98S×130°04E, h200km*
ISC 19 17:06:28.5±0.7, 7°11S±0°05×130°04E±0°08, h104km, n16, σ2s48/19, mb3.8/4, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.57**	**357**	P	Pn	17 07 14.5	+5.7
	baz=2.5,SNR=4.8						
FAKI	**Fak Fak**	**4.71**	**28**	P	Pn	17 07 39.6	+2.2
	baz=4.6,SNR=94						
FAKI				S	**Sn**	**17 08 31.4**	**+0.4**
	baz=4.6,SNR=15						
MTN	**Manton Dam**	**5.80**	**169**	P	Pn	17 07 56.1	+4.0
	baz=6.0,SNR=201						
MTN				S	**Sn**	**17 09 00.1**	**+2.7**
	baz=6.0,SNR=12						
KDU	**Kakadu**	**6.04**	**157**	P	Pn	17 07 59.8	+4.4
	baz=6.2,SNR=173						
KDU				S	**Sn**	**17 09 04.7**	**+1.5**
	baz=6.2,SNR=6.3						
SOEI	**Soe**	**6.29**	**245**	P	**Pn**	**17 08 01.3**	**+2.4**
	baz=6.3,SNR=11						
SOEI				S	**Sn**	**17 09 10.4**	**+1.0**
	baz=6.3,SNR=5.1						
SWI	**Sorong**	**6.32**	**11**	P	**Pn**	**17 08 00.6**	**+1.3**
	baz=6.2,SNR=25						
SWI				S	**Sn**	**17 09 07.1**	**-3.0**
	baz=6.2,SNR=5.3						
KNRA	**Kununurra**	**8.61**	**188**	P	**Pn**	**17 08 31.8**	**+1.5**
	baz=8.8,SNR=190						
KNRA				S	**Sn**	**17 10 02.8**	**-2.9**
	baz=8.8,SNR=6.2						
FITZ	**Fitzroy Crossi**	**11.74**	**201**	Pn	**Pn**	**17 09 11.4**	**-1.3**
	3.9nm,0.3s,baz=31,slow=10,SNR=98						
FITZ				Sn	Sn	17 11 14.2	-7.6
	1.2nm,0.3s,baz=294,slow=21,SNR=3.7						
FITZ	**Fitzroy Crossi**	**11.74**	**201**	P	**Pn**	**17 09 11.9**	**-0.7**
	baz=12,SNR=37						
WRA	**Warramunga Arr**	**13.42**	**162**	Pn	**Pn**	**17 09 34.6**	**-0.3**
	0.7nm,0.3s,baz=333,slow=13,SNR=73						
WRA				Sn	**Sn**	**17 11 56.8**	**-5.9**
	2.4nm,0.3s,baz=333,slow=23,SNR=8.7						
ASAR	**Alice Springs**	**16.88**	**168**	P	**P**	**17 10 20.9**	**+2.0**
	0.7nm,0.3s,baz=341,slow=8.5,SNR=92						
ASAR				S	**Sn**	**17 13 22.6**	**-3.5**
	0.5nm,0.3s,baz=352,slow=26,SNR=5.2						
RABL	**Rabaul**	**22.20**	**84**	S	S	17 14 59.1	-16
	baz=22,SNR=5.0						
STKA	**Stephens Creek**	**26.90**	**158**	P	**P**	**17 12 02.1**	**+2.2**
	0.7nm,0.3s,baz=352,slow=7.5,SNR=4.6						
SONM	**Songino Array**	**58.56**	**342**	P	**P**	**17 16 13.5**	**-0.9**
	0.1nm,0.3s,baz=147,slow=8.6,SNR=3.1						
PETK	**Petropavlovsk-**	**64.42**	**18**	P	**P**	**17 16 53.5**	**-0.1**
	1.6nm,1.1s,baz=195,slow=4.0,SNR=4.0						
MKAR	**Makanchi Array**	**68.34**	**327**	P	**P**	**17 17 17.9**	**-0.9**
	0.9nm,0.5s,baz=117,slow=8.0,SNR=20						

IDC 19 17:34:31.9±3.2, 15°81S×71°73W, h167km±28km, mb3.4/4, mb1 3.5/6, mb1mx3.3/21, mbtmp3.3/6, Error ellipse: s-maj=33.9km s-min=22.6km az=125.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.50**	**98**	P	Pn	17 35 26.4	-0.6
	1.1nm,0.3s,baz=281,slow=9.0,SNR=22						
LPAZ				S	Sn	17 36 10.5	+0.8
	baz=185,slow=23,SNR=2.6						
NNA	**Nana**	**6.25**	**307**	P	Pn	17 35 54.0	-8.1
	3.4nm,0.3s,baz

*IDC **19** 17:41:33.1±1.2,5.°71S×110.°91E,h543km±14km,mb3.4/16, mb1 3.5/19,mb1mx3.4/28,mbtmp3.3/19,Error ellipse: s-maj=16.7km s-min=7.4km az=65.0*

ISC 19 17:41:32.9±0.5,**5.°87S**±0.°07×**110.°66E**±0.°07,**h550**km,**n75,** σ1°.**34**/74,**mb3.8**/16,**Java Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**1.73**	**213**	P	**P**	**17 42 40.4**	**-1.2**
TGJI	**Tegal**	**1.82**	**237**	P	**P**	**17 42 41.2**	**-0.6**
WOJI	**Wonogiri, Jawa**	**1.97**	**172**	P	**P**	**17 42 40.5**	**-1.9**
WOJI				S	**S**	**17 43 37.5**	**-1.5**
UGM	**Wanagama**	**2.03**	**184**	P	**P**	**17 42 41.0**	**-1.8**
UGM	**Wanagama** baz=2.1,SNR=28	**2.03**	**184**	P	**P**	**17 42 41.0**	**-1.8**
UGM				S	**S**	**17 43 35.6**	**-4.0**
	baz=2.1,SNR=5.1						
SJI	**Sawahan**	**2.15**	**149**	P	**P**	**17 42 41.6**	**-1.8**
PCJI	**Pacitan**	**2.36**	**167**	P	**P**	**17 42 42.4**	**-1.9**
PWJI	**Pagerwojo**	**2.42**	**152**	P	**P**	**17 42 42.4**	**-2.2**
CLJI	**Cilicap**	**2.46**	**222**	P	**P**	**17 42 42.3**	**-2.5**
LEM	**Lembang**	**3.17**	**252**	P	**P**	**17 42 48.2**	**-1.0**
LEM	**Lembang** baz=3.3,SNR=4.9	**3.17**	**252**	P	**P**	**17 42 48.8**	**-0.4**
CISI	**Cisompet, Garu**	**3.28**	**239**	P	**P**	**17 42 48.1**	**-1.7**
CISI	**Cisompet, Garu** baz=3.4,SNR=116	**3.28**	**239**	P	**P**	**17 42 47.8**	**-2.0**
CISI				S	S	17 43 41.3	-11
	baz=3.4,SNR=9.2						
PBKI	**Pangkalan Bun**	**3.30**	**18**	P	**P**	**17 42 48.2**	**-1.7**
BLJI	**Banyuglugur**	**3.46**	**123**	P	**P**	**17 42 49.5**	**-1.4**
KMMI	**Kalianget**	**3.49**	**110**	P	**P**	**17 42 49.3**	**-1.8**
GMJI	**Gumukmas**	**3.65**	**137**	P	**P**	**17 42 50.0**	**-2.2**
DBJI	**Dramaga**	**3.94**	**260**	P	**P**	**17 42 53.3**	**-1.1**
TPI	**Tanjungpandan**	**4.31**	**316**	P	**P**	**17 42 56.4**	**-0.7**
BYJI	**Banyuwangi**	**4.34**	**123**	P	**P**	**17 42 56.9**	**-0.5**
KHKI	**Kahang-Kahang** 62nm,0.7s,0.3nm	**5.50**	**117**	P	**P**	**17 43 05.4**	**-1.6**
STKI	**Sintang** 68nm,1.1s,15µm0.5nm	**5.95**	**8**	P	**P**	**17 43 10.3**	**-0.9**
KASI	**Kota Agung** 55nm,0.5s,2µm0.3nm	**6.14**	**273**	P	**P**	**17 43 11.9**	**-0.9**
LWLI	**Liwa** 66nm,0.7s,2µm	**6.62**	**277**	P	**P**	**17 43 17.0**	**-0.5**
XMIS	**Christmas Isla** baz=6.9,SNR=5.8	**6.75**	**227**	P	**P**	**17 43 18.6**	**+0.1**
XMIS				S	S	17 44 51.5	+6.6
	baz=6.9,SNR=4.6						
KSM	**Kuching** baz=7.3,SNR=5.7	**7.30**	**357**	P	**P**	**17 43 23.0**	**-0.9**
KAPI	**Kappang** 1.9nm,0.3s,baz=241,slow=8.6,SNR=9.3	**9.09**	**85**	P	**P**	17 43 38.2	-3.4
BKSI	**Bulukumba**	**9.44**	**87**	P	**P**	**17 43 43.5**	**-1.6**
SOEI	**Soe** baz=14,SNR=4.4	**14.02**	**107**	P	P	17 44 28.5	-4.0
SOEI				S	**S**	**17 47 02.8**	**+2.4**
	baz=14,SNR=5.8						
PSI	**Prapat** 0.9nm,0.3s,baz=313,slow=23,SNR=4.1	**14.54**	**306**	P	**P**	**17 44 37.9**	**-0.1**
TSI	**Tuntungan**	**15.25**	**307**	P	**P**	**17 44 45.9**	**+0.9**
FITZ	**Fitzroy Crossi** 0.7nm,0.3s,baz=341,slow=6.8,SNR=23	**19.02**	**131**	P	**P**	**17 45 19.9**	**-0.2**
FITZ	**Fitzroy Crossi** baz=19,SNR=17	**19.02**	**131**	P	**P**	**17 45 20.1**	**0.0**
KNRA	**Kununurra** baz=20,SNR=9.3	**20.26**	**120**	P	**P**	**17 45 30.9**	**-0.5**
MTN	**Manton Dam** baz=21,SNR=3.7	**21.34**	**110**	P	**P**	**17 45 42.2**	**+1.0**
MEEK	**Meekatharra** baz=22,SNR=20	**22.00**	**161**	P	**P**	**17 45 48.2**	**+1.2**
KDU	**Kakadu** baz=22,SNR=5.7	**22.56**	**109**	P	**P**	**17 45 53.7**	**+1.6**
MORW	**Morawa** baz=24,SNR=9.4	**23.63**	**168**	P	**P**	**17 46 03.2**	**+1.7**
BLDU	**Ballidu** baz=25,SNR=9.0	**25.26**	**168**	P	**P**	**17 46 17.4**	**+1.5**
KLBR	**Kellerberrin** baz=27,SNR=6.3	**26.44**	**166**	P	**P**	**17 46 27.4**	**+1.2**
CMAR	**Chiang Mai Arr** 2.9nm,0.6s,baz=168,slow=8.6,SNR=24	**26.80**	**335**	P	**P**	**17 46 30.6**	**+1.1**
WRA	**Warramunga Arr** 1.4nm,0.4s,baz=306,slow=8.6,SNR=26	**26.93**	**123**	P	**P**	**17 46 30.6**	**-0.2**
WRA				PcP	**PcP**	**17 49 35.3**	**+0.7**
	0.4nm,0.3s,baz=324,slow=1.9,SNR=9.0						
WRA				ScP	**ScP**	**17 52 24.4**	**+1.3**
	0.3nm,0.4s,baz=320,slow=2.6,SNR=9.0						
PALU	**Palau** baz=27,SNR=3.5	**27.15**	**61**	S	S	17 50 17.6	-16
NWAO	**Narrogin (SRO)** 8.3nm,0.4s,baz=258,slow=7.8,SNR=25	**27.61**	**168**	P	**P**	**17 46 38.0**	**+1.5**
ASAR	**Alice Springs** 2.6nm,0.6s,baz=307,slow=8.0,SNR=54	**28.52**	**121**	P	**P**	**17 46 44.8**	**+0.1**
ASAR				PcP	**PcP**	**17 49 39.5**	**+0.9**
	0.3nm,0.3s,baz=315,slow=2.0,SNR=5.4						
ASAR				S	**S**	**17 50 51.9**	**-2.5**
	0.6nm,0.8s,baz=301,slow=15,SNR=5.0						
ASAR				ScP	**ScP**	**17 52 29.8**	**+1.8**
	0.7nm,0.6s,baz=311,slow=2.6,SNR=12						
RKGY	**Rocky Gully** baz=29,SNR=7.9	**29.19**	**169**	P	P	17 46 52.8	+2.5
FORT	**Forrest** baz=30,SNR=11	**29.68**	**149**	P	P	17 46 56.0	+1.5
JAY	**Jayapura** baz=30,SNR=3.1	**30.15**	**85**	S	S	17 51 30.3	+11
STKA	**Stephens Creek** 10nm,0.3s,baz=316,slow=7.7,SNR=133	**38.80**	**136**	P	**P**	**17 48 11.6**	**+0.7**
STKA				PcP	**PcP**	**17 50 08.9**	**+0.8**
	1.3nm,0.5s,baz=172,slow=22,SNR=3.5						
STKA	**Stephens Creek** baz=39,SNR=90	**38.80**	**136**	P	**P**	**17 48 11.6**	**+0.7**
TAPN	**Taplejung** 18nm,0.7s	**39.79**	**327**	*eP*	**P**	**17 48 20.0**	**+0.8**
RAMN	**Ramite**	**40.09**	**326**	*eP*	**P**	**17 48 22.4**	**+0.8**
JIRN	**Jiri** 16nm,0.4s	**40.87**	**326**	*eP*	**P**	**17 48 28.4**	**+0.5**
GUN	**Gumba** 13nm,0.3s	**41.23**	**326**	*eP*	**P**	**17 48 31.3**	**+0.5**
PKIN	**Phulchoki**	**41.25**	**325**	*eP*	**P**	**17 48 30.6**	**-0.3**
DMN	**Daman** 8.3nm,0.3s	**41.44**	**325**	*eP*	**P**	**17 48 32.6**	**+0.2**
KKN	**Kakani**	**41.48**	**325**	*eP*	**P**	**17 48 32.7**	**+0.1**
CMSA	**Cobar Meteorol** baz=42,SNR=14	**41.55**	**132**	P	P	17 48 33.8	+1.0
KOLN	**Koldanda** 8.6nm,0.3s	**42.45**	**323**	*eP*	**P**	**17 48 40.0**	**-0.2**
YNG	**Young** baz=45,SNR=18	**44.90**	**134**	P	P	17 49 00.3	+1.4
KSRS	**Korea Array** 1.2nm,0.7s,baz=186,slow=7.9,SNR=4.3	**46.01**	**19**	P	**P**	**17 49 07.2**	**0.0**
MJAR	**Matsushiro Arr** 1.3nm,0.5s,baz=212,slow=8.4,SNR=12	**49.45**	**29**	P	**P**	**17 49 31.0**	**-2.1**
USRK	**Ussuriysk Arra** 1.4nm,0.5s,baz=201,slow=2.8,SNR=5.0	**53.43**	**19**	P	**P**	**17 50 00.5**	**-1.0**
SONM	**Songino Array** 1.7nm,0.6s,baz=176,slow=8.5,SNR=15	**53.61**	**356**	P	**P**	**17 50 02.8**	**-0.1**
SONM				ScP	**ScP**	**17 54 07.3**	**+1.3**
	0.4nm,0.5s,baz=179,slow=3.9,SNR=4.2						
MKAR	**Makanchi Array** 1.8nm,0.3s,baz=150,slow=7.3,SNR=43	**58.15**	**337**	P	**P**	**17 50 34.4**	**+0.1**
KURBB	**Kurchatov Arra** 0.8nm,0.5s,baz=156,slow=5.9,SNR=4.3	**62.72**	**338**	P	**P**	**17 51 04.3**	**+0.1**
ZALV	**Zalesovo Beam** 1.4nm,0.3s,baz=153,slow=4.7,SNR=10.0	**63.43**	**343**	P	**P**	**17 51 08.2**	**-0.6**
BVAR	**Borovoye Array** 0.7nm,0.6s,baz=160,slow=4.6,SNR=4.2	**67.82**	**335**	P	**P**	**17 51 35.9**	**-0.4**
MAW	**Mawson** baz=70,SNR=11	**69.51**	**198**	P	P	17 51 48.6	+2.4
PETK	**Petropavlovsk-** 1.0nm,0.5s,baz=205,slow=5.7,SNR=2.8	**70.87**	**28**	P	**P**	**17 51 54.0**	**-0.5**
VNDA	**Vanda** 1.5nm,0.4s,baz=318,slow=6.6,SNR=24	**76.42**	**170**	P	P	17 52 27.1	+1.5
BOSA	**Boshof** 1.5nm,0.7s,baz=119,slow=14,SNR=3.9	**83.19**	**242**	P	P	17 53 03.7	+1.4
CFAA	**Coronel Fontan** 0.4nm,0.5s,baz=162,slow=2.3,SNR=11	**142.72**	**182**	PKP	**PKPdf**	**18 00 03.2**	**-1.3**
CPUP	**Villa Florida** 1.1nm,0.4s,baz=101,slow=2.8,SNR=7.8	**145.94**	**199**	PKPbc	**PKPab**	**18 00 13.3**	**-0.4**
BDFB	**Brasilia** 2.1nm,0.5s,baz=112,slow=5.0,SNR=4.0	**149.95**	**224**	PKPbc	**PKPbc**	**18 00 23.7**	**+1.1**

BER 19 17:45:54.0±0.3,**71.°12N**×6.°80W,**h12**km±2km,**MD2.9, ML3.6,Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.51**	**256**	*eP*	Pg	17 46 03.1	-0.8
JNE				*eS*	Sg	17 46 09.8	-0.9
JNE				AML	AML	17 46 11.9	
	comp=Z,3µm,0.3s						
JNW	**Jan Mayen West**	**0.54**	**262**	*eP*	Pg	17 46 03.8	-0.8
JNW				*eS*	Sg	17 46 10.7	-1.0
JNW				AML	AML	17 46 11.6	
	comp=Z,3µm,0.1s						
JMI	**Jan Mayen**	**0.66**	**254**	*eP*	Pg	17 46 05.5	-1.4
JMI				*eS*	Sg	17 46 14.0	-1.5

*IDC **19** 17:47:57.6±1.2,34.°63N×31.°95E,h0km,mb3.7/4, mb1 3.6/8,mb1mx3.4/26,mbtmp3.5/8,ML3.6/3,Error ellipse: s-maj=30.5km s-min=19.3km az=57.0*
*ISCJB **19** 17:48:01.4±0.4,34.°40N±0.°03×31.°99E±0.°05,h59km±8km, mb3.5/4,Error ellipse: s-maj=7.4km s-min=4.3km az=166.3*
*CSEM **19** 17:48:02.0±0.3,34.°42N×31.°97E,h25km±3km,Mw3.5, Error ellipse: s-maj=4.4km s-min=3.2km az=88.0*
*ISK **19** 17:48:03.1,34.°56N×31.°98E,h32km,MD3.4*
*NIC **19** 17:48:03.2±0.2,34.°55N×31.°98E,h45km,ML3.4,MW3.5*
*HLW **19** 17:48:04.4,34.°29N×31.°92E,h33km±27km,Md3.3,Ml3.2*

ISC 19 17:48:02.4±1.1,**34.°43N**±0.°03×**31.°98E**±0.°05,**h41**km±16km, **n66,** σ0°.**97**/79,**mb3.5**/4,**6D,Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.54**	**34**	⇓P	**Pn**	**17 48 13.6**	**-0.2**
PPCY	**Paphos**	**0.54**	**34**	⇓*i*P	**Pn**	**17 48 13.6**	**-0.2**
AKMC	**Akamas**	**0.66**	**26**	⇓P	**Pn**	**17 48 15.1**	**-0.3**
AKMC	**Akamas**	**0.66**	**26**	⇓*i*P	**Pn**	**17 48 15.1**	**-0.3**
SZAC	**Souni-Zanaja**	**0.81**	**66**	P	**Pn**	**17 48 17.9**	**+0.4**
SZAC				S	**Sn**	**17 48 29.2**	**+0.8**
SZAC	**Souni-Zanaja**	**0.81**	**66**	P	**Pn**	**17 48 17.9**	**+0.4**
SZAC				S	**Sn**	**17 48 29.2**	**+0.8**
ALFC	**Alevga** 54nm,0.2s	**0.89**	**35**	⇓P	**Pn**	**17 48 18.1**	**-0.4**
ALFC				S	**Sn**	**17 48 29.7**	**-0.5**
ALFC	**Alevga** 54nm,0.2s	**0.89**	**35**	⇓*i*P	**Pn**	**17 48 18.1**	**-0.4**
ALFC				S	**Sn**	**17 48 29.7**	**-0.5**
LEF	**Lefka**	**1.02**	**47**	*e*PG	**Pn**	**17 48 19.5**	**-0.7**
LEF				*e*SG	**Sn**	**17 48 31.2**	**-2.1**
LEF	**Lefka**	**1.02**	**47**	*e*Pg	**Pn**	**17 48 19.5**	**-0.7**
LEF				*e*Sg	**Sn**	**17 48 31.2**	**-2.1**
CSS	**Prodhromos** 8.2nm,0.2s	**1.23**	**64**	P	**Pn**	**17 48 23.2**	**0.0**
CSS				S	**Sn**	**17 48 39.4**	**+0.7**
CSS	**Prodhromos**	**1.23**	**64**	*e*PN	**Pn**	**17 48 23.2**	**0.0**
CSS				*e*SN	**Sn**	**17 48 39.5**	**+0.7**
CSS	**Prodhromos** 8.2nm,0.2s	**1.23**	**64**	P	**Pn**	**17 48 23.2**	**0.0**
CSS				*e*Sn	**Sn**	**17 48 39.5**	**+0.7**
MAMC	**Mammari**	**1.26**	**54**	P	**Pn**	**17 48 23.8**	**+0.2**
MAMC	**Mammari**	**1.26**	**54**	P	**Pn**	**17 48 23.8**	**+0.2**
LFK	**Lefkose**	**1.53**	**56**	*e*PN	**Pn**	**17 48 28.2**	**+0.8**
LFK	**Lefkose**	**1.53**	**56**	*e*Pn	**Pn**	**17 48 28.2**	**+0.8**
EREN	**Erenkoy**	**2.11**	**58**	*e*PN	**Pn**	**17 48 36.3**	**+1.1**
EREN	**Erenkoy**	**2.11**	**58**	*e*Pn	**Pn**	**17 48 36.3**	**+1.1**
IKL	**Isikli**	**2.28**	**37**	*e*PN	**Pn**	**17 48 38.4**	**+0.8**
IKL	**Isikli**	**2.28**	**37**	*e*Pn	**Pn**	**17 48 38.4**	**+0.8**
ELL	**Elmali**	**2.86**	**324**	*e*PN	**Pn**	**17 48 46.2**	**+0.5**
ELL	**Elmali**	**2.86**	**324**	*e*Pn	**Pn**	**17 48 46.2**	**+0.5**
BHL	**Bhannes**	**3.10**	**99**	*e*P	**Pn**	**17 48 47.7**	**-1.2**
BHL	**Bhannes**	**3.10**	**99**	*e*P	**Pn**	**17 48 47.7**	**-1.2**
SUTC	**Sutluce-Ispart**	**3.14**	**346**	*e*PN	**Pn**	**17 48 50.3**	**+0.8**
SUTC	**Sutluce-Ispart**	**3.14**	**346**	*e*Pn	**Pn**	**17 48 50.3**	**+0.8**
MMAI	**Mount Meron Ar** 6.8nm,0.3s,baz=316,slow=13,SNR=15	**3.19**	**115**	Pn	**Pn**	**17 48 50.6**	**+0.5**
MMAI				Sn	**Sn**	**17 49 26.3**	**-0.6**
	18nm,0.3s,baz=297,slow=28,SNR=17						
BCK	**Bucak**	**3.22**	**340**	*e*PN	**Pn**	**17 48 50.8**	**+0.2**
BCK	**Bucak**	**3.22**	**340**	*e*Pn	**Pn**	**17 48 50.8**	**+0.2**
HWQ	**Hawqa**	**3.29**	**92**	*e*P	**Pn**	**17 48 53.0**	**+1.5**
HWQ	**Hawqa**	**3.29**	**92**	*e*P	**Pn**	**17 48 53.0**	**+1.5**
KONT	**Konya--Tatoy**	**3.52**	**5**	*e*PN	**Pn**	**17 48 55.6**	**+1.0**
KONT	**Konya--Tatoy**	**3.52**	**5**	*e*Pn	**Pn**	**17 48 55.6**	**+1.0**
ISP	**Isparta**	**3.58**	**341**	*e*PN	**Pn**	**17 48 56.9**	**+1.3**
ISP	**Isparta**	**3.58**	**341**	*e*Pn	**Pn**	**17 48 56.9**	**+1.3**
RSH		**3.76**	**156**	P	**Pn**	**17 48 58.8**	**+0.8**
KARA	**Karaisali**	**3.77**	**41**	*e*PN	**Pn**	**17 48 59.6**	**+1.5**
KARA	**Karaisali**	**3.77**	**41**	*e*Pn	**Pn**	**17 48 59.6**	**+1.5**
LADK	**Ladik-KONYA**	**3.77**	**5**	*e*PN	**Pn**	**17 48 59.3**	**+1.1**
LADK	**Ladik-KONYA**	**3.77**	**5**	*e*Pn	**Pn**	**17 48 59.3**	**+1.1**
AMAG	**Maghara** baz=162	**3.92**	**164**	P	**Pn**	**17 49 00.5**	**+0.3**
AMAG	**Maghara**	**3.92**	**164**	P	**Pn**	**17 49 00.5**	**+0.3**
KHL	**Karahalli**	**4.36**	**334**	*e*PN	**Pn**	**17 49 06.9**	**+0.7**
KHL	**Karahalli**	**4.36**	**334**	*e*Pn	**Pn**	**17 49 06.9**	**+0.7**
KIZT	**Kizilcal**	**4.44**	**359**	*e*PN	**Pn**	**17 49 08.6**	**+1.2**
KIZT	**Kizilcal**	**4.44**	**359**	*e*Pn	**Pn**	**17 49 08.6**	**+1.2**
KOT	**Kottamia** baz=182	**4.49**	**182**	P	**Pn**	**17 49 08.1**	**0.0**
KOT				AMP		17 49 00.0	
	comp=N,170µm,0.2s,logA/T=5.9,baz=182						
SUZ		**4.64**	**171**	P	**Pn**	**17 49 10.9**	**+1.0**
	baz=169						
SUZ		**4.64**	**171**	P	**Pn**	**17 49 10.9**	**+1.0**
ASF	**Jabal al Asfar**	**4.70**	**117**	Pn	**Pn**	**17 49 12.5**	**+1.6**
HNKL	**Nakhl** baz=157	**4.80**	**159**	P	**Pn**	**17 49 12.7**	**+0.4**
HNKL				AMP		17 50 00.0	
	comp=N,20µm,0.3s,logA/T=4.8,baz=157						
HNKL				S	**Sn**	**17 50 04.8**	**-1.8**
	baz=157						
HNKL	**Nakhl**	**4.80**	**159**	P	**Pn**	**17 49 12.7**	**+0.4**
HNKL				S	**Sn**	**17 50 04.8**	**-1.8**
GLL	**Jalalah** baz=183	**4.85**	**183**	P	**Pn**	**17 49 13.3**	**+0.4**
HMAT	**Matruh** baz=234	**5.29**	**232**	P	**Pn**	**17 49 19.2**	**+0.3**
HMAT	**Matruh**	**5.29**	**232**	P	**Pn**	**17 49 19.2**	**+0.3**
EIL	**Elat**	**5.38**	**151**	Pn	**Pn**	**17 49 20.8**	**+0.6**
EIL	comp=N,1.0nm,0.3s,baz=186,slow=6.8,SNR=19			Sn	**Sn**	**17 50 19.7**	**-1.1**
	comp=N,1.7nm,0.3s,baz=71,slow=9.9,SNR=9.1						
HDHB	**Dhahab** baz=156	**6.12**	**158**	P	**Pn**	**17 49 31.2**	**+0.9**
HDHB	**Dhahab**	**6.12**	**158**	P	**Pn**	**17 49 31.2**	**+0.9**
HKAT	**Jabal Katrina** baz=162	**6.14**	**163**	P	**Pn**	**17 49 31.3**	**+0.5**
HKAT	**Jabal Katrina**	**6.14**	**163**	P	**Pn**	**17 49 31.3**	**+0.5**
GERES	**GERESS Array B** comp=N,0.1nm,0.3s,baz=148,slow=9.3,SNR=3.4	**19.77**	**322**	P	**P**	**17 52 29.0**	**0.0**
FINES	**FINESS Array B** comp=N,1.3nm,0.8s,baz=150,slow=13,SNR=3.7	**27.29**	**354**	P	**P**	**17 53 41.3**	**-1.4**
NOA	**NORSAR Array B** comp=N,0.8nm,0.9s,baz=143,slow=9.0,SNR=3.7	**29.79**	**340**	P	**P**	**17 54 03.7**	**-1.4**
TORD	**Torodi Ar. Bea** comp=N,0.1nm,0.4s,baz=38,slow=7.5,SNR=2.9	**34.66**	**240**	P	**P**	**17 54 49.7**	**+1.6**
ARCES	**ARCESS Array B** comp=N,2.3nm,0.9s,baz=165,slow=7.5,SNR=3.6	**35.34**	**356**	P	**P**	**17 54 52.3**	**-1.2**

IDC 19 18:06:14.3±5.5,**17.°77S**×174.°45W,**h275**km±140km, **mb3.8**/5,**mb1 3.9**/6,**mb1mx3.3**/23,**mbtmp3.8**/6,**Error ellipse: s-maj=145.7km s-min=30.2km az=74.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 12nm,0.3s,baz=92,slow=16,SNR=12	**4.62**	**34**	P	Pn	18 07 28.4	+1.8
AFI				S	S	18 08 23.8	-0.6
	4.6nm,0.3s,baz=183,slow=18,SNR=2.8						
URZ	**Urewera** 7.3nm,0.3s,baz=27,slow=4.1,SNR=9.7	**21.71**	**198**	P	P	18 10 43.5	-0.1
STKA	**Stephens Creek** 6.4nm,1.1s,baz=95,slow=11,SNR=5.0	**42.01**	**242**	P	P	18 13 38.9	-0.4
WRA	**Warramunga Arr** 1.7nm,0.4s,baz=95,slow=7.0,SNR=9.5	**48.36**	**259**	P	P	18 14 28.9	-0.2
ASAR	**Alice Springs** 14nm,0.6s,baz=91,slow=7.8,SNR=98	**48.45**	**254**	P	P	18 14 29.4	-0.5
FITZ	**Fitzroy Crossi** 1.0nm,0.5s,baz=104,slow=8.3,SNR=6.5	**56.76**	**260**	P	P	18 15 30.9	+0.5

*IDC **19** 18:06:02.9±1.9,6.°81S×129.°17E,h0km,mb3.7/1, mb1 3.9/4,mb1mx3.5/20,mbtmp3.7/4,ML3.8/3,Error ellipse: s-maj=79.8km s-min=26.6km az=76.0*
*AUST **19** 18:06:19.1,7.°48S×129.°04E,h60km*
*ISCJB **19** 18:06:23.1±1.5,7.°9S±0.°1×128.°81E±0.°09,h131km, mb3.5/1,Error ellipse: s-maj=19.9km s-min=8.6km az=28.4*

ISC 19 18:06:23.7±2.3,**7.°9S**±0.°1×**128.°75E**±0.°09,**h131**km,**n12,** σ2°.**08**/14,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe** baz=5.2,SNR=11	**4.79**	**247**	P	**Pn**	**18 07 35.3**	**+1.2**
MTN	**Manton Dam** baz=5.7,SNR=23	**5.43**	**155**	P	**Pn**	**18 07 44.5**	**+1.9**
MTN				S	**Sn**	**18 08 47.7**	**+3.5**
	baz=5.7,SNR=11						
KDU	**Kakadu** baz=6.2,SNR=58	**6.00**	**143**	P	**Pn**	**18 07 51.2**	**+1.0**
KDU				S	**Sn**	**18 08 58.3**	**+0.5**
	baz=6.2,SNR=10						
FAKI	**Fak Fak** baz=5.6,SNR=11	**6.06**	**35**	P	Pn	18 07 39.7	-11
FAKI				S	Sn	18 08 39.8	-20
	baz=5.6,SNR=3.4						
KNRA	**Kununurra** baz=8.2,SNR=19	**7.72**	**180**	P	**Pn**	**18 08 15.2**	**+1.8**
WSI	**Waingapu** baz=8.9,SNR=4.1	**8.53**	**258**	P	Pn	18 08 26.4	+2.1
FITZ	**Fitzroy Crossi** 0.7nm,0.3s,baz=29,slow=12,SNR=37	**10.57**	**196**	P	**Pn**	**18 08 50.7**	**-0.9**
FITZ				Sn	**Sn**	**18 10 46.3**	**-2.0**
	0.2nm,0.3s,baz=139,slow=20,SNR=2.3						
FITZ	**Fitzroy Crossi** baz=11,SNR=14	**10.57**	**196**	P	**Pn**	**18 08 52.1**	**+0.5**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=339,slow=13,SNR=27	**13.13**	**156**	Pn	**Pn**	**18 09 23.2**	**-2.1**
WRA				Sn	**Sn**	**18 11 47.2**	**-3.1**
	0.7nm,0.3s,baz=337,slow=22,SNR=9.0						
COEN	**Coen** baz=15,SNR=14	**15.38**	**114**	P	**P**	**18 09 53.4**	**-2.2**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=338,slow=9.9,SNR=16	**16.43**	**163**	P	**P**	**18 10 07.2**	**+0.1**
ASAR				S	**Sn**	**18 13 10.9**	**+1.2**
	0.2nm,0.3s,baz=356,slow=26,SNR=5.6						
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=125,slow=8.0,SNR=14	**68.31**	**328**	P	P	18 17 01.6	-9.1

*IDC **19** 18:29:35.9±1.1,35.°44N×28.°52E,h0km,mb3.8/9, mb1 3.8/14,mb1mx3.7/31,mbtmp3.7/14,ML3.8/5,Error ellipse: s-maj=22.3km s-min=17.2km az=2.0*
*NSSC **19** 18:29:38.1±3.6,35.°27N×28.°88E,h37km±978km,MD2.1, ML3.1*
*DDA **19** 18:29:38.6,35.°44N×28.°74E,h8km,ML3.5*
*ISK **19** 18:29:39.6,35.°36N×28.°60E,h32km,ML3.6*
*THE **19** 18:29:39.6,35.°38N×28.°63E,h2km±1km,ML3.6/3,Error ellipse: s-maj=2.0km s-min=1.0km az=183.0*
*ATH **19** 18:29:40.9,35.°50N×28.°54E,h72km±2km*
*CSEM **19** 18:29:41.2±0.1,35.°34N×28.°65E,h40km,ML3.6/3,Mw3.4, Error ellipse: s-maj=2.6km s-min=1.7km az=38.0*
*HLW **19** 18:29:43.4,35.°14N×28.°78E,h32km±39km,Md3.6,Ml3.5*
*NIC **19** 18:29:44.5±0.0,35.°39N×28.°96E,h71km,mb4.0,ML3.6, MW3.4*

ISC 19 18:29:38.5±1.1,**35.°37N**±0.°03×**28.°64E**±0.°02,**h13**km±7km, **n223,** σ1°.**14**/243,**mb3.8**/10,**2C,Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.94**	**334**	P	**Pb**	**18 29 57.7**	**+0.9**
ARG				S	**Sb**	**18 30 11.7**	**+2.5**
ARG	**Arkhangelos**	**0.94**	**334**	*e*P	**Pb**	**18 29 57.7**	**+0.9**
ARG				*e*S	**Sb**	**18 30 10.2**	**+1.0**
ARG	**Arkhangelos**	**0.94**	**334**	*e*P	**Pb**	**18 29 57.7**	**+0.9**
ARG				*e*S	**Sb**	**18 30 10.2**	**+1.0**
KSL	**Kastellorizon**	**1.09**	**44**	*e*P	**Pn**	**18 30 01.2**	**+1.6**
AKAS	**Kas**	**1.17**	**42**	*i* P	**Pb**	**18 30 02.0**	**+1.3**
AKAS				*i* S	**Sg**	**18 30 14.4**	**-1.8**
AKAS	**Kas**	**1.17**	**42**	*i* P	**Pb**	**18 30 02.0**	**+1.3**
AKAS				*i* S	**Sg**	**18 30 14.4**	**-1.8**
KARP	**Karpathos**	**1.22**	**279**	P	**Pg**	**18 30 01.8**	**-0.2**
KARP				S	**Sb**	**18 30 19.0**	**+1.8**
KARP	**Karpathos**	**1.22**	**279**	*e*P	**Pg**	**18 30 01.8**	**-0.2**
KARP	**Karpathos**	**1.22**	**279**	*e*P	**Pg**	**18 30 01.8**	**-0.2**
KARP				S	**Sb**	**18 30 19.0**	**+1.8**
DALY	**Dalyan (Mu¨la**	**1.45**	**0**	*e*PN	**Pn**	**18 30 04.7**	**+0.3**
DALY	**Dalyan (Mu¨la**	**1.45**	**0**	*e*Pn	**Pn**	**18 30 04.7**	**+0.3**
TURN	**Turunc**	**1.50**	**359**	*e*P	**Pn**	**18 30 05.0**	**-0.2**
TURN				*i* S	**Sb**	**18 30 24.9**	**-0.3**
TURN	**Turunc**	**1.50**	**359**	*e*P	**Pn**	**18 30 05.0**	**-0.2**
TURN				*i* S	**Sb**	**18 30 24.9**	**-0.3**
DAT	**Datca**	**1.61**	**328**	*e*PN	**Pn**	**18 30 06.9**	**+0.1**
DAT				*e*SN	**Sn**	**18 30 25.2**	**-2.3**
DAT	**Datca**	**1.61**	**328**	*e*Pn	**Pn**	**18 30 06.9**	**+0.1**
DAT				*e*Sn	**Sn**	**18 30 25.2**	**-2.3**
NIS1	**Nisyros Isl.**	**1.71**	**316**	P	**Pn**	**18 30 09.1**	**+1.0**
NIS1				S	**Sn**	**18 30 31.3**

PPCY	**Paphos**	**3.07**	**98**	P		**Pn**	**18 30 27.9**	**+1.1**	
PPCY	**Paphos**	**3.07**	**98**	P		**Pn**	**18 30 27.9**	**+1.1**	
KULA	**Kula-Manisa**	**3.14**	**0**	*e*PN		**Pn**	**18 30 28.0**	**+0.2**	
KULA	**Kula-Manisa**	**3.14**	**0**	*e*Pn		**Pn**	**18 30 28.0**	**+0.2**	
SIVA	**Sivas**	**3.16**	**265**	*e*P		**Pn**	**18 30 29.5**	**+1.5**	
SIVA	**Sivas**	**3.16**	**265**	*e*P		**Pn**	**18 30 29.5**	**+1.5**	
IZM	**Izmir**	**3.22**	**340**	*e*PN		**Pn**	**18 30 29.0**	**+0.1**	
IZM	**Izmir**	**3.22**	**340**	*e*Pn		**Pn**	**18 30 29.0**	**+0.1**	
ALFC	**Alevga**	**3.25**	**93**	P		**Pn**	**18 30 30.3**	**+1.1**	
	5.6nm,0.3s								
ALFC				S		**Sn**	**18 31 05.8**	**-2.0**	
ALFC	**Alevga**	**3.25**	**93**	P		**Pn**	**18 30 30.3**	**+1.1**	
	5.6nm,0.3s								
ALFC				S		**Sn**	**18 31 05.8**	**-2.0**	
LEF	**Lefka**	**3.49**	**93**	*e*PN		**Pn**	**18 30 32.8**	**+0.3**	
LEF	**Lefka**	**3.49**	**93**	*e*PN		**Pn**	**18 30 32.8**	**+0.3**	
SHUT	**Suhut-Afyon**	**3.53**	**25**	*e*PN		**Pn**	**18 30 33.5**	**+0.3**	
SHUT	**Suhut-Afyon**	**3.53**	**25**	*e*Pn		**Pn**	**18 30 33.5**	**+0.3**	
VAM	**Vamos**	**3.63**	**272**	*e*P		**Pn**	**18 30 36.1**	**+1.6**	
VAM	**Vamos**	**3.63**	**272**	*e*P		**Pn**	**18 30 36.1**	**+1.6**	
ERMK	**Ermenek**	**3.69**	**69**	*e*P		Pn	18 30 38.6	+3.1	
ERMK				*i* S		**Sn**	**18 31 21.1**	**+2.1**	
ERMK	**Ermenek**	**3.69**	**69**	*e*P		Pn	18 30 38.6	+3.1	
ERMK				*i* S		**Sn**	**18 31 21.1**	**+2.1**	
MAMC	**Mammari**	**3.75**	**92**	P		**Pn**	**18 30 37.2**	**+1.1**	
MAMC	**Mammari**	**3.75**	**92**	P		**Pn**	**18 30 37.2**	**+1.1**	
KARN	**Karanos**	**3.86**	**272**	P		**Pn**	**18 30 38.4**	**+0.7**	
KARN	**Karanos**	**3.86**	**272**	*e*P		**Pn**	**18 30 38.6**	**+0.9**	
KARN	**Karanos**	**3.86**	**272**	P		**Pn**	**18 30 38.4**	**+0.7**	
CSS	**Prodhromos**	**3.86**	**95**	P		**Pn**	**18 30 38.8**	**+1.1**	
	1.5nm,0.4s								
CSS				S		**Sn**	**18 31 21.4**	**-1.6**	
CSS	**Prodhromos**	**3.86**	**95**	*e*PN		**Pn**	**18 30 38.5**	**+0.8**	
CSS	**Prodhromos**	**3.86**	**95**	P		**Pn**	**18 30 38.5**	**+0.8**	
CSS				S		**Sn**	**18 31 24.5**	**+1.5**	
CSS	**Prodhromos**	**3.86**	**95**	Pn		**Pn**	**18 30 37.9**	**+0.2**	
CSS	**Prodhromos**	**3.86**	**95**	P		**Pn**	**18 30 38.5**	**+0.8**	
CSS				S		**Sn**	**18 31 21.4**	**-1.6**	
KONT	**Konya--Tatoy**	**3.94**	**48**	*e*PN		**Pn**	**18 30 39.8**	**+1.0**	
KONT	**Konya--Tatoy**	**3.94**	**48**	*e*Pn		**Pn**	**18 30 39.8**	**+1.0**	
LFK	**Lefkose**	**4.00**	**90**	*e*PN		**Pn**	**18 30 40.4**	**+0.8**	
LFK	**Lefkose**	**4.00**	**90**	*e*Pn		**Pn**	**18 30 40.4**	**+0.8**	
LADK	**Ladik-KONYA**	**4.11**	**46**	*e*PN		**Pn**	**18 30 42.1**	**+0.9**	
LADK	**Ladik-KONYA**	**4.11**	**46**	*e*Pn		**Pn**	**18 30 42.1**	**+0.9**	
TVSB	**Tavsanli**	**4.12**	**9**	*e*PN		**Pn**	**18 30 41.8**	**+0.4**	
TVSB	**Tavsanli**	**4.12**	**9**	*e*Pn		**Pn**	**18 30 41.8**	**+0.4**	
IKL	**Isikli**	**4.19**	**77**	*e*PN		**Pn**	**18 30 43.5**	**+1.3**	
IKL	**Isikli**	**4.19**	**77**	*e*Pn		**Pn**	**18 30 43.5**	**+1.3**	
PRK	**Paraskevi**	**4.31**	**335**	*e*P		**Pn**	**18 30 44.1**	**+0.4**	
PRK	**Paraskevi**	**4.31**	**335**	*e*P		**Pn**	**18 30 44.1**	**+0.4**	
KIZT	**Kizilcal**	**4.36**	**35**	*e*PN		**Pn**	**18 30 46.1**	**+1.5**	
KIZT	**Kizilcal**	**4.36**	**35**	*e*Pn		**Pn**	**18 30 46.1**	**+1.5**	
HMAT	**Matruh**	**4.46**	**197**	P		**Pn**	**18 30 46.5**	**+0.6**	
	baz=200								
HMAT				AMP			18 31 00.0		
	comp=N,110µm,0.4s,logA/T=5.5,baz=200								
HMAT	**Matruh**	**4.46**	**197**	P		**Pn**	**18 30 46.5**	**+0.6**	
EREN	**Erenkoy**	**4.52**	**86**	*e*PN		**Pn**	**18 30 47.7**	**+1.1**	
EREN	**Erenkoy**	**4.52**	**86**	*e*Pn		**Pn**	**18 30 47.7**	**+1.1**	
KYTH	**Kithira**	**4.64**	**283**	P		**Pn**	**18 30 48.7**	**+0.3**	
KYTH	**Kithira**	**4.64**	**283**	P		**Pn**	**18 30 48.7**	**+0.3**	
SVRH	**Sivrihisar-ESK**	**4.67**	**29**	*e*PN		**Pn**	**18 30 50.1**	**+1.2**	
SVRH	**Sivrihisar-ESK**	**4.67**	**29**	*e*Pn		**Pn**	**18 30 50.1**	**+1.2**	
GONE	**Gonen-Balikesi**	**4.73**	**351**	*e*PN		**Pn**	**18 30 49.4**	**-0.2**	
GONE	**Gonen-Balikesi**	**4.73**	**351**	*e*Pn		**Pn**	**18 30 49.4**	**-0.2**	
SLUM		**4.81**	**218**	P		**Pn**	**18 30 51.4**	**+0.7**	
	baz=221								
SLUM				AMP			18 31 00.0		
	comp=E,100µm,0.3s,logA/T=5.5,baz=221								
SLUM		**4.81**	**218**	P		**Pn**	**18 30 51.4**	**+0.7**	
VLI	**Veliai**	**4.81**	**288**	*e*P		**Pn**	**18 30 51.0**	**+0.2**	
VLI	**Veliai**	**4.81**	**288**	*e*P		**Pn**	**18 30 51.0**	**+0.2**	
HBRG	**Burj al 'Arab**	**4.89**	**168**	P		**Pn**	**18 30 52.0**	**+0.3**	
	baz=168								
HBRG	**Burj al 'Arab**	**4.89**	**168**	P		**Pn**	**18 30 52.0**	**+0.3**	
KCTX	**Karacabey (Bur**	**4.89**	**357**	*e*PN		**Pn**	**18 30 51.6**	**-0.3**	
KCTX	**Karacabey (Bur**	**4.89**	**357**	*e*Pn		**Pn**	**18 30 51.6**	**-0.3**	
CAVI	**Cavuskoy**	**4.92**	**11**	*e*PN		**Pn**	**18 30 53.0**	**+0.8**	
CAVI	**Cavuskoy**	**4.92**	**11**	*e*Pn		**Pn**	**18 30 53.0**	**+0.8**	
GULE	**Gulek**	**5.31**	**67**	*e*P		Pn	18 31 00.7	+3.0	
GULE				*i* S		**Sn**	**18 31 59.2**	**+0.4**	
GULE	**Gulek**	**5.31**	**67**	*e*P		Pn	18 31 00.7	+3.0	
GULE				*i* S		**Sn**	**18 31 59.2**	**+0.4**	
KARA	**Karaisali**	**5.51**	**68**	*e*PN		**Pn**	**18 31 02.5**	**+2.1**	
KARA	**Karaisali**	**5.51**	**68**	*e*Pn		**Pn**	**18 31 02.5**	**+2.1**	
SMTH	**Samothraki Isl**	**5.66**	**335**	*e*P		**Pn**	**18 31 02.3**	**0.0**	
SMTH	**Samothraki Isl**	**5.66**	**335**	*e*P		**Pn**	**18 31 02.3**	**0.0**	
BRTR	**Keskin Array B**	**5.89**	**41**	Pn		**Pn**	**18 31 06.8**	**+1.2**	
	comp=E,0.7nm,0.3s,baz=227,slow=14,SNR=21								
BRTR				Sn		**Sn**	**18 32 11.6**	**-1.5**	
	comp=E,1.3nm,0.3s,baz=202,slow=23,SNR=11								
HNAT	**Natroun**	**5.96**	**163**	P		**Pn**	**18 31 06.6**	**+0.1**	
	baz=163								
HNAT	**Natroun**	**5.96**	**163**	P		**Pn**	**18 31 06.6**	**+0.1**	
ARNB	**Al Arnab**	**5.99**	**83**	*e*P		Pn	18 31 03.1	-3.9	
ARNB				*e*S		Sn	18 32 08.2	-7.4	
ARNB				AML		AML	18 32 16.3		
	comp=N,32nm,0.6s								
ARNB				AML		AML	18 32 21.4		
	comp=Z,21nm,0.7s								
ARNB				AML		AML	18 32 28.6		
	comp=E,33nm,0.7s								
ARNB	**Al Arnab**	**5.99**	**83**	*e*P		Pn	18 31 03.6	-3.4	
ARNB				*e*S		Sn	18 32 03.3	-12	
ARNB				AML		AML	18 32 16.3		
	comp=N,32nm,0.6s								
ARNB				AML		AML	18 32 21.4		
	comp=Z,21nm,0.7s								
ARNB				AML		AML	18 32 28.6		
	comp=E,33nm,0.7s								
ARNB	**Al Arnab**	**5.99**	**83**	*e*P		Pn	18 31 03.6	-3.4	
	SNR=90								
ARNB				*e*S		Sn	18 32 03.3	-12	
	comp=E,33nm,0.7s,SNR=90								
MMC7	**Mount Meron ar**	**6.06**	**111**	Pn		**Pn**	**18 31 07.6**	**-0.4**	
MMAI	**Mount Meron Ar**	**6.08**	**111**	Pn		**Pn**	**18 31 08.2**	**0.0**	
	comp=E,8.0nm,0.3s,baz=320,slow=12,SNR=29								
MMAI				Sn		**Sn**	**18 32 18.2**	**+0.6**	
	comp=E,9.4nm,0.3s,baz=310,slow=30,SNR=6.4								
AMAG	**Maghara**	**6.08**	**140**	P		**Pn**	**18 31 07.9**	**-0.3**	
	baz=139								
AMAG				S		Sn	18 32 11.5	-6.1	
	baz=139								
AMAG	**Maghara**	**6.08**	**140**	P		**Pn**	**18 31 07.9**	**-0.3**	
RSH		**6.12**	**134**	P		**Pn**	**18 31 08.3**	**-0.4**	
	baz=133								
RSH		**6.12**	**134**	P		**Pn**	**18 31 08.4**	**-0.3**	
HHAG	**Hagoal**	**6.14**	**151**	P		**Pn**	**18 31 09.3**	**+0.3**	
	baz=150								
HHAG	**Hagoal**	**6.14**	**151**	P		**Pn**	**18 31 09.3**	**+0.3**	
KOZT	**Kozan**	**6.16**	**68**	*e*PN		**Pn**	**18 31 11.8**	**+2.5**	
KOZT	**Kozan**	**6.16**	**68**	*e*Pn		**Pn**	**18 31 11.8**	**+2.5**	
SLTI	**Sal'it**	**6.17**	**119**	Pn		**Pn**	**18 31 09.0**	**-0.4**	
KSDI	**Kefar Szold**	**6.20**	**108**	Pn		**Pn**	**18 31 09.2**	**-0.6**	
HSAF	**As Saff**	**6.24**	**156**	P		**Pn**	**18 31 10.1**	**-0.3**	
	baz=156								
HSAF	**As Saff**	**6.24**	**156**	P		**Pn**	**18 31 10.1**	**-0.3**	
BIDA	**Albida**	**6.30**	**91**	*e*P		Pn	18 31 07.7	-3.6	
BIDA				*e*S		Sn	18 32 14.7	-8.6	
BIDA				AML		AML	18 32 17.6		
	comp=Z,174nm,0.4s								
BIDA				AML		AML	18 32 23.2		
	comp=E,36nm,0.5s								
BIDA	**Albida**	**6.30**	**91**	*e*P		Pn	18 31 08.1	-3.1	
BIDA				*e*S		Sn	18 32 11.2	-12	
BIDA				AML		AML	18 32 17.6		
	comp=Z,174nm,0.4s								
BIDA				AML		AML	18 32 23.2		
	comp=E,36nm,0.5s								
BIDA	**Albida**	**6.30**	**91**	*e*P		Pn	18 31 08.1	-3.1	
	SNR=90								
BIDA				*e*S		Sn	18 32 11.2	-12	
	comp=E,36nm,0.5s,SNR=90								
MMLI	**Mount Malkishu**	**6.35**	**115**	Pn		**Pn**	**18 31 12.0**	**+0.1**	
BRBR	**Barbar**	**6.35**	**106**	*e*P		Pn	18 31 04.4	-7.7	
BRBR				*e*S		Sn	18 32 13.1	-12	
BRBR				AML		AML	18 32 19.1		
	comp=E,37nm,0.9s								
BRBR				AML		AML	18 32 23.2		
	comp=E,31nm,0.4s								
BRBR				AML		AML	18 32 23.5		
	comp=N,22nm,0.5s								
BRBR	**Barbar**	**6.35**	**106**	*e*P		Pn	18 31 04.2	-7.8	
	SNR=90								
BRBR				*e*S		Sn	18 32 13.3	-11	
	comp=N,22nm,0.5s,SNR=90								
BTCH	**Batrach**	**6.40**	**82**	*e*P		Pn	18 31 08.7	-3.9	
BTCH				*e*S		Sn	18 32 16.9	-8.7	
BTCH				AML		AML	18 32 29.7		
	comp=Z,47nm,0.5s								
BTCH	**Batrach**	**6.40**	**82**	*e*P		Pn	18 31 09.3	-3.3	
BTCH				*e*S		Sn	18 32 12.6	-13	
BTCH				AML		AML	18 32 29.7		
	comp=Z,47nm,0.5s								
BTCH	**Batrach**	**6.40**	**82**	*e*P		Pn	18 31 09.3	-3.3	
	SNR=90								
BTCH				*e*S		Sn	18 32 12.6	-13	
	comp=Z,47nm,0.5s,SNR=90								
HMDT	**Nahal Hemdat**	**6.52**	**117**	Pn		**Pn**	**18 31 13.8**	**-0.4**	
HMDT				Sn		**Sn**	**18 32 25.2**	**-3.2**	
SUZ		**6.55**	**146**	P		**Pn**	**18 31 14.9**	**+0.3**	
	baz=145								
SUZ		**6.55**	**146**	P		**Pn**	**18 31 14.9**	**+0.3**	
KZIT	**Kziot**	**6.56**	**131**	Pn		**Pn**	**18 31 14.5**	**-0.3**	
RTMI	**Retamim**	**6.65**	**129**	Pn		**Pn**	**18 31 15.8**	**-0.2**	
DSI	**Dead Sea**	**6.79**	**122**	Pn		**Pn**	**18 31 17.7**	**-0.1**	
DSI				Sn		Sn	18 32 31.6	-3.4	
MZDA	**Masada**	**6.93**	**124**	Pn		**Pn**	**18 31 20.2**	**+0.4**	
MZDA				Sn		**Sn**	**18 32 35.4**	**-3.0**	
AWBH		**7.03**	**178**	P		**Pn**	**18 31 21.0**	**-0.2**	
	baz=179								
AWBH		**7.03**	**178**	P		**Pn**	**18 31 21.0**	**-0.2**	
HNKL	**Nakhl**	**7.05**	**139**	P		**Pn**	**18 31 21.3**	**-0.2**	
	baz=138								
HNKL				AMP			18 32 00.0		
	comp=E,70µm,0.5s,logA/T=5.2,baz=138								
HNKL	**Nakhl**	**7.05**	**139**	P		**Pn**	**18 31 21.3**	**-0.2**	
ZFRI	**Zfri**	**7.29**	**129**	Pn		**Pn**	**18 31 23.9**	**-0.9**	
KRMI	**Paran Flat**	**7.33**	**134**	Pn		**Pn**	**18 31 24.8**	**-0.5**	
PRNI	**Paran**	**7.33**	**131**	Pn		**Pn**	**18 31 25.0**	**-0.3**	
PRNI				Sn		Sn	18 32 44.7	-3.6	
HRFI	**Mount Harif**	**7.57**	**133**	Pn		**Pn**	**18 31 28.4**	**-0.2**	
MBRI	**Mt Berech**	**7.67**	**135**	Pn		**Pn**	**18 31 29.8**	**-0.3**	
EIL	**Elat**	**7.79**	**135**	Pn		**Pn**	**18 31 31.0**	**-0.6**	
	comp=E,1.9nm,0.3s,baz=278,slow=5.1,SNR=25								
EIL				Sn		Sn	18 32 52.2	-7.5	
	comp=E,4.3nm,0.3s,baz=50,slow=12,SNR=5.5								
EIL	**Elat**	**7.79**	**135**	Pn		**Pn**	**18 31 31.2**	**-0.4**	
HKAT	**Jabal Katrina**	**8.20**	**145**	P		**Pn**	**18 31 37.3**	**-0.2**	
	baz=144								
HKAT	**Jabal Katrina**	**8.20**	**145**	P		**Pn**	**18 31 37.3**	**-0.2**	
HDHB	**Dhahab**	**8.34**	**141**	P		**Pn**	**18 31 39.2**	**0.0**	
	baz=140								
HDHB	**Dhahab**	**8.34**	**141**	P		Pn	18 31 39.2	0.0	
VYHS	**Vyhne**	**14.99**	**334**	*e*P		**P**	**18 33 14.7**	**-0.8**	
VYHS	**Vyhne**	**14.99**	**334**	*e*P		**P**	**18 33 14.7**	**-0.8**	
KEST	**Kesra**	**15.71**	**277**	Pn		**Pn**	**18 33 16.9**	**-2.8**	
	comp=E,0.1nm,0.3s,baz=58,slow=13,SNR=2.1								
GERES	**GERESS Array B**	**17.40**	**325**	P		**Pn**	**18 33 40.2**	**-0.8**	
	comp=E,0.2nm,0.3s,baz=126,slow=9.9,SNR=6.6								
SBF	**Sospel**	**18.37**	**304**	*e*P		**Pn**	**18 33 54.0**	**+1.0**	
	comp=E,26nm,0.8s								
SBF	**Sospel**	**18.37**	**304**	*e*P		**Pn**	**18 33 54.0**	**+1.0**	
	comp=E,26nm,0.8s								
FRF	**La Foret Royal**	**18.81**	**302**	*e*P		**P**	**18 33 58.3**	**+0.5**	
	comp=E,56nm,1.3s								
FRF	**La Foret Royal**	**18.81**	**302**	*e*P		**P**	**18 33 58.3**	**+0.5**	
	comp=E,55nm,1.3s								
MBDF	**Montbardon**	**19.13**	**306**	*e*P		**P**	**18 34 01.4**	**0.0**	
	comp=E,11nm,0.8s								
MBDF	**Montbardon**	**19.13**	**306**	*e*P		**P**	**18 34 01.4**	**0.0**	
	comp=E,10.0nm,0.8s								
LPG	**La Plagne**	**19.44**	**308**	*e*P		**P**	**18 34 06.3**	**+1.3**	
	comp=E,7.7nm,0.7s								
LPG	**La Plagne**	**19.44**	**308**	*e*P		**P**	**18 34 06.3**	**+1.3**	
	comp=E,7.0nm,0.7s								
CABF	**La Chapelle**	**20.32**	**310**	*e*P		**P**	**18 34 14.6**	**+0.2**	
	comp=E,17nm,1.1s								
CABF	**La Chapelle**	**20.32**	**310**	*e*P		**P**	**18 34 14.6**	**+0.2**	
	comp=E,16nm,1.1s								
CDF	**Champ du Feu**	**20.48**	**316**	*e*P		**P**	**18 34 16.6**	**+0.5**	
	comp=E,5.9nm,0.9s								
CDF	**Champ du Feu**	**20.48**	**316**	*e*P		**P**	**18 34 16.6**	**+0.5**	
	comp=E,5.0nm,0.9s								
VIVF	**Saint-Julien-l**	**20.57**	**305**	*e*P		**P**	**18 34 17.4**	**+0.3**	
	comp=E,12nm,1.1s								
VIVF	**Saint-Julien-l**	**20.57**	**305**	*e*P		**P**	**18 34 17.4**	**+0.3**	
	comp=E,11nm,1.1s								
SMF	**Signal de Mont**	**21.75**	**309**	*e*P		**P**	**18 34 28.4**	**-1.3**	
SMF	**Signal de Mont**	**21.75**	**309**	*e*P		**P**	**18 34 28.4**	**-1.3**	
AVF	**Avril sur Loir**	**22.12**	**309**	*e*P		**P**	**18 34 33.5**	**-0.1**	
AVF	**Avril sur Loir**	**22.12**	**309**	*e*P		**P**	**18 34 33.5**	**-0.1**	
SSF	**Saint Saulge**	**22.12**	**310**	*e*P		**P**	**18 34 32.9**	**-0.8**	
	comp=E,8.0nm,0.9s								
SSF	**Saint Saulge**	**22.12**	**310**	*e*P		**P**	**18 34 32.9**	**-0.8**	
	comp=E,8.0nm,0.9s								
BGF	**Bois d'Agland**	**22.36**	**308**	*e*P		**P**	**18 34 35.4**	**-0.8**	
BGF	**Bois d'Agland**	**22.36**	**308**	*e*P		**P**	**18 34 35.4**	**-0.8**	
FLN	**La Foliniere**	**25.25**	**311**	*e*P		P	18 35 01.0	-3.2	
GRR	**Gorron**	**25.35**	**310**	*e*P		P	18 35 02.1	-3.0	
AKTO	**Aktyubinsk**	**26.04**	**46**	P		**P**	**18 35 11.2**	**-0.2**	
	comp=E,2.5nm,0.5s,baz=254,slow=9.1,SNR=12								
ESDC	**Sonseca Array**	**26.13**	**289**	P		**P**	**18 35 11.2**	**-1.2**	
	comp=E,0.4nm,0.3s,baz=84,slow=10.0,SNR=6.8								
FINES	**FINESS Array B**	**26.14**	**357**	P		**P**	**18 35 10.8**	**-1.4**	
	comp=E,1.9nm,0.6s,baz=157,slow=12,SNR=12								
HFS	**Hagfors**	**26.61**	**343**	P		**P**	**18 35 13.8**	**-2.6**	
	comp=E,0.9nm,0.4s,baz=134,slow=11,SNR=12								
EKA	**Eskdalemuir Ar**	**29.56**	**322**	P		**P**	**18 35 41.9**	**-1.0**	
	comp=E,0.3nm,0.4s,baz=108,slow=9.7,SNR=3.7								
TORD	**Torodi Ar. Bea**	**32.87**	**234**	P		**P**	**18 36 11.4**	**-0.9**	
	comp=E,0.9nm,0.8s,baz=31,slow=8.8,SNR=4.6								
ARCES	**ARCESS Array B**	**34.27**	**358**	P		P	18 36 20.9	-3.0	
	comp=E,1.5nm,0.9s,baz=170,slow=7.4,SNR=7.2								
MKAR	**Makanchi Array**	**41.28**	**57**	P		**P**	**18 37 23.6**	**+0.1**	
	comp=E,0.4nm,0.6s,baz=272,slow=8.1,SNR=8.9								
ZALV	**Zalesovo Beam**	**42.80**	**46**	P		**P**	**18 37 35.4**	**-0.4**	
	comp=E,0.4nm,0.4s,baz=270,slow=8.3,SNR=2.7								

IDC ***19*** *18:51:24.0±0.9, 33°.28N×61°.32E, h0km, mb3.8/11, mb1 4.0/13, mb1mx3.7/30, mbtmp3.8/13, ML3.5/2, MS2.6/1, Ms1 2.6/1, ms1mx2.1/37, Error ellipse: s-maj=22.1km s-min=17.1km az=4.0*

CSEM ***19*** *18:51:24.8±0.3, 33°.48N×61°.48E, h2km, ML4.0, Error ellipse: s-maj=8.3km s-min=5.5km az=135.0*

ISCJB ***19*** *18:51:24.5±1.4, 33°.56N±0°.04×61°.38E±0°.06, h7km±8km, mb3.8/9, Error ellipse: s-maj=8.4km s-min=5.6km az=27.7*

TEH ***19*** *18:51:26.6, 33°.44N×61°.40E, h5km, ML4.0*

NNC ***19*** *18:51:28.9±1.9, 33°.92N×61°.55E, h0km, mb3.9, Error ellipse: s-maj=21.7km s-min=14.3km az=46.0*

THR ***19*** *18:51:29.1±0.4, 33°.62N×61°.02E, h9km±4km, ML3.6*

ISC 19 18:51:27.7±2.2, 33°.54N±0°.04×61°.19E±0°.09, h14km±12km, n70, σ1s77/70, mb3.9/9, 5C-4D, Northwestern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SHRT	**Shahrakht**	**0.75**	**278**	*e*Pg		**Pg**	**18 51 41.2**	**-1.2**
SHRT				AML		AML	18 51 54.0	
	comp=N,3µm,0.4s							
SHRT				AML		AML	18 51 58.5	
	comp=E,4µm,0.4s							
SHRT	**Shahrakht**	**0.75**	**278**	*e*Pg		**Pg**	**18 51 41.2**	**-1.2**
IDAH	**Dahanechah**	**1.36**	**235**	*e*Pn		**Pn**	**18 51 50.8**	**-1.8**
IDAH				*e*			18 52 15.7	
	comp=Z,57µm,0.2s							
ITEG	**Tejag**	**2.14**	**253**	*e*Sg		**Sg**	**18 52 37.5**	**+0.9**
ITEG				*e*Pn		**Pb**	**18 52 05.3**	**-1.1**
ITEG				*e*			18 52 48.3	
	comp=Z,7µm,0.3s							
IMYA	**Miami**	**2.93**	**343**	*e*Pn		**Pn**	**18 52 15.8**	**+1.7**
IMYA				*e*Sg		**Sg**	**18 53 02.9**	**+0.9**
IMYA				*e*			18 53 18.8	
	comp=Z,7µm,0.3s							
IMYA	**Miami**	**2.93**	**343**	*e*Pn		**Pn**	**18 52 15.8**	**+1.7**
IMYA				*e*Sg		**Sg**	**18 53 02.9**	**+0.9**
IMOG	**Moghan**	**2.98**	**330**	*e*Pn		**Pn**	**18 52 16.8**	**+2.0**
IMOG				*e*Sg		**Sg**	**18 53 06.0**	**+2.5**
IMOG				*e*			18 53 13.9	
	comp=Z,7µm,0.4s							
IMOG	**Moghan**	**2.98**	**330**	*e*Pn		**Pn**	**18 52 16.8**	**+2.0**
IMOG				*e*Sg		**Sg**	**18 53 06.0**	**+2.5**
ISRO	**Mashad**	**3.10**	**333**	*e*Sg		**Sg**	**18 53 08.4**	**+1.0**
ISRO	**Mashad**	**3.10**	**333**	*e*Sg		**Sg**	**18 53 08.4**	**+1.0**
MHI	**Mashad**	**3.10**	**333**	*e*Sg		**Sg**	**18 53 09.3**	**+1.9**
TABS	**Tabas**	**3.40**	**273**	*e*Pn		**Pn**	**18 52 22.3**	**+1.9**
TABS				AML		AML	18 53 28.5	
	comp=N,112nm,0.5s							
TABS	**Tabas**	**3.40**	**273**	*e*Pn		**Pn**	**18 52 22.3**	**+1.9**
IPAY	**Payeh**	**3.42**	**329**	*e*Pn		**Pn**	**18 52 22.6**	**+1.8**
IPAY				*e*			18 53 39.9	
	comp=Z,2µm,0.2s							
IPAY	**Payeh**	**3.42**	**329**	*e*Pn		**Pn**	**18 52 22.6**	**+1.8**
IAKL	**Akhelmad**	**3.65**	**328**	*e*Pn		**Pn**	**18 52 25.3**	**+1.3**
IAKL				*e*			18 53 32.9	
	comp=Z,2µm,0.3s							
IAKL	**Akhelmad**	**3.65**	**328**	*e*Pn		**Pn**	**18 52 25.3**	**+1.3**
IKRD	**Kardeh**	**3.90**	**327**	*e*Pn		Pn	18 52 23.5	-4.0
IKRD				*e*Sg		**Sb**	**18 53 21.4**	**-2.2**
IKRD				*e*			18 53 30.8	
	comp=Z,3µm,0.3s							
ZHSF	**Zahedan**	**3.93**	**185**	*e*Pn		Pn	18 52 32.7	+4.9
ZHSF				Sn		**Sn**	**18 53 19.4**	**+5.5**
ZHSF				AML		AML	18 53 38.1	
	comp=E,81nm,0.5s							
ZHSF				AML		AML	18 53 47.4	
	comp=N,68nm,0.5s							
ISFR	**Sfrayin**	**4.37**	**324**	*e*Pn		**Pn**	**18 52 35.7**	**+1.8**
ISFR				*e*			18 54 03.9	
	comp=Z,2µm,0.3s							
ISFR	**Sfrayin**	**4.37**	**324**	*e*Pn		**Pn**	**18 52 35.7**	**+1.8**
IEMG	**Emamgholi**	**4.38**	**333**	*e*Pn		**Pn**	**18 52 35.8**	**+1.6**
IEMG				*e*			18 54 08.1	
	comp=Z,2µm,0.3s							
IEMG	**Emamgholi**	**4.38**	**333**	*e*Pn		**Pn**	**18 52 35.8**	**+1.6**
SHRO	**Shahrood**	**4.91**	**301**	*e*Pn		**Pn**	**18 52 43.2**	**+2.0**
SHRO	**Shahrood**	**4.91**	**301**	*e*Pn		**Pn**	**18 52 43.2**	**+2.0**
IBAF	**Bafgh**	**5.12**	**249**	*e*Pn		**Pn**	**18 52 45.6**	**+1.4**
IBAF				*e*			18 54 20.5	
	comp=Z,2µm,0.6s							
IBAF	**Bafgh**	**5.12**	**249**	*e*Pn		**Pn**	**18 52 45.6**	**+1.4**
BJRD	**Bojnurd**	**5.17**	**325**	*e*Pn		**Pn**	**18 52 47.1**	**+2.3**
BJRD	**Bojnurd**	**5.17**	**325**	*e*Pn		**Pn**	**18 52 47.1**	**+2.3**
ICHK	**Chekchek**	**5.84**	**259**	*e*Pn		**Pn**	**18 52 55.8**	**+1.6**
ICHK				*e*			18 54 57.0	
	comp=Z,454nm,0.3s							
**ICH

IDC 19 19:19:41.0±1.5, 5°91N×124°20E±h516km±17km, mb3.1/10, mb1 3.2/10, mb1mx3.0/24, mbtmp3.1/10, Error ellipse: s-maj=34.0km s-min=10.3km az=73.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**8.76**	**339**	P	P	19 21 45.9	+0.2
	20nm,0.3s,baz=287,slow=2.4,SNR=4.1						
FITZ	**Fitzroy Crossi**	**23.90**	**177**	P	P	19 24 13.5	-0.4
	0.8nm,0.5s,baz=16,slow=22,SNR=6.7						
WRA	**Warramunga Arr**	**27.55**	**159**	P	P	19 24 45.1	-1.1
	1.8nm,0.5s,baz=341,slow=9.2,SNR=17						
WRA				ScP	ScP	19 30 39.8	+0.4
	0.3nm,0.7s,baz=346,slow=3.1,SNR=5.4						
ASAR	**Alice Springs**	**30.88**	**162**	P	P	19 25 15.9	+0.8
	3.1nm,0.5s,baz=343,slow=7.1,SNR=81						
ASAR				PcP	PcP	19 27 56.5	+0.2
	0.3nm,0.4s,baz=342,slow=2.6,SNR=5.2						
ASAR				ScP	ScP	19 30 50.5	+0.4
	0.4nm,0.5s,baz=337,slow=3.1,SNR=8.4						
MJAR	**Matsushiro Arr**	**33.08**	**21**	P	P	19 25 33.5	-0.3
	0.8nm,0.7s,baz=195,slow=10,SNR=4.7						
STKA	**Stephens Creek**	**41.07**	**157**	P	P	19 26 40.3	+0.9
	3.5nm,1.0s,baz=220,slow=6.6,SNR=3.6						
SONM	**Songino Array**	**44.47**	**343**	P	P	19 27 06.4	+0.4
	0.3nm,0.5s,baz=161,slow=8.2,SNR=3.5						
SONM				PcP	PcP	19 28 37.2	-1.2
	0.4nm,0.5s,baz=116,slow=3.4,SNR=3.3						
MKAR	**Makanchi Array**	**54.35**	**326**	P	P	19 28 19.5	+0.6
	1.3nm,0.5s,baz=122,slow=8.3,SNR=16						
MKAR				PcP	PcP	19 29 14.6	-0.3
	0.5nm,0.4s,baz=118,slow=4.4,SNR=6.1						
ILAR	**Eielson Array**	**84.23**	**26**	P	P	19 31 17.5	-0.2
	0.2nm,0.5s,baz=237,slow=4.6,SNR=5.7						
BRTR	**Keskin Array B**	**86.70**	**309**	P	P	19 31 29.5	-0.8
	0.5nm,0.7s,baz=117,slow=5.0,SNR=3.4						
FINES	**FINESS Array B**	**88.74**	**332**	P	P	19 31 38.1	-1.0
	5.8nm,1.1s,baz=110,slow=11,SNR=3.8						
TORD	**Torodi Ar. Bea**	**119.85**	**289**	PKP	PKPdf	19 37 32.2	-1.4
	0.2nm,0.6s,baz=69,slow=1.7,SNR=5.6						

*ISCJB **19** 19:31:30.7±1.1, 46°28N±0°03×12°40E±0°04, h15km±8km, Error ellipse: s-maj=6.2km s-min=4.5km az=141.3*
*CSEM **19** 19:31:30.5±0.1, 46°31N×12°42E, h5km±1km, Md1.9/5, Ml1.3/3, Error ellipse: s-maj=2.5km s-min=1.2km az=167.0*
*ROM **19** 19:31:30.8±1.0, 46°29N±0°03×12°40E±0°03, h13km±6km, n18, σ0°47/36, 6C-3D, Northern Italy*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSO	**Casso**	**0.06**	**257**	⇑*i* P	**Pg**	**19 31 33.5**	**-0.1**
CSO				*i* Sg	**Sg**	**19 31 34.9**	**-0.6**
CSO	**Casso**	**0.06**	**257**	⇑*i* P	**Pg**	**19 31 33.5**	**-0.1**
CSO				*i* Sg	**Sg**	**19 31 34.9**	**-0.6**
MLNI	**Malnisio**	**0.20**	**134**	⇓*i* P	**Pg**	**19 31 35.5**	**+0.2**
MLNI				*e*Sg	**Sg**	**19 31 38.6**	**+0.2**
MLNI	**Malnisio**	**0.20**	**134**	⇓*i* P	**Pg**	**19 31 35.5**	**+0.2**
MLNI				*e*Sg	**Sg**	**19 31 38.6**	**+0.2**
AGOR	**Agordo**	**0.25**	**269**	Pg	**Pg**	**19 31 36.5**	**+0.4**
AGOR				Sg	**Sg**	**19 31 40.7**	**+1.0**
	44nm,0.3s						
AGOR	**Agordo**	**0.25**	**269**	Pg	**Pg**	**19 31 36.5**	**+0.4**
AGOR				Sg	**Sg**	**19 31 40.7**	**+1.0**
	44nm,0.3s						
CAE	**Caneva**	**0.28**	**175**	⇑*e* Pg	**Pg**	**19 31 37.1**	**+0.4**
CAE				*e*Sg	**Sg**	**19 31 41.0**	**+0.3**
CAE	**Caneva**	**0.28**	**175**	⇑*e* Pg	**Pg**	**19 31 37.1**	**+0.4**
CAE				*e*Sg	**Sg**	**19 31 41.0**	**+0.3**
CSMI	**Casera Mimoias**	**0.28**	**37**	⇑*e* Pg	**Pg**	**19 31 37.0**	**+0.1**
CSMI				*e*Sg	**Sg**	**19 31 41.6**	**+0.6**
CSMI	**Casera Mimoias**	**0.28**	**37**	⇑*e* Pg	**Pg**	**19 31 37.0**	**+0.1**
CSMI				*e*Sg	**Sg**	**19 31 41.6**	**+0.6**
VARN	**Col Varnada, M**	**0.36**	**215**	⇓*e* Pg	**Pg**	**19 31 37.6**	**-0.5**
VARN				*e*Sg	**Sg**	**19 31 43.0**	**0.0**
VARN	**Col Varnada, M**	**0.36**	**215**	*e* Pg	**Pg**	**19 31 37.6**	**-0.5**
VARN				*e*Sg	**Sg**	**19 31 43.0**	**0.0**
FVI	**Forni Avoltri**	**0.41**	**40**	Pg	**Pb**	**19 31 39.6**	**-0.3**
FVI				Sg	**Sb**	**19 31 45.2**	**-0.8**
	25nm,0.1s						
FVI	**Forni Avoltri**	**0.41**	**40**	Pg	**Pb**	**19 31 39.6**	**-0.3**
FVI				Sg	**Sb**	**19 31 45.2**	**-0.8**
	25nm,0.1s						
VINO	**Villanova**	**0.61**	**93**	Pg	**Pg**	**19 31 42.5**	**-0.3**
VINO				Sg	**Sb**	**19 31 52.3**	**+0.5**
VINO	**Villanova**	**0.61**	**93**	Pg	**Pg**	**19 31 42.5**	**-0.3**
VINO				Sg	**Sb**	**19 31 52.3**	**+0.5**
PTCC	**Patocco-Chiusa**	**0.67**	**79**	Pg	**Pg**	**19 31 43.7**	**-0.2**
PTCC				Sg	**Sb**	**19 31 53.8**	**+0.3**
PTCC	**Patocco-Chiusa**	**0.67**	**79**	Pg	**Pg**	**19 31 43.7**	**-0.2**
PTCC				Sg	**Sb**	**19 31 53.8**	**+0.3**

*AUST **19** 19:32:09.2±12.0, 6°00S×129°59E, h229km, Error ellipse: s-maj=2.4km s-min=1.3km az=332.0*
*IDC **19** 19:32:10.8±2.2, 6°84S×129°39E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.3/20, mbtmp3.3/4, ML3.5/3, MS3.5/2, Ms1 3.6/2, ms1mx2.6/18, Error ellipse: s-maj=82.4km s-min=29.3km az=77.0*
ISC 19 19:32:30.0±3.9, 7.7S±0.2×129.3E±0.1, h156km, n10, σ1§37/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**5.41**	**161**	P	**Pn**	**19 33 49.6**	**+0.6**
	baz=7.0,SNR=12						
MTN				S	**Sn**	**19 34 51.8**	**+1.2**
	baz=7.0,SNR=4.6						
KDU	**Kakadu**	**5.85**	**148**	P	**Pn**	**19 33 53.8**	**-1.0**
	baz=7.3,SNR=16						
KDU				S	**Sn**	**19 35 00.2**	**-0.9**
	baz=7.3,SNR=4.1						
KNRA	**Kununurra**	**7.93**	**184**	P	Pn	19 34 23.1	+0.6
	baz=9.7,SNR=9.0						
KNRA				S	**Sn**	**19 35 51.6**	**+0.6**
	baz=9.7,SNR=5.3						
WSI	**Waingapu**	**9.10**	**257**	P	Pn	19 34 26.9	-11
	baz=9.9,SNR=3.8						
WSI				S	Sn	19 36 19.9	+0.7
	baz=9.9,SNR=4.2						
FITZ	**Fitzroy Crossi**	**10.92**	**199**	Pn	**Pn**	**19 35 01.5**	**-0.5**
	0.2nm,0.3s,baz=153,slow=16,SNR=23						
FITZ				Sn	**Sn**	**19 37 01.3**	**-1.6**
	0.3nm,0.3s,baz=249,slow=23,SNR=6.7						
FITZ	**Fitzroy Crossi**	**10.92**	**199**	P	P	19 35 02.7	-7.5
	baz=13,SNR=8.6						
FITZ				S	**Sn**	**19 37 02.3**	**-0.6**
	baz=13,SNR=4.3						
WRA	**Warramunga Arr**	**13.10**	**159**	Pn	**Pn**	**19 35 28.2**	**-2.2**
	0.3nm,0.3s,baz=338,slow=13,SNR=10						
WRA				Sn	Sn	19 37 48.5	-7.1
	0.2nm,0.3s,baz=330,slow=23,SNR=4.6						
ASAR	**Alice Springs**	**16.46**	**165**	Pn	**Pn**	**19 36 13.2**	**+1.0**
	0.1nm,0.3s,baz=337,slow=9.2,SNR=9.1						
CMAR	**Chiang Mai Arr**	**39.66**	**311**	LR	LR	19 54 51.5	
	comp=Z,38nm,21.8s,baz=15,slow=35						
SONM	**Songino Array**	**58.90**	**342**	LR	LR	20 05 47.9	
	comp=Z,89nm,21.9s,baz=0.1,slow=35						

*IDC **19** 19:37:13.6±0.8, 7°27S×129°72E, h0km, mb3.9/7, mb1 4.3/10, mb1mx4.1/20, mbtmp4.1/10, ML4.9/3, Error ellipse: s-maj=49.4km s-min=16.9km az=70.0*
*ISCJB **19** 19:37:22.4±0.5, 7°60S±0°04×129°39E±0°06, h79km, mb3.7/7, Error ellipse: s-maj=7.9km s-min=5.6km az=167.6*
*AUST **19** 19:37:23.1, 7°48S×129°54E, h25km*
ISC 19 19:37:24.0±0.6, 7.59S±0°05×129.47E±0°06, h79km, n29, σ2§24/27, mb3.8/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**3.08**	**8**	P	Pn	19 38 13.3	+2.9
	baz=3.0,SNR=18						
FAKI	**Fak Fak**	**5.40**	**31**	P	**Pn**	**19 38 43.2**	**+1.1**
	baz=5.3,SNR=4.9						
FAKI				S	**Sn**	**19 39 41.1**	**-1.8**
	baz=5.3,SNR=10.0						
MTN	**Manton Dam**	**5.47**	**163**	P	**Pn**	**19 38 45.2**	**+2.2**
	baz=5.6,SNR=355						
SOEI	**Soe**	**5.58**	**247**	P	Pn	19 38 47.8	+3.2
	baz=5.7,SNR=13						
SOEI				S	**Sn**	**19 39 50.5**	**+3.1**
	baz=5.7,SNR=7.1						
KDU	**Kakadu**	**5.86**	**150**	P	**Pn**	**19 38 49.7**	**+1.3**
	baz=6.0,SNR=177						
KDU				S	**Sn**	**19 39 55.0**	**+0.8**
	baz=6.0,SNR=4.8						
SWI	**Sorong**	**6.92**	**15**	P	**Pn**	**19 39 05.4**	**+2.6**
	baz=6.8,SNR=5.7						
SWI				S	Sn	19 40 10.4	-10
	baz=6.8,SNR=4.8						
KNRA	**Kununurra**	**8.07**	**185**	P	**Pn**	**19 39 19.2**	**+0.7**
	baz=8.2,SNR=261						
KNRA				S	**Sn**	**19 40 43.6**	**-4.5**
	baz=8.2,SNR=11						
WSI	**Waingapu**	**9.30**	**257**	S	**Sn**	**19 41 17.6**	**-0.8**
	baz=9.4,SNR=3.8						
FITZ	**Fitzroy Crossi**	**11.10**	**199**	Pn	**Pn**	**19 39 59.0**	**-0.8**
	8.2nm,0.3s,baz=32,slow=11,SNR=156						
FITZ				Sn	Sn	19 41 54.2	-8.0
	4.7nm,0.3s,baz=113,slow=15,SNR=8.3						
FITZ	**Fitzroy Crossi**	**11.10**	**199**	P	**Pn**	**19 39 58.5**	**-1.3**
	baz=11,SNR=223						
FITZ				S	Sn	19 41 54.4	-7.8
	baz=11,SNR=4.4						
WRA	**Warramunga Arr**	**13.15**	**159**	Pn	**Pn**	**19 40 25.5**	**-2.2**
	8.2nm,0.3s,baz=323,slow=14,SNR=63						
WRA				Sn	Sn	19 42 42.3	-10
	1.8nm,0.3s,baz=360,slow=16,SNR=4.7						
COEN	**Coen**	**14.87**	**116**	P	**P**	**19 40 54.0**	**0.0**
	baz=15,SNR=5.9						
ASAR	**Alice Springs**	**16.54**	**166**	Pn	**Pn**	**19 41 10.3**	**-0.9**
	2.3nm,0.3s,baz=327,slow=9.2,SNR=52						
ASAR				Sn	**Sn**	**19 44 10.1**	**-4.4**
	0.9nm,0.3s,baz=348,slow=26,SNR=6.0						
MTSU	**Mount Surprise**	**17.85**	**127**	P	**Pn**	**19 41 29.6**	**+2.3**
	baz=18,SNR=16						
MANU	**Manus Island**	**18.66**	**74**	P	Pn	19 41 45.7	+8.7
	baz=19,SNR=7.2						
MEEK	**Meekatharra**	**21.57**	**207**	P	P	19 42 17.1	+10
	baz=22,SNR=7.2						
MEEK				S	**S**	**19 46 06.7**	**+4.5**
	baz=22,SNR=4.4						
MORW	**Morawa**	**24.83**	**209**	P	P	19 43 01.0	+22
	baz=25,SNR=5.3						
STKA	**Stephens Creek**	**26.68**	**157**	P	**P**	**19 42 57.9**	**+2.2**
	2.8nm,0.8s,baz=306,slow=9.3,SNR=3.4						
EIDS	**Eidsvold**	**27.16**	**133**	P	P	19 43 16.1	+16
	baz=27,SNR=5.1						
PSI	**Prapat**	**32.18**	**288**	S	S	19 49 01.7	+9.2
	baz=32,SNR=3.5						
LHI	**Lord Howe Isla**	**36.44**	**135**	P	P	19 44 14.5	-6.8
	baz=36,SNR=5.1						
CMAR	**Chiang Mai Arr**	**39.71**	**311**	P	**P**	**19 44 48.0**	**-1.0**
	0.5nm,0.5s,baz=139,slow=7.2,SNR=6.1						
SONM	**Songino Array**	**58.84**	**342**	P	**P**	**19 47 13.9**	**-0.5**
	0.4nm,0.5s,baz=156,slow=7.3,SNR=5.0						
MKAR	**Makanchi Array**	**68.43**	**327**	P	**P**	**19 48 16.7**	**-0.9**
	0.4nm,0.3s,baz=115,slow=8.5,SNR=17						
ZALV	**Zalesovo Beam**	**71.88**	**334**	P	**P**	**19 48 37.3**	**-1.1**
	0.5nm,0.4s,baz=116,slow=3.4,SNR=5.0						
VNDA	**Vanda**	**71.93**	**173**	P	**P**	**19 48 38.9**	**+0.5**
	0.7nm,0.7s,baz=325,slow=5.3,SNR=7.1						
ILAR	**Eielson Array**	**94.10**	**25**	P	**P**	**19 50 30.6**	**-2.8**
	0.2nm,0.4s,baz=232,slow=4.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**128.41**	**281**	PKP	**PKPdf**	**19 56 22.6**	**-0.1**
	0.2nm,0.5s,baz=80,slow=2.7,SNR=5.8						
LPAZ	**La Paz**	**150.56**	**144**	PKPbc	**PKPbc**	**19 57 09.9**	**+1.3**
	1.6nm,0.4s,baz=46,slow=2.4,SNR=14						

*SZGRF **19** 19:43:39.1, 19°41S×171°86E, h33km, Vanuatu Islands region*
*BJI **19** 19:44:02.7, 20°53S×170°33E, h271km, mB4.9/1, mb4.7/4*
*NEIC **19** 19:44:04.2±1.5, 19°67S×169°70E, h244km±13km, mb4.6/16, Error ellipse: s-maj=12.9km s-min=11.8km az=193.0*
*ISCJB **19** 19:44:04.1±0.4, 19°70S±0°07×169°81E±0°07, h250km, mb4.4/32, Error ellipse: s-maj=10.8km s-min=7.8km az=140.6*
*AUST **19** 19:44:08.8±1.9, 19°56S×169°75E, h276km, Error ellipse: s-maj=1.6km s-min=1.4km az=295.0*
*IDC **19** 19:44:08.3±1.7, 19°75S×169°65E, h268km±14km, mb4.1/16, mb1 4.2/17, mb1mx4.1/23, mbtmp4.1/17, Error ellipse: s-maj=19.9km s-min=14.5km az=140.0*
ISC 19 19:44:05.6±0.5, 19.75S±0°09×169.85E±0°09, h250km, n135, σ1§19/133, mb4.5/32, 7C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.93**	**233**	*e*P	**Pn**	**19 45 10.7**	**+2.0**
	comp=Z,635nm,6.9s						
DZM				*e*S	S	19 46 16.9	+18
DZM	**Mont Dzumac**	**3.93**	**233**	*e*Pn	**Pn**	**19 45 06.0**	**-2.8**
DZM				S	**S**	**19 46 00.3**	**+1.5**
DZM	**Mont Dzumac**	**3.93**	**233**	P	**Pn**	**19 45 11.1**	**+2.4**
	comp=Z,19nm,0.3s,baz=66,slow=19,SNR=169						
DZM				S	**S**	**19 46 00.3**	**+1.5**
	comp=Z,5.1nm,0.3s,baz=89,slow=24,SNR=17						
NOUC	**Port Laguerre**	**4.06**	**234**	*e*P	**Pn**	**19 45 11.7**	**+1.6**
OUZ	**Omahuta**	**15.77**	**169**	*e*P	**P**	**19 47 33.5**	**-0.2**
	comp=Z,73nm,1.0s						
EIDS	**Eidsvold**	**18.21**	**249**	P	**Pn**	**19 48 05.3**	**+1.6**
	baz=18,SNR=3.6						
ARMA	**Armidale**	**19.60**	**234**	P	**Pn**	**19 48 19.1**	**-1.0**
	baz=20,SNR=7.0						
RMQ	**Roma**	**20.51**	**247**	P	**P**	**19 48 26.4**	**+1.1**
	baz=20,SNR=17						
CTA	**Charters Tower**	**22.18**	**265**	P	**P**	**19 48 41.8**	**+0.3**
CTA	**Charters Tower**	**22.18**	**265**	P	**P**	**19 48 41.8**	**+0.3**
	comp=Z,16nm,0.8s,baz=90,slow=13,SNR=8.5						
CNB	**Canberra Magne**	**23.81**	**225**	P	**P**	**19 48 57.7**	**+1.6**
	baz=24,SNR=9.0						
MTSU	**Mount Surprise**	**24.20**	**270**	P	**P**	**19 49 00.6**	**+0.7**
	baz=24,SNR=27						
PMG	**Port Moresby**	**24.22**	**292**	*e*P	**P**	**19 48 57.1**	**-2.8**
	comp=Z,46nm,1.0s						
PMG	**Port Moresby**	**24.22**	**292**	P	**P**	**19 48 59.6**	**-0.3**
	comp=Z,39nm,0.8s,baz=47,slow=1.7,SNR=7.1						
CMSA	**Cobar Meteorol**	**24.68**	**237**	P	**P**	**19 49 04.5**	**+0.5**
	baz=25,SNR=30						
STKA	**Stephens Creek**	**28.07**	**239**	P	**P**	**19 49 34.6**	**+0.4**
STKA				PcP	**PcP**	**19 52 41.9**	**-0.1**
STKA	**Stephens Creek**	**28.07**	**239**	P	**P**	**19 49 34.6**	**+0.4**
	comp=Z,8.3nm,0.7s,baz=59,slow=9.5,SNR=15						
STKA				PcP	**PcP**	**19 52 41.9**	**-0.1**
	comp=Z,3.8nm,1.0s,baz=149,slow=11,SNR=3.7						
STKA	**Stephens Creek**	**28.07**	**239**	P	**P**	**19 49 35.0**	**+0.7**
	baz=28,SNR=11						
PATS	**Pohnpei**	**28.76**	**336**	S	S	19 53 46.9	-24
	baz=29,SNR=3.0						
BBOO	**Buckleboo**	**32.82**	**240**	P	**P**	**19 50 16.0**	**0.0**
	baz=33,SNR=6.3						
WRAB	**Tennant Creek**	**33.35**	**264**	*e*P	**P**	**19 50 18.2**	**-2.5**
	comp=Z,10nm,0.9s						
WRA	**Warramunga Arr**	**33.37**	**264**	P	**P**	**19 50 18.9**	**-1.8**
WRA				PcP	**PcP**	**19 52 55.9**	**-0.5**
WRA	**Warramunga Arr**	**33.37**	**264**	P	**P**	**19 50 18.9**	**-1.8**
	comp=Z,4.2nm,0.3s,baz=83,slow=6.0,SNR=47						
WRA				PcP	**PcP**	**19 52 55.9**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=87,slow=3.6,SNR=4.2						
ASAR	**Alice Springs**	**33.57**	**257**	P	**P**	**19 50 21.6**	**-1.0**
ASAR				PcP	**PcP**	**19 52 56.4**	**-0.6**
ASAR	**Alice Springs**	**33.57**	**257**	P	**P**	**19 50 21.6**	**-1.0**
	comp=Z,30nm,0.7s,baz=83,slow=9.1,SNR=193						
ASAR				PcP	**PcP**	**19 52 56.4**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=92,slow=3.3,SNR=6.3						
KDU	**Kakadu**	**36.51**	**275**	P	**P**	**19 50 46.7**	**-0.9**
	baz=36,SNR=15						
MTN	**Manton Dam**	**37.73**	**274**	P	**P**	**19 50 57.0**	**-0.8**
	baz=38,SNR=15						
KNRA	**Kununurra**	**39.28**	**269**	P	**P**	**19 51 09.6**	**-1.1**
	baz=39,SNR=15						
FAKI	**Fak Fak**	**40.33**	**290**	P	**P**	**19 51 18.5**	**-0.9**
	baz=40,SNR=3.2						
FITZ	**Fitzroy Crossi**	**41.77**	**265**	P	**P**	**19 51 30.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**41.77**	**265**	P	**P**	**19 51 30.9**	**-0.1**
	comp=Z,16nm,0.7s,baz=114,slow=7.4,SNR=66						
FITZ	**Fitzroy Crossi**	**41.77**	**265**	P	**P**	**19 51 30.7**	**-0.3**
	baz=42,SNR=21						
MBWA	**Marble Bar**	**46.82**	**259**	*e*P	P	19 52 07.3	-3.6
	comp=Z,21nm,0.9s						
MEEK	**Meekatharra**	**47.34**	**252**	P	**P**	**19 52 14.0**	**-0.9**
	baz=47,SNR=7.9						
KLBR	**Kellerberrin**	**48.02**	**245**	P	**P**	**19 52 19.1**	**-0.9**
	baz=48,SNR=14						
NWAO	**Narrogin (SRO)**	**48.49**	**243**	P	**P**	**19 52 22.7**	**-0.9**
NWAO	**Narrogin (SRO)**	**48.49**	**243**	P	**P**	**19 52 22.7**	**-0.9**
	comp=Z,53nm,1.2s,baz=357,slow=6.0,SNR=10.0						
MORW	**Morawa**	**49.52**	**248**	P	**P**	**19 52 31.0**	**-0.3**
	baz=49,SNR=3.2						
SBA	**Scott Base**	**58.16**	**181**	*e*P	**P**	**19 53 32.2**	**-0.8**
	comp=Z,9.2nm,0.8s						
KSM	**Kuching**	**62.05**	**283**	*e*P	P	19 53 57.3	-3.0
	comp=Z,20nm,0.8s						
KSM	**Kuching**	**62.05**	**283**	P	**P**	**19 54 00.5**	**+0.2**
	baz=62,SNR=9.9						
MJAR	**Matsushiro Arr**	**63.47**	**332**	P	**P**	**19 54 08.9**	**-0.3**
MJAR	**Matsushiro Arr**	**63.47**	**332**	P	**P**	**19 54 08.9**	**-0.3**
	comp=Z,4.7nm,0.7s,baz=172,slow=7.6,SNR=22						
MAJO	**Matsushiro**	**63.47**	**332**	*e*P	**P**	**19 54 07.3**	**-1.8**
	comp=Z,20nm,1.3s						
MAT	**Matsushiro**	**63.47**	**332**	P	**P**	**19 54 08.9**	**-0.3**
QSPA	**South Pole Qui**	**70.31**	**180**	*e*P	**P**	**19 54 50.7**	**-1.2**
	comp=Z,12nm,1.1s						
IPM	**Ipoh**	**71.75**	**282**	*e*P	P	19 54 58.3	-3.1
	comp=Z,12nm,0.8s						
USRK	**Ussuriysk Arra**	**72.45**	**332**	P	**P**	**19 55 05.5**	**+0.8**
	comp=Z,2.7nm,0.7s,baz=160,slow=4.7,SNR=6.6						
MAW	**Mawson**	**78.18**	**202**	P	**P**	**19 55 37.7**	**+0.7**
MAW	**Mawson**	**78.18**	**202**	P	**P**	**19 55 37.7**	**+0.7**
	comp=Z,4.4nm,0.8s,baz=112,slow=5.1,SNR=6.6						
KMI	**Kunming**	**79.03**	**302**	P	**P**	**19 55 43.6**	**+0.9**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**79.24**	**294**	P	**P**	**19 55 44.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**79.24**	**294**	P	**P**	**19 55 44.8**	**+1.1**
	comp=Z,3.9nm,0.8s,baz=136,slow=4.5,SNR=19						
CHTO	**Chiang Mai**	**79.39**	**294**	*e*P	P	19 55 42.2	-2.3
	comp=Z,4.8nm,0.7s						
CMB	**Columbia Colle**	**87.07**	**48**	*e*P	**P**	**19 56 22.2**	**-1.0**
	comp=Z,21nm,2.0s						
ISA	**Isabella**	**87.35**	**51**	*e*P	**P**	**19 56 24.2**	**-0.5**
	comp=Z,5.9nm,0.9s						
ULN	**Ulaanbaatar**	**87.61**	**323**	*e*P	P	19 56 23.1	-2.7
	comp=Z,9.5nm,1.2s						
GTA	**Gaotai**	**87.89**	**313**	*e*P	**P**	**19 56 27.9**	**+0.7**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.4s						
SONM	**Songino Array**	**87.97**	**323**	P	**P**	**19 56 27.6**	**+0.2**
SONM	**Songino Array**	**87.97**	**323**	P	**P**	**19 56 27.6**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=144,slow=4.3,SNR=22						
SNAA	**Sanae**	**88.68**	**182**	*e*P	**P**	**19 56 29.3**	**-1.1**
	comp=Z,36nm,1.9s						
NVAR	**Mina Array Bea**	**88.71**	**48**	P	**P**	**19 56 33.1**	**+2.0**
NVAR	**Mina Array Bea**	**88.71**	**48**	P	**P**	**19 56 33.1**	**+2.0**
	comp=Z,3.0nm,0.8s,baz=226,slow=8.0,SNR=17						
ILAR	**Eielson Array**	**90.55**	**17**	P	**P**	**19 56 38.1**	**-0.7**
ILAR	**Eielson Array**	**90.55**	**17**	P	**P**	**19 56 38.1**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=239,slow=5.0,SNR=16						
TUC	**Tucson**	**91.80**	**56**	*e*P	**P**	**19 56 48.1**	**+2.5**
	comp=Z,13nm,1.0s						
ELK	**Elko**	**91.84**	**47**	P	**P**	**19 56 47.1**	**+1.4**
ELK	**Elko**	**91.84**	**47**	P	**P**	**19 56 47.1**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=263,slow=3.8,SNR=4.2						
SWMT	**Swartz Lake**	**95.40**	**41**	*e*P	P	19 56 59.7	-2.0
CHMT	**Chamberlain Mo**	**95.63**	**42**	*e*P	**P**	**19 57 01.8**	**-1.1**
	comp=Z,2.3nm,0.7s						
TXAR	**Lajitas Array**	**96.50**	**61**	P	**P**	**19 57 08.7**	**+1.5**
TXAR	**Lajitas Array**	**96.50**	**61**	P	**P**	**19 57 08.7**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=202,slow=6.2,SNR=6.0						
MKAR	**Makanchi Array**	**102.50**	**315**	P	**Pdif**	**19 57 35.0**	**+1.6**
MKAR	**Makanchi Array**	**102.50**	**315**	P	**Pdif**	**19 57 35.0**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=93,slow=6.7,SNR=11						
ARCES	**ARCESS Array B**	**125.70**	**345**	PKP	**PKPdf**	**20 02 36.5**	**-0.2**
ARCES	**ARCESS Array B**	**125.70**	**345**	PKP	**PKPdf**	**20 02 36.5**	**-0.2**
	comp=Z,1.6nm,0.4s,baz=62,slow=1.4,SNR=18						
FINES	**FINESS Array B**	**131.27**	**338**	PKP	**PKPdf**	**20 02 46.3**	**-1.1**
FINES	**FINESS Array B**	**131.27**	**338**	PKP	**PKPdf**	**20 02 46.3**	**-1.1**
	comp=Z,2.6nm,0.9s,baz=153,slow=2.1,SNR=4.6						
NB2	**NORSAR Subarra**	**136.08**	**345**	PKPdf	**PKPdf**	**20 02 57.3**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**136.08**	**345**	PKP	**PKPdf**	**20 02 57.0**	**+0.4**
NOA	**NORSAR Array B**	**136.08**	**345**	PKP	**PKPdf**	**20 02 57.0**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=38,slow=2.1,SNR=6.1						
DPC	**Dobruska-Polom**	**142.94**	**332**	*e*PKP	**PKPdf**	**20 03 06.6**	**-2

PYZ	**Puysegur Point**	**0.81**	**153**	P*	Pg	19 47 53.8	-0.5
PYZ				S*	Sg	19 48 04.8	0.0
WHZ	**Wether Hill Ro**	**1.34**	**110**	PN	Pn	19 48 02.0	-1.1
WHZ				AML	AML	19 48 25.6	
WHZ				AML	AML	19 48 29.3	
MLZ	**Mavora Lakes**	**1.43**	**87**	PN	Pn	19 48 03.0	-1.4
MLZ				SN	Sn	19 48 21.7	-1.5
MLZ				AML	AML	19 48 27.5	
MSZ	**Milford Sound**	**1.48**	**59**	PN	Pn	19 48 04.5	-0.5
MSZ				AML	AML	19 48 40.0	
MSZ				AML	AML	19 48 41.5	
APZ	**The Paps**	**1.89**	**138**	PN	Pn	19 48 10.8	+0.2
APZ				SN	Sn	19 48 34.9	+0.5
WKZ	**Wanaka**	**2.13**	**74**	AML	AML	19 48 47.9	
WKZ				AML	AML	19 48 49.6	
EAZ	**Earnscleugh**	**2.24**	**86**	AML	AML	19 48 49.5	
EAZ				AML	AML	19 48 54.8	
TUZ	**Tuapeka**	**2.50**	**103**	AML	AML	19 49 02.3	
TUZ				AML	AML	19 49 03.0	
ODZ	**Otahua Downs**	**3.20**	**84**	PN	Pn	19 48 28.9	+0.2
ODZ				AML	AML	19 49 27.7	

IDC 19 20:02:54.6±7.9, 6°.03S×150°.63E, h105km±53km, mb3.3/3, mb1 3.4/4, mb1mx3.1/19, mbtmp3.3/4, MS3.2/1, Ms1 3.2/1, ms1mx2.4/14, Error ellipse: s-maj=109.1km s-min=55.2km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.80**	**225**	P	Pn	20 04 04.9	+0.1
	0.6nm,0.3s,baz=70,slow=15,SNR=2.3						
PMG				S	Sn	20 05 00.0	+0.7
	1.7nm,0.3s,baz=318,slow=24,SNR=6.3						
WRA	**Warramunga Arr**	**21.02**	**227**	P	P	20 07 29.5	-0.6
	0.8nm,0.7s,baz=54,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**23.80**	**221**	P	P	20 07 58.5	+0.4
	1.0nm,0.7s,baz=56,slow=9.3,SNR=13						
FITZ	**Fitzroy Crossi**	**27.18**	**242**	P	P	20 08 28.6	0.0
	2.4nm,1.0s,baz=45,slow=4.3,SNR=3.1						
FITZ				LR	LR	20 20 04.4	
	comp=Z,48nm,18.9s,baz=170,slow=38						
TORD	**Torodi Ar. Bea**	**148.58**	**285**	PKPbc	PKPbc	20 22 29.8	-0.7
	0.3nm,0.5s,baz=103,slow=2.1,SNR=5.0						

WEL 19 20:28:41.6±0.2, 45°.67S×166°.53E, h19km±1km, ML3.7/18, 2C-1D, Error ellipse: s-maj=2.8km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.48**	**66**	⇓P*	Pg	20 28 50.7	-0.6
DCZ				S*	Sg	20 28 57.0	-0.8
DCZ				AML	AML	20 28 57.1	
DCZ				AML	AML	20 28 57.3	
DCZ				AML	AML	20 28 57.3	
PYZ	**Puysegur Point**	**0.51**	**168**	⇑P*	Pg	20 28 50.8	-1.0
PYZ				S*	Sg	20 28 57.5	-1.2
WHZ	**Wether Hill Ro**	**1.02**	**103**	S*	Sn	20 29 14.1	-0.5
WHZ				AML	AML	20 29 22.6	
MLZ	**Mavora Lakes**	**1.20**	**75**	⇑PN	Pn	20 29 02.1	-1.3
MLZ				SN	Sb	20 29 17.5	-1.4
MLZ				AML	AML	20 29 24.8	
MSZ	**Milford Sound**	**1.41**	**45**	PN	Pn	20 29 06.2	0.0
MSZ				AML	AML	20 29 33.5	
MSZ				AML	AML	20 29 33.6	
MSZ				AML	AML	20 29 34.8	
MSZ				AML	AML	20 29 34.8	
APZ	**The Paps**	**1.54**	**139**	PN	Pn	20 29 08.0	-0.1
APZ				SN	Sn	20 29 27.6	0.0
WKZ	**Wanaka**	**1.95**	**65**	AML	AML	20 29 45.3	
WKZ				AML	AML	20 29 50.3	
EAZ	**Earnscleugh**	**2.00**	**78**	AML	AML	20 29 43.8	
EAZ				AML	AML	20 29 43.8	
EAZ				AML	AML	20 29 44.3	
EAZ				AML	AML	20 29 44.3	
TUZ	**Tuapeka**	**2.19**	**99**	AML	AML	20 29 48.5	
TUZ				AML	AML	20 29 50.8	
JCZ	**Jackson Bay**	**2.25**	**46**	AML	AML	20 29 57.7	
JCZ				AML	AML	20 29 59.5	
LBZ	**Lake Benmore**	**2.89**	**65**	PN	Pn	20 29 27.9	+1.2
LBZ				AML	AML	20 30 04.3	
LBZ				AML	AML	20 31 23.2	
ODZ	**Otahua Downs**	**2.97**	**79**	PN	Pn	20 29 28.1	+0.4
ODZ				AML	AML	20 30 05.9	
ODZ				AML	AML	20 30 17.1	
FOZ	**Fox Glacier**	**3.09**	**48**	AML	AML	20 30 25.5	
RPZ	**Rata Peaks**	**3.77**	**60**	AML	AML	20 30 34.7	
RPZ				AML	AML	20 30 49.9	

WEL 19 20:33:08.6±0.2, 45°.69S×165°.75E, h33km, ML3.8/14, Error ellipse: s-maj=1.7km s-min=0.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.81**	**127**	PN	Pn	20 33 23.3	-0.4
PYZ				SN	Sn	20 33 34.2	-0.4
DCZ	**Deep Cove**	**1.01**	**79**	PN	Pn	20 33 26.0	-0.4
DCZ				SN	Sn	20 33 38.0	-1.4
DCZ				AML	AML	20 33 39.2	
DCZ				AML	AML	20 33 40.0	
DCZ				AML	AML	20 33 40.1	
WHZ	**Wether Hill Ro**	**1.55**	**99**	PN	Pn	20 33 34.9	+1.0
WHZ				AML	AML	20 33 56.8	
WHZ				AML	AML	20 33 57.8	
MLZ	**Mavora Lakes**	**1.74**	**80**	PN	Pn	20 33 37.1	+0.6
MLZ				AML	AML	20 34 07.1	
MLZ				AML	AML	20 34 09.8	
MSZ	**Milford Sound**	**1.84**	**57**	AML	AML	20 34 10.5	
MSZ				AML	AML	20 34 15.1	
MSZ				AML	AML	20 34 15.3	
MSZ				AML	AML	20 34 18.0	
APZ	**The Paps**	**1.93**	**127**	PN	Pn	20 33 40.0	+0.8
APZ				SN	Sn	20 34 03.4	+1.0
WKZ	**Wanaka**	**2.46**	**71**	AML	AML	20 34 19.8	
WKZ				AML	AML	20 34 19.9	
WKZ				AML	AML	20 34 26.7	
WKZ				AML	AML	20 34 26.8	
SYZ	**Scrubby Hill**	**2.51**	**111**	PN	Pn	20 33 48.2	+1.2
EAZ	**Earnscleugh**	**2.54**	**81**	AML	AML	20 34 21.0	
EAZ				AML	AML	20 34 25.0	
EAZ				AML	AML	20 34 25.0	
EAZ				AML	AML	20 34 34.4	
JCZ	**Jackson Bay**	**2.68**	**54**	AML	AML	20 34 42.0	
JCZ				AML	AML	20 34 47.4	
TUZ	**Tuapeka**	**2.73**	**97**	PN	Pn	20 33 51.8	+1.8
TUZ				AML	AML	20 34 25.9	
TUZ				AML	AML	20 34 26.3	
LBZ	**Lake Benmore**	**3.40**	**69**	PN	Pn	20 34 00.1	+0.8
ODZ	**Otahua Downs**	**3.51**	**81**	PN	Pn	20 34 01.5	+0.7

WEL 19 20:42:36.1±0.4, 46°.06S×165°.88E, h12km, ML3.6/14, 1D, Error ellipse: s-maj=3.2km s-min=1.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.57**	**102**	⇓P*	Pg	20 42 47.1	-0.1
PYZ				S*	Sg	20 42 54.6	-0.2
DCZ	**Deep Cove**	**1.06**	**58**	P*	Pb	20 42 54.6	-1.7
DCZ				S*	Sb	20 43 07.7	-2.5
DCZ				AML	AML	20 43 08.3	
DCZ				AML	AML	20 43 10.4	
DCZ				AML	AML	20 43 10.4	
WHZ	**Wether Hill Ro**	**1.45**	**84**	PN	Pn	20 43 00.9	-1.3
WHZ				SN	Sn	20 43 18.8	-2.4
WHZ				AML	AML	20 43 24.4	
APZ	**The Paps**	**1.65**	**119**	PN	Pn	20 43 03.6	-1.4
APZ				eSN	Sn	20 43 24.6	-1.6
MLZ	**Mavora Lakes**	**1.76**	**67**	PN	Pn	20 43 05.8	-0.6
MLZ				AML	AML	20 43 34.5	
MLZ				AML	AML	20 43 37.3	
MSZ	**Milford Sound**	**2.00**	**47**	AML	AML	20 43 46.0	
MSZ				AML	AML	20 43 51.3	
WKZ	**Wanaka**	**2.53**	**62**	AML	AML	20 43 56.7	
WKZ				AML	AML	20 43 58.8	
EAZ	**Earnscleugh**	**2.54**	**72**	AML	AML	20 43 49.7	
EAZ				AML	AML	20 43 52.6	
EAZ				AML	AML	20 43 58.1	
TUZ	**Tuapeka**	**2.62**	**89**	AML	AML	20 43 52.1	
TUZ				AML	AML	20 43 55.5	
JCZ	**Jackson Bay**	**2.84**	**47**	AML	AML	20 44 11.5	
JCZ				AML	AML	20 44 15.2	
LBZ	**Lake Benmore**	**3.47**	**63**	PN	Pn	20 43 29.3	-0.6
ODZ	**Otahua Downs**	**3.50**	**75**	PN	Pn	20 43 28.9	-1.3

*IDC **19** 20:51:46.2±0.5, 2°.44N×99°.02E, h162km±2km, mb3.5/13, mb1 3.6/14, mb1mx3.4/27, mbtmp3.4/14, Error ellipse: s-maj=26.7km s-min=11.2km az=51.0*

ISC 19 20:51:45.7±0.7, 2°.42N±0°.09×99°.04E±0°.09, h150km, n23, σ1§81/27, mb3.7/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**0.40**	**343**	P	Pn	20 52 09.9	+3.1
	96nm,0.3s,baz=271,slow=11,SNR=470						
PSI				S	Sn	20 52 26.4	+3.6
	40nm,0.3s,baz=173,slow=23,SNR=41						
FRIM	**Kepong**	**2.70**	**72**	P	Pn	20 52 31.0	+1.7
IPM	**Ipoh**	**2.85**	**44**	P	Pn	20 52 32.3	+1.1
IPM	**Ipoh**	**2.85**	**44**	P	Sn	20 52 54.7	-12
KULM	**Kulim**	**3.27**	**29**	P	Pn	20 52 37.3	+0.8
KGM	**Kluang**	**4.29**	**95**	P	Pn	20 52 51.5	+1.7
MYKOM	**Kota Tinggi**	**4.84**	**97**	P	Pn	20 52 59.7	+2.6
KTGM	**Kuala Trenggan**	**5.00**	**55**	P	Pn	20 53 00.1	+0.9
CMAR	**Chiang Mai Arr**	**15.94**	**360**	P	Pn	20 55 22.0	+0.2
	0.2nm,0.3s,baz=192,slow=11,SNR=9.1						
KAPI	**Kappang**	**21.97**	**110**	P	P	20 56 28.5	+0.8
	5.0nm,0.5s,baz=250,slow=18,SNR=5.7						
WRA	**Warramunga Arr**	**41.16**	**124**	P	P	20 59 14.7	-0.9
	1.6nm,0.5s,baz=301,slow=9.1,SNR=15						
ASAR	**Alice Springs**	**42.70**	**129**	P	P	20 59 27.5	-0.6
	0.8nm,0.6s,baz=298,slow=7.6,SNR=21						
SONM	**Songino Array**	**45.68**	**7**	P	P	20 59 50.7	-0.8
	0.5nm,0.6s,baz=196,slow=8.8,SNR=5.5						
SONM				pP	pP	21 00 27.9	+2.6
	0.9nm,0.7s,baz=187,slow=9.9,SNR=5.4						
MKAR	**Makanchi Array**	**46.54**	**344**	P	P	20 59 57.3	-0.9
	0.3nm,0.4s,baz=144,slow=7.4,SNR=5.8						
MKAR				pP	pP	21 00 34.7	+2.7
	0.8nm,0.9s,baz=148,slow=7.1,SNR=3.7						
KURBB	**Kurchatov Arra**	**51.07**	**343**	P	P	21 00 31.6	-1.0
	0.2nm,0.4s,baz=158,slow=7.1,SNR=5.2						
KURBB				PcP	PcP	21 01 45.6	-0.6
	0.4nm,0.5s,baz=153,slow=3.2,SNR=5.0						
ZALV	**Zalesovo Beam**	**52.68**	**349**	P	P	21 00 43.5	-0.9
	0.5nm,0.5s,baz=180,slow=5.4,SNR=3.9						
ZALV				pP	pP	21 01 21.3	+2.4
	0.8nm,0.6s,baz=161,slow=9.4,SNR=2.5						
STKA	**Stephens Creek**	**52.83**	**134**	P	P	21 00 44.3	-1.7
	4.2nm,1.2s,baz=294,slow=13,SNR=4.7						
KBZ	**Khabaz**	**64.38**	**318**	P	P	21 02 03.8	-1.8
	1.7nm,0.8s,baz=138,slow=7.6,SNR=4.9						
BRTR	**Keskin Array B**	**69.67**	**312**	P	P	21 02 38.2	-1.2
	1.0nm,0.7s,baz=123,slow=7.0,SNR=8.9						
BOSA	**Boshof**	**76.98**	**240**	P	P	21 03 23.0	+0.6
	0.9nm,0.6s,baz=99,slow=13,SNR=3.6						
FINES	**FINESS Array B**	**79.78**	**332**	P	P	21 03 36.1	-0.8
	0.7nm,0.4s,baz=92,slow=3.5,SNR=12						
ARCES	**ARCESS Array B**	**82.02**	**340**	P	P	21 03 46.7	-2.0
	1.1nm,0.8s,baz=90,slow=5.5,SNR=4.6						
TXAR	**Lajitas Array**	**141.66**	**33**	PKP	PKPdf	21 10 58.4	-1.7
	0.2nm,0.6s,baz=212,slow=2.5,SNR=4.3						

*IDC **19** 21:20:37.3±5.0, 36°.29N×70°.80E, h163km±46km, mb3.4/8, mb1 3.5/13, mb1mx3.2/31, mbtmp3.4/13, Error ellipse: s-maj=35.4km s-min=14.3km az=37.0*

*ISCJB **19** 21:20:38.9±0.4, 36°.54N±0°.04×70°.90E±0°.08, h188km, mb3.6/7, Error ellipse: s-maj=9.5km s-min=3.6km az=152.9*

*NNC **19** 21:20:47.1±3.0, 37°.12N×70°.66E, h192km±23km, mb3.1, mpv3.9, Error ellipse: s-maj=30.1km s-min=16.1km az=38.0*

ISC 19 21:20:39.8±0.7, 36°.56N±0°.06×70°.93E±0°.08, h188km, n40, σ1§52/42, mb3.6/7, 5C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.85**	**163**	⇑P	Pn	21 21 28.2	+1.0
CEP				S	Sn	21 22 03.0	-1.1
CHCP	**Chirah Chowk**	**3.47**	**146**	⇑P	Pn	21 21 35.1	+0.4
THW	**Thamme Wali**	**3.82**	**170**	⇑P	Pn	21 21 38.6	-0.4
THN	**Thein Dam**	**5.71**	**135**	eP	Pn	21 22 00.0	-3.1
THN				eS	Sn	21 23 05.2	-3.5
DLH	**Dalhousie**	**5.78**	**133**	eP	Pn	21 22 06.0	+1.8
DLH				eS	Sn	21 23 09.0	-1.7
KK31	**Karatay Array**	**6.54**	**357**	P	Pn	21 22 14.1	+0.2
	6.0nm,0.5s,baz=187,slow=15,SNR=175						
KK31				S	Sn	21 23 22.9	-5.5
	10nm,0.3s,baz=167,slow=14,SNR=17						
AAK	**Ala-Archa**	**6.66**	**23**	P	Pn	21 22 16.6	+1.0
	1.9nm,0.3s,baz=163,slow=3.9,SNR=6.2						
AAK				S	Sn	21 23 28.6	-2.7
	1.7nm,0.3s,baz=319,slow=19,SNR=9.4						
SMLA	**Simla**	**7.50**	**134**	*i* P	Pn	21 22 20.4	-6.1
SMLA				*i* x	x	21 23 47.3	
NDI	**New Delhi**	**9.47**	**144**	eP	Pn	21 22 52.0	-0.4
NDI				e4	x	21 24 23.0	
KALG	**Kalgarh**	**9.62**	**135**	e4	x	21 24 24.9	
KALG				AML	AML	21 24 28.0	
	comp=Z,30nm,0.4s						
KALG				AML	AML	21 24 29.1	
	comp=E,37nm,0.7s						
AGRA	**Agra**	**11.04**	**145**	eS	Sn	21 25 04.9	-11
AGRA				AML	AML	21 25 13.6	
	comp=N,65nm,0.3s						
AGRA				AML	AML	21 25 14.1	
	comp=E,64nm,0.1s						
MK31	**Makanchi Array**	**13.27**	**36**	⇓P	P	21 23 43.6	-0.6
	comp=E,1.0nm,0.7s,baz=208,slow=11,SNR=9.4						
MKAR	**Makanchi Array**	**13.27**	**36**	P	Pn	21 23 42.2	+1.2
	comp=E,0.1nm,0.3s,baz=205,slow=9.8,SNR=5.3						
KOLN	**Koldanda**	**13.85**	**126**	eP	Pn	21 23 49.0	+0.5
	comp=E,13nm,0.2s						
DMN	**Daman**	**14.96**	**123**	eP	Pn	21 24 03.0	+0.7
	comp=E,32nm,0.6s						
KKN	**Kakani**	**14.96**	**122**	eP	Pn	21 24 02.2	-0.1
	comp=E,18nm,0.4s						
AB31	**Akbulak array**	**15.00**	**331**	⇓P	Pn	21 24 01.6	-0.8
	comp=E,3.8nm,0.8s,baz=146,slow=12,SNR=53						
AB31				S	Sn	21 26 41.9	-8.0
	comp=E,2.0nm,0.6s,baz=155,slow=24,SNR=6.7						
KURBB	**Kurchatov Arra**	**15.08**	**19**	⇓P	P	21 24 04.9	+0.8
	comp=E,1.8nm,0.5s						
KURBB	**Kurchatov Arra**	**15.08**	**19**	P	P	21 24 05.8	+1.6
	comp=E,0.1nm,0.3s,baz=209,slow=11,SNR=13						
PKIN	**Phulchoki**	**15.17**	**122**	eP	Pn	21 24 04.9	-0.1
	comp=E,50nm,0.6s						
PKI	**Pulchoki**	**15.19**	**122**	eP	Pn	21 24 05.5	+0.3
	comp=E,47nm,0.5s						
JIRN	**Jiri**	**15.67**	**120**	eP	Pn	21 24 11.3	+0.2
	comp=E,24nm,0.4s						
VOSK	**Vostochnaya**	**16.16**	**0**	⇓P	Pn	21 24 17.2	+0.8
	comp=E,5.0nm,1.4s						
RAMN	**Ramite**	**16.40**	**121**	eP	P	21 24 19.3	+0.1
	comp=E,14nm,0.5s						
BVA0	**Borovoye Array**	**16.47**	**359**	⇑P	P	21 24 19.6	+0.2
	comp=E,3.3nm,0.8s,baz=228,slow=41,SNR=11						
BVAR	**Borovoye Array**	**16.47**	**359**	P	Pn	21 24 21.1	+1.0
	comp=E,0.8nm,0.3s,baz=178,slow=10,SNR=13						
BRVK	**Borovoye**	**16.50**	**359**	⇓P	P	21 24 20.6	+0.8
	comp=E,5.8nm,1.0s						
AKTO	**Aktyubinsk**	**16.70**	**330**	⇓P	P	21 24 23.0	+1.0
	comp=E,9.0nm,0.7s						
AKTO				⇑S	S	21 27 22.4	-4.1
	comp=E,2.9nm,0.7s						
AKTO	**Aktyubinsk**	**16.70**	**330**	P	Pn	21 24 23.9	+1.0
	comp=E,1.2nm,0.3s,baz=141,slow=12,SNR=23						
AKTO				S	S	21 27 22.4	-4.1
	comp=E,0.1nm,0.3s,baz=76,slow=17,SNR=2.9						
TAPN	**Taplejung**	**16.93**	**118**	eP	P	21 24 24.9	-0.1
ODAN	**Odare**	**17.00**	**120**	eP	P	21 24 26.1	+0.3
	comp=E,21nm,0.8s						
ZALV	**Zalesovo Beam**	**19.88**	**25**	P	P	21 24 57.8	+1.2
	comp=E,3.3nm,0.3s,baz=216,slow=10,SNR=21						
CMAR	**Chiang Mai Arr**	**30.53**	**119**	P	P	21 26 37.0	+1.3
	comp=E,0.7nm,0.8s,baz=313,slow=11,SNR=4.5						
FINES	**FINESS Array B**	**37.40**	**326**	P	P	21 27 35.9	+1.6
	comp=E,1.7nm,0.7s,baz=115,slow=10,SNR=9.1						
ARCES	**ARCESS Array B**	**41.07**	**338**	P	P	21 28 06.7	+2.1
	comp=E,1.4nm,0.5s,baz=106,slow=8.3,SNR=14						
NB2	**NORSAR Subarra**	**44.30**	**323**	P	P	21 28 31.6	+1.0
	comp=Z,1.5nm,0.5s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.30**	**323**	P	P	21 28 31.9	+1.3
	comp=Z,1.9nm,0.5s,baz=97,slow=7.8,SNR=11						
TORD	**Torodi Ar. Bea**	**65.66**	**269**	P	P	21 31 03.0	-1.2
	comp=Z,0.2nm,0.4s,baz=55,slow=5.5,SNR=3.4						
WRA	**Warramunga Arr**	**82.07**	**122**	P	P	21 32 38.6	-0.8
	comp=Z,0.5nm,0.4s,baz=326,slow=4.8,SNR=4.7						
ASAR	**Alice Springs**	**84.34**	**125**	P	P	21 32 50.5	-0.4
	comp=Z,0.5nm,0.5s,baz=311,slow=5.3,SNR=11						

WEL 19 21:28:08.9±0.2, 46°.12S×165°.97E, h32km±1km, ML3.8/14, 2C, Error ellipse: s-maj=1.7km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.49**	**96**	⇑P*	Pb	21 28 19.3	0.0
PYZ				S*	Sn	21 28 27.0	-0.3
DCZ	**Deep Cove**	**1.05**	**53**	⇑PN	Pn	21 28 26.9	-0.4
DCZ				SN	Sn	21 28 40.0	-0.8
DCZ				AML	AML	21 28 41.4	
DCZ				AML	AML	21 28 41.9	
DCZ				AML	AML	21 28 41.9	
WHZ	**Wether Hill Ro**	**1.39**	**81**	PN	Pb	21 28 33.3	-1.0
WHZ				SN	Sb	21 28 51.4	-0.4
WHZ				AML	AML	21 28 52.5	
APZ	**The Paps**	**1.56**	**118**	ePN	Pb	21 28 36.1	-1.2
MLZ	**Mavora Lakes**	**1.72**	**64**	AML	AML	21 29 04.4	
MLZ				AML	AML	21 29 07.9	
MSZ	**Milford Sound**	**2.00**	**44**	AML	AML	21 29 17.1	
MSZ				AML	AML	21 29 17.7	
SYZ	**Scrubby Hill**	**2.23**	**102**	PN	Pb	21 28 46.2	-2.3
EAZ	**Earnscleugh**	**2.50**	**70**	AML	AML	21 29 29.1	
EAZ				AML	AML	21 29 30.8	
WKZ	**Wanaka**	**2.50**	**60**	AML	AML	21 29 22.6	
WKZ				AML	AML	21 29 45.6	
TUZ	**Tuapeka**	**2.55**	**88**	AML	AML	21 29 27.1	
TUZ				AML	AML	21 29 34.0	
JCZ	**Jackson Bay**	**2.84**	**45**	AML	AML	21 29 43.5	
JCZ				AML	AML	21 29 45.4	

WEL 19 22:36:27.3±0.2, 45°.44S×166°.66E, h22km, ML3.5/15, 5D, Error ellipse: s-maj=1.5km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.35**	**97**	⇓P*	Pb	22 36 34.8	0.0
DCZ				S*	Sb	22 36 39.6	-0.3
DCZ				AML	AML	22 36 39.7	
DCZ				AML	AML	22 36 40.1	
DCZ				AML	AML	22 36 40.1	
PYZ	**Puysegur Point**	**0.73**	**179**	⇓P*	Pb	22 36 40.7	-0.7
PYZ				S*	Sb	22 36 50.0	-1.0
WHZ	**Wether Hill Ro**	**1.01**	**117**	⇓PN	Pb	22 36 45.0	-0.3
WHZ				SN	Sn	22 36 59.4	-0.4
WHZ				AML	AML	22 37 02.9	
MLZ	**Mavora Lakes**	**1.07**	**86**	⇓PN	Pn	22 36 46.1	-1.0
MLZ				SN	Sb	22 36 59.7	-1.1
MLZ				AML	AML	22 37 00.6	
MSZ	**Milford Sound**	**1.18**	**50**	PN	Pn	22 36 47.4	-1.0
MSZ				AML	AML	22 37 08.5	
MSZ				AML	AML	22 37 08.5	
MSZ				AML	AML	22 37 08.7	
MSZ				AML	AML	22 37 08.8	
APZ	**The Paps**	**1.67**	**147**	PN	Pb	22 36 56.6	-1.0
WKZ	**Wanaka**	**1.77**	**71**	PN	Pb	22 36 58.0	-1.2
WKZ				AML	AML	22 37 02.3	
WKZ				AML	AML	22 37 25.7	
WKZ				AML	AML	22 37 25.7	
WKZ				AML	AML	22 37 26.3	
EAZ	**Earnscleugh**	**1.88**	**85**	PN	Pb	22 36 59.6	-1.4
EAZ				AML	AML	22 37 03.8	
EAZ				AML	AML	22 37 28.8	
EAZ				AML	AML	22 37 28.8	
EAZ				AML	AML	22 37 29.0	
JCZ	**Jackson Bay**	**2.02**	**48**	AML	AML	22 37 33.9	
JCZ				AML	AML	22 37 35.3	
SYZ	**Scrubby Hill**	**2.05**	**123**	PN	Pn	22 37 01.7	+1.3
TUZ	**Tuapeka**	**2.15**	**105**	AML	AML	22 37 33.6	
TUZ				AML	AML	22 37 34.1	
LBZ	**Lake Benmore**	**2.71**	**68**	PN	Pn	22 37 10.0	+0.4
LBZ				AML	AML	22 38 06.2	
ODZ	**Otahua Downs**	**2.84**	**83**	⇓PN	Pn	22 37 11.7	+0.4

WEL 19 22:48:20.9±0.2, 45°.43S×165°.82E, h33km, ML3.5/14, Error ellipse: s-maj=2.3km s-min=1.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.94**	**93**	PN	Pn	22 48 37.0	-0.7
DCZ				SN	Sn	22 48 49.2	-0.7
DCZ				AML	AML	22 48 49.7	
DCZ				AML	AML	22 48 49.8	
DCZ				AML	AML	22 48 49.8	
PYZ	**Puysegur Point**	**0.95**	**141**	PN	Pn	22 48 37.3	-0.6
PYZ				SN	Sn	22 48 49.1	-1.2
WHZ	**Wether Hill Ro**	**1.56**	**108**	PN	Pb	22 48 48.0	-1.2
WHZ				AML	AML	22 49 10.2	
WHZ				AML	AML	22 49 17.6	
MLZ	**Mavora Lakes**	**1.66**	**88**	PN	Pn	22 48 48.2	+0.5
MLZ				SN	Sn	22 49 08.3	+0.4
MLZ				AML	AML	22 49 12.1	
MSZ	**Milford Sound**	**1.67**	**64**	AML	AML	22 49 12.5	
MSZ				AML	AML	22 49 17.5	
MSZ				AML	AML	22 49 17.5	
MSZ				AML	AML	22 49 21.0	
APZ	**The Paps**	**2.06**	**134**	PN	Pn	22 48 54.5	+1.3
WKZ	**Wanaka**	**2.34**	**76**	PN	Pn	22 48 59.7	+2.6
WKZ				AML	AML	22 49 45.0	
WKZ				AML	AML	22 50 06.6	
EAZ	**Earnscleugh**	**2.47**	**87**	AML	AML	22 49 31.4	
EAZ				AML	AML	22 49 31.4	

FALS				S	Sn	23 10 28.4	+0.4		
ANPB	**Aniakchak Plen**	**1.81**	**44**	P	**Pn**	**23 10 06.5**	**+0.6**		
ANPK	**Aniakchak Peak**	**1.89**	**45**	P	**Pn**	**23 10 07.7**	**+0.6**		
ANNW	**Aniakchak Nort**	**1.95**	**41**	P	**Pn**	**23 10 08.6**	**+0.8**		
BRPK	**Brown Peak**	**2.04**	**246**	P	**Pn**	**23 10 09.3**	**+0.4**		
SSLW	**Shishaldin Wes**	**2.19**	**251**	P	**Pn**	**23 10 11.2**	**+0.3**		
SSBA	**Shishaldin**	**2.19**	**251**	P	**Pn**	**23 10 11.1**	**+0.2**		
WESN	**West Dahl Nort**	**2.51**	**249**	P	**Pn**	**23 10 15.9**	**+0.7**		
PLK4	**Peulik 4**	**3.14**	**46**	P	**Pn**	**23 10 24.9**	**+1.4**		
PLK1	**Peulik 1**	**3.15**	**42**	P	**Pn**	**23 10 24.6**	**+1.0**		
AKSA	**Akutan Strait**	**3.29**	**247**	P	**Pn**	**23 10 26.2**	**+0.8**		
ZRO	**Akutan Zero**	**3.46**	**248**	P	**Pn**	**23 10 28.0**	**+0.2**		
MTBL	**Makushin Table**	**3.88**	**249**	P	**Pn**	**23 10 34.0**	**+0.5**		
MREP	**Makushin Rep't**	**3.99**	**247**	P	**Pn**	**23 10 35.5**	**+0.1**		
KABU	**Katmai Buttres**	**3.99**	**44**	P	**Pn**	**23 10 36.4**	**+1.4**		
KAKN	**Katmai Knife C**	**4.10**	**45**	P	**Pn**	**23 10 37.9**	**+1.5**		
OHAK	**Old Harbor**	**4.38**	**64**	P	**Pn**	**23 10 39.8**	**-0.3**		
OHAK				S	**Sn**	**23 11 27.1**	**-2.9**		
OKFG	**Magazine Ridge**	**4.79**	**247**	P	**Pn**	**23 10 46.4**	**+0.7**		
OKTU	**Okmok Mt. Tuli**	**4.87**	**247**	P	**Pn**	**23 10 47.8**	**+0.9**		
KDAK	**Kodiak Island**	**4.94**	**59**	P	**Pn**	**23 10 47.5**	**-0.3**		
KDAK	**Kodiak Island**	**4.94**	**59**	P	**Pn**	**23 10 47.5**	**-0.3**		
	6.9nm,0.3s,baz=248,slow=9.3,SNR=35								
KDAK				S	Sn	23 11 39.0	-4.6		
	2.0nm,0.3s,baz=294,slow=20,SNR=7.9								
OKSP	**Okmok Steeple**	**5.07**	**247**	P	**Pn**	**23 10 50.6**	**+1.1**		
NIKH	**Nikolski High**	**5.50**	**246**	P	**Pn**	**23 10 55.6**	**+0.2**		
SPIA	**Saint Paul Isl**	**5.65**	**291**	P	**Pn**	**23 10 57.1**	**-0.2**		
SVW2	**Sparrevohn**	**6.17**	**23**	P	**Pn**	**23 11 05.7**	**+1.2**		
CNPM	**China Poot**	**6.42**	**47**	P	**Pn**	**23 11 09.2**	**+1.3**		
RSO	**Redoubt South**	**6.46**	**37**	*e*Pn	**Pn**	**23 11 10.6**	**+2.1**		
	40nm,0.7s								
TT01	**Tatalina**	**7.76**	**16**	P	**Pn**	**23 11 26.6**	**+0.5**		
PPLA	**Purkeypile**	**8.54**	**27**	*e*Pn	**Pn**	**23 11 38.5**	**+1.7**		
	18nm,1.4s								
SCM	**Sheep Creek Mo**	**9.34**	**42**	P	**Pn**	**23 11 47.5**	**0.0**		
KLU	**Klutina**	**9.70**	**46**	P	**Pn**	**23 11 51.6**	**-0.9**		
PAX	**Paxson**	**10.72**	**40**	*e*Pn	**Pn**	**23 12 04.7**	**-1.6**		
	5.8nm,0.6s								
ILAR	**Eielson Array**	**11.47**	**31**	P	Pn	23 12 13.2	-3.3		
	0.1nm,0.3s,baz=226,slow=13,SNR=6.1								
YKA	**Yellowknife Ar**	**24.20**	**54**	P	**P**	**23 14 43.5**	**+0.7**		
	0.4nm,0.4s,baz=267,slow=9.2,SNR=4.6								
FINES	**FINESS Array B**	**63.26**	**356**	P	P	23 19 52.2	-1.2		
	1.1nm,0.8s,baz=19,slow=8.8,SNR=5.2								

ISCJB ***19*** *23:19:03.8±0.5,24.97N±0.05×109.38W±0.04,h10km, mb4.1/20,MS3.7/11,Error ellipse: s-maj=7.7km s-min=3.7km az=35.5*

IDC ***19*** *23:19:05.0±0.8,25.18N×109.40W,h0km,mb3.9/9, mb1 4.1/15,mb1mx4.0/29,mbtmp3.8/15,ML4.0/4,MS3.7/16, Ms1 3.6/16,ms1mx3.5/30,Error ellipse: s-maj=23.1km s-min=14.2km az=57.0*

NEIC ***19*** *23:19:05.8±0.6,24.98N×109.43W,h10km,MD4.9(MEX), Error ellipse: s-maj=9.4km s-min=5.4km az=217.0*

MEX ***19*** *23:19:05.2±0.3,24.91N×109.63W,h19km±34km,MD4.9*

ISC 19 23:19:06.0±0.6,25.07N±0.05×109.46W±0.06,h10km, n284,σ1♀42/271,mb4.2/20,MS3.8/10,77C-66D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.23**	**219**	*i* P	Pb	23 19 21.2	-8.2
LPIG				*i* S	Sb	23 19 33.2	-12
LPIG	**La Paz**	**1.23**	**219**	*i* P	Pb	23 19 21.2	-8.2
LPIG				*i* S	Sb	23 19 33.2	-12
SRIG	**Santa Rosalia**	**3.35**	**312**	*i* P	Pn	23 19 53.6	-4.9
SRIG				*i* S	Sn	23 20 33.4	-5.0
SRIG	**Santa Rosalia**	**3.35**	**312**	*i* P	Pn	23 19 53.6	-4.9
SRIG				*i* S	Sn	23 20 33.4	-5.0
HPIG		**3.89**	**61**	*i* P	**Pn**	**23 20 04.9**	**-1.2**
HPIG				*i* S	**Sn**	**23 20 51.2**	**-0.6**
HPIG		**3.89**	**61**	*i* P	**Pn**	**23 20 04.9**	**-1.2**
HPIG				*i* S	**Sn**	**23 20 51.2**	**-0.6**
HSIG		**4.15**	**342**	*i* P	**Pn**	**23 20 06.8**	**-2.6**
HSIG				*i* S	**Sn**	**23 20 55.1**	**-3.0**
HSIG		**4.15**	**342**	*i* P	**Pn**	**23 20 06.8**	**-2.6**
HSIG				*i* S	**Sn**	**23 20 55.1**	**-3.0**
CGIG		**5.44**	**14**	*i* P	**Pn**	**23 20 26.1**	**-1.1**
CGIG				*i* S	**Sn**	**23 21 28.6**	**-1.4**
CGIG		**5.44**	**14**	*i* P	**Pn**	**23 20 26.1**	**-1.1**
CGIG				*i* S	**Sn**	**23 21 28.6**	**-1.4**
ANIG	**Ahuacatlan**	**6.06**	**130**	*i* P	**Pn**	**23 20 32.9**	**-2.8**
ANIG				*i* S	**Sn**	**23 21 41.9**	**-3.4**
ANIG	**Ahuacatlan**	**6.06**	**130**	*i* P	**Pn**	**23 20 32.9**	**-2.8**
ANIG				*i* S	**Sn**	**23 21 41.9**	**-3.4**
319A	**Douglas**	**6.28**	**1**	P	**Pn**	**23 20 37.4**	**-1.5**
	baz=6.4,SNR=11						
626A	**Big Bend Ranch**	**6.51**	**46**	⇓P	**Pn**	**23 20 40.9**	**-1.1**
	baz=6.6						
626A				⇑S	**Sn**	**23 21 56.2**	**-0.1**
	baz=6.6						
TXAR	**Lajitas Array**	**6.68**	**49**	Pn	**Pn**	**23 20 42.5**	**-1.8**
TXAR				Sn	**Sn**	**23 21 58.0**	**-2.6**
TXAR				Lg	Lg	23 22 37.9	
TXAR	**Lajitas Array**	**6.68**	**49**	Pn	**Pn**	**23 20 42.5**	**-1.8**
	0.8nm,0.3s,baz=224,slow=13,SNR=47						
TXAR				Sn	**Sn**	**23 21 58.0**	**-2.6**
	2.1nm,0.3s,baz=223,slow=21,SNR=4.2						
TXAR				Lg	Lg	23 22 37.9	
	1.5nm,0.3s,baz=215,slow=34,SNR=3.2						
TXAR				LR	LR	23 23 50.1	
	comp=Z,188nm,20.4s,baz=5.0,slow=43						
ZAIG	**Zacatecas**	**6.71**	**109**	*i* P	**Pn**	**23 20 43.5**	**-1.5**
ZAIG				*i* S	**Sn**	**23 21 59.8**	**-1.9**
ZAIG	**Zacatecas**	**6.71**	**109**	*i* P	**Pn**	**23 20 43.5**	**-1.5**
ZAIG				*i* S	**Sn**	**23 21 59.8**	**-1.9**
220A	**Playas Peak, P**	**6.86**	**7**	P	**Pn**	**23 20 45.3**	**-1.5**
	baz=7.0,SNR=13						
526A	**Mary Lane Ranc**	**6.89**	**43**	⇑P	**Pn**	**23 20 46.9**	**-0.3**
	baz=6.9						
425A	**Indio Mountain**	**6.93**	**34**	⇑P	**Pn**	**23 20 48.0**	**+0.2**
	baz=7.0,SNR=10						
627A	**Terlingua Ranc**	**6.95**	**50**	⇓P	**Pn**	**23 20 47.1**	**-0.9**
	baz=7.0						
221A	**Mesquite Ranch**	**7.07**	**12**	P	**Pn**	**23 20 49.3**	**-0.4**
	baz=7.2,SNR=18						
527A	**Woodward Ranch**	**7.24**	**44**	⇑P	**Pn**	**23 20 51.0**	**-1.1**
	baz=7.3						
324A	**Moseley Ranch,**	**7.25**	**28**	⇓P	**Pn**	**23 20 51.3**	**-0.9**
	baz=7.3,SNR=15						
TUC	**Tucson**	**7.31**	**351**	*e*Pn	**Pn**	**23 20 51.1**	**-1.7**
222A	**Williams Famil**	**7.31**	**16**	⇑P	**Pn**	**23 20 52.4**	**-0.6**
	baz=7.4,SNR=12						
628A	**Black Gap, Mar**	**7.32**	**52**	⇑P	**Pn**	**23 20 51.4**	**-1.6**
	baz=7.4						
426A	**McDonald Obser**	**7.36**	**40**	⇓P	**Pn**	**23 20 52.8**	**-1.0**
	baz=7.4						
325A	**Bean Ranch, Si**	**7.42**	**31**	⇑P	**Pn**	**23 20 54.3**	**-0.3**
	baz=7.5						
214A	**Organ Pipe Nat**	**7.47**	**338**	⇑P	**Pn**	**23 20 54.5**	**-0.6**
	baz=7.6						
120A	**U Bar Ranch, L**	**7.48**	**5**	⇑P	**Pn**	**23 20 54.7**	**-0.7**
	baz=7.6						
MNTX	**Cornudas Mount**	**7.52**	**28**	*e*Pn	**Pn**	**23 20 54.4**	**-1.3**
121A	**Cookes Peak, D**	**7.58**	**11**	P	**Pn**	**23 20 56.0**	**-0.7**
	baz=7.7,SNR=18						
224A	**Cornudas Mount**	**7.79**	**25**	⇓P	**Pn**	**23 20 59.4**	**-0.2**
	baz=7.9						
427A	**Hayter Ranch,**	**7.86**	**42**	⇑P	**Pn**	**23 21 01.0**	**+0.4**
	baz=7.9						
326A	**Caldwell Ranch**	**7.88**	**37**	⇓P	**Pn**	**23 21 00.5**	**-0.3**
	baz=7.9,SNR=10						
122A	**Conniff Cattle**	**7.90**	**15**	⇑P	**Pn**	**23 21 01.0**	**-0.1**
	baz=8.0						
SPIG	**San Pedro Mart**	**7.97**	**320**	*i* P	**Pn**	**23 21 00.1**	**-2.2**
SPIG	**San Pedro Mart**	**7.97**	**320**	*i* P	**Pn**	**23 21 00.1**	**-2.2**
Z20A	**Nine Sixteen R**	**8.05**	**5**	⇓P	**Pn**	**23 21 04.0**	**+0.8**
	baz=8.2,SNR=14						
225A	**Deer Hill, Car**	**8.11**	**29**	P	**Pn**	**23 21 04.2**	**+0.2**
	baz=8.2,SNR=13						
529A	**Stev Forest Ra**	**8.16**	**50**	⇓P	**Pn**	**23 21 03.8**	**-0.8**
	baz=8.2						
428A	**Kincaid Ranch,**	**8.22**	**45**	⇓P	**Pn**	**23 21 06.2**	**+0.7**
	baz=8.3						
Z21A	**St. Cloud Mine**	**8.36**	**10**	⇓P	**Pn**	**23 21 07.9**	**+0.4**
	baz=8.5,SNR=12						
124A	**Stringfield Ra**	**8.37**	**24**	P	**Pn**	**23 21 08.8**	**+1.2**
	baz=8.5,SNR=11						
226B	**Tecolote Peak,**	**8.39**	**32**	⇑P	**Pn**	**23 21 08.1**	**+0.3**
	baz=8.5						
GDL2	**Guadalupe Moun**	**8.39**	**31**	*e*Pn	**Pn**	**23 21 08.4**	**+0.5**
Z22A	**Elephant Butte**	**8.44**	**14**	⇑P	**Pn**	**23 21 09.0**	**+0.4**
	baz=8.6,SNR=16						
Z23A	**Rita Site, Whi**	**8.64**	**18**	⇑P	**Pn**	**23 21 12.1**	**+0.9**
	baz=8.7						
125A	**Gardner Draw,**	**8.65**	**28**	P	**Pn**	**23 21 12.2**	**+0.8**
	baz=8.7,SNR=8.2						
429A	**Davenport Ranc**	**8.69**	**49**	⇑P	**Pn**	**23 21 11.9**	**+0.1**
	baz=8.7						
Y20A	**Horse Springs,**	**8.86**	**6**	⇑P	**Pn**	**23 21 14.9**	**+0.6**
	baz=9.0,SNR=11						
Z24A	**Sheeppen Canyo**	**8.97**	**23**	⇑P	**Pn**	**23 21 16.8**	**+1.0**
	baz=9.1,SNR=11						
631A	**Perdido Creek**	**9.01**	**59**	⇓P	**Pn**	**23 21 16.3**	**0.0**
	baz=9.0,SNR=9.8						
Y21A	**Point of Rocks**	**9.04**	**9**	⇑P	**Pn**	**23 21 17.7**	**+0.8**
	baz=9.2,SNR=17						
LNIG	**Linares**	**9.07**	**89**	*i* P	**Pn**	**23 21 16.2**	**-0.8**
LNIG				*i* S	**Sn**	**23 22 58.8**	**-0.5**
LNIG	**Linares**	**9.07**	**89**	*i* P	**Pn**	**23 21 16.2**	**-0.8**
LNIG				*i* S	**Sn**	**23 22 58.8**	**-0.5**
Y22A	**Socorro**	**9.10**	**13**	⇓P	**Pn**	**23 21 18.0**	**+0.4**
	baz=9.2						
Z25A	**Roswell**	**9.17**	**26**	P	**Pn**	**23 21 19.6**	**+1.2**
	baz=9.3,SNR=9.2						
Y23A	**Lovelace Mesa,**	**9.31**	**18**	⇓P	**Pn**	**23 21 21.6**	**+1.1**
	baz=9.4						
LENM	**Lemitar**	**9.32**	**13**	*e*Pn	**Pn**	**23 21 21.0**	**+0.4**
Y14A	**Wickenburg**	**9.36**	**342**	⇑P	**Pn**	**23 21 21.1**	**+0.1**
	baz=9.5						
BNM	**Barren Site**	**9.38**	**15**	*e*Pn	**Pn**	**23 21 22.0**	**+0.6**
X18A	**Snowflake**	**9.44**	**358**	⇑P	**Pn**	**23 21 22.8**	**+0.6**
	baz=9.6						
X21A	**Alamocita Cree**	**9.46**	**8**	⇓P	**Pn**	**23 21 23.2**	**+0.7**
	baz=9.6						
Z26A	**Caprock**	**9.47**	**29**	⇑P	**Pn**	**23 21 22.6**	**0.0**
	baz=9.6						
X16A	**Lo Mia Camp, P**	**9.47**	**350**	P	**Pn**	**23 21 23.0**	**+0.3**
	baz=9.6,SNR=7.0						
Y24A	**Capitan**	**9.49**	**21**	⇑P	**Pn**	**23 21 23.9**	**+0.9**
	baz=9.6,SNR=13						
LAZ	**Ladron**	**9.52**	**12**	*e*Pn	**Pn**	**23 21 23.7**	**+0.4**
LPM	**Los Pinos Moun**	**9.53**	**14**	*e*Pn	**Pn**	**23 21 26.4**	**+2.9**
431A	**Sonora**	**9.62**	**52**	⇓P	**Pn**	**23 21 26.0**	**+1.3**
	baz=9.7,SNR=7.2						
X22A	**Bernardo**	**9.64**	**12**	⇑P	**Pn**	**23 21 26.1**	**+1.1**
	baz=9.8						
Y25A	**Mesa, Roswell**	**9.75**	**24**	⇓P	**Pn**	**23 21 27.7**	**+1.3**
	baz=9.8						
532A	**Rocksprings**	**9.86**	**57**	⇑P	**Pn**	**23 21 28.4**	**+0.6**
	baz=9.9						
BAR	**Barrett**	**9.87**	**322**	*e*Pn	**Pn**	**23 21 30.7**	**+2.8**
MONP	**Monument Peak**	**9.89**	**324**	P	**Pn**	**23 21 30.1**	**+1.7**
	baz=10.0,SNR=5.4						
X23A	**Hourglass Bar**	**9.89**	**16**	⇓P	**Pn**	**23 21 30.0**	**+1.5**
	baz=10.0,SNR=6.0						
W18A	**Petrified Fore**	**10.02**	**359**	⇑P	**Pn**	**23 21 31.9**	**+1.7**
	baz=10						
PDMCI	**Parker Dam,Lak**	**10.05**	**337**	⇓P	**Pn**	**23 21 32.8**	**+2.3**
	baz=10						
W20A	**Ramah**	**10.06**	**5**	⇑P	**Pn**	**23 21 32.8**	**+2.0**
	baz=10,SNR=8.8						
331A	**San Angelo**	**10.10**	**50**	⇑P	**Pn**	**23 21 32.3**	**+1.1**
	baz=10						
JCT	**Junction City**	**10.11**	**56**	*e*Pn	**Pn**	**23 21 32.3**	**+1.0**
ANMO	**Albuquerque**	**10.18**	**14**	*e*Pn	**Pn**	**23 21 35.0**	**+2.6**
ANMO				Lg	Lg	23 24 21.8	
ANMO	**Albuquerque**	**10.18**	**14**	Pn	**Pn**	**23 21 33.8**	**+1.3**
	0.1nm,0.3s,baz=202,slow=13,SNR=26						
ANMO				Lg	Lg	23 24 21.8	
	0.1nm,0.3s,baz=225,slow=16,SNR=2.0						
ANMO				LR	LR	23 25 46.8	
	comp=Z,358nm,19.2s,baz=51,slow=40						
W23A	**Werner Place,**	**10.46**	**15**	⇓P	**Pn**	**23 21 38.3**	**+2.1**
	baz=11						
PFO	**Pinyon Flat Ob**	**10.47**	**326**	*e*Pn	**Pn**	**23 21 36.4**	**+0.1**
PFO	**Pinyon Flat Ob**	**10.47**	**326**	Pn	**Pn**	**23 21 37.8**	**+1.5**
	0.2nm,0.3s,baz=146,slow=10,SNR=8.9						
PFO				LR	LR	23 25 11.4	
	comp=Z,222nm,18.2s,baz=141,slow=35						
PFO	**Pinyon Flat Ob**	**10.47**	**326**	⇑P	**Pn**	**23 21 37.8**	**+1.5**
	baz=11						
231A	**Bronte**	**10.55**	**48**	⇓P	**Pn**	**23 21 38.4**	**+1.0**
	baz=11						
BELC	**Belle Mtn. Jos**	**10.56**	**329**	⇑P	**Pn**	**23 21 39.6**	**+2.0**
	baz=11						
Z29A	**Hungry Hill Ra**	**10.60**	**38**	⇑P	**Pn**	**23 21 40.1**	**+2.0**
	baz=11						
W24A	**Lazy 6 Ranch,**	**10.70**	**18**	⇑P	**Pn**	**23 21 41.1**	**+1.6**
	baz=11,SNR=11						
W13A	**Hualapai Mount**	**10.70**	**340**	⇓P	**Pn**	**23 21 41.5**	**+2.0**
	baz=11						
V20A	**Brimhall**	**10.73**	**4**	⇑P	**Pn**	**23 21 42.5**	**+2.6**
	baz=11						
V21A	**Milan**	**10.81**	**8**	⇓P	**Pn**	**23 21 44.0**	**+2.9**
	baz=11						
W25A	**X Bar L Ranch,**	**11.00**	**22**	⇓P	**Pn**	**23 21 45.1**	**+1.6**
	baz=11,SNR=5.7						
V23A	**Ortiz Mt. (NFS**	**11.01**	**14**	⇓P	Pn	23 21 47.1	+3.3
	baz=11						
V22A	**San Miguel Ran**	**11.03**	**11**	⇑P	**Pn**	**23 21 44.9**	**+0.8**
	baz=11,SNR=6.6						
GMRC	**Granite Mounta**	**11.07**	**332**	⇑P	**Pn**	**23 21 46.0**	**+1.5**
	baz=11						
V24A	**Rampart Ranch,**	**11.22**	**18**	⇓P	**Pn**	**23 21 48.9**	**+2.2**
	baz=11						
W27A	**Bowe Ranch, En**	**11.39**	**28**	⇓P	**Pn**	**23 21 50.0**	**+1.1**
	baz=12,SNR=5.2						
U21A	**Nageezi**	**11.43**	**7**	⇑P	**Pn**	**23 21 50.2**	**+0.7**
	baz=12,SNR=6.0						
V25A	**Rancho No Teng**	**11.51**	**20**	⇓P	**Pn**	**23 21 53.5**	**+2.8**
	baz=12						
U23A	**El Rito**	**11.57**	**13**	⇓P	**Pn**	**23 21 53.9**	**+2.4**
	baz=12						
U15A	**North Rim**	**11.58**	**349**	⇓P	**Pn**	**23 21 53.6**	**+2.0**
	baz=12,SNR=8.8						
V26A	**Tequesquite Ra**	**11.75**	**23**	⇓P	**Pn**	**23 21 56.5**	**+2.6**
	baz=12						
MWC	**Mount Wilson**	**11.79**	**323**	*e*Pn	**Pn**	**23 21 54.1**	**-0.3**
GSC	**Goldstone**	**12.01**	**330**	*e*Pn	**Pn**	**23 21 59.1**	**+1.8**
GSC	**Goldstone**	**12.01**	**330**	⇑P	**Pn**	**23 21 58.6**	**+1.2**
	baz=12						
U25A	**Circle Dot Ran**	**12.10**	**20**	⇑P	**Pn**	**23 22 01.4**	**+2.7**
	baz=12						
T22A	**Edith**	**12.11**	**10**	⇓P	**Pn**	**23 22 01.2**	**+2.4**
	baz=12						
MVCO	**Mesa Verde**	**12.13**	**4**	*e*Pn	**Pn**	**23 22 00.1**	**+1.0**
MVCO	**Mesa Verde**	**12.13**	**4**	⇑P	**Pn**	**23 22 01.3**	**+2.2**
	baz=12						
T23A	**Casias Ranch,**	**12.28**	**13**	⇓P	**Pn**	**23 22 03.3**	**+2.0**
	baz=12,SNR=5.3						
SHOC	**Shoshone**	**12.29**	**333**	⇓P	**Pn**	**23 22 03.1**	**+2.1**
	baz=12						
U26A	**Atchley Ranch,**	**12.31**	**22**	⇑P	**Pn**	**23 22 03.2**	**+1.7**
	baz=12						
LRMC	**Laurel Mountai**	**12.57**	**328**	⇑P	**Pn**	**23 22 06.9**	**+1.9**
	baz=13						
S21A	**Coal Bank Pass**	**12.63**	**6**	⇑P	**Pn**	**23 22 07.5**	**+1.4**
	baz=13						
S20A	**Disappointment**	**12.76**	**4**	⇑P	**Pn**	**23 22 10.0**	**+2.3**
	baz=13						
T25A	**Trinidad**	**12.78**	**19**	⇓P	**Pn**	**23 22 10.6**	**+2.6**
	baz=13						
S22A	**4UR Ranch, Cre**	**12.83**	**9**	⇓P	**Pn**	**23 22 11.3**	**+2.5**
	baz=13						
U28A	**Mallet**	**12.87**	**27**	⇑P	**Pn**	**23 22 11.4**	**+2.2**
	baz=13						
CCUT	**Cedar City**	**12.88**	**346**	*e*Pn	Pn	23 22 12.7	+3.3
MPMC	**Manual Prospec**	**12.95**	**330**	⇓P	**Pn**	**23 22 11.6**	**+1.4**
	baz=13						
FURC	**Furnace Creek,**	**13.02**	**333**	⇓P	**Pn**	**23 22 13.0**	**+2.0**
	baz=13						
S24A	**Houchin Ranch,**	**13.04**	**15**	⇑P	Pn	23 22 15.0	+3.4
	baz=13						
PV01	**Paradox Valley**	**13.05**	**3**	*e*Pn	**Pn**	**23 22 13.6**	**+2.0**
S25A	**Robets Cordova**	**13.26**	**18**	⇑P	**Pn**	**23 22 17.6**	**+3.0**
	baz=13						
WMOK	**Wichita Mounta**	**13.36**	**41**	*e*Pn	**Pn**	**23 22 15.0**	**-0.7**
T28A	**Walsh**	**13.55**	**26**	⇑P	**Pn**	**23 22 20.1**	**+1.7**
	baz=14						
MVU	**Marysvale**	**13.60**	**351**	*e*Pn	Pn	23 22 23.7	+4.6
MSU	**Marysvale**	**13.60**	**351**	*e*Pn	Pn	23 22 23.8	+4.7
GRAC	**Grapevine Rang**	**13.68**	**332**	⇓P	**Pn**	**23 22 22.8**	**+2.6**
	baz=14						
Q16A	**Castle Valley**	**13.88**	**354**	⇑P	**Pn**	**23 22 25.0**	**+2.0**
	baz=14,SNR=8.1						
R11A	**Troy Canyon, C**	**14.22**	**340**	⇓P	**Pn**	**23 22 29.4**	**+1.8**
	baz=14						
SMCO	**Snowmass**	**14.22**	**8**	*e*Pn	Pn	23 22 31.1	+3.2
R27A	**Eads**	**14.34**	**22**	⇓P	**Pn**	**23 22 30.9**	**+1.8**
	baz=14						
P23A	**Jefferson**	**14.59**	**11**	⇑P	**Pn**	**23 22 34.7**	**+1.9**
	baz=15						
MPU	**Maple Canyon**	**15.01**	**354**	*e*Pn	**Pn**	**23 22 40.3**	**+1.9**
	3.7nm,0.7s						
ISCO	**Idaho Springs**	**15.04**	**11**	*e*Pn	**Pn**	**23 22 40.4**	**+1.5**
	6.9nm,0.9s						
ISCO	**Idaho Springs**	**15.04**	**11**	⇑P	**Pn**	**23 22 41.0**	**+2.1**
	baz=15						
O20A	**White River Ci**	**15.06**	**4**	⇓P	**Pn**	**23 22 41.1**	**+2.0**
	baz=15,SNR=5.3						
P25A	**Willow Gulch B**	**15.07**	**16**	⇑P	**Pn**	**23 22 40.6**	**+1.3**
	baz=15						
O19A	**Miners Draw (B**	**15.19**	**1**	⇓P	**Pn**	**23 22 42.6**	**+1.8**
	baz=15						
O22A	**Kremmling**	**15.25**	**9**	⇑P	**Pn**	**23 22 43.2**	**+1.6**
	baz=15						
NVAR	**Mina Array Bea**	**15.28**	**333**	Pn	**Pn**	**23 22 44.0**	**+1.9**
NVAR	**Mina Array Bea**	**15.28**	**333**	Pn	**Pn**	**23 22 44.0**	**+1.9**
	baz=158,slow=11,SNR=4.6						
DUG	**Dugway**	**15.34**	**350**	*e*Pn	**P**	**23 22 46.2**	**-1.3**
	10nm,1.1s						
DUG	**Dugway**	**15.34**	**350**	⇓P	**P**	**23 22 45.7**	**-1.8**
	baz=16,SNR=9.4						
DAU	**Daniels Canyon**	**15.37**	**355**	*e*Pn	Pn	**23 22 45.0**	**+1.7**
	11nm,1.0s						
O23A	**Lake Granby, G**	**15.39**	**10**	⇓P	**Pn**	**23 22 45.8**	**+2.3**
	baz=16						
N20A	**Spence Gulch,**	**15.75**	**3**	⇑P	**Pn**	**23 22 50.3**	**+2.1**
	baz=16						
WAKR	**Walker**	**15.84**	**330**	*e*Pn	**P**	**23 22 52.5**	**-0.6**
	7.5nm,0.9s						
N22A	**Wattenberg Ran**	**15.89**	**8**	⇓P	**Pn**	**23 22 52.0**	**+2.0**
	baz=16						
CMB	**Columbia Colle**	**15.91**	**327**	*e*Pn	**P**	**23 22 56.6**	**+2.9**
	5.6nm,1.0s						
BGU	**Big Grassy Mou**	**16.09**	**350**	*e*Pn	**Pn**	**23 22 54.4**	**+1.9**
	5.8nm,1.1s						
ELK	**Elko**	**16.36**	**344**	Pn	**Pn**	**23 22 57.2**	**+1.2**
ELK	**Elko**	**16.36**	**344**	Pn	**Pn**	**23 22 57.2**	**+1.2**
	baz=181,slow=7.8,SNR=3.2						
ELK				LR	LR	23 30 16.2	
	comp=Z,144nm,19.5s,baz=158,slow=41						
SPUT	**South Promonto**	**16.38**	**352**	*e*Pn	**Pn**	**23 22 56.5**	**+0.3**
	5.5nm,0.8s						
PHWY	**Pilot Hill**	**16.53**	**11**	*e*Pn	**Pn**	**23 22 58.4**	**+0.2**
	3.1nm,0.6s						
HWUT	**Hardware Ranch**	**16.59**	**354**	*e*Pn	**Pn**	**23 22 59.2**	**+0.4**
	20nm,1.3s						
BMN	**Battle Mountai**	**16.64**	**339**	*e*Pn	**Pn**	**23 23 00.6**	**+1.2**
	12nm,1.0s						
MIAR	**Mount Ida**	**16.69**	**52**	*e*Pn	**P**	**23 23 01.0**	**-1.4**
	8.1nm,0.8s						
PAHR	**Pah Rah Range**	**16.81**	**333**	*e*Pn	**Pn**	**23 23 02.9**	**+1.3**
	6.6nm,1.0s						
L21A	**Rawlins**	**16.94**	**5**	⇑P	**P**	**23 23 04.6**	**-0.7**
	baz=17						
BEKR	**Beckworth**	**17.36**	**331**	*e*Pn	**Pn**	**23 23 09.3**	**+0.7**
K20A	**Yellowstone Ra**	**17.57**	**3**	⇑P	**Pn**	**23 23 11.5**	**+0.3**
	baz=18						
BW06	**Boulder Array**	**17.65**	**360**	*e*P

	baz=22									
D20A	**Manuel Ranch,**	**22.00**	**2**	⇓P		**P**		**23 24 01.1**	**+0.8**	
	baz=22,SNR=7.3									
CHMT	**Chamberlain Mo**	**22.01**	**353**	*e*P		**P**		**23 24 01.1**	**+0.4**	
	6.7nm,0.9s									
D21A	**La Casta Ranch**	**22.04**	**4**	⇑P		**P**		**23 24 01.4**	**+0.6**	
	baz=22									
D19A	**Cripps Ranch,**	**22.05**	**1**	⇓P		**P**		**23 24 02.0**	**+1.0**	
	baz=22,SNR=7.1									
D17A	**Six Diamond Ra**	**22.06**	**358**	⇓P		**P**		**23 24 01.5**	**+0.4**	
	baz=22,SNR=9.0									
D22A	**Cohagen**	**22.19**	**6**	⇓P		**P**		**23 24 03.6**	**+1.2**	
	baz=22									
SLMT	**Seeley Lake**	**22.36**	**353**	*e*P		**P**		**23 24 05.6**	**+1.3**	
	12nm,1.1s									
C17A	**Wharram Farm,**	**22.54**	**358**	P		**P**		**23 24 06.9**	**+0.7**	
	baz=23,SNR=5.6									
C19A	**Slack Wire Ran**	**22.62**	**1**	⇑P		**P**		**23 24 07.2**	**+0.2**	
	baz=23,SNR=5.2									
C20A	**Veseth Ranch,**	**22.63**	**3**	⇑P		**P**		**23 24 07.8**	**+0.7**	
	baz=23									
HAWA	**Hanford**	**22.76**	**342**	*e*P		**P**		**23 24 09.1**	**+0.8**	
	12nm,1.0s									
C16A	**Fuhringer Ranc**	**22.76**	**356**	⇑P		**P**		**23 24 08.3**	**-0.2**	
	baz=23,SNR=6.3									
C15A	**Salmond Ranch,**	**22.80**	**355**	⇓P		**P**		**23 24 09.4**	**+0.4**	
	baz=23									
HDIL	**Hopedale**	**22.85**	**43**	*e*P		**P**		**23 24 12.5**	**+3.1**	
	64nm,1.7s									
C14A	**Swan Lake**	**22.91**	**353**	⇓P		**P**		**23 24 10.3**	**+0.2**	
	baz=23									
EGMT	**Eagleton**	**22.91**	**359**	*e*P		**P**		**23 24 10.1**	**0.0**	
	34nm,1.5s									
C23A	**Lambert**	**22.94**	**7**	⇓P		**P**		**23 24 10.8**	**+0.5**	
	baz=23									
C12B	**Naegeli Ranch,**	**23.09**	**350**	⇓P		**P**		**23 24 12.1**	**+0.2**	
	baz=23									
B16A	**M & M Farms, S**	**23.37**	**356**	⇓P		**P**		**23 24 14.8**	**+0.1**	
	baz=24									
DGMT	**Dagmar**	**23.72**	**9**	*e*P		**P**		**23 24 17.7**	**-0.5**	
LON	**Longmire**	**23.78**	**339**	*e*P		**P**		**23 24 17.8**	**-1.0**	
	18nm,1.2s									
CPCT	**Cooper Cave**	**23.84**	**58**	*e*P		**P**		**23 24 19.1**	**-0.3**	
A17A	**Triple J Farms**	**23.85**	**358**	⇑P		**P**		**23 24 19.1**	**-0.4**	
	baz=24									
A16A	**West Butte Ran**	**23.89**	**357**	⇑P		**P**		**23 24 20.0**	**0.0**	
	baz=24									
NEW	**Newport**	**23.93**	**347**	*e*P		**P**		**23 24 19.6**	**-0.5**	
	18nm,1.2s									
A15A	**Johnson Ranch,**	**24.00**	**355**	⇓P		**P**		**23 24 20.6**	**-0.3**	
	baz=24									
A14A	**Double T Ranch**	**24.06**	**354**	⇑P		**P**		**23 24 21.2**	**-0.3**	
	baz=24,SNR=8.5									
A13A	**Flathead Natio**	**24.13**	**352**	⇓P		**P**		**23 24 22.0**	**-0.1**	
	baz=24									
WALA	**Waterton Lakes**	**24.20**	**353**	*e*P		**P**		**23 24 22.7**	**-0.1**	
TKL	**Tuckaleechee C**	**24.48**	**58**	P		**P**		**23 24 25.8**	**+0.4**	
TKL	**Tuckaleechee C**	**24.48**	**58**	P		**P**		**23 24 25.8**	**+0.4**	
	6.2nm,1.1s,baz=181,slow=8.3,SNR=4.0									
TKL				LR		LR		23 34 24.7		
	comp=Z,204nm,21.8s,baz=91,slow=38									
TZTN	**Tazewell**	**24.94**	**57**	*e*P		P		23 24 35.9	+6.3	
DLBC	**Dease Lake**	**36.39**	**342**	P		P		23 26 14.1	+3.7	
DLBC	**Dease Lake**	**36.39**	**342**	P		P		23 26 14.1	+3.7	
	4.5nm,0.9s,baz=181,slow=7.8,SNR=4.6									
YKA	**Yellowknife Ar**	**37.57**	**356**	P		**P**		**23 26 19.4**	**-0.8**	
YKA	**Yellowknife Ar**	**37.57**	**356**	P		**P**		**23 26 19.4**	**-0.8**	
	0.3nm,0.3s,baz=175,slow=8.2,SNR=6.2									
ROSC	**El Rosal**	**39.24**	**115**	LR		LR		23 45 03.3		
	comp=Z,35nm,18.8s,baz=196,slow=40									
INK	**Inuvik**	**45.65**	**348**	P		**P**		**23 27 25.8**	**-0.6**	
INK	**Inuvik**	**45.65**	**348**	P		**P**		**23 27 25.8**	**-0.6**	
	0.6nm,0.5s,baz=113,slow=9.0,SNR=3.7									
ILAR	**Eielson Array**	**46.42**	**339**	P		**P**		**23 27 31.8**	**-0.7**	
ILAR	**Eielson Array**	**46.42**	**339**	P		**P**		**23 27 31.8**	**-0.7**	
	0.4nm,0.7s,baz=151,slow=6.5,SNR=6.5									
COLD	**Coldfoot**	**49.03**	**340**	*e*P		P		23 28 00.4	+7.6	
	5.8nm,1.2s									
LPAZ	**La Paz**	**57.55**	**131**	P		**P**		**23 28 57.9**	**+1.0**	
LPAZ	**La Paz**	**57.55**	**131**	P		**P**		**23 28 57.9**	**+1.0**	
	0.3nm,0.4s,baz=301,slow=5.9,SNR=2.4									
PPT	**Papeete**	**57.65**	**227**	LR		LR		23 46 32.5		
	comp=Z,283nm,19.1s,baz=188,slow=28									
CALA	**Caldeira**	**67.92**	**57**	*e*S		S		23 39 11.5	+7.3	
PCAN	**Candelaria**	**68.12**	**57**	*e*S		S		23 39 15.2	+8.8	
PCAN				A		A		23 39 16.1		
	20nm,0.3s									
PICO	**Pico**	**68.15**	**57**	*e*S		S		23 39 16.1	+9.2	
CPUP	**Villa Florida**	**71.72**	**132**	P		**P**		**23 30 29.0**	**+0.6**	
CPUP	**Villa Florida**	**71.72**	**132**	P		**P**		**23 30 29.0**	**+0.6**	
	0.4nm,0.3s,baz=317,slow=12,SNR=3.2									
PETK	**Petropavlovsk-**	**71.99**	**321**	LR		LR		23 55 08.5		
	comp=Z,27nm,20.9s,baz=78,slow=30									
BDFB	**Brasilia**	**72.26**	**117**	LR		LR		00 02 23.5		
	comp=Z,57nm,20.7s,baz=161,slow=36									
PLCA	**Paso Flores**	**74.79**	**150**	P		**P**		**23 30 47.8**	**+1.4**	
PLCA	**Paso Flores**	**74.79**	**150**	P		**P**		**23 30 47.8**	**+1.4**	
	2.6nm,0.9s,baz=270,slow=6.5,SNR=4.0									
ARCES	**ARCESS Array B**	**80.27**	**15**	P		**P**		**23 31 17.2**	**+0.6**	
ARCES	**ARCESS Array B**	**80.27**	**15**	P		**P**		**23 31 17.2**	**+0.6**	
	2.0nm,0.9s,baz=328,slow=6.7,SNR=2.6									
ARCES				LR		LR		00 06 00.6		
	comp=Z,38nm,20.0s,baz=175,slow=35									
GERES	**GERESS Array B**	**90.65**	**34**	LR		LR		00 11 42.4		
	comp=Z,58nm,21.1s,baz=280,slow=35									
MJAR	**Matsushiro Arr**	**91.58**	**312**	LR		LR		00 11 14.2		
	comp=Z,46nm,19.6s,baz=25,slow=34									
HNR	**Honiara**	**94.47**	**262**	LR		LR		00 03 57.6		
	comp=Z,76nm,21.6s,baz=124,slow=28									
WRA	**Warramunga Arr**	**121.30**	**261**	PKP		**PKPdf**		**23 37 60.0**	**-0.1**	
WRA	**Warramunga Arr**	**121.30**	**261**	PKP		**PKPdf**		**23 37 60.0**	**-0.1**	
	0.3nm,0.8s,baz=71,slow=2.3,SNR=3.3									
ASAR	**Alice Springs**	**122.75**	**257**	PKP		**PKPdf**		**23 38 03.4**	**+0.6**	
ASAR	**Alice Springs**	**122.75**	**257**	PKP		**PKPdf**		**23 38 03.4**	**+0.6**	
	0.3nm,0.8s,baz=95,slow=2.0,SNR=3.0									

*NIED **19** 23:46:00,30˚.40N×138˚.90E,h420km,Mw4.0 Best double couple: M0 1.12000×10^15 NP1:ϕs=235.00000°, δ=68.00000°,λ=-75.00000°. NP2:ϕs=20.00000°,δ=27.00000°, λ=-122.00000°.*

*JMA **19** 23:46:59.5±0.2,30˚.37N×138˚.87E,h466km,M4.0*

*ISCJB **19** 23:47:00.8±0.5,30˚.35N±0˚.05×138˚.69E±0˚.08, h439km±4km,mb3.6/21,Error ellipse: s-maj=11.5km s-min=7.5km az=164.9*

*IDC **19** 23:47:02.4±1.5,30˚.36N×138˚.46E,h436km±16km, mb3.3/18,mb1 3.4/22,mb1mx3.4/31,mbtmp3.3/22,Error ellipse: s-maj=12.8km s-min=9.4km az=93.0*

ISC 19 23:47:02.2±0.6,30˚.44N±0˚.06×138˚.64E±0˚.08,h434km±6km, n44,σ1°77/62,mb3.6/21,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
JHCJ	**Hachijojimakas**	**2.80**	**20**	P		**P**	**23**	**48**	**07.0**	**+0.6**
JHJ2	**Mitsune**	**2.84**	**20**	P		**P**	**23**	**48**	**07.5**	**+0.8**
JHJ2				*e*S		**S**	**23**	**49**	**00.0**	**+0.8**
TK02	**Tokai 2**	**3.57**	**348**	P		**P**	**23**	**48**	**14.8**	**+2.6**
TK02				*e*S		**S**	**23**	**49**	**12.8**	**+3.5**
JWZ	**Kozaga**	**3.96**	**322**	P		**P**	**23**	**48**	**17.1**	**+1.2**
JWZ				*e*S		**S**	**23**	**49**	**18.9**	**+3.0**
JIE	**Ise**	**4.26**	**338**	P		**P**	**23**	**48**	**20.4**	**+1.8**
JIZS	**Izushimoda**	**4.27**	**3**	P		**P**	**23**	**48**	**19.4**	**+0.8**
JKN2	**Miekihoku**	**4.28**	**333**	P		**P**	**23**	**48**	**20.2**	**+1.4**
JIM2	**Oshima 3**	**4.31**	**9**	P		**P**	**23**	**48**	**20.8**	**+1.7**
JIM2				*e*S		**S**	**23**	**49**	**23.9**	**+2.1**
HMMJ	**Hamamatsu 2**	**4.47**	**350**	P		**P**	**23**	**48**	**22.1**	**+1.6**
HMMJ				*e*S		**S**	**23**	**49**	**24.8**	**+0.4**
CBIJ	**Chichi jima**	**4.56**	**136**	P		**P**	**23**	**48**	**19.2**	**-2.4**
CBIJ				*e*S		**S**	**23**	**49**	**21.2**	**-5.0**
BSO1	**Boso 1**	**4.64**	**25**	P		**P**	**23**	**48**	**22.2**	**+0.7**
BSO1				S		**S**	**23**	**49**	**25.2**	**-1.2**
TATJ	**Tateyama 2**	**4.70**	**13**	P		**P**	**23**	**48**	**22.2**	**-0.4**
TATJ				S		**S**	**23**	**49**	**26.1**	**-2.2**
JOD2	**Odawara 2**	**4.82**	**4**	P		**P**	**23**	**48**	**23.3**	**-0.6**
JOD2				*e*S		**S**	**23**	**49**	**30.6**	**0.0**
JRY	**Ryogami san**	**5.56**	**2**	P		**P**	**23**	**48**	**31.7**	**+0.4**
JRY				S		**S**	**23**	**49**	**42.3**	**-1.9**
MJAR	**Matsushiro Arr**	**6.09**	**357**	P		**P**	**23**	**48**	**36.5**	**-0.2**
	3.2nm,0.3s,baz=173,slow=12,SNR=22									
MJAR				S		**S**	**23**	**49**	**49.6**	**-4.6**
	0.6nm,0.3s,baz=209,slow=16,SNR=3.7									
MAT	**Matsushiro**	**6.09**	**357**	P		**P**	**23**	**48**	**36.7**	**-0.1**
MAT				S		**S**	**23**	**49**	**49.0**	**-5.2**
JMK	**Ichinoseki**	**8.75**	**13**	P		**P**	**23**	**49**	**05.7**	**+0.2**
JMK				S		**S**	**23**	**50**	**43.5**	**-3.4**
KSRS	**Korea Array**	**11.31**	**311**	P		**P**	**23**	**49**	**34.1**	**+0.5**
	0.3nm,0.3s,baz=123,slow=11,SNR=8.4									
ASAJ	**Asahikawa**	**14.00**	**12**	P		**P**	**23**	**50**	**04.9**	**+2.1**
	1.7nm,0.3s,baz=256,slow=8.3,SNR=6.5									
USRK	**Ussuriysk Arra**	**14.71**	**341**	P		**P**	**23**	**50**	**10.6**	**+0.3**
	0.7nm,0.3s,baz=143,slow=10.0,SNR=9.4									
SONM	**Songino Array**	**30.16**	**314**	P		**P**	**23**	**52**	**34.7**	**-0.3**
	0.4nm,0.4s,baz=127,slow=8.8,SNR=3.8									
FX1	**Attu Island--F**	**33.67**	**38**	P		**P**	**23**	**53**	**07.0**	**+2.0**
	4.6nm,0.5s,baz=154,slow=0.6,SNR=11									
CMAR	**Chiang Mai Arr**	**37.88**	**261**	P		**P**	**23**	**53**	**39.7**	**-0.9**
	0.9nm,0.3s,baz=58,slow=6.5,SNR=6.3									
ZALV	**Zalesovo Beam**	**44.93**	**317**	P		**P**	**23**	**54**	**35.6**	**-0.7**
	0.5nm,0.4s,baz=101,slow=7.5,SNR=3.2									
MKAR	**Makanchi Array**	**45.97**	**307**	P		**P**	**23**	**54**	**44.5**	**0.0**
	0.4nm,0.6s,baz=95,slow=6.2,SNR=2.5									
MKAR				ScP		**ScP**	**23**	**59**	**22.6**	**-1.2**
	0.6nm,0.8s,baz=94,slow=3.6,SNR=5.1									
KURBB	**Kurchatov Arra**	**48.49**	**312**	P		**P**	**23**	**55**	**02.8**	**-0.8**
	0.7nm,0.5s,baz=91,slow=7.8,SNR=14									
WRA	**Warramunga Arr**	**50.27**	**185**	P		**P**	**23**	**55**	**16.2**	**-0.9**
	8.5nm,0.4s,baz=2.7,slow=7.9,SNR=278									
WRA				pP		**pP**	**23**	**56**	**44.4**	**+1.2**
	1.3nm,1.0s,baz=4.3,slow=8.1,SNR=3.0									
BVAR	**Borovoye Array**	**53.48**	**316**	P		**P**	**23**	**55**	**39.6**	**-0.5**
	0.8nm,0.3s,baz=98,slow=8.4,SNR=12									
KDAK	**Kodiak Island**	**53.62**	**38**	P		**P**	**23**	**55**	**42.3**	**+1.4**
	2.9nm,0.3s,baz=277,slow=4.8,SNR=9.4									
ASAR	**Alice Springs**	**53.99**	**185**	P		**P**	**23**	**55**	**43.4**	**-0.7**
	4.7nm,0.6s,baz=16,slow=12,SNR=78									
ASAR				pP		**pP**	**23**	**57**	**13.9**	**+2.1**
	0.3nm,0.4s,baz=0.7,slow=6.5,SNR=2.8									
ILAR	**Eielson Array**	**56.32**	**30**	P		**P**	**23**	**56**	**00.3**	**+0.5**
	0.6nm,0.6s,baz=253,slow=5.2,SNR=8.8									
INK	**Inuvik**	**61.31**	**25**	P		**P**	**23**	**56**	**34.2**	**+0.6**
	0.7nm,0.4s,baz=304,slow=7.2,SNR=4.5									
STKA	**Stephens Creek**	**62.04**	**177**	P		**P**	**23**	**56**	**38.3**	**-0.6**
	5.0nm,0.6s,baz=316,slow=7.9,SNR=13									
KEV	**Kevo**	**68.79**	**340**	*e*p		**P**	**23**	**57**	**21.1**	**+0.1**
	0.3nm,0.3s									
ARCES	**ARCESS Array B**	**69.35**	**340**	P		**P**	**23**	**57**	**24.8**	**+0.3**
	2.0nm,0.4s,baz=65,slow=8.7,SNR=27									
YKA	**Yellowknife Ar**	**70.67**	**28**	P		**P**	**23**	**57**	**33.1**	**+0.7**
	1.0nm,0.7s,baz=294,slow=6.2,SNR=5.6									
KAF	**Kangasniemi**	**73.11**	**333**	*e*p		**P**	**23**	**57**	**45.2**	**-1.5**
	0.9nm,0.4s									
FINES	**FINESS Array B**	**73.57**	**332**	P		**P**	**23**	**57**	**49.1**	**-0.2**
	1.7nm,0.4s,baz=70,slow=5.7,SNR=29									
FINES				pP		**pP**	**23**	**59**	**22.4**	**-1.4**
	3.0nm,1.0s,baz=62,slow=4.5,SNR=1.8									
NB2	**NORSAR Subarra**	**79.34**	**337**	P		**P**	**23**	**58**	**20.9**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=45,slow=5.3									
NOA	**NORSAR Array B**	**79.34**	**337**	P		**P**	**23**	**58**	**20.9**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=45,slow=5.0,SNR=5.8									
PDAR	**Pinedale Array**	**83.98**	**43**	P		**P**	**23**	**58**	**46.6**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=318,slow=4.2,SNR=4.1									
TXAR	**Lajitas Array**	**96.01**	**51**	P		**P**	**23**	**59**	**43.6**	**+1.5**
	comp=Z,0.1nm,0.6s,baz=296,slow=4.6,SNR=2.7									
TXAR				pP		**pP**	**00**	**01**	**19.7**	**-1.7**
	comp=Z,0.1nm,0.6s,baz=329,slow=41,SNR=2.5									
TORD	**Torodi Ar. Bea**	**120.05**	**310**	PKP		**PKPdf**	**00**	**05**	**02.3**	**-0.9**
	comp=Z,0.4nm,1.1s,baz=51,slow=1.6,SNR=4.0									
BOSA	**Boshof**	**122.79**	**254**	PKP		**PKPdf**	**00**	**05**	**08.2**	**0.0**
	comp=Z,2.1nm,0.9s,baz=180,slow=3.0,SNR=2.9									

*NSSC **19** 23:47:40.7±4.5,36˚.44N×41˚.17E,h68km±53km,MD1.5, ML2.1*

*ISK **19** 23:47:44.1,36˚.38N×40˚.88E,h5km,MD3.2*

*ISCJB **19** 23:47:45.7±0.8,36˚.39N±0˚.03×40˚.88E±0˚.05,h4km±7km, Error ellipse: s-maj=6.5km s-min=4.9km az=20.2*

*CSEM **19** 23:47:45.7±0.3,36˚.42N×40˚.88E,h2km,ML1.9,Error ellipse: s-maj=7.6km s-min=6.6km az=142.0*

*DDA **19** 23:47:46.0,36˚.41N×41˚.31E,h7km,MD3.5*

ISC 19 23:47:43.8±1.3,36˚.36N±0˚.04×41˚.01E±0˚.03,h3km±11km, n25,σ1°16/37,2C-2D,Iraq

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
MZRK	**Al-Mazaregh**	**0.60**	**209**	⇑*e*P		**Pb**	**23**	**47**	**57.6**	**+0.6**
MZRK				*e*S		**Sb**	**23**	**48**	**06.3**	**+0.3**
MZRK				AML		AML	23	48	18.5	
	comp=E,48nm,0.3s									
MZRK				AML		AML	23	48	21.5	
	comp=N,124nm,0.6s									
MZRK				AML		AML	23	48	22.0	
	comp=Z,94nm,0.4s									
MZRK	**Al-Mazaregh**	**0.60**	**209**	⇑*e*P		**Pb**	**23**	**47**	**57.6**	**+0.6**
	SNR=75									
MZRK				*e*S		**Sb**	**23**	**48**	**06.3**	**+0.3**
	comp=Z,94nm,0.4s,SNR=59									
SFNV	**Sufian**	**0.73**	**275**	⇓*e*P		**Pg**	**23**	**47**	**56.9**	**-0.9**
SFNV				*e*S		**Sg**	**23**	**48**	**08.0**	**+0.7**
SFNV				AML		AML	23	48	10.0	
	comp=E,81nm,0.3s									
SFNV				AML		AML	23	48	12.6	
	comp=N,68nm,0.2s									
SFNV				AML		AML	23	48	14.9	
	comp=Z,36nm,0.5s									
SFNV	**Sufian**	**0.73**	**275**	⇓*e*P		**Pg**	**23**	**47**	**56.9**	**-0.9**
	SNR=75									
SFNV				*e*S		**Sg**	**23**	**48**	**08.0**	**+0.7**
	comp=Z,36nm,0.5s,SNR=59									
KBSD	**Kabsdagh**	**0.75**	**330**	*e*P		**Pg**	**23**	**47**	**56.9**	**-1.2**
KBSD				*e*S		**Sg**	**23**	**48**	**07.6**	**-0.2**
KBSD				AML		AML	23	48	09.9	
	comp=N,95nm,0.4s									
KBSD				AML		AML	23	48	11.5	
	comp=E,44nm,0.3s									
KBSD				AML		AML	23	48	14.1	
	comp=Z,49nm,0.7s									
KBSD	**Kabsdagh**	**0.75**	**330**	*e*P		**Pg**	**23**	**47**	**56.9**	**-1.2**
	SNR=75									
KBSD				*e*S		**Sg**	**23**	**48**	**07.6**	**-0.2**
	comp=Z,49nm,0.7s,SNR=59									
MARD	**Mardin**	**0.97**	**349**	*e*P		**Pn**	**23**	**48**	**04.0**	**-0.5**
MARD				*e*S		**Sn**	**23**	**48**	**18.5**	**-0.4**
MAZI	**Mazidag**	**1.19**	**338**	*e*PN		**Pg**	**23**	**48**	**06.6**	**-0.1**
MAZI				*e*SN		**Sn**	**23**	**48**	**23.5**	**-0.7**
MAZI	**Mazidag**	**1.19**	**338**	*e*Pn		**Pg**	**23**	**48**	**06.6**	**-0.1**
MAZI				*e*Sn		**Sn**	**23**	**48**	**23.5**	**-0.7**
MNKR	**ALMNKUR**	**1.47**	**254**	*e*P		Pn	23	48	04.4	-6.8
MNKR				*e*S		**Sn**	**23**	**48**	**29.4**	**-1.6**
BEST	**Besiri**	**1.54**	**8**	*e*P		**Pg**	**23**	**48**	**14.0**	**+0.6**
BEST				*e*S		**Sg**	**23**	**48**	**35.9**	**+2.4**
SIRT	**Sirnak**	**1.61**	**45**	*e*PN		**Pg**	**23**	**48**	**15.5**	**+0.7**
SIRT	**Sirnak**	**1.61**	**45**	*e*Pn		**Pg**	**23**	**48**	**15.5**	**+0.7**
URFA	**Urfa**	**2.06**	**302**	*e*PN		**Pn**	**23**	**48**	**19.0**	**-0.5**
URFA	**Urfa**	**2.06**	**302**	*e*Pn		**Pn**	**23**	**48**	**19.0**	**-0.5**
CUKT	**Cukurca**	**2.26**	**66**	*e*PN		**Pb**	**23**	**48**	**25.8**	**+0.4**
CUKT	**Cukurca**	**2.26**	**66**	*e*Pn		**Pb**	**23**	**48**	**25.8**	**+0.4**
SVRC	**Sivrice-ELAZID**	**2.43**	**327**	*e*PN		**Pn**	**23**	**48**	**25.7**	**+1.1**
SVRC	**Sivrice-ELAZID**	**2.43**	**327**	*e*Pn		**Pn**	**23**	**48**	**25.7**	**+1.1**
HAKT	**HAKKARI**	**2.47**	**60**	*e*P		**Pb**	**23**	**48**	**27.4**	**-1.6**
HAKT				*e*S		**Sg**	**23**	**49**	**01.5**	**-1.6**
HAKT	**HAKKARI**	**2.47**	**60**	*e*P		**Pb**	**23**	**48**	**27.4**	**-1.6**
HAKT				*e*S		**Sg**	**23**	**49**	**01.5**	**-1.6**
PTK	**Pertek**	**2.84**	**334**	*e*PN		**Pn**	**23**	**48**	**32.2**	**+2.1**
PTK	**Pertek**	**2.84**	**334**	*e*Pn		**Pn**	**23**	**48**	**32.3**	**+2.1**
MYA	**Malataya**	**2.85**	**314**	*e*PN		**Pn**	**23**	**48**	**31.8**	**+1.5**
MYA	**Malataya**	**2.85**	**314**	*e*Pn		**Pn**	**23**	**48**	**31.8**	**+1.5**

WEL 19 23:55:00.6±0.1,40˚.47S×173˚.38E,h5km,ML3.5/30,3C-3D, Error ellipse: s-maj=0.9km s-min=0.8km az=90.0,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
DUWZ	**D'Urville Isla**	**0.53**	**129**	⇓PG		Pb	23	55	11.9	-0.6
DUWZ				AML		AML	23	55	20.6	
DUWZ				AML		AML	23	55	21.7	
QRZ	**Quartz Range**	**0.74**	**241**	⇓P*		Pg	23	55	15.1	+0.3
QRZ				S*		Sg	23	55	25.3	+0.9
QRZ				AML		AML	23	55	26.0	
NNZ	**Nelson**	**0.75**	**180**	P*		Pg	23	55	15.1	+0.2
NNZ				S*		Sb	23	55	25.8	-0.8
NNZ				AML		AML	23	55	26.2	
TCW	**Tory Channel**	**1.01**	**138**	⇓P*		Pg	23	55	19.5	-0.4
TCW				S*		Sg	23	55	33.3	+0.3
TCW				AML		AML	23	55	34.5	
TUWZ	**Tuamarina**	**1.05**	**156**	⇑P*		Pg	23	55	20.2	-0.6
TUWZ				AML		AML	23	55	34.1	
TUWZ				AML		AML	23	55	35.4	
KIW	**Kapiti Island**	**1.23**	**109**	P*		Pg	23	55	23.4	-0.8
KIW				S*		Sg	23	55	39.2	-1.0
KIW				AML		AML	23	55	41.0	
KHEZ	**Kahui Hut**	**1.27**	**23**	P*		Pg	23	55	23.7	-1.4
BSWZ	**Blackbirch Sta**	**1.30**	**163**	P*		Pn	23	55	24.9	-0.6
BSWZ				AML		AML	23	55	42.6	
BSWZ				AML		AML	23	55	43.3	
SNZO	**South Karori**	**1.31**	**130**	P*		Pn	23	55	24.6	-0.9
SNZO				AML		AML	23	55	45.8	
SNZO				AML		AML	23	55	47.2	
WEL	**Wellington**	**1.33**	**128**	P*		Pn	23	55	25.4	-0.4
WEL				S*		Sg	23	55	42.4	-1.0
THZ	**Tophouse**	**1.34**	**195**	⇑P*		Pn	23	55	24.6	-1.4
THZ				S*		Sb	23	55	42.5	-1.3
THZ				AML		AML	23	55	44.5	
PKE	**Pukeiti**	**1.36**	**20**	AML		AML	23	55	48.5	
PKE				AML		AML	23	55	55.2	
OGWZ	**Otaki Gorge**	**1.41**	**105**	PN		Pn	23	55	26.2	-0.7
CMWZ	**Cape Campbell**	**1.42**	**154**	PN		Pn	23	55	27.1	0.0
CMWZ				AML		AML	23	55	52.2	
CMWZ				AML		AML	23	56	01.9	
WAZ	**Wanganui**	**1.43**	**60**	PN		Pn	23	55	26.6	-0.6
WAZ				AML		AML	23	55	52.0	
WAZ				AML		AML	23	55	56.9	
BHW	**Baring Head**	**1.47**	**130**	*e*PN		Pn	23	55	27.1	-0.6
BHW				AML		AML	23	55	48.8	
BHW				AML		AML	23	55	51.7	
HOWZ	**Holdsworth Sta**	**1.68**	**105**	PN		Pn	23	55	30.5	-0.2
MRZ	**Mangatainoka R**	**1.69**	**97**	PN		Pn	23	55	30.0	-0.7
MRZ				AML		AML	23	55	54.7	
MRZ				AML		AML	23	55	55.0	
MSWZ	**Moikau Station**	**1.70**	**124**	PN		Pn	23	55	30.7	-0.3
MSWZ				AML		AML	23	55	57.4	
MSWZ				AML		AML	23	55	57.5	
VRZ	**Vera Road**	**1.71**	**39**	AML		AML	23	56	06.5	
VRZ				AML		AML	23	56	07.6	
MTW	**Mount Morrison**	**1.75**	**114**	PN		Pn	23	55	30.6

AQU	**L'Aquila**	**0.16**	**296**	Pg	Pg	00 17 56.2	+0.4
AQU				Sg	Sg	00 17 59.5	+1.1
VCEL	**Villa Celiera**	**0.21**	**59**	Pg	Pg	00 17 57.5	+0.6
VCEL				Sg	Sg	00 18 01.4	+1.3
VCEL	**Villa Celiera**	**0.21**	**59**	Pg	Pg	00 17 57.5	+0.6
VCEL				Sg	Sg	00 18 01.4	+1.3
CAMP	**Campotosto**	**0.28**	**332**	Pg	Pg	00 17 58.2	0.0
CAMP				Sg	Sg	00 18 03.2	+1.0
	135nm,1.1s						
CAMP	**Campotosto**	**0.28**	**332**	Pg	Pg	00 17 58.2	0.0
CAMP				Sg	Sg	00 18 03.2	+1.0
	135nm,1.1s						
TERO	**Teramo**	**0.34**	**1**	Pg	Pg	00 17 59.0	-0.1
TERO				Sg	Sb	00 18 05.1	-0.8
	59nm,0.3s						
TERO	**Teramo**	**0.34**	**1**	Pg	Pg	00 17 59.0	-0.1
TERO				Sg	Sb	00 18 05.1	-0.8
	59nm,0.3s						
FIAM	**Fiamignano**	**0.35**	**267**	Pg	Pg	00 17 59.7	+0.3
FIAM				Sg	Sb	00 18 05.5	-0.9
FIAM	**Fiamignano**	**0.35**	**267**	Pg	Pg	00 17 59.7	+0.3
FIAM				Sg	Sb	00 18 05.5	-0.9
VVLD	**Villa Vallelon**	**0.41**	**177**	Pg	Pg	00 18 00.9	+0.4
	46nm,0.8s						
VVLD	**Villa Vallelon**	**0.41**	**177**	Pg	Pg	00 18 00.9	+0.4
	46nm,0.8s						
LPEL	**Lama dei Pelig**	**0.50**	**118**	Pg	Pg	00 18 02.2	+0.1
LPEL				Sg	Sb	00 18 10.1	-0.4
	59nm,0.4s						
LPEL	**Lama dei Pelig**	**0.50**	**118**	Pg	Pg	00 18 02.2	+0.1
LPEL				Sg	Sb	00 18 10.1	-0.4
	59nm,0.4s						

MAN 20 01:25:16,18′.65N×120′.78E, h21km, mb3.7, ML2.4, MS2.0, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.35**	**205**	⇓*iP*	Pn	01 25 25.7	-0.2
PIP				*eS*	Sn	01 25 34.2	+1.9
SIPP	**Brgy, Tapao**	**0.78**	**203**	⇓*eP*	Pn	01 25 32.5	+0.7
APYP	**Conner**	**0.90**	**150**	*eP*	Pb	01 25 32.6	-0.2
APYP				*eS*	Sn	01 25 47.2	+1.5
ABRA	**Dolores**	**0.99**	**184**	*eP*	Pn	01 25 35.0	+0.3
ABRA				*eS*	Sn	01 25 48.9	+0.8
CAUP	**Cauayan**	**1.96**	**149**	*eP*	Pb	01 25 50.7	-0.3
PALP	**Palanan**	**2.22**	**135**	*eP*	Pn	01 25 52.4	+0.8

WEL 20 01:29:47.5±0.5, 46′.12S×166′.15E, h26km±1km, ML3.6/14, 1C, Error ellipse: s-maj=4.6km s-min=2.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.37**	**98**	⇑P*	Pb	01 29 55.5	-0.3
PYZ				S*	Sb	01 30 01.0	-0.3
DCZ	**Deep Cove**	**0.95**	**48**	PN	Pn	01 30 04.4	-0.7
DCZ				AML	AML	01 30 19.3	
DCZ				AML	AML	01 30 21.7	
WHZ	**Wether Hill Ro**	**1.27**	**81**	PN	Pn	01 30 09.6	0.0
WHZ				SN	Sn	01 30 25.9	+0.2
WHZ				AML	AML	01 30 29.2	
APZ	**The Paps**	**1.46**	**120**	PN	Pn	01 30 11.1	-1.1
MLZ	**Mavora Lakes**	**1.61**	**62**	PN	Pn	01 30 15.4	+1.1
MLZ				AML	AML	01 30 42.7	
MLZ				AML	AML	01 31 40.1	
MSZ	**Milford Sound**	**1.91**	**42**	PN	Pb	01 30 21.5	-0.2
MSZ				AML	AML	01 30 53.5	
MSZ				AML	AML	01 30 54.7	
SYZ	**Scrubby Hill**	**2.11**	**103**	PN	Pn	01 30 21.7	+0.6
EAZ	**Earnscleugh**	**2.38**	**69**	PN	Pn	01 30 27.0	+2.2
EAZ				SN	Sb	01 30 57.6	-1.1
EAZ				AML	AML	01 31 02.5	
WKZ	**Wanaka**	**2.39**	**58**	PN	Pb	01 30 28.6	-1.4
WKZ				AML	AML	01 31 01.9	
TUZ	**Tuapeka**	**2.43**	**87**	PN	Pn	01 30 26.7	+1.2
TUZ				AML	AML	01 30 59.2	
TUZ				AML	AML	01 31 01.4	
JCZ	**Jackson Bay**	**2.75**	**43**	PN	Pb	01 30 33.6	-2.6
JCZ				AML	AML	01 31 15.9	
JCZ				AML	AML	01 31 17.6	
LBZ	**Lake Benmore**	**3.33**	**60**	PN	Pn	01 30 39.8	+1.8
ODZ	**Otahua Downs**	**3.33**	**73**	PN	Pn	01 30 38.3	+0.4
FOZ	**Fox Glacier**	**3.58**	**46**	PN	Pn	01 30 45.7	+4.4

WEL 20 01:30:53.7±0.3, 45′.54S×166′.48E, h16km±1km, ML3.5/10, 1D, Error ellipse: s-maj=2.9km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.48**	**82**	P*	Pg	01 31 02.7	-0.5
DCZ				S*	Sg	01 31 08.4	-1.2
DCZ				AML	AML	01 31 08.7	
DCZ				AML	AML	01 31 09.3	
DCZ				AML	AML	01 31 19.9	
PYZ	**Puysegur Point**	**0.64**	**168**	⇓P*	Pg	01 31 05.3	-1.0
WHZ	**Wether Hill Ro**	**1.08**	**109**	P*	Pb	01 31 13.5	-0.6
WHZ				AML	AML	01 31 36.6	
WHZ				AML	AML	01 31 36.8	
MLZ	**Mavora Lakes**	**1.21**	**81**	PN	Pn	01 31 14.7	-1.3
MLZ				AML	AML	01 31 31.9	
MLZ				AML	AML	01 31 32.4	
MSZ	**Milford Sound**	**1.34**	**50**	PN	Pg	01 31 20.4	+0.8
MSZ				SN	Sg	01 31 38.2	+1.2
MSZ				AML	AML	01 31 39.4	
APZ	**The Paps**	**1.66**	**142**	PN	Pn	01 31 22.3	0.0
EAZ	**Earnscleugh**	**2.01**	**82**	PN	Pb	01 31 29.1	-0.9
EAZ				AML	AML	01 31 58.5	
EAZ				AML	AML	01 31 58.6	
EAZ				AML	AML	01 31 59.5	
EAZ				AML	AML	01 31 59.7	

DJA 20 01:33:29.4±0.4, 9′.S±4″×11′.8E±″, h48km±45km, M4.3/9, MLv4.3/9, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.96**	**121**	P	Pn	01 34 01.2	+0.9
WBSI				S	Sn	01 34 17.8	-6.0
KHKI	**Kahang-Kahang**	**2.07**	**277**	P	Pn	01 34 00.1	-1.6
DNP	**Denpasar**	**2.44**	**269**	P	Pn	01 34 07.7	+0.9
SRBI	**Singaraja**	**2.50**	**283**	P	Pn	01 34 07.6	0.0
SRBI				S	Sn	01 34 37.7	+0.7
IGBI	**Denpasar**	**2.51**	**266**	P	Pn	01 34 07.7	-0.1
IGBI				S	Sn	01 34 38.8	+1.6
WSI	**Waingapu**	**2.78**	**112**	S	Sn	01 34 45.2	+1.4
BASI	**Baing, Sumba**	**3.26**	**119**	P	Pn	01 34 18.1	0.0
BSSI	**Bau Bau, Buton**	**3.73**	**49**	P	Pn	01 34 24.1	-0.4
BSSI				S	Sn	01 35 10.1	+2.8
BKSI	**Bulukumba**	**4.09**	**36**	P	Pn	01 34 29.0	-0.5
BKSI				S	Sn	01 35 18.4	+2.3
BLJI	**Banyuglugur**	**4.14**	**282**	P	Pn	01 34 30.9	+0.8
GMJI	**Gumukmas**	**4.21**	**275**	P	Pn	01 34 30.3	-0.7
MMRI	**Maumere**	**4.51**	**90**	P	Pn	01 34 35.2	0.0
MMRI				S	Sn	01 35 28.1	+1.7

*IDC **20** 01:50:21.2±5.3, 38°.22N×73°.53E, h106km±46km, mb3.5/4, mb1 3.4/9, mb1mx3.2/31, mbtmp3.4/9, Error ellipse: s-maj=52.7km s-min=39.7km az=106.0*

*ISCJB **20** 01:50:23.1±1.3, 38°.43N±0′.10×73′.4E±0′.1, h127km, mb3.8/4, Error ellipse: s-maj=16.7km s-min=12.4km az=35.4*

*NNC **20** 01:50:27.6±7.9, 38°.46N×71′.44E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=107.1km s-min=38.9km az=109.0*

ISC 20 01:50:24.0±1.7, 38′.4N±0′.1×73′.4E±0′.1, h127km, n13, σ1s05/15, mb3.7/4, 1C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.27**	**11**	P	**Pn**	**01 51 28.2**	**+0.8**
	1.0nm,0.3s,baz=185,slow=12,SNR=4.0						
AAK				S	**Sn**	**01 52 17.7**	**+1.1**
	1.3nm,0.3s,baz=331,slow=19,SNR=4.7						
KK31	**Karatay Array**	**5.16**	**336**	⇓P	**Pn**	**01 51 40.0**	**+0.9**
	6.3nm,0.3s,baz=147,slow=13,SNR=239						
KK31				⇑S	**Sn**	**01 52 35.8**	**-1.8**
	26nm,0.8s,baz=154,slow=24,SNR=20						
MKAR	**Makanchi Array**	**10.60**	**35**	P	**Pn**	**01 52 51.6**	**-0.7**
	0.1nm,0.3s,baz=214,slow=13,SNR=4.4						
KURBB	**Kurchatov Arra**	**12.71**	**15**	P	**P**	**01 53 24.7**	**-1.5**
	0.1nm,0.3s,baz=206,slow=9.9,SNR=7.0						
AB31	**Akbulak array**	**14.52**	**322**	P	**Pn**	**01 53 42.9**	**-0.3**
	0.7nm,0.4s,baz=138,slow=13,SNR=18						
BVAR	**Bovovye Array**	**14.74**	**353**	P	**P**	**01 53 48.8**	**+0.1**
	0.3nm,0.3s,baz=161,slow=9.8,SNR=9.1						
AKTO	**Aktyubinsk**	**16.23**	**323**	⇓P	**Pn**	**01 54 04.4**	**-0.2**
	2.6nm,0.8s						
AKTO	**Aktyubinsk**	**16.23**	**323**	P	**P**	**01 54 05.1**	**-0.2**
	0.5nm,0.3s,baz=121,slow=13,SNR=9.1						
ZALV	**Zalesovo Beam**	**17.37**	**23**	P	**Pn**	**01 54 17.6**	**-0.6**
	0.4nm,0.3s,baz=218,slow=13,SNR=5.9						
FINES	**FINESS Array B**	**37.00**	**324**	P	**P**	**01 57 22.1**	**+1.3**
	4.5nm,1.1s,baz=116,slow=8.7,SNR=7.0						
ARCES	**ARCESS Array B**	**40.12**	**336**	P	**P**	**01 57 48.2**	**+1.4**
	1.3nm,0.6s,baz=106,slow=8.9,SNR=13						
NOA	**NORSAR Array B**	**44.02**	**322**	P	**P**	**01 58 19.3**	**+0.7**
	0.7nm,0.6s,baz=92,slow=7.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**67.68**	**269**	P	**P**	**02 01 07.4**	**-0.4**
	0.2nm,0.3s,baz=46,slow=6.0,SNR=9.7						

WEL 20 01:59:06.2±0.2, 46′.25S×165′.48E, h33km, ML4.0/16, Error ellipse: s-maj=1.8km s-min=1.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.84**	**85**	PN	Pn	01 59 21.3	-0.4
PYZ				SN	Sn	01 59 31.9	-1.0
DCZ	**Deep Cove**	**1.40**	**57**	PN	Pn	01 59 29.2	-0.2
DCZ				AML	AML	01 59 51.4	
DCZ				AML	AML	01 59 51.4	
DCZ				AML	AML	02 00 02.3	
DCZ				AML	AML	02 00 02.3	
WHZ	**Wether Hill Ro**	**1.76**	**79**	PN	Pn	01 59 35.4	+1.1
WHZ				SN	Sn	01 59 57.0	+1.4
WHZ				AML	AML	02 00 02.8	
APZ	**The Paps**	**1.83**	**110**	PN	Pn	01 59 36.4	+1.0
MLZ	**Mavora Lakes**	**2.09**	**65**	PN	Pn	01 59 40.4	+1.4
MLZ				AML	AML	02 00 13.1	
MLZ				AML	AML	02 00 13.5	
MSZ	**Milford Sound**	**2.34**	**48**	PN	Pn	01 59 44.0	+1.8
MSZ				AML	AML	02 00 24.0	
MSZ				AML	AML	02 00 27.9	
SYZ	**Scrubby Hill**	**2.55**	**98**	PN	Pn	01 59 47.2	+2.0
WKZ	**Wanaka**	**2.87**	**62**	PN	Pn	01 59 52.4	+2.8
WKZ				AML	AML	02 00 40.1	
WKZ				AML	AML	02 00 43.5	
EAZ	**Earnscleugh**	**2.87**	**71**	PN	Pn	01 59 51.9	+2.3
EAZ				AML	AML	02 00 31.2	
EAZ				AML	AML	02 00 42.1	
TUZ	**Tuapeka**	**2.91**	**86**	PN	Pn	01 59 52.4	+2.3
TUZ				AML	AML	02 00 33.5	
TUZ				AML	AML	02 00 39.2	
JCZ	**Jackson Bay**	**3.18**	**48**	PN	Pn	01 59 55.6	+1.5
JCZ				AML	AML	02 00 51.7	
JCZ				AML	AML	02 00 53.7	
LBZ	**Lake Benmore**	**3.81**	**62**	PN	Pn	02 00 03.3	+0.7
LBZ				AML	AML	02 01 15.1	
LBZ				AML	AML	02 01 35.8	
ODZ	**Otahua Downs**	**3.82**	**73**	PN	Pn	02 00 02.9	+0.2
ODZ				AML	AML	02 01 08.6	
ODZ				AML	AML	02 01 11.8	
FOZ	**Fox Glacier**	**4.02**	**50**	PN	Pn	02 00 07.7	+2.3

WEL 20 02:13:30.8±0.5, 46′.13S×165′.86E, h12km, ML3.6/14, 2D, Error ellipse: s-maj=4.9km s-min=2.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.57**	**94**	⇓P*	Pg	02 13 42.0	0.0
PYZ				S*	Sg	02 13 49.0	-0.5
DCZ	**Deep Cove**	**1.11**	**55**	P*	Pb	02 13 50.3	-1.7
DCZ				S*	Sb	02 14 04.3	-2.1
DCZ				AML	AML	02 14 05.2	
DCZ				AML	AML	02 14 05.2	
WHZ	**Wether Hill Ro**	**1.47**	**82**	PN	Pn	02 13 56.0	-1.1
WHZ				SN	Sn	02 14 14.0	-2.4
WHZ				AML	AML	02 14 18.8	
APZ	**The Paps**	**1.63**	**116**	PN	Pn	02 13 58.2	-1.2
MLZ	**Mavora Lakes**	**1.80**	**65**	PN	Pn	02 14 01.6	-0.1
MLZ				AML	AML	02 14 28.6	
MLZ				AML	AML	02 14 32.8	
MSZ	**Milford Sound**	**2.06**	**46**	PN	Pn	02 14 05.6	+0.5
MSZ				AML	AML	02 14 40.4	
MSZ				AML	AML	02 14 48.4	
SYZ	**Scrubby Hill**	**2.31**	**101**	PN	Pn	02 14 08.6	0.0
WKZ	**Wanaka**	**2.57**	**61**	PN	Pn	02 14 13.8	+1.5
WKZ				AML	AML	02 14 53.9	
WKZ				AML	AML	02 14 60.0	
EAZ	**Earnscleugh**	**2.58**	**71**	⇓PN	Pn	02 14 13.4	+1.0
EAZ				AML	AML	02 14 49.2	
EAZ				AML	AML	02 14 49.3	
TUZ	**Tuapeka**	**2.63**	**88**	PN	Pn	02 14 13.4	+0.4
TUZ				AML	AML	02 14 47.5	
TUZ				AML	AML	02 14 59.7	
JCZ	**Jackson Bay**	**2.90**	**46**	PN	Pn	02 14 17.9	+0.9
JCZ				AML	AML	02 15 06.3	
JCZ				AML	AML	02 15 07.5	
LBZ	**Lake Benmore**	**3.52**	**62**	PN	Pn	02 14 24.9	-0.3
ODZ	**Otahua Downs**	**3.53**	**74**	PN	Pn	02 14 24.3	-1.1
FOZ	**Fox Glacier**	**3.74**	**48**	PN	Pn	02 14 30.8	+2.6

*DJA **20** 02:17:28.9±1.1, 9′.S±6″×11′.8E±″, h10km, M4.1/11, MLv4.1/11*

*ISCJB **20** 02:17:30.3±0.5, 8′.87S±0′.06×117′.83E±0′.04, h33km, mb3.4/2, Error ellipse: s-maj=8.5km s-min=4.9km az=168.6*

*IDC **20** 02:17:36.5±2.4, 8′.72S×118°.93E, h0km, mb4.3/4.2, mb1 3.6/5, mb1mx3.4/23, mbtmp3.4/5, ML3.4/3, Error ellipse: s-maj=73.3km s-min=20.9km az=70.0*

ISC 20 02:17:31.9±1.0, 8′.90S±0′.06×117′.80E±0′.04, h35km, n18, σ2s14/20, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMNI	**Bima**	**0.96**	**68**	P	Pn	02 17 42.8	-6.0
KHKI	**Kahang-Kahang**	**2.23**	**284**	P	**Pn**	**02 18 05.3**	**-1.0**
DNP	**Denpasar**	**2.56**	**275**	S	**Sn**	**02 18 43.9**	**+2.9**
IGBI	**Denpasar**	**2.62**	**272**	P	**Pn**	**02 18 11.8**	**+0.1**
IGBI				S	**Sn**	**02 18 44.4**	**+2.1**
SRBI	**Singaraja**	**2.68**	**287**	P	**Pn**	**02 18 10.7**	**-1.8**
BASI	**Baing, Sumba**	**3.04**	**116**	P	**Pn**	**02 18 19.5**	**+2.0**
BYJI	**Banyuwangi**	**3.47**	**281**	P	**Pn**	**02 18 21.1**	**-2.3**
BSSI	**Bau Bau, Buton**	**3.83**	**44**	P	**Pn**	**02 18 29.1**	**+0.8**
BSSI				S	**Sn**	**02 19 14.6**	**+2.5**
BKSI	**Bulukumba**	**4.24**	**33**	P	**Pn**	**02 18 34.6**	**+0.6**
BLJI	**Banyuglugur**	**4.31**	**285**	P	**Pn**	**02 18 36.2**	**+1.2**
KAPI	**Kappang**	**4.32**	**27**	P	**Pn**	**02 18 33.9**	**-1.2**
KAPI	**Kappang**	**4.32**	**27**	Pn	**Pn**	**02 18 34.1**	**-1.0**
	5.1nm,0.3s,baz=205,slow=10,SNR=15						
KAPI				Sn	**Sn**	**02 19 23.4**	**-0.9**
	6.8nm,0.3s,baz=234,slow=22,SNR=11						
GMJI	**Gumukmas**	**4.35**	**278**	P	**Pn**	**02 18 35.2**	**-0.3**
MMRI	**Maumere**	**4.40**	**87**	P	**Pn**	**02 18 35.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**11.90**	**141**	Pn	**Pn**	**02 20 18.6**	**-0.6**
	0.2nm,0.3s,baz=332,slow=15,SNR=5.1						
FITZ				Sn	**Sn**	**02 22 25.5**	**-5.4**
	0.1nm,0.3s,baz=198,slow=20,SNR=3.9						
WRA	**Warramunga Arr**	**19.40**	**126**	P	**Pn**	**02 21 56.0**	**-0.5**
	0.1nm,0.3s,baz=298,slow=14,SNR=8.2						
ASAR	**Alice Springs**	**21.29**	**136**	P	**P**	**02 22 18.5**	**+2.9**
	1.0nm,0.6s,baz=312,slow=9.2,SNR=19						
SONM	**Songino Array**	**57.38**	**351**	P	P	02 27 27.1	+10
	0.2nm,0.5s,baz=176,slow=5.8,SNR=3.1						

*NOU **20** 02:26:13.9±0.3, 19°.83S×169°.12E, h30km, MD2.6, ML2.2*

IDC 20 02:26:16.2±7.3, 21°.28S×169°.79E, h86km±47km, mb3.2/2, mb1 3.5/3, mb1mx3.2/18, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=192.3km s-min=49.7km az=159.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**2.84**	**252**	*eS*	Sn	02 27 33.8	+0.9
BAYA				AMP		02 27 35.9	
	comp=Z,11nm,4.9s						
DZM	**Mont Dzumac**	**3.21**	**255**	P	Pn	02 27 04.6	-0.1
	comp=Z,4.6nm,0.3s,baz=90,slow=24,SNR=17						
DZM				S	Sn	02 27 42.5	+0.4
	comp=Z,19nm,0.3s,baz=273,slow=24,SNR=16						
NORM	**Noumea**	**3.22**	**252**	*eP*	Pn	02 27 04.2	-0.4
NORM				*eS*	Sn	02 27 41.3	-0.7
NORM				AMP		02 27 44.7	
	comp=Z,87nm,4.0s						
MVNO	**Noumea**	**3.27**	**252**	*eP*	Pn	02 27 04.7	-0.5
MVNO				*eS*	Sn	02 27 42.6	-0.6
MVNO				AMP		02 27 47.8	
	comp=Z,6.1nm,2.4s						
WRA	**Warramunga Arr**	**33.17**	**266**	P	P	02 32 44.6	-0.2
	comp=Z,0.3nm,0.5s,baz=99,slow=8.3,SNR=6.0						
ASAR	**Alice Springs**	**33.20**	**259**	P	P	02 32 45.0	0.0
	comp=Z,0.6nm,0.7s,baz=76,slow=8.7,SNR=4.5						
GERES	**GERESS Array B**	**146.52**	**331**	PKPbc	PKPbc	02 45 46.9	-0.7
	comp=Z,0.7nm,0.6s,baz=27,slow=2.4,SNR=8.6						

GUC 20 02:26:34.1±0.6, 35′.30S×70′.99W, h112km±5km, MD3.2, ML3.5, 4C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.53**	**259**	⇑*iP*	Pn	02 26 51.5	+0.1
TALC				*i* S	Sn	02 27 04.5	+0.1
TALC				AML	AML	02 27 06.7	
	comp=E,6μm,0.1s						
CACH	**El Canelo**	**1.23**	**15**	⇑*iP*	Pn	02 26 58.0	-0.1
CACH				*i* S	Sn	02 27 16.7	+0.5
LNV	**Longovilo**	**1.39**	**345**	⇓*iP*	Pn	02 27 00.0	+0.3
LNV				*i* S	Sn	02 27 19.6	+0.4
CHCH	**Chadas Angostu**	**1.39**	**12**	⇓*iP*	Pn	02 27 00.1	+0.2
CHCH				*i* S	Sn	02 27 20.5	+1.1
CCHI	**Chillan**	**1.57**	**214**	*eP*	Pn	02 27 02.4	+0.6
CCHI				*i* S	Sn	02 27 24.4	+1.5
CCHI				AML	AML	02 27 26.6	
	comp=N,138nm,0.4s						
LMEL	**Las Melosas**	**1.59**	**24**	⇑*iP*	Pn	02 27 02.6	+0.2
LMEL				AML	AML	02 27 30.5	
	comp=N,557nm,0.1s						
TACH	**Talagante**	**1.65**	**2**	⇓*iP*	Pn	02 27 03.1	+0.2
TACH				*i* S	Sn	02 27 25.0	+0.3
PCH	**Pirque**	**1.72**	**13**	⇓*iP*	Pn	02 27 04.3	+0.4
PCH				*i* S	Sn	02 27 27.5	+1.0
ANTU	**Antumapu**	**1.75**	**10**	⇓*iP*	Pn	02 27 04.9	+0.7
ANTU				*i* S	Sn	02 27 28.7	+1.6
PEL	**Peldehue**	**2.17**	**7**	⇓*iP*	Pn	02 27 09.9	+0.4
PEL				*i* S	Sn	02 27 36.8	+0.4
ROCH	**El Roble**	**2.32**	**360**	⇑*iP*	Pn	02 27 11.8	+0.2
ROCH				*i* S	Sn	02 27 41.3	+0.8
ROCH				AML	AML	02 27 46.3	
	comp=E,383nm,0.7s						
IHA	**Instituto Hidr**	**2.33**	**346**	*i* S	Sn	02 27 40.5	+0.4

IDC 20 02:50:38.3±1.5, 26′.75S×178′.00W, h189km, 13km, mb3.6/11, mb1 3.9/12, mb1mx3.8/19, mbtmp3.7/12, Error ellipse: s-maj=19.5km s-min=17.9km az=82.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.50**	**178**	P	Pn	02 51 21.8	+0.4
	138nm,0.3s,baz=68,slow=22,SNR=4.2						
RAO				S	Sn	02 51 55.5	+0.3
	480nm,0.3s,baz=86,slow=23,SNR=12						
URZ	**Urewera**	**12.20**	**199**	P	Pn	02 53 21.9	-4.0
	1.1nm,0.3s,baz=338,slow=5.4,SNR=3.8						
URZ				S	Sn	02 55 29.8	-12
	2.7nm,0.3s,baz=310,slow=23,SNR=8.3						
AFI	**Afiamalu**	**14.04**	**26**	P	Pn	02 53 43.3	-6.0
	3.9nm,0.3s,baz=160,slow=12,SNR=4.9						
AFI				S	Sn	02 56 06.2	-20
	2.2nm,0.3s,baz=80,slow=22,SNR=4.1						
ASAR	**Alice Springs**	**43.42**	**263**	P	P	02 58 22.3	-0.4
	0.7nm,0.6s,baz=94,slow=7.2,SNR=9.4						
WRA	**Warramunga Arr**	**44.08**	**268**	P	P	02 58 27.6	-0.3
	2.3nm,0.7s,baz=106,slow=7.7,SNR=13						
VNDA	**Vanda**	**51.72**	**185**	P	P	02 59 26.0	+0.4
	1.2nm,0.6s,baz=360,slow=8.3,SNR=7.4						
FITZ	**Fitzroy Crossi**	**52.45**	**267**	P	P	02 59 31.8	-0.1
	1.5nm,0.8s,baz=139,slow=11,SNR=3.2						
MJAR	**Matsushiro Arr**	**75.26**	**325**	P	P	03 02 00.3	0.0
	5.4nm,0.9s,baz=168,slow=5.6,SNR=11						
MAW	**Mawson**	**75.72**	**200**	P	P	03 02 02.6	0.0
	2.3nm,0.5s,baz=129,slow=5.0,SNR=12						
KSRS	**Korea Array**	**81.58**	**319**	P	P	03 02 36.3	+1.4
	2.8nm,0.8s,baz=125,slow=6.1,SNR=4.3						
PETK	**Petropavlovsk-**	**82.29**	**346**	P	P	03 02 38.4	+0.1
	4.2nm,0.8s,baz=157,slow=8.0,SNR=4.2						
NVAR	**Mina Array Bea**	**85.57**	**43**	P	P	03 02 55.9	+0.5
	0.5nm,0.7s,baz=239,slow=7.0,SNR=3.7						
PDAR	**Pinedale Array**	**93.49**	**43**	P	P	03 03 32.2	-0.5
	0.2nm,0.6s,baz=252,slow=4.6,SNR=2.3						
ILAR	**Eielson Array**	**94.38**	**13**	P	P	03 03 35.1	-0.8
	0.2nm,0.6s,baz=225,slow=5.1,SNR=4.2						
MKAR	**Makanchi Array**	**115.40**	**311**	PKP	PKPdf	03 08 56.1	-1.3
	0.1nm,0.5s,baz=98,slow=2.9,SNR=2.4						
FINES	**FINESS Array B**	**141.71**	**342**	PKhKP	PKPpre	03 09 40.4	
	0.7nm,0.4s,baz=36,slow=7.1,SNR=7.6						
NB2	**NORSAR Subarra**	**145.15**	**352**	PKP	PKPbc	03 09 51.9	-0.7
	comp=Z,1.6nm,0.8s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**145.15**	**352**	PKPbc	PKPbc	03 09 51.2	-1.4
	comp=Z,2.8nm,0.9s,baz=14,slow=5.0,SNR=6.0						
BRTR	**Keskin Array B**	**150.70**	**304**	PKPbc	PKPbc	03 10 07.7	-0.6
	comp=Z,0.5nm,0.5s,baz=145,slow=5.3,SNR=4.7						
BRTR				PKPab	PKPab	03 10 15.8

0.3nm,0.5s,baz=307,slow=4.8,SNR=3.9
TXAR Lajitas Array 119.72 45 PKP PKPdf 03 22 45.3 -3.8
0.1nm,0.4s,baz=40,slow=1.5,SNR=3.5

IDC 20 03:06:36.5±1.2, 24.45N×141.97E, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.5/23, mbtmp3.5/4, Error ellipse: s-maj=47.6km s-min=27.1km az=102.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.74**	**190**	P	P	03 14 51.7	-0.1
	0.7nm,0.4s,baz=10,slow=8.5,SNR=20						
MKAR	**Makanchi Array**	**52.04**	**311**	P	P	03 15 48.0	0.0
	0.1nm,0.4s,baz=87,slow=8.2,SNR=3.5						
ILAR	**Eielson Array**	**60.13**	**28**	P	P	03 16 45.5	-0.1
	0.3nm,0.9s,baz=257,slow=5.2,SNR=4.8						
YKA	**Yellowknife Ar**	**74.56**	**28**	P	P	03 18 16.9	-0.1
	0.6nm,0.6s,baz=300,slow=5.4,SNR=5.3						

IDC 20 03:23:26.0±24.0, 20.29S×179.71W, h584km±213km, mb2.4/3, mb1 2.8/3, mb1mx2.6/18, mbtmp2.4/3, Error ellipse: s-maj=293.0km s-min=51.6km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.00**	**257**	P	P	03 30 35.1	-0.2
	0.2nm,0.4s,baz=97,slow=7.9,SNR=5.3						
ASAR				PcP	PcP	03 32 12.1	-0.1
	0.6nm,0.8s,baz=96,slow=4.2,SNR=4.6						
WRA	**Warramunga Arr**	**43.04**	**262**	P	P	03 30 35.4	-0.2
	0.2nm,0.3s,baz=96,slow=7.0,SNR=14						
ILAR	**Eielson Array**	**88.48**	**13**	P	P	03 35 16.5	+0.2
	0.2nm,0.5s,baz=214,slow=5.3,SNR=4.6						
ARCES	**ARCESS Array B**	**128.42**	**349**	PKP	PKPdf	03 41 25.4	-0.9
	1.3nm,0.8s,baz=48,slow=1.3,SNR=4.7						
GERES	**GERESS Array B**	**149.54**	**342**	PKPbc	PKPbc	03 42 10.0	-0.2
	0.4nm,0.6s,baz=2.9,slow=5.9,SNR=5.0						

*AUST **20** 03:37:33.0±0.9, 8.99S×117.78E, h0km, Error ellipse: s-maj=0.7km s-min=0.4km az=23.0*
*ISCJB **20** 03:37:33.0±0.7, 8.93S±0.02×117.72E±0.01, h12km±4km, mb5.0/97, MS4.5/46, Error ellipse: s-maj=3.6km s-min=2.3km az=10.2*
*DJA **20** 03:37:33.9±0.1, 9°S±2°×11°8E±°, h10km, M5.5/61, mb5.4/61, mB5.8/31, MLv6.0/25, Mw(mB)5.4/31, Mwp6.5/1*
*IDC **20** 03:37:34.8±1.6, 8.71S×117.80E, h20km±9km, mb4.7/28, mb1 4.8/30, mb1mx4.8/33, mbtmp4.7/30, ML5.0/2, MS4.5/33, Ms1 4.5/33, ms1mx4.5/38, Error ellipse: s-maj=13.0km s-min=9.1km az=63.0*
*MOS **20** 03:37:35.4±1.5, 8.73S×117.88E, h33km, mb5.2/40, MS4.4/4, Error ellipse: s-maj=11.1km s-min=6.4km az=118.6*
*BJI **20** 03:37:35.4, 9.00S×117.60E, h40km, mB5.2/32, mb5.0/42, Ms4.9/42, Ms7 4.6/42*
*GCMT **20** 03:37:36.0±0.1, 8.89S×117.67E, h15km, MW5.2, Moment Tensor Solution. s58,c78; s95,c158; Moment tensor: Scale 10^16Nm; Mrr-1.47±.16; Mθθ-4.47±.14; Mϕϕ5.94±.18; Mrθ-0.39±.44; Mrϕ-7.04±.13; Mθr-1.70±.51; Best double couple: M₀8.90000×10^16 NP1:ϕs108.00000°, δ78.00000°, λ-178.00000°. NP2:ϕs18.00000°, δ88.00000°, λ-12.00000°. Principal axes: T 9.6500, Plg7.0000°, Azm64.0000°; N -1.4400, Plg78.0000°, Azm189.0000°; P -8.2100, Plg10.0000°, Azm333.0000°; Data Used: II IU IC G CN.*
*BKK **20** 03:37:36.0±0.2, 9°S±3°×11°8E±°, h10km, M5.3/36, mB5.5/15, mb5.1/36, MLv6.2/3, Mw(mB)5.0/15*
*NEIC **20** 03:37:36.3±1.9, 8.85S×117.79E, h31km±13km, mb5.1/29, Error ellipse: s-maj=8.6km s-min=5.3km az=55.0*
NEIC Felt [IV] at Sumbawa Besar and [III] at Bima. Also felt [III] at Mataram, Lombok. Felt [II] at Denpasar and Kuta, Bali. Also felt at Ubud.

ISC 20 03:37:37.1±0.3, 9.01S±0.03×117.73E±0.03, h33km±1km, h33km:pP-P, n434, σ1§82/480, mb5.1/106, MS4.6/48, 4C-6D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BMNI	**Bima**	**1.06**	**64**	P	Pn	03 37 46.9	-8.8
WBSI	**Waikabubak, Su**	**1.75**	**111**	P	**Pn**	**03 38 04.7**	**-0.6**
WBSI				S	**Sn**	**03 38 27.5**	**+1.0**
KHKI	**Kahang-Kahang**	**2.19**	**287**	P	**Pn**	**03 38 09.9**	**-1.4**
KHKI				S	**Sn**	**03 38 36.3**	**-1.0**
DNP	**Denpasar**	**2.51**	**277**	P	**Pn**	**03 38 15.9**	**+0.3**
DNP				S	**Sb**	**03 38 48.8**	**-3.3**
IGBI	**Denpasar**	**2.56**	**274**	P	**Pn**	**03 38 16.7**	**+0.4**
IGBI				S	**Sn**	**03 38 48.1**	**+1.7**
WSI	**Waingapu**	**2.62**	**105**	P	**Pn**	**03 38 18.1**	**+1.0**
WSI				S	**Sb**	**03 38 51.3**	**-3.8**
WSI	**Waingapu**	**2.62**	**105**	P	**Pn**	**03 38 17.3**	**+0.2**
	baz=2.6,SNR=16						
SRBI	**Singaraja**	**2.66**	**290**	P	**Pn**	**03 38 16.0**	**-1.6**
SRBI				S	**Sn**	**03 38 47.9**	**-0.8**
BASI	**Baing, Sumba**	**3.05**	**113**	P	**Pn**	**03 38 23.4**	**+0.3**
BYJI	**Banyuwangi**	**3.43**	**283**	P	**Pn**	**03 38 28.4**	**+0.1**
BYJI				S	**Sn**	**03 39 07.7**	**-0.1**
JAGI	**Jajag, Banyuwa**	**3.58**	**278**	P	**Pn**	**03 38 29.6**	**-0.8**
JAGI				S	**Sn**	**03 39 12.4**	**+0.9**
JAGI	**Jajag, Banyuwa**	**3.58**	**278**	P	**Pn**	**03 38 29.5**	**-0.8**
	baz=3.6,SNR=333						
JAGI				S	**Sn**	**03 39 12.8**	**+1.3**
	baz=3.6,SNR=5.3						
BSSI	**Bau Bau, Buton**	**3.95**	**44**	P	**Pn**	**03 38 33.7**	**-1.8**
BSSI				S	**Sn**	**03 39 18.2**	**-2.6**
KMMI	**Kalianget**	**4.21**	**297**	P	**Pn**	**03 38 38.1**	**-0.9**
BLJI	**Banyuglugur**	**4.28**	**287**	P	**Pn**	**03 38 39.1**	**-0.9**
BLJI				S	**Sn**	**03 39 29.9**	**+1.1**
GMJI	**Gumukmas**	**4.30**	**280**	P	**Pn**	**03 38 39.5**	**-0.8**
GMJI				S	**Sn**	**03 39 29.2**	**-0.1**
BKSI	**Bulukumba**	**4.37**	**33**	P	**Pn**	**03 38 38.9**	**-2.3**
BKSI				S	**Sn**	**03 39 29.1**	**-1.9**
KAPI	**Kappang**	**4.45**	**27**	Pn	Pn	03 38 38.4	-4.0
	5μm,0.9s						
KAPI	**Kappang**	**4.45**	**27**	*e*Pn	Pn	03 38 38.8	-3.6
KAPI				Sn	Sn	03 39 26.0	-7.1
KAPI	**Kappang**	**4.45**	**27**	P	Pn	03 38 39.0	-3.4
KAPI	**Kappang**	**4.45**	**27**	Pn	Pn	03 38 38.7	-3.7
	150nm,0.3s,baz=216,slow=8.4,SNR=182						
KAPI				Sn	Sn	03 39 26.0	-7.1
	253nm,0.3s,baz=250,slow=20,SNR=24						
KAPI				LR	LR	03 40 33.5	
	comp=Z,7μm,18.7s,baz=60,slow=43						
MMRI	**Maumere**	**4.47**	**86**	P	**Pn**	**03 38 44.3**	**+1.7**
MMRI				S	**Sn**	**03 39 37.8**	**+4.2**
KRKI	**Karangkates**	**5.29**	**279**	P	**Pn**	**03 38 56.9**	**+3.1**
KRKI				S	**Sn**	**03 39 55.8**	**+2.1**
SPSI	**Sidrap Palu**	**5.41**	**22**	P	**Pn**	**03 38 54.0**	**-1.5**
	423nm,0.9s,11μm4.4nm						
GRJI	**Gresik**	**5.60**	**291**	S	**Sn**	**03 40 01.4**	**-0.1**
PWJI	**Pagerwojo**	**5.94**	**279**	P	**Pn**	**03 39 02.6**	**-0.3**
	2μm,0.6s,27μm11nm						
PWJI				S	**Sn**	**03 40 09.6**	**-0.3**
	2μm,0.6s,27μm11nm						
BBSI	**Bau Bau**	**5.94**	**54**	P	**Pn**	**03 39 03.6**	**+0.7**
	481nm,1.0s,5μm1.8nm						
BATI	**Baumata**	**5.97**	**102**	P	**Pn**	**03 39 06.0**	**+2.7**
	735nm,0.7s						
BATI				S	**Sn**	**03 40 14.8**	**+4.2**
	735nm,0.7s						
SJI	**Sawahan**	**6.04**	**282**	P	**Pn**	**03 39 04.6**	**+0.4**
	1μm,0.7s,22μm8.8nm						
SJI				S	**Sn**	**03 40 12.2**	**-0.1**
	1μm,0.7s,22μm8.8nm						
BBKI	**Banjar Baru**	**6.22**	**332**	P	**Pn**	**03 39 04.4**	**-2.2**
	619nm,1.0s,14μm7.1nm						
TTSI	**Tana Toraja**	**6.28**	**19**	P	**Pn**	**03 39 06.9**	**-0.6**
	381nm,1.2s,10μm3.8nm						
TTSI				S	**Sn**	**03 40 17.2**	**-1.0**
	381nm,1.2s,10μm3.8nm						
SOEI	**Soe**	**6.49**	**97**	P	**Pn**	**03 39 13.0**	**+2.4**
	860nm,0.7s,12μm7.8nm						
SOEI	**Soe**	**6.49**	**97**	P	**Pn**	**03 39 13.0**	**+2.4**
	baz=6.5,SNR=96						
PCJI	**Pacitan**	**6.53**	**277**	P	**Pn**	**03 39 09.6**	**-1.3**
	1μm,0.8s,35μm11nm						
PCJI				S	**Sn**	**03 40 26.0**	**+1.7**
	1μm,0.8s,35μm11nm						
WOJI	**Wonogiri, Jawa**	**6.83**	**279**	P	**Pn**	**03 39 14.9**	**-0.2**
	619nm,0.8s,18μm7.0nm						
UGM	**Wanagama**	**7.21**	**278**	*e*Pn	**Pn**	**03 39 19.6**	**-0.8**
UGM	**Wanagama**	**7.21**	**278**	P	**Pn**	**03 39 20.7**	**+0.4**
	1μm,1.0s,25μm11nm						
UGM				S	**Sn**	**03 40 44.3**	**+3.1**
	1μm,1.0s,25μm11nm						
UGM	**Wanagama**	**7.21**	**278**	P	**Pn**	**03 39 19.8**	**-0.6**
	baz=7.3,SNR=73						
UGM				S	**Sn**	**03 40 46.2**	**+5.0**
	baz=7.3,SNR=5.6						
SKSI	**Soroako, Sulaw**	**7.37**	**29**	P	**Pn**	**03 39 22.1**	**-0.5**
	201nm,0.8s,5μm487μm0.8nm						
YOGI	**Yogyakarta**	**7.45**	**279**	P	Pb	03 39 34.6	-11
YOGI				S	**Sn**	**03 40 46.7**	**-0.3**
BJII	**Banjamegara**	**8.11**	**281**	P	**Pn**	**03 39 33.5**	**+0.8**
	326nm,1.2s,5μm						
MTKI	**Muara Teweh, K**	**8.50**	**340**	P	**Pn**	**03 39 37.9**	**-0.1**
	231nm,0.8s,8μm1.3nm						
PBKI	**Pangkalan Bun**	**8.69**	**316**	P	**Pn**	**03 39 41.3**	**+0.6**
	527nm,0.8s						
CLJI	**Cilicap**	**8.72**	**278**	P	**Pn**	**03 39 39.5**	**-1.5**
	149nm,0.6s,27μm						
CLJI				S	**Sn**	**03 41 12.5**	**-5.7**
	149nm,0.6s,27μm						
LUWI	**Luwuk**	**9.38**	**33**	P	**Pn**	**03 39 50.9**	**+0.9**
	185nm,1.1s						
CISI	**Cisompet, Garu**	**9.92**	**278**	P	**Pn**	**03 39 58.4**	**+0.9**
	638nm,0.8s,6μm						
CISI	**Cisompet, Garu**	**9.92**	**278**	P	**Pn**	**03 39 58.1**	**+0.6**
	baz=10.0,SNR=25						
LEM	**Lembang**	**10.25**	**282**	P	**Pn**	**03 40 04.2**	**+2.1**
LEM	**Lembang**	**10.25**	**282**	P	**Pn**	**03 40 04.7**	**+2.5**
	baz=10,SNR=6.3						
MRSI	**Marisa**	**10.32**	**24**	P	**Pn**	**03 40 04.3**	**+1.4**
	100nm,1.0s,825nm						
GTOI	**Gorontalo**	**10.94**	**29**	P	**Pn**	**03 40 10.8**	**-0.6**
	88nm,1.0s,1μm						
NLAI	**Namlea**	**10.94**	**59**	P	Pn	03 40 16.0	+4.6
STKI	**Sintang**	**10.96**	**325**	P	**Pn**	**03 40 10.3**	**-1.4**
	104nm,0.8s,18μm						
CBJI	**Citeko**	**11.09**	**283**	P	**Pn**	**03 40 12.4**	**-1.0**
	782nm,0.7s						
DBJI	**Dramaga**	**11.15**	**282**	P	**Pn**	**03 40 14.9**	**+0.5**
	277nm,0.8s						
AAI	**Ambon**	**11.67**	**64**	P	Pn	03 40 26.6	+5.2
TPI	**Tanjungpandan**	**11.79**	**301**	P	Pn	03 40 33.5	+10
SBJI	**Serang**	**11.85**	**283**	P	Pn	03 40 34.3	+10
FITZ	**Fitzroy Crossi**	**11.86**	**140**	*e*Pn	**Pn**	**03 40 22.2**	**-1.8**
	3.6nm,0.6s						
FITZ				*e*S	**Sn**	**03 42 31.2**	**-4.1**
FITZ	**Fitzroy Crossi**	**11.86**	**140**	Pn	**Pn**	**03 40 22.5**	**-1.5**
	2.7nm,0.3s,baz=323,slow=10,SNR=105						
FITZ				Sn	**Sn**	**03 42 33.2**	**-2.1**
	5.1nm,0.3s,baz=176,slow=16,SNR=8.3						
FITZ				LR	LR	03 45 59.6	
	comp=Z,2μm,18.4s,baz=336,slow=42						
FITZ	**Fitzroy Crossi**	**11.86**	**140**	P	**Pn**	**03 40 22.1**	**-2.0**
	baz=12,SNR=90						
FITZ				S	**Sn**	**03 42 33.7**	**-1.5**
	baz=12,SNR=6.1						
XMI	**Christmas Isla**	**11.95**	**262**	P	**Pn**	**03 40 24.6**	**-0.8**
	baz=12,SNR=7.0						
XMI				S	Sn	03 42 25.8	-12
	baz=12,SNR=5.6						
XMIS	**Christmas Isla**	**11.99**	**262**	*e*Pn	Pn	03 40 22.0	-3.9
XMIS				*e*S	Sn	03 42 25.5	-13
XMIS	**Christmas Isla**	**11.99**	**262**	P	**Pn**	**03 40 24.7**	**-1.2**
	baz=12,SNR=3.8						
XMIS				S	Sn	03 42 28.7	-10
	baz=12,SNR=5.4						
MBWA	**Marble Bar**	**12.23**	**171**	*e*Pn	**Pn**	**03 40 26.1**	**-3.0**
MBWA				*e*S	Sn	03 42 34.0	-10
SBUM	**Sibu**	**12.64**	**334**	P	**Pn**	**03 40 36.8**	**+2.0**
SBUM	**Sibu**	**12.64**	**334**	P	**Pn**	**03 40 36.1**	**+1.3**
	62nm,1.5s,2μm						
KNRA	**Kununurra**	**12.65**	**123**	P	**Pn**	**03 40 33.9**	**-0.9**
	baz=13,SNR=37						
KSM	**Kuching**	**12.78**	**324**	*e*Pn	**Pn**	**03 40 34.5**	**-2.0**
KSM	**Kuching**	**12.78**	**324**	P	**Pn**	**03 40 35.6**	**-1.0**
KSM	**Kuching**	**12.78**	**324**	P	**Pn**	**03 40 36.7**	**+0.1**
	39nm,1.7s,1μm						
KSM	**Kuching**	**12.78**	**324**	P	**Pn**	**03 40 36.6**	**0.0**
	baz=13,SNR=7.3						
BTM	**Bintulu**	**12.99**	**339**	P	**Pn**	**03 40 40.6**	**+1.1**
TSM	**Tawau**	**13.22**	**1**	P	**Pn**	**03 40 44.5**	**+1.9**
PPBI	**Pangkal Pinang**	**13.39**	**300**	P	**Pn**	**03 40 45.4**	**+0.4**
	96nm,0.9s,34μm						
KLSI		**13.60**	**288**	P	**Pn**	**03 40 47.1**	**-0.8**
	93nm,0.7s,1μm						
TNTI	**Ternate**	**13.66**	**45**	P	**P**	**03 40 57.6**	**+0.5**
MTN	**Manton Dam**	**13.70**	**107**	P	**Pn**	**03 40 46.7**	**-2.5**
	baz=14,SNR=89						
MTN				S	Sn	03 43 11.8	-8.5
	baz=14,SNR=9.7						
MYLDM	**Lahad Datu**	**14.12**	**3**	P	**P**	**03 40 59.9**	**-2.2**
MYLDM	**Lahad Datu**	**14.12**	**3**	P	**P**	**03 41 02.7**	**+0.6**
LWLI	**Liwa**	**14.13**	**285**	P	P	03 40 59.2	-3.2
SDKM	**Sandakan**	**14.57**	**358**	P	**P**	**03 41 08.7**	**+1.5**
GAMI	**Galela, Maluku**	**14.72**	**43**	P	**Pn**	**03 41 04.9**	**+1.8**
	369nm,1.1s,5μm						
KDU	**Kakadu**	**14.93**	**105**	P	**Pn**	**03 41 04.0**	**-1.9**
	baz=15,SNR=54						
KKM	**Kota Kinabalu**	**15.04**	**354**	*e*Pn	**Pn**	**03 41 06.4**	**-1.0**
	106nm,0.9s						
KKM	**Kota Kinabalu**	**15.04**	**354**	P	**P**	**03 41 11.2**	**-1.2**
KKM	**Kota Kinabalu**	**15.04**	**354**	P	**P**	**03 41 10.8**	**-1.6**
KKM	**Kota Kinabalu**	**15.04**	**354**	P	**Pn**	**03 41 08.9**	**+1.5**
	baz=15,SNR=4.1						
FAKI	**Fak Fak**	**15.65**	**68**	P	**Pn**	**03 41 14.4**	**-1.0**
	179nm,0.8s,2μm						
FAKI	**Fak Fak**	**15.65**	**68**	P	**Pn**	**03 41 12.4**	**-3.0**
	baz=16,SNR=11						
FAKI				S	**Sn**	**03 44 12.1**	**+4.1**
	baz=16,SNR=7.9						
SWI	**Sorong**	**15.72**	**60**	P	**Pn**	**03 41 15.5**	**-0.7**
	213nm,1.6s,3μm						
KDM	**Kudat**	**15.85**	**357**	P	**P**	**03 41 19.8**	**-1.5**
KSI	**Kapahiang**	**15.96**	**289**	P	**Pn**	**03 41 18.3**	**-1.1**
	313nm,0.7s						
MYKOM	**Kota Tinggi**	**17.51**	**307**	P	**Pn**	**03 41 38.0**	**-0.9**
MYKOM	**Kota Tinggi**	**17.51**	**307**	P	**P**	**03 41 41.5**	**+1.7**
MEEK	**Meekatharra**	**17.55**	**177**	P	**Pn**	**03 41 37.7**	**-1.6**
	baz=18,SNR=73						
MEEK				S	Sn	03 44 40.0	-14
	baz=18,SNR=11						
DAV	**Davao City (W)**	**17.79**	**26**	LR	LR	03 49 17.6	
	comp=Z,3μm,19.4s,baz=206,slow=40						
RKPI	**Ransiki, Papua**	**17.98**	**66**	P	**P**	**03 41 44.9**	**-0.2**
	233nm,0.8s,3μm						
KGM	**Klungkung**	**18.06**	**307**	P	**P**	**03 41 46.6**	**+0.7**
BKNI	**Bangkinang**	**19.04**	**298**	P	**Pn**	**03 41 57.9**	**+0.3**
	194nm,1.5s,3μm						
PPI	**Padang Panjang**	**19.24**	**295**	P	**P**	**03 41 57.8**	**-1.0**
	61nm,1.3s,1μm						
WRA	**Warramunga Arr**	**19.39**	**126**	P	**P**	**03 42 00.6**	**+0.1**
WRA				S	**S**	**03 45 32.2**	**-5.9**
WRA				ScP	**ScP**	**03 49 55.9**	**+0.4**
WRA	**Warramunga Arr**	**19.39**	**126**	P	**P**	**03 42 00.6**	**+0.1**
	3.2nm,0.3s,baz=308,slow=12,SNR=117						
WRA				S	**S**	**03 45 32.2**	**-5.9**
	0.7nm,0.3s,baz=304,slow=24,SNR=8.5						
WRA				ScP	**ScP**	**03 49 55.9**	**+0.4**
	0.4nm,0.3s,baz=318,slow=1.9,SNR=8.5						
WRA				LR	LR	03 50 19.0	
	comp=Z,2μm,19.6s,baz=305,slow=39						
WRAB	**Tennant Creek**	**19.39**	**126**	P	**P**	**03 42 00.0**	**-0.5**
	409nm,0.6s,SNR=57						
WRAB	**Tennant Creek**	**19.39**	**126**	*e*P	**P**	**03 42 01.0**	**+0.5**
WRAB				*e*S	S	03 45 27.9	-10
WRAB				pmax	pmax		
	comp=Z,101nm,0.8s						
WRAB	**Tennant Creek**	**19.39**	**126**	*e*P	**P**	**03 42 00.9**	**+0.5**
	comp=Z,101nm,0.8s						
WRAB				*e*S	S	03 45 27.9	-10
WRAB				*e*ScP	**ScP**	**03 49 55.6**	**+0.2**
BAKI	**Biak**	**19.87**	**68**	P	**Pn**	**03 42 07.7**	**+0.1**
	comp=Z,282nm,1.1s,comp=Z,3μm						
MORW	**Morawa**	**20.01**	**184**	P	Pn	03 42 10.0	+0.9
	baz=20,SNR=37						
MORW				S	S	03 45 36.4	-14
	baz=20,SNR=5.5						
FRIM	**Kepong**	**20.14**	**306**	P	Pn	03 42 10.7	0.0
KTGM	**Kuala Trenggan**	**20.36**	**314**	P	Pn	03 42 12.4	-0.9
RCP	**Roxas**	**21.04**	**14**	*e*P	**P**	**03 42 20.5**	**+2.1**
KALP	**Kalibo**	**21.06**	**13**	*e*P	pP	03 42 27.1	-0.3
ASAR	**Alice Springs**	**21.25**	**135**	P	**P**	**03 42 21.5**	**+0.8**
ASAR				S	**S**	**03 46 19.4**	**+4.0**
ASAR				ScP	**ScP**	**03 50 00.6**	**+0.8**
ASAR	**Alice Springs**	**21.25**	**135**	P	**P**	**03 42 21.5**	**+0.8**
	comp=Z,26nm,0.5s,baz=309,slow=8.6,SNR=57						
ASAR				S	**S**	**03 46 19.4**	**+4.0**
	comp=Z,15nm,0.9s,baz=307,slow=22,SNR=4.2						
ASAR				ScP	**ScP**	**03 50 00.6**	**+0.8**
	comp=Z,4.9nm,0.6s,baz=332,slow=2.1,SNR=6.3						
ASAR				LR	LR	03 50 47.8	
	comp=Z,2μm,21.7s,baz=310,slow=37						
IPM	**Ipoh**	**21.38**	**308**	*e*P	**P**	**03 42 23.0**	**+0.9**
	comp=Z,105nm,1.3s						
IPM	**Ipoh**	**21.38**	**308**	P	**P**	**03 42 25.2**	**+3.1**
IPM	**Ipoh**	**21.38**	**308**	P	P	03 42 27.2	+5.1
BLDU	**Ballidu**	**21.51**	**182**	P	**P**	**03 42 25.6**	**+2.3**
	baz=22,SNR=12						
BLDU				S	**S**	**03 46 18.4**	**-1.9**
	baz=22,SNR=4.9						
PSI	**Prapat**	**22.12**	**301**	P	**P**	**03 42 26.9**	**-3.2**
PSI	**Prapat**	**22.12**	**301**	P	**P**	**03 42 26.9**	**-3.2**
	comp=Z,23nm,0.9s,baz=167,slow=11,SNR=12						
PSI				LR	LR	03 51 09.3	
	comp=Z,3μm,21.8s,baz=129,slow=37						
PSI	**Prapat**	**22.12**	**301**	P	**P**	**03 42 28.5**	**-1.6**
	baz=22,SNR=10						
PSI				S	**S**	**03 46 30.7**	**-1.7**
	baz=22,SNR=3.3						
KULM	**Kulim**	**22.18**	**309**	*e*P	**P**	**03 42 31.3**	**+0.7**
	comp=Z,52nm,1.1s						
KULM	**Kulim**	**22.18**	**309**	P	**P**	**03 42 34.4**	**+3.8**
KULM	**Kulim**	**22.18**	**309**	P	P	03 42 35.6	+5.0
KLBR	**Kellerberrin**	**22.47**	**180**	P	**P**	**03 42 35.0**	**+1.3**
	baz=23,SNR=12						
KLBR				S	**S**	**03 46 39.9**	**+1.6**
	baz=23,SNR=4.6						
TSI	**Tuntungan**	**22.79**	**302**	P	**P**	**03 42 38.2**	**+1.0**
	comp=Z,214nm,1.0s						
TGY	**Tagaytay City**	**23.18**	**8**	P	**P**	**03 42 41.7**	**+0.5**
TGY	**Tagaytay City**	**23.18**	**8**	P	**P**	**03 42 41.7**	**+0.5**
	comp=Z,757nm,1.0s,baz=175,slow=7.2,SNR=12						
PALU	**Palau**	**23.29**	**46**	P	P	03 42 52.0	+10
	baz=23,SNR=3.3						
SKLT	**Songkhla**	**23.43**	**313**	P	P	03 42 52.0	+8.3
SKLT	**Songkhla**	**23.43**	**313**	P	P	03 42 52.0	+8.3
FORT	**Forrest**	**23.70**	**157**	*e*P	**P**	**03 42 46.3**	**+0.2**
	comp=Z,184nm,0.8s						
FORT				*e*S	Sn	03 47 13.2	-8.6
FORT	**Forrest**	**23.70**	**157**	P	**P**	**03 42 46.9**	**+0.8**
	baz=24,SNR=21						
JAY	**Jayapura**	**23.74**	**76**	P	**P**	**03 42 44.1**	**-2.7**
	baz=24,SNR=3.9						
NWAO	**Narrogin (SRO)**	**23.80**	**181**	*e*P	**P**	**03 42 47.4**	**+0.3**
	comp=Z,58nm,0.8s						
NWAO				*e*S	**S**	**03 47 03.8**	**+3.2**
NWAO	**Narrogin (SRO)**	**23.80**	**181**	P	**P**	**03 42 47.2**	**+0.3**
	comp=Z,34nm,0.7s,baz=351,slow=9.8,SNR=12						
NWAO				LR	LR	03 51 55.2	
	comp=Z,1μm,18.2s,baz=189,slow=36						
COEN	**Coen**	**25.41**	**104**	*e*P	**P**	**03 43 01.0**	**-0.9**
	comp=Z,436nm,0.8s						
COEN				*e*S	**S**	**03 47 31.3**	**+4.6**
COEN	**Coen**	**25.41**	**104**	P	**P**	**03 43 01.4**	**-0.5**
	baz=25,SNR=20						
UBPT	**Khong Chiam**	**27.02**	**333**	P	**P**	**03 43 19.7**	**+3.3**
	comp=Z,58nm,1.2s						
UBPT	**Khong Chiam**	**27.02**	**333**	P	**P**	**03 43 19.7**	**+3.3**
	comp=Z,58nm,1.2s						
MTSU	**Mount Surprise**	**27.36**	**112**	P	**P**	**03 43 20.4**	**+0.9**
	baz=27,SNR=21						
QIZ	**Qiongzhong**	**28.93**	**344**	P	**P**	**03 43 36.4**	**+3.0**
QIZ				sP	**sP**	**03 43 49.0**	**+2.1**
QIZ				pmax	pmax		
	comp=Z,39nm,2.1s						
QIZ				pmax	pmax		
	comp=Z,220nm,4.5s						
QIZ				LR	LR		
	comp=N,1μm,18.8s						
QIZ				LR	LR		
	comp=Z,2μm,19.9s						
PANO	**Nakornpanom**	**29.05**	**333**	P	**P**	**03 43 37.0**	**+2.5**
	comp=Z,60nm,1.5s,comp=Z,968nm						
PMG	**Port Moresby**	**29.05**	**93**	P	**P**	**03 43 32.0**	**-2.7**
PMG	**Port Moresby**	**29.05**	**93**	P	**P**	**03 43 32.0**	**-2.7**
	comp=Z,4.3nm,0.4s,baz=297,slow=18,SNR=2.2						
BBOO	**Buckleboo**	**29.12**	**147**	*e*P	**P**	**03 43 35.0**	**-0.1**
	comp=Z,415nm,0.7s						
BBOO	**Buckleboo**	**29.12**	**147**	P	**P**	**03 43 35.8**	**+0.7**
	baz=29,SNR=15						
SKNT	**Sakolnakorn**	**29.18**	**332**	P	**P**	**03 43 37.3**	**+1.6**
	comp=Z,72nm,2.0s						
CHAI	**Chaiyaphum**	**29.25**	**328**	P	P	03 43 51.3	+15
CTA	**Charters Tower**	**29.67**	**115**	P	**P**	**03 43 40.7**	**+0.6**
CTA	**Charters Tower**	**29.67**	**115**	P	**P**	**03 43 40.7**	**+0.6**
	comp=Z,20nm,1.1s,baz=286,slow=11,SNR=5.8						
CTA				LR	LR	03 57 20.2	
	comp=Z,3μm,19.0s,baz=290,slow=40						
CTAO	**Charters Tower**	**29.

KMI sS **ScP** **03 50 48.3 -1.0**
KMI SS **SnSn** **03 53 03.0 +1.7**
KMI pmax pmax
comp=Z,26nm,1.2s
KMI pmax pmax
comp=Z,300nm,3.5s
KMI LR LR
comp=N,450nm,14.7s
KMI LR LR
comp=E,830nm,17.8s
KMI LR LR
comp=Z,710nm,22.4s
YNG Young **37.75 136** P **P** **03 44 52.1 +2.0**
baz=38,SNR=20
TOO Toolangi **37.90 143** P **P** **03 44 54.1 +2.7**
baz=38,SNR=9.7
ARMA Armidale **38.12 129** *e*P **P** **03 44 55.7 +2.3**
comp=Z,22nm,0.9s
ARMA Armidale **38.12 129** P P 03 44 57.1 +3.6
baz=38,SNR=6.2
CAN Canberra **38.74 137** *e*P **P** **03 44 56.7 -1.8**
CAN pmax pmax
comp=Z,15nm,0.9s
CAN Canberra **38.74 137** *e*P **P** **03 44 56.6 -1.8**
comp=Z,15nm,0.9s
CNB Canberra Magne **38.98 137** P **P** **03 45 02.7 +2.2**
baz=39,SNR=5.0
MGCD Mangrove Creek **39.07 133** P P 03 45 04.5 +3.3
baz=39,SNR=4.9
WHN Wuhan **39.46 355** ⇑P P 03 45 08.3 +3.9
WHN S S 03 51 11.0 +6.6
WHN LR LR
comp=N,1μm,11.8s
WHN LR LR
comp=E,420nm,4.1s
WHN LR LR
comp=Z,2μm,20.5s
ENH Enshi **39.85 349** *e*P **P** **03 45 07.4 -0.3**
comp=Z,86nm,1.0s
SSE Sheshan **40.02 5** P **P** **03 45 09.3 +0.3**
SSE sP **sP** **03 45 21.3 -1.3**
SSE PcP **PcP** **03 47 11.8 -1.9**
SSE S **S** **03 51 15.6 +2.9**
SSE sS sS 03 51 34.5 +5.9
SSE pmax pmax
comp=Z,15nm,0.7s
SSE pmax pmax
comp=Z,63nm,3.1s
SSE LR LR
comp=N,140nm,27.7s
SSE LR LR
comp=E,300nm,27.7s
SSE LR LR
comp=Z,220nm,20.4s
NJ2 Nanjing **40.85 1** *e*P P 03 45 19.9 +4.0
NJ2 pP pP 03 45 30.3 +4.8
NJ2 sP sP 03 45 33.9 +4.4
NJ2 PP **PnPn** **03 46 55.0 +0.1**
NJ2 S **S** **03 51 31.0 +6.0**
NJ2 sS sS 03 51 47.0 +6.0
NJ2 pmax pmax
comp=Z,30nm,0.6s
NJ2 pmax pmax
comp=Z,470nm,3.5s
NJ2 LR LR
comp=N,1μm,11.2s
NJ2 LR LR
comp=E,1μm,13.8s
NJ2 LR LR
comp=Z,2μm,13.3s
HNR Honiara **41.66 94** LR LR 04 03 48.3
comp=Z,661nm,20.0s,baz=260,slow=38
CD2 Chengdu **41.90 342** *e*P **P** **03 45 26.6 +2.0**
CD2 pP **pP** **03 45 37.0 +2.7**
CD2 sP **sP** **03 45 41.3 +3.1**
CD2 PP **PnPn** **03 47 08.3 +1.1**
CD2 S **S** **03 51 44.3 +3.5**
CD2 ScS **ScS** **03 55 23.8 -1.5**
CD2 pmax pmax
comp=Z,60nm,1.3s
CD2 pmax pmax
comp=Z,140nm,6.2s
CD2 LR LR
comp=E,1μm,19.0s
CD2 LR LR
comp=Z,960nm,19.0s
SHL Shillong **42.60 324** *e*P **P** **03 45 30.0 -0.6**
XAN Xi'an **43.62 349** P **P** **03 45 37.9 -0.7**
XAN S **S** **03 52 05.5 -0.6**
XAN pmax pmax
comp=Z,9.0nm,0.9s
XAN pmax pmax
comp=Z,36nm,5.8s
XAN LR LR
comp=N,670nm,26.8s
XAN LR LR
comp=E,110nm,26.8s
XAN LR LR
comp=Z,260nm,26.8s
JNU Nakatsue **43.73 16** P **P** **03 45 41.4 +2.0**
JNU Nakatsue **43.73 16** P **P** **03 45 41.4 +2.0**
comp=Z,14nm,0.7s,baz=184,slow=7.6,SNR=3.1
LHI Lord Howe Isla **44.40 126** S S 03 52 04.5 -13
baz=44,SNR=3.3
LSA Lhasa **46.22 327** *e*P **P** **03 45 59.3 -0.5**
LSA pmax pmax
comp=Z,15nm,0.7s
LSA Lhasa **46.22 327** *e*P **P** **03 45 59.3 -0.5**
comp=Z,15nm,0.7s
ODAN Odare **46.24 321** *e*P **P** **03 46 02.4 +2.6**
comp=Z,81nm,1.1s
TAPN Taplejung **46.40 322** *e*P **P** **03 46 02.2 +1.1**
comp=Z,78nm,1.0s
LZH Lanzhou **46.73 345** *e*P P 03 46 06.8 +3.5
LZH pP pP 03 46 17.3 +4.2
LZH sP sP 03 46 21.1 +4.1
LZH *e*S **S** **03 52 54.5 +3.3**
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,200nm,8.4s
LZH LR LR
comp=N,440nm,12.3s
LZH LR LR
comp=E,510nm,12.4s
LZH LR LR
comp=Z,760nm,17.6s
HYB Hyderabad **46.78 304** *i* P **P** **03 46 02.5 -1.4**
RAMN Ramite **46.80 321** *e*P **P** **03 46 05.1 +1.0**
KSAR Wonju Array Be **47.18 11** P P 03 46 03.1 -3.5
KSRS Korea Array **47.20 11** P P 03 46 03.1 -3.6
comp=Z,20nm,0.9s,baz=189,slow=8.1,SNR=14
KSRS LR LR 04 07 35.0
comp=Z,407nm,20.8s,baz=192,slow=38
JIRN Jiri **47.55 321** *e*P **P** **03 46 10.8 +0.6**
GUN Gumba **47.93 321** *e*P **P** **03 46 12.9 -0.1**
comp=Z,49nm,0.6s
PKI Pulchoki **47.98 320** *e*P **P** **03 46 13.7 +0.2**
comp=Z,62nm,1.2s
PKIN Phulchoki **47.99 320** *e*P **P** **03 46 12.9 -0.6**
comp=Z,13nm,0.5s
DMN Daman **48.20 320** *e*P **P** **03 46 14.9 -0.2**
comp=Z,74nm,1.1s
KKN Kakani **48.22 320** *e*P **P** **03 46 15.5 +0.4**
comp=Z,49nm,1.1s
DZM Mont Dzumac **48.49 111** *e*P P 03 46 22.3 +5.0
comp=Z,52nm,0.9s
DZM Mont Dzumac **48.49 111** *e*LR LR 04 00 13.0
comp=Z,2μm,22.6s
BJT Baijiatuan **48.80 358** *e*P **P** **03 46 17.3 -1.9**
comp=Z,31nm,0.6s
BJI Beijing **48.83 358** P **P** **03 46 16.6 -2.7**
BJI pP **pP** **03 46 31.3 +2.2**
BJI sP **sP** **03 46 35.9 +2.9**
BJI PP **PP** **03 48 13.3 +0.4**
BJI pmax pmax
comp=Z,17nm,0.7s
BJI pmax pmax
comp=Z,150nm,4.6s
BJI LR LR
comp=N,540nm,19.1s
BJI LR LR
comp=E,260nm,18.4s
BJI LR LR
comp=Z,390nm,19.9s
MAJO Matsushiro **49.23 22** *e*P **P** **03 46 19.9 -2.7**
MAJO pmax pmax
comp=Z,28nm,1.3s
MAJO Matsushiro **49.23 22** *e*P **P** **03 46 19.9 -2.7**
comp=Z,28nm,1.3s
MAT Matsushiro **49.23 22** P **P** **03 46 21.9 -0.7**
MAT S **S** **03 53 26.4 0.0**
MJAR Matsushiro Arr **49.23 22** P **P** **03 46 20.0 -2.5**
MJAR Matsushiro Arr **49.23 22** P **P** **03 46 20.0 -2.5**
comp=Z,6.4nm,0.8s,baz=203,slow=7.9,SNR=15
MJAR LR LR 04 09 08.5
comp=Z,180nm,18.9s,baz=200,slow=39
KOLN Koldanda **49.28 319** *e*P **P** **03 46 22.4 -0.9**
comp=Z,33nm,0.6s
DANN Dangsing **49.57 320** *e*P **P** **03 46 23.4 -2.2**
comp=Z,72nm,0.7s
PYUN Piuthan **49.90 319** *e*P **P** **03 46 26.1 -1.9**
HHC Hu-ho-hao-te **49.94 354** *e*P **P** **03 46 28.1 +0.1**
HHC pP **pP** **03 46 38.0 +0.2**
HHC sP **sP** **03 46 41.9 +0.2**
HHC PP **PP** **03 48 24.3 +1.1**
HHC PcS **PcS** **03 51 42.5 -2.3**
HHC S **S** **03 53 37.3 +1.0**
HHC ScS **ScS** **03 56 13.5 -3.6**
HHC pmax pmax
comp=Z,28nm,1.1s
HHC pmax pmax
comp=Z,280nm,5.0s
HHC LR LR
comp=N,660nm,17.0s
HHC LR LR
comp=E,800nm,17.4s
HHC LR LR
comp=Z,570nm,17.5s
SNY Shenyang **50.88 6** ⇓P **P** **03 46 32.0 -2.8**
SNY S **S** **03 53 52.5 +3.5**
SNY pmax pmax
comp=Z,15nm,0.7s
SNY pmax pmax
comp=Z,140nm,3.0s
SNY LR LR
comp=N,110nm,3.4s
SNY LR LR
comp=E,190nm,4.4s
SNY LR LR
comp=Z,160nm,4.6s
GTA Gaotai **50.97 342** P **P** **03 46 35.6 -0.2**
GTA pP **pP** **03 46 45.8 +0.1**
GTA sP **sP** **03 46 49.6 0.0**
GTA PcP **PcP** **03 47 50.8 -1.0**
GTA S **S** **03 53 50.3 -0.4**
GTA pmax pmax
comp=Z,4.0nm,1.5s
GTA pmax pmax
comp=Z,130nm,6.4s
GTA LR LR
comp=N,470nm,20.0s
GTA LR LR
comp=E,1μm,19.0s
GTA LR LR
comp=Z,720nm,19.5s
CN2 Changchun **53.03 7** *e*P **P** **03 46 51.9 +1.0**
CN2 *e*pP **pP** **03 46 58.6 -2.2**
CN2 *e*S **S** **03 54 20.3 +1.7**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 LR LR
comp=N,400nm,20.0s
CN2 LR LR
comp=E,500nm,20.0s
CN2 LR LR
comp=Z,400nm,20.0s
MDJ Mudanjiang **54.45 10** P **P** **03 46 59.1 -2.2**
MDJ pP **pP** **03 47 09.0 -2.2**
MDJ S **S** **03 54 39.3 +1.6**
MDJ ScS **ScS** **03 56 44.5 -3.6**
MDJ pmax pmax
comp=Z,18nm,0.7s
MDJ pmax pmax
comp=Z,130nm,4.0s
MDJ LR LR
comp=N,47nm,23.3s
MDJ LR LR
comp=E,290nm,30.5s
MDJ LR LR
comp=Z,200nm,20.4s
MDJ Mudanjiang **54.45 10** *e*P **P** **03 46 59.1 -2.2**
comp=Z,50nm,1.0s
USRK Ussuriysk Arra **54.52 13** P **P** **03 46 59.1 -2.7**
comp=Z,7.5nm,0.6s,baz=188,slow=6.3,SNR=22
USRK LR LR 04 12 00.4
comp=Z,300nm,20.9s,baz=300,slow=38
CASY Casey **57.40 183** *e*P **P** **03 47 22.4 +0.3**
comp=Z,22nm,1.2s
ULN Ulaanbaatar **57.41 351** *e*P **P** **03 47 22.9 +0.3**
comp=Z,14nm,1.0s
ULN Ulaanbaatar **57.41 351** P **P** **03 47 23.8 +1.2**
comp=Z,9.1nm,1.0s
ASAJ Asahikawa **57.48 21** P **P** **03 47 23.5 +0.5**
ASAJ Asahikawa **57.48 21** P **P** **03 47 23.5 +0.5**
comp=Z,8.1nm,0.7s,baz=216,slow=9.7,SNR=4.2
SONM Songino Array **57.48 351** P **P** **03 47 20.6 -2.5**
SONM Songino Array **57.48 351** P **P** **03 47 20.6 -2.5**
comp=Z,4.4nm,0.6s,baz=167,slow=8.0,SNR=16
SONM LR LR 04 13 54.1
comp=Z,551nm,21.3s,baz=172,slow=38
RPZ Rata Peaks **57.66 137** *e*P **P** **03 47 25.3 +0.9**
comp=Z,47nm,0.9s
RPZ Rata Peaks **57.66 137** P **P** **03 47 25.3 +0.9**
comp=Z,36nm,0.9s,baz=113,slow=5.6,SNR=5.2
MSVF Nonsavu **59.12 105** *e*P **P** **03 47 36.5 +1.4**
MSVF pmax pmax
comp=Z,19nm,0.9s
MSVF Nonsavu **59.12 105** *e*P **P** **03 47 36.5 +1.4**
comp=Z,19nm,0.9s
WMQ Urumqi **59.23 335** P **P** **03 47 37.9 +2.6**
WMQ pP **pP** **03 47 48.0 +2.7**
WMQ sP **sP** **03 47 51.9 +2.7**
WMQ PP **PP** **03 49 50.5 +4.0**
WMQ S **S** **03 55 42.3 +1.2**
WMQ ScS **ScS** **03 57 21.6 -1.5**
WMQ pmax pmax
comp=Z,12nm,0.9s
WMQ pmax pmax
comp=Z,200nm,5.4s
WMQ LR LR
comp=N,470nm,20.4s
WMQ LR LR
comp=E,280nm,20.4s
WMQ LR LR
comp=Z,580nm,28.2s
HABR Khabarovsk **59.24 13** *e*P **P** **03 47 33.0 -2.2**
HABR *e**PP **pP** **03 47 43.1 -2.1**
HABR *e**SP **sP** **03 47 47.2 -1.8**
HABR *e* 03 48 20.4
HABR *e* 03 49 44.3
HABR *e*S **S** **03 55 40.2 -0.7**
HABR *e* 03 55 52.5
HABR *e**SS **sS** **03 55 57.4 0.0**
HABR *e* 03 57 20.2
HABR *e*SS **SS** **03 59 36.7 +0.6**
HABR pmax pmax
comp=E,56nm,2.0s
HABR pmax pmax
comp=Z,85nm,2.0s
HABR pmax pmax
comp=N,32nm,1.2s
HABR MLR MLR
comp=Z,297nm,22.0s
KLR Kul'dur **59.29 11** *e*P P 03 47 29.2 -6.3
ZAK Zakamensk **60.47 349** *e*P **P** **03 47 44.5 +0.7**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
KSH Kashi **61.88 324** *e*P **P** **03 47 51.3 -2.2**
KSH pP **pP** **03 48 01.3 -2.3**
KSH sP **sP** **03 48 05.5 -1.9**
KSH PP **PP** **03 50 10.8 +0.7**
KSH S **S** **03 56 12.5 -2.8**
KSH ScS **SKSac** **03 57 37.4 -5.8**
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH pmax pmax
comp=Z,68nm,4.8s
KSH LR LR
comp=N,240nm,7.6s
KSH LR LR
comp=E,220nm,10.7s
KSH LR LR
comp=Z,410nm,20.0s
HVS Khovu-Aksy **63.41 343**⇑*e*P **P** **03 48 03.8 +0.3**
HVS pmax pmax
comp=Z,16nm,1.0s
MK31 Makanchi Array **63.91 334** *i* P **P** **03 48 03.7 -3.1**
MK31 pmax pmax
comp=Z,4.0nm,0.5s
MK31 Makanchi Array **63.91 334** *e*P P 03 48 03.5 -3.2
MKAR Makanchi Array **63.91 334** P P 03 48 03.7 -3.1
MKAR Makanchi Array **63.91 334** P P 03 48 03.6 -3.1
MKAR ⇑*e* 04 17 04.5
MKAR Makanchi Array **63.91 334** P P 03 48 03.6 -3.1
comp=Z,5.4nm,0.7s,baz=149,slow=7.4,SNR=9.1
MKAR PKP2bc 04 17 04.5
comp=Z,0.9nm,1.0s,baz=318,slow=1.9,SNR=4.2
MKAR LR LR 04 20 26.1
comp=Z,328nm,20.6s,baz=144,slow=40
AAK Ala-Archa **64.78 326***d* *i*P **P** **03 48 12.7 -0.1**
AAK pmax pmax
comp=Z,25nm,1.7s
AAK Ala-Archa **64.78 326** *e*P **P** **03 48 13.0 +0.2**
comp=Z,17nm,0.8s
CLNS Chul'man **65.88 4** *e*P **P** **03 48 16.6 -2.8**
CLNS pmax pmax
comp=Z,13nm,1.0s
CLNS pmax pmax
comp=N,7.0nm,0.7s
CLNS pmax pmax
comp=E,8.0nm,1.2s
KK31 Karatay Array **67.33 324** *i* P **P** **03 48 28.1 -0.9**
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array **67.33 324** *e*P **P** **03 48 27.6 -1.3**
KKAR pmax pmax
comp=Z,10.0nm,1.1s
KKAR Karatay Array **67.33 324** *e*P **P** **03 48 27.6 -1.3**
comp=Z,10.0nm,1.1s
KURBB Kurchatov Arra **68.43 334** PKP2bc **P'P'df** **04 16 53.5 +3.3**
comp=Z,0.8nm,0.4s,baz=310,slow=3.6,SNR=4.9
KURK Kurchatov **68.46 334** P **P** **03 48 34.1 -1.7**
comp=Z,66nm,0.8s,SNR=6.7
ZALV Zalesovo Beam **68.61 340** *i* P **P** **03 48 35.5 -1.2**
ZALV pmax pmax
comp=Z,7.0nm,0.7s
ZALV Zalesovo Beam **68.61 340** P P 03 48 33.4 -3.3
ZALV Zalesovo Beam **68.61 340** P P 03 48 33.4 -3.3
comp=Z,7.3nm,0.7s,baz=141,slow=4.8,SNR=18
ZALV LR LR 04 23 04.2
comp=Z,232nm,18.9s,baz=250,slow=40
MAW Mawson **68.80 200** P **P** **03 48 39.0 +1.3**
MAW Mawson **68.80 200** P **P** **03 48 39.0 +1.3**
comp=Z,10nm,0.9s,baz=78,slow=10,SNR=12
MAW LR LR 04 11 56.0
comp=Z,364nm,20.6s,baz=55,slow=30
MAW Mawson **68.80 200** P **P** **03 48 39.6 +1.9**
baz=69,SNR=7.3
OPO Ambohidratompo **68.81 254** P **P** **03 48 40.0 +1.1**
OPO Ambohidratompo **68.81 254** P **P** **03 48 40.0 +1.1**
comp=Z,12nm,0.8s,baz=70,slow=7.0,SNR=8.9
NVS Novosibirsk **69.88 340** *e*P **P** **03 48 42.5 -2.0**
NVS pmax pmax
comp=N,6.0nm,1.4s
NVS pmax pmax
comp=Z,12nm,1.4s
NVS pmax pmax
comp=E,3.0nm,0.8s
PETK Petropavlovsk- **70.60 24** P **P** **03 48 46.9 -2.1**
PETK Petropavlovsk- **70.60 24** P **P** **03 48 46.9 -2.1**
PETK Petropavlovsk- **70.60 24** P **P** **03 48 46.9 -2.1**
comp=E,6.6nm,0.9s,baz=190,slow=7.3,SNR=5.1
PETK LR LR 04 21 05.6
comp=E,74nm,18.6s,baz=213,slow=37
PET Petropavlovsk **70.92 25** *e*P P 03 48 41.8 -9.1
PET *e*S S 03 57 55.1 -9.1
PET *e*SS SS 04 02 28.1 -10
PET pmax pmax
comp=Z,15nm,0.5s
PET MLR MLR
comp=Z,300nm,21.0s
YAK Yakutsk **71.44 6** *e*P **P** **03 48 52.8 -1.1**
YAK *e**PP **pP** **03 49 03.5 -0.6**
YAK *e* 03 49 07.1
YAK *e* 03 51 38.8
YAK pmax pmax
comp=Z,16nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=Z,11nm,0.8s
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK MLR MLR
comp=Z,276nm,21.0s
YAK MLR MLR
comp=N,159nm,17.0s
YAK MLR MLR
comp=E,159nm,22.0s
VNDA Vanda **72.17 171** P **P** **03 48 59.6 +1.5**
VNDA Vanda **72.17 171** P **P** **03 48 59.6 +1.5**
comp=E,4.5nm,0.4s,baz=313,slow=5.9,SNR=74
VNDA LR LR 04 17 53.0
comp=E,349nm,19.3s,baz=322,slow=33
SBA Scott Base **73.18 170** *e*P **P** **03 49 06.3 +2.1**
SBA pmax pmax
comp=Z,13nm,0.9s
SBA Scott Base **73.18 170** *e*P **P** **03 49 06.3 +2.1**
comp=Z,13nm,0.9s
VOSK Vostochnaya **73.25 332** P P 03 49 01.1 -3.9
VOSK pmax pmax
comp=Z,7.0nm,0.9s
BVAR Borovoye Array **73.72 332** LR LR 04 24 50.4
comp=Z,403nm,20.3s,baz=336,slow=39
BRVK Borovoye **73.79 332** *e*P P 03 49 04.4 -3.7
BRVK pmax pmax
comp=Z,25nm,1.3s
BRVK Borovoye **73.79 332** *e*P P 03 49 04.4 -3.7
comp=Z,25nm,1.3s
AB31 Akbulak array **76.85 325** *i* P P 03 49 22.0 -3.8
AB31 pmax pmax
comp=Z,18nm,0.9s
ABKAR Akbulak array **76.85 325** *e*P P 03 49 22.6 -3.2
comp=Z,4.2nm,0.7s
SYO Syowa Base **77.39 201**⇑*e*P **P** **03 49 28.1 -0.4**
FX1 Attu Island--F **77.54 31** P **P** **03 49 27.6 -2.0**
FX1 Attu Island--F **77.54 31** P **P** **03 49 27.6 -2.0**
comp=Z,7.9nm,0.6s,baz=276,slow=4.7,SNR=3.5
AKTO Aktyubinsk **78.53 326** *i* P P 03 49 31.2 -3.9
AKTO pmax pmax
comp=Z,10.0nm,0.8s
AKTO Aktyubinsk **78.53 326** LR LR 04 28 38.5
comp=Z,279nm,21.8s,baz=111,slow=39
KMBO Kilima Mbogo **80.42 270** *e*P **P** **03 49 47.6 +1.0**
comp=Z,14nm,1.3s
KMBO Kilima Mbogo **80.42 270** P **P** **03 49 47.0 +0.5**
comp=Z,7.0nm,0.9s,baz=58,slow=5.3,SNR=12
KMBO LR LR 04 21 20.2
comp=Z,334nm,20.3s,baz=94,slow=33
KMBO Kilima Mbogo **80.42 270** P **P** **03 49 49.0 +2.4**
baz=80,SNR=3.8
SVE Sverdlovsk **80.50 332**⇓*e*P P 03 49 53.0 +7.3
SVE pmax pmax
comp=Z,19nm,0.7s
TIXI Tiksi **80.83 4***d* *i*P **P** **03 49 48.2 +1.1**
TIXI pmax pmax
comp=Z,35nm,2.5s
QSPA South Pole Qui **80.98 180** *e*P **P** **03 49 49.1 +0.8**
comp=Z,36nm,1.0s
QSPA South Pole Qui **80.98 180** P **P** **03 49 49.6 +1.3**
comp=Z,39nm,1.1s,baz=330,slow=1.7,SNR=45
ARU Arti **81.27 331***d* *i*P **P** **03 49 49.3 -0.5**
ARU 03 52 54.6
ARU S **S** **03 59 57.5 -0.4**
ARU pmax pmax
comp=Z,10.0nm,1.7s
GNI Garni **83.02 312** LR LR 04 31 09.2
comp=Z,150nm,20.8s,baz=96,slow=39
TBLG Delisi **83.51 314** *e*P **P** **03 50 03.4 +1.5**
TBLG Delisi **83.51 314** P **P** **03 50 03.4 +1.5**
DUS Dusheti **83.64 314** P **P** **03 50 04.3 +1.6**
AKH Akhalkalaki **84.30 313** P **P** **03 50 07.9 +1.8**
ZEI Tsey **84.42 315** *e*P **P** **03 50 08.1 +1.3**
ZEI pmax pmax

	comp=Z,35nm,1.4s							
ONI	**Oni**	**84.68**	**314**	P		**P**	**03 50 09.6**	**+1.7**
KBZ	**Khabaz**	**85.40**	**315**	P		**P**	**03 50 12.2**	**+0.8**
KBZ	**Khabaz**	**85.40**	**315**	P		**P**	**03 50 12.2**	**+0.8**
KBZ	**Khabaz**	**85.40**	**315**	P		**P**	**03 50 12.2**	**+0.8**
	comp=Z,3.5nm,0.9s,baz=144,slow=6.3,SNR=8.3							
KBZ				LR		LR	04 35 33.4	
	comp=Z,229nm,21.2s,baz=321,slow=41							
KIV	**Kislovodsk**	**85.61**	**316**	*e*P		**P**	**03 50 12.3**	**-0.3**
KIV				*e*			03 53 29.7	
KIV				pmax		pmax		
	comp=Z,5.0nm,1.0s							
CHVG	**Ch'k'valeri**	**85.68**	**314**	P		**P**	**03 50 15.5**	**+2.7**
MNKR	**ALMNKUR**	**86.02**	**307**	*e*P		P	03 50 09.8	-4.8
KSRV	**Kasrt alli**	**86.21**	**307**	*e*P		P	03 50 11.9	-3.8
ZALF	**Zalf**	**86.88**	**304**	*e*P		**P**	**03 50 17.9**	**-1.1**
MBAR	**Mbarara**	**86.94**	**270**	P		**P**	**03 50 18.6**	**-1.3**
MBAR	**Mbarara**	**86.94**	**270**	P		**P**	**03 50 18.6**	**-1.3**
	comp=Z,22nm,0.8s,baz=114,slow=7.0,SNR=11							
ASF	**Jabal al Asfar**	**87.08**	**303**	LR		LR	04 34 06.3	
	comp=Z,221nm,19.4s,baz=328,slow=39							
LSZ	**Lusaka**	**87.23**	**255**	*e*P		**P**	**03 50 21.3**	**+0.1**
	comp=Z,13nm,0.8s							
LSZ	**Lusaka**	**87.23**	**255**	P		**P**	**03 50 21.2**	**+0.1**
	comp=Z,11nm,0.7s,baz=76,slow=4.5,SNR=14							
MALT	**Malatya**	**87.24**	**309**	*e*P		P	03 50 14.8	-5.9
MALT				pmax		pmax		
	comp=Z,9.0nm,0.8s							
MALT	**Malatya**	**87.24**	**309**	*e*P		P	03 50 14.8	-5.9
	comp=Z,9.1nm,0.8s							
SALA	**Sala**	**87.33**	**304**	*e*P		**P**	**03 50 20.9**	**-0.4**
TOTH	**TOTAH**	**87.72**	**304**	*e*P		**P**	**03 50 25.3**	**+2.2**
BOSA	**Boshof**	**87.90**	**242**	P		**P**	**03 50 24.6**	**+0.5**
BOSA	**Boshof**	**87.90**	**242**	P		**P**	**03 50 24.6**	**+0.5**
	comp=Z,10nm,1.0s,baz=99,slow=3.7,SNR=14							
BOSA				LR		LR	04 22 08.7	
	comp=Z,397nm,21.4s,baz=103,slow=30							
TCHB	**Talchebab**	**87.95**	**303**	*e*P		**P**	**03 50 26.3**	**+2.1**
LBTB	**Lobatse**	**88.16**	**245**	P		**P**	**03 50 26.4**	**+0.9**
LBTB	**Lobatse**	**88.16**	**245**	P		**P**	**03 50 26.4**	**+0.9**
	comp=Z,13nm,0.7s,baz=149,slow=4.2,SNR=9.8							
EIL	**Elat**	**88.20**	**300**	LR		LR	04 32 56.4	
	comp=Z,472nm,18.5s,baz=88,slow=38							
EIL	**Elat**	**88.20**	**300**	P		**P**	**03 50 26.8**	**+1.4**
	baz=88,SNR=6.6							
MMAI	**Mount Meron Ar**	**88.49**	**304**	LR		LR	04 32 44.9	
	comp=Z,269nm,20.0s,baz=35,slow=38							
TBI	**Tubuai**	**89.03**	**113**	*e*LR		LR	04 19 01.5	
	comp=Z,526nm,29.5s							
VORD	**Divnogorie**	**89.73**	**322**	*e*P		**P**	**03 50 31.9**	**-0.1**
VORD				pmax		pmax		
	comp=Z,7.0nm,0.4s							
VORD				pmax		pmax		
	comp=N,10.0nm,0.7s							
VORD				pmax		pmax		
	comp=E,10.0nm,0.7s							
PPT2	**Papeete2**	**89.86**	**108**	*e*LR		LR	04 19 27.7	
	comp=E,478nm,24.8s							
PPT	**Papeete**	**89.86**	**108**	LR		LR	04 27 55.3	
	comp=E,406nm,19.0s,baz=143,slow=34							
VSR	**Storozhevoye**	**89.88**	**322**	*e*P		**P**	**03 50 32.5**	**-0.2**
VSR				pmax		pmax		
	comp=N,7.0nm,0.7s							
VSR				pmax		pmax		
	comp=Z,6.0nm,0.7s							
VSR				pmax		pmax		
	comp=E,7.0nm,1.1s							
SNAA	**Sanae**	**90.65**	**196**	*e*P		**P**	**03 50 37.5**	**+1.3**
SNAA	**Sanae**	**90.65**	**196**	*e*P		**P**	**03 50 37.4**	**+1.3**
	comp=E,14nm,0.9s							
BRTR	**Keskin Array B**	**91.18**	**310**	P		**P**	**03 50 38.0**	**-1.3**
BRTR	**Keskin Array B**	**91.18**	**310**	P		**P**	**03 50 38.0**	**-1.3**
	comp=E,1.6nm,0.8s,baz=132,slow=5.6,SNR=11							
BRTR				LR		LR	04 36 39.3	
	comp=E,126nm,20.8s,baz=287,slow=39							
OBN	**Obninsk**	**92.30**	**325**	P		P	03 50 52.0	+8.1
OBN				*e*			03 51 01.4	
OBN							03 54 28.0	
OBN				*e*			04 01 36.6	
OBN				PPS		PPS	04 03 32.0	
OBN				pmax		pmax		
	comp=Z,18nm,1.5s							
VNA1	**Neumayer--Stat**	**92.68**	**196**	*e*P		**P**	**03 50 47.1**	**+1.7**
TSUM	**Tsumeb**	**96.52**	**249**	P		**P**	**03 51 04.4**	**+0.1**
TSUM	**Tsumeb**	**96.52**	**249**	P		**P**	**03 51 04.4**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=98,slow=6.0,SNR=2.8							
FINES	**FINESS Array B**	**98.64**	**331**	LR		LR	04 40 27.7	
	comp=Z,310nm,21.5s,baz=105,slow=38							
ARCES	**ARCESS Array B**	**99.16**	**339**	LR		LR	04 42 45.0	
	comp=Z,253nm,20.3s,baz=209,slow=40							
KOLS	**Kolonicke sedl**	**100.31**	**318**	*e*P		**Pdif**	**03 51 21.3**	**+0.9**
KOLS	**Kolonicke sedl**	**100.31**	**318**	PDIF		**Pdif**	**03 51 21.3**	**+0.9**
ILAR	**Eielson Array**	**100.39**	**26**	P		**Pdif**	**03 51 16.6**	**-3.8**
ILAR				PKKPbc		**PKKPbc**	**04 07 37.1**	**-2.0**
ILAR	**Eielson Array**	**100.39**	**26**	P		**Pdif**	**03 51 16.6**	**-3.8**
	comp=Z,0.2nm,0.6s,baz=213,slow=5.3,SNR=4.6							
ILAR				PKKPbc		**PKKPbc**	**04 07 37.1**	**-2.0**
	comp=Z,1.1nm,0.8s,baz=82,slow=2.0,SNR=9.1							
STHS	**Stebnicka Huta**	**101.00**	**319**	*e*P		**Pdif**	**03 51 25.8**	**+2.3**
STHS	**Stebnicka Huta**	**101.00**	**319**	PDIF		**Pdif**	**03 51 25.8**	**+2.3**
KECS	**Kecovo**	**101.48**	**318**	*e*P		**Pdif**	**03 51 26.1**	**+0.5**
KECS	**Kecovo**	**101.48**	**318**	PDIF		**Pdif**	**03 51 26.1**	**+0.5**
RKT	**Rikitea**	**102.10**	**116**	*e*LR		LR	04 24 59.0	
	comp=Z,475nm,23.8s							
VYHS	**Vyhne**	**102.58**	**318**	*e*P		**Pdif**	**03 51 30.1**	**-0.4**
VYHS	**Vyhne**	**102.58**	**318**	PDIF		**Pdif**	**03 51 30.1**	**-0.4**
CLL	**Collm**	**106.19**	**321**	*e*SKSac		SKSac	04 02 17.0	-7.2
CLL				*e*PS		**PS**	**04 05 30.0**	**+0.9**
CLL				*e*PPS		PPS	04 06 24.0	
CLL				LmV			04 49 00.0	
	comp=Z,200nm,21.0s							
YKA	**Yellowknife Ar**	**114.72**	**24**	PKiKP		**PKiKP**	**03 56 11.6**	**-2.3**
YKA				SKP			03 59 46.5	
YKA				PKKPbc		**PKKPbc**	**04 06 51.8**	**-2.1**
YKA	**Yellowknife Ar**	**114.72**	**24**	PKiKP		**PKiKP**	**03 56 11.5**	**-2.3**
	comp=Z,1.1nm,0.5s,baz=305,slow=1.9,SNR=12							
YKA				SKP			03 59 46.5	
	comp=Z,0.6nm,0.7s,baz=309,slow=2.2,SNR=3.8							
YKA				PKKPbc		**PKKPbc**	**04 06 51.8**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=117,slow=4.1,SNR=4.3							
TORD	**Torodi Ar. Bea**	**117.23**	**280**	PKP		**PKPdf**	**03 56 18.6**	**-1.4**
TORD				SKP			03 59 53.4	
TORD				PKKPbc		**PKKPbc**	**04 06 44.6**	**+0.8**
TORD	**Torodi Ar. Bea**	**117.23**	**280**	PKP		**PKPdf**	**03 56 18.6**	**-1.4**
	comp=Z,3.6nm,0.6s,baz=59,slow=1.8,SNR=25							
TORD				SKP			03 59 53.4	
	comp=Z,0.8nm,0.8s,baz=72,slow=1.2,SNR=4.3							
TORD				PKKPbc		**PKKPbc**	**04 06 44.6**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=286,slow=4.5,SNR=4.4							
ESDC	**Sonseca Array**	**119.97**	**311**	PKP		**PKPdf**	**03 56 25.2**	**+0.5**
ESDC	**Sonseca Array**	**119.97**	**311**	PKP		**PKPdf**	**03 56 25.3**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=9.0,slow=2.4,SNR=4.0							
A13A	**Flathead Natio**	**121.12**	**37**	P		**PKPdf**	**03 56 24.8**	**-1.9**
	baz=121							
BSMT	**Bassoo Peak**	**121.33**	**39**	*e*PKPdf		**PKPdf**	**03 56 24.9**	**-2.4**
NVAR	**Mina Array Bea**	**121.99**	**50**	PKP		**PKPdf**	**03 56 27.7**	**-1.2**
NVAR				PKKPbc		**PKKPbc**	**04 06 27.2**	**0.0**
NVAR	**Mina Array Bea**	**121.99**	**50**	PKP		**PKPdf**	**03 56 27.7**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=262,slow=3.1,SNR=6.4							
NVAR				PKKPbc		**PKKPbc**	**04 06 27.2**	**0.0**
	comp=Z,0.4nm,0.8s,baz=129,slow=3.6,SNR=3.1							
C14A	**Swan Lake**	**122.00**	**38**	P		**PKPdf**	**03 56 26.6**	**-1.9**
	baz=122							
MFID	**Camas Ranch**	**122.29**	**44**	*e*PKPdf		**PKPdf**	**03 56 28.4**	**-0.8**
SLMT	**Seeley Lake**	**122.38**	**39**	*e*PKPdf		**PKPdf**	**03 56 30.6**	**+1.3**
B15A	**Bradely Ranch,**	**122.49**	**38**	P		**PKPdf**	**03 56 27.9**	**-1.6**
	baz=122							
I12A	**Atlanta**	**122.63**	**43**	P		**PKPdf**	**03 56 28.2**	**-1.8**
	baz=122							
C15A	**Salmond Ranch,**	**122.70**	**38**	P		**PKPdf**	**03 56 28.1**	**-1.8**
	baz=122							
EDW2	**Edwards Air Fo**	**123.09**	**54**	P		**PKPdf**	**03 56 30.1**	**-0.8**
	baz=123							
DBIC	**Dimbokro**	**123.12**	**272**	PKP		**PKPdf**	**03 56 30.3**	**-1.1**
DBIC	**Dimbokro**	**123.12**	**272**	PKP		**PKPdf**	**03 56 30.3**	**-1.1**
	comp=Z,5.2nm,0.7s,baz=62,slow=3.7,SNR=8.2							
HLID	**Hailey**	**123.20**	**43**	*e*PKPdf		**PKPdf**	**03 56 30.6**	**-0.4**
HLID	**Hailey**	**123.20**	**43**	P		**PKPdf**	**03 56 30.3**	**-0.7**
	baz=123							
C16A	**Fuhringer Ranc**	**123.21**	**38**	P		**PKPdf**	**03 56 31.0**	**+0.2**
	baz=123							
MPMC	**Manual Prospec**	**123.22**	**53**	P		**PKPdf**	**03 56 30.2**	**-1.1**
	baz=123							
A17A	**Triple J Farms**	**123.31**	**36**	P		**PKPdf**	**03 56 29.5**	**-1.4**
	baz=123							
BFSC	**Mount Baldy Ra**	**123.50**	**55**	P		**PKPdf**	**03 56 29.7**	**-2.1**
	baz=123							
A18A	**Metzger Ranch,**	**123.82**	**36**	P		**PKPdf**	**03 56 30.1**	**-1.7**
	baz=124							
C17A	**Wharram Farm,**	**123.88**	**38**	P		**PKPdf**	**03 56 29.9**	**-2.2**
	baz=124							
R11A	**Troy Canyon, C**	**124.07**	**50**	P		**PKPdf**	**03 56 32.4**	**-0.5**
	baz=124							
B18A	**Beardsley Farm**	**124.11**	**36**	P		**PKPdf**	**03 56 31.2**	**-1.3**
	baz=124							
BOZ	**Bozeman (W)**	**124.21**	**40**	*e*PKIKP		**PKPdf**	**03 56 31.3**	**-1.6**
BOZ	**Bozeman (W)**	**124.21**	**40**	*e*PKPdf		**PKPdf**	**03 56 31.3**	**-1.6**
EGMT	**Eagleton**	**124.30**	**37**	P		**PKPdf**	**03 56 31.7**	**-1.1**
	baz=124							
B20A	**Solberg Farm,**	**125.11**	**36**	P		**PKPdf**	**03 56 32.8**	**-1.5**
	baz=125							
F18A	**Big Timber**	**125.30**	**39**	P		**PKPdf**	**03 56 33.9**	**-1.0**
	baz=125							
C20A	**Veseth Ranch,**	**125.48**	**36**	P		**PKPdf**	**03 56 33.6**	**-1.5**
	baz=125							
REDW	**Red Top Meadow**	**125.67**	**42**	*e*PKPdf		**PKPdf**	**03 56 34.6**	**-1.3**
LOHW	**Long Hollow**	**125.73**	**42**	*e*PKPdf		**PKPdf**	**03 56 35.4**	**-0.6**
M17A	**Scullys Gap (B**	**126.55**	**44**	P		**PKPdf**	**03 56 36.3**	**-1.3**
	baz=126							
PDAR	**Pinedale Array**	**126.78**	**42**	PKP		**PKPdf**	**03 56 36.5**	**-1.5**
PDAR	**Pinedale Array**	**126.78**	**42**	PKP		**PKPdf**	**03 56 36.5**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=247,slow=1.9,SNR=3.7							
L18A	**Fontenelle, Gr**	**126.81**	**44**	P		**PKPdf**	**03 56 36.7**	**-1.4**
	baz=127							
D22A	**Cohagen**	**126.83**	**36**	P		**PKPdf**	**03 56 37.3**	**-0.4**
	baz=127							
J19A	**Crowheart**	**126.90**	**42**	P		**PKPdf**	**03 56 36.3**	**-1.9**
	baz=127							
H20A	**Greybull**	**127.03**	**40**	P		**PKPdf**	**03 56 37.5**	**-0.7**
	baz=127							
I20A	**Worland**	**127.20**	**41**	P		**PKPdf**	**03 56 37.1**	**-1.5**
	baz=127							
J22A	**Midwest**	**128.50**	**40**	P		**PKPdf**	**03 56 39.7**	**-1.4**
	baz=128							
M21A	**Separation Pea**	**128.75**	**43**	P		**PKPdf**	**03 56 40.4**	**-1.4**
	baz=128							
K22A	**Casper**	**128.83**	**41**	P		**PKPdf**	**03 56 40.5**	**-1.3**
	baz=129							
H24A	**Dirks Ranch, A**	**129.05**	**38**	P		**PKPdf**	**03 56 40.4**	**-1.7**
	baz=129							
PV01	**Paradox Valley**	**129.34**	**47**	*e*PKPdf		**PKPdf**	**03 56 42.4**	**-0.7**
PLCA	**Paso Flores**	**129.92**	**172**	PKP		**PKPdf**	**03 56 44.1**	**+0.3**
PLCA				SKPbc		SKPbc	04 00 06.7	+2.6
PLCA	**Paso Flores**	**129.92**	**172**	PKP		**PKPdf**	**03 56 44.1**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=153,slow=0.8,SNR=5.3							
PLCA				SKPbc		SKPbc	04 00 06.7	+2.6
	comp=Z,5.5nm,1.0s,baz=191,slow=5.1,SNR=5.0							
G27A	**Dupree**	**130.27**	**36**	P		**PKPdf**	**03 56 43.2**	**-1.1**
	baz=130							
ULM	**Lac du Bonnet**	**130.35**	**28**	SKPbc		**SKPab**	**04 00 03.8**	**-1.2**
	comp=Z,3.4nm,0.6s,baz=347,slow=2.3,SNR=4.3							
MNTX	**Cornudas Mount**	**134.11**	**54**	*e*PKPdf		**PKPdf**	**03 56 51.2**	**-0.7**
ECSD	**EROS Data Cent**	**134.30**	**35**	*e*PKPdf		**PKPdf**	**03 56 50.4**	**-1.5**
TXAR	**Lajitas Array**	**136.29**	**57**	PKPpre		PKPpre	03 56 43.1	
TXAR				SKPbc		**SKPbc**	**04 00 25.4**	**-0.7**
TXAR	**Lajitas Array**	**136.29**	**57**	PKhKP		PKPpre	03 56 43.1	
	comp=Z,0.2nm,0.5s,baz=256,slow=1.4,SNR=5.2							
TXAR				SKPbc		**SKPbc**	**04 00 25.4**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=279,slow=2.4,SNR=12							
COWI	**Conover**	**136.46**	**27**	*e*PKPdf		**PKPdf**	**03 56 55.6**	**-0.2**
BLO	**Bloomington**	**142.94**	**32**	*e*PKIKP		**PKPdf**	**03 57 08.8**	**+0.9**
BLO	**Bloomington**	**142.94**	**32**	*e*PKPdf		**PKPdf**	**03 57 08.8**	**+0.9**
WVT	**Waverly**	**144.37**	**37**	*e*PKPpre		PKPpre	03 57 06.3	
WVT				*e*PKPdf		PKPbc	03 57 09.6	+0.7
OXF	**Oxford**	**144.46**	**40**	*e*PKPpre		PKPpre	03 57 06.6	
OXF				*e*PKPdf		**PKPdf**	**03 57 10.4**	**-0.2**
CPUP	**Villa Florida**	**144.54**	**188**	PKP		**PKPdf**	**03 57 10.6**	**-0.4**
CPUP	**Villa Florida**	**144.54**	**188**	PKP		**PKPdf**	**03 57 10.6**	**-0.4**
	comp=Z,8.1nm,0.5s,baz=171,slow=2.2,SNR=51							
TRY	**Troy**	**144.96**	**15**	*e*PKPdf		**PKPab**	**03 57 10.0**	**-0.4**
VBMS	**Vicksburg**	**145.10**	**45**	*e*PKPdf		**PKPbc**	**03 57 10.4**	**-0.9**
HRV	**Adam Dziewonsk**	**145.66**	**12**	*e*PKIKP		**PKPdf**	**03 57 11.1**	**-1.4**
HRV	**Adam Dziewonsk**	**145.66**	**12**	*e*PKPdf		**PKPdf**	**03 57 11.1**	**-1.4**
QUA2	**Belchertown**	**145.70**	**13**	*e*PKPbc		**PKPab**	**03 57 13.6**	**+0.5**
WES	**Weston**	**145.82**	**12**	*e*PKP2		**PKPdf**	**03 57 11.2**	**-1.5**
WES	**Weston**	**145.82**	**12**	*e*PKPdf		**PKPdf**	**03 57 11.2**	**-1.5**
TZTN	**Tazewell**	**146.46**	**32**	*e*PKPdf		**PKPdf**	**03 57 13.2**	**-0.8**
TZTN				*e*PKPab		**PKPbc**	**03 57 15.1**	**-0.3**
CPCT	**Cooper Cave**	**146.75**	**34**	*e*PKPdf		**PKPdf**	**03 57 13.8**	**-0.8**
CPCT				*e*PKPab		**PKPab**	**03 57 17.4**	**-0.1**
LRAL	**Lakeview Retre**	**146.94**	**40**	*e*PKPdf		**PKPdf**	**03 57 14.9**	**0.0**
SDMD	**Soldier's Deli**	**147.04**	**21**	*e*PKPdf		**PKPdf**	**03 57 14.4**	**-0.5**
SDMD				*e*PKPbc		**PKPbc**	**03 57 17.3**	**+0.3**
BLA	**Blacksburg**	**147.47**	**28**	*e*PKIKP		**PKPdf**	**03 57 14.1**	**-1.7**
BLA	**Blacksburg**	**147.47**	**28**	*e*PKPdf		**PKPdf**	**03 57 14.1**	**-1.7**
JSRW	**J. Sargeant Re**	**148.16**	**24**	*e*PKPdf		**PKPdf**	**03 57 15.4**	**-1.4**
JSRW				*e*PKPbc		**PKPbc**	**03 57 18.0**	**-2.0**
JSRW				*e*PKPab		**PKiKP**	**03 57 21.4**	**-0.4**
BDFB	**Brasilia**	**151.72**	**210**	PKPbc		**PKPbc**	**03 57 30.0**	**+0.5**
BDFB	**Brasilia**	**151.72**	**210**	PKPbc		**PKPbc**	**03 57 30.0**	**+0.5**
	comp=Z,7.1nm,0.5s,baz=88,slow=1.9,SNR=21							
LPAZ	**La Paz**	**154.20**	**167**	PKP		**PKPdf**	**03 57 27.5**	**+0.1**
LPAZ				PKPbc		**PKiKP**	**03 57 36.7**	**+1.1**
LPAZ	**La Paz**	**154.20**	**167**	PKP		**PKPdf**	**03 57 27.5**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=225,slow=4.3,SNR=4.6							
LPAZ				PKPbc		**PKiKP**	**03 57 36.7**	**+1.1**
	comp=Z,4.4nm,0.7s,baz=29,slow=4.1,SNR=8.7							

*NEIC **20** 03:55:51.6, 46°.01S×165°.87E, h8km, ML4.2(WEL), After WEL.*

WEL 20 03:55:52.1±0.3, 46°.08S×165°.89E, h30km±2km, ML4.2/17, Error ellipse: s-maj=2.4km s-min=1.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.56**	**99**	P*	Pb	03 56 03.2	-0.3
PYZ				S*	Sn	03 56 12.0	-0.3
PYZ	**Puysegur Point**	**0.56**	**99**	P*	Pb	03 56 03.4	-0.1
PYZ				S*	Sn	03 56 12.0	-0.3
DCZ	**Deep Cove**	**1.07**	**56**	P*	Pn	03 56 10.7	-0.4
DCZ	**Deep Cove**	**1.07**	**56**	PN	Pn	03 56 10.7	-0.4
DCZ				AML	AML	03 56 25.5	
DCZ				AML	AML	03 56 25.6	
DCZ				AML	AML	03 56 29.6	
DCZ				AML	AML	03 56 33.2	
APZ	**The Paps**	**1.63**	**118**	Pn	Pn	03 56 19.9	+1.0
APZ				Sn	Sb	03 56 41.3	-0.7
APZ	**The Paps**	**1.63**	**118**	PN	Pn	03 56 19.8	+0.9
APZ				SN	Sb	03 56 41.3	-0.7
MLZ	**Mavora Lakes**	**1.76**	**66**	Pn	Pn	03 56 22.0	+1.4
MLZ	**Mavora Lakes**	**1.76**	**66**	PN	Pn	03 56 21.9	+1.3
MLZ				AML	AML	03 56 49.3	
MLZ				AML	AML	03 56 49.4	
MSZ	**Milford Sound**	**2.01**	**46**	Pn	Pn	03 56 25.3	+1.3
MSZ	**Milford Sound**	**2.01**	**46**	PN	Pn	03 56 25.2	+1.2
MSZ				AML	AML	03 57 06.1	
MSZ				AML	AML	03 57 06.1	
MSZ				AML	AML	03 57 18.7	
MSZ				AML	AML	03 57 18.7	
SYZ	**Scrubby Hill**	**2.30**	**103**	Pn	Pb	03 56 30.4	-2.4
SYZ	**Scrubby Hill**	**2.30**	**103**	PN	Pb	03 56 30.4	-2.5
WKZ	**Wanaka**	**2.53**	**61**	Pn	Pn	03 56 34.0	+2.8
WKZ	**Wanaka**	**2.53**	**61**	PN	Pn	03 56 33.9	+2.7
WKZ				AML	AML	03 57 10.3	
WKZ				AML	AML	03 57 22.2	
EAZ	**Earnscleugh**	**2.54**	**72**	Pn	Pn	03 56 34.2	+2.8
EAZ	**Earnscleugh**	**2.54**	**72**	PN	Pn	03 56 34.1	+2.7
EAZ				AML	AML	03 57 10.4	
EAZ				AML	AML	03 57 10.4	
EAZ				AML	AML	03 57 15.1	
EAZ				AML	AML	03 57 15.2	
TUZ	**Tuapeka**	**2.61**	**89**	Pn	Pn	03 56 34.5	+2.3
TUZ	**Tuapeka**	**2.61**	**89**	PN	Pn	03 56 34.8	+2.6
TUZ				AML	AML	03 57 15.9	
TUZ				AML	AML	03 57 16.6	
JCZ	**Jackson Bay**	**2.86**	**46**	Pn	Pn	03 56 37.6	+1.8
JCZ	**Jackson Bay**	**2.86**	**46**	PN	Pn	03 56 37.6	+1.8
JCZ				AML	AML	03 57 28.0	
JCZ				AML	AML	03 57 29.5	
LBZ	**Lake Benmore**	**3.48**	**62**	Pn	Pn	03 56 45.4	+1.2
LBZ	**Lake Benmore**	**3.48**	**62**	PN	Pn	03 56 45.4	+1.2
LBZ				AML	AML	03 57 33.0	
LBZ				AML	AML	03 58 08.1	
ODZ	**Otahua Downs**	**3.50**	**74**	*e*Pn	Pn	03 56 45.6	+1.1
ODZ				*e*Pg	Pb	03 56 56.0	+2.7
ODZ				*e*S	Sb	03 57 40.4	+5.0
ODZ	**Otahua Downs**	**3.50**	**74**	PN	Pn	03 56 45.4	+1.0
ODZ				AML	AML	03 57 50.3	
ODZ				AML	AML	03 57 54.1	
FOZ	**Fox Glacier**	**3.69**	**48**	Pn	Pn	03 56 50.0	+2.9
FOZ	**Fox Glacier**	**3.69**	**48**	PN	Pn	03 56 50.0	+2.9
FOZ				AML	AML	03 57 56.3	
RPZ	**Rata Peaks**	**4.37**	**59**	*e*Pn	Pn	03 56 56.5	+0.1
RPZ				*e*S	Sn	03 57 48.7	+2.4
RPZ	**Rata Peaks**	**4.37**	**59**	PN	Pn	03 56 56.8	+0.3
RPZ				AML	AML	03 57 59.6	
RPZ				AML	AML	03 58 27.4	
WVZ	**Waitaha Valley**	**4.58**	**51**	Pn	Pn	03 57 00.9	+1.6
WVZ	**Waitaha Valley**	**4.58**	**51**	PN	Pn	03 57 00.7	+1.4
OXZ	**Oxford**	**5.18**	**60**	PN	Pn	03 57 07.2	-0.4
DSZ	**Denniston Nort**	**6.08**	**47**	Pn	Pn	03 57 21.0	+0.9
DSZ	**Denniston Nort**	**6.08**	**47**	PN	Pn	03 57 20.9	+0.8
QRZ	**Quartz Range**	**7.13**	**45**	Pn	Pn	03 57 35.3	+0.9
QRZ	**Quartz Range**	**7.13**	**45**	PN	Pn	03 57 36.1	+1.7

*ISCJB **20** 04:08:32.1±1.9, 8°.77S×117°.07E±0°.03, h15km±13km, mb3.6/3, Error ellipse: s-maj=9.6km s-min=5.2km az=2.3*
*DJA **20** 04:08:33.1±1.2, 9°S×117°8E±°, h5km±10km, M4.5/14, MLv4.5/14*
*IDC **20** 04:08:37.5±1.5, 8°.78S×118°.66E, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.6/23, mbtmp3.6/6, ML3.6/3, Error ellipse: s-maj=51.3km s-min=18.4km az=63.0*

ISC 20 04:08:32.3±3.8, 8.77S±0°.07×117.76E±0°.04, h9km±28km, n21, σ1°91/20, mb3.7/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMNI	**Bima**	**0.95**	**76**	P	Pb	04 08 44.5	-6.5
WBSI	**Waikabubak, Su**	**1.83**	**118**	P	Pn	04 09 02.5	-1.5
WBSI				S	**Sn**	**04 09 25.4**	**-2.0**
KHKI	**Kahang-Kahang**	**2.16**	**280**	P	Pn	**04 09 08.0**	**-0.5**
DNP	**Denpasar**	**2.52**	**272**	P	**Pn**	**04 09 15.6**	**+2.2**
DNP				S	**Sb**	**04 09 47.7**	**-1.1**
IGBI	**Denpasar**	**2.58**	**269**	P	**Pn**	**04 09 15.4**	**+1.1**
IGBI				S	**Sn**	**04 09 46.8**	**+1.0**
SRBI	**Singaraja**	**2.61**	**285**	P	**Pn**	**04 09 12.8**	**-1.8**
WSI	**Waingapu**	**2.67**	**110**	P	**Pb**	**04 09 19.8**	**-0.4**
BASI	**Baing, Sumba**	**3.14**	**118**	P	**Pn**	**04 09 23.7**	**+1.8**
JAGI	**Jajag, Banyuwa**	**3.58**	**274**	P	**Pn**	**04 09 27.8**	**-0.2**
JAGI				S	**Sn**	**04 10 10.9**	**+0.5**
BSSI	**Bau Bau, Buton**	**3.76**	**46**	P	**Pn**	**04 09 31.5**	**+1.0**
KMMI	**Kalianget**	**4.12**	**294**	P	**Pn**	**04 09 37.0**	**+1.5**
BKSI	**Bulukumba**	**4.15**	**35**	P	**

BSSI	**Bau Bau, Buton**	**2.02**	**39**	P		**Pn**	**05 02 26.1**	**+1.2**
WSI	**Waingapu**	**2.21**	**151**	P		**Pn**	**05 02 28.0**	**+0.5**
WSI				S		**Sn**	**05 02 55.5**	**+2.0**
WSI	**Waingapu**	**2.21**	**151**	P		**Pn**	**05 02 27.9**	**+0.5**
	baz=1.9,SNR=6.0							
WSI				S		**Sn**	**05 02 56.0**	**+2.5**
	baz=1.9,SNR=5.1							
BKSI	**Bulukumba**	**2.56**	**21**	P		**Pn**	**05 02 33.1**	**+0.8**
BKSI				S		**Sn**	**05 03 07.6**	**+5.4**
KAPI	**Kappang**	**2.75**	**11**	*e*Pn		**Pn**	**05 02 34.2**	**-0.7**
KAPI				Sn		**Sn**	**05 03 08.0**	**-4.0**
KAPI				*e*Sn		Sn	05 03 09.1	+2.1
KAPI	**Kappang**	**2.75**	**11**	P		**Pn**	**05 02 34.3**	**-0.7**
KAPI	**Kappang**	**2.75**	**11**	Pn		**Pn**	**05 02 34.5**	**-0.4**
	16nm,0.3s,baz=198,slow=11,SNR=92							
KAPI				Sn		**Sn**	**05 03 03.0**	**-4.0**
	27nm,0.3s,baz=200,slow=10,SNR=7.2							
BASI	**Baing, Sumba**	**2.82**	**151**	P		**Pn**	**05 02 36.2**	**+0.3**
MMRI	**Maumere**	**3.13**	**107**	P		**Pn**	**05 02 42.1**	**+2.0**
KHKI	**Kahang-Kahang**	**3.62**	**260**	P		Pn	05 02 51.9	+5.0
SPSI	**Sidrap Palu**	**3.78**	**8**	P		**Pn**	**05 02 49.8**	**+0.7**
TTSI	**Tana Toraja**	**4.69**	**7**	P		**Pn**	**05 03 03.9**	**+2.3**
JAGI	**Jajag, Banyuwa**	**5.06**	**261**	P		Pn	05 03 12.6	+5.8
JAGI	**Jajag, Banyuwa**	**5.06**	**261**	P		**Pn**	**05 03 09.3**	**+2.6**
	baz=5.0,SNR=4.7							
SOEI	**Soe**	**5.39**	**112**	P		Pn	05 03 15.3	+4.0
	baz=5.3,SNR=5.5							
FITZ	**Fitzroy Crossi**	**12.06**	**149**	*e*Pn		**Pn**	**05 04 40.2**	**-2.5**
FITZ				Sn		**Sn**	**05 06 50.8**	**-5.3**
FITZ				*e*Sn		Sn	05 06 51.0	-5.0
FITZ	**Fitzroy Crossi**	**12.06**	**149**	Pn		**Pn**	**05 04 40.5**	**-2.2**
	0.4nm,0.3s,baz=337,slow=14,SNR=13							
FITZ				Sn		**Sn**	**05 06 50.8**	**-5.3**
	0.5nm,0.3s,baz=133,slow=13,SNR=5.9							
FITZ				LR		LR	05 10 07.6	
	comp=Z,70nm,18.4s,baz=96,slow=41							
FITZ	**Fitzroy Crossi**	**12.06**	**149**	P		**Pn**	**05 04 40.5**	**-2.2**
	baz=12,SNR=10							
KNRA	**Kununurra**	**12.24**	**131**	P		**Pn**	**05 04 43.5**	**-1.7**
	baz=12,SNR=6.7							
MTN	**Manton Dam**	**12.78**	**114**	P		**Pn**	**05 04 51.7**	**-0.9**
	baz=13,SNR=9.4							
KDU	**Kakadu**	**13.95**	**112**	P		**Pn**	**05 05 09.6**	**+1.1**
	baz=14,SNR=5.6							
KDU				S		**S**	**05 08 04.8**	**+1.7**
	baz=14,SNR=9.2							
MEEK	**Meekatharra**	**18.81**	**182**	S		Sn	05 09 24.1	-16
	baz=19,SNR=7.4							
WRA	**Warramunga Arr**	**19.03**	**131**	P		**P**	**05 06 12.2**	**-0.3**
WRA				S		Sn	05 09 31.3	-14
WRA	**Warramunga Arr**	**19.03**	**131**	P		**P**	**05 06 12.2**	**-0.3**
	1.1nm,0.3s,baz=307,slow=12,SNR=62							
WRA				S		Sn	05 09 31.3	-14
	0.0nm,0.3s,baz=313,slow=22,SNR=2.7							
WRA				LR		LR	05 14 33.5	
	comp=Z,82nm,19.0s,baz=230,slow=40							
WRAB	**Tennant Creek**	**19.04**	**131**	*e*P		**P**	**05 06 12.5**	**0.0**
	13nm,0.8s							
ASAR	**Alice Springs**	**21.21**	**140**	P		**P**	**05 06 36.3**	**+0.2**
ASAR	**Alice Springs**	**21.21**	**140**	P		**P**	**05 06 36.3**	**+0.2**
	12nm,0.8s,baz=318,slow=9.3,SNR=62							
MORW	**Morawa**	**21.44**	**188**	P		**P**	**05 06 40.0**	**+1.6**
	baz=21,SNR=3.1							
BLDU	**Balliduu**	**22.89**	**186**	P		**P**	**05 06 52.3**	**-1.7**
	baz=23,SNR=6.8							
COEN	**Coen**	**24.32**	**107**	P		**P**	**05 07 08.9**	**+1.0**
	baz=24,SNR=7.1							
NWAO	**Narrogin (SRO)**	**25.14**	**184**	P		**P**	**05 07 14.5**	**-0.7**
NWAO	**Narrogin (SRO)**	**25.14**	**184**	P		**P**	**05 07 14.5**	**-0.7**
	28nm,1.0s,baz=0.1,slow=6.8,SNR=4.7							
MTSU	**Mount Surprise**	**26.53**	**115**	P		**P**	**05 07 29.1**	**+1.2**
	baz=26,SNR=7.1							
MANU	**Manus Island**	**28.60**	**80**	S		S	05 12 45.2	+12
	baz=29,SNR=6.4							
BBOO	**Buckleboo**	**29.45**	**150**	P		**P**	**05 07 53.5**	**-0.3**
	baz=29,SNR=10							
STKA	**Stephens Creek**	**31.81**	**142**	P		**P**	**05 08 15.1**	**+0.4**
STKA	**Stephens Creek**	**31.81**	**142**	P		**P**	**05 08 15.1**	**+0.4**
	5.7nm,0.5s,baz=322,slow=8.8,SNR=17							
STKA	**Stephens Creek**	**31.81**	**142**	P		**P**	**05 08 15.0**	**+0.3**
	baz=32,SNR=13							
CMAR	**Chiang Mai Arr**	**32.82**	**323**	P		P	05 08 29.8	+6.1
CMAR	**Chiang Mai Arr**	**32.82**	**323**	P		P	05 08 29.8	+6.1
	0.7nm,0.4s,baz=132,slow=12,SNR=3.7							
CMAR				LR		LR	05 23 11.7	
	comp=Z,33nm,18.9s,baz=165,slow=39							
YNG	**Young**	**37.70**	**139**	P		**P**	**05 09 06.9**	**+1.3**
	baz=38,SNR=5.9							
ARMA	**Armidale**	**37.82**	**131**	P		**P**	**05 09 09.3**	**+2.6**
	baz=38,SNR=5.8							
SONM	**Songino Array**	**56.47**	**350**	P		**P**	**05 11 32.8**	**+1.0**
SONM	**Songino Array**	**56.47**	**350**	P		**P**	**05 11 32.8**	**+1.0**
	0.6nm,0.9s,baz=168,slow=7.4,SNR=3.2							
MKAR	**Makanchi Array**	**63.43**	**333**	P		**P**	**05 12 19.2**	**-0.3**
MKAR	**Makanchi Array**	**63.43**	**333**	P		**P**	**05 12 19.2**	**-0.3**
	1.4nm,0.7s,baz=142,slow=7.4,SNR=17							
KURBB	**Kurchatov Arra**	**67.93**	**333**	P		**P**	**05 12 48.0**	**-0.4**
	0.3nm,0.3s,baz=137,slow=4.9,SNR=4.5							
ZALV	**Zalesovo Beam**	**67.94**	**339**	P		**P**	**05 12 47.9**	**-0.4**
ZALV	**Zalesovo Beam**	**67.94**	**339**	P		**P**	**05 12 47.9**	**-0.4**
	0.5nm,0.4s,baz=143,slow=5.0,SNR=3.3							
KURK	**Kurchatov**	**67.96**	**333**	P		**P**	**05 12 48.0**	**-0.6**
NIUE	**Niue**	**69.47**	**107**	P		P	05 12 48.4	-10
	baz=69,SNR=3.7							
VNDA	**Vanda**	**73.20**	**171**	P		**P**	**05 13 20.5**	**+0.4**
VNDA	**Vanda**	**73.20**	**171**	P		**P**	**05 13 20.5**	**+0.4**
	0.9nm,0.5s,baz=320,slow=5.7,SNR=10							
TORD	**Torodi Ar. Bea**	**118.44**	**281**	PKP		**PKPdf**	**05 20 36.3**	**-1.9**
TORD	**Torodi Ar. Bea**	**118.44**	**281**	PKP		**PKPdf**	**05 20 36.3**	**-1.9**
	0.9nm,1.1s,baz=107,slow=1.5,SNR=2.7							
CPUP	**Villa Florida**	**145.98**	**186**	PKPbc		**PKPdf**	**05 21 30.4**	**+1.1**
CPUP	**Villa Florida**	**145.98**	**186**	PKPbc		**PKPdf**	**05 21 30.4**	**+1.1**
	0.4nm,0.3s,baz=267,slow=2.0,SNR=4.1							
LPAZ	**La Paz**	**155.06**	**163**	PKPab		**PKPab**	**05 22 09.2**	**+0.6**
LPAZ	**La Paz**	**155.06**	**163**	PKPab		**PKPab**	**05 22 09.2**	**+0.6**
	1.1nm,0.8s,baz=112,slow=1.1,SNR=4.5							

WEL 20 05:06:26.1±0.2, 45.56S×166.62E, h21km±1km, ML3.8/16, 1D, Error ellipse: s-maj=2.2km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.38**	**77**	∥P*	Pb	05 06 33.9	-0.1
DCZ				S*	Sb	05 06 39.0	-0.4
DCZ				AML	AML	05 06 39.8	
DCZ				AML	AML	05 06 39.8	
DCZ				AML	AML	05 06 42.7	
PYZ	**Puysegur Point**	**0.61**	**176**	P*	Pb	05 06 37.3	-0.8
PYZ				S*	Sb	05 06 45.2	-1.1
WHZ	**Wether Hill Ro**	**0.98**	**110**	P*	Pn	05 06 44.6	-0.1
WHZ				AML	AML	05 07 03.9	
WHZ				AML	AML	05 07 06.2	
MLZ	**Mavora Lakes**	**1.11**	**79**	PN	Pn	05 06 45.5	-1.0
MLZ				SN	Sb	05 06 59.8	-0.9
MLZ				AML	AML	05 07 01.3	
MSZ	**Milford Sound**	**1.28**	**47**	PN	Pb	05 06 53.9	+4.4
MSZ				AML	AML	05 07 10.3	
MSZ				AML	AML	05 07 10.5	
MSZ				AML	AML	05 07 17.9	
MSZ				AML	AML	05 07 18.0	
APZ	**The Paps**	**1.58**	**144**	PN	Pb	05 06 55.3	+0.5
WKZ	**Wanaka**	**1.85**	**67**	PN	Pb	05 07 00.7	+1.6
WKZ				AML	AML	05 07 27.8	
WKZ				AML	AML	05 07 28.7	
EAZ	**Earnscleugh**	**1.92**	**81**	PN	Pb	05 06 59.9	-0.5
EAZ				AML	AML	05 07 08.5	
EAZ				AML	AML	05 07 28.7	
EAZ				AML	AML	05 07 28.7	
EAZ				AML	AML	05 07 28.9	
TUZ	**Tuapeka**	**2.14**	**102**	PN	Pn	05 07 00.9	+0.3
TUZ				AML	AML	05 07 33.2	
TUZ				AML	AML	05 07 33.8	
LBZ	**Lake Benmore**	**2.79**	**66**	PN	Pn	05 07 11.6	+2.1
LBZ				AML	AML	05 07 49.1	
LBZ				AML	AML	05 08 06.7	
ODZ	**Otahua Downs**	**2.88**	**81**	PN	Pn	05 07 12.4	+1.6
ODZ				AML	AML	05 07 51.2	
ODZ				AML	AML	05 07 57.3	
FOZ	**Fox Glacier**	**2.96**	**49**	PN	Pb	05 07 22.7	+4.6
FOZ				AML	AML	05 08 06.4	

*CSEM **20** 05:08:21.5±0.3, 39.70N×29.46E, h2km, MD2.9, Error ellipse: s-maj=5.6km s-min=4.4km az=13.0*
DDA 20 05:08:21.4, 39.69N×29.46E, h7km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULDT	**Uludag**	**0.52**	**331**	*i* P	Pg	05 08 31.3	-0.3
ULDT				*i* S	Sg	05 08 39.7	+1.2
ULDT	**Uludag**	**0.52**	**331**	*i* P	Pg	05 08 31.3	-0.3
ULDT				*i* S	Sg	05 08 39.7	+1.1
GDZ	**Gediz**	**0.60**	**179**	*i* P	Pg	05 08 32.6	-0.6
GDZ				*i* S	Sb	05 08 42.5	-0.8
GDZ	**Gediz**	**0.60**	**179**	*i* P	Pg	05 08 32.6	-0.6
GDZ				*i* S	Sb	05 08 42.5	-0.8
DURS	**Dursunbey**	**0.77**	**264**	*i* P	Pg	05 08 36.2	-0.1
DURS				*i* S	Sb	05 08 47.7	-0.3
DURS	**Dursunbey**	**0.77**	**264**	*i* P	Pg	05 08 36.2	-0.1
DURS				*i* S	Sb	05 08 47.7	-0.3
BORA	**Eskisehir**	**0.79**	**76**	*i* P	Pg	05 08 36.2	-0.5
BORA				*i* S	Sb	05 08 49.3	+0.8
BORA	**Eskisehir**	**0.79**	**76**	*i* P	Pg	05 08 36.2	-0.5
BORA				*i* S	Sb	05 08 49.3	+0.8
SEYT	**Eskypehyr**	**1.08**	**99**	*i* P	Pg	05 08 42.0	-0.4
SEYT				*i* S	Sn	05 08 58.3	-0.3
SEYT	**Eskypehyr**	**1.08**	**99**	*i* P	Pg	05 08 42.0	-0.4
SEYT				*i* S	Sn	05 08 58.3	-0.3
KHAL	**Karahalli**	**1.32**	**179**	*i* P	Pn	05 08 46.3	-0.1
KHAL				*i* S	Sn	05 09 06.1	+1.7
KHAL	**Karahalli**	**1.32**	**179**	*i* P	Pn	05 08 46.3	-0.1
KHAL				*i* S	Sn	05 09 06.1	+1.7

*NEIC **20** 05:10:00.5, 15.71N×97.78W, h19km, MD4.5(MEX), After MEX.*
MEX 20 05:10:00.5±0.5, 15.71N×97.78W, h19km±15km, MD4.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.76**	**333**	*i* P	Pb	05 10 12.8	-2.2
PNIG				*e*S	Sb	05 10 22.0	-3.1
PNIG	**Pinotepa**	**0.76**	**333**	*i* P	Pb	05 10 12.8	-2.2
PNIG				*e*S	Sb	05 10 22.0	-3.1
HUIG	**Huatulco**	**1.61**	**88**	*i* P	Pn	05 10 24.3	-3.6
HUIG				*e*S	Sn	05 10 44.1	-4.0
HUIG	**Huatulco**	**1.61**	**88**	*i* P	Pn	05 10 24.3	-3.6
HUIG				*e*S	Sn	05 10 44.1	-4.0
CAIG	**El Cayaco**	**2.73**	**299**	*i* P	Pn	05 10 41.8	-1.6
CAIG				*i* S	Sn	05 11 12.1	-3.9
CAIG	**El Cayaco**	**2.73**	**299**	*i* P	Pn	05 10 41.8	-1.6
CAIG				*i* S	Sn	05 11 12.1	-3.9
PLIG	**Platanillo**	**3.13**	**328**	*i* P	Pn	05 10 47.0	-2.0
PLIG				*i* S	Sn	05 11 22.5	-3.6
PLIG	**Platanillo**	**3.13**	**328**	*i* P	Pn	05 10 47.0	-2.0
PLIG				*i* S	Sn	05 11 22.5	-3.6
YAIG	**Yautepec**	**3.37**	**339**	*e*P	Pn	05 10 49.0	-3.2
YAIG				*i* S	Sn	05 11 29.0	-2.9
YAIG	**Yautepec**	**3.37**	**339**	*e*P	Pn	05 10 49.0	-3.2
YAIG				*i* S	Sn	05 11 29.0	-2.9
PPM	**Popocatepetl**	**3.43**	**346**	*i* P	Pn	05 10 51.2	-2.5
PPM				*i* S	Sn	05 11 30.6	-3.7
PPM	**Popocatepetl**	**3.43**	**346**	*i* P	Pn	05 10 51.2	-2.5
PPM				*i* S	Sn	05 11 30.6	-3.7
ARIG	**Puente Sto Nin**	**3.55**	**316**	*i* P	Pn	05 10 52.2	-2.4
ARIG				*i* S	Sn	05 11 32.3	-3.7
TGIG		**4.59**	**76**	*i* P	Pn	05 11 06.9	-2.1
TGIG				*e*S	Sn	05 11 59.8	-2.2
TGIG		**4.59**	**76**	*i* P	Pn	05 11 06.9	-2.1
TGIG				*e*S	Sn	05 11 59.8	-2.2
CCIG	**Comitan**	**5.45**	**83**	*i* P	Pn	05 11 18.7	-2.3
CCIG				*i* S	Sn	05 12 20.0	-3.4
CCIG	**Comitan**	**5.45**	**83**	*i* P	Pn	05 11 18.7	-2.3
CCIG				*i* S	Sn	05 12 20.0	-3.4

*ATH **20** 05:10:19.4, 39.38N×20.75E, h16km, MD3.4/24, ML3.3*
*CSEM **20** 05:10:20.6±0.1, 39.39N×20.67E, h10km, ML3.1/17, Error ellipse: s-maj=3.0km s-min=1.9km az=70.0*
*THE **20** 05:10:20.8, 39.43N×20.73E, h0km±1km, ML3.1/17, Error ellipse: s-maj=1.2km s-min=0.4km az=272.0*
*ISCJB **20** 05:10:20.4±0.5, 39.40N±0.01×20.69E±0.02, h11km±3km, Error ellipse: s-maj=3.2km s-min=2.0km az=164.9*
*BEO **20** 05:10:22.0±1.1, 39.54N×20.61E, h0km, ML3.1/1*
*SKO **20** 05:10:24.0, 39.53N×21.06E, h0km, M2.5, ML2.9*
*SOF **20** 05:10:51.5, 40.98N×22.88E, h1km, MD2.7*
ISC 20 05:10:21.1±0.9, 39.44N±0.02×20.73E±0.02, h12km±6km, n189, σ1°28/241, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.24**	**24**	P	**Pg**	**05 10 25.7**	**-0.5**
JAN				S	**Sg**	**05 10 29.9**	**+0.3**
JAN	**Janina**	**0.24**	**24**	*e*PB	**Pg**	**05 10 25.5**	**-0.7**
JAN				*e*SB	**Sg**	**05 10 30.0**	**+0.3**
JAN	**Janina**	**0.24**	**24**	*e*Pb	**Pg**	**05 10 25.5**	**-0.7**
JAN				*e*Sb	**Sg**	**05 10 30.0**	**+0.3**
IGT	**Igoumenitsa**	**0.32**	**288**	P	**Pg**	**05 10 26.7**	**-0.9**
IGT				S	**Sg**	**05 10 32.6**	**+0.7**
IGT	**Igoumenitsa**	**0.32**	**288**	P	**Pg**	**05 10 26.7**	**-0.9**
IGT				S	**Sg**	**05 10 32.6**	**+0.7**
LKD2	**Lefkada island**	**0.65**	**185**	P	Pg	05 10 32.4	-1.3
LKD2				S	**Sg**	**05 10 43.2**	**+1.0**
LKD2	**Lefkada island**	**0.65**	**185**	*e*PN	Pg	05 10 31.2	-2.5
LKD2				*e*SN	Sg	05 10 39.3	-2.9
LKD2	**Lefkada island**	**0.65**	**185**	*e*Pn	Pg	05 10 31.2	-2.5
LKD2	**Lefkada island**	**0.65**	**185**	P	Pg	05 10 32.4	-1.3
LKD2				*e*Sn	Sg	05 10 39.3	-2.9
LKD2				S	**Sg**	**05 10 43.2**	**+1.0**
SRN	**Sarande**	**0.71**	**309**	P	**Pg**	**05 10 33.9**	**-1.0**
SRN				S	**Sb**	**05 10 45.4**	**+0.2**
SRN	**Sarande**	**0.71**	**309**	P	**Pg**	**05 10 33.9**	**-1.0**
SRN				S	**Sb**	**05 10 45.4**	**+0.2**
KEK	**Kerkira**	**0.77**	**291**	P	**Pg**	**05 10 35.3**	**-0.6**
KEK				S	**Sg**	**05 10 47.1**	**+1.1**
KEK	**Kerkira**	**0.77**	**291**	*e*PB	**Pg**	**05 10 34.3**	**-1.6**
KEK				*e*SN	**Sg**	**05 10 46.6**	**+0.6**
KEK	**Kerkira**	**0.77**	**291**	*e*Pb	**Pg**	**05 10 34.3**	**-1.6**
KEK	**Kerkira**	**0.77**	**291**	P	**Pg**	**05 10 35.3**	**-0.6**
KEK				*e*Sn	**Sg**	**05 10 46.6**	**+0.6**
KEK				S	**Sg**	**05 10 47.1**	**+1.1**
EVR	**Evrytania**	**0.99**	**121**	P	Pg	05 10 38.3	-1.8
EVR				S	**Sg**	**05 10 53.8**	**+0.8**
EVR	**Evrytania**	**0.99**	**121**	*e*PN	Pg	05 10 37.5	-2.6
EVR				*e*SN	**Sg**	**05 10 50.0**	**-3.0**
EVR	**Evrytania**	**0.99**	**121**	*e*Pn	Pg	05 10 37.5	-2.6
EVR	**Evrytania**	**0.99**	**121**	P	Pg	05 10 38.3	-1.8
EVR				*e*Sn	**Sg**	**05 10 50.0**	**-3.0**
EVR				S	**Sg**	**05 10 53.8**	**+0.8**
THL	**Klokotos Trika**	**1.01**	**82**	P	**Pg**	**05 10 38.7**	**-1.7**
THL				S	**Sb**	**05 10 55.0**	**+1.5**
THL	**Klokotos Trika**	**1.01**	**82**	*e*PN	**Pg**	**05 10 37.9**	**-2.5**
THL				*e*SN	**Sg**	**05 10 52.5**	**-1.1**
THL	**Klokotos Trika**	**1.01**	**82**	*e*Sn	**Sg**	**05 10 52.5**	**-1.1**
THL	**Klokotos Trika**	**1.01**	**82**	*e*Pn	**Pg**	**05 10 37.9**	**-2.5**
THL				S	**Sb**	**05 10 55.0**	**+1.5**
NEST	**Nestorio**	**1.01**	**14**	P	**Pg**	**05 10 39.2**	**-1.3**
NEST				S	**Sn**	**05 10 55.1**	**-0.2**
NEST	**Nestorio**	**1.01**	**14**	P	**Pg**	**05 10 39.2**	**-1.3**
NEST				S	**Sn**	**05 10 55.1**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.17**	**111**	P	**Pg**	**05 10 42.6**	**-1.0**
MAKR				S	**Sg**	**05 11 00.3**	**+1.5**
MAKR	**Makrakomi, Fth**	**1.17**	**111**	P	**Pg**	**05 10 42.6**	**-1.0**
MAKR				S	**Sg**	**05 11 00.3**	**+1.5**
KZN	**Kozani**	**1.19**	**42**	P	**Pg**	**05 10 42.7**	**-1.2**
KZN				S	**Sn**	**05 11 00.8**	**+1.2**
KZN	**Kozani**	**1.19**	**42**	*e*PN	**Pg**	**05 10 42.7**	**-1.2**
KZN				*e*SN	**Sb**	**05 10 59.4**	**+0.6**
KZN	**Kozani**	**1.19**	**42**	*e*Sn	**Sb**	**05 10 59.4**	**+0.6**
KZN	**Kozani**	**1.19**	**42**	P	**Pg**	**05 10 42.7**	**-1.2**
KZN				S	**Sn**	**05 11 00.8**	**+1.2**
KBN	**Korca**	**1.19**	**2**	P	**Pb**	**05 10 44.0**	**+0.4**
KBN				S	**Sn**	**05 11 01.2**	**+1.6**
KBN	**Korca**	**1.19**	**2**	P	**Pb**	**05 10 44.0**	**+0.4**
KBN				S	**Sn**	**05 11 01.2**	**+1.6**
VLS	**Valsamata**	**1.26**	**185**	P	Pg	05 10 44.5	-0.8
VLS				S	**Sg**	**05 11 02.4**	**+0.7**
VLS	**Valsamata**	**1.26**	**185**	*e*PN	Pg	05 10 42.3	-3.0
VLS				*e*SN	Sg	05 10 59.1	-2.6
VLS	**Valsamata**	**1.26**	**185**	*e*Pn	Pg	05 10 42.3	-3.0
VLS	**Valsamata**	**1.26**	**185**	P	Pg	05 10 44.5	-0.8
VLS				*e*Sn	Sg	05 10 59.1	-2.6
AGG	**Agios Georgios**	**1.31**	**108**	P	Pg	05 10 43.6	-2.7
AGG				S	**Sg**	**05 11 04.7**	**+1.3**
AGG	**Agios Georgios**	**1.31**	**108**	*e*PN	Pg	05 10 43.5	-2.7
AGG				*e*SN	**Sg**	**05 11 01.1**	**-2.3**
AGG	**Agios Georgios**	**1.31**	**108**	P	Pg	05 10 43.6	-2.7
AGG				*e*Sn	**Sg**	**05 11 01.1**	**-2.3**
AGG				S	**Sg**	**05 11 04.7**	**+1.3**
AXS	**Araxos**	**1.34**	**157**	P	Pn	05 10 44.8	-0.7
AXS				S	**Sg**	**05 11 05.7**	**+1.5**
AXS	**Araxos**	**1.34**	**157**	P	Pn	05 10 44.8	-0.7
EFP	**Efpalio**	**1.36**	**137**	P	**Pn**	**05 10 46.0**	**+0.1**
EFP				S	**Sg**	**05 11 06.2**	**+1.2**
EFP	**Efpalio**	**1.36**	**137**	*e*PN	Pn	05 10 43.7	-2.2
EFP				*e*SN	**Sg**	**05 11 01.8**	**-3.2**
EFP	**Efpalio**	**1.36**	**137**	*e*Sn	**Sg**	**05 11 01.8**	**-3.2**
EFP	**Efpalio**	**1.36**	**137**	*e*Pn	Pn	05 10 43.7	-2.2
EFP	**Efpalio**	**1.36**	**137**	P	**Pn**	**05 10 46.0**	**+0.1**
PSA1	**Psathopyrgos**	**1.43**	**140**	*e*PN	Pn	05 10 45.6	-1.2
PSA1				*e*SN	Sb	05 11 03.9	-1.9
FNA	**Florina**	**1.44**	**20**	P	**Pg**	**05 10 47.1**	**-1.6**
FNA				S	**Sn**	**05 11 08.5**	**+2.7**
FNA	**Florina**	**1.44**	**20**	*e*PN	**Pg**	**05 10 47.0**	**-1.6**
FNA				*e*SN	**Sn**	**05 11 07.4**	**+1.6**
FNA	**Florina**	**1.44**	**20**	*e*Sn	**Sn**	**05 11 07.4**	**+1.6**
FNA	**Florina**	**1.44**	**20**	P	**Pg**	**05 10 47.1**	**-1.6**
FNA				S	**Sn**	**05 11 08.5**	**+2.7**
RLS	**Riolos of Patr**	**1.49**	**157**	P	Pn	05 10 47.4	-0.2
RLS				S	**Sn**	**05 11 09.4**	**+2.4**
RLS	**Riolos of Patr**	**1.49**	**157**	*e*PN	Pn	05 10 46.4	-1.2
RLS				*e*SN	**Sn**	**05 11 06.6**	**-0.4**
RLS	**Riolos of Patr**	**1.49**	**157**	*e*Pn	Pn	05 10 46.4	-1.2
RLS	**Riolos of Patr**	**1.49**	**157**	P	**Pn**	**05 10 47.4**	**-0.2**
RLS				*e*Sn	**Sn**	**05 11 06.6**	**-0.4**
LIT	**Litokhoron**	**1.51**	**63**	P	**Pn**	**05 10 48.1**	**+0.1**
LIT	**Litokhoron**	**1.51**	**63**	*e*PN	**Pn**	**05 10 47.6**	**-0.4**
LIT	**Litokhoron**	**1.51**	**63**	*e*Pn	**Pn**	**05 10 47.6**	**-0.4**
LIT	**Litokhoron**	**1.51**	**63**	P	**Pn**	**05 10 48.1**	**+0.1**
KALE	**Kalithea**	**1.52**	**133**	P	**Pn**	**05 10 47.9**	**-0.2**
KALE				S	**Sn**	**05 11 09.7**	**+1.9**
KALE	**Kalithea**	**1.52**	**133**	*e*PN	Pn	05 10 46.8	-1.3
KALE				*e*SN	**Sn**	**05 11 07.2**	**-0.6**
KALE	**Kalithea**	**1.52**	**133**	*e*Pn	Pn	05 10 46.8	-1.3
KALE	**Kalithea**	**1.52**	**133**	P	**Pn**	**05 10 47.9**	**-0.2**
KALE				*e*Sn	**Sn**	**05 11 07.2**	**-0.6**
KALE				S	**Sn**	**05 11 09.7**	**+1.9**
LAKA	**Lakka**	**1.54**	**140**	P	**Pn**	**05 10 48.6**	**+0.2**
LAKA				S	**Sn**	**05 11 11.0**	**+2.7**
LAKA	**Lakka**	**1.54**	**140**	*e*PN	Pn	05 10 47.8	-0.6
LAKA				*e*SN	**Sn**	**05 11 07.8**	**-0.5**
LAKA	**Lakka**	**1.54**	**140**	*e*Pn	Pn	05 10 47.8	-0.6
LAKA	**Lakka**	**1.54**	**140**	P	**Pn**	**05 10 48.6**	**+0.2**
LAKA				*e*Sn	**Sn**	**05 11 07.8**	**-0.5**
AXAR	**Agios Charalam**	**1.65**	**113**	P	**Pn**	**05 10 50.4**	**+0.6**
AXAR				S	**Sn**	**05 11 12.9**	**+2.0**
AXAR	**Agios Charalam**	**1.65**	**113**	P	**Pn**	**05 10 50.4**	**+0.6**
AXAR				S	**Sn**	**05 11 12.9**	**+2.0**
BIA	**Bitola**	**1.65**	**16**	P	**Pn**	**05 10 50.7**	**+0.9**
BIA				S	**Sg**	**05 11 12.8**	**-1.3**
BIA	**Bitola**	**1.65**	**16**	*e*Pn	**Pn**	**05 10 50.5**	**+0.6**
BIA				*e*Sn	**Sg**	**05 11 14.0**	**-0.1**
BIA	**Bitola**	**1.65**	**16**	*e*Pn	**Pn**	**05 10 50.4**	**+0.6**
BIA	**Bitola**	**1.65**	**16**	P	**Pn**	**05 10 50.7**	**+0.9**
BIA				S	**Sg**	**05 11 12.8**	**-1.3**
BIA	

ITM	**Ithomi**	**2.44**	**157**	P		**Pn**	**05 11 02.1**	**+1.4**
ITM				*e*Sn		**Sn**	**05 11 29.6**	**-0.9**
SOH	**Sokhos**	**2.44**	**55**	P		**Pn**	**05 11 01.6**	**+0.8**
SOH	**Sokhos**	**2.44**	**55**	*e*PB		**Pn**	**05 11 01.1**	**+0.3**
SOH				*e*SN		**Sn**	**05 11 31.5**	**+0.9**
SOH	**Sokhos**	**2.44**	**55**	*e*Pb		**Pn**	**05 11 01.1**	**+0.3**
SOH	**Sokhos**	**2.44**	**55**	P		**Pn**	**05 11 01.6**	**+0.8**
SOH				*e*Sn		**Sn**	**05 11 31.5**	**+0.9**
SKO	**Skopje**	**2.59**	**12**	*e*Pn		**Pn**	**05 11 01.9**	**-0.9**
SKO	**Skopje**	**2.59**	**12**	*e*Pn		**Pn**	**05 11 04.3**	**+1.5**
SKO	**Skopje**	**2.59**	**12**	*e*Pn		**Pn**	**05 11 04.3**	**+1.5**
PYL	**PYLOS**	**2.66**	**162**	P		Pn	05 11 03.5	-0.3
PYL	**PYLOS**	**2.66**	**162**	*e*PB		Pn	05 11 03.4	-0.3
PYL	**PYLOS**	**2.66**	**162**	*e*Pb		Pn	05 11 03.4	-0.3
OUR	**Ouranopolis**	**2.66**	**69**	P		**Pn**	**05 11 04.3**	**+0.6**
OUR	**Ouranopolis**	**2.66**	**69**	P		**Pn**	**05 11 04.3**	**+0.6**
NAIG	**Nisos Aigina**	**2.74**	**127**	*e*PB		**Pn**	**05 11 04.7**	**-0.1**
NAIG	**Nisos Aigina**	**2.74**	**127**	*e*Pb		**Pn**	**05 11 04.7**	**-0.1**
DID	**Didima**	**2.76**	**134**	P		**Pn**	**05 11 05.2**	**+0.1**
DID	**Didima**	**2.76**	**134**	*e*PN		Pn	05 11 04.5	-0.6
DID	**Didima**	**2.76**	**134**	*e*Pn		Pn	05 11 04.5	-0.6
DID	**Didima**	**2.76**	**134**	P		**Pn**	**05 11 05.2**	**+0.1**
ATH	**Athens Observa**	**2.76**	**121**	*e*PB		**Pn**	**05 11 05.7**	**+0.7**
ATH	**Athens Observa**	**2.76**	**121**	*e*Pb		**Pn**	**05 11 05.7**	**+0.7**
DIDY	**Didyma**	**2.76**	**134**	P		**Pn**	**05 11 06.9**	**+1.7**
DIDY	**Didyma**	**2.76**	**134**	P		**Pn**	**05 11 06.9**	**+1.7**
DYR	**Agios Nikonas**	**2.96**	**154**	P		**Pn**	**05 11 09.4**	**+1.6**
DYR	**Agios Nikonas**	**2.96**	**154**	*e*PN		Pn	05 11 07.7	-0.1
DYR	**Agios Nikonas**	**2.96**	**154**	*e*Pn		Pn	05 11 07.7	-0.1
DYR	**Agios Nikonas**	**2.96**	**154**	P		**Pn**	**05 11 09.4**	**+1.6**
KKB	**Krupnik**	**3.02**	**36**	*e*P		**Pn**	**05 11 09.3**	**+0.6**
KKB	**Krupnik**	**3.02**	**36**	*e*P		**Pn**	**05 11 09.3**	**+0.6**
NVR	**Nevrokopi**	**3.06**	**50**	*e*PN		**Pn**	**05 11 10.1**	**+0.8**
NVR	**Nevrokopi**	**3.06**	**50**	*e*Pn		**Pn**	**05 11 10.1**	**+0.8**
MMB	**Musomiste**	**3.14**	**46**	*e*P		**Pn**	**05 11 08.9**	**-1.5**
MMB	**Musomiste**	**3.14**	**46**	*e*P		**Pn**	**05 11 08.9**	**-1.5**
PDG	**Podgorica**	**3.19**	**340**	*e*Pn		**Pn**	**05 11 12.0**	**+1.0**
PDG				*e*Sn		**Sn**	**05 11 49.2**	**+0.3**
PDG	**Podgorica**	**3.19**	**340**	*e*Pn		**Pn**	**05 11 12.0**	**+1.0**
PDG				*e*Sn		**Sn**	**05 11 49.2**	**+0.3**
VLI	**Veliai**	**3.23**	**147**	*e*PN		Pn	05 11 10.9	-0.6
VLI	**Veliai**	**3.23**	**147**	*e*Pn		Pn	05 11 10.9	-0.6
BARS	**Barje**	**3.48**	**13**	*e*Pn		**Pn**	**05 11 15.6**	**+0.7**
BARS	**Barje**	**3.48**	**13**	*e*Pn		**Pn**	**05 11 15.6**	**+0.7**
KYTH	**Kithira**	**3.64**	**149**	P		**Pn**	**05 11 18.0**	**+0.8**
KYTH	**Kithira**	**3.64**	**149**	*e*PN		**Pn**	**05 11 17.8**	**+0.6**
KYTH	**Kithira**	**3.64**	**149**	*e*Pn		**Pn**	**05 11 17.8**	**+0.6**
VTS	**Vitosha**	**3.67**	**30**	*i* P		**Pn**	**05 11 19.0**	**+1.3**
VTS	**Vitosha**	**3.67**	**30**	*e*Pn		**Pn**	**05 11 19.2**	**+1.5**
VTS				*e*Sn		**Sn**	**05 12 02.1**	**+1.1**
VTS	**Vitosha**	**3.67**	**30**	*i* P		**Pn**	**05 11 19.0**	**+1.3**
VTS				*e*Sn		**Sn**	**05 12 02.1**	**+1.1**
RZN	**Rozhen**	**3.78**	**52**	*e*P		**Pn**	**05 11 21.2**	**+1.9**
RZN	**Rozhen**	**3.78**	**52**	*e*P		**Pn**	**05 11 21.2**	**+1.9**
SELS	**Selova**	**3.79**	**4**	*e*Pn		**Pn**	**05 11 19.3**	**0.0**
ZAPS	**Zavoj**	**4.09**	**20**	*e*Pn		**Pn**	**05 11 25.1**	**+1.6**
STON	**Ston**	**4.12**	**327**	*e*Pn		**Pn**	**05 11 22.1**	**-1.7**
STON				Sn		**Sn**	**05 12 08.1**	**-3.8**
STON	**Ston**	**4.12**	**327**	*e*Pn		**Pn**	**05 11 22.1**	**-1.7**
STON				Sn		**Sn**	**05 12 08.1**	**-3.8**
CHOS	**Chios island**	**4.29**	**102**	P		**Pn**	**05 11 27.0**	**+0.9**
CHOS	**Chios island**	**4.29**	**102**	P		**Pn**	**05 11 27.0**	**+0.9**
GRUS	**Gruza**	**4.45**	**360**	*e*Pn		**Pn**	**05 11 29.7**	**+1.4**
GRUS	**Gruza**	**4.45**	**360**	*e*Pn		**Pn**	**05 11 29.7**	**+1.4**
BBLS	**Lazići**	**4.54**	**348**	*e*Pn		**Pn**	**05 11 29.7**	**+0.1**
BBLS	**Lazići**	**4.54**	**348**	*e*Pn		**Pn**	**05 11 29.7**	**+0.1**
DIVS	**Divibare**	**4.69**	**354**	P		**Pn**	**05 11 31.7**	**0.0**
DIVS	**Divibare**	**4.69**	**354**	*e*Pn		**Pn**	**05 11 31.2**	**-0.5**
DIVS				*e*Sn		**Sn**	**05 12 24.2**	**-1.9**
DIVS	**Divibare**	**4.69**	**354**	*e*Pn		**Pn**	**05 11 31.2**	**-0.5**
DIVS	**Divibare**	**4.69**	**354**	P		**Pn**	**05 11 31.7**	**0.0**
DIVS				*e*Sn		**Sn**	**05 12 24.2**	**-1.9**
NVLJ	**Novalja**	**6.73**	**322**	*e*Pn		Pn	05 11 56.6	-3.0
NVLJ				Sn		Sn	05 13 10.4	-5.6

*IDC **20** 05:27:04.2±8.9, 43.˚70N×131.˚12W, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/26, mbtmp3.3/3, ML2.7/1, Error ellipse: s-maj=297.3km s-min=26.1km az=47.0*

*ISCJB **20** 05:27:10.2±1.3, 44.˚64N±0.˚07×129.˚6W±0.˚1, h10km, mb3.2/2, Error ellipse: s-maj=14.2km s-min=10.3km az=176.5*

*NEIC **20** 05:27:11.7±1.3, 44.˚64N×129.˚72W, h10km, ML3.1, Error ellipse: s-maj=14.9km s-min=9.6km az=68.0*

ISC 20 05:27:12.2±1.6, 44.˚66N±0.˚09×129.˚6W±0.˚1, h10km, n36, σ1§30/38, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMOR	**Kings Mountain**	**4.42**	**75**	P	**Pn**	**05 28 19.0**	**-0.4**
COR	**Corvallis**	**4.49**	**89**	*e*Pn	**Pn**	**05 28 19.8**	**-0.4**
COR				*e*Sn	**Sn**	**05 29 09.9**	**-2.6**
E03A	**Lebam**	**4.63**	**64**	P	**Pn**	**05 28 22.4**	**+0.2**
BMW	**Boistfort Moun**	**4.82**	**66**	P	**Pn**	**05 28 25.1**	**+0.2**
NLWA	**Neilton Lookou**	**4.83**	**54**	*e*Pn	**Pn**	**05 28 25.5**	**+0.5**
NLWA				*e*Sn	**Sn**	**05 29 22.5**	**+1.5**
RVW	**Rose Valley**	**5.05**	**70**	P	**Pn**	**05 28 28.4**	**+0.5**
SSOR	**Sweet Springs**	**5.08**	**85**	P	**Pn**	**05 28 28.9**	**+0.4**
F04A	**Amboy**	**5.22**	**73**	P	**Pn**	**05 28 30.6**	**+0.4**
LCW	**Lucas Creek**	**5.23**	**65**	P	**Pn**	**05 28 31.1**	**+0.6**
HUMO	**Hull Mountain**	**5.23**	**111**	*e*Pn	**Pn**	**05 28 29.7**	**-0.8**
LVP	**Lakeview Peak**	**5.25**	**72**	P	**Pn**	**05 28 31.1**	**+0.3**
IRO	**Indian Ridge**	**5.30**	**95**	P	**Pn**	**05 28 31.3**	**-0.3**
FL2	**Flat Top 2**	**5.32**	**71**	P	**Pn**	**05 28 32.4**	**+0.6**
FRIS	**Frissel Point**	**5.38**	**92**	P	**Pn**	**05 28 32.7**	**0.0**
TDL	**Tradedollar La**	**5.45**	**69**	P	**Pn**	**05 28 34.1**	**+0.5**
LMW	**Ladd Mountain**	**5.50**	**66**	P	**Pn**	**05 28 35.4**	**+1.2**
TDH	**Tom, Dick, Har**	**5.57**	**81**	P	**Pn**	**05 28 36.3**	**+1.1**
BPO	**Bald Peter**	**5.64**	**87**	P	**Pn**	**05 28 36.7**	**+0.5**
VBEM	**Beaver Butte**	**5.70**	**83**	P	**Pn**	**05 28 38.0**	**+0.9**
VFP	**Flag Point**	**5.80**	**81**	P	**Pn**	**05 28 39.7**	**+1.3**
PGC	**Sidney**	**5.81**	**44**	*e*Pn	**Pn**	**05 28 39.3**	**+0.9**
YBH	**Yreka Blue Hor**	**5.82**	**118**	*e*Pn	**Pn**	**05 28 40.3**	**+1.7**
ASR	**Mount Adams--S**	**5.83**	**72**	P	**Pn**	**05 28 39.6**	**+0.9**
LON	**Longmire**	**5.84**	**66**	*e*Pn	**Pn**	**05 28 39.9**	**+1.1**
WVOR	**Wild Horse Val**	**8.26**	**102**	*e*Pn	**Pn**	**05 29 14.6**	**+2.5**
BMO	**Blue Mountains** 2.1nm,0.4s	**8.75**	**84**	*e*Pn	**Pn**	**05 29 18.4**	**-0.4**
NVAR	**Mina Arroyo Bea**	**10.50**	**122**	Pn	**Pn**	**05 29 44.9**	**+2.0**
NVAR	**Mina Arroyo Bea** 0.1nm,0.3s,baz=289,slow=11,SNR=4.1	**10.50**	**122**	Pn	**Pn**	**05 29 44.9**	**+2.0**
BSMT	**Bassoo Peak**	**10.74**	**67**	*e*Pn	**Pn**	**05 29 47.6**	**+1.5**
SLMT	**Seeley Lake** 3.5nm,0.9s	**11.50**	**71**	*e*Pn	**Pn**	**05 29 59.8**	**+3.2**
CHMT	**Chamberlain Mo**	**11.63**	**73**	*e*Pn	**Pn**	**05 29 60.0**	**+1.6**
GCMT	**Greycliff** 3.2nm,0.9s	**14.09**	**78**	*e*Pn	**Pn**	**05 30 33.0**	**+1.1**
ILAR	**Eielson Array**	**22.34**	**340**	P	**P**	**05 32 09.4**	**-0.5**
ILAR	**Eielson Array** 1.4nm,1.2s,baz=147,slow=10,SNR=7.2	**22.34**	**340**	P	**P**	**05 32 09.4**	**-0.5**
TXAR	**Lajitas Array**	**25.59**	**118**	P	**P**	**05 32 40.0**	**-1.6**
TXAR	**Lajitas Array** 0.4nm,0.7s,baz=313,slow=9.0,SNR=8.3	**25.59**	**118**	P	**P**	**05 32 40.0**	**-1.6**

NEIC 20 05:31:50.1, 37.˚50N×114.˚69W, h3km, ML3.6(REN), After REN., Southern Nevada

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARUT	**Antelope Range**	**1.03**	**73**	*e*Pg	Pg	05 32 08.1	-2.2
ARUT				*e*Sg	Sg	05 32 21.1	-2.7
CCUT	**Cedar City**	**1.06**	**87**	*e*Pg	Pg	05 32 08.1	-2.7
CCUT				*e*Sg	Sg	05 32 21.8	-3.0
R11A	**Troy Canyon, C** baz=1.1	**1.10**	**320**	P	Pg	05 32 11.2	-0.4
R11A				S	Sb	05 32 26.7	-0.4
FURC	**Furnace Creek,** baz=2.0	**2.02**	**240**	Sg	Sg	05 32 55.7	+0.7
GRAC	**Grapevine Rang** baz=2.2	**2.19**	**258**	P	Pn	05 32 26.9	-0.7
GRAC				Sn	Sn	05 32 55.7	+0.4
MVU	**Marysvale** baz=2.2	**2.20**	**62**	*e*Pn	Pn	05 32 27.4	-0.5
MVU				*e*Sn	Sn	05 32 55.5	-0.4
U15A	**North Rim** baz=2.2	**2.20**	**118**	P	Pn	05 32 26.1	-1.9
U15A				Sn	Sn	05 32 54.1	-1.9
MSU	**Marysvale**	**2.23**	**62**	*e*Pn	Pn	05 32 26.9	-1.5
MSU				*e*Sn	Sb	05 32 59.5	-0.1
TUQ	**Turquoise Moun** baz=2.3	**2.29**	**206**	P	Pn	05 32 27.4	-1.5
LDFC	**Landfair**	**2.44**	**188**	*e*Pn	Pn	05 32 28.8	-2.2
LDFC				*e*Sn	Sn	05 33 00.4	-1.1
W13A	**Hualapai Mount** baz=2.5	**2.48**	**165**	P	Pn	05 32 29.5	-2.3
W13A				Sb	Sb	05 33 04.9	-2.0
MPMC	**Manual Prospec** baz=2.5	**2.67**	**238**	P	Pn	05 32 33.0	-1.2
MPMC				Sg	Sg	05 33 16.0	-0.3
GSC	**Goldstone** baz=2.7	**2.78**	**218**	*e*Pn	Pn	05 32 34.5	-1.1
GSC				*e*Sn	Sn	05 33 10.3	+0.5
GMRC	**Granite Mounta** baz=2.8	**2.83**	**196**	P	Pn	05 32 34.3	-2.1
NV11	**Mina Array Sit**	**2.89**	**290**	*e*Pn	Pn	05 32 36.3	-1.0
NV11				*e*Sg	Sg	05 33 24.3	+0.9
HEC	**Hector,Ludlow** baz=3.0	**2.98**	**207**	Pg	Pb	05 32 44.7	+0.8
DUG	**Dugway**	**3.06**	**28**	*e*Pn	Pn	05 32 39.7	0.0
DUG				*e*Sn	Sn	05 33 17.2	+0.1
DUG	**Dugway** baz=3.1	**3.06**	**28**	Pb	Pb	05 32 44.2	-1.4
MTUM	**Tungsten Hills**	**3.08**	**268**	*e*Pn	Pn	05 32 39.8	-0.2
Q16A	**Castle Valley** baz=3.1	**3.11**	**62**	Sb	Sb	05 33 25.5	+0.5
NLU	**North Lily Min**	**3.19**	**39**	Pn	Pn	05 32 40.5	-1.1
NLU				*e*Sg	Sg	05 33 33.8	+0.4
TMUT	**Trail Mountain**	**3.27**	**56**	*e*Pn	Pn	05 32 42.4	-0.4
TMUT				*e*Sn	Sn	05 33 22.8	+0.2
WUAZ	**Wupatki**	**3.33**	**126**	*e*Pn	Pn	05 32 44.3	+1.0
WUAZ				*e*Sn	Sn	05 33 25.5	+2.0
WUAZ	**Wupatki** baz=3.3	**3.33**	**126**	Pb	Pb	05 32 47.2	-2.9
MPU	**Maple Canyon**	**3.47**	**43**	*e*Pn	Pb	05 32 50.9	-1.6
MPU				*e*Sg	Sg	05 33 40.4	-1.7
BMN	**Battle Mountai**	**3.53**	**327**	*e*Pn	Pn	05 32 46.1	0.0
BMN				*e*Sn	Sn	05 33 28.7	+0.2
BMN				*e*Sg	Sg	05 33 41.2	-2.7
ISA	**Isabella**	**3.55**	**240**	*e*Pn	Pn	05 32 46.0	-0.3
ISA				*e*Sn	Sn	05 33 27.9	-1.0
BELC	**Belle Mtn. Jos** baz=3.7	**3.65**	**197**	Pg	Pb	05 32 57.6	+2.1
SRU	**San Rafael**	**3.65**	**63**	*e*Pn	Pn	05 32 47.5	-0.3
SRU				*e*Sn	Sn	05 33 31.1	-0.3
BGU	**Big Grassy Mou**	**3.66**	**20**	*e*Pn	Pn	05 32 47.6	-0.2
BGU				*e*Sg	Sg	05 33 45.7	-2.4
Y12C	**Blythe** baz=3.8	**3.74**	**178**	P	Pn	05 32 46.9	-1.9
Y14A	**Wickenburg** baz=3.8	**3.81**	**158**	P	Pn	05 32 48.1	-1.7
WAKR	**Walker**	**3.88**	**286**	*e*Pn	Pn	05 32 50.4	-0.6
WAKR				*e*Sg	Sg	05 33 55.1	-0.1
DAU	**Daniels Canyon**	**3.95**	**42**	*e*Pn	Pn	05 32 53.8	+1.6
DAU				*e*Sn	Sn	05 33 35.6	-3.7
JLU	**Jordanelle**	**4.00**	**38**	*e*Pn	Pn	05 32 53.5	+0.9
PFO	**Pinyon Flat Ob**	**4.14**	**201**	*e*Pn	Pn	05 32 55.3	+0.9
PFO				*e*Sn	Sn	05 33 44.0	+0.6
SPUT	**South Promonto**	**4.18**	**24**	*e*Pn	Pn	05 32 55.0	-0.1
SPUT				*e*Sn	Sn	05 33 44.2	-0.4
MWC	**Mount Wilson**	**4.26**	**221**	*e*Pn	Pn	05 32 57.2	+1.0
MWC				*e*Sn	Sn	05 33 48.0	+1.4
PAHR	**Pah Rah Range**	**4.28**	**302**	*e*Pn	Pn	05 32 57.5	+1.1
PAHR				*e*Sg	Sg	05 34 08.8	+0.6
OSI	**Osito Adit**	**4.35**	**230**	*e*Pg	Pg	05 33 13.4	-0.2
PASC	**Pasadena Art C**	**4.37**	**222**	*e*Pn	Pn	05 32 57.3	-0.1
GLA	**Glamis**	**4.44**	**181**	*e*Pg	Pg	05 33 14.3	-1.0
GLA				*e*Sg	Sg	05 34 10.2	-2.7
HVU	**Hansel Valley**	**4.52**	**19**	*e*Pn	Pn	05 33 00.7	+0.9
HVU				*e*Sg	Sg	05 34 15.6	-0.3
CMB	**Columbia Colle** 5.0nm,0.6s	**4.54**	**278**	*e*Pn	Pn	05 32 59.8	-0.1
CMB				*e*Pg	Pg	05 33 15.2	-2.1
CMB				*e*Sg	Sg	05 34 15.2	-1.1
PV04	**Paradox Valley**	**4.66**	**77**	*e*Pg	Pg	05 33 18.4	-1.3
PV04				*e*Sg	Sg	05 34 19.6	-0.7
HWUT	**Hardware Ranch**	**4.76**	**30**	*e*Pn	Pn	05 33 04.2	+1.1
HWUT				*e*Sg	Sg	05 34 23.9	+0.4
PV01	**Paradox Valley**	**4.89**	**81**	*e*Pn	Pn	05 33 06.0	+1.1
MVCO	**Mesa Verde**	**4.94**	**91**	*e*Pn	Pn	05 33 05.5	-0.2
MVCO				*e*Sn	Sn	05 34 05.2	+1.6
BEKR	**Beckworth** 2.6nm,0.4s	**5.02**	**300**	*e*Pn	Pn	05 33 07.1	+0.5
BEKR				*e*Sg	Sg	05 34 30.9	-1.0
BAR	**Barrett**	**5.08**	**199**	*e*Pn	Pn	05 33 06.2	-1.0
BAR				*e*Sg	Sg	05 34 33.8	+0.5
WVOR	**Wild Horse Val** 5.0nm,0.6s	**5.78**	**330**	*e*Pn	Pn	05 33 16.4	-0.6
WVOR				*e*Sg	Sg	05 34 55.9	-0.3
HLID	**Hailey**	**6.06**	**2**	*e*Pn	Pn	05 33 22.1	+1.2
HLID				*e*Sn	Sn	05 34 31.8	+0.9
TUC	**Tucson**	**6.09**	**147**	*e*Pn	Pn	05 33 20.2	-1.0
TUC				*e*Sg	Sg	05 34 58.5	-7.6
SMCO	**Snowmass** 3.4nm,0.4s	**6.29**	**72**	Pn	Pn	05 33 25.4	+1.0
SMCO				*e*Sg	Sg	05 35 09.7	-3.5
LOHW	**Long Hollow**	**6.85**	**26**	*e*Pn	Pn	05 33 33.3	+1.5
ANMO	**Albuquerque**	**7.13**	**108**	*e*Pn	Pn	05 33 34.8	-0.8
LPM	**Los Pinos Moun**	**7.27**	**114**	*e*Pg	Pg	05 34 04.4	-5.3
SDCO	**Great Sand Dun** 3.3nm,0.9s	**7.30**	**85**	*e*Pn	Pn	05 33 37.9	-0.2
SDCO				*e*Sn	Sn	05 35 01.7	-0.1
BNM	**Barren Site** 3.4nm,0.6s	**7.35**	**115**	*e*Pn	Pn	05 33 39.7	+0.9
BMO	**Blue Mountains** 1.4nm,0.6s	**7.61**	**346**	*e*Pn	Pn	05 33 40.5	-1.4
BMO				*e*Sg	Sg	05 35 53.9	-0.7

*ISCJB **20** 06:06:54.4±0.4, 23.˚90S±0.˚08×69.˚59E±0.˚10, h10km, mb4.1/24, MS4.1/22, Error ellipse: s-maj=13.1km s-min=11.0km az=151.4*

*IDC **20** 06:06:54.5±0.5, 23.˚88S×69.˚59E, h0km, mb4.2/22, mb1 4.3/22, mb1mx4.2/31, mbtmp4.2/22, MS4.1/22, Ms1 4.1/22, ms1mx4.0/28, Error ellipse: s-maj=16.7km s-min=13.3km az=73.0*

*NEIC **20** 06:06:56.1±0.3, 23.˚89S×69.˚52E, h10km, mb4.3/3, Error ellipse: s-maj=10.1km s-min=8.6km az=54.0*

ISC 20 06:06:56.0±0.4, 23.˚88S±0.˚10×69.˚6E±0.˚1, h10km, n68, σ0§87/69, mb4.2/24, MS4.0/22, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo** comp=Z,614nm,20.9s,baz=111,slow=30	**21.49**	**280**	LR	LR	06 17 45.9	
KMBO	**Kilima Mbogo**	**38.60**	**301**	*e*P	**P**	**06 14 21.5**	**+1.6**
KMBO	**Kilima Mbogo** 1.4nm,0.6s,baz=54,slow=18,SNR=4.2	**38.60**	**301**	P	**P**	**06 14 20.8**	**+0.9**
KMBO				LR	LR	06 26 27.7	
PSI	**Prapat** comp=Z,128nm,21.6s,baz=100,slow=30	**39.00**	**51**	LR	LR	06 26 42.1	
LSZ	**Lusaka** 2.6nm,0.7s	**39.78**	**275**	*e*P	**P**	**06 14 26.7**	**-2.9**
LSZ	**Lusaka** 2.1nm,0.8s,baz=93,slow=14,SNR=4.3	**39.78**	**275**	P	**P**	**06 14 30.6**	**+1.0**
LSZ				LR	LR	06 29 10.5	
BOSA	**Boshof** comp=Z,272nm,21.6s,baz=13,slow=34	**39.83**	**253**	P	**P**	**06 14 30.5**	**+0.5**
BOSA	**Boshof** 9.8nm,1.4s,baz=125,slow=5.4,SNR=3.8	**39.83**	**253**	P	**P**	**06 14 30.5**	**+0.5**
BOSA				LR	LR	06 28 17.3	
LBTB	**Lobatse** comp=Z,380nm,18.4s,baz=166,slow=32	**39.89**	**259**	LR	LR	06 28 35.2	
NWAO	**Narrogin (SRO)** comp=Z,334nm,20.0s,baz=87,slow=32	**42.61**	**113**	LR	LR	06 29 18.1	
SUR	**Sutherland** comp=Z,299nm,19.4s,baz=110,slow=31	**43.50**	**248**	LR	LR	06 29 33.0	
MAW	**Mawson**	**43.93**	**184**	P	**P**	**06 15 02.3**	**-0.4**
MAW	**Mawson** 1.8nm,0.6s,baz=345,slow=12,SNR=3.2	**43.93**	**184**	P	**P**	**06 15 02.3**	**-0.4**
MAW				LR	LR	06 28 37.5	
CMAR	**Chiang Mai Arr** comp=Z,156nm,18.8s,baz=215,slow=34	**50.93**	**37**	LR	LR	06 35 19.3	
ASAR	**Alice Springs**	**58.41**	**104**	P	**P**	**06 16 52.2**	**0.0**
ASAR				PcP	**PcP**	**06 17 42.9**	**-0.2**
ASAR	**Alice Springs** 3.3nm,0.7s,baz=254,slow=6.2,SNR=27	**58.41**	**104**	P	**P**	**06 16 52.2**	**0.0**
ASAR				PcP	**PcP**	**06 17 42.9**	**-0.2**
	2.0nm,0.8s,baz=259,slow=3.7,SNR=7.7						
ASAR				LR	LR	06 38 30.1	
	comp=Z,177nm,21.2s,baz=344,slow=32						
AS31	**Alice Springs**	**58.41**	**104**	*e*P	**P**	**06 16 52.8**	**+0.6**
WRA	**Warramunga Arr**	**59.78**	**100**	P	**P**	**06 17 01.8**	**0.0**
WRA	**Warramunga Arr** 4.2nm,0.8s,baz=254,slow=6.9,SNR=25	**59.78**	**100**	P	**P**	**06 17 01.8**	**0.0**
WRA				LR	LR	06 40 52.0	
	comp=Z,181nm,20.1s,baz=255,slow=34						
WRAB	**Tennant Creek** 4.5nm,0.7s	**59.80**	**100**	*e*P	**P**	**06 17 02.5**	**+0.6**
SNAA	**Sanae**	**62.00**	**200**	*e*P	**P**	**06 17 16.7**	**+0.6**
SNAA	**Sanae** 0.6nm,0.8s,baz=106,slow=6.0,SNR=5.9	**62.00**	**200**	P	**P**	**06 17 16.3**	**+0.2**
STKA	**Stephens Creek**	**63.16**	**115**	P	**P**	**06 17 24.0**	**-0.4**
STKA	**Stephens Creek** 1.1nm,0.5s,baz=281,slow=10,SNR=3.9	**63.16**	**115**	P	**P**	**06 17 24.0**	**-0.4**
STKA				LR	LR	06 41 47.3	
	comp=Z,156nm,19.2s,baz=205,slow=33						
QSPA	**South Pole Qui**	**66.24**	**180**	*e*P	**P**	**06 17 44.3**	**+0.2**
QSPA	**South Pole Qui** 6.2nm,1.0s,baz=284,slow=4.3,SNR=12	**66.24**	**180**	P	**P**	**06 17 43.9**	**-0.2**
AAK	**Ala-Archa**	**66.34**	**4**	P	**P**	**06 17 45.6**	**+0.7**
AAK	**Ala-Archa** 1.1nm,0.4s,baz=189,slow=2.2,SNR=5.5	**66.34**	**4**	P	**P**	**06 17 45.6**	**+0.7**
VNDA	**Vanda**	**67.36**	**166**	*e*P	**P**	**06 17 51.8**	**+0.9**
VNDA	**Vanda** 2.3nm,1.1s,baz=270,slow=7.6,SNR=6.7	**67.36**	**166**	P	**P**	**06 17 51.2**	**+0.3**
VNDA				LR	LR	06 41 07.4	
	comp=Z,45nm,19.3s,baz=52,slow=30						
MKAR	**Makanchi Array**	**71.28**	**9**	P	**P**	**06 18 15.2**	**-0.2**
MKAR	**Makanchi Array** 2.5nm,0.8s,baz=199,slow=6.7,SNR=28	**71.28**	**9**	P	**P**	**06 18 15.2**	**-0.2**
MKAR				LR	LR	06 48 26.9	
	comp=Z,61nm,20.8s,baz=184,slow=35						
KBZ	**Khabaz**	**71.59**	**340**	P	**P**	**06 18 18.4**	**+1.1**
KBZ	**Khabaz** 2.4nm,0.8s,baz=215,slow=6.9,SNR=4.4	**71.59**	**340**	P	**P**	**06 18 18.4**	**+1.1**
BRTR	**Keskin Array B**	**71.60**	**332**	P	**P**	**06 18 18.0**	**+0.2**
BRTR	**Keskin Array B** 1.3nm,0.8s,baz=147,slow=7.4,SNR=5.8	**71.60**	**332**	P	**P**	**06 18 18.0**	**+0.2**
BRTR				LR	LR	06 46 20.9	
	comp=Z,47nm,19.6s,baz=341,slow=33						
ABKAR	**Akbulak array** 1.7nm,0.6s	**73.31**	**353**	*e*P	**P**	**06 18 27.7**	**+0.2**
KURBB	**Kurchatov Arra** 0.9nm,0.6s,baz=203,slow=6.3,SNR=12	**74.60**	**6**	P	**P**	**06 18 35.4**	**+0.4**
AKTO	**Aktyubinsk**	**74.69**	**352**	P	**P**	**06 18 35.6**	**0.0**
AKTO	**Aktyubinsk** 1.4nm,0.6s,baz=177,slow=5.8,SNR=8.0	**74.69**	**352**	P	**P**	**06 18 35.6**	**0.0**
KURK	**Kurchatov**	**74.70**	**6**	P	**P**	**06 18 35.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**75.81**	**291**	P	**P**	**06 18 43.0**	**+0.2**
TORD	**Torodi Ar. Bea** 2.4nm,1.2s,baz=131,slow=6.1,SNR=5.7	**75.81**	**291**	P	**P**	**06 18 43.0**	**+0.2**
TORD				LR	LR	06 51 57.1	
	comp=Z,167nm,19.3s,baz=135,slow=36						
BVAR	**Borovoye Array**	**76.58**	**1**	P	**P**	**06 18 46.3**	**0.0**
BVAR	**Borovoye Array** 0.9nm,0.5s,baz=148,slow=7.0,SNR=5.3	**76.58**	**1**	P	**P**	**06 18 46.3**	**0.0**
DBIC	**Dimbokro** comp=Z,165nm,18.9s,baz=111,slow=34	**78.58**	**283**	LR	LR	06 51 46.4	
ZALV	**Zalesovo Beam**	**78.62**	**9**	P	**P**	**06 18 57.2**	**-0.5**
ZALV	**Zalesovo Beam** 2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.96**	**43**	P	Pn	07 04 09.3	-0.4
	3.2nm,0.3s,baz=252,slow=19,SNR=3.5						
AFI				S	S	07 05 35.9	-5.1
	1.7nm,0.3s,baz=120,slow=20,SNR=2.9						
URZ	**Urewera**	**18.96**	**194**	P	P	07 06 13.4	-5.1
	1.6nm,0.3s,baz=102,slow=4.1,SNR=8.1						
URZ				S	S	07 09 29.7	-10
	0.5nm,0.3s,baz=105,slow=20,SNR=7.7						
STKA	**Stephens Creek**	**38.62**	**244**	P	P	07 09 14.5	-0.2
	1.6nm,0.4s,baz=104,slow=12,SNR=7.2						
ASAR	**Alice Springs**	**45.26**	**256**	P	P	07 10 08.4	0.0
	5.5nm,0.7s,baz=86,slow=8.5,SNR=49						
WRA	**Warramunga Arr**	**45.29**	**261**	P	P	07 10 08.5	-0.2
	1.5nm,0.3s,baz=97,slow=7.8,SNR=102						
VNDA	**Vanda**	**58.60**	**185**	P	P	07 11 46.3	+0.8
	0.4nm,0.4s,baz=5.9,slow=9.1,SNR=5.7						
NVAR	**Mina Array Bea**	**80.14**	**43**	P	P	07 13 58.4	+0.6
	0.4nm,0.7s,baz=204,slow=8.2,SNR=5.7						
TXAR	**Lajitas Array**	**86.20**	**57**	P	P	07 14 29.2	+0.5
	0.3nm,0.7s,baz=215,slow=8.2,SNR=5.6						
ILAR	**Eielson Array**	**87.55**	**13**	P	P	07 14 33.4	-0.8
	0.2nm,0.4s,baz=241,slow=5.1,SNR=7.0						
PDAR	**Pinedale Array**	**88.08**	**43**	P	P	07 14 37.7	+0.2
	0.2nm,0.7s,baz=216,slow=4.5,SNR=2.8						
TORD	**Torodi Ar. Bea**	**173.27**	**172**	PKPab	PKPab	07 23 22.0	-2.2
	0.4nm,0.8s,baz=178,slow=3.3,SNR=2.3						

NEIC ***20*** *07:04:38.9, 45°.86S × 166°.51E, h5km, ML4.5(WEL), After WEL.*

IDC ***20*** *07:04:39.8±2.1, 45°.90S × 166°.08E, h0km, mb3.8/1, mb1 4.2/3, mb1mx3.8/16, mbtmp4.1/3, ML3.7/2, MS3.4/2, Ms1 3.4/2, ms1mx2.9/26, Error ellipse: s-maj=71.1km s-min=30.9km az=167.0*

ISCJB ***20*** *07:04:42.5±1.0, 45°.81S±0°.06 × 166°.10E±0°.09, h24km, mb3.6/1, MS3.2/1, Error ellipse: s-maj=9.3km s-min=8.1km az=154.1*

WEL ***20*** *07:04:43.1±0.4, 45°.87S × 166°.09E, h24km±1km, ML4.4/17, Error ellipse: s-maj=3.7km s-min=1.4km az=90.0*

WEL Felt Southland and Otago.

ISC 20 07:04:43.5±0.9, 45°.84S±0°.06 × 166°.14E±0°.07, h24km, n50, σ1§12/33, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.50**	**131**	Pg	Pb	07 04 45.6	-8.1
PYZ	**Puysegur Point**	**0.50**	**131**	P*	**Pb**	**07 04 53.1**	**-0.6**
PYZ				S*	**Sb**	**07 05 00.3**	**-0.2**
DCZ	**Deep Cove**	**0.80**	**63**	P*	Pb	07 04 50.1	-8.6
DCZ	**Deep Cove**	**0.80**	**63**	P*	**Pb**	**07 04 58.4**	**-0.3**
DCZ				S*	**Sb**	**07 05 08.4**	**-0.8**
DCZ				AML	AML	07 05 10.4	
DCZ				AML	AML	07 05 12.0	
DCZ				AML	AML	07 05 12.0	
WHZ	**Wether Hill Ro**	**1.27**	**93**	P*	Pn	07 04 57.8	-7.9
WHZ	**Wether Hill Ro**	**1.27**	**93**	PN	**Pn**	**07 05 05.7**	**+0.1**
WHZ				SN	**Sn**	**07 05 22.1**	**+0.2**
WHZ				AML	AML	07 05 26.7	
MLZ	**Mavora Lakes**	**1.51**	**72**	P*	Pn	07 05 01.7	-7.4
MLZ	**Mavora Lakes**	**1.51**	**72**	PN	**Pn**	**07 05 09.8**	**+0.7**
MLZ				AML	AML	07 05 34.7	
MLZ				AML	AML	07 05 35.7	
APZ	**The Paps**	**1.62**	**128**	Pn	Pn	07 05 02.8	-7.7
APZ	**The Paps**	**1.62**	**128**	PN	**Pn**	**07 05 10.9**	**+0.3**
MSZ	**Milford Sound**	**1.73**	**48**	Pn	Pn	07 05 04.9	-7.0
MSZ	**Milford Sound**	**1.73**	**48**	PN	**Pn**	**07 05 11.5**	**-0.4**
MSZ				AML	AML	07 05 22.0	
MSZ				AML	AML	07 05 25.0	
MSZ				AML	AML	07 05 49.3	
MSZ				AML	AML	07 05 49.4	
SYZ	**Scrubby Hill**	**2.20**	**109**	Pn	Pn	07 05 11.8	-6.6
SYZ	**Scrubby Hill**	**2.20**	**109**	PN	**Pn**	**07 05 19.2**	**+0.8**
WKZ	**Wanaka**	**2.27**	**64**	Pn	Pn	07 05 14.9	-4.6
WKZ	**Wanaka**	**2.27**	**64**	AML	AML	07 05 55.0	
WKZ				AML	AML	07 05 55.9	
EAZ	**Earnscleugh**	**2.31**	**76**	Pn	Pn	07 05 14.6	-5.4
EAZ	**Earnscleugh**	**2.31**	**76**	PN	**Pb**	**07 05 22.7**	**-1.8**
EAZ				AML	AML	07 05 28.8	
EAZ				AML	AML	07 05 29.5	
TUZ	**Tuapeka**	**2.44**	**94**	Pn	Pn	07 05 15.4	-6.4
TUZ	**Tuapeka**	**2.44**	**94**	PN	**Pn**	**07 05 23.5**	**+1.7**
TUZ				AML	AML	07 05 33.5	
TUZ				AML	AML	07 05 37.2	
JCZ	**Jackson Bay**	**2.57**	**47**	Pn	Pn	07 05 17.9	-5.7
JCZ	**Jackson Bay**	**2.57**	**47**	PN	**Pn**	**07 05 24.3**	**+0.7**
JCZ				AML	AML	07 05 35.8	
JCZ				AML	AML	07 05 35.9	
HHSZ	**Highcliff Hill**	**3.12**	**92**	PN	**Pn**	**07 05 30.8**	**-0.2**
LBZ	**Lake Benmore**	**3.21**	**65**	Pn	Pn	07 05 25.8	-6.6
LBZ	**Lake Benmore**	**3.21**	**65**	PN	**Pn**	**07 05 34.5**	**+2.1**
LBZ				AML	AML	07 05 46.1	
LBZ				AML	AML	07 05 46.9	
ODZ	**Otahua Downs**	**3.27**	**77**	Pn	Pn	07 05 25.9	-7.3
ODZ	**Otahua Downs**	**3.27**	**77**	PN	**Pn**	**07 05 33.8**	**+0.6**
ODZ				AML	AML	07 05 49.8	
ODZ				AML	AML	07 05 51.5	
FOZ	**Fox Glacier**	**3.41**	**49**	Pn	Pn	07 05 29.9	-5.1
FOZ	**Fox Glacier**	**3.41**	**49**	PN	**Pn**	**07 05 35.6**	**+0.6**
FOZ				AML	AML	07 05 51.0	
FOZ				AML	AML	07 05 51.4	
RPZ	**Rata Peaks**	**4.10**	**60**	Pn	**Pn**	**07 05 43.6**	**-0.9**
RPZ				Sn	**Sn**	**07 06 32.1**	**+0.4**
RPZ	**Rata Peaks**	**4.10**	**60**	Pn	**Pn**	**07 05 43.6**	**-0.9**
	9.2nm,0.3s,baz=202,slow=4.6,SNR=26						
RPZ				Sn	**Sn**	**07 06 32.1**	**+0.4**
	24nm,0.3s,baz=325,slow=21,SNR=3.0						
RPZ				LR	LR	07 07 34.9	
	comp=Z,562nm,18.9s,baz=224,slow=42						
WVZ	**Waitaha Valley**	**4.30**	**52**	Pn	Pn	07 05 40.9	-6.4
LTZ	**Lake Taylor**	**5.36**	**57**	Pn	Pn	07 05 57.3	-4.6
DSZ	**Denniston Nort**	**5.80**	**47**	Pn	Pn	07 06 01.2	-6.7
DSZ	**Denniston Nort**	**5.80**	**47**	PN	Pn	07 06 12.2	+4.3
THZ	**Tophouse**	**6.37**	**53**	Pn	**Pn**	**07 06 18.5**	**+2.6**
THZ	**Tophouse**	**6.37**	**53**	PN	**Pn**	**07 06 18.7**	**+2.9**
QRZ	**Quartz Range**	**6.84**	**45**	Pn	Pn	07 06 15.3	-7.0
QRZ	**Quartz Range**	**6.84**	**45**	PN	Pn	07 06 29.9	+7.7
URZ	**Urewera**	**11.13**	**51**	Pn	**Pn**	**07 07 22.3**	**+1.4**
URZ	**Urewera**	**11.13**	**51**	PN	**Pn**	**07 07 22.3**	**+1.4**
	0.2nm,0.3s,baz=241,slow=10,SNR=1.7						
STKA	**Stephens Creek**	**23.54**	**298**	LR	LR	07 18 33.3	
	comp=Z,82nm,19.4s,baz=18,slow=35						
WRA	**Warramunga Arr**	**36.74**	**304**	P	**P**	**07 11 48.9**	**0.0**
WRA	**Warramunga Arr**	**36.74**	**304**	P	**P**	**07 11 48.9**	**0.0**
	1.1nm,1.2s,baz=138,slow=8.3,SNR=4.6						
TORD	**Torodi Ar. Bea**	**144.84**	**207**	PKP	**PKPdf**	**07 24 18.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**144.84**	**207**	PKP	**PKPdf**	**07 24 18.1**	**-0.4**
	0.7nm,0.8s,baz=154,slow=2.8,SNR=4.6						
BRTR	**Keskin Array B**	**145.02**	**277**	PKP	**PKPdf**	**07 24 18.8**	**+0.5**
BRTR	**Keskin Array B**	**145.02**	**277**	PKP	**PKPdf**	**07 24 18.8**	**+0.5**
	1.4nm,0.8s,baz=130,slow=4.3,SNR=5.3						
FINES	**FINESS Array B**	**152.21**	**319**	PKPab	**PKPab**	**07 24 44.9**	**-0.8**
FINES	**FINESS Array B**	**152.21**	**319**	PKPab	**PKPab**	**07 24 44.9**	**-0.8**
	1.6nm,0.8s,baz=64,slow=3.2,SNR=3.5						

WEL 20 07:24:05.3±0.3, 37°.70S × 176°.17E, h200km±3km, ML3.6/16, 3C, Error ellipse: s-maj=4.2km s-min=4.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.93**	**127**	⇑PN	Pn	07 24 34.6	0.0
URZ				SN	S	07 24 57.2	0.0
URZ				AML	AML	07 24 58.4	
MWZ	**Matawai**	**1.25**	**121**	PN	Pn	07 24 36.8	-0.1
MWZ				SN	S	07 25 01.8	+0.5
MWZ				AML	AML	07 25 04.0	
RAHZ	**Arahi**	**1.42**	**150**	PN	Pn	07 24 38.8	+0.6
BKZ	**Black Stump Fm**	**1.49**	**170**	PN	Pn	07 24 38.8	-0.2
BKZ				SN	S	07 25 04.6	-0.3
TUVZ	**Tukino**	**1.62**	**194**	⇑PN	Pn	07 24 40.5	+0.3
WNVZ	**Wahianoa**	**1.69**	**195**	PN	Pn	07 24 41.0	+0.1
PUZ	**Puketiti**	**1.69**	**103**	PN	Pn	07 24 40.4	-0.4
PKVZ	**Pokaka**	**1.72**	**202**	PN	Pn	07 24 41.2	+0.1
MOVZ	**Moawhango**	**1.74**	**191**	PN	Pn	07 24 40.9	-0.4
MOVZ				SN	S	07 25 09.6	+0.6
KNZ	**Kokohu**	**1.77**	**139**	PN	Pn	07 24 41.5	0.0
MTVZ	**Mangateitei**	**1.77**	**198**	PN	Pn	07 24 41.7	0.0
BHHZ	**Black Hill Sta**	**1.79**	**183**	PN	Pn	07 24 41.3	-0.5
MCHZ	**McNeill Hill**	**1.79**	**167**	PN	Pn	07 24 42.2	+0.5
PRGZ	**Paritu Road**	**1.82**	**133**	PN	Pn	07 24 42.3	+0.3
MHGZ	**Mahia Peninsul**	**1.99**	**137**	PN	Pn	07 24 43.7	-0.1
KAHZ	**Kahuranaki**	**2.17**	**165**	PN	Pn	07 24 45.3	-0.3
PNHZ	**Pukenui**	**2.22**	**179**	PN	Pn	07 24 45.3	-0.8
WAZ	**Wanganui**	**2.26**	**204**	PN	Pn	07 24 46.2	-0.3
WPHZ	**Waipukurau**	**2.38**	**175**	PN	Pn	07 24 47.1	-0.7
PXZ	**Pawanui**	**2.39**	**167**	PN	Pn	07 24 47.2	-0.8
PXZ				AML	AML	07 25 23.3	
PRHZ	**Porangahau**	**2.59**	**172**	PN	Pn	07 24 49.0	-1.2
DVHZ	**Dannevirke**	**2.60**	**180**	PN	Pn	07 24 48.8	-1.5
POWZ	**Post Office Ro**	**2.71**	**187**	PN	Pn	07 24 49.9	-1.6
ANWZ	**Angora Road**	**2.77**	**175**	PN	Pn	07 24 51.0	-1.2
PRWZ	**Porirua Road**	**2.86**	**183**	PN	Pn	07 24 51.8	-1.4
BFZ	**Birch Farm**	**2.98**	**179**	PN	Pn	07 24 52.7	-1.9
MRZ	**Mangatainoka R**	**3.00**	**189**	⇑PN	Pn	07 24 52.8	-2.1
MRZ				AML	AML	07 25 32.9	
MRZ				AML	AML	07 25 33.0	
TIWZ	**Tintock**	**3.08**	**184**	PN	Pn	07 24 53.9	-2.1
OGWZ	**Otaki Gorge**	**3.21**	**194**	PN	Pn	07 24 55.3	-2.1
HOWZ	**Holdsworth Sta**	**3.24**	**189**	PN	Pn	07 24 55.2	-2.5
KIW	**Kapiti Island**	**3.31**	**197**	PN	Pn	07 24 56.0	-2.6
TMWZ	**Te Maipa**	**3.41**	**184**	PN	Pn	07 24 57.6	-2.3
MTW	**Mount Morrison**	**3.50**	**188**	PN	Pn	07 24 57.9	-2.9
CAW	**Cannon Point**	**3.51**	**194**	PN	Pn	07 24 58.4	-2.7
DUWZ	**D'Urville Isla**	**3.56**	**209**	PN	Pn	07 24 58.9	-2.7
PAWZ	**Paruwai Farm**	**3.73**	**189**	PN	Pn	07 25 00.6	-3.1
MSWZ	**Moikau Station**	**3.78**	**191**	PN	Pn	07 25 01.2	-3.2
MSWZ				AML	AML	07 25 47.1	
SNZO	**South Karori**	**3.78**	**197**	PN	Pn	07 25 01.1	-3.1
TCW	**Tory Channel**	**3.81**	**202**	PN	Pn	07 25 01.8	-2.8
PLWZ	**Palliser**	**3.93**	**190**	PN	Pn	07 25 02.9	-3.4
TUWZ	**Tuamarina**	**4.11**	**204**	PN	Pn	07 25 05.1	-3.2
NNZ	**Nelson**	**4.13**	**211**	PN	Pn	07 25 05.5	-3.1
QRZ	**Quartz Range**	**4.21**	**221**	PN	Pn	07 25 06.5	-3.2
BSWZ	**Blackbirch Sta**	**4.39**	**203**	PN	Pn	07 25 08.7	-3.1
THZ	**Tophouse**	**4.78**	**211**	PN	Pn	07 25 13.1	-3.8
KHZ	**Kahutara**	**5.13**	**202**	PN	Pn	07 25 17.2	-4.0
DSZ	**Denniston Nort**	**5.26**	**218**	PN	Pn	07 25 18.5	-4.5
OXZ	**Oxford**	**6.44**	**208**	PN	Pn	07 25 33.0	-5.2
WVZ	**Waitaha Valley**	**6.79**	**216**	PN	Pn	07 25 38.0	-4.6

CSEM ***20*** *07:29:44.5±1.4, 35°.78N × 43°.37E, h2km, ML3.5, Error ellipse: s-maj=35.2km s-min=9.9km az=145.0*

ISK ***20*** *07:29:45.8, 35°.93N × 43°.21E, h4km, ML3.5*

DDA ***20*** *07:29:54.8, 36°.39N × 42°.83E, h11km, ML3.3*

ISC 20 07:29:48.0±3.2, 36°.0N±0°.1 × 43°.16E±0°.07, h2km±14km, n17, σ0§88/24, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**1.29**	**16**	*e*PN	**Pg**	**07 30 12.2**	**-0.5**
CUKT				*e*SN	**Sn**	**07 30 31.5**	**+0.4**
CUKT	**Cukurca**	**1.29**	**16**	*e*Pn	**Pg**	**07 30 12.2**	**-0.5**
CUKT				*e*Sn	**Sn**	**07 30 31.5**	**+0.4**
SIRT	**Sirnak**	**1.60**	**339**	*e*PN	**Pn**	**07 30 16.8**	**-0.6**
SIRT	**Sirnak**	**1.60**	**339**	*e*Pn	**Pn**	**07 30 16.8**	**-0.6**
HAKT	**HAKKARI**	**1.61**	**16**	*i* P	**Pn**	**07 30 17.0**	**-0.7**
HAKT				*i* S	**Sg**	**07 30 41.8**	**+2.1**
HAKT	**HAKKARI**	**1.61**	**16**	*i* P	**Pn**	**07 30 17.0**	**-0.7**
HAKT				*i* S	**Sg**	**07 30 41.8**	**+2.1**
MARD	**Mardin**	**2.31**	**305**	*i* P	**Pb**	**07 30 30.1**	**-0.5**
MARD				*i* S	**Sg**	**07 31 03.3**	**+1.0**
BEST	**Besiri**	**2.41**	**322**	*i* P	**Pb**	**07 30 31.5**	**-0.7**
BEST				*i* S	**Sg**	**07 31 04.9**	**-0.6**
MAZI	**Mazidag**	**2.61**	**304**	*e*PN	**Pn**	**07 30 31.5**	**+0.1**
MAZI	**Mazidag**	**2.61**	**304**	*e*Pn	**Pn**	**07 30 31.5**	**+0.1**
BNGL	**BINGOL**	**3.34**	**332**	*i* P	**Pg**	**07 30 52.0**	**-0.1**
BNGL				*i* S	**Sg**	**07 31 34.8**	**-0.6**
URFA	**Urfa**	**3.76**	**294**	*e*PN	**Pn**	**07 30 47.5**	**+0.4**
URFA	**Urfa**	**3.76**	**294**	*e*Pn	**Pn**	**07 30 47.6**	**+0.4**
SVRC	**Sivrice-ELAZID**	**3.88**	**309**	*e*PN	**Pn**	**07 30 49.7**	**+0.9**
SVRC	**Sivrice-ELAZID**	**3.88**	**309**	*e*Pn	**Pn**	**07 30 49.7**	**+0.9**
PTK	**Pertek**	**4.15**	**315**	*e*PN	**Pn**	**07 30 52.9**	**+0.3**
PTK	**Pertek**	**4.15**	**315**	*e*Pn	**Pn**	**07 30 52.9**	**+0.3**

IDC 20 07:32:25.5±8.0, 8°.86S × 117°.86E, h0km, mb3.6/2, mb1 3.7/5, mb1mx3.5/22, mbtmp3.6/5, ML3.3/3, Error ellipse: s-maj=167.7km s-min=33.1km az=86.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.26**	**26**	Pn	Pn	07 33 31.6	-0.1
	4.1nm,0.3s,baz=195,slow=7.2,SNR=13						
KAPI				Sn	Sn	07 34 20.7	-1.5
	4.1nm,0.3s,baz=184,slow=23,SNR=11						
FITZ	**Fitzroy Crossi**	**11.89**	**141**	Pn	Pn	07 35 15.5	-1.0
	0.1nm,0.3s,baz=325,slow=13,SNR=4.8						
FITZ				Sn	Sn	07 37 22.3	-7.8
	0.1nm,0.3s,baz=302,slow=15,SNR=2.7						
WRA	**Warramunga Arr**	**19.37**	**126**	P	P	07 36 52.9	-0.2
	0.1nm,0.3s,baz=303,slow=12,SNR=7.5						
ASAR	**Alice Springs**	**21.27**	**136**	P	P	07 37 14.5	+0.8
	0.9nm,0.6s,baz=310,slow=8.9,SNR=19						
STKA	**Stephens Creek**	**31.78**	**139**	P	P	07 38 51.5	-0.2
	1.7nm,0.9s,baz=321,slow=13,SNR=2.9						

NEIC ***20*** *07:43:36.4, 45°.87S × 166°.12E, h12km, ML4.1(WEL), After WEL.*

WEL 20 07:43:35.5±0.3, 45°.86S × 166°.00E, h12km, ML4.2/19, 1C, Error ellipse: s-maj=3.0km s-min=1.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.57**	**123**	P*	Pg	07 43 46.2	-0.4
PYZ				S*	Sg	07 43 53.5	-0.5
PYZ	**Puysegur Point**	**0.57**	**123**	P*	Pg	07 43 46.5	0.0
PYZ				S*	Sg	07 43 53.5	-0.5
DCZ	**Deep Cove**	**0.90**	**65**	P*	Pg	07 43 51.7	-1.7
DCZ				S*	Sg	07 44 02.9	-1.6
DCZ	**Deep Cove**	**0.90**	**65**	P*	Pg	07 43 51.4	-1.4
DCZ				S*	Sg	07 44 02.4	-2.1
DCZ				AML	AML	07 44 03.7	
DCZ				AML	AML	07 44 03.7	
DCZ				AML	AML	07 44 05.1	
WHZ	**Wether Hill Ro**	**1.36**	**92**	Pn	Pn	07 43 58.8	-1.5
WHZ	**Wether Hill Ro**	**1.36**	**92**	⇑PN	Pn	07 43 58.8	-1.5
WHZ				AML	AML	07 44 19.8	
WHZ				AML	AML	07 44 19.8	
MLZ	**Mavora Lakes**	**1.61**	**72**	Pn	Pn	07 44 02.7	-1.1
MLZ	**Mavora Lakes**	**1.61**	**72**	PN	Pn	07 44 02.7	-1.1
MLZ				AML	AML	07 44 27.5	
MLZ				AML	AML	07 44 28.3	
APZ	**The Paps**	**1.69**	**126**	Pn	Pn	07 44 03.5	-1.3
APZ	**The Paps**	**1.69**	**126**	PN	Pn	07 44 03.9	-0.9
MSZ	**Milford Sound**	**1.81**	**50**	Pn	Pn	07 44 05.8	-0.6
MSZ	**Milford Sound**	**1.81**	**50**	PN	Pn	07 44 05.8	-0.6
MSZ				AML	AML	07 44 35.6	
MSZ				AML	AML	07 44 35.6	
MSZ				AML	AML	07 44 42.5	
MSZ				AML	AML	07 44 42.6	
SYZ	**Scrubby Hill**	**2.28**	**108**	Pn	Pn	07 44 12.7	-0.3
SYZ	**Scrubby Hill**	**2.28**	**108**	PN	Pn	07 44 12.5	-0.4
WKZ	**Wanaka**	**2.37**	**65**	Pn	Pn	07 44 15.4	+1.2
WKZ	**Wanaka**	**2.37**	**65**	PN	Pn	07 44 14.9	+0.7
WKZ				AML	AML	07 44 52.6	
WKZ				AML	AML	07 44 54.5	
WKZ				AML	AML	07 44 54.5	
EAZ	**Earnscleugh**	**2.41**	**76**	Pn	Pn	07 44 15.5	+0.8
EAZ	**Earnscleugh**	**2.41**	**76**	PN	Pn	07 44 15.1	+0.4
EAZ				AML	AML	07 44 44.7	
EAZ				AML	AML	07 44 46.6	
EAZ				AML	AML	07 44 46.7	
TUZ	**Tuapeka**	**2.54**	**93**	Pn	Pn	07 44 16.4	0.0
TUZ	**Tuapeka**	**2.54**	**93**	PN	Pn	07 44 16.4	0.0
TUZ				AML	AML	07 44 48.2	
TUZ				AML	AML	07 44 48.8	
JCZ	**Jackson Bay**	**2.65**	**49**	Pn	Pn	07 44 19.0	+0.9
JCZ	**Jackson Bay**	**2.65**	**49**	PN	Pn	07 44 18.6	+0.4
JCZ				AML	AML	07 45 03.8	
JCZ				AML	AML	07 45 06.8	
LBZ	**Lake Benmore**	**3.31**	**65**	Pn	Pn	07 44 26.8	-0.3
LBZ	**Lake Benmore**	**3.31**	**65**	PN	Pn	07 44 26.8	-0.3
LBZ				AML	AML	07 45 19.4	
LBZ				AML	AML	07 45 33.5	
ODZ	**Otahua Downs**	**3.37**	**78**	Pn	Pn	07 44 26.8	-1.1
ODZ	**Otahua Downs**	**3.37**	**78**	PN	Pn	07 44 26.8	-1.2
ODZ				AML	AML	07 45 21.1	
ODZ				AML	AML	07 45 26.0	
FOZ	**Fox Glacier**	**3.49**	**50**	Pn	Pn	07 44 31.4	+1.8
FOZ	**Fox Glacier**	**3.49**	**50**	PN	Pn	07 44 31.4	+1.8
FOZ				AML	AML	07 45 29.4	
FOZ				AML	AML	07 45 36.1	
RPZ	**Rata Peaks**	**4.19**	**61**	Pn	Pn	07 44 38.4	-0.8
RPZ	**Rata Peaks**	**4.19**	**61**	PN	Pn	07 44 38.3	-0.9
RPZ				AML	AML	07 45 54.5	
RPZ				AML	AML	07 45 57.8	
WVZ	**Waitaha Valley**	**4.39**	**52**	Pn	Pn	07 44 41.7	-0.2
WVZ	**Waitaha Valley**	**4.39**	**52**	PN	Pn	07 44 41.6	-0.3
OXZ	**Oxford**	**5.00**	**62**	PN	Pn	07 44 48.6	-1.7
LTZ	**Lake Taylor**	**5.45**	**58**	Pn	Pn	07 44 55.3	-1.2
DSZ	**Denniston Nort**	**5.88**	**48**	Pn	Pn	07 45 02.0	-0.4
DSZ	**Denniston Nort**	**5.88**	**48**	PN	Pn	07 45 02.0	-0.4
THZ	**Tophouse**	**6.46**	**53**	Pn	Pn	07 45 11.7	+1.2
THZ	**Tophouse**	**6.46**	**53**	PN	Pn	07 45 11.0	+0.5
THZ				AML	AML	07 47 43.3	
QRZ	**Quartz Range**	**6.93**	**46**	Pn	Pn	07 45 16.5	-0.2

IDC 20 07:47:49.8±0.9, 15°.46S × 173°.91W, h0km, mb3.6/8, mb1 3.9/8, mb1mx3.8/20, mbtmp3.6/8, MS3.4/4, Ms1 3.4/4, ms1mx3.0/29, Error ellipse: s-maj=48.2km s-min=18.5km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.57**	**53**	Pn	Pn	07 48 26.5	-6.4
	16nm,0.3s,baz=232,slow=15,SNR=12						
AFI				Sn	Sn	07 48 53.4	-12
	28nm,0.3s,baz=59,slow=19,SNR=8.5						
AFI				LR	LR	07 49 06.2	
	comp=Z,324nm,20.5s,baz=150,slow=30						
PPT2	**Papeete2**	**23.42**	**99**	*e*LQ	LQ	07 57 09.1	
	468nm,29.0s						
PPT2				*e*LR	LR	07 58 15.7	
	64nm,22.2s						
URZ	**Urewera**	**24.06**	**198**	P	P	07 53 06.6	-0.2
	9.0nm,0.8s,baz=341,slow=18,SNR=4.1						
TBI	**Tubuai**	**24.33**	**113**	*e*LR	LR	07 58 30.2	
	86nm,25.0s						
STKA	**Stephens Creek**	**43.58**	**240**	P	P	07 55 56.5	+0.6
	1.2nm,0.7s,baz=92,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**49.35**	**257**	P	P	07 56 41.4	-0.1
	0.4nm,0.7s,baz=95,slow=7.3,SNR=4.8						
ASAR	**Alice Springs**	**49.63**	**252**	P	P	07 56 42.5	-1.0
	1.3nm,0.6s,baz=86,slow=8.0,SNR=14						
ASAJ	**Asahikawa**	**71.33**	**328**	LR	LR	08 28 02.4	
	comp=Z,26nm,19.8s,baz=178,slow=34						
NVAR	**Mina Array Bea**	**74.70**	**42**	P	P	07 59 31.7	-0.1
	0.2nm,0.6s,baz=229,slow=8.2,SNR=3.0						
TXAR	**Lajitas Array**	**81.05**	**56**	P	P	08 00 08.4	+1.1
	0.4nm,1.1s,baz=239,slow=6.2,SNR=3.0						
ILAR	**Eielson Array**	**82.60**	**11**	P	P	08 00 14.5	0.0
	0.2nm,0.5s,baz=242,slow=5.9,SNR=4.2						
PDAR	**Pinedale Array**	**82.64**	**42**	P	P	08 00 14.0	-1.5
	0.2nm,0.8s,baz=224,slow=3.8,SNR=2.4						
PDAR				LR	LR	08 28 34.5	
	comp=Z,30nm,21.6s,baz=85,slow=30						
ULM	**Lac du Bonnet**	**94.29**	**39**	LR	LR	08 38 56.3	
	comp=Z,29nm,18.7s,baz=346,slow=32						
BRTR	**Keskin Array B**	**145.89**	**321**	PKPbc	PKPab	08 07 32.2	0.0
	2.6nm,1.1s,baz=90,slow=1.2,SNR=5.9						

MEX 20 07:56:37.1±1.3, 16°.99N × 94°.78W, h96km±56km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**1.60**	**97**	*i* P	Pn	07 57 03.8	-0.7
TGIG				*e*S	Sn	07 57 23.2	-2.1
HUIG	**Huatulco**	**1.76**	**227**	*i* P	Pn	07 57 04.5	-2.1
HUIG		

FX1 Attu Island--F 9.34 276 P Pn 08 06 29.8 -0.7
2.8nm,0.3s,baz=188,slow=7.4,SNR=30
FX1 S Sn 08 08 12.8 -0.9
1.5nm,0.3s,baz=241,slow=19,SNR=4.0
OHAK Old Harbor 11.26 60 ePn Pn 08 06 51.8 -4.3
OHAK eSn Sn 08 09 00.4 +0.5
KDAK Kodiak Island 11.78 58 ePn Pn 08 06 59.1 -3.8
KDAK S Sn 08 09 04.0 -8.5
KDAK Kodiak Island 11.78 58 P Pn 08 06 58.9 -4.1
6.1nm,0.3s,baz=257,slow=7.6,SNR=34
KDAK S Sn 08 09 04.0 -8.5
0.4nm,0.3s,baz=288,slow=20,SNR=2.4
SVW2 Sparrevohn 11.91 40 ePn Pn 08 07 05.7 +1.0
RSO Redoubt South 12.74 46 ePn Pn 08 07 15.6 0.0
RSO eSn Sn 08 09 37.5 +1.6
SPU Mount Spurr 13.39 44 ePn P 08 07 27.6 -1.3
PPLA Purkeypile 14.27 38 ePn P 08 07 37.5 -1.2
SML Sawmill 15.26 45 ePn Pn 08 07 46.8 -0.8
SML eSn Sn 08 10 35.3 -1.2
MCK McKinley 15.96 38 ePn Pn 08 07 56.4 +0.1
7.8nm,0.8s
MCK eSn Sn 08 10 55.2 +2.0
BMRM Bremner River 16.63 50 ePn Pn 08 08 02.7 -1.7
BMRM eSn Sn 08 11 09.6 +0.3
PAX Paxson 16.97 43 ePn P 08 08 07.4 -1.0
COLA College 16.98 36 ePn P 08 08 08.5 0.0
11nm,0.6s
ILAR Eielson Array 17.27 37 P P 08 08 09.7 -2.0
ILAR pP pP 08 08 38.0 +4.0
ILAR S Sn 08 11 19.5 -5.2
ILAR ScP ScP 08 16 09.3 -0.8
ILAR Eielson Array 17.27 37 P P 08 08 09.7 -2.0
0.8nm,0.3s,baz=232,slow=9.5,SNR=56
ILAR pP pP 08 08 38.0 +4.0
0.3nm,0.3s,baz=216,slow=8.8,SNR=3.6
ILAR S Sn 08 11 19.5 -5.2
0.0nm,0.3s,baz=225,slow=18,SNR=2.9
ILAR ScP ScP 08 16 09.3 -0.8
0.0nm,0.3s,baz=286,slow=4.1,SNR=4.2
COLD Coldfoot 17.73 28 eP Pn 08 08 19.7 +2.2
5.8nm,0.9s
COLD eS Sn 08 11 37.8 +2.4
PETK Petropavlovsk- 18.54 283 P P 08 08 25.3 -0.4
PETK Petropavlovsk- 18.54 283 P P 08 08 25.3 -0.4
0.7nm,0.3s,baz=99,slow=14,SNR=5.0
EGAK Eagle 19.45 40 eP P 08 08 34.7 -0.7
5.8nm,0.7s
INK Inuvik 23.64 35 P P 08 09 17.7 -0.6
INK pP pP 08 09 43.2 -0.3
INK PcP PcP 08 12 58.3 -0.6
INK Inuvik 23.64 35 P P 08 09 17.7 -0.6
3.4nm,0.4s,baz=246,slow=8.8,SNR=30
INK pP pP 08 09 43.2 -0.3
9.3nm,0.9s,baz=232,slow=12,SNR=4.3
INK PcP PcP 08 12 58.3 -0.6
1.6nm,0.7s,baz=280,slow=3.7,SNR=4.4
DLBC Dease Lake 23.70 60 P P 08 09 20.8 +1.7
DLBC Dease Lake 23.70 60 P P 08 09 20.8 +1.7
16nm,0.6s,baz=281,slow=8.6,SNR=36
BBB Bella Bella 26.05 74 P P 08 09 41.8 +1.5
BBB Bella Bella 26.05 74 P P 08 09 41.8 +1.5
3.4nm,0.7s,baz=299,slow=10,SNR=3.2
YKA Yellowknife Ar 30.86 49 P P 08 10 22.1 -0.8
YKA ScP ScP 08 16 47.8 +0.6
YKA Yellowknife Ar 30.86 49 P P 08 10 22.1 -0.8
0.9nm,0.6s,baz=276,slow=9.2,SNR=6.7
YKA ScP ScP 08 16 47.7 +0.6
0.3nm,0.4s,baz=294,slow=3.0,SNR=5.7
HAWA Hanford 33.58 80 eP P 08 10 48.3 +1.4
11nm,0.8s
NEW Newport 34.09 75 eP P 08 10 52.1 +0.8
11nm,0.6s
NEW Newport 34.09 75 ⇓P P 08 10 52.0 +0.8
baz=34,SNR=19
YBH Yreka Blue Hor 34.21 89 P P 08 10 53.7 +1.3
YBH Yreka Blue Hor 34.21 89 P P 08 10 53.7 +1.3
3.3nm,0.6s,baz=243,slow=9.1,SNR=4.4
YBH LR LR 08 21 56.1
comp=Z,29nm,19.9s,baz=232,slow=31
A12A Yaak River Ran 34.63 74 ⇓P P 08 10 57.2 +1.2
baz=34
B12A Libby 34.89 74 ⇑P P 08 10 59.3 +1.2
baz=35
C12B Naegeli Ranch, 35.32 75 ⇑P P 08 11 03.0 +1.1
baz=35
A13A Flathead Natio 35.35 73 ⇓P P 08 11 02.8 +0.7
baz=35
B13A Whitefish 35.59 74 ⇓P P 08 11 04.9 +0.7
baz=35,SNR=7.0
BSMT Bassoo Peak 35.66 75 eP P 08 11 05.9 +1.0
7.0nm,0.7s
BMO Blue Mountains 35.72 81 eP P 08 11 06.0 +0.7
2.0nm,0.9s
BLMT Blacktail Moun 35.83 74 eP P 08 11 07.2 +0.8
6.2nm,0.5s
C13A Hot Springs 35.87 75 ⇓P P 08 11 07.3 +0.7
baz=36,SNR=12
A14A Double T Ranch 35.90 72 ⇑P P 08 11 07.7 +0.8
baz=36,SNR=11
E12A Beaver Dam Sad 35.92 77 ⇓P P 08 11 07.5 +0.4
baz=36,SNR=15
JTMT Jette 36.00 75 eP P 08 11 08.9 +1.1
1.8nm,0.5s
YBMT Yellow Bay 36.10 74 eP P 08 11 09.6 +0.9
2.6nm,0.5s
WVOR Wild Horse Val 36.27 85 eP P 08 11 11.8 +1.7
8.0nm,0.8s
B14A Marquette Ranc 36.29 73 ⇑P P 08 11 10.8 +0.6
baz=36,SNR=7.1
SWMT Swartz Lake 36.29 75 eP P 08 11 10.5 +0.3
0.9nm,0.5s
A15A Johnson Ranch, 36.30 72 ⇓P P 08 11 10.2 -0.1
baz=36,SNR=6.8
C14A Swan Lake 36.30 74 ⇓P P 08 11 10.9 +0.6
baz=36
SLMT Seeley Lake 36.72 75 eP P 08 11 14.5 +0.6
3.1nm,0.6s
B15A Bradely Ranch, 36.72 73 ⇑P P 08 11 14.0 +0.1
baz=37,SNR=6.6
G12A Big Creek, Yel 36.75 79 ⇓P P 08 11 15.2 +1.0
baz=37
C15A Salmond Ranch, 36.97 74 ⇓P P 08 11 17.1 +1.1
baz=37,SNR=30
B16A M & M Farms, S 37.17 72 ⇑P P 08 11 17.8 +0.2
baz=37
H12A Diamond D Ranc 37.35 80 ⇓P P 08 11 19.8 +0.5
baz=37
MFID Camas Ranch 37.40 82 ⇑P P 08 11 20.3 +0.6
baz=37
C16A Fuhringer Ranc 37.45 73 ⇓P P 08 11 20.5 +0.4
baz=37,SNR=20
A17A Triple J Farms 37.48 71 ⇑P P 08 11 20.4 +0.2
baz=37,SNR=13
I12A Atlanta 37.60 81 ⇓P P 08 11 22.2 +0.7
baz=38,SNR=9.0
B17A L&G Farms, Che 37.75 72 ⇑P P 08 11 22.6 +0.1
baz=38
A18A Metzger Ranch, 37.98 70 ⇓P P 08 11 24.2 -0.2
baz=38,SNR=5.9
C17A Wharram Farm, 38.11 73 ⇓P P 08 11 26.9 +1.4
baz=38,SNR=6.3
HLID Hailey 38.16 81 eP P 08 11 27.4 +1.2
10nm,1.5s
HLID Hailey 38.16 81 ⇑P P 08 11 26.9 +0.8
baz=38,SNR=6.7
WAKR Walker 38.17 91 eP P 08 11 28.1 +1.9
3.8nm,0.7s
B18A Beardsley Farm 38.29 71 ⇑P P 08 11 27.4 +0.4
baz=38
MCMT McKenzie Canyo 38.39 78 eP P 08 11 28.6 +0.5
4.2nm,0.6s
D17A Six Diamond Ra 38.40 73 ⇑P P 08 11 29.0 +0.9
baz=38
EGMT Eagleton 38.49 72 eP P 08 11 28.9 +0.2
4.9nm,0.6s
EGMT Eagleton 38.49 72 ⇑P P 08 11 28.9 +0.2
baz=38,SNR=7.2
MJAR Matsushiro Arr 38.49 266 P P 08 11 28.5 -0.2
MJAR PcP PcP 08 13 38.9 -0.1
MJAR Matsushiro Arr 38.49 266 P P 08 11 28.5 -0.2
1.3nm,0.7s,baz=49,slow=7.0,SNR=6.2
MJAR PcP PcP 08 13 38.9 -0.1
0.9nm,0.7s,baz=87,slow=5.0,SNR=4.5
I14A Mackay 38.53 79 ⇑P P 08 11 30.2 +1.0
baz=38,SNR=13
A19A Klindworth Far 38.61 70 ⇑P P 08 11 29.8 +0.2
baz=38,SNR=5.9

BOZ Bozeman (W) 38.66 76 eP P 08 11 30.8 +0.6
3.2nm,0.7s
E17A Martinsdale 38.67 74 ⇓P P 08 11 31.0 +0.7
baz=38,SNR=7.7
B19A Brinkman Farms 38.73 71 ⇑P P 08 11 31.1 +0.4
baz=39,SNR=11
MDJ Mudanjiang 38.78 282 P P 08 11 33.1 +2.1
MDJ S S 08 17 13.4 -5.5
MDJ pmax pmax
comp=Z,8.0nm,1.4s
MDJ pmax pmax
comp=Z,45nm,3.2s
MDJ LR LR
comp=E,18nm,26.8s
MDJ LR LR
comp=Z,19nm,32.8s
D18A Linhart Farms, 38.89 73 ⇑P P 08 11 33.2 +1.1
baz=39,SNR=5.6
NVAR Mina Array Bea 38.90 90 P P 08 11 33.8 +1.3
NVAR pP pP 08 12 01.3 +0.9
NVAR PcP PcP 08 13 41.5 +1.0
NVAR ScP ScP 08 17 17.4 +0.6
NVAR Mina Array Bea 38.90 90 P P 08 11 33.8 +1.3
comp=Z,3.5nm,0.7s,baz=298,slow=8.1,SNR=31
NVAR pP pP 08 12 01.3 +0.9
comp=Z,0.9nm,0.7s,baz=309,slow=8.1,SNR=2.6
NVAR PcP PcP 08 13 41.6 +1.0
comp=Z,0.4nm,0.7s,baz=308,slow=3.0,SNR=2.9
NVAR ScP ScP 08 17 17.4 +0.6
comp=Z,0.9nm,0.7s,baz=310,slow=4.1,SNR=7.6
C19A Slack Wire Ran 39.05 72 ⇑P P 08 11 34.3 +1.0
baz=39,SNR=17
F17A Fitzpatrick Pl 39.09 75 ⇑P P 08 11 34.4 +0.7
baz=39
A20A Cobblestone Ra 39.10 69 ⇓P P 08 11 34.0 +0.3
baz=39,SNR=11
E18A Harlowton 39.16 74 ⇑P P 08 11 35.5 +1.1
baz=39
G17A Pierce Place, 39.36 76 ⇑P P 08 11 37.1 +1.1
baz=39
H16A Russell Place, 39.40 77 ⇓P P 08 11 37.1 +0.6
baz=39,SNR=8.3
D19A Cripps Ranch, 39.44 72 ⇓P P 08 11 37.4 +0.8
baz=39,SNR=7.3
A21A Bergtoll Ranch 39.61 69 ⇓P P 08 11 38.4 +0.4
baz=39
F18A Big Timber 39.64 74 ⇑P P 08 11 39.1 +0.8
baz=40
C20A Veseth Ranch, 39.66 71 ⇑P P 08 11 39.0 +0.6
baz=40,SNR=7.3
RCTC Rector, Farmer 39.71 93 ⇓P P 08 11 40.7 +1.9
baz=40
GCMT Greycliff 39.73 75 eP P 08 11 40.2 +1.1
comp=Z,2.0nm,0.8s
I16A Newdale 39.73 78 ⇓P P 08 11 40.3 +1.2
baz=40
TIN Tinemaha 39.83 92 ⇓P P 08 11 41.9 +1.8
baz=40
B21A Ellsworth Farm 39.85 70 ⇓P P 08 11 40.1 +0.2
baz=40
E19A Rath Farm, Rou 39.88 73 ⇓P P 08 11 41.0 +0.7
baz=40,SNR=7.0
D20A Manuel Ranch, 39.91 72 ⇓P P 08 11 41.2 +0.7
baz=40
H17A Grant Village 39.97 77 ⇑P P 08 11 43.1 +1.8
baz=40
IMW Indian Meadow 40.04 78 eP P 08 11 43.2 +1.3
comp=Z,4.5nm,0.9s
G18A Lazy EL Ranch, 40.05 75 ⇑P P 08 11 42.3 +0.5
baz=40
VES Vestal, Richgr 40.11 94 ⇓P P 08 11 43.4 +1.2
baz=40
C21A Desert Coulee 40.12 70 ⇑P P 08 11 42.8 +0.6
baz=40
F19A Roth Farm, Mol 40.12 74 ⇓P P 08 11 42.9 +0.6
baz=40,SNR=6.3
A22A Carney Farms, 40.18 68 ⇑P P 08 11 43.1 +0.5
baz=40
HVU Hansel Valley 40.19 82 eP P 08 11 44.2 +1.3
comp=Z,3.8nm,0.9s
E20A Meyer Farm, Mu 40.23 73 ⇓P P 08 11 43.8 +0.6
baz=40
I17A Pilgrim Ck. 40.24 78 ⇓P P 08 11 44.9 +1.4
baz=40
TPAW Teton Pass 40.27 78 eP P 08 11 45.1 +1.4
comp=Z,2.3nm,0.7s
RLMT Red Lodge 40.34 75 eP P 08 11 45.5 +1.3
comp=Z,10nm,1.1s
H18A Shoshone NF, C 40.35 76 ⇑P P 08 11 45.1 +0.7
baz=40
LOHW Long Hollow 40.41 78 eP P 08 11 45.8 +1.0
comp=Z,1.5nm,0.8s
B22A Reddig Ranch S 40.49 69 ⇓P P 08 11 45.7 +0.4
baz=40
BGU Big Grassy Mou 40.55 83 eP P 08 11 47.0 +1.1
comp=Z,4.5nm,1.2s
D21A La Casta Ranch 40.58 71 ⇑P P 08 11 46.6 +0.5
baz=40
ISA Isabella 40.60 93 ⇓P P 08 11 47.3 +1.0
baz=40
R11A Troy Canyon, C 40.60 88 ⇓P P 08 11 47.4 +1.0
baz=40,SNR=7.5
F20A Billings 40.61 74 ⇑P P 08 11 46.9 +0.6
baz=40
H19A Powell 40.76 76 ⇓P P 08 11 48.7 +1.1
baz=41,SNR=6.4
A23A Redstone 40.78 68 ⇑P P 08 11 47.8 +0.3
baz=41
I18A Diamond G Ranc 40.82 77 ⇑P P 08 11 49.3 +1.1
baz=41
E21A Keefer Ranch, 40.82 72 ⇑P P 08 11 49.1 +1.1
baz=41
C22A Vida 40.85 70 ⇓P P 08 11 48.5 +0.3
baz=41
G20A Bridger 40.90 74 ⇓P P 08 11 49.1 +0.4
baz=41,SNR=11
MPMC Manual Prospec 40.93 92 ⇑P P 08 11 50.5 +1.3
baz=41
B23A Brockton 40.98 68 ⇑P P 08 11 49.4 +0.2
baz=41,SNR=6.2
D22A Cohagen 41.01 71 ⇑P P 08 11 50.3 +0.8
baz=41,SNR=7.1
HWUT Hardware Ranch 41.01 81 eP P 08 11 50.8 +1.0
comp=Z,2.4nm,0.9s
FURC Furnace Creek, 41.05 91 ⇑P P 08 11 51.4 +1.6
baz=41
I19A Meeteetse 41.11 76 ⇑P P 08 11 51.3 +0.7
baz=41
DUG Dugway 41.12 84 eP P 08 11 51.6 +0.9
comp=Z,7.9nm,1.1s
DUG Dugway 41.12 84 ⇑P P 08 11 51.7 +1.1
baz=41,SNR=9.7
LRMC Laurel Mountai 41.20 93 ⇓P P 08 11 52.4 +1.1
baz=41
C23A Lambert 41.22 69 ⇑P P 08 11 51.9 +0.7
baz=41,SNR=9.1
A24A Westby 41.29 67 ⇓P P 08 11 52.2 +0.5
baz=41
H20A Greybull 41.44 75 ⇑P P 08 11 53.4 +0.2
baz=41
G21A Lodge Grass 41.48 74 ⇑P P 08 11 53.6 +0.2
baz=41,SNR=7.1
BW06 Boulder Array 41.52 78 eP P 08 11 54.4 +0.4
comp=Z,6.7nm,0.8s
PDAR Pinedale Array 41.52 78 P P 08 11 54.5 +0.6
PDAR Pinedale Array 41.52 78 P P 08 11 54.5 +0.6
comp=Z,8.1nm,0.8s,baz=305,slow=3.8,SNR=75
J19A Crowheart 41.53 77 ⇓P P 08 11 55.3 +1.3
baz=41
E22A Miles City 41.53 72 ⇓P P 08 11 54.3 +0.6
baz=41
D23A Lindsay 41.55 70 ⇑P P 08 11 54.7 +0.8
baz=41,SNR=5.6
M17A Scullys Gap (B 41.63 81 ⇑P P 08 11 55.6 +0.7
baz=42
I20A Worland 41.67 76 ⇑P P 08 11 55.8 +0.8
baz=42
CN2 Changchun 41.69 284 eP P 08 11 59.0 +4.0
F22A Rosebud 41.72 73 ⇓P P 08 11 56.2 +0.8
baz=42
L18A Fontenelle, Gr 41.74 80 ⇑P P 08 11 56.6 +0.9
baz=42
SHOC Shoshone 41.77 91 ⇓P P 08 11 57.3 +1.4
baz=42
C24A Savage 41.80 69 ⇑P P 08 11 56.2 +0.2
baz=42,SNR=5.9
GSC Goldstone 41.85 92 eP P 08 11 57.8 +1.2
comp=Z,5.7nm,0.8s

GSC epP pP 08 12 25.6 +0.7
GSC Goldstone 41.85 92 ⇑P P 08 11 57.8 +1.2
baz=42,SNR=8.3
E23A Ismay 41.87 71 ⇓P P 08 11 57.3 +0.8
baz=42
K19A Absolon Red Bu 41.91 78 ⇑P P 08 11 57.1 +0.1
baz=42,SNR=14
H21A Big Horn, Sher 41.92 74 ⇓P P 08 11 57.4 +0.3
baz=42
DAU Daniels Canyon 41.93 82 eP P 08 11 59.1 +1.7
comp=Z,7.3nm,1.0s
G22A Birney 42.02 73 ⇓P P 08 11 57.9 +0.1
baz=42
L19A Farson 42.03 79 ⇑P P 08 11 58.7 +0.6
baz=42
J20A Shoshoni 42.05 77 ⇑P P 08 11 59.2 +1.1
baz=42
BFSC Mount Baldy Ra 42.06 94 ⇓P P 08 11 59.5 +1.2
baz=42
D24A Glendive 42.08 70 ⇑P P 08 11 59.5 +1.2
baz=42
I21A Big Trails, Te 42.24 76 ⇑P P 08 11 59.7 0.0
baz=42,SNR=6.5
F23A Volborg 42.24 72 ⇑P P 08 11 59.9 +0.3
baz=42,SNR=5.2
TUQ Turquoise Moun 42.30 92 ⇑P P 08 12 01.0 +0.8
baz=42
K20A Yellowstone Ra 42.31 78 ⇓P P 08 12 00.1 -0.1
baz=42,SNR=8.4
H22A Clearmont 42.34 74 ⇓P P 08 12 00.5 +0.1
baz=42
E24A Baker 42.40 70 ⇑P P 08 12 01.3 +0.5
baz=42
J21A Lysite 42.43 76 ⇑P P 08 12 01.5 +0.2
baz=42
G23A Biddle 42.55 73 ⇑P P 08 12 02.3 +0.2
baz=42
MSU Marysvale 42.56 85 eP P 08 12 03.8 +1.3
comp=Z,2.9nm,1.0s
TMUT Trail Mountain 42.65 84 eP P 08 12 04.7 +1.4
comp=Z,10nm,0.9s
I22A 9 Mile Ranch, 42.67 75 ⇓P P 08 12 03.8 +0.7
baz=42
L20A Wamsutter 42.70 78 ⇑P P 08 12 04.8 +1.3
baz=43
F24A Ekalaka 42.73 71 ⇑P P 08 12 04.2 +0.6
baz=43
GMRC Granite Mounta 42.90 92 ⇓P P 08 12 06.2 +1.1
baz=43,SNR=5.8
Q16A Castle Valley 42.91 84 ⇑P P 08 12 06.6 +1.3
baz=43
E25A Miller Ranch, 42.95 70 ⇓P P 08 12 06.1 +0.8
baz=43
K21A Alcova 42.97 77 ⇑P P 08 12 05.4 -0.2
baz=43,SNR=8.4
G24A Alzada 43.04 72 ⇑P P 08 12 06.1 0.0
baz=43
M20A Sweetwater, Wa 43.10 79 ⇓P P 08 12 07.6 +0.8
baz=43
O19A Miners Draw (B 43.28 81 ⇑P P 08 12 08.7 +0.6
baz=43,SNR=12
L21A Rawlins 43.30 78 ⇑P P 08 12 08.5 +0.2
baz=43,SNR=10
K22A Casper 43.38 77 ⇓P P 08 12 09.2 +0.2
baz=43
N20A Spence Gulch, 43.46 80 ⇓P P 08 12 10.2 +0.6
baz=43
E26A Carlson Angus 43.51 70 ⇑P P 08 12 10.2 +0.5
baz=43
M21A Separation Pea 43.52 78 ⇓P P 08 12 10.0 -0.1
baz=43,SNR=5.2
IRM Iron Mountain 43.63 92 ⇑P P 08 12 11.7 +0.9
baz=44
MONP Monument Peak 43.73 95 ⇑P P 08 12 13.0 +1.1
baz=44
W13A Hualapai Mount 43.76 90 ⇑P P 08 12 13.2 +1.1
baz=44
P19A Cripple Cowboy 43.78 82 ⇑P P 08 12 12.8 +0.6
baz=44,SNR=13
BC3 Big Chuckawall 43.79 93 ⇓P P 08 12 13.1 +0.9
baz=44
L22A Ellis Ranch, M 43.81 77 ⇓P P 08 12 13.5 +1.1
baz=44
U15A North Rim 43.84 88 ⇓P P 08 12 14.2 +1.4
baz=44,SNR=14
O20A White River Ci 43.91 81 ⇑P P 08 12 13.5 +0.3
baz=44,SNR=11
H25A Fruitdale 43.92 72 ⇑P P 08 12 13.5 +0.4
baz=44
N21A Black Mountain 43.95 79 ⇓P P 08 12 13.7 +0.2
baz=44,SNR=6.2
J24A Dixon Ranch, L 44.07 75 ⇓P P 08 12 14.6 +0.2
baz=44
M22A Cedar Creek Ra 44.10 78 ⇑P P 08 12 15.1 +0.3
baz=44
KSRS Korea Array 44.13 275 P P 08 12 14.5 -0.2
comp=Z,1.0nm,0.7s,baz=50,slow=9.3,SNR=3.9
PDMCI Parker Dam,Lak 44.15 91 ⇑P P 08 12 15.9 +1.0
baz=44
KSAR Wonju Array Be 44.16 275 P P 08 12 14.5 -0.5
L23A Garrett 44.19 77 ⇓P P 08 12 15.4 -0.1
baz=44,SNR=8.5
I25A Rochford 44.20 73 ⇑P P 08 12 15.3 -0.2
baz=44
P20A De Beque 44.22 81 ⇓P P 08 12 15.8 +0.2
baz=44,SNR=5.6
Y12C Blythe 44.29 92 ⇑P P 08 12 17.4 +1.3
baz=44
O21A Pagoda 44.32 80 ⇓P P 08 12 17.1 +0.6
baz=44
H26A Fairpoint 44.40 72 ⇓P P 08 12 16.7 -0.2
baz=44
G27A Dupree 44.44 71 ⇓P P 08 12 17.4 +0.2
baz=44
J25A Sunshine Ranch 44.54 74 ⇓P P 08 12 17.7 -0.3
baz=44
N22A Wattenberg Ran 44.56 79 ⇑P P 08 12 19.1 +0.6
baz=44
GLA Glamis 44.58 93 ⇑P P 08 12 19.5 +1.0
baz=44
Q20A Ridgley Place, 44.62 82 ⇑P P 08 12 19.1 +0.3
baz=44
I26A New Underwood 44.70 73 ⇓P P 08 12 19.5 +0.2
baz=44
P21A Newcastle 44.76 81 ⇓P P 08 12 21.3 +1.2
baz=45
N23A Red Feather La 44.80 78 ⇓P P 08 12 21.0 +0.6
baz=45
O22A Kremmling 44.90 79 ⇓P P 08 12 22.0 +0.8
baz=45
K25A Mack Ranch, Ha 44.97 75 ⇓P P 08 12 22.3 +0.8
baz=45
PV01 Paradox Valley 44.98 83 eP P 08 12 22.0 +0.3
comp=Z,607nm,0.8s
WUAZ Wupatki 45.00 88 eP P 08 12 23.1 +1.2
comp=Z,8.3nm,1.0s
WUAZ Wupatki 45.00 88 ⇓P P 08 12 23.1 +1.2
baz=45,SNR=5.8
ULM Lac du Bonnet 45.01 62 P P 08 12 20.8 -0.7
ULM Lac du Bonnet 45.01 62 P P 08 12 20.8 -0.7
comp=Z,1.8nm,0.4s,baz=286,slow=6.8,SNR=3.0
R20A Redvale 45.06 83 ⇓P P 08 12 22.9 +0.6
baz=45
Y14A Wickenburg 45.08 91 ⇑P P 08 12 23.0 +0.6
baz=45
M24A Cheyenne 45.11 77 ⇑P P 08 12 23.1 +0.4
baz=45
Q21A Lamborn Mesa, 45.13 82 ⇑P P 08 12 23.7 +0.8
baz=45
I27A Quinn 45.14 72 ⇑P P 08 12 23.0 +0.3
baz=45
O23A Lake Granby, G 45.24 79 ⇓P P 08 12 24.9 +1.0
baz=45,SNR=11
S20A Disappointment 45.30 83 ⇑P P 08 12 24.6 +0.2
baz=45,SNR=7.6
H28A Mission Ridge 45.38 71 ⇑P P 08 12 25.1 +0.6
baz=45
R21A Cimarron 45.44 82 ⇑P P 08 12 26.1 +0.7
baz=45
Q22A Crested Butte, 45.51 81 ⇑P P 08 12 26.7 +0.7
baz=45
MVCO Mesa Verde 45.62 84 ⇑P P 08 12 27.4 +0.6
baz=46
ISCO Idaho Springs 45.69 79 ⇓P P 08 12 28.5 +1.1
baz=46
I28A Midland 45.70 72 ⇓P P 08 12 27.5 +0.4
baz=46
X16A Lo Mia Camp, P 45.70 89 ⇓P P 08 12 29.0 +1.6

	baz=46							
S21A	Coal Bank Pass	45.75	83	⇑P		P	08 12 28.6	+0.7
	baz=46,SNR=6.4							
P23A	Jefferson	45.82	80	⇑P		P	08 12 30.3	+1.8
	baz=46							
J28A	Allard Ranch,	46.01	72	⇓P		P	08 12 29.9	+0.3
	baz=46,SNR=5.6							
R22A	Saguache, Gunn	46.01	82	⇓P		P	08 12 31.1	+1.2
	baz=46							
AGMN	Agassiz Nation	46.13	64	*e*P		P	08 12 29.9	-0.5
	comp=Z,5.2nm,0.8s							
W18A	Petrified Fore	46.26	87	⇑P		P	08 12 33.2	+1.4
	baz=46							
S22A	4UR Ranch, Cre	46.28	82	⇑P		P	08 12 33.9	+1.8
	baz=46							
T21A	Navajo Lake	46.35	83	⇓P		P	08 12 33.9	+1.4
	baz=46							
K28A	Ten Mile Ranch	46.37	73	⇓P		P	08 12 33.0	+0.6
	baz=46							
O25A	Wiggins	46.37	78	⇓P		P	08 12 34.1	+1.5
	baz=46							
X18A	Snowflake	46.53	88	⇑P		P	08 12 35.5	+1.6
	baz=46							
214A	Organ Pipe Nat	46.57	93	⇓P		P	08 12 35.0	+0.9
	baz=46							
V20A	Brimhall	46.58	85	⇑P		P	08 12 35.4	+1.1
	baz=46							
U21A	Nageezi	46.65	84	⇓P		P	08 12 35.8	+0.9
	baz=46,SNR=11							
T22A	Edith	46.71	83	⇓P		P	08 12 36.6	+1.2
	baz=47							
P25A	Willow Gulch B	46.73	78	⇑P		P	08 12 36.5	+1.1
	baz=47,SNR=7.1							
N27A	Anderson Farm,	46.87	76	⇑P		P	08 12 37.8	+1.4
	baz=47							
R24A	Sanders Place,	46.99	80	⇓P		P	08 12 38.8	+1.3
	baz=47							
W20A	Ramah	47.01	86	⇓P		P	08 12 38.7	+1.0
	baz=47							
V21A	Milan	47.07	85	⇑P		P	08 12 39.0	+0.8
	baz=47							
SDCO	Great Sand Dun	47.08	81	*e*P		P	08 12 39.1	+0.9
	comp=Z,3.8nm,1.0s							
U22A	Llaves	47.16	84	⇓P		P	08 12 39.8	+0.9
	baz=47							
P26A	Davis Ranch, A	47.19	78	⇑P		P	08 12 39.9	+1.0
	baz=47,SNR=5.9							
O27A	Beecher Island	47.30	77	⇓P		P	08 12 40.2	+0.5
	baz=47							
S24A	Houchin Ranch,	47.32	81	⇓P		P	08 12 41.3	+1.2
	baz=47							
V22A	San Miguel Ran	47.44	84	⇓P		P	08 12 41.8	+0.8
	baz=47							
W21A	San Fidel	47.53	85	⇑P		P	08 12 43.0	+1.3
	baz=47							
R25A	Fountain Ranch	47.54	80	⇑P		P	08 12 43.0	+1.3
	baz=47							
U23A	El Rito	47.59	83	⇑P		P	08 12 43.3	+1.1
	baz=48,SNR=11							
O28A	Krutsinger Ran	47.75	76	⇓P		P	08 12 44.0	+0.8
	baz=48							
S25A	Robets Cordova	47.77	81	⇓P		P	08 12 44.2	+0.7
	baz=48							
Y20A	Horse Springs,	47.91	87	⇑P		P	08 12 46.5	+1.8
	baz=48							
R26A	Arlington	47.94	79	⇑P		P	08 12 45.2	+0.5
	baz=48,SNR=5.6							
V23A	Ortiz Mt. (NFS	47.99	84	⇑P		P	08 12 47.4	+2.1
	baz=48							
P28A	Saint Francis	48.12	77	⇑P		P	08 12 46.6	+0.5
	baz=48							
T25A	Trinidad	48.13	81	⇓P		P	08 12 47.6	+1.3
	baz=48							
Z20A	Nine Sixteen R	48.32	88	⇓P		P	08 12 49.1	+1.3
	baz=48							
X22A	Bernardo	48.33	86	⇑P		P	08 12 49.6	+1.8
	baz=48							
R27A	Eads	48.34	79	⇓P		P	08 12 48.8	+1.0
	baz=48							
S26A	Kim	48.37	80	⇑P		P	08 12 48.3	+0.2
	baz=48,SNR=5.6							
W23A	Werner Place,	48.40	84	⇑P		P	08 12 49.8	+1.4
	baz=48							
ECSD	EROS Data Cent	48.46	69	*e*P		P	08 12 47.5	-1.0
	comp=Z,2.0nm,0.5s							
V24A	Rampart Ranch,	48.55	83	⇓P		P	08 12 50.6	+1.0
	baz=48,SNR=7.2							
U25A	Circle Dot Ran	48.62	82	⇑P		P	08 12 50.7	+0.6
	baz=48,SNR=7.3							
120A	U Bar Ranch, L	48.69	89	⇑P		P	08 12 51.8	+1.2
	baz=49							
EYMN	Ely	48.69	62	*e*P		P	08 12 50.0	-0.3
	comp=Z,7.3nm,1.0s							
Y22A	Socorro	48.74	86	⇓P		P	08 12 52.3	+1.3
	baz=49,SNR=7.7							
Z21A	St. Cloud Mine	48.74	87	⇓P		P	08 12 52.8	+1.7
	baz=49							
X23A	Hourglass Bar	48.77	85	⇑P		P	08 12 52.7	+1.5
	baz=49							
BNM	Barren Site	48.80	86	*e*P		P	08 12 52.9	+1.4
	comp=Z,1.3nm,0.6s							
W24A	Lazy 6 Ranch,	48.82	84	⇑P		P	08 12 52.8	+1.3
	baz=49							
V25A	Rancho No Teng	48.87	82	⇓P		P	08 12 53.2	+1.2
	baz=49							
R28A	Tribune	48.88	78	⇓P		P	08 12 52.5	+0.6
	baz=49							
U26A	Atchley Ranch,	49.02	81	⇓P		P	08 12 54.2	+1.0
	baz=49							
P30A	Selden	49.02	76	⇓P		P	08 12 54.1	+1.2
	baz=49							
220A	Playas Peak, P	49.20	89	⇑P		P	08 12 55.4	+0.9
	baz=49,SNR=7.0							
Z22A	Elephant Butte	49.21	87	⇑P		P	08 12 56.0	+1.5
	baz=49							
121A	Cookes Peak, D	49.21	88	⇑P		P	08 12 55.9	+1.3
	baz=49							
Y23A	Lovelace Mesa,	49.30	85	⇑P		P	08 12 56.3	+1.0
	baz=49,SNR=7.4							
S28A	Manter	49.33	79	⇑P		P	08 12 56.0	+0.6
	baz=49							
W25A	X Bar L Ranch,	49.38	83	⇓P		P	08 12 56.6	+0.8
	baz=49,SNR=6.2							
V26A	Tequesquite Ra	49.40	82	⇑P		P	08 12 56.4	+0.5
	baz=49,SNR=7.4							
Q30A	Quinter	49.41	76	⇓P		P	08 12 56.5	+0.6
	baz=49							
P31A	Stockton	49.55	75	⇑P		P	08 12 57.2	+0.3
	baz=49							
U27A	Thompson Grove	49.55	81	⇓P		P	08 12 57.6	+0.5
	baz=49							
SPMN	St. Paul	49.66	65	⇑P		P	08 12 57.3	-0.2
	baz=49							
Y24A	Capitan	49.67	85	⇓P		P	08 12 59.1	+1.0
	baz=50,SNR=10							
SONM	Songino Array	49.99	299	P		P	08 12 59.3	-0.9
SONM				PcP		PcP	08 14 17.5	-0.8
SONM				ScP		ScP	08 18 00.7	-1.3
SONM	Songino Array	49.99	299	P		P	08 12 59.3	-0.9
	comp=Z,0.4nm,0.4s,baz=60,slow=6.8,SNR=5.1							
SONM				PcP		PcP	08 14 17.5	-0.8
	comp=Z,0.3nm,0.5s,baz=90,slow=3.0,SNR=3.7							
SONM				ScP		ScP	08 18 00.7	-1.3
	comp=Z,0.5nm,0.6s,baz=46,slow=6.2,SNR=2.8							
Y25A	Mesa, Roswell	50.12	84	⇓P		P	08 13 02.4	+1.0
	baz=50							
Z24A	Sheeppen Canyo	50.13	85	⇓P		P	08 13 02.3	+0.8
	baz=50,SNR=5.4							
R31A	Burdett	50.27	77	⇑P		P	08 13 03.0	+0.6
	baz=50							
124A	Stringfield Ra	50.51	86	⇑P		P	08 13 05.4	+0.9
	baz=50							
Z25A	Roswell	50.55	85	⇑P		P	08 13 05.8	+1.2
	baz=50							
U30A	WK&E Inc. Balk	50.78	79	⇑P		P	08 13 06.6	+0.4
	baz=51							
224A	Cornudas Mount	50.90	87	⇓P		P	08 13 08.2	+0.9
	baz=51,SNR=5.3							
T31A	Randall Ranch,	50.98	78	⇓P		P	08 13 08.2	+0.6
	baz=51							
125A	Gardner Draw,	51.02	86	⇑P		P	08 13 09.5	+1.3
	baz=51							
Y27A	Causey	51.07	83	⇑P		P	08 13 08.8	+0.3
	baz=51,SNR=5.8							
MNTX	Cornudas Mount	51.25	87	*e*P		P	08 13 11.0	+1.3
	comp=Z,3.4nm,1.0s							
225A	Deer Hill, Car	51.30	86	⇑P		P	08 13 12.1	+1.7
	baz=51							
324A	Moseley Ranch,	51.37	87	⇓P		P	08 13 11.7	+0.9
	baz=51							
226B	Tecolote Peak,	51.72	86	⇑P		P	08 13 14.3	+1.0
	baz=52							
X30A	Coker Ranch, T	52.06	81	⇓P		P	08 13 16.9	+1.1
	baz=52							
W31A	Holland Ranch,	52.11	80	⇓P		P	08 13 17.1	+0.9
	baz=52							
128A	Castleberry Fa	52.36	84	⇓P		P	08 13 18.9	+0.9
	baz=52							
326A	Caldwell Ranch	52.37	86	⇓P		P	08 13 19.6	+1.4
	baz=52							
Z29A	Hungry Hill Ra	52.38	83	⇓P		P	08 13 19.2	+1.0
	baz=52							
Y30A	Stafford Cattl	52.44	82	⇑P		P	08 13 19.4	+0.8
	baz=52							
426A	McDonald Obser	52.80	87	⇓P		P	08 13 22.0	+0.6
	baz=53							
328A	Wristen Ranch,	53.03	85	⇑P		P	08 13 23.5	+0.6
	baz=53							
427A	Hayter Ranch,	53.05	86	⇑P		P	08 13 24.0	+0.8
	baz=53							
526A	Mary Lane Ranc	53.19	87	⇓P		P	08 13 25.1	+0.8
	baz=53							
Y32A	R-V Farms, Ver	53.22	80	⇑P		P	08 13 24.9	+0.6
	baz=53							
527A	Woodward Ranch	53.42	87	⇓P		P	08 13 26.8	+0.8
	baz=53							
626A	Big Bend Ranch	53.53	88	⇓P		P	08 13 27.1	+0.4
	baz=53,SNR=7.4							
428A	Kincaid Ranch,	53.57	86	⇓P		P	08 13 27.6	+0.7
	baz=54,SNR=6.2							
Z32A	Haskell	53.69	81	⇑P		P	08 13 28.1	+0.5
	baz=54							
230A	Sterling City	53.70	84	⇑P		P	08 13 28.2	+0.4
	baz=54							
528A	Cox Ranch, San	53.91	86	⇑P		P	08 13 29.9	+0.4
	baz=54,SNR=5.2							
TXAR	Lajitas Array	53.97	88	P		P	08 13 30.4	+0.6
TXAR				pP		pP	08 13 57.6	-1.9
TXAR				ScP		ScP	08 18 20.8	+1.3
TXAR	Lajitas Array	53.97	88	P		P	08 13 30.4	+0.6
	comp=Z,2.2nm,0.5s,baz=307,slow=6.4,SNR=56							
TXAR				pP		pP	08 13 57.6	-1.9
	comp=Z,1.1nm,0.9s,baz=316,slow=5.2,SNR=3.1							
TXAR				ScP		ScP	08 18 20.8	+1.3
	comp=Z,0.3nm,0.8s,baz=306,slow=1.7,SNR=3.2							
330A	Mertzon	54.00	84	⇑P		P	08 13 30.4	+0.4
	baz=54							
627A	Terlingua Ranc	54.05	87	⇑P		P	08 13 31.1	+0.6
	baz=54							
529A	Stev Forest Ra	54.28	86	⇓P		P	08 13 32.8	+0.8
	baz=54							
628A	Black Gap, Mar	54.33	87	⇓P		P	08 13 32.9	+0.5
	baz=54,SNR=8.6							
430A	Baggett Ranch,	54.40	85	⇑P		P	08 13 33.0	+0.1
	baz=54,SNR=6.2							
331A	San Angelo	54.52	84	⇑P		P	08 13 33.9	+0.1
	baz=54							
232A	Coleman	54.58	82	⇓P		P	08 13 34.4	+0.2
	baz=54							
530A	J-C Ranch, Com	54.79	85	⇑P		P	08 13 36.0	+0.3
	baz=55,SNR=8.3							
431A	Sonora	54.85	84	⇓P		P	08 13 36.1	-0.1
	baz=55,SNR=5.2							
332A	Millersview	54.88	83	⇓P		P	08 13 36.3	0.0
	baz=55							
432A	Menard	55.21	83	⇑P		P	08 13 39.0	+0.3
	baz=55							
531A	Rocksprings	55.26	85	⇑P		P	08 13 39.7	+0.6
	baz=55							
JCT	Junction City	55.48	84	⇑P		P	08 13 41.0	+0.3
	baz=55							
631A	Perdido Creek	55.78	85	⇑P		P	08 13 42.3	-0.5
	baz=56							
SCHQ	Schefferville	55.92	43	P		P	08 13 43.1	-0.4
SCHQ	Schefferville	55.92	43	P		P	08 13 43.1	-0.4
	comp=Z,2.7nm,0.7s,baz=333,slow=11							
SFIN	Scholer Farm	56.00	66	⇓P		P	08 13 43.8	-0.4
	baz=56							
MIAR	Mount Ida	56.33	76	*e*P		P	08 13 45.7	-0.9
	comp=Z,6.7nm,1.3s							
732A	Laxson Ranch,	56.64	85	⇑P		P	08 13 49.2	+0.3
	baz=56							
ARCES	ARCESS Array B	57.30	353	P		P	08 13 52.6	-0.4
ARCES	ARCESS Array B	57.30	353	P		P	08 13 52.6	-0.4
	comp=Z,2.5nm,1.0s,baz=19,slow=9.0,SNR=2.4							
LZH	Lanzhou	59.26	290	*e*P		P	08 14 10.6	+3.3
LZH				*e*PP		PP	08 16 24.0	+4.8
LZH				pmax		pmax		
	comp=Z,16nm,1.2s							
LZH				pmax		pmax		
	comp=Z,45nm,8.3s							
LZH				LR		LR		
	comp=N,150nm,14.7s							
LZH				LR		LR		
	comp=E,140nm,15.3s							
LZH				LR		LR		
	comp=Z,190nm,19.0s							
WMQ	Urumqi	62.25	307	*e*P		P	08 14 33.5	+6.2
MKAR	Makanchi Array	62.57	312	P		P	08 14 28.4	-0.9
MKAR	Makanchi Array	62.57	312	P		P	08 14 28.4	-0.9
	comp=Z,0.1nm,0.4s,baz=35,slow=5.5,SNR=3.5							
GYA	Guiyang	64.62	281	*e*P		P	08 14 47.0	+3.8
GYA				pP		pP	08 15 12.8	-0.9
GYA				sP		sP	08 15 24.3	-3.1
GYA				ScP			08 19 12.6	
GYA				PcS			08 19 23.0	
GYA				S		S	08 23 15.3	+2.3
GYA				SKS		ScS	08 24 27.8	+2.0
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
CMAR	Chiang Mai Arr	75.31	281	P		P	08 15 48.1	-0.3
CMAR	Chiang Mai Arr	75.31	281	P		P	08 15 48.1	-0.3
	comp=Z,1.5nm,0.4s,baz=28,slow=6.6,SNR=7.0							
WRA	Warramunga Arr	86.35	230	P		P	08 16 45.7	-1.2
WRA	Warramunga Arr	86.35	230	P		P	08 16 45.7	-1.2
	comp=Z,1.4nm,0.5s,baz=32,slow=5.7,SNR=22							
ASAR	Alice Springs	89.78	228	P		P	08 17 03.0	-0.1
ASAR	Alice Springs	89.78	228	P		P	08 17 03.0	-0.1
	comp=Z,5.8nm,0.7s,baz=27,slow=4.6,SNR=68							
STKA	Stephens Creek	93.79	219	P		P	08 17 20.7	-0.7
STKA	Stephens Creek	93.79	219	P		P	08 17 20.7	-0.7
	comp=Z,1.2nm,0.8s,baz=45,slow=2.9,SNR=4.1							
TORD	Torodi Ar. Bea	114.00	7	PKiKP		PKiKP	08 22 41.5	-1.8
TORD				PKKPbc		PKKPbc	08 33 22.7	+0.1
TORD	Torodi Ar. Bea	114.00	7	PKiKP		PKiKP	08 22 41.5	-1.8
	comp=Z,0.1nm,0.4s,baz=323,slow=3.3,SNR=3.2							
TORD				PKKPbc		PKKPbc	08 33 22.7	+0.1
	comp=Z,0.4nm,0.6s,baz=175,slow=3.8,SNR=5.4							
MAW	Mawson	150.48	219	PKPbc		PKPbc	08 23 53.8	-0.4
MAW	Mawson	150.48	219	PKPbc		PKPbc	08 23 53.8	-0.4
	comp=Z,2.5nm,0.6s,baz=65,slow=2.3,SNR=7.6							
BOSA	Boshof	152.83	327	PKPbc		PKPbc	08 23 59.5	-1.5
BOSA	Boshof	152.83	327	PKPbc		PKPbc	08 23 59.5	-1.5
	comp=Z,1.8nm,0.5s,baz=166,slow=7.0,SNR=6.2							

IDC 20 08:18:11.0±3.0, 20°.96S×68°.86W, h122km±30km, mb3.4/2, mb1 3.1/4, mb1mx3.0/18, mbtmp3.0/4, Error ellipse: s-maj=51.5km s-min=26.2km az=108.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	4.70	9	P	Pn	08 19 20.6	-0.1
	0.4nm,0.3s,baz=190,slow=6.7,SNR=14						
LPAZ				S	Sn	08 20 10.2	-4.7
	0.3nm,0.3s,baz=175,slow=11,SNR=4.1						
PLCA	Paso Flores	19.76	184	P		08 22 31.5	0.0
	0.1nm,0.3s,baz=0.0,slow=9.1,SNR=2.8						
BDFB	Brasilia	20.48	78	P		08 22 39.0	-0.4
	1.6nm,0.5s,baz=258,slow=9.3,SNR=4.4						
TORD	Torodi Ar. Bea	77.13	70	P		08 29 52.0	+0.4
	0.6nm,0.5s,baz=251,slow=5.9,SNR=9.6						
MKAR	Makanchi Array	145.17	35	PKPbc	PKPbc	08 37 32.7	-1.2
	0.5nm,0.9s,baz=294,slow=2.7,SNR=2.8						

*IDC **20** 08:22:22.4±1.8, 27°.73N×92°.13E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.6/26, mbtmp3.7/5, Error ellipse: s-maj=74.9km s-min=20.1km az=70.0*

ISC 20 08:22:24.5±1.1, 27°.68N±0°.07×92°.1E±0°.2, h15km, n7, σ1°21/9, mb3.9/4, Eastern Xizang-India border region

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

SHL	Shillong	2.10	184	*e*PN		Pb	08 23 02.2	-0.3
SHL				*e*SN		Sg	08 23 31.7	-0.6
IMP	Imphal	3.34	149	*e*P		Pn	08 23 18.0	+1.8
IMP				*e*S		Sg	08 24 10.0	-1.8
MKAR	Makanchi Array	20.58	341	P		P	08 27 01.6	-1.1
	0.6nm,0.5s,baz=147,slow=12,SNR=10							
SONM	Songino Array	23.03	25	P		P	08 27 28.4	-0.7
	0.3nm,0.6s,baz=206,slow=11,SNR=2.1							
ZALV	Zalesovo Beam	26.78	350	P		P	08 28 04.1	+0.4
	0.7nm,0.3s,baz=167,slow=6.8,SNR=4.6							
WRA	Warramunga Arr	62.57	135	P		P	08 32 48.4	+0.2
	1.1nm,0.5s,baz=324,slow=7.1,SNR=27							
ASAR	Alice Springs	65.08	138	P		P	08 33 05.1	+0.4
	0.8nm,0.5s,baz=322,slow=6.9,SNR=20							

MEX 20 08:28:31.2±0.8, 17°.00N×95°.10W, h94km±21km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	Huatulco	1.56	218	*i* P	Pn	08 28 56.0	-1.9
HUIG				*i* S	Sn	08 29 17.0	-1.3
TGIG		1.91	96	*i* P	Pn	08 29 02.1	-0.3
TGIG				*i* S	Sn	08 29 24.4	-2.0
TPIG	Tehuac#an	2.57	304	*i* P	Pn	08 29 09.9	-1.5
TPIG				*i* S	Sn	08 29 40.4	-1.8
PNIG	Pinotepa	2.96	259	*i* P	Pn	08 29 15.4	-0.9
PNIG				*i* S	Sn	08 29 50.4	-0.8
LVIG	Laguna Verde	2.98	335	*i* P	Pn	08 29 15.8	-0.7
LVIG				*i* S	Sn	08 29 49.3	-2.2
YAIG	Yautepec	4.20	297	*i* P	Pn	08 29 32.5	-0.7
YAIG				*i* S	Sn	08 30 20.2	-1.2
PLIG	Platanillo	4.42	289	*i* P	Pn	08 29 34.9	-1.2
PLIG				*i* S	Sn	08 30 24.8	-1.6

*ISCJB **20** 08:37:56.4±0.5, 41°.82N±0°.04×141°.96E±0°.05, h112km±4km, mb3.5/6, Error ellipse: s-maj=7.1km s-min=4.9km az=41.5*
*JMA **20** 08:37:57.6±0.2, 41°.83N×141°.90E, h108km±2km, M3.3*
*IDC **20** 08:37:57.0±1.7, 41°.87N×142°.18E, h112km±16km, mb3.3/6, mb1 3.3/9, mb1mx3.2/28, mbtmp3.2/9, Error ellipse: s-maj=30.1km s-min=16.0km az=96.0*

ISC 20 08:37:57.3±0.8, 41°.82N±0°.04×141°.96E±0°.04, h109km±7km, n23, σ0°74/37, mb3.6/6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKB	Kayabe	0.69	276	P	Pn	08 38 15.2	-0.2
JKB				*e*S	Sn	08 38 28.2	-0.9
JNBK	Urakawa-nobuka	0.75	52	P	Pn	08 38 16.4	+0.4
JNBK				*e*S	Sn	08 38 30.6	+0.6
JOT	Ohata	0.81	238	P	Pn	08 38 16.7	+0.3
JOT				*e*S	Sn	08 38 30.8	-0.1
JEM	Erimo	0.92	77	P	Pn	08 38 18.1	+0.6
JEM				*e*S	Sn	08 38 32.9	+0.1
JNB	Noboribetsu	0.94	314	P	Pn	08 38 17.5	-0.3
JNB				*e*S	Sn	08 38 32.4	-0.8
JEW	Eniwo	1.09	340	P	Pn	08 38 19.3	0.0
JEW				*e*S	Sn	08 38 35.5	-0.5
JCH	Churui	1.31	52	P	Pn	08 38 22.3	+0.5
JCH				*e*S	Sn	08 38 40.0	-0.4
JFR	Furan	1.43	19	P	Pn	08 38 23.1	-0.1
JFR				*e*S	Sn	08 38 42.6	-0.2
JANG	Nango	1.48	193	P	Pn	08 38 23.7	-0.1
JANG				*e*S	Sn	08 38 42.8	-1.1
JOSM	Okushiri--Mats	1.87	279	P	Pn	08 38 28.6	+0.1
JOSM				*e*S	Sn	08 38 52.1	-0.2
JSK	Shakotan	1.88	325	P	Pn	08 38 29.1	+0.4
JHR	Hokuryu	1.93	355	P	Pn	08 38 29.9	+0.6
JHR				*e*S	Sn	08 38 54.3	+0.5
JAR	Ashorobuto	2.00	42	P	Pn	08 38 29.6	-0.5
JAR				*e*S	Sn	08 38 53.4	-1.9
JKK2	Kamakawa 2	2.14	16	P	Pn	08 38 32.1	+0.1
JKK2				*e*S	Sn	08 38 58.3	-0.2
ASAJ	Asahikawa	2.35	11	P	Pn	08 38 34.6	0.0
	14nm,0.3s,baz=217,slow=12,SNR=48						
ASAJ				S	Sn	08 39 01.7	-1.6
	4.6nm,0.3s,baz=303,slow=32,SNR=4.5						
MJAR	Matsushiro Arr	6.02	210	P	Pn	08 39 25.3	+1.4
	0.6nm,0.3s,baz=23,slow=12,SNR=6.5						
MJAR				S	Sn	08 40 39.7	+8.3
	baz=42,slow=20,SNR=3.2						
USRK	Ussuriysk Arra	7.67	291	P	Pn	08 39 48.2	+2.0
	0.2nm,0.3s,baz=91,slow=15,SNR=4.2						
SONM	Songino Array	25.77	296	P	P	08 43 18.5	+0.6
	0.4nm,0.4s,baz=76,slow=9.6,SNR=3.2						
MKAR	Makanchi Array	42.09	298	P	P	08 45 38.2	-0.1
	0.3nm,0.5s,baz=85,slow=11,SNR=3.6						
KURBB	Kurchatov Arra	43.52	304	P	P	08 45 49.6	-0.2
	1.0nm,0.5s,baz=74,slow=8.8,SNR=5.8						
BVAR	Borovoye Array	47.77	309	P	P	08 46 23.7	+0.5
	0.7nm,0.5s,baz=36,slow=7.5,SNR=2.7						
WRA	Warramunga Arr	61.85	188	P	P	08 48 04.6	-0.3
	0.3nm,0.7s,baz=7.4,slow=6.7,SNR=7.1						
FINES	FINESS Array B	64.80	331	P	P	08 48 23.7	-0.2
	1.8nm,1.0s,baz=38,slow=7.0,SNR=2.6						

TAP 20 08:46:19.8, 23°.90N×120°.18E, h21km, ML3.8, 11C-1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WTCT	Ta-ch'eng	0.10	110	⇑*i* P	Pb	08 46 24.0	+0.1
	baz=110						
WTCT				*i* S	Sb	08 46 27.8	+1.1
	baz=110						
WSF	Szhu	0.26	172	⇓*i* P	Pb	08 46 26.4	+0.3
	baz=171						
WSF				*i* S	Sb	08 46 31.8	+1.5
	baz=171						
CHN2	Minshiung	0.45	144	P	Pn	08 46 30.0	-1.0
	baz=143						
CHN2				*e*S	Sn	08 46 37.3	-1.2
	baz=143						
CHY	Chiayi	0.45	151	⇑*e*P	Pn	08 46 30.1	-0.

SCLT	**Jiali**	**0.72**	**179**	*e*P		Pn	08 46 34.8	0.0
	baz=178								
SCLT					*e*S	Sn	08 46 46.0	+0.9
	baz=178								
NSY	**Sanyi**	**0.74**	**45**	P		Pn	08 46 35.0	-0.1
	baz=46								
NSY					*e*S	Sn	08 46 46.4	+0.8
	baz=46								
WTP	**Ta-pu**	**0.76**	**149**	⇑*i*P		Pn	08 46 35.0	-0.4
	baz=148								
WTP					*e*S	Sn	08 46 45.7	-0.5
	baz=148								
CHN1	**Nanshi**	**0.78**	**156**	*e*P		Pn	08 46 35.2	-0.4
	baz=156								
CHN1					*e*S	Sn	08 46 46.4	-0.2
	baz=156								
YUS	**Yu-Shan**	**0.81**	**120**	⇑P		Pb	08 46 36.3	+0.4
	baz=108								
YUS					*e*S	Sn	08 46 48.4	-0.1
	baz=108								
CHN3	**Shinhua**	**0.83**	**168**	*e*P		Pn	08 46 36.2	-0.1
	baz=168								
CHN3					*e*S	Sn	08 46 49.4	+1.5
	baz=168								
TAI1	**Yung-k'ang**	**0.85**	**177**	*e*P		Pn	08 46 36.8	+0.3
	baz=177								
TAI1					S	Sn	08 46 50.1	+1.7
	baz=177								
SGST	**Jiashian**	**0.89**	**156**	*e*P		Pn	08 46 37.5	+0.4
	baz=147								
SGST					*e*S	Sn	08 46 50.4	+1.0
	baz=147								
STYT	**Tauyuan**	**0.90**	**144**	P		Pn	08 46 37.4	0.0
	baz=144								
STYT					*e*S	Sn	08 46 50.0	+0.3
	baz=144								
TWT	**Tachien**	**0.97**	**68**	*e*P		Pn	08 46 38.4	-0.1
	baz=68								
TWT					*e*S	Sb	08 46 51.3	+0.5
	baz=68								
WHF	**Hehuan Shan**	**1.02**	**76**	⇑P		Pn	08 46 40.2	+0.8
	baz=76								
WHF					*e*S	Sn	08 46 54.5	+1.0
	baz=76								
ELDTW	**Lidau**	**1.04**	**133**	*e*P		Pn	08 46 39.3	0.0
	baz=132								
ELDTW					*e*S	Sn	08 46 53.9	+0.6
	baz=132								
NSTT	**Nanjuang**	**1.04**	**45**	*e*P		Pb	08 46 38.5	-0.8
	baz=46								
NSTT					*e*S	Sn	08 46 53.6	+0.4
	baz=46								
TWM1	**Shoushan**	**1.09**	**168**	*e*P		Pb	08 46 41.6	+1.6
	baz=168								
EHY	**Hungye**	**1.11**	**110**	*e*P		Pb	08 46 40.9	+0.5
	baz=110								
EHY					*e*S	Sn	08 46 57.0	+2.1
	baz=110								
ESL	**Shilin**	**1.15**	**94**	*i* P		Pb	08 46 41.8	+0.8
	baz=85								
ESL					S	Sn	08 46 57.1	+1.4
	baz=85								
HSN	**Hsinchu**	**1.15**	**38**	*e*P		Pb	08 46 41.8	+0.7
	baz=49								
HSN					*e*S	Sn	08 46 59.1	+3.3
	baz=49								
TWF1	**Yuli**	**1.16**	**118**	⇑*e*P		Pb	08 46 41.7	+0.6
	baz=108								
TWF1					*e*S	Sn	08 46 57.1	+1.2
	baz=108								
NNS	**Nan Shan**	**1.21**	**63**	*e*P		Pb	08 46 42.5	+0.3
	baz=63								
NNS					*e*S	Sn	08 46 58.1	+0.5
	baz=63								
HWA	**Hwalien**	**1.30**	**86**	*e*P		Pb	08 46 44.7	+1.1
	baz=86								
HWA					*e*S	Sb	08 47 02.4	+2.5
	baz=86								
TWD	**Chiawan**	**1.30**	**82**	*e*P		Pb	08 46 44.0	+0.4
	baz=91								
TWD					*e*S	Sb	08 47 01.3	+1.4
	baz=91								
NSK	**Sanguang**	**1.32**	**54**	P		Pn	08 46 43.1	0.0
	baz=45								
NSK					*e*S	Sb	08 47 01.3	+0.7
	baz=45								
CHKT	**Chengkung**	**1.34**	**126**	*e*P		Pb	08 46 45.2	+0.9
	baz=127								
TWG	**Pinlang**	**1.35**	**143**	*e*P		Pb	08 46 44.9	+0.5
	baz=142								
TWG					*e*S	Sb	08 47 02.8	+1.7
	baz=142								
ENTT	**Nioudou**	**1.46**	**59**	*e*P		Pn	08 46 45.0	0.0
	baz=60								
ENTT					*e*S	Sb	08 47 04.4	-0.1
	baz=60								
SCZT	**Fangliau**	**1.57**	**165**	*e*P		Pn	08 46 47.3	+0.9
	baz=165								
TWE	**Neicheng**	**1.58**	**58**	*e*P		Pn	08 46 47.0	+0.4
	baz=58								
TWA	**Mucha**	**1.67**	**50**	*e*P		Pb	08 46 51.0	+1.1
	baz=49								
TWC	**Suao**	**1.68**	**65**	*e*P		Pb	08 46 49.2	-0.7
	baz=56								
TWC					*e*S	Sb	08 47 11.2	+0.5
	baz=56								
KNM	**Kinmen**	**1.68**	**288**	*e*P		Pb	08 46 51.1	+1.1
	baz=286								
NWF	**Wu-ken Shan**	**1.87**	**51**	*e*P		Pn	08 46 50.4	-0.2
	baz=38								
TWB1	**Santiao Chiao**	**1.98**	**56**	*e*P		Pn	08 46 52.1	0.0
	baz=55								

*ISCJB **20** 08:49:25.7±0.6,3°.53N±0°.10×92°.71E±0°.08, h33km, mb4.2/16, MS3.2/3, Error ellipse: s-maj=16.3km s-min=8.1km az=36.4*
*NEIC **20** 08:49:27.9±0.9,3°.50N×92°.68E, h36km±7km, mb4.4/5, Error ellipse: s-maj=13.8km s-min=7.4km az=48.0*
*IDC **20** 08:49:27.6±1.1,3°.38N×92°.58E, h36km±7km, mb3.8/10, mb1 3.9/11, mb1mx3.7/27, mbtmp3.8/11, ML4.0/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/48, Error ellipse: s-maj=39.8km s-min=15.2km az=52.0*

ISC 20 08:49:28.1±0.8, 3.5N±0°.1×92.79E±0°.08, h35km, h36km:pP-P, n37, σ1§03/44, mb4.2/16, MS3.2/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**6.17**	**97**	Pn		**Pn**	**08 50 58.3**	**+1.4**
PSI				Sn		**Sn**	**08 52 04.7**	**-1.7**
PSI	**Prapat**	**6.17**	**97**	Pn		**Pn**	**08 50 58.3**	**+1.4**
	3.7nm,0.3s,baz=304,slow=6.8,SNR=13							
PSI				Sn		**Sn**	**08 52 04.7**	**-1.7**
	5.0nm,0.3s,baz=6.0,slow=19,SNR=4.5							
KULM	**Kulim**	**8.03**	**77**	*e*Pn		**Pn**	**08 51 23.7**	**+1.3**
	36nm,0.8s							
KULM				*e*Sn		**Sn**	**08 52 49.4**	**-2.6**
IPM	**Ipoh**	**8.27**	**83**	*e*Pn		**Pn**	**08 51 26.9**	**+1.1**
	18nm,0.6s							
CMAR	**Chiang Mai Arr**	**16.01**	**22**	Pn		**Pn**	**08 53 09.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**16.01**	**22**	Pn		**Pn**	**08 53 09.9**	**-0.8**
	1.2nm,0.3s,baz=210,slow=13,SNR=6.8							
LSA	**Lhasa**	**26.07**	**357**	*e*P		**P**	**08 55 00.7**	**+1.7**
	12nm,0.8s							
KAPI	**Kappang**	**28.24**	**107**	P		**P**	**08 55 19.4**	**+1.2**
FITZ	**Fitzroy Crossi**	**38.87**	**125**	*e*P		**P**	**08 56 51.7**	**+1.3**
	23nm,2.0s							
AAK	**Ala-Archa**	**42.21**	**340**	LR		LR	09 14 37.9	
	comp=Z,38nm,20.6s,baz=172,slow=36							
MKAR	**Makanchi Array**	**44.05**	**350**	P		**P**	**08 57 32.6**	**+0.1**
MKAR	**Makanchi Array**	**44.05**	**350**	P		**P**	**08 57 32.6**	**+0.1**
	4.9nm,0.6s,baz=168,slow=8.7,SNR=71							
KKAR	**Karatay Array**	**44.10**	**336**	*e*P		**P**	**08 57 32.9**	**-0.1**
	4.4nm,0.7s							
SONM	**Songino Array**	**45.66**	**13**	P		**P**	**08 57 46.5**	**+1.0**
SONM				pP		**pP**	**08 57 57.1**	**+1.2**
SONM	**Songino Array**	**45.66**	**13**	P		**P**	**08 57 46.5**	**+1.0**
	0.4nm,0.4s,baz=205,slow=11,SNR=2.6							
SONM				pP		**pP**	**08 57 57.1**	**+1.2**
	0.8nm,0.7s,baz=195,slow=7.4,SNR=3.7							
KSRS	**Korea Array**	**46.63**	**39**	LR		LR	09 19 01.5	
	comp=Z,20nm,18.8s,baz=230,slow=38							
WRA	**Warramunga Arr**	**47.00**	**121**	P		**P**	**08 57 56.5**	**+0.1**
WRA				pP		**pP**	**08 58 06.8**	**0.0**
WRA	**Warramunga Arr**	**47.00**	**121**	P		**P**	**08 57 56.5**	**+0.1**
	0.7nm,0.7s,baz=305,slow=8.4,SNR=6.3							
WRA				pP		**pP**	**08 58 06.8**	**0.0**
	1.8nm,0.6s,baz=297,slow=8.8,SNR=12							
WRAB	**Tennant Creek**	**47.01**	**121**	*e*P		**P**	**08 57 56.6**	**+0.2**
	1.5nm,1.0s							
ASAR	**Alice Springs**	**48.31**	**126**	P		**P**	**08 58 06.5**	**-0.1**
ASAR				pP		**pP**	**08 58 17.1**	**+0.1**
ASAR	**Alice Springs**	**48.31**	**126**	P		**P**	**08 58 06.5**	**-0.1**
	0.4nm,0.7s,baz=293,slow=7.2,SNR=4.7							
ASAR				pP		**pP**	**08 58 17.1**	**+0.1**
	0.7nm,0.7s,baz=295,slow=7.5,SNR=5.3							
KURBB	**Kurchatov Arra**	**48.44**	**348**	P		**P**	**08 58 07.2**	**+0.2**
	3.6nm,0.8s,baz=171,slow=7.1,SNR=27							
KURBB				pP		**pP**	**08 58 18.0**	**+0.6**
	1.0nm,0.6s,baz=173,slow=7.0,SNR=3.3							
KURK	**Kurchatov**	**48.51**	**348**	P		**P**	**08 58 07.2**	**-0.3**
KURK				pP		**pP**	**08 58 18.0**	**+0.1**
ZALV	**Zalesovo Beam**	**50.68**	**354**	P		**P**	**08 58 24.1**	**+0.1**
ZALV	**Zalesovo Beam**	**50.68**	**354**	P		**P**	**08 58 24.1**	**+0.1**
	2.6nm,0.4s,baz=177,slow=9.5,SNR=5.0							
ZALV				LR		LR	09 20 51.5	
	comp=Z,23nm,21.2s,baz=73,slow=37							
BVAR	**Borovoye Array**	**52.68**	**343**	P		**P**	**08 58 37.7**	**-1.2**
BVAR	**Borovoye Array**	**52.68**	**343**	P		**P**	**08 58 37.7**	**-1.2**
	1.3nm,0.7s,baz=141,slow=5.0,SNR=5.9							
ABKAR	**Akbulak array**	**53.44**	**334**	*e*P		**P**	**08 58 44.0**	**-0.6**
	3.4nm,0.9s							
STKA	**Stephens Creek**	**58.19**	**131**	pP		pP	08 59 30.2	+0.6
STKA	**Stephens Creek**	**58.19**	**131**	pP		pP	08 59 30.2	+0.6
	2.2nm,0.6s,baz=296,slow=10,SNR=2.5							
KBZ	**Khabaz**	**59.45**	**320**	P		**P**	**08 59 26.6**	**-0.8**
KBZ	**Khabaz**	**59.45**	**320**	P		**P**	**08 59 26.6**	**-0.8**
	0.6nm,0.5s,baz=111,slow=8.6,SNR=4.7							
BRTR	**Keskin Array B**	**64.30**	**313**	P		**P**	**08 59 58.9**	**-1.5**
BRTR	**Keskin Array B**	**64.30**	**313**	P		**P**	**08 59 58.9**	**-1.5**
	0.6nm,0.7s,baz=102,slow=7.0,SNR=3.6							
GERES	**GERESS Array B**	**80.17**	**319**	P		**P**	**09 01 34.7**	**-0.3**
GERES	**GERESS Array B**	**80.17**	**319**	P		**P**	**09 01 34.7**	**-0.3**
	1.7nm,0.7s,baz=107,slow=5.6,SNR=8.1							
SNZO	**South Karori**	**86.25**	**132**	*e*P		**P**	**09 02 04.9**	**-1.4**
	125nm,1.3s							

*CSEM **20** 08:55:01.9±0.2, 37°.20N×28°.17E, h2km, MD2.6, Error ellipse: s-maj=6.3km s-min=3.6km az=41.0*
*DDA **20** 08:55:01.6, 37°.20N×28°.13E, h7km, MD2.8*

ISK 20 08:55:01.0, 37°.23N×28°.18E, h4km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YER	**Yerkesik**	**0.13**	**141**	PG		Pg	08 55 04.1	+0.5
YER				*e*SG		Sg	08 55 06.7	+1.3
YER	**Yerkesik**	**0.13**	**141**	*i* Pg		Pg	08 55 04.1	+0.5
YER				*e*Sg		Sg	08 55 06.7	+1.3
MLSB	**Milas**	**0.33**	**281**	*e*PG		Pg	08 55 08.3	+0.8
MLSB	**Milas**	**0.33**	**281**	*e*Pg		Pg	08 55 08.3	+0.8
AYDN	**Tasoluk**	**0.49**	**330**	*i* P		Pb	08 55 11.6	-0.7
AYDN				*i* S		Sb	08 55 19.0	-0.9
AYDN	**Tasoluk**	**0.49**	**330**	*i* P		Pb	08 55 11.6	-0.7
AYDN				*i* S		Sb	08 55 19.0	-0.9
TURN	**Turunc**	**0.49**	**137**	*i* P		Pg	08 55 10.4	0.0
TURN				*i* S		Sg	08 55 17.1	+0.3
TURN	**Turunc**	**0.49**	**137**	*i* P		Pg	08 55 10.4	-0.1
TURN				*i* S		Sg	08 55 17.1	+0.3
DALY	**Dalyan (Mu˘la**	**0.56**	**138**	*e*PG		Pg	08 55 12.2	+0.4
DALY				*e*SG		Sb	08 55 21.0	-0.7
DALY	**Dalyan (Mu˘la**	**0.56**	**138**	*e*Pg		Pg	08 55 12.2	+0.4
DALY				*e*Sg		Sb	08 55 21.0	-0.7
DAT	**Datca**	**0.70**	**224**	*e*PG		Pb	08 55 15.3	-0.7
DAT	**Datca**	**0.70**	**224**	*e*Pg		Pb	08 55 15.3	-0.6
BODT	**Bodrum**	**0.72**	**256**	*e*PG		Pg	08 55 14.7	-0.1
BODT	**Bodrum**	**0.72**	**256**	*e*Pg		Pg	08 55 14.7	-0.2
FETY	**Fethiye**	**0.94**	**129**	*e*PG		Pb	08 55 19.7	-0.1
FETY	**Fethiye**	**0.94**	**129**	*e*Pg		Pb	08 55 19.7	-0.1
KULA	**Kula-Manisa**	**1.33**	**16**	*e*PN		Pg	08 55 27.1	+0.4
KULA	**Kula-Manisa**	**1.33**	**16**	*e*Pn		Pg	08 55 27.1	+0.4
ELL	**Elmali**	**1.46**	**109**	*e*PN		Pb	08 55 28.9	0.0
ELL	**Elmali**	**1.46**	**109**	*e*Pn		Pb	08 55 28.9	-0.1

DDA 20 08:55:26.7, 39°.04N×27°.46E, h7km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKHS	**Akhisar**	**0.32**	**121**	*i* P		Pg	08 55 32.8	-0.2
AKHS				*i* S		Sb	08 55 39.0	-1.3
AKHS	**Akhisar**	**0.32**	**121**	*i* P		Pg	08 55 32.8	-0.2
AKHS				*i* S		Sb	08 55 38.9	-1.3
DURS	**Dursunbey**	**0.96**	**54**	*i* P		Pg	08 55 44.2	-1.2
DURS				*i* S		Sb	08 55 59.4	+0.4
DURS	**Dursunbey**	**0.96**	**54**	*i* P		Pg	08 55 44.2	-1.2
DURS				*i* S		Sb	08 55 59.4	+0.4

*ISCJB **20** 09:06:04.5±0.5, 31°.59N±0°.05×104°.19E±0°.08, h10km, mb3.8/10, Error ellipse: s-maj=10.9km s-min=5.6km az=34.4*
*IDC **20** 09:06:04.7±0.8, 31°.57N×104°.13E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.8/28, mbtmp3.8/12, ML3.4/1, Error ellipse: s-maj=32.8km s-min=16.3km az=53.0*
*BJI **20** 09:06:07.3, 31°.63N×103°.98E, h22km, ML3.7/14, Ms3.7/1, Ms7 3.6/1*

ISC 20 09:06:06.7±0.7, 31°.60N±0°.04×104°.03E±0°.07, h10km, n16, σ1§94/21, mb3.9/10, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CD2	**Chengdu**	**0.73**	**199**	Pg		**Pg**	**09 06 20.5**	**-0.2**
CD2				Sg		**Sg**	**09 06 30.8**	**+0.6**
CD2				smax		smax		
	comp=N,3μm,0.8s							
CD2				smax		smax		
	comp=E,2μm,0.8s							
LZH	**Lanzhou**	**4.48**	**358**	*e*Pn		Pn	09 07 19.1	+4.3
LZH				Pg		**Pg**	**09 07 30.8**	**-1.7**
LZH				Sn		**Sn**	**09 08 11.8**	**+4.8**
LZH				Sg		**Sg**	**09 08 29.1**	**-1.4**
LZH				smax		smax		
	comp=N,95nm,1.1s							
LZH				smax		smax		
	comp=E,140nm,1.2s							
LZH				LR		LR		
	comp=N,430nm,6.0s							
LZH				LR		LR		
	comp=E,470nm,5.1s							
LZH				LR		LR		
	comp=Z,480nm,7.3s							
XAN	**Xi'an**	**4.78**	**58**	Pn		**Pn**	**09 07 18.0**	**-0.9**
XAN				Pg		**Pb**	**09 07 32.3**	**+1.6**
XAN				Sn		**Sn**	**09 08 11.5**	**-2.9**
XAN				Sg		**Sb**	**09 08 33.1**	**+4.8**
XAN				smax		smax		
	comp=N,230nm,0.6s							
XAN				smax		smax		
	comp=E,120nm,0.6s							
GTA	**Gaotai**	**8.52**	**337**	*e*P		Pn	09 08 19.4	+9.2
GTA				pP		pP	09 08 23.3	
GTA				sP			09 08 25.5	
GTA				S		Sn	09 10 03.4	+17
GTA				sS		sS	09 10 08.3	
GTA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
GTA				pmax		pmax		
	comp=Z,46nm,5.5s							
GTA				LR		LR		
	comp=N,240nm,10.0s							
GTA				LR		LR		
	comp=E,220nm,10.0s							
GTA				LR		LR		
	comp=Z,190nm,9.7s							
SONM	**Songino Array**	**16.32**	**6**	Pn		**Pn**	**09 09 56.0**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=192,slow=13,SNR=7.1							
KSRS	**Korea Array**	**20.51**	**67**	P		**P**	**09 10 44.5**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=259,slow=9.7,SNR=6.0							
MKAR	**Makanchi Array**	**22.56**	**318**	P		**P**	**09 11 07.8**	**+0.8**
	comp=Z,2.3nm,0.8s,baz=119,slow=12,SNR=20							
ZALV	**Zalesovo Beam**	**26.25**	**334**	P		**P**	**09 11 42.1**	**+0.4**
	comp=Z,2.0nm,0.3s,baz=131,slow=9.2,SNR=9.3							
KURBB	**Kurchatov Arra**	**26.80**	**323**	P		**P**	**09 11 47.2**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=130,slow=8.9,SNR=11							
ARCES	**ARCESS Array B**	**56.78**	**336**	P		**P**	**09 15 50.3**	**-0.3**
	comp=Z,3.8nm,1.1s,baz=72,slow=7.9,SNR=5.1							
FINES	**FINESS Array B**	**57.12**	**326**	P		**P**	**09 15 52.6**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=101,slow=8.0,SNR=6.2							
WRA	**Warramunga Arr**	**58.92**	**146**	P		**P**	**09 16 05.2**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=339,slow=7.8,SNR=28							
ASAR	**Alice Springs**	**61.95**	**149**	P		**P**	**09 16 26.0**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=338,slow=6.7,SNR=7.0							
GERES	**GERESS Array B**	**67.15**	**314**	P		**P**	**09 17 01.2**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=69,slow=5.6,SNR=2.4							
ILAR	**Eielson Array**	**69.42**	**26**	P		**P**	**09 17 13.3**	**-1.3**
	comp=Z,0.1nm,0.5s,baz=303,slow=4.4,SNR=3.9							
YKA	**Yellowknife Ar**	**81.24**	**17**	P		**P**	**09 18 22.2**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=327,slow=5.3,SNR=8.4							

IDC 20 09:10:10.2±1.9, 13°.95N×124°.22E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/24, mbtmp3.6/4, 1C, Error ellipse: s-maj=82.1km s-min=26.3km az=61.0, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RCP	**Roxas**	**2.78**	**211**	⇑*e*P		Pg	09 11 02.7	-0.9
RCP				*e*S		Sb	09 11 36.0	+0.6
CMAR	**Chiang Mai Arr**	**24.67**	**284**	P		P	09 15 33.1	+0.1
	1.0nm,0.3s,baz=94,slow=8.2,SNR=4.8							
ASAR	**Alice Springs**	**38.57**	**166**	P		P	09 17 34.9	-0.1
	0.5nm,0.6s,baz=344,slow=6.5,SNR=6.9							
MKAR	**Makanchi Array**	**47.91**	**322**	P		P	09 18 50.2	0.0
	0.1nm,0.6s,baz=115,slow=9.7,SNR=3.7							
KURBB	**Kurchatov Arra**	**51.93**	**325**	P		P	09 19 20.6	-0.2
	0.8nm,0.6s,baz=123,slow=7.9,SNR=8.9							

*IDC **20** 09:16:29.6±2.2, 9°.37N×125°.76E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/24, mbtmp3.7/5, Error ellipse: s-maj=218.4km s-min=19.5km az=65.0*
*ISCJB **20** 09:16:35.3±1.0, 9°.60N±0°.09×126°.33E±0°.08, h67km, mb3.7/5, Error ellipse: s-maj=15.9km s-min=7.9km az=38.8*
*MAN **20** 09:16:41, 9°.37N×125°.89E, h25km, mb4.2, ML3.0, MS2.8*

ISC 20 09:16:37.8±1.2, 9°.46N±0°.08×126°.2E±0°.1, h67km, n13, σ1§38/15, mb3.9/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BUTP	**Butuan**	**0.72**	**228**	*e*P		**Pn**	**09 16 52.1**	**-0.7**
BUTP				*e*S		**Sn**	**09 17 00.6**	**-3.1**
MSLP	**Maasin**	**1.45**	**298**	*e*P		**Pn**	**09 17 02.3**	**+0.3**
MSLP				*e*S		**Sn**	**09 17 20.1**	**-0.1**
BUKP	**Musuan**	**1.91**	**215**	*e*P		**Pn**	**09 17 10.1**	**+1.9**
TBP	**Tagbilaran**	**2.28**	**276**	*e*P		**Pn**	**09 17 13.6**	**+0.4**
LLP	**Lapu-Lapu**	**2.32**	**292**	*e*P		**Pn**	**09 17 13.9**	**0.0**
LLP				*e*S		**Sn**	**09 17 41.5**	**+0.1**
DAV	**Davao City (W)**	**2.44**	**194**	Lg		Lg	09 17 40.3	
	63nm,0.3s,baz=218,slow=17,SNR=2.7							
PAGZ	**Pagadian**	**3.18**	**240**	*e*P		**Pn**	**09 17 27.3**	**+1.9**
GUIM	**Jordan**	**3.70**	**289**	*e*P		**Pn**	**09 17 34.4**	**+1.8**
WRA	**Warramunga Arr**	**30.30**	**165**	P		**P**	**09 22 42.9**	**-0.2**
	0.3nm,0.7s,baz=344,slow=9.2,SNR=4.6							
ASAR	**Alice Springs**	**33.78**	**167**	P		**P**	**09 23 13.3**	**-0.2**
	0.3nm,0.3s,baz=346,slow=7.4,SNR=11							
STKA	**Stephens Creek**	**43.67**	**161**	P		**P**	**09 24 37.1**	**+1.0**
	3.6nm,1.1s,baz=336,slow=10,SNR=5.5							
MKAR	**Makanchi Array**	**52.61**	**323**	P		**P**	**09 25 44.4**	**-0.6**
	0.8nm,0.6s,baz=123,slow=8.1,SNR=13							
KURBB	**Kurchatov Arra**	**56.68**	**326**	P		**P**	**09 26 13.3**	**-1.0**
	0.9nm,0.5s,baz=121,slow=7.6,SNR=7.8							

IDC 20 09:19:28.5±1.1, 5°.69N×126°.25E, h136km±9km, mb3.4/9, mb1 3.5/10, mb1mx3.3/25, mbtmp3.4/10, Error ellipse: s-maj=41.2km s-min=11.6km az=74.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**1.52**	**334**	P		Pn	09 19 56.9	-0.4
	50nm,0.3s,baz=225,slow=14,SNR=3.9							
DAV				S		Sn	09 20 19.4	+0.2
	94nm,0.3s,baz=260,slow=18,SNR=4.1							
KAPI	**Kappang**	**12.46**	**212**	P		Pn	09 22 19.6	-1.6
	0.4nm,0.3s,baz=27,slow=4.5,SNR=4.4							
FITZ	**Fitzroy Crossi**	**23.65**	**181**	P		P	09 24 27.8	+0.2
	0.5nm,0.3s,baz=356,slow=8.8,SNR=4.3							
WRA	**Warramunga Arr**	**26.69**	**163**	P		P	09 24 55.2	+0.1
	0.5nm,0.6s,baz=345,slow=10,SNR=6.9							
ASAR	**Alice Springs**	**30.12**	**166**	P		P	09 25 25.3	-0.3
	0.3nm,0.5s,baz=342,slow=7.5,SNR=6.3							
ASAR				PcP		PcP	09 28 24.6	+0.6
	0.3nm,0.5s,baz=353,slow=2.1,SNR=6.0							
STKA	**Stephens Creek**	**40.12**	**160**	P		P	09 26 51.0	-0.1
	1.0nm,0.8s,baz=326,slow=7.3,SNR=2.2							
MKAR	**Makanchi Array**	**55.68**	**325**	P		P	09 28 51.0	+0.2
	0.9nm,0.4s,baz=117,slow=7.6,SNR=23							
MKAR				PcP		PcP	09 29 49.4	+0.9
	0.5nm,0.8s,baz=121,slow=5.4,SNR=3.6							
KURBB	**Kurchatov Arra**	**59.84**	**327**	P		P	09 29 18.7	-0.9
	0.7nm,0.5s,baz=130,slow=6.0,SNR=8.3							
ILAR	**Eielson Array**	**83.55**	**26**	P		P	09 31 40.5	-0.7
	0.2nm,0.6s,baz=261,slow=5.4,SNR=3.9							
ARCES	**ARCESS Array B**	**88.45**	**340**	P		P	09 32 05.4	+0.3
	1.5nm,0.8s,baz=83,slow=7.4,SNR=4.7							
FINES	**FINESS Array B**	**89.89**	**332**	P		P	09 32 11.4	-0.5
	1.9nm,0.9s,baz=74,slow=5.9,SNR=4.8							
TORD	**Torodi Ar. Bea**	**121.84**	**289**	PKP		PKPdf	09 38 07.7	0.0
	0.3nm,0.4s,baz=66,slow=1.8,S

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SKR	**Severo-Kuril's**	**0.86**	**347**	*i* P		Pb	10 16 04.7	-0.4
SKR				*i* S		Sb	10 16 18.0	+1.1
PAU	**Pauzhetka**	**1.64**	**8**	P		Pn	10 16 17.2	+0.1
PAU				*i* S		Sn	10 16 38.7	+0.1
ASAK	**Asacha**	**2.70**	**19**	P		Pn	10 16 33.0	+1.1
MTVR	**Mutnovka**	**2.86**	**22**	P		Pn	10 16 34.8	+0.7
MTVR				*i* S		Sn	10 17 09.1	+0.1
RUS	**Russkaya**	**2.90**	**26**	P		Pn	10 16 34.7	+0.2
UGLR	**Uglovaya**	**3.68**	**23**	P		Pn	10 16 47.5	+2.1
GNL	**Ganaly**	**3.96**	**13**	P		Pn	10 16 52.1	+2.8

MEX 20 10:15:50.0±1.2, 16.74N×94.42W, h107km±51km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
TGIG		**1.24**	**88**	*i* P		Pn	10 16 13.0	-0.7
TGIG				*i* S		Sn	10 16 29.7	-1.9
HUIG	**Huatulco**	**1.89**	**240**	*i* P		Pn	10 16 19.5	-2.0
HUIG				*i* S		Sn	10 16 44.7	-0.8
PNIG	**Pinotepa**	**3.58**	**265**	*e*P		Pn	10 16 43.2	-0.4
PNIG				*i* S		Sn	10 17 22.9	-2.2

*IDC **20** 10:29:36.7±7.7, 32.42S×179.44E, h354km±49km, mb3.3/4, mb1 3.5/5, mb1mx3.2/18, mbtmp3.4/5, Error ellipse: s-maj=93.8km s-min=22.4km az=46.0*

ISC 20 10:29:41.1±2.1, 32.6S±0.1×179.0E±0.2, h372km, n26, σ1§22/30, mb3.4/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PUZ	**Puketiti**	**5.45**	**186**	PN		**Pn**	**10 31 05.5**	**-1.0**
PUZ				SN		**S**	**10 32 15.2**	**-0.7**
MWZ	**Matawai**	**5.80**	**191**	PN		**Pn**	**10 31 09.8**	**-0.6**
MWZ				SN		**S**	**10 32 25.4**	**+2.3**
URZ	**Urewera**	**5.81**	**195**	P		**Pn**	**10 31 09.9**	**-0.5**
	9.6nm,0.3s,baz=24,slow=1.7,SNR=74							
URZ				S		**S**	**10 32 23.4**	**+0.3**
	5.8nm,0.3s,baz=51,slow=18,SNR=20							
URZ	**Urewera**	**5.81**	**195**	PN		**Pn**	**10 31 09.7**	**-0.7**
URZ				SN		**S**	**10 32 22.9**	**-0.2**
CNGZ	**Carnagh Statio**	**5.86**	**186**	PN		**Pn**	**10 31 11.5**	**+0.5**
PRGZ	**Paritu Road**	**6.33**	**188**	PN		**Pn**	**10 31 18.3**	**+2.0**
RAHZ	**Arahi**	**6.45**	**193**	*e*PN		**Pn**	**10 31 18.9**	**+1.3**
KNZ	**Kokohu**	**6.45**	**189**	PN		**Pn**	**10 31 19.4**	**+1.8**
MHGZ	**Mahia Peninsul**	**6.56**	**187**	PN		**Pn**	**10 31 21.4**	**+2.5**
KAHZ	**Kahuranaki**	**7.34**	**193**	PN		**P**	**10 31 28.5**	**-0.4**
PNHZ	**Pukenui**	**7.60**	**196**	PN		**Pn**	**10 31 30.5**	**-0.3**
WPHZ	**Waipukurau**	**7.69**	**195**	PN		**P**	**10 31 32.3**	**-0.4**
ANWZ	**Angora Road**	**8.06**	**194**	PN		**P**	**10 31 37.1**	**-0.7**
MRZ	**Mangatainoka R**	**8.46**	**198**	PN		**Pn**	**10 31 38.4**	**-2.4**
OGWZ	**Otaki Gorge**	**8.71**	**199**	PN		**Pn**	**10 31 43.1**	**-0.7**
KIW	**Kapiti Island**	**8.83**	**201**	PN		**Pn**	**10 31 44.9**	**-0.3**
TCW	**Tory Channel**	**9.35**	**202**	PN		**Pn**	**10 31 50.8**	**-0.4**
PLWZ	**Palliser**	**9.39**	**197**	PN		**Pn**	**10 31 52.1**	**+0.3**
TUWZ	**Tuamarina**	**9.65**	**203**	PN		**Pn**	**10 31 54.1**	**-0.7**
NNZ	**Nelson**	**9.66**	**206**	PN		**Pn**	**10 31 54.3**	**-0.6**
QRZ	**Quartz Range**	**9.67**	**211**	PN		**P**	**10 31 56.4**	**+0.6**
THZ	**Tophouse**	**10.31**	**206**	PN		**Pn**	**10 32 01.5**	**-1.1**
STKA	**Stephens Creek**	**31.52**	**261**	P		**P**	**10 35 32.2**	**+2.0**
	1.2nm,0.6s,baz=98,slow=14,SNR=3.1							
ASAR	**Alice Springs**	**40.49**	**271**	P		**P**	**10 36 45.3**	**-0.2**
	0.9nm,0.5s,baz=106,slow=7.6,SNR=23							
WRA	**Warramunga Arr**	**41.69**	**276**	P		**P**	**10 36 54.5**	**-0.7**
	1.5nm,0.3s,baz=115,slow=7.6,SNR=72							
QSPA	**South Pole Qui**	**57.47**	**180**	P		**P**	**10 38 51.0**	**-1.3**
	1.5nm,1.1s,baz=117,slow=11,SNR=4.3							

WEL 20 10:36:55.8±0.2, 45.71S×165.80E, h33km, ML3.6/14, Error ellipse: s-maj=2.1km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PYZ	**Puysegur Point**	**0.77**	**127**	PN		Pn	10 37 10.0	-0.4
PYZ				SN		Sn	10 37 20.8	0.0
DCZ	**Deep Cove**	**0.98**	**77**	PN		Pn	10 37 12.9	-0.4
DCZ				SN		Sn	10 37 25.9	-0.1
DCZ				AML	AML		10 37 26.3	
DCZ				AML	AML		10 37 26.3	
DCZ				AML	AML		10 37 26.6	
WHZ	**Wether Hill Ro**	**1.52**	**98**	PN		Pn	10 37 22.0	+1.3
WHZ				AML	AML		10 37 53.8	
WHZ				AML	AML		10 37 56.7	
MLZ	**Mavora Lakes**	**1.71**	**79**	PN		Pn	10 37 24.1	+0.7
MLZ				SN		Sb	10 37 46.3	-1.6
MLZ				AML	AML		10 37 47.6	
MSZ	**Milford Sound**	**1.83**	**56**	PN		Pn	10 37 26.1	+1.1
MSZ				AML	AML		10 37 54.9	
MSZ				AML	AML		10 38 02.3	
MSZ				AML	AML		10 38 15.2	
MSZ				AML	AML		10 38 15.4	
APZ	**The Paps**	**1.89**	**127**	PN		Pn	10 37 26.8	+1.0
WKZ	**Wanaka**	**2.44**	**70**	PN		Pn	10 37 36.2	+2.8
WKZ				AML	AML		10 38 15.0	
WKZ				AML	AML		10 38 15.0	
WKZ				AML	AML		10 38 16.5	
WKZ				AML	AML		10 38 16.6	
SYZ	**Scrubby Hill**	**2.47**	**111**	PN		Pn	10 37 34.9	+1.2
EAZ	**Earnscleugh**	**2.52**	**80**	PN		Pn	10 37 36.7	+2.3
EAZ				AML	AML		10 38 11.7	
EAZ				AML	AML		10 38 11.7	
EAZ				AML	AML		10 38 17.9	
EAZ				AML	AML		10 38 18.0	
JCZ	**Jackson Bay**	**2.67**	**53**	PN		Pn	10 37 38.1	+1.5
JCZ				AML	AML		10 38 27.1	
JCZ				AML	AML		10 38 42.7	
TUZ	**Tuapeka**	**2.69**	**97**	PN		Pn	10 37 38.7	+1.9
TUZ				AML	AML		10 38 20.5	
TUZ				AML	AML		10 38 31.9	
LBZ	**Lake Benmore**	**3.38**	**68**	PN		Pn	10 37 48.1	+1.8
ODZ	**Otahua Downs**	**3.48**	**81**	PN		Pn	10 37 48.3	+0.6
FOZ	**Fox Glacier**	**3.51**	**54**	PN		Pn	10 37 50.1	+2.1
WVZ	**Waitaha Valley**	**4.41**	**55**	PN		Pn	10 38 00.3	-0.1

WEL 20 10:40:40.1±0.2, 45.46S×166.75E, h22km±1km, ML3.6/14, 2D, Error ellipse: s-maj=1.9km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
DCZ	**Deep Cove**	**0.29**	**93**	⇓P*		Pb	10 40 46.7	0.0
DCZ				S*		Sb	10 40 50.6	-0.5
DCZ				AML	AML		10 40 50.7	
PYZ	**Puysegur Point**	**0.70**	**184**	P*		Pb	10 40 52.8	-1.0
PYZ				S*		Sb	10 41 01.9	-1.1
WHZ	**Wether Hill Ro**	**0.95**	**117**	P*		Pb	10 40 57.6	-0.2
WHZ				S*		Sb	10 41 10.0	+0.1
WHZ				AML	AML		10 41 11.1	
MLZ	**Mavora Lakes**	**1.01**	**84**	PN		Pb	10 40 57.9	-1.1
MLZ				S*		Sb	10 41 11.1	-0.8
MLZ				AML	AML		10 41 12.0	
MSZ	**Milford Sound**	**1.15**	**47**	PN		Pn	10 40 59.2	-1.7
MSZ				AML	AML		10 41 19.5	
MSZ				AML	AML		10 41 19.5	
MSZ				AML	AML		10 41 26.3	
MSZ				AML	AML		10 41 26.3	
APZ	**The Paps**	**1.62**	**148**	PN		Pb	10 41 08.7	-0.6
WKZ	**Wanaka**	**1.73**	**69**	PN		Pn	10 41 08.4	-0.5
WKZ				AML	AML		10 41 37.5	
WKZ				AML	AML		10 41 37.8	
EAZ	**Earnscleugh**	**1.82**	**84**	PN		Pn	10 41 11.2	+1.1
EAZ				AML	AML		10 41 37.9	
EAZ				AML	AML		10 41 38.1	
SYZ	**Scrubby Hill**	**1.98**	**124**	⇓PN		Pb	10 41 14.6	-0.8
JCZ	**Jackson Bay**	**2.00**	**47**	PN		Pb	10 41 16.0	+0.2
JCZ				AML	AML		10 41 46.6	
JCZ				AML	AML		10 41 47.0	
TUZ	**Tuapeka**	**2.08**	**105**	PN		Pb	10 41 15.6	-1.5
TUZ				AML	AML		10 41 42.4	
TUZ				AML	AML		10 41 48.9	
LBZ	**Lake Benmore**	**2.67**	**67**	PN		Pn	10 41 21.7	0.0
ODZ	**Otahua Downs**	**2.79**	**83**	PN		Pn	10 41 23.4	+0.1
FOZ	**Fox Glacier**	**2.83**	**49**	PN		Pn	10 41 25.5	+1.5
FOZ				AML	AML		10 42 16.5	
FOZ				AML	AML		10 42 17.6	
RPZ	**Rata Peaks**	**3.54**	**62**	PN		Pn	10 41 35.3	+1.6
WVZ	**Waitaha Valley**	**3.73**	**52**	PN		Pn	10 41 36.6	+0.4
OXZ	**Oxford**	**4.35**	**62**	PN		Pn	10 41 45.8	+0.9
LTZ	**Lake Taylor**	**4.79**	**58**	PN		Pn	10 41 53.7	+2.7
DSZ	**Denniston Nort**	**5.22**	**46**	PN		Pn	10 41 57.0	+0.1
THZ	**Tophouse**	**5.80**	**53**	PN		Pn	10 42 07.4	+2.5
QRZ	**Quartz Range**	**6.27**	**44**	PN		Pn	10 42 11.6	+0.3

*BJI **20** 10:44:55.6, 19.20N×109.20W, h10km, mB5.3/2, Ms4.9/4, Ms7 4.7/4*

*IDC **20** 10:44:58.5±0.6, 19.61N×109.05W, h0km, mb4.4/19, mb1 4.5/21, mb1mx4.4/30, mbtmp4.4/21, ML3.6/2, MS3.9/20, Ms1 3.9/20, ms1mx3.8/30, Error ellipse: s-maj=30.2km s-min=10.8km az=62.0*

*NEIC **20** 10:44:60.0±0.4, 19.41N×109.13W, h10km, mb4.4/55, Error ellipse: s-maj=8.9km s-min=4.4km az=59.0*

*GCMT **20** 10:45:02.0±0.4, 19.69N×108.89W, h13km±2km, MW4.9, Moment Tensor Solution. s14,c16; s67,c90; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.12±.10; $M_{\theta\theta}$-1.59±.10; $M_{\phi\phi}$1.71±.12; $M_{r\theta}$-0.70±.25; $M_{r\phi}$-1.45±.08; $M_{\theta\phi}$0.67±.25; Best double couple: $M_0$2.40000×10^{16} NP1:ϕs26.00000°, δ68.00000°, λ5.00000°. NP2:ϕs294.00000°, δ86.00000°, λ158.00000°. Principal axes: T 2.5500, Plg18.0000°, Azm248.0000°; N -0.3200, Plg68.0000°, Azm103.0000°; P -2.2300, Plg12.0000°, Azm342.0000°; Data Used: II IU IC CN G.*

*MEX **20** 10:45:04.1±0.4, 19.78N×108.59W, h10km, MD4.6*

ISC 20 10:44:59.3±0.5, 19.45N±0.06×109.22W±0.08, h10km, n446, σ1§18/428, mb4.5/55, MS3.9/20, 146C-133D, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CJM	**Chamela**	**3.94**	**89**	*i* P		Pn	10 45 54.3	-5.6
CJM				*e*S		Sn	10 46 31.9	-14
CJM	**Chamela**	**3.94**	**89**	*i* P		Pn	10 45 54.3	-5.6
CJM				*e*S		Sn	10 46 31.9	-14
ANIG	**Ahuacatlan**	**4.70**	**69**	*i* P		Pn	10 46 04.2	-6.1
ANIG				*e*S		Sn	10 46 51.0	-14
ANIG	**Ahuacatlan**	**4.70**	**69**	*i* P		Pn	10 46 04.2	-6.1
ANIG				*e*S		Sn	10 46 51.0	-14
LPIG	**La Paz**	**4.74**	**348**	*i* P		**Pn**	**10 46 10.7**	**-0.1**
LPIG				*i* S		**Sn**	**10 47 03.0**	**-2.9**
LPIG	**La Paz**	**4.74**	**348**	*i* P		**Pn**	**10 46 10.7**	**-0.1**
LPIG				*i* S		**Sn**	**10 47 03.0**	**-2.9**
ZAIG	**Zacatecas**	**7.04**	**61**	*i* P		Pn	10 46 37.2	-5.5
ZAIG	**Zacatecas**	**7.04**	**61**	*i* P		Pn	10 46 37.2	-5.5
ZIIG	**Zihuatanejo**	**7.58**	**103**	*i* P		**Pn**	**10 46 47.0**	**-3.0**
ZIIG				*i* S		Sn	10 48 05.6	-10
ZIIG	**Zihuatanejo**	**7.58**	**103**	*i* P		**Pn**	**10 46 47.0**	**-3.0**
ZIIG				*i* S		Sn	10 48 05.6	-10
TXAR	**Lajitas Array**	**11.06**	**26**	Pn		**Pn**	**10 47 36.8**	**-1.0**
TXAR	**Lajitas Array**	**11.06**	**26**	Pn		**Pn**	**10 47 36.8**	**-1.0**
	0.2nm,0.3s,baz=202,slow=13,SNR=31							
626A	**Big Bend Ranch**	**11.07**	**24**	⇑P		**Pn**	**10 47 38.2**	**+0.3**
	baz=11,SNR=30							
627A	**Terlingua Ranc**	**11.29**	**27**	⇑P		**Pn**	**10 47 41.1**	**+0.3**
	baz=11,SNR=17							
628A	**Black Gap, Mar**	**11.54**	**29**	⇑P		**Pn**	**10 47 44.1**	**-0.1**
	baz=12,SNR=11							
526A	**Mary Lane Ranc**	**11.55**	**23**	⇓P		**Pn**	**10 47 44.2**	**-0.2**
	baz=12,SNR=20							
527A	**Woodward Ranch**	**11.80**	**24**	⇑P		**Pn**	**10 47 48.5**	**+0.6**
	baz=12,SNR=20							
319A	**Douglas**	**11.88**	**360**	⇑P		**Pn**	**10 47 50.4**	**+1.5**
	baz=12,SNR=8.4							
425A	**Indio Mountain**	**11.92**	**18**	⇑P		**Pn**	**10 47 50.3**	**+0.8**
	baz=12							
426A	**McDonald Obser**	**12.12**	**22**	⇑P		**Pn**	**10 47 52.7**	**+0.4**
	baz=12,SNR=15							
528A	**Cox Ranch, San**	**12.16**	**27**	⇑P		**Pn**	**10 47 53.8**	**+1.0**
	baz=12,SNR=5.2							
529A	**Stev Forest Ra**	**12.38**	**30**	⇑P		**Pn**	**10 47 56.4**	**+0.6**
	baz=12							
324A	**Moseley Ranch,**	**12.41**	**15**	⇑P		**Pn**	**10 47 57.5**	**+1.3**
	baz=12							
220A	**Playas Peak, P**	**12.42**	**3**	⇓P		Pn	10 47 59.5	+3.2
	baz=12,SNR=42							
427A	**Hayter Ranch,**	**12.51**	**24**	⇓P		**Pn**	**10 47 58.8**	**+1.2**
	baz=13,SNR=12							
732A	**Laxson Ranch,**	**12.51**	**41**	⇑P		**Pn**	**10 47 57.8**	**+0.3**
	baz=12,SNR=5.2							
631A	**Perdido Creek**	**12.66**	**37**	⇓P		**Pn**	**10 47 59.4**	**-0.1**
	baz=13							
MNTX	**Cornudas Mount**	**12.68**	**15**	*e*Pn		**Pn**	**10 48 01.9**	**+2.1**
	13nm,1.4s							
MNTX				*e*Sn		**Sn**	**10 50 26.1**	**+5.0**
428A	**Kincaid Ranch,**	**12.69**	**27**	⇓P		**Pn**	**10 48 00.9**	**+0.9**
	baz=13,SNR=8.5							
326A	**Caldwell Ranch**	**12.73**	**21**	⇓P		**Pn**	**10 48 01.1**	**+0.6**
	baz=13,SNR=21							
530A	**J-C Ranch, Com**	**12.83**	**32**	⇓P		**Pn**	**10 48 01.8**	**-0.1**
	baz=13							
214A	**Organ Pipe Nat**	**12.87**	**346**	⇑P		**Pn**	**10 48 04.7**	**+2.3**
	baz=13,SNR=8.0							
TUC	**Tucson**	**12.88**	**354**	*e*Pn		Pn	10 48 06.0	+3.4
429A	**Davenport Ranc**	**12.95**	**29**	⇓P		**Pn**	**10 48 04.0**	**+0.4**
	baz=13							
224A	**Cornudas Mount**	**13.01**	**14**	⇓P		**Pn**	**10 48 05.4**	**+1.1**
	baz=13							
120A	**U Bar Ranch, L**	**13.06**	**2**	⇑P		**Pn**	**10 48 07.0**	**+2.0**
	baz=13,SNR=12							
121A	**Cookes Peak, D**	**13.10**	**5**	⇑P		**Pn**	**10 48 08.2**	**+2.7**
	baz=13,SNR=12							
225A	**Deer Hill, Car**	**13.21**	**17**	⇑P		**Pn**	**10 48 09.2**	**+2.0**
	baz=13							
328A	**Wristen Ranch,**	**13.21**	**25**	⇓P		**Pn**	**10 48 08.3**	**+1.2**
	baz=13,SNR=9.0							
531A	**Rocksprings**	**13.26**	**35**	⇓P		**Pn**	**10 48 08.0**	**+0.3**
	baz=13,SNR=6.8							
226B	**Tecolote Peak,**	**13.37**	**19**	⇑P		**Pn**	**10 48 11.2**	**+1.9**
	baz=13,SNR=6.9							
430A	**Baggett Ranch,**	**13.40**	**31**	⇑P		**Pn**	**10 48 10.8**	**+1.1**
	baz=13,SNR=12							
532A	**Rocksprings**	**13.58**	**37**	⇓P		**Pn**	**10 48 12.3**	**+0.2**
	baz=14,SNR=25							
227A	**Bennet, Jal**	**13.60**	**22**	⇑P		**Pn**	**10 48 13.6**	**+1.2**
	baz=14							
Z20A	**Nine Sixteen R**	**13.62**	**2**	⇑P		Pn	10 48 15.9	+3.1
	baz=14,SNR=13							
124A	**Stringfield Ra**	**13.62**	**14**	⇓P		**Pn**	**10 48 15.0**	**+2.1**
	baz=14,SNR=9.3							
431A	**Sonora**	**13.63**	**33**	⇑P		**Pn**	**10 48 13.4**	**+0.6**
	baz=14,SNR=16							
329A	**Wagon Wheel Ra**	**13.65**	**27**	⇑P		**Pn**	**10 48 13.9**	**+0.9**
	baz=14							
125A	**Gardner Draw,**	**13.78**	**16**	⇓P		**Pn**	**10 48 16.8**	**+1.9**
	baz=14,SNR=6.2							
Z21A	**St. Cloud Mine**	**13.87**	**5**	⇑P		**Pn**	**10 48 18.5**	**+2.3**
	baz=12,SNR=12							
113A	**Mohawk Valley,**	**13.88**	**344**	⇓P		**Pn**	**10 48 18.5**	**+2.5**
	baz=14,SNR=9.1							
Z22A	**Elephant Butte**	**13.90**	**8**	⇓P		Pn	10 48 19.7	+3.2
	baz=14,SNR=7.0							
JCT	**Junction City**	**13.91**	**36**	*e*Pn		**Pn**	**10 48 17.0**	**+0.5**
JCT	**Junction City**	**13.91**	**36**	⇑P		**Pn**	**10 48 17.1**	**+0.5**
	baz=14							
330A	**Mertzon**	**13.94**	**30**	⇑P		**Pn**	**10 48 17.7**	**+0.7**
	baz=14							
126A	**Clayton Basin,**	**13.95**	**19**	⇑P		**Pn**	**10 48 19.2**	**+2.0**
	baz=14							
228A	**UT Block 9, Go**	**13.95**	**24**	⇓P		**Pn**	**10 48 19.0**	**+1.7**
	baz=14							
229A	**Bryant Ranch,**	**14.14**	**27**	⇓P		**Pn**	**10 48 20.9**	**+1.1**
	baz=14							
432A	**Menard**	**14.21**	**35**	⇓P		**Pn**	**10 48 21.0**	**+0.2**
	baz=14,SNR=18							
331A	**San Angelo**	**14.23**	**32**	⇓P		**Pn**	**10 48 21.5**	**+0.6**
	baz=14,SNR=9.2							
Z24A	**Sheeppen Canyo**	**14.25**	**13**	⇓P		**Pn**	**10 48 22.4**	**+1.1**
	baz=14							
Z14A	**Wintersburg**	**14.25**	**347**	⇓P		**Pn**	**10 48 23.1**	**+1.9**
	baz=14							
Z25A	**Roswell**	**14.35**	**15**	⇑P		**Pn**	**10 48 23.9**	**+1.2**
	baz=14							
230A	**Sterling City**	**14.38**	**29**	⇑P		**Pn**	**10 48 23.7**	**+0.7**
	baz=14							
Y20A	**Horse Springs,**	**14.42**	**3**	⇑P		**Pn**	**10 48 26.4**	**+2.6**
	baz=14,SNR=9.9							
128A	**Castleberry Fa**	**14.44**	**23**	⇑P		**Pn**	**10 48 24.8**	**+0.9**
	baz=14							
GLA	**Glamis**	**14.45**	**341**	⇑P		**Pn**	**10 48 26.0**	**+2.1**
	baz=15,SNR=7.6							
Z26A	**Caprock**	**14.54**	**18**	⇑P		**Pn**	**10 48 26.6**	**+1.3**
	baz=15							
Y21A	**Point of Rocks**	**14.57**	**5**	⇑P		Pn	10 48 28.8	+3.0
	baz=15,SNR=11							
Y22A	**Socorro**	**14.57**	**7**	⇓P		**Pn**	**10 48 27.9**	**+2.2**
	baz=15							
332A	**Millersview**	**14.64**	**34**	⇑P		**Pn**	**10 48 26.3**	**-0.3**
	baz=15,SNR=10							
SWSC	**Sam W. Stewart**	**14.67**	**338**	⇓P		**Pn**	**10 48 28.2**	**+1.3**
	baz=15,SNR=6.1							
129A	**Stewart Farms,**	**14.69**	**25**	⇑P		**Pn**	**10 48 27.9**	**+0.6**
	baz=15							
Y23A	**Lovelace Mesa,**	**14.70**	**10**	⇓P		Pn	10 48 30.5	+3.0
	baz=15,SNR=12							
BAR	**Barrett**	**14.77**	**335**	*e*Pn		**Pn**	**10 48 30.4**	**+2.1**
231A	**Bronte**	**14.79**	**31**	⇓P		**Pn**	**10 48 28.4**	**-0.3**
	baz=15							
Y24A	**Capitan**	**14.81**	**12**	⇑P		**Pn**	**10 48 29.9**	**+0.8**
	baz=15							
Y14A	**Wickenburg**	**14.82**	**348**	⇑P		**Pn**	**10 48 31.5**	**+2.5**
	baz=15,SNR=14							
BNM	**Barren Site**	**14.82**	**8**	*e*Pn		**Pn**	**10 48 30.9**	**+1.6**
	14nm,1.3s							
MONP	**Monument Peak**	**14.86**	**336**	⇓P		**Pn**	**10 48 31.6**	**+1.9**
	baz=15,SNR=10							
Y25A	**Mesa, Roswell**	**14.97**	**15**	⇓P		**Pn**	**10 48 32.6**	**+1.4**
	baz=15							
LPM	**Los Pinos Moun**	**14.98**	**8**	*e*Pn		**Pn**	**10 48 33.5**	**+2.1**
Y12C	**Blythe**	**15.01**	**343**	⇑P		**Pn**	**10 48 33.1**	**+1.6**
	baz=15,SNR=14							
LAZ	**Ladron**	**15.01**	**7**	*e*Pn		**P**	**10 48 35.0**	**-2.2**
	8.5nm,1.4s							
X18A	**Snowflake**	**15.04**	**358**	⇑P		**Pn**	**10 48 35.1**	**+3.0**
	baz=15,SNR=27							
130A	**Snyder**	**15.04**	**28**	⇑P		**Pn**	**10 48 32.6**	**+0.6**
	baz=15							
X16A	**Lo Mia Camp, P**	**15.04**	**353**	⇓P		**Pn**	**10 48 34.2**	**+2.1**
	baz=15,SNR=13							
Z28A	**Tucker Farm, M**	**15.08**	**23**	⇑P		**Pn**	**10 48 34.2**	**+1.7**
	baz=15							
232A	**Coleman**	**15.09**	**33**	⇑P		**Pn**	**10 48 31.7**	**-0.9**
	baz=15,SNR=9.2							
X22A	**Bernardo**	**15.13**	**7**	⇑P		**Pn**	**10 48 35.5**	**+2.2**
	baz=15							
Y26A	**Elida**	**15.20**	**17**	⇑P		**Pn**	**10 48 35.3**	**+1.2**
	baz=15							
BC3	**Big Chuckawall**	**15.20**	**340**	⇑P		**Pn**	**10 48 36.2**	**+2.0**
	baz=15,SNR=57							
Z29A	**Hungry Hill Ra**	**15.31**	**25**	⇑P		**Pn**	**10 48 37.2**	**+1.6**
	baz=15							
Y27A	**Causey**	**15.36**	**19**	⇑P		**Pn**	**10 48 37.9**	**+1.6**
	baz=15							
131A	**Roby**	**15.37**	**29**	⇑P		**Pn**	**10 48 37.8**	**+1.5**
	baz=15							
PDMCI	**Parker Dam,Lak**	**15.43**	**345**	⇓P		**P**	**10 48 40.7**	**-0.9**
	baz=16,SNR=5.6							
PFO	**Pinyon Flat Ob**	**15.51**	**337**	*e*Pn		**Pn**	**10 48 40.0**	**+1.7**
PFO	**Pinyon Flat Ob**	**15.51**	**337**	Pn		**Pn**	**10 48 39.5**	**+1.3**
	0.1nm,0.3s,baz=169,slow=11,SNR=7.2							
PFO						LR	LR	10 53 42.3
	comp=Z,1μm,20.8s,baz=158,slow=34							
PFO	**Pinyon Flat Ob**	**15.51**	**337**	⇑P		**Pn**	**10 48 39.6**	**+1.3**
	baz=16,SNR=23							
Z30A	**Sanderson Ranc**	**15.56**	**26**	⇓P		**Pn**	**10 48 39.5**	**+0.6**
	baz=16,SNR=5.2							
IRM	**Iron Mountain**	**15.57**	**341**	⇓P		**P**	**10 48 42.1**	**-1.3**
	baz=16,SNR=18							
W18A	**Petrified Fore**	**15.62**	**358**	⇑P		**P**	**10 48 42.9**	**-1.0**
	baz=16,SNR=6.9							
ANMO	**Albuquerque**	**15.63**	**8**	*e*Pn		**Pn**	**10 48 41.6**	**+1.7**
ANMO	**Albuquerque**	**15.63**	**8**	Pn		**Pn**	**10 48 40.9**	**+0.9**
	0.1nm,0.3s,baz=190,slow=11,SNR=5.6							
ANMO						LR	LR	10 55 40.0
	comp=Z,99nm,19.9s,baz=195,slow=42							
W20A	**Ramah**	**15.63**	**2**	⇓P		**P**	**10 48 43.7**	**-0.5**
	baz=16,SNR=13							
ABTX	**Abilene, Hawle**	**15.68**	**31**	⇓P		**Pn**	**10 48 41.6**	**+1.2**
	baz=16							
Y28A	**McKinney Farm,**	**15.69**	**22**	⇑P		**Pn**	**10 48 42.1**	**+1.5**
	baz=16							
BELC	**Belle Mtn. Jos**	**15.70**	**339**	⇑P		**P**	**10 48 43.4**	**-1.4**
	baz=16,SNR=69						

baz=17,SNR=18
V27A **Dan Oppiter Fa** 17.20 18 ⇓P P 10 49 01.0 -0.4
baz=17
X31A **McDonald Ranch** 17.20 27 ⇑P P 10 49 01.1 -0.2
baz=17,SNR=5.3
EDW2 **Edwards Air Fo** 17.22 335 ⇑P Pn 10 49 01.3 +1.2
baz=17
U25A **Circle Dot Ran** 17.41 13 ⇓P P 10 49 04.4 +0.5
baz=18
T21A **Navajo Lake** 17.54 4 ⇓P P 10 49 05.7 +0.4
baz=18
U26A **Atchley Ranch,** 17.56 15 ⇓P P 10 49 05.9 +0.4
baz=18
T22A **Edith** 17.62 6 ⇓P P 10 49 07.8 +1.6
baz=18,SNR=8.5
LRMC **Laurel Mountai** 17.63 337 ⇑P P 10 49 06.9 +0.6
baz=18
W31A **Holland Ranch,** 17.70 26 ⇑P P 10 49 07.4 +0.6
baz=18
MVCO **Mesa Verde** 17.71 2 ⇓P P 10 49 08.9 +1.8
baz=18,SNR=9.4
T23A **Casias Ranch,** 17.75 8 ⇑P P 10 49 08.9 +1.3
baz=18
ARVC **Arvin** 17.78 333 ⇑P P 10 49 09.3 +1.6
baz=18
U27A **Thompson Grove** 17.82 17 ⇑P P 10 49 09.8 +1.5
baz=18
WMOK **Wichita Mounta** 17.82 29 eP Pn 10 49 06.0 -1.5
35nm,1.5s
U28A **Mallet** 17.95 19 ⇓P P 10 49 11.4 +1.7
baz=18
PKM **Peak Mountain** 18.02 331 ⇓P P 10 49 12.5 +1.9
baz=18,SNR=10.0
MPMC **Manual Prospec** 18.08 338 ⇑P P 10 49 13.1 +1.9
baz=18,SNR=33
ISA **Isabella** 18.10 335 eP P 10 49 13.2 +1.9
10nm,0.9s
ISA **Isabella** 18.10 335 ⇓P P 10 49 13.4 +2.1
baz=18,SNR=12
T25A **Trinidad** 18.12 12 ⇑P P 10 49 13.1 +1.4
baz=18
S21A **Coal Bank Pass** 18.19 4 ⇑P P 10 49 13.9 +1.3
baz=18,SNR=14
FURC **Furnace Creek,** 18.24 340 ⇑P P 10 49 14.5 +1.8
baz=18,SNR=9.1
V31A **Spring Creek L** 18.25 25 ⇑P P 10 49 13.9 +1.0
baz=18
S20A **Disappointment** 18.33 2 ⇓P P 10 49 15.0 +1.0
baz=18,SNR=13
S22A **4UR Ranch, Cre** 18.35 6 ⇓P P 10 49 15.7 +1.4
baz=18
CCUT **Cedar City** 18.40 350 eP Pn 10 49 16.7 +2.0
51nm,1.5s
T27A **Campo** 18.45 17 ⇓P Pn 10 49 16.5 +1.2
baz=18
SMMC **Simmler** 18.45 331 ⇓P P 10 49 15.6 +0.5
baz=19
S24A **Houchin Ranch,** 18.46 10 ⇓P Pn 10 49 16.8 +1.2
baz=19
VES **Vestal, Richgr** 18.50 334 ⇓P Pn 10 49 16.5 +0.7
baz=19
SDCO **Great Sand Dun** 18.52 9 eP Pn 10 49 17.2 +0.9
33nm,1.7s
S25A **Robets Cordova** 18.62 12 ⇑P Pn 10 49 18.1 +0.7
baz=19
PV01 **Paradox Valley** 18.63 2 eP Pn 10 49 18.6 +1.0
840nm,1.1s
CWC **Cottonwood Cre** 18.63 337 ⇓P Pn 10 49 18.6 +1.1
baz=19,SNR=5.8
ARUT **Antelope Range** 18.64 349 eP Pn 10 49 19.4 +1.8
36nm,1.4s
R20A **Redvale** 18.69 2 ⇑P Pn 10 49 19.6 +1.3
baz=19,SNR=7.1
S26A **Kim** 18.79 14 ⇓P Pn 10 49 19.6 +0.1
baz=19
R22A **Saguache, Gunn** 18.84 6 ⇓P Pn 10 49 20.2 0.0
baz=19
PV04 **Paradox Valley** 18.88 1 eP Pn 10 49 21.3 +0.8
GRAC **Grapevine Rang** 18.89 339 ⇑P Pn 10 49 22.0 +1.4
baz=19,SNR=15
R21A **Cimarron** 18.91 4 ⇑P Pn 10 49 21.6 +0.7
baz=19
RCTC **Rector, Farmer** 18.97 334 ⇑P Pn 10 49 22.0 +0.6
baz=19
R24A **Sanders Place,** 19.06 10 ⇑P Pn 10 49 23.1 +0.3
baz=19
R25A **Fountain Ranch** 19.12 12 ⇑P Pn 10 49 23.9 +0.4
baz=19
MVU **Marysvale** 19.17 353 eP Pn 10 49 25.0 +0.9
24nm,1.4s
MSU **Marysvale** 19.17 353 eP Pn 10 49 25.2 +1.1
S28A **Manter** 19.17 18 ⇑P Pn 10 49 23.8 -0.2
baz=19
TIN **Tinemaha** 19.23 338 ⇑P P 10 49 24.6 +0.8
baz=19
Q21A **Lamborn Mesa,** 19.37 4 ⇓P Pn 10 49 26.5 -0.1
baz=20
R26A **Arlington** 19.45 14 ⇑P Pn 10 49 27.0 -0.3
baz=20
Q22A **Crested Butte,** 19.45 5 ⇓P P 10 49 26.8 +0.4
baz=20
Q20A **Ridgley Place,** 19.45 2 ⇑P P 10 49 26.9 +0.6
baz=20
T31A **Randall Ranch,** 19.47 23 ⇑P Pn 10 49 27.1 -0.4
baz=20
Q16A **Castle Valley** 19.48 355 ⇑P P 10 49 27.1 +0.5
baz=20
R27A **Eads** 19.59 15 ⇑P P 10 49 27.8 +0.1
baz=20
MTUM **Tungsten Hills** 19.62 337 ePn Pn 10 49 31.1 +1.6
R11A **Troy Canyon, C** 19.63 345 ⇑P Pn 10 49 29.8 +0.2
baz=20,SNR=20
TEIG **Tepich** 19.72 84 LR LR 10 57 28.6
comp=Z,354nm,18.6s,baz=284,slow=38
SMCO **Snowmass** 19.76 5 eP Pn 10 49 31.0 -0.3
20nm,1.1s
Q24A **Divide** 19.77 9 ⇓P P 10 49 30.5 +0.6
baz=20
TMUT **Trail Mountain** 19.86 355 ePn Pn 10 49 35.1 +2.7
152nm,2.4s
Q25A **Bedland, Calha** 19.87 11 ⇑P P 10 49 31.5 +0.6
baz=20
R28A **Tribune** 19.90 17 ⇑P P 10 49 31.6 +0.6
baz=20
P20A **De Beque** 20.00 2 ⇓P P 10 49 32.3 +0.1
baz=20
Q26A **Hugo** 20.03 13 ⇓P P 10 49 32.5 0.0
baz=20
P21A **Newcastle** 20.07 4 ⇓P P 10 49 33.9 +0.9
baz=20,SNR=7.9
P23A **Jefferson** 20.07 8 ⇓P P 10 49 33.2 0.0
baz=20
P19A **Cripple Cowboy** 20.12 1 ⇓P P 10 49 34.4 +0.8
baz=20,SNR=7.2
R29A **Marienthal** 20.17 19 ⇓P P 10 49 33.8 -0.2
baz=20
P22A **Eagle** 20.19 6 ⇑P P 10 49 34.6 +0.2
baz=20
TUL1 **Tulsa** 20.22 33 ⇓P P 10 49 34.1 -0.4
baz=20
SAO **San Andreas Ge** 20.31 331 eP P 10 49 36.4 +1.0
R30A **Dighton** 20.32 21 ⇓P P 10 49 35.5 -0.1
baz=20
P25A **Willow Gulch B** 20.47 11 ⇓P P 10 49 36.9 -0.4
baz=21
NVAR **Mina Array Bea** 20.49 339 P Pn 10 49 39.9 0.0
NVAR **Mina Array Bea** 20.49 339 P Pn 10 49 39.9 0.0
12nm,0.8s,baz=169,slow=12,SNR=64
NVAR LR LR 10 56 50.5
comp=Z,404nm,19.9s,baz=183,slow=35
ISCO **Idaho Springs** 20.52 8 eP Pn 10 49 39.4 -1.0
135nm,2.9s
ISCO **Idaho Springs** 20.52 8 ⇓P P 10 49 37.8 -0.2
baz=21
R31A **Burdett** 20.58 22 ⇑P P 10 49 38.0 -0.4
baz=21
NLU **North Lily Min** 20.59 354 eP P 10 49 39.7 +1.0
31nm,1.5s
MPU **Maple Canyon** 20.60 355 eP P 10 49 40.3 +1.5
25nm,1.3s
O20A **White River Ci** 20.64 2 ⇑P P 10 49 40.0 +0.8
baz=21,SNR=14
Q29A **Oakley** 20.65 19 ⇑P P 10 49 38.6 -0.6
baz=21
P26A **Davis Ranch, A** 20.68 13 ⇑P P 10 49 39.9 +0.3
baz=21
O22A **Kremmling** 20.77 6 ⇓P P 10 49 41.3 +0.5
baz=21,SNR=7.0

O19A **Miners Draw (B** 20.78 0 ⇑P P 10 49 41.0 +0.3
baz=21
O23A **Lake Granby, G** 20.89 7 ⇑P P 10 49 42.5 +0.5
baz=21,SNR=7.4
DUG **Dugway** 20.91 352 eP P 10 49 43.6 +1.6
29nm,1.0s
DUG **Dugway** 20.91 352 ⇓P P 10 49 43.2 +1.2
baz=21,SNR=29
CMB **Columbia Colle** 20.91 335 eP P 10 49 43.2 +1.1
17nm,1.1s
WAKR **Walker** 20.96 337 eP P 10 49 45.3 +2.6
DAU **Daniels Canyon** 20.97 356 eP P 10 49 44.7 +1.8
O25A **Wiggins** 21.06 11 ⇑P P 10 49 43.8 +0.1
baz=21
VBMS **Vicksburg** 21.06 49 eP P 10 49 44.7 +1.1
36nm,1.3s
P28A **Saint Francis** 21.07 16 ⇓P P 10 49 44.3 +0.6
baz=21
JLU **Jordanelle** 21.17 355 eP P 10 49 46.5 +1.5
13nm,0.9s
N21A **Black Mountain** 21.29 4 ⇑P P 10 49 47.0 +0.7
baz=21,SNR=10.0
P29A **Atwood** 21.32 18 ⇑P P 10 49 46.1 -0.3
baz=21
N20A **Spence Gulch,** 21.33 2 ⇑P P 10 49 47.5 +0.8
baz=21,SNR=25
N22A **Wattenberg Ran** 21.42 6 ⇓P P 10 49 48.2 +0.6
baz=22,SNR=8.6
P30A **Selden** 21.47 19 ⇑P P 10 49 47.9 -0.2
baz=22
N23A **Red Feather La** 21.56 7 ⇑P P 10 49 49.0 -0.2
baz=22
BGU **Big Grassy Mou** 21.65 352 eP P 10 49 51.5 +1.4
68nm,2.2s
TGUH **Tegucigalpa,Un** 21.68 101 eP P 10 49 51.9 +1.5
34nm,1.1s
ELK **Elko** 21.84 348 P P 10 49 53.4 +1.2
ELK **Elko** 21.84 348 P P 10 49 53.4 +1.2
7.9nm,0.9s,baz=163,slow=7.5,SNR=27
ELK LR LR 10 57 57.7
comp=Z,253nm,18.3s,baz=140,slow=36
SPUT **South Promonto** 21.96 353 eP P 10 49 54.4 +0.9
39nm,1.2s
M20A **Sweetwater, Wa** 21.99 2 ⇓P P 10 49 53.4 -0.4
baz=22
PAHR **Pah Rah Range** 22.01 339 eP P 10 49 56.1 +2.2
33nm,1.0s
BMN **Battle Mountai** 22.01 344 eP P 10 49 55.5 +1.6
26nm,1.3s
PHWY **Pilot Hill** 22.02 8 eP P 10 49 54.8 +0.6
16nm,1.1s
M21A **Separation Pea** 22.14 4 ⇑P P 10 49 54.5 -0.9
baz=22
HWUT **Hardware Ranch** 22.18 355 eP P 10 49 55.8 +0.1
14nm,1.0s
L18A **Fontenelle, Gr** 22.42 358 ⇑P P 10 49 57.8 -0.5
baz=22,SNR=17
HVU **Hansel Valley** 22.47 353 eP P 10 50 01.4 +2.6
14nm,0.9s
OHCM **Honcut** 22.47 334 eP P 10 50 01.4 +2.8
BEKR **Beckworth** 22.50 337 eP P 10 49 59.6 +0.4
7.4nm,1.0s
L20A **Wamsutter** 22.50 2 ⇑P P 10 49 59.1 -0.2
baz=23,SNR=12
L21A **Rawlins** 22.50 4 ⇑P P 10 49 59.1 -0.2
baz=23,SNR=6.8
L19A **Farson** 22.58 360 ⇓P P 10 49 59.1 -1.0
baz=23
L22A **Ellis Ranch, M** 22.64 5 ⇓P P 10 49 59.8 -0.9
baz=23
K20A **Yellowstone Ra** 23.15 2 ⇓P P 10 50 06.1 +0.1
baz=23,SNR=13
K21A **Alcova** 23.17 4 ⇓P P 10 50 05.1 -1.2
baz=23
K22A **Casper** 23.24 5 ⇓P P 10 50 06.9 0.0
baz=23,SNR=9.9
BW06 **Boulder Array** 23.25 359 eP P 10 50 06.5 -0.6
20nm,1.5s
PDAR **Pinedale Array** 23.25 359 P P 10 50 06.8 -0.2
PDAR **Pinedale Array** 23.25 359 P P 10 50 06.8 -0.2
3.5nm,0.7s,baz=167,slow=9.4,SNR=38
K19A **Absolon Red Bu** 23.31 1 ⇓P P 10 50 07.0 -0.6
baz=23
LBCM **Blue Creek Ri** 23.71 337 P P 10 50 14.1 +2.5
J19A **Crowheart** 23.75 0 ⇑P P 10 50 12.0 +0.1
baz=24,SNR=13
J20A **Shoshoni** 23.85 2 ⇓P P 10 50 13.0 +0.1
baz=24,SNR=6.1
J21A **Lysite** 23.87 3 ⇓P P 10 50 12.5 -0.6
baz=24
REDW **Red Top Meadow** 23.88 357 eP P 10 50 13.8 +0.5
RRI2 **Red Ridge** 23.89 356 eP P 10 50 14.0 +0.5
SNOW **Snow King Moun** 23.98 357 eP P 10 50 14.7 +0.5
224nm,2.4s
TPAW **Teton Pass** 24.02 357 eP P 10 50 15.1 +0.5
6.7nm,0.7s
LRAL **Lakeview Retre** 24.03 51 eP P 10 50 14.4 -0.1
3.7nm,0.4s
LOHW **Long Hollow** 24.12 358 eP P 10 50 15.7 +0.2
5.7nm,0.6s
I18A **Diamond G Ranc** 24.19 359 ⇑P P 10 50 16.2 0.0
baz=24,SNR=6.7
WVOR **Wild Horse Val** 24.26 343 eP P 10 50 17.7 +1.0
17nm,0.9s
MOOW **Moose Ponds** 24.26 357 eP P 10 50 17.2 +0.4
5.3nm,0.8s
I21A **Big Trails, Te** 24.35 3 ⇑P P 10 50 16.6 -0.9
baz=24
IMW **Indian Meadow** 24.42 357 eP P 10 50 18.8 +0.4
10nm,1.0s
I16A **Newdale** 24.43 356 ⇓P P 10 50 18.4 +0.1
baz=24,SNR=17
HLID **Haley** 24.44 351 ⇑P P 10 50 18.8 +0.4
baz=25,SNR=26
I20A **Worland** 24.45 2 ⇓P P 10 50 18.2 -0.3
baz=25,SNR=11
I19A **Meeteetse** 24.52 0 ⇑P P 10 50 18.9 -0.2
baz=25,SNR=10
MFID **Camas Ranch** 24.53 348 eP P 10 50 20.4 +1.3
5.6nm,0.8s
MFID **Camas Ranch** 24.53 348 ⇓P P 10 50 19.6 +0.4
baz=25,SNR=13
I14A **Mackay** 24.66 353 ⇓P P 10 50 21.0 +0.5
baz=25,SNR=21
I12A **Atlanta** 24.78 350 ⇑P P 10 50 22.1 +0.6
baz=25,SNR=23
H17A **Grant Village** 24.90 358 ⇓P P 10 50 22.7 0.0
baz=25
I25A **Rochford** 24.93 9 ⇓P P 10 50 22.8 0.0
baz=25
RSSD **Black Hills** 24.98 9 eP P 10 50 23.5 +0.1
H20A **Greybull** 24.99 2 ⇓P P 10 50 23.9 +0.7
baz=25,SNR=9.5
YBH **Yreka Blue Hor** 25.00 336 P P 10 50 23.2 -0.2
YBH **Yreka Blue Hor** 25.00 336 P P 10 50 23.2 -0.2
1.7nm,0.6s,baz=114,slow=4.5,SNR=5.1
YBH LR LR 10 59 31.9
comp=Z,274nm,21.1s,baz=159,slow=35
J08A **Circle Bar Ran** 25.08 344 P P 10 50 25.2 +1.1
WVT **Waverly** 25.10 44 eP P 10 50 24.3 +0.1
11nm,1.4s
H19A **Powell** 25.15 0 ⇓P P 10 50 25.2 +0.4
baz=25,SNR=16
H18A **Shoshone NF, C** 25.16 359 ⇓P P 10 50 24.8 -0.2
baz=25,SNR=6.6
H21A **Big Horn, Sher** 25.17 4 ⇓P P 10 50 25.4 +0.4
baz=25
H22A **Clearmont** 25.19 5 ⇑P P 10 50 25.0 -0.1
baz=25
YMR **Madison River** 25.19 357 eP P 10 50 25.9 +0.6
16nm,0.9s
H16A **Russell Place,** 25.24 357 ⇑P P 10 50 26.1 +0.4
baz=25,SNR=15
QLMT **Earthquake Lak** 25.38 356 eP P 10 50 28.6 +1.7
H12A **Diamond D Ranc** 25.47 351 ⇓P P 10 50 28.4 +0.7
baz=26,SNR=30
MCMT **McKenzie Canyo** 25.49 354 P P 10 50 29.4 +1.5
H24A **Dirks Ranch, A** 25.53 8 ⇓P P 10 50 28.0 -0.1
baz=26
RLMT **Red Lodge** 25.60 360 eP P 10 50 29.9 +0.9
16nm,1.3s
G20A **Bridger** 25.71 2 ⇓P P 10 50 30.4 +0.5
baz=26,SNR=8.2
G21A **Lodge Grass** 25.76 3 ⇓P P 10 50 30.1 -0.2
baz=26
G18A **Lazy EL Ranch,** 25.80 359 ⇓P P 10 50 30.8 +0.1
baz=26,SNR=11
G17A **Pierce Place,** 25.83 358 ⇑P P 10 50 30.6 -0.4
baz=26
G23A **Biddle** 25.88 6 ⇓P P 10 50 30.9 -0.4
baz=26
DLMT **Dillon** 25.99 355 eP P 10 50 33.5 +1.1
G12A **Big Creek, Yel** 26.11 350 ⇑P P 10 50 33.5 0.0
baz=26,SNR=9.9
NCOR **Newberry Crate** 26.17 340 P P 10 50 35.9 +1.8
BOZ **Bozeman (W)** 26.20 356 eP P 10 50 34.6 +0.3
9.0nm,1.3s
BMO **Blue Mountains** 26.21 347 eP P 10 50 34.4 0.0
12nm,1.4s
GCMT **Greycliff** 26.27 359 eP P 10 50 35.0 +0.1
8.1nm,1.1s
F20A **Billings** 26.30 2 ⇓P P 10 50 35.2 +0.1
baz=26
F19A **Roth Farm, Mol** 26.34 0 ⇑P P 10 50 35.3 -0.2
baz=26
F22A **Rosebud** 26.37 5 ⇓P P 10 50 35.0 -0.8
baz=26
F18A **Big Timber** 26.39 359 ⇓P P 10 50 35.9 -0.1
baz=26,SNR=9.6
F23A **Volborg** 26.39 6 ⇓P P 10 50 35.0 -0.9
baz=26
F17A **Fitzpatrick Pl** 26.41 358 ⇑P P 10 50 36.5 +0.3
baz=26,SNR=18
LRM **Limekiln Ridge** 26.44 355 eP P 10 50 37.4 +0.9
BEND **Bend** 26.56 340 P P 10 50 39.1 +1.6
VIPM **Ingram Point** 26.74 342 P P 10 50 40.5 +1.3
E19A **Rath Farm, Rou** 26.94 1 ⇑P P 10 50 40.5 -0.4
baz=27,SNR=8.6
E17A **Martinsdale** 26.98 358 ⇑P P 10 50 41.3 0.0
baz=27,SNR=10
E20A **Meyer Farm, Mu** 27.00 2 ⇑P P 10 50 41.0 -0.4
baz=27,SNR=6.7
E18A **Harlowton** 27.05 359 ⇓P P 10 50 41.0 -1.0
baz=27
E21A **Keefer Ranch,** 27.08 3 ⇑P P 10 50 41.2 -0.9
baz=27
HRY **Holter Researc** 27.28 356 eP P 10 50 44.8 +0.9
HRY e 10 50 53.8
E12A **Beaver Dam Sad** 27.40 350 ⇓P P 10 50 44.5 -0.6
baz=28,SNR=7.4
D20A **Manuel Ranch,** 27.59 2 ⇓P P 10 50 45.3 -1.4
baz=28
CHMT **Chamberlain Mo** 27.59 354 eP P 10 50 47.4 +0.5
D21A **La Casta Ranch** 27.61 3 ⇓P P 10 50 45.3 -1.5
baz=28
TKL **Tuckaleechee C** 27.63 49 LR LR 11 03 57.5
comp=Z,136nm,19.0s,baz=256,slow=42
D19A **Cripps Ranch,** 27.65 1 ⇑P P 10 50 46.8 -0.4
baz=28,SNR=12
D17A **Six Diamond Ra** 27.66 358 ⇑P P 10 50 47.0 -0.4
baz=28,SNR=7.3
D22A **Cohagen** 27.74 4 ⇓P P 10 50 47.9 -0.2
baz=28,SNR=5.3
SLMT **Seeley Lake** 27.94 354 eP P 10 50 50.1 +0.1
C17A **Wharram Farm,** 28.14 358 ⇓P P 10 50 51.3 -0.3
baz=28,SNR=6.8
C20A **Veseth Ranch,** 28.21 2 ⇑P P 10 50 51.2 -1.0
baz=28
C19A **Slack Wire Ran** 28.22 0 ⇑P P 10 50 51.0 -1.3
baz=28
SWMT **Swartz Lake** 28.26 353 eP P 10 50 52.8 +0.1
C16A **Fuhringer Ranc** 28.36 356 ⇓P P 10 50 53.5 -0.1
baz=28,SNR=7.4
C22A **Vida** 28.36 5 ⇑P P 10 50 53.0 -0.5
baz=28,SNR=6.0
C21A **Desert Coulee** 28.36 3 ⇓P P 10 50 53.1 -0.4
baz=28
C15A **Salmond Ranch,** 28.39 355 ⇑P P 10 50 53.0 -0.9
baz=28
C23A **Lambert** 28.47 6 ⇓P P 10 50 54.1 -0.4
baz=29
C14A **Swan Lake** 28.49 354 ⇑P P 10 50 54.7 -0.1
baz=29,SNR=5.2
EGMT **Eagleton** 28.51 359 eP P 10 51 04.3 +9.4
15nm,1.3s
EGMT **Eagleton** 28.51 359 ⇑P P 10 50 54.1 -0.8
baz=29
B17A **L&G Farms, Che** 28.80 358 ⇑P P 10 50 57.0 -0.5
baz=29,SNR=5.3
B18A **Beardsley Farm** 28.88 359 ⇓P P 10 50 57.4 -0.8
baz=29
B22A **Reddig Ranch S** 28.90 4 ⇑P P 10 50 57.4 -0.9
baz=29
B15A **Bradely Ranch,** 28.92 355 ⇓P P 10 50 57.6 -1.0
baz=29
B19A **Brinkman Farms** 28.94 0 ⇓P P 10 50 57.8 -0.9
baz=29
B21A **Ellsworth Farm** 28.96 3 ⇑P P 10 50 57.8 -1.1
baz=29
LON **Longmire** 29.12 342 eP P 10 51 01.5 +1.2
B13A **Whitefish** 29.17 353 ⇑P P 10 51 00.5 -0.2
baz=29
A20A **Cobblestone Ra** 29.38 2 ⇓P P 10 51 02.2 -0.4
baz=30
A18A **Metzger Ranch,** 29.41 359 ⇓P P 10 51 02.2 -0.7
baz=30
A19A **Klindworth Far** 29.41 1 ⇑P P 10 51 02.2 -0.7
baz=30,SNR=5.3
A17A **Triple J Farms** 29.45 358 ⇑P P 10 51 02.7 -0.6
baz=30
NEW **Newport** 29.45 349 eP P 10 51 04.0 +0.8
2.9nm,0.8s
NEW **Newport** 29.45 349 ⇓P P 10 51 03.1 -0.1
baz=30,SNR=6.9
A15A **Johnson Ranch,** 29.59 355 ⇓P P 10 51 04.2 -0.4
baz=30
A22A **Carney Farms,** 29.59 4 ⇑P P 10 51 04.1 -0.4
baz=30
A14A **Double T Ranch** 29.65 354 ⇓P P 10 51 04.9 -0.1
baz=30,SNR=6.4
WALA **Waterton Lakes** 29.78 354 eP P 10 51 06.9 +0.6
0.1nm,0.9s
EYMN **Ely** 31.86 23 eP P 10 51 22.7 -1.8
ULM **Lac du Bonnet** 32.52 16 P P 10 51 28.3 -1.9
ULM **Lac du Bonnet** 32.52 16 P P 10 51 28.3 -1.9
1.8nm,0.5s,baz=186,slow=8.1,SNR=2.4
FFC **Flin Flon** 35.65 7 eP P 10 51 57.7 +0.4
7.2nm,1.0s
OTAV **Otavalo** 35.69 119 eP P 10 52 00.7 +2.0
51nm,1.3s
ATAH **Atahualpa** 40.24 128 P P 10 52 36.5 -0.6
ATAH **Atahualpa** 40.24 128 P P 10 52 36.5 -0.6
8.0nm,0.8s,baz=281,slow=2.1,SNR=3.2
ATAH LR LR 11 06 01.6
comp=Z,300nm,18.7s,baz=117,slow=31
YKA **Yellowknife Ar** 43.17 356 P P 10 52 59.1 -0.8
YKA PcP PcP 10 54 49.0 -0.4
YKA **Yellowknife Ar** 43.17 356 P P 10 52 59.1 -0.8
3.9nm,0.7s,baz=174,slow=7.8,SNR=58
YKA PcP PcP 10 54 48.9 -0.4
0.9nm,0.7s,baz=161,slow=3.1,SNR=8.1
NNA **Nana** 44.65 132 P P 10 53 13.3 +0.9
NNA **Nana** 44.65 132 P P 10 53 13.3 +0.9
21nm,0.9s,baz=289,slow=9.7,SNR=6.5
SCHQ **Schefferville** 47.69 32 P P 10 53 34.8 -1.1
SCHQ **Schefferville** 47.69 32 P P 10 53 34.8 -1.1
1.4nm,0.6s,baz=236,slow=14,SNR=3.4
SCHQ LR LR 11 12 22.3
comp=Z,122nm,18.2s,baz=348,slow=35
KDAK **Kodiak Island** 49.69 331 P P 10 53 52.6 +1.5
KDAK **Kodiak Island** 49.69 331 P P 10 53 52.6 +1.5
8.4nm,0.7s,baz=129,slow=6.4,SNR=8.8
EGAK **Eagle** 50.05 343 eP P 10 53 54.5 +0.7
5.2nm,0.7s
ILAR **Eielson Array** 51.74 341 P P 10 54 07.4 +0.8
ILAR **Eielson Array** 51.74 341 P P 10 54 07.4 +0.8
3.4nm,0.7s,baz=145,slow=6.3,SNR=57
ILAR LR LR 11 15 09.9
comp=Z,74nm,18.2s,baz=166,slow=35
TRF **Thorofare Moun** 52.02 338 eP P 10 54 09.0 +0.1
19nm,1.1s
PPLA **Purkeypile** 52.38 337 eP P 10 54 12.3 +0.8
38nm,1.3s
SAML **Samuel** 53.41 118 eP P 10 54 18.3 -1.4
19nm,1.4s
SAML ePcP PcP 10 55 26.7 -0.2
LPAZ **La Paz** 53.79 129 P P 10 54 23.9 +0.8
LPAZ **La Paz** 53.79 129 P P 10 54 23.9 +0.8
6.3nm,0.9s,baz=335,slow=8.0,SNR=24
LPAZ LR LR 11 14 14.9
comp=Z,211nm,18.5s,baz=101,slow=33
PPT **Papeete** 54.08 230 LR LR 11 12 02.7
comp=Z,266nm,19.9s,baz=66,slow=30
PPT2 **Papeete2** 54.09 230 eLR LR 11 09 56.9
419nm,26.8s,baz=48

COLD	**Coldfoot**	**54.40**	**342**	*e*P	**P**	**10 54 26.6**	**+0.5**
	15nm,1.7s						
LVC	**Limon Verde**	**57.43**	**135**	P	**P**	**10 54 50.8**	**+2.0**
LVC	**Limon Verde**	**57.43**	**135**	P	**P**	**10 54 50.8**	**+2.0**
	5.4nm,0.8s,baz=299,slow=7.0,SNR=6.3						
TBI	**Tubuai**	**57.88**	**225**	*e*LR	LR	11 11 42.8	
	238nm,28.0s,baz=46						
SIV	**San Ignacio**	**59.01**	**123**	P	**P**	**10 54 59.4**	**-0.3**
SIV	**San Ignacio**	**59.01**	**123**	P	**P**	**10 54 59.4**	**-0.3**
	12nm,0.9s,baz=317,slow=8.1,SNR=29						
RAR	**Rarotonga**	**63.87**	**233**	LR	LR	11 18 18.9	
	comp=Z,225nm,18.0s,baz=225,slow=31						
CFAA	**Coronel Fontan**	**64.20**	**142**	P	**P**	**10 55 36.1**	**+1.6**
CFAA	**Coronel Fontan**	**64.20**	**142**	P	**P**	**10 55 36.1**	**+1.6**
	1.0nm,0.8s,baz=308,slow=5.9,SNR=15						
CPUP	**Villa Florida**	**67.88**	**130**	P	**P**	**10 55 59.1**	**+1.0**
CPUP	**Villa Florida**	**67.88**	**130**	P	**P**	**10 55 59.1**	**+1.0**
	8.2nm,0.8s,baz=306,slow=7.4,SNR=18						
CPUP				LR	LR	11 24 39.6	
	comp=Z,88nm,21.0s,baz=131,slow=35						
BDFB	**Brasilia**	**69.56**	**116**	P	**P**	**10 56 09.6**	**+0.6**
BDFB	**Brasilia**	**69.56**	**116**	P	**P**	**10 56 09.6**	**+0.6**
	3.1nm,0.6s,baz=331,slow=6.3,SNR=5.0						
PLCA	**Paso Flores**	**69.83**	**150**	P	**P**	**10 56 12.3**	**+2.1**
PLCA	**Paso Flores**	**69.83**	**150**	P	**P**	**10 56 12.3**	**+2.1**
	4.7nm,1.1s,baz=340,slow=8.6,SNR=4.0						
PLCA				LR	LR	11 21 56.1	
	comp=Z,90nm,18.5s,baz=106,slow=32						
PETK	**Petropavlovsk-**	**76.50**	**322**	P	**P**	**10 56 49.9**	**+0.5**
PETK	**Petropavlovsk-**	**76.50**	**322**	P	**P**	**10 56 49.9**	**+0.5**
	3.7nm,0.9s,baz=111,slow=8.1,SNR=4.4						
PETK				LR	LR	11 23 00.5	
	comp=Z,41nm,20.4s,baz=270,slow=30						
ARCES	**ARCESS Array B**	**85.63**	**15**	P	**P**	**10 57 36.2**	**-1.5**
ARCES	**ARCESS Array B**	**85.63**	**15**	P	**P**	**10 57 36.2**	**-1.5**
	2.8nm,0.7s,baz=331,slow=4.3,SNR=12						
NOA	**NORSAR Array B**	**86.76**	**25**	LR	LR	11 34 31.5	
	comp=Z,48nm,19.0s,baz=310,slow=34						
GERES	**GERESS Array B**	**95.18**	**34**	LR	LR	11 39 30.7	
	comp=Z,87nm,19.4s,baz=285,slow=34						
USRK	**Ussuriysk Array**	**95.56**	**321**	LR	LR	11 35 43.6	
	comp=Z,34nm,18.7s,baz=197,slow=32						
MDJ	**Mudanjiang**	**96.74**	**322**	P	**P**	**10 58 29.4**	**-0.8**
MDJ				S	S	11 09 43.3	-8.8
CN2	**Changchun**	**99.60**	**323**	*e*P	**Pdif**	**10 58 43.3**	**+0.2**
KEST	**Kesra**	**100.06**	**47**	LR	LR	11 43 49.6	
	comp=Z,26nm,19.0s,baz=240,slow=35						
HHC	**Hu-ho-hao-te**	**109.05**	**328**	Pdif	**Pdif**	**10 59 24.3**	**-1.1**
HHC				PP	**PP**	**11 04 00.0**	**+3.4**
HHC				S	**Sdif**	**11 11 31.3**	**-4.4**
HHC				AMB	AMB		
	comp=Z,64nm,5.1s						
HHC				LR	LR		
	comp=N,220nm,16.7s						
HHC				LR	LR		
	comp=E,160nm,17.9s						
HHC				LR	LR		
	comp=Z,180nm,17.1s						
WMQ	**Urumqi**	**115.16**	**347**	PKP	**PKPdf**	**11 03 40.3**	**-0.9**
WMQ				LR	LR		
	comp=N,28nm,19.8s						
WMQ				LR	LR		
	comp=E,66nm,19.9s						
WMQ				LR	LR		
	comp=Z,51nm,22.4s						
LZH	**Lanzhou**	**116.52**	**330**	*e*PKP	**PKPdf**	**11 03 41.5**	**-2.7**
LZH				sPKP		11 03 46.1	
LZH				LR	LR		
	comp=N,110nm,17.8s						
LZH				LR	LR		
	comp=E,110nm,18.0s						
LZH				LR	LR		
	comp=Z,150nm,20.1s						
WRA	**Warramunga Arr**	**120.50**	**258**	PKP	**PKPdf**	**11 03 52.3**	**+0.4**
WRA	**Warramunga Arr**	**120.50**	**258**	PKP	**PKPdf**	**11 03 52.3**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=76,slow=2.6,SNR=12						
KSH	**Kashi**	**121.14**	**355**	*e*PKP	**PKPdf**	**11 03 53.3**	**+0.4**
KSH				PKS	**PKSdf**	**11 07 28.6**	**-1.1**
KSH				SKS	**SKSdf**	**11 11 04.5**	**-0.9**
ASAR	**Alice Springs**	**121.55**	**254**	PKP	**PKPdf**	**11 03 54.2**	**+0.3**
ASAR	**Alice Springs**	**121.55**	**254**	PKP	**PKPdf**	**11 03 54.2**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=78,slow=2.6,SNR=6.6						
KMI	**Kunming**	**125.87**	**324**	PKP	**PKPdf**	**11 04 01.6**	**-0.9**
PSI	**Prapat**	**144.59**	**306**	PKP	PKPbc	11 04 36.5	+0.5
PSI	**Prapat**	**144.59**	**306**	PKP	PKPbc	11 04 36.5	+0.5
	comp=Z,17nm,0.8s,baz=90,slow=20,SNR=8.8						

IDC 20 10:45:31.1±1.3, 7.91N×127.35E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/24, mbtmp3.8/5, MS2.7/1, Ms1 2.7/1, ms1mx2.1/30, Error ellipse: s-maj=41.7km s-min=19.4km az=71.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.94**	**245**	Pn	Pn	10 46 05.8	+0.4
	92nm,0.3s,baz=103,slow=2.0,SNR=11						
DAV				Sn	Sn	10 46 27.0	-3.4
	68nm,0.3s,baz=98,slow=20,SNR=5.3						
DAV				LR	LR	10 46 54.4	
	comp=Z,420nm,20.7s,baz=291,slow=43						
FITZ	**Fitzroy Crossi**	**25.90**	**184**	P	P	10 51 04.4	-0.6
	1.5nm,0.5s,baz=352,slow=11,SNR=13						
WRA	**Warramunga AR**	**28.52**	**166**	P	P	10 51 28.6	+0.1
	0.5nm,0.7s,baz=348,slow=9.5,SNR=3.3						
KSRS	**Korea Array**	**29.42**	**1**	LR	LR	11 04 50.4	
	comp=Z,13nm,18.6s,baz=190,slow=39						
ASAR	**Alice Springs**	**32.03**	**169**	P	P	10 51 59.9	+0.3
	0.3nm,0.5s,baz=343,slow=7.2,SNR=9.6						
MKAR	**Makanchi Array**	**54.54**	**323**	P	P	10 55 00.8	-0.3
	0.8nm,0.7s,baz=115,slow=7.3,SNR=12						
ZALV	**Zalesovo Beam**	**57.20**	**332**	P	P	10 55 20.0	+0.1
	1.3nm,0.3s,baz=140,slow=4.7,SNR=5.4						

MEX 20 10:54:26.5±0.4, 17.30N×101.49W, h11km±7km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.31**	**5**	*i* P	Pg	10 54 32.2	-0.6
ZIIG				*i* S	Sg	10 54 37.0	+0.1
CAIG	**El Cayaco**	**1.20**	**102**	*i* P	Pn	10 54 45.4	-3.8
CAIG				*i* S	Sb	10 55 00.3	-4.4
ARIG	**Puente Sto Nin**	**1.46**	**48**	*i* P	Pn	10 54 49.5	-3.4
ARIG				*i* S	Sn	10 55 06.9	-5.2
PLIG	**Platanillo**	**2.19**	**60**	*i* P	Pn	10 54 59.6	-3.4
PLIG				*e*S	Sn	10 55 24.8	-5.3
YAIG	**Yautepec**	**2.78**	**56**	*i* P	Pn	10 55 08.7	-2.5
YAIG				*i* S	Sn	10 55 40.5	-4.5

IDC 20 10:59:16.1±16.0, 18.41N×108.63W, h0km, mb3.1/2, mb1 3.6/4, mb1mx3.4/22, mbtmp3.2/4, ML3.1/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/9, Error ellipse: s-maj=239.1km s-min=81.2km az=162.0, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**11.78**	**22**	Pn	Pn	11 02 07.7	+2.0
	0.0nm,0.3s,baz=195,slow=14,SNR=5.7						
ANMO	**Albuquerque**	**16.59**	**6**	Pn	Pn	11 03 08.9	-1.4
	0.1nm,0.3s,baz=270,slow=20,SNR=2.1						
PFO	**Pinyon Flat Ob**	**16.68**	**337**	LR	LR	11 08 12.8	
	comp=Z,135nm,19.4s,baz=312,slow=32						
NVAR	**Mina Array Bea**	**21.66**	**339**	P	P	11 04 08.8	+0.2
	1.1nm,0.9s,baz=161,slow=12,SNR=8.8						
PDAR	**Pinedale Array**	**24.30**	**358**	P	P	11 04 35.5	-0.1
	0.5nm,0.9s,baz=167,slow=7.2,SNR=3.5						

IDC 20 11:08:30.1±0.9, 9.45S×118.78E, h0km, mb4.2/8, mb1 4.4/10, mb1mx4.2/22, mbtmp4.3/10, ML4.4/2, MS3.1/5, Ms1 3.2/5, ms1mx2.8/28, Error ellipse: s-maj=46.0km s-min=15.4km az=53.0
ISCJB 20 11:08:36.8±0.3, 9.62S±0.04×119.03E±0.03, h46km, mb4.2/7, MS3.2/3, Error ellipse: s-maj=6.4km s-min=3.8km az=23.0
NEIC 20 11:08:36.3±1.4, 9.58S×118.76E, h50km±14km, mb4.0/1, Error ellipse: s-maj=22.2km s-min=7.6km az=59.0
AUST 20 11:08:39.4, 9.49S×118.96E, h60km
DJA 20 11:08:39.9±0.2, 10°S±3°×11°9E±°, h4.9km±6km, M4.9/21, mb5.1/10, mB5.2/7, MLv5.1/21, Mw(mB)4.5/7
ISC 20 11:08:38.3±0.5, 9.44S±0.04×118.96E±0.04, h46km, n73, σ1s67/57, mb4.2/7, MS3.2/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.47**	**115**	P	**Pn**	**11 08 50.8**	**+1.8**
WBSI				S	**Sn**	**11 08 59.7**	**+3.2**
BMNI	**Bima**	**0.94**	**343**	P	Pn	11 09 00.4	+5.3
WSI	**Waingapu**	**1.33**	**100**	P	**Pn**	**11 09 01.7**	**+1.2**
WSI				S	**Sn**	**11 09 19.9**	**+2.8**
WSI	**Waingapu**	**1.33**	**100**	P	**Pn**	**11 09 01.6**	**+1.1**
	baz=1.3,SNR=30						
WSI				S	**Sn**	**11 09 19.9**	**+2.8**
	baz=1.3,SNR=5.6						
BASI	**Baing, Sumba**	**1.77**	**116**	P	**Pn**	**11 09 08.0**	**+1.5**
MMRI	**Maumere**	**3.33**	**76**	P	**Pn**	**11 09 30.1**	**+2.2**
KHKI	**Kahang-Kahang**	**3.48**	**288**	P	**Pn**	**11 09 31.6**	**+1.6**
BSSI	**Bau Bau, Buton**	**3.61**	**25**	P	**Pn**	**11 09 33.2**	**+1.4**
DNP	**Denpasar**	**3.79**	**281**	P	Pn	11 09 38.6	+4.4
IGBI	**Denpasar**	**3.82**	**279**	P	**Pn**	**11 09 35.8**	**+1.1**
SRBI	**Singaraja**	**3.94**	**290**	P	**Pn**	**11 09 38.0**	**+1.6**
BKSI	**Bulukumba**	**4.25**	**16**	P	**Pn**	**11 09 42.6**	**+2.0**
KAPI	**Kappang**	**4.47**	**10**	Pn	**Pn**	**11 09 44.5**	**+1.0**
KAPI				Sn	**Sn**	**11 10 32.8**	**-1.5**
KAPI	**Kappang**	**4.47**	**10**	P	**Pn**	**11 09 44.5**	**+1.0**
KAPI	**Kappang**	**4.47**	**10**	Pn	**Pn**	**11 09 44.5**	**+1.0**
	11nm,0.3s,baz=194,slow=6.9,SNR=111						
KAPI				Sn	**Sn**	**11 10 32.8**	**-1.5**
	66nm,0.3s,baz=183,slow=23,SNR=42						
KAPI				LR	LR	11 11 32.6	
	comp=Z,153nm,19.0s,baz=198,slow=40						
BATI	**Baumata**	**4.69**	**100**	P	**Pn**	**11 09 48.3**	**+1.6**
JAGI	**Jajag, Banyuwa**	**4.85**	**281**	P	**Pn**	**11 09 49.1**	**+0.3**
JAGI	**Jajag, Banyuwa**	**4.85**	**281**	P	**Pn**	**11 09 48.9**	**0.0**
	baz=4.9,SNR=22						
JAGI				S	**Sn**	**11 10 46.7**	**+2.9**
	baz=4.9,SNR=9.2						
SOEI	**Soe**	**5.24**	**94**	P	**Pn**	**11 09 55.7**	**+1.4**
	195nm,0.9s,3μm0.8nm						
SOEI	**Soe**	**5.24**	**94**	P	**Pn**	**11 09 55.9**	**+1.6**
	baz=5.2,SNR=31						
BBSI	**Bau Bau**	**5.31**	**43**	P	Pn	11 09 57.8	+2.6
	170nm,0.9s,1μm0.4nm						
SPSI	**Sidrap Palu**	**5.50**	**8**	P	Pn	11 10 00.4	+2.7
	52nm,0.9s,958nm0.4nm						
BLJI	**Banyuglugur**	**5.57**	**287**	P	**Pn**	**11 09 59.6**	**+0.9**
	216nm,0.6s,5μm1.6nm						
GMJI	**Gumukmas**	**5.58**	**282**	P	**Pn**	**11 10 01.0**	**+2.2**
	177nm,0.7s,4μm1.4nm						
TTSI	**Tana Toraja**	**6.41**	**8**	P	Pn	11 10 13.6	+3.3
	66nm,0.7s,890nm0.3nm						
PWJI	**Pagerwojo**	**7.22**	**281**	P	Pn	11 10 25.3	+4.0
	130nm,0.7s						
SKSI	**Soroako, Sulaw**	**7.26**	**19**	P	Pn	11 10 33.7	+12
SJI	**Sawahan**	**7.32**	**283**	P	Pn	11 10 26.0	+3.2
	97nm,0.7s,3μm0.9nm						
UGM	**Wanagama**	**8.48**	**280**	P	**Pn**	**11 10 40.1**	**+1.4**
	136nm,1.8s						
UGM	**Wanagama**	**8.48**	**280**	P	Pn	11 10 44.5	+5.8
	baz=8.5,SNR=7.4						
UGM				S	Sn	11 12 20.0	+6.8
	baz=8.5,SNR=3.7						
FITZ	**Fitzroy Crossi**	**10.77**	**144**	Pn	**Pn**	**11 11 08.3**	**-1.7**
FITZ				Sn	Sn	11 13 01.4	-7.9
FITZ	**Fitzroy Crossi**	**10.77**	**144**	Pn	**Pn**	**11 11 08.3**	**-1.7**
	4.0nm,0.3s,baz=335,slow=7.6,SNR=145						
FITZ				Sn	Sn	11 13 01.4	-7.9
	2.5nm,0.3s,baz=30,slow=20,SNR=4.7						
FITZ				LR	LR	11 15 42.6	
	comp=Z,63nm,21.8s,baz=264,slow=40						
FITZ	**Fitzroy Crossi**	**10.77**	**144**	P	**Pn**	**11 11 08.3**	**-1.7**
	baz=11,SNR=108						
FITZ				S	Sn	11 13 00.8	-8.5
	baz=11,SNR=4.3						
KNRA	**Kununurra**	**11.39**	**124**	P	**Pn**	**11 11 16.9**	**-1.6**
	baz=11,SNR=33						
MTN	**Manton Dam**	**12.41**	**107**	P	**Pn**	**11 11 29.7**	**-2.7**
	baz=12,SNR=34						
MTN				S	Sn	11 13 40.8	-8.5
	baz=12,SNR=8.2						
KDU	**Kakadu**	**13.64**	**105**	P	**Pn**	**11 11 46.3**	**-3.0**
	baz=14,SNR=11						
KSM	**Kuching**	**13.85**	**321**	P	P	11 12 05.3	+6.0
FAKI	**Fak Fak**	**14.71**	**65**	P	**Pn**	**11 12 04.0**	**+0.4**
	baz=15,SNR=7.2						
MEEK	**Meekatharra**	**17.11**	**181**	P	**Pn**	**11 12 32.7**	**-1.5**
	baz=17,SNR=15						
MEEK				S	Sn	11 15 26.0	-18
	baz=17,SNR=6.6						
WRA	**Warramunga Arr**	**18.15**	**127**	P	**P**	**11 12 44.9**	**-2.1**
WRA				S	Sn	11 15 53.1	-16
WRA	**Warramunga Arr**	**18.15**	**127**	P	**P**	**11 12 44.9**	**-2.1**
	12nm,1.0s						
MORW	**Morawa**	**19.72**	**188**	P	Pn	11 13 10.1	+4.2
	0.9nm,0.3s,baz=305,slow=15,SNR=45						
WRA				S	Sn	11 15 53.1	-16
	baz=20,SNR=6.0						
MORW				S	S	11 16 26.8	-17
	0.2nm,0.3s,baz=303,slow=25,SNR=3.9						
WRAB	**Tennant Creek**	**18.16**	**127**	*e*Pn	**P**	**11 12 44.9**	**-2.2**
	baz=20,SNR=8.2						
ASAR	**Alice Springs**	**20.10**	**137**	P	**P**	**11 13 07.2**	**-1.1**
ASAR				S	S	11 16 42.8	-9.0
ASAR	**Alice Springs**	**20.10**	**137**	P	**P**	**11 13 07.2**	**-1.1**
	9.0nm,0.6s,baz=315,slow=10,SNR=103						
ASAR				S	S	11 16 42.8	-9.0
	1.4nm,0.8s,baz=312,slow=22,SNR=4.2						
BLDU	**Ballidu**	**21.17**	**185**	P	P	11 13 30.6	+11
	baz=21,SNR=5.3						
PSI	**Prapat**	**23.38**	**300**	P	P	11 13 38.8	-4.5
PSI	**Prapat**	**23.38**	**300**	P	P	11 13 38.8	-4.5
	5.6nm,0.6s,baz=162,slow=13,SNR=9.5						
PSI				LR	LR	11 23 02.0	
	comp=Z,99nm,19.1s,baz=139,slow=38						
COEN	**Coen**	**24.12**	**103**	P	**P**	**11 13 49.9**	**-0.2**
	baz=24,SNR=4.5						
MTSU	**Mount Surprise**	**26.07**	**112**	P	**P**	**11 14 06.5**	**-1.3**
	baz=26,SNR=6.7						
STKA	**Stephens Creek**	**30.64**	**140**	P	**P**	**11 14 47.3**	**-1.1**
STKA	**Stephens Creek**	**30.64**	**140**	P	**P**	**11 14 47.3**	**-1.1**
	7.0nm,0.6s,baz=308,slow=9.0,SNR=34						
STKA	**Stephens Creek**	**30.64**	**140**	P	**P**	**11 14 47.4**	**-1.1**
	baz=31,SNR=26						
CMSA	**Cobar Meteorol**	**33.15**	**135**	P	**P**	**11 15 10.1**	**-0.4**
	baz=33,SNR=7.9						
CMAR	**Chiang Mai Arr**	**34.04**	**325**	P	P	11 15 16.0	-2.4
CMAR	**Chiang Mai Arr**	**34.04**	**325**	P	P	11 15 16.0	-2.4
	0.7nm,0.3s,baz=148,slow=8.6,SNR=2.8						
CMAR				LR	LR	11 30 19.3	
	comp=Z,34nm,18.5s,baz=145,slow=39						
ARPS	**Mount Arapiles**	**34.20**	**146**	P	**P**	**11 15 18.9**	**-0.6**
	baz=34,SNR=7.1						
YNG	**Young**	**36.60**	**137**	P	**P**	**11 15 40.1**	**-0.1**
	baz=37,SNR=6.4						
ARMA	**Armidale**	**36.91**	**129**	P	**P**	**11 15 43.9**	**+0.9**
	baz=37,SNR=5.1						
KSAR	**Wonju Array Be**	**47.38**	**10**	P	P	11 17 05.9	-2.0
KSRS	**Korea Array**	**47.40**	**10**	P	P	11 17 05.9	-2.1
	0.4nm,0.5s,baz=184,slow=9.2,SNR=3.8						
KSRS				LR	LR	11 38 16.9	
	comp=Z,30nm,21.7s,baz=312,slow=38						
SONM	**Songino Array**	**58.10**	**350**	P	P	11 18 25.3	-1.8
SONM	**Songino Array**	**58.10**	**350**	P	P	11 18 25.3	-1.8
	1.5nm,0.7s,baz=166,slow=7.5,SNR=6.9						
MKAR	**Makanchi Array**	**64.83**	**333**	P	P	11 19 09.6	-2.9
MKAR	**Makanchi Array**	**64.83**	**333**	P	P	11 19 09.6	-2.9
	0.8nm,0.6s,baz=146,slow=6.7,SNR=6.6						
ZALV	**Zalesovo Beam**	**69.44**	**339**	P	**P**	**11 19 40.5**	**-1.1**
ZALV	**Zalesovo Beam**	**69.44**	**339**	P	**P**	**11 19 40.5**	**-1.1**
	1.5nm,0.3s,baz=135,slow=4.4,SNR=5.4						
KECS	**Kecovo**	**102.62**	**318**	PDIF	**Pdif**	**11 22 28.8**	**-1.5**
VYHS	**Vyhne**	**103.72**	**318**	PDIF	**Pdif**	**11 22 34.2**	**-1.0**
TORD	**Torodi Ar. Bea**	**118.50**	**280**	PKP	**PKPdf**	**11 27 19.8**	**-2.2**
TORD	**Torodi Ar. Bea**	**118.50**	**280**	PKP	**PKPdf**	**11 27 19.8**	**-2.2**
	0.5nm,0.6s,baz=79,slow=1.6,SNR=4.8						
CPUP	**Villa Florida**	**144.26**	**186**	PKP	**PKPab**	**11 28 07.2**	**-0.7**
CPUP	**Villa Florida**	**144.26**	**186**	PKP	**PKPab**	**11 28 07.2**	**-0.7**
	2.0nm,0.8s,baz=214,slow=6.3,SNR=3.9						

IDC 20 11:16:11.3±7.2, 15.09N×100.35W, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.7/22, mbtmp3.4/5, ML3.0/1, Error ellipse: s-maj=143.6km s-min=120.2km az=93.0
ISCJB 20 11:16:24.7±1.4, 16.62N±0.07×101.19W±0.04, h23km±8km, mb3.2/4, Error ellipse: s-maj=11.9km s-min=6.5km az=13.3

NEIC 20 11:16:26.9, 16.56N×101.22W, h15km, MD4.1(MEX), After MEX.
MEX 20 11:16:26.6±0.7, 16.56N×101.25W, h22km±15km, MD4.1
ISC 20 11:16:23.7±1.9, 16.62N±0.07×101.20W±0.04, h5km±10km, n18, σ1s72/30, mb3.4/4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.99**	**64**	*i* P	**Pg**	**11 16 42.8**	**0.0**
CAIG				*i* S	**Sg**	**11 16 55.8**	**+0.2**
CAIG	**El Cayaco**	**0.99**	**64**	*i* P	**Pg**	**11 16 42.8**	**0.0**
CAIG				*i* S	**Sb**	**11 16 56.8**	**0.0**
ZIIG	**Zihuatanejo**	**1.01**	**346**	*i* P	**Pg**	**11 16 43.0**	**-0.2**
ZIIG				*i* S	**Sg**	**11 16 55.7**	**-0.7**
ZIIG	**Zihuatanejo**	**1.01**	**346**	*i* P	**Pg**	**11 16 42.9**	**-0.2**
ZIIG				*i* S	**Sg**	**11 16 56.0**	**-0.3**
ARIG	**Puente Sto Nin**	**1.84**	**26**	*i* P	**Pn**	**11 16 56.0**	**-0.1**
ARIG				*e*S	**Sn**	**11 17 18.3**	**-1.5**
PLIG	**Platanillo**	**2.40**	**42**	*i* P	**Pn**	**11 17 04.0**	**+0.3**
PLIG				*i* S	**Sn**	**11 17 31.5**	**-2.1**
PLIG	**Platanillo**	**2.40**	**42**	*i* P	**Pn**	**11 17 04.0**	**+0.3**
PLIG				*i* S	**Sn**	**11 17 31.5**	**-2.1**
MMIG	**Aquila**	**2.64**	**309**	*e*P	**Pn**	**11 17 05.4**	**-1.6**
MMIG				*i* S	**Sn**	**11 17 36.5**	**-3.0**
MMIG	**Aquila**	**2.64**	**309**	*e*P	**Pn**	**11 17 05.2**	**-1.8**
MMIG				*i* S	**Sn**	**11 17 38.7**	**-0.7**
PNIG	**Pinotepa**	**2.96**	**94**	*i* P	**Pn**	**11 17 10.7**	**-0.7**
PNIG				*i* S	**Sn**	**11 17 44.5**	**-2.8**
PNIG	**Pinotepa**	**2.96**	**94**	*i* P	**Pn**	**11 17 10.8**	**-0.7**
PNIG				*i* S	**Sn**	**11 17 44.0**	**-3.3**
YAIG	**Yautepec**	**3.02**	**42**	*e*P	**Pn**	**11 17 12.3**	**-0.1**
YAIG				*e*S	**Sn**	**11 17 47.2**	**-1.8**
YAIG	**Yautepec**	**3.02**	**42**	*e*P	**Pn**	**11 17 12.3**	**-0.1**
YAIG				*i* S	**Sn**	**11 17 46.3**	**-2.8**
TXAR	**Lajitas Array**	**12.86**	**350**	Pn	Pn	11 19 42.1	+15
	0.0nm,0.3s,baz=166,slow=11,SNR=6.0						
NVAR	**Mina Array Bea**	**26.41**	**329**	P	**P**	**11 22 05.2**	**+3.6**
	0.8nm,0.7s,baz=142,slow=12,SNR=8.4						
PDAR	**Pinedale Array**	**27.02**	**346**	P	**P**	**11 22 08.9**	**+1.8**
	0.4nm,0.8s,baz=163,slow=13,SNR=2.6						
YKA	**Yellowknife Ar**	**46.78**	**352**	P	**P**	**11 24 54.7**	**+0.7**
	0.2nm,0.8s,baz=161,slow=7.1,SNR=3.8						
ILAR	**Eielson Array**	**57.05**	**339**	P	**P**	**11 26 11.8**	**+1.3**
	0.4nm,0.8s,baz=142,slow=6.2,SNR=4.6						

WEL 20 11:37:56.3±1.1, 46.40S×164.81E, h33km, ML3.7/7, Error ellipse: s-maj=12.6km s-min=7.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.88**	**62**	PN	Pn	11 38 24.6	-1.4
DCZ				SN	Sn	11 38 47.6	-0.9
DCZ				AML	AML	11 38 52.1	
APZ	**The Paps**	**2.24**	**102**	PN	Pn	11 38 29.6	-1.4
WHZ	**Wether Hill Ro**	**2.24**	**78**	PN	Pn	11 38 30.5	-0.5
WHZ				SN	Sn	11 38 55.8	-1.7
MLZ	**Mavora Lakes**	**2.57**	**67**	*e*PN	Pn	11 38 35.0	-0.6
MLZ				AML	AML	11 39 17.7	
MSZ	**Milford Sound**	**2.79**	**53**	AML	AML	11 39 35.8	
MSZ				AML	AML	11 39 36.4	
SYZ	**Scrubby Hill**	**3.00**	**94**	PN	Pn	11 38 41.1	-0.3
SYZ				SN	Sn	11 39 14.0	-2.2
WKZ	**Wanaka**	**3.34**	**64**	PN	Pn	11 38 48.4	+2.1
WKZ				AML	AML	11 39 36.9	
WKZ				AML	AML	11 39 46.1	
EAZ	**Earnscleugh**	**3.35**	**71**	*e*PN	Pn	11 38 46.5	+0.1
EAZ				AML	AML	11 39 35.7	
EAZ				AML	AML	11 39 35.7	
TUZ	**Tuapeka**	**3.38**	**84**	PN	Pn	11 38 46.9	+0.2
TUZ				AML	AML	11 39 25.3	
TUZ				AML	AML	11 39 57.4	
JCZ	**Jackson Bay**	**3.63**	**52**	PN	Pn	11 38 53.8	+3.5
JCZ				AML	AML	11 39 56.5	
JCZ				AML	AML	11 39 56.9	
ODZ	**Otahua Downs**	**4.30**	**74**	PN	Pn	11 38 58.2	-1.2
FOZ	**Fox Glacier**	**4.47**	**52**	PN	Pn	11 39 04.3	+2.6

IDC 20 11:48:20.1±1.7, 26.71S×114.05W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.7/18, mbtmp3.5/4, MS3.6/7, Ms1 3.6/7, ms1mx3.4/20, Error ellipse: s-maj=98.7km s-min=46.2km az=105.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**4.23**	**97**	LR	LR	11 50 11.8	
	comp=Z,262nm,20.1s,baz=246,slow=26						
PLCA	**Paso Flores**	**38.40**	**123**	LR	LR	12 06 00.1	
	comp=Z,66nm,20.9s,baz=356,slow=28						
**LP

	comp=Z,330nm,20.3s,baz=282,slow=30							
CTA	**Charters Tower**	**20.31**	**262**	P	Pn	11 54 50.0	-0.4	
CTA	**Charters Tower**	**20.31**	**262**	P	Pn	11 54 50.0	-0.4	
	comp=Z,13nm,1.0s,baz=79,slow=10,SNR=6.0							
URZ	**Urewera**	**21.30**	**159**	*e*P	**P**	**11 55 01.3**	**+2.5**	
URZ	**Urewera**	**21.30**	**159**	P	**P**	**11 55 01.5**	**+2.8**	
	comp=Z,15nm,0.7s,baz=321,slow=9.8,SNR=9.1							
URZ				LR	LR	12 02 06.6		
	comp=Z,415nm,19.0s,baz=348,slow=33							
PMG	**Port Moresby**	**21.89**	**292**	LR	LR	12 01 53.3		
	comp=Z,386nm,18.6s,baz=92,slow=32							
RPZ	**Rata Peaks**	**25.27**	**174**	LR	LR	12 04 46.2		
	comp=Z,266nm,18.6s,baz=0.1,slow=34							
STKA	**Stephens Creek**	**27.03**	**236**	P	**P**	**11 55 55.7**	**+1.5**	
STKA	**Stephens Creek**	**27.03**	**236**	P	**P**	**11 55 55.7**	**+1.5**	
	comp=Z,8.1nm,0.8s,baz=53,slow=7.8,SNR=19							
STKA				LR	LR	12 06 15.1		
	comp=Z,275nm,19.5s,baz=33,slow=35							
RAR	**Rarotonga**	**30.67**	**100**	LR	LR	12 05 10.6		
	comp=Z,317nm,19.3s,baz=45,slow=29							
WRAB	**Tennant Creek**	**31.50**	**262**	*e*P	**P**	**11 56 33.2**	**-0.9**	
	comp=Z,13nm,1.2s							
WRA	**Warramunga Arr**	**31.52**	**262**	P	**P**	**11 56 34.0**	**-0.2**	
WRA				pP	**pP**	**11 56 44.5**	**+1.7**	
WRA	**Warramunga Arr**	**31.52**	**262**	P	**P**	**11 56 34.0**	**-0.2**	
	comp=Z,5.1nm,0.9s,baz=85,slow=8.5,SNR=27							
WRA				pP	**pP**	**11 56 44.5**	**+1.7**	
	comp=Z,4.0nm,1.1s,baz=94,slow=8.9,SNR=6.5							
WRA				LR	LR	12 08 23.6		
	comp=Z,221nm,20.7s,baz=70,slow=34							
AS31	**Alice Springs**	**31.91**	**255**	*e*P	**P**	**11 56 38.0**	**+0.4**	
ASAR	**Alice Springs**	**31.91**	**255**	P	**P**	**11 56 38.2**	**+0.6**	
ASAR				pP	**pP**	**11 56 48.9**	**+2.6**	
ASAR	**Alice Springs**	**31.91**	**255**	P	**P**	**11 56 38.2**	**+0.6**	
	comp=Z,21nm,0.8s,baz=79,slow=8.9,SNR=215							
ASAR				pP	**pP**	**11 56 48.9**	**+2.6**	
	comp=Z,11nm,0.8s,baz=82,slow=9.0,SNR=12							
ASAR				LR	LR	12 09 42.4		
	comp=Z,498nm,18.2s,baz=76,slow=36							
FITZ	**Fitzroy Crossi**	**39.88**	**264**	P	**P**	**11 57 47.2**	**+1.2**	
FITZ				pP	**pP**	**11 57 57.5**	**+2.9**	
FITZ	**Fitzroy Crossi**	**39.88**	**264**	P	**P**	**11 57 47.2**	**+1.2**	
	comp=Z,36nm,0.8s,baz=110,slow=7.4,SNR=76							
FITZ				pP	**pP**	**11 57 57.5**	**+2.9**	
	comp=Z,19nm,0.8s,baz=111,slow=6.7,SNR=11							
FITZ				LR	LR	12 13 51.8		
	comp=Z,458nm,20.1s,baz=77,slow=36							
PPT2	**Papeete2**	**40.55**	**96**	*e*S	S	12 03 38.1	-21	
	comp=Z,98nm,25.2s							
PPT2				*e*LR	LR	12 09 07.0		
	comp=Z,472nm,27.0s							
PPT	**Papeete**	**40.55**	**96**	LR	LR	12 09 45.8		
	comp=Z,314nm,21.1s,baz=359,slow=29							
SBA	**Scott Base**	**59.36**	**180**	P	**P**	**12 00 13.5**	**0.0**	
	comp=Z,6.8nm,0.9s							
MJAR	**Matsushiro Arr**	**61.46**	**333**	P	**P**	**12 00 26.6**	**-1.8**	
MJAR	**Matsushiro Arr**	**61.46**	**333**	P	**P**	**12 00 26.6**	**-1.8**	
	comp=Z,1.3nm,1.0s,baz=178,slow=7.3,SNR=3.3							
USRK	**Usuriysk Arra**	**70.45**	**334**	P	**P**	**12 01 24.8**	**-1.2**	
	comp=Z,3.1nm,0.8s,baz=125,slow=4.8,SNR=6.8							
PSI	**Prapat**	**70.88**	**280**	LR	LR	12 34 04.8		
	comp=Z,61nm,19.2s,baz=220,slow=37							
FX1	**Attu Island--F**	**71.27**	**3**	LR	LR	12 28 23.4		
	comp=Z,82nm,18.6s,baz=46,slow=32							
PETK	**Petropavlovsk-**	**71.86**	**354**	LR	LR	12 27 60.0		
	comp=Z,36nm,21.6s,baz=323,slow=32							
KMI	**Kunming**	**76.67**	**302**	⇓P	**P**	**12 02 04.6**	**+1.3**	
KMI	**Kunming**	**76.67**	**302**	S	S	12 12 10.6	+22	
KMI				pmax	pmax			
	comp=Z,13nm,1.1s							
KMI				LR	LR			
	comp=Z,46nm,23.4s							
CMAR	**Chiang Mai Arr**	**76.90**	**295**	P	**P**	**12 02 05.4**	**+1.0**	
CMAR				pP	**PcP**	**12 02 16.2**	**+0.7**	
CMAR	**Chiang Mai Arr**	**76.90**	**295**	P	**P**	**12 02 05.4**	**+1.0**	
	comp=Z,1.1nm,0.7s,baz=137,slow=4.3,SNR=6.3							
CMAR				pP	**PcP**	**12 02 16.2**	**+0.7**	
	comp=Z,2.6nm,0.8s,baz=134,slow=4.3,SNR=4.5							
GTA	**Gaotai**	**85.59**	**314**	*e*P	**P**	**12 02 49.3**	**-1.1**	
GTA				pP	**pP**	**12 02 56.5**	**-3.2**	
GTA				sP	**sP**	**12 03 00.4**	**-2.7**	
GTA				pmax	pmax			
	comp=Z,5.0nm,1.5s							
SONM	**Songino Array**	**85.79**	**324**	P	**P**	**12 02 50.4**	**-0.7**	
SONM	**Songino Array**	**85.79**	**324**	P	**P**	**12 02 50.4**	**-0.7**	
	comp=Z,1.4nm,0.8s,baz=137,slow=5.1,SNR=11							
SONM				LR	LR	12 37 15.3		
	comp=Z,51nm,21.0s,baz=57,slow=33							
CMB	**Columbia Colle**	**87.77**	**49**	*e*P	**P**	**12 03 00.2**	**-0.7**	
	comp=Z,4.4nm,1.0s							
BEKR	**Beckworth**	**88.58**	**47**	*e*P	**P**	**12 03 05.0**	**+0.1**	
	comp=Z,1.3nm,0.9s							
NVAR	**Mina Array Bea**	**89.42**	**49**	P	**P**	**12 03 09.1**	**+0.2**	
NVAR	**Mina Array Bea**	**89.42**	**49**	P	**P**	**12 03 09.1**	**+0.2**	
	comp=Z,1.2nm,0.8s,baz=230,slow=7.1,SNR=12							
ILAR	**Eielson Array**	**89.99**	**18**	P	**P**	**12 03 11.7**	**+1.0**	
ILAR	**Eielson Array**	**89.99**	**18**	P	**P**	**12 03 11.7**	**+1.0**	
	comp=Z,0.5nm,0.7s,baz=236,slow=4.5,SNR=11							
WVOR	**Wild Horse Val**	**90.84**	**45**	*e*P	**P**	**12 03 15.4**	**+0.1**	
	comp=Z,7.6nm,1.0s							
INK	**Inuvik**	**96.33**	**19**	LR	LR	12 42 02.8		
	comp=Z,45nm,20.2s,baz=245,slow=32							
PDAR	**Pinedale Array**	**97.20**	**47**	P	Pdif	12 03 45.5	+0.7	
PDAR	**Pinedale Array**	**97.20**	**47**	P	Pdif	12 03 45.5	+0.7	
	comp=Z,0.6nm,1.0s,baz=250,slow=2.7,SNR=3.1							
TXAR	**Lajitas Array**	**97.70**	**62**	P	**P**	**12 03 46.4**	**-0.7**	
TXAR	**Lajitas Array**	**97.70**	**62**	P	**P**	**12 03 46.4**	**-0.7**	
	comp=Z,0.1nm,0.3s,baz=227,slow=5.0,SNR=3.5							
MKAR	**Makanchi Array**	**100.22**	**316**	P	**Pdif**	**12 03 56.9**	**-0.9**	
MKAR				pP	pP	12 04 08.1	+0.8	
MKAR	**Makanchi Array**	**100.22**	**316**	P	**Pdif**	**12 03 56.9**	**-0.9**	
	comp=Z,0.3nm,0.7s,baz=110,slow=4.7,SNR=3.6							
MKAR				pP	pP	12 04 08.1	+0.8	
	comp=Z,0.3nm,0.6s,baz=123,slow=4.0,SNR=2.8							
YKA	**Yellowknife Ar**	**100.71**	**27**	P	**Pdif**	**12 04 00.4**	**+0.9**	
YKA	**Yellowknife Ar**	**100.71**	**27**	P	**Pdif**	**12 04 00.4**	**+0.9**	
	comp=Z,0.3nm,0.7s,baz=257,slow=4.9,SNR=4.3							
TUE	**Stuetta**	**146.91**	**332**	*e*PKPdf	**PKPab**	**12 09 56.0**	**+0.2**	
BNI	**Bardonecchia**	**149.19**	**333**	*e*PKPdf	**PKPdf**	**12 09 57.3**	**+1.1**	

WEL 20 11:58:13.2±0.4, 46°05S×165°91E, h28km±2km, ML3.9/17, Error ellipse: s-maj=3.7km s-min=2.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.04**	**57**	PN	Pn	11 58 31.4	-0.4
DCZ				SN	Sn	11 58 44.9	-0.4
DCZ				AML	AML	11 58 46.6	
DCZ				AML	AML	11 58 52.8	
DCZ				AML	AML	11 58 52.8	
WHZ	**Wether Hill Ro**	**1.43**	**85**	PN	Pn	11 58 37.5	+0.2
WHZ				SN	Sn	11 58 55.3	+0.3
WHZ				AML	AML	11 59 01.8	
APZ	**The Paps**	**1.64**	**120**	PN	Pn	11 58 39.8	-0.4
APZ				SN	Sn	11 58 59.5	-0.8
MLZ	**Mavora Lakes**	**1.73**	**67**	PN	Pn	11 58 42.5	+1.0
MLZ				AML	AML	11 59 09.4	
MLZ				AML	AML	11 59 09.9	
MSZ	**Milford Sound**	**1.98**	**47**	*e*PN	Pn	11 58 45.8	+1.1
MSZ				AML	AML	11 59 22.6	
MSZ				AML	AML	11 59 27.6	
MSZ				AML	AML	11 59 27.9	
MSZ				AML	AML	11 59 27.9	
SYZ	**Scrubby Hill**	**2.29**	**104**	PN	Pn	11 58 49.9	+0.8
SYZ				SN	Sb	11 59 19.7	-1.9
WKZ	**Wanaka**	**2.50**	**62**	*e*PN	Pn	11 58 54.3	+2.2
WKZ				AML	AML	11 59 35.7	
WKZ				AML	AML	11 59 45.4	
EAZ	**Earnscleugh**	**2.52**	**72**	PN	Pn	11 58 54.1	+2.0
EAZ				AML	AML	11 59 32.9	
EAZ				AML	AML	11 59 35.1	
EAZ				AML	AML	11 59 35.1	
TUZ	**Tuapeka**	**2.59**	**89**	PN	Pn	11 58 55.2	+2.0
TUZ				AML	AML	11 59 31.4	
TUZ				AML	AML	11 59 36.4	
JCZ	**Jackson Bay**	**2.82**	**47**	PN	Pn	11 58 59.4	+2.9
JCZ				AML	AML	11 59 49.8	
JCZ				AML	AML	11 59 51.5	
LBZ	**Lake Benmore**	**3.44**	**63**	PN	Pn	11 59 06.5	+1.5
LBZ				AML	AML	12 00 22.1	
ODZ	**Otahua Downs**	**3.47**	**75**	PN	Pn	11 59 05.8	+0.4
ODZ				AML	AML	12 00 03.4	
ODZ				AML	AML	12 00 04.9	
FOZ	**Fox Glacier**	**3.66**	**49**	PN	Pn	11 59 10.3	+2.5
RPZ	**Rata Peaks**	**4.33**	**59**	PN	Pn	11 59 18.0	+0.8
RPZ				AML	AML	12 00 13.4	
RPZ				AML	AML	12 00 16.3	
WVZ	**Waitaha Valley**	**4.55**	**51**	PN	Pn	11 59 21.6	+1.5

*NEIC **20** 12:10:20.6, 33°10N×116°22W, h12km, MW3.4(PAS), After PAS.*
NEIC Felt [III] at Pine Valley and [II] at Borrego Springs and San Diego. Also felt at Alpine, Anaheim, Campo, Descanso, El Cajon, Escondido, Fallbrook, Hemet, Laguna Niguel, Long Beach, Moreno Valley, Pasadena, Ramona, Redondo Beach, Santee and Spring Valley.

ECX 20 12:10:20.9±0.7, 33°10N×116°22W, h8km, MD3.6, ML3.8, 3C-11D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MONP	**Monument Peak**	**0.27**	**218**	P	Pg	12 10 25.7	-0.8
	baz=0.3						
MONP				S	Sg	12 10 29.8	-0.6
	baz=0.3						
CRR	**Carrizo Plain**	**0.30**	**135**	⇓*i*P	Pg	12 10 26.1	-0.7
SWSC	**Sam W. Stewart**	**0.39**	**114**	P	Pg	12 10 27.5	-1.0
	baz=0.4						
SWSC				S	Sg	12 10 32.8	-0.9
	baz=0.4						
DVTC	**Desert V Tower**	**0.45**	**167**	P	Pg	12 10 28.9	-0.9
	baz=0.5						
COK	**Cook Ranch**	**0.49**	**121**	⇑*i*P	Pg	12 10 29.9	-0.4
FRD	**Ford Ranch**	**0.51**	**321**	⇓*i*P	Pg	12 10 30.3	-0.6
RMX	**La Rumorosa**	**0.51**	**166**	⇓*e*P	Pg	12 10 29.9	-1.1
RMX				*e*S	Sg	12 10 37.1	-0.8
RMX				⇓*e*		12 10 39.9	
	comp=E,5μm,0.2s						
YUH	**Yuha Desert**	**0.52**	**151**	⇓*i*P	Pg	12 10 30.0	-1.0
PFO	**Pinyon Flat Ob**	**0.54**	**339**	*e*Pg	Pg	12 10 30.5	-1.1
PFO				*e*Sg	Sg	12 10 37.6	-1.3
PFO	**Pinyon Flat Ob**	**0.54**	**339**	P	Pg	12 10 30.6	-1.0
	baz=0.5						
PFO				S	Sg	12 10 38.0	-0.9
	baz=0.5						
BAR	**Barrett**	**0.57**	**222**	*e*Pg	Pg	12 10 31.2	-0.7
BAR				*e*Sg	Sg	12 10 38.6	-0.8
109C	**Camp Elliot, M**	**0.77**	**254**	P	Pg	12 10 34.7	-1.1
	baz=0.8						
109C				S	Sg	12 10 44.9	-1.0
	baz=0.8						
BC3	**Big Chuckawall**	**0.85**	**49**	P	Pg	12 10 35.6	-1.8
	baz=0.8						
BC3				S	Sg	12 10 46.5	-2.1
	baz=0.8						
CBX	**Cerro Bola**	**0.87**	**205**	⇓*e*P	Pg	12 10 36.5	-1.3
CBX				*e*S	Sg	12 10 48.0	-1.4
BELC	**Belle Mtn. Jos**	**0.92**	**12**	P	Pg	12 10 37.2	-1.6
	baz=0.9						
BELC				S	Sg	12 10 49.2	-1.7
	baz=0.9						
MURC	**Murrieta**	**0.96**	**301**	P	Pg	12 10 38.2	-1.2
	baz=1.0						
MURC				S	Sg	12 10 50.7	-1.2
	baz=1.0						
CPBX	**Cerro Prieto**	**1.03**	**131**	*e*P	Pg	12 10 38.8	-2.0
CPBX				⇓*e*		12 11 05.7	
	comp=N,6μm,0.6s						
GLA	**Glamis**	**1.17**	**92**	*e*P	Pb	12 10 40.1	-3.4
GLA	**Glamis**	**1.17**	**92**	P	Pb	12 10 40.1	-3.4
	baz=1.2						
RDX	**Rancho Dawling**	**1.19**	**169**	⇑*e*P	Pb	12 10 41.9	-2.1
RDX				*e*S	Sg	12 10 57.4	-2.4
RDX				*e*		12 10 59.0	
	comp=N,820nm,0.3s						
BBRC	**Big Bear Solar**	**1.30**	**333**	P	Pn	12 10 43.8	-1.8
	baz=1.3						
BBRC				S	Sb	12 11 01.3	-1.6
	baz=1.3						
IRM	**Iron Mountain**	**1.38**	**40**	P	Pn	12 10 43.9	-2.7
	baz=1.4						
EMX	**El Mayor**	**1.39**	**143**	⇓*e*P	Pn	12 10 44.6	-1.9
EMX				*e*S	Sb	12 11 02.9	-2.0
EMX				⇑*e*		12 11 04.2	
	comp=N,1μm,0.4s						
EMX				⇓*e*		12 11 04.4	
	comp=E,1μm,0.3s						
PBX	**Punta Banda**	**1.42**	**198**	⇓*e*P	Pn	12 10 45.8	-1.3
PBX				*e*S	Sn	12 11 04.3	-1.7
ECNX	**Esteban Cantu**	**1.48**	**193**	⇓*e*P	Pn	12 10 46.7	-1.2
ECNX				*e*S	Sn	12 11 05.9	-1.7
Y12C	**Blythe**	**1.56**	**65**	P	Pn	12 10 45.8	-3.1
	baz=1.5						
BFSC	**Mount Baldy Ra**	**1.65**	**314**	P	Pn	12 10 48.5	-1.9
	baz=1.6						
BFSC				Sb	Sn	12 11 11.0	-0.9
	baz=1.6						
HEC	**Hector,Ludlow**	**1.73**	**357**	P	Pn	12 10 49.0	-2.4
	baz=1.7						
GMRC	**Granite Mounta**	**1.74**	**15**	P	Pn	12 10 49.0	-2.6
	baz=1.7						
GMRC				Sb	Sn	12 11 14.6	+0.5
	baz=1.7						
FMP	**Fort Macarthur**	**1.84**	**290**	Pb	Pn	12 10 52.4	-0.4
	baz=1.8						
FMP				Sb	Sb	12 11 17.1	-0.8
	baz=1.8						
CIS	**Catalina Islan**	**1.85**	**280**	P	Pn	12 10 51.9	-1.2
	baz=1.9						
RRX	**Edison Barstow**	**1.89**	**340**	Pg	Pb	12 10 55.1	-0.6
	baz=1.9						
MWC	**Mount Wilson**	**1.90**	**307**	*e*Pn	Pn	12 10 54.3	+0.4
MWC				*e*Sn	Sn	12 11 16.0	-2.2
ECBX	**El Chinero**	**1.90**	**148**	*e*P	Pn	12 10 53.2	-0.4
ECBX				*e*S	Sn	12 11 18.4	+0.6
PASC	**Pasadena Art C**	**1.96**	**304**	*e*Pn	Pn	12 10 54.7	+0.3
PASC				*e*Sn	Sb	12 11 20.7	-0.7
113A	**Mohawk Valley,**	**2.09**	**98**	P	Pn	12 10 53.0	-3.3
	baz=2.1						
DECC	**Green Verdugo**	**2.10**	**304**	Pb	Pb	12 10 57.9	-1.4
	baz=2.1						
DECC				Sb	Sb	12 11 25.0	-0.5
	baz=2.1						
NEE2	**Needles Airpor**	**2.13**	**38**	Sb	Sb	12 11 25.5	-0.9
	baz=2.1						
SPX	**San Pedro Mart**	**2.15**	**162**	*e*P	Pb	12 10 59.5	-1.0
SPX				*e*S	Sn	12 11 25.6	+0.9
GSC	**Goldstone**	**2.25**	**348**	Pg	Pb	12 11 02.0	+0.1
	baz=2.2						
EDW2	**Edwards Air Fo**	**2.30**	**321**	Sb	Sb	12 11 31.3	-0.2
	baz=2.3						
TUQ	**Turquoise Moun**	**2.34**	**6**	P	Pn	12 10 57.7	-2.2
	baz=2.3						
TUQ				Pg	Pb	12 11 03.7	+0.2
	baz=2.3						
214A	**Organ Pipe Nat**	**3.10**	**111**	P	Pn	12 11 06.6	-3.5
	baz=3.1						
WUAZ	**Wupatki**	**4.68**	**58**	*e*Pn	Pn	12 11 33.1	+1.0
CCUT	**Cedar City**	**5.02**	**27**	*e*Pn	Pn	12 11 36.5	-0.3
	comp=E,3.6nm,0.7s						

IDC 20 12:27:33.0±5.4, 16°33S×176°11W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.7/3, Error ellipse: s-maj=202.5km s-min=54.8km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.32**	**240**	P	P	12 35 21.0	+0.3
	1.0nm,0.8s,baz=34,slow=15,SNR=7.4						
WRA	**Warramunga Arr**	**47.10**	**258**	P	P	12 36 06.8	-0.4
	0.3nm,0.8s,baz=94,slow=8.2,SNR=5.1						
ASAR	**Alice Springs**	**47.35**	**253**	P	P	12 36 08.8	-0.4
	0.9nm,0.6s,baz=88,slow=8.2,SNR=30						
BRTR	**Keskin Array B**	**145.16**	**318**	PKPbc	PKPbc	12 47 11.8	-0.8
	0.4nm,0.4s,baz=27,slow=5.9,SNR=2.7						

WEL 20 12:36:21.8±0.3, 46°49S×165°77E, h12km, ML3.8/14, 1C, Error ellipse: s-maj=3.4km s-min=2.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.71**	**63**	P*	Pg	12 36 35.1	-0.5
PYZ				S*	Sg	12 36 45.2	+0.3
DCZ	**Deep Cove**	**1.40**	**44**	⇑PN	Pn	12 36 46.3	-0.8
DCZ				SN	Sn	12 37 02.7	-2.8
DCZ				AML	AML	12 37 05.0	
DCZ				AML	AML	12 37 05.3	
APZ	**The Paps**	**1.57**	**103**	PN	Pn	12 36 48.9	-0.6
WHZ	**Wether Hill Ro**	**1.63**	**69**	PN	Pn	12 36 49.5	-0.8
WHZ				SN	Sn	12 37 09.9	-1.2
WHZ				AML	AML	12 37 10.6	
MLZ	**Mavora Lakes**	**2.03**	**57**	PN	Pn	12 36 56.5	+0.6
MLZ				AML	AML	12 37 28.1	
MLZ				AML	AML	12 37 30.3	
SYZ	**Scrubby Hill**	**2.33**	**92**	PN	Pn	12 37 00.6	+0.7
MSZ	**Milford Sound**	**2.37**	**41**	PN	Pn	12 37 00.8	+0.5
MSZ				AML	AML	12 37 50.1	
MSZ				AML	AML	12 37 50.2	
MSZ				AML	AML	12 37 59.2	
TUZ	**Tuapeka**	**2.73**	**80**	PN	Pn	12 37 05.9	+0.5
TUZ				AML	AML	12 37 39.1	
TUZ				AML	AML	12 37 40.5	
EAZ	**Earnscleugh**	**2.77**	**64**	PN	Pn	12 37 06.8	+0.8
EAZ				AML	AML	12 37 40.3	
EAZ				AML	AML	12 37 43.6	
EAZ				AML	AML	12 38 07.9	
WKZ	**Wanaka**	**2.82**	**55**	PN	Pn	12 37 09.3	+2.6
WKZ				AML	AML	12 37 45.0	
WKZ				AML	AML	12 37 45.8	
JCZ	**Jackson Bay**	**3.21**	**42**	PN	Pn	12 37 14.6	+2.5
JCZ				AML	AML	12 37 58.3	
JCZ				AML	AML	12 37 59.8	
ODZ	**Otahua Downs**	**3.71**	**69**	PN	Pn	12 37 17.8	-1.0
LBZ	**Lake Benmore**	**3.75**	**58**	PN	Pn	12 37 21.1	+1.6
FOZ	**Fox Glacier**	**4.03**	**45**	PN	Pn	12 37 26.0	+2.7

IDC 20 12:40:40.4±1.2, 20°91S×68°56W, h111km±14km, mb3.1/3, mb1 3.5/6, mb1mx3.3/19, mbtmp3.3/6, Error ellipse: s-maj=30.2km s-min=14.9km az=105.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.73**	**191**	P	Pn	12 41 10.4	0.0
	39nm,0.3s,baz=18,slow=10.0,SNR=248						
LVC				S	Sn	12 41 33.2	0.0
	172nm,0.3s,baz=122,slow=23,SNR=58						
LPAZ	**La Paz**	**4.62**	**5**	P	Pn	12 41 49.2	+0.3
	5.1nm,0.3s,baz=178,slow=6.4,SNR=35						
SIV	**San Ignacio**	**8.62**	**57**	P	Pn	12 42 42.1	-0.4
	1.3nm,0.3s,baz=259,slow=10,SNR=21						
PLCA	**Paso Flores**	**19.83**	**184**	P	P	12 45 02.5	0.0
	0.1nm,0.3s,baz=18,slow=3.2,SNR=1.8						
TXAR	**Lajitas Array**	**60.34**	**325**	P	P	12 50 37.5	-0.4
	0.1nm,0.4s,baz=149,slow=11,SNR=2.9						
TORD	**Torodi Ar. Bea**	**76.85**	**70**	P	P	12 52 20.5	-0.2
	0.6nm,0.6s,baz=256,slow=5.5,SNR=7.6						
YKA	**Yellowknife Ar**	**90.74**	**340**	P	P	12 53 30.2	-0.1
	0.1nm,0.5s,baz=136,slow=4.5,SNR=5.5						
MKAR	**Makanchi Array**	**144.97**	**36**	PKP	PKPdf	13 00 05.3	+0.8
	0.6nm,0.6s,baz=323,slow=4.1,SNR=7.0						
MKAR				pPKP	pPKPdf	13 00 34.5	-0.3
	0.4nm,0.7s,baz=336,slow=3.2,SNR=3.5						

*NEIC **20** 12:44:22.8±1.2, 19°08N×108°97W, h10km, mb4.0/40, Error ellipse: s-maj=17.0km s-min=10.7km az=186.0*
*ISCJB **20** 12:44:25.4±1.8, 19°3N±0°2×108°9W±0°1, h26km, mb3.9/27, MS3.5/8, Error ellipse: s-maj=24.0km s-min=15.1km az=176.3*
*IDC **20** 12:44:25.5±1.8, 19°56N×108°95W, h0km, mb3.7/5, mb1 4.1/8, mb1mx3.9/25, mbtmp3.7/8, ML3.4/3, MS3.5/11, Ms1 3.6/11, ms1mx3.3/27, Error ellipse: s-maj=65.4km s-min=27.4km az=96.0*

ISC 20 12:44:28.2±1.6, 19°4N±0°2×109°1W±0°1, h26km, n263, σ0°66/253, mb3.9/24, MS3.4/8, 91C-106D, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**11.02**	**25**	Pn	**Pn**	**12 47 05.0**	**+0.7**
	0.1nm,0.3s,baz=198,slow=15,SNR=12						
626A	**Big Bend Ranch**	**11.03**	**23**	⇓P	**Pn**	**12 47 05.6**	**+1.1**
	baz=11,SNR=7.5						
627A	**Terlingua Ranc**	**11.23**	**26**	⇑P	**Pn**	**12 47 08.1**	**+0.7**
	baz=12						
628A	**Black Gap, Mar**	**11.48**	**28**	⇑P	**Pn**	**12 47 10.8**	**+0.2**
	baz=12						
526A	**Mary Lane Ranc**	**11.51**	**22**	⇓P	**Pn**	**12 47 11.2**	**+0.1**
	baz=12						
527A	**Woodward Ranch**	**11.76**	**24**	⇑P	**Pn**	**12 47 14.7**	**+0.2**
	baz=12						
425A	**Indio Mountain**	**11.89**	**17**	⇑P	**Pn**	**12 47 17.1**	**+0.8**
	baz=12,SNR=13						
319A	**Douglas**	**11.90**	**359**	⇑P	**Pn**	**12 47 17.3**	**+0.9**
	baz=12,SNR=8.6						
426A	**McDonald Obser**	**12.08**	**21**	⇓P	**Pn**	**12 47 19.2**	**+0.2**
	baz=12,SNR=6.1						
528A	**Cox Ranch, San**	**12.11**	**27**	⇓P	**Pn**	**12 47 19.7**	**+0.5**
	baz=12						
529A	**Stev Forest Ra**	**12.32**	**29**	⇓P	**Pn**	**12 47 22.2**	**+0.1**
	baz=13						
324A	**Moseley Ranch,**	**12.39**	**14**	⇓P	**Pn**	**12 47 24.1**	**+0.9**
	baz=13						
732A	**Laxson Ranch,**	**12.43**	**40**	⇓P	**Pn**	**12 47 23.9**	**+0.4**
	baz=13						
220A	**Playas Peak, P**	**12.43**	**2**	⇓P	**Pn**	**12 47 24.2**	**+0.5**
	baz=13,SNR=23						
427A	**Hayter Ranch,**	**12.47**	**23**	⇑P	**Pn**	**12 47 25.2**	**+1.0**

	baz=15										
GLA	**Glamis** 16nm,1.0s	14.52	340	ePn	Pn	12 47 52.5	+0.5	S22A	**4UR Ranch, Cre** baz=19	18.36	6 ⇑P Pn 12 48 42.1 +0.8
GLA	**Glamis** baz=15	14.52	340	⇑P	Pn	12 47 51.8	-0.3	T27A	**Campo** baz=19	18.43	16 ⇑P Pn 12 48 42.4 +0.4
Z26A	**Caprock** baz=15	14.52	17	⇑P	Pn	12 47 52.6	+0.5	CCUT	**Cedar City** 21nm,1.3s	18.44	349 eP Pn 12 48 43.8 +1.5
332A	**Millersview** baz=15	14.57	33	⇓P	Pn	12 47 52.7	-0.1	S24A	**Houchin Ranch,** baz=19	18.45	10 ⇑P Pn 12 48 43.1 +0.6
Y22A	**Socorro** baz=15	14.57	7	⇓P	Pn	12 47 53.9	+0.9	SDCO	**Great Sand Dun** 15nm,1.4s	18.51	9 eP Pn 12 48 44.4 +1.2
Y21A	**Point of Rocks** baz=15,SNR=9.2	14.57	5	⇑P	Pn	12 47 54.3	+1.2	S25A	**Robets Cordova** baz=19,SNR=7.3	18.61	12 ⇑P Pn 12 48 44.5 +0.2
Y23A	**Lovelace Mesa,** baz=15,SNR=9.3	14.69	10	⇑P	Pn	12 47 55.5	+0.9	PV01	**Paradox Valley** 234nm,1.0s	18.64	1 eP Pn 12 48 46.4 +1.6
SWSC	**Sam W. Stewart** baz=15	14.75	337	⇓P	Pn	12 47 54.6	-0.5	ARUT	**Antelope Range** 27nm,1.4s	18.69	349 eP Pn 12 48 46.1 +0.9
Y24A	**Capitan** baz=15	14.80	12	⇓P	Pn	12 47 56.2	+0.2	R20A	**Redvale** baz=19	18.70	2 ⇓P Pn 12 48 45.8 +0.3
BNM	**Barren Site** 7.7nm,1.1s	14.82	8	ePn	Pn	12 47 57.5	+1.0	S26A	**Kim** baz=19	18.77	14 ⇑P P 12 48 45.9 +0.3
BAR	**Barrett** 20nm,1.5s	14.86	334	ePn	Pn	12 47 56.6	-0.1	R22A	**Saguache, Gunn** baz=19	18.84	6 ⇑P P 12 48 46.8 +0.2
Y14A	**Wickenburg** baz=15	14.87	347	⇑P	Pn	12 47 57.3	+0.4	PV04	**Paradox Valley**	18.90	0 eP Pn 12 48 48.0 +0.2
MONP	**Monument Peak** baz=15	14.94	335	⇑P	Pn	12 47 57.6	-0.4	R21A	**Cimarron** baz=19	18.92	4 ⇑P P 12 48 47.7 +0.3
Y25A	**Mesa, Roswell** baz=15	14.95	14	⇓P	Pn	12 47 58.0	-0.1	R24A	**Sanders Place,** baz=19	19.05	10 ⇓P Pn 12 48 49.8 +0.2
LAZ	**Ladron** 5.9nm,1.4s	15.01	6	ePn	Pn	12 48 00.2	+1.3	R25A	**Fountain Ranch** baz=20,SNR=5.6	19.11	12 ⇓P Pn 12 48 50.2 0.0
232A	**Coleman** baz=15	15.02	32	⇓P	Pn	12 47 58.0	-0.9	S28A	**Manter** baz=20	19.15	18 ⇑P P 12 48 50.3 +0.6
X18A	**Snowflake** baz=16,SNR=18	15.06	357	⇑P	Pn	12 48 00.4	+0.8	MVU	**Marysvale** 7.1nm,1.3s	19.20	352 eP Pn 12 48 52.0 +0.5
Y12C	**Blythe** baz=16	15.07	342	⇑P	Pn	12 47 59.6	+0.1	MSU	**Marysvale** 12nm,1.4s	19.21	353 eP Pn 12 48 51.5 0.0
X22A	**Bernardo** baz=16	15.13	6	⇑P	Pn	12 48 01.1	+0.7	Q21A	**Lamboyn Mesa,** baz=20,SNR=7.9	19.38	3 ⇓P P 12 48 52.9 +0.5
Y26A	**Elida** baz=16	15.17	17	⇓P	Pn	12 48 01.1	+0.1	T31A	**Randall Ranch,** baz=20	19.43	23 ⇓P P 12 48 53.5 +0.8
Z29A	**Hungry Hill Ra** baz=16	15.26	24	⇓P	Pn	12 48 02.1	-0.1	R26A	**Arlington** baz=20	19.43	13 ⇓P P 12 48 53.3 +0.5
BC3	**Big Chuckawall** baz=16,SNR=11	15.27	339	⇓P	Pn	12 48 02.3	0.0	Q22A	**Crested Butte,** baz=20	19.46	5 ⇓P P 12 48 53.6 +0.3
X23A	**Hourglass Bar** baz=16	15.31	9	⇓P	Pn	12 48 03.3	+0.5	Q20A	**Ridgley Place,** baz=20,SNR=5.1	19.47	2 ⇓P P 12 48 53.9 +0.6
Y27A	**Causey** baz=16	15.33	19	⇓P	Pn	12 48 03.4	+0.4	Q16A	**Castle Valley** baz=20	19.51	355 ⇑P P 12 48 53.9 +0.1
PDMCI	**Parker Dam,Lak** baz=16	15.49	344	⇑P	Pn	12 48 05.1	+0.2	R27A	**Eads** baz=20	19.56	15 ⇑P P 12 48 54.9 +0.6
PFO	**Pinyon Flat Ob** 5.8nm,1.0s	15.59	336	ePn	Pn	12 48 06.6	+0.2	TEIG	**Tepich** comp=Z,105nm,18.5s,baz=293,slow=43	19.57	84 LR LR 12 58 18.5
PFO	**Pinyon Flat Ob** 0.2nm,0.3s,baz=179,slow=5.7,SNR=4.2	15.59	336	Pn	Pn	12 48 06.6	+0.2	SRU	**San Rafael** 4.8nm,1.0s	19.66	357 eP P 12 48 56.0 +0.7
PFO	comp=Z,386nm,21.5s,baz=153,slow=34			LR	LR	12 53 10.4		R11A	**Troy Canyon, C** baz=20	19.69	345 ⇓P P 12 48 56.1 +0.4
PFO	**Pinyon Flat Ob** baz=16	15.59	336	⇓P	Pn	12 48 06.0	-0.4	Q24A	**Divide** baz=20	19.76	9 ⇓P P 12 48 57.2 +0.6
ANMO	**Albuquerque** 5.2nm,1.1s	15.63	8	ePn	Pn	12 48 07.8	+0.8	SMCO	**Snowmass** 15nm,1.2s	19.76	5 eP P 12 48 57.4 +0.6
ANMO	**Albuquerque** 0.1nm,0.3s,baz=195,slow=20,SNR=3.8	15.63	8	Pn	Pn	12 48 05.0	-1.9	Q25A	**Bedland, Calha** baz=20	19.86	11 ⇓P P 12 48 58.2 +0.6
ANMO	comp=Z,205nm,21.8s,baz=194,slow=36			LR	LR	12 53 47.4		P20A	**De Beque** baz=20	20.01	2 ⇑P P 12 48 59.7 +0.5
W18A	**Petrified Fore** baz=16	15.64	358	⇑P	Pn	12 48 07.2	0.0	Q26A	**Hugo** baz=20	20.01	13 ⇓P P 12 48 59.7 +0.5
IRM	**Iron Mountain** baz=16	15.64	341	⇑P	Pn	12 48 06.2	-0.8	P23A	**Jefferson** baz=20	20.07	7 ⇑P P 12 49 00.3 +0.2
W20A	**Ramah** baz=16,SNR=8.8	15.64	2	⇓P	Pn	12 48 07.7	+0.4	P21A	**Newcastle** baz=20	20.08	4 ⇓P P 12 49 00.0 +0.1
W21A	**San Fidel** baz=16,SNR=13	15.68	4	⇑P	Pn	12 48 08.6	+1.0	P19A	**Cripple Cowboy** baz=21	20.14	0 ⇓P P 12 49 00.8 +0.2
BELC	**Belle Mtn. Jos** baz=16,SNR=18	15.77	338	⇓P	Pn	12 48 09.2	+0.4	P22A	**Eagle** baz=21	20.20	5 ⇓P P 12 49 01.4 +0.1
MURC	**Murrieta** baz=16	15.87	334	⇓P	Pn	12 48 10.6	+0.6	P25A	**Willow Gulch B** baz=21	20.46	11 ⇑P P 12 49 04.3 +0.2
W23A	**Werner Place,** baz=16,SNR=7.3	15.88	9	⇑P	Pn	12 48 10.6	+0.3	ISCO	**Idaho Springs** 6.4nm,1.1s	20.52	8 eP P 12 49 05.4 +0.5
Z31A	**Sharp Cattle R** baz=16	15.96	28	⇑P	Pn	12 48 11.1	-0.1	ISCO	**Idaho Springs** baz=21	20.52	8 ⇓P P 12 49 05.2 +0.4
W24A	**Lazy 6 Ranch,** baz=16	16.05	11	⇓P	Pn	12 48 12.4	0.0	NV11	**Mina Array Sit**	20.52	339 eP Pn 12 49 05.9 -1.1
WUAZ	**Wupatki** 14nm,1.2s	16.16	353	ePn	Pn	12 48 14.6	+0.9	NVAR	**Mina Array Bea** 6.2nm,0.9s,baz=160,slow=12,SNR=22	20.57	339 P P 12 49 06.3 +1.0
WUAZ	**Wupatki** baz=17,SNR=7.7	16.16	353	⇓P	Pn	12 48 14.3	+0.6	Q29A	**Oakley** baz=21	20.62	18 ⇓P P 12 49 06.1 +0.4
W13A	**Hualapai Mount** baz=17	16.18	346	⇓P	Pn	12 48 14.5	+0.3	O20A	**White River Ci** baz=21,SNR=6.8	20.65	2 ⇓P P 12 49 06.2 +0.1
W25A	**X Bar L Ranch,** baz=17,SNR=5.2	16.25	14	⇓P	Pn	12 48 15.9	+1.0	O22A	**Kremmling** baz=21,SNR=5.6	20.78	5 ⇓P P 12 49 07.9 +0.2
Z32A	**Haskell** baz=17	16.26	30	⇑P	Pn	12 48 14.6	-0.3	O19A	**Miners Draw (B** baz=21	20.80	360 ⇓P P 12 49 08.2 +0.5
V20A	**Brimhall** baz=17,SNR=7.7	16.32	2	⇑P	Pn	12 48 16.8	+0.9	O23A	**Lake Granby, G** baz=21,SNR=5.6	20.89	7 ⇓P P 12 49 09.0 +0.1
V21A	**Milan** baz=17	16.36	4	⇓P	Pn	12 48 16.7	+0.3	DUG	**Dugway** 22nm,1.3s	20.95	352 eP P 12 49 09.9 +0.6
GMRC	**Granite Mounta** baz=17,SNR=11	16.37	340	⇑P	Pn	12 48 16.7	+0.2	DUG	**Dugway** baz=21,SNR=13	20.95	352 ⇑P P 12 49 09.6 +0.3
V23A	**Ortiz Mt. (NFS** baz=17	16.45	8	⇑P	Pn	12 48 18.4	+0.8	CMB	**Columbia Colle** 5.2nm,0.9s	21.00	334 eP P 12 49 10.3 +0.5
W27A	**Bowe Ranch, En** baz=17	16.45	18	⇑P	Pn	12 48 17.8	+0.3	DAU	**Daniels Canyon** 15nm,1.4s	21.00	355 eP P 12 49 10.6 +0.6
LDFC	**Landfair** 54nm,1.4s	16.48	342	ePn	P	12 48 19.9	-0.5	WAKR	**Walker** 9.0nm,1.2s	21.04	337 eP P 12 49 11.2 +0.8
V22A	**San Miguel Ran** baz=17	16.53	6	⇓P	Pn	12 48 18.4	-0.2	P28A	**Saint Francis** baz=21	21.04	16 ⇓P P 12 49 10.9 +0.6
V24A	**Rampart Ranch,** baz=17	16.58	11	⇓P	Pn	12 48 18.8	-0.4	JLU	**Jordanelle** 9.2nm,1.2s	21.20	355 eP P 12 49 12.9 +0.8
BFSC	**Mount Baldy Ra** baz=17	16.61	334	⇑P	Pn	12 48 19.2	-0.4	N21A	**Black Mountain** baz=22	21.30	3 ⇑P P 12 49 13.8 +0.5
HEC	**Hector,Ludlow** baz=17	16.64	339	⇓P	Pn	12 48 19.2	-0.7	N20A	**Spence Gulch,** baz=22,SNR=16	21.35	2 ⇓P P 12 49 14.1 +0.4
AMTX	**Amarillo**	16.73	22	ePn	Pn	12 48 19.3	-1.6	N22A	**Wattenberg Ran** baz=22	21.42	5 ⇑P P 12 49 15.6 +1.0
V25A	**Rancho No Teng** baz=17	16.81	13	⇓P	Pn	12 48 21.1	-1.0	N23A	**Red Feather La** baz=22,SNR=6.2	21.56	6 ⇓P P 12 49 16.2 +0.2
V26A	**Tequesquite Ra** baz=17	16.96	15	⇓P	Pn	12 48 24.1	+0.3	BGU	**Big Grassy Mou** 10nm,1.5s	21.70	352 eP P 12 49 17.7 +0.4
U21A	**Nageezi** baz=17,SNR=12	16.98	4	⇑P	P	12 48 25.5	-0.5	ELK	**Elko** 3.3nm,0.9s,baz=165,slow=8.1,SNR=11	21.90	347 P P 12 49 20.3 +0.7
U22A	**Llaves** baz=17	17.00	6	⇑P	Pn	12 48 25.0	+0.5	ELK	comp=Z,78nm,18.8s,baz=94,slow=36		LR LR 12 57 24.0
U23A	**El Rito** baz=17	17.03	8	⇓P	Pn	12 48 25.2	+0.4	SPUT	**South Promonto** 9.6nm,1.1s	22.00	353 eP P 12 49 20.9 +0.3
TUQ	**Turquoise Moun** baz=18,SNR=7.5	17.06	341	⇓P	Pn	12 48 25.6	+0.5	PHWY	**Pilot Hill** 6.4nm,1.2s	22.02	7 eP P 12 49 21.1 +0.2
BLG	**Laguna Peak** baz=18	17.12	331	⇑P	Pn	12 48 25.7	0.0	M21A	**Separation Pea** baz=23	22.16	3 ⇓P P 12 49 21.7 -0.7
V27A	**Dan Oppiter Fa** baz=18	17.17	17	⇑P	Pn	12 48 27.2	+0.8	HWUT	**Hardware Ranch** 12nm,1.3s	22.21	355 eP P 12 49 24.4 +1.5
U15A	**North Rim** baz=18,SNR=13	17.17	351	⇑P	Pn	12 48 27.5	+0.8	M24A	**Cheyenne** baz=23	22.26	8 ⇓P P 12 49 23.3 -0.2
GSC	**Goldstone** 7.1nm,1.0s	17.23	338	ePn	P	12 48 28.4	-0.2	L18A	**Fontenelle, Gr** baz=23,SNR=7.2	22.44	358 ⇓P P 12 49 24.9 -0.6
GSC	**Goldstone** baz=18	17.23	338	⇑P	Pn	12 48 27.4	+0.1	L21A	**Rawlins** baz=23	22.51	3 ⇓P P 12 49 25.4 -0.8
EDW2	**Edwards Air Fo** baz=18	17.31	335	⇓P	Pn	12 48 28.0	-0.2	L20A	**Wamsutter** baz=23	22.52	1 ⇑P P 12 49 26.2 0.0
U25A	**Circle Dot Ran** baz=18	17.40	13	⇑P	Pn	12 48 30.0	+0.6	BEKR	**Beckworth** 2.8nm,1.0s	22.57	337 eP P 12 49 27.6 +0.8
T21A	**Navajo Lake** baz=18	17.55	4	⇑P	P	12 48 32.4	+0.2	L19A	**Farson** baz=23	22.60	359 ⇓P P 12 49 27.0 -0.2
SHOC	**Shoshone** baz=18	17.60	340	⇑P	Pn	12 48 32.0	+0.3	L22A	**Ellis Ranch, M** baz=23	22.64	5 ⇑P P 12 49 27.7 +0.1
T22A	**Edith** baz=18,SNR=9.3	17.62	6	⇓P	P	12 48 33.0	-0.1	K20A	**Yellowstone Ra** baz=24	23.17	1 ⇑P P 12 49 33.0 0.0
W31A	**Holland Ranch,** baz=18	17.65	25	⇓P	P	12 48 33.3	+0.1	K21A	**Alcova** baz=24	23.18	3 ⇓P P 12 49 33.2 0.0
LRMC	**Laurel Mountai** baz=18	17.71	336	⇓P	Pn	12 48 33.2	0.0	K22A	**Casper** baz=24,SNR=6.3	23.25	5 ⇓P P 12 49 33.3 -0.5
MVCO	**Mesa Verde** 12nm,1.0s	17.72	1	ePn	Pn	12 48 33.9	+0.4	BW06	**Boulder Array** 2.3nm,1.0s	23.27	359 eP P 12 49 33.5 -0.5
MVCO	**Mesa Verde** baz=18,SNR=7.8	17.72	1	⇑P	Pn	12 48 34.1	+0.6	PDAR	**Pinedale Array** 1.2nm,0.8s,baz=166,slow=9.2,SNR=11	23.27	359 P P 12 49 33.5 -0.6
T25A	**Trinidad** baz=18	18.11	12	⇓P	P	12 48 38.8	+0.3	J19A	**Crowheart** baz=24	23.77	0 ⇑P P 12 49 38.1 -0.7
PKM	**Peak Mountain** baz=18	18.12	330	⇓P	Pn	12 48 38.0	-0.3	J20A	**Shoshoni** baz=24	23.87	2 ⇓P P 12 49 39.0 -0.7
MPMC	**Manual Prospec** baz=19,SNR=8.1	18.16	338	⇑P	Pn	12 48 38.3	-0.4	J21A	**Lysite** baz=24	23.89	3 ⇑P P 12 49 39.1 -0.9
ISA	**Isabella** baz=19	18.18	335	⇑P	Pn	12 48 38.7	-0.2	REDW	**Red Top Meadow** 4.2nm,1.0s	23.91	357 eP P 12 49 40.0 -0.2
S21A	**Coal Bank Pass** baz=19,SNR=22	18.20	3	⇓P	Pn	12 48 40.3	+0.8	RRI2	**Red Ridge** 3.8nm,0.7s	23.92	356 eP P 12 49 40.1 -0.3
FURC	**Furnace Creek,** baz=19	18.31	340	⇓P	Pn	12 48 40.5	+0.1	TPAW	**Teton Pass** 5.8nm,1.1s	24.04	357 eP P 12 49 41.4 -0.2
S20A	**Disappointment** baz=19	18.35	2	⇑P	P	12 48 41.2	+0.2	LOHW	**Long Hollow** 11nm,1.5s	24.15	357 eP P 12 49 41.9 -0.6
								MOOW	**Moose Ponds** 3.6nm,0.9s	24.29	357 eP P 12 49 43.1 -0.7

WVOR	**Wild Horse Val** 5.2nm,1.0s	24.33	343	eP	P	12 49 44.3	+0.3				
I21A	**Big Trails, Te** baz=25	24.36	3	⇓P	P	12 49 44.4	+0.1				
IMW	**Indian Meadow** 7.1nm,1.3s	24.45	357	eP	P	12 49 44.9	-0.4				
I16A	**Newdale** baz=25,SNR=5.5	24.46	356	⇑P	P	12 49 44.6	-0.7				
I20A	**Worland** baz=25	24.46	2	⇑P	P	12 49 45.9	+0.7				
HLID	**Hailey** 3.5nm,1.0s	24.48	351	eP	P	12 49 45.9	+0.5				
HLID	**Hailey** baz=25,SNR=5.7	24.48	351	⇑P	P	12 49 45.4	0.0				
I22A	**9 Mile Ranch,** baz=25	24.49	4	⇑P	P	12 49 46.2	+0.7				
I19A	**Meeteetse** baz=25	24.54	0	⇓P	P	12 49 46.1	+0.1				
MFID	**Camas Ranch** baz=25	24.58	348	⇓P	P	12 49 46.0	-0.3				
I14A	**Mackay** baz=25	24.70	352	⇑P	P	12 49 47.1	-0.4				
I12A	**Atlanta** baz=25,SNR=7.3	24.82	349	⇓P	P	12 49 48.7	+0.2				
I25A	**Rochford** baz=25	24.92	9	⇓P	P	12 49 49.3	-0.2				
YBH	**Yreka Blue Hor** comp=Z,93nm,18.7s,baz=160,slow=36	25.08	335	LR	LR	12 59 30.4					
H19A	**Powell** baz=26	25.17	0	⇑P	P	12 49 51.1	-0.5				
H18A	**Shoshone NF, C** baz=26	25.18	359	⇑P	P	12 49 51.2	-0.6				
H16A	**Russell Place,** baz=26	25.27	356	⇑P	P	12 49 52.7	+0.1				
H12A	**Diamond D Ranc** baz=26	25.51	350	⇓P	P	12 49 55.0	+0.2				
MCMT	**McKenzie Canyo** 2.3nm,1.3s	25.52	354	eP	P	12 49 55.1	+0.1				
H24A	**Dirks Ranch, A** baz=26	25.52	7	⇑P	P	12 49 54.7	-0.1				
G20A	**Bridger** baz=26,SNR=7.7	25.73	1	⇓P	P	12 49 56.6	-0.1				
G21A	**Lodge Grass** baz=26	25.77	3	⇓P	P	12 49 56.9	-0.1				
G18A	**Lazy EL Ranch,** baz=26,SNR=5.4	25.82	359	⇓P	P	12 49 57.5	-0.1				
G22A	**Birney** baz=26	25.82	4	⇑P	P	12 49 57.7	+0.2				
G12A	**Big Creek, Yel** baz=27	26.15	350	⇑P	P	12 49 59.2	-1.4				
GCMT	**Greycliff** 1.5nm,0.6s	26.30	359	eP	P	12 50 01.5	-0.3				
F18A	**Big Timber** baz=27	26.41	359	⇓P	P	12 50 02.4	-0.4				
F17A	**Fitzpatrick Pl** baz=27	26.44	357	⇑P	P	12 50 02.7	-0.5				
E19A	**Rath Farm, Rou** baz=27	26.96	0	⇓P	P	12 50 07.3	-0.5				
E17A	**Martinsdale** baz=27	27.00	357	⇑P	P	12 50 07.8	-0.4				
E20A	**Meyer Farm, Mu** baz=27	27.02	1	⇑P	P	12 50 08.1	-0.1				
E18A	**Harlowton** baz=28	27.08	359	⇑P	P	12 50 08.8	-0.1				
E21A	**Keefer Ranch,** baz=28	27.09	3	⇓P	P	12 50 08.7	-0.2				
E12A	**Beaver Dam Sad** baz=28	27.44	350	⇓P	P	12 50 11.9	-0.3				
TKL	**Tuckaleechee C** comp=Z,61nm,21.6s,baz=69,slow=39	27.52	49	LR	LR	13 02 10.6					
CHMT	**Chamberlain Mo** 4.6nm,1.5s	27.63	354	eP	P	12 50 13.6	-0.3				
D22A	**Cohagen** baz=28	27.75	4	⇑P	P	12 50 14.7	-0.1				
C20A	**Veseth Ranch,** baz=29	28.23	2	⇑P	P	12 50 19.2	+0.2				
C16A	**Fuhringer Ranc** baz=29	28.39	356	⇑P	P	12 50 20.3	-0.2				
B19A	**Brinkman Farms** baz=29	28.96	0	⇓P	P	12 50 25.2	-0.3				
A18A	**Metzger Ranch,** baz=30	29.43	359	⇑P	P	12 50 28.7	-1.0				
A14A	**Double T Ranch** baz=30	29.68	354	⇓P	P	12 50 31.0	-1.0				
BBB	**Bella Bella** comp=Z,81nm,18.8s,baz=75,slow=35	35.93	340	LR	LR	13 05 22.0					
QUA2	**Belchertown** 15nm,0.5s	38.45	46	eP	P	12 51 47.0	-1.0				
YKA	**Yellowknife Ar** 0.8nm,0.8s,baz=173,slow=7.7,SNR=11	43.20	356	P	P	12 52 25.7	-1.1				
ILAR	**Eelson Array** 1.0nm,0.8s,baz=158,slow=6.9,SNR=9.1	51.81	340	P	P	12 53 34.1	+0.4				
ILAR	comp=Z,23nm,19.1s,baz=215,slow=38			LR	LR	13 17 23.8					
LPAZ	**La Paz** comp=Z,87nm,21.8s,baz=319,slow=32	53.66	129	LR	LR	13 13 20.1					
PPT	**Papeete** comp=Z,162nm,18.6s,baz=38,slow=28	54.18	230	LR	LR	13 10 06.1					
PPT2	**Papeete2** 97nm,25.2s	54.20	230	eLR	LR	13 09 24.9					
TBI	**Tubuai** 55nm,26.0s	57.98	225	eLR	LR	13 11 13.5					
NOA	**NORSAR Array B** comp=Z,17nm,18.9s,baz=295,slow=35	86.72	25	LR	LR	13 34 16.3					
WRA	**Warramunga Arr** 0.3nm,0.8s,baz=73,slow=2.9,SNR=3.0	120.64	258	PKP	PKPdf	13 03 20.5	+1.9				
ASAR	**Alice Springs** 0.4nm,0.9s,baz=86,slow=2.6,SNR=2.8	121.69	254	PKP	PKPdf	13 03 22.3	+1.7				

IDC 20 13:01:12.2±59.0, 17°.15S×178°.81E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, Error ellipse: s-maj=1063.0km s-min=145.8km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 2.9nm,1.2s,baz=86,slow=16,SNR=3.3	36.70	239	P	P	13 08 21.8	+0.6
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=96,slow=7.8,SNR=6.0	42.16	259	P	P	13 09 06.6	-0.3
ASAR	**Alice Springs** 1.0nm,0.5s,baz=88,slow=7.9,SNR=41	42.45	254	P	P	13 09 08.7	-0.6

*IDC **20** 13:01:19.5±1.2, 39°.93N×72°.06E, h0km, mb3.8/5, mb1 3.8/7, mb1mx3.5/28, mbtmp3.6/7, ML3.0/2, Error ellipse: s-maj=33.4km s-min=18.3km az=154.0*
*ISCJB **20** 13:01:20.3±1.0, 39°.9N±0°.1×72°.2E±0°.1, h19km, mb3.7/5, Error ellipse: s-maj=19.0km s-min=9.8km az=149.7*
*NNC **20** 13:01:21.0±5.4, 39°.86N×72°.17E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=64.3km s-min=27.3km az=38.0*

ISC 20 13:01:22.6±1.1, 40°.1N±0°.1×72°.1E±0°.1, h19km, n18, σ1s55/18, mb3.8/5, 3C, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=265	2.42	30	P	Pn	13 02 00.7	-0.8
EKS2	**Erkin-Say** SNR=22	2.91	26	P	Pn	13 02 10.2	+2.2
KZA	**Kyzart** SNR=18	3.15	49	P	Pn	13 02 10.0	-1.6
AAK	**Ala-Archa** SNR=26	3.17	35	P	Pn	13 02 11.5	-0.1
KK31	**Karatay Array** 2.1nm,0.3s,baz=141,slow=13,SNR=196	3.26	340	Pn	Pb	13 02 17.6	-2.1
KK31	7.2nm,0.3s,baz=150,slow=16,SNR=23			Pg	Pg	13 02 25.6	+0.6
KK31	21nm,0.3s			⇑Lg	Lg	13 03 09.5	
KBK	**Karagaybulak** SNR=10	3.39	39	P	Pn	13 02 15.5	+0.9
CHMS	**Chumysh** SNR=12	3.57	34	P	Pn	13 02 17.0	0.0
USP	**Ospennovka** SNR=11	3.70	29	P	Pn	13 02 21.2	+2.4
TKM2	**Tokmak 2** 2.5nm,0.3s	3.91	42	⇑Pn	Pn	13 02 23.8	+2.0
TKM2	**Tokmak 2** SNR=6.5	3.91	42	P	Pn	13 02 24.5	+2.7
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=233,slow=15,SNR=2.0	10.04	44	Pn	Pn	13 03 47.3	+1.7
MKAR	0.1nm,0.3s,baz=230,slow=24,SNR=2.5			Sn	Sn	13 05 57.8	+20
AB31	**Akbulak array** 0.5nm,0.4s,baz=193,slow=15,SNR=15	12.59	321	⇑P	Pn	13 04 24.6	+4.0
ZALV	**Zalesovo Beam**	16.36	28	Pn	Pn	13 05 11.1	+0.1

0.2nm,0.3s,baz=219,slow=11,SNR=2.7
BRTR Keskin Array B 29.32 282 P P 13 07 23.8 -0.3
0.6nm,0.3s,baz=88,slow=7.8,SNR=2.4
FINES FINESS Array B 35.07 323 P P 13 08 14.8 +0.9
2.6nm,0.9s,baz=102,slow=8.0,SNR=3.9
TORD Torodi Ar. Bea 66.66 268 P P 13 12 13.2 +1.0
0.6nm,0.5s,baz=54,slow=5.2,SNR=7.2
YKA Yellowknife Ar 77.66 3 P P 13 13 16.7 -0.6
0.2nm,0.4s,baz=351,slow=5.7,SNR=4.7
WRA Warramunga Arr 83.20 123 P P 13 13 47.1 -0.6
0.3nm,0.9s,baz=330,slow=5.0,SNR=3.1

WEL 20 13:16:04.3±0.2, 45.42S×166.59E, h22km±1km, ML3.8/18, 2C-1D, Error ellipse: s-maj=2.2km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.40**	**98**	⇓**P***		Pb	13 16 12.6	-0.2
DCZ				S*		Sb	13 16 18.6	+0.1
DCZ				AML		AML	13 16 18.7	
DCZ				AML		AML	13 16 18.7	
DCZ				AML		AML	13 16 20.3	
PYZ	**Puysegur Point**	**0.75**	**175**	⇑**P***		Pb	13 16 18.0	-0.7
PYZ				S*		Sb	13 16 27.7	-0.8
WHZ	**Wether Hill Ro**	**1.07**	**117**	PN		Pn	13 16 23.6	-0.3
WHZ				SN		Sn	13 16 38.0	0.0
WHZ				AML		AML	13 16 41.9	
MLZ	**Mavora Lakes**	**1.12**	**87**	⇑**P***		Pn	13 16 23.9	-0.8
MLZ				AML		AML	13 16 48.4	
MLZ				AML		AML	13 16 49.4	
MSZ	**Milford Sound**	**1.21**	**52**	PN		Pn	13 16 25.0	-0.9
MSZ				AML		AML	13 16 45.1	
MSZ				AML		AML	13 16 45.1	
MSZ				AML		AML	13 16 48.6	
MSZ				AML		AML	13 16 48.6	
APZ	**The Paps**	**1.72**	**146**	PN		Pb	13 16 34.3	-0.9
WKZ	**Wanaka**	**1.82**	**72**	PN		Pb	13 16 35.8	-1.2
WKZ				AML		AML	13 17 05.6	
WKZ				AML		AML	13 17 09.3	
WKZ				AML		AML	13 17 09.4	
EAZ	**Earnscleugh**	**1.93**	**85**	PN		Pb	13 16 37.4	-1.3
EAZ				AML		AML	13 17 06.8	
EAZ				AML		AML	13 17 10.1	
JCZ	**Jackson Bay**	**2.05**	**50**	PN		Pb	13 16 39.5	-1.5
JCZ				AML		AML	13 17 11.7	
JCZ				AML		AML	13 17 14.3	
SYZ	**Scrubby Hill**	**2.10**	**123**	PN		Pb	13 16 40.7	-1.0
TUZ	**Tuapeka**	**2.20**	**105**	PN		Pb	13 16 41.8	-1.5
TUZ				AML		AML	13 17 15.6	
TUZ				AML		AML	13 17 27.1	
LBZ	**Lake Benmore**	**2.76**	**69**	PN		Pn	13 16 48.1	+0.9
LBZ				AML		AML	13 17 41.3	
LBZ				AML		AML	13 17 43.0	
ODZ	**Otahua Downs**	**2.89**	**84**	PN		Pn	13 16 49.6	+0.6
ODZ				AML		AML	13 17 28.4	
ODZ				AML		AML	13 17 36.9	
FOZ	**Fox Glacier**	**2.90**	**51**	PN		Pn	13 16 50.8	+1.8
FOZ				AML		AML	13 17 42.2	
FOZ				AML		AML	13 17 42.2	
RPZ	**Rata Peaks**	**3.62**	**63**	PN		Pn	13 16 59.4	+0.4
RPZ				AML		AML	13 17 52.6	
RPZ				AML		AML	13 18 06.3	
WVZ	**Waitaha Valley**	**3.79**	**53**	PN		Pn	13 17 02.5	+1.2
LTZ	**Lake Taylor**	**4.87**	**59**	PN		Pn	13 17 17.4	+1.2
DSZ	**Dennistoun Nort**	**5.28**	**48**	PN		Pn	13 17 22.3	+0.5
THZ	**Tophouse**	**5.87**	**54**	PN		Pn	13 17 31.4	+1.4
QRZ	**Quartz Range**	**6.32**	**46**	PN		Pn	13 17 36.1	0.0
NNZ	**Nelson**	**6.50**	**52**	PN		Pn	13 17 43.2	+4.7

IDC 20 13:38:54.8±1.3, 3.69S×144.81E, h0km, mb3.2/3, mb1 3.5/5, mb1mx3.3/18, mbtmp3.3/5, ML2.9/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/13, Error ellipse: s-maj=49.5km s-min=24.8km az=97.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.14**	**158**	Pn		Pn	13 40 29.0	+2.1
	0.5nm,0.3s,baz=280,slow=18,SNR=2.1							
PMG					Sn	Sn	13 41 45.8	+7.9
	0.5nm,0.3s,baz=296,slow=18,SNR=2.3							
WRA	**Warramunga Arr**	**19.11**	**211**	P		P	13 43 18.8	-0.7
	0.1nm,0.3s,baz=35,slow=10,SNR=2.7							
ASAR	**Alice Springs**	**22.49**	**207**	P		P	13 43 54.9	-1.1
	0.2nm,0.5s,baz=32,slow=7.1,SNR=6.0							
DZM	**Mont Dzumac**	**27.83**	**133**	LR		LR	13 53 56.8	
	comp=Z,100nm,20.4s,baz=180,slow=32							
MKAR	**Makanchi Array**	**74.34**	**321**	P		P	13 50 35.2	+0.9
	0.1nm,0.4s,baz=119,slow=6.8,SNR=2.4							
ILAR	**Eielson Array**	**84.24**	**24**	P		P	13 51 27.3	-0.7
	0.2nm,0.8s,baz=240,slow=5.1,SNR=3.2							

IDC 20 14:12:42.6±0.8, 12.37N×144.27E, h0km, mb4.1/17, mb1 4.2/17, mb1mx4.1/28, mbtmp4.0/17, Error ellipse: s-maj=25.7km s-min=17.5km az=95.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**24.68**	**348**	P		P	14 18 05.2	-0.2
	1.5nm,0.9s,baz=167,slow=9.5,SNR=3.8							
KSRS	**Korea Array**	**28.95**	**332**	P		P	14 18 43.1	-0.6
	1.0nm,0.7s,baz=140,slow=9.6,SNR=4.5							
WRA	**Warramunga Arr**	**33.56**	**197**	P		P	14 19 24.0	-0.5
	1.5nm,0.6s,baz=21,slow=9.8,SNR=18							
ASAR	**Alice Springs**	**37.22**	**196**	P		P	14 19 55.6	-0.4
	1.0nm,0.6s,baz=19,slow=11,SNR=21							
CMAR	**Chiang Mai Arr**	**44.03**	**284**	P		P	14 20 53.8	+1.3
	0.4nm,0.4s,baz=105,slow=6.9,SNR=4.1							
SONM	**Songino Array**	**47.40**	**326**	P		P	14 21 18.9	0.0
	0.2nm,0.4s,baz=138,slow=6.2,SNR=4.7							
MKAR	**Makanchi Array**	**61.97**	**317**	P		P	14 23 05.3	+0.8
	1.5nm,0.6s,baz=89,slow=8.7,SNR=8.8							
ZALV	**Zalesovo Beam**	**62.28**	**325**	P		P	14 23 05.6	-0.8
	0.5nm,0.4s,baz=116,slow=6.6,SNR=2.9							
KURBB	**Kurchatov Arra**	**65.18**	**320**	P		P	14 23 25.3	-0.3
	1.2nm,0.3s,baz=100,slow=6.8,SNR=6.8							
KDAK	**Kodiak Island**	**65.41**	**32**	P		P	14 23 26.5	-0.4
	3.6nm,0.8s,baz=309,slow=6.5,SNR=2.2							
ILAR	**Eielson Array**	**69.92**	**25**	P		P	14 23 54.8	-0.6
	0.8nm,0.4s,baz=251,slow=5.7,SNR=15							
BVAR	**Borovoye Array**	**70.52**	**322**	P		P	14 23 59.3	0.0
	2.2nm,0.5s,baz=102,slow=8.0,SNR=14							
AKTO	**Aktyubinsk**	**78.20**	**319**	P		P	14 24 43.5	-0.6
	1.0nm,0.5s,baz=90,slow=9.4,SNR=4.2							
YKA	**Yellowknife Ar**	**84.21**	**27**	P		P	14 25 16.4	+0.7
	0.4nm,0.4s,baz=286,slow=5.4,SNR=9.7							
NVAR	**Mina Array Bea**	**88.14**	**51**	P		P	14 25 37.5	+1.5
	0.7nm,0.6s,baz=262,slow=6.2,SNR=6.2							
FINES	**FINESS Array B**	**92.02**	**335**	P		P	14 25 51.8	-1.4
	1.1nm,0.4s,baz=67,slow=4.7,SNR=12							
BRTR	**Keskin Array B**	**97.47**	**313**	P		Pdif	14 26 19.3	+0.3
	0.7nm,0.6s,baz=66,slow=4.0,SNR=3.2							
TORD	**Torodi Ar. Bea**	**135.06**	**303**	PKP		PKPdf	14 32 05.9	+0.9
	0.4nm,0.7s,baz=45,slow=1.6,SNR=2.4							

*ISK **20** 14:14:34.3, 39.04N×27.85E, h10km, MD2.7*
*ISCJB **20** 14:14:35.6±0.6, 39.07N±0.03×27.91E±0.05, h14km±5km, Error ellipse: s-maj=7.1km s-min=4.9km az=161.0*
*CSEM **20** 14:14:35.4±0.2, 39.06N×27.88E, h12km, MD2.3, Error ellipse: s-maj=5.2km s-min=3.3km az=55.0*
*DDA **20** 14:14:36.4, 39.05N×27.98E, h7km, MD2.3*
ISC 20 14:14:35.9±0.9, 39.06N±0.03×27.90E±0.04, h17km±9km, n32, σ0.74/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.20**	**200**	*i* **P**		**Pb**	**14 14 40.9**	**-0.1**
AKHS				*i* S		**Sg**	**14 14 44.8**	**+0.9**
AKHS	**Akhisar**	**0.20**	**200**	*i* P		**Pb**	**14 14 40.9**	**-0.1**
AKHS				*i* S		**Sg**	**14 14 44.8**	**+0.9**
BALB	**Balikesir**	**0.58**	**359**	*e*PG		**Pg**	**14 14 47.2**	**-0.2**
BALB				*e*SG		**Sg**	**14 14 55.2**	**+0.1**
BALB	**Balikesir**	**0.58**	**359**	*e*Pg		**Pg**	**14 14 47.2**	**-0.2**
BALB				*e*Sg		**Sg**	**14 14 55.2**	**+0.1**
DEMI	**Demirci**	**0.64**	**92**	*i* P		**Pg**	**14 14 47.9**	**-0.6**
DEMI				*i* S		**Sg**	**14 14 55.9**	**-1.1**
DEMI	**Demirci**	**0.64**	**92**	*i* P		**Pg**	**14 14 47.9**	**-0.6**
DEMI				*i* S		**Sg**	**14 14 55.9**	**-1.1**
DST	**Dursunbey**	**0.78**	**46**	*e*PG		**Pg**	**14 14 50.1**	**-1.0**
DST				*e*SG		**Sb**	**14 15 02.4**	**+1.1**
DST	**Dursunbey**	**0.78**	**46**	*e*Pg		**Pg**	**14 14 50.1**	**-1.0**
DST				*e*Sg		**Sb**	**14 15 02.4**	**+1.1**
KULA	**Kula-Manisa**	**0.81**	**132**	*e*PG		**Pg**	**14 14 50.7**	**-1.0**
KULA				*e*SG		**Sg**	**14 15 02.1**	**-0.3**
KULA	**Kula-Manisa**	**0.81**	**132**	*e*Pg		**Pg**	**14 14 50.7**	**-1.0**
KULA				*e*Sg		**Sg**	**14 15 02.1**	**-0.3**
GONE	**Gonen-Balikesi**	**1.00**	**351**	*e*PG		**Pb**	**14 14 54.5**	**-0.2**
GONE	**Gonen-Balikesi**	**1.00**	**351**	*e*Pg		**Pb**	**14 14 54.5**	**-0.2**
ORLT	**Orhaneli**	**1.25**	**38**	*e*PN		**Pn**	**14 14 59.0**	**+0.4**
ORLT	**Orhaneli**	**1.25**	**38**	*e*Pn		**Pn**	**14 14 59.0**	**+0.4**
KCTX	**Karacabey (Bur**	**1.25**	**16**	*e*PN		**Pn**	**14 14 58.7**	**+0.1**
KCTX	**Karacabey (Bur**	**1.25**	**16**	*e*Pn		**Pn**	**14 14 58.7**	**+0.1**
TVSB	**Tavsanli**	**1.27**	**72**	*e*PN		**Pn**	**14 14 59.4**	**+0.4**
TVSB	**Tavsanli**	**1.27**	**72**	*e*Pn		**Pn**	**14 14 59.4**	**+0.4**
KRBG	**Karabiga-Canak**	**1.41**	**341**	*e*PN		**Pn**	**14 15 00.0**	**-0.7**
KRBG	**Karabiga-Canak**	**1.41**	**341**	*e*Pn		**Pn**	**14 15 00.0**	**-0.7**
KHL	**Karahalli**	**1.47**	**120**	*e*PN		**Pn**	**14 15 02.4**	**+0.7**
KHL	**Karahalli**	**1.47**	**120**	*e*Pn		**Pn**	**14 15 02.4**	**+0.7**
ALT	**Altintas**	**1.72**	**90**	*e*PN		**Pn**	**14 15 05.6**	**+0.5**
ALT	**Altintas**	**1.72**	**90**	*e*Pn		**Pn**	**14 15 05.6**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.73**	**321**	*e*PN		**Pn**	**14 15 04.8**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.73**	**321**	*e*Pn		**Pn**	**14 15 04.8**	**-0.3**
MFT	**Murefte**	**1.79**	**345**	*e*PN		**Pn**	**14 15 05.9**	**-0.1**
MFT	**Murefte**	**1.79**	**345**	*e*Pn		**Pn**	**14 15 05.9**	**-0.1**
YLV	**Yalova**	**1.88**	**37**	*e*PN		**Pn**	**14 15 08.7**	**+1.4**
YLV	**Yalova**	**1.88**	**37**	*e*Pn		**Pn**	**14 15 08.7**	**+1.4**
CAVI	**Cavuskoy**	**1.88**	**52**	*e*PN		**Pn**	**14 15 08.3**	**+1.0**
CAVI	**Cavuskoy**	**1.88**	**52**	*e*Pn		**Pn**	**14 15 08.3**	**+1.0**

DJA 20 14:16:50.2±1.2, 9°S±4°×118°E±°, h11km±9km, M4.1/7, MLv4.1/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.90**	**118**	P		Pn	14 17 19.6	-3.0
WBSI				S		Sn	14 17 47.3	+0.8
IGBI	**Denpasar**	**2.53**	**268**	P		Pn	14 17 31.6	+0.4
IGBI				S		Sn	14 18 02.3	+0.3
WSI	**Waingapu**	**2.73**	**110**	P		Pn	14 17 36.9	+2.0
BASI	**Baing, Sumba**	**3.20**	**118**	P		Pn	14 17 39.8	-0.6
JAGI	**Jajag, Banyuwa**	**3.52**	**274**	P		Pn	14 17 45.2	+0.3
BSSI	**Bau Bau, Buton**	**3.78**	**47**	P		Pn	14 17 47.9	-0.6
BKSI	**Bulukumba**	**4.16**	**35**	P		Pn	14 17 53.3	-0.4
BKSI				S		Sn	14 18 44.4	+2.0

DJA 20 14:26:50.0±2.0, 0°S±12°×125°E±°, h19km±25km, M3.5/5, MLv3.5/5, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.33**	**309**	P		Pn	14 27 12.5	-1.0
GTOI	**Gorontalo**	**2.19**	**294**	P		Pn	14 27 26.0	+0.6
LUWI	**Luwuk**	**2.37**	**251**	P		Pn	14 27 28.4	+0.6
LUWI				S		Sn	14 27 57.5	+1.1
LBMI	**Labuha**	**2.52**	**98**	P		Pn	14 27 30.2	+0.3
LBMI				S		Sn	14 28 01.2	+1.1
MRSI	**Marisa**	**3.16**	**284**	P		Pn	14 27 38.4	-0.3

*ISCJB **20** 14:32:46.4±0.5, 6.09S±0.05×146.47E±0.07, h100km, mb3.8/11, Error ellipse: s-maj=10.4km s-min=6.4km az=15.4*
*IDC **20** 14:32:50.5±2.5, 6.23S×146.18E, h116km±25km, mb3.5/11, mb1 3.7/13, mb1mx3.6/19, mbtmp3.6/13, Error ellipse: s-maj=26.4km s-min=9.9km az=111.0*
*AUST **20** 14:32:53.2±6.3, 6.38S×146.07E, h107km, Error ellipse: s-maj=5.5km s-min=1.5km az=24.0*
ISC 20 14:32:48.9±0.6, 6.18S±0.06×146.27E±0.10, h100km, n26, σ1.64/29, mb3.8/11, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.33**	**165**	P		**Pn**	**14 33 39.1**	**+0.1**
	16nm,0.3s,baz=9.4,slow=3.9,SNR=60							
PMG				S		**Sn**	**14 34 15.9**	**-1.9**
	11nm,0.3s,baz=332,slow=12,SNR=5.4							
COEN	**Coen**	**8.31**	**201**	P		**Pn**	**14 34 48.6**	**+2.0**
	baz=8.1,SNR=18							
COEN				S		**Sn**	**14 36 16.9**	**-2.0**
	baz=8.1,SNR=5.1							
MTSU	**Mount Surprise**	**12.04**	**189**	P		**Pn**	**14 35 39.3**	**+2.2**
	baz=12,SNR=3.9							
CTA	**Charters Tower**	**13.83**	**180**	P		**P**	**14 36 05.4**	**-0.3**
	2.4nm,0.3s,baz=2.6,slow=14,SNR=41							
KDU	**Kakadu**	**15.06**	**244**	P		**Pn**	**14 36 17.5**	**+1.0**
	baz=15,SNR=8.6							
MTN	**Manton Dam**	**16.32**	**245**	P		**Pn**	**14 36 33.1**	**+0.8**
	baz=16,SNR=6.2							
PATS	**Pohnpei**	**17.65**	**43**	S		Sn	14 39 50.9	-14
	baz=18,SNR=3.6							
WRA	**Warramunga Arr**	**17.93**	**219**	P		**P**	**14 36 51.4**	**+0.2**
	0.5nm,0.3s,baz=42,slow=11,SNR=28							
WRA				S		**S**	**14 40 08.5**	**-3.5**
	0.1nm,0.3s,baz=30,slow=23,SNR=5.3							
KNRA	**Kununurra**	**19.59**	**240**	P		**P**	**14 37 08.8**	**-0.5**
	baz=19,SNR=5.2							
KNRA				S		**S**	**14 40 45.5**	**+0.3**
	baz=19,SNR=3.4							
ASAR	**Alice Springs**	**21.07**	**213**	P		**P**	**14 37 25.6**	**+0.4**
	1.2nm,0.5s,baz=56,slow=9.1,SNR=35							
ASAR				S		**S**	**14 41 11.1**	**-3.1**
	0.6nm,1.0s,baz=27,slow=23,SNR=3.0							
FITZ	**Fitzroy Crossi**	**23.36**	**238**	P		**P**	**14 37 48.3**	**-0.5**
	6.1nm,0.6s,baz=77,slow=7.8,SNR=25							
FITZ	**Fitzroy Crossi**	**23.36**	**238**	P		**P**	**14 37 48.2**	**-0.5**
	baz=23,SNR=17							
STKA	**Stephens Creek**	**25.94**	**189**	P		**P**	**14 38 13.2**	**+1.2**
	1.6nm,0.5s,baz=8.1,slow=10,SNR=14							
STKA	**Stephens Creek**	**25.94**	**189**	P		**P**	**14 38 13.2**	**+1.2**
	baz=26,SNR=11							
YNG	**Young**	**28.05**	**176**	P		**P**	**14 38 35.2**	**+4.4**
	baz=28,SNR=7.2							
PMBI	**Palembang**	**41.48**	**273**	S		S	14 46 54.5	+20
	baz=41,SNR=11							
MJAR	**Matsushiro Arr**	**43.16**	**351**	P		**P**	**14 40 39.1**	**-0.6**
	0.7nm,0.5s,baz=168,slow=7.6,SNR=4.0							
USRK	**Ussuriysk Arra**	**51.77**	**347**	P		**P**	**14 41 46.1**	**-0.1**
	2.1nm,0.7s,baz=179,slow=7.7,SNR=4.2							
CMAR	**Chiang Mai Arr**	**52.69**	**299**	P		**P**	**14 41 53.6**	**0.0**
	1.2nm,0.6s,baz=120,slow=5.3,SNR=7.0							
PETK	**Petropavlovsk-**	**59.85**	**8**	P		**P**	**14 42 44.0**	**+0.2**
	1.6nm,0.6s,baz=174,slow=7.6,SNR=7.0							
SONM	**Songino Array**	**64.21**	**331**	P		**P**	**14 43 13.2**	**0.0**
	0.1nm,0.3s,baz=136,slow=5.9,SNR=3.2							
VNDA	**Vanda**	**71.78**	**176**	P		**P**	**14 43 59.7**	**-0.3**
	0.6nm,0.7s,baz=318,slow=4.1,SNR=3.7							
MKAR	**Makanchi Array**	**77.17**	**321**	P		**P**	**14 44 31.1**	**-0.7**
	0.3nm,0.8s,baz=98,slow=4.6,SNR=3.2							
ILAR	**Eielson Array**	**85.93**	**23**	P		**P**	**14 45 15.7**	**-1.8**
	1.5nm,0.7s,baz=253,slow=5.1,SNR=14							
TORD	**Torodi Ar. Bea**	**144.43**	**284**	PKP		**PKPab**	**14 52 14.2**	**+1.3**
	3.5nm,0.7s,baz=68,slow=2.8,SNR=27							
DBIC	**Dimbokro**	**151.30**	**273**	PKPbc		**PKPbc**	**14 52 32.9**	**+0.9**
	1.7nm,0.6s,baz=77,slow=3.1,SNR=4.7							

IDC 20 14:40:24.5±2.0, 17.89S×167.39E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/20, mbtmp3.9/6, ML3.3/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/29, Error ellipse: s-maj=51.7km s-min=31.7km az=129.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.25**	**192**	Pn		Pn	14 41 30.4	-0.3
	1.6nm,0.3s,baz=90,slow=20,SNR=3.2							
DZM				Sn		Sn	14 42 13.5	-7.7
	7.3nm,0.3s,baz=87,slow=23,SNR=6.0							
DZM				LR		LR	14 42 46.3	
	comp=Z,131nm,20.5s,baz=355,slow=33							
STKA	**Stephens Creek**	**27.14**	**234**	P		P	14 46 10.1	+0.5
	2.4nm,0.7s,baz=76,slow=10,SNR=5.3							
WRA	**Warramunga Arr**	**31.31**	**261**	P		P	14 46 46.4	-0.4
	0.4nm,1.0s,baz=94,slow=10,SNR=6.8							
ASAR	**Alice Springs**	**31.78**	**254**	P		P	14 46 50.5	-0.4
	0.6nm,0.5s,baz=82,slow=8.6,SNR=27							
FITZ	**Fitzroy Crossi**	**39.65**	**263**	P		P	14 47 58.8	+0.3
	1.7nm,0.7s,baz=124,slow=8.9,SNR=4.2							
FITZ				LR		LR	15 03 57.8	
	comp=Z,79nm,20.7s,baz=171,slow=36							
ILAR	**Eielson Array**	**89.48**	**18**	P		P	14 53 23.1	-0.1
	0.6nm,0.6s,baz=235,slow=3.2,SNR=5.5							

*NIED **20** 14:41:00.26N×125.70E, h5km, Mw4.3 Best double couple: Mo3.14000×10^15 NP1:φs39.00000°, δ71.00000°, λ-77.00000°. NP2:φs183.00000°, δ23.00000°, λ-124.00000°.*
*JMA **20** 14:41:51.1±0.2, 25.99N×125.72E, h14km±2km, M4.6*
*MOS **20** 14:41:53.4±1.3, 25.75N×125.53E, h33km, mb4.4/5, Error ellipse: s-maj=15.4km s-min=8.8km az=101.4*
*ISCJB **20** 14:41:53.2±0.8, 25.86N±0.03×125.84E±0.03, h27km±7km, mb4.3/27, MS3.5/10, Error ellipse: s-maj=5.5km s-min=3.2km az=136.7*
*BJI **20** 14:41:53.2, 25.90N×125.90E, h24km, mB4.6/25, mb4.3/32, ML4.1/2, Ms4.2/26, Ms7 4.0/26*
*NEIC **20** 14:41:56.6±0.8, 25.89N×125.78E, h47km±8km, mb4.7/4, MW4.3(NIED), Error ellipse: s-maj=11.1km s-min=7.8km az=143.0*
*IDC **20** 14:41:58.4±2.9, 25.88N×125.63E, h62km±26km, mb3.8/17, mb1 4.0/21, mb1mx3.9/31, mbtmp3.8/21, ML3.3/4, MS3.3/9, Ms1 3.3/9, ms1mx3.1/37, Error ellipse: s-maj=18.8km s-min=12.1km az=76.0*
ISC 20 14:41:52.1±0.8, 25.90N±0.04×125.78E±0.03, h12km±4km, n96, σ1.29/114, mb4.3/27, MS3.6/10, 4C, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.00**	**65**	P		**Pb**	**14 42 09.9**	**-1.4**
JKE				*e*S		**Sb**	**14 42 23.1**	**-1.4**
JMJ	**Miyako jima 2**	**1.17**	**202**	P		**Pn**	**14 42 13.6**	**-0.6**
JMJ				*e*S		**Sb**	**14 42 29.9**	**+0.7**
JOGS	**Gusukube**	**1.18**	**197**	P		**Pn**	**14 42 13.9**	**-0.5**
JOGS				*e*S		**Sn**	**14 42 30.8**	**+0.4**
JAGN	**Aguni-jima**	**1.48**	**62**	P		**Pn**	**14 42 17.7**	**-0.9**
JAGN				*e*S		**Sn**	**14 42 36.3**	**-1.6**
JTJ	**Tarama**	**1.59**	**218**	P		**Pn**	**14 42 19.7**	**-0.3**
JTJ				*e*S		**Sb**	**14 42 41.3**	**0.0**
JJT2	**Tamagusuku 2**	**1.79**	**82**	P		**Pn**	**14 42 22.9**	**+0.1**
JJT2				*e*S		**Sn**	**14 42 45.8**	**+0.4**
JIJ	**Ishigaki jima**	**2.13**	**224**	P		**Pn**	**14 42 27.0**	**-0.4**
JIH	**Iheya**	**2.27**	**60**	P		**Pn**	**14 42 29.5**	**+0.2**
JKRS	**Kuro-shima**	**2.30**	**225**	P		**Pn**	**14 42 29.9**	**+0.1**
JKRS				*e*S		**Sn**	**14 42 59.1**	**+1.0**
IRIF	**Iriomote-Funau**	**2.42**	**230**	P		**Pn**	**14 42 31.4**	**-0.1**
JOW	**Kunigami**	**2.42**	**67**	*e*Pn		**Pn**	**14 42 31.6**	**+0.1**
JOW	**Kunigami**	**2.42**	**67**	P		**Pn**	**14 42 31.9**	**+0.4**
JOW				*e*S		**Sn**	**14 43 01.5**	**+0.4**
HATJ	**Hateruma jima**	**2.56**	**225**	P		**Pn**	**14 42 33.8**	**+0.4**
YOJ	**Yonaguni jima**	**2.89**	**241**	P		**Pb**	**14 42 40.6**	**-2.9**
JTK	**Tokunoshima**	**3.40**	**56**	P		**Pn**	**14 42 45.8**	**+0.9**
JAMN	**Amaminishikomi**	**3.82**	**52**	P		**Pn**	**14 42 51.8**	**+1.1**
TATO	**Taipei**	**3.99**	**258**	P		Pb	14 42 57.4	-4.8
NACB	**Ninganchiao**	**4.17**	**247**	*e*Pn		Pn	14 42 58.2	+2.7
YHNB	**Yeheng**	**4.17**	**254**	*e*Pn		Pn	14 42 57.5	+1.9
JAM	**Amami Oshima**	**4.23**	**53**	P		**Pn**	**14 42 57.4**	**+1.1**
YULB	**Yu-li**	**4.78**	**239**	*e*Pn		**Pn**	**14 43 04.5**	**+0.6**
SSLB	**Suanglung**	**4.86**	**245**	*e*P		Pn	14 43 07.4	+2.3
JMZ	**Minamidaito 2**	**4.90**	**90**	P		**Pn**	**14 43 03.3**	**-2.3**
JMZ				*e*S		Sn	14 43 56.0	-6.3
TPUB	**Ta-pu**	**5.35**	**242**	*e*P		Pn	14 43 14.1	+2.3
	125nm,0.9s							
JNU	**Nakatsue**	**8.46**	**30**	P		Pn	14 43 58.0	+3.6
JNU	**Nakatsue**	**8.46**	**30**	P		Pn	14 43 58.0	+3.6
	0.5nm,0.3s,baz=238,slow=4.3,SNR=5.0							
WHN	**Wuhan**	**11.09**	**297**	P		Pn	14 44 43.9	+13
WHN				S		Sn	14 46 44.6	+10
WHN				LR		LR		
	comp=N,1μm,6.5s							
WHN				LR		LR		
	comp=E,2μm,10.1s							
WHN				LR		LR		
	comp=Z,1μm,8.2s							
KSAR	**Wonju Array Be**	**11.65**	**8**	P		Pn	14 44 43.8	+5.7
KSRS	**Korea Array**	**11.66**	**8**	P		Pn	14 44 43.8	+5.5
	comp=Z,0.2nm,0.3s,baz=187,slow=13,SNR=18							
KSRS				LR		LR	14 49 20.4	
	comp=Z,54nm,18.5s,baz=180,slow=38							
MJAR	**Matsushiro Arr**	**15.01**	**42**	P		**P**	**14 45 30.3**	**+0.9**
MJAR	**Matsushiro Arr**	**15.01**	**42**	P		**P**	**14 45 30.3**

CD2				LR	LR				
	comp=E,740nm,9.4s								
CD2				LR	LR				
	comp=Z,720nm,8.8s								
KMI	**Kunming**	**20.81**	**273**	P	Pn	14 46 38.0	+1.9		
KMI				pmax	pmax				
	comp=Z,4.0nm,1.8s								
LZH	**Lanzhou**	**21.33**	**304**	*eP*	**P**	**14 46 41.3**	**+2.2**		
LZH				pP	pP	14 46 48.3	+5.7		
LZH				sP	sP	14 46 51.8	+7.6		
LZH				PP	PnPn	14 47 05.6	+6.8		
LZH				*e*S	**S**	**14 50 32.5**	**-3.4**		
LZH				sS	Sn	14 50 43.4	0.0		
LZH				*e*SS	SnSn	14 51 07.9	+9.3		
LZH				pmax	pmax				
	comp=Z,35nm,1.2s								
LZH				pmax	pmax				
	comp=Z,130nm,4.7s								
LZH				LR	LR				
	comp=N,390nm,8.5s								
LZH				LR	LR				
	comp=E,460nm,7.3s								
LZH				LR	LR				
	comp=Z,620nm,10.2s								
ASAJ	**Asahikawa**	**22.73**	**33**	LR	LR	14 56 16.8			
	comp=Z,49nm,18.3s,baz=324,slow=38								
KLR	**Kul'dur**	**23.75**	**10**	*eP*	**P**	**14 47 05.0**	**+0.9**		
GTA	**Gaotai**	**25.57**	**308**	⇑P	**P**	**14 47 21.9**	**+0.8**		
GTA				pP	pP	14 47 29.0	+4.2		
GTA				sP	sP	14 47 32.5	+6.2		
GTA				PcP	**PcP**	**14 50 52.9**	**+0.8**		
GTA				S	**S**	**14 51 49.0**	**+0.2**		
GTA				sS	sS	14 52 00.6	+5.7		
GTA				SS	SnSn	14 52 55.0	+13		
GTA				pmax	pmax				
	comp=Z,6.0nm,1.5s								
GTA				pmax	pmax				
	comp=Z,75nm,5.0s								
GTA				LR	LR				
	comp=N,280nm,13.5s								
GTA				LR	LR				
	comp=E,230nm,13.1s								
GTA				LR	LR				
	comp=Z,230nm,14.0s								
CMAR	**Chiang Mai Arr**	**25.90**	**259**	P	**P**	**14 47 22.4**	**-1.7**		
CMAR	**Chiang Mai Arr**	**25.90**	**259**	P	**P**	**14 47 22.4**	**-1.7**		
	comp=Z,0.8nm,0.6s,baz=61,slow=7.6,SNR=6.0								
CMAR				LR	LR	14 58 57.3			
	comp=Z,42nm,18.8s,baz=200,slow=40								
ULN	**Ulaanbaatar**	**26.42**	**331**	*eP*	**P**	**14 47 29.5**	**+0.8**		
	comp=Z,26nm,1.1s								
SONM	**Songino Array**	**26.69**	**330**	P	**P**	**14 47 31.8**	**+0.7**		
SONM	**Songino Array**	**26.69**	**330**	P	**P**	**14 47 31.8**	**+0.7**		
	comp=Z,16nm,0.9s,baz=141,slow=9.7,SNR=72								
SONM				LR	LR	14 59 33.5			
	comp=Z,167nm,18.3s,baz=137,slow=40								
WMQ	**Urumqi**	**35.62**	**310**	P	P	14 48 52.4	+2.7		
WMQ				pP	pP	14 48 59.8	+6.3		
WMQ				sP	sP	14 49 03.1	+8.1		
WMQ				PP	**PP**	**14 50 13.4**	**+2.8**		
WMQ				PcP	**PcP**	**14 51 20.4**	**+2.1**		
WMQ				S	**S**	**14 54 26.9**	**+1.2**		
WMQ				sS	sS	14 54 39.0	+7.1		
WMQ				ScP	**ScP**	**14 55 03.8**	**-0.4**		
WMQ				SS	**SnSn**	**14 56 47.6**	**+1.1**		
WMQ				ScS	**ScS**	**14 59 07.4**	**-1.5**		
WMQ				pmax	pmax				
	comp=Z,8.0nm,0.5s								
WMQ				pmax	pmax				
	comp=Z,150nm,5.6s								
WMQ				LR	LR				
	comp=N,130nm,7.2s								
WMQ				LR	LR				
	comp=E,220nm,12.4s								
WMQ				LR	LR				
	comp=Z,100nm,15.3s								
PETK	**Petropavlovsk-**	**36.15**	**33**	LR	LR	15 03 55.1			
	comp=Z,15nm,18.5s,baz=77,slow=36								
MK31	**Makanchi Array**	**40.13**	**313**	*eP*	**P**	**14 49 27.5**	**-0.2**		
MKAR	**Makanchi Array**	**40.13**	**313**	*ceP*	**P**	**14 49 27.8**	**+0.1**		
MKAR				pmax	pmax				
	comp=Z,4.0nm,0.6s								
MKAR	**Makanchi Array**	**40.13**	**313**	P	**P**	**14 49 27.9**	**+0.1**		
MKAR				PcP	**PcP**	**14 51 31.8**	**-0.3**		
MKAR	**Makanchi Array**	**40.13**	**313**	P	**P**	**14 49 27.9**	**+0.1**		
	comp=Z,4.1nm,0.6s,baz=99,slow=10,SNR=56								
MKAR				PcP	**PcP**	**14 51 31.8**	**-0.3**		
	comp=Z,1.6nm,0.7s,baz=80,slow=4.4,SNR=8.3								
MKAR				LR	LR	15 07 34.7			
	comp=Z,66nm,18.3s,baz=246,slow=38								
ZALV	**Zalesovo Beam**	**41.20**	**324**	P	**P**	**14 49 35.9**	**-0.5**		
ZALV						14 51 34.7			
ZALV	**Zalesovo Beam**	**41.20**	**324**	P	**P**	**14 49 35.9**	**-0.5**		
ZALV				PcP	**PcP**	**14 51 34.6**	**-0.7**		
ZALV	**Zalesovo Beam**	**41.20**	**324**	P	**P**	**14 49 35.9**	**-0.5**		
	comp=Z,2.7nm,0.6s,baz=114,slow=8.3,SNR=16								
ZALV				PcP	**PcP**	**14 51 34.6**	**-0.7**		
	comp=Z,0.7nm,0.7s,baz=120,slow=5.2,SNR=3.8								
ZALV				LR	LR	15 08 07.0			
	comp=Z,68nm,18.8s,baz=74,slow=38								
KSH	**Kashi**	**43.53**	**301**	*eP*	P	14 50 00.8	+5.0		
KSH				PcS	**PcS**	**14 55 38.8**	**+2.4**		
KSH				S	**S**	**14 56 27.6**	**+2.9**		
KSH				SS	**SS**	**14 59 37.3**	**-1.8**		
KSH				ScS	**ScS**	**14 59 55.0**	**-0.7**		
KSH				pmax	pmax				
	comp=Z,11nm,0.8s								
KSH				pmax	pmax				
	comp=Z,55nm,5.9s								
KSH				LR	LR				
	comp=N,190nm,6.2s								
KSH				LR	LR				
	comp=E,170nm,5.8s								
KSH				LR	LR				
	comp=Z,250nm,7.2s								
FITZ	**Fitzroy Crossi**	**43.74**	**180**	P	**P**	**14 49 57.0**	**-0.4**		
FITZ	**Fitzroy Crossi**	**43.74**	**180**	P	**P**	**14 49 57.0**	**-0.4**		
	comp=Z,5.5nm,0.6s,baz=22,slow=8.0,SNR=12								
AAK	**Ala-Archa**	**44.85**	**305**	LR	LR	15 11 45.3			
	comp=Z,93nm,18.9s,baz=273,slow=40								
WRA	**Warramunga Arr**	**46.32**	**169**	P	**P**	**14 50 17.5**	**-0.4**		
WRA	**Warramunga Arr**	**46.32**	**169**	P	**P**	**14 50 17.5**	**-0.4**		
	comp=Z,1.8nm,0.7s,baz=351,slow=8.4,SNR=12								
KK31	**Karatay Array**	**47.81**	**306**	*ceP*	P	14 50 30.9	+1.5		
VOSK	**Vostochnaya**	**48.65**	**319**	P	**P**	**14 50 35.4**	**-0.4**		
VOSK				pmax	pmax				
	comp=Z,2.0nm,0.8s								
BVAR	**Borovoye Array**	**49.06**	**319**	P	**P**	**14 50 39.4**	**+0.4**		
BVAR						14 52 02.6			
BVAR	**Borovoye Array**	**49.06**	**319**	P	**P**	**14 50 39.4**	**+0.4**		
BVAR				PcP	**PcP**	**14 52 02.6**	**0.0**		
BVAR	**Borovoye Array**	**49.06**	**319**	P	**P**	**14 50 39.4**	**+0.4**		
	comp=Z,1.6nm,0.6s,baz=89,slow=7.7,SNR=7.6								
BVAR				PcP	**PcP**	**14 52 02.6**	**0.0**		
	comp=Z,1.4nm,0.5s,baz=248,slow=1.6,SNR=4.7								
ASAR	**Alice Springs**	**49.90**	**170**	P	**P**	**14 50 46.3**	**+0.7**		
ASAR				PcP	**PcP**	**14 52 05.7**	**-0.3**		
ASAR	**Alice Springs**	**49.90**	**170**	P	**P**	**14 50 46.3**	**+0.7**		
	comp=Z,0.9nm,0.8s,baz=356,slow=8.0,SNR=14								
ASAR				PcP	**PcP**	**14 52 05.7**	**-0.3**		
	comp=Z,0.5nm,0.7s,baz=339,slow=2.8,SNR=4.1								
AB31	**Akbulak array**	**55.27**	**313**	*ceP*	**P**	**14 51 24.9**	**-0.2**		
ABKAR	**Akbulak array**	**55.27**	**313**	*eP*	**P**	**14 51 25.2**	**0.0**		
	comp=Z,3.1nm,0.8s								
STKA	**Stephens Creek**	**59.40**	**164**	P	**P**	**14 51 55.1**	**+0.7**		
STKA	**Stephens Creek**	**59.40**	**164**	P	**P**	**14 51 55.1**	**+0.7**		
	comp=Z,1.8nm,0.9s,baz=340,slow=12,SNR=2.4								
KDAK	**Kodiak Island**	**64.09**	**36**	P	**P**	**14 52 25.6**	**-0.2**		
KDAK	**Kodiak Island**	**64.09**	**36**	P	**P**	**14 52 25.6**	**-0.2**		
	comp=Z,11nm,1.0s,baz=265,slow=5.4,SNR=4.2								
ILAR	**Eielson Array**	**65.77**	**28**	P	**P**	**14 52 35.4**	**-1.2**		
ILAR	**Eielson Array**	**65.77**	**28**	P	**P**	**14 52 35.4**	**-1.2**		
	comp=Z,0.5nm,0.7s,baz=262,slow=5.8,SNR=6.5								
KBZ	**Khabaz**	**67.66**	**309**	P	**P**	**14 52 46.8**	**-2.2**		
KBZ	**Khabaz**	**67.66**	**309**	P	**P**	**14 52 46.8**	**-2.2**		
KBZ	**Khabaz**	**67.66**	**309**	P	**P**	**14 52 46.8**	**-2.2**		
	comp=Z,0.7nm,0.3s,baz=113,slow=5.9,SNR=5.2								
KIV	**Kislovodsk**	**67.75**	**309**	*eP*	**P**	**14 52 49.3**	**-0.4**		
KIV				pmax	pmax				
	comp=Z,7.0nm,1.1s								
FINES	**FINESS Array B**	**72.06**	**330**	P	**P**	**14 53 15.0**	**-0.7**		
FINES	**FINESS Array B**	**72.06**	**330**	P	**P**	**14 53 15.0**	**-0.7**		
	comp=Z,2.4nm,0.6s,baz=72,slow=6.2,SNR=10								
BRTR	**Keskin Array B**	**75.49**	**307**	P	**P**	**14 53 36.3**	**-0.2**		
BRTR	**Keskin Array B**	**75.49**	**307**	P	**P**	**14 53 36.3**	**-0.2**		
	comp=Z,1.0nm,0.7s,baz=90,slow=4.9,SNR=6.1								
NB2	**NORSAR Subarra**	**78.62**	**333**	P	**P**	**14 53 52.7**	**-0.8**		
	comp=Z,1.3nm,0.6s,baz=55,slow=5.6								
NOA	**NORSAR Array B**	**78.62**	**333**	P	**P**	**14 53 52.8**	**-0.8**		
NOA	**NORSAR Array B**	**78.62**	**333**	P	**P**	**14 53 52.8**	**-0.8**		
	comp=Z,2.3nm,0.8s,baz=56,slow=5.6,SNR=6.3								
YKA	**Yellowknife Ar**	**79.74**	**24**	P	**P**	**14 53 59.9**	**+0.2**		
YKA	**Yellowknife Ar**	**79.74**	**24**	P	**P**	**14 53 59.8**	**+0.2**		
	comp=Z,2.2nm,0.6s,baz=302,slow=5.4,SNR=29								
SLMT	**Seeley Lake**	**89.75**	**36**	*eP*	**P**	**14 54 51.0**	**+0.4**		
	comp=Z,3.9nm,1.1s								
HLID	**Hailey**	**91.56**	**39**	*eP*	**P**	**14 55 00.7**	**+1.6**		
	comp=Z,3.1nm,1.0s								
NVAR	**Mina Array Bea**	**92.31**	**45**	P	**P**	**14 55 04.0**	**+1.2**		
NVAR	**Mina Array Bea**	**92.31**	**45**	P	**P**	**14 55 04.0**	**+1.2**		
	comp=Z,0.2nm,0.5s,baz=309,slow=5.7,SNR=3.6								

DJA 20 14:48:06.3±1.9, 0°S±7°×12°5E±°, h14km±16km, M3.7/7, MLv3.7/7, Southern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.13**	**327**	P	Pb	14 48 25.2	-2.4
MNI	**Manado**	**1.83**	**8**	P	Pn	14 48 38.2	+0.8
GTOI	**Gorontalo**	**1.87**	**303**	P	Pn	14 48 38.5	+0.5
LUWI	**Luwuk**	**1.93**	**250**	P	Pn	14 48 40.0	+1.2
MRSI	**Marisa**	**2.78**	**288**	P	Pn	14 48 47.9	-2.6
LBMI	**Labuha**	**2.92**	**95**	P	Pn	14 48 52.1	-0.3
LBMI				S	Sn	14 49 28.4	+1.1
TNTI	**Ternate**	**3.00**	**68**	P	Pn	14 48 53.6	+0.1

IDC 20 14:50:26.8±1.9, 4°13N×125°01E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.3/23, mbtmp3.3/4, Error ellipse: s-maj=120.0km s-min=25.6km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.09**	**178**	P	P	14 55 24.9	+1.1
	1.0nm,0.8s,baz=354,slow=9.8,SNR=14						
WRA	**Warramunga Arr**	**25.61**	**159**	P	P	14 55 57.7	-0.4
	0.7nm,0.9s,baz=336,slow=10.0,SNR=8.3						
ASAR	**Alice Springs**	**28.95**	**163**	P	P	14 56 27.6	-0.6
	0.2nm,0.6s,baz=341,slow=7.6,SNR=4.4						
MKAR	**Makanchi Array**	**56.26**	**326**	P	P	15 00 09.1	0.0
	0.2nm,0.4s,baz=121,slow=6.8,SNR=4.4						

IDC 20 14:55:41.4±1.5, 0°98N×97°19E, h0km, mb4.1/9, mb1 4.1/11, mb1mx3.9/28, mbtmp4.0/11, ML3.3/2, MS3.0/1, Ms1 3.0/1, ms1mx2.3/31, Error ellipse: s-maj=39.7km s-min=17.5km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.50**	**44**	Pn	Pn	14 56 23.8	+0.2
	3.2nm,0.3s,baz=230,slow=10,SNR=11						
PSI				LR	LR	14 57 12.7	
	comp=Z,287nm,19.1s,baz=286,slow=38						
CMAR	**Chiang Mai Arr**	**17.45**	**6**	Pn	Pn	14 59 44.8	-1.7
	0.1nm,0.3s,baz=195,slow=12,SNR=8.8						
KAPI	**Kappang**	**23.31**	**105**	P	P	15 00 49.4	-1.9
	8.7nm,0.3s,baz=185,slow=16,SNR=4.5						
WRA	**Warramunga Arr**	**41.92**	**122**	P	P	15 03 34.6	+0.4
	1.0nm,0.7s,baz=301,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**43.27**	**127**	P	P	15 03 45.3	+0.2
	0.9nm,0.9s,baz=300,slow=7.7,SNR=5.8						
KSRS	**Korea Array**	**46.03**	**34**	P	P	15 04 06.6	-0.3
	3.7nm,0.9s,baz=222,slow=9.6,SNR=13						
SONM	**Songino Array**	**47.35**	**8**	P	P	15 04 17.2	-0.1
	2.1nm,0.8s,baz=191,slow=9.1,SNR=13						
SONM				PcP	PcP	15 05 48.5	+0.3
	0.5nm,0.7s,baz=184,slow=4.7,SNR=3.8						
MKAR	**Makanchi Array**	**47.45**	**346**	P	P	15 04 17.9	-0.1
	1.2nm,0.7s,baz=159,slow=7.6,SNR=15						
KURBB	**Kurchatov Arra**	**51.94**	**345**	P	P	15 04 51.6	-0.4
	1.3nm,0.9s,baz=166,slow=7.2,SNR=14						
USRK	**Ussuriysk Arra**	**52.97**	**31**	P	P	15 04 59.9	+0.1
	2.8nm,0.8s,baz=257,slow=7.0,SNR=6.6						
ZALV	**Zalesovo Beam**	**53.77**	**351**	P	P	15 05 05.2	-0.3
	3.7nm,0.7s,baz=177,slow=5.8,SNR=14						

*BKK **20** 15:19:42.1±0.4, 3°N±3°×12°8E±°, h10km, M5.3/37, mB5.7/25, mb5.2/37, MLv5.5/2, Mw(mB)5.3/25, Mwp5.6/2*
*MOS **20** 15:19:45.9±1.1, 2°36N×126°91E, h33km, mb5.7/55, MS4.8/24, Error ellipse: s-maj=9.9km s-min=5.1km az=112.4*
*BJI **20** 15:19:46.5, 2°30N×127°00E, h35km, mB5.4/37, mb5.1/54, Ms4.9/57, Ms7 4.8/56*
*NEIC **20** 15:19:47.6±0.2, 2°30N×126°94E, h35km, mb5.4/50, MS4.9/13, MW5.5, MWW5.5, Error ellipse: s-maj=7.0km s-min=4.5km az=77.0, Moment Tensor Solution. s23 Moment tensor: Scale 10^{17}Nm; M_{rr}1.87; $M_{\theta\theta}$0.56; $M_{\phi\phi}$-2.43; $M_{r\theta}$-0.84; $M_{\theta\phi}$0.10; $M_{\phi r}$0.32; Best double couple: M_o2.40000×10^{17} NP1:ϕ_s202.00000°, δ46.00000°, λ127.00000°. NP2:ϕ_s335.00000°, δ55.00000°, λ58.00000°. Principal axes: T 2.3000, Plg64.0000°, Azm186.0000°; N 0.1700, Plg25.0000°, Azm354.0000°; P -2.4600, Plg4.0000°, Azm86.0000°;*
*IDC **20** 15:19:47.8±1.9, 2°16N×126°82E, h35km±14km, mb4.6/26, mb1 4.7/27, mb1mx4.7/28, mbtmp4.6/27, ML4.1/1, MS4.6/11, Ms1 4.6/11, ms1mx4.4/19 Error ellipse: s-maj=15.6km s-min=7.7km az=79.0*
*ISCJB **20** 15:19:48.4±0.3, 2°37N±0°02×127°01E±0°02, h56km±3km, mb5.2/152, MS4.8/62, Error ellipse: s-maj=4.0km s-min=2.9km az=165.5*
*AUST **20** 15:19:49.4±0.2, 2°38N×127°00E, h57km, Error ellipse: s-maj=0.7km s-min=0.6km az=26.0*
*DJA **20** 15:19:51.6±0.4, 2°N±3°×12°7E±°, h50km±5km, M5.1/53, mb5.2/53, mB5.6/46, MLv5.2/10, Mw(mB)5.1/46, Mwp5.7/5*
*GCMT **20** 15:19:52.0±0.1, 2°38N×127°05E, h25km, MW5.4, Moment Tensor Solution. s84,c135; s15,c16; Moment tensor: Scale 10^{17}Nm; M_{rr}1.56±.03; $M_{\theta\theta}$0.12±.02; $M_{\phi\phi}$-1.68±.03; $M_{r\theta}$0.04±.06; $M_{\theta\phi}$-0.42±.02; $M_{\phi r}$-0.08±.05; Best double couple: M_o1.70000×10^{17} NP1:ϕ_s15.00000°, δ44.00000°, λ93.00000°. NP2:ϕ_s190.00000°, δ46.00000°, λ87.00000°. Principal axes: T 1.5600, Plg87.0000°, Azm41.0000°; N 0.2100, Plg2.0000°, Azm192.0000°; P -1.7800, Plg1.0000°, Azm282.0000°; Data Used: II IU IC G CN. Surface waves: sta= 82, comp=146, per= 50.*
*NEIC **20** 15:19:55.2±0.0, 1°50N×126°56E, h42km, Moment Tensor Solution. s136 Moment tensor: Scale 10^{17}Nm; M_{rr}1.73; $M_{\theta\theta}$-0.11; $M_{\phi\phi}$-1.62; $M_{r\theta}$1.08; $M_{\theta\phi}$-0.76; $M_{\phi r}$-0.96; Best double couple: M_o2.30000×10^{17} NP1:ϕ_s47.00000°, δ44.00000°, λ134.00000°. NP2:ϕ_s174.00000°, δ60.00000°, λ56.00000°. Principal axes: T 2.5700, Plg59.0000°, Azm32.0000°; N -0.5600, Plg28.0000°, Azm191.0000°; P -2.0200, Plg9.0000°, Azm287.0000°;*
ISC 20 15:19:49.1±0.2, 2°32N±0°03×126°90E±0°03, h53km, h53km:pP-P, n468, σ1°88/491, mb5.3/162, MS4.8/63, 23C-18D, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAMI	**Galela, Maluku**	**1.01**	**118**	S	**Sn**	**15 20 17.2**	**-3.1**
TNTI	**Ternate**	**1.61**	**163**	P	**Pn**	**15 20 14.2**	**-1.0**
TNTI				S	**Sn**	**15 20 34.6**	**-0.2**
MNI	**Manado**	**2.23**	**247**	P	Pn	15 20 26.2	+2.5
MNI				S	**Sn**	**15 20 44.7**	**-5.4**
LBMI	**Labuha**	**3.00**	**168**	P	**Pn**	**15 20 34.7**	**+0.5**
KMSI	**Cibinong**	**3.39**	**239**	P	Pn	15 20 43.0	+3.4
GSPH	**General Santos**	**4.21**	**333**	*eP*	**Pn**	**15 20 52.2**	**+1.3**
GTOI	**Gorontalo**	**4.23**	**247**	P	Pn	15 20 55.2	+4.1
MATI	**Mati**	**4.64**	**352**	*eP*	Pn	15 21 00.3	+3.7
MATI				*e*S	Sn	15 21 28.2	-21
DAV	**Davao City (W)**	**4.89**	**344**	*eP*	**Pn**	**15 21 01.9**	**+1.7**
DAV				Sn	**Sn**	**15 21 56.4**	**+0.8**
DAV	**Davao City (W)**	**4.89**	**344**	P	Pn	15 21 07.8	+7.6
DAV	**Davao City (W)**	**4.89**	**344**	Pn	**Pn**	**15 21 01.6**	**+1.5**
	7.6nm,0.3s,baz=241,slow=3.0,SNR=6.9						
DAV				Sn	**Sn**	**15 21 56.3**	**+0.8**
	29nm,0.3s,baz=281,slow=19,SNR=4.0						
MRSI	**Marisa**	**5.28**	**250**	P	Pn	15 21 09.4	+3.9
	693nm,1.4s,10μm16μm2.9nm						
LUWI	**Luwuk**	**5.31**	**231**	P	**Pn**	**15 21 07.4**	**+1.6**
	874nm,1.8s,14μm18μm4.7nm						
LUWI	**Luwuk**	**5.31**	**231**	P	Pn	15 21 11.0	+5.2
	baz=5.4,SNR=15						
SWI	**Sorong**	**5.39**	**126**	P	**Pn**	**15 21 07.4**	**+0.5**
	315nm,2.0s,8μm64μm1.3nm						
SWI	**Sorong**	**5.39**	**126**	P	**Pn**	**15 21 06.7**	**-0.2**
	baz=5.4,SNR=9.5						
CTBH	**Cotabato--PC H**	**5.54**	**332**	↓*e*P	**Pn**	**15 21 09.7**	**+0.7**
CTBH				*i*S	**Sn**	**15 22 13.6**	**+2.3**
BUKP	**Musuan**	**5.81**	**342**	*eP*	**Pn**	**15 21 14.6**	**+1.7**
MSAI	**Masohi**	**5.99**	**160**	P	Pn	15 21 17.9	+2.7
	69nm,1.2s,2μm0.3nm						
AAI	**Ambon**	**6.11**	**168**	P	Pn	15 21 19.9	+3.1
	293nm,0.9s,4μm0.9nm						
AAI	**Ambon**	**6.11**	**168**	P	Pn	15 21 20.4	+3.6
	baz=6.2,SNR=5.1						
CGP	**Cagayan de Oro**	**6.47**	**340**	*eP*	Pn	15 21 25.1	+3.2
BUTP	**Butuan**	**6.72**	**349**	*eP*	Pn	15 21 27.9	+2.6
IPIL	**Ipil**	**6.93**	**322**	*eP*	**Pn**	**15 21 28.8**	**+0.7**
SKSI	**Soroako, Sulaw**	**7.36**	**229**	P	Pn	15 21 37.2	+3.2
	187nm,0.8s,7μm0.9nm						
FAKI	**Fak Fak**	**7.47**	**134**	P	Pn	15 21 39.6	+4.2
	105nm,2.4s,4μm36μm0.6nm						
FAKI	**Fak Fak**	**7.47**	**134**	P	**Pn**	**15 21 35.7**	**+0.2**
	baz=7.5,SNR=20						
RKPI	**Ransiki, Papua**	**8.21**	**118**	P	Pn	15 21 51.7	+6.0
LLP	**Lapu-Lapu**	**8.46**	**340**	*eP*	**Pn**	**15 21 49.5**	**+0.5**
MYLDM	**Lahad Datu**	**8.85**	**289**	P	Pn	15 21 59.9	+5.5
MYLDM	**Lahad Datu**	**8.85**	**289**	P	Pn	15 21 59.4	+5.0
	450nm,1.9s,8μm18μm						
TTSI	**Tana Toraja**	**8.86**	**233**	P	Pn	15 21 57.8	+3.3
	212nm,1.8s,3μm						
BBSI	**Bau Bau**	**8.88**	**209**	P	Pn	15 21 59.6	+4.8
	264nm,1.4s,3μm						
PALU	**Palau**	**9.05**	**56**	P	**Pn**	**15 21 56.2**	**-0.9**
	baz=8.9,SNR=12						
PALU				S	**Sn**	**15 23 38.5**	**+0.9**
	baz=8.9,SNR=5.4						
TSM	**Tawau**	**9.22**	**282**	P	Pn	15 22 03.4	+3.9
BAKI	**Biak**	**9.85**	**111**	P	Pn	15 22 11.6	+3.5
BKSI	**Bulukumba**	**10.17**	**222**	P	**Pn**	**15 22 14.4**	**+1.9**
	76nm,1.2s,1μm						
KAPI	**Kappang**	**10.20**	**224**	Pn	**Pn**	**15 22 14.0**	**+1.1**
	172nm,0.6s,SNR=6.7						
KAPI	**Kappang**	**10.20**	**224**	P	**Pn**	**15 22 13.8**	**+0.9**
	138nm,1.4s						
KAPI				Sn	Sn	15 23 49.2	-17
KAPI	**Kappang**	**10.20**	**224**	P	Pn	15 22 17.0	+4.1
	58nm,1.2s,1μm						
KAPI	**Kappang**	**10.20**	**224**	Pn	**Pn**	**15 22 14.5**	**+1.6**
	1.7nm,0.3s,baz=201,slow=18,SNR=7.1						
KAPI				Sn	Sn	15 23 49.2	-17
	2.9nm,0.3s,baz=217,slow=20,SNR=1.7						
SDKM	**Sandakan**	**10.22**	**289**	P	Pn	15 22 17.2	+4.0
BSSI	**Bau Bau, Buton**	**10.57**	**217**	P	Pn	15 22 21.6	+3.7
	108nm,1.3s,2μm						
KKM	**Kota Kinabalu**	**11.28**	**289**	*eP*	Pn	15 22 31.1	+3.4
	292nm,1.5s						
KKM	**Kota Kinabalu**	**11.28**	**289**	P	Pn	15 22 32.1	+4.4
	124nm,1.7s,3μm						
KKM	**Kota Kinabalu**	**11.28**	**289**	P	Pn	15 22 31.4	+3.7
	baz=11,SNR=16						
MMRI	**Maumere**	**11.84**	**203**	P	Pn	15 22 39.6	+4.3
	97nm,1.2s,2μm						
SOEI	**Soe**	**12.28**	**192**	P	Pn	15 22 45.4	+3.9
	205nm,1.4s,5μm						
SOEI	**Soe**	**12.28**	**192**	P	P	15 22 46.9	-5.4
	baz=12,SNR=4.2						
BATI	**Baumata**	**12.86**	**194**	P	P	15 22 55.0	-3.5
	108nm,1.1s,1μm						
TGY	**Tagaytay City**	**13.10**	**334**	Pn	Pn	15 22 55.3	+2.7
TGY	**Tagaytay City**	**13.10**	**334**	Pn	Pn	15 22 55.3	+2.7
	29nm,0.3s,baz=285,slow=12,SNR=6.6						
BBKI	**Banjar Baru**	**13.35**	**245**	P	P	15 23 09.4	+5.4
WSI	**Waingapu**	**13.61**	**209**	P	**P**	**15 23 03.9**	**-2.9**
	223nm,1.1s,6μm						
BTM	**Bintulu**	**13.83**	**274**	P	P	15 23 13.6	+4.3
BASI	**Baing, Sumba**	**13.96**	**207**	P	P	15 23 15.7	+5.0
WBSI	**Waikabubak, Su**	**14.04**	**212**	P	P	15 23 15.5	+3.8
JAY	**Jayapura**	**14.62**	**109**	P	P	15 23 20.9	+2.8
JAY	**Jayapura**	**14.62**	**109**	P	**P**	**15 23 15.7**	**-2.4**
	baz=14,SNR=5.2						
SBUM	**Sibu**	**14.66**	**271**	P	**P**	**15 23 20.8**	**+2.2**
BCPH	**Baguio City Da**	**15.29**	**336**	↓*i*P	**Pn**	**15 23 20.6**	**-1.2**
KHKI	**Kahang-Kahang**	**15.47**	**227**	P	**P**	**15 23 30.7**	**+3.1**
	134nm,1.3s,3μm						
STKI	**Sintang**	**15.58**	**262**	P	P	15 23 33.6	+4.8
MTN	**Manton Dam**	**15.64**	**165**

WRAB	**Tennant Creek**	**23.30**	**162**	P		**P**		**15 24 50.0**	**-2.5**
	547nm,0.7s								
WRAB	**Tennant Creek**	**23.30**	**162**	*e*P		**P**		**15 24 50.4**	**-2.1**
WRAB				pmax		pmax			
	comp=Z,64nm,0.8s								
WRAB	**Tennant Creek**	**23.30**	**162**	*e*P		**P**		**15 24 50.4**	**-2.1**
	comp=Z,64nm,0.8s								
WRA	**Warramunga Arr**	**23.30**	**162**	P		**P**		**15 24 50.9**	**-1.6**
WRA				S		**S**		**15 28 59.0**	**-2.2**
WRA	**Warramunga Arr**	**23.30**	**162**	P		**P**		**15 24 50.9**	**-1.6**
	comp=Z,49nm,0.7s,baz=341,slow=10,SNR=232								
WRA				S		**S**		**15 28 59.0**	**-2.2**
	comp=Z,1.4nm,0.7s,baz=336,slow=20,SNR=2.9								
PMG	**Port Moresby**	**23.31**	**120**	P		P		15 25 02.2	+10
PMG	**Port Moresby**	**23.31**	**120**	P		P		15 25 02.2	+10
	comp=Z,20nm,1.1s,baz=286,slow=15,SNR=3.8								
QIZ	**Qiongzhong**	**23.55**	**316**	P		**P**		**15 24 53.4**	**-1.5**
QIZ				sP		**sP**		**15 25 09.0**	**-5.2**
QIZ				S		**S**		**15 29 01.4**	**-3.8**
QIZ				sS		sS		15 29 19.9	-7.8
QIZ				pmax		pmax			
	comp=Z,32nm,1.5s								
QIZ				pmax		pmax			
	comp=Z,220nm,3.4s								
QIZ				LR		LR			
	comp=N,2μm,21.6s								
QIZ				LR		LR			
	comp=Z,3μm,21.9s								
QIZ	**Qiongzhong**	**23.55**	**316**	*e*P		**P**		**15 24 53.8**	**-1.1**
	comp=Z,175nm,1.9s								
QZH	**Quanzhou**	**23.87**	**341**	P		**P**		**15 24 54.6**	**-3.2**
QZH				S		**S**		**15 29 10.1**	**-0.2**
QZH				LR		LR			
	comp=N,10μm,16.2s								
QZH				LR		LR			
	comp=E,1μm,15.4s								
QZH				LR		LR			
	comp=Z,14μm,29.8s								
LWLI	**Liwa**	**23.95**	**252**	P		**P**		**15 25 01.8**	**+3.0**
	comp=Z,216nm,1.3s,comp=Z,3μm								
MBWA	**Marble Bar**	**24.37**	**196**	*e*P		**P**		**15 25 01.7**	**-0.7**
	comp=Z,174nm,1.3s								
JOW	**Kunigami**	**24.41**	**3**	*e*P		**P**		**15 25 03.6**	**+0.9**
	comp=Z,174nm,1.5s								
GZH	**Guangzhou**	**24.47**	**329**	P		P		15 25 07.1	+3.9
GZH				pmax		pmax			
	comp=Z,200nm,1.5s								
UBPT	**Khong Chiam**	**24.74**	**303**	P		**P**		**15 25 06.4**	**+0.6**
	comp=Z,119nm,1.7s,comp=Z,2μm								
UBPT	**Khong Chiam**	**24.74**	**303**	P		**P**		**15 25 06.4**	**+0.6**
	comp=Z,119nm,1.7s,comp=Z,2μm								
KSI	**Kapahiang**	**25.01**	**256**	P		P		15 25 12.8	+4.4
	comp=Z,244nm,0.9s,comp=Z,4μm								
MASI	**Maura Aman, Be**	**25.24**	**258**	P		P		15 25 18.5	+8.1
IPM	**Ipoh**	**25.91**	**275**	*e*P		**P**		**15 25 15.9**	**-0.6**
	comp=Z,208nm,1.8s								
IPM	**Ipoh**	**25.91**	**275**	P		**P**		**15 25 17.6**	**+1.1**
	comp=Z,44nm,1.9s,comp=Z,935nm								
KULM	**Kulim**	**26.35**	**277**	P		P		15 25 25.9	+5.4
	comp=Z,30nm,1.6s,comp=Z,804nm								
PANO	**Nakornpanom**	**26.39**	**305**	P		**P**		**15 25 22.1**	**+1.3**
	comp=Z,84nm,1.3s								
CHBT	**CHBT**	**26.43**	**294**	P		**P**		**15 25 23.2**	**+2.0**
	comp=Z,51nm,1.5s,comp=Z,2μm								
CHBT	**CHBT**	**26.43**	**294**	P		**P**		**15 25 23.2**	**+2.0**
	comp=Z,51nm,1.5s,comp=Z,2μm								
MTSU	**Mount Surprise**	**26.60**	**141**	P		**P**		**15 25 24.3**	**+1.6**
	baz=27,SNR=6.1								
PPI	**Padang Panjang**	**26.64**	**264**	P		**P**		**15 25 25.2**	**+2.1**
	comp=Z,26nm,1.4s,comp=Z,780nm								
ASAR	**Alice Springs**	**26.72**	**166**	P		**P**		**15 25 23.1**	**-0.5**
ASAR				PcP		**PcP**		**15 28 47.5**	**+1.2**
ASAR				S		S		15 30 06.2	+10
ASAR				ScP		**ScP**		**15 32 25.3**	**+3.2**
ASAR	**Alice Springs**	**26.72**	**166**	P		**P**		**15 25 23.1**	**-0.5**
	comp=Z,5.0nm,0.6s,baz=347,slow=8.0,SNR=91								
ASAR				PcP		**PcP**		**15 28 47.5**	**+1.2**
	comp=Z,7.0nm,0.6s,baz=352,slow=2.3,SNR=12								
ASAR				S		S		15 30 06.2	+10
	comp=Z,1.7nm,0.8s,baz=345,slow=21,SNR=2.7								
ASAR				ScP		**ScP**		**15 32 25.3**	**+3.2**
	comp=Z,1.3nm,0.7s,baz=342,slow=2.9,SNR=4.3								
SKNT	**Sakolnakorn**	**26.82**	**304**	P		**P**		**15 25 25.1**	**+0.4**
	comp=Z,54nm,2.0s								
NAYO	**Nakonayok**	**27.93**	**297**	P		**P**		**15 25 36.2**	**+1.6**
	comp=Z,79nm,1.1s,comp=Z,14μm								
PSI	**Prapat**	**27.95**	**272**	P		**P**		**15 25 34.5**	**-0.4**
PSI	**Prapat**	**27.95**	**272**	P		**P**		**15 25 34.5**	**-0.4**
	comp=Z,6.6nm,0.6s,baz=129,slow=3.7,SNR=15								
PSI	**Prapat**	**27.95**	**272**	P		**P**		**15 25 34.8**	**-0.2**
	baz=28,SNR=7.5								
CHAI	**Chaiyaphum**	**28.00**	**300**	P		**P**		**15 25 35.2**	**0.0**
	comp=Z,22nm,0.8s,comp=Z,157nm								
SSE	**Sheshan**	**29.12**	**350**	P		**P**		**15 25 42.3**	**-2.7**
SSE				S		**S**		**15 30 35.1**	**+1.8**
SSE				sS		sS		15 30 49.1	-7.1
SSE				PcS		**PcS**		**15 32 31.8**	**-3.0**
SSE				pmax		pmax			
	comp=Z,41nm,0.7s								
SSE				pmax		pmax			
	comp=Z,98nm,3.5s								
SSE				LR		LR			
	comp=N,340nm,23.0s								
SSE				LR		LR			
	comp=E,940nm,23.0s								
SSE				LR		LR			
	comp=Z,1μm,21.0s								
PBKT	**Sadao Pong**	**29.17**	**301**	P		**P**		**15 25 46.1**	**+0.5**
	comp=Z,35nm,1.0s								
PBKT	**Sadao Pong**	**29.17**	**301**	P		**P**		**15 25 46.1**	**+0.5**
	comp=Z,35nm,1.0s								
CTA	**Charters Tower**	**29.27**	**140**	P		**P**		**15 25 47.7**	**+1.2**
CTA	**Charters Tower**	**29.27**	**140**	P		**P**		**15 25 47.7**	**+1.2**
	comp=Z,4.5nm,0.8s,baz=311,slow=11,SNR=3.0								
CTAO	**Charters Tower**	**29.27**	**140**	P		**P**		**15 25 46.3**	**-0.2**
CTAO				pmax		pmax			
	comp=Z,284nm,2.1s								
CTAO				MLR		MLR			
	comp=Z,6μm,21.0s								
CTAO	**Charters Tower**	**29.27**	**140**	P		**P**		**15 25 46.2**	**-0.2**
	comp=Z,284nm,2.1s								
CTAO				LR		LR			
	comp=Z,6μm,21.0s								
LOEI	**Loei**	**29.35**	**303**	P		**P**		**15 25 44.5**	**-2.7**
	comp=Z,77nm,1.0s,comp=Z,3μm								
MEEK	**Meekatharra**	**29.88**	**195**	P		**P**		**15 25 51.8**	**0.0**
	baz=30,SNR=12								
NANT	**Nan**	**30.43**	**304**	P		**P**		**15 25 58.1**	**+1.3**
	comp=Z,138nm,0.6s								
NJ2	**Nanjing**	**30.53**	**346**	*e*P		P		15 26 00.1	+2.7
NJ2				pP		pP		15 26 09.3	-1.6
NJ2				sP		sP		15 26 13.4	-3.8
NJ2				S		S		15 31 01.0	+5.6
NJ2				sS		sS		15 31 17.0	-1.2
NJ2				pmax		pmax			
	comp=Z,20nm,0.6s								
NJ2				pmax		pmax			
	comp=Z,640nm,4.5s								
NJ2				LR		LR			
	comp=N,1μm,11.7s								
NJ2				LR		LR			
	comp=E,3μm,12.3s								
NJ2				LR		LR			
	comp=Z,2μm,9.8s								
JNU	**Nakatsue**	**30.86**	**7**	*e*P		**P**		**15 26 00.4**	**-0.1**
	comp=Z,13nm,0.8s								
GYA	**Guiyang**	**30.88**	**323**⇑	*i*P		P		15 26 03.3	+2.5
GYA				pP		pP		15 26 12.6	-1.7
GYA				sP		sP		15 26 19.8	-0.8
GYA				PP		**PP**		**15 27 06.4**	**-4.9**
GYA				S		**S**		**15 31 06.0**	**+4.7**
GYA				sS		sS		15 31 22.8	-1.3
GYA				ScP		**ScP**		**15 32 38.9**	**+3.7**
GYA				SS		**SnSn**		**15 32 50.8**	**+5.9**
GYA				ScS		**ScS**		**15 36 32.5**	**+0.2**
GYA				pmax		pmax			
	comp=Z,40nm,0.8s								
GYA				pmax		pmax			
	comp=Z,150nm,4.8s								
GYA				LR		LR			
	comp=N,880nm,17.5s								
GYA				LR		LR			
	comp=E,690nm,18.3s								
GYA				LR		LR			
	comp=Z,920nm,17.9s								
LAMP	**Lampang**	**31.19**	**303**	P		**P**		**15 26 04.6**	**+1.1**
	comp=Z,8.5nm,0.9s,comp=Z,96nm								
CMAR	**Chiang Mai Arr**	**31.74**	**302**	P		**P**		**15 26 08.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**31.74**	**302**	P		**P**		**15 26 08.9**	**+0.5**
	comp=Z,7.5nm,0.7s,baz=126,slow=7.6,SNR=36								
CMAR				LR		LR		15 40 14.5	
	comp=Z,616nm,20.7s,baz=100,slow=39								
CMMT	**Chiang Mai**	**31.90**	**303**	P		**P**		**15 26 10.0**	**+0.2**
	comp=Z,56nm,1.3s,comp=Z,693nm								
CMMT	**Chiang Mai**	**31.90**	**303**	P		**P**		**15 26 10.0**	**+0.2**
	comp=Z,56nm,1.3s,comp=Z,693nm								
CHTO	**Chiang Mai**	**31.90**	**303**	*e*P		**P**		**15 26 09.9**	**+0.1**
CHTO				pmax		pmax			
	comp=Z,27nm,0.7s								
CHTO	**Chiang Mai**	**31.90**	**303**	*e*P		**P**		**15 26 09.9**	**+0.1**
	comp=Z,27nm,0.7s								
CHTO	**Chiang Mai**	**31.90**	**303**	P		**P**		**15 26 10.2**	**+0.4**
	comp=Z,60nm,1.3s,comp=Z,714nm								
CHTO	**Chiang Mai**	**31.90**	**303**	P		**P**		**15 26 10.2**	**+0.4**
	comp=Z,60nm,1.3s,comp=Z,714nm								
ENH	**Enshi**	**32.33**	**331**	*e*P		**P**		**15 26 12.9**	**-0.5**
	comp=Z,25nm,0.8s								
CMAI	**Chiengmai2**	**32.35**	**305**	P		**P**		**15 26 14.2**	**+0.3**
	comp=Z,122nm,1.4s,comp=Z,16μm								
KMI	**Kunming**	**32.50**	**316**	P		**P**		**15 26 15.8**	**+0.7**
KMI				pP		**pP**		**15 26 25.8**	**-2.9**
KMI				sP		**sP**		**15 26 31.3**	**-3.7**
KMI				PP		**PnPn**		**15 27 24.6**	**+0.6**
KMI				S		**S**		**15 31 27.1**	**+0.3**
KMI				sS		**sS**		**15 31 48.4**	**-1.3**
KMI				SS		**SnSn**		**15 33 29.4**	**+4.9**
KMI				pmax		pmax			
	comp=Z,55nm,1.5s								
KMI				pmax		pmax			
	comp=Z,220nm,3.1s								
KMI				LR		LR			
	comp=N,1μm,19.2s								
KMI				LR		LR			
	comp=E,1μm,19.9s								
KMI				LR		LR			
	comp=Z,3μm,20.5s								
MORW	**Morawa**	**32.90**	**198**	P		**P**		**15 26 19.0**	**+0.7**
	baz=33,SNR=7.9								
FORT	**Forrest**	**32.94**	**178**	*e*P		**P**		**15 26 18.0**	**-0.6**
	comp=Z,51nm,0.7s								
FORT	**Forrest**	**32.94**	**178**	P		**P**		**15 26 20.2**	**+1.6**
	baz=33,SNR=7.6								
BLDU	**Ballidu**	**34.17**	**196**	P		**P**		**15 26 30.8**	**+1.5**
	baz=34,SNR=6.3								
KLBR	**Kellerberrin**	**34.83**	**194**	P		**P**		**15 26 35.2**	**+0.2**
	baz=35,SNR=16								
KSAR	**Wonju Array Be**	**34.96**	**1**	P		**P**		**15 26 37.3**	**+1.2**
KSAR				PcP		**PcP**		**15 29 09.8**	**+2.1**
KSRS	**Korea Array**	**34.97**	**1**	P		**P**		**15 26 37.3**	**+1.1**
	comp=Z,14nm,0.8s,baz=176,slow=9.6,SNR=43								
KSRS				PcP		**PcP**		**15 29 09.8**	**+2.1**
	comp=Z,1.4nm,0.7s,baz=195,slow=2.5,SNR=5.5								
INCN	**Inchon**	**34.99**	**360**	*e*P		**P**		**15 26 37.0**	**+0.6**
	comp=Z,23nm,0.8s								
RMQ	**Roma**	**35.59**	**145**	P		P		15 26 46.4	+4.7
	baz=36,SNR=5.4								
MAJO	**Matsushiro**	**35.62**	**16**	*e*P		**P**		**15 26 40.4**	**-1.4**
MAJO				pmax		pmax			
	comp=Z,339nm,1.8s								
MAJO				MLR		MLR			
	comp=Z,2μm,21.0s								
MAJO	**Matsushiro**	**35.62**	**16**	*e*P		**P**		**15 26 40.4**	**-1.4**
	comp=Z,339nm,1.8s								
MAJO				LR		LR			
	comp=Z,2μm,21.0s								
MJAR	**Matsushiro Arr**	**35.62**	**16**	P		**P**		**15 26 41.5**	**-0.4**
MJAR	**Matsushiro Arr**	**35.62**	**16**	P		**P**		**15 26 41.5**	**-0.4**
	comp=Z,11nm,0.7s,baz=176,slow=9.1,SNR=30								
MJAR				LR		LR		15 39 52.2	
	comp=Z,1μm,21.6s,baz=200,slow=34								
XAN	**Xi'an**	**35.74**	**334**	P		**P**		**15 26 42.8**	**-0.2**
XAN				pmax		pmax			
	comp=Z,14nm,1.4s								
XAN				LR		LR			
	comp=N,920nm,25.2s								
XAN				LR		LR			
	comp=E,120nm,28.0s								
XAN				LR		LR			
	comp=Z,450nm,23.3s								
CD2	**Chengdu**	**35.88**	**325**	*e*P		**P**		**15 26 44.3**	**+0.1**
CD2				pP		**pP**		**15 26 55.0**	**-2.8**
CD2				sP		**sP**		**15 26 59.3**	**-4.8**
CD2				PP		**PP**		**15 28 07.8**	**+1.3**
CD2				PcP		**PcP**		**15 29 11.3**	**+0.7**
CD2				S		**S**		**15 32 20.3**	**+1.7**
CD2				sS		**sS**		**15 32 37.3**	**-4.3**
CD2				SS		**SnSn**		**15 34 44.5**	**-1.5**
CD2				ScS		**ScS**		**15 36 57.3**	**-0.7**
CD2				pmax		pmax			
	comp=Z,50nm,1.2s								
CD2				pmax		pmax			
	comp=Z,310nm,8.2s								
CD2				LR		LR			
	comp=E,2μm,23.4s								
CD2				LR		LR			
	comp=Z,2μm,22.6s								
BBOO	**Buckleboo**	**36.00**	**167**	*e*P		**P**		**15 26 44.9**	**-0.2**
	comp=Z,654nm,1.1s								
BBOO	**Buckleboo**	**36.00**	**167**	P		**P**		**15 26 45.1**	**-0.1**
	baz=36,SNR=30								
EIDS	**Eidsvold**	**36.15**	**141**	*e*P		**P**		**15 26 46.0**	**-0.5**
	comp=Z,102nm,1.4s								
EIDS	**Eidsvold**	**36.15**	**141**	P		**P**		**15 26 46.2**	**-0.3**
	baz=36,SNR=4.1								
DL2	**Dalian**	**36.73**	**353**	P		**P**		**15 26 52.9**	**+1.7**
DL2				S		**S**		**15 32 35.5**	**+4.3**
DL2				pmax		pmax			
	comp=Z,97nm,1.6s								
DL2				pmax		pmax			
	comp=Z,650nm,3.4s								
DL2				LR		LR			
	comp=N,630nm,23.5s								
DL2				LR		LR			
	comp=Z,870nm,23.5s								
STKA	**Stephens Creek**	**36.77**	**159**	P		**P**		**15 26 51.2**	**-0.4**
STKA				PcP		**PcP**		**15 29 14.7**	**+1.5**
STKA	**Stephens Creek**	**36.77**	**159**	P		**P**		**15 26 51.2**	**-0.4**
	comp=Z,45nm,0.8s,baz=331,slow=7.4,SNR=71								
STKA				PcP		**PcP**		**15 29 14.7**	**+1.5**
	comp=Z,12nm,0.7s,baz=314,slow=7.2,SNR=3.6								
STKA	**Stephens Creek**	**36.77**	**159**	P		**P**		**15 26 51.2**	**-0.4**
	baz=37,SNR=69								
RKGY	**Rocky Gully**	**37.90**	**193**	P		**P**		**15 27 02.8**	**+1.6**
	baz=38,SNR=11								
CMSA	**Cobar Meteorol**	**38.12**	**154**	P		**P**		**15 27 03.2**	**+0.1**
	baz=38,SNR=21								
BJT	**Baijiatuan**	**38.77**	**347**	*e*P		**P**		**15 27 08.9**	**+0.4**
	comp=Z,64nm,0.7s								
BJT				LR		LR			
	comp=Z,559nm,22.0s								
BJI	**Beijing**	**38.78**	**347**	P		**P**		**15 27 07.8**	**-0.8**
BJI				PP		**PnPn**		**15 28 40.8**	**-0.1**
BJI				S		**S**		**15 32 57.8**	**-4.5**
BJI				pmax		pmax			
	comp=Z,93nm,1.2s								
BJI				pmax		pmax			
	comp=Z,480nm,3.8s								
BJI				LR		LR			
	comp=N,630nm,26.2s								
BJI				LR		LR			
	comp=E,940nm,24.7s								
BJI				LR		LR			
	comp=Z,2μm,24.7s								
SNY	**Shenyang**	**39.44**	**356**	⇑P		**P**		**15 27 15.0**	**+1.0**
SNY				S		**S**		**15 33 16.8**	**+4.7**
SNY				pmax		pmax			
	comp=Z,55nm,1.7s								
SNY				pmax		pmax			
	comp=Z,540nm,4.4s								
SNY				LR		LR			
	comp=N,790nm,18.4s								
SNY				LR		LR			
	comp=E,700nm,22.3s								
SNY				LR		LR			
	comp=Z,1μm,23.5s								
LZH	**Lanzhou**	**39.80**	**330**	⇑P		**P**		**15 27 18.3**	**+1.0**
LZH				pP		**pP**		**15 27 28.8**	**-2.3**
LZH				sP		**sP**		**15 27 32.8**	**-4.5**
LZH				PP		**PnPn**		**15 28 55.6**	**+2.4**
LZH				PcP		**PcP**		**15 29 22.5**	**-0.2**
LZH				ScP		**ScP**		**15 33 07.8**	**+0.4**
LZH				S		**S**		**15 33 22.3**	**+4.3**
LZH				SS		**SS**		**15 36 13.5**	**-2.3**
LZH				ScS		**ScS**		**15 37 20.8**	**+0.4**
LZH				pmax		pmax			
	comp=Z,81nm,1.2s								
LZH				pmax		pmax			
	comp=Z,430nm,5.5s								
LZH				LR		LR			
	comp=N,2μm,16.0s								
LZH				LR		LR			
	comp=E,4μm,17.1s								
LZH				LR		LR			
	comp=Z,4μm,17.6s								
ARMA	**Armidale**	**40.21**	**146**	*e*P		**P**		**15 27 21.2**	**+0.5**
	comp=Z,59nm,1.0s								
ARMA	**Armidale**	**40.21**	**146**	P		**P**		**15 27 21.2**	**+0.5**
	baz=40,SNR=12								
HHC	**Hu-ho-hao-te**	**40.78**	**342**	*e*P		**P**		**15 27 26.5**	**+1.2**
HHC				pP		**pP**		**15 27 36.3**	**-2.9**
HHC				sP		**sP**		**15 27 40.3**	**-5.0**
HHC				PP		**PnPn**		**15 29 04.8**	**+0.2**
HHC				PcS		**PcS**		**15 33 16.5**	**-0.1**
HHC				S		**S**		**15 33 36.3**	**+3.9**
HHC				sS		**sS**		**15 33 52.8**	**-3.0**
HHC				SS		**SS**		**15 36 34.6**	**-0.5**
HHC				ScS		**ScS**		**15 37 26.4**	**+0.5**
HHC				pmax		pmax			
	comp=Z,35nm,1.1s								
HHC				pmax		pmax			
	comp=Z,420nm,5.1s								
HHC				LR		LR			
	comp=N,3μm,25.5s								
HHC				LR		LR			
	comp=E,2μm,26.0s								
HHC				LR		LR			
	comp=Z,5μm,26.3s								
SHL	**Shillong**	**40.85**	**308**	*e*P		**P**		**15 27 25.2**	**-1.0**
VLA	**Vladivostok**	**40.86**	**6**‖	*e*P		**P**		**15 27 25.6**	**-0.2**
VLA				S		**S**		**15 33 33.8**	**+0.5**
VLA				pmax		pmax			
	comp=Z,32nm,1.2s								
BTO	**Baotou**	**41.05**	**340**	*e*P		P		15 27 19.3	-8.3
ARPS	**Mount Arapiles**	**41.31**	**162**	P		**P**		**15 27 30.6**	**+1.1**
	baz=42,SNR=13								
CN2	**Changchun**	**41.32**	**358**	*e*P		**P**		**15 27 30.1**	**+0.5**
CN2				*e*sP		**sP**		**15 27 44.8**	**-4.8**
CN2				*e*S		**S**		**15 33 43.3**	**+3.1**
CN2				pmax		pmax			
	comp=Z,20nm,1.2s								
CN2				pmax		pmax			
	comp=Z,300nm,5.0s								
CN2				LR		LR			
	comp=N,600nm,24.0s								
CN2				LR		LR			
	comp=E,600nm,24.0s								
CN2				LR		LR			
	comp=Z,900nm,21.0s								
YNG	**Young**	**41.66**	**153**	P		**P**		**15 27 34.1**	**+1.6**
	baz=42,SNR=7.6								
USRK	**Ussuriysk Arra**	**41.94**	**5**	P		**P**		**15 27 36.2**	**+1.6**
	comp=Z,20nm,0.8s,baz=186,slow=6.7,SNR=34								
USRK				LR		LR		15 45 51.6	
	comp=Z,377nm,20.6s,baz=176,slow=37								
ERM	**Erimo**	**42.13**	**18**	*e*P		**P**		**15 27 35.8**	**-0.3**
ERM				pmax		pmax			
	comp=Z,71nm,1.7s								
MDJ	**Mudanjiang**	**42.18**	**3**	P		**P**		**15 27 37.9**	**+1.3**
MDJ				sP		sP		15 27 49.5	-7.2
MDJ				pmax		pmax			
	comp=Z,48nm,1.6s								
MDJ				pmax		pmax			
	comp=Z,250nm,5.1s								
MDJ				LR		LR			
	comp=N,590nm,25.6s								
MDJ				LR		LR			
	comp=Z,990nm,25.6s								
MDJ	**Mudanjiang**	**42.18**	**3**	*e*P		**P**		**15 27 37.0**	**+0.4**
	comp=Z,108nm,1.4s								
CAN	**Canberra**	**42.79**	**153**	*e*P		**P**		**15 27 41.6**	**-0.1**
CAN				pmax		pmax			
	comp=Z,49nm,1.0s								
CAN				MLR		MLR			
	comp=Z,3μm,20.0s								
CAN	**Canberra**	**42.79**	**153**	*e*P		**P**		**15 27 41.6**	**-0.1**
	comp=Z,49nm,1.0s								
CAN				LR		LR			
	comp=Z,3μm,20.0s								
LSA	**Lhasa**	**43.50**	**312**	P		**P**		**15 27 49.0**	**+0.9**
LSA	**Lhasa**	**43.50**	**312**	*e*P		**P**		**15 27 49.4**	**+1.3**
LSA				pmax		pmax			
	comp=Z,110nm,1.4s								
LSA	**Lhasa**	**43.50**	**312**	*e*P		**P**		**15 27 49.4**	**+1.3**
	comp=Z,110nm,1.4s								
ASAJ	**Asahikawa**	**43.88**	**16**	*e*P		**P**		**15 27 51.2**	**+0.8**
	comp=Z,37nm,1.4s								
ASAJ	**Asahikawa**	**43.88**	**16**	P		**P**		**15 27 51.8**	**+1.4**
	comp=Z,9.7nm,0.6s,baz=209,slow=6.6								
ASAJ				LR		LR		15 44 51.6	
	comp=Z,1μm,21.0s,baz=67,slow=34								
GTA	**Gaotai**	**44.38**	**330**	P		**P**		**15 27 54.8**	**+0.2**
GTA				pP		**pP**		**15 28 04.6**	**-4.0**
GTA				sP		sP		15 28 08.6	-6.2
GTA				PcP		**PP**		**15 29 40.4**	**+1.4**
GTA				S		**S**		**15 34 26.3**	**+0.7**
GTA				sS		sS		15 34 43.5	-5.6
GTA				SS		SS		15 37 37.3	-8.9
GTA				pmax		pmax			
	comp=Z,14nm,2.0s								
GTA				pmax		pmax			
	comp=Z,150nm,5.9s								
GTA				LR		LR			
	comp=N,1μm,23.8s								
GTA				LR		LR			
	comp=E,1μm,22.8s								
GTA				LR		LR			
	comp=Z,3μm,23.3s								
YUK	**Yuzh-Kuril'sk**	**44.81**	**19***d*	*i*P		**P**		**15 27 56.6**	**-1.1**
YUK				*e*				15 29 37.3	
YUK				*e*S		**S**		**15 34 35.7**	**+4.4**
YUK				*i* SS		**SS**		**15 37 52.6**	**-1.4**
YUK				pmax		pmax			
	comp=Z,992nm,2.1s								
TAPN	**Taplejung**	**44.99**	**307**	*e*P		**P**		**15 27 59.8**	**0.0**
	comp=Z,129nm,1.2s								
ODAN	**Odare**	**45.03**	**307**	*e*P		**P**		**15 28 00.4**	**+0.3**
	comp=Z,67nm,0.7s								
DZM	**Mont Dzumac**	**45.60**	**124**	*e*LR		LR		15 40 54.7	
	comp=Z,4μm,23.9s								
RAMN	**Ramite**	**45.70**	**306**	*e*P		**P**		**15 28 06.0**	**+0.6**
	comp=Z,88nm,0.8s								
JIRN	**Jiri**	**46.34**	**307**	*e*P		**P**		**15

KLR eS S 15 35 17.5 +16
KLR pmax pmax
comp=Z,150nm,1.8s
KLR MLR MLR
comp=Z,700nm,18.0s
PKI Pulchoki 46.92 306 *e*P **P 15 28 14.8 -0.3**
comp=Z,21nm,0.6s
PKIN Phulchoki 46.94 306 *e*P **P 15 28 14.7 -0.4**
comp=Z,27nm,0.7s
KKN Kakani 47.12 307 *e*P **P 15 28 16.4 -0.1**
comp=Z,42nm,0.8s
HIA Hailar 47.17 354 *e*P **P 15 28 17.6 +1.3**
comp=Z,33nm,0.9s
HIA LR LR
comp=Z,1μm,22.0s
DMN Daman 47.18 306 *e*P **P 15 28 16.8 -0.3**
KOLN Koldanda 48.47 306 *e*P **P 15 28 26.9 0.0**
comp=Z,79nm,0.6s
ULN Ulaanbaatar 48.50 342 *e*P **P 15 28 27.6 +0.9**
comp=Z,99nm,1.4s
ULN LR LR
comp=Z,1μm,22.0s
DANN Dangsing 48.57 307 *e*P **P 15 28 27.6 -0.2**
comp=Z,85nm,0.6s
SONM Songino Array 48.68 342 P **P 15 28 29.1 +1.0**
SONM ScP **ScP 15 33 49.0 +5.6**
SONM Songino Array 48.68 342 P **P 15 28 29.1 +1.0**
comp=Z,12nm,0.9s,baz=168,slow=8.4,SNR=35
SONM ScP **ScP 15 33 49.0 +5.6**
comp=Z,0.8nm,0.9s,baz=172,slow=2.9,SNR=3.4
SONM LR LR 15 51 16.3
comp=Z,1μm,20.8s,baz=158,slow=39
HYB Hyderabad 49.76 291 *i* P **P 15 28 36.5 -0.2**
CIT Chita 50.77 349 *e*P P 15 28 46.4 +2.6
CIT pmax pmax
comp=Z,249nm,1.8s
ZAK Zakamensk 51.90 341⇑ *i*P **P 15 28 53.2 +0.8**
ZAK pmax pmax
comp=Z,12nm,1.6s
TLY Talaya 52.91 342 *c i*P **P 15 29 01.2 +1.4**
TLY *e* 15 30 08.1
TLY *e*S **S 15 36 29.6 +4.6**
TLY pmax pmax
comp=Z,83nm,1.6s
TLY MLR MLR
comp=Z,462nm,22.0s
TLY Talaya 52.91 342 P P 15 29 01.9 +2.1
comp=Z,177nm,1.8s,SNR=15
IRK Irkutsk 53.21 343 *e*P **P 15 29 02.9 +0.9**
IRK *e*S **S 15 36 32.9 +3.8**
IRK pmax pmax
comp=Z,152nm,1.9s
MOY Mondy 53.75 340 *e*P **P 15 29 07.5 +1.4**
MOY pmax pmax
comp=Z,149nm,2.0s
WMQ Urumqi 53.97 326 P **P 15 29 09.0 +1.3**
WMQ pP **pP 15 29 19.1 -3.0**
WMQ sP **sP 15 29 23.0 -5.2**
WMQ PcP **PcP 15 30 13.8 +1.3**
WMQ PP **PP 15 31 11.9 +2.3**
WMQ ScP **ScP 15 34 07.6 +1.3**
WMQ S **S 15 36 41.0 +1.3**
WMQ sS sS 15 36 57.8 -6.1
WMQ ScS **ScS 15 38 52.3 -0.4**
WMQ SS **SS 15 40 21.9 +0.1**
WMQ pmax pmax
comp=Z,21nm,1.1s
WMQ pmax pmax
comp=Z,140nm,3.8s
WMQ LR LR
comp=N,910nm,21.9s
WMQ LR LR
comp=E,950nm,21.2s
WMQ LR LR
comp=Z,1μm,30.0s
NDI New Delhi 54.03 304 *ex* **P 15 29 06.0 -2.4**
MSVF Nonsavu 54.19 114 *e*P **P 15 29 10.5 +0.7**
MSVF pmax pmax
comp=Z,76nm,1.3s
MSVF Nonsavu 54.19 114 *e*P **P 15 29 10.5 +0.7**
comp=Z,76nm,1.3s
SMLA Simla 54.93 307 *i* P **P 15 29 14.8 -0.1**
SMLA Simla 54.93 307 *i x* **P 15 29 14.8 -0.1**
HVS Khovu-Aksy 56.08 335 *d i*P **P 15 29 24.5 +1.7**
HVS pmax pmax
comp=Z,136nm,1.3s
PETK Petropavlovsk- 56.66 22 P **P 15 29 28.1 +1.3**
PETK Petropavlovsk- 56.66 22 P **P 15 29 28.1 +1.3**
PETK P'P'ab **P'P'ab 15 59 50.8 +0.1**
PETK Petropavlovsk- 56.66 22 P **P 15 29 28.1 +1.3**
comp=Z,5.5nm,0.6s,baz=184,slow=4.5,SNR=27
PETK PKP2ab 15 59 50.8
comp=Z,3.0nm,1.0s,baz=128,slow=11,SNR=3.7
PET Petropavlovsk 56.95 22 *e*P **P 15 29 30.2 +1.3**
PET *e*S **S 15 37 23.0 +4.0**
PET pmax pmax
comp=Z,300nm,10.0s
PET pmax pmax
comp=Z,47nm,1.3s
PET MLR MLR
comp=Z,600nm,19.0s
PET MLR MLR
comp=Z,500nm,19.0s
MK31 Makanchi Array 58.80 326 *c e*P **P 15 29 42.0 0.0**
MK31 pmax pmax
comp=Z,5.0nm,0.3s
MKAR Makanchi Array 58.80 326 P **P 15 29 42.4 +0.3**
MKAR Makanchi Array 58.80 326 P **P 15 29 42.4 +0.3**
MKAR ScP **ScP 15 34 30.9 +3.5**
MKAR ⇑*e* 15 59 25.1
MKAR Makanchi Array 58.80 326 P **P 15 29 42.4 +0.3**
comp=Z,18nm,0.7s,baz=122,slow=8.4,SNR=139
MKAR ScP **ScP 15 34 30.9 +3.5**
comp=Z,0.7nm,0.8s,baz=136,slow=2.4,SNR=5.8
MKAR LR LR 15 55 19.3
comp=Z,432nm,20.5s,baz=102,slow=36
MKAR PKP2bc 15 59 25.1
comp=Z,0.6nm,0.8s,baz=300,slow=2.7,SNR=6.1
KSH Kashi 59.16 316 P **P 15 29 46.6 +1.8**
KSH pP **pP 15 29 56.8 -2.5**
KSH sP **sP 15 30 00.9 -4.4**
KSH PcS **PcS 15 34 33.4 -1.5**
KSH S **S 15 37 50.4 +1.8**
KSH sS sS 15 38 07.1 -5.9
KSH ScS **ScS 15 39 30.4 -0.2**
KSH pmax pmax
comp=Z,7.0nm,0.6s
KSH pmax pmax
comp=Z,91nm,4.5s
KSH LR LR
comp=N,430nm,12.9s
KSH LR LR
comp=E,250nm,8.1s
KSH LR LR
comp=Z,710nm,21.2s
YAK Yakutsk 59.60 2 *c i*P **P 15 29 47.7 +0.5**
YAK *e**PP **pP 15 29 58.2 -3.5**
YAK *e* 15 30 33.9
YAK *e* 15 32 00.1
YAK *e*PPP PPP 15 33 21.2
YAK *e*S **S 15 37 53.5 +0.3**
YAK *e**SS sS 15 38 11.2 -6.5
YAK *e* 15 39 31.8
YAK *e*SS **SS 15 41 44.9 -4.6**
YAK pmax pmax
comp=Z,42nm,1.3s
YAK pmax pmax
comp=N,30nm,1.4s
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK pmax pmax
comp=Z,64nm,2.1s
YAK pmax pmax
comp=N,58nm,2.0s
YAK pmax pmax
comp=E,12nm,1.6s
YAK smax smax
comp=N,98nm,3.8s
YAK smax smax
comp=E,65nm,3.0s
YAK MLR MLR
comp=Z,996nm,24.0s
YAK MLR MLR
comp=N,855nm,25.0s
YAK MLR MLR
comp=E,88nm,19.0s
KRAR Krasnoyarsk 60.11 339 *e*P **P 15 29 52.1 +1.3**
KRAR pmax pmax
comp=Z,43nm,1.6s
RPZ Rata Peaks 60.52 145 P **P 15 29 53.9 0.0**
RPZ Rata Peaks 60.52 145 P **P 15 29 53.9 0.0**
baz=246,slow=3.1
KZA Kyzart 60.76 318 *i* P **P 15 29 57.8 +1.7**
KZA Kyzart 60.76 318 P **P 15 29 57.8 +1.7**
SNR=12
TKM2 Tokmak 2 60.91 319 *i* P **P 15 29 58.0 +1.2**
TKM2 Tokmak 2 60.91 319 P **P 15 29 58.0 +1.2**
SNR=12
URZ Urewera 61.41 136 P **P 15 29 58.9 -1.1**
AAK Ala-Archa 61.51 318 *c i*P **P 15 30 01.9 +1.1**
AAK pmax pmax
comp=Z,49nm,2.5s
AAK Ala-Archa 61.51 318 *e*P **P 15 30 02.1 +1.2**
comp=Z,29nm,1.4s
AAK LR LR
comp=Z,337nm,19.0s
FRU Bishkek 61.51 319 *e*P **P 15 30 01.0 +0.3**
FRU pmax pmax
comp=Z,186nm,2.8s
USP Ospenovka 61.78 319 *i* P **P 15 30 02.9 +0.4**
USP Ospenovka 61.78 319 P **P 15 30 02.9 +0.4**
SNR=14
AML Almayashu 61.83 317 *i* P **P 15 30 04.9 +1.6**
AML Almayashu 61.83 317 P **P 15 30 04.9 +1.6**
SNR=22
ZALV Zalesovo Beam 61.91 333 *i* P **P 15 30 03.5 +0.4**
ZALV pmax pmax
comp=Z,7.0nm,0.6s
ZALV Zalesovo Beam 61.91 333 P **P 15 30 03.1 +0.1**
ZALV ⇑*e* 15 59 20.6
ZALV P'P'ab **P'P'ab 15 59 29.8 +0.5**
ZALV Zalesovo Beam 61.91 333 P **P 15 30 03.1 +0.1**
comp=Z,6.8nm,0.6s,baz=125,slow=7.4,SNR=19
ZALV PKP2bc 15 59 20.6
comp=Z,2.0nm,0.8s,baz=304,slow=3.5,SNR=4.7
ZALV PKP2ab 15 59 29.8
comp=Z,1.5nm,0.8s,baz=299,slow=3.1,SNR=5.0
ZALV LR LR 16 00 54.0
comp=Z,144nm,21.8s,baz=81,slow=40
EKS2 Erkin-Say 62.00 318 P **P 15 30 05.7 +1.7**
SNR=6.3
KURK Kurchatov 63.01 328 P **P 15 30 10.9 +0.4**
comp=Z,323nm,0.5s,SNR=49
NVS Novosibirsk 63.20 333⇑ *i*P **P 15 30 10.5 -1.1**
NVS *e*S **S 15 38 42.9 +3.8**
NVS pmax pmax
comp=N,38nm,1.7s
NVS pmax pmax
comp=Z,73nm,1.7s
NVS pmax pmax
comp=E,34nm,1.5s
NVS smax smax
comp=E,13nm,1.7s
FX1 Attu Island--F 63.22 29 P P 15 30 14.1 +2.3
FX1 Attu Island--F 63.22 29 P P 15 30 14.1 +2.3
comp=E,24nm,0.9s,baz=225,slow=11,SNR=4.3
SEY Seymchan 63.36 13 *e*P P 15 30 14.6 +2.1
KK31 Karatay Array 64.37 317 *c e*P **P 15 30 20.2 +0.5**
KK31 pmax pmax
comp=Z,13nm,0.7s
KKAR Karatay Array 64.37 317 *e*P **P 15 30 20.2 +0.5**
KKAR pmax pmax
comp=Z,15nm,0.8s
KKAR Karatay Array 64.37 317 *e*P **P 15 30 20.1 +0.5**
comp=Z,15nm,0.8s
VOSK Vostochnaya 68.13 327 P **P 15 30 43.5 0.0**
VOSK pmax pmax
comp=Z,20nm,0.7s
BVA0 Borovoye Array 68.58 327 P **P 15 30 46.5 +0.2**
BVA0 pmax pmax
comp=Z,46nm,1.4s
BRVK Borovoye 68.66 327 P **P 15 30 48.5 +1.7**
comp=Z,241nm,0.9s,SNR=13
BRVK Borovoye 68.66 327 *c i*P **P 15 30 47.3 +0.5**
BRVK pmax pmax
comp=Z,97nm,1.7s
BRVK Borovoye 68.66 327 *e*P **P 15 30 47.2 +0.4**
comp=Z,105nm,1.4s
BRVK LR LR
comp=Z,450nm,21.0s
TIXI Tiksi 69.24 1 *c i*P **P 15 30 50.0 0.0**
TIXI pmax pmax
comp=Z,84nm,1.7s
CASY Casey 69.45 187 *e*P **P 15 30 50.8 -0.6**
comp=Z,88nm,1.5s
CASY LR LR
comp=Z,595nm,20.0s
DRV Dumont d'Urvil 69.47 174 PP PP 15 33 29.0 +3.4
DRV S **S 15 39 51.0 -3.7**
DRV SP **SKiKP 15 40 38.0 +2.2**
DRV L L 15 49 00.0
DRV R 15 54 00.0
MIR Mirnyy 72.84 194⇓ *i*P P 15 31 15.0 +3.1
MIR pmax pmax
comp=Z,182nm,2.0s
AB31 Akbulak array 73.34 321 *i* P **P 15 31 14.8 -0.4**
AB31 pmax pmax
comp=Z,46nm,1.0s
ABKAR Akbulak array 73.34 321 *e*P **P 15 31 15.7 +0.4**
comp=Z,12nm,0.7s
SVE Sverdlovsk 75.24 329 *d e*P **P 15 31 26.9 +0.8**
SVE *e*S **S 15 41 04.9 +3.8**
SVE pmax pmax
comp=Z,161nm,1.6s
SVE MLR MLR
comp=Z,898nm,25.0s
ARU Arti 76.21 328 *c i*P **P 15 31 31.6 -0.1**
ARU 15 34 23.2
ARU PPP PPP 15 36 06.8
ARU S **S 15 41 14.1 +2.3**
ARU pmax pmax
comp=Z,114nm,1.7s
ARU MLR MLR
comp=Z,682nm,25.0s
ARU Arti 76.21 328 P **P 15 31 31.3 -0.4**
comp=Z,271nm,1.2s,SNR=16
SOKR Solikamsk 78.02 331 *c i*P **P 15 31 42.4 +0.7**
SOKR pmax pmax
comp=Z,70nm,1.8s
SOKR MLR MLR
comp=Z,620nm,24.0s
KBD Kabd 79.44 299 *e*P **P 15 31 50.9 +0.7**
KBD AMb AMB 15 31 54.7
comp=Z,20nm,0.8s
UMR Umm Al-Rimmam 79.44 299 *e*P **P 15 31 50.4 +0.2**
UMR AMb AMB 15 31 56.7
comp=Z,51nm,0.9s
NAY Al-Naaiem 79.84 299 *e*P **P 15 31 52.5 +0.1**
NAY AMb AMB 15 31 54.8
comp=Z,21nm,0.9s
OPO Ambohidratompo 80.99 251 P **P 15 32 00.2 +1.3**
OPO Ambohidratompo 80.99 251 P **P 15 32 00.2 +1.3**
comp=Z,4.9nm,0.6s,baz=53,slow=3.4,SNR=7.4
VNDA Vanda 82.02 173 P **P 15 32 03.5 +0.5**
VNDA Vanda 82.02 173 P **P 15 32 03.5 +0.5**
comp=Z,4.9nm,0.8s,baz=319,slow=6.3,SNR=35
VNDA LR LR 16 08 17.6
comp=Z,638nm,21.4s,baz=331,slow=36
DGRG David-gareji 82.11 311 P **P 15 32 05.9 +1.6**
MAW Mawson 82.50 200 P **P 15 32 06.8 +1.2**
MAW Mawson 82.50 200 P **P 15 32 06.8 +1.2**
comp=Z,5.8nm,0.7s,baz=64,slow=6.6,SNR=6.1
MAW Mawson 82.50 200 P P 15 32 07.8 +2.2
baz=83,SNR=9.1
GNI Garni 82.51 310 *e*P P 15 32 09.0 +2.4
comp=Z,76nm,1.2s
SEAG Tbilisi Sea 82.56 312 P P 15 32 08.9 +2.2
TBLG Delisi 82.60 312 P **P 15 32 08.1 +1.2**
TBLG Delisi 82.60 312 P **P 15 32 08.1 +1.2**
DUS Dusheti 82.65 312 P P 15 32 10.0 +2.8
KZR Kazreti 82.83 311 P P 15 32 10.2 +2.2
SBA Scott Base 82.93 172 *e*P **P 15 32 09.2 +1.5**
SBA pmax pmax
comp=Z,31nm,1.2s
SBA MLR MLR
comp=Z,689nm,20.0s
SBA Scott Base 82.93 172 *e*P **P 15 32 09.2 +1.5**
comp=Z,31nm,1.2s
SBA LR LR
comp=Z,689nm,20.0s
KDAK Kodiak Island 82.98 32 P **P 15 32 10.0 +1.6**
comp=Z,172nm,0.8s,SNR=8.5
KDAK Kodiak Island 82.98 32 *e*P **P 15 32 09.8 +1.4**
comp=Z,29nm,0.8s
KDAK Kodiak Island 82.98 32 P **P 15 32 10.2 +1.8**
comp=Z,14nm,0.5s,baz=243,slow=2.8,SNR=23
RSO Redoubt South 83.22 29 *e*P **P 15 32 11.4 +1.5**
comp=Z,18nm,0.6s
ZEI Tsey 83.28 313 *e*P **P 15 32 10.3 -0.3**
ZEI pmax pmax
comp=Z,88nm,1.4s
AKH Akhalkalaki 83.52 311 P P 15 32 14.1 +2.3
PPLA Purkeypile 83.80 27 *e*P **P 15 32 14.3 +1.6**
comp=Z,186nm,1.8s
GOF Gofitskoye 84.02 315 *e*P P 15 32 06.2 -7.8
GOF pmax pmax
comp=Z,60nm,1.3s
KBZ Khabaz 84.06 314 P **P 15 32 15.8 +1.6**
KBZ Khabaz 84.06 314 P **P 15 32 15.8 +1.6**
KBZ Khabaz 84.06 314 P **P 15 32 15.8 +1.6**
comp=Z,15nm,1.1s,baz=96,slow=2.6,SNR=41
KIV Kislovodsk 84.22 314 *e*P **P 15 32 16.2 +1.0**
KIV *e* 15 35 30.8
KIV pmax pmax
comp=Z,31nm,1.0s
KIV MLR MLR
comp=Z,536nm,19.0s
KIV Kislovodsk 84.22 314 P **P 15 32 17.2 +2.0**
comp=Z,207nm,1.8s,SNR=11
PPT Papeete 84.53 108 LR LR 16 03 33.6
comp=Z,652nm,21.1s,baz=261,slow=31
PPT2 Papeete2 84.53 108 *e*S **S 15 42 42.5 +1.9**
comp=Z,1μm,34.5s
PPT2 Papeete2 84.53 108 *e*LQ LQ 15 55 19.1
comp=Z,1μm,27.8s
PPT2 *e*LR LR 15 58 52.1
comp=Z,1μm,26.5s,baz=276
CHVG Ch'k'valeri 84.62 313 P P 15 32 20.2 +3.1
TRF Thorofare Moun 84.71 27 *e*P **P 15 32 16.9 -0.4**
comp=Z,58nm,1.5s
TBI Tubuai 85.08 114 *e*S **S 15 42 48.1 +2.4**
comp=Z,265nm,30.2s
TBI Tubuai 85.08 114 *e*LR LR 15 59 05.2
comp=Z,1μm,25.0s
PMR Palmer 85.09 29 *e*P **P 15 32 19.5 +0.5**
PMR pmax pmax
comp=Z,88nm,1.4s
PMR Palmer 85.09 29 *e*P **P 15 32 19.5 +0.5**
comp=Z,88nm,1.4s
COLD Coldfoot 85.11 23 *e*P P 15 32 21.2 +2.1
comp=Z,12nm,0.9s
MCK McKinley 85.34 26 *e*P **P 15 32 21.2 +0.9**
MCK pmax pmax
comp=Z,18nm,0.9s
MCK McKinley 85.34 26 *e*P **P 15 32 21.2 +0.9**
comp=Z,18nm,0.9s
SML Sawmill 85.49 28 *e*P **P 15 32 22.0 +0.9**
SML pmax pmax
comp=Z,25nm,1.2s
SML Sawmill 85.49 28 *e*P **P 15 32 22.0 +0.9**
comp=Z,25nm,1.2s
ILAR Eielson Array 86.29 25 P **P 15 32 25.0 0.0**
ILAR PP **PP 15 35 48.6 +2.3**
ILAR Eielson Array 86.29 25 P **P 15 32 25.0 0.0**
comp=Z,1.3nm,0.6s,baz=235,slow=5.4,SNR=19
ILAR PP **PP 15 35 48.6 +2.3**
comp=Z,1.0nm,1.1s,baz=254,slow=8.2,SNR=4.1
ILAR LR LR 16 11 53.9
comp=Z,93nm,20.0s,baz=269,slow=36
SOC Sochi 86.37 313 *c i*P **P 15 32 25.8 0.0**
SOC *e**PP pP 15 32 34.4 -6.7
SOC *e* 15 35 41.7
SOC *e* 15 42 48.9
SOC pmax pmax
comp=Z,52nm,1.0s
SOC MLR MLR
comp=Z,549nm,22.0s
DIV Divide 86.69 29 P P 15 32 29.2 +2.1
comp=Z,86nm,1.4s
VORD Divnogorie 86.70 321 *e*P **P 15 32 28.9 +1.7**
VORD pmax pmax
comp=Z,50nm,0.4s
VORD pmax pmax
comp=N,510nm,2.0s
VORD pmax pmax
comp=E,110nm,0.4s
VOR Voronezh 86.76 322 P **P 15 32 27.0 -0.5**
VOR pmax pmax
comp=Z,250nm,2.0s
VSR Storozhevoye 86.78 321 *e*P **P 15 32 28.3 +0.7**
VSR pmax pmax
comp=Z,50nm,1.3s
VSR pmax pmax
comp=N,6.0nm,0.5s
VSR pmax pmax
comp=E,30nm,1.8s
MALT Malatya 87.37 308 *e*P P 15 32 26.5 -4.5
MALT pmax pmax
comp=Z,92nm,1.5s
MALT MLR MLR
comp=Z,394nm,22.0s
MALT Malatya 87.37 308 *e*P P 15 32 26.5 -4.5
comp=Z,92nm,1.5s
MALT LR LR
comp=Z,394nm,22.0s
MALT Malatya 87.37 308⇓ *i*P P 15 32 26.2 -4.8
TMCR Tamitsa 87.43 334 *e*P **P 15 32 30.2 -0.3**
TMCR pmax pmax
comp=Z,37nm,1.4s
MOS Moscow 87.69 326 *e*P **P 15 32 29.9 -2.0**
MOS *e* 15 35 54.8
MOS pmax pmax
comp=Z,38nm,1.1s
MOS MLR MLR
comp=Z,1μm,24.0s
ANN Anapa 88.00 315 *e*P **P 15 32 32.9 -0.7**
ANN *e* 15 42 57.6
ANN pmax pmax
comp=Z,77nm,1.3s
OBN Obninsk 88.30 325⇑ *e*P **P 15 32 35.5 +0.7**
OBN *PP **pP 15 32 45.0 -5.2**
OBN *e*SP **sP 15 32 51.3 -4.7**
OBN 15 43 05.0
OBN pmax pmax
comp=Z,110nm,1.7s
OBN MLR MLR
comp=Z,400nm,22.0s
EGAK Eagle 88.75 25 P **P 15 32 37.3 +0.5**
comp=Z,3.7nm,0.6s
KMBO Kilima Mbogo 89.69 269 *e*P **P 15 32 44.4 +1.8**
comp=Z,63nm,1.8s
KMBO LR LR
comp=Z,244nm,20.0s
KMBO Kilima Mbogo 89.69 269 P **P 15 32 44.4 +1.8**
comp=Z,6.8nm,1.0s,baz=82,slow=7.8,SNR=8.1
SIM Simferopol' 90.35 315 *e*P P 15 32 48.3 +3.6
SIM *e*S **S 15 43 37.0 +1.7**
SIM pmax pmax
comp=Z,15nm,0.7s
SIM MLR MLR
comp=Z,500nm,24.0s
BRTR Keskin Array B 91.04 310 P **P 15 32 49.1 +0.9**
BRTR Keskin Array B 91.04 310 P **P 15 32 49.1 +0.9**
comp=Z,1.7nm,0.7s,baz=112,slow=2.9,SNR=9.7
SYO Syowa Base 91.18 201⇓ *e*P **P 15 32 49.0 +1.0**
SYO Syowa Base 91.18 201⇓ *e*pP pP 15 33 00.4 -3.0
SYO Syowa Base 91.18 201⇓ *e*sP sP 15 33 02.4 -6.8
ARCES ARCESS Array B 91.82 340 P **P 15 32 50.5 -0.5**
ARCES ARCESS Array B 91.82 340 P **P 15 32 50.5 -0.5**
comp=Z,5.5nm,0.7s,baz=82,slow=4.9,SNR=12
ARCES LR LR 16 22 28.1
comp=Z,322nm,20.8s,baz=82,slow=41
FINES FINESS Array B 93.14 332 P **P 15 32 57.9 +0.7**
FINES FINESS Array B 93.14 332 P **P 15 32 57.9 +0.7**
comp=Z,1.1nm,0.5s,baz=93,slow=7.6,SNR=5.8
TESR Tescani 95.37 317⇑ *i*P **P 15 33 09.8 +1.9**
VRI Vrincioaia 95.42 316⇑ P P 15 33 12.5 +4.4
VRI Vrincioaia 95.42 316⇑ *i*P P 15 33 12.5 +4.4
PLOR Plostina 95.48 316⇓ P P 15 33 14.4 +6.0
PLOR Plostina 95.48 316⇓ *i*P P 15 33 14.4 +6.0
MLR Muntele Rosu 96.02 316⇓ *i*P **P 15 33 12.0 +1.0**
BURAR Bucovina Array 96.16 318⇓ P P 15 33 14.2 +2.7
BURAR Bucovina Array 96.16 318⇓ *i*P P 15 33 14.1 +2.6
SUW Suwalki 96.16 325 *e*P **P 15 33 10.8 -0.4**
SUW Suwalki 96.16 325 *e*P **P 15 33 10.8 -0.4**
MBAR Mbarara 96.18 270 P **P 15 33 12.8 +0.4**
MBAR Mbarara 96.18 270 P **P 15 33 12.8 +0.4**

comp=Z,4.0nm,0.2s,baz=129,slow=3.5,SNR=4.0
LVV L'vov 96.51 321 *e*P **P** **15 33 11.9 -1.1**
ARR Arges 96.95 316 ǁ*i*P **P** **15 33 15.0 -0.1**
LOT Lotru 97.54 316 ǁ*i*P Pdif 15 33 19.1 +1.2
KOLS Kolonicke sedl 97.82 320 *e*P Pdif 15 33 22.3 +3.3
KOLS Kolonicke sedl 97.82 320 *e*P Pdif 15 33 22.3 +3.3
UZH Uzhgorod 97.88 320 *e*P Pdif 15 33 20.5 +1.4
UZH *e* 15 33 34.7
UZH *e* 15 37 20.9
UZH *e*S **S** **15 44 40.5 -0.8**
UZH MLR MLR
comp=N,300nm,22.0s
UZH MLR MLR
comp=E,400nm,22.0s
UZH MLR MLR
comp=Z,100nm,22.0s
STHS Stebnicka Huta 98.37 321 *e*P Pdif 15 33 27.6 +6.2
STHS Stebnicka Huta 98.37 321 PDIF Pdif 15 33 27.6 +6.2
RKT Rikitea 98.38 113 *e*LR LR 16 05 23.2
comp=Z,661nm,42.8s
LSZ Lusaka 99.01 255 *e*P **Pdif** **15 33 25.7 +0.7**
comp=Z,200nm,1.5s
KECS Kecovo 99.08 320 *e*P **Pdif** **15 33 27.3 +2.8**
KECS Kecovo 99.08 320 PDIF **Pdif** **15 33 27.3 +2.8**
NB2 NORSAR Subarra100.11 334 P **Pdif** **15 33 27.6 -1.3**
comp=Z,6.4nm,1.1s,baz=67,slow=4.8
NOA NORSAR Array B 100.11 334 P **Pdif** **15 33 28.6 -0.3**
NOA NORSAR Array B 100.11 334 P **Pdif** **15 33 28.6 -0.3**
comp=Z,1.3nm,0.8s,baz=67,slow=4.6,SNR=3.8
YKA Yellowknife Ar 100.70 25 P **Pdif** **15 33 32.5 +1.1**
YKA PP PP 15 37 42.9 +4.0
YKA PKiKP **PKiKP** **15 37 57.7 +0.5**
YKA Yellowknife Ar 100.70 25 P **Pdif** **15 33 32.5 +1.1**
comp=Z,0.8nm,0.7s,baz=296,slow=4.4,SNR=5.1
YKA PP PP 15 37 42.9 +4.0
comp=Z,0.1nm,0.3s,baz=303,slow=7.8,SNR=3.3
YKA PKiKP **PKiKP** **15 37 57.7 +0.5**
comp=Z,0.2nm,0.5s,baz=306,slow=1.4,SNR=4.3
KSP Ksiaz 101.06 323 *e*P **Pdif** **15 33 35.3 +2.0**
KSP MLR MLR
comp=Z,2μm,26.1s
DPC Dobruska-Polom 101.19 322 *e*PKP **PKiKP** **15 38 00.7 +2.2**
TREC Trest 102.03 321 AMS AMS 16 21 50.0
comp=Z,400nm,19.5s
PVCC Panska Ves 102.20 323 AMS AMS 16 22 10.0
comp=Z,800nm,20.4s
PRU Pruhonice 102.39 322 AMS AMS 16 22 10.0
comp=Z,700nm,24.0s
BRG Berggiesshubel 102.46 323 *e*P **Pdif** **15 33 43.4 +3.9**
comp=Z,16nm,1.8s
BRG
comp=N,494nm,27.9s
BRG
comp=E,497nm,27.2s
BRG
comp=Z,593nm,22.2s
BRG Berggiesshubel 102.46 323 *e*P **Pdif** **15 33 43.4 +3.9**
BRG pmax pmax
comp=Z,6.0nm,1.8s
BRG MLR MLR
comp=N,16μm,27.9s
BRG MLR MLR
comp=E,494nm,27.2s
BRG MLR MLR
comp=Z,497nm,22.2s
KHC Kasperske Hory 103.26 322 AMS AMS 16 22 40.0
comp=Z,600nm,19.2s
GERES GERESS Array B 103.28 321 Pdif **Pdif** **15 33 47.0 +3.6**
GERES GERESS Array B 103.28 321 Pdiff **Pdif** **15 33 47.0 +3.6**
comp=Z,1.1nm,1.0s,baz=59,slow=6.4,SNR=4.3
NVAR Mina Array Bea 107.71 48 Pdif **Pdif** **15 34 05.8 +2.3**
NVAR PP PP 15 38 37.8 +5.7
NVAR PKKPab **PKKPab** **15 49 42.5 +2.6**
NVAR Mina Array Bea 107.71 48 Pdiff **Pdif** **15 34 05.8 +2.3**
comp=Z,0.4nm,0.7s,baz=258,slow=6.3,SNR=3.2
NVAR PP PP 15 38 37.8 +5.7
comp=Z,0.8nm,0.8s,baz=272,slow=8.9,SNR=4.6
NVAR PKKPab **PKKPab** **15 49 42.5 +2.6**
comp=Z,0.6nm,0.9s,baz=120,slow=5.3,SNR=3.7
PFO Pinyon Flat Ob 110.60 53 Pdif **Pdif** **15 34 15.6 -0.7**
PFO Pinyon Flat Ob 110.60 53 Pdiff **Pdif** **15 34 15.6 -0.7**
comp=Z,2.5nm,0.8s,baz=22,slow=5.4,SNR=3.1
PDAR Pinedale Array 112.29 42 Pdif **Pdif** **15 34 23.8 0.0**
PDAR PKiKP **PKiKP** **15 38 21.0 +1.3**
PDAR PKKPbc **PKKPbc** **15 49 10.5 -1.0**
PDAR Pinedale Array 112.29 42 PKKP **PKKPdf** **15 49 29.2 -1.7**
PDAR Pinedale Array 112.29 42 Pdiff **Pdif** **15 34 23.8 0.0**
comp=Z,0.3nm,0.3s,baz=316,slow=2.5,SNR=3.7
PDAR PKiKP **PKiKP** **15 38 21.0 +1.3**
comp=Z,0.3nm,0.7s,baz=323,slow=2.3,SNR=3.0
PDAR PKKPbc **PKKPbc** **15 49 10.5 -1.0**
comp=Z,0.4nm,0.8s,baz=160,slow=2.9,SNR=3.2
PDAR PKKP **PKKPdf** **15 49 29.2 -1.7**
comp=Z,0.7nm,0.9s,baz=123,slow=5.5,SNR=4.4
ULM Lac du Bonnet 116.10 29 PKP **PKPdf** **15 38 27.2 +0.8**
ULM Lac du Bonnet 116.10 29 PKP **PKPdf** **15 38 27.2 +0.8**
comp=Z,3.0nm,0.7s,baz=236,slow=7.3,SNR=1.7
ECSD EROS Data Cent 119.84 35 *e*PKPdf **PKPdf** **15 38 34.5 +0.7**
MNTX Cornudas Mount 120.00 51 *e*PKPdf **PKPdf** **15 38 35.2 +0.7**
425A Indio Mountain 120.68 52 P **PKPdf** **15 38 36.6 +0.6**
baz=121
626A Big Bend Ranch 121.85 53 P **PKPdf** **15 38 38.6 +0.4**
baz=122
SCHQ Schefferville 121.92 9 PKP **PKPdf** **15 38 38.7 +1.2**
SCHQ Schefferville 121.92 9 PKP **PKPdf** **15 38 38.7 +1.2**
comp=Z,1.8nm,0.5s,baz=231,slow=8.8,SNR=7.6
527A Woodward Ranch122.03 52 P **PKPdf** **15 38 38.9 +0.3**
baz=122
328A Wristen Ranch, 122.13 50 P **PKPdf** **15 38 39.3 +0.6**
baz=122
TXAR Lajitas Array 122.31 53 PKP **PKPdf** **15 38 40.1 +1.0**
TXAR Lajitas Array 122.31 53 PKP **PKPdf** **15 38 40.1 +1.0**
comp=Z,1.6nm,0.9s,baz=208,slow=1.8,SNR=13
627A Terlingua Ranc 122.49 53 P **PKPdf** **15 38 40.4 +0.9**
baz=122
Z30A Sanderson Ranc 122.53 48 P **PKPdf** **15 38 39.9 +0.5**
baz=122
528A Cox Ranch, San 122.67 52 P **PKPdf** **15 38 40.8 +1.0**
baz=123
628A Black Gap, Mar 122.87 52 P **PKPdf** **15 38 41.1 +1.0**
baz=123
529A Stev Forest Ra 123.13 51 P **PKPdf** **15 38 41.4 +0.8**
baz=123
429A Davenport Ranc 123.16 51 P **PKPdf** **15 38 41.2 +0.6**
baz=123
TORD Torodi Ar. Bea 123.50 287 PKP **PKPdf** **15 38 42.4 +0.8**
TORD PKKPbc **PKKPab** **15 48 30.9 +0.6**
TORD Torodi Ar. Bea 123.50 287 PKP **PKPdf** **15 38 42.4 +0.8**
comp=Z,3.2nm,0.7s,baz=54,slow=1.9,SNR=19
TORD PKKPbc **PKKPab** **15 48 30.9 +0.6**
comp=Z,0.4nm,0.5s,baz=256,slow=3.0,SNR=6.1
430A Baggett Ranch, 123.60 50 P **PKPdf** **15 38 43.1 +1.6**
baz=124
Z32A Haskell 123.73 47 P **PKPdf** **15 38 42.9 +1.3**
baz=124
530A J-C Ranch, Com 123.80 51 P **PKPdf** **15 38 43.7 +1.9**
baz=124
331A San Angelo 123.98 49 P **PKPdf** **15 38 43.0 +0.8**
baz=124
431A Sonora 124.13 50 P **PKPdf** **15 38 43.8 +1.3**
baz=124
332A Millersview 124.46 49 P **PKPdf** **15 38 43.9 +0.8**
baz=124
631A Perdido Creek 124.72 51 P **PKPdf** **15 38 45.1 +1.5**
baz=125
JCT Junction City 124.84 50 *e*PKIKP **PKPdf** **15 38 45.3 +1.5**
JCT Junction City 124.84 50 *e*PKPdf **PKPdf** **15 38 45.2 +1.5**
JCT Junction City 124.84 50 P **PKPdf** **15 38 45.4 +1.5**
baz=125
532A Rocksprings 124.92 50 P **PKPdf** **15 38 45.2 +1.1**
baz=125
DBIC Dimbokro 131.02 281 PKP **PKPdf** **15 38 56.7 +0.7**
DBIC Dimbokro 131.02 281 PKP **PKPdf** **15 38 56.7 +0.7**
comp=Z,2.3nm,0.7s,baz=39,slow=4.5,SNR=3.8
LRAL Lakeview Retre 132.44 39 *e*PKPdf **PKPdf** **15 39 00.2 +2.0**
TKL Tuckaleechee C 132.57 34 PKP **PKPdf** **15 38 59.0 +0.6**
TKL Tuckaleechee C 132.57 34 PKP **PKPdf** **15 38 59.0 +0.6**
comp=Z,4.1nm,0.6s,baz=44,slow=3.9,SNR=6.0
PLCA Paso Flores 138.64 160 PKP **PKPdf** **15 39 11.6 +1.9**
PLCA Paso Flores 138.64 160 PKP **PKPdf** **15 39 11.6 +1.9**
comp=Z,4.3nm,0.8s,baz=202,slow=2.4,SNR=9.8
TRQA Tornquist 143.52 168 *e*PKPpre PKPpre 15 39 16.0
TRQA LR LR
comp=Z,472nm,20.0s
JTS JuntasAbangare 145.91 68 PKPbc **PKPab** **15 39 26.0 +1.6**
JTS JuntasAbangare 145.91 68 PKPbc **PKPab** **15 39 26.0 +1.6**
comp=Z,6.7nm,0.5s,baz=308,slow=11,SNR=6.2
CFAA Coronel Fontan 147.56 155 PKPbc **PKPab** **15 39 29.4 -0.9**
CFAA Coronel Fontan 147.56 155 PKPbc **PKPab** **15 39 29.4 -0.9**
comp=Z,2.8nm,0.7s,baz=219,slow=3.7,SNR=37
LCO Las Campanas 148.61 149 *e*PKPbc **PKPab** **15 39 32.2 -2.6**
ATAH Atahualpa 154.35 102 PKPbc **PKPbc** **15 39 44.7 -0.5**
ATAH Atahualpa 154.35 102 PKPbc **PKPbc** **15 39 44.7 -0.5**
comp=Z,10nm,0.7s,baz=275,slow=12,SNR=3.6
CPUP Villa Florida 155.79 171 PKPbc PKPdf 15 39 49.2 +11
CPUP PKPab **PKPab** **15 40 04.5 0.0**
CPUP Villa Florida 155.79 171 PKPbc PKPdf 15 39 49.2 +11
comp=Z,1.6nm,0.6s,baz=318,slow=2.1,SNR=6.5
CPUP PKPab **PKPab** **15 40 04.5 0.0**
comp=Z,5.2nm,0.7s,baz=210,slow=2.5,SNR=4.9
LPAZ La Paz 159.72 134 PKP **PKPdf** **15 39 46.2 +2.4**
LPAZ La Paz 159.72 134 PKP **PKPdf** **15 39 46.2 +2.4**
comp=Z,2.9nm,1.0s,baz=8.2,slow=2.6,SNR=9.0
SIV San Ignacio 164.31 150 PKP **PKPdf** **15 39 49.7 +1.8**
SIV PKPab **PKPab** **15 40 42.1 +0.3**
SIV San Ignacio 164.31 150 PKP **PKPdf** **15 39 49.7 +1.8**
comp=Z,0.8nm,0.6s,baz=128,slow=0.5,SNR=6.0
SIV PKPab **PKPab** **15 40 42.1 +0.3**
comp=Z,1.6nm,0.8s,baz=230,slow=3.4,SNR=2.8
SAML Samuel 168.01 124 *e*PKPdf **PKPdf** **15 39 51.5 +0.7**

WEL 20 15:20:48.2±0.4**, 46.17S**×**166.14E, h28**km±1km**, ML3.6**/13**,**
Error ellipse: s-maj=4.3km s-min=1.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.37**	**90**	P*		Pb	15 20 56.3	-0.2
PYZ				S*		Sb	15 21 02.3	+0.1
DCZ	**Deep Cove**	**0.99**	**46**	PN		Pn	15 21 05.3	-0.8
DCZ				SN		Sn	15 21 19.2	0.0
DCZ				AML		AML	15 21 20.3	
DCZ				AML		AML	15 21 20.4	
WHZ	**Wether Hill Ro**	**1.29**	**78**	PN		Pn	15 21 10.5	+0.2
APZ	**The Paps**	**1.44**	**118**	PN		Pn	15 21 11.6	-0.8
APZ				SN		Sn	15 21 30.2	-0.2
MLZ	**Mavora Lakes**	**1.64**	**61**	PN		Pb	15 21 16.8	-1.0
MLZ				AML		AML	15 21 44.0	
MLZ				AML		AML	15 21 49.7	
MSZ	**Milford Sound**	**1.95**	**41**	PN		Pn	15 21 20.2	+0.7
MSZ				AML		AML	15 22 02.0	
MSZ				AML		AML	15 22 03.1	
MSZ				AML		AML	15 22 03.1	
SYZ	**Scrubby Hill**	**2.11**	**101**	PN		Pn	15 21 22.3	+0.7
EAZ	**Earnscleugh**	**2.41**	**68**	PN		Pn	15 21 27.7	+2.0
EAZ				AML		AML	15 22 02.1	
EAZ				AML		AML	15 22 02.6	
WKZ	**Wanaka**	**2.42**	**57**	PN		Pb	15 21 29.0	-2.1
WKZ				AML		AML	15 22 05.4	
WKZ				AML		AML	15 22 07.2	
TUZ	**Tuapeka**	**2.44**	**86**	PN		Pn	15 21 27.0	+0.9
TUZ				AML		AML	15 22 02.7	
TUZ				AML		AML	15 22 03.0	
JCZ	**Jackson Bay**	**2.79**	**42**	PN		Pb	15 21 36.1	-1.5
JCZ				AML		AML	15 22 24.8	
JCZ				AML		AML	15 22 25.3	
ODZ	**Otahua Downs**	**3.35**	**72**	PN		Pn	15 21 38.9	+0.2

IDC 20 15:54:15.4±1.7**, 2.50N**×**127.30E, h0km, mb3.4**/5**,**
mb1 3.6/5**, mb1mx3.4**/21**, mbtmpb3.4**/5**, MS3.4**/2**, Ms1 3.4**/2**,**
ms1mx2.8/20**, Error ellipse: s-maj=99.5km**
s-min=23.0km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**4.86**	**339**	LR		LR	15 57 36.0	
	comp=Z,179nm,21.2s,baz=205,slow=41							
FITZ	**Fitzroy Crossi**	**20.53**	**185**	P		P	15 58 56.2	+0.6
	2.3nm,1.1s,baz=360,slow=19,SNR=2.8							
WRA	**Warramunga Arr**	**23.34**	**163**	P		P	15 59 25.0	-0.7
	0.5nm,0.4s,baz=342,slow=10,SNR=8.0							
ASAR	**Alice Springs**	**26.79**	**166**	P		P	15 59 57.0	-0.4
	0.2nm,0.4s,baz=349,slow=7.4,SNR=4.5							
STKA	**Stephens Creek**	**36.78**	**159**	P		P	16 01 25.2	+0.2
	2.5nm,1.0s,baz=336,slow=11,SNR=3.0							
DZM	**Mont Dzumac**	**45.37**	**125**	LR		LR	16 20 10.1	
	comp=Z,117nm,19.1s,baz=360,slow=34							
MKAR	**Makanchi Array**	**58.89**	**325**	P		P	16 04 16.5	+0.2
	0.1nm,0.4s,baz=124,slow=6.9,SNR=2.3							

IDC 20 16:08:54.1±6.9**, 30.55S**×**176.88W, h0km, mb3.7**/3**,**
mb1 4.0/3**, mb1mx3.6**/18**, mbtmpb3.7**/3**, MS3.3**/1**, Ms1 3.3**/1**,**
ms1mx3.0/19**, Error ellipse: s-maj=272.4km**
s-min=45.8km az=153.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**17.22**	**17**	LR		LR	16 17 30.3	
	comp=Z,98nm,21.1s,baz=30,slow=30							
ASAR	**Alice Springs**	**44.07**	**267**	P		P	16 17 03.0	-1.0
	0.4nm,0.8s,baz=106,slow=7.0,SNR=5.2							
WRA	**Warramunga Arr**	**45.07**	**272**	P		P	16 17 12.8	+0.7
	0.3nm,0.3s,baz=113,slow=8.0,SNR=7.3							
ILAR	**Eielson Array**	**97.86**	**12**	P		P	16 22 30.7	-0.2
	0.3nm,0.7s,baz=195,slow=4.8,SNR=3.2							

IDC 20 16:14:04.1±61.0**, 15.80S**×**174.59W, h0km, mb3.8**/3**,**
mb1 4.0/3**, mb1mx3.6**/19**, mbtmpb3.8**/3**, Error ellipse:**
s-maj=1165.0km s-min=189.6km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**42.84**	**240**	P		P	16 22 04.5	+0.3
	0.5nm,0.5s,baz=93,slow=7.0,SNR=4.2							
WRA	**Warramunga Arr**	**48.64**	**257**	P		P	16 22 49.9	-0.4
	0.6nm,1.0s,baz=95,slow=7.3,SNR=5.0							
ASAR	**Alice Springs**	**48.90**	**252**	P		P	16 22 52.0	-0.2
	2.0nm,0.5s,baz=89,slow=7.8,SNR=79							

MAN 20 16:36:03, 18.99N×**120.14E, h1km, mb5.3, ML4.3, MS4.6,**
Luzon

*ISCJB **20** 16:42:05.0±0.7, 79.97N±0.07×0.5W±0.3, h18km, mb3.7/5, Error ellipse: s-maj=10.3km s-min=7.3km az=172.6*
*IDC **20** 16:42:05.2±1.2, 80.18N×0.83W, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.5/29, mbtmpb3.8/9, ML3.2/1, MS3.0/2, Ms1 3.1/2, ms1mx2.6/40, Error ellipse: s-maj=26.7km s-min=18.8km az=70.0*
*BER **20** 16:42:06.1±2.6, 80.41N×0.17E, h15km±92km, MD2.4, ML3.0, ML3.6(NAO)*
*CSEM **20** 16:42:09.8±0.7, 79.61N×1.05E, h2km, ML3.6, Error ellipse: s-maj=20.5km s-min=5.7km az=165.0*

ISC 20 16:42:08.2±0.9**, 80.01N**±0.09×**0.54E**±0.08**, h18km, n29,**
σ1§**65**/32**, mb3.6**/5**, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBS	**Kingsbay**	**2.36**	**112**	Pn		**Pn**	**16 42 45.9**	**0.0**
KBS				Sn		**Sn**	**16 43 14.3**	**-0.1**
KBS	**Kingsbay**	**2.36**	**112**	*e*P		**Pn**	**16 42 46.0**	**0.0**
KBS				*e*S		**Sn**	**16 43 14.6**	**+0.2**
KBS				AML		AML	16 43 20.6	
	comp=Z,153nm,0.3s							
KBS	**Kingsbay**	**2.36**	**112**	*i* P		**Pn**	**16 42 46.0**	**0.0**
	SNR=56							
KBS				*i* S		**Sn**	**16 43 14.4**	**+0.1**
	comp=Z,80nm,0.3s,SNR=56							
SPA0	**Spitsbergen Ar**	**3.52**	**114**	Pn		**Pn**	**16 43 02.5**	**+0.7**
	baz=327,slow=12							
SPA0				Sn		**Sn**	**16 43 43.6**	**+0.7**
SPA0	**Spitsbergen Ar**	**3.52**	**114**	Pn		**Pn**	**16 43 02.5**	**+0.7**
	baz=327,slow=12							
SPA0				Sn		**Sn**	**16 43 43.6**	**+0.7**
SPA0	**Spitsbergen Ar**	**3.52**	**114**	Pn		**Pn**	**16 43 02.5**	**+0.7**
	baz=327,slow=11,SNR=238							
SPA0				Sn		**Sn**	**16 43 43.6**	**+0.7**
SPITS	**Spitsbergen Ar**	**3.52**	**114**	Pn		**Pn**	**16 43 02.9**	**+1.1**
	baz=322,slow=7.7,SNR=633							
SPITS				Sn		**Sn**	**16 43 44.3**	**+1.4**
	baz=313,slow=18,SNR=15							
SPITS				LR		LR	16 44 42.6	
	comp=Z,229nm,18.1s,baz=185,slow=41							
DAG	**Danmarks Havn**	**5.03**	**240**	*i* P		Pn	16 43 16.2	-6.4
DAG				*i* S		Sn	16 44 08.0	-12
JNW	**Jan Mayen West**	**9.29**	**198**	*e*P		**Pn**	**16 44 19.7**	**-1.2**
JNW	**Jan Mayen West**	**9.29**	**198**	*e*P		**Pn**	**16 44 19.7**	**-1.2**
	SNR=51							
JNE	**Jan Mayen East**	**9.32**	**198**	*e*P		**Pn**	**16 44 20.0**	**-1.3**
JNE	**Jan Mayen East**	**9.32**	**198**	*e*P		**Pn**	**16 44 20.0**	**-1.3**
	SNR=51							
JMIC	**Jan Mayen**	**9.33**	**199**	Pn		**Pn**	**16 44 19.8**	**-1.7**
	comp=Z,29nm,0.3s,baz=27,slow=1.2,SNR=60							
JMIC				Sn		Sn	16 45 58.7	-7.2
	comp=Z,4.5nm,0.3s,baz=72,slow=20,SNR=5.9							
JMI	**Jan Mayen**	**9.40**	**199**	*e*P		**Pn**	**16 44 21.0**	**-1.5**
JMI	**Jan Mayen**	**9.40**	**199**	*e*P		**Pn**	**16 44 21.0**	**-1.5**
	SNR=51							
SCO	**Scoresbysund**	**11.02**	**222**	*e*P		**Pn**	**16 44 46.3**	**+1.8**
	SNR=51							
SUMG	**Summit**	**11.54**	**251**	*i* P		Pn	16 44 44.1	-8.0
ARA0	**ARCESS Array S**	**12.20**	**135**	Pn		Pn	16 45 03.4	+2.6
	baz=347,slow=11							
ARA0				Sn		**Sn**	**16 47 13.1**	**-3.0**
	baz=350,slow=16							
ARA0	**ARCESS Array S**	**12.20**	**135**	Pn		Pn	16 45 03.4	+2.6
	baz=347,slow=11							
ARA0				Sn		**Sn**	**16 47 13.1**	**-3.0**
	baz=350,slow=16							
ARA0	**ARCESS Array S**	**12.20**	**135**	Sn		**Sn**	**16 47 13.1**	**-3.0**
	baz=350,slow=16,SNR=8.0							
ARCES	**ARCESS Array B**	**12.20**	**135**	Pn		**Pn**	**16 45 03.0**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=340,slow=10,SNR=7.9							
ARCES				Sn		**Sn**	**16 47 13.9**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=352,slow=25,SNR=3.4							
NOA	**NORSAR Array B**	**19.33**	**164**	LR		LR	16 53 00.9	
	comp=Z,39nm,20.5s,baz=60,slow=34							
FINES	**FINESS Array B**	**20.08**	**143**	P		Pn	16 46 42.9	+0.9
	comp=Z,2.0nm,0.8s,baz=352,slow=8.4,SNR=4.1							
HFS	**Hagfors**	**20.36**	**161**	P		Pn	16 46 43.9	-1.4
	comp=Z,2.0nm,0.8s,baz=2.5,slow=10,SNR=3.9							
ILAR	**Eielson Array**	**34.25**	**336**	P		**P**	**16 48 49.4**	**-3.0**
	comp=Z,0.7nm,0.8s,baz=7.5,slow=7.5,SNR=5.2							
ZALV	**Zalesovo Beam**	**36.44**	**82**	P		**P**	**16 49 12.3**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=345,slow=10,SNR=3.7							
MKAR	**Makanchi Array**	**42.89**	**87**	P		**P**	**16 50 06.6**	**+1.6**
	comp=Z,1.3nm,0.7s,baz=346,slow=7.7,SNR=18							
PETK	**Petropavlovsk-**	**46.48**	**19**	P		**P**	**16 50 32.8**	**-0.8**
	comp=Z,2.5nm,0.9s,baz=349,slow=7.2,SNR=3.5							
TORD	**Torodi Ar. Bea**	**66.89**	**179**	P		**P**	**16 53 01.1**	**+2.3**
	comp=Z,0.4nm,1.0s,baz=352,slow=7.1,SNR=2.5							

*ISCJB **20** 17:06:59.2±0.7, 34.86N±0.03×26.04E±0.03, h2km±4km, mb3.8/8, Error ellipse: s-maj=4.5km s-min=3.5km az=20.0*
*IDC **20** 17:07:00.4±1.1, 34.94N×25.97E, h0km, mb3.8/8, mb1 3.8/12, mb1mx3.6/31, mbtmpb3.7/12, ML3.4/4, Error ellipse: s-maj=24.1km s-min=17.4km az=1.0*
*ATH **20** 17:07:00.4, 34.91N×26.05E, h5km±1km, MD3.6/11*
*CSEM **20** 17:07:01.4±0.2, 34.93N×26.01E, h2km, MD3.6, Error ellipse: s-maj=6.0km s-min=4.7km az=25.0*
*THE **20** 17:07:02.7, 35.00N×25.95E, h0km±1km, ML3.4/5, Error ellipse: s-maj=3.2km s-min=0.9km az=169.0*
*HLW **20** 17:07:03.5, 34.96N×26.10E, h33km±26km, Md3.2, Ml3.1*

ISC 20 17:07:00.8±1.2**, 34.91N**±0.03×**26.03E**±0.02**, h3**km±8km**,**
n108, σ1§**19**/128**, mb3.8**/8**, Crete**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZKR	**Zakros**	**0.26**	**36**	*e*PG		**Pg**	**17 07 05.6**	**-0.2**
ZKR				*e*SG		**Sg**	**17 07 09.1**	**-0.1**
NPS	**Neapolis**	**0.49**	**316**	P		**Pg**	**17 07 10.6**	**+0.3**
NPS	**Neapolis**	**0.49**	**316**	*e*PG		**Pg**	**17 07 10.2**	**-0.1**
NPS				*e*SG		**Sg**	**17 07 16.7**	**0.0**
NPS	**Neapolis**	**0.49**	**316**	P		**Pg**	**17 07 10.6**	**+0.3**
NPS				*e*Sg		**Sg**	**17 07 16.7**	**0.0**
IDI	**Anoyia**	**1.01**	**292**	P		**Pg**	**17 07 19.7**	**-0.5**
IDI	**Anoyia**	**1.01**	**292**	*e*PG		**Pg**	**17 07 19.6**	**-0.6**
IDI				*e*SB		**Sg**	**17 07 34.0**	**+0.7**
IDI	**Anoyia**	**1.01**	**292**	P		**Pg**	**17 07 19.7**	**-0.5**
IDI				*e*Sb		**Sg**	**17 07 34.0**	**+0.7**
KARP	**Karpathos**	**1.12**	**55**	*e*PG		**Pg**	**17 07 20.9**	**-1.5**
KARP				*e*SB		**Sg**	**17 07 36.6**	**-0.4**
THR1	**Thera Island**	**1.53**	**343**	P		**Pn**	**17 07 28.2**	**-0.9**
THR1	**Thera Island**	**1.53**	**343**	P		**Pn**	**17 07 28.2**	**-0.9**
SANT	**Santorini**	**1.53**	**343**	P		**Pn**	**17 07 28.2**	**-0.9**
SANT	**Santorini**	**1.53**	**343**	*e*PG		**Pn**	**17 07 28.9**	**-0.2**
SANT				*e*SG		**Sn**	**17 07 49.7**	**+0.2**
SANT	**Santorini**	**1.53**	**343**	P		**Pn**	**17 07 28.2**	**-0.9**
SANT	**Santorini**	**1.53**	**343**	*e*Pg		**Pn**	**17 07 28.9**	**-0.2**
SANT				*e*Sg		**Sn**	**17 07 49.7**	**+0.2**
THR6	**Thira Island,**	**1.54**	**341**	P		**Pn**	**17 07 28.5**	**-0.6**
THR6	**Thira Island,**	**1.54**	**341**	P		**Pn**	**17 07 28.5**	**-0.6**
VAM	**Vamos**	**1.58**	**289**	P		**Pn**	**17 07 29.7**	**0.0**
VAM	**Vamos**	**1.58**	**289**	*e*PG		**Pn**	**17 07 30.0**	**+0.3**
VAM				*e*SB		**Sg**	**17 07 52.7**	**+1.1**
VAM	**Vamos**	**1.58**	**289**	P		**Pn**	**17 07 29.7**	**0.0**
VAM	**Vamos**	**1.58**	**289**	*e*Pg		**Pn**	**17 07 30.0**	**+0.3**
THR3	**Thira Island,**	**1.58**	**341**	P		**Pn**	**17 07 29.2**	**-0.5**
THR3	**Thira Island,**	**1.58**	**341**	P		**Pn**	**17 07 29.2**	**-0.5**
THR2	**Thira island,**	**1.61**	**343**	P		**Pn**	**17 07 29.7**	**-0.4**
THR2	**Thira island,**	**1.61**	**343**	P		**Pn**	**17 07 29.7**	**-0.4**
NIS1	**Nisyros Isl.**	**1.93**	**29**	P		**Pn**	**17 07 35.1**	**+0.6**
NIS1				S		**Sn**	**17 07 59.7**	**+0.4**
NIS1	**Nisyros Isl.**	**1.93**	**29**	*e*PG		**Pb**	**17 07 36.5**	**-0.2**
NIS1	**Nisyros Isl.**	**1.93**	**29**	P		**Pn**	**17 07 35.1**	**+0.6**
NIS1	**Nisyros Isl.**	**1.93**	**29**	*e*Pg		**Pb**	**17 07 36.5**	**-0.2**
NIS1				S		**Sn**	**17 07 59.7**	**+0.4**
ARG	**Arkhangelos**	**2.15**	**52**	P		**Pn**	**17 07 38.6**	**+1.1**
ARG	**Arkhangelos**	**2.15**	**52**	*e*PN		**Pn**	**17 07 38.9**	**+1.4**
ARG	**Arkhangelos**	**2.15**	**52**	P		**Pn**	**17 07 38.6**	**+1.1**
ARG	**Arkhangelos**	**2.15**	**52**	*e*Pn		**Pn**	**17 07 38.9**	**+1.4**
APE	**Apeiranthos**	**2.20**	**350**	*e*PN		**Pn**	**17 07 39.7**	**+1.5**
APE	**Apeiranthos**	**2.20**	**350**	P		**Pn**	**17 07 37.2**	**-1.0**
APE				S		**Sn**	**17 08 05.1**	**-0.8**
APE	**Apeiranthos**	**2.20**	**350**	*e*PN		**Pn**	**17 07 39.3**	**+1.1**
APE	**Apeiranthos**	**2.20**	**350**	P		**Pn**	**17 07 37.2**	**-1.0**
APE	**Apeiranthos**	**2.20**	**350**	*e*Pn		**Pn**	**17 07 39.3**	**+1.1**
APE				S		**Sn**	**17 08 05.1**	**-0

HMAT	**Matruh**	**3.91**	**166**	S	**Sn**	**17 08 45.9**	**-2.1**
	baz=167							
HMAT				AMP		17 08 00.0		
	comp=N,60µm,0.9s,logA/T=4.8,baz=167							
HMAT	**Matruh**	**3.91**	**166**	P	**Pn**	**17 08 02.1**	**+0.4**
HMAT				S	**Sn**	**17 08 45.9**	**-2.1**
LTK	**Loutraki**	**3.97**	**322**	*e*PN	**Pn**	**17 08 04.4**	**+1.8**
LTK	**Loutraki**	**3.97**	**322**	*e*Pn	**Pn**	**17 08 04.4**	**+1.8**
MANT	**Manisa**	**4.11**	**29**	*i* P	**Pn**	**17 08 04.5**	**-0.2**
MANT	**Manisa**	**4.11**	**29**	*i* P	**Pn**	**17 08 04.5**	**-0.2**
KULA	**Kula-Manisa**	**4.17**	**30**	*e*PN	**Sb**	**17 09 05.5**	**-0.3**
GUR	**Goura**	**4.24**	**317**	*e*PN	**Pn**	**17 08 08.1**	**+1.7**
GUR	**Goura**	**4.24**	**317**	*e*Pn	**Pn**	**17 08 08.1**	**+1.7**
KHL	**Karahalli**	**4.42**	**38**	*e*PN	**Sb**	**17 09 09.9**	**-2.8**
KLV	**Kalavryta, Ach**	**4.42**	**316**	*e*PN	**Pn**	**17 08 10.8**	**+2.0**
KLV	**Kalavryta, Ach**	**4.42**	**316**	*e*Pn	**Pn**	**17 08 10.8**	**+2.0**
SUTC	**Sutluce-Ispart**	**4.77**	**56**	*e*PN	Sb	17 09 16.8	-6.0
TVSB	**Tavsanli**	**5.30**	**30**	*e*PN	**Sn**	**17 09 21.9**	**-0.6**
RSH		**7.57**	**119**	P	**Pn**	**17 08 52.0**	**0.0**
	baz=119							
RSH		**7.57**	**119**	P	**Pn**	**17 08 52.0**	**0.0**
BRTR	**Keskin Array B**	**7.74**	**49**	Pn	**Pn**	**17 08 55.1**	**+0.7**
	comp=N,0.2nm,0.3s,baz=211,slow=13,SNR=5.0							
MMAI	**Mount Meron Ar**	**8.01**	**101**	Pn	**Pn**	**17 08 58.5**	**+0.4**
	comp=N,1.1nm,0.3s,baz=280,slow=11,SNR=4.5							
MMAI				Sn	**Sn**	**17 10 30.4**	**+1.1**
	comp=N,1.4nm,0.3s,baz=306,slow=23,SNR=2.8							
EIL	**Elat**	**9.18**	**122**	Pn	**Pn**	**17 09 13.6**	**-0.5**
	comp=N,0.6nm,0.3s,baz=333,slow=3.2,SNR=6.0							
EIL				Sn	Sn	17 10 51.5	-6.3	
	comp=N,0.4nm,0.3s,baz=72,slow=20,SNR=2.5							
HDK1	**Dakhla**	**9.78**	**162**	P	**Pn**	**17 09 23.3**	**+1.0**
	baz=162							
HDK1	**Dakhla**	**9.78**	**162**	P	**Pn**	**17 09 23.3**	**+1.0**
HDK2	**Wahat Dakhilah**	**10.85**	**166**	P	**Pn**	**17 09 37.8**	**+0.8**
	baz=166							
HDK2	**Wahat Dakhilah**	**10.85**	**166**	P	**Pn**	**17 09 37.8**	**+0.8**
GERES	**GERESS Array B**	**16.65**	**331**	Pn	**Pn**	**17 10 56.1**	**+1.0**
	comp=N,0.1nm,0.3s,baz=134,slow=20,SNR=2.4							
AKTO	**Aktyubinsk**	**27.90**	**46**	P	**P**	**17 12 54.0**	**+2.2**
	comp=N,0.6nm,0.5s,baz=219,slow=6.5,SNR=3.7							
EKA	**Eskdalemuir Ar**	**28.66**	**324**	P	**P**	**17 12 57.1**	**-1.4**
	comp=N,0.4nm,0.4s,baz=116,slow=11,SNR=3.3							
TORD	**Torodi Ar. Bea**	**30.88**	**231**	P	**P**	**17 13 19.1**	**+0.6**
	comp=N,1.6nm,0.5s,baz=34,slow=8.5,SNR=14							
ARCES	**ARCESS Array B**	**34.68**	**360**	P	**P**	**17 13 50.6**	**-0.6**
	comp=N,1.7nm,0.8s,baz=181,slow=8.5,SNR=5.9							
MKAR	**Makanchi Array**	**43.32**	**56**	P	**P**	**17 15 03.9**	**0.0**
	comp=N,1.0nm,0.6s,baz=276,slow=7.0,SNR=13							
ZALV	**Zalesovo Beam**	**44.66**	**46**	P	**P**	**17 15 13.9**	**-0.6**
	comp=N,0.6nm,0.4s,baz=278,slow=9.1,SNR=3.2							
SONM	**Songino Array**	**59.09**	**51**	P	**P**	**17 17 02.9**	**+0.5**
	comp=N,0.1nm,0.4s,baz=292,slow=7.6,SNR=2.2							
SCHQ	**Scheffervill**	**63.84**	**320**	P	**P**	**17 17 34.0**	**-0.2**
	comp=N,1.5nm,0.4s,baz=49,slow=4.6,SNR=6.7							

*IDC **20** 17:13:21.5±0.6,2°.26N×126°.63E,h0km,mb4.3/13, mb1 4.4/14,mb1mx4.3/24,mbtmp4.3/14,ML3.9/1,Error ellipse: s-maj=35.5km s-min=12.6km az=80.0*
*NEIC **20** 17:13:25.0±4.5,2°.27N×126°.73E,h23km±33km,mb4.6/1, Error ellipse: s-maj=18.7km s-min=8.7km az=75.0*
*ISCJB **20** 17:13:27.3±0.3,2°.32N±0°.04×126°.85E±0°.04,h53km, mb4.4/13,Error ellipse: s-maj=5.9km s-min=5.4km az=178.0*
*DJA **20** 17:13:29.4±0.4,2°N±5°×12°7E±°,h10km,M4.5/15,mB5.0/9, mb4.7/15,MLv4.6/10,Mw(mB)4.4/9*
*AUST **20** 17:13:31.4±0.3,2°.32N×126°.83E,h84km,Error ellipse: s-maj=1.0km s-min=0.8km az=23.0*

ISC 20 17:13:29.2±0.5,2°.31N±0°.06×126°.82E±0°.05,h53km,n70, σ1$39/61,mb4.4/13,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**1.08**	**116**	P	**Pn**	**17 13 46.2**	**-1.9**
GAMI				S	**Sn**	**17 14 04.0**	**+2.0**
TNTI	**Ternate**	**1.62**	**160**	P	**Pn**	**17 13 53.8**	**-1.6**
MNI	**Manado**	**2.15**	**247**	P	**Pn**	**17 14 01.0**	**-1.7**
MNI				S	**Sn**	**17 14 28.0**	**-0.2**
LBMI	**Labuha**	**3.01**	**167**	P	**Pn**	**17 14 14.3**	**-0.1**
GTOI	**Gorontalo**	**4.15**	**246**	P	**Pn**	**17 14 29.7**	**-0.4**
DAV	**Davao City (W)**	**4.89**	**345**	Sn	Sn	17 15 47.6	+12
DAV	**Davao City (W)**	**4.89**	**345**	Sn	Sn	17 15 47.6	+12
	30nm,0.3s,baz=99,slow=19,SNR=3.2						
MRSI	**Marisa**	**5.20**	**250**	P	**Pn**	**17 14 46.1**	**+1.6**
	272nm,1.1s,3µm0.8nm						
LUWI	**Luwuk**	**5.24**	**231**	P	**Pn**	**17 14 47.3**	**+2.3**
	300nm,0.9s,4µm1.6nm						
LUWI	**Luwuk**	**5.24**	**231**	P	Pn	17 14 48.0	+3.1
	baz=5.3,SNR=9.1						
SWI	**Sorong**	**5.45**	**125**	P	Pn	17 14 51.3	+3.4
	52nm,1.0s,564nm0.2nm						
SWI	**Sorong**	**5.45**	**125**	P	**Pn**	**17 14 48.9**	**+1.0**
	baz=5.5,SNR=5.1						
MSAI	**Masohi**	**6.00**	**159**	P	Pn	17 15 01.7	+6.2
SKSI	**Soroako, Sulaw**	**7.29**	**229**	P	**Pn**	**17 15 12.8**	**-0.4**
	57nm,0.7s,1µm0.2nm						
FAKI	**Fak Fak**	**7.51**	**134**	P	Pn	17 15 20.3	+4.1
	39nm,1.2s,0.1nm						
FAKI	**Fak Fak**	**7.51**	**134**	P	Pn	17 15 20.7	+4.4
	baz=7.5,SNR=5.1						
MYLDM	**Lahad Datu**	**8.77**	**289**	P	**Pn**	**17 15 35.4**	**+2.0**
MYLDM	**Lahad Datu**	**8.77**	**289**	P	**Pn**	**17 15 35.5**	**+2.0**
	116nm,0.9s,2µm						
TTSI	**Tana Toraja**	**8.79**	**233**	P	**Pn**	**17 15 32.7**	**-0.9**
	62nm,1.0s,634nm						
PALU	**Palau**	**9.12**	**56**	P	**Pn**	**17 15 38.5**	**+0.2**
	baz=9.1,SNR=4.0						
BKSI	**Bulukumba**	**10.11**	**221**	P	**Pn**	**17 15 53.7**	**+2.0**
	18nm,1.5s,344nm						
KAPI	**Kappang**	**10.13**	**224**	Pn	Pn	17 15 48.0	-4.1
KAPI	**Kappang**	**10.13**	**224**	Pn	Pn	17 15 48.0	-4.1
	1.1nm,0.3s,baz=1.7,slow=24,SNR=3.7						
BSSI	**Bau Bau, Buton**	**10.51**	**217**	P	**Pn**	**17 15 58.8**	**+1.6**
	32nm,0.7s						
KKM	**Kota Kinabalu**	**11.20**	**290**	P	**Pn**	**17 16 08.9**	**+2.1**
	30nm,0.9s,504nm						
KKM	**Kota Kinabalu**	**11.20**	**290**	P	**Pn**	**17 16 08.3**	**+1.4**
	baz=11,SNR=3.9						
SOEI	**Soe**	**12.25**	**192**	P	**Pn**	**17 16 21.6**	**+0.5**
	48nm,1.5s						
SOEI	**Soe**	**12.25**	**192**	P	P	17 16 40.1	+8.1
	baz=12,SNR=4.0						
SBUM	**Sibu**	**14.58**	**271**	P	**Pn**	**17 16 55.2**	**+2.6**
SBUM	**Sibu**	**14.58**	**271**	P	**Pn**	**17 16 55.2**	**+2.6**
	38nm,1.6s,487nm						
JAY	**Jayapura**	**14.69**	**109**	P	**P**	**17 17 00.9**	**+1.9**
JAY	**Jayapura**	**14.69**	**109**	P	**P**	**17 17 00.1**	**+1.1**
	baz=15,SNR=4.0						
MTN	**Manton Dam**	**15.65**	**164**	P	**Pn**	**17 17 07.1**	**+0.6**
	baz=16,SNR=16						
KDU	**Kakadu**	**15.92**	**159**	P	**P**	**17 17 12.2**	**-0.5**
	baz=16,SNR=8.5						
KSM	**Kuching**	**16.52**	**267**	P	**P**	**17 17 20.2**	**+0.9**
	baz=16,SNR=6.5						
GMJI	**Gumukmas**	**16.98**	**232**	P	**P**	**17 17 26.9**	**+2.5**
	33nm,1.5s						
KNRA	**Kununurra**	**17.97**	**174**	P	**Pn**	**17 17 33.6**	**-1.8**
	baz=18,SNR=23						
FITZ	**Fitzroy Crossi**	**20.31**	**183**	P	**P**	**17 17 59.6**	**-1.4**
FITZ	**Fitzroy Crossi**	**20.31**	**183**	P	**P**	**17 17 59.6**	**-1.4**
	4.7nm,0.7s,baz=4.5,slow=13,SNR=23						
FITZ	**Fitzroy Crossi**	**20.31**	**183**	P	**P**	**17 18 01.7**	**+0.7**
	baz=20,SNR=5.8						
WRAB	**Tennant Creek**	**23.31**	**162**	*e*P	**P**	**17 18 30.8**	**-1.9**
	14nm,0.8s						
WRA	**Warramunga Arr**	**23.31**	**162**	P	**P**	**17 18 31.2**	**-1.6**
WRA	**Warramunga Arr**	**23.31**	**162**	P	**P**	**17 18 31.2**	**-1.6**
	12nm,0.7s,baz=341,slow=11,SNR=32						
ASAR	**Alice Springs**	**26.72**	**165**	P	**P**	**17 19 02.5**	**-1.4**
ASAR	**Alice Springs**	**26.72**	**165**	P	**P**	**17 19 02.5**	**-1.4**
	1.3nm,0.3s,baz=347,slow=11,SNR=38						
PATS	**Pohnpei**	**31.71**	**81**	P	**P**	**17 19 49.7**	**+1.5**
	baz=32,SNR=3.6						
MORW	**Morawa**	**32.86**	**198**	S	S	17 25 32.3	+20
	baz=33,SNR=4.9						
KSAR	**Wonju Array Be**	**34.98**	**1**	P	**P**	**17 20 17.4**	**+1.1**
KSRS	**Korea Array**	**34.99**	**2**	P	**P**	**17 20 17.4**	**+1.0**
	3.2nm,0.7s,baz=180,slow=9.0,SNR=4.2						
MJAR	**Matsushiro Arr**	**35.66**	**16**	P	**P**	**17 20 21.4**	**-0.8**
MJAR	**Matsushiro Arr**	**35.66**	**16**	P	**P**	**17 20 21.4**	**-0.8**
	8.6nm,1.1s,baz=192,slow=9.2,SNR=8.6						
EIDS	**Eidsvold**	**36.19**	**141**	P	**P**	**17 20 25.5**	**-1.5**
	baz=36,SNR=4.1						
STKA	**Stephens Creek**	**36.78**	**159**	P	**P**	**17 20 31.4**	**-0.6**
STKA	**Stephens Creek**	**36.78**	**159**	P	**P**	**17 20 31.4**	**-0.6**
	9.4nm,0.8s,baz=340,slow=8.2,SNR=12						
STKA	**Stephens Creek**	**36.78**	**159**	P	**P**	**17 20 31.7**	**-0.2**
	baz=37,SNR=9.9						
USRK	**Ussuriysk Arra**	**41.97**	**6**	P	**P**	**17 21 15.9**	**+1.0**
	6.6nm,0.7s,baz=195,slow=6.1,SNR=7.6						
SONM	**Songino Array**	**48.66**	**342**	P	**P**	**17 22 07.3**	**-0.8**
SONM	**Songino Array**	**48.66**	**342**	P	**P**	**17 22 07.4**	**-0.8**
	1.6nm,0.7s,baz=167,slow=8.8,SNR=3.9						
MKAR	**Makanchi Array**	**58.77**	**326**	P	**P**	**17 23 20.5**	**-1.4**
MKAR	**Makanchi Array**	**58.77**	**326**	P	**P**	**17 23 20.5**	**-1.4**
	0.8nm,0.3s,baz=118,slow=7.2,SNR=9.0						
KURBB	**Kurchatov Array**	**62.98**	**328**	P	**P**	**17 23 49.3**	**-1.1**
	5.7nm,0.8s,baz=128,slow=6.0,SNR=7.8						
KURK	**Kurchatov**	**62.98**	**328**	P	**P**	**17 23 49.3**	**-1.1**
AKTO	**Aktyubinsk**	**74.82**	**322**	P	**P**	**17 25 02.7**	**-1.3**
AKTO	**Aktyubinsk**	**74.82**	**322**	P	**P**	**17 25 02.7**	**-1.3**
	3.5nm,0.9s,baz=83,slow=9.0,SNR=7.4						
VNDA	**Vanda**	**82.01**	**173**	P	**P**	**17 25 42.5**	**-0.6**
VNDA	**Vanda**	**82.01**	**173**	P	**P**	**17 25 42.5**	**-0.6**
	2.0nm,0.9s,baz=316,slow=6.0,SNR=11						
MAW	**Mawson**	**82.46**	**200**	P	**P**	**17 25 45.8**	**+0.3**
MAW	**Mawson**	**82.46**	**200**	P	**P**	**17 25 45.8**	**+0.3**
	1.3nm,0.2s,baz=40,slow=7.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**123.43**	**287**	PKP	**PKPdf**	**17 32 21.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**123.43**	**287**	PKP	**PKPdf**	**17 32 21.3**	**-0.3**
	0.3nm,0.8s,baz=54,slow=2.8,SNR=3.0						

*ISCJB **20** 17:14:34.6±1.3,19°.37N±0°.02×120°.09E±0°.04,h2km±8km, mb4.4/53,MS4.1/33,Error ellipse: s-maj=7.0km s-min=3.2km az=163.7*
*BJI **20** 17:14:35.9,19°.60N×119°.00E,h38km,mB4.7/14,mb4.5/16, Ms4.4/18,Ms7 4.3/17*
*IDC **20** 17:14:35.3±0.4,19°.28N×120°.19E,h0km,mb4.4/29, mb1 4.5/30,mb1mx4.5/34,mbtmp4.4/30,ML3.4/1,MS4.0/23, Ms1 4.1/23,ms1mx3.9/34,Error ellipse: s-maj=16.6km s-min=9.8km az=77.0*
*NEIC **20** 17:14:36.1±3.2,19°.26N×120°.24E,h5km±20km,mb4.7/10, Error ellipse: s-maj=7.2km s-min=5.2km az=92.0*
*MOS **20** 17:14:38.8±1.1,19°.29N×120°.21E,h33km,mb4.9/15, MS4.1/6,Error ellipse: s-maj=11.3km s-min=6.4km az=109.7*
*GCMT **20** 17:14:39.1±0.3,19°.30N×119°.93E,h12km,MW4.9, Moment Tensor Solution. s22,c22; s60,c90; Moment tensor: Scale 10¹⁶Nm; Mrr-2.00±.07; Mθθ0.73±.06; Mφφ1.27±.08; Mrθ0.58±.26; Mθφ0.91±.05; Mφr1.77±.29; Best double couple: M₀2.70000×10¹⁶ NP1:φs47.00000°, δ25.00000°,λ-69.00000°. NP2:φs204.00000°,δ67.00000°, λ-99.00000°. Principal axes: T 2.6400, Plg21.0000°, Azm302.0000°; N 0.1500, Plg9.0000°, Azm208.0000°; P -2.7800, Plg67.0000°, Azm97.0000°; Data Used: II IU IC G CN.*

ISC 20 17:14:36.7±0.6,19°.26N±0°.03×120°.20E±0°.05,h8km±3km, n153,σ1$42/158,mb4.5/53,MS4.1/33,3C-4D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.01**	**157**	*i* P	**Pn**	**17 14 57.0**	**-0.1**
PIP				*e*S	**Sn**	**17 15 11.4**	**-0.1**
SIPP	**Brgy, Tapao**	**1.35**	**170**	*e*P	**Pg**	**17 15 04.4**	**+1.8**
SIPP				*e*S	**Sn**	**17 15 19.6**	**-0.4**
ABRA	**Dolores**	**1.67**	**163**	*e*P	**Pb**	**17 15 06.8**	**-0.9**
ABRA				*e*S	**Sg**	**17 15 31.1**	**+0.7**
APYP	**Conner**	**1.70**	**144**	*e*P	**Pg**	**17 15 08.4**	**-1.0**
APYP				*e*S	**Sg**	**17 15 31.7**	**+0.3**
CVP	**Callao Caves**	**2.18**	**135**	*e*P	**Pb**	**17 15 15.9**	**-0.5**
CVP				*i* S	**Sg**	**17 15 45.8**	**-1.0**
CAUP	**Cauayan**	**2.77**	**146**	*e*P	**Pb**	**17 15 25.4**	**-1.0**
BCPH	**Baguio City Da**	**2.88**	**173**	*i* P	**Pn**	**17 15 24.0**	**+0.9**
PALP	**Palanan**	**3.04**	**136**	*i* P	**Pb**	**17 15 29.0**	**-2.0**
PALP				*e*S	**Sn**	**17 16 00.7**	**-0.9**
SCZP	**Santa Cruz**	**3.47**	**185**	*e*P	Pb	17 15 34.7	-3.8
TWG	**Pinlang**	**3.64**	**13**	*e*Pn	**Pn**	**17 15 31.8**	**-1.5**
BALP	**Baler**	**3.73**	**159**	*e*P	Pn	17 15 38.2	+3.6
TPUB	**Ta-pu**	**4.04**	**6**	*e*Pn	Pn	17 15 34.9	-4.0
YULB	**Yu-li**	**4.24**	**14**	*e*Pn	**Pn**	**17 15 40.2**	**-1.4**
SSLB	**Suanglung**	**4.56**	**9**	*e*Pn	Pn	17 15 42.8	-3.2
NACB	**Ninganchiao**	**5.06**	**15**	*e*Pn	**Pn**	**17 15 50.6**	**-2.3**
TGY	**Tagaytay City**	**5.17**	**172**	Pn	Pn	17 15 58.7	+4.2
TGY	**Tagaytay City**	**5.17**	**172**	Pn	Pn	17 15 58.7	+4.2
	124nm,0.3s,baz=177,slow=11,SNR=9.0						
YHNB	**Yehebug**	**5.50**	**11**	*e*Pn	**Pn**	**17 15 55.8**	**-3.1**
	73nm,0.6s						
QZH	**Quanzhou**	**5.85**	**346**	⇑P	Pn	17 16 00.0	-3.7
QZH				S	Sn	17 17 01.5	-10
QZH				LR	LR		
	comp=N,4µm,8.9s						
QZH				LR	LR		
	comp=E,2µm,6.2s						
QZH				LR	LR		
	comp=Z,5µm,11.6s						
QIZ	**Qiongzhong**	**9.79**	**270**	P	Pn	17 16 54.1	-3.9
QIZ				S	Sn	17 18 33.3	-15
QIZ				pmax	pmax		
	comp=Z,19nm,0.7s						
QIZ				LR	LR		
	comp=N,2µm,14.0s						
QIZ				LR	LR		
	comp=Z,1µm,10.6s						
QIZ	**Qiongzhong**	**9.79**	**270**	*e*P	Pn	17 16 54.0	-3.9
	comp=Z,25nm,0.6s						
SSE	**Sheshan**	**11.82**	**4**	P	**Pn**	**17 17 26.3**	**+0.7**
SSE				S	**Sn**	**17 19 38.1**	**+0.4**
SSE				pmax	pmax		
	comp=Z,11nm,0.6s						
SSE				pmax	pmax		
	comp=Z,75nm,3.7s						
SSE				LR	LR		
	comp=N,260nm,12.6s						
SSE				LR	LR		
	comp=E,980nm,12.7s						
SSE				LR	LR		
	comp=Z,550nm,12.7s						
NJ2	**Nanjing**	**12.80**	**355**	*e*P	Pn	17 17 31.8	-7.2
NJ2				S	Sn	17 19 51.0	-11
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
NJ2				LR	LR		
	comp=N,2µm,7.4s						
NJ2				LR	LR		
	comp=E,1µm,6.3s						
NJ2				LR	LR		
	comp=Z,2µm,9.3s						
DAV	**Davao City (W)**	**13.19**	**156**	LR	LR	17 24 00.7	
	comp=Z,2µm,18.6s,baz=344,slow=43						
JNU	**Nakatsue**	**16.79**	**33**	*e*Pn	**P**	**17 18 33.0**	**-1.5**
	comp=Z,55nm,1.4s						
JNU	**Nakatsue**	**16.79**	**33**	Pn	**P**	**17 18 34.5**	**0.0**
	comp=Z,0.4nm,0.3s,baz=222,slow=15,SNR=2.7						
XAN	**Xi'an**	**17.82**	**328**	P	**Pn**	**17 18 43.0**	**-2.2**
XAN				S	**Sn**	**17 22 06.3**	**+2.3**
XAN				pmax	pmax		
	comp=Z,3.0nm,1.9s						
XAN				pmax	pmax		
	comp=Z,83nm,7.7s						
XAN				LR	LR		
	comp=N,670nm,14.2s						
XAN				LR	LR		
	comp=E,180nm,10.7s						
XAN				LR	LR		
	comp=Z,300nm,12.0s						
KSAR	**Wonju Array Be**	**19.32**	**19**	P	**Pn**	**17 19 03.0**	**-0.3**
KSRS	**Korea Array**	**19.35**	**19**	P	**Pn**	**17 19 03.0**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=199,slow=11,SNR=13						
KSRS				LR	LR	17 27 54.1	
	comp=Z,233nm,18.7s,baz=199,slow=41						
DL2	**Dalian**	**19.62**	**3**	P	**Pn**	**17 19 08.0**	**+1.1**
DL2				S	**Sn**	**17 22 48.6**	**+1.3**
DL2				pmax	pmax		
	comp=Z,26nm,1.2s						
DL2				pmax	pmax		
	comp=Z,220nm,5.9s						
DL2				LR	LR		
	comp=N,530nm,12.8s						
DL2				LR	LR		
	comp=Z,470nm,11.6s						
CHTO	**Chiang Mai**	**20.10**	**272**	*e*P	Pn	17 19 12.4	-0.4
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CHTO	**Chiang Mai**	**20.10**	**272**	*e*P	Pn	17 19 12.4	-0.4
	comp=Z,6.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.14**	**271**	P	**P**	**17 19 12.0**	**+0.6**
CMAR				PcP	**PcP**	**17 23 27.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**20.14**	**271**	P	**P**	**17 19 12.0**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=77,slow=8.6,SNR=10.0						
CMAR				PcP	**PcP**	**17 23 27.2**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=109,slow=0.5,SNR=12						
CMAR				LR	LR	17 26 24.3	
	comp=Z,239nm,20.9s,baz=90,slow=35						
KSM	**Kuching**	**20.16**	**210**	*e*P	**P**	**17 19 11.3**	**-0.3**
	comp=Z,35nm,1.1s						
BJT	**Baijiatuao**	**20.98**	**351**	*e*P	**P**	**17 19 19.9**	**-0.4**
	comp=Z,89nm,1.1s						
BJI	**Beijing**	**21.00**	**351**	P	**P**	**17 19 20.4**	**-0.1**
BJI				S	Sn	17 23 19.4	-1.1
BJI				pmax	pmax		
	comp=Z,19nm,1.5s						
BJI				pmax	pmax		
	comp=Z,260nm,7.8s						
BJI				LR	LR		
	comp=N,770nm,11.4s						
BJI				LR	LR		
	comp=E,190nm,10.9s						
BJI				LR	LR		
	comp=Z,280nm,19.2s						
LZH	**Lanzhou**	**22.10**	**323**	⇑P	**P**	**17 19 32.1**	**-0.5**
LZH				pP	pP	17 19 41.8	+6.8
LZH				sP	sP	17 19 46.0	+10
LZH				PP	**PnPn**	**17 19 56.3**	**+1.6**
LZH				*e*S	S	17 23 21.0	-16
LZH				sS	**sS**	**17 23 35.8**	**-4.6**
LZH				SS	Sn	17 23 55.4	+7.9
LZH				pmax	pmax		
	comp=Z,47nm,1.3s						
LZH				pmax	pmax		
	comp=Z,300nm,5.0s						
LZH				LR	LR		
	comp=N,1µm,11.0s						
LZH				LR	LR		
	comp=E,960nm,10.2s						
LZH				LR	LR		
	comp=Z,1µm,11.5s						
MAJO	**Matsushiro**	**23.38**	**39**	*e*P	**P**	**17 19 45.1**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,17nm,1.1s						
MAJO	**Matsushiro**	**23.38**	**39**	*e*P	**P**	**17 19 45.0**	**-0.8**
	comp=Z,17nm,1.1s						
MAT	**Matsushiro**	**23.38**	**39**	P	**P**	**17 19 46.2**	**+0.4**
MAT				S	**S**	**17 24 04.8**	**+5.7**
MJAR	**Matsushiro Arr**	**23.38**	**39**	P	**P**	**17 19 45.7**	**-0.2**
MJAR	**Matsushiro Arr**	**23.38**	**39**	P	**P**	**17 19 45.7**	**-0.2**
	comp=Z,3.1nm,1.0s,baz=226,slow=7.6,SNR=8.2						
IPM	**Ipoh**	**23.79**	**234**	*e*P	**P**	**17 19 48.6**	**-1.4**
KAPI	**Kappang**	**24.12**	**181**	*e*P	**P**	**17 19 51.8**	**-1.4**
	comp=Z,263nm,1.9s						
KAPI	**Kappang**	**24.12**	**181**	P	**P**	**17 19 52.2**	**-1.0**
	comp=Z,16nm,0.7s,baz=11,slow=6.6,SNR=9.2						
CN2	**Changchun**	**24.86**	**9**	*e*P	**P**	**17 19 56.3**	**-3.4**
CN2				*e*pP	**pP**	**17 20 06.0**	**+3.8**
CN2				*e*S	S	17 24 14.0	-8.8
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				LR	LR		
	comp=N,500nm,14.0s						
CN2				LR	LR		
	comp=E,400nm,14.0s						
CN2				LR	LR		
	comp=Z,600nm,14.0s						
PSI	**Prapat**	**26.47**	**234**	P	**P**	**17 20 14.5**	**-0.2**
PSI	**Prapat**	**26.47**	**234**	P	**P**	**17 20 14.5**	**-0.2**
	comp=Z,9.0nm,0.3s,baz=3.9,slow=9.0,SNR=8.5						
MDJ	**Mudanjiang**	**26.47**	**15**	P	**P**	**17 20 11.1**	**-3.2**
MDJ				S	**S**	**17 24 48.4**	**+0.1**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,83nm,6.4s						
MDJ				LR	LR		
	comp=N,170nm,23.5s						
MDJ				LR	LR		
	comp=E,200nm,17.6s						
MDJ				LR	LR		
	comp=Z,170nm,21.5s						
GTA	**Gaotai**	**26.70**	**323**	*e*P	**P**	**17 20 16.6**	**0.0**
GTA				pP	pP	17 20 26.0	+6.9
GTA				sP	sP	17 20 30.0	+10
GTA				S	**S**	**17 24 52.0**	**-0.4**
GTA				sS	sS	17 25 07.9	+11
GTA				SS	SnSn	17 26 09.1	+14
GTA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,220nm,6.4s						
GTA				LR	LR		
	comp=N,380nm,13.1s						
GTA				LR	LR		
	comp=E,710nm,14.0s						
GTA				LR	LR		
	comp=Z,580nm,13.1s						
USRK	**Ussuriysk Arra**	**26.76**	**19**	P	**P**	**17 20 15.9**	**-0.9**
	comp=Z,3.6nm,0.9s,baz=203,slow=9.3,SNR=4.1						
USRK				LR	LR	17 31 50.6	
	comp=Z,201nm,20.4s,baz=326,slow=39						
LSA	**Lhasa**	**28.34**	**297**	P	**P**	**17 20 33.0**	**+1.3**
LSA	**Lhasa**	**28.34**	**297**	*e*P	**P**	**17 20

KSH pmax pmax
comp=Z,12nm,1.4s
KSH pmax pmax
comp=Z,210nm,5.7s
KSH LR LR
comp=N,240nm,7.4s
KSH LR LR
comp=E,180nm,9.9s
KSH LR LR
comp=Z,390nm,13.7s
ZALV Zalesovo Beam 43.97 330 P **P** 17 22 43.9 -0.3
ZALV Zalesovo Beam 43.97 330 P **P** 17 22 43.9 -0.3
ZALV Zalesovo Beam 43.97 330 P **P** 17 22 43.9 -0.3
comp=Z,2.2nm,0.6s,baz=118,slow=8.1,SNR=12
ZALV LR LR 17 41 51.1
comp=Z,377nm,19.0s,baz=70,slow=37
PETK Petropavlovsk- 44.48 32 P **P** 17 22 48.7 +0.3
PETK Petropavlovsk- 44.48 32 P **P** 17 22 48.6 +0.3
PETK Petropavlovsk- 44.48 32 P **P** 17 22 48.6 +0.3
comp=Z,2.1nm,0.7s,baz=175,slow=3.8,SNR=7.3
PETK LR LR 17 43 40.0
comp=Z,77nm,18.9s,baz=122,slow=39
ASAR Alice Springs 44.71 162 P **P** 17 22 50.5 0.0
ASAR PcP **PcP** 17 24 33.5 +0.5
ASAR Alice Springs 44.71 162 P **P** 17 22 50.5 0.0
comp=Z,9.6nm,0.6s,baz=346,slow=7.0,SNR=62
ASAR PcP **PcP** 17 24 33.5 +0.5
comp=Z,2.0nm,0.8s,baz=332,slow=3.4,SNR=5.0
AAK Ala-Archa 44.92 312 *eP* **P** 17 22 54.5 +2.2
AAK Ala-Archa 44.92 312 *eP* **P** 17 22 54.5 +2.2
AAK Ala-Archa 44.92 312 P **P** 17 22 51.8 -0.4
comp=Z,1.0nm,0.3s,baz=108,slow=3.2,SNR=3.2
NVS Novosibirsk 45.25 331 *eP* **P** 17 22 53.8 -0.6
NVS pmax pmax
comp=Z,30nm,1.9s
NVS pmax pmax
comp=N,9.0nm,1.5s
NVS pmax pmax
comp=E,10.0nm,1.3s
KURK Kurchatov 45.39 324 P **P** 17 22 56.0 +0.4
KURK Kurchatov 45.39 324 P **P** 17 22 56.0 +0.4
KURBB Kurchatov Arra 45.39 323 P **P** 17 22 56.0 +0.4
comp=E,5.1nm,0.8s,baz=123,slow=8.0,SNR=38
CTA Charters Tower 46.70 145 P **P** 17 23 07.7 +1.4
CTA Charters Tower 46.70 145 P **P** 17 23 07.7 +1.4
comp=E,7.5nm,0.8s,baz=295,slow=12,SNR=3.7
KKAR Karatay Array 47.87 311 *eP* **P** 17 23 15.3 +0.1
KKAR pmax pmax
comp=Z,11nm,1.1s
KKAR Karatay Array 47.87 311 *eP* **P** 17 23 15.3 +0.1
comp=Z,11nm,1.1s
BRVK Borovoye 51.06 324 *eP* **P** 17 23 40.6 +1.2
BRVK pmax pmax
comp=Z,5.0nm,1.4s
NWAO Narrogin (SRO) 51.97 183 P **P** 17 23 46.4 +0.1
NWAO Narrogin (SRO) 51.97 183 P **P** 17 23 46.4 +0.1
comp=Z,19nm,0.6s,baz=351,slow=6.9,SNR=15
BBOO Buckleboo 53.95 163 *eP* **P** 17 24 01.5 +0.5
STKA Stephens Creek 54.83 158 P **P** 17 24 07.7 +0.3
STKA Stephens Creek 54.83 158 P **P** 17 24 07.7 +0.3
comp=Z,10nm,0.7s,baz=340,slow=6.7,SNR=13
STKA LR LR 17 46 02.3
comp=Z,124nm,21.8s,baz=220,slow=34
ABKAR Akbulak array 56.31 317 *eP* **P** 17 24 17.8 -0.1
comp=Z,1.0nm,0.5s
SVE Sverdlovsk 57.52 326 *eP* **P** 17 24 29.3 +2.9
SVE pmax pmax
comp=Z,18nm,1.3s
AKTO Aktyubinsk 57.73 318 P **P** 17 24 27.9 -0.1
AKTO Aktyubinsk 57.73 318 P **P** 17 24 27.9 -0.1
AKTO Aktyubinsk 57.73 318 P **P** 17 24 27.9 -0.1
comp=Z,0.3nm,0.3s,baz=99,slow=12,SNR=2.9
ARU Arti 58.54 325 *c iP* **P** 17 24 33.8 +0.3
ARU 17 25 23.0
ARU 17 26 39.1
ARU S **S** 17 32 38.0 +0.6
ARU SS **SS** 17 36 32.2 +2.5
ARU pmax pmax
comp=Z,5.0nm,1.2s
ARU MLR MLR
comp=Z,224nm,20.0s
RDF Al-Radifah 66.13 294 *eP* **P** 17 25 24.1 -0.8
RDF AMb AMB 17 25 24.5
comp=Z,33nm,0.9s
MIB Mutribah 66.17 295 *eP* **P** 17 25 23.9 -1.2
MIB AMb AMB 17 25 26.4
comp=Z,18nm,1.1s
NAY Al-Naaiem 66.34 294 *eP* **P** 17 25 25.0 -1.3
NAY AMb AMB 17 25 29.4
comp=Z,9.7nm,1.0s
GNI Garni 66.90 306 P **P** 17 25 30.6 +0.8
GNI Garni 66.90 306 P **P** 17 25 30.6 +0.8
comp=Z,1.8nm,0.4s,baz=360,slow=18,SNR=3.5
KBZ Khabaz 67.89 310 P **P** 17 25 36.1 +0.3
KBZ Khabaz 67.89 310 P **P** 17 25 36.1 +0.3
KBZ Khabaz 67.89 310 P **P** 17 25 36.1 +0.3
comp=Z,6.4nm,0.9s,baz=131,slow=3.4,SNR=13
KBZ LR LR 17 58 35.7
comp=Z,187nm,18.3s,baz=247,slow=39
KIV Kislovodsk 68.02 311 *eP* **P** 17 25 36.7 -0.1
KIV *eS* **S** 17 34 34.7 -1.8
KIV pmax pmax
comp=Z,20nm,0.8s
KIV MLR MLR
comp=Z,126nm,17.0s
VORD Divnogorie 69.61 318 *eP* **P** 17 25 45.0 -1.4
VORD *e**PP pP 17 25 53.3 +4.2
VORD pmax pmax
comp=Z,4.0nm,0.4s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,30nm,0.7s
VSR Storozhevoye 69.67 319 *eP* **P** 17 25 45.6 -1.1
VSR *e**PP pP 17 25 53.8 +4.4
VSR pmax pmax
comp=N,8.0nm,0.6s
VSR pmax pmax
comp=Z,4.0nm,0.6s
VSR pmax pmax
comp=E,7.0nm,0.5s
MOS Moscow 70.16 323 *eP* P 17 25 54.6 +4.9
MOS pmax pmax
comp=Z,49nm,1.1s
OBN Obninsk 70.82 323 P **P** 17 25 55.0 +1.3
OBN *e* 17 26 01.3
OBN *PP PcP 17 26 07.0 -7.4
OBN S **S** 17 35 14.0 +5.2
OBN pmax pmax
comp=Z,23nm,1.6s
OBN MLR MLR
comp=Z,100nm,15.0s
ARCES ARCESS Array B 73.76 339 P **P** 17 26 11.2 +0.1
ARCES ARCESS Array B 73.76 339 P **P** 17 26 11.2 +0.1
comp=Z,2.4nm,0.7s,baz=69,slow=7.9,SNR=5.5
ARCES LR LR 18 01 58.1
comp=Z,102nm,20.1s,baz=68,slow=39
ILAR Eielson Array 74.00 26 P **P** 17 26 11.5 -1.0
ILAR Eielson Array 74.00 26 P **P** 17 26 11.5 -1.0
comp=Z,0.9nm,0.8s,baz=282,slow=5.4,SNR=7.5
ILAR LR LR 17 59 13.9
comp=Z,72nm,19.3s,baz=119,slow=36
SPITS Spitsbergen Ar 74.08 348 LR LR 18 03 14.3
comp=Z,199nm,18.7s,baz=45,slow=39
FINES FINESS Array B 75.23 330 P **P** 17 26 19.4 -0.4
FINES FINESS Array B 75.23 330 P **P** 17 26 19.4 -0.4
comp=Z,3.7nm,0.8s,baz=78,slow=3.8,SNR=12
FINES LR LR 18 02 37.4
comp=Z,274nm,19.4s,baz=8.8,slow=38
BRTR Keskin Array B 75.38 307 P **P** 17 26 21.5 +0.3
BRTR Keskin Array B 75.38 307 P **P** 17 26 21.5 +0.3
comp=Z,0.9nm,0.8s,baz=88,slow=3.4,SNR=3.0
BRTR LR LR 18 04 28.8
comp=Z,85nm,20.1s,baz=261,slow=40
MMAI Mount Meron Ar 75.54 300 LR LR 18 03 33.9
comp=Z,68nm,18.2s,baz=50,slow=39
INK Inuvik 78.12 21 LR LR 18 05 28.9
comp=Z,83nm,20.3s,baz=269,slow=39
HFS Hagfors 81.40 331 P **P** 17 26 52.7 -1.2
HFS Hagfors 81.40 331 P **P** 17 26 52.7 -1.2
comp=Z,4.5nm,0.9s,baz=155,slow=4.6,SNR=5.1
KECS Kecovo 82.03 319 *eP* pP 17 27 05.2 +5.0
NB2 NORSAR Subarra 82.14 332 P **P** 17 26 56.5 -1.3
comp=Z,0.9nm,0.6s,baz=63,slow=4.8
NOA NORSAR Array B 82.14 332 P **P** 17 26 56.6 -1.3
NOA NORSAR Array B 82.14 332 P **P** 17 26 56.6 -1.3
comp=Z,2.5nm,0.9s,baz=63,slow=5.2,SNR=4.5
NOA LR LR 18 06 12.7
comp=Z,255nm,19.7s,baz=65,slow=38
VYHS Vyhne 83.05 319 *eP* pP 17 27 10.4 +4.8
JMIC Jan Mayen 83.33 345 LR LR 18 06 10.3
comp=Z,98nm,18.9s,baz=71,slow=37
KSP Ksiaz 83.71 322 *eP* **P** 17 27 06.3 +0.1
KSP *e**PP **PcP** 17 27 13.8 +3.5
CLL Collm 85.42 323 *i* (sP) **sP** 17 27 21.1 +2.6
comp=Z,15nm,1.5s
CLL LmV 18 10 00.0
comp=Z,100nm,18.2s
GERES GERESS Array B 86.05 321 P **P** 17 27 17.3 -0.9
GERES GERESS Array B 86.05 321 P **P** 17 27 17.3 -0.9
comp=Z,0.9nm,0.8s,baz=72,slow=6.3,SNR=6.2
GERES LR LR 18 11 45.6
comp=Z,77nm,19.9s,baz=263,slow=40
YKA Yellowknife Ar 87.85 22 P **P** 17 27 26.4 0.0
YKA Yellowknife Ar 87.85 22 P **P** 17 27 26.4 0.0
comp=Z,1.9nm,0.8s,baz=315,slow=4.7,SNR=19
PPT Papeete 95.84 106 LR LR 18 05 05.1
comp=Z,65nm,18.7s,baz=320,slow=32
YBH Yreka Blue Hor 96.00 42 LR LR 18 09 14.7
comp=Z,44nm,19.8s,baz=351,slow=34
VNDA Vanda 99.58 172 P **Pdif** 17 28 20.8 +0.9
VNDA Vanda 99.58 172 P **Pdif** 17 28 20.8 +0.9
comp=Z,0.6nm,0.7s,baz=313,slow=6.9,SNR=5.2
VNDA LR LR 18 12 03.5
comp=Z,56nm,21.6s,baz=288,slow=35
TORD Torodi Ar. Bea 111.42 293 PKiKP **PKiKP** 17 33 11.1 -1.3
TORD Torodi Ar. Bea 111.42 293 PKiKP **PKiKP** 17 33 11.1 -1.3
comp=Z,0.6nm,0.8s,baz=32,slow=2.2,SNR=3.6
TXAR Lajitas Array 115.78 42 PKP **PKPdf** 17 33 20.4 -0.1
TXAR Lajitas Array 115.78 42 PKP **PKPdf** 17 33 20.4 -0.1
comp=Z,0.6nm,0.7s,baz=180,slow=0.4,SNR=6.5

IDC 20 17:17:53.5±1.1, 2.46N×127.16E, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.9/23, mbtmp4.1/10, Error ellipse: s-maj=90.2km s-min=14.6km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.49**	**184**	P	P	17 22 31.6	-1.6
	1.4nm,0.6s,baz=355,slow=14,SNR=2.3						
WRA	**Warramunga Arr**	**23.36**	**163**	P	P	17 23 01.9	-1.9
	3.2nm,0.4s,baz=339,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**26.79**	**166**	P	P	17 23 36.2	+0.8
	1.6nm,0.6s,baz=346,slow=8.3,SNR=2.2						
ASAR				PcP	PcP	17 26 58.0	-0.8
	0.5nm,0.5s,baz=349,slow=2.1,SNR=5.7						
STKA	**Stephens Creek**	**36.80**	**159**	P	P	17 25 03.8	+0.5
	4.6nm,0.6s,baz=341,slow=9.0,SNR=7.7						
MKAR	**Makanchi Array**	**58.83**	**325**	P	P	17 27 53.5	-0.4
	0.9nm,0.5s,baz=119,slow=8.5,SNR=13						
ZALV	**Zalesovo Beam**	**61.90**	**333**	P	P	17 28 14.2	-0.6
	0.3nm,0.3s,baz=126,slow=7.3,SNR=2.3						
KURBB	**Kurchatov Arra**	**63.03**	**328**	P	P	17 28 21.8	-0.6
	1.7nm,0.6s,baz=129,slow=6.2,SNR=12						
AKTO	**Aktyubinsk**	**74.91**	**322**	P	P	17 29 37.6	+1.3
	1.5nm,0.6s,baz=102,slow=9.7,SNR=7.8						
VNDA	**Vanda**	**82.12**	**173**	P	P	17 30 16.2	+0.6
	1.1nm,0.9s,baz=309,slow=4.9,SNR=3.4						
MAW	**Mawson**	**82.72**	**200**	P	P	17 30 19.4	+0.6
	0.7nm,0.3s,baz=48,slow=5.0,SNR=2.3						

*IDC **20** 17:40:45.0±2.1, 59.83N×153.25W, h66km±32km, mb3.2/2, mb1 3.5/5, mb1mx3.1/27, mbtmp3.3/5, ML3.5/3, MS2.8/1, Ms1 2.8/1, ms1mx2.5/19, Error ellipse: s-maj=38.8km s-min=11.7km az=103.0*
*ISCJB **20** 17:40:46.4±0.3, 59.73N±0.03×152.82W±0.06, h110km±4km, mb3.4/2, Error ellipse: s-maj=5.5km s-min=4.1km az=25.9*
*NEIC **20** 17:40:48.8, 59.73N×152.86W, h94km, MG3.0(AEIC), After AEIC.*

ISC 20 17:40:47.3±0.9, 59.74N±0.03×152.83W±0.04, h104km±6km, n79, σ0.973/91, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPT	**Oil Point**	**0.22**	**248**	P	**Pn**	**17 41 02.0**	**0.0**
ILS	**Iliamna Low So**	**0.25**	**332**	P	**Pn**	**17 41 02.1**	**-0.2**
ILIM	**Iliamna**	**0.35**	**350**	P	**Pn**	**17 41 02.6**	**-0.1**
ILIM				S	**Sn**	**17 41 13.9**	**-0.2**
AUW	**Augustine West**	**0.49**	**222**	P	**Pn**	**17 41 03.5**	**+0.1**
AUI	**Augustine Isla**	**0.50**	**217**	P	**Pn**	**17 41 03.2**	**-0.3**
AUI				S	**Sn**	**17 41 15.1**	**-0.5**
HOM	**Homer**	**0.61**	**97**	P	**Pn**	**17 41 04.6**	**+0.3**
HOM				S	**Sn**	**17 41 17.7**	**+0.7**
RSO	**Redoubt South**	**0.73**	**3**	*eP*	**Pn**	**17 41 05.3**	**-0.2**
RDWB	**Redoubt West**	**0.76**	**360**	P	**Pn**	**17 41 05.8**	**+0.1**
RDWB				S	**Sn**	**17 41 18.8**	**-0.8**
NCT	**North Crescent**	**0.83**	**357**	P	**Pn**	**17 41 06.6**	**+0.2**
NNL	**Ninilchik**	**0.83**	**68**	P	**Pn**	**17 41 07.6**	**+1.3**
DFR	**Drift River**	**0.86**	**5**	P	**Pn**	**17 41 06.9**	**+0.2**
MCNL	**McNeil River**	**0.94**	**235**	P	**Pn**	**17 41 07.3**	**-0.1**
BGRM	**Barrier Glacie**	**1.05**	**11**	P	**Pn**	**17 41 08.8**	**+0.2**
NKA	**Nikishka**	**1.29**	**38**	P	**Pn**	**17 41 13.3**	**+2.2**
KAPH	**Katmai Pasha**	**1.38**	**215**	P	**Pn**	**17 41 12.7**	**+0.3**
KAPH				S	**Sn**	**17 41 31.6**	**+0.2**
CKL	**Chakachamna La**	**1.49**	**9**	P	**Pn**	**17 41 14.2**	**+0.5**
SPU	**Mount Spurr**	**1.50**	**15**	P	**Pn**	**17 41 14.3**	**+0.5**
SLKM	**Skilak Lake**	**1.52**	**58**	P	**Pn**	**17 41 14.3**	**+0.3**
BGL	**Barrier Glacie**	**1.55**	**8**	P	**Pn**	**17 41 15.1**	**+0.7**
KAWH	**Katmai**	**1.69**	**218**	P	**Pn**	**17 41 16.5**	**+0.3**
STLK	**Strandline Lak**	**1.84**	**15**	P	**Pn**	**17 41 18.6**	**+0.6**
KAKN	**Katmai Knife C**	**1.85**	**220**	P	**Pn**	**17 41 18.5**	**+0.3**
SVW2	**Sparrevohn**	**1.93**	**316**	P	**Pn**	**17 41 19.1**	**0.0**
SVW2				S	**Sn**	**17 41 42.9**	**-0.5**
KABU	**Katmai Buttres**	**1.94**	**222**	P	**Pn**	**17 41 20.0**	**+0.6**
KABU				S	**Sn**	**17 41 44.0**	**+0.2**
KDAK	**Kodiak Island**	**1.96**	**176**	P	**Pn**	**17 41 18.9**	**-0.6**
KDAK				S	**Sn**	**17 41 42.9**	**-1.2**
KDAK				S	**Sn**	**17 41 43.3**	**-0.8**
KDAK	**Kodiak Island**	**1.96**	**176**	P	**Pn**	**17 41 18.8**	**-0.6**
	12nm,0.3s,baz=357,slow=13,SNR=36						
KDAK				S	**Sn**	**17 41 42.9**	**-1.2**
	14nm,0.3s,baz=122,slow=19,SNR=6.2						
SUA	**Susitna One**	**2.02**	**30**	P	**Pn**	**17 41 21.3**	**+0.9**
SKT	**Skwentna**	**2.34**	**15**	P	**Pn**	**17 41 24.9**	**+0.5**
OHAK	**Old Harbor**	**2.53**	**186**	P	**Pn**	**17 41 26.1**	**-0.7**
PMR	**Palmer**	**2.61**	**43**	*eP*	**Pn**	**17 41 28.0**	**+0.2**
PMR				S	**Sn**	**17 41 57.3**	**-1.7**
CUT	**Chulitna**	**2.95**	**24**	P	**Pn**	**17 41 33.4**	**+0.9**
SML	**Sawmill**	**3.03**	**45**	P	**Pn**	**17 41 33.7**	**+0.1**
PPLA	**Purkeypile**	**3.19**	**5**	P	**Pn**	**17 41 36.7**	**+1.0**
MID	**Middleton Isla**	**3.32**	**93**	P	**Pn**	**17 41 37.4**	**+0.1**
SCM	**Sheep Creek Mo**	**3.42**	**50**	P	**Pn**	**17 41 38.9**	**+0.1**
TT01	**Tatalina**	**3.53**	**336**	P	**Pn**	**17 41 40.4**	**+0.2**
EYAK	**Cordova Ski Ar**	**3.64**	**74**	P	**Pn**	**17 41 41.2**	**-0.3**
CAST	**Castle Rocks**	**3.71**	**5**	P	**Pn**	**17 41 43.2**	**+0.5**
DIV	**Divide**	**3.77**	**65**	P	**Pn**	**17 41 43.9**	**+0.5**
KLU	**Klutina**	**3.84**	**60**	P	**Pn**	**17 41 44.2**	**-0.1**
TRF	**Thorofare Moun**	**3.92**	**17**	P	**Pn**	**17 41 46.1**	**+0.5**
RND	**Reindeer**	**4.15**	**26**	P	**Pn**	**17 41 49.1**	**+0.6**
CHUM	**Lake Minchumin**	**4.17**	**3**	P	**Pn**	**17 41 49.2**	**+0.5**
DHY	**Denali Highway**	**4.26**	**36**	P	**Pn**	**17 41 50.1**	**0.0**
BMRM	**Bremner River**	**4.27**	**70**	P	**Pn**	**17 41 49.8**	**-0.4**
MCK	**McKinley**	**4.42**	**23**	P	**Pn**	**17 41 53.0**	**+0.9**
HARP	**HAARP**	**4.59**	**51**	P	**Pn**	**17 41 55.2**	**+0.7**
BWN	**Browne**	**4.73**	**18**	P	**Pn**	**17 41 57.3**	**+1.0**
GLB	**Gilahina Butte**	**4.77**	**65**	P	**Pn**	**17 41 56.6**	**-0.2**
PAX	**Paxson**	**4.80**	**44**	P	**Pn**	**17 41 58.0**	**+0.7**
KHIT	**Khitrov Hills**	**4.85**	**77**	P	**Pn**	**17 41 58.5**	**+0.5**
VRDI	**Verde Repeater**	**4.88**	**68**	P	**Pn**	**17 41 58.9**	**+0.5**
KULT	**Kultieth River**	**5.10**	**80**	P	**Pn**	**17 42 02.0**	**+0.5**
NEA	**Nenana**	**5.17**	**18**	P	**Pn**	**17 42 02.3**	**+0.1**
BARK	**Barkley Ridge**	**5.22**	**78**	P	**Pn**	**17 42 03.9**	**+0.8**
WRH	**Wood River Hil**	**5.25**	**23**	P	**Pn**	**17 42 03.4**	**+0.1**
PTPK	**Patty Peak**	**5.33**	**70**	P	**Pn**	**17 42 05.0**	**+0.3**
KIAG	**Kiagna River**	**5.34**	**73**	P	**Pn**	**17 42 05.0**	**+0.3**
BALM	**Baldy**	**5.36**	**71**	P	**Pn**	**17 42 05.5**	**+0.6**
MENT	**Mentasta**	**5.44**	**50**	*eP*	**Pn**	**17 42 06.9**	**+1.0**
CCB	**Clear Creek Bu**	**5.46**	**23**	P	**Pn**	**17 42 06.0**	**-0.1**
GRNC	**Granite Creek**	**5.61**	**75**	P	**Pn**	**17 42 09.3**	**+0.9**
COLA	**College**	**5.66**	**22**	P	**Pn**	**17 42 09.0**	**+0.3**
MDM	**Murphy Dome**	**5.66**	**20**	P	**Pn**	**17 42 09.0**	**+0.1**
ILAR	**Eielson Array**	**5.76**	**26**	P	**Pn**	**17 42 10.0**	**-0.3**
ILAR				S	**Sn**	**17 43 12.3**	**-2.7**
	1.5nm,0.3s,baz=216,slow=14,SNR=46						
ILAR				S	**Sn**	**17 43 12.3**	**-2.7**
	1.6nm,0.3s,baz=216,slow=21,SNR=7.9						
IL1	**Eielson Array**	**5.77**	**26**	P	**Pn**	**17 42 10.1**	**-0.2**
RKAV	**Rock Avalanche**	**5.79**	**79**	P	**Pn**	**17 42 11.3**	**+0.5**
SCRK	**Sand Creek**	**5.97**	**41**	P	**Pn**	**17 42 13.9**	**+0.7**
IM3	**Indian Mountai**	**6.29**	**357**	P	**Pn**	**17 42 17.1**	**-0.2**
PNL	**Peninsula**	**6.80**	**85**	P	**Pn**	**17 42 24.5**	**+0.1**
COLD	**Coldfoot**	**7.61**	**8**	*eP*	**Pn**	**17 42 35.3**	**0.0**
	2.9nm,0.6s						
BBB	**Bella Bella**	**15.70**	**108**	LR	LR	17 49 13.8	
	comp=Z,37nm,19.5s,baz=100,slow=32						
YKA	**Yellowknife Ar**	**18.49**	**65**	P	**Pn**	**17 44 56.6**	**+0.4**
YKA	**Yellowknife Ar**	**18.49**	**65**	P	**Pn**	**17 44 56.6**	**+0.4**
	0.2nm,0.3s,baz=278,slow=10.0,SNR=6.0						
ZALV	**Zalesovo Beam**	**57.64**	**324**	P	**P**	**17 50 26.7**	**+0.7**
ZALV	**Zalesovo Beam**	**57.64**	**324**	P	**P**	**17 50 26.7**	**+0.7**
	0.3nm,0.4s,baz=27,slow=6.8,SNR=2.7						
MKAR	**Makanchi Array**	**64.69**	**321**	P	**P**	**17 51 13.9**	**+0.1**
MKAR	**Makanchi Array**	**64.69**	**321**	P	**P**	**17 51 13.9**	**+0.1**
	0.2nm,0.5s,baz=48,slow=6.2,SNR=3.2						

KRSC 20 17:46:31.9±0.9, 52.48N×160.83E, h23km±23km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.79**	**322**	*eP*	Pb	17 46 47.0	0.0
SPN				*eS*	Sn	17 46 58.0	-0.7
RUS	**Russkaya**	**1.42**	**269**	*eP*	Pn	17 46 56.9	+0.7
RUS				*eS*	Sb	17 47 14.9	-0.4
UGLR	**Uglovaya**	**1.42**	**302**	*eP*	Pb	17 46 57.6	-0.2
UGLR				*eS*	Sb	17 47 16.0	+0.4
PET	**Petropavlovsk**	**1.43**	**293**	*eP*	Pb	17 46 57.4	-0.4
PET				*eS*	Sb	17 47 15.9	+0.3
SMAR	**Somma**	**1.46**	**303**	P	Pb	17 46 59.1	+0.5
AVH	**Avacha**	**1.49**	**303**	*eP*	Pb	17 46 58.8	-0.2
AVH				*eS*	Sb	17 47 18.2	+0.6
KRER	**Koryakskii**	**1.51**	**304**	*eP*	Pb	17 46 59.1	-0.3
KRER				*eS*	Sb	17 47 18.9	+0.6
KOK	**Koryaka**	**1.56**	**302**	*eP*	Pb	17 46 59.7	-0.5
KOK				*eS*	Sb	17 47 19.8	+0.2
MTVR	**Mutnovka**	**1.62**	**271**	*eP*	Pn	17 47 00.0	+0.8
MTVR				*eS*	Sb	17 47 20.6	-0.8
GRL	**Gorelyy**	**1.69**	**274**	P	Pb	17 47 02.2	-0.2
GRL				S	Sb	17 47 24.5	+1.2
ASAK	**Asacha**	**1.80**	**268**	*eP*	Pb	17 47 02.9	-1.3
ASAK				*eS*	Sb	17 47 25.6	-0.8
GNL	**Ganaly**	**2.12**	**306**	P	Pb	17 47 08.2	-1.7
GNL				*eS*	Sb	17 47 35.1	-0.8
APC	**Apacha**	**2.28**	**283**	*eP*	Pn	17 47 09.3	+1.2
APC				*eS*	Sn	17 47 36.8	+1.4
TUMR	**Tumrok**	**2.84**	**352**	P	Pn	17 47 18.6	+2.7
KMNR	**Kamenistaya**	**3.30**	**354**	P	Pn	17 47 25.3	+3.0
BKI	**Bering**	**4.09**	**46**	*eS*	Sn	17 48 16.4	-3.6

*MAN **20** 17:56:47, 20.19N×119.61E, h38km, mb4.9, ML3.8, MS3.9*
*IDC **20** 17:56:57.3±0.5, 19.29N×120.26E, h0km, mb4.1/19, mb1 4.2/20, mb1mx4.2/25, mbtmp4.1/20, ML3.1/1, MS3.4/7, Ms1 3.4/7, ms1mx3.1/39, Error ellipse: s-maj=19.3km s-min=13.1km az=74.0*
*ISCJB **20** 17:56:59.9±0.4, 19.41N±0.05×120.17E±0.09, h24km, mb4.0/19, MS3.5/5, Error ellipse: s-maj=13.3km s-min=6.4km az=159.3*

ISC 20 17:57:00.2±0.9, 19.56N±0.06×120.1E±0.1, h24km, n31, σ2.823/20, mb4.0/18, MS3.5/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**1.99**	**162**	*eP*	**Pn**	**17 57 29.2**	**-3.2**
ABRA				*eS*	**Sb**	**17 58 02.9**	**+2.7**
APYP	**Conner**	**2.02**	**147**	*eP*	**Pn**	**17 57 31.3**	**-1.5**
APYP				*eS*	**Sb**	**17 58 03.3**	**+2.4**
CAUP	**Cauayan**	**3.08**	**147**	*eP*	**Pn**	**17 57 47.5**	**0.0**
PALP	**Palanan**	**3.34**	**138**	*eP*	**Pn**	**17 57 50.1**	**-0.8**
BALP	**Baler**	**4.05**	**159**	*eP*	**Pn**	**17 57 59.8**	**-1.0**
TGY	**Tagaytay City**	**5.49**	**171**	Pn	Pn	17 58 23.4	+2.8
	88nm,0.3s,baz=45,slow=7.6,SNR=3.2						
DAV	**Davao City (W)**	**13.51**	**156**	LR	LR	18 06 22.5	
	comp=Z,244nm,18.5s,baz=350,slow=43						
JNU	**Nakatsue**	**16.60**	**33**	Sn	**Sn**	**18 03 49.6**	**-5.6**
	0.5nm,0.3s,baz=219,slow=13,SNR=2.9						
KSRS	**Korea Array**	**19.10**	**19**	P	**Pn**	**18 01 24.7**	**+2.5**
	0.1nm,0.3s,baz=204,slow=11,SNR=10						
KSRS				LR	LR	18 08 54.1	
	comp=Z,21nm,20.9s,baz=0.0,slow=37						
CMAR	**Chiang Mai Arr**	**20.01**	**270**	P	Pn	18 01 34.8	+1.5
	0.4nm,0.4s,baz=100,slow=13,SNR=4.3						
CMAR				PcP	**PcP**	**18 05 48.4**	**+1.2**
	0.8nm,0.6s,baz=89,slow=0.8,SNR=5.7						
MJAR	**Matsushiro Arr**	**23.22**	**39**	P	**P**	**18 02 07.2**	**+1.6**
	1.1nm,0.8s,baz=233,slow=8.4,SNR=4.1						
USRK	**Ussuriysk Arra**	**26.52**	**19**	P	P	18 02 40.1	+4.3
	1.7nm,0.7s,baz=213,slow=9.8,SNR=3.0						
SONM	**Songino Array**	**30.32**	**342**	P	P	18 03 13.0	+3.1
	0.7nm,0.7s,baz=158,slow=9.8,SNR=7.5						
SONM				LR	LR	18 16 16.7	
	comp=Z,80nm,18.4s,baz=179,slow=38						
MKAR	**Makanchi Array**	**41.08**	**320**	P	P	18 04 45.7	+3.7
	2.2nm,0.8s,baz=122,slow=8.9,SNR=16						
MKAR				LR	LR	18 22 12.1	
	comp=Z,35nm,21.9s,baz=242,slow=37						
WRA	**Warramunga Arr**	**41.67**	**160**	P	**P**	**18 04 44.7**	**-2.4**
	2.8nm,0.6s,baz=342,slow=8.9,SNR=3.5						
WRA				PcP	**PcP**	**18 06 44.1**	**+0.4**
	2.3nm,0.6s,baz=345,slow=3.4,SNR=2.6						
ZALV	**Zalesovo Beam**	**43.65**	**330**	P	P	18 05 05.5	+2.7
	1.9nm,0.7s,baz=120,slow=8.2,SNR=9.0						
ZALV				LR	LR	18 23 10.8	
	comp=Z,61nm,18.7s,baz=80,slow=36						
PETK	**Petropavlovsk-**	**44.29**	**32**	P	**P**	**18 05 09.2**	**+1.2**
	2.6nm,1.0s,baz=235,slow=12,SNR=2.3						
ASAR	**Alice Springs**	**45.03**	**162**	P	**P**	**18 05 12.7**	**-1.5**
	4.3nm,0.7s,baz=345,slow=6.8,SNR=61						
ASAR				PcP	**PcP**	**18 06 55.2**	**+0.3**
	0.5nm,0.5s,baz=339,slow=3.4,SNR=4.5						
KURBB	**Kurchatov Arra**	**45.08**	**323**	P	P	18 05 17.8	+3.4
	3.1nm,0.8s,baz=122,slow=8.1,SNR=25						
FX1	**Attu Island--F**	**52.56**	**38**	P	**P**	**18 06 12.0**	**+0.3**
	12nm,0.8s,baz=260,slow=12,SNR=2.9						
STKA	**Stephens Creek**	**55.15**	**158**	P	**P**	**18 06 29.7**	**-1.1**
	4.7nm,0.8s,baz=332,slow=8.8,SNR=8.1						
KBZ	**Khabaz**	**67.61**	**310**	P	P

	baz=42								
NNS	**Nan Shan**	**0.49**	**83**	*e*P		Pb	18 12 40.4	-0.1	
	baz=89								
NNS				*e*S		Sg	18 12 46.9	-0.1	
	baz=89								

IDC ***20*** *18:14:00.9±1.5, 20.07N×122.71E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/24, mbtmp3.7/7, Error ellipse: s-maj=157.0km s-min=16.1km az=65.0*
MAN ***20*** *18:14:02, 19.31N×120.12E, h2km, mb4.8, ML3.7, MS3.7*
ISC 20 18:14:03.9±2.3, 19.3N±0.2×120.2E±0.3, h24km, n12, σ1§64/8, mb3.6/7, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PIP	**Pasuquin**	**1.05**	**157**	ǁ*i*P		Pb	18 14 29.5	+6.2
ABRA	**Dolores**	**1.71**	**163**	*e*P		**Pb**	**18 14 32.7**	**-2.0**
ABRA				*e*S		**Sb**	**18 14 57.4**	**+1.7**
APYP	**Conner**	**1.74**	**145**	*e*P		**Pb**	**18 14 34.3**	**-0.8**
CAUP	**Cauayan**	**2.81**	**146**	*e*P		**Pb**	**18 14 51.2**	**-2.1**
PALP	**Palanan**	**3.07**	**136**	*e*P		**Pn**	**18 14 51.4**	**+0.5**
SONM	**Songino Array**	**30.60**	**342**	P		P	18 20 17.4	+1.4
	0.1nm,0.5s,baz=162,slow=10,SNR=2.1							
MKAR	**Makanchi Array**	**41.35**	**320**	P		P	18 21 56.2	+8.3
	0.4nm,0.4s,baz=111,slow=7.9,SNR=9.4							
WRA	**Warramunga Arr**	**41.39**	**160**	P		**P**	**18 21 48.2**	**-0.2**
	1.0nm,0.5s,baz=344,slow=8.8,SNR=1.9							
ZALV	**Zalesovo Beam**	**43.93**	**330**	P		P	18 22 13.4	+4.7
	0.4nm,0.4s,baz=100,slow=7.5,SNR=3.5							
ASAR	**Alice Springs**	**44.75**	**162**	P		**P**	**18 22 16.7**	**+1.1**
	0.4nm,0.5s,baz=342,slow=6.7,SNR=12							
KURBB	**Kurchatov Arra**	**45.36**	**323**	P		P	18 22 27.7	+7.5
	1.0nm,0.8s,baz=122,slow=7.9,SNR=11							
STKA	**Stephens Creek**	**54.86**	**158**	P		**P**	**18 23 32.6**	**+0.3**
	2.3nm,1.0s,baz=324,slow=11,SNR=2.5							

IDC 20 18:18:40.5±4.4, 19.37N×120.34E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/24, mbtmp3.5/4, Error ellipse: s-maj=459.0km s-min=21.6km az=61.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MKAR	**Makanchi Array**	**41.38**	**320**	P		P	18 26 28.1	-0.3
	0.4nm,0.8s,baz=128,slow=7.3,SNR=4.6							
WRA	**Warramunga Arr**	**41.41**	**160**	P		P	18 26 28.3	-0.6
	1.8nm,0.7s,baz=342,slow=7.9,SNR=2.2							
ASAR	**Alice Springs**	**44.78**	**162**	P		P	18 26 56.5	+0.3
	0.5nm,0.7s,baz=342,slow=6.7,SNR=8.2							
KURBB	**Kurchatov Arra**	**45.38**	**323**	P		P	18 27 00.6	0.0
	0.2nm,0.7s,baz=121,slow=7.4,SNR=3.6							

IDC ***20*** *18:20:46.6±0.8, 52.81N×160.79E, h0km, mb3.5/8, mb1 3.7/9, mb1mx3.5/28, mbtmp3.6/9, ML3.9/1, Error ellipse: s-maj=27.6km s-min=12.3km az=1.0*
MOS ***20*** *18:20:47.0±2.3, 52.52N×160.93E, h24km, mb4.0/4, Error ellipse: s-maj=20.7km s-min=16.7km az=0.5*
KRSC ***20*** *18:20:50.0±1.1, 52.40N×160.69E, h24km±24km, ML4.0*
ISC 20 18:20:49.6±2.5, 52.37N±0.06×160.78E±0.07, h21km±11km, n40, σ1§42/57, mb3.5/9, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RUS	**Russkaya**	**1.39**	**274**	*i* P		**Pn**	**18 21 13.6**	**-0.1**
RUS				*e*S		**Sn**	**18 21 30.9**	**-0.5**
PET	**Petropavlovsk**	**1.45**	**298**	ǁ*i*PN		**Pn**	**18 21 14.2**	**-0.4**
PET				*e*S		**Sb**	**18 21 33.4**	**-0.5**
PET				pmax	pmax			
	comp=Z,300nm,0.4s							
PET				pmax	pmax			
	comp=Z,312nm,0.4s							
PET				smax	smax			
	comp=E,600nm,1.3s							
PET				smax	smax			
	comp=E,386nm,0.6s							
PET	**Petropavlovsk**	**1.45**	**298**	*i* P		**Pn**	**18 21 14.4**	**-0.2**
PET				*e*S		**Sn**	**18 21 32.2**	**-0.7**
UGLR	**Uglovaya**	**1.46**	**306**	*i* P		**Pn**	**18 21 14.4**	**-0.4**
UGLR				S		**Sn**	**18 21 32.0**	**-1.3**
SMAR	**Somma**	**1.50**	**308**	*e*P		**Pb**	**18 21 16.1**	**-0.7**
SMAR				S		**Sb**	**18 21 35.0**	**-0.5**
AVH	**Avacha**	**1.53**	**307**	*i* P		**Pn**	**18 21 15.5**	**-0.3**
AVH				*e*S		**Sn**	**18 21 34.0**	**-1.0**
KRER	**Koryakskii**	**1.55**	**308**	*i* P		**Pn**	**18 21 16.1**	**0.0**
KRER				*e*S		**Sn**	**18 21 35.1**	**-0.6**
MTVR	**Mutnovka**	**1.59**	**275**	*e*P		**Pn**	**18 21 16.8**	**+0.1**
MTVR				*e*S		**Sn**	**18 21 36.4**	**-0.3**
KOK	**Koryaka**	**1.60**	**306**	*i* P		**Pn**	**18 21 16.6**	**-0.1**
KOK				*e*S		**Sn**	**18 21 35.9**	**-0.8**
GRL	**Gorelyy**	**1.67**	**277**	*i* P		**Pb**	**18 21 19.0**	**-0.6**
GRL				*e*S		**Sb**	**18 21 40.1**	**-0.1**
ASAK	**Asacha**	**1.77**	**272**	*i* P		**Pn**	**18 21 19.7**	**+0.7**
ASAK				*e*S		**Sn**	**18 21 41.4**	**+0.6**
PETK	**Petropavlovsk-**	**2.02**	**293**	PN		**Pn**	**18 21 22.4**	**0.0**
PETK				pmax	pmax			
	comp=Z,29nm,0.3s							
PETK				smax	smax			
	comp=N,9.0nm,0.3s							
PETK	**Petropavlovsk-**	**2.02**	**293**	Pn		**Pn**	**18 21 22.4**	**0.0**
	comp=N,29nm,0.3s,baz=97,slow=18,SNR=445							
PETK				Sn		**Sn**	**18 21 47.6**	**+0.7**
	comp=N,9.4nm,0.3s,baz=86,slow=20,SNR=5.1							
GNL	**Ganaly**	**2.17**	**309**	*i* P		**Pn**	**18 21 25.4**	**+0.8**
GNL				*e*S		**Sn**	**18 21 51.1**	**+0.3**
APC	**Apacha**	**2.28**	**286**	*e*P		**Pn**	**18 21 27.2**	**+1.3**
APC				*e*S		**Sn**	**18 21 54.3**	**+1.0**
MIPR	**Malaya Ipel'ka**	**2.47**	**269**	P		**Pn**	**18 21 30.0**	**+1.4**
PAU	**Pauzhetka**	**2.62**	**251**	P		**Pn**	**18 21 32.6**	**+2.0**
PAU				S		**Sn**	**18 22 03.3**	**+1.6**
TUMR	**Tumrok**	**2.95**	**353**	*e*P		**Pn**	**18 21 34.9**	**-0.3**
SKR	**Severo-Kuril's**	**3.37**	**242**	*e*PN		**Pn**	**18 21 38.2**	**-2.6**
SKR				pmax	pmax			
	comp=Z,40nm,0.5s							
SKR	**Severo-Kuril's**	**3.37**	**242**	P		**Pn**	**18 21 41.0**	**+0.2**
SKR				S		**Sn**	**18 22 17.8**	**-2.3**
KMNR	**Kamenistaya**	**3.41**	**355**	*e*P		**Pn**	**18 21 42.8**	**+1.2**
KMNR				S		**Sn**	**18 22 21.5**	**+0.1**
KPT	**Kopyto**	**3.62**	**355**	P		**Pn**	**18 21 44.8**	**+0.3**
ZLN	**Zelenaya**	**3.66**	**0**	P		**Pn**	**18 21 46.8**	**+1.8**
ESO	**Esso**	**3.77**	**342**	P		**Pn**	**18 21 48.7**	**+2.3**
KRSR	**Krestovskiy**	**3.86**	**358**	P		**Pn**	**18 21 49.4**	**+1.6**
SRDR	**Sredinnyy**	**4.01**	**351**	P		**Pn**	**18 21 50.9**	**+1.2**
KBG	**Krutoberegovo**	**4.06**	**15**	S		**Sn**	**18 22 36.0**	**-1.1**
FX1	**Attu Island--F**	**7.56**	**81**	Pn		**Pn**	**18 22 36.0**	**-2.4**
	comp=Z,6.1nm,0.3s,baz=204,slow=7.5,SNR=46							
FX1				Sn		Sn	18 23 54.8	-8.6
	comp=Z,5.5nm,0.3s,baz=80,slow=22,SNR=8.9							
ASAJ	**Asahikawa**	**14.63**	**243**	Pn		**Pn**	**18 24 14.9**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=263,slow=17,SNR=3.8							
MJAR	**Matsushiro Arr**	**22.44**	**234**	P		**P**	**18 25 50.3**	**+3.4**
	comp=Z,0.9nm,0.6s,baz=15,slow=11,SNR=3.8							
SONM	**Songino Array**	**34.48**	**285**	P		**P**	**18 27 34.4**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=60,slow=6.4,SNR=3.5							
ZALV	**Zalesovo Beam**	**43.52**	**304**	P		**P**	**18 28 49.0**	**-2.2**
ZALV	**Zalesovo Beam**	**43.52**	**304**	P		**P**	**18 28 49.0**	**-2.2**
	comp=Z,0.3nm,0.4s,baz=66,slow=3.9,SNR=2.5							
KURK	**Kurchatov**	**48.47**	**303**	P		**P**	**18 29 28.8**	**-1.5**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KURBB	**Kurchatov Arra**	**48.58**	**303**	P		**P**	**18 29 28.8**	**-2.3**
	comp=Z,1.0nm,0.4s,baz=59,slow=7.6,SNR=15							
MKAR	**Makanchi Array**	**48.85**	**297**	P		**P**	**18 29 30.6**	**-2.7**
MKAR	**Makanchi Array**	**48.85**	**297**	P		**P**	**18 29 30.6**	**-2.7**
	comp=Z,0.2nm,0.4s,baz=60,slow=5.4,SNR=5.3							
CMAR	**Chiang Mai Arr**	**58.45**	**259**	P		**P**	**18 30 44.7**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=32,slow=5.7,SNR=5.7							
FINES	**FINESS Array B**	**60.95**	**337**	P		**P**	**18 30 59.2**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=22,slow=10,SNR=6.9							
ASAR	**Alice Springs**	**79.27**	**205**	P		**P**	**18 32 55.8**	**+2.6**
	comp=Z,0.4nm,1.0s,baz=17,slow=5.2,SNR=2.8							

CSEM ***20*** *18:28:04.1, 33.95N×25.41E, h5km, MD3.5, After ATH*
ATH 20 18:28:04.1, 33.95N×25.41E, h5km±3km, MD3.5/14, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIVA	**Sivas**	**1.18**	**335**	*e*PB		Pg	18 28 26.4	-0.3
SIVA				*e*SB		Sb	18 28 42.8	+0.4
SIVA	**Sivas**	**1.18**	**335**	*e*Pb		Pg	18 28 26.4	-0.3
SIVA				*e*Sb		Sb	18 28 42.8	+0.4
LAST	**Lasithi**	**1.21**	**3**	*e*PN		Pg	18 28 26.5	-1.0
LAST	**Lasithi**	**1.21**	**3**	*e*Pn		Pg	18 28 26.5	-1.0
NPS	**Neapolis**	**1.32**	**7**	*e*PB		Pn	18 28 28.4	-0.8
NPS	**Neapolis**	**1.32**	**7**	*e*Pb		Pn	18 28 28.4	-0.8
ZKR	**Zakros**	**1.34**	**30**	*e*PB		Pn	18 28 29.3	-0.2
ZKR	**Zakros**	**1.34**	**30**	*e*Pb		Pn	18 28 29.3	-0.2
IDI	**Anoyia**	**1.40**	**342**	*e*PB		Pn	18 28 30.3	-0.1
IDI				*e*SB		Sb	18 28 49.1	-0.1
IDI	**Anoyia**	**1.40**	**342**	*e*Pb		Pn	18 28 30.3	-0.1
IDI				*e*Sb		Sb	18 28 49.1	-0.1
GVD	**Gavdhos**	**1.41**	**309**	*e*PB		Pg	18 28 31.2	+0.1
GVD	**Gavdhos**	**1.41**	**309**	*e*Pb		Pg	18 28 31.2	+0.1
VAM	**Vamos**	**1.76**	**326**	*e*PN		Pb	18 28 37.1	+0.2
VAM				*e*SN		Sg	18 29 02.4	+1.6
VAM	**Vamos**	**1.76**	**326**	*e*Pn		Pb	18 28 37.1	+0.2
VAM				*e*Sn		Sg	18 29 02.4	+1.6
KARN	**Karanos**	**1.90**	**320**	*e*PN		Pb	18 28 38.5	-0.8
KARN	**Karanos**	**1.90**	**320**	*e*Pn		Pb	18 28 38.5	-0.8
KARP	**Karpathos**	**2.15**	**42**	*e*PG		Pb	18 28 43.5	-0.1
KARP	**Karpathos**	**2.15**	**42**	*e*Pg		Pb	18 28 43.5	-0.1
ANKY	**Antikythira Is**	**2.58**	**318**	*e*PN		Pn	18 28 48.4	+1.9
ANKY	**Antikythira Is**	**2.58**	**318**	*e*Pn		Pn	18 28 48.4	+1.9
KYTH	**Kithira**	**3.03**	**321**	*e*PN		Pb	18 28 55.8	-2.8
KYTH	**Kithira**	**3.03**	**321**	*e*Pn		Pb	18 28 55.8	-2.8
ARG	**Arkhangelos**	**3.17**	**44**	*e*PN		Pn	18 28 56.9	+2.2
ARG	**Arkhangelos**	**3.17**	**44**	*e*Pn		Pn	18 28 56.9	+2.2
VLI	**Veliai**	**3.42**	**324**	*e*PN		Pn	18 29 00.0	+1.9
VLI	**Veliai**	**3.42**	**324**	*e*Pn		Pn	18 29 00.0	+1.9
DYR	**Agios Nikonas**	**3.77**	**319**	*e*PN		Pn	18 29 04.8	+1.9
DYR	**Agios Nikonas**	**3.77**	**319**	*e*Pn		Pn	18 29 04.8	+1.9
PYL	**PYLOS**	**4.20**	**315**	*e*PN		Pn	18 29 11.8	+3.0
PYL	**PYLOS**	**4.20**	**315**	*e*Pn		Pn	18 29 11.8	+3.0
ITM	**Ithomi**	**4.29**	**320**	*e*PN		Pn	18 29 12.1	+2.0
ITM	**Ithomi**	**4.29**	**320**	*e*Pn		Pn	18 29 12.1	+2.0
KLV	**Kalavryta, Ach**	**4.87**	**328**	*e*PN		Pn	18 29 19.0	+1.0
KLV	**Kalavryta, Ach**	**4.87**	**328**	*e*Pn		Pn	18 29 19.0	+1.0

WEL 20 18:30:23.7±0.3, 45.44S×166.22E, h12km, ML3.6/14, Error ellipse: s-maj=2.4km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DCZ	**Deep Cove**	**0.66**	**93**	P*		Pg	18 30 35.7	-0.7
DCZ				S*		Sg	18 30 44.6	-0.5
DCZ				AML	AML		18 30 49.5	
DCZ				AML	AML		18 30 58.8	
DCZ				AML	AML		18 30 58.8	
PYZ	**Puysegur Point**	**0.79**	**156**	P*		Pg	18 30 38.1	-1.0
PYZ				S*		Sg	18 30 49.0	-0.5
WHZ	**Wether Hill Ro**	**1.29**	**111**	PN		Pn	18 30 46.3	-1.3
WHZ				S*		Sg	18 31 07.2	+1.9
WHZ				AML	AML		18 31 14.2	
MLZ	**Mavora Lakes**	**1.38**	**87**	PN		Pn	18 30 47.3	-1.6
MLZ				AML	AML		18 31 09.5	
MLZ				AML	AML		18 31 11.6	
MSZ	**Milford Sound**	**1.43**	**58**	PN		Pn	18 30 49.4	-0.1
MSZ				AML	AML		18 31 16.9	
MSZ				AML	AML		18 31 16.9	
MSZ				AML	AML		18 31 21.1	
MSZ				AML	AML		18 31 21.1	
APZ	**The Paps**	**1.85**	**139**	PN		Pn	18 30 55.2	-0.2
APZ				SN		Sn	18 31 19.0	+0.2
WKZ	**Wanaka**	**2.07**	**74**	PN		Pb	18 31 00.0	-1.3
WKZ				AML	AML		18 31 37.0	
WKZ				AML	AML		18 31 37.4	
EAZ	**Earnscleugh**	**2.19**	**86**	PN		Pn	18 31 00.9	+1.0
EAZ				AML	AML		18 31 30.6	
EAZ				AML	AML		18 31 30.7	
EAZ				AML	AML		18 31 31.8	
EAZ				AML	AML		18 31 31.9	
JCZ	**Jackson Bay**	**2.27**	**54**	PN		Pb	18 31 05.4	+0.7
JCZ				AML	AML		18 31 48.8	
JCZ				AML	AML		18 31 50.7	
SYZ	**Scrubby Hill**	**2.31**	**119**	PN		Pn	18 31 02.6	+1.1
TUZ	**Tuapeka**	**2.44**	**103**	PN		Pn	18 31 05.0	+1.6
TUZ				AML	AML		18 31 39.9	
TUZ				AML	AML		18 31 52.0	
LBZ	**Lake Benmore**	**3.00**	**71**	PN		Pn	18 31 11.6	+0.4
FOZ	**Fox Glacier**	**3.11**	**54**	PN		Pg	18 31 22.0	-1.3
ODZ	**Otahua Downs**	**3.15**	**84**	PN		Pn	18 31 13.0	-0.1

WEL 20 19:12:17.3±0.4, 43.88S×167.58E, h12km, ML3.8/13, Error ellipse: s-maj=2.8km s-min=2.1km az=0.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSZ	**Milford Sound**	**0.83**	**163**	P*		Pg	19 12 32.3	-1.1
MSZ				S*		Sg	19 12 43.4	-0.9
MSZ				AML	AML		19 12 43.9	
MSZ				AML	AML		19 12 44.0	
MSZ				AML	AML		19 12 44.2	
JCZ	**Jackson Bay**	**0.88**	**103**	P*		Pg	19 12 33.6	-0.7
JCZ				S*		Sg	19 12 45.5	-0.4
JCZ				S*		Sb	19 12 46.3	0.0
WKZ	**Wanaka**	**1.40**	**133**	PN		Pn	19 12 42.1	-0.7
WKZ				SN		Sn	19 13 01.3	0.0
WKZ				AML	AML		19 13 01.4	
WKZ				AML	AML		19 13 01.7	
WKZ				AML	AML		19 13 09.6	
MLZ	**Mavora Lakes**	**1.53**	**164**	PN		Pn	19 12 43.8	-0.6
MLZ				AML	AML		19 13 08.2	
MLZ				AML	AML		19 13 14.4	
FOZ	**Fox Glacier**	**1.56**	**79**	*e*PN		Pg	19 12 47.1	-0.1
FOZ				AML	AML		19 13 17.1	
FOZ				AML	AML		19 13 17.1	
FOZ				AML	AML		19 13 17.3	
FOZ				AML	AML		19 13 17.3	
DCZ	**Deep Cove**	**1.63**	**191**	PN		Pn	19 12 44.7	-1.0
DCZ				SN		Sn	19 13 05.9	-0.7
EAZ	**Earnscleugh**	**1.83**	**138**	PN		Pn	19 12 48.4	-0.2
EAZ				AML	AML		19 13 20.2	
EAZ				AML	AML		19 13 20.2	
EAZ				AML	AML		19 13 20.7	
EAZ				AML	AML		19 13 20.7	
LBZ	**Lake Benmore**	**1.94**	**106**	PN		Pn	19 12 49.7	-0.4
LBZ				AML	AML		19 13 23.6	
LBZ				AML	AML		19 13 23.8	
LBZ				AML	AML		19 13 23.8	
WHZ	**Wether Hill Ro**	**2.03**	**173**	*e*PN		Pn	19 12 50.6	-0.8
WHZ				SN		Sn	19 13 15.7	-1.0
WHZ				AML	AML		19 13 26.7	
WVZ	**Waitaha Valley**	**2.44**	**72**	PN		Pn	19 12 54.3	-2.6
WVZ				AML	AML		19 13 42.1	
WVZ				AML	AML		19 13 42.2	
ODZ	**Otahua Downs**	**2.49**	**119**	PN		Pn	19 12 56.4	-1.2
ODZ				AML	AML		19 13 41.2	
ODZ				AML	AML		19 13 41.2	
RPZ	**Rata Peaks**	**2.52**	**88**	PN		Pn	19 12 57.8	-0.3
RPZ				AML	AML		19 13 40.4	
RPZ				AML	AML		19 13 53.4	
TUZ	**Tuapeka**	**2.54**	**146**	PN		Pn	19 12 57.8	-0.5
TUZ				AML	AML		19 13 40.4	
TUZ				AML	AML		19 13 45.0	
SYZ	**Scrubby Hill**	**2.88**	**158**	PN		Pn	19 13 02.3	-0.7
HHSZ	**Highcliff Hill**	**2.94**	**134**	PN		Pn	19 13 03.4	-0.4
DSZ	**Denniston Nort**	**3.77**	**57**	PN		Pn	19 13 12.7	-2.6
DSZ				SN		Sn	19 13 54.3	-5.3
THZ	**Tophouse**	**4.45**	**63**	PN		Pn	19 13 23.2	-1.5
THZ				SN		Sn	19 14 11.6	-4.9
QRZ	**Quartz Range**	**4.77**	**52**	PN		Pn	19 13 26.6	-2.3
QRZ				SN		Sn	19 14 15.9	-8.2
NNZ	**Nelson**	**5.04**	**60**	PN		Pn	19 13 30.7	-1.9
TUWZ	**Tuamarina**	**5.29**	**65**	PN		Pn	19 13 35.6	-0.5

WEL 20 19:16:05.1±0.1, 45.47S×166.63E, h22km, ML3.8/19, 4D, Error ellipse: s-maj=1.5km s-min=0.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DCZ	**Deep Cove**	**0.37**	**91**	ǁP*		Pb	19 16 12.6	-0.2
DCZ				S*		Sb	19 16 17.7	-0.5
DCZ				AML	AML		19 16 17.9	
DCZ				AML	AML		19 16 17.9	
DCZ				AML	AML		19 16 17.9	
PYZ	**Puysegur Point**	**0.70**	**177**	P*		Pb	19 16 17.9	-0.8
WHZ	**Wether Hill Ro**	**1.02**	**115**	ǁPN		Pb	19 16 23.5	-0.5
WHZ				SN		Sn	19 16 37.5	-0.1
WHZ				AML	AML		19 16 38.5	
MLZ	**Mavora Lakes**	**1.09**	**84**	ǁPN		Pn	19 16 24.0	-1.1
MLZ				SN		Sb	19 16 38.1	-1.1
MLZ				AML	AML		19 16 39.4	
MSZ	**Milford Sound**	**1.22**	**50**	PN		Pn	19 16 26.7	0.0
MSZ				SN		Sb	19 16 45.1	+2.5
MSZ				AML	AML		19 16 46.9	
MSZ				AML	AML		19 16 47.5	
MSZ				AML	AML		19 16 47.5	
APZ	**The Paps**	**1.66**	**146**	PN		Pb	19 16 34.1	-0.9
WKZ	**Wanaka**	**1.81**	**70**	PN		Pn	19 16 36.0	+1.1
WKZ				AML	AML		19 17 04.1	
WKZ				AML	AML		19 17 04.1	
WKZ				AML	AML		19 17 09.0	
WKZ				AML	AML		19 17 09.0	
EAZ	**Earnscleugh**	**1.90**	**84**	PN		Pn	19 16 37.5	+1.4
EAZ				AML	AML		19 17 06.9	
EAZ				AML	AML		19 17 07.0	
EAZ				AML	AML		19 17 07.1	
EAZ				AML	AML		19 17 07.2	
SYZ	**Scrubby Hill**	**2.05**	**122**	PN		Pb	19 16 40.1	-1.4
JCZ	**Jackson Bay**	**2.06**	**48**	PN		Pb	19 16 42.0	+0.1
JCZ				AML	AML		19 17 12.1	
JCZ				AML	AML		19 17 14.7	
TUZ	**Tuapeka**	**2.16**	**104**	PN		Pb	19 16 41.8	-1.6
TUZ				AML	AML		19 17 11.2	
TUZ				AML	AML		19 17 14.1	
LBZ	**Lake Benmore**	**2.75**	**68**	PN		Pn	19 16 48.0	+0.2
LBZ				AML	AML		19 17 37.8	
LBZ				AML	AML		19 17 40.6	
HHSZ	**Highcliff Hill**	**2.81**	**100**	PN		Pn	19 16 51.2	+2.5
ODZ	**Otahua Downs**	**2.87**	**83**	ǁPN		Pn	19 16 49.7	+0.2
ODZ				AML	AML		19 17 43.7	
FOZ	**Fox Glacier**	**2.90**	**50**	PN		Pn	19 16 51.7	+1.9
FOZ				AML	AML		19 17 43.5	
FOZ				AML	AML		19 17 47.2	
RPZ	**Rata Peaks**	**3.61**	**63**	PN		Pn	19 17 00.9	+1.1
RPZ				AML	AML		19 18 02.5	
RPZ				AML	AML		19 18 06.1	
WVZ	**Waitaha Valley**	**3.80**	**52**	PN		Pn	19 17 02.3	+0.1
WVZ				AML	AML		19 18 07.2	
DSZ	**Denniston Nort**	**5.29**	**47**	PN		Pn	19 17 26.2	+3.4
THZ	**Tophouse**	**5.87**	**53**	PN		Pn	19 17 32.8	+2.0

WEL 20 19:21:45.4±0.5, 36.35S×178.76E, h33km, ML4.0/11, 3D, Error ellipse: s-maj=4.4km s-min=3.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**1.26**	**197**	P*		Pn	19 22 05.9	-0.8
MXZ				AML	AML		19 22 28.2	
MXZ				AML	AML		19 22 29.6	
PUZ	**Puketiti**	**1.76**	**193**	PN		Pn	19 22 13.3	-0.1
PUZ				AML	AML		19 22 45.7	
PUZ				AML	AML		19 22 49.5	
CNGZ	**Carnagh Statio**	**2.17**	**191**	PN		Pn	19 22 19.1	-0.2
MWZ	**Matawai**	**2.21**	**206**	P*		Pn	19 22 19.8	0.0
MWZ				AML	AML		19 22 59.4	
MWZ				AML	AML		19 22 59.5	
MWZ				AML	AML		19 23 02.8	
MYRZ	**Mayor Island**	**2.22**	**245**	P*		Pn	19 22 19.6	-0.3
OPRZ	**Ohinepanea**	**2.31**	**229**	P*		Pn	19 22 20.9	-0.2
URZ	**Urewera**	**2.31**	**214**	P*		Pn	19 22 20.8	-0.3
URZ				S*		Sn	19 22 48.5	0.0
URZ				AML	AML		19 23 01.5	
MARZ	**Manawahe**	**2.33**	**225**	P*		Pn	19 22 21.1	-0.3
TGRZ	**Tauranga**	**2.43**	**235**	P*		Pn	19 22 22.6	-0.1
TGRZ				AML	AML		19 22 24.2	
KUZ	**Kuaotunu**	**2.48**	**260**	ǁPN		Pn	19 22 22.9	-0.4
KUZ				AML	AML		19 22 23.2	
PRGZ	**Paritu Road**	**2.66**	**195**	PN		Pn	19 22 24.6	-1.6
RRRZ	**Republican Roa**	**2.67**	**221**	P*		Pn	19 22 25.9	-0.2
KNZ	**Kokohu**	**2.80**	**198**	PN		Pn	19 22 25.8	-2.0
KNZ				SN		Sn	19 22 59.7	-0.8
MHGZ	**Mahia Peninsul**	**2.88**	**193**	PN		Pn	19 22 27.3	-1.6
RAHZ	**Arahi**	**2.88**	**207**	PN		Pn	19 22 28.3	-0.7
TOZ	**Tahuroa Road**	**2.95**	**241**	ǁP*		Pn	19 22 30.0	+0.2
MKAZ	**Moumakai**	**2.98**	**254**	ǁPN		Pn	19 22 30.4	+0.1
BKZ	**Black Stump Fm**	**3.33**	**212**	P*		Pn	19 22 33.8	-1.5
BKZ

NATG			SN	Sn	19 34 47.1	-4.8	
NATG			Trac		19 34 52.5		
	comp=Z,2.6nm,0.1s						
BATG	**Bathurst New B**	**8.24 290**	PN	Pn	19 33 32.5	-1.6	
BATG			SN	Sn	19 35 00.2	-6.5	
BATG			Trac		19 35 05.4		
	comp=Z,5.7nm,0.1s						
GGN	**Saint George**	**8.63 275**	PN	Pn	19 33 38.0	-1.2	
GGN			SN	Sn	19 35 07.5	-8.6	
GGN			Trac		19 35 13.0		
	comp=Z,6.2nm,0.2s						
GSQ	**Grosses Roches**	**9.38 299**	PN	Pn	19 33 49.0	-0.6	
GSQ			SN	Sn	19 35 26.0	-8.5	
SMQ	**Clarke City**	**9.67 307**	PN	Pn	19 33 50.4	-3.3	
SMQ			SN	Sn	19 35 31.9	-10	
SMQ			Trac		19 35 38.9		
	comp=Z,1.2nm,0.1s						
ICQ	**Pointe Anglais**	**9.70 302**	PN	Pn	19 33 49.8	-4.2	
ICQ			SN	Sn	19 35 34.4	-8.0	
ICQ			Trac		19 35 38.5		
	comp=Z,8.9nm,0.3s						
CNQ	**Baie Comeau**	**10.11 300**	PN	Pn	19 33 56.6	-2.9	
CNQ			SN	Sn	19 35 44.7	-7.7	
CNQ			Trac		19 35 52.4		
	comp=Z,1.7nm,0.1s						
LMQ	**La Malbaie**	**11.14 289**	PN	Pn	19 34 12.6	-1.2	
LMQ			SN	Sn	19 36 10.4	-7.5	
SCHQ	**Schefferville**	**12.58 326**	PN	Pn	19 34 29.5	-3.9	

IDC 20 19:46:36.2±0.9, 46°15N×154°69E, h0km, mb3.6/8, mb1 3.9/11, mb1mx3.7/27, mbtmp3.7/11, ML3.4/3, Error ellipse: s-maj=26.2km s-min=17.1km az=161.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.23**	**15**	Pn	Pn	19 48 24.1	+1.1
	3.0nm,0.3s,baz=188,slow=14,SNR=22						
ASAJ	**Asahikawa**	**8.79**	**261**	Pn	Pn	19 48 46.5	+2.0
	0.3nm,0.3s,baz=76,slow=19,SNR=4.9						
FX1	**Attu Island--F**	**13.74**	**54**	Pn	Pn	19 49 51.7	-0.4
	0.5nm,0.3s,baz=240,slow=16,SNR=4.8						
FX1				Sn	Sn	19 52 12.5	-13
	1.1nm,0.3s,baz=58,slow=18,SNR=6.4						
SONM	**Songino Array**	**32.57**	**291**	P	P	19 53 08.4	-0.7
	0.2nm,0.5s,baz=62,slow=9.9,SNR=2.5						
ILAR	**Eielson Array**	**36.34**	**38**	P	P	19 53 40.6	-0.7
	0.3nm,0.6s,baz=257,slow=6.9,SNR=3.4						
ZALV	**Zalesovo Beam**	**43.85**	**307**	P	P	19 54 41.7	-2.1
	0.6nm,0.5s,baz=54,slow=9.7,SNR=3.3						
MKAR	**Makanchi Array**	**48.19**	**299**	P	P	19 55 18.1	0.0
	0.6nm,0.7s,baz=67,slow=7.9,SNR=7.5						
NVAR	**Mina Array Bea**	**61.74**	**63**	P	P	19 56 56.5	0.0
	0.3nm,0.6s,baz=309,slow=5.7,SNR=2.9						
FINES	**FINESS Array B**	**65.04**	**336**	P	P	19 57 19.2	+1.5
	0.8nm,0.3s,baz=31,slow=6.9,SNR=12						
ASAR	**Alice Springs**	**72.00**	**200**	P	P	19 58 01.8	+0.2
	0.4nm,0.6s,baz=17,slow=6.2,SNR=11						
TXAR	**Lajitas Array**	**76.83**	**61**	P	P	19 58 29.7	-0.3
	0.7nm,0.7s,baz=314,slow=4.9,SNR=5.7						

FUNV 20 19:46:42.4, 10°79N×67°89W, h7km, MW3.5, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURV	**Turiamo**	**0.34**	**172**	⇓eP	Pg	19 46 49.2	+0.2
TURV				eS	Sg	19 46 54.0	+0.5
JACV	**Jacura**	**0.97**	**288**	eP	Pg	19 47 00.8	-0.4
JACV				eS	Sg	19 47 13.9	-0.1
FUNV	**FUNVISIS**	**1.10**	**106**	eP	Pg	19 47 03.2	-0.5
FUNV				eS	Sg	19 47 17.3	-0.9
MAPV	**Macapo**	**1.10**	**211**	eP	Pg	19 47 03.1	-0.5
MAPV				eS	Sg	19 47 16.9	-1.1
TEPV	**Terepaima**	**1.52**	**238**	eP	Pn	19 47 09.4	-0.7
TEPV				eS	Sn	19 47 29.4	-0.8
BIRV	**Birongo**	**1.62**	**101**	eP	Pn	19 47 11.1	-0.3
BIRV				eS	Sn	19 47 32.7	+0.3
BAUV	**El Baul**	**1.84**	**185**	eP	Pn	19 47 14.4	0.0
BAUV				eS	Sn	19 47 37.6	-0.3
SIQV	**Siquisique**	**1.90**	**266**	eP	Pn	19 47 14.4	-0.8
SIQV				eS	Sn	19 47 38.4	-1.0
ORCV	**Isla La Orchil**	**1.95**	**58**	eP	Pn	19 47 14.7	-1.1
SANV	**Sanarito**	**2.07**	**232**	eP	Pn	19 47 17.2	-0.5
SANV				eS	Sn	19 47 42.9	-1.0
CURV	**Curarigua**	**2.18**	**250**	eP	Pn	19 47 19.3	+0.1
CURV				eS	Sn	19 47 45.6	-0.9
MERV	**Las Mercedes**	**2.19**	**134**	eP	Pn	19 47 17.6	-1.5
MERV				eS	Sn	19 47 45.1	-1.4
CUPV	**Cœpira**	**2.19**	**109**	eP	Pn	19 47 17.8	-1.5
CUPV				eS	Sn	19 47 45.4	-1.3
MONV	**Montecano**	**2.35**	**300**	eP	Pn	19 47 21.1	-0.4
MONV				eS	Sn	19 47 48.4	-2.2
QARV	**Quebrada Arrib**	**2.66**	**258**	eP	Pn	19 47 24.9	-0.8
QARV				eS	Sn	19 47 56.0	-2.3
SOCV	**Socops**	**3.84**	**230**	eP	Pn	19 47 40.1	-1.9
SOCV				eS	Sn	19 48 23.8	-3.7
VIRV	**Villa del Rosa**	**4.45**	**267**	eP	Pn	19 47 49.2	-1.2
VIRV				eS	Sn	19 48 38.0	-4.5

IDC 20 20:12:56.5±1.8, 5°23N×126°77E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/23, mbtmp3.7/5, Error ellipse: s-maj=101.4km s-min=25.3km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.21**	**183**	P	P	20 18 04.6	-0.7
	1.8nm,0.8s,baz=358,slow=18,SNR=2.9						
WRA	**Warramunga Arr**	**26.10**	**164**	P	P	20 18 32.1	-0.1
	2.6nm,0.7s,baz=344,slow=10,SNR=2.4						
ASAR	**Alice Springs**	**29.55**	**167**	P	P	20 19 04.0	+0.8
	0.3nm,0.5s,baz=354,slow=7.7,SNR=11						
STKA	**Stephens Creek**	**39.52**	**160**	P	P	20 20 28.7	-0.4
	2.0nm,0.6s,baz=344,slow=9.5,SNR=6.9						
MKAR	**Makanchi Array**	**56.35**	**325**	P	P	20 22 39.4	-0.1
	0.2nm,0.5s,baz=120,slow=9.1,SNR=4.3						

*ISCJB **20** 20:15:24.9±0.6, 39°30N±0°02×24°75E±0°02, h11km±4km, Error ellipse: s-maj=3.0km s-min=2.2km az=158.9*
*DDA **20** 20:15:24.7, 39°47N×24°64E, h34km, MD3.1*
*BEO **20** 20:15:24.8±1.3, 39°27N×24°81E, h4km±5km, ML2.7/5*
*THE **20** 20:15:25.8, 39°30N×24°77E, h8km, ML3.1/6, Error ellipse: s-maj=0.9km s-min=0.4km az=303.0*
*ATH **20** 20:15:25.1, 39°30N×24°78E, h28km±1km, MD3.6/22, ML3.0*
*CSEM **20** 20:15:25.2±0.1, 39°26N×24°76E, h10km, MD3.6, Error ellipse: s-maj=3.0km s-min=2.2km az=144.0*
*ISK **20** 20:15:26.5, 39°15N×24°83E, h27km, ML3.3*

ISC 20 20:15:24.5±1.2, 39°29N±0°02×24°78E±0°02, h2km±10km, n201, σ0°75/235, 16C-6D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.69**	**27**	P	**Pb**	**20 15 39.0**	**-0.2**
LIA				S	**Sb**	**20 15 48.8**	**-0.4**
LIA	**Limnos Island**	**0.69**	**27**	ePN	**Pb**	**20 15 39.0**	**-0.2**
LIA				eSN	**Sb**	**20 15 48.4**	**-0.8**
LIA	**Limnos Island**	**0.69**	**27**	P	**Pb**	**20 15 39.0**	**-0.2**
LIA				eSn	**Sb**	**20 15 48.4**	**-0.8**
AOS	**Alonnisos**	**0.70**	**261**	P	**Pb**	**20 15 39.4**	**-0.1**
AOS				S	**Sb**	**20 15 49.7**	**+0.1**
AOS	**Alonnisos**	**0.70**	**261**	ePN	**Pb**	**20 15 39.2**	**-0.3**
AOS				eSN	**Sb**	**20 15 49.4**	**-0.2**
AOS	**Alonnisos**	**0.70**	**261**	P	**Pb**	**20 15 39.4**	**-0.1**
AOS				eSn	**Sb**	**20 15 49.4**	**-0.2**
SKIA	**Skiathos**	**1.02**	**264**	P	**Pb**	**20 15 45.0**	**+0.1**
SKIA	**Skiathos**	**1.02**	**264**	P	**Pb**	**20 15 45.0**	**+0.1**
PAIG	**Paliouri**	**1.06**	**308**	P	**Pb**	**20 15 45.5**	**-0.1**
PAIG	**Paliouri**	**1.06**	**308**	ePN	**Pb**	**20 15 45.5**	**-0.1**
PAIG				eSN	**Sb**	**20 16 00.4**	**+0.5**
PAIG	**Paliouri**	**1.06**	**308**	P	**Pb**	**20 15 45.5**	**-0.1**
PAIG				eSn	**Sb**	**20 16 00.4**	**+0.5**
MRKA	**Markates**	**1.09**	**238**	P	**Pb**	**20 15 46.2**	**+0.1**
MRKA	**Markates**	**1.09**	**238**	P	**Pb**	**20 15 46.2**	**+0.1**
BOZC	**Bozcaada**	**1.13**	**60**	*i* P	**Pg**	**20 15 46.5**	**+0.3**
BOZC				*i* S	**Sb**	**20 16 02.4**	**+0.4**
PRK	**Paraskevi**	**1.16**	**91**	P	**Pn**	**20 15 47.6**	**-0.1**
PRK				S	**Sn**	**20 16 04.3**	**+0.1**
PRK	**Paraskevi**	**1.16**	**91**	ePN	**Pn**	**20 15 47.7**	**0.0**
PRK				eSN	**Sg**	**20 16 02.3**	**+0.5**
PRK	**Paraskevi**	**1.16**	**91**	ePn	**Pn**	**20 15 47.7**	**0.0**
PRK				eSn	**Sg**	**20 16 02.3**	**+0.5**
PRK				S	**Sn**	**20 16 04.3**	**+0.1**
NEO	**Neokhori**	**1.20**	**272**	P	**Pg**	**20 15 47.5**	**-0.1**
NEO	**Neokhori**	**1.20**	**272**	ePN	**Pg**	**20 15 47.4**	**-0.1**
NEO				eSN	**Sn**	**20 16 05.2**	**-0.1**
NEO	**Neokhori**	**1.20**	**272**	P	**Pg**	**20 15 47.5**	**-0.1**
NEO				eSn	**Sn**	**20 16 05.2**	**-0.1**
OUR	**Ouranopolis**	**1.21**	**330**	P	**Pg**	**20 15 47.8**	**+0.1**
OUR	**Ouranopolis**	**1.21**	**330**	P	**Pg**	**20 15 47.8**	**+0.1**
XOR	**Xorichti**	**1.23**	**274**	P	**Pg**	**20 15 47.9**	**-0.2**
XOR				S	**Sn**	**20 16 05.5**	**-0.4**
XOR	**Xorichti**	**1.23**	**274**	P	**Pg**	**20 15 47.9**	**-0.2**
XOR				S	**Sn**	**20 16 05.5**	**-0.4**
SMIA	**Simia**	**1.28**	**252**	P	**Pb**	**20 15 49.5**	**+0.1**
SMIA	**Simia**	**1.28**	**252**	P	**Pb**	**20 15 49.5**	**+0.1**
EZN	**Ezine**	**1.31**	**65**	ePN	**Pg**	**20 15 49.6**	**-0.1**
EZN				eSN	**Sb**	**20 16 07.0**	**-0.2**
EZN	**Ezine**	**1.31**	**65**	ePn	**Pg**	**20 15 49.6**	**-0.1**
EZN				eSn	**Sb**	**20 16 07.0**	**-0.2**
SMTH	**Samothraki Isl**	**1.32**	**26**	P	**Pg**	**20 15 48.8**	**-1.0**
SMTH	**Samothraki Isl**	**1.32**	**26**	ePB	**Pg**	**20 15 48.5**	**-1.3**
SMTH				eSN	**Sg**	**20 16 06.8**	**-0.1**
SMTH	**Samothraki Isl**	**1.32**	**26**	ePb	**Pg**	**20 15 48.5**	**-1.3**
SMTH	**Samothraki Isl**	**1.32**	**26**	P	**Pg**	**20 15 48.8**	**-1.0**
SMTH				eSn	**Sg**	**20 16 06.8**	**-0.1**
CHOS	**Chios island**	**1.34**	**131**	P	**Pn**	**20 15 50.2**	**0.0**
CHOS	**Chios island**	**1.34**	**131**	ePN	**Pn**	**20 15 50.3**	**0.0**
CHOS	**Chios island**	**1.34**	**131**	ePn	**Pn**	**20 15 50.3**	**0.0**
PTL	**Penteli**	**1.43**	**210**	P	**Pn**	**20 15 50.7**	**-0.3**
PTL	**Penteli**	**1.43**	**210**	ePN	**Pn**	**20 15 50.7**	**-0.7**
PTL	**Penteli**	**1.43**	**210**	ePn	**Pn**	**20 15 50.7**	**-0.7**
PTL	**Penteli**	**1.43**	**210**	P	**Pn**	**20 15 51.1**	**-0.3**
AYVA	**Ayvalik**	**1.49**	**89**	*i* P	**Pn**	**20 15 52.3**	**+0.1**
AYVA				*i* S	**Sb**	**20 16 10.6**	**-1.5**
AYVA	**Ayvalik**	**1.49**	**89**	*i* P	**Pn**	**20 15 52.3**	**+0.1**
AYVA				*i* S	**Sb**	**20 16 10.6**	**-1.5**
PLG	**Polygyros**	**1.49**	**317**	P	**Pn**	**20 15 51.7**	**-0.7**
PLG	**Polygyros**	**1.49**	**317**	ePN	**Pn**	**20 15 51.7**	**-0.7**
PLG	**Polygyros**	**1.49**	**317**	P	**Pn**	**20 15 51.7**	**-0.7**
LKR	**Lokris**	**1.52**	**246**	ePB	**Pn**	**20 15 52.1**	**-0.6**
LKR	**Lokris**	**1.52**	**246**	ePb	**Pn**	**20 15 52.1**	**-0.6**
ATHU	**Athens Univers**	**1.53**	**211**	P	**Pn**	**20 15 52.2**	**-0.6**
ATHU	**Athens Univers**	**1.53**	**211**	P	**Pn**	**20 15 52.2**	**-0.6**
ATH	**Athens Observa**	**1.55**	**213**	ePB	**Pn**	**20 15 52.0**	**-1.1**
ATH	**Athens Observa**	**1.55**	**213**	ePb	**Pn**	**20 15 52.0**	**-1.1**
GELI	**Tayfur-Gelibol**	**1.72**	**49**	ePN	**Pn**	**20 15 55.2**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.72**	**49**	ePn	**Pn**	**20 15 55.2**	**-0.2**
KAVA	**Kavala**	**1.72**	**353**	P	**Pn**	**20 15 54.5**	**-0.9**
KAVA	**Kavala**	**1.72**	**353**	P	**Pn**	**20 15 54.5**	**-0.9**
ENEZ	**Enez**	**1.79**	**36**	ePN	**Pn**	**20 15 56.2**	**-0.2**
ENEZ	**Enez**	**1.79**	**36**	ePn	**Pn**	**20 15 56.3**	**-0.2**
NAIG	**Nisos Aigina**	**1.83**	**214**	ePB	**Pn**	**20 15 56.3**	**-0.6**
NAIG	**Nisos Aigina**	**1.83**	**214**	ePb	**Pn**	**20 15 56.3**	**-0.6**
HORT	**Hortiatis**	**1.84**	**316**	P	**Pn**	**20 15 56.8**	**-0.3**
HORT	**Hortiatis**	**1.84**	**316**	P	**Pn**	**20 15 56.8**	**-0.3**
LPK	**Lapseki**	**1.88**	**54**	ePN	**Pn**	**20 15 58.0**	**+0.4**
LPK	**Lapseki**	**1.88**	**54**	ePn	**Pn**	**20 15 58.0**	**+0.4**
ALN	**Alexandroupoli**	**1.88**	**31**	ePN	**Pn**	**20 15 57.2**	**-0.4**
ALN	**Alexandroupoli**	**1.88**	**31**	ePn	**Pn**	**20 15 57.2**	**-0.4**
SOH	**Sokhos**	**1.88**	**325**	P	**Pn**	**20 15 57.5**	**-0.3**
SOH				S	**Sn**	**20 16 21.6**	**-0.5**
SOH	**Sokhos**	**1.88**	**325**	ePB	**Pn**	**20 15 57.4**	**-0.3**
SOH	**Sokhos**	**1.88**	**325**	ePb	**Pn**	**20 15 57.4**	**-0.3**
SOH				S	**Sn**	**20 16 21.6**	**-0.5**
LTK	**Loutraki**	**1.90**	**229**	P	**Pn**	**20 15 57.8**	**-0.0**
LTK	**Loutraki**	**1.90**	**229**	ePB	**Pn**	**20 15 58.0**	**+0.2**
LTK	**Loutraki**	**1.90**	**229**	P	**Pn**	**20 15 57.8**	**0.0**
AGG	**Agios Georgios**	**1.92**	**263**	P	**Pn**	**20 15 58.0**	**-0.2**
AGG				S	**Sn**	**20 16 23.2**	**+0.3**
AGG	**Agios Georgios**	**1.92**	**263**	ePB	**Pn**	**20 15 58.6**	**+0.4**
AGG	**Agios Georgios**	**1.92**	**263**	P	**Pn**	**20 15 58.0**	**-0.2**
AGG	**Agios Georgios**	**1.92**	**263**	ePb	**Pn**	**20 15 58.6**	**+0.4**
AGG				S	**Sn**	**20 16 23.2**	**+0.3**
LIT	**Litokhoron**	**1.94**	**296**	ePN	**Pn**	**20 15 58.0**	**-0.5**
LIT	**Litokhoron**	**1.94**	**296**	ePn	**Pn**	**20 15 58.0**	**-0.5**
RDO	**Rodhopi**	**1.95**	**17**	P	**Pn**	**20 15 57.6**	**-1.0**
RDO	**Rodhopi**	**1.95**	**17**	ePN	**Pn**	**20 15 57.5**	**-1.0**
RDO	**Rodhopi**	**1.95**	**17**	P	**Pn**	**20 15 57.6**	**-1.0**
DSF	**Desfina**	**1.96**	**244**	P	**Pn**	**20 15 58.7**	**-0.1**
DSF	**Desfina**	**1.96**	**244**	P	**Pn**	**20 15 58.7**	**-0.1**
SRS	**Serrai**	**2.04**	**334**	P	**Pn**	**20 15 59.4**	**-0.5**
SRS				S	**Sn**	**20 16 25.8**	**-0.1**
SRS	**Serrai**	**2.04**	**334**	P	**Pn**	**20 15 59.4**	**-0.5**
SRS				S	**Sn**	**20 16 25.8**	**-0.1**
THAL	**Thalero**	**2.07**	**234**	P	**Pn**	**20 16 00.2**	**0.0**
THAL	**Thalero**	**2.07**	**234**	P	**Pn**	**20 16 00.2**	**0.0**
MAKR	**Makrakomi, Fth**	**2.07**	**263**	P	**Pn**	**20 16 00.6**	**+0.3**
MAKR	**Makrakomi, Fth**	**2.07**	**263**	P	**Pn**	**20 16 00.6**	**+0.3**
DID	**Didima**	**2.15**	**215**	P	**Pn**	**20 16 00.8**	**-0.5**
DID	**Didima**	**2.15**	**215**	ePN	**Pn**	**20 16 00.6**	**-0.7**
DID	**Didima**	**2.15**	**215**	P	**Pn**	**20 16 00.8**	**-0.5**
THL	**Klokotos Trika**	**2.16**	**278**	P	**Pn**	**20 16 01.7**	**+0.3**
THL	**Klokotos Trika**	**2.16**	**278**	ePN	**Pn**	**20 16 01.5**	**+0.1**
THL	**Klokotos Trika**	**2.16**	**278**	ePn	**Pn**	**20 16 01.5**	**+0.1**
NVR	**Nevrokopi**	**2.18**	**342**	P	**Pn**	**20 16 01.4**	**-0.4**
NVR	**Nevrokopi**	**2.18**	**342**	P	**Pn**	**20 16 01.4**	**-0.4**
KRBG	**Karabiga-Canak**	**2.24**	**60**	ePN	**Pn**	**20 16 03.1**	**+0.6**
KRBG	**Karabiga-Canak**	**2.24**	**60**	ePn	**Pn**	**20 16 03.1**	**+0.6**
KALE	**Kalithea**	**2.24**	**247**	ePN	**Pn**	**20 16 02.6**	**-0.1**
KALE	**Kalithea**	**2.24**	**247**	ePn	**Pn**	**20 16 02.6**	**-0.1**
SMG	**Samos**	**2.26**	**134**	ePB	**Pn**	**20 16 03.4**	**+0.6**
SMG	**Samos**	**2.26**	**134**	ePb	**Pn**	**20 16 03.4**	**+0.6**
APE	**Apeiranthos**	**2.29**	**165**	ePN	**Pn**	**20 16 01.6**	**-1.7**
APE	**Apeiranthos**	**2.29**	**165**	⇓*i*P	**Pn**	**20 16 02.9**	**-0.4**
APE	**Apeiranthos**	**2.29**	**165**	ePn	**Pn**	**20 16 01.6**	**-1.7**
APE	**Apeiranthos**	**2.29**	**165**	⇓*i*P	**Pn**	**20 16 02.9**	**-0.4**
RKY	**Sarkoy-Tekirda**	**2.32**	**52**	ePN	**Pn**	**20 16 05.0**	**+1.3**
RKY	**Sarkoy-Tekirda**	**2.32**	**52**	ePn	**Pn**	**20 16 05.0**	**+1.3**
GUR	**Goura**	**2.33**	**236**	P	**Pn**	**20 16 03.9**	**-0.1**
GUR	**Goura**	**2.33**	**236**	ePN	**Pn**	**20 16 03.8**	**-0.2**
GUR	**Goura**	**2.33**	**236**	P	**Pn**	**20 16 03.9**	**-0.1**
EVR	**Evrytania**	**2.34**	**262**	ePN	**Pn**	**20 16 03.6**	**-0.4**
EVR	**Evrytania**	**2.34**	**262**	ePn	**Pn**	**20 16 03.6**	**-0.4**
KNT	**Kendrikon**	**2.36**	**323**	P	**Pn**	**20 16 03.8**	**-0.5**
KNT	**Kendrikon**	**2.36**	**323**	P	**Pn**	**20 16 03.8**	**-0.5**
GONE	**Gonen-Balikesi**	**2.37**	**70**	ePN	**Pn**	**20 16 04.4**	**0.0**
GONE	**Gonen-Balikesi**	**2.37**	**70**	ePn	**Pn**	**20 16 04.4**	**0.0**
EFP	**Efpalio**	**2.40**	**250**	P	**Pn**	**20 16 04.9**	**+0.2**
EFP	**Efpalio**	**2.40**	**250**	ePB	**Pn**	**20 16 05.8**	**+1.1**
EFP	**Efpalio**	**2.40**	**250**	P	**Pn**	**20 16 04.9**	**+0.2**
EFP	**Efpalio**	**2.40**	**250**	ePb	**Pn**	**20 16 05.8**	**+1.1**
KLV	**Kalavryta, Ach**	**2.40**	**240**	P	**Pn**	**20 16 04.8**	**0.0**
KLV	**Kalavryta, Ach**	**2.40**	**240**	ePN	**Pn**	**20 16 04.8**	**0.0**
KLV	**Kalavryta, Ach**	**2.40**	**240**	P	**Pn**	**20 16 04.8**	**0.0**
RZN	**Rozhen**	**2.40**	**359**	eP	**Pn**	**20 16 04.6**	**-0.4**
RZN	**Rozhen**	**2.40**	**359**	eP	**Pn**	**20 16 04.6**	**-0.4**
KDZ	**Kurdzhali**	**2.41**	**12**	*i* P	Pn	20 16 01.1	-3.9
KDZ	**Kurdzhali**	**2.41**	**12**	*i* P	Pn	20 16 01.1	-3.9
LAKA	**Lakka**	**2.42**	**245**	ePN	**Pn**	**20 16 05.5**	**+0.4**
LAKA	**Lakka**	**2.42**	**245**	ePn	**Pn**	**20 16 05.5**	**+0.4**
BALB	**Balikesir**	**2.43**	**81**	ePN	**Pn**	**20 16 05.3**	**+0.1**
BALB	**Balikesir**	**2.43**	**81**	ePn	**Pn**	**20 16 05.3**	**+0.1**
MMB	**Musomiste**	**2.44**	**341**	eP	**Pn**	**20 16 04.7**	**-0.6**
MMB	**Musomiste**	**2.44**	**341**	eP	**Pn**	**20 16 04.7**	**-0.6**
MFT	**Murefte**	**2.44**	**51**	ePN	**Pn**	**20 16 06.4**	**+1.0**
MFT	**Murefte**	**2.44**	**51**	ePn	**Pn**	**20 16 06.4**	**+1.0**
GRG	**Griva**	**2.47**	**313**	ePB	**Pn**	**20 16 06.6**	**+0.8**
GRG	**Griva**	**2.47**	**313**	ePb	**Pn**	**20 16 06.6**	**+0.8**
VAY	**Valandovo**	**2.64**	**321**	ePn	**Pn**	**20 16 07.1**	**-1.0**
VAY				eSg	**Sg**	**20 16 49.7**	**+0.4**
VAY	**Valandovo**	**2.64**	**321**	ePn	**Pn**	**20 16 07.1**	**-1.0**
VLX	**Vlachokerasia**	**2.68**	**225**	P	**Pn**	**20 16 09.0**	**+0.3**
VLX	**Vlachokerasia**	**2.68**	**225**	ePN	**Pn**	**20 16 09.1**	**+0.3**
VLX	**Vlachokerasia**	**2.68**	**225**	P	**Pn**	**20 16 09.0**	**+0.3**
PLD	**Plovdiv**	**2.82**	**359**	eP	**Pg**	**20 16 18.4**	**-0.1**
PLD	**Plovdiv**	**2.82**	**359**	ePn	**Pn**	**20 16 10.5**	**0.0**
PLD	**Plovdiv**	**2.82**	**359**	ePn	**Pn**	**20 16 10.5**	**0.0**
DUBS	**Dursunbey**	**2.88**	**83**	*i* P	**Pn**	**20 16 16.6**	**-0.1**
KCTX	**Karacabey (Bur**	**2.93**	**69**	ePN	**Pn**	**20 16 12.9**	**+0.8**
KCTX	**Karacabey (Bur**	**2.93**	**69**	ePn	**Pn**	**20 16 12.9**	**+0.8**
VLI	**Veliai**	**2.94**	**210**	ePN	**Pn**	**20 16 11.8**	**-0.5**
VLI	**Veliai**	**2.94**	**210**	ePn	**Pn**	**20 16 11.8**	**-0.5**
EDRB	**Edirne**	**2.97**	**30**	ePN	**Pn**	**20 16 15.2**	**+2.6**
EDRB	**Edirne**	**2.97**	**30**	ePn	**Pn**	**20 16 15.2**	**+2.6**
FNA	**Florina**	**3.01**	**301**	ePN	**Pn**	**20 16 14.0**	**+0.8**
FNA	**Florina**	**3.01**	**301**	ePn	**Pn**	**20 16 14.0**	**+0.8**
DEMI	**Demirci**	**3.07**	**93**	*i* P	**Pg**	**20 16 23.1**	**-0.3**
DEMI				*i* S	**Sb**	**20 16 59.1**	**+1.2**
ITM	**Ithomi**	**3.07**	**228**	ePN	**Pn**	**20 16 14.4**	**+0.3**
ITM	**Ithomi**	**3.07**	**228**	ePn	**Pn**	**20 16 14.4**	**+0.3**
MLSB	**Milas**	**3.09**	**129**	ePN	**Pn**	**20 16 13.2**	**-1.0**
MLSB	**Milas**	**3.09**	**129**	ePn	**Pn**	**20 16 13.2**	**-1.0**
KULA	**Kula-Manisa**	**3.13**	**103**	ePN	**Pn**	**20 16 14.2**	**-0.6**
KULA	**Kula-Manisa**	**3.13**	**103**	ePn	**Pn**	**20 16 14.3**	**-0.6**
DYR	**Agios Nikonas**	**3.17**	**218**	P	**Pn**	**20 16 15.7**	**+0.3**
DYR	**Agios Nikonas**	**3.17**	**218**	ePN	**Pn**	**20 16 15.7**	**+0.3**
DYR	**Agios Nikonas**	**3.17**	**218**	P	**Pn**	**20 16 15.7**	**+0.3**
SLVT	**Silivri**	**3.27**	**52**	ePN	**Pn**	**20 16 18.8**	**+2.1**
SLVT	**Silivri**	**3.27**	**52**	ePn	**Pn**	**20 16 18.8**	**+2.1**
KYTH	**Kithira**	**3.30**	**205**	ePN	**Pn**	**20 16 16.7**	**-0.5**
KYTH	**Kithira**	**3.30**	**205**	ePn	**Pn**	**20 16 16.7**	**-0.5**
ARMT	**Armutlu**	**3.39**	**67**	ePN	**Pn**	**20 16 19.8**	**+1.4**
ARMT	**Armutlu**	**3.39**	**67**	ePn	**Pn**	**20 16 19.8**	**+1.4**
CTKS	**Kestanelik-??a**	**3.46**	**54**	ePN	**Pn**	**20 16 21.4**	**+2.1**
CTKS	**Kestanelik-??a**	**3.46**	**54**	ePn	**Pn**	**20 16 21.4**	**+2.1**
VTS	**Vitosha**	**3.51**	**341**	eP	**Pn**	**20 16 21.2**	**+1.0**
VTS	**Vitosha**	**3.51**	**341**	⇑*i*P	**Pn**	**20 16 20.9**	**+0.8**
VTS	**Vitosha**	**3.51**	**341**	ePn	**Pn**	**20 16 21.0**	**+0.8**
VTS				eSn	**Sn**	**20 17 01.4**	**-0.9**
VTS	**Vitosha**	**3.51**	**341**	⇑*i*P	**Pn**	**20 16 20.9**	**+0.8**
VTS				eSn	**Sn**	**20 17 01.4**	**-0.9**
BGKT	**Bogazkoy**	**3.60**	**57**	ePN	**Pn**	**20 16 23.5**	**+2.3**
BGKT	**Bogazkoy**	**3.60**	**57**	ePn	**Pn**	**20 16 23.5**	**+2.3**
TVSB	**Tavsanli**	**3.64**	**86**	ePN	**Pn**	**20 16 22.2**	**+0.3**
TVSB	**Tavsanli**	**3.64**	**86**	ePn	**Pn**	**20 16 22.2**	**+0.3**
BARS	**Barje**	**4.18**	**329**	ePn	**Pn**	**20 16 29.6**	**+0.4**
BARS				eSn	**Sn**	**20 17 18.8**	**+0.2**
BARS	**Barje**	**4.18**	**329**	ePn	**Pn**	**20 16 29.6**	**+0.4**
BARS				eSn	**Sn**	**20 17 18.8**	**+0.2**
ZAPS	**Zavoj**	**4.30**	**339**	ePn	**Pn**	**20 16 32.5**	**+1.6**
ZAPS				eSn	**Sn**	**20 17 20.5**	**-1.1**
TIRR	**Tirgusor**	**5.84**	**

CPD	**Cerro la Pandu**	**1.16**	**206**	⇑	*e*P	Pn	20 51 49.2	-1.1
CPD					*e*S	Sn	20 52 03.9	-1.1
CPD	**Cerro la Pandu**	**1.16**	**206**	⇑	*e*P	Pn	20 51 49.2	-1.1
CPD					*e*S	Sn	20 52 03.9	-1.1
SJG	**San Juan**	**1.21**	**217**	⇓	*e*P	Pn	20 51 49.6	-1.3
SJG	**San Juan**	**1.21**	**217**	⇓	*i*P	Pn	20 51 49.7	-1.3
SJG					*e*S	Sn	20 52 05.2	-0.9
SJG	**San Juan**	**1.21**	**217**	⇓	*i*P	Pn	20 51 49.7	-1.3
SJG					*e*S	Sn	20 52 05.1	-1.1
SJG					*e*S		20 52 05.2	
SJG	**San Juan**	**1.21**	**217**	⇓	*e*P	Pn	20 51 49.6	-1.3
SJG	**San Juan**	**1.21**	**217**	⇓	*i*P	Pn	20 51 49.7	-1.3
SJG					*e*S	Sn	20 52 05.2	-0.9
SJG					*e*S		20 52 06.0	
CDVI	**St. Croix**	**1.45**	**156**		*e*P	Pn	20 51 55.8	+1.5
AOPR	**Arecibo Observ**	**1.49**	**241**	⇓	*e*P	Pn	20 51 53.7	-1.1
AOPR	**Arecibo Observ**	**1.49**	**241**		*e*S	Sn	20 52 12.0	-1.1
AOPR	**Arecibo Observ**	**1.49**	**241**	⇓	*e*P	Pn	20 51 53.7	-1.1
AOPR					*e*S	Sn	20 52 12.0	-1.1
AOPR	**Arecibo Observ**	**1.49**	**241**	⇓	*e*P	Pn	20 51 53.7	-1.1
AOPR					*e*S	Sn	20 52 12.0	-1.1
CELP	**Cerrillos**	**1.51**	**228**	⇓	*i*P	Pn	20 51 54.3	-0.8
CELP					*e*S	Sn	20 52 12.6	-1.0
CELP	**Cerrillos**	**1.51**	**228**	⇓	*i*P	Pn	20 51 54.3	-0.8
CELP					*e*S	Sn	20 52 12.6	-1.0
CELP	**Cerrillos**	**1.51**	**228**	⇓	*i*P	Pn	20 51 54.3	-0.8
CELP					*e*S	Sn	20 52 12.6	-1.0
OBIP	**Obispado Ponce**	**1.55**	**228**	⇓	*e*P	Pn	20 51 54.9	-0.7
OBIP	**Obispado Ponce**	**1.55**	**228**		*e*S	Sn	20 52 13.3	-1.2
OBIP	**Obispado Ponce**	**1.55**	**228**	⇓	*e*P	Pn	20 51 54.9	-0.7
OBIP					*e*S	Sn	20 52 13.3	-1.2
OBIP	**Obispado Ponce**	**1.55**	**228**	⇓	*e*P	Pn	20 51 54.9	-0.7
OBIP					*e*S	Sn	20 52 13.3	-1.2
LRS	**Lares**	**1.59**	**240**		*e*P	Pn	20 51 54.8	-1.4
GBPR	**Guanica, Bosqu**	**1.79**	**232**	⇓	*e*P	Pn	20 51 58.8	-0.1
GBPR	**Guanica, Bosqu**	**1.79**	**232**	⇓	*e*P	Pn	20 51 58.8	-0.1
GBPR	**Guanica, Bosqu**	**1.79**	**232**	⇓	*e*P	Pn	20 51 58.8	-0.1
LSP	**Las Mesas**	**1.84**	**241**	⇑	*e*P	Pn	20 51 59.0	-0.7
LSP	**Las Mesas**	**1.84**	**241**	⇑	*e*P	Pn	20 51 59.0	-0.7
LSP	**Las Mesas**	**1.84**	**241**	⇑	*e*P	Pn	20 51 59.3	-0.4
CRPR	**Cabo Rojo, PR**	**1.95**	**237**	⇓	*e*P	Pn	20 52 01.0	-0.2
CRPR	**Cabo Rojo, PR**	**1.95**	**237**	⇓	*e*P	Pn	20 52 01.0	-0.2
CRPR	**Cabo Rojo, PR**	**1.95**	**237**	⇓	*e*P	Pn	20 52 01.0	-0.2
DR12	**Loma Pena Alta**	**3.79**	**266**	⇑	*e*P	Pn	20 52 26.3	-0.1
DR12	**Loma Pena Alta**	**3.79**	**266**	⇑	*e*P	Pn	20 52 26.3	-0.1

IDC 20 20:51:58.7±24.0, 4°.01S×72°.32E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/25, mbtmp3.7/3, MS3.4/2, Ms1 3.4/2, ms1mx2.7/26, Error ellipse: s-maj=818.7km s-min=40.5km az=63.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**51.35**	**9**	P	P	21 01 04.9	-0.1
	0.2nm,0.7s,baz=185,slow=6.8,SNR=3.6						
SONM	**Songino Array**	**59.65**	**26**	LR	LR	21 29 28.1	
	comp=Z,45nm,18.4s,baz=167,slow=38						
WRA	**Warramunga Arr**	**62.37**	**110**	P	P	21 02 22.9	-0.9
	1.2nm,0.4s,baz=279,slow=5.9,SNR=2.4						
ASAR	**Alice Springs**	**62.42**	**115**	P	P	21 02 24.8	+0.6
	0.6nm,0.9s,baz=278,slow=6.0,SNR=5.1						
KSRS	**Korea Array**	**66.03**	**46**	LR	LR	21 33 22.0	
	comp=Z,20nm,19.6s,baz=254,slow=38						

*HLW **20** 20:55:28.4, 35°.32N×27°.59E, h31km±22km, Md3.0, MI3.5*
*IDC **20** 20:55:30.6±1.1, 34°.78N×27°.31E, h0km, mb3.7/6, mb1 3.7/10, mb1mx3.5/28, mbtmp3.5/10, ML3.6/3, MS2.7/3, Ms1 2.8/3, ms1mx2.2/40, Error ellipse: s-maj=25.0km s-min=19.6km az=170.0*
*ISCJB **20** 20:55:34.4±0.3, 34°.70N±0°.03×27°.55E±0°.03, h67km±7km, mb3.5/7, Error ellipse: s-maj=5.4km s-min=3.8km az=2.0*
*CSEM **20** 20:55:36.2±0.2, 34°.74N×27°.55E, h40km, ML3.1/3, Error ellipse: s-maj=5.6km s-min=4.3km az=35.0*
*ATH **20** 20:55:38.3, 35°.00N×27°.30E, h76km±1km*
*THE **20** 20:55:40.5, 34°.93N×27°.32E, h52km±3km, ML3.1/3, Error ellipse: s-maj=3.8km s-min=1.3km az=146.0*

ISC 20 20:55:36.2±0.9, 34°.78N±0°.05×27°.49E±0°.03, h56km±13km, n135, σ1§25/141, mb3.5/7, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.81**	**341**	P	**Pn**	**20 55 52.9**	**+1.2**
KARP	**Karpathos**	**0.81**	**341**	*e*P	**Pn**	**20 55 52.8**	**+1.1**
KARP	**Karpathos**	**0.81**	**341**	*e*P	**Pn**	**20 55 52.8**	**+1.1**
ZKR	**Zakros**	**1.10**	**288**	P	**Pn**	**20 55 56.1**	**+0.6**
ZKR				S	**Sn**	**20 56 09.4**	**-0.3**
ZKR	**Zakros**	**1.10**	**288**	*e*P	**Pn**	**20 55 56.0**	**+0.6**
ZKR	**Zakros**	**1.10**	**288**	P	**Pn**	**20 55 56.1**	**+0.6**
ZKR				S	**Sn**	**20 56 09.4**	**-0.3**
ARG	**Arkhangelos**	**1.53**	**20**	P	**Pn**	**20 56 03.5**	**+2.3**
ARG	**Arkhangelos**	**1.53**	**20**	*e*P	**Pn**	**20 56 03.2**	**+2.0**
ARG	**Arkhangelos**	**1.53**	**20**	*e*P	**Pn**	**20 56 03.2**	**+2.0**
NPS	**Neapolis**	**1.62**	**288**	P	**Pn**	**20 56 03.8**	**+1.4**
NPS	**Neapolis**	**1.62**	**288**	*e*P	**Pn**	**20 56 03.1**	**+0.7**
NPS	**Neapolis**	**1.62**	**288**	*e*P	**Pn**	**20 56 03.1**	**+0.7**
LAST	**Lasithi**	**1.70**	**284**	P	**Pn**	**20 56 04.7**	**+1.1**
LAST	**Lasithi**	**1.70**	**284**	*e*P	**Pn**	**20 56 04.7**	**+1.1**
LAST	**Lasithi**	**1.70**	**284**	*e*P	**Pn**	**20 56 04.7**	**+1.1**
DAT	**Datca**	**1.95**	**2**	*e*PN	**Pn**	**20 56 08.2**	**+1.2**
IDI	**Anoyia**	**2.19**	**284**	P	**Pn**	**20 56 12.0**	**+1.7**
IDI				S	**Sn**	**20 56 35.5**	**-0.9**
IDI	**Anoyia**	**2.19**	**284**	*e*P	**Pn**	**20 56 11.5**	**+1.2**
IDI	**Anoyia**	**2.19**	**284**	*e*P	**Pn**	**20 56 11.5**	**+1.2**
IDI				S	**Sn**	**20 56 35.5**	**-0.9**
SIVA	**Sivas**	**2.22**	**277**	P	**Pn**	**20 56 12.2**	**+1.7**
SIVA	**Sivas**	**2.22**	**277**	*e*P	**Pn**	**20 56 12.3**	**+1.7**
SIVA	**Sivas**	**2.22**	**277**	P	**Pn**	**20 56 12.2**	**+1.7**
DALY	**Dalyan (Mu¨la**	**2.24**	**25**	*e*PN	**Pn**	**20 56 10.6**	**-0.3**
AKAS	**Kas**	**2.25**	**49**	*i*P	**Pn**	**20 56 09.6**	**-1.6**
AKAS				*i*S	**Sn**	**20 56 38.2**	**+0.2**
AKAS	**Kas**	**2.25**	**49**	*i*P	**Pn**	**20 56 09.6**	**-1.6**
AKAS				*i*S	**Sn**	**20 56 38.2**	**+0.2**
TURN	**Turunc**	**2.28**	**23**	*i*P	**Pn**	**20 56 10.1**	**-1.3**
TURN	**Turunc**	**2.28**	**23**	*i*P	**Pn**	**20 56 10.1**	**-1.3**
BODT	**Bodrum**	**2.29**	**356**	*e*PN	**Pn**	**20 56 09.5**	**-2.1**
SANT	**Santorini**	**2.30**	**314**	P	**Pn**	**20 56 12.2**	**+0.5**
SANT	**Santorini**	**2.30**	**314**	*e*P	**Pn**	**20 56 11.6**	**+0.1**
SANT	**Santorini**	**2.30**	**314**	P	**Pn**	**20 56 12.2**	**+0.5**
THR1	**Thera Island**	**2.30**	**314**	P	**Pn**	**20 56 12.5**	**+0.8**
THR1	**Thera Island**	**2.30**	**314**	P	**Pn**	**20 56 12.5**	**+0.8**
YER	**Yerkesik**	**2.44**	**15**	*e*PN	**Pn**	**20 56 12.9**	**-0.7**
MLSB	**Milas**	**2.52**	**5**	*e*PN	**Pn**	**20 56 13.8**	**-1.0**
VAM	**Vamos**	**2.77**	**284**	P	**Pn**	**20 56 19.9**	**+1.8**
VAM	**Vamos**	**2.77**	**284**	*e*P	**Pn**	**20 56 19.9**	**+1.8**
VAM	**Vamos**	**2.77**	**284**	*e*P	**Pn**	**20 56 19.9**	**+1.8**
ELL	**Elmali**	**2.78**	**44**	*e*PN	**Pn**	**20 56 19.1**	**+0.7**
APE	**Apeiranthos**	**2.79**	**326**	*e*PN	Pn	20 56 14.5	-3.9
APE	**Apeiranthos**	**2.79**	**326**	P	**Pn**	**20 56 18.9**	**+0.5**
APE				S	**Sn**	**20 56 49.5**	**-1.3**
APE	**Apeiranthos**	**2.79**	**326**	*e*P	**Pn**	**20 56 18.7**	**+0.3**
APE				*e*S	**Sn**	**20 56 48.0**	**-2.8**
APE	**Apeiranthos**	**2.79**	**326**	P	**Pn**	**20 56 18.9**	**+0.5**
APE				S	**Sn**	**20 56 49.5**	**-1.3**
GVD	**Gavdhos**	**2.80**	**272**	P	**Pn**	**20 56 19.6**	**+1.0**
GVD	**Gavdhos**	**2.80**	**272**	*e*P	**Pn**	**20 56 19.6**	**+1.0**
GVD	**Gavdhos**	**2.80**	**272**	*e*P	**Pn**	**20 56 19.6**	**+1.0**
AYDN	**Tasoluk**	**2.90**	**6**	*i*P	**Pn**	**20 56 19.9**	**0.0**
AYDN	**Tasoluk**	**2.90**	**6**	*i*P	**Pn**	**20 56 19.9**	**0.0**
GOLH	**Golhisar**	**2.97**	**34**	*i*P	**Pn**	**20 56 23.7**	**+2.7**
GOLH				*i*S	**Sn**	**20 56 55.7**	**+0.2**
GOLH	**Golhisar**	**2.97**	**34**	*i*P	**Pn**	**20 56 23.7**	**+2.7**
GOLH				*i*S	**Sn**	**20 56 55.7**	**+0.2**
KARN	**Karanos**	**3.00**	**283**	P	**Pn**	**20 56 23.0**	**+1.8**
KARN	**Karanos**	**3.00**	**283**	*e*P	**Pn**	**20 56 23.1**	**+1.8**
KARN	**Karanos**	**3.00**	**283**	P	**Pn**	**20 56 23.0**	**+1.8**
ANKY	**Antikythira Is**	**3.59**	**289**	*e*P	**Pn**	**20 56 30.9**	**+1.5**
ANKY				*e*S	**Sn**	**20 57 09.2**	**-1.4**
ANKY	**Antikythira Is**	**3.59**	**289**	*e*P	**Pn**	**20 56 30.9**	**+1.5**
HMAT	**Matruh**	**3.69**	**185**	P	**Pn**	**20 56 30.4**	**-0.3**
SLUM		**3.79**	**211**	P	**Pn**	**20 56 31.7**	**-0.5**
	baz=209						
SLUM				AMP		20 57 00.0	
	comp=N,70μm,0.4s,logA/T=5.2,baz=209						
SLUM		**3.79**	**211**	P	**Pn**	**20 56 31.7**	**-0.5**
MANT	**Manisa**	**3.80**	**13**	*i*P	Pn	20 56 20.8	-12
MANT				*i*S	Sn	20 57 10.0	-6.1
KULA	**Kula-Manisa**	**3.85**	**14**	*e*PN	**Pn**	**20 56 32.8**	**-0.2**
KHL	**Karahalli**	**3.90**	**24**	*e*PN	**Pn**	**20 56 33.9**	**+0.3**
ISP	**Isparta**	**3.90**	**38**	*e*PN	**Pn**	**20 56 34.7**	**+1.0**
SUTC	**Sutluce-Ispart**	**3.91**	**45**	*e*PN	**Pn**	**20 56 35.3**	**+1.3**
KYTH	**Kithira**	**3.93**	**294**	P	**Pn**	**20 56 34.0**	**-0.1**
KYTH	**Kithira**	**3.93**	**294**	*e*P	**Pn**	**20 56 34.5**	**+0.4**
KYTH	**Kithira**	**3.93**	**294**	*e*P	**Pn**	**20 56 34.5**	**+0.4**
VLI	**Veliai**	**4.18**	**299**	P	**Pn**	**20 56 37.5**	**0.0**
VLI				S	**Sn**	**20 57 22.8**	**-2.2**
VLI	**Veliai**	**4.18**	**299**	*e*P	**Pn**	**20 56 37.4**	**0.0**
VLI	**Veliai**	**4.18**	**299**	P	**Pn**	**20 56 37.5**	**0.0**
VLI				S	**Sn**	**20 57 22.8**	**-2.2**
DID	**Didima**	**4.39**	**310**	P	**Pn**	**20 56 41.2**	**+0.9**
DID	**Didima**	**4.39**	**310**	*e*P	**Pn**	**20 56 40.9**	**+0.6**
DID	**Didima**	**4.39**	**310**	P	**Pn**	**20 56 41.2**	**+0.9**
DYR	**Agios Nikonas**	**4.64**	**297**	P	**Pn**	**20 56 45.1**	**+1.4**
DYR	**Agios Nikonas**	**4.64**	**297**	*e*P	**Pn**	**20 56 44.8**	**+1.1**
DYR	**Agios Nikonas**	**4.64**	**297**	*e*P	**Pn**	**20 56 44.8**	**+1.1**
ALT	**Altintas**	**4.76**	**25**	*i*P	Pn	20 56 59.1	+14
ERMK	**Ermenek**	**4.79**	**66**	*i*P	**Pn**	**20 56 47.8**	**+1.8**
ERMK				*i*S	Sn	20 57 34.3	-5.9
ERMK	**Ermenek**	**4.79**	**66**	*i*P	**Pn**	**20 56 47.8**	**+1.8**
ERMK				*i*S	Sn	20 57 34.3	-5.9
LTK	**Loutraki**	**4.88**	**313**	P	**Pn**	**20 56 48.4**	**+1.4**
LTK	**Loutraki**	**4.88**	**313**	*e*P	**Pn**	**20 56 48.6**	**+1.6**
LTK	**Loutraki**	**4.88**	**313**	P	**Pn**	**20 56 48.4**	**+1.4**
VLX	**Vlachokerasia**	**4.88**	**303**	P	**Pn**	**20 56 47.7**	**+0.5**
VLX	**Vlachokerasia**	**4.88**	**303**	*e*P	**Pn**	**20 56 47.7**	**+0.5**
VLX	**Vlachokerasia**	**4.88**	**303**	*e*P	**Pn**	**20 56 47.7**	**+0.5**
TVSB	**Tavsanli**	**4.92**	**18**	*e*PN	**Pn**	**20 56 48.5**	**+0.8**
ITM	**Ithomi**	**5.11**	**300**	*e*P	**Pn**	**20 56 50.5**	**+0.3**
ITM	**Ithomi**	**5.11**	**300**	*e*P	**Pn**	**20 56 50.5**	**+0.3**
PYL	**PYLOS**	**5.13**	**296**	*e*P	**Pn**	**20 56 49.7**	**-0.7**
PYL	**PYLOS**	**5.13**	**296**	*e*P	**Pn**	**20 56 49.7**	**-0.7**
GUR	**Goura**	**5.21**	**309**	P	**Pn**	**20 56 52.4**	**+0.7**
GUR				S	**Sn**	**20 57 48.3**	**-2.3**
GUR	**Goura**	**5.21**	**309**	*e*P	**Pn**	**20 56 52.3**	**+0.6**
GUR	**Goura**	**5.21**	**309**	P	**Pn**	**20 56 52.4**	**+0.7**
GUR				S	**Sn**	**20 57 48.3**	**-2.3**
LKR	**Lokris**	**5.29**	**318**	*e*P	**Pn**	**20 56 53.9**	**+1.3**
LKR	**Lokris**	**5.29**	**318**	*e*P	**Pn**	**20 56 53.9**	**+1.3**
DSF	**Desfina**	**5.39**	**314**	P	**Pn**	**20 56 55.1**	**+1.0**
DSF	**Desfina**	**5.39**	**314**	P	**Pn**	**20 56 55.1**	**+1.0**
KLV	**Kalavryta, Ach**	**5.40**	**309**	*e*P	**Pn**	**20 56 54.5**	**+0.3**
KLV	**Kalavryta, Ach**	**5.40**	**309**	*e*P	**Pn**	**20 56 54.5**	**+0.3**
AMT	**Artemida-Makis**	**5.43**	**302**	*e*P	**Pn**	**20 56 55.0**	**+0.5**
AMT	**Artemida-Makis**	**5.43**	**302**	*e*P	**Pn**	**20 56 55.0**	**+0.5**
KALE	**Kalithea**	**5.62**	**312**	*e*P	**Pn**	**20 56 59.0**	**+1.8**
KALE	**Kalithea**	**5.62**	**312**	*e*P	**Pn**	**20 56 59.0**	**+1.8**
LAKA	**Lakka**	**5.63**	**309**	*e*P	**Pn**	**20 56 58.2**	**+0.9**
LAKA	**Lakka**	**5.63**	**309**	*e*P	**Pn**	**20 56 58.2**	**+0.9**
EFP	**Efpalio**	**5.78**	**311**	*e*P	**Pn**	**20 56 59.8**	**+0.4**
EFP	**Efpalio**	**5.78**	**311**	*e*P	**Pn**	**20 56 59.8**	**+0.4**
RLS	**Riolos of Patr**	**5.86**	**306**	*e*P	**Pn**	**20 57 02.1**	**+1.7**
RLS	**Riolos of Patr**	**5.86**	**306**	*e*P	**Pn**	**20 57 02.1**	**+1.7**
AGG	**Agios Georgios**	**5.92**	**317**	*e*P	**Pn**	**20 57 02.8**	**+1.5**
AGG	**Agios Georgios**	**5.92**	**317**	*e*P	**Pn**	**20 57 02.8**	**+1.5**
EVR	**Evrytania**	**6.15**	**314**	*e*P	**Pn**	**20 57 05.8**	**+1.3**
EVR	**Evrytania**	**6.15**	**314**	*e*P	**Pn**	**20 57 05.8**	**+1.3**
GLL	**Jalalah**	**6.30**	**144**	P	**Pn**	**20 57 04.8**	**-1.7**
	baz=147						
GLL	**Jalalah**	**6.30**	**144**	P	**Pn**	**20 57 04.8**	**-1.7**
AMAG	**Maghara**	**6.34**	**129**	P	Pn	20 57 04.1	-3.0
	baz=133						
MMAI	**Mount Meron Ar**	**6.81**	**103**	Pn	**Pn**	**20 57 12.3**	**-1.3**
	comp=N,1.2nm,0.3s,baz=308,slow=12,SNR=6.5						
MMAI				Sn	**Sn**	**20 58 27.6**	**-2.2**
	comp=N,1.6nm,0.3s,baz=286,slow=16,SNR=3.5						
BRTR	**Keskin Array B**	**6.96**	**43**	Pn	**Pn**	**20 57 15.4**	**-0.2**
	comp=N,0.0nm,0.3s,baz=206,slow=16,SNR=2.9						
HNKL	**Nakhl**	**7.31**	**130**	P	Pn	20 57 17.5	-2.9
	baz=133						
HNKL	**Nakhl**	**7.31**	**130**	P	Pn	20 57 17.5	-2.9
GRG	**Griva**	**7.37**	**328**	*e*P	**Pn**	**20 57 22.7**	**+1.6**
GRG	**Griva**	**7.37**	**328**	*e*P	**Pn**	**20 57 22.7**	**+1.6**
EIL	**Elat**	**8.11**	**127**	Pn	**Pn**	**20 57 29.5**	**-1.9**
	comp=N,0.8nm,0.3s,baz=353,slow=5.7,SNR=9.0						
EIL				Sn	Sn	20 58 53.4	-8.3
	comp=N,1.3nm,0.3s,baz=302,slow=17,SNR=7.6						
HHRG	**Al Ghardaqah**	**9.16**	**144**	P	**Pn**	**20 57 45.3**	**-0.4**
	baz=146						
HHRG	**Al Ghardaqah**	**9.16**	**144**	P	**Pn**	**20 57 45.3**	**-0.4**
VRAC	**Vranov**	**16.60**	**334**	LR	LR	21 05 27.8	
	comp=N,27nm,19.2s,baz=248,slow=36						
GERES	**GERESS Array B**	**17.37**	**328**	P	**Pn**	**20 59 33.8**	**-0.9**
	comp=N,0.1nm,0.3s,baz=146,slow=14,SNR=4.8						
ESDC	**Sonseca Array**	**25.44**	**290**	P	**P**	**21 00 59.2**	**+0.4**
	comp=N,0.7nm,0.5s,baz=80,slow=10,SNR=6.3						
FINES	**FINESS Array B**	**26.70**	**358**	P	**P**	**21 01 10.6**	**+0.7**
	comp=N,3.9nm,1.0s,baz=166,slow=10,SNR=6.3						
HFS	**Hagfors**	**26.92**	**345**	LR	LR	21 12 45.0	
	comp=N,28nm,21.3s,baz=316,slow=38						
KAF	**Kangasniemi**	**27.37**	**359**	*ep*	**P**	**21 01 16.6**	**+0.8**
	comp=N,0.4nm,0.5s						
NOA	**NOSAR Array B**	**28.29**	**343**	LR	LR	21 13 11.6	
	comp=N,11nm,19.6s,baz=240,slow=38						
TORD	**Torodi Ar. Bea**	**31.76**	**234**	P	**P**	**21 01 55.8**	**+0.6**
	comp=N,0.4nm,0.7s,baz=41,slow=9.3,SNR=3.0						
ARCES	**ARCESS Array B**	**34.83**	**359**	P	**P**	**21 02 20.9**	**-0.6**
	comp=N,3.3nm,0.9s,baz=165,slow=6.9,SNR=4.3						
KURBB	**Kurchatov Arra**	**39.88**	**51**	P	P	21 03 08.1	+3.8
	comp=N,0.4nm,0.6s,baz=275,slow=8.7,SNR=8.0						
MKAR	**Makanchi Array**	**42.39**	**56**	P	P	21 03 28.4	+3.4
	comp=N,0.3nm,0.6s,baz=284,slow=6.8,SNR=5.1						

RSPR 20 20:56:20.1, 19°.05N×65°.45W, h17km±18km, 2C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.84**	**146**	⇑ *e*P	Pb	20 56 34.6	-1.6
STVI	**Saint Thomas**	**0.84**	**146**	⇑ *e*P	Pb	20 56 34.6	-1.6
STVI				*e*S	Sb	20 56 44.9	-2.4
CBYP	**Canovanas**	**0.87**	**206**	*e*S	Sb	20 56 45.8	-2.4
CBYP	**Canovanas**	**0.87**	**206**	*e*S	Sb	20 56 45.8	-2.4
MTP	**Monte Pirata**	**0.96**	**186**	⇓ *e*P	Pb	20 56 35.3	-2.9
MTP	**Monte Pirata**	**0.96**	**186**	⇓ *e*P	Pb	20 56 35.3	-2.9
MTP				*e*S	Sb	20 56 48.3	-2.3

*IDC **20** 21:10:09.6±1.2, 0°.09N×123°.21E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, Error ellipse: s-maj=144.1km s-min=21.2km az=65.0*
*ISCJB **20** 21:10:18.4±0.7, 0°.32S±0°.07×122°.89E±0°.05, h35km, mb3.6/4, Error ellipse: s-maj=9.5km s-min=6.6km az=175.7*
*DJA **20** 21:10:19.0±0.4, 0°.S±4°×12°.3E±°, h82km±8km, M4.2/6, MLv4.2/6*

ISC 20 21:10:19.0±1.2, 0°.15S±0°.07×122°.86E±0°.05, h35km, n10, σ3§23/10, mb3.6/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.80**	**11**	P	Pn	21 10 37.9	+4.2
LUWI	**Luwuk**	**0.89**	**186**	P	Pn	21 10 38.4	+3.4
LUWI				S	**Sn**	**21 10 51.4**	**+4.8**
MRSI	**Marisa**	**1.11**	**304**	P	**Pn**	**21 10 39.2**	**+1.1**
MRSI				S	**Sn**	**21 10 54.4**	**+2.2**
MNI	**Manado**	**2.54**	**51**	P	**Pn**	**21 10 58.8**	**+1.1**
TTSI	**Tana Toraja**	**4.18**	**227**	P	**Pn**	**21 11 21.3**	**+1.0**
TTSI				S	**Sn**	**21 12 07.3**	**-0.7**
LBMI	**Labuha**	**4.66**	**96**	P	**Pn**	**21 11 29.7**	**+2.8**
LBMI				S	**Sn**	**21 12 19.7**	**-0.2**
WRA	**Warramunga Arr**	**22.65**	**151**	P	**P**	**21 15 12.7**	**-4.6**
	1.5nm,0.5s,baz=331,slow=10,SNR=2.4						
ASAR	**Alice Springs**	**25.71**	**156**	P	**P**	**21 15 42.7**	**-3.5**
	0.8nm,0.5s,baz=341,slow=14,SNR=18						
SONM	**Songino Array**	**49.90**	**346**	P	P	21 19 04.9	-4.3
	0.4nm,0.8s,baz=164,slow=7.4,SNR=3.9						
MKAR	**Makanchi Array**	**58.67**	**328**	P	P	21 20 08.0	-4.9
	0.3nm,0.5s,baz=123,slow=8.1,SNR=6.4						

*AUST **20** 21:21:04.7±99.0, 0°.81N×132°.82E, h0km±3km, Error ellipse: s-maj=4.2km s-min=1.4km az=334.0*
*DJA **20** 21:21:24.2±2.2, 0°.S±7°×13°.2E±°, h102km±25km, M3.7/3, MLv3.7/3*

ISC 20 21:21:25.3±2.1, 0°.5S±0°.1×132°.00E±0°.07, h10km, n8, σ2§02/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.83**	**242**	P	**Pn**	**21 21 43.5**	**+0.4**
SWI	**Sorong**	**0.83**	**242**	P	**Pn**	**21 21 43.5**	**+0.4**
	baz=2.3,SNR=22						
RKPI	**Ransiki, Papua**	**2.41**	**115**	P	**Pn**	**21 22 03.9**	**-1.0**
RKPI				S	**Sn**	**21 22 37.9**	**+3.4**
FAKI	**Fak Fak**	**2.44**	**174**	P	**Pn**	**21 22 06.0**	**+0.7**
FAKI				S	**Sn**	**21 22 37.7**	**+2.5**
FAKI	**Fak Fak**	**2.44**	**174**	P	**Pn**	**21 22 06.0**	**+0.7**
	baz=3.8,SNR=53						
KDU	**Kakadu**	**12.14**	**178**	P	**Pn**	**21 24 16.6**	**-1.9**
	baz=14,SNR=9.8						
KDU				S	Sn	21 26 29.6	-4.5
	baz=14,SNR=3.9						
MTN	**Manton Dam**	**12.32**	**184**	P	**Pn**	**21 24 20.2**	**-0.7**
	baz=14,SNR=4.8						
MTN				S	**Sn**	**21 26 35.6**	**-2.8**
	baz=14,SNR=3.5						
KNRA	**Kununurra**	**15.44**	**192**	P	**Pn**	**21 25 04.0**	**+0.6**
	baz=17,SNR=4.1						

*IDC **20** 21:21:43.6±0.9, 16°.40N×86°.69W, h0km, mb4.1/13, mb1 4.4/14, mb1mx4.2/23, mbtmp4.2/14, ML4.8/1, MS3.6/14, Ms1 3.6/14, ms1mx3.3/35, Error ellipse: s-maj=30.7km s-min=17.6km az=51.0*
*ISCJB **20** 21:21:44.5±0.5, 16°.57N±0°.03×86°.59W±0°.06, h10km, mb4.2/20, MS3.7/11, Error ellipse: s-maj=8.2km s-min=3.6km az=22.3*
*NEIC **20** 21:21:47.0±3.1, 16°.45N×86°.68W, h20km±22km, mb4.3/8, Error ellipse: s-maj=15.3km s-min=7.5km az=71.0*
*CASC **20** 21:21:51.3±2.4, 16°.35N×86°.57W, h36km±999km, MD4.3, ML4.1*

ISC 20 21:21:47.7±1.9, 16°.54N±0°.04×86°.50W±0°.07, h23km±14km, n201, σ1§06/200, mb4.2/20, MS3.7/11, 70C-65D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**2.58**	**197**	*e*P	**Pn**	**21 22 26.6**	**-1.5**
TGUH				*e*S	**Sn**	**21 22 55.5**	**-3.4**
TGUH	**Tegucigalpa,Un**	**2.58**	**197**	*e*Pn	**Pn**	**21 22 26.3**	**-1.8**
TGUH				*e*Sn	**Sn**	**21 22 54.5**	**-4.3**
CAHU	**Cacaquatique**	**3.22**	**211**	*e*P	**Pn**	**21 22 36.4**	**-0.6**
CAHU				*e*S	**Sn**	**21 23 13.1**	**-1.6**
MRL	**Marmol**	**3.41**	**245**	*e*P	Pn	21 22 32.3	-7.3
MRL				*e*S	**Sn**	**21 23 18.3**	**-1.1**
CNCH	**Conchagua**	**3.50**	**202**	*e*P	**Pn**	**21 22

326A	**Caldwell Ranch** baz=22	**21.67**	**316**	⇓P	**P**	**21 26 36.2 -0.7**
X31A	**McDonald Ranch** baz=22	**21.69**	**329**	⇑P	**P**	**21 26 37.1 +0.1**
Z28A	**Tucker Farm, M** baz=22	**21.99**	**322**	⇓P	**P**	**21 26 39.3 -1.0**
Y29A	**Porterfield Fa** baz=22	**21.99**	**324**	⇓P	**P**	**21 26 39.6 -0.7**
X30A	**Coker Ranch, T** baz=22	**22.00**	**327**	⇓P	**P**	**21 26 40.2 -0.2**
425A	**Indio Mountain** baz=22,SNR=7.7	**22.04**	**313**	⇑P	**P**	**21 26 40.6 -0.3**
W31A	**Holland Ranch,** baz=22	**22.11**	**330**	⇑P	**P**	**21 26 41.3 -0.3**
226B	**Tecolote Peak,** baz=22	**22.27**	**317**	⇓P	**P**	**21 26 43.5 +0.1**
X29A	**Tulia** baz=22	**22.44**	**325**	⇑P	**P**	**21 26 43.9 -1.4**
225A	**Deer Hill, Car** baz=23	**22.73**	**316**	⇑P	**P**	**21 26 47.3 -1.1**
AMTX	**Amarillo** comp=Z,7.8nm,0.6s	**22.77**	**326**	*eP*	**P**	**21 26 47.9 -0.7**
MNTX	**Cornudas Mount** comp=Z,4.7nm,1.0s	**22.85**	**315**	*eP*	**P**	**21 26 47.6 -1.9**
Y27A	**Causey** baz=23	**22.86**	**322**	⇑P	**P**	**21 26 47.7 -2.0**
W29A	**Amrailo** baz=23	**22.93**	**327**	⇓P	**P**	**21 26 48.6 -1.7**
Z26A	**Caprock** baz=23	**22.94**	**320**	⇑P	**P**	**21 26 48.4 -2.0**
125A	**Gardner Draw,** baz=23	**22.96**	**318**	⇓P	**P**	**21 26 49.0 -1.7**
224A	**Cornudas Mount** baz=23	**23.17**	**315**	⇑P	**P**	**21 26 51.9 -1.0**
Y26A	**Elida** baz=23	**23.29**	**321**	⇓P	**P**	**21 26 52.1 -1.9**
X27A	**F and S Farms,** baz=23	**23.37**	**324**	⇑P	**P**	**21 26 53.6 -1.2**
Z25A	**Roswell** baz=23	**23.40**	**319**	⇓P	**P**	**21 26 53.6 -1.5**
124A	**Stringfield Ra** baz=24	**23.51**	**317**	⇓P	**P**	**21 26 55.8 -0.6**
U30A	**WK&E Inc. Balk** baz=24	**23.54**	**330**	⇑P	**P**	**21 26 56.1 -0.3**
T31A	**Randall Ranch,** baz=24	**23.56**	**333**	⇓P	**P**	**21 26 56.7 +0.2**
W27A	**Bowe Ranch, En** baz=24	**23.65**	**324**	⇑P	**P**	**21 26 56.0 -1.6**
X26A	**CR and CF Fran** baz=24	**23.71**	**322**	⇓P	**P**	**21 26 57.0 -1.3**
U29A	**Oasis Ranch, S** baz=24	**23.77**	**329**	⇓P	**P**	**21 26 58.4 -0.2**
Y25A	**Mesa, Roswell** baz=24	**23.81**	**320**	⇓P	**P**	**21 26 58.2 -0.9**
Z24A	**Sheeppen Canyo** baz=24	**23.85**	**318**	⇓P	**P**	**21 26 58.8 -0.8**
T30A	**Plains** baz=24	**23.90**	**331**	⇓P	**P**	**21 26 60.0 +0.1**
S31A	**Mullinville** baz=24	**23.92**	**334**	⇑P	**P**	**21 27 00.6 +0.6**
W26A	**Owens Ranch, T** baz=24	**24.07**	**323**	⇑P	**P**	**21 27 01.1 -0.4**
Y24A	**Capitan** baz=24	**24.28**	**319**	⇑P	**P**	**21 27 03.9 +0.4**
T29A	**Hugoton** baz=24	**24.35**	**330**	⇑P	**P**	**21 27 04.3 +0.3**
U27A	**Thompson Grove** baz=25	**24.54**	**327**	⇓P	**P**	**21 27 05.7 -0.1**
W25A	**X Bar L Ranch,** baz=25	**24.56**	**323**	⇓P	**P**	**21 27 05.0 -1.1**
V26A	**Tequesquite Ra** baz=25	**24.59**	**325**	⇑P	**P**	**21 27 06.7 +0.4**
Y23A	**Lovelace Mesa,** baz=25	**24.68**	**318**	⇑P	**P**	**21 27 06.4 -0.8**
R30A	**Dighton** baz=25	**24.81**	**333**	⇑P	**P**	**21 27 09.8 +1.6**
Z22A	**Elephant Butte** baz=25	**24.85**	**316**	⇑P	**P**	**21 27 08.6 -0.2**
T27A	**Campo** baz=25	**24.97**	**328**	⇑P	**P**	**21 27 09.9 +0.1**
121A	**Cookes Peak, D** baz=25	**24.99**	**313**	⇓P	**P**	**21 27 10.5 +0.5**
U26A	**Atchley Ranch,** baz=25	**25.01**	**326**	⇓P	**P**	**21 27 10.4 +0.3**
V25A	**Rancho No Teng** baz=25	**25.09**	**323**	⇑P	**P**	**21 27 10.7 -0.2**
W24A	**Lazy 6 Ranch,** baz=25	**25.12**	**321**	⇓P	**P**	**21 27 10.6 -0.5**
220A	**Playas Peak, P** baz=25	**25.17**	**311**	⇓P	**P**	**21 27 12.5 +0.9**
X23A	**Hourglass Bar** baz=25	**25.18**	**319**	⇑P	**P**	**21 27 11.3 -0.4**
Y22A	**Socorro** baz=25	**25.27**	**317**	⇓P	**P**	**21 27 12.8 +0.3**
Z21A	**St. Cloud Mine** baz=25	**25.36**	**315**	⇑P	**P**	**21 27 14.4 +1.0**
Q30A	**Quinter** baz=25	**25.37**	**334**	⇓P	**P**	**21 27 15.5 +2.2**
U25A	**Circle Dot Ran** baz=25	**25.38**	**325**	⇑P	**P**	**21 27 13.7 +0.2**
V24A	**Rampart Ranch,** baz=25	**25.39**	**322**	⇑P	**P**	**21 27 13.5 -0.2**
319A	**Douglas** baz=25	**25.45**	**310**	⇓P	**P**	**21 27 16.3 +2.2**
P31A	**Stockton** baz=26	**25.50**	**336**	⇓P	**P**	**21 27 15.7 +1.3**
W23A	**Werner Place,** baz=26	**25.53**	**320**	⇑P	**P**	**21 27 15.1 +0.1**
R28A	**Tribune** baz=26	**25.54**	**331**	⇑P	**P**	**21 27 15.2 +0.4**
ANMO	**Albuquerque**	**25.58**	**320**	*eP*	**P**	**21 27 15.4 0.0**
ANMO	**Albuquerque** comp=Z,3.7nm,1.0s,baz=136,slow=8.9,SNR=5.7	**25.58**	**320**	P	**P**	**21 27 14.9 -0.4**
120A	**U Bar Ranch, L** baz=26	**25.59**	**313**	⇓P	**P**	**21 27 16.8 +1.4**
Q29A	**Oakley** baz=26	**25.62**	**333**	⇓P	**P**	**21 27 17.4 +1.9**
X22A	**Bernardo** baz=26	**25.65**	**318**	⇑P	**P**	**21 27 16.1 +0.1**
Y21A	**Point of Rocks** baz=26	**25.78**	**316**	⇑P	**P**	**21 27 18.5 +1.3**
S26A	**Kim** baz=26	**25.79**	**328**	⇑P	**P**	**21 27 17.8 +0.6**
T25A	**Trinidad** baz=26	**25.92**	**326**	⇑P	**P**	**21 27 19.3 +0.9**
Y20A	**Horse Springs,** baz=26	**26.19**	**315**	⇓P	**P**	**21 27 23.0 +2.1**
R26A	**Arlington** baz=26	**26.30**	**329**	⇑P	**P**	**21 27 22.8 +1.0**
S25A	**Robets Cordova** baz=26	**26.32**	**327**	⇑P	**P**	**21 27 22.4 +0.4**
R25A	**Fountain Ranch** baz=27	**26.60**	**327**	⇑P	**P**	**21 27 25.7 +1.2**
S24A	**Houchin Ranch,** baz=27	**26.72**	**325**	⇑P	**P**	**21 27 26.4 +0.7**
U22A	**Llaves** baz=27	**26.77**	**321**	⇑P	**P**	**21 27 26.9 +0.7**
SDCO	**Great Sand Dun** comp=Z,3.7nm,1.0s	**26.95**	**325**	*eP*	**P**	**21 27 28.4 +0.6**
R24A	**Sanders Place,** baz=27	**27.09**	**327**	⇓P	**P**	**21 27 29.8 +0.7**
S22A	**4UR Ranch, Cre** baz=28	**27.69**	**324**	⇑P	**P**	**21 27 34.7 +0.2**
R22A	**Saguache, Gunn** baz=28	**27.99**	**324**	⇑P	**P**	**21 27 37.7 +0.5**
S21A	**Coal Bank Pass** baz=28	**28.19**	**322**	⇓P	**P**	**21 27 39.1 +0.2**
P23A	**Jefferson** baz=28	**28.32**	**327**	⇓P	**P**	**21 27 41.6 +1.4**
ISCO	**Idaho Springs** baz=29	**28.53**	**328**	⇓P	**P**	**21 27 43.1 +1.1**
SADO	**Sadowa**	**28.81**	**11**	P	**P**	**21 27 44.9 +0.8**
SADO	**Sadowa** comp=Z,4.2nm,0.9s,baz=256,slow=6.9,SNR=4.5	**28.81**	**11**	P	**P**	**21 27 44.9 +0.8**
P22A	**Eagle** baz=29	**28.97**	**326**	⇑P	**P**	**21 27 46.9 +1.1**
O22A	**Kremmling** baz=29	**29.27**	**328**	⇑P	**P**	**21 27 49.4 +0.8**
N23A	**Red Feather La** baz=30	**29.52**	**329**	⇑P	**P**	**21 27 52.3 +1.6**
P20A	**De Beque** baz=30	**29.79**	**324**	⇑P	**P**	**21 27 54.1 +1.1**
O21A	**Pagoda** baz=30	**29.80**	**327**	⇑P	**P**	**21 27 54.0 +0.9**
U15A	**North Rim** baz=30	**30.26**	**316**	⇑P	**P**	**21 27 57.7 +0.4**
N20A	**Spence Gulch,** baz=31	**30.66**	**327**	⇑P	**P**	**21 28 01.2 +0.5**
M21A	**Separation Pea** baz=31	**30.76**	**329**	⇑P	**P**	**21 28 02.3 +0.6**
L21A	**Rawlins** baz=31	**31.03**	**329**	⇑P	**P**	**21 28 04.7 +0.7**
L20A	**Wamsutter** baz=32	**31.55**	**328**	⇓P	**P**	**21 28 09.0 +0.4**
GMRC	**Granite Mounta** baz=32	**31.77**	**310**	⇑P	**P**	**21 28 10.8 +0.2**
J21A	**Lysite** baz=32	**32.11**	**331**	⇑P	**P**	**21 28 14.7 +1.2**
HEC	**Hector,Ludlow** baz=32	**32.29**	**310**	⇓P	**P**	**21 28 14.3 -0.7**
J20A	**Shoshoni** baz=32	**32.42**	**330**	⇑P	**P**	**21 28 16.9 +0.8**
PDAR	**Pinedale Array**	**32.72**	**328**	P	**P**	**21 28 17.2 -1.6**
PDAR	**Pinedale Array** comp=Z,1.6nm,0.9s,baz=141,slow=9.6,SNR=9.3	**32.72**	**328**	P	**P**	**21 28 17.2 -1.6**
DUG	**Dugway** baz=33	**32.81**	**321**	⇑P	**P**	**21 28 19.8 +0.2**
REDW	**Red Top Meadow** comp=Z,23nm,1.1s	**33.81**	**327**	*eP*	**P**	**21 28 28.0 -0.4**
TPAW	**Teton Pass** comp=Z,17nm,1.3s	**33.95**	**327**	*eP*	**P**	**21 28 29.6 0.0**
E20A	**Meyer Farm, Mu** baz=35	**34.87**	**334**	⇑P	**P**	**21 28 39.3 +2.0**
PKM	**Peak Mountain** baz=35	**34.92**	**308**	⇑P	**P**	**21 28 38.6 +0.6**
E19A	**Rath Farm, Rou** baz=35	**35.12**	**333**	⇑P	**P**	**21 28 40.8 +1.3**
NVAR	**Mina Array Bea**	**35.38**	**314**	P	**P**	**21 28 41.9 -0.1**
NVAR	**Mina Array Bea** comp=Z,1.6nm,1.0s,baz=120,slow=8.2,SNR=8.0	**35.38**	**314**	P	**P**	**21 28 41.9 -0.1**
NVAR	comp=Z,65nm,18.2s,baz=141,slow=41			LR	LR	21 45 43.0
I14A	**Mackay** baz=36	**35.57**	**326**	⇓P	**P**	**21 28 44.4 +0.9**
A23A	**Redstone** baz=36	**35.63**	**339**	⇑P	**P**	**21 28 45.4 +1.6**
HLID	**Hailey** baz=36	**35.86**	**324**	⇑P	**P**	**21 28 46.7 +0.7**
MCMT	**McKenzie Canyo** comp=Z,4.2nm,1.2s	**35.86**	**327**	*eP*	**P**	**21 28 47.2 +1.1**
I12A	**Atlanta** baz=36	**36.41**	**324**	⇓P	**P**	**21 28 50.9 +0.1**
MFID	**Camas Ranch** baz=37	**36.57**	**323**	⇑P	**P**	**21 28 52.8 +0.8**
H12A	**Diamond D Ranc** baz=37	**36.74**	**325**	⇓P	**P**	**21 28 54.2 +0.7**
LPAZ	**La Paz** comp=Z,72nm,21.3s,baz=28,slow=35	**37.32**	**150**	LR	LR	21 43 34.5
C15A	**Salmond Ranch,** baz=38	**37.83**	**331**	⇓P	**P**	**21 29 02.8 +0.1**
BMO	**Blue Mountains** comp=Z,1.5nm,0.8s	**38.29**	**324**	*eP*	**P**	**21 29 05.6 -1.0**
E12A	**Beaver Dam Sad** baz=38	**38.34**	**327**	⇓P	**P**	**21 29 07.0 -0.1**
A14A	**Double T Ranch** baz=39	**39.07**	**332**	⇓P	**P**	**21 29 12.7 -0.4**
LON	**Longmire** comp=Z,10nm,1.0s	**41.96**	**324**	*eP*	**P**	**21 29 35.7 -1.2**
BDFB	**Brasilia** comp=Z,102nm,19.5s,baz=73,slow=37	**49.65**	**128**	LR	LR	21 52 13.7
YKA	**Yellowknife Ar**	**49.95**	**343**	P	**P**	**21 30 39.3 -0.2**
YKA	**Yellowknife Ar** comp=Z,1.1nm,0.6s,baz=139,slow=7.7,SNR=11	**49.95**	**343**	P	**P**	**21 30 39.3 -0.2**
PLCA	**Paso Flores**	**58.88**	**166**	P	**P**	**21 31 43.3 -1.5**
PLCA	**Paso Flores** comp=Z,2.3nm,0.9s,baz=0.6,slow=11,SNR=4.0	**58.88**	**166**	P	**P**	**21 31 43.3 -1.5**
ILAR	**Eielson Array**	**62.69**	**335**	P	**P**	**21 32 10.2 -0.2**
ILAR	**Eielson Array** comp=Z,1.8nm,0.8s,baz=109,slow=5.2,SNR=14	**62.69**	**335**	P	**P**	**21 32 10.2 -0.2**
ILAR	comp=Z,39nm,18.4s,baz=259,slow=42			LR	LR	22 05 16.2
BBTS	**Babate** comp=Z,57nm,18.9s,baz=187,slow=30	**67.09**	**81**	LR	LR	21 55 33.5
PPT	**Papeete** comp=Z,163nm,21.0s,baz=43,slow=30	**70.77**	**244**	LR	LR	21 56 44.4
ESDC	**Sonseca Array**	**73.97**	**53**	P	**P**	**21 33 23.1 +1.5**
ESDC	**Sonseca Array** comp=Z,0.8nm,0.7s,baz=284,slow=5.5,SNR=6.7	**73.97**	**53**	P	**P**	**21 33 23.1 +1.5**
MDT	**Midelt** comp=Z,56nm,19.7s,baz=339,slow=30	**74.53**	**60**	LR	LR	21 59 05.6
NOA	**NORSAR Array B**	**79.36**	**29**	P	**P**	**21 33 52.5 +0.8**
NOA	**NORSAR Array B** comp=Z,2.2nm,1.0s,baz=264,slow=5.5,SNR=2.7	**79.36**	**29**	P	**P**	**21 33 52.5 +0.8**
DBIC	**Dimbokro** comp=Z,37nm,20.3s,baz=298,slow=30	**80.15**	**96**	LR	LR	22 02 32.9
ARCES	**ARCESS Array B**	**82.04**	**19**	P	**P**	**21 34 06.4 +0.7**
ARCES	**ARCESS Array B** comp=Z,6.9nm,1.0s,baz=308,slow=6.0,SNR=4.8	**82.04**	**19**	P	**P**	**21 34 06.4 +0.7**
GERES	**GERESS Array B** comp=Z,30nm,21.1s,baz=281,slow=31	**84.25**	**41**	LR	LR	22 05 46.4
TORD	**Torodi Ar. Bea**	**84.64**	**78**	P	**P**	**21 34 20.9 +0.7**
TORD	**Torodi Ar. Bea** comp=Z,1.0nm,1.1s,baz=267,slow=5.2,SNR=3.4	**84.64**	**78**	P	**P**	**21 34 20.9 +0.7**
TORD	comp=Z,42nm,20.9s,baz=270,slow=31			LR	LR	22 05 51.9
FINES	**FINESS Array B**	**85.91**	**26**	P	**P**	**21 34 26.5 +0.9**
FINES	**FINESS Array B** comp=Z,4.2nm,1.0s,baz=264,slow=8.6,SNR=4.2	**85.91**	**26**	P	**P**	**21 34 26.5 +0.9**
FINES	comp=Z,24nm,19.9s,baz=5.8,slow=36			LR	LR	22 12 57.6
ASAR	**Alice Springs**	**141.50**	**253**	PKP	**PKPdf**	**21 41 17.0 -0.8**
ASAR	**Alice Springs** comp=Z,0.6nm,0.8s,baz=96,slow=2.5,SNR=5.1	**141.50**	**253**	PKP	**PKPdf**	**21 41 17.0 -0.8**
CMAR	**Chiang Mai Arr**	**144.81**	**351**	PKP	**PKPab**	**21 41 22.3 -0.2**
CMAR	**Chiang Mai Arr** comp=Z,1.9nm,0.7s,baz=340,slow=3.6,SNR=11	**144.81**	**351**	PKP	**PKPab**	**21 41 22.3 -0.2**

NIED ***20*** *22:12:00,35˚.70N×140˚.10E,h32km,Mw3.6 Best double couple: M₀2.63000×10¹⁴ NP1:ϕ=256.00000°, δ52.00000°, λ-56.00000°. NP2:ϕ=28.00000°, δ50.00000°, λ-126.00000°.*

ISCJB ***20*** *22:12:42.2±0.9,35˚.57N±0˚.05×140˚.30E±0˚.09,h35km, mb3.5/4,Error ellipse: s-maj=10.1km s-min=7.1km az=177.7*

IDC ***20*** *22:12:42.5±1.2,35˚.05N×139˚.25E,h0km,mb3.5/4, mb1 3.8/4,mb1mx3.5/24,mbtmp3.5/4,MS2.5/1,Ms1 2.5/1, ms1mx2.1/29,Error ellipse: s-maj=41.5km s-min=18.6km az=75.0*

JMA ***20*** *22:12:45.0±0.1,35˚.70N×140˚.06E,h37km±1km,M3.3 Broadband fault plane solution: P waves. NP1: ϕ=283.00000°,δ69.00000°,λ-36.00000°. NP2:ϕ=28.00000°, δ56.00000°,λ-155.00000°. Principal axes: T Plg8.0000°, Azm338.0000°; N Plg49.0000°, Azm77.0000°; P Plg40.0000°, Azm241.0000°;*

JMA Felt II J1.

ISC 20 22:12:44.5±1.2,35˚.63N±0˚.05×140˚.12E±0˚.07,h35km,n17, σ1ŝ15/19,mb3.6/3,5C-1D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.22**	**161**	⇑P	**Pn**	**22 12 53.5**	**+2.0**
TOK	**Tokyo**	**0.30**	**282**	⇑P	**Pn**	**22 12 52.8**	**+0.4**
JYT	**Yasato**	**0.60**	**6**	⇑P	**Pn**	**22 12 55.8**	**-0.8**
JHU	**Hanno**	**0.71**	**289**	⇑P	**Pn**	**22 12 57.9**	**-0.3**
JOD2	**Odawara 2**	**0.91**	**247**	P	**Pn**	**22 13 00.4**	**-0.5**
JOD2				*e*S	**Sn**	**22 13 12.6**	**-0.3**
JAG	**Ashikaga**	**0.96**	**326**	⇑P	**Pn**	**22 13 01.0**	**-0.6**
JRY	**Ryogami san**	**1.06**	**292**	P	**Pn**	**22 13 03.0**	**+0.1**
JIM2	**Oshima 3**	**1.07**	**212**	P	**Pn**	**22 13 02.9**	**-0.1**
JIM2				S	**Sn**	**22 13 16.8**	**+0.2**
JYN	**Shimob**	**1.29**	**265**	⇓P	**Pn**	**22 13 05.8**	**-0.3**
JKT	**Katashina**	**1.34**	**329**	P	**Pn**	**22 13 07.0**	**+0.2**
MJAR	**Matsushiro Arr** 15nm,0.3s,baz=138,slow=13,SNR=67	**1.79**	**301**	Pn	**Pn**	**22 13 14.2**	**+1.2**
MJAR	13nm,0.3s,baz=132,slow=24,SNR=11			Sn	**Sn**	**22 13 37.2**	**+2.6**
MAT	**Matsushiro**	**1.80**	**301**	P	**Pn**	**22 13 13.4**	**+0.3**
MAT				S	**Sn**	**22 13 36.8**	**+2.2**
KSRS	**Korea Array** comp=Z,34nm,21.2s,baz=171,slow=38	**9.98**	**284**	LR	LR	22 18 46.6	
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=96,slow=9.4,SNR=3.4	**43.99**	**303**	P	**P**	**22 20 48.5**	**0.0**
ILAR	**Eielson Array** 0.6nm,0.8s,baz=270,slow=6.0,SNR=5.6	**51.24**	**32**	P	pP	22 21 53.7	-1.1
WRA	**Warramunga Arr** 0.7nm,0.6s,baz=3.7,slow=7.1,SNR=7.7	**55.53**	**187**	P	**P**	**22 22 14.8**	**-1.5**
ASAR	**Alice Springs** 0.4nm,0.8s,baz=14,slow=10,SNR=4.1	**59.26**	**187**	P	**P**	**22 22 41.7**	**-0.9**

IDC 20 21:42:09.1±2.1,16˚.68N×86˚.64W,h0km,mb3.5/5, mb1 4.0/6,mb1mx3.7/22,mbtmp3.6/6,ML4.2/1,MS3.0/1, Ms1 3.0/1,ms1mx2.5/32,Error ellipse: s-maj=61.5km s-min=24.9km az=49.0,North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEIG	**Tepich** 18nm,0.3s,baz=337,slow=2.0,SNR=76	**3.85**	**337**	Pn	Pn	21 43 10.6	+1.0
TEIG	30nm,0.3s,baz=260,slow=23,SNR=25			Sn	Sn	21 43 55.9	+0.3
TEIG	14nm,0.3s,baz=95,slow=22,SNR=7.7			Lg	Lg	21 44 11.8	
JTS	**JuntasAbangare** 1.4nm,0.3s,baz=233,slow=17,SNR=4.0	**6.56**	**165**	Lg	Lg	21 45 31.4	
ROSC	**El Rosal** comp=Z,61nm,21.4s,baz=13,slow=35	**5.85**	**133**	LR	LR	21 52 04.3	
TXAR	**Lajitas Array** 1.8nm,1.0s,baz=122,slow=9.3,SNR=7.9	**20.07**	**312**	P	Pn	21 46 45.8	-0.2
PDAR	**Pinedale Array** 0.7nm,0.9s,baz=138,slow=9.1,SNR=4.7	**32.53**	**328**	P	P	21 48 40.8	-1.3
YKA	**Yellowknife Ar** 0.4nm,0.7s,baz=137,slow=7.5,SNR=5.3	**49.78**	**343**	P	P	21 51 02.6	-0.6
ILAR	**Eielson Array** 0.7nm,0.9s,baz=120,slow=6.0,SNR=6.0	**62.51**	**335**	P	P	21 52 34.1	-0.1
ESDC	**Sonseca Array** 0.2nm,0.3s,baz=298,slow=5.0,SNR=4.7	**74.00**	**53**	P	P	21 53 47.3	+0.5

MAN 20 21:43:35,9˚.98N×121˚.91E,h20km,mb4.2,ML3.0,MS2.7, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.93**	**46**	*eP*	Pb	21 43 52.4	-0.1
GUIM				*e*S	Sn	21 44 06.6	+0.8
CUYO	**Cuyo Island**	**1.23**	**315**	*eP*	Pn	21 43 56.8	-0.3
CUYO				*e*S	Sn	21 44 14.4	+1.2
RCP	**Roxas**	**1.78**	**28**	*eP*	Pb	21 44 06.1	-0.8
SJMP	**San Jose**	**2.58**	**343**	*eP*	Pn	21 44 12.7	-3.0
MSLP	**Maasin**	**2.91**	**87**	*eP*	Pn	21 44 21.8	+1.5

IDC ***20*** *21:58:13.6±1.7,6˚.00S×130˚.73E,h0km,mb4.1/2, mb1 4.4/5,mb1mx3.8/19,mbtmp4.2/5,ML4.1/2,Error ellipse: s-maj=89.3km s-min=23.5km az=72.0*

ISCJB ***20*** *21:58:25.0±0.6,6˚.40S±0˚.03×130˚.6E±0˚.1,h90km,mb3.8/2, Error ellipse: s-maj=15.5km s-min=5.0km az=1.3*

AUST ***20*** *21:58:25.1±0.0,6˚.42S×130˚.24E,h64km,Error ellipse: s-maj=2.0km s-min=0.7km az=278.0*

DJA ***20*** *21:58:28.3±0.6,6˚S±5˚×13˚1E±1˚0,h55km±50km,M4.5/5, mb4.9/3,mB5.5/3,MLv4.3/5,Mw(mB)4.9/3*

ISC 20 21:58:25.2±0.8,6˚48S±0˚.05×130˚.59E±0˚.08,h90km,n19, σ2ŝ18/23,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.06**	**341**	P	**Pn**	**21 58 58.0**	**-0.2**
BNDI	**Bandanaira** baz=1.9,SNR=3.5	**2.06**	**341**	P	**Pn**	**21 59 00.7**	**+2.5**
MSAI	**Masohi**	**3.52**	**332**	P	**Pn**	**21 59 18.9**	**+1.1**
FAKI	**Fak Fak**	**3.90**	**25**	P	**Pn**	**21 59 24.6**	**+1.6**
FAKI				S	**Sn**	**22 00 06.2**	**-1.5**
FAKI	**Fak Fak** baz=4.0,SNR=45	**3.90**	**25**	P	**Pn**	**21 59 24.6**	**+1.6**
FAKI	baz=4.0,SNR=18			S	**Sn**	**22 00 07.4**	**-0.3**
SWI	**Sorong** 29nm,0.3s,4µm0.6nm	**5.62**	**7**	P	**Pn**	**21 59 46.2**	**-0.1**
SWI	**Sorong** baz=5.7,SNR=10.0	**5.62**	**7**	P	**Pn**	**21 59 46.2**	**-0.1**
SWI	baz=5.7,SNR=6.9			S	Sn	22 00 42.1	-7.4
RKPI	**Ransiki, Papua** 82nm,0.6s,4µm1.0nm	**6.09**	**36**	P	**Pn**	**21 59 52.7**	**-0.1**
MTN	**Manton Dam** baz=6.5,SNR=60	**6.35**	**175**	P	Pn	22 00 00.4	+4.1
KDU	**Kakadu** baz=6.6,SNR=234	**6.45**	**163**	P	Pn	22 00 01.9	+4.3
KDU	baz=6.6,SNR=5.9			S	**Sn**	**22 01 13.8**	**+4.0**
KNRA	**Kununurra** baz=9.4,SNR=127	**9.32**	**191**	P	**Pn**	**22 00 38.2**	**+1.5**
KNRA	baz=9.4,SNR=5.1			S	**Sn**	**22 02 17.2**	**-2.7**
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=31,slow=11,SNR=56	**12.53**	**202**	Pn	**Pn**	**22 01 18.2**	**-2.0**
FITZ	1.7nm,0.3s,baz=212,slow=22,SNR=6.5			Sn	Sn	22 03 31.7	-6.2
FITZ	**Fitzroy Crossi** baz=12,SNR=36	**12.53**	**202**	P	**Pn**	**22 01 19.4**	**-0.9**
WRA	**Warramunga Arr** baz=352,slow=13,SNR=0.3	**13.87**	**165**	Pn	**Pn**	**22 01 38.5**	**+0.5**
WRA	1.3nm,0.3s,baz=358,slow=23,SNR=5.6			Sn	**Sn**	**22 04 07.1**	**-3.6**
COEN	**Coen** baz=15,SNR=4.4	**14.44**	**122**	P	**P**	**22 01 51.5**	**+1.9**
COEN	baz=15,SNR=6.8			S	**Sn**	**22 04 21.1**	**-3.4**
ASAR	**Alice Springs** 1.1nm,0.3s,baz=351,slow=10,SNR=46	**17.39**	**170**	P	**Pn**	**22 02 25.2**	**+3.0**
ASAR	0.3nm,0.3s,baz=357,slow=27,SNR=4.6			S	**Sn**	**22 05 33.2**	**-2.5**
STKA	**Stephens Creek** 2.3nm,1.0s,baz=333,slow=9.0,SNR=3.8	**27.29**	**159**	P	**P**	**22 04 02.8**	**+1.4**
LHI	**Lord Howe Isla** baz=37,SNR=3.9	**36.46**	**137**	P	P	22 05 29.6	+7.9
MKAR	**Makanchi Array** 0.9nm,0.4s,baz=114,slow=8.0,SNR=18	**68.11**	**326**	P	**P**	**22 09 13.6**	**-2.0**

GUC 20 22:27:04.4±0.6,32˚.65S×71˚.71W,h1km±3km,MD3.6, ML2.3,2C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.67**	**119**	⇓*i*P	Pb	22 27 18.6	-0.7
ROCH				*i* S	Sb	22 27 28.7	-0.6
ROCH	comp=E,155nm,0.3s			AML	AML	22 27 29.6	
PEL	**Peldehue**	**0.99**	**120**	⇑*i*P	Pg	22 27 23.8	+0.2
PEL				*i* S	Sb	22 27 38.2	0.0
PEL	comp=E,259nm,0.2s			AML	AML	22 27 40.7	
CHCH	**Chadas Angostu**	**1.56**	**146**	*i* S	Sn	22 27 53.9	-0.4
CACH	**El Canelo**	**1.73**	**148**	*eP*	Pn	22 27 35.1	-0.8
CACH				*i* S	Sb	22 27 59.7	0.0
LMEL	**Las Melosas**	**1.74**	**134**	⇑*i*P	Pn	22 27 35.5	-0.5
LMEL				*i* S	Sb	22 27 59.6	-0.3
LMEL	comp=N,66nm,0.2s			AML	AML	22 28 02.4	

AZER ***20*** *22:34:59.6,43˚.78N×47˚.83E,h16km*

MOS ***20*** *22:35:04.8±1.1,43˚.54N×47˚.91E,h17km,mb4.1/1,Error ellipse: s-maj=6.7km s-min=4.5km az=61.9*

MOS Felt (II) at Kaspijsk.

ISCJB ***20*** *22:35:07.3±0.3,43˚.47N±0˚.02×47˚.85E±0˚.03,h48km±5km, mb3.9/18,MS2.6/2,Error ellipse: s-maj=4.1km s-min=3.6km az=20.5*

NNC ***20*** *22:35:08.0±5.5,43˚.30N×48˚.55E,h0km,mb4.3,Error ellipse: s-maj=67.7km s-min=35.9km az=80.0*

IDC ***20*** *22:35:09.9±0.8,43˚.34N×47˚.71E,h64km±7km,mb3.8/15, mb1 3.8/20,mb1mx3.7/32,mbtmp3.8/20,MS2.8/2, Ms1 2.8/2,ms1mx2.2/47,Error ellipse: s-maj=14.6km s-min=8.8km az=137.0*

CSEM ***20*** *22:35:09.6±0.1,43˚.35N×47˚.74E,h63km,mb3.9/4,Error ellipse: s-maj=3.6km s-min=3.2km az=94.0*

NEIC ***20*** *22:35:09.6±0.4,43˚.40N×47˚.78E,h60km±5km,mb3.9/4, Error ellipse: s-maj=6.5km s-min=5.2km az=135.0*

NEIC Felt [II] at Kaspiyskiy.

**ISC 20 22:35:09.1±0.4,43˚.42N±0˚.03×47˚.81E±0˚.03,h60km±4km, n241,σ1ŝ54/298,mb3.9/17

MAK eSg Sn 22 35 28.2 -1.6
BUJR Buynaksk 0.78 221 PG Pn 22 35 30.0 +5.6
BUJR S Sn **22 35 41.0 +5.4**
DBC Dubki 0.82 241 ⇑*i*PG Pn **22 35 23.8 -1.0**
DBC *i* S Sn **22 35 34.4 -2.0**
DBC Dubki 0.82 241 *i* Pg Pn **22 35 23.8 -1.0**
DBC *i* Sg Sn **22 35 34.4 -2.0**
KRNR Karanay 0.89 228 *i* PG Pn **22 35 24.0 -1.7**
KRNR *i* S Sn **22 35 35.0 -3.0**
KRNR pmax pmax
comp=Z,1μm,0.1s
KRNR Karanay 0.89 228 *i* Pg Pn **22 35 24.0 -1.7**
comp=Z,1μm,0.1s
KRNR *i* Sg Sn **22 35 35.0 -3.0**
DLMR Dylym 0.93 248 ⇓*i*PG Pn **22 35 26.0 -0.2**
DLMR *i* S Sn **22 35 38.5 -0.3**
DLMR pmax pmax
comp=Z,3μm,0.2s
DLMR Dylym 0.93 248 *i* Pg Pn **22 35 26.0 -0.2**
comp=Z,3μm,0.2s
DLMR *i* Sg Sn **22 35 38.5 -0.3**
SGKR Sergokala 0.96 186 ⇓*i*PG Pn **22 35 26.0 -0.7**
SGKR *i* S Sn **22 35 38.0 -1.7**
SGKR pmax pmax
comp=Z,1μm,0.2s
SGKR Sergokala 0.96 186 *i* Pg Pn **22 35 26.0 -0.7**
comp=Z,1μm,0.2s
SGKR *i* Sg Sn **22 35 38.0 -1.7**
ARKR Arakani 1.01 216 ⇓*i*PG Pn **22 35 25.5 -1.8**
ARKR pmax pmax
comp=Z,791nm,0.3s
ARKR Arakani 1.01 216 *i* Pg Pn **22 35 25.5 -1.8**
comp=Z,791nm,0.3s
UNCR Uncukul 1.02 227 *e*PG Pn **22 35 26.0 -1.4**
UNCR *e*S Sn **22 35 39.5 -1.5**
UNCR pmax pmax
comp=Z,836nm,0.3s
UNCR Uncukul 1.02 227 *e*Pg Pn **22 35 26.0 -1.4**
comp=Z,836nm,0.3s
UNCR *e*Sg Sn **22 35 39.5 -1.5**
XNZR Khunzakh 1.19 223 PG Pn **22 35 30.0 +0.2**
XNZR Khunzakh 1.19 223 Pg Pn **22 35 30.0 +0.2**
URKR Urkarakh 1.26 186 *i* PG Pn **22 35 29.5 -1.2**
URKR Urkarakh 1.26 186 *i* Pg Pn **22 35 29.5 -1.2**
KMKR Kumukh 1.39 202 ⇓*i*PG Pn **22 35 31.5 -1.0**
KMKR pmax pmax
comp=Z,523nm,0.2s
KMKR Kumukh 1.39 202 *i* Pg Pn **22 35 31.5 -1.0**
comp=Z,523nm,0.2s
DRN Derbent 1.44 164 *i* PG Pn **22 35 32.0 -0.9**
DRN pmax pmax
comp=Z,523nm,0.2s
DRN Derbent 1.44 164 *i* Pg Pn **22 35 32.0 -0.9**
comp=Z,523nm,0.2s
KSMR Kasumkent 1.83 172 PN Pn **22 35 38.0 -0.3**
KSMR Kasumkent 1.83 172 Pn Pn **22 35 38.0 -0.3**
AKT Akhty 1.94 182 *e*PN Pn **22 35 39.0 -0.8**
AKT Akhty 1.94 182 *e*Pn Pn **22 35 39.0 -0.8**
QUB Quba 2.08 168 P Pn **22 35 42.0 +0.3**
QUB S Sn **22 36 06.4 -0.1**
QUBA Quba, Azerbaij 2.12 166 ⇑P Pn **22 35 42.1 -0.2**
SNR=29
QUBA ⇑S Sn **22 36 06.4 -1.1**
QUBA Quba, Azerbaij 2.12 166 ⇑Pn Pn **22 35 42.1 -0.2**
SNR=29
QUBA ⇑Sn Sn **22 36 06.4 -1.1**
QUBA Quba, Azerbaij 2.12 166 P Pn **22 35 42.1 -0.2**
SNR=29
QUBA S Sn **22 36 06.4 -1.1**
SEKA Sheki 2.25 192 ⇑P Pn **22 35 44.8 +0.8**
SNR=208
SEKA ⇓S Sn **22 36 12.4 +1.6**
SEKA Sheki 2.25 192 ⇑Pn Pn **22 35 44.8 +0.8**
SNR=208
SEKA ⇓Sn Sn **22 36 12.4 +1.6**
SEKA Sheki 2.25 192 P Pn **22 35 44.8 +0.8**
SEKA S Sn **22 36 12.3 +1.6**
SEKA Sheki 2.25 192 P Pn **22 35 44.8 +0.8**
SNR=208
SEKA S Sn **22 36 12.4 +1.6**
TRKR Terskaya 2.25 279 *i* PN Pn **22 35 45.0 +1.0**
TRKR Terskaya 2.25 279 *i* Pn Pn **22 35 45.0 +1.0**
SIZA Siyzn 2.48 161 ⇑P Pn **22 35 47.3 +0.1**
SNR=41
SIZA ⇑S Sn **22 36 16.3 0.0**
SIZA Siyzn 2.48 161 ⇑Pn Pn **22 35 47.3 +0.1**
SNR=41
SIZA ⇑Sn Sn **22 36 16.3 0.0**
SIZA Siyzn 2.48 161 P Pn **22 35 47.2 +0.1**
SIZA S Sn **22 36 16.3 0.0**
SIZA Siyzn 2.48 161 P Pn **22 35 47.2 +0.1**
SIZA S Sn **22 36 16.3 0.0**
IML Ismayilli 2.64 174 ⇑P Pn **22 35 49.5 +0.2**
SNR=19
IML ⇑S Sn **22 36 20.0 -0.2**
IML Ismayilli 2.64 174 ⇑Pn Pn **22 35 49.5 +0.2**
SNR=19
IML ⇑Sn Sn **22 36 20.0 -0.2**
IML Ismayilli 2.64 174 P Pn **22 35 49.5 +0.2**
SNR=19
IML S Sn **22 36 20.0 -0.2**
DUS Dusheti 2.64 241 P Pn 22 35 52.6 +3.2
DUS Dusheti 2.64 241 P Pn 22 35 52.6 +3.2
DGRG David-gareji 2.67 223 *e*PN Pn **22 35 50.5 +0.9**
DGRG S Sn **22 36 22.9 +2.1**
DGRG David-gareji 2.67 223 P Pn **22 35 50.5 +0.9**
DGRG S Sn **22 36 22.9 +2.1**
DGRG David-gareji 2.67 223 P Pn **22 35 50.5 +0.9**
DGRG S Sn **22 36 22.9 +2.1**
PQL Pirkuli 2.69 167 ⇑P Pn **22 35 50.7 +0.5**
SNR=14
PQL ⇑S Sn **22 36 22.0 +0.3**
PQL Pirkuli 2.69 167 ⇑Pn Pn **22 35 50.7 +0.5**
SNR=14
PQL ⇑Sn Sn **22 36 22.0 +0.3**
PQL Pirkuli 2.69 167 P Pn **22 35 50.6 +0.5**
PQL S Sn **22 36 21.9 +0.3**
PQL Pirkuli 2.69 167 P Pn **22 35 50.6 +0.5**
PQL S Sn **22 36 21.9 +0.3**
KORR Kora 2.75 264 *i* PN Pn **22 35 50.7 -0.1**
KORR Kora 2.75 264 *i* Pn Pn **22 35 50.7 -0.1**
SEAG Tbilisi Sea 2.77 234 P Pn **22 35 51.8 +0.8**
SEAG S Sn **22 36 23.5 +0.3**
TBLG Delisi 2.82 234 *e*PN Pn **22 35 52.3 +0.5**
TBLG Delisi 2.82 234 P Pn **22 35 52.3 +0.5**
TBLG S Sn **22 36 24.8 +0.2**
TBLG Delisi 2.82 234 P Pn **22 35 52.3 +0.5**
TBLG S Sn **22 36 24.8 +0.2**
ZEI Tsey 2.93 259 *e*PN Pn 22 36 01.2 +7.7
ZEI pmax pmax
comp=Z,72nm,0.2s
GANJ Ganja 2.98 202 ⇑P Pn **22 35 53.2 -0.8**
SNR=116
GANJ ⇑S Sn **22 36 26.0 -2.5**
GANJ Ganja 2.98 202 ⇑Pn Pn **22 35 53.2 -0.8**
SNR=116
GANJ ⇑Sn Sn **22 36 26.0 -2.5**
GANJ Ganja 2.98 202 P Pn **22 35 53.2 -0.8**
SNR=116
GANJ S Sn **22 36 26.0 -2.5**
NCK Nalchik 3.07 273 *e*PN Pn **22 35 54.5 -0.6**
NCK Nalchik 3.07 273 *e*Pn Pn **22 35 54.5 -0.6**
DIGR Digorskoe uzhe 3.13 262 *i* PN Pn **22 35 54.7 -1.5**
DIGR Digorskoe uzhe 3.13 262 *i* Pn Pn **22 35 54.7 -1.5**
BRDA Brd 3.19 189 ⇓P Pn **22 35 57.4 +0.7**
SNR=8.0
BRDA Brd 3.19 189 ⇓Pn Pn **22 35 57.4 +0.7**
SNR=8.0
BRDA Brd 3.19 189 P Pn **22 35 57.4 +0.7**
BRDA Brd 3.19 189 P Pn **22 35 57.4 +0.7**
SNR=8.0
KZR Kazreti 3.23 232 P Pn **22 35 56.9 -0.5**
KZR S Sn **22 36 32.2 -2.5**
KZR Kazreti 3.23 232 P Pn **22 35 56.9 -0.5**
KZR S Sn **22 36 32.2 -2.5**
NDR Nardaran 3.27 149 ⇑P Pn **22 35 59.0 +1.1**
NDR Nardaran 3.27 149 ⇑Pn Pn **22 35 59.0 +1.1**
NDR Nardaran 3.27 149 P Pn **22 35 58.9 +1.1**
NDR Nardaran 3.27 149 P Pn **22 35 58.9 +1.1**
GOBA Gobu 3.34 154 ⇑P Pn **22 36 00.0 +1.2**
GOBA Gobu 3.34 154 ⇑Pn Pn **22 36 00.0 +1.2**
GOBA Gobu 3.34 154 P Pn **22 36 00.0 +1.2**
GOBA Gobu 3.34 154 P Pn **22 36 00.0 +1.2**

ALIB &Aumℓi-Bayra 3.57 165 ⇑P Pn **22 36 03.4 +1.4**
SNR=6.1
ALIB ⇑S Sn **22 36 43.1 +0.2**
ALIB &Aumℓi-Bayra 3.57 165 ⇑Pn Pn **22 36 03.4 +1.4**
SNR=6.1
ALIB ⇑Sn Sn **22 36 43.1 +0.2**
ALIB &Aumℓi-Bayra 3.57 165 P Pn **22 36 03.4 +1.4**
ALIB S Sn **22 36 43.1 +0.2**
ALIB &Aumℓi-Bayra 3.57 165 P Pn **22 36 03.4 +1.4**
SNR=6.1
ALIB S Sn **22 36 43.1 +0.2**
KBZ Khabaz 3.58 277 PN Pn **22 36 01.2 -0.9**
KBZ Khabaz 3.58 277 P Pn **22 36 01.2 -0.9**
KBZ S Sn **22 36 39.1 -4.0**
KBZ Khabaz 3.58 277 P Pn **22 36 01.2 -0.9**
comp=Z,3.6nm,0.3s,baz=109,slow=5.7,SNR=37
KBZ S Sn **22 36 39.1 -4.0**
comp=Z,36nm,0.3s,baz=235,slow=15,SNR=9.6
KBZ Khabaz 3.58 277 P Pn **22 36 01.2 -0.9**
KIV Kislovodsk 3.75 280 *i* PN Pn **22 36 04.2 -0.3**
KIV Kislovodsk 3.75 280 *i* Pn Pn **22 36 04.2 -0.3**
AKH Akhalkalaki 3.77 239 PN Pn 22 36 14.6 +10
AKH S Sn 22 37 02.9 +15
AKH Akhalkalaki 3.77 239 P Pn 22 36 14.6 +10
AKH S Sn 22 37 02.9 +15
GNI Garni 3.99 216 *e*Pn Pn **22 36 08.6 +0.7**
GNI *e*Sn Sn **22 36 53.7 +0.3**
GNI Garni 3.99 216 P Pn **22 36 07.1 -0.8**
comp=Z,5.4nm,0.3s,baz=319,slow=3.1,SNR=25
GNI S Sn **22 36 53.4 -0.1**
comp=Z,23nm,0.3s,baz=70,slow=23,SNR=12
GNI Garni 3.99 216 *i* Pn Pn **22 36 08.1 +0.2**
comp=Z,20nm,0.6s
GLBA Clilabad 4.20 174 ⇑P Pn **22 36 09.8 -0.8**
SNR=12
GLBA ⇑S Sn **22 36 55.4 -2.9**
GLBA Clilabad 4.20 174 ⇑Pn Pn **22 36 09.8 -0.8**
SNR=12
GLBA ⇑Sn Sn **22 36 55.4 -2.9**
GLBA Clilabad 4.20 174 P Pn **22 36 09.8 -0.8**
SNR=12
GLBA S Sn **22 36 55.4 -2.9**
NAX Nakhchivan 4.58 203 ⇓P Pn 22 36 20.4 +4.4
SNR=4.5
NAX Nakhchivan 4.58 203 ⇓Pn Pn 22 36 20.4 +4.4
SNR=4.5
NAX Nakhchivan 4.58 203 P Pn 22 36 20.3 +4.4
LKRN Lenkeran, Azer 4.76 171 ⇓P Pn **22 36 16.4 -1.9**
SNR=4.4
LKRN ⇑S Sn **22 37 08.0 -4.1**
LKRN Lenkeran, Azer 4.76 171 ⇓Pn Pn **22 36 16.4 -1.9**
SNR=4.4
LKRN ⇑Sn Sn **22 37 08.0 -4.1**
LKRN Lenkeran, Azer 4.76 171 P Pn **22 36 16.4 -1.9**
SNR=4.4
LKRN S Sn **22 37 08.0 -4.1**
ANN Anapa 7.59 284 *e*P Pn **22 36 58.1 +1.1**
ANN *e*S Sn **22 38 23.7 +2.2**
ANN pmax pmax
comp=Z,18nm,0.9s
ANN Anapa 7.59 284 *e*P Pn **22 36 58.1 +1.1**
comp=Z,18nm,0.9s
VSR Storozhevoye 9.75 326 *e*P Pn **22 37 26.1 -0.4**
VSR Storozhevoye 9.75 326 *e*P Pn **22 37 26.1 -0.4**
AKTK Aktyubinsk 9.89 41 P Pn **22 37 28.7 +0.2**
AKTK Aktyubinsk 9.89 41 P Pn **22 37 28.9 +0.4**
comp=Z,7.0nm,0.3s
AKTO Aktyubinsk 9.89 41 ⇑P Pn **22 37 28.7 +0.2**
comp=Z,16nm,0.7s
AKTO ⇑S Sn 22 39 09.5 -8.3
comp=Z,19nm,0.6s
AKTO Aktyubinsk 9.89 41 P Pn **22 37 28.9 +0.4**
AKTO S Sn **22 39 13.5 -4.4**
AKTO pmax pmax
comp=Z,7.0nm,0.3s
AKTO smax smax
comp=N,2.0nm,0.3s
AKTO Aktyubinsk 9.89 41 P Pn **22 37 28.9 +0.4**
AKTO S Sn **22 39 13.4 -4.4**
AKTO Aktyubinsk 9.89 41 P Pn **22 37 28.9 +0.4**
comp=N,6.6nm,0.3s,baz=215,slow=12,SNR=86
AKTO S Sn **22 39 13.4 -4.4**
comp=N,1.6nm,0.3s,baz=73,slow=23,SNR=3.7
AKTO Aktyubinsk 9.89 41 P Pn **22 37 28.9 +0.4**
AB31 Akbulak array 10.22 51 P Pn **22 37 33.4 +0.5**
comp=N,3.8nm,0.3s,baz=235,slow=13,SNR=241
AB31 ⇑S Sn **22 39 23.1 -2.7**
comp=N,16nm,0.6s,baz=240,slow=23
AB31 Akbulak array 10.22 51 P Pn **22 37 33.4 +0.5**
AB31 Akbulak array 10.22 51 P Pn **22 37 33.4 +0.5**
AB31 Akbulak array 10.22 51 P Pn **22 37 33.4 +0.5**
comp=N,3.8nm,0.3s,baz=235,SNR=241
ABKAR Akbulak array 10.22 51 *e*Pn Pn **22 37 33.1 +0.3**
comp=N,12nm,0.3s
ABKAR Akbulak array 10.22 51 *e*Pn Pn **22 37 33.1 +0.3**
comp=N,12nm,0.3s
BRTR Keskin Array B 11.23 256 P Pn **22 37 48.0 +1.1**
BRTR Keskin Array B 11.23 256 P Pn **22 37 48.0 +1.1**
comp=N,0.0nm,0.3s,baz=79,slow=11,SNR=2.5
BRTR Keskin Array B 11.23 256 P Pn **22 37 48.0 +1.1**
NAY Al-Naaiem 14.15 182 *e*P P **22 38 30.5 -1.7**
NAY AMb AMB 22 38 31.9
comp=Z,9.4nm,0.7s
NAY Al-Naaiem 14.15 182 *e*P P **22 38 30.5 -1.7**
comp=Z,9.4nm,0.7s
KBD Kabd 14.21 180 *e*P P **22 38 31.6 -1.3**
KBD AMb AMB 22 38 33.3
comp=Z,19nm,0.6s
KBD Kabd 14.21 180 *e*P P **22 38 31.6 -1.3**
comp=Z,19nm,0.6s
MMAI Mount Meron Ar 14.23 227 P P **22 38 31.0 -2.1**
MMAI Mount Meron Ar 14.23 227 P P **22 38 31.0 -2.1**
comp=Z,1.6nm,0.3s,baz=51,slow=11,SNR=10
MMAI Mount Meron Ar 14.23 227 P P **22 38 31.0 -2.1**
RDF Al-Radifah 14.46 181 *e*P P **22 38 35.0 -0.7**
RDF AMb AMB 22 38 35.8
comp=Z,39nm,0.7s
RDF Al-Radifah 14.46 181 *e*P P **22 38 35.0 -0.7**
comp=Z,39nm,0.7s
KIEV Kiev 14.59 306 *i* P Pn **22 38 34.1 +2.1**
ARU Arti 14.73 24 *e*P Pn **22 38 31.7 -2.0**
ARU S Sn **22 41 12.7 -2.8**
VRI Vrincioaia 15.20 287 ⇑*i*P P **22 38 46.4 +2.6**
PLOR Plostina 15.25 286 ⇓*i*P P **22 38 45.6 +1.2**
PLOR Plostina 15.25 286 ⇓*i*P P **22 38 45.6 +1.2**
TESR Tescani 15.29 289 ⇓*i*P P **22 38 47.0 +2.3**
TESR Tescani 15.29 289 ⇓*i*P P **22 38 47.0 +2.3**
SVE Sverdlovsk 15.70 27 ⇓*e*P Pn **22 38 45.0 -1.3**
SVE *e*S Sn 22 41 29.8 -9.4
SVE pmax pmax
comp=Z,22nm,0.6s
MLR Muntele Rosu 15.74 285 P P **22 38 50.2 +0.3**
MLR Muntele Rosu 15.74 285 ⇓*i*P P **22 38 52.5 +2.6**
MLR Muntele Rosu 15.74 285 P P **22 38 50.2 +0.3**
comp=Z,0.0nm,0.3s,baz=56,slow=12,SNR=6.5
MLR Muntele Rosu 15.74 285 P P **22 38 50.2 +0.3**
KK31 Karatay Array 16.54 83 P Pn **22 38 54.8 -2.3**
comp=Z,0.9nm,0.3s,baz=282,slow=13,SNR=38
KK31 Karatay Array 16.54 83 *ce*P Pn **22 38 54.7 -2.3**
KK31 pmax pmax
comp=Z,2.0nm,0.2s
KKAR Karatay Array 16.54 83 *e*P Pn **22 38 54.1 -2.9**
KKAR pmax pmax
comp=Z,2.0nm,0.3s
KKAR Karatay Array 16.54 83 *e*Pn Pn **22 38 54.1 -2.9**
comp=Z,2.3nm,0.3s
SOKR Solikamsk 17.09 16 *e*P Pn **22 38 59.6 -4.0**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
BRVK Borovoye 17.74 49 ⇓P Pn **22 39 10.3 -1.4**
comp=Z,17nm,0.8s
BRVK Borovoye 17.74 49 *d*iP Pn **22 39 10.5 -1.2**
BRVK pmax pmax
comp=Z,13nm,0.8s
BRVK Borovoye 17.74 49 *e*Pn Pn **22 39 10.3 -1.4**
comp=Z,11nm,0.6s
BVA0 Borovoye Array 17.79 49 P Pn **22 39 10.8 -1.4**
comp=Z,4.9nm,0.6s,baz=254,slow=13,SNR=53
BVAR Borovoye Array 17.79 49 P Pn **22 39 11.4 -0.9**
BVAR Borovoye Array 17.79 49 P Pn **22 39 11.4 -0.9**
BVAR Borovoye Array 17.79 49 P Pn **22 39 11.4 -0.9**
comp=Z,2.9nm,0.3s,baz=234,slow=14,SNR=37
VOSK Vostochnaya 18.00 51 ⇑P P **22 39 13.6 -1.1**
comp=Z,11nm,0.8s
VOSK Vostochnaya 18.00 51 *i* P P **22 39 13.6 -1.1**
VOSK pmax pmax
comp=Z,11nm,0.8s
KOLS Kolonicke sedl 18.48 296 *e*P Pn **22 39 23.1 +2.4**
KOLS Kolonicke sedl 18.48 296 *e*P Pn **22 39 23.1 +2.4**
AAK Ala-Archa 19.50 83 P Pn **22 39 33.1 -0.1**
AAK Ala-Archa 19.50 83 *e*P Pn **22 39 32.7 -0.5**
comp=Z,12nm,1.3s
AAK Ala-Archa 19.50 83 P Pn **22 39 33.1 -0.1**
comp=Z,0.4nm,0.3s,baz=236,slow=6.7,SNR=5.8
AAK Ala-Archa 19.50 83 *e*P Pn **22 39 32.7 -0.5**
comp=Z,12nm,1.3s
KECS Kecovo 19.61 294 *e*P Pn **22 39 35.9 +1.8**
KECS Kecovo 19.61 294 *e*P Pn **22 39 35.9 +1.8**
VYHS Vyhne 20.70 294 *e*P Pn 22 39 46.8 -0.3
VYHS Vyhne 20.70 294 *e*P Pn 22 39 46.8 -0.3
VYHS Vyhne 20.70 294 *e*P Pn 22 39 46.8 -0.3
KURBB Kurchatov Arra 22.04 60 ⇑P P **22 40 00.0 +1.6**
comp=Z,9.9nm,0.6s
KURBB Kurchatov Arra 22.04 60 P P **22 40 00.7 +2.2**
comp=Z,9.5nm,0.6s,baz=269,slow=12,SNR=80
KURBB Kurchatov Arra 22.04 60 P P **22 40 00.0 +1.6**
comp=Z,9.9nm,0.6s
KURK Kurchatov 22.10 60 P P **22 40 00.7 +1.5**
KURK Kurchatov 22.10 60 P P **22 40 00.7 +1.5**
KURK Kurchatov 22.10 60 P P **22 40 00.7 +1.5**
FINES FINESS Array B 22.20 332 P P **22 40 01.5 +1.5**
FINES FINESS Array B 22.20 332 P P **22 40 01.5 +1.5**
comp=Z,2.2nm,0.3s,baz=143,slow=13,SNR=13
FINES FINESS Array B 22.20 332 P P **22 40 01.5 +1.5**
KAF Kangasniemi 22.60 333 *e*p pP 22 40 18.8 +1.3
comp=Z,6nm,0.4s
GERES GERESS Array B 24.11 295 P P **22 40 19.1 -0.1**
GERES GERESS Array B 24.11 295 P P **22 40 19.1 -0.1**
comp=Z,0.7nm,0.5s,baz=104,slow=7.6,SNR=9.3
GERES LR LR 22 50 35.2
comp=Z,16nm,18.2s,baz=80,slow=38
GERES GERESS Array B 24.11 295 P P **22 40 19.1 -0.1**
MK31 Makanchi Array 24.45 70 P P **22 40 24.4 +2.1**
comp=Z,1.4nm,0.6s,baz=261,slow=13,SNR=23
MK31 Makanchi Array 24.45 70 P P **22 40 24.3 +2.1**
MK31 Makanchi Array 24.45 70 P P **22 40 24.3 +2.1**
MK31 Makanchi Array 24.45 70 P P **22 40 24.3 +2.1**
MKAR Makanchi Array 24.45 70 *ce*P P **22 40 24.3 +2.1**
MKAR Makanchi Array 24.45 70 P P **22 40 24.4 +2.2**
MKAR Makanchi Array 24.45 70 P P **22 40 23.4 +1.2**
comp=Z,1.0nm,0.5s,baz=276,slow=8.2,SNR=19
MKAR Makanchi Array 24.45 70 *e*P P **22 40 24.3 +2.1**
NVS Novosibirsk 25.56 51 *e*P P **22 40 33.4 +1.3**
NVS Novosibirsk 25.56 51 *e*P P **22 40 33.4 +1.3**
ZALV Zalesovo Beam 26.32 53 *i* P P 22 40 44.4 +5.5
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 26.32 53 P P **22 40 40.5 +1.5**
ZALV pP *pP* **22 40 55.8 +2.2**
ZALV Zalesovo Beam 26.32 53 P P **22 40 40.5 +1.5**
comp=Z,1.3nm,0.5s,baz=250,slow=11,SNR=7.4
ZALV pP *pP* **22 40 55.8 +2.2**
comp=Z,2.2nm,0.6s,baz=275,slow=11,SNR=4.7
ZALV Zalesovo Beam 26.32 53 P P **22 40 40.5 +1.5**
ZALV pP *pP* **22 40 55.8 +2.2**
HFS Hagfors 26.51 321 P P **22 40 41.8 +1.2**
HFS Hagfors 26.51 321 P P **22 40 41.8 +1.2**
comp=Z,3.7nm,1.1s,baz=122,slow=7.0,SNR=5.1
HFS Hagfors 26.51 321 P P **22 40 41.8 +1.2**
DAVOX Davos/Dischmat 26.81 291 LR LR 22 51 47.7
comp=Z,23nm,18.2s,baz=81,slow=37
KEV Kevo 28.46 345 *ep* sP 22 41 19.3 -0.4
comp=Z,2.2nm,0.6s
ARCES ARCESS Array B 28.57 344 P P **22 40 59.9 +1.0**
ARCES ARCESS Array B 28.57 344 P P **22 40 59.9 +1.0**
comp=Z,2.0nm,0.9s,baz=150,slow=9.3,SNR=3.0
ARCES ARCESS Array B 28.57 344 P P **22 40 59.9 +1.0**
KEST Kesra 30.41 269 P P **22 41 16.4 +0.7**
KEST pP *pP* **22 41 31.2 +0.7**
KEST Kesra 30.41 269 P P **22 41 16.4 +0.7**
comp=Z,0.9nm,0.5s,baz=314,slow=2.1,SNR=14
KEST pP *pP* **22 41 31.2 +0.7**
comp=Z,0.9nm,0.6s,baz=14,slow=5.7,SNR=3.6
KEST Kesra 30.41 269 P P **22 41 16.4 +0.7**
KEST pP *pP* **22 41 31.2 +0.7**
HVS Khovu-Aksy 31.64 60 P P **22 41 29.1 +2.7**
HVS Khovu-Aksy 31.64 60 P P **22 41 29.1 +2.7**
HVS Khovu-Aksy 31.64 60 P P **22 41 29.1 +2.7**
EKA Eskdalemuir Ar 34.48 308 P P **22 41 51.8 +0.8**
EKA Eskdalemuir Ar 34.48 308 P P **22 41 51.8 +0.8**
comp=Z,0.8nm,0.3s,baz=98,slow=8.7,SNR=15
EKA Eskdalemuir Ar 34.48 308 P P **22 41 51.8 +0.8**
SPITS Spitsbergen Ar 37.03 350 P P **22 42 13.8 +1.3**
SPITS pP *pP* **22 42 29.7 +2.2**
SPITS Spitsbergen Ar 37.03 350 P P **22 42 13.8 +1.3**
comp=Z,3.4nm,0.7s,baz=243,slow=7.1,SNR=3.4
SPITS pP *pP* **22 42 29.7 +2.2**
comp=Z,3.8nm,0.7s,baz=146,slow=9.1,SNR=1.4
SPITS Spitsbergen Ar 37.03 350 P P **22 42 13.8 +1.3**
SPITS pP *pP* **22 42 29.7 +2.2**
ESDC Sonseca Array 38.42 283 P P **22 42 23.7 -1.0**
ESDC Sonseca Array 38.42 283 P P **22 42 23.7 -1.0**
comp=Z,0.1nm,0.3s,baz=57,slow=8.4,SNR=4.0
ESDC Sonseca Array 38.42 283 P P **22 42 23.7 -1.0**
TAM Tamanrasset 40.42 253 *e*P P **22 42 41.6 -0.1**
TAM Tamanrasset 40.42 253 *e*P P **22 42 41.6 -0.1**
comp=Z,0.5nm,0.5s
TAM Tamanrasset 40.42 253 *e*P P **22 42 41.6 -0.1**
comp=Z,0.5nm,0.5s
TORD Torodi Ar. Bea 49.69 247 P P **22 43 54.1 -1.0**
TORD pP *pP* **22 44 10.1 -0.6**
TORD Torodi Ar. Bea 49.69 247 P P **22 43 54.1 -1.0**
comp=Z,2.1nm,0.4s,baz=36,slow=8.1,SNR=60
TORD pP *pP* **22 44 10.1 -0.6**
comp=Z,1.4nm,0.7s,baz=40,slow=7.2,SNR=5.6
TORD Torodi Ar. Bea 49.69 247 P P **22 43 54.1 -1.0**
TORD pP *pP* **22 44 10.1 -0.6**
DBIC Dimbokro 58.80 247 P P **22 45 00.2 -1.1**
DBIC Dimbokro 58.80 247 P P **22 45 00.2 -1.1**
comp=Z,2.8nm,0.5s,baz=26,slow=6.7,SNR=12
DBIC Dimbokro 58.80 247 P P **22 45 00.2 -1.1**
YKA Yellowknife Ar 73.50 352 pP pP 22 46 53.0 +1.8
YKA Yellowknife Ar 73.50 352 pP pP 22 46 53.0 +1.8
comp=Z,0.6nm,0.7s,baz=10,slow=6.0,SNR=4.0
YKA Yellowknife Ar 73.50 352 pP pP 22 46 53.0 +1.8
BOSA Boshof 74.61 200 P P **22 46 41.8 0.0**
BOSA Boshof 74.61 200 P P **22 46 41.8 0.0**
comp=Z,1.5nm,0.9s,baz=11,slow=6.7,SNR=7.0
BOSA Boshof 74.61 200 P P **22 46 41.8 0.0**
ULM Lac du Bonnet 81.48 337 P P **22 47 19.4 -0.1**
ULM Lac du Bonnet 81.48 337 P P **22 47 19.4 -0.1**
comp=Z,1.6nm,0.5s,baz=350,slow=6.1,SNR=2.4
ULM Lac du Bonnet 81.48 337 P P **22 47 19.4 -0.1**

IDC 20 22:37:09.5±1.7, 58°.63S×25°.17W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.8/17, mbtmp4.1/3, Error ellipse: s-maj=60.7km s-min=37.0km az=177.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**33.57**	**282**	P	P	22 43 50.5	-0.6
	1.1nm,0.7s,baz=139,slow=11,SNR=4.2						
BDFB	**Brasilia**	**46.15**	**329**	P	P	22 45 35.9	+0.1
	1.3nm,0.4s,baz=152,slow=6.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**74.82**	**27**	P	P	22 48 51.3	-0.1
	1.3nm,0.5s,baz=201,slow=6.4,SNR=26						
YKA	**Yellowknife Ar**	**138.81**	**315**	PKP	PKPdf	22 56 34.6	-1.4
	0.4nm,0.5s,baz=126,slow=1.9,SNR=4.3						
SONM	**Songino Array**	**149.72**	**89**	PKPbc	PKPbc	22 56 59.6	-0.7
	0.6nm,0.6s,baz=221,slow=3.2,SNR=4.7						
ILAR	**Eielson Array**	**152.61**	**308**	PKPbc	PKPbc	22 57 06.8	+0.5
	1.8nm,0.6s,baz=149,slow=3.3,SNR=18						

*IDC **20** 22:39:03.7±1.3, 40°.06N×77°.27E, h0km, mb3.8/10, mb1 4.0/15, mb1mx3.9/32, mbtmp3.9/15, ML3.8/5, MS3.4/9, Ms1 3.4/9, ms1mx3.0/48, Error ellipse: s-maj=22.6km s-min=15.2km az=139.0*

*NNC **20** 22:39:06.0±2.2, 40°.35N×76°.97E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=23.4km s-min=15.4km az=142.0*

*BJI **20** 22:39:07.1, 40°.36N×77°.05E, h4km, mb3.8/2, ML3.9/6*

ISC 20 22:39:05.7±0.7, 40°.28N±0°.05×76°.97E±0°.06, h10km, n55, σ1§87/46, mb3.9/10, MS3.5/6, 10C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.08**	**225**	Pg	Pn	22 39 37.1	+10
KSH				Sg	Sn	22 39 53.8	+12
KSH	comp=N,2μm,0.4s			smax	smax		
KSH	comp=E,4μm,0.9s			smax	smax		
ULHL	**Ulahol** SNR=333	**2.04**	**345**	P	**Pg**	**22 39 43.7**	**-1.1**
KZA	**Kyzart** SNR=970	**2.22**	**325**	P	**Pg**	**22 39 47.4**	**-0.8**
UCH	**Uchtor** SNR=25	**2.69**	**317**	P	**Pb**	**22 39 54.5**	**+0.3**
KBK	**Karagaybulak** SNR=53	**2.82**	**328**	P	**Pg**	**22 39 56.9**	**-2.8**
TKM2	**Tokmak 2** SNR=66	**2.83**	**339**	P	**Pb**	**22 39 56.2**	**-0.3**
KNDC	**Almaty** comp=E,275nm,0.6s	**2.94**	**0**	⇓Pn	**Pb**	**22 39 56.6**	**-1.6**
KNDC	comp=E,2μm,0.9s			⇑Lg	Lg	22 40 36.2	
AAA	**Alma-Ata**	**2.99**	**360**	*i* P	Pg	22 39 59.6	-3.4
AAK	**Ala-Archa** SNR=63	**3.00**	**323**	P	**Pb**	**22 39 58.9**	**-0.4**
AAK	**Ala-Archa** comp=E,22nm,0.3s,baz=123,slow=7.1,SNR=42	**3.00**	**323**	Pn	**Pb**	**22 39 58.9**	**-0.4**
AAK	comp=E,67nm,0.3s,baz=330,slow=20,SNR=16			Sn	**Sg**	**22 40 40.2**	**-1.8**
AML	**Almayashu** SNR=91	**3.08**	**308**	P	**Pb**	**22 40 00.4**	**-0.5**
CHMS	**Chumysh** SNR=69	**3.18**	**329**	P	**Pb**	**22 40 01.5**	**-0.9**
EKS2	**Erkin-Say** SNR=20	**3.38**	**316**	P	**Pb**	**22 40 04.6**	**-1.1**
USP	**Ospenovka** SNR=19	**3.51**	**329**	P	**Pb**	**22 40 05.4**	**-2.6**
KK31	**Karatay Array** comp=E,2.2nm,0.4s,baz=144,slow=15	**5.59**	**302**	⇑Pn	Pn	22 40 32.2	+3.2
KK31	comp=E,28nm,0.7s,baz=144,slow=17			⇑Pg	**Pg**	**22 40 50.3**	**-2.6**
KK31	comp=E,28nm,0.5s			⇑Lg	Lg	22 41 59.2	
CHCP	**Chirah Chowk**	**7.24**	**205**	P	Pn	22 40 56.2	+4.6
MK31	**Makanchi Array** comp=E,7.7nm,0.9s,baz=209,slow=15,SNR=9.4	**7.57**	**29**	⇑Pn	Pn	22 40 58.2	+2.0
MK31	comp=E,4.0nm,0.6s,baz=223,slow=14,SNR=3.6			⇓Pg	Pg	22 41 26.6	-4.1
MK31	comp=E,31nm,1.2s			⇓Sn	**Sn**	**22 42 24.1**	**+2.1**
MK31	comp=E,14nm,0.7s,baz=215,slow=30			⇓Lg	Lg	22 42 58.3	
MKAR	**Makanchi Array** comp=E,0.8nm,0.3s,baz=271,slow=11,SNR=6.4	**7.57**	**29**	Pn	**Pn**	**22 40 57.5**	**+1.3**
MKAR	comp=E,0.5nm,0.3s,baz=216,slow=24,SNR=5.4			Sn	**Sn**	**22 42 23.8**	**+1.8**
MKAR	comp=E,0.5nm,0.3s,baz=189,slow=28,SNR=2.9			Lg	Lg	22 42 58.6	
MKAR	comp=E,164nm,21.2s,baz=192,slow=41			LR	LR	22 44 14.4	
DLH	**Dalhousie**	**7.76**	**186**	*e*P	Pn	22 41 07.0	+8.0
DLH				*e*S	**Sn**	**22 42 29.0**	**+2.0**
WMQ	**Urumqi**	**8.73**	**63**	P	Pn	22 41 14.8	+2.7
KURBB	**Kurchatov Arra** comp=E,4.4nm,0.6s	**10.40**	**6**	Pn	Pn	22 41 36.5	+1.7
KURBB	comp=E,73nm,0.8s			⇓Lg	Lg	22 44 29.3	
KURBB	**Kurchatov Arra** comp=E,0.2nm,0.3s,baz=195,slow=12,SNR=7.2	**10.40**	**6**	Pn	Pn	22 41 36.6	+1.7
KURBB	comp=E,0.1nm,0.3s,baz=192,slow=30,SNR=6.6			Sn	**Sn**	**22 43 32.5**	**+1.1**
KURBB	comp=E,0.2nm,0.3s,baz=192,slow=30,SNR=11			Lg	Lg	22 44 29.4	
VOSK	**Vostochnaya** comp=E,7.9nm,1.1s	**13.11**	**344**	⇑Pn	**Pn**	**22 42 12.1**	**+0.3**
VOSK	comp=E,54nm,1.2s			⇑Lg	Lg	22 45 53.7	
DANN	**Dangsing** comp=E,26nm,0.8s	**13.15**	**153**	*e*P	**Pn**	**22 42 12.3**	**-0.5**
BVA0	**Borovoye Array** comp=E,14nm,0.8s,baz=161,slow=12,SNR=46	**13.52**	**343**	Pn	**Pn**	**22 42 18.7**	**+1.2**
BVA0	comp=E,56nm,1.1s			⇑Lg	Lg	22 46 04.9	
BVAR	**Borovoye Array** comp=E,0.7nm,0.3s,baz=158,slow=12,SNR=34	**13.52**	**343**	Pn	**Pn**	**22 42 18.8**	**+1.4**
BVAR	comp=E,0.7nm,0.3s,baz=148,slow=26,SNR=14			Lg	Lg	22 46 12.0	
BVAR	comp=E,151nm,19.1s,baz=245,slow=37			LR	LR	22 47 39.2	
BRVK	**Borovoye** comp=E,19nm,0.7s	**13.57**	**343**	⇑Pn	**Pn**	**22 42 18.9**	**+0.8**
BRVK	comp=E,109nm,1.4s			⇓Lg	Lg	22 46 05.7	
KOLN	**Koldanda** comp=E,13nm,0.4s	**13.63**	**154**	*e*P	**Pn**	**22 42 17.9**	**-1.4**
KKN	**Kakani** comp=E,21nm,0.6s	**14.23**	**149**	*e*P	**Pn**	**22 42 25.1**	**-2.4**
DMN	**Daman** comp=E,13nm,0.7s	**14.32**	**149**	*e*P	**Pn**	**22 42 27.3**	**-1.5**
GUN	**Gumba** comp=E,26nm,0.7s	**14.37**	**146**	*e*P	**Pn**	**22 42 26.9**	**-2.6**
PKIN	**Phulchoki** comp=E,19nm,0.6s	**14.46**	**149**	*e*P	**Pn**	**22 42 28.5**	**-2.2**
PKI	**Pulchoki** comp=E,24nm,0.6s	**14.47**	**149**	*e*P	**Pn**	**22 42 28.7**	**-2.2**
ZALV	**Zalesovo Beam** comp=E,0.2nm,0.3s,baz=214,slow=10,SNR=11	**14.67**	**19**	Pn	**Pn**	**22 42 33.6**	**+0.5**
ZALV	comp=E,123nm,18.7s,baz=250,slow=38			LR	LR	22 48 28.8	
JIRN	**Jiri** comp=E,30nm,0.5s	**14.72**	**146**	*e*P	**Pn**	**22 42 31.8**	**-2.5**
AB31	**Akbulak array** comp=E,2.9nm,0.8s,baz=114,slow=13,SNR=7.7	**15.03**	**312**	⇓P	**Pn**	**22 42 38.4**	**+0.3**
RAMN	**Ramite**	**15.51**	**146**	*e*P	**Pn**	**22 42 40.9**	**-3.9**
TAPN	**Taplejung**	**15.67**	**142**	*e*P	**Pn**	**22 42 43.3**	**-3.5**
ODAN	**Odare** comp=E,17nm,0.7s	**15.94**	**144**	*e*P	**Pn**	**22 42 45.5**	**-4.8**
AKTO	**Aktyubinsk** comp=E,5.6nm,1.1s	**16.70**	**314**	⇑P	**P**	**22 43 00.9**	**-1.2**
GTA	**Gaotai**	**17.57**	**85**	*e*P	P	22 43 16.8	+5.0
GTA				pP	pP	22 43 20.6	+6.0
GTA				sP	sP	22 43 22.9	+7.0
GTA	comp=Z,3.0nm,1.1s			pmax	pmax		
SONM	**Songino Array** comp=Z,2.3nm,0.9s,baz=262,slow=9.7,SNR=9.9	**22.36**	**60**	P	**P**	**22 44 03.1**	**-0.9**
SONM	comp=Z,50nm,19.8s,baz=336,slow=40			LR	LR	22 53 50.1	
BRTR	**Keskin Array B** comp=Z,1.6nm,0.8s,baz=88,slow=7.1,SNR=7.2	**32.95**	**283**	P	**P**	**22 45 42.1**	**+1.5**
MMAI	**Mount Meron Ar** comp=Z,116nm,19.6s,baz=285,slow=38	**33.88**	**271**	LR	LR	23 00 44.6	
FINES	**FINESS Array B** comp=Z,1.5nm,0.6s,baz=125,slow=12,SNR=5.3	**37.19**	**322**	P	**P**	**22 46 18.1**	**+1.5**
MLR	**Muntele Rosu** comp=Z,0.6nm,1.1s,baz=127,slow=9.8,SNR=3.2	**37.23**	**295**	P	**P**	**22 46 19.4**	**+2.0**
ARCES	**ARCESS Array B** comp=Z,2.8nm,0.7s,baz=104,slow=9.1,SNR=7.3	**39.60**	**334**	P	**P**	**22 46 37.5**	**+0.5**
HFS	**Hagfors** comp=Z,49nm,21.0s,baz=246,slow=37	**43.14**	**319**	LR	LR	23 05 37.9	
GERES	**GERESS Array B** comp=Z,1.1nm,0.6s,baz=68,slow=7.5,SNR=10	**44.70**	**303**	P	**P**	**22 47 20.9**	**+2.1**
GERES	comp=Z,65nm,19.6s,baz=278,slow=39			LR	LR	23 08 35.5	
SPITS	**Spitsbergen Ar** comp=Z,47nm,19.8s,baz=280,slow=40	**44.96**	**345**	LR	LR	23 09 00.7	
DAVOX	**Davos/Dischmat** comp=Z,55nm,20.7s,baz=84,slow=36	**47.74**	**301**	LR	LR	23 08 16.4	
ESDC	**Sonseca Array** comp=Z,0.5nm,0.5s,baz=64,slow=8.6,SNR=3.7	**59.83**	**298**	P	**P**	**22 49 12.2**	**+0.8**
ILAR	**Eielson Array** comp=Z,0.3nm,0.8s,baz=308,slow=4.7,SNR=4.5	**69.80**	**18**	P	**P**	**22 50 15.7**	**-0.1**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.7s,baz=44,slow=5.1,SNR=6.6	**70.42**	**271**	P	P	22 50 23.5	+3.1
YKA	**Yellowknife Ar** comp=Z,1.1nm,0.7s,baz=348,slow=5.4,SNR=10	**77.15**	**5**	P	**P**	**22 50 59.5**	**+0.4**

GUC 20 22:46:47.4±0.8, 32.03S×71.50W, h61km±4km, MD3.4, ML3.6, 8C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.15**	**1**	⇑*i*P	Pn	22 46 56.7	0.0
CHNG				*i* S	Sn	22 47 03.9	+0.5
CHNG	comp=E,9μm,0.3s			AML	AML	22 47 04.4	
PTCH	**Petorca**	**0.54**	**115**	⇓*i*P	Pn	22 47 00.3	+0.4
PTCH				*i* S	Sn	22 47 09.7	+0.8
PTCH	comp=N,8μm,0.1s			AML	AML	22 47 12.2	
CMCH	**Combarbala** comp=E,10μm,0.5s	**0.96**	**27**	AML	AML	22 47 19.6	
IHA	**Instituto Hidr**	**1.00**	**187**	*e*P	Pn	22 47 05.7	+0.2
IHA				*i* S	Sn	22 47 19.4	+0.7
JACH	**Jahuel**	**1.00**	**130**	⇑*i*P	Pn	22 47 06.0	+0.3
JACH				*i* S	Sn	22 47 20.1	+0.8
ROCH	**El Roble**	**1.02**	**156**	⇑*i*P	Pn	22 47 06.2	+0.1
ROCH				*i* S	Sn	22 47 20.6	+0.6
ROCH	comp=E,1μm,0.3s			AML	AML	22 47 22.1	
PEL	**Peldehue**	**1.30**	**148**	⇓*i*P	Pn	22 47 10.1	+0.5
PEL				*i* S	Sn	22 47 26.9	+0.7
PEL	comp=N,2μm,0.3s			AML	AML	22 47 28.1	
STL	**Santa Lucia**	**1.57**	**153**	*e*P	Pn	22 47 13.8	+0.6
STL				*i* S	Sn	22 47 33.4	+0.8
STL	comp=N,175nm,0.3s			AML	AML	22 47 35.2	
SAN	**Santiago**	**1.58**	**154**	⇑*i*P	Pn	22 47 13.9	+0.6
SAN				*i* S	Sn	22 47 33.6	+0.8
CLCH	**Cerro Calan** comp=N,924nm,0.4s	**1.58**	**149**	AML	AML	22 47 35.3	
TACH	**Talagante**	**1.68**	**164**	⇓*i*P	Pn	22 47 15.4	+0.8
TACH				*i* S	Sn	22 47 36.2	+1.0
ANTU	**Antumapu**	**1.70**	**155**	*e*P	Pn	22 47 15.3	+0.5
ANTU				*i* S	Sn	22 47 36.3	+0.7
ANTU	comp=E,901nm,0.5s			AML	AML	22 47 38.0	
PCH	**Pirque**	**1.79**	**153**	⇓*i*P	Pn	22 47 16.6	+0.5
PCH				*i* S	Sn	22 47 38.7	+0.7
SJCH	**San Jose de Ma**	**1.87**	**149**	⇓*i*P	Pn	22 47 16.9	-0.4
SJCH				*i* S	Sn	22 47 39.8	-0.1
SJCH	comp=E,840nm,0.3s			AML	AML	22 47 41.4	
LNV	**Longovilo**	**1.92**	**178**	⇑*i*P	Pn	22 47 17.7	-0.1
LNV				*i* S	Sn	22 47 40.3	-0.6
TLL	**Tololo Astrono**	**1.96**	**18**	⇑*i*P	Pn	22 47 19.2	+0.6
TLL	comp=N,376nm,0.3s			AML	AML	22 47 44.0	
CHCH	**Chadas Angostu**	**2.02**	**160**	⇓*i*P	Pn	22 47 20.1	+0.8
LMEL	**Las Melosas**	**2.11**	**149**	⇑*i*P	Pn	22 47 21.6	+1.0
LMEL				*i* S	Sn	22 47 47.5	+1.5
LMEL	comp=N,1μm,0.2s			AML	AML	22 47 49.6	
CACH	**El Canelo**	**2.21**	**160**	⇑*i*P	Pn	22 47 23.0	+1.1
CACH				*i* S	Sn	22 47 50.7	+2.4
LCO	**Las Campanas**	**3.09**	**13**	*e*P	Pn	22 47 32.5	-1.6
LCO				*i* S	Sn	22 48 07.9	-2.2
LCO	comp=E,222nm,0.4s			AML	AML	22 48 10.3	

*IDC **20** 22:48:10.8±2.3,5.°93S×130.°59E, h0km, mb4.4/1, mb1 3.8/3, mb1mx3.5/18, mbtmp3.7/3, ML3.6/2, Error ellipse: s-maj=146.7km s-min=30.3km az=71.0*
*ISCJB **20** 22:48:21.9±0.7, 6.°39S×0.°04×130.°73E±0.°06, h62km, mb4.4/1, Error ellipse: s-maj=9.4km s-min=6.1km az=13.8*
*AUST **20** 22:48:23.4±0.0, 6.°20S×130.°69E, h130km, Error ellipse: s-maj=1.2km s-min=0.9km az=306.0*

ISC 20 22:48:22.6±0.9, 6.°38S±0.°06×130.°77E±0.°08, h62km, n11, σ2s80/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak** baz=3.6,SNR=13	**3.75**	**23**	P	**Pn**	**22 49 19.9**	**+1.9**
FAKI	baz=3.6,SNR=28			S	**Sn**	**22 50 01.7**	**+0.9**
SWI	**Sorong** baz=5.4,SNR=11	**5.51**	**5**	S	**Sn**	**22 50 38.4**	**-5.6**
MTN	**Manton Dam** baz=6.7,SNR=19	**6.43**	**177**	P	Pn	22 49 58.4	+3.7
MTN	baz=6.7,SNR=8.9			S	**Sn**	**22 51 08.4**	**+1.7**
KDU	**Kakadu** baz=6.7,SNR=18	**6.49**	**165**	P	Pn	22 49 59.5	+4.1
KDU	baz=6.7,SNR=6.1			S	**Sn**	**22 51 10.0**	**+1.9**
SOEI	**Soe** baz=7.3,SNR=4.0	**7.25**	**242**	P	**Pn**	**22 50 08.0**	**+1.9**
SOEI	baz=7.3,SNR=3.6			S	**Sn**	**22 51 28.2**	**+1.0**
KNRA	**Kununurra** baz=9.7,SNR=10	**9.44**	**192**	P	**Pn**	**22 50 37.0**	**+1.0**
KNRA	baz=9.7,SNR=8.6			S	**Sn**	**22 52 15.9**	**-4.7**
WSI	**Waingapu** baz=11,SNR=3.5	**10.87**	**252**	P	**Pn**	**22 50 56.0**	**+0.6**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=349,slow=13,SNR=9.1	**13.92**	**166**	Pn	**Pn**	**22 51 36.4**	**-0.5**
WRA	0.6nm,0.3s,baz=338,slow=22,SNR=6.6			Sn	**Sn**	**22 54 06.1**	**-3.8**
COEN	**Coen** baz=14,SNR=6.3	**14.34**	**123**	P	**P**	**22 51 47.9**	**+0.1**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=348,slow=9.9,SNR=8.5	**17.45**	**170**	P	**Pn**	**22 52 21.4**	**-0.5**
MKAR	**Makanchi Array** 1.6nm,0.4s,baz=128,slow=7.6,SNR=36	**68.13**	**326**	P	P	22 59 09.8	-6.4

*IDC **20** 22:51:00.0±1.5, 23.°72N×121.°07E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/25, mbtmp3.4/4, ML3.7/1, Error ellipse: s-maj=73.8km s-min=25.4km az=69.0*
*TAP **20** 22:51:01.3, 24.°10N×121.°67E, h8km, ML3.8, B*

ISC 20 22:51:00.6±1.0, 24.°06N±0.°02×121.°73E±0.°03, h8km±6km, n59, σ0s87/94, mb3.1/3, 10C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan** baz=249	**0.12**	**278**	⇑*i*P	**Pg**	**22 51 03.5**	**+0.1**
TWD	baz=249			*i* S	**Sg**	**22 51 04.9**	**-0.3**
HWA	**Hwalien** baz=204	**0.14**	**234**	⇓*i*P	**Pg**	**22 51 04.8**	**+1.1**
EHP	**Heping Village** baz=16	**0.25**	**2**	P	**Pg**	**22 51 06.0**	**+0.4**
EHP	baz=16			S	**Sg**	**22 51 09.3**	**+0.4**
ESF	**Shoufeng Towns** baz=211	**0.28**	**227**	*e*P	**Pg**	**22 51 06.3**	**+0.2**
ESF	baz=211			*e*S	**Sg**	**22 51 10.5**	**+0.6**
ENA	**Nanau** baz=12	**0.36**	**1**	⇑*i*P	**Pg**	**22 51 08.1**	**+0.4**
ENA	baz=12			S	**Sg**	**22 51 12.6**	**0.0**
ESL	**Shilin** baz=215	**0.37**	**228**	⇓*i*P	**Pb**	**22 51 08.3**	**-1.1**
ESL	baz=215			*e*S	**Sb**	**22 51 14.0**	**-1.3**
TEGC	**Jichi Village** baz=200	**0.39**	**207**	*e*P	**Pb**	**22 51 10.4**	**+0.6**
WHF	**Hehuan Shan** baz=276	**0.43**	**281**	⇑*i*P	**Pg**	**22 51 08.9**	**-0.3**
WHF	baz=276			*e*S	**Sg**	**22 51 14.1**	**-0.8**
NNS	**Nan Shan** baz=322	**0.50**	**319**	⇑*i*P	**Pg**	**22 51 10.2**	**-0.1**
NNS	baz=322			*i* S	**Sg**	**22 51 16.3**	**-0.6**
TWT	**Tachien** baz=287	**0.54**	**291**	⇑*i*P	**Pg**	**22 51 11.4**	**+0.2**
TWT	baz=287			S	**Sg**	**22 51 17.7**	**-0.6**
TWC	**Suao** baz=17	**0.56**	**11**	⇑*i*P	**Pg**	**22 51 11.8**	**+0.4**
TWC	baz=17			S	**Sg**	**22 51 19.1**	**+0.4**
ENTT	**Nioudou** baz=351	**0.59**	**345**	⇑*i*P	**Pg**	**22 51 12.3**	**+0.2**
ENTT	baz=351			*e*S	**Sg**	**22 51 20.1**	**+0.2**
TWE	**Neicheng** baz=2.0	**0.66**	**355**	⇑*i*P	**Pg**	**22 51 13.7**	**+0.4**
TWE	baz=2.0			*e*S	**Sg**	**22 51 21.8**	**-0.1**
EHY	**Hungye** baz=215	**0.67**	**214**	*e*P	**Pb**	**22 51 13.9**	**-0.7**
NSK	**Sanguang** baz=334	**0.70**	**331**	⇑*i*P	**Pg**	**22 51 14.3**	**+0.2**
NSK	baz=334			S	**Sg**	**22 51 22.4**	**-0.9**
ILA	**Ilan** baz=7.0	**0.70**	**1**	*e*P	**Pb**	**22 51 14.8**	**-0.3**
ILA	baz=7.0			*e*S	**Sb**	**22 51 24.5**	**-0.4**
SMLT	**Sun Moon Lake** baz=252	**0.78**	**257**	⇓*i*P	**Pb**	**22 51 16.0**	**-0.5**
SMLT	baz=252			*e*S	**Sg**	**22 51 25.4**	**-0.4**
TWF1	**Yuli** baz=218	**0.81**	**209**	*e*P	**Pb**	**22 51 16.3**	**-0.7**
TYC	**Yuchr** baz=254	**0.81**	**259**	P	**Pb**	**22 51 16.2**	**-0.8**
TYC	baz=254			*e*S	**Sg**	**22 51 25.9**	**-1.0**
NSTT	**Nanjuang** baz=311	**0.87**	**311**	P	**Pb**	**22 51 17.8**	**-0.3**
NSTT	baz=311			S	**Sg**	**22 51 28.0**	**-0.8**
YUS	**Yu-Shan** baz=226	**0.91**	**232**	*e*P	**Pb**	**22 51 19.0**	**0.0**
YUS	baz=226			*e*S	**Sb**	**22 51 31.6**	**0.0**
TWQ1	**Liyutan** baz=299	**0.92**	**288**	⇓*i*P	**Pb**	**22 51 19.1**	**+0.2**
TWQ1	baz=299			*e*S	**Sg**	**22 51 30.4**	**+0.1**
TWA	**Mucha** baz=356	**0.92**	**352**	P	**Pb**	**22 51 18.8**	**-0.1**
TWA	baz=356			S	**Sg**	**22 51 29.8**	**-0.6**
NSY	**Sanyi** baz=291	**0.95**	**292**	*e*P	**Pn**	**22 51 19.7**	**-0.6**
TCU	**Taichung** baz=267	**0.97**	**275**	⇓*i*P	**Pn**	**22 51 20.7**	**+0.2**
TCU	baz=267			*e*S	**Sn**	**22 51 34.3**	**-0.1**
TWB1	**Santiao Chiao** baz=11	**0.97**	**14**	⇓P	**Pb**	**22 51 19.9**	**+0.2**
TWB1	baz=11			*e*S	**Sg**	**22 51 31.8**	**-0.1**
WNT	**Mingjian** baz=248	**0.98**	**259**	*e*P	**Pn**	**22 51 20.4**	**-0.2**
TAP1	**Taipei** baz=342	**0.99**	**349**	*e*P	**Pg**	**22 51 19.4**	**-0.3**
TAP1	baz=342			*e*S	**Sg**	**22 51 32.2**	**-0.4**
TAP	**Taipei** baz=343	**0.99**	**348**	*e*P	**Pg**	**22 51 19.9**	**+0.1**
NWF	**Wu-fen Shan** baz=357	**1.00**	**3**	⇑*e*P	**Pb**	**22 51 20.6**	**+0.2**
NWF	baz=357			S	**Sg**	**22 51 32.8**	**-0.2**
ALS	**Alishan** baz=232	**1.01**	**237**	*e*P	**Pb**	**22 51 20.6**	**0.0**
ALS	baz=232			*e*S	**Sn**	**22 51 34.9**	**-1.0**
HSN	**Hsinchu** baz=320	**1.01**	**317**	*e*P	**Pb**	**22 51 20.6**	**+0.1**
CHKT	**Chengkung** baz=200	**1.02**	**199**	*e*P	**Pb**	**22 51 19.9**	**-0.6**
NCU	**National Centr** baz=333	**1.03**	**331**	*e*P	**Pn**	**22 51 21.5**	**+0.1**
NCU	baz=333			*e*S	**Sn**	**22 51 36.4**	**+0.4**
CHN5	**Tsauling** baz=230	**1.07**	**245**	⇓*i*P	**Pn**	**22 51 22.2**	**+0.2**
CHN5	baz=230			S	**Sn**	**22 51 37.5**	**+0.4**
ELDTW	**Lidau** baz=205	**1.09**	**217**	*e*P	**Pg**	**22 51 21.1**	**-0.4**
WGK	**Gukeng** baz=248	**1.13**	**251**	*e*P	**Pn**	**22 51 23.2**	**+0.4**
TWY	**Chenhua** baz=358	**1.21**	**354**	*e*P	**Pg**	**22 51 24.5**	**+0.6**
TWY	baz=358			*e*S	**Sn**	**22 51 40.4**	**-0.2**
YOJ	**Yonaguni jima** baz=69	**1.23**	**71**	⇓*e*P	**Pg**	**22 51 24.9**	**+0.5**
CHN4	**Tsaushan** baz=223	**1.26**	**236**	*e*P	**Pg**	**22 51 25.7**	**+0.8**
CHN4	baz=223			*e*S	**Sn**	**22 51 44.2**	**+2.5**
STYT	**Tauyuan** baz=220	**1.27**	**225**	⇓P	**Pg**	**22 51 25.1**	**+0.2**
STYT	baz=220			*e*S	**Sn**	**22 51 43.2**	**+1.3**
CHN2	**Minshiung** baz=244	**1.27**	**246**	*e*P	**Pg**	**22 51 26.1**	**+1.2**
WTP	**Ta-pu** baz=229	**1.31**	**232**	*e*P	**Pg**	**22 51 25.9**	**+0.2**
CHY	**Chiayi** baz=241	**1.32**	**245**	*e*P	**Pg**	**22 51 26.2**	**+0.2**
CHY	baz=241			*e*S	**Sn**	**22 51 44.6**	**+1.4**
TWG	**Pinlang** baz=204	**1.38**	**206**	⇓*e*P	**Pn**	**22 51 24.4**	**-1.7**
TWK	**Hsinying** baz=223	**1.39**	**235**	*e*P	**Pg**	**22 51 27.7**	**+0.4**
TWK	baz=223			*e*S	**Sg**	**22 51 47.7**	**+2.4**
CHN1	**Nanshi** baz=227	**1.41**	**232**	*e*P	**Pg**	**22 51 28.0**	**+0.4**
CHN1	baz=227			*e*S	**Sg**	**22 51 48.9**	**+3.0**
SGST	**Jiashian** baz=215	**1.44**	**227**	*e*P	**Pg**	**22 51 28.2**	**+0.1**
SGST	baz=215			*e*S	**Sg**	**22 51 49.1**	**+2.3**
PCYT	**Pengchaiyu** baz=13	**1.59**	**11**	*e*P	**Pb**	**22 51 29.9**	**-0.3**
ECL	**Taimali** baz=192	**1.62**	**206**	*e*P	**Pn**	**22 51 28.7**	**-0.8**
TWM1	**Shoushan** baz=224	**1.72**	**225**	*e*P	**Pb**	**22 51 32.4**	**-0.1**
SCZT	**Fangliau** baz=203	**1.97**	**212**	*e*P	**Pb**	**22 51 36.6**	**-0.1**
SCZT	baz=203			*e*S	**Sg**	**22 52 02.7**	**-1.2**
LAY	**Lan-yu** baz=188	**2.02**	**185**	*e*P	**Pn**	**22 51 32.9**	**-2.1**
PNG	**Penghu** baz=244	**2.05**	**257**	*e*P	**Pb**	**22 51 36.7**	**-1.5**
PNG	baz=244			*e*S	**Sb**	**22 52 03.2**	**-0.6**
TWK1	**Hengchun** baz=191	**2.27**	**202**	*e*P	**Pb**	**22 51 40.1**	**-1.8**
KSRS	**Korea Array** 0.3nm,0.3s,baz=199,slow=11,SNR=6.9	**14.36**	**20**	Pn	**P**	**22 54 33.0**	**+1.6**
SONM	**Songino Array** 0.2nm,0.4s,baz=141,slow=7.1,SNR=3.1	**26.68**	**337**	P	**P**	**22 56 40.9**	**+0.7**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=121,slow=9.1,SNR=3.7	**38.77**	**316**	P	**P**	**22 58 25.1**	**-0.5**
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=346,slow=8.8,SNR=2.9	**45.43**	**163**	P	**P**	**22 59 19.6**	**-0.6**

*NSSC **20** 22:55:18.5±1.8, 33.°69N×25.°84E, h0km±449km, ML3.1*
*IDC **20** 22:55:19.3±0.6, 34.°10N×25.°55E, h0km, mb4.1/20, mb1 4.2/29, mb1mx4.1/39, mbtmp4.1/29, ML3.9/7, MS2.7/2, Ms1 2.7/2, ms1mx2.3/50, Error ellipse: s-maj=13.7km s-min=11.7km az=144.0*
*HLW **20** 22:55:20.3, 34.°20N×25.°68E, h33km±37km, Md3.3, Ml3.5*
*ISCJB **20** 22:55:21.5±0.3, 33.°96N±0.°02×25.°68E±0.°02, h40km±3km, mb4.2/53, MS2.9/1, Error ellipse: s-maj=3.6km s-min=2.3km az=30.7*
*CSEM **20** 22:55:23.5±0.1, 33.°96N×25.°64E, h40km, mb4.2/32, Ms2.7, Mw4.0, Error ellipse: s-maj=3.0km s-min=1.9km az=26.0*
*NEIC **20** 22:55:25.3, 34.°23N×25.°52E, h42km, mb4.2/47, After ATH.*
*ATH **20** 22:55:25.3, 34.°23N×25.°52E, h42km, MD4.0/33, ML3.6*
*THE **20** 22:55:28.2, 34.°28N×25.°51E, h31km±10km, ML3.6/6, Error ellipse: s-maj=10.8km s-min=1.0km az=164.0*

ISC 20 22:55:22.9±1.0, 34.°02N±0.°03×25.°60E±0.°03, h28km±7km, n643, σ1s19/671, mb4.2/52, 21C-13D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.15**	**355**	P	**Pn**	**22 55 43.0**	**-0.2**
LAST				S	**Sn**	**22 55 55.1**	**-2.9**
LAST	**Lasithi**	**1.15**	**355**	*e*P	**Pn**	**22 55 43.2**	**0.0**
LAST	**Lasithi**	**1.15**	**355**	P	**Pn**	**22 55 43.0**	**-0.2**
LAST				S	**Sn**	**22 55 55.1**	**-2.9**
LAST	**Lasithi**	**1.15**	**355**	P	**Pn**	**22 55 43.0**	**-0.2**
LAST				S	**Sn**	**22 55 55.1**	**-2.9**

SIVA	Sivas	1.19	327	P	Pn	22 55 44.1	+0.4				
SIVA				S	Sn	22 55 56.5	-2.4				
SIVA	Sivas	1.19	327	eP	Pn	22 55 43.8	+0.1				
SIVA	Sivas	1.19	327	P	Pn	22 55 44.1	+0.4				
SIVA				S	Sn	22 55 56.5	-2.4				
SIVA	Sivas	1.19	327	P	Pn	22 55 44.1	+0.4				
SIVA				S	Sn	22 55 56.5	-2.4				
ZKR	Zakros	1.21	25	P	Pn	22 55 44.3	+0.3				
ZKR	Zakros	1.21	25	eP	Pn	22 55 44.7	+0.7				
ZKR	Zakros	1.21	25	P	Pn	22 55 44.3	+0.3				
ZKR	Zakros	1.21	25	P	Pn	22 55 44.3	+0.3				
NPS	Neapolis	1.24	1	P	Pn	22 55 44.9	+0.5				
NPS	Neapolis	1.24	1	eP	Pn	22 55 44.7	+0.3				
NPS	Neapolis	1.24	1	P	Pn	22 55 44.9	+0.5				
NPS	Neapolis	1.24	1	P	Pn	22 55 44.9	+0.5				
IDI	Anoyia	1.40	336	P	Pn	22 55 47.5	+0.9				
IDI	Anoyia	1.40	336	eP	Pn	22 55 47.5	+0.9				
IDI	Anoyia	1.40	336	ePn	Pb	22 55 47.8	-0.6				
IDI				eSn	Sn	22 56 04.2	+0.1				
IDI	Anoyia	1.40	336	P	Pn	22 55 47.5	+0.9				
IDI	Anoyia	1.40	336	ePn	Pb	22 55 47.8	-0.6				
IDI				eSn	Sn	22 56 04.2	+0.1				
GVD	Gavdhos	1.49	304	P	Pn	22 55 48.8	+1.0				
GVD	Gavdhos	1.49	304	eP	Pn	22 55 48.8	+1.0				
GVD	Gavdhos	1.49	304	ePn	Pn	22 55 48.7	+0.8				
GVD	Gavdhos	1.49	304	P	Pn	22 55 48.8	+1.0				
VAM	Vamos	1.80	321	P	Pn	22 55 53.5	+1.4				
VAM	Vamos	1.80	321	eP	Pn	22 55 53.5	+1.4				
VAM	Vamos	1.80	321	P	Pn	22 55 53.5	+1.4				
VAM	Vamos	1.80	321	P	Pn	22 55 53.5	+1.4				
KARN	Karanos	1.96	315	P	Pn	22 55 55.7	+1.5				
KARN	Karanos	1.96	315	eP	Pn	22 55 56.0	+1.8				
KARN	Karanos	1.96	315	P	Pn	22 55 55.7	+1.5				
KARN	Karanos	1.96	315	P	Pn	22 55 55.7	+1.5				
KARP	Karpathos	2.00	40	P	Pb	22 55 57.2	-1.4				
KARP	Karpathos	2.00	40	eP	Pb	22 55 57.4	-1.2				
KARP	Karpathos	2.00	40	P	Pb	22 55 57.2	-1.4				
KARP	Karpathos	2.00	40	P	Pb	22 55 57.2	-1.4				
SANT	Santorini	2.35	357	P	Pn	22 56 00.9	+1.2				
SANT	Santorini	2.35	357	eP	Pn	22 56 00.9	+1.2				
SANT	Santorini	2.35	357	ePn	Pn	22 56 01.1	+1.4				
SANT				eSn	Sn	22 56 26.6	-1.1				
SANT	Santorini	2.35	357	P	Pn	22 56 00.9	+1.2				
SANT				eSn	Sn	22 56 26.6	-1.1				
THR3	Thira Island,	2.39	356	P	Pn	22 56 00.7	+0.5				
THR3	Thira Island,	2.39	356	P	Pn	22 56 00.7	+0.5				
THR3	Thira Island,	2.39	356	P	Pn	22 56 00.7	+0.5				
LTBQ	Tobruq	2.41	216	iP	Pn	22 56 01.0	+0.6				
	SNR=44										
SLUM		2.54	187	S	Sn	22 56 32.6	+0.4				
	baz=189										
SLUM		2.54	187	P	Pn	22 56 01.6	-0.6				
SLUM				S	Sn	22 56 32.6	+0.4				
ANKY	Antikythira Is	2.64	315	P	Pn	22 56 05.3	+1.7				
ANKY	Antikythira Is	2.64	315	eP	Pn	22 56 05.5	+1.9				
ANKY	Antikythira Is	2.64	315	P	Pn	22 56 05.3	+1.7				
ANKY	Antikythira Is	2.64	315	P	Pn	22 56 05.3	+1.7				
NIS1	Nisyros Isl.	2.89	26	P	Pn	22 56 09.0	+2.0				
NIS1	Nisyros Isl.	2.89	26	P	Pn	22 56 09.0	+2.0				
NIS1	Nisyros Isl.	2.89	26	P	Pn	22 56 09.0	+2.0				
ARG	Arkhangelos	3.02	43	P	Pn	22 56 11.5	+2.6				
ARG	Arkhangelos	3.02	43	eP	Pn	22 56 11.4	+2.6				
ARG	Arkhangelos	3.02	43	P	Pn	22 56 11.5	+2.6				
ARG	Arkhangelos	3.02	43	P	Pn	22 56 11.5	+2.6				
APE	Apeiranthos	3.05	359	ePN	Pn	22 56 11.1	+1.8				
APE	Apeiranthos	3.05	359	P	Pn	22 56 10.2	+0.9				
APE				S	Sn	22 56 42.5	-2.3				
APE	Apeiranthos	3.05	359	eP	Pn	22 56 10.0	+0.7				
APE	Apeiranthos	3.05	359	Pn	Pn	22 56 09.2	-0.1				
APE				S	Sn	22 56 42.5	-2.3				
APE	Apeiranthos	3.05	359	⇑iP	Pn	22 56 10.9	+1.6				
APE	Apeiranthos	3.05	359	Pn	Pn	22 56 09.2	-0.1				
APE	Apeiranthos	3.05	359	P	Pn	22 56 10.2	+0.9				
APE				S	Sn	22 56 42.5	-2.3				
KYTH	Kithira	3.08	318	P	Pn	22 56 10.8	+1.1				
KYTH	Kithira	3.08	318	eP	Pn	22 56 11.1	+1.4				
KYTH	Kithira	3.08	318	P	Pn	22 56 10.8	+1.1				
KYTH	Kithira	3.08	318	P	Pn	22 56 10.8	+1.1				
DAT	Datca	3.15	30	ePN	Pn	22 56 11.9	+1.1				
HMAT	Matruh	3.18	156	P	Pn	22 56 10.1	-1.0				
	baz=158										
HMAT				AMP		22 56 00.0					
	comp=E,200µm,0.8s,logA/T=5.4,baz=158										
HMAT	Matruh	3.18	156	P	Pn	22 56 10.1	-1.0				
BODT	Bodrum	3.34	24	ePN	Pn	22 56 13.7	+0.3				
BODT	Bodrum	3.34	24	Pn	Pn	22 56 13.7	+0.3				
BODT	Bodrum	3.34	24	Pn	Pn	22 56 13.6	+0.3				
VLI	Veliai	3.46	322	P	Pn	22 56 15.4	+0.5				
VLI				S	Sn	22 56 53.1	-1.9				
VLI	Veliai	3.46	322	eP	Pn	22 56 15.4	+0.5				
VLI	Veliai	3.46	322	P	Pn	22 56 15.4	+0.5				
VLI				S	Sn	22 56 53.1	-1.9				
VLI	Veliai	3.46	322	P	Pn	22 56 15.4	+0.5				
VLI				S	Sn	22 56 53.1	-1.9				
MLSB	Milas	3.72	28	ePN	Pn	22 56 20.2	+1.7				
MLSB	Milas	3.72	28	Pn	Pn	22 56 19.2	+0.5				
MLSB	Milas	3.72	28	Pn	Pn	22 56 19.1	+0.5				
DALY	Dalyan (Mu˘la	3.75	41	ePN	Pn	22 56 19.1	+0.2				
YER	Yerkesik	3.81	34	ePN	Pn	22 56 21.3	+1.6				
YER	Yerkesik	3.81	34	Pn	Pn	22 56 20.1	+0.4				
YER	Yerkesik	3.81	34	Pn	Pn	22 56 20.1	+0.4				
SMG	Samos	3.82	15	eP	Pn	22 56 20.5	+0.6				
SMG	Samos	3.82	15	eP	Pn	22 56 20.5	+0.6				
DYR	Agios Nikonas	3.82	317	P	Pn	22 56 21.1	+1.1				
DYR	Agios Nikonas	3.82	317	eP	Pn	22 56 21.0	+1.1				
DYR	Agios Nikonas	3.82	317	eP	Pn	22 56 21.0	+1.1				
KSL	Kastellorizon	3.90	56	eP	Pn	22 56 22.8	+1.8				
DIDY	Didyma	3.96	331	P	Pn	22 56 22.2	+0.3				
DIDY	Didyma	3.96	331	P	Pn	22 56 22.2	+0.3				
AKAS	Kas	3.96	55	iP	Pn	22 56 23.1	+1.2				
AKAS				iS	Sn	22 57 08.2	+0.7				
AKAS	Kas	3.96	55	iP	Pn	22 56 23.1	+1.2				
AKAS				iS	Sn	22 57 08.2	+0.7				
DID	Didima	3.98	332	P	Pn	22 56 22.5	+0.5				
DID				S	Sn	22 57 05.3	-2.4				
DID	Didima	3.98	332	eP	Pn	22 56 22.4	+0.5				
DID	Didima	3.98	332	P	Pn	22 56 22.5	+0.5				
DID				S	Sn	22 57 00.0	-7.7				
DID	Didima	3.98	332	P	Pn	22 56 22.5	+0.5				
AYDN	Tasoluk	4.08	26	iP	Pn	22 56 25.5	+2.0				
AYDN	Tasoluk	4.08	26	iP	Pn	22 56 25.5	+2.0				
NAIG	Nisos Aigina	4.11	336	eP	Pn	22 56 24.6	+0.8				
NAIG	Nisos Aigina	4.11	336	eP	Pn	22 56 24.6	+0.8				
ATH	Athens Observa	4.23	339	eP	Pn	22 56 26.2	+0.7				
ATH	Athens Observa	4.23	339	eP	Pn	22 56 26.2	+0.7				
VLX	Vlachokerasia	4.25	323	P	Pn	22 56 26.8	+0.9				
VLX				S	Sn	22 57 12.3	-2.2				
VLX	Vlachokerasia	4.25	323	eP	Pn	22 56 26.7	+0.9				
VLX	Vlachokerasia	4.25	323	P	Pn	22 56 26.8	+0.9				
VLX				S	Sn	22 57 12.3	-2.2				
VLX	Vlachokerasia	4.25	323	P	Pn	22 56 26.8	+0.9				
PYL	PYLOS	4.26	313	eP	Pn	22 56 26.0	+0.1				
PYL	PYLOS	4.26	313	eP	Pn	22 56 26.0	+0.1				
PTL	Penteli	4.26	341	eP	Pn	22 56 26.3	+0.4				
PTL	Penteli	4.26	341	eP	Pn	22 56 26.3	+0.4				
ITM	Ithomi	4.35	318	P	Pn	22 56 27.9	+0.8				
ITM	Ithomi	4.35	318	eP	Pn	22 56 27.5	+0.4				
ITM	Ithomi	4.35	318	P	Pn	22 56 27.9	+0.8				
ITM	Ithomi	4.35	318	P	Pn	22 56 27.9	+0.8				
CHOS	Chios island	4.38	5	eP	Pn	22 56 27.9	+0.3				
CHOS	Chios island	4.38	5	eP	Pn	22 56 27.9	+0.3				
ELL	Elmali	4.45	51	ePN	Pn	22 56 30.5	+1.8				
ELL	Elmali	4.45	51	Pn	Pn	22 56 29.3	+0.6				
ELL	Elmali	4.45	51	Pn	Pn	22 56 29.3	+0.6				
LTK	Loutraki	4.53	333	eP	Pn	22 56 30.1	+0.5				
LTK	Loutraki	4.53	333	eP	Pn	22 56 30.1	+0.5				
GOLH	Golhisar	4.56	44	iP	Pn	22 56 32.0	+1.9				
GOLH	Golhisar	4.56	44	iP	Pn	22 56 32.0	+1.9				
DNZL	Cakiroluk	4.61	36	iP	Pn	22 56 32.1	+1.2				
DNZL	Cakiroluk	4.61	36	iP	Pn	22 56 32.1	+1.2				
GUR	Goura	4.72	327	P	Pn	22 56 32.9	+0.6				
GUR				S	Sn	22 57 24.6	-1.5				
GUR	Goura	4.72	327	eP	Pn	22 56 32.6	+0.3				
GUR	Goura	4.72	327	P	Pn	22 56 32.9	+0.6				
GUR				S	Sn	22 57 24.6	-1.5				
GUR	Goura	4.72	327	P	Pn	22 56 32.9	+0.6				
AMT	Artemida-Makis	4.72	319	P	Pn	22 56 33.6	+1.3				
AMT	Artemida-Makis	4.72	319	eP	Pn	22 56 33.1	+0.8				
AMT	Artemida-Makis	4.72	319	P	Pn	22 56 33.6	+1.3				
SWA2		4.76	181	P	Pn	22 56 32.3	-0.5				
	baz=183										
SWA2		4.76	181	P	Pn	22 56 32.3	-0.5				
KLV	Kalavryta, Ach	4.89	326	P	Pn	22 56 35.0	+0.3				
KLV	Kalavryta, Ach	4.89	326	eP	Pn	22 56 34.9	+0.3				
KLV	Kalavryta, Ach	4.89	326	P	Pn	22 56 35.0	+0.3				
KLV	Kalavryta, Ach	4.89	326	P	Pn	22 56 35.0	+0.3				
DSF	Desfina	5.04	331	P	Pn	22 56 37.2	+0.6				
DSF				S	Sn	22 57 31.7	-2.2				
DSF	Desfina	5.04	331	P	Pn	22 56 37.2	+0.6				
DSF				S	Sn	22 57 31.7	-2.2				
DSF	Desfina	5.04	331	P	Pn	22 56 37.2	+0.6				
MANT	Manisa	5.07	27	iP	Pn	22 56 35.5	-1.7				
MANT	Manisa	5.07	27	iP	Pn	22 56 35.5	-1.7				
LKR	Lokris	5.08	336	eP	Pn	22 56 39.0	+1.9				
LKR	Lokris	5.08	336	eP	Pn	22 56 39.0	+1.9				
KULA	Kula-Manisa	5.13	28	ePN	Pn	22 56 39.1	+1.2				
KULA	Kula-Manisa	5.13	28	Pn	Pn	22 56 38.2	+0.3				
KULA	Kula-Manisa	5.13	28	Pn	Pn	22 56 38.2	+0.3				
LAKA	Lakka	5.13	326	eP	Pn	22 56 38.3	+0.4				
LAKA	Lakka	5.13	326	eP	Pn	22 56 38.3	+0.4				
KALE	Kalithea	5.18	328	eP	Pn	22 56 39.2	+0.6				
KALE	Kalithea	5.18	328	eP	Pn	22 56 39.2	+0.6				
RLS	Riolos of Patr	5.24	322	eP	Pn	22 56 40.5	+1.2				
RLS	Riolos of Patr	5.24	322	eP	Pn	22 56 40.5	+1.2				
AXAR	Agios Charalam	5.30	334	P	Pn	22 56 41.3	+1.1				
AXAR	Agios Charalam	5.30	334	P	Pn	22 56 41.3	+1.1				
AXAR	Agios Charalam	5.30	334	P	Pn	22 56 41.3	+1.1				
EFP	Efpalio	5.32	327	eP	Pn	22 56 42.7	+2.3				
EFP	Efpalio	5.32	327	eP	Pn	22 56 42.7	+2.3				
BCK	Bucak	5.32	48	ePN	Pn	22 56 40.9	+0.3				
BCK	Bucak	5.32	48	Pn	Pn	22 56 40.9	+0.3				
BCK	Bucak	5.32	48	Pn	Pn	22 56 40.9	+0.3				
AOS	Alonnisos	5.33	345	P	Pn	22 56 41.6	+1.0				
AOS	Alonnisos	5.33	345	eP	Pn	22 56 41.5	+1.0				
AOS	Alonnisos	5.33	345	P	Pn	22 56 41.6	+1.0				
AOS	Alonnisos	5.33	345	eP	Pn	22 56 41.5	+1.0				
KHL	Karahalli	5.34	35	ePN	Pn	22 56 41.3	+0.4				
KHL	Karahalli	5.34	35	Pn	Pn	22 56 41.3	+0.4				
KHL	Karahalli	5.34	35	Pn	Pn	22 56 41.3	+0.4				
KHAL	Karahalli	5.37	35	iP	Pn	22 56 43.2	+2.0				
KHAL	Karahalli	5.37	35	iP	Pn	22 56 43.2	+2.0				
LJBD	Adjabya	5.51	237	iP	Pn	22 56 43.6	+0.5				
	SNR=43										
ISP	Isparta	5.51	45	ePN	Pn	22 56 44.3	+1.1				
ISP	Isparta	5.51	45	Pn	Pn	22 56 44.3	+1.1				
ISP	Isparta	5.51	45	Pn	Pn	22 56 44.3	+1.1				
SUTC	Sutluce-Ispart	5.59	50	ePN	Pn	22 56 45.0	+0.8				
SUTC	Sutluce-Ispart	5.59	50	Pn	Pn	22 56 44.0	-0.3				
SUTC	Sutluce-Ispart	5.59	50	Pn	Pn	22 56 44.0	-0.3				
DEMI	Demirci	5.61	26	iP	Pn	22 56 46.2	+1.7				
DEMI	Demirci	5.61	26	iP	Pn	22 56 46.2	+1.7				
NEO	Neokhori	5.61	341	eP	Pn	22 56 45.2	+0.7				
NEO	Neokhori	5.61	341	eP	Pn	22 56 45.2	+0.7				
AGG	Agios Georgios	5.64	333	eP	Pn	22 56 46.2	+1.2				
AGG	Agios Georgios	5.64	333	eP	Pn	22 56 46.2	+1.2				
XOR	Xorichti	5.68	341	P	Pn	22 56 46.6	+1.2				
XOR	Xorichti	5.68	341	P	Pn	22 56 46.6	+1.2				
XOR	Xorichti	5.68	341	P	Pn	22 56 46.6	+1.2				
EVR	Evrytania	5.76	329	eP	Pn	22 56 49.8	+3.2				
EVR	Evrytania	5.76	329	eP	Pn	22 56 49.8	+3.2				
VLS	Valsamata	5.80	317	eP	Pn	22 56 48.3	+1.2				
VLS	Valsamata	5.80	317	eP	Pn	22 56 48.3	+1.2				
EZN	Ezine	5.83	6	ePN	Pn	22 56 47.8	+0.4				
EZN	Ezine	5.83	6	Pn	Pn	22 56 47.8	+0.4				
EZN	Ezine	5.83	6	Pn	Pn	22 56 47.8	+0.4				
LIA	Limnos Island	5.88	357	eP	Pn	22 56 49.7	+1.6				
LIA	Limnos Island	5.88	357	eP	Pn	22 56 49.7	+1.6				
DURS	Dursunbey	6.03	22	iP	Pn	22 56 44.5	-5.9				
SHUT	Suhut-Afyon	6.04	40	ePN	Pn	22 56 50.5	+0.1				
PAIG	Paliouri	6.10	346	eP	Pn	22 56 51.6	+0.5				
PAIG	Paliouri	6.10	346	eP	Pn	22 56 51.6	+0.5				
ALT	Altintas	6.20	35	ePN	Pn	22 56 52.4	-0.3				
ALT	Altintas	6.20	35	Pn	Pn	22 56 52.4	-0.3				
ALT	Altintas	6.20	35	Pn	Pn	22 56 52.4	-0.3				
LKD2	Lefkada island	6.21	322	eP	Pn	22 56 54.3	+1.6				
LKD2	Lefkada island	6.21	322	eP	Pn	22 56 54.3	+1.6				
THL	Klokotos Trika	6.24	334	eP	Pn	22 56 54.6	+1.6				
THL	Klokotos Trika	6.24	334	eP	Pn	22 56 54.6	+1.6				
TVSB	Tavsanli	6.25	29	ePN	Pn	22 56 53.3	0.0				
GELI	Tayfur-Gelibol	6.41	6	ePN	Pn	22 56 55.4	0.0				
GELI	Tayfur-Gelibol	6.41	6	Pn	Pn	22 56 55.4	0.0				
GELI	Tayfur-Gelibol	6.41	6	Pn	Pn	22 56 55.4	0.0				
CSS	Prodhromos	6.46	79	ePN	Pn	22 56 56.1	0.0				
CSS	Prodhromos	6.46	79	ePn	Pn	22 56 55.6	-0.6				
	comp=E,17nm,0.6s										
CSS				eSn	Sn	22 58 07.4	-1.4				
CSS	Prodhromos	6.46	79	Pn	Pn	22 56 55.5	-0.6				
CSS				eSn	Sn	22 58 07.4	-1.4				
ERMK	Ermenek	6.53	64	iP	Pn	22 56 57.8	+0.5				
ERMK	Ermenek	6.53	64	iP	Pn	22 56 57.8	+0.5				
LFK	Lefkose	6.66	77	ePN	Pn	22 56 58.4	-0.6				
LFK	Lefkose	6.66	77	Pn	Pn	22 56 58.4	-0.6				
LFK	Lefkose	6.66	77	Pn	Pn	22 56 58.3	-0.6				
KONT	Konya--Tatoy	6.74	53	ePN	Pn	22 56 60.0	0.0				
KONT	Konya--Tatoy	6.74	53	Pn	Pn	22 56 60.0	0.0				
KONT	Konya--Tatoy	6.74	53	Pn	Pn	22 57 00.0	0.0				
JAN	Janina	6.79	327	eP	Pn	22 57 01.8	+1.1				
JAN	Janina	6.79	327	eP	Pn	22 57 01.8	+1.1				
LADK	Ladik-KONYA	6.89	51	ePN	Pn	22 57 02.1	0.0				
LADK	Ladik-KONYA	6.89	51	Pn	Pn	22 57 02.1	0.0				
LADK	Ladik-KONYA	6.89	51	Pn	Pn	22 57 02.1	0.0				
KDHN	Kadinhani	6.92	48	iP	Pn	22 57 04.6	+2.0				
KDHN	Kadinhani	6.92	48	iP	Pn	22 57 04.6	+2.0				
KZN	Kozani	6.98	335	eP	Pn	22 57 05.2	+1.9				
KZN	Kozani	6.98	335	eP	Pn	22 57 05.2	+1.9				
IKL	Isikli	6.99	69	ePN	Pn	22 57 03.3	-0.1				
IKL	Isikli	6.99	69	Pn	Pn	22 57 03.3	-0.1				
IKL	Isikli	6.99	69	Pn	Pn	22 57 03.3	-0.1				
RDO	Rodhopi	7.12	360	eP	Pn	22 57 07.2	+2.1				
RDO	Rodhopi	7.12	360	eP	Pn	22 57 07.2	+2.1				
EREN	Erenkoy	7.22	76	ePN	Pn	22 57 06.2	-0.3				
EREN	Erenkoy	7.22	76	Pn	Pn	22 57 06.2	-0.3				
EREN	Erenkoy	7.22	76	Pn	Pn	22 57 06.2	-0.3				
AMAG	Maghara	7.27	115	P	Pn	22 57 04.9	-2.4				
	baz=117										
AMAG	Maghara	7.27	115	P	Pn	22 57 04.9	-2.4				
NEST	Nestorio	7.34	332	P	Pn	22 57 09.7	+1.4				
NEST	Nestorio	7.34	332	P	Pn	22 57 09.7	+1.4				
GRG	Griva	7.38	341	eP	Pn	22 57 09.1	+0.4				
GRG	Griva	7.38	341	eP	Pn	22 57 09.1	+0.4				
SUZ		7.43	122	P	Pn	22 57 07.9	-1.5				
	baz=123										
SUZ		7.43	122	P	Pn	22 57 07.9	-1.5				
FNA	Florina	7.54	335	P	Pn	22 57 12.6	+1.6				
FNA	Florina	7.54	335	eP	Pn	22 57 12.4	+1.4				
FNA	Florina	7.54	335	P	Pn	22 57 12.6	+1.6				
FNA	Florina	7.54	335	eP	Pn	22 57 12.4	+1.4				
KZIT	Kziot	8.06	110	Pn	Pn	22 57 16.4	-1.7				
SLTI	Sal˘it	8.12	100	Pn	Pn	22 57 17.7	-1.2				
GULE	Gulek	8.15	64	iP	Pn	22 57 21.4	+1.9				
GULE	Gulek	8.15	64	iP	Pn	22 57 21.4	+1.9				
HNKL	Nakhl	8.21	118	P	Pn	22 57 17.5	-2.6				
	baz=118										
HNKL	Nakhl	8.21	118	P	Pn	22 57 17.5	-2.6				
RTMI	Retamim	8.23	109	Pn	Pn	22 57 19.3	-1.1				
MMAI	Mount Meron Ar	8.25	94	Pn	Pn	22 57 17.4	-3.3				
MMAI				Sn	Sn	22 58 50.1	-2.9				
MMAI	Mount Meron Ar	8.25	94	Pn	Pn	22 57 17.4	-3.3				
	comp=E,2.9nm,0.3s,baz=262,slow=12,SNR=19										
MMAI				Sn	Sn	22 58 50.1	-2.9				
	comp=E,7.7nm,0.3s,baz=264,slow=25,SNR=9.8										
MMLI	Mount Malkishu	8.38	98	Pn	Pn	22 57 20.5	-2.0				
HMDT	Nahal Hemdat	8.51	99	Pn	Pn	22 57 22.6	-1.7				
DSI	Dead Sea	8.59	104	Pn	Pn	22 57 23.7	-1.7				
BRTR	Keskin Array B	8.60	46	Pn	Pn	22 57 24.9	-0.6				
BRTR				Sn	Sn	22 58 59.9	-1.8				
BRTR	Keskin Array B	8.60	46	Pn	Pn	22 57 24.9	-0.6				
	comp=E,0.3nm,0.3s,baz=224,slow=14,SNR=20										
BRTR				Sn	Sn	22 58 59.9	-1.8				
	comp=E,0.2nm,0.3s,baz=213,slow=26,SNR=4.8										
BRTR	Keskin Array B	8.60	46	Pn	Pn	22 57 25.0	-0.6				
BRTR				Sn	Sn	22 58 59.9	-1.8				
BRBR	Barbar	8.65	91	iP	Pn	22 57 20.3	-6.0				
BRBR				eS	Sn	22 58 50.7	-13				
BRBR				AML	AML	22 58 56.8					
	comp=N,25nm,0.6s										
BRBR				AML	AML	22 59 05.1					
	comp=E,14nm,0.5s										
BRBR	Barbar	8.65	91	eP	Pn	22 57 22.3	-4.1				
BRBR				eS	Sn	22 58 53.8	-9.2				
BRBR				AML	AML	22 59 05.0					
	comp=E,14nm,0.5s										
BRBR				AML	AML	22 59 20.6					
	comp=N,21nm,0.6s										
YURE	YUREGIR	8.66	68	iP	Pn	22 57 26.4	+0.1				
YURE	YUREGIR	8.66	68	iP	Pn	22 57 26.4	+0.1				
MZDA	Masada	8.66	105	Pn	Pn	22 57 25.0	-1.3				
KRMI	Paran Flat	8.67	114	Pn	Pn	22 57 25.5	-1.0				
ARNB	Al Arnab	8.72	75	iP	Pn	22 57 24.5	-2.7				
ARNB				eS	Sn	22 58 58.1	-6.5				
ARNB				AML	AML	22 59 06.5					
	comp=E,13nm,0.6s										
ARNB				AML	AML	22 59 08.1					
	comp=N,25nm,0.6s										
ARNB	Al Arnab	8.72	75	eP	Pn	22 57 25.0	-2.2				
ARNB				eS	Sn	22 58 58.1	-6.4				
ARNB				AML	AML	22 59 06.3					
	comp=E,13nm,0.6s										
ARNB				AML	AML	22 59 08.0					
	comp=N,25nm,0.6s										
ARNB	Al Arnab	8.72	75	eP	Pn	22 57 25.0	-2.2				
	SNR=45										
VTS	Vitosha	8.76	348	⇓iP	Pn	22 57 28.7	+0.8				
VTS	Vitosha

VRAC **Vranov** 16.67 339 Pn Pn 22 59 14.7 +0.3
VRAC **Vranov** 16.67 339 Pn Pn 22 59 14.7 +0.3
comp=N,0.7nm,0.3s,baz=142,slow=8.7,SNR=6.6
VRAC **Vranov** 16.67 339 Pn Pn 22 59 14.7 +0.3
OKC **Ostrava-Krasne** 16.74 343 eP Pn 22 59 13.2 -2.0
OKC AMS AMS 23 07 10.0
comp=N,200nm,9.3s
MORC **Moravsky Berou** 16.83 342 eP Pn 22 59 14.7 -1.7
comp=N,3.0nm,0.8s
KIEV **Kiev** 16.88 8 eP Pn 22 59 17.4 +0.5
comp=N,8.6nm,0.6s
KIEV **Kiev** 16.88 8 eP Pn 22 59 17.4 +0.5
comp=N,8.6nm,0.6s
TREC **Trest** 17.01 337 eP Pn 22 59 17.4 -1.2
TREC ex x 22 59 19.7
FETA **Feichten** 17.18 324 ⇑iP Pn 22 59 20.3 -0.7
comp=N,2.9nm,0.5s
FETA ⇓ipP pP 22 59 30.4 +0.5
comp=N,3.8nm,0.6s
SBF **Sospel** 17.18 310 eP P 22 59 22.9 +0.6
comp=N,45nm,1.0s
SBF **Sospel** 17.18 310 eP P 22 59 22.9 +0.6
comp=N,45nm,1.0s
SBF **Sospel** 17.18 310 eP P 22 59 22.9 +0.6
comp=N,23nm,1.0s
MOTA **Moosalm** 17.23 325 ⇑iPn P 22 59 22.7 -0.1
comp=N,6.5nm,0.6s
MOTA **Moosalm** 17.23 325 P P 22 59 22.7 -0.1
comp=N,6.5nm,0.6s
GEC2 **GERESS Array S** 17.26 333 eP P 22 59 23.9 +0.7
comp=Z,14nm,0.9s
GERES **GERESS Array B** 17.26 333 P Pn 22 59 20.8 -1.1
GERES **GERESS Array B** 17.26 333 P Pn 22 59 20.8 -1.1
comp=Z,0.7nm,0.3s,baz=150,slow=12,SNR=30
DAVOX **Davos/Dischmat** 17.45 322 P Pn 22 59 24.9 +0.6
DAVOX **Davos/Dischmat** 17.45 322 P Pn 22 59 24.9 +0.6
comp=Z,0.4nm,0.3s,baz=120,slow=14,SNR=5.4
DAVOX **Davos/Dischmat** 17.45 322 P Pn 22 59 24.9 +0.6
RETA **Reutte** 17.49 325 ⇑iPn P 22 59 25.3 -0.4
comp=Z,5.5nm,0.7s
RETA **Reutte** 17.49 325 P P 22 59 25.3 -0.4
comp=Z,5.5nm,0.7s
TUE **Stuetta** 17.52 320 ePn P 22 59 26.0 -0.2
comp=Z,6.2nm,0.8s
TUE **Stuetta** 17.52 320 ePn P 22 59 26.0 -0.2
comp=Z,6.2nm,0.8s
LMR **La Mourre** 17.54 308 eP Pn 22 59 24.5 -0.7
comp=Z,16nm,1.0s
LMR **La Mourre** 17.54 308 eP Pn 22 59 24.5 -0.7
comp=Z,16nm,1.0s
LMR **La Mourre** 17.54 308 eP Pn 22 59 24.5 -0.7
comp=Z,8.2nm,1.0s
KHC **Kasperske Hory** 17.54 333 eP Pn 22 59 24.1 -1.2
KHC ex x 22 59 27.6
KHC AMS AMS 23 07 10.0
comp=Z,100nm,9.2s
KHC **Kasperske Hory** 17.54 333 eP Pn 22 59 24.7 -0.6
comp=Z,7.9nm,0.8s
KHC **Kasperske Hory** 17.54 333 eP Pn 22 59 24.7 -0.6
comp=Z,7.9nm,0.8s
FRF **La Foret Royal** 17.55 308 eP P 22 59 26.1 -0.2
comp=Z,12nm,0.9s
FRF **La Foret Royal** 17.55 308 eP P 22 59 26.1 -0.2
comp=Z,12nm,0.9s
FRF **La Foret Royal** 17.55 308 eP P 22 59 26.1 -0.2
comp=Z,6.1nm,0.9s
DPC **Dobruska-Polom** 17.68 340 eP P 22 59 27.8 0.0
DPC **Dobruska-Polom** 17.68 340 P P 22 59 27.8 0.0
DAVA **Damuels** 17.78 323 ⇑iP P 22 59 29.4 +0.3
DAVA comp=Z,7.5nm,0.7s ⇑iP pP 22 59 38.7 +2.0
comp=Z,5.3nm,0.5s
DAVA **Damuels** 17.78 323 P P 22 59 29.4 +0.3
comp=Z,7.5nm,0.7s
WET **Wettzell** 17.82 332 eP P 22 59 29.4 +0.1
comp=Z,18nm,1.2s
PRU **Pruhonice** 17.92 336 eP Pn 22 59 27.0 -2.9
PRU ex x 22 59 29.4
MBDF **Montbardon** 18.02 312 eP P 22 59 31.7 +0.1
comp=Z,12nm,0.8s
MBDF **Montbardon** 18.02 312 eP P 22 59 31.7 +0.1
comp=Z,12nm,0.8s
MBDF **Montbardon** 18.02 312 eP P 22 59 31.7 +0.1
comp=Z,5.8nm,0.8s
PVCC **Panska Ves** 18.37 337 eP P 22 59 32.6 -2.7
PVCC ex x 22 59 35.3
SMRF **Simiane la Rot** 18.43 309 eP Pn 22 59 36.7 +0.5
comp=Z,23nm,1.1s
SMRF **Simiane la Rot** 18.43 309 eP Pn 22 59 36.7 +0.5
comp=Z,23nm,1.1s
SMRF **Simiane la Rot** 18.43 309 eP Pn 22 59 36.7 +0.5
comp=Z,11nm,1.1s
LPG **La Plagne** 18.43 314 eP Pn 22 59 36.8 +0.3
comp=Z,4.5nm,0.5s
LPG **La Plagne** 18.43 314 eP Pn 22 59 36.8 +0.3
comp=Z,4.5nm,0.5s
LPG **La Plagne** 18.43 314 eP Pn 22 59 36.8 +0.3
comp=Z,2.2nm,0.5s
LPL **La Plagne** 18.45 314 eP Pn 22 59 37.2 +0.5
comp=Z,7.0nm,0.5s
LPL **La Plagne** 18.45 314 eP Pn 22 59 37.2 +0.5
comp=Z,7.0nm,0.5s
LPL **La Plagne** 18.45 314 eP Pn 22 59 37.2 +0.5
comp=Z,3.5nm,0.5s
ORIF **Oris-en-Rattie** 18.66 312 eP P 22 59 37.8 -0.9
comp=Z,9.6nm,1.0s
ORIF eR
comp=Z,64nm,19.0s
ORIF **Oris-en-Rattie** 18.66 312 eP P 22 59 37.8 -0.9
comp=Z,9.6nm,1.0s
ORIF **Oris-en-Rattie** 18.66 312 eP P 22 59 37.8 -0.9
comp=Z,4.8nm,1.0s
MANZ **Manzenberg** 18.80 332 eP P 22 59 39.6 -0.4
comp=Z,7.0nm,1.0s
NKC **Novy Kostel** 18.86 333 eP P 22 59 36.1 -4.7
NKC ex x 22 59 41.6
BRG **Berggiesshubel** 18.87 337 eP P 22 59 41.2 +0.4
comp=Z,2.5nm,0.5s
GRF **Grafenberg Arr** 18.92 330 eP Pn 22 59 43.2 +1.1
comp=Z,24nm,1.0s
GRFO **Grafenberg** 18.92 330 ePn P 22 59 40.9 -0.4
comp=Z,13nm,0.8s
GRFO **Grafenberg** 18.92 330 ePn P 22 59 40.9 -0.4
comp=Z,13nm,0.8s
MIB **Mutribah** 18.92 97 eP P 22 59 41.4 -0.1
MIB AMb AMB 22 59 44.6
comp=Z,9.7nm,0.6s
MIB **Mutribah** 18.92 97 eP P 22 59 41.4 -0.1
comp=Z,9.7nm,0.6s
TANN **Tannenbergstha** 19.01 333 eP Pn 22 59 43.5 +0.3
comp=Z,10.0nm,0.9s
GUNZ **Gunzen** 19.01 333 eP Pn 22 59 43.8 +0.5
comp=Z,6.0nm,0.9s
NAY **Al-Naaiem** 19.03 99 eP P 22 59 43.1 +0.4
NAY AMb AMB 22 59 50.3
comp=Z,7.1nm,0.8s
NAY **Al-Naaiem** 19.03 99 eP P 22 59 43.1 +0.4
comp=Z,7.1nm,0.8s
WERD **Werda** 19.09 333 eP P 22 59 43.4 +0.1
comp=Z,10.0nm,0.9s
FBE **Freiberg** 19.11 336 eP P 22 59 43.8 +0.4
comp=Z,14nm,1.0s
FELD **Feldberg im Sc** 19.13 322 eP Pn 22 59 44.5 -0.3
PLN **Plauen** 19.18 333 eP Pn 22 59 44.9 -0.3
comp=Z,34nm,0.9s
BFO **Black Forest** 19.26 323 ePn Pn 22 59 45.8 -0.4
comp=Z,4.6nm,0.6s
BFO **Black Forest** 19.26 323 ePn Pn 22 59 45.8 -0.4
comp=Z,4.6nm,0.6s
UMR **Umm Al-Rimmam** 19.32 97 eP P 22 59 45.5 -0.3
UMR AMb AMB 22 59 48.4
comp=Z,16nm,0.7s
UMR **Umm Al-Rimmam** 19.32 97 eP P 22 59 45.5 -0.3
comp=Z,16nm,0.7s
VIVF **Saint-Julien-l** 19.39 310 eP P 22 59 45.8 -0.8
VIVF **Saint-Julien-l** 19.39 310 eP P 22 59 45.8 -0.8
VIVF **Saint-Julien-l** 19.39 310 eP P 22 59 45.8 -0.8
CABF **La Chapelle** 19.42 316 eP P 22 59 46.5 -0.4
comp=Z,12nm,0.7s
CABF **La Chapelle** 19.42 316 eP P 22 59 46.5 -0.4
comp=Z,12nm,0.7s
CABF **La Chapelle** 19.42 316 eP P 22 59 46.5 -0.4
comp=Z,5.9nm,0.7s
LOMF **Lomont** 19.43 319 eP P 22 59 47.3 +0.3
LOMF **Lomont** 19.43 319 eP P 22 59 47.3 +0.3
CLL **Collm** 19.56 336 e(P) P 22 59 49.0 +0.7
comp=Z,4.0nm,0.5s

MOF **Molkenrain** 19.57 320 eP Pn 22 59 50.8 +0.8
MOF **Molkenrain** 19.57 320 eP Pn 22 59 50.8 +0.8
LASF **Ste Croix** 19.59 307 eP P 22 59 48.6 -0.2
LASF **Ste Croix** 19.59 307 eP P 22 59 48.6 -0.2
LASF **Ste Croix** 19.59 307 eP P 22 59 48.6 -0.2
HINF **Hinteralfeld** 19.70 320 eP P 22 59 49.9 0.0
comp=Z,7.8nm,0.6s
HINF **Hinteralfeld** 19.70 320 eP P 22 59 49.9 0.0
comp=Z,7.8nm,0.6s
HINF **Hinteralfeld** 19.70 320 eP P 22 59 49.9 0.0
comp=Z,3.9nm,0.6s
ECH **Echery** 19.78 321 ePn P 22 59 51.1 +0.3
comp=Z,3.8nm,0.6s
ECH **Echery** 19.78 321 ePn P 22 59 51.1 +0.3
comp=Z,3.8nm,0.6s
CDF **Champ du Feu** 19.85 322 eP P 22 59 52.3 +0.7
comp=Z,12nm,0.9s
CDF **Champ du Feu** 19.85 322 eP P 22 59 52.3 +0.7
comp=Z,12nm,0.9s
CDF **Champ du Feu** 19.85 322 eP P 22 59 52.3 +0.7
comp=Z,6.0nm,0.9s
TOD **Tromm** 19.91 327 eP Pn 22 59 53.8 -0.2
LANF **Langenberg** 19.95 324 eP Pn 22 59 55.1 +0.6
LANF **Langenberg** 19.95 324 eP Pn 22 59 55.1 +0.6
SUW **Suwalki** 20.06 356 eP P 22 59 53.3 -0.4
comp=Z,19nm,0.5s
SUW **Suwalki** 20.06 356 eP P 22 59 51.9 -1.9
SUW **Suwalki** 20.06 356 eP P 22 59 53.3 -0.4
comp=Z,19nm,0.5s
THEF **They Montfort** 20.41 320 eP P 22 59 57.9 +0.3
THEF **They Montfort** 20.41 320 eP P 22 59 57.9 +0.3
MTLF **Montolieu** 20.43 304 eP P 22 59 57.9 0.0
MTLF **Montolieu** 20.43 304 eP P 22 59 57.9 0.0
MTLF **Montolieu** 20.43 304 eP P 22 59 57.9 0.0
LBL **Lubilhac** 20.47 310 eP Pn 22 59 59.8 -0.8
LBL **Lubilhac** 20.47 310 eP Pn 22 59 59.8 -0.8
TNS **Taunus Mts** 20.51 327 eP Pn 23 00 01.6 +0.5
comp=Z,24nm,0.8s
PAGF **Fort de Pagny** 20.74 320 eP Pn 23 00 02.9 -0.8
comp=Z,8.0nm,0.8s
PAGF **Fort de Pagny** 20.74 320 eP Pn 23 00 02.9 -0.8
comp=Z,8.0nm,0.8s
PAGF **Fort de Pagny** 20.74 320 eP Pn 23 00 02.9 -0.8
comp=Z,4.0nm,0.8s
SMF **Signal de Mont** 20.75 314 eP P 23 00 00.3 -1.1
comp=Z,8.4nm,0.7s
SMF **Signal de Mont** 20.75 314 eP P 23 00 00.3 -1.1
comp=Z,8.4nm,0.7s
SMF **Signal de Mont** 20.75 314 eP P 23 00 00.3 -1.1
comp=Z,4.2nm,0.7s
PYM **Petit Puy Mans** 20.85 311 eP P 23 00 02.8 +0.4
PYM **Petit Puy Mans** 20.85 311 eP P 23 00 02.8 +0.4
TAM **Tamanrasset** 20.86 243 eP P 23 00 02.5 -0.3
comp=Z,7.2nm,1.2s
TAM **Tamanrasset** 20.86 243 eP P 23 00 02.5 -0.3
comp=Z,7.2nm,1.2s
AGO **Saint Agoulin** 20.91 312 eP P 23 00 03.0 0.0
AGO **Saint Agoulin** 20.91 312 eP P 23 00 03.0 0.0
SFTF **Sexfontaines** 20.91 319 eP P 23 00 03.3 +0.3
comp=Z,12nm,0.6s
SFTF **Sexfontaines** 20.91 319 eP P 23 00 03.3 +0.3
comp=Z,12nm,0.6s
SFTF **Sexfontaines** 20.91 319 eP P 23 00 03.3 +0.3
comp=Z,5.9nm,0.6s
CLZ **Clausthal** 20.94 333 eP P 23 00 03.4 +0.1
comp=Z,21nm,0.2s
LOR **Lormes** 21.06 315 eP P 23 00 04.6 -0.1
comp=Z,4.9nm,0.5s
LOR eR
comp=Z,62nm,21.0s
LOR **Lormes** 21.06 315 eP P 23 00 04.6 -0.1
comp=Z,4.9nm,0.5s
LOR **Lormes** 21.06 315 eP P 23 00 04.6 -0.1
comp=Z,2.5nm,0.5s
MEZF **Maizieres J'vi** 21.07 320 eP P 23 00 05.1 +0.4
comp=Z,14nm,0.6s
MEZF **Maizieres J'vi** 21.07 320 eP P 23 00 05.1 +0.4
comp=Z,14nm,0.6s
MEZF **Maizieres J'vi** 21.07 320 eP P 23 00 05.1 +0.4
comp=Z,7.2nm,0.6s
CAF **Calviac** 21.11 308 eP P 23 00 05.4 +0.2
comp=Z,4.7nm,0.5s
CAF **Calviac** 21.11 308 eP P 23 00 05.4 +0.2
comp=Z,4.7nm,0.5s
CAF **Calviac** 21.11 308 eP P 23 00 05.4 +0.2
comp=Z,2.3nm,0.5s
AVF **Avril sur Loir** 21.12 314 eP P 23 00 05.6 +0.3
comp=Z,7.6nm,0.7s
AVF **Avril sur Loir** 21.12 314 eP P 23 00 05.6 +0.3
comp=Z,7.6nm,0.7s
AVF **Avril sur Loir** 21.12 314 eP P 23 00 05.6 +0.3
comp=Z,3.8nm,0.7s
SSF **Saint Saulge** 21.16 315 eP P 23 00 06.4 +0.7
comp=Z,6.6nm,0.6s
SSF **Saint Saulge** 21.16 315 eP P 23 00 06.4 +0.7
comp=Z,6.6nm,0.6s
SSF **Saint Saulge** 21.16 315 eP P 23 00 06.4 +0.7
comp=Z,3.3nm,0.6s
WLF **Walferdange** 21.22 323 P P 23 00 08.9 +2.6
comp=Z,12nm,1.1s
WLF **Walferdange** 21.22 323 eP P 23 00 10.6 +4.3
comp=Z,18nm,0.9s
WLF **Walferdange** 21.22 323 eP P 23 00 06.3 0.0
comp=Z,16nm,0.9s
WLF **Walferdange** 21.22 323 eP P 23 00 06.3 0.0
comp=Z,16nm,0.9s
BGF **Bois d'Agland** 21.31 313 eP P 23 00 07.5 +0.1
comp=Z,23nm,0.7s
BGF **Bois d'Agland** 21.31 313 eP P 23 00 07.5 +0.1
comp=Z,23nm,0.7s
BGF **Bois d'Agland** 21.31 313 eP P 23 00 07.5 +0.1
comp=Z,11nm,0.7s
TCF **Toulx Ste Croi** 21.58 312 eP P 23 00 10.3 0.0
comp=Z,28nm,1.1s
TCF **Toulx Ste Croi** 21.58 312 eP P 23 00 10.3 0.0
comp=Z,28nm,1.1s
TCF **Toulx Ste Croi** 21.58 312 eP P 23 00 10.3 0.0
comp=Z,14nm,1.1s
RJF **Les Rejaudoux** 21.61 309 eP P 23 00 10.7 +0.1
comp=Z,9.3nm,0.6s
RJF **Les Rejaudoux** 21.61 309 eP P 23 00 10.7 +0.1
comp=Z,9.3nm,0.6s
RJF **Les Rejaudoux** 21.61 309 eP P 23 00 10.7 +0.1
comp=Z,4.7nm,0.6s
EPF **Esparros** 21.65 302 eP P 23 00 09.0 -2.1
EPF **Esparros** 21.65 302 eP P 23 00 09.0 -2.1
EPF **Esparros** 21.65 302 eP P 23 00 09.0 -2.1
MEM **Membach** 21.91 325 P P 23 00 14.4 +0.7
comp=Z,7.2nm,1.2s
MEM **Membach** 21.91 325 P P 23 00 14.4 +0.7
comp=Z,7.2nm,1.2s
LFF **La Frestale** 21.98 307 eP P 23 00 14.6 0.0
comp=Z,12nm,0.6s
LFF **La Frestale** 21.98 307 eP P 23 00 14.6 0.0
comp=Z,12nm,0.6s
LFF **La Frestale** 21.98 307 eP P 23 00 14.6 0.0
comp=Z,6.2nm,0.6s
HGN **Heimansgroeve** 22.05 325 eP P 23 00 20.2 +5.0
comp=Z,15nm,0.9s
GIVF **Givet** 22.16 323 eP P 23 00 16.6 +0.2
comp=Z,24nm,0.8s
GIVF **Givet** 22.16 323 eP P 23 00 16.6 +0.2
comp=Z,24nm,0.8s
GIVF **Givet** 22.16 323 eP P 23 00 16.6 +0.2
comp=Z,12nm,0.8s
ETSF **Etsaut** 22.25 301 eP P 23 00 17.2 -0.3
comp=Z,12nm,0.8s
ETSF **Etsaut** 22.25 301 eP P 23 00 17.2 -0.3
comp=Z,12nm,0.8s
ETSF **Etsaut** 22.25 301 eP P 23 00 17.2 -0.3
comp=Z,6.2nm,0.8s
DOU **Dourbes** 22.27 322 P P 23 00 17.9 +0.3
comp=Z,7.2nm,1.1s
DOU **Dourbes** 22.27 322 P P 23 00 17.9 +0.3
comp=Z,7.2nm,1.1s
BAIF **Baives** 22.45 322 eP P 23 00 18.9 -0.6
comp=Z,25nm,0.5s
BAIF **Baives** 22.45 322 eP P 23 00 18.9 -0.6
comp=Z,25nm,0.5s
BAIF **Baives** 22.45 322 eP P 23 00 18.9 -0.6
comp=Z,12nm,0.5s
WTSB **Winterswijk** 22.49 329 eP P 23 00 20.1 +0.2
WTSB **Winterswijk** 22.49 329 eP P 23 00 20.1 +0.2
SJPF **Ste Jean** 22.78 301 eP P 23 00 23.4 +0.3
comp=Z,18nm,1.0s
SJPF **Ste Jean** 22.78 301 eP P 23 00 23.4 +0.3
comp=Z,18nm,1.0s

SJPF **Ste Jean** 22.78 301 eP P 23 00 23.4 +0.3
comp=Z,9.0nm,1.0s
MFF **Saint Martin d** 23.19 311 eP P 23 00 27.0 -0.3
comp=Z,15nm,0.8s
MFF **Saint Martin d** 23.19 311 eP P 23 00 27.0 -0.3
comp=Z,15nm,0.8s
MFF **Saint Martin d** 23.19 311 eP P 23 00 27.0 -0.3
comp=Z,7.7nm,0.8s
LDF **La Druitiere** 24.04 315 eP P 23 00 34.0 -1.5
comp=Z,10nm,0.6s
LDF **La Druitiere** 24.04 315 eP P 23 00 34.0 -1.5
comp=Z,10nm,0.6s
LDF **La Druitiere** 24.04 315 eP P 23 00 34.0 -1.5
comp=Z,5.2nm,0.6s
ESDC **Sonseca Array** 24.26 292 P P 23 00 38.2 +0.6
ESDC **Sonseca Array** 24.26 292 P P 23 00 38.2 +0.6
comp=Z,1.1nm,0.4s,baz=80,slow=9.6,SNR=18
ESDC **Sonseca Array** 24.26 292 P P 23 00 38.2 +0.6
FLN **La Foliniere** 24.33 315 eP P 23 00 36.6 -1.5
comp=Z,10.0nm,0.5s
FLN eR
comp=Z,32nm,19.2s
FLN **La Foliniere** 24.33 315 eP P 23 00 36.6 -1.5
comp=Z,10.0nm,0.5s
FLN **La Foliniere** 24.33 315 eP P 23 00 36.6 -1.5
comp=Z,5.0nm,0.5s
GRR **Gorron** 24.39 314 eP P 23 00 38.6 0.0
comp=Z,9.2nm,0.7s
GRR **Gorron** 24.39 314 eP P 23 00 38.6 0.0
comp=Z,9.2nm,0.7s
GRR **Gorron** 24.39 314 eP P 23 00 38.6 0.0
comp=Z,4.6nm,0.7s
MDT **Midelt** 25.20 276 P P 23 00 46.5 +0.2
MDT **Midelt** 25.20 276 P P 23 00 46.5 +0.2
comp=Z,2.6nm,0.7s,baz=72,slow=7.8,SNR=7.8
MDT **Midelt** 25.20 276 P P 23 00 46.5 +0.2
SGMF **Saint Gilles** 25.36 313 eP P 23 00 47.3 -0.1
SGMF **Saint Gilles** 25.36 313 eP P 23 00 47.3 -0.1
SGMF **Saint Gilles** 25.36 313 eP P 23 00 47.3 -0.1
QUIF **Quistinic** 25.60 311 eP P 23 00 49.0 -0.6
comp=Z,28nm,1.0s
QUIF **Quistinic** 25.60 311 eP P 23 00 49.0 -0.6
comp=Z,28nm,1.0s
QUIF **Quistinic** 25.60 311 eP P 23 00 49.0 -0.6
comp=Z,14nm,1.0s
ROSF **Rostrenen** 25.83 312 eP P 23 00 51.1 -0.6
comp=Z,16nm,0.8s
ROSF **Rostrenen** 25.83 312 eP P 23 00 51.1 -0.6
comp=Z,16nm,0.8s
ROSF **Rostrenen** 25.83 312 eP P 23 00 51.1 -0.6
comp=Z,8.1nm,0.8s
PBRG **Braganca** 26.56 297 eP P 23 00 58.5 +0.1
comp=Z,11nm,1.6s
PBRG **Braganca** 26.56 297 eP P 23 00 58.5 +0.1
comp=Z,11nm,1.6s
PBAR **Barrancos** 26.62 288 eP P 23 00 59.1 +0.2
comp=Z,23nm,1.6s
PBAR **Barrancos** 26.62 288 eP P 23 00 59.1 +0.2
comp=Z,23nm,1.6s
MVO **Moncorvo** 26.71 295 eP P 23 01 00.3 +0.5
comp=Z,20nm,2.0s
MVO **Moncorvo** 26.71 295 eP P 23 01 00.3 +0.5
comp=Z,20nm,2.0s
PMRV **Marv??o** 26.89 291 eP P 23 01 01.4 0.0
comp=Z,19nm,1.8s
PMRV **Marv??o** 26.89 291 eP P 23 01 01.4 0.0
comp=Z,19nm,1.8s
PESTR **Estremoz** 27.04 290 eP P 23 01 03.1 +0.3
comp=Z,19nm,1.7s
PESTR **Estremoz** 27.04 290 eP P 23 01 03.1 +0.3
comp=Z,19nm,1.7s
HFS **Hagfors** 27.27 347 P P 23 01 03.8 -0.7
HFS **Hagfors** 27.27 347 P P 23 01 03.8 -0.7
comp=Z,1.7nm,0.5s,baz=153,slow=10.0,SNR=9.6
HFS **Hagfors** 27.27 347 P P 23 01 03.8 -0.7
EVO **Evora** 27.38 289 eP P 23 01 06.2 +0.5
comp=Z,20nm,1.9s
EVO **Evora** 27.38 289 eP P 23 01 06.2 +0.5
comp=Z,20nm,1.9s
FINES **FINESS Array B** 27.45 1 P P 23 01 05.1 -1.0
FINES **FINESS Array B** 27.45 1 P P 23 01 05.1 -1.0
comp=Z,2.2nm,0.4s,baz=158,slow=11,SNR=26
FINES **FINESS Array B** 27.45 1 P P 23 01 05.1 -1.0
KAF **Kangasniemi** 28.12 1 eP P 23 01 10.1 -2.0
comp=Z,1.5nm,0.5s
KAF **Kangasniemi** 28.12 1 eP P 23 01 10.1 -2.0
comp=Z,1.5nm,0.5s
NB2 **NORSAR Subarra** 28.59 345 P P 23 01 16.7 +0.3
comp=Z,1.3nm,0.5s,baz=159,slow=11
NB2 **NORSAR Subarra** 28.59 345 P P 23 01 16.7 +0.3
comp=Z,1.3nm,0.5s,SNR=4.0
NOA **NORSAR Array B** 28.59 345 P P 23 01 16.0 -0.4
NOA **NORSAR Array B** 28.59 345 P P 23 01 16.0 -0.4
comp=Z,2.1nm,0.5s,baz=148,slow=9.2,SNR=4.9
NOA **NORSAR Array B** 28.59 345 P P 23 01 16.0 -0.4
AKTO **Aktyubinsk** 28.78 45 P P 23 01 18.8 +0.6
AKTO **Aktyubinsk** 28.78 45 P P 23 01 18.8 +0.6
comp=Z,1.2nm,0.4s,baz=247,slow=6.1,SNR=7.4
AKTO LR LR 23 18 20.4
comp=Z,25nm,18.2s,baz=71,slow=48
AKTO **Aktyubinsk** 28.78 45 P P 23 01 18.8 +0.6
EKA **Eskdalemuir Ar** 29.18 326 P P 23 01 21.8 +0.2
EKA **Eskdalemuir Ar** 29.18 326 P P 23 01 21.8 +0.2
comp=Z,1.4nm,0.5s,baz=144,slow=10.0,SNR=8.8
EKA **Eskdalemuir Ar** 29.18 326 P P 23 01 21.8 +0.2
ABKAR **Akbulak array** 29.54 49 eP P 23 01 24.6 -0.3
comp=Z,1.0nm,0.6s
ABKAR **Akbulak array** 29.54 49 eP P 23 01 24.6 -0.3
comp=Z,0.9nm,0.6s
TORD **Torodi Ar. Bea** 30.05 232 P P 23 01 30.1 +0.4
TORD **Torodi Ar. Bea** 30.05 232 P P 23 01 30.1 +0.4
comp=Z,1.2nm,0.5s,baz=32,slow=8.6,SNR=30
TORD **Torodi Ar. Bea** 30.05 232 P P 23 01 30.1 +0.4
ARCES **ARCESS Array B** 35.57 360 P P 23 02 16.0 -1.4
ARCES PcP PcP 23 04 46.4 +0.6
ARCES **ARCESS Array B** 35.57 360 P P 23 02 16.0 -1.4
comp=Z,1.1nm,0.4s,baz=182,slow=9.0,SNR=19
ARCES PcP PcP 23 04 46.4 +0.6
comp=Z,1.9nm,0.9s,baz=207,slow=1.4,SNR=3.6
ARCES **ARCESS Array B** 35.57 360 P P 23 02 16.0 -1.4
KKAR **Karatay Array** 35.91 62 eP P 23 02 20.0 -0.7
comp=Z,0.9nm,0.6s
KKAR **Karatay Array** 35.91 62 eP P 23 02 20.0 -0.7
comp=Z,0.9nm,0.6s
DBIC **Dimbokro** 39.15 233 P P 23 02 47.9 -0.4
DBIC **Dimbokro** 39.15 233 P P 23 02 47.9 -0.4
comp=Z,0.9nm,0.4s,baz=62,slow=11,SNR=6.3
DBIC **Dimbokro** 39.15 233 P P 23 02 47.9 -0.4
KURBB **Kurchatov Arra** 41.57 50 P P 23 03 09.1 +1.1
comp=Z,2.0nm,0.6s,baz=277,slow=8.7,SNR=20
KURK **Kurchatov** 41.63 50 P P 23 03 09.1 +0.6
KURK **Kurchatov** 41.63 50 P P 23 03 09.1 +0.6
MKAR **Makanchi Array** 44.11 56 P P 23 03 29.6 +1.0
MKAR **Makanchi Array** 44.11 56 P P 23 03 29.6 +1.0
comp=Z,1.8nm,0.6s,baz=277,slow=6.2,SNR=24
MKAR **Makanchi Array** 44.11 56 P P 23 03 29.6 +1.0
ZALV **Zalesovo Beam** 45.54 45 P P 23 03 40.3 +0.4
ZALV **Zalesovo Beam** 45.54 45 P P 23 03 40.3 +0.4
comp=Z,2.5nm,0.6s,baz=270,slow=8.2,SNR=14
ZALV **Zalesovo Beam** 45.54 45 P P 23 03 40.3 +0.4
TSUM **Tsumeb** 53.47 189 P P 23 04 41.9 +1.1
TSUM **Tsumeb** 53.47 189 P P 23 04 41.9 +1.1
comp=Z,0.9nm,0.7s,baz=348,slow=11,SNR=5.4
TSUM **Tsumeb** 53.47 189 P P 23 04 41.9 +1.1
SONM **Songino Array** 59.94 50 P P 23 05 27.4 +0.8
SONM **Songino Array** 59.94 50 P P 23 05 27.4 +0.8
comp=Z,0.4nm,0.6s,baz=290,slow=9.0,SNR=2.9
SONM **Songino Array** 59.94 50 P P 23 05 27.4 +0.8
BOSA **Boshof** 62.29 180 P P 23 05 44.1 +1.5
BOSA **Boshof** 62.29 180 P P 23 05 44.1 +1.5
comp=Z,1.7nm,1.0s,baz=160,slow=16,SNR=5.5
SCHQ **Schefferville** 64.29 320 P P 23 05 56.0 +0.6
SCHQ **Schefferville** 64.29 320 P P 23 05 56.0 +0.6
comp=Z,6.1nm,0.5s,baz=60,slow=4.7,SNR=17
SCHQ **Schefferville** 64.29 320 P P 23 05 56.0 +0.6
CMAR **Chiang Mai Arr** 66.35 83 P P 23 06 10.6 +1.2
CMAR **Chiang Mai Arr** 66.35 83 P P 23 06 10.6 +1.2
comp=Z,0.9nm,0.3s,baz=284,slow=5.8,SNR=5.6
YKA **Yellowknife Ar** 78.64 342 P P 23 07 22.4 +0.6
YKA **Yellowknife Ar** 78.64 342 P P 23 07 22.4 +0.6
comp=Z,0.6nm,0.5s,baz=29,slow=5.4,SNR=5.9
YKA **Yellowknife Ar** 78.64 342 P P 23 07 22.4 +0.6
BDFB **Brasilia** 85.61 248 P P 23 08 00.4 +1.2
BDFB **Brasilia** 85.61 248 P P 23 08 00.4 +1.2
comp=Z,2.7nm,0.8s,baz=127,slow=15,SNR=3.8
BDFB **Brasilia** 85.61 248 P P 23 08 00.4 +1.2

DJA ***20*** *23:01:10.7±0.6,6˚S±7˚×2˚9E±1˚4,h10km,M5.0/9,mB5.7/3, mb4.9/9,Mw(mB)5.3/3*
ISCJB ***20*** *23:01:10.8±0.2,6˚54S±0˚03×29˚80E±0˚05,h10km, mb4.8/132,MS4.0/17,Error ellipse: s-maj=7.6km s-min=4.1km az=3.2*
BJI ***20*** *23:01:10.0,6˚70S×30˚00E,h10km,mB5.1/16,mb5.0/23, Ms5.0/12,Ms7 4.7/9*
IDC ***20*** *23:01:11.8±0.5,6˚48S×29˚84E,h0km,mb4.4/32, mb1 4.5/35,mb1mx4.5/41,mbtmp4.4/35,ML4.9/4,MS3.8/15, Ms1 3.8/15,ms1mx3.5/34,Error ellipse: s-maj=16.7km s-min=10.8km az=101.0*
NEIC ***20*** *23:01:12.6±0.2,6˚55S×29˚91E,h10km,mb5.0/50,Error ellipse: s-maj=6.4km s-min=4.5km az=96.0*
MOS ***20*** *23:01:14.3±0.7,6˚49S×29˚75E,h33km,mb5.1/54,Error ellipse: s-maj=12.1km s-min=4.0km az=95.0*

ISC 20 23:01:13.2±0.4,6˚60S±0˚04×29˚95E±0˚04,h15km±2km, h14km:pP-P,n378,σ1s28/412,mb4.9/132,MS3.9/17, 30C-27D,Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANYT	**Many**	**4.67**	**76**	*i* P	**Sn**	**23 03 22.3**	**+4.8**
MANYT				*i* S	**Sg**	**23 03 45.5**	**+2.2**
SINGT	**Sing**	**4.94**	**65**	*i* P	**Sn**	**23 03 23.7**	**-0.5**
SINGT				*i* S	**Sg**	**23 03 48.7**	**-3.2**
KOND	**KOND**	**5.87**	**70**	*i* P	**Sn**	**23 03 49.0**	**+2.1**
KOND				*i* S	**Sg**	**23 04 20.7**	**-0.9**
MBAR	**Mbarara**	**6.00**	**8**	Pn	**Pn**	**23 02 40.3**	**-1.5**
	3μm,0.4s						
MBAR	**Mbarara**	**6.00**	**8**	*e*P	**Pn**	**23 02 41.3**	**-0.5**
MBAR	**Mbarara**	**6.00**	**8**	Pn	**Pn**	**23 02 40.6**	**-1.2**
MBAR				Lg	Lg	23 04 09.6	
MBAR	**Mbarara**	**6.00**	**8**	Pn	**Pn**	**23 02 40.6**	**-1.2**
	136nm,0.3s,baz=4.5,slow=23,SNR=502						
MBAR				Lg	Lg	23 04 09.6	
	744nm,0.3s,baz=168,slow=22,SNR=4.3						
MBAR				LR	LR	23 04 42.3	
	comp=Z,433nm,21.8s,baz=76,slow=36						
BBAT	**Babati**	**6.01**	**66**	*i* P	**Sn**	**23 03 55.4**	**+4.8**
BBAT				*i* S	**Sg**	**23 04 26.7**	**+0.5**
KIBA	**KIBA**	**6.52**	**78**	*i* P	**Sn**	**23 04 04.9**	**+1.8**
KIBA				*i* S	**Sg**	**23 04 39.7**	**-2.8**
KIBA	**KIBA**	**6.52**	**78**	*i* P	**Sn**	**23 04 04.8**	**+1.7**
KIBA				*i* S	**Sg**	**23 04 36.6**	**-5.9**
KIBA				AMP		23 04 59.1	
	comp=Z,105μm,0.9s						
LSZ	**Lusaka**	**8.80**	**191**	*e*P	**Pn**	**23 03 20.9**	**+0.8**
LSZ	**Lusaka**	**8.80**	**191**	Pn	**Pn**	**23 03 22.2**	**+2.1**
LSZ				*e*Sn	**Sn**	**23 04 56.5**	**-2.7**
LSZ				Lg	Lg	23 05 48.9	
LSZ	**Lusaka**	**8.80**	**191**	Pn	**Pn**	**23 03 22.2**	**+2.1**
	comp=Z,2.8nm,0.3s,baz=8.0,slow=12,SNR=50						
LSZ				Lg	Lg	23 05 48.9	
	comp=Z,13nm,0.3s,baz=303,slow=21,SNR=6.9						
LSZ				LR	LR	23 07 00.6	
	comp=Z,658nm,19.3s,baz=23,slow=39						
KMBO	**Kilima Mbogo**	**9.09**	**54**	*e*Pn	**Pn**	**23 03 22.0**	**-2.2**
KMBO				*e*Sn	**Sn**	**23 05 02.5**	**-4.0**
KMBO				Lg	Lg	23 05 55.0	
KMBO	**Kilima Mbogo**	**9.09**	**54**	Pn	**Pn**	**23 03 23.8**	**-0.4**
	comp=Z,10.0nm,0.3s,baz=229,slow=15,SNR=88						
KMBO				Lg	Lg	23 05 55.0	
	comp=Z,142nm,0.3s,baz=99,slow=22,SNR=10						
KMBO				LR	LR	23 06 58.0	
	comp=Z,856nm,19.9s,baz=218,slow=38						
TSUM	**Tsumeb**	**17.37**	**223**	*e*Pn	**Pn**	**23 05 13.5**	**-1.9**
TSUM				*e*Sn	Sn	23 08 17.7	-11
TSUM	**Tsumeb**	**17.37**	**223**	P	**Pn**	**23 05 12.5**	**-2.9**
	comp=Z,1.4nm,0.3s,baz=27,slow=12,SNR=37						
TSUM				LR	LR	23 12 14.7	
	comp=Z,470nm,19.9s,baz=40,slow=38						
LBTB	**Lobatse**	**18.78**	**192**	P	**Pn**	**23 05 32.7**	**0.0**
LBTB				Lg	Lg	23 11 06.8	
LBTB	**Lobatse**	**18.78**	**192**	P	**Pn**	**23 05 32.7**	**0.0**
	comp=Z,0.8nm,0.3s,baz=25,slow=14,SNR=14						
LBTB				Lg	Lg	23 11 06.8	
	comp=Z,0.5nm,0.3s,baz=115,slow=23,SNR=6.4						
KSR	**Koster**	**19.37**	**188**	*e*P	**Pn**	**23 05 40.5**	**+0.6**
KSR				AMB	AMB	23 05 58.8	
	comp=Z,57nm,1.1s						
ERPM	**east rand prop**	**19.71**	**185**	*e*P	**P**	**23 05 42.3**	**-0.1**
ERPM				AMB	AMB	23 05 54.9	
	comp=Z,23nm,1.0s						
WIN	**Windhoek**	**20.14**	**217**	*e*P	Pn	23 05 50.8	+1.7
PRYS	**Parys**	**20.37**	**187**	*e*P	**P**	**23 05 47.6**	**-1.9**
PRYS				AMB	AMB	23 06 13.5	
	comp=Z,32nm,2.1s						
POGA	**Pongola**	**20.72**	**176**	*e*P	**P**	**23 05 51.9**	**-1.3**
POGA				AMB	AMB	23 06 02.9	
	comp=Z,22nm,1.5s						
ABPO	**Ambohimpanom**	**20.86**	**128**	*e*P	**P**	**23 05 53.3**	**-1.7**
ABPO	**Ambohimpanom**	**20.86**	**128**	*e*P	**P**	**23 05 53.3**	**-1.7**
SWZ	**Schweizer**	**20.94**	**192**	*e*P	Pn	23 05 57.9	-0.5
ATD	**Arta Tunnel**	**22.11**	**36**	P	**P**	**23 06 09.3**	**+1.0**
ATD	**Arta Tunnel**	**22.11**	**36**	P	**P**	**23 06 09.3**	**+1.0**
	comp=Z,23nm,1.1s,baz=243,slow=13,SNR=5.0						
ATD				LR	LR	23 14 52.6	
	comp=Z,193nm,18.7s,baz=38,slow=37						
BOSA	**Boshof**	**22.35**	**191**	P	**P**	**23 06 11.8**	**+0.9**
BOSA	**Boshof**	**22.35**	**191**	P	**P**	**23 06 11.8**	**+0.9**
	comp=Z,12nm,0.8s,baz=14,slow=9.1,SNR=16						
KSD	**Kokstad**	**23.83**	**181**	*e*P	**P**	**23 06 26.8**	**+0.8**
KSD				AMB	AMB	23 06 29.2	
	comp=Z,42nm,2.1s						
MSEY	**Mahe Island**	**25.48**	**87**	*e*P	**P**	**23 06 38.9**	**-2.2**
	comp=Z,58nm,1.1s						
KOMG	**Komaggas**	**25.89**	**205**	*e*P	**P**	**23 06 44.1**	**-0.6**
KOMG				AMB	AMB	23 06 49.3	
	comp=Z,32nm,4.5s						
CVNA	**Calvinia**	**26.53**	**200**	*e*P	**P**	**23 06 53.4**	**+2.8**
CVNA				AML	AML	23 06 53.9	
	comp=Z,49nm,3.4s						
GRM	**Grahamstown**	**26.78**	**186**	*e*P	**P**	**23 06 52.0**	**-0.7**
GRM				AMB	AMB	23 07 24.0	
	comp=Z,64nm,5.8s						
SUR	**Sutherland**	**27.03**	**197**	*e*P	**P**	**23 06 58.6**	**+3.4**
SUR				AMB	AMB	23 07 34.8	
	comp=Z,45nm,4.2s						
SUR	**Sutherland**	**27.03**	**197**	P	**P**	**23 06 56.2**	**+1.0**
	comp=Z,324nm,2.8s						
SUR	**Sutherland**	**27.03**	**197**	P	**P**	**23 06 56.2**	**+1.0**
	comp=Z,4.3nm,0.9s,baz=12,slow=9.3,SNR=2.8						
ELIM	**Elim**	**29.41**	**197**	*e*P	**P**	**23 07 14.3**	**-2.0**
ELIM				AMB	AMB	23 07 24.3	
	comp=Z,99nm,4.5s						
RAYN	**Ar Rayn**	**33.57**	**26**	*e*P	**P**	**23 07 54.7**	**+1.7**
	comp=Z,33nm,1.9s						
TORD	**Torodi Ar. Bea**	**34.24**	**305**	P	**P**	**23 07 58.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**34.24**	**305**	P	**P**	**23 07 58.2**	**-0.6**
	comp=Z,8.1nm,0.7s,baz=112,slow=7.1,SNR=25						
SHEL	**Horse Pasture**	**36.17**	**252**	*e*P	**P**	**23 08 13.7**	**-1.8**
SHEL				pmax	pmax		
	comp=Z,87nm,1.2s						
SHEL	**Horse Pasture**	**36.17**	**252**	*e*P	**P**	**23 08 13.7**	**-1.8**
	comp=Z,87nm,1.2s						
DBIC	**Dimbokro**	**37.14**	**290**	P	**P**	**23 08 22.8**	**-1.0**
DBIC	**Dimbokro**	**37.14**	**290**	P	**P**	**23 08 22.8**	**-1.0**
	comp=Z,4.7nm,0.7s,baz=83,slow=12,SNR=12						
LIC	**Lamto**	**37.15**	**289**	*e*P	**P**	**23 08 22.8**	**-1.1**
	comp=Z,24nm,0.8s,baz=112						
LIC				*e*R			
	comp=Z,244nm,20.2s						
LIC	**Lamto**	**37.15**	**289**	*e*P	**P**	**23 08 22.8**	**-1.1**
	comp=Z,24nm,0.8s						
ASF	**Jabal al Asfar**	**39.12**	**9**	P	**P**	**23 08 40.2**	**0.0**
ASF	**Jabal al Asfar**	**39.12**	**9**	P	**P**	**23 08 40.2**	**0.0**
	comp=Z,8.1nm,0.9s						
MMAI	**Mount Meron Ar**	**39.73**	**7**	P	**P**	**23 08 46.0**	**+0.6**
MMAI	**Mount Meron Ar**	**39.73**	**7**	P	**P**	**23 08 46.0**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=121,slow=13,SNR=3.6						
CSS	**Prodhromos**	**41.46**	**4**	*e*P	**P**	**23 08 59.6**	**+0.1**
	comp=Z,46nm,1.1s						
IDI	**Anoyia**	**41.93**	**354**	*e*P	**P**	**23 09 03.4**	**-0.1**
	comp=Z,76nm,1.6s						
ISP	**Isparta**	**44.19**	**1**	⇓P	**P**	**23 09 21.1**	**-0.7**
ISP	**Isparta**	**44.19**	**1**	*e*P	**P**	**23 09 22.6**	**+0.8**
	comp=Z,50nm,0.7s						
ISP	**Isparta**	**44.19**	**1**	⇓*i*P	**P**	**23 09 21.1**	**-0.7**
MALT	**Malatya**	**45.37**	**9**	⇓P	P	23 09 26.2	-5.0
MALT	**Malatya**	**45.37**	**9**	⇓*i*P	P	23 09 26.2	-5.0
BRTR	**Keskin Array B**	**46.21**	**4**	P	**P**	**23 09 38.1**	**+0.3**
BRTR	**Keskin Array B**	**46.21**	**4**	P	**P**	**23 09 38.1**	**+0.3**
	comp=Z,19nm,0.9s,baz=180,slow=8.9,SNR=94						
ANTO	**Ankara**	**46.31**	**3**	⇓P	**P**	**23 09 37.4**	**-1.1**
ANTO	**Ankara**	**46.31**	**3**	*e*P	**P**	**23 09 39.0**	**+0.5**
	comp=Z,15nm,1.1s						
ANTO	**Ankara**	**46.31**	**3**	⇓*i*P	**P**	**23 09 37.4**	**-1.1**
KEST	**Kesra**	**46.35**	**337**	*e*P	**P**	**23 09 38.9**	**-0.1**
KEST				*e*PcP	**PcP**	**23 11 12.7**	**-1.3**
KEST	**Kesra**	**46.35**	**337**	P	**P**	**23 09 39.6**	**+0.7**
	comp=Z,4.2nm,0.9s,baz=46,slow=1.5,SNR=16						
CEL	**Celeste**	**46.50**	**345**	*e*P	**P**	**23 09 40.4**	**+0.3**
	comp=Z,28nm,0.8s						
BIA	**Bitola**	**48.04**	**351**	*e*P	**P**	**23 09 52.3**	**+0.3**
VAY	**Valandovo**	**48.16**	**353**	*e*P	**P**	**23 09 53.2**	**+0.3**
GNI	**Garni**	**48.47**	**15**	*e*P	**P**	**23 09 55.3**	**-0.2**
	comp=Z,5.8nm,0.9s						
GNI	**Garni**	**48.47**	**15**	P	**P**	**23 09 56.9**	**+1.4**
	comp=Z,5.0nm,0.9s,baz=164,slow=6.2,SNR=5.5						
VTS	**Vitosha**	**49.34**	**353**	⇑P	**P**	**23 10 02.5**	**+0.4**
VTS	**Vitosha**	**49.34**	**353**	⇑*i*P	**P**	**23 10 02.5**	**+0.4**
BBTS	**Babate**	**50.70**	**295**	LR	LR	23 31 28.0	
	comp=Z,92nm,20.6s,baz=24,slow=36						
ZEI	**Tsey**	**50.74**	**13**	*e*P	**P**	**23 10 13.4**	**+0.5**
ZEI				pmax	pmax		
	comp=Z,14nm,0.5s						
MDT	**Midelt**	**51.14**	**322**	P	**P**	**23 10 17.4**	**+1.5**
MDT	**Midelt**	**51.14**	**322**	P	**P**	**23 10 17.4**	**+1.5**
	comp=Z,1.9nm,0.9s,baz=121,slow=7.5,SNR=4.0						
KBZ	**Khabaz**	**51.44**	**12**	P	**P**	**23 10 18.8**	**+1.0**
KBZ	**Khabaz**	**51.44**	**12**	P	**P**	**23 10 18.8**	**+1.0**
KBZ	**Khabaz**	**51.44**	**12**	P	**P**	**23 10 18.8**	**+1.0**
	comp=Z,5.4nm,0.9s,baz=186,slow=5.8,SNR=8.5						
CFR	**Carcaliu**	**51.56**	**358**	⇓P	**P**	**23 10 18.8**	**+0.2**
CFR	**Carcaliu**	**51.56**	**358**	⇓*i*P	**P**	**23 10 18.8**	**+0.2**
KIV	**Kislovodsk**	**51.62**	**12**	*e*P	**P**	**23 10 18.4**	**-0.8**
KIV				pmax	pmax		
	comp=Z,17nm,1.1s						
KIV				MLR	MLR		
	comp=Z,46nm,16.0s						
ARR	**Arges**	**51.95**	**355**	⇑*i*P	**P**	**23 10 21.4**	**-0.2**
MLR	**Muntele Rosu**	**51.97**	**356**	P	**P**	**23 10 22.0**	**0.0**
MLR	**Muntele Rosu**	**51.97**	**356**	⇓*i*P	**P**	**23 10 21.9**	**0.0**
MLR	**Muntele Rosu**	**51.97**	**356**	P	**P**	**23 10 22.0**	**0.0**
	comp=Z,1.1nm,0.8s,baz=167,slow=7.8,SNR=10						
VOIR		**51.98**	**356**	⇑P	**P**	**23 10 22.1**	**+0.2**
VOIR		**51.98**	**356**	⇑*i*P	**P**	**23 10 22.1**	**+0.2**
LOT	**Lotru**	**52.10**	**354**	⇑*i*P	**P**	**23 10 23.5**	**+0.6**
GZR	**Gura Zlata**	**52.15**	**354**	⇓P	**P**	**23 10 23.8**	**+0.6**
GZR	**Gura Zlata**	**52.15**	**354**	⇓*i*P	**P**	**23 10 23.8**	**+0.6**
PLOR	**Plostina**	**52.29**	**357**	⇑P	**P**	**23 10 24.4**	**+0.2**
PLOR	**Plostina**	**52.29**	**357**	⇑*i*P	**P**	**23 10 24.4**	**+0.2**
VRI	**Vrincioaia**	**52.30**	**357**	⇑P	**P**	**23 10 24.7**	**+0.5**
VRI	**Vrincioaia**	**52.30**	**357**	⇑*i*P	**P**	**23 10 24.7**	**+0.5**
PGF	**Pioggiola**	**52.50**	**341**	*e*P	**P**	**23 10 25.6**	**-0.3**
	comp=Z,12nm,0.9s						
PGF	**Pioggiola**	**52.50**	**341**	*e*P	**P**	**23 10 25.6**	**-0.3**
PGF				pmax	pmax		
	comp=Z,12nm,0.9s						
PGF	**Pioggiola**	**52.50**	**341**	*e*P	**P**	**23 10 25.6**	**-0.3**
	comp=Z,12nm,0.9s						
BZS	**Buzias**	**52.51**	**353**	⇓P	**P**	**23 10 25.8**	**+0.1**
BZS	**Buzias**	**52.51**	**353**	⇓*i*P	**P**	**23 10 25.8**	**+0.1**
TESR	**Tescani**	**52.95**	**357**	⇓*i*P	**P**	**23 10 28.4**	**-0.6**
PKSM	**Moragy**	**53.53**	**350**	⇓P	**P**	**23 10 33.4**	**+0.2**
PKSM	**Moragy**	**53.53**	**350**	⇓*i*P	**P**	**23 10 33.4**	**+0.2**
PKSM	**Moragy**	**53.53**	**350**	⇓*e*	**P**	**23 10 33.4**	**+0.2**
DRGR		**53.54**	**354**	⇑P	**P**	**23 10 33.8**	**+0.4**
DRGR		**53.54**	**354**	⇑*i*P	**P**	**23 10 33.8**	**+0.4**
PKS2	**Kecel**	**53.71**	**351**	⇓*e*	**P**	**23 10 36.4**	**+1.9**
GCIS	**Gornji Cirnik**	**53.77**	**348**	*e*P	**P**	**23 10 35.6**	**+0.5**
GOLS	**Golise**	**53.91**	**348**	*i* P	**P**	**23 10 36.7**	**+0.6**
CEY	**Cerknica**	**53.92**	**347**	*i* P	**P**	**23 10 36.2**	**0.0**
PKS9	**Tamasi**	**53.96**	**350**	⇓*e*	**P**	**23 10 37.5**	**+1.1**
PKSN	**Nyarlorinc**	**54.01**	**351**	⇓*e*	**P**	**23 10 37.8**	**+1.1**
LMR	**La Mourre**	**54.05**	**339**	*e*P	**P**	**23 10 36.3**	**-0.8**
	comp=Z,6.2nm,0.8s						
LMR	**La Mourre**	**54.05**	**339**	*e*P	**P**	**23 10 36.3**	**-0.8**
LMR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LMR	**La Mourre**	**54.05**	**339**	*e*P	**P**	**23 10 36.3**	**-0.8**
	comp=Z,6.2nm,0.8s						
BURAR	**Bucovina Array**	**54.14**	**356**	⇑P	**P**	**23 10 39.3**	**+1.5**
BURAR	**Bucovina Array**	**54.14**	**356**	⇑*i*P	**P**	**23 10 39.3**	**+1.5**
SBF	**Sospel**	**54.19**	**340**	*e*P	**P**	**23 10 37.3**	**-0.9**
SBF	**Sospel**	**54.19**	**340**	*e*P	**P**	**23 10 37.3**	**-0.9**
SBF	**Sospel**	**54.19**	**340**	*e*P	**P**	**23 10 37.3**	**-0.9**
FRF	**La Foret Royal**	**54.20**	**339**	*e*P	**P**	**23 10 37.2**	**-1.0**
FRF	**La Foret Royal**	**54.20**	**339**	*e*P	**P**	**23 10 37.2**	**-1.0**
FRF	**La Foret Royal**	**54.20**	**339**	*e*P	**P**	**23 10 37.2**	**-1.0**
PKS7	**Kunszentmiklos**	**54.26**	**351**	⇑*e*	**P**	**23 10 39.5**	**+1.0**
SOKA	**Soboth**	**54.67**	**347**	⇓*i*P	**P**	**23 10 41.0**	**-0.7**
	comp=Z,5.1nm,1.2s						
CSKK	**Cs˘tkako**	**54.71**	**350**	⇑*e*SKKPdf	**P**	**23 10 42.5**	**+0.6**
PKSG		**54.72**	**350**	⇑*e*	**P**	**23 10 42.6**	**+0.7**
MYKA	**Terra Mystica**	**54.94**	**346**	⇑*i*P	**P**	**23 10 44.1**	**+0.5**
	comp=Z,4.9nm,1.0s						
SMRF	**Simiane la Rot**	**54.94**	**339**	*e*P	**P**	**23 10 43.1**	**-0.6**
SMRF	**Simiane la Rot**	**54.94**	**339**	*e*P	**P**	**23 10 43.1**	**-0.6**
PSZ	**Piszkesteto**	**55.00**	**352**	⇑P	**P**	**23 10 44.3**	**+0.3**
PSZ	**Piszkesteto**	**55.00**	**352**	*e*P	**P**	**23 10 44.0**	**0.0**
	comp=Z,20nm,1.4s						
PSZ	**Piszkesteto**	**55.00**	**352**	⇑*i*P	**P**	**23 10 44.3**	**+0.3**
PSZ	**Piszkesteto**	**55.00**	**352**	*e*SKKPdf	**P**	**23 10 43.8**	**-0.2**
MBDF	**Montbardon**	**55.18**	**340**	*e*P	**P**	**23 10 45.2**	**-0.3**
	comp=Z,12nm,0.9s						
MBDF	**Montbardon**	**55.18**	**340**	*e*P	**P**	**23 10 45.2**	**-0.3**
MBDF				pmax	pmax		
	comp=Z,12nm,0.9s						
MBDF	**Montbardon**	**55.18**	**340**	*e*P	**P**	**23 10 45.2**	**-0.3**
	comp=Z,12nm,0.9s						
UZH	**Uzhgorod**	**55.40**	**354**	⇓*i*P	**P**	**23 10 47.1**	**+0.3**
KBA	**Koelnbreinsper**	**55.43**	**346**	⇑*i*P	**P**	**23 10 47.3**	**0.0**
	comp=Z,7.4nm,1.1s,SNR=5.4						
KECS	**Kecovo**	**55.47**	**352**	*e*P	**P**	**23 10 47.4**	**+0.1**
KECS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KECS	**Kecovo**	**55.47**	**352**	*e*P	**P**	**23 10 47.4**	**+0.1**
BNI	**Bardonecchia**	**55.50**	**340**	*e*P	**P**	**23 10 47.8**	**0.0**
BNI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BNI	**Bardonecchia**	**55.50**	**340**	*e*P	**P**	**23 10 47.8**	**0.0**
	comp=Z,5.8nm,0.8s						
ORIF	**Oris-en-Rattie**	**55.65**	**339**	*e*P	**P**	**23 10 48.4**	**-0.4**
	comp=Z,13nm,1.1s						
ORIF				*e*R			
	comp=Z,129nm,17.2s						
ORIF	**Oris-en-Rattie**	**55.65**	**339**	*e*P	**P**	**23 10 48.4**	**-0.4**
ORIF				pmax	pmax		
	comp=Z,13nm,1.1s						
ORIF	**Oris-en-Rattie**	**55.65**	**339**	*e*P	**P**	**23 10 48.4**	**-0.4**
	comp=Z,13nm,1.1s						
LASF	**Ste Croix**	**55.67**	**337**	*e*P	**P**	**23 10 48.8**	**-0.1**
	comp=Z,42nm,1.1s						
LASF	**Ste Croix**	**55.67**	**337**	*e*P	**P**	**23 10 48.8**	**-0.1**
	comp=Z,42nm,1.1s						
ESDC	**Sonseca Array**	**55.68**	**329**	P	**P**	**23 10 49.5**	**+0.3**
ESDC	**Sonseca Array**	**55.68**	**329**	P	**P**	**23 10 49.5**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=139,slow=7.1,SNR=17						
CONA	**Conrad Observa**	**55.69**	**349**	*i* P	**P**	**23 10 49.6**	**+0.6**
	comp=Z,10.0nm,0.9s,SNR=11						
MTLF	**Montolieu**	**55.70**	**336**	*e*P	**P**	**23 10 48.6**	**-0.5**
	comp=Z,23nm,1.4s						
MTLF	**Montolieu**	**55.70**	**336**	*e*P	**P**	**23 10 48.6**	**-0.5**
MTLF				pmax	pmax		
	comp=Z,23nm,1.4s						
MTLF	**Montolieu**	**55.70**	**336**	*e*P	**P**	**23 10 48.6**	**-0.5**
	comp=Z,23nm,1.4s						
KOLS	**Kolonicke sedl**	**55.70**	**354**	*e*P	**P**	**23 10 49.6**	**+0.6**
KOLS				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KOLS	**Kolonicke sedl**	**55.70**	**354**	*e*P	**P**	**23 10 49.6**	**+0.6**
VYHS	**Vyhne**	**55.72**	**351**	*e*P	**P**	**23 10 48.8**	**-0.3**
VYHS				*e*		23 10 56.5	
VYHS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VYHS	**Vyhne**	**55.72**	**351**	*e*P	**P**	**23 10 48.8**	**-0.3**
VYHS				*e*pP	**pP**	**23 10 56.5**	**+2.7**
LPG	**La Plagne**	**55.87**	**340**	*e*P	**P**	**23 10 49.4**	**-1.2**
	comp=Z,12nm,0.8s						
LPG	**La Plagne**	**55.87**	**340**	*e*P	**P**	**23 10 49.4**	**-1.2**
LPG				pmax	pmax		
	comp=Z,12nm,0.8s						
LPG	**La Plagne**	**55.87**	**340**	*e*P	**P**	**23 10 49.4**	**-1.2**
	comp=Z,12nm,0.8s						
LPL	**La Plagne**	**55.89**	**340**	*e*P	**P**	**23 10 49.4**	**-1.3**
	comp=Z,7.1nm,0.7s						
LPL	**La Plagne**	**55.89**	**340**	*e*P	**P**	**23 10 49.4**	**-1.3**
LPL				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LPL	**La Plagne**	**55.89**	**340**	*e*P	**P**	**23 10 49.4**	**-1.3**
	comp=Z,7.1nm,0.7s						
TUE	**Stuetta**	**55.93**	**343**	*e*P	**P**	**23 10 50.1**	**-0.8**
MOA	**Molln**	**55.95**	**347**	⇓*i*P	**P**	**23 10 50.7**	**-0.1**
	comp=Z,14nm,0.9s,SNR=10						
SMOL	**Smolenice**	**55.97**	**350**	*e*P	**P**	**23 10 50.7**	**-0.2**
SMOL				*e*		23 10 56.7	
SMOL	**Smolenice**	**55.97**	**350**	*e*P	**P**	**23 10 50.7**	**-0.2**
SMOL				*e*pP	**pP**	**23 10 56.7**	**+1.1**
VIVF	**Saint-Julien-l**	**56.03**	**339**	*e*P	**P**	**23 10 51.5**	**0.0**
VIVF	**Saint-Julien-l**	**56.03**	**339**	*e*P	**P**	**23 10 51.5**	**0.0**
VIVF	**Saint-Julien-l**	**56.03**	**339**	*e*P	**P**	**23 10 51.5**	**0.0**
DAVOX	**Davos/Dischmat**	**56.05**	**343**	P	**P**	**23 10 51.3**	**-0.5**
DAVOX	**Davos/Dischmat**	**56.05**	**343**	P	**P**	**23 10 51.3**	**-0.5**
	comp=Z,4.1nm,0.9s,baz=118,slow=11,SNR=5.5						
EPF	**Esparros**	**56.23**	**334**	*e*P	**P**	**23 10 53.0**	**0.0**
	comp=Z,8.7nm,0.7s						
EPF	**Esparros**	**56.23**	**334**	*e*P	**P**	**23 10 53.0**	**0.0**
EPF				pmax	pmax		
	comp=Z,9.0nm,0.7s						
EPF	**Esparros**	**56.23**	**334**	*e*P	**P**	**23 10 53.0**	**0.0**
	comp=Z,8.7nm,0.7s						
MOTA	**Moosalm**	**56.24**	**345**	⇑*i*P	**P**	**23 10 52.7**	**-0.3**
	comp=Z,6.8nm,0.9s,SNR=5.8						
STHS	**Stebnicka Huta**	**56.29**	**353**	*e*P	**P**	**23 10 53.6**	**+0.4**
STHS				pmax	pmax		
	comp=Z,5.0nm,1.4s						
STHS	**Stebnicka Huta**	**56.29**	**353**	*e*P	**P**	**23 10 53.6**	**+0.4**
KWP	**Kalwaria Pacla**	**56.35**	**354**	⇑P	**P**	**23 10 54.2**	**+0.6**
KWP	**Kalwaria Pacla**	**56.35**	**354**	⇑*i*P	**P**	**23 10 54.2**	**+0.6**
KWP	**Kalwaria Pacla**	**56.35**	**354**	*e*P	**P**	**23 10 54.1**	**+0.5**
SSB	**Saint Sauveur**	**56.44**	**339**	*e*P	**P**	**23 10 54.6**	**+0.2**
SSB				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SSB	**Saint Sauveur**	**56.44**	**339**	*e*P	**P**	**23 10 54.6**	**+0.2**
	comp=Z,7.5nm,0.9s						
DAVA	**Damuels**	**56.52**	**344**	⇑*i*P	**P**	**23 10 54.1**	**-0.9**
	comp=Z,15nm,0.7s,SNR=7.6						
ETSF	**Etsaut**	**56.52**	**333**	*e*P	**P**	**23 10 55.1**	**0.0**
	comp=Z,15nm,1.0s						
ETSF	**Etsaut**	**56.52**	**333**	*e*P	**P**	**23 10 55.1**	**0.0**
ETSF				pmax	pmax		
	comp=Z,15nm,1.0s						
ETSF	**Etsaut**	**56.52**	**333**	*e*P	**P**	**23 10 55.1**	**0.0**
	comp=Z,15nm,1.0s						
LBL	**Lubilhac**	**56.88**	**338**	*e*P	**P**	**23 10 58.7**	**+1.1**
VRAC	**Vranov**	**56.88**	**350**	P	**P**	**23 10 56.9**	**-0.5**
VRAC	**Vranov**	**56.88**	**350**	P	**P**	**23 10 56.9**	**-0.5**
	comp=Z,7.9nm,0.9s,baz=152,slow=5.7,SNR=12						
SJPF	**Ste Jean**	**56.99**	**333**	*e*P	**P**	**23 10 58.6**	**+0.3**
	comp=Z,11nm,0.8s						
SJPF	**Ste Jean**	**56.99**	**333**	*e*P	**P**	**23 10 58.6**	**+0.3**
SJPF				pmax

	comp=Z,9.0nm,0.8s								
CDF	**Champ du Feu**	**58.29**	**342**	*e*P		**P**	**23 11 06.5**	**-0.9**
	comp=Z,8.5nm,0.8s								
SSF	**Saint Saulge**	**58.34**	**339**	*e*P		**P**	**23 11 07.0**	**-0.7**
	comp=Z,7.6nm,0.9s								
SSF	**Saint Saulge**	**58.34**	**339**	*e*P		**P**	**23 11 07.0**	**-0.7**
SSF				pmax	pmax				
	comp=Z,8.0nm,0.9s								
SSF	**Saint Saulge**	**58.34**	**339**	*e*P		**P**	**23 11 07.0**	**-0.7**
	comp=Z,7.6nm,0.9s								
GRFO	**Grafenberg**	**58.38**	**346**	*e*P		**P**	**23 11 08.1**	**+0.1**
GRFO				pmax	pmax				
	comp=Z,22nm,1.1s								
GRFO	**Grafenberg**	**58.38**	**346**	*e*P		**P**	**23 11 08.1**	**+0.1**
	comp=Z,22nm,1.1s								
GRF	**Grafenberg Arr**	**58.38**	**346**	*e*P		**P**	**23 11 07.8**	**-0.2**
	comp=Z,26nm,1.1s								
GRF	**Grafenberg Arr**	**58.38**	**346**	*e*P		**P**	**23 11 07.8**	**-0.2**
GRF				pmax	pmax				
	comp=Z,24nm,1.1s								
LOR	**Lormes**	**58.39**	**339**	*e*P		**P**	**23 11 07.3**	**-0.8**
	comp=Z,9.0nm,0.8s								
LOR				*e*R					
	comp=Z,86nm,19.0s								
LOR	**Lormes**	**58.39**	**339**	*e*P		**P**	**23 11 07.3**	**-0.8**
	comp=Z,9.0nm,0.8s								
KSP	**Ksiaz**	**58.41**	**350**	*e*P		**P**	**23 11 07.8**	**-0.3**
MANZ	**Manzenberg**	**58.45**	**347**	*e*P		**P**	**23 11 08.3**	**-0.1**
	comp=Z,17nm,1.0s								
THEF	**They Montfort**	**58.52**	**341**	*e*P		**P**	**23 11 09.4**	**+0.4**
LANF	**Langenberg**	**58.64**	**343**	*e*P		**P**	**23 11 10.3**	**+0.5**
WERN	**Wernitzgruen**	**58.67**	**347**	*e*P		**P**	**23 11 10.0**	**0.0**
	comp=Z,28nm,1.9s								
GUNZ	**Gunzen**	**58.75**	**347**	*e*P		**P**	**23 11 10.7**	**+0.2**
	comp=Z,24nm,1.7s								
TANN	**Tannenbergstha**	**58.77**	**347**	*e*P		**P**	**23 11 10.9**	**+0.2**
	comp=Z,14nm,1.4s								
SFTF	**Sexfontaines**	**58.80**	**341**	*e*P		**P**	**23 11 11.0**	**+0.1**
	comp=Z,24nm,1.0s								
SFTF	**Sexfontaines**	**58.80**	**341**	*e*P		**P**	**23 11 11.0**	**+0.1**
	comp=Z,24nm,1.0s								
WERD	**Werda**	**58.83**	**347**	*e*P		**P**	**23 11 11.4**	**+0.3**
	comp=Z,42nm,1.9s								
BRG	**Berggiesshubel**	**58.88**	**348**	*e*P		**P**	**23 11 11.2**	**-0.2**
	comp=Z,17nm,1.7s								
BRG	**Berggiesshubel**	**58.88**	**348**	*e*P		**P**	**23 11 11.2**	**-0.2**
	comp=Z,17nm,1.7s								
BRG	**Berggiesshubel**	**58.88**	**348**	*e*P		**P**	**23 11 11.2**	**-0.2**
BRG				pmax	pmax				
	comp=Z,3.0nm,1.7s								
PAGF	**Fort de Pagny**	**58.89**	**341**	*e*P		**P**	**23 11 11.2**	**-0.3**
	comp=Z,14nm,1.5s								
PAGF	**Fort de Pagny**	**58.89**	**341**	*e*P		**P**	**23 11 11.2**	**-0.3**
	comp=Z,14nm,1.5s								
PLN	**Plauen**	**58.90**	**347**	*e*P		**P**	**23 11 11.6**	**0.0**
	comp=Z,51nm,0.8s								
MOX	**Moxa**	**59.17**	**347**	*e*P		**P**	**23 11 13.4**	**-0.1**
	comp=Z,10.0nm,1.2s								
MOX	**Moxa**	**59.17**	**347**	*e*P		**P**	**23 11 13.4**	**-0.1**
MOX				pmax	pmax				
	comp=Z,44nm,1.2s								
MFF	**Saint Martin d**	**59.34**	**336**	*e*P		**P**	**23 11 14.6**	**0.0**
	comp=Z,10nm,0.8s								
MFF	**Saint Martin d**	**59.34**	**336**	*e*P		**P**	**23 11 14.6**	**0.0**
MFF				pmax	pmax				
	comp=Z,11nm,0.8s								
MFF	**Saint Martin d**	**59.34**	**336**	*e*P		**P**	**23 11 14.6**	**0.0**
	comp=Z,10nm,0.8s								
CLL	**Collm**	**59.49**	**348**	*e*P		**P**	**23 11 15.1**	**-0.6**
	comp=Z,10.0nm,1.3s								
CLL	**Collm**	**59.49**	**348**	*e*P		**P**	**23 11 15.0**	**-0.6**
CLL				*e*			23 11 20.0		
CLL				*e*			23 12 04.0		
CLL				pmax	pmax				
	comp=Z,10.0nm,1.3s								
CLL				pmax	pmax				
	comp=Z,7.0nm,1.2s								
CLL	**Collm**	**59.49**	**348**	*e*P		**P**	**23 11 15.0**	**-0.6**
	comp=Z,10.0nm,1.3s								
CLL				*e*sP		**sP**	**23 11 20.0**	**-2.0**
CLL				*e*PcP		**PcP**	**23 12 04.0**	**+0.9**
	comp=Z,7.0nm,1.2s								
TNS	**Taunus Mts**	**59.58**	**344**	*e*P		**P**	**23 11 16.6**	**+0.2**
	comp=Z,12nm,1.0s								
TNS	**Taunus Mts**	**59.58**	**344**	*e*P		**P**	**23 11 16.6**	**+0.2**
TNS				pmax	pmax				
	comp=Z,24nm,1.0s								
NEUB	**Neuenburg**	**59.66**	**347**	*e*P		**P**	**23 11 17.3**	**+0.5**
	comp=Z,15nm,1.0s								
CLZ	**Clausthal**	**60.58**	**346**	*e*P		**P**	**23 11 23.5**	**+0.4**
	comp=Z,28nm,1.8s								
CLZ	**Clausthal**	**60.58**	**346**	*e*P		**P**	**23 11 23.5**	**+0.4**
CLZ				pmax	pmax				
	comp=Z,21nm,1.8s								
SUW	**Suwalki**	**60.65**	**355**	*e*P		**P**	**23 11 23.6**	**+0.1**
SUW	**Suwalki**	**60.65**	**355**	*e*P		**P**	**23 11 23.6**	**+0.1**
SUW	**Suwalki**	**60.65**	**355**	*e*P		**P**	**23 11 23.5**	**+0.1**
BAIF	**Baives**	**60.69**	**341**	*e*P		**P**	**23 11 23.1**	**-0.8**
	comp=Z,5.7nm,0.7s								
BAIF	**Baives**	**60.69**	**341**	*e*P		**P**	**23 11 23.1**	**-0.8**
BAIF				pmax	pmax				
	comp=Z,6.0nm,0.7s								
BAIF	**Baives**	**60.69**	**341**	*e*P		**P**	**23 11 23.1**	**-0.8**
	comp=Z,5.7nm,0.7s								
GRR	**Gorron**	**61.07**	**337**	*e*P		**P**	**23 11 26.8**	**+0.3**
	comp=Z,24nm,1.0s								
GRR	**Gorron**	**61.07**	**337**	*e*P		**P**	**23 11 26.8**	**+0.3**
GRR				pmax	pmax				
	comp=Z,24nm,1.0s								
GRR	**Gorron**	**61.07**	**337**	*e*P		**P**	**23 11 26.8**	**+0.3**
	comp=Z,24nm,1.0s								
FLN	**La Foliniere**	**61.23**	**338**	*e*P		**P**	**23 11 26.7**	**-0.9**
	comp=Z,33nm,1.2s								
FLN				*e*R					
	comp=Z,74nm,22.0s								
FLN	**La Foliniere**	**61.23**	**338**	*e*P		**P**	**23 11 26.7**	**-0.9**
FLN				pmax	pmax				
	comp=Z,33nm,1.2s								
FLN	**La Foliniere**	**61.23**	**338**	*e*P		**P**	**23 11 26.7**	**-0.9**
	comp=Z,33nm,1.2s								
NRDL	**Niedersach Rie**	**61.24**	**346**	*e*P		**P**	**23 11 28.4**	**+0.9**
	comp=Z,31nm,1.0s								
ABKAR	**Akbulak array**	**61.47**	**22**	*e*P		**P**	**23 11 28.8**	**-0.4**
	comp=Z,0.8nm,0.6s								
KKAR	**Karatay Array**	**61.63**	**33**	*e*P		**P**	**23 11 30.7**	**+0.2**
KKAR	**Karatay Array**	**61.63**	**33**	*e*P		**P**	**23 11 30.7**	**+0.2**
OBN	**Obninsk**	**61.73**	**4**	*αe*P		**P**	**23 11 30.7**	**-0.1**
OBN							23 12 13.0		
OBN				pmax	pmax				
	comp=Z,26nm,1.2s								
AKTO	**Aktyubinsk**	**61.78**	**20**	P		**P**	**23 11 31.2**	**0.0**
AKTO	**Aktyubinsk**	**61.78**	**20**	P		**P**	**23 11 31.2**	**0.0**
	comp=Z,3.8nm,0.7s,baz=214,slow=7.2,SNR=22								
AKTO				LR	LR		23 40 43.2		
	comp=Z,40nm,20.4s,baz=19,slow=38								
MOS	**Moscow**	**62.44**	**5**	*e*P		P	23 11 31.9	-3.6	
MOS				pmax	pmax				
	comp=Z,69nm,1.3s								
MOS				pmax	pmax				
	comp=Z,100nm,1.7s								
KSH	**Kashi**	**62.53**	**39**	*e*P		**P**	**23 11 33.9**	**-2.8**
KSH				sP		**sP**	**23 11 41.4**	**-1.8**
KSH				PP		**PP**	**23 13 53.1**	**-1.4**
KSH				PcS		**PcS**	**23 16 15.3**	**-3.9**
KSH				S	S		23 19 57.6	-6.5	
KSH				ScS		**SKSac**	**23 21 21.9**	**-7.1**
KSH				pmax	pmax				
	comp=Z,5.0nm,1.3s								
KSH				pmax	pmax				
	comp=Z,75nm,4.0s								
KSH				LR	LR				
	comp=N,120nm,6.5s								
KSH				LR	LR				
	comp=E,120nm,5.7s								
KSH				LR	LR				
	comp=Z,160nm,7.2s								
BSEG	**Bad Segeberg**	**62.53**	**347**	*e*P		**P**	**23 11 36.5**	**+0.3**
BSEG	**Bad Segeberg**	**62.53**	**347**	*e*P		**P**	**23 11 36.5**	**+0.3**
SYO	**Syowa Base**	**62.66**	**176**	*e*P		**P**	**23 11 36.4**	**-0.4**
SYO	**Syowa Base**	**62.66**	**176**	*e*pP		pP	23 11 39.4	-2.1	
AAK	**Ala-Archa**	**63.54**	**35**	*i*P		**P**	**23 11 44.6**	**+1.2**
AAK				pmax	pmax				
	comp=Z,11nm,1.2s								
AAK	**Ala-Archa**	**63.54**	**35**	P		**P**	**23 11 44.3**	**+0.8**
AAK	**Ala-Archa**	**63.54**	**35**	P		**P**	**23 11 44.3**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=236,slow=18,SNR=3.5								
MAW	**Mawson**	**64.85**	**167**	P		**P**	**23 11 54.1**	**+2.8**
MAW	**Mawson**	**64.85**	**167**	P		**P**	**23 11 54.1**	**+2.8**
	comp=Z,4.2nm,0.7s,baz=320,slow=12,SNR=6.1								
VSU	**Vasula**	**64.89**	**358**	*e*P		**P**	**23 11 51.2**	**-0.5**
VSU				pmax	pmax				
	comp=Z,54nm,1.1s								
ARU	**Arti**	**67.07**	**17**	*d i*P		**P**	**23 12 05.7**	**-0.1**
ARU							23 12 33.7		
ARU				PPP	PPP		23 16 07.8		
ARU				S		**S**	**23 20 56.1**	**-3.0**
ARU				pmax	pmax				
	comp=Z,29nm,1.2s								
ARU	**Arti**	**67.07**	**17**	P		**P**	**23 12 06.1**	**+0.3**
	comp=Z,121nm,0.9s,SNR=7.8								
EKA	**Eskdalemuir Ar**	**67.55**	**340**	P		**P**	**23 12 09.1**	**+0.2**
EKA	**Eskdalemuir Ar**	**67.55**	**340**	P		**P**	**23 12 09.1**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=125,slow=7.2,SNR=4.7								
HFS	**Hagfors**	**67.75**	**351**	P		**P**	**23 12 10.3**	**+0.3**
HFS	**Hagfors**	**67.75**	**351**	P		**P**	**23 12 10.3**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=128,slow=9.6,SNR=8.4								
FINES	**FINESS Array B**	**67.90**	**358**	P		**P**	**23 12 10.9**	**0.0**
FINES	**FINESS Array B**	**67.90**	**358**	P		**P**	**23 12 10.9**	**0.0**
	comp=Z,6.8nm,0.8s,baz=164,slow=7.5,SNR=11								
SVE	**Sverdlovsk**	**68.02**	**18**	*e*P		**P**	**23 12 09.9**	**-1.8**
SVE				pmax	pmax				
	comp=Z,13nm,1.4s								
SNAA	**Sanae**	**68.13**	**191**	*e*P		P	23 12 16.2	+3.8	
SNAA	**Sanae**	**68.13**	**191**	P		**P**	**23 12 14.4**	**+2.0**
SNAA	**Sanae**	**68.13**	**191**	P		**P**	**23 12 14.4**	**+2.0**
	comp=Z,1.1nm,1.0s,baz=56,slow=7.3,SNR=4.4								
VNA1	**Neumayer--Stat**	**68.42**	**193**	*e*P		P	23 12 18.9	+4.8	
BRVK	**Borovoye**	**68.52**	**25**	*e*P		**P**	**23 12 15.0**	**0.0**
BRVK				pmax	pmax				
	comp=Z,8.0nm,2.5s								
BVAR	**Borovoye Array**	**68.54**	**25**	LR	LR		23 44 57.9		
	comp=Z,39nm,20.5s,baz=282,slow=38								
KAF	**Kangasniemi**	**68.56**	**358**	*e*p		**P**	**23 12 14.3**	**-0.7**
	comp=Z,5.0nm,0.7s								
KAF	**Kangasniemi**	**68.56**	**358**	*e*P		**P**	**23 12 14.3**	**-0.7**
KAF				pmax	pmax				
	comp=Z,5.0nm,0.7s								
LSA	**Lhasa**	**68.89**	**55**	*e*P		**P**	**23 12 17.8**	**-0.6**
LSA				pmax	pmax				
	comp=Z,11nm,0.9s								
LSA	**Lhasa**	**68.89**	**55**	*e*P		**P**	**23 12 17.8**	**-0.6**
	comp=Z,11nm,0.9s								
NB2	**NORSAR Subarra**	**69.01**	**350**	P		**P**	**23 12 18.0**	**+0.1**
	comp=Z,13nm,1.0s,baz=162,slow=5.9								
NOA	**NORSAR Array B**	**69.01**	**350**	P		**P**	**23 12 18.2**	**+0.3**
NOA	**NORSAR Array B**	**69.01**	**350**	P		**P**	**23 12 18.2**	**+0.3**
	comp=Z,8.8nm,0.9s,baz=172,slow=5.8,SNR=4.1								
SOKR	**Solikamsk**	**69.33**	**14**	*d i*P		**P**	**23 12 20.6**	**+0.8**
SOKR				pmax	pmax				
	comp=Z,30nm,1.0s								
PSI	**Prapat**	**69.48**	**85**	LR	LR		23 36 35.9		
	comp=Z,65nm,18.8s,baz=223,slow=30								
MKAR	**Makanchi Array**	**70.48**	**35**	*e*P		**P**	**23 12 27.9**	**+0.6**
MKAR	**Makanchi Array**	**70.48**	**35**	*e*P		**P**	**23 12 27.9**	**+0.6**
MKAR	**Makanchi Array**	**70.48**	**35**	P		**P**	**23 12 27.8**	**+0.5**
	comp=Z,4.4nm,0.9s,baz=230,slow=5.5,SNR=23								
MKAR				LR	LR		23 46 19.3		
	comp=Z,57nm,18.0s,baz=62,slow=38								
KURBB	**Kurchatov Arra**	**70.69**	**30**	P		**P**	**23 12 29.6**	**+1.2**
	comp=Z,6.3nm,0.9s,baz=239,slow=6.6,SNR=25								
KURK	**Kurchatov**	**70.79**	**30**	P		**P**	**23 12 29.3**	**+0.3**
	comp=Z,46nm,1.1s,SNR=5.5								
KURK	**Kurchatov**	**70.79**	**30**	P		**P**	**23 12 29.6**	**+0.5**
KURK	**Kurchatov**	**70.79**	**30**	P		**P**	**23 12 29.6**	**+0.5**
TMCR	**Tamitsa**	**70.83**	**4**	*e*P		**P**	**23 12 27.8**	**-1.1**
TMCR				*e*			23 12 47.7		
TMCR				pmax	pmax				
	comp=Z,33nm,1.0s								
CMAR	**Chiang Mai Arr**	**72.42**	**68**	P		**P**	**23 12 41.8**	**+2.3**
CMAR	**Chiang Mai Arr**	**72.42**	**68**	P		**P**	**23 12 41.8**	**+2.3**
	comp=Z,2.7nm,0.6s,baz=262,slow=7.2,SNR=17								
CMAR				LR	LR		23 41 51.9		
	comp=Z,20nm,20.0s,baz=170,slow=34								
CHTO	**Chiang Mai**	**72.50**	**68**	*e*P		**P**	**23 12 40.0**	**0.0**
CHTO				pmax	pmax				
	comp=Z,7.0nm,0.9s								
CHTO	**Chiang Mai**	**72.50**	**68**	*e*P		**P**	**23 12 40.0**	**0.0**
	comp=Z,6.6nm,0.9s								
CHTO	**Chiang Mai**	**72.50**	**68**	P		**P**	**23 12 41.8**	**+1.8**
	comp=Z,10nm,1.0s								
CMMT	**Chiang Mai**	**72.50**	**68**	P		**P**	**23 12 42.0**	**+1.9**
	comp=Z,9.0nm,1.0s								
PBKT	**Sadao Pong**	**73.89**	**71**	P		**P**	**23 12 50.7**	**+2.5**
NVS	**Novosibirsk**	**75.49**	**29**	*e*P		**P**	**23 12 55.7**	**-1.1**
NVS				pmax	pmax				
	comp=N,8.0nm,1.5s								
NVS				pmax	pmax				
	comp=Z,19nm,1.5s								
ZALV	**Zalesovo Beam**	**75.77**	**30**	P		**P**	**23 12 58.5**	**+0.1**
ZALV							23 15 50.5		
ZALV	**Zalesovo Beam**	**75.77**	**30**	P		**P**	**23 12 58.5**	**+0.1**
ZALV				PP		**PP**	**23 15 50.5**	**+2.0**
ZALV	**Zalesovo Beam**	**75.77**	**30**	P		**P**	**23 12 58.5**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=266,slow=6.8,SNR=8.9								
ZALV				PP		**PP**	**23 15 50.5**	**+2.0**
	comp=Z,0.8nm,0.6s,baz=239,slow=10,SNR=3.7								
ZALV				LR	LR		23 49 16.3		
	comp=Z,71nm,19.0s,baz=243,slow=38								
ARCES	**ARCESS Array B**	**76.02**	**358**	P		**P**	**23 12 58.1**	**-1.4**
ARCES	**ARCESS Array B**	**76.02**	**358**	P		**P**	**23 12 58.1**	**-1.4**
	comp=Z,5.8nm,0.8s,baz=165,slow=5.0,SNR=11								
KMI	**Kunming**	**77.39**	**63**	P		**P**	**23 13 09.0**	**+0.5**
KMI				S		**S**	**23 22 59.8**	**+0.6**
KMI				pmax	pmax				
	comp=Z,10.0nm,1.2s								
GTA	**Gaotai**	**78.89**	**48**	P		**P**	**23 13 18.5**	**+2.1**
GTA				pP		**PcP**	**23 13 23.3**	**-1.7**
GTA				sP		**sP**	**23 13 25.5**	**+2.6**
GTA				S		**S**	**23 23 19.9**	**+5.4**
GTA				sS		**SKSac**	**23 23 27.9**	**-3.9**
GTA				pmax	pmax				
	comp=Z,10.0nm,1.4s								
GTA				pmax	pmax				
	comp=Z,59nm,5.5s								
GTA				LR	LR				
	comp=N,52nm,15.0s								
GTA				LR	LR				
	comp=E,58nm,15.2s								
GTA				LR	LR				
	comp=Z,88nm,13.8s								
CD2	**Chengdu**	**79.64**	**57**	*e*P		**P**	**23 13 21.6**	**+1.0**
CD2				pP		**pP**	**23 13 26.3**	**+0.9**
CD2				sP		**sP**	**23 13 28.5**	**+1.4**
CD2				PP		**PP**	**23 16 24.0**	**+2.4**
CD2				S		**S**	**23 23 22.8**	**+0.1**
CD2				sS		**sS**	**23 23 30.3**	**-0.4**
CD2				SS		**SS**	**23 28 34.3**	**+2.9**
CD2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
CD2				pmax	pmax				
	comp=Z,50nm,6.2s								
CD2				LR	LR				
	comp=E,450nm,10.2s								
CD2				LR	LR				
	comp=Z,160nm,10.4s								
LZH	**Lanzhou**	**81.01**	**52**	*e*P		**P**	**23 13 27.8**	**-0.2**
LZH				pP		**pP**	**23 13 31.0**	**-1.8**
LZH				sP		**sP**	**23 13 35.5**	**+1.0**
LZH				*e*S		**S**	**23 23 36.1**	**-1.0**
LZH				sS		**sS**	**23 23 43.0**	**-2.1**
LZH				pmax	pmax				
	comp=Z,37nm,1.5s								
LZH				pmax	pmax				
	comp=Z,130nm,7.9s								
LZH				LR	LR				
	comp=N,220nm,16.0s								
LZH				LR	LR				
	comp=E,200nm,17.2s								
LZH				LR	LR				
	comp=Z,360nm,19.5s								
GYA	**Guiyang**	**81.14**	**62**	P		**P**	**23 13 29.0**	**+0.2**
GYA				PP		**PP**	**23 16 35.8**	**+1.6**
GYA				S		**S**	**23 23 37.9**	**-0.8**
GYA				SKS		**SKSac**	**23 23 43.1**	**-4.9**
GYA				SS		**SS**	**23 28 55.6**	**+1.5**
GYA				pmax	pmax				
	comp=Z,20nm,1.0s								
GYA				pmax	pmax				
	comp=Z,120nm,5.3s								
GYA				LR	LR				
	comp=N,580nm,19.7s								
GYA				LR	LR				
	comp=E,520nm,20.0s								
GYA				LR	LR				
	comp=Z,570nm,19.5s								
QIZ	**Qiongzhong**	**82.65**	**70**	P		**P**	**23 13 33.8**	**-3.0**
QIZ				S		**S**	**23 23 54.1**	**-0.2**
QIZ				pmax	pmax				
	comp=Z,21nm,1.5s								
QSPA	**South Pole Qui**	**83.48**	**180**	*e*P		**P**	**23 13 39.9**	**-0.4**
	comp=Z,4.2nm,0.9s								
MOY	**Mondy**	**83.59**	**36**	*e*P		**P**	**23 13 43.4**	**+2.3**
ZAK	**Zakamensk**	**84.56**	**38**	*e*P		**P**	**23 13 47.7**	**+1.7**
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.1s								
SONM	**Songino Array**	**85.84**	**41**	P		**P**	**23 13 53.6**	**+1.0**
SONM	**Songino Array**	**85.84**	**41**	P		**P**	**23 13 53.6**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=236,slow=5.1,SNR=9.1								
SONM				LR	LR		23 53 34.2		
	comp=Z,44nm,20.9s,baz=267,slow=37								
HHC	**Hu-ho-hao-te**	**87.96**	**49**	*e*P		**P**	**23 14 01.3**	**-1.7**
HHC				pP		**PcP**	**23 14 06.1**	**+1.3**
HHC				sP		**sP**	**23 14 08.3**	**-1.3**
HHC				PP		**PP**	**23 17 30.6**	**+1.1**
HHC				SKS		**SKSac**	**23 24 27.1**	**-4.2**
HHC				S		**SKKSac**	**23 24 43.0**	**+1.6**
HHC				sS		**ScS**	**23 24 51.0**	**-1.6**
HHC				SS		**SS**	**23 30 34.8**	**+0.6**
HHC				pmax	pmax				
	comp=Z,28nm,1.0s								
HHC				pmax	pmax				
	comp=Z,170nm,5.0s								
HHC				LR	LR				
	comp=N,150nm,17.6s								
HHC				LR	LR				
	comp=E,250nm,15.7s								
HHC				LR	LR				
	comp=Z,280nm,17.1s								
SIV	**San Ignacio**	**89.19**	**254**	P		**P**	**23 14 10.5**	**+1.3**
SIV	**San Ignacio**	**89.19**	**254**	P		**P**	**23 14 10.5**	**+1.3**
	comp=Z,2.7nm,0.9s,baz=113,slow=5.8,SNR=8.0								
PLCA	**Paso Flores**	**93.64**	**228**	LR		LR	23 50 51.0		
	comp=Z,89nm,19.0s,baz=166,slow=32								
LPAZ	**La Paz**	**95.87**	**253**	LR		LR	23 56 30.6		
	comp=Z,50nm,19.3s,baz=312,slow=35								
MDJ	**Mudanjiang**	**101.46**	**46**	P		**Pdif**	**23 15 03.9**	**-0.6**
MDJ				pmax	pmax				
	comp=Z,9.0nm,1.5s								
MDJ				pmax	pmax				
	comp=Z,33nm,3.5s								
PDAR	**Pinedale Array**	**129.31**	**322**	PKP		**PKPdf**	**23 20 22.8**	**+1.0**
PDAR	**Pinedale Array**	**129.31**	**322**	PKP		**PKPdf**	**23 20 22.8**	**+1.0**
	comp=Z,0.8nm,0.9s,baz=102,slow=2.1,SNR=5.7								

IPEC ***20*** *23:01:49.9±0.2, 50.25°N×19.08°E, h1km±1km, ML1.7/3, Error ellipse: s-maj=2.8km s-min=1.1km az=169.0*
CSEM ***20*** *23:01:50.1±0.3, 50.22°N×19.03°E, h1km, ML2.6/6, Error ellipse: s-maj=8.1km s-min=3.3km az=7.0*
PRU ***20*** *23:01:50.9, 50.19°N×19.02°E, h0km*
WAR 20 23:01:52.7, 50.20°N×19.14°E, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.43**	**87**	*e*Pg		Pg	Pg	23 01 59.0	-1.9
OJC				*e*Sg		Sg	Sg	23 02 05.3	-1.2
OJC	**Ojcow**	**0.43**	**87**	*e*Pg		Pg	Pg	23 01 59.0	-1.9
OJC				*e*Sg		Sg	Sg	23 02 05.3	-1.2
OKC	**Ostrava-Krasne**	**0.73**	**241**	*e*PG		Pg	Pg	23 02 03.9	-2.8
OKC				*e*SG		Sg	Sg	23 02 11.2	-5.0
	comp=Z,12nm,0.6s								
OKC	**Ostrava-Krasne**	**0.73**	**241**	Pg		Pg	Pg	23 02 03.9	-2.8
OKC				Sg		Sg	Sg	23 02 11.2	-5.0
	12nm,0.6s								
NIE	**Niedzica**	**1.09**	**135**	*e*Pg		Pg	Pg	23 02 13.8	+0.1
NIE				*e*Sg		Sg	Sb	23 02 29.5	+0.2
NIE	**Niedzica**	**1.09**	**135**	*e*Pg		Pg	Pg	23 02 13.8	+0.1
NIE				*e*Sg		Sg	Sb	23 02 29.5	+0.2
MORC	**Moravsky Berou**	**1.11**	**248**	*e*Pg		Pg	Pg	23 02 10.7	-3.4
MORC				*e*Sg		Sg	Sg	23 02 24.3	-4.2
	12nm,0.2s,baz=64								
STHS	**Stebnicka Huta**	**1.57**	**119**	*e*PN		Pn	Pn	23 02 20.6	-1.3
STHS				*e*SN		Sn	Sn	23 02 42.4	-0.6
STHS	**Stebnicka Huta**	**1.57**	**119**	*e*Pn		Pn	Pn	23 02 20.6	-1.3
STHS				*e*Sn		Sn	Sn	23 02 42.4	-0.6
VYHS	**Vyhne**	**1.71**	**187**	*e*PN		Pn	Pn	23 02 20.5	-3.4
VYHS				*e*SN		Sn	Sn	23 02 43.1	-3.4
VYHS	**Vyhne**	**1.71**	**187**	*e*Pn		Pn	Pn	23 02 20.5	-3.4
VYHS				*e*Sn		Sn	Sn	23 02 43.2	-3.3
DPC	**Dobruska-Polom**	**1.81**	**276**	*e*PG		Pn	Pn	23 02 21.7	-3.5
DPC				*e*SG		Sn	Sn	23 02 46.3	-2.7
DPC	**Dobruska-Polom**	**1.81**	**276**	Pg		Pn	Pn	23 02 21.7	-3.5
DPC				Sg		Sn	Sn	23 02 46.3	-2.7
VRAC	**Vranov**	**1.87**	**243**	*e*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**3.33**	**4**	*e*Pn	**Pn**	**23 07 09.2**	**+1.0**
DBIC	**Dimbokro**	**20.29**	**29**	P	Pn	23 10 53.3	-0.7
	6.7nm,0.9s,baz=169,slow=11,SNR=2.0						
RCBR	**Riachuelo**	**21.77**	**283**	*e*P	**P**	**23 11 07.8**	**-0.4**
	7.5nm,1.0s						
RCBR	**Riachuelo**	**21.77**	**283**	LR	LR	23 17 13.3	
	comp=Z,181nm,21.4s,baz=271,slow=30						
TORD	**Torodi Ar. Bea**	**29.15**	**34**	P	**P**	**23 12 16.6**	**-0.9**
TORD	**Torodi Ar. Bea**	**29.15**	**34**	P	**P**	**23 12 16.6**	**-0.9**
	2.7nm,0.8s,baz=147,slow=8.0,SNR=4.3						
TORD				LR	LR	23 21 45.6	
	comp=Z,159nm,18.7s,baz=130,slow=32						
TSUM	**Tsumeb**	**31.97**	**108**	LR	LR	23 21 49.0	
	comp=Z,107nm,21.7s,baz=178,slow=29						
BDFB	**Brasilia**	**32.78**	**259**	P	**P**	**23 12 48.4**	**-1.4**
BDFB	**Brasilia**	**32.78**	**259**	P	**P**	**23 12 48.4**	**-1.4**
	3.9nm,0.8s,baz=64,slow=16,SNR=3.9						
SUR	**Sutherland**	**38.72**	**128**	LR	LR	23 26 06.9	
	comp=Z,171nm,20.1s,baz=59,slow=31						
BOSA	**Boshof**	**40.98**	**121**	LR	LR	23 26 59.2	
	comp=Z,148nm,21.7s,baz=349,slow=30						
ESDC	**Sonseca Array**	**51.64**	**10**	LR	LR	23 36 25.4	
	comp=Z,69nm,18.5s,baz=140,slow=35						
KEST	**Kesra**	**51.93**	**25**	*e*P	**P**	**23 15 24.7**	**-0.6**
KMBO	**Kilima Mbogo**	**52.42**	**83**	LR	LR	23 36 31.6	
	comp=Z,47nm,20.1s,baz=230,slow=35						
SNAA	**Sanae**	**60.78**	**176**	*e*P	**P**	**23 16 27.1**	**-0.8**
	4.8nm,1.2s						
SNAA	**Sanae**	**60.78**	**176**	P	**P**	**23 16 27.3**	**-0.6**
	0.6nm,0.8s,baz=326,slow=10,SNR=2.8						
GERES	**GERESS Array B**	**64.86**	**20**	P	**P**	**23 16 55.0**	**-0.4**
GERES	**GERESS Array B**	**64.86**	**20**	P	**P**	**23 16 55.0**	**-0.4**
	0.1nm,0.4s,baz=204,slow=6.5,SNR=3.2						
VNDA	**Vanda**	**91.34**	**179**	P	**P**	**23 19 23.4**	**+1.8**
VNDA	**Vanda**	**91.34**	**179**	P	**P**	**23 19 23.4**	**+1.8**
	0.5nm,0.8s,baz=205,slow=6.7,SNR=3.0						
VNDA				LR	LR	23 57 14.0	
	comp=Z,76nm,21.2s,baz=148,slow=34						
TXAR	**Lajitas Array**	**94.65**	**299**	P	**P**	**23 19 39.8**	**+1.8**
TXAR	**Lajitas Array**	**94.65**	**299**	P	**P**	**23 19 39.8**	**+1.8**
	0.2nm,0.7s,baz=126,slow=5.9,SNR=2.4						
MJAR	**Matsushiro Arr**	**144.86**	**40**	PKP	**PKPab**	**23 25 52.4**	**-0.4**
MJAR	**Matsushiro Arr**	**144.86**	**40**	PKP	**PKPab**	**23 25 52.4**	**-0.4**
	1.0nm,0.7s,baz=275,slow=2.4,SNR=4.1						

IDC 20 23:27:24.5±1.9, 4°24'N×126°63'E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/22, mbtmp3.7/4, Error ellipse: s-maj=150.3km s-min=24.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.19**	**163**	P	P	23 32 50.5	-1.5
	1.0nm,0.6s,baz=342,slow=10,SNR=15						
ASAR	**Alice Springs**	**28.62**	**166**	P	P	23 33 24.1	+1.1
	0.2nm,0.4s,baz=354,slow=10,SNR=4.9						
STKA	**Stephens Creek**	**38.63**	**159**	P	P	23 34 50.3	+0.5
	2.0nm,0.8s,baz=354,slow=10,SNR=2.2						
MKAR	**Makanchi Array**	**57.09**	**325**	P	P	23 37 12.6	-0.1
	0.2nm,0.3s,baz=119,slow=8.2,SNR=6.6						

*NIED **21** 00:10:00, 32°.70N×138°.00E, h360km, Mw4.2 Best double couple: M0 2.02000×10^15 NP1:φs 206.00000°, δ73.00000°, λ61.00000°. NP2:φs 89.00000°, δ33.00000°, λ148.00000°.*
*JMA **21** 00:10:19.4±0.2, 32°.67N×138°.01E, h363km, M3.9*
*ISCJB **21** 00:10:20.9±0.4, 32°.74N±0°.05×137°.96E±0°.06, h349km±3km, mb3.7/18, Error ellipse: s-maj=9.4km s-min=7.6km az=138.2*
*IDC **21** 00:10:21.2±1.1, 32°.70N×137°.92E, h337km±10km, mb3.5/18, mb1 3.6/23, mb1mx3.6/31, mbtmp3.5/23, Error ellipse: s-maj=13.2km s-min=10.5km az=95.0*
ISC 21 00:10:21.9±0.7, 32°.78N±0°.07×137°.97E±0°.06, h345km±6km, n45, σ0s92/55, mb3.7/18, 2C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**1.03**	**342**	P	**Pn**	**00 11 07.8**	**+1.1**
TK02	**Tokai 2**	**1.18**	**351**	P	**Pn**	**00 11 08.1**	**+0.6**
TTO3	**TONANKAI O.B.S**	**1.18**	**336**	P	**Pn**	**00 11 08.3**	**+0.7**
TTO2	**TONANKAI O.B.S**	**1.24**	**320**	P	**Pn**	**00 11 08.4**	**+0.7**
TTO4	**TONANKAI O.B.S**	**1.28**	**343**	P	**Pn**	**00 11 08.5**	**+0.6**
TTO1	**TONANKAI O.B.S**	**1.30**	**310**	P	**Pn**	**00 11 08.5**	**+0.5**
TK03	**Tokai 3**	**1.38**	**360**	P	**Pn**	**00 11 09.1**	**+0.5**
TTO5	**TONANKAI O.B.S**	**1.48**	**352**	P	**Pn**	**00 11 09.6**	**+0.5**
JHJ2	**Mitsune**	**1.58**	**78**	P	**Pn**	**00 11 09.8**	**-0.2**
JHJ2				*e*S	**S**	**00 11 48.6**	**+0.1**
JIE	**Ise**	**1.92**	**327**	P	**Pn**	**00 11 12.2**	**+0.1**
JIE				S	**S**	**00 11 52.2**	**-0.2**
JWZ	**Kozaga**	**2.04**	**292**	⇑P	**Pn**	**00 11 12.2**	**-0.7**
JWY	**Kouya**	**2.45**	**306**	⇑P	**Pn**	**00 11 16.5**	**+0.3**
JOD2	**Odawara 2**	**2.64**	**20**	P	**Pn**	**00 11 18.8**	**+1.1**
JOD2				*e*S	**S**	**00 12 02.7**	**+0.2**
JYN	**Shimob**	**2.75**	**10**	P	**Pn**	**00 11 19.3**	**+0.7**
JGM	**Miyama**	**3.09**	**341**	P	**Pn**	**00 11 22.1**	**+0.5**
JAI	**Aioi**	**3.12**	**290**	P	**Pn**	**00 11 20.7**	**-1.2**
BSO1	**Boso 1**	**3.12**	**52**	P	**Pn**	**00 11 19.4**	**-1.9**
BSO1				S	**S**	**00 12 06.9**	**-2.3**
JWT	**Wachi**	**3.28**	**320**	P	**Pn**	**00 11 23.1**	**-0.3**
JWT				S	**S**	**00 12 12.8**	**-0.1**
JRY	**Ryogami san**	**3.32**	**13**	P	**Pn**	**00 11 24.2**	**+0.5**
JRY				S	**S**	**00 12 13.8**	**+0.2**
MJAR	**Matsushiro Arr**	**3.75**	**3**	P	**Pn**	**00 11 27.8**	**-0.3**
	4.4nm,0.3s,baz=183,slow=10,SNR=57						
MJAR				S	**S**	**00 12 20.7**	**-0.6**
	1.7nm,0.3s,baz=234,slow=46,SNR=12						
MAT	**Matsushiro**	**3.76**	**3**	P	**Pn**	**00 11 27.9**	**-0.1**
MAT				S	**S**	**00 12 20.4**	**-1.0**
JTO	**Tosashimizu**	**4.36**	**272**	P	**Pn**	**00 11 33.6**	**-0.7**
JHS	**Saijyo**	**4.61**	**300**	P	**Pn**	**00 11 36.3**	**-0.7**
JNU	**Nakatsue**	**5.97**	**275**	P	**Pn**	**00 11 52.1**	**-0.2**
	0.7nm,0.3s,baz=85,slow=9,SNR=3.9						
KSRS	**Korea Array**	**9.46**	**302**	P	**Pn**	**00 12 33.9**	**+0.7**
	1.2nm,0.3s,baz=115,slow=13,SNR=52						
ASAJ	**Asahikawa**	**11.88**	**16**	P	**P**	**00 13 02.3**	**+0.1**
	1.0nm,0.3s,baz=150,slow=20,SNR=3.0						
ASAJ				S	**S**	**00 15 11.0**	**-3.3**
	0.6nm,0.3s,baz=3.5,slow=15,SNR=2.5						
USRK	**Ussuriysk Arra**	**12.32**	**339**	P	**Pn**	**00 13 07.3**	**+0.1**
	3.1nm,0.3s,baz=151,slow=11,SNR=63						
PETK	**Petropavlovsk-**	**24.72**	**29**	P	**P**	**00 15 12.9**	**-0.4**
	1.5nm,0.6s,baz=221,slow=11,SNR=4.4						
SONM	**Songino Array**	**28.15**	**312**	P	**P**	**00 15 44.0**	**+0.5**
	7.5nm,0.7s,baz=119,slow=7.8,SNR=21						
ZALV	**Zalesovo Beam**	**42.84**	**316**	P	**P**	**00 17 46.7**	**-0.3**
	1.5nm,0.4s,baz=90,slow=8.3,SNR=8.1						
MKAR	**Makanchi Array**	**44.12**	**305**	P	**P**	**00 17 57.1**	**-0.1**
	1.9nm,0.4s,baz=85,slow=9.9,SNR=53						
MKAR				pP	**pP**	**00 19 06.9**	**+0.6**
	0.6nm,0.7s,baz=96,slow=11,SNR=4.5						
KDAK	**Kodiak Island**	**52.16**	**39**	P	**P**	**00 18 59.1**	**+1.3**
	5.2nm,0.4s,baz=294,slow=10.0,SNR=7.9						
WRA	**Warramunga Arr**	**52.54**	**184**	P	**P**	**00 18 59.8**	**-1.3**
	1.5nm,0.6s,baz=0.3,slow=7.6,SNR=24						
ILAR	**Eielson Array**	**54.59**	**31**	P	**P**	**00 19 16.1**	**+0.9**
	1.0nm,0.7s,baz=280,slow=5.6,SNR=10						
ASAR	**Alice Springs**	**56.27**	**184**	P	**P**	**00 19 27.0**	**-0.7**
	1.1nm,0.6s,baz=14,slow=11,SNR=14						
STKA	**Stephens Creek**	**64.40**	**177**	P	**P**	**00 20 21.9**	**-0.1**
	1.1nm,0.6s,baz=12,slow=9.3,SNR=3.2						
ARCES	**ARCESS Array B**	**66.97**	**339**	P	**P**	**00 20 38.3**	**+0.4**
	1.8nm,0.8s,baz=52,slow=7.9,SNR=7.6						
FINES	**FINESS Array B**	**71.24**	**332**	P	**P**	**00 21 03.7**	**-0.2**
	1.4nm,0.6s,baz=75,slow=5.9,SNR=9.8						
KBZ	**Khabaz**	**71.51**	**310**	P	**P**	**00 21 06.8**	**+0.9**
	6.1nm,0.8s,baz=88,slow=2.0,SNR=15						
NOA	**NORSAR Array B**	**76.97**	**336**	P	**P**	**00 21 35.6**	**-1.3**
	1.0nm,0.7s,baz=44,slow=5.6,SNR=3.5						
BRTR	**Keskin Array B**	**79.50**	**311**	P	**P**	**00 21 51.6**	**+0.4**
	3.6nm,0.8s,baz=121,slow=4.7,SNR=16						
NVAR	**Mina Array Bea**	**79.83**	**51**	P	**P**	**00 21 54.6**	**+1.5**
	0.4nm,0.4s,baz=281,slow=9.1,SNR=3.6						
PDAR	**Pinedale Array**	**82.67**	**43**	P	**P**	**00 22 08.2**	**+0.4**
	0.6nm,0.7s,baz=270,slow=1.5,SNR=4.8						
GERES	**GERESS Array B**	**84.77**	**327**	P	**P**	**00 22 17.2**	**-0.9**
	0.2nm,0.4s,baz=29,slow=8.3,SNR=3.4						
TXAR	**Lajitas Array**	**94.97**	**50**	P	**P**	**00 23 07.6**	**+1.4**
	0.3nm,0.6s,baz=318,slow=2.3,SNR=5.9						

WEL 21 00:18:32.9±0.3, 45°.58S×166°.45E, h18km±1km, ML3.5/13,

2D, Error ellipse: s-maj=2.8km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.51**	**79**	P*	Pg	00 18 42.5	-0.6
DCZ				S*	Sg	00 18 49.1	-0.8
DCZ				AML	AML	00 18 50.0	
DCZ				AML	AML	00 18 54.9	
DCZ				AML	AML	00 18 54.9	
PYZ	**Puysegur Point**	**0.61**	**165**	⇓P*	Pb	00 18 44.1	-0.8
PYZ				S*	Sb	00 18 52.3	-0.9
WHZ	**Wether Hill Ro**	**1.10**	**107**	PN	Pb	00 18 52.6	-0.7
WHZ				S*	Sn	00 19 07.9	-0.1
WHZ				AML	AML	00 19 14.9	
MLZ	**Mavora Lakes**	**1.24**	**80**	⇓PN	Pn	00 18 54.2	-1.1
MSZ	**Milford Sound**	**1.39**	**50**	PN	Pg	00 19 00.5	+0.9
MSZ				AML	AML	00 19 19.0	
MSZ				AML	AML	00 19 19.0	
MSZ				AML	AML	00 19 19.1	
MSZ				AML	AML	00 19 19.1	
APZ	**The Paps**	**1.65**	**140**	PN	Pn	00 19 01.2	+0.2
WKZ	**Wanaka**	**1.97**	**68**	PN	Pb	00 19 07.6	-0.6
WKZ				AML	AML	00 19 38.6	
WKZ				AML	AML	00 19 43.5	
EAZ	**Earnscleugh**	**2.04**	**81**	PN	Pb	00 19 08.6	-0.9
EAZ				AML	AML	00 19 38.4	
EAZ				AML	AML	00 19 40.8	
SYZ	**Scrubby Hill**	**2.11**	**118**	PN	Pb	00 19 09.3	-1.2
JCZ	**Jackson Bay**	**2.23**	**48**	PN	Pb	00 19 12.3	-0.4
JCZ				AML	AML	00 19 52.9	
JCZ				AML	AML	00 19 57.8	
TUZ	**Tuapeka**	**2.26**	**101**	PN	Pb	00 19 12.1	-1.0
TUZ				AML	AML	00 19 44.5	
TUZ				AML	AML	00 19 45.1	
LBZ	**Lake Benmore**	**2.91**	**67**	PN	Pn	00 19 20.3	+2.1
ODZ	**Otahua Downs**	**3.01**	**81**	PN	Pn	00 19 21.0	+1.4

IDC 21 00:31:07.2±4.5, 3°.52S×101°.37E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/22, mbtmp3.4/3, Error ellipse: s-maj=178.1km s-min=29.3km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.05**	**120**	P	P	00 38 10.7	-0.1
	0.6nm,1.1s,baz=303,slow=9.4,SNR=4.2						
SONM	**Songino Array**	**51.33**	**4**	P	P	00 40 14.3	+0.8
	0.3nm,0.5s,baz=181,slow=8.5,SNR=2.9						
MKAR	**Makanchi Array**	**52.86**	**344**	P	P	00 40 24.0	-0.8
	0.5nm,0.7s,baz=156,slow=8.2,SNR=6.1						
TXAR	**Lajitas Array**	**145.02**	**40**	PKPbc	PKPbc	00 50 45.6	-1.2
	0.5nm,0.9s,baz=290,slow=2.7,SNR=2.7						

KRSC 21 00:36:09.9±1.2, 54°.72N×167°.24E, h5km±5km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.88**	**304**	*e*P	Pg	00 36 26.8	+0.1
BKI				*e*S	Sb	00 36 40.2	+0.6
BZGR	**Bezymyannyi-Gr**	**3.93**	**291**	*e*P	Pn	00 37 13.3	+2.3
BZGR				*e*S	Sn	00 37 58.5	+0.9
BZWR	**Bezymyannyi-We**	**4.05**	**291**	*e*S	Sn	00 38 00.9	+0.3
KMNR	**Kamenistaya**	**4.14**	**287**	*e*P	Pn	00 37 16.8	+2.9
KMNR				*e*S	Sn	00 38 04.6	+1.9
KPT	**Kopyto**	**4.20**	**290**	*e*P	Pn	00 37 17.7	+3.1
KPT				*e*S	Sn	00 38 06.0	+1.9
SPN	**Mys Shipunski**	**4.57**	**252**	P	Pn	00 37 21.3	+1.7
SPN				*e*S	Sn	00 38 14.0	+1.0
SMAR	**Somma**	**5.19**	**257**	*e*P	Pn	00 37 31.4	+3.0
UGLR	**Uglovaya**	**5.20**	**256**	*e*P	Pn	00 37 31.4	+3.0
AVH	**Avacha**	**5.22**	**257**	*e*P	Pn	00 37 31.3	+2.6
AVH				*e*S	Sn	00 38 29.4	0.0
KOK	**Koryaka**	**5.27**	**258**	*e*P	Pn	00 37 31.7	+2.3
GNL	**Ganaly**	**5.55**	**263**	P	Pn	00 37 35.9	+2.6
RUS	**Russkaya**	**5.68**	**250**	*e*P	Pn	00 37 37.4	+2.5
MTVR	**Mutnovka**	**5.84**	**251**	*e*S	Sn	00 38 46.3	+1.6
ASAK	**Asacha**	**6.04**	**251**	*e*P	Pn	00 37 42.7	+2.8

IDC 21 00:57:55.4±35.0, 24°.52S×179°.88E, h459km±325km, mb3.2/3, mb1 3.4/3, mb1mx3.0/18, mbtmp3.2/3, Error ellipse: s-maj=224.4km s-min=52.8km az=67.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.38**	**271**	P	P	01 03 37.7	+0.3
	2.5nm,0.4s,baz=73,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**41.83**	**261**	P	P	01 05 04.2	+0.2
	0.6nm,0.5s,baz=98,slow=6.4,SNR=8.8						
WRA	**Warramunga Arr**	**42.26**	**267**	P	P	01 05 06.7	-0.8
	1.1nm,0.3s,baz=103,slow=8.3,SNR=20						
HFS	**Hagfors**	**143.13**	**349**	PKhKP	PKPpre	01 16 26.8	
	2.9nm,0.9s,baz=3.8,slow=4.5,SNR=6.5						
BRTR	**Keskin Array B**	**147.86**	**306**	PKPbc	PKPbc	01 16 47.9	-0.5
	0.5nm,0.7s,baz=48,slow=3.7,SNR=2.8						
TORD	**Torodi Ar. Bea**	**168.56**	**189**	PKPab	PKPab	01 18 21.4	-0.6
	1.5nm,1.3s,baz=199,slow=4.0,SNR=2.8						

*ISCJB **21** 00:59:08.4±0.9, 22°.4N±0°.1×94°.4E±0°.2, h106km, mb3.4/4, Error ellipse: s-maj=31.0km s-min=8.2km az=149.9*
*IDC **21** 00:59:10.9±4.3, 22°.12N×94°.37E, h104km±39km, mb3.1/4, mb1 3.2/5, mb1mx3.0/26, mbtmp3.0/5, Error ellipse: s-maj=62.9km s-min=21.6km az=53.0*
ISC 21 00:59:10.4±1.0, 22°.4N±0°.2×94°.5E±0°.2, h106km, n7, σ1s89/8, mb3.4/4, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.47**	**349**	*e*P	Pn	00 59 53.0	+3.6
IMP				*e*S	**Sn**	**01 00 18.0**	**-1.3**
SHL	**Shillong**	**3.98**	**324**	*e*SG	**Sn**	**01 00 53.0**	**-2.3**
CMAR	**Chiang Mai Arr**	**5.72**	**132**	P	**Pn**	**01 00 31.8**	**-1.1**
	0.7nm,0.3s,baz=309,slow=13,SNR=6.7						
MKAR	**Makanchi Array**	**26.30**	**341**	P	**P**	**01 04 39.0**	**+3.0**
	0.2nm,0.4s,baz=151,slow=11,SNR=5.4						
MKAR				pP	**pP**	**01 05 00.1**	**+0.8**
	0.9nm,0.8s,baz=147,slow=9.2,SNR=7.0						
WRA	**Warramunga Arr**	**57.30**	**134**	P	**P**	**01 08 47.4**	**-0.1**
	0.6nm,0.7s,baz=322,slow=7.3,SNR=10						
ASAR	**Alice Springs**	**59.70**	**138**	P	**P**	**01 09 04.2**	**+0.2**
	0.3nm,0.5s,baz=316,slow=6.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**87.59**	**283**	P	**P**	**01 11 47.2**	**-0.1**
	0.2nm,0.9s,baz=97,slow=4.7,SNR=3.0						

NNC 21 00:59:16.8±14.0, 37°.21N×69°.40E, h0km, mb3.8, mpv3.5, 1C-4D, Error ellipse: s-maj=118.7km s-min=84.5km az=168.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.95**	**8**	Pn	Pn	01 00 44.7	-1.5
	3.0nm,0.4s,baz=196,slow=15,SNR=19						
KK31				⇑Sn	Sn	01 01 58.7	+3.7
	4.1nm,0.6s,baz=194,slow=28,SNR=3.6						
TKM2	**Tokmak 2**	**7.42**	**38**	⇓Pn	Pn	01 01 08.3	+1.6
	1.2nm,0.5s						
TKM2				⇓Sn	Sn	01 02 27.2	-4.6
	2.6nm,0.6s						
AB31	**Akbulak array**	**13.85**	**333**	⇓P	Pn	01 02 34.2	-0.2
	0.2nm,0.3s,baz=162,slow=9.8,SNR=16						
AKTO	**Aktyubinsk**	**15.53**	**332**	⇓P	P	01 02 59.6	-2.0
	1.3nm,0.6s						

*ISCJB **21** 01:13:45.3±0.6, 56°.82N±0°.05×155°.13W±0°.07, h52km, mb3.3/2, Error ellipse: s-maj=7.9km s-min=4.6km az=157.4*
*NEIC **21** 01:13:47.0, 56°.84N×155°.13W, h47km, ML3.1(AEIC), After AEIC.*
*IDC **21** 01:13:52.3±1.8, 56°.74N×152°.91W, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/24, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=35.1km s-min=15.5km az=97.0*
ISC 21 01:13:47.0±1.1, 56°.85N±0°.07×155°.14W±0°.04, h52km, n22, σ0s90/25, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK4	**Peulik 4**	**1.02**	**320**	P	**Pn**	**01 14 04.0**	**-1.1**
PLK3	**Peulik 3**	**1.04**	**324**	P	**Pn**	**01 14 04.2**	**-1.1**
PLK3				S	**Sn**	**01 14 18.1**	**-0.7**
OHAK	**Old Harbor**	**1.08**	**69**	*e*Pg	**Pn**	**01 14 05.1**	**-0.6**
OHAK				*e*S	**Sn**	**01 14 18.3**	**-1.4**
PLK2	**Peulik 2**	**1.12**	**325**	P	**Pn**	**01 14 05.9**	**-0.5**
PLK1	**Peulik 1**	**1.24**	**321**	P	**Pn**	**01 14 07.5**	**-0.5**
PLBL	**Peulik Blue Cr**	**1.25**	**314**	P	**Pn**	**01 14 07.8**	**-0.3**
ACHA	**Angle Creek He**	**1.36**	**356**	P	**Pn**	**01 14 08.9**	**-0.9**
ACHA				S	**Sn**	**01 14 26.5**	**-0.3**
KAKN	**Katmai Knife C**	**1.45**	**2**	P	**Pn**	**01 14 10.4**	**-0.4**
ANPK	**Aniakchak Peak**	**1.64**	**271**	P	**Pn**	**01 14 12.7**	**-0.9**
KDAK	**Kodiak Island**	**1.67**	**55**	*e*Pn	**Pn**	**01 14 13.1**	**-0.7**
KDAK				S	**Sn**	**01 14 33.3**	**-0.7**
KDAK	**Kodiak Island**	**1.67**	**55**	Pg	**Pn**	**01 14 12.7**	**-1.1**
	5.9nm,0.3s,baz=229,slow=7.8,SNR=151						
KDAK				Lg	Lg	01 14 28.0	
	50nm,0.3s,baz=319,slow=20,SNR=20						
KAHC	**Katmai Hardscr**	**1.80**	**2**	P	**Pn**	**01 14 15.2**	**-0.6**
CHGN	**Chignik**	**1.90**	**254**	*e*Pn	**Pn**	**01 14 16.3**	**-0.6**
VNHG	**Veniaminof 1**	**2.32**	**256**	P	**Pn**	**01 14 22.6**	**-0.2**
SDPT	**Sand Point**	**3.35**	**245**	*e*Pn	Pn	01 14 32.6	-4.1
SDPT				*e*S	**Sn**	**01 15 14.5**	**-0.7**
CNPM	**China Poot**	**3.38**	**36**	P	**Pn**	**01 14 36.9**	**-0.4**
RSO	**Redoubt South**	**3.83**	**18**	*e*Pn	**Pn**	**01 14 44.1**	**+0.6**
DTNA	**Dutton South F**	**4.34**	**250**	P	**Pn**	**01 14 49.2**	**-1.2**
ILAR	**Eielson Array**	**8.90**	**23**	Pn	**Pn**	**01 15 52.1**	**-0.6**
	0.2nm,0.3s,baz=209,slow=14,SNR=6.4						
ILAR				Sn	Sn	01 17 24.8	-6.6
	0.0nm,0.3s,baz=211,slow=14,SNR=2.8						
INK	**Inuvik**	**15.08**	**32**	Pn	**Pn**	**01 17 18.3**	**+1.9**
	0.2nm,0.3s,baz=229,slow=9.3,SNR=3.5						
PDAR	**Pinedale Array**	**31.95**	**96**	P	**P**	**01 20 08.7**	**+0.8**
	0.4nm,0.5s,baz=339,slow=4.8,SNR=4.5						
MKAR	**Makanchi Array**	**66.18**	**321**	P	P	01 24 46.8	+18
	0.1nm,0.4s,baz=32,slow=9.4,SNR=3.0						

*ISCJB **21** 01:14:56.1±1.2, 34°.13N±0°.03×26°.58E±0°.03, h9km±9km, mb3.6/9, MS3.0/1, Error ellipse: s-maj=5.2km s-min=3.5km az=141.1*
*IDC **21** 01:14:56.1±1.0, 34°.35N×26°.45E, h0km, mb3.8/9, mb1 3.9/15, mb1mx3.7/32, mbtmp3.8/15, ML3.5/5, MS3.1/1, Ms1 3.1/1, ms1mx2.0/42, Error ellipse: s-maj=22.0km s-min=16.1km az=180.0*
*ATH **21** 01:14:56.0, 34°.10N×26°.46E, h8km±3km, MD3.7/12*
*CSEM **21** 01:14:59.2±0.2, 34°.17N×26°.52E, h20km, MD3.7, Error ellipse: s-maj=5.1km s-min=3.5km az=46.0*
*HLW **21** 01:14:59.1, 34°.28N×26°.61E, h31km±25km, Md3.4, Ml3.3*
ISC 21 01:14:56.9±1.4, 34°.15N±0°.03×26°.49E±0°.04, h11km±9km, n85, σ1s45/98, mb3.8/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.99**	**347**	*e*PG	**Pg**	**01 15 14.8**	**-1.2**
ZKR				*e*SB	**Sg**	**01 15 29.5**	**+0.5**
LAST	**Lasithi**	**1.31**	**321**	*e*PN	**Pn**	**01 15 20.2**	**-1.1**
LAST				*e*SB	**Sg**	**01 15 39.8**	**+0.6**
NPS	**Neapolis**	**1.33**	**327**	*e*PB	**Pn**	**01 15 20.8**	**-0.7**
NPS				*e*SB	**Sg**	**01 15 39.9**	**+0.2**
NPS	**Neapolis**	**1.33**	**327**	*e*Pb	**Pn**	**01 15 20.8**	**-0.7**
NPS				*e*Sb	**Sg**	**01 15 39.9**	**+0.2**
KARP	**Karpathos**	**1.50**	**21**	*e*PB	**Pg**	**01 15 25.9**	**+0.1**
KARP	**Karpathos**	**1.50**	**21**	*e*Pb	**Pg**	**01 15 25.9**	**+0.1**
SIVA	**Sivas**	**1.64**	**302**	*e*PB	**Pb**	**01 15 28.8**	**-0.3**
SIVA	**Sivas**	**1.64**	**302**	*e*Pb	**Pb**	**01 15 28.8**	**-0.3**
IDI	**Anoyia**	**1.74**	**311**	*e*PG	**Pb**	**01 15 28.6**	**-0.4**
IDI	**Anoyia**	**1.74**	**311**	*e*Pg	**Pb**	**01 15 28.6**	**-0.4**
GVD	**Gavdhos**	**2.10**	**290**	*e*PN	**Pb**	**01 15 34.0**	**-1.1**
GVD	**Gavdhos**	**2.10**	**290**	*e*Pn	**Pb**	**01 15 34.0**	**-1.1**
VAM	**Vamos**	**2.27**	**304**	*e*PN	**Pb**	**01 15 36.4**	**-1.5**
VAM	**Vamos**	**2.27**	**304**	*e*Pn	**Pb**	**01 15 36.4**	**-1.5**
ARG	**Arkhangelos**	**2.46**	**32**	*e*PN	Pn	**01 15 39.2**	**+2.2**
ARG	**Arkhangelos**	**2.46**	**32**	*e*Pn	Pn	**01 15 39.2**	**+2.2**
KARN	**Karanos**	**2.46**	**301**	*e*PN	**Pb**	**01 15 38.9**	**-2.3**
KARN	**Karanos**	**2.46**	**301**	*e*Pn	**Pb**	**01 15 38.9**	**

GERES	**GERESS Array B**	**17.50**	**331**	P		**Pn**	**01 18 59.3**	**-1.6**
	comp=N,0.1nm,0.3s,baz=140,slow=10,SNR=7.4							
ESDC	**Sonseca Array**	**24.90**	**292**	P		**P**	**01 20 20.0**	**+0.1**
	comp=N,0.2nm,0.4s,baz=84,slow=9.4,SNR=6.6							
FINES	**FINESS Array B**	**27.32**	**360**	P		**P**	**01 20 39.5**	**-1.9**
	comp=N,2.5nm,0.9s,baz=148,slow=12,SNR=6.0							
HFS	**Hagfors**	**27.32**	**346**	P		**P**	**01 20 40.8**	**-0.6**
	comp=N,3.0nm,0.8s,baz=149,slow=17,SNR=3.0							
EKA	**Eskdalemuir Ar**	**29.50**	**325**	P		**P**	**01 21 00.4**	**-0.6**
	comp=N,0.9nm,0.8s,baz=211,slow=32,SNR=3.2							
TORD	**Torodi Ar. Bea**	**30.72**	**233**	P		**P**	**01 21 13.8**	**+1.6**
	comp=N,0.7nm,0.6s,baz=54,slow=6.3,SNR=9.1							
TORD				LR		LR	01 35 08.5	
	comp=N,39nm,21.8s,baz=195,slow=39							
ARCES	**ARCESS Array B**	**35.44**	**359**	P		**P**	**01 21 50.3**	**-2.5**
	comp=N,1.2nm,0.8s,baz=183,slow=8.0,SNR=3.8							
MKAR	**Makanchi Array**	**43.42**	**56**	P		**P**	**01 23 00.9**	**+1.2**
	comp=N,1.0nm,0.6s,baz=273,slow=6.5,SNR=12							
ZALV	**Zalesovo Beam**	**44.92**	**45**	P		**P**	**01 23 11.8**	**+0.3**
	comp=N,1.4nm,0.6s,baz=272,slow=8.8,SNR=6.1							
SONM	**Songino Array**	**59.28**	**50**	P		**P**	**01 24 59.3**	**+0.6**
	comp=N,0.3nm,0.5s,baz=280,slow=8.6,SNR=2.6							

IDC 21 01:33:27.3±1.9, 2°37.N×127°.12E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.5/4, Error ellipse: s-maj=169.3km s-min=23.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.27**	**163**	P	P	01 38 35.8	-1.0
	1.0nm,0.4s,baz=341,slow=10,SNR=18						
ASAR	**Alice Springs**	**26.70**	**166**	P	P	01 39 09.1	+0.7
	0.2nm,0.5s,baz=348,slow=8.5,SNR=3.7						
STKA	**Stephens Creek**	**36.73**	**159**	P	P	01 40 36.4	0.0
	1.4nm,0.7s,baz=0.0,slow=7.1,SNR=2.6						
MKAR	**Makanchi Array**	**58.89**	**326**	P	P	01 43 28.1	0.0
	0.2nm,0.6s,baz=118,slow=5.7,SNR=2.3						

WEL 21 01:37:04.8±0.4, 46°.04S×166°.17E, h27km±1km, ML3.8/15, 2D, Error ellipse: s-maj=4.6km s-min=1.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.38**	**110**	⇓P*	Pb	01 37 12.8	-0.3
PYZ				S*	Sb	01 37 18.5	-0.4
PYZ				S*	Sn	01 37 18.7	-2.3
DCZ	**Deep Cove**	**0.89**	**51**	PN	Pn	01 37 20.8	-0.7
DCZ				AML	AML	01 37 35.2	
DCZ				AML	AML	01 37 37.1	
DCZ				AML	AML	01 37 39.5	
WHZ	**Wether Hill Ro**	**1.25**	**84**	⇓PN	Pn	01 37 26.6	+0.1
WHZ				AML	AML	01 37 48.7	
WHZ				AML	AML	01 37 49.0	
APZ	**The Paps**	**1.49**	**123**	PN	Pn	01 37 29.3	-0.5
MLZ	**Mavora Lakes**	**1.57**	**64**	PN	Pn	01 37 31.5	+0.6
MLZ				AML	AML	01 37 57.2	
MLZ				AML	AML	01 37 57.5	
MSZ	**Milford Sound**	**1.85**	**43**	AML	AML	01 38 07.7	
MSZ				AML	AML	01 38 13.8	
SYZ	**Scrubby Hill**	**2.12**	**105**	PN	Pn	01 37 39.9	+1.5
WKZ	**Wanaka**	**2.34**	**60**	PN	Pb	01 37 45.0	-1.4
WKZ				AML	AML	01 38 18.2	
WKZ				AML	AML	01 38 22.9	
EAZ	**Earnscleugh**	**2.35**	**71**	PN	Pb	01 37 44.5	-1.9
EAZ				AML	AML	01 38 21.8	
EAZ				AML	AML	01 38 25.8	
TUZ	**Tuapeka**	**2.42**	**89**	PN	Pn	01 37 43.9	+1.4
TUZ				SN	Sn	01 38 12.9	+1.8
TUZ				AML	AML	01 38 21.2	
JCZ	**Jackson Bay**	**2.69**	**44**	PN	Pb	01 37 50.4	-2.0
JCZ				AML	AML	01 38 35.0	
JCZ				AML	AML	01 38 42.5	
LBZ	**Lake Benmore**	**3.28**	**61**	PN	Pn	01 37 56.0	+1.4
LBZ				AML	AML	01 38 44.2	
ODZ	**Otahua Downs**	**3.30**	**74**	*e*PN	Pn	01 37 54.9	+0.2

WEL 21 01:49:14.4±0.4, 46°.04S×166°.06E, h24km±1km, ML3.7/14, 1C, Error ellipse: s-maj=3.4km s-min=1.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.45**	**107**	⇑P*	Pb	01 49 23.5	-0.2
PYZ				S*	Sb	01 49 29.9	-0.2
DCZ	**Deep Cove**	**0.95**	**54**	PN	Pn	01 49 31.3	-0.8
DCZ				SN	Sb	01 49 43.4	-0.9
DCZ				AML	AML	01 49 44.4	
DCZ				AML	AML	01 49 46.6	
DCZ				AML	AML	01 49 46.7	
WHZ	**Wether Hill Ro**	**1.32**	**84**	PN	Pn	01 49 37.3	-0.1
WHZ				SN	Sn	01 49 54.2	-0.1
WHZ				AML	AML	01 49 56.5	
APZ	**The Paps**	**1.55**	**121**	PN	Pn	01 49 40.2	-0.3
MLZ	**Mavora Lakes**	**1.63**	**66**	PN	Pn	01 49 42.3	+0.6
MLZ				AML	AML	01 50 06.7	
MLZ				AML	AML	01 50 08.0	
SYZ	**Scrubby Hill**	**2.19**	**104**	PN	Pn	01 49 50.4	+1.2
WKZ	**Wanaka**	**2.41**	**61**	PN	Pb	01 49 55.1	-2.0
WKZ				AML	AML	01 50 34.8	
WKZ				AML	AML	01 50 36.1	
EAZ	**Earnscleugh**	**2.42**	**72**	PN	Pb	01 49 55.0	-2.2
EAZ				AML	AML	01 50 27.7	
EAZ				AML	AML	01 50 30.3	
EAZ				AML	AML	01 50 30.3	
TUZ	**Tuapeka**	**2.49**	**89**	PN	Pn	01 49 54.9	+1.6
TUZ				AML	AML	01 50 28.9	
TUZ				AML	AML	01 50 37.2	
LBZ	**Lake Benmore**	**3.35**	**62**	PN	Pn	01 50 06.5	+1.3
LBZ				AML	AML	01 51 16.2	
ODZ	**Otahua Downs**	**3.37**	**74**	PN	Pn	01 50 06.0	+0.5
ODZ				AML	AML	01 52 37.2	

WEL 21 02:01:26.4±0.5, 46°.11S×166°.03E, h29km±1km, ML3.5/11, 1D, Error ellipse: s-maj=4.7km s-min=1.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.46**	**98**	⇓P*	Pb	02 01 35.8	-0.3
PYZ				S*	Sb	02 01 42.4	-0.3
DCZ	**Deep Cove**	**1.01**	**52**	PN	Pn	02 01 43.9	-0.6
DCZ				AML	AML	02 01 58.4	
DCZ				AML	AML	02 01 59.0	
DCZ				AML	AML	02 01 59.0	
DCZ				AML	AML	02 02 04.4	
WHZ	**Wether Hill Ro**	**1.35**	**82**	PN	Pn	02 01 49.8	+0.4
WHZ				SN	Sn	02 02 07.2	+0.7
WHZ				AML	AML	02 02 10.5	
APZ	**The Paps**	**1.54**	**119**	PN	Pn	02 01 51.7	-0.3
MLZ	**Mavora Lakes**	**1.68**	**64**	PN	Pn	02 01 55.2	+1.2
MLZ				AML	AML	02 02 21.7	
MLZ				AML	AML	02 02 22.9	
SYZ	**Scrubby Hill**	**2.20**	**102**	PN	Pn	02 02 02.1	+1.1
SYZ				SN	Sn	02 02 29.4	+2.2
EAZ	**Earnscleugh**	**2.46**	**70**	PN	Pn	02 02 07.1	+2.5
EAZ				AML	AML	02 02 41.0	
EAZ				AML	AML	02 02 44.5	
WKZ	**Wanaka**	**2.46**	**60**	PN	Pb	02 02 07.6	-2.5
TUZ	**Tuapeka**	**2.51**	**88**	PN	Pn	02 02 07.0	+1.7
TUZ				AML	AML	02 02 42.0	
TUZ				AML	AML	02 02 42.8	

IDC 21 02:04:26.2±2.7, 17°.53S×176°.79W, h0km, mb4.3/3, mb1 4.5/4, mb1mx3.9/20, mbtmp4.3/4, ML2.6/1, Error ellipse: s-maj=174.2km s-min=31.2km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.02**	**54**	Pn	Pn	02 05 56.6	0.0
	8.7nm,0.3s,baz=89,slow=23,SNR=9.8						
AFI				Sn	Sn	02 06 52.4	-14
	9.9nm,0.3s,baz=40,slow=19,SNR=7.0						
STKA	**Stephens Creek**	**40.17**	**241**	P	P	02 12 04.9	+0.7
	1.2nm,0.5s,baz=90,slow=10,SNR=2.9						
WRA	**Warramunga Arr**	**46.22**	**259**	P	P	02 12 53.2	-0.3
	1.5nm,0.5s,baz=96,slow=7.1,SNR=65						
ASAR	**Alice Springs**	**46.38**	**254**	P	P	02 12 54.2	-0.5
	6.9nm,0.6s,baz=88,slow=8.7,SNR=110						

*AUST **21** 02:09:29.8, 4°.67S×153°.59E, h5km*
*NEIC **21** 02:09:37.8±1.8, 4°.64S×153°.17E, h55km±16km, mb4.7/7, Error ellipse: s-maj=11.4km s-min=9.4km az=82.0*
*IDC **21** 02:09:37.9±0.6, 4°.65S×153°.18E, h53km±4km, mb4.1/18, mb1 4.3/19, mb1mx4.3/21, mbtmp4.1/19, MS3.5/13, Ms1 3.5/13, ms1mx3.4/24, Error ellipse: s-maj=16.9km s-min=11.6km az=107.0*
*ISCJB **21** 02:09:38.1±1.4, 4°.70S±0°.06×153°.21E±0°.09, h73km±11km, mb4.3/24, Error ellipse: s-maj=14.9km s-min=9.1km az=12.9*

ISC 21 02:09:37.9±0.5, 4°.71S±0°.06×153°.26E±0°.07, h56km±4km, h56km:pP-P, n82, σ1°.18/95, mb4.4/23, MS3.4/13, 2C-2D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.21**	**295**	P	**Pn**	**02 09 58.7**	**+0.1**
	baz=1.5,SNR=123						
RABL				S	**Sn**	**02 10 16.7**	**+2.6**
	baz=1.5,SNR=9.5						
PMG	**Port Moresby**	**7.65**	**232**	*e*Pn	**Pn**	**02 11 26.4**	**-0.2**
PMG				*e*S	**Sn**	**02 12 53.6**	**+1.6**
PMG	**Port Moresby**	**7.65**	**232**	P	**Pn**	**02 11 26.2**	**-0.5**
	3.6nm,0.3s,baz=54,slow=12,SNR=6.2						
PMG				S	**Sn**	**02 12 51.2**	**-0.8**
	8.1nm,0.3s,baz=159,slow=23,SNR=8.3						
DZM	**Mont Dzumac**	**21.47**	**145**	*e*LR	LR	02 19 40.6	
	412nm,28.1s						
DZM	**Mont Dzumac**	**21.47**	**145**	P	**P**	**02 14 23.3**	**+1.4**
DZM	**Mont Dzumac**	**21.47**	**145**	P	**P**	**02 14 23.3**	**+1.4**
	42nm,1.0s,baz=267,slow=23,SNR=7.4						
DZM				LR	LR	02 20 54.5	
	comp=Z,257nm,22.0s,baz=187,slow=31						
KDU	**Kakadu**	**22.01**	**248**	P	**P**	**02 14 27.1**	**-0.6**
	baz=22,SNR=27						
PALU	**Palau**	**22.25**	**302**	S	Sn	02 18 46.3	-0.3
	baz=22,SNR=7.1						
MTN	**Manton Dam**	**23.30**	**248**	P	**P**	**02 14 40.8**	**-0.3**
	baz=24,SNR=8.8						
MTN				S	S	02 18 59.8	+10
	baz=24,SNR=3.8						
WRAB	**Tennant Creek**	**23.84**	**229**	*e*P	**P**	**02 14 46.0**	**-0.1**
	11nm,0.6s						
WRA	**Warramunga Arr**	**23.85**	**229**	P	**P**	**02 14 45.9**	**-0.3**
WRA				PcP	**PcP**	**02 18 28.0**	**-0.3**
WRA				ScP	**ScP**	**02 22 03.8**	**+1.6**
WRA	**Warramunga Arr**	**23.85**	**229**	P	**P**	**02 14 45.9**	**-0.3**
	4.8nm,0.4s,baz=51,slow=9.8,SNR=57						
WRA				PcP	**PcP**	**02 18 28.0**	**-0.3**
	1.5nm,0.8s,baz=56,slow=2.7,SNR=4.3						
WRA				ScP	**ScP**	**02 22 03.8**	**+1.6**
	1.1nm,1.0s,baz=59,slow=2.7,SNR=5.4						
KNRA	**Kununurra**	**26.43**	**244**	P	**P**	**02 15 11.3**	**+1.7**
	baz=27,SNR=24						
ASAR	**Alice Springs**	**26.53**	**223**	P	**P**	**02 15 10.4**	**-0.1**
ASAR				pP	**pP**	**02 15 25.8**	**+1.3**
ASAR				PcP	**PcP**	**02 18 35.5**	**+1.3**
ASAR				ScP	**ScP**	**02 22 11.5**	**+1.8**
ASAR	**Alice Springs**	**26.53**	**223**	P	**P**	**02 15 10.4**	**-0.1**
	2.6nm,0.7s,baz=55,slow=8.8,SNR=11						
ASAR				pP	**pP**	**02 15 25.8**	**+1.3**
	3.0nm,0.8s,baz=53,slow=9.1,SNR=7.3						
ASAR				PcP	**PcP**	**02 18 35.6**	**+1.3**
	1.0nm,0.7s,baz=42,slow=2.9,SNR=4.4						
ASAR				ScP	**ScP**	**02 22 11.5**	**+1.8**
	0.8nm,0.8s,baz=48,slow=3.7,SNR=4.8						
ASAR				LR	LR	02 25 42.6	
	comp=Z,115nm,20.4s,baz=70,slow=36						
NFK	**Norfolk Island**	**27.92**	**152**	S	**S**	**02 19 57.4**	**-5.3**
	baz=28,SNR=3.9						
STKA	**Stephens Creek**	**29.16**	**201**	LR	LR	02 25 49.6	
	comp=Z,126nm,21.7s,baz=23,slow=33						
DAV	**Davao City (W)**	**30.00**	**293**	LR	LR	02 26 53.8	
	comp=Z,52nm,21.2s,baz=196,slow=35						
FITZ	**Fitzroy Crossi**	**30.11**	**242**	*e*P	**P**	**02 15 41.1**	**-1.4**
	5.6nm,0.3s						
FITZ	**Fitzroy Crossi**	**30.11**	**242**	P	**P**	**02 15 41.7**	**-0.8**
	5.3nm,0.3s,baz=60,slow=8.2,SNR=43						
FITZ				LR	LR	02 26 25.4	
	comp=Z,88nm,21.1s,baz=63,slow=34						
FITZ	**Fitzroy Crossi**	**30.11**	**242**	P	**P**	**02 15 41.7**	**-0.8**
	baz=30,SNR=19						
LUWI	**Luwuk**	**30.66**	**276**	P	pP	02 16 04.6	+3.1
	baz=31,SNR=3.0						
CNB	**Canberra Magne**	**30.67**	**186**	P	**P**	**02 15 45.7**	**-1.5**
	baz=31,SNR=5.8						
MBWA	**Marble Bar**	**36.42**	**240**	*e*P	**P**	**02 16 37.0**	**-0.4**
	8.3nm,0.9s						
NIUE	**Niue**	**38.63**	**115**	S	**S**	**02 22 52.3**	**+3.4**
	baz=38,SNR=4.8						
MEEK	**Meekatharra**	**39.63**	**233**	P	**P**	**02 17 04.3**	**-0.1**
	baz=40,SNR=14						
RPZ	**Rata Peaks**	**41.90**	**161**	P	**P**	**02 17 23.3**	**+0.5**
RPZ	**Rata Peaks**	**41.90**	**161**	P	**P**	**02 17 23.3**	**+0.5**
	30nm,0.9s,baz=9.7,slow=4.4,SNR=4.2						
KLBR	**Kelberbin**	**42.70**	**227**	P	P	02 17 33.5	+4.0
	baz=43,SNR=9.1						
MORW	**Morawa**	**42.76**	**231**	P	P	02 17 34.0	+3.9
	baz=43,SNR=3.6						
MJAR	**Matsushiro Arr**	**43.38**	**342**	PcP	**PcP**	**02 19 22.4**	**-0.4**
MJAR	**Matsushiro Arr**	**43.38**	**342**	PcP	**PcP**	**02 19 22.4**	**-0.4**
	2.2nm,0.8s,baz=184,slow=3.7,SNR=4.3						
MJAR				LR	LR	02 32 52.8	
	comp=Z,50nm,19.9s,baz=170,slow=32						
KSRS	**Korea Array**	**48.13**	**333**	P	**P**	**02 18 11.4**	**-0.9**
	0.9nm,0.6s,baz=149,slow=10.0,SNR=4.9						
KSRS				pP	**pP**	**02 18 27.1**	**+0.1**
	1.5nm,0.7s,baz=149,slow=6.9,SNR=3.5						
KSRS				LR	LR	02 37 50.4	
	comp=Z,15nm,19.8s,baz=125,slow=35						
KSAR	**Wonju Array Be**	**48.14**	**333**	P	**P**	**02 18 11.4**	**-1.0**
KSAR				pP	**pP**	**02 18 27.1**	**0.0**
ASAJ	**Asahikawa**	**49.54**	**350**	LR	LR	02 35 14.9	
	comp=Z,44nm,20.8s,baz=124,slow=31						
USRK	**Ussuriysk Arra**	**52.31**	**341**	P	**P**	**02 18 44.1**	**+0.3**
	3.0nm,0.7s,baz=176,slow=8.4,SNR=6.9						
PETK	**Petropavlovsk-**	**57.72**	**3**	P	**P**	**02 19 22.8**	**+0.1**
PETK	**Petropavlovsk-**	**57.72**	**3**	P	**P**	**02 19 22.8**	**+0.1**
	1.8nm,0.4s,baz=167,slow=7.2,SNR=3.6						
PETK				LR	LR	02 40 12.3	
	comp=Z,23nm,20.5s,baz=224,slow=32						
TBI	**Tubuai**	**58.17**	**114**	*e*LQ	LQ	02 34 18.4	
	538nm,38.0s						
TBI				*e*LR	LR	02 36 47.7	
	106nm,33.8s						
CMAR	**Chiang Mai Arr**	**58.26**	**295**	P	**P**	**02 19 26.2**	**-1.0**
CMAR				pP	**pP**	**02 19 41.2**	**-1.1**
CMAR	**Chiang Mai Arr**	**58.26**	**295**	P	**P**	**02 19 26.2**	**-1.0**
	1.8nm,0.7s,baz=125,slow=5.7,SNR=5.2						
CMAR				pP	**pP**	**02 19 41.2**	**-1.1**
	1.2nm,0.4s,baz=118,slow=5.5,SNR=1.5						
CMAR				LR	LR	02 42 49.4	
	comp=Z,26nm,18.1s,baz=115,slow=34						
SONM	**Songino Array**	**66.50**	**328**	P	**P**	**02 20 22.1**	**+0.2**
SONM	**Songino Array**	**66.50**	**328**	P	**P**	**02 20 22.1**	**+0.2**
	1.0nm,0.6s,baz=142,slow=5.2,SNR=4.0						
VNDA	**Vanda**	**72.90**	**178**	P	**P**	**02 21 02.0**	**+1.4**
VNDA	**Vanda**	**72.90**	**178**	P	**P**	**02 21 02.0**	**+1.4**
	6.7nm,0.9s,baz=328,slow=6.3,SNR=29						
MKAR	**Makanchi Array**	**80.56**	**319**	P	**P**	**02 21 44.7**	**+0.3**
MKAR	**Makanchi Array**	**80.56**	**319**	P	**P**	**02 21 44.7**	**+0.3**
	2.2nm,0.8s,baz=102,slow=6.9,SNR=18						
MCK	**McKinley**	**80.60**	**22**	*e*P	**P**	**02 21 42.9**	**-1.3**
	22nm,1.3s						
ZALV	**Zalesovo Beam**	**81.33**	**326**	P	**P**	**02 21 48.6**	**+0.3**
ZALV	**Zalesovo Beam**	**81.33**	**326**	P	**P**	**02 21 48.6**	**+0.3**
	1.8nm,0.8s,baz=96,slow=6.0,SNR=4.7						
ILAR	**Eielson Array**	**81.90**	**22**	P	**P**	**02 21 49.7**	**-1.4**
ILAR				sP	**sP**	**02 22 13.8**	**+0.6**
ILAR	**Eielson Array**	**81.90**	**22**	P	**P**	**02 21 49.7**	**-1.4**
	1.7nm,1.0s,baz=254,slow=5.0,SNR=12						
ILAR				sP	**sP**	**02 22 13.8**	**+0.6**
	1.1nm,0.8s,baz=241,slow=5.6,SNR=4.2						
ILAR				LR	LR	02 55 09.2	
	comp=Z,34nm,19.6s,baz=214,slow=33						
AAK	**Ala-Archa**	**84.94**	**313**	*e*P	**P**	**02 22 08.3**	**+0.9**
	5.1nm,0.8s						
QSPA	**South Pole Qui**	**85.25**	**180**	*e*P	**P**	**02 22 09.4**	**+0.9**
	20nm,1.1s						
MAW	**Mawson**	**85.83**	**203**	P	**P**	**02 22 10.7**	**-0.3**
	2.0nm,0.7s,baz=160,slow=12,SNR=3.5						
BRVK	**Borovoye**	**89.51**	**323**	P	**P**	**02 22 27.9**	**-1.1**
	4.9nm,0.9s						
NVAR	**Mina Array Bea**	**91.67**	**52**	P	**P**	**02 22 39.4**	**-0.3**
NVAR	**Mina Array Bea**	**91.67**	**52**	P	**P**	**02 22 39.4**	**-0.3**
	0.1nm,0.3s,baz=281,slow=5.4,SNR=2.9						
NVAR				LR	LR	02 57 42.8	
	comp=Z,56nm,18.7s,baz=159,slow=31						
YKA	**Yellowknife Ar**	**95.13**	**28**	P	**P**	**02 22 54.1**	**-0.6**
YKA	**Yellowknife Ar**	**95.13**	**28**	P	**P**	**02 22 54.1**	**-0.6**
	0.8nm,0.7s,baz=259,slow=3.6,SNR=2.8						
PDAR	**Pinedale Array**	**98.45**	**48**	P	Pdif	02 23 12.8	+2.1
PDAR	**Pinedale Array**	**98.45**	**48**	P	Pdif	02 23 12.8	+2.1
	0.2nm,0.6s,baz=279,slow=6.0,SNR=3.4						
PDAR				LR	LR	02 59 30.7	
	comp=Z,49nm,19.6s,baz=163,slow=30						
NOA	**NORSAR Array B**	**116.98**	**340**	PKP	**PKPdf**	**02 28 15.2**	**-1.0**
NOA	**NORSAR Array B**	**116.98**	**340**	PKP	**PKPdf**	**02 28 15.2**	**-1.0**
	0.6nm,0.6s,baz=46,slow=1.8,SNR=3.0						
BRG	**Berggiesshubel**	**122.82**	**331**	*e*PKP	**PKPdf**	**02 28 28.5**	**+0.8**
	5.5nm,0.9s						
CLL	**Collm**	**122.99**	**331**	⇓*i*PKPdf	**PKPdf**	**02 28 28.5**	**+0.5**
	comp=Z,4.0nm,0.7s						
CLL				*e*(pPKPdf)		02 28 46.0	
CLL				*es*PKPdf	**sPKPdf**	**02 28 51.0**	**+0.4**
KHC	**Kasperske Hory**	**124.10**	**329**	*e*PKPdf	**PKPdf**	**02 28 30.8**	**+0.5**
GERES	**GERESS Array B**	**124.22**	**329**	PKP	**PKPdf**	**02 28 31.2**	**+0.6**
GERES	**GERESS Array B**	**124.22**	**329**	PKP	**PKPdf**	**02 28 31.2**	**+0.6**
	comp=Z,3.5nm,0.9s,baz=75,slow=1.5,SNR=24						
ABTA	**Abfaltersbach**	**126.15**	**327**	⇑*i*PKiKP	**PKPdf**	**02 28 34.3**	**0.0**
	comp=Z,5.0nm,0.8s						
FETA	**Feichten**	**126.92**	**329**	⇓*i*PKiKP	**PKiKP**	**02 28 36.8**	**+0.3**
	comp=Z,9.3nm,1.0s						
DAVA	**Damuels**	**127.18**	**329**	⇑*i*PKiKP	**PKiKP**	**02 28 36.8**	**-0.1**
	comp=Z,5.9nm,0.9s						
TCF	**Toulx Ste Croi**	**131.57**	**333**	*e*PKIKP	**PKPdf**	**02 28 45.7**	**+1.1**
	comp=Z,8.0nm,0.9s						
LMR	**La Mourre**	**131.60**	**328**	*e*PKIKP	**PKPdf**	**02 28 45.6**	**+0.9**
ETSF	**Etsaut**	**135.44**	**332**	*e*PKIKP	**PKPdf**	**02 28 54.3**	**+2.2**
	comp=Z,5.2nm,0.7s						
ESDC	**Sonseca Array**	**139.56**	**333**	PKP	**PKPdf**	**02 28 58.7**	**-1.1**
ESDC	**Sonseca Array**	**139.56**	**333**	PKP	**PKPdf**	**02 28 58.7**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=3.3,slow=3.3,SNR=2.7						
TORD	**Torodi Ar. Bea**	**150.72**	**289**	PKPbc	**PKPbc**	**02 29 24.6**	**-0.4**
TORD				pPKPbc	**pPKPbc**	**02 29 39.5**	**-2.0**
TORD	**Torodi Ar. Bea**	**150.72**	**289**	PKPbc	**PKPbc**	**02 29 24.6**	**-0.4**
	comp=Z,8.7nm,0.8s,baz=66,slow=1.9,SNR=47						
TORD				pPKPbc	**pPKPbc**	**02 29 39.5**	**-2.0**
	comp=Z,4.9nm,0.8s,baz=65,slow=2.1,SNR=8.5						
BDFB	**Brasilia**	**150.80**	**134**	PKP	**PKPdf**	**02 29 20.5**	**+0.8**
BDFB				PKPbc	**PKPbc**	**02 29 24.7**	**-0.6**
BDFB	**Brasilia**	**150.80**	**134**	PKP	**PKPdf**	**02 29 20.5**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=129,slow=6.5,SNR=3.9						
BDFB				PKPbc	**PKPbc**	**02 29 24.7**	**-0.6**
	comp=Z,4.5nm,0.7s,baz=170,slow=2.6,SNR=5.3						

*IDC **21** 02:13:16.6±1.4, 52°.05N×169°.54W, h0km, mb3.8/4, mb1 4.0/7, mb1mx3.7/29, mbtmp3.9/7, ML3.5/3, MS3.8/2, Ms1 3.8/2, ms1mx2.7/41, Error ellipse: s-maj=42.2km s-min=17.6km az=172.0*
*ISCJB **21** 02:13:18.7±0.8, 51°.82N±0°.09×169°.7W±0°.1, h30km, mb3.7/4, MS3.9/2, Error ellipse: s-maj=16.4km s-min=7.0km az=139.4*
*NEIC **21** 02:13:18.8, 51°.89N×169°.85W, h30km, ML3.3(AEIC), After AEIC.*

ISC 21 02:13:21.0±1.0, 52°.0N±0°.1×169°.56W±0°.09, h30km, n30, σ1°.18/32, mb3.8/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.09**	**23**	P	**Pn**	**02 13 39.9**	**-0.4**
NIKH				S	**Sb**	**02 13 57.1**	**+1.9**
OKSO	**Okmok South**	**1.63**	**31**	P	**Pn**	**02 13 47.8**	**+0.1**
OKSO				S	**Sb**	**02 14 10.7**	**+0.1**
OKCE	**Okmok Cone E**	**1.69**	**30**	P	**Pn**	**02 13 49.5**	**+1.0**
OKTU	**Okmok Mt. Tuli**	**1.69**	**32**	P	**Pn**	**02 13 49.6**	**+1.1**
OKFG	**Magazine Ridge**	**1.76**	**34**	P	**Pn**	**02 13 49.8**	**+0.5**
OKFG				S	**Sb**	**02 14 14.4**	**+0.3**
MREP	**Makushin Rep't**	**2.51**	**42**	P	**Pn**	**02 14 01.3**	**+1.5**
MSW	**Makushin Switc**	**2.57**	**40**	P	**Pn**	**02 14 01.0**	**+0.4**
UNV	**Unalaska Valle**	**2.64**	**43**	*e*Pn	**Pn**	**02 14 02.2**	**+0.7**
UNV				*e*S	**Sb**	**02 14 39.6**	**+0.2**
MTBL	**Makushin Table**	**2.65**	**40**	P	**Pn**	**02 14 03.1**	**+1.4**
ZRO	**Akutan Zero**	**3.03**	**44**	P	**Pn**	**02 14 08.9**	**+2.0**
AKGG	**Akutan Green G**	**3.10**	**42**	P	**Pn**	**02 14 08.9**	**+1.1**
AKUT	**Akutan**	**3.15**	**45**	*e*Pn	**Pn**	**02 14 09.8**	**+1.3**
FX1	**Attu Island--F**	**10.60**	**282**	Pn	**Pn**	**02 15 51

	baz=321							
ILA				*e*S		**Sn**	02 17 02.4	+1.7
	baz=321							
TWE	**Neicheng**	**0.98**	**318**	⇑P		**Pn**	02 16 48.6	+0.3
	baz=316							
TWE				*e*S		**Sn**	02 17 02.6	+1.6
	baz=316							
ENTT	**Nioudou**	**0.99**	**311**	P		**Pn**	02 16 48.9	+0.5
	baz=308							
ENTT				*e*S		**Sn**	02 17 02.6	+1.3
	baz=308							
NNS	**Nan Shan**	**1.03**	**296**	⇓*i*P		**Pb**	02 16 49.7	-0.4
	baz=293							
NNS				*i* S		**Sn**	02 17 03.6	+1.1
	baz=293							
WHF	**Hehuan Shan**	**1.04**	**279**	⇓*i*P		**Pn**	02 16 49.7	+0.3
	baz=262							
WHF				*i* S		**Sb**	02 17 03.5	-0.4
	baz=262							
TWB1	**Santiao Chiao**	**1.08**	**340**	⇓*i*P		**Pb**	02 16 50.0	-0.9
	baz=339							
TWB1				S		**Sn**	02 17 04.8	+1.3
	baz=339							
EHY	**Hungye**	**1.09**	**244**	*e*P		**Pn**	02 16 49.9	+0.1
	baz=241							
EHY				*e*S		**Sb**	02 17 04.5	-0.4
	baz=241							
TWT	**Tachien**	**1.14**	**284**	P		**Pb**	02 16 51.8	-0.1
	baz=270							
TWT				*e*S		**Sn**	02 17 07.9	+2.7
	baz=270							
NSK	**Sanguang**	**1.16**	**306**	⇓*i*P		**Pb**	02 16 51.7	-0.6
	baz=303							
NSK				*e*S		**Sn**	02 17 07.3	+1.6
	baz=303							
TWF1	**Yuli**	**1.18**	**238**	⇓*e*P		**Pn**	02 16 51.7	+0.6
	baz=235							
TWF1				*e*S		**Sn**	02 17 07.2	+1.1
	baz=235							
NWF	**Wu-fen Shan**	**1.21**	**333**	⇓*i*P		**Pb**	02 16 52.2	-0.9
	baz=330							
NWF				*i* S		**Sb**	02 17 09.2	+0.8
	baz=330							
TWA	**Mucha**	**1.23**	**324**	*e*P		**Pb**	02 16 52.9	-0.4
	baz=320							
TWA				*e*S		**Sb**	02 17 09.9	+1.0
	baz=320							
IRIF	**Iriomote-Funau**	**1.27**	**74**	P		**Pb**	02 16 53.1	-1.0
IRIF				S		**Sb**	02 17 09.6	-0.6
CHKT	**Chengkung**	**1.29**	**227**	⇑*e*P		**Pn**	02 16 52.3	-0.2
	baz=224							
CHKT				*e*S		**Sn**	02 17 07.7	-1.0
	baz=224							
HATJ	**Hateruma jima**	**1.30**	**87**	P		**Pb**	02 16 53.5	-1.0
HATJ				*e*S		**Sb**	02 17 10.9	0.0
TAP1	**Taipei**	**1.31**	**323**	P		**Pb**	02 16 54.0	-0.7
	baz=319							
TAP1				*e*S		**Sb**	02 17 12.0	+0.9
	baz=319							
TAP	**Taipei**	**1.32**	**323**	*e*P		**Pb**	02 16 54.5	-0.3
	baz=319							
TAP				*e*S		**Sb**	02 17 12.1	+0.7
	baz=319							
SMLT	**Sun Moon Lake**	**1.36**	**266**	⇓*i*P		**Pb**	02 16 54.9	-0.8
	baz=253							
SMLT				S		**Sb**	02 17 12.3	-0.6
	baz=253							
TYC	**Yuchr**	**1.40**	**267**	⇓*i*P		**Pb**	02 16 55.4	-0.9
	baz=264							
TYC				*e*S		**Sb**	02 17 14.6	+0.7
	baz=264							
YUS	**Yu-Shan**	**1.41**	**250**	P		**Pn**	02 16 55.7	+1.1
	baz=247							
YUS				*e*S		**Sn**	02 17 12.8	+0.6
	baz=247							
NSTT	**Nanjuang**	**1.42**	**297**	⇓*i*P		**Pb**	02 16 56.3	-0.2
	baz=294							
NSTT				*e*S		**Sb**	02 17 14.4	+0.2
	baz=294							
NCU	**National Centr**	**1.47**	**312**	*e*P		**Pb**	02 16 55.8	-1.5
	baz=308							
TWY	**Chenhua**	**1.47**	**331**	*e*P		**Pb**	02 16 56.2	-1.2
	baz=327							
TWY				*e*S		**Sb**	02 17 16.4	+0.7
	baz=327							
ELDTW	**Lidau**	**1.49**	**238**	*e*P		**Pn**	02 16 55.6	+0.3
	baz=236							
JKRS	**Kuro-shima**	**1.50**	**80**	P		**Pb**	02 16 56.6	-1.4
JKRS				*e*S		**Sb**	02 17 15.5	-1.2
TWQ1	**Liyutan**	**1.52**	**284**	⇓*i*P		**Pb**	02 16 58.1	-0.1
	baz=269							
TWQ1				*e*S		**Sb**	02 17 17.2	0.0
	baz=269							
HSN	**Hsinchu**	**1.52**	**302**	*e*P		**Pb**	02 16 56.5	-1.8
	baz=299							
ALS	**Alishan**	**1.53**	**252**	⇓P		**Pb**	02 16 57.7	-0.9
	baz=250							
ALS				*e*S		**Sn**	02 17 16.4	+1.4
	baz=250							
NSY	**Sanyi**	**1.54**	**286**	*i* P		**Pb**	02 16 58.6	-0.1
	baz=283							
NSY				S		**Sb**	02 17 18.7	+0.8
	baz=283							
WNT	**Mingjian**	**1.56**	**266**	*e*P		**Pb**	02 16 58.3	-0.7
	baz=263							
WNT				*e*S		**Sb**	02 17 18.8	+0.4
	baz=263							
TCU	**Taichung**	**1.57**	**276**	*e*P		**Pb**	02 16 58.7	-0.4
	baz=273							
TCU				*e*S		**Sb**	02 17 19.2	+0.5
	baz=273							
CHN5	**Tsauling**	**1.61**	**256**	⇓P		**Pb**	02 16 59.2	-0.7
	baz=243							
JIJ	**Ishigaki jima**	**1.65**	**77**	P		**Pn**	02 16 57.9	+0.5
JIJ				*e*S		**Sn**	02 17 18.6	+1.1
PCYT	**Pengchaiyu**	**1.66**	**350**	P		**Pn**	02 16 57.9	+0.3
	baz=347							
PCYT				*e*S		**Sb**	02 17 20.6	-0.6
	baz=347							
TTN	**Taitung**	**1.68**	**223**	*e*P		**Pb**	02 17 00.2	-0.8
	baz=221							
TWG	**Pinlang**	**1.68**	**226**	*e*P		**Pn**	02 16 58.0	+0.2
	baz=237							
TWG				*e*S		**Sn**	02 17 18.1	-0.2
	baz=237							
STYT	**Tauyuan**	**1.71**	**242**	*e*P		**Pn**	02 16 59.9	+1.6
	baz=229							
STYT				*e*S		**Sn**	02 17 20.9	+1.8
	baz=229							
CHN4	**Tsaushan**	**1.76**	**249**	*e*P		**Pb**	02 17 01.1	-1.3
	baz=247							
CHN4				*e*S		**Sb**	02 17 24.0	-0.2
	baz=247							
WTP	**Ta-pu**	**1.79**	**246**	P		**Pb**	02 17 01.9	-1.0
	baz=244							
WTP				*e*S		**Sn**	02 17 23.4	+2.4
	baz=244							
CHN2	**Minshiung**	**1.81**	**256**	*e*P		**Pb**	02 17 01.7	-1.5
	baz=254							
CHN2				*e*S		**Sb**	02 17 25.8	+0.3
	baz=254							
CHY	**Chiayi**	**1.86**	**255**	*e*P		**Pb**	02 17 02.7	-1.4
	baz=253							
CHY				*e*S		**Sb**	02 17 26.5	-0.6
	baz=253							
CHN1	**Nanshi**	**1.88**	**245**	*e*P		**Pb**	02 17 03.4	-1.1
	baz=243							
CHN1				*e*S		**Sb**	02 17 27.2	-0.5
	baz=243							
TWK	**Hsinying**	**1.89**	**248**	*e*P		**Pb**	02 17 03.4	-1.2
	baz=246							
TWK				*e*S		**Sb**	02 17 27.2	-0.5
	baz=246							
SGST	**Jiashian**	**1.89**	**242**	*e*P		**Pb**	02 17 03.7	-0.8
	baz=230							
SGST				*e*S		**Sb**	02 17 27.1	-0.6
	baz=230							
ECL	**Taimali**	**1.91**	**224**	*e*P		**Pn**	02 17 01.0	-0.1
	baz=233							
WTCT	**Ta-ch'eng**	**1.93**	**267**	*e*P		**Pb**	02 17 03.6	-1.6
	baz=265							
WTCT				*e*S		**Sb**	02 17 28.8	-0.2
	baz=265							
WSF	**Szhu**	**2.01**	**260**	*e*P		**Pb**	02 17 04.7	-1.9
	baz=259							
WSF				*e*S		**Sb**	02 17 30.9	-0.4
	baz=259							
CHN3	**Shinhua**	**2.07**	**244**	*e*P		**Pb**	02 17 06.7	-0.9
	baz=242							
LAY	**Lan-yu**	**2.09**	**202**	*e*P		**Pn**	02 17 02.8	-0.7
	baz=200							
CHN8	**Yiju**	**2.10**	**253**	*e*P		**Pn**	02 17 05.7	+2.1
	baz=250							
CHN8				*e*S		**Sb**	02 17 32.0	-1.7
	baz=250							
TWM1	**Shoushan**	**2.15**	**238**	*e*P		**Pb**	02 17 08.2	-0.8
	baz=235							
TWM1				*e*S		**Sb**	02 17 37.7	+2.5
	baz=235							
SCLT	**Jiali**	**2.17**	**248**	*e*P		**Pn**	02 17 06.9	+2.3
	baz=246							
SCLT				*e*S		**Sb**	02 17 34.3	-1.5
	baz=246							
JTJ	**Tarama**	**2.21**	**72**	P		**Pn**	02 17 06.2	+1.0
JTJ				*e*S		**Sn**	02 17 32.5	+1.1
SCZT	**Fangliau**	**2.29**	**226**	*e*P		**Pn**	02 17 08.5	+2.2
	baz=217							
SCZT				*e*S		**Sn**	02 17 36.7	+3.4
	baz=217							
TWP	**Hsiaoliuchiu**	**2.48**	**229**	*e*P		**Pb**	02 17 12.2	-2.4
	baz=244							
TSEB	**Hengchuen, Pin**	**2.49**	**214**	*e*P		**Pn**	02 17 10.7	+1.7
	baz=213							
TSEB				*e*S		**Sn**	02 17 40.9	+2.6
	baz=213							
HEN	**Hengchun**	**2.49**	**218**	*e*P		**Pn**	02 17 10.9	+1.8
	baz=216							
HEN				*e*S		**Sn**	02 17 39.4	+1.0
	baz=216							
TWK1	**Hengchun**	**2.50**	**216**	*e*P		**Pn**	02 17 10.1	+0.9
	baz=214							
TWK1				*e*S		**Sn**	02 17 40.2	+1.5
	baz=214							
PNG	**Penghu**	**2.63**	**261**	P		**Pn**	02 17 12.3	+1.3
	baz=260							
PNG				S		**Sn**	02 17 44.0	+2.3
	baz=260							
JMJ	**Miyako jima 2**	**2.77**	**72**	P		**Pn**	02 17 15.4	+2.5
JMJ				*e*S		**Sn**	02 17 47.9	+2.6
JOGS	**Gusukube**	**2.86**	**74**	*e*S		**Sn**	02 17 50.3	+2.9
QZH	**Quanzhou**	**3.59**	**286**	⇑*i*Pn		**Pn**	02 17 24.1	0.0
QZH				Sn		**Sn**	02 18 04.0	-1.4
QZH				smax	smax			
	comp=N,340nm,0.8s							
QZH				smax	smax			
	comp=E,300nm,0.4s							
KNM	**Kinmen**	**3.63**	**278**	*e*P		**Pn**	02 17 26.8	+2.1
	baz=273							
JKE	**Kume jima 2**	**4.62**	**59**	P		**Pn**	02 17 40.5	+2.2
JOW	**Kunigami**	**6.03**	**61**	P		**Pn**	02 17 58.3	+0.6
JTK	**Tokunoshima**	**7.01**	**56**	P		**Pn**	02 18 10.8	-0.5
JAMN	**Amaminishikomi**	**7.43**	**54**	P		**Pn**	02 18 15.6	-1.3
JAMN				*e*S		**Sn**	02 19 40.7	+0.7
JAM	**Amami Oshima**	**7.84**	**54**	P		**Pn**	02 18 21.8	-0.7
KSRS	**Korea Array**	**14.23**	**18**	P		**Pn**	02 19 50.0	0.0
	comp=E,0.3nm,0.3s,baz=199,slow=11,SNR=5.1							
KSRS				LR	LR		02 25 59.9	
	comp=E,73nm,18.5s,baz=336,slow=41							
XAN	**Xi'an**	**15.45**	**313**	P		**P**	02 20 11.6	+1.1
XAN				pmax	pmax			
	comp=Z,2.0nm,0.8s							
XAN				LR	LR			
	comp=N,61nm,9.1s							
XAN				LR	LR			
	comp=Z,45nm,11.2s							
USRK	**Ussuriysk Arra**	**21.64**	**19**	P		**P**	02 21 16.2	-2.1
	comp=Z,2.0nm,0.7s,baz=206,slow=9.5,SNR=4.2							
GTA	**Gaotai**	**24.50**	**314**	*e*P		**P**	02 21 47.8	+0.5
GTA				pP		**pP**	02 21 58.5	+2.0
GTA				sP		sP	02 22 03.8	+3.4
GTA				pmax	pmax			
	comp=Z,6.0nm,0.8s							
SONM	**Songino Array**	**26.98**	**336**	P		**P**	02 22 09.1	-0.5
	comp=Z,3.3nm,0.7s,baz=154,slow=11,SNR=11							
SONM				PcP		**PcP**	02 25 31.5	+0.7
	comp=Z,0.4nm,0.5s,baz=104,slow=6.1,SNR=2.9							
SONM				LR	LR		02 33 38.5	
	comp=Z,67nm,22.0s,baz=143,slow=38							
MKAR	**Makanchi Array**	**39.24**	**316**	P		**P**	02 23 56.5	+0.3
	comp=Z,5.0nm,0.8s,baz=100,slow=9.3,SNR=21							
MKAR				PcP		**PcP**	02 26 04.6	-0.3
	comp=Z,0.3nm,0.6s,baz=84,slow=3.7,SNR=3.1							
ZALV	**Zalesovo Beam**	**41.01**	**327**	P		**P**	02 24 09.8	-0.9
	comp=Z,5.4nm,0.5s,baz=111,slow=7.8,SNR=22							
ZALV				PcP		**PcP**	02 26 09.8	-0.4
	comp=Z,0.6nm,0.5s,baz=114,slow=1.7,SNR=3.0							
WRA	**Warramunga Arr**	**45.19**	**164**	P		**P**	02 24 45.7	+0.8
	comp=Z,2.1nm,0.8s,baz=347,slow=8.9,SNR=10							
ASAR	**Alice Springs**	**48.67**	**166**	P		**P**	02 25 13.8	+1.8
	comp=Z,0.7nm,0.6s,baz=339,slow=5.2,SNR=6.3							
KBZ	**Khabaz**	**66.46**	**309**	P		**P**	02 27 18.1	+1.0
	comp=Z,1.2nm,0.5s,baz=72,slow=2.7,SNR=4.5							
ARCES	**ARCESS Array B**	**70.13**	**338**	P		**P**	02 27 38.2	-1.4
	comp=Z,3.7nm,0.9s,baz=61,slow=7.3,SNR=4.5							
FINES	**FINESS Array B**	**72.17**	**330**	P		**P**	02 27 50.1	-2.0
	comp=Z,2.4nm,0.8s,baz=57,slow=5.1,SNR=7.8							
BRTR	**Keskin Array B**	**74.17**	**307**	P		**P**	02 28 05.2	+0.7
	comp=Z,2.7nm,0.8s,baz=100,slow=5.6,SNR=12							
NOA	**NORSAR Array B**	**78.91**	**332**	P		**P**	02 28 28.8	-2.0
	comp=Z,0.5nm,0.6s,baz=101,slow=2.6,SNR=2.7							
GERES	**GERESS Array B**	**83.69**	**321**	P		**P**	02 28 55.9	-0.6
	comp=Z,0.9nm,0.7s,baz=73,slow=3.4,SNR=4.3							

*IDC **21** 02:33:57.6±5.5, 18°.94S×169°.04E, h141km±47km, mb3.5/4, mb1 3.7/5, mb1mx3.4/19, mbtmp3.5/5, MS3.1/1, Ms1 3.1/1, ms1mx2.7/15, Error ellipse: s-maj=49.5km s-min=29.1km az=21.0*

*NOU **21** 02:33:57.1±1.1, 18°.77S×169°.19E, h30km, MD3.3, ML3.0*

*ISCJB **21** 02:33:59.7±2.5, 19°.1S±0°.2×168°.9E±0°.2, h165km±21km, mb3.6/3, Error ellipse: s-maj=30.2km s-min=27.0km az=3.5*

ISC 21 02:33:58.6±4.3, 19°.0S±0°.3×169°.0E±0°.2, h150km±37km, n11, σ0896/15, mb3.4/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.71**	**212**	*e*P	**Pn**		**02 34 54.7**	**-0.4**
BAYA				*e*S	**Sn**		**02 35 37.8**	**-1.3**
BAYA				AMP			02 35 56.8	
	comp=Z,9.5nm,2.1s							
DZM	**Mont Dzumac**	**3.89**	**218**	*e*P	**Pn**		**02 34 57.7**	**+0.2**
DZM				*e*S	**Sn**		**02 35 43.3**	**+0.1**
DZM				AMP			02 36 00.9	
	comp=Z,890nm,0.9s							
DZM	**Mont Dzumac**	**3.89**	**218**	P	**Pn**		**02 34 58.3**	**+0.8**
	comp=Z,23nm,0.3s,baz=84,slow=23,SNR=137							
DZM				S	**Sn**		**02 35 42.7**	**-0.5**
	comp=Z,20nm,0.3s,baz=127,slow=23,SNR=7.6							
DZM				LR	LR		02 35 43.7	
	comp=Z,227nm,19.3s,baz=172,slow=27							
NORM	**Noumea**	**3.99**	**216**	*e*P	**Pn**		**02 34 59.5**	**+0.8**
NORM				*e*S	**Sn**		**02 35 45.0**	**-0.5**
NOUC	**Port Laguerre**	**3.99**	**219**	*e*P	**Pn**		**02 34 59.4**	**+0.6**
NOUC				*e*S	**Sn**		**02 35 45.1**	**-0.5**
NOUC				AMP			02 35 53.5	
	comp=Z,30nm,4.0s							
URZ	**Urewera**	**20.45**	**161**	P	**P**		**02 38 25.2**	**+0.9**
	comp=Z,5.3nm,0.7s,baz=312,slow=7.4,SNR=5.2							
WRA	**Warramunga Arr**	**32.67**	**263**	P	**P**		**02 40 16.8**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=90,slow=8.4,SNR=7.2							
ASAR	**Alice Springs**	**32.98**	**256**	P	**P**		**02 40 20.2**	**+0.7**
	comp=Z,3.1nm,0.4s,baz=82,slow=8.8,SNR=60							
SONM	**Songino Array**	**86.90**	**323**	P	**P**		**02 46 27.0**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=133,slow=6.3,SNR=3.3							
ARCES	**ARCESS Array B**	**124.78**	**345**	PKP		**PKPdf**	**02 52 37.9**	**-2.1**
	comp=Z,4.2nm,1.0s,baz=90,slow=0.9,SNR=4.0							
GERES	**GERESS Array B**	**144.18**	**332**	PKP		PKPbc	02 53 15.6	+0.3
	comp=Z,0.5nm,0.5s,baz=45,slow=2.1,SNR=7.3							

IDC 21 02:41:47.8±7.9, 25°.34S×179°.58W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/18, mbtmp4.0/4, Error ellipse: s-maj=204.6km s-min=34.4km az=34.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.57**	**250**	P	P		02 48 38.2	-0.1
	1.6nm,0.4s,baz=92,slow=9.1,SNR=4.4							
ASAR	**Alice Springs**	**42.20**	**262**	P	P		02 49 42.2	-0.5
	0.7nm,0.4s,baz=92,slow=8.3,SNR=12							
WRA	**Warramunga Arr**	**42.71**	**268**	P	P		02 49 47.1	+0.2
	0.8nm,0.3s,baz=107,slow=7.9,SNR=29							
QSPA	**South Pole Qui**	**64.75**	**180**	P	P		02 52 27.9	0.0
	1.1nm,0.7s,baz=36,slow=19,SNR=13							

*NEIC **21** 02:43:27.8, 19°.47N×65°.15W, h130km, MD3.7(RSPR), After RSPR.*

RSPR 21 02:43:27.8, 19°.47N×65°.15W, h130km±6km, MD3.7/6, 19C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**1.13**	**170**	⇑*e*P		**Pn**	02 43 51.6	-0.4
STVI	**Saint Thomas**	**1.13**	**170**	*e*Pg		Pn	02 43 52.3	+0.4
STVI				*e*S		Sn	02 44 04.3	-6.0
STVI	**Saint Thomas**	**1.13**	**170**	⇑*e*P		Pn	02 43 51.6	-0.4
STVI				*e*S		Sn	02 44 10.3	0.0
TBVI	**Tortola**	**1.16**	**154**	⇑*e*P		Pn	02 43 52.2	-0.2
TBVI	**Tortola**	**1.16**	**154**	⇑*e*P		Pn	02 43 52.2	-0.2
TBVI	**Tortola**	**1.16**	**154**	⇑*e*P		Pn	02 43 52.2	-0.2
CBYP	**Canovanas**	**1.36**	**209**	*e*Pn		Pn	02 43 53.4	-1.1
CBYP				*e*S		Sn	02 44 09.7	-5.1
MTP	**Monte Pirata**	**1.42**	**196**	⇑*e*P		Pn	02 43 54.9	-0.1
MTP	**Monte Pirata**	**1.42**	**196**	*e*Pn		Pn	02 43 55.6	+0.6
MTP				*e*S		Sn	02 44 14.3	-1.3
MTP	**Monte Pirata**	**1.42**	**196**	⇑*e*P		Pn	02 43 54.9	-0.1
MTP				*e*S		Sn	02 44 15.6	-0.1
HUMP	**Col San Antoni**	**1.48**	**207**	⇑*e*P		Pn	02 43 55.0	-0.7
HUMP	**Col San Antoni**	**1.48**	**207**	⇑*e*P		Pn	02 43 55.0	-0.7
HUMP	**Col San Antoni**	**1.48**	**207**	⇑*e*P		Pn	02 43 55.0	-0.7
SJG	**San Juan**	**1.65**	**215**	⇑*e*P		Pn	02 43 57.2	-0.4
SJG	**San Juan**	**1.65**	**215**	*e*S		Sn	02 44 18.9	-1.4
SJG	**San Juan**	**1.65**	**215**	⇑*e*P		Pn	02 43 57.5	-0.2
SJG	**San Juan**	**1.65**	**215**	*e*Pn		Pn	02 43 57.6	0.0
SJG				*e*S		Sn	02 44 18.1	-2.2
SJG	**San Juan**	**1.65**	**215**	⇑*e*P		Pn	02 43 57.2	-0.4
SJG	**San Juan**	**1.65**	**215**	⇑*e*P		Pn	02 43 57.5	-0.2
SJG				*e*S		Sn	02 44 18.9	-1.4
AOPR	**Arecibo Observ**	**1.88**	**234**	⇑*e*P		Pn	02 44 00.0	-0.4
AOPR	**Arecibo Observ**	**1.88**	**234**	⇑*e*P		Pn	02 44 00.0	-0.4
AOPR	**Arecibo Observ**	**1.88**	**234**	⇑*e*P		Pn	02 44 00.3	-0.1
CELP	**Cerrillos**	**1.94**	**224**	*e*Pn		Pn	02 44 01.5	+0.4
CELP				*e*S		Sn	02 44 29.8	+3.3
OBIP	**Obispado Ponce**	**1.98**	**224**	*e*Pn		Pn	02 43 59.9	-1.6
LRS	**Lares**	**1.98**	**234**	*e*Pn		Pn	02 44 01.8	+0.2
LRS				*e*S		Sn	02 44 24.4	-3.2
CRPR	**Cabo Rojo, PR**	**2.36**	**232**	*e*S		Sn	02 44 36.2	+0.6
CRPR	**Cabo Rojo, PR**	**2.36**	**232**	⇑*e*P		Pn	02 44 06.2	0.0
CRPR	**Cabo Rojo, PR**	**2.36**	**232**	*e*Pn		Pn	02 44 07.3	+1.1
CRPR				*e*S		Sn	02 44 36.2	+0.6
CRPR	**Cabo Rojo, PR**	**2.36**	**232**	⇑*e*P		Pn	02 44 06.2	0.0
CRPR				*e*S		Sn	02 44 36.2	+0.6
SDDR	**Presa de Saban**	**5.82**	**266**	*e*Pn		Pn	02 44 54.6	+2.6
SDDR				*e*S		Sn	02 45 58.4	+0.8

*IDC **21** 02:44:52.3±0.8, 45°.85S×165°.80E, h0km, mb4.2/6, mb1 4.4/7, mb1mx4. 1/16, mbtmp4.2/7, ML3.7/1, MS3.5/4, Ms1 3.5/4, ms1mx3.2/19, Error ellipse: s-maj=30.2km s-min=20.2km az=25.0*

*AUST **21** 02:44:52.9, 45°.94S×165°.76E, h0km*

*WEL **21** 02:44:54.8±0.2, 45°.86S×165°.60E, h33km, ML4.4/19, Error ellipse: s-maj=2.4km s-min=1.4km az=90.0*

*ISCJB **21** 02:44:56.4±0.5, 45°.82S±0°.06×165°.80E±0°.05, h33km, mb4.2/7, MS3.5/3, Error ellipse: s-maj=8.4km s-min=5.3km az=2.1*

*BJI **21** 02:44:58.9, 46°.04S×165°.82E, h6km, mB4.9/1*

*NEIC **21** 02:45:00.3, 45°.83S×166°.22E, h12km, mb4.5/1, ML4.3(WEL), After WEL.*

ISC 21 02:44:57.1±0.6, 45°.86S±0°.06×165°.73E±0°.06, h35km, n71, σ1891/61, mb4.2/7, MS3.5/3, 2D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.73**	**115**	P*		**Pn**	**02 45 09.5**	**-1.5**
PYZ	**Puysegur Point**	**0.73**	**115**	⇓PN		**Pn**	**02 45 09.5**	**-1.5**
PYZ				SN		**Sn**	**02 45 22.6**	**+1.6**
DCZ	**Deep Cove**	**1.07**	**70**	P*		**Pn**	**02 45 14.0**	**-1.6**
DCZ	**Deep Cove**	**1.07**	**70**	PN		**Pn**	**02 45 14.1**	**-1.6**
DCZ				SN		**Sn**	**02 45 27.4**	**-1.9**
DCZ				AML	AML		02 45 39.7	
DCZ				AML	AML		02 45 44.5	
DCZ				AML	AML		02 45 44.6	
WHZ	**Wether Hill Ro**	**1.55**	**92**	P*		**Pn**	**02 45 22.1**	**-0.2**
WHZ	**Wether Hill Ro**	**1.55**	**92**	PN		**Pn**	**02 45 22.1**	**-0.2**
WHZ				AML	AML		02 45 48.3	
WHZ				AML	AML		02 45 56.4	
MLZ	**Mavora Lakes**	**1.79**	**74**	Pn		**Pn**	**02 45 25.3**	**-0.4**
MLZ	**Mavora Lakes**	**1.79**	**74**	PN		**Pn**	**02 45 25.3**	**-0.4**
MLZ				AML	AML		02 46 05.1	
MLZ				AML	AML		02 46 07.4	
APZ	**The Paps**	**1.84**	**123**	Pn		**Pn**	**02 45 25.8**	**-0.5**
APZ	**The Paps**	**1.84**	**123**	⇓PN		**Pn**	**02 45 25.7**	**-0.6**
MSZ	**Milford Sound**	**1.96**	**53**	AML	AML		02 46 05.7	
MSZ				AML	AML		02 46 17.7	
MSZ				AML	AML		02 46 21.8	
MSZ				AML	AML		02 46 21.8	
SYZ	**Scrubby Hill**	**2.47**	**107**	Pn		**Pn**	**02 45 35.0**	**+0.3**
SYZ	**Scrubby Hill**	**2.47**	**107**	PN		**Pn**	**02 45 35.0**	**+0.3**
WKZ	**Wanaka**	**2.54**	**67**	Pn		Pn	02 45 37.0	+1.1
WKZ	**Wanaka**	**2.54**	**67**	PN		Pn	02 45 37.0	+1.1
WKZ				AML	AML		02 46 36.8	
WKZ				AML	AML	

STKA	**Stephens Creek**	**23.29**	**298**	P	**P**	**02 50 04.2**	**+2.5**
	baz=23,SNR=5.8							
EIDS	**Eidsvold**	**23.59**	**325**	P	**P**	**02 50 06.5**	**+1.9**
	baz=24,SNR=3.2							
VNDA	**Vanda**	**31.80**	**182**	LR	LR	03 01 39.5	
	comp=Z,80nm,20.8s,baz=346,slow=32							
ASAR	**Alice Springs**	**33.91**	**300**	P	**P**	**02 51 36.6**	**-0.1**
ASAR	**Alice Springs**	**33.91**	**300**	P	**P**	**02 51 36.6**	**-0.1**
	3.9nm,0.9s,baz=137,slow=9.4,SNR=17							
ASAR				LR	LR	03 04 46.4		
	comp=Z,154nm,20.3s,baz=121,slow=35							
WRA	**Warramunga Arr**	**36.51**	**305**	P	**P**	**02 51 58.6**	**-0.5**
WRA	**Warramunga Arr**	**36.51**	**305**	P	**P**	**02 51 58.6**	**-0.5**
	2.7nm,0.8s,baz=142,slow=8.4,SNR=11							
WRAB	**Tennant Creek**	**36.51**	**305**	*e*P	P	02 52 03.4	+4.2
	8.7nm,1.1s							
MTN	**Manton Dam**	**44.02**	**307**	P	P	02 53 10.1	+8.7
	baz=44,SNR=3.4							
QSPA	**South Pole Qui**	**44.26**	**180**	P	P	02 53 04.4	+1.4
QSPA	**South Pole Qui**	**44.26**	**180**	P	P	02 53 04.4	+1.4
	1.5nm,0.9s,baz=337,slow=5.8,SNR=4.4							
PLCA	**Paso Flores**	**80.20**	**140**	P	**P**	**02 57 03.0**	**-0.9**
PLCA	**Paso Flores**	**80.20**	**140**	P	**P**	**02 57 03.0**	**-0.9**
	0.9nm,0.5s,baz=225,slow=14,SNR=3.7							
CMAR	**Chiang Mai Arr**	**87.92**	**299**	P	P	02 57 45.1	+1.9
CMAR	**Chiang Mai Arr**	**87.92**	**299**	P	P	02 57 45.1	+1.9
	2.5nm,0.8s,baz=161,slow=3.1,SNR=8.7							
CD2	**Chengdu**	**94.78**	**310**	*e*P	P	02 58 24.8	+10
CD2				pmax	pmax			
	comp=Z,30nm,6.2s							
HHC	**Hu-ho-hao-te**	**98.96**	**321**	*e*P	Pdif	02 58 43.3	+10
HHC				pP	pP	02 58 46.4	+1.6
HHC				sP	sP	02 58 50.3	+1.5
HHC				PP	PKiKP	03 02 48.3	-16
HHC				S	ScS	03 10 11.3	+10
HHC				sS	sS	03 10 19.8	-0.1
HHC				SS	SS	03 17 04.4	+14
WMQ	**Urumqi**	**112.87**	**310**	PKP	PKiKP	03 03 37.3	+7.6
MKAR	**Makanchi Array**	**117.70**	**310**	PKP	**PKPdf**	**03 03 38.6**	**-0.2**
MKAR	**Makanchi Array**	**117.70**	**310**	PKP	**PKPdf**	**03 03 38.6**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=108,slow=3.2,SNR=2.8							
KBZ	**Khabaz**	**140.12**	**288**	PKP	**PKPdf**	**03 04 21.9**	**+0.7**
KBZ	**Khabaz**	**140.12**	**288**	PKP	**PKPdf**	**03 04 21.9**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=146,slow=3.6,SNR=3.0							
TORD	**Torodi Ar. Bea**	**144.70**	**208**	PKP	**PKPdf**	**03 04 30.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**144.70**	**208**	PKP	**PKPdf**	**03 04 30.2**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=154,slow=1.6,SNR=10							
BRTR	**Keskin Array B**	**144.74**	**277**	PKP	**PKPdf**	**03 04 30.2**	**+0.3**
BRTR	**Keskin Array B**	**144.74**	**277**	PKP	**PKPdf**	**03 04 30.2**	**+0.3**
	comp=Z,4.7nm,0.8s,baz=139,slow=4.9,SNR=25							
SCHQ	**Schefferville**	**146.02**	**55**	PKPbc	**PKPab**	**03 04 33.3**	**+0.4**
SCHQ	**Schefferville**	**146.02**	**55**	PKPbc	**PKPab**	**03 04 33.3**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=278,slow=8.9,SNR=3.1							
ARCES	**ARCESS Array B**	**149.15**	**334**	PKPbc	**PKPbc**	**03 04 40.2**	**-0.2**
ARCES	**ARCESS Array B**	**149.15**	**334**	PKPbc	**PKPbc**	**03 04 40.2**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=72,slow=1.4,SNR=4.8							
BRG	**Berggiesshubel**	**160.66**	**295**	*e*(P)	**PKPab**	**03 05 35.5**	**+1.1**
	comp=Z,3.7nm,0.9s							
GERES	**GERESS Array B**	**160.86**	**289**	PKPab	**PKPab**	**03 05 35.9**	**+0.3**
GERES	**GERESS Array B**	**160.86**	**289**	PKPab	**PKPab**	**03 05 35.9**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=91,slow=5.3,SNR=6.1							

JMA 21 03:07:11.4±0.2,**28.68N**×**140.94E,h131**km**, M3.6, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.93**	**145**	P	Pn	03 07 45.0	+0.5
CBIJ				*e*S	Sn	03 08 10.6	+0.7
JHHJ	**Haha-jima-NKT**	**2.32**	**151**	P	Pn	03 07 49.5	+0.1
JHHJ				*e*S	Sn	03 08 18.9	+0.4
TK01	**Tokai 1**	**5.82**	**331**	P	Pn	03 08 36.0	+0.9
BSO1	**Boso 1**	**5.96**	**0**	P	Pn	03 08 37.8	+1.2
BSO1				*e*S	Sn	03 09 44.5	+1.4
BSO4	**Boso 4**	**6.31**	**356**	*e*S	Sn	03 09 53.7	+1.0
JOD2	**Odawara 2**	**6.75**	**347**	P	Pn	03 08 50.0	+2.0
JOD2				*e*S	Sn	03 10 04.2	+0.7
JAG	**Ashikaga**	**7.82**	**351**	P	Pn	03 09 03.3	+0.9
JAG				*e*S	Sn	03 10 25.2	-4.2
JHO	**Hitachi**	**7.92**	**358**	P	Pn	03 09 03.7	+0.1
JHO				*e*S	Sn	03 10 26.9	-4.7
JFK	**Kawauchi**	**8.66**	**360**	*e*S	Sn	03 10 42.3	-7.5

IDC 21 03:14:56.7±15.0,**28.51N**×**79.03E,h0**km**, mb3.8/2, mb1 3.8/3,mb1mx3.3/27,mbtmp3.8/3,ML4.0/1,Error ellipse: s-maj=440.8km s-min=36.1km az=128.0, Northern India**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**18.43**	**7**	P	P	03 19 14.0	+0.3
	0.5nm,0.3s,baz=194,slow=9.4,SNR=20						
ZALV	**Zalesovo Beam**	**25.77**	**8**	P	P	03 20 28.7	-0.3
	1.5nm,0.4s,baz=206,slow=10,SNR=7.0						
TORD	**Torodi Ar. Bea**	**72.83**	**276**	P	P	03 26 27.8	+0.1
	0.3nm,0.5s,baz=49,slow=5.7,SNR=3.4						

WEL 21 03:26:38.3±0.2,**38.13S**×**175.93E,h189**km±1km**, ML3.6/9, 3C, Error ellipse: s-maj=2.3km s-min=1.9km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.94**	**98**	PN	Pn	03 27 06.5	0.0
URZ				SN	Sn	03 27 28.2	-0.1
URZ				AML	AML	03 27 29.0	
BKZ	**Black Stump Fm**	**1.13**	**157**	⇑PN	Pn	03 27 08.2	+0.3
BKZ				SN	Sn	03 27 30.8	-0.3
BKZ				AML	AML	03 27 33.0	
MWZ	**Matawai**	**1.27**	**100**	PN	Pn	03 27 09.2	0.0
MWZ				SN	Sn	03 27 32.8	-0.2
MWZ				AML	AML	03 27 34.0	
MOVZ	**Moawhango**	**1.29**	**186**	⇑PN	Pn	03 27 09.2	-0.1
BHHZ	**Black Hill Sta**	**1.36**	**176**	PN	Pn	03 27 09.9	0.0
KNZ	**Kokohu**	**1.63**	**124**	PN	Pn	03 27 12.4	+0.1
KNZ				SN	Sn	03 27 38.0	-0.6
PRGZ	**Paritu Road**	**1.73**	**118**	PN	Pn	03 27 13.3	0.0
CKHZ	**Cape Kidnapper**	**1.77**	**150**	PN	Pn	03 27 13.8	+0.1
WAZ	**Wanganui**	**1.79**	**204**	PN	Pn	03 27 13.7	-0.1
PNHZ	**Pukenui**	**1.80**	**173**	PN	Pn	03 27 13.6	-0.4
KAHZ	**Kahuranaki**	**1.82**	**156**	PN	Pn	03 27 14.3	+0.1
MHGZ	**Mahia Peninsul**	**1.86**	**124**	PN	Pn	03 27 14.6	+0.1
TSZ	**Takapari Road**	**1.93**	**179**	⇑PN	Pn	03 27 14.8	-0.5
WPHZ	**Waipukurau**	**1.98**	**169**	PN	Pn	03 27 15.2	-0.5
MRZ	**Mangatainoka R**	**2.54**	**186**	PN	Pn	03 27 20.4	-1.6
OGWZ	**Otaki Gorge**	**2.75**	**192**	PN	Pn	03 27 22.5	-1.8
KIW	**Kapiti Island**	**2.84**	**196**	PN	Pn	03 27 23.5	-2.0
TCW	**Tory Channel**	**3.33**	**202**	PN	Pn	03 27 29.0	-2.4
TUWZ	**Tuamarina**	**3.64**	**204**	PN	Pn	03 27 32.6	-2.5
TUWZ				AML	AML	03 28 16.4	
NNZ	**Nelson**	**3.66**	**212**	PN	Pn	03 27 32.7	-2.7
BSWZ	**Blackbirch Sta**	**3.92**	**203**	PN	Pn	03 27 35.7	-2.9
THZ	**Tophouse**	**4.31**	**212**	PN	Pn	03 27 40.6	-3.1

WEL 21 03:32:09.2±0.5,**45.81S**×**165.79E,h12**km**, ML3.5/12, Error ellipse: s-maj=4.2km s-min=2.3km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.72**	**120**	P*	Pg	03 32 22.2	-0.9
PYZ				S*	Sg	03 32 31.4	-1.1
DCZ	**Deep Cove**	**1.01**	**71**	P*	Pb	03 32 26.9	-1.7
DCZ				AML	AML	03 32 39.0	
DCZ				AML	AML	03 32 40.1	
DCZ				AML	AML	03 32 40.1	
DCZ				AML	AML	03 32 42.0	
WHZ	**Wether Hill Ro**	**1.51**	**94**	PN	Pn	03 32 35.1	-0.9
WHZ				AML	AML	03 32 55.7	
WHZ				AML	AML	03 32 57.7	
MLZ	**Mavora Lakes**	**1.73**	**75**	PN	Pn	03 32 38.1	-1.1
MLZ				SN	Sn	03 32 59.8	-1.5
MLZ				AML	AML	03 33 01.1	
APZ	**The Paps**	**1.83**	**125**	PN	Pn	03 32 38.8	-1.7
SYZ	**Scrubby Hill**	**2.44**	**109**	PN	Pn	03 32 47.8	-1.0
WKZ	**Wanaka**	**2.48**	**68**	PN	Pn	03 32 51.0	+1.6
WKZ				SN	Sn	03 33 19.9	+0.2
EAZ	**Earnscleugh**	**2.54**	**78**	PN	Pn	03 32 50.4	+0.2
EAZ				SN	Sn	03 33 20.2	-0.9
EAZ				AML	AML	03 33 20.4	
EAZ				AML	AML	03 33 21.2	
TUZ	**Tuapeka**	**2.69**	**94**	PN	Pn	03 32 51.6	-0.6
TUZ				AML	AML	03 33 15.1	
TUZ				AML	AML	03 33 42.9	
LBZ	**Lake Benmore**	**3.42**	**67**	PN	Pn	03 33 01.6	-0.7
ODZ	**Otahua Downs**	**3.50**	**79**	PN	Pn	03 33 01.9	-1.5

IDC 21 03:41:16.8±5.9,**7.12S**×**148.13E,h0**km**,mb3.5**/2, **mb1 3.7**/4,**mb1mx3.5**/18,**mbtmp3.6**/4,**ML3.3**/2,**MS3.6**/1, **Ms1 3.6**/1,**ms1mx2.6**/18,**Error ellipse: s-maj=84.4km s-min=67.4km az=165.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.46**	**203**	P*n*	Pn	03 41 59.6	+1.3
	26nm,0.3s,baz=18,slow=9.0,SNR=28						
PMG				S*n*	Sn	03 42 25.7	-3.4
	40nm,0.3s,baz=340,slow=23,SNR=13						
WRA	**Warramunga Arr**	**18.48**	**225**	P	P	03 45 32.6	-1.8
	0.2nm,0.3s,baz=54,slow=11,SNR=9.6						
ASAR	**Alice Springs**	**21.38**	**218**	P	P	03 46 05.6	-0.6
	0.5nm,0.4s,baz=47,slow=8.4,SNR=8.8						
DZM	**Mont Dzumac**	**23.09**	**132**	LR	LR	03 53 11.5	
	comp=Z,159nm,21.9s,baz=25,slow=31						
STKA	**Stephens Creek**	**25.37**	**193**	P	P	03 46 46.4	+0.6
	1.3nm,0.6s,baz=17,slow=11,SNR=3.3						

WEL 21 03:41:50.5±0.2,**45.86S**×**165.64E,h33**km**, ML3.5/12, Error ellipse: s-maj=2.2km s-min=1.1km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.79**	**113**	P*n*	Pn	03 42 04.8	-0.5
PYZ				S*n*	Sb	03 42 17.1	+0.9
DCZ	**Deep Cove**	**1.13**	**71**	P*n*	Pn	03 42 09.6	-0.4
DCZ				AML	AML	03 42 23.0	
DCZ				AML	AML	03 42 23.3	
DCZ				AML	AML	03 42 33.1	
DCZ				AML	AML	03 42 40.5	
WHZ	**Wether Hill Ro**	**1.61**	**92**	PN	Pb	03 42 18.2	-1.5
WHZ				AML	AML	03 42 39.5	
WHZ				AML	AML	03 42 41.5	
MLZ	**Mavora Lakes**	**1.85**	**75**	PN	Pn	03 42 20.9	+0.9
MLZ				SN	Sn	03 42 43.5	+1.2
MLZ				AML	AML	03 43 00.1	
APZ	**The Paps**	**1.89**	**122**	PN	Pn	03 42 21.3	+0.7
SYZ	**Scrubby Hill**	**2.52**	**107**	PN	Pn	03 42 30.3	+1.2
WKZ	**Wanaka**	**2.59**	**68**	PN	Pb	03 42 33.4	-3.0
WKZ				SN	Sn	03 43 03.9	+3.3
WKZ				AML	AML	03 43 19.5	
EAZ	**Earnscleugh**	**2.65**	**78**	PN	Pn	03 42 33.3	+2.4
EAZ				SN	Sn	03 43 04.1	+2.2
EAZ				AML	AML	03 43 12.0	
TUZ	**Tuapeka**	**2.79**	**93**	SN	Sn	03 43 07.9	+2.7
TUZ				AML	AML	03 43 08.3	

IDC ***21*** *03:42:29.9*±*0.6,38.48N*×*93.89E,h0km,mb4.1/14, mb1 4.2/17,mb1mx4.1/29,mbtmp4.1/17,ML3.8/3,MS2.9/5, Ms1 3.0/5,ms1mx2.6/34,Error ellipse: s-maj=26.9km s-min=13.0km az=45.0*

ISCJB ***21*** *03:42:30.3*±*0.5,38.70N*±*0.06*×*93.68E*±*0.05,h10km, mb4.0/21,MS3.0/3,Error ellipse: s-maj=9.9km s-min=4.5km az=22.2*

BJI ***21*** *03:42:32.5,38.52N*×*93.55E,h10km,mB4.5/3,mb4.5/8, ML4.0/9,Ms3.8/8,Ms7 3.7/7*

NNC ***21*** *03:42:33.7*±*4.2,39.04N*×*93.72E,h0km,mb4.1,Error ellipse: s-maj=73.9km s-min=51.9km az=60.0*

ISC 21 03:42:32.9±0.8,**38.52N**±0.10×**93.53E**±0.05,**h10**km**,n37,** σ1ᵗ**73**/28,**mb4.2**/21,**MS3.0**/3,**6C-2D,Qinghai**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**4.98**	**78**	P*n*	**Pn**	**03 43 48.6**	**+0.8**
GTA				P*g*	**Pb**	**03 44 03.3**	**+3.1**
GTA				S*n*	**Sn**	**03 44 48.1**	**+2.6**
GTA				S*g*	**Sg**	**03 45 11.1**	**-1.7**
GTA				smax	smax		
	comp=N,71nm,1.3s						
GTA				smax	smax		
	comp=E,67nm,1.0s						
GTA				LR	LR		
	comp=N,680nm,10.2s						
GTA				LR	LR		
	comp=E,760nm,9.7s						
GTA				LR	LR		
	comp=Z,760nm,9.5s						
WMQ	**Urumqi**	**6.88**	**322**	P*n*	**Pn**	**03 44 13.5**	**-0.4**
WMQ				S*n*	**Sn**	**03 45 30.8**	**-1.5**
WMQ				smax	smax		
	comp=N,93nm,0.7s						
WMQ				smax	smax		
	comp=E,100nm,0.9s						
LZH	**Lanzhou**	**8.57**	**103**	*e*P	**Pn**	**03 44 35.3**	**-1.8**
LZH				*e*PP	**PnPn**	**03 44 42.8**	**-1.8**
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
LZH				pmax	pmax		
	comp=Z,100nm,4.7s						
LZH				LR	LR		
	comp=N,340nm,8.2s						
LZH				LR	LR		
	comp=E,370nm,8.0s						
LZH				LR	LR		
	comp=Z,410nm,9.5s						
MK31	**Makanchi Array**	**11.69**	**319**	⇑P	Pn	03 45 18.5	-1.1
	comp=Z,5.5nm,0.6s,baz=136,slow=14,SNR=88						
MK31				⇓S	**Sn**	**03 47 28.3**	**-1.9**
	comp=Z,4.4nm,0.6s,baz=127,slow=28,SNR=8.3						
MKAR	**Makanchi Array**	**11.69**	**319**	Pn	Pn	03 45 18.3	-1.4
	comp=Z,1.3nm,0.3s,baz=131,slow=13,SNR=40						
MKAR				Sn	**Sn**	**03 47 27.9**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=127,slow=26,SNR=6.3						
XAN	**Xi'an**	**13.20**	**105**	P	P	03 45 48.3	-2.1
XAN				pP	Pn	03 45 52.0	+12
XAN				pmax	pmax		
	comp=Z,1.0nm,1.0s						
XAN				LR	LR		
	comp=N,110nm,8.3s						
XAN				LR	LR		
	comp=E,55nm,9.9s						
XAN				LR	LR		
	comp=Z,54nm,10.3s						
SONM	**Songino Array**	**13.21**	**41**	Pn	**Pn**	**03 45 39.9**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=229,slow=12,SNR=22						
SONM				Lg	Lg	03 49 21.9	
	comp=Z,0.3nm,0.3s,baz=237,slow=24,SNR=3.8						
SONM				LR	LR	03 50 05.8	
	comp=Z,22nm,19.1s,baz=57,slow=35						
TKM2	**Tokmak 2**	**14.29**	**294**	⇑P	Pn	03 45 55.2	-0.1
	comp=Z,11nm,0.6s						
AAK	**Ala-Archa**	**15.03**	**292**	Pn	**P**	**03 46 11.3**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=128,slow=8.3,SNR=4.8						
AAK				LR	LR	03 52 52.4	
	comp=Z,59nm,20.9s,baz=278,slow=41						
KURBB	**Kurchatov Arra**	**16.11**	**324**	⇓P	**Pn**	**03 46 19.0**	**-0.2**
	comp=Z,7.4nm,0.8s						
KURBB	**Kurchatov Arra**	**16.11**	**324**	Pn	**Pn**	**03 46 17.4**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=133,slow=11,SNR=10						
KURBB				Sn	Sn	03 49 13.0	-4.7
	baz=119,slow=26,SNR=6.6						
ZALV	**Zalesovo Beam**	**16.55**	**342**	Pn	**Pn**	**03 46 23.2**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=163,slow=11,SNR=6.4						
KK31	**Karatay Array**	**18.00**	**292**	⇑P	**Pn**	**03 46 43.6**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=91,slow=12,SNR=14						
CMAR	**Chiang Mai Arr**	**20.54**	**165**	P	**P**	**03 47 09.2**	**-2.3**
	comp=Z,1.5nm,0.6s,baz=343,slow=9.1,SNR=7.8						
VOSK	**Vostochnaya**	**21.10**	**320**	⇑P	P	03 47 14.6	-2.8
	comp=Z,2.0nm,0.5s						
BVAR	**Borovoye Array**	**21.57**	**320**	P	**P**	**03 47 20.6**	**-1.8**
	comp=Z,1.4nm,0.8s,baz=123,slow=10,SNR=4.3						
NJ2	**Nanjing**	**21.62**	**100**	*e*P	**P**	**03 47 21.4**	**-1.7**
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2	**Changchun**	**24.51**	**67**	*e*P	**P**	**03 47 50.3**	**-2.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
AB31	**Akbulak array**	**26.27**	**305**	⇑P	**P**	**03 48 09.7**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=96,slow=11,SNR=3.6						
KSRS	**Korea Array**	**27.04**	**81**	P	P	03 48 11.6	-3.6
	comp=Z,1.3nm,0.5s,baz=275,slow=9.1,SNR=5.5						
KSRS				LR	LR	03 59 55.6	
	comp=Z,36nm,18.6s,baz=189,slow=39						
AKTO	**Aktyubinsk**	**27.73**	**307**	⇑P	**P**	**03 48 22.3**	**+1.0**
	comp=Z,2.6nm,0.6s						
AKTO	**Aktyubinsk**	**27.73**	**307**	P	**P**	**03 48 22.6**	**+1.3**
	comp=Z,2.5nm,0.7s,baz=93,slow=7.0,SNR=8.1						
KBZ	**Khabaz**	**38.01**	**294**	P	**P**	**03 49 52.6**	**+1.7**
	comp=Z,1.2nm,0.6s,baz=78,slow=10.0,SNR=3.7						
PETK	**Petropavlovsk-**	**45.51**	**50**	LR	LR	04 09 57.5	
	comp=Z,21nm,18.1s,baz=226,slow=36						
BRTR	**Keskin Array B**	**45.71**	**291**	P	**P**	**03 50 55.5**	**+1.4**
	comp=Z,3.1nm,0.6s,baz=92,slow=6.7,SNR=18						
FINES	**FINESS Array B**	**46.49**	**322**	P	P	03 50 58.1	-1.7
	comp=Z,2.2nm,0.8s,baz=75,slow=8.1,SNR=5.6						
ARCES	**ARCESS Array B**	**46.86**	**333**	P	P	03 51 01.7	-1.0
	comp=Z,1.5nm,0.7s,baz=89,slow=7.9,SNR=9.9						
NOA	**NORSAR Array B**	**53.64**	**323**	P	P	03 51 51.4	-2.7
	comp=Z,1.1nm,0.6s,baz=75,slow=7.5,SNR=3.4						
NOA				LR	LR	04 15 57.7	
	comp=Z,13nm,20.9s,baz=275,slow=37						
CABF	**La Chapelle**	**61.74**	**309**	*e*P	**P**	**03 52 52.9**	**+1.4**
	comp=Z,6.2nm,0.8s						
LPL	**La Plagne**	**61.84**	**307**	*e*P	**P**	**03 52 53.7**	**+1.4**
	comp=Z,3.5nm,0.6s						
ILAR	**Eielson Array**	**66.78**	**24**	P	P	03 53 22.2	-1.8
	comp=Z,0.6nm,0.8s,baz=299,slow=5.5,SNR=9.4						
WRA	**Warramunga Arr**	**69.62**	**139**	P	P	03 53 40.0	-2.4
	comp=Z,1.6nm,0.9s,baz=329,slow=5.6,SNR=8.0						
ESDC	**Sonseca Array**	**71.61**	**306**	P	**P**	**03 53 55.9**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=50,slow=6.2,SNR=6.2						
ASAR	**Alice Springs**	**72.52**	**141**	P	P	03 53 58.4	-1.6
	comp=Z,1.9nm,0.6s,baz=330,slow=6.1,SNR=27						
STKA	**Stephens Creek**	**83.11**	**140**	P	P	03 54 54.6	-4.1
	comp=Z,2.7nm,0.7s,baz=332,slow=2.2,SNR=4.4						
TORD	**Torodi Ar. Bea**	**83.35**	**281**	P	P	03 54 58.8	-1.7
	comp=Z,0.6nm,0.6s,baz=51,slow=4.8,SNR=6.3						
DBIC	**Dimbokro**	**92.41**	**280**	P	P	03 55 42.7	-1.5
	comp=Z,6.7nm,1.1s,baz=152,slow=5.6,SNR=3.2						

FUNV 21 03:51:40.2,6.42N×**72.84W,h32**km**, MW3.5,1C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.53**	**20**	⇑*e*P	Pn	03 52 04.9	-0.8
CAPV				*e*S	Sn	03 52 22.9	-1.7
SOCV	**Socops**	**2.70**	**47**	*e*P	Pn	03 52 20.2	-1.3
SOCV				*e*S	Sn	03 52 51.1	-2.1
VIGV	**El Vigia**	**2.82**	**31**	*e*P	Pn	03 52 22.1	-1.0
VIGV				*e*S	Sn	03 52 53.1	-2.9
ELOV	**Elorza**	**3.38**	**80**	*e*P	Pn	03 52 29.6	-1.2
VIRV	**Villa del Rosa**	**4.08**	**6**	*e*P	Pn	03 52 39.6	-0.9
SANV	**Sanarito**	**4.48**	**47**	*e*P	Pn	03 52 44.4	-1.7
CURV	**Curaripa**	**4.57**	**38**	*e*P	Pn	03 52 45.9	-1.2
DABV	**Dabajuro**	**4.98**	**26**	*e*P	Pn	03 52 51.2	-1.6
TEPV	**Terepaima**	**5.04**	**45**	*e*P	Pn	03 52 51.9	-1.8
SIQV	**Siquisique**	**5.17**	**35**	*e*P	Pn	03 52 53.8	-1.6
BAUV	**El Baul**	**5.38**	**62**	*e*P	Pn	03 52 56.1	-2.2
MAPV	**Macapo**	**5.51**	**52**	*e*P	Pn	03 52 57.8	-2.3
MONV	**Montecano**	**6.19**	**27**	*e*P	Pn	03 53 07.3	-2.2
TURV	**Turiamo**	**6.37**	**51**	*e*P	Pn	03 53 09.7	-2.1
CUPV	**Cœpira**	**7.86**	**62**	*e*P	Pn	03 53 30.2	-2.3

CSEM ***21*** *03:54:00.1*±*0.1,41.78N*×*25.10E,h2km,MD3.3,Error ellipse: s-maj=1.9km s-min=1.8km az=177.0*

THE ***21*** *03:54:00.2,41.78N*×*25.11E,h1km*±*1km,ML3.7/10,Error ellipse: s-maj=1.3km s-min=0.5km az=44.0*

ISK ***21*** *03:54:00.5,41.88N*×*25.22E,h14km,ML3.6*

SKO ***21*** *03:54:00.6,41.79N*×*25.15E,h0km,M3.1,ML3.7*

DDA ***21*** *03:54:01.0,41.55N*×*24.93E,h24km,MD3.6*

SOF ***21*** *03:54:00.0,41.82N*×*25.10E,h4km,MD3.3*

ATH ***21*** *03:54:00.7,41.72N*×*25.10E,h23km*±*1km,MD3.7/21*

BEO ***21*** *03:54:02.1*±*0.5,41.92N*×*25.09E,h9km*±*2km,ML3.6/1*

ISC 21 03:54:00.2±1.1,**41.79N**±0.01×**25.10E**±0.01,**h4**km**,**9**km, n307,** σ1ᵗ**95**/370,**20C-36D,Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDZ	**Kurdzhali**	**0.27**	**120**	*i* P*g*	**Pg**	**03 54 05.1**	**-0.3**
KDZ	**Kurdzhali**	**0.27**	**120**	*i* P*g*	**Pg**	**03 54 05.1**	**-0.3**
RZN	**Rozhen**	**0.30**	**251**	*i* P*g*	**Pg**	**03 54 06.6**	**+0.5**
RZN	**Rozhen**	**0.30**	**251**	*i* P*g*	**Pg**	**03 54 06.6**	**+0.5**
DIM	**Dimitrovgrad**	**0.42**	**51**	*i* P*g*	**Pg**	**03 54 08.9**	**+0.7**
DIM	**Dimitrovgrad**	**0.42**	**51**	*i* P*g*	**Pg**	**03 54 08.9**	**+0.7**
PLD	**Plovdiv**	**0.44**	**317**	P	**Pg**	**03 54 08.5**	**0.0**
PLD				S	**Sg**	**03 54 14.8**	**+0.5**
PLD	**Plovdiv**	**0.44**	**317**	*i

OUR	Ouranopolis	1.68	211	P	Pn	03 54 29.6	-0.7
OUR				S	Sn	03 54 52.7	+0.5
OUR	Ouranopolis	1.68	211	P	Pn	03 54 29.6	-0.7
OUR				S	Sn	03 54 52.7	+0.5
GELI	Tayfur-Gelibol	1.73	143	ePN	Pn	03 54 31.6	+0.5
GELI				eSN	Sn	03 54 53.5	-0.1
GELI	Tayfur-Gelibol	1.73	143	ePn	Pn	03 54 31.6	+0.5
GELI				eSn	Sn	03 54 53.5	-0.1
KNT	Kendrikon	1.77	250	P	Pn	03 54 31.2	-0.4
KNT				S	Sb	03 54 55.9	+0.2
KNT	Kendrikon	1.77	250	P	Pn	03 54 31.2	-0.4
KNT				S	Sb	03 54 55.9	+0.2
PHSR	Pinarhisar	1.82	94	ePN	Pn	03 54 31.6	-0.7
PHSR	Pinarhisar	1.82	94	ePn	Pn	03 54 31.6	-0.7
MPEP	Malo Peshtene	1.86	328	iP	Pn	03 54 33.2	+0.3
ZIMR		1.88	6	‖iP	Pb	03 54 35.5	+0.4
ZIMR		1.88	6	S	Sg	03 55 01.5	+0.9
PLG	Polygyros	1.89	222	P	Pn	03 54 33.0	-0.2
PLG				S	Sn	03 54 58.1	+0.7
PLG	Polygyros	1.89	222	ePN	Pn	03 54 33.2	0.0
PLG				eSN	Sn	03 54 56.9	-0.5
PLG	Polygyros	1.89	222	ePn	Pn	03 54 33.2	0.0
PLG				eSn	Sn	03 54 56.9	-0.5
PLG				S	Sn	03 54 58.1	+0.7
LIA	Limnos Island	1.89	178	P	Pn	03 54 32.6	-0.6
LIA	Limnos Island	1.89	178	ePB	Pn	03 54 32.2	-1.0
LIA	Limnos Island	1.89	178	ePb	Pn	03 54 32.2	-1.0
LIA	Limnos Island	1.89	178	P	Pn	03 54 32.6	-0.6
LPK	Lapseki	1.89	138	ePN	Pn	03 54 33.7	+0.5
LPK				eSN	Sn	03 54 57.7	+0.2
LPK	Lapseki	1.89	138	ePn	Pn	03 54 33.7	+0.5
LPK				eSn	Sn	03 54 57.7	+0.2
RKY	Sarkoy-Tekirda	1.91	124	ePN	Pn	03 54 33.8	+0.2
RKY	Sarkoy-Tekirda	1.91	124	ePn	Pn	03 54 33.8	+0.2
SART	Tekirdag	1.91	124	iP	Pb	03 54 35.4	-0.3
SART				iS	Sb	03 54 60.0	0.0
SART	Tekirdag	1.91	124	iP	Pb	03 54 35.4	-0.3
SART				iS	Sb	03 55 00.0	0.0
HORT	Hortiatis	1.92	233	P	Pn	03 54 33.2	-0.5
HORT				S	Sn	03 54 59.1	+0.7
HORT	Hortiatis	1.92	233	P	Pn	03 54 33.2	-0.5
HORT				S	Sn	03 54 59.1	+0.7
MFT	Murefte	1.92	121	ePN	Pn	03 54 34.0	+0.2
MFT	Murefte	1.92	121	ePn	Pn	03 54 34.0	+0.2
VAY	Valandovo	1.96	257	P	Pn	03 54 34.1	0.0
VAY	Valandovo	1.96	257	iPn	Pb	03 54 36.0	-0.3
VAY				iLg	Lg	03 55 01.2	
	comp=E,1μm,1.3s						
VAY				iLg	Lg	03 55 01.5	
	comp=N,418nm,0.6s						
VAY				iSg	Sb	03 55 01.7	+0.6
VAY	Valandovo	1.96	257	ePn	Pn	03 54 34.6	+0.5
VAY				eSn	Sn	03 54 59.6	+0.5
VAY	Valandovo	1.96	257	P	Pn	03 54 34.1	0.0
VAY	Valandovo	1.96	257	ePn	Pn	03 54 34.6	+0.5
VAY				eSn	Sn	03 54 59.6	+0.5
VAY				iLg	Lg	03 55 01.5	
	comp=N,418nm,0.6s						
VAY				iSg	Sb	03 55 01.6	+0.6
THE	Thessaloniki	1.98	235	P	Pn	03 54 33.8	-0.7
THE				S	Sn	03 55 00.7	+1.0
THE	Thessaloniki	1.98	235	P	Pn	03 54 33.8	-0.7
THE				S	Sn	03 55 00.7	+1.0
TKR	Tekirdag	2.00	113	ePN	Pn	03 54 34.5	-0.1
TKR	Tekirdag	2.00	113	ePn	Pn	03 54 34.6	-0.1
ROIA	ROIAK	2.13	51	iP	Pn	03 54 37.4	+0.8
PAIG	Paliouri	2.15	211	P	Pn	03 54 36.2	-0.5
PAIG	Paliouri	2.15	211	ePB	Pn	03 54 36.2	-0.5
PAIG	Paliouri	2.15	211	P	Pn	03 54 36.2	-0.5
KRBG	Karabiga-Canak	2.17	129	ePN	Pn	03 54 37.1	+0.1
KRBG	Karabiga-Canak	2.17	129	ePn	Pn	03 54 37.1	+0.1
EZN	Ezine	2.17	154	ePN	Pn	03 54 37.1	+0.1
EZN	Ezine	2.17	154	ePn	Pn	03 54 37.1	+0.1
GRG	Griva	2.19	249	P	Pn	03 54 37.3	-0.2
GRG				S	Sn	03 55 05.6	+0.5
GRG	Griva	2.19	249	ePN	Pn	03 54 37.2	-0.2
GRG	Griva	2.19	249	P	Pn	03 54 37.3	-0.2
GRG				S	Sn	03 55 05.6	+0.5
PRD	Provadia	2.21	49	iP	Pn	03 54 37.6	0.0
PRD	Provadia	2.21	49	iP	Pn	03 54 40.7	+1.0
ZAPS	Zavoj	2.35	310	‖iPn	Pn	03 54 39.4	-0.9
SLVT	Silivri	2.40	102	ePN	Pn	03 54 39.4	-0.9
SLVT	Silivri	2.40	102	ePn	Pn	03 54 39.4	-0.9
CTYL	Yal??k??y-??at	2.41	96	ePN	Pn	03 54 39.5	-0.9
CTYL	Yal??k??y-??at	2.41	96	ePn	Pn	03 54 39.5	-0.9
BNT	Bandirma	2.57	123	ePN	Pn	03 54 42.5	0.0
BNT	Bandirma	2.57	123	ePn	Pn	03 54 42.6	0.0
CTKS	Kestanelik-??a	2.62	101	ePN	Pn	03 54 42.4	-0.8
CTKS	Kestanelik-??a	2.62	101	ePn	Pn	03 54 42.4	-0.8
GONE	Gonen-Balikesi	2.62	131	ePN	Pn	03 54 43.8	+0.5
GONE	Gonen-Balikesi	2.62	131	ePn	Pn	03 54 43.8	+0.5
BARS	Barje	2.65	294	‖iPn	Pn	03 54 43.9	+0.3
BARS				eSn	Sn	03 55 15.8	-0.4
BARS	Barje	2.65	294	‖iPn	Pn	03 54 43.9	+0.3
BUC1	Bucharest	2.65	15	S	Sb	03 55 21.1	0.0
BUC1	Bucharest	2.65	15	S	Sb	03 55 21.1	0.0
PRK	Paraskevi	2.69	160	P	Pn	03 54 44.3	+0.1
PRK	Paraskevi	2.69	160	ePB	Pn	03 54 44.8	+0.6
PRK	Paraskevi	2.69	160	P	Pn	03 54 44.3	+0.1
PRK	Paraskevi	2.69	160	ePb	Pn	03 54 44.8	+0.6
CIOR	Ciorogarla	2.72	12	S	Sb	03 55 23.7	+0.5
SKO	Skopje	2.74	275	iPn	Pb	03 54 48.5	-1.2
SKO				iSg	Sg	03 55 29.9	+1.8
SKO				iLg	Lg	03 55 37.8	
	comp=E,154nm,1.2s						
SKO				iLg	Lg	03 55 38.7	
	comp=N,264nm,1.3s						
SKO	Skopje	2.74	275	ePn	Pb	03 54 47.8	-1.9
SKO				eSg	Sg	03 55 30.6	+2.5
SKO	Skopje	2.74	275	ePn	Pb	03 54 47.8	-1.9
SKO				eSg	Sg	03 55 30.6	+2.5
SKO				iLg	Lg	03 55 38.6	
	comp=N,264nm,1.3s						
HUMR	Humele	2.74	358	‖iP	Pn	03 54 45.5	+0.5
HUMR	Humele	2.74	358	S	Sb	03 55 24.3	+0.5
HUMR	Humele	2.74	358	‖iP	Pn	03 54 45.5	+0.5
AYVA	Ayvalik	2.75	153	iP	Pn	03 54 45.7	+0.6
AYVA				iS	Sb	03 55 24.3	+0.2
AYVA	Ayvalik	2.75	153	iP	Pn	03 54 45.7	+0.6
AOS	Alonnisos	2.77	200	P	Pn	03 54 44.7	-0.7
AOS	Alonnisos	2.77	200	ePN	Pn	03 54 44.1	-1.3
AOS	Alonnisos	2.77	200	ePn	Pn	03 54 44.1	-1.3
AOS	Alonnisos	2.77	200	P	Pn	03 54 44.7	-0.7
XOR	Xorichti	2.82	212	P	Pn	03 54 45.8	-0.3
XOR	Xorichti	2.82	212	P	Pn	03 54 45.8	-0.3
BGKT	Bogazkoy	2.83	101	ePN	Pn	03 54 45.2	-0.9
BGKT	Bogazkoy	2.83	101	ePn	Pn	03 54 45.2	-0.9
NEO	Neokhori	2.86	211	ePN	Pn	03 54 46.1	-0.5
NEO	Neokhori	2.86	211	ePn	Pn	03 54 46.1	-0.5
KCTX	Karacabey (Bur	2.89	121	ePN	Pn	03 54 46.4	-0.6
KCTX	Karacabey (Bur	2.89	121	ePn	Pn	03 54 46.4	-0.6
KZN	Kozani	2.92	241	P	Pn	03 54 47.4	-0.1
KZN	Kozani	2.92	241	ePN	Pn	03 54 48.0	+0.5
KZN	Kozani	2.92	241	P	Pn	03 54 47.4	-0.1
KZN	Kozani	2.92	241	ePn	Pn	03 54 48.0	+0.5
BIA	Bitola	2.94	256	iPn	Pn	03 54 48.2	+0.5
BIA				iSg	Sg	03 55 35.2	+0.5
BIA	Bitola	2.94	256	iPn	Pn	03 54 48.2	+0.5
BIA				iSg	Sg	03 55 35.1	+0.5
PSN	Preselentsi	2.96	49	iP	Pn	03 54 47.5	-0.4
PSN	Preselentsi	2.96	49	iP	Pn	03 54 47.5	-0.4
FNA	Florina	2.98	252	P	Pn	03 54 48.4	+0.1
FNA	Florina	2.98	252	ePN	Pn	03 54 49.1	+0.8
FNA	Florina	2.98	252	P	Pn	03 54 48.4	+0.1
FNA	Florina	2.98	252	ePn	Pn	03 54 49.1	+0.8
KLYT	Kilyos	3.01	99	ePN	Pn	03 54 48.1	-0.5
KLYT	Kilyos	3.01	99	ePn	Pn	03 54 48.1	-0.5
BALB	Balikesir	3.01	134	ePN	Pn	03 54 48.9	+0.3
BALB	Balikesir	3.01	134	ePn	Pn	03 54 48.9	+0.3
SULR		3.01	16	‖iP	Pn	03 54 48.9	+0.2
SULR		3.01	16	‖iP	Pn	03 54 48.9	+0.2
ISK	Istanbul-Kandi	3.06	102	ePN	Pn	03 54 48.5	-0.8
ISK	Istanbul-Kandi	3.06	102	ePn	Pn	03 54 48.5	-0.8
BOLS	Boljevac	3.09	312	ePn	Pn	03 54 48.8	-0.9
BOLS				eSg	Sg	03 55 37.6	-1.7
BOLS	Boljevac	3.09	312	ePn	Pn	03 54 48.8	-0.9
BOLS				eSg	Sg	03 55 37.6	-1.7
ARMT	Armutlu	3.09	112	ePN	Pn	03 54 49.9	+0.2
ARMT	Armutlu	3.09	112	ePn	Pn	03 54 49.9	+0.2
BUY	Buyukada	3.17	106	iP	Pn	03 54 50.8	0.0
BUY	Buyukada	3.17	106	iP	Pn	03 54 50.8	0.0
THL	Klokotos Trika	3.23	228	ePN	Pn	03 54 51.9	+0.3
THL	Klokotos Trika	3.23	228	ePn	Pn	03 54 51.9	+0.3
AMRR	Amara	3.26	29	S	Sn	03 55 34.8	+3.4
AMRR	Amara	3.26	29	S	Sn	03 55 34.8	+3.4
MANR	Mangalia	3.27	50	‖iP	Pn	03 54 52.5	+0.3
MANR	Mangalia	3.27	50	‖iP	Pn	03 54 52.5	+0.3
CVD	Cernavoda	3.32	39	‖iP	Pn	03 54 54.8	+1.9
CVD	Cernavoda	3.32	39	‖iP	Pn	03 54 54.8	+1.9
ORLT	Orhaneli	3.36	120	ePN	Pn	03 54 53.5	0.0
ORLT	Orhaneli	3.36	120	ePn	Pn	03 54 53.5	0.0
DURS	Dursunbey	3.37	129	iP	Pn	03 54 54.4	+0.8
DURS	Dursunbey	3.37	129	iP	Pn	03 54 54.4	+0.8
GEMT	Gemlik	3.37	112	ePN	Pn	03 54 53.0	-0.6
GEMT	Gemlik	3.37	112	ePn	Pn	03 54 53.0	-0.6
MTUR	Matau	3.44	360	‖iP	Pn	03 54 56.3	+1.7
MTUR	Matau	3.44	360	‖iP	Pn	03 54 56.3	+1.7
DJES	Djerdap	3.44	328	ePg	Pb	03 55 02.3	+0.6
DST	Dursunbey	3.45	128	ePN	Pn	03 54 55.7	+0.9
DST	Dursunbey	3.45	128	ePn	Pn	03 54 55.7	+0.9
CHOS	Chios island	3.47	168	ePN	Pn	03 54 54.9	-0.2
CHOS	Chios island	3.47	168	ePn	Pn	03 54 54.9	-0.2
SILT	Sile	3.47	99	ePN	Pn	03 54 54.1	-0.9
SILT	Sile	3.47	99	ePn	Pn	03 54 54.1	-0.9
AGG	Agios Georgios	3.48	218	ePN	Pn	03 54 55.0	-0.1
AGG	Agios Georgios	3.48	218	ePn	Pn	03 54 55.0	-0.1
ISR	Istrita	3.49	17	‖iP	Pn	03 54 57.5	+2.2
ISR	Istrita	3.49	17	‖iP	Pn	03 54 57.5	+2.2
LKR	Lokris	3.52	208	ePN	Pn	03 54 55.3	-0.3
LKR	Lokris	3.52	208	ePn	Pn	03 54 55.3	-0.3
HARR	Harsova	3.56	35	‖iP	Pn	03 54 56.3	+0.1
HARR	Harsova	3.56	35	‖iP	Pn	03 54 56.3	+0.1
AKHS	Akhisar	3.57	144	iP	Pn	03 54 56.8	+0.5
AKHS				iS	Sb	03 55 48.9	+1.4
AKHS	Akhisar	3.57	144	iP	Pn	03 54 56.8	+0.5
HRT	Hereke	3.57	104	ePN	Pn	03 54 55.7	-0.7
HRT	Hereke	3.57	104	ePn	Pn	03 54 55.7	-0.7
ARR	Arges	3.60	355	‖iP	Pn	03 54 57.8	+1.0
ARR	Arges	3.60	355	‖iP	Pn	03 54 57.8	+1.0
TIRR	Tirgusor	3.61	41	‖iP	Pn	03 54 56.9	+0.1
TIRR	Tirgusor	3.61	41	‖iP	Pn	03 54 56.9	+0.1
VOIR			3.65	359	‖iP	Pn	03 54 58.5	+1.0
VOIR			3.65	359	‖iP	Pn	03 54 58.5	+1.0
ADVT	Abdulvahap	3.75	110	ePN	Pn	03 54 59.6	+0.7
ADVT	Abdulvahap	3.75	110	ePn	Pn	03 54 59.6	+0.7
MLR	Muntele Rosu	3.75	9	‖iP	Pn	03 55 00.6	+1.6
MLR	Muntele Rosu	3.75	9	S	Sn	03 55 48.2	+4.5
MLR	Muntele Rosu	3.75	9	ePn	Pn	03 55 00.3	+1.3
MLR				eSn	Sn	03 55 40.2	-3.5
MLR	Muntele Rosu	3.75	9	ePn	Pn	03 55 00.3	+1.3
MLR	Muntele Rosu	3.75	9	‖iP	Pn	03 55 00.6	+1.6
MLR				eSn	Sn	03 55 40.2	-3.5
MLR				S	Sn	03 55 48.2	+4.5
SVIS	Svilajnac	3.78	312	ePn	Pn	03 54 57.9	-1.2
SVIS				eSg	Sg	03 55 58.2	-3.2
LOT	Lotru	3.79	346	‖iP	Pn	03 54 59.3	-0.1
LOT	Lotru	3.79	346	S	Sn	03 55 42.5	-2.0
LOT	Lotru	3.79	346	‖iP	Pn	03 54 59.3	-0.1
LOT				S	Sn	03 55 42.5	-2.0
EVR	Evrytania	3.81	222	ePN	Pn	03 55 00.2	+0.4
EVR	Evrytania	3.81	222	ePn	Pn	03 55 00.2	+0.4
GRER		3.84	20	‖iP	Pn	03 55 02.3	+2.2
GRER		3.84	20	‖iP	Pn	03 55 02.3	+2.2
DEMI	Demirci	3.89	134	iP	Pn	03 55 01.0	+0.2
DEMI	Demirci	3.89	134	iP	Pn	03 55 01.0	+0.2
CAVI	Cavuskoy	3.92	112	ePN	Pn	03 55 02.1	+0.9
CAVI	Cavuskoy	3.92	112	ePn	Pn	03 55 02.1	+0.9
GZR	Gura Zlata	3.98	336	‖iP	Pn	03 55 01.7	-0.4
GZR	Gura Zlata	3.98	336	S	Sn	03 55 46.1	-3.1
GZR	Gura Zlata	3.98	336	‖iP	Pn	03 55 01.7	-0.4
GZR				S	Sn	03 55 46.1	-3.1
CFR	Carcaliu	4.05	32	‖iP	Pn	03 55 03.6	+0.7
CFR	Carcaliu	4.05	32	‖iP	Pn	03 55 03.6	+0.7
TVSB	Tavsanli	4.06	124	ePN	Pn	03 55 03.5	+0.4
TVSB	Tavsanli	4.06	124	ePn	Pn	03 55 03.5	+0.4
SJES	Sjenica	4.07	293	ePn	Pn	03 55 03.5	+0.2
SJES				eSg	Sg	03 56 08.9	-1.8
KALE	Kalithea	4.08	215	ePN	Pn	03 55 03.7	+0.3
KALE	Kalithea	4.08	215	ePn	Pn	03 55 03.7	+0.3
EFP	Efpalio	4.15	217	ePN	Pn	03 55 05.0	+0.7
EFP	Efpalio	4.15	217	ePn	Pn	03 55 05.0	+0.7
DOPR	Dopca	4.19	3	‖iP	Pn	03 55 06.3	+1.5
DOPR	Dopca	4.19	3	‖iP	Pn	03 55 06.3	+1.5
PLOR	Plostina	4.22	15	‖iP	Pn	03 55 07.1	+1.8
PLOR	Plostina	4.22	15	‖iP	Pn	03 55 07.1	+1.8
PETR	Petresti	4.23	21	‖iP	Pn	03 55 07.4	+2.0
PETR	Petresti	4.23	21	‖iP	Pn	03 55 07.4	+2.0
VRI	Vrincioaia	4.25	16	‖iP	Pn	03 55 07.6	+1.9
VRI	Vrincioaia	4.25	16	‖iP	Pn	03 55 07.6	+1.9
KULA	Kula-Manisa	4.26	139	ePN	Pn	03 55 07.7	+1.9
KULA	Kula-Manisa	4.26	139	ePn	Pn	03 55 07.7	+1.9
LAKA	Lakka	4.28	215	ePN	Pn	03 55 07.6	+1.5
LAKA	Lakka	4.28	215	ePn	Pn	03 55 07.6	+1.5
SMG	Samos	4.29	161	ePN	Pn	03 55 06.2	0.0
SMG	Samos	4.29	161	ePn	Pn	03 55 06.2	0.0
GDZ	Gediz	4.29	127	iP	Pn	03 55 06.7	+0.3
GDZ	Gediz	4.29	127	iP	Pn	03 55 06.7	+0.3
GULT	Gulveren	4.31	106	ePN	Pn	03 55 07.0	+0.4
GULT	Gulveren	4.31	106	ePn	Pn	03 55 07.0	+0.4
TLCR		4.34	37	‖iP	Pn	03 55 07.3	+0.4
TLCR		4.34	37	‖iP	Pn	03 55 07.3	+0.4
KLV	Kalavryta, Ach	4.37	212	ePN	Pn	03 55 07.2	-0.2
KLV	Kalavryta, Ach	4.37	212	ePn	Pn	03 55 07.2	-0.2
GUR	Goura	4.39	210	ePN	Pn	03 55 07.5	-0.2
GUR	Goura	4.39	210	ePn	Pn	03 55 07.5	-0.2
DIVS	Divibare	4.41	303	ePn	Pn	03 55 07.3	-0.6
DIVS				eSg	Sg	03 56 19.2	-2.4
DIVS	Divibare	4.41	303	ePn	Pn	03 55 07.3	-0.6
DIVS				eSg	Sg	03 56 19.2	-2.4
DID	Didima	4.51	199	ePN	Pn	03 55 08.8	-0.5
DID	Didima	4.51	199	ePn	Pn	03 55 08.8	-0.5
KEK	Kerkira	4.53	245	ePN	Pn	03 55 07.1	-2.4
KEK	Kerkira	4.53	245	ePn	Pn	03 55 07.1	-2.4
LKD2	Lefkada island	4.53	230	ePN	Pn	03 55 11.9	+2.4
LKD2	Lefkada island	4.53	230	ePn	Pn	03 55 11.9	+2.4
BZS	Buzias	4.59	328	‖iP	Pn	03 55 10.3	0.0
BZS	Buzias	4.59	328	‖iP	Pn	03 55 10.3	0.0
MDUB	Mudurnu	4.79	104	ePN	Pn	03 55 14.3	+1.1
MDUB	Mudurnu	4.79	104	ePn	Pn	03 55 14.3	+1.1
KHAL	Karahalli	4.79	134	iP	Pn	03 55 13.9	+0.6
KHAL	Karahalli	4.79	134	iP	Pn	03 55 13.9	+0.6
TESR	Tescani	4.86	13	‖iP	Pn	03 55 15.0	+1.0
TESR	Tescani	4.86	13	‖iP	Pn	03 55 15.0	+1.0
ESKT	Eskisehir	4.92	115	ePN	Pn	03 55 15.6	+0.5
ESKT	Eskisehir	4.92	115	ePn	Pn	03 55 15.6	+0.5
AMT	Artemida-Makis	4.99	213	ePN	Pn	03 55 17.1	+1.2
AMT	Artemida-Makis	4.99	213	ePn	Pn	03 55 17.1	+1.2
VLS	Valsamata	5.00	225	ePN	Pn	03 55 17.3	+1.3
VLS	Valsamata	5.00	225	ePn	Pn	03 55 17.3	+1.3
ITM	Ithomi	5.21	209	ePN	Pn	03 55 21.2	+2.3
ITM	Ithomi	5.21	209	ePn	Pn	03 55 21.2	+2.3
DRGR		5.29	342	‖iP	Pn	03 55 21.4	+1.4
DRGR		5.29	342	‖iP	Pn	03 55 21.4	+1.4
VLI	Veliai	5.33	199	ePN	Pn	03 55 20.8	+0.3
VLI	Veliai	5.33	199	ePn	Pn	03 55 20.8	+0.3
SVRH	Sivrihisar-ESK	5.42	113	ePN	Pn	03 55 21.9	+0.1
SVRH	Sivrihisar-ESK	5.42	113	ePn	Pn	03 55 21.9	+0.1
DYR	Agios Nikonas	5.46	204	ePN	Pn	03 55 19.3	-3.0
BURAR	Bucovina Array	5.83	1	‖iP	Pn	03 55 29.3	+1.8
BURAR	Bucovina Array	5.83	1	‖iP	Pn	03 55 29.3	+1.8
KIS	Kishinev	5.85	26	e	Pg	03 55 58.0	+5.8
PKSM	Moragy	6.42	316	‖iP	Pn	03 55 35.6	+0.1
PKSM	Moragy	6.42	316	‖iP	Pn	03 55 35.6	+0.1
KOLS	Kolonicke sedl	7.42	345	e	Pn	03 55 53.1	+3.9
KOLS	Kolonicke sedl	7.42	345	eSG	Sg	03 58 04.6	+6.3
KECS	Kecovo	7.45	336	e	Pn	03 55 58.8	+9.2
KECS				e		03 56 14.3	
KECS	Kecovo	7.45	336	eSN	Sn	03 57 07.9	-6.6
VYHS	Vyhne	8.04	329	e	Pn	03 55 58.8	+1.1
VYHS				e		03 56 16.7	
VYHS	Vyhne	8.04	329	eSN	Sn	03 57 19.0	-10
STHS	Stebnicka Huta	8.10	342	eSN	Sn	03 57 23.5	-6.9

*IDC **21** 03:54:25.3±4.2, 37.35N×141.68E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/24, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=94.5km s-min=26.4km az=154.0*
*JMA **21** 03:54:26.6±0.2, 37.01N×141.77E, h38km±3km, M3.0*

ISC 21 03:54:24.0±2.2, 37.07N±0.06×141.73E±0.08, h7km±11km, n18, σ898/24, mb3.4/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
JFK	Kawauchi	0.75	294	P	Pn		Pn	03 54 41.5	+0.4
JFK				eS	Sn		Sn	03 54 51.9	-0.8
ONAJ	Iwakimizuishiy	0.75	273	P	Pn		Pn	03 54 41.3	+0.2
JHO	Hitachi	1.04	244	P	Pn		Pn	03 54 44.9	-0.2
JHO				eS	Sg		Sg	03 54 58.0	+0.6
JMM	Marumori	1.09	317	P	Pn		Pn	03 54 46.7	+0.9
JFT	Otama	1.20	293	P	Pg		Pg	03 54 49.0	+1.9
JIO	Ouri	1.42	348	P	Pg		Pg	03 54 51.0	-0.3
JIO				S	Sb		Sb	03 55 08.4	-0.8
JOU	Okura	1.55	327	P	Pg		Pg	03 54 53.9	+0.1
JOU				eS	Sg		Sg	03 55 14.0	+0.2
JFY	Yanaizu	1.65	283	P	Pg		Pg	03 54 55.5	-0.2
JYS	Shirataka	1.75	312	P	Pg		Pg	03 54 57.3	-0.4
JMK	Ichinoseki	1.93	348	P	Pb		Pb	03 54 58.9	-0.6
JAG	Ashikaga	1.94	251	P	Pn		Pn	03 54 58.5	+1.1
MJAR	Matsushiro Arr	2.87	261	Pn	Pb		Pb	03 55 13.2	-2.5
	2.6nm,0.3s,baz=89,slow=15,SNR=19								
MJAR					Sn		Sb	03 55 52.1	+1.0
	1.8nm,0.3s,baz=83,slow=11,SNR=4.9								
MAT	Matsushiro	2.88	261	P	Pb		Pb	03 55 14.0	-1.7
MAT				S	Sb		Sb	03 55 51.3	+0.2
SEY	Seymchan	26.71	11	P	P		P	04 00 04.5	+0.7
	180nm,0.5s,baz=90,slow=24,SNR=4.1								
SONM	Songino Array	27.98	304	P	P		P	04 00 15.9	+0.5
	0.3nm,0.4s,baz=111,slow=7.9,SNR=3.2								
MKAR	Makanchi Array	44.32	302	P	P		P	04 02 35.0	+0.4
	0.2nm,0.5s,baz=87,slow=8.0,SNR=4.1								
KURBB	Kurchatov Arra	46.18	308	P	P		P	04 02 49.2	-0.1
	0.4nm,0.5s,baz=82,slow=7.8,SNR=4.5								
ILAR	Eielson Array	49.33	32	P	P		P	04 03 13.6	0.0
	0.4nm,0.9s,baz=263,slow=8.8,SNR=4.2								

IDC 21 04:43:09.7±0.9, 86.70N×66.09E, h0km, mb3.7/9, mb1 3.9/10, mb1mx3.6/29, mbtmp3.7/10, ML3.4/1, MS2.9/6, Ms1 2.9/6, ms1mx2.6/39, Error ellipse: s-maj=32.4km s-min=17.1km az=109.0, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
SPITS	Spitsbergen Ar	10.07	244	Pn	Pn		Pn	04 45 32.3	-2.9
	baz=43,slow=12,SNR=36								
ARCES	ARCESS Array B	18.19	227	P	Pn		Pn	04 47 23.0	-0.1
	0.2nm,0.3s,baz=29,slow=11,SNR=5.1								
ARCES				LR	LR		LR	04 55 06.1	
	comp=Z,8.4nm,19.0s,baz=154,slow=39								
INK	Inuvik	24.98	17	P	P		P	04 48 34.4	+0.1
	2.6nm,0.9s,baz=93,slow=3.8,SNR=3.7								
ILAR	Eielson Array	28.22

0.7nm,0.3s,baz=313,slow=20,SNR=14
KDAK S **Sn** **04 50 28.4 -4.5**
1.9nm,0.3s,baz=328,slow=23,SNR=8.0
PDAR Pinedale Array 31.28 111 P **P** **04 54 17.5 +1.1**
PDAR Pinedale Array 31.28 111 P **P** **04 54 17.5 +1.1**
0.3nm,0.6s,baz=352,slow=3.6,SNR=3.5
TXAR Lajitas Array 45.22 116 P **P** **04 56 14.1 +1.4**
TXAR Lajitas Array 45.22 116 P **P** **04 56 14.1 +1.4**
0.2nm,0.5s,baz=344,slow=6.6,SNR=4.5
SONM Songino Array 53.82 306 P **P** **04 57 18.8 +1.1**
SONM Songino Array 53.82 306 P **P** **04 57 18.7 +1.1**
0.4nm,0.5s,baz=19,slow=4.9,SNR=3.2
ZALV Zalesovo Beam 55.43 324 P **P** **04 57 28.2 -0.8**
ZALV Zalesovo Beam 55.43 324 P **P** **04 57 28.2 -0.8**
0.5nm,0.3s,baz=16,slow=8.6,SNR=3.0
MKAR Makanchi Array 62.59 322 P **P** **04 58 17.4 -1.1**
MKAR Makanchi Array 62.59 322 P **P** **04 58 17.4 -1.1**
0.4nm,0.6s,baz=54,slow=9.4,SNR=4.6

IDC 21 04:54:02.4±1.2,19°47N×120°87E,h0km,mb3.7/6, mb1 3.9/6,mb1mx3.7/23,mbtmp3.7/6,1D,Error ellipse: s-maj=55.1km s-min=18.5km az=64.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PIP	**Pasuquin**	**1.17**	**192**	⇓*i*P		Pg	04 54 23.7	-1.1
CMAR	**Chiang Mai Arr**	**20.76**	**271**	P		P	04 58 45.5	+0.3
0.9nm,0.3s,baz=72,slow=9.4,SNR=4.0								
SONM	**Songino Array**	**30.64**	**341**	P		P	05 00 19.1	+0.5
0.4nm,0.5s,baz=120,slow=10,SNR=2.6								
WRA	**Warramunga Arr**	**41.34**	**161**	P		P	05 01 50.0	-0.3
1.4nm,0.7s,baz=341,slow=9.1,SNR=11								
MKAR	**Makanchi Array**	**41.62**	**320**	P		P	05 01 51.8	-0.6
0.7nm,0.8s,baz=115,slow=11,SNR=8.6								
ZALV	**Zalesovo Beam**	**44.09**	**330**	P		P	05 02 11.9	-0.3
0.6nm,0.4s,baz=146,slow=5.9,SNR=2.5								
ASAR	**Alice Springs**	**44.72**	**163**	P		P	05 02 17.6	0.0
1.1nm,0.7s,baz=336,slow=6.8,SNR=10								

DJA 21 05:12:08.1±1.0,7°S±6°×10°6E±°,h15km±7km,M3.5/6, MLv3.5/6,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKJI	**Sukabumi**	**0.59**	**59**	P		Pg	05 12 19.6	-0.1
SKJI				S		Sb	05 12 28.3	+0.1
DBJI	**Dramaga**	**1.02**	**43**	P		Pb	05 12 26.6	-1.0
DBJI				S		Sb	05 12 39.9	-1.0
SBJI	**Serang**	**1.19**	**4**	P		Pn	05 12 28.2	-2.0
CBJI	**Citeko**	**1.19**	**42**	P		Pn	05 12 27.2	-3.0
CBJI				S		Sb	05 12 42.0	-3.6
LEM	**Lembang**	**1.63**	**73**	P		Pn	05 12 36.6	+0.1
CISI	**Cisompet, Garu**	**1.77**	**98**	P		Pn	05 12 36.6	-1.7

IDC 21 05:48:59.3±0.9,19°20N×120°29E,h0km,mb3.8/6, mb1 4.0/6,mb1mx3.7/24,mbtmp3.8/6,1D,Error ellipse: s-maj=71.4km s-min=18.4km az=64.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PIP	**Pasuquin**	**0.93**	**160**	⇓*i*P		Pn	05 49 20.3	+0.6
WRA	**Warramunga Arr**	**41.27**	**160**	P		P	05 56 46.5	-0.1
1.0nm,0.7s,baz=342,slow=9.0,SNR=8.6								
WRA				PcP		PcP	05 58 45.6	+0.1
0.8nm,0.8s,baz=344,slow=3.2,SNR=4.9								
MKAR	**Makanchi Array**	**41.48**	**320**	P		P	05 56 48.3	+0.2
1.1nm,0.8s,baz=114,slow=12,SNR=12								
ZALV	**Zalesovo Beam**	**44.06**	**330**	P		P	05 57 08.7	-0.1
0.7nm,0.5s,baz=116,slow=6.6,SNR=3.4								
ASAR	**Alice Springs**	**44.63**	**162**	P		P	05 57 13.4	-0.4
2.6nm,1.1s,baz=337,slow=6.9,SNR=8.6								
KURBB	**Kurchatov Arra**	**45.49**	**323**	P		P	05 57 19.7	-0.7
1.0nm,0.7s,baz=121,slow=7.8,SNR=7.8								
YKA	**Yellowknife Ar**	**87.87**	**22**	P		P	06 01 50.6	+0.1
0.4nm,0.7s,baz=318,slow=4.7,SNR=4.0								

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*BGR **21** 06:05:19.6±1.5,51°59N×16°29E,h1km,ML3.9/4, Error ellipse: s-maj=23.3km s-min=10.0km az=30.0*
*MOS **21** 06:05:19.8±1.4,51°55N×15°85E,h10km,mb4.4/16, Error ellipse: s-maj=5.8km s-min=3.7km az=79.8*
*ISCJB **21** 06:05:19.9±0.2,51°46N±0°01×16°09E±0°02,h0km, mb4.5/47, Error ellipse: s-maj=1.8km s-min=1.6km az=154.6*
*LDG **21** 06:05:20.8±0.1,51°49N×16°15E,h1km,Ml4.7/34, Error ellipse: s-maj=2.0km s-min=1.2km az=162.0, Suspected Mining induced.*
*IPEC **21** 06:05:20.5±0.3,51°55N×16°23E,h0km±1km,ML4.0/3, Error ellipse: s-maj=2.3km s-min=1.5km az=29.0*
*CSEM **21** 06:05:21.9±0.1,51°46N×16°09E,h0km,mb4.5/38, ML4.4/16,Ms4.2, Error ellipse: s-maj=2.3km s-min=2.2km az=128.0*
*WAR **21** 06:05:22.2,51°49N×16°10E*
*NEIC **21** 06:05:22.8±0.3,51°28N×15°93E,h5km,mb4.7/25, Error ellipse: s-maj=6.7km s-min=4.3km az=141.0*
*IDC **21** 06:05:22.2±0.5,51°49N×16°09E,h0km,mb4.0/14, mb1 4.2/21,mb1mx4.1/32,mbtmp4.0/21,ML3.7/7, Error ellipse: s-maj=11.7km s-min=6.0km az=102.0*
*PRU **21** 06:05:22.8,51°45N×16°11E,h0km,M4.7*
*UPP **21** 06:05:23.4,51°58N×15°73E,h0km,ML3.3, Suspected Mining explosion.*
*VIE **21** 06:05:24.3±0.4,51°25N×16°04E,h0km,mb3.5/10, ML3.5/11,Ms4.2/1, Error ellipse: s-maj=2.4km s-min=1.7km az=5.0 69 km WNW of Wroclaw Suspected Mining induced.*

ISC 21 06:05:21.3±0.3,51°53N±0°02×16°07E±0°02,h0km,n610, σ1§84/683,mb4.5/47,99C-121D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.70**	**169**	*e*Pn		**Pg**	**06 05 34.7**	**0.0**
KSP	**Ksiaz**	**0.70**	**169**	⇓*i*P		**Pg**	**06 05 34.5**	**-0.2**
KSP				*e*			06 05 46.7	
KSP	**Ksiaz**	**0.70**	**169**	*e*Pg		**Pg**	**06 05 34.5**	**-0.2**
KSP				*e*Sg		**Sg**	**06 05 43.5**	**-0.1**
KSP	**Ksiaz**	**0.70**	**169**	*i* P		**Pg**	**06 05 34.5**	**-0.2**
KSP				*i* Sg		**Sg**	**06 05 43.6**	**-0.1**
KSP				*e*S		**Sb**	**06 05 46.7**	**+0.2**
DPC	**Dobruska-Polom**	**1.19**	**172**	*e*Pn		**Pg**	**06 05 43.5**	**-0.6**
DPC	**Dobruska-Polom**	**1.19**	**172**	*e*P		**Pg**	**06 05 43.3**	**-0.8**
DPC				*e*			06 05 58.3	
DPC	**Dobruska-Polom**	**1.19**	**172**	*e*PG		**Pg**	**06 05 43.3**	**-0.8**
DPC				*e*SG		**Sg**	**06 05 58.3**	**-1.1**
DPC	**Dobruska-Polom**	**1.19**	**172**	Pg		**Pg**	**06 05 43.3**	**-0.8**
DPC				Sg		**Sg**	**06 05 58.3**	**-1.1**
PVCC	**Panska Ves**	**1.38**	**224**	*e*P		**Pb**	**06 05 48.2**	**+0.3**
PVCC				*e*			06 06 06.8	
PVCC					smax	smax		
	comp=N,2μm,0.2s							
PVCC					MLR	MLR		
	comp=Z,3μm,3.6s							
PVCC	**Panska Ves**	**1.38**	**224**	*e*PG		**Pb**	**06 05 48.2**	**+0.3**
PVCC				*e*SG		**Sn**	**06 06 06.8**	**+0.1**
	comp=Z,2μm,0.2s							
PVCC					AMS	AMS	06 06 10.0	
	comp=Z,3μm,3.6s							
PVCC	**Panska Ves**	**1.38**	**224**	Pg		**Pb**	**06 05 48.2**	**+0.3**
PVCC				Sg		**Sn**	**06 06 06.8**	**+0.1**
	comp=Z,2μm,0.2s							
BRG	**Berggiesshubel**	**1.49**	**245**	PN		**Pn**	**06 05 48.5**	**-0.8**
BRG				PG		**Pg**	**06 05 50.2**	**+0.3**
BRG				SG		**Sn**	**06 06 10.3**	**+0.8**
	comp=Z,1μm,0.3s							
BRG	**Berggiesshubel**	**1.49**	**245**	*e*Pn		**Pn**	**06 05 49.4**	**0.0**
BRG				*e*Sn		**Sn**	**06 06 10.4**	**+0.9**
BRG	**Berggiesshubel**	**1.49**	**245**	P		**Pn**	**06 05 48.5**	**-0.8**
BRG							06 06 10.3	
BRG					smax	smax		
	comp=N,20nm,0.3s							
BRG	**Berggiesshubel**	**1.49**	**245**	P		**Pn**	**06 05 48.5**	**-0.8**
BRG	**Berggiesshubel**	**1.49**	**245**	Pn		**Pn**	**06 05 49.4**	**0.0**
BRG				Sn		**Sn**	**06 06 10.4**	**+0.9**
FBE	**Freiberg**	**1.81**	**252**	*e*Pn		**Pn**	**06 05 53.9**	**+0.2**
FBE				*e*Sn		**Sg**	**06 06 20.0**	**+0.5**
FBE	**Freiberg**	**1.81**	**252**	Pn		**Pn**	**06 05 53.9**	**+0.2**
FBE				Sn		**Sg**	**06 06 20.0**	**+0.5**
PRU	**Pruhonice**	**1.82**	**213**	*e*P		**Pn**	**06 05 53.7**	**-0.2**
PRU				*e*			06 06 19.6	
PRU					smax	smax		
	comp=N,200nm,0.4s							
PRU					MLR	MLR		
	comp=Z,2μm,4.5s							
PRU	**Pruhonice**	**1.82**	**213**	*e*PN		**Pn**	**06 05 53.7**	**-0.2**
PRU				*e*PG		**Pb**	**06 05 55.3**	**-0.2**
PRU				*e*SG		**Sg**	**06 06 19.6**	**-0.2**
	comp=Z,200nm,0.4s							
PRU					AMS	AMS	06 06 30.0	
	comp=Z,2μm,4.5s							
PRU	**Pruhonice**	**1.82**	**213**	Pn		**Pn**	**06 05 53.7**	**-0.2**
GKP	**Gorka Klasztor**	**1.89**	**22**	*e*Pg		**Pb**	**06 05 56.1**	**-0.5**
GKP				*e*PP		PnPn	06 06 03.5	+1.4
GKP				*e*Sg		**Sn**	**06 06 19.2**	**0.0**
GKP				*e*			06 06 25.7	
GKP	**Gorka Klasztor**	**1.89**	**22**	*e*Pg		**Pb**	**06 05 56.1**	**-0.5**
CLL	**Collm**	**1.94**	**265**	*e*Pn		**Pn**	**06 05 56.0**	**+0.6**
CLL				*e*Pg		**Pg**	**06 05 58.0**	**-0.4**
CLL				*i* Sg		**Sg**	**06 06 24.4**	**+1.0**
CLL	**Collm**	**1.94**	**265**	*e*P		**Pn**	**06 05 56.0**	**+0.6**
CLL				*i*			06 06 24.4	
CLL	**Collm**	**1.94**	**265**	*e*Pn		**Pn**	**06 05 56.0**	**+0.6**
CLL				*e*Pg		**Pg**	**06 05 58.0**	**-0.4**
CLL				*i*			06 06 02.5	
CLL				*i* Sg		**Sg**	**06 06 24.4**	**+1.0**
	comp=Z,590nm,0.9s							
CLL	**Collm**	**1.94**	**265**	Pn		**Pn**	**06 05 56.0**	**+0.6**
RAC	**Raciborz**	**1.98**	**136**	*e*P		**Pg**	**06 05 58.7**	**-0.4**
RAC				*e*			06 06 24.6	
RAC	**Raciborz**	**1.98**	**136**	*e*P		**Pg**	**06 05 58.7**	**-0.4**
RAC				*e*S		**Sg**	**06 06 24.6**	**-0.1**
MORC	**Moravsky Berou**	**1.99**	**151**	*e*P		**Pn**	**06 05 54.1**	**-2.1**
MORC	**Moravsky Berou**	**1.99**	**151**	*e*Pn		**Pn**	**06 05 54.1**	**-2.1**
MORC	**Moravsky Berou**	**1.99**	**151**	*e*P		**Pn**	**06 05 54.1**	**-2.1**
MORC	**Moravsky Berou** baz=335	**1.99**	**151**	*e*Pn		**Pn**	**06 05 55.1**	**-1.1**
MORC				*e*Sg		**Sn**	**06 06 21.9**	**+0.1**
	comp=Z,753nm,1.2s,baz=335							
OKC	**Ostrava-Krasne**	**2.15**	**141**	*e*P		**Pn**	**06 05 57.1**	**-1.2**
OKC				*e*			06 06 27.6	
OKC					MLR	MLR		
	comp=Z,2μm,4.0s							
OKC	**Ostrava-Krasne**	**2.15**	**141**	*e*PN		**Pn**	**06 05 57.1**	**-1.2**
OKC				*e*PG		**Pb**	**06 06 01.5**	**+0.5**
OKC				*e*SG		**Sb**	**06 06 27.6**	**-0.5**
OKC					AMS	AMS	06 06 40.0	
	comp=Z,2μm,4.0s							
OKC	**Ostrava-Krasne**	**2.15**	**141**	Pn		**Pn**	**06 05 57.1**	**-1.2**
VRAC	**Vranov**	**2.25**	**171**	Pn		**Pn**	**06 05 59.6**	**-0.1**
VRAC				Lg		Lg	06 06 31.8	
VRAC	**Vranov**	**2.25**	**171**	Pn		**Pn**	**06 05 59.6**	**-0.1**
	comp=Z,9.0nm,0.3s,baz=349,slow=14,SNR=39							
VRAC				Lg		Lg	06 06 31.8	
	comp=Z,35nm,0.3s,baz=79,slow=22,SNR=16							
VRAC	**Vranov**	**2.25**	**171**	*e*Pn		**Pn**	**06 05 59.1**	**-0.6**
VRAC	**Vranov**	**2.25**	**171**	P		**Pn**	**06 05 59.6**	**-0.1**
	comp=Z,9.0nm,0.3s							
VRAC				*e*Sg		**Sb**	**06 06 31.3**	**+0.2**
	comp=Z,871nm,1.0s,baz=354							
VRAC				Lg		Lg	06 06 31.8	
TREC	**Trest**	**2.27**	**190**	*e*P		**Pn**	**06 06 00.4**	**+0.4**
TREC				*e*			06 06 32.6	
TREC					MLR	MLR		
	comp=Z,1μm,4.5s							
TREC	**Trest**	**2.27**	**190**	*e*PN		**Pn**	**06 06 00.4**	**+0.4**
TREC				*e*PG		**Pb**	**06 06 03.9**	**+0.8**
TREC				*e*SG		**Sb**	**06 06 32.6**	**+1.0**
TREC					AMS	AMS	06 06 40.0	
	comp=Z,1μm,4.5s							
TREC	**Trest**	**2.27**	**190**	Pn		**Pn**	**06 06 00.4**	**+0.4**
KRUC	**Moravsky** baz=358	**2.48**	**175**	*e*Pn		**Pn**	**06 06 02.2**	**-0.7**
KRUC				*e*Sg		**Sb**	**06 06 38.7**	**+1.0**
	comp=Z,907nm,1.4s,baz=358							
NKC	**Novy Kostel**	**2.64**	**242**	*e*P		**Pg**	**06 06 12.2**	**+0.4**
NKC					MLR	MLR		
	comp=Z,800nm,5.4s							
NKC	**Novy Kostel**	**2.64**	**242**	*e*PG		**Pg**	**06 06 12.2**	**+0.4**
NKC				*e*SG		**Sg**	**06 06 47.5**	**+1.6**
NKC	comp=Z,378nm,0.4s				AMS	AMS	06 07 00.0	
	comp=Z,800nm,5.4s							
NKC	**Novy Kostel**	**2.64**	**242**	Pg		**Pg**	**06 06 12.2**	**+0.4**
NKC				Sg		**Sg**	**06 06 47.5**	**+1.6**
	comp=Z,378nm,0.4s							
OJC	**Ojcow**	**2.70**	**118**	*e*P		**Pn**	**06 06 04.1**	**-1.8**
OJC				*e*			06 06 35.7	
OJC	**Ojcow**	**2.70**	**118**	*e*Pn		**Pn**	**06 06 04.1**	**-1.8**
OJC				*e*Pg		**Pg**	**06 06 13.0**	**0.0**
OJC				*e*Sn		**Sn**	**06 06 35.7**	**-3.6**
OJC				*e*Sg		**Sg**	**06 06 47.4**	**-0.5**
OJC	**Ojcow**	**2.70**	**118**	*e*P		**Pn**	**06 06 04.1**	**-1.8**
OJC	**Ojcow**	**2.70**	**118**	*e*Pg		**Pg**	**06 06 13.0**	**0.0**
OJC				*e*S		**Sn**	**06 06 35.7**	**-3.6**
OJC				*e*Sg		**Sg**	**06 06 47.4**	**-0.5**
KHC	**Kasperske Hory**	**2.88**	**215**	*e*P		**Pn**	**06 06 08.1**	**-0.4**
KHC				*e*			06 06 43.6	
KHC					smax	smax		
	comp=N,155nm,0.5s							
KHC					MLR	MLR		
	comp=Z,1μm,4.8s							
KHC	**Kasperske Hory**	**2.88**	**215**	*e*PN		**Pn**	**06 06 08.1**	**-0.4**
KHC				*e*PG		**Pb**	**06 06 14.7**	**+1.1**
KHC				*e*SN		**Sn**	**06 06 43.6**	**-0.3**
KHC				*e*SG		**Sg**	**06 06 53.5**	**-0.4**
	comp=Z,155nm,0.5s							
KHC					AMS	AMS	06 07 10.0	
	comp=Z,1μm,4.8s							
KHC	**Kasperske Hory**	**2.88**	**215**	*e*Pn		**Pn**	**06 06 07.9**	**-0.6**
KHC	**Kasperske Hory**	**2.88**	**215**	Pn		**Pn**	**06 06 08.1**	**-0.4**
BEL	**Belsk**	**2.95**	**82**	*e*Pn		Pn	06 06 05.0	-4.4
BEL				*e*Pb		Pb	06 06 10.7	-4.1
BEL				*e*Pg		**Pg**	**06 06 19.1**	**+1.2**
BEL				*e*Sn		**Sn**	**06 06 40.7**	**-4.8**
BEL				*e*Sb		**Sb**	**06 06 50.8**	**-0.6**
BEL				*e*Sg		**Sg**	**06 06 55.8**	**-0.3**
BEL	**Belsk**	**2.95**	**82**	*e*Pn		Pn	06 06 05.0	-4.4
GERES	**GERESS Array B**	**3.09**	**211**	Pn		**Pn**	**06 06 11.3**	**-0.1**
GERES				Pg		**Pg**	**06 06 19.6**	**-0.8**
GERES				Lg		Lg	06 06 58.8	
GERES	**GERESS Array B**	**3.09**	**211**	Pn		**Pn**	**06 06 11.3**	**-0.1**
	comp=Z,7.7nm,0.3s,baz=31,slow=12,SNR=111							
GERES				Pg		**Pg**	**06 06 19.6**	**-0.8**
	comp=Z,26nm,0.3s,baz=25,slow=18,SNR=90							
GERES				Lg		Lg	06 06 58.8	
	comp=Z,37nm,0.3s,baz=37,slow=30,SNR=12							
GERES	**GERESS Array B** comp=Z,26nm,0.3s	**3.09**	**211**	P		**Pn**	**06 06 11.3**	**-0.1**
SMOL	**Smolenice**	**3.14**	**163**	*e*P		**Pn**	**06 06 12.1**	**+0.1**
SMOL	**Smolenice**	**3.14**	**163**	*e*PN		**Pn**	**06 06 12.1**	**+0.1**
SMOL				*e*			06 06 21.0	
SMOL	**Smolenice**	**3.14**	**163**	*e*SG		**Sg**	**06 07 02.2**	**+0.1**
SMOL	**Smolenice**	**3.14**	**163**	*e*P		**Pn**	**06 06 12.1**	**+0.1**
SMOL				*e*Sg		**Sg**	**06 07 02.2**	**+0.1**
ZST	**Bratislava**	**3.40**	**168**	*e*P		**Pn**	**06 06 15.6**	**0.0**
ZST					pmax	pmax		
	comp=N,817nm,1.5s							
ZST	**Bratislava**	**3.40**	**168**	*e*PN		**Pn**	**06 06 15.6**	**0.0**
ZST				*e*			06 06 24.3	
ZST	**Bratislava**	**3.40**	**168**	*e*SG		**Sg**	**06 07 07.8**	**-2.7**
ZST	**Bratislava**	**3.40**	**168**	*e*P		**Pn**	**06 06 15.6**	**0.0**
	comp=N,817nm,1.5s							
ZST				*e*Sg		**Sg**	**06 07 07.8**	**-2.7**
NIE	**Niedzica**	**3.43**	**126**	*e*P		**Pn**	**06 06 17.7**	**+1.6**
NIE	**Niedzica**	**3.43**	**126**	*e*Pn		**Pn**	**06 06 17.7**	**+1.6**
NIE				*e*Pg		**Pg**	**06 06 28.0**	**+0.9**
NIE				*e*Sg		**Sg**	**06 07 12.0**	**+0.5**
NIE	**Niedzica**	**3.43**	**126**	*e*P		**Pn**	**06 06 17.7**	**+1.6**
VYHS	**Vyhne**	**3.52**	**149**	*e*P		**Pn**	**06 06 16.7**	**-0.5**
VYHS					pmax	pmax		
	comp=N,201nm,1.6s							
VYHS	**Vyhne**	**3.52**	**149**	*e*PN		**Pn**	**06 06 16.7**	**-0.5**
VYHS				*e*			06 06 28.3	
VYHS	**Vyhne**	**3.52**	**149**	*e*SG		**Sg**	**06 07 11.9**	**-2.4**
VYHS	**Vyhne**	**3.52**	**149**	*e*P		**Pn**	**06 06 16.7**	**-0.5**
	comp=N,201nm,1.6s							
VYHS				*e*Sg		**Sg**	**06 07 11.9**	**-2.4**
GRFO	**Grafenberg**	**3.60**	**241**	*e*P		**Pn**	**06 06 18.3**	**0.0**
GRFO	**Grafenberg**	**3.60**	**241**	*e*Pn		**Pn**	**06 06 18.3**	**0.0**
GRFO	**Grafenberg**	**3.60**	**241**	*e*P		**Pn**	**06 06 18.3**	**0.0**
CONA	**Conrad Observa**	**3.60**	**182**	⇓*i*Pn		**Pn**	**06 06 18.2**	**-0.3**
	SNR=31							
CONA				⇓*i*Pg		**Pg**	**06 06 28.7**	**-1.7**
CONA				⇓*i*Sg		**Sg**	**06 07 14.1**	**-2.9**
CONA	**Conrad Observa** SNR=31	**3.60**	**182**	Pn		**Pn**	**06 06 18.2**	**-0.3**
BSD	**Bornholm Skovb**	**3.66**	**350**	*i* P		**Pn**	**06 06 18.5**	**-0.6**
BSD				*i* S		**Sn**	**06 06 59.2**	**-3.7**
BSD	**Bornholm Skovb**	**3.66**	**350**	*i* P		**Pn**	**06 06 18.5**	**-0.6**
BSD				*i* S		**Sn**	**06 06 59.2**	**-3.7**
BSD	**Bornholm Skovb** SNR=49	**3.66**	**350**	*i* P		**Pn**	**06 06 18.5**	**-0.6**
MOA	**Molln** SNR=14	**3.86**	**198**	⇓*i*Pn		**Pn**	**06 06 21.8**	**-0.1**
MOA				⇑*i*Sg		**Sg**	**06 07 24.1**	**-1.2**
	comp=N,166nm,0.6s							
MOA	**Molln** SNR=14	**3.86**	**198**	Pn		**Pn**	**06 06 21.8**	**-0.1**
MOA				Sg		**Sg**	**06 07 24.1**	**-1.2**
	comp=N,166nm,0.6s							
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*P		**Pn**	**06 06 22.7**	**0.0**
STHS					pmax	pmax		
	comp=N,278nm,1.1s							
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*PN		**Pn**	**06 06 22.7**	**0.0**
STHS				*e*			06 06 37.7	
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*SG		**Sg**	**06 07 27.7**	**+0.5**
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*P		**Pn**	**06 06 22.7**	**0.0**
	comp=N,278nm,1.1s							
STHS				*e*Sg		**Sg**	**06 07 27.7**	**+0.5**
KECS	**Kecovo**	**4.17**	**135**	*e*P		**Pn**	**06 06 25.1**	**-1.0**
KECS					pmax	pmax		
	comp=N,71nm,1.3s							
KECS	**Kecovo**	**4.17**	**135**	*e*PN		**Pn**	**06 06 25.1**	**-1.0**
KECS				*e*			06 06 41.4	
KECS	**Kecovo**	**4.17**	**135**	*e*SG		**Sg**	**06 07 33.5**	**-1.6**
KECS	**Kecovo**	**4.17**	**135**	*e*P		**Pn**	**06 06 25.1**	**-1.0**
	comp=N,71nm,1.3s							
KECS				*e*Sg		**Sg**	**06 07 33.5**	**-1.6**
ARSA	**Arzberg** SNR=6.7	**4.30**	**185**	⇑*i*Pn		**Pn**	**06 06 27.1**	**-0.8**
ARSA				⇑*i*Sg		**Sg**	**06 07 36.6**	**-2.6**
	comp=N,207nm,0.8s							
ARSA	**Arzberg** SNR=6.7	**4.30**	**185**	Pn		**Pn**	**06 06 27.1**	**-0.8**
ARSA				Sg		**Sg**	**06 07 36.6**	**-2.6**
	comp=N,207nm,0.8s							
PSZ	**Piszkesteto**	**4.38**	**144**	⇑P		**Pn**	**06 06 29.6**	**+0.4**
PSZ	**Piszkesteto**	**4.38**	**144**	*e*Pn		**Pn**	**06 06 27.9**	**-1.2**
PSZ	**Piszkesteto**	**4.38**	**144**	⇑*i*P		**Pn**	**06 06 29.6**	**+0.4**
PSZ	**Piszkesteto**	**4.38**	**144**	⇓*e*pPn		**Pn**	**06 06 29.5**	**+0.4**
PSZ	**Piszkesteto**	**4.38**	**144**	*e*Pn		**Pn**	**06 06 27.9**	**-1.2**
PSZ	**Piszkesteto**	**4.38**	**144**	⇓*e*P		**Pn**	**06 06 29.5**	**+0.4**
LUNU	**Lund**	**4.40**	**340**	P		**Pn**	**06 06 28.1**	**-1.2**
LUNU				S		**Sn**	**06 07 19.3**	**-1.9**
LLD	**Lille Linde**	**4.46**	**330**	*e*P		**Pn**	**06 06 28.4**	**-1.6**
LLD				*i* S		**Sn**	**06 07 21.5**	**-1.0**
LLD	**Lille Linde**	**4.46**	**330**	*i* P		**Pn**	**06 06 28.4**	**-1.6**
LLD				*i* S		**Sn**	**06 07 21.5**	**-1.0**
LLD	**Lille Linde**	**4.46**	**330**	*e*P		**Pn**	**06 06 28.4**	**-1.6**
LLD				*i* S		**Sn**	**06 07 21.5**	**-1.0**
BUD	**Budapest**	**4.48**	**153**	⇓*e*pPn		**Pn**	**06 06 31.1**	**+0.7**
BUD	**Budapest**	**4.48**	**153**	⇓*e*P		**Pn**	**06 06 31.1**	**+0.7**
KWP	**Kalwaria Pacla**	**4.63**	**112**	⇓P		**Pn**	**06 06 32.6**	**+0.1**
KWP	**Kalwaria Pacla**	**4.63**	**112**	*e*Pn		**Pn**	**06 06 32.4**	**-0.2**
KWP	**Kalwaria Pacla**	**4.63**	**112**	⇓*i*P		**Pn**	**06 06 32.6**	**+0.1**
KWP	**Kalwaria Pacla**	**4.63**	**112**	*e*Pn		**Pn**	**06 06 32.4**	**-0.2**
KWP				*e*Pb		**Pb**	**06 06 41.7**	**-1.7**
KWP				*e*PPP		PPP	06 06 46.2	
KWP				*e*Pg		**Pg**	**06 06 51.9**	**+1.9**
KWP				*e*Sn		**Sn**	**06 07 27.7**	**+0.8**
KWP				*e*Sb		Sb	06 07 32.1	-7.6
KWP				*e*Sg		**Sg**	**06 07 53.5**	**+3.4**
KWP	**Kalwaria Pacla**	**4.63**	**112**	*e*Pn		**Pn**	**06 06 32.3**	**-0.2**
KWP	**Kalwaria Pacla**	**4.63**	**112**	P		**Pn**	**06 06 32.6**	**+0.1**
KWP	**Kalwaria Pacla**	**4.63**	**112**	*e*Pg		**Pg**	**06 06 52.0**	**+1.9**
KWP				*e*Sn		**Sn**	**06 07 27.8**	**+0.8**
KWP				*e*Sg		**Sg**	**06 07 53.5**	**+3.4**
KOLS	**Kolonicke sedl**	**4.75**	**121**	*e*		Pg	06 06 57.6	+5.3
KOLS				*e*			06 07 17.2	
KOLS				*e*			06 08 19.9	
BLEU	**Blekinge**	**4.79**	**358**	P		**Pn**	**06 06 34.5**	**-0.1**
KBA	**Koelnbreinsper** SNR=22	**4.80**	**203**	⇓*i*Pn		**Pn**	**06 06 35.2**	**+0.3**
KBA				⇑*i*Sg		**Sg**	**06 07 55.0**	**-0.3**
	comp=N,96nm,0.7s							
KBA	**Koelnbreinsper** SNR=22	**4.80**	**203**

SNR=6.9
FETA Sg Sg 06 08 24.3 -0.2
comp=E,94nm,0.9s
CRES Cresnjev 5.72 184 *e*Pn Pn 06 06 48.5 +1.1
CRES Cresnjev 5.72 184 *e*Pn Pn 06 06 48.5 +1.1
WTSB Winterswijk 5.78 278 *e*P Pn 06 06 49.5 +1.3
comp=E,96nm,1.7s
WTSB *e*S Sg 06 08 20.1 -6.7
BYXU Byxelkrok 5.80 5 P Pn 06 06 48.7 +0.2
SPAK Spaichingen-Ko 5.83 237 P Pn 06 06 49.0 0.0
DAVA Damuels 5.86 226 ⇓*i*Pn Pn 06 06 49.3 -0.2
DAVA ⇑⇑*i*Sg Sg 06 08 31.7 +2.3
comp=E,133nm,0.8s
DAVA Damuels 5.86 226 Pn Pn 06 06 49.3 -0.2
LANF Langenberg 5.88 248 P Pn 06 06 49.7 0.0
GNOU Gnosjoe 5.93 348 P Pn 06 06 49.8 -0.5
BFO Black Forest 5.94 240 *e*P Pn 06 06 49.0 -1.4
BFO pmax pmax
comp=Z,27nm,0.6s
BFO Black Forest 5.94 240 *e*Pn Pn 06 06 49.0 -1.4
comp=Z,26nm,0.6s
BFO Black Forest 5.94 240 *e*P Pn 06 06 49.0 -1.4
comp=Z,27nm,0.6s
RUP Ruppelstein 6.02 256 P Pn 06 06 52.0 +0.4
BOJS Bojanci 6.05 185 *e*Pn Pn 06 06 53.0 +1.0
BOJS *e*Sn Sg 06 08 36.4 +0.8
BOJS Bojanci 6.05 185 *e*Pn Pn 06 06 53.0 +1.0
EKSU Eksjoe 6.08 356 P Pn 06 06 52.2 -0.1
DAVOX Davos/Dischmat 6.25 223 Pn Pn 06 06 55.2 +0.3
DAVOX Lg Lg 06 08 39.9
DAVOX Davos/Dischmat 6.25 223 Pn Pn 06 06 55.2 +0.3
comp=Z,1.3nm,0.3s,baz=29,slow=11,SNR=12
DAVOX Lg Lg 06 08 39.9
comp=Z,2.3nm,0.3s,baz=5.9,slow=23,SNR=3.8
DAVOX Davos/Dischmat 6.25 223 P Pn 06 06 55.2 +0.3
comp=Z,1.0nm,0.3s
FELD Feldberg im Sc 6.38 238 P Pn 06 06 58.0 +1.3
MEM Membach 6.41 266 P Pn 06 06 58.2 +1.3
MEM Membach 6.41 266 P Pn 06 06 58.2 +1.3
BORU Boraas 6.41 344 P Pn 06 06 56.6 -0.3
HGN Heimansgroeve 6.43 267 *e*P Pn 06 06 57.5 +0.4
comp=Z,19nm,1.4s
HGN *e*S Sb 06 08 28.2 -3.1
HGN Heimansgroeve 6.43 267 *e*P Pn 06 06 57.5 +0.4
comp=Z,19nm,1.4s
DRGR 6.43 135 ⇑P Pn 06 06 57.7 +0.4
DRGR 6.43 135 ⇑*i*P Pn 06 06 57.7 +0.4
DRGR 6.43 135 P Pn 06 06 57.7 +0.4
CDF Champ du Feu 6.47 245 *e*Pn Pn 06 06 55.2 -2.7
CDF *e*Sg Sg 06 08 44.4 -4.7
comp=Z,456nm,1.1s
CDF Champ du Feu 6.47 245 *e*P Pn 06 06 55.2 -2.7
CDF Champ du Feu 6.47 245 *e*Pn Pn 06 06 55.2 -2.7
CDF *e*Sg Sg 06 08 44.4 -4.7
ECH Echery 6.65 244 *e*P Pn 06 06 58.8 -1.4
ECH pmax pmax
comp=Z,16nm,0.9s
ECH Echery 6.65 244 *e*Pn Pn 06 06 58.8 -1.4
comp=Z,16nm,0.9s
ECH Echery 6.65 244 *e*Pn Pn 06 06 58.8 -1.4
comp=Z,16nm,0.9s
ECH Echery 6.65 244 P Pn 06 07 01.8 +1.6
TUE Stuetta 6.72 224 *e*Pn Pn 06 07 00.8 -0.5
comp=Z,11nm,0.8s
TUE Stuetta 6.72 224 *e*Pn Pn 06 07 00.8 -0.5
comp=Z,11nm,0.8s
MOF Molkenrain 6.87 241 P Pn 06 07 03.3 0.0
HINF Hinteralfeld 7.04 242 *e*Pn Pn 06 07 02.8 -2.8
HINF *e*Sg Sg 06 09 01.9 -5.4
comp=Z,291nm,1.2s
HINF Hinteralfeld 7.04 242 *e*P Pn 06 07 02.8 -2.8
HINF Hinteralfeld 7.04 242 *e*Pn Pn 06 07 02.8 -2.8
HINF *e*Sg Sg 06 09 01.9 -5.4
BURAR Bucovina Array 7.12 120 ⇓P Pn 06 07 06.4 -0.3
BURAR Bucovina Array 7.12 120 ⇓*i*P Pn 06 07 06.4 -0.3
BURAR Bucovina Array 7.12 120 ⇓*i*P Pn 06 07 06.4 -0.3
NACGM Naroch 7.26 58 *e* Pb 06 07 30.0 +1.9
GIVF Givet 7.27 263 *e*Pn Pn 06 07 06.3 -2.4
GIVF *e*Sg Sg 06 09 09.6 -5.0
comp=Z,254nm,1.1s
GIVF Givet 7.27 263 *e*P Pn 06 07 06.3 -2.4
GIVF Givet 7.27 263 *e*Pn Pn 06 07 06.3 -2.4
GIVF *e*Sg Sg 06 09 09.6 -5.0
PAGF Fort de Pagny 7.30 250 *e*Pn Pn 06 07 07.2 -1.9
PAGF *e*Sg Sg 06 09 10.1 -5.4
comp=Z,104nm,1.2s
PAGF Fort de Pagny 7.30 250 *e*Pn Pn 06 07 07.2 -1.9
PAGF *e*Sg Sg 06 09 10.1 -5.4
PAGF Fort de Pagny 7.30 250 *e*Pn Pn 06 07 07.2 -1.9
THEF They Montfort 7.31 247 P Pn 06 07 08.9 -0.3
DOU Dourbes 7.41 263 P Pn 06 07 12.6 +2.0
DOU Dourbes 7.41 263 P Pn 06 07 12.6 +2.0
BAIF Baives 7.66 264 *e*Pn Pn 06 07 11.1 -3.0
BAIF *e*Sg Sg 06 09 22.0 -5.2
comp=Z,272nm,1.4s
BAIF Baives 7.66 264 *e*P Pn 06 07 11.1 -3.0
BAIF Baives 7.66 264 *e*Pn Pn 06 07 11.1 -3.0
BAIF *e*Sg Sg 06 09 22.0 -5.2
MICGM Minsk 7.72 63 *e*P Pg 06 07 44.0 -5.0
MEZF Maizieres J'vi 7.72 251 *e*Sg Sg 06 09 23.6 -5.4
comp=Z,316nm,1.3s
SFTF Sexfontaines 7.87 249 *e*Pn Pn 06 07 14.7 -2.2
SFTF *e*Sg Sg 06 09 27.8 -6.0
comp=Z,391nm,1.4s
SFTF Sexfontaines 7.87 249 *e*Pn Pn 06 07 14.7 -2.2
SFTF *e*Sg Sg 06 09 27.8 -6.0
CABF La Chapelle 8.19 237 *e*Pn Pn 06 07 18.7 -2.8
CABF *e*Sg Sg 06 09 38.2 -6.1
comp=Z,299nm,1.1s
CABF La Chapelle 8.19 237 *e*P Pn 06 07 18.7 -2.8
CABF La Chapelle 8.19 237 *e*Pn Pn 06 07 18.7 -2.8
CABF *e*Sg Sg 06 09 38.2 -6.1
DOPR Dopca 8.29 128 ⇑*i*P Pn 06 07 07.2 -16
VOIR 8.52 132 ⇓P Pn 06 07 27.9 +2.0
VOIR 8.52 132 ⇓*i*P Pn 06 07 27.9 +2.0
VOIR 8.52 132 P Pn 06 07 27.9 +2.0
LPL La Plagne 8.63 229 *e*Pn Pn 06 07 24.7 -2.9
LPL *e*Sg Sg 06 09 51.4 -7.0
comp=Z,148nm,1.5s
LPL La Plagne 8.63 229 *e*P Pn 06 07 24.7 -2.9
LPL La Plagne 8.63 229 *e*Pn Pn 06 07 24.7 -2.9
LPL *e*Sg Sg 06 09 51.4 -7.0
LPG La Plagne 8.64 229 *e*Pn Pn 06 07 24.8 -2.9
LPG *e*Sg Sg 06 09 51.9 -6.6
comp=Z,213nm,1.4s
LPG La Plagne 8.64 229 *e*P Pn 06 07 24.8 -2.9
LPG La Plagne 8.64 229 *e*Pn Pn 06 07 24.8 -2.9
LPG *e*Sg Sg 06 09 51.9 -6.6
HFS Hagfors 8.73 352 Pn Pn 06 07 27.8 -0.9
HFS Sn Sn 06 09 04.1 -3.6
HFS Hagfors 8.73 352 Pn Pn 06 07 27.8 -0.9
comp=Z,0.7nm,0.3s,baz=172,slow=15,SNR=17
HFS Sn Sn 06 09 04.1 -3.6
comp=Z,1.1nm,0.3s,baz=170,slow=26,SNR=5.3
BNI Bardonecchia 9.01 228 *e*P Pn 06 07 31.7 -0.9
BNI pmax pmax
comp=Z,9.0nm,1.1s
BNI Bardonecchia 9.01 228 *e*Pn Pn 06 07 31.7 -0.9
comp=Z,8.8nm,1.1s
BNI Bardonecchia 9.01 228 *e*P Pn 06 07 31.7 -0.9
comp=Z,9.0nm,1.1s
LOR Lormes 9.03 247 *e*Pn Pn 06 07 30.4 -2.5
LOR *e*Sg Sn 06 10 04.3 +49
comp=Z,179nm,1.4s
LOR Lormes 9.03 247 *e*Pn Pn 06 07 30.4 -2.5
LOR *e*Sg Sn 06 10 04.3 +49
VRI Vrincioaia 9.04 125 ⇓P Pn 06 07 45.5 +13
VRI Vrincioaia 9.04 125 ⇓*i*P Pn 06 07 45.5 +13
MBDF Montbardon 9.21 226 *e*Pn Pn 06 07 32.3 -3.2
MBDF *e*Sg Sn 06 10 09.7 +50
comp=Z,126nm,1.4s
MBDF Montbardon 9.21 226 *e*P Pn 06 07 32.3 -3.2
MBDF Montbardon 9.21 226 *e*Pn Pn 06 07 32.3 -3.2
MBDF *e*Sg Sn 06 10 09.7 +50
VSU Vasula 9.26 37 *i* P Pn 06 07 37.5 +1.7
VSU pmax pmax
comp=Z,12nm,0.3s
VSU Vasula 9.26 37 *i* P Pn 06 07 37.5 +1.7
comp=Z,12nm,0.3s
SSF Saint Saulge 9.35 246 *e*Pn Pn 06 07 34.3 -2.9
SSF *e*Sg Sn 06 10 13.5 +51
comp=Z,142nm,1.3s
SSF Saint Saulge 9.35 246 *e*P Pn 06 07 34.3 -2.9
SSF *e*Sg Sn 06 10 13.5 +51
SMF Signal de Mont 9.39 243 *e*Pn Pn 06 07 35.1 -2.7
SMF *e*Sg Sn 06 10 15.5 +51
comp=Z,227nm,1.5s
SMF Signal de Mont 9.39 243 *e*P Pn 06 07 35.1 -2.7
SMF Signal de Mont 9.39 243 *e*Pn Pn 06 07 35.1 -2.7
SMF *e*Sg Sn 06 10 15.5 +51
SAOF Saorge 9.47 221 P Pn 06 07 38.6 -0.3
ORIF Oris-en-Rattie 9.48 230 *e*Pn Pn 06 07 35.7 -3.4
ORIF *e*Sg Sn 06 10 18.1 +52
comp=Z,203nm,1.7s
ORIF Oris-en-Rattie 9.48 230 *e*P Pn 06 07 35.7 -3.4
ORIF Oris-en-Rattie 9.48 230 *e*Pn Pn 06 07 35.7 -3.4
ORIF *e*Sg Sn 06 10 18.1 +52
AUTN L'Aution 9.52 221 P Pn 06 07 40.2 +0.5
TOUF Mont Tournerai 9.57 222 P Pn 06 07 41.9 +1.4
AVF Avril sur Loir 9.58 245 *e*Pn Pn 06 07 37.7 -2.7
AVF *e*Sg Sn 06 10 21.5 +53
comp=Z,133nm,1.2s
AVF Avril sur Loir 9.58 245 *e*P Pn 06 07 37.7 -2.7
AVF Avril sur Loir 9.58 245 *e*Pn Pn 06 07 37.7 -2.7
AVF *e*Sg Sn 06 10 21.5 +53
SBF Sospel 9.62 221 *e*Pn Pn 06 07 40.1 -0.9
SBF Sospel 9.62 221 *e*P Pn 06 07 40.1 -0.9
SBF Sospel 9.62 221 *e*Pn Pn 06 07 40.1 -0.9
SBF Sospel 9.62 221 *e*Pn Pn 06 07 40.1 -0.9
MVIF Mont Vial 9.71 222 P Pn 06 07 44.2 +1.9
REVF Revere 9.75 220 P Pn 06 07 42.2 -0.6
NB2 NORSAR Subarra 9.91 346 Pn Pn 06 07 42.3 -2.5
comp=Z,0.9nm,0.5s,baz=162,slow=14
NB2 NORSAR Subarra 9.91 346 Pn Pn 06 07 42.3 -2.5
comp=Z,0.9nm,0.5s,SNR=7.6
NOA NORSAR Array B 9.91 346 Pn Pn 06 07 42.1 -2.7
NOA NORSAR Array B 9.91 346 Pn Pn 06 07 42.1 -2.7
comp=Z,0.7nm,0.3s,baz=166,slow=12,SNR=9.5
CALN Calern 9.94 222 P Pn 06 07 45.8 +0.4
BGF Bois d'Agland 10.00 245 *e*Pn Pn 06 07 43.1 -3.1
BGF *e*Sg Sn 06 10 34.7 +56
comp=Z,198nm,1.4s
BGF Bois d'Agland 10.00 245 *e*P Pn 06 07 43.1 -3.1
BGF Bois d'Agland 10.00 245 *e*Pn Pn 06 07 43.1 -3.1
BGF *e*Sg Sn 06 10 34.7 +56
VIVF Saint-Julien-l 10.12 233 *e*Sg Sn 06 10 37.9 +56
comp=Z,38nm,1.1s
FRF La Foret Royal 10.20 222 *e*Pn Pn 06 07 45.4 -3.4
FRF La Foret Royal 10.20 222 *e*P Pn 06 07 45.4 -3.4
FRF La Foret Royal 10.20 222 *e*Pn Pn 06 07 45.4 -3.4
SMRF Simiane la Rot 10.34 227 *e*Pn Pn 06 07 48.1 -2.7
SMRF Simiane la Rot 10.34 227 *e*Pn Pn 06 07 48.1 -2.7
LMR La Mourre 10.44 222 *e*Pn Pn 06 07 49.3 -2.8
LMR La Mourre 10.44 222 *e*P Pn 06 07 49.3 -2.8
LMR La Mourre 10.44 222 *e*Pn Pn 06 07 49.3 -2.8
TCF Toulx Ste Croi 10.52 246 *e*Pn Pn 06 07 50.2 -3.0
TCF *e*Sg Sn 06 10 50.5 +59
comp=Z,134nm,1.5s
TCF Toulx Ste Croi 10.52 246 *e*P Pn 06 07 50.2 -3.0
TCF Toulx Ste Croi 10.52 246 *e*Pn Pn 06 07 50.2 -3.0
TCF *e*Sg Sn 06 10 50.5 +59
LDF La Druitiere 10.82 261 *e*Sg 06 11 00.4
comp=Z,32nm,1.0s
FLN La Foliniere 10.98 262 *e*Sg 06 11 05.3
comp=Z,146nm,1.4s
GRR Gorron 11.35 261 *e*Sg 06 11 16.5
comp=Z,4.5nm,0.5s
FINES FINESS Array B 11.36 25 Pn Pn 06 08 02.6 -1.9
FINES Sn Sn 06 10 07.6 -4.4
FINES FINESS Array B 11.36 25 Pn Pn 06 08 02.6 -1.9
comp=Z,0.9nm,0.3s,baz=206,slow=11,SNR=24
FINES Sn Sn 06 10 07.6 -4.4
comp=Z,1.9nm,0.3s,baz=209,slow=20,SNR=8.9
CAF Calviac 11.43 240 *e*Sg 06 11 18.7
comp=Z,97nm,1.4s
RJF Les Rejaudoux 11.49 243 *e*Sg 06 11 21.0
comp=Z,94nm,1.3s
MFF Saint Martin d 11.72 251 *e*Sg 06 11 28.2
comp=Z,103nm,1.3s
KAF Kangasniemi 11.98 24 *e*p Pn 06 08 12.1 -1.0
KAF Kangasniemi 11.98 24 *e*P Pn 06 08 12.1 -1.0
EKA Eskdalemuir Ar 12.08 296 Pn Pn 06 08 11.6 -2.9
EKA Eskdalemuir Ar 12.08 296 Pn Pn 06 08 11.6 -2.9
baz=100,slow=14,SNR=9.8
LFF La Frestale 12.15 243 *e*Sg 06 11 41.5
comp=Z,41nm,0.8s
MTLF Montolieu 12.44 234 *e*Sg 06 11 49.7
comp=Z,61nm,1.6s
OBN Obninsk 12.76 66 *i* P Pn 06 08 23.8 +0.1
OBN *e*SS Sn 06 10 54.1 +7.8
OBN pmax pmax
comp=Z,28nm,1.2s
OBN Obninsk 12.76 66 *i* P Pn 06 08 23.8 +0.1
comp=Z,28nm,1.2s
MOS Moscow 13.45 63 *e*P Pn 06 08 28.0 -5.1
MOS pmax pmax
comp=Z,54nm,1.1s
VSR Storozhevoye 14.42 82 *e*P Pn 06 08 40.0 -6.5
VSR pmax pmax
comp=Z,9.0nm,0.9s
VSR pmax pmax
comp=N,20nm,1.2s
VSR pmax pmax
comp=E,40nm,1.5s
VORD Divnogorie 14.54 83 *e*P Pn 06 08 44.3 -3.9
VORD pmax pmax
comp=Z,10.0nm,1.3s
VORD pmax pmax
comp=N,20nm,1.7s
VORD pmax pmax
comp=E,10.0nm,0.6s
ANN Anapa 15.73 107 *e*P Pn 06 08 44.6 -19
ANN *e* 06 11 54.2
ANN pmax pmax
comp=Z,20nm,1.3s
TMCR Tamitsa 17.10 34 *e*P Pn 06 09 17.2 -4.2
TMCR pmax pmax
comp=Z,51nm,1.1s
ARCES ARCESS Array B 18.61 10 Pn P 06 09 36.6 -3.3
ARCES ARCESS Array B 18.61 10 Pn P 06 09 36.6 -3.3
comp=Z,1.3nm,0.3s,baz=192,slow=13,SNR=21
KEV Kevo 19.00 12 *e*p P 06 09 42.2 -1.9
KEV Kevo 19.00 12 *e*P P 06 09 42.2 -1.9
KIV Kislovodsk 19.36 103 *e*P P 06 09 46.0 -2.3
KIV pmax pmax
comp=Z,8.0nm,1.0s
GNI Garni 22.83 109 *i* P P 06 10 25.1 -0.8
comp=Z,10.0nm,2.2s
SOKR Solikamsk 24.06 54 *d i*P P 06 10 38.8 +1.0
SOKR pmax pmax
comp=Z,20nm,1.2s
SOKR Solikamsk 24.06 54 *i* P P 06 10 38.8 +1.0
comp=Z,20nm,1.2s
ARU Arti 25.15 62 *c i*P P 06 10 48.6 +0.8
ARU 06 11 18.6
ARU S S 06 15 14.6 +1.2
ARU pmax pmax
comp=Z,11nm,1.0s
ARU Arti 25.15 62 *i* P P 06 10 48.6 +0.8
comp=Z,11nm,1.0s
ARU S S 06 15 14.6 +1.2
AKTK Aktyubinsk 26.17 76 P P 06 10 57.4 +0.3
comp=Z,3.0nm,0.7s
AKTO Aktyubinsk 26.17 76 P P 06 10 57.4 +0.2
AKTO pmax pmax
comp=Z,3.0nm,0.7s
AKTO Aktyubinsk 26.17 76 P P 06 10 57.4 +0.2
AKTO Aktyubinsk 26.17 76 P P 06 10 57.4 +0.2
comp=Z,2.8nm,0.7s,baz=290,slow=11,SNR=8.8
AKTO Aktyubinsk 26.17 76 P P 06 10 57.3 +0.2
BRVK Borovoye 32.53 66 *c i*P P 06 11 55.0 +1.4
BRVK pmax pmax
comp=Z,8.0nm,1.2s
BRVK Borovoye 32.53 66 *i* P P 06 11 55.0 +1.4
comp=Z,8.0nm,1.2s
BVAR Borovoye Array 32.60 66 P P 06 11 55.4 +1.2
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 32.60 66 P P 06 11 55.4 +1.2
BVAR Borovoye Array 32.60 66 P P 06 11 55.4 +1.2
comp=Z,1.5nm,0.6s,baz=286,slow=6.0,SNR=5.7
BVAR Borovoye Array 32.60 66 P P 06 11 55.4 +1.2
comp=Z,2.0nm,0.6s
KKAR Karatay Array 37.08 81 *e*P P 06 12 34.9 +1.9
KKAR Karatay Array 37.08 81 *e*P P 06 12 34.9 +1.9
KKAR Karatay Array 37.08 81 *e*P P 06 12 34.9 +1.9
KURBB Kurchatov Arra 38.19 66 P P 06 12 42.5 +0.3
comp=Z,2.9nm,1.0s,baz=298,slow=9.2,SNR=9.2
KURK Kurchatov 38.20 66 P P 06 12 42.6 +0.2
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURK Kurchatov 38.20 66 P P 06 12 42.5 +0.2
KURK Kurchatov 38.20 66 P P 06 12 42.6 +0.2
comp=Z,3.0nm,1.0s
NVS Novosibirsk 38.99 58 *e*P P 06 12 48.5 -0.4
NVS Novosibirsk 38.99 58 *e*P P 06 12 48.5 -0.4
AAK Ala-Archa 39.79 79 *c i*P P 06 12 57.7 +1.7
AAK pmax pmax
comp=Z,25nm,1.2s
AAK Ala-Archa 39.79 79 *e*P P 06 12 58.3 +2.3
comp=Z,12nm,1.3s
AAK Ala-Archa 39.79 79 *i* P P 06 12 57.7 +1.7
comp=Z,25nm,1.2s
TORD Torodi Ar. Bea 40.01 202 P P 06 12 57.9 +0.1
TORD Torodi Ar. Bea 40.01 202 P P 06 12 57.9 +0.1
comp=Z,4.6nm,1.0s,baz=8.8,slow=8.3,SNR=20
TORD Torodi Ar. Bea 40.01 202 P P 06 12 57.8 +0.1
ZALV Zalesovo Beam 40.21 59 *i* P P 06 13 00.5 +1.4
ZALV pmax pmax
comp=Z,2.0nm,0.9s
ZALV Zalesovo Beam 40.21 59 P P 06 13 00.5 +1.4
ZALV Zalesovo Beam 40.21 59 P P 06 13 00.5 +1.4
comp=Z,1.8nm,0.9s,baz=284,slow=9.0,SNR=7.7
ZALV Zalesovo Beam 40.21 59 *i* P P 06 13 00.5 +1.4
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 42.23 69 P P 06 13 17.2 +1.3
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 42.23 69 P P 06 13 17.1 +1.3
MKAR Makanchi Array 42.23 69 P P 06 13 17.1 +1.3
comp=Z,0.8nm,0.8s,baz=320,slow=5.4,SNR=10.0
MKAR Makanchi Array 42.23 69 P P 06 13 17.1 +1.2
SCHQ Schefferville 47.04 308 P P 06 13 54.5 +0.4
SCHQ Schefferville 47.04 308 P P 06 13 54.5 +0.4
comp=Z,4.2nm,1.1s,baz=49,slow=13,SNR=3.3
SCHQ Schefferville 47.04 308 P P 06 13 54.5 +0.4
ZAK Zakamensk 51.73 55 *e*P P 06 14 31.3 +1.2
ZAK pmax pmax
comp=Z,3.0nm,1.4s
ZAK Zakamensk 51.73 55 *e*P P 06 14 31.3 +1.2
comp=Z,3.0nm,1.4s
SONM Songino Array 54.92 55 P P 06 14 54.5 +0.8
SONM Songino Array 54.92 55 P P 06 14 54.5 +0.8
comp=Z,3.5nm,1.2s,baz=310,slow=6.9,SNR=10
SONM Songino Array 54.92 55 P P 06 14 54.5 +0.8
comp=Z,4.0nm,1.2s
YKA Yellowknife Ar 59.83 336 P P 06 15 28.9 +1.0
YKA Yellowknife Ar 59.83 336 P P 06 15 28.9 +1.0
comp=Z,2.1nm,0.7s,baz=28,slow=6.8,SNR=17
YKA Yellowknife Ar 59.83 336 P P 06 15 28.9 +1.0
comp=Z,2.0nm,0.7s
ILAR Eielson Array 63.29 352 P P 06 15 52.6 +1.4
ILAR Eielson Array 63.29 352 P P 06 15 52.6 +1.4
comp=Z,0.6nm,1.0s,baz=352,slow=1.8,SNR=4.5
ILAR Eielson Array 63.29 352 P P 06 15 52.7 +1.4
comp=Z,1.0nm,1.0s
A22A Carney Farms, 68.31 323 ⇓P P 06 16 25.1 +1.1
baz=68
B23A Brockton 68.39 322 ⇑P P 06 16 26.0 +1.5
baz=68
ECSD EROS Data Cent 68.70 314 *e*P P 06 16 27.9 +1.6
comp=Z,4.3nm,1.1s
ECSD EROS Data Cent 68.70 314 *e*P P 06 16 28.0 +1.6
comp=Z,4.3nm,1.1s
B22A Reddig Ranch S 68.91 323 ⇓P P 06 16 29.2 +1.5
baz=69
A18A Metzger Ranch, 69.81 325 ⇑P P 06 16 34.2 +1.0
baz=70,SNR=7.3
B19A Brinkman Farms 69.88 325 ⇓P P 06 16 35.2 +1.5
baz=70
D22A Cohagen 69.93 322 ⇓P P 06 16 35.8 +1.8
baz=70
A17A Triple J Farms 70.09 326 ⇓P P 06 16 36.2 +1.3
baz=70
C20A Veseth Ranch, 70.15 324 ⇓P P 06 16 37.2 +1.9
baz=70
B18A Beardsley Farm 70.23 325 ⇑P P 06 16 37.8 +2.0
baz=70
D21A La Casta Ranch 70.31 323 ⇑P P 06 16 38.2 +1.9
baz=70
F24A Ekalaka 70.33 320 ⇓P P 06 16 38.4 +1.8
baz=70
A16A West Butte Ran 70.40 326 ⇓P P 06 16 36.7 -0.3
baz=70
I28A Midland 70.48 317 ⇑P P 06 16 38.8 +1.4
baz=70
C19A Slack Wire Ran 70.52 324 ⇑P P 06 16 39.5 +1.9
baz=70
EGMT Eagleton 70.53 325 *e*P P 06 16 40.0 +2.3
comp=Z,31nm,1.6s
EGMT Eagleton 70.53 325 *e*P P 06 16 40.0 +2.3
comp=Z,31nm,1.6s
EGMT Eagleton 70.53 325 ⇑P P 06 16 39.7 +2.0
baz=70,SNR=7.0
B17A L&G Farms, Che 70.68 326 ⇓P P 06 16 39.9 +1.3
baz=70,SNR=5.1
D20A Manuel Ranch, 70.72 323 ⇓P P 06 16 40.7 +1.8
baz=71,SNR=7.1
G24A Alzada 70.74 320 ⇑P P 06 16 40.4 +1.3
baz=71
A15A Johnson Ranch, 70.76 327 ⇓P P 06 16 39.9 +0.7
baz=71
F23A Volborg 70.81 321 ⇓P P 06 16 40.6 +1.1
baz=71
D19A Cripps Ranch, 70.94 324 ⇑P P 06 16 41.7 +1.5
baz=71
J28A Allard Ranch, 70.97 317 ⇑P P 06 16 42.2 +1.7
baz=71
A14A Double T Ranch 71.00 327 ⇑P P 06 16 41.7 +1.0
baz=71,SNR=13
E20A Meyer Farm, Mu 71.21 323 ⇓P P 06 16 43.3 +1.5
baz=71
C17A Wharram Farm, 71.22 325 ⇑P P 06 16 43.9 +1.9
baz=71,SNR=12
G23A Biddle 71.23 320 ⇓P P 06 16 43.3 +1.2
baz=71
D18A Linhart Farms, 71.25 324 ⇓P P 06 16 43.8 +1.7
baz=71,SNR=8.2
H24A Dirks Ranch, A 71.27 320 ⇓P P 06 16 43.8 +1.5
baz=71
B15A Bradely Ranch, 71.28 327 ⇓P P 06 16 43.3 +1.0
baz=71
CMAR Chiang Mai Arr 71.38 84 P P 06 16 44.1 +0.9
CMAR Chiang Mai Arr 71.38 84 P P 06 16 44.1 +0.9
comp=Z,1.0nm,0.3s,baz=316,slow=7.6,SNR=5.9
CMAR Chiang Mai Arr 71.38 84 P P 06 16 44.1 +0.9
comp=Z,1.0nm,0.3s
C16A Fuhringer Ranc 71.43 326 ⇑P P 06 16 44.1 +0.8
baz=71
B14A Marquette Ranc 71.48 327 ⇓P P 06 16 44.1 +0.6
baz=71
E19A Rath Farm, Rou 71.49 323 ⇓P P 06 16 45.4 +1.8
baz=71
I25A Rochford 71.53 319 ⇓P P 06 16 45.6 +1.6
baz=71
G22A Birney 71.58 321 ⇓P P 06 16 45.8 +1.7
baz=71
D17A Six Diamond Ra 71.61 325 ⇑P P 06 16 45.8 +1.5
baz=71,SNR=7.5
C15A Salmond Ranch, 71.75 326 ⇓P P 06 16 46.1 +0.9
baz=72,SNR=7.3
F20A Billings 71.81 322 ⇓P P 06 16 47.2 +1.7
baz=72
E18A Harlowton 71.82 324 ⇓P P 06 16 47.6 +2.0
baz=72,SNR=7.2
B13A Whitefish 71.87 328 ⇑P P 06 16 47.7 +1.9
baz=72,SNR=5.6
F19A Roth Farm, Mol 72.06 323 ⇑P P 06 16 48.7 +1.7
baz=72,SNR=8.2
C14A Swan Lake 72.15 327 ⇑P P 06 16 48.7 +1.1
baz=72
E17A Martinsdale 72.25 325 ⇓P P 06 16 50.0 +1.7
baz=72
G20A Bridger 72.32 322 ⇑P P 06 16 49.5 +0.9
baz=72,SNR=6.6
JTMT Jette 72.35 327 *e*P P 06 16 50.5 +1.7
JTMT Jette 72.35 327 *e*P P 06 16 50.5 +1.7
HRY Holter Researc 72.39 325 *e*P P 06 16 50.4 +1.4
HRY Holter Researc 72.39 325 *e*P P 06 16 50.4 +1.4
BSMT Bassoo Peak 72.43 328 *e*P P 06 16 51.4 +2.0
BSMT Bassoo Peak 72.43 328 *e*P P 06 16 51.3 +2.0
SWMT Swartz Lake 72.46 327 *e*P P 06 16 51.1 +1.7
SWMT Swartz Lake 72.46 327 *e*P P 06 16 51.1 +1.7

C13A	**Hot Springs** baz=72	72.50	327	⇓P	P 06 16 51.3 +1.7
SLMT	**Seeley Lake**	72.52	327	*e*P	P 06 16 51.4 +1.6
SLMT	**Seeley Lake**	72.52	327	*e*P	P 06 16 51.4 +1.6
F17A	**Fitzpatrick Pl** baz=72,SNR=6.1	72.66	324	⇓P	P 06 16 52.7 +2.0
G18A	**Lazy EL Ranch,** baz=73	72.75	323	⇓P	P 06 16 52.6 +1.4
I22A	**9 Mile Ranch,** baz=73	72.76	320	⇓P	P 06 16 52.8 +1.5
C12B	**Naegeli Ranch,** baz=73	72.78	328	⇓P	P 06 16 53.1 +1.9
NEW	**Newport** comp=Z,8.3nm,1.4s	72.83	329	*e*P	P 06 16 53.0 +1.5
NEW	**Newport** comp=Z,8.3nm,1.4s	72.83	329	*e*P	P 06 16 53.0 +1.5
NEW	**Newport** baz=73	72.83	329	⇑P	P 06 16 53.2 +1.7
H20A	**Greybull** baz=73,SNR=5.1	72.85	322	⇑P	P 06 16 53.1 +1.3
H19A	**Powell** baz=73	73.08	322	⇑P	P 06 16 55.1 +1.9
I21A	**Big Trails, Te** baz=73	73.14	321	⇑P	P 06 16 54.6 +1.0
J22A	**Midwest** baz=73	73.15	320	⇓P	P 06 16 54.8 +1.2
P31A	**Stockton** baz=73	73.31	313	⇓P	P 06 16 56.2 +1.7
H18A	**Shoshone NF, C** baz=73	73.33	323	⇓P	P 06 16 56.4 +1.7
I20A	**Worland** baz=73	73.36	321	⇓P	P 06 16 56.6 +1.8
LRM	**Limekiln Ridge**	73.38	325	*e*P	P 06 16 57.5 +2.5
LRM	**Limekiln Ridge**	73.38	325	*e*P	P 06 16 57.5 +2.5
I19A	**Meeteetse** baz=73	73.62	322	⇓P	P 06 16 58.5 +2.1
K22A	**Casper** baz=74	73.81	320	⇑P	P 06 16 57.9 +0.4
DLMT	**Dillon** comp=Z,13nm,1.4s	73.82	325	*e*P	P 06 16 59.6 +2.1
DLMT	**Dillon** comp=Z,13nm,1.4s	73.82	325	*e*P	P 06 16 59.6 +2.1
J20A	**Shoshoni** baz=74	73.84	321	⇑P	P 06 16 59.5 +1.8
H16A	**Russell Place,** baz=74	73.90	324	⇓P	P 06 16 59.4 +1.3
H17A	**Grant Village** baz=74	73.91	323	⇑P	P 06 17 01.2 +3.0
L23A	**Garrett** baz=74	73.92	319	⇑P	P 06 16 59.6 +1.3
E12A	**Beaver Dam Sad** baz=74	73.94	327	⇑P	P 06 16 59.5 +1.3
P28A	**Saint Francis** baz=74	74.33	315	⇓P	P 06 17 02.1 +1.6
R31A	**Burdett** baz=74	74.37	313	⇓P	P 06 17 02.9 +2.1
IMW	**Indian Meadow** comp=Z,3.3nm,0.8s	74.47	323	*e*P	P 06 17 04.4 +2.9
IMW	**Indian Meadow** comp=Z,3.3nm,0.8s	74.47	323	*e*P	P 06 17 04.4 +2.9
TUL1	**Tulsa** baz=74	74.51	309	⇑P	P 06 17 03.6 +2.1
MOOW	**Moose Ponds** comp=Z,9.0nm,1.4s	74.53	323	*e*P	P 06 17 04.7 +2.9
MOOW	**Moose Ponds** comp=Z,9.0nm,1.4s	74.53	323	*e*P	P 06 17 04.7 +2.9
Q29A	**Oakley** baz=74	74.54	314	⇑P	P 06 17 03.4 +1.7
K19A	**Absolon Red Bu** baz=74	74.59	321	⇑P	P 06 17 03.2 +1.1
LOHW	**Long Hollow** comp=Z,5.2nm,1.2s	74.59	323	*e*P	P 06 17 03.7 +1.6
LOHW	**Long Hollow** comp=Z,5.2nm,1.2s	74.59	323	*e*P	P 06 17 03.7 +1.6
I16A	**Newdale** baz=74	74.70	324	⇑P	P 06 17 05.7 +3.0
TPAW	**Teton Pass** comp=Z,7.2nm,1.2s	74.83	323	*e*P	P 06 17 06.7 +3.1
TPAW	**Teton Pass** comp=Z,7.2nm,1.2s	74.83	323	*e*P	P 06 17 06.7 +3.1
REDW	**Red Top Meadow** comp=Z,6.2nm,1.4s	74.90	323	*e*P	P 06 17 06.4 +2.4
REDW	**Red Top Meadow** comp=Z,6.2nm,1.4s	74.90	323	*e*P	P 06 17 06.4 +2.4
PDAR	**Pinedale Array**	74.91	322	P	P 06 17 05.2 +1.2
PDAR	**Pinedale Array** comp=Z,0.9nm,0.6s,baz=51,slow=5.1,SNR=9.6	74.91	322	P	P 06 17 05.2 +1.2
PDAR	**Pinedale Array**	74.91	322	P	P 06 17 05.2 +1.2
G12A	**Big Creek, Yel** baz=75	74.98	327	⇑P	P 06 17 05.6 +1.3
L20A	**Wamsutter** baz=75	75.08	320	⇓P	P 06 17 06.2 +1.2
HAWA	**Hanford** comp=Z,15nm,1.5s	75.25	330	*e*P	P 06 17 08.2 +2.6
HAWA	**Hanford** comp=Z,15nm,1.5s	75.25	330	*e*P	P 06 17 08.2 +2.6
H12A	**Diamond D Ranc** baz=75	75.33	326	⇑P	P 06 17 08.2 +1.9
N22A	**Wattenberg Ran** baz=75	75.33	319	⇑P	P 06 17 08.6 +2.1
R28A	**Tribune** baz=75	75.36	314	⇑P	P 06 17 08.5 +2.0
L19A	**Farson** baz=75	75.40	321	⇓P	P 06 17 08.2 +1.4
M20A	**Sweetwater, Wa** baz=75	75.45	320	⇑P	P 06 17 09.1 +2.0
N21A	**Black Mountain** baz=76	75.80	319	⇑P	P 06 17 11.0 +1.9
ISCO	**Idaho Springs** baz=76	75.81	317	⇑P	P 06 17 11.2 +1.8
L18A	**Fontenelle, Gr** baz=76,SNR=7.4	75.81	322	⇓P	P 06 17 11.1 +1.9
R27A	**Eads** baz=76	75.85	315	⇓P	P 06 17 11.7 +2.3
BMO	**Blue Mountains** comp=Z,16nm,1.3s	75.90	328	*e*P	P 06 17 10.0 +0.5
BMO	**Blue Mountains** comp=Z,16nm,1.3s	75.90	328	*e*P	P 06 17 10.0 +0.5
O22A	**Kremmling** baz=76	75.90	318	⇓P	P 06 17 11.7 +1.8
S28A	**Manter** baz=76	76.02	314	⇑P	P 06 17 12.5 +2.2
HLID	**Hailey** comp=Z,8.4nm,1.4s	76.03	325	*e*P	P 06 17 12.2 +1.8
HLID	**Hailey** comp=Z,8.4nm,1.4s	76.03	325	*e*P	P 06 17 12.2 +1.8
HLID	**Hailey** baz=76	76.03	325	⇓P	P 06 17 12.4 +2.0
N20A	**Spence Gulch,** baz=76,SNR=8.2	76.04	320	⇓P	P 06 17 12.7 +2.1
I12A	**Atlanta** baz=76	76.08	326	⇓P	P 06 17 11.9 +1.2
R26A	**Arlington** baz=76	76.13	315	⇑P	P 06 17 13.1 +2.2
M17A	**Scullys Gap (B** baz=76	76.45	322	⇑P	P 06 17 14.2 +1.4
P22A	**Eagle** baz=76	76.47	318	⇓P	P 06 17 14.7 +1.7
O20A	**White River Ci** baz=76	76.62	319	⇓P	P 06 17 15.8 +1.9
MFID	**Camas Ranch** comp=Z,9.7nm,1.6s	76.66	326	*e*P	P 06 17 15.2 +1.3
MFID	**Camas Ranch** comp=Z,9.7nm,1.6s	76.66	326	*e*P	P 06 17 15.1 +1.3
MFID	**Camas Ranch** baz=76	76.66	326	⇓P	P 06 17 15.5 +1.6
O19A	**Miners Draw (B** baz=77	76.84	320	⇓P	P 06 17 16.9 +1.9
R24A	**Sanders Place,** baz=77	76.91	316	⇓P	P 06 17 17.4 +1.9
S25A	**Robets Cordova** baz=77	77.09	315	⇑P	P 06 17 19.0 +2.5
Q22A	**Crested Butte,** baz=77	77.15	318	⇓P	P 06 17 18.8 +1.9
P20A	**De Beque** baz=77	77.22	319	⇑P	P 06 17 18.7 +1.5
R23A	**Moffat** baz=77	77.25	317	⇑P	P 06 17 19.4 +1.9
P19A	**Cripple Cowboy** baz=77	77.35	320	⇑P	P 06 17 20.0 +2.0
T25A	**Trinidad** baz=77	77.52	315	⇓P	P 06 17 21.3 +2.3
R22A	**Saguache, Gunn** baz=77	77.62	317	⇓P	P 06 17 22.2 +2.6
Q20A	**Ridgley Place,** baz=78	77.65	319	⇑P	P 06 17 21.6 +2.0
BGU	**Big Grassy Mou** comp=Z,18nm,1.5s	77.82	323	*e*P	P 06 17 22.8 +2.3
BGU	**Big Grassy Mou** comp=Z,18nm,1.5s	77.82	323	*e*P	P 06 17 22.8 +2.3
R21A	**Cimarron** baz=78	77.83	318	⇑P	P 06 17 23.1 +2.4
U26A	**Atchley Ranch,** baz=78	77.84	314	⇓P	P 06 17 22.8 +2.0
S22A	**4UR Ranch, Cre** baz=78	78.05	317	⇓P	P 06 17 24.6 +2.6
U25A	**Circle Dot Ran** baz=78	78.13	315	⇑P	P 06 17 24.5 +2.2
R20A	**Redvale** baz=78	78.33	318	⇑P	P 06 17 24.8 +1.4
V26A	**Tequesquite Ra** baz=78	78.35	314	⇑P	P 06 17 24.9 +1.4
DUG	**Dugway**	78.37	323	*e*P	P
DUG	comp=Z,7.0nm,1.1s			pmax	pmax
DUG	**Dugway** comp=Z,7.0nm,1.1s	78.37	323	*e*P	P 06 17 26.3 +2.8
DUG	**Dugway** comp=Z,7.0nm,1.1s	78.37	323	*e*P	P 06 17 26.3 +2.8
DUG	**Dugway** baz=78	78.37	323	⇑P	P 06 17 25.8 +2.2
Z32A	**Haskell** baz=78	78.40	310	⇑P	P 06 17 25.4 +1.8
SRU	**San Rafael**	78.41	320	*e*P	P
SRU	comp=Z,4.0nm,0.9s			pmax	pmax
SRU	**San Rafael** comp=Z,4.3nm,0.9s	78.41	320	*e*P	P 06 17 25.7 +1.9
SRU	**San Rafael** comp=Z,4.3nm,0.9s	78.41	320	*e*P	P 06 17 25.7 +1.9
PV01	**Paradox Valley** comp=Z,266nm,1.2s	78.45	319	*e*P	P 06 17 25.6 +1.5
PV01	**Paradox Valley** comp=Z,266nm,1.2s	78.45	319	*e*P	P 06 17 25.6 +1.5
S21A	**Coal Bank Pass** baz=78	78.53	318	⇑P	P 06 17 26.9 +2.3
T22A	**Edith** baz=78	78.70	317	⇑P	P 06 17 27.7 +2.1
Q16A	**Castle Valley** baz=79	78.84	321	⇑P	P 06 17 27.9 +1.7
V24A	**Rampart Ranch,** baz=79	79.08	315	⇓P	P 06 17 30.2 +2.6
W25A	**X Bar L Ranch,** baz=79	79.14	314	⇓P	P 06 17 30.0 +2.2
Y28A	**McKinney Farm,** baz=79	79.22	312	⇑P	P 06 17 30.2 +2.0
U21A	**Nageezi** baz=79	79.52	317	⇓P	P 06 17 31.6 +1.6
W24A	**Lazy 6 Ranch,** baz=79	79.57	315	⇑P	P 06 17 32.5 +2.2
MSU	**Marysvale**	79.58	321	*e*P	P 06 17 33.1 +2.8
MSU	**Marysvale**	79.58	321	*e*P	P 06 17 33.1 +2.8
MSU	**Marysvale**	79.58	321	*e*P	P 06 17 33.1 +2.8
MVU	**Marysvale** comp=Z,7.3nm,1.4s	79.60	321	*e*P	P 06 17 32.7 +2.3
MVU	**Marysvale** comp=Z,7.3nm,1.4s	79.60	321	*e*P	P 06 17 32.7 +2.3
V22A	**San Miguel Ran** baz=80	79.63	316	⇑P	P 06 17 33.2 +2.6
X25A	**Clemmons Ranch** baz=80	79.81	314	⇓P	P 06 17 34.1 +2.6
ANMO	**Albuquerque** comp=Z,3.5nm,1.2s	80.25	315	*e*P	P 06 17 36.8 +2.8
ANMO	**Albuquerque** comp=Z,3.5nm,1.2s	80.25	315	*e*P	P 06 17 36.8 +2.8
Y25A	**Mesa, Roswell** baz=80	80.33	314	⇑P	P 06 17 36.1 +1.8
V20A	**Brimhall** baz=80	80.40	317	⇑P	P 06 17 36.6 +1.9
X23A	**Hourglass Bar** baz=80	80.44	315	⇑P	P 06 17 37.2 +2.2
NACB	**Ninganchiao** comp=Z,51nm,1.0s	80.48	63	*e*P	P 06 17 38.9 +3.8
Z26A	**Caprock** baz=80	80.55	313	⇑P	P 06 17 37.6 +2.1
Y24A	**Capitan** baz=80	80.66	314	⇓P	P 06 17 38.3 +2.2
Z25A	**Roswell** baz=81	80.88	313	⇓P	P 06 17 38.9 +1.7
CCUT	**Cedar City** comp=Z,6.9nm,1.4s	80.88	322	*e*P	P 06 17 40.4 +3.0
CCUT	**Cedar City** comp=Z,6.9nm,1.4s	80.88	322	*e*P	P 06 17 40.3 +3.0
Y23A	**Lovelace Mesa,** baz=81	80.93	315	⇑P	P 06 17 39.9 +2.3
W20A	**Ramah** baz=81	80.98	317	⇑P	P 06 17 39.9 +2.0
R11A	**Troy Canyon, C** baz=81	81.03	324	⇑P	P 06 17 40.2 +2.2
329A	**Wagon Wheel Ra** baz=81	81.09	310	⇓P	P 06 17 40.1 +1.7
431A	**Sonora** baz=81	81.09	309	⇓P	P 06 17 40.9 +2.5
532A	**Rocksprings** baz=81	81.20	308	⇑P	P 06 17 40.8 +1.8
X21A	**Alamocita Cree** baz=81	81.26	316	⇓P	P 06 17 41.6 +2.2
430A	**Baggett Ranch,** baz=81	81.31	309	⇑P	P 06 17 41.4 +1.8
125A	**Gardner Draw,** baz=81	81.37	313	⇑P	P 06 17 41.4 +1.5
U15A	**North Rim** baz=81	81.43	320	⇓P	P 06 17 41.4 +1.0
531A	**Rocksprings** baz=81	81.49	308	⇓P	P 06 17 42.5 +2.1
226B	**Tecolote Peak,** baz=82	81.63	312	⇑P	P 06 17 43.2 +2.0
WUAZ	**Wupatki** baz=82	81.85	319	⇓P	P 06 17 44.0 +1.6
530A	**J C Ranch, Com** baz=82	81.89	309	⇓P	P 06 17 44.7 +2.2
Z22A	**Elephant Butte** baz=82	81.91	315	⇓P	P 06 17 44.8 +2.1
NVAR	**Mina Array Bea**	81.94	325	P	P 06 17 44.8 +1.9
NVAR	**Mina Array Bea** comp=Z,0.9nm,0.9s,baz=62,slow=4.9,SNR=5.1	81.94	325	P	P 06 17 44.8 +1.9
NVAR	**Mina Array Bea**	81.94	325	P	P 06 17 44.8 +1.9
Y20A	**Horse Springs,** baz=82	81.97	316	⇓P	P 06 17 45.5 +2.3
JOW	**Kunigami** comp=Z,36nm,0.9s	81.97	57	*e*P	P 06 17 42.1 -0.9
JOW	**Kunigami** comp=Z,36nm,0.9s	81.97	57	*e*P	P 06 17 42.1 -0.9
Z21A	**St. Cloud Mine** baz=82	82.17	315	⇓P	P 06 17 46.7 +2.5
326A	**Caldwell Ranch** baz=82	82.18	312	⇑P	P 06 17 46.4 +2.3
427A	**Hayter Ranch,** baz=82	82.30	311	⇓P	P 06 17 47.0 +2.2
528A	**Cox Ranch, San** baz=82	82.58	310	⇑P	P 06 17 48.3 +2.0
426A	**McDonald Obser** baz=83	82.74	311	⇑P	P 06 17 49.4 +2.1
Z20A	**Nine Sixteen R** baz=83	82.74	316	⇑P	P 06 17 49.6 +2.5
324A	**Moseley Ranch,** baz=83	82.77	313	⇑P	P 06 17 48.2 +0.9
X16A	**Lo Mia Camp, P** baz=83	82.83	319	⇓P	P 06 17 50.3 +2.7
222A	**Williams Famil** baz=83	82.94	314	⇓P	P 06 17 50.2 +2.1
527A	**Woodward Ranch** baz=83	82.98	311	⇑P	P 06 17 50.5 +2.1
628A	**Black Gap, Mar** baz=83	83.19	310	⇑P	P 06 17 51.4 +2.0
W13A	**Hualapai Mount** baz=83	83.22	321	⇓P	P 06 17 51.8 +2.1
120A	**U Bar Ranch, L** baz=83	83.24	316	⇓P	P 06 17 52.1 +2.4
526A	**Mary Lane Ranc** baz=83	83.28	311	⇓P	P 06 17 52.5 +2.6
TXAR	**Lajitas Array**	83.69	310	P	P 06 17 53.6 +1.6
TXAR	**Lajitas Array** comp=Z,0.5nm,0.8s,baz=50,slow=3.9,SNR=8.4	83.69	310	P	P 06 17 53.6 +1.6
TXAR	**Lajitas Array** comp=Z,1.0nm,0.8s	83.69	310	P	P 06 17 53.6 +1.6
LDFC	**Landfair** comp=Z,13nm,1.2s	83.72	322	*e*P	P 06 17 54.9 +2.8
LDFC	**Landfair** comp=Z,13nm,1.2s	83.72	322	*e*P	P 06 17 54.9 +2.8
626A	**Big Bend Ranch** baz=84	83.72	311	⇑P	P 06 17 54.5 +2.3
220A	**Playas Peak, P** baz=84	83.74	315	⇓P	P 06 17 54.6 +2.3
MPMC	**Manual Prospec** baz=84	83.75	324	⇓P	P 06 17 54.5 +2.2
Y14A	**Wickenburg** baz=84	83.88	320	⇑P	P 06 17 55.2 +2.3
PDMCI	**Parker Dam,Lak** baz=84	84.02	321	⇓P	P 06 17 56.0 +2.5
RCTC	**Rector, Farmer** baz=84	84.17	325	⇑P	P 06 17 57.2 +3.0
GSC	**Goldstone** baz=84	84.17	323	⇓P	P 06 17 57.5 +3.1
GMRC	**Granite Mounta** baz=84	84.20	322	⇓P	P 06 17 57.4 +2.9
TUC	**Tucson**	84.37	317	*e*P	P 06 17 58.2 +2.8
TUC	comp=Z,27nm,1.4s			pmax	pmax
TUC	**Tucson** comp=Z,27nm,1.4s	84.37	317	*e*P	P 06 17 58.2 +2.8
TUC	**Tucson** comp=Z,27nm,1.4s	84.37	317	*e*P	P 06 17 58.2 +2.8
ISA	**Isabella**	84.47	324	*e*P	P 06 17 58.8 +2.9
ISA	comp=Z,13nm,1.4s			pmax	pmax
ISA	**Isabella** comp=Z,13nm,1.4s	84.47	324	*e*P	P 06 17 58.8 +2.9
ISA	**Isabella** comp=Z,13nm,1.4s	84.47	324	*e*P	P 06 17 58.8 +2.9
ISA	**Isabella** baz=84	84.47	324	⇓P	P 06 17 58.2 +2.3
319A	**Douglas** baz=84	84.53	316	⇓P	P 06 17 58.9 +2.6
IRM	**Iron Mountain** baz=84	84.55	321	⇓P	P 06 17 58.9 +2.7
EDW2	**Edwards Air Fo** baz=85	84.99	324	⇓P	P 06 18 01.3 +2.8
BELC	**Belle Mtn. Jos** baz=85	85.02	322	⇑P	P 06 18 00.7 +2.0
BC3	**Big Chuckawall** baz=85	85.11	321	⇓P	P 06 18 01.5 +2.4
PFO	**Pinyon Flat Ob** baz=85	85.54	322	⇓P	P 06 18 03.6 +2.3

*IDC **21** 06:51:49.0±0.6, 4˚.57N×96˚.62E, h0km, mb4.2/12, mb1 4.2/13, mb1mx4.1/25, mbtmp4.2/13, ML4.4/1, MS3.7/4, Ms1 3.7/4, ms1mx3.1/40, Error ellipse: s-maj=29.5km s-min=13.3km az=50.0*
*DJA **21** 06:51:54.1±0.3, 4˚N±2˚×9˚7E±˚, h10km, M4.9/5, mb4.9/4, mB6.5/1, MLv4.9/5, Mw(mB)6.3/1, Mwp7.2/1*
*NEIC **21** 06:51:55.5±2.0, 4˚.45N×96˚.66E, h46km±17km, mb4.4/4, Error ellipse: s-maj=22.0km s-min=9.8km az=58.0*
NEIC Felt [III] at Takengon.
*AUST **21** 06:51:57.9, 4˚.41N×96˚.96E, h60km*

ISC 21 06:51:53.2±1.4, 4˚37N±0˚.04×96˚65E±0˚.05, h15km±9km, n85, σ1°44/64, mb4.1/17, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	0.90	20	P		Pg		06 52 09.1	-1.6
LHMI				S		Sb		06 52 24.9	+2.5
LHMI	**Lhok Sumawe** baz=0.8,SNR=461	0.90	20	P		Pg		06 52 09.6	-1.1
LHMI				S		Sg		06 52 23.0	+0.4
KCSI	**Kotacane, Aceh**	1.41	127	S		Sg		06 52 39.5	+0.8
BSI	**Banda Aceh**	1.75	310	P		Pn		06 52 22.0	-1.0
BSI				S		Sn		06 52 47.5	+2.5
SNSI	**Sinabang, Aceh**	1.98	189	S		Sg		06 52 56.7	-0.2
TSI	**Tuntungan**	2.10	114	P		Pn		06 52 28.3	+0.4
TSI				S		Sg		06 53 03.3	+2.4
PSI	**Prapat**	2.76	124	Pn		Pn		06 52 39.5	+2.4
PSI				Sn		Sb		06 53 15.4	-0.7
PSI	**Prapat** 52nm,0.3s,baz=311,slow=9.1,SNR=128	2.76	124	Pn		Pn		06 52 39.5	+2.4
PSI	41nm,0.3s,baz=2.7,slow=1.2,SNR=4.3			Sn		Sb		06 53 15.4	-0.7
PSI	comp=Z,637nm,18.8s,baz=124,slow=41			LR		LR		06 53 49.3	
KULM	**Kulim**	4.09	77	*e*Pn		Pn		06 52 54.0	-1.3
KULM	**Kulim**	4.09	77	P		Pn		06 52 54.6	-0.7
KULM	**Kulim**	4.09	77	P		Pn		06 52 54.8	-0.5
KULM	**Kulim**	4.09	77	P		Pn		06 52 53.3	-2.0
IPM	**Ipoh**	4.37	88	*e*Pn		Pn		06 52 58.1	-1.1
IPM	**Ipoh**	4.37	88	P		Pn		06 52 58.6	-0.5
IPM	**Ipoh**	4.37	88	P		Pn		06 52 58.7	-0.4
IPM	**Ipoh**	4.37	88	P		Pn		06 52 59.5	+0.4
SKLT	**Songkhla**	4.83	55	P		Pn		06 53 05.3	-0.2
FRIM	**Kepong**	5.10	103	P		Pn		06 53 09.4	+0.3
PPI	**Padang Panjang** 66nm,0.7s,37µm0.3nm	6.09	142	P		Pn		06 53 23.6	+0.8
PPI	**Padang Panjang** baz=6.0,SNR=3.6	6.09	142	P		Pn		06 53 25.1	+2.4
KTGM	**Kuala Trenggan**	6.54	81	P		Pn		06 53 28.3	-0.6
MYKOM	**Kota Tinggi**	7.64	109	P		Pn		06 53 44.7	+0.7
MNAI	**Manna** baz=11,SNR=4.8	10.72	144	P		Pn		06 54 16.4	-10
KLSI	26nm,0.8s	12.10	138	P		Pn		06 54 43.7	-1.5
PBKT	**Sadao Pong** 22nm,0.6s	12.84	19	P		Pn		06 54 56.6	+1.2
CMAR	**Chiang Mai Arr**	14.18	9	Pn		Pn		06 55 14.2	+0.6
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=202,slow=13,SNR=8.5	14.18	9	Pn		Pn		06 55 14.2	+0.6
CMAR	comp=Z,295nm,18.7s,baz=195,slow=41			LR		LR		07 01 19.4	
CHTO	**Chiang Mai** 6.6nm,0.8s	14.53	9	*e*Pn		Pn		06 55 19.4	+0.9
CHTO	**Chiang Mai**	14.53	9	P		P		06 55 27.4	+2.4
CMMT	**Chiang Mai**	14.53	9	P		P		06 55 26.1	+1.1
SBUM	**Sibu**	15.66	97	P		Pn		06 55 37.0	+3.4
CISI	**Cisompet, Garu** baz=16,SNR=4.0	16.27	137	P		Pn		06 55 31.6	-10
BTM	**Bintulu**	16.44	93	P		Pn		06 55 45.3	+1.7
KKM	**Kota Kinabalu** 19nm,0.8s	19.56	84	*e*P		P		06 56 19.1	-1.7
BBKI	**Banjar Baru**	19.78	113	P		P		06 56 23.7	+0.6
KDM	**Kudat**	20.25	82	P		P		06 56 29.0	+0.8
SHL	**Shillong**	21.56	348	*e*P		P		06 56 42.0	-0.5
KAPI	**Kappang**	24.89	112	P		P		06 57 13.7	-2.1
KAPI	**Kappang** 7.0nm,0.4s,baz=280,slow=13,SNR=4.1	24.89	112	P		P		06 57 13.7	-2.1
BKSI	**Bulukumba**	25.35	112	P		P		06 57 19.2	-0.7
MRSI	**Marisa**	25.56	98	P		P		06 57 20.8	-1.1
LSA	**Lhasa** 9.7nm,0.6s	25.72	349	*e*P		P		06 57 20.9	-2.7
LUWI	**Luwuk** baz=26,SNR=3.2	26.66	101	S		S		07 01 54.5	-12
WSI	**Waingapu** baz=27,SNR=3.0	27.39	121	S		S		07 02 07.3	-11
KNRA	**Kununurra** baz=37,SNR=4.4	37.52	123	P		P		06 59 04.9	-2.0
KLBR	**Kellerberrin** baz=41,SNR=6.4	41.03	152	P		P		06 59 38.0	+1.8
KSAR	**Wonju Array Be**	43.58	37	P		P		06 59 56.8	0.0
KSRS	**Korea Array** 1.9nm,0.6s,baz=221,slow=8.8,SNR=8.3	43.61	37	P		P		06 59 56.8	-0.2
MKAR	**Makanchi Array**	44.05	346	P		P		06 59 56.8	-3.7
MKAR	**Makanchi Array** 1.1nm,0.4s,baz=159,slow=9.0,SNR=30	44.05	346	P		P		06 59 56.8	-3.7
SONM	**Songino Array**	44.10	9	P		P		06 59 59.3	-1.7
SONM	**Songino Array** 1.1nm,0.6s,baz=203,slow=7.4,SNR=4.0	44.10	9	P		P		06 59 59.3	-1.7
WRA	**Warramunga Arr**	44.23	124	P		P		07 00 00.6	-1.8
WRA	**Warramunga Arr** 26nm,0.6s,baz=301,slow=9.2,SNR=199	44.23	124	P		P		07 00 00.6	-1.8
WRAB	**Tennant Creek** 34nm,0.6s	44.23	124	*e*P		P		07 00 00.7	-1.7
ASAR	**Alice Springs**	45.78	129	P		P		07 00 13.2	-1.5
ASAR	**Alice Springs** 5.0nm,0.7s,baz=300,slow=8.0,SNR=36	45.78	129	P		P		07 00 13.2	-1.5
KURBB	**Kurchatov Arra** 0.9nm,0.5s,baz=165,slow=6.8,SNR=12	48.54	345	P		P		07 00 32.0	-3.7
KURK	**Kurchatov**	48.60	345	P		P		07 00 32.0	-4.2
ZALV	**Zalesovo Beam**	50.36	351	P		P		07 00 46.4	-3.1
ZALV	**Zalesovo Beam** 0.9nm,0.4s,baz=187,slow=7.5,SNR=5.2	50.36	351	P		P		07 00 46.4	-3.1
ABKAR	**Akbulak array** 1.2nm,0.6s	54.48	331	*e*P		P		07 01 18.1	-2.1
STKA	**Stephens Creek**	55.91	133	P		P		07 01 29.3	-1.5
STKA	**Stephens Creek** 4.5nm,0.7s,baz=296,slow=7.4,SNR=9.3	55.91	133	P		P		07 01 29.3	-1.5
STKA	**Stephens Creek** baz=56,SNR=4.8	55.91	133	P		P		07 01 30.5	-0.3
CMSA	**Cobar Meteorol** baz=59,SNR=15	58.76	131	P		P		07 01 51.1	+0.1
KMBO	**Kilima Mbogo** comp=Z,58nm,21.6s,baz=94,slow=30	59.59	266	LR		LR		07 21 59.7	

BRTR Keskin Array B 66.59 312 P P 07 02 39.0 -4.3
BRTR Keskin Array B 66.59 312 P P 07 02 39.0 -4.3
0.9nm,0.5s,baz=155,slow=6.7,SNR=4.9
BOSA Boshof 75.89 239 P **P** **07 03 38.9 -0.9**
BOSA Boshof 75.89 239 P **P** **07 03 38.9 -0.9**
2.3nm,0.7s,baz=158,slow=4.9,SNR=4.8
BOSA LR LR 07 29 59.9
comp=Z,63nm,20.2s,baz=346,slow=30
NFK Norfolk Island 75.91 121 P P 07 03 27.0 -13
baz=76,SNR=3.1
MCQ Macquarie Isla 77.95 148 P **P** **07 03 49.2 -1.4**
baz=78,SNR=3.7
ARCES ARCESS Array B 79.38 340 P P 07 03 54.6 -3.8
ARCES ARCESS Array B 79.38 340 P P 07 03 54.6 -3.8
1.0nm,0.7s,baz=28,slow=23,SNR=5.6
GERES GERESS Array B 82.08 319 P P 07 04 10.1 -3.3
GERES GERESS Array B 82.08 319 P P 07 04 10.1 -3.3
0.8nm,0.7s,baz=74,slow=9.8,SNR=4.1
TORD Torodi Ar. Bea 93.82 283 P P 07 05 08.5 -2.2
TORD Torodi Ar. Bea 93.82 283 P P 07 05 08.5 -2.2
0.4nm,0.7s,baz=79,slow=5.1,SNR=3.1
PDAR Pinedale Array 127.41 24 PKP **PKPdf** **07 10 57.4 -0.8**
PDAR Pinedale Array 127.41 24 PKP **PKPdf** **07 10 57.4 -0.8**
0.2nm,0.5s,baz=19,slow=5.7,SNR=3.8
TXAR Lajitas Array 141.22 29 PKP **PKPdf** **07 11 23.9 -0.3**
TXAR Lajitas Array 141.22 29 PKP **PKPdf** **07 11 23.9 -0.3**
0.2nm,0.5s,baz=155,slow=0.7,SNR=4.9
CPUP Villa Florida 146.88 226 PKPbc **PKPdf** **07 11 36.0 +2.0**
CPUP Villa Florida 146.88 226 PKPbc **PKPdf** **07 11 36.0 +2.0**
1.3nm,0.6s,baz=90,slow=0.2,SNR=5.6

GUC 21 06:54:28.1±0.8, 30°56S×72°19W, h26km±11km, ML3.6, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**1.19**	**121**	*i*P	Pn	06 54 48.7	-0.5
CMCH				*i* S	Sb	06 55 05.0	-0.1
CMCH				AML	AML	06 55 06.9	
	comp=E,7μm,0.6s						
CHNG	**Los Chungos**	**1.44**	**156**	⇓*i*P	Pn	06 54 53.3	+0.8
CHNG				*e*S	Sn	06 55 11.2	+0.5
CHNG				AML	AML	06 55 22.1	
	comp=E,441nm,0.7s						
JACH	**Jahuel**	**2.51**	**148**	*e*P	Pb	06 55 10.7	-2.1
JACH				*i* S	Sb	06 55 41.6	-1.7
TACH	**Talagante**	**3.26**	**161**	*e*P	Pn	06 55 18.8	+1.2

NIED ***21*** *06:58:00,23°.90N×121°.40E,h5km,Mw4.7 Best double couple: M₀1.28000×10¹⁶ NP1:φs59.00000°,δ76.00000°, λ91.00000°. NP2:φs232.00000°,δ14.00000°,λ84.00000°.*
JMA ***21*** *06:58:09.1±0.3,23°.95N×121°.40E,h44km,M4.7*
BJI ***21*** *06:58:10.7,24°.10N×121°.74E,h5km,mB4.7/11,mb4.2/20, ML4.7/6,Ms4.5/20,Ms7 4.4/18*
ISCJB ***21*** *06:58:11.0±0.3,24°.07N±0°.01×121°.74E±0°.01,h3km±2km, mb4.0/21,MS3.9/7,Error ellipse: s-maj=2.5km s-min=1.6km az=33.2*
NEIC ***21*** *06:58:10.8±0.4,24°.02N×121°.74E,h10km,mb4.5/4, ML4.7(TAP),Error ellipse: s-maj=8.3km s-min=5.8km az=105.0*
NEIC Recorded [4 TAP] in Hua-lien, [3 TAP] in I-lan, [2 TAP] in Nan-t'ou and [1 TAP] in Hsin-chu, T'ai-chung, T'ao-yuan and Yun-lin.
TAP ***21*** *06:58:11.6,24°.08N×121°.67E,h9km,ML4.7,B*
IDC ***21*** *06:58:17.9±4.5,23°.96N×121°.78E,h73km±43km, mb3.7/15, mb1 3.9/17,mb1mx3.8/29,mbtmp3.7/17,ML3.9/2,MS3.7/7, Ms1 3.7/7,ms1mx3.2/38,Error ellipse: s-maj=18.6km s-min=15.0km az=72.0*

ISC 21 06:58:12.1±0.5, 24°.08N±0°.02×121°.68E±0°.02, h14km±3km, n134, σ1°34/205, mb4.1/21, MS3.9/7, 24C-8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.08**	**272**	⇑*i*P	**Pg**	**06 58 13.8**	**-1.2**
	baz=270						
TWD				*i* S	**Sg**	**06 58 15.2**	**-1.8**
	baz=270						
HWA	**Hwalien**	**0.12**	**215**	⇓*i*P	**Pg**	**06 58 14.8**	**-0.7**
	baz=210						
NACB	**Ninganchiao**	**0.12**	**321**	*e*Pg	**Pg**	**06 58 14.1**	**-1.5**
EHP	**Heping Village**	**0.24**	**13**	P	**Pg**	**06 58 16.5**	**-0.8**
	baz=13						
EHP				*i* S	**Sg**	**06 58 20.6**	**-0.2**
	baz=13						
ESF	**Shoufeng Towns**	**0.26**	**218**	P	**Pg**	**06 58 16.9**	**-0.7**
	baz=226						
ESF				S	**Sg**	**06 58 20.6**	**-0.8**
	baz=226						
ESL	**Shilin**	**0.35**	**221**	⇑P	**Pg**	**06 58 18.4**	**-0.8**
	baz=228						
ESL				*e*S	**Sg**	**06 58 22.7**	**-1.3**
	baz=228						
ENA	**Nanau**	**0.35**	**9**	⇑*i*P	**Pg**	**06 58 18.7**	**-0.6**
	baz=8.0						
ENA				*e*S	**Sg**	**06 58 23.8**	**-0.4**
	baz=8.0						
WHF	**Hehuan Shan**	**0.39**	**280**	⇑*i*P	**Pg**	**06 58 19.3**	**-0.8**
	baz=280						
TEGC	**Jichi Village**	**0.39**	**199**	*e*P	**Pb**	**06 58 20.5**	**-0.2**
	baz=201						
TEGC				*e*S	**Sb**	**06 58 27.9**	**+1.4**
	baz=201						
NNS	**Nan Shan**	**0.46**	**322**	⇑*i*P	**Pb**	**06 58 20.8**	**-1.2**
	baz=322						
NNS				*e*S	**Sb**	**06 58 27.3**	**-1.4**
	baz=322						
TWT	**Tachien**	**0.49**	**291**	⇑*i*P	**Pb**	**06 58 21.8**	**-0.8**
	baz=289						
TWT				*e*S	**Sb**	**06 58 29.1**	**-0.7**
	baz=289						
TWC	**Suao**	**0.55**	**16**	⇑*i*P	**Pb**	**06 58 22.5**	**-1.0**
	baz=6.0						
TWC				*i* S	**Sb**	**06 58 30.0**	**-1.3**
	baz=6.0						
ENTT	**Nioudou**	**0.57**	**349**	⇑*i*P	**Pb**	**06 58 23.0**	**-0.8**
	baz=349						
TWE	**Neicheng**	**0.64**	**359**	⇑*i*P	**Pb**	**06 58 24.4**	**-0.7**
	baz=359						
TWE				*e*S	**Sb**	**06 58 32.7**	**-1.2**
	baz=359						
YHNB	**Yeheng**	**0.65**	**335**	*e*Pg	**Pb**	**06 58 24.4**	**-0.9**
YHNB				*e*Sg	**Sb**	**06 58 33.3**	**-1.0**
EHY	**Hungye**	**0.66**	**210**	⇑P	**Pb**	**06 58 24.3**	**-1.0**
	baz=219						
EHY				*e*S	**Sg**	**06 58 32.9**	**-0.8**
	baz=219						
NSK	**Sanguang**	**0.67**	**334**	⇑*i*P	**Pb**	**06 58 24.8**	**-0.7**
	baz=333						
NSK				*i* S	**Sb**	**06 58 33.4**	**-1.2**
	baz=333						
ILA	**Ilan**	**0.69**	**5**	P	**Pb**	**06 58 25.4**	**-0.4**
	baz=3.0						
ILA				S	**Sb**	**06 58 35.5**	**+0.3**
	baz=3.0						
SSLB	**Suanglung**	**0.72**	**247**	*e*Pg	**Pg**	**06 58 25.3**	**-0.9**
SSLB				*e*Sg	**Sg**	**06 58 34.6**	**-1.2**
SMLT	**Sun Moon Lake**	**0.74**	**255**	⇑*i*P	**Pb**	**06 58 26.2**	**-0.6**
	baz=254						
SMLT				S	**Sg**	**06 58 35.6**	**-0.7**
	baz=254						
YULB	**Yu-li**	**0.77**	**207**	*e*Pg	**Pg**	**06 58 25.4**	**-1.6**
TYC	**Yuchr**	**0.77**	**257**	⇑*i*P	**Pb**	**06 58 26.6**	**-0.7**
	baz=257						
TYC				*i* S	**Sg**	**06 58 36.1**	**-1.2**
	baz=257						
TWF1	**Yuli**	**0.80**	**206**	⇓P	**Pg**	**06 58 26.3**	**-1.4**
	baz=221						
NSTT	**Nanjuang**	**0.83**	**312**	⇑*i*P	**Pn**	**06 58 28.3**	**-1.0**
	baz=311						
NSTT				S	**Sb**	**06 58 38.7**	**-0.6**
	baz=311						
TWQ1	**Liyutan**	**0.87**	**288**	⇑*i*P	**Pn**	**06 58 29.4**	**-0.5**
	baz=300						
TWQ1				*e*S	**Sn**	**06 58 41.7**	**-0.7**
	baz=300						
YUS	**Yu-Shan**	**0.89**	**229**	⇑*i*P	**Pb**	**06 58 29.0**	**-0.6**
	baz=230						
YUS				*e*S	**Sb**	**06 58 41.9**	**+0.5**
	baz=230						
TWA	**Mucha**	**0.90**	**354**	⇓P	**Pn**	**06 58 29.8**	**-0.6**
	baz=353						
TWA				S	**Sb**	**06 58 40.6**	**-0.8**
	baz=353						
NSY	**Sanyi**	**0.91**	**292**	*i*P	**Pn**	**06 58 30.4**	**0.0**
	baz=302						
NSY				*e*S	**Sn**	**06 58 42.5**	**-0.7**
	baz=302						
TATO	**Taipei**	**0.91**	**349**	*e*Pg	**Pb**	**06 58 29.2**	**-0.5**
TATO				*e*Sg	**Sb**	**06 58 41.4**	**-0.2**
TCU	**Taichung**	**0.92**	**275**	⇓*i*P	**Pn**	**06 58 31.1**	**+0.6**
	baz=269						
TCU				S	**Sn**	**06 58 44.3**	**+0.7**
	baz=269						
WNT	**Mingjian**	**0.93**	**258**	⇓P	**Pn**	**06 58 31.0**	**+0.2**
	baz=257						
WNT				*i* S	**Sn**	**06 58 44.3**	**+0.4**
	baz=257						
TWB1	**Santiao Chiao**	**0.97**	**17**	⇑P	**Pb**	**06 58 30.2**	**-0.4**
	baz=6.0						
TWB1				*e*S	**Sb**	**06 58 43.1**	**-0.2**
	baz=6.0						
TAP1	**Taipei**	**0.97**	**351**	⇑P	**Pn**	**06 58 30.7**	**-0.5**
	baz=341						
TAP1				S	**Sb**	**06 58 43.1**	**-0.2**
	baz=341						
HSN	**Hsinchu**	**0.97**	**318**	*e*P	**Pn**	**06 58 31.8**	**+0.5**
	baz=320						
HSN				*e*S	**Sn**	**06 58 44.8**	**0.0**
	baz=320						
TAP	**Taipei**	**0.97**	**351**	*e*P	**Pn**	**06 58 30.8**	**-0.5**
	baz=341						
TAP				S	**Sb**	**06 58 43.5**	**+0.2**
	baz=341						
ALS	**Alishan**	**0.98**	**235**	⇑*e*P	**Pb**	**06 58 30.7**	**-0.3**
	baz=235						
ALS				*e*S	**Sn**	**06 58 45.1**	**-0.4**
	baz=235						
NWF	**Wu-fen Shan**	**0.99**	**5**	⇑*i*P	**Pn**	**06 58 31.0**	**-0.7**
	baz=354						
NWF				*e*S	**Sb**	**06 58 43.7**	**-0.4**
	baz=354						
NCU	**National Centr**	**1.00**	**333**	*e*P	**Pn**	**06 58 32.0**	**+0.4**
	baz=333						
NCU				*e*S	**Sn**	**06 58 45.9**	**+0.4**
	baz=333						
CHKT	**Chengkung**	**1.02**	**197**	*e*P	**Pg**	**06 58 30.2**	**-1.5**
	baz=191						
CHKT				*e*S	**Sn**	**06 58 46.3**	**+0.4**
	baz=191						
CHN5	**Tsauling**	**1.03**	**243**	⇑*i*P	**Pn**	**06 58 32.3**	**+0.1**
	baz=232						
CHN5				*e*S	**Sn**	**06 58 47.5**	**+0.9**
	baz=232						
ELDTW	**Lidau**	**1.07**	**215**	*e*P	**Pg**	**06 58 30.7**	**-2.1**
	baz=228						
ELDTW				*e*S	**Sg**	**06 58 45.9**	**-1.0**
	baz=228						
WGK	**Gukeng**	**1.10**	**249**	*e*P	**Pn**	**06 58 33.5**	**+0.6**
	baz=249						
WGK				*e*S	**Sn**	**06 58 49.3**	**+1.4**
	baz=249						
TWY	**Chenhua**	**1.20**	**356**	⇑*e*P	**Pg**	**06 58 34.7**	**-0.5**
	baz=341						
CHN2	**Minshiung**	**1.23**	**244**	*e*P	**Pg**	**06 58 36.3**	**+0.5**
	baz=245						
CHN2				*e*S	**Sn**	**06 58 53.3**	**+2.1**
	baz=245						
CHN4	**Tsaushan**	**1.23**	**234**	⇑*i*P	**Pg**	**06 58 35.9**	**+0.1**
	baz=223						
CHN4				S	**Sn**	**06 58 54.1**	**+2.8**
	baz=223						
TPUB	**Ta-pu**	**1.24**	**231**	*e*P	**Pg**	**06 58 35.2**	**-0.7**
TPUB				*e*S	**Sn**	**06 58 51.1**	**-0.3**
STYT	**Tauyuan**	**1.24**	**223**	⇑P	**Pg**	**06 58 35.1**	**-1.0**
	baz=225						
STYT				*e*S	**Sn**	**06 58 52.1**	**+0.4**
	baz=225						
YOJ	**Yonaguni jima**	**1.27**	**72**	⇓*i*P	**Pn**	**06 58 35.1**	**-0.3**
	baz=71						
YOJ				*e*S	**Sn**	**06 58 53.3**	**+1.0**
	baz=71						
YOJ	**Yonaguni jima**	**1.27**	**72**	P	**Pn**	**06 58 35.0**	**-0.4**
YOJ				*e*S	**Sn**	**06 58 54.0**	**+1.7**
WTP	**Ta-pu**	**1.28**	**230**	P	**Pg**	**06 58 36.3**	**-0.4**
	baz=231						
WTP				*e*S	**Sn**	**06 58 54.9**	**+2.3**
	baz=231						
CHY	**Chiayi**	**1.29**	**244**	*e*P	**Pg**	**06 58 36.9**	**0.0**
	baz=244						
CHY				S	**Sn**	**06 58 54.6**	**+2.0**
	baz=244						
WTCT	**Ta-ch'eng**	**1.30**	**261**	*e*P	**Pg**	**06 58 35.6**	**-1.5**
	baz=260						
WTCT				*e*S	**Sn**	**06 58 55.4**	**+2.5**
	baz=260						
TWK	**Hsinying**	**1.36**	**234**	*e*P	**Pg**	**06 58 37.8**	**-0.4**
	baz=235						
TWK				*e*S	**Sg**	**06 58 57.3**	**+1.4**
	baz=235						
TWG	**Pinlang**	**1.37**	**204**	*e*Pn	**Pn**	**06 58 34.4**	**-2.4**
TWG				*e*Sn	**Sb**	**06 58 53.3**	**-1.5**
CHN1	**Nanshi**	**1.38**	**230**	⇓*e*P	**Pg**	**06 58 38.4**	**-0.3**
	baz=222						
CHN1				*e*S	**Sg**	**06 58 58.5**	**+1.9**
	baz=222						
TTN	**Taitung**	**1.41**	**201**	*e*P	**Pg**	**06 58 38.2**	**-0.9**
	baz=203						
WSF	**Szhu**	**1.41**	**252**	*e*P	**Pg**	**06 58 38.3**	**-0.8**
	baz=251						
WSF				*e*S	**Sg**	**06 58 58.4**	**+0.9**
	baz=251						
SGST	**Jiashian**	**1.41**	**226**	*e*P	**Pg**	**06 58 38.5**	**-0.7**
	baz=227						
SGST				S	**Sg**	**06 58 59.7**	**+2.1**
	baz=227						
CHN8	**Yiju**	**1.53**	**242**	*e*P	**Pg**	**06 58 40.4**	**-1.2**
	baz=244						
CHN8				*e*S	**Sg**	**06 59 02.2**	**+0.7**
	baz=244						
CHN3	**Shinhua**	**1.57**	**231**	*e*P	**Pg**	**06 58 41.6**	**-0.6**
	baz=233						
CHN3				*e*S	**Sg**	**06 59 05.6**	**+3.0**
	baz=233						
PCYT	**Pengchaiyu**	**1.59**	**13**	*e*P	**Pb**	**06 58 40.9**	**-0.2**
	baz=5.0						
ECL	**Taimali**	**1.62**	**205**	*e*P	**Pn**	**06 58 38.9**	**-1.3**
	baz=191						
TAI1	**Yung-k'ang**	**1.69**	**233**	*e*P	**Pg**	**06 58 43.4**	**-1.1**
	baz=236						
TWM1	**Shoushan**	**1.70**	**223**	*e*P	**Pg**	**06 58 43.5**	**-1.2**
	baz=226						
SGLT	**Jiouru**	**1.73**	**219**	*e*P	**Pg**	**06 58 44.0**	**-1.4**
	baz=223						
SGLT				*e*S	**Sg**	**06 59 10.3**	**+2.4**
	baz=223						
TAW	**Tawu**	**1.86**	**203**	*e*P	**Pb**	**06 58 45.8**	**0.0**
	baz=207						
IRIF	**Iriomote-Funau**	**1.89**	**82**	P	**Pn**	**06 58 43.5**	**-0.4**
IRIF				*e*S	**Sb**	**06 59 09.0**	**-0.8**
HATJ	**Hateruma jima**	**1.94**	**90**	P	**Pn**	**06 58 44.1**	**-0.5**
HATJ				*e*S	**Sb**	**06 59 11.0**	**-0.3**
SCZT	**Fangliau**	**1.96**	**210**	*e*P	**Pn**	**06 58 45.2**	**+0.3**
	baz=193						
KAU	**Kaohsiung**	**1.96**	**220**	*e*P	**Pb**	**06 58 47.1**	**-0.5**
	baz=241						
PNG	**Penghu**	**2.01**	**256**	*e*P	**Pn**	**06 58 45.3**	**-0.2**
	baz=256						
PNG				*e*S	**Sb**	**06 59 13.3**	**0.0**
	baz=256						
LAY	**Lan-yu**	**2.03**	**183**	*e*P	**Pn**	**06 58 43.0**	**-2.9**
	baz=186						
TWP	**Hsiaoliuchiu**	**2.11**	**215**	*e*P	**Pg**	**06 58 51.4**	**-1.1**
	baz=236						
JKRS	**Kuro-shima**	**2.13**	**85**	P	**Pn**	**06 58 47.4**	**+0.2**
JKRS				*e*S	**Sb**	**06 59 15.9**	**-0.9**
HEN	**Hengchun**	**2.24**	**203**	*e*P	**Pb**	**06 58 50.8**	**-1.4**
	baz=194						
JIJ	**Ishigaki jima**	**2.27**	**82**	P	**Pn**	**06 58 48.7**	**-0.4**
JIJ				*e*S	**Sn**	**06 59 16.7**	**-0.1**
TWK1	**Hengchun**	**2.27**	**201**	*e*P	**Pn**	**06 58 48.7**	**-0.5**
	baz=193						
TWK1				*e*S	**Sb**	**06 59 18.8**	**-2.1**
	baz=193						
TSEB	**Hengchuen, Pin**	**2.28**	**199**	*e*P	**Pn**	**06 58 47.5**	**-1.8**
	baz=189						
JTJ	**Tarama**	**2.81**	**78**	P	**Pn**	**06 58 57.0**	**+0.4**
JTJ				*e*S	**Sn**	**06 59 33.2**	**+2.9**
QZH	**Quanzhou**	**2.94**	**288**	⇓*i*Pn	**Pn**	**06 58 58.3**	**-0.1**
QZH				Sn	**Sn**	**06 59 30.3**	**-3.2**
QZH				smax	smax		
	comp=N,3μm,0.9s						
QZH				smax	smax		
	comp=E,3μm,1.3s						
KNM	**Kinmen**	**2.98**	**277**	*e*P	**Pb**	**06 59 02.4**	**-2.6**
	baz=277						
JOGS	**Gusukube**	**3.46**	**78**	*e*S	**Sn**	**06 59 49.6**	**+3.3**
JTK	**Tokunoshima**	**7.51**	**59**	P	**Pn**	**07 00 00.1**	**-1.1**
JAMN	**Amaminishikomi**	**7.91**	**57**	P	**Pn**	**07 00 05.2**	**-1.4**
JAMN				*e*S	**Sn**	**07 01 36.1**	**+0.2**
JAM	**Amami Oshima**	**8.32**	**57**	P	**Pn**	**07 00 10.8**	**-1.5**
NJ2	**Nanjing**	**8.33**	**343**	*e*P	**Pn**	**07 00 11.8**	**-0.6**
NJ2				pP	**sPn**	**07 00 18.8**	**+1.0**
NJ2				sP		07 00 23.8	
NJ2				S	**Sn**	**07 01 44.6**	**-1.6**
NJ2				sS	**sSn**	**07 01 55.4**	**+3.7**
NJ2				pmax	pmax		
	comp=Z,30nm,0.5s						
NJ2				smax	smax		
	comp=N,170nm,0.5s						
NJ2				smax	smax		
	comp=E,210nm,0.5s						
NJ2				LR	LR		
	comp=N,2μm,10.3s						
NJ2				LR	LR		
	comp=E,340nm,5.9s						
NJ2				LR	LR		
	comp=Z,2μm,6.4s						
WHN	**Wuhan**	**9.16**	**316**	P	**Pn**	**07 00 23.1**	**-0.7**
WHN				S	**Sn**	**07 02 02.8**	**-3.9**
WHN				LR	LR		
	comp=N,5μm,8.8s						
WHN				LR	LR		
	comp=E,3μm,7.8s						
WHN				LR	LR		
	comp=Z,7μm,9.0s						
KSAR	**Wonju Array Be**	**14.34**	**20**	P	**P**	**07 01 39.1**	**-2.6**
KSRS	**Korea Array**	**14.37**	**20**	P	**P**	**07 01 39.1**	**-2.9**
	comp=Z,1.1nm,0.3s,baz=198,slow=12,SNR=39						
KSRS				LR	LR	07 07 23.5	
	comp=Z,74nm,20.7s,baz=198,slow=38						
XAN	**Xi'an**	**14.92**	**315**	P	**Pn**	**07 01 42.8**	**+0.2**
XAN				pP	**P**	**07 01 50.6**	**+2.4**
XAN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
XAN				LR	LR		
	comp=N,310nm,8.4s						
XAN				LR	LR		
	comp=E,410nm,11.0s						
XAN				LR	LR		
	comp=Z,450nm,9.4s						
KMI	**Kunming**	**17.26**	**277**	P	P	07 02 20.4	+6.0
KMI				pP	pP	07 02 28.8	+10
KMI				pmax	pmax		
	comp=Z,16nm,0.7s						
KMI				LR	LR		
	comp=N,260nm,7.7s						
KMI				LR	LR		
	comp=Z,2μm,9.6s						
MJAR	**Matsushiro Arr**	**18.89**	**45**	P	**Pn**	**07 02 34.0**	**+1.3**
MJAR	**Matsushiro Arr**	**18.89**	**45**	P	**Pn**	**07 02 34.0**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=216,slow=12,SNR=4.0						
MJAR				LR	LR	07 10 51.3	
	comp=Z,103nm,19.0s,baz=215,slow=40						
LZH	**Lanzhou**	**19.50**	**312**	*e*P	**Pn**	**07 02 42.6**	**+2.4**
LZH				pP	**pP**	**07 02 45.3**	**+2.3**
LZH				sP	sP	07 02 47.5	+2.6
LZH				PP	PnPn	07 03 01.3	+7.8
LZH				*e*S	**Sn**	**07 06 17.5**	**-1.3**
LZH				sS	**sS**	**07 06 23.3**	**-2.2**
LZH				SS	SnSn	07 06 44.0	+11
LZH				pmax	pmax		
	comp=Z,67nm,1.5s						
LZH				pmax	pmax		
	comp=Z,250nm,4.3s						
LZH				LR	LR		
	comp=N,470nm,10.5s						
LZH				LR	LR		
	comp=E,1μm,11.2s						
LZH				LR	LR		
	comp=Z,1μm,11.6s						
CN2	**Changchun**	**19.92**	**8**	*e*P	**Pn**	**07 02 48.8**	**+3.9**
CN2				*e*sP	sP	07 02 55.6	+6.4
CN2				*e*PP	PnPn	07 03 07.4	+8.3
CN2				*e*S	**S**	**07 06 25.8**	**-1.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,700nm,11.0s						
CN2				LR	LR		
	comp=E,300nm,11.0s						
CN2				LR	LR		
	comp=Z,600nm,12.0s						
USRK	**Ussuriysk Arra**	**21.78**	**20**	P	**P**	**07 03 03.8**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=193,slow=11,SNR=5.6						
USRK				LR	LR	07 11 55.3	
	comp=Z,166nm,18.4s,baz=6.2,slow=37						
CMAR	**Chiang Mai Arr**	**21.90**	**260**	P	**P**	**07 03 06.8**	**+1.9**
CMAR	**Chiang Mai Arr**	**21.90**	**260**	P	**P**	**07 03 06.8**	**+1.9**
	comp=Z,1.0nm,0.3s,baz=65,slow=7.3,SNR=4.4						
CMAR				LR	LR	07 12 07.0	
	comp=Z,93nm,20.3s,baz=85,slow=38						
GTA	**Gaotai**	**23.98**	**315**	*e*P	**P**	**07 03 27.3**	**+1.0**
GTA				pP	pP	07 03 34.4	+3.7
GTA				sP	sP	07 03 38.0	+5.5
GTA				S	**S**	**07 07 45.3**	**+2.5**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,52nm,5.9s						
GTA				LR	LR		
	comp=N,360nm,10.7s						
GTA				LR	LR		
	comp=E,760nm,11.6s						
GTA				LR	LR		
	comp=Z,850nm,12.3s						
ASAJ	**Asahikawa**	**26.32**	**35**	LR	LR	07 14 55.5	
	comp=Z,112nm,18.2s,baz=183,slow=38						
ULN	**Ulaanbaatar**	**26.44**	**338**	*e*P	**P**	**07 03 48.7**	**+0.2**
	comp=Z,8.5nm,1.1s						
SONM	**Songino Array**	**26.64**	**337**	P	**P**	**07 03 51.2**	**+0.8**
SONM	**Songino Array**	**26.64**	**337**	P	**P**	**07 03 51.2**	**+0.8**
	comp=Z,4.1nm,0.8s,baz=157,slow=9.1,SNR=8.1						
SONM				LR	LR	07 15 32.8	
	comp=Z,335nm,18.1s,baz=353,slow=39						
WMQ	**Urumqi**	**34.06**	**314**	P	**P**	**07 04 58.1**	**+2.2**
WMQ				pP	**pP**	**07 05 02.5**	**+2.2**
WMQ				sP	sP	07 05 05.1	+3.0
WMQ				PP	**PP**	**07 06 12.1**	**-0.9**
WMQ				pmax	pmax		
	comp=Z,130nm,13.6s						
WMQ				LR	LR		
	comp=N,420nm,12.6s						
WMQ				LR	LR		
	comp=E,470nm,10.6s						
WMQ				LR	LR		
	comp=Z,130nm,13.3s						
MKAR	**Makanchi Array**	**38.73**	**316**	P	**P**	**07 05 35.9**	**+0.1**
MKAR	**Makanchi Array**	**38.73**	**316**	P	**P**	**07 05 35.9**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=101,slow=9.7,SNR=13						
ZALV	**Zalesovo Beam**	**40.58**	**327**	P	**P**	**07 05 49.8**	**-1.2**
ZALV	**Zalesovo Beam**	**40.58**	**327**	P	**P**	**07 05 49.8**	**-1.2**
	comp=Z,4.8nm,0.8s,baz=119,slow=8.6,SNR=10						
KURK	**Kurchatov**	**42.47**	**320**	P	**P**	**07 06 06.4**	**-0.1**
KURBB	**Kurchatov Arra**	**42.48**	**320**	P	**P**	**07 06 06.4**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=113,slow=8.6,SNR=11						
WRA	**Warramunga Arr**	**45.46**	**163**	P	**P**	**07 06 28.1**	**-2.8**
WRA	**Warramunga Arr**	**45.46**	**163**	P	**P**	**07 06 28.1**	**-2.8**
	comp=Z,1.4nm,0.6s,baz=345,slow=8.7,SNR=16						
BVAR	**Borovoye Array**	**48.04**	**321**	P	**P**	**07 06 50.4**	**-0.4**
BVAR	**Borovoye Array**	**48.04**	**321**	P	**P**	**07 06 50.4**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=97,slow=7.6,SNR=4.5						
ASAR	**Alice Springs**	**48.92**	**165**	P	**P**	**07 06 55.8**	**-2.1**
ASAR	**Alice

EGAK	**Eagle**	**71.47**	**27**	*e*P		**P**	**07 09 31.2**	**-0.7**
	comp=Z,6.1nm,1.0s							
FINES	**FINESS Array B**	**71.77**	**330**	P		**P**	**07 09 33.2**	**-0.5**
FINES	**FINESS Array B**	**71.77**	**330**	P		**P**	**07 09 33.2**	**-0.5**
	comp=Z,2.7nm,0.9s,baz=120,slow=17,SNR=3.2							
INK	**Inuvik**	**73.15**	**22**	P		**P**	**07 09 40.8**	**-1.0**
INK	**Inuvik**	**73.15**	**22**	P		**P**	**07 09 40.8**	**-1.0**
	comp=Z,2.5nm,0.8s,baz=264,slow=5.8,SNR=3.7							
BRTR	**Keskin Array B**	**73.60**	**307**	P		**P**	**07 09 45.4**	**+0.1**
BRTR	**Keskin Array B**	**73.60**	**307**	P		**P**	**07 09 45.4**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=113,slow=9.5,SNR=3.8							
RAO	**Raoul Island**	**78.62**	**129**	LR		LR	07 38 01.6	
	comp=Z,293nm,21.8s,baz=200,slow=30							
YKA	**Yellowknife Ar**	**82.89**	**23**	P		**P**	**07 10 35.2**	**-0.7**
YKA	**Yellowknife Ar**	**82.89**	**23**	P		**P**	**07 10 35.2**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=310,slow=4.9,SNR=17							
NEW	**Newport**	**90.83**	**35**	*e*P		**P**	**07 11 15.1**	**-0.1**
	comp=Z,4.6nm,1.1s							
WALA	**Waterton Lakes**	**91.96**	**33**	*e*P		**P**	**07 11 20.6**	**+0.1**
	comp=Z,0.2nm,1.2s							

WEL 21 07:02:06.9±0.5, 46.10S×165.99E, h28km±1km, ML3.8/17, 2D, Error ellipse: s-maj=4.5km s-min=1.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.48**	**98**	⇓P*	Pb	07 02 16.6	-0.4
PYZ				S*	Sb	07 02 23.5	-0.2
DCZ	**Deep Cove**	**1.02**	**53**	PN	Pn	07 02 24.8	-0.6
DCZ				SN	Sn	07 02 38.6	-0.2
DCZ				AML	AML	07 02 40.7	
DCZ				AML	AML	07 02 45.7	
WHZ	**Wether Hill Ro**	**1.38**	**82**	⇓PN	Pn	07 02 30.5	+0.3
WHZ				AML	AML	07 02 51.5	
WHZ				AML	AML	07 02 52.9	
APZ	**The Paps**	**1.56**	**119**	PN	Pn	07 02 32.3	-0.5
MLZ	**Mavora Lakes**	**1.70**	**64**	PN	Pn	07 02 36.0	+1.2
MLZ				AML	AML	07 03 02.3	
MLZ				AML	AML	07 03 04.3	
MSZ	**Milford Sound**	**1.98**	**44**	PN	Pb	07 02 40.3	-1.8
MSZ				AML	AML	07 03 18.3	
MSZ				AML	AML	07 03 20.4	
MSZ				AML	AML	07 03 20.5	
SYZ	**Scrubby Hill**	**2.22**	**102**	PN	Pn	07 02 42.8	+0.9
WKZ	**Wanaka**	**2.48**	**60**	PN	Pb	07 02 48.2	-2.6
WKZ				AML	AML	07 03 26.5	
WKZ				AML	AML	07 03 28.5	
EAZ	**Earnscleugh**	**2.48**	**71**	PN	Pn	07 02 47.7	+2.3
EAZ				AML	AML	07 03 28.2	
EAZ				AML	AML	07 03 28.9	
TUZ	**Tuapeka**	**2.54**	**88**	PN	Pn	07 02 47.8	+1.6
TUZ				SN	Sb	07 03 19.3	-3.2
TUZ				AML	AML	07 03 24.4	
JCZ	**Jackson Bay**	**2.82**	**45**	PN	Pn	07 02 52.2	+2.0
JCZ				AML	AML	07 03 41.9	
JCZ				AML	AML	07 03 43.3	
HHSZ	**Highcliff Hill**	**3.22**	**88**	PN	Pn	07 02 56.8	+1.2
LBZ	**Lake Benmore**	**3.42**	**61**	AML	AML	07 02 56.5	
LBZ				PN	Pn	07 02 59.4	+1.1
ODZ	**Otahua Downs**	**3.43**	**74**	PN	Pn	07 02 58.7	+0.1
ODZ				AML	AML	07 04 00.1	
ODZ				AML	AML	07 05 11.5	
WVZ	**Waitaha Valley**	**4.54**	**50**	PN	Pn	07 03 14.6	+0.9
WVZ				AML	AML	07 04 17.9	

IDC 21 07:02:32.8±3.3, 3.53S×100.46E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.6/23, mbtmp3.5/5, MS3.9/1, Ms1 3.9/1, ms1mx2.7/32, Error ellipse: s-maj=142.7km s-min=22.2km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**21.90**	**356**	P	P	07 07 29.4	+1.8
	1.1nm,0.4s,baz=186,slow=8.2,SNR=5.9						
WRA	**Warramunga Arr**	**36.84**	**119**	P	P	07 09 42.5	-0.6
	0.7nm,1.0s,baz=302,slow=8.1,SNR=2.3						
ASAR	**Alice Springs**	**37.99**	**125**	P	P	07 09 53.0	+0.2
	0.4nm,0.6s,baz=300,slow=8.0,SNR=4.0						
JNU	**Nakatsue**	**46.45**	**36**	LR	LR	07 30 56.9	
	comp=Z,141nm,21.4s,baz=315,slow=37						
MKAR	**Makanchi Array**	**52.62**	**344**	P	P	07 11 49.0	+0.4
	0.3nm,0.5s,baz=137,slow=6.1,SNR=3.7						
KURBB	**Kurchatov Arra**	**57.14**	**344**	P	P	07 12 19.6	-1.5
	0.1nm,0.3s,baz=159,slow=7.1,SNR=5.2						

*ISCJB **21** 07:13:27.0±0.2, 6.02N±0.02×126.19E±0.03, h113km±2km, mb4.8/77, Error ellipse: s-maj=4.3km s-min=2.6km az=164.0*

*AUST **21** 07:13:26.8±0.0, 6.07N×126.24E, h107km, Error ellipse: s-maj=1.0km s-min=0.7km az=16.0*

*BJI **21** 07:13:26.2, 5.75N×126.07E, h122km, mB5.0/30, mb4.7/35*

*MAN **21** 07:13:28, 6.01N×125.93E, h89km, mb5.5, ML4.6, MS5.0*

MAN INTENSITY II - DIGOS DAVAO DEL SUR; INTENSITY II - DAVAO CITY; MATAN-AO DAVAO DEL SUR; GENERAL SANTOS CITY;POLOMOLOK S. COTABATO; INTENSITY I - CARAGA DAVAO OR.

*IDC **21** 07:13:28.6±0.5, 5.96N×125.90E, h116km±4km, mb4.5/26, mb1 4.6/27, mb1mx4.6/30, mbtmp4.5/27, MS3.9/18, Ms1 3.9/18, ms1mx3.7/38, Error ellipse: s-maj=14.5km s-min=7.0km az=78.0*

*GCMT **21** 07:13:28.9±0.2, 5.93N×126.12E, h103km±1km, MW5.2, Moment Tensor Solution. s65,c82; s93,c163; Moment tensor: Scale 10^{16}Nm; M_{rr}3.02±.14; $M_{\theta\theta}$4.42±.14; $M_{\phi\phi}$-7.44±.17; $M_{r\theta}$-2.79±.09; $M_{r\phi}$-1.14±.15; $M_{\theta\phi}$2.29±.13; Best double couple: $M_0$7.50000×10^{16} NP1:θ_s225.00000°, δ54.00000°, λ158.00000°. NP2:ϕ_s328.00000°, δ72.00000°, λ38.00000°. Principal axes: T 6.9700, Plg39.0000°, Azm192.0000°; N 0.9700, Plg49.0000°, Azm350.0000°; P -7.9500, Plg11.0000°, Azm93.0000°; Data Used: II IU IC G CN.*

*BKK **21** 07:13:28.5±0.5, 6.74×126.60E±0.04°, h106km±4km, M5.1/28, mB5.4/14, mb5.0/28, MLv5.7/5, Mw(mB)4.8/14*

*DJA **21** 07:13:29.6±0.3, 6.53×126.62E±0.04°, h102km±3km, M5.3/68, mb5.3/68, mB5.7/33, MLv6.0/10, Mw(mB)5.2/33*

*NEIC **21** 07:13:29.2±0.7, 6.00N×126.00E, h123km±6km, mb4.8/33, Error ellipse: s-maj=7.3km s-min=4.6km az=78.0*

NEIC Felt [III PIVS] at Digos and Padada; [II PIVS] at Davao, General Santos, Matanao and Polomolok; [I PIVS] at Caraga.

ISC 21 07:13:28.9±0.3, 5.98N±0.03×126.10E±0.04, h120km±2km, n288, σ1§63/394, mb4.8/75, 6C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.97**	**9**	*e*P	**Pn**	**07 13 47.8**	**-2.8**
MATI				*e*S	**Sn**	**07 14 04.6**	**-2.4**
GSPH	**General Santos**	**1.15**	**275**	*e*P	Pn	07 13 48.5	-4.0
GSPH				*e*S	**Sn**	**07 14 06.7**	**-3.7**
DAV	**Davao City (W)**	**1.20**	**334**	*e*Pn	**Pn**	**07 13 51.1**	**-1.9**
DAV				*e*Sn	**Sn**	**07 14 09.3**	**-1.8**
DAV	**Davao City (W)**	**1.20**	**334**	P	**Pn**	**07 13 50.9**	**-2.1**
DAV	**Davao City (W)**	**1.20**	**334**	P	**Pn**	**07 13 50.8**	**-2.1**
	885nm,0.3s,baz=226,slow=2.0,SNR=110						
DAV				S	**Sn**	**07 14 09.6**	**-1.6**
	4μm,0.3s,baz=125,slow=22,SNR=27						
DMPH	**Davao City--Mi**	**1.24**	**332**	*e*P	**Pn**	**07 13 51.2**	**-2.2**
DMPH				*e*S	**Sn**	**07 14 07.9**	**-4.1**
KCP	**Kidapawan**	**1.43**	**316**	⇓*i*P	**Pn**	**07 13 56.4**	**+0.9**
KCP				*i* S	**Sn**	**07 14 16.2**	**+0.4**
BUKP	**Musuan**	**2.15**	**331**	*e*P	**Pn**	**07 14 03.0**	**-1.2**
BUKP				*e*S	**Sn**	**07 14 32.4**	**+1.0**
CTBH	**Cotabato--PC H**	**2.21**	**304**	*e*P	**Pn**	**07 14 03.0**	**-2.0**
CTBH				*i* S	**Sn**	**07 14 30.4**	**-2.3**
CGP	**Cagayan de Oro**	**2.82**	**331**	⇓*e*P	**Pn**	**07 14 11.3**	**-1.6**
CGP				*e*S	**Sn**	**07 14 43.0**	**-3.8**
BUTP	**Butuan**	**3.00**	**351**	*e*P	**Pn**	**07 14 15.2**	**-0.1**
PAGZ	**Pagadian**	**3.27**	**305**	*e*P	**Pn**	**07 14 17.4**	**-1.4**
IPIL	**Ipil**	**3.94**	**297**	*e*P	**Pn**	**07 14 26.9**	**-0.7**
IPIL				*e*S	Sn	07 15 22.8	+10
ZMPH	**Zamboanga City**	**4.12**	**284**	⇓*i*P	**Pn**	**07 14 28.4**	**-1.6**
ZMPH				*i* S	**Sn**	**07 15 18.3**	**+0.7**
TBP	**Tagbilaran**	**4.30**	**329**	*e*P	**Pn**	**07 14 31.8**	**-0.7**
MSLP	**Maasin**	**4.30**	**344**	*e*P	**Pn**	**07 14 31.4**	**-1.1**
GAMI	**Galela, Maluku**	**4.45**	**158**	P	**Pn**	**07 14 32.7**	**-1.8**
GAMI				S	**Sn**	**07 15 22.8**	**-2.6**
MNI	**Manado**	**4.68**	**196**	P	**Pn**	**07 14 37.5**	**-0.1**
LLP	**Lapu-Lapu**	**4.80**	**334**	*e*P	**Pn**	**07 14 38.6**	**-0.5**
LLP				*e*S	**Sn**	**07 15 32.9**	**-0.9**
OCLP	**Ormoc**	**5.25**	**344**	*e*P	**Pn**	**07 14 45.9**	**+0.7**
TNTI	**Ternate**	**5.33**	**166**	P	**Pn**	**07 14 44.9**	**-1.4**
	3μm,1.1s,35μm9.1nm						
KMSI	**Cibinong**	**5.77**	**202**	P	**Pn**	**07 14 52.8**	**+0.5**
	4μm,1.1s,32μm13nm						
GUIM	**Jordan**	**5.78**	**323**	*e*P	**Pn**	**07 14 52.1**	**-0.2**
GTOI	**Gorontalo**	**6.14**	**210**	P	**Pn**	**07 14 57.0**	**-0.3**
	3μm,0.7s,33μm12nm						
GTOI				S	**Sn**	**07 16 02.5**	**-3.7**
	3μm,0.7s,33μm12nm						
RCP	**Roxas**	**6.46**	**329**	⇑*e*P	**Pn**	**07 15 02.1**	**+0.5**
LBMI	**Labuha**	**6.72**	**168**	P	**Pn**	**07 15 05.2**	**0.0**
	1μm,1.0s,16μm4.8nm						
MRSI	**Marisa**	**6.87**	**217**	P	**Pn**	**07 15 07.4**	**+0.4**
	1μm,0.8s,22μm8.9nm						
MRSI				S	**Sn**	**07 16 22.2**	**-1.6**
	1μm,0.8s,22μm8.9nm						
MYLDM	**Lahad Datu**	**7.61**	**264**	P	**Pn**	**07 15 18.4**	**+1.4**
MYLDM	**Lahad Datu**	**7.61**	**264**	P	**Pn**	**07 15 18.7**	**+1.6**
	177nm,1.1s,3μm1.0nm						
LUWI	**Luwuk**	**7.73**	**206**	P	**Pn**	**07 15 20.9**	**+2.2**
	1μm,1.2s,16μm5.1nm						
LUWI	**Luwuk**	**7.73**	**206**	P	Pn	07 15 07.4	-11
	baz=7.9,SNR=3.7						
PVCP	**Virac**	**7.80**	**346**	⇓*e*P	**Pn**	**07 15 20.6**	**+0.9**
TSM	**Tawau**	**8.36**	**259**	P	**Pn**	**07 15 28.6**	**+1.3**
PALU	**Palau**	**8.43**	**80**	P	**Pn**	**07 15 26.7**	**-1.5**
	baz=8.3,SNR=5.4						
PALU				S	Sn	07 16 54.5	-7.2
	baz=8.3,SNR=3.4						
SWI	**Sorong**	**8.53**	**143**	P	**Pn**	**07 15 28.8**	**-0.8**
	109nm,0.5s						
SWI	**Sorong**	**8.53**	**143**	P	**Pn**	**07 15 28.9**	**-0.7**
	baz=8.6,SNR=3.7						
SWI				S	**Sn**	**07 17 02.9**	**-1.4**
	baz=8.6,SNR=4.8						
NLAI	**Namlea**	**9.21**	**174**	P	**Pn**	**07 15 36.9**	**-1.9**
	791nm,0.9s,37μm						
NLAI				S	Sn	07 17 11.4	-9.4
	791nm,0.9s,37μm						
MSAI	**Masohi**	**9.69**	**163**	P	**Pn**	**07 15 45.2**	**0.0**
	46nm,0.8s,984nm						
SKSI	**Soroako, Sulaw**	**9.70**	**209**	P	**Pn**	**07 15 45.9**	**+0.4**
	204nm,0.8s,2μm						
SKSI				S	**Sn**	**07 17 32.1**	**-0.6**
	204nm,0.8s,2μm						
KKM	**Kota Kinabalu**	**9.83**	**271**	*e*Pn	**Pn**	**07 15 49.0**	**+1.8**
KKM	**Kota Kinabalu**	**9.83**	**271**	P	**Pn**	**07 15 48.2**	**+1.0**
KKM	**Kota Kinabalu**	**9.83**	**271**	P	**Pn**	**07 15 49.2**	**+2.0**
	90nm,1.2s,2μm						
KKM	**Kota Kinabalu**	**9.83**	**271**	P	**Pn**	**07 15 49.5**	**+2.3**
	baz=10.0,SNR=5.5						
FAKI	**Fak Fak**	**10.77**	**145**	P	**Pn**	**07 15 57.8**	**-2.0**
	81nm,1.3s						
FAKI	**Fak Fak**	**10.77**	**145**	P	**Pn**	**07 15 59.2**	**-0.6**
	baz=11,SNR=4.4						
TTSI	**Tana Toraja**	**10.94**	**215**	P	**Pn**	**07 16 03.4**	**+1.3**
	202nm,1.0s,4μm						
RKPI	**Ransiki, Papua**	**10.98**	**132**	P	Pn	07 16 08.8	+6.2
BKB	**Balikpapan**	**11.67**	**232**	P	**Pn**	**07 16 14.5**	**+2.7**
	274nm,1.0s,5μm						
SPSI	**Sidrap Palu**	**11.73**	**213**	P	**Pn**	**07 16 13.4**	**+0.8**
	112nm,0.8s,2μm						
KAPI	**Kappang**	**12.63**	**210**	*e*Pn	**Pn**	**07 16 23.6**	**-0.9**
KAPI	**Kappang**	**12.63**	**210**	P	**Pn**	**07 16 23.5**	**-0.9**
	232nm,1.2s,2μm						
KAPI	**Kappang**	**12.63**	**210**	P	Pn	**07 16 23.8**	**-0.6**
	10nm,0.3s,baz=33,slow=7.7,SNR=27						
KAPI				LR	LR	07 21 43.6	
	comp=Z,576nm,18.4s,baz=42,slow=40						
BKSI	**Bulukumba**	**12.72**	**208**	P	**Pn**	**07 16 25.3**	**-0.2**
	63nm,1.1s,1μm						
BSSI	**Bau Bau, Buton**	**13.28**	**205**	P	**Pn**	**07 16 34.0**	**+1.1**
	84nm,1.2s						
SBUM	**Sibu**	**14.28**	**256**	P	**P**	**07 16 48.1**	**-1.2**
SBUM	**Sibu**	**14.28**	**256**	P	**P**	**07 16 48.5**	**-0.8**
	117nm,0.9s,1μm						
BBKI	**Banjar Baru**	**14.64**	**230**	P	**P**	**07 16 52.6**	**-0.8**
	405nm,1.0s						
MMRI	**Maumere**	**15.02**	**195**	P	**Pn**	**07 16 54.4**	**-0.7**
	293nm,0.8s,3μm						
STKI	**Sintang**	**15.73**	**249**	P	**P**	**07 17 08.5**	**+3.0**
	51nm,1.2s						
SOEI	**Soe**	**15.74**	**187**	P	**Pn**	**07 17 04.9**	**+0.7**
	306nm,1.0s,4μm						
SOEI	**Soe**	**15.74**	**187**	P	**P**	**07 17 05.3**	**-0.3**
	baz=16,SNR=32						
BATI	**Baumata**	**16.26**	**189**	P	**P**	**07 17 11.2**	**-0.2**
	394nm,0.8s,5μm						
KSM	**Kuching**	**16.38**	**255**	*e*P	**P**	**07 17 13.5**	**+0.9**
	35nm,0.6s						
KSM	**Kuching**	**16.38**	**255**	P	**P**	**07 17 14.7**	**+2.1**
KSM	**Kuching**	**16.38**	**255**	P	**P**	**07 17 14.5**	**+1.9**
	61nm,1.0s,918nm						
KSM	**Kuching**	**16.38**	**255**	P	**P**	**07 17 14.5**	**+1.9**
	baz=16,SNR=7.8						
WSI	**Waingapu**	**16.59**	**200**	P	P	07 17 21.1	+6.2
	baz=17,SNR=6.2						
PBKI	**Pangkalan Bun**	**16.80**	**239**	P	P	07 17 24.7	+7.5
BASI	**Baing, Sumba**	**17.01**	**199**	P	**P**	**07 17 19.0**	**-0.5**
	264nm,0.7s,4μm						
KMMI	**Kalianget**	**17.72**	**223**	P	**Pn**	**07 17 32.6**	**+4.3**
	152nm,0.7s,2μm						
YULB	**Yu-li**	**17.92**	**346**	*e*P	**P**	**07 17 27.3**	**-2.2**
	6.8nm,0.5s						
TPUB	**Ta-pu**	**18.01**	**344**	*e*P	**Pn**	**07 17 31.4**	**-0.3**
	41nm,1.3s						
NBBI	**Negara**	**18.28**	**219**	P	**Pn**	**07 17 38.2**	**+3.2**
	186nm,0.8s,2μm						
IGBI	**Denpasar**	**18.31**	**217**	P	Pn	07 17 40.5	+5.2
	393nm,0.6s						
SSLB	**Suanglung**	**18.38**	**345**	*e*P	**P**	**07 17 33.7**	**-1.0**
	14nm,0.7s						
BLJI	**Banyuglugur**	**18.48**	**223**	P	**Pn**	**07 17 39.0**	**+1.7**
	100nm,0.8s						
JAGI	**Jajag, Banyuwa**	**18.66**	**220**	P	**Pn**	**07 17 40.7**	**+1.3**
	122nm,1.0s,2μm						
JAGI	**Jajag, Banyuwa**	**18.66**	**220**	P	**P**	**07 17 38.5**	**+0.8**
	baz=19,SNR=13						
GMJI	**Gumukmas**	**18.97**	**222**	P	**Pn**	**07 17 47.0**	**+4.0**
	78nm,0.6s						
YHNB	**Yeheng**	**19.13**	**347**	*e*P	**P**	**07 17 42.2**	**-0.6**
	12nm,0.6s						
MTN	**Manton Dam**	**19.36**	**165**	P	**P**	**07 17 45.5**	**+0.2**
	baz=20,SNR=176						
KDU	**Kakadu**	**19.60**	**161**	P	**P**	**07 17 48.2**	**+0.3**
	baz=20,SNR=102						
SJI	**Sawahan**	**19.75**	**227**	P	**Pn**	**07 17 51.7**	**-0.6**
	111nm,0.8s						
PWJI	**Pagerwojo**	**19.92**	**226**	P	**Pn**	**07 17 54.7**	**+0.5**
	61nm,0.8s						
GUMO	**Guam**	**19.97**	**66**	*e*P	**P**	**07 17 52.3**	**+0.4**
	40nm,0.7s						
QIZ	**Qiongzhong**	**20.47**	**311**	P	**P**	**07 17 57.8**	**+0.5**
QIZ				pP	**pP**	**07 18 16.4**	**-2.9**
QIZ				sP	**sP**	**07 18 31.9**	**-2.4**
QIZ				S	**S**	**07 21 40.9**	**+0.9**
QIZ				sS	**sS**	**07 22 17.5**	**+0.9**
QIZ				pmax	pmax		
	comp=Z,30nm,1.6s						
QIZ				pmax	pmax		
	comp=Z,230nm,2.9s						
QIZ	**Qiongzhong**	**20.47**	**311**	*e*P	**P**	**07 17 57.6**	**+0.4**
	comp=Z,22nm,0.9s						
UGM	**Wanagama**	**20.78**	**229**	P	Pn	07 18 03.0	-1.3
	baz=21,SNR=7.5						
BJII	**Banjamegara**	**21.03**	**231**	P	**P**	**07 18 05.6**	**+2.2**
	comp=Z,114nm,1.3s						
PPBI	**Pangkal Pinang**	**21.51**	**248**	P	**P**	**07 18 09.8**	**+1.3**
	comp=Z,47nm,0.8s,comp=Z,4μm						
KNRA	**Kununurra**	**21.68**	**173**	P	**P**	**07 18 10.1**	**-0.2**
	baz=22,SNR=140						
UBPT	**Khong Chiam**	**22.26**	**296**	P	**P**	**07 18 17.0**	**+0.7**
	comp=Z,22nm,1.1s						
UBPT	**Khong Chiam**	**22.26**	**296**	P	**P**	**07 18 17.0**	**+0.7**
	comp=Z,22nm,1.1s						
LEM	**Lembang**	**22.41**	**236**	P	**P**	**07 18 19.7**	**+1.7**
	comp=Z,157nm,1.0s						
LEM	**Lembang**	**22.41**	**236**	P	**P**	**07 18 19.8**	**+1.7**
	baz=23,SNR=4.5						
MYKOM	**Kota Tinggi**	**22.58**	**260**	P	**P**	**07 18 20.7**	**+1.2**
MYKOM	**Kota Tinggi**	**22.58**	**260**	P	**P**	**07 18 21.4**	**+1.8**
	comp=Z,48nm,0.9s,comp=Z,792nm						
CBJI	**Citeko**	**22.82**	**238**	P	**P**	**07 18 23.9**	**+2.0**
	comp=Z,365nm,0.9s						
KTGM	**Kuala Trenggan**	**22.86**	**270**	P	**P**	**07 18 22.7**	**+0.3**
DBJI	**Dramaga**	**22.98**	**237**	P	**P**	**07 18 24.4**	**+1.0**
	comp=Z,204nm,0.6s,comp=Z,8μm						
KGM	**Kluang**	**23.06**	**261**	P	**P**	**07 18 25.1**	**+1.0**
SBJI	**Serang**	**23.28**	**239**	P	**P**	**07 18 27.7**	**+1.5**
	comp=Z,222nm,0.9s,comp=Z,8μm						
PANO	**Nakornpanom**	**23.76**	**300**	P	**P**	**07 18 32.0**	**+1.4**
	comp=Z,19nm,1.2s,comp=Z,922nm						
KLSI		**23.82**	**244**	P	**P**	**07 18 32.6**	**+1.4**
	comp=Z,96nm,0.8s,comp=Z,1μm						
FITZ	**Fitzroy Crossi**	**23.93**	**181**	*e*P	**P**	**07 18 31.8**	**-0.3**
	comp=Z,35nm,0.4s						
FITZ	**Fitzroy Crossi**	**23.93**	**181**	P	**P**	**07 18 32.1**	**0.0**
	comp=Z,40nm,0.4s,baz=7.3,slow=8.3,SNR=58						
FITZ	**Fitzroy Crossi**	**23.93**	**181**	P	**P**	**07 18 32.1**	**0.0**
	baz=24,SNR=53						
SKNT	**Sakolnakorn**	**24.24**	**299**	P	**P**	**07 18 36.0**	**+1.1**
	comp=Z,28nm,0.9s						
LWLI	**Liwa**	**24.57**	**244**	P	**P**	**07 18 41.7**	**+3.7**
	comp=Z,158nm,0.8s						
IPM	**Ipoh**	**25.01**	**268**	*e*P	**P**	**07 18 41.8**	**-0.2**
	comp=Z,22nm,0.6s						
IPM	**Ipoh**	**25.01**	**268**	P	**P**	**07 18 42.3**	**+0.3**
IPM	**Ipoh**	**25.01**	**268**	P	**P**	**07 18 43.7**	**+1.7**
	comp=Z,33nm,0.7s						
MNAI	**Manna**	**25.29**	**247**	P	**P**	**07 18 46.8**	**+2.3**
	baz=26,SNR=3.1						
KULM	**Kulim**	**25.34**	**270**	P	**P**	**07 18 45.1**	**+0.2**
SKLT	**Songkhla**	**25.34**	**274**	P	**P**	**07 18 45.5**	**+0.6**
	comp=Z,25nm,0.8s						
SKLT	**Songkhla**	**25.34**	**274**	P	**P**	**07 18 45.5**	**+0.6**
	comp=Z,25nm,0.8s						
KSI	**Kapahiang**	**25.35**	**248**	P	**P**	**07 18 48.1**	**+3.0**
	comp=Z,142nm,0.7s						
MASI	**Maura Aman, Be**	**25.49**	**250**	P	**P**	**07 18 50.6**	**+4.2**
	comp=Z,182nm,0.6s,comp=Z,4μm						
CHAI	**Chaiyaphum**	**25.61**	**295**	P	**P**	**07 18 51.4**	**+4.0**
	comp=Z,6.0nm,1.1s,comp=Z,522nm						
PMG	**Port Moresby**	**25.96**	**126**	*e*P	**P**	**07 18 51.5**	**+1.0**
	comp=Z,58nm,1.3s						
PMG	**Port Moresby**	**25.96**	**126**	P	**P**	**07 18 50.1**	**-0.5**
	comp=Z,19nm,0.5s,baz=182,slow=1.2,SNR=7.0						
PMG				LR	LR	07 29 35.2	
	comp=Z,153nm,18.1s,baz=181,slow=37						
COEN	**Coen**	**26.07**	**140**	*e*P	**P**	**07 18 51.8**	**+0.3**
	comp=Z,392nm,1.4s						
COEN	**Coen**	**26.07**	**140**	P	**P**	**07 18 51.7**	**+0.3**
	baz=26,SNR=26						
PBKT	**Sadao Pong**	**26.76**	**295**	P	**P**	**07 19 00.9**	**+3.2**
	comp=Z,15nm,0.7s						
PBKT	**Sadao Pong**	**26.76**	**295**	P	**P**	**07 19 00.9**	**+3.2**
	comp=Z,15nm,0.7s						
NJ2	**Nanjing**	**26.81**	**346**	*e*P	**P**	**07 19 01.0**	**+3.1**
NJ2				pP	**pP**	**07 19 27.8**	**+4.1**
NJ2				sP	sP	07 19 42.8	+5.2
NJ2				PP	**PnPn**	**07 19 51.6**	**+4.5**
NJ2				S	**S**	**07 23 28.0**	**+2.7**
NJ2				sS	**sS**	**07 24 10.0**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,470nm,3.5s						
NJ2				LR	LR		
	comp=N,1μm,17.2s						
NJ2				LR	LR		
	comp=E,870nm,16.8s						
NJ2				LR	LR		
	comp=Z,1μm,13.4s						
WRAB	**Tennant Creek**	**27.00**	**163**	*e*P	**P**	**07 18 59.1**	**-0.7**
	comp=Z,52nm,0.4s						
WRA	**Warramunga Arr**	**27.01**	**163**	P	**P**	**07 18 59.2**	**-0.6**
WRA				S	**S**	**07 23 27.4**	**-1.4**
WRA	**Warramunga Arr**	**27.01**	**163**	P	**P**	**07 18 59.2**	**-0.6**
	comp=Z,31nm,0.4s,baz=342,slow=10,SNR=79						
WRA				S	**S**	**07 23 27.4**	**-1.4**
	comp=Z,3.7nm,0.9s,baz=334,slow=15,SNR=4.9						
PSI	**Prapat**	**27.27**	**265**	P	**P**	**07 19 01.5**	**-1.0**
PSI	**Prapat**	**27.27**	**265**	P	**P**	**07 19 01.5**	**-1.0**
	comp=Z,14nm,0.9s,baz=108,slow=4.1,SNR=7.2						
PSI				LR	LR	07 31 17.9	
	comp=Z,195nm,19.9s,baz=249,slow=40						
PSI	**Prapat**	**27.27**	**265**	P	**P**	**07 19 02.6**	**+0.1**
	baz=27,SNR=6.6						
GYA	**Guiyang**	**27.54**	**320**	P	**P**	**07 19 05.8**	**+1.1**
GYA				pP	**pP**	**07 19 32.3**	**+1.7**
GYA				sP	**sP**	**07 19 47.5**	**+3.0**
GYA				PP	**PnPn**	**07 19 59.4**	**+2.5**
GYA				PcP	**PcP**	**07 22 21.6**	**+1.7**
GYA				S	**S**	**07 23 37.0**	**-0.3**
GYA				sS	**sS**	**07 24 22.9**	**+0.1**
GYA				ScP	**ScP**	**07 25 50.5**	**+0.8**
GYA				PcS	**PcS**	**07 26 02.1**	**0.0**
GYA				ScS	**ScS**	**07 29 40.0**	**-1.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
MBWA	**Marble Bar**	**27.69**	**193**	*e*P	**P**	**07 19 05.3**	**-0.6**
	comp=Z,246nm,2.0s						
NANT	**Nan**	**27.83**	**300**	P	**P**	**07 19 08.0**	**+0.7**
	comp=Z,34nm,0.6s,comp=Z,20μm						
PAYA	**Payao**	**28.78**	**300**	P	**P**	**07 19 17.9**	**+2.2**
	com

comp=Z,65nm,22.5s
MJAR Matsushiro Arr 32.38 18 P **P** 07 19 48.0 +0.8
MJAR PcP **PcP** 07 22 32.9 +0.7
MJAR Matsushiro Arr 32.38 18 P **P** 07 19 48.0 +0.8
comp=Z,1.3nm,0.6s,baz=190,slow=9.7,SNR=4.2
MJAR PcP **PcP** 07 22 32.9 +0.7
comp=Z,1.3nm,0.7s,baz=158,slow=1.6,SNR=5.3
CD2 Chengdu 32.48 323 *eP* **P** 07 19 48.8 +0.6
CD2 pP **pP** 07 20 14.8 +0.4
CD2 sP **sP** 07 20 28.9 +0.7
CD2 PP **PnPn** 07 21 01.5 +1.4
CD2 S **S** 07 24 53.9 -0.5
CD2 sS **sS** 07 25 39.8 -0.4
CD2 SS **SnSn** 07 26 58.6 -2.9
CD2 pmax pmax
comp=Z,20nm,1.1s
CD2 pmax pmax
comp=Z,100nm,6.2s
CD2 LR LR
comp=E,340nm,19.0s
CD2 LR LR
comp=Z,380nm,15.5s
CTA Charters Tower 32.62 143 P **P** 07 19 50.8 +1.3
CTA Charters Tower 32.62 143 P **P** 07 19 50.8 +1.3
comp=Z,6.2nm,0.4s,baz=319,slow=9.0,SNR=11
CTAO Charters Tower 32.62 143 *eP* **P** 07 19 50.5 +1.0
comp=Z,11nm,0.7s
MEEK Meekatharra 33.23 192 P **P** 07 19 54.1 -0.6
baz=34,SNR=19
BJI Beijing 35.06 347 P **P** 07 20 10.4 +0.1
BJI pP **pP** 07 20 35.3 -1.5
BJI sP **sP** 07 20 48.6 -2.0
BJI S **S** 07 25 36.8 +2.8
BJI pmax pmax
comp=Z,30nm,0.7s
BJI pmax pmax
comp=Z,76nm,5.2s
MORW Morawa 36.17 195 P **P** 07 20 19.5 -0.5
baz=36,SNR=14
LZH Lanzhou 36.26 329 *eP* **P** 07 20 21.3 +0.4
LZH pP **pP** 07 20 48.0 +0.5
LZH sP **sP** 07 21 01.9 +0.7
LZH PP **PnPn** 07 21 48.5 +1.8
LZH *eS* **S** 07 25 56.5 +3.8
LZH sS **sS** 07 26 42.6 +3.6
LZH SS **SnSn** 07 28 26.3 -6.5
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,160nm,6.0s
LZH LR LR
comp=N,590nm,15.0s
LZH LR LR
comp=E,630nm,15.3s
LZH LR LR
comp=Z,700nm,17.2s
FORT Forrest 36.60 177 *eP* **P** 07 20 23.8 +0.3
comp=Z,98nm,0.7s
FORT Forrest 36.60 177 P **P** 07 20 23.9 +0.3
baz=37,SNR=30
HHC Hu-ho-hao-te 37.08 342 *eP* **P** 07 20 26.8 -0.8
HHC pP **pP** 07 20 54.8 +0.5
HHC sP **sP** 07 21 09.4 +1.4
HHC PP **PnPn** 07 21 57.8 +1.4
HHC S **S** 07 26 03.6 -1.3
HHC PcS **PcS** 07 26 31.8 -2.4
HHC sS **sS** 07 26 52.5 +1.2
HHC SS SnSn 07 28 42.1 -10
HHC ScS **ScS** 07 30 25.3 -4.5
HHC pmax pmax
comp=Z,28nm,1.1s
HHC pmax pmax
comp=Z,320nm,5.1s
BLDU Ballidu 37.48 193 P **P** 07 20 30.6 -0.4
baz=38,SNR=45
CN2 Changchun 37.67 359 *eP* **P** 07 20 33.9 +1.4
CN2 *ePP* **pP** 07 20 59.1 -0.1
CN2 *ePP* **PnPn** 07 22 06.5 +3.1
CN2 *eSS* SS 07 28 57.9 -6.0
SHL Shillong 38.06 305 *eP* **P** 07 20 36.0 -0.3
KLBR Kellerberrin 38.20 192 P **P** 07 20 36.9 -0.2
baz=38,SNR=42
USRK Ussuriysk Arra 38.42 7 P **P** 07 20 39.5 +0.8
comp=Z,7.3nm,0.9s,baz=160,slow=12,SNR=10
MDJ Mudanjiang 38.60 4 P **P** 07 20 42.0 +1.7
MDJ pmax pmax
comp=Z,18nm,1.3s
MDJ pmax pmax
comp=Z,120nm,5.5s
MDJ Mudanjiang 38.60 4 *eP* **P** 07 20 41.7 +1.4
comp=Z,6.3nm,0.8s
RMQ Roma 39.04 147 P **P** 07 20 44.4 +0.2
baz=39,SNR=6.5
RMQ S **S** 07 26 33.2 -1.5
baz=39,SNR=5.3
EIDS Eidsvold 39.51 143 *eP* **P** 07 20 48.1 +0.1
comp=Z,40nm,0.8s
EIDS Eidsvold 39.51 143 P **P** 07 20 48.2 +0.1
baz=40,SNR=16
NWAO Narrogin (SRO) 39.60 192 *eP* **P** 07 20 48.8 +0.1
comp=Z,49nm,0.5s
NWAO Narrogin (SRO) 39.60 192 P **P** 07 20 49.0 +0.3
comp=Z,59nm,0.4s,baz=23,slow=8.0,SNR=130
BBOO Buckleboo 39.72 167 *eP* **P** 07 20 50.3 +0.6
comp=Z,2μm,0.6s
BBOO Buckleboo 39.72 167 P **P** 07 20 50.4 +0.7
baz=40,SNR=306
STKA Stephens Creek 40.45 159 *eP* **P** 07 20 56.1 +0.4
comp=Z,14nm,0.8s
STKA ScP **ScP** 07 26 36.4 +1.5
STKA Stephens Creek 40.45 159 P **P** 07 20 56.5 +0.8
comp=Z,42nm,0.5s,baz=336,slow=8.1,SNR=60
STKA ScP **ScP** 07 26 36.4 +1.5
comp=Z,4.5nm,0.8s,baz=60,slow=10,SNR=3.0
STKA LR LR 07 37 02.9
comp=Z,195nm,21.9s,baz=192,slow=35
STKA Stephens Creek 40.45 159 P **P** 07 20 56.6 +0.8
baz=41,SNR=49
ASAJ Asahikawa 40.65 18 P **P** 07 20 58.0 +0.8
ASAJ Asahikawa 40.65 18 P **P** 07 20 58.0 +0.8
comp=Z,10nm,0.7s,baz=218,slow=4.2,SNR=5.3
GTA Gaotai 40.86 328 *eP* **P** 07 20 57.5 -1.7
GTA pP **pP** 07 21 22.5 -3.8
GTA PcP **PcP** 07 22 58.3 +0.5
GTA ScP **ScP** 07 26 34.3 -2.3
GTA PcS **PcS** 07 26 45.9 -3.0
GTA S **S** 07 26 59.0 -2.8
GTA SS **SS** 07 30 02.8 -5.1
GTA pmax pmax
comp=Z,3.0nm,0.6s
GTA pmax pmax
comp=Z,75nm,5.6s
GTA LR LR
comp=N,180nm,14.0s
GTA LR LR
comp=E,200nm,17.1s
GTA LR LR
comp=Z,66nm,16.4s
RKGY Rocky Gully 41.28 191 P **P** 07 21 03.9 +1.4
baz=42,SNR=73
CMSA Cobar Meteorol 41.74 155 P **P** 07 21 07.0 +0.7
baz=42,SNR=39
TAPN Taplejung 42.20 305 *eP* **P** 07 21 10.5 -0.1
comp=Z,10nm,0.3s
ODAN Odare 42.28 304 *eP* **P** 07 21 11.0 -0.1
comp=Z,36nm,0.7s
JIRN Jiri 43.57 304 *eP* **P** 07 21 21.0 -0.7
ARMA Armidale 43.69 147 *eP* **P** 07 21 23.3 +1.1
comp=Z,22nm,0.8s
ARMA Armidale 43.69 147 P **P** 07 21 23.3 +1.1
baz=44,SNR=28
GUN Gumba 43.92 305 *eP* **P** 07 21 24.2 -0.3
comp=Z,33nm,0.5s
PKI Pulchoki 44.18 304 *eP* **P** 07 21 25.8 -0.7
DMN Daman 44.44 304 *eP* **P** 07 21 28.0 -0.5
ULN Ulaanbaatar 44.80 342 *eP* **P** 07 21 30.7 -0.2
comp=Z,9.5nm,0.9s
ULN Ulaanbaatar 44.80 342 P **P** 07 21 31.7 +0.8
comp=Z,7.0nm,1.1s
SONM Songino Array 44.98 341 P **P** 07 21 32.0 -0.3
SONM PcP **PcP** 07 23 11.9 +0.4
SONM ScP **ScP** 07 26 54.0 +0.9
SONM Songino Array 44.98 341 P **P** 07 21 32.0 -0.3
comp=Z,1.0nm,0.5s,baz=153,slow=8.1,SNR=5.5
SONM PcP **PcP** 07 23 11.9 +0.4
comp=Z,5.2nm,0.7s,baz=162,slow=4.6,SNR=7.9
SONM ScP **ScP** 07 26 54.0 +0.9
comp=Z,1.0nm,0.6s,baz=107,slow=2.0,SNR=4.1
SONM LR LR 07 43 43.2
comp=Z,105nm,18.2s,baz=347,slow=40
ARPS Mount Arapiles 45.01 162 P **P** 07 21 33.9 +1.4
baz=45,SNR=38
YNG Young 45.27 154 P **P** 07 21 36.1 +1.5
baz=46,SNR=25
KOLN Koldanda 45.75 303 *eP* **P** 07 21 38.0 -0.8
comp=Z,20nm,0.2s
DANN Dangsing 45.82 304 *eP* **P** 07 21 38.3 -1.2
comp=Z,62nm,0.6s
CAN Canberra 46.40 154 *eP* **P** 07 21 44.0 +0.5
comp=Z,18nm,0.6s
CNB Canberra Magne 46.55 154 P **P** 07 21 46.4 +1.7
baz=47,SNR=9.1
TOO Toolangi 46.95 159 P **P** 07 21 49.8 +2.0
baz=47,SNR=6.6
PETK Petropavlovsk- 53.61 23 P **P** 07 22 37.7 +0.1
PETK Petropavlovsk- 53.61 23 P **P** 07 22 37.7 +0.1
comp=Z,8.4nm,0.7s,baz=191,slow=6.8,SNR=7.9
MKAR Makanchi Array 55.36 325 *eP* **P** 07 22 49.0 -1.5
MKAR PcP **PcP** 07 23 48.6 -1.0
MKAR ScP **ScP** 07 27 37.0 -0.5
MKAR Makanchi Array 55.36 325 P **P** 07 22 48.9 -1.6
comp=Z,4.7nm,0.6s,baz=118,slow=7.8,SNR=44
MKAR PcP **PcP** 07 23 48.6 -1.0
comp=Z,8.1nm,0.7s,baz=118,slow=4.1,SNR=9.7
MKAR ScP **ScP** 07 27 37.0 -0.5
comp=Z,1.6nm,0.6s,baz=120,slow=5.2,SNR=6.1
KSH Kashi 56.02 314 *eP* **P** 07 22 56.9 +1.4
KSH pP **pP** 07 23 23.8 -0.2
KSH sP **sP** 07 23 36.0 -1.2
KSH PP **PP** 07 25 04.8 +3.2
KSH PcS **PcS** 07 27 52.5 -0.6
KSH S **S** 07 30 35.8 +0.9
KSH sS **sS** 07 31 22.5 -1.5
KSH ScS **ScS** 07 32 31.8 -1.5
KSH pmax pmax
comp=Z,130nm,5.0s
KSH LR LR
comp=N,200nm,9.2s
KSH LR LR
comp=E,130nm,9.9s
KSH LR LR
comp=Z,270nm,8.3s
ZALV Zalesovo Beam 58.31 333 LR LR 07 51 01.1
comp=Z,71nm,18.0s,baz=279,slow=39
KKAR Karatay Array 61.17 316 *eP* **P** 07 23 30.5 -0.5
comp=Z,1.9nm,0.5s
AFI Afiamalu 64.73 108 LR LR 07 48 56.5
comp=Z,40nm,18.7s,baz=33,slow=33
BVAR Borovoye Array 65.10 327 LR LR 07 55 04.5
comp=Z,98nm,19.7s,baz=272,slow=38
BRVK Borovoye 65.17 327 *eP* **P** 07 23 56.1 -1.1
comp=Z,6.6nm,0.5s
ABKAR Akbulak array 70.02 320 *eP* **P** 07 24 26.2 -1.5
CASY Casey 72.97 187 *eP* **P** 07 24 45.5 +0.5
comp=Z,15nm,0.6s
RAYN Ar Rayn 79.03 293 *eP* **P** 07 25 18.7 -1.7
KDAK Kodiak Island 80.34 32 P **P** 07 25 27.4 +0.7
KDAK Kodiak Island 80.34 32 P **P** 07 25 27.4 +0.7
comp=Z,5.7nm,0.5s,baz=302,slow=8.8,SNR=14
PPLA Purkeypile 80.93 27 *eP* **P** 07 25 31.1 +1.2
comp=Z,9.0nm,0.7s
KBZ Khabaz 80.99 313 P **P** 07 25 29.1 -1.3
KBZ Khabaz 80.99 313 P **P** 07 25 29.1 -1.3
comp=Z,1.9nm,0.9s,baz=84,slow=1.2,SNR=4.1
COLD Coldfoot 82.08 23 *eP* **P** 07 25 37.1 +1.4
comp=Z,15nm,0.8s
PMR Palmer 82.28 29 *eP* **P** 07 25 37.5 +0.6
comp=Z,6.3nm,0.7s
MCK McKinley 82.44 27 *eP* **P** 07 25 38.1 +0.4
comp=Z,19nm,0.8s
COLA College 82.94 25 *eP* **P** 07 25 40.8 +0.6
comp=Z,30nm,0.9s
ILAR Eielson Array 83.35 26 P **P** 07 25 42.2 -0.1
ILAR Eielson Array 83.35 26 P **P** 07 25 42.2 -0.1
comp=Z,5.2nm,0.7s,baz=239,slow=4.9,SNR=62
DIV Divide 83.90 29 *eP* **P** 07 25 45.8 +0.5
comp=Z,15nm,0.7s
MAW Mawson 85.64 200 P **P** 07 25 52.8 -0.9
MAW Mawson 85.64 200 P **P** 07 25 52.8 -0.9
comp=Z,7.8nm,0.8s,baz=63,slow=7.8,SNR=14
MAW Mawson 85.64 200 P **P** 07 25 53.7 0.0
baz=86,SNR=9.6
VNDA Vanda 85.72 173 P **P** 07 25 54.0 +0.1
VNDA Vanda 85.72 173 P **P** 07 25 54.0 +0.1
comp=Z,1.9nm,0.5s,baz=317,slow=5.5,SNR=18
VNDA LR LR 08 01 53.3
comp=Z,90nm,21.8s,baz=336,slow=34
EGAK Eagle 85.81 25 *eP* **P** 07 25 55.0 +0.4
comp=Z,6.2nm,0.8s
PPT Papeete 86.40 108 LR LR 08 01 44.1
comp=Z,178nm,18.2s,baz=173,slow=33
KEV Kevo 87.57 340 *ep* **P** 07 26 02.1 -1.0
BRTR Keskin Array B 88.11 310 P **P** 07 26 04.1 -2.5
BRTR Keskin Array B 88.11 310 P **P** 07 26 04.1 -2.5
comp=Z,3.3nm,0.7s,baz=104,slow=4.1,SNR=12
BRTR LR LR 08 12 16.1
comp=Z,24nm,18.9s,baz=265,slow=40
ARCES ARCESS Array B 88.13 340 P **P** 07 26 04.4 -1.4
ARCES PKKPbc **PKKPbc** 07 43 50.0 -2.8
ARCES ARCESS Array B 88.13 340 P **P** 07 26 04.4 -1.4
comp=Z,8.3nm,0.7s,baz=84,slow=6.2,SNR=22
ARCES PKKPbc **PKKPbc** 07 43 50.0 -2.8
comp=Z,1.4nm,0.9s,baz=226,slow=3.2,SNR=4.7
ARCES LR LR 08 08 43.8
comp=Z,53nm,18.2s,baz=78,slow=38
KMBO Kilima Mbogo 88.97 269 LR LR 08 04 54.4
comp=Z,66nm,18.1s,baz=94,slow=35
KAF Kangasniemi 89.32 332 *ep* **P** 07 26 08.5 -3.0
FINES FINESS Array B 89.56 332 P **P** 07 26 11.2 -1.5
FINES FINESS Array B 89.56 332 P **P** 07 26 11.2 -1.5
comp=Z,5.9nm,0.7s,baz=97,slow=6.1,SNR=12
SYO Syowa Base 94.29 201 *eP* **P** 07 26 33.0 -1.3
SYO Syowa Base 94.29 201 *epP* pP 07 27 06.1 +0.8
KOLS Kolonicke sedl 94.53 320 *eP* **P** 07 26 37.0 +1.0
STHS Stebnicka Huta 95.06 321 *eP* **P** 07 26 39.7 +1.3
QSPA South Pole Qui 95.87 180 *eP* **P** 07 26 41.6 -0.2
comp=Z,3.4nm,0.9s
QSPA South Pole Qui 95.87 180 LR LR 08 08 59.5
comp=Z,80nm,18.1s,baz=13,slow=35
NB2 NORSAR Subarra 96.50 334 P **P** 07 26 42.2 -2.5
comp=Z,2.5nm,0.7s,baz=65,slow=4.6
NOA NORSAR Array B 96.50 334 P **P** 07 26 42.6 -2.1
NOA NORSAR Array B 96.50 334 P **P** 07 26 42.6 -2.1
comp=Z,3.1nm,0.7s,baz=65,slow=4.6,SNR=9.5
NOA LR LR 08 14 54.1
comp=Z,35nm,21.8s,baz=65,slow=38
YKA Yellowknife Ar 97.72 24 P Pdif 07 26 50.5 +0.4
YKA PKKPbc **PKKPbc** 07 43 23.7 -4.1
YKA Yellowknife Ar 97.72 24 P Pdif 07 26 50.5 +0.4
comp=Z,1.8nm,0.8s,baz=299,slow=4.5,SNR=13
YKA PKKPbc **PKKPbc** 07 43 23.7 -4.1
comp=Z,0.5nm,0.5s,baz=122,slow=3.1,SNR=6.0
GERES GERESS Array B 99.94 322 P **Pdif** 07 26 59.1 -1.4
GERES GERESS Array B 99.94 322 P **Pdif** 07 26 59.1 -1.4
comp=Z,0.3nm,0.2s,baz=58,slow=3.3,SNR=4.3
GERES LR LR 08 16 11.3
comp=Z,61nm,18.7s,baz=270,slow=38
NVAR Mina Array Bea 105.87 47 PKKPbc PKKPbc 07 43 02.7 -0.9
NVAR Mina Array Bea 105.87 47 PKKPbc PKKPbc 07 43 02.7 -0.9
comp=Z,0.5nm,0.6s,baz=139,slow=4.4,SNR=4.9
PDAR Pinedale Array 110.07 40 PKKPbc PKKPbc 07 42 48.0 -2.6
PDAR PKKPab **PKKPab** 07 42 58.6 -3.3
PDAR Pinedale Array 110.07 40 PKKPbc PKKPbc 07 42 48.0 -2.6
comp=Z,0.5nm,0.6s,baz=119,slow=3.5,SNR=4.9
PDAR PKKPab **PKKPab** 07 42 58.6 -3.3
comp=Z,0.8nm,0.7s,baz=124,slow=5.9,SNR=7.6
ANMO Albuquerque 115.96 47 *e*PKPdf **PKPdf** 07 31 59.9 +1.4
SCHQ Schefferville 118.45 8 *e*PKPdf **PKPdf** 07 32 01.6 -0.8
SCHQ PKP **PKPdf** 07 32 02.0 -0.4
SCHQ Schefferville 118.45 8 PKP **PKPdf** 07 32 02.0 -0.4
comp=Z,2.5nm,0.7s,baz=350,slow=5.1,SNR=6.9
MDT Midelt 119.37 313 PKP **PKPdf** 07 32 04.8 -0.2
MDT Midelt 119.37 313 PKP **PKPdf** 07 32 04.8 -0.2
comp=Z,0.9nm,0.7s,baz=212,slow=9.9,SNR=4.1
TXAR Lajitas Array 120.70 51 PKP **PKPdf** 07 32 08.2 +0.6
TXAR PKKPbc **PKKPab** 07 42 15.8 +1.1
TXAR Lajitas Array 120.70 51 PKP **PKPdf** 07 32 08.2 +0.6
comp=Z,0.8nm,0.8s,baz=197,slow=1.4,SNR=12
TXAR PKKPbc **PKKPab** 07 42 15.8 +1.1
comp=Z,0.2nm,0.5s,baz=119,slow=5.9,SNR=5.7
TORD Torodi Ar. Bea 121.60 289 PKP **PKPdf** 07 32 08.9 -0.7
TORD PKKPbc **PKKPab** 07 42 10.8 +0.2
comp=Z,13nm,0.7s,baz=71,slow=2.2,SNR=83
TORD PKKPbc **PKKPab** 07 42 10.8 +0.2
comp=Z,0.8nm,1.1s,baz=277,slow=3.1,SNR=4.3
DBIC Dimbokro 129.47 284 *e*PKPdf **PKPdf** 07 32 24.0 -0.6
DBIC PKP **PKPdf** 07 32 24.3 -0.3
DBIC Dimbokro 129.47 284 PKP **PKPdf** 07 32 24.3 -0.3
comp=Z,7.7nm,0.7s,baz=81,slow=1.6,SNR=11
PLCA Paso Flores 142.32 159 PKPpre PKPpre 07 32 44.4
PLCA *e*PKPdf **PKPdf** 07 32 45.1 -2.7
PLCA Paso Flores 142.32 159 PKhKP PKPpre 07 32 44.4
comp=Z,2.8nm,0.7s,baz=236,slow=4.2,SNR=8.4
JTS JuntasAbangare 145.10 63 PKPbc **PKPdf** 07 32 54.0 +0.7
JTS JuntasAbangare 145.10 63 PKPbc **PKPdf** 07 32 54.0 +0.7
baz=283,slow=6.0
TRQA Tornquist 147.24 168 *e*PKPbc **PKPbc** 07 32 58.8 0.0
CFAA Coronel Fontan 151.19 154 PKP **PKPdf** 07 33 03.1 +0.2
CFAA PKPbc **PKPbc** 07 33 08.8 -0.1
CFAA Coronel Fontan 151.19 154 PKP **PKPdf** 07 33 03.1 +0.2
comp=Z,0.2nm,0.6s,baz=207,slow=3.6,SNR=8.3
CFAA PKPbc **PKPbc** 07 33 08.8 -0.1
comp=Z,3.0nm,0.6s,baz=228,slow=2.5,SNR=93
LCO Las Campanas 152.12 147 *e*PKPbc **PKPbc** 07 33 12.4 +1.0
ROSC El Rosal 156.94 63 PKP **PKPdf** 07 33 12.5 +0.6
ROSC El Rosal 156.94 63 PKP **PKPdf** 07 33 12.5 +0.6
comp=Z,3.4nm,0.6s,baz=293,slow=22,SNR=5.2
LVC Limon Verde 158.02 140 PKPab **PKPab** 07 33 49.1 +2.6
LVC Limon Verde 158.02 140 PKPab **PKPab** 07 33 49.1 +2.6
comp=Z,4.6nm,1.0s,baz=271,slow=8.7,SNR=4.0
CPUP Villa Florida 159.50 171 PKP **PKPdf** 07 33 13.9 -0.2
CPUP PKPab **PKPab** 07 33 53.0 +0.6
CPUP Villa Florida 159.50 171 PKP **PKPdf** 07 33 13.9 -0.2
comp=Z,1.7nm,0.7s,baz=216,slow=3.3,SNR=5.2
CPUP PKPab **PKPab** 07 33 53.0 +0.6
comp=Z,2.2nm,0.6s,baz=157,slow=3.8,SNR=6.6
LPAZ La Paz 162.70 127 PKP **PKPdf** 07 33 19.6 +1.0
LPAZ PKPab **PKPab** 07 34 10.4 +2.8
LPAZ La Paz 162.70 127 PKP **PKPdf** 07 33 19.6 +1.0
comp=Z,1.0nm,0.6s,baz=24,slow=6.1,SNR=6.2
LPAZ PKPab **PKPab** 07 34 10.4 +2.8
comp=Z,3.6nm,0.7s,baz=240,slow=3.9,SNR=10.0
SIV San Ignacio 167.82 145 PKP **PKPdf** 07 33 22.4 +0.2
SIV PKPab **PKPab** 07 34 30.6 +1.3
SIV San Ignacio 167.82 145 PKP **PKPdf** 07 33 22.4 +0.2
comp=Z,2.5nm,0.8s,baz=168,slow=1.1,SNR=11
SIV PKPab **PKPab** 07 34 30.6 +1.3
comp=Z,2.5nm,0.8s,baz=228,slow=4.2,SNR=6.1
BDFB Brasilia 168.80 211 PKP **PKPdf** 07 33 22.2 -0.6
BDFB PKPab **PKPab** 07 34 33.5 -0.2
BDFB Brasilia 168.80 211 PKP **PKPdf** 07 33 22.2 -0.6
comp=Z,2.7nm,0.9s,baz=356,slow=18,SNR=3.4
BDFB PKPab **PKPab** 07 34 33.5 -0.2
comp=Z,2.3nm,0.6s,baz=154,slow=6.4,SNR=4.3

IDC 21 07:26:36.0±3.6, 6°18S×150°29E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/17, mbtmp3.5/2, Error ellipse: s-maj=133.6km s-min=47.1km az=117.0, Near Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.67**	**227**	P	P	07 31 18.1	+0.4
	2.3nm,0.7s,baz=53,slow=11,SNR=12						
ASAR	**Alice Springs**	**23.47**	**220**	P	P	07 31 47.0	-0.5
	0.7nm,0.7s,baz=56,slow=9.1,SNR=7.6						
TORD	**Torodi Ar. Bea**	**148.30**	**285**	PKPbc	PKPbc	07 46 24.9	-0.5
	0.5nm,1.0s,baz=68,slow=1.0,SNR=2.7						

JMA 21 07:30:43.4±0.5, 45°38N×150°02E, h30km, M4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**3.67**	**238**	P	Pn	07 31 37.0	-1.0
NEM2				*eS*	Sn	07 32 16.3	-4.0
JRA	**Rausu**	**3.78**	**249**	P	Pn	07 31 41.3	+1.7
JAK	**Akkeshi**	**4.51**	**240**	P	Pn	07 31 48.6	-1.0
JAK				*eS*	Sn	07 32 36.9	-4.1
JAR	**Ashorobuto**	**4.94**	**247**	P	Pn	07 31 56.2	+0.6
JAR				*eS*	Sn	07 32 52.4	+0.7
JMP	**Maruseppu**	**4.94**	**256**	P	Pn	07 31 57.6	+2.0
JOB	**Onbets**	**5.09**	**243**	P	Pn	07 31 57.9	+0.3
JOB				*eS*	Sn	07 32 52.1	-3.3
JCH	**Churui**	**5.54**	**242**	P	Pn	07 32 03.0	-0.8
JCH				*eS*	Sn	07 33 02.6	-5.8
JEM	**Erimo**	**6.00**	**238**	P	Pn	07 32 10.6	+0.5
JNBK	**Urakawa-nobuka**	**6.10**	**242**	P	Pn	07 32 10.2	-1.3
JNBK				*eS*	Sn	07 33 14.8	-5.4
JNB	**Noboribetsu**	**7.11**	**249**	P	Pn	07 32 24.8	-0.5
JKB	**Kayabe**	**7.39**	**245**	P	Pn	07 32 28.0	-1.2
JKB				*eS*	Sn	07 33 46.2	-5.8

IDC 21 07:39:53.3±2.0, 0°87N×127°01E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/20, mbtmp3.9/4, Error ellipse: s-maj=166.9km s-min=25.9km az=65.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.90**	**161**	P	P	07 44 47.9	-0.3
	1.8nm,0.4s,baz=340,slow=11,SNR=48						
ASAR	**Alice Springs**	**25.29**	**165**	P	P	07 45 22.2	+0.5
	3.1nm,0.4s,baz=344,slow=11,SNR=46						
STKA	**Stephens Creek**	**35.38**	**158**	P	P	07 46 50.4	-0.5
	2.2nm,0.9s,baz=324,slow=6.9,SNR=6.1						
MKAR	**Makanchi Array**	**60.06**	**326**	P	P	07 50 02.2	-0.1
	0.2nm,0.4s,baz=116,slow=8.2,SNR=3.7						

IDC 21 07:46:26.8±3.0, 57°32S×148°11E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.8/11, mbtmp3.6/3, Error ellipse: s-maj=316.3km s-min=27.3km az=76.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**20.84**	**172**	P	P	07 51 09.7	0.0
	1.2nm,1.0s,baz=354,slow=9.3,SNR=3.2						
ASAR	**Alice Springs**	**35.16**	**337**	P	P	07 53 22.4	+0.2
	1.0nm,0.8s,baz=164,slow=9.2,SNR=8.9						
WRA	**Warramunga Arr**	**38.69**	**339**	P	P	07 53 51.8	-0.4
	1.1nm,0.7s,baz=166,slow=7.6,SNR=11						

*ISCJB **21** 07:54:19.8±0.4, 7°32N±0°03×73°01W±0°03, h157km±3km, mb4.3/87, Error ellipse: s-maj=5.3km s-min=4.7km az=36.1*
*BJI **21** 07:54:19.9, 7°30N×73°00W, h143km, mB5.2/4*
*NEIC **21** 07:54:19.9±0.2, 7°31N×73°00W, mb4.4/70, Error ellipse: s-maj=4.2km s-min=3.4km az=86.0*
NEIC Felt [III] at Bucaramanga. Also felt at Barrancabermeja, Pamplona and Piedecuesta.
*IDC **21** 07:54:21.1±0.4, 7°26N×73°13W, h153km±3km, mb4.2/18, mb1 4.4/23, mb1mx4.3/26, mbtmp4.2/23, MS2.8/2, Ms1 2.8/2, ms1mx2.6/26, Error ellipse: s-maj=11.7km s-min=7.2km az=92.0*
*FUNV **21** 07:54:23.9, 7°49N×73°07W, h158km, MW5.0*

ISC 21 07:54:20.6±0.3, 7°33N±0°04×73°07W±0°04, h149km±2km, h149km:pP-P, n498, s092/603, mb4.4/87, 151C-153D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**0.92**	**54**	*eP*	**Pn**	07 54 47.4	+2.4
CAPV				*eS*	**Sn**	07 55 05.8	+2.3
VIGV	**El Vigia**	**2.26**	**48**	*eS*	**Sn**	07 55 27.2	-1.1
SOCV	**Socops**	**2.39**	**66**	*eP*	**Pn**	07 55 02.5	+2.1
SOCV				*eS*	**Sn**	07 55 31.4	+0.3
ROSC	**El Rosal**	**2.75**	**207**	P	**Pn**	07 55 06.6	+1.3
ROSC				S	**Sn**	07 55 38.7	-1.0
ROSC	**El Rosal**	**2.75**	**207**	P	**Pn**	07 55 06.6	+1.3
	342nm,0.3s,baz=54,slow=4.5,SNR=708						
ROSC				S	**Sn**	07 55 38.7	-1.0
	298nm,0.3s,baz=113,slow=18,SNR=9.6						
SDV	**Santo Domingo**	**2.87**	**57**	*ePn*	**Pn**	07 55 09.1	+2.6
VIRV	**Villa del Rosa**	**3.23**	**12**	*eP*	**Pn**	07 55 10.7	-0.2
ELOV	**Elorza**	**3.57**	**95**	*eP*	**Pn**	07 55 17.9	+2.6
ELOV				*eS*	**Sn**	07 55 57.3	-0.5
QARV	**Quebrada Arrib**	**3.81**	**41**	*eS*	**Sn**	07 56 00.6	-2.8
CURV	**Curarigua**	**4.07**	**49**	*eP*	**Pn**	07 55 23.5	+1.6
CURV				*eS*	**Sn**	07 56 05.3	-4.2

SIQV **Siquisique** 4.61 44 *e*P Pn 07 55 29.9 +0.9
SIQV *e*S Sn 07 56 18.4 -3.9
TEPV Terepaima 4.64 55 *e*P Pn 07 55 30.9 +1.5
TEPV *e*S Sn 07 56 20.0 -3.0
BAUV El Baul 5.23 72 *e*P Pn 07 55 37.4 +0.2
BAUV *e*S Sn 07 56 33.6 -3.2
MONV Montecano 5.52 33 *e*P Pn 07 55 40.9 -0.1
MONV *e*S Sn 07 56 37.4 -6.4
JACV Jacura 5.61 48 *e*S Sn 07 56 39.7 -6.3
TURV Turiamo 6.03 59 *e*P Pn 07 55 48.2 +0.5
TURV *e*S Sn 07 56 49.6 -6.2
BCIP Isla Barro Col 6.94 286 *e*Pn Pn 07 55 56.0 -3.9
BCIP *e*Sn Sn 07 57 15.0 -2.8
OTAV Otavalo 8.85 218 *e*Pn Pn 07 56 23.6 -2.4
YHJ Yallahs 11.02 343 *i* P Pn 07 56 57.2 +3.0
YHJ *i* S Sn 07 58 42.1 -14
PCJ Portland Cotta 11.09 339 *i* P Pn 07 56 56.4 +1.3
HOJ Hope 11.20 342 *i* P Pn 07 56 58.9 +2.3
GWJ Greenwich 11.26 342 *i* PA Pn 07 57 00.2 +2.7
GWJ *i* S Sn 07 58 54.7 -7.4
STH Stony Hill 11.29 342 *i* PA Pn 07 57 00.4 +2.7
MTDJ Mount Denham 11.68 339 *e*Pn Pn 07 57 03.9 +1.1
MTDJ *e*Sn Sn 07 59 04.2 -7.8
SDDR Presa de Saban 11.72 8 *e*Pn Pn 07 57 04.6 +1.3
JTS JuntasAbangare 12.11 285 P Pn 07 57 07.4 -1.0
JTS JuntasAbangare 12.11 285 P Pn 07 57 07.4 -1.0
0.9nm,0.3s,baz=218,slow=19,SNR=9.7
JTS LR LR 08 02 37.0
comp=Z,47nm,18.2s,baz=114,slow=41
GRGR Grenville 12.22 66 *e*Pn P 07 57 13.8 -2.4
262nm,0.9s
MPR Mayaguez 12.27 28 *e*Pn Pn 07 57 08.7 -1.7
OBIP Obispado Ponce 12.38 30 *e*Pn Pn 07 57 10.7 -1.2
CELP Cerrillos 12.41 30 *e*Pn Pn 07 57 10.7 -1.7
LRS Lares 12.47 28 *e*Pn Pn 07 57 12.0 -1.2
AGPR Aguadilla, PR 12.50 27 *e*P Pn 07 57 12.8 -0.7
54nm,0.5s
AOPR Arecibo Observ 12.56 29 *e*Pn Pn 07 57 12.4 -1.9
SJG San Juan 12.66 32 *e*Pn Pn 07 57 14.5 -1.1
GTBY Guantanamo Bay 12.68 351 *e*Pn Pn 07 57 17.7 +1.9
HUMP Col San Antoni 12.85 33 *e*Pn Pn 07 57 16.7 -1.3
CDVI St. Croix 13.15 37 *e*Pn Pn 07 57 21.5 -0.3
STVI Saint Thomas 13.51 35 *e*Pn Pn 07 57 23.8 -2.6
FDF Fort de France 13.82 57 *e*Pn Pn 07 57 29.8 -0.6
ATAH Atahualpa 15.31 200 P Pn 07 57 48.9 -0.6
ATAH S S 08 00 45.5 +1.1
ATAH Atahualpa 15.31 200 P Pn 07 57 48.9 -0.6
2.5nm,0.3s,baz=18,slow=3.6,SNR=9.5
ATAH S S 08 00 45.5 +1.1
0.4nm,0.3s,baz=180,slow=21,SNR=5.9
ATAH LR LR 08 02 57.7
comp=Z,38nm,21.2s,baz=181,slow=34
TGUH Tegucigalpa,Un 15.47 297 *e*P Pn 07 57 50.6 -0.4
18nm,0.8s
SAML Samuel 18.93 148 *e*P P 07 58 30.5 +0.3
12nm,0.3s
SAML *e*S S 08 02 00.5 +2.9
TEIG Tepich 19.54 313 *e*P P 07 58 37.8 +1.1
12nm,0.5s
TEIG Tepich 19.54 313 P P 07 58 37.9 +1.2
1.5nm,0.3s,baz=352,slow=4.7,SNR=14
NNA Nana 19.55 191 *e*P P 07 58 37.2 +0.2
17nm,0.6s
NNA Nana 19.55 191 P P 07 58 37.2 +0.2
2.9nm,0.3s,baz=1.0,slow=9.3,SNR=8.0
LPAZ La Paz 23.96 168 *e*P P 07 59 21.4 -0.6
13nm,0.6s
LPAZ La Paz 23.96 168 P P 07 59 21.9 -0.2
12nm,0.5s,baz=322,slow=8.3,SNR=40
SIV San Ignacio 26.04 153 P P 07 59 38.8 -1.4
SIV San Ignacio 26.04 153 P P 07 59 38.8 -1.4
4.0nm,0.7s,baz=342,slow=9.7,SNR=18
PLAL Pickwick Lake 30.79 335 *e*P P 08 00 23.3 +1.1
6.0nm,0.8s
PLAL *e*pP pP 08 00 54.7 +0.8
WVT Waverly 31.69 337 *e*P P 08 00 30.4 +0.3
8.6nm,0.8s
WCI Wyandotte Cave 33.01 341 *e*P P 08 00 42.3 +0.7
5.0nm,0.8s
732A Laxson Ranch, 33.12 313 ⇓P P 08 00 42.8 +0.1
baz=33
632A Uvalde 33.44 315 ⇓P P 08 00 46.0 +0.6
baz=34
SIUC Southern Illin 33.61 337 *e*P P 08 00 47.5 +0.7
15nm,0.6s
BDFB Brasilia 33.72 133 P P 08 00 48.9 +0.8
BDFB Brasilia 33.72 133 P P 08 00 48.9 +0.8
13nm,0.7s,baz=291,slow=11,SNR=26
532A Rocksprings 33.89 315 ⇑P P 08 00 49.4 0.0
baz=34,SNR=5.8
BLO Bloomington 33.94 341 *e*P P 08 00 50.3 +0.6
14nm,0.6s
631A Perdido Creek 33.95 314 ⇓P P 08 00 49.7 -0.2
baz=34
432A Menard 34.26 317 ⇓P P 08 00 52.9 +0.3
baz=34
531A Rocksprings 34.36 315 ⇓P P 08 00 53.0 -0.5
baz=34
332A Millersview 34.54 317 ⇓P P 08 00 54.9 -0.1
baz=35
431A Sonora 34.71 316 ⇑P P 08 00 56.2 -0.2
baz=35
530A J-C Ranch, Com 34.91 314 ⇓P P 08 00 58.0 -0.2
baz=35,SNR=8.9
331A San Angelo 34.96 317 ⇓P P 08 00 58.4 -0.1
baz=35
SFIN Scholer Farm 35.22 341 ⇓P P 08 01 01.5 +0.8
baz=35,SNR=6.8
TUL1 Tulsa 35.24 327 ⇑P P 08 01 00.7 -0.2
baz=35
ABTX Abilene, Hawle 35.25 319 ⇓P P 08 01 01.4 +0.4
baz=35
231A Bronte 35.27 318 ⇑P P 08 01 00.9 -0.3
baz=35
529A Stev Forest Ra 35.53 313 ⇑P P 08 01 03.2 -0.3
baz=36
429A Davenport Ranc 35.58 314 ⇓P P 08 01 03.3 -0.7
baz=36
Z32A Haskell 35.59 320 ⇑P P 08 01 04.3 +0.4
baz=36,SNR=6.7
628A Black Gap, Mar 35.67 312 ⇓P P 08 01 04.6 -0.1
baz=36
230A Sterling City 35.77 317 ⇓P P 08 01 05.7 +0.1
baz=36
ACCN Adirondack Com 35.92 359 *e*P P 08 01 08.2 +1.6
12nm,0.9s
528A Cox Ranch, San 35.96 313 ⇓P P 08 01 07.0 -0.2
baz=36,SNR=5.4
Z31A Sharp Cattle R 36.02 320 ⇑P P 08 01 07.8 +0.2
baz=36
Y32A R-V Farms, Ver 36.02 321 ⇑P P 08 01 07.7 +0.1
baz=36
WMOK Wichita Mounta 36.11 323 *e*P P 08 01 06.9 -1.4
8.6nm,0.8s
329A Wagon Wheel Ra 36.13 316 ⇑P P 08 01 08.5 -0.1
baz=36
TXAR Lajitas Array 36.17 311 P P 08 01 08.8 -0.2
TXAR pP pP 08 01 39.2 -2.1
TXAR PcP PcP 08 03 32.6 +1.2
TXAR pPcP 08 04 11.1
TXAR Lajitas Array 36.17 311 P P 08 01 08.8 -0.2
1.2nm,0.4s,baz=126,slow=9.1,SNR=65
TXAR pP pP 08 01 39.2 -2.1
1.2nm,0.5s,baz=126,slow=8.7,SNR=4.9
TXAR PcP PcP 08 03 32.6 +1.2
3.0nm,0.7s,baz=134,slow=6.2,SNR=12
TXAR pPcP 08 04 11.1
4.3nm,0.8s,baz=132,slow=6.6,SNR=11
229A Bryant Ranch, 36.30 316 ⇓P P 08 01 10.1 0.0
baz=36
Y31A Rekieta Farm, 36.51 320 ⇓P P 08 01 12.3 +0.5
baz=37,SNR=9.4
NCB Newcomb 36.52 359 *e*P P 08 01 12.4 +0.8
3.8nm,0.8s
527A Woodward Ranch 36.55 312 ⇓P P 08 01 12.7 +0.4
baz=37,SNR=7.8
626A Big Bend Ranch 36.63 311 ⇑P P 08 01 13.0 +0.1
baz=37
Z30A Sanderson Ranc 36.64 319 ⇑P P 08 01 13.0 +0.1
baz=37
328A Wristen Ranch, 36.65 315 ⇑P P 08 01 12.8 -0.3
baz=37,SNR=5.7
129A Stewart Farms, 36.73 317 ⇑P P 08 01 13.9 +0.3
baz=37
427A Hayter Ranch, 36.78 313 ⇓P P 08 01 13.9 -0.2
baz=37,SNR=12

CPUP Villa Florida 36.78 156 P P 08 01 10.5 -3.5
CPUP PcP PcP 08 03 33.0 -0.1
CPUP Villa Florida 36.78 156 P P 08 01 10.5 -3.5
0.5nm,0.4s,baz=313,slow=7.7,SNR=3.8
CPUP PcP PcP 08 03 33.0 -0.1
1.2nm,0.6s,baz=358,slow=6.9,SNR=3.0
526A Mary Lane Ranc 36.86 312 ⇑P P 08 01 15.1 +0.2
baz=37
Y30A Stafford Cattl 36.86 320 ⇓P P 08 01 15.1 +0.3
baz=37
Z29A Hungry Hill Ra 37.00 318 ⇓P P 08 01 15.8 -0.2
baz=37,SNR=5.5
W31A Holland Ranch, 37.12 322 ⇓P P 08 01 16.5 -0.4
baz=37,SNR=5.8
426A McDonald Obser 37.14 313 ⇓P P 08 01 17.5 +0.2
baz=37
128A Castleberry Fa 37.14 317 ⇑P P 08 01 17.4 +0.2
baz=37,SNR=10
X30A Coker Ranch, T 37.21 320 ⇑P P 08 01 18.0 +0.4
baz=37
227A Bennet, Jal 37.35 315 ⇓P P 08 01 19.4 +0.4
baz=38
Y29A Porterfield Fa 37.35 319 ⇑P P 08 01 19.4 +0.4
baz=38
326A Caldwell Ranch 37.45 314 ⇑P P 08 01 20.0 +0.2
baz=38
V31A Spring Creek L 37.45 323 ⇓P P 08 01 19.8 +0.1
baz=38
Z28A Tucker Farm, M 37.47 318 ⇓P P 08 01 19.9 -0.1
baz=38
X29A Tulia 37.73 320 ⇓P P 08 01 22.4 +0.3
baz=38
425A Indio Mountain 37.90 312 ⇑P P 08 01 23.6 -0.1
baz=38,SNR=5.0
226B Tecolote Peak, 38.00 315 ⇑P P 08 01 24.9 +0.5
baz=38
KSU1 Kansas State U 38.08 330 *e*P P 08 01 23.8 -1.0
9.9nm,0.7s
X28A Dimmitt 38.10 319 ⇓P P 08 01 25.3 0.0
baz=38
126A Clayton Basin, 38.21 315 ⇑P P 08 01 26.6 +0.4
baz=38
T31A Randall Ranch, 38.26 325 ⇓P P 08 01 26.4 -0.1
baz=38
Y27A Causey 38.35 318 ⇓P P 08 01 27.1 -0.2
baz=38,SNR=6.2
U30A WK&E Inc. Balk 38.44 323 ⇓P P 08 01 28.3 +0.3
baz=39
225A Deer Hill, Car 38.48 314 ⇓P P 08 01 28.8 +0.3
baz=39,SNR=6.5
V29A Stinnett 38.53 322 ⇑P P 08 01 29.7 +0.8
baz=39
Z26A Caprock 38.54 316 ⇑P P 08 01 28.8 -0.2
baz=39,SNR=16
324A Moseley Ranch, 38.60 313 ⇑P P 08 01 29.4 -0.2
baz=39,SNR=6.3
MNTX Cornudas Mount 38.66 313 *e*P P 08 01 29.7 -0.2
5.5nm,0.4s
MNTX *e*pP pP 08 02 00.3 -2.1
125A Gardner Draw, 38.67 315 ⇓P P 08 01 30.3 +0.3
baz=39,SNR=9.8
X27A F and S Farms, 38.76 319 ⇑P P 08 01 30.9 +0.1
baz=39
SCIA State Center 38.79 336 *e*P P 08 01 30.3 -0.4
7.8nm,0.3s
Y26A Elida 38.81 317 ⇓P P 08 01 31.2 -0.1
baz=39
V28A Channing 38.89 321 ⇑P P 08 01 32.9 +1.1
baz=39
224A Cornudas Mount 38.97 314 ⇑P P 08 01 33.2 +0.6
baz=39,SNR=24
W27A Bowe Ranch, En 39.00 319 ⇓P P 08 01 32.7 -0.1
baz=39,SNR=7.4
R31A Burdett 39.02 326 ⇑P P 08 01 32.5 -0.3
baz=39
Z25A Roswell 39.05 316 ⇑P P 08 01 33.6 +0.4
baz=39,SNR=12
X26A CR and CF Fran 39.18 318 ⇑P P 08 01 34.3 0.0
baz=39,SNR=6.1
T29A Hugoton 39.24 323 ⇑P P 08 01 35.2 +0.5
baz=39
124A Stringfield Ra 39.25 314 ⇑P P 08 01 36.0 +1.0
baz=39,SNR=5.6
V27A Dan Oppiter Fa 39.28 320 ⇑P P 08 01 35.5 +0.4
baz=39
RCBR Riachuelo 39.32 108 *e*P P 08 01 36.6 +1.0
7.3nm,0.5s
Y25A Mesa, Roswell 39.40 317 ⇓P P 08 01 36.9 +0.7
baz=40,SNR=6.9
R30A Dighton 39.43 325 ⇓P P 08 01 36.2 0.0
baz=40
S29A Ulysses 39.45 324 ⇓P P 08 01 36.7 +0.3
baz=40
W26A Owens Ranch, T 39.47 319 ⇑P P 08 01 37.0 +0.3
baz=40,SNR=5.1
Z24A Sheeppen Canyo 39.53 315 ⇓P P 08 01 37.8 +0.5
baz=40,SNR=6.8
U27A Thompson Grove 39.69 321 ⇑P P 08 01 38.9 +0.4
baz=40
X25A Clemmons Ranch 39.73 317 ⇓P P 08 01 39.4 +0.6
baz=40,SNR=9.2
Q30A Quinter 39.88 326 ⇑P P 08 01 39.7 -0.2
baz=40
S28A Manter 39.89 323 ⇑P P 08 01 40.4 +0.3
baz=40,SNR=5.2
V26A Tequesquite Ra 39.91 320 ⇑P P 08 01 40.7 +0.4
baz=40
Y24A Capitan 39.91 316 ⇑P P 08 01 41.1 +0.7
baz=40,SNR=22
W25A X Bar L Ranch, 40.00 318 ⇓P P 08 01 41.5 +0.5
baz=40,SNR=9.5
Z23A Rita Site, Whi 40.10 315 ⇑P P 08 01 42.6 +0.7
baz=40
222A Williams Famil 40.12 313 ⇓P P 08 01 42.7 +0.6
baz=40,SNR=8.7
U26A Atchley Ranch, 40.25 320 ⇓P P 08 01 44.0 +0.8
baz=40
P30A Selden 40.30 327 ⇓P P 08 01 43.0 -0.4
baz=40
Y23A Lovelace Mesa, 40.34 316 ⇓P P 08 01 45.0 +1.0
baz=40,SNR=7.5
R28A Tribune 40.34 324 ⇓P P 08 01 43.9 0.0
baz=40,SNR=6.5
V25A Rancho No Teng 40.47 319 ⇑P P 08 01 45.6 +0.6
baz=41
Z22A Elephant Butte 40.62 314 ⇑P P 08 01 46.9 +0.7
baz=41
W24A Lazy 6 Ranch, 40.62 318 ⇑P P 08 01 47.0 +0.7
baz=41
U25A Circle Dot Ran 40.68 320 ⇑P P 08 01 47.1 +0.4
baz=41
X23A Hourglass Bar 40.80 316 ⇓P P 08 01 48.4 +0.7
baz=41
V24A Rampart Ranch, 40.84 318 ⇑P P 08 01 48.7 +0.7
baz=41,SNR=6.9
121A Cookes Peak, D 40.84 313 ⇓P P 08 01 48.7 +0.6
baz=41
S26A Kim 40.86 322 ⇓P P 08 01 48.9 +0.8
baz=41
R27A Eads 40.88 323 ⇑P P 08 01 48.4 +0.2
baz=41,SNR=11
COWI Conover 41.04 343 *e*P P 08 01 49.5 +0.2
11nm,0.9s
220A Playas Peak, P 41.08 311 ⇑P P 08 01 51.0 +1.0
baz=41,SNR=8.8
W23A Werner Place, 41.09 317 ⇓P P 08 01 50.8 +0.6
baz=41
T25A Trinidad 41.13 321 ⇓P P 08 01 51.4 +0.9
baz=41
Z21A St. Cloud Mine 41.15 314 ⇑P P 08 01 51.3 +0.7
baz=41
ANMO Albuquerque 41.18 317 *e*P P 08 01 51.2 +0.4
3.7nm,1.1s
ANMO *e*pP pP 08 02 23.6 -0.2
U24A Moreno Valley 41.24 319 ⇑P P 08 01 52.8 +1.3
baz=41
KSCO Kaye Shedlock' 41.27 324 ⇓P P 08 01 51.8 +0.4
baz=41
R26A Arlington 41.28 323 ⇓P P 08 01 52.0 +0.5
baz=41
X22A Bernardo 41.32 316 ⇑P P 08 01 53.1 +1.2
baz=41
319A Douglas 41.39 310 ⇑P P 08 01 53.3 +0.7
baz=42
V23A Ortiz Mt. (NFS 41.45 318 ⇓P P 08 01 53.9 +0.9
baz=42,SNR=5.7
SPMN St. Paul 41.46 339 ⇓P P 08 01 53.4 +0.8
baz=42

120A U Bar Ranch, L 41.47 312 ⇑P P 08 01 54.1 +0.9
baz=42,SNR=7.5
S25A Robets Cordova 41.47 321 ⇑P P 08 01 53.9 +0.7
baz=42,SNR=6.8
Y21A Point of Rocks 41.52 315 ⇓P P 08 01 54.9 +1.2
baz=42
O28A Krutsinger Ran 41.55 326 ⇑P P 08 01 53.6 0.0
baz=42,SNR=7.5
P27A Ficken Ranch, 41.60 325 ⇓P P 08 01 54.6 +0.5
baz=42
R25A Fountain Ranch 41.69 322 ⇑P P 08 01 55.7 +0.8
baz=42,SNR=5.5
ECSD EROS Data Cent 41.72 334 *e*P P 08 01 53.9 -1.0
7.2nm,1.1s
ECSD *e*PcP PcP 08 03 48.6 +0.1
Z20A Nine Sixteen R 41.72 313 ⇑P P 08 01 55.9 +0.7
baz=42
Q26A Hugo 41.73 324 ⇓P P 08 01 56.1 +0.9
baz=42
U23A El Rito 41.79 319 ⇑P P 08 01 56.8 +1.0
baz=42,SNR=6.2
X21A Alamocita Cree 41.83 315 ⇓P P 08 01 57.1 +1.0
baz=42,SNR=7.8
S24A Houchin Ranch, 41.95 321 ⇑P P 08 01 58.0 +0.9
baz=42
Y20A Horse Springs, 41.97 314 ⇓P P 08 01 58.4 +1.1
baz=42,SNR=8.6
O27A Beecher Island 41.98 326 ⇑P P 08 01 57.7 +0.6
baz=42
V22A San Miguel Ran 42.03 318 ⇓P P 08 01 58.5 +0.7
baz=42
P26A Davis Ranch, A 42.05 324 ⇑P P 08 01 58.2 +0.4
baz=42
W21A San Fidel 42.09 316 ⇑P P 08 01 59.0 +0.7
baz=42
T23A Casias Ranch, 42.11 320 ⇑P P 08 01 59.5 +1.0
baz=42
Q25A Bedland, Calha 42.16 323 ⇓P P 08 01 59.2 +0.5
baz=42
SDCO Great Sand Dun 42.19 321 *e*P P 08 01 59.7 +0.6
4.1nm,0.8s
SDCO *e*pP pP 08 02 31.3 -0.9
L29A Maesberg Ranch 42.25 329 ⇑P P 08 01 59.0 -0.2
baz=42
R24A Sanders Place, 42.25 322 ⇓P P 08 02 00.4 +0.9
baz=42,SNR=7.2
U22A Llaves 42.26 318 ⇓P P 08 02 00.8 +1.2
baz=42
N27A Anderson Farm, 42.44 326 ⇓P P 08 02 00.7 -0.1
baz=43
O26A Horse Wrangler 42.48 325 ⇓P P 08 02 01.7 +0.4
baz=43
P25A Willow Gulch B 42.49 324 ⇑P P 08 02 02.0 +0.6
baz=43
T22A Edith 42.65 319 ⇓P P 08 02 03.7 +0.8
baz=43
R23A Moffat 42.67 321 ⇑P P 08 02 03.9 +1.0
baz=43
K29A Lazy Trails An 42.68 330 ⇑P P 08 02 02.7 0.0
baz=43
W20A Ramah 42.69 316 ⇓P P 08 02 04.0 +0.9
baz=43
U21A Nageezi 42.82 318 ⇓P P 08 02 04.5 +0.4
baz=43
TUC Tucson 42.96 311 *e*P P 08 02 05.4 +0.3
14nm,0.8s
TUC *e*pP pP 08 02 37.0 -1.3
V20A Brimhall 43.02 316 ⇑P P 08 02 06.6 +0.8
baz=43
S22A 4UR Ranch, Cre 43.03 320 ⇑P P 08 02 06.8 +0.9
baz=43,SNR=7.5
T21A Navajo Lake 43.05 318 ⇑P P 08 02 07.0 +1.0
baz=43
K28A Ten Mile Ranch 43.17 329 ⇓P P 08 02 06.5 -0.2
baz=43,SNR=10
R22A Saguache, Gunn 43.27 320 ⇓P P 08 02 08.8 +0.9
baz=43
BRSD Miller 43.31 333 ⇑P P 08 02 07.3 -0.4
baz=44,SNR=16
P23A Jefferson 43.40 322 ⇓P P 08 02 09.9 +0.9
baz=44
EYMN Ely 43.41 342 *e*P P 08 02 08.3 -0.2
18nm,0.6s
EYMN *e*pP pP 08 02 40.7 -0.9
ISCO Idaho Springs 43.53 323 *e*P P 08 02 11.0 +1.0
23nm,1.8s
ISCO *e*pP pP 08 02 43.0 -0.2
ISCO Idaho Springs 43.53 323 ⇑P P 08 02 10.8 +0.9
baz=44,SNR=7.7
W18A Petrified Fore 43.55 315 ⇓P P 08 02 11.1 +1.2
baz=44
S21A Coal Bank Pass 43.61 319 ⇓P P 08 02 11.3 +0.7
baz=44,SNR=6.4
J28A Allard Ranch, 43.62 330 ⇑P P 08 02 09.8 -0.4
baz=44,SNR=12
Q22A Crested Butte, 43.75 321 ⇓P P 08 02 12.2 +0.5
baz=44,SNR=5.6
N24A Carr 43.77 325 ⇓P P 08 02 12.7 +1.1
baz=44
MVCO Mesa Verde 43.81 318 *e*P P 08 02 12.3 +0.2
3.6nm,0.6s
MVCO Mesa Verde 43.81 318 ⇑P P 08 02 12.8 +0.7
baz=44
R21A Cimarron 43.86 320 ⇑P P 08 02 13.4 +0.9
baz=44
I28A Midland 44.02 331 ⇑P P 08 02 12.8 -0.6
baz=44
S20A Disappointment 44.07 319 ⇑P P 08 02 15.3 +1.1
baz=44,SNR=15
P22A Eagle 44.10 322 ⇑P P 08 02 15.0 +0.6
baz=44
R20A Redvale 44.29 319 ⇑P P 08 02 16.9 +1.1
baz=44,SNR=8.4
O22A Kremmling 44.32 323 ⇑P P 08 02 16.6 +0.4
baz=44,SNR=7.8
214A Organ Pipe Nat 44.35 309 ⇓P P 08 02 16.9 +0.7
baz=44
PV01 Paradox Valley 44.38 319 *e*P P 08 02 17.1 +0.4
380nm,0.9s
PV01 *e*pP pP 08 02 49.1 -0.8
X16A Lo Mia Camp, P 44.42 313 ⇑P P 08 02 17.6 +0.7
baz=44,SNR=5.5
N23A Red Feather La 44.42 324 ⇓P P 08 02 17.4 +0.4
baz=45
H28A Mission Ridge 44.45 331 ⇓P P 08 02 16.5 -0.2
baz=45
P21A Newcastle 44.48 321 ⇓P P 08 02 18.0 +0.7
baz=45,SNR=5.1
I27A Quinn 44.50 330 ⇑P P 08 02 16.7 -0.5
baz=45
Q20A Ridgley Place, 44.67 320 ⇑P P 08 02 20.2 +1.3
baz=45,SNR=11
G28A Parade 44.70 332 ⇓P P 08 02 18.5 -0.3
baz=45
I26A New Underwood 44.87 329 ⇑P P 08 02 20.0 -0.2
baz=45
WUAZ Wupatki 44.91 314 *e*P P 08 02 21.3 +0.6
9.1nm,0.9s
WUAZ *e*pP pP 08 02 52.3 -1.9
WUAZ Wupatki 44.91 314 ⇑P P 08 02 22.0 +1.2
baz=45,SNR=11
O21A Pagoda 44.91 322 ⇑P P 08 02 21.7 +0.9
baz=45
H27A Howes 44.92 331 ⇓P P 08 02 20.4 -0.2
baz=45
Z14A Wintersburg 45.06 311 ⇑P P 08 02 22.3 +0.5
baz=45
L23A Garrett 45.08 325 ⇓P P 08 02 22.6 +0.6
baz=45
AGMN Agassiz Nation 45.18 339 *e*P P 08 02 22.2 -0.2
8.0nm,0.6s
AGMN *e*PcP PcP 08 04 00.1 -0.1
H26A Fairpoint 45.25 330 ⇑P P 08 02 22.5 -0.7
baz=45
N21A Black Mountain 45.27 323 ⇓P P 08 02 24.4 +0.7
baz=45
I25A Rochford 45.31 329 ⇑P P 08 02 24.3 +0.5
baz=46
O20A White River Ci 45.34 322 ⇓P P 08 02 24.6 +0.5
baz=46
Y14A Wickenburg 45.35 311 ⇑P P 08 02 24.5 +0.3
baz=46,SNR=10
G27A Dupree 45.40 331 ⇓P P 08 02 24.2 -0.1
baz=46
113A Mohawk Valley, 45.42 310 ⇑P P 08 02 25.0 +0.4
baz=46
L22A Ellis Ranch, M 45.44 325 ⇑P P 08 02 26.9 +2.1
baz=46

K23A **Bowen Ranch, D** 45.45 326 ⇑P P 08 02 25.4 +0.5
baz=46
P19A **Cripple Cowboy** 45.50 321 ⇑P P 08 02 26.0 +0.6
baz=46
RSSD **Black Hills** 45.54 329 *e*P P 08 02 25.9 +0.2
1.9nm,0.5s
RWWY **Rawlins** 45.67 324 *e*P P 08 02 27.4 +0.6
4.9nm,0.8s
RWWY *e*pP pP 08 02 59.6 -0.7
M21A **Separation Pea** 45.70 324 ⇑P P 08 02 27.7 +0.7
baz=46
N20A **Spence Gulch,** 45.77 322 ⇓P P 08 02 28.7 +1.2
baz=46
J23A **Dilts Ranch, B** 45.85 327 ⇓P P 08 02 28.6 +0.6
baz=46
K22A **Casper** 45.89 325 ⇓P P 08 02 28.7 +0.4
baz=46
L21A **Rawlins** 45.93 324 ⇓P P 08 02 29.0 +0.2
baz=46
O19A **Miners Draw (B** 45.98 321 ⇓P P 08 02 29.4 +0.3
baz=46
U15A **North Rim** 46.00 315 ⇓P P 08 02 30.3 +0.9
baz=46,SNR=10
M20A **Sweetwater, Wa** 46.12 323 ⇓P P 08 02 30.4 +0.2
baz=46
SRU **San Rafael** 46.20 319 *e*P P 08 02 31.0 +0.2
6.4nm,0.9s
SRU *e*pP pP 08 03 03.9 -0.5
H24A **Dirks Ranch, A** 46.24 329 ⇓P P 08 02 30.7 -0.2
baz=46
MDND **Maddock** 46.26 335 ⇓P P 08 02 31.3 +0.4
baz=46
K21A **Alcova** 46.29 325 ⇓P P 08 02 32.0 +0.5
baz=46,SNR=9.4
GLA **Glamis** 46.35 309 ⇑P P 08 02 32.4 +0.4
baz=46
J22A **Midwest** 46.36 326 ⇑P P 08 02 32.0 0.0
baz=46,SNR=9.9
E26A **Carlson Angus** 46.46 332 ⇑P P 08 02 32.8 +0.2
baz=47,SNR=9.8
Q16A **Castle Valley** 46.51 318 ⇓P P 08 02 33.6 +0.2
baz=47
G24A **Alzada** 46.58 330 ⇑P P 08 02 34.0 +0.4
baz=47
I22A **9 Mile Ranch,** 46.68 327 ⇓P P 08 02 34.8 +0.3
baz=47,SNR=6.0
M19A **Rock Springs** 46.71 323 ⇓P P 08 02 34.8 0.0
baz=47
ULM **Lac du Bonnet** 46.83 340 P P 08 02 34.7 -0.7
ULM pP pP 08 03 07.8 -1.2
ULM PcP PcP 08 04 06.0 +0.1
ULM **Lac du Bonnet** 46.83 340 P P 08 02 34.7 -0.7
11nm,0.5s,baz=143,slow=7.9,SNR=17
ULM pP pP 08 03 07.8 -1.2
7.3nm,1.0s,baz=158,slow=9.5,SNR=2.2
ULM PcP PcP 08 04 06.0 +0.1
3.9nm,0.4s,baz=172,slow=2.0,SNR=3.1
J21A **Lysite** 46.85 326 ⇑P P 08 02 36.1 +0.2
baz=47,SNR=5.1
E25A **Miller Ranch,** 46.92 331 ⇑P P 08 02 36.3 +0.1
baz=47
K20A **Yellowstone Ra** 46.93 324 ⇑P P 08 02 36.7 +0.2
baz=47,SNR=5.6
F24A **Ekalaka** 46.96 330 ⇑P P 08 02 36.3 -0.2
baz=47
MSU **Marysvale** 46.97 317 *e*P P 08 02 37.6 +0.7
MSU *e*pP pP 08 03 10.3 -0.3
G23A **Biddle** 46.98 329 ⇑P P 08 02 36.7 -0.1
baz=47
MVU **Marysvale** 46.99 317 *e*P P 08 02 38.0 +0.9
6.1nm,0.8s
MVU *e*pP pP 08 03 10.5 -0.3
SWSC **Sam W. Stewart** 47.05 309 ⇑P P 08 02 37.8 +0.4
baz=47
IRM **Iron Mountain** 47.06 311 ⇓P P 08 02 37.6 +0.2
baz=47
I21A **Big Trails, Te** 47.07 326 ⇑P P 08 02 37.7 +0.1
baz=47,SNR=6.6
H22A **Clearmont** 47.07 328 ⇓P P 08 02 37.9 +0.4
baz=47
BC3 **Big Chuckawall** 47.08 310 ⇓P P 08 02 37.8 +0.1
baz=47
L19A **Farson** 47.19 323 ⇓P P 08 02 38.8 +0.3
baz=47
J20A **Shoshoni** 47.22 325 ⇓P P 08 02 39.2 +0.5
baz=47,SNR=5.8
CCUT **Cedar City** 47.30 316 *e*P P 08 02 40.0 +0.6
31nm,2.7s
CCUT *e*PcP PcP 08 04 09.7 +1.5
K19A **Absolon Red Bu** 47.32 324 ⇑P P 08 02 39.8 +0.2
baz=48
F23A **Volborg** 47.35 329 ⇓P P 08 02 39.6 +0.1
baz=48,SNR=7.6
DAU **Daniels Canyon** 47.38 320 *e*P P 08 02 41.2 +1.0
DAU *e*pP pP 08 03 13.7 -0.3
G22A **Birney** 47.46 328 ⇑P P 08 02 40.7 +0.3
baz=48,SNR=6.9
H21A **Big Horn, Sher** 47.46 327 ⇑P P 08 02 40.9 +0.3
baz=48
ARUT **Antelope Range** 47.47 316 *e*P P 08 02 40.6 -0.1
1.4nm,0.5s
L18A **Fontenelle, Gr** 47.49 322 ⇓P P 08 02 41.3 +0.4
baz=48,SNR=9.6
MONP **Monument Peak** 47.52 308 ⇑P P 08 02 41.8 +0.5
baz=48
M17A **Scullys Gap (B** 47.61 322 ⇓P P 08 02 42.0 +0.2
baz=48
JLU **Jordanelle** 47.61 320 *e*P P 08 02 41.9 0.0
1.5nm,0.6s
JLU *e*pP pP 08 03 14.3 -1.3
I20A **Worland** 47.62 326 ⇑P P 08 02 42.0 +0.3
baz=48,SNR=6.8
BELC **Belle Mtn. Jos** 47.63 310 ⇑P P 08 02 42.3 +0.2
baz=48
SCHQ **Schefferville** 47.64 5 *e*P P 08 02 41.9 +0.3
20nm,0.8s
SCHQ *e*pP pP 08 03 15.6 +0.2
SCHQ **Schefferville** 47.64 5 P P 08 02 42.5 +0.9
19nm,0.6s,baz=194,slow=6.5,SNR=80
SCHQ pP pP 08 03 16.0 +0.7
5.3nm,0.6s,baz=200,slow=7.7,SNR=3.7
GMRC **Granite Mounta** 47.70 311 ⇑P P 08 02 42.4 -0.1
baz=48
BW06 **Boulder Array** 47.70 324 *e*P P 08 02 41.9 -0.7
3.7nm,1.0s
BW06 *e*pP pP 08 03 14.7 -1.6
PDAR **Pinedale Array** 47.70 324 P P 08 02 42.3 -0.2
PDAR pP pP 08 03 14.3 -2.0
PDAR PcP PcP 08 04 09.3 -0.2
PDAR ScP ScP 08 07 50.0 0.0
PDAR **Pinedale Array** 47.70 324 P P 08 02 42.3 -0.2
1.7nm,0.6s,baz=130,slow=8.5,SNR=19
PDAR pP pP 08 03 14.3 -2.0
2.3nm,0.8s,baz=131,slow=8.6,SNR=5.7
PDAR PcP PcP 08 04 09.3 -0.2
2.0nm,0.8s,baz=124,slow=5.8,SNR=5.5
PDAR ScP ScP 08 07 50.0 0.0
0.4nm,0.6s,baz=124,slow=7.7,SNR=3.6
J19A **Crowheart** 47.71 325 ⇑P P 08 02 42.8 +0.2
baz=48
D24A **Glendive** 47.80 331 ⇓P P 08 02 43.4 +0.4
baz=48,SNR=11
F22A **Rosebud** 47.82 329 ⇑P P 08 02 43.4 +0.2
baz=48
E23A **Ismay** 47.84 330 ⇑P P 08 02 43.2 -0.1
baz=48,SNR=5.7
PLCA **Paso Flores** 47.88 177 P P 08 02 42.5 -1.1
PLCA PcP PcP 08 04 09.6 -0.3
PLCA **Paso Flores** 47.88 177 P P 08 02 42.5 -1.1
14nm,0.8s,baz=357,slow=9.1,SNR=23
PLCA PcP PcP 08 04 09.6 -0.3
3.6nm,0.6s,baz=0.9,slow=3.4,SNR=4.6
H20A **Greybull** 47.89 326 ⇓P P 08 02 43.7 -0.1
baz=48,SNR=9.5
G21A **Lodge Grass** 47.95 328 ⇓P P 08 02 44.2 0.0
baz=48
E22A **Miles City** 48.12 330 ⇑P P 08 02 45.3 -0.2
baz=48
C24A **Savage** 48.15 332 ⇑P P 08 02 46.3 +0.7
baz=48
I19A **Meeteetse** 48.16 325 ⇓P P 08 02 46.1 +0.1
baz=48
HWUT **Hardware Ranch** 48.24 321 *e*P P 08 02 46.1 -0.6
2.9nm,0.7s
HWUT *e*pP pP 08 03 19.0 -1.5
D23A **Lindsay** 48.27 331 ⇑P P 08 02 47.2 +0.6
baz=48,SNR=5.2

DUG **Dugway** 48.27 319 *e*P P 08 02 47.6 +0.8
3.4nm,0.7s
DUG *e*pP pP 08 03 19.7 -1.0
DUG **Dugway** 48.27 319 ⇑P P 08 02 47.3 +0.4
baz=48,SNR=5.8
MURC **Murrieta** 48.39 309 ⇓P P 08 02 48.0 +0.2
baz=48
BBRC **Big Bear Solar** 48.44 310 ⇑P P 08 02 48.9 +0.6
baz=48
G20A **Bridger** 48.48 327 ⇑P P 08 02 48.2 -0.2
baz=49,SNR=15
H19A **Powell** 48.55 326 ⇓P P 08 02 48.8 -0.1
baz=49
C23A **Lambert** 48.70 332 ⇓P P 08 02 50.3 +0.5
baz=49
D22A **Cohagen** 48.73 330 ⇓P P 08 02 50.9 +0.9
baz=49,SNR=12
DGMT **Dagmar** 48.73 333 *e*P P 08 02 50.7 +0.7
22nm,0.6s
DGMT **Dagmar** 48.73 333 ⇓P P 08 02 51.0 +0.9
baz=49,SNR=9.3
E21A **Keefer Ranch,** 48.76 329 ⇓P P 08 02 50.8 +0.5
baz=49,SNR=6.1
GSC **Goldstone** 48.77 311 *e*P P 08 02 51.4 +0.7
4.4nm,0.7s
GSC *e*pP pP 08 03 25.0 +0.4
GSC **Goldstone** 48.77 311 ⇓P P 08 02 51.0 +0.3
baz=49
BGU **Big Grassy Mou** 48.79 320 *e*P P 08 02 51.0 +0.2
6.4nm,0.8s
BGU *e*pP pP 08 03 23.1 -1.6
REDW **Red Top Meadow** 48.82 324 *e*P P 08 02 51.2 +0.1
10nm,1.0s
REDW *e*pP pP 08 03 23.8 -1.2
LOHW **Long Hollow** 48.82 324 *e*P P 08 02 51.5 +0.4
3.4nm,0.7s
LOHW *e*pP pP 08 03 24.3 -0.7
SNOW **Snow King Moun** 48.82 324 *e*P P 08 02 51.6 +0.5
6.0nm,0.8s
SNOW *e*pP pP 08 03 25.5 +0.4
F20A **Billings** 48.82 328 ⇑P P 08 02 51.4 +0.5
baz=49,SNR=22
H18A **Shoshone NF, C** 48.93 326 ⇑P P 08 02 52.5 +0.6
baz=49
TPAW **Teton Pass** 48.95 324 *e*P P 08 02 52.6 +0.4
3.7nm,0.8s
TPAW *e*pP pP 08 03 25.7 -0.4
A24A **Westby** 48.97 333 ⇓P P 08 02 53.1 +1.2
baz=49
MOOW **Moose Ponds** 48.99 324 *e*P P 08 02 52.6 +0.3
3.4nm,0.8s
MOOW *e*pP pP 08 03 25.4 -0.8
C22A **Vida** 49.00 331 ⇓P P 08 02 52.8 +0.7
baz=49,SNR=11
D21A **La Casta Ranch** 49.07 330 ⇑P P 08 02 53.7 +1.0
baz=49,SNR=12
B23A **Brockton** 49.09 332 ⇓P P 08 02 54.1 +1.3
baz=49,SNR=8.0
RRI2 **Red Ridge** 49.09 323 *e*P P 08 02 53.4 +0.2
7.1nm,0.6s
RRI2 *e*pP pP 08 03 26.6 -0.6
IMW **Indian Meadow** 49.19 324 *e*P P 08 02 54.0 +0.1
3.7nm,0.6s
R11A **Troy Canyon, C** 49.22 315 ⇓P P 08 02 54.7 +0.5
baz=49,SNR=7.5
E20A **Meyer Farm, Mu** 49.27 328 ⇓P P 08 02 55.0 +0.7
baz=49,SNR=23
G18A **Lazy EL Ranch,** 49.28 326 ⇓P P 08 02 54.6 +0.2
baz=49
F19A **Roth Farm, Mol** 49.28 327 ⇓P P 08 02 54.8 +0.4
baz=49
FURC **Furnace Creek,** 49.30 313 ⇑P P 08 02 55.1 +0.6
baz=49
A23A **Redstone** 49.39 333 ⇓P P 08 02 56.2 +1.1
baz=50,SNR=12
B22A **Reddig Ranch S** 49.44 331 ⇓P P 08 02 56.6 +1.1
baz=50,SNR=17
EDW2 **Edwards Air Fo** 49.49 310 ⇑P P 08 02 56.3 +0.1
baz=50
I16A **Newdale** 49.49 324 ⇓P P 08 02 57.1 +1.0
baz=50,SNR=5.7
MPMC **Manual Prospec** 49.59 312 ⇑P P 08 02 56.9 -0.1
baz=50
E19A **Rath Farm, Rou** 49.59 328 ⇓P P 08 02 57.4 +0.7
baz=50,SNR=7.3
GCMT **Greycliff** 49.63 327 *e*P P 08 02 57.6 +0.5
3.7nm,0.8s
GCMT *e*pP pP 08 03 31.2 +0.1
C21A **Desert Coulee** 49.64 330 ⇓P P 08 02 57.8 +0.8
baz=50,SNR=10
D20A **Manuel Ranch,** 49.67 329 ⇓P P 08 02 58.0 +0.7
baz=50,SNR=16
H16A **Russell Place,** 49.84 325 ⇓P P 08 02 59.5 +0.7
baz=50
GRAC **Grapevine Rang** 49.89 313 ⇑P P 08 02 59.6 +0.5
baz=50
A22A **Carney Farms,** 49.89 332 ⇑P P 08 03 00.0 +1.1
baz=50,SNR=26
C20A **Veseth Ranch,** 50.02 330 ⇓P P 08 03 00.5 +0.6
baz=50,SNR=8.2
B21A **Ellsworth Farm** 50.02 331 ⇑P P 08 03 00.8 +1.0
baz=50
D19A **Cripps Ranch,** 50.10 329 ⇓P P 08 03 01.2 +0.7
baz=50,SNR=22
F17A **Fitzpatrick Pl** 50.24 326 ⇑P P 08 03 02.5 +0.7
baz=50,SNR=5.6
E18A **Harlowton** 50.25 327 ⇑P P 08 03 02.3 +0.5
baz=50,SNR=7.4
A21A **Bergtoll Ranch** 50.37 332 ⇓P P 08 03 03.2 +0.8
baz=50,SNR=7.5
C19A **Slack Wire Ran** 50.56 329 ⇑P P 08 03 04.3 +0.3
baz=51,SNR=5.8
D18A **Linhart Farms,** 50.60 328 ⇓P P 08 03 04.6 +0.3
baz=51
BOZ **Bozeman (W)** 50.63 326 *e*P P 08 03 05.2 +0.6
2.2nm,0.8s
I14A **Mackay** 50.69 323 ⇓P P 08 03 05.2 +0.1
baz=51
E17A **Martinsdale** 50.70 327 ⇓P P 08 03 05.4 +0.2
baz=51,SNR=11
A20A **Cobblestone Ra** 50.77 331 ⇓P P 08 03 06.1 +0.6
baz=51,SNR=22
MCMT **McKenzie Canyo** 50.84 324 *e*P P 08 03 07.5 +1.1
3.0nm,1.0s
MCMT *e*pP pP 08 03 40.4 -0.2
B19A **Brinkman Farms** 50.98 330 ⇑P P 08 03 07.5 +0.5
baz=51
DLMT **Dillon** 51.01 325 *e*P P 08 03 08.0 +0.5
1.3nm,0.9s
DLMT *e*pP pP 08 03 40.4 -1.2
D17A **Six Diamond Ra** 51.04 328 ⇑P P 08 03 07.9 +0.3
baz=51
HLID **Hailey** 51.07 322 *e*P P 08 03 08.5 +0.5
3.0nm,0.8s
HLID *e*pP pP 08 03 41.5 -0.7
HLID **Hailey** 51.07 322 ⇑P P 08 03 08.5 +0.5
baz=51,SNR=6.6
EGMT **Eagleton** 51.11 329 *e*P P 08 03 07.8 -0.3
3.2nm,0.7s
EGMT *e*pP pP 08 03 42.8 +0.5
EGMT **Eagleton** 51.11 329 ⇓P P 08 03 08.5 +0.4
baz=51
NVAR **Mina Array Bea** 51.17 314 P P 08 03 09.1 +0.2
NVAR pP pP 08 03 43.2 +0.2
NVAR PcP PcP 08 04 22.9 +0.7
NVAR pPcP 08 05 01.7
NVAR **Mina Array Bea** 51.17 314 P P 08 03 09.1 +0.2
1.2nm,0.7s,baz=120,slow=7.4,SNR=12
NVAR pP pP 08 03 43.2 +0.2
1.5nm,0.7s,baz=128,slow=7.5,SNR=4.8
NVAR PcP PcP 08 04 22.9 +0.7
2.7nm,0.6s,baz=142,slow=4.1,SNR=11
NVAR pPcP 08 05 01.7
2.8nm,0.6s,baz=137,slow=4.3,SNR=11
A19A **Klindworth Far** 51.20 330 ⇑P P 08 03 09.2 +0.5
baz=51,SNR=5.6
B18A **Beardsley Farm** 51.36 329 ⇓P P 08 03 10.3 +0.3
baz=52,SNR=12
C17A **Wharram Farm,** 51.38 328 ⇓P P 08 03 10.4 +0.3
baz=52,SNR=6.9
HRY **Holter Researc** 51.38 327 *e*P P 08 03 10.7 +0.5
HRY *e*pP pP 08 03 43.9 -0.5
I12A **Atlanta** 51.64 322 ⇓P P 08 03 12.3 +0.1
baz=52,SNR=8.5
A18A **Metzger Ranch,** 51.74 330 ⇑P P 08 03 12.8 +0.1
baz=52,SNR=9.5
B17A **L&G Farms, Che** 51.81 329 ⇓P P 08 03 13.4 +0.1
baz=52
MFID **Camas Ranch** 51.87 321 *e*P P 08 03 14.3 +0.4
4.7nm,0.8s
MFID *e*pP pP 08 03 46.6 -1.5
MFID **Camas Ranch** 51.87 321 ⇑P P 08 03 13.6 -0.3
baz=52,SNR=6.8
H12A **Diamond D Ranc** 51.87 323 ⇑P P 08 03 13.8 -0.2
baz=52,SNR=5.8
C16A **Fuhringer Ranc** 52.00 328 ⇑P P 08 03 14.9 +0.1
baz=52,SNR=5.8
A17A **Triple J Farms** 52.18 329 ⇓P P 08 03 16.2 +0.2
baz=52,SNR=10.0
B16A **M & M Farms, S** 52.36 328 ⇓P P 08 03 17.4 0.0
baz=52
C15A **Salmond Ranch,** 52.45 327 ⇑P P 08 03 18.6 +0.5
baz=53
G12A **Big Creek, Yel** 52.47 323 ⇓P P 08 03 18.6 +0.2
baz=53
SLMT **Seeley Lake** 52.61 326 *e*P P 08 03 19.5 +0.2
FFC **Flin Flon** 52.63 339 *e*P P 08 03 18.6 -0.5
6.8nm,0.6s
B15A **Bradely Ranch,** 52.75 328 ⇓P P 08 03 20.4 +0.1
baz=53
C14A **Swan Lake** 53.06 327 ⇑P P 08 03 23.1 +0.5
baz=53
B14A **Marquette Ranc** 53.16 327 ⇓P P 08 03 23.3 0.0
baz=53
WVOR **Wild Horse Val** 53.18 319 *e*P P 08 03 23.1 -0.4
6.6nm,1.0s
WVOR *e*pP pP 08 03 56.4 -1.7
A15A **Johnson Ranch,** 53.24 328 ⇓P P 08 03 23.9 0.0
baz=53
E12A **Beaver Dam Sad** 53.31 324 ⇑P P 08 03 24.5 0.0
baz=53
JTMT **Jette** 53.34 326 *e*P P 08 03 25.5 +0.8
C13A **Hot Springs** 53.46 326 ⇑P P 08 03 26.1 +0.6
baz=54
A14A **Double T Ranch** 53.60 328 ⇓P P 08 03 26.4 -0.2
baz=54
BSMT **Bassoo Peak** 53.68 326 *e*P P 08 03 27.6 +0.5
BSMT *e*pP pP 08 04 01.6 -0.1
OHCM **Honcut** 53.80 314 *e*P P 08 03 29.1 +1.2
OHCM *e*PcP PcP 08 04 40.3 +8.4
B13A **Whitefish** 53.81 327 ⇑P P 08 03 28.0 0.0
baz=54
C12B **Naegeli Ranch,** 53.98 326 ⇑P P 08 03 29.4 +0.3
baz=54,SNR=7.3
A13A **Flathead Natio** 54.10 327 ⇑P P 08 03 30.4 +0.3
baz=54
A12A **Yaak River Ran** 54.77 327 ⇑P P 08 03 35.6 +0.7
baz=55,SNR=5.4
NEW **Newport** 55.21 326 *e*P P 08 03 37.8 -0.2
2.5nm,0.8s
NEW *e*pP pP 08 04 11.9 -0.8
NEW **Newport** 55.21 326 ⇓P P 08 03 37.8 -0.2
baz=55
YKA **Yellowknife Ar** 62.81 340 P P 08 04 29.9 -0.1
YKA pP pP 08 05 03.5 -2.0
YKA **Yellowknife Ar** 62.81 340 P P 08 04 29.9 -0.1
18nm,0.6s,baz=132,slow=6.7,SNR=260
YKA pP pP 08 05 03.5 -2.0
7.6nm,0.7s,baz=131,slow=7.0,SNR=8.0
DBIC **Dimbokro** 67.65 86 P P 08 05 00.7 -1.4
DBIC **Dimbokro** 67.65 86 P P 08 05 00.7 -1.4
1.5nm,0.3s,baz=270,slow=12,SNR=4.2
SUMG **Summit** 68.49 11 *e*P P 08 05 07.7 +0.9
16nm,0.8s
ESDC **Sonseca Array** 69.29 50 P P 08 05 12.3 +0.3
ESDC **Sonseca Array** 69.29 50 P P 08 05 12.3 +0.3
0.2nm,0.2s,baz=271,slow=5.6,SNR=5.6
TORD **Torodi Ar. Bea** 73.59 78 P P 08 05 35.8 -2.3
TORD pP pP 08 06 14.5 -0.1
TORD **Torodi Ar. Bea** 73.59 78 P P 08 05 35.8 -2.3
0.8nm,0.4s,baz=286,slow=6.8,SNR=24
TORD pP pP 08 06 14.5 -0.1
0.8nm,0.5s,baz=289,slow=5.8,SNR=3.8
EGAK **Eagle** 74.15 336 *e*P P 08 05 40.6 +0.2
12nm,1.1s
RAGM **Ragged Mountai** 74.61 331 *e*P P 08 05 44.2 +1.0
BMRM **Bremner River** 74.70 331 *e*P P 08 05 44.8 +1.0
29nm,0.8s
MENT **Mentasta** 74.75 333 *e*P P 08 05 44.5 +0.5
ILAR **Eielson Array** 76.53 335 P P 08 05 54.0 0.0
ILAR pP pP 08 06 28.7 -2.1
ILAR **Eielson Array** 76.53 335 P P 08 05 54.0 0.0
5.6nm,0.7s,baz=110,slow=4.5,SNR=74
ILAR pP pP 08 06 28.7 -2.1
1.0nm,0.6s,baz=109,slow=5.2,SNR=2.3
COLA **College** 76.95 335 *e*P P 08 05 56.6 +0.2
14nm,0.8s
PMR **Palmer** 76.97 332 *e*P P 08 05 56.5 0.0
9.1nm,0.8s
MCK **McKinley** 77.22 334 *e*P P 08 05 58.4 +0.5
9.5nm,1.0s
COLD **Coldfoot** 78.31 337 *e*P P 08 06 05.4 +1.5
6.4nm,0.7s
PPLA **Purkeypile** 78.56 333 *e*P P 08 06 05.4 -0.1
12nm,0.5s
DAVA **Damuels** 79.88 43⇓*i*P P 08 06 10.4 -2.7
6.9nm,0.9s
SVW2 **Sparrevohn** 80.01 331 *e*P P 08 06 12.6 -0.7
23nm,0.7s
FETA **Feichten** 80.46 44⇑*i*P P 08 06 15.7 -0.5
5.8nm,0.9s
NB2 **NORSAR Subarra** 80.87 29 P P 08 06 18.6 +0.7
comp=Z,3.1nm,0.6s,baz=268,slow=5.6
NOA **NORSAR Array B** 80.87 29 P P 08 06 18.8 +0.9
NOA pP pP 08 06 57.7 +2.7
NOA **NORSAR Array B** 80.87 29 P P 08 06 18.8 +0.9
comp=Z,3.6nm,0.6s,baz=268,slow=5.4,SNR=14
NOA pP pP 08 06 57.7 +2.7
comp=Z,3.2nm,0.7s,baz=273,slow=5.3,SNR=5.1
ABTA **Abfaltersbach** 81.69 44⇓*i*P P 08 06 22.4 -0.2
comp=Z,5.1nm,0.8s
KBA **Koelnbreinsper** 82.25 44⇑*i*P P 08 06 24.6 -1.0
comp=Z,4.6nm,0.9s
GERES **GERESS Array B** 82.42 42 P P 08 06 26.0 -0.4
GERES **GERESS Array B** 82.42 42 P P 08 06 26.0 -0.4
comp=Z,1.2nm,0.6s,baz=270,slow=2.4,SNR=8.6
ARCES **ARCESS Array B** 86.18 20 P P 08 06 45.3 +0.5
ARCES pP pP 08 07 22.8 +0.4
ARCES **ARCESS Array B** 86.18 20 P P 08 06 45.3 +0.5
comp=Z,9.6nm,0.5s,baz=274,slow=3.8,SNR=116
ARCES pP pP 08 07 22.8 +0.4
comp=Z,3.8nm,0.7s,baz=273,slow=4.3,SNR=2.6
KEV **Kevo** 86.66 20 *e*p P 08 06 47.7 +0.7
FINES **FINESS Array B** 87.98 28 P P 08 06 54.0 +0.5
FINES pP pP 08 07 33.5 +2.2
FINES **FINESS Array B** 87.98 28 P P 08 06 54.0 +0.5
comp=Z,7.0nm,0.8s,baz=263,slow=3.6,SNR=13
FINES pP pP 08 07 33.5 +2.2
comp=Z,5.3nm,0.8s,baz=204,slow=4.2,SNR=3.7
VNA1 **Neumayer--Stat** 88.78 162 *e*P P 08 06 57.0 0.0
SNAA **Sanae** 90.80 163 *e*P P 08 07 05.9 -0.7
SNAA **Sanae** 90.80 163 *e*P P 08 07 05.5 -1.1
comp=Z,1.6nm,0.5s
QSPA **South Pole Qui** 97.33 180 *e*P P 08 07 36.2 -0.5
comp=Z,8.6nm,1.4s
QSPA **South Pole Qui** 97.33 180 P P 08 07 36.7 +0.1
comp=Z,3.0nm,0.9s,baz=198,slow=3.7,SNR=7.5
ZALV **Zalesovo Beam** 116.17 14 PKP **PKPdf** 08 12 45.9 -0.2
ZALV pPKP pPKPdf 08 13 27.1 +1.4
ZALV **Zalesovo Beam** 116.17 14 PKP **PKPdf** 08 12 45.9 -0.2
comp=Z,2.3nm,0.5s,baz=251,slow=2.6,SNR=9.6
ZALV pPKP pPKPdf 08 13 27.1 +1.4
comp=Z,0.9nm,0.4s,baz=343,slow=3.1,SNR=2.8
MKAR **Makanchi Array** 121.83 20 PKP **PKPdf** 08 12 57.0 -0.3
MKAR pPKP **pPKPdf** 08 13 38.1 +1.2
MKAR **Makanchi Array** 121.83 20 PKP **PKPdf** 08 12 57.0 -0.3
comp=Z,0.8nm,0.6s,baz=1.1,slow=3.8,SNR=5.6
MKAR pPKP **pPKPdf** 08 13 38.1 +1.2
comp=Z,1.0nm,0.4s,baz=27,slow=3.0,SNR=4.5
SONM **Songino Array** 125.08 0 PKP **PKPdf** 08 13 04.0 +0.4
SONM pPKP **pPKPdf** 08 13 43.9 +0.7
SONM **Songino Array** 125.08 0 PKP **PKPdf** 08 13 04.0 +0.4
comp=Z,2.9nm,0.7s,baz=322,slow=1.5,SNR=14
SONM pPKP **pPKPdf** 08 13 43.9 +0.7
comp=Z,1.6nm,0.8s,baz=332,slow=1.8,SNR=4.2
WMQ **Urumqi** 126.19 17 PKP **PKPdf** 08 13 04.5 -1.3
MJAR **Matsushiro Arr** 127.42 328 PKP **PKPdf** 08 13 09.2 +1.0
MJAR **Matsushiro Arr** 127.42 328 PKP **PKPdf** 08 13 09.2 +1.0
comp=Z,1.2nm,0.4s,baz=58,slow=0.3,SNR=5.8
KSRS **Korea Array** 131.32 338 PKP **PKPdf** 08 13 16.0 +0.4
comp=Z,1.3nm,0.6s,baz=48,slow=1.9,SNR=6.0
KSRS pPKP **pPKPdf** 08 13 56.2 +1.0
comp=Z,1.7nm,0.7s,baz=22,slow=1.8,SNR=4.7

KSAR	**Wonju Array Be**	**131.35**	**338**	PKP	**PKPdf**	**08 13 16.0**	**+0.3**	
KSAR				pPKP	**pPKPdf**	**08 13 56.2**	**+0.9**	
HHC	**Hu-ho-hao-te**	**131.88**	**355**	*e*PKP	PKPdf	08 13 11.0	-5.8	
HHC				sPKP		08 14 10.3		
HHC				PKS	PKSdf	08 16 45.9	-7.4	
HHC				AMB	AMB			
	comp=Z,120nm,5.1s							
GTA	**Gaotai**	**133.03**	**8**	*e*PKP	**PKPdf**	**08 13 19.9**	**+0.9**	
LZH	**Lanzhou**	**136.72**	**4**	*e*PKP	**PKPdf**	**08 13 25.5**	**-0.5**	
LZH				sPKP		08 14 19.6		
LZH				LR	LR			
	comp=N,100nm,18.2s							
LZH				LR	LR			
	comp=E,93nm,18.0s							
LZH				LR	LR			
	comp=Z,130nm,20.3s							
NJ2	**Nanjing**	**139.22**	**344**	*e*PKP	**PKPdf**	**08 13 28.6**	**-1.9**	
STKA	**Stephens Creek**	**139.53**	**228**	PKP	**PKPdf**	**08 13 31.4**	**+0.4**	
STKA				pPKP	**pPKPdf**	**08 14 11.1**	**+0.3**	
STKA	**Stephens Creek**	**139.53**	**228**	PKP	**PKPdf**	**08 13 31.4**	**+0.4**	
	comp=Z,5.0nm,0.7s,baz=188,slow=2.2,SNR=9.4							
STKA				pPKP	**pPKPdf**	**08 14 11.1**	**+0.3**	
	comp=Z,2.4nm,0.8s,baz=324,slow=3.4,SNR=2.0							
SHL	**Shillong**	**144.18**	**24**	*e*P	**PKPab**	**08 13 38.0**	**+0.2**	
SHL				*ex*	x	08 14 20.0		
SSLB	**Suanglung**	**146.18**	**336**	*e*PKPdf	**PKPdf**	**08 13 43.7**	**+0.6**	
TPUB	**Ta-pu**	**146.75**	**337**	*e*PKPbc	**PKPbc**	**08 13 46.2**	**+0.3**	
FORT	**Forrest**	**149.41**	**218**	*e*PKPbc	**PKPbc**	**08 13 52.4**	**-0.3**	
ASAR	**Alice Springs**	**149.44**	**235**	PKP	**PKPdf**	**08 13 48.4**	**0.0**	
ASAR				PKPbc	**PKPbc**	**08 13 52.2**	**-0.8**	
ASAR				pPKPbc	**pPKPbc**	**08 14 31.4**	**-1.1**	
ASAR	**Alice Springs**	**149.44**	**235**	PKP	**PKPdf**	**08 13 48.4**	**0.0**	
	comp=Z,14nm,0.7s,baz=119,slow=3.0,SNR=28							
ASAR				PKPbc	**PKPbc**	**08 13 52.2**	**-0.8**	
	comp=Z,13nm,0.7s,baz=118,slow=2.7,SNR=77							
ASAR				pPKPbc	**pPKPbc**	**08 14 31.4**	**-1.1**	
	comp=Z,7.9nm,0.6s,baz=119,slow=3.1,SNR=6.4							
WRAB	**Tennant Creek**	**150.61**	**242**	*e*PKPdf	**PKPdf**	**08 13 50.2**	**-0.1**	
WRAB				*e*PKPbc	**PKPbc**	**08 13 55.2**	**-0.7**	
WRA	**Warramunga Arr**	**150.62**	**242**	PKP	**PKPdf**	**08 13 50.7**	**+0.3**	
WRA				PKPbc	**PKPbc**	**08 13 55.3**	**-0.6**	
WRA	**Warramunga Arr**	**150.62**	**242**	PKP	**PKPdf**	**08 13 50.7**	**+0.3**	
	comp=Z,21nm,0.5s,baz=108,slow=2.4,SNR=35							
WRA				PKPbc	**PKPbc**	**08 13 55.3**	**-0.6**	
	comp=Z,20nm,0.5s,baz=108,slow=2.5,SNR=118							
CHTO	**Chiang Mai**	**152.86**	**17**	*e*PKPbc	**PKPbc**	**08 14 00.2**	**-0.8**	
CMAR	**Chiang Mai Arr**	**153.20**	**17**	PKP	**PKPdf**	**08 13 55.1**	**+0.9**	
CMAR				PKPbc	**PKPbc**	**08 14 02.0**	**+0.3**	
CMAR				PKPab	**PKPab**	**08 14 13.8**	**0.0**	
CMAR				pPKP	**pPKPdf**	**08 14 36.3**	**+2.3**	
CMAR				pPKPbc	**pPKPbc**	**08 14 43.3**	**+2.0**	
CMAR	**Chiang Mai Arr**	**153.20**	**17**	PKP	**PKPdf**	**08 13 55.1**	**+0.9**	
	comp=Z,2.0nm,0.8s,baz=307,slow=2.8,SNR=8.5							
CMAR				PKPbc	**PKPbc**	**08 14 02.0**	**+0.3**	
	comp=Z,9.7nm,0.8s,baz=318,slow=3.1,SNR=24							
CMAR				PKPab	**PKPab**	**08 14 13.8**	**0.0**	
	comp=Z,4.0nm,0.7s,baz=332,slow=5.0,SNR=6.2							
CMAR				pPKP	**pPKPdf**	**08 14 36.3**	**+2.3**	
	comp=Z,2.4nm,0.8s,baz=332,slow=2.0,SNR=1.7							
CMAR				pPKPbc	**pPKPbc**	**08 14 43.3**	**+2.0**	
	comp=Z,12nm,0.9s,baz=316,slow=3.1,SNR=9.1							
FITZ	**Fitzroy Crossi**	**158.86**	**238**	*e*PKPab	**PKPab**	**08 14 38.8**	**+0.5**	

IDC 21 08:19:30.3±2.8, 8°49S×120°06E, h0km, mb3.0/2, mb1 3.3/3, mb1mx3.2/21, mbtmp3.1/3, ML3.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/10, Error ellipse: s-maj=284.5km s-min=27.8km az=52.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.91**	**131**	P	Pn	08 23 39.8	-1.2
	0.1nm,0.3s,baz=303,slow=12,SNR=4.4						
WRA				S	Sn	08 26 45.3	-16
	0.1nm,0.3s,baz=298,slow=22,SNR=4.9						
ASAR	**Alice Springs**	**20.09**	**140**	P	Pn	08 24 06.6	-0.9
	0.3nm,0.5s,baz=315,slow=12,SNR=4.5						
MJAR	**Matsushiro Arr**	**47.93**	**20**	LR	LR	08 49 21.8	
MKAR	**Makanchi Array**	**64.48**	**332**	P	P	08 30 08.8	0.0
	0.2nm,0.6s,baz=144,slow=6.1,SNR=3.6						

IDC 21 08:23:17.4±1.9, 3°66S×151°08E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.7/4, MS3.3/5, Ms1 3.3/5, ms1mx2.9/26, Error ellipse: s-maj=81.4km s-min=25.4km az=117.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.99**	**224**	P	P	08 28 23.1	-0.9
	3.3nm,0.9s,baz=49,slow=9.7,SNR=13						
ASAR	**Alice Springs**	**25.91**	**218**	P	P	08 28 51.5	+0.2
	1.4nm,0.8s,baz=48,slow=8.9,SNR=9.7						
FITZ	**Fitzroy Crossi**	**28.75**	**238**	LR	LR	08 41 01.1	
	comp=Z,115nm,19.0s,baz=357,slow=37						
STKA	**Stephens Creek**	**29.46**	**197**	LR	LR	08 41 31.9	
	comp=Z,63nm,18.9s,baz=26,slow=37						
ASAJ	**Asahikawa**	**48.16**	**352**	LR	LR	08 50 05.9	
	comp=Z,15nm,19.3s,baz=161,slow=33						
PETK	**Petropavlovsk-**	**56.83**	**5**	LR	LR	08 52 44.2	
	comp=Z,16nm,20.2s,baz=320,slow=31						
SONM	**Songino Array**	**64.45**	**328**	P	P	08 33 55.4	-0.4
	0.3nm,0.4s,baz=123,slow=5.5,SNR=3.6						
ILAR	**Eielson Array**	**81.76**	**22**	P	P	08 35 37.1	-0.6
	0.6nm,0.9s,baz=246,slow=4.1,SNR=5.6						
BVAR	**Borovoye Array**	**87.31**	**323**	LR	LR	09 16 07.9	
	comp=Z,19nm,18.9s,baz=232,slow=36						
TORD	**Torodi Ar. Bea**	**148.32**	**289**	PKPbc	PKPbc	08 43 07.6	+0.8
	0.7nm,1.0s,baz=47,slow=1.8,SNR=3.0						

*LDG **21** 08:35:27.6±1.3, 37°.62N×12°.68W, h2km, Ml3.5/4, Error ellipse: s-maj=24.1km s-min=19.6km az=62.0*
*MDD **21** 08:35:27.9±1.5, 37°.41N×12°.71W, h0km, mb4.9/16, Error ellipse: s-maj=13.9km s-min=11.6km az=57.0, PRXIMO*
*INMG **21** 08:35:28.9±1.7, 37°.27N×13°.15W, h10km, ML2.9, Error ellipse: s-maj=5.7km s-min=4.8km az=91.0*
*IGIL **21** 08:35:28.7, 37°.42N×12°.71W, h0km, ML2.9*
*CSEM **21** 08:35:30.5±0.3, 37°.52N×12°.49W, h10km, ML3.9/21, Error ellipse: s-maj=5.0km s-min=4.1km az=52.0*

ISC 21 08:35:28.0±3.1, 37°.47N±0°.08×12°.7W±0°.1, h10km, n113, σ1°09/194, 4C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMST	**Lisbon--Monsan**	**3.02**	**64**	*e*Pn	**Pn**	**08 36 16.9**	**+1.0**
PMST				*e*Sn	**Sn**	**08 36 52.8**	**+0.7**
PMST				A	A	08 36 54.3	
	42nm,0.1s						
PMST	**Lisbon--Monsan**	**3.02**	**64**	*e*Pn	**Pn**	**08 36 16.9**	**+1.0**
PMST				*e*Sn	**Sn**	**08 36 52.8**	**+0.7**
	42nm,0.1s						
PMAFR	**Mafra**	**3.05**	**60**	*e*Pn	**Pn**	**08 36 17.3**	**+1.1**
PMAFR				*e*Sn	**Sn**	**08 36 53.7**	**+0.9**
PMAFR				A	A	08 36 59.9	
	59nm,0.2s						
PMAFR	**Mafra**	**3.05**	**60**	⇑P	**Pn**	**08 36 17.5**	**+1.3**
	20nm,0.1s,SNR=18						
PMAFR				S	**Sn**	**08 36 53.6**	**+0.9**
	41nm,0.1s,SNR=10						
PMAFR	**Mafra**	**3.05**	**60**	*e*Pn	**Pn**	**08 36 17.3**	**+1.1**
PMAFR				S	**Sn**	**08 36 53.6**	**+0.9**
	41nm,0.1s,SNR=10						
PFVI	**Vila Bisbo**	**3.07**	**95**	*i* Pn	**Pn**	**08 36 16.9**	**+0.3**
PFVI				*e*Sn	**Sn**	**08 36 52.2**	**-1.2**
PFVI				A	A	08 36 53.8	
	20nm,0.1s						
PFVI	**Vila Bisbo**	**3.07**	**95**	⇑P	**Pn**	**08 36 16.9**	**+0.3**
	118nm,0.1s,SNR=18						
PFVI				S	**Sn**	**08 36 52.1**	**-1.2**
	56nm,0.1s,SNR=8.0						
PFVI	**Vila Bisbo**	**3.07**	**95**	P	**Pn**	**08 36 16.9**	**+0.3**
	118nm,0.1s,SNR=18						
PFVI				*e*Sn	**Sn**	**08 36 52.2**	**-1.2**
	20nm,0.1s						
PTEO	**Sao Teotonio**	**3.13**	**87**	*e*Pn	**Pn**	**08 36 17.8**	**+0.5**
PTEO				*e*Sn	**Sn**	**08 36 54.2**	**-0.6**
PTEO				A	A	08 36 57.7	
	7.0nm,0.2s						
PTEO	**Sao Teotonio**	**3.13**	**87**	Pn	**Pn**	**08 36 17.8**	**+0.5**
PTEO				Sn	**Sn**	**08 36 54.2**	**-0.6**
	3.5nm,0.2s						
PTEO	**Sao Teotonio**	**3.13**	**87**	Pn	**Pn**	**08 36 17.8**	**+0.5**
PTEO				*e*Sn	**Sn**	**08 36 54.2**	**-0.6**
	7.0nm,0.2s						
MORF	**Marmelete**	**3.20**	**92**	*i* Pn	**Pn**	**08 36 18.7**	**+0.4**
MORF				*e*Sn	**Sn**	**08 36 55.5**	**-1.0**
MORF				A	A	08 37 00.6	
	23nm,0.1s						
MORF	**Marmelete**	**3.20**	**92**	⇑Pn	**Pn**	**08 36 18.7**	**+0.4**
MORF				Sn	**Sn**	**08 36 55.5**	**-1.0**
	23nm,0.1s						
MORF	**Marmelete**	**3.20**	**92**	Pn	**Pn**	**08 36 18.7**	**+0.4**
MORF				*e*Sn	**Sn**	**08 36 55.5**	**-1.0**
	23nm,0.1s						
PACT	**Alcochete**	**3.28**	**66**	*e*Pn	**Pn**	**08 36 21.0**	**+1.5**
PACT				*e*Sn	**Sn**	**08 37 00.7**	**+2.1**
PACT				A	A	08 37 06.1	
	32nm,0.3s						
PACT	**Alcochete**	**3.28**	**66**	*e*Pn	**Pn**	**08 36 21.0**	**+1.5**
PACT				*e*Sn	**Sn**	**08 37 00.7**	**+2.1**
	32nm,0.3s						
PNCL	**Nicolau / Gran**	**3.33**	**78**	*e*Pn	**Pn**	**08 36 20.6**	**+0.4**
PNCL				*e*Sn	**Sn**	**08 37 00.3**	**+0.5**
PNCL				A	A	08 37 03.2	
	10nm,0.1s						
PNCL	**Nicolau / Gran**	**3.33**	**78**	*e*Pn	**Pn**	**08 36 20.6**	**+0.4**
PNCL				*e*Sn	**Sn**	**08 37 00.3**	**+0.5**
	10nm,0.1s						
MOE	**Montemor**	**3.56**	**71**	*e*Pn	**Pn**	**08 36 24.4**	**+1.1**
MOE				*e*Sn	**Sn**	**08 37 05.0**	**-0.5**
MOE	**Montemor**	**3.56**	**71**	Pn	**Pn**	**08 36 24.4**	**+1.1**
MOE				Sn	**Sn**	**08 37 05.0**	**-0.5**
MOE	**Montemor**	**3.56**	**71**	Pn	**Pn**	**08 36 24.4**	**+1.1**
MOE				Sn	**Sn**	**08 37 05.0**	**-0.5**
ALMR	**Almeirim**	**3.63**	**61**	*e*P	**Pn**	**08 36 25.2**	**+1.0**
ALMR				*e*S	**Sn**	**08 37 06.5**	**-0.5**
ALMR				AML	AML	08 37 07.9	
	comp=E,38nm,0.3s						
ALMR	**Almeirim**	**3.63**	**61**	*e*P	**Pn**	**08 36 25.2**	**+1.0**
ALMR				*e*S	**Sn**	**08 37 06.5**	**-0.5**
ALMR	**Almeirim**	**3.63**	**61**	P	**Pn**	**08 36 25.2**	**+1.0**
ALMR				S	**Sn**	**08 37 06.5**	**-0.5**
ALMR	**Almeirim**	**3.63**	**61**	P	**Pn**	**08 36 25.2**	**+1.0**
ALMR				S	**Sn**	**08 37 06.5**	**-0.5**
PCVE	**Castro Verde**	**3.67**	**86**	*e*Pn	**Pn**	**08 36 25.2**	**+0.3**
PCVE				*e*Sn	**Sn**	**08 37 07.5**	**-0.7**
PCVE				A	A	08 37 15.9	
	comp=E,5.6nm,0.1s						
PCVE	**Castro Verde**	**3.67**	**86**	Pn	**Pn**	**08 36 25.2**	**+0.3**
PCVE				Sn	**Sn**	**08 37 07.5**	**-0.7**
	comp=E,5.6nm,0.1s						
PCVE	**Castro Verde**	**3.67**	**86**	Pn	**Pn**	**08 36 25.2**	**+0.3**
PCVE				*e*Sn	**Sn**	**08 37 07.5**	**-0.7**
	comp=E,5.6nm,0.1s						
EVOP	**Sao Brissos**	**3.74**	**72**	*e*Pn	**Pn**	**08 36 26.1**	**+0.4**
EVOP				*e*Sn	**Sn**	**08 37 07.2**	**-2.5**
	comp=E,6.3nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.77**	**92**	*e*Pn	**Pn**	**08 36 27.1**	**+0.9**
PBDV				*e*Sn	**Sn**	**08 37 10.6**	**-0.1**
PBDV				A	A	08 37 15.8	
	comp=E,7.3nm,0.1s						
PBDV	**Barranco-do-Ve**	**3.77**	**92**	Pn	**Pn**	**08 36 27.1**	**+0.9**
PBDV				Sn	**Sn**	**08 37 10.6**	**-0.1**
	comp=E,7.3nm,0.1s						
PBDV	**Barranco-do-Ve**	**3.77**	**92**	Pn	**Pn**	**08 36 27.1**	**+0.9**
PBDV				*e*Sn	**Sn**	**08 37 10.6**	**-0.1**
	comp=E,7.3nm,0.1s						
EVO	**Evora**	**3.82**	**72**	*e*Pn	**Pn**	**08 36 26.1**	**-0.8**
EVO				*e*Sn	Sn	08 37 07.2	-4.6
	comp=E,13nm,0.2s						
PMTG	**Montargil**	**3.84**	**64**	*e*Pn	**Pn**	**08 36 27.8**	**+0.7**
PMTG				*e*Sn	**Sn**	**08 37 11.9**	**-0.4**
PMTG				A	A	08 37 17.8	
	comp=E,10nm,0.1s						
PMTG	**Montargil**	**3.84**	**64**	*e*Pn	**Pn**	**08 36 27.8**	**+0.7**
PMTG				*e*Sn	**Sn**	**08 37 11.9**	**-0.4**
	comp=E,10nm,0.1s						
PBEJ	**Beja**	**3.84**	**80**	*e*Pn	**Pn**	**08 36 28.5**	**+1.4**
PBEJ				*e*Sn	**Sn**	**08 37 11.8**	**-0.5**
PBEJ				A	A	08 37 16.7	
	comp=E,7.7nm,0.1s						
PBEJ	**Beja**	**3.84**	**80**	Pn	**Pn**	**08 36 28.5**	**+1.4**
PBEJ				Sn	**Sn**	**08 37 11.8**	**-0.5**
	comp=E,3.8nm,0.1s						
PBEJ	**Beja**	**3.84**	**80**	Pn	**Pn**	**08 36 28.5**	**+1.4**
PBEJ				*e*Sn	**Sn**	**08 37 11.8**	**-0.5**
	comp=E,7.7nm,0.1s						
PVAQ	**Vaqueiros**	**3.93**	**89**	*e*Pn	**Pn**	**08 36 28.8**	**+0.4**
PVAQ				*e*Sn	**Sn**	**08 37 13.7**	**-0.9**
PVAQ				A	A	08 37 18.1	
	comp=E,14nm,0.1s						
PVAQ	**Vaqueiros**	**3.93**	**89**	Pn	**Pn**	**08 36 28.8**	**+0.4**
PVAQ				Sn	**Sn**	**08 37 13.7**	**-0.9**
	comp=E,14nm,0.1s						
PVAQ	**Vaqueiros**	**3.93**	**89**	Pn	**Pn**	**08 36 28.8**	**+0.4**
PVAQ				*e*Sn	**Sn**	**08 37 13.7**	**-0.9**
	comp=E,14nm,0.1s						
PTOM	**Tomar**	**3.96**	**56**	*e*Sn	**Sn**	**08 37 15.9**	**+0.6**
PTOM				A	A	08 37 20.7	
	comp=E,37nm,0.1s						
PTOM	**Tomar**	**3.96**	**56**	Sn	**Sn**	**08 37 15.9**	**+0.6**
	comp=E,18nm,0.1s						
PTOM	**Tomar**	**3.96**	**56**	*e*Sn	**Sn**	**08 37 15.9**	**+0.6**
	comp=E,37nm,0.1s						
EGRO	**El Granado**	**4.12**	**87**	P	**Pn**	**08 36 31.2**	**+0.3**
	comp=E,16nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**08 37 18.4**	**-0.7**
	comp=E,7.0nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.12**	**87**	P	**Pn**	**08 36 31.2**	**+0.3**
	comp=E,16nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**08 37 18.4**	**-0.7**
	comp=E,7.0nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**4.23**	**69**	*e*Pn	**Pn**	**08 36 33.1**	**+0.6**
PESTR				*e*Sn	**Sn**	**08 37 21.6**	**-0.4**
PESTR				A	A	08 37 25.6	
	comp=E,6.1nm,0.2s						
PESTR	**Estremoz**	**4.23**	**69**	Pn	**Pn**	**08 36 33.1**	**+0.6**
PESTR				Sn	**Sn**	**08 37 21.6**	**-0.4**
	comp=E,3.1nm,0.2s						
PESTR	**Estremoz**	**4.23**	**69**	Pn	**Pn**	**08 36 33.1**	**+0.6**
PESTR				*e*Sn	**Sn**	**08 37 21.6**	**-0.4**
	comp=E,6.1nm,0.2s						
PBAR	**Barrancos**	**4.50**	**79**	*e*Pn	**Pn**	**08 36 36.9**	**+0.6**
PBAR				*e*Sn	**Sn**	**08 37 27.2**	**-1.5**
PBAR				A	A	08 37 34.6	
	comp=E,4.3nm,0.1s						
PBAR	**Barrancos**	**4.50**	**79**	Pn	**Pn**	**08 36 36.9**	**+0.6**
PBAR				Sn	**Sn**	**08 37 27.2**	**-1.5**
	comp=E,4.3nm,0.1s						
PBAR	**Barrancos**	**4.50**	**79**	Pn	**Pn**	**08 36 36.9**	**+0.6**
PBAR				*e*Sn	**Sn**	**08 37 27.2**	**-1.5**
	comp=E,4.3nm,0.1s						
PMRV	**Marv??o**	**4.58**	**63**	*e*Pn	**Pn**	**08 36 37.8**	**+0.6**
PMRV				*e*Sn	**Sn**	**08 37 29.8**	**-0.7**
PMRV				A	A	08 37 33.7	
	comp=E,11nm,0.2s						
PMRV	**Marv??o**	**4.58**	**63**	Pn	**Pn**	**08 36 37.8**	**+0.6**
PMRV				Sn	**Sn**	**08 37 29.8**	**-0.7**
	comp=E,11nm,0.2s						
PMRV	**Marv??o**	**4.58**	**63**	Pn	**Pn**	**08 36 37.8**	**+0.6**
PMRV				*e*Sn	**Sn**	**08 37 29.8**	**-0.7**
	comp=E,11nm,0.2s						
EBAD	**Badajoz**	**4.63**	**72**	P	**Pn**	**08 36 38.5**	**+0.5**
	comp=E,17nm,0.1s,SNR=50						
EBAD				S	**Sn**	**08 37 31.0**	**-0.9**
	comp=E,8.4nm,0.1s,SNR=5.0						
EBAD	**Badajoz**	**4.63**	**72**	P	**Pn**	**08 36 38.5**	**+0.5**
	comp=E,17nm,0.1s,SNR=50						
EBAD				S	**Sn**	**08 37 31.0**	**-0.9**
	comp=E,8.4nm,0.1s,SNR=5.0						
PCBR	**Castelo Branco**	**4.70**	**58**	*e*Pn	**Pn**	**08 36 40.0**	**+1.1**
PCBR				*e*Sn	**Sn**	**08 37 32.8**	**-0.6**
PCBR				A	A	08 37 36.6	
	comp=E,6.8nm,0.1s						
PCBR	**Castelo Branco**	**4.70**	**58**	Pn	**Pn**	**08 36 40.0**	**+1.1**
PCBR				Sn	**Sn**	**08 37 32.8**	**-0.6**
	comp=E,3.4nm,0.1s						
PCBR	**Castelo Branco**	**4.70**	**58**	Pn	**Pn**	**08 36 40.0**	**+1.1**
PCBR				*e*Sn	**Sn**	**08 37 32.8**	**-0.6**
	comp=E,6.8nm,0.1s						
EMIN	**Mina Concepcio**	**4.76**	**85**	P	**Pn**	**08 36 39.8**	**0.0**
	comp=E,4.8nm,0.1s,SNR=57						
EMIN				S	**Sn**	**08 37 34.2**	**-0.9**
	comp=E,2.4nm,0.1s						
EMIN	**Mina Concepcio**	**4.76**	**85**	P	**Pn**	**08 36 39.8**	**0.0**
	comp=E,4.8nm,0.1s,SNR=57						
EMIN				S	**Sn**	**08 37 34.2**	**-0.9**
	comp=E,2.4nm,0.1s						
PVIS	**Viseu**	**4.92**	**47**	*e*Pn	**Pn**	**08 36 42.5**	**+0.4**
PVIS				*e*Sn	**Sn**	**08 37 37.8**	**-1.3**
PVIS				A	A	08 37 41.1	
	comp=E,27nm,0.1s						
PVIS	**Viseu**	**4.92**	**47**	Pn	**Pn**	**08 36 42.5**	**+0.4**
PVIS				Sn	**Sn**	**08 37 37.8**	**-1.3**
	comp=E,13nm,0.1s						
PVIS	**Viseu**	**4.92**	**47**	Pn	**Pn**	**08 36 42.5**	**+0.4**
PVIS				*e*Sn	**Sn**	**08 37 37.8**	**-1.3**
	comp=E,27nm,0.1s						
MTE	**Manteigas**	**4.95**	**52**	*e*Pn	**Pn**	**08 36 43.1**	**+0.7**
MTE				*e*Sn	**Sn**	**08 37 39.5**	**-0.2**
MTE				A	A	08 37 42.9	
	comp=E,16nm,0.1s						
MTE	**Manteigas**	**4.95**	**52**	Pn	**Pn**	**08 36 43.1**	**+0.7**
MTE				Sn	**Sn**	**08 37 39.5**	**-0.2**
	comp=E,7.8nm,0.1s						
MTE	**Manteigas**	**4.95**	**52**	Pn	**Pn**	**08 36 43.1**	**+0.7**
MTE				*e*Sn	**Sn**	**08 37 39.5**	**-0.2**
	comp=E,16nm,0.1s						
POLO	**Lamas de Olo**	**5.42**	**42**	*e*Pn	**Pn**	**08 36 48.8**	**-0.2**
POLO				*e*Sn	**Sn**	**08 37 50.0**	**-1.5**
POLO				A	A	08 37 52.1	
	comp=E,2.8nm,0.2s						
POLO	**Lamas de Olo**	**5.42**	**42**	*e*Pn	**Pn**	**08 36 48.8**	**-0.2**
POLO				*e*Sn	**Sn**	**08 37 50.0**	**-1.5**
	comp=E,2.8nm,0.2s						
ESPR	**Espera**	**5.46**	**94**	P	**Pn**	**08 36 50.4**	**+0.9**
	comp=E,3.5nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**08 37 51.4**	**-1.0**
	comp=E,5.8nm,0.1s,SNR=7.9						
ESPR	**Espera**	**5.46**	**94**	P	**Pn**	**08 36 50.4**	**+0.9**
	comp=E,3.5nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**08 37 51.4**	**-1.0**
	comp=E,5.8nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**5.54**	**39**	*e*Sn	**Sn**	**08 37 52.2**	**-2.2**
PCAB				A	A	08 37 54.6	
	comp=E,17nm,0.1s						
PCAB	**Cabril**	**5.54**	**39**	Sn	**Sn**	**08 37 52.2**	**-2.2**
	comp=E,8.4nm,0.1s						
PCAB	**Cabril**	**5.54**	**39**	*e*Sn	**Sn**	**08 37 52.2**	**-2.2**
	comp=E,17nm,0.1s						
PGAV	**Gavieira, Arco**	**5.62**	**36**	*e*Pn	**Pn**	**08 36 51.7**	**0.0**
PGAV				*e*Sn	**Sn**	**08 37 52.9**	**-3.5**
PGAV				A	A	08 37 58.7	
	comp=E,10nm,0.1s						
PGAV	**Gavieira, Arco**	**5.62**	**36**	*e*Pn	**Pn**	**08 36 51.7**	**0.0**
ELOB	**Lobios**	**5.65**	**37**	P	**Pn**	**08 36 53.1**	**+1.1**
	comp=E,1.0nm,0.1s,SNR=6.8						
ELOB				S	**Sn**	**08 37 53.6**	**-3.4**
	comp=E,1.7nm,0.1s,SNR=8.5						
ELOB	**Lobios**	**5.65**	**37**	P	**Pn**	**08 36 53.1**	**+1.1**
	comp=E,1.0nm,0.1s,SNR=6.8						
MVO	**Moncorvo**	**5.72**	**48**	*e*Pn	**Pn**	**08 36 52.9**	**-0.1**
MVO				*e*Sn	Sn	08 37 54.7	-4.0
MVO				A	A	08 38 01.4	
	comp=E,12nm,0.2s						
MVO	**Moncorvo**	**5.72**	**48**	P	**Pn**	**08 36 52.9**	**-0.1**
	comp=E,2.1nm,0.1s,SNR=8.6						
MVO				S	**Sn**	**08 37 56.1**	**-2.6**
	comp=E,8.1nm,0.1s,SNR=8.5						
MVO	**Moncorvo**	**5.72**	**48**	P	**Pn**	**08 36 52.9**	**-0.1**
	comp=E,2.1nm,0.1s,SNR=8.6						
MVO				S	**Sn**	**08 37 56.1**	**-2.6**
	comp=E,8.1nm,0.1s,SNR=8.5						
EPLA	**Plasencia**	**5.76**	**61**	P	**Pn**	**08 36 54.6**	**+1.1**
	comp=E,3.7nm,0.1s						
EPLA				S	**Sn**	**08 37 58.5**	**-1.1**
	comp=E,7.3nm,0.1s,SNR=8.8						
EPLA	**Plasencia**	**5.76**	**61**	P	**Pn**	**08 36 54.6**	**+1.1**
	comp=E,3.7nm,0.1s						
EPLA				S	**Sn**	**08 37 58.5**	**-1.1**
	comp=E,7.3nm,0.1s,SNR=8.8						
ECAB	**El Cabril**	**5.77**	**82**	P	**Pn**	**08 36 54.6**	**+0.9**
	comp=E,13nm,0.1s,SNR=65						
ECAB				S	**Sn**	**08 37 58.6**	**-1.3**
	comp=E,0.5nm,0.1s						
ECAB	**El Cabril**	**5.77**	**82**	P	**Pn**	**08 36 54.6**	**+0.9**
	comp=E,13nm,0.1s,SNR=65						
ECAB				S	**Sn**	**08 37 58.6**	**-1.3**
	comp=E,0.5nm,0.1s						
EMAZ	**Mazaricos**	**6.16**	**26**	P	**Pn**	**08 37 01.1**	**+2.1**
	comp=E,1.0nm,0.1s,SNR=10						
EMAZ				S	Sn	08 38 02.7	-6.7

ZEA				*e*Sg	Sb	08 47 56.2	+0.5
ZEA				A	A	08 47 58.0	
	100nm,0.3s						
ZEA				A	A	08 47 58.0	
	120nm,0.3s						
KROS	**Kirovskiy**	**1.12**	**51**	*i* Pg	Pb	08 47 41.5	-1.5
KROS				AMB	AMB	08 47 44.2	
	17nm,0.4s						
KROS				AMB	AMB	08 47 44.2	
	28nm,0.4s						
KROS				*e*Sg	Sb	08 47 56.5	-1.2
KROS				A	A	08 48 02.9	
	190nm,0.6s						
KROS				A	A	08 48 02.9	
	110nm,0.6s						
KROS				A	A	08 48 02.9	
	43nm,0.6s						
BMKR	**Bomnak**	**2.21**	**62**	*e*Pn	Pn	08 47 58.4	+0.3
BMKR				*e*Pg	Pb	08 48 00.5	-0.9
BMKR				*e*Sn	Sn	08 48 26.4	+1.0
BMKR				*e*Sg	Sb	08 48 30.0	+1.2
BMKR				A	A	08 48 33.5	
	38nm,0.4s						
CLNS	**Chul'man**	**3.12**	**354**	*e*Sg	Sg	08 49 01.8	0.0
TUP	**Tupik**	**3.32**	**284**	*e*rx	rx	08 48 17.9	
TUP				*e*rx	rx	08 48 23.1	
TUP				*e*Sg	Sg	08 49 06.0	-2.1
TUP				A	A	08 49 16.8	
	19nm,0.5s						
EKMR	**Ekimchan**	**4.53**	**96**	*e*Sg	Sg	08 49 42.5	-4.3
EKMR				A	A	08 49 53.1	
	8.0nm,0.4s						
EKMR				A	A	08 49 53.1	
	3.0nm,0.4s						
EKMR				A	A	08 49 53.1	
	4.0nm,0.4s						

IDC 21 08:48:10.8±7.1, 6°.01S×141°.17E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.3/15, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=258.3km s-min=34.3km az=93.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.36**	**205**	Pn	Pn	08 51 48.8	-0.3
	0.1nm,0.3s,baz=26,slow=13,SNR=4.8						
ASAR	**Alice Springs**	**18.89**	**201**	P	P	08 52 33.0	-0.2
	0.2nm,0.3s,baz=29,slow=9.4,SNR=7.9						
MKAR	**Makanchi Array**	**73.88**	**322**	P	P	08 59 47.8	+0.1
	0.2nm,0.6s,baz=107,slow=7.7,SNR=1.7						

*NEIC **21** 08:50:11.9, 46°.16S×166°.24E, h5km, ML4.0(WEL), After WEL.*
WEL 21 08:50:11.7±0.4, 46°.09S×166°.07E, h29km±1km, ML4.0/17, Error ellipse: s-maj=4.6km s-min=1.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.97**	**52**	P*	Pn	08 50 28.9	-0.4
DCZ				S*	Sn	08 50 41.8	-0.3
DCZ	**Deep Cove**	**0.97**	**52**	PN	Pn	08 50 28.9	-0.4
DCZ				SN	Sn	08 50 41.8	-0.2
DCZ				AML	AML	08 50 41.8	
DCZ				AML	AML	08 50 41.9	
DCZ				AML	AML	08 50 42.9	
WHZ	**Wether Hill Ro**	**1.32**	**82**	P*	Pn	08 50 34.5	+0.3
WHZ	**Wether Hill Ro**	**1.32**	**82**	PN	Pn	08 50 34.5	+0.3
WHZ				SN	Sb	08 50 53.4	+0.9
WHZ				AML	AML	08 50 55.0	
APZ	**The Paps**	**1.52**	**120**	Pn	Pn	08 50 36.1	-0.8
APZ	**The Paps**	**1.52**	**120**	PN	Pn	08 50 36.1	-0.9
MLZ	**Mavora Lakes**	**1.65**	**64**	Pn	Pn	08 50 40.0	+1.3
MLZ	**Mavora Lakes**	**1.65**	**64**	PN	Pn	08 50 39.9	+1.2
MLZ				AML	AML	08 51 05.0	
MLZ				AML	AML	08 51 07.1	
MSZ	**Milford Sound**	**1.93**	**43**	Pn	Pn	08 50 43.7	+1.3
MSZ	**Milford Sound**	**1.93**	**43**	PN	Pn	08 50 43.6	+1.2
MSZ				AML	AML	08 51 19.2	
MSZ				AML	AML	08 51 24.4	
MSZ				AML	AML	08 51 24.4	
MSZ				AML	AML	08 51 25.8	
SYZ	**Scrubby Hill**	**2.17**	**103**	Pn	Pn	08 50 46.6	+0.8
SYZ	**Scrubby Hill**	**2.17**	**103**	PN	Pn	08 50 46.3	+0.5
SYZ				SN	Sn	08 51 13.5	+1.8
EAZ	**Earnscleugh**	**2.42**	**71**	Pn	Pn	08 50 51.6	+2.3
EAZ	**Earnscleugh**	**2.42**	**71**	PN	Pn	08 50 51.6	+2.3
EAZ				AML	AML	08 51 26.1	
EAZ				AML	AML	08 51 26.1	
EAZ				AML	AML	08 51 32.3	
EAZ				AML	AML	08 51 32.3	
WKZ	**Wanaka**	**2.42**	**60**	Pn	Pb	08 50 52.1	-2.6
WKZ	**Wanaka**	**2.42**	**60**	PN	Pb	08 50 52.3	-2.4
WKZ				AML	AML	08 51 34.8	
WKZ				AML	AML	08 51 40.9	
TUZ	**Tuapeka**	**2.48**	**88**	Pn	Pn	08 50 51.5	+1.4
TUZ	**Tuapeka**	**2.48**	**88**	PN	Pn	08 50 51.6	+1.5
TUZ				AML	AML	08 51 24.2	
TUZ				AML	AML	08 51 26.0	
LBZ	**Lake Benmore**	**3.37**	**61**	Pn	Pn	08 51 03.8	+1.5
LBZ	**Lake Benmore**	**3.37**	**61**	PN	Pn	08 51 03.8	+1.5
LBZ				AML	AML	08 51 43.7	
LBZ				AML	AML	08 52 07.5	
ODZ	**Otahua Downs**	**3.38**	**74**	Pn	Pn	08 51 02.7	+0.3
ODZ	**Otahua Downs**	**3.38**	**74**	PN	Pn	08 51 02.7	+0.3
ODZ				AML	AML	08 51 58.2	
ODZ				AML	AML	08 52 02.1	
FOZ	**Fox Glacier**	**3.60**	**47**	Pn	Pn	08 51 09.4	+4.0
FOZ	**Fox Glacier**	**3.60**	**47**	PN	Pn	08 51 08.9	+3.5
FOZ				AML	AML	08 51 59.4	
FOZ				AML	AML	08 52 12.9	
WVZ	**Waitaha Valley**	**4.49**	**50**	Pn	Pn	08 51 20.2	+2.5
WVZ	**Waitaha Valley**	**4.49**	**50**	PN	Pn	08 51 20.2	+2.5
WVZ				AML	AML	08 51 55.3	
WVZ				AML	AML	08 52 55.2	

*JMA **21** 08:59:41.4±0.5, 23°.95N×121°.60E, h17km, M3.0*
*TAP **21** 08:59:42.5, 24°.09N×121°.66E, h9km, ML3.9, B*
ISC 21 08:59:42.2±0.7, 24°.08N±0°.02×121°.68E±0°.02, h9km±4km, n60, σ1§01/105, 11C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.07**	**268**	⇑*i*P	**Pg**	**08 59 44.7**	**+0.4**
	baz=261						
TWD				*i* S	**Sg**	**08 59 46.0**	**+0.2**
	baz=261						
HWA	**Hwalien**	**0.12**	**212**	⇓*i*P	**Pg**	**08 59 45.8**	**+0.8**
	baz=201						
EHP	**Heping Village**	**0.23**	**15**	P	**Pg**	**08 59 47.4**	**+0.4**
	baz=21						
EHP				*e*S	**Sg**	**08 59 51.0**	**+0.8**
	baz=21						
ESF	**Shoufeng Towns**	**0.26**	**216**	P	**Pg**	**08 59 47.8**	**+0.3**
	baz=221						
ESF				S	**Sg**	**08 59 51.4**	**+0.4**
	baz=221						
ESL	**Shilin**	**0.35**	**220**	*e*P	**Pg**	**08 59 49.3**	**+0.2**
	baz=224						
ESL				*e*S	**Sg**	**08 59 53.8**	**+0.1**
	baz=224						
ENA	**Nanau**	**0.35**	**10**	⇑*i*P	**Pg**	**08 59 49.6**	**+0.5**
	baz=22						
ENA				S	**Sg**	**08 59 54.4**	**+0.7**
	baz=22						
WHF	**Hehuan Shan**	**0.38**	**279**	⇑*i*P	**Pg**	**08 59 50.2**	**+0.3**
	baz=278						
WHF				S	**Sg**	**08 59 55.2**	**+0.3**
	baz=278						
TEGC	**Jichi Village**	**0.39**	**198**	*e*P	**Pb**	**08 59 51.6**	**+0.3**
	baz=198						
TEGC				*e*S	**Sb**	**08 59 58.6**	**+1.1**
	baz=198						
NNS	**Nan Shan**	**0.45**	**322**	⇑*i*P	**Pg**	**08 59 51.6**	**+0.6**
	baz=324						
NNS				S	**Sg**	**08 59 57.6**	**+0.6**
	baz=324						
TWT	**Tachien**	**0.49**	**290**	*i* P	**Pb**	**08 59 52.7**	**-0.4**
	baz=289						
TWT				*i* S	**Sb**	**08 59 59.5**	**-0.9**
	baz=289						
TWC	**Suao**	**0.55**	**17**	⇑*i*P	**Pg**	**08 59 53.3**	**+0.4**
	baz=20						
TWC				*e*S	**Sg**	**08 59 59.9**	**-0.1**
	baz=20						
ENTT	**Nioudou**	**0.56**	**350**	⇑*i*P	**Pg**	**08 59 53.8**	**+0.7**
	baz=352						
ENTT				S	**Sg**	**09 00 01.5**	**+0.9**
	baz=352						
TWE	**Neicheng**	**0.64**	**359**	⇑*i*P	**Pg**	**08 59 55.2**	**+0.7**
	baz=2.0						
TWE				S	**Sg**	**09 00 04.1**	**+1.2**
	baz=2.0						
NSK	**Sanguang**	**0.66**	**334**	⇑*i*P	**Pg**	**08 59 55.7**	**+0.7**
	baz=328						
NSK				*i* S	**Sg**	**09 00 03.9**	**+0.3**
	baz=328						
EHY	**Hungye**	**0.66**	**210**	P	**Pg**	**08 59 55.1**	**+0.2**
	baz=215						
ILA	**Ilan**	**0.68**	**6**	*e*P	**Pg**	**08 59 56.3**	**+0.9**
	baz=7.0						
SMLT	**Sun Moon Lake**	**0.74**	**255**	⇑*i*P	**Pb**	**08 59 57.0**	**-0.3**
	baz=253						
SMLT				S	**Sb**	**09 00 06.4**	**-1.1**
	baz=253						
TYC	**Yuchr**	**0.77**	**257**	⇑*i*P	**Pb**	**08 59 57.4**	**-0.3**
	baz=255						
TYC				S	**Sg**	**09 00 07.0**	**-0.1**
	baz=255						
TWF1	**Yuli**	**0.81**	**206**	⇑P	**Pg**	**08 59 57.3**	**-0.4**
	baz=218						
NSTT	**Nanjuang**	**0.82**	**312**	*i* P	**Pb**	**08 59 59.2**	**+0.5**
	baz=312						
NSTT				S	**Sb**	**09 00 09.5**	**-0.4**
	baz=312						
TWQ1	**Liyutan**	**0.86**	**288**	*e*P	**Pn**	**09 00 00.2**	**-0.4**
	baz=300						
TWQ1				*e*S	**Sn**	**09 00 12.1**	**-1.3**
	baz=300						
YUS	**Yu-Shan**	**0.89**	**228**	P	**Pb**	**08 59 59.9**	**-0.2**
	baz=226						
YUS				*e*S	**Sb**	**09 00 12.6**	**+0.3**
	baz=226						
NSY	**Sanyi**	**0.90**	**292**	*e*P	**Pn**	**09 00 00.9**	**-0.1**
	baz=292						
TWA	**Mucha**	**0.90**	**355**	*e*P	**Pg**	**08 59 59.9**	**+0.4**
	baz=356						
TWA				*e*S	**Sg**	**09 00 11.4**	**+0.2**
	baz=356						
TCU	**Taichung**	**0.92**	**274**	P	**Pn**	**09 00 02.0**	**+0.7**
	baz=268						
TCU				*e*S	**Sn**	**09 00 15.6**	**+1.0**
	baz=268						
WNT	**Mingjian**	**0.93**	**258**	*e*P	**Pn**	**09 00 01.9**	**+0.5**
	baz=251						
WNT				*e*S	**Sn**	**09 00 15.2**	**+0.3**
	baz=251						
TAP1	**Taipei**	**0.96**	**352**	*e*P	**Pb**	**09 00 01.4**	**+0.4**
	baz=342						
TAP1				*e*S	**Sg**	**09 00 13.7**	**+0.5**
	baz=342						
HSN	**Hsinchu**	**0.96**	**318**	*e*P	**Pg**	**09 00 01.1**	**+0.4**
	baz=321						
TWB1	**Santiao Chiao**	**0.96**	**17**	*e*P	**Pb**	**09 00 01.4**	**+0.2**
	baz=10.0						
ALS	**Alishan**	**0.98**	**235**	*e*P	**Pb**	**09 00 01.6**	**0.0**
	baz=232						
ALS				*e*S	**Sn**	**09 00 15.1**	**-1.5**
	baz=232						
NCU	**National Centr**	**0.99**	**333**	*e*P	**Pn**	**09 00 02.5**	**+0.2**
	baz=334						
NCU				*e*S	**Sn**	**09 00 18.1**	**+1.7**
	baz=334						
NWF	**Wu-fen Shan**	**0.99**	**6**	⇓P	**Pg**	**09 00 02.1**	**+0.9**
	baz=5.0						
CHKT	**Chengkung**	**1.02**	**196**	*e*P	**Pb**	**09 00 01.1**	**-1.0**
	baz=197						
CHN5	**Tsauling**	**1.03**	**242**	⇓*i*P	**Pn**	**09 00 03.4**	**+0.4**
	baz=230						
CHN5				S	**Sn**	**09 00 18.6**	**+0.9**
	baz=230						
ELDTW	**Lidau**	**1.07**	**214**	*e*P	**Pb**	**09 00 01.9**	**-1.2**
	baz=203						
WGK	**Gukeng**	**1.09**	**249**	*e*P	**Pn**	**09 00 03.5**	**-0.3**
	baz=247						
WGK				*e*S	**Sn**	**09 00 20.6**	**+1.6**
	baz=247						
TWY	**Chenhua**	**1.19**	**357**	*e*P	**Pg**	**09 00 06.4**	**+1.3**
	baz=343						
CHN4	**Tsaushan**	**1.23**	**234**	*e*P	**Pg**	**09 00 06.9**	**+1.0**
	baz=224						
CHN4				*e*S	**Sn**	**09 00 25.2**	**+2.8**
	baz=224						
STYT	**Tauyuan**	**1.24**	**223**	*e*P	**Pg**	**09 00 06.0**	**-0.2**
	baz=221						
STYT				*e*S	**Sg**	**09 00 22.5**	**+0.2**
	baz=221						
YOJ	**Yonaguni jima**	**1.28**	**73**	P	**Pn**	**09 00 06.3**	**0.0**
	baz=71						
YOJ				*e*S	**Sn**	**09 00 24.2**	**+0.8**
	baz=71						
YOJ	**Yonaguni jima**	**1.28**	**73**	P	**Pn**	**09 00 06.1**	**-0.1**
YOJ				*e*S	**Sn**	**09 00 24.1**	**+0.6**
WTP	**Ta-pu**	**1.28**	**230**	P	**Pg**	**09 00 07.8**	**+1.0**
	baz=227						
WTP				*e*S	**Sg**	**09 00 26.3**	**+2.8**
	baz=227						
CHY	**Chiayi**	**1.29**	**243**	*e*P	**Pg**	**09 00 07.9**	**+1.0**
	baz=242						
CHY				*e*S	**Sg**	**09 00 25.4**	**+1.8**
	baz=242						
WTCT	**Ta-ch'eng**	**1.29**	**261**	*e*P	**Pg**	**09 00 07.9**	**+0.8**
	baz=259						
WTCT				*e*S	**Sg**	**09 00 26.0**	**+2.1**
	baz=259						
TWK	**Hsinying**	**1.36**	**234**	*e*P	**Pg**	**09 00 08.9**	**+0.6**
	baz=224						
TWK				*e*S	**Sg**	**09 00 28.0**	**+2.0**
	baz=224						
CHN1	**Nanshi**	**1.38**	**230**	P	**Pg**	**09 00 09.0**	**+0.3**
	baz=228						
CHN1				*e*S	**Sg**	**09 00 29.6**	**+2.9**
	baz=228						
WSF	**Szhu**	**1.40**	**252**	*e*P	**Pg**	**09 00 09.6**	**+0.4**
	baz=250						
WSF				*e*S	**Sg**	**09 00 29.3**	**+2.0**
	baz=250						
SGST	**Jiashian**	**1.41**	**225**	*e*P	**Pg**	**09 00 09.3**	**-0.1**
	baz=226						
CHN8	**Yiju**	**1.53**	**242**	*e*S	**Sg**	**09 00 32.8**	**+1.4**
	baz=241						
SCLT	**Jiali**	**1.63**	**237**	*e*P	**Pb**	**09 00 12.8**	**+0.3**
	baz=236						
SCLT				*e*S	**Sg**	**09 00 35.5**	**+0.8**
	baz=236						
TWM1	**Shoushan**	**1.70**	**223**	*e*P	**Pg**	**09 00 15.6**	**+0.8**
	baz=224						
IRIF	**Iriomote-Funau**	**1.89**	**82**	P	**Pn**	**09 00 15.2**	**+0.5**
IRIF				*e*S	**Sn**	**09 00 39.4**	**+0.7**
HATJ	**Hateruma jima**	**1.95**	**90**	P	**Pn**	**09 00 15.3**	**-0.2**
HATJ				*e*S	**Sn**	**09 00 41.5**	**+1.5**
SCZT	**Fangliau**	**1.96**	**210**	*e*P	**Pb**	**09 00 18.1**	**0.0**
	baz=201						
PNG	**Penghu**	**2.01**	**256**	*e*P	**Pn**	**09 00 17.1**	**+0.8**
	baz=257						
JKRS	**Kuro-shima**	**2.14**	**85**	P	**Pn**	**09 00 19.1**	**+1.0**
JKRS				*e*S	**Sn**	**09 00 45.2**	**+0.5**
JIJ	**Ishigaki jima**	**2.27**	**82**	P	**Pn**	**09 00 19.7**	**-0.2**
JIJ				*e*S	**Sn**	**09 00 47.7**	**-0.3**
TWK1	**Hengchun**	**2.27**	**201**	*e*P	**Pn**	**09 00 19.6**	**-0.4**
	baz=200						
TWK1				*e*S	**Sb**	**09 00 51.1**	**-0.6**
	baz=200						
JTJ	**Tarama**	**2.81**	**78**	P	**Pn**	**09 00 28.8**	**+1.4**
JTJ				*e*S	**Sn**	**09 01 02.0**	**+0.5**
LZH	**Lanzhou**	**19.49**	**312**	*e*P	**P**	**09 04 05.8**	**-3.9**
LZH				pP	**Pn**	**09 04 10.3**	**-0.7**
LZH				sP	**sP**	**09 04 12.8**	**-0.6**
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						

*IDC **21** 09:00:41.5±1.7, 22°.15N×93°.69E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/25, mbtmp3.7/4, Error ellipse: s-maj=119.3km s-min=20.7km az=56.0*
ISC 21 09:00:53.7±1.1, 22°.5N±0°.1×94°.2E±0°.1, h88km, n18, σ2§17/25, mb3.9/4, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**2.29**	**354**	*e*P	**Pn**	**09 01 31.0**	**+1.1**
IMP				*e*S	**Sn**	**09 01 57.0**	**-0.5**
SHL	**Shillong**	**3.72**	**326**	*i* PN	**Pn**	**09 01 52.0**	**+2.9**
SHL				*e*SN	**Sn**	**09 02 30.5**	**-1.4**
CMAR	**Chiang Mai Arr**	**6.00**	**131**	Pg	Pn	09 02 33.3	+13
	0.8nm,0.3s,baz=307,slow=14,SNR=7.7						
ODAN	**Odare**	**7.56**	**307**	*e*Pn	Pn	09 02 44.7	+3.3
ODAN				*e*Sn	**Sn**	**09 04 04.6**	**-1.1**
	95nm,0.4s						
TAPN	**Taplejung**	**7.61**	**311**	*e*Pn	**Pn**	**09 02 44.7**	**+2.5**
TAPN				*e*Sn	**Sn**	**09 04 04.2**	**-2.9**
	44nm,0.4s						
RAMN	**Ramite**	**8.20**	**304**	*e*Pn	Pn	09 02 53.9	+3.7
RAMN				*e*Sn	**Sn**	**09 04 21.3**	**-0.1**
	30nm,0.2s						
JIRN	**Jiri**	**8.89**	**307**	*e*Pn	**Pn**	**09 03 02.2**	**+2.5**
JIRN				*e*Sn	**Sn**	**09 04 36.7**	**-1.6**
	64nm,0.3s						
GUN	**Gumba**	**9.26**	**307**	*e*Pn	**Pn**	**09 03 07.8**	**+3.1**
GUN				*e*Sn	**Sn**	**09 04 45.0**	**-2.3**
	38nm,0.3s						
PKI	**Pulchoki**	**9.43**	**304**	*e*Pn	**Pn**	**09 03 10.2**	**+3.2**
PKI				*e*Sn	**Sn**	**09 04 49.2**	**-2.3**
	22nm,0.4s						
PKIN	**Phulchoki**	**9.44**	**304**	*e*Pn	**Pn**	**09 03 10.2**	**+3.1**
PKIN				*e*Sn	**Sn**	**09 04 49.9**	**-1.8**
	58nm,0.5s						
KKN	**Kakani**	**9.64**	**305**	*e*Pn	Pn	09 03 13.4	+3.6
KKN				*e*Sn	**Sn**	**09 04 54.6**	**-1.8**
	21nm,0.3s						
DMN	**Daman**	**9.68**	**304**	*e*Pn	Pn	09 03 14.1	+3.7
KOLN	**Koldanda**	**10.94**	**301**	*e*Pn	Pn	09 03 31.3	+3.9
KOLN				*e*Sn	**Sn**	**09 05 26.1**	**-1.9**
	22nm,0.3s						
DANN	**Dangsing**	**11.08**	**304**	*e*Pn	**Pn**	**09 03 32.5**	**+3.0**
DANN				*e*Sn	**Sn**	**09 05 29.2**	**-2.4**
	14nm,0.3s						
MKAR	**Makanchi Array**	**26.09**	**341**	P	**P**	**09 06 19.6**	**+0.5**
	0.2nm,0.4s,baz=146,slow=9.2,SNR=7.5						
MKAR				PcP	**PcP**	**09 09 43.8**	**-0.8**
	0.1nm,0.3s,baz=158,slow=2.9,SNR=4.2						
WRA	**Warramunga Arr**	**57.58**	**134**	P	**P**	**09 10 34.1**	**-0.6**
	0.5nm,0.3s,baz=317,slow=7.8,SNR=19						
ASAR	**Alice Springs**	**59.97**	**137**	P	**P**	**09 10 50.6**	**-0.6**
	0.4nm,0.5s,baz=320,slow=6.8,SNR=9.2						
ARCES	**ARCESS Array B**	**61.69**	**338**	P	**P**	**09 11 01.0**	**-1.2**
	2.7nm,0.9s,baz=97,slow=7.4,SNR=2.9						

MEX 21 09:04:49.2±0.7, 16°.90N×100°.30W, h15km±2km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.15**	**10**	*e*P	Pg	09 04 52.3	-0.9
CAIG				*i* S	Sg	09 04 55.7	-0.2
ZIIG	**Zihuatanejo**	**1.32**	**302**	*i* P	Pn	09 05 10.0	-3.1
ZIIG				*i* S	Sn	09 05 25.2	-5.3
ARIG	**Puente Sto Nin**	**1.38**	**358**	*i* P	Pn	09 05 09.6	-4.4
ARIG				*e*S	Sn	09 05 26.6	-5.3
PLIG	**Platanillo**	**1.67**	**27**	*e*P	Pn	09 05 14.8	-3.2
PLIG				*i* S	Sn	09 05 35.1	-4.1
PNIG	**Pinotepa**	**2.14**	**103**	*i* P	Pn	09 05 21.1	-3.3
PNIG				*i* S	Sn	09 05 46.3	-4.4
YAIG	**Yautepec**	**2.28**	**31**	*e*P	Pn	09 05 23.7	-2.8
YAIG				*i* S	Sn	09 05 50.4	-4.0

*NIED **21** 09:25:00, 35°.20N×135°.80E, h11km, Mw3.3 Best double couple: M0 8.52000×10^13 NP1:φ=204.00000°, δ=54.00000°, λ=129.00000°. NP2:φ=330.00000°, δ=51.00000°, λ=49.00000°.*
JMA 21 09:25:47.2, 35°.25N×135°.77E, h13km, M3.5, 2C-6D Broadband fault plane solution: P waves. NP1: φ=220.00000°, δ=68.00000°, λ=136.00000°. **NP2:** φ=330.00000°, δ=50.00000°, λ=29.00000°. **Principal axes:** T Plg46.0000°, Azm177.0000°; N Plg42.0000°, Azm19.0000°; P Plg11.0000°, Azm279.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWT	**Wachi**	**0.30**	**276**	⇓P	Pg	09 25 53.5	0.0
JWT				S	Sg	09 25 57.6	-0.1
JFM	**Mihama**	**0.33**	**32**	⇑P	Pg	09 25 53.9	0.0
JFM				S	Sg	09 25 58.5	+0.1
JHE	**Heguri**	**0.60**	**187**	⇑P	Pg	09 25 58.8	-0.1
JKY	**Yasaka**	**0.66**	**305**	⇓P	Pg	09 26 00.0	-0.1
JKY				S	Sg	09 26 08.9	0.0
TSUJ	**Tsu 2**	**0.76**	**135**	⇓P	Pg	09 26 01.3	-0.6
TSUJ				S	Sg	09 26 11.1	-0.8
JKS	**Kasai**	**0.80**	**251**	⇓P	Pg	09 26 02.4	-0.4
JKS				S	Sg	09 26 12.9	-0.5
JGM	**Miyama**	**0.89**	**60**	⇓P	Pg	09 26 04.0	-0.6
JGM				S	Sg	09 26 15.3	-1.0
JKSM	**Kasumi**	**0.96**	**291**	⇓P	Pb	09 26 05.2	-0.6
JKSM				S	Sb	09 26 17.9	-0.5
JWY	**Kouya**	**1.04**	**188**	P	Pb	09 26 06.5	-0.7
JWY				S	Sb	09 26 20.0	-0.8
MAT	**Matsushiro**	**2.36**	**56**	P	Pn	09 26 26.7	+1.0
MAT				S	Sg	09 27 01.2	-2.0

IDC 21 09:38:07.4±3.9, 19°.66N×121°.06E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/24, mbtmp3.4/3 Error ellipse: s-maj=325.0km s-min=28.5km az=61.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.46**	**161**	P	P	09 45 55.8	-0.3
	0.3nm,0.5s,baz=342,slow=9.0,SNR=5.5						
MKAR	**Makanchi Array**	**41.59**	**320**	P	P	09 45 56.9	-0.2
	0.4nm,0.8s,baz=110,slow=8.3,SNR=3.7						
ASAR	**Alice Springs**	**44.85**	**163**	P	P	09 46 23.7	+0.1
	0.4nm,0.5s,baz=341,slow=6.7,SNR=9.0						

IDC 21 09:39:50.2±3.2, 86°.62N×64°.18E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.4/28, mbtmp3.7/4, ML3.1/2, MS2.7/2, Ms1 2.7/2, ms1mx2.3/3/45, Error ellipse: s-maj=108.3km s-min=25.4km az=130.0, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPITS	**Spitsbergen Ar**	**9.94**	**242**	Pn	Pn	09 42 13.8	-0.2
	baz=12,slow=16,SNR=14						
SPITS				Sn	Sn	09 43 58.0	-7.9
	baz=35,slow=23,SNR=2.8						
ARCES	**ARCESS Array B**	**18.06**	**225**	P	Pn	09 44 02.1	+0.1
	0.0nm,0.3s,baz=4.5,slow=14,SNR=2.5						
ARCES				LR	LR	09 50 40.5	
	comp=Z,18nm,21.0s,baz=94,slow=36						
FINES	**FINESS Array B**	**26.12**	**222**	LR	LR	09 55 23.0	
	comp=Z,22nm,21.3s,baz=229,slow=36						
ILAR	**Eielson Array**	**28.34**	**28**	P	P	09 45 45.1	0.0
	0.5nm,0.7s,baz=358,slow=8.1,SNR=6.5						
YKA	**Yellowknife Ar**	**31.07**	**359**	P	P	09 46 09.1	-0.1
	0.5nm,0.8s,baz=356,slow=8.7,SNR=5.3						

*IDC **21** 09:43:35.3±0.4, 9°.61N×126°.41E, h0km, mb4.3/28, mb1 4.4/28, mb1mx4.4/32, mbtmp4.3/28, MS3.6/3, Ms1 3.6/3, ms1mx2.8/38, Error ellipse: s-maj=19.4km s-min=10.4km az=82.0*
*NEIC **21** 09:

BUKP	**Musuan**	**2.27**	**221**	*eP*	**Pn**	**09 44 17.9**	**+1.3**
OCLP	**Ormoc**	**2.39**	**307**	*eP*	**Pn**	**09 44 20.0**	**+1.8**
LLP	**Lapu-Lapu**	**2.64**	**286**	*eP*	**Pn**	**09 44 22.9**	**+1.1**
LLP				*eS*	**Sn**	**09 44 56.9**	**+4.2**
MATI	**Mati**	**2.67**	**186**	*eP*	**Pn**	**09 44 23.4**	**+1.3**
DAV	**Davao City (W)**	**2.71**	**201**	*eP*	Pn	09 44 18.9	-3.7
DAV				Sn	**Sn**	**09 44 58.6**	**+4.5**
DAV	**Davao City (W)**	**2.71**	**201**	Pn	**Pn**	**09 44 23.9**	**+1.3**
	46nm,0.3s,baz=279,slow=17,SNR=2.7						
DAV				Sn	**Sn**	**09 44 58.6**	**+4.5**
	33nm,0.3s,baz=314,slow=20,SNR=6.1						
DAV				LR	LR	09 45 28.5	
	comp=Z,730nm,21.9s,baz=108,slow=43						
PAGZ	**Pagadian**	**3.59**	**241**	*eP*	**Pn**	**09 44 36.3**	**+1.5**
GUIM	**Jordan**	**4.03**	**285**	*eP*	**Pn**	**09 44 43.2**	**+2.4**
RCP	**Roxas**	**4.22**	**298⇓**	*eP*	**Pn**	**09 44 45.2**	**+1.8**
FITZ	**Fitzroy Crossi**	**27.55**	**182**	*eP*	**P**	**09 49 25.2**	**+0.6**
FITZ	**Fitzroy Crossi**	**27.55**	**182**	P	**P**	**09 49 24.8**	**+0.2**
	25nm,1.0s,baz=15,slow=9.8,SNR=20						
KSAR	**Wonju Array Be**	**27.73**	**2**	P	**P**	**09 49 26.7**	**+0.7**
KSRS	**Korea Array**	**27.75**	**2**	P	**P**	**09 49 26.7**	**+0.6**
	2.1nm,0.9s,baz=177,slow=10.0,SNR=8.6						
CMAR	**Chiang Mai Arr**	**28.16**	**291**	P	**P**	**09 49 29.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**28.16**	**291**	P	**P**	**09 49 29.9**	**-0.3**
	0.6nm,0.4s,baz=107,slow=8.0,SNR=3.6						
PSI	**Prapat**	**28.27**	**258**	P	**P**	**09 49 30.6**	**-0.6**
PSI	**Prapat**	**28.27**	**258**	P	**P**	**09 49 30.6**	**-0.6**
	4.2nm,0.7s,baz=60,slow=8.0,SNR=5.2						
MJAR	**Matsushiro Arr**	**28.82**	**20**	P	**P**	**09 49 34.8**	**-0.9**
MJAR	**Matsushiro Arr**	**28.82**	**20**	P	**P**	**09 49 34.8**	**-0.9**
	1.2nm,0.7s,baz=203,slow=8.0,SNR=3.5						
WRAB	**Tennant Creek**	**30.35**	**165**	*eP*	**P**	**09 49 49.6**	**+0.2**
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**30.35**	**165**	P	**P**	**09 49 48.3**	**-1.2**
WRA	**Warramunga Arr**	**30.35**	**165**	P	**P**	**09 49 48.3**	**-1.2**
	0.7nm,0.5s,baz=350,slow=9.2,SNR=11						
ASAR	**Alice Springs**	**33.85**	**168**	P	**P**	**09 50 19.6**	**-0.6**
ASAR				PcP	**PcP**	**09 52 58.3**	**-0.2**
ASAR	**Alice Springs**	**33.85**	**168**	P	**P**	**09 50 19.6**	**-0.6**
	0.8nm,0.5s,baz=352,slow=7.1,SNR=13						
ASAR				PcP	**PcP**	**09 52 58.3**	**-0.2**
	0.6nm,0.7s,baz=340,slow=2.7,SNR=5.5						
USRK	**Ussuriysk Arra**	**34.78**	**7**	P	**P**	**09 50 28.8**	**+0.9**
	4.3nm,0.8s,baz=181,slow=8.8,SNR=7.6						
ASAJ	**Asahikawa**	**37.09**	**19**	P	**P**	**09 50 49.3**	**+1.6**
ASAJ	**Asahikawa**	**37.09**	**19**	P	**P**	**09 50 49.3**	**+1.6**
	2.1nm,0.3s,baz=198,slow=20,SNR=2.5						
SONM	**Songino Array**	**41.73**	**340**	P	**P**	**09 51 26.0**	**-0.5**
SONM	**Songino Array**	**41.73**	**340**	P	**P**	**09 51 26.0**	**-0.5**
	0.5nm,0.4s,baz=144,slow=5.4,SNR=1.9						
NWAO	**Narrogin (SRO)**	**43.23**	**191**	*eP*	**P**	**09 51 36.8**	**-1.9**
	29nm,1.2s						
NWAO	**Narrogin (SRO)**	**43.23**	**191**	P	**P**	**09 51 38.5**	**-0.1**
	17nm,0.7s,baz=11,slow=4.1,SNR=7.1						
STKA	**Stephens Creek**	**43.69**	**161**	*eP*	**P**	**09 51 42.8**	**+0.3**
STKA	**Stephens Creek**	**43.69**	**161**	P	**P**	**09 51 42.5**	**0.0**
	2.0nm,0.4s,baz=334,slow=12,SNR=16						
PETK	**Petropavlovsk-**	**50.12**	**24**	P	**P**	**09 52 33.2**	**+0.8**
PETK	**Petropavlovsk-**	**50.12**	**24**	P	**P**	**09 52 33.2**	**+0.8**
	2.0nm,0.8s,baz=211,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**52.72**	**323**	P	**P**	**09 52 50.9**	**-1.1**
MKAR				PcP	**PcP**	**09 54 01.2**	**-0.1**
MKAR	**Makanchi Array**	**52.72**	**323**	P	**P**	**09 52 50.9**	**-1.1**
	1.7nm,0.6s,baz=123,slow=8.1,SNR=25						
MKAR				PcP	**PcP**	**09 54 01.2**	**-0.1**
	1.3nm,0.8s,baz=113,slow=4.2,SNR=3.8						
ZALV	**Zalesovo Beam**	**55.33**	**331**	P	**P**	**09 53 09.7**	**-1.2**
ZALV	**Zalesovo Beam**	**55.33**	**331**	P	**P**	**09 53 09.7**	**-1.2**
	1.9nm,0.6s,baz=114,slow=7.2,SNR=7.4						
AAK	**Ala-Archa**	**55.99**	**315**	LR	LR	10 18 49.8	
	comp=Z,55nm,19.9s,baz=19,slow=38						
KKAR	**Karatay Array**	**58.91**	**315**	*eP*	**P**	**09 53 35.3**	**-1.1**
	0.9nm,0.4s						
BVAR	**Borovoye Array**	**62.36**	**326**	P	**P**	**09 53 59.1**	**-0.6**
BVAR	**Borovoye Array**	**62.36**	**326**	P	**P**	**09 53 59.1**	**-0.6**
	1.2nm,0.6s,baz=104,slow=9.3,SNR=4.6						
BRVK	**Borovoye**	**62.43**	**326**	*eP*	**P**	**09 53 59.1**	**-1.1**
	0.7nm,0.4s						
RPZ	**Rata Peaks**	**66.69**	**146**	*eP*	**P**	**09 54 29.1**	**+1.0**
	29nm,1.0s						
RPZ	**Rata Peaks**	**66.69**	**146**	P	**P**	**09 54 29.1**	**+1.0**
	6.7nm,0.6s,baz=343,slow=19,SNR=4.7						
URZ	**Urewera**	**66.99**	**139**	*eP*	**P**	**09 54 30.3**	**+0.2**
	15nm,1.0s						
AKTO	**Aktyubinsk**	**69.00**	**320**	P	**P**	**09 54 41.5**	**-1.1**
AKTO	**Aktyubinsk**	**69.00**	**320**	P	**P**	**09 54 41.5**	**-1.1**
	2.1nm,0.8s,baz=83,slow=5.3,SNR=5.4						
COLD	**Coldfoot**	**78.58**	**23**	*eP*	**P**	**09 55 40.6**	**+2.2**
	2.5nm,1.0s						
KBZ	**Khabaz**	**78.86**	**313**	LR	LR	10 35 23.1	
	comp=Z,51nm,18.5s,baz=118,slow=40						
MCK	**McKinley**	**79.01**	**27**	*eP*	**P**	**09 55 41.8**	**+0.9**
	5.0nm,0.7s						
ILAR	**Eielson Array**	**79.91**	**26**	P	**P**	**09 55 45.4**	**-0.3**
ILAR	**Eielson Array**	**79.91**	**26**	P	**P**	**09 55 45.4**	**-0.3**
	1.1nm,0.7s,baz=237,slow=5.5,SNR=18						
INK	**Inuvik**	**84.79**	**22**	P	**P**	**09 56 11.9**	**+0.8**
INK	**Inuvik**	**84.79**	**22**	P	**P**	**09 56 11.9**	**+0.8**
	4.4nm,1.1s,baz=315,slow=5.7,SNR=3.2						
ARCES	**ARCESS Array B**	**84.90**	**340**	P	**P**	**09 56 11.7**	**0.0**
ARCES	**ARCESS Array B**	**84.90**	**340**	P	**P**	**09 56 11.7**	**0.0**
	4.4nm,0.8s,baz=81,slow=7.5,SNR=11						
BRTR	**Keskin Array B**	**86.16**	**309**	P	**P**	**09 56 17.9**	**-0.9**
BRTR	**Keskin Array B**	**86.16**	**309**	P	**P**	**09 56 17.9**	**-0.9**
	1.2nm,0.8s,baz=70,slow=3.7,SNR=5.0						
FINES	**FINESS Array B**	**86.60**	**332**	P	**P**	**09 56 19.3**	**-0.9**
FINES	**FINESS Array B**	**86.60**	**332**	P	**P**	**09 56 19.3**	**-0.9**
	2.7nm,0.6s,baz=95,slow=4.8,SNR=10						
VNDA	**Vanda**	**89.25**	**173**	P	**P**	**09 56 32.5**	**0.0**
VNDA	**Vanda**	**89.25**	**173**	P	**P**	**09 56 32.5**	**0.0**
	1.0nm,0.8s,baz=286,slow=5.2,SNR=5.0						
KMBO	**Kilima Mbogo**	**89.50**	**269**	P	**P**	**09 56 35.4**	**0.0**
KMBO	**Kilima Mbogo**	**89.50**	**269**	P	**P**	**09 56 35.4**	**0.0**
	2.0nm,0.2s,baz=58,slow=19,SNR=4.2						
HFS	**Hagfors**	**92.76**	**333**	P	**P**	**09 56 47.9**	**-1.3**
HFS	**Hagfors**	**92.76**	**333**	P	**P**	**09 56 47.8**	**-1.3**
	3.5nm,0.9s,baz=61,slow=9.2,SNR=4.0						
NOA	**NORSAR Array B**	**93.47**	**334**	P	**P**	**09 56 51.6**	**-0.9**
NOA	**NORSAR Array B**	**93.47**	**334**	P	**P**	**09 56 51.6**	**-0.9**
	1.4nm,0.9s,baz=65,slow=4.4,SNR=2.8						
YKA	**Yellowknife Ar**	**94.24**	**24**	P	**P**	**09 56 56.9**	**+0.9**
YKA	**Yellowknife Ar**	**94.24**	**24**	P	**P**	**09 56 56.9**	**+0.9**
	1.6nm,0.7s,baz=300,slow=4.6,SNR=16						
TXAR	**Lajitas Array**	**118.04**	**49**	PKP	**PKPdf**	**10 02 24.5**	**-0.1**
TXAR	**Lajitas Array**	**118.04**	**49**	PKP	**PKPdf**	**10 02 24.5**	**-0.1**
	0.1nm,0.6s,baz=349,slow=0.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**120.77**	**292**	PKP	**PKPdf**	**10 02 28.7**	**-1.3**
TORD	**Torodi Ar. Bea**	**120.77**	**292**	PKP	**PKPdf**	**10 02 28.7**	**-1.3**
	0.3nm,0.8s,baz=89,slow=2.5,SNR=2.5						
PLCA	**Paso Flores**	**145.50**	**157**	PKPbc	**PKPab**	**10 03 15.5**	**-0.3**
PLCA	**Paso Flores**	**145.50**	**157**	PKPbc	**PKPab**	**10 03 15.5**	**-0.3**
	4.8nm,0.8s,baz=251,slow=4.0,SNR=9.0						

WEL 21 09:46:20.4±0.3, 46°30S×165°.65E, h33km, ML3.9/13, 1C-1D, Error ellipse: s-maj=3.9km s-min=2.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.33**	**53**	PN	Pn	09 46 42.2	-0.4
DCZ				SN	Sb	09 47 00.6	-0.9
DCZ				AML	AML	09 47 02.1	
DCZ				AML	AML	09 47 02.2	
DCZ				AML	AML	09 47 03.0	
WHZ	**Wether Hill Ro**	**1.65**	**77**	⇑PN	Pn	09 46 48.0	+1.0
WHZ				SN	Sn	09 47 08.8	+1.7
WHZ				AML	AML	09 47 10.0	
APZ	**The Paps**	**1.70**	**109**	PN	Pn	09 46 47.6	-0.2
MLZ	**Mavora Lakes**	**2.00**	**63**	PN	Pn	09 46 53.3	+1.4
MLZ				AML	AML	09 47 27.6	
MLZ				AML	AML	09 47 29.3	
SYZ	**Scrubby Hill**	**2.43**	**97**	PN	Pn	09 46 58.6	+1.0
SYZ				SN	Sn	09 47 27.5	+1.3
EAZ	**Earnscleugh**	**2.77**	**69**	PN	Pn	09 47 04.1	+1.6
EAZ				AML	AML	09 47 50.7	
EAZ				AML	AML	09 47 52.7	
WKZ	**Wanaka**	**2.79**	**59**	PN	Pn	09 47 05.7	+3.0
WKZ				AML	AML	09 47 41.9	
WKZ				AML	AML	09 47 46.4	
TUZ	**Tuapeka**	**2.79**	**84**	PN	Pn	09 47 03.8	+1.1
TUZ				AML	AML	09 47 41.0	
TUZ				AML	AML	09 47 43.4	
ODZ	**Otahua Downs**	**3.72**	**72**	⇓PN	Pn	09 47 15.5	0.0
LBZ	**Lake Benmore**	**3.73**	**61**	PN	Pn	09 47 16.7	+1.1
LBZ				AML	AML	09 48 24.6	
LBZ				AML	AML	09 48 31.0	

IDC 21 09:55:00.5±2.0, 54°.11N×35°.08W, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/31, mbtmp3.5/3, Error ellipse: s-maj=80.9km s-min=34.3km az=52.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**50.05**	**130**	P	P	10 03 56.8	0.0
	0.6nm,0.7s,baz=331,slow=7.8,SNR=4.9						
ILAR	**Eielson Array**	**50.47**	**329**	P	P	10 03 59.5	0.0
	0.3nm,0.9s,baz=24,slow=6.5,SNR=4.3						
MKAR	**Makanchi Array**	**66.34**	**42**	P	P	10 05 50.8	+0.1
	0.4nm,0.7s,baz=326,slow=4.9,SNR=4.4						
ASAR	**Alice Springs**	**148.49**	**20**	PKPbc	PKPbc	10 14 48.0	-1.0
	1.0nm,0.8s,baz=349,slow=2.2,SNR=14						

WEL 21 10:03:25.1±0.6, 36°.99S×176°.79E, h203km±4km, ML3.8/13, Error ellipse: s-maj=8.3km s-min=6.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.30**	**169**	PN	Pn	10 03 57.5	+0.2
URZ				SN	Sn	10 04 21.9	-0.4
MWZ	**Matawai**	**1.47**	**157**	PN	Pn	10 03 59.2	+0.3
MWZ				SN	S	10 04 24.9	-0.1
PUZ	**Puketiti**	**1.59**	**133**	PN	Pn	10 03 59.6	-0.3
CNGZ	**Carnagh Statio**	**1.87**	**143**	PN	Pn	10 04 03.1	+0.6
KNZ	**Kokohu**	**2.15**	**161**	PN	Pn	10 04 05.1	-0.2
BKZ	**Black Stump Fm**	**2.19**	**186**	PN	Pn	10 04 05.8	-0.1
BKZ				SN	S	10 04 38.0	+0.7
MCHZ	**McNeill Hill**	**2.46**	**182**	PN	Pn	10 04 09.2	+0.5
MOVZ	**Moawhango**	**2.55**	**198**	PN	Pn	10 04 09.9	+0.1
CKHZ	**Cape Kidnapper**	**2.68**	**175**	PN	Pn	10 04 11.3	+0.1
KAHZ	**Kahuranaki**	**2.81**	**179**	PN	Pn	10 04 12.5	-0.2
PNHZ	**Pukenui**	**2.96**	**189**	PN	Pn	10 04 13.9	-0.5
PXZ	**Pawanui**	**3.04**	**179**	PN	Pn	10 04 14.5	-0.8
PXZ				AML	AML	10 05 06.2	
TSZ	**Takapari Road**	**3.14**	**192**	PN	Pn	10 04 16.1	-0.4
POWZ	**Post Office Ro**	**3.49**	**193**	PN	Pn	10 04 20.2	-0.6
PRWZ	**Pori Road**	**3.62**	**190**	PN	Pn	10 04 21.6	-0.7
MRZ	**Mangatainoka R**	**3.79**	**194**	PN	Pn	10 04 22.9	-1.5
MRZ				AML	AML	10 05 11.0	
OGWZ	**Otaki Gorge**	**4.03**	**198**	PN	Pn	10 04 25.9	-1.4
KIW	**Kapiti Island**	**4.14**	**200**	PN	Pn	10 04 27.1	-1.6
KIW				AML	AML	10 05 17.9	
KIW				AML	AML	10 05 18.3	
CAW	**Cannon Point**	**4.33**	**197**	PN	Pn	10 04 29.1	-1.9
CAW				AML	AML	10 05 23.4	
MSWZ	**Moikau Station**	**4.58**	**195**	PN	Pn	10 04 32.0	-2.3
TCW	**Tory Channel**	**4.65**	**204**	PN	Pn	10 04 33.3	-1.8
TCW				AML	AML	10 05 28.9	
PLWZ	**Palliser**	**4.73**	**194**	PN	Pn	10 04 33.9	-2.2
TUWZ	**Tuamarina**	**4.96**	**206**	PN	Pn	10 04 37.3	-1.7
NNZ	**Nelson**	**4.99**	**211**	PN	Pn	10 04 37.6	-1.7
KHZ	**Kahutara**	**5.97**	**204**	PN	Pn	10 04 49.8	-2.2

IDC 21 10:03:48.9±0.7, 54°.30N×35°.13W, h0km, mb3.7/14, mb1 3.8/17, mb1mx3.7/37, mbtmp3.8/17, ML3.3/3, MS3.5/18, Ms1 3.5/18, ms1mx3.3/38, Error ellipse: s-maj=23.9km s-min=15.2km az=24.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**14.76**	**336**	Pn	Pn	10 07 19.5	+0.9
	0.6nm,0.3s,baz=218,slow=8.9,SNR=2.1						
SFJD				LR	LR	10 11 59.3	
	comp=Z,147nm,20.6s,baz=158,slow=33						
SCHQ	**Schefferville**	**18.31**	**285**	P	P	10 08 04.4	+0.1
	0.2nm,0.3s,baz=66,slow=13,SNR=5.3						
SCHQ				LR	LR	10 13 56.6	
	comp=Z,96nm,20.5s,baz=29,slow=33						
EKA	**Eskdalemuir Ar**	**18.37**	**74**	P	P	10 08 06.2	+1.3
	baz=272,slow=9.2,SNR=3.2						
NOA	**NORSAR Array B**	**25.22**	**56**	LR	LR	10 17 37.1	
	comp=Z,55nm,18.2s,baz=275,slow=33						
ESDC	**Sonseca Array**	**25.54**	**112**	P	P	10 09 18.9	-0.2
	0.4nm,0.4s,baz=316,slow=9.8,SNR=3.8						
ESDC				LR	LR	10 17 18.0	
	comp=Z,85nm,19.5s,baz=325,slow=32						
HFS	**Hagfors**	**26.55**	**57**	LR	LR	10 18 37.6	
	comp=Z,74nm,20.8s,baz=315,slow=34						
DAVOX	**Davos/Dischmat**	**29.15**	**86**	LR	LR	10 20 52.4	
	comp=Z,152nm,19.1s,baz=83,slow=35						
GERES	**GERESS Array B**	**30.33**	**80**	LR	LR	10 21 49.7	
	comp=Z,71nm,18.9s,baz=96,slow=36						
MDT	**Midelt**	**30.43**	**122**	P	P	10 10 03.1	+0.1
	1.5nm,0.8s,baz=308,slow=12,SNR=3.3						
MDT				LR	LR	10 21 07.2	
	comp=Z,56nm,19.1s,baz=277,slow=34						
ARCES	**ARCESS Array B**	**30.74**	**37**	P	P	10 10 04.3	-0.9
	2.8nm,1.0s,baz=278,slow=8.5,SNR=4.0						
FINES	**FINESS Array B**	**32.20**	**52**	LR	LR	10 21 47.9	
	comp=Z,48nm,20.3s,baz=201,slow=34						
KEST	**Kesra**	**35.77**	**100**	P	P	10 10 50.0	+0.4
	0.9nm,0.8s,baz=334,slow=1.1,SNR=2.3						
TKL	**Tuckaleechee C**	**38.22**	**261**	LR	LR	10 26 04.5	
	comp=Z,63nm,19.6s,baz=153,slow=35						
YKA	**Yellowknife Ar**	**39.89**	**315**	P	P	10 11 23.8	-0.1
	0.3nm,0.7s,baz=60,slow=8.6,SNR=2.8						
YKA				PcP	PcP	10 13 27.7	-1.6
	0.1nm,0.2s,baz=63,slow=3.9,SNR=4.5						
INK	**Inuvik**	**43.92**	**328**	LR	LR	10 29 43.2	
	comp=Z,75nm,18.4s,baz=69,slow=35						
BRTR	**Keskin Array B**	**47.20**	**78**	P	P	10 12 24.9	+1.6
	1.1nm,0.8s,baz=296,slow=6.3,SNR=4.1						
BRTR				LR	LR	10 33 43.8	
	comp=Z,31nm,18.1s,baz=21,slow=38						
PDAR	**Pinedale Array**	**48.39**	**288**	P	P	10 12 32.5	-0.2
	0.2nm,0.6s,baz=24,slow=6.9,SNR=3.0						
PDAR				LR	LR	10 31 53.8	
	comp=Z,75nm,20.6s,baz=52,slow=35						
TORD	**Torodi Ar. Bea**	**50.20**	**131**	P	P	10 12 45.6	-0.8
	2.6nm,0.8s,baz=332,slow=8.1,SNR=9.2						
TORD				LR	LR	10 34 10.4	
	comp=Z,43nm,18.0s,baz=295,slow=36						
ILAR	**Eielson Array**	**50.29**	**329**	LR	LR	10 33 30.8	
	comp=Z,54nm,18.0s,baz=290,slow=35						
AKTO	**Aktyubinsk**	**52.97**	**53**	P	P	10 13 07.4	+0.7
	0.4nm,0.4s,baz=342,slow=16,SNR=3.1						
DBIC	**Dimbokro**	**53.39**	**141**	P	P	10 13 09.8	-0.3
	1.7nm,0.6s,baz=281,slow=5.2,SNR=3.3						
DBIC				LR	LR	10 32 48.9	
	comp=Z,77nm,18.8s,baz=336,slow=33						
TXAR	**Lajitas Array**	**54.40**	**272**	P	P	10 13 17.7	+0.1
	0.2nm,0.7s,baz=45,slow=6.5,SNR=3.6						
TXAR				LR	LR	10 35 57.6	
	comp=Z,109nm,20.0s,baz=355,slow=36						
KURBB	**Kurchatov Arra**	**61.66**	**42**	P	P	10 14 07.3	-0.7
	0.9nm,0.6s,baz=327,slow=7.2,SNR=8.4						
MKAR	**Makanchi Array**	**66.22**	**42**	P	P	10 14 36.8	-1.5
	0.7nm,0.7s,baz=320,slow=6.1,SNR=6.9						
PETK	**Petropavlovsk-**	**72.43**	**352**	P	P	10 15 17.1	+0.6
	0.9nm,0.6s,baz=24,slow=11,SNR=2.8						
BOSA	**Boshof**	**97.55**	**130**	LR	LR	10 59 16.7	
	comp=Z,60nm,18.3s,baz=346,slow=34						
WRA	**Warramunga Arr**	**144.77**	**17**	PKP	PKPdf	10 23 27.8	+0.2
	1.1nm,1.0s,baz=335,slow=2.5,SNR=2.8						
CTA	**Charters Tower**	**145.83**	**358**	PKPbc	PKPab	10 23 31.0	+0.7
	3.4nm,0.8s,baz=311,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**148.32**	**19**	PKPbc	PKPbc	10 23 36.0	-0.8
	1.7nm,0.6s,baz=353,slow=2.4,SNR=19						

WEL 21 10:05:24.5±0.4, 46°.21S×165°.59E, h33km, ML3.6/12, Error ellipse: s-maj=4.3km s-min=3.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.31**	**57**	PN	Pn	10 05 47.1	+0.6
DCZ				SN	Sn	10 06 01.8	-1.1
DCZ				AML	AML	10 06 09.2	
DCZ				AML	AML	10 06 12.3	
DCZ				AML	AML	10 06 12.3	
WHZ	**Wether Hill Ro**	**1.67**	**80**	PN	Pn	10 05 52.5	+1.1
WHZ				AML	AML	10 06 20.0	
WHZ				AML	AML	10 06 26.3	
APZ	**The Paps**	**1.77**	**112**	PN	Pn	10 05 53.8	+1.0
MLZ	**Mavora Lakes**	**2.00**	**65**	PN	Pn	10 05 57.3	+1.3
MLZ				AML	AML	10 06 34.1	
MLZ				AML	AML	10 06 41.2	
SYZ	**Scrubby Hill**	**2.48**	**99**	PN	Pn	10 06 05.3	+2.8
EAZ	**Earnscleugh**	**2.78**	**71**	PN	Pn	10 06 09.1	+2.4
EAZ				AML	AML	10 06 58.5	
EAZ				AML	AML	10 06 59.3	
TUZ	**Tuapeka**	**2.83**	**86**	PN	Pn	10 06 08.5	+1.2
TUZ				AML	AML	10 06 49.6	
TUZ				AML	AML	10 06 52.4	
ODZ	**Otahua Downs**	**3.73**	**74**	AML	AML	10 06 15.1	
ODZ				PN	Pn	10 06 20.2	+0.4

*IDC **21** 10:07:45.3±1.5, 51°.97N×172°.63W, h0km, mb3.5/5, mb1 3.8/8, mb1mx3.6/31, mbtmp3.5/8, ML3.2/3, Error ellipse: s-maj=48.1km s-min=12.6km az=1.0*
*NEIC **21** 10:07:52.1, 52°.10N×172°.82W, h42km, ML3.6(AEIC), After AEIC.*

ISC 21 10:07:49.5±1.1, 52°.0N±0°.2×172°.70W±0°.06, h32km, n19, σ1$06/23, mb3.4/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**2.07**	**272**	P	**Pn**	**10 08 22.8**	**+0.8**
GSTD	**Great Sitkin T**	**2.13**	**272**	P	**Pn**	**10 08 23.4**	**+0.7**
GSTD				S	**Sn**	**10 08 48.5**	**+0.4**
ETKA	**Kagalaska Isla**	**2.30**	**268**	P	**Pn**	**10 08 25.4**	**+0.4**
ADAG	**Mount Adagdak**	**2.41**	**271**	P	**Pn**	**10 08 26.9**	**+0.3**
NIKH	**Nikolski High**	**2.54**	**66**	P	**Pb**	**10 08 32.1**	**-2.2**
NIKH				S	**Sb**	**10 09 03.6**	**-1.5**
OKAK	**Okmok**	**3.06**	**58**	P	**Pn**	**10 08 36.0**	**+0.3**
OKFG	**Magazine Ridge**	**3.23**	**63**	P	**Pn**	**10 08 39.3**	**+1.4**
TASE	**Tanaga Southea**	**3.31**	**269**	P	**Pn**	**10 08 38.7**	**-0.3**
MSOM	**Makushin Julie**	**3.92**	**60**	P	**Pn**	**10 08 48.9**	**+1.6**
UNV	**Unalaska Valle**	**4.17**	**62**	P	**Pn**	**10 08 51.9**	**+1.1**
UNV				S	**Sn**	**10 09 40.1**	**+1.7**
ZRO	**Akutan Zero**	**4.56**	**60**	P	**Pn**	**10 08 56.8**	**+0.6**
FX1	**Attu Island--F**	**8.68**	**281**	Pn	**Pn**	**10 09 52.3**	**-0.3**
	0.4nm,0.3s,baz=56,slow=7.3,SNR=3.6						
FX1				Sn	**Sn**	**10 11 29.4**	**+0.2**
	baz=49,slow=20,SNR=1.6						
PETK	**Petropavlovsk-**	**17.97**	**285**	P	**Pn**	**10 11 56.5**	**-0.1**
	0.1nm,0.3s,baz=87,slow=16,SNR=2.6						
ILAR	**Eielson Array**	**18.42**	**36**	P	**P**	**10 12 01.6**	**-0.2**
	0.3nm,0.3s,baz=230,slow=10,SNR=19						
INK	**Inuvik**	**24.78**	**34**	P	**P**	**10 13 07.8**	**0.0**
	0.9nm,0.3s,baz=244,slow=12,SNR=15						
DLBC	**Dease Lake**	**24.82**	**58**	P	**P**	**10 13 10.4**	**+2.0**
	1.9nm,0.8s,baz=276,slow=15,SNR=5.5						
NVAR	**Mina Array Bea**	**39.72**	**88**	P	**P**	**10 15 19.7**	**+0.7**
	0.2nm,0.7s,baz=315,slow=7.1,SNR=2.7						
PDAR	**Pinedale Array**	**42.48**	**77**	P	**P**	**10 15 41.9**	**+0.2**
	0.4nm,0.6s,baz=337,slow=3.4,SNR=4.4						
TXAR	**Lajitas Array**	**54.81**	**86**	P	**P**	**10 17 15.7**	**-0.7**
	0.3nm,0.8s,baz=292,slow=4.4,SNR=4.9						

IDC 21 10:09:47.7±3.7, 19°.67N×121°.20E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/25, mbtmp3.4/4, MS3.0/1, Ms1 3.0/1, ms1mx2.0/19, Error ellipse: s-maj=346.6km s-min=21.2km az=62.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**24.57**	**183**	LR	LR	10 26 29.8	
	comp=Z,37nm,19.9s,baz=7.4,slow=41						
WRA	**Warramunga Arr**	**41.42**	**161

ORCV	Isla La Orchil	5.03	51	eP	Pn	10 12 00.6	-0.6		
PRGV	PARIAGUAN	5.49	89	eP	Pn	10 12 07.7	+0.1		
PRGV	PARIAGUAN	5.49	89⇑	eP	Pn	10 12 07.7	+0.1		
ROSC	El Rosal	5.59	227	Pn	Pn	10 12 11.9	+2.6		
ROSC				Sn	Sn	10 13 17.2	+3.8		
ROSC	El Rosal	5.59	227	Pn	Pn	10 12 11.9	+2.6		
	16nm,0.3s,baz=76,slow=2.5,SNR=30								
ROSC				Sn	Sn	10 13 17.2	+3.8		
	12nm,0.3s,baz=96,slow=18,SNR=3.8								
PCRV	Puerto La Cruz	5.69	74	eP	Pn	10 12 11.5	+1.1		
PCRV	Puerto La Cruz	5.69	74⇑	eP	Pn	10 12 11.4	+1.0		
PCRV				eS	Sn	10 13 13.8	-1.7		
ORIV	Oritupano	6.72	86	eP	Pn	10 12 24.1	-0.4		
ORIV	Oritupano	6.72	86	eP	Pn	10 12 24.1	-0.4		
GURV	El Guri	7.10	97	eP	Pn	10 12 29.7	-0.1		
GURV	El Guri	7.10	97	eP	Pn	10 12 29.7	-0.1		
GURV				eS	Sn	10 13 45.1	-5.2		
CRUV	Carupano	7.15	73	eP	Pn	10 12 30.8	+0.4		
GUNV	Guanoco	7.31	78	eP	Pn	10 12 33.4	+0.7		
GUNV	Guanoco	7.31	78⇑	eP	Pn	10 12 32.6	0.0		
BCIP	Isla Barro Col	9.53	274	ePn	Pn	10 13 05.6	+2.4		
CELP	Cerrillos	9.98	20	ePn	Pn	10 13 10.9	+1.6		
LRS	Lares	10.10	18	ePn	Pn	10 13 10.7	-0.2		
LRS				eSn	Sn	10 15 06.6	+2.6		
AOPR	Arecibo Observ	10.18	19	ePn	Pn	10 13 13.2	+1.2		
SDDR	Presa de Saban	10.30	354	ePn	Pn	10 13 16.1	+2.4		
OTAV	Otavalo	11.74	225	ePn	Pn	10 13 41.3	+7.5		
MTDJ	Mount Denham	11.87	324	ePn	Pn	10 13 35.3	+0.1		
JTS	JuntasAbangare	14.64	277	Pn	Pn	10 14 15.9	+2.8		
JTS	JuntasAbangare	14.64	277	Pn	Pn	10 14 15.9	+2.8		
	0.1nm,0.3s,baz=112,slow=17,SNR=2.3								
TGUH	Tegucigalpa,Un	17.57	289	ePn	Pn	10 14 51.7	+0.9		
TGUH				eSn	Sn	10 18 05.3	-1.0		
ATAH	Atahualpa	17.70	208	P	Pn	10 14 51.7	-1.2		
ATAH	Atahualpa	17.70	208	P	Pn	10 14 51.7	-1.2		
	0.3nm,0.3s,baz=6.3,slow=18,SNR=2.4								
SAML	Samuel	18.85	158	eP	P	10 15 05.3	-0.7		
	0.5nm,1.1s								
SAML				eS	Sn	10 18 31.2	-6.2		
TEIG	Tepich	20.91	305	P	P	10 15 26.0	-2.4		
TEIG				ePn	Pn	10 15 30.2	-0.7		
TEIG	Tepich	20.91	305	P	P	10 15 26.0	-2.4		
	5.7nm,0.5s,baz=161,slow=1.2,SNR=3.2								
NNA	Nana	21.56	198	P	P	10 15 35.5	0.0		
NNA	Nana	21.56	198	P	P	10 15 35.5	0.0		
	3.2nm,0.3s,baz=114,slow=20,SNR=1.9								
LPAZ	La Paz	24.89	175	eP	P	10 16 10.9	+1.5		
LPAZ				Lg	Lg	10 23 53.9			
LPAZ	La Paz	24.89	175	P	P	10 16 10.3	+0.9		
	6.3nm,0.6s,baz=356,slow=10,SNR=17								
LPAZ				Lg	Lg	10 23 53.9			
	4.1nm,0.8s,baz=18,slow=20,SNR=2.6								
SIV	San Ignacio	26.12	160	P	P	10 16 21.1	+1.1		
SIV				Lg	Lg	10 24 31.0			
SIV	San Ignacio	26.12	160	P	P	10 16 21.1	+1.1		
	5.7nm,1.1s,baz=356,slow=10,SNR=7.4								
SIV				Lg	Lg	10 24 31.0			
	14nm,0.9s,baz=270,slow=20,SNR=3.6								
TKL	Tuckaleechee C	29.58	337	P	P	10 16 48.9	-1.9		
TKL	Tuckaleechee C	29.58	337	P	P	10 16 48.9	-1.9		
	1.9nm,0.6s,baz=172,slow=14,SNR=5.0								
PLAL	Pickwick Lake	30.88	331	eP	P	10 17 04.4	+2.1		
BDFB	Brasilia	32.66	138	P	P	10 17 18.9	+0.7		
BDFB				Lg	Lg	10 27 59.0			
BDFB	Brasilia	32.66	138	P	P	10 17 18.9	+0.7		
	1.8nm,0.4s,baz=257,slow=7.9,SNR=3.5								
BDFB				Lg	Lg	10 27 59.0			
	3.7nm,0.6s,baz=18,slow=17,SNR=3.2								
MIAR	Mount Ida	33.51	324	eP	P	10 17 25.6	+0.2		
	3.7nm,0.8s								
732A	Laxson Ranch,	34.37	309	⇓P	P	10 17 33.3	+0.4		
	baz=34								
632A	Uvalde	34.62	311	⇑P	P	10 17 35.7	+0.6		
	baz=35								
532A	Rocksprings	35.03	312	⇓P	P	10 17 39.1	+0.5		
	baz=35,SNR=19								
631A	Perdido Creek	35.17	310	⇑P	P	10 17 40.2	+0.4		
	baz=35								
432A	Menard	35.34	313	⇓P	P	10 17 41.9	+0.6		
	baz=35								
531A	Rocksprings	35.52	311	⇑P	P	10 17 43.3	+0.4		
	baz=36								
332A	Millersview	35.58	314	⇓P	P	10 17 43.5	+0.2		
	baz=36,SNR=6.6								
TUL1	Tulsa	35.77	323	⇑P	P	10 17 44.7	-0.2		
	baz=36								
232A	Coleman	35.79	314	⇑P	P	10 17 45.3	+0.1		
	baz=36								
431A	Sonora	35.83	312	⇓P	P	10 17 45.6	0.0		
	baz=36								
331A	San Angelo	36.03	313	⇑P	P	10 17 47.7	+0.5		
	baz=36,SNR=9.5								
530A	J-C Ranch, Com	36.11	311	⇑P	P	10 17 48.2	+0.3		
	baz=36,SNR=7.8								
ABTX	Abilene, Hawle	36.20	315	⇑P	P	10 17 49.0	+0.4		
	baz=36,SNR=7.9								
231A	Bronte	36.29	314	⇓P	P	10 17 49.7	+0.2		
	baz=36								
Z32A	Haskell	36.48	316	⇑P	P	10 17 51.6	+0.6		
	baz=36								
330A	Mertzon	36.63	312	⇑P	P	10 17 52.8	+0.5		
	baz=37								
429A	Davenport Ranc	36.76	311	⇑P	P	10 17 53.9	+0.4		
	baz=37								
529A	Stev Forest Ra	36.76	310	⇓P	P	10 17 53.6	+0.1		
	baz=37,SNR=7.3								
230A	Sterling City	36.83	313	⇓P	P	10 17 54.5	+0.4		
	baz=37								
Y32A	R-V Farms, Ver	36.86	317	⇓P	P	10 17 54.5	+0.3		
	baz=37								
WMOK	Wichita Mounta	36.87	319	eP	P	10 17 53.7	-0.6		
	5.0nm,0.8s								
Z31A	Sharp Cattle R	36.94	316	⇓P	P	10 17 55.3	+0.3		
	baz=37,SNR=11								
628A	Black Gap, Mar	36.97	308	⇑P	P	10 17 56.2	+0.9		
	baz=37								
528A	Cox Ranch, San	37.21	310	⇓P	P	10 17 57.8	+0.4		
	baz=37,SNR=9.3								
329A	Wagon Wheel Ra	37.26	312	⇓P	P	10 17 58.1	+0.4		
	baz=37								
229A	Bryant Ranch,	37.38	313	⇑P	P	10 17 59.2	+0.5		
	baz=37								
Y31A	Rekieta Farm,	37.39	317	⇑P	P	10 17 59.2	+0.4		
	baz=37,SNR=11								
TXAR	Lajitas Array	37.51	308	P	P	10 18 00.6	+0.6		
TXAR				PcP	PcP	10 20 18.2	0.0		
TXAR	Lajitas Array	37.51	308	P	P	10 18 00.6	+0.6		
	0.7nm,0.5s,baz=132,slow=8.3,SNR=27								
TXAR				PcP	PcP	10 20 18.2	0.0		
	0.6nm,0.6s,baz=132,slow=5.1,SNR=5.1								
X31A	McDonald Ranch	37.59	318	⇓P	P	10 18 00.5	0.0		
	baz=38								
Z30A	Sanderson Ranc	37.60	315	⇑P	P	10 18 00.9	+0.3		
	baz=38,SNR=7.4								
129A	Stewart Farms,	37.77	314	⇓P	P	10 18 02.3	+0.3		
	baz=38								
328A	Wristen Ranch,	37.82	311	⇓P	P	10 18 02.6	+0.1		
	baz=38								
527A	Woodward Ranch	37.84	309	⇑P	P	10 18 02.8	+0.1		
	baz=38,SNR=5.7								
626A	Big Bend Ranch	37.97	308	⇓P	P	10 18 04.3	+0.5		
	baz=38,SNR=15								
Z29A	Hungry Hill Ra	37.99	315	⇓P	P	10 18 04.2	+0.2		
	baz=38,SNR=7.8								
427A	Hayter Ranch,	38.00	310	⇓P	P	10 18 04.4	+0.3		
	baz=38,SNR=12								
228A	UT Block 9, Go	38.03	312	⇓P	P	10 18 04.7	+0.5		
	baz=38								
X30A	Coker Ranch, T	38.08	317	⇓P	P	10 18 04.9	+0.3		
	baz=38,SNR=11								
526A	Mary Lane Ranc	38.16	309	⇑P	P	10 18 05.9	+0.4		
	baz=38,SNR=10								
V31A	Spring Creek L	38.19	319	⇓P	P	10 18 06.0	+0.5		
	baz=38								
128A	Castleberry Fa	38.21	313	⇑P	P	10 18 06.6	+0.9		
	baz=38								
Y29A	Porterfield Fa	38.30	315	⇑P	P	10 18 07.3	+0.8		
	baz=38								
426A	McDonald Obser	38.40	309	⇑P	P	10 18 08.0	+0.4		
	baz=38,SNR=12								
Z28A	Tucker Farm, M	38.49	314	⇓P	P	10 18 08.6	+0.5		
	baz=38								
X29A	Tulia	38.64	316	⇑P	P	10 18 09.7	+0.3		
	baz=39								
326A	Caldwell Ranch	38.66	310	⇓P	P	10 18 09.9	+0.2		
	baz=39								
Y28A	McKinney Farm,	38.72	315	⇓P	P	10 18 10.8	+0.7		
	baz=39								
226B	Tecolote Peak,	39.16	311	⇓P	P	10 18 14.5	+0.6		
	baz=39,SNR=6.4								
425A	Indio Mountain	39.18	309	⇓P	P	10 18 14.7	+0.7		
	baz=39								
Y27A	Causey	39.35	314	⇑P	P	10 18 15.5	+0.1		
	baz=39								
R31A	Burdett	39.57	323	⇑P	P	10 18 17.0	-0.1		
	baz=40								
Z26A	Caprock	39.62	313	⇑P	P	10 18 18.0	+0.4		
	baz=40,SNR=7.0								
225A	Deer Hill, Car	39.67	311	⇑P	P	10 18 18.9	+0.7		
	baz=40,SNR=11								
X27A	F and S Farms,	39.71	316	⇑P	P	10 18 18.5	+0.1		
	baz=40								
125A	Gardner Draw,	39.81	312	⇑P	P	10 18 19.8	+0.5		
	baz=40								
324A	Moseley Ranch,	39.86	310	⇑P	P	10 18 20.3	+0.6		
	baz=40,SNR=14								
MNTX	Cornudas Mount	39.90	310	eP	P	10 18 20.9	+1.0		
	7.9nm,1.0s								
W27A	Bowe Ranch, En	39.92	316	⇓P	P	10 18 20.7	+0.6		
	baz=40								
R30A	Dighton	40.02	322	⇓P	P	10 18 21.0	+0.2		
	baz=40								
Z25A	Roswell	40.16	313	⇓P	P	10 18 22.9	+0.7		
	baz=40,SNR=8.1								
X26A	CR and CF Fran	40.16	315	⇑P	P	10 18 22.7	+0.5		
	baz=40								
224A	Cornudas Mount	40.18	310	⇓P	P	10 18 23.1	+0.7		
	baz=40,SNR=18								
124A	Stringfield Ra	40.42	311	⇓P	P	10 18 25.2	+0.8		
	baz=40								
Y25A	Mesa, Roswell	40.46	313	⇑P	P	10 18 25.3	+0.6		
	baz=40								
U27A	Thompson Grove	40.52	318	⇓P	P	10 18 25.3	+0.2		
	baz=40								
Z24A	Sheeppen Canyo	40.65	312	⇑P	P	10 18 27.2	+0.9		
	baz=41,SNR=7.9								
X25A	Clemmons Ranch	40.75	314	⇑P	P	10 18 28.1	+1.0		
	baz=41								
V26A	Tequesquite Ra	40.81	317	⇑P	P	10 18 28.3	+0.8		
	baz=41								
W25A	X Bar L Ranch,	40.96	315	⇓P	P	10 18 29.5	+0.7		
	baz=41,SNR=9.0								
Y24A	Capitan	41.00	313	⇑P	P	10 18 30.1	+0.9		
	baz=41,SNR=20								
U26A	Atchley Ranch,	41.11	317	⇑P	P	10 18 30.7	+0.7		
	baz=41,SNR=10								
Z23A	Rita Site, Whi	41.26	312	⇓P	P	10 18 32.3	+1.0		
	baz=41								
X24A	Lazy VL Ranch,	41.31	314	⇑P	P	10 18 32.9	+1.2		
	baz=41								
222A	Williams Famil	41.39	310	⇓P	P	10 18 33.1	+0.8		
	baz=41,SNR=13								
V25A	Rancho No Teng	41.40	316	⇑P	P	10 18 33.4	+0.9		
	baz=41								
Y23A	Lovelace Mesa,	41.45	313	⇓P	P	10 18 33.8	+0.9		
	baz=42,SNR=6.7								
U25A	Circle Dot Ran	41.56	317	⇓P	P	10 18 34.8	+1.0		
	baz=42								
R27A	Eads	41.59	320	⇓P	P	10 18 34.9	+1.1		
	baz=42								
W24A	Lazy 6 Ranch,	41.62	315	⇓P	P	10 18 35.1	+0.8		
	baz=42								
V24A	Rampart Ranch,	41.79	315	⇑P	P	10 18 37.1	+1.4		
	baz=42,SNR=6.3								
Z22A	Elephant Butte	41.80	311	⇓P	P	10 18 36.9	+1.2		
	baz=42,SNR=6.6								
T25A	Trinidad	41.97	318	⇓P	P	10 18 38.2	+1.1		
	baz=42								
121A	Cookes Peak, D	42.09	310	⇑P	P	10 18 39.8	+1.6		
	baz=42,SNR=10								
Y22A	Socorro	42.12	312	⇓P	P	10 18 39.1	+0.8		
	baz=42								
W23A	Werner Place,	42.12	314	⇑P	P	10 18 39.5	+1.1		
	baz=42								
U24A	Moreno Valley	42.16	316	⇓P	P	10 18 40.6	+1.9		
	baz=42,SNR=12								
ANMO	Albuquerque	42.23	314	eP	P	10 18 40.0	+0.7		
S25A	Robets Cordova	42.28	318	⇓P	P	10 18 40.9	+1.3		
	baz=42								
Z21A	St. Cloud Mine	42.35	311	⇓P	P	10 18 41.5	+1.2		
	baz=42								
220A	Playas Peak, P	42.40	309	⇑P	P	10 18 42.0	+1.4		
	baz=42,SNR=18								
Q26A	Hugo	42.42	321	⇑P	P	10 18 41.7	+1.0		
	baz=42								
X22A	Bernardo	42.42	313	⇑P	P	10 18 42.1	+1.3		
	baz=42								
V23A	Ortiz Mt. (NFS	42.44	315	⇓P	P	10 18 41.8	+0.8		
	baz=42								
LAZ	Ladron	42.46	313	eP	P	10 18 42.6	+1.4		
	2.4nm,0.9s								
Y21A	Point of Rocks	42.67	312	⇓P	P	10 18 44.1	+1.2		
	baz=43								
U23A	El Rito	42.74	316	⇑P	P	10 18 45.1	+1.7		
	baz=43,SNR=12								
120A	U Bar Ranch, L	42.75	309	⇓P	P	10 18 44.8	+1.4		
	baz=43,SNR=5.2								
319A	Douglas	42.77	307	⇑P	P	10 18 45.0	+1.4		
	baz=43								
S24A	Houchin Ranch,	42.78	318	⇑P	P	10 18 45.2	+1.4		
	baz=43								
X21A	Alamocita Cree	42.95	312	⇑P	P	10 18 46.4	+1.2		
	baz=43,SNR=6.5								
Z20A	Nine Sixteen R	42.96	310	⇓P	P	10 18 46.4	+1.2		
	baz=43								
T23A	Casias Ranch,	43.01	317	⇓P	P	10 18 47.3	+1.6		
	baz=43,SNR=10.0								
SDCO	Great Sand Dun	43.03	318	eP	P	10 18 47.2	+1.4		
	4.3nm,0.8s								
V22A	San Miguel Ran	43.03	315	⇓P	P	10 18 47.1	+1.2		
	baz=43								
R24A	Sanders Place,	43.04	319	⇑P	P	10 18 46.9	+1.1		
	baz=43								
EYMN	Ely	43.09	339	eP	P	10 18 45.1	-0.7		
Y20A	Horse Springs,	43.15	311	⇓P	P	10 18 48.3	+1.5		
	baz=43,SNR=9.9								
W21A	San Fidel	43.17	313	⇑P	P	10 18 48.2	+1.3		
	baz=43								
U22A	Llaves	43.23	315	⇑P	P	10 18 48.3	+0.9		
	baz=43								
R23A	Moffat	43.49	318	⇑P	P	10 18 50.5	+1.0		
	baz=44								
K28A	Ten Mile Ranch	43.55	326	⇓P	P	10 18 49.7	0.0		
	baz=44								
T22A	Edith	43.59	316	⇑P	P	10 18 50.5	+0.2		
	baz=44								
W20A	Ramah	43.79	313	⇓P	P	10 18 52.9	+0.9		
	baz=44								
U21A	Nageezi	43.81	315	⇑P	P	10 18 53.0	+0.9		
	baz=44								
S22A	4UR Ranch, Cre	43.92	317	⇑P	P	10 18 54.5	+1.5		
	baz=44,SNR=11								
J28A	Allard Ranch,	43.95	327	⇓P	P	10 18 54.0	+1.0		
	baz=44								
T21A	Navajo Lake	44.01	316	⇓P	P	10 18 54.9	+1.2		
	baz=44								
K27A	Flueckinger Fa	44.02	326	⇓P	P	10 18 53.6	+0.1		
	baz=44								
V20A	Brimhall	44.08	314	⇑P	P	10 18 55.2	+1.0		
	baz=44								
R22A	Saguache, Gunn	44.12	318	⇓P	P	10 18 55.9	+1.2		
	baz=44,SNR=10								
ISCO	Idaho Springs	44.25	320	eP	P	10 18 56.5	+0.8		
ISCO	Idaho Springs	44.25	320	⇑P	P	10 18 56.2	+0.6		
	baz=44								
TUC	Tucson	44.31	308	eP	P	10 18 56.0	0.0		
	10nm,0.9s								
N24A	Carr	44.39	322	⇓P	P	10 18 57.1	+0.5		
	baz=44								
S21A	Coal Bank Pass	44.53	316	⇓P	P	10 18 59.0	+1.1		
	baz=44								
Q22A	Crested Butte,	44.56	318	⇓P	P	10 18 58.9	+0.8		
	baz=45								
X18A	Snowflake	44.59	311	⇑P	P	10 18 59.6	+1.3		
	baz=45,SNR=7.2								
R21A	Cimarron	44.73	317	⇑P	P	10 19 00.8	+1.4		
	baz=45,SNR=5.8								
MVCO	Mesa Verde	44.79	315	eP	P	10 19 01.2	+1.3		
	5.0nm,0.9s								
MVCO	Mesa Verde	44.79	315	⇓P	P	10 19 01.1	+1.2		
	baz=45								
I27A	Quinn	44.83	327	⇓P	P	10 19 01.1	+1.2		
	baz=45								
P22A	Eagle	44.87	319	⇑P	P	10 19 01.3	+0.9		
	baz=45								
S20A	Disappointment	45.00	316	⇑P	P	10 19 03.3	+1.7		
	baz=45,SNR=11								
AGMN	Agassiz Nation	45.04	336	eP	P	10 19 01.4	0.0		
	10.0nm,1.1s								
O22A	Kremmling	45.04	320	⇑P	P	10 19 02.5	+0.5		
	baz=45								
R20A	Redvale	45.19	317	⇑P	P	10 19 04.6	+1.5		
	baz=45,SNR=11								
P21A	Newcastle	45.27	319	⇑P	P	10 19 05.0	+1.3		
	baz=45								
PV01	Paradox Valley	45.30	316	eP	P	10 19 06.0	+2.0		
	826nm,1.0s								
N22A	Wattenberg Ran	45.35	321	⇓P	P	10 19 05.6	+1.3		
	baz=45								
Q20A	Ridgley Place,	45.53	318	⇓P	P	10 19 07.2	+1.5		
	baz=46,SNR=13								
L23A	Garrett	45.65	323	⇓P	P	10 19 07.6	+1.0		
	baz=46								
G27A	Dupree	45.65	329	⇓P	P	10 19 06.5	+0.1		
	baz=46								
X16A	Lo Mia Camp, P	45.66	310	⇓P	P	10 19 08.0	+1.2		
	baz=46,SNR=6.7								
O21A	Pagoda	45.66	320	⇑P	P	10 19 08.3	+1.4		
	baz=46								
I25A	Rochford	45.70	326	⇑P	P	10 19 07.2	+0.2		
	baz=46								
214A	Organ Pipe Nat	45.77	307	⇑P	P	10 19 08.2	+0.6		
	baz=46								
P20A	De Beque	45.88	318	⇓P	P	10 19 09.6	+1.1		
	baz=46								
WUAZ	Wupatki	46.07	312	eP	P	10 19 11.4	+1.4		
	8.2nm,0.9s								
WUAZ	Wupatki	46.07	312	⇑P	P	10 19 11.2	+1.2		
	baz=46,SNR=8.6								
SCHQ	Schefferville	46.11	3	P	P	10 19 10.1	+0.3		
SCHQ	Schefferville	46.11	3	P	P	10 19 10.1	+0.3		
	4.7nm,0.5s,baz=197,slow=5.9,SNR=23								
O20A	White River Ci	46.12	319	⇑P	P	10 19 11.4	+1.0		
	baz=46								
RWWY	Rawlins	46.32	321	eP	P	10 19 12.8	+0.8		
P19A	Cripple Cowboy	46.34	318	⇑P	P	10 19 13.1	+1.0		
	baz=46								
Z14A	Wintersburg	46.39	308	⇓P	P	10 19 13.3	+0.9		
	baz=46								
L21A	Rawlins	46.57	322	⇑P	P	10 19 15.3	+1.4		
	baz=47								
E26A	Carlson Angus	46.67	330	⇓P	P	10 19 14.3	-0.1		
	baz=47								
M20A	Sweetwater, Wa	46.82	321	⇑P	P	10 19 16.6	+0.7		
	baz=47								
113A	Mohawk Valley,	46.82	307	⇑P	P	10 19 16.5	+0.8		
	baz=47								
J22A	Midwest	46.88	324	⇑P	P	10 19 16.6	+0.3		
	baz=47								
K21A	Alcova	46.88	322	⇑P	P	10 19 16.8	+0.4		
	baz=47								
SRU	San Rafael	47.11	317	eP	P	10 19 19.5	+1.3		
	4.1nm,0.8s								
U15A	North Rim	47.13	312	⇓P	P	10 19 19.6	+1.2		
	baz=47,SNR=8.6								
I22A	9 Mile Ranch,	47.18	324	⇓P	P	10 19 19.1	+0.5		
	baz=47								
K20A	Yellowstone Ra	47.56	322	⇑P	P	10 19 21.7	+0.2		
	baz=48								
I21A	Big Trails, Te	47.60	324	⇓P	P	10 19 22.4	+0.6		
	baz=48								
F23A	Volborg	47.71	327	⇑P	P	10 19 22.4	-0.2		
	baz=48								
GLA	Glamis	47.75	307	eP	P	10 19 24.1	+1.1		
	6.8nm,0.8s								
GLA	Glamis	47.75	307	⇑P	P	10 19 24.2	+1.1		
	baz=48								
W13A	Hualapai Mount	47.77	310	⇓P	P	10 19 24.4	+1.0		
	baz=48,SNR=6.0								
L19A	Farson	47.88	321	⇓P	P	10 19 24.6	+0.5		
	baz=48,SNR=6.3								
K19A	Absolon Red Bu	47.96	322	⇑P	P	10 19 25.2	+0.5		
	baz=48								
MSU	Marysvale	47.97	315	eP	P	10 19 26.5	+1.7		
MVU	Marysvale	47.99	315	eP	P	10 19 26.8	+1.7		
	7.2nm,0.9s								
D24A	Glendive	48.05	329	⇓P	P	10 19 25.8	+0.7		
	baz=48								
I20A	Worland	48.17	323	⇓P	P	10 19 26.8	+0.6		
	baz=48								
F22A	Rosebud	48.21	326	⇓P	P	10 19 27.0	+0.6		
	baz=48								
L18A	Fontenelle, Gr	48.22	320	⇓P	P	10 19 27.3	+0.6		
	baz=48,SNR=7.2								
DAU	Daniels Canyon	48.24	318	eP	P	10 19 28.6	+1.5		
MPU	Maple Canyon	48.30	317	eP	P	10 19 28.7	+1.3		
	5.8nm,0.9s								
J19A	Crowheart	48.33	322	⇑P	P	10 19 27.9	+0.4		
	baz=48								
BW06	Boulder Array	48.37	321	eP	P	10 19 28.2	+0.3		
	4.0nm,1.0s								
PDAR	Pinedale Array	48.37	321	P	P	10 19 28.0	+0.1		
PDAR	Pinedale Array	48.37	321	P	P	10 19 28.0	+0.1		
	1.2nm,0.6s,baz=124,slow=9.8,SNR=14								
CCUT	Cedar City	48.38	313	eP	P	10 19 29.4	+1.3		
	3.

BBRC	Big Bear Solar baz=50	49.81	308	⇓P	P	10 19 39.5	+0.4
IMW	Indian Meadow 1.2nm,0.6s	49.83	322	*eP*	P	10 19 39.7	+0.5
E19A	Rath Farm, Rou baz=50,SNR=7.1	50.02	326	⇓P	P	10 19 40.6	+0.3
D20A	Manuel Ranch, baz=50	50.04	327	⇓P	P	10 19 41.1	+0.6
GSC	Goldstone 4.9nm,0.9s	50.07	309	*eP*	P	10 19 41.9	+1.0
GSC	Goldstone baz=50	50.07	309	⇑P	P	10 19 41.4	+0.5
A22A	Carney Farms, baz=50	50.09	330	⇓P	P	10 19 41.7	+0.9
GCMT	Greycliff 4.1nm,1.0s	50.12	325	*eP*	P	10 19 41.8	+0.6
I16A	Newdale baz=50,SNR=8.7	50.15	322	⇑P	P	10 19 42.2	+0.7
B21A	Ellsworth Farm baz=50	50.28	329	⇓P	P	10 19 43.1	+0.9
R11A	Troy Canyon, C baz=50,SNR=6.4	50.31	313	⇓P	P	10 19 43.5	+0.7
C20A	Veseth Ranch, baz=50	50.35	327	⇓P	P	10 19 43.4	+0.7
H16A	Russell Place, baz=50	50.45	323	⇑P	P	10 19 44.5	+0.8
G17A	Pierce Place, baz=50	50.48	324	⇑P	P	10 19 44.9	+1.0
D19A	Cripps Ranch, baz=50,SNR=6.2	50.49	326	⇓P	P	10 19 44.2	+0.3
FURC	Furnace Creek, baz=50	50.53	311	⇑P	P	10 19 45.1	+0.9
QLMT	Earthquake Lak 0.4nm,0.6s	50.62	323	*eP*	P	10 19 46.7	+1.6
E18A	Harlowton baz=51,SNR=5.5	50.71	325	⇓P	P	10 19 45.9	+0.3
F17A	Fitzpatrick Pl baz=51,SNR=6.1	50.76	324	⇑P	P	10 19 46.6	+0.6
EDW2	Edwards Air Fo baz=51	50.84	308	⇑P	P	10 19 47.1	+0.4
MPMC	Manual Prospec baz=51	50.86	310	⇓P	P	10 19 47.1	+0.1
C19A	Slack Wire Ran baz=51	50.92	327	⇓P	P	10 19 47.7	+0.6
D18A	Linhart Farms, baz=51	51.02	326	⇑P	P	10 19 48.4	+0.6
A20A	Cobblestone Ra baz=51	51.04	329	⇑P	P	10 19 48.6	+0.7
BOZ	Bozeman (W) 1.8nm,1.1s	51.18	323	*eP*	P	10 19 49.7	+0.5
E17A	Martinsdale baz=51,SNR=6.8	51.19	325	⇑P	P	10 19 49.6	+0.3
B19A	Brinkman Farms baz=51	51.30	328	⇓P	P	10 19 50.5	+0.6
I14A	Mackay baz=51	51.40	321	⇓P	P	10 19 52.2	+1.4
ISA	Isabella baz=52	51.48	309	⇑P	P	10 19 51.9	+0.5
EGMT	Eagleton 2.2nm,0.6s	51.48	327	*eP*	P	10 19 52.0	+0.7
EGMT	Eagleton baz=52	51.48	327	⇓P	P	10 19 52.0	+0.7
MCMT	McKenzie Canyo 1.4nm,0.7s	51.48	322	*eP*	P	10 19 53.0	+1.4
D17A	Six Diamond Ra baz=52	51.48	326	⇑P	P	10 19 51.7	+0.3
A19A	Klindworth Far baz=52	51.49	328	⇓P	P	10 19 51.8	+0.5
DLMT	Dillon	51.61	323	*eP*	P	10 19 53.4	+1.1
B18A	Beardsley Farm baz=52	51.71	327	⇓P	P	10 19 53.5	+0.5
C17A	Wharram Farm, baz=52	51.80	326	⇑P	P	10 19 54.0	+0.3
HLID	Hailey 2.3nm,1.0s	51.83	320	*eP*	P	10 19 55.0	+1.0
HLID	Hailey baz=52,SNR=6.9	51.83	320	⇓P	P	10 19 54.8	+0.7
HRY	Holter Researc	51.88	324	*eP*	P	10 19 55.1	+0.7
B17A	L&G Farms, Che baz=52	52.20	327	⇓P	P	10 19 57.0	+0.4
NVAR	Mina Array Bea	52.31	312	P	P	10 19 58.8	+0.9
NVAR	Mina Array Bea 1.6nm,0.6s,baz=113,slow=6.3,SNR=20	52.31	312	P	P	10 19 58.8	+0.9
I12A	Atlanta baz=52,SNR=6.1	52.39	320	⇓P	P	10 19 58.8	+0.5
C16A	Fuhringer Ranc baz=52	52.44	326	⇑P	P	10 19 58.6	+0.1
A17A	Triple J Farms baz=53	52.53	327	⇓P	P	10 19 59.2	+0.1
H12A	Diamond D Ranc baz=53,SNR=7.8	52.58	321	⇑P	P	10 20 00.1	+0.4
MFID	Camas Ranch 6.2nm,0.3s	52.66	319	*eP*	P	10 20 01.0	+0.8
MFID	Camas Ranch baz=53	52.66	319	⇑P	P	10 20 00.6	+0.4
C15A	Salmond Ranch, baz=53	52.91	325	⇓P	P	10 20 01.6	-0.4
SLMT	Seeley Lake	53.13	324	*eP*	P	10 20 04.3	+0.6
G12A	Big Creek, Yel baz=53	53.15	321	⇑P	P	10 20 04.4	+0.5
B15A	Bradely Ranch, baz=53	53.18	326	⇓P	P	10 20 03.7	-0.3
C14A	Swan Lake baz=54	53.55	325	⇓P	P	10 20 07.3	+0.6
B14A	Marquette Ranc baz=54	53.60	326	⇑P	P	10 20 07.0	-0.1
A15A	Johnson Ranch, baz=54	53.65	326	⇓P	P	10 20 07.0	-0.3
E12A	Beaver Dam Sad baz=54	53.93	322	⇑P	P	10 20 09.8	+0.2
C13A	Hot Springs baz=54,SNR=7.1	53.98	324	⇑P	P	10 20 10.2	+0.4
WVOR	Wild Horse Val 3.3nm,0.9s	54.10	317	*eP*	P	10 20 11.4	+0.6
C12B	Naegeli Ranch, baz=54	54.52	324	⇓P	P	10 20 14.4	+0.7
A12A	Yaak River Ran baz=55	55.25	325	⇓P	P	10 20 19.6	+0.6
NEW	Newport 4.4nm,1.1s	55.76	324	*eP*	P	10 20 22.1	-0.5
NEW	Newport baz=56	55.76	324	⇓P	P	10 20 22.5	-0.1
YKA	Yellowknife Ar	62.57	339	P	P	10 21 08.7	-0.7
YKA	Yellowknife Ar 8.4nm,0.7s,baz=123,slow=7.0,SNR=68	62.57	339	P	P	10 21 08.7	-0.7
DBIC	Dimbokro	64.72	87	P	P	10 21 24.3	-0.2
DBIC	Dimbokro 2.9nm,0.6s,baz=229,slow=6.5,SNR=4.5	64.72	87	P	P	10 21 24.3	-0.2
MDT	Midelt	64.85	58	P	P	10 21 26.8	+1.5
MDT	Midelt 3.4nm,0.8s,baz=256,slow=6.3,SNR=10.0	64.85	58	P	P	10 21 26.8	+1.5
ESDC	Sonseca Array	66.25	51	P	P	10 21 34.8	+0.7
ESDC	Sonseca Array 0.2nm,0.3s,baz=251,slow=8.4,SNR=3.8	66.25	51	P	P	10 21 34.8	+0.7
DLBC	Dease Lake	67.12	330	P	P	10 21 39.9	+0.6
DLBC	Dease Lake 3.9nm,0.7s,baz=127,slow=4.2,SNR=11	67.12	330	P	P	10 21 39.9	+0.6
SJPF	Ste Jean 5.0nm,0.6s	68.79	47	*eP*	P	10 21 51.0	+1.0
SJPF	Ste Jean 5.0nm,0.6s	68.79	47	*eP*	P	10 21 51.0	+1.0
GRR	Gorron	69.87	42	*eP*	P	10 21 57.0	+0.4
GRR	Gorron	69.87	42	*eP*	P	10 21 57.0	+0.4
EPF	Esparros	69.92	47	*eP*	P	10 21 58.0	+0.9
EPF	Esparros	69.92	47	*eP*	P	10 21 58.0	+0.9
EKA	Eskdalemuir Ar	69.92	34	P	P	10 21 56.6	-0.1
EKA	Eskdalemuir Ar 0.8nm,0.6s,baz=266,slow=3.2,SNR=4.3	69.92	34	P	P	10 21 56.6	-0.1
MFF	Saint Martin d	70.06	44	*eP*	P	10 21 58.6	+0.8
MFF	Saint Martin d	70.06	44	*eP*	P	10 21 58.6	+0.8
FLN	La Foliniere 11nm,0.6s	70.18	41	*eP*	P	10 21 59.1	+0.6
FLN	La Foliniere 11nm,0.6s	70.18	41	*eP*	P	10 21 59.1	+0.6
TORD	Torodi Ar. Bea	70.54	79	P	P	10 22 00.8	-0.5
TORD	Torodi Ar. Bea 1.2nm,0.6s,baz=288,slow=6.2,SNR=15	70.54	79	P	P	10 22 00.8	-0.5
MTLF	Montolieu 4.4nm,0.6s	71.31	47	*eP*	P	10 22 05.8	+0.3
MTLF	Montolieu 4.4nm,0.6s	71.31	47	*eP*	P	10 22 05.8	+0.3
CAF	Calviac 9.8nm,0.7s	71.37	46	*eP*	P	10 22 05.6	-0.3
CAF	Calviac 9.8nm,0.7s	71.37	46	*eP*	P	10 22 05.6	-0.3
TCF	Toulx Ste Croi	71.63	44	*eP*	P	10 22 08.5	+1.1
TCF	Toulx Ste Croi	71.63	44	*eP*	P	10 22 08.5	+1.1
BGF	Bois d'Agland	72.10	44	*eP*	P	10 22 10.5	+0.3
BGF	Bois d'Agland	72.10	44	*eP*	P	10 22 10.5	+0.3
INK	Inuvik	72.29	340	P	P	10 22 10.4	-0.5
INK	Inuvik 5.7nm,0.7s,baz=104,slow=5.2,SNR=6.7	72.29	340	P	P	10 22 10.4	-0.5
AVF	Avril sur Loir	72.47	44	*eP*	P	10 22 12.5	+0.1
AVF	Avril sur Loir	72.47	44	*eP*	P	10 22 12.5	+0.1
SSF	Saint Saulge	72.60	43	*eP*	P	10 22 13.3	+0.1
SSF	Saint Saulge	72.60	43	*eP*	P	10 22 13.3	+0.1
SMF	Signal de Mont 10nm,0.9s	72.79	44	*eP*	P	10 22 14.7	+0.4
SMF	Signal de Mont 10nm,0.9s	72.79	44	*eP*	P	10 22 14.7	+0.4
LOR	Lormes 5.6nm,0.7s	72.86	43	*eP*	P	10 22 14.9	+0.1
LOR	Lormes 5.6nm,0.7s	72.86	43	*eP*	P	10 22 14.9	+0.1
VIVF	Saint-Julien-l 7.6nm,0.8s	73.21	46	*eP*	P	10 22 17.2	+0.3
VIVF	Saint-Julien-l 7.6nm,0.8s	73.21	46	*eP*	P	10 22 17.2	+0.3
TAM	Tamanrasset 3.3nm,0.8s	73.58	69	*eP*	P	10 22 21.6	+2.0
SFTF	Sexfontaines	73.75	42	*eP*	P	10 22 20.1	+0.2
SFTF	Sexfontaines	73.75	42	*eP*	P	10 22 20.1	+0.2
MEZF	Maizieres J'vi	73.78	42	*eP*	P	10 22 20.6	+0.5
MEZF	Maizieres J'vi	73.78	42	*eP*	P	10 22 20.6	+0.5
GIVF	Givet	73.79	40	*eP*	P	10 22 20.5	+0.4
GIVF	Givet	73.79	40	*eP*	P	10 22 20.5	+0.4
ORIF	Oris-en-Rattie	74.07	46	*eP*	P	10 22 22.3	+0.3
ORIF	Oris-en-Rattie	74.07	46	*eP*	P	10 22 22.3	+0.3
EGAK	Eagle 7.4nm,1.1s	74.12	335	*eP*	P	10 22 22.2	+0.4
PAGF	Fort de Pagny	74.23	42	*eP*	P	10 22 23.3	+0.5
PAGF	Fort de Pagny	74.23	42	*eP*	P	10 22 23.3	+0.5
CABF	La Chapelle	74.33	44	*eP*	P	10 22 24.0	+0.5
CABF	La Chapelle	74.33	44	*eP*	P	10 22 24.0	+0.5
MBDF	Montbardon 3.7nm,0.6s	74.69	46	*eP*	P	10 22 26.8	+1.1
MBDF	Montbardon 3.7nm,0.6s	74.69	46	*eP*	P	10 22 26.8	+1.1
LPL	La Plagne 10nm,0.7s	74.71	45	*eP*	P	10 22 27.1	+1.2
LPL	La Plagne 10nm,0.7s	74.71	45	*eP*	P	10 22 27.1	+1.2
LPG	La Plagne	74.72	45	*eP*	P	10 22 27.2	+1.2
LPG	La Plagne	74.72	45	*eP*	P	10 22 27.2	+1.2
HINF	Hinteralfeld	74.93	43	*eP*	P	10 22 26.8	-0.1
HINF	Hinteralfeld	74.93	43	*eP*	P	10 22 26.8	-0.1
SBF	Sospel 15nm,0.8s	75.13	47	*eP*	P	10 22 28.7	+0.5
SBF	Sospel 15nm,0.8s	75.13	47	*eP*	P	10 22 28.7	+0.5
CDF	Champ du Feu 7.5nm,0.7s	75.25	42	*eP*	P	10 22 28.2	-0.6
CDF	Champ du Feu 7.5nm,0.7s	75.25	42	*eP*	P	10 22 28.2	-0.6
PGF	Pioggiola 5.3nm,0.6s	76.24	48	*eP*	P	10 22 34.8	+0.2
PGF	Pioggiola 5.3nm,0.6s	76.24	48	*eP*	P	10 22 34.8	+0.2
KEST	Kesra	76.52	55	*eP*	P	10 22 37.5	+1.2
KEST	Kesra 2.4nm,0.8s,baz=252,slow=4.1,SNR=7.6	76.52	55	P	P	10 22 35.7	-0.6
ILAR	Eielson Array	76.53	335	P	P	10 22 35.1	-0.5
ILAR	Eielson Array 1.4nm,0.8s,baz=101,slow=4.0,SNR=12	76.53	335	P	P	10 22 35.1	-0.5
DAVOX	Davos/Dischmat	76.94	44	P	P	10 22 38.7	+0.1
DAVOX	Davos/Dischmat 4.6nm,0.6s,baz=255,slow=6.5,SNR=7.5	76.94	44	P	P	10 22 38.7	+0.1
DAVA	Damuels 6.4nm,0.8s	76.95	44⇑	*iP*	P	10 22 39.5	+0.9
FETA	Feichten 7.3nm,0.8s	77.53	44⇑	*iP*	P	10 22 42.6	+0.8
RETA	Reutte 3.3nm,0.6s	77.56	43⇑	*iP*	P	10 22 42.6	+0.7
MOTA	Moosalm 2.2nm,0.6s	77.79	43⇑	*iP*	P	10 22 43.9	+0.6
WTTA	Wattenberg 6.6nm,0.9s	78.15	44⇓	*iP*	P	10 22 42.5	-2.8
NB2	NORSAR Subarra comp=Z,1.3nm,0.6s,baz=265,slow=5.6	78.30	29	P	P	10 22 46.6	+0.9
NOA	NORSAR Array B	78.30	29	P	P	10 22 46.6	+0.9
NOA	NORSAR Array B comp=Z,2.5nm,0.8s,baz=265,slow=5.6,SNR=5.6	78.30	29	P	P	10 22 46.6	+0.9
KDAK	Kodiak Island	78.65	327	P	P	10 22 47.3	-0.3
KDAK	Kodiak Island comp=Z,7.8nm,0.7s,baz=163,slow=11,SNR=3.1	78.65	327	P	P	10 22 47.3	-0.3
ABTA	Abfaltersbach comp=Z,3.7nm,0.7s	78.75	44⇑	*iP*	P	10 22 48.8	+0.3
KBA	Koelnbreinsper comp=Z,8.8nm,1.2s	79.32	44⇑	*iP*	P	10 22 52.6	+0.9
HFS	Hagfors	79.49	30	P	P	10 22 51.9	-0.3
HFS	Hagfors comp=Z,3.3nm,0.8s,baz=249,slow=12,SNR=3.2	79.49	30	P	P	10 22 51.9	-0.3
GERES	GERESS Array B	79.52	42	P	P	10 22 52.6	-0.1
GERES	GERESS Array B comp=Z,2.3nm,0.7s,baz=262,slow=4.0,SNR=14	79.52	42	P	P	10 22 52.6	-0.1
MYKA	Terra Mystica comp=Z,4.6nm,0.6s	79.53	44⇓	*iP*	P	10 22 53.3	+0.5
VYHS	Vyhne	82.94	42	*eP*	P	10 23 11.0	+0.2
ARCES	ARCESS Array B	83.93	21	P	P	10 23 15.5	0.0
ARCES	ARCESS Array B comp=Z,1.6nm,0.8s,baz=284,slow=4.9,SNR=7.4	83.93	21	P	P	10 23 15.5	0.0
KECS	Kecovo	84.03	42	*eP*	P	10 23 17.3	+0.9
STHS	Stebnicka Huta	84.42	41	*eP*	P	10 23 20.3	+1.9
FINES	FINESS Array B	85.44	29	P	P	10 23 22.9	-0.2
FINES	FINESS Array B comp=Z,3.0nm,0.9s,baz=246,slow=5.9,SNR=4.5	85.44	29	P	P	10 23 22.9	-0.2
MKAR	Makanchi Array	119.58	21	PKP	PKPdf	10 29 33.7	-2.1
MKAR	Makanchi Array comp=Z,0.3nm,0.6s,baz=29,slow=3.3,SNR=4.0	119.58	21	PKP	PKPdf	10 29 33.7	-2.1
KSH	Kashi	122.71	31	*e*PKP	PKPdf	10 29 50.0	+7.8
KSH				PP	PP	10 31 30.8	+12
KSH				AMB	AMB		
	comp=Z,57nm,5.8s						
KSH				LR	LR		
	comp=N,92nm,5.8s						
KSH				LR	LR		
	comp=E,110nm,7.6s						
KSH				LR	LR		
	comp=Z,140nm,8.9s						
SONM	Songino Array	123.66	3	PKP	PKPdf	10 29 42.9	-0.9
SONM	Songino Array comp=Z,0.4nm,0.3s,baz=50,slow=2.3,SNR=2.9	123.66	3	PKP	PKPdf	10 29 42.9	-0.9
WMQ	Urumqi	124.03	19	PKP	PKPdf	10 29 47.5	+3.0
WMQ				LR	LR		
	comp=Z,44nm,28.8s						
HHC	Hu-ho-hao-te	130.69	358	*e*PKP	PKPdf	10 29 56.8	-0.6
HHC				PKS	PKSdf	10 33 32.3	-1.7
HHC				SKS	SKSdf	10 37 03.6	-5.1
HHC				AMB	AMB		
	comp=Z,110nm,3.9s						
HHC				LR	LR		
	comp=N,140nm,14.3s						
HHC				LR	LR		
	comp=E,170nm,16.7s						
HHC				LR	LR		
	comp=Z,95nm,15.5s						
LZH	Lanzhou	135.12	7	*e*PKP	PKPdf	10 30 09.3	+3.3
LZH				sPKP		10 30 13.8	
LZH				LR	LR		
	comp=N,100nm,18.1s						
LZH				LR	LR		
	comp=E,100nm,18.5s						
LZH				LR	LR		
	comp=Z,140nm,20.0s						
CMAR	Chiang Mai Arr	150.99	22	PKPbc	PKPbc	10 30 38.6	-1.0
CMAR	Chiang Mai Arr comp=Z,3.3nm,0.8s,baz=310,slow=3.0,SNR=14	150.99	22	PKPbc	PKPbc	10 30 38.6	-1.0
ASAR	Alice Springs	152.54	234	PKPbc	PKPbc	10 30 41.9	-1.2
ASAR	Alice Springs comp=Z,5.0nm,0.6s,baz=116,slow=2.7,SNR=45	152.54	234	PKPbc	PKPbc	10 30 41.9	-1.2
WRA	Warramunga Arr	153.76	242	PKPbc	PKPbc	10 30 44.7	-1.1
WRA	Warramunga Arr comp=Z,3.0nm,0.6s,baz=106,slow=2.7,SNR=32	153.76	242	PKPbc	PKPbc	10 30 44.7	-1.1

*IDC **21** 10:54:42.4±1.8,22.12°S×172.47°E,h0km,mb3.9/4, mb1 4.1/5,mb1mx3.8/18,mbtmp3.9/5,ML3.5/1,MS3.6/3, Ms1 3.6/3,ms1mx3.0/33,Error ellipse: s-maj=82.2km s-min=30.4km az=161.0*

*ISCJB **21** 10:54:46.0±0.7,22.25°S±0.1°×172.45°E±0.08,h33km, mb4.2/8,MS3.5/1,Error ellipse: s-maj=16.2km s-min=10.2km az=6.4*

*NEIC **21** 10:54:48.8±2.2,22.20°S×172.38E,h44km±20km,mb4.3/6, Error ellipse: s-maj=18.3km s-min=12.7km az=217.0*

ISC 21 10:54:47.7±0.9,22.2°S±0.2°×172.52E±0.09,h35km,n20, σ1s11/23,mb4.1/8,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	5.63	271	*e*Pn		Pn	Pn	10 56 08.5	-0.5
DZM				*e*Sn		Sn	Sn	10 57 11.7	-1.0
DZM				Sn		Sn	Sn	10 57 14.3	+1.5
DZM	Mont Dzumac 1.4nm,0.3s,baz=270,slow=24,SNR=8.4	5.63	271	Pn		Pn	Pn	10 56 08.8	-0.3
DZM				Sn		Sn	Sn	10 57 14.3	+1.6
RAO	Raoul Island 1.0nm,0.3s,baz=90,slow=24,SNR=14	11.09	131	LR		LR	LR	11 00 10.0	
URZ	Urewera	16.44	167	*e*Pn		P	Pn	10 58 36.8	-1.3
URZ	Urewera comp=Z,187nm,20.0s,baz=317,slow=29	16.44	167	LR		LR	LR	11 02 41.1	
EIDS	Eidsvold 15nm,1.1s	19.86	257	*eP*		Pn	Pn	10 59 18.9	+1.4
RPZ	Rata Peaks 24nm,1.1s	21.45	183	*eP*		P	P	10 59 34.2	+1.4
RPZ	Rata Peaks comp=Z,219nm,20.9s,baz=331,slow=32	21.45	183	LR		LR	LR	11 06 13.5	
STKA	Stephens Creek 1.0nm,1.1s	29.08	244	*eP*		P	P	11 00 44.5	-0.5
STKA	Stephens Creek 2.4nm,1.1s,baz=107,slow=11,SNR=2.9	29.08	244	P		P	P	11 00 46.4	+1.4
ASAR	Alice Springs	35.52	260	P		P	P	11 01 40.4	-1.1
ASAR				PcP		PcP	PcP	11 04 10.2	-0.2
ASAR	Alice Springs 1.9nm,0.7s,baz=88,slow=8.9,SNR=23	35.52	260	P		P	P	11 01 40.4	-1.1
ASAR				PcP		PcP	PcP	11 04 10.2	-0.2
WRAB	Tennant Creek 0.4nm,0.6s,baz=111,slow=3.1,SNR=4.5	35.63	266	*eP*		P	P	11 01 41.5	-0.9
WRA	Warramunga Arr	35.63	266	P		P	P	11 01 41.1	-1.4
WRA				PcP		PcP	PcP	11 04 10.2	-0.6
WRA	Warramunga Arr 1.2nm,0.6s,baz=97,slow=8.6,SNR=17	35.63	266	P		P	P	11 01 41.1	-1.4
WRA				PcP		PcP	PcP	11 04 10.1	-0.6
FITZ	Fitzroy Crossi 9.0nm,1.0s	44.06	267	*eP*		P	P	11 02 52.4	-0.2
LON	Longmire 10nm,0.9s	90.62	39	P		P	P	11 07 47.5	+1.0
PAX	Paxson	91.16	18	*eP*		P	P	11 07 47.1	-1.5
ILAR	Eielson Array	92.21	16	P		P	P	11 07 54.1	+0.9
ILAR	Eielson Array 0.3nm,0.8s,baz=228,slow=6.8,SNR=3.7	92.21	16	P		P	P	11 07 54.1	+0.9

*MAN **21** 11:13:25,14.72N×119.91E,h3km,mb4.6,ML3.5,MS3.4*

*IDC **21** 11:13:30.8±0.8,14.66N×120.35E,h90km±8km,mb3.8/11, mb1 4.0/12,mb1mx3.7/26,mbtmp3.8/12,MS3.3/9, Ms1 3.3/9,ms1mx3.1/40,Error ellipse: s-maj=32.0km s-min=12.6km az=65.0*

*NEIC **21** 11:13:30.3±0.9,14.64N×120.37E,h86km±9km,mb4.6/3, Error ellipse: s-maj=19.7km s-min=8.0km az=64.0*

NEIC Felt [II PIVS] at Morong.

*ISCJB **21** 11:13:32.1±0.5,14.79N±0.05×120.57E±0.08,h126km, mb4.2/14,Error ellipse: s-maj=11.5km s-min=7.0km az=165.9*

ISC 21 11:13:34.0±0.6,14.77N±0.07×120.5E±0.1,h126km,n47, σ1s66/37,mb4.0/13,3C-4D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.78	148	P		P	Pn	11 13 47.5	-7.2
TGY				S		S	Sn	11 14 02.8	-7.6
TGY	Tagaytay City	0.78	148	⇑*iP*		P	Pn	11 13 47.5	-7.2
TGY	Tagaytay City 583nm,0.3s,baz=242,slow=3.3,SNR=76	0.78	148	P		P	Pn	11 13 47.5	-7.2
TGY				S		S	Sn	11 14 02.8	-7.6
	2μm,0.3s,baz=330,slow=20,SNR=21								
SCZP	Santa Cruz	1.15	330	*eP*		P	Pn	11 13 44.9	-13
LQP	Lukban	1.19	123	⇓*eP*		P	Pn	11 13 57.4	-1.3
BALP	Baler	1.41	47	*eP*		P	Pn	11 13 58.0	-2.8
BCPH	Baguio City Da	1.60	2	⇑*iP*		P	Pn	11 13 56.0	-7.2
GQP	Guinayangan	2.06	114	*eP*		P	Pn	11 14 06.9	-1.6
CAUP	Cauayan	2.50	30	*eP*		P	Pn	11 14 13.0	-1.1
ABRA	Dolores	2.87	4	*eP*		P	Pn	11 14 15.8	-2.9
PALP	Palanan	2.93	39	⇓*iP*		P	Pn	11 14 17.7	-1.9
SIPP	Brgy, Tapao	3.13	359	⇓*iP*		P	Pn	11 14 19.6	-2.6
APYP	Conner	3.15	13	*eP*		P	Pn	11 14 19.9	-2.5
PIP	Pasuquin	3.53	2	⇓*iP*		P	Pn	11 14 26.0	-1.5
PPR	Puerto Princes	5.26	199	⇑*eP*		Sn	Sn	11 15 35.2	-15
DAV	Davao City (W)	9.13	146	LR		LR	LR	11 20 01.8	
	comp=Z,226nm,18.2s,baz=283,slow=43								
KAPI	Kappang	19.67	182	*eP*		P	P	11 17 51.7	-1.6
KAPI	Kappang 0.4nm,0.3s,baz=58,slow=19,SNR=3.0	19.67	182	P		P	P	11 17 52.0	-1.3
CMAR	Chiang Mai Arr	20.98	283	P		P	P	11 18 04.9	-2.5
CMAR	Chiang Mai Arr 6.6nm,0.9s,baz=93,slow=8.8,SNR=35	20.98	283	P		P	P	11 18 04.9	-2.5
CMAR				LR		LR	LR	11 25 46.3	
	comp=Z,48nm,20.8s,baz=110,slow=35								
KSRS	Korea Array comp=Z,34nm,21.8s,baz=347,slow=35	23.53	15	LR		LR	LR	11 27 15.9	
SONM	Songino Array	34.98	343	P		P	P	11 20 14.2	0.0
SONM	Songino Array 0.5nm,0.5s,baz=148,slow=8.5,SNR=3.2	34.98	343	P		P	P	11 20 14.2	0.0
SONM				LR		LR	LR	11 36 35.1	
	comp=Z,36nm,18.8s,baz=236,slow=40								
WRAB	Tennant Creek 4.8nm,0.6s	37.08	158	*eP*		P	P	11 20 31.0	-1.2
WRA	Warramunga Arr	37.08	158	P		P	P	11 20 31.4	-0.9
WRA	Warramunga Arr 4.5nm,0.5s,baz=336,slow=9.4,SNR=66	37.08	158	P		P	P	11 20 31.4	-0.9
ASAR	Alice Springs	40.39	161	P		P	P	11 20 59.4	-0.5
ASAR	Alice Springs 3.8nm,0.5s,baz=336,slow=7.0,SNR=136	40.39	161	P		P	P	11 20 59.4	-0.5
MK31	Makanchi Array	45.07	323	*eP*		P	P	11 21 38.0	+0.7
MKAR	Makanchi Array	45.07	323	P		P	P	11 21 38.1	+0.8
MKAR	Makanchi Array 2.2nm,0.8s,baz=132,slow=9.1,SNR=21	45.07	323	P		P	P	11 21 38.1	+0.8
MKAR				LR		LR	LR	11 40 18.8	
	comp=Z,48nm,18.8s,baz=356,slow=36								
ZALV	Zalesovo Beam	48.03	332	P		P	P	11 22 00.4	+0.2
ZALV	Zalesovo Beam 0.9nm,0.5s,baz=116,slow=6.8,SNR=5.4	48.03	332	P		P	P	11 22 00.4	+0.2
ZALV				LR		LR	LR	11 43 08.6	
	comp=Z,28nm,19.7s,baz=232,slow=37								
AAK

0.4nm,0.8s,baz=120,slow=8.5,SNR=2.3
ZALV Zalesovo Beam 32.59 337 P P 11 23 31.9 +0.3
2.1nm,0.6s,baz=141,slow=9.2,SNR=8.5
WRA Warramunga Arr 52.97 145 P P 11 26 16.6 -0.6
0.7nm,0.9s,baz=330,slow=9.3,SNR=3.1

MAN 21 11:19:39,17˚.59N×120˚.34E, h48km, mb4.0, ML2.8, MS2.5, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.35**	**19**↑	*i* P	Pn	11 19 50.8	+2.3
ABRA	**Dolores**	**0.36**	**80**	*e*P	Pn	11 19 50.7	+2.1
PIP	**Pasuquin**	**0.78**	**20**↓	*i* P	Pn	11 19 55.7	+1.9
APYP	**Conner**	**0.90**	**72**	*e*P	Pn	11 19 57.3	+1.9
APYP				eS	Sn	11 20 09.8	+2.5
CAUP	**Cauayan**	**1.56**	**114**	*e*P	Pn	11 20 06.8	+2.5
BALP	**Baler**	**2.19**	**147**	*e*P	Pn	11 20 14.9	+2.0

IDC 21 11:28:15.1±12.0, 15˚.48S×166˚.11E, h0km, mb4.2/4, mb1 4.3/5, mb1mx3.9/21, mbtmp4.2/5, ML4.0/1, Error ellipse: s-maj=213.3km s-min=34.4km az=60.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.56**	**177**	P	Pn	11 29 53.7	+0.7
	3.2nm,0.3s,baz=269,slow=24,SNR=7.3						
DZM				Sn	Sn	11 31 07.7	-1.0
	1.7nm,0.3s,baz=270,slow=20,SNR=2.7						
STKA	**Stephens Creek**	**27.66**	**230**	P	P	11 34 04.2	-0.5
	2.0nm,0.7s,baz=57,slow=9.6,SNR=6.4						
WRA	**Warramunga Arr**	**30.56**	**257**	P	P	11 34 30.6	-0.1
	0.6nm,0.5s,baz=85,slow=8.6,SNR=13						
ASAR	**Alice Springs**	**31.36**	**250**	P	P	11 34 37.9	+0.1
	1.5nm,0.4s,baz=79,slow=8.9,SNR=46						
FITZ	**Fitzroy Crossi**	**38.78**	**260**	P	P	11 35 41.9	+0.2
	2.7nm,0.4s,baz=96,slow=7.6,SNR=25						

*NIED **21** 11:29:00.44˚.50N×148˚.80E, h29km, Mw3.9 Best double couple: M0 6.82000×10^14 NP1:φs 334.00000°, δ84.00000°, λ39.00000°. NP2:φs 239.00000°, δ52.00000°, λ172.00000°.*
*ISCJB **21** 11:29:06.5±0.9, 44˚.15N±0˚.07×148˚.95E±0˚.08, h50km±9km, mb3.8/16, MS3.5/1, Error ellipse: s-maj=12.3km s-min=7.5km az=145.8*
*MOS **21** 11:29:06.9±1.2, 44˚.30N×148˚.89E, h47km, mb4.2/5, Error ellipse: s-maj=12.4km s-min=10.7km az=56.6*
*JMA **21** 11:29:07.3±0.7, 44˚.53N×148˚.82E, h30km, M4.5*
*IDC **21** 11:29:08.8±0.8, 44˚.39N×148˚.88E, h43km±7km, mb3.4/13, mb1 3.6/18, mb1mx3.6/30, mbtmp3.5/18, ML3.6/4, MS2.9/2, Ms1 2.9/2, ms1mx2.3/30, Error ellipse: s-maj=22.7km s-min=14.2km az=157.0*

ISC 21 11:29:07.2±0.8, 43˚.97N±0˚.07×149˚.03E±0˚.06, h42km±7km, n59, σ1 s72/64, mb3.7/16, 2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.52**	**327**	*e*PN	Pn	11 29 27.5	-4.3
KUR				*e*S	Sn	11 29 42.0	-8.3
KUR				smax	smax		
	comp=N,4μm,1.6s						
KUR				smax	smax		
	comp=E,3.0nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**2.29**	**273**	*d i* PN	**Pn**	**11 29 42.4**	**0.0**
YUK				*i* S	**Sn**	**11 30 07.8**	**-1.5**
YUK				pmax	pmax		
	comp=N,79nm,0.2s						
YUK				pmax	pmax		
	comp=E,79nm,0.2s						
YUK				pmax	pmax		
	comp=Z,467nm,0.3s						
YUK				smax	smax		
	comp=N,674nm,0.4s						
YUK				smax	smax		
	comp=E,396nm,0.4s						
NEM2	**Nemuro 2**	**2.46**	**257**	P	**Pn**	**11 29 44.6**	**-0.2**
NEM2				*e*S	**Sn**	**11 30 12.8**	**-0.8**
JRA	**Rausu**	**2.82**	**271**	P	**Pn**	**11 29 50.2**	**+0.5**
JRA				*e*S	**Sn**	**11 30 20.6**	**-1.9**
JNK	**Nakash**	**3.15**	**265**	P	**Pn**	**11 29 54.2**	**0.0**
JAK	**Akkeshi**	**3.30**	**254**	P	**Pn**	**11 29 56.9**	**+0.6**
JAK				*e*S	**Sn**	**11 30 35.3**	**+1.0**
JTKR	**Abashiri--Toko**	**3.70**	**272**	P	**Pn**	**11 30 02.8**	**+1.0**
JAR	**Ashorobuto**	**3.88**	**262**	P	**Pn**	**11 30 05.6**	**+1.3**
JAR				*e*S	**Sn**	**11 30 50.3**	**+1.8**
JOB	**Onbets**	**3.93**	**256**	P	**Pn**	**11 30 06.2**	**+1.2**
JMP	**Maruseppu**	**4.09**	**273**	P	**Pn**	**11 30 08.4**	**+1.2**
JCH	**Churui**	**4.35**	**254**	P	**Pn**	**11 30 12.1**	**+1.3**
JCH				*e*S	**Sn**	**11 31 01.2**	**+1.0**
JKK2	**Kamakawa 2**	**4.54**	**271**	P	**Pn**	**11 30 15.3**	**+1.9**
ASAJ	**Asahikawa**	**4.64**	**274**	P	**Pn**	**11 30 16.7**	**+2.0**
ASAJ	**Asahikawa**	**4.64**	**274**	P	**Pn**	**11 30 15.8**	**+1.0**
	comp=E,4.1nm,0.3s,baz=49,slow=12,SNR=44						
ASAJ				S	Sn	11 31 16.1	+8.8
	comp=E,0.6nm,0.3s,baz=137,slow=19,SNR=2.3						
ASAJ				LR	LR	11 32 16.8	
	comp=E,183nm,18.0s,baz=172,slow=42						
ERM	**Erimo**	**4.73**	**248**	*d i* PN	Pn	11 30 19.4	+3.5
JEM	**Erimo**	**4.73**	**248**	P	Pn	11 30 19.1	+3.2
JNBK	**Urakawa-nobuka**	**4.89**	**252**	P	**Pn**	**11 30 19.3**	**+1.1**
JBT2	**Biratori 2**	**5.00**	**259**	P	**Pn**	**11 30 21.3**	**+1.6**
YSS	**Yuzh-Sakhalins**	**5.33**	**306**	*i* PN	**Pn**	**11 30 23.4**	**-0.8**
JEW	**Eniwo**	**5.64**	**261**	P	**Pn**	**11 30 31.2**	**+2.8**
JNB	**Noboribetsu**	**6.03**	**258**	*e*S	**Sn**	**11 31 41.9**	**+0.4**
JKB	**Kayabe**	**6.23**	**253**	P	**Pn**	**11 30 37.9**	**+1.4**
JYM2	**Yakumo 2**	**6.61**	**257**	P	**Pn**	**11 30 43.7**	**+2.0**
JANG	**Nango**	**6.64**	**240**	P	**Pn**	**11 30 42.3**	**+0.1**
JANG				*e*S	**Sn**	**11 31 53.6**	**-2.9**
JTH	**Tanohata**	**6.69**	**235**	P	**Pn**	**11 30 43.2**	**+0.4**
JTH				*e*S	**Sn**	**11 31 53.9**	**-3.8**
JTM	**Tenmabayashi**	**6.70**	**244**	*e*S	**Sn**	**11 31 55.8**	**-2.1**
JOSM	**Okushiri--Mats**	**7.25**	**258**	P	**Pn**	**11 30 52.0**	**+1.5**
OFUJ	**Ofunato**	**7.37**	**231**	P	**Pn**	**11 30 52.9**	**+0.7**
JIO	**Ouri**	**7.99**	**229**	P	**Pn**	**11 31 01.3**	**+0.6**
JIO				*e*S	**Sn**	**11 32 25.3**	**-4.4**
PETK	**Petropavlovsk-**	**10.79**	**29**	PN	**Pn**	**11 31 37.4**	**-1.6**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**10.79**	**29**	P	**Pn**	**11 31 37.4**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=204,slow=16,SNR=3.5						
MJAR	**Matsushiro Arr**	**11.10**	**232**	P	**Pn**	**11 31 45.4**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=26,slow=13,SNR=7.0						
MAJO	**Matsushiro**	**11.10**	**232**	*i* PN	**Pn**	**11 31 45.9**	**+2.6**
USRK	**Ussuriysk Arra**	**12.25**	**277**	P	**Pn**	**11 32 00.1**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=93,slow=16,SNR=4.1						
KSRS	**Korea Array**	**17.25**	**255**	P	**P**	**11 33 05.4**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=58,slow=13,SNR=3.2						
KSRS				LR	LR	11 40 04.1	
	comp=Z,30nm,19.6s,baz=75,slow=38						
YAK	**Yakutsk**	**21.36**	**335**	*i* P	**P**	**11 33 53.5**	**+2.9**
TIXI	**Tiksi**	**29.44**	**347**	*i* P	P	11 35 11.0	+4.6
TIXI				pmax	pmax		
	comp=Z,23nm,1.3s						
SONM	**Songino Array**	**29.64**	**293**	P	**P**	**11 35 08.9**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=88,slow=10,SNR=2.4						
ILAR	**Eielson Array**	**40.51**	**36**	P	**P**	**11 36 39.7**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=267,slow=7.3,SNR=4.7						
MKAR	**Makanchi Array**	**45.69**	**298**	P	**P**	**11 37 22.9**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**45.69**	**298**	P	**P**	**11 37 22.9**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=80,slow=7.5,SNR=4.3						
KURK	**Kurchatov**	**46.53**	**304**	P	**P**	**11 37 28.6**	**-1.7**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURBB	**Kurchatov Arra**	**46.62**	**304**	P	**P**	**11 37 28.6**	**-2.3**
	comp=Z,0.5nm,0.4s,baz=74,slow=9.5,SNR=5.0						
YKA	**Yellowknife Ar**	**54.86**	**34**	P	**P**	**11 38 33.0**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=299,slow=6.3,SNR=3.4						
FINES	**FINESS Array B**	**65.29**	**334**	P	**P**	**11 39 42.3**	**-2.0**
	comp=Z,0.5nm,0.4s,baz=86,slow=5.9,SNR=4.1						
NVAR	**Mina Array Bea**	**66.31**	**59**	P	**P**	**11 39 50.9**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=309,slow=8.8,SNR=4.8						
ASAR	**Alice Springs**	**68.72**	**195**	P	P	11 40 10.9	+4.4
	comp=Z,0.3nm,0.9s,baz=354,slow=6.5,SNR=4.1						
ASAR				pP	pP	11 40 22.8	+4.0
	comp=Z,0.2nm,0.6s,baz=7.7,slow=6.3,SNR=1.8						
PDAR	**Pinedale Array**	**68.72**	**51**	P	**P**	**11 40 08.1**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=322,slow=5.7,SNR=2.2						
PDAR				pP	**pP**	**11 40 19.9**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=297,slow=3.9,SNR=3.4						
NOA	**NORSAR Array B**	**69.88**	**340**	P	**P**	**11 40 11.9**	**-1.4**
	comp=Z,1.2nm,0.9s,baz=40,slow=6.9,SNR=3.8						
HFS	**Hagfors**	**70.01**	**338**	P	**P**	**11 40 12.6**	**-1.4**
	comp=Z,1.4nm,0.5s,baz=29,slow=3.7,SNR=6.0						
KIV	**Kislovodsk**	**70.62**	**313**	*e*P	**P**	**11 40 17.3**	**-0.9**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,22nm,18.0s						
KOLS	**Kolonicke sedl**	**76.40**	**327**	*e*PKP	PKKPbc	12 00 18.9	+16
STHS	**Stebnicka Huta**	**76.41**	**328**	*e*PKP	**PKKPdf**	**11 59 52.9**	**+4.8**
STHS				*e*		12 23 20.8	
CLL	**Collm**	**77.74**	**334**	*e*PKPbc	**PKKPbc**	**12 00 00.0**	**+0.1**
CLL				*e*		12 00 08.0	
BRG	**Berggiesshubel**	**77.81**	**333**	*e*PKP	**PKKPbc**	**12 00 00.6**	**+0.8**
	comp=Z,9.3nm,1.4s						
GERES	**GERESS Array B**	**79.62**	**332**	P	**P**	**11 41 09.4**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=42,slow=4.2,SNR=4.0						
TXAR	**Lajitas Array**	**81.39**	**57**	P	**P**	**11 41 21.1**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=304,slow=4.6,SNR=10						
TXAR				pP	**pP**	**11 41 33.1**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=293,slow=4.0,SNR=8.4						
BOSA	**Boshof**	**133.04**	**270**	PKP	**PKPdf**	**11 48 19.5**	**+1.4**
	comp=Z,1.6nm,0.9s,baz=90,slow=13,SNR=1.7						
QSPA	**South Pole Qui**	**133.70**	**180**	PKP	**PKPdf**	**11 48 19.1**	**+1.0**
	comp=Z,1.6nm,1.1s,baz=322,slow=19,SNR=2.9						

*IDC **21** 11:40:15.5±0.7, 22˚.96S×172˚.67E, h0km, mb4.4/15, mb1 4.5/17, mb1mx4.4/23, mbtmp4.4/17, ML3.2/2, MS4.0/21, Ms1 4.0/21, ms1mx3.9/28, Error ellipse: s-maj=23.0km s-min=16.9km az=152.0*
*NOU **21** 11:40:17.8±1.3, 20˚.09S×172˚.39E, h30km, MD3.7, ML3.3*
*ISCJB **21** 11:40:19.7±0.3, 22˚.88S±0˚.06×172˚.52E±0˚.03, h34km, mb4.7/34, MS4.2/22, Error ellipse: s-maj=8.1km s-min=4.4km az=168.8*
*BJI **21** 11:40:21.1, 23˚.40S×172˚.70E, h35km, mB5.0/13, mb4.9/14, Ms5.1/9, Ms7 4.8/9*
*NEIC **21** 11:40:21.9±1.1, 22˚.95S×172˚.57E, h40km±10km, mb4.9/14, Error ellipse: s-maj=10.1km s-min=6.7km az=169.0*
*GCMT **21** 11:40:22.2±0.2, 22˚.98S×172˚.53E, h17km, MW5.1, Moment Tensor Solution. s43,c64; s70,c111; Moment tensor: Scale 10^16Nm; Mrr 4.15±.18; Mθθ -4.02±.13; Mφφ -0.13±.11; Mrθ 2.57±.29; Mrφ -1.06±.07; Mθφ 0.84±.29; Best double couple: M0 5.00000×10^16 NP1:φs 258.00000°, δ29.00000°, λ94.00000°. NP2:φs 74.00000°, δ61.00000°, λ88.00000°. Principal axes: T 4.9400, Plg74.0000°, Azm339.0000°; N 0.1400, Plg2.0000°, Azm75.0000°; P -5.0800, Plg16.0000°, Azm165.0000°; Data Used: II IC G IU CN.*
*AUST **21** 11:41:24.8, 23˚.00S×168˚.91E, h450km*

ISC 21 11:40:21.7±0.3, 23˚.10S±0˚.06×172˚.61E±0˚.05, h34km, n105, σ1 s90/124, mb4.8/34, MS4.2/23, 2D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**5.37**	**279**	*e*S	**Sn**	**11 42 35.5**	**-4.6**
BAYA				AMP		11 42 56.9	
	comp=Z,10nm,6.2s						
NORM	**Noumea**	**5.72**	**278**	*e*P	**Pn**	**11 41 42.3**	**-2.0**
DZM	**Mont Dzumac**	**5.79**	**279**	*e*P	**Pn**	**11 41 42.8**	**-2.5**
DZM				*e*S	Sn	11 42 43.6	-6.9
DZM				AMP		11 42 58.9	
	comp=Z,968nm,8.9s						
DZM	**Mont Dzumac**	**5.79**	**279**	Sn	**Sn**	**11 42 47.6**	**-2.9**
DZM				*e*Sn	**Sn**	**11 42 49.4**	**-1.1**
DZM	**Mont Dzumac**	**5.79**	**279**	Pn	**Pn**	**11 41 43.3**	**-2.0**
	comp=Z,3.7nm,0.3s,baz=90,slow=20,SNR=19						
DZM				Sn	**Sn**	**11 42 47.6**	**-2.9**
	comp=Z,9.0nm,0.3s,baz=83,slow=23,SNR=7.1						
NOUC	**Port Laguerre**	**5.91**	**278**	*e*P	**Pn**	**11 41 44.1**	**-2.8**
NOUC				*e*S	**Sn**	**11 42 50.2**	**-3.2**
NOUC				AMP		11 42 57.8	
	comp=Z,59nm,1.8s						
MSVF	**Nonsavu**	**7.39**	**45**	*e*Pn	**Pn**	**11 42 06.5**	**-0.8**
MSVF				*e*Sn	**Sn**	**11 43 28.0**	**-1.9**
RAO	**Raoul Island**	**10.48**	**128**	Pn	**Pn**	**11 42 51.3**	**+1.7**
RAO	**Raoul Island**	**10.48**	**128**	LR	LR	11 45 43.3	
	comp=Z,2μm,18.2s,baz=175,slow=31						
URZ	**Urewera**	**15.60**	**167**	*e*Pn	**Pn**	**11 43 59.9**	**+0.9**
URZ	**Urewera**	**15.60**	**167**	Pn	**Pn**	**11 44 01.0**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=24,slow=20,SNR=2.8						
AFI	**Afiamalu**	**17.39**	**61**	*e*Pn	**Pn**	**11 44 21.3**	**-0.6**
AFI	**Afiamalu**	**17.39**	**61**	P	**Pn**	**11 44 19.2**	**-2.7**
	comp=Z,0.9nm,0.3s,baz=299,slow=19,SNR=4.1						
AFI				LR	LR	11 48 46.0	
	comp=Z,210nm,20.4s,baz=72,slow=30						
HNR	**Honiara**	**18.21**	**316**	LR	LR	11 50 21.9	
	comp=Z,983nm,19.8s,baz=5.0,slow=33						
EIDS	**Eidsvold**	**19.76**	**259**	*e*P	**P**	**11 44 49.4**	**+0.6**
	comp=Z,130nm,1.4s						
EIDS	**Eidsvold**	**19.76**	**259**	P	**Pn**	**11 44 51.1**	**+0.6**
	baz=16,SNR=12						
ARMA	**Armidale**	**20.08**	**244**	*e*P	Pn	11 44 54.3	-0.2
	comp=Z,31nm,1.4s						
ARMA				*e*S	**S**	**11 48 35.9**	**-0.6**
ARMA	**Armidale**	**20.08**	**244**	P	Pn	11 44 55.0	+0.6
	baz=17,SNR=4.6						
RMQ	**Roma**	**21.90**	**256**	P	**P**	**11 45 14.7**	**+2.6**
	baz=19,SNR=18						
CNB	**Canberra Magne**	**23.59**	**234**	P	**P**	**11 45 32.8**	**+3.2**
	baz=21,SNR=8.7						
CAN	**Canberra**	**23.87**	**234**	*e*P	**P**	**11 45 33.5**	**+1.3**
	comp=Z,28nm,1.0s						
YNG	**Young**	**23.93**	**237**	P	**P**	**11 45 35.6**	**+3.0**
	baz=21,SNR=6.2						
CMSA	**Cobar Meteorol**	**25.30**	**245**	P	**P**	**11 45 47.1**	**+1.9**
	baz=22,SNR=6.7						
MTSU	**Mount Surprise**	**26.91**	**275**	P	**P**	**11 45 59.8**	**-0.1**
	baz=24,SNR=5.9						
PMG	**Port Moresby**	**27.90**	**295**	LR	LR	11 55 04.9	
	comp=Z,393nm,19.7s,baz=95,slow=32						
STKA	**Stephens Creek**	**28.79**	**246**	*e*P	**P**	**11 46 17.9**	**+1.4**
STKA				PcP	**PcP**	**11 49 25.6**	**-0.4**
STKA	**Stephens Creek**	**28.79**	**246**	P	**P**	**11 46 17.6**	**+1.0**
	comp=Z,1.9nm,0.5s,baz=87,slow=13,SNR=4.2						
STKA				PcP	**PcP**	**11 49 25.6**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=121,slow=5.9,SNR=3.1						
STKA				LR	LR	11 56 01.2	
	comp=Z,325nm,21.3s,baz=244,slow=33						
TBI	**Tubuai**	**34.79**	**98**	*e*S	**S**	**11 52 37.1**	**-0.8**
	comp=Z,105nm,25.3s						
TBI				*e*LQ	LQ	11 54 45.6	
	comp=Z,525nm,28.8s						
TBI				*e*LR	LR	11 56 26.7	
	comp=Z,263nm,30.5s						
ASAR	**Alice Springs**	**35.46**	**261**	P	**P**	**11 47 14.3**	**-0.8**
ASAR				PcP	**PcP**	**11 49 44.0**	**-0.4**
ASAR	**Alice Springs**	**35.46**	**261**	P	**P**	**11 47 14.3**	**-0.8**
	comp=Z,8.5nm,0.9s,baz=86,slow=9.0,SNR=55						
ASAR				PcP	**PcP**	**11 49 44.0**	**-0.4**
	comp=Z,2.8nm,0.9s,baz=109,slow=3.0,SNR=6.3						
ASAR				LR	LR	12 01 29.7	
	comp=Z,214nm,19.9s,baz=99,slow=36						
WRAB	**Tennant Creek**	**35.66**	**268**	*e*P	**P**	**11 47 15.1**	**-1.8**
	comp=Z,13nm,1.0s						
WRA	**Warramunga Arr**	**35.67**	**268**	P	**P**	**11 47 15.0**	**-2.0**
WRA				PcP	**PcP**	**11 49 44.3**	**-0.7**
WRA	**Warramunga Arr**	**35.67**	**268**	P	**P**	**11 47 15.0**	**-2.0**
	comp=Z,3.4nm,0.7s,baz=98,slow=8.0,SNR=14						
WRA				PcP	**PcP**	**11 49 44.3**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=108,slow=2.5,SNR=5.1						
WRA				LR	LR	12 01 45.2	
	comp=Z,251nm,18.8s,baz=105,slow=36						
PPT2	**Papeete2**	**35.81**	**88**	*e*S	**S**	**11 52 54.4**	**+0.7**
	comp=Z,105nm,27.5s						
PPT2				*e*LQ	LQ	11 55 21.2	
	comp=Z,416nm,26.5s						
PPT2				*e*LR	LR	11 56 57.9	
	comp=Z,218nm,24.5s						
FORT	**Forrest**	**40.23**	**249**	*e*P	**P**	**11 47 55.4**	**+0.1**
	comp=Z,35nm,0.7s						
FORT	**Forrest**	**40.23**	**249**	P	**P**	**11 47 55.3**	**0.0**
	baz=37,SNR=11						
KNRA	**Kununurra**	**41.89**	**272**	P	**P**	**11 48 07.5**	**-1.6**
	baz=38,SNR=3.8						
FITZ	**Fitzroy Crossi**	**44.10**	**267**	P	**P**	**11 48 26.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**44.10**	**267**	P	**P**	**11 48 26.8**	**-0.2**
	comp=Z,28nm,1.0s,baz=132,slow=7.1,SNR=45						
FITZ	**Fitzroy Crossi**	**44.10**	**267**	P	P	11 48 20.0	-7.0
	baz=41,SNR=3.2						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**47.99**	**101**	*e*LR	LR	12 02 02.5	
	comp=Z,176nm,33.0s						
MBWA	**Marble Bar**	**48.80**	**262**	*e*P	**P**	**11 49 03.8**	**-0.1**
	comp=Z,78nm,1.6s						
MEEK	**Meekatharra**	**48.82**	**254**	P	**P**	**11 49 03.6**	**-0.4**
	baz=46,SNR=4.1						
KLBR	**Kellerberrin**	**49.03**	**248**	P	**P**	**11 49 05.3**	**-0.1**
	baz=46,SNR=8.1						
NWAO	**Narrogin (SRO)**	**49.38**	**246**	P	**P**	**11 49 06.9**	**-1.3**
NWAO	**Narrogin (SRO)**	**49.38**	**246**	P	**P**	**11 49 06.9**	**-1.3**
	comp=Z,16nm,0.9s,baz=78,slow=9.4,SNR=5.4						
MORW	**Morawa**	**50.75**	**251**	P	**P**	**11 49 18.5**	**-0.2**
	baz=48,SNR=4.9						
SBA	**Scott Base**	**54.88**	**182**	*e*P	**P**	**11 49 51.0**	**+2.7**
	comp=Z,2.5nm,0.6s						
CASY	**Casey**	**57.91**	**205**	*e*P	**P**	**11 50 07.7**	**-2.4**
	comp=Z,51nm,1.6s						
KKM	**Kota Kinabalu**	**62.22**	**291**	P	**P**	**11 50 40.4**	**-0.1**
	baz=59,SNR=4.6						
KSM	**Kuching**	**65.30**	**283**	*e*P	**P**	**11 51 00.2**	**-0.5**
	comp=Z,11nm,0.9s						
QSPA	**South Pole Qui**	**66.97**	**180**	*e*P	**P**	**11 51 11.6**	**+0.8**
QSPA	**South Pole Qui**	**66.97**	**180**	P	**P**	**11 51 11.3**	**+0.4**
	comp=Z,7.3nm,1.0s,baz=286,slow=1.6,SNR=20						
QSPA				LR	LR	12 16 03.3	
	comp=Z,237nm,21.4s,baz=204,slow=32						
MJAR	**Matsushiro Arr**	**67.63**	**331**	P	**P**	**11 51 14.8**	**-0.4**
MJAR	**Matsushiro Arr**	**67.63**	**331**	P	**P**	**11 51 14.8**	**-0.4**
	comp=Z,2.0nm,1.0s,baz=168,slow=6.7,SNR=3.7						
MJAR				LR	LR	12 16 15.9	
	comp=Z,53nm,19.1s,baz=155,slow=32						
JNU	**Nakatsue**	**68.62**	**323**	P	**P**	**11 51 21.4**	**-0.2**
JNU	**Nakatsue**	**68.62**	**323**	P	**P**	**11 51 21.4**	**-0.2**
	comp=Z,12nm,1.0s,baz=18,slow=11,SNR=3.5						
JNU				LR	LR	12 16 10.9	
	comp=Z,111nm,21.5s,baz=139,slow=31						
ASAJ	**Asahikawa**	**72.32**	**338**	LR	LR	12 21 23.2	
	comp=Z,147nm,19.8s,baz=295,slow=34						
KSRS	**Korea Array**	**73.46**	**324**	P	**P**	**11 51 48.2**	**-2.4**
	comp=Z,0.8nm,0.9s,baz=134,slow=7.1,SNR=3.1						
KSRS				LR	LR	12 23 18.6	
	comp=Z,63nm,18.9s,baz=278,slow=35						
KSAR	**Wonju Array Be**	**73.47**	**324**	P	**P**	**11 51 48.2**	**-2.5**
NJ2	**Nanjing**	**75.15**	**315**	*e*P	P	11 52 03.8	+3.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
FX1	**Attu Island--F**	**75.66**	**0**	LR	LR	12 18 44.0	
	comp=Z,68nm,21.8s,baz=14,slow=31						
MAW	**Mawson**	**76.04**	**202**	LR	LR	12 23 51.2	
	comp=Z,144nm,18.6s,baz=323,slow=34						
PSI	**Prapat**	**76.15**	**279**	LR	LR	12 23 19.3	
	comp=Z,120nm,19.5s,baz=286,slow=34						
USRK	**Ussuriysk Arra**	**76.60**	**331**	LR	LR	12 23 13.7	
	comp=Z,108nm,18.4s,baz=57,slow=34						
PETK	**Petropavlovsk-**	**76.99**	**351**	P	**P**	**11 52 08.7**	**-2.0**
PETK	**Petropavlovsk-**	**76.99**	**351**	P	**P**	**11 52 08.7**	**-2.0**
	comp=Z,7.2nm,0.7s,baz=138,slow=9.0,SNR=5.5						
PETK				LR	LR	12 22 46.1	
	comp=Z,116nm,18.2s,baz=173,slow=33						
GYA	**Guiyang**	**80.58**	**304**	P	**P**	**11 52 33.3**	**+2.1**
GYA				pP	**pP**	**11 52 44.8**	**+2.9**
GYA				PP	PP	11 55 40.8	+5.5
GYA				S	**S**	**12 02 39.5**	**+3.3**
GYA				SKS	**SKSac**	**12 02 43.0**	**-4.2**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.0s						
SYO	**Syowa Base**	**82.09**	**195**↓	*e*P	**P**	**11 52 37.0**	**-1.3**
SYO	**Syowa Base**	**82.09**	**195**↓	*e*PcP	**PcP**	**11 52 41.6**	**-2.1**
CMAR	**Chiang Mai Arr**	**82.93**	**293**	P	**P**	**11 52 42.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**82.93**	**293**	P	**P**	**11 52 42.8**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=113,slow=6.9,SNR=3.6						
KMI	**Kunming**	**82.96**	**301**	P	**P**	**11 52 46.8**	**+2.9**
KMI				pmax	pmax		
	comp=Z,5.0nm,1.3s						
CD2	**Chengdu**	**85.06**	**306**	*e*P	**P**	**11 52 55.8**	**+1.6**
CD2				pP	**pP**	**11 53 06.8**	**+1.8**
CD2				sP	**sP**	**11 53 10.8**	**+1.9**
CD2				PP	**PP**	**11 56 16.3**	**+4.4**
CD2				SKS	**SKSac**	**12 03 15.0**	**-1.6**
CD2				S	**SKKSac**	**12 03 23.3**	**+0.5**
CD2

WMQ			sP		11 54 29.4		
WMQ			PP	**PKiKP**	**11 58 30.3**		**-4.8**
WMQ			LR	LR			
	comp=N,68nm,28.0s						
WMQ			LR	LR			
	comp=E,120nm,21.8s						
WMQ			LR	LR			
	comp=Z,81nm,25.5s						
YKA	**Yellowknife Ar**	**102.65 27**	P	**Pdif**	**11 54 14.7**		**+0.1**
YKA	**Yellowknife Ar**	**102.65 27**	P	**Pdif**	**11 54 14.7**		**+0.1**
	comp=Z,0.3nm,0.7s,baz=256,slow=3.3,SNR=3.1						
KSH	**Kashi**	**109.24 306**	*e*Pdif	**Pdif**	**11 54 45.6**		**+0.9**
KSH			PP	PP	11 59 23.4		+5.3
KSH			S	**Sdif**	**12 06 52.4**		**-0.7**
KSH			AMB	AMB			
	comp=Z,83nm,4.6s						
KSH			LR	LR			
	comp=N,280nm,11.2s						
KSH			LR	LR			
	comp=E,130nm,6.5s						
KSH			LR	LR			
	comp=Z,180nm,6.7s						
BDFB	**Brasilia**	**124.67 130**	PKP	**PKPdf**	**11 59 17.8**		**-0.9**
BDFB	**Brasilia**	**124.67 130**	PKP	**PKPdf**	**11 59 17.8**		**-0.9**
	comp=Z,3.0nm,0.6s,baz=198,slow=12,SNR=4.4						
KECS	**Kecovo**	**146.38 326**	*e*PKP	**PKPdf**	**11 59 55.0**		**-2.6**
KECS			*e*		12 00 03.0		
VYHS	**Vyhne**	**147.22 327**	*e*PKP	**PKPdf**	**11 59 59.5**		**+0.4**
GERES	**GERESS Array B**	**149.36 332**	PKPbc	**PKPdf**	**12 00 04.2**		**+1.5**
GERES	**GERESS Array B**	**149.36 332**	PKPbc	**PKPdf**	**12 00 04.2**		**+1.5**
	comp=Z,1.3nm,0.8s,baz=46,slow=4.2,SNR=4.7						
TORD	**Torodi Ar. Bea**	**166.87 223**	PKP	**PKPdf**	**12 00 23.2**		**-1.4**
TORD			PKPab	**PKPab**	**12 01 27.0**		**-0.8**
TORD	**Torodi Ar. Bea**	**166.87 223**	PKP	**PKPdf**	**12 00 23.2**		**-1.4**
	comp=Z,1.9nm,1.1s,baz=222,slow=1.9,SNR=7.0						
TORD			PKPab	**PKPab**	**12 01 27.0**		**-0.8**
	comp=Z,1.2nm,0.9s,baz=131,slow=2.3,SNR=3.6						

*IDC **21** 11:44:58.4±1.5, 33.42S×179.16W, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.0/21, mbtmp4.2/7, ML3.6/1, MS4.3/3, Ms1 4.3/3, ms1mx3.4/33, Error ellipse: s-maj=37.7km s-min=28.3km az=63.0*

*ISCJB **21** 11:45:05.6±1.0, 33.76S±0.06×179.6W±0.1, h55km, mb4.2/6, MS4.0/3, Error ellipse: s-maj=14.1km s-min=9.0km az=11.3*

ISC 21 11:45:07.3±1.2, 33.73S±0.09×179.5W±0.1, h55km, n16, σ1s16/16, mb4.2/6, MS3.9/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**4.69**	**202**	PN	**Pn**	**11 46 15.3**	**-0.3**
PUZ				SN	**Sn**	**11 47 09.4**	**+0.6**
MWZ	**Matawai**	**5.18**	**207**	PN	**Pn**	**11 46 21.7**	**-0.6**
URZ	**Urewera**	**5.28**	**210**	Pn	**Pn**	**11 46 23.3**	**-0.3**
	1.8nm,0.3s,baz=300,slow=21,SNR=12						
URZ				Sn	**Sn**	**11 47 22.1**	**-1.1**
	2.1nm,0.3s,baz=81,slow=5.5,SNR=2.6						
URZ	**Urewera**	**5.28**	**210**	PN	**Pn**	**11 46 22.5**	**-1.1**
URZ				SN	**Sn**	**11 47 22.0**	**-1.1**
OUZ	**Omahuta**	**5.87**	**253**	PN	**Pn**	**11 46 30.0**	**-1.7**
OUZ				SN	**Sn**	**11 47 38.8**	**+1.2**
RPZ	**Rata Peaks**	**12.38**	**214**	LR	LR	11 52 19.0	
	comp=Z,2μm,18.8s,baz=290,slow=34						
CTA	**Charters Tower**	**33.23**	**285**	P	**P**	**11 51 41.3**	**+2.0**
	4.3nm,0.7s,baz=125,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**41.76**	**271**	P	**P**	**11 52 51.8**	**+0.4**
	0.7nm,0.6s,baz=108,slow=6.9,SNR=9.9						
WRA	**Warramunga Arr**	**43.05**	**277**	P	**P**	**11 53 02.1**	**+0.2**
	2.1nm,0.4s,baz=117,slow=7.7,SNR=43						
FITZ	**Fitzroy Crossi**	**51.15**	**273**	P	**P**	**11 54 04.6**	**-0.4**
	1.5nm,0.8s,baz=159,slow=7.3,SNR=5.8						
QSPA	**South Pole Qui**	**56.39**	**180**	P	**P**	**11 54 44.0**	**+1.2**
	2.2nm,0.9s,baz=53,slow=3.7,SNR=11						
USHA	**Ushuaia**	**73.91**	**146**	LR	LR	12 22 09.2	
	comp=Z,450nm,20.8s,baz=89,slow=30						
CFAA	**Coronel Fontan**	**88.28**	**127**	LR	LR	12 29 18.2	
	comp=Z,12nm,21.0s,baz=189,slow=30						
PETK	**Petropavlovsk-**	**88.72**	**347**	P	**P**	**11 57 52.5**	**-1.8**
	3.2nm,1.1s,baz=131,slow=5.9,SNR=3.7						
NNA	**Nana**	**93.73**	**107**	LR	LR	12 32 17.1	
	comp=Z,51nm,21.9s,baz=135,slow=30						
FINES	**FINESS Array B**	**147.76**	**337**	PKPbc	**PKPdf**	**12 04 42.1**	**0.0**
	5.4nm,1.0s,baz=52,slow=2.5,SNR=4.4						

GUC 21 11:57:03.2±0.8, 35.74S×70.34W, h190km±11km, MD3.4, ML3.8, 4C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACH	**El Canelo**	**1.64**	**353**	↑*i*P	Pn	11 57 37.7	+0.2
CACH				*i* S	Sn	11 58 04.6	+0.6
CHCH	**Chadas Angostu**	**1.82**	**352**	*e*P	Pn	11 57 39.5	+0.3
CHCH				*i* S	Sn	11 58 06.8	-0.4
LMEL	**Las Melosas**	**1.89**	**4**	↑*i*P	Pn	11 57 40.4	+0.3
LMEL				AML	AML	11 58 18.2	
	comp=N,264nm,0.2s						
LNV	**Longovilo**	**1.99**	**333**	*e*P	Pn	11 57 41.7	+0.8
LNV				*i* S	Sn	11 58 09.8	-0.3
PCH	**Pirque**	**2.12**	**356**	↑*i*P	Pn	11 57 43.3	+0.8
PCH				*i* S	Sn	11 58 14.0	+1.1
TACH	**Talagante**	**2.14**	**347**	↓*i*P	Pn	11 57 43.1	+0.6
TACH				*i* S	Sn	11 58 13.2	+0.1
SAN	**Santiago**	**2.30**	**353**	*e*S	Sn	11 58 16.4	+0.1
LCCH	**Las Cruces**	**2.48**	**336**	↓*i*P	Pn	11 57 47.2	+1.0
PEL	**Peldehue**	**2.61**	**354**	↓*i*P	Pn	11 57 48.5	+0.7
PEL				*i* S	Sn	11 58 22.8	+0.3
PEL				AML	AML	11 58 24.6	
	comp=N,456nm,0.4s						
ROCH	**El Roble**	**2.82**	**349**	↓*i*P	Pn	11 57 51.1	+0.6
ROCH				*e*S	Sn	11 58 26.7	-0.7
JACH	**Jahuel**	**3.06**	**356**	↑*i*P	Pn	11 57 54.0	+0.8
JACH				*i* S	Sn	11 58 32.8	+0.5

WEL 21 12:01:59.8±0.4, 46.21S×165.47E, h12km, ML3.8/16, Error ellipse: s-maj=3.9km s-min=3.9km az=0.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.38**	**59**	PN	Pn	12 02 24.8	-0.2
DCZ				SN	Sb	12 02 43.3	+0.1
DCZ				AML	AML	12 02 57.0	
WHZ	**Wether Hill Ro**	**1.75**	**81**	PN	Pn	12 02 29.3	-0.7
WHZ				SN	Sn	12 02 50.9	-1.3
WHZ				AML	AML	12 02 51.5	
APZ	**The Paps**	**1.85**	**111**	PN	Pn	12 02 28.9	-2.5
APZ				SN	Sn	12 02 49.4	-5.3
MLZ	**Mavora Lakes**	**2.08**	**66**	PN	Pn	12 02 35.1	+0.5
MLZ				AML	AML	12 03 07.0	
MLZ				AML	AML	12 03 10.8	
MSZ	**Milford Sound**	**2.31**	**49**	PN	Pn	12 02 38.7	+1.0
MSZ				AML	AML	12 03 30.6	
MSZ				AML	AML	12 03 34.1	
SYZ	**Scrubby Hill**	**2.56**	**99**	PN	Pn	12 02 39.7	-1.4
WKZ	**Wanaka**	**2.85**	**62**	PN	Pn	12 02 47.0	+1.9
WKZ				AML	AML	12 03 39.7	
WKZ				AML	AML	12 03 39.8	
EAZ	**Earnscleugh**	**2.86**	**71**	PN	Pn	12 02 45.8	+0.6
EAZ				AML	AML	12 03 25.8	
EAZ				AML	AML	12 03 42.6	
TUZ	**Tuapeka**	**2.91**	**87**	PN	Pn	12 02 45.3	-0.6
TUZ				AML	AML	12 03 28.0	
TUZ				AML	AML	12 03 32.4	
JCZ	**Jackson Bay**	**3.15**	**49**	Pn	Pn	12 02 52.7	+3.2
JCZ				AML	AML	12 03 48.2	
JCZ				AML	AML	12 03 48.5	
LBZ	**Lake Benmore**	**3.79**	**63**	PN	Pn	12 02 58.2	+0.1
LBZ				AML	AML	12 03 47.8	
LBZ				AML	AML	12 04 29.8	
ODZ	**Otahua Downs**	**3.81**	**74**	PN	Pn	12 02 56.9	-1.4
ODZ				AML	AML	12 04 11.6	
ODZ				AML	AML	12 04 13.5	

*CSEM **21** 12:18:55.0, 36.92N×23.16E, h21km, MD2.6, After ATH*

ATH 21 12:18:55.0, 36.92N×23.16E, h21km±3km, MD2.6/5, Southern Greece

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

VLI	**Veliai**	**0.27 222**	*e*PB	Pb	12 19 01.2	-0.1	
VLI	**Veliai**	**0.27 222**	*e*Pb	Pb	12 19 01.2	-0.1	
KYTH	**Kithira**	**0.65 189**	*e*PN	Pb	12 19 07.8	+0.1	
KYTH	**Kithira**	**0.65 189**	*e*Pn	Pb	12 19 07.8	+0.1	
DYR	**Agios Nikonas**	**0.68 257**	*e*Pn	Pb	12 19 08.5	+0.2	
DYR			*e*SN	Sb	12 19 18.2	+0.9	
DYR	**Agios Nikonas**	**0.68 257**	*e*Pn	Pb	12 19 08.5	+0.2	
DYR			*e*Sn	Sb	12 19 18.2	+0.9	
ITM	**Ithomi**	**1.02 285**	*e*PN	Pn	12 19 14.7	+0.6	
ITM	**Ithomi**	**1.02 285**	*e*Pn	Pn	12 19 14.7	+0.6	
PYL	**PYLOS**	**1.14 269**	*e*PN	Pb	12 19 16.2	+0.2	
PYL	**PYLOS**	**1.14 269**	*e*Pn	Pb	12 19 16.2	+0.2	

*ISCJB **21** 12:22:05.7±0.9, 51.39N±0.04×16.10E±0.04, h0km, Error ellipse: s-maj=6.2km s-min=3.2km az=5.0*

*CSEM **21** 12:22:05.9±0.4, 51.47N×16.10E, h1km, ML3.4/7, Error ellipse: s-maj=6.4km s-min=3.7km az=4.0*

*WAR **21** 12:22:06.1, 51.55N×16.13E*

*PRU **21** 12:22:06.8, 51.48N×16.11E, h0km*

*VIE **21** 12:22:06.8±0.5, 51.34N×15.99E, h0km, mb2.2/4, ML2.8/4, Error ellipse: s-maj=2.8km s-min=2.5km az=175.0 76 km WNW of Wroclaw Suspected Mining induced.*

ISC 21 12:22:07.0±1.3, 51.46N±0.06×16.07E±0.03, h0km, n26, σ0s96/48, 2C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**167**	*e*Pg	**Pg**	**12 22 19.4**	**+0.3**
KSP				*e*Sg	**Sg**	**12 22 28.2**	**+0.9**
DPC	**Dobruska-Polom**	**1.12**	**172**	*e*PG	**Pg**	**12 22 28.3**	**-0.2**
DPC				*e*SG	**Sg**	**12 22 43.8**	**+0.8**
DPC	**Dobruska-Polom**	**1.12**	**172**	Pg	**Pg**	**12 22 28.3**	**-0.2**
DPC				Sg	**Sg**	**12 22 43.8**	**+0.8**
PVCC	**Panska Ves**	**1.33**	**226**	*e*PG	**Pg**	**12 22 32.7**	**+0.3**
PVCC				*e*SG	**Sn**	**12 22 51.6**	**+0.4**
	comp=Z,154nm,0.2s						
PVCC	**Panska Ves**	**1.33**	**226**	Pg	**Pg**	**12 22 32.7**	**+0.3**
PVCC				Sg	**Sn**	**12 22 51.6**	**+0.4**
	154nm,0.2s						
BRG	**Berggiesshubel**	**1.46**	**247**	PG	**Pn**	**12 22 34.2**	**-0.4**
BRG				SG	**Sn**	**12 22 55.3**	**+0.9**
	66nm,0.4s						
PRU	**Pruhonice**	**1.76**	**214**	*e*PG	**Pb**	**12 22 39.9**	**-0.3**
PRU				*e*SG	**Sb**	**12 23 03.4**	**+0.6**
	comp=Z,19nm,0.2s						
PRU	**Pruhonice**	**1.76**	**214**	Pg	**Pb**	**12 22 39.9**	**-0.3**
PRU				Sg	**Sb**	**12 23 03.4**	**+0.6**
	19nm,0.2s						
MORC	**Moravsky Berou**	**1.93**	**150**	*e*Pn	**Pn**	**12 22 39.4**	**-1.7**
MORC				*e*Sg	**Sb**	**12 23 07.3**	**-0.3**
OKC	**Ostrava-Krasne**	**2.10**	**140**	*e*PG	**Pb**	**12 22 46.2**	**+0.4**
OKC				*e*SG	**Sb**	**12 23 12.7**	**+0.3**
OKC	**Ostrava-Krasne**	**2.10**	**140**	Pg	**Pb**	**12 22 46.2**	**+0.4**
OKC				Sg	**Sb**	**12 23 12.7**	**+0.3**
VRAC	**Vranov**	**2.18**	**171**	*e*Pn	**Pn**	**12 22 44.3**	**-0.2**
VRAC				*e*Sg	**Sb**	**12 23 15.4**	**+0.6**
TREC	**Trest**	**2.20**	**190**	*e*PG	**Pb**	**12 22 48.2**	**+0.6**
TREC				*e*SG	**Sg**	**12 23 18.0**	**+0.4**
	comp=Z,15nm,0.3s						
TREC	**Trest**	**2.20**	**190**	Pg	**Pb**	**12 22 48.2**	**+0.6**
TREC				Sg	**Sg**	**12 23 18.0**	**+0.4**
	15nm,0.3s						
NKC	**Novy Kostel**	**2.60**	**243**	*e*PN	**Pn**	**12 22 50.0**	**-0.3**
NKC				*e*PG	**Pg**	**12 22 56.2**	**-0.6**
NKC				*e*SG	**Sg**	**12 23 30.7**	**+0.2**
	comp=Z,27nm,0.3s						
NKC	**Novy Kostel**	**2.60**	**243**	Pn	**Pn**	**12 22 50.0**	**-0.3**
OJC	**Ojcow**	**2.67**	**116**	*e*Pg	**Pg**	**12 22 57.2**	**-0.9**
OJC				*e*Sg	**Sg**	**12 23 31.9**	**-0.8**
OJC	**Ojcow**	**2.67**	**116**	*e*Pg	**Pg**	**12 22 57.2**	**-0.9**
OJC				*e*Sg	**Sg**	**12 23 31.9**	**-0.8**
KHC	**Kasperske Hory**	**2.83**	**215**	*e*PN	**Pn**	**12 22 52.9**	**-0.5**
KHC				*e*PG	**Pb**	**12 22 59.2**	**+0.9**
KHC				*e*SG	**Sg**	**12 23 37.4**	**-0.3**
	comp=Z,8.7nm,0.3s						
KHC	**Kasperske Hory**	**2.83**	**215**	Pn	**Pn**	**12 22 52.9**	**-0.5**
CONA	**Conrad Observa**	**3.54**	**182**	↑*i*Sg	**Sg**	**12 23 59.4**	**-1.2**
	13nm,0.5s						
CONA	**Conrad Observa**	**3.54**	**182**	Sg	**Sg**	**12 23 59.4**	**-1.2**
	13nm,0.5s						
MOA	**Molln**	**3.80**	**199**	↓*i*Pn	**Pn**	**12 23 04.9**	**-1.8**
MOA				↑*i*Sg	**Sg**	**12 24 08.2**	**-0.8**
	12nm,0.6s						
MOA	**Molln**	**3.80**	**199**	Pn	**Pn**	**12 23 04.9**	**-1.8**
MOA				Sg	**Sg**	**12 24 08.2**	**-0.8**
	12nm,0.6s						
STHS	**Stebnicka Huta**	**3.89**	**120**	*e*SG	**Sg**	**12 24 14.7**	**+2.9**
STHS	**Stebnicka Huta**	**3.89**	**120**	*e*Sg	**Sg**	**12 24 14.7**	**+2.9**

IDC 21 12:34:04.6±2.5, 6.44S×133.14E, h0km, mb3.3/1, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=74.5km s-min=22.7km az=83.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.47**	**175**	Pn	Pn	12 37 19.1	+1.9
	0.3nm,0.3s,baz=356,slow=14,SNR=13						
WRA				Sn	Sn	12 39 47.1	-0.7
	0.3nm,0.3s,baz=354,slow=24,SNR=4.5						
FITZ	**Fitzroy Crossi**	**13.71**	**212**	Pn	Pn	12 37 21.9	+1.6
	0.2nm,0.3s,baz=27,slow=14,SNR=16						
FITZ				Sn	Sn	12 39 53.8	+0.4
	0.2nm,0.3s,baz=85,slow=12,SNR=5.1						
ASAR	**Alice Springs**	**17.14**	**178**	P	P	12 38 07.4	-0.1
	0.2nm,0.3s,baz=0.9,slow=11,SNR=14						
ASAR				S	Sn	12 41 15.5	-1.7
	0.1nm,0.3s,baz=358,slow=28,SNR=2.8						
MKAR	**Makanchi Array**	**69.51**	**325**	P	P	12 45 14.7	-0.5
	0.2nm,0.7s,baz=115,slow=6.5,SNR=2.5						

*NIED **21** 12:45:00, 29.10N×130.00E, h29km, Mw3.9 Best double couple: M0 6.98000×10^14 NP1:φs 59.00000°, δ 72.00000°, λ 100.00000°. NP2:φs 210.00000°, δ 21.00000°, λ 62.00000°.*

*ISCJB **21** 12:45:53.1±0.5, 29.09N±0.04×130.04E±0.10, h62km±5km, mb3.6/8, Error ellipse: s-maj=15.0km s-min=4.8km az=16.8*

*JMA **21** 12:45:53.0±0.1, 29.08N×130.04E, h57km, M3.8*

*IDC **21** 12:45:58.7±2.8, 29.24N×130.12E, h97km±24km, mb3.3/8, mb1 3.4/11, mb1mx3.4/28, mbtmp3.3/11, MS3.2/4, Ms1 3.2/4, ms1mx2.7/22, Error ellipse: s-maj=25.5km s-min=18.6km az=68.0*

ISC 21 12:45:53.6±1.0, 29.08N±0.04×130.1E±0.1, h51km±10km, n21, σ1s09/24, mb3.7/8, MS3.1/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.77**	**185**	P	**Pn**	**12 46 08.2**	**-0.1**
JZK				*e*S	**Sn**	**12 46 20.2**	**+1.2**
JNN	**Nakanoshima**	**0.77**	**348**	P	**Pn**	**12 46 07.8**	**-0.6**
JNN				*e*S	**Sn**	**12 46 19.1**	**0.0**
JAM	**Amami Oshima**	**0.78**	**211**	P	**Pn**	**12 46 07.2**	**-1.2**
JAM				*e*S	**Sn**	**12 46 18.0**	**-1.1**
JAMN	**Amaminishikomi**	**1.14**	**223**	P	**Pn**	**12 46 13.5**	**+0.3**
JAMN				*e*S	**Sn**	**12 46 29.0**	**+1.2**
JKC	**Kuchinoerabu**	**1.38**	**5**	P	**Pn**	**12 46 16.5**	**0.0**
JKC				*e*S	**Sn**	**12 46 34.2**	**+0.6**
JTK	**Tokunoshima**	**1.62**	**217**	P	**Pn**	**12 46 20.6**	**+0.9**
JTK				*e*S	**Sn**	**12 46 41.0**	**+1.6**
JTN	**Tanegashima 3**	**1.76**	**27**	P	**Pn**	**12 46 21.9**	**+0.2**
JOW	**Kunigami**	**2.74**	**215**	P	**Pn**	**12 46 35.9**	**+0.8**
JNU	**Nakatsue**	**4.09**	**10**	P	**Pn**	**12 46 55.1**	**+1.5**
	2.7nm,0.3s,baz=59,slow=4.0,SNR=18						
JNU				S	**Sn**	**12 47 42.5**	**+2.3**
	1.3nm,0.3s,baz=176,slow=13,SNR=1.4						
KSRS	**Korea Array**	**8.54**	**348**	P	Pn	12 47 58.3	+3.8
	0.2nm,0.3s,baz=170,slow=14,SNR=11						
KSRS				LR	LR	12 51 30.4	
	comp=Z,88nm,19.4s,baz=161,slow=40						
MJAR	**Matsushiro Arr**	**10.12**	**41**	P	Pn	12 48 20.1	+3.9
	0.3nm,0.3s,baz=225,slow=15,SNR=3.7						
SONM	**Songino Array**	**26.17**	**322**	P	**P**	**12 51 23.3**	**+0.1**
	2.6nm,0.7s,baz=139,slow=10.0,SNR=13						
SONM				LR	LR	13 02 39.5	
	comp=Z,61nm,20.0s,baz=224,slow=38						
CMAR	**Chiang Mai Arr**	**30.29**	**257**	LR	LR	13 05 01.3	
	comp=Z,16nm,20.5s,baz=40,slow=38						
MKAR	**Makanchi Array**	**40.92**	**309**	P	**P**	**12 53 30.6**	**-0.3**
	0.2nm,0.5s,baz=99,slow=9.1,SNR=2.3						

ZALV	**Zalesovo Beam**	**41.03**	**320**	P	**P**	**12 53 31.0**	**-0.7**
	0.6nm,0.6s,baz=92,slow=7.2,SNR=3.0						
BVAR	**Borovoye Array**	**49.28**	**317**	P	**P**	**12 54 37.5**	**+0.4**
	2.0nm,0.6s,baz=88,slow=11,SNR=9.9						
ASAR	**Alice Springs**	**52.58**	**176**	P	**P**	**12 55 03.5**	**+1.3**
	1.1nm,0.6s,baz=7.2,slow=14,SNR=21						
AKTO	**Aktyubinsk**	**57.02**	**314**	LR	LR	13 23 09.1	
	comp=Z,70nm,19.0s,baz=156,slow=39						
ILAR	**Eielson Array**	**61.17**	**29**	P	**P**	**12 56 01.5**	**-1.1**
	0.1nm,0.5s,baz=280,slow=8.0,SNR=3.0						
FINES	**FINESS Array B**	**71.19**	**330**	P	**P**	**12 57 05.9**	**-0.8**
	1.7nm,0.9s,baz=308,slow=6.8,SNR=2.2						
YKA	**Yellowknife Ar**	**75.26**	**26**	P	**P**	**12 57 29.6**	**-1.2**
	0.3nm,0.6s,baz=298,slow=5.7,SNR=3.9						

WEL 21 12:53:07.0±0.9, 47.31S×165.27E, h33km, ML4.1/12, Error ellipse: s-maj=9.0km s-min=6.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**1.92**	**77**	PN	Pn	12 53 36.2	-1.2
APZ				SN	Sn	12 53 59.4	-1.0
DCZ	**Deep Cove**	**2.25**	**36**	*e*PN	Pn	12 53 38.7	-3.2
DCZ				SN	Sn	12 54 04.7	-3.8
DCZ				AML	AML	12 54 12.8	
WHZ	**Wether Hill Ro**	**2.33**	**53**	PN	Pn	12 53 41.9	-1.1
WHZ				SN	Sn	12 54 09.2	-1.3
WHZ				AML	AML	12 54 18.6	
SYZ	**Scrubby Hill**	**2.76**	**75**	PN	Pn	12 53 48.6	-0.2
SYZ				SN	Sn	12 54 20.9	-0.2
MLZ	**Mavora Lakes**	**2.81**	**47**	PN	Pn	12 53 48.8	-0.9
MLZ				AML	AML	12 54 22.5	
MLZ				AML	AML	12 54 22.8	
MSZ	**Milford Sound**	**3.23**	**36**	PN	Pn	12 53 54.8	-0.5
MSZ				AML	AML	12 54 36.6	
MSZ				AML	AML	12 54 37.5	
TUZ	**Tuapeka**	**3.30**	**67**	PN	Pn	12 53 55.5	-0.7
TUZ				AML	AML	12 54 35.9	
TUZ				AML	AML	12 54 45.2	
EAZ	**Earnscleugh**	**3.49**	**55**	PN	Pn	12 53 57.7	-1.2
EAZ				AML	AML	12 54 41.3	
EAZ				AML	AML	12 54 41.9	
WKZ	**Wanaka**	**3.60**	**48**	PN	Pn	12 54 00.7	+0.2
WKZ				AML	AML	12 54 52.3	
WKZ				AML	AML	12 55 01.4	
HHSZ	**Highcliff Hill**	**3.94**	**71**	PN	Pn	12 54 04.6	-0.6
JCZ	**Jackson Bay**	**4.06**	**38**	PN	Pn	12 54 07.2	+0.3
JCZ				AML	AML	12 55 16.1	
JCZ				AML	AML	12 55 19.4	
ODZ	**Otahua Downs**	**4.37**	**61**	PN	Pn	12 54 08.2	-2.8
ODZ				AML	AML	12 55 22.8	
ODZ				AML	AML	12 55 24.1	
LBZ	**Lake Benmore**	**4.51**	**51**	PN	Pn	12 54 10.6	-2.4
LBZ				AML	AML	12 55 27.5	
LBZ				AML	AML	12 55 42.3	
FOZ	**Fox Glacier**	**4.87**	**41**	PN	Pn	12 54 18.9	+1.0
WVZ	**Waitaha Valley**	**5.73**	**44**	PN	Pn	12 54 28.9	-0.7
WVZ				AML	AML	12 54 41.7	
WVZ				AML	AML	12 55 26.3	
OXZ	**Oxford**	**6.22**	**53**	PN	Pn	12 54 34.8	-1.6
DSZ	**Denniston Nort**	**7.26**	**42**	PN	Pn	12 54 48.1	-2.6
THZ	**Tophouse**	**7.78**	**47**	PN	Pn	12 54 57.2	-0.7
THZ				AML	AML	12 55 07.7	

IDC 21 12:55:53.0±2.1, 7.06S×127.70E, h0km, mb3.6/1, mb1 4.4/4, mb1mx3.8/20, mbtmp4.2/4, ML4.4/3, MS3.6/1, Ms1 3.6/1, ms1mx2.4/20, Error ellipse: s-maj=103.2km s-min=27.9km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.16**	**190**	Pn	Pn	12 58 35.1	+1.2
	2.1nm,0.3s,baz=19,slow=12,SNR=6.5						
FITZ				Sn	Sn	13 00 27.2	-12
	0.9nm,0.3s,baz=318,slow=14,SNR=3.2						
WRA	**Warramunga Arr**	**14.34**	**154**	Pn	Pn	12 59 15.6	-1.8
	2.6nm,0.3s,baz=323,slow=14,SNR=29						
WRA				Sn	Sn	13 01 38.7	-19
	1.0nm,0.3s,baz=334,slow=20,SNR=5.6						
ASAR	**Alice Springs**	**17.55**	**161**	P	Pn	12 59 59.5	+0.2
	0.9nm,0.3s,baz=341,slow=12,SNR=28						
ASAR				S	Sn	13 02 58.4	-17
	0.4nm,0.3s,baz=332,slow=23,SNR=5.4						
NWAO	**Narrogin (SRO)**	**27.51**	**199**	LR	LR	13 13 10.1	
	comp=Z,125nm,20.5s,baz=327,slow=38						
MKAR	**Makanchi Array**	**67.04**	**328**	P	P	13 06 48.0	0.0
	0.3nm,0.5s,baz=134,slow=6.2,SNR=5.1						

CASC 21 13:06:55.0±3.9, 10.31N×84.06W, h80km±28km, MD3.5, 3C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGA2	**Cerro Gallo 2**	**0.49**	**234**	*e*P	Pn	13 07 08.9	0.0
CGA2				*e*S	Sn	13 07 19.7	+0.5
URSC	**Urasca**	**0.55**	**150**	↑*i*P	Pn	13 07 10.3	+0.9
BUS	**Buena Vista**	**0.81**	**158**	↑*e*P	Pn	13 07 12.2	-0.3
BUS				*e*S	Sn	13 07 25.6	+0.3
QCR	**Quepos**	**0.89**	**187**	*e*P	Pn	13 07 11.9	-0.9
PTEN	**Parque Tenorio**	**1.00**	**294**	*i* P	Pn	13 07 15.5	+1.4
JCR	**Jicaral**

KNDC	**Almaty**	**3.18**	**3**	⇓Pn		**Pb**	**13 13 11.5**	**+0.7**
	comp=E,43nm,0.3s							
KNDC				⇓Lg		Lg	13 13 53.8	
	comp=E,856nm,0.7s							
CHMS	**Chumysh**	**3.30**	**334**	P		Pn	13 13 11.0	+5.1
	SNR=71							
EKS2	**Erkin-Say**	**3.42**	**321**	P		**Pb**	**13 13 13.8**	**-1.1**
	SNR=34							
USP	**Ospenovka**	**3.62**	**334**	P		Pn	13 13 15.2	+4.9
	SNR=26							
KK31	**Karatay Array**	**5.56**	**305**	⇓Pn		Pn	13 13 34.2	-2.8
	comp=E,4.4nm,0.6s,baz=135,slow=13,SNR=18							
KK31				⇑Lg		Lg	13 15 14.1	
	comp=E,4.5nm,0.5s,baz=122,slow=29,SNR=3.9							
DLH	**Dalhousie**	**7.50**	**185**	*e*P		**Pn**	**13 14 06.0**	**+2.2**
DLH				*e*S		**Sn**	**13 15 30.0**	**+0.9**
MK31	**Makanchi Array**	**7.88**	**29**	⇑Pn		**Pn**	**13 14 09.6**	**+0.8**
	comp=E,0.4nm,0.3s,baz=203,slow=14							
MK31				⇑Pg		Pb	13 14 36.9	+6.1
	comp=E,1.6nm,0.5s,baz=206,slow=15							
MK31				⇓Lg		Lg	13 16 20.0	
	comp=E,8.2nm,0.7s,baz=211,slow=30							
MKAR	**Makanchi Array**	**7.88**	**29**	Pn		**Pn**	**13 14 08.6**	**-0.2**
	comp=E,0.5nm,0.3s,baz=207,slow=14,SNR=17							
MKAR				Lg		Lg	13 16 18.7	
	comp=E,1.0nm,0.3s,baz=212,slow=30,SNR=10							
WMQ	**Urumqi**	**9.02**	**62**	P		**Pn**	**13 14 24.8**	**+0.3**
WMQ				pP			13 14 28.0	
WMQ				sP			13 14 30.8	
WMQ				S		**Sn**	**13 16 06.6**	**+0.4**
WMQ				smax		smax		
	comp=N,93nm,0.7s							
WMQ				smax		smax		
	comp=E,100nm,0.9s							
KURBB	**Kurchatov Arra**	**10.66**	**6**	⇓Lg		Lg	13 17 49.7	
	comp=E,19nm,0.7s							
KURBB	**Kurchatov Arra**	**10.66**	**6**	Pn		**Pn**	**13 14 46.9**	**0.0**
	comp=E,0.0nm,0.3s,baz=191,slow=12,SNR=4.3							
KURBB				Lg		Lg	13 17 44.9	
	comp=E,0.1nm,0.3s,baz=192,slow=30,SNR=6.0							
VOSK	**Vostochnaya**	**13.28**	**345**	⇓P		**Pn**	**13 15 23.0**	**+0.3**
	comp=E,1.6nm,0.8s							
BVA0	**Borovoye Array**	**13.69**	**344**	⇑P		**Pn**	**13 15 27.7**	**-0.5**
	comp=E,2.9nm,0.9s,baz=228,slow=37,SNR=16							
BVAR	**Borovoye Array**	**13.69**	**344**	Pn		**Pn**	**13 15 27.8**	**-0.4**
	comp=E,0.3nm,0.3s,baz=160,slow=14,SNR=10							
BVAR				Lg		Lg	13 19 27.3	
	comp=E,0.9nm,0.3s,baz=153,slow=32,SNR=5.9							
BVAR				LR		LR	13 20 54.3	
	comp=E,57nm,19.7s,baz=100,slow=38							
ZALV	**Zalesovo Beam**	**14.96**	**19**	Pn		**Pn**	**13 15 45.2**	**-0.3**
	comp=E,0.2nm,0.3s,baz=212,slow=12,SNR=2.4							
ZALV				LR		LR	13 21 55.9	
	comp=E,21nm,21.2s,baz=258,slow=39							
AB31	**Akbulak array**	**15.04**	**313**	⇑P		**Pn**	**13 15 50.1**	**+3.5**
	comp=E,1.2nm,0.7s							
SONM	**Songino Array**	**22.66**	**60**	P		**P**	**13 17 13.7**	**-1.8**
	comp=E,0.4nm,0.5s,baz=269,slow=12,SNR=3.3							
SONM				LR		LR	13 26 17.6	
	comp=E,23nm,18.6s,baz=245,slow=37							
NJ2	**Nanjing**	**34.74**	**90**	*e*P		**P**	**13 19 04.8**	**+0.3**
FINES	**FINESS Array B**	**37.25**	**322**	P		**P**	**13 19 26.7**	**+1.0**
	comp=E,0.9nm,0.6s,baz=76,slow=12,SNR=2.4							
ARCES	**ARCESS Array B**	**39.73**	**335**	P		**P**	**13 19 46.9**	**+0.5**
	comp=E,3.1nm,1.0s,baz=92,slow=8.5,SNR=3.4							
TORD	**Torodi Ar. Bea**	**70.23**	**271**	P		**P**	**13 23 26.1**	**-1.6**
	comp=E,0.4nm,0.5s,baz=49,slow=5.7,SNR=8.8							
YKA	**Yellowknife Ar**	**77.41**	**5**	P		**P**	**13 24 08.7**	**-0.3**
	comp=E,0.4nm,0.8s,baz=334,slow=6.9,SNR=2.6							
ASAR	**Alice Springs**	**82.79**	**129**	P		P	13 24 35.1	-3.5
	comp=E,0.4nm,1.0s,baz=340,slow=5.2,SNR=4.2							

*IDC **21** 13:24:00.4±0.7, 79.˚48N×4.˚08E, h0km, mb3.8/14, mb1 4.0/19, mb1mx3.9/32, mbtmp3.8/19, ML3.4/4, MS3.3/12, Ms1 3.3/12, ms1mx3.1/33, Error ellipse: s-maj=17.7km s-min=13.5km az=41.0*

*BER **21** 13:24:01.9±1.9, 80.˚07N×6.˚91E, h10km, MD2.1, ML2.8, ML3.7(NAO)*

*NAO **21** 13:24:02.8±3.6, 79.˚52N×5.˚99E, ML3.7*

*CSEM **21** 13:24:09.2±0.6, 78.˚97N×7.˚43E, h10km, ML3.7, Error ellipse: s-maj=13.5km s-min=6.1km az=134.0*

ISC 21 13:24:04.4±1.1, **79.˚2N**±0.˚1×**5.˚78E**±0.˚08, **h10**km, **n36, σ1°53/38, mb3.8/14, MS3.5/8, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBS	**Kingsbay**	**1.20**	**98**	Pg		**Pn**	**13 24 26.0**	**-1.3**
KBS				Lg		Lg	13 24 44.1	
KBS	**Kingsbay**	**1.20**	**98**	*e*P		**Pn**	**13 24 25.9**	**-1.3**
KBS				*e*S		**Sb**	**13 24 43.8**	**+1.0**
KBS				AML		AML	13 24 47.8	
	comp=Z,200nm,0.5s							
KBS	**Kingsbay**	**1.20**	**98**	Pg		**Pn**	**13 24 26.0**	**-1.3**
KBS				Lg		Lg	13 24 44.1	
SPA0	**Spitsbergen Ar**	**2.31**	**110**	Pn		**Pn**	**13 24 42.5**	**0.0**
	baz=314,slow=12							
SPA0				Sn		**Sn**	**13 25 12.6**	**+1.6**
SPA0	**Spitsbergen Ar**	**2.31**	**110**	Pn		**Pn**	**13 24 42.5**	**0.0**
	baz=314,slow=12							
SPA0				*e*S		**Sn**	**13 25 12.7**	**+1.7**
SPA0	**Spitsbergen Ar**	**2.31**	**110**	Pn		**Pn**	**13 24 42.5**	**0.0**
	baz=314,slow=12,SNR=784							
SPITS	**Spitsbergen Ar**	**2.31**	**110**	Pn		**Pn**	**13 24 42.7**	**+0.1**
	baz=306,slow=8.7,SNR=608							
SPITS				Sn		**Sn**	**13 25 12.9**	**+2.0**
	baz=322,slow=9.5,SNR=3.7							
SPITS				LR		LR	13 25 45.9	
	comp=Z,620nm,20.8s,baz=255,slow=39							
JMIC	**Jan Mayen**	**8.96**	**211**	LR		LR	13 28 49.3	
	comp=Z,43nm,19.6s,baz=82,slow=32							
KEV	**Kevo**	**10.91**	**138**	*e*p		**Pn**	**13 26 40.0**	**-0.3**
KEV	**Kevo**	**10.91**	**138**	*e*P		**Pn**	**13 26 40.0**	**-0.3**
ARA0	**ARCESS Array S**	**10.93**	**141**	Pn		**Pn**	**13 26 41.7**	**+1.0**
	baz=350,slow=12							
ARA0				Sn		**Sn**	**13 28 39.5**	**-3.3**
	baz=349,slow=22							
ARA0	**ARCESS Array S**	**10.93**	**141**	P		**Pn**	**13 26 41.7**	**+1.0**
	baz=350,slow=12							
ARA0				S		**Sn**	**13 28 39.5**	**-3.3**
	baz=349,slow=22							
ARA0	**ARCESS Array S**	**10.93**	**141**	P		**Pn**	**13 26 41.7**	**+1.0**
	baz=350,slow=12,SNR=47							
ARA0				S		**Sn**	**13 28 39.5**	**-3.3**
	baz=349,slow=19,SNR=47							
ARCES	**ARCESS Array B**	**10.93**	**141**	Pn		**Pn**	**13 26 41.7**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=351,slow=13,SNR=27							
ARCES				Sn		**Sn**	**13 28 39.7**	**-3.1**
	comp=Z,0.4nm,0.3s,baz=353,slow=19,SNR=5.3							
ARCES				LR		LR	13 30 58.2	
	comp=Z,120nm,18.1s,baz=281,slow=37							
NOA	**NORSAR Array B**	**18.29**	**172**	P		**Pn**	**13 28 19.7**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=353,slow=12,SNR=3.5							
NOA				LR		LR	13 34 51.6	
	comp=Z,38nm,20.2s,baz=200,slow=35							
FIA0	**FINESS Array S**	**18.84**	**149**	P		**Pn**	**13 28 25.5**	**+1.0**
	baz=347,slow=14							
FIA0	**FINESS Array S**	**18.84**	**149**	P		**Pn**	**13 28 25.5**	**+1.0**
	baz=347,slow=14							
FIA0	**FINESS Array S**	**18.84**	**149**	P		**Pn**	**13 28 25.5**	**+1.0**
	baz=347,slow=14,SNR=1.5							
FINES	**FINESS Array B**	**18.84**	**149**	P		**Pn**	**13 28 25.6**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=345,slow=12,SNR=7.6							
HFS	**Hagfors**	**19.28**	**168**	P		**Pn**	**13 28 30.5**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=189,slow=39,SNR=2.7							
GERES	**GERESS Array B**	**30.57**	**170**	P		**P**	**13 30 19.3**	**+1.5**
	comp=Z,1.3nm,0.7s,baz=21,slow=9.7,SNR=10.0							
SCHQ	**Scheffervill e**	**33.53**	**268**	LR		LR	13 43 59.2	
	comp=Z,69nm,19.4s,baz=53,slow=36							
BVAR	**Borovoye Array**	**33.74**	**101**	P		**P**	**13 30 46.4**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=335,slow=9.4,SNR=12							
ILAR	**Eielson Array**	**35.40**	**340**	P		P	13 30 54.4	-5.4
	comp=Z,0.5nm,1.0s,baz=354,slow=8.2,SNR=3.8							
ZALV	**Zalesovo Beam**	**35.58**	**86**	P		**P**	**13 31 01.3**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=341,slow=8.3,SNR=3.1							
ZALV				LR		LR	13 50 26.4	
	comp=Z,61nm,18.3s,baz=268,slow=44							
KURBB	**Kurchatov Arra**	**37.56**	**94**	P		**P**	**13 31 18.6**	**+0.3**
	comp=Z,3.3nm,0.9s,baz=341,slow=7.8,SNR=25							
KBZ	**Khabaz**	**38.21**	**135**	P		**P**	**13 31 25.3**	**+1.5**
	comp=Z,2.3nm,0.7s,baz=2.8,slow=8.1,SNR=5.9							
KBZ				LR		LR	13 47 29.1	
	comp=Z,54nm,19.0s,baz=55,slow=36							
ESDC	**Sonseca Array**	**39.79**	**192**	P		**P**	**13 31 36.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=346,slow=8.0,SNR=4.0							
BRTR	**Keskin Array B**	**41.05**	**147**	P		**P**	**13 31 49.1**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=359,slow=6.7,SNR=3.7							
MKAR	**Makanchi Array**	**41.95**	**92**	P		**P**	**13 31 55.0**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=352,slow=7.4,SNR=15							
MKAR				LR		LR	13 54 21.0	
	comp=Z,78nm,18.3s,baz=146,slow=43							
ULM	**Lac du Bonnet**	**43.25**	**293**	LR		LR	13 49 10.9	
	comp=Z,63nm,20.3s,baz=8.2,slow=35							
SONM	**Songino Array**	**45.40**	**68**	P		**P**	**13 32 21.6**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=330,slow=8.4,SNR=3.5							
PDAR	**Pinedale Array**	**52.79**	**303**	P		P	13 33 13.8	-5.7
	comp=Z,0.3nm,0.3s,baz=11,slow=6.4,SNR=4.4							
PDAR				LR		LR	13 55 55.9	
	comp=Z,45nm,18.4s,baz=199,slow=37							
TXAR	**Lajitas Array**	**64.94**	**295**	P		P	13 34 38.0	-5.8
	comp=Z,0.4nm,0.9s,baz=27,slow=6.1,SNR=2.3							
TXAR				LR		LR	14 05 20.2	
	comp=Z,23nm,22.0s,baz=190,slow=38							
TORD	**Torodi Ar. Bea**	**66.06**	**184**	P		**P**	**13 34 50.1**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=355,slow=6.3,SNR=6.4							
CMAR	**Chiang Mai Arr**	**72.60**	**83**	P		**P**	**13 35 29.9**	**-1.7**
	comp=Z,1.0nm,1.1s,baz=341,slow=6.2,SNR=4.1							
CMAR				LR		LR	14 12 27.2	
	comp=Z,28nm,21.7s,baz=205,slow=40							

*IDC **21** 13:48:09.5±0.8, 2.˚25N×126.˚89E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.9/21, mbtmp3.9/10, Error ellipse: s-maj=44.8km s-min=14.0km az=74.0*

*DJA **21** 13:48:11.2±1.8, 2.˚N±19.˚×12.˚7E±.˚, h10km, M4.2/4, MLv4.2/4*

*ISCJB **21** 13:48:14.3±0.6, 2.˚28N±0.˚07×127.˚09E±0.˚08, h53km, mb3.8/9, Error ellipse: s-maj=12.1km s-min=9.9km az=160.2*

ISC 21 13:48:16.2±0.8, **2.˚26N**±0.˚10×**127.˚1E**±0.˚1, **h53**km, **n16, σ0°79/14, mb3.9/9, Northern Moluca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GAMI	**Galela, Maluku**	**0.83**	**120**	P		Pn	13 48 27.1	-4.7
TNTI	**Ternate**	**1.51**	**168**	P		**Pn**	**13 48 40.2**	**-0.6**
MNI	**Manado**	**2.37**	**250**	P		**Pn**	**13 48 52.2**	**-0.4**
LBMI	**Labuha**	**2.91**	**171**	P		Pn	13 49 04.5	+4.5
KMSI	**Cibinong**	**3.51**	**242**	P		**Pn**	**13 49 08.0**	**-0.2**
GTOI	**Gorontalo**	**4.36**	**248**	P		**Pn**	**13 49 20.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**20.28**	**184**	P		**P**	**13 52 46.8**	**-0.8**
	1.3nm,0.5s,baz=35,slow=15,SNR=7.5							
WRA	**Warramunga Arr**	**23.19**	**162**	P		**P**	**13 53 17.8**	**-0.8**
	2.7nm,0.5s,baz=341,slow=11,SNR=20							
ASAR	**Alice Springs**	**26.61**	**166**	P		**P**	**13 53 50.9**	**+1.0**
	0.7nm,0.6s,baz=347,slow=7.6,SNR=13							
CMAR	**Chiang Mai Arr**	**31.92**	**302**	P		**P**	**13 54 36.6**	**-0.5**
	0.4nm,0.3s,baz=96,slow=9.2,SNR=4.1							
KSRS	**Korea Array**	**35.03**	**1**	P		**P**	**13 55 04.2**	**+0.3**
	1.5nm,0.9s,baz=176,slow=10,SNR=4.0							
STKA	**Stephens Creek**	**36.64**	**159**	P		**P**	**13 55 18.0**	**+0.2**
	5.7nm,0.8s,baz=327,slow=10,SNR=9.9							
USRK	**Ussuriysk Arra**	**41.99**	**5**	P		**P**	**13 56 03.2**	**+1.0**
	2.3nm,0.8s,baz=195,slow=10.0,SNR=4.0							
SONM	**Songino Array**	**48.79**	**342**	P		**P**	**13 56 55.6**	**-0.5**
	0.6nm,0.7s,baz=157,slow=7.8,SNR=2.9							
MKAR	**Makanchi Array**	**58.95**	**326**	P		**P**	**13 58 09.3**	**-0.9**
	0.7nm,0.6s,baz=116,slow=7.4,SNR=8.5							
VNDA	**Vanda**	**81.93**	**173**	P		**P**	**14 00 30.8**	**+1.1**
	0.5nm,0.6s,baz=340,slow=5.8,SNR=3.0							

*ISCJB **21** 13:52:06.9±1.2, 35.˚75N±0.˚03×37.˚70E±0.˚04, h1km±10km, Error ellipse: s-maj=5.6km s-min=4.0km az=39.5*

*ISK **21** 13:52:07.3, 35.˚76N×37.˚62E, h10km, MD3.5*

*DDA **21** 13:52:08.9, 35.˚75N×37.˚73E, h57km, MD3.7*

*CSEM **21** 13:52:09.0±0.2, 35.˚79N×37.˚62E, h10km, MD3.7, Error ellipse: s-maj=6.0km s-min=4.0km az=100.0*

ISC 21 13:52:09.1±2.1, **35.˚79N**±0.˚04×**37.˚65E**±0.˚03, **h11**km±14km, **n59, σ0°79/77, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUZU	**Kuzuini**	**1.09**	**335**	*i* P		**Pb**	**13 52 29.6**	**-0.3**
KUZU				*i* S		**Sn**	**13 52 45.5**	**+0.1**
KUZU	**Kuzuini**	**1.09**	**335**	*i* P		**Pb**	**13 52 29.6**	**-0.3**
KUZU				*i* S		**Sn**	**13 52 45.5**	**+0.1**
HTY	**Hatay**	**1.27**	**286**	*e*PN		**Pn**	**13 52 32.2**	**-0.5**
HTY				*e*SN		**Sb**	**13 52 49.1**	**-0.3**
HTY	**Hatay**	**1.27**	**286**	*e*Pn		**Pn**	**13 52 32.2**	**-0.5**
HTY				*e*Sn		**Sb**	**13 52 49.1**	**-0.3**
YAYL	**Yayladag**	**1.28**	**282**	*i* P		**Pn**	**13 52 32.3**	**-0.6**
YAYL				*i* S		**Sn**	**13 52 50.2**	**+0.1**
YAYL	**Yayladag**	**1.28**	**282**	*i* P		**Pn**	**13 52 32.3**	**-0.6**
YAYL				*i* S		**Sn**	**13 52 50.2**	**+0.1**
COBT	**Iskenderun**	**1.34**	**303**	*i* P		**Pn**	**13 52 33.6**	**-0.3**
COBT				*i* S		**Sg**	**13 52 54.2**	**+1.8**
COBT	**Iskenderun**	**1.34**	**303**	*i* P		**Pn**	**13 52 33.6**	**-0.3**
GZT	**Gaziantep**	**1.57**	**357**	*e*P		**Pn**	**13 52 36.8**	**-0.2**
GZT				*e*S		**Sn**	**13 52 57.1**	**-0.2**
ATAB	**Bozova**	**1.76**	**17**	*e*P		**Pn**	**13 52 39.9**	**+0.5**
ATAB				*e*S		**Sn**	**13 53 01.0**	**-0.8**
ATAB	**Bozova**	**1.76**	**17**	*e*P		**Pn**	**13 52 39.9**	**+0.5**
ATAB				*e*S		**Sn**	**13 53 01.0**	**-0.8**
AYKD	**Aykdinkavak**	**1.76**	**338**	*i* P		**Pn**	**13 52 39.3**	**-0.2**
AYKD				*e*S		**Sb**	**13 53 04.4**	**+0.9**
FKH	**Fakeheh**	**1.85**	**214**	*e*P		**Pn**	**13 52 39.7**	**-1.0**
FKH	**Fakeheh**	**1.85**	**214**	*e*P		**Pn**	**13 52 39.7**	**-1.0**
URFA	**Urfa**	**1.90**	**29**	*e*PN		**Pn**	**13 52 41.3**	**-0.2**
URFA	**Urfa**	**1.90**	**29**	*e*Pn		**Pn**	**13 52 41.3**	**-0.2**
YURE	**YUREGIR**	**1.93**	**303**	*i* P		**Pn**	**13 52 42.4**	**+0.6**
YURE				*e*S		**Sg**	**13 53 10.1**	**-1.1**
YURE	**YUREGIR**	**1.93**	**303**	*i* P		**Pn**	**13 52 42.4**	**+0.6**
CEYT	**Ceyhan**	**1.96**	**309**	*e*PN		**Pn**	**13 52 41.5**	**-0.7**
CEYT	**Ceyhan**	**1.96**	**309**	*e*Pn		**Pn**	**13 52 41.5**	**-0.7**
KRTS	**Karatas**	**2.00**	**294**	*e*PN		**Pn**	**13 52 41.9**	**-0.9**
KRTS	**Karatas**	**2.00**	**294**	*e*Pn		**Pn**	**13 52 41.9**	**-0.9**
HWQ	**Hawqa**	**2.06**	**223**	*e*P		**Pn**	**13 52 42.6**	**-1.0**
HWQ	**Hawqa**	**2.06**	**223**	*e*P		**Pn**	**13 52 42.6**	**-1.0**
KOZT	**Kozan**	**2.24**	**320**	*e*PN		**Pn**	**13 52 45.7**	**-0.3**
KOZT	**Kozan**	**2.24**	**320**	*e*Pn		**Pn**	**13 52 45.7**	**-0.3**
BHL	**Bhannes**	**2.50**	**222**	*e*P		**Pn**	**13 52 49.2**	**-0.4**
BHL	**Bhannes**	**2.50**	**222**	*e*P		**Pn**	**13 52 49.2**	**-0.4**
KARA	**Karaisali**	**2.56**	**306**	*e*PN		**Pn**	**13 52 50.0**	**-0.4**
KARA	**Karaisali**	**2.56**	**306**	*e*Pn		**Pn**	**13 52 50.0**	**-0.4**
RCY	**Rachaya**	**2.73**	**214**	*e*P		**Pn**	**13 52 52.7**	**-0.2**
GULE	**Gulek**	**2.75**	**304**	*i* P		**Pn**	**13 52 53.6**	**+0.3**
GULE				*i* S		**Sn**	**13 53 29.1**	**+2.5**
GULE	**Gulek**	**2.75**	**304**	*i* P		**Pn**	**13 52 53.6**	**+0.3**
DARE	**Darende-Malaty**	**2.78**	**357**	*e*PN		**Pn**	**13 52 53.7**	**+0.1**
SARI	**SarD1z-Kayseri**	**2.79**	**340**	*e*PN		**Pn**	**13 52 53.5**	**-0.3**
MAZI	**Mazidag**	**2.80**	**53**	*e*PN		**Pn**	**13 52 54.1**	**+0.2**
MAZI	**Mazidag**	**2.80**	**53**	*e*Pn		**Pn**	**13 52 54.1**	**+0.2**
SVRC	**Sivrice-ELAZID**	**2.91**	**27**	*e*PN		**Pn**	**13 52 55.7**	**+0.3**
SVRC	**Sivrice-ELAZID**	**2.91**	**27**	*e*Pn		**Pn**	**13 52 55.7**	**+0.3**
ELZG	**Elazig**	**2.91**	**21**	*i* P		**Pn**	**13 52 54.9**	**-0.5**
ELZG				*e*S		**Sb**	**13 53 36.1**	**-0.5**
ELZG	**Elazig**	**2.91**	**21**	*i* P		**Pn**	**13 52 54.9**	**-0.5**
KIZK	**Mersin**	**2.92**	**285**	*e*P		**Pn**	**13 52 55.8**	**+0.4**
KIZK				*e*S		**Sn**	**13 53 29.8**	**-0.7**
KIZK	**Mersin**	**2.92**	**285**	*e*P		**Pn**	**13 52 55.8**	**+0.4**
KIZK				*e*S		**Sn**	**13 53 29.8**	**-0.7**
MARD	**Mardin**	**2.94**	**58**	*e*P		**Pn**	**13 52 54.1**	**-1.8**
MARD				*e*S		**Sn**	**13 53 32.2**	**+1.0**
KSDI	**Kefar Szold**	**3.07**	**213**	Pn		**Pn**	**13 52 57.4**	**0.0**
KSHT	**Keshet**	**3.19**	**209**	Pn		**Pn**	**13 52 59.2**	**+0.1**
IKL	**Isikli**	**3.25**	**279**	*e*PN		**Pn**	**13 52 59.4**	**-0.5**
IKL	**Isikli**	**3.25**	**279**	*e*Pn		**Pn**	**13 52 59.4**	**-0.5**
MMA0	**Mount Meron ar**	**3.33**	**215**	Pn		**Pn**	**13 53 02.1**	**+1.0**
NIG	**Nigde**	**3.36**	**314**	*e*PN		**Pn**	**13 53 01.5**	**-0.2**
NIG	**Nigde**	**3.36**	**314**	*e*Pn		**Pn**	**13 53 01.5**	**-0.2**
BNN	**Bunyan**	**3.38**	**335**	*e*PN		**Pn**	**13 53 02.0**	**+0.1**
BNN	**Bunyan**	**3.38**	**335**	*e*Pn		**Pn**	**13 53 02.0**	**+0.1**
HNTI	**Hanîta**	**3.39**	**218**	Pn		**Pn**	**13 53 03.2**	**+1.4**
PTK	**Pertek**	**3.40**	**24**	*e*PN		**Pn**	**13 53 02.4**	**+0.3**
PTK	**Pertek**	**3.40**	**24**	*e*Pn		**Pn**	**13 53 02.4**	**+0.3**
CSS	**Prodhromos**	**3.62**	**258**	Pn		**Pn**	**13 53 02.9**	**-2.2**
CSS				Sn		**Sn**	**13 53 50.0**	**+2.1**
MMLI	**Mount Malkishu**	**3.82**	**210**	Pn		**Pn**	**13 53 09.1**	**+1.3**
HMDT	**Nahal Hemdat**	**3.94**	**207**	Pn		**Pn**	**13 53 09.6**	**+0.1**

*IDC **21** 14:10:47.3±2.8, 46.˚07S×166.˚15E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/15, mbtmp3.6/3, ML3.8/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/14, Error ellipse: s-maj=75.0km s-min=28.4km az=170.0*

*WEL **21** 14:10:51.6±0.3, 46.˚02S×166.˚15E, h28km±1km, ML4.1/18, Error ellipse: s-maj=3.4km s-min=1.4km az=90.0*

ISC 21 14:10:48.7±2.9, **46.˚02S**±0.˚07×**166.˚10E**±0.˚09, **h8**km±17km, **n20, σ1°31/25, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DCZ	**Deep Cove**	**0.92**	**54**	PN		**Pn**	**14 11 07.5**	**-0.3**
DCZ				SN		**Sg**	**14 11 19.2**	**+1.0**
DCZ				SN		**Sn**	**14 11 19.8**	**-1.4**
DCZ				AML		AML	14 11 20.4	
DCZ				AML		AML	14 11 21.1	
WHZ	**Wether Hill Ro**	**1.30**	**85**	PN		**Pb**	**14 11 13.6**	**+0.3**
WHZ				SN		**Sg**	**14 11 30.2**	**-0.2**
WHZ				AML		AML	14 11 36.7	
APZ	**The Paps**	**1.54**	**122**	PN		**Pn**	**14 11 16.2**	**-0.2**
APZ				SN		**Sn**	**14 11 34.9**	**-1.7**
MLZ	**Mavora Lakes**	**1.60**	**66**	PN		**Pb**	**14 11 18.9**	**+0.3**
MLZ				SN		**Sg**	**14 11 39.6**	**-0.6**
MLZ				AML		AML	14 11 49.1	
MSZ	**Milford Sound**	**1.87**	**44**	PN		**Pb**	**14 11 22.0**	**-1.0**
MSZ				AML		AML	14 12 02.1	
MSZ				AML		AML	14 12 02.1	
MSZ				AML		AML	14 12 05.9	
MSZ				AML		AML	14 12 05.9	
SYZ	**Scrubby Hill**	**2.17**	**105**	PN		**Pn**	**14 11 26.1**	**+1.0**
WKZ	**Wanaka**	**2.38**	**61**	PN		**Pb**	**14 11 31.2**	**-0.5**
WKZ				AML		AML	14 12 13.4	
WKZ				AML		AML	14 12 14.8	
EAZ	**Earnscleugh**	**2.39**	**72**	PN		**Pb**	**14 11 30.8**	**-1.0**
EAZ				AML		AML	14 12 07.8	
EAZ				AML		AML	14 12 09.6	
EAZ				AML		AML	14 12 09.6	
TUZ	**Tuapeka**	**2.46**	**90**	PN		**Pn**	**14 11 30.9**	**+1.8**
TUZ				AML		AML	14 12 04.7	
TUZ				AML		AML	14 12 05.7	
JCZ	**Jackson Bay**	**2.71**	**45**	PN		**Pb**	**14 11 36.3**	**-1.1**
JCZ				AML		AML	14 12 25.8	
JCZ				AML		AML	14 12 26.4	
HHNZ	**Highcliff Hill**	**3.14**	**89**	PN		**Pn**	**14 11 40.2**	**+1.8**
LBZ	**Lake Benmore**	**3.32**	**62**	PN		**Pn**	**14 11 42.4**	**+1.5**
LBZ				AML		AML	14 12 30.0	
LBZ				AML		AML	14 12 49.1	
ODZ	**Otahua Downs**	**3.34**	**75**	PN		**Pn**	**14 11 41.9**	**+0.8**
ODZ				AML		AML	14 12 38.1	
ODZ				AML		AML	14 12 41.4	
FOZ	**Fox Glacier**	**3.55**	**47**	PN		**Pb**	**14 11 48.8**	**-2.8**
FOZ				AML		AML	14 12 49.3	
FOZ				AML		AML	14 13 06.1	
RPZ	**Rata Peaks**	**4.21**	**59**	Pn		**Pn**	**14 11 53.0**	**-0.1**
	5.8nm,0.3s,baz=15,slow=23,SNR=14							
RPZ				Sn		**Sn**	**14 12 43.2**

LMQ				SN	Sn	14 22 36.1	+0.2	HRV				LG	Lg	14 25 11.9		SILO	Sutton Inlier	12.72 299	PN	Pn	14 23 51.1	-4.2
LMQ				LG	Lg	14 22 49.2		HRV				Trac		14 25 36.4		SILO			SN	Sn	14 26 06.1	-10
LMQ				Trac		14 22 53.8			comp=Z,146nm,0.4s							SILO			LG	Lg	14 27 18.1	
	comp=Z,391nm,0.2s							WEMQ	Wemindji, Queb	8.37 298	PN	Pn		14 22 54.5	-1.1	SILO			Trac		14 27 35.6	
A54	Misere	3.86 236	PN	Pn		14 21 55.0	+1.1	WEMQ			SN	Sn		14 24 23.5	-5.8		comp=Z,61nm,0.8s					
A54			SN	Sn		14 22 37.9	-0.6	WEMQ			LG	Lg		14 25 09.0		AKVQ	Akulivik	13.16 332	PN	Pn	14 23 57.1	-4.1
A54			LG	Lg		14 22 51.3		WEMQ			Trac			14 25 33.3		AKVQ			SN	Sn	14 26 16.1	-11
A54			Trac			14 22 58.9			comp=Z,151nm,0.6s							AKVQ			LG	Lg	14 27 38.0	
	comp=Z,181nm,0.2s							KUQ	Kuujjuuaa	8.55 350	PN	Pn		14 22 54.4	-3.8	AKVQ			Trac		14 27 45.1	
A11	Saint Roch-des	3.88 232	PN	Pn		14 21 55.6	+1.4	KUQ			SN	Sn		14 24 26.7	-7.1		comp=Z,35nm,0.6s					
A11			SN	Sn		14 22 38.6	-0.4	KUQ			LG	Lg		14 25 15.3		PNPO	Pukaskwa Natio	13.52 273	PN	Pn	14 24 02.3	-3.8
A11			LG	Lg		14 22 53.5		KUQ			Trac			14 25 23.2		PNPO			SN	Sn	14 26 23.4	-12
A11			Trac			14 22 58.4			comp=Z,103nm,0.4s							PNPO			LG	Lg	14 27 49.4	
	comp=Z,773nm,0.5s							CRLO	Chalk River	8.67 249	PN	Pn		14 22 57.5	-2.3	PNPO			Trac		14 27 57.9	
LMN	Caledonia Moun	3.92 171	PN	Pn		14 21 55.0	+0.3	CRLO			SN	Sn		14 24 32.1	-4.7		comp=Z,65nm,0.8s					
LMN			SN	Sn		14 22 39.1	-0.8	CRLO			LG	Lg		14 25 22.9		NANO	Nakina Ontario	13.68 281	PN	Pn	14 24 03.7	-4.7
LMN			Trac			14 22 44.5		CRLO			Trac			14 25 27.4		NANO			SN	Sn	14 26 26.9	-12
	comp=Z,82nm,0.2s								comp=Z,50nm,0.3s							NANO			LG	Lg	14 27 55.0	
DAQ	Lac Daran	4.06 246	PN	Pn		14 21 57.2	+0.5	PEMO	Pembroke	8.77 247	PN	Pn		14 22 59.7	-1.6	NANO			Trac		14 28 18.8	
DAQ			SN	Sn		14 22 44.3	+0.9	PEMO			SN	Sn		14 24 34.9	-4.4		comp=Z,47nm,0.7s					
DAQ			LG	Lg		14 22 59.7		PEMO			LG	Lg		14 25 20.4		PLIO	Pelee Island,	14.23 242	PN	Pn		14 24 14.1	-1.9
DAQ			Trac			14 23 07.5		PEMO			Trac			14 25 41.4		PLIO			SN	Sn	14 26 46.8	-6.2
	comp=Z,294nm,0.2s								comp=Z,70nm,0.3s							PLIO			LG	Lg	14 28 06.2	
CHEG	Cheticamp, Nov	4.45 129	PN	Pn		14 22 02.4	+0.4	SJNN	Saint John's	8.88 99	PN	Pn		14 23 03.5	+0.7	PLIO			Trac		14 28 18.8	
CHEG			SN	Sn		14 22 51.4	-1.6	SJNN			SN	Sn		14 24 36.8	-5.2		comp=Z,67nm,0.9s					
CHEG			Trac			14 22 56.8		SJNN			LG	Lg		14 25 33.5		TBO	Thunder Bay	15.53 275	SN	Sn	14 27 13.6	-11
	comp=Z,105nm,0.1s							SJNN			Trac			14 25 37.1		TBO			LG	Lg	14 28 51.0	
GGN	Saint George	4.67 190	PN	Pn		14 22 05.5	+0.6		comp=Z,132nm,0.7s							TBO			Trac		14 29 10.3	
GGN			SN	Sn		14 22 56.8	-1.6	BELQ	Belleterre	8.92 260	PN	Pn		14 23 00.6	-2.8		comp=Z,17nm,0.4s					
GGN			Trac			14 23 04.4		BELQ			SN	Sn		14 24 36.3	-6.7	PKLO	Pickle Lake	15.73 286	PN	Pn	14 24 29.7	-6.2
	comp=Z,57nm,0.1s							BELQ			LG	Lg		14 25 23.6		PKLO			SN	Sn	14 27 15.2	-14
QCQ	Quebec	4.75 234	PN	Pn		14 22 07.0	+1.0	BELQ			Trac			14 25 42.3		PKLO			LG	Lg	14 28 53.3	
QCQ			SN	Sn		14 23 00.8	+0.6		comp=Z,69nm,0.5s							PKLO			Trac		14 29 14.7	
QCQ			LG	Lg		14 23 18.7		PLVO	Plevna	9.02 243	PN	Pn		14 23 03.3	-1.4		comp=Z,17nm,0.6s					
QCQ			Trac			14 23 26.2		PLVO			SN	Sn		14 24 41.5	-4.0	EYMN	Ely	17.05 274	SN	Sn	14 27 48.5	-13
	comp=Z,158nm,0.3s							PLVO			LG	Lg		14 25 29.4		EYMN			LG	Lg	14 29 32.0	
YOSQ	Ashton Mining	5.15 310	PN	Pn		14 22 11.8	+0.2	PLVO			Trac			14 25 38.0		EPLO	Experimental L	18.09 281	PN	Pn		14 25 03.8	-1.8
YOSQ			SN	Sn		14 23 06.9	-3.4		comp=Z,96nm,0.5s							EPLO			SN	Sn	14 28 12.3	-14
YOSQ			LG	Lg		14 23 31.4		ALGO	Algonquin Park	9.12 250	PN	Pn		14 23 03.6	-2.4	EPLO			LG	Lg	14 30 05.1	
YOSQ			Trac			14 23 35.3		ALGO			SN	Sn		14 24 43.1	-4.7	EPLO			Trac		14 30 38.2	
	comp=Z,123nm,0.3s							ALGO			LG	Lg		14 25 36.8			comp=Z,318nm,0.4s					
EMMW	East Machias	5.16 194	PN	Pn		14 22 12.0	+0.3	KGNO	Kingston	9.19 237	PN	Pn		14 23 05.1	-2.0	FCC	Fort Churchill	18.76 310	PN	Pn		14 25 13.9	+0.3
EMMW			SN	Sn		14 23 08.2	-2.1	KGNO			SN	Sn		14 24 44.9	-4.8	FCC			SN	Sn	14 28 27.6	-15
EMMW	East Machias	5.16 194	ePn	Pn		14 22 11.9	+0.3	KGNO			LG	Lg		14 25 35.2		FCC			LG	Lg	14 30 26.9	
	22nm,0.4s							KGNO			Trac			14 25 51.5		FCC			Trac		14 30 38.7	
GBN	Guysborough	5.17 145	PN	Pn		14 22 12.3	+0.5		comp=Z,4.4nm,0.3s								comp=Z,51nm,1.4s					
GBN			SN	Sn		14 23 09.0	-1.6	KILO	Kirkland Lake	9.28 268	PN	Pn		14 23 05.5	-2.7	ULM	Lac du Bonnet	19.35 283	SN	Sn	14 28 47.3	-10
GBN			Trac			14 23 12.9		KILO			SN	Sn		14 24 43.2	-8.6	ULM			LG	Lg	14 30 43.6	
	comp=Z,50nm,0.1s							KILO			LG	Lg		14 25 37.7		ULM			Trac		14 31 11.0	
SCHQ	Schefferville	5.17 353	PN	Pn		14 22 12.1	+0.3	KILO			Trac			14 25 43.8			comp=Z,19nm,0.7s					
SCHQ			SN	Sn		14 23 09.2	-1.3		comp=Z,98nm,0.6s							SEDN	First Sedna Si	19.35 324	PN	P		14 25 17.8	-1.6
SCHQ			LG	Lg		14 23 33.2		BANO	Bancroft	9.53 245	PN	Pn		14 23 10.2	-1.5	SEDN			SN	Sn	14 28 38.8	-18
SCHQ			Trac			14 23 42.0		BANO			SN	Sn		14 24 50.8	-7.2	SEDN			LG	Lg	14 30 48.7	
	comp=Z,74nm,0.1s							BANO			LG	Lg		14 25 44.5		SEDN			Trac		14 30 54.5	
SCHQ	Schefferville	5.17 353	Pn	Pn		14 22 11.9	+0.1	BANO			Trac			14 25 57.4			comp=Z,49nm,1.1s					
	5.0nm,0.3s,baz=175,slow=14,SNR=37								comp=Z,24nm,0.2s							JOSN	Second Sedna S	19.43 324	SN	S	14 28 39.5	-19
SCHQ			Sn	Sn		14 23 09.9	-0.6	DELO	Deloro Mine	9.64 242	PN	Pn		14 23 12.8	-0.4	JOSN			LG	Lg	14 30 52.4	
	25nm,0.3s,baz=167,slow=10,SNR=5.7							DELO			SN	Sn		14 24 53.7	-7.0	YKA	Yellowknife Ar	29.32 314	P	P		14 26 57.6	+1.2
SCHQ			Lg	Lg		14 23 33.5		DELO			LG	Lg		14 25 46.8			0.3nm,0.5s,baz=90,slow=8.4,SNR=3.3					
	51nm,0.3s,baz=102,slow=19,SNR=7.2							DELO			Trac			14 26 07.5		PDAR	Pinedale Array	30.76 274	P	P		14 27 10.6	+1.0
HAL	Halifax	5.29 163	PN	Pn		14 22 14.4	+0.9		comp=Z,78nm,0.5s								0.5nm,0.6s,baz=60,slow=13,SNR=5.4					
HAL			SN	Sn		14 23 12.6	-1.0	PECO	Prince Edward	9.66 237	PN	Pn		14 23 13.7	+0.3	TXAR	Lajitas Array	35.16 249	P	P		14 27 49.8	+1.9
HAL			Trac			14 23 15.8		PECO			SN	Sn		14 24 55.2	-5.8		0.3nm,0.5s,baz=57,slow=7.5,SNR=5.2					
	comp=Z,50nm,0.1s							PECO			LG	Lg		14 25 47.5		NVAR	Mina Array Bea	38.69 274	P	P		14 28 19.6	+1.6
DRLN	Deer Lake	5.37 92	PN	Pn		14 22 14.8	+0.3	PECO			Trac			14 26 09.4			1.3nm,0.6s,baz=61,slow=6.8,SNR=14					
DRLN			SN	Sn		14 23 12.2	-3.3		comp=Z,23nm,0.2s							ILAR	Eielson Array	43.11 322	P	P		14 28 56.0	+2.1
DRLN			LG	Lg		14 23 40.0		RSPO	Restoule Provi	10.12 254	PN	Pn		14 23 17.9	-1.9		0.4nm,0.5s,baz=59,slow=7.8,SNR=4.1					
DRLN			Trac			14 23 46.0		RSPO			SN	Sn		14 25 04.4	-8.0	ARCES	ARCESS Array B	44.98 30	P		14 29 13.8	+5.0
	comp=Z,287nm,0.3s							RSPO			LG	Lg		14 26 03.3			2.1nm,0.5s,baz=290,slow=5.7,SNR=18					
CHGQ	Chibougamau	5.62 275	PN	Pn		14 22 18.5	+0.5	RSPO			Trac			14 26 13.8		FINES	FINESS Array B	48.89 40	P	P	14 29 44.0	+4.7
CHGQ			SN	Sn		14 23 18.7	-3.0		comp=Z,102nm,0.6s								3.0nm,0.8s,baz=318,slow=6.0,SNR=7.0					
CHGQ			LG	Lg		14 23 47.3		BUKO	Buck Lake	10.19 250	PN	Pn		14 23 18.7	-2.1	FINES			LR	LR	14 48 20.2	
CHGQ			Trac			14 23 54.8		BUKO			SN	Sn		14 25 09.2	-5.0		comp=Z,19nm,19.2s,baz=214,slow=34					
	comp=Z,216nm,0.3s							BUKO			LG	Lg		14 26 03.8		TORD	Torodi Ar. Bea	65.49 99	P	P	14 31 42.8	+5.6
DPQ	Saint Jean	5.62 240	PN	Pn		14 22 18.3	+0.2	BUKO			Trac			14 26 25.8			0.3nm,0.5s,baz=320,slow=7.7,SNR=4.4					
DPQ			SN	Sn		14 23 20.5	-1.3		comp=Z,60nm,0.4s							KURBB	Kurchatov Arra	75.46 23	P	P	14 32 42.1	+4.5
DPQ			LG	Lg		14 23 44.2		TIMO	Timmins Ontari	10.31 269	PN	Pn		14 23 19.4	-2.9		0.2nm,0.3s,baz=340,slow=5.2,SNR=5.2					
DPQ			Trac			14 23 55.4		TIMO			SN	Sn		14 25 09.6	-7.5	WMQ	Urumqi	83.98 19	eP	P		14 33 25.6	+1.5
	comp=Z,102nm,0.2s							TIMO			LG	Lg		14 26 11.4		HHC	Hu-ho-hao-te	89.78 2	eP	P	14 33 50.0	-2.4
WVL	Waterville	5.82 209	PN	Pn		14 22 21.8	+1.0	TIMO			Trac			14 26 21.7		HHC			PP	PP		14 37 23.3	-0.4
WVL			SN	Sn		14 23 22.9	-3.8		comp=Z,46nm,0.4s							HHC			SKS	SKSac		14 44 17.4	-4.0
WVL			LG	Lg		14 23 59.7		BINY	Binghamton	10.38 227	LG	Lg		14 26 14.5		HHC			S	SKKSac		14 44 37.1	+2.8
MOQ	Mont Orford	6.25 228	PN	Pn		14 22 27.9	+1.0	SADO	Sadowa	10.39 247	PN	Pn		14 23 21.1	-2.4	HHC			SS	SS		14 50 34.9	-3.0
MOQ			SN	Sn		14 23 35.7	-1.9	SADO			SN	Sn		14 25 11.0	-8.0	HHC			pmax	pmax			
MOQ			LG	Lg		14 24 07.6		SADO			LG	Lg		14 26 08.5			comp=Z,21nm,1.1s					
MOQ			Trac			14 24 13.4		SADO			Trac			14 26 31.9		HHC			pmax	pmax			
	comp=Z,44nm,0.3s								comp=Z,73nm,0.6s								comp=Z,160nm,5.1s					
LG4Q	La Grande 4	6.52 310	PN	Pn		14 22 30.3	-0.1	SADO	Sadowa	10.39 247	Pn	Pn		14 23 21.0	-2.4	HHC			LR	LR			
LG4Q			SN	Sn		14 23 40.1	-3.8		0.6nm,0.3s,baz=85,slow=13,SNR=6.6								comp=N,130nm,16.5s					
LG4Q			Trac			14 24 21.1		SADO			Sn	Sn		14 25 14.1	-4.9	HHC			LR	LR			
	comp=Z,112nm,0.3s								2.8nm,0.3s,baz=85,slow=5.2,SNR=4.0								comp=E,160nm,17.7s					
MNT	Montreal	6.81 235	PN	Pn		14 22 34.3	-0.1	SADO			Lg	Lg		14 26 09.5		HHC			LR	LR			
MNT			SN	Sn		14 23 47.5	-3.7		3.7nm,0.3s,baz=284,slow=20,SNR=5.8								comp=Z,140nm,17.0s					
MNT			LG	Lg		14 24 22.1		WLVO	Wesleyville	10.45 241	SN	Sn		14 25 16.7	-3.7	LZH	Lanzhou	94.06 8	eP	P	14 34 09.5	-2.9
MNT			Trac			14 24 27.3		WLVO			LG	Lg		14 26 12.3		LZH			ePP	PP		14 37 57.3	-0.3
	comp=Z,64nm,0.5s							KLBO	Killbear Provi	10.73 252	PN	Pn		14 23 26.1	-2.0	LZH			pmax	pmax			
TRQ	Mont Tremblant	6.90 243	PN	Pn		14 22 35.2	-0.5	KLBO			SN	Sn		14 25 20.8	-6.7		comp=Z,15nm,1.5s					
TRQ			SN	Sn		14 23 51.0	-2.3	KLBO			LG	Lg		14 26 23.5		LZH			pmax	pmax			
TRQ			LG	Lg		14 24 25.6		KLBO			Trac			14 26 28.5			comp=Z,49nm,8.7s					
TRQ			Trac			14 24 34.2			comp=Z,86nm,0.6s							LZH			LR	LR			
	comp=Z,99nm,0.4s							PKRO	Pickering	10.81 243	SN	Sn		14 25 26.1	-3.2		comp=N,110nm,18.0s					
LBNH	Lisbon	6.94 220	ePn	Pn		14 22 36.4	+0.2	PKRO			LG	Lg		14 26 25.8		LZH			LR	LR			
	8.2nm,0.3s							SUNO	Sudbury Onapin	10.89 260	PN	Pn		14 23 28.9	-1.4		comp=E,100nm,17.8s					
FRNY	Flat Rock	7.25 231	PN	Pn		14 22 40.5	+0.1	SUNO			SN	Sn		14 25 20.6	-11	LZH			LR	LR			
FRNY			SN	Sn		14 23 59.4	-2.6	SUNO			LG	Lg		14 26 26.8			comp=Z,130nm,19.9s					
FRNY			LG	Lg		14 24 36.2		SUNO			Trac			14 26 42.7		WRA	Warramunga Arr	146.26 325	PKPbc	PKPab		14 40 35.8	+0.6
FRNY	Flat Rock	7.25 231	ePn	Pn		14 22 40.0	-0.5		comp=Z,42nm,0.3s								comp=Z,0.7nm,0.6s,baz=20,slow=3.2,SNR=9.8					
	10.0nm,0.3s							KAPO	Kapuskasing	10.92 275	PN	Pn		14 23 27.4	-3.2	ASAR	Alice Springs	149.79 322	PKPbc	PKPbc		14 40 45.1	+1.3
FRNY			eSn	Sn		14 23 59.0	-3.0	KAPO			SN	Sn		14 25 23.5	-8.3		comp=Z,0.5nm,0.6s,baz=50,slow=1.8,SNR=9.0					
ALFO	Alfred	7.43 240	PN	Pn		14 22 42.9	+0.1	KAPO			LG	Lg		14 26 28.3		ASAR			PKPab	PKPab		14 40 50.4	+1.2
ALFO			SN	Sn		14 24 04.1	-2.1	KAPO			Trac			14 26 42.6			comp=Z,0.7nm,0.8s,baz=26,slow=2.4,SNR=5.8					
ALFO			LG	Lg		14 24 39.8			comp=Z,59nm,0.7s													
ALFO			Trac			14 24 49.9		MEDO	Medina	10.96 238	SN	Sn		14 25 27.0	-6.2							
	comp=Z,82nm,0.3s							MEDO			LG	Lg		14 26 31.4								
GRQ	Grand Remous	7.47 249	PN	Pn		14 22 41.9	-1.5	MEDO			Trac			14 26 38.0								
GRQ			SN	Sn		14 24 02.2	-5.2		comp=Z,50nm,0.4s													
GRQ			LG	Lg		14 24 42.1		CLWO	Collingwood	11.26 248	PN	Pn		14 23 32.9	-2.5							
GRQ			Trac			14 24 56.4		CLWO			SN	Sn		14 25 33.3	-7.0							
	comp=Z,48nm,0.2s							CLWO			LG	Lg		14 26 36.1								
FFD	Franklin Falls	7.47 215	ePn	Pn		14 22 45.0	+1.5	CLWO			Trac			14 27 03.4								
	135nm,0.2s								comp=Z,115nm,0.5s													
MDV	Middlebury	7.68 225	ePn	Pn		14 22 46.5	+0.2	INUQ	Inukjuak	11.37 325	PN	Pn		14 23 33.7	-3.0							
	61µm,0.3s							INUQ			SN	Sn		14 25 33.2	-10							
GAC	Glen Almond	7.72 242	PN	Pn		14 22 46.4	-0.5	INUQ			LG	Lg		14 26 43.3								
GAC			SN	Sn		14 24 10.4	-3.0	INUQ			Trac			14 26 55.5								
GAC			LG	Lg		14 24 50.2			comp=Z,35nm,0.3s													
GAC			Trac			14 25 02.2		EFO	Effingham	11.49 240	SN	Sn		14 25 42.4	-3.6							
	comp=Z,69nm,0.3s							EFO			LG	Lg		14 26 43.4								
MATQ	Matagami	7.73 275	PN	Pn		14 22 45.4	-1.6	EFO			Trac			14 27 05.2								
MATQ			SN	Sn		14 24 08.4	-5.4		comp=Z,55nm,0.4s													
MATQ			LG	Lg		14 24 51.7		ACTO	Acton	11.60 244	SN	Sn		14 25 44.0	-4.7							
MATQ			Trac			14 25 04.8		ACTO			Trac			14 27 23.8								
	comp=Z,65nm,0.3s								comp=Z,32nm,0.2s													
MSNY	Massena	7.81 236	ePn	Pn		14 22 48.2	+0.1	TOBO	Tobermory, Bru	11.61 253	PN	Pn		14 23 37.7	-2.4							
	119nm,0.5s							TOBO			SN	Sn		14 25 43.4	-5.4							
VLDQ	Val d'Or	7.91 263	PN	Pn		14 22 49.1	-0.3	TOBO			LG	Lg		14 26 48.1								
VLDQ			SN	Sn		14 24 13.7	-4.3	TOBO			Trac			14 27 11.3								
VLDQ			LG	Lg		14 25 00.1			comp=Z,66nm,0.4s													
VLDQ			Trac			14 25 19.4		VIMO	Victor Mine	11.71 292	PN	Pn		14 23 38.8	-2.7							
	comp=Z,93nm,0.5s							VIMO			SN	Sn		14 25 42.0	-9.4							
LONY	Lake Ozonia	7.91 233	ePn	Pn		14 22 49.0	-0.6	VIMO			LG	Lg		14 26 51.2								
	7.9nm,0.4s							VIMO			Trac			14 27 04.0								
LONY			eSn	Sn		14 24 12.7	-5.6		comp=Z,72nm,0.6s													
WBO	Williamsburg	8.03 238	PN	Pn		14 22 51.3	+0.2	BMRO	Meriville Lake	11.73 250	PN	Pn		14 23 40.3	-1.5							
WBO			SN	Sn		14 24 17.4	-3.7	BMRO			SN	Sn		14 25 42.2	-10							
WBO			LG	Lg		14 25 01.7		BMRO			LG	Lg		14 26 44.7								
WBO			Trac			14 25 13.4		BMRO			Trac			14 26 57.8								
	comp=Z,47nm,0.3s								comp=Z,120nm,0.7s													
OTT	Ottawa	8.04 241	PN	Pn		14 22 50.9	-0.3	BWLO	Walkerton	11.94 248	PN	Pn		14 23 42.9	-1.8							
OTT			PN	Pb		14 22 52.1	-22	BWLO			SN	Sn		14 25 49.6	-7.4							
OTT			SN	Sn		14 24 19.0	-2.2	BWLO			LG	Lg		14 26 56.3								
OTT			SN	Sb		14 24 21.2	-28	BWLO			Trac			14 27 16.7								
OTT			LG	Lg		14 24 59.4			comp=Z,118nm,0.8s													
OTT			LG	Lg		14 25 00.7		BASO	Ashfield	12.32 248	PN	Pn		14 23 47.8	-2.0							
OTT			Trac			14 25 02.1		BASO			SN	Sn		14 25 58.9	-7.3							
	comp=Z,66nm,0.3s							BASO			LG	Lg		14 27 06.4								
OTT			Trac			14 25 05.2		BASO			Trac			14 27 32.8								
	comp=Z,52nm,0.3s								comp=Z,49nm,0.4s													
NCB	Newcomb	8.19 229	ePn	Pn		14 22 53.5	+0.1	ELFO	Elginfield	12.58 245	PN	Pn		14 23 51.7	-1.7							
	6.9nm,0.4s							ELFO			SN	Sn		14 26 06.5	-6.1							
NCB			eSn	Sn		14 24 22.4	-2.8	ELFO			LG	Lg		14 27 18.7								
HRV	Adam Dziewonsk	8.28 212	PN	Pn		14 22 52.5	-2.1	ELFO			Trac			14 27 33.8								
HRV			SN	Sn		14 24 23.4	-3.8		comp=Z,25nm,0.3s													

*ISCJB **21** 14:38:22.6±0.4, 17°.7S±0°.1×178°.76W±0°.08, h547km, mb4.0/18, Error ellipse: s-maj=16.1km s-min=6.4km az=151.4*
*IDC **21** 14:38:22.6±1.4, 17°.72S×178°.72W, h539km±15km, mb3.6/16, mb1 3.8/17, mb1mx3.7/23, mbtmp3.6/17, Error ellipse: s-maj=17.7km s-min=10.0km az=143.0*
*AUST **21** 14:38:25.7±0.0, 17°.74S×178°.61W, h575km, Error ellipse: s-maj=2.5km s-min=1.7km az=319.0*

ISC 21 14:38:23.2±0.5, 17°.7S±0°.1×178°.68W±0°.0, h547km, n47, σ0.92/53, mb4.0/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.65	61	P	P		14 40 17.1	-0.5
	3.5nm,0.3s,baz=270,slow=8.9,SNR=8.0			S	S		14 41 51.3	+0.1
	2.2nm,0.3s,baz=258,slow=19,SNR=3.0							
EIDS	Eidsvold	29.09 250		P	P		14 43 40.3	+0.2
	baz=29,SNR=6.9							
ARMA	Armidale	29.81 239		P	P		14 43 47.4	+1.1
	baz=30,SNR=11							
MGCD	Mangrove Creek	31.19 235		P	P		14 43 59.5	+1.4
	baz=31,SNR=5.4							
RMQ	Roma	31.33 248		P	P		14 44 00.4	+1.0
	baz=31,SNR=13							
CNB	Canberra Magne	33.33 232		P	P		14 44 17.3	+1.0
	baz=33,SNR=13							
CMSA	Cobar Meteorol	35.02 240		P	P		14 44 30.8	+0.5
	baz=35,SNR=17							
MTSU	Mount Surprise	35.17 264		P	P		14 44 32.1	+0.2
	baz=35,SNR=9.3							
COEN	Coen	36.85 270		P	P		14 44 46.6	+0.9
	baz=37,SNR=12							
TOO	Toolangi	37.08 230		P	P		14 44 48.1	+0.7
	baz=37,SNR=13							
STKA	Stephens Creek	38.49 241		P	P		14 44 58.7	-0.3
	23nm,0.8s,baz=70,slow=7.6,SNR=38							
STKA	Stephens Creek	38.49 241		P	P		14 44 59.8	+0.8
	baz=38,SNR=23							
JAY	Jayapura	42.61 286		P	P		14 45 32.8	+0.8
	baz=43,SNR=17							
BBOO	Buckleboo	43.27 241		P	P		14 45 37.0	+0.2
	baz=43,SNR=35							
WRA	Warramunga Arr	44.41 259		P	P		14 45 45.1	-0.8
	4.5nm,0.3s,baz=92,slow=7.3,SNR=130							
WRA				PcP	PcP		14 47 17.7	-0.1
	1.0nm,0.8s,baz=87,slow=3.7,SNR=6.4							
WRA				ScP	ScP		14 50 18.3	+0.3
	0.8nm,0.7s,baz=92,slow=3.6,SNR=4.4							
ASAR	Alice Springs	44.59 254		P	P		14 45 46.8	-0.5
	76nm,0.7s,baz=89,slow=7.4,SNR=740							
ASAR				PcP	PcP		14 47 17.9	-0.5

3.5nm,0.7s,baz=106,slow=3.6,SNR=5.9
ASAR ScP ScP 14 50 19.6 +0.9
1.0nm,0.7s,baz=88,slow=3.7,SNR=6.1
ASAR S S 14 51 40.0 -3.9
1.3nm,1.1s,baz=83,slow=16,SNR=4.5
KDU Kakadu 47.31 269 P P 14 46 07.8 -0.2
baz=47,SNR=24
MTN Manton Dam 48.55 268 P P 14 46 16.8 -0.4
baz=49,SNR=11
KNRA Kununurra 50.25 264 P P 14 46 29.3 -0.4
baz=50,SNR=38
FAKI Fak Fak 50.29 281 P P 14 46 30.2 0.0
baz=50,SNR=7.1
SWI Sorong 51.96 283 P P 14 46 42.6 +0.4
baz=52,SNR=9.4
FITZ Fitzroy Crossi 52.81 260 P P 14 46 48.2 0.0
baz=53,SNR=27
SOEI Soe 55.82 270 P P 14 47 10.7 +1.2
baz=56,SNR=6.9
MEEK Meekatharra 58.26 249 P P 14 47 25.0 -0.9
baz=58,SNR=7.0
MORW Morawa 60.32 246 P P 14 47 38.9 -0.8
baz=60,SNR=3.5
MJAR Matsushiro Arr 67.61 323 P P 14 48 25.5 -0.4
2.5nm,0.6s,baz=164,slow=5.8,SNR=8.1
UGM Wanagama 69.40 268 P P 14 48 36.9 -0.2
baz=69,SNR=3.5
QSPA South Pole Qui 72.32 180 P P 14 48 53.6 +0.1
8.7nm,0.9s,baz=6.7,slow=1.5,SNR=18
KSM Kuching 72.41 277 P P 14 48 55.4 +0.6
baz=72,SNR=12
XMIS Christmas Isla 73.34 264 P P 14 49 02.6 +2.5
baz=73,SNR=3.7
PETK Petropavlovsk- 73.45 345 P P 14 48 59.8 -0.1
1.4nm,0.7s,baz=135,slow=9.6,SNR=4.1
KSRS Korea Array 74.40 318 P P 14 49 06.5 +0.9
0.5nm,0.7s,baz=127,slow=6.4,SNR=4.1
YBH Yreka Blue Hor 78.55 39 P P 14 49 28.6 +0.2
4.2nm,0.8s,baz=153,slow=6.8,SNR=6.3
NVAR Mina Array Bea 79.47 44 P P 14 49 33.8 +0.3
3.8nm,0.8s,baz=225,slow=9.2,SNR=29
ELK Elko 82.70 43 P P 14 49 50.3 +0.1
2.8nm,0.9s,baz=243,slow=5.3,SNR=13
MAW Mawson 83.94 200 P P 14 49 55.5 0.0
2.5nm,0.5s,baz=106,slow=4.4,SNR=8.0
ILAR Eielson Array 85.77 13 P P 14 50 03.1 -1.3
1.3nm,0.8s,baz=234,slow=4.6,SNR=10
XAN Xi'an 85.95 307 P P 14 50 06.8 +0.8
XAN pmax pmax
comp=Z,3.0nm,1.0s
XAN LR LR
comp=N,55nm,11.2s
XAN LR LR
comp=E,25nm,14.3s
XAN LR LR
comp=Z,25nm,9.2s
TXAR Lajitas Array 86.12 58 P P 14 50 08.0 +1.0
comp=Z,3.6nm,0.8s,baz=220,slow=6.2,SNR=37
ANMO Albuquerque 86.19 52 P P 14 50 07.4 +0.1
comp=Z,1.0nm,0.4s,baz=207,slow=4.2,SNR=3.9
PDAR Pinedale Array 87.40 44 P P 14 50 12.7 -0.1
comp=Z,1.8nm,0.6s,baz=223,slow=3.6,SNR=23
CMAR Chiang Mai Arr 88.59 290 P P 14 50 18.7 +0.1
comp=Z,3.2nm,0.9s,baz=117,slow=3.0,SNR=16
YKA Yellowknife Ar 94.28 25 P P 14 50 43.3 -0.5
comp=Z,1.0nm,0.8s,baz=243,slow=4.7,SNR=6.7
MKAR Makanchi Array 108.83 314 PKiKP PKiKP 14 55 49.1 -1.4
comp=Z,0.4nm,0.5s,baz=228,slow=1.1,SNR=7.3
BRTR Keskin Array B 144.48 315 PKP PKPdf 14 56 57.5 -0.4
comp=Z,4.3nm,0.8s,baz=128,slow=2.0,SNR=16
GERES GERESS Array B 147.38 345 PKPbc PKPbc 14 57 05.2 -0.6
comp=Z,1.7nm,0.6s,baz=352,slow=2.7,SNR=13
TORD Torodi Ar. Bea 175.43 185 PKPab PKPab 14 59 11.8 -0.2
comp=Z,0.6nm,0.8s,baz=178,slow=5.4,SNR=3.1

WEL 21 15:07:16.5±0.5, 46°19S×165°82E, h12km, ML4.5/20, 2C, Error ellipse: s-maj=4.7km s-min=2.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**1.18**	**53**	⇑P*	Pb	15 07 36.6	-2.2
DCZ				AML	AML	15 07 51.7	
DCZ				AML	AML	15 07 51.7	
DCZ				S*	Sb	15 07 52.0	-1.9
DCZ				AML	AML	15 07 53.5	
WHZ	**Wether Hill Ro**	**1.51**	**79**	PN	Pn	15 07 42.6	-0.8
WHZ				SN	Sn	15 08 02.0	-1.0
WHZ				AML	AML	15 08 05.4	
APZ	**The Paps**	**1.63**	**114**	PN	Pn	15 07 44.0	-1.1
APZ				SN	Sn	15 08 04.9	-1.2
MLZ	**Mavora Lakes**	**1.85**	**64**	PN	Pn	15 07 47.8	-0.3
MLZ				AML	AML	15 08 15.5	
MLZ				AML	AML	15 08 17.9	
MSZ	**Milford Sound**	**2.12**	**45**	PN	Pn	15 07 51.3	-0.5
MSZ				AML	AML	15 08 29.7	
MSZ				AML	AML	15 08 29.7	
MSZ				AML	AML	15 08 35.7	
MSZ				AML	AML	15 08 35.7	
SYZ	**Scrubby Hill**	**2.32**	**100**	PN	Pn	15 07 54.0	-0.6
EAZ	**Earnscleugh**	**2.62**	**70**	PN	Pn	15 07 59.7	+1.0
EAZ				AML	AML	15 08 35.6	
EAZ				AML	AML	15 08 35.6	
EAZ				AML	AML	15 08 40.3	
EAZ				AML	AML	15 08 40.4	
WKZ	**Wanaka**	**2.63**	**60**	PN	Pn	15 07 59.8	+0.9
WKZ				AML	AML	15 08 39.7	
WKZ				AML	AML	15 08 39.8	
WKZ				AML	AML	15 08 43.0	
WKZ				AML	AML	15 08 43.1	
TUZ	**Tuapeka**	**2.66**	**86**	PN	Pn	15 07 59.4	+0.2
TUZ				AML	AML	15 08 34.4	
TUZ				AML	AML	15 08 36.6	
JCZ	**Jackson Bay**	**2.97**	**46**	PN	Pn	15 08 04.1	+0.6
JCZ				AML	AML	15 08 54.2	
JCZ				AML	AML	15 08 56.3	
HHSZ	**Highcliff Hill**	**3.34**	**86**	PN	Pn	15 08 09.0	+0.4
LBZ	**Lake Benmore**	**3.57**	**61**	PN	Pn	15 08 11.2	-0.5
LBZ				AML	AML	15 09 17.3	
LBZ				AML	AML	15 09 18.5	
ODZ	**Otahua Downs**	**3.57**	**73**	⇑PN	Pn	15 08 10.6	-1.2
ODZ				AML	AML	15 09 06.7	
ODZ				AML	AML	15 09 15.5	
FOZ	**Fox Glacier**	**3.80**	**48**	PN	Pn	15 08 16.8	+1.9
FOZ				AML	AML	15 09 25.0	
FOZ				AML	AML	15 09 30.2	
RPZ	**Rata Peaks**	**4.46**	**58**	PN	Pn	15 08 23.0	-1.0
RPZ				AML	AML	15 09 30.1	
RPZ				AML	AML	15 09 30.3	
WVZ	**Waitaha Valley**	**4.69**	**50**	PN	Pn	15 08 26.2	-0.9
WVZ				AML	AML	15 08 53.5	
WVZ				AML	AML	15 10 34.9	
OXZ	**Oxford**	**5.27**	**59**	PN	Pn	15 08 33.4	-1.7
DSZ	**Denniston Nort**	**6.19**	**46**	PN	Pn	15 08 46.9	-0.9
THZ	**Tophouse**	**6.76**	**52**	PN	Pn	15 08 56.7	+1.1
THZ				AML	AML	15 10 24.0	
THZ				AML	AML	15 10 47.7	
NNZ	**Nelson**	**7.39**	**50**	PN	Pn	15 09 06.3	+2.0

*IDC **21** 15:07:20.7±0.6, 15°.06S×174°.32W, h0km, mb4.3/15, mb1 4.6/15, mb1mx4.5/20, mbtmp4.3/15, MS4.3/23, Ms1 4.3/23, ms1mx4.2/29, Error ellipse: s-maj=24.8km s-min=16.7km az=132.0*
*NEIC **21** 15:07:22.5±0.3, 15°.03S×174°.35W, h10km, mb4.8/43, Error ellipse: s-maj=12.9km s-min=7.2km az=149.0*
*ISCJB **21** 15:07:25.6±0.5, 15°.0S±0°.1×174°.12W±0°.08, h33km, mb4.6/69, MS4.3/27, Error ellipse: s-maj=18.1km s-min=9.5km az=163.6*
*GCMT **21** 15:07:27.0±0.2, 14°.88S×174°.08W, h17km±1km, MW5.1, Moment Tensor Solution. s42,c55; s89,c148; Moment tensor: Scale 10^16Nm; Mrr-0.44±.13; Mθθ-2.75±.13; Mφφ3.19±.12; Mrθ-0.29±.28; Mθφ3.89±.11; Mφr1.47±.30; Best couple: Mo5.10000×10^16 NP1:φs71.00000°, δ73.00000°, λ0.00000°. NP2:φs162.00000°, δ90.00000°, λ-163.00000°. Principal axes: T 5.3600, Plg12.0000°, Azm295.0000°; N -0.5000, Plg73.0000°, Azm162.0000°; P -4.8700, Plg12.0000°, Azm28.0000°; Data Used: II IU IC G CN.*
*BJI **21** 15:07:29.7, 14°.70S×174°.10W, h47km, mB5.0/16,*

mb4.9/22, Ms4.8/15, Ms7 4.5/15
ISC 21 15:07:27.6±0.5, 15°.0S±0°.1×174°.01W±0°.09, h35km, n154, σ1s79/156, mb4.7/69, MS4.3/29, 2C-4D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.41**	**64**	*e*P	Pn	15 07 58.5	-6.0
AFI				S	Sn	15 08 24.5	-8.3
AFI	**Afiamalu**	**2.41**	**64**	Pn	Pn	15 07 58.5	-6.0
AFI	115nm,0.3s,baz=181,slow=0.7,SNR=122			S	Sn	15 08 24.5	-8.3
MSVF	181nm,0.3s,baz=7.2,slow=23,SNR=10.0 **Nonsavu**	**8.10**	**249**	P	**Pn**	**15 09 25.3**	**+2.4**
RAO	**Raoul Island**	**14.66**	**194**	LR	LR	15 15 27.5	
	comp=Z,668nm,19.2s,baz=353,slow=34						
RAR	**Rarotonga**	**14.88**	**117**	LR	LR	15 14 57.1	
	comp=Z,1μm,21.9s,baz=281,slow=30						
PPT	**Papeete**	**23.59**	**100**	LR	LR	15 18 53.8	
	comp=Z,857nm,20.4s,baz=271,slow=29						
PPT2	**Papeete2**	**23.59**	**100**	*e*LQ	LQ	15 17 13.0	
	2μm,26.0s						
PPT2				*e*LR	LR	15 18 14.0	
	2μm,26.5s,baz=277						
URZ	**Urewera**	**24.48**	**197**	LR	LR	15 20 47.3	
	comp=Z,1μm,20.6s,baz=34,slow=33						
TBI	**Tubuai**	**24.61**	**114**	*e*LQ	LQ	15 17 39.1	
	1μm,26.2s						
TBI				*e*LR	LR	15 18 38.6	
	2μm,27.2s,baz=289						
HNR	**Honiara**	**26.04**	**279**	LR	LR	15 21 37.8	
	comp=Z,266nm,19.2s,baz=128,slow=33						
RPZ	**Rata Peaks**	**31.36**	**201**	LR	LR	15 25 01.1	
	comp=Z,241nm,20.1s,baz=181,slow=34						
RKT	**Rikitea**	**37.68**	**108**	*e*LQ	LQ	15 23 09.4	
	308nm,24.5s						
RKT				*e*LR	LR	15 24 33.8	
	952nm,29.8s,baz=280						
PMG	**Port Moresby**	**38.32**	**274**	LR	LR	15 29 00.8	
	comp=Z,391nm,18.7s,baz=98,slow=34						
STKA	**Stephens Creek**	**43.74**	**239**	P	P	15 15 24.9	-4.9
STKA	**Stephens Creek**	**43.74**	**239**	P	P	15 15 24.9	-4.9
	4.6nm,0.9s,baz=112,slow=12,SNR=4.7						
STKA				LR	LR	15 32 36.0	
	comp=Z,225nm,19.0s,baz=58,slow=35						
WRA	**Warramunga Arr**	**49.37**	**256**	P	P	15 16 09.5	-4.6
WRA	**Warramunga Arr**	**49.37**	**256**	P	P	15 16 09.5	-4.6
	4.5nm,1.0s,baz=90,slow=7.6,SNR=12						
WRA				LR	LR	15 34 36.9	
	comp=Z,523nm,20.8s,baz=95,slow=33						
ASAR	**Alice Springs**	**49.69**	**252**	P	P	15 16 12.1	-4.4
ASAR	**Alice Springs**	**49.69**	**252**	P	P	15 16 12.1	-4.4
	17nm,0.8s,baz=85,slow=8.1,SNR=126						
ASAR				LR	LR	15 35 08.2	
	comp=Z,621nm,19.7s,baz=93,slow=34						
VNDA	**Vanda**	**63.73**	**186**	P	**P**	**15 17 54.0**	**-1.3**
VNDA	**Vanda**	**63.73**	**186**	P	**P**	**15 17 54.0**	**-1.3**
	1.4nm,0.7s,baz=16,slow=7.2,SNR=3.9						
VNDA				LR	LR	15 41 52.7	
	comp=Z,128nm,19.1s,baz=28,slow=33						
MJAR	**Matsushiro Arr**	**68.24**	**320**	P	**P**	**15 18 22.6**	**-2.3**
MJAR	**Matsushiro Arr**	**68.24**	**320**	P	**P**	**15 18 22.6**	**-2.3**
	1.5nm,0.9s,baz=165,slow=5.5,SNR=3.9						
MJAR				LR	LR	15 42 04.8	
	comp=Z,123nm,21.4s,baz=140,slow=31						
PETK	**Petropavlovsk-**	**72.05**	**343**	P	**P**	**15 18 46.5**	**-1.4**
PETK	**Petropavlovsk-**	**72.05**	**343**	P	**P**	**15 18 46.5**	**-1.4**
	5.0nm,0.8s,baz=134,slow=8.4,SNR=12						
ISA	**Isabella**	**72.76**	**45**	P	**P**	**15 18 52.5**	**-0.1**
	20nm,1.6s						
CMB	**Columbia Colle**	**72.84**	**42**	*e*P	**P**	**15 18 55.4**	**+2.4**
	7.6nm,0.9s						
YBH	**Yreka Blue Hor**	**73.62**	**38**	*e*P	**P**	**15 18 58.2**	**+0.6**
	15nm,1.0s						
WAKR	**Walker**	**73.72**	**42**	*e*P	**P**	**15 18 57.6**	**-0.7**
	13nm,1.2s						
BEKR	**Beckworth**	**73.92**	**40**	P	**P**	**15 18 58.5**	**-1.0**
	8.5nm,1.4s						
HUMO	**Hull Mountain**	**74.02**	**37**	*e*P	**P**	**15 19 00.3**	**+0.5**
	16nm,1.3s						
NVAR	**Mina Array Bea**	**74.41**	**42**	P	**P**	**15 19 02.3**	**-0.1**
NVAR	**Mina Array Bea**	**74.41**	**42**	P	**P**	**15 19 02.3**	**-0.1**
	4.9nm,0.9s,baz=233,slow=8.9,SNR=15						
NVAR				LR	LR	15 45 04.3	
	comp=Z,282nm,19.6s,baz=265,slow=30						
LDFC	**Landfair**	**74.78**	**47**	*e*P	**P**	**15 19 04.2**	**-0.3**
	43nm,1.5s						
QSPA	**South Pole Qui**	**75.06**	**180**	P	**P**	**15 19 03.7**	**-1.9**
QSPA	**South Pole Qui**	**75.06**	**180**	P	**P**	**15 19 03.7**	**-1.9**
	4.1nm,0.9s,baz=47,slow=4.0,SNR=11						
KSRS	**Korea Array**	**75.45**	**316**	P	**P**	**15 19 06.2**	**-1.9**
	1.8nm,1.0s,baz=133,slow=5.3,SNR=3.4						
KSRS				LR	LR	15 47 06.5	
	comp=Z,87nm,20.2s,baz=128,slow=32						
KSAR	**Wonju Array Be**	**75.47**	**316**	P	**P**	**15 19 06.2**	**-2.0**
WVOR	**Wild Horse Val**	**76.47**	**39**	*e*P	**P**	**15 19 14.0**	**0.0**
	8.2nm,1.1s						
TUC	**Tucson**	**76.58**	**51**	*e*P	**P**	**15 19 15.3**	**+0.5**
	17nm,1.4s						
USRK	**Ussuriysk Arra**	**76.69**	**323**	P	**P**	**15 19 13.5**	**-1.5**
	1.9nm,0.9s,baz=134,slow=4.2,SNR=2.8						
USRK				LR	LR	15 45 34.1	
	comp=Z,135nm,21.4s,baz=280,slow=30						
CCUT	**Cedar City**	**77.25**	**45**	*e*P	**P**	**15 19 18.8**	**+0.2**
	13nm,1.5s						
ARUT	**Antelope Range**	**77.32**	**45**	*e*P	**P**	**15 19 19.2**	**+0.2**
	6.7nm,1.1s						
WUAZ	**Wupatki**	**77.65**	**48**	*e*P	**P**	**15 19 21.6**	**+0.7**
	24nm,1.5s						
MVU	**Marysvale**	**78.51**	**45**	*e*P	**P**	**15 19 25.6**	**-0.1**
	5.0nm,1.1s						
MSU	**Marysvale**	**78.54**	**45**	P	**P**	**15 19 25.9**	**+0.1**
	2.6nm,0.5s						
BMO	**Blue Mountains**	**78.64**	**37**	*e*P	**P**	**15 19 25.5**	**-0.5**
	9.2nm,1.3s						
DIV	**Divide**	**79.12**	**14**	*e*P	**P**	**15 19 27.3**	**-1.0**
	29nm,1.1s						
NJ2	**Nanjing**	**79.45**	**307**	*e*P	**P**	**15 19 30.4**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
TMUT	**Trail Mountain**	**79.58**	**45**	P	**P**	**15 19 30.7**	**-0.9**
	comp=Z,11nm,0.9s						
HLID	**Hailey**	**79.67**	**40**	*e*P	**P**	**15 19 31.5**	**-0.3**
	comp=Z,5.2nm,1.0s						
SRU	**San Rafael**	**79.96**	**45**	*e*P	**P**	**15 19 32.7**	**-0.8**
	comp=Z,5.8nm,1.0s						
LAZ	**Ladron**	**80.24**	**50**	*e*P	**P**	**15 19 37.3**	**+2.1**
	comp=Z,9.2nm,1.7s						
CN2	**Changchun**	**80.39**	**320**	*e*P	**P**	**15 19 36.3**	**+0.8**
CN2				*es*P	**sP**	**15 19 54.6**	**+4.1**
CN2				*e*PP	**PP**	**15 22 40.5**	**+1.5**
CN2				*e*S	**S**	**15 29 36.3**	**-2.8**
CN2				*e*SS	**SS**	**15 34 50.8**	**-0.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,16.0s						
CN2				LR	LR		
	comp=E,200nm,16.0s						
CN2				LR	LR		
	comp=Z,200nm,17.0s						
MNTX	**Cornudas Mount**	**80.45**	**54**	*e*P	**P**	**15 19 35.3**	**-0.8**
	comp=Z,5.7nm,1.3s						
BNM	**Barren Site**	**80.52**	**51**	P	**P**	**15 19 37.0**	**+0.4**
MCK	**McKinley**	**80.82**	**11**	*e*P	**P**	**15 19 35.9**	**-1.4**
	comp=Z,26nm,0.9s						
PV01	**Paradox Valley**	**80.86**	**47**	P	**P**	**15 19 39.2**	**+0.8**
TXAR	**Lajitas Array**	**80.86**	**56**	P	**P**	**15 19 38.8**	**+0.3**
TXAR	**Lajitas Array**	**80.86**	**56**	P	**P**	**15 19 38.8**	**+0.3**
	comp=Z,1.7nm,1.0s,baz=207,slow=9.1,SNR=10						
TXAR				LR	LR	15 46 54.3	
	comp=Z,148nm,21.4s,baz=5.0,slow=29						
ANMO	**Albuquerque**	**80.98**	**50**	*e*P	**P**	**15 19 40.5**	**+1.5**
	comp=Z,20nm,1.6s						
MENT	**Mentasta**	**81.18**	**13**	*e*P	**P**	**15 19 38.7**	**-0.6**
MCMT	**McKenzie Canyo**	**81.30**	**39**	*e*P	**P**	**15 19 40.6**	**0.0**
	comp=Z,3.7nm,1.2s						
DLMT	**Dillon**	**81.72**	**39**	*e*P	**P**	**15 19 42.7**	**0.0**
	comp=Z,7.1nm,1.1s						
BSMT	**Bassoo Peak**	**81.76**	**36**	*e*P	**P**	**15 19 43.1**	**+0.2**
	comp=Z,11nm,1.3s						
REDW	**Red Top Meadow**	**81.80**	**41**	*e*P	**P**	**15 19 42.7**	**-0.6**
	comp=Z,14nm,1.3s						
TPAW	**Teton Pass**	**81.80**	**41**	P	**P**	**15 19 44.6**	**+1.3**
	comp=Z,13nm,1.3s						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNOW	**Snow King Moun**	**81.91**	**41**	P	**P**	**15 19 44.5**	**+0.5**
IMW	**Indian Meadow**	**82.01**	**41**	*e*P	**P**	**15 19 44.7**	**+0.2**
	comp=Z,12nm,1.3s						
MOOW	**Moose Ponds**	**82.06**	**41**	P	**P**	**15 19 44.7**	**+0.1**
	comp=Z,5.3nm,1.2s						
COLA	**College**	**82.06**	**11**	*e*P	**P**	**15 19 43.0**	**-0.9**
	comp=Z,98nm,0.9s						
CHMT	**Chamberlain Mo**	**82.14**	**37**	*e*P	**P**	**15 19 44.5**	**-0.4**
	comp=Z,4.2nm,1.2s						
ILAR	**Eielson Array**	**82.15**	**11**	P	**P**	**15 19 43.0**	**-1.3**
ILAR	**Eielson Array**	**82.15**	**11**	P	**P**	**15 19 43.0**	**-1.3**
	comp=Z,3.2nm,1.0s,baz=205,slow=5.8,SNR=21						
ILAR				LR	LR	15 49 02.0	
	comp=Z,153nm,21.4s,baz=317,slow=30						
QLMT	**Earthquake Lak**	**82.17**	**40**	*e*P	**P**	**15 19 46.3**	**+1.2**
	comp=Z,1.7nm,1.2s						
BW06	**Boulder Array**	**82.34**	**42**	P	**P**	**15 19 46.5**	**+0.3**
	comp=Z,5.7nm,1.2s						
PDAR	**Pinedale Array**	**82.34**	**42**	P	**P**	**15 19 46.2**	**0.0**
PDAR	**Pinedale Array**	**82.34**	**42**	P	**P**	**15 19 46.2**	**0.0**
	comp=Z,1.9nm,0.9s,baz=216,slow=3.1,SNR=12						
PDAR				LR	LR	15 51 22.9	
	comp=Z,191nm,18.5s,baz=246,slow=32						
SMCO	**Snowmass**	**82.44**	**46**	*e*P	**P**	**15 19 47.0**	**+0.1**
	comp=Z,11nm,1.2s						
BOZ	**Bozeman (W)**	**82.45**	**39**	*e*P	**P**	**15 19 46.1**	**-0.5**
	comp=Z,5.6nm,1.2s						
SDCO	**Great Sand Dun**	**82.87**	**48**	*e*P	**P**	**15 19 50.2**	**+1.2**
	comp=Z,10nm,1.5s						
HRY	**Holter Researc**	**82.87**	**38**	*e*P	**P**	**15 19 49.0**	**+0.3**
	comp=Z,2.9nm,0.4s						
EGAK	**Eagle**	**83.35**	**14**	*e*P	**P**	**15 19 49.8**	**-0.7**
	comp=Z,33nm,1.6s						
RWWY	**Rawlins**	**83.39**	**44**	*e*P	**P**	**15 19 51.6**	**-0.1**
	comp=Z,21nm,1.3s						
RLMT	**Red Lodge**	**83.65**	**40**	*e*P	**P**	**15 19 52.9**	**+0.1**
	comp=Z,8.9nm,1.1s						
GCMT	**Greycliff**	**83.72**	**39**	*e*P	**P**	**15 19 54.6**	**+1.5**
	comp=Z,9.2nm,1.4s						
COLD	**Coldfoot**	**83.82**	**9**	*e*P	**P**	**15 19 53.0**	**+0.1**
	comp=Z,10nm,0.9s						
BJI	**Beijing**	**84.76**	**314**	P	**P**	**15 19 59.8**	**+1.5**
BJI				pP	**pP**	**15 20 11.8**	**+2.5**
BJI				sP	**sP**	**15 20 17.0**	**+3.6**
BJI				S	**SKSac**	**15 30 21.3**	**+1.3**
BJI				sS	**sS**	**15 30 41.8**	**-0.3**
BJI				pmax	pmax		
	comp=Z,14nm,0.6s						
BJI				LR	LR		
	comp=N,74nm,18.8s						
BJI				LR	LR		
	comp=E,120nm,17.0s						
BJI				LR	LR		
	comp=Z,120nm,25.8s						
WMOK	**Wichita Mounta**	**86.72**	**53**	P	**P**	**15 20 08.5**	**+0.3**
	comp=Z,2.2nm,0.6s						
GYA	**Guiyang**	**87.33**	**298**	*e*P	**P**	**15 20 12.0**	**+0.5**
GYA				pP	**pP**	**15 20 26.3**	**+3.7**
GYA				sP	**sP**	**15 20 31.8**	**+5.2**
GYA				SKS	**SKSac**	**15 30 31.9**	**-5.1**
GYA				S	**SKKSac**	**15 30 46.0**	**-0.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.6s						
XAN	**Xi'an**	**87.91**	**306**	P	**P**	**15 20 13.4**	**-0.6**
XAN				pP	**pP**	**15 20 25.8**	**+0.7**
XAN				sP	**sP**	**15 20 33.1**	**+3.9**
XAN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
XAN				LR	LR		
	comp=N,50nm,21.4s						
XAN				LR	LR		
	comp=E,43nm,21.4s						
XAN				LR	LR		
	comp=Z,34nm,20.4s						
MAW	**Mawson**	**88.00**	**199**	LR	LR	15 56 14.2	
	comp=Z,259nm,20.6s,baz=114,slow=33						
HHC	**Hu-ho-hao-te**	**88.31**	**313**	*e*P	**P**	**15 20 14.4**	**-1.4**
HHC				pP	**pP**	**15 20 27.8**	**+0.8**
HHC				sP	**sP**	**15 20 33.0**	**+2.0**
HHC				PP	**PP**	**15 23 44.3**	**+0.5**
HHC				SKS	**SKSac**	**15 30 37.0**	**-5.3**
HHC				S	**SKKSac**	**15 30 53.5**	**+0.6**
HHC				sS	**sS**	**15 31 16.3**	**-0.7**
HHC				SS	**SS**	**15 36 46.5**	**-2.5**
HHC				pmax	pmax		
	comp=Z,31nm,1.1s						
HHC				pmax	pmax		
	comp=Z,130nm,5.1s						
HHC				LR	LR		
	comp=N,160nm,16.4s						
HHC				LR	LR		
	comp=E,240nm,16.3s						
HHC				LR	LR		
	comp=Z,130nm,16.7s						
YKA	**Yellowknife Ar**	**89.95**	**24**	P	**P**	**15 20 22.1**	**-0.8**
YKA	**Yellowknife Ar**	**89.95**	**24**	P	**P**	**15 20 22.1**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=238,slow=4.4,SNR=10						
PLCA	**Paso Flores**	**90.22**	**132**	LR	LR	15 52 24.9	
	comp=Z,308nm,19.5s,baz=182,slow=30						
KMI	**Kunming**	**90.32**	**296**	P	P	15 20 30.3	+4.5
KMI				pP	pP	15 20 42.4	+5.5
KMI				sP	sP	15 20 49.8	+8.9
KMI				S	**S**	**15 31 14.1**	**-4.2**
KMI				SS	**SS**	**15 37 14.5**	**-4.5**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KMI				pmax	pmax		
	comp=Z,71nm,4.0s						
KMI				LR	LR		
	comp=N,110nm,19.4s						
KMI				LR	LR		
	comp=E,120nm,20.0s						
KMI				LR	LR		
	comp=Z,170nm,32.3s						
CD2	**Chengdu**	**91.09**	**302**	*e*P	**P**	**15 20 28.9**	**-0.1**
CD2				pP	**pP**	**15 20 43.1**	**+2.9**
CD2				sP	**sP**	**15 20 48.6**	**+4.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,40nm,8.2s						
CMAR	**Chiang Mai Arr**	**91.93**	**288**	P	**P**	**15 20 31.3**	**-1.8**
CMAR	**Chiang Mai Arr**	**91.93**	**288**	P	**P**	**15 20 31.3**	**-1.8**
	comp=Z,0.8nm,0.4s,baz=98,slow=2.6,SNR=8.1						
CMAR				LR	LR	15 56 54.8	
	comp=Z,97nm,21.1s,baz=110,slow=32						
LZH	**Lanzhou**	**92.51**	**307**	*e*P	**P**	**15 20 36.1**	**+0.5**
LZH				pP	**pP**	**15 20 49.6**	**+2.9**
LZH				sP	**sP**	**15 20 54.9**	**+4.2**
LZH				*e*PP	**PP**	**15 24 20.3**	**+3.0**
LZH				pmax	pmax		
	comp=Z,17nm,1.5s						
LZH				pmax	pmax		
	comp=Z,61nm,9.0s						
LZH				LR	LR		
	comp=N,140nm,18.0s						
LZH				LR	LR		
	comp=E,150nm,18.2s						
LZH				LR	LR		
	comp=Z,170nm,20.0s						
ULM	**Lac du Bonnet**	**93.97**	**39**	LR	LR	15 57 44.1

KSH				LR	LR		
	comp=Z,120nm,8.9s						
CLL	**Collm**	**143.33**	**353**	*e*PKPdf	PKPbc	15 26 55.0	-0.2
CLL				Lm	MLR	16 32 00.0	
	comp=Z,100nm,22.0s						
STHS	**Stebnicka Huta**	**143.46**	**343**	*e*PKP	**PKPdf**	**15 26 57.5**	**-1.0**
KOLS	**Kolonicke sedl**	**143.60**	**342**	*e*PKP	PKPdf	15 27 07.4	+8.7
KOLS				*e*		15 27 24.5	
BRG	**Berggiesshubel**	**143.63**	**352**	*e*(P)		**PKPdf**	**15 27 02.7**	**+4.0**
	comp=Z,4.2nm,0.9s						
BRG				*e*		15 27 08.4	
	comp=Z,6.2nm,1.2s						
DPC	**Dobruska-Polom**	**143.74**	**349**	*i* PKP	PKPbc	15 26 57.9	+1.4
DPC				*ex*	x	15 27 02.2	
PVCC	**Panska Ves**	**143.87**	**351**	*i* PKP	PKPdf	15 27 04.9	+5.8
PRU	**Pruhonice**	**144.40**	**351**	*i* PKP	**PKPdf**	**15 27 01.1**	**+1.0**
PRU				*ex*	x	15 27 04.4	
KECS	**Kecovo**	**144.52**	**343**	*e*PKP	**PKPab**	**15 26 58.3**	**-0.4**
ROTZ	**Rotzenmuhle**	**144.94**	**353**	*e*PKP	PKPbc	15 27 00.7	+0.4
VYHS	**Vyhne**	**144.94**	**345**	*e*PKP	PKPbc	15 27 00.8	+0.5
GRF	**Grafenberg Arr**	**145.12**	**354**	*e*PKP	**PKPdf**	**15 27 02.3**	**+0.9**
GRFO	**Grafenberg**	**145.12**	**354**	*e*PKPbc	**PKPdf**	**15 27 06.4**	**+5.0**
KMBO	**Kilima Mbogo**	**145.19**	**245**	PKP	**PKPbc**	**15 27 00.5**	**-2.0**
KMBO				*e*PKP	**PKPab**	**15 27 02.4**	**-0.2**
KMBO	**Kilima Mbogo**	**145.19**	**245**	PKP	**PKPbc**	**15 27 00.5**	**-2.0**
	comp=Z,5.8nm,1.0s,baz=22,slow=3.1,SNR=6.4						
KHC	**Kasperske Hory**	**145.38**	**351**	*i* PKP	**PKPbc**	**15 27 01.4**	**-0.3**
KHC				*ex*	x	15 27 07.4	
KHC	**Kasperske Hory**	**145.38**	**351**	*e*PKP	**PKPbc**	**15 27 01.6**	**-0.1**
WLF	**Walferdange**	**145.41**	**360**	PKP	**PKPab**	**15 27 04.6**	**+2.6**
WLF	**Walferdange**	**145.41**	**360**	PKP	**PKPab**	**15 27 04.4**	**+2.4**
BRTR	**Keskin Array B**	**145.46**	**321**	PKPbc	**PKPbc**	**15 27 00.2**	**-2.2**
BRTR	**Keskin Array B**	**145.46**	**321**	PKPbc	**PKPbc**	**15 27 00.2**	**-2.2**
	comp=Z,14nm,1.0s,baz=90,slow=2.1,SNR=25						
WET	**Wettzell**	**145.46**	**352**	*e*PKP	**PKPab**	**15 27 04.3**	**+2.1**
ZST	**Bratislava**	**145.63**	**347**	*e*PKP	**PKPab**	**15 27 03.9**	**+1.1**
ZST				*e*		15 27 11.9	
GE2	**GERESS Array S**	**145.64**	**351**	*e*PKP	**PKPdf**	**15 27 02.3**	**-0.1**
GERES	**GERESS Array B**	**145.64**	**351**	PKPbc	**PKPdf**	**15 27 01.1**	**-1.3**
GERES	**GERESS Array B**	**145.64**	**351**	PKPbc	**PKPdf**	**15 27 01.1**	**-1.3**
	comp=Z,2.3nm,0.8s,baz=31,slow=3.4,SNR=12						
LANF	**Langenberg**	**146.06**	**358**	PKP	**PKPab**	**15 27 06.7**	**+2.3**
CONA	**Conrad Observa**	**146.14**	**348**	⇓*i*PKPdf	**PKPdf**	**15 27 04.0**	**+0.7**
	comp=Z,42nm,1.2s						
MOA	**Molln**	**146.51**	**350**	⇓*i*PKPdf	**PKPdf**	**15 27 04.7**	**+0.9**
	comp=Z,19nm,1.4s						
BFO	**Black Forest**	**146.69**	**357**	*e*PKP	**PKPbc**	**15 27 05.7**	**0.0**
BFO	**Black Forest**	**146.69**	**357**	*e*PKPbc	**PKPbc**	**15 27 06.1**	**+0.3**
ECH	**Echery**	**146.84**	**359**	PKP	**PKPab**	**15 27 07.8**	**+0.3**
RJOB	**Jochberg**	**146.85**	**352**	*e*PKP	**PKPbc**	**15 27 06.0**	**-0.3**
MOF	**Molkenrain**	**147.21**	**359**	PKP	**PKPbc**	**15 27 08.3**	**+1.0**
WTTA	**Wattenberg**	**147.47**	**353**	⇓*i*PKPab	**PKPbc**	**15 27 05.5**	**-0.7**
	comp=Z,24nm,1.1s						
SOKA	**Soboth**	**147.50**	**348**	⇓*i*PKPab	**PKPbc**	**15 27 07.4**	**-0.8**
	comp=Z,25nm,1.3s						
LOMF	**Lomont**	**147.72**	**359**	PKP	**PKPdf**	**15 27 07.6**	**+1.7**
FETA	**Feichten**	**147.81**	**354**	⇑*i*PKPdf	**PKPdf**	**15 27 07.5**	**+1.3**
	comp=Z,22nm,1.4s						
ABTA	**Abfaltersbach**	**147.86**	**352**	⇑*i*PKPdf	**PKPdf**	**15 27 04.8**	**-1.4**
	comp=Z,24nm,1.3s						
DAVOX	**Davos/Dischmat**	**148.13**	**355**	PKPbc	**PKPdf**	**15 27 08.4**	**+1.6**
DAVOX	**Davos/Dischmat**	**148.13**	**355**	PKPbc	**PKPdf**	**15 27 08.4**	**+1.6**
	comp=Z,5.1nm,0.9s,baz=56,slow=3.2,SNR=4.0						
TUE	**Stuetta**	**148.48**	**356**	*e*PKPbc	**PKPbc**	**15 27 10.8**	**-0.1**
AGO	**Saint Agoulin**	**148.93**	**4**	PKP	**PKPbc**	**15 27 12.7**	**+0.8**
PYM	**Petit Puy Mans**	**149.22**	**4**	PKP	**PKPab**	**15 27 15.3**	**-1.8**
LBL	**Lubilhac**	**149.75**	**4**	PKP	**PKPbc**	**15 27 14.9**	**+0.9**
BNI	**Bardonecchia**	**150.02**	**359**	PKPbc	**PKPbc**	**15 27 14.9**	**+0.2**
ESDC	**Sonseca Array**	**153.89**	**18**	PKPbc	**PKPbc**	**15 27 23.8**	**+0.2**
ESDC				PKPab	**PKPab**	**15 27 35.6**	**-1.1**
ESDC	**Sonseca Array**	**153.89**	**18**	PKPbc	**PKPbc**	**15 27 23.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=343,slow=4.0,SNR=3.1						
ESDC				PKPab	**PKPab**	**15 27 35.6**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=326,slow=2.6,SNR=6.4						

*IDC **21** 15:10:16.9±1.1,34°.21N×25°.62E,h0km,mb3.9/7, mb1 4.0/12,mb1mx3.8/29,mbtmp3.8/12,ML4.0/4,Error ellipse: s-maj=24.2km s-min=19.1km az=3.0*
*ISCJB **21** 15:10:18.1±1.6,33°.99N±0°.04×25°.65E±0°.04,h28km±15km, mb3.7/7,Error ellipse: s-maj=6.6km s-min=5.2km az=40.6*
*CSEM **21** 15:10:19.7±0.2,34°.00N×25°.46E,h30km,MD3.0,Error ellipse: s-maj=7.5km s-min=4.5km az=55.0*
*ATH **21** 15:10:21.2,34°.24N×25°.43E,h28km, MD3.0/6*
ISC 21 15:10:19.9±1.6,34°.04N±0°.05×25°.56E±0°.05,h28km±12km, n50,σ1s22/57,mb3.9/7,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**1.12**	**357**	*e*PN	**Pn**	**15 10 39.1**	**-0.7**
LAST	**Lasithi**	**1.12**	**357**	*e*Pn	**Pn**	**15 10 39.1**	**-0.7**
SIVA	**Sivas**	**1.15**	**328**	*e*PN	**Pn**	**15 10 39.2**	**-0.9**
SIVA				*e*SN	**Sn**	**15 10 52.4**	**-2.6**
SIVA	**Sivas**	**1.15**	**328**	*e*Pn	**Pn**	**15 10 39.2**	**-0.9**
SIVA				*e*Sn	**Sn**	**15 10 52.4**	**-2.6**
ZKR	**Zakros**	**1.20**	**27**	*e*PN	**Pb**	**15 10 42.0**	**0.0**
ZKR				*e*SN	**Sb**	**15 10 57.1**	**0.0**
ZKR	**Zakros**	**1.20**	**27**	*e*Pn	**Pb**	**15 10 42.0**	**0.0**
ZKR				*e*Sn	**Sb**	**15 10 57.1**	**0.0**
IDI	**Anoyia**	**1.36**	**336**	*e*PN	**Pn**	**15 10 42.8**	**-0.3**
IDI	**Anoyia**	**1.36**	**336**	*e*Pn	**Pn**	**15 10 42.8**	**-0.3**
VAM	**Vamos**	**1.76**	**321**	*e*PN	**Pn**	**15 10 48.9**	**+0.4**
VAM	**Vamos**	**1.76**	**321**	*e*Pn	**Pn**	**15 10 48.9**	**+0.4**
SLUM		**2.56**	**187**	P	**Pn**	**15 10 57.7**	**-1.8**
HMAT	**Matruh**	**3.21**	**156**	P	**Pn**	**15 11 08.1**	**-0.4**
VLI	**Veliai**	**3.42**	**322**	*e*PN	**Pn**	**15 11 12.0**	**+0.6**
VLI	**Veliai**	**3.42**	**322**	*e*Pn	**Pn**	**15 11 12.0**	**+0.6**
TURN	**Turunc**	**3.76**	**40**	*i* P	**Pn**	**15 11 14.7**	**-1.3**
TURN	**Turunc**	**3.76**	**40**	*i* P	**Pn**	**15 11 14.7**	**-1.3**
AKAS	**Kas**	**3.97**	**55**	*i* P	Pn	15 11 21.5	+2.5
AKAS				*i* S	**Sn**	**15 12 05.1**	**+0.4**
AKAS	**Kas**	**3.97**	**55**	*i* P	Pn	15 11 21.5	+2.5
AKAS				*i* S	**Sn**	**15 12 05.1**	**+0.4**
GOLH	**Golhisar**	**4.56**	**44**	*i* P	Pn	15 11 29.9	+2.9
GOLH				*e*S	**Sn**	**15 12 17.8**	**-1.3**
GOLH	**Golhisar**	**4.56**	**44**	*i* P	Pn	15 11 29.9	+2.8
GOLH				*e*S	**Sn**	**15 12 17.8**	**-1.3**
SWA2		**4.78**	**181**	P	**Pn**	**15 11 29.4**	**-0.7**
GAZI	**Gazipasa**	**5.95**	**67**	*i* P	**Pn**	**15 11 46.4**	**+0.3**
GAZI				*i* S	**Sn**	**15 12 51.6**	**-1.8**
GAZI	**Gazipasa**	**5.95**	**67**	*i* P	**Pn**	**15 11 46.4**	**+0.3**
GAZI				*i* S	**Sn**	**15 12 51.6**	**-1.8**
ERMK	**Ermenek**	**6.54**	**65**	*i* P	Pn	15 11 58.5	+4.1
GLL	**Jalalah**	**6.87**	**129**	P	**Pn**	**15 11 57.8**	**-0.9**
AMAG	**Maghara**	**7.30**	**116**	P	**Pn**	**15 12 03.3**	**-1.4**
SLTI	**Sal˙it**	**8.15**	**100**	Pn	**Pn**	**15 12 16.9**	**+0.6**
MMAI	**Mount Meron Ar**	**8.28**	**94**	Pn	**Pn**	**15 12 17.9**	**-0.2**
	3.5nm,0.3s,baz=276,slow=13,SNR=8.5						
MMAI				Sn	**Sn**	**15 13 51.2**	**+0.3**
	3.0nm,0.3s,baz=278,slow=22,SNR=4.4						
MMA2	**Mount Meron ar**	**8.29**	**94**	Pn	**Pn**	**15 12 18.8**	**+0.6**
MMLI	**Mount Malkishu**	**8.41**	**98**	Pn	**Pn**	**15 12 20.7**	**+0.7**
HMDT	**Nahal Hemdat**	**8.54**	**99**	Pn	**Pn**	**15 12 21.7**	**0.0**
BRTR	**Keskin Array B**	**8.60**	**46**	Pn	**Pn**	**15 12 21.6**	**-1.0**
	0.1nm,0.3s,baz=241,slow=13,SNR=2.5						
DSI	**Dead Sea**	**8.62**	**104**	Pn	**Pn**	**15 12 23.0**	**+0.2**
MZDA	**Masada**	**8.70**	**106**	Pn	**Pn**	**15 12 23.6**	**-0.2**
KRMI	**Paran Flat**	**8.70**	**114**	Pn	**Pn**	**15 12 24.3**	**+0.4**
PRNI	**Paran**	**8.81**	**112**	Pn	**Pn**	**15 12 25.3**	**0.0**
HRFI	**Mount Harif**	**8.98**	**114**	Pn	**Pn**	**15 12 27.9**	**+0.2**
MBRI	**Mt Berech**	**9.01**	**115**	Pn	**Pn**	**15 12 27.9**	**-0.2**
EIL	**Elat**	**9.10**	**116**	Pn	**Pn**	**15 12 29.4**	**+0.1**
	1.6nm,0.3s,baz=300,slow=7.1,SNR=13						
EIL				Sn	**Sn**	**15 14 05.5**	**-5.3**
	1.0nm,0.3s,baz=163,slow=19,SNR=4.1						
EIL	**Elat**	**9.10**	**116**	Pn	**Pn**	**15 12 29.0**	**-0.3**
ASF	**Jabal al Asfar**	**9.69**	**98**	Pn	**Pn**	**15 12 37.2**	**-0.3**
KBZ	**Khabaz**	**16.58**	**49**	Pn	**Pn**	**15 14 10.9**	**+0.8**
	0.1nm,0.3s,baz=229,slow=11,SNR=1.6						
GERES	**GERESS Array B**	**17.22**	**333**	P	**Pn**	**15 14 17.7**	**-0.7**
	0.2nm,0.3s,baz=147,slow=12,SNR=9.0						
FINES	**FINESS Array B**	**27.42**	**1**	P	**P**	**15 16 01.9**	**-1.0**
	3.0nm,0.9s,baz=169,slow=11,SNR=3.6						
TORD	**Torodi Ar. Bea**	**30.04**	**232**	P	**P**	**15 16 29.0**	**+2.4**
	0.4nm,0.7s,baz=39,slow=9.3,SNR=3.0						
ARCES	**ARCESS Array B**	**35.55**	**360**	P	**P**	**15 17 13.3**	**-0.9**
	1.3nm,0.7s,baz=176,slow=9.4,SNR=10						
MKAR	**Makanchi Array**	**44.12**	**56**	P	**P**	**15 18 25.9**	**+0.1**
	1.0nm,0.5s,baz=275,slow=6.6,SNR=16						
ZALV	**Zalesovo Beam**	**45.55**	**45**	P	**P**	**15 18 37.4**	**+0.5**
	1.0nm,0.4s,baz=272,slow=7.4,SNR=6.3						
YKA	**Yellowknife Ar**	**78.61**	**342**	P	**P**	**15 22 19.0**	**+0.4**
	0.6nm,0.6s,baz=32,slow=5.3,SNR=4.1						
ILAR	**Eielson Array**	**81.34**	**357**	P	**P**	**15 22 34.5**	**+1.1**
	0.4nm,0.6s,baz=1.7,slow=3.0,SNR=3.7						

DDA 21 15:10:47.9,37°.74N×26°.90E,h7km,MD2.4,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCAM	**G?zelcaml?**	**0.27**	**99**	*i* P	Pg	15 10 53.3	+0.2
GCAM				*i* S	Sg	15 10 57.9	+1.2
AYDN	**Tasoluk**	**0.78**	**96**	*i* P	Pg	15 11 02.7	-0.3
AYDN				*i* S	Sg	15 11 13.9	+0.7

IDC 21 15:16:45.0±1.0,21°.14S×67°.27W,h163km±16km,mb3.4/1, mb1 3.6/4,mb1mx3.2/19,mbtmp3.5/4,Error ellipse: s-maj=29.2km s-min=11.2km az=114.0,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.12**	**226**	P	Pn	15 17 23.1	+0.6
	16nm,0.3s,baz=48,slow=9.0,SNR=148						
LVC				S	Sn	15 17 51.7	+0.1
	12nm,0.3s,baz=171,slow=13,SNR=29						
LPAZ	**La Paz**	**4.89**	**350**	P	Pn	15 17 58.9	+0.8
	5.7nm,0.3s,baz=160,slow=7.4,SNR=83						
LPAZ				S	Sn	15 18 54.6	-0.5
	baz=331,slow=19,SNR=1.5						
SIV	**San Ignacio**	**7.79**	**50**	P	Pn	15 18 36.6	+0.8
	2.1nm,0.3s,baz=257,slow=12,SNR=23						
SIV				S	Sn	15 20 02.2	-0.9
	0.2nm,0.3s,baz=180,slow=20,SNR=4.5						
TORD	**Torodi Ar. Bea**	**75.80**	**70**	P	P	15 28 13.6	0.0
	0.4nm,0.4s,baz=260,slow=4.8,SNR=4.5						
MKAR	**Makanchi Array**	**144.44**	**37**	PKP	PKPbc	15 36 00.9	+0.1
	0.2nm,0.4s,baz=325,slow=3.0,SNR=5.3						

WEL 21 15:30:44.7±0.8,37°.12S×176°.86E,h201km±6km,ML3.6/9, 1C-2D,Error ellipse: s-maj=9.0km s-min=7.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.16**	**170**	PN	Pn	15 31 15.2	-0.4
URZ				SN	S	15 31 39.8	+0.2
MWZ	**Matawai**	**1.33**	**157**	PN	Pn	15 31 17.7	+0.7
MWZ				SN	S	15 31 41.4	-0.6
PUZ	**Puketiti**	**1.46**	**131**	⇓PN	Pn	15 31 18.0	-0.2
PUZ				SN	S	15 31 43.3	-0.5
PRGZ	**Paritu Road**	**1.98**	**156**	PN	Pn	15 31 23.5	+0.5
KNZ	**Kokohu**	**2.01**	**162**	PN	Pn	15 31 23.4	+0.2
MHGZ	**Mahia Peninsul**	**2.19**	**158**	PN	Pn	15 31 25.8	+0.6
PKVZ	**Pokaka**	**2.48**	**208**	⇓PN	Pn	15 31 28.8	+0.4
KAHZ	**Kahuranaki**	**2.68**	**180**	PN	Pn	15 31 30.6	0.0
PNHZ	**Pukenui**	**2.84**	**190**	PN	Pn	15 31 31.8	-0.7
MRZ	**Mangatainoka R**	**3.68**	**195**	PN	Pn	15 31 40.7	-1.8
MRZ				AML	AML	15 32 27.3	
OGWZ	**Otaki Gorge**	**3.93**	**199**	PN	Pn	15 31 43.6	-1.9
CAW	**Cannon Point**	**4.22**	**199**	PN	Pn	15 31 46.9	-2.4
TRWZ	**Traveller**	**4.37**	**192**	PN	Pn	15 31 49.0	-2.1
WEL	**Wellington**	**4.47**	**201**	⇑PN	Pn	15 31 50.0	-2.3
MSWZ	**Moikau Station**	**4.47**	**196**	PN	Pn	15 31 49.8	-2.6
MSWZ				SN	S	15 32 40.8	-4.4
TCW	**Tory Channel**	**4.56**	**205**	PN	Pn	15 31 51.0	-2.4
PLWZ	**Palliser**	**4.62**	**195**	PN	Pn	15 31 51.6	-2.7
TUWZ	**Tuamarina**	**4.87**	**207**	PN	Pn	15 31 55.0	-2.4
THZ	**Tophouse**	**5.56**	**212**	PN	Pn	15 32 04.8	-1.5

IDC 21 16:00:09.9±2.9,20°.48S×178°.38W,h552km±30km, mb3.1/8,mb1 3.4/9,mb1mx3.1/20,mbtmp3.1/9,Error ellipse: s-maj=50.4km s-min=14.5km az=152.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.24**	**261**	P	P	16 03 12.4	+0.7
	0.6nm,0.3s,baz=86,slow=23,SNR=6.3						
CTA	**Charters Tower**	**33.14**	**264**	P	P	16 06 01.4	+0.2
	1.5nm,0.5s,baz=100,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**44.18**	**257**	P	P	16 07 30.1	-0.3
	1.8nm,0.7s,baz=88,slow=8.8,SNR=42						
ASAR				S	S	16 13 24.4	+0.3
	0.7nm,0.8s,baz=90,slow=15,SNR=6.2						
WRA	**Warramunga Arr**	**44.25**	**262**	P	P	16 07 30.4	-0.6
	0.5nm,0.3s,baz=96,slow=7.6,SNR=11						
MJAR	**Matsushiro Arr**	**69.98**	**324**	P	P	16 10 26.3	-0.1
	0.6nm,0.6s,baz=158,slow=6.7,SNR=3.0						
PETK	**Petropavlovsk-**	**76.16**	**345**	P	P	16 11 01.1	-0.2
	1.4nm,0.7s,baz=150,slow=9.2,SNR=3.9						
NVAR	**Mina Array Bea**	**81.26**	**44**	P	P	16 11 29.4	+0.3
	0.6nm,0.7s,baz=221,slow=9.5,SNR=4.9						
ILAR	**Eielson Array**	**88.38**	**13**	P	P	16 12 02.2	-0.6
	1.5nm,0.9s,baz=214,slow=5.6,SNR=6.4						
PDAR	**Pinedale Array**	**89.19**	**43**	P	P	16 12 07.2	-0.2
	0.5nm,0.7s,baz=191,slow=3.3,SNR=3.9						
MKAR	**Makanchi Array**	**110.93**	**313**	PKiKP	PKiKP	16 17 40.1	-0.6
	0.4nm,0.7s,baz=56,slow=0.4,SNR=5.4						
ARCES	**ARCESS Array B**	**128.84**	**349**	PKP	PKPdf	16 18 14.0	-0.3
	0.6nm,0.5s,baz=274,slow=1.9,SNR=4.3						
BRTR	**Keskin Array B**	**146.56**	**312**	PKPbc	PKPbc	16 18 50.0	-0.1
	1.1nm,0.4s,baz=132,slow=4.9,SNR=5.7						
CLL	**Collm**	**147.96**	**346**	*i* P	PKPbc	16 18 53.3	+0.1
	comp=Z,6.0nm,0.7s						
GERES	**GERESS Array B**	**150.09**	**344**	PKPbc	PKPbc	16 18 58.3	-0.3
	comp=Z,0.9nm,0.6s,baz=15,slow=1.5,SNR=8.4						

IDC 21 16:07:53.2±8.2,2°.60N×127°.36E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.4/21,mbtmp3.6/4,Error ellipse: s-maj=134.9km s-min=100.0km az=137.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.64**	**185**	P	P	16 12 35.0	+0.5
	1.5nm,0.9s,baz=11,slow=16,SNR=2.7						
WRA	**Warramunga Arr**	**23.42**	**163**	P	P	16 13 03.2	-1.0
	1.2nm,0.5s,baz=341,slow=10,SNR=7.2						
ASAR	**Alice Springs**	**26.87**	**167**	P	P	16 13 36.1	+0.3
	0.2nm,0.5s,baz=347,slow=9.0,SNR=9.3						
STKA	**Stephens Creek**	**36.85**	**160**	P	P	16 15 03.4	0.0
	2.1nm,0.9s,baz=345,slow=12,SNR=2.9						

IDC 21 16:25:51.9±9.8,22°.91S×178°.17W,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.8/19,mbtmp3.9/4,Error ellipse: s-maj=318.6km s-min=88.7km az=140.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.87**	**259**	P	P	16 34 00.1	-0.3
	1.0nm,1.0s,baz=90,slow=8.5,SNR=11						
WRA	**Warramunga Arr**	**44.16**	**265**	P	P	16 34 02.1	-0.6
	0.8nm,0.6s,baz=104,slow=8.4,SNR=7.1						
FITZ	**Fitzroy Crossi**	**52.59**	**264**	P	P	16 35 08.4	+0.6
	1.5nm,0.9s,baz=101,slow=10,SNR=3.1						
CMAR	**Chiang Mai Arr**	**90.77**	**290**	P	P	16 38 57.2	-0.2
	1.1nm,0.8s,baz=134,slow=3.2,SNR=7.5						

IDC 21 16:51:07.2±1.7,2°.09N×124°.88E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.4/22,mbtmp3.5/3,MS3.3/1,Ms1 3.3/1, ms1mx2.1/28,Error ellipse: s-maj=184.1km s-min=25.1km az=64.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.78**	**157**	P	P	16 56 20.8	-0.9
	0.4nm,0.3s,baz=335,slow=11,SNR=10						
PMG	**Port Moresby**	**24.96**	**118**	LR	LR	17 06 23.8	
	comp=Z,71nm,20.8s,baz=140,slow=37						
ASAR	**Alice Springs**	**27.07**	**162**	P	P	16 56 52.9	+1.3
	0.3nm,0.3s,baz=348,slow=13,SNR=20						
ASAR				PcP	PcP	17 00 11.9	-1.2
	0.2nm,0.6s,baz=352,slow=2.3,SNR=4.7						
MKAR	**Makanchi Array**	**57.87**	**327**	P	P	17 01 00.8	-0.1
	0.4nm,0.4s,baz=126,slow=8.3,SNR=5.5						

*ISCJB **21** 16:59:59.9±0.5,15°.33N±0°.05×92°.08W±0°.04,h177km±4km, mb4.0/5,Error ellipse: s-maj=9.1km s-min=4.6km az=40.8*
*CASC **21** 17:00:00.2±2.3,15°.44N×91°.82W,h182km±21km,MD3.8*
*MEX **21** 17:00:03.2±1.2,15°.26N×92°.26W,h172km±12km,MD4.1*
*IDC **21** 17:00:05.2±2.8,15°.41N×91°.51W,h194km±28km,mb3.6/5, mb1 3.9/8,mb1mx3.5/24,mbtmp3.7/8,MS3.1/1,Ms1 3.2/1, ms1mx2.5/27,Error ellipse: s-maj=34.4km s-min=11.2km az=62.0*
ISC 21 17:00:01.6±0.8,15°.30N±0°.06×92°.02W±0°.05,h172km±6km, n26,σ1s72/39,mb4.0/5,Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.46**	**212**	*e*P	**Pn**	**17 00 24.4**	**-0.9**
THIG				*i* S	**Sn**	**17 00 42.9**	**-0.6**
CCIG	**Comitan**	**0.99**	**353**	*e*P	**Pn**	**17 00 28.6**	**-0.1**
CCIG				*e*S	**Sn**	**17 00 49.5**	**-0.1**
JAT	**Jato**	**1.04**	**159**	*e*P	**Pn**	**17 00 29.1**	**+0.2**
FUG	**Fuego 3**	**1.42**	**126**	*e*P	**Pn**	**17 00 32.4**	**0.0**
PCG	**Pacaya**	**1.63**	**123**	*e*P	**Pn**	**17 00 35.0**	**+0.5**
PCG				*e*S	**Sn**	**17 01 01.7**	**+1.8**
NBG	**Las Nubes**	**1.76**	**113**	*e*P	**Pn**	**17 00 36.2**	**+0.4**
NBG				*e*S	**Sn**	**17 01 01.8**	**-0.5**
TGIG		**1.82**	**324**	*e*P	**Pn**	**17 00 36.0**	**-0.2**
TGIG				*i* S	**Sn**	**17 01 00.7**	**-2.4**
IXG	**Ixpaco**	**1.88**	**126**	*e*P	**Pn**	**17 00 37.4**	**+0.3**
IXG				*e*S	**Sn**	**17 01 04.9**	**+0.5**
MRL	**Marmol**	**2.26**	**96**	*e*P	**Pn**	**17 00 40.8**	**-0.5**
MRL				*e*S	**Sn**	**17 01 09.1**	**-2.8**
RBDL	**Robledal**	**2.54**	**117**	*e*P	**Pn**	**17 00 43.6**	**-1.0**
RBDL				*e*S	**Sn**	**17 01 18.3**	**+0.4**
SNJE	**San Jose**	**2.73**	**121**	*e*P	**Pn**	**17 00 45.7**	**-1.1**
SBLS	**San Blas**	**2.73**	**122**	*e*P	**Pn**	**17 00 45.4**	**-1.5**
SBLS				*e*S	**Sn**	**17 01 20.3**	**-1.8**
TUIG	**Tuzandepetl**	**3.57**	**320**	*i* P	**Pn**	17 00 54.0	-3.0
TUIG				*i* S	**Sn**	**17 01 35.4**	**-4.8**
SCIG	**Sabancuy**	**3.73**	**12**	*i* P	**Pn**	**17 00 57.9**	**-1.2**
SCIG				*i* S	**Sn**	**17 01 43.8**	**-0.2**
HUIG	**Huatulco**	**3.97**	**277**	*e*P	**Pn**	**17 01 00.7**	**-1.5**
HUIG				*i* S	Sn	17 01 43.4	-6.1
PNIG	**Pinotepa**	**5.98**	**281**	*e*P	**Pn**	**17 01 26.8**	**-1.6**
PNIG				*i* S	Sn	17 02 30.5	-6.0
TPIG	**Tehuac#an**	**5.99**	**302**	*i* P	**Pn**	**17 01 27.7**	**-0.9**
TPIG				*i* S	Sn	17 02 31.2	-5.6
TEIG	**Tepich**	**6.06**	**35**	P	**Pn**	**17 01 27.7**	**-1.6**
	13nm,0.3s,baz=232,slow=2.7,SNR=65						
TEIG				S	**Sn**	**17 02 34.5**	**-3.8**
	1.5nm,0.3s,baz=66,slow=21,SNR=5.0						
JTS	**JuntasAbangare**	**8.50**	**125**	P	**Pn**	**17 02 01.4**	**-0.3**
	5.1nm,0.3s,baz=323,slow=18,SNR=27						
JTS				S	**Sn**	**17 03 32.6**	**-4.0**
	2.8nm,0.3s,baz=114,slow=23,SNR=8.0						
TXAR	**Lajitas Array**	**17.62**	**324**	P	**Pn**	**17 03 59.4**	**+2.5**
	0.2nm,0.3s,baz=154,slow=12,SNR=20						
TKL	**Tuckaleechee C**	**21.58**	**19**	P	**P**	**17 04 38.9**	**+1.1**
	3.0nm,0.6s,baz=202,slow=13,SN

Ms1 4.1/23,ms1mx3.9/32,Error ellipse: s-maj=13.7km s-min=9.2km az=113.0

*ISCJB **21** 17:14:07.2±1.0,6˚52S±0.04×155˚03E±0.04,h56km±8km, mb5.1/91,MS4.1/33,Error ellipse: s-maj=7.1km s-min=5.9km az=169.7*

*AUST **21** 17:14:09.4,6˚54S×155˚17E,h60km*

*GCMT **21** 17:14:09.7±0.3,6˚82S×155˚01E,h38km,MW5.0,Moment Tensor Solution. s50,c59; s47,c61; Moment tensor: Scale 10¹⁶Nm; Mrr4.03±.19; Mθθ-3.40±.14; Mϕϕ-0.64±.14; Mrθ0.75±.15; Mθϕ1.80±.12; Mϕr-0.54±.15; Best double couple: M₀4.30000×10¹⁶ NP1:ϕ₁294.00000°,δ39.00000°, λ87.00000°. NP2:ϕ₂118.00000°,δ51.00000°,λ93.00000°. Principal axes: T 4.1300, Plg83.0000°, Azm46.0000°; N 0.2400, Plg2.0000°, Azm297.0000°; P -4.3900, Plg6.0000°, Azm206.0000°; Data Used: II IU CN IC G.*

*BJI **21** 17:14:09.5,6˚39S×155˚22E,h81km,mB5.0/34,mb4.8/45, Ms4.7/24,Ms7 4.3/24*

*DJA **21** 17:14:13.5±2.7,7˚5S±12˚×15˚5E±1˚7,h89km±16km, M5.0/17,mB5.5/5,mb5.1/17,Mw(mB)4.9/5*

ISC 21 17:14:08.1±0.4,**6˚54S**±0.04×**155˚07E**±0.05,**h56**km±3km, **h56km:pP-P,n324,**σ1**s43**/371,**mb5.0**/100,**MS4.1**/34,**5C-6D**, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.72**	**309**	P			Pn	17 15 07.5	+4.4
	baz=3.8,SNR=41								
HNR	**Honiara**	**5.62**	**121**	P			**Pn**	**17 15 31.7**	**+2.5**
HNR	**Honiara**	**5.62**	**121**	P			**Pn**	**17 15 31.7**	**+2.5**
	48nm,0.3s,baz=112,slow=0.6,SNR=16								
HNR				LR		LR	LR	17 17 20.8	
	comp=Z,986nm,21.4s,baz=284,slow=34								
PMG	**Port Moresby**	**8.33**	**250**	P			**Pn**	**17 16 05.1**	**-1.2**
PMG				eS			**Sn**	**17 17 40.9**	**+1.9**
PMG	**Port Moresby**	**8.33**	**250**	P			**Pn**	**17 16 08.0**	**+1.6**
	229nm,1.0s,2µm								
PMG	**Port Moresby**	**8.33**	**250**	P			**Pn**	**17 16 05.1**	**-1.2**
	11nm,0.3s,baz=60,slow=7.8,SNR=32								
PMG				LR		LR	LR	17 19 09.8	
	comp=Z,1µm,20.9s,baz=48,slow=36								
COEN	**Coen**	**13.82**	**237**	Pn			**Pn**	**17 17 20.8**	**-0.6**
	180nm,1.0s								
COEN	**Coen**	**13.82**	**237**	P			**P**	**17 17 25.1**	**-3.0**
	baz=14,SNR=4.7								
JAY	**Jayapura**	**14.86**	**285**	P			**Pn**	**17 17 36.1**	**+1.0**
	baz=15,SNR=4.4								
MTSU	**Mount Surprise**	**15.58**	**221**	P			**Pn**	**17 17 45.5**	**+1.2**
	baz=16,SNR=9.5								
CTA	**Charters Tower**	**15.95**	**212**	P			**Pn**	**17 17 49.6**	**+0.6**
CTA	**Charters Tower**	**15.95**	**212**	P			**Pn**	**17 17 49.6**	**+0.6**
	0.6nm,0.3s,baz=40,slow=14,SNR=9.4								
CTA				LR		LR	LR	17 22 49.2	
	comp=Z,578nm,20.0s,baz=130,slow=33								
CTAO	**Charters Tower**	**15.95**	**212**	*e*P			**Pn**	**17 17 49.5**	**+0.4**
CTAO				pmax		pmax			
	comp=Z,36nm,0.8s								
CTAO	**Charters Tower**	**15.95**	**212**	*e*P			**Pn**	**17 17 49.5**	**+0.4**
	comp=Z,36nm,0.8s								
DZM	**Mont Dzumac**	**18.95**	**146**	*e*P			**Pn**	**17 18 26.6**	**+0.6**
	comp=Z,83nm,1.1s								
DZM	**Mont Dzumac**	**18.95**	**146**	P			**Pn**	**17 18 26.2**	**+0.1**
DZM	**Mont Dzumac**	**18.95**	**146**	P			**Pn**	**17 18 26.2**	**+0.1**
	comp=Z,2.2nm,0.3s,baz=91,slow=24,SNR=8.7								
EIDS	**Eidsvold**	**19.10**	**191**	*e*P			**Pn**	**17 18 27.4**	**-0.4**
	comp=Z,26nm,1.0s								
EIDS	**Eidsvold**	**19.10**	**191**	P			**Pn**	**17 18 27.7**	**-0.1**
	baz=19,SNR=5.7								
RMQ	**Roma**	**20.72**	**196**	P			**P**	**17 18 45.3**	**+1.2**
	baz=21,SNR=16								
RKPI	**Ransiki, Papua**	**21.42**	**283**	P			P	17 19 00.8	+9.1
GUMO	**Guam**	**22.42**	**333**	*e*P			**P**	**17 19 00.7**	**-1.7**
	comp=Z,53nm,1.0s								
FAKI	**Fak Fak**	**23.02**	**278**	P			**P**	**17 19 09.7**	**+1.0**
	baz=23,SNR=4.2								
KDU	**Kakadu**	**23.09**	**253**	P			**P**	**17 19 09.9**	**+0.6**
	baz=23,SNR=11								
ARMA	**Armidale**	**23.97**	**187**	*e*P			**P**	**17 19 17.6**	**0.0**
	comp=Z,42nm,1.1s								
ARMA	**Armidale**	**23.97**	**187**	P			**P**	**17 19 18.3**	**+0.7**
	baz=24,SNR=4.8								
WRAB	**Tennant Creek**	**24.12**	**235**	P			**P**	**17 19 19.6**	**+0.7**
	comp=Z,222nm,1.5s,SNR=20								
WRAB	**Tennant Creek**	**24.12**	**235**	*e*P			**P**	**17 19 19.1**	**+0.2**
WRAB				pmax		pmax			
	comp=Z,41nm,0.7s								
WRAB	**Tennant Creek**	**24.12**	**235**	*e*P			**P**	**17 19 19.1**	**+0.2**
	comp=Z,41nm,0.7s								
WRA	**Warramunga Arr**	**24.13**	**235**	P			**P**	**17 19 19.3**	**+0.2**
WRA				pP		**pP**		**17 19 30.1**	**-2.9**
WRA				PcP		**PcP**		**17 22 59.8**	**+0.7**
WRA				pPcP				17 23 10.6	
WRA				S		**S**		**17 23 36.0**	**+2.7**
WRA	**Warramunga Arr**	**24.13**	**235**	P			**P**	**17 19 19.3**	**+0.2**
	comp=Z,13nm,0.8s,baz=57,slow=9.9,SNR=52								
WRA				pP		**pP**		**17 19 30.1**	**-2.9**
	comp=Z,39nm,0.7s,baz=57,slow=9.6,SNR=9.8								
WRA				PcP		**PcP**		**17 22 59.8**	**+0.7**
	comp=Z,8.9nm,0.6s,baz=60,slow=2.3,SNR=16								
WRA				pPcP				17 23 10.6	
	comp=Z,6.5nm,0.8s,baz=66,slow=2.6,SNR=8.0								
WRA				S		**S**		**17 23 36.0**	**+2.7**
	comp=Z,8.6nm,1.2s,baz=58,slow=16,SNR=6.6								
WRA				LR		LR	LR	17 28 38.8	
	comp=Z,446nm,18.4s,baz=50,slow=36								
MTN	**Manton Dam**	**24.40**	**253**	P			**P**	**17 19 22.0**	**+0.5**
	baz=24,SNR=6.7								
SWI	**Sorong**	**24.41**	**282**	P			**P**	**17 19 22.4**	**+0.8**
	comp=Z,102nm,0.9s,comp=Z,848nm								
SWI	**Sorong**	**24.41**	**282**	P			**P**	**17 19 22.4**	**+0.8**
	baz=24,SNR=7.1								
PALU	**Palau**	**24.74**	**304**	P			**P**	**17 19 25.4**	**+0.8**
	baz=25,SNR=3.6								
CMSA	**Cobar Meteorol**	**26.37**	**198**	P			**P**	**17 19 41.1**	**+1.9**
	baz=26,SNR=9.7								
AS31	**Alice Springs**	**26.52**	**228**	*e*P			**P**	**17 19 40.0**	**-0.8**
ASAR	**Alice Springs**	**26.52**	**228**	P			**P**	**17 19 40.4**	**-0.4**
ASAR				pP		**pP**		**17 19 51.9**	**-2.9**
ASAR				PcP		**PcP**		**17 23 05.1**	**+0.6**
ASAR				pPcP				17 23 15.7	
ASAR				ScP		**ScP**		**17 26 40.9**	**+1.0**
ASAR	**Alice Springs**	**26.52**	**228**	P			**P**	**17 19 40.4**	**-0.4**
	comp=Z,8.0nm,0.8s,baz=60,slow=8.7,SNR=117								
ASAR				pP		**pP**		**17 19 51.9**	**-2.9**
	comp=Z,8.9nm,0.4s,baz=57,slow=9.1,SNR=19								
ASAR				PcP		**PcP**		**17 23 05.1**	**+0.6**
	comp=Z,6.6nm,0.8s,baz=63,slow=2.7,SNR=13								
ASAR				pPcP				17 23 15.7	
	comp=Z,4.0nm,0.7s,baz=54,slow=3.0,SNR=7.2								
ASAR				ScP		**ScP**		**17 26 40.9**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=52,slow=4.8,SNR=4.8								
ASAR				LR		LR	LR	17 30 00.1	
	comp=Z,351nm,19.7s,baz=141,slow=36								
KNRA	**Kununurra**	**27.33**	**248**	P			**P**	**17 19 48.1**	**+0.1**
	baz=27,SNR=15								
LBMI	**Labuha**	**28.12**	**281**	P			**P**	**17 19 56.6**	**+1.5**
	comp=Z,113nm,0.9s,comp=Z,1µm								
STKA	**Stephens Creek**	**28.17**	**205**	*e*P			**P**	**17 19 54.4**	**-1.0**
	comp=Z,3.4nm,0.9s								
STKA				PcP		**PcP**		**17 23 07.8**	**-0.5**
STKA	**Stephens Creek**	**28.17**	**205**	P			**P**	**17 19 54.9**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=33,slow=13,SNR=7.1								
STKA				PcP		**PcP**		**17 23 07.8**	**-0.5**
	comp=Z,8.9nm,0.9s,baz=47,slow=3.5,SNR=5.3								
STKA				LR		LR	LR	17 31 07.5	
	comp=Z,560nm,19.3s,baz=31,slow=36								
STKA	**Stephens Creek**	**28.17**	**205**	P			P	17 20 06.8	+11
	baz=28,SNR=5.0								
FITZ	**Fitzroy Crossi**	**30.90**	**245**	P			**P**	**17 20 19.3**	**-0.4**
FITZ				PcP		**PcP**		**17 23 15.3**	**-0.1**
FITZ				pPcP				17 23 26.6	
FITZ	**Fitzroy Crossi**	**30.90**	**245**	P			**P**	**17 20 19.3**	**-0.4**
	comp=Z,9.3nm,0.7s,baz=79,slow=8.1,SNR=24								
FITZ				PcP		**PcP**		**17 23 15.3**	**-0.1**
	comp=Z,12nm,0.9s,baz=98,slow=4.3,SNR=5.8								
FITZ				pPcP				17 23 26.6	
	comp=Z,7.9nm,0.8s,baz=126,slow=7.3,SNR=4.0								
FITZ				LR		LR	LR	17 33 14.7	
	comp=Z,444nm,19.4s,baz=76,slow=37								
FITZ	**Fitzroy Crossi**	**30.90**	**245**	P			**P**	**17 20 19.4**	**-0.4**
	baz=31,SNR=9.7								
BBOO	**Buckleboo**	**31.55**	**212**	P			P	17 20 36.5	+11
	baz=32,SNR=5.8								
DAV	**Davao City (W)**	**32.38**	**294**	LR		LR	LR	17 31 34.3	
	comp=Z,167nm,21.8s,baz=6.3,slow=32								
MMRI	**Maumere**	**32.60**	**264**	P			**P**	**17 20 34.8**	**+0.1**
	comp=Z,73nm,1.4s,comp=Z,855nm								
LUWI	**Luwuk**	**32.67**	**278**	P			**P**	**17 20 36.9**	**+1.5**
	baz=33,SNR=3.6								
GTOI	**Gorontalo**	**32.78**	**281**	P			**P**	**17 20 37.5**	**+1.2**
	comp=Z,93nm,0.9s,comp=Z,861nm								
AFI	**Afiamalu**	**33.41**	**105**	LR		LR	LR	17 30 38.9	
	comp=Z,222nm,21.5s,baz=276,slow=30								
RAO	**Raoul Island**	**34.05**	**135**	LR		LR	LR	17 32 01.1	
	comp=Z,242nm,20.6s,baz=349,slow=32								
BSSI	**Bau Bau, Buton**	**34.36**	**269**	P			**P**	**17 20 51.3**	**+1.2**
KAPI	**Kappang**	**35.16**	**271**	P			**P**	**17 20 56.4**	**-0.6**
KAPI	**Kappang**	**35.16**	**271**	P			**P**	**17 20 56.4**	**-0.6**
	comp=Z,7.5nm,0.7s,baz=61,slow=5.1,SNR=4.0								
MBWA	**Marble Bar**	**37.14**	**243**	P			**P**	**17 21 13.3**	**-0.4**
URZ	**Urewera**	**37.36**	**151**	*e*P			**P**	**17 21 16.0**	**+0.6**
URZ	**Urewera**	**37.36**	**151**	P			**P**	**17 21 16.0**	**+0.6**
	comp=Z,10nm,0.5s,baz=121,slow=3.4,SNR=6.6								
SDKM	**Sandakan**	**39.69**	**287**	P			**P**	**17 21 36.3**	**+0.9**
MEEK	**Meekatharra**	**40.02**	**236**	P			**P**	**17 21 38.1**	**+0.2**
	baz=40,SNR=6.7								
KKM	**Kota Kinabalu**	**40.74**	**287**	*e*P			**P**	**17 21 44.5**	**+0.4**
	comp=Z,34nm,0.8s								
KKM	**Kota Kinabalu**	**40.74**	**287**	P			**P**	**17 21 44.5**	**+0.4**
KKM	**Kota Kinabalu**	**40.74**	**287**	P			**P**	**17 21 44.6**	**+0.5**
	baz=41,SNR=11								
KLBR	**Kellerberrin**	**42.83**	**230**	P			**P**	**17 22 00.3**	**-0.5**
	baz=43,SNR=8.3								
MORW	**Morawa**	**43.08**	**234**	P			P	17 22 07.9	+5.0
	baz=43,SNR=3.6								
SBUM	**Sibu**	**43.70**	**280**	P			**P**	**17 22 09.9**	**+1.8**
NWAO	**Narrogin (SRO)**	**43.84**	**228**	LR		LR	LR	17 39 29.3	
	comp=Z,366nm,21.0s,baz=31,slow=35								
UGM	**Wanagama**	**44.20**	**265**	P			P	17 22 16.2	+4.0
	baz=44,SNR=3.0								
NACB	**Ninganchiao**	**44.70**	**314**	*e*P			**P**	**17 22 16.0**	**+0.1**
	comp=Z,23nm,0.8s								
TPUB	**Ta-pu**	**44.86**	**313**	*e*P			**P**	**17 22 16.6**	**-0.6**
	comp=Z,14nm,0.6s								
SSLB	**Suanglung**	**44.92**	**313**	*e*P			**P**	**17 22 17.3**	**-0.4**
	comp=Z,19nm,0.8s								
YHNB	**Yeheng**	**45.16**	**315**	*e*P			**P**	**17 22 20.0**	**+0.3**
KSM	**Kuching**	**45.38**	**279**	*e*P			**P**	**17 22 20.4**	**-1.1**
	comp=Z,31nm,1.4s								
KSM	**Kuching**	**45.38**	**279**	P			**P**	**17 22 21.3**	**-0.2**
KSM	**Kuching**	**45.38**	**279**	P			**P**	**17 22 22.9**	**+1.4**
	baz=46,SNR=4.0								
JNU	**Nakatsue**	**45.65**	**331**	P			**P**	**17 22 22.9**	**-0.4**
JNU	**Nakatsue**	**45.65**	**331**	P			**P**	**17 22 22.9**	**-0.4**
	comp=Z,9.5nm,0.7s,baz=64,slow=2.8,SNR=4.4								
MJAR	**Matsushiro Arr**	**45.68**	**341**	P			**P**	**17 22 23.1**	**-0.4**
MJAR	**Matsushiro Arr**	**45.68**	**341**	P			**P**	**17 22 23.1**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=172,slow=8.5,SNR=8.2								
CISI	**Cisompet, Garu**	**46.89**	**266**	P			**P**	**17 22 32.6**	**-0.9**
	baz=47,SNR=9.8								
KSRS	**Korea Array**	**50.58**	**332**	P			**P**	**17 23 01.2**	**0.0**
	comp=Z,5.0nm,0.8s,baz=149,slow=8.4,SNR=21								
KSRS				LR		LR	LR	17 42 39.4	
	comp=Z,56nm,21.3s,baz=318,slow=34								
KSAR	**Wonju Array Be**	**50.58**	**332**	P			**P**	**17 23 01.2**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**51.03**	**351**	*d*	*i*P		**P**	**17 23 05.1**	**+0.6**
YUK					*i* PPP		PPP	17 26 02.2	
YUK					*i* S		S	17 30 11.3	-6.4
YUK					MLR		MLR		
	comp=E,2µm,19.0s								
YUK					MLR		MLR		
	comp=Z,208nm,19.0s								
QIZ	**Qiongzhong**	**51.29**	**301**	P			**P**	**17 23 08.3**	**+1.3**
QIZ				sP		sP		17 23 36.8	+8.5
QIZ				S		**S**		**17 30 21.9**	**-0.3**
QIZ				sS		sS		17 30 55.5	+8.2
QIZ				LR		LR			
	comp=Z,150nm,20.4s								
QIZ	**Qiongzhong**	**51.29**	**301**	*e*P			**P**	**17 23 08.1**	**+1.1**
NJ2	**Nanjing**	**51.62**	**320**	*e*P			**P**	**17 23 10.4**	**+1.3**
NJ2				pP		pP		17 23 30.5	+6.4
NJ2				sP		sP		17 23 39.8	+9.3
NJ2				PP		**PP**		**17 25 08.6**	**+1.4**
NJ2				S		**S**		**17 30 27.0**	**+0.8**
NJ2				sS		sS		17 31 01.0	+10
NJ2				pmax		pmax			
	comp=Z,20nm,0.5s								
NJ2				LR		LR			
	comp=N,330nm,16.2s								
NJ2				LR		LR			
	comp=E,110nm,12.5s								
NJ2				LR		LR			
	comp=Z,180nm,10.4s								
ASAJ	**Asahikawa**	**51.67**	**349**	P			**P**	**17 23 09.8**	**+0.5**
ASAJ	**Asahikawa**	**51.67**	**349**	P			**P**	**17 23 09.8**	**+0.5**
	comp=Z,8.3nm,0.6s,baz=157,slow=16,SNR=10								
KGM	**Kluang**	**52.35**	**278**	P			**P**	**17 23 15.6**	**+0.6**
WHN	**Wuhan**	**53.67**	**316**	⇓P			**P**	**17 23 25.3**	**+0.9**
FRIM	**Kepong**	**54.23**	**279**	P			**P**	**17 23 29.3**	**+0.5**
USRK	**Ussuriysk Arra**	**54.63**	**340**	P			**P**	**17 23 31.3**	**+0.2**
	comp=Z,4.9nm,0.8s,baz=168,slow=9.8,SNR=9.2								
USRK				LR		LR	LR	17 42 30.2	
	comp=Z,83nm,20.7s,baz=167,slow=31								
IPM	**Ipoh**	**55.05**	**280**	*e*P			**P**	**17 23 34.2**	**-0.5**
	comp=Z,26nm,0.8s								
IPM					*e*PcP		**PcP**	**17 24 36.2**	**+0.3**
PPT	**Papeete**	**55.06**	**107**	LR		LR	LR	17 41 26.8	
	comp=Z,141nm,20.5s,baz=162,slow=30								
PPT2	**Papeete2**	**55.06**	**107**	*e*S		S		17 31 21.3	+7.6
	comp=Z,72nm,25.2s								
PPT2					*e*LQ	LQ		17 37 24.9	
	comp=Z,254nm,26.8s								
PPT2					*e*LR	LR		17 39 47.1	
	comp=Z,139nm,22.5s								
PANO	**Nakornpanom**	**55.13**	**296**	P			**P**	**17 23 36.3**	**+1.1**
	comp=Z,527nm,0.7s								
KULM	**Kulim**	**55.57**	**281**	*e*P			**P**	**17 23 37.5**	**-0.9**
	comp=Z,16nm,0.8s								
KULM	**Kulim**	**55.57**	**281**	P			**P**	**17 23 38.2**	**-0.3**
SKNT	**Sakolnakorn**	**55.64**	**296**	P			**P**	**17 23 39.7**	**+0.8**
	comp=Z,45nm,1.1s								
TBI	**Tubuai**	**55.79**	**114**	*e*LR		LR	LR	17 39 57.3	
	comp=Z,359nm,25.2s								
MDJ	**Mudanjiang**	**55.85**	**338**	P			**P**	**17 23 41.9**	**+2.0**
MDJ				pP		pP		17 24 01.8	+6.8
MDJ				sP		sP		17 24 11.0	+10
MDJ				pmax		pmax			
	comp=Z,7.0nm,1.0s								
MDJ				pmax		pmax			
	comp=Z,57nm,3.6s								
CN2	**Changchun**	**56.82**	**335**	*e*P			**P**	**17 23 46.4**	**-0.4**
CN2				*e*sP		sP		17 24 14.3	+6.0
CN2				*e*PP		**PP**		**17 25 55.8**	**+2.1**
CN2				*e*S		**S**		**17 31 33.3**	**-2.7**
CN2				*e*SS		**SS**		**17 35 23.9**	**-1.2**
CN2				pmax		pmax			
	comp=Z,10.0nm,1.1s								
CN2				pmax		pmax			
	comp=Z,200nm,4.0s								
CN2				LR		LR			
	comp=N,200nm,16.0s								
CN2				LR		LR			
	comp=E,200nm,16.0s								
CN2				LR		LR			
	comp=Z,200nm,17.0s								
ENH	**Enshi**	**56.99**	**313**	P			**P**	**17 23 48.2**	**-0.1**
	comp=Z,11nm,0.8s								
NAYO	**Nakonayok**	**57.20**	**292**	P			**P**	**17 23 51.5**	**+1.5**
	comp=Z,232nm,0.7s								
GYA	**Guiyang**	**57.24**	**307**	⇑	*i*P		**P**	**17 23 52.8**	**+2.5**
GYA					pP		pP	17 24 15.6	+10
GYA					PcP		**PcP**	**17 24 45.3**	**+1.1**
GYA					ScP		**ScP**	**17 28 35.6**	**-3.8**
GYA					PcS		**PcS**	**17 28 45.8**	**+0.3**
GYA					S		**S**	**17 31 41.0**	**-1.4**
GYA					sS		sS	17 32 17.5	+10
GYA					SS		**SS**	**17 35 32.8**	**+0.3**
GYA					pmax		pmax		
	comp=Z,20nm,1.0s								
GYA					pmax		pmax		
	comp=Z,120nm,5.3s								
GYA					LR		LR		
	comp=N,560nm,20.5s								
GYA					LR		LR		
	comp=E,430nm,21.4s								
GYA					LR		LR		
	comp=Z,530nm,20.8s								
HABR	**Khabarovsk**	**57.54**	**344**	*e*P			**P**	**17 23 50.7**	**-1.0**
HABR								17 24 42.7	
HABR					*e*			17 25 59.0	
HABR							S	**S**	**17 31 43.4**	**-1.8**
HABR					*e*			17 33 32.5	
HABR					*e*SS		**SS**	**17 35 35.7**	**-0.5**
HABR					pmax		pmax		
	comp=Z,30nm,2.3s								
HABR					pmax		pmax		
	comp=E,33nm,2.3s								
HABR					pmax		pmax		
	comp=N,17nm,1.8s								
HABR					MLR		MLR		
	comp=Z,46nm,16.0s								
PBKT	**Sadao Pong**	**58.22**	**294**	P			P	**17 23 58.3**	**+1.2**
	comp=Z,26nm,1.0s								
LOEI	**Loei**	**58.26**	**295**	P			P	**17 23 55.7**	**-1.7**
	comp=Z,95nm,0.8s								
PHET	**Kaeng Krachan**	**58.37**	**289**	P			P	**17 24 00.0**	**+1.8**
	comp=Z,82nm,1.1s								
BJI	**Beijing**	**58.59**	**326**	P			P	**17 24 01.8**	**+2.5**
BJI				pmax		pmax			
	comp=Z,15nm,0.8s								
BJI				LR		LR			
	comp=N,79nm,10.6s								
BJI				LR		LR			
	comp=E,110nm,14.5s								
BJI				LR		LR			
	comp=Z,72nm,23.0s								
KLR	**Kul'dur**	**59.16**	**342**	*e*P			**P**	**17 24 00.0**	**-3.1**
NANT	**Nan**	**59.20**	**296**	P			**P**	**17 24 04.7**	**+0.8**
	comp=Z,316nm,0.8s,comp=Z,3µm								
PET	**Petropavlovsk**	**59.42**	**3**	*e*P			**P**	**17 24 05.6**	**+0.9**
PET				pmax		pmax			
	comp=Z,33nm,0.7s								
XAN	**Xi'an**	**59.43**	**316**	P			**P**	**17 24 04.8**	**-0.6**
XAN				pP		**pP**		**17 24 23.3**	**+2.7**
XAN				sP		sP		17 24 32.4	+5.5
XAN				S		S		17 31 57.1	-14
XAN				SS		SS		17 35 59.1	-7.6
XAN				pmax		pmax			
	comp=Z,2.0nm,0.7s								
XAN				pmax		pmax			
	comp=Z,25nm,4.5s								
PEA0B	**Petropavlovsk-**	**59.47**	**2**	*e*P			**P**	**17 24 05.3**	**+0.2**
PETK	**Petropavlovsk-**	**59.47**	**2**	P			**P**	**17 24 06.3**	**+1.2**
PETK				*PP		**pP**		**17 24 18.3**	**-2.1**
PETK	**Petropavlovsk-**	**59.47**	**2**	P			**P**	**17 24 06.3**	**+1.2**
PETK				pP		**pP**		**17 24 18.3**	**-2.1**
PETK	**Petropavlovsk-**	**59.47**	**2**	P			**P**	**17 24 06.3**	**+1.2**
	comp=Z,13nm,0.6s,baz=168,slow=8.1,SNR=24								
PETK				pP		**pP**		**17 24 18.3**	**-2.1**
	comp=Z,18nm,1.0s,baz=164,slow=7.4,SNR=7.5								
PETK				LR		LR		17 45 27.4	
	comp=Z,109nm,21.6s,baz=173,slow=32								
KMI	**Kunming**	**59.83**	**304**	P			**P**	**17 24 10.4**	**+2.0**
KMI				S		**S**		**17 32 15.3**	**-1.0**
KMI				SS		**SS**		**17 36 14.5**	**+1.0**
KMI				pmax		pmax			
	comp=Z,25nm,1.1s								
KMI				pmax		pmax			
	comp=Z,74nm,4.8s								
KMI				LR		LR			
	comp=N,72nm,19.5s								
KMI				LR		LR			
	comp=E,110nm,23.1s								
KMI				LR		LR			
	comp=Z,190nm,19.1s								
CRAI	**Chiangrai**	**59.98**	**298**	P			P	17 24 12.6	+3.3
	comp=Z,95µm,1.2s								
LAMP	**Lampang**	**60.06**	**296**	P			**P**	**17 24 11.0**	**+1.1**
	comp=Z,43nm,0.7s,comp=Z,310nm								
PAYA	**Payao**	**60.12**	**297**	P			**P**	**17 24 11.2**	**+0.8**
	comp=Z,38nm,0.8s,comp=Z,264nm								
CMAR	**Chiang Mai Arr**	**60.66**	**295**	P			**P**	**17 24 15.3**	**+1.3**
CMAR	**Chiang Mai Arr**	**60.66**	**295**	P			**P**	**17 24 15.3**	**+1.3**
	comp=Z,45nm,0.8s,baz=119,slow=5.1,SNR=279								
CMAR				LR		LR	LR	17 49 53.0	
	comp=Z,53nm,20.7s,baz=125,slow=35								
CMMT	**Chiang Mai**	**60.77**	**296**	P			**P**	**17 24 15.3**	**+0.6**
	comp=Z,45nm,1.0s								
CHTO	**Chiang Mai**	**60.77**	**296**	*e*P			**P**	**17 24 15.6**	**+0.9**
CHTO				pmax		pmax			
	comp=Z,37nm,0.9s								
CHTO	**Chiang Mai**	**60.77**	**296**	*e*P			**P**	**17 24 15.6**	**+0.9**
	comp=Z,38nm,0.9s								
CHTO	**Chiang Mai**	**60.77**	**296**	P			**P**	**17 24 15.6**	**+0.9**
	comp=Z,50nm,1.1s								
CMAI	**Chiengmai2**	**61.05**	**297**	P			**P**	**17 24 17.8**	**+1.0**
	comp=Z,91nm,1.3s,comp=Z,5µm								
FX1	**Attu Island--F**	**61.16**	**12**	P			**P**	**17 24 18.0**	**+1.3**
FX1	**Attu Island--F**	**61.16**	**12**	P			**P**	**17 24 18.0**	**+1.3**
	comp=Z,34

comp=Z,4.5nm,0.8s,baz=334,slow=6.4,SNR=18
VNDA LR LR 17 49 57.7
comp=Z,100nm,19.7s,baz=360,slow=30
LSA Lhasa 71.08 304 *e*P **P 17 25 22.3 +0.9**
LSA pmax pmax
comp=Z,8.0nm,0.6s
LSA Lhasa 71.08 304 *e*P **P 17 25 22.3 +0.9**
comp=Z,7.7nm,0.6s
ZAK Zakamensk 72.15 328 *e*P **P 17 25 26.2 -0.8**
ZAK pmax pmax
comp=Z,9.0nm,1.0s
TAPN Taplejung 73.23 301 *e*P **P 17 25 35.1 +1.0**
comp=Z,55nm,0.9s
ODAN Odare 73.37 300 *e*P **P 17 25 35.3 +0.5**
comp=Z,84nm,0.6s
MOY Mondy 74.07 328 *e*P **P 17 25 38.8 +0.5**
RAMN Ramite 74.07 300 *e*P **P 17 25 39.7 +0.7**
JIRN Jiri 74.61 301 *e*P **P 17 25 42.6 +0.3**
comp=Z,34nm,0.7s
GUN Gumba 74.95 301 *e*P **P 17 25 45.2 +1.0**
comp=Z,73nm,0.7s
PKI Pulchoki 75.26 301 *e*P **P 17 25 46.5 +0.5**
PKIN Phulchoki 75.27 301 *e*P **P 17 25 46.8 +0.9**
comp=Z,42nm,1.1s
KKN Kakani 75.42 301 *e*P **P 17 25 46.8 0.0**
comp=Z,33nm,0.7s
PALK Pallekele 75.44 279 *e*P **P 17 25 47.4 +0.5**
DMN Daman 75.53 301 *e*P **P 17 25 47.7 +0.3**
comp=Z,58nm,0.8s
KOLN Koldanda 76.86 300 *e*P **P 17 25 54.8 -0.1**
comp=Z,58nm,0.9s
DANN Dangsing 76.87 301 *e*P **P 17 25 55.4 +0.3**
comp=Z,25nm,0.6s
HVS Khovu-Aksy 77.76 326 *d i*P **P 17 25 59.6 +0.3**
HVS pmax pmax
comp=Z,81nm,1.1s
WMQ Urumqi 78.55 317 P **P 17 26 05.1 +1.3**
WMQ PcP **PcP 17 26 14.3 +1.6**
WMQ pP pP 17 26 25.3 +5.7
WMQ sP sP 17 26 33.8 +8.0
WMQ PP **PP 17 29 05.6 +3.4**
WMQ S **S 17 35 53.8 -2.4**
WMQ SKS **SKSac 17 36 08.0 -6.2**
WMQ ScS **SKKSac 17 36 15.8 +0.4**
WMQ sS sS 17 36 28.8 +5.9
WMQ SS **SS 17 41 01.3 +0.3**
WMQ pmax pmax
comp=Z,9.0nm,0.5s
WMQ pmax pmax
comp=Z,130nm,4.3s
WMQ LR LR
comp=N,42nm,20.1s
WMQ LR LR
comp=E,44nm,29.6s
WMQ LR LR
comp=Z,59nm,24.9s
HYB Hyderabad 79.19 289 *i*P **P 17 26 07.0 -0.8**
PMR Palmer 80.35 24 *e*P **P 17 26 12.9 -0.2**
PMR pmax pmax
comp=Z,18nm,0.8s
PMR Palmer 80.35 24 *e*P **P 17 26 12.9 -0.2**
comp=Z,18nm,0.8s
KRAR Krasnoyarsk 80.41 330 *i*P **P 17 26 13.2 -0.3**
KRAR pmax pmax
comp=Z,11nm,0.7s
SML Sawmill 80.79 24 *e*P **P 17 26 16.3 +0.8**
SML pmax pmax
comp=Z,7.0nm,0.7s
SML Sawmill 80.79 24 *e*P **P 17 26 16.3 +0.8**
comp=Z,7.4nm,0.7s
DIV Divide 81.48 25 *e*P **P 17 26 19.7 +0.4**
comp=Z,11nm,0.6s
MCK McKinley 81.61 22 *e*P **P 17 26 19.8 0.0**
MCK pmax pmax
comp=Z,15nm,0.7s
MCK McKinley 81.61 22 *e*P **P 17 26 19.8 0.0**
comp=Z,15nm,0.7s
BMRM Bremner River 81.89 25 *e*P **P 17 26 22.3 +0.9**
comp=Z,20nm,1.1s
COLA College 82.64 21 *e*P **P 17 26 24.8 -0.3**
COLA pmax pmax
comp=Z,23nm,0.6s
COLA College 82.64 21 *e*P **P 17 26 24.8 -0.3**
comp=Z,23nm,0.6s
ILAR Eielson Array 82.93 21 P **P 17 26 26.1 -0.6**
ILAR Eielson Array 82.93 21 P **P 17 26 26.1 -0.6**
comp=Z,2.1nm,0.4s,baz=239,slow=6.0,SNR=25
ILAR LR LR 17 58 36.4
comp=Z,245nm,21.2s,baz=52,slow=32
MKAR Makanchi Array 83.11 319 *ce*P **P 17 26 28.1 0.0**
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MKAR Makanchi Array 83.11 319 P **P 17 26 28.1 0.0**
MKAR Makanchi Array 83.11 319 P **P 17 26 28.1 0.0**
comp=Z,6.5nm,0.8s,baz=106,slow=5.3,SNR=59
MKAR LR LR 18 05 47.5
comp=Z,33nm,18.0s,baz=172,slow=37
COLD Coldfoot 83.16 19 *e*P **P 17 26 28.6 +0.7**
comp=Z,2.2nm,0.7s
MENT Mentasta 83.21 24 *e*P **P 17 26 29.4 +1.2**
QSPA South Pole Qui 83.43 180 *e*P **P 17 26 29.6 +0.2**
comp=Z,29nm,0.8s
ZALV Zalesovo Beam 83.85 326 *i*P **P 17 26 30.6 -1.0**
ZALV pmax pmax
comp=Z,5.0nm,0.7s
ZALV Zalesovo Beam 83.85 326 P **P 17 26 30.6 -1.0**
ZALV Zalesovo Beam 83.85 326 P **P 17 26 30.6 -1.0**
comp=Z,4.5nm,0.7s,baz=107,slow=5.6,SNR=18
MAW Mawson 84.84 203 P **P 17 26 36.7 +0.3**
MAW Mawson 84.84 203 P **P 17 26 36.7 +0.3**
comp=Z,6.7nm,0.6s,baz=78,slow=6.1,SNR=14
MAW Mawson 84.84 203 P **P 17 26 36.8 +0.4**
baz=85,SNR=11
EGAK Eagle 85.08 23 *e*P **P 17 26 38.5 +0.9**
comp=Z,11nm,0.8s
KSH Kashi 85.78 310 P **P 17 26 44.1 +2.3**
KSH pP pP 17 27 05.5 +7.7
KSH sP sP 17 27 13.8 +10
KSH PP PP 17 30 07.5 +5.6
KSH SKS **SKSac 17 37 00.6 -2.4**
KSH S **SKKSac 17 37 09.5 -0.7**
KSH sS sS 17 37 46.8 +9.1
KSH SS **SS 17 42 52.9 +4.2**
KSH pmax pmax
comp=Z,15nm,1.5s
KSH pmax pmax
comp=Z,88nm,4.6s
KSH LR LR
comp=N,240nm,10.1s
KSH LR LR
comp=E,180nm,7.3s
KSH LR LR
comp=Z,240nm,5.9s
WRAK Wrangell Islan 85.92 32 *e*P **P 17 26 43.2 +1.3**
comp=Z,32nm,1.4s
BBB Bella Bella 87.12 37 LR LR 18 01 09.6
comp=Z,189nm,18.9s,baz=262,slow=32
AAK Ala-Archa 87.50 313 *i*P **P 17 26 50.3 +0.1**
AAK pmax pmax
comp=Z,3.0nm,0.7s
YBH Yreka Blue Hor 88.54 48 *e*P **P 17 26 56.2 +1.1**
comp=Z,3.3nm,0.9s
KKAR Karatay Array 90.46 313 *e*P **P 17 27 04.3 +0.3**
KKAR Karatay Array 90.46 313 *e*P **P 17 27 04.3 +0.3**
comp=Z,0.5nm,0.5s
CIS Catalina Islan 90.67 57 P **P 17 27 06.5 +1.3**
baz=91
ISA Isabella 90.90 54 P **P 17 27 07.7 +1.4**
baz=91
MWC Mount Wilson 91.06 56 *e*P **P 17 27 08.4 +1.2**
MWC pmax pmax
comp=Z,26nm,1.0s
MWC Mount Wilson 91.06 56 *e*P **P 17 27 08.4 +1.2**
comp=Z,26nm,1.0s
EDW2 Edwards Air Fo 91.20 55 P **P 17 27 09.0 +1.4**
baz=91
NVAR Mina Array Bea 91.39 52 P **P 17 27 10.3 +1.7**
NVAR Mina Array Bea 91.39 52 P **P 17 27 10.3 +1.7**
comp=Z,6.8nm,0.8s,baz=254,slow=6.5,SNR=42
NVAR LR LR 18 00 18.5
comp=Z,118nm,21.7s,baz=317,slow=30
BFSC Mount Baldy Ra 91.39 56 P **P 17 27 09.7 +1.1**
baz=92
NV11 Mina Array Sit 91.50 52 *e*P **P 17 27 10.2 +1.1**
MPMC Manual Prospec 91.74 54 P **P 17 27 11.6 +1.3**
baz=92

GRAC Grapevine Rang 91.95 53 P **P 17 27 12.8 +1.7**
baz=92
BRVK Borovoye 92.05 323 *i*P **P 17 27 09.3 -1.7**
BRVK pmax pmax
comp=Z,2.0nm,1.1s
GSC Goldstone 92.21 55 *e*P **P 17 27 12.7 +0.3**
GSC pmax pmax
comp=Z,5.0nm,1.0s
GSC Goldstone 92.21 55 *e*P **P 17 27 12.7 +0.3**
comp=Z,5.2nm,1.0s
GSC Goldstone 92.21 55 P **P 17 27 13.3 +0.9**
baz=92
MONP Monument Peak 92.26 57 P **P 17 27 14.1 +1.2**
baz=92
FURC Furnace Creek, 92.30 54 P **P 17 27 14.2 +1.7**
baz=92
PFO Pinyon Flat Ob 92.31 57 P **P 17 27 13.5 +0.6**
PFO Pinyon Flat Ob 92.31 57 P **P 17 27 13.5 +0.6**
comp=Z,5.4nm,0.7s,baz=292,slow=2.6,SNR=10.0
PFO Pinyon Flat Ob 92.31 57 P **P 17 27 14.1 +1.2**
baz=92
BELC Belle Mtn. Jos 92.73 56 P **P 17 27 16.4 +1.6**
baz=93
SYO Syowa Base 92.77 199 ⇑*e*X P 17 27 10.3 -3.8
BMO Blue Mountains 92.88 45 *e*P **P 17 27 15.4 +0.2**
BMO pmax pmax
comp=Z,2.0nm,0.8s
BMO Blue Mountains 92.88 45 *e*P **P 17 27 15.4 +0.2**
comp=Z,2.2nm,0.8s
GMRC Granite Mounta 93.09 56 P **P 17 27 17.9 +1.4**
baz=93
BC3 Big Chuckawall 93.15 57 P **P 17 27 18.3 +1.6**
baz=93
IRM Iron Mountain 93.45 56 P **P 17 27 19.6 +1.6**
baz=94
R11A Troy Canyon, C 93.50 52 P **P 17 27 19.8 +1.4**
baz=94
E12A Beaver Dam Sad 94.25 44 P **P 17 27 21.9 +0.3**
baz=94
G12A Big Creek, Yel 94.31 45 P **P 17 27 22.1 +0.2**
baz=94
W13A Hualapai Mount 94.57 55 P **P 17 27 24.8 +1.4**
baz=95
BSMT Bassoo Peak 94.90 43 P **P 17 27 23.4 -1.2**
C13A Hot Springs 95.03 43 P **P 17 27 25.6 +0.6**
baz=95
CCUT Cedar City 95.18 53 *e*P **P 17 27 27.4 +1.2**
comp=Z,2.3nm,0.8s
YKA Yellowknife Ar 95.91 28 P **P 17 27 29.3 +0.8**
YKA pP **pP 17 27 40.5 -4.1**
YKA PKKPbc **PKKPbc 17 44 16.2 -3.6**
YKA Yellowknife Ar 95.91 28 P **P 17 27 29.3 +0.8**
comp=Z,12nm,0.8s,baz=268,slow=4.6,SNR=46
YKA pP **pP 17 27 40.5 -4.1**
comp=Z,3.8nm,0.9s,baz=269,slow=4.6,SNR=5.0
YKA PKKPbc **PKKPbc 17 44 16.2 -3.6**
comp=Z,1.0nm,0.7s,baz=99,slow=2.3,SNR=5.4
U15A North Rim 95.96 54 P **P 17 27 31.6 +1.8**
baz=96
C15A Salmond Ranch, 96.36 43 P **P 17 27 32.3 +1.1**
baz=96
A17A Triple J Farms 97.67 42 P Pdif 17 27 37.3 +0.3
baz=98
E18A Harlowton 98.16 44 P Pdif 17 27 40.4 +1.0
baz=98
PDAR Pinedale Array 98.34 48 P **P 17 27 40.4 0.0**
PDAR pP **pP 17 27 52.7 -3.8**
PDAR Pinedale Array 98.34 48 P **P 17 27 40.4 0.0**
comp=Z,1.8nm,0.9s,baz=259,slow=2.3,SNR=11
PDAR pP **pP 17 27 52.7 -3.8**
comp=Z,0.9nm,0.8s,baz=222,slow=3.6,SNR=3.8
PDAR LR LR 18 08 21.1
comp=Z,112nm,19.4s,baz=254,slow=33
P19A Cripple Cowboy 98.71 51 P Pdif 17 27 43.4 +1.3
baz=99
A20A Cobblestone Ra 99.50 42 P **Pdif 17 27 45.5 +0.4**
baz=100
A21A Bergoll Ranch 100.16 42 P **Pdif 17 27 48.6 +0.5**
baz=100
SNAA Sanae 100.59 187 *e*P **Pdif 17 27 49.0 -0.6**
TXAR Lajitas Array 102.98 62 PKKPbc PKKPbc 17 43 56.2 -2.5
TXAR Lajitas Array 102.98 62 PKKPbc PKKPbc 17 43 56.2 -2.5
comp=Z,0.5nm,0.6s,baz=69,slow=3.4,SNR=6.6
ARCES ARCESS Array B 109.18 343 PKiKP **PKiKP 17 32 32.4 +1.1**
ARCES PKKPbc PKKPbc 17 43 35.5 -5.3
ARCES ARCESS Array B 109.18 343 PKiKP **PKiKP 17 32 32.4 +1.1**
comp=Z,1.4nm,0.8s,baz=57,slow=4.5,SNR=5.7
ARCES PKKPbc PKKPbc 17 43 35.5 -5.3
comp=Z,1.8nm,0.9s,baz=222,slow=1.6,SNR=3.5
OBN Obninsk 111.41 327 *e*P **Pdif 17 28 41.5 +3.7**
OBN *e*PS **PS 17 42 50.1 +0.6**
OBN *e*SS SS 17 48 45.1 -1.3
OBN pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 113.56 336 PKKPbc PKKPbc 17 43 23.1 -3.0
FINES FINESS Array B 113.56 336 PKKPbc PKKPbc 17 43 23.1 -3.0
comp=Z,2.3nm,0.8s,baz=174,slow=3.8,SNR=5.6
BRTR Keskin Array B 118.14 312 PKP **PKPdf 17 32 48.1 -1.3**
BRTR Keskin Array B 118.14 312 PKP **PKPdf 17 32 48.1 -1.3**
comp=Z,1.2nm,0.7s,baz=83,slow=2.0,SNR=5.7
NOA NORSAR Array B 119.30 341 PKP **PKPdf 17 32 50.6 -0.3**
NOA NORSAR Array B 119.30 341 PKP **PKPdf 17 32 50.6 -0.3**
comp=Z,1.0nm,0.8s,baz=41,slow=1.8,SNR=3.6
BOSA Boshof 120.36 232 PKP **PKPdf 17 32 52.7 -1.4**
BOSA *e*PKPdf **PKiKP 17 32 54.1 -0.1**
BOSA Boshof 120.36 232 PKP **PKPdf 17 32 52.7 -1.4**
comp=Z,5.2nm,0.7s,baz=204,slow=1.3,SNR=18
SCHQ Schefferville 121.35 27 PKP **PKPdf 17 32 53.7 -1.3**
SCHQ Schefferville 121.35 27 PKP **PKPdf 17 32 53.7 -1.3**
comp=Z,3.2nm,0.7s,baz=240,slow=3.7,SNR=6.4
LBTB Lobatse 121.70 235 *e*PKPdf **PKPdf 17 32 56.5 -0.2**
STHS Stebnicka Huta 122.35 326 *e*PKiKP **PKPdf 17 32 57.8 +0.7**
STHS Stebnicka Huta 122.35 326 *e*PKP **PKPdf 17 32 57.8 +0.7**
LSZ Lusaka 123.08 247 *e*PKPdf **PKPdf 17 32 59.7 +0.1**
FRNY Flat Rock 123.13 40 *e*PKPdf **PKPdf 17 32 57.9 -0.9**
MDV Middlebury 123.77 40 *e*PKPdf **PKPdf 17 32 59.8 -0.1**
VYHS Vyhne 124.18 326 *e*PKiKP **PKPdf 17 33 01.1 +0.5**
VYHS Vyhne 124.18 326 *e*PKP **PKPdf 17 33 01.1 +0.5**
BRG Berggiesshubel 125.29 331 *e*(P) **PKPdf 17 33 02.9 +0.2**
comp=Z,3.2nm,0.6s
BRG Berggiesshubel 125.29 331 *e*PKiKP **PKPdf 17 33 02.9 +0.2**
BRG pmax pmax
comp=Z,3.0nm,0.6s
CLL Collm 125.45 332 ⇓*i*PKiKP **PKPdf 17 33 03.2 +0.2**
CLL pmax pmax
comp=Z,6.0nm,0.7s
CLL Collm 125.45 332 ⇓*i*PKPdf **PKPdf 17 33 03.2 +0.2**
comp=Z,4.0nm,0.7s
CLL *i* 17 33 06.8
PQI Presque Isle 125.58 35 *e*PKPdf **PKPdf 17 33 02.5 -0.8**
GERES GERESS Array B 126.70 329 PKP **PKPdf 17 33 05.8 +0.2**
GERES GERESS Array B 126.70 329 PKP **PKPdf 17 33 05.8 +0.2**
comp=Z,2.0nm,0.7s,baz=81,slow=1.8,SNR=19
WTTA Wattenberg 128.78 329 ⇑*i*PKiKP **PKPdf 17 33 09.5 -0.2**
comp=Z,6.2nm,0.9s
FETA Feichten 129.41 329 ⇑*i*PKiKP **PKPdf 17 33 10.7 -0.2**
comp=Z,4.2nm,1.0s
BAIF Baives 130.23 336 *e*PKiKP **PKPdf 17 33 11.5 -0.6**
comp=Z,5.7nm,0.6s
BAIF Baives 130.23 336 *e*PKiKP **PKPdf 17 33 11.5 -0.6**
BAIF Baives 130.23 336 *e*PKPdf **PKPdf 17 33 11.5 -0.6**
HAU Haudompre 130.85 333 *e*PKiKP **PKPdf 17 33 12.4 -1.0**
HAU Haudompre 130.85 333 *e*PKiKP **PKPdf 17 33 12.4 -1.0**
HAU Haudompre 130.85 333 *e*PKPdf **PKPdf 17 33 12.4 -1.0**
TSUM Tsumeb 130.93 238 *e*PKPdf **PKPdf 17 33 14.8 +0.2**
LPAZ La Paz 131.61 118 PKP **PKPdf 17 33 16.6 +0.2**
LPAZ La Paz 131.61 118 PKP **PKPdf 17 33 16.6 +0.2**
comp=Z,1.5nm,0.6s,baz=302,slow=4.4,SNR=5.8
LPL La Plagne 132.46 330 *e*PKiKP **PKPdf 17 33 15.8 -1.0**
LPL La Plagne 132.46 330 *e*PKiKP **PKPdf 17 33 15.8 -1.0**
LPL La Plagne 132.46 330 *e*PKPdf **PKPdf 17 33 15.8 -1.0**
LPG La Plagne 132.46 330 *e*PKiKP **PKPdf 17 33 16.4 -0.5**
comp=Z,5.3nm,0.7s
LPG La Plagne 132.46 330 *e*PKiKP **PKPdf 17 33 16.4 -0.5**
LPG La Plagne 132.46 330 *e*PKPdf **PKPdf 17 33 16.4 -0.5**
SSF Saint Saulge 132.84 334 *e*PKiKP **PKPdf 17 33 16.0 -1.2**
comp=Z,17nm,1.1s
SSF Saint Saulge 132.84 334 *e*PKiKP **PKPdf 17 33 16.0 -1.2**
SSF Saint Saulge 132.84 334 *e*PKPdf **PKPdf 17 33 16.0 -1.2**
SBF Sospel 133.25 328 *e*PKiKP **PKPdf 17 33 16.6 -1.5**
SBF Sospel 133.25 328 *e*PKiKP **PKPdf 17 33 16.6 -1.5**
SBF Sospel 133.25 328 *e*PKPdf **PKPdf 17 33 16.6 -1.5**
PGF Pioggiola 133.27 325 *e*PKiKP **PKPdf 17 33 17.3 -1.0**
comp=Z,19nm,1.2s
PGF Pioggiola 133.27 325 *e*PKiKP **PKPdf 17 33 17.3 -1.0**

PGF Pioggiola 133.27 325 *e*PKPdf **PKPdf 17 33 17.3 -1.0**
ORIF Oris-en-Rattie 133.31 330 *e*PKiKP **PKPdf 17 33 16.7 -1.5**
ORIF Oris-en-Rattie 133.31 330 *e*PKiKP **PKPdf 17 33 16.7 -1.5**
ORIF Oris-en-Rattie 133.31 330 *e*PKPdf **PKPdf 17 33 16.7 -1.5**
VIVF Saint-Julien-l 133.95 331 *e*PKiKP **PKPdf 17 33 18.4 -1.0**
comp=Z,9.3nm,0.9s
VIVF Saint-Julien-l 133.95 331 *e*PKiKP **PKPdf 17 33 18.4 -1.0**
VIVF Saint-Julien-l 133.95 331 *e*PKPdf **PKPdf 17 33 18.4 -1.0**
TCF Toulx Ste Croi 134.00 334 *e*PKiKP **PKPdf 17 33 18.2 -1.2**
comp=Z,7.6nm,0.9s
TCF Toulx Ste Croi 134.00 334 *e*PKiKP **PKPdf 17 33 18.2 -1.2**
TCF Toulx Ste Croi 134.00 334 *e*PKPdf **PKPdf 17 33 18.2 -1.2**
LMR La Mourre 134.10 328 *e*PKiKP **PKPdf 17 33 18.3 -1.3**
comp=Z,28nm,1.2s
LMR La Mourre 134.10 328 *e*PKiKP **PKPdf 17 33 18.3 -1.3**
LMR La Mourre 134.10 328 *e*PKPdf **PKPdf 17 33 18.3 -1.3**
SMRF Simiane la Rot 134.13 329 *e*PKiKP **PKPdf 17 33 18.2 -1.6**
SMRF Simiane la Rot 134.13 329 *e*PKPdf **PKPdf 17 33 18.2 -1.6**
CPUP Villa Florida 134.66 137 PKP **PKPdf 17 33 21.4 +0.2**
CPUP Villa Florida 134.66 137 PKP **PKPdf 17 33 21.4 +0.2**
comp=Z,1.2nm,0.5s,baz=144,slow=1.1,SNR=5.4
CAM4 Nova Friburgo 146.49 149 (P) **PKPab 17 33 45.3 0.0**
CAM4 *i* 17 33 48.9
CAM4 *i* 17 33 51.1
CAM4 *i* 17 33 54.1
CAM4 *i* 17 33 59.3
CAM4 *i* 17 34 01.6
CAM4 *i* 17 34 05.7
CAM4 *i* 17 34 20.3
CAM4 *i* 17 34 28.6
TAM Tamanrasset 146.51 302 *e*PKP2 **PKPab 17 33 45.9 +0.6**
TAM Tamanrasset 146.51 302 *e*PKPbc **PKPab 17 33 45.9 +0.6**
BDFB Brasilia 148.24 134 PKP **PKPdf 17 33 46.3 +0.5**
BDFB PKPbc **PKPbc 17 33 49.1 -0.1**
BDFB Brasilia 148.24 134 PKP **PKPdf 17 33 46.3 +0.5**
comp=Z,12nm,0.8s,baz=220,slow=1.0,SNR=13
BDFB PKPbc **PKPbc 17 33 49.1 -0.1**
comp=Z,12nm,0.8s,baz=203,slow=1.4,SNR=13
TORD Torodi Ar. Bea 152.97 286 PKP **PKPdf 17 33 52.2 -0.8**
TORD PKPbc **PKPbc 17 33 59.5 -0.8**
TORD Torodi Ar. Bea 152.97 286 PKP **PKPdf 17 33 52.2 -0.8**
comp=Z,1.4nm,0.8s,baz=52,slow=1.8,SNR=8.7
TORD PKPbc **PKPbc 17 33 59.5 -0.8**
comp=Z,13nm,0.7s,baz=31,slow=1.7,SNR=63
DBIC Dimbokro 160.06 272 PKPab **PKPab 17 34 40.8 -1.4**
DBIC Dimbokro 160.06 272 PKPab **PKPab 17 34 40.8 -1.4**
comp=Z,13nm,0.9s,baz=77,slow=7.1,SNR=9.6

IDC ***21*** *18:08:05.3±1.6,45.20S×165.93E,h0km,mb3.8/2, mb1 4.0/3,mb1mx3.8/15,mbtmp3.8/3,ML3.7/1,MS3.4/2, Ms1 3.3/2,ms1mx3.0/23,Error ellipse: s-maj=54.0km s-min=26.6km az=0.0*
ISCJB ***21*** *18:08:06.9±2.0,45.29S±0.06×165.86E±0.07,h26km±19km, mb3.9/2,MS3.5/1,Error ellipse: s-maj=10.7km s-min=7.9km az=18.7*
WEL ***21*** *18:08:07.8±0.3,45.43S×165.85E,h33km,ML4.1/18,Error ellipse: s-maj=3.6km s-min=2.1km az=90.0*

ISC 21 18:08:06.0±2.2,45.30S±0.07×165.88E±0.07,h7km±13km, n21,σ0.75/27,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.92**	**102**	PN	**Pg**	**18 08 23.5**	**0.0**
DCZ				SN	**Sg**	**18 08 35.4**	**0.0**
DCZ				AML	AML	18 08 36.5	
DCZ				AML	AML	18 08 39.7	
DCZ				AML	AML	18 08 39.8	
WHZ	**Wether Hill Ro**	**1.57**	**113**	PN	**Pn**	**18 08 34.3**	**0.0**
WHZ				AML	AML	18 09 00.7	
WHZ				AML	AML	18 09 02.7	
MSZ	**Milford Sound**	**1.58**	**67**	PN	**Pn**	**18 08 34.4**	**-0.1**
MSZ				AML	AML	18 09 07.0	
MSZ				AML	AML	18 09 07.0	
MSZ				AML	AML	18 09 07.5	
MSZ				AML	AML	18 09 07.5	
MLZ	**Mavora Lakes**	**1.62**	**93**	PN	**Pn**	**18 08 34.4**	**-0.7**
MLZ				AML	AML	18 09 09.6	
MLZ				AML	AML	18 09 15.5	
APZ	**The Paps**	**2.12**	**137**	PN	**Pn**	**18 08 41.3**	**-0.6**
WKZ	**Wanaka**	**2.27**	**79**	PN	**Pn**	**18 08 45.9**	**+1.9**
WKZ				AML	AML	18 09 19.4	
WKZ				AML	AML	18 09 27.0	
JCZ	**Jackson Bay**	**2.39**	**60**	PN	**Pn**	**18 08 45.4**	**-0.3**
JCZ				SN	**Sn**	**18 09 14.5**	**-0.8**
JCZ				AML	AML	18 09 35.9	
EAZ	**Earnscleugh**	**2.42**	**90**	PN	**Pn**	**18 08 47.5**	**+1.5**
EAZ				SN	**Sn**	**18 09 16.0**	**0.0**
EAZ				AML	AML	18 09 24.4	
EAZ				AML	AML	18 09 33.0	
EAZ				AML	AML	18 09 33.1	
SYZ	**Scrubby Hill**	**2.59**	**120**	PN	**Pn**	**18 08 48.2**	**-0.1**
SYZ				SN	**Sn**	**18 09 18.1**	**-0.9**
TUZ	**Tuapeka**	**2.71**	**105**	PN	**Pn**	**18 08 50.8**	**-0.8**
TUZ				SN	**Sn**	**18 09 22.9**	**-0.2**
TUZ				AML	AML	18 09 24.6	
LBZ	**Lake Benmore**	**3.20**	**75**	PN	**Pn**	**18 08 57.1**	**+0.4**
LBZ				AML	AML	18 09 35.5	
LBZ				AML	AML	18 09 54.2	
FOZ	**Fox Glacier**	**3.23**	**59**	PN	**Pn**	**18 08 57.9**	**+0.7**
FOZ				AML	AML	18 10 05.0	
FOZ				AML	AML	18 10 08.5	
ODZ	**Otahua Downs**	**3.38**	**87**	PN	**Pn**	**18 08 59.4**	**+0.2**
ODZ				SN	**Sn**	**18 09 39.4**	**-0.2**
ODZ				AML	AML	18 10 00.9	
RPZ	**Rata Peaks**	**4.03**	**69**	Pn	**Pn**	**18 09 07.3**	**-0.8**
	5.0nm,0.3s,baz=227,slow=12,SNR=13						
RPZ				Sn	**Sn**	**18 09 55.7**	**+0.1**
	12nm,0.3s,baz=358,slow=18,SNR=9.6						
RPZ				LR	LR	18 09 57.8	
	comp=Z,229nm,20.4s,baz=274,slow=28						
WVZ	**Waitaha Valley**	**4.14**	**59**	PN	**Pn**	**18 09 08.7**	**-0.9**
WVZ				AML	AML	18 10 23.0	
WVZ				AML	AML	18 15 09.6	
DSZ	**Denniston Nort**	**5.58**	**53**	PN	**Pn**	**18 09 28.7**	**-0.8**
STKA	**Stephens Creek**	**23.13**	**297**	LR	LR	18 21 15.4	
	comp=Z,178nm,20.4s,baz=30,slow=34						
ASAR	**Alice Springs**	**33.73**	**299**	P	**P**	**18 14 48.9**	**+0.8**
	1.0nm,1.0s,baz=134,slow=7.7,SNR=4.9						
WRA	**Warramunga Arr**	**36.28**	**304**	P	**P**	**18 15 09.6**	**-0.5**
	2.7nm,1.1s,baz=143,slow=8.6,SNR=6.9						
BRTR	**Keskin Array B**	**144.77**	**278**	PKP	**PKPab**	**18 27 42.9**	**+0.6**
	1.2nm,0.9s,baz=123,slow=4.6,SNR=4.8						
TORD	**Torodi Ar. Bea**	**145.25**	**208**	PKPbc	**PKPbc**	**18 27 44.4**	**0.0**
	1.4nm,0.8s,baz=162,slow=2.3,SNR=8.7						

IGQ 21 18:09:41.6,2.96S×80.13W,h12km±146km,Mb4.0,Ms3.8, 3C-2D,Error ellipse: s-maj=20.1km s-min=7.1km az=31.3,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARNL	**Arenillas**	**0.58**	**174**	⇑S	Sg	18 10 00.3	-0.5
ARNL	**Arenillas**	**0.58**	**174**	⇑P	Pg	18 09 52.5	-0.5
MACE	**Macas**	**2.06**	**70**	P	Pb	18 10 19.1	-0.1
MACE	**Macas**	**2.06**	**70**	S	Sg	18 10 47.3	-0.9
IGUA	**Igualata**	**2.09**	**46**	P	Pn	18 10 17.9	+0.7
BMAS	**Trigal station**	**2.20**	**49**	P	Pn	18 10 19.8	+1.3
ARRY	**Arrayan**	**2.21**	**49**	P	Pn	18 10 19.6	+0.9
PAT1	**Patacocha**	**2.23**	**50**	P	Pn	18 10 20.7	+1.7
RPAT	**Tungurahua Vol**	**2.23**	**50**	P	Pn	18 10 20.1	+1.1
RETU	**Refugio**	**2.26**	**48**	P	Pb	18 10 23.4	+0.3
BULB	**Ulba Tungurahu**	**2.29**	**49**	⇑P	Pn	18 10 21.4	+1.6
PISA	**Pisayambo**	**2.57**	**43**	P	Pb	18 10 26.3	-2.1
BMOR	**Cotopaxi Volca**	**2.78**	**37**	P	Pn	18 10 29.1	+2.5
CAMI	**Rancho Maria**	**2.79**	**36**	P	Pb	18 10 29.5	-2.6
MOV1	**Cotopaxi Vol s**	**2.80**	**37**	P	Pn	18 10 29.2	+2.2
BNAS	**Cotopaxi Volca**	**2.81**	**36**	P	Pn	18 10 29.8	+2.7
BREF	**Cotopaxi Volca**	**2.84**	**37**	P	Pn	18 10 30.1	+2.5
BTAM	**Cotopaxi Volca**	**2.86**	**37**	P	Pn	18 10 30.1	+2.3
TAMB	**Tambo**	**2.86**	**38**	P	Pb	18 10 30.9	-2.4
VC1	**Cotopaxi 1**	**2.88**	**37**	P	Pb	18 10 32.1	-1.6
PITA	**Cotopaxi Volc**	**2.93**	**35**	P	Pb	18 10 31.6	-2.9
TERV	**Terraza Guagua**	**3.16**	**29**	P	Pn	18 10 33.8	+1.9
GGP	**Refugio Guagua**	**3.17**	**29**	⇓P	Pn	18 10 33.9	+1.8
PINO	**Pino**	**3.18**	**29**	P	Pn	18 10 33.6	+1.4
ANTI	**Antisana**	**3.18**	**38**	P	Pn	18 10 35.5	+3.2
OTAV	**Otavalo**	**3.60**	**28**	⇓P	Pn	18 10 39.4	+1.6
CAYR	**Refugio Cayamb**	**3.64**	**36**	P	Pb	18 10 44.2	-2.6
COTA	**Cotacachi**	**3.73**	**29**	P	Pn	18 10 43.9	+4.1

IDC 21 18:11:51.7±9.0, 25.77S×179.50E, h556km±94km, mb3.2/7, mb1 3.3/7, mb1mx3.1/19, mbtmp3.2/7, Error ellipse: s-maj=56.2km s-min=23.1km az=69.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**31.08**	**274**	P	P	18 17 25.9	+0.7
	4.6nm,1.0s,baz=90,slow=11,SNR=4.3						
STKA	**Stephens Creek**	**33.64**	**251**	P	P	18 17 46.2	-0.6
	2.0nm,0.8s,baz=167,slow=13,SNR=3.3						
ASAR	**Alice Springs**	**41.31**	**263**	P	P	18 18 49.5	0.0
	1.5nm,0.4s,baz=90,slow=7.2,SNR=93						
WRA	**Warramunga Arr**	**41.86**	**268**	P	P	18 18 53.4	-0.4
	1.1nm,0.4s,baz=103,slow=7.7,SNR=24						
QSPA	**South Pole Qui**	**64.32**	**180**	P	P	18 21 32.6	-0.1
	0.5nm,0.7s,baz=116,slow=2.7,SNR=8.1						
MJAR	**Matsushiro Arr**	**73.19**	**326**	P	P	18 22 24.6	-1.7
	0.7nm,0.5s,baz=174,slow=4.5,SNR=5.6						
PETK	**Petropavlovsk-**	**80.81**	**347**	P	P	18 23 08.4	+1.0
	2.5nm,0.7s,baz=120,slow=8.8,SNR=6.2						
KURBB	**Kurchatov Arra**	**116.27**	**316**	PKP	PKPdf	18 29 29.8	-2.1
	0.4nm,0.7s,baz=106,slow=1.8,SNR=4.8						
BVAR	**Borovoye Array**	**121.53**	**318**	PKP	PKPdf	18 29 42.2	+0.3
	0.9nm,0.6s,baz=204,slow=1.5,SNR=4.0						
ARCES	**ARCESS Array B**	**133.62**	**348**	PKP	PKPdf	18 30 04.0	-0.5
	0.8nm,0.6s,baz=55,slow=6.4,SNR=3.9						
NB2	**NORSAR Subarra**	**143.85**	**350**	PKP	PKPab	18 30 22.8	+0.1
	comp=Z,1.5nm,0.6s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**143.85**	**350**	PKP	PKPdf	18 30 23.3	-0.1
	comp=Z,4.2nm,0.8s,baz=22,slow=2.5,SNR=12						
BRTR	**Keskin Array B**	**148.30**	**305**	PKPbc	PKPbc	18 30 36.5	+0.7
	comp=Z,0.9nm,0.7s,baz=61,slow=0.7,SNR=4.4						

IDC 21 18:21:03.4±2.6, 8.83S×112.27E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/20, mbtmp3.3/3, Error ellipse: s-maj=148.5km s-min=24.9km az=48.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.03**	**120**	P	P	18 26 20.1	-0.2
	0.4nm,0.5s,baz=295,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**25.42**	**128**	P	P	18 26 33.1	+0.1
	0.3nm,0.6s,baz=298,slow=8.9,SNR=8.6						
MKAR	**Makanchi Array**	**61.49**	**337**	P	P	18 31 22.0	0.0
	0.4nm,0.4s,baz=150,slow=7.0,SNR=11						

WEL 21 18:39:12.3±0.2, 45.88S×166.44E, h26km, ML4.0/17, 1C, Error ellipse: s-maj=2.7km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.64**	**51**	P*	Pb	18 39 24.5	-0.5
DCZ				AML	AML	18 39 32.5	
DCZ				AML	AML	18 39 32.5	
DCZ				AML	AML	18 39 33.4	
DCZ				AML	AML	18 39 33.4	
WHZ	**Wether Hill Ro**	**1.05**	**91**	⇑PN	Pn	18 39 31.1	-0.3
WHZ				SN	Sn	18 39 44.5	-0.7
WHZ				AML	AML	18 39 50.5	
MLZ	**Mavora Lakes**	**1.33**	**67**	PN	Pn	18 39 35.5	+0.3
MLZ				AML	AML	18 39 57.6	
MLZ				AML	AML	18 39 59.1	
APZ	**The Paps**	**1.44**	**132**	PN	Pn	18 39 36.1	-0.5
APZ				SN	Sn	18 39 54.2	-0.5
MSZ	**Milford Sound**	**1.60**	**42**	PN	Pb	18 39 40.1	-1.1
MSZ				AML	AML	18 40 14.0	
MSZ				AML	AML	18 40 14.1	
MSZ				AML	AML	18 40 14.2	
MSZ				AML	AML	18 40 14.2	
SYZ	**Scrubby Hill**	**1.99**	**110**	PN	Pn	18 39 44.6	+0.5
WKZ	**Wanaka**	**2.10**	**61**	PN	Pb	18 39 49.3	-0.5
WKZ				AML	AML	18 40 18.9	
WKZ				AML	AML	18 40 19.2	
WKZ				AML	AML	18 40 19.2	
EAZ	**Earnscleugh**	**2.12**	**73**	PN	Pb	18 39 48.7	-1.3
EAZ				AML	AML	18 40 20.4	
EAZ				AML	AML	18 40 20.5	
EAZ				AML	AML	18 40 22.5	
EAZ				AML	AML	18 40 22.5	
TUZ	**Tuapeka**	**2.23**	**93**	PN	Pn	18 39 48.8	+1.3
TUZ				AML	AML	18 40 18.2	
TUZ				AML	AML	18 40 25.7	
JCZ	**Jackson Bay**	**2.44**	**43**	PN	Pb	18 39 54.8	-0.9
JCZ				AML	AML	18 40 34.8	
JCZ				AML	AML	18 40 40.4	
HHSZ	**Highcliff Hill**	**2.91**	**92**	PN	Pn	18 39 58.0	+1.2
LBZ	**Lake Benmore**	**3.04**	**62**	PN	Pn	18 40 00.4	+1.7
LBZ				AML	AML	18 40 38.4	
LBZ				AML	AML	18 40 38.6	
ODZ	**Otahua Downs**	**3.08**	**76**	PN	Pn	18 39 59.7	+0.5
ODZ				AML	AML	18 40 51.9	
ODZ				AML	AML	18 40 55.5	
FOZ	**Fox Glacier**	**3.27**	**46**	PN	Pb	18 40 06.6	-3.1
FOZ				AML	AML	18 41 03.6	
FOZ				AML	AML	18 41 07.5	

TAP 21 18:41:07.1, 23.56N×120.60E, h15km, ML1.6, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHN5	**Tsauling**	**0.09**	**61**	*i* P	Pg	18 41 10.7	+0.4
	baz=61						
CHN5				*i* S	Sg	18 41 13.2	+0.8
	baz=61						
CHN2	**Minshiung**	**0.11**	**258**	P	Pb	18 41 11.2	+0.2
	baz=258						
CHN2				*i* S	Sb	18 41 14.3	+0.7
	baz=258						
CHY	**Chiayi**	**0.17**	**250**	*e*P	Pb	18 41 12.0	0.0
	baz=249						
CHY				*e*S	Sb	18 41 15.6	+0.4
	baz=249						
ALS	**Alishan**	**0.20**	**103**	*i* P	Pb	18 41 12.6	-0.2
	baz=103						
ALS				*i* S	Sb	18 41 16.6	0.0
	baz=103						
CHN4	**Tsaushan**	**0.20**	**181**	P	Pb	18 41 12.6	0.0
	baz=180						
CHN4				S	Sb	18 41 16.7	+0.4
	baz=180						
TWK	**Hsinying**	**0.30**	**199**	*e*P	Pb	18 41 14.3	-0.1
	baz=197						
TWK				*e*S	Sb	18 41 19.8	+0.5
	baz=197						
WTP	**Ta-pu**	**0.31**	**177**	*e*P	Pb	18 41 14.3	-0.2
	baz=175						
WTP				*e*S	Sb	18 41 19.2	-0.2
	baz=175						
YUS	**Yu-Shan**	**0.33**	**101**	*e*P	Pg	18 41 14.5	0.0
	baz=101						
YUS				*e*S	Sb	18 41 20.7	-0.3
	baz=101						
CHN1	**Nanshi**	**0.38**	**190**	*e*P	Pb	18 41 16.4	+0.9
	baz=189						
CHN1				*e*S	Sb	18 41 21.9	+0.7
	baz=189						
STYT	**Tauyuan**	**0.42**	**159**	*e*P	Pb	18 41 16.6	+0.3
	baz=158						
STYT				*e*S	Sb	18 41 23.4	+0.9
	baz=158						
TYC	**Yuchr**	**0.42**	**34**	*e*P	Pb	18 41 16.5	+0.3
	baz=36						
WHF	**Hehuan Shan**	**0.85**	**46**	*e*P	Pg	18 41 23.3	-0.8
	baz=47						

TAP 21 18:41:18.5, 24.27N×121.73E, h10km, ML1.7, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.05**	**18**	*e*P	Pg	18 41 20.7	+0.2
	baz=27						
ENA	**Nanau**	**0.16**	**5**	*i* P	Pg	18 41 22.9	+0.9
	baz=7.0						
ENA				*i* S	Sg	18 41 25.9	+1.4
	baz=7.0						
TWD	**Chiawan**	**0.22**	**213**	*i* P	Pg	18 41 23.9	+0.9
	baz=210						
TWD				*i* S	Sg	18 41 27.5	+1.5
	baz=210						
TWC	**Suao**	**0.36**	**18**	*e*P	Pg	18 41 26.2	+0.6
	baz=19						
NNS	**Nan Shan**	**0.36**	**299**	*e*P	Pb	18 41 26.7	-0.5
	baz=298						
NNS				S	Sb	18 41 32.6	-0.6
	baz=298						
ENTT	**Nioudou**	**0.40**	**339**	*e*P	Pb	18 41 27.5	-0.2
	baz=339						
ENTT				S	Sb	18 41 33.5	-0.5
	baz=339						
WHF	**Hehuan Shan**	**0.44**	**254**	*e*P	Pg	18 41 28.2	+0.6
	baz=253						
WHF				S	Sg	18 41 34.8	+1.0
	baz=253						
ESF	**Shoufeng Towns**	**0.44**	**207**	*e*P	Pb	18 41 28.1	-0.3
	baz=206						
ESF				*e*S	Sg	18 41 33.3	+0.4
	baz=206						
TWE	**Neicheng**	**0.46**	**353**	*e*P	Pb	18 41 28.3	-0.4
	baz=355						
TWE				*e*S	Sb	18 41 35.5	-0.1
	baz=355						
ESL	**Shilin**	**0.52**	**211**	*e*P	Pb	18 41 29.3	-0.4
	baz=209						
ESL				*e*S	Sb	18 41 37.8	+0.4
	baz=209						
NSK	**Sanguang**	**0.53**	**321**	*e*P	Pb	18 41 29.6	-0.4
	baz=321						
NSK				*e*S	Sb	18 41 37.4	-0.4
	baz=321						

NIED ***21*** *18:56:00.36˚50N×140˚50E, h86km, Mw4.2 Best double couple: M₀2.45000×10¹⁵ NP1:φ₀75.00000°, δ83.00000°, λ33.00000°. NP2:φ₀340.00000°, δ57.00000°, λ172.00000°.*

BJI ***21*** *18:56:33.7, 36˚34N×140˚90E, h90km, mB4.8/10, mb4.7/21*

ISCJB ***21*** *18:56:38.5±0.5, 36˚59N±0˚04×140˚63E±0˚05, h98km±2km, mb4.4/39, Error ellipse: s-maj=8.0km s-min=5.2km az=32.8*

MOS ***21*** *18:56:38.1±1.1, 36˚59N×140˚63E, h93km, mb4.6/25, Error ellipse: s-maj=10.0km s-min=6.6km az=115.6*

NEIC ***21*** *18:56:39.9±0.8, 36˚57N×140˚56E, h94km±6km, mb4.5/11, MW4.2(NIED), Error ellipse: s-maj=9.3km s-min=6.7km az=109.0*

NEIC Recorded [3 JMA] in Ibaraki; [2 JMA] in Fukushima and Tochigi; [1 JMA] in Chiba, Gumma, Miyagi, Saitama and Tokyo.

IDC ***21*** *18:56:39.6±1.9, 36˚57N×140˚57E, h88km±14km, mb4.0/13, mb1 4.2/17, mb1mx4.0/28, mbtmp4.1/17, MS2.7/1, Ms1 2.7/1, ms1mx1.9/40, Error ellipse: s-maj=17.2km s-min=11.4km az=106.0*

JMA ***21*** *18:56:41.4, 36˚51N×140˚45E, h89km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs76.00000°, δ85.00000°, λ37.00000°. NP2:φs342.00000°, δ53.00000°, λ174.00000°. Principal axes: T Plg29.0000°, Azm305.0000°; N Plg53.0000°, Azm82.0000°; P Plg21.0000°, Azm203.0000°;*

JMA Felt III J1.

IDC 21 18:56:39.7±0.7, 36.61N±0.05×140.59E±0.06, h94km±5km, n121, σ1s09/128, mb4.5/39, 8C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.02**	**274**	⇑P	Pn	**18 56 54.0**	**+1.1**
JHO				S	Sn	**18 57 03.4**	**+0.7**
JYT	**Yasato**	**0.50**	**220**	⇑P	Pn	**18 56 55.1**	**+0.2**
JYT				S	Sn	**18 57 05.2**	**-1.0**
JAG	**Ashikaga**	**0.93**	**259**	⇑P	Pn	**18 56 59.2**	**+0.2**
JAG				S	Sn	**18 57 12.7**	**-0.8**
JHK	**Hiroka**	**1.41**	**297**	⇑P	Pn	**18 57 05.6**	**+1.0**
JRY	**Ryogami san**	**1.49**	**247**	⇓P	Pn	**18 57 05.5**	**-0.1**
JRY				S	Sn	**18 57 24.3**	**-0.8**
JNS	**Sasagawa**	**1.58**	**320**	⇑P	Pn	**18 57 08.1**	**+1.4**
JNS				S	Sn	**18 57 28.6**	**+1.5**
MJAR	**Matsushiro Arr**	**1.92**	**269**	P	Pn	**18 57 11.1**	**0.0**
MJAR				S	Sn	**18 57 33.5**	**-1.3**
MJAR	**Matsushiro Arr**	**1.92**	**269**	P	Pn	**18 57 11.1**	**0.0**
	64nm,0.3s,baz=88,slow=14,SNR=650						
MJAR				S	Sn	**18 57 33.5**	**-1.3**
	73nm,0.3s,baz=194,slow=26,SNR=15						
MAJO	**Matsushiro**	**1.92**	**269**	*e*P	Pn	**18 57 11.3**	**+0.3**
MAJO	**Matsushiro**	**1.92**	**269**	*e*Pn	Pn	**18 57 11.3**	**+0.3**
MAT	**Matsushiro**	**1.92**	**269**	P	Pn	**18 57 11.5**	**+0.4**
MAT				S	Sn	**18 57 31.7**	**-3.2**
ERM	**Erimo**	**5.75**	**19**	*e*P	Pn	**18 58 02.7**	**+0.1**
ERM				*e*		18 59 06.0	
ERM				pmax	pmax		
	comp=E,68nm,0.4s						
ERM	**Erimo**	**5.75**	**19**	*e*Pn	Pn	**18 58 02.7**	**+0.1**
	comp=E,68nm,0.4s						
ERM				*e*Sn	Sn	**18 59 06.0**	**-1.1**
ASAJ	**Asahikawa**	**7.65**	**11**	P	Pn	**18 58 26.9**	**-1.5**
ASAJ				*e*Sn	Sn	**18 59 51.1**	**-2.3**
ASAJ				S	Sn	**18 59 53.6**	**+0.1**
ASAJ	**Asahikawa**	**7.65**	**11**	P	Pn	**18 58 26.9**	**-1.5**
	comp=Z,15nm,0.3s,baz=221,slow=16,SNR=120						
ASAJ				S	Sn	**18 59 53.6**	**+0.1**
	comp=Z,4.2nm,0.3s,baz=23,slow=31,SNR=6.3						
YUK	**Yuzh-Kuril'sk**	**8.44**	**27**	*i* P	Pn	**18 58 39.3**	**+0.2**
YUK				*i* S	Sn	**19 00 08.5**	**-4.0**
YUK				pmax	pmax		
	comp=E,23nm,0.2s						
YUK				pmax	pmax		
	comp=N,14nm,0.2s						
YUK				pmax	pmax		
	comp=Z,83nm,0.2s						
JNU	**Nakatsue**	**8.71**	**249**	P	Pn	**18 58 42.0**	**-0.8**
JNU	**Nakatsue**	**8.71**	**249**	P	Pn	**18 58 42.0**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=67,slow=15,SNR=2.6						
VLA	**Vladivostok**	**9.32**	**317**	⇓P	Pn	18 58 44.0	-7.1
USRK	**Ussuriysk Arra**	**10.01**	**322**	P	Pn	**18 59 01.6**	**+1.1**
	comp=Z,2.5nm,0.3s,baz=137,slow=13,SNR=33						
KSRS	**Korea Array**	**10.16**	**279**	P	Pn	**18 59 04.1**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=95,slow=13,SNR=32						
KSRS				LR	LR	19 02 30.8	
	comp=Z,45nm,21.7s,baz=142,slow=34						
KSAR	**Wonju Array Be**	**10.19**	**278**	P	Pn	**18 59 04.1**	**+1.1**
KUR	**Kuril'sk**	**10.22**	**30**	P	Pn	18 58 52.5	-11
KUR				*e*S	Sn	**19 00 53.5**	**-2.4**
KUR				smax	smax		
	comp=E,140nm,0.5s						
KUR				smax	smax		
	comp=N,110nm,0.6s						
YSS	**Yuzh-Sakhalins**	**10.46**	**8**	*e*P	Pn	**18 59 05.8**	**-0.8**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
MDJ	**Mudanjiang**	**11.56**	**317**	P	Pn	18 59 26.8	+5.3
MDJ				pmax	pmax		
	comp=Z,13nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,82nm,3.6s						
MDJ	**Mudanjiang**	**11.56**	**317**	*e*P	Pn	**18 59 24.4**	**+2.9**
CN2	**Changchun**	**13.61**	**307**	*e*P	Pn	**18 59 49.3**	**+0.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NJ2	**Nanjing**	**18.51**	**262**	*e*P	P	**19 00 47.5**	**-1.0**
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
BJT	**Baijiatuan**	**19.45**	**288**	*e*P	P	**19 00 57.6**	**-1.2**
	comp=Z,21nm,0.4s						
HIA	**Hailar**	**19.74**	**316**	P	P	**19 01 01.0**	**-0.9**
	comp=Z,7.9nm,0.8s						
PETK	**Petropavlovsk-**	**20.39**	**31**	P	Pn	19 01 11.2	-0.5
PETK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PETK	**Petropavlovsk-**	**20.39**	**31**	P	Pn	19 01 11.2	-0.5
PETK	**Petropavlovsk-**	**20.39**	**31**	P	Pn	19 01 11.2	-0.5
	comp=Z,2.1nm,0.8s,baz=200,slow=11,SNR=4.6						
WHN	**Wuhan**	**22.65**	**262**	P	P	19 01 25.1	-7.9
YAK	**Yakutsk**	**26.34**	**348**	*e*P	P	**19 02 07.0**	**+0.5**
YAK				pmax	pmax		
	comp=Z,11nm,1.1s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.0s						
ENH	**Enshi**	**26.64**	**265**	*e*P	P	**19 02 07.9**	**-1.7**
	comp=E,12nm,0.6s						
ULN	**Ulaanbaatar**	**27.05**	**305**	*e*P	P	**19 02 12.2**	**-1.1**
	comp=E,11nm,0.8s						
SONM	**Songino Array**	**27.48**	**305**	P	P	**19 02 16.6**	**-0.5**
SONM	**Songino Array**	**27.48**	**305**	P	P	**19 02 16.6**	**-0.5**
	comp=E,9.1nm,0.6s,baz=107,slow=9.0,SNR=47						
ZAK	**Zakamensk**	**30.02**	**309**	*e*P	P	**19 02 36.9**	**-2.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
GTA	**Gaotai**	**32.06**	**288**	*e*P	P	**19 02 57.1**	**-0.5**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HVS	**Khovu-Aksy**	**36.14**	**309**	*i* P	P	**19 03 33.4**	**+0.7**
HVS				pmax	pmax		
	comp=Z,17nm,0.8s						
KRAR	**Krasnoyarsk**	**37.31**	**317**	*i* P	P	**19 03 43.8**	**+1.3**
KRAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**40.75**	**255**	P	P	**19 04 11.6**	**0.0**
CMAR	**Chiang Mai Arr**	**40.75**	**255**	P	P	**19 04 11.6**	**0.0**
	comp=Z,0.7nm,0.6s,baz=51,slow=5.9,SNR=4.0						
LSA	**Lhasa**	**41.59**	**275**	*e*P	P	**19 04 19.5**	**+0.6**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
LSA	**Lhasa**	**41.59**	**275**	*e*P	P	**19 04 19.5**	**+0.6**
	comp=Z,2.5nm,0.4s						
ZALV	**Zalesovo Beam**	**41.71**	**313**	*i* P	P	**19 04 19.7**	**+0.7**
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ZALV	**Zalesovo Beam**	**41.71**	**313**	P	P	**19 04 19.7**	**+0.7**
ZALV	**Zalesovo Beam**	**41.71**	**313**	P	P	**19 04 19.7**	**+0.7**
	comp=Z,7.6nm,0.6s,baz=88,slow=6.3,SNR=27						
NVS	**Novosibirsk**	**42.66**	**314**	⇑*i* P	P	**19 04 26.2**	**-0.5**
NVS				*e*		19 04 53.2	
NVS				pmax	pmax		
	comp=Z,11nm,1.2s						
NVS				pmax	pmax		
	comp=N,3.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.2s						
MKAR	**Makanchi Array**	**43.78**	**302**	*i* P	P	**19 04 36.5**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR	**Makanchi Array**	**43.78**	**302**	P	P	**19 04 36.5**	**+0.5**
MKAR	**Makanchi Array**	**43.78**	**302**	P	P	**19 04 36.5**	**+0.5**
	comp=Z,4.8nm,0.6s,baz=89,slow=9.9,SNR=55						
KSM	**Kuching**	**44.78**	**226**	P	P	**19 04 44.4**	**+0.3**
TAPN	**Taplejung**	**45.31**	**274**	*e*P	P	**19 04 50.2**	**+1.6**
	comp=Z,10nm,0.5s						
ODAN	**Odare**	**45.78**	**274**	*e*P	P	**19 04 52.2**	**-0.1**
	comp=Z,14nm,0.7s						
RAMN	**Ramite**	**46.37**	**274**	*e*P	P	**19 04 57.1**	**+0.1**
	comp=Z,45nm,0.8s						
JIRN	**Jiri**	**46.40**	**275**	*e*P	P	**19 04 57.9**	**+0.6**
	comp=Z,34nm,0.7s						
PKI	**Pulchoki**	**47.06**	**275**	*e*P	P	**19 05 02.3**	**-0.1**
PKIN	**Phulchoki**	**47.07**	**275**	*e*P	P	**19 05 02.6**	**+0.2**
KKN	**Kakani**	**47.07**	**276**	*e*P	P	**19 05 02.4**	**+0.1**
	comp=Z,17nm,0.7s						
DMN	**Daman**	**47.29**	**276**	*e*P	P	**19 05 04.0**	**-0.1**
DANN	**Dangsing**	**48.05**	**277**	*e*P	P	**19 05 10.3**	**+0.3**
	comp=Z,42nm,0.8s						
AAK	**Ala-Archa**	**50.11**	**298**	⇓*e*P	P	**19 05 26.2**	**+0.8**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
AAK				MLR	MLR		
	comp=Z,52nm,16.0s						
AAK	**Ala-Archa**	**50.11**	**298**	*e*P	P	**19 05 25.9**	**+0.5**
BRVK	**Borovoye**	**50.43**	**313**	*e*P	P	**19 05 28.0**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRVK	**Borovoye**	**50.43**	**313**	P	P	**19 05 26.9**	**-0.4**
	comp=Z,4.2nm,0.8s						
KKAR	**Karatay Array**	**52.77**	**300**	*e*P	P	**19 05 45.0**	**0.0**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KKAR	**Karatay Array**	**52.77**	**300**	*e*P	P	**19 05 45.0**	**0.0**
	comp=Z,3.9nm,0.7s						
KIP	**Kipapa**	**54.93**	**88**	*i* P	P	19 06 19.1	+18
SVE	**Sverdlovsk**	**55.03**	**319**	*e*P	P	**19 06 02.3**	**+1.1**
SVE				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ARU	**Arti**	**56.24**	**319**	*c* P	P	**19 06 10.2**	**+0.3**
ARU						19 08 13.3	
ARU				S	S	**19 13 48.8**	**-3.3**
ARU				pmax	pmax		
	comp=Z,11nm,0.8s						
WRAB	**Tennant Creek**	**56.54**	**187**	*e*P	P	**19 06 11.8**	**-0.6**
WRAB	**Tennant Creek**	**56.54**	**187**	*e*P	P	**19 06 11.8**	**-0.6**
WRA	**Warramunga Arr**	**56.55**	**187**	P	P	**19 06 12.1**	**-0.4**
WRA	**Warramunga Arr**	**56.55**	**187**	P	P	**19 06 12.1**	**-0.4**
	comp=Z,5.0nm,0.4s,baz=1.2,slow=7.5,SNR=52						
CTAO	**Charters Tower**	**56.64**	**174**	P	P	**19 06 13.3**	**+0.2**
CTAO	**Charters Tower**	**56.64**	**174**	P	P	**19 06 13.3**	**+0.2**
ABKAR	**Akbulak array**	**57.71**	**310**	*e*P	P	**19 06 20.5**	**+0.1**
	comp=Z,7.6nm,0.6s						
AS31	**Alice Springs**	**60.28**	**187**	*e*P	P	**19 06 38.0**	**-0.4**
ASAR	**Alice Springs**	**60.28**	**187**	P	P	**19 06 38.5**	**+0.1**
ASAR	**Alice Springs**	**60.28**	**187**	P	P	**19 06 38.5**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=15,slow=6.2,SNR=39						
MBWA	**Marble Bar**	**60.74**	**202**	*e*P	P	**19 06 41.3**	**-0.2**
	comp=Z,9.3nm,1.0s						
KEV	**Kevo**	**63.60**	**339**	*e*p	P	**19 07 01.3**	**+1.3**
KEV	**Kevo**	**63.60**	**339**	*e*P	P	**19 07 01.3**	**+1.3**
ARCES	**ARCESS Array B**	**64.16**	**339**	P	P	**19 07 04.8**	**+1.1**
ARCES	**ARCESS Array B**	**64.16**	**339**	P	P	**19 07 04.8**	**+1.1**
	comp=Z,1.3nm,0.4s,baz=54,slow=8.1,SNR=34						
VRHR	**Novokhopersk**	**67.56**	**318**	*e*P	P	**19 07 25.1**	**-0.7**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=N,8.0nm,0.9s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.9s						
OBN	**Obninsk**	**68.04**	**323**	⇑*e*P	P	**19 07 29.5**	**+0.8**
OBN				*e*		19 08 00.1	
OBN				pmax	pmax		
	comp=Z,18nm,2.5s						
STKA	**Stephens Creek**	**68.14**	**179**	*e*P	P	**19 07 29.9**	**+0.4**
STKA	**Stephens Creek**	**68.14**	**179**	P	P	**19 07 30.2**	**+0.7**
	comp=Z,2.6nm,0.8s,baz=156,slow=24,SNR=6.0						
KAF	**Kangasniemi**	**68.38**	**333**	*e*p	P	**19 07 31.4**	**+0.7**
	comp=Z,6.2nm,0.5s						
KAF	**Kangasniemi**	**68.38**	**333**	*e*P	P	**19 07 31.4**	**+0.7**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.5s						
VSR	**Storozhevoye**	**68.81**	**319**	*e*P	P	**19 07 33.7**	**+0.1**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VSR				pmax	pmax		
	comp=N,7.0nm,0.7s						
VSR				pmax	pmax		
	comp=E,7.0nm,0.7s						
VORD	**Divnogorie**	**68.88**	**318**	*e*P	P	**19 07 32.7**	**-1.3**
VORD				pmax	pmax		
	comp=Z,9.0nm,1.0s						
VORD				pmax	pmax		
	comp=N,8.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,50nm,0.8s						
FINES	**FINESS Array B**	**68.88**	**332**	P	P	**19 07 34.7**	**+0.9**
FINES	**FINESS Array B**	**68.88**	**332**	P	P	**19 07 34.7**	**+0.9**
	comp=E,

MORC	**Moravsky Berou**	**80.35**	**327**	P	**P**	**19 08 41.2**	**+0.7**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MORC	**Moravsky Berou**	**80.35**	**327**	P	**P**	**19 08 41.2**	**+0.7**
	comp=Z,2.8nm,0.9s						
VYHS	**Vyhne**	**80.69**	**325**	*eP*	**P**	**19 08 43.2**	**+0.9**
VYHS				pmax	pmax		
	comp=Z,4.0nm,1.7s						
VYHS	**Vyhne**	**80.69**	**325**	*eP*	**P**	**19 08 43.2**	**+0.9**
CLL	**Collm**	**81.13**	**330**	*i* P	**P**	**19 08 45.3**	**+0.8**
CLL	**Collm**	**81.13**	**330**	*i* P	**P**	**19 08 45.3**	**+0.8**
	comp=Z,10.0nm,1.4s						
GERES	**GERESS Array B**	**82.72**	**328**	P	**P**	**19 08 53.8**	**+0.8**
GERES	**GERESS Array B**	**82.72**	**328**	P	**P**	**19 08 53.8**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=44,slow=6.6,SNR=12						

IDC 21 18:57:04.3±2.4, 6°98S×155°61E, h41$^{km}_{\pm 9km}$, mb3.7/6, mb1 3.9/7, mb1mx3.7/18, mbtmp3.8/7, ML3.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/20, Error ellipse: s-maj=60.7km s-min=22.2km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.70**	**253**	P	Pn	18 59 08.2	+0.6
	1.9nm,0.3s,baz=309,slow=7.4,SNR=7.5						
PMG				LR	LR	19 02 33.0	
	comp=Z,98nm,18.6s,baz=78,slow=38						
WRA	**Warramunga Arr**	**24.32**	**236**	P	P	19 02 18.4	0.0
	1.5nm,0.5s,baz=58,slow=9.4,SNR=20						
WRA				pP	pP	19 02 30.0	+0.5
	0.8nm,0.4s,baz=59,slow=9.6,SNR=3.5						
ASAR	**Alice Springs**	**26.64**	**229**	P	P	19 02 39.5	+0.1
	0.5nm,0.6s,baz=58,slow=9.4,SNR=16						
ASAR				pP	pP	19 02 50.9	+0.4
	0.4nm,0.3s,baz=60,slow=9.4,SNR=4.1						
STKA	**Stephens Creek**	**28.01**	**206**	pP	pP	19 03 05.2	+2.6
	3.3nm,1.0s,baz=22,slow=12,SNR=2.2						
PETK	**Petropavlovsk-**	**59.89**	**1**	P	P	19 07 07.4	+1.6
	3.7nm,0.8s,baz=170,slow=9.0,SNR=4.0						
CMAR	**Chiang Mai Arr**	**61.33**	**295**	P	P	19 07 16.6	+0.2
	3.1nm,0.6s,baz=123,slow=5.3,SNR=21						
CMAR				pP	pP	19 07 27.4	-0.8
	1.3nm,0.7s,baz=126,slow=4.8,SNR=3.6						
SONM	**Songino Array**	**69.66**	**327**	P	P	19 08 09.1	-0.7
	0.5nm,0.6s,baz=143,slow=5.2,SNR=4.6						
MKAR	**Makanchi Array**	**83.80**	**319**	P	P	19 09 29.2	-0.3
	0.3nm,0.6s,baz=94,slow=7.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**153.61**	**285**	PKPbc	PKPbc	19 16 58.3	-1.4
	0.4nm,0.6s,baz=113,slow=1.9,SNR=3.1						

*IDC **21** 19:00:17.1±0.5, 18°.94N×64°.81W, h0^{km}, mb4.2/20, mb1 4.3/20, mb1mx4.2/30, mbtmp4.2/20, MS3.7/14, Ms1 3.7/14, ms1mx3.5/37, Error ellipse: s-maj=16.9km s-min=12.0km az=63.0*

*ISCJB **21** 19:00:21.0±0.7, 19°.23N±0°.03×64°.82W±0°.02, h30$^{km}_{\pm 5km}$, mb4.4/41, MS3.7/13, Error ellipse: s-maj=4.3km s-min=3.4km az=163.4*

*RSPR **21** 19:00:22.6, 19°.27N×64°.77W, h22$^{km}_{\pm 25km}$, MD4.5/13*

*NEIC **21** 19:00:22.1±1.2, 19°.12N×64°.80W, h31$^{km}_{\pm 9km}$, mb4.7/22, MD4.5(RSPR), Error ellipse: s-maj=6.0km s-min=4.7km az=207.0*

NEIC Felt on Tortola, British Virgin Islands. Felt on Saint Croix, Saint John and Saint Thomas, U.S. Virgin Islands. Felt at Carolina, Culebra and San Juan, Puerto Rico.

ISC 21 19:00:20.9±0.4, 19°25N±0°.04×64°84W±0°.03, h20$^{km}_{\pm 4km}$, n199, σ1°16/217, mb4.5/40, MS3.7/13, 18C-49D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABVI	**Anegada Island**	**0.71**	**137**	*i* Pu	**Pb**	**19 00 33.7**	**-0.8**
ABVI				*e*S	**Sb**	**19 00 43.7**	**-0.1**
ABV	**Anegada**	**0.71**	**137**	⇑*i*P	**Pb**	**19 00 33.7**	**-0.8**
ABV	**Anegada**	**0.71**	**137**	⇑*i*P	**Pb**	**19 00 33.7**	**-0.8**
ABV				*e*S	**Sb**	**19 00 43.7**	**-0.2**
TBVI	**Tortola**	**0.86**	**166**	⇓*i*P	**Pb**	**19 00 36.9**	**-0.1**
TBVI				*e*S	**Sb**	**19 00 48.7**	**+0.6**
TBVI	**Tortola**	**0.86**	**166**	⇓*i*P	**Pb**	**19 00 36.9**	**-0.1**
TBVI	**Tortola**	**0.86**	**166**	⇓*i*P	**Pb**	**19 00 36.9**	**-0.1**
STVI	**Saint Thomas**	**0.90**	**187**	⇓*e*P	**Pb**	**19 00 37.7**	**-0.1**
STVI				*e*S	**Sb**	**19 00 49.4**	**0.0**
STVI	**Saint Thomas**	**0.90**	**187**	⇓*i*P	**Pb**	**19 00 37.9**	**+0.1**
STVI	**Saint Thomas**	**0.90**	**187**	⇓*e*P	**Pb**	**19 00 37.7**	**-0.1**
STVI				*e*S	**Sb**	**19 00 49.1**	**-0.3**
STVI				*e*S	**Sb**	**19 00 49.4**	**0.0**
STVI	**Saint Thomas**	**0.90**	**187**	⇓*e*P	**Pb**	**19 00 37.7**	**-0.1**
STVI	**Saint Thomas**	**0.90**	**187**	⇓*i*P	**Pb**	**19 00 37.9**	**+0.1**
STVI				*e*S	**Sb**	**19 00 49.1**	**-0.3**
STVI				*e*S	**Sb**	**19 00 49.4**	**0.0**
MTP	**Monte Pirata**	**1.33**	**211**	⇓*i*P	**Pn**	**19 00 44.3**	**0.0**
MTP	**Monte Pirata**	**1.33**	**211**	*e*S	**Sn**	**19 01 01.8**	**+0.4**
MTP	**Monte Pirata**	**1.33**	**211**	⇓*i*P	**Pn**	**19 00 44.3**	**0.0**
MTP				*e*S	**Sn**	**19 01 01.8**	**+0.4**
MTP	**Monte Pirata**	**1.33**	**211**	⇓*i*P	**Pn**	**19 00 44.3**	**0.0**
MTP				*e*S	**Sn**	**19 01 01.8**	**+0.4**
CBYP	**Canovanas**	**1.37**	**225**	⇑*e*P	**Pn**	**19 00 44.7**	**-0.1**
CBYP	**Canovanas**	**1.37**	**225**	⇑*i*P	**Pn**	**19 00 44.7**	**-0.1**
CBYP	**Canovanas**	**1.37**	**225**	*e*S	**Sn**	**19 01 01.9**	**-0.6**
CBYP	**Canovanas**	**1.37**	**225**	*e*Pn	**Pn**	**19 00 44.6**	**-0.3**
CBYP				*e*S	**Sn**	**19 01 01.9**	**-0.6**
CBYP				*e*Sn	**Sb**	**19 01 02.5**	**-0.4**
CBYP	**Canovanas**	**1.37**	**225**	⇑*e*P	**Pn**	**19 00 44.7**	**-0.1**
CBYP	**Canovanas**	**1.37**	**225**	⇑*i*P	**Pn**	**19 00 44.7**	**-0.1**
CBYP				*e*S	**Sn**	**19 01 01.9**	**-0.6**
HUMP	**Col San Antoni**	**1.46**	**221**	⇓*i*P	**Pn**	**19 00 46.0**	**-0.1**
HUMP				*e*S	**Sn**	**19 01 03.9**	**-0.7**
HUMP	**Col San Antoni**	**1.46**	**221**	⇓*i*P	**Pn**	**19 00 46.0**	**-0.1**
HUMP	**Col San Antoni**	**1.46**	**221**	⇓*i*P	**Pn**	**19 00 46.0**	**-0.1**
HUMP				*e*S	**Sn**	**19 01 03.5**	**-1.1**
HUMP				*e*S	**Sn**	**19 01 03.9**	**-0.7**
HUMP	**Col San Antoni**	**1.46**	**221**	⇓*i*P	**Pn**	**19 00 46.0**	**-0.1**
HUMP	**Col San Antoni**	**1.46**	**221**	⇓*i*P	**Pn**	**19 00 46.0**	**-0.1**
HUMP				*e*S	**Sn**	**19 01 03.5**	**-1.1**
HUMP				*e*S	**Sn**	**19 01 03.9**	**-0.7**
CDVI	**St. Croix**	**1.50**	**177**	⇑*i*P	**Pn**	**19 00 47.7**	**+1.2**
CDVI	**St. Croix**	**1.50**	**177**	⇑*e*P	**Pn**	**19 00 47.7**	**+1.2**
CDVI	**St. Croix**	**1.50**	**177**	*e*S	**Sn**	**19 01 04.6**	**-0.8**
CDVI	**St. Croix**	**1.50**	**177**	*i* Pu	**Pn**	**19 00 47.7**	**+1.2**
CDVI				*e*S	**Sn**	**19 01 04.6**	**-0.8**
CDVI	**St. Croix**	**1.50**	**177**	⇑*i*P	**Pn**	**19 00 47.7**	**+1.2**
CDVI	**St. Croix**	**1.50**	**177**	⇑*e*P	**Pn**	**19 00 47.7**	**+1.2**
CDVI				*e*S	**Sn**	**19 01 04.6**	**-0.8**
CPD	**Cerro la Pandu**	**1.58**	**220**	⇓*i*P	**Pn**	**19 00 47.8**	**+0.1**
CPD	**Cerro la Pandu**	**1.58**	**220**	*e*S	**Sn**	**19 01 07.4**	**-0.2**
CPD	**Cerro la Pandu**	**1.58**	**220**	⇓*i*P	**Pn**	**19 00 47.8**	**+0.1**
CPD				*e*S	**Sn**	**19 01 07.4**	**-0.2**
CPD	**Cerro la Pandu**	**1.58**	**220**	⇓*i*P	**Pn**	**19 00 47.8**	**+0.1**
CPD				*e*S	**Sn**	**19 01 07.4**	**-0.2**
SJG	**San Juan**	**1.68**	**228**	⇓*i*P	**Pn**	**19 00 48.9**	**-0.2**
SJG	**San Juan**	**1.68**	**228**	*e*S	**Sn**	**19 01 09.6**	**-0.5**
SJG	**San Juan**	**1.68**	**228**	⇓*i*P	**Pn**	**19 00 49.0**	**-0.2**
SJG	**San Juan**	**1.68**	**228**	*e*Pn	**Pn**	**19 00 48.9**	**-0.2**
SJG				*e*Sn	**Sn**	**19 01 07.9**	**-2.1**
SJG				*e*S	**Sn**	**19 01 09.6**	**-0.5**
SJG	**San Juan**	**1.68**	**228**	⇓*i*P	**Pn**	**19 00 48.9**	**-0.2**
SJG	**San Juan**	**1.68**	**228**	⇓*i*P	**Pn**	**19 00 49.1**	**0.0**
SJG				*e*S	**Sn**	**19 01 09.6**	**-0.5**
CELP	**Cerrillos**	**2.02**	**235**	⇓*i*P	**Pn**	**19 00 54.1**	**+0.4**
CELP	**Cerrillos**	**2.02**	**235**	*e*Pn	**Pn**	**19 00 53.8**	**0.0**
CELP	**Cerrillos**	**2.02**	**235**	⇓*i*P	**Pn**	**19 00 54.1**	**+0.4**
AOPR	**Arecibo Observ**	**2.02**	**244**	⇓*e*P	**Pn**	**19 00 54.1**	**+0.2**
AOPR	**Arecibo Observ**	**2.02**	**244**	⇓*e*P	**Pn**	**19 00 54.3**	**+0.5**
AOPR	**Arecibo Observ**	**2.02**	**244**	*e*S	**Sn**	**19 01 19.0**	**+0.5**
AOPR	**Arecibo Observ**	**2.02**	**244**	⇓*e*P	**Pn**	**19 00 54.1**	**+0.2**
AOPR				*e*S	**Sn**	**19 01 19.0**	**+0.5**
AOPR	**Arecibo Observ**	**2.02**	**244**	⇓*e*P	**Pn**	**19 00 54.3**	**+0.5**
AOPR	**Arecibo Observ**	**2.02**	**244**	⇓*e*P	**Pn**	**19 00 54.8**	**+1.0**
AOPR				*e*S	**Sn**	**19 01 19.0**	**+0.5**
OBIP	**Obispado Ponce**	**2.06**	**235**	⇓*i*P	**Pn**	**19 00 54.7**	**+0.4**
OBIP	**Obispado Ponce**	**2.06**	**235**	*e*S	**Sn**	**19 01 19.0**	**-0.4**
OBIP	**Obispado Ponce**	**2.06**	**235**	⇓*i*P	**Pn**	**19 00 54.7**	**+0.4**
OBIP				*e*S	**Sn**	**19 01 19.0**	**-0.4**
OBIP	**Obispado Ponce**	**2.06**	**235**	⇓*i*P	**Pn**	**19 00 54.7**	**+0.4**
OBIP				*e*S	**Sn**	**19 01 19.2**	**-0.2**
LRS	**Lares**	**2.13**	**244**	⇑*i*P	**Pn**	**19 00 55.4**	**+0.2**
LRS	**Lares**	**2.13**	**244**	*i* Pu	**Pn**	**19 00 55.4**	**+0.2**
LRS	**Lares**	**2.13**	**244**	⇑*i*P	**Pn**	**19 00 55.4**	**+0.2**
AGPR	**Aguadilla, PR**	**2.29**	**250**	⇑*e*P	**Pn**	**19 00 57.3**	**-0.1**
AGPR	**Aguadilla, PR**	**2.29**	**250**	*e*S	**Sn**	**19 01 24.4**	**-0.6**
AGPR	**Aguadilla, PR**	**2.29**	**250**	*e*Pn	**Pn**	**19 00 57.0**	**-0.4**
AGPR				*e*S	**Sn**	**19 01 24.4**	**-0.6**
AGPR	**Aguadilla, PR**	**2.29**	**250**	⇑*e*P	**Pn**	**19 00 57.3**	**-0.1**
AGPR				*e*S	**Sn**	**19 01 24.4**	**-0.6**
GBPR	**Guanica, Bosqu**	**2.31**	**237**	⇓*i*P	**Pn**	**19 00 59.0**	**+1.2**
GBPR	**Guanica, Bosqu**	**2.31**	**237**	*e*S	**Sn**	**19 01 27.0**	**+1.4**
GBPR	**Guanica, Bosqu**	**2.31**	**237**	⇓*i*P	**Pn**	**19 00 59.0**	**+1.2**
GBPR				*e*S	**Sn**	**19 01 27.0**	**+1.4**
GBPR	**Guanica, Bosqu**	**2.31**	**237**	⇓*i*P	**Pn**	**19 00 59.0**	**+1.2**
GBPR				*e*S	**Sn**	**19 01 27.2**	**+1.6**
LSP	**Las Mesas**	**2.38**	**244**	⇓*i*P	**Pn**	**19 00 59.4**	**+0.6**
LSP	**Las Mesas**	**2.38**	**244**	*e*Pn	**Pn**	**19 00 59.1**	**+0.4**
LSP	**Las Mesas**	**2.38**	**244**	⇓*i*P	**Pn**	**19 00 59.4**	**+0.6**
MPR	**Mayaguez**	**2.41**	**245**	⇓*e*P	**Pn**	**19 01 00.3**	**+1.1**
MPR	**Mayaguez**	**2.41**	**245**	⇓*e*P	**Pn**	**19 01 00.3**	**+1.1**
MPR	**Mayaguez**	**2.41**	**245**	⇓*e*P	**Pn**	**19 01 00.3**	**+1.1**
CRPR	**Cabo Rojo, PR**	**2.48**	**240**	⇓*i*P	**Pn**	**19 01 00.7**	**+0.6**
CRPR	**Cabo Rojo, PR**	**2.48**	**240**	⇓*i*P	**Pn**	**19 01 00.7**	**+0.6**
CRPR	**Cabo Rojo, PR**	**2.48**	**240**	⇓*i*P	**Pn**	**19 01 00.7**	**+0.6**
IDE	**Isla Desecheo**	**2.64**	**251**	⇓*e*P	**Pn**	**19 01 02.2**	**-0.1**
IDE	**Isla Desecheo**	**2.64**	**251**	⇓*e*P	**Pn**	**19 01 02.2**	**-0.1**
IDE	**Isla Desecheo**	**2.64**	**251**	⇓*e*P	**Pn**	**19 01 02.2**	**-0.1**
IMO	**Isla Mona**	**3.12**	**249**	⇑*e*P	**Pn**	**19 01 10.4**	**+1.5**
IMO	**Isla Mona**	**3.12**	**249**	⇑*e*P	**Pn**	**19 01 10.4**	**+1.5**
IMO	**Isla Mona**	**3.12**	**249**	⇑*e*P	**Pn**	**19 01 10.4**	**+1.5**
ANWB	**Willy Bob**	**3.30**	**118**	*e*P	**Pn**	**19 01 09.5**	**-1.8**
LZG	**Guadaloupe-1**	**4.26**	**136**	*e*P	**Pn**	**19 01 25.2**	**+0.7**
SEG	**Port Louis**	**4.26**	**131**	*e*P	**Pn**	**19 01 24.2**	**-0.3**
DR12	**Loma Pena Alta**	**4.32**	**265**	⇓*i*P	**Pn**	**19 01 25.6**	**+0.1**
DR12				*e*S	**Sn**	**19 02 14.5**	**-0.7**
DR12	**Loma Pena Alta**	**4.32**	**265**	⇓*i*P	**Pn**	**19 01 25.6**	**+0.1**
DR12				*e*S	**Sn**	**19 02 14.5**	**-0.7**
BCG	**Bois Riant Cap**	**4.40**	**135**	*e*P	**Pn**	**19 01 26.9**	**+0.4**
SCG	**Saint Claude**	**4.40**	**136**	⇑*i*P	**Pn**	**19 01 27.7**	**+1.1**
SCG				⇑*e*S	**Sn**	**19 02 19.2**	**+1.9**
HMG	**Houelmont**	**4.42**	**137**	⇑*i*P	**Pn**	**19 01 27.9**	**+1.1**
PHG	**Guadaloupe-2**	**4.43**	**136**	*e*P	**Pn**	**19 01 27.9**	**+0.8**
DOG	**Dongo Capester**	**4.44**	**136**	*e*P	**Pn**	**19 01 27.6**	**+0.5**
TBG	**Guadaloupe-3**	**4.55**	**137**	*e*P	**Pn**	**19 01 29.1**	**+0.5**
MGG	**Marie-Galante**	**4.72**	**134**	*e*P	**Pn**	**19 01 31.2**	**+0.3**
FDF	**Fort de France**	**5.71**	**141**	*e*P	**Pn**	**19 01 43.6**	**-1.1**
	92nm,0.6s						
FDF	**Fort de France**	**5.71**	**141**	*e*P	**Pn**	**19 01 46.3**	**+1.7**
SDDR	**Presa de Saban**	**6.10**	**269**	⇑*e*P	**Pn**	**19 01 51.2**	**+1.2**
SDDR	**Presa de Saban**	**6.10**	**269**	*e*S	**Sn**	**19 02 60.0**	**+0.7**
SDDR	**Presa de Saban**	**6.10**	**269**	*e*Pn	**Pn**	**19 01 50.9**	**+0.6**
SDDR				*e*Sn	Sn	19 02 55.0	-4.2
SDDR				*e*S	Sb	19 02 60.0	-19
SDDR	**Presa de Saban**	**6.10**	**269**	⇑*e*P	**Pn**	**19 01 51.2**	**+1.2**
SDDR				*e*S	**Sn**	**19 02 60.0**	**+0.7**
GRTK	**Grand Turk**	**6.32**	**292**	*e*P	**Pn**	**19 01 51.7**	**-1.1**
	208nm,0.8s						
GRGR	**Grenville**	**7.71**	**156**	*e*Pn	**Pn**	**19 02 11.9**	**-0.2**
GTBY	**Guantanamo Bay**	**9.71**	**276**	*e*Pn	Pn	19 02 37.2	-2.2
GTBY				*e*Sn	Sn	19 04 19.0	-8.8
SDV	**Santo Domingo**	**11.73**	**209**	*e*Pn	**Pn**	**19 03 09.2**	**+1.8**
SDV				*e*Sn	Sn	19 05 11.2	-6.7
BBSR	**BB Station**	**13.06**	**1**	*e*Pn	**Pn**	**19 03 23.1**	**-2.2**
BBSR				*e*Sn	Sn	19 05 28.9	-21
ROSC	**El Rosal**	**17.04**	**214**	Pn	**Pn**	**19 04 18.4**	**-0.1**
ROSC	**El Rosal**	**17.04**	**214**	Pn	**Pn**	**19 04 18.4**	**-0.1**
	baz=270,slow=21,SNR=2.0						
ROSC				LR	LR	19 09 54.4	
	comp=Z,95nm,20.0s,baz=166,slow=34						
DWPF	**Disney**	**17.55**	**303**	*e*Pn	**Pn**	**19 04 24.3**	**0.0**
BCIP	**Isla Barro Col**	**17.64**	**237**	*e*Pn	**Pn**	**19 04 25.2**	**-0.3**
NHSC	**New Hope**	**19.45**	**318**	*e*P	Pn	19 04 53.4	+6.0
	181nm,0.8s						
CNNC	**Cliffs of the**	**19.67**	**327**	*e*P	**Pn**	**19 04 52.0**	**+2.0**
	114nm,0.5s						
JTS	**JuntasAbangare**	**21.37**	**248**	P	**P**	**19 05 05.1**	**-2.1**
JTS	**JuntasAbangare**	**21.37**	**248**	P	**P**	**19 05 05.1**	**-2.1**
	5.0nm,0.6s,baz=95,slow=16,SNR=3.9						
TEIG	**Tepich**	**22.08**	**276**	*e*P	**P**	**19 05 14.0**	**-0.7**
	26nm,1.1s						
TEIG	**Tepich**	**22.08**	**276**	P	**P**	**19 05 14.4**	**-0.4**
	5.0nm,0.5s,baz=26,slow=7.8,SNR=6.2						
VWCC	**Virginia Weste**	**22.29**	**327**	P	**P**	**19 05 16.8**	**-0.1**
VWCC				*e*S	**S**	**19 09 15.8**	**-5.4**
BLA	**Blacksburg**	**22.49**	**326**	*e*P	**P**	**19 05 20.8**	**+1.7**
	196nm,0.6s						
BLA				*e*S	**S**	**19 09 21.4**	**-3.6**
BRNJ	**Basking Ridge**	**22.93**	**341**	P	**P**	**19 05 24.8**	**+1.2**
BRNJ				*e*S	**S**	**19 09 29.7**	**-2.8**
OTAV	**Otavalo**	**23.14**	**217**	*e*P	**P**	**19 05 26.4**	**-0.1**
	25nm,1.0s						
CPCT	**Cooper Cave**	**23.72**	**317**	*e*P	**P**	**19 05 31.6**	**+0.1**
CPCT				*e*		19 05 50.0	
CPCT				*e*S	**S**	**19 09 41.2**	**-4.4**
TZTN	**Tazewell**	**23.80**	**320**	P	**P**	**19 05 30.4**	**-2.0**
	32nm,0.8s						
TZTN				*e*		19 05 50.7	
HRV	**Adam Dziewonsk**	**23.87**	**348**	P	**P**	**19 05 36.0**	**+3.1**
	26nm,0.8s						
HRV				*e*		19 05 54.5	
HRV				*e*S	S	19 09 40.3	-7.6
HNH	**Hanover**	**25.17**	**347**	P	P	19 05 52.7	+7.9
	10nm,0.5s						
HNH				*e*		19 06 13.2	
ACCN	**Adirondack Com**	**25.18**	**345**	*e*P	P	19 06 10.8	+26
LBNH	**Lisbon**	**25.61**	**348**	*e*P	P	19 06 13.4	+25
NCB	**Newcomb**	**25.87**	**344**	*e*P	P	19 05 45.2	-6.0
	22nm,0.7s						
NCB				*e*		19 06 08.7	
WVT	**Waverly**	**26.30**	**314**	P	**P**	**19 05 55.7**	**+0.6**
	6.7nm,0.5s						
WVT				*e*		19 06 25.4	
SAML	**Samuel**	**28.07**	**177**	*e*P	P	19 06 08.9	-2.2
	29nm,1.1s						
SADO	**Sadowa**	**28.10**	**338**	LR	LR	19 16 02.8	
	comp=Z,157nm,21.5s,baz=182,slow=33						
WMOK	**Wichita Mounta**	**33.76**	**304**	P	**P**	**19 07 02.4**	**+1.2**
WMOK				*e*		19 08 01.0	
SIV	**San Ignacio**	**35.22**	**174**	P	P	19 07 09.8	-4.2
SIV	**San Ignacio**	**35.22**	**174**	P	P	19 07 09.8	-4.2
	5.9nm,0.7s,baz=28,slow=11,SNR=13						
LPAZ	**La Paz**	**35.47**	**185**	*e*P	P	19 07 13.2	-3.6
LPAZ	**La Paz**	**35.47**	**185**	P	P	19 07 13.4	-3.3
	1.3nm,0.3s,baz=0.6,slow=6.9,SNR=3.7						
LPAZ				LR	LR	19 20 42.0	
	comp=Z,77nm,18.4s,baz=27,slow=35						
SCHQ	**Schefferville**	**35.55**	**358**	P	**P**	**19 07 17.9**	**+1.5**
SCHQ	**Schefferville**	**35.55**	**358**	P	**P**	**19 07 17.9**	**+1.5**
	3.2nm,0.8s,baz=187,slow=7.5,SNR=5.1						
AMTX	**Amarillo**	**36.08**	**303**	*e*P	**P**	**19 07 21.6**	**+0.2**
	19nm,1.1s						
TXAR	**Lajitas Array**	**36.64**	**293**	P	**P**	**19 07 26.8**	**+0.6**
TXAR	**Lajitas Array**	**36.64**	**293**	P	**P**	**19 07 26.8**	**+0.6**
	2.5nm,0.5s,baz=112,slow=12,SNR=7.0						
RCBR	**Riachuelo**	**37.86**	**128**	P	**P**	**19 07 34.7**	**-1.9**
RCBR	**Riachuelo**	**37.86**	**128**	P	**P**	**19 07 34.7**	**-1.9**
	9.8nm,0.8s,baz=322,slow=8.5,SNR=8.0						
BDFB	**Brasilia**	**38.42**	**153**	P	**P**	**19 07 39.6**	**-1.8**
BDFB	**Brasilia**	**38.42**	**153**	P	**P**	**19 07 39.6**	**-1.8**
	4.7nm,0.8s,baz=324,slow=12,SNR=4.9						
BDFB				LR	LR	19 24 17.3	
	comp=Z,192nm,18.1s,baz=342,slow=38						
ULM	**Lac du Bonnet**	**39.56**	**329**	LR	LR	19 22 48.1	
	comp=Z,217nm,18.9s,baz=190,slow=34						
BNM	**Barren Site**	**39.88**	**300**	*e*P	**P**	**19 07 54.4**	**+0.7**
	6.3nm,1.0s						
ANMO	**Albuquerque**	**39.90**	**302**	*e*P	**P**	**19 07 55.3**	**+1.6**
	4.6nm,1.0s						
LVC	**Limon Verde**	**41.80**	**186**	P	P	19 08 04.2	-5.2
LVC	**Limon Verde**	**41.80**	**186**	P	P	19 08 05.6	-3.9
	3.8nm,0.7s,baz=63,slow=5.1,SNR=3.5						
PV01	**Paradox Valley**	**42.28**	**306**	P	**P**	**19 08 15.9**	**+2.6**
BW06	**Boulder Array**	**44.27**	**312**	*e*P	**P**	**19 08 29.9**	**+0.6**
PDAR	**Pinedale Array**	**44.27**	**312**	P	**P**	**19 08 29.9**	**+0.6**
PDAR	**Pinedale Array**	**44.27**	**312**	P	**P**	**19 08 29.9**	**+0.6**
	3.8nm,0.8s,baz=116,slow=8.8,SNR=10						
FRB	**Frobisher Bay**	**44.53**	**358**	P	**P**	**19 08 32.2**	**+1.4**
FRB	**Frobisher Bay**	**44.53**	**358**	P	**P**	**19 08 32.2**	**+1.4**
	4.1nm,0.7s,baz=169,slow=8.6,SNR=4.4						
FRB				LR	LR	19 25 50.4	
	comp=Z,73nm,20.4s,baz=258,slow=34						
LOHW	**Long Hollow**	**45.25**	**313**	*e*P	**P**	**19 08 36.6**	**-0.6**
REDW	**Red Top Meadow**	**45.35**	**312**	*e*P	**P**	**19 08 39.0**	**+1.0**
	28nm,1.4s						
HWUT	**Hardware Ranch**	**45.37**	**310**	*e*P	**P**	**19 08 38.2**	**+0.1**
CPUP	**Villa Florida**	**45.90**	**171**	P	P	19 08 38.0	-4.0
CPUP	**Villa Florida**	**45.90**	**171**	P	P	19 08 38.0	-4.0
	2.3nm,0.3s,baz=346,slow=7.1,SNR=21						
CPUP				LR	LR	19 26 31.4	
	comp=Z,95nm,20.4s,baz=82,slow=34						
DUG	**Dugway**	**45.96**	**308**	*e*P	**P**	**19 08 44.4**	**+1.7**
ARUT	**Antelope Range**	**45.97**	**304**	P	**P**	**19 08 45.0**	**+2.1**
	5.3nm,0.7s						
QLMT	**Earthquake Lak**	**46.19**	**314**	*e*P	**P**	**19 08 46.4**	**+1.8**
	1.2nm,0.8s						
BGU	**Big Grassy Mou**	**46.28**	**309**	*e*P	**P**	**19 08 45.6**	**+0.3**
	11nm,1.1s						
LDFC	**Landfair**	**46.94**	**300**	*e*P	P	19 08 53.9	+3.4
HRY	**Holter Researc**	**47.06**	**317**	*e*P	**P**	**19 08 51.1**	**-0.1**
MCMT	**McKenzie Canyo**	**47.15**	**314**	*e*P	**P**	**19 08 54.2**	**+2.1**
	1.3nm,0.8s						
BMN	**Battle Mountai**	**49.31**	**307**	P	**P**	**19 09 10.8**	**+2.0**
	5.5nm,0.8s						
NVAR	**Mina Array Bea**	**49.86**	**304**	P	**P**	**19 09 15.8**	**+2.7**
NVAR	**Mina Array Bea**	**49.86**	**304**	P	**P**	**19 09 15.8**	**+2.7**
	5.6nm,1.0s,baz=100,slow=7.9,SNR=15						
WAKR	**Walker**	**50.75**	**304**	P	P	19 09 23.5	+3.7
	5.9nm,1.1s						
NEW	**Newport**	**50.95**	**317**	*e*P	**P**	**19 09 21.1**	**+0.2**
YBH	**Yreka Blue Hor**	**53.60**	**308**	*e*P	**P**	**19 09 42.0**	**+1.2**
	6.7nm,1.1s						
YKA	**Yellowknife Ar**	**55.00**	**334**	P	**P**	**19 09 52.5**	**+2.0**
YKA	**Yellowknife Ar**	**55.00**	**334**	P	**P**	**19 09 52.5**	**+2.0**
	0.6nm,0.6s,baz=114,slow=7.6,SNR=3.5						
BBB	**Bella Bella**	**58.67**	**320**	LR	LR	19 34 09.5	
	comp=Z,44nm,20.8s,baz=170,slow=34						
DBIC	**Dimbokro**	**59.52**	**94**	P	**P**	**19 10 23.4**	**+0.2**
DBIC	**Dimbokro**	**59.52**	**94**	P	**P**	**19 10 23.4**	**+0.2**
	4.3nm,0.7s,baz=266,slow=2.9,SNR=5.3						
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LAIN				LG	Lg	19 10 58.4	
LAIN				Trac		19 11 04.3	
	comp=Z,417nm,0.6s						
AP3N	**Apex site 3 Nu**	**5.66**	**267**	PN	**Pn**	**19 09 31.4**	**-0.1**
AP3N				SN	**Sn**	**19 10 34.9**	**-1.6**
AP3N				LG	Lg	19 11 06.4	
AP3N				Trac		19 11 07.6	
	comp=Z,600nm,0.7s						
FRB	**Frobisher Bay**	**6.77**	**181**	PN	**Pn**	**19 09 47.5**	**+0.8**
FRB				SN	**Sn**	**19 11 02.4**	**-1.4**
FRB				LG	Lg	19 11 37.0	
FRB				Trac		19 11 47.2	
	comp=Z,444nm,0.6s						
FRB	**Frobisher Bay**	**6.77**	**181**	Pn	**Pn**	**19 09 46.6**	**0.0**
FRB				Sn	**Sn**	**19 11 01.2**	**-2.5**
FRB				Lg	Lg	19 11 36.2	
FRB	**Frobisher Bay**	**6.77**	**181**	Pn	**Pn**	**19 09 46.6**	**0.0**
	1.9nm,0.3s,baz=1.2,slow=14,SNR=8.8						
FRB				Sn	**Sn**	**19 11 01.2**	**-2.5**
	8.4nm,0.3s,baz=275,slow=16,SNR=5.6						
FRB				Lg	Lg	19 11 36.2	
	18nm,0.3s,baz=296,slow=19,SNR=5.7						
SFJD	**Kangerlussuaq**	**7.29**	**110**	*e*Pn	Pn	19 09 49.4	-4.3
SFJD				Sn	Sn	19 11 08.7	-7.7
SFJD				*e*Sn	Sn	19 11 09.2	-7.1
SFJD	**Kangerlussuaq**	**7.29**	**110**	Pn	Pn	19 09 50.5	-3.2
	3.0nm,0.3s,baz=317,slow=14,SNR=7.0						
SFJD				Sn	Sn	19 11 08.7	-7.7
	7.9nm,0.3s,baz=220,slow=20,SNR=6.3						
QILN	**Qililugaq Expl**	**7.65**	**249**	PN	**Pn**	**19 09 57.5**	**-1.2**
QILN				SN	Sn	19 11 21.3	-4.0
QILN				LG	Lg	19 12 05.9	
QILN				Trac		19 12 24.2	
	comp=Z,659nm,0.9s						
KUGN	**Kugaaruk Camp,**	**8.07**	**263**	PN	**Pn**	**19 10 02.9**	**-1.6**
KUGN				SN	**Sn**	**19 11 32.1**	**-3.6**
KUGN				LG	Lg	19 12 20.0	
KUGN				Trac		19 12 21.9	
	comp=Z,474nm,0.8s						
RES	**Resolute Bay**	**8.96**	**310**	PN	**Pn**	**19 10 17.6**	**+1.0**
RES				SN	**Sn**	**19 11 54.8**	**-2.6**
RES				LG	Lg	19 12 46.5	
RES				Trac		19 13 10.6	
	comp=Z,204nm,0.9s						
RES	**Resolute Bay**	**8.96**	**310**	Pn	**Pn**	**19 10 17.1**	**+0.6**
RES				Lg	Lg	19 12 46.9	
RES	**Resolute Bay**	**8.96**	**310**	Pn	**Pn**	**19 10 17.1**	**+0.6**
	1.6nm,0.3s,baz=55,slow=0.5,SNR=8.0						
RES				Lg	Lg	19 12 46.9	
	2.2nm,0.3s,baz=225,slow=23,SNR=8.9						
RES				LR	LR	19 13 44.2	
	comp=Z,174nm,19.1s,baz=102,slow=37						
WAGN	**Wager Bay**	**9.11**	**250**	PN	Pn	19 10 15.6	-3.1
WAGN				SN	Sn	19 11 52.8	-8.2
WAGN				LG	Lg	19 12 52.9	
WAGN				Trac		19 12 57.9	
	comp=Z,239nm,0.5s						
STLN	**Stellar Camp,**	**9.43**	**262**	PN	**Pn**	**19 10 21.5**	**-1.6**
STLN				SN	Sn	19 12 02.0	-6.9
STLN				LG	Lg	19 12 59.4	
STLN				Trac		19 13 09.3	
	comp=Z,291nm,0.7s						
BULN	**Bullion Camp,**	**9.98**	**258**	PN	Pn	19 10 27.5	-3.1
BULN				SN	Sn	19 12 15.6	-6.8
BULN				LG	Lg	19 13 16.6	
BULN				Trac		19 13 43.7	
	comp=Z,162nm,0.6s						
NUNN	**Nunuq Camp, NU**	**10.06**	**249**	PN	Pn	19 10 28.5	-3.1
NUNN				SN	Sn	19 12 16.9	-7.4
NUNN				LG	Lg	19 13 19.1	
NUNN				Trac		19 13 34.6	
	comp=Z,195nm,0.6s						
AKVQ	**Akulivik**	**10.53**	**208**	PN	**Pn**	**19 10 39.5**	**+1.4**
AKVQ				SN	Sn	19 12 26.7	-9.2
AKVQ				LG	Lg	19 13 32.0	
AKVQ				Trac		19 13 52.7	
	comp=Z,529nm,1.2s						
EUNU	**Eureka**	**10.57**	**343**	PN	**Pn**	**19 10 36.3**	**-2.4**
EUNU				SN	Sn	19 12 18.4	-19
SEDN	**First Sedna Si**	**11.50**	**242**	PN	Pn	19 10 49.0	-2.4
SEDN				SN	Sn	19 12 49.8	-10
SEDN				LG	Lg	19 14 01.0	
SEDN				Trac		19 14 07.6	
	comp=Z,294nm,1.0s						
JOSN	**Second Sedna S**	**11.67**	**243**	PN	**Pn**	**19 10 52.8**	**-0.9**
JOSN				SN	Sn	19 12 52.8	-11
JOSN				LG	Lg	19 14 07.8	
JOSN				Trac		19 14 16.2	
	comp=Z,221nm,0.7s						
YBKN	**Baker Lake, Hu**	**12.23**	**253**	SN	Sn	19 13 10.4	-7.0
YBKN				LG	Lg	19 14 26.5	
YBKN				Trac		19 14 34.9	
	comp=Z,208nm,0.8s						
KUQ	**Kuujjuuaa**	**12.43**	**180**	PN	Pn	19 11 00.8	-3.3
KUQ				SN	Sn	19 13 10.9	-12
KUQ				LG	Lg	19 14 29.5	
KUQ				Trac		19 14 34.3	
	comp=Z,251nm,0.6s						
CB31	**Cambridge Bay**	**12.67**	**281**	PN	Pn	19 11 04.4	-2.9
CB31				SN	Sn	19 13 18.6	-10
CB31				LG	Lg	19 14 35.3	
CB31				Trac		19 14 41.8	
	comp=Z,207nm,0.8s						
INUQ	**Inukjuak**	**12.78**	**204**	PN	**Pn**	**19 11 08.4**	**-0.5**
INUQ				SN	Sn	19 13 18.5	-12
INUQ				LG	Lg	19 14 39.4	
INUQ				Trac		19 14 51.6	
	comp=Z,540nm,0.9s						
SCHQ	**Schefferville**	**15.73**	**177**	PN	Pn	19 11 44.3	-4.5
SCHQ				SN	Sn	19 14 30.9	-12
SCHQ				LG	Lg	19 16 10.7	
SCHQ				Trac		19 16 23.5	
	comp=Z,195nm,1.2s						
SCHQ	**Schefferville**	**15.73**	**177**	Pn	Pn	19 11 43.1	-5.6
SCHQ				Sn	Sn	19 14 32.5	-10
SCHQ				Lg	Lg	19 16 11.0	
SCHQ	**Schefferville**	**15.73**	**177**	Pn	Pn	19 11 43.1	-5.6
	0.6nm,0.3s,baz=343,slow=14,SNR=5.4						
SCHQ				Sn	Sn	19 14 32.5	-10
	1.1nm,0.3s,baz=261,slow=9.1,SNR=3.7						
SCHQ				Lg	Lg	19 16 11.0	
	1.5nm,0.3s,baz=84,slow=18,SNR=5.8						
FCC	**Fort Churchill**	**15.96**	**236**	SN	Sn	19 14 39.4	-9.0
FCC				LG	Lg	19 16 18.7	
FCC				Trac		19 16 36.6	
	comp=Z,144nm,0.8s						
SNLN	**Sandy Lake, NW**	**17.06**	**263**	PN	Pn	19 12 01.6	-4.0
SNLN				SN	Sn	19 15 00.6	-14
SNLN				LG	Lg	19 16 53.3	
SNLN				Trac		19 17 14.7	
	comp=Z,244nm,1.4s						
GDLN	**Gardenia Lake,**	**17.09**	**259**	LG	Lg	19 16 58.3	
GDLN				Trac		19 17 14.4	
	comp=Z,47nm,0.8s						
LG4Q	**La Grande 4**	**17.13**	**192**	PN	Pn	19 11 59.0	-7.5
LG4Q				SN	Sn	19 15 04.5	-12
LG4Q				LG	Lg	19 16 54.8	
LG4Q				Trac		19 17 07.3	
	comp=Z,112nm,0.7s						
COKN	**Cook Lake**	**17.14**	**265**	PN	Pn	19 11 59.4	-7.2
COKN				SN	Sn	19 15 05.4	-12
COKN				LG	Lg	19 16 52.9	
COKN				Trac		19 17 21.8	
	comp=Z,330nm,1.4s						
HPLN	**Hepburn Lake,**	**17.42**	**279**	PN	**Pn**	**19 12 08.3**	**-1.8**
HPLN				SN	Sn	19 15 12.9	-11
HPLN				LG	Lg	19 16 58.8	
HPLN				Trac		19 17 04.6	
	comp=Z,165nm,1.0s						
SILO	**Sutton Inlier**	**17.69**	**213**	PN	**Pn**	**19 12 11.7**	**-1.8**
SILO				SN	Sn	19 15 17.7	-13
SILO				LG	Lg	19 17 08.3	
SILO				Trac		19 17 28.3	
	comp=Z,228nm,1.1s						
YOSQ	**Ashton Mining**	**17.78**	**188**	SN	Sn	19 15 18.0	-15
YOSQ				LG	Lg	19 17 13.7	
YOSQ				Trac		19 17 32.1	
	comp=Z,403nm,1.7s						
WEMQ	**Wemindji, Queb**	**18.05**	**199**	PN	**Pn**	**19 12 18.7**	**+0.8**
WEMQ				SN	Sn	19 15 23.3	-16
WEMQ				LG	Lg	19 17 21.4	
WEMQ				Trac		19 17 34.0	
	comp=Z,171nm,0.7s						
VIMO	**Victor Mine**	**19.08**	**210**	PN	**P**	**19 12 30.7**	**+1.0**
VIMO				SN	Sn	19 15 50.7	-13
VIMO				LG	Lg	19 17 54.1	
VIMO				Trac		19 18 02.2	
	comp=Z,258nm,1.5s						
GALN	**Gameti Lake**	**19.45**	**275**	LG	Lg	19 18 01.9	
GALN				Trac		19 18 10.0	
	comp=Z,134nm,1.0s						
YKW3	**Yellowknife Ar**	**19.59**	**269**	PN	**P**	**19 12 33.5**	**-1.8**
YKW3				SN	S	19 15 59.9	-16
YKW3				LG	Lg	19 18 10.0	
YKW3				Trac		19 18 18.4	
	comp=Z,91nm,0.8s						
YKW3	**Yellowknife Ar**	**19.59**	**269**	*e*P	**P**	**19 12 33.4**	**-1.8**
	0.2nm,0.8s						
YKW3				*e*S	S	19 15 47.0	-29
YKA	**Yellowknife Ar**	**19.63**	**269**	Pn	**P**	**19 12 34.5**	**-1.2**
YKA				Sn	S	19 15 59.5	-17
YKA				Lg	Lg	19 18 11.2	
YKA	**Yellowknife Ar**	**19.63**	**269**	Pn	**P**	**19 12 34.4**	**-1.2**
	0.6nm,0.3s,baz=48,slow=14,SNR=13						
YKA				Sn	S	19 15 59.5	-17
	0.2nm,0.3s,baz=38,slow=21,SNR=3.9						
YKA				Lg	Lg	19 18 11.1	
	1.1nm,0.3s,baz=42,slow=30,SNR=5.8						
MATQ	**Matagami**	**21.26**	**197**	LG	Lg	19 19 01.3	
MATQ				Trac		19 19 11.0	
	comp=Z,89nm,0.7s						
FFC	**Flin Flon**	**21.67**	**241**	*e*P	**P**	**19 12 58.9**	**+1.1**
	9.1nm,0.8s						
FFC				*e*S	S	19 16 46.6	-11
INK	**Inuvik**	**22.09**	**296**	P	**P**	**19 13 02.4**	**+0.3**
INK				S	**S**	**19 17 07.0**	**+1.8**
INK	**Inuvik**	**22.09**	**296**	P	**P**	**19 13 02.4**	**+0.3**
	3.0nm,0.6s,baz=54,slow=12,SNR=5.2						
INK				S	**S**	**19 17 07.0**	**+1.8**
	1.7nm,0.6s,baz=143,slow=20,SNR=2.8						
ULM	**Lac du Bonnet**	**24.04**	**227**	P	**P**	**19 13 24.2**	**+2.0**
ULM				Lg	Lg	19 20 28.1	
ULM	**Lac du Bonnet**	**24.04**	**227**	P	**P**	**19 13 24.2**	**+2.0**
	4.5nm,0.6s,baz=37,slow=9.8,SNR=5.0						
ULM				Lg	Lg	19 20 28.1	
	69nm,1.1s,baz=126,slow=19,SNR=6.0						
EYMN	**Ely**	**25.20**	**219**	*e*P	**P**	**19 13 34.3**	**+1.4**
	6.3nm,0.8s						
SADO	**Sadowa**	**26.35**	**198**	Lg	Lg	19 21 36.9	
	52nm,0.9s,baz=277,slow=11,SNR=4.5						
DLBC	**Dease Lake**	**27.80**	**276**	Lg	Lg	19 22 25.5	
	4.5nm,0.7s,baz=198,slow=20,SNR=3.6						
NOA	**NORSAR Array B**	**31.50**	**66**	LR	LR	19 26 51.4	
	comp=Z,15nm,18.5s,baz=265,slow=36						
FLWY	**Flagg Ranch**	**33.73**	**241**	P	P	19 14 53.5	+4.6
	7.0nm,0.8s						
PDAR	**Pinedale Array**	**34.60**	**239**	P	**P**	**19 14 59.2**	**+2.8**
PDAR	**Pinedale Array**	**34.60**	**239**	P	**P**	**19 14 59.2**	**+2.8**
	4.0nm,0.5s,baz=38,slow=6.9,SNR=24						
BW06	**Boulder Array**	**34.61**	**239**	*e*P	**P**	**19 14 59.2**	**+2.7**
	5.2nm,0.5s						
HLID	**Hailey**	**35.32**	**245**	P	P	19 15 07.5	+5.0
	1.3nm,0.9s						
NVAR	**Mina Array Bea**	**41.20**	**246**	P	**P**	**19 15 54.6**	**+2.5**
NVAR	**Mina Array Bea**	**41.20**	**246**	P	**P**	**19 15 54.6**	**+2.5**
	0.9nm,0.8s,baz=44,slow=5.8,SNR=6.6						
TXAR	**Lajitas Array**	**45.72**	**225**	P	**P**	**19 16 30.9**	**+2.5**
TXAR	**Lajitas Array**	**45.72**	**225**	P	**P**	**19 16 30.9**	**+2.5**
	1.2nm,0.8s,baz=38,slow=5.3,SNR=9.1						
ZALV	**Zalesovo Beam**	**54.36**	**19**	P	**P**	**19 17 34.6**	**+1.0**
ZALV	**Zalesovo Beam**	**54.36**	**19**	P	**P**	**19 17 34.6**	**+1.0**
	1.3nm,0.6s,baz=347,slow=6.1,SNR=6.4						
MKAR	**Makanchi Array**	**61.10**	**23**	P	**P**	**19 18 19.9**	**-1.2**
MKAR	**Makanchi Array**	**61.10**	**23**	P	**P**	**19 18 19.9**	**-1.2**
	0.4nm,0.9s,baz=352,slow=2.9,SNR=3.2						
SONM	**Songino Array**	**61.93**	**4**	P	**P**	**19 18 27.1**	**+0.3**
SONM	**Songino Array**	**61.93**	**4**	P	**P**	**19 18 27.1**	**+0.3**
	0.2nm,0.8s,baz=52,slow=5.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**71.03**	**105**	P	**P**	**19 19 23.9**	**-1.3**
TORD	**Torodi Ar. Bea**	**71.03**	**105**	P	**P**	**19 19 23.9**	**-1.3**
	0.4nm,0.6s,baz=327,slow=4.6,SNR=2.8						

IDC 21 19:17:15.2±1.5, 14°47S×174°15W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.7/20, mbtmp3.9/4, ML2.4/1, MS3.8/1, Ms1 3.7/1, ms1mx2.7/29, Error ellipse: s-maj=105.5km s-min=22.3km az=158.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.37**	**77**	Pn	Pn	19 17 55.8	+0.3
	51nm,0.3s,baz=194,slow=1.8,SNR=48						
AFI				Sn	Sn	19 18 19.0	-6.3
	110nm,0.3s,baz=29,slow=21,SNR=25						
STKA	**Stephens Creek**	**43.88**	**239**	LR	LR	19 40 12.4	
	comp=Z,121nm,21.6s,baz=24,slow=31						
WRA	**Warramunga Arr**	**49.36**	**256**	P	P	19 26 06.8	-0.2
	0.4nm,0.4s,baz=91,slow=7.2,SNR=9.9						
ASAR	**Alice Springs**	**49.72**	**251**	P	P	19 26 09.4	-0.2
	0.8nm,0.3s,baz=88,slow=7.7,SNR=14						
NVAR	**Mina Array Bea**	**74.13**	**43**	P	P	19 28 53.4	-0.6
	0.5nm,0.7s,baz=223,slow=11,SNR=5.0						
GERES	**GERESS Array B**	**145.12**	**351**	PKPbc	PKPab	19 36 54.5	+0.1
	0.3nm,0.6s,baz=38,slow=5.0,SNR=3.8						

GUC 21 19:34:58.1±0.9, 33°23S×71°98W, h38km±3km, MD3.5, ML2.6, 3C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.34**	**55**	⇓*i*P	Pn	19 35 06.7	0.0
IHA				*i* S	Sn	19 35 13.3	+0.1
LCCH	**Las Cruces**	**0.42**	**126**	⇑*i*P	Pn	19 35 07.7	+0.1
LCCH				*i* S	Sn	19 35 14.8	+0.4
ROCH	**El Roble**	**0.85**	**73**	⇓*i*P	Pn	19 35 14.2	+0.4
ROCH				⇑*i*P		19 35 14.3	
ROCH				*i* S	Sn	19 35 26.4	+1.1
ROCH				*i* S		19 35 26.5	
ROCH				AML	AML	19 35 29.4	
	comp=N,358nm,0.5s						
LNV	**Longovilo**	**0.87**	**147**	⇓*i*P	Pn	19 35 13.9	+0.1
LNV				*i* S	Sn	19 35 25.6	+0.4
TACH	**Talagante**	**0.97**	**116**	⇓*i*P	Pn	19 35 16.1	+1.0
TACH				*i* S	Sn	19 35 29.4	+1.7
PEL	**Peldehue**	**1.08**	**86**	⇑*i*P	Pn	19 35 18.4	+1.6
PEL				*i* S	Sn	19 35 33.8	+3.1
PEL				AML	AML	19 35 35.1	
	comp=N,442nm,0.4s						
JACH	**Jahuel**	**1.28**	**65**	⇓*i*P	Pn	19 35 20.5	+0.8
JACH				*i* S	Sn	19 35 37.5	+1.8
PCH	**Pirque**	**1.28**	**108**	⇓*i*P	Pn	19 35 21.5	+1.9
PCH				*i* S	Sn	19 35 38.3	+2.6
CHCH	**Chadas Angostu**	**1.31**	**123**	*e*P	Pn	19 35 20.8	+0.8
CHCH				*e*S	Sn	19 35 38.2	+1.9
CACH	**El Canelo**	**1.45**	**128**	*i* P	Pn	19 35 23.9	+1.9
CACH				*i* S	Sn	19 35 43.2	+3.3
LMEL	**Las Melosas**	**1.60**	**113**	⇓*i*P	Pn	19 35 25.9	+1.8
LMEL				*i* S	Sn	19 35 46.2	+2.5
LMEL				AML	AML	19 35 54.3	
	comp=N,107nm,0.2s						

WEL 21 19:50:41.2±0.3, 46°17S×166°05E, h33km, ML4.1/15, Error ellipse: s-maj=2.6km s-min=2.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**1.04**	**48**	PN	Pn	19 50 59.3	-0.2
DCZ				AML	AML	19 51 13.0	
DCZ				AML	AML	19 51 13.9	
DCZ				AML	AML	19 51 57.7	
DCZ				AML	AML	19 52 33.9	
WHZ	**Wether Hill Ro**	**1.35**	**79**	PN	Pb	19 51 05.0	-1.0
WHZ				AML	AML	19 51 23.0	
WHZ				AML	AML	19 51 25.2	
APZ	**The Paps**	**1.50**	**117**	PN	Pn	19 51 06.9	+1.1
APZ				SN	Sb	19 51 27.1	0.0
MLZ	**Mavora Lakes**	**1.70**	**62**	PN	Pb	19 51 10.5	-1.5
MLZ				AML	AML	19 51 37.1	
MLZ				AML	AML	19 51 39.0	
MSZ	**Milford Sound**	**2.00**	**42**	PN	Pn	19 51 14.0	+1.3
MSZ				AML	AML	19 51 47.8	
MSZ				AML	AML	19 51 48.3	
SYZ	**Scrubby Hill**	**2.17**	**101**	PN	Pb	19 51 17.4	-2.4
SYZ				SN	Sb	19 51 44.5	-1.8
EAZ	**Earnscleugh**	**2.47**	**69**	PN	Pn	19 51 21.9	+2.8
EAZ				AML	AML	19 51 53.9	
EAZ				AML	AML	19 51 56.0	
WKZ	**Wanaka**	**2.48**	**58**	PN	Pb	19 51 22.5	-2.7
WKZ				AML	AML	19 51 58.2	
WKZ				AML	AML	19 52 00.5	
TUZ	**Tuapeka**	**2.51**	**86**	PN	Pn	19 51 22.2	+2.6
TUZ				AML	AML	19 51 54.1	
TUZ				AML	AML	19 51 54.4	
JCZ	**Jackson Bay**	**2.84**	**43**	PN	Pb	19 51 28.3	-3.1
JCZ				AML	AML	19 52 12.7	
JCZ				AML	AML	19 52 14.2	
ODZ	**Otahua Downs**	**3.42**	**72**	PN	Pn	19 51 33.2	+1.0
LBZ	**Lake Benmore**	**3.42**	**60**	PN	Pn	19 51 33.6	+1.4
LBZ				AML	AML	19 52 18.4	
LBZ				AML	AML	19 52 18.5	
FOZ	**Fox Glacier**	**3.67**	**46**	PN	Pn	19 51 39.3	+3.7
WVZ	**Waitaha Valley**	**4.56**	**49**	PN	Pn	19 51 49.7	+1.9
LTZ	**Lake Taylor**	**5.59**	**55**	PN	Pn	19 52 05.0	+2.9
DSZ	**Denniston Nort**	**6.07**	**45**	PN	Pn	19 52 09.7	+1.1

*ISCJB **21** 19:51:55.8±1.0, 46°2S±0°1×165°91E±0°09, h12km, mb3.4/2, MS3.5/2, Error ellipse: s-maj=14.5km s-min=8.5km az=177.4*

*IDC **21** 19:51:56.0±1.6, 46°06S×166°06E, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.8/15, mbtmp3.8/3, ML4.5/1, MS3.6/2, Ms1 3.5/2, ms1mx3.2/14, Error ellipse: s-maj=60.6km s-min=26.5km az=173.0*

*WEL **21** 19:51:58.6±0.3, 46°09S×166°01E, h29km±1km, ML4.4/17, Error ellipse: s-maj=3.5km s-min=1.7km az=90.0*

ISC 21 19:51:57.3±1.0, 46°14S±0°09×166°08E±0°07, h12km, n25, σ1°09/23, 1C-1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**1.00**	**49**	PN	**Pg**	**19 52 16.3**	**-0.3**
DCZ				AML	AML	19 52 29.8	
DCZ				AML	AML	19 52 32.4	
WHZ	**Wether Hill Ro**	**1.32**	**80**	PN	**Pn**	**19 52 22.0**	**+0.4**
WHZ				SN	**Sb**	**19 52 39.7**	**+0.7**
WHZ				AML	AML	19 52 42.3	
APZ	**The Paps**	**1.49**	**118**	PN	**Pn**	**19 52 23.9**	**0.0**
MLZ	**Mavora Lakes**	**1.67**	**62**	PN	**Pb**	**19 52 27.9**	**0.0**
MLZ				SN	**Sg**	**19 52 50.9**	**+0.1**
MLZ				AML	AML	19 52 53.3	
MSZ	**Milford Sound**	**1.96**	**42**	AML	AML	19 53 11.2	
MSZ				AML	AML	19 53 13.6	
SYZ	**Scrubby Hill**	**2.16**	**102**	PN	**Pn**	**19 52 33.9**	**+0.9**
EAZ	**Earnscleugh**	**2.44**	**69**	⇓PN	**Pb**	**19 52 39.4**	**-1.7**
EAZ				AML	AML	19 53 12.2	
EAZ				AML	AML	19 53 13.1	
EAZ				AML	AML	19 53 14.2	
EAZ				AML	AML	19 53 20.2	
WKZ	**Wanaka**	**2.45**	**59**	PN	**Pb**	**19 52 39.9**	**-1.3**
WKZ				AML	AML	19 53 16.9	
WKZ				AML	AML	19 53 17.5	
WKZ				AML	AML	19 53 18.2	
WKZ				AML	AML	19 53 22.0	
TUZ	**Tuapeka**	**2.48**	**87**	PN	**Pn**	**19 52 39.2**	**+1.7**
TUZ				AML	AML	19 53 11.3	
TUZ				AML	AML	19 53 11.4	
JCZ	**Jackson Bay**	**2.80**	**44**	PN	**Pb**	**19 52 45.3**	**-2.0**
JCZ				AML	AML	19 53 34.2	
JCZ				AML	AML	19 53 37.2	
ODZ	**Otahua Downs**	**3.39**	**73**	⇑PN	**Pn**	**19 52 50.3**	**+0.4**
ODZ				AML	AML	19 53 33.0	
ODZ				AML	AML	19 53 36.0	
LBZ	**Lake Benmore**	**3.39**	**60**	PN	**Pn**	**19 52 51.2**	**+1.3**
LBZ				AML	AML	19 53 31.0	
LBZ				AML	AML	19 53 32.4	
FOZ	**Fox Glacier**	**3.63**	**46**	PN	Pn	19 52 57.1	+3.8
FOZ				AML	AML	19 54 00.8	
FOZ				AML	AML	19 54 02.1	
RPZ	**Rata Peaks**	**4.28**	**57**	Pn	**Pn**	**19 53 02.7**	**+0.4**
	30nm,0.3s,baz=222,slow=5.2,SNR=13						
RPZ				Sn	**Sn**	**19 53 51.6**	**-0.6**
	11nm,0.3s,baz=19,slow=18,SNR=4.4						
WVZ	**Waitaha Valley**	**4.52**	**49**	PN	Pn	19 53 08.8	+3.3
LTZ	**Lake Taylor**	**5.56**	**55**	PN	**Pn**	**19 53 22.0**	**+2.2**
DSZ	**Denniston Nort**	**6.03**	**45**	PN	**Pn**	**19 53 27.5**	**+1.2**
STKA	**Stephens Creek**	**23.64**	**298**	LR	LR	20 03 42.5	
	comp=Z,85nm,21.8s,baz=204,slow=30						
ASAR	**Alice Springs**	**34.26**	**300**	P	**P**	**19 58 43.2**	**0.0**
	0.2nm,0.6s,baz=134,slow=8.7,SNR=6.6						
WRA	**Warramunga Arr**	**36.87**	**304**	P	**P**	**19 59 04.8**	**-0.7**
	0.5nm,0.6s,baz=137,slow=7.8,SNR=5.3						
NWAO	**Narrogin (SRO)**	**39.31**	**272**	LR	LR	20 12 13.3	
	comp=Z,165nm,19.4s,baz=10,slow=31						
TORD	**Torodi Ar. Bea**	**144.56**	**207**	PKP	**PKPab**	**20 11 32.4**	**+0.1**
	0.4nm,0.5s,baz=149,slow=1.8,SNR=4.9						
BRTR	**Keskin Array B**	**145.02**	**277**	PKPbc	**PKPdf**	**20 11 34.2**	**+0.1**
	0.3nm,0.5s,baz=147,slow=6.5,SNR=2.7						
SCHQ	**Schefferville**	**145.97**	**56**	PKPbc	**PKPdf**	**20 11 35.1**	**0.0**
	2.0nm,0.7s,baz=312,slow=6.9,SNR=4.9						
ARCES	**ARCESS Array B**	**149.50**	**334**	PKPbc	**PKPbc**	**20 11 46.2**	**+1.2**
	1.6nm,0.9s,baz=62,slow=2.9,SNR=7.2						

*CSEM **21** 19:55:25.8±0.3, 32°64N×16°74W, h20km, ML2.6, Error ellipse: s-maj=13.9km s-min=6.8km az=103.0*

*INMG **21** 19:55:28.3±1.9, 32°87N×16°98W, h10km, MD2.6, ML2.6, Error ellipse: s-maj=7.3km s-min=5.1km az=138.0*

MDD 21 19:55:26.0±1.3, 32°78N×16°87W, h29km±5km, mb4.4/2, 1C-1D, Error ellipse: s-maj=20.3km s-min=5.7km az=125.0, PRXIMO, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMAR	**Madeira**	**0.07**	**209**	*e*P	Pb	19 55 31.0	-0.2
PMAR				*i* S	Sb	19 55 34.1	-0.7
PMAR				A	A	19 55 34.9	
	4μm,0.3s						
PMAR	**Madeira**	**0.07**	**209**	P	Pb	19 55 31.0	-0.2
PMAR				S	Sb	19 55 34.1	-0.7
	2μm,0.3s				

EGOM	**La Gomera**	**4.62**	**184**	P		Pn	19 56 31.5	-2.3
	2.5nm,0.1s,SNR=7.9							
EGOM				S		Sn	19 57 21.0	-5.5
	1.5nm,0.1s,SNR=7.9							
EGOM	**La Gomera**	**4.62**	**184**	P		Pn	19 56 31.5	-2.4
	2.5nm,0.1s,SNR=7.9							
EOSO	**Osorio**	**4.83**	**166**	P		Pn	19 56 36.9	0.0
	1.1nm,0.1s,SNR=7.9							
EOSO				S		Sn	19 57 27.4	-4.6
	0.6nm,0.1s,SNR=7.9							
EOSO	**Osorio**	**4.83**	**166**	P		Pn	19 56 36.9	0.0
	1.1nm,0.1s,SNR=7.9							
EOSO				S		Sn	19 57 27.4	-4.6
	0.6nm,0.1s,SNR=7.9							

BJI ***21*** *19:55:39.3, 13˙.99S×65˙.58E, h10km, mB5.2/33, mb5.0/51, Ms5.0/50, Ms7 4.7/44*

MOS ***21*** *19:55:43.3± 0.8, 13˙.64S×66˙.13E, h10km, mb5.4/64, MS4.5/8, Error ellipse: s-maj=8.0km s-min=4.8km az=111.7*

ISCJB ***21*** *19:55:43.3± 0.2, 13˙.71S± 0˙.04×66˙.09E± 0˙.03, h10km, mb5.0/184, MS4.6/47, Error ellipse: s-maj=5.3km s-min=3.9km az=164.6*

IDC ***21*** *19:55:43.6± 0.4, 13˙.65S×66˙.19E, h0km, mb4.6/34, mb1 4.7/35, mb1mx4.7/35, mbtmp4.6/35, ML4.8/1, MS4.5/24, Ms1 4.5/24, ms1mx4.4/33, Error ellipse: s-maj=14.2km s-min=10.8km az=23.0*

NEIC ***21*** *19:55:45.0± 0.1, 13˙.67S×66˙.11E, h10km, mb5.2/71, Error ellipse: s-maj=5.7km s-min=4.3km az=184.0*

BKK ***21*** *19:55:47.2± 0.3, 14˚S×6˚6E± ˚, h10km, MS5.2/30, mB5.7/8, mb5.2/30, Mw(mB)5.2/8, Mwp6.4/1*

GCMT ***21*** *19:55:48.2± 0.2, 13˙.68S×66˙.04E, h12km, MW5.2, Moment Tensor Solution. s53,c81; s96,c164; Moment tensor: Scale 10^16 Nm; Mrr-1.23±.15; Mθθ-6.64±.14; Mϕϕ7.87±.14; Mrθ-2.40±.38; Mrϕ3.23±.14; Mθϕ3.37±.38; Best double couple: Mo9.00000×10^16 NP1:ϕs56.00000°, δ62.00000°, λ-6.00000°. NP2:ϕs149.00000°, δ85.00000°, λ-152.00000°. Principal axes: T 9.3400, Plg16.0000°, Azm279.0000°; N -0.6800, Plg61.0000°, Azm159.0000°; P -8.6600, Plg24.0000°, Azm16.0000°; Data Used: ll IU IC G CN.*

DJA ***21*** *19:55:51.8± 3.4, 14˚S± 10˚×6˚6E± ˚, h66km± 34km, M5.2/18, mB5.8/6, mb5.0/18, Mw(mB)5.3/6*

ISC 21 19:55:45.9±0.3**, 13˚.69S**±0˙.05×**66˚.09E**±0˙.05**, h15**km±1km**, h14**km**:pP-P, n801,** σ1s**02**/898**, mb5.2**/194**, MS4.6**/48**, 146C-155D, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**8.83**	**46**	*e*P		**Pn**	**19 57 50.5**	**-2.7**
DGAR	**Diego Garcia**	**8.83**	**46**	*e*Pn		**Pn**	**19 57 50.5**	**-2.7**
OPO	**Ambohidratompo**	**18.79**	**253**	P		**Pn**	**20 00 05.4**	**-0.2**
OPO	**Ambohidratompo**	**18.79**	**253**	P		**Pn**	**20 00 05.4**	**-0.2**
	3.2nm,0.3s,baz=81,slow=12,SNR=16							
OPO				LR		LR	20 05 26.2	
	comp=Z,3μm,20.7s,baz=74,slow=31							
ABPO	**Ambohimpanom**	**18.85**	**251**	*e*P		**Pn**	**20 00 06.0**	**-0.4**
ABPO				pmax		pmax		
	comp=Z,24nm,0.8s							
ABPO	**Ambohimpanom**	**18.85**	**251**	*e*P		**Pn**	**20 00 06.0**	**-0.4**
	comp=Z,24nm,0.8s							
PALK	**Pallekele**	**25.38**	**36**	*e*P		**P**	**20 01 13.5**	**+0.6**
	comp=Z,72nm,1.3s							
PALK	**Pallekele**	**25.38**	**36**	P		**P**	**20 01 13.7**	**+0.8**
	comp=Z,43nm,2.5s							
KMBO	**Kilima Mbogo**	**31.14**	**291**	*e*P		**P**	**20 02 05.7**	**+1.0**
	comp=Z,79nm,1.7s							
KMBO	**Kilima Mbogo**	**31.14**	**291**	P		**P**	**20 02 06.6**	**+1.8**
	comp=Z,5.9nm,0.9s,baz=65,slow=9.6,SNR=18							
KMBO				LR		LR	20 11 54.0	
	comp=Z,1μm,21.4s,baz=96,slow=31							
POO	**Poona**	**32.91**	**14**	*e*P		P	20 02 10.0	-10
HYB	**Hyderabad**	**33.26**	**22**	*i* P		**P**	**20 02 22.0**	**-1.0**
ATD	**Arta Tunnel**	**34.04**	**316**	P		**P**	**20 02 30.6**	**+0.7**
ATD	**Arta Tunnel**	**34.04**	**316**	P		**P**	**20 02 30.6**	**+0.7**
	comp=Z,6.4nm,0.4s,baz=253,slow=20,SNR=4.4							
KCSI	**Kotacane, Aceh**	**35.78**	**64**	P		**P**	**20 02 46.4**	**+1.5**
	comp=Z,31nm,1.2s							
PSI	**Prapat**	**36.46**	**66**	P		**P**	**20 02 50.6**	**-0.2**
PSI	**Prapat**	**36.46**	**66**	P		**P**	**20 02 50.6**	**-0.2**
	comp=Z,9.1nm,0.7s,baz=232,slow=8.5,SNR=4.6							
LSZ	**Lusaka**	**36.70**	**263**	⇑*i*P		**P**	**20 02 52.9**	**0.0**
LSZ				AMB		AMB	20 02 54.0	
	comp=Z,861nm,1.2s							
LSZ	**Lusaka**	**36.70**	**263**	*e*P		**P**	**20 02 52.5**	**-0.4**
	comp=Z,36nm,1.0s							
SLR	**Silverton**	**37.42**	**245**	*e*P		**P**	**20 02 59.0**	**0.0**
SLR				AMB		AMB	20 03 07.4	
	comp=Z,41nm,1.1s							
ERPM	**east rand prop**	**37.58**	**245**	*e*P		**P**	**20 02 58.6**	**-1.7**
ERPM				AMB		AMB	20 03 17.7	
	comp=Z,27nm,8.1s							
KULM	**Kulim**	**39.15**	**63**	*e*P		**P**	**20 03 13.3**	**-0.1**
	comp=Z,47nm,1.3s							
LBTB	**Lobatse**	**39.69**	**247**	*e*P		**P**	**20 03 18.3**	**+0.3**
LBTB				AMB		AMB	20 03 19.6	
	comp=Z,40nm,1.9s							
LBTB	**Lobatse**	**39.69**	**247**	*e*P		**P**	**20 03 18.6**	**+0.6**
	comp=Z,22nm,1.1s							
SWZ	**Schweizer**	**40.30**	**244**	⇑*i*P		**P**	**20 03 22.2**	**-0.8**
SWZ				AMB		AMB	20 03 25.9	
	comp=Z,49nm,1.8s							
MYKOM	**Kota Tinggi**	**40.47**	**71**	P		**P**	**20 03 21.7**	**-2.8**
	comp=Z,62nm,1.2s,comp=Z,669nm							
BOSA	**Boshof**	**40.66**	**242**	⇑*i*P		**P**	**20 03 24.8**	**-1.2**
BOSA				AMB		AMB	20 03 25.3	
	comp=Z,30nm,3.6s							
BOSA	**Boshof**	**40.66**	**242**	P		**P**	**20 03 26.1**	**+0.1**
BOSA	**Boshof**	**40.66**	**242**	P		**P**	**20 03 26.1**	**+0.1**
	comp=Z,7.7nm,0.9s,baz=84,slow=6.2,SNR=8.0							
BOSA				LR		LR	20 17 49.0	
	comp=Z,748nm,18.0s,baz=85,slow=32							
GRM	**Grahamstown**	**40.90**	**235**	*e*P		**P**	**20 03 27.4**	**-0.5**
GRM				AMB		AMB	20 03 32.8	
	comp=Z,44nm,4.5s							
RAYN	**Ar Rayn**	**42.11**	**331**	P		**P**	**20 03 38.2**	**+0.4**
	comp=Z,161nm,0.8s,SNR=15							
BUFB	**Buffelsbos**	**42.56**	**234**	*e*P		**P**	**20 03 41.5**	**+0.1**
BUFB				AMB		AMB	20 03 50.1	
	comp=Z,25nm,1.1s							
NDI	**New Delhi**	**43.47**	**14**	*ex*		**P**	**20 03 47.5**	**-1.2**
KOLN	**Koldanda**	**44.57**	**22**	*e*P		**P**	**20 03 59.0**	**+1.2**
	comp=Z,74nm,0.7s							
NAYO	**Nakonayok**	**44.62**	**53**	P		**P**	**20 03 59.3**	**+1.2**
	comp=Z,46nm,0.8s							
DMN	**Daman**	**45.00**	**24**	*e*P		**P**	**20 04 02.5**	**+1.2**
	comp=Z,92nm,0.9s							
RAMN	**Ramite**	**45.04**	**26**	*e*P		**P**	**20 04 02.9**	**+1.3**
	comp=Z,135nm,1.0s							
PKI	**Pulchoki**	**45.09**	**25**	*e*P		**P**	**20 04 02.7**	**+0.6**
	comp=Z,94nm,1.2s							
PKIN	**Phulchoki**	**45.09**	**24**	*e*P		**P**	**20 04 02.8**	**+0.8**
	comp=Z,22nm,1.0s							
DANN	**Dangsing**	**45.15**	**22**	*e*P		**P**	**20 04 03.5**	**+1.0**
	comp=Z,111nm,1.1s							
KKN	**Kakani**	**45.23**	**24**	*e*P		**P**	**20 04 04.0**	**+0.9**
	comp=Z,85nm,1.0s							
SUR	**Sutherland**	**45.25**	**238**	*e*P		P	20 03 59.5	-3.8
SUR	**Sutherland**	**45.25**	**238**	*e*P		**P**	**20 04 01.9**	**-1.4**
	comp=Z,34nm,1.1s							
ODAN	**Odare**	**45.31**	**27**	*e*P		**P**	**20 04 04.7**	**+1.0**
	comp=Z,40nm,0.9s							
JIRN	**Jiri**	**45.49**	**25**	*e*P		**P**	**20 04 06.2**	**+0.9**
	comp=Z,70nm,1.0s							
CMAR	**Chiang Mai Arr**	**45.49**	**46**	P		**P**	**20 04 05.8**	**+0.7**
CMAR				PcP		**PcP**	**20 05 45.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**45.49**	**46**	P		**P**	**20 04 05.7**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=240,slow=9.3,SNR=21							
CMAR				PcP		**PcP**	**20 05 45.0**	**+1.0**
	comp=Z,2.1nm,0.9s,baz=237,slow=5.0,SNR=4.3							
CMAR				LR		LR	20 20 11.6	
	comp=Z,298nm,20.3s,baz=240,slow=32							
GUN	**Gumba**	**45.58**	**25**	*e*P		**P**	**20 04 06.9**	**+0.9**
CHTO	**Chiang Mai**	**45.73**	**46**	*e*P		**P**	**20 04 06.8**	**-0.1**
CHTO				pmax		pmax		
	comp=Z,15nm,1.4s							
CHTO	**Chiang Mai**	**45.73**	**46**	*e*P		**P**	**20 04 06.8**	**-0.1**
	comp=Z,15nm,1.4s							
CHTO	**Chiang Mai**	**45.73**	**46**	P		**P**	**20 04 06.0**	**-0.9**
	comp=Z,10nm,1.5s							
CHTO	**Chiang Mai**	**45.73**	**46**	P		**P**	**20 04 09.1**	**+2.2**
	comp=Z,14nm,1.6s							
CMMT	**Chiang Mai**	**45.73**	**46**	P		**P**	**20 04 07.4**	**+0.4**
	comp=Z,9.1nm,1.4s							
CMMT	**Chiang Mai**	**45.73**	**46**	P		**P**	**20 04 08.9**	**+1.9**
	comp=Z,13nm,0.7s							
PBKT	**Sadao Pong**	**45.73**	**50**	P		**P**	**20 04 06.4**	**-0.5**
	comp=Z,21nm,1.2s,comp=Z,1μm							
PBKT	**Sadao Pong**	**45.73**	**50**	P		**P**	**20 04 07.9**	**+1.0**
	comp=Z,21nm,1.2s,comp=Z,1μm							
TAPN	**Taplejung**	**45.87**	**27**	*e*P		**P**	**20 04 09.3**	**+1.0**
	comp=Z,126nm,1.3s							
RDF	**Al-Radifah**	**45.99**	**337**	*e*P		**P**	**20 04 08.8**	**-0.1**
RDF				AMb		AMB	20 04 09.9	
	comp=Z,102nm,1.5s							
CHAI	**Chaiyaphum**	**46.09**	**52**	P		**P**	**20 04 10.5**	**+0.7**
	comp=Z,10nm,0.7s,comp=Z,96nm							
KBD	**Kabd**	**46.17**	**338**	*e*P		**P**	**20 04 09.8**	**-0.4**
KBD				AMb		AMB	20 04 11.2	
	comp=Z,48nm,0.8s							
KSM	**Kuching**	**46.34**	**75**	*e*P		**P**	**20 04 11.8**	**-0.1**
	comp=Z,37nm,1.1s							
KSM	**Kuching**	**46.34**	**75**	P		**P**	**20 04 12.7**	**+0.8**
KSM	**Kuching**	**46.34**	**75**	P		**P**	**20 04 14.9**	**+3.0**
	comp=Z,33nm,1.0s							
NAY	**Al-Naaiem**	**46.40**	**337**	*e*P		**P**	**20 04 11.0**	**-1.0**
NAY				AMb		AMB	20 04 13.0	
	comp=Z,44nm,1.5s							
SHL	**Shillong**	**46.41**	**33**	*ex*		**P**	**20 04 15.0**	**+2.6**
UMR	**Umm Al-Rimmam**	**46.50**	**338**	*e*P		**P**	**20 04 12.2**	**-0.6**
UMR				AMb		AMB	20 04 14.5	
	comp=Z,134nm,1.4s							
LOEI	**Loei**	**46.54**	**49**	P		**P**	**20 04 15.8**	**+2.4**
	comp=Z,132nm,1.1s							
ELIM	**Elim**	**46.65**	**235**	*e*P		**P**	**20 04 14.0**	**-0.1**
ELIM				AMB		AMB	20 04 17.4	
	comp=Z,48nm,2.0s							
TSUM	**Tsumeb**	**46.73**	**256**	*e*P		P	20 04 10.8	-4.2
TSUM	**Tsumeb**	**46.73**	**256**	P		**P**	**20 04 13.5**	**-1.5**
PAYA	**Payao**	**46.74**	**46**	P		P	20 04 18.6	+3.7
	comp=Z,4.1nm,1.5s							
MIB	**Mutribah**	**46.86**	**337**	*e*P		**P**	**20 04 15.0**	**-0.7**
MIB				AMb		AMB	20 04 16.8	
	comp=Z,116nm,1.2s							
WIN	**Windhoek**	**47.21**	**252**	*e*P		**P**	**20 04 18.8**	**0.0**
WIN				AMB		AMB	20 04 23.8	
	comp=Z,8.7nm,6.4s							
SKNT	**Sakolnakorn**	**48.26**	**52**	P		**P**	**20 04 28.4**	**+1.7**
	comp=Z,35nm,1.6s							
UBPT	**Khong Chiam**	**48.44**	**55**	P		**P**	**20 04 27.4**	**-0.7**
	comp=Z,28nm,1.3s,comp=Z,1μm							
UBPT	**Khong Chiam**	**48.44**	**55**	P		**P**	**20 04 28.9**	**+0.8**
	comp=Z,28nm,1.3s,comp=Z,1μm							
SBUM	**Sibu**	**48.47**	**74**	P		**P**	**20 04 29.3**	**+0.8**
SBUM	**Sibu**	**48.47**	**74**	P		**P**	**20 04 30.0**	**+1.5**
	comp=Z,33nm,1.1s							
PANO	**Nakornpanom**	**48.84**	**52**	P		**P**	**20 04 31.4**	**+0.2**
	comp=Z,33nm,1.0s,comp=Z,6μm							
LSA	**Lhasa**	**49.45**	**29**	*e*P		**P**	**20 04 37.0**	**+0.8**
LSA				pmax		pmax		
	comp=Z,82nm,1.5s							
LSA	**Lhasa**	**49.45**	**29**	*e*P		**P**	**20 04 37.0**	**+0.8**
	comp=Z,82nm,1.5s							
MBWA	**Marble Bar**	**51.53**	**106**	P		**P**	**20 04 50.6**	**-1.0**
	comp=Z,62nm,1.6s							
EIL	**Elat**	**52.53**	**325**	P		**P**	**20 04 58.1**	**-0.8**
EIL	**Elat**	**52.53**	**325**	P		**P**	**20 04 58.1**	**-0.8**
	comp=Z,5.0nm,0.9s,baz=227,slow=1.2,SNR=5.3							
KMI	**Kunming**	**52.58**	**43**	P		**P**	**20 05 00.6**	**+1.0**
KMI				pP		pP	20 05 10.3	+6.1
KMI				PP		**PP**	**20 07 03.5**	**+4.6**
KMI				S		**S**	**20 12 28.3**	**+1.7**
KMI				sS		sS	20 12 45.1	+11
KMI				SS		**SS**	**20 16 07.3**	**+2.0**
KMI				pmax		pmax		
	comp=Z,6.0nm,1.8s							
KMI				pmax		pmax		
	comp=Z,65nm,4.2s							
KMI				LR		LR		
	comp=N,190nm,14.8s							
KMI				LR		LR		
	comp=E,260nm,18.0s							
KMI				LR		LR		
	comp=Z,190nm,17.1s							
KKM	**Kota Kinabalu**	**53.48**	**72**	*e*P		**P**	**20 05 05.8**	**-0.5**
KAPI	**Kappang**	**53.55**	**86**	*e*P		**P**	**20 05 04.5**	**-2.3**
	comp=Z,22nm,0.9s							
KAPI	**Kappang**	**53.55**	**86**	P		**P**	**20 05 05.6**	**-1.1**
	comp=Z,34nm,1.2s							
KAPI	**Kappang**	**53.55**	**86**	P		**P**	**20 05 05.1**	**-1.6**
	comp=Z,22nm,1.0s,baz=263,slow=12,SNR=8.2							
KSH	**Kashi**	**53.72**	**9**	⇓*i*P		**P**	**20 05 04.8**	**-2.8**
KSH				sP		**sP**	**20 05 12.5**	**-1.5**
KSH				PP		**PP**	**20 07 06.6**	**-2.2**
KSH				PcS		**PcS**	**20 10 08.6**	**-4.3**
KSH				S		S	20 12 35.6	-5.9
KSH				sS		**sS**	**20 12 44.6**	**-4.5**
KSH				SS		**SKiKP**	**20 16 16.8**	**-5.4**
KSH				pmax		pmax		
	comp=Z,54nm,1.0s							
KSH				LR		LR		
	comp=N,720nm,14.0s							
KSH				LR		LR		
	comp=E,710nm,12.3s							
KSH				LR		LR		
	comp=Z,1μm,23.5s							
MAW	**Mawson**	**53.91**	**182**	P		**P**	**20 05 08.6**	**+0.2**
MAW	**Mawson**	**53.91**	**182**	P		**P**	**20 05 08.6**	**+0.2**
	comp=Z,14nm,1.0s,baz=11,slow=9.5,SNR=17							
MAW				LR		LR	20 22 57.0	
	comp=Z,617nm,18.2s,baz=340,slow=30							
QIZ	**Qiongzhong**	**53.99**	**54**	P		**P**	**20 05 10.6**	**+0.8**
QIZ				sP		**sP**	**20 05 16.3**	**+0.1**
QIZ				PP		**PP**	**20 07 12.1**	**+0.7**
QIZ				S		**S**	**20 12 48.8**	**+3.3**
QIZ				SS		**SS**	**20 16 28.3**	**+1.1**
QIZ				LR		LR		
	comp=N,420nm,16.4s							
QIZ				LR		LR		
	comp=Z,290nm,15.5s							
SDKM	**Sandakan**	**54.24**	**73**	P		**P**	**20 05 11.5**	**-0.3**
KDM	**Kudat**	**54.38**	**71**	P		**P**	**20 05 13.2**	**+0.5**
MIR	**Mirnyy**	**55.79**	**167**	*e*P		**P**	**20 05 24.5**	**+2.4**
MIR				pmax		pmax		
	comp=Z,30nm,1.0s							
AML	**Almayashu**	**55.98**	**7**	P		**P**	**20 05 24.3**	**+0.1**
	SNR=17							
GYA	**Guiyang**	**56.11**	**45**	P		**P**	**20 05 27.8**	**+2.6**
GYA				PP		**PP**	**20 07 35.4**	**+5.0**
GYA				ScP		**ScP**	**20 10 23.6**	**+1.5**
GYA				S		**S**	**20 13 16.9**	**+2.9**
GYA				SS		**SS**	**20 17 04.0**	**+3.3**
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA				pmax		pmax		
	comp=Z,120nm,4.9s							
GYA				LR		LR		
	comp=N,530nm,18.5s							
GYA				LR		LR		
	comp=E,480nm,19.4s							
GYA				LR		LR		
	comp=Z,590nm,18.8s							
KZA	**Kyzart**	**56.12**	**8**	P		**P**	**20 05 25.4**	**+0.1**
	SNR=19							
ULHL	**Ulahol**	**56.43**	**9**	P		**P**	**20 05 27.3**	**0.0**
	SNR=11							
EKS2	**Erkin-Say**	**56.51**	**7**	P		**P**	**20 05 28.1**	**+0.4**
	SNR=23							
AAK	**Ala-Archa**	**56.57**	**7**	P		**P**	**20 05 28.0**	**-0.2**
	comp=Z,96nm,0.8s,SNR=5.4							
AAK	**Ala-Archa**	**56.57**	**7**	*d*P		**P**	**20 05 28.3**	**+0.1**
AAK				pmax		pmax		
	comp=Z,67nm,1.5s							
AAK				MLR		MLR		
	comp=Z,485nm,16.0s							
AAK	**Ala-Archa**	**56.57**	**7**	P		**P**	**20 05 28.6**	**+0.4**
	SNR=7.6							
AAK	**Ala-Archa**	**56.57**	**7**	*e*P		**P**	**20 05 28.0**	**-0.2**
	comp=Z,13nm,0.9s							
KBK	**Karagaybulak**	**56.65**	**8**	P		**P**	**20 05 29.0**	**+0.2**
	SNR=7.5							
KKAR	**Karatay Array**	**56.65**	**4**	*e*P		**P**	**20 05 28.8**	**+0.2**
KKAR				pmax		pmax		
	comp=Z,4.0nm,0.8s							
KKAR	**Karatay Array**	**56.65**	**4**	*e*P		**P**	**20 05 28.8**	**+0.2**
	comp=Z,3.6nm,0.8s							
FRU	**Bishkek**	**56.78**	**7**	*i* P		**P**	**20 05 30.0**	**+0.5**
FRU				pmax		pmax		
	comp=Z,50nm,2.0s							
TKM2	**Tokmak 2**	**57.00**	**8**	*i* P		**P**	**20 05 31.0**	**-0.3**
TKM2	**Tokmak 2**	**57.00**	**8**	P		**P**	**20 05 31.0**	**-0.3**
	SNR=18							
GNI	**Garni**	**57.12**	**341**	*e*P		**P**	**20 05 33.0**	**+0.9**
	comp=Z,80nm,1.1s							
USP	**Ospenovka**	**57.19**	**7**	P		**P**	**20 05 32.3**	**-0.1**
	SNR=13							
CD2	**Chengdu**	**57.24**	**39**	P		P	**20 05 33.3**	**+0.3**
CD2				pP		**pP**	**20 05 37.8**	**+0.1**
CD2				sP		**sP**	**20 05 40.1**	**+0.6**
CD2				PcP		**PcP**	**20 06 26.8**	**-0.6**
CD2				PP		**PP**	**20 07 42.1**	**+1.7**
CD2				S		**S**	**20 13 28.3**	**-0.4**
CD2				ScS		**ScS**	**20 15 19.0**	**-3.4**
CD2				SS		**SS**	**20 17 19.3**	**+1.0**
CD2				pmax		pmax		
	comp=Z,50nm,1.6s							
CD2				pmax		pmax		
	comp=Z,140nm,6.2s							
CD2				LR		LR		
	comp=E,340nm,21.4s							
CD2				LR		LR		
	comp=Z,430nm,17.8s							
FITZ	**Fitzroy Crossi**	**57.24**	**103**	*e*P		**P**	**20 05 32.5**	**-0.7**
	comp=Z,8.2nm,0.8s							
FITZ	**Fitzroy Crossi**	**57.24**	**103**	P		**P**	**20 05 32.7**	**-0.5**
	comp=Z,9.3nm,0.8s,baz=251,slow=6.5,SNR=19							
SYO	**Syowa Base**	**57.81**	**191**	⇑*e*P		**P**	**20 05 36.1**	**-0.3**
SYO	**Syowa Base**	**57.81**	**191**	⇑epP		pP	20 05 41.0	-0.1
SYO	**Syowa Base**	**57.81**	**191**	⇑ePcP		**PcP**	**20 06 29.9**	**+1.0**
MAK	**Makhachkala**	**58.89**	**344**	*e*P		P	20 05 51.8	+7.6
MAK				MLR		MLR		
	comp=Z,186nm,10.0s							
ZEI	**Tsey**	**59.77**	**341**	*e*P		**P**	**20 05 51.0**	**+0.3**
ZEI				pmax		pmax		
	comp=Z,46nm,1.4s							
ENH	**Enshi**	**60.46**	**43**	*e*P		**P**	**20 05 54.6**	**-0.8**
	comp=Z,28nm,1.0s							
WMQ	**Urumqi**	**60.53**	**18**	P		**P**	**20 05 56.8**	**+1.1**
WMQ				pP		**pP**	**20 06 01.4**	**+1.0**
WMQ				sP		**sP**	**20 06 03.8**	**+1.6**
WMQ				PcP		**PcP**	**20 06 41.1**	**+0.9**
WMQ				PP		**PP**	**20 08 12.0**	**+2.6**
WMQ				ScP		**ScP**	**20 10 40.5**	**-0.7**
WMQ				S		**S**	**20 14 10.3**	**-0.7**
WMQ				sS		**sS**	**20 14 17.8**	**-1.0**
WMQ				ScS		SKKSac	20 15 43.3	-2.7
WMQ				SS		**SS**	**20 18 09.3**	**-0.4**
WMQ				pmax		pmax		
	comp=Z,38nm,1.1s							
WMQ				LR		LR		
	comp=N,1μm,20.8s							
WMQ				LR		LR		
	comp=E,910nm,18.0s							
WMQ				LR		LR		
	comp=Z,1μm,23.5s							
KBZ	**Khabaz**	**60.94**	**341**	P		**P**	**20 05 58.5**	**+0.2**
KBZ	**Khabaz**	**60.94**	**341**	P		**P**	**20 05 58.5**	**+0.2**
KBZ	**Khabaz**	**60.94**	**341**	P		**P**	**20 05 58.5**	**+0.2**
	comp=Z,6.1nm,0.9s,baz=220,slow=3.4,SNR=8.2							
KBZ				LR		LR	20 31 05.3	
	comp=Z,250nm,19.9s,baz=334,slow=35							
LZH	**Lanzhou**	**61.01**	**35**	*e*P		**P**	**20 05 59.0**	**-0.2**
LZH				pP		**pP**	**20 06 02.3**	**-1.6**
LZH				sP		**sP**	**20 06 03.8**	**-1.9**
LZH				PP		**PP**	**20 08 16.5**	**+2.6**
LZH				*e*S		**S**	**20 14 16.3**	**-1.4**
LZH				SS		**SS**	**20 18 17.8**	**+0.1**
LZH				pmax		pmax		
	comp=Z,35nm,1.6s							
LZH				pmax		pmax		
	comp=Z,120nm,6.0s							
LZH				LR		LR		
	comp=N,370nm,15.0s							
LZH				LR		LR		
	comp=E,350nm,15.5s							
LZH				LR		LR		
	comp=Z,520nm,18.0s							
BRTR	**Keskin Array B**	**61.12**	**332**	P		**P**	**20 06 00.4**	**+0.5**
BRTR	**Keskin Array B**	**61.12**	**332**	P		**P**	**20 06 00.4**	**+0.5**
	comp=Z,8.1nm,1.0s,baz=150,slow=8.5,SNR=33							
BRTR				LR		LR	20 31 55.7	
	comp=Z,240nm,18.1s,baz=332,slow=36							
KIV	**Kislovodsk**	**61.21**	**341**	*e*P		**P**	**20 06 00.2**	**-0.1**
KIV				*e*S		**S**	**20 14 20.4**	**+0.7**
KIV				*e*SS		**SS**	**20 18 21.7**	**+1.4**
KIV				pmax		pmax		
	comp=Z,18nm,1.1s							
GTA	**Gaotai**	**61.47**	**29**	⇓P		**P**	**20 06 02.4**	**+0.2**
GTA				pP		**pP**	**20 06 08.5**	**+1.6**
GTA				sP		**sP**	**20 06 10.8**	**+2.1**
GTA				S		**S**	**20 14 24.1**	**+0.8**
GTA				sS		sS	20 14 37.3	+6.3
GTA				SS		**SS**	**20 18 26.9**	**+2.2**
GTA				pmax		pmax		
	comp=Z,33nm,1.0s							
GTA				pmax		pmax		
	comp=Z,160nm,5.5s							
GTA				LR		LR		
	comp=N,280nm,21.4s							
GTA				LR		LR		
	comp=E,250nm,18.0s							
GTA				LR		LR		
	comp=Z,310nm,19.7s							
SOC	**Sochi**	**61.88**	**339**	*e*P		**P**	**20 06 03.4**	**-1.3**
SOC				*e*			20 08 22.8	
SOC				*e*S		**S**	**20 14 25.0**	**-3.0**
SOC				*e*SSS		SSS	20 21 04.4	
SOC				pmax		pmax		
	comp=Z,30nm,1.2s							
MKAR

WRAB pmax pmax
comp=Z,24nm,0.9s
WRAB Tennant Creek 65.27 106 *e*P **P 20 06 27.0 -0.7**
comp=Z,24nm,0.9s
YULB Yu-li 65.37 56 *e*P **P 20 06 30.3 +2.1**
comp=Z,21nm,0.7s
YHNB Yeheng 66.05 55 P **P 20 06 32.4 -0.3**
comp=Z,79nm,1.6s
BVAR Borovoye Array 66.54 3 P **P 20 06 34.7 -0.4**
BVAR Borovoye Array 66.54 3 P **P 20 06 34.7 -0.4**
BVAR Borovoye Array 66.54 3 P **P 20 06 34.7 -0.4**
comp=Z,16nm,0.8s,baz=165,slow=7.4,SNR=86
BVAR LR LR 20 33 43.4
comp=Z,285nm,20.8s,baz=12,slow=34
BRVK Borovoye 66.57 3 P **P 20 06 35.0 -0.3**
comp=Z,147nm,0.9s,SNR=7.7
BRVK Borovoye 66.57 3*c i*P **P 20 06 34.4 -0.9**
BRVK pmax pmax
comp=Z,50nm,1.7s
BRVK Borovoye 66.57 3 *e*P **P 20 06 34.9 -0.3**
comp=Z,20nm,0.8s
TIRR Tirgusor 67.24 332 ⇑P **P 20 06 38.8 -0.9**
TIRR Tirgusor 67.24 332 ⇑*i*P **P 20 06 38.8 -0.9**
CFR Carcaliu 67.92 332 ⇑P **P 20 06 44.5 +0.5**
CFR Carcaliu 67.92 332 ⇑*i*P **P 20 06 44.5 +0.5**
VRHR Novokhopersk 67.95 344 *e*P **P 20 06 43.8 -0.3**
VRHR pmax pmax
comp=Z,20nm,1.0s
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,8.0nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.7s
NJ2 Nanjing 67.96 47 *e*P **P 20 06 45.1 +0.5**
NJ2 pP **pP 20 06 48.6 -0.7**
NJ2 sP **sP 20 06 50.8 -0.3**
NJ2 PP **PP 20 09 15.9 +1.2**
NJ2 S **S 20 15 46.0 +2.7**
NJ2 sS **sS 20 15 52.0 +0.9**
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 LR LR
comp=N,290nm,19.3s
NJ2 LR LR
comp=E,310nm,23.5s
NJ2 LR LR
comp=Z,310nm,20.4s
VTS Vitosha 68.44 327 ⇓P **P 20 06 47.5 -0.1**
VTS Vitosha 68.44 327 ⇓*i*P **P 20 06 47.5 -0.1**
VORD Divnogorie 68.50 342 *e*P **P 20 06 46.4 -1.1**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,3.0nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,1.8s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.6s
GRER 68.61 331 ⇑*i*P **P 20 06 50.5 +2.2**
HHC Hu-ho-hao-te 68.66 35 *e*P **P 20 06 48.8 -0.1**
HHC pP **pP 20 06 53.4 -0.3**
HHC sP **sP 20 06 55.8 +0.4**
HHC PP **PP 20 09 22.9 +2.1**
HHC PcS 20 11 17.0
HHC S **S 20 15 50.5 -1.1**
HHC ScS **SKSac 20 16 44.8 -3.2**
HHC SS **SS 20 20 17.3 +0.7**
HHC pmax pmax
comp=Z,31nm,1.2s
HHC pmax pmax
comp=Z,190nm,5.0s
HHC LR LR
comp=N,380nm,16.3s
HHC LR LR
comp=E,430nm,16.2s
HHC LR LR
comp=Z,310nm,16.5s
VSR Storozhevoye 68.76 342 *e*P **P 20 06 48.1 -1.0**
VSR *e* 20 09 17.5
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s
VSR pmax pmax
comp=E,20nm,1.4s
VSR pmax pmax
comp=Z,20nm,2.2s
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,30nm,3.7s
HVS Khovu-Aksy 68.90 18*d i*P **P 20 06 50.0 -0.1**
HVS pmax pmax
comp=Z,307nm,1.7s
KIS Kishinev 69.02 334 *e*P **P 20 06 50.0 -0.9**
KIS Kishinev 69.02 334 *e*P **P 20 06 50.0 -0.9**
KIS *e* 20 06 57.5
KIS *e* 20 07 14.0
VRI Vrincioaia 69.09 332 ⇑P **P 20 06 52.5 +1.1**
VRI Vrincioaia 69.09 332 ⇑*i*P **P 20 06 52.5 +1.1**
PLOR Plostina 69.11 332 ⇓P **P 20 06 52.5 +1.0**
PLOR Plostina 69.11 332 ⇓*i*P **P 20 06 52.5 +1.0**
SSE Sheshan 69.13 49 P **P 20 06 50.6 -1.3**
SSE pP **pP 20 06 57.1 +0.5**
SSE sP **sP 20 06 59.6 +1.2**
SSE PcP **PcP 20 07 14.1 -1.7**
SSE S **S 20 15 56.1 -1.1**
SSE sS **sS 20 16 06.9 +1.8**
SSE pmax pmax
comp=Z,11nm,0.5s
SSE pmax pmax
comp=Z,38nm,3.7s
SSE LR LR
comp=N,190nm,26.8s
SSE LR LR
comp=E,120nm,26.8s
TORD Torodi Ar. Bea 69.14 290 P **P 20 06 52.8 +0.5**
TORD Torodi Ar. Bea 69.14 290 P **P 20 06 52.8 +0.5**
comp=E,14nm,1.1s,baz=114,slow=3.6,SNR=38
TORD LR LR 20 38 33.2
comp=E,248nm,19.1s,baz=110,slow=37
MLR Muntele Rosu 69.17 331 P **P 20 06 52.3 +0.2**
MLR Muntele Rosu 69.17 331 ⇓*i*P **P 20 06 52.9 +0.9**
MLR Muntele Rosu 69.17 331 P **P 20 06 52.3 +0.2**
comp=E,1.2nm,0.9s,baz=178,slow=3.0,SNR=9.3
ZALV Zalesovo Beam 69.24 12 *i*P **P 20 06 51.4 -0.7**
ZALV pmax pmax
comp=Z,23nm,0.7s
ZALV Zalesovo Beam 69.24 12 P **P 20 06 51.4 -0.7**
ZALV Zalesovo Beam 69.24 12 P **P 20 06 51.4 -0.7**
comp=Z,23nm,0.8s,baz=210,slow=6.1,SNR=126
ZALV LR LR 20 35 58.8
comp=Z,443nm,18.8s,baz=243,slow=35
TAM Tamanrasset 69.50 301 *e*P **P 20 06 55.6 +1.1**
TAM pmax pmax
comp=Z,15nm,1.4s
TAM Tamanrasset 69.50 301 *e*P **P 20 06 55.6 +1.1**
comp=Z,15nm,1.4s
VOIR 69.56 330 ⇑P **P 20 06 54.6 +0.2**
VOIR 69.56 330 ⇑*i*P **P 20 06 54.6 +0.2**
TESR Tescani 69.61 332 ⇓*i*P **P 20 06 54.5 0.0**
ARR Arges 69.71 330 ⇑*i*P **P 20 06 55.4 +0.1**
NVS Novosibirsk 69.79 10 ⇑*i*P **P 20 06 54.0 -1.4**
NVS pmax pmax
comp=Z,70nm,1.6s
NVS pmax pmax
comp=N,43nm,1.7s
NVS pmax pmax
comp=E,24nm,1.7s
TIP Timpagrande 69.85 321 *e*P **P 20 06 56.6 +0.3**
comp=E,17nm,1.2s
ARU Arti 70.13 356*d i*P **P 20 06 57.0 -0.5**
ARU 20 09 30.7
ARU S **S 20 16 09.3 +1.3**
ARU SS **SS 20 20 33.8 -4.6**
ARU pmax pmax
comp=Z,33nm,1.7s
ARU MLR MLR
comp=Z,273nm,19.0s
ARU Arti 70.13 356 P **P 20 06 57.9 +0.4**
comp=Z,84nm,1.1s,SNR=6.8
LOT Lotru 70.19 330 ⇑*i*P **P 20 06 58.1 -0.2**
SVE Sverdlovsk 70.39 357 ⇓*i*P **P 20 06 59.1 0.0**
SVE pmax pmax
comp=Z,38nm,1.5s
SNAA Sanae 70.51 198 *e*P **P 20 07 00.0 +0.2**
SNAA Sanae 70.51 198 *e*P **P 20 06 58.9 -1.0**
SNAA Sanae 70.51 198 *e*P **P 20 07 00.1 +0.2**
comp=Z,8.0nm,1.0s
GZR Gura Zlata 70.64 329 ⇑P **P 20 07 01.4 +0.4**
GZR Gura Zlata 70.64 329 ⇑*i*P **P 20 07 01.4 +0.4**
STKA Stephens Creek 70.70 119 P **P 20 07 00.4 -1.3**
comp=Z,1.7nm,0.9s
STKA Stephens Creek 70.70 119 P **P 20 07 00.8 -0.9**
comp=Z,2.9nm,0.9s,baz=321,slow=23,SNR=3.8
STKA LR LR 20 33 22.4
comp=Z,1μm,20.2s,baz=242,slow=32
BJI Beijing 70.84 39 P **P 20 07 03.1 +0.9**
BJI PP **PP 20 09 41.1 +1.6**
BJI S **S 20 16 18.8 +1.8**
BJI SS **SS 20 20 55.0 +5.0**
BJI pmax pmax
comp=Z,15nm,1.1s
BJI pmax pmax
comp=Z,130nm,4.6s
BJI LR LR
comp=N,220nm,19.4s
BJI LR LR
comp=E,230nm,18.0s
BJI LR LR
comp=Z,150nm,21.1s
CUC Castrocucco 70.93 321 P **P 20 06 59.6 -3.2**
comp=Z,5.9nm,0.8s
SONM Songino Array 70.99 27 P **P 20 07 03.7 +0.5**
SONM PP **PP 20 09 41.3 +0.5**
SONM Songino Array 70.99 27 P **P 20 07 03.7 +0.5**
comp=Z,15nm,0.7s,baz=215,slow=6.4,SNR=165
SONM PP **PP 20 09 41.3 +0.5**
comp=Z,2.2nm,1.2s,baz=188,slow=10.0,SNR=3.8
SONM LR LR 20 37 41.8
comp=Z,552nm,20.3s,baz=211,slow=36
BURAR Bucovina Array 71.08 332 ⇑P **P 20 07 04.4 +0.7**
BURAR Bucovina Array 71.08 332 ⇑*i*P **P 20 07 04.4 +0.7**
ULN Ulaanbaatar 71.31 28 *e*P **P 20 07 04.5 -0.6**
comp=Z,28nm,1.5s
ULN Ulaanbaatar 71.31 28 P **P 20 07 05.2 +0.1**
BZS Buzias 71.38 329 ⇑P **P 20 07 06.1 +0.8**
BZS Buzias 71.38 329 ⇑*i*P **P 20 07 06.1 +0.8**
ZAK Zakamensk 71.63 24 *e*P **P 20 07 06.0 -0.9**
ZAK pmax pmax
comp=Z,6.0nm,1.5s
DRGR 71.66 330 ⇓P **P 20 07 08.8 +1.6**
DRGR 71.66 330 ⇓*i*P **P 20 07 08.8 +1.6**
KIEV Kiev 71.75 336 *e*P **P 20 07 06.7 -0.8**
KIEV pmax pmax
comp=Z,8.0nm,0.8s
KIEV Kiev 71.75 336 *e*P **P 20 07 06.7 -0.8**
comp=Z,8.4nm,0.8s
MOY Mondy 71.79 22 *e*P **P 20 07 08.0 +0.1**
VNA1 Neumayer--Stat 72.00 200 *e*P **P 20 07 09.7 +1.0**
KEST Kesra 72.72 315 *e*P **P 20 07 14.7 +1.0**
KEST Kesra 72.72 315 P **P 20 07 14.8 +1.1**
comp=Z,1.6nm,0.8s,baz=63,slow=7.4,SNR=4.8
KEST LR LR 20 38 54.7
comp=Z,215nm,21.0s,baz=277,slow=36
OBN Obninsk 72.93 343*d i*P **P 20 07 14.4 0.0**
OBN *e* 20 07 22.5
OBN *e* 20 07 33.9
OBN *e* 20 09 57.1
OBN pmax pmax
comp=Z,36nm,1.3s
OBN MLR MLR
comp=Z,200nm,20.0s
KRAR Krasnoyarsk 72.98 15⇓*e*P **P 20 07 14.6 -0.1**
KRAR pmax pmax
comp=Z,43nm,1.5s
PKSN Nyarlorinc 73.14 329⇓*e*P **P 20 07 15.6 -0.2**
UZH Uzhgorod 73.17 331 *e*P **P 20 07 15.6 -0.4**
UZH *e* 20 07 23.4
MOS Moscow 73.18 344 *e*P **P 20 07 14.7 -1.2**
MOS *e* 20 07 35.8
MOS pmax pmax
comp=Z,68nm,1.4s
LVV L'vov 73.24 333 *e*P **P 20 07 15.4 -1.0**
DBIC Dimbokro 73.25 281 *e*P **P 20 07 17.9 +0.6**
DBIC Dimbokro 73.25 281 *e*P **P 20 07 17.4 +0.2**
comp=Z,42nm,1.0s
DBIC Dimbokro 73.25 281 P **P 20 07 17.9 +0.6**
comp=Z,26nm,1.0s,baz=92,slow=7.6,SNR=17
DBIC LR LR 20 40 57.2
comp=Z,201nm,18.3s,baz=97,slow=37
LIC Lamto 73.29 281 ⇑*i*P **P 20 07 17.8 +0.3**
comp=Z,50nm,0.8s
LIC *e*R
comp=Z,807nm,20.5s
LIC Lamto 73.29 281 ⇑*i*P **P 20 07 17.8 +0.3**
comp=Z,50nm,0.8s
PKSM Moragy 73.30 328 ⇑P **P 20 07 17.4 +0.6**
PKSM Moragy 73.30 328 ⇑*i*P **P 20 07 17.4 +0.6**
PKSM Moragy 73.30 328⇓*e*P **P 20 07 16.9 +0.1**
SOKR Solikamsk 73.41 355*d i*P **P 20 07 17.3 +0.2**
SOKR pmax pmax
comp=Z,30nm,1.4s
SOKR MLR MLR
comp=Z,190nm,18.0s
IRK Irkutsk 73.48 23 *e*P **P 20 07 18.2 +0.4**
IRK pmax pmax
comp=Z,51nm,1.8s
PKS7 Kunszentmiklos 73.60 329⇑*e*P **P 20 07 19.4 +0.9**
KWP Kalwaria Pacla 73.69 332 ⇑P **P 20 07 19.4 +0.3**
KWP Kalwaria Pacla 73.69 332 *e*P **P 20 07 18.5 -0.6**
comp=Z,22nm,1.0s
KWP Kalwaria Pacla 73.69 332⇑*i*P **P 20 07 19.4 +0.3**
PKS9 Tamasi 73.74 328⇓*e*P **P 20 07 20.1 +0.7**
AQU L'Aquila 73.80 322 *e*P **P 20 07 20.1 +0.1**
comp=Z,14nm,0.9s
KECS Kecovo 73.92 330 *e*P **P 20 07 20.6 +0.2**
KECS *e* 20 07 37.7
KECS pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 73.92 330 *e*P **P 20 07 20.6 +0.2**
KECS *e*PCP **PcP 20 07 37.7 +1.9**
BUD Budapest 73.96 329⇑*e*P **P 20 07 21.5 +0.8**
STHS Stebnicka Huta 74.21 331 *e*P **P 20 07 22.6 +0.4**
STHS *e* 20 07 37.8
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 74.21 331 *e*P **P 20 07 22.6 +0.4**
STHS *e*PCP **PcP 20 07 37.8 +0.7**
PKSG 74.22 329⇓*e*P **P 20 07 22.6 +0.4**
CSKK Cs˘˙tkako 74.26 328⇓*e*P **P 20 07 23.1 +0.6**
BEHE Becsehely 74.45 327⇓*e*P P 20 07 14.9 -8.7
BOJS Bojanci 74.66 326 *i*P **P 20 07 25.1 +0.3**
VYHS Vyhne 74.73 330 *e*P **P 20 07 24.9 -0.3**
VYHS *e* 20 07 37.3
VYHS pmax pmax
comp=Z,9.0nm,1.4s
VYHS Vyhne 74.73 330 *e*P **P 20 07 24.9 -0.3**
VYHS *e*PCP **PcP 20 07 37.3 -2.0**
VYHS *e* 20 08 05.5
GOLS Golise 74.77 326 *e*P **P 20 07 26.0 +0.5**
LJU Ljubljana 75.39 326 *e*P **P 20 07 29.3 +0.3**
SOKA Soboth 75.51 326⇓*i*P **P 20 07 30.0 +0.2**
comp=Z,13nm,1.1s
ARSA Arzberg 75.61 327⇓*i*P **P 20 07 30.8 +0.5**
comp=Z,16nm,0.9s,SNR=11
OBKA Obir 75.67 326⇓*i*P **P 20 07 31.1 +0.4**
comp=Z,17nm,1.1s,SNR=7.6
CONA Conrad Observa 75.86 328⇓*i*P **P 20 07 32.0 +0.2**
comp=Z,23nm,1.3s,SNR=12
OKC Ostrava-Krasne 75.97 330 *e*P **P 20 07 32.4 +0.2**
OKC Ostrava-Krasne 75.97 330 *e*P **P 20 07 32.4 +0.2**
MYKA Terra Mystica 76.24 326⇓*i*P **P 20 07 34.3 +0.4**
comp=Z,9.5nm,1.2s
CTAO Charters Tower 76.33 108 *e*P **P 20 07 34.4 -0.7**
CTAO Charters Tower 76.33 108 *e*P **P 20 07 34.4 -0.7**
VRAC Vranov 76.38 329 P **P 20 07 34.3 -0.3**
VRAC Vranov 76.38 329 P **P 20 07 34.3 -0.3**
comp=Z,2.6nm,0.4s,baz=125,slow=6.8,SNR=7.1
QSPA South Pole Qui 76.39 180 *e*P **P 20 07 34.9 +0.2**
comp=Z,27nm,1.0s
PGF Pioggiola 76.59 320 *e*P **P 20 07 36.0 -0.1**
comp=Z,33nm,1.5s
PGF Pioggiola 76.59 320 *e*P **P 20 07 36.0 -0.1**
PGF pmax pmax
comp=Z,33nm,1.5s
PGF Pioggiola 76.59 320 *e*P **P 20 07 36.0 -0.1**
comp=Z,33nm,1.5s
MOA Molin 76.65 327⇓*i*P **P 20 07 36.5 +0.3**
comp=Z,31nm,0.9s,SNR=15
KBA Koelnbreinsper 76.67 326⇓*i*P **P 20 07 36.5 0.0**
comp=Z,24nm,1.2s
TREC Trest 76.93 329 *e*P **P 20 07 37.5 -0.2**
TREC *e* 20 07 45.5
TREC MLR MLR
comp=Z,200nm,22.7s
TREC Trest 76.93 329 *e*P **P 20 07 37.5 -0.2**
TREC *e*PCP **pP 20 07 45.5 +3.0**
TREC AMS AMS 20 41 50.0
comp=Z,200nm,22.7s
ABTA Abfaltersbach 76.93 325⇓*i*P **P 20 07 38.1 +0.3**
comp=Z,25nm,1.1s,SNR=11
KSAR Wonju Array Be 77.10 46 P **P 20 07 38.9 -0.1**
KSRS Korea Array 77.13 46 P **P 20 07 38.9 -0.2**
comp=Z,6.1nm,0.8s,baz=251,slow=6.0,SNR=23
KSRS LR LR 20 41 01.6
comp=Z,291nm,20.6s,baz=238,slow=35
DPC Dobruska-Polom 77.19 330 *e*P **P 20 07 36.6 -2.6**
DPC Dobruska-Polom 77.19 330 *e*P **P 20 07 36.6 -2.6**
CIT Chita 77.22 28 *e*P **P 20 07 38.9 -0.5**
KSP Ksiaz 77.53 330 *e*P **P 20 07 41.0 0.0**
KSP *e* 20 10 36.2
KSP *e*S **S 20 17 36.0 +4.3**
GERES GERESS Array B 77.56 328 P **P 20 07 41.1 -0.3**
GERES GERESS Array B 77.56 328 P **P 20 07 41.1 -0.3**
comp=Z,1.6nm,0.8s,baz=123,slow=4.9,SNR=17
WTTA Wattenberg 77.72 325⇓*i*P **P 20 07 42.1 -0.3**
comp=Z,29nm,1.1s
KHC Kasperske Hory 77.80 328 *e*P **P 20 07 42.4 -0.3**
KHC *e* 20 07 52.0
KHC Kasperske Hory 77.80 328 *e*P **P 20 07 42.4 -0.3**
KHC *e*PCP **PcP 20 07 52.0 -0.6**
KHC Kasperske Hory 77.80 328 *e*P **P 20 07 41.7 -1.0**
comp=Z,12nm,1.2s
PRU Pruhonice 77.84 329 *e*P **P 20 07 42.8 0.0**
PRU *e* 20 07 50.9
PRU Pruhonice 77.84 329 *e*P **P 20 07 42.8 0.0**
PRU *e*PCP **PcP 20 07 50.9 -1.8**
PRA Prague 77.95 329 P **P 20 07 43.0 -0.4**
VNDA Vanda 77.98 167 P **P 20 07 43.9 +0.7**
VNDA Vanda 77.98 167 P **P 20 07 43.9 +0.7**
comp=Z,2.4nm,1.1s,baz=259,slow=6.5,SNR=5.4
VNDA LR LR 20 38 22.1
comp=Z,381nm,18.7s,baz=263,slow=33
FETA Feichten 78.08 325⇓*i*P **P 20 07 44.5 +0.1**
comp=Z,18nm,1.1s
PVCC Panska Ves 78.17 329 *e*P **P 20 07 45.3 +0.7**
PVCC *e* 20 07 52.4
PVCC Panska Ves 78.17 329 *e*P **P 20 07 45.3 +0.7**
PVCC *e*PCP **PcP 20 07 52.4 -1.7**
WET Wettzell 78.17 328 *e*P **P 20 07 44.3 -0.4**
comp=Z,7.0nm,1.2s
WET Wettzell 78.17 328 *e*P **P 20 07 44.3 -0.4**
WET pmax pmax
comp=Z,12nm,1.2s
SBF Sospel 78.26 321 *e*P **P 20 07 45.0 -0.4**
comp=Z,52nm,1.0s
SBF Sospel 78.26 321 *e*P **P 20 07 45.0 -0.4**
SBF pmax pmax
comp=Z,52nm,1.0s
SBF Sospel 78.26 321 *e*P **P 20 07 45.0 -0.4**
comp=Z,52nm,1.0s
DAVOX Davos/Dischmat 78.42 324 P **P 20 07 46.3 0.0**
DAVOX Davos/Dischmat 78.42 324 P **P 20 07 46.3 0.0**
comp=Z,3.4nm,0.9s,baz=157,slow=16,SNR=3.8
DAVOX LR LR 20 42 01.3
comp=Z,131nm,20.8s,baz=88,slow=35
HIA Hailar 78.48 33 *e*P **P 20 07 46.4 0.0**
comp=Z,21nm,1.3s
TUE Stuetta 78.55 324 *e*P **P 20 07 46.1 -0.9**
comp=Z,17nm,1.1s
LMR La Mourre 78.56 320 *e*P **P 20 07 46.5 -0.4**
comp=Z,28nm,1.0s
LMR La Mourre 78.56 320 *e*P **P 20 07 46.5 -0.4**
LMR pmax pmax
comp=Z,28nm,1.0s
LMR La Mourre 78.56 320 *e*P **P 20 07 46.5 -0.4**
comp=Z,28nm,1.0s
FRF La Foret Royal 78.59 320 *e*P **P 20 07 46.6 -0.5**
comp=Z,26nm,1.0s
FRF La Foret Royal 78.59 320 *e*P **P 20 07 46.6 -0.5**
FRF pmax pmax
comp=Z,26nm,1.0s
FRF La Foret Royal 78.59 320 *e*P **P 20 07 46.6 -0.5**
comp=Z,26nm,1.0s
CN2 Changchun 78.67 39 *e*P **P 20 07 46.8 -0.7**
CN2 *es*P **sP 20 07 53.8 -0.3**
CN2 *e*PP **PP 20 10 47.1 +1.3**
CN2 *e*S **S 20 17 42.1 -2.2**
CN2 *e*SS **SS 20 22 50.3 +1.4**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,14.0s
CN2 LR LR
comp=E,200nm,14.0s
CN2 LR LR
comp=Z,200nm,14.0s
VSU Vasula 78.75 340 *i*P **P 20 07 48.0 +0.4**
VSU pmax pmax
comp=Z,84nm,1.1s
NKC Novy Kostel 79.05 328 *e*P **P 20 07 50.3 +0.8**
comp=Z,13nm,1.4s
NKC Novy Kostel 79.05 328 *e*P **P 20 07 50.1 +0.6**
NKC Novy Kostel 79.05 328 *e*P **P 20 07 50.1 +0.6**
MBDF Montbardon 79.12 321 *e*P **P 20 07 50.4 +0.2**
comp=Z,40nm,1.3s
MBDF Montbardon 79.12 321 *e*P **P 20 07 50.4 +0.2**
MBDF pmax pmax
comp=Z,40nm,1.3s
MBDF Montbardon 79.12 321 *e*P **P 20 07 50.4 +0.2**
comp=Z,40nm,1.3s
WERN Wernitzgruen 79.12 328 *e*P **P 20 07 50.4 +0.5**
comp=Z,10.0nm,1.0s
GUNZ Gunzen 79.19 328 *e*P **P 20 07 51.3 +1.0**
comp=Z,10.0nm,0.9s
PMG Port Moresby 79.22 97 P **P 20 07 51.0 -0.2**
WERD Werda 79.26 328 *e*P **P 20 07 51.4 +0.8**
comp=Z,27nm,2.4s
BNI Bardonecchia 79.35 322 *e*P **P 20 07 51.1 -0.3**
BNI pmax pmax
comp=Z,9.0nm,1.0s
BNI Bardonecchia 79.35 322 *e*P **P 20 07 51.1 -0.3**
comp=Z,9.0nm,1.0s
ARMA Armidale 79.42 119 *e*P **P 20 07 51.6 -0.6**
comp=Z,21nm,1.3s
CLL Collm 79.43 329 *e*P **P 20 07 52.1 +0.6**
comp=Z,9.0nm,1.0s
CLL Collm 79.43 329 *i*P **P 20 07 51.2 -0.3**
CLL *e*S **S 20 17 50.0 -2.1**
CLL pmax pmax
comp=Z,10.0nm,2.0s
SMRF Simiane la Rot 79.47 320 *e*P **P 20 07 51.2 -0.8**
comp=Z,106nm,1.6s
SMRF Simiane la Rot 79.47 320 *e*P **P 20 07 51.2 -0.8**
comp=Z,106nm,1.6s
LPG La Plagne 79.54 322 *e*P **P 20 07 51.4 -1.2**
comp=Z,22nm,1.1s
LPG La Plagne 79.54 322 *e*P **P 20 07 51.4 -1.2**
LPG pmax pmax
comp=Z,22nm,1.1s
LPG La Plagne 79.54 322 *e*P **P 20 07 51.4 -1.2**
comp=Z,22nm,1.1s
LPL La Plagne 79.56 322 *e*P **P 20 07 51.5 -1.2**
comp=Z,40nm,1.4s
LPL La Plagne 79.56 322 *e*P **P 20 07 51.5 -1.2**
LPL pmax pmax
comp=Z,40nm,1.4s
LPL La Plagne 79.56 322 *e*P **P 20 07 51.5 -1.2**
comp=Z,40nm,1.4s
MOX Moxa 79.73 328 *e*P **P 20 07 53.7 +0.5**
comp=Z,14nm,1.3s
MOX Moxa 79.73 328 *e*P **P 20 07 53.7 +0.5**
MOX pmax pmax

comp=Z,10.0nm,1.3s
ORIF Oris-en-Rattie 79.76 321 *e*P **P 20 07 53.2 -0.4**
comp=Z,40nn,1.1s
ORIF *e*R
comp=Z,149nm,20.0s
ORIF Oris-en-Rattie 79.76 321 *e*P **P 20 07 53.2 -0.4**
ORIF pmax pmax
comp=Z,40nn,1.1s
ORIF Oris-en-Rattie 79.76 321 *e*P **P 20 07 53.2 -0.4**
comp=Z,40nn,1.1s
BFO Black Forest 80.16 325 *e*P **P 20 07 54.9 -0.7**
BFO pmax pmax
comp=Z,16nm,1.3s
BFO Black Forest 80.16 325 *e*P **P 20 07 54.9 -0.7**
comp=Z,16nm,1.3s
VIVF Saint-Julien-I 80.47 321 *e*P **P 20 07 57.0 -0.4**
comp=Z,22nm,1.1s
VIVF Saint-Julien-I 80.47 321 *e*P **P 20 07 57.0 -0.4**
VIVF pmax pmax
comp=Z,22nm,1.1s
VIVF Saint-Julien-I 80.47 321 *e*P **P 20 07 57.0 -0.4**
comp=Z,22nm,1.1s
CABF La Chapelle 80.52 323 *e*P **P 20 07 57.2 -0.5**
comp=Z,37nm,1.1s
CABF La Chapelle 80.52 323 *e*P **P 20 07 57.2 -0.5**
CABF pmax pmax
comp=Z,37nm,1.1s
CABF La Chapelle 80.52 323 *e*P **P 20 07 57.2 -0.5**
comp=Z,37nm,1.1s
TMCR Tamitsa 80.53 348 *e*P **P 20 07 57.3 +0.2**
TMCR *e* 20 08 04.3
TMCR pmax pmax
comp=Z,33nm,1.4s
LASF Ste Croix 80.59 320 *e*P **P 20 07 58.1 +0.1**
comp=Z,61nm,1.4s
LASF Ste Croix 80.59 320 *e*P **P 20 07 58.1 +0.1**
comp=Z,61nm,1.4s
HINF Hinteralfeld 80.71 324 *e*P **P 20 07 57.6 -1.0**
comp=Z,32nm,1.3s
HINF Hinteralfeld 80.71 324 *e*P **P 20 07 57.6 -1.0**
HINF pmax pmax
comp=Z,32nm,1.3s
HINF Hinteralfeld 80.71 324 *e*P **P 20 07 57.6 -1.0**
comp=Z,32nm,1.3s
SSB Saint Sauveur 80.76 321 *e*P **P 20 07 58.7 -0.2**
SSB pmax pmax
comp=Z,12nm,1.3s
SSB Saint Sauveur 80.76 321 *e*P **P 20 07 58.7 -0.2**
comp=Z,12nm,1.3s
CDF Champ du Feu 80.79 325 *e*P **P 20 07 58.2 -0.9**
CDF Champ du Feu 80.79 325 *e*P **P 20 07 58.2 -0.9**
CDF Champ du Feu 80.79 325 *e*P **P 20 07 58.2 -0.9**
FINES FINESS Array B 81.28 342 P **P 20 08 01.6 +0.3**
FINES PP **PP 20 11 07.0 -0.2**
FINES FINESS Array B 81.28 342 P **P 20 08 01.6 +0.3**
comp=Z,3.5nm,1.0s,baz=101,slow=20,SNR=4.4
FINES PP **PP 20 11 07.0 -0.2**
comp=Z,3.2nm,0.7s,baz=139,slow=9.1,SNR=6.3
MTLF Montolieu 81.28 318 *e*P **P 20 08 01.2 -0.5**
MTLF Montolieu 81.28 318 *e*P **P 20 08 01.2 -0.5**
MTLF Montolieu 81.28 318 *e*P **P 20 08 01.2 -0.5**
MDJ Mudanjiang 81.66 40 P **P 20 08 04.0 +0.4**
MDJ pP **pP 20 08 07.3 -1.2**
MDJ sP **sP 20 08 08.9 -1.3**
MDJ PP **PP 20 11 10.3 -0.3**
MDJ S **S 20 18 16.8 +1.1**
MDJ pmax pmax
comp=Z,12nm,0.9s
MDJ pmax pmax
comp=Z,60nm,4.2s
MDJ LR LR
comp=N,70nm,7.8s
MDJ LR LR
comp=E,150nm,10.8s
MDJ LR LR
comp=Z,170nm,10.7s
MDJ Mudanjiang 81.66 40 *e*P **P 20 08 03.0 -0.6**
comp=Z,10nm,0.8s
PAGF Fort de Pagny 81.74 324 *e*P **P 20 08 03.7 -0.3**
comp=Z,6.9nm,1.1s
PAGF Fort de Pagny 81.74 324 *e*P **P 20 08 03.7 -0.3**
comp=Z,6.9nm,1.1s
SMF Signal de Mont 81.87 322 *e*P **P 20 08 04.1 -0.6**
comp=Z,15nm,1.0s
SMF Signal de Mont 81.87 322 *e*P **P 20 08 04.1 -0.6**
SMF pmax pmax
comp=Z,15nm,1.0s
SMF Signal de Mont 81.87 322 *e*P **P 20 08 04.1 -0.6**
comp=Z,15nm,1.0s
SFTF Sexfontaines 81.95 324 *e*P **P 20 08 04.8 -0.3**
comp=Z,71nm,1.2s
SFTF Sexfontaines 81.95 324 *e*P **P 20 08 04.8 -0.3**
comp=Z,71nm,1.2s
MEZF Maizieres J'vi 82.10 324 *e*P **P 20 08 05.8 -0.1**
MEZF Maizieres J'vi 82.10 324 *e*P **P 20 08 05.8 -0.1**
CAF Calviac 82.13 320 *e*P **P 20 08 06.1 -0.1**
CAF Calviac 82.13 320 *e*P **P 20 08 06.1 -0.1**
CAF Calviac 82.13 320 *e*P **P 20 08 06.1 -0.1**
LOR Lormes 82.17 323 *e*P **P 20 08 05.6 -0.7**
comp=Z,30nm,1.3s
LOR *e*R
comp=Z,124nm,20.0s
LOR Lormes 82.17 323 *e*P **P 20 08 05.6 -0.7**
comp=Z,30nm,1.3s
AVF Avril sur Loir 82.23 322 *e*P **P 20 08 06.0 -0.6**
comp=Z,38nm,1.6s
AVF Avril sur Loir 82.23 322 *e*P **P 20 08 06.0 -0.6**
AVF pmax pmax
comp=Z,38nm,1.6s
AVF Avril sur Loir 82.23 322 *e*P **P 20 08 06.0 -0.6**
comp=Z,38nm,1.6s
SSF Saint Saulge 82.27 322 *e*P **P 20 08 06.6 -0.2**
comp=Z,22nm,1.0s
SSF Saint Saulge 82.27 322 *e*P **P 20 08 06.6 -0.2**
SSF pmax pmax
comp=Z,23nm,1.0s
SSF Saint Saulge 82.27 322 *e*P **P 20 08 06.6 -0.2**
comp=Z,22nm,1.0s
EPF Esparros 82.36 318 *e*P **P 20 08 06.7 -0.8**
EPF Esparros 82.36 318 *e*P **P 20 08 06.7 -0.8**
EPF Esparros 82.36 318 *e*P **P 20 08 06.7 -0.8**
BGF Bois d'Agland 82.42 322 *e*P **P 20 08 07.5 -0.1**
comp=Z,69nm,1.3s
BGF Bois d'Agland 82.42 322 *e*P **P 20 08 07.5 -0.1**
BGF pmax pmax
comp=Z,69nm,1.3s
BGF Bois d'Agland 82.42 322 *e*P **P 20 08 07.5 -0.1**
comp=Z,69nm,1.3s
RJF Les Rejaudoux 82.65 320 *e*P **P 20 08 08.8 0.0**
comp=Z,26nm,0.9s
RJF Les Rejaudoux 82.65 320 *e*P **P 20 08 08.8 0.0**
RJF pmax pmax
comp=Z,27nm,0.9s
RJF Les Rejaudoux 82.65 320 *e*P **P 20 08 08.8 0.0**
comp=Z,26nm,0.9s
TCF Toulx Ste Croi 82.68 321 *e*P **P 20 08 08.7 -0.3**
TCF Toulx Ste Croi 82.68 321 *e*P **P 20 08 08.7 -0.3**
TCF Toulx Ste Croi 82.68 321 *e*P **P 20 08 08.7 -0.3**
ETSF Etsaut 82.89 317 *e*P **P 20 08 09.5 -0.8**
comp=Z,26nm,1.0s
ETSF Etsaut 82.89 317 *e*P **P 20 08 09.5 -0.8**
ETSF pmax pmax
comp=Z,26nm,1.0s
ETSF Etsaut 82.89 317 *e*P **P 20 08 09.5 -0.8**
comp=Z,26nm,1.0s
LFF La Frestale 82.97 319 *e*P **P 20 08 10.1 -0.4**
comp=Z,42nm,1.0s
LFF La Frestale 82.97 319 *e*P **P 20 08 10.1 -0.4**
LFF pmax pmax
comp=Z,42nm,1.0s
LFF La Frestale 82.97 319 *e*P **P 20 08 10.1 -0.4**
comp=Z,42nm,1.0s
USRK Ussuriysk Arra 82.99 41 P **P 20 08 09.9 -0.6**
comp=Z,4.7nm,0.7s,baz=251,slow=3.8,SNR=13
GIVF Givet 83.05 325 *e*P **P 20 08 10.3 -0.5**
GIVF Givet 83.05 325 *e*P **P 20 08 10.3 -0.5**
GIVF Givet 83.05 325 *e*P **P 20 08 10.3 -0.5**
BAIF Baives 83.36 325 *e*P **P 20 08 12.6 +0.2**
comp=Z,43nm,1.2s
BAIF Baives 83.36 325 *e*P **P 20 08 12.6 +0.2**
BAIF pmax pmax
comp=Z,43nm,1.2s
BAIF Baives 83.36 325 *e*P **P 20 08 12.6 +0.2**
comp=Z,43nm,1.2s
SJPF Ste Jean 83.43 317 *e*P **P 20 08 12.2 -0.7**
SJPF Ste Jean 83.43 317 *e*P **P 20 08 12.2 -0.7**
SJPF Ste Jean 83.43 317 *e*P **P 20 08 12.2 -0.7**
ESDC Sonseca Array 83.89 313 P **P 20 08 14.7 -0.7**
ESDC Sonseca Array 83.89 313 P **P 20 08 14.7 -0.7**
comp=Z,2.7nm,0.7s,baz=100,slow=4.5,SNR=21
ESDC LR LR 20 44 55.6
comp=Z,282nm,21.1s,baz=125,slow=35
ESLA Sonseca Array 83.89 313 *e*P **P 20 08 15.9 +0.5**
comp=Z,8.6nm,1.3s
PAB San Pablo 84.11 313 *e*P **P 20 08 17.2 +0.6**
PAB pmax pmax
comp=Z,16nm,0.9s
PAB San Pablo 84.11 313 *e*P **P 20 08 17.1 +0.6**
comp=Z,16nm,0.9s
MAJO Matsushiro 84.21 50 *e*P **P 20 08 16.6 -0.5**
MAJO pmax pmax
comp=Z,25nm,1.3s
MAJO Matsushiro 84.21 50 *e*P **P 20 08 16.6 -0.5**
comp=Z,25nm,1.3s
MAT Matsushiro 84.21 50 P **P 20 08 17.1 0.0**
MAT S **S 20 18 37.0 -5.1**
MJAR Matsushiro Arr 84.21 50 P **P 20 08 17.5 +0.4**
MJAR Matsushiro Arr 84.21 50 P **P 20 08 17.5 +0.4**
comp=Z,5.7nm,0.6s,baz=242,slow=6.3,SNR=22
MJAR LR LR 20 46 09.0
comp=Z,140nm,21.4s,baz=255,slow=36
MFF Saint Martin d 84.27 321 *e*P **P 20 08 16.8 -0.3**
comp=Z,18nm,0.9s
MFF Saint Martin d 84.27 321 *e*P **P 20 08 16.8 -0.3**
MFF pmax pmax
comp=Z,18nm,0.9s
MFF Saint Martin d 84.27 321 *e*P **P 20 08 16.8 -0.3**
comp=Z,18nm,0.9s
APA Apatity 84.44 348⇑ *e*P **P 20 08 16.0 -1.5**
APA MLR MLR
comp=Z,400nm,17.0s
KLR Kul'dur 85.12 37 *e*P P 20 08 17.1 -4.3
KLR pmax pmax
comp=Z,53nm,1.8s
LDF La Druitiere 85.15 322 *e*P **P 20 08 21.2 -0.3**
LDF La Druitiere 85.15 322 *e*P **P 20 08 21.2 -0.3**
LDF La Druitiere 85.15 322 *e*P **P 20 08 21.2 -0.3**
FLN La Foliniere 85.44 322 *e*P **P 20 08 22.7 -0.3**
FLN *e*R
comp=Z,217nm,22.0s
FLN La Foliniere 85.44 322 *e*P **P 20 08 22.7 -0.3**
FLN La Foliniere 85.44 322 *e*P **P 20 08 22.7 -0.3**
GRR Gorron 85.50 322 *e*P **P 20 08 22.8 -0.5**
GRR Gorron 85.50 322 *e*P **P 20 08 22.8 -0.5**
GRR Gorron 85.50 322 *e*P **P 20 08 22.8 -0.5**
NB2 NORSAR Subarra 86.17 336 P **P 20 08 26.3 -0.1**
comp=Z,21nm,1.7s,baz=127,slow=5.1
NOA NORSAR Array B 86.17 336 P **P 20 08 26.5 +0.2**
NOA NORSAR Array B 86.17 336 P **P 20 08 26.5 +0.2**
comp=Z,2.1nm,0.7s,baz=116,slow=4.8,SNR=4.7
PMRV Marv??o 86.25 312 *e*P **P 20 08 27.4 +0.1**
comp=Z,26nm,1.7s
EVO Evora 86.39 311 *e*P **P 20 08 29.3 +1.4**
comp=Z,19nm,0.9s
EVO *e*R
comp=Z,753nm,23.0s
EVO Evora 86.39 311 *e*P **P 20 08 29.1 +1.2**
comp=Z,26nm,1.5s
SGMF Saint Gilles 86.46 321 *e*P **P 20 08 27.3 -0.7**
SGMF Saint Gilles 86.46 321 *e*P **P 20 08 27.3 -0.7**
SGMF Saint Gilles 86.46 321 *e*P **P 20 08 27.3 -0.7**
EVOP Sao Brissos 86.47 311 *e*P **P 20 08 29.3 +1.0**
EVOP pmax pmax
comp=Z,19nm,0.9s
EVOP Sao Brissos 86.47 311 *e*P **P 20 08 29.3 +1.0**
comp=Z,19nm,0.9s
PBRG Braganca 86.65 314 *e*P **P 20 08 30.1 +0.9**
comp=Z,22nm,1.7s
PMTG Montargil 86.73 311 *e*P **P 20 08 29.4 -0.2**
comp=Z,32nm,1.5s
HABR Khabarovsk 86.75 38 *e*P **P 20 08 26.8 -2.6**
HABR *e* 20 08 28.6
HABR *e**SP **sP 20 08 33.8 -2.2**
HABR PPP PPP 20 13 43.2
HABR *e*S **SKSac 20 18 52.2 -3.6**
HABR *e* 20 18 59.0
HABR *e*SS **SS 20 24 45.5 -3.1**
HABR *e*SSS SSS 20 28 17.7
HABR pmax pmax
comp=E,25nm,1.8s
HABR pmax pmax
comp=Z,74nm,2.7s
HABR pmax pmax
comp=N,57nm,2.7s
HABR MLR MLR
comp=Z,253nm,19.0s
ROSF Rostrenen 86.93 321 *e*P **P 20 08 29.5 -0.8**
ROSF Rostrenen 86.93 321 *e*P **P 20 08 29.5 -0.8**
ROSF Rostrenen 86.93 321 *e*P **P 20 08 29.5 -0.8**
ARCES ARCESS Array B 87.73 347 P **P 20 08 34.4 +0.6**
ARCES ARCESS Array B 87.73 347 P **P 20 08 34.4 +0.6**
comp=Z,5.2nm,0.8s,baz=103,slow=3.9,SNR=14
ARCES LR LR 20 52 51.8
comp=Z,130nm,18.4s,baz=142,slow=39
DZM Mont Dzumac 94.26 114 *e*LR LR 20 39 22.1
comp=Z,3µm,33.1s
JMIC Jan Mayen 97.90 341 LR LR 20 53 11.5
comp=Z,153nm,20.4s,baz=278,slow=35
CMLA Cha da Macela 99.50 307 *e*LR LR 20 43 20.0
comp=Z,33nm,18.6s
PGRA Graciosa 101.60 308 *e*LR LR 20 44 39.3
comp=Z,90nm,19.8s
ROSA Rosais 101.76 307 *e*LR LR 20 43 20.0
comp=Z,40nm,19.5s
ILAR Eielson Array 124.19 16 PKP **PKPdf 20 14 42.5 -1.2**
ILAR Eielson Array 124.19 16 PKP **PKPdf 20 14 42.5 -1.2**
comp=Z,1.8nm,0.8s,baz=307,slow=2.9,SNR=15
LPAZ La Paz 125.83 238 PKP **PKPdf 20 14 48.2 -0.8**
LPAZ La Paz 125.83 238 PKP **PKPdf 20 14 48.2 -0.8**
comp=Z,1.8nm,1.0s,baz=61,slow=5.7,SNR=4.7
YKA Yellowknife Ar 131.26 0 PKP **PKPdf 20 14 57.0 -0.2**
YKA PP **PP 20 17 14.1 -0.3**
YKA Yellowknife Ar 131.26 0 PKP **PKPdf 20 14 56.9 -0.2**
comp=Z,1.6nm,0.7s,baz=10,slow=2.2,SNR=4.9
YKA PP **PP 20 17 14.1 -0.3**
comp=Z,1.8nm,0.9s,baz=347,slow=6.5,SNR=4.0
PPT2 Papeete2 133.05 130 *e*LR LR 20 57 30.4
comp=Z,188nm,24.0s
RKT Rikitea 138.01 150 *e*LR LR 20 59 45.8
comp=Z,426nm,32.5s
OTAV Otavalo 142.43 252 *e*PKPdf **PKPdf 20 15 21.8 +1.9**
A24A Westby 143.92 349 ⇑PKPdf **PKPdf 20 15 20.2 -0.7**
baz=144
A23A Redstone 144.04 350 ⇑PKPdf **PKPdf 20 15 20.3 -0.9**
baz=144
A22A Carney Farms, 144.18 351 ⇓PKPdf **PKPdf 20 15 20.7 -0.7**
baz=144
A21A Bergtoll Ranch 144.33 352 ⇑PKPdf PKPbc 20 15 20.6 +0.7
baz=144
DGMT Dagmar 144.39 349 *e*PKPdf **PKPdf 20 15 20.9 -0.9**
DGMT Dagmar 144.39 349 ⇑PKPdf PKPbc 20 15 20.8 +0.6
baz=144
SFIN Scholer Farm 144.52 324 ⇑PKPdf **PKPab 20 15 20.1 -0.4**
baz=144
B23A Brockton 144.54 350 ⇑PKPdf PKPbc 20 15 20.9 +0.3
baz=144
A20A Cobblestone Ra 144.56 353 ⇓PKPdf PKPbc 20 15 20.8 +0.1
baz=144
TZTN Tazewell 144.56 315 *e*PKPdf **PKPab 20 15 20.8 -0.1**
A19A Klindworth Far 144.60 354 ⇑PKPdf **PKPab 20 15 20.6 0.0**
baz=144
CMW Cultus Mountai 144.70 9 P PKPbc 20 15 21.3 +0.1
A18A Metzger Ranch, 144.71 355 ⇓PKPdf **PKPab 20 15 20.5 -0.6**
baz=145
OBC Olympics--Boni 144.72 12 P **PKPdf 20 15 22.6 +0.2**
WALA Waterton Lakes 144.73 360 *e*PKPdf **PKPab 20 15 20.6 -0.5**
A17A Triple J Farms 144.74 356 ⇑PKPdf **PKPab 20 15 20.6 -0.5**
baz=145
A15A Johnson Ranch, 144.80 359 ⇑PKPdf **PKPab 20 15 20.8 -0.6**
baz=145
A14A Double T Ranch 144.81 359 ⇓PKPdf **PKPab 20 15 21.0 -0.6**
baz=145
B22A Reddig Ranch S 144.87 351 ⇑PKPdf PKPbc 20 15 21.6 -0.1
baz=145
B21A Ellsworth Farm 144.89 352 ⇑PKPdf **PKPab 20 15 21.6 -0.1**
baz=145
JCW Jim Creek 144.96 9 P PKPbc 20 15 22.1 +0.2
B19A Brinkman Farms 145.09 354 ⇓PKPdf **PKPbc 20 15 22.0 -0.4**
baz=145
TKL Tuckaleechee C 145.18 314 PKPbc **PKPbc 20 15 22.8 -0.2**
TKL Tuckaleechee C 145.18 314 PKPbc **PKPbc 20 15 22.8 -0.2**
comp=Z,2.4nm,0.6s,baz=71,slow=7.6,SNR=4.5
C23A Lambert 145.22 350 ⇓PKPdf **PKPdf 20 15 23.0 -0.2**
baz=145
B18A Beardsley Farm 145.22 355 ⇑PKPdf **PKPbc 20 15 22.3 -0.6**
baz=145
B16A M & M Farms, S 145.33 357 ⇓PKPdf **PKPbc 20 15 22.8 -0.4**
baz=145
C24A Savage 145.34 349 ⇓PKPdf **PKPbc 20 15 23.2 -0.1**
baz=145
NLWA Neilton Lookou 145.38 12 P **PKPab 20 15 24.1 +0.6**
C22A Vida 145.39 350 ⇓PKPdf **PKPbc 20 15 23.3 -0.1**
baz=145
B17A L&G Farms, Che 145.40 356 ⇓PKPdf **PKPbc 20 15 22.9 -0.5**
baz=145
WCI Wyandotte Cave 145.40 320 *e*PKIKP **PKPbc 20 15 23.1 -0.6**
WCI Wyandotte Cave 145.40 320 *e*PKPdf **PKPbc 20 15 23.1 -0.6**
B13A Whitefish 145.41 1 ⇑PKPdf **PKPbc 20 15 23.3 -0.1**
baz=145
NEW Newport 145.42 4 ⇓PKPdf **PKPab 20 15 23.7 0.0**
baz=145
B14A Marquette Ranc 145.42 359 ⇑PKPdf **PKPbc 20 15 23.3 -0.3**
baz=145
B15A Bradely Ranch, 145.46 358 ⇓PKPdf **PKPbc 20 15 23.3 -0.3**
baz=145
C21A Desert Coulee 145.49 352 ⇓PKPdf **PKPab 20 15 23.8 -0.1**
baz=145
EGMT Eagleton 145.59 355 *e*PKPdf **PKPdf 20 15 23.5 -0.4**
EGMT Eagleton 145.59 355 ⇓PKIKP **PKPbc 20 15 24.0 0.0**
baz=146
RMW Rattlesnake Mo 145.69 10 PKIKP **PKPab 20 15 24.8 +0.1**
RMW Rattlesnake Mo 145.69 10 P **PKPab 20 15 24.8 +0.1**
WTV Waterville 145.72 7 P **PKPbc 20 15 24.5 0.0**
C20A Veseth Ranch, 145.72 353 ⇑PKiKP **PKPbc 20 15 24.4 0.0**
baz=146
D24A Glendive 145.72 348 ⇓PKiKP **PKPab 20 15 24.6 -0.2**
baz=146
DPW Davenport 145.73 5 PKP2 **PKPab 20 15 25.2 +0.4**
DPW Davenport 145.73 5 P **PKPab 20 15 25.2 +0.4**
ETW Entiat 145.76 8 P **PKPbc 20 15 24.6 -0.1**
BLMT Blacktail Moun 145.78 1 *e*PKPdf **PKPbc 20 15 24.6 -0.3**
C09A Chrisman Ranch 145.79 5 P **PKPab 20 15 25.1 +0.1**
CPCT Cooper Cave 145.81 315 *e*PKPdf **PKPbc 20 15 24.9 -0.2**
C19A Slack Wire Ran 145.81 354 ⇑PKiKP **PKPbc 20 15 24.6 -0.2**
baz=146
D23A Lindsay 145.83 349 ⇓PKiKP **PKPab 20 15 25.4 +0.2**
baz=146
E26A Carlson Angus 145.93 346 ⇓PKiKP **PKPab 20 15 25.9 +0.3**
baz=146
BSMT Bassoo Peak 145.93 1 P **PKPbc 20 15 25.4 +0.1**
C16A Fuhringer Ranc 145.94 357 ⇓PKiKP **PKPbc 20 15 25.2 0.0**
baz=146
C15A Salmond Ranch, 146.00 358 ⇓PKiKP **PKPab 20 15 25.6 -0.3**
baz=146
D22A Cohagen 146.01 351 ⇑PKiKP **PKPab 20 15 26.6 +0.7**
baz=146
C14A Swan Lake 146.02 360 ⇓PKiKP **PKPab 20 15 25.7 -0.3**
baz=146
JTMT Jette 146.04 0 *e*PKPdf **PKPbc 20 15 25.2 -0.3**
C17A Wharram Farm, 146.05 356 ⇑PKiKP **PKPab 20 15 26.0 -0.1**
baz=146
C12B Naegeli Ranch, 146.05 2 ⇑PKiKP **PKPab 20 15 25.9 -0.2**
baz=146
E25A Miller Ranch, 146.11 347 ⇓PKiKP **PKPab 20 15 26.6 +0.3**
baz=146
TBM Table Mountain 146.15 8 P **PKPbc 20 15 25.8 -0.1**
D21A La Casta Ranch 146.22 351 ⇓PKiKP **PKPab 20 15 26.4 -0.3**
baz=146
E24A Baker 146.25 348 ⇑PKiKP **PKPab 20 15 26.7 -0.1**
baz=146
SWMT Swartz Lake 146.28 0 *e*PKPdf **PKPbc 20 15 26.2 -0.1**
D20A Manuel Ranch, 146.35 353 ⇑PKiKP **PKPab 20 15 26.7 -0.4**
baz=146
D19A Cripps Ranch, 146.36 354 ⇑PKiKP **PKPab 20 15 27.1 -0.1**
baz=146
LON Longmire 146.38 10 *e*PKP2 **PKPdf 20 15 25.2 -0.1**
LON Longmire 146.38 10 *e*PKPdf **PKPdf 20 15 25.2 -0.1**
D18A Linhart Farms, 146.41 355 ⇑PKiKP **PKPab 20 15 27.2 -0.3**
baz=146
WPW White Pass 146.47 10 P **PKPab 20 15 27.3 -0.4**
E23A Ismay 146.50 349 ⇓PKiKP **PKPab 20 15 27.5 -0.3**
baz=146
D17A Six Diamond Ra 146.53 356 ⇓PKiKP **PKPab 20 15 27.8 -0.2**
baz=146
SLMT Seeley Lake 146.54 359 *e*PKPdf **PKPbc 20 15 26.5 -0.6**
ECSD EROS Data Cent 146.58 337 *e*PKPdf **PKPdf 20 15 25.4 -0.2**
E21A Keefer Ranch, 146.75 351 ⇓PKiKP **PKPab 20 15 28.6 -0.1**
baz=147
BRSD Miller 146.79 340 ⇓PKiKP **PKPbc 20 15 28.1 +0.4**
baz=147
G27A Dupree 146.81 344 ⇓PKiKP **PKPab 20 15 28.4 -0.6**
baz=147
G28A Parade 146.82 343 ⇓PKiKP **PKPab 20 15 28.7 -0.4**
baz=147
CHMT Chamberlain Mo 146.87 359 *e*PKPdf **PKPbc 20 15 27.4 -0.8**
E20A Meyer Farm, Mu 146.92 353 ⇓PKiKP **PKPab 20 15 28.8 -0.6**
baz=147
F24A Ekalaka 146.96 348 ⇓PKiKP **PKPab 20 15 28.9 -0.7**
baz=147
HRY Holter Researc 147.03 357 *e*PKPbc **PKPbc 20 15 28.3 -0.1**
E19A Rath Farm, Rou 147.04 353 ⇑PKiKP **PKPab 20 15 29.1 -0.8**
baz=147
E18A Harlowton 147.05 355 ⇑PKiKP **PKPab 20 15 29.8 -0.3**
baz=147
HAWA Hanford 147.05 7 *e*PKPbc **PKPbc 20 15 28.2 -0.1**
H28A Mission Ridge 147.22 343 ⇑PKiKP **PKPbc 20 15 29.3 +0.4**
baz=147
E17A Martinsdale 147.23 356 ⇓PKiKP **PKPbc 20 15 29.8 +0.7**
baz=147
F23A Volborg 147.26 349 ⇓PKiKP **PKPab 20 15 29.9 -0.9**
baz=147
E12A Beaver Dam Sad 147.34 2 ⇓PKiKP **PKPab 20 15 30.4 -0.8**
baz=147
F22A Rosebud 147.36 350 ⇑PKiKP **PKPbc 20 15 29.9 +0.6**
baz=147
G24A Alzada 147.45 348 ⇓PKiKP **PKPbc 20 15 29.8 +0.2**
baz=147
SIUC Southern Illin 147.51 322 PKPdf **PKPdf 20 15 27.3 -0.1**
H27A Howes 147.54 344 ⇑PKiKP **PKPbc 20 15 30.2 +0.3**
baz=147
F20A Billings 147.62 352 ⇑PKiKP **PKPbc 20 15 30.9 +0.8**
baz=148
F19A Roth Farm, Mol 147.66 354 ⇑PKiKP **PKiKP 20 15 31.4 -0.9**
baz=148
F18A Big Timber 147.69 355 ⇓PKiKP **PKiKP 20 15 31.5 -0.8**
baz=148
H26A Fairpoint 147.74 345 ⇑PKiKP **PKPbc 20 15 31.4 +1.0**
baz=148
G23A Biddle 147.76 349 ⇓PKiKP **PKPbc 20 15 31.1 +0.6**
baz=148
F17A Fitzpatrick Pl 147.77 356 ⇑PKiKP **PKPbc 20 15 31.3 +0.7**
baz=148
GCMT Greycliff 147.80 354 *e*PKPbc **PKPbc 20 15 31.4 +0.7**
G22A Birney 147.91 350 ⇑PKiKP **PKPbc 20 15 31.3 +0.4**
baz=148
H25A Fruitdale 147.94 346 ⇓PKiKP **PKPbc 20 15 31.1 +0.1**
baz=148
LRM Limekiln Ridge 147.94 358 *e*PKPbc **PKPbc 20 15 30.9 -0.3**
H24A Dirks Ranch, A 148.03 347 ⇓PKiKP **PKPbc 20 15 31.3 0.0**
baz=148
G21A Lodge Grass 148.05 351 ⇓PKiKP **PKPbc 20 15 32.1 +0.8**
baz=148
I27A Quinn 148.06 344 ⇓PKiKP **PKPbc 20 15 31.8 +0.5**
baz=148
BOZ Bozeman (W) 148.08 357 *e*PKP2 **PKPdf 20 15 29.0 +0.7**
BOZ Bozeman (W) 148.08 357 *e*PKPdf **PKPdf 20 15 29.0 +0.7**
BOZ *e*PKPbc **PKPbc 20 15 31.9 +0.5**
G20A Bridger 148.20 352 ⇓PKiKP **PKPbc 20 15 32.1 +0.4**
baz=148
G18A Lazy EL Ranch, 148.26 354 ⇑PKiKP **PKPbc 20 15 32.5 +0.6**
baz=148
I26A New Underwood 148.31 345 ⇑PKiKP **PKiKP 20 15 32.8 -0.8**
baz=148
G17A Pierce Place, 148.35 356 ⇓PKiKP **PKiKP 20 15 33.2 -0.6**
baz=148
H23A Clabaugh Cattl 148.38 348 ⇓PKiKP **PKPbc 20 15 32.9 +0.7**
baz=148
DLMT Dillon 148.41 358 *e*PKPdf **PKPdf 20 15 26.6 -2.2**
DLMT *e*PKPbc **PKPbc 20 15 32.1 -0.1**
RLMT Red Lodge 148.42 354 *e*PKPbc **PKPbc 20 15 32.6 +0.1**
J28A Allard Ranch, 148.42 342 ⇑PKiKP **PKPbc 20 15 33.0 +0.7**
baz=148
RSSD Black Hills 148.51 346 *e*PKP2 **PKPbc 20 15 32.6 -0.1**
RSSD Black Hills 148.51 346 *e*PKPdf **PKPbc 20 15 32.5 -0.1**
I25A Rochford 148.53 346 ⇓PKiKP **PKPbc 20 15 33.4 +0.7**
baz=148
H21A Big Horn, Sher 148.61 351 ⇑PKiKP **PKPbc 20 15 33.2 +0.4**
baz=148

G12A	Big Creek, Yel	148.64	2	⇓PKiKP	PKPbc	20 15 33.2	+0.3	
	baz=148							
VIPM	Ingram Point	148.75	9	PKP2	PKPbc	20 15 34.1	+0.9	
VIPM	Ingram Point	148.75	9	P	PKPbc	20 15 34.1	+0.9	
BMO	Blue Mountains	148.80	5	PKiKP	PKPbc	20 15 32.5	-0.8	
BMO	Blue Mountains	148.80	5	PKPdf	PKPbc	20 15 32.5	-0.8	
LRAL	Lakeview Retre	148.82	313	*e*PKPbc	PKPbc	20 15 31.9	-1.6	
H19A	Powell	148.83	353	⇓PKiKP	PKiKP	20 15 34.3	-0.5	
	baz=149							
I24A	Kuemmerle Ranc	148.89	347	⇑PKiKP	PKPbc	20 15 33.8	+0.2	
	baz=149							
H18A	Shoshone NF, C	148.90	354	⇓PKiKP	PKPbc	20 15 34.1	+0.4	
	baz=149							
MCMT	McKenzie Canyo	148.95	359	*e*PKPbc	PKPbc	20 15 34.8	+0.9	
H16A	Russell Place,	149.00	356	⇓PKiKP	PKPbc	20 15 34.4	+0.5	
	baz=149							
K28A	Ten Mile Ranch	149.11	342	⇑PKiKP	PKPbc	20 15 34.5	+0.4	
	baz=149							
J25A	Sunshine Ranch	149.15	346	⇑PKiKP	PKiKP	20 15 35.0	-0.4	
	baz=149							
YFT	Old Faithful	149.22	356	*e*PKPbc	PKPab	20 15 36.6	-2.3	
H12A	Diamond D Ranc	149.23	1	⇓PKiKP	PKPbc	20 15 34.8	+0.3	
	baz=149							
I22A	9 Mile Ranch,	149.23	349	⇑PKiKP	PKPbc	20 15 34.9	+0.5	
	baz=149							
J24A	Dixon Ranch, L	149.40	347	⇑PKiKP	PKPbc	20 15 34.8	0.0	
	baz=149							
I20A	Worland	149.43	352	⇑PKiKP	PKPbc	20 15 35.2	+0.3	
	baz=149							
I21A	Big Trails, Te	149.44	351	⇑PKiKP	PKPbc	20 15 35.0	0.0	
	baz=149							
I19A	Meeteetse	149.46	353	⇑PKiKP	PKPbc	20 15 35.5	+0.4	
	baz=149							
J22A	Midwest	149.69	349	⇓PKiKP	PKPbc	20 15 35.8	+0.2	
	baz=150							
I17A	Pilgrim Ck.	149.73	355	⇓PKiKP	PKiKP	20 15 36.3	-0.5	
	baz=150							
IMW	Indian Meadow	149.78	356	*e*PKPdf	PKPdf	20 15 32.4	+1.2	
I16A	Newdale	149.84	357	⇑PKiKP	PKiKP	20 15 37.0	0.0	
	baz=150							
I14A	Mackay	149.86	359	⇑PKiKP	PKPbc	20 15 36.5	+0.5	
	baz=150							
I18A	Diamond G Ranc	149.88	354	⇓PKiKP	PKPbc	20 15 36.4	+0.2	
	baz=150							
K25A	Mack Ranch, Ha	149.90	345	⇑PKiKP	PKiKP	20 15 36.6	-0.5	
	baz=150							
MOOW	Moose Ponds	149.92	355	*e*PKPdf	PKPbc	20 15 36.0	-0.3	
J21A	Lysite	149.92	351	⇓PKiKP	PKPbc	20 15 36.4	+0.1	
	baz=150							
J20A	Shoshoni	150.01	351	⇑PKiKP	PKPbc	20 15 36.6	+0.3	
	baz=150							
LOHW	Long Hollow	150.04	355	*e*PKPdf	PKPdf	20 15 31.8	+0.2	
LOHW				*e*PKPbc	PKiKP	20 15 37.1	-0.3	
HUMO	Hull Mountain	150.14	13	*e*PKPdf	PKPdf	20 15 32.2	+0.7	
HUMO				*e*PKPbc	PKiKP	20 15 37.6	+0.2	
K23A	Bowen Ranch, D	150.16	348	⇑PKiKP	PKPbc	20 15 36.8	0.0	
	baz=150							
TPAW	Teton Pass	150.19	356	*e*PKPdf	PKPdf	20 15 32.5	+0.6	
TPAW				*e*PKPbc	PKiKP	20 15 38.1	+0.3	
SNOW	Snow King Moun	150.20	355	*e*PKPbc	PKPbc	20 15 38.3	+1.3	
HLID	Hailey	150.22	1	*e*PKPbc	PKPbc	20 15 37.8	+0.9	
HLID	Hailey	150.22	1	⇓PKiKP	PKiKP	20 15 37.4	-0.3	
	baz=150							
J19A	Crowheart	150.23	353	⇓PKiKP	PKiKP	20 15 37.5	-0.3	
	baz=150							
REDW	Red Top Meadow	150.31	355	*e*PKPdf	PKPdf	20 15 29.9	-2.1	
REDW				*e*PKPbc	PKiKP	20 15 38.0	0.0	
MFID	Camas Ranch	150.33	3	*e*PKPdf	PKPdf	20 15 32.5	+0.5	
MFID				*e*PKPbc	PKiKP	20 15 37.5	-0.4	
MFID	Camas Ranch	150.33	3	⇓PKiKP	PKiKP	20 15 37.6	-0.3	
	baz=150							
L25A	Engebretsen Ra	150.35	345	⇓PKiKP	PKiKP	20 15 37.7	-0.3	
	baz=150							
RRI2	Red Ridge	150.36	356	*e*PKPdf	PKPdf	20 15 34.0	+1.8	
KSU1	Kansas State U	150.43	332	*e*PKPbc	PKPbc	20 15 36.6	-0.7	
KSU1				*e*PKPab	PKPab	20 15 43.2	-0.5	
K22A	Casper	150.44	349	⇑PKiKP	PKiKP	20 15 37.9	-0.3	
	baz=150							
K21A	Alcova	150.59	350	⇓PKiKP	PKPbc	20 15 38.0	+0.2	
	baz=150							
K19A	Absolon Red Bu	150.64	352	⇓PKiKP	PKPbc	20 15 38.1	+0.1	
	baz=150							
K20A	Yellowstone Ra	150.73	352	⇓PKiKP	PKPbc	20 15 38.4	+0.2	
	baz=150							
BW06	Boulder Array	150.78	353	*e*PKPbc	PKPdf	20 15 32.8	0.0	
PDAR	Pinedale Array	150.78	353	PKP	PKPdf	20 15 33.1	+0.3	
PDAR				PKPbc	PKPbc	20 15 38.1	-0.2	
PDAR	Pinedale Array	150.78	353	PKP	PKPdf	20 15 33.1	+0.3	
	comp=Z,14nm,0.7s,baz=37,slow=0.7,SNR=16							
PDAR				PKPbc	PKPbc	20 15 38.1	-0.2	
	comp=Z,14nm,0.7s,baz=64,slow=2.1,SNR=80							
L23A	Garrett	150.79	347	⇓PKiKP	PKPbc	20 15 38.5	+0.1	
	baz=151							
OGNE	Ogallala	150.92	341	⇓PKiKP	PKPbc	20 15 38.8	+0.3	
	baz=151							
KRMB	Red Mountain	150.93	16	*e*PKPbc	PKPbc	20 15 39.0	+0.4	
O30A	MW Ranch, Wils	150.94	338	⇓PKiKP	PKPbc	20 15 38.8	+0.3	
	baz=151							
L22A	Ellis Ranch, M	151.02	348	⇑PKiKP	PKPbc	20 15 38.9	0.0	
	baz=151							
YBH	Yreka Blue Hor	151.03	14	*e*PKPbc	PKPbc	20 15 38.6	-0.1	
YBH	Yreka Blue Hor	151.03	14	PKPbc	PKPbc	20 15 39.0	+0.2	
	comp=Z,4.2nm,0.8s,baz=62,slow=3.0,SNR=4.6							
M25A	Palm-Egli Farm	151.05	345	⇓PKiKP	PKPbc	20 15 38.9	-0.1	
	baz=151							
WVOR	Wild Horse Val	151.06	7	*e*PKiKP	PKPbc	20 15 39.2	+0.3	
WVOR	Wild Horse Val	151.06	7	*e*PKPbc	PKPbc	20 15 39.2	+0.3	
N27A	Anderson Farm,	151.21	342	⇑PKiKP	PKPbc	20 15 39.5	+0.2	
	baz=151							
M24A	Cheyenne	151.21	346	⇓PKiKP	PKiKP	20 15 39.7	-0.1	
	baz=151							
P31A	Stockton	151.25	336	⇓PKiKP	PKPbc	20 15 39.5	+0.2	
	baz=151							
L21A	Rawlins	151.26	350	⇓PKiKP	PKPbc	20 15 39.4	0.0	
	baz=151							
UALR	University of	151.35	321	*e*PKPbc	PKPbc	20 15 39.6	0.0	
L20A	Wamsutter	151.37	351	⇑PKiKP	PKiKP	20 15 40.2	0.0	
	baz=151							
N26A	Koester Ranch,	151.39	343	⇓PKiKP	PKiKP	20 15 40.0	-0.2	
	baz=151							
L19A	Farson	151.41	353	⇓PKiKP	PKPbc	20 15 39.9	+0.1	
	baz=151							
RWWY	Rawlins	151.50	349	*e*PKPbc	PKPbc	20 15 39.4	-0.7	
PHWY	Pilot Hill	151.51	347	*e*PKPbc	PKPbc	20 15 40.0	-0.2	
P30A	Selden	151.56	337	⇓PKiKP	PKPbc	20 15 40.2	+0.1	
	baz=152							
KHMM	Horse Mountain	151.58	16	*e*PKPbc	PKPbc	20 15 41.1	+0.9	
M21A	Separation Pea	151.60	350	⇓PKiKP	PKPbc	20 15 40.4	+0.1	
	baz=152							
L18A	Fontenelle, Gr	151.66	354	⇑PKiKP	PKPbc	20 15 40.5	+0.1	
	baz=152							
N24A	Carr	151.83	345	⇓PKiKP	PKiKP	20 15 41.5	+0.4	
	baz=152							
M20A	Sweetwater, Wa	151.85	351	⇑PKiKP	PKiKP	20 15 41.4	+0.2	
	baz=152							
O26A	Horse Wrangler	151.96	343	⇓PKiKP	PKPbc	20 15 41.1	+0.1	
	baz=152							
M19A	Rock Springs	151.97	352	⇑PKiKP	PKiKP	20 15 41.6	+0.1	
	baz=152							
HVU	Hansel Valley	151.99	358	*e*PKiKP	PKPdf	20 15 31.6	-3.0	
HVU				*e*		20 15 38.3		
HVU				*e*		20 15 49.4		
HVU	Hansel Valley	151.99	358	*e*PKPdf	PKPdf	20 15 31.6	-3.0	
HVU				*e*PKPbc	PKPbc	20 15 38.3	-2.8	
HVU				*e*PKPab	PKPab	20 15 49.4	-0.8	
N23A	Red Feather La	152.01	347	⇑PKiKP	PKiKP	20 15 41.7	0.0	
	baz=152							
P28A	Saint Francis	152.07	340	⇑PKiKP	PKiKP	20 15 41.7	+0.1	
	baz=152							
HWUT	Hardware Ranch	152.11	356	*e*PKPdf	PKPdf	20 15 35.0	+0.2	
HWUT				*e*PKPbc	PKiKP	20 15 41.7	0.0	
M17A	Scullys Gap (B	152.17	355	⇑PKiKP	PKiKP	20 15 41.8	-0.1	
	baz=152							
MIAR	Mount Ida	152.25	322	*e*PKiKP	PKPdf	20 15 36.6	+1.7	
MIAR				*e*		20 15 42.1		
MIAR	Mount Ida	152.25	322	*e*PKPdf	PKPdf	20 15 36.6	+1.7	
MIAR				*e*PKPbc	PKiKP	20 15 42.0	+0.1	
MIAR				*e*PKPab	PKPab	20 15 52.0	+0.5	
R31A	Burdett	152.37	335	⇓PKiKP	PKiKP	20 15 42.3	+0.1	
	baz=152							
Q29A	Oakley	152.41	338	⇓PKiKP	PKiKP	20 15 42.3	0.0	
	baz=152							
N21A	Black Mountain	152.45	349	⇓PKiKP	PKiKP	20 15 42.5	-0.1	
	baz=152							
N20A	Spence Gulch,	152.50	351	⇓PKiKP	PKiKP	20 15 42.5	-0.1	
	baz=152							
TUL1	Tulsa	152.52	327	⇓PKiKP	PKiKP	20 15 42.8	+0.3	
	baz=152							
O24A	Longmont	152.54	345	⇑PKiKP	PKPbc	20 15 42.5	+0.1	
	baz=152							
KIPM	Iron Peak	152.65	16	*e*PKPbc	PKPbc	20 15 43.3	+0.7	
O23A	Lake Granby, G	152.66	347	⇓PKiKP	PKiKP	20 15 43.0	0.0	
	baz=153							
R30A	Dighton	152.67	336	⇑PKiKP	PKiKP	20 15 43.1	+0.3	
	baz=153							
O22A	Kremmling	152.84	348	⇓PKiKP	PKPbc	20 15 43.3	0.0	
	baz=153							
BGU	Big Grassy Mou	152.85	359	*e*PKPdf	PKPdf	20 15 37.2	+1.4	
BGU				*e*PKPbc	PKiKP	20 15 43.3	+0.1	
P25A	Willow Gulch B	152.88	343	⇓PKiKP	PKiKP	20 15 43.5	+0.1	
	baz=153							
ISCO	Idaho Springs	152.98	346	⇓PKiKP	PKPbc	20 15 43.4	-0.2	
	baz=153							
Q26A	Hugo	153.23	342	⇑PKiKP	PKiKP	20 15 44.4	+0.3	
	baz=153							
DAU	Daniels Canyon	153.27	355	*e*PKiKP	PKPbc	20 15 43.5	-0.7	
DAU	Daniels Canyon	153.27	355	*e*PKPbc	PKPbc	20 15 43.5	-0.7	
S30A	Montezuma	153.30	336	⇑PKiKP	PKiKP	20 15 44.6	+0.5	
	baz=153							
BEKR	Beckworth	153.31	11	*e*PKPbc	PKPbc	20 15 44.4	+0.3	
P22A	Eagle	153.43	348	⇑PKiKP	PKiKP	20 15 44.8	+0.2	
	baz=153							
P23A	Jefferson	153.44	346	⇑PKiKP	PKiKP	20 15 44.9	+0.2	
	baz=153							
T31A	Randall Ranch,	153.44	334	⇑PKiKP	PKiKP	20 15 44.9	+0.5	
	baz=153							
Q25A	Bedland, Calha	153.46	343	⇓PKiKP	PKiKP	20 15 44.7	+0.1	
	baz=153							
DUG	Dugway	153.57	358	*e*PKiKP	PKPbc	20 15 44.9	+0.3	
DUG				*e*		20 19 28.8		
DUG	Dugway	153.57	358	*e*PKPbc	PKPbc	20 15 44.9	+0.3	
DUG				*e*SKP		20 19 15.8		
DUG				*e*PP	PP	20 19 28.8	-0.9	
DUG	Dugway	153.57	358	⇓PKiKP	PKiKP	20 15 45.3	+0.6	
	baz=154							
R27A	Eads	153.59	340	⇑PKiKP	PKiKP	20 15 44.9	+0.1	
	baz=154							
PAHR	Pah Rah Range	153.63	10	*e*PKPdf	PKPdf	20 15 37.5	+0.5	
PAHR				*e*PKPbc	PKiKP	20 15 45.3	+0.4	
Q24A	Divide	153.65	344	⇓PKiKP	PKPbc	20 15 45.0	-0.1	
	baz=154							
R26A	Arlington	153.78	341	⇑PKiKP	PKiKP	20 15 45.4	+0.2	
	baz=154							
P19A	Cripple Cowboy	153.79	351	⇑PKiKP	PKPbc	20 15 45.0	-0.2	
	baz=154							
SMCO	Snowmass	153.88	348	*e*PKPbc	PKPbc	20 15 46.2	+0.6	
S28A	Manter	153.90	338	⇓PKiKP	PKiKP	20 15 45.7	+0.3	
	baz=154							
R25A	Fountain Ranch	154.18	342	⇑PKiKP	PKiKP	20 15 46.2	+0.2	
	baz=154							
Q21A	Lamborn Mesa,	154.33	349	⇑PKiKP	PKiKP	20 15 46.4	0.0	
	baz=154							
U30A	WK&E Inc. Balk	154.33	335	⇑PKiKP	PKiKP	20 15 46.4	+0.1	
	baz=154							
S26A	Kim	154.41	341	⇓PKiKP	PKiKP	20 15 46.8	+0.3	
	baz=154							
R23A	Moffat	154.56	345	⇑PKiKP	PKPbc	20 15 47.0	0.0	
	baz=154							
S25A	Robets Cordova	154.67	342	⇓PKPab	PKPab	20 16 01.6	-0.2	
	baz=155							
R22A	Saguache, Gunn	154.74	347	⇓PKPab	PKPab	20 16 02.5	+0.3	
	baz=155							
Q16A	Castle Valley	154.75	355	⇓PKPab	PKPab	20 16 02.5	+0.4	
	baz=155							
R21A	Cimarron	154.78	348	⇓PKPab	PKPab	20 16 02.8	+0.6	
	baz=155							
SDCO	Great Sand Dun	154.89	344	*e*PKPbc	PKPbc	20 15 44.6	-3.1	
S24A	Houchin Ranch,	154.91	344	⇓PKPab	PKPab	20 16 03.4	+0.5	
	baz=155							
NVAR	Mina Array Bea	155.05	8	PKP	PKPdf	20 15 40.5	+1.4	
NVAR				PKPbc	PKPab	20 15 48.2	-15	
NVAR				PP	PP	20 19 40.6	+2.5	
NVAR	Mina Array Bea	155.05	8	PKP	PKPdf	20 15 40.5	+1.4	
	comp=Z,0.7nm,0.9s,baz=283,slow=1.5,SNR=3.7							
NVAR				PKPbc	PKPab	20 15 48.2	-15	
	comp=Z,3.3nm,0.7s,baz=330,slow=0.9,SNR=24							
NVAR				PP	PP	20 19 40.6	+2.5	
	comp=Z,0.4nm,0.7s,baz=316,slow=4.1,SNR=4.1							
R11A	Troy Canyon, C	155.39	3	⇓PKPab	PKPab	20 16 04.9	+0.2	
	baz=155							
S20A	Disappointment	155.45	349	⇑PKPab	PKPab	20 16 05.7	+0.6	
	baz=155							
S21A	Coal Bank Pass	155.50	348	⇓PKPab	PKPab	20 16 05.8	+0.3	
	baz=155							
U26A	Atchley Ranch,	155.62	340	⇑PKPab	PKPab	20 16 05.9	+0.1	
	baz=156							
Y32A	R-V Farms, Ver	155.88	329	⇑PKPab	PKPab	20 16 07.2	+0.4	
	baz=156							
T22A	Edith	155.94	346	⇓PKPab	PKPab	20 16 07.5	+0.3	
	baz=156							
WHTX	Lake Whitney	156.35	323	⇑PKPab	PKPab	20 16 09.5	+0.6	
	baz=156							
Z32A	Haskell	156.46	328	⇑PKPab	PKPab	20 16 09.7	+0.4	
	baz=156							
W27A	Bowe Ranch, En	156.57	337	⇓PKPab	PKPab	20 16 10.4	+0.5	
	baz=156							
GRAC	Grapevine Rang	156.58	7	⇑PKPab	PKPab	20 16 10.7	+1.1	
	baz=156							
Z31A	Sharp Cattle R	156.78	330	⇓PKPab	PKPab	20 16 11.5	+0.8	
	baz=157							
V22A	San Miguel Ran	156.99	345	⇑PKPab	PKPab	20 16 12.5	+0.7	
	baz=157							
V20A	Brimhall	157.44	348	⇓PKPab	PKPab	20 16 13.7	+0.1	
	baz=157							
MPMC	Manual Prospec	157.49	8	⇑PKPab	PKPab	20 16 13.8	-0.1	
	baz=157							
232A	Coleman	157.66	327	⇑PKPab	PKPab	20 16 15.2	+0.7	
	baz=158							
ISA	Isabella	157.73	10	⇑PKPab	PKPab	20 16 14.7	0.0	
	baz=158							
X23A	Hourglass Bar	158.05	343	⇓PKPab	PKPab	20 16 16.6	+0.3	
	baz=158							
332A	Millersview	158.10	326	⇓PKPab	PKPab	20 16 17.2	+0.8	
	baz=158							
WUAZ	Wupatki	158.14	354	⇑PKPab	PKPab	20 16 17.4	+0.8	
	baz=158							
Y25A	Mesa, Roswell	158.18	339	⇓PKPab	PKPab	20 16 17.3	+0.5	
	baz=158							
PKM	Peak Mountain	158.22	13	⇓PKPab	PKPab	20 16 17.5	+0.5	
	baz=158							
TUQ	Turquoise Moun	158.27	4	⇓PKPab	PKPab	20 16 17.4	+0.3	
	baz=158							
GSC	Goldstone	158.32	6	⇓PKPab	PKPab	20 16 17.8	+0.6	
	baz=158							
Y24A	Capitan	158.43	341	⇓PKPab	PKPab	20 16 17.5	-0.5	
	baz=158							
432A	Menard	158.51	325	⇓PKPab	PKPab	20 16 18.3	0.0	
	baz=158							
331A	San Angelo	158.52	327	⇑PKPab	PKPab	20 16 18.7	+0.4	
	baz=158							
EDW2	Edwards Air Fo	158.58	9	⇓PKPab	PKPab	20 16 18.7	+0.3	
	baz=158							
X21A	Alamocita Cree	158.60	346	⇓PKPab	PKPab	20 16 19.7	+0.9	
	baz=158							
Y23A	Lovelace Mesa,	158.62	342	⇑PKPab	PKPab	20 16 17.7	-1.1	
	baz=158							
W13A	Hualapai Mount	158.68	360	⇓PKPab	PKPab	20 16 18.0	-1.0	
	baz=159							
330A	Mertzon	158.83	329	⇑PKPab	PKPab	20 16 19.6	-0.1	
	baz=159							
GMRC	Granite Mounta	158.94	4	⇓PKPab	PKPab	20 16 19.8	-0.3	
	baz=159							
126A	Clayton Basin,	159.07	336	⇑PKPab	PKPab	20 16 20.5	-0.2	
	baz=159							
532A	Rocksprings	159.14	324	⇑PKPab	PKPab	20 16 21.4	+0.4	
	baz=159							
329A	Wagon Wheel Ra	159.17	330	⇑PKPab	PKPab	20 16 21.4	+0.3	
	baz=159							
Y20A	Horse Springs,	159.25	347	⇑PKPab	PKPab	20 16 22.0	+0.5	
	baz=159							
BFSC	Mount Baldy Ra	159.26	9	⇓PKPab	PKPab	20 16 21.5	0.0	
	baz=159							
BBRC	Big Bear Solar	159.33	7	⇓PKPab	PKPab	20 16 22.4	+0.5	
	baz=159							
430A	Baggett Ranch,	159.36	328	⇑PKPab	PKPab	20 16 22.1	+0.1	
	baz=159							
531A	Rocksprings	159.47	325	⇑PKPab	PKPab	20 16 22.6	+0.1	
	baz=159							
Z22A	Elephant Butte	159.51	343	⇑PKPab	PKPab	20 16 22.9	+0.2	
	baz=159							
632A	Uvalde	159.53	323	⇓PKPab	PKPab	20 16 22.7	0.0	
	baz=160							
IRM	Iron Mountain	159.58	3	⇑PKPab	PKPab	20 16 23.1	+0.3	
	baz=160							
328A	Wristen Ranch,	159.65	332	⇓PKPab	PKPab	20 16 23.1	-0.1	
	baz=160							
Z21A	St. Cloud Mine	159.65	345	⇑PKPab	PKPab	20 16 23.6	+0.2	
	baz=160							
Y14A	Wickenburg	159.82	358	⇑PKPab	PKPab	20 16 24.8	+1.0	
	baz=160							
530A	J-C Ranch, Com	159.92	327	⇑PKPab	PKPab	20 16 24.7	+0.3	
	baz=160							
PFO	Pinyon Flat Ob	160.03	6	⇓PKPab	PKPab	20 16 24.5	-0.3	
	baz=160							
631A	Perdido Creek	160.06	324	⇓PKPab	PKPab	20 16 25.3	+0.3	
	baz=160							
Z20A	Nine Sixteen R	160.06	347	⇓PKPab	PKPab	20 16 25.2	+0.2	
	baz=160							
BC3	Big Chuckawall	160.07	4	⇑PKPab	PKPab	20 16 24.8	-0.1	
	baz=160							
732A	Laxson Ranch,	160.20	321	⇑PKPab	PKPab	20 16 25.2	-0.5	
	baz=160							
326A	Caldwell Ranch	160.22	334	⇓PKPab	PKPab	20 16 25.0	-0.7	
	baz=160							
SCI	San Clemente I	160.33	12	⇑PKPab	PKPab	20 16 25.4	-0.6	
	baz=160							
529A	Stev Forest Ra	160.40	328	⇑PKPab	PKPab	20 16 26.4	-0.1	
	baz=160							
121A	Cookes Peak, D	160.42	344	⇑PKPab	PKPab	20 16 26.7	+0.1	
	baz=160							
MNTX	Cornudas Mount	160.44	338	*e*PKPbc	PKPdf	20 15 46.1	+0.3	
MNTX				*e*PP	PP	20 20 06.8	-0.9	
222A	Williams Famil	160.63	342	⇑PKPab	PKPab	20 16 27.2	-0.3	
	baz=160							
528A	Cox Ranch, San	160.65	330	⇑PKPab	PKPab	20 16 27.2	-0.4	
	baz=161							
324A	Moseley Ranch,	160.70	338	⇓PKPab	PKPab	20 16 27.2	-0.7	
	baz=161							
SWSC	Sam W. Stewart	160.75	5	⇑PKPab	PKPab	20 16 28.0	+0.2	
	baz=161							
113A	Mohawk Valley,	161.00	360	⇑PKPab	PKPab	20 16 28.9	0.0	
	baz=161							
527A	Woodward Ranch	161.06	332	⇓PKPab	PKPab	20 16 28.2	-1.3	
	baz=161							
425A	Indio Mountain	161.10	336	⇓PKPab	PKPab	20 16 29.2	-0.4	
	baz=161							
220A	Playas Peak, P	161.20	346	⇓PKPab	PKPab	20 16 29.8	-0.2	
	baz=161							
627A	Terlingua Ranc	161.53	330	⇑PKPab	PKPab	20 16 31.1	-0.4	
	baz=162							
TXAR	Lajitas Array	161.76	330	PKP	PKPdf	20 15 48.0	+0.7	
TXAR				PKPab	PKPab	20 16 32.5	-0.1	
TXAR	Lajitas Array	161.76	330	PKP	PKPdf	20 15 48.0	+0.7	
	comp=Z,1.3nm,0.9s,baz=119,slow=1.6,SNR=9.5							
TXAR				PKPab	PKPab	20 16 32.5	-0.1	
	comp=Z,1.9nm,0.7s,baz=64,slow=3.7,SNR=11							
214A	Organ Pipe Nat	161.78	357	⇓PKPab	PKPab	20 16 31.9	-0.5	
	baz=162							
626A	Big Bend Ranch	161.79	332	⇓PKPab	PKPab	20 16 32.0	-0.6	
	baz=162							

WEL 21 20:00:55.9±0.5, 46°09'S×165°97'E, h27km±2km, ML4.2/17, 2D, Error ellipse: s-maj=5.4km s-min=2.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h m s		ISC
DCZ	Deep Cove	1.03	54	⇓PN	Pn	20 01 13.8	-0.7	
DCZ				AML	AML	20 01 28.5		
DCZ				AML	AML	20 01 28.5		
WHZ	Wether Hill Ro	1.39	83	⇓PN	Pn	20 01 19.7	+0.1	
WHZ				AML	AML	20 01 42.8		
WHZ				AML	AML	20 01 44.0		
APZ	The Paps	1.58	119	PN	Pn	20 01 21.6	-0.6	
MLZ	Mavora Lakes	1.71	65	PN	Pn	20 01 25.1	+1.1	
MLZ				AML	AML	20 01 51.6		
MLZ				AML	AML	20 01 53.7		
MSZ	Milford Sound	1.98	45	PN	Pn	20 01 28.7	+1.2	
MSZ				AML	AML	20 02 06.4		
MSZ				AML	AML	20 02 06.4		
MSZ				AML	AML	20 02 08.8		
MSZ				AML	AML	20 02 08.8		
SYZ	Scrubby Hill	2.24	103	PN	Pn	20 01 31.7	+0.5	
SYZ				S

BMOR	**Cotopaxi Volca**	**2.05**	**352**	P		Pb	20 33 50.4	-0.3
MOV1	**Cotopaxi Vol s**	**2.07**	**353**	S		Sb	20 34 18.9	+1.6
MOV1	**Cotopaxi Vol s**	**2.07**	**353**	P		Pb	20 33 50.2	-0.8
TAMB	**Tambo**	**2.08**	**355**	S		Sb	20 34 16.4	-1.0
TAMB	**Tambo**	**2.08**	**355**	P		Pb	20 33 50.2	-0.9
BTAM	**Cotopaxi Volca**	**2.10**	**354**	⇑P		Pb	20 33 50.7	-0.8
COV1	**Cotopaxi Volc**	**2.11**	**355**	P		Pb	20 33 51.3	-0.4
BREF	**Cotopaxi Volca**	**2.11**	**353**	P		Pb	20 33 51.4	-0.3
BREF	**Cotopaxi Volca**	**2.11**	**353**	S		Sg	20 34 20.8	-1.2
CAMI	**Rancho Maria**	**2.11**	**351**	P		Pb	20 33 51.8	+0.2
CAMI	**Rancho Maria**	**2.11**	**351**	S		Sg	20 34 21.1	-0.7
BNAS	**Cotopaxi Volca**	**2.11**	**352**	⇑P		Pb	20 33 51.5	-0.1
VC1	**Cotopaxi 1**	**2.13**	**354**	S		Sg	20 34 21.5	-1.0
VC1	**Cotopaxi 1**	**2.13**	**354**	P		Pb	20 33 51.5	-0.6
NAS2	**Nasa**	**2.14**	**352**	P		Pb	20 33 52.2	+0.1
PITA	**Cotopaxi Volc**	**2.22**	**353**	S		Sg	20 34 23.4	-1.8
PITA	**Cotopaxi Volc**	**2.22**	**353**	P		Pb	20 33 53.1	-0.3
ANTI	**Antisana**	**2.31**	**0**	P		Pn	20 33 53.2	+1.8
ANTI	**Antisana**	**2.31**	**0**	S		Sb	20 34 23.4	-0.9

WEL 21 21:21:51.2±0.2, 46°17'S×166°04'E, h31km±2km, ML3.9/17, Error ellipse: s-maj=2.4km s-min=2.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.04**	**49**	PN	Pn	21 22 09.3	-0.3
DCZ				AML	AML	21 22 23.8	
DCZ				AML	AML	21 22 29.6	
APZ	**The Paps**	**1.50**	**117**	PN	Pn	21 22 17.2	+1.1
APZ				SN	Sb	21 22 37.2	-0.1
MLZ	**Mavora Lakes**	**1.71**	**62**	PN	Pb	21 22 20.6	-1.4
MLZ				AML	AML	21 22 47.0	
MLZ				AML	AML	21 22 50.8	
MSZ	**Milford Sound**	**2.00**	**42**	PN	Pn	21 22 24.0	+1.1
MSZ				AML	AML	21 23 04.2	
MSZ				AML	AML	21 23 04.2	
MSZ				AML	AML	21 23 08.8	
MSZ				AML	AML	21 23 10.6	
SYZ	**Scrubby Hill**	**2.18**	**101**	PN	Pb	21 22 27.8	-2.2
SYZ				SN	Sb	21 22 54.2	-2.3
EAZ	**Earnscleugh**	**2.48**	**69**	PN	Pb	21 22 32.3	-2.7
EAZ				AML	AML	21 23 06.6	
EAZ				AML	AML	21 23 06.6	
EAZ				AML	AML	21 23 13.4	
WKZ	**Wanaka**	**2.49**	**58**	PN	Pb	21 22 32.8	-2.5
WKZ				AML	AML	21 23 18.2	
WKZ				AML	AML	21 23 18.3	
TUZ	**Tuapeka**	**2.51**	**86**	PN	Pn	21 22 32.4	+2.5
TUZ				AML	AML	21 23 05.0	
TUZ				AML	AML	21 23 09.8	
JCZ	**Jackson Bay**	**2.85**	**44**	PN	Pn	21 22 37.1	+2.5
JCZ				AML	AML	21 23 25.9	
JCZ				AML	AML	21 23 32.5	
ODZ	**Otahua Downs**	**3.42**	**72**	PN	Pn	21 22 43.3	+0.9
ODZ				AML	AML	21 23 44.0	
ODZ				AML	AML	21 23 45.7	
LBZ	**Lake Benmore**	**3.43**	**60**	PN	Pn	21 22 44.0	+1.5
LBZ				AML	AML	21 23 47.0	
LBZ				AML	AML	21 24 00.9	
FOZ	**Fox Glacier**	**3.68**	**46**	PN	Pn	21 22 50.2	+4.3
FOZ				AML	AML	21 24 03.4	
WVZ	**Waitaha Valley**	**4.56**	**49**	PN	Pn	21 22 59.8	+1.8
WVZ				AML	AML	21 23 30.9	
WVZ				AML	AML	21 24 39.5	

*ISCJB **21** 21:38:03.2±0.5, 50.14N±0.03×18.33E±0.03, h0km, Error ellipse: s-maj=4.8km s-min=2.6km az=10.2*
*IPEC **21** 21:38:03.7±0.2, 50.10N×18.48E, h1km±2km, ML1.7/3, Error ellipse: s-maj=2.1km s-min=1.1km az=160.0*
*WAR **21** 21:38:04.2, 50.08N×18.45E*
*CSEM **21** 21:38:06.0±0.4, 50.04N×18.27E, h1km, ML2.7/8, Error ellipse: s-maj=6.3km s-min=4.5km az=20.0*
*PRU **21** 21:38:07.0, 50.03N×18.24E, h0km*
ISC 21 21:38:04.1±0.8, 50.13N±0.04×18.42E±0.02, h0km, n28, σ1s08/44, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.15**	**253**	*e*Pg	**Pg**	**21 38 08.3**	**+1.3**
RAC				*e*Sg	**Sg**	**21 38 11.4**	**+2.4**
OKC	**Ostrava-Krasne**	**0.34**	**211**	*e*PG	**Pg**	**21 38 10.7**	**+0.1**
OKC				*e*SG	**Sg**	**21 38 15.1**	**+0.1**
comp=Z,30nm,0.4s							
OKC	**Ostrava-Krasne**	**0.34**	**211**	Pg	**Pg**	**21 38 10.7**	**+0.1**
OKC				Sg	**Sg**	**21 38 15.1**	**+0.1**
30nm,0.4s							
MORC	**Moravsky Berou**	**0.67**	**238**	*e*Pg	**Pg**	**21 38 16.7**	**-0.2**
baz=62							
MORC				*e*Sg	**Sg**	**21 38 25.1**	**-0.4**
25nm,0.4s,baz=62							
OJC	**Ojcow**	**0.89**	**84**	*e*Pg	**Pg**	**21 38 21.0**	**-0.2**
OJC				*e*Sg	**Sb**	**21 38 33.8**	**-1.1**
KRLC	**Kraliky**	**1.06**	**268**	*e*PG	**Pg**	**21 38 24.0**	**-0.4**
KRLC				*e*SG	**Sg**	**21 38 37.4**	**-0.6**
KRLC	**Kraliky**	**1.06**	**268**	Pg	**Pg**	**21 38 24.0**	**-0.4**
KRLC				Sg	**Sg**	**21 38 37.4**	**-0.6**
DPC	**Dobruska-Polom**	**1.36**	**280**	*e*PG	**Pn**	**21 38 30.1**	**-0.4**
DPC				*e*SG	**Sg**	**21 38 47.5**	**-0.5**
DPC	**Dobruska-Polom**	**1.36**	**280**	Pg	**Pn**	**21 38 30.1**	**-0.4**
DPC				Sg	**Sg**	**21 38 47.5**	**-0.5**
NIE	**Niedzica**	**1.42**	**119**	*e*Pg	**Pb**	**21 38 32.4**	**+0.9**
NIE				*e*Sg	**Sn**	**21 38 51.8**	**+1.2**
VRAC	**Vranov**	**1.44**	**236**	*e*Pg	**Pn**	**21 38 30.5**	**-1.0**
baz=56							
VRAC				*e*Sg	**Sg**	**21 38 49.4**	**-1.0**
9.1nm,0.2s,baz=56							
KSP	**Ksiaz**	**1.54**	**299**	*e*Pg	**Pn**	**21 38 32.2**	**-0.6**
KSP				*e*Sg	**Sn**	**21 38 54.3**	**+0.9**
VYHS	**Vyhne**	**1.66**	**170**	*e*PN	**Pn**	**21 38 33.7**	**-0.8**
VYHS				*e*SN	**Sg**	**21 38 56.3**	**-1.1**
KRUC	**Moravsky**	**1.69**	**232**	*e*Sg	**Sn**	**21 38 57.1**	**-0.3**
4.5nm,0.2s,baz=52							
STHS	**Stebnicka Huta**	**1.96**	**110**	*e*PN	**Pg**	**21 38 41.4**	**-0.4**
STHS				*e*SN	**Sg**	**21 39 09.1**	**+1.9**
STHS	**Stebnicka Huta**	**1.96**	**110**	*e*Pn	**Pg**	**21 38 41.4**	**-0.4**
STHS				*e*Sn	**Sg**	**21 39 09.1**	**+1.9**
TREC	**Trest**	**2.08**	**247**	*e*SG	**Sb**	**21 39 08.9**	**-0.2**
comp=Z,5.1nm,0.2s							
TREC	**Trest**	**2.08**	**247**	Sg	**Sb**	**21 39 08.9**	**-0.2**
5.1nm,0.2s							
KECS	**Kecovo**	**2.13**	**140**	*e*PN	**Pg**	**21 38 43.5**	**-1.4**
KECS				*e*SN	**Sn**	**21 39 06.9**	**-1.2**
PVCC	**Panska Ves**	**2.50**	**281**	*e*SG	**Sg**	**21 39 23.7**	**-0.7**
comp=Z,11nm,0.2s							
PVCC	**Panska Ves**	**2.50**	**281**	Sg	**Sg**	**21 39 23.7**	**-0.7**
11nm,0.2s							
PRU	**Pruhonice**	**2.50**	**268**	*e*SG	**Sb**	**21 39 21.3**	**0.0**
comp=Z,4.2nm,0.5s							
PRU	**Pruhonice**	**2.50**	**268**	Sg	**Sb**	**21 39 21.3**	**0.0**
4.2nm,0.5s							
BRG	**Berggiesshubel**	**2.95**	**286**	SG	**Sg**	**21 39 37.7**	**-1.3**
KHC	**Kasperske Hory**	**3.30**	**254**	*e*SG	**Sb**	**21 39 46.9**	**+2.6**
comp=Z,4.0nm,0.4s							
KHC	**Kasperske Hory**	**3.30**	**254**	Sg	**Sb**	**21 39 46.9**	**+2.6**
4.0nm,0.4s							
NKC	**Novy Kostel**	**3.84**	**274**	*e*SG	**Sg**	**21 40 06.2**	**-1.2**
comp=Z,2.1nm,0.4s							
NKC	**Novy Kostel**	**3.84**	**274**	Sg	**Sg**	**21 40 06.2**	**-1.2**
2.1nm,0.4s							

*MOS **21** 21:41:14.9±1.4, 52.77N×161.03E, h11km, mb4.7/26, Error ellipse: s-maj=9.2km s-min=7.7km az=119.0*
*IDC **21** 21:41:15.5±0.6, 52.95N×160.83E, h0km, mb4.0/20, mb1 4.2/22, mb1mx4.2/28, mbtmp4.0/22, ML4.0/2, MS3.5/12, Ms1 3.5/12, ms1mx3.3/42, Error ellipse: s-maj=19.5km s-min=10.3km az=172.0*
*BJI **21** 21:41:16.1, 53.69N×161.01E, h17km, mB4.4/4, mb4.4/6, Ms4.0/3, Ms7 3.9/3*
*KRSC **21** 21:41:18.8±0.6, 52.78N×160.84E, h11km±10km, ML4.5*
*NEIC **21** 21:41:20.3±0.3, 52.88N×160.89E, h35km, mb4.4/12, Error ellipse: s-maj=10.1km s-min=6.2km az=159.0*
ISC 21 21:41:17.4±0.8, 52.74N±0.03×160.96E±0.04, h17km±4km, n163, σ1s54/199, mb4.4/52, MS3.4/14, 8C-8D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.67**	**303**	PN	**Pn**	**21 41 31.3**	**-0.8**
SPN				S	**Sn**	**21 41 40.8**	**-1.4**
SPN	**Mys Shipunski**	**0.67**	**303**	P	**Pn**	**21 41 31.3**	**-0.8**
SPN				S	**Sn**	**21 41 40.8**	**-1.4**
NLC	**Nalytchevo**	**1.07**	**294**	PN	**Pg**	**21 41 37.5**	**-0.6**
NLC				S	**Sn**	**21 41 51.5**	**-0.5**
NLC	**Nalytchevo**	**1.07**	**294**	*i* P	**Pg**	**21 41 37.5**	**-0.6**
NLC				*e*S	**Sn**	**21 41 51.5**	**-0.5**
UGLR	**Uglovaya**	**1.38**	**291**	P	**Pb**	**21 41 42.8**	**+0.1**
UGLR				*e*S	**Sb**	**21 41 59.9**	**-0.1**
SMAR	**Somma**	**1.41**	**293**	P	**Pb**	**21 41 43.1**	**-0.2**
SMAR				*e*S	**Sb**	**21 42 00.9**	**-0.1**
PET	**Petropavlovsk**	**1.43**	**282**	ǁ PN	**Pb**	**21 41 43.1**	**-0.4**
PET				*e*S	**Sg**	**21 42 03.5**	**0.0**
PET				smax	smax		
comp=E,3μm,0.6s							
PET	**Petropavlovsk**	**1.43**	**282**	P	**Pg**	**21 41 43.9**	**-1.0**
PET				*e*S	**Sg**	**21 42 02.9**	**-0.6**
AVH	**Avacha**	**1.45**	**292**	P	**Pb**	**21 41 43.8**	**0.0**
AVH				*e*S	**Sb**	**21 42 01.8**	**-0.1**
KRER	**Koryakskii**	**1.45**	**294**	*i* P	**Pb**	**21 41 44.2**	**+0.2**
KRER				*e*S	**Sb**	**21 42 02.5**	**+0.2**
INSR	**Institute**	**1.47**	**284**	*e*P	**Pb**	**21 41 44.0**	**-0.1**
KOK	**Koryaka**	**1.51**	**292**	*i* P	**Pb**	**21 41 44.8**	**-0.2**
KOK				*e*S	**Sb**	**21 42 03.5**	**-0.4**
RUS	**Russkaya**	**1.53**	**259**	PN	**Pb**	**21 41 44.8**	**-0.3**
RUS				S	**Sb**	**21 42 04.1**	**-0.1**
RUS	**Russkaya**	**1.53**	**259**	*e*P	**Pb**	**21 41 44.8**	**-0.1**
RUS				*e*S	**Sb**	**21 42 04.1**	**-0.1**
MTVR	**Mutnovka**	**1.71**	**263**	*i* P	**Pb**	**21 41 48.3**	**-0.1**
MTVR				*e*S	**Sb**	**21 42 10.0**	**+0.3**
GRL	**Gorelyy**	**1.77**	**265**	P	**Pb**	**21 41 49.5**	**+0.1**
GRL				*e*S	**Sb**	**21 42 12.1**	**+0.8**
ASAK	**Asacha**	**1.90**	**260**	P	**Pb**	**21 41 51.4**	**-0.2**
ASAK				*e*S	**Sb**	**21 42 15.3**	**+0.2**
PETK	**Petropavlovsk-**	**2.01**	**282**	PN	**Pn**	**21 41 51.0**	**+0.5**
PETK						21 42 18.7	
PETK				pmax	pmax		
comp=Z,152nm,0.3s							
PETK				smax	smax		
comp=N,114nm,0.3s							
PETK	**Petropavlovsk-**	**2.01**	**282**	Pn	**Pn**	**21 41 51.0**	**+0.5**
PETK				Sn	**Sb**	**21 42 18.7**	**+0.5**
PETK	**Petropavlovsk-**	**2.01**	**282**	Pn	**Pn**	**21 41 51.0**	**+0.5**
comp=N,152nm,0.3s,baz=100,slow=19,SNR=336							
PETK				Sn	**Sb**	**21 42 18.7**	**+0.5**
comp=N,114nm,0.3s,baz=260,slow=33,SNR=10.0							
GNL	**Ganaly**	**2.05**	**299**	P	**Pb**	**21 41 53.5**	**-0.7**
GNL				*e*S	**Sb**	**21 42 18.8**	**-0.7**
APC	**Apacha**	**2.32**	**276**	*i* P	**Pb**	**21 41 57.9**	**-0.7**
APC				*e*S	**Sb**	**21 42 25.7**	**-1.2**
TUMR	**Tumrok**	**2.59**	**350**	*e*P	**Pn**	**21 42 00.5**	**+1.9**
MIPR	**Malaya Ipel'ka**	**2.61**	**261**	*e*P	**Pb**	**21 42 02.2**	**-1.5**
MIPR				S	**Sb**	**21 42 33.9**	**-1.5**
PAU	**Pauzhetka**	**2.86**	**245**	PN	**Sb**	**21 42 05.3**	**-2.6**
PAU				S	**Sb**	**21 42 39.2**	**-3.3**
PAU	**Pauzhetka**	**2.86**	**245**	S	**Pb**	**21 42 05.3**	**-2.6**
PAU				S	**Sb**	**21 42 39.2**	**-3.3**
KMNR	**Kamenistaya**	**3.05**	**352**	*e*P	**Pn**	**21 42 07.9**	**+3.0**
KMNR				S	**Sn**	**21 42 43.5**	**+2.5**
BZGR	**Bezymyannyi-Gr**	**3.21**	**357**	*e*P	**Pn**	**21 42 10.0**	**+2.9**
BZGR				*e*S	**Sn**	**21 42 47.9**	**+3.0**
BZMR	**Bezymyannaya**	**3.21**	**355**	*e*P	**Pn**	**21 42 09.7**	**+2.6**
BZMR				*e*S	**Sn**	**21 42 46.8**	**+1.7**
KIRR	**Kirishev**	**3.24**	**354**	*e*P	**Pn**	**21 42 10.2**	**+2.7**
KIRR				*e*S	**Sn**	**21 42 47.1**	**+1.4**
BZWR	**Bezymyannyi-We**	**3.24**	**355**	*e*P	**Pn**	**21 42 10.2**	**+2.6**
BZWR				*e*S	**Sn**	**21 42 47.0**	**+1.2**
KPT	**Kopyto**	**3.26**	**353**	*e*P	**Pn**	**21 42 10.6**	**+2.9**
KPT				*e*S	**Sn**	**21 42 48.5**	**+2.3**
ZLN	**Zelenaya**	**3.29**	**358**	P	**Pb**	**21 42 12.3**	**-2.9**
ZLN				S	**Sb**	**21 42 51.7**	**-3.2**
LGNR	**Loginova**	**3.35**	**357**	*e*P	**Pb**	**21 42 13.9**	**-2.6**
LGNR				*e*S	**Sb**	**21 42 53.6**	**-3.5**
CIRR	**Tsirk**	**3.39**	**358**	*e*P	**Pb**	**21 42 14.8**	**-3.1**
CIRR				S	**Sb**	**21 42 53.8**	**-4.0**
KOZ	**Kozyrevsk**	**3.39**	**350**	S	**Sb**	**21 42 53.2**	**-4.5**
KRSR	**Krestovskiy**	**3.49**	**356**	*e*P	**Pn**	**21 42 14.0**	**+3.1**
KRSR				*e*S	**Sn**	**21 42 53.7**	**+1.8**
KLY	**Klyuchi**	**3.59**	**357**	*e*S	**Sn**	**21 42 57.4**	**+3.4**
SKR	**Severo-Kuril's**	**3.65**	**238**	*e*PN	**Pn**	**21 42 10.5**	**-2.5**
SKR				pmax	pmax		
comp=Z,60nm,0.5s							
SKR				pmax	pmax		
comp=N,60nm,0.3s							
SKR				MLR	MLR		
comp=N,1μm,14.0s							
SKR				MLR	MLR		
comp=E,1μm,14.0s							
SKR				MLR	MLR		
comp=Z,1μm,14.0s							
SKR	**Severo-Kuril's**	**3.65**	**238**	P	**Pn**	**21 42 14.5**	**+1.5**
SKR				S	**Sn**	**21 42 55.4**	**-0.2**
SRDR	**Sredinnyy**	**3.66**	**349**	*e*P	Pn	21 42 16.6	+3.4
BDR	**Baidarnaya**	**3.84**	**2**	*e*P	**Pn**	**21 42 18.1**	**+2.4**
BDR				*e*S	**Sn**	**21 43 01.0**	**+0.6**
SMKR	**Semkarok**	**3.86**	**4**	P	**Pn**	**21 42 17.5**	**+1.5**
SMKR				S	**Sn**	**21 43 00.2**	**-0.7**
SRKR	**Sorokina**	**3.93**	**2**	P	**Pn**	**21 42 19.3**	**+2.5**
SRKR				S	**Sn**	**21 43 03.4**	**+0.9**
FX1	**Attu Island--F**	**7.40**	**84**	Pn	**Pn**	**21 43 04.4**	**-0.1**
FX1				Sn	Sn	21 44 21.3	-6.6
FX1	**Attu Island--F**	**7.40**	**84**	Pn	**Pn**	**21 43 04.4**	**-0.1**
comp=Z,7.2nm,0.3s,baz=314,slow=3.6,SNR=98							
FX1				Sn	Sn	21 44 21.3	-6.6
comp=Z,8.2nm,0.3s,baz=86,slow=18,SNR=7.0							
FX1				LR	LR	21 45 54.9	
comp=Z,190nm,20.4s,baz=73,slow=37							
ASAJ	**Asahikawa**	**14.90**	**242**	*e*Pn	**Pn**	**21 44 47.9**	**+0.8**
ASAJ	**Asahikawa**	**14.90**	**242**	Pn	**Pn**	**21 44 46.7**	**-0.4**
comp=Z,1.1nm,0.3s,baz=356,slow=33,SNR=8.2							
ASAJ				LR	LR	21 50 20.7	
comp=Z,106nm,19.0s,baz=29,slow=36							
ERM	**Erimo**	**16.09**	**235**	*i* P	**Pn**	**21 45 01.1**	**-1.5**
YAK	**Yakutsk**	**19.07**	**311**	*e*P	**P**	**21 45 35.1**	**-3.4**
YAK				pmax	pmax		
comp=Z,14nm,0.9s							
YAK				pmax	pmax		
comp=E,9.0nm,1.2s							
YAK				pmax	pmax		
comp=N,3.0nm,1.1s							
YAK				MLR	MLR		
comp=N,104nm,13.0s							
YAK				MLR	MLR		
comp=Z,260nm,15.0s							
YAK				MLR	MLR		
comp=E,171nm,15.0s							
USRK	**Ussuriysk Arra**	**20.90**	**258**	P	**P**	**21 45 58.9**	**+0.3**
comp=E,5.2nm,0.9s,baz=54,slow=12,SNR=8.7							
USRK				LR	LR	21 54 57.7	
comp=E,179nm,18.2s,baz=248,slow=39							
CLNS	**Chul'man**	**21.03**	**296**	*e*P	**P**	**21 45 59.0**	**-1.0**
CLNS				pmax	pmax		
comp=N,7.0nm,0.8s							
CLNS				pmax	pmax		
comp=Z,12nm,0.9s							
CLNS				MLR	MLR		
comp=Z,99nm,13.0s							
MAJO	**Matsushiro**	**22.75**	**234**	*e*P	**P**	**21 46 19.6**	**+1.1**
MAJO	**Matsushiro**	**22.75**	**234**	*e*P	**P**	**21 46 19.6**	**+1.1**
MJAR	**Matsushiro Arr**	**22.75**	**234**	P	**P**	**21 46 19.6**	**+1.1**
MJAR	**Matsushiro Arr**	**22.75**	**234**	P	**P**	**21 46 19.6**	**+1.1**
comp=Z,8.9nm,1.0s,baz=29,slow=10,SNR=14							
MJAR				LR	LR	21 55 39.4	
comp=Z,104nm,21.2s,baz=75,slow=38							
TIXI	**Tiksi**	**23.62**	**335**	ǁ *e*P	**P**	**21 46 25.9**	**-1.1**
TIXI				pmax	pmax		
comp=Z,25nm,1.0s							
TIXI				MLR	MLR		
comp=Z,253nm,18.0s							
KSRS	**Korea Array**	**27.58**	**250**	P	**P**	**21 47 05.9**	**+2.6**
comp=Z,1.7nm,0.8s,baz=61,slow=7.9,SNR=5.7							
KSRS				LR	LR	21 57 11.2	
comp=Z,66nm,20.4s,baz=55,slow=35							
KSAR	**Wonju Array Be**	**27.61**	**250**	P	**P**	**21 47 05.9**	**+2.3**
ILAR	**Eielson Array**	**28.69**	**45**	P	**P**	**21 47 12.2**	**-0.9**
ILAR	**Eielson Array**	**28.69**	**45**	P	**P**	**21 47 12.2**	**-0.9**
comp=Z,0.3nm,0.8s,baz=222,slow=8.0,SNR=3.3							
ILAR				LR	LR	22 00 00.9	
comp=Z,53nm,19.3s,baz=328,slow=39							
ULN	**Ulaanbaatar**	**34.09**	**284**	*e*P	**P**	**21 48 00.1**	**-0.7**
comp=Z,3.9nm,1.0s							
SONM	**Songino Array**	**34.50**	**284**	P	**P**	**21 48 02.9**	**-1.4**
SONM	**Songino Array**	**34.50**	**284**	P	**P**	**21 48 02.9**	**-1.4**
comp=Z,0.8nm,0.4s,baz=63,slow=7.6,SNR=12							
SONM				LR	LR	22 03 35.5	
comp=Z,164nm,18.7s,baz=42,slow=39							
NJ2	**Nanjing**	**36.65**	**253**	*e*P	P	21 48 19.4	-3.4
NJ2				pmax	pmax		
comp=Z,20nm,0.5s							
KRAR	**Krasnoyarsk**	**38.34**	**303**	*i* P	**P**	**21 48 35.5**	**-1.4**
KRAR				pmax	pmax		
comp=Z,8.0nm,0.4s							
HVS	**Khovu-Aksy**	**40.13**	**296**	*i* P	**P**	**21 48 51.2**	**-0.8**
HVS				pmax	pmax		
comp=Z,12nm,1.0s							
WHN	**Wuhan**	**40.38**	**255**	P	P	21 48 57.5	+3.4
GTA	**Gaotai**	**43.17**	**277**	*e*P	**P**	**21 49 17.5**	**+0.4**
GTA				pP	**pP**	**21 49 22.9**	**+0.5**
GTA				sP	**sP**	**21 49 26.3**	**+1.8**
GTA				pmax	pmax		
comp=Z,3.0nm,1.2s							
ZALV	**Zalesovo Beam**	**43.41**	**303**	*i* P	**P**	**21 49 18.5**	**-0.1**
ZALV				pmax	pmax		
comp=Z,1.0nm,0.6s							
ZALV	**Zalesovo Beam**	**43.41**	**303**	P	**P**	**21 49 16.1**	**-2.6**
ZALV	**Zalesovo Beam**	**43.41**	**303**	P	**P**	**21 49 16.1**	**-2.6**
comp=Z,0.9nm,0.6s,baz=68,slow=8.5,SNR=6.1							
ZALV				LR	LR	22 08 42.8	
comp=Z,100nm,19.5s,baz=72,slow=38							
ENH	**Enshi**	**43.46**	**260**	*e*P	**P**	**21 49 19.6**	**+0.2**
NVS	**Novosibirsk**	**43.75**	**305**	ǁ *i* P	**P**	**21 49 19.1**	**-2.2**
NVS				pmax	pmax		
comp=Z,17nm,1.3s							
NVS				pmax	pmax		
comp=N,7.0nm,1.1s							
NVS				pmax	pmax		
comp=E,16nm,1.4s							
MKAR	**Makanchi Array**	**48.78**	**296**	*i* P	**P**	**21 49 59.9**	**-1.2**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**48.78**	**296**	P	**P**	**21 49 59.9**	**-1.2**
MKAR	**Makanchi Array**	**48.78**	**296**	P	**P**	**21 49 59.9**	**-1.2**
comp=Z,1.2nm,0.5s,baz=57,slow=6.7,SNR=33							
MKAR				LR	LR	22 11 46.3	
comp=Z,43nm,19.2s,baz=178,slow=38							
TGY	**Tagaytay City**	**49.91**	**235**	LR	LR	22 13 49.2	
comp=Z,1.4nm,18.1s,baz=51,slow=39							
BRVK	**Borovoye**	**51.05**	**309**	ǁ *e*P	**P**	**21 50 17.2**	**-1.0**
BRVK				pmax	pmax		
comp=Z,5.0nm,1.0s							
BRVK	**Borovoye**	**51.05**	**309**	*e*P	**P**	**21 50 17.8**	**-0.3**
comp=Z,2.8nm,0.7s							
BSMT	**Bassoo Peak**	**51.11**	**59**	*e*P	**P**	**21 50 18.9**	**-0.1**
comp=Z,3.3nm,1.2s							
ARCES	**ARCESS Array B**	**53.79**	**342**	P	**P**	**21 50 37.4**	**-0.9**
ARCES	**ARCESS Array B**	**53.79**	**342**	P	**P**	**21 50 37.4**	**-0.9**
comp=Z,4.5nm,0.9s,baz=38,slow=7.4,SNR=7.4							
ARCES				LR	LR	22 19 25.2	
comp=Z,32nm,18.1s,baz=137,slow=43							
ARU	**Arti**	**54.01**	**318**	*d* P	**P**	**21 50 40.0**	**0.0**
ARU						21 52 39.0	
ARU				S	**S**	**21 58 17.0**	**+2.1**
ARU				SS	**SKiKP**	**22 01 49.2**	**-2.0**
ARU				pmax	pmax		
comp=Z,9.0nm,1.7s							
SUMG	**Summit**	**54.25**	**7**	*i* P	**P**	**21 50 43.3**	**+1.3**
SUMG				pmax	pmax		
comp=Z,13nm,0.9s							
SUMG	**Summit**	**54.25**	**7**	*e*P	**P**	**21 50 42.2**	**+0.1**
comp=Z,14nm,0.9s							
SUMG	**Summit**	**54.25**	**7**	*i* P	**P**	**21 50 43.3**	**+1.3**
comp=Z,13nm,0.9s							
LSA	**Lhasa**	**54.98**	**274**	*e*P	**P**	**21 50 47.7**	**-0.3**
LSA				pmax	pmax		
comp=Z,5.0nm,0.9s							
LSA	**Lhasa**	**54.98**	**274**	*e*P	**P**	**21 50 47.6**	**-0.3**
comp=Z,5.1nm,0.9s							
NVAR	**Mina Array Bea**	**55.37**	**70**	P	**P**	**21 50 49.4**	**-1.0**
NVAR	**Mina Array Bea**	**55.37**	**70**	P	**P**	**21 50 49.4**	**-1.0**
comp=Z,0.5nm,0.6s,baz=280,slow=7.5,SNR=4.5							
AAK	**Ala-Archa**	**55.71**	**297**	ǁ *e*P	**P**	**21 50 53.3**	**+0.5**
AAK				pmax	pmax		
comp=Z,8.0nm,1.2s							
AAK	**Ala-Archa**	**55.71**	**297**	*e*P	**P**	**21 50 52.1**	**-0.6**
comp=Z,1.4nm,0.4s							
PDAR	**Pinedale Array**	**57.23**	**61**	P	**P**	**21 51 05.3**	**+1.6**
PDAR	**Pinedale Array**	**57.23**	**61**	P	**P**	**21 51 05.3**	**+1.6**
comp=Z,0.6nm,0.8s,baz=316,slow=4.1,SNR=5.4							
KKAR	**Karatay Array**	**57.52**	**300**	*e*P	**P**	**21 51 03.6**	**-1.8**
KKAR				pmax	pmax		
comp=Z,2.0nm,0.8s							
KKAR	**Karatay Array**	**57.52**	**300**	*e*P	**P**	**21 51 03.6**	**-1.8**
comp=Z,2.1nm,0.8s				

VYHS				pmax		pmax		
	comp=Z,32nm,3.1s							
VYHS	**Vyhne**	**74.13**	**335**	*e*P		**P**	**21 52 54.4**	**+2.1**
MLR	**Muntele Rosu**	**74.82**	**329**	⇑*i*P		**P**	**21 52 58.6**	**+2.0**
MEM	**Membach**	**74.88**	**344**	P		**P**	**21 52 57.8**	**+1.3**
	comp=Z,7.3nm,0.9s							
GERES	**GERESS Array B**	**75.04**	**338**	P		**P**	**21 52 57.9**	**+0.2**
GERES	**GERESS Array B**	**75.04**	**338**	P		**P**	**21 52 57.9**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=40,slow=4.4,SNR=8.7							
VOIR		**75.15**	**330**	⇑P		**P**	**21 52 59.3**	**+0.9**
VOIR		**75.15**	**330**	⇑*i*P		**P**	**21 52 59.3**	**+0.9**
ARR	**Arges**	**75.34**	**330**	⇑*i*P		**P**	**21 53 02.2**	**+2.7**
BZS	**Buzias**	**76.01**	**332**	⇑P		**P**	**21 53 03.0**	**-0.2**
BZS	**Buzias**	**76.01**	**332**	⇑*i*P		**P**	**21 53 03.0**	**-0.2**
BRTR	**Keskin Array B**	**77.23**	**321**	P		**P**	**21 53 10.6**	**+0.2**
BRTR	**Keskin Array B**	**77.23**	**321**	P		**P**	**21 53 10.6**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=28,slow=2.4,SNR=6.6							
PALK	**Pallekele**	**78.35**	**267**	*e*P		**P**	**21 53 16.8**	**0.0**
LOR	**Lormes**	**78.47**	**344**	*e*P		**P**	**21 53 17.8**	**+0.8**
	comp=Z,4.9nm,0.7s							
MIB	**Mutribah**	**79.58**	**306**	*e*P		**P**	**21 53 22.1**	**-1.3**
MIB				AMb		AMB	21 53 25.6	
	comp=Z,22nm,1.0s							
ASAR	**Alice Springs**	**79.66**	**205**	P		**P**	**21 53 25.9**	**+2.3**
ASAR	**Alice Springs**	**79.66**	**205**	P		**P**	**21 53 25.9**	**+2.3**
	comp=Z,0.4nm,0.8s,baz=8.9,slow=6.6,SNR=3.4							
LPL	**La Plagne**	**79.66**	**342**	*e*P		**P**	**21 53 25.4**	**+1.6**
	comp=Z,14nm,1.0s							
LPG	**La Plagne**	**79.67**	**342**	*e*P		**P**	**21 53 25.7**	**+1.8**
	comp=Z,20nm,1.1s							
NAY	**Al-Naaiem**	**80.09**	**306**	*e*P		**P**	**21 53 24.2**	**-1.9**
NAY				AMb		AMB	21 53 27.8	
	comp=Z,11nm,1.1s							
RDF	**Al-Radifah**	**80.20**	**305**	*e*P		**P**	**21 53 24.8**	**-1.9**
RDF				AMb		AMB	21 53 28.9	
	comp=Z,33nm,1.2s							
ORIF	**Oris-en-Rattie**	**80.39**	**342**	*e*P		**P**	**21 53 29.5**	**+1.9**
	comp=Z,13nm,1.2s							
VIVF	**Saint-Julien-l**	**80.67**	**343**	*e*P		**P**	**21 53 30.7**	**+1.7**
CAF	**Calviac**	**81.04**	**345**	*e*P		**P**	**21 53 32.7**	**+1.7**
ESDC	**Sonseca Array**	**87.03**	**348**	P		**P**	**21 54 02.0**	**+0.3**
ESDC	**Sonseca Array**	**87.03**	**348**	P		**P**	**21 54 02.0**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=358,slow=5.2,SNR=9.4							
CAN	**Canberra**	**88.31**	**190**	*e*P		**P**	**21 54 08.0**	**+0.5**
CAN	**Canberra**	**88.31**	**190**	*e*P		**P**	**21 54 08.0**	**+0.5**
KEST	**Kesra**	**88.49**	**337**	P		**P**	**21 54 09.0**	**+0.2**
KEST	**Kesra**	**88.49**	**337**	P		**P**	**21 54 09.0**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=259,slow=1.6,SNR=3.6							
NWAO	**Narrogin (SRO)**	**93.44**	**216**	*e*P		**P**	**21 54 32.5**	**+1.2**

IDC 21 22:05:35.7±19.0, 0.02S×132.47E, h0km, mb3.8/2, mb1 3.8/3, mb1mx3.4/20, mbtmp3.7/3, Error ellipse: s-maj=345.9km s-min=180.4km az=132.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**19.88**	**175**	P	P		22 10 08.1	-0.7
	0.1nm,0.3s,baz=353,slow=11,SNR=5.0							
ASAR	**Alice Springs**	**23.55**	**177**	P	P		22 10 48.9	+1.0
	0.8nm,0.5s,baz=355,slow=10,SNR=8.4							
STKA	**Stephens Creek**	**32.84**	**166**	P	P		22 12 10.6	-0.6
	2.2nm,0.9s,baz=336,slow=12,SNR=4.2							

IDC 21 22:06:07.9±2.1, 15.62S×175.05W, h214km±64km, mb3.6/2, mb1 3.8/3, mb1mx3.3/20, mbtmp3.6/3, Error ellipse: s-maj=283.0km s-min=29.6km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AFI	**Afiamalu**	**3.59**	**62**	P	Pn		22 07 06.3	+1.0
	8.5nm,0.3s,baz=235,slow=1.7,SNR=11							
AFI				S	S		22 07 50.3	+0.2
	6.8nm,0.3s,baz=183,slow=23,SNR=5.1							
WRA	**Warramunga Arr**	**48.25**	**257**	P	P		22 14 27.6	-0.1
	0.5nm,0.3s,baz=93,slow=7.8,SNR=20							
ASAR	**Alice Springs**	**48.53**	**252**	P	P		22 14 29.5	-0.3
	5.6nm,0.6s,baz=87,slow=8.0,SNR=69							
BRTR	**Keskin Array B**	**145.31**	**319**	PKPbc	PKPdf		22 25 20.0	-0.6
	0.6nm,0.8s,baz=43,slow=2.6,SNR=3.2							

IDC 21 22:11:05.5±1.2, 27.82N×100.55E, h0km, mb3.2/4, mb1 3.6/5, mb1mx3.4/26, mbtmp3.3/5, ML3.9/1, MS2.4/1, Ms1 2.4/1, ms1mx2.0/12, Error ellipse: s-maj=43.0km s-min=19.2km az=80.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SHL	**Shillong**	**8.07**	**256**	*e*P	Sn		22 14 22.5	-14
CMAR	**Chiang Mai Arr**	**9.44**	**189**	Pn	Pn		22 13 21.8	-1.0
	0.3nm,0.3s,baz=345,slow=9.8,SNR=4.1							
CMAR				Pg			22 13 58.6	
	0.5nm,0.3s,baz=357,slow=17,SNR=4.5							
CMAR				Lg	Lg		22 16 08.9	
	baz=9.3,slow=28,SNR=9.8							
SONM	**Songino Array**	**20.50**	**11**	P	Pn		22 15 46.6	-0.7
	0.4nm,0.7s,baz=202,slow=11,SNR=3.7							
MKAR	**Makanchi Array**	**23.76**	**328**	P	P		22 16 18.9	-0.7
	0.3nm,0.8s,baz=146,slow=9.9,SNR=3.3							
KSRS	**Korea Array**	**24.90**	**60**	LR	LR		22 27 58.1	
	comp=Z,8.3nm,19.9s,baz=180,slow=41							
WRA	**Warramunga Arr**	**57.65**	**142**	P	P		22 20 58.7	+0.9
	0.4nm,0.5s,baz=330,slow=7.7,SNR=8.0							
ASAR	**Alice Springs**	**60.46**	**145**	P	P		22 21 16.1	-1.2
	0.3nm,0.5s,baz=327,slow=6.7,SNR=3.9							

*DDA **21** 22:20:58.6, 34.66N×30.71E, h28km, MD3.3*
*ISK **21** 22:21:04.1, 35.18N×30.47E, h32km, MD3.6*
*ISCJB **21** 22:21:07.3±0.4, 35.31N±0.03×30.74E±0.04, h42km, Error ellipse: s-maj=5.2km s-min=3.0km az=137.0*
*CSEM **21** 22:21:08.8±0.3, 35.39N×30.75E, h30km, MD3.6, Error ellipse: s-maj=9.0km s-min=4.5km az=53.0*
*ATH **21** 22:21:35.5, 36.35N×27.77E, h13km, MD3.4/4*

ISC 21 22:21:09.0±1.2, 35.40N±0.04×30.76E±0.04, h42km, n72, σ1s19/75, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AKAS	**Kas**	**1.25**	**312**	*i* P	**Pn**		**22 21 29.5**	**-0.7**
AKAS	**Kas**	**1.25**	**312**	*i* P	**Pn**		**22 21 29.5**	**-0.7**
ELL	**Elmali**	**1.51**	**333**	*e*Pn	**Pn**		**22 21 31.2**	**-2.5**
ELL	**Elmali**	**1.51**	**333**	*e*Pn	**Pn**		**22 21 31.2**	**-2.5**
GAZI	**Gazipasa**	**1.52**	**56**	*i* P	**Pn**		**22 21 31.8**	**-1.8**
GAZI				*i* S	**Sn**		**22 21 50.6**	**-1.6**
GAZI	**Gazipasa**	**1.52**	**56**	*i* P	**Pn**		**22 21 31.8**	**-1.8**
GAZI				*i* S	**Sn**		**22 21 50.6**	**-1.6**
KORT	**Korkueli**	**1.63**	**348**	*i* P	Pn		22 21 38.9	+3.6
KORT	**Korkueli**	**1.63**	**348**	*i* P	Pn		22 21 38.9	+3.6
LEF	**Lefka**	**1.77**	**98**	*e*Pn	**Pn**		**22 21 36.4**	**-0.6**
LEF				*e*SN	**Sn**		**22 21 58.4**	**+0.1**
LEF	**Lefka**	**1.77**	**98**	*e*Pn	**Pn**		**22 21 36.4**	**-0.6**
LEF				*e*Sn	**Sn**		**22 21 58.4**	**+0.1**
BCK	**Bucak**	**2.06**	**356**	*e*Pn	**Pn**		**22 21 40.7**	**-0.5**
BCK	**Bucak**	**2.06**	**356**	*e*Pn	**Pn**		**22 21 40.7**	**-0.5**
GOLH	**Golhisar**	**2.07**	**333**	*i* P	**Pn**		**22 21 42.7**	**+1.3**
GOLH	**Golhisar**	**2.07**	**333**	*i* P	**Pn**		**22 21 42.7**	**+1.3**
SUTC	**Sutluce-Ispart**	**2.08**	**5**	*e*Pn	**Pn**		**22 21 42.2**	**+0.7**
SUTC	**Sutluce-Ispart**	**2.08**	**5**	*e*Pn	**Pn**		**22 21 42.2**	**+0.7**
CSS	**Prodhromos**	**2.15**	**101**	*e*Pn	**Pn**		**22 21 41.6**	**-0.7**
CSS	**Prodhromos**	**2.15**	**101**	*e*Pn	**Pn**		**22 21 41.6**	**-0.7**
CSS					Sn		**22 22 07.4**	**-0.4**
DALY	**Dalyan (Mu¨la**	**2.21**	**310**	*e*PN	Pn		22 21 39.0	-4.2
DALY	**Dalyan (Mu¨la**	**2.21**	**310**	*e*Pn	Pn		22 21 39.0	-4.2
LFK	**Lefkose**	**2.27**	**92**	*e*PN	**Pn**		**22 21 44.8**	**+0.7**
LFK	**Lefkose**	**2.27**	**92**	*e*Pn	**Pn**		**22 21 44.8**	**+0.7**
TURN	**Turunc**	**2.28**	**311**	*i* P	**Pn**		**22 21 46.2**	**+2.1**
TURN	**Turunc**	**2.28**	**311**	*i* P	**Pn**		**22 21 46.2**	**+2.1**
ISP	**Isparta**	**2.43**	**356**	*e*PN	**Pn**		**22 21 46.3**	**+0.1**
ISP	**Isparta**	**2.43**	**356**	*e*Pn	**Pn**		**22 21 46.3**	**+0.1**
IKL	**Isikli**	**2.52**	**70**	*e*PN	**Pn**		**22 21 47.5**	**+0.1**
IKL	**Isikli**	**2.52**	**70**	*e*Pn	**Pn**		**22 21 47.5**	**+0.1**
YER	**Yerkesik**	**2.65**	**312**	*e*PN	Pn		22 21 45.2	-4.0
YER	**Yerkesik**	**2.65**	**312**	*e*Pn	Pn		22 21 45.2	-4.0
DNZL	**Cakiroluk**	**2.67**	**329**	*e*P	Pn		22 21 58.3	+8.7
DNZL	**Cakiroluk**	**2.67**	**329**	*e*P	Pn		22 21 58.3	+8.7
KONT	**Konya--Tatoy**	**2.85**	**26**	*e*PN	**Pn**		**22 21 53.0**	**+1.0**
KONT	**Konya--Tatoy**	**2.85**	**26**	*e*Pn	**Pn**		**22 21 53.0**	**+1.0**
KARP	**Karpathos**	**2.94**	**274**	*e*PB	**Pn**		**22 21 53.4**	**+0.2**
KARP	**Karpathos**	**2.94**	**274**	*e*Pb	**Pn**		**22 21 53.4**	**+0.2**
LADK	**Ladik-KONYA**	**3.08**	**24**	*e*PN	**Pn**		**22 21 56.4**	**+1.2**
LADK	**Ladik-KONYA**	**3.08**	**24**	*e*Pn	**Pn**		**22 21 56.4**	**+1.2**
KHL	**Karahalli**	**3.08**	**342**	*e*PN	**Pn**		**22 21 54.1**	**-1.0**
KHL	**Karahalli**	**3.08**	**342**	*e*Pn	**Pn**		**22 21 54.2**	**-1.0**
SHUT	**Suhut-Afyon**	**3.15**	**357**	*e*PN	**Pn**		**22 21 56.2**	**0.0**
SHUT	**Suhut-Afyon**	**3.15**	**357**	*e*Pn	**Pn**		**22 21 56.2**	**0.0**
AYDN	**Tasoluk**	**3.24**	**315**	*i* P	**Pn**		**22 21 57.3**	**0.0**
AYDN				*i* S	Sn		22 22 27.7	-6.9
AYDN	**Tasoluk**	**3.24**	**315**	*i* P	**Pn**		**22 21 57.3**	**0.0**
AYDN				*i* S	Sn		22 22 27.7	-6.9
SULT	**Sultanhani-AKS**	**3.56**	**38**	*e*PN	**Pn**		**22 22 03.2**	**+1.4**
SULT	**Sultanhani-AKS**	**3.56**	**38**	*e*Pn	**Pn**		**22 22 03.2**	**+1.4**
KIZT	**Kizilcal**	**3.59**	**14**	*e*PN	**Pn**		**22 22 03.4**	**+1.0**
KIZT	**Kizilcal**	**3.59**	**14**	*e*Pn	**Pn**		**22 22 03.2**	**+1.0**
SMG	**Samos**	**3.91**	**307**	*e*PB	**Pn**		**22 22 04.7**	**-1.8**
SMG	**Samos**	**3.91**	**307**	*e*Pb	**Pn**		**22 22 04.7**	**-1.8**
KARA	**Karaisali**	**3.93**	**61**	*e*PN	**Pn**		**22 22 08.1**	**+1.3**
KARA	**Karaisali**	**3.93**	**61**	*e*Pn	**Pn**		**22 22 08.1**	**+1.3**
NIG	**Nigde**	**4.11**	**48**	*e*PN	**Pn**		**22 22 10.8**	**+1.4**
NIG	**Nigde**	**4.11**	**48**	*e*Pn	**Pn**		**22 22 10.8**	**+1.4**
HNTI	**Hanita**	**4.33**	**121**	Sn	**Sn**		**22 23 00.6**	**-0.8**
HTY	**Hatay**	**4.43**	**79**	*e*PN	**Pn**		**22 22 14.7**	**+1.0**
HTY	**Hatay**	**4.43**	**79**	*e*Pn	**Pn**		**22 22 14.7**	**+1.0**
AFSR	**Af˙ar-Bala (A**	**4.44**	**24**	*e*PN	**Pn**		**22 22 15.7**	**+1.9**
AFSR	**Af˙ar-Bala (A**	**4.44**	**24**	*e*Pn	**Pn**		**22 22 15.7**	**+1.9**
OFRI	**ʻOfer**	**4.47**	**127**	Pn	**Pn**		**22 22 14.9**	**+0.6**
MMA1	**Mount Meron ar**	**4.52**	**120**	Pn	**Pn**		**22 22 16.0**	**+1.0**
MMA1				Sn	**Sn**		**22 23 05.4**	**-1.0**
KOZT	**Kozan**	**4.58**	**62**	*e*PN	**Pn**		**22 22 16.8**	**+1.1**
KOZT	**Kozan**	**4.58**	**62**	*e*Pn	**Pn**		**22 22 16.8**	**+1.1**
KSDI	**Kefar Szold**	**4.62**	**117**	Pn	**Pn**		**22 22 17.1**	**+0.9**
KSDI				Sn	**Sn**		**22 23 07.3**	**-1.2**
IDI	**Anoyia**	**4.80**	**270**	*e*PN	**Pn**		**22 22 19.3**	**+0.5**
IDI	**Anoyia**	**4.80**	**270**	*e*Pn	**Pn**		**22 22 19.3**	**+0.5**
KZIT	**Kziot**	**5.42**	**145**	Pn	**Pn**		**22 22 28.1**	**+0.8**
KZIT				Sn	**Sn**		**22 23 26.8**	**-1.6**
KARN	**Karanos**	**5.59**	**272**	*e*PN	**Pn**		**22 22 29.1**	**-0.5**
KARN	**Karanos**	**5.59**	**272**	*e*Pn	**Pn**		**22 22 29.1**	**-0.5**
HRFI	**Mount Harif**	**6.45**	**145**	Pn	**Pn**		**22 22 42.6**	**+1.2**
HRFI				Sn	**Sn**		**22 23 51.6**	**-2.1**
MBRI	**Mt Berech**	**6.60**	**147**	Pn	**Pn**		**22 22 44.9**	**+1.4**
MBRI				Sn	**Sn**		**22 23 56.4**	**-1.1**
EIL	**Elat**	**6.72**	**147**	Pn	**Pn**		**22 22 46.1**	**+1.0**
EIL				Sn	**Sn**		**22 23 58.7**	**-1.7**

IDC 21 22:21:24.5±10.0, 30.73S×178.13W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/17, mbtmp3.5/2, Error ellipse: s-maj=433.0km s-min=60.0km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
ASAR	**Alice Springs**	**42.98**	**267**	P	P		22 29 25.4	-0.3
	1.2nm,1.1s,baz=103,slow=7.2,SNR=3.3							
WRA	**Warramunga Arr**	**44.00**	**273**	P	P		22 29 34.0	0.0
	0.2nm,0.3s,baz=114,slow=7.9,SNR=4.6							
FINES	**FINESS Array B**	**145.42**	**340**	PKPbc	PKPbc		22 41 02.8	-0.9
	3.4nm,0.9s,baz=48,slow=4.3,SNR=4.5							

MAN 21 22:37:14, 9.01N×126.32E, h28km, mb4.7, ML3.6, MS3.6, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BUTP	**Butuan**	**0.69**	**267**	*e*P	Pn		22 37 28.3	+0.4
BUKP	**Musuan**	**1.67**	**228**	*e*P	Pn		22 37 42.8	+1.3
BUKP				*e*S	Sb		22 38 04.1	-0.8
CGP	**Cagayan de Oro**	**1.70**	**251**	⇓*e*P	Pn		22 37 42.2	+0.4
CGP				*i* S	Sn		22 38 02.8	+0.2
MATI	**Mati**	**2.05**	**182**	*e*P	Pn		22 37 47.0	+0.4
PAGZ	**Pagadian**	**3.12**	**249**	*e*P	Pn		22 38 04.3	+2.8
GUIM	**Jordan**	**4.01**	**294**	*e*P	Pn		22 38 16.0	+2.4

PRE 21 22:48:04.3±2.9, 20.95S×33.31E, h5km, ML3.9, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
LSZ	**Lusaka**	**7.45**	**318**	*e*P	Pn		22 49 56.2	+2.2
LSZ				*e*S	Sn		22 51 14.2	-4.8
KSR	**Koster**	**7.65**	**229**	*e*P	Pn		22 49 58.8	+2.1
KSR				*e*S	Sn		22 51 22.4	-1.5
KSR				AML	AML		22 52 11.1	
	comp=Z,14nm,0.6s							
LBTB	**Lobatse**	**8.18**	**239**	*e*P	Pn		22 50 04.5	+0.7
LBTB				*e*S	Sn		22 51 33.5	-3.3
LBTB				AML	AML		22 52 33.2	
	comp=Z,6.5nm,0.6s							
SWZ	**Schweizer**	**9.57**	**228**	*e*P	Pn		22 50 24.0	+1.1
SWZ				*e*S	Sn		22 52 04.6	-6.5
BOSA	**Boshof**	**10.57**	**222**	*e*P	Pn		22 50 36.4	-0.3
BOSA				*e*S	Sn		22 52 28.9	-6.7
BOSA				AML	AML		22 53 48.0	
	comp=Z,2.7nm,0.6s							

JMA 21 23:13:44.9±0.3, 33.06N×142.68E, h43km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JHJ2	**Mitsune**	**2.40**	**272**	*e*S	Sn		23 14 51.0	+1.0
BSO3	**Boso 3**	**2.50**	**315**	P	Pn		23 14 24.4	+1.6
JOD2	**Odawara 2**	**3.70**	**307**	P	Pn		23 14 41.2	+1.6
JOD2				*e*S	Sn		23 15 24.8	+2.8
JHO	**Hitachi**	**3.94**	**334**	P	Pn		23 14 44.9	+2.0
JHO				*e*S	Sn		23 15 29.4	+1.5
JHU	**Hanno**	**3.95**	**316**	*e*S	Sn		23 15 30.2	+2.0
JAG	**Ashikaga**	**4.28**	**323**	P	Pn		23 14 50.1	+2.6
JAG				*e*S	Sn		23 15 39.2	+3.0
JRY	**Ryogami san**	**4.29**	**314**	P	Pn		23 14 50.0	+2.3
JRY				*e*S	Sn		23 15 38.8	+2.2

*IDC **21** 23:25:41.0±2.6, 9.33S×112.96E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.5/21, mbtmp3.6/6, ML3.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/26, Error ellipse: s-maj=127.8km s-min=20.3km az=50.0*
*ISCJB **21** 23:25:45.5±0.8, 9.71S±0.06×112.85E±0.06, h36km, mb3.5/5, Error ellipse: s-maj=11.1km s-min=6.2km az=43.9*
*DJA **21** 23:25:48.6±1.2, 9˚S±6˚×11˚3E±˚, h26km±16km, M3.8/8, MLv3.8/8*

ISC 21 23:25:45.9±1.0, 9.70S±0.09×112.84E±0.07, h36km, n14, σ1s29/18, mb3.8/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GMJI	**Gumukmas**	**1.54**	**23**	P	**Pn**		**23 26 10.6**	**-0.2**
GMJI				S	**Sn**		**23 26 29.2**	**-0.3**
KRKI	**Karangkates**	**1.58**	**346**	P	**Pn**		**23 26 13.3**	**+1.9**
PWJI	**Pagerwojo**	**1.96**	**328**	P	**Pn**		**23 26 17.4**	**+0.8**
PWJI				S	**Sn**		**23 26 39.5**	**-0.4**
BLJI	**Banyuglugur**	**2.08**	**21**	P	**Pn**		**23 26 20.5**	**+2.3**
PCJI	**Pacitan**	**2.22**	**312**	P	**Pn**		**23 26 21.2**	**+1.0**
PCJI				S	**Sn**		**23 26 46.6**	**+0.1**
SJI	**Sawahan**	**2.22**	**331**	P	**Pn**		**23 26 21.8**	**+1.5**
SJI				S	**Sn**		**23 26 47.3**	**+0.7**
WOJI	**Wonogiri, Jawa**	**2.65**	**314**	P	**Pn**		**23 26 27.2**	**+1.1**
UGM	**Wanagama**	**2.90**	**308**	P	**Pn**		**23 26 30.6**	**+1.0**
FITZ	**Fitzroy Crossi**	**14.96**	**125**	Pn	**Pn**		**23 29 14.9**	**+0.1**
	0.1nm,0.3s,baz=326,slow=15,SNR=3.3							
FITZ				LR	LR		23 34 25.6	
	comp=Z,71nm,21.6s,baz=324,slow=35							
WRA	**Warramunga Arr**	**23.11**	**119**	P		**P**	**23 30 49.7**	**+0.8**
	0.2nm,0.5s,baz=296,slow=12,SNR=4.5							
ASAR	**Alice Springs**	**24.44**	**127**	P		**P**	**23 31 02.9**	**+1.4**
	0.7nm,0.8s,baz=299,slow=8.9,SNR=6.4							
SONM	**Songino Array**	**57.57**	**355**	P		**P**	**23 35 31.0**	**-1.0**
	0.8nm,0.6s,baz=164,slow=8.8,SNR=5.8							
MKAR	**Makanchi Array**	**62.50**	**337**	P		**P**	**23 36 04.0**	**-1.7**
	0.4nm,0.5s,baz=147,slow=7.0,SNR=10							
ZALV	**Zalesovo Beam**	**67.70**	**343**	P		**P**	**23 36 37.8**	**-1.5**
	0.7nm,0.5s,baz=134,slow=4.1,SNR=4.3							

*CSEM **21** 23:37:24.1±0.6, 79.65N×2.55E, h10km, ML3.2, Error ellipse: s-maj=26.1km s-min=4.7km az=7.0*

*ISCJB **21** 23:37:26.2±1.1, 79.3N±0.2×1.4E±0.2, h10km, mb3.3/2, MS3.6/1, Error ellipse: s-maj=24.7km s-min=6.2km az=177.8*
*IDC **21** 23:37:28.3±2.8, 79.92N±2.56E, h0km, mb3.3/2, mb1 3.5/5, mb1mx3.2/27, mbtmp3.4/5, ML3.2/3, MS3.0/2, Ms1 3.0/2, ms1mx2.5/28, Error ellipse: s-maj=47.7km s-min=38.9km az=131.0*
*BER **21** 23:37:33.2±3.3, 79.97N×4.68E, h10km, ML2.8, ML3.2(NAO)*

ISC 21 23:37:27.8±1.3, 79.4N±0.2×1.68E±0.05, h10km, n18, σ1s88/21, 1C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KBS	**Kingsbay**	**2.00**	**99**	Pg	**Pn**		**23 38 00.9**	**-0.6**
KBS				Lg	Lg		23 38 23.6	
KBS	**Kingsbay**	**2.00**	**99**	*e*P	**Pn**		**23 38 00.8**	**-0.6**
KBS				*e*Sg	**Sn**		**23 38 24.3**	**-2.2**
KBS				AML	AML		23 38 25.2	
	comp=Z,162nm,0.3s							
KBS	**Kingsbay**	**2.00**	**99**	Pg	**Pn**		**23 38 00.9**	**-0.6**
KBS				Lg	Lg		23 38 23.6	
KBS				*e*Sg	**Sn**		**23 38 24.3**	**-2.2**
	comp=Z,162nm,0.3s,SNR=93							
SPA0	**Spitsbergen Ar**	**3.12**	**106**	Pn	**Pn**		**23 38 17.4**	**+0.5**
	baz=320,slow=11							
SPA0				Sn	**Sn**		**23 38 52.6**	**-1.5**
	baz=317,slow=28							
SPA0	**Spitsbergen Ar**	**3.12**	**106**	Pn	**Pn**		**23 38 17.4**	**+0.5**
	baz=320,slow=11							
SPA0				Sn	**Sn**		**23 38 52.6**	**-1.5**
	baz=317,slow=28							
SPA0	**Spitsbergen Ar**	**3.12**	**106**	Pn	**Pn**		**23 38 17.4**	**+0.5**
	baz=320,slow=11,SNR=442							
SPA0				Sn	**Sn**		**23 38 52.6**	**-1.5**
	baz=317,slow=28,SNR=3.7							
DAG	**Danmarks Havn**	**4.95**	**248**	⇑*i*P	**Pn**		**23 38 42.9**	**+1.0**
DAG				*i* S	**Sn**		**23 39 37.0**	**-2.1**
SUMG	**Summit**	**11.57**	**256**	*i* P	**Pn**		**23 40 11.7**	**-1.2**
SUMG				*i* S			23 42 15.0	-7.1
SUMG	**Summit**	**11.57**	**256**	*i* P	**Pn**		**23 40 11.8**	**-1.2**
	SNR=46							
ARA0	**ARCESS Array S**	**11.63**	**135**	Pn	Pn		23 40 16.7	+3.3
	baz=353,slow=12							
ARA0				Sn	**Sn**		**23 42 21.3**	**-1.7**
	baz=344,slow=22							
ARA0	**ARCESS Array S**	**11.63**	**135**	Pn	Pn		23 40 16.7	+3.3
	baz=353,slow=12							
ARA0				Sn	**Sn**		**23 42 21.3**	**-1.7**
	baz=344,slow=22							
ARA0	**ARCESS Array S**	**11.63**	**135**	Sn	**Sn**		**23 42 21.3**	**-1.7**
	baz=344,slow=22,SNR=7.3							
ARCES	**ARCESS Array B**	**11.63**	**135**	Pn	**Pn**		**23 40 16.3**	**+2.9**
	comp=Z,0.3nm,0.3s,baz=347,slow=12,SNR=17							
NOA	**NORSAR Array B**	**18.68**	**165**	P	Pn		23 41 51.6	+5.6
	comp=Z,0.1nm,0.3s,baz=351,slow=15,SNR=2.4							
NOA				LR	LR		23 47 48.6	
	comp=Z,11nm,18.6s,baz=345,slow=32							
FINES	**FINESS Array B**	**19.47**	**143**	P	**Pn**		**23 41 59.8**	**+4.5**
	comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=2.7							
MKAR	**Makanchi Array**	**42.71**	**88**	P		**P**	**23 45 24.7**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=351,slow=7.4,SNR=3.4							
KSRS	**Korea Array**	**59.47**	**48**	LR	LR		00 14 50.2	
	comp=Z,44nm,18.7s,baz=236,slow=38							
TORD	**Torodi Ar. Bea**	**66.27**	**180**	P	P		23 48 21.6	+5.8
	comp=Z,0.3nm,0.9s,baz=359,slow=5.1,SNR=3.0							

*IDC **22** 00:01:33.1±0.6, 19.19N×120.14E, h28km±4km, mb3.7/15, mb1 3.9/16, mb1mx3.8/26, mbtmp

BVAR				pP		**pP**	**00 10 40.7**	**-0.4**
	0.5nm,0.6s,baz=110,slow=8.3,SNR=3.1								
STKA	**Stephens Creek**	**54.74**	**158**	P		**P**	**00 11 00.7**	**+0.9**
	2.8nm,0.8s,baz=326,slow=7.5,SNR=4.9								
ABKAR	**Akbulak array**	**56.35**	**317**	*eP*		**P**	**00 11 11.1**	**-0.2**
	0.3nm,0.3s								
ARCES	**ARCESS Array B**	**73.85**	**339**	P		**P**	**00 13 04.3**	**-0.2**
ARCES	**ARCESS Array B**	**73.85**	**339**	P		**P**	**00 13 04.3**	**-0.2**
	1.7nm,0.8s,baz=79,slow=5.6,SNR=4.7								
ILAR	**Eielson Array**	**74.14**	**26**	P		**P**	**00 13 05.2**	**-1.2**
ILAR	**Eielson Array**	**74.14**	**26**	P		**P**	**00 13 05.2**	**-1.2**
	0.3nm,0.7s,baz=284,slow=3.6,SNR=3.6								
FINES	**FINES Array B**	**75.31**	**330**	P		**P**	**00 13 12.8**	**-0.4**
FINES				pP		**pP**	**00 13 21.3**	**-0.9**
FINES	**FINES Array B**	**75.31**	**330**	P		**P**	**00 13 12.8**	**-0.4**
	1.3nm,0.5s,baz=64,slow=4.4,SNR=11								
FINES				pP		**pP**	**00 13 21.3**	**-0.9**
	3.5nm,1.0s,baz=15,slow=7.9,SNR=2.6								
NOA	**NORSAR Array B**	**82.22**	**332**	LR		LR	00 53 06.2		
	comp=Z,28nm,19.3s,baz=355,slow=38								

IDC 22 00:17:47.3±1.0, 19.77N×121.56E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/24, mbtmp3.7/5, 1C, Error ellipse: s-maj=120.5km s-min=19.6km az=67.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PIP	**Pasuquin**	**1.69**	**212**	*i*	*P*	Pn	00 18 10.9	-7.3
PIP					*eS*	Sn	00 18 22.7	-18
SONM	**Songino Array**	**30.58**	**340**	P		P	00 24 02.5	-0.4
	0.2nm,0.5s,baz=169,slow=9.3,SNR=2.7							
WRA	**Warramunga Ar**	**41.41**	**162**	P		P	00 25 34.7	-0.9
	0.9nm,0.8s,baz=341,slow=9.0,SNR=7.0							
WRA				PcP		PcP	00 27 34.0	+0.1
	0.5nm,0.6s,baz=344,slow=3.6,SNR=5.6							
MKAR	**Makanchi Array**	**41.82**	**319**	P		P	00 25 38.9	+0.1
	0.8nm,0.8s,baz=119,slow=9.9,SNR=4.8							
ASAR	**Alice Springs**	**44.82**	**164**	P		P	00 26 02.6	-0.7
	0.8nm,0.6s,baz=345,slow=7.1,SNR=9.1							
STKA	**Stephens Creek**	**54.83**	**159**	P		P	00 27 20.2	+0.9
	1.8nm,0.8s,baz=328,slow=9.5,SNR=2.5							
TXAR	**Lajitas Array**	**114.53**	**43**	PKP		PKPdf	00 36 29.9	-0.2
	0.1nm,0.4s,baz=258,slow=2.6,SNR=3.4							

*IDC **22** 00:39:12.4±0.7, 34.57N×23.86E, h0km, mb4.1/16, mb1 4.1/22, mb1mx4.0/35, mbtmp4.0/22, ML4.0/5, Error ellipse: s-maj=16.8km s-min=12.9km az=173.0*
*CSEM **22** 00:39:17.0±0.1, 34.35N×23.85E, h49km±4km, ML3.3, Error ellipse: s-maj=4.1km s-min=2.6km az=47.0*
*HLW **22** 00:39:19.2, 34.45N×24.28E, h33km±35km, Md3.5, Ml3.5*
*THE **22** 00:39:22.2, 34.71N×23.95E, h53km±3km, ML3.6/2, Error ellipse: s-maj=3.2km s-min=0.7km az=21.0*
*ATH **22** 00:39:22.5, 34.99N×24.04E, h76km±1km, ML3.3*

ISC 22 00:39:20.7±1.0, 34.69N±0.07×23.92E±0.04, h59km±8km, n229, σ0.95/215, mb4.1/17, 5C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KARN	**Karanos**	**0.71**	**360**	P		**Pn**	**00 39 35.5**	**+0.4**
KARN					S	**Sn**	**00 39 45.7**	**+0.1**
KARN	**Karanos**	**0.71**	**360**	P		**Pn**	**00 39 35.5**	**+0.4**
KARN					S	**Sn**	**00 39 45.7**	**+0.1**
VAM	**Vamos**	**0.75**	**18**	P		**Pn**	**00 39 36.2**	**+0.6**
VAM					S	**Sn**	**00 39 46.8**	**+0.3**
VAM	**Vamos**	**0.75**	**18**	*eP*		**Pn**	**00 39 36.1**	**+0.5**
VAM					*eS*	**Sn**	**00 39 45.9**	**-0.6**
VAM	**Vamos**	**0.75**	**18**	*eP*		**Pn**	**00 39 36.1**	**+0.5**
VAM					*eS*	**Sn**	**00 39 45.9**	**-0.6**
SIVA	**Sivas**	**0.80**	**66**	P		**Pn**	**00 39 36.3**	**+0.1**
SIVA					S	**Sn**	**00 39 47.7**	**+0.2**
SIVA	**Sivas**	**0.80**	**66**	P		**Pn**	**00 39 36.3**	**+0.1**
SIVA					S	**Sn**	**00 39 47.7**	**+0.2**
IDI	**Anoyia**	**1.00**	**53**	P		**Pn**	**00 39 39.5**	**+0.7**
IDI					S	**Sn**	**00 39 52.7**	**+0.6**
IDI	**Anoyia**	**1.00**	**53**	*eP*		**Pn**	**00 39 39.4**	**+0.7**
IDI					*eS*	**Sn**	**00 39 51.1**	**-1.0**
IDI	**Anoyia**	**1.00**	**53**	*eP*		**Pn**	**00 39 39.4**	**+0.7**
IDI					*eS*	**Sn**	**00 39 51.1**	**-1.0**
ANKY	**Antikythira Is**	**1.28**	**337**	*eP*		**Pn**	**00 39 42.9**	**+0.5**
ANKY					*eS*	**Sn**	**00 39 57.8**	**-0.9**
ANKY	**Antikythira Is**	**1.28**	**337**	*eP*		**Pn**	**00 39 42.9**	**+0.5**
ANKY					*eS*	**Sn**	**00 39 57.8**	**-0.9**
LAST	**Lasithi**	**1.36**	**69**	P		**Pn**	**00 39 44.6**	**+1.0**
LAST					S	**Sn**	**00 40 01.4**	**+0.6**
LAST	**Lasithi**	**1.36**	**69**	P		**Pn**	**00 39 44.6**	**+1.0**
LAST					S	**Sn**	**00 40 01.4**	**+0.6**
NPS	**Neapolis**	**1.50**	**67**	P		**Pn**	**00 39 46.6**	**+1.2**
NPS					S	**Sn**	**00 40 04.9**	**+0.8**
NPS	**Neapolis**	**1.50**	**67**	*eP*		**Pn**	**00 39 46.7**	**+1.3**
NPS					*eS*	**Sn**	**00 40 02.6**	**-1.5**
NPS	**Neapolis**	**1.50**	**67**	*eP*		**Pn**	**00 39 46.7**	**+1.3**
NPS					*eS*	**Sn**	**00 40 02.6**	**-1.5**
KYTH	**Kithira**	**1.75**	**336**	P		**Pn**	**00 39 50.1**	**+1.4**
KYTH	**Kithira**	**1.75**	**336**	*eP*		**Pn**	**00 39 49.4**	**+0.7**
KYTH	**Kithira**	**1.75**	**336**	*eP*		**Pn**	**00 39 49.4**	**+0.7**
ZKR	**Zakros**	**1.94**	**77**	P		**Pn**	**00 39 52.0**	**+0.8**
ZKR	**Zakros**	**1.94**	**77**	*eP*		**Pn**	**00 39 52.1**	**+0.8**
ZKR					*eS*	**Sn**	**00 40 15.2**	**+0.7**
ZKR	**Zakros**	**1.94**	**77**	*eP*		**Pn**	**00 39 52.1**	**+0.8**
ZKR					*eS*	**Sn**	**00 40 15.2**	**+0.7**
SANT	**Santorini**	**2.10**	**36**	P		**Pn**	**00 39 53.8**	**+0.3**
SANT	**Santorini**	**2.10**	**36**	*eP*		**Pn**	**00 39 53.1**	**-0.4**
SANT					*eS*	**Sn**	**00 40 14.5**	**-4.0**
SANT	**Santorini**	**2.10**	**36**	*eP*		**Pn**	**00 39 53.1**	**-0.4**
SANT					*eS*	**Sn**	**00 40 14.5**	**-4.0**
THR1	**Thera Island**	**2.10**	**36**	P		**Pn**	**00 39 53.9**	**+0.4**
THR1	**Thera Island**	**2.10**	**36**	P		**Pn**	**00 39 53.9**	**+0.4**
THR3	**Thira Island,**	**2.10**	**35**	P		**Pn**	**00 39 54.1**	**+0.6**
THR3	**Thira Island,**	**2.10**	**35**	P		**Pn**	**00 39 54.1**	**+0.6**
VLI	**Veliai**	**2.18**	**339**	P		**Pn**	**00 39 55.6**	**+0.9**
VLI					S	**Sn**	**00 40 21.9**	**+1.5**
VLI	**Veliai**	**2.18**	**339**	*eP*		**Pn**	**00 39 55.5**	**+0.9**
VLI	**Veliai**	**2.18**	**339**	*eP*		**Pn**	**00 39 55.5**	**+0.9**
VLI					S	**Sn**	**00 40 21.9**	**+1.5**
DYR	**Agios Nikonas**	**2.44**	**329**	P		**Pn**	**00 39 59.6**	**+1.4**
DYR					S	**Sn**	**00 40 28.0**	**+1.1**
DYR	**Agios Nikonas**	**2.44**	**329**	*eP*		**Pn**	**00 39 59.3**	**+1.1**
DYR	**Agios Nikonas**	**2.44**	**329**	*eP*		**Pn**	**00 39 59.3**	**+1.1**
DYR					S	**Sn**	**00 40 28.0**	**+1.1**
LTBQ	**Tobruq**	**2.62**	**180**	*i*	P	Pn	00 39 54.8	-5.9
	SNR=76							
APE	**Apeiranthos**	**2.71**	**28**	*eP*	N	**Pn**	**00 40 00.9**	**-1.0**
APE	**Apeiranthos**	**2.71**	**28**	P		**Pn**	**00 40 02.1**	**+0.2**
APE					S	**Sn**	**00 40 34.7**	**+1.1**
APE	**Apeiranthos**	**2.71**	**28**	*eP*		**Pn**	**00 40 01.7**	**-0.2**
APE	**Apeiranthos**	**2.71**	**28**	*eP*		**Pn**	**00 40 01.7**	**-0.2**
APE					S	**Sn**	**00 40 34.7**	**+1.1**
KARP	**Karpathos**	**2.79**	**71**	P		**Pn**	**00 40 03.8**	**+0.8**
KARP					S	**Sn**	**00 40 36.9**	**+1.4**
KARP	**Karpathos**	**2.79**	**71**	*eP*		**Pn**	**00 40 03.8**	**+0.8**
KARP	**Karpathos**	**2.79**	**71**	*eP*		**Pn**	**00 40 03.8**	**+0.8**
KARP					S	**Sn**	**00 40 36.9**	**+1.4**
PYL	**PYLOS**	**2.83**	**322**	*eP*		**Pn**	**00 40 03.8**	**+0.4**
PYL	**PYLOS**	**2.83**	**322**	*eP*		**Pn**	**00 40 03.8**	**+0.4**
DID	**Didima**	**2.87**	**349**	*eP*		**Pn**	**00 40 04.0**	**0.0**
DID	**Didima**	**2.87**	**349**	*eP*		**Pn**	**00 40 04.0**	**0.0**
ITM	**Ithomi**	**2.97**	**328**	*eP*		**Pn**	**00 40 05.8**	**+0.4**
ITM	**Ithomi**	**2.97**	**328**	*eP*		**Pn**	**00 40 05.8**	**+0.4**
NAIG	**Nisos Aigina**	**3.08**	**354**	*eP*		**Pn**	**00 40 06.8**	**-0.2**
NAIG	**Nisos Aigina**	**3.08**	**354**	*eP*		**Pn**	**00 40 06.8**	**-0.2**
NIS1	**Nisyros Isl.**	**3.27**	**53**	P		**Pn**	**00 40 10.2**	**+0.8**
NIS1	**Nisyros Isl.**	**3.27**	**53**	*eP*		**Pn**	**00 40 10.3**	**+0.8**
NIS1	**Nisyros Isl.**	**3.27**	**53**	*eP*		**Pn**	**00 40 10.3**	**+0.8**
ATH	**Athens Observa**	**3.28**	**357**	*eP*		**Pn**	**00 40 09.4**	**-0.2**
ATH	**Athens Observa**	**3.28**	**357**	*eP*		**Pn**	**00 40 09.4**	**-0.2**
PTL	**Penteli**	**3.35**	**359**	*eP*		**Pn**	**00 40 10.0**	**-0.7**
PTL	**Penteli**	**3.35**	**359**	*eP*		**Pn**	**00 40 10.0**	**-0.7**
AMT	**Artemida-Makis**	**3.36**	**328**	*eP*		**Pn**	**00 40 11.2**	**+0.5**
AMT	**Artemida-Makis**	**3.36**	**328**	*eP*		**Pn**	**00 40 11.2**	**+0.5**
SLUM		**3.37**	**161**	S		Sn	00 40 39.7	-10
	baz=164							
SLUM					AMP		00 40 00.0	
	comp=N,280μm,0.3s,logA/T=6.0,baz=164							
SLUM		**3.37**	**161**	P		Pn	00 40 04.6	-6.2
SLUM					S	Sn	00 40 39.7	-10
LTK	**Loutraki**	**3.42**	**347**	*eP*		**Pn**	**00 40 11.5**	**0.0**
LTK	**Loutraki**	**3.42**	**347**	*eP*		**Pn**	**00 40 11.5**	**0.0**
DAT	**Datca**	**3.61**	**55**	*eP*	N	**Pn**	**00 40 14.1**	**-0.1**
BODT	**Bodrum**	**3.63**	**48**	*eP*	N	**Pn**	**00 40 14.8**	**+0.3**
KLV	**Kalavryta, Ach**	**3.64**	**337**	*eP*		**Pn**	**00 40 15.2**	**+0.6**
KLV	**Kalavryta, Ach**	**3.64**	**337**	*eP*		**Pn**	**00 40 15.2**	**+0.6**
ARG	**Arkhangelos**	**3.76**	**65**	P		**Pn**	**00 40 16.7**	**+0.6**
ARG					S	**Sn**	**00 41 00.2**	**+1.1**
ARG	**Arkhangelos**	**3.76**	**65**	*eP*		**Pn**	**00 40 16.4**	**+0.3**
ARG	**Arkhangelos**	**3.76**	**65**	*eP*		**Pn**	**00 40 16.4**	**+0.3**
ARG					S	**Sn**	**00 41 00.2**	**+1.1**
SMG	**Samos**	**3.83**	**37**	*eP*		**Pn**	**00 40 17.1**	**0.0**
SMG	**Samos**	**3.83**	**37**	*eP*		**Pn**	**00 40 17.1**	**0.0**
LAKA	**Lakka**	**3.88**	**337**	*eP*		**Pn**	**00 40 18.0**	**+0.2**
LAKA	**Lakka**	**3.88**	**337**	*eP*		**Pn**	**00 40 18.0**	**+0.2**
KALE	**Kalithea**	**3.96**	**339**	*eP*		**Pn**	**00 40 18.9**	**-0.2**
KALE	**Kalithea**	**3.96**	**339**	*eP*		**Pn**	**00 40 18.9**	**-0.2**
LKR	**Lokris**	**4.02**	**350**	*eP*		**Pn**	**00 40 19.3**	**-0.5**
LKR	**Lokris**	**4.02**	**350**	*eP*		**Pn**	**00 40 19.3**	**-0.5**
MLSB	**Milas**	**4.07**	**49**	*eP*	N	**Pn**	**00 40 20.8**	**+0.4**
EFP	**Efpalio**	**4.07**	**337**	*eP*		**Pn**	**00 40 21.2**	**+0.8**
EFP	**Efpalio**	**4.07**	**337**	*eP*		**Pn**	**00 40 21.2**	**+0.8**
CHOS	**Chios island**	**4.07**	**24**	*eP*		**Pn**	**00 40 20.8**	**+0.3**
CHOS	**Chios island**	**4.07**	**24**	*eP*		**Pn**	**00 40 20.8**	**+0.3**
YER	**Yerkesik**	**4.30**	**54**	*eP*	N	**Pn**	**00 40 24.0**	**+0.4**
AYDN	**Tasoluk**	**4.37**	**46**	*i*	P	**Pn**	**00 40 25.5**	**+1.0**
AYDN	**Tasoluk**	**4.37**	**46**	*i*	P	**Pn**	**00 40 25.5**	**+1.0**
DALY	**Dalyan (Mu˘la**	**4.40**	**60**	*eP*	N	**Pn**	**00 40 24.8**	**-0.1**
VLS	**Valsamata**	**4.40**	**323**	*eP*		**Pn**	**00 40 26.3**	**+1.4**
VLS	**Valsamata**	**4.40**	**323**	*eP*		**Pn**	**00 40 26.3**	**+1.4**
HMAT	**Matruh**	**4.47**	**142**	P		Pn	00 40 20.5	-5.4
	baz=143							
HMAT					AMP		00 41 00.0	
	comp=N,120μm,0.2s,logA/T=5.8,baz=143							
HMAT	**Matruh**	**4.47**	**142**	P		**Pn**	**00 40 20.5**	**-5.4**
AOS	**Alonnisos**	**4.47**	**360**	*eP*		**Pn**	**00 40 25.2**	**-0.8**
AOS	**Alonnisos**	**4.47**	**360**	*eP*		**Pn**	**00 40 25.2**	**-0.8**
AGG	**Agios Georgios**	**4.51**	**344**	*eP*		**Pn**	**00 40 26.6**	**+0.1**
AGG	**Agios Georgios**	**4.51**	**344**	*eP*		**Pn**	**00 40 26.6**	**+0.1**
EVR	**Evrytania**	**4.55**	**339**	*eP*		**Pn**	**00 40 28.8**	**+1.7**
EVR	**Evrytania**	**4.55**	**339**	*eP*		**Pn**	**00 40 28.8**	**+1.7**
FETY	**Fethiye**	**4.63**	**64**	*eP*	N	**Pn**	**00 40 26.9**	**-1.2**
NEO	**Neokhori**	**4.64**	**353**	*eP*		**Pn**	**00 40 28.4**	**+0.1**
NEO	**Neokhori**	**4.64**	**353**	*eP*		**Pn**	**00 40 28.4**	**+0.1**
LKD2	**Lefkada island**	**4.86**	**328**	*eP*		**Pn**	**00 40 31.9**	**+0.6**
LKD2	**Lefkada island**	**4.86**	**328**	*eP*		**Pn**	**00 40 31.9**	**+0.6**
AKAS	**Kas**	**4.89**	**70**	*i*	P	**Pn**	**00 40 30.7**	**-1.1**
AKAS	**Kas**	**4.89**	**70**	*i*	P	**Pn**	**00 40 30.7**	**-1.1**
LJBD	**Adjabya**	**4.90**	**221**	*i*	P	Pn	00 40 26.1	-5.7
	SNR=76							
LJBD					*eS*	Sn	00 41 16.1	-11
	SNR=76							
THL	**Klokotos Trika**	**5.10**	**343**	*eP*		**Pn**	**00 40 34.7**	**+0.2**
THL	**Klokotos Trika**	**5.10**	**343**	*eP*		**Pn**	**00 40 34.7**	**+0.2**
DNZL	**Cakiroluk**	**5.12**	**53**	*i*	P	**Pn**	**00 40 35.6**	**+0.7**
DNZL	**Cakiroluk**	**5.12**	**53**	*i*	P	**Pn**	**00 40 35.6**	**+0.7**
GOLH	**Golhisar**	**5.23**	**59**	*i*	P	**Pn**	**00 40 36.9**	**+0.4**
GOLH	**Golhisar**	**5.23**	**59**	*i*	P	**Pn**	**00 40 36.9**	**+0.4**
PAIG	**Paliouri**	**5.23**	**358**	*eP*		**Pn**	**00 40 35.8**	**-0.6**
PAIG	**Paliouri**	**5.23**	**358**	*eP*		**Pn**	**00 40 35.8**	**-0.6**
KULA	**Kula-Manisa**	**5.40**	**44**	*eP*	N	**Pn**	**00 40 39.3**	**+0.6**
KORT	**Korkueli**	**5.71**	**64**	*i*	P	**Pn**	**00 40 42.9**	**-0.1**
KORT	**Korkueli**	**5.71**	**64**	*i*	P	**Pn**	**00 40 42.9**	**-0.1**
KHL	**Karahalli**	**5.79**	**50**	*eP*	N	**Pn**	**00 40 44.2**	**+0.1**
KHAL	**Karahalli**	**5.80**	**49**	*i*	P	**Pn**	**00 40 45.0**	**+0.8**
KHAL	**Karahalli**	**5.80**	**49**	*i*	P	**Pn**	**00 40 45.0**	**+0.8**
DEMI	**Demirci**	**5.80**	**40**	*i*	P	**Pn**	**00 40 45.5**	**+1.3**
DEMI	**Demirci**	**5.80**	**40**	*i*	P	**Pn**	**00 40 45.5**	**+1.3**
LUJL	**Ujela**	**5.98**	**203**	*i*	P	Pn	00 40 39.8	-6.8
	SNR=70							
LUJL					*eS*	Sn	00 41 41.7	-12
	SNR=70							
KEK	**Kerkira**	**6.00**	**328**	*eP*		**Pn**	**00 40 47.3**	**+0.5**
KEK	**Kerkira**	**6.00**	**328**	*eP*		**Pn**	**00 40 47.3**	**+0.5**
BCK	**Bucak**	**6.07**	**61**	*eP*	N	**Pn**	**00 40 48.2**	**+0.3**
DURS	**Dursunbey**	**6.11**	**35**	*i*	P	**Pn**	**00 40 50.0**	**+1.6**
DURS	**Dursunbey**	**6.11**	**35**	*i*	P	**Pn**	**00 40 50.0**	**+1.6**
SUTC	**Sutluce-Ispart**	**6.37**	**62**	*eP*	N	**Pn**	**00 40 51.7**	**-0.4**
FNA	**Florina**	**6.41**	**342**	*eP*		**Pn**	**00 40 51.7**	**-0.8**
FNA	**Florina**	**6.41**	**342**	*eP*		**Pn**	**00 40 51.7**	**-0.8**
TVSB	**Tavsanli**	**6.50**	**41**	*eP*	N	**Pn**	**00 40 55.0**	**+1.2**
SHUT	**Suhut-Afyon**	**6.58**	**52**	*eP*	N	**Pn**	**00 40 54.8**	**-0.1**
ALT	**Altintas**	**6.60**	**47**	*eP*	N	**Pn**	**00 40 55.5**	**+0.2**
GAZI	**Gazipasa**	**7.02**	**75**	*i*	P	Pn	00 40 57.5	-3.4
GAZI	**Gazipasa**	**7.02**	**75**	*i*	P	Pn	00 40 57.5	-3.4
SEYT	**Eskypehyr**	**7.34**	**47**	*i*	P	**Pn**	**00 41 05.8**	**+0.5**
SEYT	**Eskypehyr**	**7.34**	**47**	*i*	P	**Pn**	**00 41 05.8**	**+0.5**
KONT	**Konya--Tatoy**	**7.55**	**62**	*eP*		**Pn**	**00 41 08.1**	**0.0**
ERMK	**Ermenek**	**7.57**	**73**	*i*	P	**Pn**	**00 41 07.8**	**-0.8**
ERMK	**Ermenek**	**7.57**	**73**	*i*	P	**Pn**	**00 41 07.8**	**-0.8**
CSS	**Prodhromos**	**7.74**	**85**	Pn		Pn	00 41 06.9	-3.9
KOT	**Kottamia**	**8.20**	**123**	P		Pn	00 41 11.7	-5.4
	baz=123							
KOT	**Kottamia**	**8.20**	**123**	P		Pn	00 41 11.7	-5.4
HSAF	**As Saff**	**8.21**	**126**	P		Pn	00 41 12.2	-5.0
	baz=126							
HSAF	**As Saff**	**8.21**	**126**	P		Pn	00 41 12.2	-5.0
GLL	**Jalalah**	**8.34**	**126**	P		Pn	00 41 13.4	-5.6
	baz=125							
GLL	**Jalalah**	**8.34**	**126**	P		Pn	00 41 13.4	-5.6
HHAG	**Hagoal**	**8.38**	**122**	P		Pn	00 41 14.5	-5.0
	baz=121							
HHAG	**Hagoal**	**8.38**	**122**	P		Pn	00 41 14.5	-5.0
LJFR	**Jufra**	**8.86**	**233**	*i*	P	Pn	00 41 16.9	-9.2
	SNR=70							
SUZ		**8.96**	**120**	P		Pn	00 41 22.3	-5.1
	baz=120							
SUZ		**8.96**	**120**	P		Pn	00 41 22.3	-5.1
BRTR	**Keskin Array B**	**9.24**	**54**	Pn		**Pn**	**00 41 30.2**	**-1.1**
	comp=N,0.3nm,0.3s,baz=224,slow=13,SNR=8.8							
BRTR					Sn	**Sn**	**00 43 16.8**	**+3.0**
	comp=N,0.1nm,0.3s,baz=292,slow=21,SNR=3.3							
OFRI	**˙Ofer**	**9.45**	**99**	Pn		Pn	00 41 29.7	-4.5
STON	**Ston**	**9.50**	**331**	*e*	Pn	Pn	00 41 30.8	-4.0
STON					Sn	Sn	00 43 11.4	-8.5
KZIT	**Kziot**	**9.59**	**110**	Pn		Pn	00 41 30.5	-5.5
SLTI	**Sal'it**	**9.61**	**102**	Pn		Pn	00 41 31.2	-5.0
MMA0	**Mount Meron ar**	**9.70**	**97**	Pn		Pn	00 41 34.1	-3.4
MMAI	**Mount Meron Ar**	**9.70**	**97**	Pn		Pn	00 41 33.7	-3.9
	comp=N,3.5nm,0.3s,baz=295,slow=14,SNR=22							
MMAI					Sn	**Sn**	**00 43 23.7**	**-1.3**
	comp=N,4.8nm,0.3s,baz=295,slow=24,SNR=6.6							
RTMI	**Retamim**	**9.76**	**109**	Pn		Pn	00 41 33.0	-5.3
MMLI	**Mount Malkishu**	**9.86**	**100**	Pn		Pn	00 41 35.2	-4.5
KSDI	**Kefar Szold**	**9.87**	**95**	Pn		Pn	00 41 36.2	-3.6
HMDT	**Nahal Hemdat**	**9.99**	**101**	Pn		Pn	00 41 37.5	-4.0
KSHT	**Keshet**	**10.04**	**96**	Pn		Pn	00 41 38.9	-3.3
DSI	**Dead Sea**	**10.10**	**105**	Pn		Pn	00 41 38.1	-4.9
MZDA	**Masada**	**10.18**	**106**	Pn		Pn	00 41 39.1	-5.0
KRMI	**Paran Flat**	**10.21**	**114**	Pn		Pn	00 41 38.9	-5.6
PRNI	**Paran**	**10.31**	**112**	Pn		Pn	00 41 40.7	-5.2
ZFRI	**Zfri**	**10.35**	**110**	Pn		Pn	00 41 40.9	-5.5
HRFI	**Mount Harif**	**10.48**	**113**	Pn		Pn	00 41 42.7	-5.5
MBRI	**Mt Berech**	**10.51**	**115**	Pn		Pn	00 41 43.2	-5.5
LKFR	**Kufra**	**10.51**	**184**	*i*	P	Pn	00 41 39.9	-8.8
	SNR=70							
HKAT	**Jabal Katrina**	**10.56**	**123**	P		Pn	00 41 44.1	-5.4
	baz=122							
HKAT	**Jabal Katrina**	**10.56**	**123**	P		Pn	00 41 44.1	-5.4
EIL	**Elat**	**10.60**	**115**	Pn		Pn	00 41 44.6	-5.2
	comp=N,1.1nm,0.3s,baz=308,slow=12,SNR=33							
EIL					Sn	**Sn**	**00 43 49.0**	**+2.0**
	comp=N,1.5nm,0.3s,baz=294,slow=20,SNR=4.2							
EIL	**Elat**	**10.60**	**115**	Pn		Pn	00 41 44.0	-5.8
MLR	**Muntele Rosu**	**10.90**	**8**	*i*	P	Pn	00 42 12.1	+18
BZS	**Buzias**	**11.06**	**352**	*i*	P	**Pn**	**00 41 54.0**	**-2.0**
ASF	**Jabal al Asfar**	**11.13**	**99**	Pn		Pn	00 41 54.1	-3.0
PLOR	**Plostina**	**11.34**	**10**	*i*	P	Pn	00 42 17.6	+18
VRI	**Vrincioaia**	**11.37**	**10**	*i*	P	Pn	00 42 17.3	+17
UDBI	**Udbina**	**11.66**	**330**	*e*	Pn	Pn	00 42 01.0	-3.3
UDBI					Sn	Sn	00 44 02.5	-10
NVLJ	**Novalja**	**12.07**	**327**	*e*	Pn	Pn	00 42 06.6	-3.2
NVLJ					Sn	Sn	00 44 13.3	-9.4
BURAR	**Bucovina Array**	**12.95**	**4**	*i*	P	**P**	**00 42 32.6**	**+2.0**
VYHS	**Vyhne**	**14.30**	**346**	*e*	PN	**Pn**	**00 42 41.0**	**+1.0**
MOA	**Molln**	**15.00**	**334**	*i*	P	**P**	**00 42 54.0**	**+0.7**
	comp=N,4.4nm,0.5s							
VRAC	**Vranov**	**15.58**	**342**	Pn		**Pn**	**00 42 56.1**	**-0.4**
	comp=N,0.6nm,0.3s,baz=158,slow=12,SNR=9.6							
OKC	**Ostrava-Krasne**	**15.72**	**346**	*eP*		**P**	**00 43 02.1**	**+0.8**
OKC	**Ostrava-Krasne**	**15.72**	**346**	P		**P**	**00 43 02.1**	**+0.8**
TREC	**Trest**	**15.87**	**339**	*eP*		**P**	**00 43 03.4**	**+0.5**
TREC	**Trest**	**15.87**	**339**	P		**P**	**00 43 03.4**	**+0.5**
GERES	**GERESS Array B**	**16.05**	**335**	Pn		**Pn**	**00 43 01.4**	**-1.1**
	comp=N,0.1nm,0.3s,baz=145,slow=10,SNR=6.2							
GERES					Sn	**Sn**	**00 46 00.1**	**+0.6**
	baz=142,slow=18,SNR=2.2							
KRLC	**Kraliky**	**16.24**	**343**	*eP*		**P**	**00 43 08.0**	**+0.9**
KRLC	**Kraliky**	**16.24**	**343**	P		**P**	**00 43 08.0**	**+0.9**
KHC	**Kasperske Hory**	**16.33**	**335**	*eP*		**P**	**00 43 09.2**	**+1.1**
KHC	**Kasperske Hory**	**16.33**	**335**	P		**P**	**00 43 09.2**	**+1.1**
DPC	**Dobruska-Polom**	**16.61**	**343**	*eP*		**Pn**	**00 43 11.2**	**+1.7**
DPC	**Dobruska-Polom**	**16.61**	**343**	P		**Pn**	**00 43 11.2**	**+1.7**
PRU	**Pruhonice**	**16.77**	**339**	*eP*		**P**	**00 43 12.5**	**+1.1**
PRU	**Pruhonice**	**16.77**	**339**	P		**Pn**	**00 43 12.5**	**+1.1**
CLL	**Collm**	**18.40**	**338**	*e*	(P)	**P**	**00 43 31.0**	**+0.3**
	comp=Z,4.0nm,0.8s							
MIB	**Mutribah**	**20.38**	**97**	*eP*		**P**	**00 43 51.1**	**-1.5**
MIB					AMb	AMB	00 43 52.6	
	comp=Z,15nm,0.8s							
MIB	**Mutribah**	**20.38**	**97**	*eP*		**P**	**00 43 51.1**	**-1.5**
	comp=Z,15nm,0.8s							
NAY	**Al-Naaiem**	**20.50**	**99**	*eP*		**P**	**00 43 52.4**	**-1.4**
NAY					AMb	AMB	00 43 55.9	
	comp=Z,6.0nm,0.8s							
NAY

BZGR	Bezymyannyi-Gr	6.66	21	P		Pn	00 41 46.2	+3.1
KUR	Kuril'sk	7.38	235	*i* PN		Pn	00 41 57.0	+4.2
BKI	Bering	7.95	44	PN		**Pn**	**00 42 02.1**	**+1.5**
BKI	Bering	7.95	44	P		**Pn**	**00 42 02.1**	**+1.5**
BKI				S		**Sn**	**00 43 24.4**	**-4.6**
FX1	Attu Island--F	10.92	67	P		Pn	00 42 44.5	+3.2
	comp=N,13nm,0.3s,baz=234,slow=19,SNR=43							
FX1				S		**Sn**	**00 44 38.5**	**-3.3**
	comp=N,8.6nm,0.3s,baz=202,slow=19,SNR=13							
ASAJ	Asahikawa	11.02	244	P		Pn	00 42 46.2	+3.6
	comp=N,5.1nm,0.3s,baz=71,slow=13,SNR=30							
ERM	Erimo	12.07	235	*i* PN		**Pn**	**00 42 58.2**	**+1.2**
MJA0	Matsu Arr-Jizo	18.68	232	*e*P		**Pn**	**00 44 25.6**	**+2.9**
MJA0				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR	Matsushiro Arr	18.70	232	P		**Pn**	**00 44 22.3**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=35,slow=11,SNR=6.3							
KSRS	Korea Array	23.88	250	LR		LR	00 53 41.7	
	comp=Z,13nm,20.1s,baz=0.0,slow=34							
ILAR	Eielson Array	32.79	41	P		**P**	**00 46 34.6**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=265,slow=5.6,SNR=4.1							
PDAR	Pinedale Array	61.19	57	P		**P**	**00 50 18.4**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=304,slow=5.1,SNR=2.9							
NOA	NORSAR Array B	66.01	342	LR		LR	01 21 26.9	
	comp=Z,8.4nm,20.5s,baz=220,slow=38							
WRA	Warramunga Arr	72.15	202	P		**P**	**00 51 26.1**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=19,slow=6.3,SNR=5.8							
TXAR	Lajitas Array	74.11	63	P		**P**	**00 51 39.4**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=286,slow=3.7,SNR=5.6							
ASAR	Alice Springs	75.84	201	P		**P**	**00 51 48.6**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=11,slow=5.0,SNR=5.4							

IDC 22 00:58:32.9±22.0, 32°.97N×93°.12E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.3/25, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=690.7km s-min=43.8km az=97.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
SONM	Songino Array	17.93	30	P		Pn	01 02 43.7	-0.1
	0.1nm,0.3s,baz=215,slow=12,SNR=5.6							
WRA	Warramunga Arr	65.72	137	P		P	01 09 19.6	0.0
	0.4nm,0.8s,baz=318,slow=6.6,SNR=3.4							
ASAR	Alice Springs	68.44	140	P		P	01 09 36.9	0.0
	0.4nm,0.6s,baz=323,slow=6.7,SNR=6.0							

IDC 22 01:26:08.1±51.0, 17°.41S×179°.29E, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.7/19, mbtmp4.1/3, Error ellipse: s-maj=927.5km s-min=138.7km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
STKA	Stephens Creek	36.96	240	P		P	01 33 19.3	+0.1
	1.6nm,0.7s,baz=84,slow=10,SNR=3.6							
WRA	Warramunga Arr	42.56	259	P		P	01 34 06.0	-0.1
	0.5nm,0.5s,baz=94,slow=7.8,SNR=22							
ASAR	Alice Springs	42.81	254	P		P	01 34 07.8	-0.3
	4.2nm,0.5s,baz=88,slow=8.5,SNR=67							

NNC 22 01:46:23.5±1.7, 39°.68N×56°.67E, h0km, mb3.8, 5C, Error ellipse: s-maj=15.1km s-min=8.3km az=25.0, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
AB31	Akbulak array	9.85	13	Pn		Pn	01 48 46.3	0.0
	1.0nm,0.7s,baz=198,slow=14,SNR=19							
AB31				⇑Sn		Sn	01 50 39.9	+2.3
	0.3nm,0.3s,baz=191,slow=24,SNR=6.9							
AKTO	Aktyubinsk	10.79	5	⇑Pn		Pn	01 48 58.5	-0.7
	3.0nm,1.1s							
AKTO				⇑Sn		Sn	01 51 01.5	+0.7
	2.0nm,1.0s							
KK31	Karatay Array	10.95	67	⇑Pn		Pn	01 49 04.1	+2.7
	1.2nm,0.8s,baz=21,slow=65,SNR=5.8							
KK31				⇑Sn		Sn	01 51 10.7	+6.1
	0.7nm,0.5s							

WEL 22 02:02:57.4±0.3, 37°.84S×178°.32E, h69km, 2km, ML3.9/9, 2C-4D, Error ellipse: s-maj=2.3km s-min=1.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
PUZ	Puketiti	0.24	191	⇑PN		Pn	02 03 07.8	-0.3
PUZ				SN		Sn	02 03 15.1	-0.8
PUZ				AML		AML	02 03 15.3	
MXZ	Matakaoa Point	0.28	359	PN		Pn	02 03 08.1	-0.2
MXZ				SN		Sn	02 03 16.1	-0.1
MXZ				AML		AML	02 03 16.5	
CNGZ	Carnagh Statio	0.65	187	PN		Pn	02 03 12.2	+0.6
MWZ	Matawai	0.80	231	PN		Pn	02 03 13.3	-0.1
MWZ				SN		Sn	02 03 24.9	-0.2
MWZ				AML		AML	02 03 25.5	
MWZ				AML		AML	02 03 25.6	
WIZ	White Island	0.95	289	PN		Pn	02 03 15.4	+0.3
URZ	Urewera	1.04	246	⇓PN		Pn	02 03 16.3	0.0
URZ				SN		Sn	02 03 30.4	+0.1
URZ				AML		AML	02 03 30.6	
PRGZ	Paritu Road	1.14	197	PN		Pn	02 03 17.2	-0.4
EDRZ	Edgecumbe	1.27	257	PN		Pn	02 03 19.2	-0.2
KNZ	Kokohu	1.28	203	PN		Pn	02 03 18.8	-0.6
KNZ				AML		AML	02 03 37.4	
KNZ				AML		AML	02 04 06.6	
MHGZ	Mahia Peninsul	1.35	194	PN		Pn	02 03 20.1	-0.2
OPRZ	Ohinepanea	1.39	269	⇓PN		Pn	02 03 20.1	-0.8
RAHZ	Arahi	1.45	222	PN		Pn	02 03 21.7	+0.1
TARZ	Mount Tarawera	1.48	254	PN		Pn	02 03 22.2	0.0
PRRZ	Plateau Road	1.65	246	PN		Pn	02 03 23.9	-0.4
ALRZ	Allen Road	1.71	244	PN		Pn	02 03 24.8	-0.3
BKZ	Black Stump Fm	1.95	227	⇓PN		Pn	02 03 28.2	-0.2
BKZ				AML		AML	02 03 52.8	
BKZ				AML		AML	02 03 57.9	
HATZ	Hinemaiaia	2.04	238	PN		Pn	02 03 29.2	-0.4
MCHZ	McNeill Hill	2.04	218	PN		Pn	02 03 29.4	-0.2
CKHZ	Cape Kidnapper	2.06	208	⇑PN		Pn	02 03 28.8	-1.0
RITZ	Rihia Road	2.24	239	PN		Pn	02 03 32.4	+0.1
KUZ	Kuaotunu	2.34	297	PN		Pn	02 03 32.9	-0.7
BHHZ	Black Hill Sta	2.41	226	PN		Pn	02 03 34.3	-0.4
KRVZ	Karewarewa	2.45	238	PN		Pn	02 03 34.9	-0.3
NGZ	Ngauruhoe	2.51	237	PN		Pn	02 03 35.8	-0.4
MOVZ	Moawhango	2.55	231	PN		Pn	02 03 35.6	-0.9
WPVZ	Whakapapa	2.56	237	PN		Pn	02 03 36.5	-0.3
TWVZ	Taurewa	2.57	241	PN		Pn	02 03 36.6	-0.3
WHVZ	Whangaehu Hut	2.58	235	PN		Pn	02 03 36.6	-0.6
FWVZ	Far West T-bar	2.59	236	⇓PN		Pn	02 03 36.7	-0.6
WNVZ	Wahianoa	2.60	234	PN		Pn	02 03 36.7	-0.6
MKAZ	Moumakai	2.61	285	PN		Pn	02 03 37.3	+0.1
TRVZ	Turoa	2.61	235	PN		Pn	02 03 37.1	-0.5
PNHZ	Pukenui	2.65	218	PN		Pn	02 03 36.2	-1.7
MTVZ	Mangateitei	2.71	244	PN		Pn	02 03 38.3	-0.5
HIZ	Hauiti	2.81	255	PN		Pn	02 03 40.4	+0.5
TSZ	Takapari Road	2.88	219	PN		Pn	02 03 38.9	-2.1
WAZ	Wanganui	3.23	233	PN		Pn	02 03 45.6	-0.1
BFZ	Birch Farm	3.26	209	PN		Pn	02 03 43.8	-2.4
PRWZ	Pori Road	3.27	213	PN		Pn	02 03 44.4	-1.8
MRZ	Mangatainoka R	3.53	216	PN		Pn	02 03 46.8	-3.0
MRZ				AML		AML	02 04 28.8	
MRZ				AML		AML	02 04 29.2	
KHEZ	Kahui Hut	3.67	245	PN		Pn	02 03 53.6	+1.8
WCZ	Waipu Caves	3.70	300	PN		Pn	02 03 52.7	+0.6
TMWZ	Te Maipa	3.77	209	PN		Pn	02 03 49.8	-3.2
OGWZ	Otaki Gorge	3.85	218	PN		Pn	02 03 50.9	-3.1
KIW	Kapiti Island	4.01	220	PN		Pn	02 03 53.3	-3.0
KIW				AML		AML	02 04 13.0	
TRWZ	Traveller	4.09	209	PN		Pn	02 03 53.6	-3.9
MSWZ	Moikau Station	4.29	213	PN		Pn	02 03 55.9	-4.2
PLWZ	Palliser	4.41	211	PN		Pn	02 03 57.5	-4.4
SNZO	South Karori	4.45	218	PN		Pn	02 03 58.1	-4.2
DUWZ	D'Urville Isla	4.51	228	PN		Pn	02 04 00.5	-2.8
TCW	Tory Channel	4.59	222	PN		Pn	02 04 00.8	-3.5
TCW				AML		AML	02 04 54.1	
TUWZ	Tuamarina	4.92	222	PN		Pn	02 04 04.9	-3.9
NNZ	Nelson	5.09	227	PN		Pn	02 04 07.9	-3.2
BSWZ	Blackbirch Sta	5.17	220	*e*PN		Pn	02 04 08.4	-3.7
THZ	Tophouse	5.72	225	PN		Pn	02 04 16.1	-3.6
KHZ	Kahutara	5.86	217	PN		Pn	02 04 17.4	-4.1
DSZ	Denniston Nort	6.35	230	PN		Pn	02 04 24.5	-3.9
LTZ	Lake Taylor	6.76	221	PN		Pn	02 04 29.1	-4.9
MQZ	McQueen's Vall	7.27	214	PN		Pn	02 04 36.7	-4.1
OXZ	Oxford	7.27	219	PN		Pn	02 04 36.8	-4.1
WVZ	Waitaha Valley	7.79	225	PN		Pn	02 04 45.3	-2.6
LBZ	Lake Benmore	8.97	221	PN		Pn	02 04 59.3	-4.8
ODZ	Otahua Downs	9.22	216	PN		Pn	02 05 02.5	-5.0
WHZ	Wether Hill Ro	11.15	221	PN		Pn	02 05 38.0	+4.1
DCZ	Deep Cove	11.30	224	PN		Pn	02 05 32.5	-3.4
APZ	The Paps	11.79	217	PN		Pn	02 05 42.0	-0.6

IDC 22 02:09:60.0±1.2, 1°.26N×123°.93E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/24, mbtmp3.6/6, ML3.1/1, Error ellipse: s-maj=118.3km s-min=18.0km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
FITZ	Fitzroy Crossi	19.32	175	P		P	02 14 25.4	-1.5
	0.0nm,0.3s,baz=331,slow=14,SNR=5.0							
WRA	Warramunga Arr	23.42	155	P		P	02 15 10.6	-0.3
	0.6nm,0.4s,baz=333,slow=11,SNR=26							
ASAR	Alice Springs	26.61	159	P		P	02 15 42.3	+2.0
	0.3nm,0.4s,baz=349,slow=7.6,SNR=6.1							
STKA	Stephens Creek	36.37	155	P		P	02 17 10.6	-0.6
	0.9nm,0.5s,baz=339,slow=8.6,SNR=2.6							
MKAR	Makanchi Array	58.04	327	P		P	02 19 55.2	+0.3
	0.4nm,0.5s,baz=114,slow=7.5,SNR=7.7							
KURBB	Kurchatov Arra	62.35	329	P		P	02 20 23.6	-0.7
	0.6nm,0.6s,baz=130,slow=6.3,SNR=6.5							

IDC 22 02:13:52.0±4.0, 14°.23N×92°.09W, h86km, 37km, mb3.6/7, mb1 3.9/9, mb1mx3.6/23, mbtmp3.6/9, MS3.4/2, Ms1 3.4/2, ms1mx2.7/30, Error ellipse: s-maj=42.9km s-min=31.8km az=50.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
TEIG	Tepich	6.99	31	P		Pn	02 15 31.9	+0.2
	5.0nm,0.3s,baz=233,slow=6.7,SNR=29							
JTS	JuntasAbangare	8.00	119	P		Pn	02 15 45.6	0.0
	0.4nm,0.3s,baz=313,slow=21,SNR=3.8							
TKL	Tuckaleechee C	22.61	18	P		P	02 18 45.9	+0.2
	1.9nm,0.6s,baz=177,slow=12,SNR=4.6							
TKL				LR		LR	02 29 36.6	
	comp=Z,74nm,18.8s,baz=266,slow=42							
ANMO	Albuquerque	24.36	330	P		P	02 19 01.4	-0.9
	1.0nm,0.6s,baz=136,slow=9.6,SNR=5.4							
PDAR	Pinedale Array	32.17	335	P		P	02 20 11.7	-0.3
	0.7nm,0.9s,baz=144,slow=11,SNR=4.5							
NVAR	Mina Array Bea	33.44	321	P		P	02 20 23.2	+0.1
	1.1nm,0.7s,baz=122,slow=9.7,SNR=6.7							
SCHQ	Schefferville	45.03	20	P		P	02 21 58.4	-0.7
	2.2nm,0.8s,baz=188,slow=7.1,SNR=5.6							
SCHQ				LR		LR	02 41 23.2	
	comp=Z,61nm,19.7s,baz=77,slow=37							
YKA	Yellowknife Ar	50.78	347	P		P	02 22 43.8	+0.5
	3.5nm,0.7s,baz=150,slow=7.3,SNR=13							
ILAR	Eielson Array	62.59	337	P		P	02 24 07.1	+0.2
	1.2nm,0.9s,baz=116,slow=5.4,SNR=11							
CMAR	Chiang Mai Arr	145.75	341	PKPbc	PKPdf		02 33 21.1	-0.6
	2.1nm,0.8s,baz=339,slow=2.7,SNR=7.8							

*ISCJB **22** 02:15:05.1±0.7, 0°.20S±0°.08×121°.9E±0°.1, h300km, mb3.7/7, Error ellipse: s-maj=19.4km s-min=11.1km az=1.7*
*IDC **22** 02:15:05.7±1.7, 0°.19S×121°.89E, h283km±16km, mb3.5/7, mb1 3.7/9, mb1mx3.4/23, mbtmp3.5/9, Error ellipse: s-maj=37.6km s-min=11.7km az=72.0*
*DJA **22** 02:15:07.3±1.2, 0°.5±7°×12°.2E±°, h248km±9km, M3.6/6, MLv3.6/6*

ISC 22 02:15:07.0±0.8, 0°.3S±0°.1×121°.8E±0°.2, h300km, n16, σ1°.04/14, mb3.8/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MRSI	Marisa	0.75	12	P		Pn	02 15 40.6	-5.8
MRSI				S		S	02 16 07.2	-10
LUWI	Luwuk	1.26	128	P		Pn	02 15 44.0	-4.7
LUWI				S		S	02 16 13.0	-8.9
GTOI	Gorontalo	1.52	54	P		Pn	02 15 44.0	-6.3
SKSI	Soroako, Sulaw	2.30	191	P		**Pn**	**02 15 54.8**	**-1.6**
TTSI	Tana Toraja	3.39	215	P		**Pn**	**02 16 06.7**	**-0.1**
SPSI	Sidrap Palu	4.20	209	P		**Pn**	**02 16 14.7**	**-0.7**
KAPI	Kappang	5.14	203	P		**Pn**	**02 16 25.5**	**-0.7**
	1.8nm,0.3s,baz=15,slow=9.2,SNR=13							
FITZ	Fitzroy Crossi	18.13	168	P		**P**	**02 18 58.0**	**-0.2**
	1.1nm,0.3s,baz=0.0,slow=12,SNR=36							
WRA	Warramunga Arr	23.11	149	P		**P**	**02 19 46.6**	**-0.6**
	11nm,0.5s,baz=327,slow=10,SNR=115							
WRA				ScP		**ScP**	**02 26 37.6**	**+1.9**
	0.2nm,0.3s,baz=343,slow=3.0,SNR=11							
ASAR	Alice Springs	26.07	154	P		**P**	**02 20 14.4**	**+0.5**
	4.3nm,0.5s,baz=327,slow=8.9,SNR=64							
ASAR				ScP		**ScP**	**02 26 45.6**	**+1.6**
	0.7nm,0.5s,baz=333,slow=2.3,SNR=7.1							
STKA	Stephens Creek	36.60	151	P		**P**	**02 21 45.9**	**+0.6**
	7.4nm,0.6s,baz=333,slow=8.9,SNR=12							
USRK	Ussuriysk Arra	45.19	10	P		**P**	**02 22 53.9**	**-0.7**
	1.5nm,0.6s,baz=197,slow=7.5,SNR=3.6							
SONM	Songino Array	49.74	346	P		**P**	**02 23 29.8**	**+0.2**
	0.7nm,0.6s,baz=160,slow=8.7,SNR=6.0							
MKAR	Makanchi Array	58.20	329	P		**P**	**02 24 30.6**	**+0.3**
	0.3nm,0.4s,baz=130,slow=9.7,SNR=4.8							
VNDA	Vanda	80.16	172	P		P	02 26 45.2	+1.6
	0.8nm,0.5s,baz=313,slow=8.9,SNR=3.7							
TORD	Torodi Ar. Bea	119.30	285	PKP		**PKPdf**	**02 33 21.0**	**-0.7**
	0.2nm,0.7s,baz=84,slow=1.7,SNR=4.3							

*ISCJB **22** 02:25:18.4±1.2, 47°.2S±0°.2×165°.3E±0°.1, h14km, mb3.4/2, Error ellipse: s-maj=24.1km s-min=8.4km az=160.3*
*WEL **22** 02:25:19.9±0.6, 47°.30S×165°.36E, h5km, ML4.1/11, Error ellipse: s-maj=7.2km s-min=3.7km az=90.0*
*IDC **22** 02:25:34.9±1.7, 44°.37S×164°.59E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/13, mbtmp3.8/3, Error ellipse: s-maj=65.8km s-min=28.9km az=58.0*

ISC 22 02:25:19.4±1.9, 47°.3S±0°.2×165°.4E±0°.1, h14km, n18, σ1°.04/19, 1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
DCZ	Deep Cove	2.19	34	AML	AML	02 26 35.3		
DCZ				AML	AML	02 26 41.0		
DCZ				AML	AML	02 27 05.3		
DCZ				AML	AML	02 27 11.8		
WHZ	Wether Hill Ro	2.25	52	PN	**Pn**	**02 25 56.5**	**+0.2**	
WHZ				SN	**Sn**	**02 26 23.7**	**-0.2**	
WHZ				AML	AML	02 26 29.1		
SYZ	Scrubby Hill	2.68	75	PN	**Pn**	**02 26 03.5**	**+1.4**	
MLZ	Mavora Lakes	2.74	46	⇓PN	**Pn**	**02 26 03.6**	**+0.5**	
MLZ				SN	**Sn**	**02 26 36.0**	**0.0**	
MLZ				AML	AML	02 26 42.1		
MSZ	Milford Sound	3.17	35	PN	**Pn**	**02 26 09.6**	**+0.8**	
MSZ				AML	AML	02 26 51.3		
MSZ				AML	AML	02 26 52.5		
MSZ				AML	AML	02 26 52.5		
MSZ				AML	AML	02 26 57.5		
TUZ	Tuapeka	3.22	67	PN	**Pn**	**02 26 10.4**	**+0.9**	
TUZ				AML	AML	02 26 50.0		
TUZ				AML	AML	02 26 50.9		
EAZ	Earnscleugh	3.41	54	PN	**Pn**	**02 26 12.6**	**+0.3**	
EAZ				SN	**Sn**	**02 26 53.5**	**+1.1**	
EAZ				AML	AML	02 26 56.3		
WKZ	Wanaka	3.53	47	PN	**Pn**	**02 26 15.2**	**+1.4**	
WKZ				AML	AML	02 27 01.9		
WKZ				AML	AML	02 27 16.0		
JCZ	Jackson Bay	4.00	37	PN	**Pn**	**02 26 21.5**	**+1.2**	
JCZ				AML	AML	02 27 17.4		
JCZ				AML	AML	02 27 34.8		
ODZ	Otahua Downs	4.29	60	PN	**Pn**	**02 26 23.0**	**-1.2**	
ODZ				AML	AML	02 27 27.9		
ODZ				AML	AML	02 27 31.0		
LBZ	Lake Benmore	4.44	51	PN	**Pn**	**02 26 25.1**	**-1.2**	
LBZ				SN	**Sn**	**02 27 15.8**	**-1.9**	
LBZ				AML	AML	02 27 42.2		
FOZ	Fox Glacier	4.81	41	PN	**Pn**	**02 26 32.5**	**+1.2**	
FOZ				AML	AML	02 27 36.7		
WVZ	Waitaha Valley	5.67	44	PN	**Pn**	**02 26 43.1**	**0.0**	
LTZ	Lake Taylor	6.64	50	PN	**Pn**	**02 26 56.9**	**+0.3**	
VNDA	Vanda	30.36	182	P	PnPn	02 32 13.4	-15	
	1.3nm,0.5s,baz=5.8,slow=3.0,SNR=8.1							
ASAR	Alice Springs	34.45	302	P	**P**	**02 32 06.8**	**+0.2**	
	0.5nm,0.6s,baz=132,slow=7.9,SNR=8.5							
WRA	Warramunga Arr	37.16	307	P	**P**	**02 32 29.1**	**-0.9**	
	0.3nm,0.7s,baz=139,slow=7.8,SNR=4.7							
YKA	Yellowknife Ar	126.44	35	PKP	PKPdf	02 44 34.3	+14	
	0.7nm,0.7s,baz=242,slow=2.7,SNR=3.4							

WEL 22 02:44:23.0±0.3, 45°.43S×166°.63E, h12km, ML3.8/19, 1C, Error ellipse: s-maj=2.4km s-min=1.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
DCZ	Deep Cove	0.38	98	P*	Pg	02 44 30.3		-0.2
DCZ				AML	AML	02 44 35.6		
DCZ				AML	AML	02 44 35.8		
DCZ				AML	AML	02 45 40.2		
DCZ				AML	AML	02 45 48.9		
WHZ	Wether Hill Ro	1.04	117	P*	Pb	02 44 41.4		-1.5
WHZ				AML	AML	02 45 00.3		
WHZ				AML	AML	02 45 03.5		
MLZ	Mavora Lakes	1.09	87	⇑P*	Pb	02 44 41.7		-2.1
MLZ				S*	Sb	02 44 55.5		-2.7
MLZ				AML	AML	02 44 55.7		
MSZ	Milford Sound	1.19	51	P*	Pn	02 44 43.6		-1.8
MSZ				AML	AML	02 45 07.1		
MSZ				AML	AML	02 45 07.2		
MSZ				AML	AML	02 45 08.8		
MSZ				AML	AML	02 45 08.8		
APZ	The Paps	1.70	147	PN	Pn	02 44 52.2		-0.3
APZ				SN	Sn	02 45 13.6		-0.5
WKZ	Wanaka	1.79	71	PN	Pn	02 44 54.0		+0.2
WKZ				AML	AML	02 45 21.7		
WKZ				AML	AML	02 45 21.8		
WKZ				AML	AML	02 45 27.9		
EAZ	Earnscleugh	1.90	85	PN	Pn	02 44 55.3		+0.1
EAZ				SN	Sn	02 45 19.7		+0.6
EAZ				AML	AML	02 45 24.8		
JCZ	Jackson Bay	2.03	49	PN	Pn	02 44 57.7		+0.5
JCZ				AML	AML	02 45 31.7		
JCZ				AML	AML	02 45 34.4		
SYZ	Scrubby Hill	2.08	123	PN	Pn	02 44 58.2		+0.7
TUZ	Tuapeka	2.17	105	PN	Pn	02 44 59.6		+0.7
TUZ				AML	AML	02 45 33.2		
TUZ				AML	AML	02 45 35.2		
LBZ	Lake Benmore	2.73	69	PN	Pn	02 45 05.9		-0.8
LBZ				AML	AML	02 45 53.7		
LBZ				AML	AML	02 45 57.1		
ODZ	Otahua Downs	2.86	84	PN	Pn	02 45 07.5		-1.0
ODZ				AML	AML	02 45 47.0		
ODZ				AML	AML	02 45 56.1		
FOZ	Fox Glacier	2.87	51	AML	AML	02 45 04.9		
FOZ				*e*PN	Pb	02 45 13.3		-0.8
FOZ				AML	AML	02 46 00.7		
RPZ	Rata Peaks	3.59	63	PN	Pn	02 45 16.6		-1.9
RPZ				AML	AML	02 46 00.1		
RPZ				AML	AML	02 46 32.1		
WVZ	Waitaha Valley	3.77	53	PN	Pn	02 45 21.4		+0.6
WVZ				AML	AML	02 46 02.3		
WVZ				AML	AML	02 46 28.1		

IDC 22 02:51:50.7±8.5, 33°.20S×179°.18W, h41km±69km, mb3.4/2, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, ML3.7/1, MS3.0/2, Ms1 3.0/2, ms1mx2.9/11, Error ellipse: s-maj=53.2km s-min=37.0km az=51.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
RAO	Raoul Island	4.08	16	LR	LR	02 53 42.6		
	comp=Z,126nm,21.7s,baz=318,slow=27							
URZ	Urewera	5.88	210	P	Pn	02 53 16.8		+1.5
	2.2nm,0.3s,baz=153,slow=14,SNR=4.6							
URZ				S	Sn	02 54 20.6		-0.9
	2.1nm,0.3s,baz=72,slow=20,SNR=5.7							
ASAR	Alice Springs	42.04	271	P	P	02 59 38.8		+0.3
	0.5nm,0.4s,baz=109,slow=7.6,SNR=11							
WRA	Warramunga Arr	43.28	276	P	P	02 59 48.3		-0.3
	0.6nm,0.4s,baz=115,slow=8.1,SNR=15							
KSRS	Korea Array	85.84	320	LR	LR	03 38 09.8		
	comp=Z,14nm,18.5s,baz=170,slow=32							
FINES	FINESS Array B	147.38	338	PKPbc	PKPbc	03 11 28.8		-0.4
	2.2nm,0.8s,baz=46,slow=4.0,SNR=5.3							
NOA	NORSAR Array B	151.33	349	PKPbc	PKPbc	03 11 37.7		-1.5
	1.0nm,0.7s,baz=13,slow=4.1,SNR=3.5							
TORD	Torodi Ar. Bea	160.03	183	PKPab	PKPab	03 12 25.6		0.0
	0.6nm,0.8s,baz=167,slow=6.0,SNR=6.8							

MEX 22 02:57:17.5±0.5, 15°.38N×94°.66W, h26km±13km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
HUIG	Huatulco	1.45	286	*e*P		Pn	02 57 39.7	-2.3
HUIG				*i* S		Sn	02 57 56.3	-3.9

OGWZ	**Otaki Gorge**	**2.05**	**192**	PN	Pn	03 17 19.5	-0.2
KIW	**Kapiti Island**	**2.15**	**197**	PN	Pn	03 17 20.4	-0.5
KIW				AML	AML	03 17 48.8	
TMWZ	**Te Maipa**	**2.30**	**177**	PN	Pn	03 17 21.9	-0.9
CAW	**Cannon Point**	**2.35**	**192**	PN	Pn	03 17 22.7	-0.7
MTW	**Mount Morrison**	**2.36**	**184**	PN	Pn	03 17 22.4	-1.0
DUWZ	**D'Urville Isla**	**2.43**	**214**	PN	Pn	03 17 23.7	-0.7
SNZO	**South Karori**	**2.62**	**197**	PN	Pn	03 17 25.6	-1.1
MSWZ	**Moikau Station**	**2.63**	**188**	PN	Pn	03 17 25.6	-1.4
TCW	**Tory Channel**	**2.65**	**204**	PN	Pn	03 17 26.3	-0.8
PLWZ	**Palliser**	**2.78**	**187**	PN	Pn	03 17 27.4	-1.6
TUWZ	**Tuamarina**	**2.95**	**207**	PN	Pn	03 17 29.9	-1.1
NNZ	**Nelson**	**3.00**	**216**	PN	Pn	03 17 30.6	-1.1
BSWZ	**Blackbirch Sta**	**3.23**	**205**	PN	Pn	03 17 33.3	-1.3
THZ	**Tophouse**	**3.66**	**215**	PN	Pn	03 17 39.6	-0.7
KHZ	**Kahutara**	**3.97**	**204**	PN	Pn	03 17 42.6	-1.7
MQZ	**McQueen's Vall**	**5.41**	**204**	PN	Pn	03 17 59.8	-3.7

IDC 22 03:24:32.4±2.0, 2°.55N×125°.74E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=192.7km s-min=24.5km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.90**	**160**	P	P	03 29 47.2	-0.8
	0.4nm,0.5s,baz=338,slow=11,SNR=12						
ASAR	**Alice Springs**	**27.25**	**163**	P	P	03 30 19.5	+1.0
	0.3nm,0.7s,baz=338,slow=9.5,SNR=3.7						
MKAR	**Makanchi Array**	**57.96**	**326**	P	P	03 34 26.5	-0.3
	0.6nm,0.9s,baz=127,slow=6.9,SNR=3.1						

CSEM 22 03:25:57.6, 37°.85N×36°.98E, h7km, MD2.8, After DDA

DDA 22 03:25:57.6, 37°.85N×36°.98E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AYKD	**Aykdinkavak**	**0.45**	**198**	*i* P	Pg	03 26 07.1	+0.6
AYKD				*i* S	Sg	03 26 13.4	+0.9
AKCD	**Akcadag**	**0.87**	**59**	*e*P	Pg	03 26 14.1	-0.5
AKCD				*i* S	Sb	03 26 26.9	-0.4
AKCD	**Akcadag**	**0.87**	**59**	*e*P	Pg	03 26 14.1	-0.5
AKCD				*i* S	Sb	03 26 26.9	-0.4
KUZU	**Kuzuini**	**1.07**	**176**	*i* P	Pn	03 26 20.3	+1.2
KUZU				*i* S	Sn	03 26 33.9	-0.5
KUZU	**Kuzuini**	**1.07**	**176**	*i* P	Pn	03 26 20.3	+1.1
KUZU				*i* S	Sn	03 26 33.9	-0.5
ATAB	**Bozova**	**1.11**	**109**	*e*P	Pn	03 26 19.9	+0.2
ATAB				*i* S	Sb	03 26 34.6	+0.7
ATAB	**Bozova**	**1.11**	**109**	*e*P	Pn	03 26 19.9	+0.2
ATAB				*i* S	Sn	03 26 34.6	-0.7

IDC 22 03:28:19.4±0.6, 5°.83N×77°.38W, h0km, mb4.0/16, mb1 4.2/17, mb1mx4.1/21, mbtmp4.0/17, ML3.6/1, MS3.6/4, Ms1 3.5/4, ms1mx3.2/25, Error ellipse: s-maj=21.7km s-min=13.2km az=57.0

ISCJB 22 03:28:20.3±0.4, 5°.79N±0°.05×77°.49W±0°.07, h17km, mb3.9/21, MS3.5/2, Error ellipse: s-maj=9.8km s-min=6.4km az=170.5

NEIC 22 03:28:24.9±0.8, 5°.77N×77°.50W, h41km±8km, mb4.1/7, Error ellipse: s-maj=9.2km s-min=6.3km az=56.0

ISC 22 03:28:22.0±0.5, 5°.79N±0°.06×77°.55W±0°.08, h17km, n50, σ0§98/46, mb4.0/21, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**3.34**	**106**	Pn	**Pn**	**03 29 15.7**	**+1.9**
ROSC	**El Rosal**	**3.34**	**106**	Pn	**Pn**	**03 29 15.7**	**+1.9**
	28nm,0.3s,baz=277,slow=12,SNR=33						
ROSC				Pg	Pb	03 29 18.9	-2.1
	28nm,0.3s,baz=275,slow=12,SNR=40						
ROSC				Lg	Lg	03 30 05.7	
	4.5nm,0.3s,baz=76,slow=21,SNR=4.8						
ROSC				LR	LR	03 30 42.4	
	comp=Z,602nm,21.1s,baz=182,slow=45						
BCIP	**Isla Barro Col**	**4.05**	**326**	*e*Pn	Pn	03 29 19.0	-4.2
BCIP				*e*S	Sn	03 30 03.7	-6.6
OTAV	**Otavalo**	**5.59**	**189**	*e*Pn	**Pn**	**03 29 45.8**	**+0.9**
	23nm,0.8s						
OTAV				*e*S	**Sn**	**03 30 49.1**	**0.0**
SDV	**Santo Domingo**	**7.52**	**65**	Pn	**Pn**	**03 30 11.4**	**+0.3**
	73nm,0.8s						
JTS	**JuntasAbangare**	**8.59**	**302**	Pn	**Pn**	**03 30 25.9**	**+0.3**
JTS	**JuntasAbangare**	**8.59**	**302**	Pn	**Pn**	**03 30 25.9**	**+0.3**
	0.7nm,0.3s,baz=111,slow=12,SNR=9.7						
JTS				LR	LR	03 33 34.4	
	comp=Z,360nm,21.6s,baz=112,slow=36						
SDDR	**Presa de Saban**	**14.46**	**24**	*e*Pn	**Pn**	**03 31 47.4**	**+1.3**
	18nm,0.6s						
SAML	**Samuel**	**20.48**	**136**	*e*P	**P**	**03 32 57.4**	**-1.9**
	17nm,0.8s						
LPAZ	**La Paz**	**23.84**	**157**	P	**P**	**03 33 34.4**	**-0.8**
LPAZ	**La Paz**	**23.84**	**157**	P	**P**	**03 33 34.4**	**-0.8**
	3.2nm,0.7s,baz=335,slow=8.5,SNR=17						
SIV	**San Ignacio**	**27.10**	**143**	P	**P**	**03 34 02.9**	**-1.4**
SIV	**San Ignacio**	**27.10**	**143**	P	**P**	**03 34 02.9**	**-1.4**
	7.0nm,0.7s,baz=332,slow=11,SNR=32						
SIV				LR	LR	03 45 10.6	
	comp=Z,180nm,19.6s,slow=37						
BDFB	**Brasilia**	**36.18**	**126**	P	P	03 35 22.4	-1.8
BDFB	**Brasilia**	**36.18**	**126**	P	P	03 35 22.4	-1.8
	2.5nm,0.6s,baz=248,slow=12,SNR=6.0						
BDFB				LR	LR	03 51 41.4	
	comp=Z,71nm,18.7s,baz=310,slow=39						
MNTX	**Cornudas Mount**	**36.64**	**318**	*e*P	**P**	**03 35 27.5**	**-0.3**
	1.4nm,0.9s						
CFAA	**Coronel Fontan**	**38.23**	**167**	P	**P**	**03 35 42.1**	**+0.8**
CFAA	**Coronel Fontan**	**38.23**	**167**	P	**P**	**03 35 42.1**	**+0.8**
	0.2nm,0.4s,baz=21,slow=7.6,SNR=4.2						
ANMO	**Albuquerque**	**39.41**	**321**	*e*P	**P**	**03 35 51.4**	**0.0**
	1.7nm,0.9s						
TUC	**Tucson**	**40.71**	**315**	*e*P	**P**	**03 36 03.1**	**+1.0**
	1.1nm,0.6s						
SDCO	**Great Sand Dun**	**40.73**	**325**	*e*P	**P**	**03 36 03.2**	**+0.8**
	3.2nm,1.1s						
PDAR	**Pinedale Array**	**46.44**	**327**	P	**P**	**03 36 49.7**	**+1.4**
PDAR	**Pinedale Array**	**46.44**	**327**	P	**P**	**03 36 49.7**	**+1.4**
	0.3nm,0.8s,baz=141,slow=5.8,SNR=2.6						
PLCA	**Paso Flores**	**46.74**	**173**	P	**P**	**03 36 52.0**	**+1.5**
PLCA	**Paso Flores**	**46.74**	**173**	P	**P**	**03 36 52.0**	**+1.5**
	5.1nm,0.7s,baz=310,slow=8.8,SNR=8.6						
ULM	**Lac du Bonnet**	**46.90**	**344**	P	**P**	**03 36 52.0**	**+0.5**
ULM	**Lac du Bonnet**	**46.90**	**344**	P	**P**	**03 36 52.0**	**+0.5**
	1.3nm,0.4s,baz=21,slow=2.2,SNR=3.0						
NVAR	**Mina Array Bea**	**49.16**	**317**	P	**P**	**03 37 10.1**	**+0.7**
NVAR	**Mina Array Bea**	**49.16**	**317**	P	**P**	**03 37 10.1**	**+0.7**
	1.0nm,0.6s,baz=128,slow=7.3,SNR=7.0						
SCHQ	**Schefferville**	**49.66**	**8**	P	**P**	**03 37 11.9**	**-0.8**
SCHQ	**Schefferville**	**49.66**	**8**	P	**P**	**03 37 11.9**	**-0.8**
	1.1nm,0.6s,baz=246,slow=14,SNR=3.8						
WVOR	**Wild Horse Val**	**51.50**	**322**	*e*P	**P**	**03 37 26.9**	**-0.1**
	3.7nm,1.1s						
DBIC	**Dimbokro**	**72.21**	**85**	*e*P	**P**	**03 39 45.7**	**-1.1**
	5.4nm,0.7s						
DBIC	**Dimbokro**	**72.21**	**85**	P	**P**	**03 39 45.8**	**-1.0**
	6.3nm,0.9s,baz=283,slow=5.3,SNR=5.7						
ESDC	**Sonseca Array**	**73.69**	**50**	P	**P**	**03 39 54.6**	**-0.7**
ESDC	**Sonseca Array**	**73.69**	**50**	P	**P**	**03 39 54.6**	**-0.7**
	0.2nm,0.4s,baz=272,slow=5.4,SNR=5.3						
ILAR	**Eielson Array**	**76.05**	**336**	P	**P**	**03 40 08.7**	**+0.4**
ILAR	**Eielson Array**	**76.05**	**336**	P	**P**	**03 40 08.7**	**+0.4**
	0.4nm,0.7s,baz=131,slow=4.0,SNR=6.3						
TORD	**Torodi Ar. Bea**	**78.25**	**78**	P	**P**	**03 40 20.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**78.25**	**78**	P	**P**	**03 40 20.8**	**-0.9**
	1.2nm,0.6s,baz=280,slow=6.2,SNR=33						
KEST	**Kesra**	**84.14**	**55**	P	**P**	**03 40 52.6**	**-0.1**
KEST	**Kesra**	**84.14**	**55**	P	**P**	**03 40 52.6**	**-0.1**
	0.5nm,0.5s,baz=231,slow=6.5,SNR=3.3						
GERES	**GERESS Array B**	**86.51**	**41**	P	**P**	**03 41 03.8**	**-0.5**
GERES	**GERESS Array B**	**86.51**	**41**	P	**P**	**03 41 03.8**	**-0.5**
	0.4nm,0.7s,baz=224,slow=7.5,SNR=4.9						
ARCES	**ARCESS Array B**	**89.15**	**20**	P	P	03 41 15.1	-1.3
ARCES	**ARCESS Array B**	**89.15**	**20**	P	P	03 41 15.1	-1.3
	1.3nm,0.7s,baz=290,slow=3.5,SNR=4.9						
ASAR	**Alice Springs**	**144.91**	**236**	PKPbc	**PKPab**	**03 47 57.3**	**-1.1**
ASAR	**Alice Springs**	**144.91**	**236**	PKPbc	**PKPab**	**03 47 57.3**	**-1.1**
	0.6nm,0.6s,baz=127,slow=2.7,SNR=6.3						
WRA	**Warramunga Arr**	**145.97**	**243**	PKPbc	**PKPdf**	**03 48 00.8**	**-0.3**
WRA	**Warramunga Arr**	**145.97**	**243**	PKPbc	**PKPdf**	**03 48 00.8**	**-0.3**
	0.8nm,0.7s,baz=101,slow=3.0,SNR=8.2						

IDC 22 03:48:16.6±8.3, 0°.81N×123°.08E, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.6/23, mbtmp3.9/4, ML4.6/1, Error ellipse: s-maj=138.6km s-min=110.4km az=116.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.96**	**172**	P	P	03 52 38.4	-1.1
	1.5nm,0.3s,baz=11,slow=11,SNR=58						
WRA	**Warramunga Arr**	**23.39**	**152**	P	P	03 53 26.1	-1.1
	0.4nm,0.3s,baz=334,slow=10,SNR=32						
ASAR	**Alice Springs**	**26.50**	**157**	P	P	03 53 55.3	-0.7
	0.5nm,0.4s,baz=342,slow=15,SNR=9.2						
STKA	**Stephens Creek**	**36.94**	**153**	P	P	03 55 29.2	+1.8
	1.4nm,0.5s,baz=339,slow=8.6,SNR=3.1						

ISCJB 22 03:50:46.9±0.9, 24°.70N±0°.09×98°.01E±0°.07, h10km, mb3.4/4, Error ellipse: s-maj=13.2km s-min=8.7km az=179.3

IDC 22 03:50:47.2±1.3, 24°.66N×97°.70E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.5/27, mbtmp3.4/5, ML4.1/1, Error ellipse: s-maj=45.9km s-min=17.2km az=76.0

BJI 22 03:50:49.9, 24°.63N×97°.75E, h7km, ML3.5/6, Ms3.5/1, Ms7 3.0/1

ISC 22 03:50:48.8±1.2, 24°.7N±0°.1×97°.92E±0°.09, h10km, n7, σ1§20/7, mb3.6/4, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**4.40**	**83**	Pg	**Pg**	**03 52 12.6**	**-0.6**
KMI				Sg	**Sg**	**03 53 10.4**	**+0.1**
KMI				smax	smax		
	comp=N,110nm,0.9s						
KMI				smax	smax		
	comp=E,51nm,1.0s						
KMI				LR	LR		
	comp=N,530nm,8.7s						
KMI				LR	LR		
	comp=E,160nm,7.6s						
KMI				LR	LR		
	comp=Z,160nm,8.7s						
CMAR	**Chiang Mai Arr**	**6.28**	**171**	Pn	**Pn**	**03 52 21.3**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=345,slow=14,SNR=3.4						
CMAR				Pg	Pg	03 52 43.5	-5.6
	comp=Z,1.4nm,0.3s,baz=347,slow=18,SNR=20						
CMAR				Lg	Lg	03 54 05.7	
	comp=Z,3.2nm,0.3s,baz=346,slow=32,SNR=6.4						
WMQ	**Urumqi**	**20.84**	**339**	P	Pn	03 55 31.3	-1.9
SONM	**Songino Array**	**24.06**	**14**	P	**P**	**03 56 05.8**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=198,slow=7.6,SNR=2.5						
MKAR	**Makanchi Array**	**25.35**	**334**	P	**P**	**03 56 14.5**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=148,slow=9.2,SNR=5.7						
WRA	**Warramunga Arr**	**56.79**	**138**	P	**P**	**04 00 33.8**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=327,slow=7.4,SNR=6.8						
ASAR	**Alice Springs**	**59.40**	**141**	P	**P**	**04 00 52.6**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=323,slow=6.9,SNR=6.1						

OMAN 22 03:52:50.9±99.0, 27°.92N×55°.55E, h22km±999km, Error ellipse: s-maj=477.1km s-min=28.6km az=343.0

BJI 22 03:52:56.5, 26°.89N×54°.98E, h9km, mB5.4/46, mb5.1/57, Ms5.1/62, Ms7 4.9/58

IDC 22 03:53:01.1±0.4, 26°.77N×55°.85E, h0km, mb5.0/36, mb1 5.1/39, mb1mx5.1/39, mbtmp5.0/39, ML4.5/1, MS4.7/28, Ms1 4.7/28, ms1mx4.6/39, Error ellipse: s-maj=11.7km s-min=9.8km az=177.0

TEH 22 03:53:01.0, 26°.76N×55°.70E, h6km, ML5.3

THR 22 03:53:02.6±1.2, 26°.73N×55°.87E, h14km±9km, mb5.5, ML5.2

DJA 22 03:53:03.2±0.3, 27°.N±7°.×5°.6E±°, h10km, M5.2/19, mB5.7/10, mb5.3/19, Mw(mB)5.2/10

NEIC 22 03:53:03.0, 26°.77N×55°.79E, h10km, mb5.5/68, MS4.8/125, ML5.2(THR), MN5.4(TEH), After THR.

NEIC Felt [IV] at Qeshm. Also felt at Bandar 'Abbas and Jiroft. Felt [II] at Suhar, Oman. Also felt at Khasab. Felt [II] at Abu Dhabi, United Arab Emirates. Also felt at Al 'Ayn, Al Fujayrah, Dubai and Ra's al Khaymah.

CSEM 22 03:53:03.1±0.1, 26°.77N×55°.76E, h10km, mb5.4/99, Ms4.8, Mw5.3, Error ellipse: s-maj=3.2km s-min=2.7km az=10.0

ISCJB 22 03:53:03.9±0.4, 26°.79N±0°.02×55°.74E±0°.01, h27km±2km, mb5.3/308, MS4.8/198, Error ellipse: s-maj=2.6km s-min=2.0km az=18.7

MOS 22 03:53:04.8±1.0, 26°.82N×55°.77E, h33km, mb5.4/88, MS4.6/66, Error ellipse: s-maj=5.4km s-min=3.3km az=113.2

IGIL 22 03:53:04.7, 26°.83N×55°.78E, h19km, mb5.3

GCMT 22 03:53:05.2±0.2, 26°.60N×55°.70E, h12km, MW5.3, Moment Tensor Solution. s60,c76; s94,c173; Moment tensor: Scale 10^17 Nm; Mrr 1.04±.01; Mθθ -0.80±.02; Mϕϕ -0.24±.01; Mrθ 0.04±.05; Mrϕ 0.37±.01; Mθr 0.00±.05; Best double couple: M○1.000000×10^17 NP1: ϕ1 297.00000°, δ44.00000°, λ 91.00000°. NP2: ϕ2 116.00000°, δ46.00000°, λ 89.00000°. Principal axes: T 1.0400, Plg89.0000°, Azm343.0000°; N -0.0500, Plg1.0000°, Azm116.0000°; P -0.9900, Plg1.0000°, Azm206.0000°; Data Used: II IU IC G CN.

BKK 22 03:53:05.1±0.3, 27°.N±7°.×5°.6E±°, h10km, M5.3/22, mB5.7/13, mb5.4/22, Mw(mB)5.3/13

BGS 22 03:53:14.2±1.5, 28°.07N×54°.79E, h10km, mb5.3

SZGRF 22 03:53:18.7, 27°.42N×53°.91E, h33km, mb5.2, MS4.4, Southern Iran

ISC 22 03:53:04.5±0.3, 26°.79N±0°.02×55°.77E±0°.02, h19km, h18km:pP-P, n1794, σ1§28/1913, mb5.4/314, MS4.8/199, 302C-36D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.71**	**31**	*e*Pg	**Pb**	**03 53 15.6**	**-2.7**
BNDS				*e*Sg	**Sb**	**03 53 26.9**	**-0.8**
BNDS				AML	AML	03 53 33.9	
	comp=N,91μm,0.8s						
BNDS	**Bandar-Abbas**	**0.71**	**31**	Pg	**Pb**	**03 53 17.0**	**-1.3**
BNDS				Sg	**Sb**	**03 53 27.0**	**-0.8**
BNDS	**Bandar-Abbas**	**0.71**	**31**	*e*Pg	**Pb**	**03 53 15.6**	**-2.7**
BNDS				*e*Sg	**Sb**	**03 53 26.9**	**-0.8**
IBND	**Bandar-abas**	**0.95**	**46**	*e*Pg	**Pb**	**03 53 21.1**	**-1.3**
IBND				*e*Sg	**Sn**	**03 53 35.9**	**-0.1**
IBND	**Bandar-abas**	**0.95**	**46**	Pg	**Pb**	**03 53 21.6**	**-0.8**
IBND	**Bandar-abas**	**0.95**	**46**	*e*Pg	**Pb**	**03 53 21.1**	**-1.3**
IBND				*e*Sg	**Sn**	**03 53 35.9**	**-0.1**
NAZ	**Nazwa, Dubai**	**1.80**	**183**	P	**Pb**	**03 53 36.3**	**-0.6**
NAZ				S	**Sg**	**03 54 01.8**	**-0.7**
HATD	**Hatta, Dubai**	**1.98**	**170**	P	**Pn**	**03 53 38.2**	**+1.1**
FAQ	**Al Faqa, Dubai**	**2.04**	**184**	P	**Pb**	**03 53 39.6**	**-1.4**
ASHO	**Ashiyiah**	**2.11**	**173**	P	**Pn**	**03 53 40.4**	**+1.5**
	SNR=680						
ASHO	**Ashiyiah**	**2.11**	**173**	P	**Pn**	**03 53 40.4**	**+1.5**
	SNR=680						
ASUD	**Al Ashush, Dub**	**2.19**	**190**	P	**Pb**	**03 53 42.3**	**-1.3**
	SNR=132						
GHIR	**Ghir-Karzin**	**2.88**	**302**	*e*Pn	**Pn**	**03 53 51.8**	**+2.2**
GHIR				*e*Sg	**Sg**	**03 54 36.2**	**-1.0**
GHIR				AML	AML	03 54 55.3	
	comp=N,10μm,0.8s						
GHIR				AML	AML	03 55 06.2	
	comp=E,7μm,0.6s						
GHIR	**Ghir-Karzin**	**2.88**	**302**	Pn	**Pn**	**03 53 51.0**	**+1.4**
GHIR	**Ghir-Karzin**	**2.88**	**302**	*e*Pn	**Pn**	**03 53 51.8**	**+2.2**
GHIR				*e*Sg	**Sg**	**03 54 36.2**	**-1.0**
KRBR	**Kerman**	**3.30**	**15**	*e*Pn	**Pn**	**03 53 57.4**	**+1.9**
KRBR				AML	AML	03 54 47.1	
	comp=N,6μm,0.5s						
KRBR				AML	AML	03 55 04.2	
	comp=E,6μm,0.8s						
KRBR	**Kerman**	**3.30**	**15**	Pn	**Pn**	**03 53 57.0**	**+1.5**
KRBR	**Kerman**	**3.30**	**15**	*e*Pn	**Pn**	**03 53 57.4**	**+1.9**
ISRV	**Sarvestan**	**3.49**	**318**	*e*Pn	**Pn**	**03 53 58.9**	**+0.8**
ISRV				*e*		03 55 18.1	
	comp=Z,26μm,0.4s						
ISRV	**Sarvestan**	**3.49**	**318**	Pn	**Pn**	**03 53 59.9**	**+1.8**
ISRV	**Sarvestan**	**3.49**	**318**	*e*Pn	**Pn**	**03 53 58.9**	**+0.8**
ARQ	**Araqi**	**3.51**	**169**	P	**Pn**	**03 53 58.6**	**+0.6**
	SNR=44						
ARQ				P	Pb	03 54 00.1	-5.9
	SNR=132						
ARQ	**Araqi**	**3.51**	**169**	P	**Pn**	**03 53 58.7**	**+0.6**
	SNR=44						
SHI	**Shiraz**	**4.04**	**315**	*e*		03 54 58.4	
	comp=E,43μm,0.2s						
SHI				*e*Pn	**Pn**	**03 54 07.1**	**+1.6**
BSY	**Bisya**	**4.23**	**162**	P	**Pn**	**03 54 09.8**	**+1.7**
	SNR=20						
SMDO	**Samad**	**4.25**	**150**	P	**Pn**	**03 54 09.8**	**+1.3**
	SNR=111						
SMDO				P	Pb	03 54 10.9	-7.9
	SNR=27						
SMDO	**Samad**	**4.25**	**150**	P	**Pn**	**03 54 09.8**	**+1.3**
	SNR=111						
BSYO	**Bisya**	**4.26**	**161**	P	**Pn**	**03 54 09.8**	**+1.4**
	SNR=20						
IMEH	**Mehriz**	**4.69**	**348**	*e*Pn	**Pn**	**03 54 16.1**	**+1.5**
IMEH				*e*		03 55 52.3	
	comp=Z,36μm,0.5s						
IMEH	**Mehriz**	**4.69**	**348**	Pn	**Pn**	**03 54 17.0**	**+2.4**
IMEH	**Mehriz**	**4.69**	**348**	*e*Pn	**Pn**	**03 54 16.1**	**+1.5**
IBAF	**Bafgh**	**4.79**	**358**	*e*Pn	**Pn**	**03 54 17.3**	**+1.5**
IBAF				*e*		03 55 58.3	
	comp=Z,29μm,0.5s						
IBAF	**Bafgh**	**4.79**	**358**	Pn	**Pn**	**03 54 17.1**	**+1.3**
IBAF	**Bafgh**	**4.79**	**358**	*e*Pn	**Pn**	**03 54 17.3**	**+1.5**
JMDO	**Jabal Madar**	**4.89**	**154**	P	**Pn**	**03 54 18.5**	**+1.4**
	SNR=21						
JMDO				P	Pb	03 54 19.6	-10
	SNR=17						
JMDO	**Jabal Madar**	**4.89**	**154**	P	**Pn**	**03 54 18.5**	**+1.4**
	SNR=21						
WBK	**Wadi Bani Khal**	**5.08**	**144**	P	**Pn**	**03 54 20.1**	**+0.4**
	SNR=64						
WBK	**Wadi Bani Khal**	**5.08**	**144**	P	**Pn**	**03 54 20.1**	**+0.4**
	SNR=64						
ISAD	**Sadrabad**	**5.42**	**341**	*e*Pn	**Pn**	**03 54 26.8**	**+2.2**
ISAD				*e*		03 55 35.5	
	comp=Z,27μm,0.4s						
ISAD	**Sadrabad**	**5.42**	**341**	Pn	**Pn**	**03 54 27.5**	**+2.9**
ISAD	**Sadrabad**	**5.42**	**341**	*e*Pn	**Pn**	**03 54 26.8**	**+2.2**
ICHK	**Chekchek**	**5.56**	**348**	*e*Pn	**Pn**	**03 54 28.1**	**+1.6**
ICHK				*e*		03 56 26.4	
	comp=Z,23μm,0.5s						
ICHK	**Chekchek**	**5.56**	**348**	Pn	**Pn**	**03 54 28.3**	**+1.8**
ICHK	**Chekchek**	**5.56**	**348**	*e*Pn	**Pn**	**03 54 28.1**	**+1.6**
IGAR	**Gharneh**	**6.46**	**331**	*e*Pn	**Pn**	**03 54 40.6**	**+1.7**
IGAR				*e*		03 54 45.1	
	comp=Z,11μm,0.3s						
NASN	**Na'in**	**6.52**	**337**	*e*Pn	**Pn**	**03 54 41.1**	**+1.4**
NASN				Sn	**Sn**	**03 55 54.2**	**+0.5**
NASN	**Na'in**	**6.52**	**337**	Pn	**Pn**	**03 54 41.0**	**+1.3**
NASN	**Na'in**	**6.52**	**337**	*e*Pn	**Pn**	**03 54 41.1**	**+1.4**
ITEG	**Tejag**	**6.61**	**22**	*e*		03 56 56.8	
	comp=Z,9μm,0.4s						
IZEF	**Zefreh**	**6.78**	**335**	*e*Pn	**Pn**	**03 54 44.0**	**+0.8**
IZEF				*e*		03 54 45.9	
	comp=Z,8μm,0.2s						
IZEF				*e*Sn	**Sn**	**03 56 00.0**	**0.0**
IZEF	**Zefreh**	**6.78**	**335**	*e*Pn	**Pn**	**03 54 44.0**	**+0.8**
IZEF				*e*Sn	**Sn**	**03 56 00.0**	**0.0**
IDAH	**Dahanechah**	**6.92**	**30**	*e*		03 56 44.7	
	comp=Z,16μm,0.9s						
TABS	**Tabas**	**6.94**	**9**	*e*Pn	**Pn**	**03 54 47.2**	**+1.9**
TABS	**Tabas**	**6.94**	**9**	*e*Pn	**Pn**	**03 54 47.2**	**+1.9**
IPIR	**Pirpir**	**7.24**	**325**	*e*Pn	**Pn**	**03 54 50.7**	**+1.0**
IPIR				*e*Sn	**Sn**	**03 56 10.9**	**-0.6**
IPIR				*e*		03 56 15.2	
	comp=Z,37μm,0.3s						
IPIR	**Pirpir**	**7.24**	**325**	Pn	**Pn**	**03 54 51.1**	**+1.4**
IPIR				Sn	**Sn**	**03 56 08.4**	**-3.1**
IPIR	**Pirpir**	**7.24**	**325**	*e*Pn	**Pn**	**03 54 50.7**	**+1.0**
IPIR				*e*Sn	**Sn**	**03 56 10.9**	**-0.6**
IKLH	**Kolahrood**	**7.45**	**332**	*e*Pn	**Pn**	**03 54 53.1**	**+0.6**
IKLH				*e*		03 55 06.1	
	comp=Z,6μm,0.2s						
IKLH	**Kolahrood**	**7.45**	**332**	Pn	**Pn**	**03 54 52.9**	**+0.4**
IKLH	**Kolahrood**	**7.45**	**332**	*e*Pn	**Pn**	**03 54 53.1**	**+0.6**
KBD	**Kabd**	**7.52**	**290**	*e*P	**Pn**	**03 54 54.0**	**+0.8**
KBD				AML	AML	03 56 17.5	
	comp=Z,353nm,0.3s						
KBD	**Kabd**	**7.52**	**290**	*e*P	**Pn**	**03 54 54.0**	**+0.8**
RDF	**Al-Radifah**	**7.58**	**288**	*e*P	**Pn**	**03 54 55.0**	**+1.0**
RDF				AML	AML	03 56 18.6	
	comp=Z,425nm,0.6s						
RDF	**Al-Radifah**	**7.58**	**288**	*e*P	**Pn**	**03 54 55.0**	**+1.0**
UMR	**Umm Al-Rimmam**	**7.62**	**293**	*e*P	**Pn**	**03 54 55.5**	**+0.9**
UMR	**Umm Al-Rimmam**	**7.62**	**293**	*e*P	**Pn**	**03 54 55.5**	**+0.9**
SHRT	**Shahrakht**	**7.87**	**29**	*e*Pn	**Pn**	**03 54 59.9**	**+1.8**
SHRT	**Shahrakht**	**7.87**	**29**	*e*Pn	**Pn**	**03 54 59.9**	**+1.8**
NAY	**Al-Naaiem**	**7.92**	**290**	*e*P	**Pn**	**03 54 59.8**	**+1.1**
NAY				AML	AML	03 56 25.3	
	comp=Z,212nm,0.7s						

THKV	Tehran--Karaj	10.01	337	*e*Pn		Pn	03 55 29.7	+2.2			
IPAY	Payeh	10.02	15⇑	*e*Pn		Pn	03 55 29.8	+2.2			
IPAY				*e*			03 59 10.3				
	comp=Z,4μm,0.8s										
IPAY	Payeh	10.02	15⇑	*e*Pn		Pn	03 55 29.8	+2.2			
IAKL	Akhelmad	10.11	14	*e*Pn		Pn	03 55 30.6	+1.7			
IAKL				*e*			03 56 00.5				
	comp=Z,2μm,0.5s										
IMYA	Miami	10.21	20	*e*Pn		Pn	03 55 32.7	+2.4			
IMYA				*e*			03 59 17.5				
	comp=Z,5μm,0.9s										
IMYA	Miami	10.21	20	*e*Pn		Pn	03 55 32.7	+2.4			
IKRD	Kardeh	10.22	13	*e*Pn		Pn	03 55 35.9	+5.4			
IKRD				*e*			03 59 26.3				
	comp=Z,9μm,1.3s										
IKRD	Kardeh	10.22	13	*e*Pn		Pn	03 55 35.9	+5.4			
IKOM	Komasi	10.24	318	*e*Pn		Pn	03 55 29.1	-1.5			
IKOM				*e*			03 55 37.2				
	comp=Z,24μm,0.3s										
IKOM	Komasi	10.24	318	*e*Pn		Pn	03 55 29.1	-1.5			
ISFR	Sfrayin	10.41	10	*e*Pn		Pn	03 55 34.5	+1.5			
ISFR				*e*			03 56 34.0				
	comp=Z,2μm,0.6s										
IBDR	Badra	10.60	309	*e*P		Pn	03 55 35.0	-0.4			
IBDR				*e*S		Sn	03 57 13.0	-21			
IGZV	Ghazvin	10.67	335	*e*Pn		Pn	03 55 37.9	+1.3			
IGZV				*e*			03 55 39.0				
	comp=Z,2μm,0.2s										
IGZV	Ghazvin	10.67	335	*e*Pn		Pn	03 55 37.9	+1.3			
ISHV	Shirvan	10.84	8	*e*Pn		Pn	03 55 40.9	+2.0			
ISHV				*e*			03 56 12.2				
	comp=Z,2μm,0.4s										
ISHV	Shirvan	10.84	8	*e*Pn		Pn	03 55 40.9	+2.0			
MRVT	Maraveh tapeh	10.84	1	*e*Pn		Pn	03 55 41.2	+2.4			
MRVT	Maraveh tapeh	10.84	1	Pn		Pn	03 55 41.0	+2.2			
MRVT	Maraveh tapeh	10.84	1	*e*Pn		Pn	03 55 41.2	+2.4			
IEMG	Emamgholi	10.87	12	*e*Pn		Pn	03 55 41.1	+1.7			
IEMG				*e*			04 00 05.8				
	comp=Z,1μm,0.7s										
IEMG	Emamgholi	10.87	12	*e*Pn		Pn	03 55 41.1	+1.7			
IVIS	Veis	10.88	317⇑	*e*Pn		Pn	03 55 38.9	-0.4			
IVIS				*e*			03 55 40.0				
	comp=Z,10μm,0.2s										
IVIS	Veis	10.88	317⇑	*e*Pn		Pn	03 55 38.9	-0.4			
IGHG	Ghaleghazi	10.92	316	*e*Pn		Pn	03 55 39.4	-0.6			
IGHG				*e*			03 57 50.0				
	comp=Z,18μm,0.3s										
IGHG	Ghaleghazi	10.92	316	*e*Pn		Pn	03 55 39.4	-0.6			
ILIN	Lien	11.08	319	*e*Pn		Pn	03 55 42.8	+0.6			
ILIN				*e*			03 57 46.3				
	comp=N,15μm,0.4s										
ILIN	Lien	11.08	319	*e*Pn		Pn	03 55 42.8	+0.6			
IDHR	Dehrash	11.27	317	*e*Pn		Pn	03 55 42.6	-2.2			
IDHR				*e*			03 57 52.1				
	comp=Z,18μm,0.2s										
IDHR	Dehrash	11.27	317	*e*Pn		Pn	03 55 42.6	-2.2			
BHD	Baghdad	11.79	306	*e*P		Pn	03 55 47.0	-4.6			
BHD				*e*S		Sn	03 57 58.0	-4.7			
ISRB	Sarab	12.95	330	*e*			03 56 33.6				
	comp=Z,1μm,0.4s										
ISRB				*e*Pn		Pn	03 56 07.2	-0.6			
BHJ	Bhuj	13.07	103	*ex*		Pn	03 56 08.1	-1.2			
BHJ				AMB		AMB	03 56 17.8				
	comp=Z,101nm,0.0s										
LKRN	Lenkeran, Azer	13.25	335	⇑Pn		Pn	03 56 12.3	+0.6			
	SNR=5.9										
LKRN	Lenkeran, Azer	13.25	335	⇑Pn		Pn	03 56 12.3	+0.6			
	SNR=5.9										
IAZR	Azarshahr	13.64	325	*e*Pn		Pn	03 56 17.3	0.0			
IAZR				*e*			03 59 39.5				
	comp=Z,3μm,0.5s										
IAZR	Azarshahr	13.64	325	*e*Pn		Pn	03 56 17.3	0.0			
GRMI	Germi	13.68	333	*e*Pn		Pn	03 56 20.0	+2.3			
GRMI				AMb		AMB	03 56 27.9				
	comp=Z,153nm,1.4s										
GRMI	Germi	13.68	333	*e*Pn		Pn	03 56 20.0	+2.3			
MUKL	Al Mukalla	13.77	208	*e*P		Pn	03 56 15.6	-3.3			
KBL	Kabul	13.78	53	*e*P		Pn	03 56 21.9	+2.8			
KBL				pmax		pmax					
	comp=Z,50nm,0.7s										
KBL	Kabul	13.78	53	*e*Pn		Pn	03 56 21.9	+2.8			
	comp=Z,50nm,0.7s										
KBL	Kabul	13.78	53	*e*Pn		Pn	03 56 21.9	+2.8			
	comp=Z,50nm,0.7s										
GLBA	Clilabad	13.86	335	⇑Pn		P	03 56 24.5	-3.7			
	SNR=6.0										
GLBA	Clilabad	13.86	335	⇑Pn		P	03 56 24.5	-3.7			
	SNR=6.0										
ITBZ	Tabriz	13.99	327	*e*Pn		Pn	03 56 21.9	0.0			
ITBZ				*e*			03 56 27.6				
	comp=Z,916nm,0.4s										
ITBZ	Tabriz	13.99	327	*e*Pn		Pn	03 56 21.9	0.0			
ALIB	Äli-Bayra	14.29	338	Pn		P	03 56 31.0	-1.8			
	SNR=11										
ALIB	Äli-Bayra	14.29	338	Pn		P	03 56 31.0	-1.8			
	SNR=11										
ISHB	Shabestar	14.29	326	*e*Pn		Pn	03 56 25.7	-0.4			
ISHB				*e*			03 56 54.5				
	comp=Z,1μm,0.3s										
ISHB	Shabestar	14.29	326	*e*Pn		Pn	03 56 25.7	-0.4			
GOBA	Gobu	14.47	341	Pn		P	03 56 38.3	+3.4			
	SNR=3.2										
GOBA	Gobu	14.47	341	Pn		P	03 56 38.3	+3.4			
	SNR=3.2										
CUKT	Cukurca	14.65	318	*e*P		Pn	03 56 27.6	-3.4			
HAKT	HAKKARI	14.80	319	*i* P		Pn	03 56 29.6	-3.5			
THW	Thamme Wali	15.10	63	P		Pn	03 56 34.6	-2.3			
PQL	Pirkuli	15.17	339	Pn		P	03 56 41.2	-1.8			
	SNR=12										
PQL	Pirkuli	15.17	339	Pn		P	03 56 41.2	-1.8			
	SNR=12										
BRDA	Brd	15.21	334	Pn		P	03 56 42.0	-1.2			
	SNR=19										
BRDA	Brd	15.21	334	Pn		P	03 56 42.0	-1.2			
	SNR=19										
IML	Ismayilli	15.31	338	⇑Pn		P	03 56 42.6	-1.8			
	SNR=13										
IML	Ismayilli	15.31	338	⇑Pn		P	03 56 42.6	-1.8			
	SNR=13										
SIZA	Siyzn	15.34	340	⇑Pn		P	03 56 46.5	+1.8			
	SNR=10										
SIZA	Siyzn	15.34	340	⇑Pn		P	03 56 46.5	+1.8			
	SNR=10										
SIRT	Sirnak	15.52	317	*e*P		Pn	03 56 36.2	-6.2			
SIRN	S¨¨rnak	15.53	317	*i* P		Pn	03 56 37.7	-5.0			
CEP	Cherat	15.60	59	P		Pn	03 56 44.2	+0.7			
CEP				S		S	03 59 53.0	+1.9			
TVAN	Van	15.64	321	*i* P		Pn	03 56 44.3	+0.1			
QUBA	Quba, Azerbaij	15.72	339	⇓Pn		Pn	03 56 41.8	-3.2			
	SNR=16										
QUBA	Quba, Azerbaij	15.72	339	⇓Pn		Pn	03 56 41.8	-3.2			
	SNR=16										
CLDR	Caldiran	15.81	324	*e*P		Pn	03 56 46.1	-0.2			
GANJ	Ganja	15.88	333	Pn		P	03 56 49.2	-1.5			
	SNR=34										
GANJ	Ganja	15.88	333	Pn		P	03 56 49.2	-1.5			
	SNR=34										
SEKA	Sheki	16.03	336	Pn		Pn	03 56 49.9	+1.0			
	SNR=26										
SEKA	Sheki	16.03	336	Pn		Pn	03 56 49.9	+1.0			
	SNR=26										
DHBB	Dhamar BB	16.14	223	*e*P		Pn	03 56 47.1	-3.7			
DHBB				AMb		AMB	03 56 49.0				
	comp=Z,222nm,1.3s										
DHBB				*i* S		Sn	03 59 47.4	-2.2			
GNI	Garni	16.17	328	*e*P		P	03 56 53.4	-0.7			
GNI	Garni	16.17	328	*e*Pn		P	03 56 52.8	-1.1			
	comp=Z,454nm,0.9s										
GNI				*e*S		Sn	03 59 56.4	+6.6			
GNI	Garni	16.17	328	Pn		Pn	03 56 52.3	+1.4			
	comp=Z,6.7nm,0.3s,baz=188,slow=0.6,SNR=39										
GNI				Sn		Sn	03 59 51.6	+1.8			
	comp=Z,1.2nm,0.3s,baz=94,slow=15,SNR=2.0										
GNI				LR		LR	04 02 36.5				
	comp=Z,882nm,21.6s,baz=132,slow=36										
GNI	Garni	16.17	328	*i* P		P	03 56 52.9	-1.1			
	comp=Z,153nm,1.0s										
LBOS		16.19	219	*e*P		Pn	03 56 47.8	-3.5			
LBOS				AMb		AMB	03 56 49.6				
	comp=Z,386nm,2.1s										
LBOS				*i* S		Sn	03 59 47.5	-3.2			
MARD	Mardin	16.46	313	*i* P		Pn	03 56 50.0	-4.5			
TUTA	Tutak	16.59	323	*i* P		Pn	03 56 56.3	+0.1			
AGRB	Hanur-Agry	16.62	323	*e*P		Pn	03 56 57.8	+1.2			
MAZI	Mazidag	16.76	313	*e*P		Pn	03 56 54.6	-3.7			
DGRG	David-gareji	16.95	332	P		P	03 57 03.3	+0.8			
DIGO	Kars	17.04	326	*i* P		P	03 57 03.3	-0.4			
DIGO	Kars	17.04	326	*i* P		P	03 57 03.3	-0.4			
BNGL	BINGOL	17.23	318	*i* P		Pn	03 57 02.1	-2.3			
ASF	Jabal al Asfar	17.28	293	P		Pn	03 57 01.1	-3.8			
ASF				S		Sn	04 00 01.4	-15			
ASF	Jabal al Asfar	17.28	293	P		Pn	03 57 01.1	-3.8			
ASF				S		Sn	04 00 01.4	-15			
ASF				LR		LR	04 04 45.5				
	comp=Z,979nm,19.5s,baz=171,slow=41										
KZR	Kazreti	17.30	330	P		P	03 57 07.5	+1.1			
KARS	Kars	17.35	326	*e*P		P	03 57 06.5	-0.5			
TBLG	Delisi	17.45	331	P		P	03 57 08.7	+0.8			
TBLG	Delisi	17.45	331	P		P	03 57 08.7	+0.8			
TBLG	Delisi	17.45	331	P		P	03 57 08.7	+0.8			
MAK	Makhachkala	17.48	339	*e*P		P	03 57 10.9	+2.6			
MAK				*e*S		S	04 00 26.0	-3.2			
MAK				pmax		pmax					
	comp=Z,675nm,1.1s										
MAK				MLR		MLR					
	comp=Z,3μm,20.0s										
MAK	Makhachkala	17.48	339	*e*P		P	03 57 10.9	+2.6			
	comp=Z,675nm,1.1s										
HOMI	Horasan	17.54	322	*i* P		P	03 57 08.8	-0.4			
ERZM	Erzurum	17.74	321	*i* P		P	03 57 12.3	+0.8			
ERZM	Erzurum	17.74	321	*i* P		P	03 57 12.3	+0.8			
EZM	Erzurum	17.74	321	*e*P		P	03 57 13.0	+1.5			
AKH	Akhalkalaki	17.75	328	P		P	03 57 12.5	+1.0			
DUS	Dusheti	17.76	332	P		P	03 57 12.9	+1.4			
URFA	Urfa	17.83	311	*e*P		Pn	03 57 09.6	-2.0			
ATAB	Bozova	18.20	310	*i* P		Sn	04 00 43.0	+4.1			
ATAB	Bozova	18.20	310	*i* P		Pn	03 57 15.7	-0.5			
ATAB	Bozova	18.20	310	*i* P		Pn	03 57 15.7	-0.5			
DDEM	Demirkent	18.22	324	*i* P		P	03 57 17.6	+0.9			
DDEM	Demirkent	18.22	324	*i* P		P	03 57 17.6	+0.9			
THN	Thein Dam	18.23	67	*e*P		Pn	03 57 14.0	-2.5			
FKH	Fakeheh	18.24	299	*e*P		Pn	03 57 16.6	-0.2			
PTK	Pertek	18.27	315	*e*P		Pn	03 57 14.2	-3.0			
DAGI	Agillar	18.27	325	*i* P		P	03 57 18.6	+1.4			
ELZG	Elazig	18.30	314	*i* P		Sn	04 00 30.8	-11			
ELZG	Elazig	18.30	314	*i* P		P	03 57 17.8	+0.3			
ELZG	Elazig	18.30	314	*i* P		P	03 57 17.8	+0.3			
KOPT	Kop Dagi	18.31	320	*i* P		P	03 57 18.8	+1.0			
KOPT	Kop Dagi	18.31	320	*i* P		P	03 57 18.8	+1.0			
ARTV	Artvin	18.34	325	*i* P		Pn	03 57 19.2	+1.1			
ARTV	Artvin	18.34	325	*i* P		Pn	03 57 19.2	+1.1			
RCY	Rachaya	18.47	296	*e*P		Pn	03 57 19.6	0.0			
ERZN	Erzincan	18.49	318	*e*P		P	03 57 17.4	-2.2			
MALT	Malatya	18.56	313	*e*P		Pn	03 57 39.1	+18			
EIL	Elat	18.56	284	P		P	03 57 20.4	0.0			
EIL				S		S	04 00 55.1	+3.7			
EIL	Elat	18.56	284	P		P	03 57 20.4	0.0			
	comp=Z,1.6nm,0.3s,baz=79,slow=5.4,SNR=41										
EIL				S		S	04 00 55.1	+3.7			
	comp=Z,1.6nm,0.3s,baz=245,slow=19,SNR=2.3										
EIL				LR		LR	04 05 58.8				
	comp=Z,2μm,20.0s,baz=100,slow=42										
EIL	Elat	18.56	284	P		P	03 57 20.4	0.0			
MYA	Malataya	18.57	313	*e*P		Pn	03 57 21.0	+0.3			
POO	Poona	18.59	113	*e*P		Pn	03 57 21.7	+0.6			
HWQ	Hawqa	18.61	298	*e*P		P	03 57 21.1	+0.1			
GZT	Gaziantep	18.65	309	*i* P		P	03 57 20.8	-0.6			
ZEI	Tsey	18.67	332	*e*P		P	03 57 21.5	-0.1			
ZEI				*e*S		S	04 00 55.3	+1.6			
ZEI				pmax		pmax					
	comp=Z,268nm,1.3s										
ZEI				MLR		MLR					
	comp=Z,676nm,9.0s										
ZEI	Tsey	18.67	332	*e*P		P	03 57 21.5	-0.1			
	comp=Z,268nm,1.3s										
DHRM	DHARAMSHALA	18.67	68	*e*P		P	03 57 21.9	+0.1			
DHRM				AMB		AMB	03 57 26.6				
	comp=Z,194nm,1.6s										
BCA	Borcka	18.69	325	*e*P		Pn	03 57 22.9	+0.8			
MMAI	Mount Meron Ar	18.70	294	P		P	03 57 21.7	-0.2			
MMAI				S		Sn	04 00 40.6	-11			
MMAI	Mount Meron Ar	18.70	294	P		P	03 57 21.7	-0.2			
	comp=Z,7.0nm,0.3s,baz=95,slow=19,SNR=58										
MMAI				S		Sn	04 00 40.6	-11			
	comp=Z,3.0nm,0.3s,baz=107,slow=32,SNR=4.3										
MMAI				LR		LR	04 06 08.4				
	comp=Z,2μm,20.0s,baz=90,slow=42										
MMAI	Mount Meron Ar	18.70	294	P		P	03 57 21.7	-0.2			
KUZU	Kuzuini	18.72	307	*i* P		Pn	03 57 22.4	-0.2			
KUZU	Kuzuini	18.72	307	*i* P		Pn	03 57 22.4	-0.2			
BHL	Bhannes	18.73	297	*e*P		Pn	03 57 23.2	+0.5			
BAYT	Ayd¨¨ntepe-Bay	18.76	320	*e*P		P	03 57 21.7	-0.9			
EZC	Erzincan	18.81	318	*e*P		Pn	03 57 25.0	+1.2			
AKCD	Akcadag	18.88	312	*i* P		Pn	03 57 25.6	+1.0			
AKCD	Akcadag	18.88	312	*i* P		Pn	03 57 25.6	+1.0			
NDI	New Delhi	19.08	79	*e*P		P	03 57 24.5	-1.6			
SDNR	Sundarnagar	19.10	71	*e*P		P	03 57 26.0	-0.3			
ILIC	ilic-Erzincan	19.11	316	*e*P		Pn	03 57 27.1	-0.2			
YAYL	Yayladag	19.11	304	*i* P		Pn	03 57 27.4	+0.1			
YAYL	Yayladag	19.11	304	*i* P		Pn	03 57 27.5	+0.1			
KELT	Kelkit	19.12	318	*i* P		Pn	03 57 27.4	-0.1			
KELT	Kelkit	19.12	318	*i* P		Pn	03 57 27.4	-0.1			
HTY	Hatay	19.13	304	*e*P		P	03 57 26.8	+0.3			
KMRS	Kahramanmaras	19.18	308	*e*P		P	03 57 27.1	-0.1			
GUMT	Gumushane	19.19	319	*e*P		Pn	03 57 28.4	+0.1			
COBT	Iskenderun	19.20	305	*i* P		Pn	03 57 28.9	+0.4			
COBT	Iskenderun	19.20	305	*i* P		Pn	03 57 28.9	+0.4			
AYKD	Aykdinkavak	19.20	308	*i* P		Pn	03 57 28.2	-0.2			
SMLA	Simla	19.21	72	*e*P		Pn	03 57 28.8	+0.3			
SMLA				AMB		AMB	03 57 32.1				
	comp=Z,149nm,1.1s										
DARE	Darende-Malaty	19.32	312	*e*P		P	03 57 27.7	-1.0			
ATD	Arta Tunnel	19.45	221	P		Pn	03 57 32.9	+1.5			
ATD	Arta Tunnel	19.45	221	P		Pn	03 57 32.9	+1.5			
	comp=Z,2.0nm,0.3s,baz=348,slow=7.0,SNR=22										
ATD				LR		LR	04 06 09.4				
	comp=Z,3μm,20.2s,baz=43,slow=40										
CEYT	Ceyhan	19.78	306	*e*P		Pn	03 57 35.0	-0.2			
YURE	YUREGIR	19.79	305	*i* P		Pn	03 57 36.2	+0.9			
YURE	YUREGIR	19.79	305	*i* P		Pn	03 57 36.2	+0.9			
SUSE	Susehri	19.79	317	*i* P		Pn	03 57 35.6	+0.1			
SUSE	Susehri	19.79	317	*i* P		Pn	03 57 35.6	+0.1			
KBZ	Khabaz	19.86	332	P		Pn	03 57 36.9	+0.8			
KBZ				pmax		pmax					
	comp=Z,6.0nm,0.3s										
KBZ	Khabaz	19.86	332	P		Pn	03 57 36.9	+0.8			
KBZ	Khabaz	19.86	332	P		Pn	03 57 36.9	+0.8			
	comp=Z,5.8nm,0.3s,baz=143,slow=7.3,SNR=159										
KBZ	Khabaz	19.86	332	P		Pn	03 57 36.8	+0.8			
KRTS	Karatas	19.87	304	*e*P		Pn	03 57 36.6	+0.3			
DDI	Dehra Dun	19.89	75	*e*P		P	03 57 35.3	+0.4			
ESPY	Espiye-Giresun	19.92	319	*e*P		Pn	03 57 36.0	-0.8			
KOZT	Kozan	19.93	307	*e*P		Pn	03 57 36.7	-0.3			
BHPL	Bhopal	19.94	95	*e*P		P	03 57 34.4	-1.1			
KIV	Kislovodsk	20.13	332	⇑*i* P		Pn	03 57 39.5	+0.1			
KIV				*e*S		S	04 01 24.0	+1.1			
KIV				pmax		pmax					
	comp=Z,681nm,1.1s										
KIV	Kislovodsk	20.13	332	Pn		Pn	03 57 40.2	+0.8			
	comp=Z,3μm,0.9s,SNR=58										
KIV	Kislovodsk	20.13	332	*i* P		Pn	03 57 39.5	+0.1			
	comp=Z,681nm,1.1s										
GRSN	GIRESUNGRSN	20.19	319	*i* P		Pn	03 57 39.8	-0.3			
GRSN	GIRESUNGRSN	20.19	319	*i* P		Pn	03 57 39.8	-0.3			
KK31	Karatay Array	20.22	33	*i* P		P	03 57 38.5	+0.1			
KK31				pmax		pmax					
	comp=Z,30nm,0.6s										
KK31	Karatay Array	20.22	33	*i* P		P	03 57 38.5	+0.1			
	comp=Z,30nm,0.6s										
KKAR	Karatay Array	20.22	33	*e*P		P	03 57 38.6	+0.2			
KKAR	Karatay Array	20.22	33	*e*P		P	03 57 38.6	+0.2			
KKAR	Karatay Array	20.22	33	*e*P		P	03 57 38.6	+0.2			
SVSK	Karacayir	20.37	315	*e*P		P	03 57 40.5	+0.5			
KARA	Karaisali	20.39	306	*e*P		P	03 57 40.7	+0.4			
EREN	Erenkoy	20.40	301	*e*P		P	03 57 41.3	+0.9			
RSDY	Resadiye-TOKAT	20.44	316	*e*P		P	03 57 40.5	-0.3			
BNN	Bunyan	20.56	311	*e*P		P	03 57 41.1	-1.2			
GULE	Gulek	20.60	306	*i* P		Pn	03 57 44.9	-0.2			
GULE	Gulek	20.60	306	*i* P		Pn	03 57 44.9	-0.2			
LFK	Lefkose	20.81	299	*e*P		P	03 57 45.6	+0.6			
CSS	Prodhromos	20.88	298	*e*P		P	03 57 45.9	+0.3			
CSS	Prodhromos	20.88	298	P		P	03 57 46.4	+0.8			
CSS	Prodhromos	20.88	298	*e*Pn		P	03 57 46.5	+0.9			
	comp=Z,227nm,1.0s										
CSS	Prodhromos	20.88	298	P		P	03 57 46.4	+0.8			
TOKT	Tokat	20.89	315	*e*P		P	03 57 46.4	+0.7			
GOF	Gofitskoye	20.89	334	*e*P		P	03 57 39.3	-6.3			
GOF				*i* S		S	04 01 33.3	-4.5			
GOF				pmax		pmax					
	comp=Z,500nm,1.0s										
GOF				smax		smax					
	comp=N,160nm,1.3s										
GOF	Gofitskoye	20.89	334	*e*P		P	03 57 39.3	-6.3			
	comp=N,500nm,1.0s										
LATR	Latur	20.91	109	*e*P		P	03 57 47.2	+1.2			
IKL	Isikli	21.01	302	*e*P		P	03 57 45.6	-1.4			
NIG	Nigde	21.07	308	*e*P		P	03 57 49.1	+1.2			
KSH	Kashi	21.09	48	P		P	03 57 41.3	-6.7			
KSH				sP		sP	03 57 50.9	-4.8			
KSH				PP		PnPn	03 58 03.4	-3.8			
KSH				PcS		PcS	04 05 29.9	-2.3			
KSH				pmax		pmax					
	comp=Z,52nm,1.1s										
KSH				LR		LR					
	comp=N,3μm,14.6s										
KSH				LR		LR					
	comp=E,2μm,11.9s										
KSH				LR		LR					
	comp=Z,4μm,14.1s										
AVNT	Avonos	21.20	310	*i* P		P	03 57 50.9	+1.6			
AVNT	Avonos	21.20	310	*i* P		P	03 57 50.9	+1.6			
AML	Almayashu	21.21	39	*i* P		P	03 57 49.3	-0.3			
AML	Almayashu	21.21	39	P		P	03 57 49.3	-0.3			
	SNR=80										
AML	Almayashu	21.21	39	*i* P		P	03 57 49.3	-0.3			
SOC	Sochi	21.21	326	*c i* P		P	03 57 49.0	-0.1			
SOC				*e*			03 58 06.8				
SOC				*i* S		S	04 01 44.7	+0.5			
SOC				*e*			04 01 51.6				
SOC				*e*SS		SnSn	04 02 07.1	+0.6			
SOC				*e*SSS		SSS	04 02 22.9				
SOC				pmax		pmax					
	comp=Z,294nm,0.9s										
SOC				MLR		MLR					
	comp=Z,2μm,14.0s										
SOC	Sochi	21.21	326	*i* P		P	03 57 49.0	-0.1			
	comp=Z,294nm,0.9s										
LEF	Lefka	21.27	299	*e*P		P	03 57 51.0	+1.3			
EKS2	Erkin-Say	21.61	38	*i* P		P	03 57 53.8	+0.3			
EKS2	Erkin-Say	21.61	38	P		P	03 57 53.8	+0.3			
	SNR=115										
EKS2	Erkin-Say	21.61	38	*i* P		P	03 57 53.8	+0.3			
KVT	Kavak	21.63	316	*e*P		P	03 57 52.2	-1.5			
ERMK	Ermenek	21.73	302	*i* P		P	03 57 56.8	+1.8			
ERMK	Ermenek	21.73	302	*i* P		P	03 57 56.8	+1.8			
SULT	Sultanhani-AKS	21.89	307	*e*P		P	03 57 56.7	+0.2			
AAK	Ala-Archa	21.99	39	P		P	03 57 58.0	+0.4			
	comp=Z,366nm,0.7s

	comp=Z,1μm,19.0s								
ANN	**Anapa**	**23.23**	**325**	*i*	P		**P**	**03 58 09.0**	**-1.5**
	comp=Z,125nm,0.9s								
BZK	**Bozkurt**	**23.39**	**316**	*e*	P		**P**	**03 58 11.4**	**-0.8**
SUTC	**Sutluce-Ispart**	**23.46**	**303**	*e*	P		**P**	**03 58 14.2**	**+1.2**
AKTK	**Aktyubinsk**	**23.67**	**4**		P		**P**	**03 58 14.6**	**-0.2**
	comp=Z,36nm,0.5s								
AKTO	**Aktyubinsk**	**23.67**	**4**		P		**P**	**03 58 14.6**	**-0.2**
AKTO					S		**S**	**04 02 26.2**	**-2.5**
AKTO						pmax	pmax		
	comp=Z,36nm,0.5s								
AKTO						smax	smax		
	comp=N,4.0nm,0.8s								
AKTO						MLR	MLR		
	comp=Z,4μm,20.7s								
AKTO	**Aktyubinsk**	**23.67**	**4**		P		**P**	**03 58 14.6**	**-0.2**
AKTO					S		**S**	**04 02 26.2**	**-2.5**
AKTO	**Aktyubinsk**	**23.67**	**4**		P		**P**	**03 58 14.6**	**-0.2**
	comp=Z,36nm,0.5s,baz=177,slow=8.8,SNR=109								
AKTO					S		**S**	**04 02 26.2**	**-2.5**
	comp=Z,4.0nm,0.8s,baz=75,slow=20,SNR=3.0								
AKTO						LR	LR	04 09 29.3	
	comp=Z,4μm,20.7s,baz=296,slow=42								
AKTO	**Aktyubinsk**	**23.67**	**4**		P		**P**	**03 58 14.6**	**-0.2**
BCK	**Bucak**	**23.76**	**303**	*e*	P		**P**	**03 58 13.7**	**-2.2**
KORT	**Korkueli**	**23.79**	**302**	*i*	P		**P**	**03 58 16.1**	**-0.2**
KORT	**Korkueli**	**23.79**	**302**	*i*	P		**P**	**03 58 16.1**	**-0.2**
SVRH	**Sivrihisar-ESK**	**23.82**	**308**	*e*	P		**P**	**03 58 14.9**	**-1.6**
SAFT	**Safranbolu**	**23.85**	**313**	*e*	P		**P**	**03 58 18.4**	**+1.7**
ISP	**Isparta**	**23.93**	**304**	*e*	P		**P**	**03 58 17.9**	**+0.3**
ISP	**Isparta**	**23.93**	**304**		P		**P**	**03 58 18.6**	**+1.0**
ISP	**Isparta**	**23.93**	**304**	*e*	P		**P**	**03 58 18.5**	**+1.0**
ISP						pmax	pmax		
	comp=Z,106nm,0.8s								
ISP						MLR	MLR		
	comp=Z,2μm,19.0s								
ISP	**Isparta**	**23.93**	**304**	*e*	P		**P**	**03 58 18.5**	**+0.9**
	comp=Z,106nm,0.8s								
ISP						LR	LR		
	comp=Z,2μm,19.0s								
ISP	**Isparta**	**23.93**	**304**	⇑*i*	P		**P**	**03 58 19.4**	**+1.8**
ISP	**Isparta**	**23.93**	**304**	*e*	P		**P**	**03 58 18.5**	**+0.9**
	comp=Z,2μm,19.0s								
BOLV	**Bolvadin**	**23.94**	**306**	*i*	P		**P**	**03 58 18.6**	**+0.9**
BOLV	**Bolvadin**	**23.94**	**306**	*i*	P		**P**	**03 58 18.6**	**+0.9**
ELL	**Elmali**	**24.06**	**301**	*e*	P		**P**	**03 58 18.4**	**-0.4**
KSL	**Kastellorizon**	**24.14**	**299**	*e*	P		**P**	**03 58 20.5**	**+1.1**
AKAS	**Kas**	**24.15**	**299**	*i*	P		**P**	**03 58 19.3**	**-0.3**
AKAS	**Kas**	**24.15**	**299**	*i*	P		**P**	**03 58 19.3**	**-0.3**
SHUT	**Suhut-Afyon**	**24.17**	**305**	*e*	P		**P**	**03 58 21.5**	**+1.7**
ESKT	**Eskisehir**	**24.33**	**308**	*e*	P		**P**	**03 58 22.3**	**+1.0**
SEYT	**Eskypehyr**	**24.33**	**308**	*i*	P		**P**	**03 58 22.0**	**+0.8**
SEYT	**Eskypehyr**	**24.33**	**308**	*i*	P		**P**	**03 58 22.0**	**+0.8**
GOLH	**Golhisar**	**24.47**	**302**	*i*	P		**P**	**03 58 23.5**	**+1.0**
GOLH	**Golhisar**	**24.47**	**302**	*i*	P		**P**	**03 58 23.5**	**+1.0**
MDUB	**Mudurnu**	**24.49**	**310**	*e*	P		**P**	**03 58 23.8**	**+1.1**
FETY	**Fethiye**	**24.66**	**300**	*e*	P		**P**	**03 58 21.5**	**-2.6**
ALT	**Altintas**	**24.68**	**306**	*e*	P		**P**	**03 58 21.5**	**-2.8**
KDZE	**Karadeniz Ereo**	**24.71**	**312**	*e*	P		**P**	**03 58 24.7**	**+0.1**
KOLN	**Koldanda**	**24.74**	**81**	*e*	P		**P**	**03 58 26.3**	**+1.1**
	comp=Z,128nm,1.1s								
BORA	**Eskisehir**	**24.75**	**308**	*i*	P		**P**	**03 58 25.8**	**+0.7**
BORA	**Eskisehir**	**24.75**	**308**	*i*	P		**P**	**03 58 25.8**	**+0.7**
KHL	**Karahalli**	**24.84**	**304**	*e*	P		**P**	**03 58 24.7**	**-1.2**
DANN	**Dangsing**	**24.84**	**80**	*e*	P		**P**	**03 58 27.9**	**+1.7**
	comp=Z,420nm,1.1s								
KHAL	**Karahalli**	**24.88**	**304**	*i*	P		**P**	**03 58 27.0**	**+0.8**
KHAL	**Karahalli**	**24.88**	**304**	*i*	P		**P**	**03 58 27.0**	**+0.8**
GULT	**Gulveren**	**24.94**	**309**	*e*	P		**P**	**03 58 25.0**	**-1.8**
DNZL	**Cakiroluk**	**25.00**	**302**	*i*	P		**P**	**03 58 26.0**	**-1.4**
DNZL	**Cakiroluk**	**25.00**	**302**	*i*	P		**P**	**03 58 26.0**	**-1.4**
GPA	**Golpazari**	**25.02**	**309**	*e*	P		**P**	**03 58 26.6**	**-0.8**
DALY	**Dalyan (Mu˘la**	**25.04**	**300**	*e*	P		**P**	**03 58 27.0**	**-0.5**
SIM	**Simferopol'**	**25.09**	**322**	*e*	P		**P**	**03 58 27.3**	**-0.6**
SIM					eS		**S**	**04 02 51.0**	**-0.6**
SIM						pmax	pmax		
	comp=Z,800nm,5.3s								
SIM						pmax	pmax		
	comp=Z,100nm,0.8s								
SIM	**Simferopol'**	**25.09**	**322**	*e*	P		**P**	**03 58 27.3**	**-0.6**
	comp=Z,100nm,0.8s								
SPNC	**Sapanca-Adapaz**	**25.19**	**310**	*e*	P		**P**	**03 58 28.2**	**-0.7**
TVSB	**Tavsanli**	**25.29**	**307**	*e*	P		**P**	**03 58 31.4**	**+1.4**
ARG	**Arkhangelos**	**25.30**	**299**	*e*	P		**P**	**03 58 31.0**	**+1.1**
CAVI	**Cavuskoy**	**25.31**	**308**	*e*	P		**P**	**03 58 29.4**	**-0.7**
YER	**Yerkesik**	**25.41**	**301**	*e*	P		**P**	**03 58 30.5**	**-0.5**
ADVT	**Abdulvahap**	**25.48**	**309**	*e*	P		**P**	**03 58 28.2**	**-3.3**
KULA	**Kula-Manisa**	**25.55**	**304**	*e*	P		**P**	**03 58 31.9**	**-0.3**
DEMI	**Demirci**	**25.68**	**305**	*i*	P		**P**	**03 58 34.3**	**+0.8**
DEMI	**Demirci**	**25.68**	**305**	*i*	P		**P**	**03 58 34.3**	**+0.8**
HRT	**Hereke**	**25.69**	**310**	*e*	P		**P**	**03 58 34.7**	**+1.3**
ULDT	**Uludag**	**25.79**	**308**	*i*	P		**P**	**03 58 35.2**	**+0.7**
ULDT	**Uludag**	**25.79**	**308**	*i*	P		**P**	**03 58 35.2**	**+0.7**
YLV	**Yalova**	**25.79**	**309**	*e*	P		**P**	**03 58 34.2**	**-0.3**
MLSB	**Milas**	**25.85**	**301**	*e*	P		**P**	**03 58 30.5**	**-4.4**
DAT	**Datca**	**25.85**	**300**	*e*	P		**P**	**03 58 33.3**	**-1.8**
AYDN	**Tasoluk**	**25.87**	**302**	*i*	P		**P**	**03 58 36.1**	**+0.9**
AYDN	**Tasoluk**	**25.87**	**302**	*i*	P		**P**	**03 58 36.1**	**+0.9**
KARP	**Karpathos**	**25.91**	**297**		P		**P**	**03 58 37.1**	**+1.5**
KARP	**Karpathos**	**25.91**	**297**	*e*	P		**P**	**03 58 37.0**	**+1.5**
KARP	**Karpathos**	**25.91**	**297**		P		**P**	**03 58 37.1**	**+1.5**
DST	**Dursunbey**	**25.95**	**306**	*e*	P		**P**	**03 58 37.6**	**+1.7**
MDNY	**Mudanya-Bursa**	**26.05**	**308**	*e*	P		**P**	**03 58 36.8**	**+0.1**
DURS	**Dursunbey**	**26.06**	**306**	*i*	P		**P**	**03 58 37.2**	**+0.3**
DURS	**Dursunbey**	**26.06**	**306**	*i*	P		**P**	**03 58 37.2**	**+0.3**
DMN	**Daman**	**26.08**	**81**	*e*	P		**P**	**03 58 38.1**	**+0.7**
ARMT	**Armutlu**	**26.14**	**309**	*e*	P		**P**	**03 58 38.2**	**+0.7**
BODT	**Bodrum**	**26.14**	**300**	*e*	P		**P**	**03 58 37.2**	**-0.4**
ISK	**Istanbul-Kandi**	**26.21**	**310**	*e*	P		P	03 58 32.1	-6.0
KKN	**Kakani**	**26.22**	**81**	*e*	P		**P**	**03 58 39.5**	**+0.8**
AKHS	**Akhisar**	**26.29**	**304**	*i*	P		**P**	**03 58 39.8**	**+0.9**
AKHS	**Akhisar**	**26.29**	**304**	*i*	P		**P**	**03 58 39.8**	**+0.9**
PKIN	**Phulchoki**	**26.34**	**81**	*e*	P		**P**	**03 58 40.5**	**+0.7**
	comp=Z,78nm,1.0s								
PKI	**Pulchoki**	**26.36**	**81**	*e*	P		**P**	**03 58 40.6**	**+0.6**
	comp=Z,139nm,1.0s								
GCAM	**G?zelcaml?**	**26.37**	**301**	*i*	P		**P**	**03 58 40.7**	**+1.1**
GCAM	**G?zelcaml?**	**26.37**	**301**	*i*	P		**P**	**03 58 40.7**	**+1.1**
KCTX	**Karacabey (Bur**	**26.39**	**308**	*e*	P		**P**	**03 58 40.6**	**+0.8**
BGKT	**Bogazkoy**	**26.46**	**310**	*e*	P		**P**	**03 58 36.0**	**-4.3**
BALB	**Balikesir**	**26.50**	**306**	*e*	P		**P**	**03 58 41.9**	**+1.2**
VRHR	**Novokhopersk**	**26.55**	**340**	*e*	P		**P**	**03 58 41.5**	**+0.4**
VRHR					eS		**S**	**04 03 15.9**	**+1.4**
VRHR						pmax	pmax		
	comp=Z,100nm,0.6s								
VRHR						pmax	pmax		
	comp=N,70nm,1.3s								
VRHR						pmax	pmax		
	comp=E,30nm,0.6s								
VRHR						smax	smax		
	comp=E,230nm,2.6s								
VRHR						smax	smax		
	comp=Z,20nm,1.2s								
VRHR						smax	smax		
	comp=N,160nm,1.1s								
VRHR						MLR	MLR		
	comp=Z,720nm,15.0s								
VRHR						MLR	MLR		
	comp=N,830nm,21.0s								
VRHR						MLR	MLR		
	comp=E,410nm,15.0s								
VRHR	**Novokhopersk**	**26.55**	**340**	*e*	P		**P**	**03 58 41.5**	**+0.4**
	comp=E,70nm,1.3s								
ZKR	**Zakros**	**26.59**	**295**	*e*	P		**P**	**03 58 41.0**	**-0.7**
CTKS	**Kestanelik-??a**	**26.66**	**310**	*e*	P		**P**	**03 58 42.2**	**+0.1**
SMG	**Samos**	**26.68**	**301**	*e*	P		**P**	**03 58 43.5**	**+1.1**
GUN	**Gumba**	**26.74**	**81**	*e*	P		**P**	**03 58 43.9**	**+0.4**
	comp=E,199nm,1.1s								
GONE	**Gonen-Balikesi**	**26.78**	**307**	*e*	P		**P**	**03 58 40.7**	**-2.6**
SLVT	**Silivri**	**26.86**	**309**	*e*	P		**P**	**03 58 44.6**	**+0.6**
JIRN	**Jiri**	**27.04**	**81**	*e*	P		**P**	**03 58 46.8**	**+0.6**
	comp=E,132nm,1.1s								
NPS	**Neapolis**	**27.11**	**296**	*e*	P		**P**	**03 58 48.5**	**+2.2**
KRBG	**Karabiga-Canak**	**27.18**	**307**	*e*	P		**P**	**03 58 45.0**	**-1.9**
LAST	**Lasithi**	**27.20**	**295**	*e*	P		**P**	**03 58 48.5**	**+1.3**
VORD	**Divnogorie**	**27.21**	**337**	*e*	P		**P**	**03 58 46.2**	**-0.8**
VORD					eS		**S**	**04 03 23.4**	**-1.5**
VORD						pmax	pmax		
	comp=Z,10.0nm,0.5s								
VORD						pmax	pmax		
	comp=N,20nm,0.6s								
VORD						pmax	pmax		
	comp=E,10.0nm,0.5s								
VORD						smax	smax		
	comp=N,250nm,2.0s								
VORD						smax	smax		
	comp=Z,30nm,3.2s								
VORD						smax	smax		
	comp=E,90nm,1.0s								
VORD						MLR	MLR		
	comp=N,760nm,20.0s								
VORD						MLR	MLR		
	comp=Z,1μm,20.0s								
VORD						MLR	MLR		
	comp=E,520nm,19.0s								
VORD	**Divnogorie**	**27.21**	**337**	*e*	P		**P**	**03 58 46.2**	**-0.8**
	comp=E,20nm,0.6s								
BOK	**Bokaro**	**27.37**	**90**	*e*	P		**P**	**03 58 49.0**	**+0.2**
SANT	**Santorini**	**27.43**	**298**	*e*	P		**P**	**03 58 48.6**	**-0.6**
	comp=E,223nm,1.1s								
SANT						LR	LR		
	comp=Z,750nm,20.0s								
SANT	**Santorini**	**27.43**	**298**	*e*	P		**P**	**03 58 48.7**	**-0.6**
	comp=Z,223nm,1.1s								
VSR	**Storozhevoye**	**27.46**	**337**	*e*	P		**P**	**03 58 48.4**	**-0.9**
VSR					eS		**S**	**04 03 27.7**	**-1.2**
VSR						pmax	pmax		
	comp=Z,20nm,0.6s								
VSR						pmax	pmax		
	comp=N,20nm,0.8s								
VSR						pmax	pmax		
	comp=E,10.0nm,0.8s								
VSR						smax	smax		
	comp=N,160nm,3.8s								
VSR						smax	smax		
	comp=Z,110nm,3.4s								
VSR						smax	smax		
	comp=E,50nm,1.3s								
VSR						MLR	MLR		
	comp=Z,1μm,19.0s								
VSR						MLR	MLR		
	comp=N,420nm,16.0s								
VSR						MLR	MLR		
	comp=E,350nm,16.0s								
VSR	**Storozhevoye**	**27.46**	**337**	*e*	P		**P**	**03 58 48.4**	**-0.9**
	comp=E,20nm,0.6s								
APE	**Apeiranthos**	**27.53**	**299**	*e*	P		**P**	**03 58 49.1**	**-1.0**
APE	**Apeiranthos**	**27.53**	**299**	⇓	P		**P**	**03 58 51.1**	**+1.0**
APE	**Apeiranthos**	**27.53**	**299**	*e*	P		**P**	**03 58 51.0**	**+1.0**
APE	**Apeiranthos**	**27.53**	**299**	⇓*i*	P		**P**	**03 58 51.1**	**+1.0**
APE	**Apeiranthos**	**27.53**	**299**		P		**P**	**03 58 51.1**	**+1.0**
IDI	**Anoyia**	**27.69**	**295**	*e*	P		**P**	**03 58 53.0**	**+1.4**
IDI	**Anoyia**	**27.69**	**295**	*e*	P		**P**	**03 58 52.5**	**+0.9**
	comp=E,86nm,0.7s								
IDI					e	PcP	**PcP**	**04 02 11.0**	**+2.6**
IDI	**Anoyia**	**27.69**	**295**	*e*	P		**P**	**03 58 52.5**	**+0.9**
	comp=E,86nm,0.7s								
SIVA	**Sivas**	**27.71**	**295**	*e*	P		**P**	**03 58 56.5**	**+4.8**
GELI	**Tayfur-Gelibol**	**27.77**	**307**	*e*	P		**P**	**03 58 48.5**	**-3.7**
VOR	**Voronezh**	**27.88**	**338**		P		**P**	**03 58 54.0**	**+1.0**
VOR						pmax	pmax		
	comp=Z,250nm,1.2s								
VOR	**Voronezh**	**27.88**	**338**		P		**P**	**03 58 54.0**	**+1.0**
	comp=Z,250nm,1.2s								
PSN	**Preselentsi**	**27.95**	**314**	*i*	P		**P**	**03 58 52.7**	**-1.1**
EDRB	**Edirne**	**28.12**	**310**	*e*	P		P	03 58 50.9	-4.4
ENEZ	**Enez**	**28.12**	**307**	*e*	P		P	03 58 51.2	-4.0
TIRR	**Tirgusor**	**28.18**	**316**	⇑	P		**P**	**03 58 55.8**	**0.0**
TIRR	**Tirgusor**	**28.18**	**316**	*e*	P		**P**	**03 58 55.4**	**-0.4**
	comp=Z,32nm,0.8s								
TIRR	**Tirgusor**	**28.18**	**316**	⇑*i*	P		**P**	**03 58 55.8**	**0.0**
TIRR	**Tirgusor**	**28.18**	**316**		P		**P**	**03 58 55.8**	**0.0**
ODAN	**Odare**	**28.18**	**83**	*e*	P		**P**	**03 58 56.5**	**+0.2**
	comp=Z,159nm,1.5s								
PRD	**Provadia**	**28.24**	**313**	*i*	P		**P**	**03 58 55.7**	**-0.6**
VAM	**Vamos**	**28.27**	**295**	*e*	P		**P**	**03 58 59.0**	**+2.3**
GVD	**Gavdhos**	**28.28**	**294**	*e*	P		**P**	**03 58 57.0**	**+0.2**
TLCR		**28.30**	**317**	⇑	P		**P**	**03 58 57.1**	**+0.3**
TLCR		**28.30**	**317**	⇑*i*	P		**P**	**03 58 57.1**	**+0.3**
TLCR		**28.30**	**317**		P		**P**	**03 58 57.1**	**+0.3**
BRVK	**Borovoye**	**28.39**	**19**		P		**P**	**03 58 57.6**	**+0.1**
	comp=Z,227nm,0.5s,SNR=13								
BRVK	**Borovoye**	**28.39**	**19**	*c*	*i*	P	**P**	**03 58 57.9**	**+0.4**
BRVK						pmax	pmax		
	comp=Z,53nm,1.7s								
BRVK	**Borovoye**	**28.39**	**19**	*e*	P		**P**	**03 58 57.6**	**+0.1**
	comp=Z,36nm,0.8s								
BRVK						LR	LR		
	comp=Z,339nm,21.0s								
BRVK	**Borovoye**	**28.39**	**19**	*i*	P		**P**	**03 58 57.9**	**+0.4**
	comp=Z,53nm,1.7s								
BVA0	**Borovoye Array**	**28.39**	**19**	*i*	P		**P**	**03 58 56.9**	**-0.7**
BVA0						pmax	pmax		
	comp=Z,61nm,0.9s								
BVA0	**Borovoye Array**	**28.39**	**19**	*i*	P		**P**	**03 58 56.9**	**-0.7**
	comp=Z,61nm,0.9s								
BVAR	**Borovoye Array**	**28.39**	**19**		P		**P**	**03 58 56.0**	**-1.6**
BVAR								04 02 10.1	
BVAR						pmax	pmax		
	comp=Z,12nm,0.5s								
BVAR						pmax	pmax		
	comp=Z,7.0nm,0.6s								
BVAR						MLR	MLR		
	comp=Z,3μm,18.4s								
BVAR	**Borovoye Array**	**28.39**	**19**		P		**P**	**03 58 56.0**	**-1.6**
BVAR						PcP	**PcP**	**04 02 10.1**	**+0.4**
BVAR	**Borovoye Array**	**28.39**	**19**		P		**P**	**03 58 56.0**	**-1.6**
	comp=Z,12nm,0.5s,baz=139,slow=9.2,SNR=46								
BVAR						PcP	**PcP**	**04 02 10.1**	**+0.4**
	comp=Z,7.1nm,0.6s,baz=223,slow=1.7,SNR=4.2								
BVAR						LR	LR	04 12 18.7	
	comp=Z,3μm,18.4s,baz=213,slow=41								
BVAR	**Borovoye Array**	**28.39**	**19**		P		**P**	**03 58 56.0**	**-1.6**
	comp=Z,12nm,0.5s								
BVAR	**Borovoye Array**	**28.39**	**19**		PcP		**PcP**	**04 02 10.1**	**+0.4**
TAPN	**Taplejung**	**28.41**	**82**	*e*	P		**P**	**03 58 58.4**	**0.0**
SMTH	**Samothraki Isl**	**28.48**	**306**	*e*	P		**P**	**03 58 59.5**	**+1.0**
KARN	**Karanos**	**28.50**	**295**	*e*	P		**P**	**03 59 01.5**	**+2.8**
LIA	**Limnos Island**	**28.55**	**305**		P		**P**	**03 59 00.2**	**+1.1**
LIA	**Limnos Island**	**28.55**	**305**	*e*	P		**P**	**03 59 00.5**	**+1.4**
CFR	**Carcaliu**	**28.71**	**317**	⇑	P		**P**	**03 59 00.4**	**-0.1**
CFR	**Carcaliu**	**28.71**	**317**	⇑*i*	P		**P**	**03 59 00.3**	**-0.2**
CFR	**Carcaliu**	**28.71**	**317**		P		**P**	**03 59 00.4**	**-0.1**
MK31	**Makanchi Array**	**28.93**	**39**	*i*	P		**P**	**03 59 02.4**	**0.0**
MK31						pmax	pmax		
	comp=Z,12nm,0.6s								
MK31	**Makanchi Array**	**28.93**	**39**	*e*	P		**P**	**03 59 02.8**	**+0.3**
MK31	**Makanchi Array**	**28.93**	**39**	*i*	P		**P**	**03 59 02.4**	**0.0**
	comp=Z,12nm,0.6s								
MKAR	**Makanchi Array**	**28.93**	**39**		P		**P**	**03 59 02.4**	**-0.1**
MKAR						pmax	pmax		
	comp=Z,10.0nm,0.6s								
MKAR						MLR	MLR		
	comp=Z,2μm,19.5s								
MKAR	**Makanchi Array**	**28.93**	**39**		P		**P**	**03 59 02.4**	**-0.1**
MKAR	**Makanchi Array**	**28.93**	**39**		P		**P**	**03 59 02.4**	**-0.1**
	comp=Z,10nm,0.6s,baz=228,slow=8.3,SNR=37								
MKAR						LR	LR	04 12 07.8	
	comp=Z,2μm,19.5s,baz=37,slow=40								
MKAR	**Makanchi Array**	**28.93**	**39**		P		**P**	**03 59 02.4**	**-0.1**
	comp=Z,2μm,19.5s								
PTL	**Penteli**	**29.04**	**301**	*e*	P		P	03 59 07.0	+3.4
ANKY	**Antikythira Is**	**29.06**	**296**		P		**P**	**03 59 05.5**	**+1.8**
ANKY	**Antikythira Is**	**29.06**	**296**	*e*	P		**P**	**03 59 05.5**	**+1.8**
ANKY	**Antikythira Is**	**29.06**	**296**		P		**P**	**03 59 05.5**	**+1.8**
SZH	**Strazhica**	**29.24**	**312**	*i*	P		**P**	**03 59 05.0**	**-0.2**
KIS	**Kishinev**	**29.28**	**321**	⇑	*i*	P	**P**	**03 59 04.0**	**-1.5**
	comp=Z,200nm,0.5s								
KIS					e	S	**S**	**04 03 52.0**	**-5.6**
KIS					e	SS	**SS**	**04 06 04.0**	**+2.1**
KIS					e	Li		04 08 25.0	
KIS					e	LQ	LQ	04 10 45.0	
KIS						LRM	MLR	04 17 24.0	
	comp=Z,1μm,13.0s								
KIS	**Kishinev**	**29.28**	**321**	α	*i*	P	**P**	**03 59 04.0**	**-1.5**
KIS					e	S	**S**	**04 03 52.0**	**-5.6**
KIS						pmax	pmax		
	comp=Z,200nm,0.5s								
KIS	**Kishinev**	**29.28**	**321**	*i*	P		**P**	**03 59 04.0**	**-1.5**
	comp=Z,200nm,0.5s								
AOS	**Alonnisos**	**29.30**	**303**		P		**P**	**03 59 07.1**	**+1.2**
AOS	**Alonnisos**	**29.30**	**303**	*e*	P		**P**	**03 59 07.0**	**+1.2**
LEOM	**Leova**	**29.32**	**319**	⇓	P		**P**	**03 59 05.4**	**-0.5**
LEOM	**Leova**	**29.32**	**319**	⇓*i*	P		**P**	**03 59 05.4**	**-0.5**
LEOM	**Leova**	**29.32**	**319**		P		**P**	**03 59 05.4**	**-0.5**
DID	**Didima**	**29.41**	**299**	*e*	P		**P**	**03 59 06.5**	**-0.3**
LKFR	**Kufra**	**29.46**	**272**	*i*	P		**P**	**03 59 09.1**	**+1.7**
	comp=Z,74nm,1.8s,SNR=43								
KURBB	**Kurchatov Arra**	**29.47**	**30**		P		**P**	**03 59 07.4**	**+0.3**
	comp=Z,21nm,0.8s,baz=229,slow=8.6,SNR=32								
KURBB					PcP		**PcP**	**04 02 12.9**	**+0.5**
	comp=Z,4.2nm,0.8s,baz=219,slow=4.5,SNR=4.5								
KURBB					PKiKP		**PKiKP**	**04 09 49.5**	**+4.0**
	comp=Z,0.2nm,0.4s,baz=211,slow=1.0,SNR=4.1								
RZN	**Rozhen**	**29.47**	**308**	*i*	P		**P**	**03 59 07.8**	**+0.3**
VLI	**Veliai**	**29.49**	**298**	*e*	P		**P**	**03 59 07.0**	**-0.6**
KURK	**Kurchatov**	**29.57**	**30**		P		**P**	**03 59 08.6**	**+0.5**
	comp=Z,134nm,0.8s,SNR=8.6								
KURK	**Kurchatov**	**29.57**	**30**		P		**P**	**03 59 07.4**	**-0.7**
KURK								04 02 12.9	
KURK						pmax	pmax		
	comp=Z,21nm,0.8s								
KURK						pmax	pmax		
	comp=Z,4.0nm,0.8s								
KURK	**Kurchatov**	**29.57**	**30**		P		**P**	**03 59 07.4**	**-0.7**
KURK					PcP		**PcP**	**04 02 12.9**	**+0.2**
KURK					PKiKP		**PKiKP**	**04 09 49.5**	**+3.9**
KURK	**Kurchatov**	**29.57**	**30**		P		**P**	**03 59 07.4**	**-0.7**
	comp=Z,21nm,0.8s								
PLD	**Plovdiv**	**29.62**	**309**	*i*	P		**P**	**03 59 08.9**	**+0.2**
SULR		**29.64**	**315**	⇓*i*	P		**P**	**03 59 10.3**	**+1.5**
ISR	**Istrita**	**29.66**	**316**	⇓	P		P	03 59 13.0	+3.9
ISR	**Istrita**	**29.66**	**316**	⇓*i*	P		P	03 59 13.0	+3.9
ISR	**Istrita**	**29.66**	**316**		P		P	03 59 13.0	+3.9
ARU	**Arti**	**29.68**	**3**	*c*	*i*	P	**P**	**03 59 09.1**	**+0.1**
ARU								04 00 04.6	
ARU								04 02 12.1	
ARU					S		**S**	**04 04 05.6**	**+1.9**
ARU					SS		**SnSn**	**04 05 38.5**	**+5.3**
ARU						pmax	pmax		
	comp=Z,11nm,0.8s								
ARU						MLR	MLR		
	comp=Z,2μm,21.0s								
ARU	**Arti**	**29.68**	**3**	*i*	P		**P**	**03 59 09.1**	**+0.1**
	comp=Z,11nm,0.8s								
LTK	**Loutraki**	**29.73**	**300**	*e*	P		**P**	**03 59 09.0**	**-0.6**
NEO	**Neokhori**	**29.83**	**303**		P		**P**	**03 59 11.3**	**+0.7**
XOR	**Xorichti**	**29.87**	**303**		P		**P**	**03 59 11.7**	**+0.8**
VRI	**Vrincioaia**	**29.91**	**317**	⇑	P		**P**	**03 59 12.0**	**+0.8**
VRI	**Vrincioaia**	**29.91**	**317**	⇑*i*	P		**P**	**03 59 12.0**	**+0.8**
VRI	**Vrincioaia**	**29.91**	**317**		P		**P**	**03 59 12.0**	**+0.8**
PLOR	**Plostina**	**29.95**	**317**	⇑	P		**P**	**03 59 12.8**	**+1.2**
PLOR	**Plostina**	**29.95**	**317**	⇑*i*	P		**P**	**03 59 12.8**	**+1.2**
PLOR	**Plostina**	**29.95**	**317**		P		**P**	**03 59 12.8**	**+1.2**
NVR	**Nevrokopi**	**29.96**	**307**		P		**P**	**03 59 12.7**	**+1.0**
NVR	**Nevrokopi**	**29.96**	**307**	*e*	P		**P**	**03 59 13.0**	**+1.3**
DYR	**Agios Nikonas**	**29.98**	**298**		P		**P**	**03 59 12.4**	**+0.5**
DYR	**Agios Nikonas**	**29.98**	**298**	*e*	P		**P**	**03 59 12.0**	**+0.1**
DYR	**Agios Nikonas**	**29.98**	**298**		P		**P**	**03 59 12.4**	**+0.5**
SRS	**Serrai**	**30.08**	**307**		P		**P**	**03 59 13.8**	**+1.1**
AXAR	**Agios Charalam**	**30.13**	**302**		P		**P**	**03 59 13.7**	**+0.5**
MMB	**Musomiste**	**30.13**	**308

KIEV Kiev 31.30 327 *e*P **P** **03 59 22.6 -0.7**
KIEV pmax pmax
comp=Z,102nm,0.7s
KIEV MLR MLR
comp=Z,830nm,22.0s
KIEV Kiev 31.30 327 *e*P **P** **03 59 22.6 -0.7**
comp=Z,102nm,0.7s
KIEV LR LR
comp=Z,830nm,22.0s
KIEV Kiev 31.30 327 *e*P **P** **03 59 22.6 -0.7**
comp=Z,830nm,22.0s
MDB Medias 31.48 316⇑P **P** **03 59 26.0 +1.0**
MDB Medias 31.48 316⇑*i*P **P** **03 59 26.0 +1.0**
MDB Medias 31.48 316 P **P** **03 59 26.0 +1.0**
LOT Lotru 31.56 315⇑*i*P **P** **03 59 23.2 -2.7**
OBN Obninsk 31.58 339⇑*i*P **P** **03 59 25.9 +0.3**
OBN *e* 04 00 29.6
OBN *e*S **S** **04 04 33.3 0.0**
OBN pmax pmax
comp=Z,86nm,0.6s
OBN MLR MLR
comp=Z,700nm,19.0s
OBN Obninsk 31.58 339 P **P** **03 59 26.0 +0.3**
comp=Z,857nm,0.5s,SNR=7.5
OBN Obninsk 31.58 339 *i* P **P** **03 59 25.9 +0.3**
comp=Z,86nm,0.6s
FNA Florina 31.59 305 P **P** **03 59 26.6 +0.5**
VLS Valsamata 31.59 300 P **P** **03 59 25.6 -0.5**
VLS Valsamata 31.59 300 *e*P **P** **03 59 26.0 -0.1**
VLS Valsamata 31.59 300 P **P** **03 59 25.6 -0.5**
LKD2 Lefkada island 31.66 301 P **P** **03 59 26.4 -0.3**
LKD2 Lefkada island 31.66 301 P **P** **03 59 26.4 -0.3**
BURAR Bucovina Array 31.68 319⇑P **P** **03 59 27.6 +0.7**
BURAR Bucovina Array 31.68 319⇑*i*P **P** **03 59 27.6 +0.7**
BIA Bitola 31.69 305 *i* P **P** **03 59 27.3 +0.3**
BIA Bitola 31.69 305 *i* P **P** **03 59 27.2 +0.3**
MOS Moscow 31.77 340 *e*P P 03 59 24.1 -3.3
MOS *e* 04 00 28.7
MOS *e*S **S** **04 04 35.9 -0.5**
MOS *e* 04 09 56.3
MOS pmax pmax
comp=Z,50nm,0.7s
MOS MLR MLR
comp=Z,600nm,14.0s
SKO Skopje 31.88 307 *i* P **P** **03 59 29.8 +1.3**
SKO Skopje 31.88 307 *i* P **P** **03 59 29.8 +1.3**
KBN Korca 31.98 305 *e*PN **P** **03 59 29.8 +0.2**
IGT Igoumenitsa 32.06 302 P **P** **03 59 29.3 -0.9**
IGT Igoumenitsa 32.06 302 P **P** **03 59 29.3 -0.9**
GZR Gura Zlata 32.18 314⇓P **P** **03 59 31.0 -0.2**
GZR Gura Zlata 32.18 314⇓*i*P **P** **03 59 31.0 -0.2**
GZR Gura Zlata 32.18 314 P **P** **03 59 31.0 -0.2**
CJR Cluj-Napoca 32.23 317⇓*i*P **P** **03 59 32.9 +1.3**
SHL Shillong 32.37 84 *e*P **P** **03 59 33.0 -0.3**
SRN Sarande 32.39 303 *e*PN **P** **03 59 32.4 -0.7**
SRN Sarande 32.39 303 P **P** **03 59 32.3 -0.7**
PHP Peshkopia 32.51 306 *e*PN **P** **03 59 34.1 -0.1**
PHP Peshkopia 32.51 306 P **P** **03 59 34.0 -0.2**
SOKR Solikamsk 32.80 1*c i*P **P** **03 59 36.0 -0.3**
SOKR S **S** **04 04 55.3 +3.0**
SOKR pmax pmax
comp=Z,30nm,0.9s
SOKR MLR MLR
comp=Z,3μm,24.0s
SOKR Solikamsk 32.80 1 *i* P **P** **03 59 36.0 -0.3**
comp=Z,30nm,0.9s
DRGR 32.81 316⇑P **P** **03 59 37.5 +0.8**
DRGR 32.81 316⇑*i*P **P** **03 59 37.5 +0.8**
DRGR 32.81 316 P **P** **03 59 37.5 +0.8**
TIR Tirane 32.84 305 *e*PN **P** **03 59 37.4 +0.4**
TIR Tirane 32.84 305 *e*P **P** **03 59 36.8 -0.2**
TIR pmax pmax
comp=Z,90nm,0.7s
TIR MLR MLR
comp=Z,551nm,21.0s
TIR Tirane 32.84 305 *e*P **P** **03 59 36.8 -0.2**
comp=Z,90nm,0.7s
TIR LR LR
comp=Z,551nm,21.0s
TIR Tirane 32.84 305 *e*P **P** **03 59 36.8 -0.2**
comp=Z,551nm,21.0s
BCI Bajram Curri 32.97 307 *e*PN **P** **03 59 38.2 +0.1**
KMBO Kilima Mbogo 33.00 216 *e*P **P** **03 59 40.3 +1.4**
comp=Z,42nm,1.0s
KMBO Kilima Mbogo 33.00 216 P **P** **03 59 40.5 +1.6**
comp=Z,34nm,1.0s,baz=28,slow=11,SNR=19
KMBO LR LR 04 13 47.4
comp=Z,1μm,18.2s,baz=76,slow=38
KMBO Kilima Mbogo 33.00 216 *e*P **P** **03 59 40.3 +1.4**
comp=Z,42nm,1.0s
PUK Puka 33.00 307 *e*PN **P** **03 59 38.2 -0.3**
BZS Buzias 33.01 314⇑P **P** **03 59 38.9 +0.4**
BZS Buzias 33.01 314⇑*i*P **P** **03 59 38.9 +0.4**
BZS Buzias 33.01 314 P **P** **03 59 38.9 +0.4**
LVV L'vov 33.49 322 *e*P **P** **03 59 41.0 -1.6**
LVV *e*S **S** **04 04 59.0 -4.3**
LVV L'vov 33.49 322 *e*P **P** **03 59 41.0 -1.6**
DIVS Divibare 33.55 310 P **P** **03 59 43.0 -0.3**
DIVS Divibare 33.55 310 P **P** **03 59 43.0 -0.3**
LZLA Zalla 33.79 282 *i* P **P** **03 59 46.5 +1.1**
comp=Z,119nm,1.1s,SNR=41
UZH Uzhgorod 33.89 319⇑*i*P **P** **03 59 46.4 +0.4**
UZH *e* 03 59 57.6
UZH *e*S **S** **04 05 08.4 -1.1**
UZH MLR MLR
comp=N,620nm,16.0s
UZH MLR MLR
comp=E,900nm,16.0s
UZH Uzhgorod 33.89 319 *i* P **P** **03 59 46.4 +0.4**
KWP Kalwaria Pacla 34.13 321⇑P **P** **03 59 48.7 +0.5**
KWP Kalwaria Pacla 34.13 321 *e*P **P** **03 59 48.2 0.0**
comp=E,55nm,0.8s
KWP LR LR
comp=Z,1μm,22.0s
KWP Kalwaria Pacla 34.13 321⇑*i*P **P** **03 59 48.7 +0.5**
KWP Kalwaria Pacla 34.13 321 *e*P **P** **03 59 48.4 +0.2**
KWP LMZ LR 04 17 33.8
KWP Kalwaria Pacla 34.13 321 *e*P **P** **03 59 48.2 0.0**
comp=Z,55nm,0.8s
IMP Imphal 34.34 85 *ex* P 03 59 55.0 +4.6
LSRT Sirt 34.37 287 *i* P **P** **03 59 49.9 -0.5**
comp=Z,220nm,1.1s,SNR=41
LSRT *e*S S 04 05 25.5 +8.1
SNR=40
MNK Minsk 34.43 331⇑*i*P **P** **03 59 48.0 -2.7**
MNK *e*S **S** **04 05 15.0 -2.8**
MNK pmax pmax
comp=Z,360nm,1.0s
MNK Minsk 34.43 331 *i* P **P** **03 59 48.0 -2.7**
comp=Z,360nm,1.0s
NVS Novosibirsk 34.47 28⇓*i*P P 03 59 59.3 +8.4
NVS *i* S **S** **04 05 17.9 -0.4**
NVS *e*SS **SnSn** **04 07 26.5 -2.8**
NVS pmax pmax
comp=Z,64nm,1.3s
NVS pmax pmax
comp=N,36nm,1.2s
NVS pmax pmax
comp=E,22nm,1.2s
NVS smax smax
comp=N,52nm,1.5s
NVS smax smax
comp=E,66nm,2.0s
ZALV Zalesovo Beam 34.56 30 *i* P **P** **03 59 51.4 -0.4**
ZALV pmax pmax
comp=Z,47nm,0.6s
ZALV Zalesovo Beam 34.56 30 P **P** **03 59 51.4 -0.4**
ZALV Zalesovo Beam 34.56 30 P **P** **03 59 51.4 -0.4**
comp=Z,47nm,0.6s,baz=240,slow=9.3,SNR=106
ZALV LR LR 04 15 33.3
comp=Z,814nm,18.2s,baz=346,slow=39
ZALV Zalesovo Beam 34.56 30 *i* P **P** **03 59 51.4 -0.4**
comp=Z,47nm,0.6s
PKSN Nyarlorinc 34.63 315⇑*e*P **P** **03 59 53.6 +1.1**
TIP Timpagrande 34.72 301 *e*P **P** **03 59 54.3 +0.8**
comp=Z,167nm,1.1s
TIP *e*S **S** **04 05 23.0 +0.3**
TIP LR LR
comp=Z,668nm,20.0s
TIP Timpagrande 34.72 301 *e*P **P** **03 59 54.3 +0.8**
comp=Z,167nm,1.1s
STHS Stebnicka Huta 34.87 320 *e*P **P** **03 59 55.0 +0.5**
STHS pmax pmax
comp=Z,12nm,0.7s
STHS Stebnicka Huta 34.87 320 *e*P **P** **03 59 55.0 +0.5**
STHS Stebnicka Huta 34.87 320 *e*P **P** **03 59 55.0 +0.5**
comp=Z,12nm,0.7s
PKS2 Kecel 34.89 314⇑*e*P **P** **03 59 55.9 +1.1**
KECS Kecovo 34.90 318 *e*P **P** **03 59 55.3 +0.5**
KECS pmax pmax
comp=Z,48nm,0.8s
KECS Kecovo 34.90 318 *e*P **P** **03 59 55.3 +0.5**
KECS Kecovo 34.90 318 *e*P **P** **03 59 55.3 +0.5**
comp=Z,48nm,0.8s
PSZ Piszkesteto 35.02 317 PFAKE 04 00 10.0 +14
PSZ LR LR
comp=Z,918nm,20.0s
PSZ Piszkesteto 35.02 317⇓*e*P **P** **03 59 56.3 +0.4**
PSZ Piszkesteto 35.02 317⇓*e*P **P** **03 59 56.3 +0.4**
PKS7 Kunszentmiklos 35.13 315⇓*e*P **P** **03 59 57.8 +1.0**
NACGM Naroch 35.16 331 *e*P **P** **03 59 54.0 -2.9**
PKSM Moragy 35.16 313⇑P **P** **03 59 57.5 +0.4**
PKSM Moragy 35.16 313⇑*i*P **P** **03 59 57.5 +0.4**
PKSM Moragy 35.16 313⇓*e*P **P** **03 59 57.7 +0.6**
PKSM Moragy 35.16 313 P **P** **03 59 57.5 +0.4**
LJFR Jufra 35.26 283 *i* P **P** **03 59 59.2 +1.1**
SNR=41
CEL Celeste 35.26 299 *e*P **P** **03 59 58.9 +0.7**
CEL comp=Z,88nm,0.9s LR LR
comp=Z,602nm,20.0s
CEL Celeste 35.26 299 *e*P **P** **03 59 58.9 +0.7**
comp=Z,88nm,0.9s
BUD Budapest 35.39 316⇓*e*P **P** **03 59 59.6 +0.6**
NIE Niedzica 35.41 319⇑*i*P **P** **04 00 01.4 +2.2**
NIE *e*S **S** **04 05 35.9 +2.8**
NIE Niedzica 35.41 319 *i* P **P** **04 00 01.4 +2.2**
NIE *e*pP **pP** **04 00 03.5 -1.5**
NIE *e*S **S** **04 05 35.9 +2.8**
NIE Niedzica 35.41 319 *i* P **P** **04 00 01.4 +2.2**
NIE *e*S **S** **04 05 35.9 +2.8**
IDID Didziasalis 35.45 331 *e*P **P** **03 59 59.9 +0.5**
IDID AMB AMB 04 00 00.3
comp=Z,46nm,0.7s
IDID Didziasalis 35.45 331 *e*P **P** **03 59 59.9 +0.5**
comp=Z,46nm,0.7s,SNR=26
PKS9 Tamasi 35.53 314⇓*e*P **P** **04 00 01.1 +0.8**
CUC Castrocucco 35.57 302 *e*P **P** **04 00 01.4 +0.7**
comp=Z,138nm,0.7s
CUC LR LR
comp=Z,649nm,19.0s
CUC Castrocucco 35.57 302 *e*P **P** **04 00 01.4 +0.7**
comp=Z,138nm,0.7s
IIGN Ignalina 35.69 331 *e*P **P** **04 00 02.0 +0.5**
IIGN AMB AMB 04 00 02.6
comp=Z,80nm,0.6s
IIGN Ignalina 35.69 331 *e*P **P** **04 00 02.0 +0.5**
comp=Z,80nm,0.6s,SNR=26
LMSR Misrath 35.73 289 *i* P **P** **04 00 02.7 +0.6**
comp=Z,302nm,1.0s,SNR=41
PKSG 35.75 315⇑*e*P **P** **04 00 02.6 +0.5**
CSKK Cs^tkako 35.82 315⇑*e*P **P** **04 00 03.7 +0.9**
ISAL Salakas 35.88 331 *e*P **P** **04 00 03.6 +0.5**
ISAL AMB AMB 04 00 04.1
comp=Z,43nm,0.7s
ISAL Salakas 35.88 331 *e*P **P** **04 00 03.6 +0.5**
comp=Z,43nm,0.7s,SNR=26
VYHS Vyhne 35.90 317 *e*P **P** **04 00 03.4 0.0**
VYHS pmax pmax
comp=Z,22nm,0.9s
VYHS Vyhne 35.90 317 *e*P **P** **04 00 03.4 0.0**
VYHS *e*S **S** **04 05 38.6 -2.0**
VYHS Vyhne 35.90 317 *e*P **P** **04 00 03.4 0.0**
comp=Z,22nm,0.9s
IZAR Zarasai 35.95 332 *e*P **P** **04 00 04.0 +0.3**
IZAR AMB AMB 04 00 04.7
comp=Z,43nm,0.6s
IZAR Zarasai 35.95 332 *e*P **P** **04 00 04.0 +0.3**
comp=Z,43nm,0.6s,SNR=26
OJC Ojcow 36.07 320⇑*i*P **P** **04 00 04.9 +0.1**
OJC *e*S **S** **04 05 40.5 -2.6**
OJC MLR MLR
comp=Z,700nm,20.7s
OJC Ojcow 36.07 320 *e*P **P** **04 00 04.8 -0.1**
comp=Z,148nm,0.7s
OJC Ojcow 36.07 320 *i* P **P** **04 00 04.9 +0.1**
OJC *e*pP **pP** **04 00 07.2 -3.4**
OJC *e*S **S** **04 05 40.5 -2.6**
OJC L L 04 18 05.9
comp=Z,700nm,20.7s
OJC Ojcow 36.07 320 *i* P **P** **04 00 04.9 +0.1**
WDD Wield Dalam 36.15 295 *e*P **P** **04 00 05.6 -0.1**
comp=Z,105nm,0.8s
WDD LR LR
comp=Z,869nm,19.0s
WDD Wield Dalam 36.15 295 *e*P **P** **04 00 05.6 -0.1**
comp=Z,105nm,0.8s
SUW Suwalki 36.25 327 *e*P **P** **04 00 05.6 -0.7**
SUW pmax pmax
comp=Z,212nm,0.8s
SUW Suwalki 36.25 327 *e*P **P** **04 00 05.6 -0.7**
comp=Z,212nm,0.8s
SUW Suwalki 36.25 327 *e*P **P** **04 00 05.8 -0.5**
SUW *e*pP **pP** **04 00 09.7 -2.4**
SUW *e*S **S** **04 05 45.8 +0.1**
SUW LMZ LR 04 16 31.9
SUW Suwalki 36.25 327 *e*P **P** **04 00 05.6 -0.7**
comp=Z,212nm,0.8s
BEL Belsk 36.29 323 *e*P **P** **04 00 06.8 +0.1**
BEL LMZ LR 04 16 04.5
MBAR Mbarara 36.37 226 PFAKE 04 00 20.0 +12
MBAR LR LR
comp=Z,991nm,20.0s
BEHE Becsehely 36.47 313⇓*e*P **P** **04 00 09.2 +0.9**
LSHF Shwairf 36.52 285 *i* P **P** **04 00 09.6 +0.6**
comp=Z,168nm,1.0s,SNR=40
SMOL Smolenice 36.77 316 *e*P **P** **04 00 10.9 +0.1**
SMOL Smolenice 36.77 316 *e*P **P** **04 00 10.9 +0.1**
SMOL Smolenice 36.77 316 *e*P **P** **04 00 10.9 +0.1**
KOGS Kog 36.80 313 *i* P **P** **04 00 11.4 +0.3**
ZST Bratislava 36.85 316 *e*P **P** **04 00 10.1 -1.4**
ZST Bratislava 36.85 316 *e*P **P** **04 00 10.1 -1.4**
ZST Bratislava 36.85 316 *e*P **P** **04 00 10.1 -1.4**
OKC Ostrava-Krasne 36.86 319⇑*i*P **P** **04 00 11.5 -0.1**
OKC *e* 04 01 36.0
OKC *e*S **S** **04 05 54.8 -0.4**
OKC MLR MLR
comp=Z,600nm,15.0s
OKC Ostrava-Krasne 36.86 319⇑*i*P **P** **04 00 11.5 -0.1**
OKC *e*PP **PnPn** **04 01 36.0 +0.3**
OKC *e*S **S** **04 05 54.8 -0.4**
OKC AMS AMS 04 20 50.0
comp=Z,600nm,15.0s
OKC Ostrava-Krasne 36.86 319 *i* P **P** **04 00 11.5 -0.1**
OKC *e*S **S** **04 05 54.8 -0.4**
comp=Z,600nm,15.0s
RAC Raciborz 36.94 319 *e*P **P** **04 00 12.6 +0.4**
RAC MLR MLR
comp=Z,900nm,20.4s
RAC Raciborz 36.94 319 *e*P **P** **04 00 12.6 +0.4**
comp=Z,900nm,20.4s
BOJS Bojanci 37.19 311 *i* P **P** **04 00 14.8 +0.4**
BOJS *e*S **S** **04 06 00.3 0.0**
MORC Moravsky Berou 37.19 318 *e*P **P** **04 00 14.4 -0.1**
MORC pmax pmax
comp=Z,71nm,0.8s
MORC Moravsky Berou 37.19 318 *e*P **P** **04 00 14.4 -0.1**
comp=Z,71nm,0.8s
MORC Moravsky Berou 37.19 318 *e*P **P** **04 00 14.4 -0.1**
comp=Z,71nm,0.8s
GROS Grobnik 37.30 313 *e*P **P** **04 00 15.2 -0.3**
PUL Pulkovo 37.33 339 *i* P **P** **04 00 15.3 -0.1**
PUL pmax pmax
comp=Z,124nm,0.7s
PUL Pulkovo 37.33 339 *i* P **P** **04 00 15.3 -0.1**
comp=Z,124nm,0.7s
GHAR Gharyan 37.36 289 *i* P **P** **04 00 16.8 +0.6**
comp=Z,249nm,1.1s,SNR=40
GHAR *e*S **S** **04 06 05.7 +2.3**
SNR=39
ARSA Arzberg 37.53 314 *i* P **P** **04 00 17.5 +0.1**
comp=Z,27nm,0.9s,SNR=19
ARSA Arzberg 37.53 314 P **P** **04 00 17.5 +0.1**
comp=Z,27nm,0.9s,SNR=19
CONA Conrad Observa 37.54 315 *i* P **P** **04 00 17.3 -0.2**
comp=Z,41nm,0.8s,SNR=29
CONA Conrad Observa 37.54 315 P **P** **04 00 17.3 -0.2**
comp=Z,41nm,0.8s,SNR=29
VSU Vasula 37.61 335*c i*P **P** **04 00 17.5 -0.3**
VSU pmax pmax
comp=Z,155nm,0.5s
VSU Vasula 37.61 335 *i* P **P** **04 00 17.5 -0.3**
comp=Z,155nm,0.5s
DGAR Diego Garcia 37.65 152 *i* P **P** **04 00 20.5 +1.9**
DGAR Diego Garcia 37.65 152 *i* P **P** **04 00 20.5 +1.9**
SOKA Soboth 37.67 313⇑*i*P **P** **04 00 18.6 -0.1**
comp=Z,28nm,1.0s
SOKA Soboth 37.67 313 P **P** **04 00 18.6 -0.1**
comp=Z,28nm,1.0s
KRLC Kraliky 37.76 319 *i* P **P** **04 00 19.1 -0.2**
KRLC Kraliky 37.76 319⇑*i*P **P** **04 00 19.1 -0.2**
KRLC Kraliky 37.76 319 *i* P **P** **04 00 19.1 -0.2**
AQU L'Aquila 37.77 305 *e*P **P** **04 00 20.5 +1.0**
AQU comp=Z,147nm,0.9s LR LR
comp=Z,1μm,20.0s
AQU L'Aquila 37.77 305 *e*P **P** **04 00 20.5 +1.0**
comp=Z,1μm,20.0s
LJU Ljubljana 37.83 312 *e*P **P** **04 00 20.4 +0.6**
LJU *e*S **S** **04 06 10.9 +0.9**
OBKA Obir 37.94 312 *i* P **P** **04 00 21.2 +0.3**
comp=Z,34nm,0.8s,SNR=18
OBKA Obir 37.94 312 P **P** **04 00 21.2 +0.3**
comp=Z,34nm,0.8s,SNR=18
DPC Dobruska-Polom 38.14 319⇑*i*P **P** **04 00 22.5 0.0**
DPC Dobruska-Polom 38.14 319⇑*i*P **P** **04 00 22.5 0.0**
DPC AMS AMS 04 19 40.0
DPC Dobruska-Polom 38.14 319 *i* P **P** **04 00 22.5 0.0**
TREC Trest 38.25 317 *i* P **P** **04 00 23.9 +0.5**
TREC *e*S **S** **04 06 14.2 -2.1**
TREC MLR MLR
comp=Z,700nm,17.8s
TREC Trest 38.25 317⇑*i*P **P** **04 00 23.9 +0.5**
TREC *e*pP **pP** **04 00 26.8 -2.4**
TREC *e*S **S** **04 06 14.2 -2.1**
TREC AMS AMS 04 22 50.0
comp=Z,700nm,17.8s
TREC Trest 38.25 317 *i* P **P** **04 00 23.9 +0.5**
VOY Vojsko 38.25 311⇑*e* **P** **04 00 23.3 -0.2**
VOY *e* 04 00 46.2
VOY *e* 04 00 52.3
VOY *e* 04 00 59.7
VOY *e* 04 01 18.7
TRI Trieste 38.25 311 *e*P **P** **04 00 23.0 -0.4**
TRI pmax pmax
comp=Z,108nm,1.0s
TRI Trieste 38.25 311 *e*P **P** **04 00 23.0 -0.4**
comp=Z,108nm,1.0s
TRI Trieste 38.25 311 *e*P **P** **04 00 23.0 -0.4**
comp=Z,108nm,1.0s
KSP Ksiaz 38.36 319⇑*e*P **P** **04 00 24.2 0.0**
KSP *e*S **S** **04 06 16.2 -1.7**
KSP Ksiaz 38.36 319 *e*P **P** **04 00 24.3 0.0**
KSP *e*pP **pP** **04 00 28.1 -1.9**
KSP *e*sP **sP** **04 00 31.6 -0.8**
KSP LMZ LR 04 19 56.0
KSP Ksiaz 38.36 319 *e*P **P** **04 00 24.2 0.0**
KSP *e*S **S** **04 06 16.2 -1.7**
CADS Cadrg 38.41 312 *i* P **P** **04 00 24.5 -0.3**
MOA Molln 38.53 314⇑*i*P **P** **04 00 25.7 -0.1**
comp=Z,64nm,0.9s,SNR=34
MOA Molln 38.53 314 P **P** **04 00 25.7 -0.1**
comp=Z,64nm,0.9s,SNR=34
ALAS Alassa 38.57 290 *i* P **P** **04 00 26.0 -0.2**
comp=Z,181nm,0.8s,SNR=40
ALAS *e*S **S** **04 06 23.4 +2.0**
SNR=39
MYKA Terra Mystica 38.58 312⇑*i*P **P** **04 00 26.3 0.0**
comp=Z,35nm,0.9s
MYKA Terra Mystica 38.58 312 P **P** **04 00 26.3 0.0**
comp=Z,35nm,0.9s
GTA Gaotai 38.63 60 P **P** **04 00 27.8 +0.9**
GTA pP **pP** **04 00 33.8 +1.2**
GTA sP **sP** **04 00 36.9 +1.9**
GTA S **ScP** **04 06 24.6 -1.6**
GTA ScP **S** **04 06 24.8 +2.3**
GTA sS **sS** **04 06 34.5 +2.4**
GTA SS **SnSn** **04 09 06.3 -4.4**
GTA pmax pmax
comp=Z,31nm,1.4s
GTA pmax pmax
comp=Z,290nm,5.5s
GTA LR LR
comp=N,1μm,17.6s
GTA LR LR
comp=E,880nm,16.2s
GTA LR LR
comp=Z,1μm,17.6s
GKP Gorka Klasztor 38.88 323 *e*P **P** **04 00 28.3 -0.3**
GKP LMZ LR 04 20 06.8
KBA Koelnbreinsper 38.90 313 *i* P **P** **04 00 29.1 0.0**
comp=Z,67nm,0.8s,SNR=58
KBA Koelnbreinsper 38.90 313 P **P** **04 00 29.1 0.0**
comp=Z,67nm,0.8s,SNR=58
PRU Pruhonice 39.07 318⇑*i*P **P** **04 00 29.8 -0.4**
PRU *e*S **S** **04 06 25.2 -3.4**
PRU MLR MLR
comp=Z,500nm,16.6s
PRU Pruhonice 39.07 318⇑*i*P **P** **04 00 29.8 -0.4**
PRU *e*pP **pP** **04 00 32.6 -3.4**
PRU *e*S **S** **04 06 25.2 -3.4**
PRU AMS AMS 04 21 20.0
comp=Z,500nm,16.6s
PRU Pruhonice 39.07 318 *i* P **P** **04 00 29.8 -0.4**
TMCR Tamitsa 39.10 348 *e*P **P** **04 00 30.4 +0.2**
TMCR *e* 04 02 01.7
TMCR pmax pmax
comp=Z,53nm,0.6s
TMCR Tamitsa 39.10 348 *e*P **P** **04 00 30.4 +0.2**
comp=Z,53nm,0.6s
PRA Prague 39.16 318⇑P **P** **04 00 30.0 -1.0**
PRA AMS AMS 04 21 30.0
GEC2 GERESS Array S 39.20 316 *e*P **P** **04 00 30.9 -0.5**
comp=Z,25nm,0.9s
GEC2 GERESS Array S 39.20 316 *e*P **P** **04 00 30.9 -0.5**
GEC2 pmax pmax
comp=Z,30nm,0.9s
GEC2 GERESS Array S 39.20 316 *e*P **P** **04 00 30.9 -0.5**
comp=Z,30nm,0.9s
GERES GERESS Array B 39.20 316 P **P** **04 00 30.9 -0.5**
GERES PcP **PcP** **04 02 40.0 -0.5**
GERES ScP **S** **04 06 29.6 -1.2**
GERES PKiKP **PKiKP** **04 09 55.7 +2.7**
GERES GERESS Array B 39.20 316 P **P** **04 00 30.9 -0.5**
comp=Z,13nm,0.8s,baz=114,slow=8.9,SNR=120
GERES PcP **PcP** **04 02 40.0 -0.5**
comp=Z,3.8nm,0.7s,baz=133,slow=3.5,SNR=3.8
GERES ScP **S** **04 06 29.6 -1.2**
comp=Z,1.2nm,0.9s,baz=134,slow=3.9,SNR=3.6
GERES PKiKP **PKiKP** **04 09 55.7 +2.7**
comp=Z,0.5nm,0.6s,baz=147,slow=3.2,SNR=3.9
GERES LR LR 04 20 39.0
comp=Z,645nm,18.4s,baz=111,slow=42
GERES GERESS Array B 39.20 316 P **P** **04 00 31.0 -0.5**
comp=Z,13nm,0.8s
GERES GERESS Array B 39.20 316 PcP **PcP** **04 02 40.0 -0.5**
comp=Z,4.0nm,0.7s
GERES S **S** **04 06 29.7 -1.2**
comp=Z,1.0nm,0.9s
PVCC Panska Ves 39.25 318⇑*i*P **P** **04 00 31.2 -0.5**
PVCC MLR MLR
comp=Z,900nm,18.0s
PVCC Panska Ves 39.25 318⇑*i*P **P** **04 00 31.2 -0.5**
PVCC AMS AMS 04 20 10.0
comp=Z,900nm,18.0s
PVCC Panska Ves 39.25 318 *i* P **P** **04 00 31.2 -0.5**
comp=Z,900nm,18.0s
ABTA Abfaltersbach 39.36 312 *i* P **P** **04 00 32.8 0.0**
comp=Z,91nm,0.9s,SNR=63
ABTA Abfaltersbach 39.36 312 P **P** **04 00 32.8 0.0**
comp=Z,91nm,0.9s,SNR=63
KHC Kasperske Hory 39.37 316⇑*i*P **P** **04 00 32.3 -0.5**
KHC *e*S **S** **04 06 32.4 -0.9**
KHC MLR MLR
comp=Z,600nm,16.4s
KHC Kasperske Hory 39.37 316⇑*i*P **P** **04 00 32.3 -0.5**
KHC *e*pP **pP** **04 00 35.3 -3.3**
KHC *ex* x 04 00 54.0
KHC *e*PP **PP** **04 02 00.1 -3.0**
KHC *e*S **S** **04 06 32.4 -0.9**
KHC AMS AMS 04 22 30.0
comp=Z,600nm,16.4s
KHC Kasperske Hory 39.37 316 *e*P **P** **04 00 32.4 -0.5**
comp=Z,67nm,0.8s

KHC Kasperske Hory 39.37 316 *e*P **P 04 00 32.4 -0.4**
comp=Z,67nm,0.8s
KHC *e*S **S 04 06 32.4 -0.9**
comp=Z,600nm,16.4s
RJOB Jochberg 39.44 314 *e*P **P 04 00 32.7 -0.8**
comp=Z,56nm,0.7s
KRAR Krasnoyarsk 39.53 32 *i* P **P 04 00 35.0 +1.0**
KRAR pmax pmax
comp=Z,25nm,0.3s
KRAR Krasnoyarsk 39.53 32 *i* P **P 04 00 35.0 +1.0**
comp=Z,25nm,0.3s
BRG Berggiesshubel 39.74 319⇑*i*P **P 04 00 35.6 -0.2**
comp=Z,51nm,0.9s
BRG PP **PP 04 02 04.0 -3.2**
BRG *e* 04 06 34.6
comp=Z,11nm,1.5s
BRG S **S 04 06 35.0 -3.8**
BRG SS **SS 04 09 28.0 -6.5**
BRG
comp=N,1μm,19.8s
BRG
comp=E,512nm,21.7s
BRG
comp=Z,834nm,19.5s
BRG Berggiesshubel 39.74 319 *e*P **P 04 00 35.5 -0.4**
comp=Z,51nm,0.9s
BRG Berggiesshubel 39.74 319⇑*i*P **P 04 00 35.7 -0.2**
BRG S **S 04 06 35.0 -3.8**
BRG SS **SS 04 09 28.0 -6.5**
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG pmax pmax
comp=Z,51nm,1.5s
BRG MLR MLR
comp=N,11μm,19.8s
BRG MLR MLR
comp=E,1μm,21.7s
BRG MLR MLR
comp=Z,512nm,19.5s
BRG Berggiesshubel 39.74 319 *i* P **P 04 00 35.7 -0.2**
comp=Z,51nm,1.5s
BRG S **S 04 06 35.0 -3.8**
WET Wettzell 39.81 316 *e*P **P 04 00 35.5 -1.0**
comp=Z,30nm,0.8s
WET Wettzell 39.81 316 *e*P **P 04 00 35.5 -1.0**
WET pmax pmax
comp=Z,7.0nm,0.8s
WET Wettzell 39.81 316 *e*P **P 04 00 35.5 -1.0**
comp=Z,7.0nm,0.8s
FIA1 FINESS Array S 39.98 338 *e*P **P 04 00 37.2 -0.4**
FIA1 FINESS Array S 39.98 338 *e*P **P 04 00 37.2 -0.4**
FINES FINESS Array B 39.98 338 P **P 04 00 37.4 -0.2**
FINES FINESS Array B 39.98 338 P **P 04 00 37.4 -0.2**
comp=Z,31nm,0.5s,baz=140,slow=10,SNR=284
FINES FINESS Array B 39.98 338 P **P 04 00 37.4 -0.2**
comp=Z,31nm,0.5s
WTTA Wattenberg 40.07 313 *i* P **P 04 00 38.4 -0.5**
comp=Z,219nm,1.1s,SNR=80
WTTA ⇑*i*S **S 04 06 42.0 -2.1**
comp=Z,36nm,0.9s
WTTA Wattenberg 40.07 313 P **P 04 00 38.4 -0.5**
comp=Z,219nm,1.1s,SNR=80
WTTA S **S 04 06 42.0 -2.1**
comp=Z,36nm,0.9s
WATA Walderalm 40.13 313⇑*i*P **P 04 00 38.4 -0.9**
comp=Z,129nm,0.8s,SNR=58
WATA Walderalm 40.13 313 P **P 04 00 38.4 -0.9**
comp=Z,129nm,0.8s,SNR=58
VLC Villacollemand 40.26 308 *e*P **P 04 00 39.6 -0.7**
comp=Z,91nm,1.2s
VLC LR LR
comp=Z,722nm,21.0s
VLC Villacollemand 40.26 308 *e*P **P 04 00 39.6 -0.7**
comp=Z,91nm,1.2s
KEST Kesra 40.36 294 *e*P **P 04 00 43.1 +1.9**
KEST *e* 04 06 36.4
KEST Kesra 40.36 294 P **P 04 00 43.1 +1.9**
comp=Z,16nm,0.9s,baz=72,slow=1.4,SNR=59
KEST LR LR 04 20 52.5
comp=Z,217nm,20.5s,baz=2.2,slow=41
KEST Kesra 40.36 294 *e*P **P 04 00 43.1 +1.9**
KAF Kangasniemi 40.39 339 *e*p **P 04 00 39.7 -1.4**
comp=Z,12nm,0.5s
KAF Kangasniemi 40.39 339 *e*P **P 04 00 39.7 -1.4**
KAF pmax pmax
comp=Z,12nm,0.5s
KAF Kangasniemi 40.39 339 *e*P **P 04 00 39.7 -1.4**
comp=Z,12nm,0.5s
ROTZ Rotzenmuhle 40.42 316 *e*P **P 04 00 41.5 0.0**
comp=Z,56nm,0.9s
NKC Novy Kostel 40.42 317⇑*i*P **P 04 00 41.4 -0.1**
NKC *e*S **S 04 06 49.6 +0.7**
NKC MLR MLR
comp=Z,400nm,16.2s
NKC Novy Kostel 40.42 317⇑*i*P **P 04 00 41.4 -0.1**
NKC *e*S **S 04 06 49.6 +0.7**
NKC AMS AMS 04 21 40.0
comp=Z,400nm,16.2s
NKC Novy Kostel 40.42 317 *i* P **P 04 00 41.4 -0.1**
comp=Z,400nm,16.2s
NKC *e*S **S 04 06 49.6 +0.7**
CHTO Chiang Mai 40.43 92 P **P 04 00 42.6 +0.6**
CHTO pmax pmax
comp=Z,45nm,1.4s
CHTO MLR MLR
comp=Z,591nm,21.0s
CHTO Chiang Mai 40.43 92 P **P 04 00 42.5 +0.6**
comp=Z,45nm,1.4s
CHTO LR LR
comp=Z,591nm,21.0s
CHTO Chiang Mai 40.43 92 P **P 04 00 42.9 +0.9**
comp=Z,26nm,1.6s,comp=Z,585nm
CHTO Chiang Mai 40.43 92 P **P 04 00 42.5 +0.6**
comp=Z,45nm,1.4s
CHTO Chiang Mai 40.43 92 P **P 04 00 43.3 +1.3**
comp=Z,26nm,1.6s,comp=Z,586nm
CMMT Chiang Mai 40.44 92 P **P 04 00 42.7 +0.7**
comp=Z,23nm,1.5s
CMMT Chiang Mai 40.44 92 P **P 04 00 43.2 +1.2**
comp=Z,23nm,1.5s
VSL Villasalto 40.44 300 *e*P **P 04 00 43.0 +1.2**
comp=Z,170nm,0.8s
VSL LR LR
comp=Z,375nm,20.0s
VSL Villasalto 40.44 300 *e*P **P 04 00 43.0 +1.2**
comp=Z,170nm,0.8s
MOTA Moosalm 40.44 313 *i* P **P 04 00 40.9 -1.0**
comp=Z,113nm,0.8s,SNR=77
MOTA Moosalm 40.44 313 P **P 04 00 40.9 -1.0**
comp=Z,113nm,0.8s,SNR=77
CLL Collm 40.45 319 *e*P **P 04 00 41.6 -0.1**
comp=Z,68nm,0.8s
CLL Collm 40.45 319⇑*i*P **P 04 00 41.8 +0.1**
CLL *e*S **S 04 06 51.0 +1.7**
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL MLR MLR
comp=Z,600nm,21.1s
CLL Collm 40.45 319⇑*i*P **P 04 00 41.8 +0.1**
comp=Z,58nm,0.9s
CLL *i* pP **pP 04 00 45.9 -1.6**
CLL *e* 04 00 59.0
CLL *e* 04 01 12.0
CLL *e*PP **PP 04 02 14.0 -0.9**
CLL *e*PPP PPP 04 02 39.0
CLL *e*PPPP 04 02 47.0
CLL *e*S **S 04 06 51.0 +1.7**
CLL *e*SS **SnSn 04 09 53.0 -1.1**
CLL Lm MLR 04 21 00.0
comp=N,900nm,21.0s
CLL Lm MLR 04 21 00.0
comp=E,400nm,18.9s
CLL Lm MLR 04 21 00.0
comp=Z,600nm,21.1s
CLL Collm 40.45 319 *i* P **P 04 00 41.8 +0.1**
comp=Z,600nm,21.1s
CLL *e*S **S 04 06 51.0 +1.7**
TANN Tannenbergstha 40.47 317 *e*P **P 04 00 41.6 -0.4**
comp=Z,16nm,0.9s
FUR Furstenfeldbru 40.54 314 *e*P **P 04 00 41.8 -0.8**
comp=Z,96nm,0.9s
FUR Furstenfeldbru 40.54 314 *e*P **P 04 00 41.8 -0.8**
FUR pmax pmax
comp=Z,135nm,0.9s
FUR Furstenfeldbru 40.54 314 *e*P **P 04 00 41.8 -0.8**
comp=Z,135nm,0.9s

CMAR Chiang Mai Arr 40.55 93 P **P 04 00 43.2 +0.3**
CMAR PcP **PcP 04 02 45.7 +0.5**
CMAR Chiang Mai Arr 40.55 93 P **P 04 00 43.2 +0.3**
comp=Z,4.0nm,0.7s,baz=286,slow=9.9,SNR=12
CMAR PcP **PcP 04 02 45.7 +0.5**
comp=Z,4.2nm,0.9s,baz=289,slow=4.4,SNR=5.1
CMAR LR LR 04 19 44.6
comp=Z,381nm,21.0s,baz=295,slow=40
CMAR Chiang Mai Arr 40.55 93 *e*P **P 04 00 43.2 +0.3**
CMAR Chiang Mai Arr 40.55 93 PcP **PcP 04 02 45.7 +0.5**
comp=Z,381nm,21.0s
FETA Feichten 40.61 312 *i* P **P 04 00 42.8 -0.5**
comp=Z,205nm,0.8s,SNR=162
FETA ⇓*i*S **S 04 06 50.7 -1.5**
comp=Z,36nm,0.9s
FETA Feichten 40.61 312 P **P 04 00 42.8 -0.5**
comp=Z,205nm,0.8s,SNR=162
FETA S **S 04 06 50.7 -1.5**
comp=Z,36nm,0.9s
RETA Reutte 40.70 313 *i* P **P 04 00 42.9 -1.0**
comp=Z,55nm,0.7s,SNR=93
RETA ⇓*i*S **S 04 06 50.6 -2.8**
comp=Z,41nm,1.3s
RETA Reutte 40.70 313 P **P 04 00 42.9 -1.0**
comp=Z,55nm,0.7s,SNR=93
RETA S **S 04 06 50.6 -2.8**
comp=Z,41nm,1.3s
BSD Bornholm Skovb 40.94 325⇑*i*P **P 04 00 44.2 -1.4**
BSD pmax pmax
comp=Z,130nm,0.7s
BSD MLR MLR
comp=Z,460nm,14.0s
BSD Bornholm Skovb 40.94 325⇑*i*P **P 04 00 44.2 -1.4**
comp=Z,132nm,0.7s
BSD
comp=Z,450nm,13.0s
BSD Bornholm Skovb 40.94 325 *i* P **P 04 00 44.2 -1.4**
comp=Z,460nm,14.0s
BERNI Berninapass 40.95 311⇑*i*P **P 04 00 46.3 +0.1**
BERNI Berninapass 40.95 311⇑*i*P **P 04 00 46.3 +0.1**
GRA1 Grafenberg Arr 41.01 316 *e*P **P 04 00 46.1 -0.2**
comp=Z,12μm,19.7s
GRF Grafenberg Arr 41.01 316 *e*P **P 04 00 46.1 -0.2**
comp=Z,112nm,0.9s
GRF *e*L L 04 19 32.7
comp=Z,518nm,19.7s
GRF Grafenberg Arr 41.01 316 *e*P **P 04 00 46.1 -0.2**
GRF pmax pmax
comp=Z,26nm,0.9s
GRF MLR MLR
comp=Z,112μm,19.7s
GRFO Grafenberg 41.01 316 *e*P **P 04 00 46.4 +0.1**
GRFO pmax pmax
comp=Z,93nm,0.9s
GRFO Grafenberg 41.01 316 *e*P **P 04 00 46.4 +0.1**
comp=Z,93nm,0.9s
GRFO Grafenberg 41.01 316 *e*P **P 04 00 46.4 +0.1**
comp=Z,93nm,0.9s
PGF Pioggiola 41.02 305 *e*P **P 04 00 46.1 -0.6**
comp=Z,56nm,0.8s
PGF Pioggiola 41.02 305 *e*P **P 04 00 46.1 -0.6**
comp=Z,28nm,0.8s
MOX Moxa 41.06 318 *e*P **P 04 00 46.4 -0.3**
comp=Z,22nm,1.1s
MOX Moxa 41.06 318 *e*P **P 04 00 46.4 -0.3**
MOX pmax pmax
comp=Z,14nm,1.1s
MOX Moxa 41.06 318 *e*P **P 04 00 46.4 -0.3**
comp=Z,14nm,1.1s
DAVOX Davos/Dischmat 41.12 311⇑*i*P **P 04 00 47.2 -0.4**
DAVOX Davos/Dischmat 41.12 311⇑*i*P **P 04 00 47.2 -0.4**
DAVA Damuels 41.24 312 *i* P **P 04 00 47.8 -0.7**
comp=Z,338nm,0.8s,SNR=250
DAVA ⇑*i*S **S 04 06 58.2 -3.3**
comp=Z,32nm,0.8s
DAVA Damuels 41.24 312 P **P 04 00 47.8 -0.7**
comp=Z,338nm,0.8s,SNR=250
DAVA S **S 04 06 58.2 -3.3**
comp=Z,32nm,0.8s
TUE Stuetta 41.42 311 *e*P **P 04 00 49.3 -0.7**
comp=Z,62nm,0.8s
TUE LR LR
comp=Z,911nm,21.0s
TUE Stuetta 41.42 311 *e*P **P 04 00 49.3 -0.7**
comp=Z,62nm,0.8s
LIENZ Kamor/St.Gall 41.50 312⇑*i*P **P 04 00 49.6 -1.0**
LIENZ Kamor/St.Gall 41.50 312⇑*i*P **P 04 00 49.6 -1.0**
MUGIO Muggio 41.52 310⇑*i*P **P 04 00 50.0 -0.7**
MUGIO Muggio 41.52 310⇑*i*P **P 04 00 50.0 -0.7**
PLONS Plons/SG 41.52 312⇑*i*P **P 04 00 49.9 -0.8**
PLONS Plons/SG 41.52 312⇑*i*P **P 04 00 49.9 -0.8**
RGN Rugen 41.52 324 *e*P **P 04 00 50.7 +0.2**
comp=Z,178nm,1.0s
RGN Rugen 41.52 324 *e*P **P 04 00 50.7 +0.2**
comp=Z,177nm,1.0s
LZH Lanzhou 41.70 65 *e*P **P 04 00 53.3 +0.9**
LZH pP **pP 04 00 59.8 +1.6**
LZH sP **sP 04 01 01.3 +0.8**
LZH S **S 04 07 10.0 +1.4**
LZH pmax pmax
comp=Z,40nm,1.0s
LZH pmax pmax
comp=Z,340nm,5.8s
LZH LR LR
comp=N,730nm,12.5s
LZH LR LR
comp=E,1μm,15.6s
LZH LR LR
comp=Z,2μm,20.7s
LLS Linth-Limmern 41.72 311⇑*i*P **P 04 00 51.7 -0.8**
ABSA Djebel Ababsia 41.87 295 P **P 04 00 54.0 +0.3**
ABSA Djebel Ababsia 41.87 295 P **P 04 00 54.0 +0.3**
WEIN Weingarten 41.88 312⇑*i*P **P 04 00 53.1 -0.5**
WEIN Weingarten 41.88 312⇑*i*P **P 04 00 53.1 -0.5**
CMAH Djebel Manchou 41.91 296 P **P 04 00 55.0 +1.0**
CMAH Djebel Manchou 41.91 296 P **P 04 00 55.0 +1.0**
WILA Wila 41.91 312⇑*i*P **P 04 00 53.4 -0.5**
WILA Wila 41.91 312⇑*i*P **P 04 00 53.4 -0.5**
CD2 Chengdu 41.98 73 P **P 04 00 54.6 -0.1**
CD2 pP **pP 04 01 00.3 -0.2**
CD2 sP **sP 04 01 03.3 +0.5**
CD2 PP **PnPn 04 02 34.9 -2.2**
CD2 PcP **PcP 04 02 50.5 +0.7**
CD2 S **S 04 07 11.6 -1.1**
CD2 ScS **ScS 04 10 54.3 -2.5**
CD2 pmax pmax
comp=Z,30nm,0.8s
CD2 pmax pmax
comp=Z,330nm,6.0s
CD2 LR LR
comp=E,1μm,16.6s
CD2 LR LR
comp=Z,1μm,16.6s
STEIN Stein am Rhein 41.99 312⇑*i*P **P 04 00 53.8 -0.7**
STEIN Stein am Rhein 41.99 312⇑*i*P **P 04 00 53.8 -0.7**
MUO Muotathal 42.00 311⇑*i*P **P 04 00 53.9 -0.8**
MUO Muotathal 42.00 311⇑*i*P **P 04 00 53.9 -0.8**
NANT Nan 42.01 91 P **P 04 00 56.8 +1.9**
comp=Z,137nm,1.1s,comp=Z,6μm
MOY Mondy 42.03 41 *e*P **P 04 00 57.1 +2.3**
MOY pmax pmax
comp=Z,46nm,2.8s
MOY Mondy 42.03 41 *e*P **P 04 00 57.1 +2.3**
comp=Z,46nm,2.8s
STU Stuttgart 42.04 314 *e*P **P 04 00 53.3 -1.6**
comp=Z,30nm,0.9s
STU Stuttgart 42.04 314 *e*P **P 04 00 53.2 -1.6**
STU pmax pmax
comp=Z,29nm,0.9s
STU Stuttgart 42.04 314 *e*P **P 04 00 53.2 -1.6**
comp=Z,29nm,0.9s
STU Stuttgart 42.04 314 *e*P **P 04 00 53.2 -1.6**
comp=Z,29nm,0.9s
KMI Kunming 42.08 81 P **P 04 00 56.6 +0.9**
KMI pP **pP 04 01 03.1 +1.5**
KMI sP **sP 04 01 08.3 +4.4**
KMI PP **PP 04 02 37.5 +4.3**
KMI S **S 04 07 17.5 +2.9**
KMI sS sS 04 07 30.6 +6.4
KMI SS **SS 04 10 21.3 -0.9**
KMI pmax pmax
comp=Z,17nm,1.0s
KMI pmax pmax
comp=Z,440nm,4.7s
KMI LR LR
comp=N,270nm,16.3s

KMI LR LR
comp=E,550nm,19.2s
KMI LR LR
comp=Z,560nm,17.4s
UBBA Unterbreizbach 42.09 317 *e*P **P 04 00 54.6 -0.4**
comp=Z,22nm,0.8s
ZUR Degenried 42.12 312⇑*i*P **P 04 00 54.7 -0.8**
ZUR Degenried 42.12 312⇑*i*P **P 04 00 54.7 -0.8**
BNALP Bannalp 42.12 311⇑*i*P **P 04 00 55.1 -0.6**
BNALP Bannalp 42.12 311⇑*i*P **P 04 00 55.1 -0.6**
SPAK Spaichingen-Ko 42.14 313⇑*e*P **P 04 00 54.8 -1.0**
FLACH Flaach 42.17 312⇑*i*P **P 04 00 55.3 -0.6**
FLACH Flaach 42.17 312⇑*i*P **P 04 00 55.3 -0.6**
SAOF Saorge 42.25 307⇑*e*P **P 04 00 56.2 -0.4**
SAOF Saorge 42.25 307⇑*e*P **P 04 00 56.2 -0.4**
SLE Schleitheim 42.26 313⇑*i*P **P 04 00 55.8 -0.9**
SLE Schleitheim 42.26 313⇑*i*P **P 04 00 55.8 -0.9**
MMK Mattmark 42.28 310⇑*i*P **P 04 00 56.1 -1.0**
MMK Mattmark 42.28 310⇑*i*P **P 04 00 56.1 -1.0**
HASLI Hasliberg/Brie 42.28 311⇑*i*P **P 04 00 55.8 -1.2**
HASLI Hasliberg/Brie 42.28 311⇑*i*P **P 04 00 55.8 -1.2**
SBF Sospel 42.32 307⇑*i*P **P 04 00 56.8 -0.4**
comp=Z,206nm,0.8s
SBF Sospel 42.32 307⇑*i*P **P 04 00 56.8 -0.4**
comp=Z,103nm,0.8s
AUTN L'Aution 42.34 307 *e*P **P 04 00 58.1 +0.5**
AUTN L'Aution 42.34 307 *e*P **P 04 00 58.1 +0.5**
REVF Revere 42.35 306⇑*e*P **P 04 00 57.0 -0.5**
REVF Revere 42.35 306⇑*e*P **P 04 00 57.0 -0.5**
LLD Lille Linde 42.43 324 *i* P **P 04 00 58.0 +0.2**
LLD pmax pmax
comp=Z,52nm,0.8s
LLD Lille Linde 42.43 324 *i* P **P 04 00 58.0 +0.2**
comp=Z,52nm,0.8s
LLD Lille Linde 42.43 324 *i* P **P 04 00 58.0 +0.2**
comp=Z,52nm,0.8s
SULZ Cheisacher 42.46 312⇑*i*P **P 04 00 57.5 -0.8**
SULZ Cheisacher 42.46 312⇑*i*P **P 04 00 57.5 -0.8**
COP Copenhagen 42.46 325⇑*i*P **P 04 00 58.6 +0.5**
COP *e*S **S 04 07 18.7 -0.2**
COP pmax pmax
comp=Z,53nm,0.8s
COP MLR MLR
comp=Z,210nm,20.0s
COP Copenhagen 42.46 325⇑*i*P **P 04 00 58.6 +0.5**
comp=Z,53nm,0.8s
COP *e*S **S 04 07 18.7 -0.2**
COP
comp=Z,210nm,20.0s
COP Copenhagen 42.46 325 *i* P **P 04 00 58.6 +0.5**
comp=Z,53nm,0.8s
COP *e*S **S 04 07 18.8 -0.2**
SNR=30
TOUF Mont Tournerai 42.47 307⇑*e*P **P 04 00 58.6 0.0**
TOUF Mont Tournerai 42.47 307⇑*e*P **P 04 00 58.6 0.0**
CKFL Kef-Lekhel 42.47 296 P P 04 01 03.0 +4.3
BFO Black Forest 42.49 313 P **P 04 00 57.6 -0.9**
comp=Z,171nm,0.8s,SNR=9.1
BFO Black Forest 42.49 313 *e*P **P 04 00 58.2 -0.3**
comp=Z,22nm,0.8s
BFO Black Forest 42.49 313 *e*P **P 04 00 58.2 -0.3**
BFO pmax pmax
comp=Z,42nm,0.8s
BFO Black Forest 42.49 313 *e*P **P 04 00 57.4 -1.1**
comp=Z,22nm,0.8s
BFO LR LR
comp=Z,586nm,19.0s
BFO Black Forest 42.49 313 *e*P **P 04 00 58.2 -0.3**
comp=Z,42nm,0.8s
TOD Tromm 42.49 315⇑*e*P **P 04 00 57.8 -0.7**
MVIF Mont Vial 42.52 307⇑*e*P **P 04 00 58.8 -0.2**
MVIF Mont Vial 42.52 307⇑*e*P **P 04 00 58.8 -0.2**
NRDL Niedersach Rie 42.55 320 *e*P **P 04 00 59.5 +0.7**
comp=Z,114nm,0.9s
FELD Feldberg im Sc 42.61 313⇑*e*P **P 04 00 58.6 -1.0**
WIMIS Wimmis 42.62 311⇑*i*P **P 04 00 58.6 -1.1**
WIMIS Wimmis 42.62 311⇑*i*P **P 04 00 58.6 -1.1**
CASM Ain Smara 42.66 295 P **P 04 01 01.0 +0.9**
CASM Ain Smara 42.66 295 P **P 04 01 01.0 +0.9**
DIX Grande Dixence 42.67 310⇑*i*P **P 04 00 59.4 -0.9**
DIX Grande Dixence 42.67 310⇑*i*P **P 04 00 59.4 -0.9**
CALN Calern 42.70 306 *e*P **P 04 01 00.1 -0.3**
CALN Calern 42.70 306 *e*P **P 04 01 00.1 -0.3**
BALST Balsthal 42.70 312⇑*i*P **P 04 00 59.6 -0.7**
BALST Balsthal 42.70 312⇑*i*P **P 04 00 59.6 -0.7**
CTEI Djebel Teioual 42.74 295 P **P 04 01 02.0 +1.2**
CTEI Djebel Teioual 42.74 295 P **P 04 01 02.0 +1.2**
SURF Saint Ours 42.84 307⇑*e*P **P 04 01 01.8 +0.2**
SURF Saint Ours 42.84 307⇑*e*P **P 04 01 01.8 +0.2**
FRF La Foret Royal 42.85 306 *e*P **P 04 01 00.8 -0.7**
comp=Z,62nm,1.0s
FRF La Foret Royal 42.85 306 *e*P **P 04 01 00.8 -0.7**
comp=Z,31nm,1.0s
BBS Basel-Blauen 42.85 312⇑*e*P **P 04 01 00.8 -0.7**
TNS Taunus Mts 42.87 316 *e*P **P 04 01 01.6 -0.1**
comp=Z,57nm,1.1s
TNS Taunus Mts 42.87 316 *e*P **P 04 01 01.6 -0.1**
TNS pmax pmax
comp=Z,12nm,1.1s
TNS Taunus Mts 42.87 316 *e*P **P 04 01 01.6 -0.1**
comp=Z,12nm,1.1s
KTD Kalmit 42.88 315⇑*e*P **P 04 01 01.0 -0.7**
MBDF Montbardon 42.90 308⇑*i*P **P 04 01 01.2 -0.9**
comp=Z,124nm,0.8s
MBDF Montbardon 42.90 308⇑*i*P **P 04 01 01.2 -0.9**
comp=Z,62nm,0.8s
BSEG Bad Segeberg 42.92 322 *e*P **P 04 01 02.0 +0.2**
comp=Z,63nm,1.1s
BSEG Bad Segeberg 42.92 322 *e*P **P 04 01 02.0 +0.2**
BSEG pmax pmax
comp=Z,21nm,1.1s
BSEG Bad Segeberg 42.92 322 *e*P **P 04 01 02.0 +0.2**
comp=Z,21nm,1.1s
LMR La Mourre 42.92 306 *e*P **P 04 01 01.4 -0.7**
comp=Z,35nm,0.9s
LMR La Mourre 42.92 306 *e*P **P 04 01 01.4 -0.7**
comp=Z,18nm,0.9s
LIBD Limburg 42.93 313 *e*P **P 04 01 01.2 -0.8**
LOEI Loei 42.95 93 P P 04 01 06.0 +3.4
comp=Z,68nm,1.3s
LANF Langenberg 42.98 314⇑*e*P **P 04 01 01.1 -1.4**
LANF Langenberg 42.98 314⇑*e*P **P 04 01 01.1 -1.4**
APA Apatity 43.01 348⇑*i*P P 04 01 06.0 +3.6
APA *i* S **S 04 07 32.0 +5.3**
APA *i* SS **SS 04 10 35.0 -3.7**
APA pmax pmax
comp=Z,52nm,1.0s
APA MLR MLR
comp=Z,2μm,13.0s
BNI Bardonecchia 43.01 308 *e*P **P 04 01 02.0 -1.0**
BNI pmax pmax
comp=Z,74nm,0.8s
BNI MLR MLR
comp=Z,611nm,22.0s
BNI Bardonecchia 43.01 308 *e*P **P 04 01 02.0 -1.0**
comp=Z,74nm,0.8s
BNI LR LR
comp=Z,611nm,22.0s
BNI Bardonecchia 43.01 308 *e*P **P 04 01 02.0 -1.0**
comp=Z,611nm,22.0s
PBKT Sadao Pong 43.03 94 P **P 04 01 04.6 +1.4**
comp=Z,28nm,1.5s
PBKT Sadao Pong 43.03 94 P **P 04 01 04.4 +1.2**
comp=Z,29nm,1.6s
LPG La Plagne 43.03 309 *e*P **P 04 01 02.2 -1.0**
comp=Z,132nm,0.9s
LPG La Plagne 43.03 309 *e*P **P 04 01 02.2 -1.0**
comp=Z,66nm,0.9s
ZAK Zakamensk 43.04 44 *e*P **P 04 01 03.1 +0.1**
ZAK pmax pmax
comp=Z,9.0nm,1.4s
ZAK Zakamensk 43.04 44 *e*P **P 04 01 03.1 +0.1**
comp=Z,9.0nm,1.4s
LPL La Plagne 43.04 309⇑*i*P **P 04 01 02.2 -1.1**
comp=Z,147nm,0.9s
LPL La Plagne 43.04 309⇑*i*P **P 04 01 02.2 -1.1**
comp=Z,73nm,0.9s
LVZ Lovozero 43.07 348 *i* P **P 04 01 02.7 -0.2**
LVZ Lovozero 43.07 348 *i* P **P 04 01 02.7 -0.2**
TORNY Torny/Romont 43.09 311⇑*i*P **P 04 01 02.8 -0.7**
TORNY Torny/Romont 43.09 311⇑*i*P **P 04 01 02.8 -0.7**
DFRA Djebel Bou Aff 43.15 296 P **P 04 01 05.0 +0.8**
DFRA Djebel Bou Aff 43.15 296 P **P 04 01 05.0 +0.8**
MOF Molkenrain 43.17 312⇑*e*P **P 04 01 03.4 -0.8**
MOF Molkenrain 43.17 312⇑*e*P **P 04 01 03.4 -0.8**

CDF	Champ du Feu	43.20	313	⇑	iP	P	04 01 03.0	-1.3
	comp=Z,85nm,0.8s								
CDF	Champ du Feu	43.20	313	⇑	iP	P	04 01 03.0	-1.3
	comp=Z,42nm,0.8s								
ECH	Echery	43.23	313		eP	P	04 01 03.5	-1.0
ECH					pmax	pmax			
	comp=Z,91nm,0.9s								
ECH					MLR	MLR			
	comp=Z,510nm,19.0s								
ECH	Echery	43.23	313		eP	P	04 01 03.5	-1.0
	comp=Z,91nm,0.9s								
ECH					LR	LR			
	comp=Z,510nm,19.0s								
ECH	Echery	43.23	313	⇑	eP	P	04 01 03.7	-0.8
ECH	Echery	43.23	313	⇑	eP	P	04 01 03.7	-0.8
LOMF	Lomont	43.28	312	⇑	eP	P	04 01 04.5	-0.5
LOMF	Lomont	43.28	312	⇑	eP	P	04 01 04.5	-0.5
ABH	Alteburg	43.35	315		eP	P	04 01 04.5	-1.0
HINF	Hinteralfeld	43.35	312	⇑	iP	P	04 01 04.5	-1.1
	comp=Z,103nm,0.9s								
HINF	Hinteralfeld	43.35	312	⇑	iP	P	04 01 04.5	-1.1
	comp=Z,52nm,0.9s								
BRANT	Les Verrieres	43.45	311	⇑	iP	P	04 01 06.1	-0.3
BRANT	Les Verrieres	43.45	311	⇑	iP	P	04 01 06.1	-0.3
CKHR	Kef el Ahmar	43.46	295		P	P	04 01 08.0	+1.3
CKHR	Kef el Ahmar	43.46	295		P	P	04 01 08.0	+1.3
GIMEL	St. Georges /	43.52	310	⇑	iP	P	04 01 06.4	-0.6
GIMEL	St. Georges /	43.52	310	⇑	iP	P	04 01 06.4	-0.6
SET	Setif	43.55	295		P	P	04 01 12.0	+4.7
SET	Setif	43.55	295		P	P	04 01 12.0	+4.7
ORIF	Oris-en-Rattie	43.56	308		eP	P	04 01 05.2	-2.1
	comp=Z,72nm,0.9s								
ORIF					eR				
	comp=Z,655nm,23.0s								
ORIF	Oris-en-Rattie	43.56	308		eP	P	04 01 05.2	-2.1
	comp=Z,36nm,0.9s								
RUP	Ruppelstein	43.62	315	⇑	eP	P	04 01 06.9	-0.8
CABF	La Chapelle	43.66	310	⇑	iP	P	04 01 07.6	-0.5
	comp=Z,158nm,0.8s								
CABF	La Chapelle	43.66	310	⇑	iP	P	04 01 07.6	-0.5
	comp=Z,79nm,0.8s								
SMRF	Simiane la Rot	43.67	307		eP	P	04 01 06.8	-1.3
	comp=Z,59nm,1.0s								
SMRF	Simiane la Rot	43.67	307		eP	P	04 01 06.8	-1.3
	comp=Z,29nm,1.0s								
GRN	Grenoble	43.69	308		eP	P	04 01 06.7	-1.7
GRN	Grenoble	43.69	308		eP	P	04 01 06.7	-1.7
HAU	Haudompre	43.72	312	⇑	iP	P	04 01 07.4	-1.1
	comp=Z,85nm,0.7s								
HAU					eR				
	comp=Z,576nm,22.5s								
HAU	Haudompre	43.72	312	⇑	iP	P	04 01 07.4	-1.1
	comp=Z,43nm,0.7s								
IBBN	Ibbenburen	43.86	319		eP	P	04 01 10.1	+0.6
	comp=Z,71nm,0.9s								
THEF	They Montfort	44.00	313		eP	P	04 01 09.7	-1.0
THEF	They Montfort	44.00	313		eP	P	04 01 09.7	-1.0
IRK	Irkutsk	44.13	41		eP	P	04 01 11.4	-0.3
IRK					pmax	pmax			
	comp=Z,35nm,1.7s								
IRK	Irkutsk	44.13	41		eP	P	04 01 11.4	-0.3
	comp=Z,35nm,1.7s								
WLF	Walferdange	44.18	315		P	P	04 01 11.8	-0.4
	comp=Z,58nm,1.1s								
WLF	Walferdange	44.18	315		eP	P	04 01 11.7	-0.4
	comp=Z,94nm,0.9s								
WLF	Walferdange	44.18	315		eP	P	04 01 11.6	-0.5
WLF					pmax	pmax			
	comp=Z,86nm,0.9s								
WLF					MLR	MLR			
	comp=Z,577nm,20.0s								
WLF	Walferdange	44.18	315		eP	P	04 01 11.6	-0.5
	comp=Z,86nm,0.9s								
WLF					LR	LR			
	comp=Z,577nm,20.0s								
WLF	Walferdange	44.18	315		eP	P	04 01 11.6	-0.5
	comp=Z,577nm,20.0s								
NAYO	Nakonayok	44.20	97		P	P	04 01 14.2	+1.5
	comp=Z,42nm,1.3s								
PAGF	Fort de Pagny	44.23	313	⇑	iP	P	04 01 12.0	-0.6
	comp=Z,31nm,0.8s								
PAGF	Fort de Pagny	44.23	313	⇑	iP	P	04 01 12.0	-0.6
	comp=Z,16nm,0.8s								
WTSB	Winterswijk	44.33	318		i P	P	04 01 13.9	+0.7
	comp=Z,88nm,0.8s								
VIVF	Saint-Julien-l	44.40	308		eP	P	04 01 13.0	-1.0
	comp=Z,118nm,1.0s								
VIVF	Saint-Julien-l	44.40	308		eP	P	04 01 13.0	-1.0
	comp=Z,59nm,1.0s								
MUD	Monsted U'grnd	44.45	325	⇑	iP	P	04 01 14.6	+0.5
MUD					eS	S	04 07 48.4	+0.4
MUD					pmax	pmax			
	comp=Z,37nm,0.8s								
MUD	Monsted U'grnd	44.45	325	⇑	iP	P	04 01 14.6	+0.5
	comp=Z,37nm,0.7s								
MUD					eS	S	04 07 48.4	+0.4
MUD	Monsted U'grnd	44.45	325		i P	P	04 01 14.6	+0.5
	comp=Z,37nm,0.8s								
MUD					eS	S	04 07 48.4	+0.4
MEM	Membach	44.48	316		P	P	04 01 15.0	+0.5
	comp=Z,37nm,1.1s								
SONM	Songino Array	44.49	48		P	P	04 01 15.6	+0.7
SONM	Songino Array	44.49	48		P	P	04 01 15.6	+0.7
	comp=Z,16nm,0.9s,baz=252,slow=8.6,SNR=65								
SONM					LR	LR	04 22 15.9		
	comp=Z,2μm,19.3s,baz=256,slow=40								
SONM	Songino Array	44.49	48		P	P	04 01 15.6	+0.7
	comp=Z,2μm,19.3s								
SSB	Saint Sauveur	44.54	308		eP	P	04 01 14.0	-1.1
SSB					pmax	pmax			
	comp=Z,42nm,0.9s								
SSB					MLR	MLR			
	comp=Z,300nm,20.0s								
SSB	Saint Sauveur	44.54	308		eP	P	04 01 14.0	-1.1
	comp=Z,42nm,0.9s								
SSB					LR	LR			
	comp=Z,300nm,20.0s								
SSB	Saint Sauveur	44.54	308		eP	P	04 01 14.0	-1.1
	comp=Z,300nm,20.0s								
HGN	Heimansgroeve	44.56	316		i P	P	04 01 16.0	+0.8
	comp=Z,100nm,0.9s								
SFTF	Sexfontaines	44.62	313	⇑	iP	P	04 01 15.1	-0.6
	comp=Z,294nm,1.1s								
SFTF	Sexfontaines	44.62	313	⇑	iP	P	04 01 15.1	-0.6
	comp=Z,147nm,1.1s								
MEZF	Maizieres J'vi	44.66	313	⇑	iP	P	04 01 15.8	-0.2
	comp=Z,317nm,1.1s								
MEZF	Maizieres J'vi	44.66	313	⇑	iP	P	04 01 15.8	-0.2
	comp=Z,158nm,1.1s								
BEBN	Eben Emael	44.73	316		P	P	04 01 17.2	+0.7
	comp=Z,22nm,1.0s								
LASF	Ste Croix	44.91	307	⇑	iP	P	04 01 17.5	-0.6
	comp=Z,186nm,1.0s								
LASF	Ste Croix	44.91	307	⇑	iP	P	04 01 17.5	-0.6
	comp=Z,93nm,1.0s								
ULN	Ulaanbaatar	44.94	48		eP	P	04 01 18.9	+0.5
	comp=Z,42nm,1.3s								
ULN					LR	LR			
	comp=Z,2μm,19.0s								
ULN	Ulaanbaatar	44.94	48		P	P	04 01 19.0	+0.6
	comp=Z,32nm,1.1s,comp=Z,523nm								
ULN	Ulaanbaatar	44.94	48		eP	P	04 01 18.9	+0.5
	comp=Z,2μm,19.0s								
GIVF	Givet	45.12	315	⇑	iP	P	04 01 20.0	+0.4
	comp=Z,257nm,1.0s								
GIVF	Givet	45.12	315	⇑	iP	P	04 01 20.0	+0.4
	comp=Z,129nm,1.0s								
NC602	NORSAR Array S	45.15	331		eP	P	04 01 18.3	-1.4
NC602					eS	S	04 07 57.8	-0.4
NC602					eSS	SS	04 11 21.3	+0.8
NC602	NORSAR Array S	45.15	331		eP	P	04 01 18.3	-1.4
	SNR=25								
NC602					eS	S	04 07 57.8	-0.4
	SNR=26								
NC602					eSS	SS	04 11 21.3	+0.8
	SNR=36								
SMF	Signal de Mont	45.19	310	⇑	iP	P	04 01 19.5	-0.8
	comp=Z,248nm,1.0s								
SMF	Signal de Mont	45.19	310	⇑	iP	P	04 01 19.5	-0.8
	comp=Z,124nm,1.0s								
DOU	Dourbes	45.26	315		P	P	04 01 21.1	+0.4
	comp=Z,72nm,1.1s								
LOR	Lormes	45.26	311	⇑	iP	P	04 01 19.9	-0.9
	comp=Z,100nm,0.9s								
LOR					eR				
	comp=Z,587nm,20.0s								
LOR	Lormes	45.26	311	⇑	iP	P	04 01 19.9	-0.9
	comp=Z,50nm,0.9s								
NB2	NORSAR Subarra	45.44	331		P	P	04 01 21.0	-1.0
	comp=Z,37nm,0.7s,baz=116,slow=7.9								
NB2	NORSAR Subarra	45.44	331		P	P	04 01 21.0	-1.0
	baz=116,slow=7.9								
NB2	NORSAR Subarra	45.44	331		P	P	04 01 21.0	-1.0
	SNR=24								
NOA	NORSAR Array B	45.44	331		P	P	04 01 21.0	-1.0
NOA					PP	PP	04 03 10.5	+2.2
NOA	NORSAR Array B	45.44	331		P	P	04 01 21.0	-1.0
	comp=Z,29nm,0.7s,baz=116,slow=7.9,SNR=73								
NOA					PP	PP	04 03 10.5	+2.2
	comp=Z,5.8nm,0.7s,baz=116,slow=9.1,SNR=3.5								
NOA					LR	LR	04 21 28.7		
	comp=Z,461nm,19.0s,baz=115,slow=38								
NOA	NORSAR Array B	45.44	331		P	P	04 01 21.0	-1.0
	comp=Z,29nm,0.7s								
NOA	NORSAR Array B	45.44	331		PP	PP	04 03 10.5	+2.2
LBL	Lubilhac	45.45	308		eP	P	04 01 21.9	-0.5
LBL	Lubilhac	45.45	308		eP	P	04 01 21.9	-0.5
SSF	Saint Saulge	45.47	311	⇑	iP	P	04 01 21.8	-0.7
	comp=Z,136nm,0.8s								
SSF	Saint Saulge	45.47	311	⇑	iP	P	04 01 21.8	-0.7
	comp=Z,68nm,0.8s								
HOMB	Homborsund	45.48	327		eP	P	04 01 21.8	-0.5
HOMB	Homborsund	45.48	327		eP	P	04 01 21.8	-0.5
	SNR=24								
BAIF	Baives	45.49	315	⇑	iP	P	04 01 23.1	+0.5
	comp=Z,299nm,1.0s								
BAIF	Baives	45.49	315	⇑	iP	P	04 01 23.1	+0.5
	comp=Z,149nm,1.0s								
EMHD	Djebel Mahouad	45.52	295		P	P	04 01 24.1	+0.9
EMHD	Djebel Mahouad	45.52	295		P	P	04 01 24.1	+0.9
KONO	Kongsberg	45.53	329		eP	P	04 01 21.9	-0.8
KONO					eS	S	04 08 03.1	-0.4
KONO					eSS	SS	04 11 27.1	0.0
KONO	Kongsberg	45.53	329		eP	P	04 01 21.9	-0.8
KONO					pmax	pmax			
	comp=Z,58nm,1.1s								
KONO					MLR	MLR			
	comp=Z,922nm,20.0s								
KONO	Kongsberg	45.53	329		eP	P	04 01 21.9	-0.8
	comp=Z,58nm,1.1s								
KONO					LR	LR			
	comp=Z,922nm,20.0s								
KONO	Kongsberg	45.53	329		eP	P	04 01 21.9	-0.8
	SNR=24								
KONO					eS	S	04 08 03.1	-0.4
	SNR=26								
KONO					eSS	SS	04 11 27.1	0.0
	SNR=36								
AVF	Avril sur Loir	45.54	310	⇑	iP	P	04 01 22.1	-0.9
	comp=Z,70nm,0.8s								
AVF	Avril sur Loir	45.54	310	⇑	iP	P	04 01 22.1	-0.9
	comp=Z,35nm,0.8s								
UCC	Uccle	45.55	316		P	P	04 01 24.2	+1.2
TAM	Tamanrasset	45.55	276		eP	P	04 01 24.4	+0.8
TAM					pmax	pmax			
	comp=Z,39nm,0.9s								
TAM					MLR	MLR			
	comp=Z,912nm,20.0s								
TAM	Tamanrasset	45.55	276		eP	P	04 01 24.4	+0.8
	comp=Z,38nm,0.9s								
TAM					LR	LR			
	comp=Z,912nm,20.0s								
TAM	Tamanrasset	45.55	276		eP	P	04 01 24.4	+0.8
	comp=Z,912nm,20.0s								
AGO	Saint Agoulin	45.61	309	⇑	eP	P	04 01 23.3	-0.3
AGO	Saint Agoulin	45.61	309	⇑	eP	P	04 01 23.3	-0.3
PYM	Petit Puy Mans	45.66	309	⇑	eP	P	04 01 23.7	-0.4
PYM	Petit Puy Mans	45.66	309	⇑	eP	P	04 01 23.7	-0.4
FILF	Fillols	45.76	304		eP	P	04 01 25.4	+0.5
FILF	Fillols	45.76	304		eP	P	04 01 25.4	+0.5
LRDF	Laroque-de-Fa	45.79	305		eP	P	04 01 25.1	0.0
LRDF	Laroque-de-Fa	45.79	305		eP	P	04 01 25.1	0.0
BGF	Bois d'Agland	45.86	310	⇑	iP	P	04 01 24.9	-0.7
	comp=Z,138nm,0.8s								
BGF	Bois d'Agland	45.86	310	⇑	iP	P	04 01 24.9	-0.7
	comp=Z,69nm,0.8s								
XAN	Xi'an	45.98	68		P	P	04 01 26.3	-0.4
XAN					pP	pP	04 01 31.6	-1.0
XAN					PP	PP	04 03 16.8	+2.3
XAN					ScS	ScS	04 11 17.8	-4.1
XAN					SS	SS	04 11 36.1	+0.3
XAN					pmax	pmax			
	comp=Z,4.0nm,1.2s								
XAN					pmax	pmax			
	comp=Z,51nm,5.3s								
XAN					LR	LR			
	comp=N,1μm,27.6s								
XAN					LR	LR			
	comp=E,250nm,26.6s								
XAN					LR	LR			
	comp=Z,360nm,19.4s								
MTLF	Montolieu	46.05	305	⇑	iP	P	04 01 27.3	+0.2
	comp=Z,191nm,1.0s								
MTLF	Montolieu	46.05	305	⇑	iP	P	04 01 27.3	+0.2
	comp=Z,95nm,1.0s								
PANO	Nakornpanom	46.07	92		P	P	04 01 28.2	+0.7
	comp=Z,62nm,1.1s,comp=Z,797nm								
HYF	Humbligny	46.09	311	⇑	iP	P	04 01 27.3	0.0
HYF	Humbligny	46.09	311	⇑	iP	P	04 01 27.3	0.0
CARF	Carcanieres	46.10	305		eP	P	04 01 27.3	-0.3
CARF	Carcanieres	46.10	305		eP	P	04 01 27.3	-0.3
KEV	Kevo	46.13	347		ep	P	04 01 26.5	-0.8
	comp=Z,43nm,0.7s								
KEV	Kevo	46.13	347		eP	P	04 01 27.6	+0.3
KEV					pmax	pmax			
	comp=Z,41nm,0.8s								
KEV					MLR	MLR			
	comp=Z,1μm,22.0s								
KEV	Kevo	46.13	347		eP	P	04 01 27.6	+0.3
	comp=Z,41nm,0.8s								
KEV					LR	LR			
	comp=Z,1μm,22.0s								
KEV	Kevo	46.13	347		eP	P	04 01 27.6	+0.3
	comp=Z,1μm,22.0s								
SNART	Snartemo	46.14	327		eP	P	04 01 27.6	+0.1
VALF	Valcebollere	46.16	304		eP	P	04 01 28.7	+0.6
VALF	Valcebollere	46.16	304		eP	P	04 01 28.7	+0.6
CAF	Calviac	46.26	308	⇑	iP	P	04 01 28.5	-0.2
	comp=Z,168nm,0.9s								
CAF	Calviac	46.26	308	⇑	iP	P	04 01 28.5	-0.2
	comp=Z,84nm,0.9s								
TCF	Toulx Ste Croi	46.27	309	⇑	iP	P	04 01 28.4	-0.4
	comp=Z,149nm,0.9s								
TCF	Toulx Ste Croi	46.27	309	⇑	iP	P	04 01 28.4	-0.4
	comp=Z,75nm,0.9s								
ARCES	ARCESS Array B	46.27	346		P	P	04 01 28.4	-0.1
ARCES					PcP	PcP	04 03 03.7	+0.1
ARCES	ARCESS Array B	46.27	346		P	P	04 01 28.4	-0.1
	comp=Z,8.1nm,0.5s,baz=139,slow=8.8,SNR=85								
ARCES					PcP	PcP	04 03 03.7	+0.1
	comp=Z,14nm,0.9s,baz=134,slow=3.5,SNR=4.4								
ARCES	ARCESS Array B	46.27	346		P	P	04 01 28.4	-0.1
	comp=Z,8.0nm,0.5s								
ARCES	ARCESS Array B	46.27	346		PcP	PcP	04 03 03.7	+0.1
	comp=Z,14nm,0.9s								
ARE0	ARCESS Array S	46.27	346		eP	P	04 01 28.6	+0.2
ARE0					eS	S	04 08 13.0	-1.1
ARE0					eSS	SS	04 11 39.4	0.0
ARE0	ARCESS Array S	46.27	346		eP	P	04 01 28.4	-0.1
ARE0	ARCESS Array S	46.27	346		eP	P	04 01 28.6	+0.2
	SNR=24								
ARE0					eS	S	04 08 13.0	-1.1
	SNR=26								
ARE0					eSS	SS	04 11 39.4	0.0
	SNR=30								
ABPO	Ambohimpanom	46.28	191		PFAKE		04 01 40.0	+11
ABPO					LR	LR			
	comp=Z,1μm,20.0s								
KTK1	Kautokeino	46.39	344		eP	P	04 01 29.1	-0.3
KTK1					AMB	AMB	04 01 39.1		
	comp=Z,241nm,1.2s								
KTK1	Kautokeino	46.39	344		eP	P	04 01 29.1	-0.3
	comp=Z,241nm,1.2s,SNR=24								
BTO	Baotou	46.51	58		eP	P	04 01 31.4	+0.5
EBNR	Beni Rached	46.66	296		P	P	04 01 32.5	+0.4
EBNR	Beni Rached	46.66	296		P	P	04 01 32.5	+0.4
RJF	Les Rejaudoux	46.67	308	⇑	iP	P	04 01 32.0	+0.1
	comp=Z,222nm,1.0s								
RJF	Les Rejaudoux	46.67	308	⇑	iP	P	04 01 32.0	+0.1
	comp=Z,111nm,1.0s								
SALF	Salau	46.78	305		eP	P	04 01 32.3	-0.6
SALF	Salau	46.78	305		eP	P	04 01 32.3	-0.6
ECHA	Ech Chlef	46.81	295		P	P	04 01 29.1	-4.0
ECHA	Ech Chlef	46.81	295		P	P	04 01 29.1	-4.0
MLS	Moulis	46.85	305		eP	P	04 01 33.0	-0.4
MLS	Moulis	46.85	305		eP	P	04 01 33.0	-0.4
TBLU	Trondheim	46.90	334		eP	P	04 01 33.3	-0.1
TBLU	Trondheim	46.90	334		eP	P	04 01 33.3	-0.1
	SNR=24								
BLS5	Blasjo	46.90	328		eP	P	04 01 33.7	+0.2
BLS5					AMB	AMB	04 01 35.8		
	comp=Z,49nm,1.5s								
NSS	Namsos	46.91	336		eP	P	04 01 33.1	-0.3
NSS	Namsos	46.91	336		eP	P	04 01 33.1	-0.3
	SNR=24								
ENH	Enshi	46.97	73		eP	P	04 01 35.3	+0.8
	comp=Z,91nm,1.4s								
ENH					LR	LR			
	comp=Z,1μm,21.0s								
ENH	Enshi	46.97	73		eP	P	04 01 35.3	+0.8
	comp=Z,91nm,1.4s								
MOR8	Moi Rana	46.97	338	⇑	iP	P	04 01 33.0	-1.0
MOR8					AMB	AMB	04 01 42.2		
	comp=Z,42nm,1.6s								
MOR8	Moi Rana	46.97	338	⇑	iP	P	04 01 33.0	-1.0
	comp=Z,42nm,1.6s,SNR=24								
ODD1	Odda	47.01	329		eP	P	04 01 34.7	+0.3
ODD1	Odda	47.01	329		eP	P	04 01 34.7	+0.3
	SNR=24								
EANR	'Ain N'Sour	47.04	295		P	P	04 01 34.2	-0.8
EANR	'Ain N'Sour	47.04	295		P	P	04 01 34.2	-0.8
LFF	La Frestale	47.20	308	⇑	iP	P	04 01 36.0	0.0
	comp=Z,158nm,0.8s								
LFF	La Frestale	47.20	308	⇑	iP	P	04 01 36.0	0.0
	comp=Z,79nm,0.8s								
RESF	Ens	47.40	305		eP	P	04 01 38.2	+0.4
RESF	Ens	47.40	305		eP	P	04 01 38.2	+0.4
EPF	Esparros	47.41	305	⇑	iP	P	04 01 36.5	-1.3
	comp=Z,29nm,0.8s								
EPF	Esparros	47.41	305	⇑	iP	P	04 01 36.5	-1.3
	comp=Z,15nm,0.8s								
FLOS	Flostrand	47.42	338		eP	P	04 01 37.1	-0.3
UBPT	Khong Chiam	47.52	94		P	P	04 01 39.7	+0.8
	comp=Z,29nm,1.9s,comp=Z,874nm								
UBPT	Khong Chiam	47.52	94		P	P	04 01 39.9	+1.0
	comp=Z,47nm,1.3s,comp=Z,876nm								
KONS	Konsvik	47.60	338		eP	P	04 01 37.5	-1.3
KONS					AMB	AMB	04 01 39.1		
	comp=Z,61nm,1.3s								
VIEF	Viey	47.64	305		eP	P	04 01 38.7	-0.9
VIEF	Viey	47.64	305		eP	P	04 01 38.7	-0.9
HHC	Hu-ho-hao-te	47.68	58		eP	P	04 01 42.0	+2.0
HHC					pP	pP	04 01 48.1	+2.2
HHC					sP	sP	04 01 50.8	+2.6
HHC					PP	PP	04 03 33.0	+1.4
HHC					S	S	04 08 35.0	-0.2
HHC					sS	sS	04 08 45.8	+0.9
HHC					ScS	ScS	04 11 31.0	-2.0
HHC					SS	SS	04 11 57.3	-6.0
HHC					pmax	pmax			
	comp=Z,59nm,0.9s								
HHC					pmax	pmax			
	comp=Z,500nm,5.4s								
HHC					LR	LR			
	comp=N,1μm,21.4s								
HHC					LR	LR			
	comp=E,2μm,20.2s								
HHC					LR	LR			
	comp=Z,1μm,19.0s								
MOL	Molde	47.69	332		eP	P	04 01 40.6	+1.1
MOL	Molde	47.69	332		eP	P	04 01 40.6	+1.1
	SNR=24								
HYA	Hoyanger	47.69	330		eP	P	04 01 39.4	-0.2
PSI	Prapat	47.70	113		P	P	04 01 40.1	-0.3
PSI	Prapat	47.70	113		P	P	04 01 40.1	-0.3
	comp=Z,7.4nm,0.6s,baz=225,slow=8.2,SNR=4.4								
RUND	Rundenannen	47.78	329		eP	P	04 01 39.5	-0.9
BER	Bergen	47.78	329		eS	S	04 08 35.3	-0.5
BER	Bergen	47.78	329		eS	S	04 08 35.3	-0.5
	SNR=25								
STEI	Steigen	47.79	341		eP	P	04 01 39.6	-0.6
EGD	Espegrend	47.79	329		eP	P	04 01 39.1	-1.3
EGD					AMB	AMB	04 01 45.2		
	comp=Z,94nm,1.7s								
KULM	Kulim	47.80	108		PFAKE		04 01 50.0	+8.9
KULM					LR	LR			
	comp=Z,388nm,21.0s								
ASK	Askoy	47.88	329		eP	P	04 01 39.6	-1.5
TRO	Tromso	47.90	344		eP	P	04 01 40.5	-0.6
TRO					AMB	AMB	04 01 47.6		
	comp=Z,58nm,1.6s								
TRO					eS	S	04 08 35.6	-1.6
TRO					eSS	SS	04 12 06.4	+0.8
TRO					AMS	AMS	04 25 46.4		
	comp=Z,1μm,12.9s								
TRO	Tromso	47.90	344		eP	P	04 01 40.5	-0.6
	comp=Z,58nm,1.6s,SNR=24								
TRO					eS	S	04 08 35.6	-1.6
	SNR=25								
TRO					eSS	SS	04 12 06.4	+0.8
	SNR=29								
MFF	Saint Martin d	47.92	310	⇑	iP	P	04 01 40.7	-0.9
	comp=Z,74nm,1.1s								
MFF	Saint Martin d	47.92	310	⇑	iP	P	04 01 40.7	-0.9
	comp=Z,37nm,1.1s								
REYF	Montagne du Re	47.95	305		eP	P	04 01 42.3	+0.3
REYF	Montagne du Re	47.95	305		eP	P	04 01 42.3	+0.3
ETSF	Etsaut	48.06	305	⇑	iP	P	04 01 43.2	+0.3
	comp=Z,189nm,0.9s								
ETSF	Etsaut	48.06	305	⇑	iP	P	04 01 43.2	+0.3
	comp=Z,94nm,0.9s								
LDF	La Druitiere	48.08	312	⇑	iP	P	04 01 41.8	-1.0
	comp=Z,82nm,0.8s								
LDF	La Druitiere	48.08	312	⇑	iP	P	04 01 41.8	-1.0
	comp=Z,41nm,0.8s								
FLN	La Foliniere

QIZ S **S** **04 09 11.3 +1.8**
QIZ SS **SS** **04 12 46.1 +3.3**
QIZ pmax pmax
comp=Z,26nm,1.0s
QIZ pmax pmax
comp=Z,200nm,3.8s
QIZ LR LR
comp=N,530nm,24.3s
QIZ LR LR
comp=Z,370nm,19.3s
QIZ Qiongzhong 50.10 87 PFAKE 04 02 10.0 +11
QIZ LR LR
comp=Z,383nm,20.0s
ROSF Rostrenen 50.15 312⇑ *i*P **P** **04 01 57.9 -0.8**
comp=Z,128nm,0.9s
ROSF Rostrenen 50.15 312⇑ *i*P **P** **04 01 57.9 -0.8**
comp=Z,64nm,0.9s
XAL Allendale 50.22 320 *e*P **P** **04 01 58.9 -0.3**
XAL Allendale 50.22 320 *e*P **P** **04 01 58.9 -0.3**
HLM1 Long Mynd 50.28 317 *e*P **P** **04 01 58.6 -1.0**
HLM1 AMB AMB 04 02 00.2
comp=Z,47nm,1.0s
HLM1 Long Mynd 50.28 317 *e*P **P** **04 01 58.6 -1.0**
MCH1 Michaelchurch 50.29 317⇑ *e*P **P** **04 01 58.1 -1.5**
MCH1 AMB AMB 04 01 58.8
comp=Z,94nm,0.8s
MCH1 Michaelchurch 50.29 317⇑ *e*P **P** **04 01 58.1 -1.5**
FOEL Foel Wylfa 50.52 318⇑ *e*P **P** **04 02 01.3 -0.1**
FOEL AMB AMB 04 02 02.3
comp=Z,88nm,2.9s
FOEL Foel Wylfa 50.52 318⇑ *e*P **P** **04 02 01.3 -0.1**
ESY Stoneypath 50.63 322⇑ *e*P **P** **04 02 01.6 -0.6**
ESY Stoneypath 50.63 322⇑ *e*P **P** **04 02 01.6 -0.6**
KESW Keswick, Cumbr 50.69 320⇑ *e*P **P** **04 02 02.3 -0.4**
KESW AMB AMB 04 02 09.5
comp=Z,97nm,3.0s
KESW Keswick, Cumbr 50.69 320⇑ *e*P **P** **04 02 02.3 -0.4**
DYA Yadsworthy 50.72 314⇑ *e*P **P** **04 02 02.4 -0.6**
DYA AMB AMB 04 02 06.5
comp=Z,102nm,1.5s
DYA Yadsworthy 50.72 314⇑ *e*P **P** **04 02 02.4 -0.6**
DRUM Mains of Drumt 50.74 323⇑ *e*P **P** **04 02 02.5 -0.5**
DRUM AMB AMB 04 02 05.9
comp=Z,114nm,2.0s
DRUM Mains of Drumt 50.74 323⇑ *e*P **P** **04 02 02.5 -0.5**
ESDC Sonseca Array 50.74 301 P **P** **04 02 03.2 -0.1**
ESDC Sonseca Array 50.74 301 P **P** **04 02 03.2 -0.1**
comp=Z,28nm,0.7s,baz=75,slow=7.4,SNR=81
ESDC Sonseca Array 50.74 301 P **P** **04 02 03.2 -0.1**
LRW Lerwick 50.79 327 *e*P **P** **04 02 02.5 -0.8**
LRW AMB AMB 04 02 05.1
comp=Z,193nm,2.5s
LRW Lerwick 50.79 327 *e*P **P** **04 02 02.5 -0.8**
ECK Cauldkaine Hil 50.79 321 *e*P **P** **04 02 02.5 -1.0**
ECK Cauldkaine Hil 50.79 321 *e*P **P** **04 02 02.5 -1.0**
ESK Eskdalemuir 50.86 321 *e*P **P** **04 02 02.8 -1.1**
ESK AMB AMB 04 02 11.1
comp=Z,45nm,1.6s
ESK Eskdalemuir 50.86 321 *i* P **P** **04 02 04.5 +0.6**
ESK Eskdalemuir 50.86 321 PFAKE 04 02 20.0 +16
ESK LR LR
comp=Z,827nm,19.0s
ESK Eskdalemuir 50.86 321 *i* P **P** **04 02 04.5 +0.6**
WPM1 Penmaenmawr 50.98 318⇑ *e*P **P** **04 02 04.5 -0.5**
WPM1 Penmaenmawr 50.98 318⇑ *e*P **P** **04 02 04.4 -0.5**
PAB San Pablo 51.05 300 *e*P **P** **04 02 05.7 0.0**
PAB pmax pmax
comp=Z,50nm,0.7s
PAB MLR MLR
comp=Z,287nm,20.0s
PAB San Pablo 51.05 300 *e*P **P** **04 02 05.7 0.0**
comp=Z,50nm,0.7s
PAB LR LR
comp=Z,287nm,20.0s
PAB San Pablo 51.05 300 *e*P **P** **04 02 05.7 0.0**
comp=Z,287nm,20.0s
WHN Wuhan 51.05 71⇓ *i*P **P** **04 02 08.8 +3.1**
WHN S **S** **04 09 24.0 +1.6**
WHN pmax pmax
comp=Z,58nm,1.0s
WHN pmax pmax
comp=Z,910nm,4.7s
WHN LR LR
comp=N,3μm,17.6s
WHN LR LR
comp=E,660nm,17.4s
WHN LR LR
comp=Z,2μm,20.4s
MME1 Meikle Cairn 51.07 323⇑ *e*P **P** **04 02 04.9 -0.6**
MME1 Meikle Cairn 51.07 323⇑ *e*P **P** **04 02 04.9 -0.6**
YLL Llanberis 51.13 318 *e*P **P** **04 02 05.0 -0.9**
YLL Llanberis 51.13 318 *e*P **P** **04 02 05.0 -0.9**
MPAL Palemas 51.20 295 *i* P **P** **04 02 07.0 +0.1**
GCD Castle Douglas 51.21 320⇑ *e*P **P** **04 02 05.8 -0.7**
GCD Castle Douglas 51.21 320⇑ *e*P **P** **04 02 05.8 -0.7**
BJT Baijiatuau 51.23 59 *e*P **P** **04 02 06.2 -0.8**
comp=Z,12nm,0.4s
BJT LR LR
comp=Z,1μm,20.0s
BJT Baijiatuau 51.23 59 *e*P **P** **04 02 06.2 -0.8**
comp=Z,1μm,20.0s
BJI Beijing 51.23 59 P **P** **04 02 07.3 +0.3**
BJI pP **pP** **04 02 10.8 -2.1**
BJI sP **sP** **04 02 11.9 -3.3**
BJI PcP **PcP** **04 03 22.8 +0.7**
BJI ScP **ScP** **04 07 19.5 +1.8**
BJI S **S** **04 09 24.4 -0.3**
BJI SS **SS** **04 13 04.0 +4.0**
BJI pmax pmax
comp=Z,19nm,1.0s
BJI pmax pmax
comp=Z,220nm,4.4s
BJI LR LR
comp=N,910nm,18.0s
BJI LR LR
comp=E,1μm,16.9s
BJI LR LR
comp=Z,850nm,17.7s
WME Myndd Eilian 51.23 318 *e*P **P** **04 02 06.5 -0.3**
WME Myndd Eilian 51.23 318 *e*P **P** **04 02 06.5 -0.3**
YRE Yr Eifl 51.26 318 *e*P **P** **04 02 06.5 -0.5**
YRE Yr Eifl 51.26 318 *e*P **P** **04 02 06.5 -0.5**
WLF1 Llynfaes 51.28 318⇑ *e*P **P** **04 02 06.8 -0.3**
WLF1 Llynfaes 51.28 318⇑ *e*P **P** **04 02 06.8 -0.3**
BJO Bjornoya 51.33 348 *e*P **P** **04 02 08.3 +1.2**
BJO Bjornoya 51.33 348 *e*P **P** **04 02 08.4 +1.2**
SNR=23
YRC Rhoscolyn 51.38 318⇑ *e*P **P** **04 02 07.5 -0.3**
YRC Rhoscolyn 51.38 318⇑ *e*P **P** **04 02 07.5 -0.3**
TZK Tazeka 51.57 294 *i* P **P** **04 02 10.0 +0.1**
EAB Aberfoyle 51.63 322⇑ *e*P **P** **04 02 08.8 -0.9**
EAB Aberfoyle 51.63 322⇑ *e*P **P** **04 02 08.8 -0.9**
GAL1 Galloway 51.65 320⇑ *e*P **P** **04 02 09.6 -0.3**
GAL1 AMB AMB 04 02 18.6
comp=Z,49nm,2.2s
GAL1 Galloway 51.65 320⇑ *e*P **P** **04 02 09.6 -0.3**
PGBU Glenifferbraes 51.65 321 *e*P **P** **04 02 09.5 -0.3**
PGBU Glenifferbraes 51.65 321 *e*P **P** **04 02 09.5 -0.3**
TOA0 Torodi Ar. Sit 52.25 266 *e*P **P** **04 02 14.3 -0.6**
TOA0 Torodi Ar. Sit 52.25 266 *e*P **P** **04 02 14.3 -0.6**
TORD Torodi Ar. Bea 52.25 266 P **P** **04 02 14.3 -0.5**
TORD Torodi Ar. Bea 52.25 266 P **P** **04 02 14.3 -0.5**
comp=Z,65nm,0.7s,baz=65,slow=7.3,SNR=453
TORD LR LR 04 26 59.9
comp=Z,2μm,18.2s,baz=75,slow=39
TORD Torodi Ar. Bea 52.25 266 P **P** **04 02 14.4 -0.5**
TGT Taghat 52.28 294 *i* P **P** **04 02 15.0 0.0**
GMM Mts of Mourne 52.30 319⇑ *e*P **P** **04 02 14.2 -0.5**
GMM Mts of Mourne 52.30 319⇑ *e*P **P** **04 02 14.2 -0.5**
KAC Achnashellach 52.35 323 *e*P **P** **04 02 14.3 -0.7**
KAC Achnashellach 52.35 323 *e*P **P** **04 02 14.3 -0.7**
CZD Col de Zad 52.45 292 *i* P **P** **04 02 18.0 +1.5**
KPL Plockton 52.51 323 *e*P **P** **04 02 15.3 -0.9**
KPL AMB AMB 04 02 20.5
comp=Z,54nm,1.9s
KPL Plockton 52.51 323 *e*P **P** **04 02 15.3 -0.9**
MIF Mishlifen 52.54 293 *i* P **P** **04 02 17.5 +0.4**
PBRG Braganca 52.68 303 *e*P **P** **04 02 17.9 +0.1**
comp=Z,51nm,0.7s
PBRG Braganca 52.68 303 *e*P **P** **04 02 17.9 +0.1**
comp=Z,51nm,0.7s
MVO Moncorvo 52.95 303 *e*P **P** **04 02 20.0 +0.1**
comp=Z,91nm,0.8s
MVO *e*S **S** **04 09 49.7 +1.3**
MVO Moncorvo 52.95 303 *e*P **P** **04 02 20.0 +0.1**
comp=Z,91nm,0.8s
MVO *e*S **S** **04 09 49.7 +1.3**
PBAR Barrancos 53.28 299 *e*P **P** **04 02 21.9 -0.3**
comp=Z,73nm,1.6s
PBAR *e*S **S** **04 09 53.9 +1.1**
PBAR Barrancos 53.28 299 *e*P **P** **04 02 21.9 -0.3**
comp=Z,73nm,1.6s
PBAR *e*S **S** **04 09 53.9 +1.1**
KIB El Ksiba 53.36 292 *i* P **P** **04 02 24.0 +1.0**
PMRV Marv??o 53.40 301 *e*P **P** **04 02 22.6 -0.5**
comp=Z,38nm,0.9s
PMRV Marv??o 53.40 301 *e*P **P** **04 02 22.6 -0.5**
comp=Z,38nm,0.9s
MTE Manteigas 53.41 302 *e*P **P** **04 02 23.1 -0.2**
comp=Z,62nm,0.8s
MTE *e*S **S** **04 09 56.1 +1.4**
MTE Manteigas 53.41 302 *e*P **P** **04 02 23.5 +0.3**
comp=Z,40nm,0.9s
MTE LR LR
comp=Z,267nm,19.0s
MTE Manteigas 53.41 302 *e*P **P** **04 02 23.1 -0.2**
comp=Z,62nm,0.8s
MTE *e*S **S** **04 09 56.1 +1.4**
PCBR Castelo Branco 53.42 301 *e*P **P** **04 02 22.9 -0.3**
comp=Z,80nm,1.7s
PCBR Castelo Branco 53.42 301 *e*P **P** **04 02 22.9 -0.3**
comp=Z,80nm,1.7s
HIA Hailar 53.44 47 *e*P **P** **04 02 23.7 +0.4**
comp=Z,38nm,0.9s
HIA LR LR
comp=Z,1μm,19.0s
HIA Hailar 53.44 47 *e*P **P** **04 02 23.7 +0.4**
comp=Z,1μm,19.0s
POLO Lamas de Olo 53.51 303 *e*P **P** **04 02 24.2 +0.2**
comp=Z,33nm,1.2s
POLO *e*S **S** **04 09 56.3 +0.3**
POLO Lamas de Olo 53.51 303 *e*P **P** **04 02 24.2 +0.2**
comp=Z,33nm,1.2s
POLO *e*S **S** **04 09 56.3 +0.3**
PESTR Estremoz 53.62 300 *e*P **P** **04 02 24.2 -0.6**
comp=Z,46nm,1.6s
PESTR *e*S **S** **04 09 55.8 -1.7**
PESTR Estremoz 53.62 300 *e*P **P** **04 02 24.2 -0.6**
comp=Z,46nm,1.6s
PESTR *e*S **S** **04 09 55.8 -1.7**
PVIS Viseu 53.65 302 *e*P **P** **04 02 25.4 +0.4**
comp=Z,106nm,1.2s
PVIS Viseu 53.65 302 *e*P **P** **04 02 25.4 +0.4**
comp=Z,106nm,1.2s
RTC Rabat Centre 53.77 294 *e*P **P** **04 02 26.0 +0.1**
PGAV Gavieira, Arco 53.80 304 *e*P **P** **04 02 26.2 0.0**
comp=Z,76nm,0.8s
PGAV Gavieira, Arco 53.80 304 *e*P **P** **04 02 26.2 0.0**
comp=Z,76nm,0.8s
PVAQ Vaqueiros 53.92 298 *e*P **P** **04 02 26.2 -0.7**
comp=Z,53nm,1.7s
PVAQ *e*S **S** **04 10 03.5 +2.0**
PVAQ Vaqueiros 53.92 298 *e*P **P** **04 02 26.2 -0.7**
comp=Z,53nm,1.7s
PVAQ *e*S **S** **04 10 03.5 +2.0**
EVO Evora 53.99 300⇑ *i*P **P** **04 02 28.0 +0.5**
EVO *e*R
comp=Z,453nm,21.0s
EVO Evora 53.99 300 *e*P **P** **04 02 27.4 -0.1**
comp=Z,58nm,1.3s
EVO Evora 53.99 300 *e*P **P** **04 02 27.4 -0.1**
comp=Z,58nm,1.3s
EVOP Sao Brissos 54.08 300⇑ *i*P **P** **04 02 28.0 -0.1**
PMTG Montargil 54.09 300 *e*S **S** **04 10 05.0 +1.2**
PMTG Montargil 54.09 300 *e*S **S** **04 10 05.0 +1.2**
PBDV Barranco-do-Ve 54.11 298 *e*S **S** **04 10 03.2 -1.0**
PBDV Barranco-do-Ve 54.11 298 *e*S **S** **04 10 03.2 -1.0**
PCVE Castro Verde 54.14 298 *e*P **P** **04 02 27.8 -0.7**
comp=Z,31nm,0.5s
PCVE Castro Verde 54.14 298 *e*P **P** **04 02 27.8 -0.7**
comp=Z,31nm,0.5s
PNCL Nicolau / Gran 54.45 299 *e*P **P** **04 02 30.7 -0.1**
comp=Z,49nm,1.3s
PNCL *e*S **S** **04 10 09.3 +0.6**
PNCL Nicolau / Gran 54.45 299 *e*P **P** **04 02 30.7 -0.1**
comp=Z,49nm,1.3s
PNCL *e*S **S** **04 10 09.3 +0.6**
SPA0 Spitsbergen Ar 54.47 351 *e*P **P** **04 02 30.1 -0.3**
SPA0 *e*S **S** **04 10 07.5 -0.4**
SPA0 Spitsbergen Ar 54.47 351 *e*P **P** **04 02 30.1 -0.3**
SNR=22
SPA0 *e*S **S** **04 10 07.5 -0.4**
SNR=24
NJ2 Nanjing 54.53 68 *e*P **P** **04 02 32.0 +0.6**
NJ2 pP **pP** **04 02 35.8 -1.6**
NJ2 sP **sP** **04 02 37.8 -1.9**
NJ2 PcP **PcP** **04 03 36.6 +1.9**
NJ2 S **S** **04 10 11.0 +1.1**
NJ2 pmax pmax
comp=Z,20nm,1.2s
NJ2 pmax pmax
comp=Z,470nm,5.5s
NJ2 LR LR
comp=N,820nm,11.2s
NJ2 LR LR
comp=E,770nm,11.8s
NJ2 LR LR
comp=Z,860nm,12.4s
MORF Marmelete 54.67 298 *e*P **P** **04 02 32.1 -0.4**
comp=Z,23nm,1.3s
MORF Marmelete 54.67 298 *e*P **P** **04 02 32.3 -0.2**
MORF Marmelete 54.67 298 *e*P **P** **04 02 32.3 -0.2**
VAL Valentia 54.76 316 *e*P **P** **04 02 32.3 -0.4**
PFVI Vila Bisbo 54.83 298 *e*P **P** **04 02 33.4 -0.2**
comp=Z,86nm,0.6s
PFVI Vila Bisbo 54.83 298 *e*P **P** **04 02 33.4 -0.2**
comp=Z,86nm,0.6s
LIS Lisbon 54.85 300 *e*P **P** **04 02 33.8 +0.1**
LIS AMb AMB 04 02 51.1
comp=Z,92nm,1.4s
LIS Lisbon 54.85 300 *e*P **P** **04 02 33.8 +0.1**
comp=Z,92nm,1.4s
LIS Lisbon 54.85 300 *e*P **P** **04 02 33.8 +0.1**
LIS Lisbon 54.85 300 *e*P **P** **04 02 33.8 +0.1**
comp=Z,92nm,1.4s
PMST Lisbon--Monsan 54.87 300 *e*P **P** **04 02 34.2 +0.3**
comp=Z,95nm,1.1s
PMST Lisbon--Monsan 54.87 300 *e*P **P** **04 02 34.2 +0.3**
comp=Z,95nm,1.1s
PMAFR Mafra 54.92 300 *e*P **P** **04 02 34.7 +0.5**
comp=Z,104nm,1.9s
PMAFR Mafra 54.92 300 *e*P **P** **04 02 34.7 +0.5**
comp=Z,104nm,1.9s
DL2 Dalian 55.55 60 P **P** **04 02 40.5 +1.8**
DL2 S **S** **04 10 25.6 +2.1**
DL2 pmax pmax
comp=Z,31nm,1.2s
DL2 pmax pmax
comp=Z,280nm,4.0s
DL2 LR LR
comp=N,560nm,21.6s
DL2 LR LR
comp=E,240nm,21.6s
DL2 LR LR
comp=Z,440nm,21.6s
KBS Kingsbay 55.63 351 *e*P **P** **04 02 38.7 0.0**
KBS AMS AMS 04 31 37.5
comp=Z,827nm,12.3s
KBS Kingsbay 55.63 351 *ce*P **P** **04 02 39.6 +0.9**
KBS pmax pmax
comp=Z,30nm,0.6s
KBS Kingsbay 55.63 351 *e*P **P** **04 02 38.9 +0.2**
KBS LR LR
comp=Z,521nm,19.0s
KBS Kingsbay 55.63 351 *e*P **P** **04 02 39.6 +0.9**
comp=Z,30nm,0.6s
QZH Quanzhou 56.04 77 P **P** **04 02 44.6 +2.2**
QZH S **S** **04 10 30.5 +0.2**
QZH LR LR
comp=N,760nm,11.4s
QZH LR LR
comp=E,1μm,20.4s
QZH LR LR
comp=Z,1μm,18.9s
SNY Shenyang 56.62 56⇓ P **P** **04 02 44.6 -1.7**
SNY S **S** **04 10 36.5 -1.1**
SNY pmax pmax
comp=Z,9.0nm,0.9s
SNY pmax pmax
comp=Z,220nm,4.0s
SNY LR LR
comp=N,550nm,15.4s
SNY LR LR
comp=E,890nm,16.7s
SNY LR LR
comp=Z,720nm,16.8s
CLNS Chul'man 56.66 38 *e*P **P** **04 02 45.1 -1.3**
CLNS *e* 04 03 44.6
CLNS pmax pmax
comp=Z,16nm,0.8s
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=E,3.0nm,1.1s
CLNS pmax pmax
comp=Z,6.0nm,1.2s
CLNS MLR MLR
comp=E,900nm,15.0s
CLNS MLR MLR
comp=N,392nm,11.0s
CLNS MLR MLR
comp=Z,1μm,14.0s
CLNS Chul'man 56.66 38 *e*P **P** **04 02 45.1 -1.3**
comp=Z,5.0nm,0.9s
CLNS Chul'man 56.66 38 *e*PcP **PcP** **04 03 44.6 +2.1**
comp=Z,1μm,14.0s
SSE Sheshan 56.68 69 *e*P **P** **04 02 46.3 -0.6**
SSE sP **sP** **04 02 55.6 +0.5**
SSE S **S** **04 10 35.5 -3.1**
SSE pmax pmax
comp=Z,21nm,0.6s
SSE pmax pmax
comp=Z,180nm,5.0s
SSE LR LR
comp=N,710nm,21.4s
SSE LR LR
comp=E,160nm,21.4s
SSE LR LR
comp=Z,780nm,18.9s
CN2 Changchun 57.73 53⇑ P **P** **04 02 53.9 -0.2**
CN2 *e*pP **pP** **04 03 00.0 -0.1**
CN2 *e*sP **sP** **04 03 02.8 +0.4**
CN2 *e*S **S** **04 10 49.3 -2.8**
CN2 pmax pmax
comp=Z,40nm,0.9s
CN2 LR LR
comp=N,600nm,15.0s
CN2 LR LR
comp=E,800nm,15.0s
CN2 LR LR
comp=Z,900nm,16.0s
TPUB Ta-pu 58.30 78 *e*P **P** **04 03 00.1 +1.6**
comp=Z,110nm,1.6s
TPUB Ta-pu 58.30 78 *e*P **P** **04 03 00.1 +1.6**
comp=Z,110nm,1.6s
SSLB Suanglung 58.44 77 *e*P **P** **04 03 01.3 +1.9**
comp=Z,112nm,1.5s
YHNB Yeheng 58.54 76 *e*P **P** **04 03 01.4 +1.2**
comp=Z,66nm,0.7s
YHNB LR LR
comp=Z,483nm,19.0s
YHNB Yeheng 58.54 76 *e*P **P** **04 03 01.4 +1.2**
comp=Z,66nm,0.7s
TATO Taipei 58.55 76 PFAKE 04 03 10.0 +10
TATO LR LR
comp=Z,697nm,19.0s
SLR Silverton 58.56 209 *e*P **P** **04 03 00.9 +0.6**
SLR AMB AMB 04 03 04.9
comp=Z,55nm,3.7s
POGA Pongola 58.65 205⇑ *i*P **P** **04 03 00.5 -0.2**
POGA AMB AMB 04 03 04.0
comp=Z,71nm,1.0s
TSUM Tsumeb 58.84 223 *e*P **P** **04 03 02.7 +0.4**
TSUM AMB AMB 04 03 05.0
comp=Z,960nm,4.0s
TSUM Tsumeb 58.84 223 *e*P **P** **04 03 01.6 -0.7**
comp=Z,36nm,1.1s
TSUM LR LR
comp=Z,2μm,19.0s
TSUM Tsumeb 58.84 223 *e*P **P** **04 03 01.6 -0.7**
comp=Z,36nm,1.1s
TWG Pinlang 58.84 78 *e*P **P** **04 03 04.0 +1.8**
comp=Z,268nm,1.2s
TWG Pinlang 58.84 78 *e*P **P** **04 03 04.0 +1.8**
comp=Z,268nm,1.2s
NACB Ninganchiao 58.88 77 *e*P **P** **04 03 02.7 +0.2**
comp=Z,74nm,1.3s
NACB Ninganchiao 58.88 77 *e*P **P** **04 03 02.7 +0.2**
comp=Z,74nm,1.3s
ERPM east rand prop 59.11 209 *e*P **P** **04 03 04.3 +0.2**
ERPM AMB AMB 04 03 08.0
comp=Z,87nm,1.1s
LBTB Lobatse 59.16 212⇑ *i*P **P** **04 03 05.1 +0.8**
LBTB AMB AMB 04 03 09.2
comp=Z,90nm,0.9s
YAK Yakutsk 59.19 32 *e*P **P** **04 03 02.1 -1.9**
YAK *e* 04 03 48.9
YAK *e* 04 05 14.5
YAK *e*PPP PPP 04 06 37.6
YAK *e*S S 04 11 04.4 -6.2
YAK *e*SS **SS** **04 15 05.7 +1.1**
YAK pmax pmax
comp=Z,23nm,1.2s
YAK pmax pmax
comp=E,21nm,1.4s
YAK pmax pmax
comp=Z,62nm,3.0s
YAK pmax pmax
comp=E,32nm,3.0s
YAK pmax pmax
comp=N,46nm,3.2s
YAK smax smax
comp=E,145nm,2.8s
YAK smax smax
comp=N,69nm,2.7s
YAK Yakutsk 59.19 32 *e*P **P** **04 03 02.1 -1.9**
comp=N,23nm,1.2s
KSR Koster 59.27 210 *e*P **P** **04 03 06.0 +0.7**
KSR AMB AMB 04 03 09.7
comp=Z,22nm,1.0s
TIXI Tiksi 59.50 21 *i* P **P** **04 03 07.2 +1.2**
TIXI pmax pmax
comp=Z,53nm,1.6s
TIXI MLR MLR
comp=Z,1μm,19.0s
TIXI Tiksi 59.50 21 *i* P **P** **04 03 07.2 +1.2**
comp=Z,1μm,19.0s
INCN Inchon 59.69 61 PFAKE 04 03 20.0 +12
INCN LR LR
comp=Z,810nm,21.0s
MDJ Mudanjiang 60.55 52 P **P** **04 03 14.3 +0.6**
MDJ pP **pP** **04 03 17.4 -2.3**
MDJ sP **sP** **04 03 18.8 -3.2**
MDJ PcP **PcP** **04 03 58.1 0.0**
MDJ PP **PP** **04 05 25.9 -1.1**
MDJ S **S** **04 11 29.3 +0.6**
MDJ ScS SKKSac 04 13 01.3 -2.3
MDJ SS **SS** **04 15 28.9 +2.3**
MDJ pmax pmax
comp=Z,9.0nm,1.4s
MDJ pmax pmax
comp=Z,99nm,3.6s
MDJ LR LR
comp=N,530nm,15.2s
MDJ LR LR
comp=E,650nm,18.4s
MDJ LR LR
comp=Z,1μm,17.8s
MDJ Mudanjiang 60.55 52 PFAKE 04 03 30.0 +16
MDJ LR LR
comp=Z,1μm,19.0s
DAG Danmarks Havn 60.56 345⇑ *i*P **P** **04 03 13.1 -0.1**
DAG pmax pmax
comp=Z,16nm,0.7s
DAG Danmarks Havn 60.56 345⇑ *i*P **P** **04 03 13.1 -0.1**
comp=Z,23nm,0.7s
BORG Borgarnes 60.62 331 PFAKE 04 03 30.0 +16
BORG LR LR
comp=Z,724nm,19.0s
KSAR Wonju Array Be 60.67 60 P **P** **04 03 14.1 -0.5**
KSAR ⇑ *e* 04 32 40.0
KSAR Wonju Array Be 60.67 60 P **P** **04 03 14.1 -0.5**
KSRS Korea Array 60.70 60 P **P** **04 03 14.1 -0.7**
comp=Z,15nm,0.8s,baz=278,slow=6.7,SNR=58
KSRS PKP2bc 04 32 40.0
comp=Z,0.5nm,0.4s,baz=134,slow=5.2,SNR=4.1

KSRS LR LR 04 33 27.6
comp=Z,602nm,20.9s,baz=280,slow=40
KSRS Korea Array 60.70 60 P **P** **04 03 14.1 -0.7**
comp=Z,603nm,20.9s
DBIC Dimbokro 60.84 262 ⇓*i*P **P** **04 03 15.9 -0.2**
DBIC Dimbokro 60.84 262 *e*P **P** **04 03 15.9 -0.2**
comp=Z,51nm,0.8s
DBIC Dimbokro 60.84 262 P **P** **04 03 15.6 -0.5**
comp=Z,48nm,0.7s,baz=42,slow=9.8,SNR=20
DBIC LR LR 04 28 04.6
comp=Z,1μm,18.1s,baz=45,slow=34
DBIC Dimbokro 60.84 262 *e*P **P** **04 03 15.9 -0.2**
comp=Z,51nm,0.8s
SCO Scoresbysund 60.91 338 *i*P **P** **04 03 17.3 +1.6**
SCO pmax pmax
comp=Z,20nm,0.9s
SCO Scoresbysund 60.91 338 *i*P **P** **04 03 17.3 +1.6**
comp=Z,26nm,0.9s
SCO Scoresbysund 60.91 338 *i*P **P** **04 03 17.3 +1.6**
comp=Z,20nm,0.9s,SNR=23
KKM Kota Kinabalu 60.97 98 *e*P **P** **04 03 16.5 -0.6**
comp=Z,64nm,1.4s
KKM Kota Kinabalu 60.97 98 P **P** **04 03 16.9 -0.2**
comp=Z,32nm,1.6s,comp=Z,549nm
KKM Kota Kinabalu 60.97 98 *e*P **P** **04 03 16.5 -0.6**
comp=Z,64nm,1.4s
SWZ Schweizer 61.13 211 ⇑*i*P **P** **04 03 18.0 +0.1**
SWZ AMB AMB 04 03 22.0
comp=Z,131nm,0.9s
LIC Lamto 61.19 262 *e*P **P** **04 03 18.0 -0.5**
comp=Z,93nm,0.7s
LIC *e*R
comp=Z,2μm,19.5s
LIC Lamto 61.19 262 *e*P **P** **04 03 18.0 -0.5**
comp=Z,46nm,0.7s
KLR Kul'dur 61.28 46 *e*P P 04 03 14.2 -4.4
KLR *e*S **S** **04 11 34.5 -3.4**
KLR *e* 04 15 32.5
KLR MLR MLR
comp=E,1μm,13.0s
KLR MLR MLR
comp=Z,1μm,13.0s
PMPST Porto Santo, M 61.69 295 *e*S **S** **04 11 49.1 +5.5**
PMPST Porto Santo, M 61.69 295 *e*S **S** **04 11 49.1 +5.5**
USRK Ussuriysk Arra 62.32 52 P **P** **04 03 24.7 -1.0**
comp=Z,4.1nm,0.6s,baz=268,slow=9.0,SNR=8.8
USRK LR LR 04 33 53.2
comp=Z,1μm,18.5s,baz=282,slow=39
KSD Kokstad 62.33 206 *e*P **P** **04 03 25.3 -0.6**
KSD AMB AMB 04 03 29.9
comp=Z,86nm,1.0s
BOSA Boshof 62.39 210 ⇑*i*P **P** **04 03 26.1 -0.2**
BOSA AMB AMB 04 03 30.4
comp=Z,62nm,0.9s
BOSA Boshof 62.39 210 P **P** **04 03 25.6 -0.6**
BOSA Boshof 62.39 210 P **P** **04 03 25.6 -0.6**
comp=Z,50nm,0.7s,baz=29,slow=6.7,SNR=57
BOSA LR LR 04 34 09.7
comp=Z,924nm,18.4s,baz=29,slow=40
BOSA Boshof 62.39 210 P **P** **04 03 25.7 -0.6**
comp=Z,924nm,18.4s
PMOZ Porto Moniz, M 62.46 295 *e*P **P** **04 03 27.6 +0.7**
comp=Z,142nm,1.3s
PMOZ Porto Moniz, M 62.46 295 *e*P **P** **04 03 27.6 +0.7**
comp=Z,142nm,1.3s
MYLDM Lahad Datu 63.38 98 P **P** **04 03 34.4 +1.3**
comp=Z,49nm,1.5s,comp=Z,918nm
HABR Khabarovsk 63.56 47 *e*P **P** **04 03 31.9 -1.9**
HABR *SP **sP** **04 03 41.0 -1.1**
HABR 04 04 08.3
HABR 04 05 51.7
HABR *e*PPP PPP 04 07 20.8
HABR *e*S **S** **04 12 05.1 -1.4**
HABR *e**SS **sS** **04 12 15.9 -0.5**
HABR *e* 04 13 24.2
HABR *e*SS **SS** **04 16 13.7 +0.2**
HABR pmax pmax
comp=N,63nm,2.2s
HABR pmax pmax
comp=E,189nm,3.0s
HABR pmax pmax
comp=Z,144nm,2.2s
HABR MLR MLR
comp=Z,815nm,15.0s
HABR Khabarovsk 63.56 47 *e*P **P** **04 03 31.9 -1.9**
comp=Z,144nm,2.2s
HABR Khabarovsk 63.56 47 PcP **PcP** **04 04 08.3 -1.9**
HABR *e*S **S** **04 12 05.1 -1.4**
HVD Gariep Dam 63.99 209 *e*P **P** **04 03 36.9 -0.1**
HVD AMB AMB 04 03 41.1
comp=Z,87nm,1.0s
JNU Nakatsue 64.12 64 P **P** **04 03 37.3 -0.5**
JNU Nakatsue 64.12 64 P **P** **04 03 37.3 -0.5**
comp=Z,12nm,0.7s,baz=305,slow=3.8,SNR=5.3
JNU Nakatsue 64.12 64 P **P** **04 03 37.3 -0.5**
GRM Grahamstown 65.92 207 ⇑*i*P **P** **04 03 49.5 +0.2**
GRM AMB AMB 04 03 53.9
comp=Z,173nm,0.9s
SUMG Summit 65.94 341 ⇑*i*P **P** **04 03 50.1 +0.7**
SUMG pmax pmax
comp=Z,77nm,0.8s
SUMG Summit 65.94 341 *e*P **P** **04 03 50.1 +0.7**
comp=Z,72nm,0.8s
SUMG Summit 65.94 341 ⇑*i*P **P** **04 03 50.1 +0.7**
comp=Z,77nm,0.8s
SUMG Summit 65.94 341 *i*P **P** **04 03 50.1 +0.7**
comp=Z,77nm,0.8s
ALE Alert 67.10 353 P **P** **04 03 56.0 -0.2**
comp=Z,191nm,0.7s,SNR=12
CVNA Calvinia 67.37 213 *e*P **P** **04 03 58.5 -0.1**
CVNA AMB AMB 04 04 00.2
comp=Z,67nm,2.8s
BUFB Buffelsbos 67.37 208 *e*P P 04 04 01.9 +3.4
BUFB AMB AMB 04 04 03.0
comp=Z,86nm,1.1s
SUR Sutherland 67.61 212 *e*P **P** **04 04 00.2 -0.1**
SUR AMB AMB 04 04 08.6
comp=Z,40nm,3.8s
SUR Sutherland 67.61 212 *e*P **P** **04 04 00.4 +0.1**
comp=Z,51nm,0.9s
SUR LR LR
comp=Z,827nm,19.0s
SUR Sutherland 67.61 212 *e*P **P** **04 04 00.4 +0.1**
comp=Z,51nm,0.9s
DAV Davao City (W) 68.84 93 PFAKE 04 04 20.0 +12
DAV LR LR
comp=Z,282nm,21.0s
MAJO Matsushiro 68.87 59 PFAKE 04 04 20.0 +12
MAJO LR LR
comp=Z,446nm,19.0s
MAT Matsushiro 68.87 59 P **P** **04 04 06.8 -1.4**
MAT S **S** **04 13 08.0 -3.5**
MJAR Matsushiro Arr 68.87 59 P **P** **04 04 07.2 -1.0**
MJAR Matsushiro Arr 68.87 59 P **P** **04 04 07.2 -1.0**
comp=Z,5.4nm,1.0s,baz=286,slow=8.8,SNR=8.4
MJAR LR LR 04 38 01.3
comp=Z,362nm,21.1s,baz=275,slow=39
MJAR Matsushiro Arr 68.87 59 P **P** **04 04 07.2 -1.0**
comp=Z,362nm,21.1s
YSS Yuzh-Sakhalins 68.97 47 ⇑*i*P **P** **04 04 08.4 -0.2**
YSS *e* 04 04 23.4
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,1μm,16.0s
YSS Yuzh-Sakhalins 68.97 47 *i*P **P** **04 04 08.4 -0.2**
comp=Z,1μm,16.0s
KAPI Kappang 69.41 107 P **P** **04 04 10.7 -1.1**
comp=Z,237nm,1.1s,SNR=5.1
KAPI Kappang 69.41 107 *e*P **P** **04 04 10.4 -1.4**
comp=Z,79nm,1.3s
KAPI LR LR
comp=Z,364nm,22.0s
KAPI Kappang 69.41 107 P **P** **04 04 10.6 -1.2**
KAPI Kappang 69.41 107 P **P** **04 04 09.6 -2.1**
comp=Z,10nm,0.4s,baz=129,slow=19,SNR=10
KAPI Kappang 69.41 107 *e*P **P** **04 04 10.4 -1.4**
comp=Z,79nm,1.3s
ASAJ Asahikawa 69.72 50 P **P** **04 04 11.7 -1.6**
ASAJ Asahikawa 69.72 50 P **P** **04 04 11.7 -1.6**
comp=Z,8.8nm,0.8s,baz=309,slow=14,SNR=2.3
ASAJ Asahikawa 69.72 50 P **P** **04 04 11.6 -1.6**
JKA Kamikawa-asahi 69.72 50 P **P** **04 04 11.7 -1.6**
comp=Z,9.0nm,0.8s
ERM Erimo 70.78 52 PFAKE 04 04 30.0 +10
ERM LR LR
comp=Z,434nm,21.0s
SFJD Kangerlussuaq 71.75 337 PFAKE 04 04 40.0 +15
SFJD LR LR
comp=Z,489nm,19.0s
SFJD Kangerlussuaq 71.75 337 *i*P **P** **04 04 24.7 -0.5**
comp=Z,18nm,0.8s
SFJD Kangerlussuaq 71.75 337 *i*P **P** **04 04 24.7 -0.5**
comp=Z,18nm,0.8s
YUK Yuzh-Kuril'sk 71.97 49 *d*iP P 04 04 23.2 -3.7
YUK *e*S S 04 13 35.2 -12
YUK *e*SSS SSS 04 21 29.5
YUK pmax pmax
comp=Z,419nm,1.2s
YUK pmax pmax
comp=N,82nm,1.2s
YUK pmax pmax
comp=E,233nm,1.2s
YUK pmax pmax
comp=Z,528nm,1.2s
YUK MLR MLR
comp=N,220nm,21.0s
YUK MLR MLR
comp=E,1μm,21.0s
YUK MLR MLR
comp=Z,978nm,21.0s
KUR Kuril'sk 72.90 48 P **P** **04 04 30.3 -2.1**
KUR S S 04 13 47.6 -10
KUR pmax pmax
comp=Z,212nm,1.8s
KUR MLR MLR
comp=Z,579nm,19.0s
KUR Kuril'sk 72.90 48 P **P** **04 04 30.3 -2.1**
comp=Z,212nm,1.8s
SACV Santiago Islan 74.08 279 PFAKE 04 04 50.0 +10
SACV LR LR
comp=Z,523nm,19.0s
PETK Petropavlovsk- 75.74 37 P **P** **04 04 46.8 -2.1**
PETK pmax pmax
comp=Z,4.0nm,1.0s
PETK MLR MLR
comp=Z,699nm,19.7s
PETK Petropavlovsk- 75.74 37 P **P** **04 04 46.8 -2.1**
PETK Petropavlovsk- 75.74 37 P **P** **04 04 46.8 -2.1**
comp=Z,4.1nm,1.0s,baz=213,slow=11,SNR=4.8
PETK LR LR 04 41 27.6
comp=Z,699nm,19.7s,baz=297,slow=38
PETK Petropavlovsk- 75.74 37 P **P** **04 04 46.8 -2.1**
comp=Z,699nm,19.7s
PET Petropavlovsk 76.30 37 *e*P **P** **04 04 52.2 +0.2**
PET *e*S **S** **04 14 31.3 -4.4**
PET MLR MLR
comp=Z,700nm,19.0s
PET Petropavlovsk 76.30 37 *e*P **P** **04 04 52.2 +0.2**
comp=Z,700nm,19.0s
FITZ Fitzroy Crossi 81.14 115 P **P** **04 05 18.4 -0.8**
FITZ Fitzroy Crossi 81.14 115 P **P** **04 05 18.4 -0.8**
comp=Z,11nm,0.9s,baz=320,slow=4.0,SNR=14
FITZ Fitzroy Crossi 81.14 115 P **P** **04 05 18.4 -0.8**
NWAO Narrogin (SRO) 83.31 132 P **P** **04 05 28.7 -1.5**
NWAO Narrogin (SRO) 83.31 132 P **P** **04 05 28.7 -1.5**
comp=Z,20nm,0.9s,baz=351,slow=6.8,SNR=5.1
NWAO Narrogin (SRO) 83.31 132 P **P** **04 05 28.7 -1.5**
comp=Z,20nm,0.9s
ATTU Attu Island--F 83.84 33 *e*P **P** **04 05 32.1 -0.6**
FX1 Attu Island--F 83.84 33 *e*P **P** **04 05 32.1 -0.6**
FX1 Attu Island--F 83.84 33 *e*P **P** **04 05 32.1 -0.6**
COLD Coldfoot 84.25 10 *e*P **P** **04 05 35.2 +0.6**
comp=Z,39nm,0.9s
COLD Coldfoot 84.25 10 *e*P **P** **04 05 35.2 +0.6**
comp=Z,39nm,0.9s
SCHQ Schefferville 85.01 331 P **P** **04 05 37.2 -1.4**
SCHQ Schefferville 85.01 331 P **P** **04 05 37.2 -1.4**
comp=Z,18nm,0.7s,baz=44,slow=5.7,SNR=26
SCHQ LR LR 04 43 03.1
comp=Z,222nm,21.7s,baz=47,slow=35
SCHQ Schefferville 85.01 331 P **P** **04 05 37.2 -1.4**
COLA College 86.81 10 *e*P **P** **04 05 47.1 -0.2**
COLA pmax pmax
comp=Z,45nm,0.7s
COLA MLR MLR
comp=Z,591nm,19.0s
COLA College 86.81 10 *e*P **P** **04 05 47.1 -0.2**
comp=Z,45nm,0.7s
COLA LR LR
comp=Z,591nm,19.0s
COLA College 86.81 10 *e*P **P** **04 05 47.1 -0.2**
comp=Z,591nm,19.0s
ILAR Eielson Array 87.05 10 P **P** **04 05 47.6 -0.9**
ILAR PKKPbc **PKKPbc** **04 23 41.8 -0.2**
ILAR Eielson Array 87.05 10 P **P** **04 05 47.6 -0.9**
comp=Z,10.0nm,0.6s,baz=320,slow=4.2,SNR=112
ILAR PKKPbc **PKKPbc** **04 23 41.8 -0.2**
comp=Z,0.6nm,0.6s,baz=186,slow=1.7,SNR=11
ILAR LR LR 04 53 50.9
comp=Z,370nm,18.0s,baz=165,slow=42
ILAR Eielson Array 87.05 10 P **P** **04 05 47.6 -0.9**
comp=Z,1.0nm,0.6s
MCK McKinley 87.70 11 *e*P **P** **04 05 51.4 -0.3**
MCK pmax pmax
comp=Z,103nm,1.2s
MCK McKinley 87.70 11 *e*P **P** **04 05 51.4 -0.3**
comp=Z,103nm,1.2s
MCK McKinley 87.70 11 *e*P **P** **04 05 51.4 -0.3**
comp=Z,103nm,1.2s
TRF Thorofare Moun 87.73 11 *e*P **P** **04 05 51.0 -1.0**
comp=Z,29nm,0.7s
EGAK Eagle 87.78 7 *e*P **P** **04 05 52.2 +0.1**
comp=Z,41nm,0.9s
EGAK LR LR
comp=Z,548nm,19.0s
WRA Warramunga Arr 89.16 113 P **P** **04 05 58.6 -0.7**
WRA PKKPbc **PKKPbc** **04 23 37.0 +0.7**
WRA Warramunga Arr 89.16 113 P **P** **04 05 58.6 -0.7**
comp=Z,2.9nm,0.8s,baz=312,slow=3.5,SNR=21
WRA PKKPbc **PKKPbc** **04 23 37.0 +0.7**
comp=Z,0.8nm,0.6s,baz=122,slow=2.2,SNR=11
WRA Warramunga Arr 89.16 113 P **P** **04 05 58.6 -0.7**
comp=Z,1.0nm,0.6s
WRAB Tennant Creek 89.17 113 P **P** **04 05 57.0 -2.4**
comp=Z,88nm,1.0s,SNR=6.4
WRAB Tennant Creek 89.17 113 *e*P **P** **04 05 58.9 -0.5**
WRAB pmax pmax
comp=Z,28nm,1.3s
WRAB Tennant Creek 89.17 113 *e*P **P** **04 05 58.9 -0.5**
comp=Z,28nm,1.3s
WRAB Tennant Creek 89.17 113 *e*P **P** **04 05 58.9 -0.5**
comp=Z,28nm,1.3s
SML Sawmill 89.60 11 *e*P **P** **04 06 00.2 -0.5**
SML pmax pmax
comp=Z,8.0nm,1.0s
SML Sawmill 89.60 11 *e*P **P** **04 06 00.2 -0.5**
comp=Z,7.7nm,1.0s
SML Sawmill 89.60 11 *e*P **P** **04 06 00.2 -0.5**
comp=Z,8.0nm,1.0s
PMR Palmer 89.66 12 *e*P **P** **04 06 00.7 -0.2**
PMR pmax pmax
comp=Z,17nm,0.7s
PMR Palmer 89.66 12 *e*P **P** **04 06 00.7 -0.2**
comp=Z,17nm,0.7s
PMR Palmer 89.66 12 *e*P **P** **04 06 00.7 -0.2**
comp=Z,17nm,0.7s
AS31 Alice Springs 90.60 116 *e*P **P** **04 06 05.2 -0.8**
ASAR Alice Springs 90.60 116 P **P** **04 06 04.8 -1.2**
ASAR PKKPbc **PKKPbc** **04 23 33.1 +0.3**
ASAR Alice Springs 90.60 116 P **P** **04 06 04.8 -1.2**
comp=Z,2.8nm,0.8s,baz=299,slow=4.7,SNR=25
ASAR PKKPbc **PKKPbc** **04 23 33.1 +0.3**
comp=Z,0.8nm,0.7s,baz=120,slow=3.1,SNR=7.1
ASAR Alice Springs 90.60 116 P **P** **04 06 04.9 -1.2**
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 90.69 356 P **P** **04 06 05.2 -0.5**
YKA Yellowknife Ar 90.69 356 P **P** **04 06 05.2 -0.5**
comp=Z,5.5nm,0.9s,baz=4.6,slow=4.7,SNR=14
YKA Yellowknife Ar 90.69 356 P **P** **04 06 05.2 -0.5**
comp=Z,6.0nm,0.9s
KDAK Kodiak Island 92.46 15 PFAKE 04 06 30.0 +16
KDAK LR LR
comp=Z,1μm,22.0s
KDAK Kodiak Island 92.46 15 *i*P **P** **04 06 17.1 +3.1**
RCBR Riachuelo 94.08 266 PFAKE 04 06 30.0 +7.7
RCBR LR LR
comp=Z,652nm,20.0s
MAW Mawson 94.25 177 P **P** **04 06 20.2 -1.5**
MAW PKKPbc **PKKPdf** **04 23 24.8 -0.2**
MAW Mawson 94.25 177 P **P** **04 06 20.2 -1.5**
comp=Z,10nm,0.8s,baz=353,slow=7.7,SNR=10
MAW PKKPbc **PKKPdf** **04 23 24.8 -0.2**
comp=Z,1.8nm,0.7s,baz=260,slow=5.2,SNR=5.5
MAW LR LR 04 43 29.8
comp=Z,315nm,20.8s,baz=161,slow=32
MAW Mawson 94.25 177 P **P** **04 06 20.2 -1.5**
comp=Z,2.0nm,0.7s
LBNH Lisbon 94.65 325 PFAKE 04 06 40.0 +16
LBNH LR LR
comp=Z,196nm,21.0s
LONY Lake Ozonia 95.71 327 *e*P **P** **04 06 29.0 -0.3**
comp=Z,15nm,1.0s
LONY LR LR
comp=Z,323nm,22.0s
NCB Newcomb 96.00 326 PFAKE 04 06 40.0 +9.4
NCB LR LR
comp=Z,226nm,20.0s
SYO Syowa Base 96.25 186 ⇑*e*P **P** **04 06 30.0 -0.8**
FFC Flin Flon 96.59 347 *e*P **P** **04 06 32.6 -0.4**
FFC pmax pmax
comp=Z,13nm,1.3s
FFC MLR MLR
comp=Z,367nm,19.0s
FFC Flin Flon 96.59 347 *e*P **P** **04 06 32.6 -0.4**
comp=Z,13nm,1.3s
FFC LR LR
comp=Z,367nm,19.0s
FFC Flin Flon 96.59 347 *e*P **P** **04 06 32.6 -0.4**
comp=Z,367nm,19.0s
WRAK Wrangell Islan 96.83 5 PFAKE 04 06 50.0 +16
WRAK LR LR
comp=Z,388nm,21.0s
BINY Binghamton 98.18 326 PFAKE 04 06 50.0 +9.4
BINY LR LR
comp=Z,267nm,22.0s
BBSR BB Station 98.31 313 PFAKE 04 06 50.0 +8.7
BBSR LR LR
comp=Z,134nm,20.0s
ULM Lac du Bonnet 99.28 342 P **Pdif** **04 06 44.8 -0.4**
ULM Lac du Bonnet 99.28 342 P **Pdif** **04 06 44.8 -0.4**
comp=Z,1.3nm,0.4s,baz=286,slow=3.7,SNR=3.1
ULM LR LR 04 59 34.3
comp=Z,419nm,18.9s,baz=139,slow=40
ULM Lac du Bonnet 99.28 342 P **Pdif** **04 06 44.8 -0.4**
comp=Z,1.0nm,0.4s
EYMN Ely 100.00 338 PFAKE 04 07 00.0 +11
EYMN LR LR
comp=Z,362nm,22.0s
GLMI Grayling 100.08 333 PFAKE 04 07 00.0 +11
GLMI LR LR
comp=Z,283nm,21.0s
COWI Conover 100.77 336 PFAKE 04 07 00.0 +8.0
COWI LR LR
comp=Z,293nm,20.0s
AGMN Agassiz Nation 101.04 341 PFAKE 04 07 00.0 +6.9
AGMN LR LR
comp=Z,349nm,20.0s
CASY Casey 101.62 160 PFAKE 04 07 10.0 +15
CASY LR LR
comp=Z,659nm,22.0s
CBN Corbin 101.85 324 PFAKE 04 07 10.0 +13
CBN LR LR
comp=Z,219nm,21.0s
DGMT Dagmar 102.96 346 PFAKE 04 07 10.0 +8.3
DGMT LR LR
comp=Z,322nm,19.0s
BLA Blacksburg 104.18 325 PFAKE 04 07 20.0 +13
BLA LR LR
comp=Z,288nm,19.0s
CNNC Cliffs of the 104.33 322 PFAKE 04 07 20.0 +12
CNNC LR LR
comp=Z,329nm,20.0s
EGMT Eagleton 104.40 350 PFAKE 04 07 20.0 +12
EGMT LR LR
comp=Z,308nm,21.0s
NEW Newport 105.02 355 PFAKE 04 11 40.0
NEW LR LR
comp=Z,373nm,22.0s
ECSD EROS Data Cent 105.38 340 PFAKE 04 11 40.0
ECSD LR LR
comp=Z,302nm,20.0s
HDIL Hopedale 105.54 333 PFAKE 04 11 40.0
HDIL LR LR
comp=Z,111nm,22.0s
SCIA State Center 105.87 336 PFAKE 04 11 40.0
SCIA LR LR
comp=Z,369nm,20.0s
FDF Fort de France 106.15 296 PFAKE 04 11 40.0
FDF LR LR
comp=Z,317nm,19.0s
NLWA Neilton Lookou 106.16 360 PFAKE 04 11 40.0
NLWA LR LR
comp=Z,362nm,22.0s
HNR Honiara 106.80 92 PFAKE 04 11 40.0
HNR LR LR
comp=Z,459nm,20.0s
BOZ Bozeman (W) 107.00 351 PFAKE 04 11 40.0
BOZ LR LR
comp=Z,299nm,21.0s
HAWA Hanford 107.04 357 PFAKE 04 11 40.0
HAWA LR LR
comp=Z,340nm,21.0s
RLMT Red Lodge 107.14 349 PFAKE 04 11 40.0
RLMT LR LR
comp=Z,510nm,19.0s
NHSC New Hope 107.19 322 PFAKE 04 11 40.0
NHSC LR LR
comp=Z,268nm,20.0s
CAN Canberra 107.41 121 PFAKE 04 11 40.0
CAN LR LR
comp=Z,323nm,22.0s
LKWY Lake 107.87 350 PFAKE 04 11 40.0
LKWY LR LR
comp=Z,509nm,22.0s
MCMT McKenzie Canyo 107.97 352 PKPdf **PKiKP** **04 11 32.0 +0.6**
SJG San Juan 108.11 302 PFAKE 04 11 40.0
SJG LR LR
comp=Z,267nm,20.0s
BMO Blue Mountains 108.42 355 PFAKE 04 11 40.0
BMO LR LR
comp=Z,362nm,20.0s
K19A Absolon Red Bu 109.29 348 P 04 11 33.3
baz=109
HLID Hailey 109.41 352 PFAKE 04 11 50.0
HLID LR LR
comp=Z,278nm,20.0s
BW06 Boulder Array 109.48 349 *e*PKPdf **PKiKP** **04 11 33.8 -0.4**
BW06 LR LR
comp=Z,448nm,19.0s
PDAR Pinedale Array 109.48 349 PKiKP **PKiKP** **04 11 33.1 -1.1**
PDAR PKKP **PKKPdf** **04 22 49.9 -4.3**
PDAR Pinedale Array 109.48 349 PKiKP **PKiKP** **04 11 33.1 -1.1**
comp=Z,2.3nm,0.6s,baz=80,slow=3.2,SNR=13
PDAR PKKP **PKKPdf** **04 22 49.9 -4.3**
comp=Z,2.3nm,0.8s,baz=194,slow=5.4,SNR=13
OGNE Ogallala 109.53 342 PFAKE 04 11 50.0
OGNE LR LR
comp=Z,346nm,19.0s
KSU1 Kansas State U 109.55 337 PFAKE 04 11 50.0
KSU1 LR LR
comp=Z,301nm,19.0s
AHID Auburn Hatcher 109.74 350 PFAKE 04 11 50.0
AHID LR LR
comp=Z,321nm,20.0s
OXF Oxford 110.68 330 PFAKE 04 11 50.0
OXF LR LR
comp=Z,283nm,19.0s
LRAL Lakeview Retre 110.77 327 PFAKE 04 11 50.0
LRAL LR LR
comp=Z,236nm,20.0s
WVOR Wild Horse Val 110.93 356 PFAKE 04 11 50.0
WVOR LR LR
comp=Z,278nm,22.0s
HWUT Hardware Ranch 110.94 350 PFAKE 04 11 50.0
HWUT LR LR
comp=Z,399nm,19.0s
N20A Spence Gulch, 111.10 347 P 04 11 37.1
baz=111
O23A Lake Granby, G 111.19 345 P 04 11 37.6
baz=111
O22A Kremmling 111.39 346 P 04 11 37.2
baz=111
SDDR Presa de Saban 111.39 306 PFAKE 04 11 50.0
SDDR LR LR
comp=Z,282nm,20.0s
ISCO Idaho Springs 111.52 345 PFAKE 04 11 50.0
ISCO LR LR

comp=Z,430nm,20.0s
P22A Eagle 111.97 346 P 04 11 38.9
baz=112
R27A Eads 112.22 342 P 04 11 39.0
baz=112
R26A Arlington 112.38 342 P 04 11 39.3
baz=112
P19A Cripple Cowboy 112.40 347 P 04 11 38.9
baz=112
BRAL Brewton 112.44 326 PFAKE 04 11 50.0
BRAL LR LR
comp=Z,298nm,19.0s
DUG Dugway 112.52 351 PFAKE 04 11 50.0
DUG LR LR
comp=Z,223nm,20.0s
DUG Dugway 112.52 351 P 04 11 39.8
baz=112
R25A Fountain Ranch 112.75 343 P 04 11 39.7
baz=112
BMN Battle Mountai 112.81 354 PFAKE 04 11 50.0
BMN LR LR
comp=Z,387nm,21.0s
R24A Sanders Place, 112.88 344 P 04 11 40.1
baz=113
S26A Kim 113.03 342 P 04 11 40.9
baz=113
VBMS Vicksburg 113.10 329 PFAKE 04 11 50.0
VBMS LR LR
comp=Z,329nm,19.0s
T27A Campo 113.34 341 P 04 11 41.5
baz=113
SDCO Great Sand Dun 113.44 344 PFAKE 04 11 50.0
SDCO LR LR
comp=Z,338nm,22.0s
S24A Houchin Ranch, 113.47 344 P 04 11 41.4
baz=113
Q16A Castle Valley 113.50 349 P 04 11 41.6
baz=113
R20A Redvale 113.67 346 P 04 11 42.3
baz=113
T25A Trinidad 113.73 343 P 04 11 42.1
baz=113
S22A 4UR Ranch, Cre 113.76 345 P 04 11 41.4
baz=114
U27A Thompson Grove 113.97 341 P 04 11 42.7
baz=114
S20A Disappointment 114.02 346 P PKPdf 04 11 42.8 -0.2
baz=114
S21A Coal Bank Pass 114.05 346 P PKPdf 04 11 43.0 -0.2
baz=114
MVU Marysvale 114.08 350 PFAKE 04 11 50.0 +6.9
MVU LR LR
comp=Z,383nm,19.0s
WMOK Wichita Mounta 114.23 337 PFAKE 04 11 50.0 +6.8
WMOK LR LR
comp=Z,354nm,20.0s
U26A Atchley Ranch, 114.25 342 P PKPdf 04 11 43.0 -0.5
baz=114
U25A Circle Dot Ran 114.43 343 P PKPdf 04 11 43.8 +0.1
baz=114
T22A Edith 114.47 345 P PKPdf 04 11 44.1 +0.1
baz=114
MVCO Mesa Verde 114.64 346 PFAKE 04 12 00.0 +16
MVCO LR LR
comp=Z,409nm,21.0s
V26A Tequesquite Ra 114.82 342 P PKPdf 04 11 43.7 -0.7
baz=114
NVAR Mina Array Bea 114.88 355 PKP PKPdf 04 11 44.8 +0.2
NVAR PKKPab **PKKPab 04 22 28.7 -1.4**
NVAR Mina Array Bea 114.88 355 PKP PKPdf 04 11 44.8 +0.2
comp=Z,4.5nm,0.6s,baz=12,slow=1.3,SNR=19
NVAR PKKPab **PKKPab 04 22 28.7 -1.4**
comp=Z,1.1nm,0.8s,baz=201,slow=6.4,SNR=5.1
AMTX Amarillo 115.05 340 PFAKE 04 12 00.0 +15
AMTX LR LR
comp=Z,425nm,19.0s
U21A Nageezi 115.21 345 P **PKPdf 04 11 44.8 -0.5**
W27A Bowe Ranch, En 115.30 341 P **PKPdf 04 11 45.4 +0.1**
baz=115
Z32A Haskell 115.77 337 P **PKPdf 04 11 45.5 -0.7**
baz=116
W24A Lazy 6 Ranch, 115.81 343 P **PKPdf 04 11 46.1 -0.4**
baz=116
Z31A Sharp Cattle R 115.99 338 P **PKPdf 04 11 46.7 +0.1**
baz=116
V20A Brimhall 115.99 346 P **PKPdf 04 11 46.7 -0.1**
baz=116
U15A North Rim 116.12 349 P **PKPdf 04 11 47.8 +0.6**
baz=116
Y28A McKinney Farm, 116.13 340 P **PKPdf 04 11 46.8 -0.2**
baz=116
MTDJ Mount Denham 116.31 309 PFAKE 04 12 00.0 +12
MTDJ LR LR
comp=Z,254nm,19.0s
ANMO Albuquerque 116.33 344 PFAKE 04 12 00.0 +13
ANMO LR LR
comp=Z,339nm,20.0s
Z30A Sanderson Ranc 116.34 338 P **PKPdf 04 11 46.8 -0.6**
baz=116
Y27A Causey 116.43 340 P **PKPdf 04 11 46.5 -1.1**
baz=116
QSPA South Pole Qui 116.64 180 *e*PKPdf **PKPdf 04 11 44.2 -2.5**
QSPA PKKPbc **PKKPab 04 22 15.2 -1.2**
QSPA LR LR
comp=Z,355nm,20.0s
QSPA South Pole Qui 116.64 180 PKKPbc PKKPbc 04 22 15.1 -1.3
comp=Z,2.9nm,0.8s,baz=150,slow=1.5,SNR=9.2
WUAZ Wupatki 116.85 348 PFAKE 04 12 00.0 +12
WUAZ LR LR
comp=Z,264nm,19.0s
Y24A Capitan 117.03 342 P **PKPdf 04 11 47.8 -1.0**
baz=117
232A Coleman 117.11 337 P **PKPdf 04 11 48.1 -0.8**
baz=117
BNM Barren Site 117.13 344 *e*PKPdf **PKPdf 04 11 49.3 +0.2**
Y23A Lovelace Mesa, 117.19 343 P **PKPdf 04 11 49.1 0.0**
baz=117
X20A Quemado 117.20 345 P **PKPdf 04 11 49.1 -0.1**
baz=117
Z26A Caprock 117.24 341 P **PKPdf 04 11 48.5 -0.6**
baz=117
128A Castleberry Fa 117.39 339 P **PKPdf 04 11 49.0 -0.4**
baz=117
Z25A Roswell 117.45 342 P **PKPdf 04 11 48.8 -0.7**
baz=117
X18A Snowflake 117.53 347 P **PKPdf 04 11 49.5 -0.2**
baz=117
Z24A Sheeppen Canyo 117.58 342 P **PKPdf 04 11 49.7 -0.2**
baz=117
230A Sterling City 117.62 338 P **PKPdf 04 11 49.8 0.0**
baz=117
W13A Hualapai Mount 117.67 350 P **PKPdf 04 11 50.5 +0.4**
baz=117
Y20A Horse Springs, 117.78 345 P **PKPdf 04 11 50.8 +0.4**
baz=118
GSC Goldstone 117.84 353 P **PKPdf 04 11 50.4 +0.2**
baz=118
331A San Angelo 117.92 337 P **PKPdf 04 11 49.8 -0.7**
baz=118
X16A Lo Mia Camp, P 117.93 348 P **PKPdf 04 11 50.8 +0.3**
baz=118
125A Gardner Draw, 118.01 341 P **PKPdf 04 11 49.9 -0.8**
baz=118
Z22A Elephant Butte 118.07 344 P **PKPdf 04 11 50.7 -0.1**
baz=118
330A Mertzon 118.08 338 P **PKPdf 04 11 50.4 -0.4**
baz=118
Z21A St. Cloud Mine 118.19 344 P **PKPdf 04 11 51.4 +0.3**
baz=118
124A Stringfield Ra 118.20 342 P **PKPdf 04 11 50.9 -0.3**
baz=118
GMRC Granite Mounta 118.23 352 P **PKPdf 04 11 51.2 +0.2**
baz=118
226B Tecolote Peak, 118.41 341 P **PKPdf 04 11 50.8 -0.7**
baz=118
JCT Junction City 118.44 336 *e*PKIKP **PKPdf 04 11 52.2 +0.8**
JCT MLR MLR
comp=Z,303nm,19.0s
JCT Junction City 118.44 336 *e*PKPdf **PKPdf 04 11 52.2 +0.8**
JCT LR LR
comp=Z,303nm,19.0s
JCT Junction City 118.44 336 P **PKPdf 04 11 51.7 +0.2**
baz=118
PDMCI Parker Dam,Lak 118.49 350 P **PKPdf 04 11 52.0 +0.6**
baz=118
431A Sonora 118.55 337 P **PKPdf 04 11 51.0 -0.6**
baz=118
225A Deer Hill, Car 118.57 341 P **PKPdf 04 11 51.6 -0.3**
baz=118
Z20A Nine Sixteen R 118.60 345 P **PKPdf 04 11 52.5 +0.6**
baz=118
122A Conniff Cattle 118.61 343 P **PKPdf 04 11 50.6 -1.2**
baz=118
328A Wristen Ranch, 118.64 339 P **PKPdf 04 11 51.4 -0.5**
baz=118
Y14A Wickenburg 118.67 349 P **PKPdf 04 11 52.1 +0.3**
baz=118
430A Baggett Ranch, 118.67 337 P **PKPdf 04 11 52.1 +0.2**
baz=118
532A Rocksprings 118.80 336 P **PKPdf 04 11 51.7 -0.5**
baz=118
224A Cornudas Mount 118.80 342 P **PKPdf 04 11 52.8 +0.6**
baz=118
121A Cookes Peak, D 118.96 344 P **PKPdf 04 11 52.8 +0.2**
baz=119
531A Rocksprings 119.00 337 P **PKPdf 04 11 52.1 -0.4**
baz=119
BELC Belle Mtn. Jos 119.04 352 P **PKPdf 04 11 53.1 +0.5**
baz=119
MNTX Cornudas Mount 119.12 342 *e*PKPdf **PKPdf 04 11 52.4 -0.3**
MNTX LR LR
comp=Z,383nm,21.0s
120A U Bar Ranch, L 119.15 345 P **PKPdf 04 11 53.4 +0.5**
baz=119
222A Williams Famil 119.20 343 P **PKPdf 04 11 53.3 +0.3**
baz=119
428A Kincaid Ranch, 119.21 339 P **PKPdf 04 11 52.5 -0.5**
baz=119
530A J-C Ranch, Com 119.29 337 P **PKPdf 04 11 52.5 -0.6**
baz=119
BC3 Big Chuckawall 119.31 352 P **PKPdf 04 11 53.5 +0.3**
baz=119
632A Uvalde 119.32 336 P **PKPdf 04 11 52.7 -0.4**
baz=119
324A Moseley Ranch, 119.39 342 P **PKPdf 04 11 52.9 -0.5**
baz=119
PFO Pinyon Flat Ob 119.48 353 PFAKE 04 12 00.0 +6.5
PFO LR LR
comp=Z,263nm,20.0s
529A Stev Forest Ra 119.61 338 P **PKPdf 04 11 53.0 -0.7**
baz=119
426A McDonald Obser 119.69 340 P **PKPdf 04 11 53.7 -0.4**
baz=119
220A Playas Peak, P 119.74 345 P **PKPdf 04 11 54.3 +0.3**
baz=120
528A Cox Ranch, San 119.76 339 P **PKPdf 04 11 53.7 -0.4**
baz=120
SAML Samuel 119.78 275 PFAKE 04 12 10.0 +16
SAML LR LR
comp=Z,540nm,19.0s
TUC Tucson 119.85 347 *e*PKIKP **PKPdf 04 11 54.5 +0.3**
TUC MLR MLR
comp=Z,327nm,22.0s
TUC Tucson 119.85 347 *e*PKPdf **PKPdf 04 11 54.5 +0.3**
TUC LR LR
comp=Z,327nm,22.0s
425A Indio Mountain 119.86 341 P **PKPdf 04 11 53.7 -0.6**
baz=120
527A Woodward Ranch 120.04 339 P **PKPdf 04 11 54.6 -0.1**
baz=120
MONP Monument Peak 120.19 352 P **PKPdf 04 11 54.8 -0.2**
baz=120
526A Mary Lane Ranc 120.27 340 P **PKPdf 04 11 54.7 -0.4**
baz=120
KVTX Kingsville 120.33 333 PFAKE 04 12 10.0 +15
KVTX LR LR
comp=Z,374nm,20.0s
SBA Scott Base 120.40 167 PFAKE 04 12 10.0 +16
SBA LR LR
comp=Z,561nm,19.0s
628A Black Gap, Mar 120.42 338 P **PKPdf 04 11 55.1 -0.2**
baz=120
214A Organ Pipe Nat 120.57 349 P **PKPdf 04 11 55.4 -0.1**
baz=120
627A Terlingua Ranc 120.61 339 P **PKPdf 04 11 55.1 -0.6**
baz=120
626A Big Bend Ranch 120.76 340 P **PKPdf 04 11 55.3 -0.7**
baz=120
TEIG Tepich 121.69 320 PFAKE 04 12 10.0 +12
TEIG LR LR
comp=Z,217nm,20.0s
ROSC El Rosal 122.41 295 PKPdf **PKPdf 04 12 00.3 +0.4**
ROSC PKP **PKPdf 04 12 00.7 +0.8**
ROSC El Rosal 122.41 295 PKP **PKPdf 04 12 00.7 +0.8**
comp=Z,10nm,0.6s,baz=107,slow=8.1,SNR=8.0
BCIP Isla Barro Col 124.03 304 PFAKE 04 12 10.0 +7.5
BCIP LR LR
comp=Z,185nm,20.0s
TGUH Tegucigalpa,Un 125.80 314 *e*PKPdf **PKPdf 04 12 05.3 -0.5**
TGUH LR LR
comp=Z,150nm,19.0s
LPAZ La Paz 127.14 269 PKP **PKPdf 04 12 08.8 -0.3**
LPAZ *e*PKPdf **PKiKP 04 12 09.2 -0.4**
LPAZ La Paz 127.14 269 PKP **PKPdf 04 12 08.8 -0.3**
comp=Z,5.2nm,0.7s,baz=59,slow=2.0,SNR=22
TRQA Tornquist 127.14 241 *e*PKPdf **PKPdf 04 12 08.2 +0.5**
TRQA LR LR
comp=Z,606nm,20.0s
OTAV Otavalo 128.43 294 *e*PKPdf **PKPdf 04 12 12.2 +0.7**
OTAV LR LR
comp=Z,253nm,20.0s
OTAV Otavalo 128.43 294 *e*PKIKP **PKPdf 04 12 12.2 +0.7**
LVC Limon Verde 129.89 262 *e*PKPdf **PKPdf 04 12 14.9 +1.2**
LVC Limon Verde 129.89 262 *e*PKIKP **PKPdf 04 12 14.9 +1.2**
CFAA Coronel Fontan 131.32 250 PKP **PKPdf 04 12 16.3 +0.4**
CFAA SKPbc **SKPab 04 15 41.9 +1.4**
CFAA Coronel Fontan 131.32 250 PKP **PKPdf 04 12 16.3 +0.4**
comp=Z,1.4nm,0.9s,baz=345,slow=0.8
CFAA SKPbc **SKPab 04 15 41.9 +1.4**
comp=Z,1.1nm,1.1s,baz=159,slow=4.9,SNR=5.5
CFAA Coronel Fontan 131.32 250 PKIKP **PKPdf 04 12 16.3 +0.4**
NNA Nana 133.21 279 PFAKE 04 12 30.0 +10
NNA LR LR
comp=Z,426nm,21.0s
PLCA Paso Flores 133.93 238 PKP **PKPdf 04 12 20.9 +0.3**
PLCA Paso Flores 133.93 238 PKP **PKPdf 04 12 20.9 +0.3**
comp=Z,3.7nm,0.8s,baz=6,slow=7.7,SNR=7.0
PPT2 Papeete2 154.85 74 *e*LR LR 05 04 54.4
comp=Z,258nm,23.0s
RKT Rikitea 169.59 72 *e*LR LR 05 11 39.6
comp=Z,312nm,31.2s

LJU 22 03:57:40.7, 46.06N×14.27E, *h*7km, ML 0.0, 1C,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRNS	**Crni Vrh**	**0.02**	**338**	*i* Pg		Pg	Pg	03 57 42.1	0.0
CRNS				*i* Sg		Sg	Sg	03 57 43.3	+0.1
JAVS	**Javornik**	**0.22**	**222**	*i* Sg		Sg	Sg	03 57 48.4	0.0
VOJS	**Vojsko**	**0.27**	**264**	*i* Pg		Pg	Pg	03 57 45.9	-0.4
VOJS				*i* Sg		Sg	Sg	03 57 50.3	+0.3
VOJS	comp=Z,0.0nm,0.0s								
CEY	**Cerknica**	**0.34**	**162**	*i* Pg		Pg		03 57 48.0	+0.7
CEY				*i* Sg		Sg		03 57 52.3	+0.4

*IDC **22** 04:26:29.0±1.2, 26.73N×55.74E, *h*0km, mb 3.8/13, mb1 3.9/16, mb1mx3.8/31, mbtmp3.8/16, ML 4.0/1, Error ellipse: s-maj=27.5km s-min=17.7km az=152.0*
*TEH **22** 04:26:30.4, 26.82N×55.65E, *h*7km, ML 3.5*
*CSEM **22** 04:26:32.3±0.2, 26.81N×55.72E, *h*2km, ML 3.5, Error ellipse: s-maj=6.2km s-min=4.2km az=93.0*
*THR **22** 04:26:32.5±0.3, 26.85N×55.74E, *h*6km±5km, ML 3.5*
ISC 22 04:26:31.1±1.3, 26.80N±0.03×55.65E±0.04, *h*8km±9km, n52, σ1%69/58, mb 3.8/14, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.76**	**38**	*e*Pg		**Pg**	**Pg**	**04 26 45.5**	**-0.2**
BNDS				*e*Sg		**Sg**	**Sg**	**04 26 55.1**	**-0.5**
BNDS					AML	AML	AML	04 27 03.3	
BNDS	comp=N,2μm,0.5s				AML	AML	AML	04 27 07.0	
	comp=E,2μm,0.4s								
BNDS	**Bandar-Abbas**	**0.76**	**38**	*e*Pg		**Pg**	**Pg**	**04 26 45.5**	**-0.2**
BNDS				*e*Sg		**Sg**	**Sg**	**04 26 55.1**	**-0.5**
IBND	**Bandar-abas**	**1.02**	**51**	*e*Pg		**Pg**	**Pb**	**04 26 50.4**	**-0.7**
IBND				*e*Sg		**Sn**	**Sn**	**04 27 05.8**	**-0.6**
IBND				*e*				04 27 15.3	
	comp=Z,26μm,0.2s								
IBND	**Bandar-abas**	**1.02**	**51**	*e*Pg		**Pb**	**Pb**	**04 26 50.4**	**-0.7**
NAZ	**Nazwa, Dubai**	**1.80**	**180**	P		**Pb**	**Pb**	**04 27 04.8**	**+0.4**
NAZ				S		**Sg**	**Sg**	**04 27 29.2**	**+0.2**
HATD	**Hatta, Dubai**	**2.01**	**167**	P		**Pn**	**Pn**	**04 27 06.9**	**+1.5**
HATD				S		**Sn**	**Sn**	**04 27 31.8**	**+1.0**
FAQ	**Al Faqa, Dubai**	**2.04**	**181**	P		**Pb**	**Pb**	**04 27 07.7**	**-0.8**
ASUD	**Al Ashush, Dub**	**2.18**	**188**	P		**Pb**	**Pb**	**04 27 10.4**	**-0.5**
GHIR	**Ghir-Karzin**	**2.79**	**303**	*e*Pn		**Pb**	**Pb**	**04 27 20.2**	**-1.1**
GHIR					AML	AML	AML	04 28 23.3	
	comp=E,209nm,0.7s								
GHIR	**Ghir-Karzin**	**2.79**	**303**	*e*Pn		**Pb**	**Pb**	**04 27 20.2**	**-1.1**
KRBR	**Kerman**	**3.32**	**17**	*e*Pn		**Pn**	**Pn**	**04 27 26.2**	**+2.5**
KRBR					AML	AML	AML	04 28 14.3	
	comp=N,158nm,0.7s								
KRBR					AML	AML	AML	04 28 19.0	
	comp=E,166nm,0.6s								
KRBR	**Kerman**	**3.32**	**17**	*e*Pn		**Pn**	**Pn**	**04 27 26.2**	**+2.5**
IMEH	**Mehriz**	**4.67**	**349**	*e*Pn		**Pn**	**Pn**	**04 27 44.6**	**+2.5**
IMEH				*e*		Sn	Sn	04 28 42.5	+5.9
	comp=Z,400nm,0.2s								
IMEH	**Mehriz**	**4.67**	**349**	*e*Pn		**Pn**	**Pn**	**04 27 44.6**	**+2.5**
IBAF	**Bafgh**	**4.78**	**359**	*e*Pn		**Pn**	**Pn**	**04 27 45.3**	**+1.7**
IBAF				*e*		Sg	Sg	04 29 16.6	+12
	comp=Z,300nm,0.4s								
IBAF	**Bafgh**	**4.78**	**359**	*e*Pn		**Pn**	**Pn**	**04 27 45.3**	**+1.7**
ISAD	**Sadrabad**	**5.38**	**342**	*e*Pn		**Pn**	**Pn**	**04 27 54.5**	**+2.5**
ISAD				*e*		**Sn**	**Sn**	**04 28 58.5**	**+4.2**
	comp=Z,316nm,0.3s								
ISAD	**Sadrabad**	**5.38**	**342**	*e*Pn		**Pn**	**Pn**	**04 27 54.5**	**+2.5**
IGAR	**Gharneh**	**6.41**	**332**	*e*				04 28 20.1	
IGAR	comp=Z,226nm,0.1s			*e*Pn		**Pn**	**Pn**	**04 28 08.4**	**+2.3**
NASN	**Na'in**	**6.47**	**338**	*e*Pn		**Pn**	**Pn**	04 28 10.6	+3.6
NASN	**Na'in**	**6.47**	**338**	*e*Pn		**Pn**	**Pn**	04 28 10.6	+3.6
IZEF	**Zefreh**	**6.73**	**335**	*e*Pn		**Pn**	**Pn**	**04 28 12.2**	**+1.7**
IZEF				*e*Sn		**Sn**	**Sn**	**04 29 26.6**	**-0.9**
IZEF	**Zefreh**	**6.73**	**335**	*e*Pn		**Pn**	**Pn**	**04 28 12.2**	**+1.7**
IPIR	**Pirpir**	**7.18**	**326**	*e*Pn		**Pn**	**Pn**	**04 28 18.8**	**+2.1**
IPIR				*e*Sn		**Sn**	**Sn**	**04 29 38.1**	**-0.5**
IPIR				*e*				04 29 42.7	
	comp=Z,579nm,0.4s								
IPIR	**Pirpir**	**7.18**	**326**	*e*Pn		**Pn**	**Pn**	**04 28 18.8**	**+2.1**
IKLH	**Kolahrood**	**7.39**	**332**	*e*Pn		**Pn**	**Pn**	**04 28 22.0**	**+2.4**
IKLH				*e*				04 28 33.5	
	comp=Z,99nm,0.2s								
IKLH	**Kolahrood**	**7.39**	**332**	*e*Pn		**Pn**	**Pn**	**04 28 22.0**	**+2.4**
RDF	**Al-Radifah**	**7.48**	**288**	*e*P		**Pn**	**Pn**	**04 28 22.3**	**+1.8**
RDF					AML	AML	AML	04 29 45.2	
	comp=Z,33nm,0.5s								
RDF	**Al-Radifah**	**7.48**	**288**	*e*P		**P**	**Pn**	**04 28 22.3**	**+1.8**
UMR	**Umm Al-Rimmam**	**7.52**	**293**	*e*P		**P**	**Pn**	**04 28 22.6**	**+1.5**
UMR	**Umm Al-Rimmam**	**7.52**	**293**	*e*P		**P**	**Pn**	**04 28 22.6**	**+1.5**
NAY	**Al-Naaiem**	**7.82**	**290**	*e*P		**P**	**Pn**	**04 28 27.4**	**+2.1**
NAY					AML	AML	AML	04 29 54.6	
	comp=Z,22nm,0.5s								
NAY	**Al-Naaiem**	**7.82**	**290**	*e*P		**P**	**Pn**	**04 28 27.4**	**+2.1**
MIB	**Mutribah**	**7.91**	**294**	*e*P		**P**	**Pn**	**04 28 28.3**	**+1.8**
MIB					AML	AML	AML	04 29 56.0	
	comp=Z,42nm,0.5s								
MIB	**Mutribah**	**7.91**	**294**	*e*P		**P**	**Pn**	**04 28 28.3**	**+1.8**
ASF	**Jabal al Asfar**	**17.18**	**293**	Pn		**Pn**	**Pn**	**04 30 31.8**	**+0.1**
EIL	**Elat**	**18.46**	**284**	P		**Pn**	**Pn**	**04 30 47.6**	**+0.2**
	baz=21,slow=8.6,SNR=2.6								
KBZ	**Khabaz**	**19.80**	**332**	P		**Pn**	**Pn**	**04 31 03.1**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=156,slow=9.2,SNR=4.4								
AAK	**Ala-Archa**	**22.05**	**39**	P		**P**	**Pn**	**04 31 30.5**	**+4.1**
	comp=Z,1.7nm,0.4s,baz=210,slow=6.1,SNR=3.7								
BRTR	**Keskin Array B**	**22.40**	**311**	P		**P**	**Pn**	**04 31 31.4**	**+1.2**
	comp=Z,2.3nm,1.0s,baz=134,slow=12,SNR=7.7								
AKTO	**Aktyubinsk**	**23.67**	**4**	P		**P**	**Pn**	**04 31 43.0**	**0.0**
	comp=Z,1.5nm,0.6s,baz=157,slow=6.9,SNR=4.6								
BVAR	**Borovoye Array**	**28.42**	**19**	P		**P**	**Pn**	**04 32 24.9**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=190,slow=7.5,SNR=4.8								
MKAR	**Makanchi Array**	**28.98**	**39**	P		**P**	**Pn**	**04 32 30.8**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=224,slow=8.1,SNR=2.6								
ZALV	**Zalesovo Beam**	**34.61**	**30**	P		**P**	**Pn**	**04 33 19.5**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=244,slow=8.3,SNR=5.9								
GERES	**GERESS Array B**	**39.12**	**316**	P		**P**	**Pn**	**04 33 58.4**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=115,slow=9.4,SNR=3.9								
FINES	**FINESS Array B**	**39.93**	**338**	P		**P**	**Pn**	**04 34 05.0**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=136,slow=10,SNR=5.9								
SONM	**Songino Array**	**44.57**	**48**	P		**P**	**Pn**	**04 34 43.7**	**0.0**
	comp=Z,0.8nm,1.1s,baz=235,slow=5.2,SNR=4.2								
NOA	**NORSAR Array B**	**45.38**	**331**	P		**P**	**Pn**	**04 34 49.1**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=118,slow=7.9,SNR=3.5								
ESDC	**Sonseca Array**	**50.65**	**301**	P		**P**	**Pn**	**04 35 30.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=58,slow=7.2,SNR=4.5								
TORD	**Torodi Ar. Bea**	**52.14**	**266**	P		**P**	**Pn**	**04 35 41.9**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=62,slow=7.3,SNR=37								
BOSA	**Boshof**	**62.34**	**210**	P		**P**	**Pn**	**04 36 53.7**	**-0.7**
	comp=Z,4.5nm,1.0s,baz=5.7,slow=10,SNR=3.6								
ILAR	**Eielson Array**	**87.06**	**9**	P		**P**	**Pn**	**04 39 15.4**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=314,slow=4.5,SNR=7.9								

IDC 22 04:29:32.6±4.1, 22.08S×69.77W, *h*0km, mb 3.4/1, mb1 3.4/2, mb1mx3.3/16, mbtmp3.3/2, ML 3.3/1, Error ellipse: s-maj=135.3km s-min=61.4km az=88.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.96**	**15**	Pn		Pn	Pn	04 31 02.8	-0.2
	0.4nm,0.3s,baz=201,slow=6.6,SNR=8.3								
TORD	**Torodi Ar. Bea**	**78.30**	**71**	P		P	P	04 41 35.0	0.0
	0.3nm,1.0s,baz=256,slow=4.8,SNR=4.8								
MKAR	**Makanchi Array**	**146.57**	**36**	PKPbc		PKPdf	PKPdf	04 49 15.2	+0.7
	0.4nm,0.6s,baz=320,slow=2.9,SNR=3.3								

*IDC **22** 04:32:45.0±2.8, 26.71N×55.78E, *h*0km, mb 3.6/7, mb1 3.8/8, mb1mx3.6/28, mbtmp3.7/8, ML 4.1/1, Error ellipse: s-maj=54.7km s-min=28.3km az=144.0*
*TEH **22** 04:32:46.9, 26.77N×55.72E, *h*15km, ML 3.5*
*ISCJB **22** 04:32:48.2±0.4, 26.94N±0.03×55.61E±0.04, *h*12km, mb 3.6/7, Error ellipse: s-maj=4.9km s-min=4.4km az=144.5*
*CSEM **22** 04:32:48.9±0.2, 26.85N×55.70E, *h*2km, ML 3.5, Error ellipse: s-maj=6.3km s-min=4.7km az=102.0*
*KISR **22** 04:32:48.9±0.7, 26.58N×55.22E, *h*16km±999km, ML 3.4*
ISC 22 04:32:47.9±0.7, 26.81N±0.03×55.69E±0.05, *h*12km, n34, σ1%67/41, mb 3.7/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.72**	**36**	*e*Pg		**Pg**	**Pg**	**04 33 00.9**	**-1.1**
BNDS				*e*Sg		**Sg**	**Sg**	**04 33 09.0**	**-2.5**
IBND	**Bandar-abas**	**0.99**	**50**	*e*Sg		**Sg**	**Sb**	**04 33 21.4**	**+1.5**
IBND				*e*Pg		**Pb**	**Pb**	**04 33 06.8**	**-0.1**
IBND				*e*				04 33 30.6	
	comp=Z,21μm,0.2s								
NAZ	**Nazwa, Dubai**	**1.82**	**181**	P		**Pg**	**Pg**	**04 33 22.1**	**-0.7**
NAZ				S		**Sg**	**Sg**	**04 33 47.2**	**+0.8**
HATD	**Hatta, Dubai**	**2.02**	**169**	P		**Pb**	**Pb**	**04 33 24.2**	**-0.4**
FAQ	**Al Faqa, Dubai**	**2.06**	**182**	P		**Pb**	**Pb**	**04 33 24.4**	**-0.9**
ASUD	**Al Ashush, Dub**	**2.20**	**189**	P		**Pb**	**Pb**	**04 33 27.4**	**-0.3**
GHIR	**Ghir-Karzin**	**2.81**	**302**	*e*Pn		**Pb**	**Pb**	**04 33 37.8**	**-0.4**
KRBR	**Kerman**	**3.29**	**16**	*e*Pn		**Pn**	**Pn**	**04 33 42.0**	**+2.4**
IMEH	**Mehriz**	**4.66**	**349**	*e*Pn		**Pn**	**Pn**	**04 34 00.7**	**+2.4**
IMEH				*e*				04 34 01.9	
	comp=Z,222nm,0.2s								
IMEH	**Mehriz**	**4.66**	**349**	*e*Pn		**Pn**	**Pn**	**04 34 00.7**	**+2.4**
IBAF	**Bafgh**	**4.76**	**359**	*e*				04 34 05.0	
	comp=Z,168nm,0.1s								
IBAF				*e*Pn		**Pn**	**Pn**	**04 34 01.7**	**+2.1**
ISAD	**Sadrabad**	**5.38**	**341**	*e*Pn		**Pn**	**Pn**	**04 34 10.8**	**+2.6**
ISAD				*e*				04 34 16.6	
	comp=Z,238nm,0.2s								
ISAD	**Sadrabad**	**5.38**	**341**	*e*Pn		**Pn**	**Pn**	**04 34 10.8**	**+2.6**
IGAR	**Gharneh**	**6.41**	**331**	*e*Pn		**Pn**	**Pn**	**04 34 25.0**	**+2.6**
IGAR				*e*				04 34 26.8	
	comp=Z,460nm,0.1s								
IZEF	**Zefreh**	**6.73**	**335**	*e*Pn		**Pn**	**Pn**	**04 34 28.5**	**+1.7**
IZEF				*e*				04 34 29.0	
	comp=Z,112nm,0.3s								
IZEF	**Zefreh**	**6.73**	**335**	*e*Pn		**Pn**	**Pn**	**04 34 28.5**	**+1.7**
IPIR	**Pirpir**	**7.18**	**326**	*e*Pn		**Pn**	**Pn**	**04 34 35.3**	**+2.2**
IPIR	**Pirpir**	**7.18**	**326**	*e*Pn		**Pn**	**Pn**	**04 34 35.3**	**+2.2**
IKLH	**Kolahrood**	**7.40**	**332**	*e*Pn		**Pn**	**Pn**	**04 34 38.4**	**+2.4**
IKLH	**Kolahrood**	**7.40**	**332**	*e*Pn		**Pn**	**Pn**	**04 34 38.4**	**+2.4**
RDF	**Al-Radifah**	**7.51**	**288**	*e*P		**Pn**	**Pn**	**04 34 38.8**	**+1.6**

RDF				*e*S		**Sn**	**04 36 00.5**	**-1.8**
RDF				AML	AML		04 36 03.1	
	comp=Z,7.6nm,0.4s							
RDF	**Al-Radifah**	**7.51**	**288**	*e*P		**Pn**	**04 34 38.8**	**+1.6**
NAY	**Al-Naaiem**	**7.85**	**290**	*e*P		**Pn**	**04 34 43.7**	**+1.8**
NAY				*e*S		**Sn**	**04 36 10.0**	**-0.8**
NAY				AML	AML		04 36 10.9	
	comp=Z,2.9nm,0.4s							
NAY	**Al-Naaiem**	**7.85**	**290**	*e*P		**Pn**	**04 34 43.7**	**+1.8**
MIB	**Mutribah**	**7.94**	**294**	*e*P		**Pn**	**04 34 44.9**	**+1.7**
MIB				*e*S		**Sn**	**04 36 12.6**	**-0.4**
MIB				AML	AML		04 36 13.9	
	comp=Z,6.2nm,0.4s							
MIB	**Mutribah**	**7.94**	**294**	*e*P		**Pn**	**04 34 44.9**	**+1.7**
MIB				*e*S		**Sn**	**04 36 12.6**	**-0.4**
	comp=Z,6.2nm,0.4s							
KBZ	**Khabaz**	**19.81**	**332**	P		**P**	**04 37 18.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=155,slow=9.3,SNR=4.9							
BRTR	**Keskin Array B**	**22.42**	**311**	P		**P**	**04 37 47.9**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=148,slow=7.3,SNR=4.2							
AKTO	**Aktyubinsk**	**23.65**	**4**	P		**P**	**04 37 58.6**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=159,slow=9.5,SNR=5.1							
ZALV	**Zalesovo Beam**	**34.58**	**30**	P		**P**	**04 39 36.0**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=265,slow=9.8,SNR=3.5							
GERES	**GERESS Array B**	**39.14**	**316**	P		**P**	**04 40 14.9**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=105,slow=10,SNR=4.0							
FINES	**FINESS Array B**	**39.93**	**338**	P		**P**	**04 40 21.3**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=138,slow=8.0,SNR=5.1							
ARCES	**ARCESS Array B**	**46.23**	**346**	P		**P**	**04 41 12.5**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=133,slow=8.8,SNR=4.3							
TORD	**Torodi Ar. Bea**	**52.18**	**266**	P		**P**	**04 41 58.2**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=63,slow=8.2,SNR=14							

*ISCJB **22** 04:46:54.0±0.4, 57.87N±0.05×156.11W±0.08, h137km±4km, mb3.4/2, Error ellipse: s-maj=9.8km s-min=4.3km az=142.7*
*IDC **22** 04:46:54.6±1.9, 58.07N×156.16W, h115km±20km, mb3.0/3, mb1 3.3/6, mb1mx3.1/28, mbtmp3.1/6, Error ellipse: s-maj=23.6km s-min=20.4km az=23.0*
*NEIC **22** 04:46:56.6, 57.83N×156.11W, h126km, MG3.2(AEIC), After AEIC.*

ISC 22 04:46:55.0±0.8, 57.92N±0.05×156.11W±0.05, h135km±6km, n40, σ1.935/54, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLWL	**Peulik Whale M**	**0.18**	**315**	P	**Pn**	**04 47 13.0**	**-0.3**
PLK2	**Peulik 2**	**0.20**	**217**	P	**Pn**	**04 47 13.4**	**0.0**
PLK3	**Peulik 3**	**0.25**	**201**	P	**Pn**	**04 47 13.7**	**+0.1**
PLK3				S	**Sn**	**04 47 27.4**	**-0.1**
PLK1	**Peulik 1**	**0.29**	**246**	P	**Pn**	**04 47 13.4**	**-0.2**
PLK5	**Peulik 5**	**0.42**	**281**	P	**Pn**	**04 47 14.3**	**+0.2**
PLBL	**Peulik Blue Cr**	**0.44**	**240**	P	**Pn**	**04 47 14.1**	**-0.2**
KABU	**Katmai Buttres**	**0.56**	**51**	P	**Pn**	**04 47 15.5**	**+0.5**
KABU				S	**Sn**	**04 47 30.8**	**+0.6**
KAKN	**Katmai Knife C**	**0.67**	**55**	P	**Pn**	**04 47 16.3**	**+0.5**
KAKN				S	**Sn**	**04 47 31.8**	**+0.3**
KAPH	**Katmai Pasha**	**1.15**	**53**	P	**Pn**	**04 47 20.7**	**+0.9**
KAPH				S	**Sn**	**04 47 39.8**	**+1.1**
ANPK	**Aniakchak Peak**	**1.54**	**226**	P	**Pn**	**04 47 23.6**	**-0.3**
OHAK	**Old Harbor**	**1.67**	**114**	*e*Pn	**Pn**	**04 47 24.9**	**-0.4**
OHAK				*e*S	**Sn**	**04 47 47.1**	**-1.3**
KDAK	**Kodiak Island**	**1.89**	**93**	*e*Pn	**Pn**	**04 47 28.0**	**+0.2**
KDAK				*e*S	**Sn**	**04 47 52.9**	**-0.1**
KDAK	**Kodiak Island**	**1.89**	**93**	P	**Pn**	**04 47 27.9**	**+0.2**
	56nm,0.3s,baz=265,slow=5.5,SNR=248						
KDAK				S	**Sn**	**04 47 51.7**	**-1.2**
	56nm,0.3s,baz=152,slow=22,SNR=41						
CHGN	**Chignik**	**2.05**	**219**	*e*Pn	**Pn**	**04 47 29.7**	**-0.1**
CHGN				*e*S	**Sn**	**04 47 55.7**	**-0.8**
VNHG	**Veniaminof 1**	**2.38**	**226**	P	**Pn**	**04 47 33.7**	**-0.3**
CNPM	**China Poot**	**3.01**	**56**	P	**Pn**	**04 47 42.8**	**+1.0**
CNPM				S	**Sn**	**04 48 17.3**	**-0.7**
SVW2	**Sparrevohn**	**3.20**	**5**	P	**Pn**	**04 47 45.1**	**+0.8**
BRLK	**Bradley Lake**	**3.28**	**54**	P	**Pn**	**04 47 45.5**	**+0.1**
SDPT	**Sand Point**	**3.53**	**225**	*e*Pn	**Pn**	**04 47 47.5**	**-1.1**
SDPT				*e*S	**Sn**	**04 48 28.2**	**-1.8**
STLK	**Strandline Lak**	**4.19**	**29**	P	**Pn**	**04 47 59.1**	**+1.8**
DRIA	**Deer Island**	**4.52**	**232**	P	**Pn**	**04 48 01.0**	**-0.7**
SKT	**Skwentna**	**4.68**	**28**	P	**Pn**	**04 48 05.1**	**+1.4**
TTO1	**Tatalina**	**5.00**	**0**	P	**Pn**	**04 48 09.5**	**+1.4**
PMR	**Palmer**	**5.10**	**41**	*e*Pn	**Pn**	**04 48 08.8**	**-0.5**
PMR				*e*S	**Sn**	**04 49 03.6**	**-3.6**
SML	**Sawmill**	**5.53**	**42**	*e*Pn	**Pn**	**04 48 14.4**	**-0.7**
SML				*e*S	**Sn**	**04 49 14.1**	**-3.5**
SCM	**Sheep Creek Mo**	**5.91**	**45**	P	**Pn**	**04 48 21.6**	**+1.3**
EYAK	**Cordova Ski Ar**	**5.93**	**59**	P	**Pn**	**04 48 20.5**	**0.0**
DIV	**Divide**	**6.16**	**54**	*e*Pn	**Pn**	**04 48 24.2**	**+0.5**
DIV				*e*S	**Sn**	**04 49 29.1**	**-3.8**
KLU	**Klutina**	**6.28**	**51**	P	**Pn**	**04 48 25.6**	**+0.4**
GOAT	**Goat Mountain**	**6.42**	**61**	P	**Pn**	**04 48 27.7**	**+0.6**
KIAG	**Kiagna River**	**7.63**	**61**	P	**Pn**	**04 48 44.3**	**+0.9**
BALM	**Baldy**	**7.67**	**60**	P	**Pn**	**04 48 45.1**	**+1.1**
GRNC	**Granite Creek**	**7.86**	**63**	P	**Pn**	**04 48 47.4**	**+0.8**
ILAR	**Eielson Array**	**8.17**	**29**	P	**Pn**	**04 48 49.1**	**-1.4**
	1.1nm,0.3s,baz=217,slow=13,SNR=98						
ILAR				S	**Sn**	**04 50 17.1**	**-4.0**
	1.1nm,0.3s,baz=219,slow=23,SNR=19						
IL1	**Eielson Array**	**8.17**	**29**	P	**Pn**	**04 48 49.4**	**-1.2**
INK	**Inuvik**	**14.47**	**35**	P	**Pn**	**04 50 13.1**	**0.0**
	0.1nm,0.3s,baz=249,slow=6.1,SNR=1.9						
FX1	**Attu Island--F**	**18.07**	**267**	P	**Pn**	**04 50 56.5**	**-0.7**
	1.4nm,0.3s,baz=54,slow=19,SNR=12						
YKA	**Yellowknife Ar**	**20.84**	**60**	P	**P**	**04 51 26.8**	**+1.2**
	0.6nm,0.8s,baz=278,slow=10.0,SNR=3.3						
PDAR	**Pinedale Array**	**32.60**	**97**	P	**P**	**04 53 15.2**	**+1.5**
	0.2nm,0.4s,baz=328,slow=3.2,SNR=3.8						
SONM	**Songino Array**	**54.69**	**305**	P	**P**	**04 56 10.1**	**+0.3**
	0.9nm,0.7s,baz=46,slow=7.2,SNR=7.3						

IDC 22 04:53:58.6±2.3, 2.87S×139.96E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/18, mbtmp3.9/5, ML4.0/1, Error ellipse: s-maj=71.1km s-min=27.3km az=86.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.84**	**198**	P	Pn	04 58 07.8	-0.6
	0.5nm,0.3s,baz=17,slow=13,SNR=34						
WRA				S	Sn	05 01 10.6	-17
	0.2nm,0.3s,baz=7.9,slow=22,SNR=5.6						
FITZ	**Fitzroy Crossi**	**20.65**	**222**	P	P	04 58 39.5	-0.5
	1.4nm,0.4s,baz=35,slow=12,SNR=7.2						
FITZ				S	S	05 02 16.0	-16
	4.1nm,0.8s,baz=198,slow=15,SNR=4.8						
ASAR	**Alice Springs**	**21.49**	**195**	P	P	04 58 49.6	+0.5
	1.7nm,0.4s,baz=28,slow=11,SNR=26						
ASAR				S	S	05 02 39.1	-9.4
	1.1nm,0.8s,baz=13,slow=29,SNR=4.4						
STKA	**Stephens Creek**	**28.89**	**177**	P	P	04 59 59.4	+0.1
	1.4nm,0.5s,baz=27,slow=9.0,SNR=4.2						
MKAR	**Makanchi Array**	**70.68**	**322**	P	P	05 05 16.4	0.0
	0.4nm,0.5s,baz=104,slow=5.3,SNR=4.4						

*NEIC **22** 04:56:05.8, 46.14S×166.00E, h33km, mb4.1/1, ML4.4(WEL), After WEL.*

WEL 22 04:56:04.0±0.4, 46.01S×166.02E, h26km±1km, ML4.3/20, Error ellipse: s-maj=4.1km s-min=1.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.95**	**56**	Pn	Pn	04 56 20.9	-0.7
DCZ	**Deep Cove**	**0.95**	**56**	PN	Pn	04 56 20.9	-0.7
DCZ				AML	AML	04 56 35.3	
DCZ				AML	AML	04 56 35.3	
DCZ				AML	AML	04 56 40.5	
DCZ				AML	AML	04 56 40.6	
WHZ	**Wether Hill Ro**	**1.35**	**86**	Pn	Pn	04 56 27.0	-0.1
WHZ				Sn	Sn	04 56 43.9	-0.3
WHZ	**Wether Hill Ro**	**1.35**	**86**	PN	Pn	04 56 27.0	-0.1
WHZ				SN	Sn	04 56 43.9	-0.3
WHZ				AML	AML	04 56 45.4	
APZ	**The Paps**	**1.59**	**122**	Pn	Pn	04 56 30.2	-0.3
APZ	**The Paps**	**1.59**	**122**	PN	Pn	04 56 30.2	-0.3
MLZ	**Mavora Lakes**	**1.65**	**67**	Pn	Pn	04 56 31.9	+0.6
MLZ	**Mavora Lakes**	**1.65**	**67**	PN	Pn	04 56 31.9	+0.6
MLZ				SN	Sb	04 56 54.0	-0.1
MLZ				AML	AML	04 56 59.3	
MSZ	**Milford Sound**	**1.90**	**46**	Pn	Pn	04 56 36.0	+1.4
MSZ	**Milford Sound**	**1.90**	**46**	PN	Pn	04 56 35.6	+1.0
MSZ				AML	AML	04 57 09.3	
MSZ				AML	AML	04 57 09.3	
MSZ				AML	AML	04 57 09.8	
MSZ				AML	AML	04 57 09.8	
SYZ	**Scrubby Hill**	**2.22**	**105**	Pn	Pn	04 56 40.4	+1.3
SYZ	**Scrubby Hill**	**2.22**	**105**	PN	Pn	04 56 40.4	+1.3
WKZ	**Wanaka**	**2.42**	**62**	Pn	Pb	04 56 45.0	-1.9
WKZ	**Wanaka**	**2.42**	**62**	PN	Pb	04 56 45.0	-1.9
WKZ				AML	AML	04 57 18.1	
WKZ				AML	AML	04 57 18.1	
WKZ				AML	AML	04 57 33.1	
WKZ				AML	AML	04 57 33.4	
EAZ	**Earnscleugh**	**2.43**	**72**	Pn	Pn	04 56 44.5	+2.4
EAZ	**Earnscleugh**	**2.43**	**72**	PN	Pn	04 56 44.2	+2.1
EAZ				AML	AML	04 57 21.8	
EAZ				AML	AML	04 57 21.9	
EAZ				AML	AML	04 57 22.4	
TUZ	**Tuapeka**	**2.52**	**90**	Pn	Pn	04 56 44.4	+1.3
TUZ	**Tuapeka**	**2.52**	**90**	PN	Pn	04 56 44.7	+1.6
TUZ				AML	AML	04 57 19.1	
TUZ				AML	AML	04 57 19.2	
JCZ	**Jackson Bay**	**2.74**	**46**	Pn	Pn	04 56 48.8	+2.4
JCZ	**Jackson Bay**	**2.74**	**46**	PN	Pn	04 56 48.8	+2.4
JCZ				AML	AML	04 57 35.2	
JCZ				AML	AML	04 57 41.3	
LBZ	**Lake Benmore**	**3.36**	**63**	Pn	Pn	04 56 55.9	+1.1
LBZ	**Lake Benmore**	**3.36**	**63**	PN	Pn	04 56 55.7	+0.9
LBZ				AML	AML	04 57 52.4	
LBZ				AML	AML	04 58 02.6	
ODZ	**Otahua Downs**	**3.39**	**75**	*e*Pn	Pn	04 56 56.0	+0.8
ODZ				*e*S	Sn	04 57 37.8	+3.4
ODZ	**Otahua Downs**	**3.39**	**75**	PN	Pn	04 56 55.7	+0.5
ODZ				AML	AML	04 57 52.4	
ODZ				AML	AML	04 57 54.1	
ODZ				AML	AML	04 57 55.2	
FOZ	**Fox Glacier**	**3.58**	**48**	Pn	Pn	04 57 00.5	+2.8
FOZ	**Fox Glacier**	**3.58**	**48**	PN	Pn	04 57 00.5	+2.8
FOZ				AML	AML	04 58 03.2	
FOZ				AML	AML	04 58 11.8	
RPZ	**Rata Peaks**	**4.25**	**59**	*e*Pn	Pn	04 57 07.9	+0.9
RPZ				*e*S	Sn	04 57 57.0	+1.2
WVZ	**Waitaha Valley**	**4.47**	**51**	Pn	Pn	04 57 10.8	+0.9
WVZ	**Waitaha Valley**	**4.47**	**51**	PN	Pn	04 57 10.8	+0.9
WVZ				AML	AML	04 58 23.7	
WVZ				AML	AML	04 58 26.6	
OXZ	**Oxford**	**5.06**	**60**	PN	Pn	04 57 17.8	-0.3
LTZ	**Lake Taylor**	**5.52**	**56**	PN	Pn	04 57 24.6	+0.1
LTZ				AML	AML	04 58 27.2	
THZ	**Tophouse**	**6.54**	**52**	PN	Pn	04 57 42.2	+3.7
THZ				AML	AML	04 59 05.5	
THZ				AML	AML	04 59 10.4	
EIDS	**Eidsvold**	**23.83**	**325**	*e*P	P	05 01 15.6	+0.7
	4.2nm,0.7s						

PRE 22 05:10:48.0±3.1, 21.09S×33.36E, h10km, ML4.0, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
POGA	**Pongola**	**6.45**	**194**	*e*P	Pn	05 12 22.9	-0.2
POGA				*e*S	Sn	05 13 34.0	-3.0
POGA				AML	AML	05 14 21.3	
	comp=Z,13nm,0.6s						
SLR	**Silverton**	**6.57**	**224**	*e*S	Sn	05 13 38.3	-1.8
SLR				AML	AML	05 14 21.4	
	comp=Z,35nm,0.5s						
ERPM	**east rand prop**	**7.03**	**221**	*e*P	Pn	05 12 32.7	+1.5
ERPM				*e*S	Sn	05 13 45.9	-5.5
ERPM				AML	AML	05 14 39.6	
	comp=Z,10nm,1.1s						
LSZ	**Lusaka**	**7.59**	**319**	*e*P	Pn	05 12 41.1	+2.2
LSZ				*e*S	Sn	05 14 00.8	-4.4
KSR	**Koster**	**7.59**	**230**	*e*P	Pn	05 12 41.6	+2.5
KSR				*e*S	Sn	05 14 01.7	-3.7
KSR				AML	AML	05 14 59.5	
	comp=Z,18nm,0.6s						
LBTB	**Lobatse**	**8.15**	**240**	*e*P	Pn	05 12 46.5	-0.1
LBTB				*e*S	Sn	05 14 15.6	-3.3
LBTB				AML	AML	05 15 05.7	
	comp=Z,18nm,0.5s						
SWZ	**Schweizer**	**9.52**	**229**	*e*P	Pn	05 13 05.8	+0.4
SWZ				*e*S	Sn	05 14 47.5	-5.1
SWZ				AML	AML	05 15 58.0	
	comp=Z,14nm,0.5s						
BOSA	**Boshof**	**10.50**	**223**	*e*P	Pn	05 13 16.7	-2.2
BOSA				*e*S	Sn	05 15 09.6	-7.0
BOSA				AML	AML	05 16 24.8	
	comp=Z,5.4nm,0.6s						

WEL 22 05:16:25.7±0.3, 45.80S×166.36E, h20km±1km, ML3.6/13, Error ellipse: s-maj=3.1km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.64**	**60**	P*	Pb	05 16 37.6	-0.6
DCZ				AML	AML	05 16 46.2	
DCZ				AML	AML	05 16 46.3	
DCZ				AML	AML	05 16 46.6	
DCZ				AML	AML	05 16 46.7	
MLZ	**Mavora Lakes**	**1.35**	**71**	PN	Pn	05 16 49.0	-0.4
MLZ				AML	AML	05 17 07.6	
MLZ				AML	AML	05 17 07.9	
APZ	**The Paps**	**1.53**	**133**	PN	Pn	05 16 50.9	-1.0
APZ				SN	Sn	05 17 10.0	-1.2
MSZ	**Milford Sound**	**1.58**	**45**	PN	Pn	05 16 52.3	-0.2
MSZ				AML	AML	05 17 22.1	
MSZ				AML	AML	05 17 22.4	
MSZ				AML	AML	05 17 25.2	
MSZ				AML	AML	05 17 25.3	
SYZ	**Scrubby Hill**	**2.07**	**112**	PN	Pn	05 17 00.3	+1.1
WKZ	**Wanaka**	**2.11**	**64**	PN	Pb	05 17 02.6	-0.7
WKZ				AML	AML	05 17 35.7	
WKZ				AML	AML	05 17 35.8	
EAZ	**Earnscleugh**	**2.15**	**76**	PN	Pb	05 17 03.2	-0.7
EAZ				AML	AML	05 17 36.0	
EAZ				AML	AML	05 17 36.0	
EAZ				AML	AML	05 17 38.7	
TUZ	**Tuapeka**	**2.29**	**95**	PN	Pb	05 17 04.6	-1.7
TUZ				SN	Sb	05 17 32.6	-1.5
TUZ				AML	AML	05 17 48.5	
JCZ	**Jackson Bay**	**2.42**	**46**	PN	Pb	05 17 08.3	-0.3
JCZ				AML	AML	05 17 48.0	
JCZ				AML	AML	05 17 50.6	
LBZ	**Lake Benmore**	**3.06**	**64**	PN	Pn	05 17 15.8	+3.0
ODZ	**Otahua Downs**	**3.11**	**77**	PN	Pn	05 17 14.9	+1.4
ODZ				SN	Sn	05 17 53.7	+3.7

CASC 22 05:19:30.5±1.5, 13.33N×89.15W, h74km±12km, MD3.6, ML3.1, 1C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**0.31**	**16**	ǁ*i*P	Pn	05 19 41.9	-0.4
LFRS				*e*S	Sn	05 19 51.5	+0.6
SNET	**Serv Nac Est T**	**0.36**	**348**	ǁ*i*P	Pn	05 19 42.3	-0.3
SNET				AML	AML	05 19 42.7	
	comp=Z,694nm,0.3s						
SNVI	**San Vicente**	**0.41**	**47**	*e*P	Pn	05 19 42.9	-0.2
SNVI				*e*S	Sn	05 19 53.3	+0.9
LBRS	**Las Brisas**	**0.42**	**14**	*e*P	Pn	05 19 43.0	-0.1
BOQS	**Boqueron**	**0.42**	**343**	ǁ*e*P	Pn	05 19 43.4	+0.1
BOQS				*e*S	Sn	05 19 54.0	+1.4
SBLS	**San Blas**	**0.69**	**318**	*e*P	Pn	05 19 45.5	-0.3
RTR	**El Retiro**	**0.74**	**320**	*e*P	Pn	05 19 46.6	+0.2
RTR				*e*S	Sn	05 19 59.5	+1.4
RBDL	**Robledal**	**0.94**	**326**	ǁ*i*P	Pn	05 19 48.7	0.0
RBDL				*e*S	Sn	05 20 02.9	+0.7
FUG	**Fuego 3**	**1.98**	**304**	*e*P	Pn	05 20 03.9	+1.6
FUG				*e*S	Sn	05 20 26.5	0.0

*IDC **22** 05:20:49.4±19.0, 26.62N×55.98E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.3/27, mbtmp3.6/3, Error ellipse: s-maj=471.8km s-min=45.1km az=122.0*
*ISCJB **22** 05:20:53.5±0.5, 26.86N±0.04×55.51E±0.05, h12km, mb3.6/3, Error ellipse: s-maj=6.0km s-min=5.6km az=163.5*
*CSEM **22** 05:20:53.9±0.3, 26.79N×55.65E, h2km, ML3.5/2, Error ellipse: s-maj=11.3km s-min=8.1km az=92.0*
*KISR **22** 05:20:54.1±0.3, 27.26N×55.33E, h34km, ML3.2*

ISC 22 05:20:53.6±0.8, 26.79N±0.05×55.67E±0.06, h12km, n14, σ1.923/19, mb3.6/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.76**	**36**	*e*Pg	**Pg**	**05 21 07.8**	**-0.5**
BNDS				*e*Sg	**Sn**	**05 21 21.3**	**-0.5**
NAZ	**Nazwa, Dubai**	**1.79**	**180**	P	**Pb**	**05 21 26.2**	**-0.2**
HATD	**Hatta, Dubai**	**2.00**	**168**	P	**Pn**	**05 21 26.9**	**-0.4**
HATD				S	**Sb**	**05 21 55.8**	**+0.9**
FAQ	**Al Faqa, Dubai**	**2.04**	**182**	P	**Pn**	**05 21 29.4**	**+1.6**
ASUD	**Al Ashush, Dub**	**2.18**	**188**	P	**Pb**	**05 21 32.1**	**-0.9**
GHIR	**Ghir-Karzin**	**2.81**	**303**	*e*Pn	**Pn**	**05 21 40.0**	**+1.5**
KRBR	**Kerman**	**3.32**	**17**	*e*Pn	**Pn**	**05 21 47.8**	**+2.0**
NAY	**Al-Naaiem**	**7.84**	**290**	*e*P	**Pn**	**05 22 49.4**	**+1.8**
NAY				AML	AML	05 24 14.5	
	comp=Z,1.2nm,0.4s						
NAY				*e*S	**Sn**	**05 24 15.6**	**-0.6**
NAY	**Al-Naaiem**	**7.84**	**290**	*e*P	**Pn**	**05 22 49.3**	**+1.8**
NAY				*e*S	**Sn**	**05 24 15.6**	**-0.6**
MIB	**Mutribah**	**7.93**	**294**	*e*P	**Pn**	**05 22 50.1**	**+1.3**
MIB				*e*S	**Sn**	**05 24 17.4**	**-1.1**
MIB				AML	AML	05 24 19.5	
	comp=Z,7.4nm,0.6s						
MIB	**Mutribah**	**7.93**	**294**	*e*P	**Pn**	**05 22 50.1**	**+1.3**
FINES	**FINESS Array B**	**39.95**	**338**	P	**P**	**05 28 27.0**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=140,slow=7.2,SNR=5.3						
ARCES	**ARCESS Array B**	**46.25**	**346**	P	**P**	**05 29 18.0**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=131,slow=9.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**52.16**	**266**	P	**P**	**05 30 04.0**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=61,slow=6.2,SNR=5.2						

*ISCJB **22** 05:35:45.8±0.9, 22.66S±0.07×148.00E±0.06, h10km, mb3.8/1, Error ellipse: s-maj=10.9km s-min=7.0km az=33.0*
*IDC **22** 05:35:46.4±1.9, 22.63S×148.08E, h0km, mb3.9/1, mb1 3.9/4, mb1mx3.7/14, mbtmp3.7/4, ML3.7/3, Error ellipse: s-maj=37.3km s-min=27.6km az=150.0*
*AUST **22** 05:35:48.0±11.0, 22.49S×148.21E, h18km±2km, Error ellipse: s-maj=4.4km s-min=1.0km az=237.0*

ISC 22 05:35:47.3±1.0, 22.61S±0.07×148.09E±0.08, h10km, n10, σ0.986/12, Queensland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EIDS	**Eidsvold**	**3.88**	**136**	P	**Pn**	**05 36 47.2**	**+0.2**
	baz=3.9,SNR=23						
EIDS				S	**Sn**	**05 37 32.6**	**-0.1**
	baz=3.9,SNR=5.5						
RMQ	**Roma**	**3.91**	**171**	P	**Pn**	**05 36 48.8**	**+1.3**
	baz=4.0,SNR=5.0						
RMQ				S	**Sg**	**05 37 52.0**	**-0.9**
	baz=4.0,SNR=5.6						
MTSU	**Mount Surprise**	**5.69**	**321**	P	**Pn**	**05 37 11.7**	**-0.3**
	baz=5.7,SNR=9.4						
STKA	**Stephens Creek**	**10.88**	**211**	Pn	**Pn**	**05 38 22.5**	**-0.7**
	0.6nm,0.3s,baz=356,slow=15,SNR=2.6						
STKA				Sn	**Sn**	**05 40 25.6**	**+0.5**
	0.6nm,0.3s,baz=317,slow=19,SNR=2.4						
STKA				Lg	Lg	05 41 21.8	
	0.2nm,0.3s,baz=294,slow=20,SNR=2.2						
WRA	**Warramunga Arr**	**13.09**	**279**	Pn	**Pn**	**05 38 52.4**	**-1.1**
	0.2nm,0.3s,baz=99,slow=12,SNR=21						
WRA				Sn	Sn	05 41 12.8	-6.4
	0.1nm,0.3s,baz=96,slow=22,SNR=3.4						
WRA				Lg	Lg	05 42 42.0	
	0.2nm,0.3s,baz=104,slow=29,SNR=9.5						
ASAR	**Alice Springs**	**13.09**	**263**	Pn	**Pn**	**05 38 54.6**	**+1.1**
	0.2nm,0.3s,baz=91,slow=13,SNR=11						
ASAR				Sn	**Sn**	**05 41 19.4**	**+0.1**
	0.1nm,0.3s,baz=79,slow=25,SNR=3.4						
ASAR				Lg	Lg	05 42 44.9	
	0.2nm,0.3s,baz=87,slow=28,SNR=6.7						
WSI	**Waingapu**	**29.56**	**291**	S	S	05 46 55.7	+8.0
	baz=30,SNR=5.5						
PMBI	**Palembang**	**46.30**	**289**	S	S	05 50 46.8	-14
	baz=46,SNR=5.3						
SONM	**Songino Array**	**79.49**	**333**	P	**P**	**05 47 54.9**	**+0.8**
	0.7nm,0.6s,baz=152,slow=5.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	**146.73**	**259**	PKPbc	**PKPbc**	**05 55 30.6**	**+0.2**
	1.2nm,0.7s,baz=106,slow=3.4,SNR=7.7						

*IDC **22** 05:46:51.3±1.7, 26.63N×55.80E, h0km, mb3.8/12, mb1 3.9/12, mb1mx3.7/29, mbtmp3.8/12, Error ellipse: s-maj=38.4km s-min=21.3km az=175.0*
*ISCJB **22** 05:46:53.4±0.4, 26.81N±0.04×55.77E±0.05, h14km, mb3.7/11, Error ellipse: s-maj=6.5km s-min=5.8km az=7.5*
*TEH **22** 05:46:53.3, 26.76N×55.74E, h10km, ML3.6*
*CSEM **22** 05:46:54.9±0.2, 26.76N×55.86E, h2km, ML3.6, Error ellipse: s-maj=9.3km s-min=5.5km az=78.0*
*OMAN **22** 05:46:57.9±69.0, 26.63N×56.14E, h6km, Error ellipse: s-maj=19.0km s-min=13.1km az=308.0*

ISC 22 05:46:54.3±0.6, 26.79N±0.05×55.84E±0.05, h14km, n37, σ1.934/37, mb3.7/11, 1D, Southern Iran

| Code | Station Name | Δ

ZALV	**Zalesovo Beam**	**34.53**	**30**	P		**P**	**05 53 42.2**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=244,slow=6.3,SNR=4.5							
GERES	**GERESS Array B**	**39.25**	**316**	P		**P**	**05 54 21.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=108,slow=12,SNR=3.0							
FINES	**FINESS Array B**	**40.00**	**338**	P		**P**	**05 54 27.7**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=143,slow=9.5,SNR=9.9							
SONM	**Songino Array**	**44.45**	**48**	P		**P**	**05 55 05.9**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=278,slow=10.0,SNR=2.5							
ARCES	**ARCESS Array B**	**46.29**	**346**	P		**P**	**05 55 19.0**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=157,slow=7.9,SNR=4.6							
TORD	**Torodi Ar. Bea**	**52.31**	**266**	P		**P**	**05 56 04.6**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=69,slow=7.4,SNR=6.1							
KSRS	**Korea Array**	**60.64**	**60**	P		**P**	**05 57 05.2**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=281,slow=6.9,SNR=3.6							
ILAR	**Eielson Array**	**87.04**	**10**	P		**P**	**05 59 38.2**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=323,slow=4.5,SNR=6.5							

WEL 22 05:48:28.0±0.5, 46°14S×165°85E, h12km, ML3.5/13, Error ellipse: s-maj=5.1km s-min=3.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.13**	**55**	P*		Pb	05 48 47.6	-1.8
DCZ					AML	AML	05 49 02.1	
DCZ					AML	AML	05 49 02.1	
DCZ				S*		Sb	05 49 02.3	-1.7
DCZ					AML	AML	05 49 03.0	
WHZ	**Wether Hill Ro**	**1.48**	**81**	PN		Pn	05 48 53.5	-1.0
WHZ					SN	Sn	05 49 11.6	-2.2
WHZ					AML	AML	05 49 15.2	
APZ	**The Paps**	**1.63**	**116**	PN		Pn	05 48 55.5	-1.2
MLZ	**Mavora Lakes**	**1.81**	**65**	PN		Pn	05 48 58.8	-0.3
MLZ					AML	AML	05 49 25.6	
MLZ					AML	AML	05 49 27.2	
SYZ	**Scrubby Hill**	**2.31**	**101**	PN		Pn	05 49 05.9	0.0
WKZ	**Wanaka**	**2.59**	**61**	PN		Pn	05 49 11.2	+1.5
WKZ					AML	AML	05 49 49.8	
EAZ	**Earnscleugh**	**2.59**	**71**	PN		Pn	05 49 10.5	+0.7
EAZ					AML	AML	05 49 44.9	
EAZ					AML	AML	05 49 47.8	
TUZ	**Tuapeka**	**2.64**	**87**	PN		Pn	05 49 10.7	+0.3
TUZ					AML	AML	05 49 46.3	
TUZ					AML	AML	05 50 05.8	
JCZ	**Jackson Bay**	**2.92**	**46**	PN		Pn	05 49 15.9	+1.2
JCZ					AML	AML	05 50 06.1	
JCZ					AML	AML	05 50 08.1	
ODZ	**Otahua Downs**	**3.54**	**74**	PN		Pn	05 49 21.7	-1.1

*ISCJB **22** 06:14:02.7±0.9, 46°.22S×0°.07×165°.92E×0°.08, h13km, mb3.4/2, MS3.5/1, Error ellipse: s-maj=11.1km s-min=7.8km az=20.9*
*WEL **22** 06:14:02.9±0.2, 46°.35S×165°.88E, h33km, ML4.5/19, Error ellipse: s-maj=2.9km s-min=2.2km az=90.0*
*IDC **22** 06:14:02.0±1.6, 46°.37S×166°.01E, h0km, mb3.4/2, mb1 3.9/4, mb1mx3.7/15, mbtmp3.8/4, ML3.8/2, MS3.5/1, Ms1 3.5/1, ms1mx3.0/13, Error ellipse: s-maj=57.8km s-min=26.6km az=173.0*
*NEIC **22** 06:14:04.5, 46°.39S×165°.73E, h33km, ML4.5(WEL), After WEL.*

ISC 22 06:14:03.7±0.9, 46°26S±0°.07×165°97E±0°.07, h13km, n51, σ1§06/56, 2D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.14**	**47**	Pn		**Pn**	**06 14 23.6**	**-1.7**
DCZ	**Deep Cove**	**1.14**	**47**	PN		**Pn**	**06 14 23.6**	**-1.7**
DCZ					AML	AML	06 14 39.8	
DCZ					AML	AML	06 14 39.8	
DCZ					AML	AML	06 14 40.2	
DCZ					AML	AML	06 14 40.2	
WHZ	**Wether Hill Ro**	**1.42**	**76**	Pn		**Pn**	**06 14 29.0**	**-0.3**
WHZ					SN	Sn	**06 14 48.9**	**+1.0**
WHZ	**Wether Hill Ro**	**1.42**	**76**	⇓PN		**Pn**	**06 14 29.0**	**-0.3**
WHZ					SN	**Sn**	**06 14 48.9**	**+1.0**
WHZ					AML	AML	06 15 00.7	
APZ	**The Paps**	**1.51**	**113**	Pn		**Pn**	**06 14 30.1**	**-0.4**
APZ	**The Paps**	**1.51**	**113**	PN		**Pn**	**06 14 29.9**	**-0.6**
APZ					SN	**Sn**	**06 14 49.5**	**-0.5**
MLZ	**Mavora Lakes**	**1.79**	**60**	Pn		**Pn**	**06 14 34.8**	**+0.4**
MLZ	**Mavora Lakes**	**1.79**	**60**	PN		**Pn**	**06 14 34.8**	**+0.4**
MLZ					AML	AML	06 15 04.0	
MLZ					AML	AML	06 15 06.6	
MSZ	**Milford Sound**	**2.10**	**42**	Pn		**Pn**	**06 14 38.6**	**+0.1**
MSZ	**Milford Sound**	**2.10**	**42**	PN		**Pn**	**06 14 38.6**	**+0.1**
MSZ					AML	AML	06 15 29.0	
MSZ					AML	AML	06 15 29.0	
MSZ					AML	AML	06 15 29.5	
MSZ					AML	AML	06 15 29.5	
SYZ	**Scrubby Hill**	**2.21**	**98**	Pn		**Pn**	**06 14 40.5**	**+0.4**
SYZ	**Scrubby Hill**	**2.21**	**98**	PN		**Pn**	**06 14 40.4**	**+0.3**
EAZ	**Earnscleugh**	**2.55**	**68**	Pn		**Pn**	**06 14 46.2**	**+1.4**
EAZ	**Earnscleugh**	**2.55**	**68**	PN		**Pn**	**06 14 46.2**	**+1.4**
EAZ					AML	AML	06 15 22.7	
EAZ					AML	AML	06 15 22.7	
EAZ					AML	AML	06 15 30.5	
EAZ					AML	AML	06 15 30.5	
TUZ	**Tuapeka**	**2.57**	**85**	Pn		**Pn**	**06 14 45.7**	**+0.8**
TUZ	**Tuapeka**	**2.57**	**85**	PN		**Pn**	**06 14 45.8**	**+0.8**
TUZ					AML	AML	06 15 23.1	
TUZ					AML	AML	06 15 29.2	
WKZ	**Wanaka**	**2.57**	**57**	Pn		**Pn**	**06 14 47.2**	**+2.0**
WKZ	**Wanaka**	**2.57**	**57**	PN		**Pn**	**06 14 47.2**	**+2.0**
WKZ					AML	AML	06 15 24.6	
WKZ					AML	AML	06 15 27.5	
WKZ					AML	AML	06 15 27.6	
JCZ	**Jackson Bay**	**2.94**	**43**	Pn		**Pn**	**06 14 51.6**	**+1.4**
JCZ	**Jackson Bay**	**2.94**	**43**	PN		**Pn**	**06 14 51.6**	**+1.4**
JCZ					AML	AML	06 15 43.7	
JCZ					AML	AML	06 15 46.3	
HHSZ	**Highcliff Hill**	**3.24**	**85**	PN		**Pn**	**06 14 55.1**	**+0.8**
ODZ	**Otahua Downs**	**3.50**	**71**	*e*Pn		**Pn**	**06 14 57.5**	**-0.3**
ODZ					SN	**Sn**	**06 15 36.4**	**-2.5**
ODZ	**Otahua Downs**	**3.50**	**71**	⇓PN		**Pn**	**06 14 57.3**	**-0.5**
ODZ					AML	AML	06 15 55.5	
ODZ					AML	AML	06 15 55.5	
ODZ					AML	AML	06 15 57.2	
ODZ					AML	AML	06 15 57.2	
LBZ	**Lake Benmore**	**3.51**	**59**	Pn		**Pn**	**06 14 58.3**	**+0.3**
LBZ	**Lake Benmore**	**3.51**	**59**	PN		**Pn**	**06 14 58.3**	**+0.3**
LBZ					AML	AML	06 15 44.6	
LBZ					AML	AML	06 16 05.3	
FOZ	**Fox Glacier**	**3.77**	**46**	Pn		**Pn**	**06 15 03.1**	**+1.6**
FOZ	**Fox Glacier**	**3.77**	**46**	PN		**Pn**	**06 15 03.1**	**+1.6**
FOZ					AML	AML	06 16 13.3	
FOZ					AML	AML	06 16 13.7	
RPZ	**Rata Peaks**	**4.41**	**57**	*e*Pn		**Pn**	**06 15 09.7**	**-0.6**
RPZ					SN	**Sn**	**06 16 00.2**	**-1.4**
RPZ	**Rata Peaks**	**4.41**	**57**	Pn		**Pn**	**06 15 09.9**	**-0.5**
	5.4nm,0.3s,baz=212,slow=1.3,SNR=34							
RPZ					SN	**Sn**	**06 16 00.2**	**-1.4**
	8.2nm,0.3s,baz=229,slow=19,SNR=3.8							
RPZ	**Rata Peaks**	**4.41**	**57**	PN		**Pn**	**06 15 09.9**	**-0.5**
RPZ					AML	AML	06 16 08.1	
RPZ					AML	AML	06 16 23.7	
WVZ	**Waitaha Valley**	**4.65**	**49**	Pn		**Pn**	**06 15 13.8**	**+0.1**
WVZ	**Waitaha Valley**	**4.65**	**49**	PN		**Pn**	**06 15 13.8**	**+0.1**
WVZ					AML	AML	06 16 09.9	
WVZ					AML	AML	06 16 21.5	
DSZ	**Denniston Nort**	**6.17**	**45**	Pn		**Pn**	**06 15 34.2**	**-0.3**
DSZ	**Denniston Nort**	**6.17**	**45**	PN		**Pn**	**06 15 34.2**	**-0.3**
THZ	**Tophouse**	**6.72**	**51**	Pn		**Pn**	**06 15 43.7**	**+1.6**
THZ	**Tophouse**	**6.72**	**51**	PN		**Pn**	**06 15 43.7**	**+1.6**
URZ	**Urewera**	**11.48**	**50**	Pn		**Pn**	**06 16 48.7**	**+1.4**
URZ	**Urewera**	**11.48**	**50**	Pn		**Pn**	**06 16 48.7**	**+1.4**
	0.5nm,0.3s,baz=170,slow=17,SNR=3.4							
ASAR	**Alice Springs**	**34.25**	**300**	P		**P**	**06 20 49.8**	**+0.4**
ASAR	**Alice Springs**	**34.25**	**300**	P		**P**	**06 20 49.8**	**+0.4**
	0.3nm,0.7s,baz=138,slow=8.4,SNR=3.6							
WRA	**Warramunga Arr**	**36.88**	**305**	P		**P**	**06 21 12.0**	**0.0**
WRA	**Warramunga Arr**	**36.88**	**305**	P		**P**	**06 21 12.0**	**0.0**
	0.5nm,0.8s,baz=138,slow=7.8,SNR=5.7							
PMG	**Port Moresby**	**40.09**	**330**	LR		LR	06 37 19.8	
	comp=Z,65nm,18.2s,baz=258,slow=35							
TORD	**Torodi Ar. Bea**	**144.43**	**207**	PKP		**PKPdf**	**06 33 38.5**	**-1.4**
TORD	**Torodi Ar. Bea**	**144.43**	**207**	PKP		**PKPdf**	**06 33 38.5**	**-1.4**
	1.0nm,0.6s,baz=162,slow=1.8,SNR=11							
BRTR	**Keskin Array B**	**144.96**	**277**	PKPbc		**PKPdf**	**06 33 40.3**	**0.0**
BRTR	**Keskin Array B**	**144.96**	**277**	PKPbc		**PKPdf**	**06 33 40.3**	**0.0**
	1.7nm,0.8s,baz=156,slow=4.9,SNR=7.6							
SCHQ	**Schefferville**	**146.10**	**56**	PKPbc		**PKPdf**	**06 33 41.7**	**+0.1**
SCHQ	**Schefferville**	**146.10**	**56**	PKPbc		**PKPdf**	**06 33 41.7**	**+0.1**
	1.6nm,0.6s,baz=283,slow=0.8,SNR=8.1							
ARCES	**ARCESS Array B**	**149.58**	**334**	PKPbc		**PKPbc**	**06 33 52.3**	**+0.8**
ARCES	**ARCESS Array B**	**149.58**	**334**	PKPbc		**PKPbc**	**06 33 52.3**	**+0.8**
	2.1nm,0.6s,baz=61,slow=3.5,SNR=13							

IDC 22 06:15:03.2±3.1, 29°92S×138°57E, h0km, mb1 2.8/3, mb1mx2.8/16, mbtmp2.6/3, ML2.6/3, Error ellipse: s-maj=91.9km s-min=21.0km az=49.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.25**	**128**	Pn		Pn	06 15 55.5	0.0
	0.6nm,0.3s,baz=300,slow=13,SNR=7.5							
STKA					Sn	Sn	06 16 35.5	+0.6
	1.5nm,0.3s,baz=237,slow=17,SNR=6.7							
ASAR	**Alice Springs**	**7.49**	**325**	Pn		Pn	06 16 54.8	+0.9
	0.1nm,0.3s,baz=154,slow=13,SNR=2.9							
ASAR					Sn	Sn	06 18 19.1	-0.5
	0.0nm,0.3s,baz=150,slow=21,SNR=3.3							
WRA	**Warramunga Arr**	**10.64**	**338**	Pn		Pn	06 17 36.8	-0.3
	0.0nm,0.3s,baz=154,slow=13,SNR=5.0							
WRA					Sn	Sn	06 19 37.8	+0.7
	0.0nm,0.3s,baz=159,slow=24,SNR=2.6							

*ISCJB **22** 06:35:18.0±0.4, 38°.84N±0°.02×23°.44E±0°.04, h22km±4km, Error ellipse: s-maj=5.1km s-min=3.9km az=25.9*
*CSEM **22** 06:35:17.7±0.1, 38°.78N×23°.42E, h8km, ML2.1/2, Error ellipse: s-maj=3.4km s-min=2.3km az=100.0*
*THE **22** 06:35:18.7, 38°.85N×23°.38E, h16km±1km, ML2.1/2, Error ellipse: s-maj=1.4km s-min=0.5km az=37.0*
*ATH **22** 06:35:18.2, 38°.81N×23°.40E, h15km±6km, MD2.8/11, ML2.5*

ISC 22 06:35:18.0±0.9, 38°83N±0°.02×23°40E±0°.02, h17km±8km, n38, σ0§45/65, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SMIA	**Simia**	**0.15**	**288**	P		**Pb**	**06 35 22.5**	**0.0**
SMIA	**Simia**	**0.15**	**288**	P		**Pb**	**06 35 22.5**	**0.0**
SKIA	**Skiathos**	**0.34**	**9**	P		**Pb**	**06 35 25.7**	**+0.1**
SKIA				S		**Sb**	**06 35 30.6**	**-0.1**
SKIA	**Skiathos**	**0.34**	**9**	P		**Pb**	**06 35 25.7**	**+0.1**
SKIA				S		**Sb**	**06 35 30.6**	**-0.1**
LKR	**Lokris**	**0.36**	**240**	*e*PB		**Pg**	**06 35 25.4**	**-0.1**
LKR				*e*SB		**Sg**	**06 35 30.1**	**-0.5**
LKR	**Lokris**	**0.36**	**240**	*e*Pb		**Pg**	**06 35 25.4**	**-0.1**
LKR				*e*Sb		**Sg**	**06 35 30.1**	**-0.5**
NEO	**Neokhori**	**0.49**	**344**	*e*PN		**Pb**	**06 35 28.7**	**+0.4**
NEO				*e*SN		**Sb**	**06 35 35.4**	**+0.2**
NEO	**Neokhori**	**0.49**	**344**	*e*Pn		**Pb**	**06 35 28.7**	**+0.4**
NEO				*e*Sn		**Sb**	**06 35 35.4**	**+0.2**
AOS	**Alonnisos**	**0.51**	**48**	P		**Pg**	**06 35 28.2**	**0.0**
AOS				S		**Sb**	**06 35 35.7**	**+0.2**
AOS	**Alonnisos**	**0.51**	**48**	*e*PN		**Pb**	**06 35 28.4**	**-0.1**
AOS				*e*SN		**Sb**	**06 35 35.4**	**-0.1**
AOS	**Alonnisos**	**0.51**	**48**	*e*Pn		**Pb**	**06 35 28.4**	**-0.1**
AOS				*e*Sn		**Sb**	**06 35 35.4**	**-0.1**
XOR	**Xorichti**	**0.56**	**343**	P		**Pb**	**06 35 29.4**	**+0.1**
XOR				S		**Sb**	**06 35 37.2**	**+0.2**
XOR	**Xorichti**	**0.56**	**343**	P		**Pb**	**06 35 29.4**	**+0.1**
XOR				S		**Sb**	**06 35 37.2**	**+0.2**
AGG	**Agios Georgios**	**0.85**	**283**	P		**Pg**	**06 35 34.3**	**-0.4**
AGG				S		**Sg**	**06 35 45.9**	**0.0**
AGG	**Agios Georgios**	**0.85**	**283**	*e*PB		**Pg**	**06 35 34.2**	**-0.4**
AGG				*e*SN		**Sn**	**06 35 46.8**	**-0.6**
AGG	**Agios Georgios**	**0.85**	**283**	P		**Pg**	**06 35 34.3**	**-0.4**
AGG				S		**Sg**	**06 35 45.9**	**0.0**
AGG				*e*Sn		**Sn**	**06 35 46.8**	**-0.6**
PTL	**Penteli**	**0.86**	**155**	*e*PN		**Pb**	**06 35 34.8**	**+0.2**
PTL				*e*SN		**Sb**	**06 35 44.7**	**-1.1**
PTL	**Penteli**	**0.86**	**155**	*e*Pn		**Pb**	**06 35 34.8**	**+0.2**
PTL				*e*Sn		**Sb**	**06 35 44.7**	**-1.1**
LTK	**Loutraki**	**0.88**	**203**	*e*PB		**Pb**	**06 35 33.8**	**-0.9**
LTK				*e*SN		**Sg**	**06 35 46.9**	**+0.3**
LTK	**Loutraki**	**0.88**	**203**	*e*Pb		**Pb**	**06 35 33.8**	**-0.9**
LTK				*e*Sn		**Sg**	**06 35 46.9**	**+0.3**
ATH	**Athens Observa**	**0.90**	**164**	*e*PN		**Pb**	**06 35 35.6**	**+0.5**
ATH				*e*SN		**Sg**	**06 35 47.7**	**+0.5**
ATH	**Athens Observa**	**0.90**	**164**	*e*Pn		**Pb**	**06 35 35.6**	**+0.5**
ATH				*e*Sn		**Sg**	**06 35 47.7**	**+0.5**
NAIG	**Nisos Aigina**	**1.07**	**176**	*e*PN		**Pb**	**06 35 38.3**	**+0.2**
NAIG	**Nisos Aigina**	**1.07**	**176**	*e*Pn		**Pb**	**06 35 38.3**	**+0.2**
KALE	**Kalithea**	**1.08**	**246**	*e*PN		**Pb**	**06 35 38.1**	**-0.1**
KALE				*e*SN		**Sg**	**06 35 53.6**	**+0.6**
KALE	**Kalithea**	**1.08**	**246**	*e*Pn		**Pb**	**06 35 38.1**	**-0.1**
KALE				*e*Sn		**Sg**	**06 35 53.6**	**+0.6**
PAIG	**Paliouri**	**1.12**	**11**	*e*PB		**Pg**	**06 35 39.0**	**-0.6**
PAIG	**Paliouri**	**1.12**	**11**	*e*Pb		**Pg**	**06 35 39.0**	**-0.6**
GUR	**Goura**	**1.22**	**223**	*e*PN		**Pb**	**06 35 40.7**	**0.0**
GUR				*e*SN		**Sg**	**06 35 58.3**	**+0.8**
GUR	**Goura**	**1.22**	**223**	*e*Pn		**Pb**	**06 35 40.7**	**0.0**
GUR				*e*Sn		**Sg**	**06 35 58.3**	**+0.8**
KLV	**Kalavryta, Ach**	**1.25**	**232**	*e*PN		**Pb**	**06 35 41.2**	**-0.1**
KLV	**Kalavryta, Ach**	**1.25**	**232**	*e*Pn		**Pb**	**06 35 41.2**	**-0.1**
LAKA	**Lakka**	**1.26**	**242**	*e*PN		**Pg**	**06 35 42.4**	**+0.1**
LAKA	**Lakka**	**1.26**	**242**	*e*Pn		**Pg**	**06 35 42.4**	**+0.1**
THL	**Klokotos Trika**	**1.30**	**305**	*e*PN		**Pg**	**06 35 43.6**	**+0.5**
THL	**Klokotos Trika**	**1.30**	**305**	*e*Pn		**Pg**	**06 35 43.6**	**+0.5**
DID	**Didima**	**1.33**	**185**	*e*PB		**Pn**	**06 35 42.0**	**+0.2**
DID				*e*SN		**Sb**	**06 35 59.9**	**+0.7**
DID	**Didima**	**1.33**	**185**	*e*Pb		**Pn**	**06 35 42.0**	**+0.2**
DID				*e*Sn		**Sb**	**06 35 59.9**	**+0.7**

*IDC **22** 06:49:55.9±0.8, 26°.74N×55°.82E, h0km, mb4.0/20, mb1 4.1/24, mb1mx4.0/34, mbtmp4.0/24, ML3.6/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/35, Error ellipse: s-maj=18.1km s-min=14.6km az=170.0*
*TEH **22** 06:49:56.5, 26°.75N×55°.78E, h9km, ML4.1*
*NEIC **22** 06:49:56.8, 26°.74N×55°.81E, h13km, mb3.9/3, MN4.1(TEH), After TEH.*
*CSEM **22** 06:49:58.4±0.2, 26°.80N×55°.83E, h10km, mb4.2/8, Error ellipse: s-maj=8.1km s-min=5.3km az=74.0*
*THR **22** 06:50:00.1±0.5, 26°.96N×55°.74E, h9km±7km, ML3.8*
*OMAN **22** 06:50:01.4±99.0, 26°.66N×56°.03E, h10km, Error ellipse: s-maj=25.7km s-min=11.9km az=345.0*
*VIE **22** 06:50:08.0, 26°.78N×55°.78E, h99km, mb3.7, ML4.6*

ISC 22 06:49:58.4±0.7, 26°77N±0°.03×55°77E±0°.05, h14km±4km, n139, σ1§26/147, mb3.9/28, 4C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.72**	**30**	*e*Pg		**Pg**	**06 50 11.7**	**-0.8**
BNDS				*e*Sg		**Sg**	**06 50 20.4**	**-1.7**
BNDS					AML	AML	06 50 29.6	
	comp=E,4μm,0.5s							
BNDS	**Bandar-Abbas**	**0.72**	**30**	*e*Pg		**Pg**	**06 50 11.7**	**-0.8**
IBND	**Bandar-abas**	**0.97**	**45**	*e*Pg		**Pg**	**06 50 16.0**	**-1.1**
IBND				*e*Sg		**Sb**	**06 50 30.1**	**+0.6**
IBND				*e*			06 50 43.3	
	comp=Z,89μm,0.2s							
BANOM	**Banah**	**0.97**	**150**	⇓P		**Pg**	**06 50 16.3**	**-0.8**
	SNR=498							
BANOM	**Banah**	**0.97**	**150**	P		**Pg**	**06 50 16.3**	**-0.8**
	SNR=498							
NAZ	**Nazwa, Dubai**	**1.78**	**183**	P		**Pb**	**06 50 30.9**	**+0.2**
NAZ				S		**Sg**	**06 50 56.8**	**+1.2**
HATD	**Hatta, Dubai**	**1.96**	**170**	P		**Pb**	**06 50 33.2**	**-0.7**
FAQ	**Al Faqa, Dubai**	**2.02**	**184**	P		**Pb**	**06 50 34.2**	**-0.7**
ASHO	**Ashiyiah**	**2.10**	**173**	⇓P		**Pb**	**06 50 34.9**	**-1.3**
	SNR=27							
ASHO	**Ashiyiah**	**2.10**	**173**	P		**Pb**	**06 50 34.9**	**-1.3**
	SNR=27							
ASUD	**Al Ashush, Dub**	**2.17**	**191**	P		**Pb**	**06 50 36.9**	**-0.6**
GHIR	**Ghir-Karzin**	**2.89**	**302**	*e*Pn		**Pn**	**06 50 47.0**	**+2.8**
GHIR					AML	AML	06 51 53.6	
	comp=E,413nm,0.8s							
GHIR					AML	AML	06 51 57.2	
	comp=N,396nm,0.4s							
GHIR	**Ghir-Karzin**	**2.89**	**302**	*e*Pn		**Pn**	**06 50 47.0**	**+2.8**
KRBR	**Kerman**	**3.32**	**15**	*e*Pn		**Pn**	**06 50 52.2**	**+2.0**
KRBR	**Kerman**	**3.32**	**15**	*e*Pn		**Pn**	**06 50 52.2**	**+2.0**
ISRV	**Sarvestan**	**3.50**	**319**	*e*Pn		**Pn**	**06 50 54.6**	**+1.9**
ISRV				*e*			06 52 09.1	
	comp=Z,3μm,0.4s							
ISRV	**Sarvestan**	**3.50**	**319**	*e*Pn		**Pn**	**06 50 54.6**	**+1.9**
IPAR	**Pars**	**3.89**	**323**	*e*Pn		**Pn**	**06 51 00.4**	**+2.4**
IPAR				*e*		**Sb**	**06 51 50.0**	**-3.9**
	comp=Z,6μm,0.4s							
IPAR	**Pars**	**3.89**	**323**	*e*Pn		**Pn**	**06 51 00.4**	**+2.4**
BSY	**Bisya**	**4.21**	**162**	⇓P		**Pn**	**06 51 03.5**	**+1.3**
SMDO	**Samad**	**4.24**	**150**	⇑P		**Pn**	**06 51 04.3**	**+1.7**
SMDO	**Samad**	**4.24**	**150**	P		**Pn**	**06 51 04.3**	**+1.7**
BSYO	**Bisya**	**4.24**	**161**	P		**Pn**	**06 51 03.5**	**+0.9**
IMEH	**Mehriz**	**4.71**	**348**	*e*Pn		**Pn**	**06 51 11.4**	**+2.1**
IMEH				*e*		**Sn**	**06 52 08.6**	**+4.8**
	comp=Z,717nm,0.2s							
IMEH	**Mehriz**	**4.71**	**348**	*e*Pn		**Pn**	**06 51 11.4**	**+2.1**
IBAF	**Bafgh**	**4.81**	**358**	*e*Pn		**Pn**	**06 51 12.3**	**+1.8**
IBAF				*e*			06 51 14.4	
	comp=Z,700nm,0.1s							
IBAF				*e*Sn		**Sn**	**06 52 08.1**	**+2.0**
IBAF	**Bafgh**	**4.81**	**358**	*e*Pn		**Pn**	**06 51 12.3**	**+1.8**
IBAF				*e*Sn		**Sn**	**06 52 08.1**	**+2.0**
WBK	**Wadi Bani Khal**	**5.07**	**144**	P		**Pn**	**06 51 14.3**	**+0.4**
	SNR=14							
WBK	**Wadi Bani Khal**	**5.07**	**144**	P		**Pn**	**06 51 14.3**	**+0.4**
	SNR=14							
ISAD	**Sadrabad**	**5.44**	**341**	*e*Pn		**Pn**	**06 51 21.8**	**+2.5**
ISAD				*e*		Sn	06 52 31.1	+9.3
	comp=Z,915nm,0.2s							
ISAD	**Sadrabad**	**5.44**	**341**	*e*Pn		**Pn**	**06 51 21.8**	**+2.5**
ICHK	**Chekchek**	**5.58**	**348**	*e*Pn		**Pn**	**06 51 22.8**	**+1.6**
ICHK				*e*			06 51 27.4	
	comp=Z,527nm,0.2s							
ICHK	**Chekchek**	**5.58**	**348**	*e*Pn		**Pn**	**06 51 22.8**	**+1.6**
IGAR	**Gharneh**	**6.48**	**331**	*e*Pn		**Pn**	**06 51 35.9**	**+2.3**
IGAR				*e*			06 51 38.1	
	comp=Z,1μm,0.1s							
NASN	**Na'in**	**6.53**	**338**	*e*Pn		**Pn**	**06 51 36.2**	**+1.8**
NASN	**Na'in**	**6.53**	**338**	*e*Pn		**Pn**	**06 51 36.2**	**+1.8**
IZEF	**Zefreh**	**6.79**	**335**	*e*Pn		**Pn**	**06 51 39.2**	**+1.3**
IZEF				*e*			06 51 40.4	
	comp=Z,527nm,0.2s							
IZEF	**Zefreh**	**6.79**	**335**	*e*Pn		**Pn**	**06 51 39.2**	**+1.3**
IPIR	**Pirpir**	**7.26**	**325**	*e*Pn		**Pn**	**06 51 46.4**	**+2.1**
IPIR				*e*			06 53 07.7	
	comp=N,1μm,0.2s							
IPIR	**Pirpir**	**7.26**	**325**	*e*Pn		**Pn**	**06 51 46.4**	**+2.1**
IKLH	**Kolahrood**	**7.47**	**332**	*e*Pn		**Pn**	**06 51 48.9**	**+1.8**
IKLH				*e*			06 51 50.8	
	comp=Z,479nm,0.2s							
IKLH	**Kolahrood**	**7.47**	**332**	*e*Pn		**Pn**	**06 51 48.9**	**+1.8**
KBD	**Kabd**	**7.53**	**290**	*e*P		**Pn**	**06 51 49.2**	**+1.5**
KBD					AML	AML	06 53 11.9	
	comp=Z,21nm,0.5s							
KBD	**Kabd**	**7.53**	**290**	*e*P		**Pn**	**06 51 49.2**	**+1.5**
UMR	**Umm Al-Rimmam**	**7.63**	**293**	*e*P		**Pn**	**06 51 50.3**	**+1.2**
UMR	**Umm Al-Rimmam**	**7.63**	**293**	*e*P		**Pn**	**06 51 50.3**	**+1.2**
NAY	**Al-Naaiem**	**7.93**	**290**	*e*P		**Pn**	**06 51 54.5**	**+1.3**
NAY					AML	AML	06 53 20.4	
	comp=Z,14nm,0.5s							
NAY	**Al-Naaiem**	**7.93**	**290**	*e*P		**Pn**	**06 51 54.5**	**+1.3**
GNI	**Garni**	**16.19**	**328**	Pn		**P**	**06 53 48.0**	**-0.7**
GNI	**Garni**	**16.19**	**328**	Pn		**P**	**06 53 48.0**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=117,slow=6.8,SNR=2.0							
GNI	**Garni**	**16.19**	**328**	Pn		**P**	**06 53 48.0**	**-0.7**
ASF	**Jabal al Asfar**	**17.28**	**293**	P		**Pn**	**06 53 59.5**

ARCES	**ARCESS Array B**	**46.29**	**346**	P		**P**	**06 58 23.0**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=145,slow=7.9,SNR=15							
ARCES				ScP		**ScP**	**07 03 53.3**	**+2.0**
	comp=Z,1.0nm,0.8s,baz=134,slow=3.5,SNR=5.0							
ARCES	**ARCESS Array B**	**46.29**	**346**	P		**P**	**06 58 23.0**	**-0.2**
ESDC	**Sonseca Array**	**50.75**	**301**	P		**P**	**06 58 57.7**	**-0.4**
ESDC	**Sonseca Array**	**50.75**	**301**	P		**P**	**06 58 57.7**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=77,slow=7.6,SNR=4.4							
ESDC	**Sonseca Array**	**50.75**	**301**	P		**P**	**06 58 57.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**52.24**	**266**	P		**P**	**06 59 09.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**52.24**	**266**	P		**P**	**06 59 09.1**	**-0.4**
	comp=Z,3.2nm,0.5s,baz=64,slow=7.4,SNR=49							
TORD	**Torodi Ar. Bea**	**52.24**	**266**	P		**P**	**06 59 09.1**	**-0.4**
KSAR	**Wonju Array Be**	**60.68**	**60**	P		**P**	**07 00 08.7**	**-0.7**
KSAR	**Wonju Array Be**	**60.68**	**60**	P		**P**	**07 00 08.6**	**-0.7**
KSRS	**Korea Array**	**60.71**	**60**	P		**P**	**07 00 08.7**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=279,slow=6.3,SNR=7.3							
BOSA	**Boshof**	**62.37**	**210**	P		**P**	**07 00 21.4**	**+0.6**
BOSA	**Boshof**	**62.37**	**210**	P		**P**	**07 00 21.4**	**+0.6**
	comp=Z,2.6nm,0.6s,baz=21,slow=2.1,SNR=6.0							
BOSA	**Boshof**	**62.37**	**210**	P		**P**	**07 00 21.4**	**+0.6**
SCHQ	**Schefferville**	**85.02**	**331**	P		**P**	**07 02 33.0**	**-0.3**
SCHQ	**Schefferville**	**85.02**	**331**	P		**P**	**07 02 33.0**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=90,slow=5.1,SNR=3.3							
SCHQ	**Schefferville**	**85.02**	**331**	P		**P**	**07 02 33.0**	**-0.3**
ILAR	**Eielson Array**	**87.07**	**10**	P		**P**	**07 02 42.5**	**-0.8**
ILAR	**Eielson Array**	**87.07**	**10**	P		**P**	**07 02 42.5**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=315,slow=4.2,SNR=10							
ILAR	**Eielson Array**	**87.07**	**10**	P		**P**	**07 02 42.5**	**-0.8**
WRA	**Warramunga Arr**	**89.16**	**113**	P		**P**	**07 02 53.3**	**-0.7**
WRA	**Warramunga Arr**	**89.16**	**113**	P		**P**	**07 02 53.3**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=309,slow=4.2,SNR=4.5							
WRA	**Warramunga Arr**	**89.16**	**113**	P		**P**	**07 02 53.3**	**-0.7**
ASAR	**Alice Springs**	**90.59**	**116**	P		**P**	**07 03 00.1**	**-0.6**
ASAR	**Alice Springs**	**90.59**	**116**	P		**P**	**07 03 00.1**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=322,slow=5.9,SNR=3.5							
ASAR	**Alice Springs**	**90.59**	**116**	P		**P**	**07 03 00.1**	**-0.6**

IDC 22 07:28:59.6±8.1, 21°.53S×176°.68W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/17, mbtmp4.2/4, Error ellipse: s-maj=219.9km s-min=78.0km az=126.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.47**	**246**	P	P	07 36 23.9	+0.4
	1.3nm,0.5s,baz=114,slow=10.0,SNR=2.9						
ASAR	**Alice Springs**	**45.49**	**258**	P	P	07 37 20.5	-0.6
	2.0nm,0.8s,baz=91,slow=8.1,SNR=15						
WRA	**Warramunga Arr**	**45.68**	**263**	P	P	07 37 22.5	-0.1
	0.8nm,0.4s,baz=102,slow=8.5,SNR=39						
CMAR	**Chiang Mai Arr**	**91.61**	**289**	P	P	07 42 09.1	-0.1
	1.4nm,0.4s,baz=123,slow=3.3,SNR=5.7						

IDC 22 07:40:54.2±1.5, 29°.11S×71°.32W, h0km, mb3.7/1, mb1 3.7/2, mb1mx3.5/16, mbtmp3.6/2, ML3.4/1, Error ellipse: s-maj=97.0km s-min=51.5km az=116.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**13.09**	**14**	Pn	Pn	07 44 01.9	-0.4
	0.1nm,0.3s,baz=200,slow=7.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**81.97**	**70**	P	P	07 53 16.4	0.0
	0.2nm,0.5s,baz=254,slow=7.0,SNR=5.0						
WRA	**Warramunga Arr**	**125.31**	**210**	PKP	PKPdf	07 59 57.3	-0.3
	0.4nm,0.8s,baz=157,slow=1.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**149.70**	**28**	PKPbc	PKPbc	08 00 45.3	-0.1
	1.7nm,0.6s,baz=307,slow=2.8,SNR=5.6						
MKAR	**Makanchi Array**	**152.90**	**42**	PKPbc	PKPbc	08 00 52.9	-0.3
	0.6nm,0.8s,baz=300,slow=1.8,SNR=4.3						

WEL 22 08:00:37.3±0.5, 46°.02S×165°.94E, h25km±2km, ML3.5/14, 1D, Error ellipse: s-maj=4.4km s-min=2.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**1.01**	**58**	⇓P	Pn	08 00 55.1	-0.7
DCZ				SN	Sb	08 01 08.4	-0.5
DCZ				AML	AML	08 01 10.1	
DCZ				AML	AML	08 01 10.1	
DCZ				AML	AML	08 01 11.2	
WHZ	**Wether Hill Ro**	**1.40**	**85**	PN	Pn	08 01 01.4	+0.1
WHZ				SN	Sb	08 01 19.7	-0.6
WHZ				AML	AML	08 01 23.5	
APZ	**The Paps**	**1.63**	**121**	PN	Pn	08 01 03.8	-0.6
MLZ	**Mavora Lakes**	**1.70**	**67**	PN	Pn	08 01 06.4	+0.9
MLZ				AML	AML	08 01 33.7	
MLZ				AML	AML	08 01 34.4	
MSZ	**Milford Sound**	**1.94**	**47**	PN	Pb	08 01 10.6	-1.4
MSZ				AML	AML	08 01 49.5	
MSZ				AML	AML	08 01 50.9	
SYZ	**Scrubby Hill**	**2.27**	**104**	PN	Pn	08 01 14.8	+1.5
SYZ				SN	Sn	08 01 42.5	+2.1
WKZ	**Wanaka**	**2.47**	**62**	PN	Pb	08 01 19.3	-1.8
EAZ	**Earnscleugh**	**2.49**	**73**	PN	Pn	08 01 18.6	+2.3
EAZ				AML	AML	08 01 43.1	
EAZ				AML	AML	08 01 53.0	
TUZ	**Tuapeka**	**2.57**	**90**	PN	Pn	08 01 19.5	+2.1
TUZ				AML	AML	08 01 52.3	
TUZ				AML	AML	08 01 54.5	
JCZ	**Jackson Bay**	**2.79**	**47**	PN	Pn	08 01 22.6	+2.1
JCZ				AML	AML	08 02 11.2	
JCZ				AML	AML	08 02 19.9	
LBZ	**Lake Benmore**	**3.41**	**63**	PN	Pn	08 01 30.0	+1.0
LBZ				AML	AML	08 02 11.5	
ODZ	**Otahua Downs**	**3.44**	**75**	PN	Pn	08 01 29.8	+0.5

MEX 22 08:09:08.6±0.6, 15°.24N×96°.03W, h24km±16km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.54**	**352**	*eP*	Pb	08 09 17.3	-2.2
HUIG				*i* S	Sb	08 09 24.8	-2.0
PNIG	**Pinotepa**	**2.33**	**300**	*eP*	Pn	08 09 43.8	-1.7
PNIG				*i* S	Sn	08 10 09.9	-3.4
TGIG		**3.19**	**61**	*eP*	Pn	08 09 54.9	-2.5
TGIG				*i* S	Sn	08 10 32.2	-2.5
PPM	**Popocatepetl**	**4.55**	**327**	*eP*	Pn	08 10 14.9	-1.7
PPM				*i* S	Sn	08 11 06.1	-3.1

IDC 22 08:12:21.1±2.0, 6°.15N×124°.90E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/24, mbtmp3.5/4, Error ellipse: s-maj=137.2km s-min=24.0km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**24.11**	**178**	P	P	08 17 38.6	-0.1
	1.1nm,0.6s,baz=6.3,slow=9.2,SNR=5.0						
WRA	**Warramunga Arr**	**27.54**	**161**	P	P	08 18 09.5	-0.3
	0.2nm,0.3s,baz=340,slow=9.6,SNR=13						
ASAR	**Alice Springs**	**30.91**	**164**	P	P	08 18 40.2	+0.4
	0.5nm,0.3s,baz=340,slow=8.0,SNR=8.9						
MKAR	**Makanchi Array**	**54.54**	**325**	P	P	08 21 51.0	-0.1
	0.2nm,0.5s,baz=127,slow=9.2,SNR=3.3						

NAO ***22*** *08:15:04.6±0.7, 65°.81N×23°.26E, ML3.5*
IDC ***22*** *08:15:04.8±0.7, 65°.82N×23°.16E, h0km, mb3.3/1, mb1 3.6/6, mb1mx3.3/30, mbtmp3.5/6, ML3.8/4, Error ellipse: s-maj=11.6km s-min=5.9km az=105.0*
CSEM ***22*** *08:15:05.6±0.1, 65°.85N×22°.93E, h10km, ML3.4, Error ellipse: s-maj=2.8km s-min=2.3km az=81.0*
ISCJB ***22*** *08:15:05.8±0.3, 65°.84N±0°.01×22°.95E±0°.04, h24km±3km, mb3.2/1, Error ellipse: s-maj=2.7km s-min=2.4km az=176.9*
HEL ***22*** *08:15:06.5±0.1, 65°.84N×22°.99E, h12km, ML3.4, ML3.1(UPP), ML3.5(BER)*
UPP ***22*** *08:15:06.5, 65°.84N×22°.91E, h11km, ML3.1*
BER ***22*** *08:15:06.2±3.1, 65°.81N×23°.06E, h0km±8km, MD3.7, ML3.5, ML3.5(NAO)*

ISC 22 08:15:05.0±1.0, 65°.85N±0°.02×22°.98E±0°.02, h15km±8km, n128, σ1ŝ70/224, 4C-6D, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KALU	**Kalix**	**0.16**	**86**	⇓*i*P		**Pb**	**08 15 10.1**	**+0.5**
KALU				*i* S		**Sb**	**08 15 12.6**	**-0.1**
KALU	**Kalix**	**0.16**	**86**	⇓P		**Pb**	**08 15 10.1**	**+0.5**
KALU				S		**Sb**	**08 15 12.6**	**-0.1**
SJUU	**Sjulsmark**	**0.66**	**240**	⇓*i*P		**Pg**	**08 15 18.3**	**+0.4**
SJUU				*i* S		**Sg**	**08 15 26.8**	**+0.1**
SJUU	**Sjulsmark**	**0.66**	**240**	⇓P		**Pg**	**08 15 18.3**	**+0.4**
SJUU				S		**Sg**	**08 15 26.7**	**+0.1**
ERTU	**Ertsjaerv**	**0.78**	**336**	⇑*i*P		**Pg**	**08 15 20.7**	**+0.6**
ERTU				*i* S		**Sg**	**08 15 31.2**	**+0.8**
ERTU	**Ertsjaerv**	**0.78**	**336**	P		**Pg**	**08 15 20.7**	**+0.6**
ERTU				S		**Sg**	**08 15 31.1**	**+0.8**
HARU	**Harads**	**0.88**	**292**	⇓*i*P		**Pg**	**08 15 22.5**	**+0.5**
HARU				*i* S		**Sg**	**08 15 34.0**	**+0.6**
HARU	**Harads**	**0.88**	**292**	P		**Pg**	**08 15 22.4**	**+0.5**
HARU				S		**Sg**	**08 15 34.0**	**+0.6**
PAJU	**Pajala**	**1.18**	**3**	⇑*e*P		**Pb**	**08 15 27.5**	**+0.4**
PAJU	**Pajala**	**1.18**	**3**	P		**Pb**	**08 15 27.5**	**+0.4**
LILU	**Lilltraesk**	**1.42**	**248**	⇓*e*P		**Pb**	**08 15 31.3**	**+0.2**
LILU				*e*S		**Sb**	**08 15 50.0**	**+1.0**
LILU	**Lilltraesk**	**1.42**	**248**	P		**Pb**	**08 15 31.3**	**+0.2**
LILU				S		**Sb**	**08 15 49.9**	**+1.0**
OUL	**Oulu**	**1.44**	**121**	*e*P		**Pb**	**08 15 31.8**	**+0.3**
OUL				*e*S		**Sb**	**08 15 49.2**	**-0.4**
OUL	**Oulu**	**1.44**	**121**	P		**Pb**	**08 15 31.7**	**+0.3**
OUL				S		**Sb**	**08 15 49.2**	**-0.4**
MASU	**Masugnsbyn**	**1.66**	**347**	⇑*e*P		**Pb**	**08 15 35.5**	**+0.2**
MASU	**Masugnsbyn**	**1.66**	**347**	P		**Pb**	**08 15 35.5**	**+0.2**
SVAU	**Svanoeiden**	**1.98**	**228**	*e*P		**Pb**	**08 15 39.9**	**-0.8**
SVAU	**Svanoeiden**	**1.98**	**228**	P		**Pb**	**08 15 39.8**	**-0.8**
SGF	**Sodankyl**	**2.14**	**40**	*e*P		**Pb**	**08 15 42.5**	**-0.8**
SGF				*e*SB		**Sb**	**08 16 11.0**	**+1.4**
SGF	**Sodankyl**	**2.14**	**40**	P		**Pb**	**08 15 42.5**	**-0.8**
UMAU	**Umeaa**	**2.20**	**207**	*e*P		**Pb**	**08 15 42.8**	**-1.7**
UMAU	**Umeaa**	**2.20**	**207**	P		**Pb**	**08 15 42.7**	**-1.7**
LANU	**Lannavaara**	**2.25**	**350**	*e*P		**Pb**	**08 15 44.2**	**-1.0**
LANU				*e*S		**Sb**	**08 16 12.9**	**+0.1**
LANU	**Lannavaara**	**2.25**	**350**	⇑P		**Pb**	**08 15 44.1**	**-1.1**
LANU				S		**Sb**	**08 16 12.9**	**+0.1**
SALU	**Saltoluokta**	**2.35**	**313**	*e*P		**Pb**	**08 15 45.3**	**-1.8**
SALU	**Saltoluokta**	**2.35**	**313**	P		**Pb**	**08 15 45.3**	**-1.8**
MSF	**Maaselka**	**2.49**	**86**	*e*P		**Pn**	**08 15 46.8**	**+1.8**
MSF				*e*S		**Sn**	**08 16 17.1**	**+2.0**
MSF	**Maaselka**	**2.49**	**86**	P		**Pn**	**08 15 46.7**	**+1.8**
MSF				S		**Sn**	**08 16 17.0**	**+2.0**
HEF	**Hetta**	**2.59**	**6**	*e*P		**Pn**	**08 15 48.6**	**+2.3**
HEF				*e*PB		**Pb**	**08 15 50.9**	**-0.1**
HEF				*e*S		**Sn**	**08 16 19.5**	**+2.0**
HEF				MSG			08 16 31.0	
	comp=Z,181nm,0.2s							
HEF	**Hetta**	**2.59**	**6**	P		**Pn**	**08 15 48.5**	**+2.3**
HEF				S		**Sn**	**08 16 19.4**	**+2.0**
KJN	**Kajaani**	**2.68**	**129**	*e*P		**Pn**	**08 15 49.4**	**+1.8**
KJN				*e*S		**Sn**	**08 16 21.5**	**+1.8**
KJN				*e*SB		**Sb**	**08 16 26.0**	**+0.8**
KJN				MSG			08 16 28.3	
	comp=Z,333nm,0.2s							
KJN	**Kajaani**	**2.68**	**129**	P		**Pn**	**08 15 49.3**	**+1.8**
KJN				S		**Sn**	**08 16 21.5**	**+1.8**
KU6	**Riekki**	**2.84**	**83**	*e*P		**Pn**	**08 15 51.6**	**+1.8**
KU6				*e*PG		**Pb**	**08 15 56.7**	**+1.4**
KU6				*e*S		**Sn**	**08 16 25.7**	**+2.1**
KU6				*e*SB		**Sb**	**08 16 31.1**	**+1.3**
KU6				MSG			08 16 32.5	
	comp=Z,210nm,0.2s							
KU6	**Riekki**	**2.84**	**83**	P		**Pn**	**08 15 51.5**	**+1.8**
KU6				S		**Sn**	**08 16 25.7**	**+2.1**
KTK1	**Kautokeino**	**3.18**	**2**	*e*P		**Pn**	**08 15 56.6**	**+2.2**
KTK1				*e*S		**Sn**	**08 16 33.6**	**+1.6**
KTK1				*e*Sg		**Sg**	**08 16 44.6**	**-2.4**
KTK1				AML	AML		08 16 49.1	
	comp=Z,662nm,0.7s							
KTK1	**Kautokeino**	**3.18**	**2**	*e*P		**Pn**	**08 15 56.6**	**+2.2**
KTK1				*e*S		**Sn**	**08 16 33.6**	**+1.6**
KTK1				*e*SG		**Sg**	**08 16 44.6**	**-2.4**
KTK1				AML	AML		08 16 49.1	
	comp=Z,662nm,0.7s							
KTK1	**Kautokeino**	**3.18**	**2**	P		**Pn**	**08 15 56.6**	**+2.2**
KTK1				S		**Sn**	**08 16 33.6**	**+1.6**
KTK1				*e*Sg		**Sg**	**08 16 44.6**	**-2.4**
	comp=Z,662nm,0.7s,SNR=90							
VRF	**Varrio**	**3.25**	**51**	*e*P		**Pn**	**08 15 56.6**	**+1.3**
VRF				*e*S		**Sn**	**08 16 34.4**	**+0.7**
VRF	**Varrio**	**3.25**	**51**	P		**Pn**	**08 15 56.6**	**+1.3**
VRF				S		**Sn**	**08 16 34.3**	**+0.7**
SUF	**Sumiainen**	**3.43**	**155**	*e*P		**Pn**	**08 15 59.9**	**+2.1**
SUF				*e*PG		**Pb**	**08 16 06.8**	**+1.4**
SUF				*e*S		**Sn**	**08 16 39.5**	**+1.3**
SUF				MSG			08 16 53.3	
	comp=Z,174nm,0.2s							
SUF	**Sumiainen**	**3.43**	**155**	P		**Pn**	**08 15 59.9**	**+2.1**
SUF				S		**Sn**	**08 16 39.5**	**+1.3**
MOR8	**Moi Rana**	**3.50**	**279**	*e*P		**Pn**	**08 15 58.1**	**-0.7**
MOR8				*e*Sg		**Sb**	**08 16 52.2**	**+3.4**
MOR8				AML	AML		08 16 54.9	
	comp=Z,234nm,0.5s							
MOR8	**Moi Rana**	**3.50**	**279**	*e*P		**Pn**	**08 15 58.1**	**-0.7**
MOR8				*e*SG		**Sb**	**08 16 52.2**	**+3.4**
MOR8				AML	AML		08 16 54.9	
	comp=Z,234nm,0.5s							
MOR8	**Moi Rana**	**3.50**	**279**	P		**Pn**	**08 15 58.1**	**-0.7**
STEI	**Steigen**	**3.70**	**308**	*e*Sg		**Sg**	**08 17 02.6**	**-0.9**
STEI				AML	AML		08 17 06.4	
	comp=Z,158nm,0.3s							
STEI	**Steigen**	**3.70**	**308**	*e*SG		**Sg**	**08 17 02.6**	**-0.9**
STEI				AML	AML		08 17 06.4	
	comp=Z,158nm,0.3s							
STEI	**Steigen**	**3.70**	**308**	Sg		**Sg**	**08 17 02.6**	**-0.9**
	comp=Z,158nm,0.3s							
KEF	**Keuruu**	**3.79**	**166**	*e*P		**Pn**	**08 16 05.0**	**+2.2**
KEF				*e*S		**Sn**	**08 16 47.7**	**+0.7**
KEF				*e*SB		**Sb**	**08 16 58.7**	**+1.6**
KEF	**Keuruu**	**3.79**	**166**	P		**Pn**	**08 16 04.9**	**+2.2**
KEF				S		**Sn**	**08 16 47.6**	**+0.7**
ARE0	**ARCESS Array S**	**3.83**	**13**	*e*P		**Pn**	**08 16 05.1**	**+1.8**
ARE0				*e*S		**Sn**	**08 16 48.5**	**+0.6**
ARE0	**ARCESS Array S**	**3.83**	**13**	*e*P		**Pn**	**08 16 05.1**	**+1.8**
ARE0				*e*P		Pb	08 16 05.2	-6.9
ARE0				*e*S		**Sn**	**08 16 48.0**	**0.0**
ARE0				*e*S		**Sn**	**08 16 48.5**	**+0.6**
ARE0	**ARCESS Array S**	**3.83**	**13**	P		**Pn**	**08 16 05.1**	**+1.8**
ARE0				S		**Sn**	**08 16 48.5**	**+0.6**
ARA0	**ARCESS Array S**	**3.83**	**13**	Pn		**Pn**	**08 16 05.2**	**+1.9**
	baz=191,slow=16							
ARA0				Sn		**Sn**	**08 16 48.0**	**+0.1**
	baz=191,slow=22							
ARA0				Lg	Lg		08 17 01.2	
	baz=186,slow=28							
ARA0	**ARCESS Array S**	**3.83**	**13**	Pn		**Pn**	**08 16 05.2**	**+1.9**
	baz=191,slow=16							
ARA0				Sn		**Sn**	**08 16 48.0**	**+0.1**
	baz=191,slow=22							
ARA0				Lg	Lg		08 17 01.2	
	baz=186,slow=28							
ARA0	**ARCESS Array S**	**3.83**	**13**	*e*P		**Pn**	**08 16 05.2**	**+1.9**
ARA0				*e*S		**Sn**	**08 16 48.0**	**+0.1**
ARA0				*e*SB		**Sb**	**08 17 01.2**	**+3.0**
ARA0	**ARCESS Array S**	**3.83**	**13**	P		**Pn**	**08 16 05.2**	**+1.9**
ARA0				S		**Sn**	**08 16 48.0**	**+0.1**
ARA0				Lg	Lg		08 17 01.2	
	baz=186,slow=26,SNR=5.5							
ARCES	**ARCESS Array B**	**3.83**	**13**	Pn		**Pn**	**08 16 05.2**	**+1.9**
	comp=Z,14nm,0.3s,baz=191,slow=14,SNR=625							
ARCES				Pg		**Pb**	**08 16 11.6**	**-0.6**
	comp=Z,25nm,0.3s,baz=194,slow=15,SNR=39							
ARCES				Sn		**Sn**	**08 16 48.3**	**+0.3**
	comp=Z,9.8nm,0.3s,baz=194,slow=18,SNR=5.2							
ARCES				Lg	Lg		08 17 02.8	
	comp=Z,23nm,0.3s,baz=193,slow=30,SNR=6.1							
FLOS	**Flostrand**	**3.94**	**282**	*e*P		**Pn**	**08 16 05.5**	**+0.6**
FLOS				*e*Sg		**Sg**	**08 17 09.1**	**-2.3**
FLOS				AML	AML		08 17 14.2	
	comp=Z,154nm,0.4s							
FLOS	**Flostrand**	**3.94**	**282**	*e*P		**Pn**	**08 16 05.5**	**+0.6**
FLOS				*e*SG		**Sg**	**08 17 09.1**	**-2.3**
FLOS				AML	AML		08 17 14.2	
	comp=Z,154nm,0.4s							
FLOS	**Flostrand**	**3.94**	**282**	P		**Pn**	**08 16 05.4**	**+0.6**
KAF	**Kangasniemi**	**4.03**	**157**	Sg		**Sb**	**08 17 08.2**	**+4.2**
KAF				MSG			08 17 08.2	
	comp=Z,192nm,0.4s							
KAF	**Kangasniemi**	**4.03**	**157**	*e*P		**Pn**	**08 16 08.8**	**+2.8**
KAF				*e*S		**Sn**	**08 16 53.7**	**+0.9**
KAF				*e*SG		**Sg**	**08 17 10.1**	**-4.0**
KAF	**Kangasniemi**	**4.03**	**157**	P		**Pn**	**08 16 08.8**	**+2.8**
KAF				S		**Sn**	**08 16 53.7**	**+0.9**
KONS	**Konsvik**	**4.05**	**284**	*e*P		**Pn**	**08 16 07.3**	**+1.0**
KONS				*e*S		**Sn**	**08 16 53.8**	**+0.3**
KONS				AML	AML		08 17 18.4	
	comp=Z,182nm,0.5s							
KONS	**Konsvik**	**4.05**	**284**	*e*P		**Pn**	**08 16 07.3**	**+1.0**
KONS				*e*S		**Sn**	**08 16 53.8**	**+0.3**
KONS				AML	AML		08 17 18.4	
	comp=Z,182nm,0.5s							
KONS	**Konsvik**	**4.05**	**284**	P		**Pn**	**08 16 07.3**	**+1.0**
KONS				S		**Sn**	**08 16 53.7**	**+0.3**
	comp=Z,182nm,0.5s							
STOK	**Stokkvaagen**	**4.08**	**281**	*e*P		**Pn**	**08 16 07.4**	**+0.7**
STOK				*e*S		**Sn**	**08 16 57.0**	**+2.8**
STOK	**Stokkvaagen**	**4.08**	**281**	*e*P		**Pn**	**08 16 07.4**	**+0.7**
STOK				*e*S		**Sn**	**08 16 57.0**	**+2.8**
STOK	**Stokkvaagen**	**4.08**	**281**	P		**Pn**	**08 16 07.4**	**+0.7**
STOK				S		**Sn**	**08 16 56.9**	**+2.8**
TRO	**Tromso**	**4.10**	**340**	*e*P		**Pn**	**08 16 09.0**	**+2.0**
TRO				*e*S		**Sn**	**08 16 56.7**	**+2.0**
TRO				AML	AML		08 17 18.9	
	comp=Z,354nm,0.6s							
TRO	**Tromso**	**4.10**	**340**	*e*P		**Pn**	**08 16 09.0**	**+2.0**
TRO				*e*S		**Sn**	**08 16 56.1**	**+1.4**
TRO	**Tromso**	**4.10**	**340**	P		**Pn**	**08 16 08.9**	**+1.9**
TRO				S		**Sn**	**08 16 56.0**	**+1.4**
KEV	**Kevo**	**4.21**	**19**	*e*P		**Pn**	**08 16 09.9**	**+1.3**
KEV				*e*S		**Sn**	**08 16 57.9**	**+0.5**
KEV				MSG			08 17 24.4	
	comp=Z,88nm,0.2s							
KEV	**Kevo**	**4.21**	**19**	P		**Pn**	**08 16 09.8**	**+1.3**
KEV				S		**Sn**	**08 16 57.9**	**+0.5**
APA0	**Apatity Array**	**4.35**	**62**	Pn		**Pn**	**08 16 11.2**	**+0.7**
	baz=259,slow=12							
APA0				Sn		**Sn**	**08 17 00.3**	**-0.4**
	baz=256,slow=28							
APA0				Lg	Lg		08 17 13.8	
APA0	**Apatity Array**	**4.35**	**62**	Pn		**Pn**	**08 16 11.2**	**+0.7**
	baz=259,slow=12							
APA0				Sn		**Sn**	**08 17 00.3**	**-0.4**
	baz=256,slow=28							
APA0				Lg	Lg		08 17 13.8	
APA0	**Apatity Array**	**4.35**	**62**	*e*P		**Pn**	**08 16 11.2**	**+0.7**
APA0				*e*S		**Sn**	**08 17 00.3**	**-0.4**
APA0				*e*SB		**Sb**	**08 17 13.8**	**+0.6**
APA0	**Apatity Array**	**4.35**	**62**	P		**Pn**	**08 16 11.1**	**+0.7**
APA0				S		**Sn**	**08 17 00.3**	**-0.4**
APA0				Lg	Lg		08 17 13.8	
FIA0	**FINESS Array S**	**4.63**	**161**	Pn		**Pn**	**08 16 16.5**	**+2.2**
	baz=343,slow=12							
FIA0				Sn		**Sn**	**08 17 08.7**	**+0.9**
	baz=347,slow=22							
FIA0				Lg	Lg		08 17 26.6	
	baz=348,slow=28							
FIA0	**FINESS Array S**	**4.63**	**161**	Pn		**Pn**	**08 16 16.5**	**+2.2**
	baz=343,slow=12							
FIA0				Sn		**Sn**	**08 17 08.7**	**+0.9**
	baz=347,slow=22							
FIA0				Lg	Lg		08 17 26.6	
	baz=348,slow=28							
FIA0	**FINESS Array S**	**4.63**	**161**	Sg		**Sn**	**08 17 10.3**	**+2.5**
FIA0				MSG			08 17 10.3	
	comp=Z,21nm,0.3s							
FIA0				Rg	Rg		08 17 27.0	
FIA0	**FINESS Array S**	**4.63**	**161**	*e*P		**Pn**	**08 16 16.7**	**+2.4**
FIA0				*e*S		**Sn**	**08 17 08.3**	**+0.5**
FIA0	**FINESS Array S**	**4.63**	**161**	Pn		**Pn**	**08 16 16.5**	**+2.2**
	baz=343,slow=12,SNR=50							
FIA0				S		**Sn**	**08 17 08.3**	**+0.5**
FIA0				Lg	Lg		08 17 26.5	
	baz=348,slow=26,SNR=1.8							
FINES	**FINESS Array B**	**4.63**	**161**	Pn		**Pn**	**08 16 16.6**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=348,slow=13,SNR=35							
FINES				Pg		**Pb**	**08 16 26.6**	**+0.8**
	comp=Z,4.2nm,0.3s,baz=350,slow=16,SNR=32							
FINES				Sn		**Sn**	**08 17 10.4**	**+2.6**
	comp=Z,10nm,0.3s,ba

comp=Z,28nm,0.7s
ISAL Salakas 10.43 170 *e*S **Sn** 08 19 33.5 **+3.4**
SNART Snartemo 10.52 232 *i* SG **Sn** 08 19 30.2 **-2.2**
SNART AML AML 08 19 35.1
comp=Z,26nm,0.5s
IIGN Ignalina 10.65 170 *e*S **Sn** 08 19 35.3 **-0.4**
IIGN AML AML 08 19 38.5
comp=Z,32nm,0.5s
IDID Didziasalis 10.73 168 *e*S **Sn** 08 19 34.7 **-2.8**
IDID AML AML 08 19 37.0
comp=Z,13nm,0.5s
COP Copenhagen 11.40 212 *i* SG 08 20 58.4
BSD Bornholm Skovb 11.46 204 *e*P **Pn** 08 17 46.8 **-1.2**
BSD *e*S Sn 08 19 47.0 -8.5
BSD AML AML 08 19 51.4
comp=Z,5.4nm,0.3s
BSD Bornholm Skovb 11.46 204 *i* P **Pn** 08 17 46.7 **-1.2**
BSD *e*S Sn 08 19 47.0 -8.5
MUD Monsted U'grnd 11.51 222 *e*SG **Sn** 08 20 01.1 **+4.5**
LLD Lille Linde 11.78 212 *e*SG Sn 08 20 11.1 +7.9
SPA0 Spitsbergen Ar 12.55 354 Pn **Pn** 08 18 02.0 **-0.6**
baz=162,slow=16
SPA0 Spitsbergen Ar 12.55 354 P **Pn** 08 18 02.0 **-0.6**
baz=162,slow=16
SPA0 Spitsbergen Ar 12.55 354 *e*P **Pn** 08 18 02.0 **-0.6**
SPA0 Spitsbergen Ar 12.55 354 P **Pn** 08 18 02.0 **-0.6**
GERES GERESS Array B 17.73 200 P **P** 08 19 12.1 **+0.2**
comp=Z,0.2nm,0.3s,baz=14,slow=12,SNR=8.2
AKTO Aktyubinsk 23.63 114 P **P** 08 20 14.9 **-0.3**
comp=Z,0.4nm,0.4s,baz=300,slow=8.1,SNR=2.1

NNC 22 08:30:55.0±3.6, 53°57N×86°57E, h0km, mb4.0, mpv3.6, 6C-1D, Error ellipse: s-maj=40.1km s-min=18.5km az=81.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**5.77**	**242**	⇑Pn	Pn	08 32 19.4	-2.3
	3.9nm,0.6s						
KURBB				⇑Lg	Lg	08 34 00.2	
	14nm,0.7s						
MK31	**Makanchi Array**	**7.32**	**204**	⇑Pn	Pn	08 32 46.2	+3.0
	2.7nm,0.7s,baz=27,slow=13,SNR=32						
MK31				⇑Sn	Sn	08 34 13.2	+6.2
	0.8nm,0.6s,baz=24,slow=27,SNR=2.8						
MK31				⇑Lg	Lg	08 34 49.0	
	2.6nm,0.8s						
BVA0	**Borovoye Array**	**9.71**	**273**	⇑Pn	Pn	08 33 17.4	+1.6
	2.0nm,0.7s,baz=68,slow=15,SNR=7.3						
BRVK	**Borovoye**	**9.76**	**274**	⇓Pn	Pn	08 33 16.7	+0.2
	4.0nm,0.7s						

CSEM 22 08:39:14.1, 45.89N×15.11E, h0km, ML0.7, After LJU
LJU 22 08:39:14.1, 45.89N×15.11E, h0km, ML0.7 Artificial, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEGS	**Legarje**	**0.16**	**68**	*i* Pg	Pg	08 39 16.9	-0.4
LEGS				*i* Sg	Sg	08 39 20.0	+0.7
LEGS	**Legarje**	**0.16**	**68**	*i* Pg	Pg	08 39 16.9	-0.3
LEGS				*i* Sg	Sg	08 39 20.0	+0.6
PDKS	**Podkum**	**0.19**	**337**	*i* Pg	Pg	08 39 17.4	-0.4
PDKS				*i* Sg	Sg	08 39 20.7	+0.3
PDKS							
	comp=Z,13nm,0.3s						
PDKS	**Podkum**	**0.19**	**337**	*i* Pg	Pg	08 39 17.4	-0.4
PDKS				*i* Sg	Sg	08 39 20.7	+0.3
	comp=Z,13nm,0.3s						
VISS	**Visnje**	**0.20**	**246**	*i* Pg	Pg	08 39 18.0	-0.1
VISS				*i* Sg	Sg	08 39 21.4	+0.6
VISS							
	comp=Z,26nm,0.4s						
VISS	**Visnje**	**0.20**	**246**	*i* Pg	Pg	08 39 18.0	-0.1
VISS				*i* Sg	Sg	08 39 21.4	+0.7
	comp=Z,26nm,0.4s						
BOJS	**Bojanci**	**0.40**	**165**	*i* Sg	Sg	08 39 27.4	+0.5
BOJS							
	comp=Z,13nm,0.4s						
BOJS	**Bojanci**	**0.40**	**165**	*i* Sg	Sg	08 39 27.4	+0.5
	comp=Z,13nm,0.4s						

NNC 22 08:54:54.1±4.4, 39°26N×73°06E, h0km, mb3.8, mpv3.2, 4C-2D, Error ellipse: s-maj=35.9km s-min=21.7km az=179.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**4.13**	**27**	⇑Pn	Pn	08 55 58.3	-0.4
	1.6nm,0.5s						
TKM2				⇓Sn	Sn	08 56 48.0	+0.1
	4.2nm,0.8s						
KK31	**Karatay Array**	**4.29**	**334**	Pn	Pn	08 56 03.9	+3.2
	3.7nm,0.5s,baz=129,slow=12,SNR=75						
KK31				⇑Sn	Sb	08 56 57.9	-4.9
	1.2nm,0.3s,baz=135,slow=18,SNR=5.8						
AB31	**Akbulak array**	**13.70**	**321**	⇓Pn	Pn	08 58 07.1	-2.4
	0.8nm,0.6s,baz=130,slow=13,SNR=6.0						
BVA0	**Borovoye Array**	**13.89**	**353**	⇑Pn	Pn	08 58 14.1	+2.0
	1.4nm,0.5s,baz=171,slow=9.4,SNR=7.7						
AKTO	**Aktyubinsk**	**15.41**	**321**	⇑Pn	Pn	08 58 29.1	-3.6
	1.2nm,0.8s						

WEL 22 09:01:06.8±0.4, 45.37S×166.16E, h12km, ML4.8/23, Error ellipse: s-maj=3.0km s-min=1.7km az=90.0
IDC 22 09:01:07.5±0.8, 45.32S×166.24E, h0km, mb4.0/4, mb1 4.3/6, mb1mx4.0/16, mbtmp4.1/6, ML4.0/2, MS3.8/2, Ms1 3.8/2, ms1mx3.2/26, Error ellipse: s-maj=27.5km s-min=22.1km az=177.0
ISCJB 22 09:01:08.8±0.6, 45.40S±0.05×166.32E±0.06, h15km, mb4.4/7, MS4.1/3, Error ellipse: s-maj=6.8km s-min=5.9km az=31.3
NEIC 22 09:01:12.4, 45.55S×166.60E, h5km, mb4.6/1, ML4.8(WEL), After WEL.
BJI 22 09:01:12.4, 45.60S×166.60E, h5km, mB5.2/1, mb5.3/2, Ms5.0/1
ISC 22 09:01:09.6±0.6, 45°41S±0.05×166°40E±0.05, h15km, n70, σ1°63/73, mb4.4/7, MS3.8/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.54**	**98**	Pg	**Pg**	**09 01 19.9**	**-0.4**
DCZ	**Deep Cove**	**0.54**	**98**	P*	**Pg**	**09 01 19.8**	**-0.4**
DCZ				S*	**Sb**	**09 01 28.1**	**-0.2**
DCZ				AML	AML	09 01 34.7	
WHZ	**Wether Hill Ro**	**1.19**	**115**	P*	**Pn**	**09 01 30.3**	**-1.4**
WHZ	**Wether Hill Ro**	**1.19**	**115**	PN	**Pn**	**09 01 30.8**	**-0.9**
WHZ				AML	AML	09 01 59.2	
WHZ				AML	AML	09 02 00.7	
MLZ	**Mavora Lakes**	**1.25**	**88**	P*	**Pn**	**09 01 31.6**	**-1.0**
MLZ	**Mavora Lakes**	**1.25**	**88**	PN	**Pn**	**09 01 31.6**	**-1.0**
MLZ				AML	AML	09 01 58.5	
MLZ				AML	AML	09 02 00.9	
MSZ	**Milford Sound**	**1.31**	**56**	P*	**Pn**	**09 01 33.0**	**-0.3**
MSZ	**Milford Sound**	**1.31**	**56**	PN	**Pn**	**09 01 33.6**	**+0.3**
MSZ				AML	AML	09 02 06.5	
MSZ				AML	AML	09 02 06.6	
MSZ				AML	AML	09 02 09.5	
MSZ				AML	AML	09 02 09.5	
APZ	**The Paps**	**1.80**	**143**	Pn	**Pn**	**09 01 39.8**	**-0.4**
APZ	**The Paps**	**1.80**	**143**	PN	**Pn**	**09 01 39.8**	**-0.4**
APZ				SN	**Sb**	**09 02 04.2**	**-0.6**
WKZ	**Wanaka**	**1.94**	**74**	Pn	**Pb**	**09 01 44.3**	**-0.4**
WKZ	**Wanaka**	**1.94**	**74**	PN	**Pb**	**09 01 44.4**	**-0.3**
WKZ				AML	AML	09 02 27.8	
WKZ				AML	AML	09 02 27.8	
WKZ				AML	AML	09 02 28.6	
WKZ				AML	AML	09 02 28.7	
EAZ	**Earnscleugh**	**2.06**	**86**	Pn	**Pb**	**09 01 46.0**	**-0.7**
EAZ	**Earnscleugh**	**2.06**	**86**	PN	**Pb**	**09 01 46.0**	**-0.7**
EAZ				AML	AML	09 02 20.0	
EAZ				AML	AML	09 02 20.0	
EAZ				AML	AML	09 02 22.0	
EAZ				AML	AML	09 02 22.0	
JCZ	**Jackson Bay**	**2.15**	**52**	Pn	**Pn**	**09 01 46.4**	**+1.5**
JCZ	**Jackson Bay**	**2.15**	**52**	PN	**Pn**	**09 01 46.4**	**+1.5**
JCZ				AML	AML	09 02 31.1	
JCZ				AML	AML	09 02 33.4	
SYZ	**Scrubby Hill**	**2.22**	**122**	Pn	**Pn**	**09 01 47.3**	**+1.4**
SYZ	**Scrubby Hill**	**2.22**	**122**	PN	**Pn**	**09 01 47.3**	**+1.4**
TUZ	**Tuapeka**	**2.33**	**105**	Pn	**Pb**	**09 01 50.3**	**-1.0**
TUZ	**Tuapeka**	**2.33**	**105**	PN	**Pb**	**09 01 50.1**	**-1.2**
TUZ				AML	AML	09 02 30.0	
TUZ				AML	AML	09 02 30.4	
LBZ	**Lake Benmore**	**2.88**	**71**	Pn	**Pn**	**09 01 55.9**	**+1.0**
LBZ	**Lake Benmore**	**2.88**	**71**	PN	**Pn**	**09 01 55.4**	**+0.5**
LBZ				AML	AML	09 02 55.1	
LBZ				AML	AML	09 02 55.9	
HHSZ	**Highcliff Hill**	**2.98**	**101**	PN	**Pn**	**09 01 58.4**	**+2.0**
FOZ	**Fox Glacier**	**2.99**	**53**	Pn	**Pb**	**09 02 01.2**	**-1.3**
FOZ	**Fox Glacier**	**2.99**	**53**	PN	**Pb**	**09 02 01.2**	**-1.3**
FOZ				AML	AML	09 02 59.1	
FOZ				AML	AML	09 03 00.7	
ODZ	**Otahua Downs**	**3.02**	**85**	*e*Pn	**Pn**	**09 01 58.0**	**+1.1**
ODZ				*e*Sn	**Sn**	**09 02 36.2**	**+3.4**
ODZ	**Otahua Downs**	**3.02**	**85**	PN	**Pn**	**09 01 57.2**	**+0.3**
ODZ				AML	AML	09 02 52.4	
ODZ				AML	AML	09 02 52.4	
ODZ				AML	AML	09 02 53.7	
ODZ				AML	AML	09 02 53.7	
RPZ	**Rata Peaks**	**3.73**	**65**	Pn	**Pn**	**09 02 06.7**	**-0.1**
RPZ				Sn	**Sn**	**09 02 53.2**	**+2.9**
RPZ	**Rata Peaks**	**3.73**	**65**	Pn	**Pn**	**09 02 06.6**	**-0.1**
	25nm,0.3s,baz=216,slow=6.3,SNR=56						
RPZ				Sn	**Sn**	**09 02 53.2**	**+2.9**
	27nm,0.3s,baz=359,slow=19,SNR=3.0						
RPZ	**Rata Peaks**	**3.73**	**65**	PN	**Pn**	**09 02 06.6**	**-0.1**
RPZ				AML	AML	09 03 24.4	
RPZ				AML	AML	09 03 34.6	
WVZ	**Waitaha Valley**	**3.89**	**55**	Pn	**Pn**	**09 02 08.7**	**-0.1**
WVZ	**Waitaha Valley**	**3.89**	**55**	PN	**Pn**	**09 02 11.9**	**+3.1**
WVZ				AML	AML	09 03 17.7	
WVZ				AML	AML	09 03 41.8	
MQZ	**McQueen's Vall**	**4.78**	**71**	Pn	**Pn**	**09 02 21.0**	**-0.1**
MQZ	**McQueen's Vall**	**4.78**	**71**	PN	**Pn**	**09 02 21.3**	**+0.2**
MQZ				AML	AML	09 03 57.1	
MQZ				AML	AML	09 04 01.0	
LTZ	**Lake Taylor**	**4.98**	**60**	Pn	**Pn**	**09 02 25.5**	**+1.7**
LTZ	**Lake Taylor**	**4.98**	**60**	PN	Pn	09 02 27.3	+3.5
LTZ				AML	AML	09 04 11.8	
LTZ				AML	AML	09 04 14.7	
DSZ	**Denniston Nort**	**5.37**	**49**	Pn	**Pn**	**09 02 29.1**	**0.0**
DSZ	**Denniston Nort**	**5.37**	**49**	PN	**Pn**	**09 02 29.2**	**0.0**
THZ	**Tophouse**	**5.96**	**55**	Pn	**Pn**	**09 02 38.2**	**+0.8**
THZ	**Tophouse**	**5.96**	**55**	PN	**Pn**	**09 02 37.9**	**+0.5**
THZ				AML	AML	09 04 03.3	
THZ				AML	AML	09 04 11.1	
NNZ	**Nelson**	**6.59**	**53**	Pn	**Pn**	**09 02 48.9**	**+2.9**
NNZ	**Nelson**	**6.59**	**53**	PN	Pn	09 02 52.3	+6.4
NNZ				AML	AML	09 04 59.7	
NNZ				AML	AML	09 05 01.6	
URZ	**Urewera**	**10.71**	**52**	Pn	**Pn**	**09 03 44.8**	**+2.4**
URZ				Sn	**Sn**	**09 05 37.9**	**-4.1**
URZ	**Urewera**	**10.71**	**52**	PN	**Pn**	**09 03 44.8**	**+2.4**
	0.4nm,0.3s,baz=194,slow=4.2,SNR=2.9						
URZ				Sn	**Sn**	**09 05 37.9**	**-4.1**
	0.3nm,0.3s,baz=41,slow=5.1,SNR=0.9						
OUZ	**Omahuta**	**11.56**	**31**	*e*Pn	Pn	09 03 57.8	+3.8
	32nm,0.6s						
EIDS	**Eidsvold**	**23.50**	**323**	*e*P	**P**	**09 06 19.9**	**+1.0**
	28nm,1.4s						
ASAR	**Alice Springs**	**34.10**	**299**	P	**P**	**09 07 52.9**	**-0.8**
ASAR	**Alice Springs**	**34.10**	**299**	P	**P**	**09 07 52.9**	**-0.8**
	2.3nm,1.1s,baz=158,slow=8.4,SNR=8.3						
WRA	**Warramunga Arr**	**36.65**	**303**	P	**P**	**09 08 13.4**	**-2.2**
WRA	**Warramunga Arr**	**36.65**	**303**	P	**P**	**09 08 13.4**	**-2.2**
	2.7nm,1.1s,baz=139,slow=8.3,SNR=8.6						
PMG	**Port Moresby**	**39.51**	**329**	LR	LR	09 22 22.4	
	comp=Z,116nm,19.6s,baz=209,slow=32						
QSPA	**South Pole Qui**	**44.72**	**180**	P	**P**	**09 09 22.8**	**+0.9**
QSPA	**South Pole Qui**	**44.72**	**180**	P	**P**	**09 09 22.8**	**+0.9**
	0.9nm,0.8s,baz=18,slow=3.2,SNR=4.3						
QSPA				LR	LR	09 25 56.1	
	comp=Z,103nm,19.4s,baz=32,slow=33						
CMAR	**Chiang Mai Arr**	**88.11**	**299**	P	**P**	**09 14 01.2**	**+1.6**
CMAR	**Chiang Mai Arr**	**88.11**	**299**	P	**P**	**09 14 01.2**	**+1.6**
	0.6nm,0.3s,baz=162,slow=3.2,SNR=4.2						
KMI	**Kunming**	**90.94**	**306**	P	P	09 14 23.8	+11
KMI				pmax	pmax		
	comp=Z,12nm,0.6s						
CD2	**Chengdu**	**94.85**	**310**	*e*P	P	09 14 38.0	+7.3
CD2				pP	pP	09 14 42.8	+7.0
CD2				sP	sP	09 14 45.8	+8.3
CD2				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CD2				pmax	pmax		
	comp=Z,40nm,6.8s						
HHC	**Hu-ho-hao-te**	**98.90**	**321**	*e*P	Pdif	09 14 55.3	+6.4
HHC				pP	pP	09 14 58.5	+4.6
HHC				sP	sP	09 15 02.3	+6.6
HHC				PP	PP	09 18 59.9	+8.7
HHC				S	**ScS**	**09 26 23.8**	**+5.3**
HHC				sS	sS	09 26 31.8	+5.0
HHC				SS	SS	09 33 16.8	+10
HHC				LR	LR		
	comp=N,150nm,16.7s						
HHC				LR	LR		
	comp=E,190nm,17.8s						
KURBB	**Kurchatov Arra**	**122.04**	**311**	PKP	**PKPdf**	**09 20 00.4**	**-2.2**
	comp=E,0.4nm,0.3s,baz=132,slow=2.2,SNR=5.2						
KURK	**Kurchatov**	**122.04**	**311**	PKP	**PKPdf**	**09 20 00.4**	**-2.2**
BRTR	**Keskin Array B**	**145.15**	**278**	PKPbc	**PKPab**	**09 20 46.5**	**+0.6**
BRTR	**Keskin Array B**	**145.15**	**278**	PKPbc	**PKPab**	**09 20 46.5**	**+0.6**
	comp=E,2.7nm,1.0s,baz=134,slow=5.3,SNR=9.4						
TORD	**Torodi Ar. Bea**	**145.32**	**207**	PKPbc	**PKPbc**	**09 20 46.3**	**-0.5**
TORD	**Torodi Ar. Bea**	**145.32**	**207**	PKPbc	**PKPbc**	**09 20 46.3**	**-0.5**
	comp=E,4.1nm,0.6s,baz=149,slow=2.5,SNR=29						
SCHQ	**Schefferville**	**145.37**	**55**	PKPbc	**PKPbc**	**09 20 45.2**	**-0.7**
SCHQ	**Schefferville**	**145.37**	**55**	PKPbc	**PKPbc**	**09 20 45.2**	**-0.7**
	comp=E,1.2nm,0.8s,baz=252,slow=9.6,SNR=2.9						
ARCES	**ARCESS Array B**	**148.94**	**335**	PKPbc	**PKPbc**	**09 20 56.1**	**+0.6**
ARCES	**ARCESS Array B**	**148.94**	**335**	PKPbc	**PKPbc**	**09 20 56.1**	**+0.6**
	comp=E,3.4nm,0.8s,baz=40,slow=2.1,SNR=8.4						
FINES	**FINESS Array B**	**152.00**	**319**	PKPbc	**PKPbc**	**09 21 02.0**	**-1.0**
FINES				PKPab	**PKPab**	**09 21 11.8**	**-0.7**
FINES	**FINESS Array B**	**152.00**	**319**	PKPbc	**PKPbc**	**09 21 02.0**	**-1.0**
	comp=E,0.8nm,0.6s,baz=93,slow=9.7,SNR=2.7						
FINES				PKPab	**PKPab**	**09 21 11.8**	**-0.7**
	comp=E,2.3nm,0.8s,baz=95,slow=4.4,SNR=3.7						

IDC 22 09:08:13.7±1.1, 45.32S×166.35E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.7/15, mbtmp3.8/3, ML4.3/1, MS3.9/2, Ms1 3.9/2, ms1mx2.9/19, Error ellipse: s-maj=33.3km s-min=28.4km az=162.0
ISCJB 22 09:08:14.6±0.9, 45.33S±0.07×166.27E±0.08, h15km, mb3.5/2, MS3.9/2, Error ellipse: s-maj=10.3km s-min=8.1km az=174.1
WEL 22 09:08:14.1±0.2, 45.39S×166.29E, h28km±1km, ML4.4/17, Error ellipse: s-maj=2.3km s-min=1.2km az=90.0
ISC 22 09:08:15.4±0.9, 45°38S±0.07×166°37E±0.06, h15km, n23, σ1°07/23, 1C, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.56**	**100**	P*	**Pg**	**09 08 26.1**	**-0.4**
DCZ				S*	**Sb**	**09 08 34.9**	**0.0**
DCZ				AML	AML	09 08 40.7	
DCZ				AML	AML	09 08 41.1	
DCZ				AML	AML	09 08 41.2	
WHZ	**Wether Hill Ro**	**1.22**	**115**	⇑Pn	**Pn**	**09 08 37.0**	**-1.0**
WHZ				AML	AML	09 09 01.2	
WHZ				AML	AML	09 09 05.0	
MLZ	**Mavora Lakes**	**1.27**	**89**	PN	**Pn**	**09 08 38.0**	**-0.8**
MLZ				SN	**Sg**	**09 08 57.9**	**+1.3**
MLZ				AML	AML	09 09 00.2	
MSZ	**Milford Sound**	**1.31**	**58**	PN	**Pb**	**09 08 39.5**	**-0.3**
MSZ				AML	AML	09 09 07.7	
MSZ				AML	AML	09 09 10.2	
MSZ				AML	AML	09 09 12.6	
MSZ				AML	AML	09 09 12.9	
APZ	**The Paps**	**1.84**	**143**	PN	**Pn**	**09 08 46.4**	**-0.1**
WKZ	**Wanaka**	**1.96**	**75**	PN	**Pb**	**09 08 50.5**	**-0.3**
WKZ				AML	AML	09 09 29.8	
WKZ				AML	AML	09 09 29.9	
WKZ				AML	AML	09 09 31.3	
WKZ				AML	AML	09 09 34.5	
EAZ	**Earnscleugh**	**2.08**	**87**	PN	**Pb**	**09 08 51.3**	**-1.6**
EAZ				AML	AML	09 09 20.7	
EAZ				AML	AML	09 09 24.0	
EAZ				AML	AML	09 09 35.6	
EAZ				AML	AML	09 09 39.2	
JCZ	**Jackson Bay**	**2.15**	**53**	PN	**Pb**	**09 08 54.2**	**+0.1**
JCZ				AML	AML	09 09 32.2	
JCZ				AML	AML	09 09 36.3	
SYZ	**Scrubby Hill**	**2.25**	**122**	PN	**Pn**	**09 08 53.6**	**+1.4**
TUZ	**Tuapeka**	**2.36**	**105**	PN	**Pb**	**09 08 56.3**	**-1.3**
TUZ				AML	AML	09 09 28.9	
TUZ				AML	AML	09 09 30.0	
FOZ	**Fox Glacier**	**2.99**	**54**	AML	AML	09 10 02.4	
FOZ				AML	AML	09 10 05.3	
HHSZ	**Highcliff Hill**	**3.01**	**101**	PN	**Pn**	**09 09 04.4**	**+1.8**
ODZ	**Otahua Downs**	**3.04**	**85**	PN	**Pn**	**09 09 03.5**	**+0.5**
ODZ				AML	AML	09 09 42.2	
ODZ				AML	AML	09 09 43.5	
RPZ	**Rata Peaks**	**3.74**	**65**	Pn	**Pn**	**09 09 12.9**	**+0.3**
	22nm,0.3s,baz=214,slow=5.4,SNR=28						
RPZ				Sn	**Sn**	**09 09 56.6**	**+0.2**
	11nm,0.3s,baz=187,slow=13,SNR=3.5						
WVZ	**Waitaha Valley**	**3.90**	**55**	PN	**Pb**	**09 09 21.1**	**-2.7**
WVZ				AML	AML	09 10 22.9	
WVZ				AML	AML	09 10 24.4	
URZ	**Urewera**	**10.71**	**52**	Pn	Pn	09 10 51.2	+3.0
	0.2nm,0.3s,baz=277,slow=16,SNR=1.8						
URZ				Sn	**Sn**	**09 12 48.4**	**+0.6**
	0.1nm,0.3s,baz=198,slow=23,SNR=0.7						
ASAR	**Alice Springs**	**34.06**	**299**	P	**P**	**09 14 59.1**	**-0.1**
	0.7nm,1.0s,baz=129,slow=8.4,SNR=4.6						
NWAO	**Narrogin (SRO)**	**39.50**	**271**	LR	LR	09 28 18.7	
	comp=Z,144nm,18.2s,baz=104,slow=30						
QSPA	**South Pole Qui**	**44.74**	**180**	P	**P**	**09 16 28.9**	**+1.0**
	0.5nm,0.7s,baz=350,slow=12,SNR=4.4						
PPT	**Papeete**	**45.90**	**67**	LR	LR	09 30 06.4	
	comp=Z,174nm,21.8s,baz=352,slow=29						
BRTR	**Keskin Array B**	**145.12**	**278**	PKPbc	**PKPdf**	**09 27 51.5**	**-0.5**
	0.7nm,0.8s,baz=116,slow=6.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**145.33**	**207**	PKPbc	**PKPdf**	**09 27 52.6**	**-0.3**
	1.9nm,0.5s,baz=147,slow=2.7,SNR=30						
ARCES	**ARCESS Array B**	**148.91**	**335**	PKPbc	**PKPbc**	**09 28 01.8**	**+0.6**
	1.8nm,0.9s,baz=43,slow=2.3,SNR=5.2						

IDC 22 09:10:00.6±2.4, 26.64N×55.85E, h0km, mb3.6/9, mb1 3.7/9, mb1mx3.6/29, mbtmp3.6/9, Error ellipse: s-maj=56.3km s-min=26.0km az=152.0
ISCJB 22 09:10:02.9±1.2, 26.9N±0.1×55.65E±0.05, h12km, mb3.5/9, Error ellipse: s-maj=16.8km s-min=5.3km az=165.8
KISR 22 09:10:04.8±0.6, 27.12N×55.30E, h34km±999km, ML3.4
CSEM 22 09:10:06.7±1.4, 27.02N×55.61E, h2km, ML3.4, Error ellipse: s-maj=49.3km s-min=8.3km az=165.0
ISC 22 09:10:04.9±1.5, 27.0N±0.2×55.73E±0.06, h12km, n18, σ1°17/25, mb3.6/9, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.57**	**44**	*e*Pg	**Pg**	**09 10 17.5**	**+0.6**
BNDS				*e*Sg	**Sb**	**09 10 25.8**	**+0.7**
GHIR	**Ghir-Karzin**	**2.75**	**299**	*e*Pn	**Pb**	**09 10 53.6**	**-0.6**
KRBR	**Kerman**	**3.12**	**17**	*e*Pn	**Pb**	**09 10 58.5**	**-2.0**
RDF	**Al-Radifah**	**7.48**	**287**	*e*P	**Pn**	**09 11 55.8**	**+1.9**
RDF				*e*S	**Sn**	**09 13 18.5**	**-0.3**
RDF				AML	AML	09 13 20.2	
	comp=Z,7.4nm,0.3s						
RDF	**Al-Radifah**	**7.48**	**287**	*e*P	**Pn**	**09 11 55.8**	**+1.9**
RDF				*e*S	**Sn**	**09 13 18.5**	**-0.3**
NAY	**Al-Naaiem**	**7.82**	**289**	*e*P	**Pn**	**09 11 59.9**	**+1.3**
NAY				AML	AML	09 13 26.5	
	comp=Z,3.9nm,0.5s						
NAY				*e*S	**Sn**	**09 13 26.7**	**-0.4**
NAY	**Al-Naaiem**	**7.82**	**289**	*e*P	**Pn**	**09 11 59.9**	**+1.3**
NAY				*e*S	**Sn**	**09 13 26.7**	**-0.4**
MIB	**Mutribah**	**7.90**	**293**	*e*P	**Pn**	**09 12 01.4**	**+1.7**
MIB				*e*S	**Sn**	**09 13 28.9**	**-0.1**
MIB				AML	AML	09 13 31.0	
	comp=Z,6.7nm,0.5s						
MIB	**Mutribah**	**7.90**	**293**	*e*P	**Pn**	**09 12 01.4**	**+1.7**
MIB				*e*S	**Sn**	**09 13 28.9**	**-0.1**
BRTR	**Keskin Array B**	**22.33**	**310**	P	**P**	**09 15 03.9**	**+1.2**
	comp=Z,6.6nm,0.7s,baz=130,slow=13,SNR=2.5						
AKTO	**Aktyubinsk**	**23.48**	**4**	P	**P**	**09 15 15.1**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=202,slow=11,SNR=2.8						
BVAR	**Borovoye Array**	**28.21**	**19**	P	**P**	**09 15 57.8**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=222,slow=9.7,SNR=2.4						
MKAR	**Makanchi Array**	**28.79**	**40**	P	**P**	**09 16 02.9**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=240,slow=11,SNR=2.3						
ZALV	**Zalesovo Beam**	**34.41**	**31**	P	**P**	**09 16 51.2**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=242,slow=8.1,SNR=4.7						
FINES	**FINESS Array B**	**39.78**	**338**	P	**P**	**09 17 37.5**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=131,slow=8.1,SNR=4.6						
ARCES	**ARCESS Array B**	**46.07**	**346**	P	**P**	**09 18 28.9**	**+0.6**
	comp=Z,1.2nm,0.9s,baz=125,slow=5.6,SNR=3.2						
TORD	**Torodi Ar. Bea**	**52.23**	**266**	P	**P**	**09 19 14.4**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=66,slow=7.0,SNR=8.5						
ILAR	**Eielson Array**	**86.86**	**10**	P	**P**	**09 22 47.9**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=322,slow=5.1,SNR=5.1						

IDC 22 09:11:44.7±1.3, 2.21S×99.93E, h0km, mb4.0/13, mb1 4.2/13, mb1mx4.0/26, mbtmp4.1/13, MS3.0/1, Ms1 3.0/1, ms1mx2.1/35, Error ellipse: s-maj=43.8km s-min=17.9km az=52.0
*ISCJB 22 09:11:46.8±0.6, 2.31S±0.06×99.89E±0.07, h30km, mb4.1/13, Error ellipse: s-maj=10.2km s-min=9.1

	1.5nm,0.6s							
AKTO	**Aktyubinsk**	**63.61**	**331**	P	**P**	**09 22 16.7**	**-0.2**
AKTO	**Aktyubinsk**	**63.61**	**331**	P	**P**	**09 22 16.7**	**-0.2**
	0.7nm,0.4s,baz=115,slow=6.7,SNR=2.7							
BRTR	**Keskin Array B**	**73.51**	**313**	P	**P**	**09 23 18.9**	**-0.2**
BRTR	**Keskin Array B**	**73.51**	**313**	P	**P**	**09 23 18.9**	**-0.2**
	0.5nm,0.6s,baz=95,slow=4.8,SNR=2.8							
ARCES	**ARCESS Array B**	**86.75**	**340**	P	**P**	**09 24 28.9**	**-0.8**
ARCES	**ARCESS Array B**	**86.75**	**340**	P	**P**	**09 24 28.9**	**-0.8**
	2.0nm,0.8s,baz=91,slow=4.9,SNR=5.7							
MIAR	**Mount Ida**	**145.53**	**20**	*e*PKPbc	**PKPab**	**09 31 25.2**	**+0.2**
JCT	**Junction City**	**146.30**	**32**	*e*PKPbc	**PKPab**	**09 31 27.8**	**-0.3**

IDC 22 09:12:11.5±2.4, 6°52S×133°16E, h0km, mb3.5/1, mb1 3.9/4, mb1mx3.7/18, mbtmp3.7/4, ML3.7/3, Error ellipse: s-maj=78.4km s-min=25.7km az=86.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.39**	**175**	Pn	Pn	09 15 23.2	+0.2
	0.4nm,0.3s,baz=354,slow=13,SNR=14						
WRA				Sn	Sn	09 17 51.0	-1.7
	0.4nm,0.3s,baz=354,slow=24,SNR=6.8						
FITZ	**Fitzroy Crossi**	**13.65**	**212**	Pn	Pn	09 15 28.2	+1.8
	0.3nm,0.3s,baz=35,slow=14,SNR=4.2						
FITZ				Sn	Sn	09 17 57.9	-1.0
	0.3nm,0.3s,baz=208,slow=19,SNR=2.7						
ASAR	**Alice Springs**	**17.06**	**178**	Pn	Pn	09 16 11.8	+0.1
	0.2nm,0.3s,baz=359,slow=12,SNR=12						
MKAR	**Makanchi Array**	**69.58**	**325**	P	P	09 23 22.4	-0.1
	0.3nm,0.6s,baz=112,slow=6.4,SNR=2.5						

IDC 22 09:20:58.0±2.1, 33°97N×49°79E, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.5/27, mbtmp3.7/5, ML3.0/1, MS2.5/1, Ms1 2.5/1, ms1mx2.0/37, Error ellipse: s-maj=48.8km s-min=27.1km az=159.0
THR 22 09:20:59.4±1.4, 34°50N×49°49E, h15km±12km, ML4.2
CSEM 22 09:21:00.0±0.1, 34°60N×49°50E, h2km, ML4.2, Error ellipse: s-maj=3.5km s-min=3.1km az=155.0
TEH 22 09:21:01.2, 34°62N×49°48E, h5km, ML4.2
ISC 22 09:20:59.9±1.4, 34°57N±0°03×49°48E±0°03, h1km±11km, n92, σ1s23/102, mb3.8/3, 4C, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAO	**Ashtian**	**0.45**	**93**	*e*Pg	**Pg**	**09 21 08.2**	**-0.4**
ASAO	**Ashtian**	**0.45**	**93**	*e*Pg	**Pg**	**09 21 08.2**	**-0.4**
IRAZ	**Razeghan**	**0.91**	**24**	*e*Pg	**Pg**	**09 21 16.2**	**-1.1**
IRAZ				*e*Sg	**Sg**	**09 21 29.2**	**+0.1**
IRAZ				*e*		09 21 37.4	
	comp=Z,55μm,0.2s						
IRAZ	**Razeghan**	**0.91**	**24**	*e*Pg	**Pg**	**09 21 16.2**	**-1.1**
IRAZ				*e*Sg	**Sg**	**09 21 29.2**	**+0.1**
KHMZ	**Khomeyn**	**0.92**	**154**	*e*Pg	Pg	09 21 15.5	-2.1
KHMZ				AML	AML	09 21 31.0	
	comp=N,8μm,0.3s						
IR5	**Iran Long-Peri**	**1.11**	**55**	*e*Pn	**Pg**	**09 21 19.6**	**-1.5**
IR5	**Iran Long-Peri**	**1.11**	**55**	*e*Pn	**Pg**	**09 21 19.6**	**-1.5**
IMHD	**Mahdasht**	**1.48**	**41⇑**	*e*Pn	**Pn**	**09 21 26.3**	**-1.5**
IMHD				*e*		09 21 27.0	
	comp=Z,69μm,0.1s						
IMHD	**Mahdasht**	**1.48**	**41⇑**	*e*Pn	**Pn**	**09 21 26.3**	**-1.5**
GHVR	**GHOM**	**1.50**	**93**	*e*Pn	**Pn**	**09 21 26.9**	**-1.2**
GHVR				AML	AML	09 21 51.6	
	comp=E,5μm,0.4s						
GHVR	**GHOM**	**1.50**	**93**	*e*Pg	**Pn**	**09 21 26.9**	**-1.2**
IR3	**Iran Long-Peri**	**1.56**	**54**	*e*Pn	**Pn**	**09 21 27.6**	**-1.2**
IR3				*e*Sg	**Sn**	**09 21 48.0**	**-1.7**
IR3	**Iran Long-Peri**	**1.56**	**54**	*e*Pn	**Pn**	**09 21 27.6**	**-1.2**
IR3				*e*Sg	**Sn**	**09 21 48.0**	**-1.7**
IKOM	**Komasi**	**1.68**	**257**	*e*Pn	**Pn**	**09 21 29.6**	**-0.9**
IKOM				*e*		09 22 00.5	
	comp=Z,46μm,0.2s						
IKOM	**Komasi**	**1.68**	**257**	*e*Pn	**Pn**	**09 21 29.6**	**-0.9**
THKV	**Tehran--Karaj**	**1.76**	**40**	*e*Pg	**Pn**	**09 21 32.0**	**+0.2**
THKV				AML	AML	09 21 58.1	
	comp=E,2μm,0.3s						
THKV	**Tehran--Karaj**	**1.76**	**40**	*e*Pg	**Pn**	**09 21 32.0**	**+0.2**
IVRN	**Varamin**	**1.90**	**77⇑**	*e*Pn	**Pn**	**09 21 33.2**	**-0.3**
IVRN				*e*Sg	**Sb**	**09 22 00.2**	**+0.6**
IVRN				*e*		09 22 02.5	
	comp=Z,33μm,0.2s						
IVRN	**Varamin**	**1.90**	**77⇑**	*e*Pn	**Pn**	**09 21 33.2**	**-0.3**
IVRN				*e*Sg	**Sb**	**09 22 00.2**	**+0.6**
IGZV	**Ghazvin**	**1.91**	**18**	*e*Pn	**Pn**	**09 21 33.7**	**-0.1**
IGZV				*e*Sg	**Sb**	**09 21 59.9**	**-0.2**
IGZV				*e*		09 22 04.0	
	comp=Z,17μm,0.2s						
IGZV	**Ghazvin**	**1.91**	**18**	*e*Pn	**Pn**	**09 21 33.7**	**-0.1**
IGZV				*e*Sg	**Sb**	**09 21 59.9**	**-0.2**
ILIN	**Lien**	**2.10**	**280**	*e*Pn	**Pn**	**09 21 36.9**	**+0.4**
ILIN				*e*		09 22 11.0	
	comp=N,36μm,0.2s						
ILIN	**Lien**	**2.10**	**280**	*e*Pn	**Pn**	**09 21 36.9**	**+0.4**
IKLH	**Kolahrood**	**2.15**	**125**	*e*Pn	**Pn**	**09 21 36.6**	**-0.5**
IKLH				*e*		09 22 15.7	
	comp=Z,16μm,0.1s						
IKLH	**Kolahrood**	**2.15**	**125**	*e*Pn	**Pn**	**09 21 36.6**	**-0.5**
IVIS	**Veis**	**2.17**	**269**	*e*Pn	**Pn**	**09 21 37.6**	**+0.3**
IVIS				*e*		09 22 13.2	
	comp=Z,15μm,0.3s						
IVIS	**Veis**	**2.17**	**269**	*e*Pn	**Pn**	**09 21 37.6**	**+0.3**
ZNJK	**Zanjan**	**2.19**	**343**	*e*Pn	**Pn**	**09 21 38.7**	**+1.0**
ZNJK	**Zanjan**	**2.19**	**343**	*e*Pn	**Pn**	**09 21 38.7**	**+1.0**
IPIR	**Pirpir**	**2.22**	**148**	*e*Pn	**Pn**	**09 21 39.1**	**+0.9**
IPIR				*e*		09 22 14.3	
	comp=Z,17μm,0.2s						
IPIR	**Pirpir**	**2.22**	**148**	*e*Pn	**Pn**	**09 21 39.1**	**+0.9**
ISFB	**Sefidab**	**2.29**	**95**	*e*Pn	**Pn**	**09 21 39.4**	**+0.4**
ISFB				*e*		09 22 14.9	
	comp=Z,21μm,0.2s						
ISFB	**Sefidab**	**2.29**	**95**	*e*Pn	**Pn**	**09 21 39.4**	**+0.4**
DAMV	**Damavand**	**2.30**	**62**	*e*Pn	**Pn**	**09 21 39.3**	**+0.1**
DAMV	**Damavand**	**2.30**	**62**	*e*Pn	**Pn**	**09 21 39.3**	**+0.1**
IDMV	**Damavand**	**2.32**	**64**	*e*Pn	**Pn**	**09 21 39.6**	**+0.1**
IDMV				*e*		09 22 14.8	
	comp=Z,13μm,0.2s						
IDMV	**Damavand**	**2.32**	**64**	*e*Pn	**Pn**	**09 21 39.6**	**+0.1**
IGHG	**Ghaleghazi**	**2.42**	**265**	*e*Pn	**Pn**	**09 21 41.1**	**+0.3**
IGHG				*e*		09 22 20.7	
	comp=Z,23μm,0.3s						
IGHG	**Ghaleghazi**	**2.42**	**265**	*e*Pn	**Pn**	**09 21 41.1**	**+0.3**
IDHR	**Dehrash**	**2.55**	**274**	*e*Pn	**Pn**	**09 21 43.1**	**+0.5**
IDHR				*e*		09 22 25.5	
	comp=Z,16μm,0.1s						
IDHR	**Dehrash**	**2.55**	**274**	*e*Pn	**Pn**	**09 21 43.1**	**+0.5**
IPRN	**Peran**	**2.87**	**54**	*e*Pn	**Pn**	**09 21 48.1**	**+1.2**
IPRN				*e*Sg	**Sg**	**09 22 30.3**	**-1.8**
IPRN				*e*		09 22 36.5	
	comp=Z,8μm,0.2s						
IFIR	**Firoozkooh**	**2.89**	**67**	*e*Pn	**Pn**	**09 21 47.3**	**0.0**
IFIR				*e*		09 22 30.1	
	comp=Z,10μm,0.2s						
IFIR	**Firoozkooh**	**2.89**	**67**	*e*Pn	**Pn**	**09 21 47.3**	**0.0**
IZEF	**Zefreh**	**2.91**	**124**	*e*	Sg	09 22 40.9	+7.6
	comp=Z,4μm,0.2s						
ILAS	**Lasjerd**	**2.97**	**73**	*e*Pn	**Pn**	**09 21 48.6**	**+0.2**
ILAS				*e*		09 22 57.5	
	comp=Z,7μm,0.3s						
ILAS	**Lasjerd**	**2.97**	**73**	*e*Pn	**Pn**	**09 21 48.6**	**+0.2**
IGAR	**Gharneh**	**3.04**	**135**	*e*Pn	**Pn**	**09 21 52.0**	**+2.6**
IGAR				*e*		09 22 45.7	
	comp=Z,5μm,0.1s						
IALA	**Alasht**	**3.11**	**60**	*e*Pn	**Pn**	**09 21 50.9**	**+0.5**
IALA				*e*		09 22 38.9	
	comp=Z,7μm,0.3s						
IALA	**Alasht**	**3.11**	**60**	*e*Pn	**Pn**	**09 21 50.9**	**+0.5**
IBDR	**Badra**	**3.29**	**245**	*e*Pn	**Pn**	**09 21 54.0**	**+1.4**
IBDR				*e*Sn	**Sn**	**09 22 30.0**	**-2.5**
ISHM	**Shahmirzad**	**3.36**	**67**	*e*Pn	**Pn**	**09 21 53.8**	**0.0**
ISHM				*e*Sg	**Sb**	**09 22 44.4**	**+2.6**
ISHM	**Shahmirzad**	**3.36**	**67**	*e*Pn	**Pn**	**09 21 53.8**	**0.0**
ISHM				*e*Sg	**Sb**	**09 22 44.4**	**+2.6**
ISRB	**Sarab**	**3.56**	**336**	*e*Pn	**Pn**	**09 21 56.3**	**-0.2**
ISRB				*e*		09 22 05.6	
	comp=Z,2μm,0.1s						
ISRB				*e*Sg	**Sb**	**09 22 50.1**	**+2.5**
ISRB	**Sarab**	**3.56**	**336**	*e*Pn	**Pn**	**09 21 56.3**	**-0.2**
ISRB				*e*Sg	**Sb**	**09 22 50.1**	**+2.5**
IANJ	**Anjilo**	**3.75**	**75**	*e*Pn	**Pn**	**09 21 58.9**	**-0.2**
IANJ				*e*		09 23 07.4	
	comp=Z,3μm,0.2s						
IANJ	**Anjilo**	**3.75**	**75**	*e*Pn	**Pn**	**09 21 58.9**	**-0.2**
IKIA	**Kiasar**	**3.80**	**63**	*e*Pn	**Pn**	**09 21 59.8**	**-0.1**
IKIA				*e*		09 23 14.7	
	comp=Z,1μm,0.3s						
IKIA	**Kiasar**	**3.80**	**63**	*e*Pn	**Pn**	**09 21 59.8**	**-0.1**
IAZR	**Azarshahr**	**4.20**	**319**	*e*		09 22 22.4	
IAZR	comp=Z,2μm,0.2s			*e*Pn	**Pn**	**09 22 05.2**	**-0.1**
IHRS	**Heris**	**4.22**	**333**	*e*Pn	**Pn**	**09 22 05.3**	**-0.3**
IHRS	**Heris**	**4.22**	**333**	*e*Pn	**Pn**	**09 22 05.3**	**-0.3**
ISAD	**Sadrabad**	**4.41**	**126**	*e*Pn	**Pn**	**09 22 09.0**	**+0.7**
ISAD				*e*		09 23 39.8	
	comp=Z,2μm,0.3s						
ISAD	**Sadrabad**	**4.41**	**126**	*e*Pn	**Pn**	**09 22 09.0**	**+0.7**
BHD	**Baghdad**	**4.43**	**254**	*e*Pn	Pn	09 22 05.0	-3.3
BHD				*e*Sn	**Sn**	**09 22 56.0**	**-4.6**
BHD	**Baghdad**	**4.43**	**254**	*e*Pn	Pn	09 22 05.0	-3.3
BHD				*e*Sn	**Sn**	**09 22 56.0**	**-4.6**
ICHK	**Chekchek**	**4.73**	**118**	*e*Pn	**Pn**	**09 22 13.0**	**+0.4**
ICHK				*e*		09 22 29.7	
	comp=Z,2μm,0.2s						
ICHK	**Chekchek**	**4.73**	**118**	*e*Pn	**Pn**	**09 22 13.0**	**+0.4**
ISHB	**Shabestar**	**4.84**	**321**	*e*Pn	**Pn**	**09 22 13.8**	**-0.3**
ISHB				*e*		09 22 35.6	
	comp=Z,704nm,0.2s						
ISHB	**Shabestar**	**4.84**	**321**	*e*Pn	**Pn**	**09 22 13.8**	**-0.3**
MIB	**Mutribah**	**5.09**	**201**	*e*P	**Pn**	**09 22 17.6**	**+0.3**
MIB				AML	AML	09 23 16.5	
	comp=Z,26nm,0.5s						
MIB	**Mutribah**	**5.09**	**201**	*e*P	**Pn**	**09 22 17.6**	**+0.3**
UMR	**Umm Al-Rimmam**	**5.23**	**197**	*e*P	**Pn**	**09 22 19.2**	**0.0**
UMR	**Umm Al-Rimmam**	**5.23**	**197**	*e*P	**Pn**	**09 22 19.2**	**0.0**
IMEH	**Mehriz**	**5.36**	**125**	*e*Pn	**Pn**	**09 22 21.5**	**+0.3**
IMEH				*e*		09 24 00.1	
	comp=Z,726nm,0.3s						
IMEH	**Mehriz**	**5.36**	**125**	*e*Pn	**Pn**	**09 22 21.5**	**+0.3**
KBD	**Kabd**	**5.59**	**196**	*e*P	**Pn**	**09 22 24.3**	**0.0**
KBD				AML	AML	09 23 26.9	
	comp=Z,34nm,0.4s						
KBD	**Kabd**	**5.59**	**196**	*e*P	**Pn**	**09 22 24.3**	**0.0**
IPAR	**Pars**	**5.60**	**146**	*e*Pn	**Pn**	**09 22 25.6**	**+0.9**
IPAR				*e*		09 23 41.2	
	comp=Z,571nm,0.3s						
IPAR	**Pars**	**5.60**	**146**	*e*Pn	**Pn**	**09 22 25.6**	**+0.9**
NAY	**Al-Naaiem**	**5.64**	**200**	*e*P	**Pn**	**09 22 24.7**	**-0.2**
NAY				AML	AML	09 23 26.7	
	comp=Z,16nm,0.7s						
NAY	**Al-Naaiem**	**5.64**	**200**	*e*P	**Pn**	**09 22 24.7**	**-0.2**
IBAF	**Bafgh**	**5.91**	**119**	*e*Pn	**Pn**	**09 22 31.5**	**+2.7**
IBAF				*e*		09 24 58.4	
	comp=Z,358nm,0.3s						
IBAF	**Bafgh**	**5.91**	**119**	*e*Pn	**Pn**	**09 22 31.5**	**+2.7**
ISRV	**Sarvestan**	**6.03**	**148**	*e*Pn	**Pn**	**09 22 31.0**	**+0.5**
ISRV				*e*		09 23 50.6	
	comp=Z,544nm,0.2s						
ISRV	**Sarvestan**	**6.03**	**148**	*e*Pn	**Pn**	**09 22 31.0**	**+0.5**
GNI	**Garni**	**6.72**	**327**	Pn	Pb	09 22 52.0	-5.7
	comp=Z,1.4nm,0.3s,baz=353,slow=4.9,SNR=2.7						
GNI				Lg	Lg	09 24 40.2	
	comp=Z,1.3nm,0.3s,baz=305,slow=22,SNR=2.3						
BRTR	**Keskin Array B**	**13.64**	**297**	Pn	**Pn**	**09 24 17.7**	**+3.1**
	comp=Z,0.1nm,0.3s,baz=114,slow=18,SNR=2.9						
BVAR	**Borovoye Array**	**23.68**	**32**	P	**P**	**09 26 13.1**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=230,slow=11,SNR=4.7						
MKAR	**Makanchi Array**	**27.51**	**54**	P	**P**	**09 26 48.6**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=258,slow=7.2,SNR=4.7						
GERES	**GERESS Array B**	**29.97**	**309**	LR	LR	09 41 18.3	
	comp=Z,8.3nm,20.6s,baz=99,slow=40						
TORD	**Torodi Ar. Bea**	**48.10**	**256**	P	**P**	**09 29 40.6**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=64,slow=7.5,SNR=4.8						

ISCJB 22 09:51:40.3±1.4, 7°1N±0°1×72°9W±0°1, h176km±10km, mb3.0/1, Error ellipse: s-maj=19.8km s-min=15.6km az=37.0
FUNV 22 09:51:40.9, 6°98N×72°96W, h164km, MW3.5
IDC 22 09:51:45.1±4.9, 6°39N×74°44W, h192km±17km, mb2.8/1, mb1 3.2/1, mb1mx2.8/19, mbtmp2.8/1, Error ellipse: s-maj=262.3km s-min=37.3km az=77.0
ISC 22 09:51:40.3±1.4, 7°1N±0°1×72°9W±0°1, h172km±9km, n18, σ1s32/22, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**0.94**	**35**	*e*P	**Pn**	**09 52 06.9**	**-0.1**
CAPV				*e*S	Sn	09 52 27.3	-0.4
VIGV	**El Vigia**	**2.28**	**40**	*e*P	**Pn**	**09 52 21.7**	**+1.7**
VIGV				*e*S	**Sn**	**09 52 50.7**	**-0.1**
SOCV	**Socops**	**2.31**	**59**	*e*P	**Pn**	**09 52 21.3**	**+1.0**
SOCV				*e*S	**Sn**	**09 52 51.0**	**-0.3**
ROSC	**El Rosal**	**2.66**	**214**	P	Pn	09 52 18.5	-6.4
	26nm,0.3s,baz=273,slow=22,SNR=141						
ROSC				S	Sn	09 52 45.5	-14
	40nm,0.3s,baz=95,slow=20,SNR=12						
ELOV	**Elorza**	**3.34**	**91**	*e*P	**Pn**	**09 52 33.3**	**+0.5**
VIRV	**Villa del Rosa**	**3.42**	**7**	*e*P	**Pn**	**09 52 34.1**	**+0.3**
VIRV				*e*S	**Sn**	**09 53 13.5**	**-2.1**
CURV	**Curarigua**	**4.08**	**44**	*e*P	**Pn**	**09 52 43.9**	**+1.7**
DABV	**Dabajuro**	**4.39**	**30**	*e*P	**Pn**	**09 52 47.6**	**+1.4**
TEPV	**Terepaima**	**4.61**	**51**	*e*P	**Pn**	**09 52 50.1**	**+1.0**
SIQV	**Siquisique**	**4.64**	**40**	*e*P	**Pn**	**09 52 50.9**	**+1.4**
SIQV				*e*S	**Sn**	**09 53 42.0**	**-1.8**
BAUV	**El Baul**	**5.11**	**69⇓**	*e*P	**Pn**	**09 52 55.2**	**-0.3**
MAPV	**Macapo**	**5.13**	**58**	*e*P	**Pn**	**09 52 56.9**	**+1.1**
MONV	**Montecano**	**5.61**	**30**	*e*P	**Pn**	**09 53 02.8**	**+0.7**
BIRV	**Birongo**	**7.33**	**62**	*e*P	**Pn**	**09 53 24.7**	**-0.1**
CUPV	**Cœpira**	**7.58**	**67**	*e*P	**Pn**	**09 53 27.8**	**-0.4**
PDAR	**Pinedale Array**	**48.02**	**324**	P	**P**	**10 00 02.6**	**+0.2**
	0.4nm,0.9s,baz=134,slow=9.0,SNR=3.3						
ASAR	**Alice Springs**	**149.48**	**234**	PKPbc	**PKPdf**	**10 11 07.5**	**+2.2**
	0.4nm,0.5s,baz=115,slow=3.8,SNR=10.0						
WRA	**Warramunga Arr**	**150.70**	**241**	PKPbc	**PKPbc**	**10 11 10.8**	**-2.2**
	0.4nm,0.4s,baz=107,slow=2.9,SNR=16						

ISCJB 22 09:52:30.0±0.8, 23°93N±0°05×122°69E±0°02, h28km±7km, Error ellipse: s-maj=8.9km s-min=3.5km az=175.3
TAP 22 09:52:29.5, 23°95N×122°67E, h84km±2km, ML2.9, D
JMA 22 09:52:30.4±0.3, 24°01N×122°66E, h36km, M2.0
ISC 22 09:52:30.0±1.4, 23°94N±0°06×122°69E±0°03, h23km±15km, n25, σ0s70/29, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.59**	**29**	P	**Pb**	**09 52 41.6**	**-0.1**
YOJ				*e*S	**Sb**	**09 52 49.6**	**-0.1**
ENA	**Nanau**	**0.99**	**299**	*e*P	Pb	09 52 47.8	-0.7
	baz=306						
ENA				*e*S	**Sb**	**09 53 01.6**	**+0.3**
	baz=306						
TWD	**Chiawan**	**1.01**	**278**	*e*P	Pb	09 52 47.9	-1.0
	baz=284						
TWC	**Suao**	**1.02**	**311**	P	**Pb**	**09 52 48.6**	**-0.3**
	baz=311						
TWC				S	**Sn**	**09 53 02.2**	**-0.2**
	baz=311						
HATJ	**Hateruma jima**	**1.02**	**83**	P	**Pb**	**09 52 48.9**	**-0.1**
HATJ				*e*S	**Sb**	**09 53 02.2**	**+0.1**
IRIF	**Iriomote-Funau**	**1.02**	**67**	P	**Pn**	**09 52 49.0**	**0.0**
IRIF				*e*S	**Sn**	**09 53 02.7**	**+0.1**
ESL	**Shilin**	**1.16**	**264**	*e*P	Pn	09 52 49.7	-1.1
	baz=260						
TWE	**Neicheng**	**1.22**	**310**	*e*P	**Pb**	**09 52 52.3**	**0.0**
	baz=317						
JKRS	**Kuro-shima**	**1.24**	**76**	P	**Pn**	**09 52 52.1**	**+0.2**
JKRS				*e*S	**Sn**	**09 53 08.7**	**+0.8**
ENTT	**Nioudou**	**1.24**	**304**	*e*P	**Pn**	**09 52 52.0**	**0.0**
	baz=299						
NNS	**Nan Shan**	**1.30**	**293**	*e*P	**Pn**	**09 52 53.4**	**+0.5**
	baz=286						
WHF	**Hehuan Shan**	**1.32**	**279**	P	Pn	09 52 52.9	-0.6
	baz=278						
WHF				*e*S	**Sn**	**09 53 09.5**	**-1.0**
	baz=278						
EHY	**Hungye**	**1.33**	**251**	*e*P	Pn	09 52 52.4	-0.7
	baz=247						
EHY				*e*S	**Sn**	**09 53 08.9**	**-1.2**
	baz=247						
JIJ	**Ishigaki jima**	**1.39**	**72**	P	Pn	09 52 53.5	-0.5
JIJ				*e*S	**Sn**	**09 53 10.6**	**-1.0**
NWF	**Wu-fen Shan**	**1.40**	**324**	*e*P	Pn	09 52 52.6	-1.6
	baz=324						
TWF1	**Yuli**	**1.41**	**246**	*e*P	**Pn**	**09 52 53.8**	**-0.5**
	baz=244						
TWF1				*e*S	**Sn**	**09 53 11.3**	**-0.8**
	baz=244						
NSK	**Sanguang**	**1.42**	**301**	*e*P	**Pn**	**09 52 54.9**	**+0.4**
	baz=295						
NSK				*e*S	**Sn**	**09 53 12.2**	**-0.3**
	baz=295						
SMLT	**Sun Moon Lake**	**1.64**	**268**	*e*P	**Pn**	**09 52 58.4**	**+0.8**
	baz=263						
YUS	**Yu-Shan**	**1.66**	**255**	*e*P	**Pn**	**09 52 57.9**	**-0.2**
	baz=248						
TYC	**Yuchr**	**1.68**	**269**	*e*P	**Pn**	**09 52 58.3**	**+0.3**
	baz=268						
ELDTW	**Lidau**	**1.71**	**244**	*e*P	Pn	09 52 57.4	-1.1
	baz=243						
TWQ1	**Liyutan**	**1.80**	**283**	*e*P	**Pn**	**09 52 59.7**	**+0.1**
	baz=283						
CHN5	**Tsauling**	**1.88**	**260**	*e*P	Pn	09 52 59.8	-1.0
	baz=259						
CHN5				*e*S	**Sn**	**09 53 23.4**	**-0.3**
	baz=259						
CHN4	**Tsaushan**	**2.01**	**253**	*e*P	**Pn**	**09 53 04.2**	**+1.6**
	baz=252						
CHN4				*e*S	**Sn**	**09 53 28.7**	**+1.7**
	baz=252						
TWK	**Hsinying**	**2.13**	**252**	*e*P	**Pn**	**09 53 04.2**	**0.0**
	baz=250						

NNC 22 09:09:45.9±3.6, 39°27N×73°58E, h0km, mb4.6, mpv4.4, Error ellipse: s-maj=30.2km s-min=16.5km az=176.0
BJI 22 09:09:46.3, 39°39N×73°86E, h4km, mB4.2/1, mb4.1/4, ML3.7/3
IDC 22 09:09:46.9±0.8, 39°37N×74°02E, h0km, mb3.9/13, mb1 4.1/19, mb1mx4.0/31, mbtmp3.9/19, ML3.7/6, MS2.8/1, Ms1 2.8/1, ms1mx2.2/37, Error ellipse: s-maj=13.9km s-min=13.3km az=175.0
MOS 22 09:09:49.1±1.3, 39°32N×73°90E, h26km, mb4.3/14, Error ellipse: s-maj=10.4km s-min=5.0km az=90.9
ISC 22 10:09:51.2±0.4, 39°57N±0°05×74°18E±0°04, h28km, n88, σ2s15/79, mb4.0/19, 20C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.39**	**92**	Pg	Pn	10 10 11.3	-3.5
KSH				Sg	**Sn**	**10 10 28.5**	**-3.7**
KSH				smax	smax		
	comp=N,1μm,0.8s						
KSH				smax	smax		
	comp=E,1μm,0.9s						
AML	**Almayashu**	**2.59**	**352**	P	**Pb**	**10 10 34.5**	**-2.6**
	SNR=46						
KZA	**Kyzart**	**2.63**	**18**	*i* PN	**Pb**	**10 10 36.2**	**-1.7**
KZA	**Kyzart**	**2.63**	**18**	P	**Pb**	**10 10 36.2**	**-1.7**
	SNR=50						
UCH	**Uchtor**	**2.67**	**5**	*i* PN	**Pb**	**10 10 37.3**	**-1.2**
UCH	**Uchtor**	**2.67**	**5**	P	**Pb**	**10 10 37.3**	**-1.2**
	SNR=69						
AAK	**Ala-Archa**	**3.07**	**4c**	*i* PN	Pb	10 10 42.3	-2.9
AAK	**Ala-Archa**	**3.07**	**4**	P	Pb	10 10 42.4	-2.9
	SNR=37						
AAK	**Ala-Archa**	**3.07**	**4**	Pn	**Pb**	**10 10 42.7**	**-2.5**
	comp=E,19nm,0.3s,baz=168,slow=7.3,SNR=89						
AAK				Lg	Lg	10 11 25.6	
	comp=E,42nm,0.3s,baz=327,slow=20,SNR=17						
ULHL	**Ulahol**	**3.10**	**30**	P	**Pb**	**10 10 43.3**	**-2.4**
	SNR=23						
EKS2	**Erkin-Say**	**3.10**	**354**	*i* PN	**Pb**	**10 10 42.9**	**-2.8**
EKS2	**Erkin-Say**	**3.10**	**354**	P	**Pb**	**10 10 43.0**	**-2.8**
	SNR=66						
KBK	**Karagaybulak**	**3.14**	**10**	*i* PN	**Pb**	**10 10 43.7**	**-2.7**
KBK	**Karagaybulak**	**3.14**	**10**	P	**Pb**	**10 10 43.6**	**-2.7**
	SNR=57						
FRU	**Bishkek**	**3.28**	**6⇓**	*i* PN	**Pb**	**10 10 46.0**	**-2.6**
FRU				*i*		10 10 52.0	
FRU				*i*		10 11 34.0	
FRU				pmax	pmax		
	comp=N,330nm,1.0s						
FRU				pmax	pmax		
	comp=Z,230nm,1.0s						
FRU				smax	smax		
	comp=E,2μm,1.5s						
CHMS	**Chumysh**	**3.45**	**7**	*i* PN	Pb	10 10 47.9	-3.7
CHMS	**Chumysh**	**3.45**	**7**	P	Pb	10 10 47.9	-3.7
	SNR=

VOSK	**Vostochnaya**	**13.34**	**352**	⇓Pn		**Pn**	**10 12 56.6**	**-2.0**
	comp=Z,6.1nm,0.7s							
VOSK				⇓Lg		Lg	10 16 58.1	
	comp=Z,13nm,1.0s							
BVA0	**Borovoye Array**	**13.71**	**350**	Pn		**Pn**	**10 13 02.6**	**-0.9**
	comp=Z,16nm,0.8s,baz=313,slow=36,SNR=26							
BVA0				⇑Lg		Lg	10 17 04.1	
	comp=Z,13nm,0.9s,baz=167,slow=26,SNR=3.7							
BVA0	**Borovoye Array**	**13.71**	**350**	*i* P		**Pn**	**10 13 04.1**	**+0.6**
BVA0				pmax		pmax		
	comp=Z,16nm,0.8s							
BVAR	**Borovoye Array**	**13.71**	**350**	P		**Pn**	**10 13 03.4**	**-0.1**
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
BVAR	**Borovoye Array**	**13.71**	**350**	Pn		**Pn**	**10 13 03.4**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=154,slow=14,SNR=18							
BVAR				Lg		Lg	10 16 52.3	
	comp=Z,0.3nm,0.3s,baz=70,slow=40,SNR=2.0							
BRVK	**Borovoye**	**13.76**	**350**	*e*P		**Pn**	**10 13 05.8**	**+1.6**
BRVK				pmax		pmax		
	comp=Z,4.0nm,0.8s							
AB31	**Akbulak array**	**14.03**	**318**	⇑Pn		**Pn**	**10 13 06.0**	**-1.9**
	comp=Z,2.5nm,0.5s,baz=126,slow=14,SNR=72							
AB31				⇑Sn		Sn	10 15 35.0	-7.4
	comp=Z,4.4nm,0.8s,baz=126,slow=24,SNR=4.5							
AB31	**Akbulak array**	**14.03**	**318**	P		**Pn**	**10 13 06.2**	**-1.7**
AB31				pmax		pmax		
	comp=Z,2.0nm,0.4s							
AKTO	**Aktyubinsk**	**15.73**	**319**	⇑Pn		**Pn**	**10 13 30.2**	**-0.5**
	comp=Z,8.7nm,0.8s							
AKTO				⇓Sn		**Sn**	**10 16 21.1**	**-2.9**
	comp=Z,3.4nm,0.9s							
AKTO	**Aktyubinsk**	**15.73**	**319**	P		**Pn**	**10 13 29.8**	**-0.9**
AKTO							10 16 17.5	
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AKTO				MLR		MLR		
	comp=Z,40nm,21.7s							
AKTO	**Aktyubinsk**	**15.73**	**319**	Pn		**Pn**	**10 13 29.8**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=126,slow=14,SNR=32							
AKTO				Sn		**Sn**	**10 16 17.5**	**-6.5**
	comp=Z,0.1nm,0.3s,baz=340,slow=19,SNR=2.0							
AKTO				LR		LR	10 20 09.8	
	comp=Z,40nm,21.7s,baz=208,slow=39							
ZALV	**Zalesovo Beam**	**16.10**	**23**	P		**Pn**	**10 13 37.1**	**+1.8**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**16.10**	**23**	Pn		**Pn**	**10 13 37.1**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=211,slow=11,SNR=12							
NVS	**Novosibirsk**	**16.45**	**19**	*e*P		**P**	**10 13 42.0**	**-0.2**
NVS				pmax		pmax		
	comp=N,9.0nm,1.1s							
NVS				pmax		pmax		
	comp=Z,13nm,1.1s							
NVS				pmax		pmax		
	comp=E,2.0nm,0.6s							
BHPL	**Bhopal**	**16.51**	**169**	*ex*		Sn	10 16 32.0	-11
BOK	**Bokaro**	**18.59**	**144**	*e*S		**Sn**	**10 17 37.7**	**+4.2**
BOK				AML		AML	10 17 46.9	
	comp=N,13nm,0.3s							
BOK				AML		AML	10 17 51.2	
	comp=E,7.8nm,0.2s							
ARU	**Arti**	**19.76**	**334**	*c i* P		**P**	**10 14 18.7**	**0.0**
ARU				S		**Sn**	**10 17 59.9**	**-1.5**
ARU				pmax		pmax		
	comp=Z,21nm,1.7s							
GTA	**Gaotai**	**19.77**	**82**	*e*P		**Pn**	**10 14 22.8**	**+2.1**
GTA				pP		**pP**	**10 14 27.3**	**+0.6**
GTA				sP		**sP**	**10 14 29.9**	**-0.3**
GTA				pmax		pmax		
	comp=Z,6.0nm,0.9s							
MAK	**Makhachkala**	**20.31**	**288**	*e*P		Pn	10 14 31.2	+4.3
MAK				MLR		MLR		
	comp=Z,193nm,11.0s							
ZAK	**Zakamensk**	**23.11**	**53**	*e*P		**P**	**10 14 55.9**	**+1.1**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.0s							
KBZ	**Khabaz**	**23.67**	**290**	P		**P**	**10 15 03.6**	**+3.5**
KBZ				pmax		pmax		
	comp=Z,3.0nm,0.7s							
KBZ	**Khabaz**	**23.67**	**290**	P		**P**	**10 15 03.6**	**+3.5**
	comp=Z,2.8nm,0.7s,baz=68,slow=5.4,SNR=3.7							
KIV	**Kislovodsk**	**23.82**	**291**	*e*P		**P**	**10 14 59.9**	**-1.9**
KIV				*e*S		**S**	**10 19 13.2**	**-2.6**
KIV				pmax		pmax		
	comp=Z,3.0nm,0.6s							
KIV				MLR		MLR		
	comp=Z,13nm,14.0s							
SONM	**Songino Array**	**24.57**	**60**	P		**P**	**10 15 10.3**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=286,slow=10,SNR=3.2							
BRTR	**Keskin Array B**	**31.03**	**288**	P		**P**	**10 16 07.2**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=88,slow=7.8,SNR=4.1							
KIEV	**Kiev**	**33.13**	**305**	*e*P		**P**	**10 16 24.4**	**-0.3**
WHN	**Wuhan**	**33.86**	**93**	⇑P		**P**	**10 16 33.4**	**+2.1**
FINES	**FINESS Array B**	**36.44**	**323**	P		**P**	**10 16 53.5**	**+0.4**
	comp=Z,3.6nm,0.5s,baz=108,slow=10,SNR=18							
KAF	**Kangasniemi**	**36.51**	**324**	*e*p		**P**	**10 16 53.9**	**+0.2**
	comp=Z,1.2nm,0.4s							
KAF	**Kangasniemi**	**36.51**	**324**	*e*P		**P**	**10 16 53.9**	**+0.2**
KAF				pmax		pmax		
	comp=Z,1.0nm,0.4s							
STHS	**Stebnicka Huta**	**38.31**	**303**	*e*P		**P**	**10 17 09.6**	**+0.5**
STHS	**Stebnicka Huta**	**38.31**	**303**	*e*P		**P**	**10 17 09.6**	**+0.5**
KECS	**Kecovo**	**38.91**	**301**	*e*P		**P**	**10 17 13.7**	**-0.5**
KECS	**Kecovo**	**38.91**	**301**	*e*P		**P**	**10 17 13.7**	**-0.5**
ARCES	**ARCESS Array B**	**39.34**	**335**	P		**P**	**10 17 18.4**	**+0.9**
	comp=Z,2.8nm,0.7s,baz=113,slow=8.0,SNR=18							
VYHS	**Vyhne**	**39.99**	**302**	*e*P		**P**	**10 17 22.7**	**-0.6**
VYHS	**Vyhne**	**39.99**	**302**	*e*P		**P**	**10 17 22.6**	**-0.7**
YAK	**Yakutsk**	**40.01**	**37**	*i* P		**P**	**10 17 24.6**	**+1.5**
KSRS	**Korea Array**	**41.58**	**75**	P		**P**	**10 17 38.3**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=266,slow=9.3,SNR=3.1							
BRG	**Berggiesshubel**	**42.78**	**306**	*e*P		**P**	**10 17 48.1**	**+2.0**
	comp=Z,4.4nm,0.8s							
BRG	**Berggiesshubel**	**42.78**	**306**	*e*P		**P**	**10 17 48.1**	**+2.0**
BRG				pmax		pmax		
	comp=Z,4.0nm,0.8s							
GERES	**GERESS Array B**	**43.29**	**303**	P		**P**	**10 17 51.1**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=67,slow=10,SNR=8.9							
CLL	**Collm**	**43.30**	**307**	*e*P		**P**	**10 17 52.0**	**+1.8**
CLL				pmax		pmax		
	comp=Z,58nm,0.7s							
CLL	**Collm**	**43.30**	**307**	*e*(P)		**P**	**10 17 52.0**	**+1.8**
	comp=Z,6.0nm,0.7s							
NB2	**NORSAR Subarra**	**43.51**	**321**	P		**P**	**10 17 51.8**	**-0.1**
	comp=Z,4.1nm,0.6s,baz=90,slow=8.6							
NOA	**NORSAR Array B**	**43.51**	**321**	P		**P**	**10 17 52.0**	**+0.1**
	comp=Z,4.2nm,0.6s,baz=91,slow=7.9,SNR=23							
ESDC	**Sonseca Array**	**58.26**	**297**	P		**P**	**10 19 41.7**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=62,slow=6.6,SNR=4.1							
TORD	**Torodi Ar. Bea**	**68.28**	**269**	P		**P**	**10 20 48.8**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=51,slow=5.1,SNR=16							
ILAR	**Eielson Array**	**71.11**	**17**	P		**P**	**10 21 06.6**	**0.0**
	comp=Z,0.8nm,0.8s,baz=314,slow=4.7,SNR=8.8							
YKA	**Yellowknife Ar**	**78.04**	**4**	P		**P**	**10 21 47.5**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=346,slow=5.8,SNR=3.4							
WRA	**Warramunga Arr**	**81.56**	**124**	P		**P**	**10 22 06.8**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=329,slow=5.3,SNR=8.6							
ASAR	**Alice Springs**	**84.03**	**127**	P		**P**	**10 22 19.7**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=321,slow=4.6,SNR=9.2							

IDC 22 10:56:36.2±1.0, 33°65S×57°13E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/24, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=36.0km s-min=26.3km az=58.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OPO	**Ambohidratompo**	**17.45**	**327**	P		P	11 00 42.7	+0.1
	0.3nm,0.3s,baz=132,slow=16,SNR=2.3							
MAW	**Mawson**	**34.16**	**176**	P		P	11 03 23.2	+0.6
	1.5nm,0.8s,baz=353,slow=11,SNR=2.6							
QSPA	**South Pole Qui**	**56.52**	**180**	P		P	11 06 19.8	-0.3
	1.9nm,0.8s,baz=208,slow=2.1,SNR=15							
ASAR	**Alice Springs**	**66.73**	**104**	P		P	11 07 29.4	-0.1
	0.3nm,0.5s,baz=233,slow=6.4,SNR=7.5							
WRA	**Warramunga Arr**	**68.86**	**100**	P		P	11 07 43.1	+0.2
	0.8nm,0.9s,baz=241,slow=5.4,SNR=4.4							
TORD	**Torodi Ar. Bea**	**70.35**	**302**	P		P	11 07 51.7	-0.4
	0.5nm,0.9s,baz=152,slow=6.5,SNR=3.2							
ILAR	**Eielson Array**	**145.58**	**18**	PKPbc		PKPdf	11 16 14.6	-0.9
	0.4nm,0.8s,baz=332,slow=3.1,SNR=4.7							

IDC 22 11:05:30.6±5.2, 12°13N×93°87E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.5/27, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=120.4km s-min=39.3km az=103.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.97**	**37**	Pn		Pn	11 07 28.8	+0.9
	0.6nm,0.3s,baz=233,slow=15,SNR=7.5							
NWAO	**Narrogin (SRO)**	**50.05**	**154**	P		P	11 14 28.1	+0.8
	10nm,1.0s,baz=281,slow=5.2,SNR=3.8							
WRA	**Warramunga Arr**	**51.02**	**128**	P		P	11 14 34.2	-0.6
	0.4nm,0.5s,baz=314,slow=8.1,SNR=8.1							
ASAR	**Alice Springs**	**52.90**	**132**	P		P	11 14 48.3	-0.6
	0.4nm,0.4s,baz=310,slow=6.7,SNR=15							

MEX 22 11:12:18.3±0.6, 17°79N×101°52W, h35km±7km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.19**	**163**	*e*P		Pn	11 12 24.0	-2.2
ZIIG				*i* S		Sn	11 12 27.4	-5.3
ARIG	**Puente Sto Nin**	**1.22**	**66**	*i* P		Pn	11 12 37.1	-1.8
ARIG				*i* S		Sn	11 12 51.7	-2.5
CAIG	**El Cayaco**	**1.41**	**121**	*i* P		Pn	11 12 39.3	-2.1
CAIG				*i* S		Sn	11 12 56.8	-1.9
PLIG	**Platanillo**	**2.01**	**72**	*i* P		Pn	11 12 48.6	-1.3
PLIG				*i* S		Sn	11 13 11.9	-2.0
YAIG	**Yautepec**	**2.56**	**65**	*i* P		Pn	11 12 56.7	-0.9
YAIG				*i* S		Sn	11 13 25.9	-1.9

IDC 22 11:13:58.9±2.7, 8°22N×93°99E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/26, mbtmp3.4/3, ML4.0/1, Error ellipse: s-maj=91.0km s-min=32.2km az=68.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.26**	**25**	Pn		Pn	11 16 41.1	-0.1
	0.3nm,0.3s,baz=190,slow=21,SNR=3.6							
MKAR	**Makanchi Array**	**39.72**	**347**	P		P	11 21 33.0	-0.1
	0.3nm,0.4s,baz=159,slow=8.0,SNR=4.6							
ASAR	**Alice Springs**	**50.25**	**130**	P		P	11 22 57.2	-0.1
	0.2nm,0.7s,baz=298,slow=7.1,SNR=4.6							

IGQ 22 11:21:12.0, 2°42S×78°14W, h128km±35km, Mb4.0, Ms3.8, 3C-20D, Error ellipse: s-maj=4.3km s-min=1.7km az=2.9, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MACE	**Macas**	**0.17**	**340**	⇓S		Sn	11 21 42.2	-1.1
MACE	**Macas**	**0.17**	**340**	⇓P		Pn	11 21 29.6	-0.2
RIOE	**Riobamba**	**0.82**	**323**	P		Pn	11 21 38.8	+0.1
PAT1	**Patacocha**	**0.95**	**342**	⇓P		Pn	11 21 35.0	0.0
BPAT	**Tungurahua Vol**	**0.96**	**342**	⇓P		Pn	11 21 35.0	0.0
ARRY	**Arrayan**	**0.96**	**341**	⇓P		Pn	11 21 34.6	-0.3
BMAS	**Trigal station**	**0.97**	**339**	⇓P		Pn	11 21 34.9	-0.2
RETU	**Refugio**	**1.01**	**342**	⇓P		Pn	11 21 35.6	0.0
BULB	**Ulba Tungurahu**	**1.01**	**344**	⇓P		Pn	11 21 35.3	-0.1
BBIL	**Ulba Tungurahu**	**1.02**	**340**	⇓P		Pn	11 21 35.6	+0.1
BIL2	**Estacion Bilba**	**1.02**	**339**	P		Pn	11 21 35.8	+0.4
BRUN	**Tungurahua Vol**	**1.03**	**345**	⇓P		Pn	11 21 35.5	0.0
RUN5	**Runtun**	**1.04**	**344**	P		Pn	11 21 35.6	0.0
JUI6	**Juive**	**1.04**	**342**	⇓P		Pn	11 21 35.7	+0.1
IGUA	**Igualata**	**1.05**	**332**	P		Pn	11 21 36.1	+0.1
PISA	**Pisayambo**	**1.37**	**350**	⇑S		Sn	11 22 00.1	+0.1
PISA	**Pisayambo**	**1.37**	**350**	⇑P		Pn	11 21 39.8	+0.5
BMOR	**Cotopaxi Volca**	**1.71**	**349**	⇓P		Pn	11 21 44.0	+0.9
MOV1	**Cotopaxi Vol s**	**1.72**	**350**	⇑P		Pn	11 21 44.0	+0.6
TAMB	**Tambo**	**1.73**	**352**	⇓P		Pn	11 21 44.3	+1.0
ETAM	**Cotopaxi Volca**	**1.75**	**352**	⇓P		Pn	11 21 44.6	+1.0
COV1	**Cotopaxi Volc**	**1.76**	**353**	P		Pn	11 21 45.2	+1.3
BREF	**Cotopaxi Volca**	**1.76**	**350**	⇓P		Pn	11 21 45.1	+1.2
CAMI	**Rancho Maria**	**1.77**	**348**	P		Pn	11 21 45.1	+1.3
BNAS	**Cotopaxi Volca**	**1.77**	**349**	⇓P		Pn	11 21 44.7	+0.9
VC1	**Cotopaxi 1**	**1.79**	**351**	P		Pn	11 21 45.1	+1.0
NAS2	**Nasa**	**1.79**	**349**	⇓P		Pn	11 21 45.7	+1.6
PITA	**Cotopaxi Volc**	**1.87**	**351**	P		Pn	11 21 46.2	+1.2
ANTI	**Antisana**	**1.96**	**359**	⇓P		Pn	11 21 46.8	+0.6
ARNL	**Arenillas**	**2.23**	**240**	P		Pn	11 21 48.3	-0.4
ARNL	**Arenillas**	**2.23**	**240**	S		Sn	11 22 17.1	+0.3
JUA2	**San Juan 2**	**2.24**	**348**	⇑P		Pn	11 21 50.5	+1.0
GGP	**Refugio Guagua**	**2.28**	**348**	P		Pn	11 21 50.8	+0.7
TERV	**Terraza Guagua**	**2.28**	**348**	P		Pn	11 21 51.1	+1.1
PINO	**Pino**	**2.29**	**348**	P		Pn	11 21 51.2	+0.8
CHAR	**Charly**	**2.36**	**11**	P		Pn	11 21 51.5	+0.5
LAV4	**Lava4-Reventad**	**2.37**	**12**	P		Pn	11 21 51.0	+0.2
CONE	**Cono NE Rev Vo**	**2.39**	**12**	P		Pn	11 21 51.2	+0.1
CAYA	**Cayambe**	**2.48**	**3**	P		Pn	11 21 53.6	+1.0
OTAV	**Otavalo**	**2.66**	**353**	⇓P		Pn	11 21 56.3	+1.5
MAG1	**Magdalena**	**2.85**	**325**	P		Pn	11 21 56.6	-0.1
CHIS	**Cerro-Chispas-**	**2.92**	**298**	P		Pn	11 21 56.5	-1.1
JAMA	**Jama**	**2.98**	**316**	P		Pn	11 21 57.2	-1.2

*IDC **22** 11:42:52.1±2.3, 46°17S×166°23E, h0km, mb3.6/2, mb1 4.0/4, mb1mx3.8/16, mbtmp3.9/4, ML3.7/2, MS3.4/2, Ms1 3.4/2, ms1mx2.7/18, Error ellipse: s-maj=67.0km s-min=24.7km az=167.0*
*ISCJB **22** 11:42:53.1±0.9, 46°17S±0°08×166°03E±0°08, h12km, mb3.5/2, MS3.4/2, Error ellipse: s-maj=11.5km s-min=8.4km az=173.7*
*WEL **22** 11:42:55.3±0.4, 46°10S×166°07E, h32km±1km, ML4.3/17, Error ellipse: s-maj=4.2km s-min=1.6km az=90.0*

ISC 22 11:42:54.0±1.2, 46°14S±0°08×166°17E±0°07, h12km, n27, σ1§17/25, 1C-1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DCZ	**Deep Cove**	**0.96**	**46**	⇓PN		**Pg**	**11 43 12.4**	**-0.1**
DCZ				SN		**Sb**	**11 43 25.4**	**+0.2**
DCZ				AML		AML	11 43 27.8	
DCZ				AML		AML	11 43 30.8	
DCZ				AML		AML	11 43 30.8	
WHZ	**Wether Hill Ro**	**1.27**	**79**	PN		**Pb**	**11 43 17.8**	**0.0**
WHZ				AML		AML	11 43 37.0	
WHZ				AML		AML	11 43 37.6	
APZ	**The Paps**	**1.44**	**119**	PN		**Pn**	**11 43 19.4**	**-0.5**
MLZ	**Mavora Lakes**	**1.61**	**61**	PN		**Pb**	**11 43 23.5**	**-0.3**
MLZ				SN		**Sg**	**11 43 45.6**	**-0.4**
MLZ				AML		AML	11 43 51.3	
MSZ	**Milford Sound**	**1.92**	**41**	PN		**Pn**	**11 43 27.1**	**+0.6**
MSZ				AML		AML	11 44 05.3	
MSZ				AML		AML	11 44 05.3	
MSZ				AML		AML	11 44 09.2	
MSZ				AML		AML	11 44 09.2	
SYZ	**Scrubby Hill**	**2.10**	**102**	⇑PN		**Pn**	**11 43 29.3**	**+0.4**
EAZ	**Earnscleugh**	**2.38**	**69**	PN		**Pb**	**11 43 35.4**	**-1.4**
EAZ				AML		AML	11 44 10.8	
EAZ				AML		AML	11 44 12.6	
EAZ				AML		AML	11 44 12.6	
WKZ	**Wanaka**	**2.40**	**58**	PN		**Pb**	**11 43 35.9**	**-1.2**
WKZ				AML		AML	11 44 13.5	
WKZ				AML		AML	11 44 24.1	
WKZ				AML		AML	11 44 24.1	
TUZ	**Tuapeka**	**2.42**	**87**	PN		**Pn**	**11 43 34.6**	**+1.2**
TUZ				SN		**Sb**	**11 44 08.0**	**+0.8**
TUZ				AML		AML	11 44 11.3	
JCZ	**Jackson Bay**	**2.77**	**43**	PN		**Pb**	**11 43 41.3**	**-2.1**
JCZ				AML		AML	11 44 29.8	
JCZ				AML		AML	11 44 34.9	
HHSZ	**Highcliff Hill**	**3.10**	**87**	PN		**Pn**	**11 43 43.7**	**+0.9**
ODZ	**Otahua Downs**	**3.33**	**72**	PN		**Pn**	**11 43 46.0**	**+0.1**
ODZ				AML		AML	11 44 41.9	
ODZ				AML		AML	11 44 44.4	
ODZ				AML		AML	11 44 45.0	
LBZ	**Lake Benmore**	**3.34**	**60**	PN		**Pn**	**11 43 47.4**	**+1.4**
LBZ				AML		AML	11 44 48.9	
LBZ				AML		AML	11 44 56.9	
FOZ	**Fox Glacier**	**3.59**	**45**	PN		Pn	11 43 52.8	+3.3
FOZ				AML		AML	11 44 59.2	
FOZ				AML		AML	11 45 11.1	
RPZ	**Rata Peaks**	**4.24**	**57**	Pn		**Pn**	**11 43 58.6**	**+0.2**
	10nm,0.3s,baz=216,slow=3.9,SNR=16							
RPZ				Sn		**Sn**	**11 44 47.8**	**0.0**
	15nm,0.3s,baz=7.1,slow=18,SNR=8.5							
WVZ	**Waitaha Valley**	**4.48**	**48**	PN		Pn	11 44 05.5	+3.9
LTZ	**Lake Taylor**	**5.51**	**55**	PN		**Pn**	**11 44 18.3**	**+2.4**
DSZ	**Denniston Nort**	**5.99**	**45**	PN		**Pn**	**11 44 24.6**	**+2.1**
THZ	**Tophouse**	**6.54**	**50**	PN		**Pn**	**11 44 31.8**	**+1.7**
NNZ	**Nelson**	**7.18**	**49**	PN		Pn	11 44 42.6	+3.8
URZ	**Urewera**	**11.30**	**50**	Pn		**Pn**	**11 45 33.5**	**-1.8**
	0.2nm,0.3s,baz=157,slow=15,SNR=2.1							
URZ				Sn		Sn	11 47 33.6	-7.9
	0.3nm,0.3s,baz=175,slow=14,SNR=1.8							
ASAR	**Alice Springs**	**34.31**	**300**	P		**P**	**11 49 40.8**	**+0.3**
	0.6nm,0.7s,baz=131,slow=8.8,SNR=10.0							
WRA	**Warramunga Arr**	**36.92**	**304**	P		**P**	**11 50 02.8**	**-0.1**
	0.3nm,0.6s,baz=140,slow=8.1,SNR=5.1							
QSPA	**South Pole Qui**	**43.98**	**180**	LR		LR	12 06 01.5	
	comp=Z,54nm,21.0s,baz=322,slow=32							
USRK	**Ussuriysk Array**	**94.91**	**336**	LR		LR	12 34 55.7	
	comp=Z,14nm,20.5s,baz=167,slow=33							
TORD	**Torodi Ar. Bea**	**144.59**	**207**	PKP		PKPbc	12 02 29.4	+0.1
	0.4nm,0.7s,baz=164,slow=2.0,SNR=3.8							
ARCES	**ARCESS Array B**	**149.54**	**334**	PKPbc		**PKPbc**	**12 02 42.1**	**+0.2**
	1.2nm,0.9s,baz=70,slow=3.0,SNR=4.0							

IDC 22 12:11:36.0±1.2, 3°89N×126°87E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/23, mbtmp3.7/6, Error ellipse: s-maj=89.0km s-min=17.8km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.88**	**183**	P		P	12 16 30.0	-0.6
	0.7nm,0.6s,baz=9.2,slow=12,SNR=3.5							
WRA	**Warramunga Arr**	**24.79**	**163**	P		P	12 16 59.0	-0.8
	1.8nm,0.6s,baz=343,slow=10,SNR=20							
ASAR	**Alice Springs**	**28.23**	**166**	P		P	12 17 31.0	+0.2
	0.3nm,0.6s,baz=347,slow=7.3,SNR=11							
STKA	**Stephens Creek**	**38.22**	**160**	P		P	12 18 58.6	+0.8
	2.4nm,0.7s,baz=348,slow=11,SNR=5.5							
SONM	**Songino Array**	**47.20**	**341**	P		P	12 20 10.3	-0.4
	0.2nm,0.4s,baz=149,slow=12,SNR=3.4							
MKAR	**Makanchi Array**	**57.51**	**325**	P		P	12 21 27.2	+0.1
	0.5nm,0.4s,baz=120,slow=8.0,SNR=9.6							

*ISCJB **22** 12:32:50.5±1.0, 20°07S±0°03×70°56W±0°09, h42km±11km, mb4.2/1, MS3.1/1, Error ellipse: s-maj=14.5km s-min=5.6km az=4.9*
*NEIC **22** 12:32:51.1, 20°13S×70°44W, h43km, MG4.3(GUC), After GUC.*
NEIC Felt [II] at Alto Hospicio and Iquique.
*GUC **22** 12:32:51.1±1.1, 20°13S×70°44W, h43km±3km, ML4.3*
*IDC **22** 12:32:58.0±2.4, 20°17S×69°96W, h79km±20km, mb3.8/2, mb1 4.0/6, mb1mx3.6/21, mbtmp4.0/6, MS3.1/4, Ms1 3.1/4, ms1mx2.8/24, Error ellipse: s-maj=39.7km s-min=20.8km az=99.0*

ISC 22 12:32:50.7±1.5, 20°13S±0°04×70°51W±0°08, h26km±11km, n43, σ1§52/53, 4C-8D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HMBC	**Humberstone**	**0.61**	**105**	⇓*i* P		**Pb**	**12 33 03.0**	**+0.1**
HMBC				*i* S		**Sn**	**12 33 11.3**	**-1.6**
HMBC	**Humberstone**	**0.61**	**105**	⇓*i* P		**Pb**	**12 33 03.0**	**+0.1**
HMBC				*i* S		**Sn**	**12 33 11.3**	**-1.6**
HMBC				AML		AML	12 33 12.0	
	comp=N,17μm,0.5s							
PSGC	**Pisagua**	**0.64**	**35**	⇓*i* P		**Pb**	**12 33 03.0**	**-0.4**
PSGC				S		**Sb**	**12 33 11.7**	**-0.3**
PSGC	**Pisagua**	**0.64**	**35**	⇓*i* P		**Pb**	**12 33 03.0**	**-0.4**
PSGC				*e*S		**Sb**	**12 33 11.7**	**-0.3**
MNMC	**Minimini**	**1.31**	**41**	⇓*i* P		**Pn**	**12 33 13.9**	**+0.2**
MNMC				*e*S		**Sb**	**12 33 31.2**	**-0.3**
MNMC	**Minimini**	**1.31**	**41**	⇓*i* P		**Pn**	**12 33 13.9**	**+0.2**
MNMC				*e*S		**Sb**	**12 33 31.2**	**-0.3**
MNMC				AML		AML	12 33 34.9	
	comp=E,15μm,0.6s							
PB01	**Plate Boundary**	**1.33**	**134**	⇓*i* P		**Pn**	**12 33 13.9**	**+0.2**
PB01				*e*S		**Sb**	**12 33 30.9**	**-0.8**
PB01	**Plate Boundary**	**1.33**	**134**	⇓*i* P		**Pn**	**12 33 13.9**	**+0.2**
P

WHZ	**Wether Hill Ro**	**1.64**	**84**	PN	Pn	13 00 58.6	+1.0
WHZ				SN	Sn	13 01 19.1	+1.5
WHZ				AML	AML	13 01 20.9	
APZ	**The Paps**	**1.80**	**115**	PN	Pn	13 01 00.6	+0.6
APZ				SN	Sn	13 01 22.7	+1.0
MLZ	**Mavora Lakes**	**1.94**	**68**	PN	Pn	13 01 02.9	+1.1
MLZ				SN	Sn	13 01 27.2	+2.1
MLZ				AML	AML	13 01 29.5	
SYZ	**Scrubby Hill**	**2.48**	**102**	PN	Pn	13 01 10.6	+1.4
WKZ	**Wanaka**	**2.71**	**63**	PN	Pb	13 01 15.9	-3.0
WKZ				AML	AML	13 01 58.0	
EAZ	**Earnscleugh**	**2.73**	**73**	PN	Pn	13 01 15.1	+2.5
EAZ				AML	AML	13 01 46.9	
EAZ				AML	AML	13 02 02.5	
TUZ	**Tuapeka**	**2.80**	**89**	PN	Pn	13 01 16.6	+3.0
TUZ				AML	AML	13 01 47.9	
TUZ				AML	AML	13 01 49.7	
LBZ	**Lake Benmore**	**3.65**	**64**	PN	Pn	13 01 26.4	+1.1
ODZ	**Otahua Downs**	**3.68**	**75**	PN	Pn	13 01 26.1	+0.3
WVZ	**Waitaha Valley**	**4.74**	**52**	PN	Pn	13 01 40.2	-0.1
WVZ				AML	AML	13 02 37.9	

*IDC **22** 13:06:17.9±0.9,3.°70S×101.°07E, h0km, mb4.2/16, mb1 4.4/18, mb1mx4.3/26, mbtmp4.3/18, ML4.4/2, MS3.3/6, Ms1 3.3/6, ms1mx2.9/31, Error ellipse: s-maj=29.8km s-min=13.4km az=49.0*
*ISCJB **22** 13:06:20.0±0.5,3.°86S×100.°05E×100.°89E±0.°04, h29km, mb4.3/19, MS3.2/5, Error ellipse: s-maj=8.2km s-min=4.4km az=36.9*
*DJA **22** 13:06:20.4±0.5,4.°5S×4.°1E±.°, h10km, M4.8/12, mb4.6/11, mB5.7/2, MLv4.8/12, Mw(mB)5.2/2*
*BJI **22** 13:06:22.4,3.°80S×100.°90E, h42km, mB5.0/2, mb4.3/5, Ms4.9/1, Ms7 4.5/1*
*NEIC **22** 13:06:24.7±1.8,3.°66S×101.°14E, h48km±14km, mb4.7/3, Error ellipse: s-maj=24.0km s-min=7.6km az=48.0*
*AUST **22** 13:06:29.5,2.°40S×102.°48E, h60km*

ISC 22 13:06:21.4±0.6,3.°89S±0.°08×100.°90E±0.°06, h29km, n100, σ1°95/85, mb4.4/19, MS3.2/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.53**	**61**	P	**Pn**	**13 06 45.9**	**-1.0**
MASI				S	**Sb**	**13 07 09.4**	**+1.1**
KSI	**Kapahiang**	**1.71**	**82**	P	**Pn**	**13 06 48.4**	**-1.0**
KSI				S	**Sb**	**13 07 12.7**	**-0.7**
MNAI	**Manna**	**2.11**	**103**	P	Pb	13 07 01.3	+2.3
MNAI	**Manna** baz=2.0,SNR=15	**2.11**	**103**	P	**Pn**	**13 06 55.1**	**+0.3**
LWLI	**Liwa**	**3.35**	**110**	P	Pn	13 07 13.8	+1.9
PPI	**Padang Panjang**	**3.44**	**352**	P	**Pn**	**13 07 14.0**	**+0.8**
PPI	**Padang Panjang** baz=2.9,SNR=23	**3.44**	**352**	P	**Pn**	**13 07 13.8**	**+0.7**
KLSI		**3.91**	**102**	P	Pn	13 07 21.5	+2.0
KASI	**Kota Agung**	**3.94**	**114**	P	**Pn**	**13 07 21.1**	**+1.1**
PMBI	**Palembang**	**3.98**	**76**	P	**Pn**	**13 07 21.7**	**+1.1**
BKNI	**Bangkinang**	**4.19**	**2**	P	Pb	13 07 28.6	-5.9
PPBI	**Pangkal Pinang** 39nm,0.7s,5μm0.2nm	**5.51**	**72**	P	**Pn**	**13 07 41.8**	**+0.2**
BTDF	**Bukit Timah Da** 37nm,1.3s,0.2nm	**5.95**	**29**	P	**Pn**	**13 07 49.0**	**+1.3**
KGM	**Kluang**	**6.34**	**22**	P	**Pn**	**13 07 53.9**	**+0.8**
MYKOM	**Kota Tinggi**	**6.37**	**28**	P	**Pn**	**13 07 54.6**	**+1.2**
MYKOM	**Kota Tinggi** 36nm,1.1s	**6.37**	**28**	P	Pn	13 07 55.8	+2.4
CBJI	**Citeko** 317nm,0.7s,1.6nm	**6.44**	**113**	P	Pn	13 08 00.4	+6.0
PSI	**Prapat**	**6.93**	**343**	Pn	**Pn**	**13 07 58.9**	**-2.3**
PSI	**Prapat** 6.9nm,0.3s,baz=110,slow=3.0,SNR=14	**6.93**	**343**	Pn	**Pn**	**13 07 58.9**	**-2.3**
PSI	**Prapat** baz=6.2,SNR=9.1	**6.93**	**343**	P	**Pn**	**13 07 59.2**	**-2.0**
FRIM	**Kepong**	**7.12**	**6**	P	**Pn**	**13 08 04.9**	**+1.2**
LEM	**Lembang**	**7.30**	**114**	P	Pb	13 08 21.8	-5.8
CISI	**Cisompet, Garu** baz=7.4,SNR=7.5	**7.79**	**118**	P	**Pn**	**13 08 12.2**	**-0.8**
KCSI	**Kotacane, Aceh** 36nm,0.5s	**8.00**	**337**	P	**Pn**	**13 08 16.2**	**+0.4**
IPM	**Ipoh**	**8.31**	**1**	*eP*	Pn	13 08 22.9	+2.8
IPM	**Ipoh**	**8.31**	**1**	P	**Pn**	**13 08 21.0**	**+0.9**
KULM	**Kulim**	**9.12**	**358**	*eP*	**Pn**	**13 08 31.6**	**+0.4**
KULM	**Kulim**	**9.12**	**358**	P	Pn	**13 08 31.8**	**+0.6**
KTGM	**Kuala Trenggan**	**9.42**	**14**	P	Pn	13 08 36.8	+1.4
LHMI	**Lhok Sumawe** baz=9.4,SNR=7.3	**9.88**	**336**	P	**Pn**	**13 08 43.1**	**+1.5**
UGM	**Wanagama** baz=9.7,SNR=3.4	**10.38**	**113**	P	**Pn**	**13 08 50.0**	**+1.5**
KSM	**Kuching**	**10.81**	**61**	P	**Pn**	**13 08 55.0**	**+0.7**
BSI	**Banda Aceh** 233nm,0.5s,4μm	**10.87**	**329**	P	**Pn**	**13 08 55.1**	**-0.1**
SBUM	**Sibu**	**12.95**	**61**	P	**Pn**	**13 09 24.3**	**+0.6**
SBUM	**Sibu** 11nm,1.4s	**12.95**	**61**	P	Pn	13 09 25.8	+2.1
KKM	**Kota Kinabalu**	**18.20**	**57**	P	**P**	**13 10 32.7**	**+0.4**
TSM	**Tawau**	**18.81**	**65**	P	**Pn**	**13 10 39.2**	**-0.3**
SPSI	**Sidrap Palu** 22nm,0.9s	**18.83**	**91**	P	**Pn**	**13 10 39.9**	**+0.1**
SDKM	**Sandakan**	**18.83**	**60**	P	**Pn**	**13 10 40.3**	**+0.4**
KAPI	**Kappang** 25nm,1.0s	**18.83**	**94**	*eP*	**P**	**13 10 37.7**	**-1.5**
KAPI	**Kappang** 31nm,0.8s	**18.83**	**94**	P	**Pn**	**13 10 38.6**	**-1.2**
KAPI	**Kappang** 1.5nm,0.3s,baz=274,slow=7.2,SNR=9.9	**18.83**	**94**	P	**P**	**13 10 37.5**	**-1.6**
KAPI	comp=Z,137nm,20.4s,baz=287,slow=39			LR	LR	13 18 32.2	
TTSI	**Tana Toraja** 19nm,1.1s	**18.91**	**88**	P	**Pn**	**13 10 40.1**	**-0.7**
KDM	**Kudat**	**19.19**	**56**	P	**Pn**	**13 10 44.0**	**-0.1**
MYLDM	**Lahad Datu**	**19.76**	**63**	P	**Pn**	**13 10 49.3**	**-1.6**
MYLDM	**Lahad Datu**	**19.76**	**63**	P	**Pn**	**13 10 52.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**22.29**	**355**	P	**P**	**13 11 15.2**	**-1.4**
CMAR	**Chiang Mai Arr** 1.5nm,0.5s,baz=182,slow=9.5,SNR=11	**22.29**	**355**	P	**P**	**13 11 15.2**	**-1.4**
CMAR	comp=Z,52nm,19.6s,baz=180,slow=40			LR	LR	13 20 55.0	
FITZ	**Fitzroy Crossi**	**28.04**	**122**	*eP*	**P**	**13 12 10.2**	**-0.2**
FITZ	**Fitzroy Crossi** 2.8nm,0.7s,baz=270,slow=10.0,SNR=7.1	**28.04**	**122**	P	**P**	**13 12 10.4**	**0.0**
FITZ	**Fitzroy Crossi** baz=28,SNR=9.3	**28.04**	**122**	P	**P**	**13 12 10.4**	**0.0**
SWI	**Sorong** baz=29,SNR=11	**30.48**	**85**	S	S	13 17 05.4	-27
FAKI	**Fak Fak** baz=30,SNR=11	**31.31**	**89**	S	S	13 17 22.9	-22
NWAO	**Narrogin (SRO)** comp=Z,67nm,18.4s,baz=198,slow=39	**32.68**	**154**	LR	LR	13 27 22.0	
ODAN	**Odare** 30nm,0.7s	**33.24**	**338**	*eP*	**P**	**13 12 57.7**	**+1.2**
TAPN	**Taplejung** 30nm,0.8s	**33.56**	**338**	*eP*	**P**	**13 13 00.8**	**+1.4**
RAMN	**Ramite** 26nm,0.5s	**33.63**	**337**	*eP*	**P**	**13 13 00.1**	**+0.2**
JIRN	**Jiri** 61nm,0.7s	**34.42**	**337**	*eP*	**P**	**13 13 08.3**	**+1.3**
GUN	**Gumba** 61nm,0.6s	**34.77**	**336**	*eP*	**P**	**13 13 11.2**	**+1.3**
DANN	**Dangsing**	**36.05**	**334**	*eP*	**P**	**13 13 22.0**	**+1.1**
WRA	**Warramunga Arr**	**36.29**	**119**	P	**P**	**13 13 22.9**	**+0.1**
WRA	**Warramunga Arr** 2.7nm,0.4s,baz=302,slow=8.8,SNR=24	**36.29**	**119**	P	**P**	**13 13 22.9**	**+0.1**
WRAB	**Tennant Creek** 10nm,0.8s	**36.29**	**119**	*eP*	**P**	**13 13 22.4**	**-0.4**
ASAR	**Alice Springs**	**37.44**	**125**	P	**P**	**13 13 33.0**	**+0.5**
ASAR	**Alice Springs** 1.6nm,0.4s,baz=298,slow=7.8,SNR=26	**37.44**	**125**	P	**P**	**13 13 33.0**	**+0.5**
AS31	**Alice Springs**	**37.44**	**125**	*eP*	P	13 13 34.9	+2.3
GTA	**Gaotai**	**43.10**	**359**	*eP*	**P**	**13 14 19.8**	**+0.6**
GTA	comp=Z,4.0nm,1.1s			pmax	pmax		
MTSU	**Mount Surprise** baz=44,SNR=8.1	**44.77**	**112**	P	**P**	**13 14 32.5**	**-0.4**
STKA	**Stephens Creek**	**47.24**	**131**	*eP*	**P**	**13 14 53.3**	**+1.1**
STKA	**Stephens Creek** comp=Z,2.6nm,0.8s,baz=318,slow=14,SNR=3.5	**47.24**	**131**	P	**P**	**13 14 53.5**	**+1.3**
STKA	**Stephens Creek** baz=47,SNR=5.1	**47.24**	**131**	P	P	13 14 59.2	+7.0
KSAR	**Wonju Array Be**	**48.17**	**29**	P	**P**	**13 14 57.4**	**-1.9**
KSRS	**Korea Array** comp=Z,1.9nm,0.7s,baz=218,slow=8.3,SNR=11	**48.20**	**29**	P	**P**	**13 14 57.4**	**-2.1**
KSRS	comp=Z,15nm,18.5s,baz=230,slow=39			LR	LR	13 37 46.0	
SONM	**Songino Array**	**51.73**	**5**	P	**P**	**13 15 26.7**	**+0.4**
SONM	**Songino Array** comp=Z,3.4nm,0.8s,baz=184,slow=9.1,SNR=17	**51.73**	**5**	P	**P**	**13 15 26.7**	**+0.4**
AAK	**Ala-Archa** comp=Z,35nm,18.7s,baz=304,slow=37	**52.12**	**335**	LR	LR	13 38 44.4	
MK31	**Makanchi Array**	**53.08**	**344**	*eP*	**P**	**13 15 36.1**	**-0.1**
MKAR	**Makanchi Array**	**53.08**	**344**	P	**P**	**13 15 36.1**	**-0.1**
MKAR	**Makanchi Array** comp=Z,1.6nm,0.6s,baz=157,slow=9.0,SNR=17	**53.08**	**344**	P	**P**	**13 15 36.1**	**-0.1**
MKAR	comp=Z,22nm,21.9s,baz=357,slow=39			LR	LR	13 41 00.1	
MJAR	**Matsushiro Arr**	**53.19**	**38**	P	**P**	**13 15 34.8**	**-2.4**
MJAR	**Matsushiro Arr** comp=Z,3.1nm,0.6s,baz=216,slow=8.1,SNR=11	**53.19**	**38**	P	**P**	**13 15 34.8**	**-2.4**
KKAR	**Karatay Array**	**54.23**	**333**	*eP*	**P**	**13 15 44.7**	**+0.1**
USRK	**Ussuriysk Arra** comp=Z,7.9nm,0.8s,baz=220,slow=6.2,SNR=14	**55.41**	**27**	P	**P**	**13 15 52.5**	**-0.6**
ZALV	**Zalesovo Beam**	**59.18**	**349**	P	**P**	**13 16 19.1**	**-0.5**
ZALV	**Zalesovo Beam** comp=Z,3.0nm,0.5s,baz=185,slow=5.4,SNR=14	**59.18**	**349**	P	**P**	**13 16 19.1**	**-0.5**
ABKAR	**Akbulak array** comp=Z,9.4nm,1.0s	**63.72**	**331**	*eP*	**P**	**13 16 49.9**	**-0.4**
KBZ	**Khabaz**	**70.31**	**319**	P	**P**	**13 17 33.5**	**+1.1**
KBZ	**Khabaz** comp=Z,3.4nm,0.7s,baz=120,slow=7.4,SNR=6.4	**70.31**	**319**	P	**P**	**13 17 33.5**	**+1.1**
BRTR	**Keskin Array B**	**75.25**	**313**	P	**P**	**13 18 02.2**	**+0.2**
BRTR	**Keskin Array B** comp=Z,2.4nm,0.6s,baz=144,slow=7.3,SNR=11	**75.25**	**313**	P	**P**	**13 18 02.2**	**+0.2**
BUR08	**Bucovina Ar. S**	**83.28**	**319**	*eP*	P	13 18 47.3	+1.7
FINES	**FINESS Array B**	**86.19**	**332**	P	**P**	**13 19 00.5**	**+0.7**
FINES	**FINESS Array B** comp=Z,1.2nm,0.6s,baz=100,slow=8.3,SNR=4.3	**86.19**	**332**	P	**P**	**13 19 00.5**	**+0.7**
ARCES	**ARCESS Array B**	**88.54**	**340**	P	**P**	**13 19 12.0**	**+1.0**
ARCES	**ARCESS Array B** comp=Z,1.7nm,0.9s,baz=66,slow=4.1,SNR=4.1	**88.54**	**340**	P	**P**	**13 19 12.0**	**+1.0**
GERES	**GERESS Array B**	**91.05**	**319**	P	**P**	**13 19 23.6**	**+0.2**
GERES	**GERESS Array B** comp=Z,0.4nm,0.2s,baz=35,slow=4.9,SNR=4.6	**91.05**	**319**	P	**P**	**13 19 23.6**	**+0.2**
TXAR	**Lajitas Array**	**145.61**	**40**	PKPbc	**PKPab**	**13 25 58.5**	**+0.1**
TXAR	**Lajitas Array** comp=Z,1.5nm,0.6s,baz=303,slow=1.0,SNR=21	**145.61**	**40**	PKPbc	**PKPab**	**13 25 58.5**	**+0.1**
JCT	**Junction City**	**147.11**	**34**	*e*PKP	**PKPab**	**13 26 02.6**	**-1.4**

IDC 22 13:15:58.9±8.4,2.°45N×127.°09E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/21, mbtmp3.5/4, Error ellipse: s-maj=134.6km s-min=101.5km az=140.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 1.0nm,0.8s,baz=8.1,slow=7.1,SNR=2.8	**20.48**	**184**	P	P	13 20 38.3	-0.1
WRA	**Warramunga Arr** 0.7nm,0.6s,baz=342,slow=11,SNR=4.2	**23.37**	**163**	P	P	13 21 09.0	-0.3
ASAR	**Alice Springs** 0.2nm,0.4s,baz=349,slow=6.6,SNR=7.8	**26.80**	**166**	P	P	13 21 40.7	-0.2
STKA	**Stephens Creek** 1.1nm,0.5s,baz=319,slow=9.3,SNR=3.8	**36.82**	**159**	P	P	13 23 09.3	+0.5

*IDC **22** 13:22:48.7±1.9,4.°42N×123.°34E, h620km±27km, mb2.9/13, mb1 3.0/13, mb1mx2.9/26, mbtmp2.9/13, Error ellipse: s-maj=22.5km s-min=8.2km az=74.0*
*AUST **22** 13:22:48.1,4.°00N×122.°50E, h600km*

ISC 22 13:22:41.1±0.6,4.°60N±0.°08×123.°5E±0.°2, h512km, n24, σ2°66/23, mb3.6/13, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk** baz=5.0,SNR=3.0	**5.65**	**188**	P	P	13 24 22.2	+7.4
LUWI	baz=5.0,SNR=8.4			S	**S**	**13 25 35.9**	**+4.7**
KKM	**Kota Kinabalu** baz=5.6,SNR=18	**7.43**	**281**	P	P	13 24 36.4	+4.2
FAKI	**Fak Fak** baz=12,SNR=17	**11.46**	**130**	P	P	13 25 20.0	+6.0
WSI	**Waingapu** baz=14,SNR=5.6	**14.54**	**193**	S	S	13 28 31.4	+12
JAY	**Jayapura** baz=19,SNR=4.1	**18.55**	**112**	P	P	13 26 35.8	+10
MTN	**Manton Dam** baz=19,SNR=11	**18.90**	**157**	P	**P**	**13 26 32.4**	**+3.3**
KDU	**Kakadu** baz=19,SNR=15	**19.33**	**153**	P	**P**	**13 26 34.9**	**+1.8**
FITZ	**Fitzroy Crossi** 5.4nm,1.2s,baz=17,slow=14,SNR=5.9	**22.65**	**175**	P	**P**	**13 27 03.3**	**+0.2**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=333,slow=10,SNR=9.4	**26.60**	**157**	P	**P**	**13 27 38.9**	**+0.8**
WRA	0.6nm,0.7s,baz=326,slow=17,SNR=1.6			S	**S**	**13 31 30.6**	**-6.1**
CMAR	**Chiang Mai Arr** 1.2nm,0.8s,baz=122,slow=5.9,SNR=5.6	**27.70**	**302**	P	**P**	**13 27 48.7**	**+0.8**
ASAR	**Alice Springs** 0.6nm,0.3s,baz=338,slow=6.8,SNR=16	**29.86**	**161**	P	**P**	**13 28 07.6**	**+1.0**
ASAR	0.3nm,0.3s,baz=345,slow=2.9,SNR=5.9			PcP	**PcP**	**13 30 51.4**	**-2.6**
ASAR	0.4nm,0.6s,baz=212,slow=21,SNR=7.0			S	**S**	**13 32 22.8**	**-4.6**
MEEK	**Meekatharra** baz=31,SNR=3.1	**31.41**	**188**	P	**P**	**13 28 19.6**	**-0.4**
MORW	**Morawa** baz=34,SNR=4.4	**34.24**	**192**	P	**P**	**13 28 43.6**	**-0.3**
NWAO	**Narrogin (SRO)** 11nm,1.1s,baz=16,slow=7.4,SNR=3.0	**37.80**	**189**	P	**P**	**13 29 13.2**	**-0.1**
STKA	**Stephens Creek** 1.4nm,0.5s,baz=321,slow=13,SNR=6.5	**40.14**	**156**	P	**P**	**13 29 33.6**	**+1.3**
STKA	**Stephens Creek** baz=40,SNR=5.2	**40.14**	**156**	P	**P**	**13 29 33.9**	**+1.6**
ASAJ	**Asahikawa** 2.6nm,0.3s,baz=321,slow=6.4,SNR=10	**42.79**	**20**	P	**P**	**13 29 55.6**	**+2.5**
SONM	**Songino Array** 0.2nm,0.4s,baz=148,slow=8.5,SNR=2.7	**45.53**	**344**	P	**P**	**13 30 15.4**	**+0.9**
MKAR	**Makanchi Array** 0.7nm,0.4s,baz=120,slow=8.1,SNR=13	**55.06**	**326**	P	**P**	**13 31 24.2**	**+0.1**
PETK	**Petropavlovsk-** 1.0nm,0.7s,baz=207,slow=4.4,SNR=8.4	**55.89**	**24**	P	**P**	**13 31 31.5**	**+1.7**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=247,slow=5.4,SNR=5.7	**85.69**	**25**	P	**P**	**13 34 23.2**	**-2.0**
ARCES	**ARCESS Array B** 1.1nm,0.7s,baz=75,slow=6.4,SNR=4.3	**88.54**	**340**	P	**P**	**13 34 36.5**	**-2.1**
FINES	**FINESS Array B** 0.5nm,0.5s,baz=83,slow=6.0,SNR=3.7	**89.56**	**332**	P	**P**	**13 34 40.7**	**-2.7**
TORD	**Torodi Ar. Bea** 0.2nm,0.3s,baz=57,slow=1.5,SNR=8.9	**119.63**	**288**	PKP	**PKPdf**	**13 40 30.6**	**-3.0**

WEL 22 13:30:39.7±0.5,46.°13S×165.°79E, h12km, ML3.8/14, Error ellipse: s-maj=4.3km s-min=3.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.15**	**56**	P*	Pb	13 30 59.8	-1.7
DCZ				S*	Sb	13 31 15.2	-1.3
DCZ				AML	AML	13 31 16.3	
DCZ				AML	AML	13 31 16.4	
WHZ	**Wether Hill Ro**	**1.52**	**82**	PN	Pn	13 31 05.8	-1.0
WHZ				SN	Sn	13 31 25.2	-1.3
WHZ				AML	AML	13 31 28.8	
APZ	**The Paps**	**1.67**	**116**	PN	Pn	13 31 07.4	-1.5
MLZ	**Mavora Lakes**	**1.84**	**66**	PN	Pn	13 31 10.9	-0.3
MLZ				AML	AML	13 31 38.5	
MLZ				AML	AML	13 31 38.8	
MSZ	**Milford Sound**	**2.09**	**47**	AML	AML	13 30 22.8	
MSZ				AML	AML	13 30 31.1	
MSZ				AML	AML	13 31 50.6	
MSZ				AML	AML	13 31 51.2	
SYZ	**Scrubby Hill**	**2.35**	**101**	PN	Pn	13 31 18.4	+0.2
WKZ	**Wanaka**	**2.61**	**61**	PN	Pn	13 31 23.2	+1.3
WKZ				AML	AML	13 31 55.9	
WKZ				AML	AML	13 32 00.4	
EAZ	**Earnscleugh**	**2.62**	**71**	PN	Pn	13 31 22.8	+1.0
EAZ				AML	AML	13 31 55.4	
EAZ				AML	AML	13 31 59.1	
TUZ	**Tuapeka**	**2.68**	**88**	PN	Pn	13 31 22.9	+0.2
TUZ				AML	AML	13 31 56.3	
TUZ				AML	AML	13 31 57.0	
JCZ	**Jackson Bay**	**2.94**	**47**	PN	Pg	13 31 35.4	-0.8
JCZ				AML	AML	13 32 16.1	
JCZ				AML	AML	13 32 19.5	
LBZ	**Lake Benmore**	**3.56**	**62**	PN	Pn	13 31 34.4	-0.3
ODZ	**Otahua Downs**	**3.57**	**74**	PN	Pn	13 31 33.8	-1.2

IDC 22 13:41:46.4±4.9,26.°79N×142.°79E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/22, mbtmp3.8/3, Error ellipse: s-maj=340.0km s-min=29.4km az=85.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.8nm,0.4s,baz=12,slow=8.5,SNR=6.6	**47.17**	**191**	P	P	13 50 21.0	+0.1
ASAR	**Alice Springs** 0.1nm,0.3s,baz=16,slow=9.1,SNR=4.2	**50.89**	**191**	P	P	13 50 49.0	-0.4
FINES	**FINESS Array B** 1.3nm,0.3s,baz=66,slow=6.1,SNR=14	**78.45**	**334**	P	P	13 53 48.9	0.0

*IDC **22** 13:49:08.8±3.2,4.°78S×102.°16E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/23, mbtmp3.8/8, Error ellipse: s-maj=138.3km s-min=16.9km az=57.0*
*ISCJB **22** 13:49:15.4±0.9,4.°64S±0.°07×102.°48E±0.°07, h56km, mb3.7/8, Error ellipse: s-maj=12.9km s-min=6.9km az=138.3*
*DJA **22** 13:49:19.0±1.6,5.°5S±10.°×10.°3E±1.°0, h30km±8km, M4.1/4, MLv4.1/4*

ISC 22 13:49:17.5±1.2,4.°6S±0.°1×102.°6E±0.°1, h56km, n13, σ0°96/16, mb3.7/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.46**	**58**	P	**Pn**	**13 49 28.9**	**+0.2**
MNAI				S	**Sn**	**13 49 34.9**	**-1.9**
KSI	**Kapahiang**	**0.95**	**1**	P	Pn	13 49 30.5	-4.3
KSI				S	**Sn**	**13 49 48.7**	**+1.2**
LWLI	**Liwa**	**1.54**	**105**	P	**Pn**	**13 49 43.0**	**+0.2**
LWLI				S	**Sn**	**13 50 02.1**	**+0.3**
KASI	**Kota Agung**	**2.13**	**116**	P	**Pn**	**13 49 50.8**	**+0.1**
KASI				S	**Sn**	**13 50 14.9**	**-1.0**
KLSI		**2.15**	**92**	P	**Pn**	**13 49 52.4**	**+1.3**
CMAR	**Chiang Mai Arr** 0.2nm,0.4s,baz=182,slow=9.6,SNR=4.3	**23.19**	**351**	P	**P**	**13 54 19.2**	**-0.5**
FITZ	**Fitzroy Crossi** 1.5nm,0.8s,baz=359,slow=21,SNR=6.2	**26.25**	**123**	P	**P**	**13 54 48.0**	**+0.3**
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=301,slow=9.0,SNR=5.5	**34.48**	**119**	P	**P**	**13 56 00.6**	**+0.2**
ASAR	**Alice Springs** 0.5nm,0.5s,baz=297,slow=7.7,SNR=23	**35.66**	**125**	P	**P**	**13 56 10.9**	**+0.3**
STKA	**Stephens Creek** 1.5nm,0.4s,baz=293,slow=6.2,SNR=8.2	**45.51**	**131**	P	**P**	**13 57 32.5**	**+0.7**
SONM	**Songino Array** 0.5nm,0.6s,baz=185,slow=9.0,SNR=4.4	**52.33**	**3**	P	P	**13 58 24.2**	**+0.5**
MKAR	**Makanchi Array** 0.7nm,0.6s,baz=146,slow=7.3,SNR=5.8	**54.23**	**343**	P	P	**13 58 36.8**	**-0.9**
ZALV	**Zalesovo Beam** 1.4nm,0.4s,baz=182,slow=5.8,SNR=5.3	**60.21**	**348**	P	**P**	**13 59 18.2**	**-1.4**

WEL 22 13:49:24.6±0.2,45.°47S×166.°75E, h23km±1km, ML3.6/18, 2D, Error ellipse: s-maj=1.8km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.28**	**91**	P*	Pb	13 49 31.2	0.0
DCZ				S*	Sb	13 49 35.3	-0.4
DCZ				AML	AML	13 49 35.4	
DCZ				AML	AML	13 49 35.8	
WHZ	**Wether Hill Ro**	**0.94**	**117**	PN	Pb	13 49 42.0	-0.2
WHZ				AML	AML	13 50 02.2	
WHZ				AML	AML	13 50 02.4	
MLZ	**Mavora Lakes**	**1.01**	**83**	⇓PN	Pn	13 49 42.4	-1.0
MLZ				SN	Sb	13 49 55.2	-1.1
MLZ				AML	AML	13 49 58.1	
MSZ	**Milford Sound**	**1.15**	**47**	PN	Pn	13 49 44.1	-1.3
MSZ				AML	AML	13 50 04.0	
MSZ				AML	AML	13 50 04.0	
MSZ				AML	AML	13 50 07.8	
MSZ				AML	AML	13 50 07.8	
APZ	**The Paps**	**1.61**	**148**	PN	Pb	13 49 53.0	-0.7
WKZ	**Wanaka**	**1.73**	**69**	PN	Pn	13 49 54.2	+0.9
WKZ				AML	AML	13 50 21.5	
WKZ				AML	AML	13 50 24.2	
EAZ	**Earnscleugh**	**1.82**	**83**	PN	Pn	13 49 55.8	+1.3
EAZ				AML	AML	13 50 24.8	
EAZ				AML	AML	13 50 24.9	
SYZ	**Scrubby Hill**	**1.98**	**124**	PN	Pb	13 49 59.1	-0.7
JCZ	**Jackson Bay**	**2.00**	**46**	PN	Pb	13 50 00.3	-0.1
JCZ				AML	AML	13 50 32.0	
JCZ				AML	AML	13 50 32.1	
TUZ	**Tuapeka**	**2.07**	**104**	PN	Pb	13 50 00.4	-1.1
TUZ				AML	AML	13 50 30.2	
TUZ				AML	AML	13 50 32.2	
LBZ	**Lake Benmore**	**2.67**	**67**	PN	Pn	13 50 06.3	+0.1
LBZ				AML	AML	13 50 27.3	
LBZ				AML	AML	13 52 37.1	
HHSZ	**Highcliff Hill**	**2.73**	**100**	PN	Pn	13 50 09.8	+2.8
ODZ	**Otahua Downs**	**2.78**	**83**	⇓PN	Pn	13 50 07.8	+0.1
ODZ				AML	AML	13 50 37.2	
ODZ				AML	AML	13 52 38.7	
FOZ	**Fox Glacier**	**2.84**	**49**	PN	Pb	13 50 12.7	-1.8
FOZ				AML	AML	13 51 15.8	
WVZ	**Waitaha Valley**	**3.73**	**51**	PN	Pn	13 50 22.7	+1.9
WVZ				AML	AML	13 50 55.0	
WVZ				AML	AML	13 51 03.9	
MQZ	**McQueen's Vall**	**4.57**	**69**	PN	Pn	13 50 33.5	+1.3
CRLZ	**Canterbury Las**	**4.60**	**68**	PN	Pn	13 50 34.4	+1.6
THZ	**Tophouse**	**5.80**	**52**	PN	Pn	13 50 53.2	+3.8

*ISCJB **22** 14:26:37.0±0.4,24.°40N±0.°02×122.°02E±0.°02, h4km±3km, Error ellipse: s-maj=3.1km s-min=2.4km az=150.6*
*TAP **22** 14:26:38.0,24.°40N×121.°90E, h19km, ML3.7, B*
*JMA **22** 14:26:38.3±0.2,25.°03N×122.°09E, h40km,

NWF				*i* S		**Sb**	**14 27 00.6**	**+0.4**
	baz=341								
WHF	**Hehuan Shan**	**0.71**	**247**	⇑*i*P		**Pg**	**14 26 50.7**	**-0.8**
	baz=255								
WHF				*e*S		**Sg**	**14 27 01.4**	**+0.5**
	baz=255								
TAP1	**Taipei**	**0.73**	**326**	*e*P		**Pn**	**14 26 53.1**	**-0.4**
	baz=322								
TAP1				*e*S		**Sb**	**14 27 02.6**	**+0.5**
	baz=322								
TAP	**Taipei**	**0.74**	**325**	*e*P		**Pn**	**14 26 53.1**	**-0.6**
	baz=321								
TWT	**Tachien**	**0.75**	**257**	⇑P		**Pg**	**14 26 51.9**	**-0.3**
	baz=259								
TWT				*e*S		**Sb**	**14 27 03.0**	**+0.2**
	baz=259								
ESL	**Shilin**	**0.79**	**219**	*e*P		**Pg**	**14 26 51.8**	**-1.1**
	baz=225								
NCU	**National Centr**	**0.90**	**307**	*e*P		**Pn**	**14 26 56.3**	**+0.5**
	baz=318								
NCU				*e*S		**Sn**	**14 27 08.3**	**-0.4**
	baz=318								
TWY	**Chenhua**	**0.91**	**338**	*e*P		**Pn**	**14 26 56.4**	**+0.3**
	baz=341								
TWY				*e*S		**Sn**	**14 27 07.9**	**-1.1**
	baz=341								
NSTT	**Nanjuang**	**0.91**	**283**	P		**Pg**	**14 26 55.1**	**-0.1**
	baz=280								
NSTT				*e*S		**Sg**	**14 27 06.8**	**-0.3**
	baz=280								
YOJ	**Yonaguni jima**	**0.94**	**88**	⇑*i*P		**Pg**	**14 26 56.1**	**+0.4**
	baz=75								
YOJ				*e*S		**Sn**	**14 27 09.4**	**-0.3**
	baz=75								
YOJ	**Yonaguni jima**	**0.94**	**88**	P		**Pg**	**14 26 56.2**	**+0.4**
YOJ				*e*S		**Sn**	**14 27 09.2**	**-0.6**
HSN	**Hsinchu**	**0.99**	**292**	*e*P		**Pb**	**14 26 55.8**	**-0.7**
	baz=296								
HSN				*e*S		**Sn**	**14 27 10.8**	**-0.1**
	baz=296								
EHY	**Hungye**	**1.10**	**213**	*e*P		**Pb**	**14 26 57.4**	**-1.0**
	baz=211								
TWQ1	**Liyutan**	**1.10**	**266**	*e*P		**Pg**	**14 26 59.2**	**+0.4**
	baz=269								
TWQ1				*e*S		**Sn**	**14 27 14.3**	**+0.6**
	baz=269								
NSY	**Sanyi**	**1.11**	**270**	*e*P		**Pg**	**14 26 59.6**	**+0.7**
	baz=272								
SMLT	**Sun Moon Lake**	**1.12**	**241**	*e*P		**Pb**	**14 26 58.8**	**-0.1**
	baz=247								
SMLT				*e*S		**Sb**	**14 27 14.1**	**+0.6**
	baz=247								
TYC	**Yuchr**	**1.15**	**243**	⇑P		**Pb**	**14 26 58.5**	**-0.7**
	baz=249								
TYC				*e*S		**Sb**	**14 27 13.8**	**-0.2**
	baz=249								
PCYT	**Pengchaiyu**	**1.20**	**4**	*e*P		**Pn**	**14 26 59.8**	**-0.2**
	baz=6.0								
TCU	**Taichung**	**1.22**	**257**	⇓*e*P		**Pg**	**14 27 01.6**	**+0.5**
	baz=266								
TCU				*e*S		**Sg**	**14 27 18.9**	**+1.9**
	baz=266								
TWF1	**Yuli**	**1.24**	**210**	*e*P		**Pn**	**14 26 58.7**	**-1.9**
	baz=223								
WNT	**Mingjian**	**1.30**	**245**	P		**Pg**	**14 27 02.7**	**+0.1**
	baz=245								
WNT				*e*S		**Sg**	**14 27 21.3**	**+1.7**
	baz=245								
YUS	**Yu-Shan**	**1.32**	**225**	⇓*i*P		**Pn**	**14 27 01.8**	**-0.4**
	baz=227								
YUS				*e*S		**Sb**	**14 27 20.4**	**+0.8**
	baz=227								
ALS	**Alishan**	**1.41**	**230**	*e*P		**Pn**	**14 27 03.1**	**-0.1**
	baz=219								
ALS				*e*S		**Sb**	**14 27 23.4**	**+1.6**
	baz=219								
CHKT	**Chengkung**	**1.44**	**203**	*e*P		**Pn**	**14 27 01.7**	**-1.6**
	baz=185								
CHN5	**Tsauling**	**1.45**	**235**	*e*P		**Pb**	**14 27 04.5**	**+0.1**
	baz=238								
CHN5				*e*S		**Sg**	**14 27 24.8**	**+0.5**
	baz=238								
ELDTW	**Lidau**	**1.52**	**216**	*e*P		**Pn**	**14 27 03.8**	**-0.7**
	baz=202								
IRIF	**Iriomote-Funau**	**1.60**	**93**	P		**Pn**	**14 27 05.2**	**-0.3**
IRIF				*e*S		**Sn**	**14 27 25.4**	**-0.6**
WTCT	**Ta-ch'eng**	**1.65**	**250**	*e*P		**Pn**	**14 27 06.4**	**+0.2**
	baz=264								
WTCT				*e*S		**Sb**	**14 27 28.9**	**+0.5**
	baz=264								
CHN4	**Tsaushan**	**1.66**	**230**	⇑P		**Pb**	**14 27 07.5**	**-0.5**
	baz=233								
CHN4				*e*S		**Sb**	**14 27 30.1**	**+1.3**
	baz=233								
STYT	**Tauyuan**	**1.69**	**222**	*e*P		**Pn**	**14 27 07.3**	**+0.6**
	baz=224								
STYT				*e*S		**Sb**	**14 27 29.8**	**+0.2**
	baz=224								
CHY	**Chiayi**	**1.70**	**237**	*e*P		**Pb**	**14 27 08.5**	**-0.1**
	baz=240								
CHY				*e*S		**Sb**	**14 27 30.9**	**+1.1**
	baz=240								
HATJ	**Hateruma jima**	**1.71**	**102**	P		**Pb**	**14 27 08.4**	**-0.4**
HATJ				*e*S		**Sg**	**14 27 33.6**	**+1.0**
WTP	**Ta-pu**	**1.72**	**227**	*e*P		**Pn**	**14 27 08.0**	**+0.9**
	baz=229								
WTP				*e*S		**Sb**	**14 27 31.2**	**+0.7**
	baz=229								
TWK	**Hsinying**	**1.79**	**230**	*e*P		**Pn**	**14 27 09.4**	**+1.3**
	baz=232								
TWK				*e*S		**Sb**	**14 27 33.5**	**+1.0**
	baz=232								
WSF	**Szhu**	**1.79**	**244**	*e*P		**Pn**	**14 27 08.9**	**+0.8**
	baz=247								
WSF				*e*S		**Sb**	**14 27 33.2**	**+0.8**
	baz=247								
CHN1	**Nanshi**	**1.81**	**227**	*e*P		**Pb**	**14 27 10.0**	**-0.7**
	baz=230								
CHN1				*e*S		**Sb**	**14 27 34.0**	**+0.7**
	baz=230								
SGST	**Jiashian**	**1.85**	**224**	⇑P		**Pb**	**14 27 10.5**	**-0.8**
	baz=226								
SGST				*e*S		**Sb**	**14 27 34.2**	**-0.2**
	baz=226								
JKRS	**Kuro-shima**	**1.86**	**95**	P		**Pn**	**14 27 09.2**	**+0.1**
JKRS				*e*S		**Sn**	**14 27 32.7**	**+0.2**
CHN8	**Yiju**	**1.94**	**237**	*e*P		**Pb**	**14 27 11.9**	**-0.9**
	baz=225								
CHN8				*e*S		**Sb**	**14 27 37.9**	**+1.0**
	baz=225								
JIJ	**Ishigaki jima**	**1.98**	**91**	P		**Pn**	**14 27 10.7**	**0.0**
JIJ				*e*S		**Sn**	**14 27 34.3**	**-1.0**
ECL	**Taimali**	**2.05**	**207**	*e*P		**Pn**	**14 27 10.0**	**-1.7**
	baz=195								
TWM1	**Shoushan**	**2.14**	**222**	*e*P		**Pb**	**14 27 15.0**	**-1.2**
	baz=222								
PNG	**Penghu**	**2.38**	**249**	*e*P		**Pn**	**14 27 15.9**	**-0.3**
	baz=252								
SCZT	**Fangliau**	**2.40**	**212**	*e*P		**Pn**	**14 27 18.4**	**+1.9**
	baz=197								

BJI ***22*** *14:50:58.2, 32.97N×134.61E, h20km, mB4.9/29, mb4.5/39, Ms4.6/44, Ms7 4.4/42*

IDC ***22*** *14:50:58.7±0.7, 33.01N×134.41E, h0km, mb4.1/14, mb1 4.3/17, mb1mx4.2/27, mbtmp4.1/17, ML3.8/3, MS3.9/15, Ms1 3.9/15, ms1mx3.6/37, Error ellipse: s-maj=17.7km s-min=14.4km az=178.0*

NIED ***22*** *14:51:00, 33.00N×134.30E, h20km, Mw4.5 Best double couple: M0 6.36000×10^15 NP1:φs 49.00000°, δ 59.00000°, λ 106.00000°. NP2:φs 201.00000°, δ 34.00000°, λ 66.00000°.*

ISCJB ***22*** *14:51:01.5±0.7, 33.03N±0.04×134.38E±0.03, h28km±4km, mb4.5/57, MS4.3/33, Error ellipse: s-maj=6.3km s-min=3.9km az=158.9*

JMA ***22*** *14:51:02.0, 33.03N×134.32E, h29km±1km, M4.6*

JMA Felt IV J1.

NEIC ***22*** *14:51:02.3±2.4, 33.03N×134.30E, h20km±14km, mb4.7/15, MW4.5(NIED), Error ellipse: s-maj=7.9km s-min=5.1km az=160.0*

NEIC Felt at Susaki. Recorded [4 JMA] in Kochi, [2 JMA] in Ehime and [1 JMA] in Kagawa and Tokushima, Shikoku. Also recorded [1 JMA] in Hiroshima, Okayama, Wakayama and Yamaguchi, Honshu and in Oita, Kyushu.

MOS ***22*** *14:51:02.5±1.3, 33.07N×134.24E, h33km, mb5.0/29,*

MS4.0/18, Error ellipse: s-maj=10.8km s-min=6.1km az=114.7

ISC 22 14:51:02.1±0.5, 33.03N±0.04×134.39E±0.03, h19km±1km, h19km:pP-P, n144, σ1s79/207, mb4.6/57, MS4.2/34, 10C-6D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
MRT2	**Murotomisaki 2**	**0.41**	**330**	P	**Pg**	**14 51 10.5**	**-0.1**
MRT2				*e*S	**Sb**	**14 51 16.8**	**+0.1**
JAI	**Aioi**	**0.76**	**4**	⇑P	**Pb**	**14 51 16.4**	**-0.3**
JAI				*e*S	**Sb**	**14 51 26.9**	**+0.2**
JMN	**Monobe**	**0.81**	**329**	⇑P	**Pb**	**14 51 17.1**	**-0.5**
JMN				*e*S	**Sg**	**14 51 28.9**	**0.0**
JKU	**Kubokawa**	**1.14**	**284**	⇑P	**Pn**	**14 51 20.5**	**-2.6**
JKU				*e*S	**Sb**	**14 51 35.1**	**-2.6**
JWM	**Minabe**	**1.15**	**45**	⇓P	**Pn**	**14 51 21.9**	**-1.2**
JWM				*e*S	**Sb**	**14 51 37.0**	**-0.9**
JWZ	**Kozaga**	**1.22**	**66**	⇓P	**Pn**	**14 51 22.4**	**-1.7**
JTO	**Tosashimizu**	**1.34**	**263**	⇑P	**Pn**	**14 51 22.9**	**-2.9**
JET	**Tanbara**	**1.34**	**304**	⇑P	**Pn**	**14 51 23.9**	**-1.9**
JET				*e*S	**Sb**	**14 51 44.0**	**+0.5**
JNU	**Nakatsue**	**2.94**	**273**	*e*Pn	**Pn**	**14 51 46.9**	**-1.0**
JNU				Sn	**Sn**	**14 52 24.0**	**+1.3**
JNU				Lg	Lg	14 52 35.7	
JNU	**Nakatsue**	**2.94**	**273**	Pn	**Pn**	**14 51 46.3**	**-1.6**
	33nm,0.3s,baz=88,slow=4.6,SNR=591						
JNU				Sn	**Sn**	**14 52 24.0**	**+1.3**
	75nm,0.3s,baz=3.0,slow=2.0,SNR=5.5						
JNU				Lg	Lg	14 52 35.7	
	168nm,0.3s,baz=139,slow=10,SNR=12						
MAJO	**Matsushiro**	**4.71**	**41**	*e*P	**Pn**	**14 52 12.6**	**+0.5**
MAJO	**Matsushiro**	**4.71**	**41**	*e*Pn	**Pn**	**14 52 12.6**	**+0.5**
MAT	**Matsushiro**	**4.71**	**41**	P	**Pn**	**14 52 12.4**	**+0.3**
MAT				*e*S	**Sn**	**14 53 07.0**	**+0.9**
MJAR	**Matsushiro Arr**	**4.71**	**41**	Pn	**Pn**	**14 52 13.2**	**+1.1**
MJAR	**Matsushiro Arr**	**4.71**	**41**	Pn	**Pn**	**14 52 13.2**	**+1.1**
	0.7nm,0.3s,baz=245,slow=22,SNR=8.4						
KSRS	**Korea Array**	**6.88**	**312**	Pn	**Pn**	**14 52 41.1**	**-0.8**
	2.9nm,0.3s,baz=128,slow=14,SNR=55						
KSRS				LR	LR	14 55 34.6	
	comp=Z,686nm,20.2s,baz=283,slow=40						
KSAR	**Wonju Array Be**	**6.90**	**311**	Pn	**Pn**	**14 52 41.1**	**-1.0**
USRK	**Ussuriysk Arra**	**11.31**	**351**	Pn	**Pn**	**14 53 43.9**	**+1.4**
	0.1nm,0.3s,baz=124,slow=20,SNR=4.4						
USRK				LR	LR	14 57 53.0	
	comp=Z,482nm,18.1s,baz=7.1,slow=37						
MDJ	**Mudanjiang**	**12.15**	**344**	P	**Pn**	**14 53 54.3**	**+0.2**
MDJ				S	**Sn**	**14 56 09.6**	**+0.6**
MDJ				PcP	**PcP**	**14 59 38.3**	**+0.9**
MDJ				PcS	**PcS**	**15 03 12.5**	**+1.1**
MDJ				ScS	**ScS**	**15 06 44.5**	**-0.6**
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,110nm,4.5s						
MDJ				LR	LR		
	comp=N,520nm,14.2s						
MDJ				LR	LR		
	comp=E,360nm,11.7s						
MDJ				LR	LR		
	comp=Z,560nm,15.1s						
CN2	**Changchun**	**12.82**	**330**	*e*P	**Pn**	**14 54 05.8**	**+2.5**
CN2				*e*sP		14 54 13.9	
CN2				*e*S	**Sn**	**14 56 28.9**	**+3.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CN2				LR	LR		
	comp=N,1μm,13.0s						
CN2				LR	LR		
	comp=E,800nm,13.0s						
CN2				LR	LR		
	comp=Z,1μm,13.0s						
NJ2	**Nanjing**	**13.14**	**270**	*e*P	**Pn**	**14 54 07.0**	**-0.7**
NJ2				S	**Sn**	**14 56 33.0**	**-0.3**
NJ2				PcP	**PcP**	**14 59 40.8**	**+2.0**
NJ2				LR	LR		
	comp=N,820nm,10.2s						
NJ2				LR	LR		
	comp=E,2μm,12.8s						
NJ2				LR	LR		
	comp=Z,2μm,8.4s						
YUK	**Yuzh-Kuril'sk**	**14.17**	**36**	*de*P	**P**	**14 54 26.2**	**-2.9**
YUK				*e*S	**Sn**	**14 56 56.5**	**-1.8**
YUK				pmax	pmax		
	comp=Z,505nm,1.6s						
YUK				pmax	pmax		
	comp=E,704nm,3.3s						
YUK				pmax	pmax		
	comp=N,200nm,3.8s						
YUK				MLR	MLR		
	comp=E,789nm,15.0s						
YUK				MLR	MLR		
	comp=Z,487nm,18.0s						
HABR	**Khabarovsk**	**15.43**	**2**	*e*P	Pn	14 54 33.3	-5.3
HABR				*e*SS	**Sn**	**14 57 30.6**	**+1.6**
HABR				pmax	pmax		
	comp=N,13nm,1.4s						
HABR				pmax	pmax		
	comp=Z,17nm,1.3s						
HABR				pmax	pmax		
	comp=E,40nm,2.7s						
HABR				MLR	MLR		
	comp=Z,330nm,16.0s						
QZH	**Quanzhou**	**15.98**	**244**	P	**Pn**	**14 54 47.3**	**+1.4**
QZH				S	**Sn**	**14 57 43.6**	**+1.0**
QZH				LR	LR		
	comp=N,1μm,14.6s						
QZH				LR	LR		
	comp=E,1μm,12.8s						
QZH				LR	LR		
	comp=Z,1μm,14.7s						
BJT	**Baijiatuan**	**16.20**	**301**	*e*P	**P**	**14 54 53.1**	**+1.5**
	comp=Z,173nm,0.8s						
BJI	**Beijing**	**16.21**	**301**	P	**P**	**14 54 52.9**	**+1.2**
BJI				pP	**pP**	**14 54 58.4**	**+1.3**
BJI				LR	LR		
	comp=N,960nm,14.7s						
BJI				LR	LR		
	comp=E,2μm,12.6s						
BJI				LR	LR		
	comp=Z,800nm,14.0s						
KLR	**Kul'dur**	**16.30**	**354**	*e*P	**Pn**	**14 54 48.0**	**-1.8**
KLR				pmax	pmax		
	comp=Z,62nm,1.6s						
KLR				MLR	MLR		
	comp=N,2μm,13.5s						
KLR				MLR	MLR		
	comp=Z,2μm,13.5s						
WHN	**Wuhan**	**17.21**	**267**	P	**P**	**14 55 03.3**	**+0.4**
WHN				S	**Sn**	**14 58 13.8**	**+1.4**
WHN				LR	LR		
	comp=N,1μm,8.4s						
WHN				LR	LR		
	comp=E,4μm,11.7s						
WHN				LR	LR		
	comp=Z,5μm,11.9s						
HIA	**Hailar**	**19.55**	**330**	*e*P	**P**	**14 55 28.9**	**+0.3**
	comp=Z,19nm,1.0s						
HHC	**Hu-ho-hao-te**	**19.80**	**300**	*e*P	**Pn**	**14 55 32.8**	**-0.3**
HHC				pP	**pP**	**14 55 37.8**	**+0.9**
HHC				sP	**sP**	**14 55 41.4**	**+1.9**
HHC				PP	**PnPn**	**14 55 51.5**	**+4.5**
HHC				S	**S**	**14 59 09.3**	**-4.5**
HHC				sS	**Sn**	**14 59 17.0**	**+1.9**
HHC				SS	**SnSn**	**14 59 37.0**	**+7.6**
HHC				PcP	**PcP**	**14 59 47.0**	**-2.0**
HHC				PcS	**PcS**	**15 03 26.1**	**-0.3**
HHC				pmax	pmax		
	comp=Z,52nm,0.8s						
HHC				pmax	pmax		
	comp=Z,260nm,4.0s						
HHC				LR	LR		
	comp=N,2μm,14.3s						
HHC				LR	LR		
	comp=E,3μm,13.1s						
HHC				LR	LR		
	comp=Z,3μm,14.3s						
BTO	**Baotou**	**20.88**	**298**	*e*P	**P**	**14 55 41.8**	**-1.3**
XAN	**Xi'an**	**21.24**	**280**	P	**P**	**14 55 49.1**	**+2.1**
XAN				pP	pP	14 55 57.8	+5.3
XAN				S	Sn	14 59 48.9	-0.8
XAN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,29nm,4.9s						
XAN				LR	LR		
	comp=N,500nm,11.9s						
XAN				LR	LR		
	comp=E,130nm,10.4s						
XAN				LR	LR		
	comp=Z,180nm,11.9s						
ENH	**Enshi**	**21.36**	**269**	P	**P**	**14 55 47.6**	**-0.8**
	comp=Z,25nm,0.8s						
CLNS	**Chul'man**	**24.69**	**347**	*e*P	**P**	**14 56 21.6**	**-0.1**
CLNS				pmax	pmax		
	comp=N,5.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,11nm,1.3s						
CLNS				pmax	pmax		
	comp=E,4.0nm,1.1s						
CLNS				MLR	MLR		
	comp=Z,274nm,13.0s						
CLNS				MLR	MLR		
	comp=N,400nm,17.0s						
CLNS				MLR	MLR		
	comp=E,261nm,12.0s						
GYA	**Guiyang**	**24.90**	**262**	P	**P**	**14 56 23.3**	**-0.7**
GYA				PP	**PnPn**	**14 57 01.3**	**+4.4**
GYA				PcP	**PcP**	**15 00 01.0**	**+1.5**
GYA				S	**S**	**15 00 41.6**	**-4.9**
GYA				SS	**SnSn**	**15 01 38.9**	**+4.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,80nm,4.9s						
GYA				LR	LR		
	comp=N,450nm,17.5s						
GYA				LR	LR		
	comp=E,420nm,18.4s						
GYA				LR	LR		
	comp=Z,410nm,16.8s						
LZH	**Lanzhou**	**25.29**	**285**	*e*P	**P**	**14 56 27.6**	**+0.1**
LZH				pP	**pP**	**14 56 32.8**	**-0.5**
LZH				sP	**sP**	**14 56 35.3**	**-0.4**
LZH				*e*S	S	15 00 44.1	-8.5
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				pmax	pmax		
	comp=Z,180nm,5.1s						
LZH				LR	LR		
	comp=N,670nm,10.9s						
LZH				LR	LR		
	comp=E,790nm,12.2s						
LZH				LR	LR		
	comp=Z,800nm,12.9s						
ULN	**Ulaanbaatar**	**25.36**	**314**	*e*P	**P**	**14 56 27.8**	**-0.3**
	comp=Z,13nm,0.8s						
SONM	**Songino Array**	**25.75**	**313**	P	**P**	**14 56 31.4**	**-0.2**
SONM	**Songino Array**	**25.75**	**313**	P	**P**	**14 56 31.4**	**-0.2**
	comp=Z,7.9nm,0.8s,baz=129,slow=9.1,SNR=47						
SONM				LR	LR	15 07 13.7	
	comp=Z,179nm,19.3s,baz=102,slow=38						
QIZ	**Qiongzhong**	**26.01**	**244**	P	**P**	**14 56 34.1**	**+0.2**
QIZ				sP	**sP**	**14 56 38.9**	**-3.3**
QIZ				S	**S**	**15 01 05.8**	**+1.9**
QIZ				pmax	pmax		
	comp=Z,68nm,3.4s						
QIZ				LR	LR		
	comp=N,340nm,16.6s						
QIZ				LR	LR		
	comp=Z,390nm,11.2s						
CD2	**Chengdu**	**26.02**	**274**	*e*P	**P**	**14 56 34.3**	**+0.2**
CD2				pP	**pP**	**14 56 39.3**	**-0.6**
CD2				sP	**sP**	**14 56 42.3**	**-0.1**
CD2				PP	**PnPn**	**14 57 14.9**	**+2.8**
CD2				S	**S**	**15 01 01.0**	**-3.1**
CD2				SS	**SnSn**	**15 02 06.1**	**+4.2**
CD2				pmax	pmax		
	comp=Z,40nm,0.8s						
CD2				pmax	pmax		
	comp=Z,180nm,6.2s						
CD2				LR	LR		
	comp=E,1μm,13.1s						
CD2				LR	LR		
	comp=Z,2μm,11.9s						
PETK	**Petropavlovsk-**	**26.11**	**33**	LR	LR	15 07 38.9	
	comp=Z,142nm,18.9s,baz=210,slow=38						
GTA	**Gaotai**	**28.49**	**293**	⇑P	**P**	**14 56 55.5**	**-0.7**
GTA				S	**S**	**15 01 41.5**	**-1.5**
GTA				sS	**sS**	**15 01 52.0**	**-0.7**
GTA				SS	**SnSn**	**15 03 08.9**	**+7.0**
GTA				pmax	pmax		
	comp=Z,13nm,1.3s						
GTA				pmax	pmax		
	comp=Z,72nm,4.8s						
GTA				LR	LR		
	comp=N,560nm,14.0s						
GTA				LR	LR		
	comp=E,770nm,13.1s						
GTA				LR	LR		
	comp=Z,820nm,13.3s						
KMI	**Kunming**	**28.68**	**262**	P	**P**	**14 56 58.8**	**+0.7**
KMI				pP	**pP**	**14 57 04.3**	**+0.3**
KMI				sP	**sP**	**14 57 06.1**	**-0.3**
KMI				S	**S**	**15 01 45.8**	**-0.6**
KMI				sS	**sS**	**15 01 53.8**	**-2.3**
KMI				SS	**SnSn**	**15 03 09.9**	**+2.9**
KMI				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KMI				pmax	pmax		
	comp=Z,70nm,4.2s						
KMI				LR	LR		
	comp=N,470nm,11.1s						
KMI				LR	LR		
	comp=E,860nm,11.1s						
KMI				LR	LR		
	comp=Z,970nm,11.4s						
ZAK	**Zakamensk**	**28.69**	**316**	*e*P	**P**	**14 56 56.4**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
YAK	**Yakutsk**	**29.17**	**355**	*e*P	**P**	**14 57 00.0**	**-1.8**
YAK				*e**PP	**pP**	**14 57 09.9**	**+2.2**
YAK				*e*		14 57 52.8	
YAK				*e*		15 00 07.5	
YAK				*e*S	**S**	**15 01 50.4**	**-2.5**
YAK				*e*SS	**SnSn**	**15 03 15.3**	**-2.6**
YAK				*e*SSS	SSS	15 03 40.4	
YAK				pmax	pmax		
	comp=Z,12nm,1.1s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,39nm,3.5s						
YAK				pmax	pmax		
	comp=N,26nm,3.6s						
YAK				pmax	pmax		
	comp=E,10.0nm,3.0s						
YAK				smax	smax		
	comp=N,120nm,17.0s						
YAK				MLR	MLR		
	comp=Z,429nm,15.0s						
YAK				MLR	MLR		
	comp=N,336nm,15.0s						
YAK				MLR	MLR		
	comp=E,209nm,15.0s						
HVS	**Khovu-Aksy**	**34.65**	**314**	*e*P	**P**	**14 57 51.0**	**+0.8**
HVS				pmax	pmax		
	comp=Z,53nm,1.7s						
CHTO	**Chiang Mai**	**34.70**	**255**	*e*P	**P**	**14 57 50.9**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CHTO	**Chiang Mai**	**34.70**	**255**	*e*P	**P**	**14 57 50.9**	**+0.1**
	comp=Z,4.9nm,1.1s						
CMAR	**Chiang Mai Arr**	**34.88**	**254**	P	**P**	**14 57 52.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**34.88**	**254**	P	**P**	**14 57 52.6**	**+0.2**
	comp=Z,3.8nm,1.0s,baz=57,slow=5.5,SNR=14						
CMAR				LR	LR	15 15 12.7	
	comp=Z,176nm,18.3s,baz=60,slow=42						
LSA	**Lhasa**	**36.88**	**277**	*e*P	**P**	**14 58 10.4**	**+0.4**
LSA	**Lhasa**	**36.88**	**277**	*e*P	**P**	**14 58 10.3**	**+0.3**
LSA				*e*		14 58 19.3	
LSA				pmax	pmax		
	comp=Z,20nm,1.1s						
LSA	**Lhasa**	**36.88**	**277**	*e*P	**P**	**14 58 10.3**	**+0.3**
	comp=Z,20nm,1.1s						
LSA				*e*		14 58 19.3	
WMQ	**Urumqi**	**37.68**	**300**	P	**P**	**14 58 17.9**	**+1.7**
WMQ				pP	**pP**	**14 58 22.4**	**+0.2**
WMQ				sP	**sP**	**14 58 24.9**	**+0.3**
WMQ				PP	**PnPn**	**14 59 46.4**	**+3.1**

WMQ PcP **PcP** **15 00 36.0 +2.8**
WMQ S **S** **15 04 06.6 +1.3**
WMQ sS **sS** **15 04 13.9 -1.2**
WMQ ScP **ScP** **15 04 21.6 +1.9**
WMQ SS **SnSn** **15 06 40.1 -4.8**
WMQ ScS **ScS** **15 08 28.8 +0.5**
WMQ pmax pmax
comp=Z,11nm,1.3s
WMQ pmax pmax
comp=Z,87nm,4.2s
WMQ LR LR
comp=N,250nm,12.0s
WMQ LR LR
comp=E,380nm,12.0s
WMQ LR LR
comp=Z,200nm,16.4s
TIXI Tiksi **38.79 357** *eP* **P** **14 58 25.1 +0.1**
TIXI pmax pmax
comp=Z,17nm,1.2s
ZALV Zalesovo Beam **40.57 316** P **P** **14 58 39.5 -0.6**
ZALV 15 00 41.3
ZALV pmax pmax
comp=Z,1.0nm,0.7s
ZALV pmax pmax
comp=Z,3.0nm,0.8s
ZALV MLR MLR
comp=Z,191nm,18.6s
ZALV Zalesovo Beam **40.57 316** P **P** **14 58 39.5 -0.6**
ZALV PcP **PcP** **15 00 41.3 -0.7**
ZALV Zalesovo Beam **40.57 316** P **P** **14 58 39.5 -0.6**
comp=Z,1.4nm,0.7s,baz=95,slow=7.5,SNR=7.1
ZALV PcP **PcP** **15 00 41.3 -0.7**
comp=Z,3.2nm,0.8s,baz=94,slow=4.5,SNR=9.0
ZALV LR LR 15 16 38.5
comp=Z,191nm,18.6s,baz=70,slow=38
MKAR Makanchi Array **41.52 305** *i* P **P** **14 58 47.7 -0.3**
MKAR pmax pmax
comp=Z,5.0nm,0.9s
MKAR Makanchi Array **41.52 305** P **P** **14 58 47.8 -0.3**
MKAR Makanchi Array **41.52 305** P **P** **14 58 47.8 -0.3**
comp=Z,4.5nm,0.9s,baz=92,slow=11,SNR=28
MKAR LR LR 15 17 15.2
comp=Z,220nm,20.0s,baz=229,slow=38
KSH Kashi **46.83 295** *eP* P 14 59 34.3 +3.5
KSH PP **PP** **15 01 23.0 +2.1**
KSH PcS **PcS** **15 05 00.8 +2.1**
KSH S **S** **15 06 22.9 +2.5**
KSH ScS **ScS** **15 09 23.1 -1.6**
KSH SS **SS** **15 09 42.3 -4.5**
KSH pmax pmax
comp=Z,75nm,10.0s
KSH LR LR
comp=N,920nm,18.5s
KSH LR LR
comp=E,470nm,16.1s
KSH LR LR
comp=Z,460nm,11.0s
FRU Bishkek **47.26 300** *eP* **P** **14 59 32.0 -2.1**
AAK Ala-Archa **47.38 300** *eP* **P** **14 59 35.0 -0.2**
AAK pmax pmax
comp=Z,8.0nm,1.2s
BRVK Borovoye **49.16 314** *c iP* **P** **14 59 48.4 -0.1**
BRVK pmax pmax
comp=Z,16nm,0.7s
BRVK Borovoye **49.16 314** *eP* **P** **14 59 48.4 -0.1**
comp=Z,16nm,0.8s
KKAR Karatay Array **50.18 301** *eP* **P** **14 59 56.0 -0.5**
KKAR pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array **50.18 301** *eP* **P** **14 59 56.0 -0.5**
comp=Z,4.6nm,0.8s
WRA Warramunga Arr **52.67 180** P **P** **15 00 14.7 -0.6**
WRA Warramunga Arr **52.67 180** P **P** **15 00 14.7 -0.6**
comp=Z,1.7nm,0.8s,baz=356,slow=7.9,SNR=5.0
SVE Sverdlovsk **54.38 320** *eP* **P** **15 00 27.4 0.0**
SVE pmax pmax
comp=Z,16nm,1.3s
ARU Arti **55.57 319** *c iP* **P** **15 00 35.4 -0.6**
ARU 15 01 32.8
ARU S **S** **15 08 15.2 -5.2**
ARU pmax pmax
comp=Z,22nm,1.0s
ARU MLR MLR
comp=Z,177nm,13.0s
ILAR Eielson Array **55.91 31** P **P** **15 00 38.4 0.0**
ILAR Eielson Array **55.91 31** P **P** **15 00 38.4 0.0**
comp=Z,0.6nm,0.8s,baz=276,slow=6.9,SNR=6.4
SOKR Solikamsk **56.02 323** ⇓ *iP* **P** **15 00 39.4 +0.2**
SOKR pmax pmax
comp=Z,10.0nm,1.0s
SOKR MLR MLR
comp=Z,240nm,14.0s
ABKAR Akbulak array **56.12 311** *eP* **P** **15 00 39.2 -0.8**
comp=Z,6.4nm,0.7s
ASAR Alice Springs **56.38 181** P **P** **15 00 41.8 -0.3**
ASAR Alice Springs **56.38 181** P **P** **15 00 41.8 -0.3**
comp=Z,0.6nm,0.9s,baz=12,slow=9.5,SNR=4.0
STKA Stephens Creek **64.92 173** LR LR 15 28 33.5
comp=Z,98nm,20.7s,baz=25,slow=35
KEV Kevo **65.08 339** *ep* **P** **15 01 39.6 -1.3**
comp=Z,15nm,1.0s
KEV Kevo **65.08 339** *eP* **P** **15 01 39.6 -1.3**
KEV pmax pmax
comp=Z,15nm,1.0s
ARCES ARCESS Array B **65.65 339** P **P** **15 01 44.8 +0.2**
ARCES ARCESS Array B **65.65 339** P **P** **15 01 44.8 +0.2**
comp=Z,4.3nm,0.8s,baz=64,slow=8.2,SNR=8.8
ARCES LR LR 15 33 15.2
comp=Z,54nm,19.5s,baz=94,slow=39
VRHR Novokhopersk **66.70 317** *eP* **P** **15 01 48.4 -3.2**
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.5s
VRHR pmax pmax
comp=Z,10.0nm,0.5s
OBN Obninsk **67.77 322** ⇑ *eP* **P** **15 01 57.4 -0.8**
OBN pmax pmax
comp=Z,29nm,1.7s
OBN MLR MLR
comp=Z,200nm,17.0s
VSR Storozhevoye **68.05 318** *eP* **P** **15 01 59.5 -0.6**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,9.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,1.0s
VORD Divnogorie **68.09 317** *eP* P 15 01 57.1 -3.3
VORD pmax pmax
comp=Z,3.0nm,0.3s
VORD pmax pmax
comp=N,6.0nm,1.0s
VORD pmax pmax
comp=E,6.0nm,0.4s
KBZ Khabaz **69.03 309** P **P** **15 02 06.5 +0.2**
KBZ pmax pmax
comp=Z,13nm,0.9s
KBZ MLR MLR
comp=Z,93nm,18.7s
KBZ Khabaz **69.03 309** P **P** **15 02 06.5 +0.2**
KBZ Khabaz **69.03 309** P **P** **15 02 06.5 +0.2**
comp=Z,13nm,0.8s,baz=46,slow=2.4,SNR=20
KBZ LR LR 15 36 17.6
comp=Z,93nm,18.6s,baz=5.6,slow=39
KIV Kislovodsk **69.07 309** *eP* **P** **15 02 06.7 -0.1**
KIV *e* 15 02 28.1
KIV *eS* **S** **15 11 06.3 -4.8**
KIV pmax pmax
comp=Z,20nm,0.9s
KIV MLR MLR
comp=Z,145nm,18.0s
KAF Kangasniemi **69.13 331** *ep* **P** **15 02 04.2 -2.5**
comp=Z,15nm,0.9s
KAF Kangasniemi **69.13 331** *eP* **P** **15 02 04.2 -2.5**
KAF pmax pmax
comp=Z,15nm,0.9s
FINES FINESS Array B **69.57 331** P **P** **15 02 08.6 -0.8**
FINES FINESS Array B **69.57 331** P **P** **15 02 08.6 -0.8**
comp=Z,6.4nm,0.8s,baz=100,slow=8.1,SNR=18
FINES LR LR 15 34 50.4
comp=Z,60nm,19.0s,baz=190,slow=38
ANN Anapa **72.03 312** *eP* **P** **15 02 23.3 -1.3**
ANN *eS* **S** **15 11 42.8 -2.4**
ANN pmax pmax
comp=Z,47nm,1.1s
ANN MLR MLR
comp=Z,214nm,16.0s
KIEV Kiev **73.81 320** *eP* **P** **15 02 33.8 -1.3**
KIEV *e* 15 02 41.5
KIEV pmax pmax
comp=Z,11nm,1.1s
KIEV Kiev **73.81 320** *eP* **P** **15 02 33.8 -1.3**
comp=Z,11nm,1.1s
KIEV *e* 15 02 41.5
SUMG Summit **74.56 358** *i* P **P** **15 02 40.9 +1.3**
SUMG *i* 15 02 51.7
SUMG pmax pmax
comp=Z,8.0nm,1.1s
SUMG Summit **74.56 358** *eP* **P** **15 02 40.5 +0.8**
comp=Z,9.5nm,1.0s
SUMG Summit **74.56 358** *i* P **P** **15 02 40.9 +1.3**
comp=Z,7.9nm,1.1s
SUMG *i* 15 02 51.7
NB2 NORSAR Subarra **75.51 335** P **P** **15 02 44.1 -0.7**
comp=Z,0.7nm,0.6s,baz=44,slow=5.9
NOA NORSAR Array B **75.51 335** P **P** **15 02 44.3 -0.6**
NOA NORSAR Array B **75.51 335** P **P** **15 02 44.3 -0.6**
comp=Z,1.2nm,0.7s,baz=47,slow=5.6,SNR=4.5
NOA LR LR 15 38 32.5
comp=Z,48nm,21.0s,baz=30,slow=38
BRTR Keskin Array B **77.02 309** P **P** **15 02 53.7 -0.3**
BRTR Keskin Array B **77.02 309** P **P** **15 02 53.7 -0.3**
comp=Z,6.0nm,0.9s,baz=93,slow=5.1,SNR=20
BRTR LR LR 15 40 57.5
comp=Z,57nm,18.7s,baz=280,slow=39
KWP Kalwaria Pacla **77.85 322** *eP* **P** **15 02 58.7 +0.4**
STHS Stebnicka Huta **78.74 322** *eP* **P** **15 03 04.3 +1.1**
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta **78.74 322** *eP* **P** **15 03 04.3 +1.1**
OJC Ojcow **78.97 323** *eP* **P** **15 03 04.7 +0.3**
OJC Ojcow **78.97 323** *eP* **P** **15 03 04.7 +0.3**
NIE Niedzica **79.22 323** *eP* **P** **15 03 08.1 +2.3**
NIE Niedzica **79.22 323** *eP* **P** **15 03 08.1 +2.3**
KECS Kecovo **79.71 322** *eP* **P** **15 03 11.3 +2.8**
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo **79.71 322** *eP* **P** **15 03 11.3 +2.8**
BEKR Beckworth **79.85 49** *eP* **P** **15 03 10.4 +0.8**
comp=Z,9.6nm,1.6s
OKC Ostrava-Krasne **80.04 324** AMS AMS 15 42 10.0
comp=Z,600nm,16.8s
FFC Flin Flon **80.10 29** *i* P **P** **15 03 11.6 +1.2**
KSP Ksiaz **80.28 325** *eP* **P** **15 03 11.8 +0.3**
KSP *e* 15 03 19.3
VYHS Vyhne **80.56 323** *eP* **P** **15 03 13.6 +0.5**
VYHS pmax pmax
comp=Z,10.0nm,1.8s
VYHS Vyhne **80.56 323** *eP* **P** **15 03 13.5 +0.5**
DPC Dobruska-Polom **80.59 325** *eP* **P** **15 03 14.1 +0.8**
DPC *e* 15 03 20.6
DPC Dobruska-Polom **80.59 325** *eP* **P** **15 03 14.1 +0.8**
DPC *epP* **PcP** **15 03 20.6 +0.5**
DPC AMS AMS 15 42 20.0
EGMT Eagleton **81.02 38** *eP* **P** **15 03 16.1 +0.5**
comp=Z,5.8nm,1.0s
EGMT *e* 15 03 22.6
HLID Hailey **81.27 43** P **P** **15 03 18.7 +1.4**
comp=Z,2.9nm,1.3s
PVCC Panska Ves **81.31 326** AMS AMS 15 43 50.0
comp=Z,300nm,12.2s
CLL Collm **81.50 327** ⇓ *iP* **P** **15 03 18.2 +0.2**
CLL *e* 15 03 25.0
CLL pmax pmax
comp=Z,6.0nm,1.1s
CLL Collm **81.50 327** ⇓ *iP* **P** **15 03 18.2 +0.2**
comp=Z,9.0nm,1.1s
CLL *epP* **pP** **15 03 25.0 +0.6**
PRU Pruhonice **81.69 326** *eP* **P** **15 03 19.5 +0.5**
PRU Pruhonice **81.69 326** *eP* **P** **15 03 19.5 +0.5**
PRU AMS AMS 15 42 30.0
TREC Trest **81.70 325** AMS AMS 15 43 20.0
comp=Z,400nm,15.2s
NVAR Mina Array Bea **81.98 49** P **P** **15 03 21.6 +0.5**
NVAR Mina Array Bea **81.98 49** P **P** **15 03 21.6 +0.5**
comp=Z,2.0nm,0.3s,baz=292,slow=4.9,SNR=6.4
CONA Conrad Observa **82.43 323** ⇑ *iP* **P** **15 03 23.7 +0.6**
comp=Z,8.3nm,1.3s
NKC Novy Kostel **82.50 327** AMS AMS 15 44 30.0
comp=Z,200nm,14.3s
KHC Kasperske Hory **82.73 325** *eP* **P** **15 03 24.3 -0.3**
KHC pmax pmax
comp=Z,9.0nm,0.8s
KHC Kasperske Hory **82.73 325** AMS AMS 15 43 40.0
comp=Z,200nm,12.2s
KHC Kasperske Hory **82.73 325** *eP* **P** **15 03 24.3 -0.3**
comp=Z,8.6nm,0.8s
GERES GERESS Array B **82.87 325** P **P** **15 03 25.2 -0.2**
GERES GERESS Array B **82.87 325** P **P** **15 03 25.2 -0.2**
comp=Z,1.5nm,0.8s,baz=54,slow=5.0,SNR=9.7
GERES LR LR 15 42 56.7
comp=Z,103nm,18.7s,baz=272,slow=38
PDAR Pinedale Array **84.53 42** P **P** **15 03 33.8 -0.5**
PDAR Pinedale Array **84.53 42** P **P** **15 03 33.8 -0.5**
comp=Z,0.4nm,0.6s,baz=354,slow=1.5,SNR=4.2
SCHQ Schefferville **90.61 12** LR LR 15 47 48.8
comp=Z,61nm,19.5s,baz=78,slow=38

*IDC **22** 15:13:23.5±1.6,2.°08S×141.°05E, h0km, mb3.4/3, mb1 3.9/4, mb1mx3.5/19, mbtmp3.6/4, ML4.3/1, Error ellipse: s-maj=90.6km s-min=25.9km az=115.0*
*ISCJB **22** 15:13:44.4±0.8, 3.°52S±0.°08×140.°3E±0.°1, h39km, Error ellipse: s-maj=18.1km s-min=7.6km az=28.8*
*AUST **22** 15:13:45.5±16.0, 3.°52S×140.°42E, h28km, Error ellipse: s-maj=2.1km s-min=1.0km az=288.0*
ISC 22 15:13:45.3±1.2, 3.°57S±0.°10×140.°4E±0.°1, h39km, n9, σ1s53/9, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.10**	**18**	P	**Pn**	**15 14 04.6**	**+0.2**
	baz=1.0,SNR=201						
JAY				S	**Sn**	**15 14 17.2**	**-1.2**
	baz=1.0,SNR=14						
MANU	**Manus Island**	**7.16**	**78**	S	Sn	15 17 06.0	+18
	baz=7.1,SNR=6.5						
FAKI	**Fak Fak**	**8.13**	**274**	P	**Pn**	**15 15 41.4**	**+0.5**
	baz=8.2,SNR=4.1						
SWI	**Sorong**	**9.49**	**286**	P	**Pn**	**15 15 59.9**	**+0.4**
	baz=9.5,SNR=3.9						
KDU	**Kakadu**	**11.95**	**220**	P	**Pn**	**15 16 34.3**	**+1.1**
	baz=12,SNR=9.0						
KDU				S	**Sn**	**15 18 42.4**	**-3.0**
	baz=12,SNR=3.7						
MTN	**Manton Dam**	**12.97**	**224**	P	Pn	15 16 50.8	+3.6
	baz=13,SNR=4.1						
MTN				S	Sn	15 19 03.4	-6.8
	baz=13,SNR=3.9						
WRA	**Warramunga Arr**	**17.30**	**199**	P	**P**	**15 17 45.9**	**+0.8**
	0.9nm,0.3s,baz=24,slow=12,SNR=37						
FITZ	**Fitzroy Crossi**	**20.41**	**224**	P	**P**	**15 18 18.5**	**-0.7**
	0.8nm,0.8s,baz=51,slow=15,SNR=6.5						
ASAR	**Alice Springs**	**20.93**	**197**	P	**P**	**15 18 25.6**	**+0.8**
	1.5nm,0.6s,baz=28,slow=10,SNR=24						

*NNC **22** 15:14:41.5±3.8, 42.°97N×84.°53E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=34.6km s-min=32.4km az=123.0*
IDC 22 15:14:40.4±3.4, 42.°97N×84.°90E, h0km, mb3.6/1, mb1 3.3/3, mb1mx3.1/28, mbtmp3.3/3, ML2.9/2, 5C, Error ellipse: s-maj=81.2km s-min=25.2km az=82.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**4.25**	**335**	⇑ Pn	Pn	15 15 48.7	+2.3
	0.2nm,0.3s,baz=152,slow=15,SNR=31						
MK31				⇑ Pg	Pb	15 15 58.1	+2.1
	0.7nm,0.3s,baz=149,slow=16,SNR=17						
MK31				⇑ Lg	Lg	15 16 51.0	
	12nm,0.8s,baz=154,slow=30,SNR=8.1						
MKAR	**Makanchi Array**	**4.25**	**335**	Pn	Pn	15 15 48.9	+2.5
	0.3nm,0.3s,baz=152,slow=14,SNR=16						
MKAR				Pg	Pg	15 15 59.1	-2.7
	1.0nm,0.3s,baz=159,slow=18,SNR=19						
MKAR				Lg	Lg	15 16 51.3	
	2.5nm,0.3s,baz=143,slow=29,SNR=7.9						
TKM2	**Tokmak 2**	**6.83**	**273**	⇑ Lg	Lg	15 18 08.2	
	5.1nm,0.7s						
KURBB	**Kurchatov Arra**	**8.81**	**333**	⇑ Lg	Lg	15 19 16.5	
	6.6nm,0.7s						
ZALV	**Zalesovo Beam**	**10.99**	**360**	Pn	Pn	15 17 16.8	-1.9
	0.2nm,0.3s,baz=192,slow=12,SNR=3.0						
ILAR	**Eielson Array**	**65.23**	**22**	P	PcP	15 25 57.3	+1.7
	0.3nm,0.8s,baz=262,slow=6.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**76.23**	**275**	P	P	15 26 30.4	-0.5
	0.2nm,0.4s,baz=42,slow=5.3,SNR=5.1						

*ISCJB **22** 15:26:05.9±0.8, 6.°2S±0.°1×154.°4E±0.°2, h61km, mb3.8/11, Error ellipse: s-maj=23.6km s-min=12.3km az=26.8*
*IDC **22** 15:26:07.8±5.3, 6.°15S×154.°40E, h65km±43km, mb3.6/10, mb1 3.9/11, mb1mx3.7/19, mbtmp3.7/11, ML3.9/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/20, Error ellipse: s-maj=37.2km s-min=20.9km az=103.0*
*AUST **22** 15:27:01.0±23.0, 10.°55S×151.°32E, h31km, Error ellipse: s-maj=1.8km s-min=1.2km az=28.0*
ISC 22 15:26:07.2±0.9, 6.°1S±0.°1×154.°5E±0.°2, h61km, n19, σ0s85/19, mb3.8/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.94**	**245**	P	**Pn**	**15 28 01.0**	**+1.0**
	9.9nm,0.3s,baz=53,slow=9.1,SNR=36						
PMG				LR	LR	15 30 55.9	
	comp=Z,167nm,20.4s,baz=180,slow=37						
MANU	**Manus Island**	**8.16**	**299**	P	Sn	15 29 14.5	-19
	baz=9.4,SNR=4.9						
CTA	**Charters Tower**	**16.01**	**209**	P	**P**	**15 29 51.6**	**+0.5**
	0.3nm,0.3s,baz=51,slow=12,SNR=8.0						
RMQ	**Roma**	**20.97**	**194**	P	**P**	**15 30 45.8**	**+0.4**
	baz=16,SNR=4.8						
KDU	**Kakadu**	**22.65**	**252**	P	P	15 31 17.3	+14
	baz=19,SNR=4.1						
WRA	**Warramunga Arr**	**23.90**	**233**	P	**P**	**15 31 15.1**	**-0.4**
	1.2nm,0.7s,baz=55,slow=9.5,SNR=9.7						
WRA				PcP	**PcP**	**15 34 57.5**	**+0.5**
	1.9nm,0.6s,baz=59,slow=2.2,SNR=7.9						
ASAR	**Alice Springs**	**26.37**	**226**	P	**P**	**15 31 37.4**	**-0.6**
	0.5nm,0.4s,baz=57,slow=9.0,SNR=17						
ASAR				PcP	**PcP**	**15 35 03.6**	**+1.0**
	0.9nm,0.6s,baz=312,slow=9.0,SNR=6.1						
STKA	**Stephens Creek**	**28.31**	**204**	P	**P**	**15 31 53.9**	**-1.2**
	2.0nm,0.8s,baz=9.0,slow=15,SNR=3.1						
STKA				LR	LR	15 43 12.9	
	comp=Z,90nm,18.6s,baz=205,slow=36						
FITZ	**Fitzroy Crossi**	**30.54**	**244**	P	**P**	**15 32 15.0**	**-0.2**
	1.1nm,0.6s,baz=54,slow=8.6,SNR=6.5						
FITZ	**Fitzroy Crossi**	**30.54**	**244**	P	**P**	**15 32 15.4**	**+0.3**
	baz=10,SNR=7.2						
KSRS	**Korea Array**	**49.93**	**332**	P	**P**	**15 34 55.1**	**+0.2**
	0.9nm,0.7s,baz=141,slow=7.9,SNR=5.6						
PETK	**Petropavlovsk-**	**59.07**	**2**	P	P	15 36 05.2	+4.2
	0.6nm,0.5s,baz=177,slow=8.3,SNR=6.2						
CMAR	**Chiang Mai Arr**	**59.94**	**295**	P	**P**	**15 36 06.2**	**-1.4**
	0.4nm,0.3s,baz=66,slow=14,SNR=4.8						
SONM	**Songino Array**	**68.33**	**327**	P	**P**	**15 37 03.2**	**+1.0**
	0.7nm,0.5s,baz=134,slow=6.2,SNR=3.5						
MKAR	**Makanchi Array**	**82.41**	**319**	P	**P**	**15 38 22.9**	**0.0**
	0.3nm,0.6s,baz=79,slow=6.4,SNR=4.1						
ILAR	**Eielson Array**	**82.76**	**22**	P	**P**	**15 38 23.1**	**-1.2**
	0.4nm,0.7s,baz=247,slow=7.9,SNR=4.4						
NVAR	**Mina Array Bea**	**91.59**	**52**	P	**P**	**15 39 09.3**	**+1.2**
	1.2nm,0.8s,baz=252,slow=6.5,SNR=7.4						
BOSA	**Boshof**	**100.15**	**232**	PKP	**PKPdf**	**15 44 52.4**	**+0.3**
	4.0nm,1.1s,baz=90,slow=7.1,SNR=3.1						
TORD	**Torodi Ar. Bea**	**152.29**	**287**	PKPbc	**PKPbc**	**15 45 56.4**	**-0.9**
	1.4nm,0.6s,baz=34,slow=2.7,SNR=10						
TORD				PKPab	**PKPab**	**15 46 07.3**	**0.0**
	1.6nm,0.6s,baz=72,slow=4.1,SNR=8.3						

*ISCJB **22** 15:30:07.6±0.5, 9.°52S±0.°04×119.°89E±0.°05, h61km, mb3.8/3, Error ellipse: s-maj=7.9km s-min=5.5km az=143.8*
*IDC **22** 15:30:07.7±4.2, 9.°41S×119.°71E, h74km±36km, mb3.5/3, mb1 3.8/7, mb1mx3.5/22, mbtmp3.7/7, ML4.0/4, MS2.8/1, Ms1 2.8/1, ms1mx2.2/19, Error ellipse: s-maj=74.7km s-min=13.2km az=69.0*
*AUST **22** 15:30:08.1±0.5, 9.°53S×119.°74E, h59km, Error ellipse: s-maj=1.3km s-min=0.9km az=276.0*
*DJA **22** 15:30:09.8±0.4, 9.°S±4.°×12.°0E±.°, h39km±5km, M4.4/13, mb4.4/1, MLv4.5/13*
ISC 22 15:30:07.6±0.7, 9.°45S±0.°05×119.°79E±0.°06, h61km, n32, σ2s15/32, mb3.8/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.44**	**244**	P	**Pn**	**15 30 20.1**	**+1.0**
WSI	**Waingapu**	**0.54**	**114**	P	**Pn**	**15 30 21.4**	**+1.4**
WSI				S	**Sn**	**15 30 31.8**	**+2.6**
WSI	**Waingapu**	**0.54**	**114**	P	**Pn**	**15 30 21.4**	**+1.4**
	baz=0.6,SNR=35						
WSI				S	**Sn**	**15 30 31.6**	**+2.5**
	baz=0.6,SNR=12						
BASI	**Baing, Sumba**	**1.09**	**135**	P	**Pn**	**15 30 28.7**	**+1.9**
BASI				S	**Sn**	**15 30 40.0**	**-1.1**
MMRI	**Maumere**	**2.54**	**72**	P	**Pn**	**15 30 48.4**	**+1.9**
BSSI	**Bau Bau, Buton**	**3.36**	**12**	P	**Pn**	**15 30 59.3**	**+1.7**
BATI	**Baunata**	**3.89**	**101**	P	**Pn**	**15 31 07.3**	**+2.4**
BKSI	**Bulukumba**	**4.11**	**5**	P	**Pn**	**15 31 10.5**	**+2.5**
KAPI	**Kappang**	**4.41**	**359**	P	**Pn**	**15 31 14.0**	**+2.0**
KAPI	**Kappang**	**4.41**	**359**	P	**Pn**	**15 31 13.5**	**+1.6**
	15nm,0.3s,baz=180,slow=19,SNR=17						
KAPI				S	**Sn**	**15 32 01.4**	**-0.7**
	23nm,0.3s,baz=43,slow=23,SNR=22						
KAPI				LR	LR	15 33 03.9	
	comp=Z,124nm,20.7s,baz=163,slow=40						
SOEI	**Soe**	**4.42**	**94**	P	**Pn**	**15 31 15.2**	**+2.9**
SOEI	**Soe**	**4.42**	**94**	P	**Pn**	**15 31 14.5**	**+2.2**
	baz=4.5,SNR=11						
DNP	**Denpasar**	**4.59**	**279**	P	**Pn**	**15 31 17.6**	**+3.1**
IGBI	**Denpasar**	**4.63**	**277**	P	**Pn**	**15 31 18.2**	**+3.1**
BBSI	**Bau Bau**	**4.80**	**35**	P	**Pn**	**15 31 17.5**	**+0.1**
TTSI	**Tana Toraja**	**6.36**	**0**	P	Pn	15 31 42.5	+3.7
FITZ	**Fitzroy Crossi**	**10.30**	**147**	P	**Pn**	**15 32 32.3**	**-0.4**
	0.5nm,0.3s,baz=330,slow=4.9,SNR=26						
FITZ				S	Sn	15 34 17.3	-9.4
	2.2nm,0.3s,baz=184,slow=18,SNR=15						
FITZ	**Fitzroy Crossi**	**10.30**	**147**	S	**Sn**	**15 34 21.1**	**-5.6**
	baz=10,SNR=6.8						
MTN	**Manton Dam**	**11.62**	**108**	P	**Pn**	**15 32 50.1**	**-0.6**
	baz=12,SNR=8.5						
MTN				S	Sn	15 34 49.2	-10
	baz=12,SNR=4.9						
KDU	**Kakadu**	**12.85**	**106**	P	**Pn**	**15 33 07.0**	**-0.5**
	baz=13,SNR=8.8						
KDU				S	Sn	15 35 18.8	-10
	baz=13,SNR=4.5						
FAKI	**Fak Fak**	**13.97**	**63**	P	**P**	**15 33 28.0**	**-0.9**
	baz=14,SNR=5.0						
MEEK	**Meekatharra**	**17.13**	**184**	P	**Pn**	**15 34 03.5**	**+0.5**
	baz=17,SNR=5.3						
MEEK				S	Sn	15 36 53.9	-19
	baz=17,SNR=10						
WRA	**Warramunga Arr**	**17.50**	**128**	P	**Pn**	**15 34 06.7**	**-0.8**
	0.3nm,0.3s,baz=298,slow=14,SNR=10						
WRA				S	Sn	15 37 08.9	-13
	0.4nm,0.3s,baz=306,slow=23,SNR=7.1						
ASAR	**Alice Springs**	**19.54**	**139**	P	**P**	**15 34 31.0**	**+0.7**
	1.1nm,0.3s,baz=324,slow=13,SNR=33						
ASAR				S	S	15 38 00.6	-7.3
	0.2nm,0.3s,baz=313,slow=23,SNR=9.1						
MORW	**Morawa**	**19.83**	**190**	P	**Pn**	**15 34 37.9**	**+2.4**
	baz=20,SNR=6.2						
MORW				S	S	15 37 58.9	-15
	baz=20,SNR=11						
BKNI	**Bangkinang**	**21.05**	**296**	S	Sn	15 38 53.4	+6.1
	baz=21,SNR=3.0						
MTSU	**Mount Surprise**	**25.30**	**113**	P	**P**	**15 35 31.0**	**+2.3**
	baz=25,SNR=13						
MANU	**Manus Island**	**28.38**	**77**	P	P	15 35 39.3	-17
	baz=28,SNR=3.3						
STKA	**Stephens Creek**	**30.11**	**141**	P	**P**	**15 36 11.8**	**+0.2**
	1.9nm,0.7s,baz=306,slow=11,SNR=5.0						
LHI	**Lord Howe Isla**	**42.51**	**127**	S	S	15 44 26.3	+11
	baz=42,SNR=5.4						
SONM	**Songino Array**	**58.26**	**349**	P	**P**	**15 39 54.2**	**-1.7**
	0.5nm,0.6s,baz=167,slow=7.2,SNR=4.5						
MKAR	**Makanchi Array**	**65.21**	**333**	P	**P**	**15 40 40.5**	**-2.1**
	0.4nm,0.6s,baz=141,slow=8.4,SNR=4.4						

*NSSP **22** 15:37:04.3, 38.65N×43.98E, Ms2.8*
*DDA **22** 15:37:05.3, 39.01N×43.87E, h7km, MD3.1*
*ISK **22** 15:37:06.1, 39.22N×44.09E, h26km, MD3.1*
*CSEM **22** 15:37:08.4±0.3, 38.90N×43.58E, h10km, MD3.1, Error ellipse: s-maj=8.5km s-min=6.3km az=96.0*

ISC 22 15:37:07.2±0.9, 38.98N±0.03×43.83E±0.04, h17km±8km, n26, σ0.84/31, 3C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLDR	**Caldiran**	**0.17**	**23**	*e*PG	**Pg**	**15 37 11.6**	**-0.3**
CLDR				*e*SG	**Sg**	**15 37 15.7**	**+0.5**
TVAN	**Van**	**0.56**	**216**	*i* P	**Pg**	**15 37 17.6**	**-0.8**
TVAN	**Van**	**0.56**	**216**	*i* P	**Pg**	**15 37 17.6**	**-0.8**
AGRB	**Hanur-Agry**	**0.88**	**313**	*e*PG	**Pg**	**15 37 23.9**	**-0.5**
AGRB				*e*SG	**Sg**	**15 37 36.5**	**+0.5**
AGRB	**Hanur-Agry**	**0.88**	**313**	*e*Pg	**Pg**	**15 37 23.9**	**-0.5**
AGRB				*e*Sg	**Sg**	**15 37 36.5**	**+0.5**
TUTA	**Tutak**	**0.89**	**298**	*i* P	**Pg**	**15 37 23.7**	**-0.9**
TUTA				*i* S	**Sg**	**15 37 36.2**	**-0.3**
TUTA	**Tutak**	**0.89**	**298**	*i* P	**Pg**	**15 37 23.7**	**-0.9**
TUTA				*i* S	**Sg**	**15 37 36.2**	**-0.3**
GEVA	**Gevas**	**0.90**	**222**	*i* P	Pg	15 37 21.4	-3.3
GEVA				*i* S	**Sg**	**15 37 38.3**	**+1.7**
GEVA	**Gevas**	**0.90**	**222**	*i* P	Pg	15 37 21.4	-3.3
TATV	**Tatvan**	**1.31**	**249**	*i* P	**Pn**	**15 37 29.4**	**-1.4**
TATV				*e*S	**Sn**	**15 37 48.1**	**+0.1**
TATV	**Tatvan**	**1.31**	**249**	*i* P	**Pn**	**15 37 29.4**	**-1.4**
TATV				*e*S	**Sn**	**15 37 48.1**	**+0.1**
GNI	**Garni**	**1.36**	**31**	⇑*i*P	Pg	15 37 35.4	+1.8
GNI				⇓*i*S	Sg	15 37 57.8	+6.5
GNI	**Garni**	**1.36**	**31**	⇑P	Pg	15 37 35.3	+1.8
GNI				S	Sg	15 37 57.8	+6.5
HAKT	**HAKKARI**	**1.43**	**184**	*i* P	**Pn**	**15 37 32.4**	**-0.1**
HAKT				*e*S	**Sg**	**15 37 53.3**	**0.0**
HAKT	**HAKKARI**	**1.43**	**184**	*i* P	**Pn**	**15 37 32.4**	**-0.1**
HAKT				*e*S	**Sg**	**15 37 53.3**	**0.0**
CUKT	**Cukurca**	**1.74**	**186**	*e*PN	**Pb**	**15 37 39.2**	**+0.5**
CUKT	**Cukurca**	**1.74**	**186**	*e*Pn	**Pb**	**15 37 39.2**	**+0.5**
SIRT	**Sirnak**	**1.84**	**217**	*e*PN	**Pb**	**15 37 41.4**	**+1.0**
VADZ	**Vardenis**	**1.90**	**51**	*e*P	**Pg**	**15 37 43.0**	**-0.7**
VADZ				⇑S	Sg	15 38 11.0	+2.6
VADZ	**Vardenis**	**1.90**	**51**	P	**Pg**	**15 37 43.0**	**-0.7**
VADZ				S	Sg	15 38 11.0	+2.6
STE	**Stepanavan**	**2.06**	**11**	P	**Pg**	**15 37 46.0**	**-0.7**
STEZ	**Stepenevan**	**2.06**	**12**	*e*P	**Pg**	**15 37 46.0**	**-0.8**
STEZ				*e*S	Sg	15 38 19.6	+6.0
EZM	**Erzurum**	**2.12**	**297**	*e*PN	**Pb**	**15 37 42.1**	**0.0**
BNGB	**Bingˆl**	**2.45**	**271**	*e*PN	**Pn**	**15 37 48.5**	**+2.0**
BINT	**Bingol**	**2.61**	**269**	*e*Pn	**Pn**	**15 37 48.5**	**-0.1**
MAZI	**Mazidag**	**3.07**	**241**	*e*PN	Pn	15 37 58.7	+3.7

GUC 22 15:41:53.9±1.0, 21.55S×70.12W, h46km±8km, ML3.6, 3C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**Plate Boundary**	**0.78**	**50**	⇑*i*P	Pn	15 42 09.3	+0.6
PB01				*i* S	Sn	15 42 20.0	+0.6
PB01				AML	AML	15 42 21.6	
	comp=E,4μm,0.2s						
PB09	**Plate Boundary**	**0.86**	**107**	⇑*i*P	Pn	15 42 10.8	+1.0
PB09				*i* S	Sn	15 42 22.4	+0.9
PB09				AML	AML	15 42 23.5	
	comp=N,16μm,0.3s						
PB04	**Plate Boundary**	**0.93**	**140**	⇑*i*P	Pn	15 42 09.3	-1.2
PB04				*i* S	Sn	15 42 20.6	-2.2
PB04				AML	AML	15 42 24.5	
	comp=N,4μm,0.1s						
HMBC	**Humberstone**	**1.28**	**10**	⇓*i*P	Pn	15 42 16.2	+0.6
HMBC				*i* S	Sn	15 42 33.6	+1.8
HMBC				AML	AML	15 42 44.8	
	comp=N,1μm,0.4s						
PSGC	**Pisagua**	**1.94**	**0**	AML	AML	15 43 07.8	
	comp=E,286nm,0.3s						
MNMC	**Minimini**	**2.46**	**12**	⇓*i*P	Pn	15 42 32.8	+0.9
MNMC				AML	AML	15 43 22.8	
	comp=N,683nm,0.4s						

*NIED **22** 15:47:00, 32.90N×134.40E, h14km, Mw4.0 Best double couple: M0 1.20000×10^15 NP1:φs24.00000°, δ63.00000°, λ72.00000°. NP2:φs239.00000°, δ32.00000°, λ121.00000°.*
*IDC **22** 15:47:30.1±0.8, 33.11N×134.52E, h0km, mb3.7/13, mb1 3.9/15, mb1mx3.9/27, mbtmp3.7/15, ML3.4/3, MS3.2/7, Ms1 3.2/7, ms1mx3.0/35, Error ellipse: s-maj=18.9km s-min=14.4km az=172.0*
*ISCJB **22** 15:47:32.5±1.3, 32.97N±0.07×134.39E±0.05, h28km±8km, mb3.6/13, MS3.2/4, Error ellipse: s-maj=11.8km s-min=5.8km az=161.0*
*JMA **22** 15:47:34.0±0.1, 33.04N×134.33E, h29km±1km, M4.1*
JMA Felt III J1.

ISC 22 15:47:33.3±0.8, 32.99N±0.08×134.37E±0.05, h21km±4km, n30, σ1ᵖ10/35, mb3.8/13, MS3.2/4, 9C-1D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRT2	**Murotomisaki 2**	**0.44**	**334**	⇑P	**Pb**	**15 47 42.4**	**+0.2**
MRT2				S	**Sb**	**15 47 48.4**	**+0.1**
JAI	**Aioi**	**0.80**	**5**	⇑P	**Pb**	**15 47 48.2**	**-0.3**
JAI				S	**Sb**	**15 47 58.7**	**-0.2**
JMN	**Monobe**	**0.84**	**331**	⇑P	**Pb**	**15 47 49.0**	**-0.2**
JMN				S	**Sn**	**15 48 01.1**	**-0.6**
JKU	**Kubokawa**	**1.14**	**286**	⇑P	**Pn**	**15 47 53.5**	**-0.6**
JKU				*e*S	**Sb**	**15 48 09.2**	**+0.5**
JWM	**Minabe**	**1.19**	**44**	P	**Pn**	**15 47 53.8**	**-0.8**
JWZ	**Kozaga**	**1.25**	**64**	⇓P	**Pn**	**15 47 54.3**	**-1.2**
JTO	**Tosashimizu**	**1.33**	**265**	⇑P	**Pn**	**15 47 54.9**	**-1.7**
JTO				*e*S	**Sn**	**15 48 12.3**	**-1.3**
JET	**Tanbara**	**1.36**	**306**	⇑P	**Pn**	**15 47 55.8**	**-1.2**
JJS	**Sakaide**	**1.43**	**345**	⇑P	**Pn**	**15 47 57.3**	**-0.7**
UWA2	**Uwa jima 2**	**1.48**	**279**	⇑P	**Pn**	**15 47 57.4**	**-1.4**
JAJ2	**Tsuna**	**1.48**	**17**	⇑P	**Pn**	**15 47 58.4**	**-0.4**
JNU	**Nakatsue**	**2.94**	**273**	Pn	**Pn**	**15 48 18.7**	**-0.1**
	14nm,0.3s,baz=69,slow=6.5,SNR=142						
JNU				Lg	Lg	15 49 08.1	
	38nm,0.3s,baz=214,slow=18,SNR=6.8						
JNU				LR	LR	15 49 36.7	
	comp=Z,249nm,21.6s,baz=86,slow=41						
MAT	**Matsushiro**	**4.74**	**41**	P	Pn	15 48 48.0	+4.4
MAT				*e*S	**Sn**	**15 49 40.1**	**+2.2**
MJAR	**Matsushiro Arr**	**4.74**	**41**	Pn	**Pn**	**15 48 41.7**	**-1.9**
	0.2nm,0.3s,baz=172,slow=9.8,SNR=3.2						
KSRS	**Korea Array**	**6.90**	**312**	Pn	**Pn**	**15 49 13.5**	**+0.3**
	1.0nm,0.3s,baz=122,slow=14,SNR=20						
KSRS				LR	LR	15 52 06.4	
	comp=Z,136nm,20.8s,baz=163,slow=40						
USRK	**Ussuriysk Arra**	**11.34**	**351**	Pn	**Pn**	**15 50 14.5**	**+0.5**
	0.1nm,0.3s,baz=174,slow=17,SNR=1.8						
USRK				LR	LR	15 54 24.4	
	comp=Z,102nm,18.7s,baz=6.5,slow=37						
SONM	**Songino Array**	**25.77**	**313**	P	**P**	**15 53 03.5**	**+0.8**
	2.1nm,0.7s,baz=130,slow=9.5,SNR=18						
PETK	**Petropavlovsk-**	**26.15**	**33**	P	**P**	**15 53 03.2**	**-2.7**
	3.5nm,1.1s,baz=160,slow=9.9,SNR=3.1						
PETK				LR	LR	16 03 17.2	
	comp=Z,36nm,18.9s,baz=168,slow=36						
CMAR	**Chiang Mai Arr**	**34.86**	**254**	P	**P**	**15 54 24.4**	**+1.2**
	0.8nm,0.5s,baz=38,slow=7.6,SNR=6.8						
CMAR				LR	LR	16 09 23.8	
	comp=Z,36nm,18.1s,baz=40,slow=38						
KAPI	**Kappang**	**40.27**	**203**	LR	LR	16 11 00.9	
	comp=Z,77nm,19.6s,baz=108,slow=35						
ZALV	**Zalesovo Beam**	**40.59**	**316**	P	**P**	**15 55 11.5**	**+0.3**
	0.5nm,0.6s,baz=98,slow=6.4,SNR=2.7						
ZALV				PcP	**PcP**	**15 57 13.1**	**+0.1**
	1.0nm,0.6s,baz=84,slow=4.6,SNR=4.7						
MKAR	**Makanchi Array**	**41.53**	**305**	P	**P**	**15 55 18.1**	**-1.0**
	0.9nm,0.8s,baz=91,slow=9.6,SNR=9.3						
MKAR				LR	LR	16 14 21.5	
	comp=Z,43nm,21.5s,baz=76,slow=39						
WRA	**Warramunga Arr**	**52.64**	**180**	P	**P**	**15 56 46.4**	**+0.5**
	0.2nm,0.6s,baz=358,slow=7.9,SNR=3.0						
ILAR	**Eielson Array**	**55.95**	**30**	P	**P**	**15 57 09.7**	**+0.2**
	0.4nm,0.9s,baz=264,slow=5.3,SNR=4.3						
ASAR	**Alice Springs**	**56.34**	**181**	P	**P**	**15 57 14.6**	**+1.8**
	0.2nm,0.8s,baz=14,slow=12,SNR=4.8						
KBZ	**Khabaz**	**69.05**	**309**	P	**P**	**15 58 38.6**	**+1.2**
	3.8nm,0.8s,baz=136,slow=4.2,SNR=5.7						
FINES	**FINESS Array B**	**69.60**	**331**	P	**P**	**15 58 40.7**	**+0.2**
	1.7nm,0.8s,baz=60,slow=11,SNR=5.7						
BRTR	**Keskin Array B**	**77.04**	**309**	P	**P**	**15 59 24.7**	**-0.3**
	1.5nm,0.8s,baz=99,slow=4.9,SNR=6.9						
NVAR	**Mina Array Bea**	**82.01**	**49**	P	**P**	**15 59 51.8**	**-0.5**
	0.1nm,0.3s,baz=274,slow=4.3,SNR=2.2						
PDAR	**Pinedale Array**	**84.57**	**42**	P	**P**	**16 00 04.1**	**-1.2**
	0.5nm,0.9s,baz=323,slow=2.4,SNR=2.9						

*NIED **22** 15:50:00, 26.80N×130.00E, h5km, Mw4.1 Best double couple: M0 1.46000×10^15 NP1:φs51.00000°, δ57.00000°, λ-77.00000°. NP2:φs208.00000°, δ35.00000°, λ-109.00000°.*
*IDC **22** 15:50:14.2±2.1, 26.68N×129.01E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.6/23, mbtmp4.0/4, Error ellipse: s-maj=200.6km s-min=26.5km az=73.0*
*JMA **22** 15:50:15.3±0.1, 26.84N×130.04E, h32km, M3.8*

ISC 22 15:50:13.3±3.2, 26.86N±0.04×130.01E±0.04, h5km±21km, n16, σ1ᵖ02/27, mb4.1/4, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**1.32**	**315**	P	**Pb**	**15 50 38.6**	**0.0**
JTK				*e*S	**Sn**	**15 50 55.3**	**-1.1**
JZK	**Kikaishima**	**1.45**	**359**	P	**Pb**	**15 50 41.1**	**+0.3**
JZK				*e*S	**Sb**	**15 50 59.5**	**0.0**
JMZ	**Minamidaito 2**	**1.50**	**133**	P	**Pn**	**15 50 40.2**	**-0.6**
JMZ				*e*S	**Sn**	**15 50 58.8**	**-2.0**
JOW	**Kunigami**	**1.55**	**269**	P	**Pb**	**15 50 42.2**	**-0.3**
JOW				*e*S	**Sb**	**15 51 02.1**	**-0.4**
JAMN	**Amaminishikomi**	**1.57**	**332**	P	**Pn**	**15 50 41.4**	**-0.4**
JAMN				*e*S	**Sn**	**15 51 01.0**	**-1.4**
JAM	**Amami Oshima**	**1.59**	**347**	P	**Pn**	**15 50 42.2**	**+0.1**
JAM				*e*S	**Sn**	**15 51 01.5**	**-1.4**
JIH	**Iheya**	**1.83**	**276**	P	**Pb**	**15 50 46.3**	**-1.0**
JIH				*e*S	**Sb**	**15 51 09.6**	**-0.9**
JJT2	**Tamagusuku 2**	**2.15**	**251**	P	**Pn**	**15 50 50.5**	**+0.7**
JJT2				*e*S	**Sb**	**15 51 17.7**	**-2.0**
JAGN	**Aguni-jima**	**2.49**	**264**	P	**Pn**	**15 50 55.2**	**+0.7**
JAGN				*e*S	**Sn**	**15 51 24.9**	**-0.3**
JKE	**Kume jima 2**	**2.94**	**260**	P	**Pn**	**15 51 00.6**	**0.0**
JKE				*e*S	**Sn**	**15 51 35.8**	**-0.4**
JNN	**Nakanoshima**	**2.97**	**358**	P	**Pn**	**15 51 01.6**	**+0.5**
JNN				*e*S	**Sn**	**15 51 35.7**	**-1.5**
JOGS	**Gusukube**	**4.65**	**244**	P	**Pn**	**15 51 24.9**	**+0.8**
WRA	**Warramunga Arr**	**46.71**	**174**	P	**P**	**15 58 44.4**	**+1.0**
	1.6nm,0.5s,baz=354,slow=8.4,SNR=10						
ASAR	**Alice Springs**	**50.37**	**175**	P	**P**	**15 59 13.0**	**+1.5**
	1.1nm,0.5s,baz=5.2,slow=15,SNR=30						
STKA	**Stephens Creek**	**59.44**	**169**	P	**P**	**16 00 17.8**	**+0.8**
	1.4nm,0.8s,baz=0.0,slow=8.1,SNR=3.5						
FINES	**FINESS Array B**	**73.10**	**331**	P	**P**	**16 01 44.4**	**+0.1**
	1.0nm,0.8s,baz=66,slow=6.7,SNR=3.3						

IDC 22 16:06:52.6±3.9, 2.48S×140.87E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/18, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=125.6km s-min=27.4km az=93.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.50**	**200**	P	P	16 11 09.8	-0.7
	0.3nm,0.3s,baz=20,slow=12,SNR=11						
FITZ	**Fitzroy Crossi**	**21.55**	**223**	P	P	16 11 43.2	-0.5
	1.9nm,1.0s,baz=38,slow=17,SNR=3.5						
ASAR	**Alice Springs**	**22.12**	**197**	P	P	16 11 50.5	+0.7
	0.9nm,0.6s,baz=31,slow=11,SNR=28						
MKAR	**Makanchi Array**	**70.93**	**322**	P	P	16 18 11.9	0.0
	0.3nm,0.8s,baz=99,slow=7.4,SNR=3.0						

IDC 22 16:20:33.0±1.9, 17.97S×167.40E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, ML3.1/1, Error ellipse: s-maj=64.5km s-min=35.8km az=121.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.17**	**192**	Pn	Pn	16 21 37.9	-0.2
	1.2nm,0.3s,baz=87,slow=23,SNR=23						
DZM				Sn	Sn	16 22 23.5	-4.2
	1.8nm,0.3s,baz=270,slow=20,SNR=4.5						
ASAR	**Alice Springs**	**31.76**	**254**	P	P	16 26 58.8	-0.4
	0.2nm,0.6s,baz=83,slow=8.3,SNR=8.9						
ILAR	**Eielson Array**	**89.56**	**18**	P	P	16 33 31.6	-0.3
	0.3nm,0.6s,baz=238,slow=5.0,SNR=4.6						
TORD	**Torodi Ar. Bea**	**165.41**	**253**	PKPab	PKPab	16 41 38.7	+0.3
	0.4nm,0.9s,baz=122,slow=1.9,SNR=2.5						

NNC 22 16:33:16.2±3.7, 37.00N×70.49E, h0km, mb4.0, mpv3.9, 6C-3D, Error ellipse: s-maj=29.7km s-min=22.7km az=168.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.10**	**0**	⇓P	Pn	16 34 49.1	+1.4
	2.6nm,0.3s,baz=184,slow=14,SNR=63						
KK31				⇑S	Sn	16 35 59.8	+1.6
	1.6nm,0.3s,baz=191,slow=23,SNR=7.0						
TKM2	**Tokmak 2**	**7.09**	**32**	⇓P	Pn	16 35 01.5	-0.1
	7.2nm,0.5s						
TKM2				⇑S	Sn	16 36 23.1	0.0
	2.5nm,0.6s						
MK31	**Makanchi Array**	**13.14**	**38**	⇑Pn	P	16 36 47.4	+13
	0.9nm,0.8s,baz=149,slow=14,SNR=3.8						
MK31				Pg	Pn	16 36 58.4	+34
	0.1nm,0.4s,baz=138,slow=17,SNR=6.0						
MK31				⇑Sn	Sn	16 37 49.8	-61
	0.3nm,0.6s						
MK31				⇑Lg	Lg	16 38 04.2	
	0.7nm,0.7s,baz=140,slow=30,SNR=4.9						
AB31	**Akbulak array**	**14.45**	**331**	P	Pn	16 36 40.6	-1.3
	0.4nm,0.4s,baz=147,slow=12,SNR=14						
AB31				⇓S	Sn	16 39 22.8	0.0
	0.3nm,0.4s,baz=155,slow=22,SNR=4.2						
AKTO	**Aktyubinsk**	**16.14**	**330**	⇑P	Pn	16 37 03.0	-1.4
	1.7nm,0.7s						

IDC 22 16:35:09.9±1.2, 3.22S×139.97E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.7/20, mbtmp3.9/7, ML4.0/1, Error ellipse: s-maj=51.0km s-min=21.9km az=98.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.50**	**198**	P	Pn	16 39 13.8	-1.8
	0.6nm,0.3s,baz=15,slow=11,SNR=19						
FITZ	**Fitzroy Crossi**	**20.39**	**222**	P	P	16 39 47.9	-0.6
	1.5nm,0.3s,baz=40,slow=13,SNR=16						
ASAR	**Alice Springs**	**21.15**	**196**	P	P	16 39 57.8	+0.9
	3.6nm,0.6s,baz=26,slow=8.7,SNR=72						
MKAR	**Makanchi Array**	**70.96**	**322**	P	P	16 46 29.9	+0.5
	0.9nm,0.8s,baz=120,slow=8.1,SNR=8.5						
BVAR	**Borovoye Array**	**80.45**	**325**	P	P	16 47 23.6	+0.1
	0.8nm,0.8s,baz=111,slow=7.9,SNR=4.7						
ILAR	**Eielson Array**	**85.78**	**24**	P	P	16 47 50.5	-0.4
	0.5nm,0.8s,baz=262,slow=4.5,SNR=3.9						
QSPA	**South Pole Qui**	**86.73**	**180**	P	P	16 47 55.6	-0.1
	1.3nm,1.1s,baz=284,slow=2.8,SNR=6.5						

*IDC **22** 17:16:20.9±1.2, 34.13N×25.45E, h0km, mb3.5/5, mb1 3.6/8, mb1mx3.5/26, mbtmp3.5/8, ML3.5/2, Error ellipse: s-maj=29.4km s-min=23.9km az=154.0*
*CSEM **22** 17:16:24.2, 34.13N×25.47E, h13km, MD3.3, After ATH*
*ATH **22** 17:16:24.2, 34.13N×25.47E, h13km±4km, MD3.3/9*

ISC 22 17:16:22.9±1.6, 34.07N±0.06×25.55E±0.04, h13km±10km, n32, σ1ᵖ07/45, mb3.6/5, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**1.09**	**357**	*e*PB	**Pb**	**17 16 42.8**	**-0.9**
LAST				*e*SB	**Sb**	**17 16 56.9**	**-0.9**
LAST	**Lasithi**	**1.09**	**357**	*e*Pb	**Pb**	**17 16 42.8**	**-0.9**
LAST				*e*Sb	**Sb**	**17 16 56.9**	**-0.9**
SIVA	**Sivas**	**1.12**	**327**	*e*PN	**Pb**	**17 16 44.0**	**-0.2**
SIVA				*e*SB	**Sg**	**17 16 58.4**	**-0.8**
SIVA	**Sivas**	**1.12**	**327**	*e*Pn	**Pb**	**17 16 44.0**	**-0.2**
SIVA				*e*Sb	**Sg**	**17 16 58.4**	**-0.8**
ZKR	**Zakros**	**1.18**	**28**	*e*PB	**Pg**	**17 16 47.2**	**+1.6**
ZKR				*e*SB	**Sn**	**17 17 01.9**	**+0.9**
ZKR	**Zakros**	**1.18**	**28**	*e*Pb	**Pg**	**17 16 47.2**	**+1.6**
ZKR				*e*Sb	**Sn**	**17 17 01.9**	**+0.9**
NPS	**Neapolis**	**1.19**	**2**	*e*PN	**Pg**	**17 16 45.9**	**+0.1**
NPS	**Neapolis**	**1.19**	**2**	*e*Pn	**Pg**	**17 16 45.9**	**+0.1**
IDI	**Anoyia**	**1.33**	**336**	*e*PN	Pn	17 16 47.0	-0.3
IDI				*e*SB	**Sg**	**17 17 05.1**	**-0.7**
IDI	**Anoyia**	**1.33**	**336**	*e*Pn	Pn	17 16 47.0	-0.3
IDI				*e*Sb	**Sg**	**17 17 05.1**	**-0.7**
GVD	**Gavdhos**	**1.43**	**303**	*e*PG	**Pb**	**17 16 49.2**	**-0.2**
GVD				*e*SB	**Sg**	**17 17 08.6**	**-0.4**
GVD	**Gavdhos**	**1.43**	**303**	*e*Pg	**Pb**	**17 16 49.2**	**-0.2**
GVD				*e*Sb	**Sg**	**17 17 08.6**	**-0.4**
VAM	**Vamos**	**1.73**	**321**	*e*PG	**Pb**	**17 16 53.8**	**-0.8**
VAM	**Vamos**	**1.73**	**321**	*e*Pg	**Pb**	**17 16 53.8**	**-0.8**
KARN	**Karanos**	**1.89**	**315**	*e*PB	Pn	17 16 55.8	+0.9
KARN				*e*SN	**Sg**	**17 17 21.8**	**-1.8**
KARN	**Karanos**	**1.89**	**315**	*e*Pb	Pn	17 16 55.8	+0.9
KARN				*e*Sn	**Sg**	**17 17 21.8**	**-1.8**
KARP	**Karpathos**	**1.98**	**42**	*e*PN	**Pb**	**17 16 58.9**	**+0.1**
KARP	**Karpathos**	**1.98**	**42**	*e*Pn	**Pb**	**17 16 58.9**	**+0.1**
SANT	**Santorini**	**2.29**	**358**	*e*PG	**Pb**	**17 17 04.8**	**+0.6**
SANT	**Santorini**	**2.29**	**358**	*e*Pg	**Pb**	**17 17 04.8**	**+0.6**
ARG	**Arkhangelos**	**3.01**	**44**	*e*PB	**Pb**	**17 17 14.7**	**-1.6**
ARG	**Arkhangelos**	**3.01**	**44**	*e*Pb	**Pb**	**17 17 14.7**	**-1.6**
VLI	**Veliai**	**3.40**	**322**	*e*PN	Pn	17 17 17.5	+1.9
VLI	**Veliai**	**3.40**	**322**	*e*Pn	Pn	17 17 17.5	+1.9
MMAI	**Mount Meron Ar**	**8.29**	**95**	Pn	Pn	**17 18 23.7**	**+0.7**
	1.0nm,0.3s,baz=283,slow=11,SNR=5.1						
MMAI				Sn	**Sn**	**17 19 54.0**	**-2.6**
	0.9nm,0.3s,baz=269,slow=22,SNR=2.9						
EIL	**Elat**	**9.12**	**116**	Pn	Pn	**17 18 34.3**	**+0.1**
	0.3nm,0.3s,baz=328,slow=19,SNR=4.2						
GERES	**GERESS Array B**	**17.19**	**333**	P	Pn	**17 20 23.2**	**+0.4**
	baz=142,slow=13,SNR=4.8						
FINES	**FINESS Array B**	**27.39**	**1**	P	**P**	**17 22 06.1**	**-1.7**
	1.3nm,0.8s,baz=211,slow=19,SNR=3.2						
TORD	**Torodi Ar. Bea**	**30.05**	**232**	P	**P**	**17 22 31.6**	**-0.3**
	0.4nm,0.9s,baz=24,slow=9.6,SNR=2.6						
MKAR	**Makanchi Array**	**44.11**	**56**	P	**P**	**17 24 31.6**	**+0.7**
	0.8nm,0.9s,baz=280,slow=6.2,SNR=5.5						
ZALV	**Zalesovo Beam**	**45.53**	**45**	P	**P**	**17 24 41.7**	**-0.4**
	0.4nm,0.5s,baz=280,slow=8.6,SNR=2.2						
SONM	**Songino Array**	**59.93**	**50**	P	**P**	**17 26 29.9**	**+1.0**
	0.2nm,0.6s,baz=318,slow=6.2,SNR=3.0						

*GUC **22** 17:42:08.9±0.7, 21.22S×67.71W, h195km, ML3.7*
*ISCJB **22** 17:42:10.8±1.0, 20.85S±0.07×68.14W±0.3, h276km±18km, mb3.8/1, Error ellipse: s-maj=41.9km s-min=11.6km az=4.5*
*IDC **22** 17:42:14.2±8.8, 20.62S×67.00W, h224km±72km, mb3.6/1, mb1 3.2/2, mb1mx3.0/17, mbtmp3.2/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/17, Error ellipse: s-maj=103.2km s-min=80.6km az=23.0*

ISC 22 17:42:11.9±1.2, 20.88S±0.07×68.32W±0.2, h247km±17km, n9, σ2ᵖ49/14, 3C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HMBC	**Humberstone**	**1.70**	**290**	⇑*i*P	Pn	**17 42 50.6**	**-1.1**
HMBC				*i* S	**S**	**17 43 23.2**	**+0.1**
HMBC				AML	AML	17 43 27.6	
	comp=E,269nm,0.3s						
PB07	**Plate Boundary**	**1.79**	**242**	⇑*i*P	Pn	**17 42 49.7**	**-2.8**
PB07				*i* S	**S**	**17 43 20.5**	**-4.0**
PB07				AML	AML	17 43 20.9	
	comp=E,338nm,0.3s						
PB04	**Plate Boundary**	**1.83**	**221**	⇑*i*P	Pn	**17 42 54.2**	**+1.5**
PB04				*i* S	**S**	**17 43 28.4**	**+3.6**
PB04				AML	AML	17 43 33.0	
	comp=N,157nm,0.1s						
MNMC	**Minimini**	**2.18**	**323**	⇓*i*P	Pn	**17 42 57.0**	**+0.7**
MNMC				*e*S	**S**	**17 43 33.4**	**+2.2**
MNMC				AML	AML	17 43 36.2	
	comp=E,262nm,0.2s						
PSGC	**Pisagua**	**2.22**	**305**	*e*P	Pn	**17 42 56.2**	**-0.2**
PSGC				*i* S	**S**	**17 43 32.8**	**+1.4**
PSGC				AML	AML	17 43 35.4	
	comp=N,93nm,0.3s						
LPAZ	**La Paz**	**4.57**	**1**	P	Pn	**17 43 23.0**	**-0.1**
	comp=N,0.4nm,0.3s,baz=171,slow=5.1,SNR=10.0						
LPAZ				S	**S**	**17 44 17.8**	**-1.7**
	baz=227,slow=19,SNR=3.2						
PLCA	**Paso Flores**	**19.89**	**185**	LR	LR	17 55 48.2	
	comp=N,46nm,21.0s,baz=180,slow=40

WBK	**Wadi Bani Khal**	**5.10**	**145**	*e*Pn	**Pn**	**17 46 11.2**	**-0.3**
	SNR=11							
IGAR	**Gharneh**	**6.44**	**330**	*e*Pn	**Pn**	**17 46 32.3**	**+2.2**
IGAR				*e*		17 46 35.0		
	comp=Z,693nm,0.1s							
NASN	**Na'in**	**6.48**	**337**	*e*Pn	**Pn**	**17 46 31.9**	**+1.1**
NASN	**Na'in**	**6.48**	**337**	*e*Pn	**Pn**	**17 46 31.9**	**+1.1**
IZEF	**Zefreh**	**6.75**	**334**	*e*Pn	**Pn**	**17 46 35.5**	**+1.1**
IZEF				*e*		17 46 36.6		
	comp=Z,357nm,0.2s							
IZEF	**Zefreh**	**6.75**	**334**	*e*Pn	**Pn**	**17 46 35.5**	**+1.1**
IPIR	**Pirpir**	**7.23**	**325**	*e*Pn	**Pn**	**17 46 42.8**	**+1.8**
IPIR				*e*		17 48 05.8		
	comp=Z,1μm,0.3s							
IPIR	**Pirpir**	**7.23**	**325**	*e*Pn	**Pn**	**17 46 42.8**	**+1.8**
KBD	**Kabd**	**7.56**	**290**	*e*P	**Pn**	**17 46 45.3**	**0.0**
KBD	**Kabd**	**7.56**	**290**	*e*P	**Pn**	**17 46 45.3**	**0.0**
RDF	**Al-Radifah**	**7.62**	**288**	*e*P	**Pn**	**17 46 45.7**	**-0.4**
RDF				AML	AML	17 48 12.2		
	comp=Z,56nm,0.5s							
RDF	**Al-Radifah**	**7.62**	**288**	*e*P	**Pn**	**17 46 45.7**	**-0.4**
UMR	**Umm Al-Rimmam**	**7.65**	**292**	*e*P	**Pn**	**17 46 46.6**	**0.0**
UMR				AML	AML	17 48 09.2		
	comp=Z,18nm,0.3s							
UMR	**Umm Al-Rimmam**	**7.65**	**292**	*e*P	**Pn**	**17 46 46.6**	**0.0**
NAY	**Al-Naaiem**	**7.96**	**289**	*e*P	**Pn**	**17 46 50.9**	**0.0**
NAY				AML	AML	17 48 17.4		
	comp=Z,11nm,0.6s							
NAY	**Al-Naaiem**	**7.96**	**289**	*e*P	**Pn**	**17 46 50.8**	**0.0**
MIB	**Mutribah**	**8.04**	**293**	*e*P	**Pn**	**17 46 52.6**	**+0.7**
MIB				AML	AML	17 48 21.0		
	comp=Z,36nm,0.5s							
MIB	**Mutribah**	**8.04**	**293**	*e*P	**Pn**	**17 46 52.6**	**+0.7**
ISFB	**Sefidab**	**8.09**	**338**	*e*Pn	**Pn**	**17 46 54.2**	**+1.6**
ISFB				*e*		17 47 40.4		
	comp=N,133nm,0.1s							
ISFB	**Sefidab**	**8.09**	**338**	*e*Pn	**Pn**	**17 46 54.2**	**+1.6**
IKIA	**Kiasar**	**9.50**	**349**	*e*Pn	**Pn**	**17 47 13.8**	**+1.6**
IKIA	**Kiasar**	**9.50**	**349**	*e*Pn	**Pn**	**17 47 13.8**	**+1.6**
IRAZ	**Razeghan**	**9.91**	**331**	*e*Pn	**Pn**	**17 47 18.7**	**+1.0**
IRAZ				*e*		17 49 23.9		
	comp=Z,161nm,0.4s							
IRAZ	**Razeghan**	**9.91**	**331**	*e*Pn	**Pn**	**17 47 18.7**	**+1.0**
IKOM	**Komasi**	**10.23**	**317**	*e*Pn	**Pn**	**17 47 22.9**	**+0.8**
IKOM				*e*		17 47 24.0		
	comp=Z,544nm,0.2s							
IKOM	**Komasi**	**10.23**	**317**	*e*Pn	**Pn**	**17 47 22.9**	**+0.8**
ILIN	**Lien**	**11.07**	**319**	*e*Pn	**Pn**	**17 47 33.8**	**+0.1**
ILIN				*e*		17 49 37.4		
	comp=N,479nm,0.2s							
ILIN	**Lien**	**11.07**	**319**	*e*Pn	**Pn**	**17 47 33.8**	**+0.1**
IDHR	**Dehrash**	**11.27**	**316**	*e*Pn	**Pn**	**17 47 35.4**	**-1.0**
IDHR	**Dehrash**	**11.27**	**316**	*e*Pn	**Pn**	**17 47 35.4**	**-1.0**
EIL	**Elat**	**18.61**	**284**	P	**Pn**	**17 49 13.8**	**+1.0**
	comp=N,0.6nm,0.3s,baz=82,slow=5.7,SNR=6.8							
MMAI	**Mount Meron Ar**	**18.73**	**294**	P	**Pn**	**17 49 15.1**	**+0.8**
	comp=N,0.8nm,0.3s,baz=104,slow=16,SNR=3.6							
ATD	**Arta Tunnel**	**19.54**	**221**	LR	LR	17 56 14.5		
	comp=N,26nm,20.3s,baz=73,slow=35							
KBZ	**Khabaz**	**19.83**	**331**	P	**Pn**	**17 49 27.9**	**+0.6**
	comp=N,0.5nm,0.3s,baz=138,slow=9.1,SNR=6.1							
AAK	**Ala-Archa**	**21.90**	**39**	P	**P**	**17 49 49.9**	**+1.6**
	comp=N,5.3nm,0.8s,baz=187,slow=12,SNR=3.9							
AAK				LR	LR	17 59 45.5		
	comp=N,35nm,18.4s,baz=259,slow=41							
BRTR	**Keskin Array B**	**22.49**	**310**	P	**P**	**17 49 55.3**	**+0.6**
	comp=N,2.4nm,0.7s,baz=136,slow=12,SNR=10							
AKTO	**Aktyubinsk**	**23.61**	**3**	P	**P**	**17 50 06.3**	**+0.4**
	comp=N,2.0nm,0.6s,baz=176,slow=10,SNR=9.8							
AKTO				LR	LR	18 01 18.8		
	comp=N,38nm,18.5s,baz=204,slow=42							
BVAR	**Borovoye Array**	**28.31**	**19**	P	**P**	**17 50 48.4**	**-0.1**
	comp=N,2.7nm,0.8s,baz=201,slow=7.9,SNR=16							
BVAR				LR	LR	18 02 30.7		
	comp=N,34nm,19.2s,baz=139,slow=37							
MKAR	**Makanchi Array**	**28.84**	**39**	P	**P**	**17 50 53.5**	**+0.2**
	comp=N,0.6nm,0.8s,baz=223,slow=8.3,SNR=6.0							
MKAR				LR	LR	18 03 57.8		
	comp=N,26nm,19.6s,baz=262,slow=40							
KURBB	**Kurchatov Arra**	**29.38**	**30**	P	**P**	**17 50 58.5**	**+0.4**
	comp=N,1.1nm,0.8s,baz=228,slow=8.6,SNR=14							
ZALV	**Zalesovo Beam**	**34.48**	**30**	P	**P**	**17 51 42.8**	**0.0**
	comp=N,2.4nm,0.5s,baz=238,slow=9.9,SNR=15							
ZALV				LR	LR	18 08 04.4		
	comp=N,18nm,19.0s,baz=242,slow=40							
GERES	**GERESS Array B**	**39.20**	**315**	P	**P**	**17 52 22.8**	**-0.4**
	comp=N,0.4nm,0.5s,baz=108,slow=8.6,SNR=5.3							
FINES	**FINESS Array B**	**39.94**	**338**	P	**P**	**17 52 28.8**	**-0.3**
	comp=N,1.8nm,0.4s,baz=147,slow=10,SNR=26							
KAF	**Kangasniemi**	**40.36**	**339**	*e*p	P	17 52 23.6	-8.9	
	comp=N,2.5nm,0.6s							
MOTA	**Moosalm**	**40.45**	**312**	⇓*i*P	**P**	**17 52 32.4**	**-1.3**
	comp=N,2.8nm,0.4s							
MOTA	**Moosalm**	**40.45**	**312**	P	**P**	**17 52 32.4**	**-1.3**
	comp=N,2.8nm,0.4s							
FETA	**Feichten**	**40.62**	**312**	⇓*i*P	**P**	**17 52 34.5**	**-0.6**
	comp=N,3.3nm,0.5s							
FETA	**Feichten**	**40.62**	**312**	P	**P**	**17 52 34.5**	**-0.6**
	comp=N,3.3nm,0.5s							
DAVA	**Damuels**	**41.24**	**312**	⇑*i*P	**P**	**17 52 39.3**	**-0.9**
	comp=N,17nm,0.4s							
DAVA	**Damuels**	**41.24**	**312**	P	**P**	**17 52 39.3**	**-0.9**
	comp=N,17nm,0.4s							
SONM	**Songino Array**	**44.41**	**48**	P	**P**	**17 53 07.0**	**+1.2**
	comp=N,0.8nm,1.0s,baz=258,slow=7.4,SNR=4.8							
NOA	**NORSAR Array B**	**45.41**	**331**	P	**P**	**17 53 12.6**	**-0.9**
	comp=N,0.3nm,0.4s,baz=119,slow=7.3,SNR=3.1							
KEV	**Kevo**	**46.08**	**347**	*e*p	**P**	**17 53 18.6**	**0.0**
	comp=N,3.1nm,0.5s							
KEV	**Kevo**	**46.08**	**347**	*e*P	**P**	**17 53 18.6**	**0.0**
	comp=N,3.1nm,0.5s							
ARCES	**ARCESS Array B**	**46.23**	**346**	P	**P**	**17 53 19.2**	**-0.6**
	comp=N,0.4nm,0.4s,baz=123,slow=8.8,SNR=11							
ESDC	**Sonseca Array**	**50.76**	**301**	P	**P**	**17 53 55.0**	**-0.3**
	comp=N,1.2nm,0.4s,baz=73,slow=6.9,SNR=10							
TORD	**Torodi Ar. Bea**	**52.31**	**266**	P	**P**	**17 54 06.2**	**-0.9**
	comp=N,5.3nm,0.5s,baz=63,slow=7.3,SNR=99							
DBIC	**Dimbokro**	**60.91**	**262**	P	**P**	**17 55 07.2**	**-1.1**
	comp=N,6.3nm,1.0s,baz=130,slow=11,SNR=4.7							
BOSA	**Boshof**	**62.47**	**210**	P	**P**	**17 55 18.0**	**-0.6**
	comp=N,2.9nm,0.6s,baz=122,slow=14,SNR=5.5							
ILAR	**Eielson Array**	**86.97**	**10**	P	**P**	**17 57 41.8**	**+1.9**
	comp=N,0.4nm,0.7s,baz=307,slow=2.2,SNR=4.5							
ASAR	**Alice Springs**	**90.57**	**116**	P	**P**	**17 57 57.8**	**+0.1**
	comp=N,0.2nm,0.8s,baz=306,slow=5.0,SNR=4.8							

*ISCJB **22** 17:53:10.5±0.5, 0°.32S×0°.04×122°.92E±0°.05, h78km, mb3.5/6, Error ellipse: s-maj=8.0km s-min=5.0km az=20.8*
*IDC **22** 17:53:10.7±2.0, 0°.26S×122°.95E, h81±1km×20km, mb3.3/6, mb1 3.5/8, mb1mx3.3/23, mbtmp3.4/8, MS2.7/1, Ms1 2.7/1, ms1mx2.4/16, Error ellipse: s-maj=23.3km s-min=13.3km az=87.0*
*DJA **22** 17:53:12.5±0.4, 0°.S±3°×122°.3E±°, h55km±7km, M4.7/9, mb5.2/2, mB5.2/2, MLv4.4/9, Mw(mB)4.5/2*
ISC 22 17:53:11.2±0.8, 0°.30S±0°.05×122°.93E±0°.06, h78km, n18, σ1°.930/22, mb3.7/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.76**	**192**	P	**Pn**	**17 53 28.3**	**+1.0**
LUWI				S	**Sn**	**17 53 38.7**	**-0.6**
GTOI	**Gorontalo**	**0.93**	**5**	P	**Pn**	**17 53 30.3**	**+1.0**
GTOI				S	**Sn**	**17 53 44.1**	**+1.3**
MRSI	**Marisa**	**1.25**	**308**	P	**Pn**	**17 53 33.1**	**-0.2**
MNI	**Manado**	**2.58**	**48**	P	**Pn**	**17 53 50.4**	**-0.4**
SKSI	**Soroako, Sulaw**	**2.73**	**216**	P	**Pn**	**17 53 52.8**	**-0.2**
TTSI	**Tana Toraja**	**4.14**	**229**	P	**Pn**	**17 54 13.7**	**+1.7**
TTSI				S	**Sn**	**17 55 00.1**	**+0.9**
LBMI	**Labuha**	**4.58**	**94**	P	**Pn**	**17 54 20.3**	**+2.2**
KAPI	**Kappang**	**5.66**	**214**	P	**Pn**	**17 54 33.7**	**+0.9**
	baz=8.5,slow=6.5							
KAPI				S	**Sn**	**17 55 35.4**	**-1.1**
	2.0nm,0.3s,baz=223,slow=21,SNR=4.6							
KAPI				LR	LR	17 57 09.9		
	comp=Z,82nm,21.4s,baz=42,slow=42							
AAI	**Ambon**	**6.24**	**123**	P	**Pn**	**17 54 42.6**	**+1.8**
	119nm,0.7s,1μm0.5nm							
MYLDM	**Lahad Datu**	**7.01**	**321**	P	**Pn**	**17 54 54.0**	**+2.7**
DAV	**Davao City (W)**	**7.78**	**20**	P	**Pn**	**17 55 01.8**	**+0.1**
	55nm,0.3s,baz=121,slow=9.6,SNR=3.6							
FITZ	**Fitzroy Crossi**	**17.89**	**172**	P	**Pn**	**17 57 15.0**	**0.0**
	0.1nm,0.3s,baz=254,slow=7.4,SNR=5.9							
WRA	**Warramunga Arr**	**22.49**	**151**	P	**P**	**17 58 04.2**	**-0.3**
	0.5nm,0.6s,baz=332,slow=9.8,SNR=4.1							
ASAR	**Alice Springs**	**25.55**	**156**	P	**P**	**17 58 33.2**	**+0.2**
	0.3nm,0.5s,baz=344,slow=14,SNR=11							
ASAR				ScP	**ScP**	**18 05 33.5**	**-1.7**
	0.3nm,0.7s,baz=351,slow=2.4,SNR=5.8							
CMAR	**Chiang Mai Arr**	**30.05**	**310**	P	**P**	**17 59 14.1**	**+0.9**
	0.3nm,0.3s,baz=144,slow=7.8,SNR=3.9							
MJAR	**Matsushiro Arr**	**39.30**	**20**	P	P	18 00 29.6	-3.1	
	1.1nm,0.7s,baz=198,slow=9.6,SNR=6.3							
SONM	**Songino Array**	**50.05**	**346**	P	**P**	**18 01 57.3**	**-0.8**
	1.2nm,0.8s,baz=157,slow=9.1,SNR=8.9							
MKAR	**Makanchi Array**	**58.83**	**328**	P	**P**	**18 03 00.2**	**-1.4**
	0.6nm,0.3s,baz=125,slow=8.7,SNR=20							

IDC 22 18:12:13.0±7.3, 30°.58S×178°.54W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/17, mbtmp3.7/2, Error ellipse: s-maj=305.2km s-min=54.3km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.63**	**267**	P	P	18 20 11.2	-0.2
	0.3nm,0.6s,baz=105,slow=7.1,SNR=9.0						
WRA	**Warramunga Arr**	**43.64**	**273**	P	P	18 20 19.4	-0.1
	0.9nm,0.3s,baz=111,slow=8.1,SNR=14						
FINES	**FINESS Array B**	**145.15**	**339**	PKPbc	PKPbc	18 31 50.5	-0.8
	0.7nm,0.3s,baz=64,slow=4.8,SNR=11						

*IDC **22** 18:18:42.6±2.3, 6°.02S×129°.79E, h0km, mb3.7/1, mb1 3.6/3, mb1mx3.3/19, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=155.4km s-min=30.6km az=69.0*
*AUST **22** 18:18:50.4±3.6, 5.75S×130°.83E, h200km±1km, Error ellipse: s-maj=3.2km s-min=1.2km az=280.0*
ISC 22 18:18:47.9±2.1, 6°.01S±0°.06×130°.6E±0°.4, h124km, n8, σ3°.963/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.64**	**334**	P	Pn	18 19 24.3	+7.0
	baz=1.5,SNR=4.5						
FAKI	**Fak Fak**	**3.46**	**28**	P	**Pn**	**18 19 43.2**	**+2.8**
	baz=3.2,SNR=11						
FAKI				S	**Sn**	**18 20 19.8**	**-1.2**
	baz=3.2,SNR=4.3						
SWI	**Sorong**	**5.14**	**7**	P	Pn	18 20 05.8	+2.9
	baz=4.9,SNR=24						
SWI				S	**Sn**	**18 20 58.3**	**-3.0**
	baz=4.9,SNR=17						
MTN	**Manton Dam**	**6.81**	**176**	P	Pn	18 20 32.8	+7.4
	baz=7.1,SNR=20						
MTN				S	**Sn**	**18 21 45.6**	**+4.0**
	baz=7.1,SNR=9.1						
KDU	**Kakadu**	**6.88**	**165**	P	Pn	18 20 32.0	+5.7
	baz=7.1,SNR=41						
KDU				S	**Sn**	**18 21 45.7**	**+2.5**
	baz=7.1,SNR=8.0						
WRA	**Warramunga Arr**	**14.31**	**166**	Pn	**P**	**18 22 08.0**	**-0.4**
	0.2nm,0.3s,baz=345,slow=12,SNR=5.6						
WRA				Sn	**Sn**	**18 24 40.0**	**-3.2**
	0.5nm,0.3s,baz=346,slow=24,SNR=7.9						
ASAR	**Alice Springs**	**17.84**	**170**	P	Pn	18 22 55.2	+6.8
	0.2nm,0.3s,baz=347,slow=9.8,SNR=19						
ASAR				S	**S**	**18 26 02.4**	**-3.9**
	0.1nm,0.3s,baz=357,slow=28,SNR=6.7						
MKAR	**Makanchi Array**	**67.75**	**326**	P	P	18 29 39.2	+7.0
	0.3nm,0.4s,baz=112,slow=8.0,SNR=8.9						

IDC 22 18:50:17.2±1.1, 1°.49N×126°.58E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.8/22, mbtmp4.0/7, Error ellipse: s-maj=126.1km s-min=15.8km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.62**	**161**	P	P	18 55 20.1	+0.3
	2.0nm,0.5s,baz=339,slow=11,SNR=18						
ASAR	**Alice Springs**	**26.00**	**165**	P	P	18 55 52.0	-0.1
	0.7nm,0.4s,baz=345,slow=7.5,SNR=46						
STKA	**Stephens Creek**	**36.11**	**158**	P	P	18 57 20.7	-0.4
	2.6nm,0.6s,baz=329,slow=7.2,SNR=9.0						
SONM	**Songino Array**	**49.36**	**342**	P	P	18 59 08.1	-0.5
	0.5nm,0.7s,baz=163,slow=7.1,SNR=4.1						
MKAR	**Makanchi Array**	**59.31**	**326**	P	P	19 00 21.8	+0.8
	1.6nm,0.4s,baz=117,slow=7.7,SNR=33						
KURBB	**Kurchatov Arra**	**63.54**	**328**	P	P	19 00 49.5	+0.1
	1.4nm,0.4s,baz=127,slow=6.0,SNR=14						
BVAR	**Borovoye Array**	**69.11**	**328**	P	P	19 01 24.3	-0.8
	0.6nm,0.6s,baz=130,slow=6.4,SNR=3.1						

WEL 22 19:14:51.3±0.7, 46°.22S×165°.88E, h33km, ML3.8/15, Error ellipse: s-maj=8.3km s-min=3.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**1.16**	**51**	PN	Pn	19 15 10.7	-0.5
DCZ				AML	AML	19 15 29.7	
DCZ				AML	AML	19 15 29.7	
DCZ				AML	AML	19 15 30.4	
WHZ	**Wether Hill Ro**	**1.48**	**78**	PN	Pn	19 15 16.0	+0.4
WHZ				AML	AML	19 15 37.2	
WHZ				AML	AML	19 15 38.5	
APZ	**The Paps**	**1.58**	**114**	PN	Pn	19 15 16.7	-0.4
MLZ	**Mavora Lakes**	**1.83**	**62**	PN	Pb	19 15 22.4	-1.8
MLZ				AML	AML	19 15 47.6	
MLZ				AML	AML	19 15 58.4	
SYZ	**Scrubby Hill**	**2.28**	**99**	PN	Pn	19 15 27.4	+0.8
SYZ				SN	Sn	19 15 55.5	+1.9
EAZ	**Earnscleugh**	**2.60**	**69**	PN	Pn	19 15 33.5	+2.5
EAZ				SN	Sn	19 16 04.9	+3.5
EAZ				AML	AML	19 16 09.3	
WKZ	**Wanaka**	**2.61**	**59**	PN	Pb	19 15 35.1	-2.3
WKZ				AML	AML	19 15 38.4	
WKZ				SN	Sb	19 16 07.8	-1.3
TUZ	**Tuapeka**	**2.63**	**86**	PN	Pn	19 15 33.3	+1.9
TUZ				SN	Sn	19 16 04.9	+2.8
TUZ				AML	AML	19 16 08.1	
JCZ	**Jackson Bay**	**2.96**	**45**	PN	Pb	19 15 40.1	-3.4
JCZ				AML	AML	19 15 47.7	
JCZ				AML	AML	19 16 33.1	
ODZ	**Otahua Downs**	**3.54**	**72**	PN	Pn	19 15 44.3	+0.3
ODZ				AML	AML	19 16 46.4	
LBZ	**Lake Benmore**	**3.55**	**61**	PN	Pn	19 15 46.4	+2.3
LBZ				AML	AML	19 16 08.4	
LBZ				AML	AML	19 16 55.1	

KRSC 22 19:16:52.1±0.4, 53°.31N×160°.07E, h46km±35km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGLR	**Uglovaya**	**0.76**	**263**	*i* P	Pn	19 17 07.5	+0.9
UGLR				*i* S	Sn	19 17 18.5	+1.4
SMAR	**Somma**	**0.76**	**267**	*e*P	Pn	19 17 07.3	+0.5
SMAR				*i* S	Sn	19 17 18.4	+0.9
KRER	**Koryakskii**	**0.79**	**270**	*i* P	Pn	19 17 07.9	+0.7
AVH	**Avacha**	**0.80**	**267**	*i* P	Pn	19 17 07.9	+0.8
AVH				*i* S	Sn	19 17 19.6	+1.5
KOK	**Koryaka**	**0.86**	**269**	*i* P	Pn	19 17 08.4	+0.4
PET	**Petropavlovsk**	**0.90**	**252**	*e*P	Pn	19 17 09.0	+0.7
PET				*i* S	Sn	19 17 21.6	+1.4
RUS	**Russkaya**	**1.29**	**228**	*e*P	Pn	19 17 14.2	+0.6
RUS				*i* S	Sn	19 17 30.2	+0.5
MTVR	**Mutnovka**	**1.41**	**235**	*i* P	Pn	19 17 16.5	+1.0
MTVR				*i* S	Sn	19 17 34.3	+1.2
GRL	**Gorelyy**	**1.43**	**239**	*i* P	Pn	19 17 16.7	+1.0
GRL				*i* S	Sn	19 17 34.8	+1.4
ASAK	**Asacha**	**1.61**	**236**	*i* P	Pn	19 17 19.0	+0.8
ASAK				*i* S	Sn	19 17 38.9	+1.1
APC	**Apacha**	**1.80**	**259**	*i* P	Pn	19 17 20.2	-0.4
APC				*i* S	Sn	19 17 41.2	-1.0
TUMR	**Tumrok**	**1.98**	**1**	*e*P	Pn	19 17 24.0	+0.8
MIPR	**Malaya Ipel'ka**	**2.26**	**244**	*i* P	Pn	19 17 27.0	0.0
KMNR	**Kamenistaya**	**2.45**	**2**	*e*P	Pn	19 17 32.5	+2.8
BZMR	**Bezymyannaya**	**2.64**	**5**	*e*P	Pn	19 17 33.4	+1.0
KIRR	**Kirishev**	**2.65**	**3**	*e*P	Pn	19 17 33.8	+1.2
BZGR	**Bezymyannyi-Gr**	**2.66**	**8**	*e*P	Pn	19 17 34.0	+1.4
KPT	**Kopyto**	**2.66**	**2**	*e*P	Pn	19 17 33.5	+0.9
BZWR	**Bezymyannyi-We**	**2.67**	**5**	*e*P	Pn	19 17 34.2	+1.4
PAU	**Pauzhetka**	**2.72**	**229**	*e*P	Pn	19 17 35.8	+2.6
PAU				*i* S	Sn	19 18 06.8	+2.0
ESO	**Esso**	**2.74**	**344**	*e*P	Pn	19 17 33.5	-0.1
ZLN	**Zelenaya**	**2.75**	**9**	*e*P	Pn	19 17 35.7	+1.9
LGNR	**Loginova**	**2.80**	**7**	*e*P	Pn	19 17 35.4	+0.6
CIRR	**Tsirk**	**2.84**	**8**	*e*P	Pn	19 17 36.6	+1.5
SRDR	**Sredinnyy**	**3.02**	**356**	*e*P	Pn	19 17 37.4	-0.1
BDR	**Baidarnaya**	**3.33**	**11**	*e*P	Pn	19 17 44.3	+2.6
BDR				*i* S	Sn	19 18 21.6	+1.5
SMKR	**Semkarok**	**3.38**	**13**	*e*P	Pn	19 17 44.2	+1.8
SMKR				*i* S	Sn	19 18 22.7	+1.5
SRKR	**Sorokina**	**3.41**	**10**	*e*P	Pn	19 17 44.9	+2.1
SRKR				*i* S	Sn	19 18 23.4	+1.4
SKR	**Severo-Kuril's**	**3.59**	**224**	*e*P	Pn	19 17 47.6	+2.4
SKR				*i* S	Sn	19 18 28.5	+2.2
BKI	**Bering**	**3.95**	**59**	*e*P	Pn	19 17 51.2	+1.2
BKI				*i* S	Sn	19 18 33.8	-1.2

*CSEM **22** 19:32:03.6, 60°.59N×28°.61E, h0km, ML1.5, Mining explosion. After HEL*
HEL 22 19:32:03.6±0.3, 60°.59N×28°.61E, h0km, ML1.5, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**0.52**	**265**	*e*P	Pg	19 32 12.9	-0.7
VJF				*e*S	Sg	19 32 20.0	-0.3
VJF	**Virojoki**	**0.52**	**265**	P	Pg	19 32 12.8	-0.8
VJF				S	Sg	19 32 20.0	-0.3
PVF	**Pernaja**	**1.36**	**269**	*e*P	Pg	19 32 27.1	-2.5
PVF				*e*SN	Sn	19 32 48.8	+0.3
PVF	**Pernaja**	**1.36**	**269**	P	Pg	19 32 27.0	-2.6
PVF				Sn	Sn	19 32 48.7	+0.3
FIA0	**FINESS Array S**	**1.50**	**306**	*e*P	Pn	19 32 29.3	-2.5
FIA0				*e*RG	Rg	19 32 57.4	
FIA0	**FINESS Array S**	**1.50**	**306**	P	Pn	19 32 29.3	-2.5
KAF	**Kangasniemi**	**1.89**	**325**	*e*P	Pn	19 32 36.6	-0.5
KAF				MSG	Sg	19 33 01.7	-2.6
	comp=Z,1.8nm,0.4s						
KAF				*e*SG	Sg	19 33 01.7	-2.6
KAF	**Kangasniemi**	**1.89**	**325**	P	Pn	19 32 36.6	-0.5
KAF				Sg	Sn	19 33 01.7	+0.1
MEF	**Metsahovi**	**2.12**	**262**	*e*P	Pn	19 32 40.2	-0.1
MEF				*e*SG	Sb	19 33 08.6	-1.1
MEF				MSG		19 33 08.6	
	comp=Z,3.1nm,0.4s						
MEF	**Metsahovi**	**2.12**	**262**	P	Pn	19 32 40.1	-0.2
MEF				Sg	Sb	19 33 08.6	-1.1
KEF	**Keuruu**	**2.40**	**313**	*e*PB	Pn	19 32 44.9	+0.9
KEF				*e*SG	Sb	19 33 17.3	-0.4
KEF				MSG		19 33 17.3	
	comp=Z,1.4nm,0.1s						
KEF	**Keuruu**	**2.40**	**313**	Pb	Pn	19 32 44.9	+0.8
KEF				Sg	Sb	19 33 17.3	-0.4
SUF	**Sumiainen**	**2.44**	**332**	*e*P	Pn	19 32 45.4	+0.7
SUF				MSG	Sg	19 33 18.7	-3.2
	comp=Z,1.3nm,0.1s						
SUF				*e*SG	Sg	19 33 18.7	-3.2
SUF	**Sumiainen**	**2.44**	**332**	P	Pn	19 32 45.3	+0.7
SUF				Sg	Sb	19 33 18.7	-0.2
MTSE	**Matsula**	**3.07**	**234**	*e*SG	Sb	19 33 38.2	+1.2
MTSE	**Matsula**	**3.07**	**234**	Sg	Sb	19 33 38.2	+1.1
RAF	**Rauma**	**3.38**	**280**	*e*P	Pn	19 32 58.3	+0.8
RAF	**Rauma**	**3.38**	**280**	P	Pn	19 32 58.3	+0.8

*NNC **22** 19:56:31.6±2.6, 39°.16N×73°.14E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=22.6km s-min=12.6km az=13.0*
*BJI **22** 19:56:33.5, 39°.50N×73°.52E, h5km, mB4.2/2, mb4.0/8, ML3.8/4*
*IDC **22** 19:56:36.1±1.2, 39°.52N×73°.74E, h0km, mb3.9/8, mb1 4.0/13, mb1mx3.8/30, mbtmp3.9/13, ML3.6/5, MS2.7/4, Ms1 2.8/4, ms1mx2.4/47, Error ellipse: s-maj=19.0km s-min=12.9km az=136.0*
*ISCJB **22** 19:56:39.9±0.4, 39°.62N±0°.03×73°.51E±0°.06, h29km, mb3.9/10, MS2.6/2, Error ellipse: s-maj=6.8km s-min=4.7km az=12.0*
*MOS **22** 19:56:40.2±2.3, 39°.61N×73°.40E, h33km, mb4.3/5, Error ellipse: s-maj=11.9km s-min=4.8km az=84.2*
**ISC 22 19:56:41.7±0.7, 39°.68N±0°.05×73°.46E±0°.05, h29km

MKAR	**Makanchi Array**	**9.60**	**39**	*ce*P		**Pn**		**19 58 58.7**	**+0.9**	
MKAR				pmax	pmax					
	comp=Z,1.0nm,0.8s									
MKAR	**Makanchi Array**	**9.60**	**39**	Pn		**Pn**		**19 58 58.1**	**+0.3**	
	comp=Z,0.1nm,0.3s,baz=229,slow=11,SNR=8.3									
MKAR				Lg	Lg			20 01 38.0		
	comp=Z,0.1nm,0.3s,baz=222,slow=29,SNR=5.0									
WMQ	**Urumqi**	**11.41**	**64**	P		Pn		19 59 18.8	-3.9	
WMQ				S		**Sn**		**20 01 28.3**	**-0.9**	
KURBB	**Kurchatov Array**	**11.51**	**16**	Pn		**Pn**		**19 59 25.4**	**+1.4**	
	comp=Z,0.0nm,0.3s,baz=206,slow=12,SNR=5.8									
KURBB				Lg	Lg			20 02 41.7		
	comp=Z,0.1nm,0.3s,baz=201,slow=27,SNR=9.3									
KURK	**Kurchatov**	**11.62**	**17**	P		**Pn**		**19 59 25.4**	**0.0**	
VOSK	**Vostochnaya**	**13.16**	**353**	⇓Pn		**Pn**		**19 59 43.6**	**-2.9**	
	comp=Z,3.9nm,0.9s									
VOSK				⇑Lg	Lg			20 03 46.6		
	comp=Z,25nm,1.4s									
VOSK	**Vostochnaya**	**13.16**	**353**	P		**Pn**		**19 59 43.6**	**-2.9**	
VOSK				pmax	pmax					
	comp=Z,5.0nm,0.9s									
BVA0	**Borovoye Array**	**13.52**	**352**	⇑Pn		**Pn**		**19 59 48.6**	**-2.8**	
	comp=Z,4.1nm,0.9s									
BVA0	**Borovoye Array**	**13.52**	**352**	P		**Pn**		**19 59 48.5**	**-2.8**	
BVA0				pmax	pmax					
	comp=Z,3.0nm,0.6s									
BVAR	**Borovoye Array**	**13.52**	**352**	P		**Pn**		**19 59 49.3**	**-2.0**	
BVAR								20 02 17.3		
BVAR				MLR	MLR					
	comp=Z,49nm,18.9s									
BVAR	**Borovoye Array**	**13.52**	**352**	Pn		**Pn**		**19 59 49.3**	**-2.0**	
	comp=Z,0.3nm,0.3s,baz=159,slow=13,SNR=27									
BVAR				Sn		**Sn**		**20 02 17.3**	**-3.1**	
	comp=Z,0.2nm,0.3s,baz=172,slow=25,SNR=3.0									
BVAR				Lg	Lg			20 03 47.9		
	comp=Z,0.1nm,0.3s,baz=170,slow=26,SNR=3.1									
BVAR				LR	LR			20 05 21.0		
	comp=Z,49nm,18.9s,baz=258,slow=38									
BRVK	**Borovoye**	**13.56**	**352**	⇓Pn		**Pn**		**19 59 49.8**	**-2.1**	
	comp=Z,9.4nm,0.8s									
BRVK	**Borovoye**	**13.56**	**352**	*ce*P		**Pn**		**19 59 53.1**	**+1.2**	
BRVK				pmax	pmax					
	comp=Z,10.0nm,1.2s									
AB31	**Akbulak array**	**13.57**	**319**	⇑Pn		**Pn**		**19 59 50.5**	**-1.6**	
	comp=Z,4.8nm,0.8s,baz=0.0,slow=0.1,SNR=43									
AB31				⇓Sn		**Sn**		**20 02 23.2**	**+1.4**	
	comp=Z,1.6nm,0.6s,baz=129,slow=24,SNR=3.0									
AB31	**Akbulak array**	**13.57**	**319**	*ce*P		**Pn**		**19 59 50.5**	**-1.6**	
AB31				pmax	pmax					
	comp=Z,2.0nm,0.4s									
AKTO	**Aktyubinsk**	**15.29**	**320**	⇓Pn		**Pn**		**20 00 14.3**	**-1.0**	
	comp=Z,7.6nm,1.1s									
AKTO				⇑Sn		**Sn**		**20 03 05.2**	**+1.6**	
	comp=Z,1.6nm,0.8s									
AKTO	**Aktyubinsk**	**15.29**	**320**	P		**Pn**		**20 00 14.7**	**-0.6**	
AKTO								20 03 00.9		
AKTO				MLR	MLR					
	comp=Z,32nm,20.7s									
AKTO	**Aktyubinsk**	**15.29**	**320**	Pn		**Pn**		**20 00 14.7**	**-0.6**	
	comp=Z,0.4nm,0.3s,baz=131,slow=14,SNR=14									
AKTO				Sn		**Sn**		**20 03 00.8**	**-2.7**	
	comp=Z,0.1nm,0.3s,baz=180,slow=20,SNR=2.2									
AKTO				LR	LR			20 06 16.8		
	comp=Z,32nm,20.7s,baz=249,slow=37									
ZALV	**Zalesovo Beam**	**16.23**	**25**	*e*P		**Pn**		**20 00 25.8**	**-1.5**	
ZALV	**Zalesovo Beam**	**16.23**	**25**	Pn		**Pn**		**20 00 25.8**	**-1.5**	
	comp=Z,0.3nm,0.3s,baz=210,slow=12,SNR=11									
ZALV				LR	LR			20 07 06.6		
	comp=Z,23nm,21.1s,baz=202,slow=39									
NVS	**Novosibirsk**	**16.53**	**20**	*i* P		**P**		**20 00 32.1**	**-1.5**	
ARU	**Arti**	**19.42**	**335**	*d* P		**Pn**		**20 01 07.7**	**+1.0**	
ARU				pmax	pmax					
	comp=Z,7.0nm,1.2s									
GTA	**Gaotai**	**20.31**	**82**	P		**P**		**20 01 13.3**	**-2.1**	
GTA				pP		Pn		20 01 17.1	-0.4	
GTA				sP		sP		20 01 19.3	-7.6	
GTA				pmax	pmax					
	comp=Z,5.0nm,0.9s									
KIV	**Kislovodsk**	**23.25**	**291**	*e*P		**P**		**20 01 45.6**	**-1.1**	
KIV				pmax	pmax					
	comp=Z,7.0nm,1.0s									
KIV				MLR	MLR					
	comp=Z,16nm,15.0s									
SONM	**Songino Array**	**25.00**	**60**	P		**P**		**20 01 59.3**	**-3.6**	
	comp=Z,0.4nm,0.7s,baz=263,slow=7.1,SNR=3.8									
BRTR	**Keskin Array B**	**30.46**	**283**	P		P		20 02 53.5	+1.6	
	comp=Z,1.1nm,0.8s,baz=85,slow=6.6,SNR=5.7									
FINES	**FINESS Array B**	**36.02**	**323**	P		**P**		**20 03 40.6**	**+0.7**	
	comp=Z,1.6nm,0.5s,baz=104,slow=7.9,SNR=21									
KEV	**Kevo**	**38.63**	**336**	*ep*		P		20 03 57.7	-4.2	
	comp=Z,10nm,1.0s									
KEV	**Kevo**	**38.63**	**336**	*e*P		P		20 03 57.7	-4.2	
KEV				pmax	pmax					
	comp=Z,10.0nm,1.0s									
ARCES	**ARCESS Array B**	**39.01**	**335**	P		**P**		**20 04 05.3**	**+0.2**	
	comp=Z,2.5nm,0.5s,baz=112,slow=9.3,SNR=25									
GERES	**GERESS Array B**	**42.76**	**303**	P		**P**		**20 04 37.6**	**+1.2**	
	comp=Z,0.4nm,0.6s,baz=63,slow=6.1,SNR=5.5									
KHC	**Kasperske Hory**	**42.79**	**303**	*e*P		P		20 04 40.0	+3.5	
KHC	**Kasperske Hory**	**42.79**	**303**	*e*P		P		20 04 40.0	+3.5	
NB2	**NORSAR Subarra**	**43.08**	**321**	P		**P**		**20 04 38.6**	**-0.1**	
	comp=Z,1.6nm,0.6s,baz=92,slow=8.6									
NOA	**NORSAR Array B**	**43.08**	**321**	P		**P**		**20 04 40.0**	**+1.3**	
	comp=Z,1.6nm,0.7s,baz=91,slow=7.9,SNR=9.1									
NOA				LR	LR			20 24 20.0		
	comp=Z,9.5nm,19.2s,baz=270,slow=38									
PET	**Petropavlovsk**	**56.92**	**46**	*i* P		**P**		**20 06 25.5**	**+1.7**	
ESDC	**Sonseca Array**	**57.72**	**297**	P		**P**		**20 06 30.3**	**+0.6**	
	comp=Z,0.3nm,0.3s,baz=56,slow=8.1,SNR=4.9									
TORD	**Torodi Ar. Bea**	**67.73**	**269**	P		**P**		**20 07 36.6**	**-0.1**	
	comp=Z,0.8nm,0.6s,baz=49,slow=5.4,SNR=7.7									

DJA ***22*** *20:02:03.2±0.9, 3°N±16°×12°8E±°, h392km±13km, M4.0/7, mb4.1/4, mB4.3/3, MLv4.0/7, Mw(mB)3.4/3*

ISCJB ***22*** *20:02:10.5±0.8, 4°20N±0°06×127°06E±0°10, h10km, mb3.9/8, Error ellipse: s-maj=14.1km s-min=8.0km az=166.8*

IDC ***22*** *20:02:10.4±1.1, 4°37N×127°41E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.9/23, mbtmp4.0/8, Error ellipse: s-maj=78.2km s-min=16.0km az=65.0*

ISC 22 20:02:11.8±0.9, 4°22N±0°08×127°3E±0°2, h10km, n16, σ1§24/14, mb4.0/8, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GAMI	**Galela, Maluku**	**2.43**	**168**	P		**Pb**	**20 02 55.3**	**-0.2**
TNTI	**Ternate**	**3.43**	**178**	P		**Pn**	**20 03 02.8**	**-2.5**
TNTI				S		**Sn**	**20 03 46.9**	**+0.8**
MNI	**Manado**	**3.67**	**221**	P		**Pn**	**20 03 06.8**	**-1.9**
LBMI	**Labuha**	**4.83**	**177**	P		Pn	20 03 12.8	-12
GTOI	**Gorontalo**	**5.55**	**230**	P		Pn	20 03 31.2	-3.2
	40nm,0.6s,579nm0.1nm							
MRSI	**Marisa**	**6.49**	**235**	P		Pn	20 03 45.0	-2.4
	54nm,0.5s,576nm0.2nm							
LUWI	**Luwuk**	**6.89**	**221**	P		**Pn**	**20 03 52.9**	**-0.1**
MYLDM	**Lahad Datu**	**8.79**	**277**	P		**Pn**	**20 04 18.8**	**-0.2**
WRA	**Warramunga Arr**	**25.00**	**164**	P		**P**	**20 07 37.2**	**+1.2**
	1.9nm,0.5s,baz=343,slow=11,SNR=16							
ASAR	**Alice Springs**	**28.47**	**167**	P		**P**	**20 08 07.5**	**+0.3**
	0.8nm,0.5s,baz=340,slow=6.6,SNR=15							
CMAR	**Chiang Mai Arr**	**31.09**	**299**	P		**P**	**20 08 31.4**	**+0.9**
	1.2nm,0.8s,baz=107,slow=7.3,SNR=8.2							
STKA	**Stephens Creek**	**38.40**	**160**	P		**P**	**20 09 35.0**	**+1.5**
	5.7nm,0.7s,baz=346,slow=8.3,SNR=10							
SONM	**Songino Array**	**47.01**	**341**	P		**P**	**20 10 42.4**	**-1.0**
	0.3nm,0.5s,baz=148,slow=8.5,SNR=3.9							
MKAR	**Makanchi Array**	**57.46**	**325**	P		**P**	**20 12 00.4**	**-0.6**
	0.4nm,0.5s,baz=118,slow=7.3,SNR=9.5							
KURBB	**Kurchatov Array**	**61.62**	**327**	P		**P**	**20 12 29.9**	**+0.3**
	0.8nm,0.2s,baz=124,slow=6.7,SNR=4.3							
FINES	**FINESS Array B**	**91.65**	**332**	P		**P**	**20 15 19.5**	**+0.4**
	1.1nm,0.9s,baz=54,slow=7.1,SNR=2.5							

KRSC ***22*** *20:23:02.6±0.3, 50°47N×157°39E, h53km±42km, ML5.1*

MOS ***22*** *20:23:03.8±1.2, 50°78N×156°95E, h84km, mb4.0/12, Error ellipse: s-maj=13.9km s-min=7.3km az=71.7*

MOS Felt (II) at Severo-Kuril'sk.

ISCJB ***22*** *20:23:04.4±0.6, 50°73N±0°05×156°90E±0°09, h85km±4km, mb3.9/22, Error ellipse: s-maj=12.6km s-min=3.9km az=42.3*

BJI ***22*** *20:23:04.0, 50°80N×156°80E, h80km, mB4.5/4, mb4.8/7, Ms4.0/1, Ms7 3.9/2*

IDC ***22*** *20:23:07.3±2.1, 50°93N×156°77E, h96km±19km, mb3.7/18, mb1 3.9/22, mb1mx3.8/32, mbtmp3.8/22, MS3.1/9, Ms1 3.1/9, ms1mx2.8/36, Error ellipse: s-maj=18.3km s-min=9.7km az=143.0*

ISC 22 20:23:03.4±1.0, 50°59N±0°07×157°15E±0°06, h66km±9km, n93, σ1§59/85, mb4.0/22, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.66**	**278**	⇑*i*P		Pn	20 23 13.5	-4.1
SKR				pmax	pmax			
	comp=N,10μm,0.3s							
SKR				pmax	pmax			
	comp=E,5μm,0.3s							
SKR				pmax	pmax			
	comp=Z,13μm,0.3s							
SKR				pmax	pmax			
	comp=N,5μm,0.8s							
SKR				pmax	pmax			
	comp=E,6μm,0.8s							
SKR				pmax	pmax			
	comp=Z,5μm,0.8s							
SKR	**Severo-Kuril's**	**0.66**	**278**	*i* P		**Pn**	**20 23 17.7**	**+0.1**
SKR				*i* S		**Sn**	**20 23 27.7**	**-0.3**
PAU	**Pauzhetka**	**0.90**	**346**	PN		**Pn**	**20 23 20.7**	**+0.2**
PAU				S		**Sn**	**20 23 33.1**	**0.0**
PAU	**Pauzhetka**	**0.90**	**346**	*i* P		**Pn**	**20 23 20.7**	**+0.2**
PAU				*i* S		**Sn**	**20 23 33.1**	**0.0**
MIPR	**Malaya Ipel'ka**	**1.70**	**352**	*e*P		**Pn**	**20 23 31.4**	**+0.4**
RUS	**Russkaya**	**2.03**	**24**	PN		**Pn**	**20 23 35.1**	**-0.2**
RUS				S		**Sn**	**20 23 58.0**	**-1.6**
RUS	**Russkaya**	**2.03**	**24**	*i* P		**Pn**	**20 23 35.1**	**-0.2**
RUS				*i* S		**Sn**	**20 23 58.0**	**-1.6**
GRL	**Gorelyy**	**2.04**	**16**	*i* P		**Pn**	**20 23 36.1**	**+0.4**
GRL				*i* S		**Sn**	**20 23 59.8**	**-0.4**
APC	**Apacha**	**2.33**	**0**	*e*P		**Pn**	**20 23 39.9**	**+0.4**
PETK	**Petropavlovsk-**	**2.54**	**7**	PN		**Pn**	**20 23 43.3**	**+1.0**
PETK				pmax	pmax			
	comp=Z,39nm,0.3s							
PETK	**Petropavlovsk-**	**2.54**	**7**	P		**Pn**	**20 23 43.3**	**+1.0**
	comp=Z,39nm,0.3s,baz=178,slow=13,SNR=330							
PETK				S		**Sn**	**20 24 15.7**	**+3.5**
	comp=Z,31nm,0.3s,baz=130,slow=18,SNR=5.3							
PET	**Petropavlovsk**	**2.61**	**20**	PN		**Pn**	**20 23 43.9**	**+0.7**
PET				S		**Sn**	**20 24 13.0**	**-0.7**
PET	**Petropavlovsk**	**2.61**	**20**	*i* P		**Pn**	**20 23 43.9**	**+0.7**
PET				*i* S		**Sn**	**20 24 13.0**	**-0.7**
UGLR	**Uglovaya**	**2.82**	**21**	*i* P		**Pn**	**20 23 47.7**	**+1.5**
UGLR				*i* S		**Sn**	**20 24 19.6**	**+0.6**
AVH	**Avacha**	**2.85**	**20**	*e*P		**Pn**	**20 23 48.5**	**+1.9**
AVH				*i* S		**Sn**	**20 24 21.1**	**+1.3**
KOK	**Koryaka**	**2.85**	**18**	*i* P		**Pn**	**20 23 48.7**	**+2.0**
SMAR	**Somma**	**2.86**	**20**	*e*P		**Pn**	**20 23 48.9**	**+2.0**
SMAR				*i* S		**Sn**	**20 24 21.7**	**+1.5**
GNL	**Ganaly**	**3.14**	**9**	*i* P		**Pn**	**20 23 52.2**	**+1.6**
GNL				*i* S		**Sn**	**20 24 27.2**	**+0.2**
TUMR	**Tumrok**	**5.03**	**20**	*e*P		**Pn**	**20 24 18.4**	**+2.0**
ESO	**Esso**	**5.42**	**9**	PN		**Pn**	**20 24 23.7**	**+2.1**
ESO	**Esso**	**5.42**	**9**	*e*P		**Pn**	**20 24 23.7**	**+2.1**
KMNR	**Kamenistaya**	**5.49**	**19**	*e*P		Pn	20 24 26.5	+3.8
KPT	**Kopyto**	**5.69**	**18**	*e*P		**Pn**	**20 24 27.6**	**+2.3**
KIRR	**Kirishev**	**5.70**	**18**	*e*P		**Pn**	**20 24 27.3**	**+1.8**
BZMR	**Bezymyannaya**	**5.71**	**19**	*e*P		Pn	20 24 28.3	+2.6
BZWR	**Bezymyannyi-We**	**5.74**	**19**	*e*P		**Pn**	**20 24 28.0**	**+1.9**
BZGR	**Bezymyannyi-Gr**	**5.76**	**20**	*e*P		**Pn**	**20 24 28.5**	**+2.1**
ZLN	**Zelenaya**	**5.86**	**21**	*e*P		**Pn**	**20 24 29.1**	**+1.5**
LGNR	**Loginova**	**5.89**	**20**	*e*P		Pn	20 24 31.3	+3.0
CIRR	**Tsirk**	**5.94**	**20**	*e*P		**Pn**	**20 24 30.2**	**+1.4**
SRDR	**Sredinnyy**	**5.94**	**14**	*e*P		Pn	20 24 32.2	+3.5
BDR	**Baidarnaya**	**6.45**	**20**	*e*P		**Pn**	**20 24 38.0**	**+2.2**
SRKR	**Sorokina**	**6.52**	**20**	*e*P		**Pn**	**20 24 38.4**	**+1.7**
SMKR	**Semkarok**	**6.53**	**22**	*e*P		**Pn**	**20 24 38.7**	**+1.9**
KBG	**Krutoberegovo**	**6.57**	**28**	PN		Pn	20 24 41.9	+4.6
KBG	**Krutoberegovo**	**6.57**	**28**	P		Pn	20 24 41.9	+4.6
BKI	**Bering**	**7.05**	**46**	PN		**Pn**	**20 24 43.8**	**-0.1**
BKI	**Bering**	**7.05**	**46**	*e*P		**Pn**	**20 24 43.8**	**-0.1**
BKI				*i* S		Sn	20 25 55.7	-6.8
KUR	**Kuril'sk**	**8.22**	**233**	PN		Pn	20 25 03.1	+3.2
KUR				pmax	pmax			
	comp=Z,55nm,0.7s							
KUR				pmax	pmax			
	comp=N,43nm,0.7s							
YSS	**Yuzh-Sakhalins**	**10.18**	**255**	⇓*e*PN		Pn	20 25 31.0	+4.4
FX1	**Attu Island--F**	**10.20**	**71**	P		Pn	20 25 27.6	+0.8
	comp=N,20nm,0.3s,baz=296,slow=4.3,SNR=103							
FX1				S		**Sn**	**20 27 14.1**	**-5.3**
	comp=N,41nm,0.3s,baz=188,slow=22,SNR=13							
FX1				LR	LR		20 29 01.1	
	comp=N,47nm,19.4s,baz=136,slow=34							
JMP	**Maruseppu**	**11.44**	**240**	P		Pn	20 25 47.4	+3.5
ASAJ	**Asahikawa**	**11.80**	**242**	P		**Pn**	**20 25 50.6**	**+1.9**
ASAJ	**Asahikawa**	**11.80**	**242**	P		**Pn**	**20 25 50.5**	**+1.8**
	comp=N,12nm,0.3s,baz=72,slow=14,SNR=48							
ASAJ				LR	LR		20 30 00.6	
	comp=N,24nm,21.1s,baz=120,slow=35							
SEY	**Seymchan**	**12.64**	**350**	*e*PN		**Pn**	**20 25 58.0**	**-2.0**
ERM	**Erimo**	**12.91**	**234**	*e*PN		**Pn**	**20 26 04.0**	**+0.1**
JSH	**Shimam**	**14.17**	**242**	P		**Pn**	**20 26 21.8**	**+1.1**
JOT	**Ohata**	**14.47**	**237**	P		Pn	20 26 20.2	-4.4
JTM	**Tenmabayashi**	**14.88**	**235**	P		Pn	20 26 26.2	-3.8
JOM	**Ohasama**	**15.75**	**231**	P		**Pn**	**20 26 37.1**	**-4.0**
JOM				eS		Sn	20 29 18.5	-16
KLR	**Kul'dur**	**16.40**	**275**	*e*P		**Pn**	**20 26 47.0**	**-2.1**
JYA	**Atsumi**	**17.21**	**233**	P		**P**	**20 27 00.5**	**+0.5**
USRK	**Ussuriysk Arra**	**18.14**	**259**	P		**P**	**20 27 10.9**	**+0.9**
	comp=N,0.3nm,0.3s,baz=58,slow=8.1,SNR=15							
USRK				LR	LR		20 34 13.0	
	comp=N,44nm,19.6s,baz=298,slow=37							
JSD	**Sado**	**18.38**	**234**	P		**Pn**	**20 27 13.8**	**+0.3**
YAK	**Yakutsk**	**18.89**	**318**	*e*P		**Pn**	**20 27 15.7**	**-2.4**
YAK				*e*			20 30 48.3	
YAK				pmax	pmax			
	comp=Z,17nm,0.6s							
MAT	**Matsushiro**	**19.56**	**231**	P		**P**	**20 27 25.7**	**0.0**
MAT	**Matsushiro**	**19.56**	**231**	P		**P**	**20 27 25.5**	**-0.2**
MJAR	**Matsushiro Arr**	**19.56**	**231**	P		**Pn**	**20 27 26.9**	**-0.7**
	comp=Z,2.2nm,0.3s,baz=18,slow=12,SNR=22							
JRY	**Ryogami san**	**19.64**	**229**	P		**P**	**20 27 26.9**	**+0.3**
CN2	**Changchun**	**22.46**	**265**	*e*P		**P**	**20 27 55.1**	**-1.8**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
JAD	**Aida**	**22.87**	**236**	P		**P**	**20 28 01.4**	**+0.2**
KSRS	**Korea Array**	**24.60**	**249**	P		**P**	**20 28 18.2**	**+1.1**
	comp=Z,3.5nm,0.7s,baz=47,slow=9.3,SNR=20							
JNU	**Nakatsue**	**26.01**	**238**	P		**P**	**20 28 32.7**	**+2.6**
JNU	**Nakatsue**	**26.01**	**238**	P		**P**	**20 28 32.1**	**+2.0**
	comp=Z,12nm,0.7s,baz=38,slow=10,SNR=8.9							
ILAR	**Eielson Array**	**31.89**	**42**	P		**P**	**20 29 21.6**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=254,slow=7.2,SNR=15							
SONM	**Songino Array**	**32.74**	**285**	P		P	20 29 27.7	-2.1
	comp=Z,0.6nm,0.4s,baz=70,slow=7.2,SNR=7.7							
SONM				LR	LR		20 42 35.8	
	comp=Z,52nm,19.4s,baz=228,slow=36							
ZAK	**Zakamensk**	**33.64**	**291**	*e*P		**P**	**20 29 37.5**	**0.0**
ZAK				pmax	pmax			
	comp=Z,1.0nm,1.7s							
INK	**Inuvik**	**36.97**	**35**	P		**P**	**20 30 05.5**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=322,slow=8.2,SNR=4.5							
WHN	**Wuhan**	**37.52**	**254**	*e*P		**P**	**20 30 13.3**	**+2.5**
YKA	**Yellowknife Ar**	**46.25**	**40**	P		**P**	**20 31 21.2**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=294,slow=7.9,SNR=2.7							
MKAR	**Makanchi Array**	**47.60**	**296**	*i* P		**P**	**20 31 30.7**	**-1.7**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**47.60**	**296**	P		**P**	**20 31 30.6**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=62,slow=6.8,SNR=30							
MKAR				LR	LR		20 50 50.2	
	comp=Z,38nm,20.2s,baz=21,slow=35							
QIZ	**Qiongzhong**	**48.81**	**248**	P		P	20 31 36.3	-5.6
QIZ				sP		sP	20 31 58.1	-8.2
QIZ				S		S	20 38 31.6	-8.6
QIZ				pmax	pmax			
	comp=Z,79nm,4.9s							
QIZ				LR	LR			
	comp=Z,99nm,6.4s							
BVAR	**Borovoye Array**	**50.52**	**309**	LR		LR	20 56 35.5	
	comp=Z,20nm,18.4s,baz=273,slow=40							
BRVK	**Borovoye**	**50.55**	**309**	⇑*i*P		**P**	**20 31 54.0**	**-0.8**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ARU	**Arti**	**53.99**	**317**	P		P	20 32 33.8	+14
AAK	**Ala-Archa**	**54.54**	**296**	*e*P		**P**	**20 32 24.4**	**-0.2**
AAK				pmax	pmax			
	comp=Z,3.0nm,0.7s							
ARCES	**ARCESS Array B**	**55.08**	**341**	LR		LR	20 57 28.8	
	comp=Z,25nm,22.0s,baz=51,slow=38							
CMAR	**Chiang Mai Arr**	**55.86**	**257**	P		**P**	**20 32 34.9**	**+0.7**
	comp=Z,3.3nm,0.8s,baz=30,slow=6.8,SNR=21							
FFC	**Flin Flon**	**56.09**	**43**	*i* P		**P**	**20 32 36.9**	**+1.6**
NVAR	**Mina Array Bea**	**58.36**	**67**	P		**P**	**20 32 53.9**	**+2.0**
	comp=Z,2.2nm,0.6s,baz=296,slow=7.7,SNR=15							
PDAR	**Pinedale Array**	**60.37**	**58**	P		**P**	**20 33 07.2**	**+1.6**
	comp=Z,2.3nm,0.8s,baz=305,slow=2.7,SNR=18							
FINES	**FINESS Array B**	**61.67**	**336**	P		P	20 33 10.0	-3.9
	comp=Z,0.3nm,0.5s,baz=35,slow=10,SNR=5.5							
NOA	**NORSAR Array B**	**65.41**	**343**	LR		LR	21 08 20.3	
	comp=Z,12nm,18.1s,baz=90,slow=42							
HFS	**Hagfors**	**65.74**	**341**	P		P	20 33 38.2	-2.4
	comp=Z,0.5nm,0.4s,baz=44,slow=4.5,SNR=7.8							
KBZ	**Khabaz**	**70.06**	**315**	LR		LR	21 07 25.5	
	comp=Z,29nm,21.3s,baz=283,slow=38							
WRA	**Warramunga Arr**	**73.06**	**202**	P		**P**	**20 34 26.7**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=19,slow=6.3,SNR=10							
EKA	**Eskdalemuir Ar**	**73.17**	**348**	P		**P**	**20 34 24.7**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=19,slow=5.8,SNR=4.8							
TXAR	**Lajitas Array**	**73.34**	**64**	P		**P**	**20 34 29.3**	**+1.2**
	comp=Z,1.9nm,0.5s,baz=296,slow=4.7,SNR=14							
GERES	**GERESS Array B**	**76.10**	**336**	P		**P**	**20 34 42.0**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=30,slow=6.2,SNR=4.6							
ASAR	**Alice Springs**	**76.74**	**202**	P		**P**	**20 34 48.6**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=16,slow=5.2,SNR=11							
KEST	**Kesra**	**89.47**	**334**	P		**P**	**20 35 52.7**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=69,slow=18,SNR=5.1							
PLCA	**Paso Flores**	**145.78**	**92**	PKPbc		**PKPab**	**20 42 34.7**	**-0.2**
	comp=Z,4.7nm,1.2s,baz=22,slow=23,SNR=3.4							

IDC 22 20:27:55.0±1.4, 14°46S×167°91E, h0km, mb4.3/10, mb1 4.3/11, mb1mx4.1/22, mbtmp4.2/11, ML4.0/1, MS3.4/4, ms1mx2.9/28, Error ellipse: s-maj=44.4km s-min=20.6km az=118.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.70**	**190**	*e*P		Pn	20 29 48.3	-0.3
DZM				*e*S		Sn	20 31 10.9	-5.8
DZM	**Mont Dzumac**	**7.70**	**190**	Pn		Pn	20 29 48.3	-0.2
	2.2nm,0.3s,baz=19,slow=14,SNR=17							
DZM				Sn		Sn	20 31 10.6	-6.0
	0.4nm,0.3s,baz=136,slow=23,SNR=2.2							
DZM				LR		LR	20 31 25.8	
	comp=Z,52nm,20.5s,baz=179,slow=27							
PMG	**Port Moresby**	**20.91**	**282**	LR		LR	20 40 11.3	
	comp=Z,145nm,18.2s,baz=60,slow=35							
CTA	**Charters Tower**	**21.41**	**252**	P		P	20 32 46.0	+1.3
	6.9nm,0.8s,baz=79,slow=13,SNR=8.3							
STKA	**Stephens Creek**	**29.64**	**230**	P		P	20 34 03.1	+0.8
	6.5nm,0.5s,baz=41,slow=7.7,SNR=36							
STKA			

comp=Z,163nm,0.3s,baz=134,slow=17,SNR=5.8
APC Apacha 1.85 319 *i* P **Pn** **21 06 41.9 +1.6**
APC *i* S **Sn** **21 07 08.0 +5.5**
SKR Severo-Kuril's 2.09 247 ⇑*i* PN Pn 21 06 38.5 -5.0
SKR *i* S **Sn** **21 07 08.5 +0.2**
SKR pmax pmax
comp=Z,150nm,0.4s
SKR pmax pmax
comp=E,1μm,2.0s
SKR pmax pmax
comp=Z,1μm,2.0s
SKR smax smax
comp=N,6μm,0.6s
SKR smax smax
comp=E,3μm,0.6s
SKR smax smax
comp=N,9μm,2.0s
SKR smax smax
comp=E,8μm,2.0s
SKR MLR MLR
comp=N,10μm,14.0s
SKR MLR MLR
comp=E,16μm,14.0s
SKR MLR MLR
comp=Z,12μm,14.0s
SKR Severo-Kuril's 2.09 247 *i* P **Pn** **21 06 42.8 -0.7**
SKR *i* S **Sn** **21 07 09.8 +1.5**
GNL Ganaly 2.29 342 *e*P **Pn** **21 06 47.0 +0.7**
GNL *i* S **Sn** **21 07 16.2 +2.9**
TUMR Tumrok 3.80 9 *e*P **Pn** **21 07 06.7 -0.4**
TUMR *i* S **Sn** **21 07 50.9 +0.4**
KMNR Kamenistaya 4.28 8 *e*P **Pn** **21 07 14.3 +0.7**
ESO Esso 4.41 357 PN **Pn** **21 07 15.2 -0.1**
ESO S **Sn** **21 08 06.2 +0.9**
ESO Esso 4.41 357 *e*P **Pn** **21 07 15.2 -0.1**
ESO *i* S **Sn** **21 08 06.2 +0.9**
BZMR Bezymyannaya 4.48 10 *e*P **Pn** **21 07 17.0 +0.6**
KIRR Kirishev 4.48 9 *e*P **Pn** **21 07 14.8 -1.6**
KPT Kopyto 4.49 8 *e*P **Pn** **21 07 16.0 -0.4**
BZGR Bezymyannyi-Gr 4.51 11 *e*P **Pn** **21 07 16.8 +0.1**
BZWR Bezymyannyi-We 4.51 10 *e*P **Pn** **21 07 17.2 +0.4**
KOZ Kozyrevsk 4.55 5 *e*P **Pn** **21 07 16.0 -1.3**
KOZR Kozyr 4.56 5 PN **Pn** **21 07 16.0 -1.4**
ZLN Zelenaya 4.60 12 *e*P **Pn** **21 07 18.6 +0.7**
LGNR Loginova 4.65 11 *e*P **Pn** **21 07 18.6 -0.2**
CIRR Tsirk 4.69 11 *e*P **Pn** **21 07 19.3 +0.1**
KRR Krestovskiy 4.77 10 *e*P **Pn** **21 07 19.3 -1.0**
SRDR Sredinnyy 4.80 4 *e*P **Pn** **21 07 20.4 -0.3**
KBG Krutoberegovo 5.18 23 PN **Pn** **21 07 25.7 0.0**
KBG Krutoberegovo 5.18 23 *e*P **Pn** **21 07 25.7 0.0**
BDR Baidarnaya 5.19 13 *i* P **Pn** **21 07 25.9 -0.1**
SMKR Semkarok 5.24 14 *e*P **Pn** **21 07 25.7 -1.0**
SRKR Sorokina 5.27 12 *e*P **Pn** **21 07 26.0 -1.1**
BKI Bering 5.49 45 PN Pn 21 07 25.4 -4.7
BKI Bering 5.49 45 *e*P Pn 21 07 25.4 -4.7
BKI *i* S Sn 21 08 21.3 -11
FX1 Attu Island--F 8.72 76 P Pn 21 08 07.5 -6.7
FX1 S Sn 21 09 37.1 -14
FX1 Attu Island--F 8.72 76 P Pn 21 08 07.5 -6.7
comp=Z,29nm,0.3s,baz=289,slow=3.0,SNR=234
FX1 S Sn 21 09 37.1 -14
comp=Z,18nm,0.3s,baz=110,slow=22,SNR=15
FX1 LR LR 21 11 14.8
comp=Z,442nm,20.8s,baz=293,slow=35
KUR Kuril'sk 9.79 234 PN **Pn** **21 08 30.3 +1.3**
KUR S **Sn** **21 10 21.2 +3.7**
KUR pmax pmax
comp=Z,33nm,0.9s
KUR pmax pmax
comp=N,22nm,1.2s
KUR pmax pmax
comp=E,14nm,1.3s
KUR MLR MLR
comp=Z,2μm,15.0s
KUR MLR MLR
comp=N,1μm,15.0s
KUR MLR MLR
comp=Z,1μm,15.0s
UGL Uglegorsk 11.20 264 PN Pn 21 08 56.0 +7.8
UGL pmax pmax
comp=Z,90nm,1.1s
UGL MLR MLR
comp=N,1μm,13.0s
UGL MLR MLR
comp=E,2μm,13.0s
YSS Yuzh-Sakhalins 11.65 253 *e*PN Pn 21 08 58.0 +3.7
YSS MLR MLR
comp=Z,700nm,15.0s
YUK Yuzh-Kuril'sk 11.66 235 *i* PN Pn 21 08 59.7 +5.2
YUK pmax pmax
comp=E,35nm,0.3s
YUK pmax pmax
comp=Z,33nm,0.3s
YUK pmax pmax
comp=N,21nm,0.3s
YUK pmax pmax
comp=E,19μm,3.1s
YUK pmax pmax
comp=N,8μm,3.1s
YUK MLR MLR
comp=E,1μm,17.0s
YUK MLR MLR
comp=Z,629nm,17.0s
SEY Seymchan 11.99 345 *e*PN **Pn** **21 08 58.1 -0.8**
ASAJ Asahikawa 13.35 243 *e*Pn **Pn** **21 09 17.3 -0.3**
ASAJ Asahikawa 13.35 243 P **Pn** **21 09 16.9 -0.7**
comp=Z,1.0nm,0.3s,baz=52,slow=12,SNR=14
ERM Erimo 14.49 235 Pn **Pn** **21 09 29.9 -3.0**
comp=Z,156nm,1.0s,SNR=5.4
ERM Erimo 14.49 235 *e*P Pn 21 09 28.9 -4.0
HABR Khabarovsk 15.77 268 *e*P **Pn** **21 09 46.0 -3.5**
HABR *e*S **Sn** **21 12 39.6 -3.5**
HABR MLR MLR
comp=Z,1μm,17.0s
KLR Kul'dur 17.59 273 *e*P **Pn** **21 10 11.2 -1.0**
KLR pmax pmax
comp=E,80nm,1.6s
KLR pmax pmax
comp=Z,110nm,1.6s
KLR MLR MLR
comp=N,600nm,13.5s
KLR MLR MLR
comp=Z,1μm,13.5s
YAK Yakutsk 19.08 315 *e*P **P** **21 10 27.5 -1.4**
YAK *e*S S 21 13 52.7 -10
YAK pmax pmax
comp=Z,115nm,1.0s
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=E,32nm,1.0s
YAK pmax pmax
comp=Z,26nm,0.8s
YAK pmax pmax
comp=N,14nm,1.5s
YAK pmax pmax
comp=E,25nm,1.4s
YAK smax smax
comp=N,81nm,17.8s
YAK smax smax
comp=E,44nm,14.4s
YAK MLR MLR
comp=Z,584nm,14.0s
YAK MLR MLR
comp=N,156nm,13.0s
YAK MLR MLR
comp=E,368nm,11.0s
USRK Ussuriysk Arra 19.56 259 P **P** **21 10 33.0 -1.2**
comp=E,0.3nm,0.3s,baz=62,slow=10,SNR=25
CLNS Chul'man 20.58 298 *e*P **P** **21 10 44.5 -0.9**
CLNS *e**PP **pP** **21 10 52.8 -4.2**
CLNS *e* 21 10 59.2
CLNS *e*S S 21 14 19.4 -13
CLNS *e* 21 15 06.3
CLNS pmax pmax
comp=Z,16nm,0.8s
CLNS pmax pmax
comp=E,12nm,0.9s
CLNS pmax pmax
comp=N,9.0nm,1.1s
CLNS pmax pmax
comp=N,10.0nm,1.1s
CLNS pmax pmax
comp=Z,17nm,1.1s
CLNS pmax pmax
comp=E,11nm,1.1s
CLNS smax smax
comp=N,33nm,14.9s
CLNS smax smax
comp=E,111nm,14.2s
CLNS MLR MLR
comp=N,252nm,14.0s
CLNS MLR MLR
comp=E,305nm,16.0s
CLNS MLR MLR
comp=Z,414nm,14.0s
MDJ Mudanjiang 20.83 262 P **P** **21 10 46.1 -1.9**
MDJ pP **pP** **21 10 56.4 -3.3**
MDJ sP **sP** **21 11 03.0 -3.1**
MDJ S S 21 14 24.4 -13
MDJ sS Sn 21 14 44.3 -0.7
MDJ ScP **ScP** **21 18 33.6 +6.6**
MDJ PcS PcS 21 18 39.4 +6.8
MDJ pmax pmax
comp=Z,11nm,0.8s
MDJ pmax pmax
comp=Z,49nm,3.9s
MDJ LR LR
comp=N,490nm,14.3s
MDJ LR LR
comp=E,530nm,15.5s
MDJ LR LR
comp=Z,920nm,14.9s
MDJ Mudanjiang 20.83 262 *e*P **P** **21 10 45.2 -2.8**
comp=Z,11nm,0.9s
MDJ *e* 21 10 57.9
MJAR Matsushiro Arr 21.13 233 P **P** **21 10 51.6 +0.2**
MJAR Matsushiro Arr 21.13 233 P **P** **21 10 51.6 +0.2**
comp=Z,28nm,0.9s,baz=26,slow=9.3,SNR=67
MJAR LR LR 21 19 40.1
comp=Z,495nm,20.5s,baz=50,slow=38
MAJO Matsushiro 21.13 233 *e*P **P** **21 10 51.7 +0.3**
MAJO pmax pmax
comp=Z,53nm,0.9s
MAJO Matsushiro 21.13 233 *e*P **P** **21 10 51.7 +0.3**
comp=Z,53nm,0.9s
MAT Matsushiro 21.13 233 P **P** **21 10 51.4 0.0**
MAT S **S** **21 14 42.6 -1.0**
CN2 Changchun 23.81 264 *e*P **P** **21 11 16.6 -2.3**
CN2 *e*S S 21 15 15.5 -15
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=N,200nm,14.0s
CN2 LR LR
comp=E,600nm,14.0s
CN2 LR LR
comp=Z,700nm,13.0s
TIXI Tiksi 24.28 337 *c i*P **P** **21 11 22.2 -0.7**
TIXI pmax pmax
comp=Z,130nm,0.8s
TIXI MLR MLR
comp=Z,554nm,20.0s
HIA Hailar 25.01 280 *e*P **P** **21 11 27.2 -2.7**
comp=Z,80nm,0.9s
SNY Shenyang 26.03 262 ⇑P P 21 11 30.4 -8.7
SNY S S 21 15 53.8 -12
SNY pmax pmax
comp=Z,9.0nm,0.5s
SNY pmax pmax
comp=Z,120nm,4.9s
SNY LR LR
comp=N,650nm,15.3s
SNY LR LR
comp=E,640nm,14.6s
SNY LR LR
comp=Z,790nm,15.5s
KSRS Korea Array 26.11 250 P **P** **21 11 40.6 +0.8**
comp=Z,6.7nm,0.8s,baz=46,slow=9.3,SNR=31
KSRS LR LR 21 22 47.0
comp=Z,195nm,19.8s,baz=45,slow=38
KSAR Wonju Array Be 26.14 250 P **P** **21 11 40.6 +0.5**
JNU Nakatsue 27.58 239 *e*P **P** **21 11 56.5 +3.3**
comp=Z,10nm,0.9s
JNU Nakatsue 27.58 239 P **P** **21 11 55.8 +2.6**
comp=Z,27nm,0.9s,baz=71,slow=6.7,SNR=10
ILAR Eielson Array 30.34 43 P **P** **21 12 16.1 -1.2**
ILAR Eielson Array 30.34 43 P **P** **21 12 16.1 -1.2**
comp=Z,1.8nm,0.9s,baz=258,slow=8.5,SNR=14
BJI Beijing 31.65 266 P **P** **21 12 27.3 -1.8**
BJI S S 21 17 24.3 -10
BJI pmax pmax
comp=Z,8.0nm,0.7s
BJI LR LR
comp=N,690nm,16.5s
BJI LR LR
comp=E,440nm,18.4s
BJI LR LR
comp=Z,220nm,17.7s
IRK Irkutsk 33.19 293 *e*P **P** **21 12 41.6 -0.9**
IRK pmax pmax
comp=Z,14nm,1.3s
SONM Songino Array 33.72 285 P **P** **21 12 46.9 -0.4**
SONM PcP **PcP** **21 15 25.6 -0.2**
SONM Songino Array 33.72 285 P **P** **21 12 46.9 -0.4**
comp=Z,0.8nm,0.3s,baz=66,slow=8.3,SNR=15
SONM PcP **PcP** **21 15 25.6 -0.2**
comp=Z,1.5nm,0.9s,baz=92,slow=2.8,SNR=4.7
SONM LR LR 21 28 04.7
HHC Hu-ho-hao-te 34.06 271 *e*P **P** **21 12 48.6 -1.7**
HHC pP **pP** **21 13 03.5 0.0**
HHC sP **sP** **21 13 10.8 +1.3**
HHC PP **PnPn** **21 13 59.9 -5.0**
HHC PcP PcP 21 15 32.6 +5.8
HHC S S 21 18 00.1 -12
HHC sS sS 21 18 25.9 -8.6
HHC PcS **PcS** **21 19 16.8 +3.8**
HHC pmax pmax
comp=Z,35nm,0.5s
HHC pmax pmax
comp=Z,180nm,4.9s
HHC LR LR
comp=N,590nm,13.1s
HHC LR LR
comp=E,970nm,14.3s
HHC LR LR
comp=Z,780nm,14.3s
ZAK Zakamensk 34.48 291 *e*P **P** **21 12 54.0 +0.2**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
NJ2 Nanjing 35.22 252 *e*P **P** **21 13 00.6 +0.4**
NJ2 PcP PcP 21 15 36.8 +6.7
NJ2 S **S** **21 18 25.0 -4.9**
NJ2 pmax pmax
comp=Z,120nm,1.1s
NJ2 LR LR
comp=N,520nm,13.2s
NJ2 LR LR
comp=E,370nm,14.8s
NJ2 LR LR
comp=Z,460nm,14.4s
MOY Mondy 35.29 294 *e*P **P** **21 13 01.9 +1.1**
INK Inuvik 35.47 36 P **P** **21 13 00.8 -1.2**
INK Inuvik 35.47 36 P **P** **21 13 00.8 -1.2**
comp=Z,7.0nm,0.9s,baz=285,slow=6.4,SNR=7.4
WHN Wuhan 38.99 255 P **P** **21 13 32.3 +0.1**
WHN LR LR
comp=Z,620nm,15.8s
HVS Khovu-Aksy 39.65 296 *d i*P **P** **21 13 38.1 +0.5**
HVS pmax pmax
comp=Z,61nm,1.0s
XAN Xi'an 39.92 264 P **P** **21 13 39.3 -0.7**
XAN pP **pP** **21 13 54.3 +0.9**
XAN S **S** **21 19 38.8 -2.5**
XAN pmax pmax
comp=Z,2.0nm,1.1s
XAN LR LR
comp=N,210nm,20.3s
XAN LR LR
comp=E,100nm,19.3s
XAN LR LR
comp=Z,80nm,18.3s
LZH Lanzhou 41.76 271 ⇑P **P** **21 13 55.8 +0.6**
LZH pP **pP** **21 14 11.0 +2.3**
LZH sP **sP** **21 14 18.0 +3.4**
LZH pmax pmax
comp=Z,40nm,1.1s
LZH pmax pmax
comp=Z,110nm,5.6s
LZH LR LR
comp=N,680nm,17.6s
LZH LR LR
comp=E,720nm,18.2s
LZH LR LR
comp=Z,760nm,18.7s
ENH Enshi 42.14 259 *e*P **P** **21 13 57.7 -0.6**
comp=Z,18nm,0.8s
GTA Gaotai 42.22 277 P **P** **21 13 59.1 +0.2**
GTA pP **pP** **21 14 14.4 +2.0**
GTA sP **sP** **21 14 22.0 +3.7**
GTA S S 21 20 07.4 -8.1
GTA sS **sS** **21 20 34.8 -3.3**
GTA pmax pmax
comp=Z,10.0nm,1.7s
GTA pmax pmax
comp=Z,59nm,6.9s
GTA LR LR
comp=N,540nm,15.7s
GTA LR LR
comp=E,340nm,15.7s
GTA LR LR
comp=Z,690nm,14.5s
ZALV Zalesovo Beam 43.14 304 *i* P **P** **21 14 04.4 -1.7**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 43.14 304 P **P** **21 14 04.4 -1.7**
ZALV PcP **PcP** **21 15 55.6 +0.8**
ZALV Zalesovo Beam 43.14 304 P **P** **21 14 04.4 -1.7**
comp=Z,1.4nm,0.3s,baz=54,slow=7.5,SNR=7.2
ZALV PcP **PcP** **21 15 55.6 +0.8**
comp=Z,1.5nm,0.6s,baz=27,slow=3.6,SNR=7.2
ZALV LR LR 21 33 28.0
comp=Z,304nm,18.8s,baz=75,slow=38
NVS Novosibirsk 43.53 305 ⇑*i* P **P** **21 14 06.3 -2.9**
NVS *i* 21 15 55.5
NVS pmax pmax
comp=N,2.0nm,0.8s
NVS pmax pmax
comp=Z,10.0nm,0.8s
NVS pmax pmax
comp=E,9.0nm,1.0s
YKA Yellowknife Ar 44.71 41 P **P** **21 14 18.2 -0.3**
YKA Yellowknife Ar 44.71 41 P **P** **21 14 18.2 -0.3**
comp=E,2.0nm,0.9s,baz=301,slow=7.7,SNR=5.9
CD2 Chengdu 45.24 265 *e*P **P** **21 14 23.3 +0.1**
CD2 pP **pP** **21 14 38.4 +1.6**
CD2 sP **sP** **21 14 45.4 +2.7**
CD2 PP **PP** **21 16 08.1 -1.5**
CD2 S S 21 20 50.8 -8.8
CD2 sS sS 21 21 16.3 -6.1
CD2 pmax pmax
comp=Z,20nm,1.2s
CD2 pmax pmax
comp=Z,100nm,5.2s
CD2 LR LR
comp=E,270nm,17.8s
CD2 LR LR
comp=Z,310nm,16.2s
GYA Guiyang 46.60 258 P **P** **21 14 35.0 +1.0**
GYA pP **pP** **21 14 50.3 +2.7**
GYA sP sP 21 14 57.8 +4.3
GYA PP **PP** **21 16 23.0 -1.0**
GYA ScP **ScP** **21 20 01.5 +5.2**
GYA S S 21 21 11.9 -7.5
GYA sS **sS** **21 21 39.8 -2.4**
GYA SS **ScS** **21 24 28.0 +3.6**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=N,480nm,17.6s
GYA LR LR
comp=E,400nm,18.4s
GYA LR LR
comp=Z,430nm,17.8s
WMQ Urumqi 46.95 290 P **P** **21 14 35.3 -1.2**
WMQ pP **pP** **21 14 50.8 +0.7**
WMQ sP **sP** **21 14 57.8 +1.8**
WMQ PcP PcP 21 16 13.6 +5.4
WMQ PP **PP** **21 16 22.9 -4.2**
WMQ ScP **ScP** **21 19 59.8 +2.3**
WMQ S S 21 21 11.8 -12
WMQ sS sS 21 21 38.3 -8.4
WMQ ScS **ScS** **21 24 23.3 -2.8**
WMQ pmax pmax
comp=Z,15nm,1.2s
WMQ pmax pmax
comp=Z,180nm,5.0s
WMQ LR LR
comp=N,170nm,14.6s
WMQ LR LR
comp=E,520nm,12.6s
WMQ LR LR
comp=Z,300nm,16.6s
MK31 Makanchi Array 48.32 296 *c e*P **P** **21 14 45.9 -1.1**
MK31 pmax pmax
comp=Z,3.0nm,0.4s
MKAR Makanchi Array 48.32 296 *c e*P **P** **21 14 45.9 -1.1**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 48.32 296 *e*P **P** **21 14 46.0 -1.1**
MKAR Makanchi Array 48.32 296 P **P** **21 14 45.9 -1.1**
comp=Z,2.1nm,0.4s,baz=57,slow=6.6,SNR=75
MKAR LR LR 21 36 02.8
comp=Z,153nm,19.2s,baz=255,slow=37
KBS Kingsbay 48.34 352 *e*P **P** **21 14 48.2 +1.5**
KBS Kingsbay 48.34 352 *c e*P **P** **21 14 48.9 +2.2**
KBS pmax pmax
comp=Z,15nm,1.2s
SPA0 Spitsbergen Ar 48.58 350 *e*P **P** **21 14 49.0 +0.5**
KMI Kunming 49.98 260 P **P** **21 15 01.0 +0.8**
KMI pP **pP** **21 15 14.1 +0.1**
KMI sP **sP** **21 15 19.3 -0.5**
KMI S S 21 21 56.8 -11
KMI SS SS 21 25 27.4 -13
KMI pmax pmax
comp=Z,25nm,1.0s
KMI pmax pmax
comp=Z,96nm,3.9s
KMI LR LR
comp=N,260nm,15.7s
KMI LR LR
comp=E,200nm,16.6s
KMI LR LR
comp=Z,270nm,13.9s
QIZ Qiongzhong 50.33 249 P P 21 15 05.8 +3.2
QIZ sP sP 21 15 22.6 +0.4
QIZ PP **PP** **21 16 59.4 +1.1**
QIZ S **S** **21 22 07.4 -4.4**
QIZ SS **SS** **21 25 41.5 -4.2**
QIZ pmax pmax
comp=Z,100nm,2.5s
QIZ LR LR
comp=N,200nm,15.5s
QIZ LR LR
comp=Z,260nm,13.4s
BVAR Borovoye Array 50.91 309 P **P** **21 15 05.1 -1.5**
BVAR 21 16 22.4
BVAR pmax pmax
comp=Z,6.0nm,0.4s
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 50.91 309 P **P** **21 15 05.1 -1.5**
BVAR PcP **PcP** **21 16 22.4 0.0**
BVAR Borovoye Array 50.91 309 P **P** **21 15 05.1 -1.5**
comp=Z,5.7nm,0.4s,baz=56,slow=7.1,SNR=51
BVAR PcP **PcP** **21 16 22.4 0.0**
comp=Z,1.3nm,0.7s,baz=79,slow=3.8,SNR=4.4
BRVK Borovoye 50.94 309 P **P** **21 15 05.6 -1.2**
comp=Z,78nm,0.9s,SNR=7.3
BRVK Borovoye 50.94 309 *e*P **P** **21 15 05.8 -1.0**
BRVK pmax pmax
comp=Z,13nm,1.0s
BRVK Borovoye 50.94 309 *e*P **P** **21 15 05.8 -1.0**
comp=Z,13nm,1.0s
SVE Sverdlovsk 53.02 317 ⇑*i*P **P** **21 15 21.5 -0.7**
SVE *e* 21 16 33.5
SVE pmax pmax
comp=Z,15nm,1.1s
SVE MLR MLR
comp=Z,600nm,16.0s
LVZ Lovozero 53.91 337 ⇑*i*P **P** **21 15 28.6 -0.1**
LVZ pmax pmax
comp=Z,52nm,2.5s

LSA	**Lhasa**	**53.95**	**274**	*e*P		**P**	**21 15 28.9**	**-1.1**
LSA				pmax		pmax			
	comp=Z,10.0nm,0.9s								
LSA	**Lhasa**	**53.95**	**274**	*e*P		**P**	**21 15 28.9**	**-1.1**
	comp=Z,9.8nm,0.9s								
KEV	**Kevo**	**54.11**	**341**	*e*p		**P**	**21 15 29.2**	**-0.8**
	comp=Z,1.9nm,0.3s								
KEV	**Kevo**	**54.11**	**341**	*e*P		**P**	**21 15 29.2**	**-0.8**
KEV				pmax		pmax			
	comp=Z,2.0nm,0.3s								
ARU	**Arti**	**54.15**	**318**	*d* i P		**P**	**21 15 29.2**	**-1.3**
ARU							21 16 31.8		
ARU							21 17 28.5		
ARU				S		**S**	**21 23 04.1**	**+0.8**
ARU				SS		**SS**	**21 26 42.6**	**-2.1**
ARU				pmax		pmax			
	comp=Z,17nm,1.2s								
ARU				MLR		MLR			
	comp=Z,439nm,15.0s								
ARU	**Arti**	**54.15**	**318**	P		**P**	**21 15 29.7**	**-0.8**
	comp=Z,70nm,0.5s,SNR=5.7								
APA	**Apatity**	**54.47**	**337**⇑	*e*P		**P**	**21 15 32.0**	**-0.6**
APA				MLR		MLR			
	comp=Z,500nm,15.0s								
ARCES	**ARCESS Array B**	**54.59**	**342**	P		**P**	**21 15 33.0**	**-0.5**
ARCES	**ARCESS Array B**	**54.59**	**342**	P		**P**	**21 15 33.0**	**-0.5**
	comp=Z,6.8nm,0.8s,baz=41,slow=8.0,SNR=26								
ARCES				LR		LR	21 43 31.3		
	comp=Z,112nm,18.6s,baz=237,slow=41								
ARE0	**ARCESS Array S**	**54.59**	**342**	*e*P		**P**	**21 15 33.2**	**-0.3**
ARE0	**ARCESS Array S**	**54.59**	**342**	*e*P		**P**	**21 15 33.0**	**-0.5**
PANO	**Nakornpanom**	**54.88**	**252**	P		**P**	**21 15 38.8**	**+2.6**
	comp=Z,189nm,1.1s								
AAK	**Ala-Archa**	**55.25**	**297**⇓	*i* P		**P**	**21 15 38.8**	**-0.1**
AAK				pmax		pmax			
	comp=Z,10.0nm,0.8s								
AAK	**Ala-Archa**	**55.25**	**297**	*e*P		**P**	**21 15 38.6**	**-0.2**
	comp=Z,6.7nm,1.0s								
SKNT	**Sakolnakorn**	**55.39**	**253**	P		**P**	**21 15 42.1**	**+2.2**
	comp=Z,49nm,1.0s,comp=Z,2µm								
KTK1	**Kautokeino**	**55.47**	**342**⇑	*i* P		**P**	**21 15 39.6**	**-0.2**
KTK1				AMB		AMB	21 15 41.4		
	comp=Z,131nm,0.9s								
SUMG	**Summit**	**55.58**	**6**	*e*P		**P**	**21 15 41.1**	**0.0**
SUMG				pmax		pmax			
	comp=Z,13nm,1.0s								
SUMG	**Summit**	**55.58**	**6**	*e*P		**P**	**21 15 41.1**	**0.0**
	comp=Z,13nm,1.0s								
TRO	**Tromso**	**55.70**	**344**	*e*P		**P**	**21 15 42.1**	**+0.6**
TRO				AMB		AMB	21 16 08.1		
	comp=Z,41nm,1.9s								
UBPT	**Khong Chiam**	**55.84**	**250**	P		P	21 15 47.1	+4.0	
	comp=Z,24nm,1.0s								
SHL	**Shillong**	**56.41**	**270**	*e*P		**P**	**21 15 50.0**	**+2.6**
KSH	**Kashi**	**56.47**	**293**	*e*P		P	21 15 51.3	+3.7	
KSH				PcS		PcS	21 20 50.3	+5.6	
KSH				S		S	21 23 28.3	-6.7	
KSH				sS		sS	21 23 54.8	-3.6	
KSH				pmax		pmax			
	comp=Z,6.0nm,1.0s								
KSH				pmax		pmax			
	comp=Z,87nm,4.3s								
KSH				LR		LR			
	comp=N,170nm,7.2s								
KSH				LR		LR			
	comp=E,140nm,7.4s								
KSH				LR		LR			
	comp=Z,230nm,10.0s								
LOEI	**Loei**	**56.61**	**255**	P		**P**	**21 15 49.3**	**+0.7**
	comp=Z,22nm,0.8s								
LAMP	**Lampang**	**56.82**	**258**	P		**P**	**21 15 52.5**	**+2.3**
	comp=Z,5.5nm,0.9s								
NVAR	**Mina Array Bea**	**56.84**	**68**	P		**P**	**21 15 50.5**	**+0.2**
NVAR	**Mina Array Bea**	**56.84**	**68**	P		**P**	**21 15 50.5**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=271,slow=7.1,SNR=4.3								
CMMT	**Chiang Mai**	**57.02**	**258**	P		**P**	**21 15 52.9**	**+1.3**
	comp=Z,20nm,1.1s								
CHTO	**Chiang Mai**	**57.02**	**258**	*e*P		**P**	**21 15 53.1**	**+1.5**
CHTO				pmax		pmax			
	comp=Z,23nm,1.2s								
CHTO	**Chiang Mai**	**57.02**	**258**	*e*P		**P**	**21 15 53.1**	**+1.5**
	comp=Z,23nm,1.2s								
CHTO	**Chiang Mai**	**57.02**	**258**	P		**P**	**21 15 53.1**	**+1.5**
	comp=Z,22nm,1.1s								
KK31	**Karatay Array**	**57.14**	**299**	*i* P		**P**	**21 15 49.4**	**-2.8**
KKAR	**Karatay Array**	**57.14**	**299**	*e*P		**P**	**21 15 51.4**	**-0.8**
KKAR	**Karatay Array**	**57.14**	**299**	*e*P		**P**	**21 15 51.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**57.29**	**258**	P		**P**	**21 15 55.3**	**+1.8**
CMAR	**Chiang Mai Arr**	**57.29**	**258**	P		**P**	**21 15 55.3**	**+1.8**
	comp=Z,8.0nm,0.9s,baz=28,slow=6.8,SNR=33								
CHAI	**Chaiyaphum**	**57.41**	**254**	P		P	21 15 57.7	+3.4	
	comp=Z,6.7nm,1.0s								
TAPN	**Taplejung**	**57.74**	**274**	*e*P		**P**	**21 15 57.8**	**+0.9**
	comp=Z,48nm,0.9s								
ODAN	**Odare**	**58.29**	**274**	*e*P		**P**	**21 16 01.0**	**+0.3**
AB31	**Akbulak array**	**58.37**	**311**	*c*eP		**P**	**21 15 58.6**	**-2.0**
AB31				pmax		pmax			
	comp=Z,2.0nm,0.4s								
ABKAR	**Akbulak array**	**58.37**	**311**	*e*P		**P**	**21 15 59.6**	**-1.0**
AKTO	**Aktyubinsk**	**58.45**	**313**	*i* P		P	21 15 56.8	-4.4	
AKTO				pmax		pmax			
	comp=Z,6.0nm,1.2s								
JIRN	**Jiri**	**58.47**	**276**	*e*P		**P**	**21 16 02.3**	**+0.2**
	comp=Z,20nm,0.7s								
GUN	**Gumba**	**58.48**	**276**	*e*P		**P**	**21 16 02.6**	**+0.4**
	comp=Z,48nm,0.8s								
RAMN	**Ramite**	**58.72**	**275**	*e*P		**P**	**21 16 03.8**	**+0.1**
	comp=Z,59nm,0.8s								
PDAR	**Pinedale Array**	**58.80**	**59**	P		**P**	**21 16 04.7**	**+0.6**
PDAR	**Pinedale Array**	**58.80**	**59**	P		**P**	**21 16 04.7**	**+0.6**
	comp=Z,1.2nm,1.0s,baz=325,slow=2.3,SNR=6.7								
KKN	**Kakani**	**58.94**	**277**	*e*P		**P**	**21 16 05.7**	**+0.5**
	comp=Z,12nm,0.4s								
PKI	**Pulchoki**	**59.02**	**276**	*e*P		**P**	**21 16 06.2**	**+0.4**
PKIN	**Phulchoki**	**59.02**	**276**	*e*P		**P**	**21 16 06.6**	**+0.8**
NAYO	**Nakonayok**	**59.05**	**253**	P		P	21 16 10.2	+4.4	
	comp=Z,152nm,0.7s								
DMN	**Daman**	**59.18**	**277**	*e*P		**P**	**21 16 07.6**	**+0.7**
	comp=Z,54nm,0.9s								
DANN	**Dangsing**	**59.48**	**278**	*e*P		**P**	**21 16 09.5**	**+0.5**
	comp=Z,37nm,0.9s								
MOR8	**Moi Rana**	**59.57**	**344**	*e*P		**P**	**21 16 07.3**	**-1.5**
MOR8				AMB		AMB	21 16 08.2		
	comp=Z,24nm,0.9s								
FLOS	**Flostrand**	**59.60**	**345**	*e*P		**P**	**21 16 09.8**	**+0.9**
KOLN	**Koldanda**	**59.99**	**278**	*e*P		**P**	**21 16 12.8**	**+0.4**
PYUN	**Piuthan**	**60.14**	**278**	*e*P		**P**	**21 16 13.8**	**+0.4**
KAF	**Kangasniemi**	**60.69**	**337**	*e*p		**P**	**21 16 15.9**	**-0.5**
	comp=Z,5.2nm,0.4s								
KAF	**Kangasniemi**	**60.69**	**337**	*e*P		**P**	**21 16 15.9**	**-0.5**
KAF				pmax		pmax			
	comp=Z,5.0nm,0.4s								
FINES	**FINESS Array B**	**61.32**	**336**	P		**P**	**21 16 20.4**	**-0.2**
FINES	**FINESS Array B**	**61.32**	**336**	P		**P**	**21 16 20.4**	**-0.2**
	comp=Z,5.2nm,0.6s,baz=37,slow=7.7,SNR=66								
FINES				LR		LR	21 47 00.1		
	comp=Z,294nm,18.9s,baz=217,slow=40								
OBN	**Obninsk**	**63.52**	**327**⇑	*e*P		**P**	**21 16 36.0**	**+0.6**
OBN				eS		**S**	**21 25 04.9**	**+0.4**
OBN				pmax		pmax			
	comp=Z,18nm,1.7s								
OBN				MLR		MLR			
	comp=Z,400nm,18.0s								
NB2	**NORSAR Subarra**	**64.88**	**343**	P		**P**	**21 16 44.3**	**0.0**
	comp=Z,12nm,1.0s,baz=24,slow=6.5								
NB2	**NORSAR Subarra**	**64.88**	**343**	P		**P**	**21 16 44.3**	**0.0**
	baz=24,slow=6.5								
NOA	**NORSAR Array B**	**64.88**	**343**	P		**P**	**21 16 44.2**	**0.0**
NOA	**NORSAR Array B**	**64.88**	**343**	P		**P**	**21 16 44.2**	**0.0**
	comp=Z,8.7nm,0.9s,baz=20,slow=6.6,SNR=27								
NOA				LR		LR	21 50 03.4		
	comp=Z,70nm,18.2s,baz=5.0,slow=41								
NC602	**NORSAR Array S**	**65.10**	**343**	*e*P		**P**	**21 16 46.5**	**+0.8**
IZAR	**Zarasai**	**66.19**	**333**	*e*P		**P**	**21 16 53.0**	**+0.2**
IZAR				AMB		AMB	21 16 54.4		
	comp=Z,5.3nm,1.1s								
ISAL	**Salakas**	**66.38**	**333**	*e*P		**P**	**21 16 54.0**	**0.0**
ISAL				AMB		AMB	21 16 54.7		
	comp=Z,8.7nm,1.3s								
IDID	**Didziasalis**	**66.42**	**333**	*e*P		**P**	**21 16 54.3**	**0.0**
IIGN	**Ignalina**	**66.54**	**333**	*e*P		**P**	**21 16 55.2**	**+0.1**
IIGN				AMB		AMB	21 16 56.8		
	comp=Z,13nm,1.2s								
SCHQ	**Schefferville**	**67.30**	**27**	P		**P**	**21 16 59.2**	**-0.8**
SCHQ	**Schefferville**	**67.30**	**27**	P		**P**	**21 16 59.2**	**-0.8**
	comp=Z,1.4nm,0.4s,baz=299,slow=7.5,SNR=6.7								

SUW	**Suwalki**	**68.57**	**334**	*e*P		**P**	**21 17 07.5**	**-0.4**
SUW				pmax		pmax			
	comp=Z,39nm,1.0s								
SUW	**Suwalki**	**68.57**	**334**	*e*P		**P**	**21 17 07.5**	**-0.4**
	comp=Z,39nm,1.0s								
SUW	**Suwalki**	**68.57**	**334**	*e*P		**P**	**21 17 07.4**	**-0.4**
MAK	**Makhachkala**	**68.83**	**313**	*e*P		**P**	**21 17 10.1**	**+0.5**
MAK				MLR		MLR			
	comp=Z,550nm,16.0s								
MUD	**Monsted U'grnd**	**69.56**	**343**	*e*P		**P**	**21 17 13.7**	**-0.2**
MUD				pmax		pmax			
	comp=Z,10.0nm,0.9s								
MUD	**Monsted U'grnd**	**69.56**	**343**	*i* P		**P**	**21 17 13.7**	**-0.2**
	comp=Z,9.6nm,0.9s								
BSD	**Bornholm Skovb**	**69.63**	**339**	*e*P		**P**	**21 17 14.3**	**-0.1**
BSD				pmax		pmax			
	comp=Z,5.0nm,0.9s								
BSD	**Bornholm Skovb**	**69.63**	**339**	*i* P		**P**	**21 17 14.3**	**-0.1**
	comp=Z,4.8nm,0.9s								
KIEV	**Kiev**	**69.66**	**329**	*e*P		**P**	**21 17 14.1**	**-0.6**
KIEV				pmax		pmax			
	comp=Z,26nm,1.1s								
KIEV	**Kiev**	**69.66**	**329**	*e*P		**P**	**21 17 14.1**	**-0.6**
	comp=Z,26nm,1.1s								
KBZ	**Khabaz**	**70.27**	**316**	LR		LR	21 53 40.4		
	comp=Z,145nm,18.2s,baz=13,slow=41								
HYB	**Hyderabad**	**70.75**	**274**	*i* P		**P**	**21 17 22.0**	**+0.1**
BEL	**Belsk**	**71.17**	**334**	*e*P		**P**	**21 17 24.8**	**+1.0**
TXAR	**Lajitas Array**	**71.80**	**66**	P		**P**	**21 17 27.0**	**-1.2**
TXAR	**Lajitas Array**	**71.80**	**66**	P		**P**	**21 17 27.0**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=281,slow=5.7,SNR=6.7								
LVV	**L'vov**	**72.04**	**331**	*e*P		**P**	**21 17 28.6**	**-0.6**
KWP	**Kalwaria Pacla**	**72.60**	**332**	⇓P		**P**	**21 17 33.7**	**+1.2**
KWP	**Kalwaria Pacla**	**72.60**	**332**	*e*P		**P**	**21 17 33.3**	**+0.8**
	comp=Z,99nm,1.0s								
KWP	**Kalwaria Pacla**	**72.60**	**332**	⇓*i*P		**P**	**21 17 33.7**	**+1.2**
KWP	**Kalwaria Pacla**	**72.60**	**332**	*e*P		**P**	**21 17 33.4**	**+0.8**
OJC	**Ojcow**	**72.90**	**334**	*e*P		**P**	**21 17 34.8**	**+0.5**
OJC				pmax		pmax			
	comp=Z,20nm,1.1s								
OJC	**Ojcow**	**72.90**	**334**	*e*P		**P**	**21 17 34.8**	**+0.5**
	comp=Z,20nm,1.1s								
OJC	**Ojcow**	**72.90**	**334**	*e*P		**P**	**21 17 34.7**	**+0.5**
STHS	**Stebnicka Huta**	**73.22**	**333**	*e*P		**P**	**21 17 37.5**	**+1.3**
STHS				pmax		pmax			
	comp=Z,16nm,1.0s								
STHS	**Stebnicka Huta**	**73.22**	**333**	*e*P		**P**	**21 17 37.5**	**+1.3**
IAS	**Iasi**	**73.24**	**328**⇑	P		**P**	**21 17 36.4**	**+0.1**
IAS	**Iasi**	**73.24**	**328**⇑	*i*P		**P**	**21 17 36.4**	**+0.1**
KSP	**Ksiaz**	**73.25**	**336**	*e*P		**P**	**21 17 36.6**	**+0.3**
KSP	**Ksiaz**	**73.25**	**336**	*e*P		**P**	**21 17 36.6**	**+0.3**
NIE	**Niedzica**	**73.48**	**333**	*e*P		**P**	**21 17 40.4**	**+2.6**
NIE	**Niedzica**	**73.48**	**333**	*e*P		**P**	**21 17 40.4**	**+2.6**
CLL	**Collm**	**73.60**	**339**	*i* P		**P**	**21 17 38.4**	**0.0**
CLL				*e*			21 17 52.0		
CLL				pmax		pmax			
	comp=Z,9.0nm,0.8s								
CLL	**Collm**	**73.60**	**339**	*i* P		**P**	**21 17 38.4**	**0.0**
	comp=Z,11nm,0.8s								
CLL				*i* P(2)			21 17 40.3		
	comp=Z,11nm,0.9s								
CLL				*es*P		sP	21 17 52.0	-6.5	
CLL				*e*			21 31 18.0		
CLL				Lm		MLR	21 54 00.0		
	comp=Z,200nm,18.3s								
UZH	**Uzhgorod**	**73.62**	**332**⇑	*i*P		**P**	**21 17 38.7**	**+0.2**
UZH				*i*			21 17 47.7		
BURAR	**Bucovina Array**	**73.63**	**329**	⇓P		**P**	**21 17 39.2**	**+0.5**
BURAR	**Bucovina Array**	**73.63**	**329**	⇓*i*P		**P**	**21 17 39.2**	**+0.5**
LEOM	**Leova**	**73.63**	**327**⇑	P		**P**	**21 17 38.8**	**+0.2**
LEOM	**Leova**	**73.63**	**327**⇑	*i*P		**P**	**21 17 38.8**	**+0.2**
OKC	**Ostrava-Krasne**	**73.69**	**335**	*e*P		**P**	**21 17 39.6**	**+0.7**
OKC				*e*			21 17 52.8		
OKC				MLR		MLR			
	comp=Z,200nm,14.3s								
OKC	**Ostrava-Krasne**	**73.69**	**335**⇑	*e*P		**P**	**21 17 39.6**	**+0.7**
OKC				*ep*P		**pP**	**21 17 52.8**	**-0.6**
OKC				AMS		AMS	21 55 00.0		
	comp=Z,200nm,14.3s								
DPC	**Dobruska-Polom**	**73.69**	**336**⇑	*e*P		**P**	**21 17 40.0**	**+1.0**
DPC				*e*			21 17 46.8		
DPC				*e*			21 17 53.6		
DPC	**Dobruska-Polom**	**73.69**	**336**⇑	*e*P		**P**	**21 17 40.0**	**+1.0**
DPC				*ep*P		pP	21 17 46.8	-6.6	
DPC				*es*P		sP	21 17 53.6	-5.6	
DPC	**Dobruska-Polom**	**73.69**	**336**	*e*P		**P**	**21 17 39.6**	**+0.6**
	comp=Z,211nm,2.0s								
BRG	**Berggiesshubel**	**73.79**	**338**	*e*(P)		**P**	**21 17 39.9**	**+0.4**
	comp=Z,6.3nm,1.1s								
BRG				comp=N,183nm,14.5s					
BRG				comp=E,91nm,15.4s					
BRG				comp=Z,280nm,14.7s					
BRG	**Berggiesshubel**	**73.79**	**338**	*e*P		**P**	**21 17 39.9**	**+0.4**
BRG				pmax		pmax			
	comp=Z,9.0nm,1.1s								
BRG				MLR		MLR			
	comp=N,6µm,14.5s								
BRG				MLR		MLR			
	comp=E,183nm,15.4s								
BRG				MLR		MLR			
	comp=Z,91nm,14.7s								
MORC	**Moravsky Berou**	**73.90**	**335**	*e*P		**P**	**21 17 40.6**	**+0.4**
MORC				pmax		pmax			
	comp=Z,9.0nm,1.0s								
MORC	**Moravsky Berou**	**73.90**	**335**	*e*P		**P**	**21 17 40.6**	**+0.4**
	comp=Z,9.5nm,1.0s								
PVCC	**Panska Ves**	**73.96**	**337**	*e*P		**P**	**21 17 40.9**	**+0.4**
PVCC	**Panska Ves**	**73.96**	**337**⇑	*e*P		**P**	**21 17 40.9**	**+0.4**
TESR	**Tescani**	**74.14**	**328**⇑	*i*P		**P**	**21 17 41.9**	**+0.3**
KECS	**Kecovo**	**74.28**	**333**	*e*P		**P**	**21 17 43.1**	**+0.7**
KECS				pmax		pmax			
	comp=Z,6.0nm,1.1s								
KECS	**Kecovo**	**74.28**	**333**	*e*P		**P**	**21 17 43.1**	**+0.7**
KECS				*ep*P		**pP**	**21 17 56.5**	**-0.3**
PRA	**Prague**	**74.42**	**337**	⇑P		**P**	**21 17 44.0**	**+0.9**
WRA	**Warramunga Arr**	**74.42**	**204**	P		**P**	**21 17 42.8**	**-0.7**
WRA	**Warramunga Arr**	**74.42**	**204**	P		**P**	**21 17 42.8**	**-0.7**
	comp=Z,7.6nm,1.0s,baz=20,slow=6.1,SNR=17								
PRU	**Pruhonice**	**74.47**	**337**	*e*P		**P**	**21 17 44.2**	**+0.8**
PRU				*e*			21 17 57.7		
PRU				MLR		MLR			
	comp=Z,300nm,14.4s								
PRU	**Pruhonice**	**74.47**	**337**⇑	*e*P		**P**	**21 17 44.2**	**+0.8**
PRU				*ep*P		**PcP**	**21 17 57.7**	**-0.1**
PRU				AMS		AMS	21 55 50.0		
	comp=Z,300nm,14.4s								
TLCR		**74.56**	**326**	⇓P		**P**	**21 17 44.5**	**+0.5**
TLCR		**74.56**	**326**	⇓*i*P		**P**	**21 17 44.5**	**+0.5**
VRAC	**Vranov**	**74.58**	**336**	LR		LR	21 51 47.0		
	comp=Z,28nm,19.1s,baz=202,slow=37								
PETR	**Petresti**	**74.63**	**327**⇑	*i*P		**P**	**21 17 45.2**	**+0.7**
VRI	**Vrincioaia**	**74.68**	**328**	⇓P		**P**	**21 17 45.4**	**+0.6**
VRI	**Vrincioaia**	**74.68**	**328**	⇓*i*P		**P**	**21 17 45.4**	**+0.6**
PLOR	**Plostina**	**74.72**	**328**	⇓P		**P**	**21 17 45.2**	**+0.2**
PLOR	**Plostina**	**74.72**	**328**	⇓*i*P		**P**	**21 17 45.2**	**+0.2**
VYHS	**Vyhne**	**74.73**	**334**	*e*P		**P**	**21 17 45.6**	**+0.6**
VYHS				pmax		pmax			
	comp=Z,5.0nm,1.1s								
VYHS	**Vyhne**	**74.73**	**334**	*e*P		**P**	**21 17 45.6**	**+0.6**
VYHS				*ep*P		**pP**	**21 17 58.6**	**-0.9**
NKC	**Novy Kostel**	**74.73**	**339**	*e*P		**P**	**21 17 45.5**	**+0.5**
NKC				*e*			21 17 59.1		
NKC	**Novy Kostel**	**74.73**	**339**⇑	*e*P		**P**	**21 17 45.5**	**+0.5**
NKC				*ep*P		**PcP**	**21 17 59.1**	**+0.1**
CFR	**Carcaliu**	**74.80**	**326**	⇑P		**P**	**21 17 45.8**	**+0.4**
CFR	**Carcaliu**	**74.80**	**326**⇑	*i*P		**P**	**21 17 45.8**	**+0.4**
TREC	**Trest**	**74.88**	**336**	⇑AMS		AMS	21 57 40.0		
	comp=Z,200nm,14.1s								
PSZ	**Piszkesteto**	**74.96**	**333**	*e*P		**P**	**21 17 47.8**	**+1.4**
PSZ	**Piszkesteto**	**74.96**	**333**	*e*P		**P**	**21 17 47.8**	**+1.4**
PSZ	**Piszkesteto**	**74.96**	**333**⇑	*i*P		**P**	**21 17 45.2**	**-1.2**
GRER		**75.02**	**327**⇑	*i*P		**P**	**21 17 49.1**	**+2.4**
DRGR		**75.14**	**331**	⇑P		**P**	**21 17 48.6**	**+1.1**
DRGR		**75.14**	**331**⇑	*i*P		**P**	**21 17 48.6**	**+1.1**
MLR	**Muntele Rosu**	**75.27**	**328**⇑	*i*P		**P**	**21 17 49.5**	**+1.2**
MLR	**Muntele Rosu**	**75.27**	**328**	LR		LR	21 55 29.5		
	comp=Z,70nm,18.1s,baz=21,slow=39								
TIRR	**Tirgusor**	**75.33**	**326**	⇓P		**P**	**21 17 49.0**	**+0.5**
TIRR	**Tirgusor**	**75.33**	**326**	*e*P		**P**	**21 17 47.7**	**-0.8**
TIRR	**Tirgusor**	**75.33**	**326**	⇓*i*P		**P**	**21 17 49.0**	**+0.5**
ISR	**Istrita**	**75.40**	**327**	⇓P		**P**	**21 17 50.5**	**+1.5**

ISR	**Istrita**	**75.40**	**327**⇓	*i*P		**P**	**21 17 50.5**	**+1.5**
ZST	**Bratislava**	**75.47**	**335**	*e*P		**P**	**21 17 49.9**	**+0.6**
ZST	**Bratislava**	**75.47**	**335**	*e*P		**P**	**21 17 49.9**	**+0.6**
KHC	**Kasperske Hory**	**75.50**	**337**⇑	*e*P		**P**	**21 17 50.2**	**+0.8**
KHC				*e*			21 17 58.9		
KHC				*e*			21 18 03.7		
KHC				MLR		MLR			
	comp=Z,400nm,15.3s								
KHC	**Kasperske Hory**	**75.50**	**337**⇑	*e*P		**P**	**21 17 50.2**	**+0.8**
KHC				*ex*		x	21 17 55.4		
KHC				*ep*P		**PcP**	**21 17 58.9**	**-3.4**
KHC				*es*P		sP	21 18 03.7	-6.0
KHC				AMS		AMS	21 56 20.0		
	comp=Z,400nm,15.3s								
KHC	**Kasperske Hory**	**75.50**	**337**	*e*P		**P**	**21 17 50.2**	**+0.8**
	comp=Z,10nm,0.9s								
GRF	**Grafenberg Arr**	**75.52**	**339**	*e*P		**P**	**21 17 50.3**	**+0.8**
	comp=Z,10.0nm,1.1s								
GRF	**Grafenberg Arr**	**75.52**	**339**	*e*P		**P**	**21 17 50.3**	**+0.8**
GRF				pmax		pmax			
	comp=Z,1.0nm,1.1s								
GRFO	**Grafenberg**	**75.52**	**339**	*e*P		P	**21 17 51.4**	**+1.9**
GRFO	**Grafenberg**	**75.52**	**339**	*e*P		P	**21 17 51.4**	**+1.9**
VOIR		**75.61**	**329**⇑	P		**P**	**21 17 51.4**	**+1.2**
VOIR		**75.61**	**329**⇑	*i*P		**P**	**21 17 51.4**	**+1.2**
MEM	**Membach**	**75.71**	**343**	P		P	**21 17 51.5**	**+0.9**
	comp=Z,35nm,1.1s								
GERES	**GERESS Array B**	**75.73**	**337**	P		**P**	**21 17 51.4**	**+0.5**
GERES				PP		**PP**	**21 20 44.1**	**+3.7**
GERES	**GERESS Array B**	**75.73**	**337**	P		**P**	**21 17 51.4**	**+0.5**
	comp=Z,2.6nm,0.5s,baz=32,slow=5.7,SNR=26								
GERES				PP		**PP**	**21 20 44.1**	**+3.7**
	comp=Z,0.1nm,0.2s,baz=10,slow=8.1,SNR=3.5								
GERES				LR		LR	21 56 09.9		
	comp=Z,194nm,18.0s,baz=248,slow=40								
MTUR	**Matau**	**75.79**	**328**	⇓P		**P**	**21 17 49.3**	**-2.0**
MTUR	**Matau**	**75.79**	**328**	⇓*i*P		**P**	**21 17 49.3**	**-2.0**
ARR	**Arges**	**75.81**	**329**	⇓*i*P		**P**	**21 17 53.0**	**+1.7**
CONA	**Conrad Observa**	**76.04**	**336**⇑	*i*P		**P**	**21 17 53.8**	**+1.1**
	comp=Z,11nm,1.1s								
GZR	**Gura Zlata**	**76.37**	**330**	⇓P		**P**	**21 17 54.1**	**-0.5**
GZR	**Gura Zlata**	**76.37**	**330**	⇓*i*P		**P**	**21 17 54.1**	**-0.5**
DOU	**Dourbes**	**76.46**	**343**	P		**P**	**21 17 55.1**	**+0.3**
	comp=Z,4.2nm,1.0s								
MOA	**Molln**	**76.52**	**337**⇑	*i*P		**P**	**21 17 56.1**	**+0.8**
	comp=Z,5.9nm,1.1s								
BZS	**Buzias**	**76.53**	**331**	⇓P		**P**	**21 17 55.5**	**+0.2**
BZS	**Buzias**	**76.53**	**331**	⇓*i*P		**P**	**21 17 55.5**	**+0.2**
BAIF	**Baives**	**76.56**	**344**	*e*P		**P**	**21 17 56.9**	**+1.5**
MALT	**Malatya**	**76.64**	**316**	⇓*i*P		P	21 18 17.0	+21	
ARSA	**Arzberg**	**76.76**	**335**⇑	*i*P		**P**	**21 17 57.8**	**+1.2**
	comp=Z,9.1nm,1.1s								
ZIMR		**77.08**	**327**	⇓P		**P**	**21 17 59.3**	**+0.8**
ZIMR		**77.08**	**327**	⇓*i*P		**P**	**21 17 59.3**	**+0.8**
SOKA	**Soboth**	**77.41**	**336**⇑	*i*P		**P**	**21 18 01.2**	**+0.8**
	comp=Z,10nm,1.0s								
BFO	**Black Forest**	**77.43**	**341**	*e*P		**P**	**21 18 01.3**	**+0.9**
BFO				pmax		pmax			
	comp=Z,24nm,1.9s								
BFO	**Black Forest**	**77.43**	**341**	*e*P		**P**	**21 18 01.

EIL	**Elat**	**85.46 314**	LR	LR	22 02 07.5	
	comp=Z,131nm,18.4s,baz=274,slow=39					
ESDC	**Sonseca Array**	**87.98 347**	P	**P**	**21 18 54.8**	**-0.6**
ESDC	**Sonseca Array**	**87.98 347**	P	**P**	**21 18 54.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=358,slow=3.6,SNR=5.7					
KEST	**Kesra**	**89.15 336**	*eP*	**P**	**21 19 02.5**	**+1.6**
KEST	**Kesra**	**89.15 336**	LR	LR	22 07 46.2	
	comp=Z,30nm,18.7s,baz=247,slow=42					
URZ	**Urewera**	**90.79 166**	LR	LR	21 51 45.7	
	comp=Z,122nm,19.9s,baz=131,slow=30					
MDT	**Midelt**	**94.80 346**	LR	LR	22 07 03.9	
	comp=Z,56nm,18.8s,baz=43,slow=38					

*JMA **22** 21:14:30.6±0.2,33.01N×137.92E,h382km,M3.0*
*ISCJB **22** 21:14:33.8±0.6,33.12N±0.08×137.88E±0.09, h352km±6km,mb2.8/4,Error ellipse: s-maj=12.9km s-min=10.8km az=144.1*
*IDC **22** 21:14:34.1±1.4,33.16N×138.02E,h337km±27km,mb2.7/4, mb1 2.9/7,mb1mx2.7/28,mbtmp2.7/7,Error ellipse: s-maj=58.7km s-min=18.2km az=60.0*

ISC 22 21:14:34.8±1.0,33.15N±0.09×137.83E±0.07,h347km±9km, n24,σ1§06/31,mb2.8/4,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.79**	**355**	P		**Pn**		**21 15 20.0**	**+0.8**
TTO3	**TONANKAI O.B.S**	**0.80**	**333**	P		**Pn**		**21 15 20.3**	**+1.0**
TTO4	**TONANKAI O.B.S**	**0.89**	**344**	P		**Pn**		**21 15 20.1**	**+0.7**
TTO2	**TONANKAI O.B.S**	**0.89**	**311**	P		**Pn**		**21 15 20.2**	**+0.8**
TTO1	**TONANKAI O.B.S**	**0.99**	**298**	P		**Pn**		**21 15 20.3**	**+0.5**
TK04	**Tokai 4**	**1.23**	**2**	P		**Pn**		**21 15 21.9**	**+0.9**
JIE	**Ise**	**1.55**	**323**	P		**Pn**		**21 15 23.0**	**+0.1**
JWZ	**Kozaga**	**1.81**	**283**	P		**Pn**		**21 15 24.0**	**-0.6**
JWY	**Kouya**	**2.15**	**300**	P		**Pn**		**21 15 27.0**	**0.0**
JOD2	**Odawara 2**	**2.35**	**26**	P		**Pn**		**21 15 29.2**	**+0.8**
JOD2				*eS*		**S**		**21 16 12.9**	**+1.5**
JAI	**Aioi**	**2.90**	**284**	P		**Pn**		**21 15 32.6**	**-0.4**
JWT	**Wachi**	**2.93**	**317**	P		**Pn**		**21 15 33.1**	**-0.1**
JWT				*eS*		**S**		**21 16 18.9**	**-1.3**
JRY	**Ryogami san**	**2.99**	**17**	P		**Pn**		**21 15 34.5**	**+0.7**
JRY				*eS*		**S**		**21 16 21.0**	**-0.3**
BSO1	**Boso 1**	**3.01**	**59**	P		**Pn**		**21 15 32.2**	**-1.2**
BSO1				*eS*		**S**		**21 16 18.1**	**-2.5**
MAT	**Matsushiro**	**3.39**	**5**	P		**Pn**		**21 15 37.1**	**-0.5**
MAT				*eS*		**S**		**21 16 28.5**	**+0.4**
MAT	**Matsushiro**	**3.39**	**5**	P		**Pn**		**21 15 37.4**	**-0.2**
MAT				*eS*		**S**		**21 16 28.6**	**+0.4**
MJAR	**Matsushiro Arr**	**3.39**	**5**	P		**Pn**		**21 15 37.5**	**0.0**
	1.2nm,0.3s,baz=187,slow=10.0,SNR=18								
MJAR						**S**		**21 16 25.1**	**-3.0**
	0.2nm,0.3s,baz=194,slow=20,SNR=3.6								
JTO	**Tosashimizu**	**4.24**	**267**	P		**Pn**		**21 15 45.8**	**-0.3**
KSRS	**Korea Array**	**9.16**	**301**	P		**P**		**21 16 43.8**	**-1.2**
	0.2nm,0.3s,baz=110,slow=13,SNR=9.4								
USRK	**Ussuriysk Arra**	**11.93**	**339**	P		**Pn**		**21 17 16.1**	**+0.5**
	0.2nm,0.3s,baz=148,slow=9.5,SNR=7.9								
SONM	**Songino Array**	**27.82**	**311**	P		**P**		**21 19 54.6**	**+1.3**
	0.5nm,0.6s,baz=115,slow=11,SNR=4.7								
MKAR	**Makanchi Array**	**43.81**	**305**	P		**P**		**21 22 08.0**	**+0.5**
	0.2nm,0.3s,baz=87,slow=9.5,SNR=8.8								
WRA	**Warramunga Arr**	**52.90**	**184**	P		**P**		**21 23 16.4**	**0.0**
	0.3nm,0.5s,baz=0.5,slow=7.7,SNR=2.6								
ASAR	**Alice Springs**	**56.63**	**184**	P		**P**		**21 23 43.1**	**+0.3**
	0.2nm,0.6s,baz=17,slow=9.7,SNR=4.2								

GUC 22 21:21:53.9±0.5,30.61S×72.07W,h33km±4km,ML3.5, 2C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.08**	**122**	⇑	*iP*	Pn		21 22 12.9	+0.1
CMCH					*i*	S		21 22 27.9	-0.1
CMCH					AML	AML		21 22 30.9	
	comp=N,6µm,0.6s								
CHNG	**Los Chungos**	**1.36**	**159**	⇓	*iP*	Pn		21 22 17.4	+0.9
CHNG					*i*	S		21 22 35.1	-0.7
CHNG					AML	AML		21 22 46.4	
	comp=E,451nm,0.7s								
ROCH	**El Roble**	**2.52**	**159**	⇑	*iP*	Pn		21 22 34.6	+1.8
ROCH					*i*	S		21 23 05.5	+2.8
ROCH					AML	AML		21 23 17.9	
	comp=N,423nm,0.5s								
LMEL	**Las Melosas**	**3.59**	**154**	*eP*		Pn		21 22 51.1	+3.6
LMEL				*i*		S		21 23 32.6	+3.6

*IDC **22** 21:35:42.0±1.0,19.82N×93.52E,h0km,mb4.0/15, mb1 4.1/16,mb1mx3.9/29,mbtmp3.9/16,ML3.3/1,MS3.4/1, Ms1 3.4/1,ms1mx2.5/36,Error ellipse: s-maj=32.0km s-min=20.7km az=39.0*
*ISCJB **22** 21:35:44.9±0.4,19.88N±0.06×93.58E±0.05,h33km, mb4.0/19,MS3.3/1,Error ellipse: s-maj=8.8km s-min=5.2km az=31.7*
*NEIC **22** 21:35:47.2±0.5,19.88N×93.62E,h35km,mb4.1/2,Error ellipse: s-maj=15.7km s-min=7.4km az=214.0*

ISC 22 21:35:46.7±0.6,19.83N±0.09×93.55E±0.07,h35km,n68, σ1§56/73,mb4.0/19,3C-1D,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**4.95**	**4**	*eP*		Pn		21 37 02.0	+3.4
CHTO	**Chiang Mai**	**5.20**	**100**	*ePn*		**Pn**		**21 37 00.9**	**-1.1**
	28nm,0.9s								
CHTO				*eSn*		**Sn**		**21 38 00.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**5.28**	**104**	Pn		**Pn**		**21 37 02.9**	**-0.3**
CMAR				Sn		**Sn**		**21 37 58.8**	**-4.1**
CMAR	**Chiang Mai Arr**	**5.28**	**104**	Pn		**Pn**		**21 37 02.9**	**-0.3**
	0.3nm,0.3s,baz=280,slow=14,SNR=26								
CMAR				Sn		**Sn**		**21 37 58.8**	**-4.1**
	0.8nm,0.3s,baz=282,slow=17,SNR=5.8								
SHL	**Shillong**	**5.92**	**345**	*eP*		**Pn**		**21 37 12.0**	**-0.1**
SHL				*eS*		**Sn**		**21 38 21.0**	**+2.3**
BWNR	**Bhubaneshwar**	**7.29**	**275**	*e*4				21 38 24.0	
ODAN	**Odare**	**9.00**	**322**	*ePn*		**Pn**		**21 37 55.4**	**+1.0**
ODAN				*eSn*		**Sn**		**21 39 31.7**	**-3.0**
	65nm,0.6s								
TAPN	**Taplejung**	**9.20**	**326**	*ePn*		**Pn**		**21 37 58.5**	**+1.2**
RAMN	**Ramite**	**9.54**	**319**	*ePn*		**Pn**		**21 38 02.2**	**+0.4**
VIS	**Vishakhapatnam**	**9.90**	**259**	*i* 4				21 39 45.7	
LSA	**Lhasa**	**10.07**	**348**	*ePn*		**Pn**		**21 38 08.1**	**-1.2**
	8.7nm,0.6s								
LSA				*eSn*		**Sn**		**21 40 00.4**	**-0.8**
JIRN	**Jiri**	**10.30**	**321**	*ePn*		**Pn**		**21 38 13.1**	**+0.7**
JIRN				*eSn*		**Sn**		**21 40 02.4**	**-4.5**
	52nm,0.5s								
PKI	**Pulchoki**	**10.72**	**318**	*ePn*		**Pn**		**21 38 18.1**	**0.0**
PKIN	**Phulchoki**	**10.73**	**317**	*ePn*		**Pn**		**21 38 18.5**	**+0.3**
PKIN				*eSn*		**Sn**		**21 40 12.0**	**-5.3**
	47nm,0.6s								
DMN	**Daman**	**10.94**	**317**	*ePn*		**Pn**		**21 38 21.3**	**+0.2**
DMN				*eSn*		**Sn**		**21 40 17.5**	**-4.9**
	61nm,0.9s								
KKN	**Kakani**	**10.96**	**318**	*ePn*		**Pn**		**21 38 21.8**	**+0.6**
KOLN	**Koldanda**	**12.05**	**313**	*ePn*		**Pn**		**21 38 36.0**	**-0.3**
DANN	**Dangsing**	**12.32**	**315**	*ePn*		**Pn**		**21 38 39.9**	**0.0**
JBP	**Jabalpur**	**13.05**	**287**	*eP*		**Pn**		**21 38 50.4**	**+0.7**
JBP				*e*4				21 41 06.2	
NGP	**Nagpur**	**13.65**	**278**	*eP*		**Pn**		**21 38 58.0**	**+0.1**
AKL	**Akola**	**15.54**	**276**	*eP*		**Pn**		**21 39 24.2**	**+0.9**
LATR	**Latur**	**16.12**	**268**	*eP*		**Pn**		**21 39 29.3**	**-1.4**
NDI	**New Delhi**	**17.29**	**304**	*eP*		**Pn**		**21 39 43.4**	**-2.1**
NDI					AMB	AMB		21 39 46.0	
	comp=Z,5.7nm,0.6s								
KBL	**Kabul**	**26.17**	**309**	P		**P**		**21 41 18.0**	**-0.3**
MKAR	**Makanchi Array**	**28.43**	**344**	P		**P**		**21 41 39.4**	**+1.3**
MKAR	**Makanchi Array**	**28.43**	**344**	P		**P**		**21 41 39.4**	**+1.3**
	comp=Z,2.6nm,0.6s,baz=158,slow=9.0,SNR=35								
SONM	**Songino Array**	**29.82**	**18**	P		**P**		**21 41 51.3**	**+0.7**
SONM	**Songino Array**	**29.82**	**18**	P		**P**		**21 41 51.3**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=204,slow=8.8,SNR=5.0								
KSRS	**Korea Array**	**34.66**	**52**	LR		LR		21 58 58.0	
	comp=Z,55nm,18.1s,baz=333,slow=40								
ZAA0	**Zalesovo Array**	**34.71**	**351**	*eP*		**P**		**21 42 33.6**	**+0.4**
ZALV	**Zalesovo Beam**	**34.71**	**351**	P		**P**		**21 42 34.0**	**+0.8**
ZALV	**Zalesovo Beam**	**34.71**	**351**	P		**P**		**21 42 34.0**	**+0.8**
	comp=Z,5.9nm,0.6s,baz=175,slow=8.3,SNR=26								
BRVK	**Borovoye**	**37.73**	**337**	*eP*		**P**		**21 42 59.0**	**0.0**
	comp=Z,2.9nm,0.7s								
ABKAR	**Akbulak array**	**39.78**	**325**	*eP*		**P**		**21 43 16.9**	**+0.7**
	comp=Z,3.1nm,1.0s								
BRTR	**Keskin Array B**	**54.64**	**305**	P		**P**		**21 45 13.0**	**+0.6**
BRTR	**Keskin Array B**	**54.64**	**305**	P		**P**		**21 45 13.0**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=108,slow=8.0,SNR=4.0								
ASAR	**Alice Springs**	**58.45**	**136**	P		**P**		**21 45 40.9**	**+1.4**
ASAR	**Alice Springs**	**58.45**	**136**	P		**P**		**21 45 40.9**	**+1.4**
	comp=Z,0.1nm,0.2s,baz=310,slow=6.9,SNR=5.0								
VRI	**Vrincioaia**	**59.99**	**312**	⇑	*iP*		**P**	**21 45 52.0**	**+2.2**
PLOR	**Plostina**	**60.04**	**312**	⇑	*iP*		**P**	**21 45 52.0**	**+1.8**
TESR	**Tescani**	**60.07**	**313**	⇑	*iP*		**P**	**21 45 50.0**	**-0.3**
MLR	**Muntele Rosu**	**60.53**	**312**	P			**P**	**21 45 55.4**	**+1.8**
MLR	**Muntele Rosu**	**60.53**	**312**	⇓	*iP*		**P**	**21 45 54.3**	**+0.6**
MLR	**Muntele Rosu**	**60.53**	**312**	P			**P**	**21 45 55.4**	**+1.8**
	comp=Z,1.0nm,0.8s,baz=166,slow=2.1,SNR=13								
FINES	**FINESS Array B**	**62.03**	**330**	P			**P**	**21 46 03.3**	**0.0**
FINES	**FINESS Array B**	**62.03**	**330**	P			**P**	**21 46 03.3**	**0.0**
	comp=Z,1.5nm,0.7s,baz=121,slow=14,SNR=5.8								
ARCES	**ARCESS Array B**	**63.93**	**339**	P			**P**	**21 46 15.2**	**-0.7**
ARCES	**ARCESS Array B**	**63.93**	**339**	P			**P**	**21 46 15.2**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=69,slow=6.6,SNR=4.5								
HFS	**Hagfors**	**67.98**	**329**	P			**P**	**21 46 42.2**	**+0.2**
HFS	**Hagfors**	**67.98**	**328**	P			**P**	**21 46 42.2**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=142,slow=5.1,SNR=6.1								
GERES	**GERESS Array B**	**68.73**	**316**	P			**P**	**21 46 48.4**	**+1.3**
GERES	**GERESS Array B**	**68.73**	**316**	P			**P**	**21 46 48.4**	**+1.3**
	comp=Z,1.9nm,0.7s,baz=86,slow=5.9,SNR=20								
NB2	**NORSAR Subarra**	**69.17**	**329**	P			**P**	**21 46 49.4**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=85,slow=6.2								
NOA	**NORSAR Array B**	**69.17**	**329**	P			**P**	**21 46 49.6**	**+0.2**
NOA	**NORSAR Array B**	**69.17**	**329**	P			**P**	**21 46 49.6**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=86,slow=6.2,SNR=4.8								
LPG	**La Plagne**	**73.94**	**313**	*eP*			**P**	**21 47 19.7**	**+0.8**
LPL	**La Plagne**	**73.95**	**313**	*eP*			**P**	**21 47 19.7**	**+0.9**
AVF	**Avril sur Loir**	**75.95**	**315**	*eP*			**P**	**21 47 30.5**	**+0.4**
	comp=Z,2.7nm,0.6s								
TCF	**Toulx Ste Croi**	**76.84**	**315**	*eP*			**P**	**21 47 36.2**	**+1.0**
	comp=Z,8.0nm,0.8s								
EKA	**Eskdalemuir Ar**	**77.65**	**324**	P			**P**	**21 47 40.3**	**+0.8**
EKA	**Eskdalemuir Ar**	**77.65**	**324**	P			**P**	**21 47 40.3**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=97,slow=5.8,SNR=3.5								
LDF	**La Druitiere**	**77.75**	**317**	*eP*			**P**	**21 47 40.7**	**+0.5**
ESDC	**Sonseca Array**	**83.14**	**310**	P			**P**	**21 48 09.9**	**+0.5**
ESDC	**Sonseca Array**	**83.14**	**310**	P			**P**	**21 48 09.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=67,slow=4.7,SNR=4.6								
ILAR	**Eielson Array**	**83.94**	**22**	P			**P**	**21 48 12.5**	**-0.4**
ILAR	**Eielson Array**	**83.94**	**22**	P			**P**	**21 48 12.5**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=291,slow=4.9,SNR=6.6								
TORD	**Torodi Ar. Bea**	**87.33**	**283**	P			**P**	**21 48 30.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**87.33**	**283**	P			**P**	**21 48 30.2**	**-0.6**
	comp=Z,0.7nm,1.0s,baz=92,slow=3.6,SNR=3.6								

IDC 22 21:47:15.4±44.0,16.92S×172.72W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.7/21,mbtmp4.0/3,Error ellipse: s-maj=859.8km s-min=177.8km az=81.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.87**	**241**	P		P		21 55 24.1	+0.3
	1.4nm,0.9s,baz=85,slow=11,SNR=2.5								
WRA	**Warramunga Arr**	**50.15**	**258**	P		P		21 56 12.7	-0.4
	0.3nm,0.3s,baz=97,slow=7.1,SNR=7.1								
ASAR	**Alice Springs**	**50.22**	**252**	P		P		21 56 13.8	-0.3
	4.2nm,0.7s,baz=90,slow=8.2,SNR=49								

MAN 22 21:57:12,13.55N×121.40E,h3km,mb4.1,ML2.9,MS2.6, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.44**	**102**	*eP*			Pb	21 57 21.6	-0.8
BOAC				*eS*			Sb	21 57 29.5	+0.1
LQP	**Lukban**	**0.58**	**13**	*eP*			Pb	21 57 24.5	-0.5
GQP	**Guinayangan**	**1.07**	**71**	⇑	*eP*		Pg	21 57 32.9	+0.3
GQP				*eS*			Sn	21 57 50.4	+1.0
SJMP	**San Jose**	**1.11**	**194**	*eP*			Pb	21 57 34.1	+0.2
AUQP	**San Andres**	**1.26**	**100**	*eP*			Pn	21 57 37.7	+1.2

IDC 22 22:24:22.7±2.3,0.54S×133.96E,h0km,mb3.6/3, mb1 3.7/4,mb1mx3.5/20,mbtmp3.6/4,ML3.6/1,Error ellipse: s-maj=125.1km s-min=23.8km az=73.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.29**	**179**	P		P		22 28 49.6	+0.3
	0.2nm,0.3s,baz=357,slow=11,SNR=9.3								
ASAR	**Alice Springs**	**22.99**	**180**	P		P		22 29 30.1	+0.8
	0.9nm,0.4s,baz=360,slow=12,SNR=20								
STKA	**Stephens Creek**	**31.99**	**168**	P		P		22 30 50.0	-0.9
	2.1nm,1.1s,baz=352,slow=7.1,SNR=2.8								
MKAR	**Makanchi Array**	**65.21**	**324**	P		P		22 35 06.0	0.0
	0.2nm,0.5s,baz=112,slow=7.5,SNR=3.7								

IDC 22 22:31:04.6±1.5,14.75S×174.49W,h0km,mb4.1/3, mb1 4.3/4,mb1mx3.8/20,mbtmp4.2/4,ML2.9/1,Error ellipse: s-maj=149.3km s-min=26.6km az=160.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.76**	**73**	Pn		Pn		22 31 51.0	+0.8
	108nm,0.3s,baz=53,slow=2.8,SNR=25								
AFI				Sn		Sn		22 32 16.2	-8.2
	121nm,0.3s,baz=10,slow=21,SNR=9.6								
STKA	**Stephens Creek**	**43.45**	**239**	P		P		22 39 08.6	-1.0
	1.7nm,0.9s,baz=111,slow=14,SNR=4.3								
WRA	**Warramunga Arr**	**48.97**	**256**	P		P		22 39 53.7	+0.4
	0.9nm,0.4s,baz=92,slow=6.8,SNR=22								
ASAR	**Alice Springs**	**49.31**	**251**	P		P		22 39 56.4	+0.5
	2.0nm,0.4s,baz=86,slow=7.9,SNR=29								
BRTR	**Keskin Array B**	**144.99**	**321**	PKP		PKPab		22 50 42.0	-1.6
	0.2nm,0.7s,baz=92,slow=4.4,SNR=5.0								

*NIED **22** 22:36:00,37.50N×141.90E,h38km,Mw3.9 Best double couple: M0 6.81000×10^14 NP1:φ=100.00000°,δ=89.00000°, λ=108.00000°. NP2:φ=194.00000°,δ=18.00000°,λ=4.00000°.*
*JMA **22** 22:36:04.8±0.1,37.46N×141.91E,h33km±3km,M4.1*
*NEIC **22** 22:36:06.0±1.3,37.45N×142.00E,h42km±11km,mb4.0/2, Error ellipse: s-maj=14.6km s-min=9.1km az=113.0*
*IDC **22** 22:36:06.1±2.8,37.43N×141.99E,h42km±25km,mb3.4/8, mb1 3.6/11,mb1mx3.5/26,mbtmp3.5/11,ML3.8/2,MS2.7/3, Ms1 2.7/3,ms1mx2.3/19,Error ellipse: s-maj=25.3km s-min=16.3km az=106.0*

ISC 22 22:36:01.4±2.4,37.49N±0.05×142.01E±0.06,h5km±14km, n36,σ1§18/47,mb3.7/10,3C-4D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.91**	**263**	⇑	P		**Pb**	**22 36 20.3**	**+0.6**
JFK				*eS*			**Sg**	**22 36 30.9**	**+0.1**
JMM	**Marumori**	**1.04**	**292**	⇓	P		**Pn**	**22 36 22.5**	**0.0**
JMM				S			**Sg**	**22 36 35.0**	**+0.2**
ONAJ	**Iwakimizuishiy**	**1.04**	**249**	⇑	P		**Pb**	**22 36 21.8**	**-0.1**
ONAJ				S			**Sg**	**22 36 33.8**	**-1.1**
JIO	**Ouri**	**1.10**	**332**	⇓	P		**Pn**	**22 36 24.0**	**+0.6**
JIO				S			**Sb**	**22 36 37.4**	**0.0**
JFT	**Otama**	**1.33**	**272**	⇑	P		**Pb**	**22 36 27.2**	**+0.4**
JFT				S			**Sb**	**22 36 43.0**	**-1.2**
JOU	**Okura**	**1.38**	**310**	⇓	P		**Pb**	**22 36 28.2**	**+0.6**
JOU				*eS*			**Sn**	**22 36 45.1**	**-0.8**
JMK	**Ichinoseki**	**1.59**	**337**	⇓	P		**Pb**	**22 36 31.5**	**+0.3**
JYS	**Shirataka**	**1.71**	**296**	P			**Pb**	**22 36 33.1**	**-0.1**
JYS				S			**Sb**	**22 36 54.4**	**-0.5**
JFY	**Yanaizu**	**1.84**	**268**	P			**Pb**	**22 36 34.8**	**-0.7**
JFY				*eS*			**Sn**	**22 36 56.2**	**-1.0**
JYK	**Kaneyama**	**1.93**	**318**	P			**Pn**	**22 36 36.2**	**+1.3**
MJAR	**Matsushiro Arr**	**3.19**	**254**	P			**Pn**	**22 36 53.7**	**+1.5**
MJAR				S			**Sn**	**22 37 33.6**	**+3.1**
MJAR	**Matsushiro Arr**	**3.19**	**254**	P			**Pn**	**22 36 53.7**	**+1.5**
	4.5nm,0.3s,baz=85,slow=15,SNR=32								
MJAR				S			**Sn**	**22 37 33.6**	**+3.1**
	5.4nm,0.3s,baz=222,slow=18,SNR=5.2								
MJAR				LR		LR		22 38 22.1	
	comp=Z,187nm,20.3s,baz=125,slow=43								
MAJO	**Matsushiro**	**3.19**	**254**	*ePn*			**Pn**	**22 36 53.6**	**+1.5**
MAJO				Sn			**Sn**	**22 37 32.6**	**+2.1**
MAT	**Matsushiro**	**3.19**	**254**	P			**Pn**	**22 36 53.8**	**+1.7**
MAT				*eS*			Sn	22 37 24.0	-6.5
ASAJ	**Asahikawa**	**6.64**	**4**	P			**Pn**	**22 37 40.8**	**+1.3**
ASAJ				S			**Sn**	**22 38 56.3**	**+0.9**
ASAJ	**Asahikawa**	**6.64**	**4**	P			**Pn**	**22 37 40.8**	**+1.3**
	2.9nm,0.3s,baz=214,slow=10,SNR=12								
ASAJ				S			**Sn**	**22 38 56.3**	**+0.9**
	baz=253,slow=19,SNR=2.5								
ASAJ				LR		LR		22 40 39.5	
	comp=Z,64nm,21.8s,baz=164,slow=41								
USRK	**Ussuriysk Arra**	**10.12**	**315**	P			Pn	22 38 30.8	+3.6
	0.2nm,0.3s,baz=102,slow=13,SNR=2.8								
PETK	**Petropavlovsk-**	**19.05**	**30**	LR		LR		22 48 32.3	
	comp=Z,13nm,20.1s,baz=143,slow=39								
SONM	**Songino Array**	**27.93**	**303**	P			**P**	**22 41 52.9**	**+0.3**
SONM	**Songino Array**	**27.93**	**303**	P			**P**	**22 41 52.9**	**+0.3**
	0.2nm,0.3s,baz=98,slow=10,SNR=2.1								
ZALV	**Zalesovo Beam**	**41.96**	**312**	P			**P**	**22 43 52.3**	**-0.6**
ZALV	**Zalesovo Beam**	**41.96**	**312**	P			**P**	**22 43 52.3**	**-0.6**
	0.3nm,0.3s,baz=97,slow=12,SNR=2.4								
MKAR	**Makanchi Array**	**44.28**	**302**	P			**P**	**22 44 11.5**	**-0.4**
MKAR	**Makanchi Array**	**44.28**	**302**	P			**P**	**22 44 11.5**	**-0.4**
	0.8nm,1.0s,baz=78,slow=9.0,SNR=3.6								
ILAR	**Eielson Array**	**48.85**	**33**	P			**P**	**22 44 48.0**	**+0.5**
ILAR	**Eielson Array**	**48.85**	**33**	P			**P**	**22 44 48.0**	**+0.5**
	0.5nm,0.5s,baz=276,slow=6.5,SNR=6.0								
WRAB	**Tennant Creek**	**57.57**	**189**	*eP*			**P**	**22 45 50.8**	**-1.2**
	2.5nm,1.0s								
WRA	**Warramunga Arr**	**57.58**	**189**	P			**P**	**22 45 50.3**	**-1.8**
WRA	**Warramunga Arr**	**57.58**	**189**	P			**P**	**22 45 50.3**	**-1.8**
	0.5nm,0.5s,baz=7.8,slow=7.5,SNR=9.3								
ABKAR	**Akbulak array**	**58.01**	**310**	*eP*			**P**	**22 45 54.0**	**-1.0**
	0.3nm,0.4s								
ASAR	**Alice Springs**	**61.30**	**188**	P			**P**	**22 46 17.1**	**-0.8**
ASAR	**Alice Springs**	**61.30**	**188**	P			**P**	**22 46 17.1**	**-0.8**
	0.5nm,0.7s,baz=9.3,slow=7.6,SNR=4.7								
FINES	**FINESS Array B**	**68.63**	**332**	P			**P**	**22 47 04.6**	**-0.5**
FINES	**FINESS Array B**	**68.63**	**332**	P			**P**	**22 47 04.6**	**-0.5**
	3.1nm,1.2s,baz=24,slow=11,SNR=4.8								
TXAR	**Lajitas Array**	**89.47**	**53**	P			**P**	**22 49 00.1**	**+0.3**
TXAR	**Lajitas Array**	**89.47**	**53**	P			**P**	**22 49 00.1**	**+0.3**
	0.2nm,0.5s,baz=259,slow=3.3,SNR=2.7								

IDC 22 23:22:11.3±0.9,31.06S×179.63E,h455km±15km,mb3.0/3, mb1 3.2/4,mb1mx3.0/18,mbtmp3.0/4,Error ellipse: s-maj=38.9km s-min=17.3km az=123.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.78**	**50**	P		P		23 23 17.3	+0.1
	39nm,0.3s,baz=84,slow=15,SNR=8.1								
RAO				S		S		23 24 10.8	+0.3
	5.1nm,0.3s,baz=233,slow=20,SNR=2.2								
URZ	**Urewera**	**7.48**	**195**	P		P		23 24 02.8	+1.8
	1.0nm,0.3s,baz=292,slow=2.4,SNR=14								
URZ				S		S		23 25 29.0	-2.1
	1.3nm,0.3s,baz=161,slow=21,SNR=7.1								
STKA	**Stephens Creek**	**32.35**	**258**	P		P		23 28 03.0	+1.4
	2.9nm,0.9s,baz=115,slow=14,SNR=2.9								
ASAR	**Alice Springs**	**41.05**	**269**	P		P		23 29 13.3	-0.6
	0.4nm,0.4s,baz=106,slow=7.2,SNR=5.7

MILZ				Sg		Sn	00 11 08.8 +1.3
	3μm,0.8s						
MILZ	Milazzo	0.76	30	Pg		Pb	00 10 57.5 +0.7
MILZ				Sg		Sn	00 11 08.8 +1.3
	3μm,0.8s						
VPL	Vulcano Piano	0.79	13	Pg		Pb	00 10 57.8 +0.5
VPL	Vulcano Piano	0.79	13	Pg		Pb	00 10 57.8 +0.5
MTTG	Motta San Giov	0.84	62	Pg		Pb	00 10 58.8 +0.6
	1μm,0.6s						
MTTG	Motta San Giov	0.84	62	Pg		Pb	00 10 58.8 +0.6
	1μm,0.6s						
LLI	Lipari	0.84	11	Pg		Pb	00 10 58.7 +0.5
	4μm,0.3s						
LLI	Lipari	0.84	11	Pg		Pb	00 10 58.7 +0.5
	4μm,0.3s						
MSRU	Castanea	0.88	42	Pg		Pb	00 10 59.3 +0.4
	2μm,0.4s						
MSRU	Castanea	0.88	42	Pg		Pb	00 10 59.3 +0.4
	2μm,0.4s						
FAVR	Favara	0.93	249	Pg		Pb	00 11 01.2 +1.6
FAVR	Favara	0.93	249	Pg		Pb	00 11 01.2 +1.6
IACL	Alicudi	0.97	341	Pg		Pb	00 11 00.3 0.0
	2μm,0.4s						
IACL	Alicudi	0.97	341	Pg		Pb	00 11 00.3 0.0
	2μm,0.4s						
MSCL	Scilla	1.03	53	Pg		Pb	00 11 01.8 +0.4
	1μm,0.5s						
MSCL	Scilla	1.03	53	Pg		Pb	00 11 01.8 +0.4
	1μm,0.5s						
MPAZ	Palizzi	1.05	71	Pg		Pb	00 11 02.1 +0.4
MPAZ				Sg		Sb	00 11 17.1 +2.0
	625nm,0.5s						
MPAZ	Palizzi	1.05	71	Pg		Pb	00 11 02.1 +0.4
MPAZ				Sg		Sb	00 11 17.1 +2.0
	625nm,0.5s						
CEL	Celeste	1.11	54	Pg		Pb	00 11 03.0 +0.3
	1μm,0.5s						
CEL	Celeste	1.11	54	Pg		Pb	00 11 03.0 +0.3
	1μm,0.5s						
SOI	Samo	1.13	66	Pg		Pb	00 11 03.1 +0.1
	376nm,0.5s						
SOI	Samo	1.13	66	Pg		Pb	00 11 03.1 +0.1
	376nm,0.5s						
CORL	Corleone	1.18	284	Pg		Pb	00 11 04.8 +0.9
CORL	Corleone	1.18	284	Pg		Pb	00 11 04.8 +0.9
STR4	STROMBOLI 4	1.22	17	Pg		Pb	00 11 04.0 -0.5
JOPP	Joppolo	1.34	42	Pg		Pb	00 11 05.5 -1.1
JOPP	Joppolo	1.34	42	Pg		Pb	00 11 05.5 -1.1
CRJA	Costa Raja	1.40	278	Pg		Pb	00 11 08.2 +0.6
CRJA	Costa Raja	1.40	278	Pg		Pb	00 11 08.2 +0.6
MMGO	Monte Magaggia	1.41	273	Pg		Pb	00 11 07.2 -0.6
	198nm,0.2s						
MMGO	Monte Magaggia	1.41	273	Pg		Pb	00 11 07.2 -0.6
	198nm,0.2s						
MFNL	Monte Finestre	1.46	278	Pg		Pb	00 11 08.9 +0.2
	432nm,0.5s						
MFNL	Monte Finestre	1.46	278	Pg		Pb	00 11 08.9 +0.2
	432nm,0.5s						
PLAC	Placanica	1.57	57	Pg		Pb	00 11 10.1 -0.5
	276nm,0.5s						
PLAC	Placanica	1.57	57	Pg		Pb	00 11 10.1 -0.5
	276nm,0.5s						
MTGR	Montagna Grand	1.60	281	Pg		Pb	00 11 10.6 -0.5
	52nm,0.3s						
MTGR	Montagna Grand	1.60	281	Pg		Pb	00 11 10.6 -0.5
	52nm,0.3s						
USI	Ustica	1.65	312	Pg		Pn	00 11 09.3 +0.1
	448nm,0.4s						
USI	Ustica	1.65	312	Pg		Pn	00 11 09.3 +0.1
	448nm,0.4s						
WDD	Wield Dalam	1.75	186	Pg		Pn	00 11 11.7 +1.1
	705nm,0.8s						
WDD	Wield Dalam	1.75	186	Pg		Pn	00 11 11.7 +1.1
	705nm,0.8s						
CARO	Carolei	2.00	35	Pg		Pn	00 11 14.8 +0.7
	280nm,0.4s						
CARO	Carolei	2.00	35	Pg		Pn	00 11 14.8 +0.7
	280nm,0.4s						
SERS	Sersale	2.08	46	Pg		Pn	00 11 16.9 +1.6
	61nm,0.6s						
SERS	Sersale	2.08	46	Pg		Pn	00 11 16.9 +1.6
	61nm,0.6s						
TIP	Timpagrande	2.22	45	Pg		Pn	00 11 18.7 +1.6
	85nm,0.6s						
TIP	Timpagrande	2.22	45	Pg		Pn	00 11 18.7 +1.6
	85nm,0.6s						
PTS	Pantelleria	2.34	251	Pg		Pn	00 11 19.2 +0.5
	51nm,0.2s						
PTS	Pantelleria	2.34	251	Pg		Pn	00 11 19.2 +0.5
	51nm,0.2s						
MMN	Mormanno	2.47	23	Pg		Pn	00 11 21.8 +1.3
	38nm,0.3s						
MMN	Mormanno	2.47	23	Pg		Pn	00 11 21.8 +1.3
	38nm,0.3s						
BULG	Bulgheria - Ca	2.51	11	Pg		Pn	00 11 21.9 +0.8
	61nm,0.5s						
BULG	Bulgheria - Ca	2.51	11	Pg		Pn	00 11 21.9 +0.8
	61nm,0.5s						
CUC	Castrocucco	2.52	19	Pg		Pn	00 11 21.9 +0.7
	56nm,0.3s						
CUC	Castrocucco	2.52	19	Pg		Pn	00 11 21.9 +0.7
	56nm,0.3s						
MGR	Morigerati	2.60	14	Pg		Pn	00 11 23.0 +0.8
	45nm,0.3s						
MGR	Morigerati	2.60	14	Pg		Pn	00 11 23.0 +0.8
	45nm,0.3s						
SIRI	Monte Sirino -	2.71	18	Pg		Pn	00 11 24.8 +0.9
SIRI	Monte Sirino -	2.71	18	Pg		Pn	00 11 24.8 +0.9
MTSN	Montesano sull	2.76	16	Pg		Pn	00 11 25.6 +1.0
	40nm,0.4s						
MTSN	Montesano sull	2.76	16	Pg		Pn	00 11 25.6 +1.0
	40nm,0.4s						
SCHR	S. Chirico Rap	2.78	21	Pg		Pn	00 11 26.0 +1.1
	31nm,0.7s						
SCHR	S. Chirico Rap	2.78	21	Pg		Pn	00 11 26.0 +1.1
	31nm,0.7s						
BAI	Bari	3.86	25	eP		Pn	00 11 41.3 +1.8
KEK	Kerkira	4.47	60	ePN		Pn	00 11 47.0 -1.0
VLS	Valsamata	4.65	81	ePN		Pn	00 11 49.7 -0.8
LKD2	Lefkada island	4.80	74	ePN		Pn	00 11 52.1 -0.4
JAN	Janina	5.19	65	ePN		Pn	00 11 58.5 +0.6
RLS	Riolos of Patr	5.33	83	ePN		Pn	00 12 00.1 +0.3
PYL	PYLOS	5.62	95	ePN		Pn	00 12 03.2 -0.6
EVR	Evrytania	5.71	75	ePN		Pn	00 12 06.2 +1.2
EFP	Efpalio	5.71	80	ePN		Pn	00 12 06.8 +1.8
STON	Ston	5.72	22	eSn		Sn	00 13 07.3 -2.4
ITM	Ithomi	5.73	92	ePN		Pn	00 12 05.1 -0.2
LAKA	Lakka	5.75	82	ePN		Pn	00 12 09.1 +3.5
KLV	Kalavryta, Ach	5.87	84	ePN		Pn	00 12 07.6 +0.3
KALE	Kalithea	5.89	80	ePN		Pn	00 12 09.9 +2.4
PDG	Podgorica	5.92	34	ePn		Pn	00 12 08.4 +0.5
PDG				eSn		Sn	00 13 10.5 -4.3
PDG	Podgorica	5.92	34	ePn		Pn	00 12 08.4 +0.5
THL	Klokotos Trika	6.01	69	ePN		Pn	00 12 10.3 +1.1
FNA	Florina	6.04	56	ePN		Pn	00 12 10.4 +0.8
DYR	Agios Nikonas	6.11	96	ePN		Pn	00 12 10.5 -0.1
AGG	Agios Georgios	6.12	74	ePN		Pn	00 12 11.9 +1.2
LTK	Loutraki	6.52	84	ePN		Pn	00 12 16.1 0.0
LKR	Lokris	6.58	78	ePN		Pn	00 12 16.7 -0.3
VLI	Veliai	6.60	95	ePN		Pn	00 12 18.3 +1.1
KYTH	Kithira	6.77	99	ePN		Pn	00 12 21.3 +1.7
NEO	Neokhori	6.86	73	ePN		Pn	00 12 20.7 -0.1
SJES	Sjenica	6.91	34	ePn		Pn	00 12 22.9 +1.4
SJES				eSn		Sn	00 13 34.7 -4.5
SJES	Sjenica	6.91	34	ePn		Pn	00 12 22.9 +1.4
NAIG	Nisos Aigina	6.93	86	ePN		Pn	00 12 22.9 +1.1
PLG	Polygyros	7.31	65	ePN		Pn	00 12 25.8 -1.2
BLY	Banja Luka	7.36	14	ePn		Pn	00 12 29.0 +1.4
BLY	Banja Luka	7.36	14	ePn		Pn	00 12 29.0 +1.4
BARS	Barje	7.50	44	ePn		Pn	00 12 29.9 +0.4
BARS	Barje	7.50	44	ePn		Pn	00 12 29.9 +0.4
DIVS	Divibare	7.60	30	ePn		Pn	00 12 33.2 +2.2
DIVS	Divibare	7.60	30	ePn		Pn	00 12 33.2 +2.2
KARN	Karanos	7.70	104	ePN		Pn	00 12 31.9 -0.5
GRUS	Gruza	7.73	34	ePn		Pn	00 12 34.3 +1.6
GRUS				eSn		Sn	00 13 54.6 -4.7
GRUS	Gruza	7.73	34	ePn		Pn	00 12 34.3 +1.6
ZAPS	Zavoj	8.25	44	ePn		Pn	00 12 39.8 -0.1
ZAPS				eSn		Sn	00 14 09.0 -3.1
ZAPS	Zavoj	8.25	44	ePn		Pn	00 12 39.8 -0.1
IDI	Anoyia	8.49	103	ePG		Pn	00 12 46.2 +2.9
LAST	Lasithi	8.99	103	ePB		Pn	00 12 50.9 +0.8

IDC 23 00:13:14.4±63.0, 20.05S×174.64W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/20, mbtmp3.8/3, Error ellipse: s-maj=1185.0km s-min=197.8km az=84.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	40.82	244	P	P	00 20 58.8	+0.8
	0.6nm,0.4s,baz=100,slow=12,SNR=3.4						
ASAR	Alice Springs	47.69	256	P	P	00 21 52.9	-0.4
	1.3nm,0.5s,baz=97,slow=7.9,SNR=19						
WRA	Warramunga Arr	47.79	261	P	P	00 21 53.3	-0.7
	0.3nm,0.3s,baz=101,slow=8.1,SNR=3.3						

IDC 23 00:58:57.2±0.9, 29.63N×69.48E, h0km, mb3.7/12, mb1 3.8/14, mb1mx3.7/31, mbtmp3.7/14, ML3.7/2, MS3.0/3, Ms1 3.0/3, ms1mx2.5/33, Error ellipse: s-maj=22.4km s-min=19.2km az=35.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	Ala-Archa	13.59	16	Pn	Pn	01 02 10.0	-1.5
	0.6nm,0.3s,baz=215,slow=12,SNR=3.9						
MKAR	Makanchi Array	19.83	27	P	P	01 03 28.9	-0.5
	0.1nm,0.3s,baz=213,slow=12,SNR=6.6						
KURBB	Kurchatov Arra	22.05	15	P	P	01 03 52.7	-0.6
	4.4nm,0.8s,baz=209,slow=9.6,SNR=27						
AKTO	Aktyubinsk	22.51	341	P	P	01 03 59.4	+1.2
	1.1nm,0.7s,baz=180,slow=9.5,SNR=5.3						
BVAR	Borovoye Array	23.39	1	P	P	01 04 07.1	-0.3
	1.8nm,0.9s,baz=171,slow=10,SNR=6.0						
ZALV	Zalesovo Beam	26.74	20	P	P	01 04 38.2	-0.1
	0.3nm,0.3s,baz=209,slow=2.6,SNR=2.8						
CMAR	Chiang Mai Arr	29.04	106	P	P	01 05 00.3	+1.1
	0.4nm,0.3s,baz=301,slow=9.1,SNR=3.8						
MMAI	Mount Meron Ar	29.23	285	LR	LR	01 18 57.2	
	comp=Z,27nm,18.1s,baz=235,slow=41						
BRTR	Keskin Array B	30.97	299	P	P	01 05 17.5	+1.2
	1.2nm,0.8s,baz=106,slow=8.6,SNR=7.3						
SONM	Songino Array	33.65	47	P	P	01 05 41.0	+1.3
	0.4nm,0.7s,baz=235,slow=5.1,SNR=2.7						
FINES	FINESS Array B	42.66	331	P	P	01 06 54.8	-0.4
	1.5nm,1.0s,baz=114,slow=14,SNR=3.4						
KSRS	Korea Array	48.67	65	LR	LR	01 31 53.0	
	comp=Z,17nm,18.9s,baz=230,slow=41						
NOA	NORSAR Array B	49.26	327	LR	LR	01 31 29.2	
	comp=Z,10nm,19.3s,baz=90,slow=40						
ESDC	Sonseca Array	59.72	301	P	P	01 09 03.5	-0.3
	0.2nm,0.3s,baz=64,slow=7.2,SNR=3.4						
TORD	Torodi Ar. Bea	64.41	271	P	P	01 09 34.9	-0.7
	0.4nm,0.9s,baz=79,slow=7.5,SNR=4.1						
WRA	Warramunga Arr	79.56	120	P	P	01 11 06.6	+0.3
	58nm,0.3s,baz=322,slow=5.2,SNR=2.6						
ASAR	Alice Springs	81.47	123	P	P	01 11 15.3	-1.3
	0.2nm,0.4s,baz=290,slow=6.0,SNR=3.6						
YKA	Yellowknife Ar	88.14	2	P	P	01 11 49.1	-0.5
	1.3nm,0.9s,baz=343,slow=4.4,SNR=5.8						
TXAR	Lajitas Array	121.00	353	PKP	PKPdf	01 17 52.5	+0.2
	0.4nm,1.0s,baz=324,slow=5.9,SNR=2.4						

*CSEM **23** 01:15:36.9, 38.12N×26.38W, h2km, ML2.2, After PDA*
PDA 23 01:15:36.9±0.6, 38.12N×26.38W, h2km±2km, MD3.5, ML2.2, Error ellipse: s-maj=4.6km s-min=0.7km az=33.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSET	Sete Cidades	0.60	119	eP	Pg	01 15 47.3	-1.2
PSET				eS	Sg	01 15 55.3	-1.0
PSET				A	A	01 15 56.4	
	37nm,0.3s						
PSET	Sete Cidades	0.60	119	eP	Pg	01 15 47.3	-1.2
PSET				eS	Sg	01 15 55.3	-1.0
PDA	Ponta Delgada	0.68	123	eP	Pg	01 15 48.4	-1.5
PDA				eS	Sg	01 15 57.3	-1.4
PDA				A	A	01 15 59.4	
	19nm,0.2s						
PDA	Ponta Delgada	0.68	123	eP	Pg	01 15 48.4	-1.5
PDA				eS	Sg	01 15 57.3	-1.4
CMLA	Cha da Macela	0.76	117	eP	Pg	01 15 49.8	-1.8
CMLA				eS	Sg	01 15 59.0	-2.5
CMLA				A	A	01 16 02.6	
	59nm,0.4s						
CMLA	Cha da Macela	0.76	117	eP	Pg	01 15 49.8	-1.8
CMLA				eS	Sg	01 15 59.0	-2.5
ADH	Angra Heroismo	0.86	309	eP	Pg	01 15 50.8	-2.6
ADH				eS	Sg	01 16 01.5	-3.0
ADH				A	A	01 16 10.6	
	33nm,0.5s						
ADH	Angra Heroismo	0.86	309	eP	Pg	01 15 50.8	-2.6
ADH				eS	Sg	01 16 01.5	-3.0
BART	Pico Bartolome	1.02	109	eS	Sg	01 16 05.6	-4.2
BART				A	A	01 16 14.3	
	14nm,0.4s						
BART	Pico Bartolome	1.02	109	eS	Sg	01 16 05.6	-4.2
PMAN	Manadas	1.44	291	eP	Pn	01 15 59.0	-5.0
PMAN				eS	Sg	01 16 15.5	-7.6
PMAN				A	A	01 16 22.3	
	17nm,0.4s						
PMAN	Manadas	1.44	291	eP	Pn	01 15 59.0	-5.0
PMAN				eS	Sg	01 16 15.5	-7.6
PSMA	Santa Maria	1.50	138	eS	Sb	01 16 17.0	-7.9
PSMA				A	A	01 16 17.5	
	14nm,0.5s						
PSMN	Pico do Norte,	1.53	136	eS	Sn	01 16 17.8	-7.9
PSMN				A	A	01 16 27.1	
	12nm,0.6s						
PSMN	Pico do Norte,	1.53	136	eS	Sn	01 16 17.8	-7.9
ROSA	Rosais	1.58	293	eP	Pn	01 16 01.0	-4.9
ROSA				eS	Sn	01 16 19.2	-7.8
ROSA				A	A	01 16 21.9	
	16nm,0.4s						
ROSA	Rosais	1.58	293	eP	Pn	01 16 01.0	-4.9
ROSA				eS	Sn	01 16 19.2	-7.8
PICO	Pico	1.65	284	eP	Pn	01 16 02.2	-4.8
PICO				eS	Sn	01 16 21.2	-7.7
PICO	Pico	1.65	284	eP	Pn	01 16 02.2	-4.8
PICO				eS	Sn	01 16 21.2	-7.7
HOR	Horta	1.82	284	eP	Pn	01 16 04.3	-4.8
HOR				eS	Sn	01 16 24.7	-8.0
HOR	Horta	1.82	284	eP	Pn	01 16 04.3	-4.8
HOR				eS	Sn	01 16 24.7	-8.0
CALA	Caldeira	1.88	285	eP	Pn	01 16 05.3	-4.9
CALA				eS	Sn	01 16 26.6	-8.0
CALA	Caldeira	1.88	285	eP	Pn	01 16 05.3	-4.9
CALA				eS	Sn	01 16 26.6	-8.0
PCED	Cedros	1.89	286	eS	Sn	01 16 26.8	-7.9
PCED				A	A	01 16 30.4	
	32nm,0.6s						
PCED	Cedros	1.89	286	eS	Sn	01 16 26.8	-7.9

MEX 23 01:42:35.8±0.6, 17.90N×101.61W, h30km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	Zihuatanejo	0.32	155	iP	Pb	01 42 42.2	-1.4
ZIIG				eS	Sb	01 42 47.1	-1.7
ARIG	Puente Sto Nin	1.26	72	iP	Pn	01 42 55.0	-2.4
ARIG				eS	Sn	01 43 10.3	-3.0
CAIG	El Cayaco	1.53	123	iP	Pn	01 42 59.4	-1.7
CAIG				iS	Sn	01 43 16.9	-3.1
MMIG	Aquila	1.70	283	iP	Pn	01 43 02.1	-1.3
MMIG				iS	Sn	01 43 20.8	-3.3
PLIG	Platanillo	2.06	76	iP	Pn	01 43 07.1	-1.4
PLIG				eS	Sn	01 43 30.9	-2.3

MEX 23 01:55:01.1±0.3, 14.26N×92.62W, h39km±16km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		0.73	28	iP	Pn	01 55 13.2	-1.8
THIG				eS	Sn	01 55 22.7	-2.2
CCIG	Comitan	2.07	13	iP	Pn	01 55 32.1	-1.5
CCIG				eS	Sn	01 55 56.0	-2.3
TGIG		2.55	349	iP	Pn	01 55 38.2	-1.9
TGIG				eS	Sn	01 56 08.1	-2.0

IGQ 23 02:03:49.7, 2.25S×79.76W, h22km±49km, Mb4.0, Ms3.8, 6C-6D, Error ellipse: s-maj=1.7km s-min=1.1km az=2.9, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIOE	Riobamba	1.23	66	S	Sb	02 04 29.6	+1.1
RIOE	Riobamba	1.23	66	P	Pb	02 04 13.2	+0.4
ARNL	Arenillas	1.32	193	S	Sb	02 04 31.5	+1.1
ARNL	Arenillas	1.32	193	P	Pb	02 04 13.9	0.0
IGUA	Igualata	1.35	56	S	Sb	02 04 33.6	+1.1
IGUA	Igualata	1.35	56	P	Pb	02 04 15.4	+0.3
BMAS	Tungurahua Vol	1.48	60	⇑P	Pb	02 04 17.1	+0.1
BIL2	Estacion Bilba	1.49	58	S	Sb	02 04 36.9	+1.1
BIL2	Estacion Bilba	1.49	58	P	Pb	02 04 17.7	+0.7
ARRY	Arrayan	1.50	61	⇑S	Sb	02 04 36.0	-0.4
ARRY	Arrayan	1.50	61	⇑P	Pb	02 04 17.2	-0.2
BBIL	Ulba Tungurahu	1.50	58	S	Sb	02 04 37.0	+0.7
BBIL	Ulba Tungurahu	1.50	58	P	Pb	02 04 17.7	+0.4
PAT1	Patacocha	1.52	61	P	Pb	02 04 17.8	+0.1
BPAT	Tungurahua Vol	1.52	61	S	Sb	02 04 37.9	+0.8
BPAT	Tungurahua Vol	1.52	61	P	Pb	02 04 17.8	0.0
CHIS	Cerro-Chispas-	1.53	321	P	Pb	02 04 17.5	+0.1
JUI6	Juive	1.53	58	S	Sb	02 04 37.8	+0.8
JUI6	Juive	1.53	58	P	Pb	02 04 17.8	0.0
RETU	Refugio	1.54	59	P	Pb	02 04 18.3	+0.1
RETU	Refugio	1.54	59	S	Sb	02 04 39.1	+1.4
MACE	Macas	1.56	90	S	Sb	02 04 38.5	+0.7
MACE	Macas	1.56	90	P	Pb	02 04 18.1	-0.1
RUN5	Runtun	1.57	58	S	Sb	02 04 38.8	+0.5
RUN5	Runtun	1.57	58	P	Pb	02 04 18.2	-0.4
BULB	Ulba Tungurahu	1.57	59	⇓S	Sb	02 04 38.5	+0.1
BULB	Ulba Tungurahu	1.57	59	⇓P	Pb	02 04 19.1	+0.5
BRUN	Tungurahua Vol	1.58	59	S	Sb	02 04 38.8	+0.2
BRUN	Tungurahua Vol	1.58	59	P	Pb	02 04 18.3	-0.4
CATE	Catamayo	1.75	167	⇑S	Sn	02 04 41.0	+0.4
CATE	Catamayo	1.75	167	⇑P	Pb	02 04 20.1	-1.1
PISA	Pisayambo	1.81	49	⇓S	Sb	02 04 45.6	-0.1
PISA	Pisayambo	1.81	49	⇓P	Pb	02 04 23.0	+0.1
BMOR	Cotopaxi Volca	1.99	41	⇓P	Pb	02 04 25.2	-0.8
CAMI	Rancho Maria	2.01	39	⇓P	Pb	02 04 26.0	-0.1
MOV1	Cotopaxi Vol s	2.02	41	P	Pb	02 04 25.5	-1.1
JAMA	Jama	2.02	347	P	Pn	02 04 23.1	+0.5
BNAS	Cotopaxi Volca	2.02	39	P	Pb	02 04 25.6	-0.9
BNAS	Cotopaxi Volca	2.02	39	P		09 02 48.7	
BREF	Cotopaxi Volca	2.05	40	P	Pb	02 04 26.1	-1.0
NAS2	Nasa	2.05	39	P	Pb	02 04 27.0	0.0
BTAM	Cotopaxi Volca	2.08	41	P	Pb	02 04 26.0	-1.4
TAMB	Tambo	2.08	42	P	Pb	02 04 27.1	-0.3
VC1	Cotopaxi 1	2.10	40	P	Pb	02 04 27.2	-0.5
COV1	Cotopaxi Volc	2.12	42	P	Pb	02 04 28.2	-0.1
PITA	Cotopaxi Volc	2.14	38	P	Pb	02 04 27.5	-1.0
MAG1	Magdalena	2.16	360	⇑P	Pn	02 04 25.6	+1.1
TERV	Terraza Guagua	2.36	29	S	Sb	02 04 59.9	-1.6
TERV	Terraza Guagua	2.36	29	P	Pb	02 04 30.3	-2.0
GGP	Refugio Guagua	2.37	30	S	Sn	02 04 59.3	+2.4
GGP	Refugio Guagua	2.37	30	P	Pn	02 04 30.1	+2.1
PINO	Pino	2.38	29	S	Sn	02 04 59.5	+2.3
PINO	Pino	2.38	29	P	Pn	02 04 30.0	+1.8
ANTI	Antisana	2.40	42	P	Pb	02 04 32.1	-0.9
OTAV	Otavalo	2.80	28	P	Pn	02 04 35.0	+1.2
CAYA	Cayambe	2.91	38	P	Pb	02 04 40.5	-1.1
LITE	Lita	3.34	25	P	Pn	02 04 42.0	+1.1

*ISCJB **23** 02:11:26.9±0.5, 24.55N±0.03×122.45E±0.02, h77km±6km, Error ellipse: s-maj=5.4km s-min=2.8km az=172.0*
*JMA **23** 02:11:26.9±0.2, 24.69N×122.49E, h83km±2km, M2.8*
*TAP **23** 02:11:26.8, 24.57N×122.40E, h84km, ML3.8, C*
ISC 23 02:11:27.3±1.4, 24.53N±0.04×122.44E±0.02, h75km±10km, n49, σ0.82/93, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.52	98	P	Pn	02 11 41.1	+0.3
YOJ				S	Sn	02 11 51.7	+0.9
TWC	Suao	0.55	278	⇓iP	Pn	02 11 40.8	-0.2
	baz=274						
TWC				iS	Sn	02 11 50.7	-0.4
	baz=274						
TWB1	Santiao Chiao	0.63	319	P	Pn	02 11 41.4	-0.4
	baz=313						
TWB1				S	Sn	02 11 52.2	-0.4
	baz=313						
ENA	Nanau	0.65	261	P	Pn	02 11 42.2	+0.2
	baz=251						
ENA				eS	Sn	02 11 53.8	+0.8
	baz=251						
ILA	Ilan	0.67	290	eP	Pn	02 11 41.9	-0.4
	baz=288						
ILA				eS	Sn	02 11 53.8	+0.4
	baz=288						
TWE	Neicheng	0.73	285	P	Pn	02 11 42.9	0.0
	baz=282						
TWE				eS	Sn	02 11 54.1	-0.4
	baz=282						
ENTT	Nioudou	0.80	278	P	Pn	02 11 44.2	+0.4
	baz=277						
ENTT				eS	Sn	02 11 56.9	+0.9
	baz=277						
NWF	Wu-fen Shan	0.80	312	P	Pn	02 11 43.7	-0.2
	baz=304						
NWF				S	Sn	02 11 55.7	-0.5
	baz=304						
TWD	Chiawan	0.89	240	eP	Pn	02 11 46.2	+1.4
	baz=230						
TWD				S	Sn	02 11 58.0	+0.2
	baz=230						
TWA	Mucha	0.90	300	P	Pn	02 11 44.6	-0.3
	baz=292						
TWA				S	Sn	02 11 57.2	-0.7
	baz=292						
TAP1	Taipei	0.97	301	eP	Pn	02 11 45.2	-0.6
	baz=292						
NNS	Nan Shan	0.98	265	eP	Pn

SMLT	**Sun Moon Lake**	**1.55**	**246**	*e*P	**Pn**	**02 11 53.9 +0.7**
	baz=236					
SMLT				*e*S	**Sn**	**02 12 13.7 +1.0**
	baz=236					
JIJ	**Ishigaki jima**	**1.56**	**96**	P	**Pn**	**02 11 53.0 -0.2**
JIJ				S	**Sn**	**02 12 12.1 -0.7**
TWF1	**Yuli**	**1.57**	**222**	*e*P	**Pn**	**02 11 52.7 -0.7**
	baz=227					
TYC	**Yuchr**	**1.58**	**247**	P	**Pn**	**02 11 54.2 +0.8**
	baz=238					
TYC				S	**Sn**	**02 12 13.9 +0.7**
	baz=238					
TCU	**Taichung**	**1.66**	**257**	*e*P	**Pn**	**02 11 54.6 +0.2**
	baz=265					
TCU				*e*S	**Sn**	**02 12 15.2 +0.1**
	baz=265					
YUS	**Yu-Shan**	**1.71**	**233**	*e*P	**Pn**	**02 11 56.1 +0.4**
	baz=224					
YUS				*e*S	**Sn**	**02 12 16.6 -0.6**
	baz=224					
WNT	**Mingjian**	**1.73**	**248**	*e*P	**Pn**	**02 11 56.3 +0.8**
	baz=256					
CHKT	**Chengkung**	**1.73**	**215**	*e*P	**Pn**	**02 11 52.9 -2.7**
	baz=206					
CHKT				*e*S	**Sn**	**02 12 15.1 -1.9**
	baz=206					
ALS	**Alishan**	**1.81**	**236**	*e*P	**Pn**	**02 11 57.4 +0.5**
	baz=227					
ALS				*e*S	**Sn**	**02 12 19.3 +0.1**
	baz=227					
CHN5	**Tsauling**	**1.86**	**240**	*e*P	**Pn**	**02 11 58.1 +0.8**
	baz=229					
CHN5				*e*S	**Sn**	**02 12 21.4 +1.3**
	baz=229					
CHN2	**Minshiung**	**2.06**	**241**	*e*P	**Pn**	**02 12 01.4 +1.6**
	baz=250					
CHN2				*e*S	**Sn**	**02 12 26.4 +1.8**
	baz=250					
STYT	**Tauyuan**	**2.06**	**229**	*e*P	**Pn**	**02 12 00.6 +0.6**
	baz=226					
STYT				S	**Sn**	**02 12 25.6 +0.8**
	baz=226					
CHN4	**Tsaushan**	**2.06**	**236**	P	**Pn**	**02 12 00.8 +0.8**
	baz=233					
CHN4				*e*S	**Sn**	**02 12 26.2 +1.4**
	baz=233					
JTJ	**Tarama**	**2.06**	**87**	P	**Pn**	**02 11 59.9 0.0**
JTJ				*e*S	**Sn**	**02 12 25.1 +0.4**
WTP	**Ta-pu**	**2.11**	**233**	*e*P	**Pn**	**02 12 01.0 +0.4**
	baz=231					
WTP				*e*S	**Sn**	**02 12 26.8 +0.9**
	baz=231					
CHY	**Chiayi**	**2.11**	**241**	*e*P	**Pn**	**02 12 01.2 +0.6**
	baz=251					
CHY				*e*S	**Sn**	**02 12 27.3 +1.3**
	baz=251					
TWG	**Pinlang**	**2.12**	**217**	*e*P	**Pn**	**02 11 59.8 -0.9**
	baz=219					
TWG				*e*S	**Sn**	**02 12 24.3 -1.8**
	baz=219					
TWK	**Hsinying**	**2.19**	**235**	*e*P	**Pn**	**02 12 02.0 +0.3**
	baz=232					
TWK				*e*S	**Sn**	**02 12 28.4 +0.5**
	baz=232					
CHN1	**Nanshi**	**2.21**	**233**	*e*P	**Pn**	**02 12 02.2 +0.3**
	baz=230					
CHN1				*e*S	**Sn**	**02 12 29.2 +0.9**
	baz=230					
SGST	**Jiashian**	**2.23**	**230**	*e*P	**Pn**	**02 12 03.0 +0.8**
	baz=227					
SGST				*e*S	**Sn**	**02 12 29.8 +0.9**
	baz=227					
ECL	**Taimali**	**2.36**	**216**	*e*P	**Pn**	**02 12 03.0 -1.0**
	baz=207					
ECL				*e*S	**Sn**	**02 12 29.9 -2.1**
	baz=207					
SCZT	**Fangliau**	**2.73**	**218**	*e*P	**Pn**	**02 12 07.9 -1.0**
	baz=228					
SCZT				*e*S	**Sn**	**02 12 42.0 +1.2**
	baz=228					
PNG	**Penghu**	**2.81**	**251**	*e*P	**Pn**	**02 12 08.5 -1.5**
	baz=248					

*DDA **23** 02:58:58.6,38.°96N×27.°61E,h7km,MD3.0*
*CSEM **23** 02:58:59.4±0.1,38.°96N×27.°61E,h2km,MD3.0, Error ellipse: s-maj=2.8km s-min=2.7km az=115.0*
*ISK **23** 02:58:59.0,38.°97N×27.°51E,h7km,MD3.0*
*ATH **23** 02:58:59.6,39.°08N×27.°74E,h57km,MD3.1/3*
ISC 23 02:58:59.2±0.9,38.°96N±0.°02×27.°62E±0.°02,h12km±6km, n73,σ0§92/98,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.17**	**118**	*i* P	**Pg**	**02 59 02.9**	**-0.2**
AKHS				*i* S	**Sg**	**02 59 06.3**	**+0.4**
AKHS	**Akhisar**	**0.17**	**118**	*i* P	**Pg**	**02 59 02.9**	**-0.2**
AKHS				*i* S	**Sg**	**02 59 06.3**	**+0.4**
IZM	**Izmir**	**0.63**	**206**	*e*PG	**Pb**	**02 59 11.0**	**-1.0**
IZM				*e*SG	**Sb**	**02 59 20.0**	**-0.7**
IZM	**Izmir**	**0.63**	**206**	*e*Pg	**Pb**	**02 59 11.0**	**-1.0**
IZM				*e*Sg	**Sb**	**02 59 20.0**	**-0.7**
BALB	**Balikesir**	**0.71**	**17**	*e*PG	**Pb**	**02 59 13.2**	**-0.3**
BALB				*e*SG	**Sn**	**02 59 24.4**	**-1.3**
BALB	**Balikesir**	**0.71**	**17**	*e*Pg	**Pb**	**02 59 13.2**	**-0.3**
BALB				*e*Sg	**Sn**	**02 59 24.5**	**-1.3**
AYVA	**Ayvalik**	**0.80**	**296**	*i* P	**Pb**	**02 59 14.6**	**-0.4**
AYVA				*i* S	**Sb**	**02 59 25.4**	**-0.3**
AYVA	**Ayvalik**	**0.80**	**296**	*i* P	**Pb**	**02 59 14.6**	**-0.4**
AYVA				*i* S	**Sb**	**02 59 25.4**	**-0.3**
DEMI	**Demirci**	**0.86**	**84**	*i* P	**Pb**	**02 59 15.7**	**-0.3**
DEMI				*i* S	**Sb**	**02 59 27.6**	**0.0**
DEMI	**Demirci**	**0.86**	**84**	*i* P	**Pb**	**02 59 15.7**	**-0.3**
DEMI				*i* S	**Sb**	**02 59 27.6**	**0.0**
MANT	**Manisa**	**0.87**	**122**	*i* P	**Pb**	**02 59 16.2**	**-0.1**
MANT				*i* S	**Sb**	**02 59 27.7**	**-0.4**
MANT	**Manisa**	**0.87**	**122**	*i* P	**Pb**	**02 59 16.2**	**-0.1**
MANT				*i* S	**Sb**	**02 59 27.7**	**-0.4**
DURS	**Dursunbey**	**0.92**	**46**	*i* P	**Pb**	**02 59 17.1**	**-0.1**
DURS				*i* S	**Sb**	**02 59 30.1**	**+0.7**
DURS	**Dursunbey**	**0.92**	**46**	*i* P	**Pb**	**02 59 17.1**	**-0.1**
DURS				*i* S	**Sb**	**02 59 30.1**	**+0.7**
DST	**Dursunbey**	**1.01**	**50**	*e*PG	**Pn**	**02 59 19.6**	**+0.4**
DST	**Dursunbey**	**1.01**	**50**	*e*Pg	**Pn**	**02 59 19.6**	**+0.4**
PRK	**Paraskevi**	**1.08**	**286**	*e*P	**Pn**	**02 59 20.9**	**+0.8**
PRK				*e*S	**Sn**	**02 59 35.6**	**+0.5**
PRK	**Paraskevi**	**1.08**	**286**	*e*P	**Pn**	**02 59 20.9**	**+0.8**
PRK				*e*S	**Sn**	**02 59 35.6**	**+0.5**
GONE	**Gonen-Balikesi**	**1.09**	**3**	*e*PN	**Pn**	**02 59 19.7**	**-0.5**
AYDN	**Tasoluk**	**1.31**	**171**	*i* P	**Pb**	**02 59 23.0**	**-0.7**
AYDN				*i* S	**Sn**	**02 59 40.5**	**-0.3**
AYDN	**Tasoluk**	**1.31**	**171**	*i* P	**Pb**	**02 59 23.0**	**-0.7**
AYDN				*i* S	**Sn**	**02 59 40.5**	**-0.3**
CHOS	**Chios island**	**1.35**	**245**	*e*P	**Pg**	**02 59 24.9**	**-0.2**
CHOS				*e*S	**Sn**	**02 59 44.0**	**+2.3**
CHOS	**Chios island**	**1.35**	**245**	*e*P	**Pg**	**02 59 24.9**	**-0.2**
CHOS				*e*S	**Sn**	**02 59 44.0**	**+2.3**
SMG	**Samos**	**1.39**	**206**	*e*P	**Pg**	**02 59 25.3**	**-0.6**
SMG				*e*S	**Sg**	**02 59 45.5**	**+1.5**
BNT	**Bandirma**	**1.41**	**9**	*e*PN	**Pg**	**02 59 25.5**	**-0.8**
BNT	**Bandirma**	**1.41**	**9**	*e*Pn	**Pg**	**02 59 25.5**	**-0.8**
KCTX	**Karacabey (Bur**	**1.42**	**23**	*e*PN	**Pg**	**02 59 26.0**	**-0.5**
KRBG	**Karabiga-Canak**	**1.45**	**350**	*e*PN	**Pb**	**02 59 25.7**	**-0.4**
KRBG	**Karabiga-Canak**	**1.45**	**350**	*e*Pn	**Pb**	**02 59 25.7**	**-0.4**
GDZ	**Gediz**	**1.46**	**84**	*i* P	**Pg**	**02 59 26.7**	**-0.5**
GDZ				*i* S	**Sg**	**02 59 47.6**	**+1.5**
GDZ	**Gediz**	**1.46**	**84**	*i* P	**Pg**	**02 59 26.7**	**-0.5**
GDZ				*i* S	**Sg**	**02 59 47.6**	**+1.5**
ORLT	**Orhaneli**	**1.47**	**42**	*e*PN	**Pg**	**02 59 27.3**	**-0.1**
ORLT	**Orhaneli**	**1.47**	**42**	*e*Pn	**Pg**	**02 59 27.3**	**-0.1**
TVSB	**Tavsanli**	**1.51**	**71**	*e*PN	**Pg**	**02 59 28.4**	**+0.2**
TVSB	**Tavsanli**	**1.51**	**71**	*e*Pn	**Pg**	**02 59 28.5**	**+0.2**
LPK	**Lapseki**	**1.56**	**335**	*e*PN	**Pb**	**02 59 27.1**	**-0.8**
LPK	**Lapseki**	**1.56**	**335**	*e*Pn	**Pb**	**02 59 27.1**	**-0.8**
KHAL	**Karahalli**	**1.58**	**111**	*i* P	**Pg**	**02 59 28.3**	**-1.2**
KHAL	**Karahalli**	**1.58**	**111**	*i* P	**Pg**	**02 59 28.3**	**-1.2**
KHL	**Karahalli**	**1.62**	**112**	*e*PN	**Pg**	**02 59 29.4**	**-0.9**
KHL	**Karahalli**	**1.62**	**112**	*e*Pn	**Pg**	**02 59 29.4**	**-0.9**
ULDT	**Uludag**	**1.67**	**44**	*i* P	**Pb**	**02 59 29.1**	**-0.7**
ULDT				*i* S	**Sb**	**02 59 51.4**	**+0.5**
ULDT	**Uludag**	**1.67**	**44**	*i* P	**Pb**	**02 59 29.1**	**-0.7**
ULDT				*i* S	**Sb**	**02 59 51.4**	**+0.5**
MLSB	**Milas**	**1.67**	**176**	*e*PN	**Pb**	**02 59 29.0**	**-0.8**
MLSB	**Milas**	**1.67**	**176**	*e*Pn	**Pb**	**02 59 29.0**	**-0.8**
MDNY	**Mudanya-Bursa**	**1.71**	**34**	*e*PN	**Pb**	**02 59 29.8**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.76**	**349**	*e*PN	**Pn**	**02 59 29.7**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.76**	**349**	*e*Pn	**Pn**	**02 59 29.7**	**+0.2**
MFT	**Murefte**	**1.84**	**352**	*e*PN	**Pb**	**02 59 32.2**	**-0.6**
MFT	**Murefte**	**1.84**	**352**	*e*Pn	**Pb**	**02 59 32.2**	**-0.6**
ARMT	**Armutlu**	**1.87**	**30**	*e*PN	**Pb**	**02 59 33.1**	**-0.1**
ARMT	**Armutlu**	**1.87**	**30**	*e*Pn	**Pb**	**02 59 33.1**	**-0.1**
YER	**Yerkesik**	**1.90**	**164**	*e*PN	**Pb**	**02 59 33.3**	**-0.4**
YER	**Yerkesik**	**1.90**	**164**	*e*Pn	**Pb**	**02 59 33.3**	**-0.4**
GEMT	**Gemlik**	**1.91**	**39**	*e*PN	**Pb**	**02 59 33.4**	**-0.5**
BODT	**Bodrum**	**1.91**	**187**	*e*PN	**Pb**	**02 59 33.2**	**-0.7**
ALT	**Altintas**	**1.94**	**86**	*e*PN	**Pb**	**02 59 34.8**	**+0.2**
ALT	**Altintas**	**1.94**	**86**	*e*Pn	**Pb**	**02 59 34.8**	**+0.2**
YLV	**Yalova**	**2.10**	**40**	*e*PN	**Pb**	**02 59 36.5**	**-0.7**
ENEZ	**Enez**	**2.10**	**328**	*e*PN	**Pn**	**02 59 34.9**	**+0.8**
ENEZ	**Enez**	**2.10**	**328**	*e*Pn	**Pn**	**02 59 34.9**	**+0.8**
CAVI	**Cavuskoy**	**2.12**	**53**	*e*PN	**Pb**	**02 59 36.7**	**-0.8**
CAVI	**Cavuskoy**	**2.12**	**53**	*e*Pn	**Pb**	**02 59 36.7**	**-0.8**
ADVT	**Abdulvahap**	**2.20**	**47**	*e*PN	**Pb**	**02 59 37.4**	**-1.4**
DAT	**Datca**	**2.23**	**181**	*e*PN	**Pb**	**02 59 37.3**	**-2.0**
DALY	**Dalyan (Mu˘la**	**2.29**	**159**	*e*PN	**Pb**	**02 59 39.5**	**-0.9**
DALY	**Dalyan (Mu˘la**	**2.29**	**159**	*e*Pn	**Pb**	**02 59 39.5**	**-0.9**
SLVT	**Silivri**	**2.31**	**11**	*e*PN	**Pb**	**02 59 38.7**	**-2.1**
SLVT	**Silivri**	**2.31**	**11**	*e*Pn	**Pb**	**02 59 38.7**	**-2.1**
CTKS	**Kestanelik-??a**	**2.37**	**16**	*e*PN	**Pb**	**02 59 39.7**	**-2.1**
CTKS	**Kestanelik-??a**	**2.37**	**16**	*e*Pn	**Pb**	**02 59 39.7**	**-2.1**
BGKT	**Bogazkoy**	**2.39**	**21**	*e*PN	**Pb**	**02 59 40.1**	**-1.9**
BGKT	**Bogazkoy**	**2.39**	**21**	*e*Pn	**Pb**	**02 59 40.1**	**-1.9**

*ISCJB **23** 03:15:28.8±0.6,23.°27S±0.°07×179.°41E±0.°10,h548km, mb4.0/15, Error ellipse: s-maj=12.0km s-min=9.0km az=179.0*
*AUST **23** 03:15:30.0±0.0,23.°13S×179.°66E,h568km±1km, Error ellipse: s-maj=3.4km s-min=3.0km az=39.0*
*IDC **23** 03:15:32.8±2.5,23.°31S×179.°24E,h573km±28km, mb3.5/15,mb1 3.6/15,mb1mx3.5/21,mbtmp3.5/15, Error ellipse: s-maj=16.9km s-min=12.6km az=67.0*
ISC 23 03:15:30.3±0.7,23.°34S±0.°09×179.°3E±0.°1,h548km,n39, σ1§30/40,mb4.0/15,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.39**	**158**	P	**P**	**03 17 14.0**	**+1.7**
	45nm,0.3s,baz=233,slow=20,SNR=3.9						
AFI	**Afiamalu**	**12.62**	**44**	P	P	03 18 11.0	-4.4
	5.2nm,0.3s,baz=168,slow=12,SNR=5.7						
URZ	**Urewera**	**14.99**	**187**	P	**P**	**03 18 37.5**	**-2.0**
	1.3nm,0.3s,baz=41,slow=11,SNR=5.0						
URZ				S	**S**	**03 21 10.9**	**-4.5**
	1.0nm,0.3s,baz=341,slow=23,SNR=12						
RPZ	**Rata Peaks**	**21.43**	**197**	P	**P**	**03 19 38.7**	**-0.5**
	11nm,0.6s,baz=46,slow=8.5,SNR=6.7						
ARMA	**Armidale**	**25.64**	**248**	P	**P**	**03 20 19.0**	**+2.0**
	baz=26,SNR=9.4						
MGCD	**Mangrove Creek**	**26.64**	**242**	P	**P**	**03 20 27.8**	**+2.1**
	baz=27,SNR=6.5						
CNB	**Canberra Magne**	**28.60**	**239**	P	**P**	**03 20 44.8**	**+2.0**
	baz=29,SNR=7.1						
CMSA	**Cobar Meteorol**	**30.84**	**247**	P	**P**	**03 21 03.2**	**+1.1**
	baz=31,SNR=8.7						
CTA	**Charters Tower**	**30.85**	**270**	P	**P**	**03 21 03.4**	**+1.0**
	5.2nm,0.3s,baz=98,slow=11,SNR=12						
TOO	**Toolangi**	**32.23**	**236**	P	**P**	**03 21 15.2**	**+1.2**
	baz=33,SNR=5.3						
MTSU	**Mount Surprise**	**33.08**	**272**	P	**P**	**03 21 22.4**	**+1.0**
	baz=33,SNR=6.9						
PMG	**Port Moresby**	**33.72**	**289**	P	**P**	**03 21 27.0**	**+0.3**
	41nm,0.8s,baz=92,slow=5.5,SNR=8.4						
STKA	**Stephens Creek**	**34.35**	**247**	P	**P**	**03 21 32.8**	**+0.9**
	4.1nm,0.4s,baz=92,slow=9.6,SNR=19						
STKA	**Stephens Creek**	**34.35**	**247**	P	**P**	**03 21 32.9**	**+1.1**
	baz=35,SNR=12						
BBOO	**Buckleboo**	**39.09**	**246**	P	**P**	**03 22 10.6**	**-0.2**
	baz=39,SNR=11						
ASAR	**Alice Springs**	**41.51**	**260**	P	**P**	**03 22 30.4**	**+0.2**
	2.1nm,0.5s,baz=92,slow=8.0,SNR=27						
ASAR				S	**S**	**03 28 04.5**	**-2.2**
	0.8nm,0.8s,baz=100,slow=15,SNR=6.4						
WRA	**Warramunga Arr**	**41.82**	**266**	P	**P**	**03 22 32.1**	**-0.6**
	2.4nm,0.3s,baz=100,slow=9.4,SNR=0.8						
KDU	**Kakadu**	**45.61**	**275**	P	**P**	**03 23 01.6**	**-0.5**
	baz=46,SNR=4.0						
FORT	**Forrest**	**45.92**	**249**	P	**P**	**03 23 04.1**	**-0.2**
	baz=46,SNR=22						
MTN	**Manton Dam**	**46.78**	**274**	S	S	03 29 01.8	-20
	baz=47,SNR=3.1						
MEEK	**Meekatharra**	**54.67**	**253**	P	**P**	**03 24 07.6**	**-0.7**
	baz=55,SNR=3.8						
VNDA	**Vanda**	**54.88**	**185**	P	**P**	**03 24 10.0**	**+1.1**
	0.7nm,0.5s,baz=359,slow=8.2,SNR=6.8						
NWAO	**Narrogin (SRO)**	**54.90**	**245**	P	**P**	**03 24 09.7**	**0.0**
	8.1nm,1.0s,baz=114,slow=7.7,SNR=3.8						
BLDU	**Ballidu**	**55.65**	**248**	P	**P**	**03 24 14.6**	**-0.5**
	baz=56,SNR=12						
MORW	**Morawa**	**56.48**	**250**	P	**P**	**03 24 20.6**	**-0.2**
	baz=57,SNR=7.4						
QSPA	**South Pole Qui**	**66.74**	**180**	P	**P**	**03 25 28.1**	**+1.0**
	13nm,0.8s,baz=27,slow=1.8,SNR=68						
MJAR	**Matsushiro Arr**	**71.08**	**326**	P	**P**	**03 25 53.1**	**-0.5**
	2.0nm,0.8s,baz=169,slow=5.4,SNR=7.2						
MAW	**Mawson**	**78.05**	**201**	P	**P**	**03 26 32.7**	**+0.6**
	6.0nm,0.9s,baz=126,slow=6.4,SNR=12						
MAW	**Mawson**	**78.05**	**201**	P	**P**	**03 26 33.0**	**+0.8**
	baz=78,SNR=9.2						
PETK	**Petropavlovsk-**	**78.41**	**347**	P	**P**	**03 26 34.0**	**-0.1**
	3.4nm,0.6s,baz=141,slow=7.4,SNR=6.3						
USRK	**Ussuriysk Arra**	**79.95**	**328**	P	**P**	**03 26 42.6**	**+0.1**
	2.4nm,0.7s,baz=115,slow=5.5,SNR=6.9						
CMAR	**Chiang Mai Arr**	**88.74**	**291**	P	**P**	**03 27 27.1**	**+0.8**
	0.4nm,0.3s,baz=74,slow=3.9,SNR=3.1						
ILAR	**Eielson Array**	**91.64**	**14**	P	**P**	**03 27 37.7**	**-0.9**
	0.6nm,1.1s,baz=219,slow=7.0,SNR=3.7						
ARCES	**ARCESS Array B**	**131.21**	**348**	PKP	**PKPdf**	**03 33 38.8**	**-0.7**
	0.7nm,0.7s,baz=31,slow=2.1,SNR=4.1						
FINES	**FINESS Array B**	**137.72**	**341**	PKP	**PKPdf**	**03 33 51.0**	**-0.8**
	0.2nm,0.3s,baz=43,slow=2.5,SNR=5.1						
HFS	**Hagfors**	**141.88**	**348**	PKhKP	PKPpre	03 33 53.9	
	1.3nm,0.4s,baz=58,slow=3.7,SNR=18						
BRTR	**Keskin Array B**	**146.74**	**308**	PKPbc	**PKPbc**	**03 34 11.1**	**-0.3**
	1.1nm,0.6s,baz=106,slow=2.9,SNR=6.6						
BRTR				PKPab	**PKPab**	**03 34 14.0**	**-0.3**
	1.1nm,0.6s,baz=104,slow=2.8,SNR=6.8						
EKA	**Eskdalemuir Ar**	**148.00**	**3**	PKP	**PKPdf**	**03 34 08.5**	**-1.5**
	0.3nm,0.4s,baz=348,slow=2.3,SNR=3.4						
EKA				PKPbc	**PKPbc**	**03 34 12.9**	**-1.0**
	0.4nm,0.5s,baz=6.7,slow=2.5,SNR=3.3						
TORD	**Torodi Ar. Bea**	**169.61**	**193**	PKPab	**PKPab**	**03 35 53.2**	**0.0**
	1.4nm,0.8s,baz=168,slow=3.9,SNR=17						

*IDC **23** 03:17:45.0±1.0,0.°10N×96.°99E,h0km,mb3.9/14, mb1 4.0/15,mb1mx3.9/26,mbtmp3.9/15,ML3.5/2,MS2.9/1, Ms1 3.1/1,ms1mx2.6/32, Error ellipse: s-maj=32.1km s-min=18.2km az=55.0*
*ISCJB **23** 03:17:46.9±0.7,0.°18N±0.°09×97.°08E±0.°09,h22km, mb3.9/15, Error ellipse: s-maj=14.5km s-min=11.1km az=145.1*
*NEIC **23** 03:17:50.7±0.4,0.°19N×97.°10E,h35km,mb4.3/2, Error ellipse: s-maj=10.1km s-min=7.6km az=53.0*
ISC 23 03:17:48.8±0.8,0.°2N±0.°1×97.°1E±0.°1,h22km,n34, σ0§53/34,mb4.0/15,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.21**	**35**	Pn	**Pn**	**03 18 36.5**	**-1.5**
PSI	**Prapat**	**3.21**	**35**	Pn	**Pn**	**03 18 36.5**	**-1.5**
	0.8nm,0.3s,baz=202,slow=11,SNR=3.4						
IPM	**Ipoh**	**5.83**	**43**	*e*Pn	**Pn**	**03 19 14.4**	**+0.3**
	13nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.27**	**6**	P	**P**	**03 22 01.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**18.27**	**6**	P	**P**	**03 22 01.4**	**+0.3**
	0.2nm,0.3s,baz=198,slow=12,SNR=10						
CMAR				LR	LR	03 28 39.6	
	comp=Z,39nm,19.9s,baz=175,slow=36						
KKM	**Kota Kinabalu**	**19.99**	**73**	P	**P**	**03 22 20.7**	**+0.5**
	10nm,0.6s						
WRA	**Warramunga Arr**	**41.62**	**121**	P	**P**	**03 25 35.6**	**-0.1**
WRA	**Warramunga Arr**	**41.62**	**121**	P	**P**	**03 25 35.6**	**-0.1**
	3.6nm,0.4s,baz=301,slow=9.0,SNR=2.8						
WRAB	**Tennant Creek**	**41.63**	**121**	*e*P	**P**	**03 25 36.0**	**+0.2**
	2.8nm,0.5s						
ASAR	**Alice Springs**	**42.90**	**126**	P	**P**	**03 25 45.6**	**-0.5**
ASAR	**Alice Springs**	**42.90**	**126**	P	**P**	**03 25 45.6**	**-0.5**
	0.4nm,0.6s,baz=312,slow=7.0,SNR=4.1						
KSAR	**Wonju Array Be**	**46.74**	**34**	P	**P**	**03 26 16.9**	**+0.5**
KSRS	**Korea Array**	**46.77**	**34**	P	**P**	**03 26 16.9**	**+0.3**
	1.1nm,0.6s,baz=211,slow=7.7,SNR=4.6						
SONM	**Songino Array**	**48.16**	**8**	P	**P**	**03 26 28.1**	**+0.6**
SONM	**Songino Array**	**48.16**	**8**	P	**P**	**03 26 28.1**	**+0.6**
	0.3nm,0.5s,baz=184,slow=9.2,SNR=6.6						
MKAR	**Makanchi Array**	**48.20**	**346**	P	**P**	**03 26 28.1**	**+0.4**
MKAR	**Makanchi Array**	**48.20**	**346**	P	**P**	**03 26 28.1**	**+0.4**
	0.9nm,0.5s,baz=158,slow=8.8,SNR=13						
KURBB	**Kurchatov Arra**	**52.68**	**345**	P	**P**	**03 27 01.3**	**-0.1**
	0.2nm,0.4s,baz=167,slow=7.0,SNR=4.1						
KURK	**Kurchatov**	**52.74**	**345**	P	**P**	**03 27 01.3**	**-0.6**
STKA	**Stephens Creek**	**52.78**	**131**	P	**P**	**03 27 02.5**	**-0.1**
STKA	**Stephens Creek**	**52.78**	**131**	P	**P**	**03 27 02.5**	**-0.1**
	1.9nm,0.7s,baz=329,slow=5.9,SNR=3.8						
USRK	**Ussuriysk Arra**	**53.73**	**31**	P	**P**	**03 27 08.9**	**-0.3**
	2.3nm,0.8s,baz=212,slow=7.4,SNR=5.0						
ZALV	**Zalesovo Beam**	**54.55**	**351**	P	**P**	**03 27 15.3**	**+0.3**
ZALV	**Zalesovo Beam**	**54.55**	**351**	P	**P**	**03 27 15.3**	**+0.3**
	2.7nm,0.5s,baz=179,slow=7.0,SNR=12						
BRTR	**Keskin Array B**	**69.70**	**313**	P	**P**	**03 28 56.7**	**-0.6**
BRTR	**Keskin Array B**	**69.70**	**313**	P	**P**	**03 28 56.7**	**-0.6**
	0.4nm,0.5s,baz=110,slow=8.3,SNR=2.9						
FINES	**FINESS Array B**	**80.84**	**333**	P	**P**	**03 30 00.3**	**-0.4**
FINES	**FINESS Array B**	**80.84**	**333**	P	**P**	**03 30 00.3**	**-0.4**
	0.7nm,0.8s,baz=140,slow=9.2,SNR=3.5						
ARCES	**ARCESS Array B**	**83.45**	**340**	P	**P**	**03 30 14.3**	**0.0**
ARCES	**ARCESS Array B**	**83.45**	**340**	P	**P**	**03 30 14.3**	**0.0**
	0.8nm,0.5s,baz=104,slow=5.1,SNR=10						
GERES	**GERESS Array B**	**85.49**	**319**	P	**P**	**03 30 25.3**	**+0.1**
GERES	**GERESS Array B**	**85.49**	**319**	P	**P**	**03 30 25.3**	**+0.1**
	0.3nm,0.5s,baz=110,slow=7.4,SNR=3.8						
HFS	**Hagfors**	**86.54**	**330**	P	**P**	**03 30 30.2**	**+0.2**
HFS	**Hagfors**	**86.54**	**330**	P	**P**	**03 30 30.2**	**+0.2**
	0.6nm,0.6s,baz=149,slow=3.4,SNR=3.8						

MOS 23 03:41:59.5±2.3,50.°60N×97.°46E,h8km,mb4.4/1,Error ellipse: s-maj=55.4km s-min=16.2km az=139.4, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**2.43**	**36**	*e*PN	Pb	03 42 42.5	-1.2
ORL				*e*		03 43 16.4	
ORL				pmax	pmax		
	comp=Z,144nm,0.6s						
ORL				smax	smax		
	comp=N,348nm,0.8s						
MOY	**Mondy**	**2.47**	**63**	*e*PN	Pb	03 42 44.5	+0.2
MOY				*e*		03 43 16.9	
MOY				pmax	pmax		
	comp=Z,114nm,0.4s						
MOY				smax	smax		
	comp=N,835nm,0.9s						
ARS	**Arshan**	**3.39**	**65**	*e*PN	Pb	03 43 00.7	+0.8
ZAK	**Zakamensk**	**3.72**	**91**	*e*PN	Pn	03 42 59.1	+1.7
ZAK				*e*		03 43 06.7	
ZAK				*e*		03 43 55.6	
ZAK				pmax	pmax		
	comp=Z,36nm,0.4s						
ZAK				smax	smax		
	comp=N,138nm,0.8s						
TLY	**Talaya**	**4.04**	**72**	*e*PN	Pb	03 43 11.4	+0.4
TLY				*e*		03 44 04.6	
TLY				pmax	pmax		
	comp=Z,19nm,0.5s						
TLY				smax	smax		
	comp=N,136nm,0.8s						
IRK	**Irkutsk**	**4.57**	**66**	*e*PN	Pb	03 43 21.2	+1.3
IRK				*e*		03 44 19.8	
IRK				pmax	pmax		
	comp=Z,126nm,0.1s						
IRK				smax	smax		
	comp=N,375nm,0.4s						
TRG	**Tyrgan**	**5.94**	**65**	*e*PN	Pn	03

KHNR eSg Sg 03 55 51.4 -0.9
KHNR eSb Sn 03 55 56.0 -1.4
YKLR Yuktali 0.93 155 ⇑*i*Pg Pn 03 55 47.4 -0.9
YKLR eSg Sb 03 56 00.2 +0.4
YKLR e 03 56 06.2
CRS Chara 1.56 251 *e*P Pb 03 55 57.0 -0.9
CRS e 03 56 16.2
CRS pmax pmax
comp=Z,194nm,0.7s
CRS smax smax
comp=E,1μm,0.8s
CLNS Chul'man 2.23 104 ⇑*i*Pg Pb 03 56 09.4 +0.1
CLNS ⇑*i* 03 56 11.1
CLNS e 03 56 25.7
CLNS eSg Sg 03 56 40.8 +0.7
CLNS Chul'man 2.23 104 *e*P Pb 03 56 09.0 -0.3
CLNS e 03 56 40.8
CLNS pmax pmax
comp=Z,271nm,0.5s
CLNS pmax pmax
comp=E,101nm,0.4s
CLNS pmax pmax
comp=N,100nm,0.4s
CLNS smax smax
comp=E,857nm,0.4s
CLNS smax smax
comp=N,2μm,0.6s
CLNS smax smax
comp=Z,319nm,0.4s
NLYR Nelyaty 3.03 254 ⇓*i*Pn Pn 03 56 17.8 +0.7
NLYR ⇓*i*Pg Pb 03 56 22.9 0.0
NLYR Pmax 03 56 24.7
comp=Z,461nm,0.8s
NLYR eSg Sb 03 57 00.3 +0.1
NLYR eSgSg SbSb 03 57 04.0 -1.3
NLYR max 03 57 06.5
comp=Z,2μm,1.1s
NLYR Nelyaty 3.03 254 *e*P Pb 03 56 22.4 -0.5
TUP Tupik 3.07 191 ⇑*i*Pn Pn 03 56 18.1 +0.4
TUP ⇓*i*Pg Pb 03 56 23.5 -0.2
TUP Pmax 03 56 26.3
comp=Z,262nm,0.8s
TUP eSg Sb 03 57 02.9 +1.5
TUP Smax 03 57 07.2
comp=Z,2μm,1.0s
TUP Tupik 3.07 191 *e*P Pb 03 56 23.4 -0.2
TUP e 03 57 02.8
TUP pmax pmax
comp=Z,254nm,0.8s
TUP smax smax
comp=E,2μm,1.0s
TNDR Tynda 3.11 136 *e* Pn 03 56 20.7 +2.4
TNDR ePg Pb 03 56 24.7 +0.4
TNDR e 03 56 29.6
TNDR e 03 56 57.6
TNDR eSg Sg 03 57 06.7 -1.6
TNDR e 03 57 14.4
BOD Bodaibo 3.76 279 ⇑*i*Pn Pn 03 56 27.2 +0.1
BOD e 03 56 30.6
BOD ePg Pb 03 56 35.8 +0.5
BOD Pmax 03 56 37.1
comp=E,116nm,0.8s
BOD eSg Sb 03 57 23.1 +2.0
BOD Smax 03 57 27.6
comp=E,1μm,1.4s
BOD Bodaibo 3.76 279 *e*P Pg 03 56 37.1 -3.3
BOD e 03 57 22.9
BOD pmax pmax
comp=Z,115nm,0.4s
BOD smax smax
comp=N,995nm,0.7s
UKT Uakit 4.51 247 *e*Pn Pn 03 56 38.4 +0.9
UKT ⇓*i*Pg Pb 03 56 49.0 +0.8
UKT Pmax 03 56 51.0
comp=N,35nm,0.3s
UKT e 03 57 20.0
UKT *i* Sg Sb 03 57 46.2 +3.4
UKT Smax 03 57 55.8
comp=N,431nm,1.1s
UKT Uakit 4.51 247 *e*P Pb 03 56 48.2 0.0
UKT pmax pmax
comp=Z,109nm,0.4s
YOA Uoyan 5.24 259 Pg Pb 03 57 01.4 +0.8
YOA e 03 57 07.0
YOA max 03 57 10.8
comp=Z,407nm,1.7s
YOA e 03 57 47.2
YOA eSg Sg 03 58 09.5 -7.2
YOA Smax 03 58 28.3
comp=Z,3μm,1.9s
YOA Uoyan 5.24 259 *e*P Pb 03 57 01.9 +1.3
YOA pmax pmax
comp=Z,408nm,1.0s
KMO Kumora 5.60 258 ⇓*i*Pn Pn 03 56 53.2 +0.8
KMO e 03 57 0.0
KMO ⇑*i*Pg Pb 03 57 09.0 +2.3
KMO Pmax 03 57 15.0
comp=Z,85nm,1.8s
KMO e 03 58 00.3
KMO *i* Sg Sg 03 58 20.5 -7.7
KMO Smax 03 58 35.2
comp=Z,636nm,1.4s
KMO Kumora 5.60 258 *e*P Pb 03 57 07.8 +1.1
KMO eS Sn 03 57 53.7 -3.4
KMO pmax pmax
comp=Z,34nm,0.4s
KMO smax smax
comp=E,636nm,1.0s
YLYR Ulyunkhan 6.04 249 ⇓*i*Pn Pn 03 56 59.3 +0.8
YLYR e 03 57 10.7
YLYR ePg Pb 03 57 18.0 +3.8
YLYR Pmax 03 57 21.0
comp=E,35nm,0.8s
YLYR *i* Sg Sg 03 58 35.5 -6.9
YLYR Smax 03 58 49.3
comp=E,271nm,1.1s
YAK Yakutsk 6.38 40 *e*P Pn 03 57 01.3 -1.7
YAK e 03 58 14.1
YAK pmax pmax
comp=E,3.0nm,0.7s
YAK pmax pmax
comp=Z,19nm,0.4s
YAK pmax pmax
comp=Z,15nm,0.4s
YAK pmax pmax
comp=N,5.0nm,0.4s
YAK pmax pmax
comp=E,4.0nm,0.6s
YAK smax smax
comp=N,22nm,0.5s
YAK smax smax
comp=E,28nm,0.6s
YAK smax smax
comp=N,553nm,0.7s
YAK smax smax
comp=E,103nm,0.6s
YAK MLR MLR
comp=Z,14nm,6.6s
NIZ Nizh Angarsk 6.52 260 *e* Pb 03 57 17.3 -5.0
NIZ ePg Pg 03 57 24.9 -8.4
NIZ e 03 57 36.6
NIZ max 03 57 37.5
comp=Z,24nm,0.7s
NIZ e 03 57 37.5
NIZ eSg Sg 03 58 49.4 -8.2
NIZ Smax 03 58 54.6
comp=Z,177nm,0.9s
NIZ Nizh Angarsk 6.52 260 *e*P Pb 03 57 26.6 +4.3
NIZ eS Sn 03 58 17.3 -2.4
NIZ pmax pmax
comp=Z,19nm,0.7s
NIZ smax smax
comp=N,141nm,0.9s
CIT Chita 6.91 221 ePg Pb 03 57 31.6 +2.5
CIT Pmax 03 57 32.0
comp=N,66nm,0.1s
CIT eSg Sb 03 59 00.2 +8.3
CIT Smax 03 59 04.6
comp=N,1μm,1.6s
SYVR Suvo 7.28 243 *e*Pn Pn 03 57 15.1 -0.3
SYVR *e* 03 57 27.1
SYVR ePg Pb 03 57 38.2 +3.0
SYVR Pmax 03 57 42.3
comp=N,25nm,1.2s
SYVR *e* 03 58 38.2
SYVR eSg Sg 03 59 14.2 -7.7
SYVR Smax 03 59 20.8
comp=N,563nm,1.8s
SYVR Suvo 7.28 243 *e*P Pn 03 57 15.1 -0.3
OGRR Ongureny 8.47 249 *e*Pn Pn 03 57 33.2 +1.4
OGRR *e*Pg Pg 03 58 02.5 -8.1
OGRR *e* 03 58 06.4
OGRR max 03 58 12.2
comp=N,5.0nm,0.9s
OGRR *e* 03 59 43.9
OGRR eSg Sg 03 59 52.1 -8.1
OGRR *e* 04 00 04.8
OGRR max 04 00 32.1
comp=N,106nm,1.6s
OGRR Ongureny 8.47 249 *e*P Pn 03 57 33.2 +1.4
KPC Khapcheranga 9.27 217 *e*Pn Pn 03 57 42.5 -0.3
KPC *e* 03 57 57.8
KPC *e*Pg 03 58 15.3
KPC Pmax 03 58 28.2
comp=N,3.0nm,0.6s
KPC *e* 03 59 37.1
KPC eSg Sn 04 00 14.2 +47
KPC Smax 04 00 24.0
comp=N,253nm,1.8s
ZRHB Zarechye 9.31 244 *e* 03 59 34.2
ZRHB eSg Sn 04 00 19.0 +51
ZRHB Smax 04 00 35.5
comp=N,737nm,1.0s
UUDB Ulan-Yde 9.50 240 *i* Sg Sn 04 00 23.4 +50
UUDB Smax 04 00 36.9
comp=N,2μm,1.1s
TRG Tyrgan 9.59 247 *e* 03 59 19.0
TRG eSg Sn 04 00 24.9 +50
TRG Smax 04 00 47.3
comp=N,73nm,2.0s
HRMR Khuramsha 9.99 240 *e* 03 59 58.7
HRMR eSg Sn 04 00 39.6 +54
HRMR Smax 04 00 48.5
comp=N,714nm,1.0s
KLR Kul'dur 10.44 137 *e*P Pn 03 58 04.8 +6.0
KLR *e* 04 00 03.1
LSTR Listvyanka 10.87 246 eSg Sn 04 01 04.5 +58
LSTR Smax 04 01 40.0
comp=N,219nm,2.3s
TLY Talaya 11.57 247 eSg 04 01 28.5
TLY *e* 04 01 35.8
TLY max 04 01 39.2
comp=N,45nm,1.4s
ARS Arshan 12.04 251 *e* Pn 03 58 43.2 +22
ARS *e* 04 01 13.2
ARS eSg 04 01 41.4
ARS Smax 04 02 07.3
comp=N,117nm,1.0s
ZAK Zakamensk 12.56 243 *i* Sg 04 01 58.7
ZAK Smax 04 02 07.3
comp=N,56nm,1.8s
ULN Ulaanbaatar 12.74 227 *e* 04 00 04.1
ULN eSg 04 02 06.2
MOY Mondy 12.92 252 *e* 04 01 14.6
MOY eSg 04 02 07.4
MOY Smax 04 02 32.8
comp=N,75nm,1.7s
SONM Songino Array 13.03 229 Pn Pn 03 58 38.3 +4.0
comp=N,0.1nm,0.3s,baz=40,slow=11,SNR=2.4
SONM Sn **Sn** **04 01 03.8 +4.1**
comp=N,0.2nm,0.3s,baz=34,slow=16,SNR=2.6
SONM Lg Lg 04 02 14.8
comp=N,1.5nm,0.3s,baz=27,slow=23,SNR=12
ORL Orlik 13.07 257 *e* 04 00 52.5
ORL *e* 04 01 11.1
ORL eSg S 04 02 12.9 +47
ORL Smax 04 02 27.2
comp=N,47nm,1.5s
USRK Ussuriysk Arra 14.95 148 Lg Lg 04 03 25.5
comp=N,0.1nm,0.3s,baz=340,slow=27,SNR=5.4
HVS Khovu-Aksy 17.04 260 *e*P **P** **03 59 27.1 -2.2**
HVS pmax pmax
comp=Z,20nm,1.2s
ASAJ Asahikawa 18.99 125 LR LR 04 07 58.4
comp=Z,35nm,18.6s,baz=198,slow=39
ZALV Zalesovo Beam 20.50 276 P Pn 04 00 07.4 -1.9
ZALV Zalesovo Beam 20.50 276 P Pn 04 00 07.4 -2.0
comp=Z,0.5nm,0.4s,baz=78,slow=14,SNR=3.4
KSRS Korea Array 20.52 164 LR LR 04 07 30.8
comp=Z,24nm,20.8s,baz=5.0,slow=35
PETK Petropavlovsk- 21.20 86 P P 04 00 20.2 +5.5
PETK Petropavlovsk- 21.20 86 P P 04 00 20.2 +5.5
comp=Z,2.6nm,0.8s,baz=282,slow=7.2,SNR=4.7
JNU Nakatsue 25.24 160 LR LR 04 10 52.1
comp=Z,26nm,18.1s,baz=232,slow=36
KURK Kurchatov 25.39 273 P **P** **04 00 57.8 +1.4**
KURBB Kurchatov Arra 25.48 273 P **P** **04 00 57.8 +0.5**
comp=Z,0.5nm,0.6s,baz=62,slow=9.7,SNR=2.7
MKAR Makanchi Array 25.67 262 *i* P P 04 01 04.0 +4.9
MKAR Makanchi Array 25.67 262 P **P** **04 00 59.5 +0.4**
comp=Z,0.4nm,0.7s,baz=60,slow=8.5,SNR=3.7
MKAR LR LR 04 11 28.7
comp=Z,42nm,19.9s,baz=345,slow=38
BVAR Borovoye Array 28.62 283 P P 04 01 28.2 +2.7
BVAR Borovoye Array 28.62 283 P P 04 01 28.2 +2.7
comp=Z,0.3nm,0.3s,baz=57,slow=5.3,SNR=2.9
ARCES ARCESS Array B 39.70 327 P **P** **04 03 01.7 +0.5**
comp=Z,1.4nm,0.9s,baz=57,slow=9.8,SNR=2.8
ILAR Eielson Array 41.30 40 P P 04 03 17.1 +2.7
comp=Z,0.4nm,0.6s,baz=292,slow=4.4,SNR=11
FINES FINESS Array B 44.31 317 P **P** **04 03 38.7 -0.1**
comp=Z,1.2nm,0.7s,baz=53,slow=7.7,SNR=4.8
FINES LR LR 04 22 11.2
comp=Z,20nm,18.2s,baz=192,slow=36
NB2 NORSAR Subarra 49.77 323 P P 04 04 24.0 +2.5
comp=Z,2.5nm,0.9s,baz=43,slow=7.9
NOA NORSAR Array B 49.77 323 P **P** **04 04 22.6 +1.1**
comp=Z,1.6nm,0.8s,baz=42,slow=7.9,SNR=5.0
GERES GERESS Array B 58.30 312 P P 04 05 27.1 +3.1
comp=Z,0.3nm,0.7s,baz=44,slow=8.8,SNR=2.9

IDC 23 04:02:54.0$_{\pm}$1.6**, 1.34**$^{N}_{\times}$**126.78E, h0**^{km}**, mb3.6**/5**, mb1 3.8**/5**, mb1mx3.6**/21**, mbtmpb3.7**/5**, Error ellipse: s-maj=191.2km s-min=20.7km az=69.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.41**	**161**	P	P	04 07 54.6	+0.2
	1.8nm,0.3s,baz=341,slow=11,SNR=0.3						
ASAR	**Alice Springs**	**25.80**	**165**	P	P	04 08 26.9	-0.2
	0.4nm,0.3s,baz=344,slow=12,SNR=7.2						
SONM	**Songino Array**	**49.57**	**342**	P	P	04 11 47.1	0.0
	0.2nm,0.5s,baz=152,slow=9.5,SNR=2.5						
MKAR	**Makanchi Array**	**59.55**	**326**	P	P	04 12 59.5	+0.1
	0.4nm,0.4s,baz=117,slow=6.7,SNR=8.1						
KURBB	**Kurchatov Arra**	**63.77**	**328**	P	P	04 13 27.5	-0.4
	0.6nm,0.6s,baz=125,slow=5.6,SNR=5.4						

BJI ***23*** *04:22:06.7, 1.06*$^{N}_{\times}$*124.54E, h316*^{km}*, mB4.4/21, mb4.3/36*
BKK ***23*** *04:22:14.5*$_{\pm}$*0.4, 2.*$^{N}_{\pm}$*5*$^{\times}$*12.4E*$^{\pm}$*, h316*^{km}*,*$_{\pm}$*5*^{km}*, M4.5/14, mB4.6/5, mb4.4/14, MLv5.0/5, Mw(mB)3.8/5*
ISCJB ***23*** *04:22:14.1*$_{\pm}$*0.2, 1.85*$^{N}_{\pm}$*0.02*$^{\times}$*124.18E*$^{\pm}$*0.03, h323*^{km}*,*$_{\pm}$*2*^{km}*, mb4.1/51, Error ellipse: s-maj=4.9km s-min=3.4km az=145.6*
AUST ***23*** *04:22:15.0*$_{\pm}$*0.4, 1.68N*$_{\times}$*124.13E, h308*^{km}*, Error ellipse: s-maj=1.3km s-min=0.9km az=20.0*
IDC ***23*** *04:22:14.8*$_{\pm}$*1.0, 1.86N*$_{\times}$*124.13E, h321*^{km}*,*$_{\pm}$*10*^{km}*, mb3.8/21, mb1 3.9/24, mb1mx3.9/28, mbtmpb3.8/24, Error ellipse: s-maj=14.0km s-min=6.2km az=77.0*
NEIC ***23*** *04:22:15.5*$_{\pm}$*0.5, 1.85N*$_{\times}$*124.11E, h329*^{km}*,*$_{\pm}$*6*^{km}*, mb4.3/12, Error ellipse: s-maj=7.1km s-min=3.8km az=75.0*
DJA ***23*** *04:22:16.7*$_{\pm}$*0.3, 2.*$^{N}_{\pm}$*4*$^{\times}$*12.4E*$^{\pm}$*, h292*^{km}*,*$_{\pm}$*3*^{km}*, M4.6/18, mB5.0/14, mb4.7/18, MLv5.0/14, Mw(mB)4.3/14*
ISC 23 04:22:15.1$_{\pm}$**0.3, 1.82N**$_{\times}$**0.03**$^{\times}$**124.18E**$_{\pm}$**0.04, h320**^{km}$_{\pm}$**2**^{km}**, n171,** σ**1°44/233, mb4.2/51, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNI	**Manado**	**0.76**	**120**	P	**Pn**	**04 22 56.2**	**-0.6**
KMSI	**Cibinong**	**1.26**	**189**	P	**Pn**	**04 22 58.2**	**-0.8**
KMSI				S	**S**	**04 23 33.0**	**-0.9**
GTOI	**Gorontalo**	**1.66**	**225**	P	**Pn**	**04 23 00.4**	**-0.9**
GTOI				S	**S**	**04 23 36.8**	**-1.4**

MRSI Marisa 2.61 239 P **Pn** **04 23 08.9 +0.2**
MRSI S **S** **04 23 50.9 -0.7**
LUWI Luwuk 3.17 206 P **Pn** **04 23 12.3 -1.7**
LUWI S **S** **04 23 56.6 -4.6**
LUWI Luwuk 3.17 206 P **Pn** **04 23 12.2 -1.9**
baz=3.0,SNR=98
LUWI S **S** **04 23 56.9 -4.3**
baz=3.0,SNR=7.6
TNTI Ternate 3.35 108 P **Pn** **04 23 14.8 -1.0**
TNTI S **S** **04 24 01.0 -3.4**
GAMI Galela, Maluku 3.61 90 P **Pn** **04 23 16.8 -1.6**
LBMI Labuha 4.12 126 P **Pn** **04 23 22.5 -1.3**
LBMI S **S** **04 24 15.7 -3.3**
DAV Davao City (W) 5.40 15 P **Pn** **04 23 38.1 +0.1**
DAV S S 04 24 51.0 +6.1
DAV Davao City (W) 5.40 15 P **Pn** **04 23 38.1 +0.1**
71nm,0.3s,baz=333,slow=4.2,SNR=7.7
DAV S S 04 24 51.0 +6.1
91nm,0.3s,baz=260,slow=12,SNR=2.4
NLAI Namlea 5.81 150 P **Pn** **04 23 44.3 +1.4**
81nm,0.9s,7μm1.9nm
NLAI S **S** **04 24 53.5 -0.3**
81nm,0.9s,7μm1.9nm
TTSI Tana Toraja 6.51 222 P **Pn** **04 23 51.4 +0.3**
244nm,1.0s,2μm0.7nm
MYLDM Lahad Datu 6.58 301 P **Pn** **04 23 52.9 +1.0**
MYLDM Lahad Datu 6.58 301 P **Pn** **04 23 52.8 +1.0**
TSM Tawau 6.76 291 P **Pn** **04 23 53.2 -0.8**
MSAI Masohi 6.99 137 P **Pn** **04 23 58.8 +1.9**
52nm,0.7s,2μm0.2nm
SPSI Sidrap Palu 7.24 217 P **Pn** **04 23 59.4 -0.5**
111nm,0.7s,908nm0.4nm
SWI Sorong 7.57 111 P **Pn** **04 24 03.9 +0.2**
97nm,1.1s,1μm0.3nm
BKB Balikpapan 7.90 247 P **Pn** **04 24 09.0 +1.2**
323nm,1.0s,3μm1.1nm
SDKM Sandakan 7.93 299 P **Pn** **04 24 07.3 -0.9**
KAPI Kappang 8.11 213 *e*Pn Pn 04 24 09.3 -1.0
KAPI *e*S **S** **04 25 42.4 -1.4**
KAPI Kappang 8.11 213 P **Pn** **04 24 09.2 -1.0**
65nm,1.4s,819nm
KAPI Kappang 8.11 213 P **Pn** **04 24 08.8 -1.4**
3.0nm,0.3s,baz=34,slow=5.1,SNR=14
KAPI S **S** **04 25 40.6 -3.2**
1.0nm,0.3s,baz=112,slow=19,SNR=3.5
BKSI Bulukumba 8.17 210 P **Pn** **04 24 11.9 +0.8**
116nm,1.1s,1μm
KDM Kudat 8.90 305 P **P** **04 24 23.9 +0.2**
KKM Kota Kinabalu 8.98 298 *e*Pn Pn 04 24 20.7 -0.2
KKM *e*S S 04 26 11.2 +7.6
KKM Kota Kinabalu 8.98 298 P Pn 04 24 19.6 -1.4
KKM Kota Kinabalu 8.98 298 P Pn 04 24 20.4 -0.6
94nm,1.1s,1μm
KKM Kota Kinabalu 8.98 298 P Pn 04 24 20.9 -0.1
baz=9.0,SNR=14
FAKI Fak Fak 9.34 120 P Pn 04 24 25.0 -0.3
baz=9.3,SNR=17
KBKI Kotabaru 9.49 238 P Pn 04 24 27.6 +0.6
130nm,1.0s
RKPI Ransiki, Papua 10.53 108 P **P** **04 24 42.0 +0.1**
82nm,1.5s,4μm
BBKI Banjar Baru 10.71 241 P **P** **04 24 43.7 -0.1**
105nm,0.8s,9μm
BTM Bintulu 11.17 277 P Pn **04 24 47.6 +0.2**
SOEI Soe 11.50 180 P **P** **04 24 54.7 +1.9**
134nm,1.1s
SOEI Soe 11.50 180 P **P** **04 24 54.2 +1.5**
baz=11,SNR=4.6
SOEI S S 04 27 14.1 +14
baz=11,SNR=3.4
PALU Palau 11.63 62 S S 04 26 51.6 -11
baz=12,SNR=9.2
BATI Baumata 11.96 182 P **P** **04 24 58.9 +1.1**
164nm,0.6s,2μm
BATI Baumata 11.96 182 P **P** **04 24 58.7 +0.9**
58nm,0.3s,baz=357,slow=1.5,SNR=27
BATI S S 04 27 16.7 +6.4
5.9nm,0.3s,baz=197,slow=19,SNR=3.9
SBUM Sibu 11.97 273 P **P** **04 24 57.9 +0.1**
SBUM Sibu 11.97 273 P **P** **04 24 58.7 +0.9**
49nm,1.1s,573nm
BAKI Biak 12.30 104 P **P** **04 25 03.6 +2.1**
267nm,1.3s,4μm
TGY Tagaytay City 12.61 345 P **P** **04 25 06.3 +1.2**
TGY Tagaytay City 12.61 345 P **P** **04 25 06.3 +1.2**
51nm,0.3s,baz=344,slow=8.9,SNR=3.8
SRBI Singaraja 13.30 222 P **Pn** **04 25 14.2 +1.3**
119nm,0.6s
KSM Kuching 13.87 269 *e*Pn Pn 04 25 19.5 -0.2
KSM Kuching 13.87 269 P **Pn** **04 25 20.2 +0.5**
KSM Kuching 13.87 269 P **Pn** **04 25 21.2 +1.5**
KSM Kuching 13.87 269 P **Pn** **04 25 21.3 +1.5**
baz=14,SNR=11
MTN Manton Dam 16.12 155 P **P** **04 25 44.1 +0.6**
baz=16,SNR=25
MTN S **S** **04 28 36.8 +0.2**
baz=16,SNR=5.0
KDU Kakadu 16.60 150 P **P** **04 25 49.3 +0.6**
baz=17,SNR=22
KDU S **S** **04 28 47.5 +1.5**
baz=17,SNR=3.3
JAY Jayapura 17.07 105 P **P** **04 25 54.6 +0.6**
baz=17,SNR=9.5
KNRA Kununurra 17.97 166 P **P** **04 26 01.2 -2.2**
baz=18,SNR=1000
KNRA S **S** **04 29 12.2 -0.7**
baz=18,SNR=4.7
FITZ Fitzroy Crossi 19.85 176 *e*P **P** **04 26 22.4 -1.0**
FITZ *e*S **S** **04 29 48.1 -0.1**
FITZ Fitzroy Crossi 19.85 176 P **P** **04 26 22.2 -1.3**
3.9nm,0.3s,baz=6.9,slow=7.9,SNR=51
FITZ S **S** **04 29 45.9 -2.2**
0.3nm,0.3s,baz=108,slow=22,SNR=4.9
FITZ Fitzroy Crossi 19.85 176 P **P** **04 26 22.2 -1.3**
baz=20,SNR=30
MYKOM Kota Tinggi 20.32 270 P **P** **04 26 27.1 -1.1**
KGM Kluang 20.85 271 P **P** **04 26 31.9 -1.4**
TWG Pinlang 21.09 352 *e*P **P** **04 26 35.0 -0.4**
118nm,0.6s
KTGM Kuala Trenggan 21.29 280 P **P** **04 26 36.6 -0.7**
YULB Yu-li 21.62 353 *e*P **P** **04 26 40.0 -0.2**
20nm,0.7s
TPUB Ta-pu 21.63 351 *e*P **P** **04 26 40.5 +0.2**
188nm,0.8s
SSLB Suanglung 22.06 352 *e*P **P** **04 26 43.5 -0.7**
87nm,1.0s
QIZ Qiongzhong 22.13 322 P **P** **04 26 46.4 +1.5**
QIZ S **S** **04 30 24.9 -0.3**
QIZ pmax pmax
comp=Z,16nm,1.5s
QIZ pmax pmax
comp=Z,170nm,6.6s
FRIM Kepong 22.57 274 P **P** **04 26 48.6 -0.4**
YHNB Yeheng 22.87 353 *e*P **P** **04 26 51.1 -0.6**
comp=Z,77nm,0.9s
MBWA Marble Bar 23.25 191 *e*P **P** **04 26 54.8 -0.2**
comp=Z,9.8nm,0.7s
IPM Ipoh 23.27 277 P **P** **04 26 53.6 -1.8**
MANU Manus Island 23.50 99 P P 04 27 17.2 +20
baz=24,SNR=13
KULM Kulim 23.73 279 P **P** **04 26 58.1 -1.4**
WRAB Tennant Creek 23.81 156 *e*P **P** **04 27 00.0 -0.2**
comp=Z,39nm,1.3s
WRAB eS **S** **04 30 48.6 -3.4**
WRA Warramunga Arr 23.82 156 P **P** **04 26 59.9 -0.3**
WRA S **S** **04 30 48.6 -3.4**
WRA Warramunga Arr 23.82 156 P **P** **04 26 59.9 -0.3**
comp=Z,53nm,0.3s,baz=335,slow=10.0,SNR=2.2
WRA S **S** **04 30 48.6 -3.4**
comp=Z,69nm,0.4s,baz=338,slow=16,SNR=1.7
COEN Coen 24.50 130 P **P** **04 27 06.2 -0.3**
baz=24,SNR=10
PSI Prapat 25.25 273 P **P** **04 27 12.9 -0.4**
PSI Prapat 25.25 273 P **P** **04 27 12.9 -0.4**
comp=Z,3.9nm,0.6s,baz=54,slow=4.6,SNR=4.4
PSI Prapat 25.25 273 P **P** **04 27 13.4 0.0**
baz=25,SNR=3.8
PMG Port Moresby 25.47 116 P **P** **04 27 15.5 +0.4**
PMG Port Moresby 25.47 116 P **P** **04 27 15.5 +0.4**
comp=Z,21nm,1.1s,baz=251,slow=10,SNR=2.9
SURA Surathani 25.48 288 P **P** **04 27 14.1 -1.2**
comp=Z,0.7nm,0.7s,comp=Z,82nm
AS31 Alice Springs 27.05 160 *e*P **P** **04 27 29.2 +0.1**
AS31 *e*S **S** **04 31 41.4 -1.5**
ASAR Alice Springs 27.05 160 P **P** **04 27 29.3 +0.2**
ASAR PcP **PcP** **04 30 41.5 +0.2**

ASAR				S	**S**	**04 31 42.0**	**-0.9**	
ASAR				ScP	**ScP**	**04 33 50.6**	**-0.1**	
ASAR	**Alice Springs**	**27.05**	**160**	P	**P**	**04 27 29.3**	**+0.2**	
	comp=Z,2.6nm,0.3s,baz=340,slow=8.0,SNR=53							
ASAR				PcP	**PcP**	**04 30 41.5**	**+0.2**	
	comp=Z,1.0nm,0.5s,baz=8.3,slow=2.5,SNR=5.4							
ASAR				S	**S**	**04 31 42.0**	**-0.9**	
	comp=Z,2.6nm,0.6s,baz=350,slow=20,SNR=11							
ASAR				ScP	**ScP**	**04 33 50.6**	**-0.1**	
	comp=Z,1.0nm,0.5s,baz=343,slow=3.0,SNR=8.0							
LOEI	**Loei**	**27.38**	**306**	P	**P**	**04 27 29.7**	**-2.4**	
	comp=Z,14nm,1.1s							
RABL	**Rabaul**	**28.60**	**102**	P	**P**	**04 27 45.8**	**+2.9**	
	baz=29,SNR=3.7							
MEEK	**Meekatharra**	**28.80**	**190**	P	**P**	**04 27 44.5**	**0.0**	
	baz=29,SNR=60							
GYA	**Guiyang**	**29.72**	**327**	*e*P	**P**	**04 27 54.3**	**+1.6**	
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**29.76**	**305**	P	**P**	**04 27 52.2**	**-0.9**	
CMAR				PP	**PnPn**	**04 29 06.5**	**0.0**	
CMAR				ScP	**ScP**	**04 33 59.5**	**+0.1**	
CMAR	**Chiang Mai Arr**	**29.76**	**305**	P	**P**	**04 27 52.2**	**-0.9**	
	comp=Z,1.3nm,0.3s,baz=133,slow=12,SNR=8.8							
CMAR				PP	**PnPn**	**04 29 06.5**	**0.0**	
	comp=Z,1.2nm,0.3s,baz=125,slow=8.9,SNR=5.3							
CMAR				ScP	**ScP**	**04 33 59.5**	**+0.1**	
	comp=Z,0.5nm,0.3s,baz=194,slow=2.5,SNR=4.0							
CMMT	**Chiang Mai**	**29.94**	**306**	P	**P**	**04 27 55.2**	**+0.6**	
	comp=Z,8.9nm,1.2s							
CHTO	**Chiang Mai**	**29.94**	**306**	*e*P	**P**	**04 27 55.0**	**+0.3**	
CHTO	**Chiang Mai**	**29.94**	**306**	P	**P**	**04 27 55.9**	**+1.2**	
	comp=Z,10nm,1.6s							
NJ2	**Nanjing**	**30.48**	**351**	*e*P	**P**	**04 28 01.5**	**+2.3**	
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.9s							
CTA	**Charters Tower**	**30.71**	**136**	P	**P**	**04 28 02.5**	**+1.2**	
CTA	**Charters Tower**	**30.71**	**136**	P	**P**	**04 28 02.5**	**+1.2**	
	comp=Z,1.1nm,0.3s,baz=299,slow=10,SNR=2.4							
KMI	**Kunming**	**31.05**	**320**	P	**P**	**04 28 06.3**	**+1.7**	
KMI				pmax	pmax			
	comp=Z,12nm,1.3s							
MORW	**Morawa**	**31.69**	**194**	P	**P**	**04 28 09.9**	**+0.1**	
	baz=32,SNR=32							
FORT	**Forrest**	**32.63**	**174**	*e*P	**P**	**04 28 18.5**	**+0.6**	
FORT	**Forrest**	**32.63**	**174**	P	**P**	**04 28 18.5**	**+0.6**	
	baz=33,SNR=30							
BLDU	**Ballidu**	**33.03**	**192**	P	**P**	**04 28 21.2**	**-0.2**	
	baz=33,SNR=37							
KLBR	**Kellerberrin**	**33.79**	**190**	P	**P**	**04 28 27.8**	**0.0**	
	baz=34,SNR=16							
CD2	**Chengdu**	**34.79**	**328**	*e*P	**P**	**04 28 37.5**	**+1.0**	
CD2				pP	**pP**	**04 29 40.3**	**+1.7**	
CD2				sP	**sP**	**04 30 16.1**	**+0.5**	
CD2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
XAN	**Xi'an**	**35.08**	**338**	P	**P**	**04 28 37.6**	**-1.3**	
NWAO	**Narrogin (SRO)**	**35.18**	**190**	P	**P**	**04 28 40.1**	**+0.4**	
NWAO	**Narrogin (SRO)**	**35.18**	**190**	P	**P**	**04 28 40.1**	**+0.4**	
	comp=Z,8.6nm,0.5s,baz=17,slow=6.7,SNR=20							
KSAR	**Wonju Array Be**	**35.61**	**5**	P	**P**	**04 28 42.3**	**-0.9**	
KSRS	**Korea Array**	**35.62**	**5**	P	**P**	**04 28 42.3**	**-1.0**	
	comp=Z,3.6nm,0.7s,baz=181,slow=9.9,SNR=14							
BBOO	**Buckleboo**	**36.23**	**163**	P	**P**	**04 28 48.9**	**+0.3**	
	baz=36,SNR=9.0							
MJAR	**Matsushiro Arr**	**36.90**	**19**	P	**P**	**04 28 52.9**	**-1.2**	
MJAR	**Matsushiro Arr**	**36.90**	**19**	P	**P**	**04 28 52.9**	**-1.2**	
	comp=Z,9.7nm,0.8s,baz=197,slow=9.4,SNR=29							
MAT	**Matsushiro**	**36.90**	**19**	P	**P**	**04 28 52.5**	**-1.6**	
STKA	**Stephens Creek**	**37.37**	**155**	P	**P**	**04 28 59.0**	**+1.0**	
STKA				S	**S**	**04 34 21.6**	**-0.2**	
STKA	**Stephens Creek**	**37.37**	**155**	P	**P**	**04 28 59.0**	**+1.0**	
	comp=Z,8.7nm,0.2s,baz=327,slow=8.3,SNR=76							
STKA				S	**S**	**04 34 21.6**	**-0.2**	
	comp=Z,2.8nm,0.9s,baz=236,slow=22,SNR=4.4							
STKA	**Stephens Creek**	**37.37**	**155**	P	**P**	**04 28 59.1**	**+1.0**	
	baz=37,SNR=64							
EIDS	**Eidsvold**	**37.54**	**138**	*e*P	**P**	**04 28 59.7**	**+0.1**	
	comp=Z,11nm,1.0s							
BJI	**Beijing**	**38.73**	**350**	P	**P**	**04 29 10.3**	**+1.1**	
BJI				pmax	pmax			
	comp=Z,16nm,1.2s							
BJI				LR	LR			
	comp=N,170nm,11.8s							
BJI				LR	LR			
	comp=E,230nm,10.6s							
BJI				LR	LR			
	comp=Z,37nm,18.2s							
LZH	**Lanzhou**	**38.95**	**333**	*e*P	**P**	**04 29 12.8**	**+1.5**	
LZH				pmax	pmax			
	comp=Z,23nm,1.0s							
CMSA	**Cobar Meteorol**	**38.97**	**150**	P	**P**	**04 29 12.9**	**+1.6**	
	baz=39,SNR=11							
HHC	**Hu-ho-hao-te**	**40.49**	**345**	*e*P	**P**	**04 29 24.8**	**+1.0**	
HHC				pP	**pP**	**04 30 28.8**	**+1.2**	
HHC				sP	**sP**	**04 31 04.3**	**+0.1**	
HHC				PP	**PP**	**04 31 09.1**	**+4.2**	
HHC				S	**S**	**04 35 10.5**	**+2.3**	
HHC				sS	**sS**	**04 37 03.5**	**+0.5**	
HHC				ScS	**ScS**	**04 38 52.0**	**-1.3**	
HHC				pmax	pmax			
	comp=Z,22nm,0.7s							
HHC				pmax	pmax			
	comp=Z,200nm,6.3s							
ARMA	**Armidale**	**41.39**	**143**	P	**P**	**04 29 33.4**	**+2.2**	
	baz=41,SNR=6.7							
CN2	**Changchun**	**41.81**	**1**	*e*P	**P**	**04 29 37.3**	**+3.0**	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
YNG	**Young**	**42.53**	**150**	P	**P**	**04 29 42.4**	**+2.2**	
	baz=43,SNR=12							
USRK	**Ussuriysk Arra**	**42.76**	**8**	P	**P**	**04 29 41.6**	**-0.2**	
	comp=Z,11nm,0.4s,baz=193,slow=7.2,SNR=70							
MDJ	**Mudanjiang**	**42.88**	**6**	P	**P**	**04 29 41.8**	**-1.0**	
MDJ				sP	**sP**	**04 31 19.1**	**-4.6**	
MDJ				PP	**PcP**	**04 31 27.1**	**-0.1**	
MDJ				PcS	**PcS**	**04 35 18.3**	**-1.6**	
MDJ				S	**S**	**04 35 38.6**	**-4.2**	
MDJ				ScS	**SS**	**04 39 01.6**	**-4.9**	
MDJ				SS	**ScS**	**04 39 06.3**	**-1.3**	
MDJ				pmax	pmax			
	comp=Z,15nm,1.4s							
MDJ				pmax	pmax			
	comp=Z,58nm,6.0s							
MDJ				LR	LR			
	comp=N,46nm,22.9s							
MDJ				LR	LR			
	comp=E,91nm,18.7s							
MDJ				LR	LR			
	comp=Z,38nm,20.4s							
MDJ	**Mudanjiang**	**42.88**	**6**	*e*P	**P**	**04 29 42.7**	**-0.1**	
	comp=Z,5.5nm,0.7s							
MGCD	**Mangrove Creek**	**43.13**	**146**	P	**P**	**04 29 47.8**	**+2.9**	
	baz=43,SNR=8.5							
GTA	**Gaotai**	**43.50**	**332**	P	**P**	**04 29 47.9**	**-0.1**	
GTA				pP	**pP**	**04 30 52.6**	**-0.2**	
GTA				sP	**sP**	**04 31 28.3**	**-0.8**	
GTA				PcP	**PcP**	**04 31 30.4**	**+0.8**	
GTA				S	**S**	**04 35 53.5**	**+1.3**	
GTA				pmax	pmax			
	comp=Z,11nm,1.3s							
GTA				pmax	pmax			
	comp=Z,88nm,4.8s							
GTA				LR	LR			
	comp=N,65nm,13.8s							
GTA				LR	LR			
	comp=E,94nm,14.7s							
GTA				LR	LR			
	comp=Z,79nm,12.6s							
HYB	**Hyderabad**	**47.41**	**292**	*i* P	**P**	**04 30 17.5**	**-1.1**	
ULN	**Ulaanbaatar**	**48.20**	**345**	*e*P	**P**	**04 30 23.3**	**-1.0**	
	comp=Z,16nm,1.2s							
SONM	**Songino Array**	**48.35**	**344**	P	**P**	**04 30 24.3**	**-1.1**	
SONM	**Songino Array**	**48.35**	**344**	P	**P**	**04 30 24.3**	**-1.1**	
	comp=Z,2.8nm,0.5s,baz=158,slow=8.3,SNR=20							
WMQ	**Urumqi**	**52.88**	**327**	P	**P**	**04 30 59.8**	**+0.8**	
WMQ				pP	**pP**	**04 32 07.5**	**+0.8**	
WMQ				sP	**sP**	**04 32 42.1**	**0.0**	
WMQ				PP	**PP**	**04 33 05.1**	**+2.7**	
WMQ				pmax	pmax			
	comp=Z,25nm,1.2s							
WMQ				pmax	pmax			
	comp=Z,140nm,4.4s							
WMQ				LR	LR			
	comp=Z,54nm,19.0s							
KSH	**Kashi**	**57.64**	**317**	P	**P**	**04 31 33.8**	**+0.9**	
KSH				pP	**pP**	**04 32 42.8**	**+1.0**	
KSH				sP	**sP**	**04 33 17.9**	**+0.9**	
KSH				PcS	**PcS**	**04 36 24.3**	**+0.5**	
KSH				S	**S**	**04 39 05.8**	**+0.1**	
KSH				pmax	pmax			
	comp=Z,9.0nm,1.1s							
KSH				pmax	pmax			
	comp=Z,140nm,5.8s							
KSH				LR	LR			
	comp=N,210nm,8.6s							
KSH				LR	LR			
	comp=E,170nm,10.3s							
KSH				LR	LR			
	comp=Z,280nm,7.0s							
MK31	**Makanchi Array**	**57.71**	**327**	*e*P	**P**	**04 31 32.1**	**-1.0**	
MK31				*e*PcP	**PcP**	**04 32 20.7**	**-1.3**	
MKAR	**Makanchi Array**	**57.71**	**327**	P	**P**	**04 31 32.2**	**-0.9**	
MKAR				PcP	**PcP**	**04 32 21.5**	**-0.6**	
MKAR				ScP	**ScP**	**04 35 48.8**	**-2.0**	
MKAR				S	**S**	**04 39 08.1**	**+1.9**	
MKAR	**Makanchi Array**	**57.71**	**327**	P	**P**	**04 31 32.2**	**-0.9**	
	comp=Z,3.0nm,0.3s,baz=122,slow=7.8,SNR=45							
MKAR				PcP	**PcP**	**04 32 21.5**	**-0.6**	
	comp=Z,2.5nm,0.6s,baz=116,slow=5.5,SNR=8.2							
MKAR				ScP	**ScP**	**04 35 48.8**	**-2.0**	
	comp=Z,0.3nm,0.5s,baz=123,slow=5.3,SNR=5.3							
MKAR				S	**S**	**04 39 08.1**	**+1.9**	
	comp=Z,0.6nm,0.9s,baz=134,slow=10,SNR=4.4							
PETK	**Petropavlovsk-**	**58.16**	**23**	P	**P**	**04 31 36.7**	**+0.7**	
PETK	**Petropavlovsk-**	**58.16**	**23**	P	**P**	**04 31 36.7**	**+0.7**	
	comp=Z,4.6nm,0.7s,baz=193,slow=6.1,SNR=7.6							
AAK	**Ala-Archa**	**60.09**	**320**	*e*P	**P**	**04 31 48.5**	**-1.2**	
	comp=Z,4.2nm,0.9s							
ZAA0	**Zalesovo Array**	**61.16**	**335**	*e*P	**P**	**04 31 55.0**	**-1.4**	
ZALV	**Zalesovo Beam**	**61.16**	**335**	P	**P**	**04 31 54.5**	**-1.8**	
ZALV	**Zalesovo Beam**	**61.16**	**335**	P	**P**	**04 31 54.5**	**-1.8**	
	comp=Z,2.5nm,0.4s,baz=120,slow=5.6,SNR=16							
KKAR	**Karatay Array**	**62.92**	**318**	*e*P	**P**	**04 32 07.3**	**-0.9**	
	comp=Z,1.1nm,0.6s							
FX1	**Attu Island--F**	**65.00**	**30**	P	**P**	**04 32 21.8**	**+0.4**	
BRVK	**Borovoye**	**67.62**	**328**	*e*P	**P**	**04 32 36.6**	**-1.4**	
	comp=Z,9.9nm,0.9s							
ABKAR	**Akbulak array**	**72.03**	**322**	*e*P	**P**	**04 33 03.5**	**-1.2**	
MAW	**Mawson**	**81.10**	**200**	P	**P**	**04 33 55.5**	**+0.7**	
MAW	**Mawson**	**81.10**	**200**	P	**P**	**04 33 55.5**	**+0.7**	
	comp=Z,2.4nm,0.6s,baz=58,slow=6.7,SNR=10							
MAW	**Mawson**	**81.10**	**200**	P	**P**	**04 33 55.9**	**+1.2**	
	baz=81,SNR=8.1							
VNDA	**Vanda**	**81.88**	**172**	*e*P	**P**	**04 33 58.7**	**0.0**	
	comp=Z,1.2nm,0.7s							
VNDA	**Vanda**	**81.88**	**172**	P	**P**	**04 33 58.1**	**-0.6**	
	comp=Z,1.2nm,0.5s,baz=316,slow=6.6,SNR=7.0							
KBZ	**Khabaz**	**82.44**	**314**	P	**P**	**04 34 00.9**	**-1.3**	
KBZ	**Khabaz**	**82.44**	**314**	P	**P**	**04 34 00.9**	**-1.3**	
	comp=Z,2.8nm,0.9s,baz=109,slow=5.1,SNR=3.8							
ILAR	**Eielson Array**	**87.91**	**25**	P	**P**	**04 34 26.9**	**-1.8**	
ILAR	**Eielson Array**	**87.91**	**25**	P	**P**	**04 34 26.8**	**-1.8**	
	comp=Z,0.1nm,0.3s,baz=260,slow=4.5,SNR=5.1							
BRTR	**Keskin Array B**	**89.26**	**310**	P	**P**	**04 34 34.5**	**-1.2**	
BRTR	**Keskin Array B**	**89.26**	**310**	P	**P**	**04 34 34.5**	**-1.2**	
	comp=Z,0.7nm,0.8s,baz=180,slow=1.4,SNR=3.8							
ARCES	**ARCESS Array B**	**91.34**	**340**	P	**P**	**04 34 42.9**	**-1.7**	
ARCES	**ARCESS Array B**	**91.34**	**340**	P	**P**	**04 34 42.9**	**-1.7**	
	comp=Z,1.2nm,0.5s,baz=84,slow=5.7,SNR=21							
FINES	**FINESS Array B**	**92.29**	**332**	P	**P**	**04 34 47.8**	**-1.3**	
FINES	**FINESS Array B**	**92.29**	**332**	P	**P**	**04 34 47.8**	**-1.3**	
	comp=Z,1.2nm,0.7s,baz=71,slow=9.0,SNR=4.8							
STHS	**Stebnicka Huta**	**97.02**	**320**	*e*P	Pdif	04 35 11.9	+0.9	
KECS	**Kecovo**	**97.69**	**319**	PDIF	Pdif	04 35 15.7	+1.7	
VYHS	**Vyhne**	**98.76**	**320**	PDIF	**P**	**04 35 21.7**	**+2.9**	
SPUT	**South Promonto**	**113.17**	**43**	*e*Pdif	**Pdif**	**04 36 22.8**	**-0.4**	
TCUT	**Toone Canyon**	**113.96**	**43**	*e*Pdif	**Pdif**	**04 36 28.8**	**+1.9**	
TORD	**Torodi Ar. Bea**	**121.05**	**286**	PKP	**PKPdf**	**04 40 30.2**	**-0.7**	
TORD				PKKPbc	**PKKPab**	**04 50 36.1**	**-0.3**	
TORD	**Torodi Ar. Bea**	**121.05**	**286**	PKP	**PKPdf**	**04 40 30.2**	**-0.7**	
	comp=Z,0.9nm,0.7s,baz=85,slow=1.8,SNR=13							
TORD				PKKPbc	**PKKPab**	**04 50 36.1**	**-0.3**	
	comp=Z,0.7nm,0.9s,baz=305,slow=3.7,SNR=4.7							
SCHQ	**Schefferville**	**122.81**	**8**	PKP	**PKPdf**	**04 40 33.1**	**-0.2**	
SCHQ	**Schefferville**	**122.81**	**8**	PKP	**PKPdf**	**04 40 33.1**	**-0.2**	
	comp=Z,0.5nm,0.3s,baz=21,slow=7.6,SNR=4.8							

WEL 23 04:25:27.4±0.3, 44.57S×175.55E, h33km, ML3.9/17, 1C-2D, Error ellipse: s-maj=3.3km s-min=2.5km az=90.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**2.26**	**291**	PN	Pn	04 26 00.6	-1.7
MQZ				SN	Sn	04 26 25.9	-3.1
MQZ				AML	AML	04 26 27.4	
CRLZ	**Canterbury Las**	**2.33**	**294**	SN	Sn	04 26 27.9	-3.0
KHZ	**Kahutara**	**2.60**	**325**	PN	Pn	04 26 07.0	-0.1
KHZ				SN	Sn	04 26 35.7	-1.8
KHZ				AML	AML	04 26 38.8	
LTZ	**Lake Taylor**	**2.98**	**306**	⇓PN	Pn	04 26 11.4	-0.9
LTZ				SN	Sn	04 26 44.6	-2.3
LTZ				AML	AML	04 26 45.3	
PLLZ	**Palliser**	**3.00**	**356**	PN	Pn	04 26 11.9	-0.8
BSWZ	**Blackbirch Sta**	**3.10**	**336**	PN	Pn	04 26 13.9	-0.2
BSWZ				SN	Sn	04 26 48.9	-1.2
MSWZ	**Moikau Station**	**3.16**	**356**	PN	Pn	04 26 13.5	-1.3
MSWZ				SN	Sn	04 26 48.7	-2.7
TRWZ	**Traveller**	**3.17**	**2**	PN	Pn	04 26 14.1	-0.9
PAWZ	**Paruwai Farm**	**3.19**	**358**	PN	Pn	04 26 14.0	-1.1
PAWZ				AML	AML	04 27 03.8	
TUWZ	**Tuamarina**	**3.35**	**339**	PN	Pn	04 26 16.9	-0.5
THZ	**Tophouse**	**3.41**	**324**	PN	Pn	04 26 18.5	+0.2
THZ				AML	AML	04 27 00.3	
THZ				AML	AML	04 27 00.9	
MTW	**Mount Morrison**	**3.41**	**359**	PN	Pn	04 26 16.7	-1.5
MTW				AML	AML	04 26 55.3	
TMWZ	**Te Maipa**	**3.47**	**4**	PN	Pn	04 26 16.5	-2.6
CAW	**Cannon Point**	**3.48**	**354**	PN	Pn	04 26 18.8	-0.4
CAW				AML	AML	04 26 57.6	
CAW				AML	AML	04 26 58.3	
TCW	**Tory Channel**	**3.48**	**344**	PN	Pn	04 26 18.6	-0.6
TCW				AML	AML	04 26 58.2	
TCW				AML	AML	04 27 01.3	
ODZ	**Otahua Downs**	**3.52**	**261**	PN	Pn	04 26 18.9	-0.9
ODZ				AML	AML	04 27 00.9	
NNZ	**Nelson**	**3.71**	**334**	PN	Pn	04 26 21.6	-0.8
NNZ				AML	AML	04 27 26.5	
KIW	**Kapiti Island**	**3.73**	**353**	PN	Pn	04 26 21.4	-1.4
HHSZ	**Highcliff Hill**	**3.74**	**248**	PN	Sn	04 26 59.0	-6.6
OGWZ	**Otaki Gorge**	**3.76**	**356**	PN	Pn	04 26 22.5	-0.6
WVZ	**Waitaha Valley**	**3.79**	**292**	AML	AML	04 26 20.2	
WVZ				PN	Pn	04 26 23.0	-0.4
WVZ				AML	AML	04 26 34.9	
LBZ	**Lake Benmore**	**3.84**	**271**	⇓PN	Pn	04 26 23.9	-0.4
MRZ	**Mangatainoka R**	**3.91**	**0**	PN	Pn	04 26 23.8	-1.2
MRZ				AML	AML	04 27 08.2	
MRZ				AML	AML	04 27 13.6	
DUWZ	**D'Urville Isla**	**3.95**	**342**	PN	Pn	04 26 25.7	0.0
DUWZ				AML	AML	04 27 11.3	
DUWZ				AML	AML	04 27 13.0	
PRWZ	**Pori Road**	**4.02**	**5**	PN	Pn	04 26 25.9	-0.8
POWZ	**Post Office Ro**	**4.18**	**2**	PN	Pn	04 26 28.0	-0.8
FOZ	**Fox Glacier**	**4.34**	**281**	PN	Pn	04 26 28.6	-2.4
PRHZ	**Porangahau**	**4.37**	**11**	PN	Pn	04 26 30.1	-1.4
TUZ	**Tuapeka**	**4.40**	**250**	PN	Pn	04 26 31.0	-0.8
TUZ				AML	AML	04 26 32.0	
TUZ				AML	AML	04 27 21.5	
EAZ	**Earnscleugh**	**4.48**	**259**	PN	Pn	04 26 32.8	-0.2
EAZ				AML	AML	04 26 34.1	
EAZ				AML	AML	04 26 34.4	
TSZ	**Takapari Road**	**4.52**	**4**	PN	Pn	04 26 32.3	-1.2
TSZ				AML	AML	04 26 32.9	
TSZ				AML	AML	04 26 33.2	
WPHZ	**Waipukurau**	**4.55**	**9**	PN	Pn	04 26 32.8	-1.1
PXZ	**Pawanui**	**4.64**	**13**	⇑PN	Pn	04 26 33.6	-1.5
WKZ	**Wanaka**	**4.66**	**265**	PN	Pn	04 26 35.8	+0.3
KAHZ	**Kahuranaki**	**4.87**	**12**	PN	Pn	04 26 36.6	-1.8
JCZ	**Jackson Bay**	**4.90**	**273**	PN	Pn	04 26 38.4	-0.4
JCZ				AML	AML	04 26 42.9	
JCZ				AML	AML	04 27 37.7	
SYZ	**Scrubby Hill**	**4.91**	**244**	PN	Pn	04 26 38.0	-0.8
BHHZ	**Black Hill Sta**	**5.09**	**4**	PN	Pn	04 26 40.7	-0.8
MOVZ	**Moawhango**	**5.16**	**2**	PN	Pn	04 26 41.6	-0.8
KNZ	**Kokohu**	**5.77**	**17**	PN	Pn	04 26 48.1	-2.5

*BYKL **23** 04:42:57.8±0.6, 57.43N×120.90E*
*IDC **23** 04:42:58.7±0.8, 57.39N×120.63E, h0km, mb3.6/12, mb1 3.8/12, mb1mx3.6/25, mbtmp3.6/12, Error ellipse: s-maj=21.8km s-min=17.1km az=23.0*
*MOS **23** 04:42:58.7±1.4, 57.37N×120.80E, h15km, mb4.0/9, Error ellipse: s-maj=13.0km s-min=9.1km az=78.5*

ISC 23 04:42:58.3±2.1, 57.38N±0.05×120.91E±0.03, h5km±15km, n68, σ1.49/56, mb3.7/14, 8C-5D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKLR	**Yuktali**	**0.89**	**152**	⇑*i*Pg	**Pn**	**04 43 15.9**	**-1.6**
YKLR				*i* Sg	**Sb**	**04 43 28.5**	**+0.1**
CRS	**Chara**	**1.52**	**253**	*i* Pg	**Pb**	**04 43 25.5**	**-1.5**
CRS				Pmax		04 43 26.3	
	2μm,0.9s						
CRS				*i* Sg	**Sb**	**04 43 44.9**	**-1.6**
CRS				Smax		04 44 10.0	
	2μm,3.6s						
CRS	**Chara**	**1.52**	**253**	*e*P	**Pb**	**04 43 25.5**	**-1.5**
CRS				*e*		04 43 44.7	
CRS				pmax	pmax		
	comp=Z,1μm,0.7s						
CRS				smax	smax		
	comp=E,2μm,0.7s						
CLNS	**Chul'man**	**2.24**	**102**	⇑*i*Pg	**Pb**	**04 43 38.1**	**-1.2**
CLNS				*e*Sg	**Sg**	**04 44 08.5**	**-1.7**
CLNS				*i*		04 44 39.7	
CLNS	**Chul'man**	**2.24**	**102**	*e*P	**Pb**	**04 43 38.1**	**-1.2**
CLNS				*e*		04 44 09.2	
CLNS				pmax	pmax		
	comp=Z,207nm,0.5s						
CLNS				pmax	pmax		
	comp=E,68nm,0.4s						
CLNS				pmax	pmax		
	comp=N,53nm,0.3s						
CLNS				smax	smax		
	comp=E,299nm,0.3s						
CLNS				smax	smax		
	comp=N,2μm,0.5s						
CLNS				smax	smax		
	comp=Z,207nm,0.3s						
NLYR	**Nelyaty**	**2.99**	**255**	⇑*i*Pn	**Pn**	**04 43 46.6**	**+0.2**
NLYR				⇓*i*Pg	**Pb**	**04 43 51.5**	**-0.5**
NLYR				Pmax		04 43 53.8	
	comp=Z,581nm,1.2s						
NLYR				*i* Sg	**Sb**	**04 44 28.8**	**-0.1**
NLYR				Smax		04 44 34.9	
	comp=Z,2μm,1.0s						
NLYR	**Nelyaty**	**2.99**	**255**	*e*P	**Pn**	**04 43 46.5**	**+0.2**
TUP	**Tupik**	**3.01**	**191**	⇑*i*Pn	**Pn**	**04 43 46.7**	**0.0**
TUP				⇓*i*Pg	**Pb**	**04 43 51.8**	**-0.6**
TUP				Pmax		04 43 54.8	
	comp=Z,331nm,0.8s						
TUP				*e*		04 43 58.2	
TUP				*i* Sg	**Sb**	**04 44 31.2**	**+1.7**
TUP				Smax		04 44 35.6	
	comp=Z,2μm,0.9s						
TUP	**Tupik**	**3.01**	**191**	*e*P	**Pb**	**04 43 52.1**	**-0.3**
TUP				*e*		04 44 31.1	
TUP				pmax	pmax		
	comp=Z,331nm,0.8s						
TUP				smax	smax		
	comp=E,2μm,0.9s						
BOD	**Bodaibo**	**3.74**	**280**	⇑*i*Pn	**Pn**	**04 43 56.5**	**-0.2**
BOD				*e*		04 43 58.9	
BOD				⇓*i*Pg	**Pb**	**04 44 04.2**	**-0.6**
BOD				Pmax		04 44 05.7	
	comp=E,148nm,0.9s						
BOD				*e*Sg	**Sb**	**04 44 51.5**	**+1.0**
BOD				*e*		04 44 56.0	
BOD				max		04 44 56.9	
	comp=E,1μm,1.4s						
BOD				*e*		04 45 03.6	
BOD	**Bodaibo**	**3.74**	**280**	*e*P	**Pb**	**04 44 04.2**	**-0.6**
BOD				pmax	pmax		
	comp=Z,147nm,0.5s						
UKT	**Uakit**	**4.46**	**248**	⇑*i*Pn	**Pn**	**04 44 07.2**	**+0.5**
UKT				⇓*i*Pg	**Pb**	**04 44 17.6**	**+0.4**
UKT				Pmax		04 44 20.1	
	comp=Z,145nm,0.8s						
UKT				*e*		04 44 38.8	
UKT				*i* Sg	**Sb**	**04 45 14.6**	**+3.2**
UKT				*e*		04 45 21.0	
UKT				max		04 45 24.1	
	comp=Z,447nm,1.0s						
UKT	**Uakit**	**4.46**	**248**	*e*P	**Pb**	**04 44 15.9**	**-1.3**
UKT				pmax	pmax		
	comp=Z,144nm,0.8s						
KROS	**Kirovskiy**	**4.51**	**128**	*e*Pn	**Pn**	**04 44 04.4**	**-2.9**
KROS				⇑*i*Pg	**Pb**	**04 44 17.7**	**-0.2**
KROS				*e*Sn	Sn	04 44 52.3	-7.8
KROS				*i* Sg	**Sb**	**04 45 16.0**	**+3.4**
ZEA	**Zeya**	**5.12**	**133**	*e*Pn	**Pn**	**04 44 14.6**	**-1.1**
ZEA				*e*Pg	**Pb**	**04 44 29.8**	**+1.4**
ZEA				*e*Sn	**Sn**	**04 45 10.7**	**-4.5**
ZEA				*e*Sg	**Sb**	**04 45 34.6**

MXMB	**Maximikha**	**8.07**	**244**	*e*		**Sn**	**04 46 26.7**	**-1.0**
MXMB				*e*			04 46 54.2	
MXMB				*e*Sg	Sg		04 47 09.1	-8.0
MXMB				Smax			04 47 15.9	
	comp=Z,1μm,1.0s							
HIA	**Hailar**	**8.16**	**185**	*e*		Pb	04 45 25.4	+5.4
HIA				*e*Sg	Sg		04 47 12.7	-7.3
OGRR	**Ongureny**	**8.43**	**249**	*e*Pn		**Pn**	**04 45 01.7**	**+0.7**
OGRR				*e*			04 45 22.8	
OGRR				Pg		Pb	04 45 29.8	+5.2
OGRR				*i*			04 45 34.2	
OGRR				max			04 45 36.0	
	comp=Z,20nm,2.0s							
OGRR				*e*Sg	Sg		04 47 18.5	-10
OGRR				Smax			04 47 36.4	
	comp=Z,161nm,1.4s							
OGRR	**Ongureny**	**8.43**	**249**	*e*P		**Pn**	**04 45 01.4**	**+0.3**
OGRR				pmax	pmax			
	comp=Z,20nm,1.9s							
KPC	**Khapcheranga**	**9.21**	**217**	*e*Pn		**Pn**	**04 45 12.7**	**+0.9**
KPC				*e*Pg			04 45 43.0	
KPC				*i* Sg	Sn		04 47 42.1	+46
KPC				Smax			04 47 51.6	
	comp=Z,314nm,0.7s							
ZRHB	**Zarechye**	**9.27**	**244**	*e*			04 46 36.8	
ZRHB				*e*Sg	Sn		04 47 46.2	+49
ZRHB				Smax			04 48 00.8	
	comp=Z,1μm,1.3s							
UUDB	**Ulan-Yde**	**9.45**	**240**	Pg		Pn	04 45 48.5	+33
UUDB				*i* Sg	Sn		04 47 51.8	+50
UUDB				Smax			04 48 11.2	
	comp=Z,403nm,1.5s							
TRG	**Tyrgan**	**9.54**	**247**	*e*Pg		Pn	04 45 51.5	+35
TRG				*e*			04 45 59.3	
TRG				max			04 46 00.1	
	comp=Z,4.0nm,0.9s							
TRG				*e*			04 47 14.6	
TRG				*e*Sg	Sn		04 47 55.1	+51
TRG				*e*			04 47 59.0	
TRG				max			04 48 02.5	
	comp=Z,89nm,1.8s							
HRMR	**Khuramsha**	**9.94**	**241**	*e*			04 47 30.5	
HRMR				*e*			04 47 55.7	
HRMR				*e*Sg	Sn		04 48 06.6	+53
HRMR				Smax			04 48 16.0	
	comp=Z,833nm,1.1s							
KLR	**Kul'dur**	**10.41**	**137**	*e*P		**Pn**	**04 45 29.8**	**+1.6**
KLR				*e*			04 47 31.8	
LSTR	**Listvyanka**	**10.82**	**246**	*e*Sg			04 48 34.0	
LSTR				Smax			04 49 08.5	
	comp=Z,262nm,2.0s							
IRK	**Irkutsk**	**10.88**	**249**	*e*Sg			04 48 35.1	
IRK				Smax			04 48 51.4	
	comp=Z,285nm,1.0s							
TLY	**Talaya**	**11.53**	**248**	*e*Sg			04 48 55.2	
TLY				Smax			04 49 16.6	
	comp=Z,58nm,1.2s							
ARS	**Arshan**	**12.00**	**251**	*e*			04 48 05.4	
ARS				*e*			04 48 10.6	
ARS				*e*Sg			04 49 10.2	
ARS				Smax			04 49 36.8	
	comp=Z,197nm,1.0s							
ZAK	**Zakamensk**	**12.52**	**243**	Pg		Pn	04 46 44.8	+48
ZAK				*e*			04 46 49.6	
ZAK				max			04 46 52.2	
	comp=Z,2.0nm,0.1s							
ZAK				*e*Sg			04 49 25.5	
ZAK				Smax			04 49 35.8	
	comp=Z,73nm,1.8s							
ZAK	**Zakamensk**	**12.52**	**243**	*e*P		Pn	04 45 59.4	+2.4
ZAK				*e*			04 48 19.2	
ZAK				pmax	pmax			
	comp=Z,1.0nm,1.0s							
ULN	**Ulaanbaatar**	**12.69**	**227**	*e*Sg			04 49 33.3	
MOY	**Mondy**	**12.88**	**252**	*e*			04 47 13.6	
MOY				*e*			04 49 06.3	
MOY				*e*Sg			04 49 37.2	
MOY				Smax			04 49 52.7	
	comp=Z,104nm,1.5s							
MOY	**Mondy**	**12.88**	**252**	*e*P		Pn	04 46 14.6	+13
SONM	**Songino Array**	**12.98**	**229**	Pn			04 46 08.2	
	comp=Z,0.2nm,0.3s,baz=39,slow=9.3,SNR=4.4							
SONM				Lg		Lg	04 49 44.1	
	comp=Z,2.0nm,0.3s,baz=24,slow=24,SNR=15							
ORL	**Orlik**	**13.04**	**257**	⇑*i*Pn		**Pn**	**04 46 04.7**	**+0.6**
ORL				*e*			04 46 34.6	
ORL				*e*			04 46 55.3	
ORL				max			04 47 03.9	
	comp=Z,4.0nm,1.3s							
ORL				*e*			04 49 14.8	
ORL				*e*Sg	S		04 49 42.7	+47
ORL				*e*			04 49 45.7	
ORL				max			04 49 55.6	
	comp=Z,50nm,1.6s							
TIXI	**Tiksi**	**14.71**	**10**	*e*P		P	04 46 29.1	-3.9
TIXI				pmax	pmax			
	comp=Z,10.0nm,0.8s							
USRK	**Ussuriysk Arra**	**14.91**	**147**	Pn		**P**	**04 46 36.6**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=337,slow=13,SNR=4.4							
USRK				Lg		Lg	04 50 49.7	
	comp=Z,0.1nm,0.3s,baz=322,slow=24,SNR=6.4							
HVS	**Khovu-Aksy**	**17.00**	**260**	*e*P		**P**	**04 46 58.5**	**-0.2**
HVS				pmax	pmax			
	comp=Z,22nm,1.2s							
KSRS	**Korea Array**	**20.47**	**164**	P		Pn	04 47 38.2	-0.6
	comp=Z,0.6nm,0.5s,baz=352,slow=12,SNR=3.5							
ZALV	**Zalesovo Beam**	**20.49**	**276**	P		Pn	04 47 37.2	-1.7
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ZALV	**Zalesovo Beam**	**20.49**	**276**	P		Pn	04 47 37.2	-1.7
	comp=Z,1.7nm,0.6s,baz=65,slow=10,SNR=6.4							
PETK	**Petropavlovsk-**	**21.22**	**86**	P		P	04 47 48.3	+3.6
PETK				pmax	pmax			
	comp=Z,4.0nm,0.8s							
PETK	**Petropavlovsk-**	**21.22**	**86**	P		P	04 47 48.3	+3.6
	comp=Z,4.2nm,0.8s,baz=259,slow=5.4,SNR=3.7							
MJAR	**Matsushiro Arr**	**23.82**	**140**	P		**P**	**04 48 12.9**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=330,slow=9.9,SNR=2.8							
KURK	**Kurchatov**	**25.36**	**273**	P		**P**	**04 48 25.8**	**-0.2**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.8s							
KURBB	**Kurchatov Arra**	**25.46**	**273**	P		**P**	**04 48 25.8**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=67,slow=9.7,SNR=3.8							
MKAR	**Makanchi Array**	**25.64**	**262**	P		**P**	**04 48 28.3**	**-0.3**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**25.64**	**262**	P		**P**	**04 48 28.2**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=52,slow=8.1,SNR=8.7							
BRVK	**Borovoye**	**28.64**	**283**	*e*P		**P**	**04 48 56.2**	**+0.7**
BRVK				pmax	pmax			
	comp=Z,1.0nm,0.8s							
AAK	**Ala-Archa**	**32.56**	**263**	*e*P		P	04 49 33.7	+3.3
AAK				pmax	pmax			
	comp=Z,4.0nm,1.2s							
ARCES	**ARCESS Array B**	**39.74**	**327**	P		**P**	**04 50 31.8**	**+0.6**
	comp=Z,1.4nm,0.9s,baz=71,slow=9.6,SNR=4.3							
ILAR	**Eielson Array**	**41.36**	**40**	P		P	04 50 45.9	+1.2
	comp=Z,0.7nm,0.6s,baz=296,slow=5.0,SNR=17							
FINES	**FINESS Array B**	**44.33**	**317**	P		**P**	**04 51 07.9**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=46,slow=8.2,SNR=6.1							
NB2	**NORSAR Subarra**	**49.80**	**323**	P		**P**	**04 51 52.1**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=38,slow=7.9							
NOA	**NORSAR Array B**	**49.80**	**323**	P		P	04 51 52.5	+1.0
	comp=Z,1.7nm,0.7s,baz=40,slow=7.8,SNR=7.0							
GERES	**GERESS Array B**	**58.32**	**312**	P		**P**	**04 52 54.1**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=43,slow=3.4,SNR=3.0							
PDAR	**Pinedale Array**	**71.65**	**37**	P		P	04 54 22.8	+1.9
	comp=Z,0.1nm,0.5s,baz=8.9,slow=6.4,SNR=2.6							
WRA	**Warramunga Arr**	**77.84**	**167**	P		P	04 54 59.5	+2.9
	comp=Z,56nm,0.4s,baz=351,slow=6.7,SNR=1.6							

IDC ***23*** *04:43:33.8±1.1,56.°19N×163.°28E, h0km, mb3.8/3, mb1 3.6/5, mb1mx3.3/28, mbtmp3.6/5, ML2.8/2, Error ellipse: s-maj=33.0km s-min=13.1km az=25.0*

KRSC ***23*** *04:43:37.9±0.2,55.°89N×162.°97E, h5km±5km, ML4.1*

ISC 23 04:43:36.4±2.2,55.°95N±0.°04×163.°08E±0.°08, h6km±11km, n34,σ1s51/55, mb4.1/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMKR	**Semkarok**	**1.10**	**306**	*i* P	**Pb**	**04 43 58.7**	**+0.9**
SMKR				*i* S	**Sn**	**04 44 14.3**	**+0.4**
BDR	**Baidarnaya**	**1.21**	**301**	*i* P	**Pn**	**04 44 00.7**	**+0.8**
BDR				*i* S	**Sn**	**04 44 17.5**	**+0.8**
SRKR	**Sorokina**	**1.28**	**304**	*i* P	**Pn**	**04 44 01.7**	**+0.9**
SRKR				*i* S	**Sn**	**04 44 19.8**	**+1.5**
ZLN	**Zelenaya**	**1.28**	**274**	*i* P	**Pn**	**04 44 02.3**	**+1.4**
ZLN				*i* S	**Sn**	**04 44 20.5**	**+2.1**
CIRR	**Tsirk**	**1.32**	**278**	*i* P	**Pb**	**04 44 02.9**	**+1.3**
CIRR				*i* S	**Sn**	**04 44 21.3**	**+1.9**
BZGR	**Bezymyannyi-Gr**	**1.34**	**270**	*i* P	**Pb**	**04 44 03.0**	**+1.0**
BZGR				*e*S	**Sn**	**04 44 21.2**	**+1.3**
LGNR	**Loginova**	**1.35**	**276**	*i* P	**Pg**	**04 44 03.4**	**+1.1**
LGNR				*i* S	**Sn**	**04 44 22.4**	**+2.0**
KLY	**Klyuchi**	**1.41**	**286**	*i* P	**Pn**	**04 44 02.0**	**-0.5**
KLY				*i* S	**Sb**	**04 44 19.1**	**-2.1**
KRSR	**Krestovskiy**	**1.44**	**282**	*e*P	**Pb**	**04 44 03.6**	**0.0**
KRSR				*i* S	**Sn**	**04 44 23.1**	**+0.9**
BZWR	**Bezymyannyi-We**	**1.46**	**271**	*i* P	**Pg**	**04 44 04.8**	**+0.5**
BZWR				*i* S	**Sn**	**04 44 24.2**	**+1.4**
BZMR	**Bezymyannaya**	**1.46**	**270**	*i* P	**Pg**	**04 44 04.7**	**+0.4**
BZMR				*e*S	**Sn**	**04 44 24.1**	**+1.3**
KIRR	**Kirishev**	**1.54**	**271**	*i* P	**Pg**	**04 44 05.9**	**0.0**
KIRR				*i* S	**Sg**	**04 44 25.7**	**-0.2**
KPT	**Kopyto**	**1.61**	**272**	*i* P	**Pg**	**04 44 06.9**	**-0.3**
KPT				*i* S	**Sg**	**04 44 28.2**	**+0.2**
KMNR	**Kamenistaya**	**1.62**	**264**	*i* P	**Pg**	**04 44 07.3**	**-0.1**
KMNR				*i* S	**Sg**	**04 44 28.5**	**+0.2**
TUMR	**Tumrok**	**1.80**	**249**	P	**Pg**	**04 44 10.1**	**-0.7**
TUMR				*i* S	**Sg**	**04 44 33.6**	**-0.5**
KOZ	**Kozyrevsk**	**1.81**	**275**	*i* P	**Pg**	**04 44 10.6**	**-0.4**
KOZ				*i* S	**Sg**	**04 44 34.8**	**+0.5**
SRDR	**Sredinnyy**	**1.92**	**282**	*i* P	**Pb**	**04 44 11.6**	**-0.2**
SRDR				*i* S	**Sg**	**04 44 36.8**	**-1.2**
ESO	**Esso**	**2.47**	**271**	*e*P	**Pn**	**04 44 18.5**	**+1.4**
ESO				*i* S	**Sn**	**04 44 48.5**	**+1.0**
NLC	**Nalytchevo**	**3.54**	**220**	P	**Pn**	**04 44 33.0**	**+1.2**
NLC				*i* S	**Sn**	**04 45 14.0**	**+0.2**
PALN	**Palana**	**3.56**	**333**	P	Pb	04 44 37.5	-2.2
PALN				*i* S	**Sb**	**04 45 21.0**	**-2.2**
SMAR	**Somma**	**3.67**	**224**	P	**Pn**	**04 44 35.9**	**+2.1**
AVH	**Avacha**	**3.69**	**225**	P	Pn	04 44 36.8	+2.8
AVH				*i* S	**Sn**	**04 45 19.3**	**+1.5**
UGLR	**Uglovaya**	**3.70**	**224**	P	**Pn**	**04 44 36.3**	**+2.1**
UGLR				*i* S	**Sn**	**04 45 19.7**	**+1.6**
KOK	**Koryaka**	**3.71**	**226**	P	**Pn**	**04 44 36.5**	**+2.2**
GNL	**Ganaly**	**3.74**	**235**	P	**Pn**	**04 44 36.7**	**+2.1**
PET	**Petropavlovsk**	**3.91**	**223**	P	**Pn**	**04 44 37.9**	**+1.0**
PET				*i* S	**Sn**	**04 45 22.5**	**-0.5**
PETK	**Petropavlovsk-**	**4.24**	**230**	Pn	Pn	04 44 44.4	+2.9
	0.6nm,0.3s,baz=42,slow=20,SNR=9.7						
PETK				Sn	**Sb**	**04 45 37.2**	**-5.4**
	0.5nm,0.3s,baz=75,slow=24,SNR=5.2						
RUS	**Russkaya**	**4.43**	**219**	P	**Pn**	**04 44 45.6**	**+1.5**
RUS				*i* S	**Sn**	**04 45 35.6**	**-0.3**
MTVR	**Mutnovka**	**4.51**	**222**	P	**Pn**	**04 44 47.0**	**+1.7**
MTVR				*i* S	**Sn**	**04 45 38.4**	**+0.3**
ASAK	**Asacha**	**4.70**	**223**	P	**Pn**	**04 44 50.4**	**+2.6**
ASAK				*i* S	**Sn**	**04 45 44.1**	**+1.5**
FX1	**Attu Island--F**	**6.64**	**113**	Pn	Pn	04 45 12.3	-2.0
	0.6nm,0.3s,baz=90,slow=9.1,SNR=4.9						
FX1				Sn	Sn	04 46 24.9	-5.3
	0.3nm,0.3s,baz=258,slow=20,SNR=2.7						
KURBB	**Kurchatov Arra**	**47.82**	**301**	P	P	04 52 11.7	-2.6
	0.7nm,0.5s,baz=53,slow=7.6,SNR=4.1						
MKAR	**Makanchi Array**	**48.50**	**295**	P	P	04 52 16.6	-3.1
	0.4nm,0.7s,baz=47,slow=6.3,SNR=2.8						
FINES	**FINESS Array B**	**58.17**	**337**	P	**P**	**04 53 29.0**	**-1.4**
	2.1nm,0.8s,baz=32,slow=7.6,SNR=4.9						

KRSC 23 05:23:33.6±0.4,56.°19N×163.°58E, h5km±5km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMKR	**Semkarok**	**1.24**	**289**	*e*P	Pg	05 23 57.0	-0.5
SMKR				*i* S	Sn	05 24 14.4	-0.4
BDR	**Baidarnaya**	**1.37**	**287**	*i* P	Pn	05 23 59.5	0.0
BDR				*i* S	Sn	05 24 18.5	+0.3
SRKR	**Sorokina**	**1.42**	**290**	*i* P	Pn	05 24 00.1	0.0
SRKR				*i* S	Sg	05 24 19.5	+0.1
ZLN	**Zelenaya**	**1.56**	**265**	*e*P	Pb	05 24 03.0	-0.2
ZLN				*i* S	Sg	05 24 24.2	+0.1
CIRR	**Tsirk**	**1.59**	**268**	*i* P	Pb	05 24 03.3	-0.3
CIRR				*i* S	Sg	05 24 24.7	-0.2
LGNR	**Loginova**	**1.62**	**267**	*i* P	Pb	05 24 04.0	-0.4
LGNR				*i* S	Sg	05 24 26.0	-0.4
BZGR	**Bezymyannyi-Gr**	**1.64**	**262**	*e*P	Pb	05 24 04.1	-0.3
BZGR				*i* S	Sg	05 24 26.2	-0.3
KLY	**Klyuchi**	**1.64**	**276**	*e*P	Pn	05 24 01.5	-1.5
KLY				*i* S	Sn	05 24 22.3	-2.2
KRSR	**Krestovskiy**	**1.69**	**272**	*e*P	Pn	05 24 04.3	+0.5
KRSR				*i* S	Sn	05 24 26.1	+0.2
BZWR	**Bezymyannyi-We**	**1.74**	**264**	*e*P	Pb	05 24 05.8	-0.5
BZWR				*i* S	Sb	05 24 28.9	+0.2
BZMR	**Bezymyannaya**	**1.75**	**263**	*e*P	Pb	05 24 05.8	-0.6
BZMR				*i* S	Sb	05 24 29.0	+0.2
KIRR	**Kirishev**	**1.83**	**264**	*e*P	Pn	05 24 06.6	+0.7
KIRR				*i* S	Sb	05 24 31.2	+0.1
KPT	**Kopyto**	**1.90**	**265**	*i* P	Pb	05 24 22.2	-0.6
KPT				*i* S	Sg	05 24 33.9	-0.8
KMNR	**Kamenistaya**	**1.93**	**258**	*e*P	Pn	05 24 08.1	+0.9
KMNR				*i* S	Sb	05 24 33.8	0.0
KOZ	**Kozyrevsk**	**2.08**	**268**	*e*P	Pb	05 24 10.9	-0.9
KOZ				*i* S	Sb	05 24 39.0	+1.0
TUMR	**Tumrok**	**2.14**	**246**	P	Pb	05 24 12.5	-0.6
SRDR	**Sredinnyy**	**2.16**	**275**	*i* P	Pn	05 24 11.5	+1.2
SRDR				*i* S	Sb	05 24 40.1	-0.3
ESO	**Esso**	**2.75**	**266**	*e*P	Pn	05 24 19.6	+1.2
ESO				*i* S	Sn	05 24 54.0	+2.0
AVH	**Avacha**	**4.06**	**226**	*e*P	Pn	05 24 37.1	+0.7
UGLR	**Uglovaya**	**4.07**	**225**	*e*P	Pn	05 24 38.2	+1.6
GNL	**Ganaly**	**4.10**	**235**	*e*P	Pn	05 24 38.8	+1.8
RUS	**Russkaya**	**4.79**	**220**	*e*P	Pn	05 24 47.5	+1.2
RUS				*i* S	Sn	05 25 42.0	-0.2
ASAK	**Asacha**	**5.06**	**223**	*e*P	Pn	05 24 52.3	+2.1

MEX 23 05:41:57.4±0.5,17.°67N×100.°45W, h34km±14km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.61**	**9**	*i* P	Pn	05 42 07.6	-2.1
ARIG				*i* S	Sn	05 42 15.8	-2.6
CAIG	**El Cayaco**	**0.65**	**165**	*i* P	Pn	05 42 08.3	-1.8
CAIG				*e*S	Sn	05 42 16.4	-2.7
ZIIG	**Zihuatanejo**	**0.97**	**266**	*i* P	Pn	05 42 13.1	-1.6
ZIIG				*i* S	Sn	05 42 24.9	-2.4
PLIG	**Platanillo**	**1.15**	**51**	*i* P	Pn	05 42 15.8	-1.4
PLIG				*i* S	Sn	05 42 29.7	-2.2
YAIG	**Yautepec**	**1.77**	**48**	*i* P	Pn	05 42 23.4	-2.4
YAIG				*i* S	Sn	05 42 44.8	-2.5
PNIG	**Pinotepa**	**2.56**	**120**	*i* P	Pn	05 42 34.7	-1.8
PNIG				*i* S	Sn	05 43 03.9	-2.6

TAP 23 05:45:07.7,22.°53N×121.°38E, h25km, ML3.6, 6C-1D, B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TTN	**Taitung**	**0.31**	**317**	*e*P	Pb	05 45 15.1	+0.3
	baz=322						
TTN				S	Sn	05 45 21.2	-1.2
	baz=322						
ECL	**Taimali**	**0.40**	**280**	⇑*i*P	Pb	05 45 16.0	-0.2
	baz=280						
ECL				*e*S	Sb	05 45 21.8	-0.2
	baz=280						
TWG	**Pinlang**	**0.40**	**316**	⇑*i*P	Pb	05 45 16.5	+0.1
	baz=302						
TWG				*e*S	Sb	05 45 22.8	+0.5
	baz=302						
TAW	**Tawu**	**0.48**	**249**	⇑*e*P	Pb	05 45 17.2	-0.3
	baz=259						
TAW				*e*S	Sb	05 45 23.7	-0.5
	baz=259						
EAST	**Anshuo**	**0.51**	**254**	⇑*e*P	Pb	05 45 17.7	-0.4
	baz=260						
LAY	**Lan-yu**	**0.51**	**162**	*e*P	Pb	05 45 18.1	-0.1
	baz=153						
CHKT	**Chengkung**	**0.57**	**359**	⇓*i*P	Pb	05 45 18.7	-0.3
	baz=6.0						
CHKT				*e*S	Sb	05 45 26.8	0.0
	baz=6.0						
SCZT	**Fangliau**	**0.72**	**258**	⇑P	Pb	05 45 21.1	-0.4
	baz=257						
TSEB	**Hengchuen, Pin**	**0.77**	**215**	*e*P	Pb	05 45 22.2	-0.2
	baz=216						
TSEB				S	Sn	05 45 33.1	-0.5
	baz=216						
TWK1	**Hengchun**	**0.79**	**222**	*e*P	Pb	05 45 22.3	-0.5
	baz=220						
TWK1				*e*S	Sb	05 45 32.4	-0.7
	baz=220						
HEN	**Hengchun**	**0.79**	**229**	*e*P	Pb	05 45 22.4	-0.3
	baz=219						
HEN				*e*S	Sb	05 45 32.5	-0.5
	baz=219						
TWF1	**Yuli**	**0.82**	**355**	*e*P	Pb	05 45 22.9	-0.5
	baz=342						
SGLT	**Jiouru**	**0.84**	**284**	*e*P	Pn	05 45 24.8	+0.9
	baz=287						
STYT	**Tauyuan**	**0.85**	**318**	*e*P	Pb	05 45 23.6	-0.4
	baz=326						
SGST	**Jiashian**	**0.92**	**307**	*e*P	Pn	05 45 25.2	+0.2
	baz=306						
TWM1	**Shoushan**	**0.93**	**289**	*e*P	Pn	05 45 26.1	+0.9
	baz=290						
TWP	**Hsiaoliuchiu**	**0.95**	**259**	*e*P	Pb	05 45 27.6	+2.0
	baz=244						
EHY	**Hungye**	**0.97**	**357**	*e*P	Pn	05 45 24.7	-1.1
	baz=346						
KAU	**Kaohsiung**	**0.99**	**272**	*e*P	Pb	05 45 26.8	+0.6
	baz=272						
WTP	**Ta-pu**	**1.00**	**316**	*e*P	Pb	05 45 26.8	+0.3
	baz=322						
CHN1	**Nanshi**	**1.02**	**310**	⇑P	Pb	05 45 27.6	+0.9
	baz=309						
CHN1				*e*S	Sn	05 45 42.6	+2.6
	baz=309						
YUS	**Yu-Shan**	**1.03**	**338**	*e*P	Pn	05 45 26.8	-0.5
	baz=330						
CHN4	**Tsaushan**	**1.09**	**319**	*e*P	Pb	05 45 28.5	+0.6
	baz=318						
CHN4				*e*S	Sb	05 45 44.4	+2.6
	baz=318						
TWK	**Hsinying**	**1.10**	**312**	*e*P	Pb	05 45 28.5	+0.4
	baz=312						
TWK				*e*S	Sb	05 45 44.5	+2.3
	baz=312						
ALS	**Alishan**	**1.11**	**332**	*e*P	Pb	05 45 28.4	-0.2
	baz=324						
CHN5	**Tsauling**	**1.24**	**329**	*e*P	Pb	05 45 31.0	+0.4
	baz=328						
CHN5				*e*S	Sb	05 45 49.9	+3.5
	baz=328						
CHN2	**Minshiung**	**1.30**	**320**	*e*P	Pn	05 45 30.7	+0.4
	baz=318						
CHY	**Chiayi**	**1.30**	**318**	*e*P	Pb	05 45 32.5	+1.0
	baz=316						
CHY				*e*S	Sb	05 45 50.0	+2.2
	baz=316						
SMLT	**Sun Moon Lake**	**1.42**	**342**	*e*P	Pb	05 45 34.3	+0.6
	baz=342						
TYC	**Yuchr**	**1.45**	**341**	*e*P	Pb	05 45 34.0	0.0
	baz=350						
WNT	**Mingjian**	**1.49**	**335**	*e*P	Pb	05 45 35.5	+0.8
	baz=332						
WNT				*e*S	Sb	05 45 55.9	+2.7
	baz=332						
WHF	**Hehuan Shan**	**1.61**	**356**	*e*P	Pn	05 45 35.7	+0.5
	baz=9.0						
TWQ1	**Liyutan**	**1.89**	**343**	*e*P	Pb	05 45 41.5	-0.1
	baz=339						
TWQ1				*e*S	Sb	05 46 06.3	+1.4
	baz=339						
ENA	**Nanau**	**1.92**	**10**	*e*P	Pn	05 45 39.7	+0.9
	baz=358						
NSY	**Sanyi**	**1.96**	**343**	*e*P	Pb	05 45 42.5	-0.2
	baz=339						
NSY				*e*S	Sb	05 46 07.7	+0.9
	baz=339						
ENTT	**Nioudou**	**2.11**	**5**	*e*P	Pn	05 45 43.3	+1.9
	baz=5.0						
TWC	**Suao**	**2.12**	**12**	*e*P	Pn	05 45 42.8	+1.3
	baz=359						
NSTT	**Nanjuang**	**2.12**	**351**	*e*P	Pb	05 45 44.6	-0.9
	baz=3.0						
NSK	**Sanguang**	**2.14**	**360**	*e*P	Pb	05 45 44.4	-1.4
	baz=16						
YOJ	**Yonaguni jima**	**2.44**	**38**	*e*P	Pn	05 45 47.2	+1.2
	baz=39						
NWF	**Wu-fen Shan**	**2.56**	**8**	*e*P	Pn	05 45 50.2	+2.5
	baz=9.0						

IDC ***23*** *06:09:14.3±1.2,34.°72N×24.°54E, h0km, mb3.7/7, mb1 3.8/10, mb1mx3.6/29, mbtmp3.7/10, ML3.7/3, Error ellipse: s-maj=26.1km s-min=22.8km az=135.0*

ISCJB ***23*** *06:09:16.8±0.6, 34.°55N±0.°03×24.°62E±0.°04, h28km±4km, mb3.5/7, Error ellipse: s-maj=5.8km s-min=4.4km az=138.6*

CSEM ***23*** *06:09:17.6±0.2, 34.°59N×24.°59E, h15km, MD3.2, Error ellipse: s-maj=4.7km s-min=3.8km az=35.0*

ATH ***23*** *06:09:18.9, 34.°70N×24.°59E, h25km±2km, MD3.2/11*

THE ***23*** *06:09:19.1, 34.°69N×24.°57E, h6km±1km, ML3.2/2, Error ellipse: s-maj=1.2km s-min=0.5km az=359.0*

ISC 23 06:09:18.1±1.0, 34.°63N±0.°04×24.°60E±0.°02, h27km±7km, n57,σ1s27/87, mb3.6/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.42**	**24**	P	**Pb**	**06 09 26.7**	**-0.5**
SIVA				S	**Sb**	**06 09 32.8**	**-0.5**

THR6	**Thira Island,**	**1.84**	**21**	P	**Pn**	**06 09 49.3**	**+1.3**
THR6	**Thira Island,**	**1.84**	**21**	P	**Pn**	**06 09 49.3**	**+1.3**
THR3	**Thira Island,**	**1.89**	**20**	P	**Pn**	**06 09 49.8**	**+1.1**
THR3	**Thira Island,**	**1.89**	**20**	P	**Pn**	**06 09 49.8**	**+1.1**
KYTH	**Kithira**	**2.08**	**323**	P	**Pn**	**06 09 53.0**	**+1.7**
KYTH	**Kithira**	**2.08**	**323**	*e*PB	**Pb**	**06 09 54.3**	**-0.9**
KYTH	**Kithira**	**2.08**	**323**	P	**Pn**	**06 09 53.0**	**+1.7**
KYTH	**Kithira**	**2.08**	**323**	*e*Pb	**Pb**	**06 09 54.3**	**-0.9**
VLI	**Veliai**	**2.48**	**327**	P	**Pn**	**06 09 58.3**	**+1.5**
VLI				S	**Sn**	**06 10 28.5**	**+2.2**
VLI	**Veliai**	**2.48**	**327**	*e*PN	**Pn**	**06 09 58.8**	**+2.0**
VLI	**Veliai**	**2.48**	**327**	P	**Pn**	**06 09 58.3**	**+1.5**
VLI	**Veliai**	**2.48**	**327**	*e*Pn	**Pn**	**06 09 58.8**	**+2.0**
VLI				S	**Sn**	**06 10 28.5**	**+2.2**
DYR	**Agios Nikonas**	**2.81**	**320**	P	**Pn**	**06 10 02.5**	**+1.1**
DYR				S	**Sn**	**06 10 36.5**	**+2.0**
DYR	**Agios Nikonas**	**2.81**	**320**	P	**Pn**	**06 10 02.5**	**+1.1**
DYR				S	**Sn**	**06 10 36.5**	**+2.0**
SWA2		**5.42**	**172**	P	**Pn**	**06 10 37.7**	**+0.5**
SWA2				S	**Sn**	**06 11 40.0**	**+1.3**
HFRF	**Wahat Farafira**	**8.11**	**156**	P	**Pn**	**06 11 14.1**	**-0.1**
BRTR	**Keskin Array B**	**8.82**	**52**	Pn	**Pn**	**06 11 24.4**	**+0.3**
	0.1nm,0.3s,baz=288,slow=16,SNR=2.7						
HNKL	**Nakhl**	**9.22**	**118**	P	**Pn**	**06 11 27.9**	**-1.5**
EIL	**Elat**	**10.07**	**117**	Pn	**Pn**	**06 11 40.2**	**-0.9**
	0.8nm,0.3s,baz=215,slow=4.8,SNR=9.1						
EIL				Sn	**Sn**	**06 13 27.6**	**-5.6**
	0.4nm,0.3s,baz=304,slow=18,SNR=3.0						
GERES	**GERESS Array B**	**16.34**	**334**	Pn	**Pn**	**06 13 05.0**	**-0.7**
	0.3nm,0.3s,baz=144,slow=12,SNR=11						
HFS	**Hagfors**	**26.49**	**348**	P	**P**	**06 14 52.1**	**-0.8**
	0.8nm,0.6s,baz=148,slow=11,SNR=5.2						
FINES	**FINESS Array B**	**26.85**	**2**	P	**P**	**06 14 55.5**	**-0.6**
	1.1nm,0.8s,baz=144,slow=13,SNR=4.6						
TORD	**Torodi Ar. Bea**	**29.80**	**230**	P	**P**	**06 15 23.5**	**+0.6**
	0.2nm,0.3s,baz=33,slow=8.8,SNR=11						
ARCES	**ARCESS Array B**	**34.96**	**1**	P	**P**	**06 16 06.7**	**-0.9**
	3.2nm,1.2s,baz=168,slow=9.1,SNR=6.1						
MKAR	**Makanchi Array**	**44.45**	**56**	P	**P**	**06 17 27.1**	**+0.2**
	0.6nm,0.3s,baz=268,slow=7.5,SNR=12						
ZALV	**Zalesovo Beam**	**45.70**	**46**	P	**P**	**06 17 36.6**	**0.0**
	0.6nm,0.4s,baz=270,slow=5.5,SNR=2.5						
YKA	**Yellowknife Ar**	**77.81**	**342**	P	**P**	**06 21 12.1**	**-0.6**
	0.1nm,0.5s,baz=32,slow=4.9,SNR=3.1						

*CRAAG **23** 06:18:07.4, 35.°70N×0.°35E, Ml3.1*
*CSEM **23** 06:18:11.7, 35.°61N×0.°39E, h0km, mb3.7/7, After MDD*
*MDD **23** 06:18:11.7±0.5, 35.°61N×0.°39E, h0km, mb3.7/7, Error ellipse: s-maj=7.8km s-min=4.6km az=1.0, PRXIMO*
*ISCJB **23** 06:18:14.4±1.5, 35.°83N±0.°07×0.°45E±0.°05, h15km±14km, Error ellipse: s-maj=11.4km s-min=6.4km az=172.5*

ISC 23 06:18:12.7±1.6, 35.°84N±0.°06×0.°51E±0.°05, h13km±14km, n47,σ1§27/64, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EANR	**'Ain N'Sour**	**0.49**	**76**	P	**Pg**	**06 18 21.7**	**-0.6**
EANR	**'Ain N'Sour**	**0.49**	**76**	P	**Pg**	**06 18 21.7**	**-0.6**
EANR	**'Ain N'Sour**	**0.49**	**76**	P	**Pg**	**06 18 21.7**	**-0.6**
ODJA	**Bouhanifia**	**0.74**	**227**	P	Pg	06 18 20.0	-7.1
ODJA	**Bouhanifia**	**0.74**	**227**	P	Pg	06 18 20.0	-7.1
ODJA	**Bouhanifia**	**0.74**	**227**	P	Pg	06 18 20.0	-7.1
ECHF	**Ech Chlef**	**0.74**	**64**	P	**Pn**	**06 18 29.2**	**+0.3**
ECHF	**Ech Chlef**	**0.74**	**64**	P	**Pn**	**06 18 29.2**	**+0.3**
ECHA	**Ech Chlef**	**0.76**	**65**	P	**Pn**	**06 18 29.2**	**+0.1**
ETRT	**Tiaret**	**0.78**	**125**	P	**Pg**	**06 18 27.3**	**-0.5**
ETRT	**Tiaret**	**0.78**	**125**	P	**Pg**	**06 18 27.3**	**-0.5**
ETRT	**Tiaret**	**0.78**	**125**	P	**Pg**	**06 18 27.3**	**-0.5**
USTO	**Oran**	**0.87**	**263**	P	**Sn**	**06 18 45.0**	**+1.8**
EBNR	**Beni Rached**	**0.94**	**61**	P	**Pb**	**06 18 31.3**	**+0.4**
EMHD	**Djebel Mahouad**	**2.01**	**79**	P	**Pb**	**06 18 50.2**	**+1.0**
EMHD	**Djebel Mahouad**	**2.01**	**79**	P	**Pb**	**06 18 50.2**	**+1.0**
EMHD	**Djebel Mahouad**	**2.01**	**79**	P	**Pb**	**06 18 50.2**	**+1.0**
ENIJ	**Nijar**	**2.47**	**298**	Pn	**Pn**	**06 18 53.4**	**+0.7**
	3.0nm,0.1s,SNR=7.9						
ENIJ				Sn	**Sn**	**06 19 19.7**	**-3.0**
	3.1nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**2.47**	**298**	Pn	**Pn**	**06 18 53.4**	**+0.7**
	3.0nm,0.1s,SNR=7.9						
ENIJ				Sn	**Sn**	**06 19 19.7**	**-3.0**
	3.1nm,0.2s,SNR=7.9						
EALB	**Alboran**	**2.88**	**273**	Sn	**Sn**	**06 19 32.0**	**-0.8**
	8.9nm,0.3s,SNR=7.9						
EALB	**Alboran**	**2.88**	**273**	Sn	**Sn**	**06 19 32.0**	**-0.8**
	8.9nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**2.92**	**349**	Pn	**Pn**	**06 18 59.0**	**+0.1**
	0.4nm,0.2s,SNR=7.9						
EBEN				Sn	**Sn**	**06 19 33.9**	**-0.1**
	1.7nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**2.92**	**349**	Pn	**Pn**	**06 18 59.0**	**+0.1**
	0.4nm,0.2s,SNR=7.9						
EBEN				Sn	**Sn**	**06 19 33.9**	**-0.1**
	1.7nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.94**	**292**	Pn	**Pn**	**06 18 58.8**	**-0.5**
	1.7nm,0.2s,SNR=7.6						
EBER				Sn	**Sn**	**06 19 34.4**	**-0.3**
	4.0nm,0.2s,SNR=8.8						
EBER	**Berja**	**2.94**	**292**	Pn	**Pn**	**06 18 58.8**	**-0.5**
	1.7nm,0.2s,SNR=7.6						
EBER				Sn	**Sn**	**06 19 34.4**	**-0.3**
	4.0nm,0.2s,SNR=8.8						
EHUE	**Huescar**	**3.18**	**309**	Pn	**Pn**	**06 19 03.9**	**+1.4**
	0.1nm,0.1s,SNR=7.9						
EHUE				Sn	**Sn**	**06 19 41.8**	**+1.5**
	1.5nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**3.18**	**309**	Pn	**Pn**	**06 19 03.9**	**+1.4**
	0.1nm,0.1s,SNR=7.9						
EHUE				Sn	**Sn**	**06 19 41.8**	**+1.5**
	1.5nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.25**	**330**	Pn	**Pn**	**06 19 04.6**	**+1.2**
	1.0nm,0.1s,SNR=10						
ETOB				Sn	**Sn**	**06 19 41.0**	**-1.0**
	3.0nm,0.2s,SNR=6.3						
ETOB	**Tobarra**	**3.25**	**330**	Pn	**Pn**	**06 19 04.6**	**+1.2**
	1.0nm,0.1s,SNR=10						
ETOB				Sn	**Sn**	**06 19 41.0**	**-1.0**
	3.0nm,0.2s,SNR=6.3						
EGUA	**Guajares**	**3.44**	**288**	Pn	**Pn**	**06 19 06.3**	**+0.3**
	1.9nm,0.1s,SNR=7.9						
EGUA				Sn	**Sn**	**06 19 44.5**	**-2.2**
	51nm,0.7s,SNR=7.9						
EGUA	**Guajares**	**3.44**	**288**	Pn	**Pn**	**06 19 06.3**	**+0.3**
	1.9nm,0.1s,SNR=7.9						
EGUA				Sn	**Sn**	**06 19 44.5**	**-2.2**
	51nm,0.7s,SNR=7.9						
EQUE	**Quentar**	**3.46**	**294**	Pn	**Pn**	**06 19 07.9**	**+1.5**
	0.6nm,0.1s,SNR=9.4						
EQUE	**Quentar**	**3.46**	**294**	Pn	**Pn**	**06 19 07.9**	**+1.5**
	0.6nm,0.1s,SNR=9.4						
EQES	**Quesada**	**3.48**	**305**	Pn	**Pn**	**06 19 08.9**	**+2.2**
	4.3nm,0.1s,SNR=9.9						
EQES				Sn	**Sn**	**06 19 49.5**	**+1.7**
	2.5nm,0.2s,SNR=5.9						
EQES	**Quesada**	**3.48**	**305**	Pn	**Pn**	**06 19 08.9**	**+2.2**
	4.3nm,0.1s,SNR=9.9						
EQES				Sn	**Sn**	**06 19 49.5**	**+1.7**
	2.5nm,0.2s,SNR=5.9						
ERON	**Agron**	**3.68**	**290**	Pn	**Pn**	**06 19 09.4**	**0.0**
	1.2nm,0.2s,SNR=7.9						
ERON	**Agron**	**3.68**	**290**	Pn	**Pn**	**06 19 09.4**	**0.0**
	1.2nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**3.69**	**320**	Pn	**Pn**	**06 19 10.3**	**+0.8**
	2.9nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**3.69**	**320**	Pn	**Pn**	**06 19 10.3**	**+0.8**
	2.9nm,0.3s,SNR=7.9						
EBAN	**Banos Encina**	**4.15**	**305**	Pn	**Pn**	**06 19 17.0**	**+1.2**
	0.8nm,0.1s,SNR=7.9						
EBAN				Sn	**Sn**	**06 20 03.1**	**-1.1**
	1.2nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**4.15**	**305**	Pn	**Pn**	**06 19 17.0**	**+1.2**
	0.8nm,0.1s,SNR=7.9						
EBAN				Sn	**Sn**	**06 20 03.1**	**-1.1**
	1.2nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.59**	**351**	Pn	**Pn**	**06 19 22.7**	**+0.8**
	0.4nm,0.1s,SNR=7.9						
EMOS				Sn	**Sn**	**06 20 13.5**	**-1.6**
	0.3nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.59**	**351**	Pn	**Pn**	**06 19 22.7**	**+0.8**
	0.4nm,0.1s,SNR=7.9						
EMOS				Sn	**Sn**	**06 20 13.5**	**-1.6**
	0.3nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**4.69**	**301**	Pn	**Pn**	**06 19 23.6**	**+0.4**
	0.7nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**06 20 15.2**	**-2.3**
	0.3nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**5.25**	**297**	Pn	**Pn**	**06 19 30.8**	**-0.1**
	SNR=7.9						
ECAB	**El Cabril**	**5.25**	**297**	Pn	**Pn**	**06 19 30.8**	**-0.1**
	SNR=7.9						

KRSC 23 06:27:47.4±1.0, 51.°39N×159.°63E, h5km±5km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.25**	**327**	*e*P	Pg	06 28 10.7	-0.7
RUS				*e*S	Sb	06 28 27.8	-0.1
MTVR	**Mutnovka**	**1.41**	**321**	*e*P	Pn	06 28 13.3	-0.7
MTVR				*e*S	Sb	06 28 32.1	-0.9
ASAK	**Asacha**	**1.46**	**314**	*e*P	Pn	06 28 14.2	-0.4
ASAK				*e*S	Sn	06 28 33.5	-0.7
GRL	**Gorelyy**	**1.51**	**321**	*e*P	Pb	06 28 15.8	-0.3
GRL				*e*S	Sg	06 28 36.5	+0.2
PET	**Petropavlovsk**	**1.74**	**340**	*e*P	Pn	06 28 18.0	-0.3
PET				*e*S	Sn	06 28 40.3	-0.6
NLC	**Nalytchevo**	**1.79**	**355**	*e*S	Sn	06 28 41.3	-0.8
UGLR	**Uglovaya**	**1.89**	**345**	*e*P	Pn	06 28 20.7	+0.2
SMAR	**Somma**	**1.94**	**345**	*e*P	Pb	06 28 22.6	-1.0
AVH	**Avacha**	**1.96**	**344**	*e*P	Pb	06 28 22.6	-1.0
AVH				*e*S	Sb	06 28 48.3	-0.1
GNL	**Ganaly**	**2.53**	**337**	*e*P	Pn	06 28 29.7	+0.4
GNL				*e*S	Sn	06 29 01.1	+0.6

MEX 23 06:41:02.8±0.5, 16.°67N×99.°37W, h16km±999km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.94**	**294**	*i* P	Pb	06 41 17.6	-3.2
CAIG				*i* S	Sb	06 41 28.9	-4.1
PLIG	**Platanillo**	**1.72**	**356**	*i* P	Pn	06 41 28.4	-3.8
PLIG				*i* S	Sn	06 41 48.8	-5.1
ARIG	**Puente Sto Nin**	**1.85**	**330**	*i* P	Pn	06 41 30.9	-3.1
ARIG				*e*S	Sn	06 41 52.4	-4.7
YAIG	**Yautepec**	**2.20**	**7**	*i* P	Pn	06 41 35.8	-3.1
YAIG				*i* S	Sn	06 42 01.6	-4.2
ZIIG	**Zihuatanejo**	**2.21**	**295**	*i* P	Pn	06 41 36.3	-2.5
ZIIG				*e*S	Sn	06 42 01.9	-4.0

IDC 23 07:26:56.0±1.4, 18.°01N×145.°68E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/23, mbtmp3.6/4, MS4.1/1, Ms1 4.1/1, ms1mx2.7/35, Error ellipse: s-maj=124.2km s-min=24.4km az=117.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.33**	**197**	P	P	07 34 27.1	-0.1
	0.2nm,0.3s,baz=16,slow=7.9,SNR=5.8						
FITZ	**Fitzroy Crossi**	**40.95**	**210**	P	P	07 34 41.0	+0.4
	1.0nm,0.2s,baz=29,slow=9.0,SNR=19						
ASAR	**Alice Springs**	**42.99**	**196**	P	P	07 34 56.7	-0.7
	0.2nm,0.4s,baz=16,slow=7.0,SNR=5.6						
AFI	**Afiamalu**	**52.60**	**124**	LR	LR	07 53 19.7	
	comp=Z,204nm,21.1s,baz=168,slow=30						
ILAR	**Eielson Array**	**64.26**	**26**	P	P	07 37 33.3	+0.4
	0.2nm,0.5s,baz=244,slow=6.2,SNR=4.8						
LPAZ	**La Paz**	**147.67**	**92**	PKPbc	PKPdf	07 46 42.8	+1.2
	0.9nm,0.5s,baz=333,slow=2.3,SNR=7.5						

IDC 23 07:32:54.0±1.0, 4.°01N×126.°76E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.6/23, mbtmp3.6/7, Error ellipse: s-maj=60.2km s-min=17.7km az=77.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.00**	**183**	P	P	07 37 51.1	+1.2
	0.8nm,0.5s,baz=4.8,slow=12,SNR=6.4						
WRA	**Warramunga Arr**	**24.94**	**163**	P	P	07 38 18.7	-0.5
	0.6nm,0.4s,baz=343,slow=10,SNR=8.7						
ASAR	**Alice Springs**	**28.38**	**166**	P	P	07 38 49.8	-0.4
	0.2nm,0.6s,baz=340,slow=7.2,SNR=3.4						
STKA	**Stephens Creek**	**38.38**	**159**	P	P	07 40 17.1	-0.1
	0.5nm,0.4s,baz=342,slow=13,SNR=2.5						
SONM	**Songino Array**	**47.05**	**341**	P	P	07 41 27.9	+0.3
	0.3nm,0.5s,baz=168,slow=10.0,SNR=2.6						
PETK	**Petropavlovsk-**	**55.17**	**22**	P	P	07 42 28.6	+0.2
	1.7nm,0.8s,baz=191,slow=4.2,SNR=4.3						
MKAR	**Makanchi Array**	**57.34**	**325**	P	P	07 42 43.6	-0.5
	0.9nm,0.4s,baz=116,slow=8.0,SNR=20						

*NEIC **23** 07:36:43.0±1.1, 31.°70S×179.°22W, h111km±11km, mb4.2/1, Error ellipse: s-maj=20.6km s-min=12.0km az=106.0*
*IDC **23** 07:36:42.3±2.1, 31.°72S×179.°24W, h103km±18km, mb3.9/6, mb1 4.0/8, mb1mx3.8/21, mbtmp3.9/8, Error ellipse: s-maj=23.1km s-min=16.3km az=102.0*

ISC 23 07:36:42.2±0.8, 31.°69S±0.°07×179.°2W±0.°2, h145km, n35, σ2§69/26, mb4.0/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.67**	**25**	P	**Pn**	**07 37 25.8**	**+0.5**
RAO				S	**Sn**	**07 37 55.2**	**-3.2**
RAO	**Raoul Island**	**2.67**	**25**	P	**Pn**	**07 37 25.8**	**+0.5**
	22nm,0.3s,baz=198,slow=20,SNR=2.8						
RAO				S	**Sn**	**07 37 55.2**	**-3.2**
	42nm,0.3s,baz=114,slow=20,SNR=4.2						
CNGZ	**Carnagh Statio**	**7.10**	**197**	PN	**Pn**	**07 38 25.8**	**+2.3**
CNGZ				SN	**Sn**	**07 39 44.0**	**+1.0**
URZ	**Urewera**	**7.22**	**204**	*e*Pn	**Pn**	**07 38 23.9**	**-1.1**
URZ				*e*Sn	**Sn**	**07 39 47.1**	**+1.4**
URZ	**Urewera**	**7.22**	**204**	P	**Pn**	**07 38 22.8**	**-2.2**
	2.9nm,0.3s,baz=266,slow=0.6,SNR=26						
URZ				S	**Sn**	**07 39 42.8**	**-2.8**
	4.4nm,0.3s,baz=181,slow=22,SNR=9.4						
URZ	**Urewera**	**7.22**	**204**	PN	**Pn**	**07 38 23.2**	**-1.9**
URZ				SN	**Sn**	**07 39 41.3**	**-4.4**
PRGZ	**Paritu Road**	**7.60**	**197**	SN	**Sn**	**07 39 54.3**	**-0.6**
KNZ	**Kokohu**	**7.75**	**198**	PN	**Pn**	**07 38 29.5**	**-2.6**
MHGZ	**Mahia Peninsul**	**7.81**	**197**	PN	**Pn**	**07 38 33.9**	**+1.0**
TCW	**Tory Channel**	**10.85**	**207**	PN	Pn	07 39 07.7	-5.7
TUWZ	**Tuamarina**	**11.17**	**208**	PN	Pn	07 39 11.5	-6.1
KHZ	**Kahutara**	**12.17**	**206**	PN	Pn	07 39 24.5	-6.1
MSVF	**Nonsavu**	**14.11**	**349**	*e*Pn	**P**	**07 39 58.1**	**-1.0**
MSVF				*e*Sn	**Sn**	**07 42 35.8**	**+3.5**
STKA	**Stephens Creek**	**33.19**	**259**	P	P	07 43 09.5	+4.4
STKA	**Stephens Creek**	**33.19**	**259**	P	P	07 43 09.5	+4.4
	0.6nm,0.5s,baz=108,slow=9.6,SNR=3.5						
ASAR	**Alice Springs**	**42.02**	**269**	P	P	07 44 23.7	+4.3
ASAR	**Alice Springs**	**42.02**	**269**	P	P	07 44 23.7	+4.3
	1.4nm,0.4s,baz=108,slow=7.4,SNR=39						
WRAB	**Tennant Creek**	**43.12**	**274**	*e*P	P	07 44 32.9	+4.5
	2.5nm,0.5s						
WRA	**Warramunga Arr**	**43.13**	**274**	P	P	07 44 32.5	+4.1
WRA	**Warramunga Arr**	**43.13**	**274**	P	P	07 44 32.5	+4.1
	2.3nm,0.3s,baz=112,slow=8.0,SNR=42						
FITZ	**Fitzroy Crossi**	**51.33**	**272**	P	P	07 45 36.9	+5.0
FITZ	**Fitzroy Crossi**	**51.33**	**272**	P	P	07 45 36.9	+5.0
	2.9nm,1.0s,baz=140,slow=7.6,SNR=3.5						
QSPA	**South Pole Qui**	**58.42**	**180**	*e*P	P	07 46 28.9	+6.5
QSPA	**South Pole Qui**	**58.42**	**180**	P	P	07 46 27.8	+5.4
	7.2nm,0.5s,baz=334,slow=0.6,SNR=68						
MAW	**Mawson**	**70.74**	**201**	P	P	07 47 47.2	+5.2
MAW	**Mawson**	**70.74**	**201**	P	P	07 47 47.2	+5.2
	0.9nm,0.4s,baz=146,slow=7.3,SNR=8.6						
FINES	**FINESS Array B**	**145.97**	**338**	PKPbc	**PKPab**	**07 56 07.4**	**+2.6**
FINES	**FINESS Array B**	**145.97**	**338**	PKPbc	**PKPab**	**07 56 07.4**	**+2.6**
	1.2nm,0.4s,baz=35,slow=4.7,SNR=13						
NB2	**NORSAR Subarra**	**149.85**	**350**	PKP	**PKPab**	**07 56 19.9**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=15,slow=2.5						
NOA	**NORSAR Array B**	**149.85**	**350**	PKPbc	**PKPab**	**07 56 18.3**	**-2.1**
NOA	**NORSAR Array B**	**149.85**	**350**	PKPbc	**PKPab**	**07 56 18.3**	**-2.1**
	comp=Z,0.6nm,0.7s,baz=13,slow=4.1,SNR=3.5						
HFS	**Hagfors**	**150.28**	**347**	PKPbc	**PKPab**	**07 56 19.1**	**-3.0**
HFS	**Hagfors**	**150.28**	**347**	PKPbc	**PKPab**	**07 56 19.1**	**-3.0**
	comp=Z,0.6nm,0.4s,baz=94,slow=2.1,SNR=8.2						
TORD	**Torodi Ar. Bea**	**161.53**	**183**	PKPab	**PKPab**	**07 57 15.8**	**+4.4**
TORD	**Torodi Ar. Bea**	**161.53**	**183**	PKPab	**PKPab**	**07 57 15.8**	**+4.4**
	comp=Z,0.4nm,0.5s,baz=171,slow=5.1,SNR=6.9						

IDC 23 07:41:12.5±2.2, 16.°54S×177.°29W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/18, mbtmp3.7/5, MS3.4/1, Ms1 3.4/1, ms1mx2.7/28, Error ellipse: s-maj=130.0km s-min=23.5km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**28.84**	**198**	LR	LR	07 56 14.2	
	comp=Z,76nm,20.4s,baz=316,slow=31						
STKA	**Stephens Creek**	**40.23**	**240**	P	P	07 48 50.6	-0.5
	1.0nm,0.5s,baz=81,slow=6.2,SNR=5.4						
WRA	**Warramunga Arr**	**45.94**	**258**	P	P	07 49 37.9	+0.3
	0.2nm,0.2s,baz=96,slow=7.4,SNR=8.0						
ASAR	**Alice Springs**	**46.20**	**253**	P	P	07 49 39.5	-0.1
	1.5nm,0.5s,baz=87,slow=8.3,SNR=35						
NVAR	**Mina Array Bea**	**77.70**	**44**	P	P	07 53 12.2	+0.7
	0.3nm,0.8s,baz=234,slow=8.8,SNR=2.8						
ILAR	**Eielson Array**	**84.32**	**13**	P	P	07 53 45.0	-1.0
	0.3nm,0.5s,baz=224,slow=5.7,SNR=6.5						

*MAN **23** 07:58:10, 10.°87N×126.°30E, h12km, mb5.5, ML4.5, MS4.8*
*IDC **23** 07:58:10.3±2.3, 10.°83N×126.°05E, h19km±14km, mb4.5/29, mb1 4.6/29, mb1mx4.6/32, mbtmp4.5/29, MS3.8/21, Ms1 3.8/21, ms1mx3.6/44, Error ellipse: s-maj=18.4km s-min=8.3km az=76.0*
*ISCJB **23** 07:58:14.2±0.7, 10.°86N±0.°03×126.°18E±0.°04, h65km±6km, mb4.7/70, Error ellipse: s-maj=6.8km s-min=4.7km az=160.6*
*NEIC **23** 07:58:16.7±0.9, 10.°83N×126.°10E, h74km±8km, mb4.9/20, Error ellipse: s-maj=8.2km s-min=4.3km az=73.0*
*DJA **23** 07:58:16.4±1.7, 11.°1N±10.°1×12.°6E±.°, h70km±11km, M4.7/23, mB5.2/5, mb4.8/23, Mw(mB)4.6/5*
*BJI **23** 07:58:21.6, 10.°78N×125.°93E, h133km, mB4.8/28, mb4.6/37*
*BKK **23** 07:58:29.2±1.1, 11.°1N±6.°1×12.°6E±.°, h172km±10km, M5.1/17, mB5.0/2, mb4.6/17, MLv5.4/1, Mw(mB)4.2/2*

ISC 23 07:58:16.7±0.9, 10.°90N±0.°04×126.°08E±0.°06, h72km±7km, n186, σ1§93/206, mb4.7/70, 4C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.42**	**238**	*e*P	Pn	07 58 37.5	-3.3
OCLP	**Ormoc**	**1.45**	**276**	*e*P	**Pn**	**07 58 39.5**	**-1.6**
BUTP	**Butuan**	**1.98**	**193**	*e*P	Pn	07 58 44.8	-3.3
LLP	**Lapu-Lapu**	**2.16**	**254**	*e*P	**Pn**	**07 58 49.0**	**-1.5**
LLP				*e*S	**Sn**	**07 59 19.5**	**+3.1**
TBP	**Tagbilaran**	**2.49**	**241**	*e*P	**Pn**	**07 58 54.2**	**-0.8**
TBP				*e*S	**Sn**	**07 59 24.3**	**-0.2**
CGP	**Cagayan de Oro**	**2.79**	**209**	⇓*e*P	**Pn**	**07 58 56.6**	**-2.5**
CGP				*i* S	**Sn**	**07 59 31.7**	**-0.1**
BUKP	**Musuan**	**3.17**	**199**	*e*P	**Pn**	**07 59 02.1**	**-2.2**
SNPH	**Sibulan**	**3.20**	**241**	⇑*i* P	Pn	07 58 50.1	-15
SNPH				*i* S	**Sn**	**07 59 43.3**	**+1.5**
RCP	**Roxas**	**3.33**	**282**	⇑*e*P	**Pn**	**07 59 06.1**	**-0.4**
DCPH	**Dipolog City**	**3.54**	**230**	⇑*e*P	**Pn**	**07 59 07.3**	**-2.1**
DCPH				*e*S	**Sn**	**07 59 52.3**	**+2.2**
DAV	**Davao City (W)**	**3.84**	**187**	Pn	**Pn**	**07 59 13.5**	**0.0**
DAV				Lg	Lg	08 00 10.0	
DAV	**Davao City (W)**	**3.84**	**187**	P	Pn	07 59 25.8	+12
DAV	**Davao City (W)**	**3.84**	**187**	Pn	**Pn**	**07 59 13.5**	**0.0**
	141nm,0.3s,baz=169,slow=1.6,SNR=4.9						
DAV				Lg	Lg	08 00 10.0	
	56nm,0.3s,baz=49,slow=19,SNR=3.2						
DAV				LR	LR	08 01 01.7	
	comp=Z,2μm,19.7s,baz=337,slow=46						
MATI	**Mati**	**3.94**	**177**	*e*P	Pn	07 59 08.1	-6.7
PAGZ	**Pagadian**	**4.04**	**221**	*e*P	**Pn**	**07 59 15.1**	**-1.0**
CTBH	**Cotabato--PC H**	**4.08**	**206**	*e*P	**Pn**	**07 59 14.5**	**-2.2**
CTBH				*i* S	Sn	08 00 13.9	+11
TGY	**Tagaytay City**	**5.94**	**303**	Pn	**Pn**	**07 59 42.2**	**0.0**
**T

BJII	**Banjamegara**	**24.36**	**223**	P		**P**	**08 03 30.4**	**+2.1**
	comp=Z,70nm,1.5s								
ENH	**Enshi**	**24.69**	**324**	*eP*		**P**	**08 03 31.7**	**+0.5**
	comp=Z,22nm,0.8s								
PBKT	**Sadao Pong**	**25.02**	**286**	P		**P**	**08 03 37.5**	**+3.3**
	comp=Z,12nm,1.1s								
PBKT	**Sadao Pong**	**25.02**	**286**	P		**P**	**08 03 37.5**	**+3.3**
	comp=Z,12nm,1.1s								
SKLT	**Songkhla**	**25.41**	**264**	P		**P**	**08 03 39.3**	**+1.5**
	comp=Z,31nm,1.2s								
SKLT	**Songkhla**	**25.41**	**264**	P		**P**	**08 03 39.7**	**+1.9**
	comp=Z,32nm,1.1s								
IPM	**Ipoh**	**25.62**	**258**	*eP*		**P**	**08 03 39.0**	**-0.8**
	comp=Z,23nm,0.8s								
IPM	**Ipoh**	**25.62**	**258**	P		**P**	**08 03 40.9**	**+1.1**
	comp=Z,35nm,0.9s								
KMI	**Kunming**	**26.25**	**306**	P		**P**	**08 03 45.9**	**+0.3**
KMI				S		**S**	**08 08 09.4**	**-3.8**
KMI				pmax		pmax			
	comp=Z,23nm,0.9s								
KMI				LR		LR			
	comp=N,170nm,10.3s								
KMI				LR		LR			
	comp=E,240nm,13.7s								
KMI				LR		LR			
	comp=Z,180nm,15.8s								
KLSI		**26.30**	**235**	P		**P**	**08 03 46.5**	**+0.7**
	comp=Z,42nm,1.3s								
KSAR	**Wonju Array Be**	**26.47**	**3**	P		**P**	**08 03 47.5**	**+0.3**
KSRS	**Korea Array**	**26.49**	**3**	P		**P**	**08 03 47.5**	**+0.2**
	comp=Z,4.1nm,0.9s,baz=190,slow=12,SNR=16								
KSRS				LR		LR	08 15 10.0		
	comp=Z,143nm,19.1s,baz=176,slow=38								
LWLI	**Liwa**	**27.03**	**235**	P		**P**	**08 03 52.7**	**+0.1**
	comp=Z,244nm,0.8s								
CMAR	**Chiang Mai Arr**	**27.28**	**289**	P		**P**	**08 03 53.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**27.28**	**289**	P		**P**	**08 03 53.8**	**-0.8**
	comp=Z,2.1nm,0.4s,baz=98,slow=7.7,SNR=8.9								
CMAR				LR		LR	08 15 15.3		
	comp=Z,95nm,18.9s,baz=292,slow=38								
MJAR	**Matsushiro Arr**	**27.78**	**21**	P		**P**	**08 03 57.3**	**-1.7**
MJAR	**Matsushiro Arr**	**27.78**	**21**	P		**P**	**08 03 57.3**	**-1.7**
	comp=Z,2.2nm,0.8s,baz=196,slow=10,SNR=6.8								
MJAR				LR		LR	08 13 32.6		
	comp=Z,200nm,21.7s,baz=205,slow=33								
XAN	**Xi'an**	**27.87**	**328**	P		**P**	**08 03 59.5**	**-0.3**
XAN				pP		pP	08 04 31.3	+15	
XAN				sP		sP	08 04 47.0	+22	
XAN				pmax		pmax			
	comp=Z,5.0nm,0.8s								
XAN				pmax		pmax			
	comp=Z,30nm,5.6s								
XAN				LR		LR			
	comp=N,75nm,21.4s								
XAN				LR		LR			
	comp=E,85nm,20.4s								
XAN				LR		LR			
	comp=Z,59nm,21.4s								
PSI	**Prapat**	**28.11**	**255**	LR		LR	08 16 12.7		
	comp=Z,227nm,18.1s,baz=206,slow=38								
CD2	**Chengdu**	**28.72**	**317**	*eP*		**P**	**08 04 10.0**	**+2.6**
CD2				pP		pP	08 04 39.6	+15	
CD2				sP		sP	08 04 56.1	+23	
CD2				PP		**PP**	**08 05 08.9**	**-4.5**
CD2				S		**S**	**08 08 48.3**	**-3.3**
CD2				sS		sS	08 09 40.3	+19	
CD2				SS		**SnSn**	**08 10 27.4**	**+8.1**
CD2				pmax		pmax			
	comp=Z,10.0nm,1.1s								
CD2				pmax		pmax			
	comp=Z,40nm,4.6s								
CD2				LR		LR			
	comp=E,360nm,16.6s								
CD2				LR		LR			
	comp=Z,550nm,15.4s								
FITZ	**Fitzroy Crossi**	**28.82**	**181**	P		**P**	**08 04 06.9**	**-1.5**
FITZ	**Fitzroy Crossi**	**28.82**	**181**	P		**P**	**08 04 06.9**	**-1.5**
	comp=Z,16nm,0.8s,baz=7.5,slow=7.4,SNR=29								
COEN	**Coen**	**29.96**	**145**	*eP*		**P**	**08 04 16.7**	**-1.8**
	comp=Z,123nm,0.9s								
BJI	**Beijing**	**30.32**	**345**	P		P	08 04 24.6	+3.2	
BJI				pmax		pmax			
	comp=Z,14nm,0.9s								
BJI				pmax		pmax			
	comp=Z,120nm,4.5s								
BJI				LR		LR			
	comp=Z,55nm,18.5s								
WRAB	**Tennant Creek**	**31.71**	**165**	*eP*		**P**	**08 04 31.3**	**-2.6**
	comp=Z,5.0nm,0.4s								
WRA	**Warramunga Arr**	**31.71**	**165**	P		**P**	**08 04 31.3**	**-2.6**
WRA				PcP		**PcP**	**08 07 24.4**	**+0.2**
WRA				ScP		**ScP**	**08 11 05.7**	**+4.3**
WRA	**Warramunga Arr**	**31.71**	**165**	P		**P**	**08 04 31.3**	**-2.6**
	comp=Z,4.1nm,0.5s,baz=344,slow=9.3,SNR=52								
WRA				PcP		**PcP**	**08 07 24.4**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=342,slow=3.1,SNR=4.3								
WRA				ScP		**ScP**	**08 11 05.7**	**+4.3**
	comp=Z,0.9nm,0.9s,baz=334,slow=3.1,SNR=4.8								
HHC	**Hu-ho-hao-te**	**32.46**	**339**	*eP*		P	08 04 44.1	+3.7	
HHC				pP		pP	08 05 14.4	+17	
HHC				sP		sP	08 05 31.0	+25	
HHC				PP		**PP**	**08 05 59.6**	**+4.7**
HHC				PcP		**PcP**	**08 07 25.3**	**-0.8**
HHC				S		**S**	**08 09 49.1**	**-1.0**
HHC				ScS		ScS	08 14 54.8	-8.4	
HHC				pmax		pmax			
	comp=Z,27nm,0.9s								
HHC				pmax		pmax			
	comp=Z,170nm,5.4s								
MBWA	**Marble Bar**	**32.47**	**191**	*eP*		**P**	**08 04 39.0**	**-1.5**
	comp=Z,20nm,0.5s								
USRK	**Ussuriysk Arra**	**33.57**	**8**	P		**P**	**08 04 49.8**	**0.0**
	comp=Z,9.8nm,0.7s,baz=191,slow=7.9,SNR=17								
MDJ	**Mudanjiang**	**33.73**	**5**	P		P	08 04 54.8	+3.6	
MDJ				sP		sP	08 05 37.8	+21	
MDJ				S		**S**	**08 10 03.9**	**-5.5**
MDJ				pmax		pmax			
	comp=Z,8.0nm,1.0s								
MDJ				pmax		pmax			
	comp=Z,97nm,6.5s								
MDJ				LR		LR			
	comp=N,64nm,58.5s								
MDJ				LR		LR			
	comp=E,110nm,49.9s								
MDJ				LR		LR			
	comp=Z,90nm,31.0s								
AS31	**Alice Springs**	**35.20**	**167**	*eP*		**P**	**08 05 01.9**	**-2.2**
ASAR	**Alice Springs**	**35.20**	**167**	P		**P**	**08 05 02.2**	**-2.0**
ASAR				PcP		**PcP**	**08 07 33.9**	**-0.1**
ASAR				S		S	08 10 36.4	+3.8	
ASAR	**Alice Springs**	**35.20**	**167**	P		**P**	**08 05 02.2**	**-2.0**
	comp=Z,8.5nm,0.4s,baz=351,slow=6.9,SNR=91								
ASAR				PcP		**PcP**	**08 07 33.9**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=350,slow=2.7,SNR=5.4								
ASAR				S		S	08 10 36.4	+3.8	
	comp=Z,1.2nm,0.8s,baz=351,slow=16,SNR=5.4								
ASAJ	**Asahikawa**	**36.04**	**20**	P		**P**	**08 05 11.8**	**+0.7**
ASAJ	**Asahikawa**	**36.04**	**20**	P		**P**	**08 05 11.8**	**+0.7**
	comp=Z,4.5nm,1.0s,baz=50,slow=16,SNR=2.5								
ASAJ				LR		LR	08 18 13.7		
	comp=Z,178nm,22.0s,baz=105,slow=33								
CTA	**Charters Tower**	**36.65**	**147**	P		**P**	**08 05 15.7**	**-0.9**
CTA				PcP		**PcP**	**08 07 39.4**	**+1.0**
CTA	**Charters Tower**	**36.65**	**147**	P		**P**	**08 05 15.7**	**-0.9**
	comp=Z,8.6nm,0.9s,baz=324,slow=9.8,SNR=5.3								
CTA				PcP		**PcP**	**08 07 39.4**	**+1.0**
	comp=Z,1.6nm,0.3s,baz=337,slow=4.8,SNR=4.9								
CTAO	**Charters Tower**	**36.65**	**147**	*eP*		**P**	**08 05 15.4**	**-1.2**
	comp=Z,14nm,1.0s								
CTAO				*e*PcP		**PcP**	**08 07 40.3**	**+2.0**
GTA	**Gaotai**	**36.76**	**325**	⇓P		**P**	**08 05 18.4**	**+0.9**
GTA				pP		pP	08 05 49.5	+15	
GTA				sP		sP	08 06 05.8	+23	
GTA				S		**S**	**08 10 52.3**	**-4.0**
GTA				sS		sS	08 11 45.9	+20	
GTA				SS		**SnSn**	**08 13 28.8**	**-5.2**
GTA				pmax		pmax			
	comp=Z,9.0nm,1.6s								
GTA				pmax		pmax			
	comp=Z,85nm,4.3s								
GTA				LR		LR			
	comp=N,130nm,20.4s								
GTA				LR		LR			
	comp=E,180nm,17.1s								
GTA				LR		LR			
	comp=Z,130nm,17.6s								
LSA	**Lhasa**	**37.51**	**305**	*eP*		**P**	**08 05 24.7**	**+0.3**
	comp=Z,12nm,0.8s								
HNR	**Honiara**	**39.28**	**120**	LR		LR	08 19 44.3		
	comp=Z,128nm,18.4s,baz=301,slow=33								
TAPN	**Taplejung**	**39.57**	**300**	*eP*		**P**	**08 05 40.9**	**-0.6**
	comp=Z,20nm,0.5s								
ODAN	**Odare**	**39.71**	**299**	*eP*		**P**	**08 05 42.0**	**-0.6**
	comp=Z,40nm,0.7s								
ULN	**Ulaanbaatar**	**40.17**	**340**	*eP*		**P**	**08 05 47.4**	**+1.4**
	comp=Z,14nm,0.9s								
SONM	**Songino Array**	**40.36**	**339**	P		**P**	**08 05 48.4**	**+0.8**
SONM				PcP		**PcP**	**08 07 50.2**	**+0.6**
SONM				ScP		**ScP**	**08 11 39.0**	**+6.2**
SONM	**Songino Array**	**40.36**	**339**	P		**P**	**08 05 48.4**	**+0.8**
	comp=Z,11nm,1.0s,baz=158,slow=9.1,SNR=22								
SONM				PcP		**PcP**	**08 07 50.2**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=162,slow=3.6,SNR=5.3								
SONM				ScP		**ScP**	**08 11 39.0**	**+6.2**
	comp=Z,0.2nm,0.3s,baz=164,slow=5.7,SNR=3.4								
SONM				LR		LR	08 24 22.3		
	comp=Z,95nm,19.6s,baz=150,slow=39								
RAMN	**Ramite**	**40.41**	**299**	*eP*		**P**	**08 05 48.0**	**-0.4**
	comp=Z,14nm,0.6s								
JIRN	**Jiri**	**40.95**	**300**	*eP*		**P**	**08 05 52.6**	**-0.4**
	comp=Z,44nm,0.5s								
GUN	**Gumba**	**41.29**	**300**	*eP*		**P**	**08 05 55.2**	**-0.6**
	comp=Z,70nm,0.8s								
FORT	**Forrest**	**41.49**	**177**	*eP*		**P**	**08 05 55.9**	**-0.9**
	comp=Z,43nm,0.6s								
PKI	**Pulchoki**	**41.60**	**299**	*eP*		**P**	**08 05 57.2**	**-1.1**
KKN	**Kakani**	**41.76**	**300**	*eP*		**P**	**08 05 58.4**	**-1.1**
	comp=Z,18nm,0.7s								
DMN	**Daman**	**41.87**	**299**	*eP*		**P**	**08 05 59.5**	**-0.9**
KOLN	**Koldanda**	**43.20**	**299**	*eP*		**P**	**08 06 10.5**	**-0.6**
	comp=Z,22nm,0.7s								
DANN	**Dangsing**	**43.21**	**300**	*eP*		**P**	**08 06 10.4**	**-0.9**
	comp=Z,65nm,0.9s								
NWAO	**Narrogin (SRO)**	**44.40**	**191**	*eP*		**P**	**08 06 20.1**	**-0.2**
NWAO	**Narrogin (SRO)**	**44.40**	**191**	P		**P**	**08 06 19.4**	**-0.9**
	comp=Z,96nm,0.7s,baz=15,slow=7.7,SNR=54								
BBOO	**Buckleboo**	**44.50**	**168**	*eP*		**P**	**08 06 20.4**	**-0.7**
	comp=Z,727nm,0.4s								
STKA	**Stephens Creek**	**45.06**	**161**	*eP*		**P**	**08 06 24.8**	**-0.8**
STKA	**Stephens Creek**	**45.06**	**161**	P		**P**	**08 06 24.5**	**-1.1**
	comp=Z,13nm,0.5s,baz=340,slow=7.6,SNR=56								
WMQ	**Urumqi**	**46.61**	**322**	P		**P**	**08 06 39.4**	**+1.6**
WMQ				pP		pP	08 07 11.3	+16	
WMQ				sP		sP	08 07 27.3	+23	
WMQ				PcP		**PcP**	**08 08 11.5**	**+0.7**
WMQ				PP		**PP**	**08 08 30.8**	**+2.5**
WMQ				ScP		ScP	08 11 50.4	-7.8	
WMQ				PcS		**PcS**	**08 12 05.1**	**-0.5**
WMQ				S		**S**	**08 13 17.3**	**-4.4**
WMQ				sS		sS	08 14 12.5	+20	
WMQ				ScS		ScS	08 16 16.8	-9.2	
WMQ				SS		SS	08 16 38.8	-10	
WMQ				LR		LR			
	comp=N,260nm,15.8s								
WMQ				LR		LR			
	comp=E,190nm,15.5s								
WMQ				LR		LR			
	comp=Z,69nm,19.9s								
PETK	**Petropavlovsk-**	**49.14**	**25**	P		**P**	**08 06 57.7**	**+0.5**
PETK	**Petropavlovsk-**	**49.14**	**25**	P		**P**	**08 06 57.7**	**+0.5**
	comp=Z,4.4nm,0.7s,baz=211,slow=7.6,SNR=6.7								
PETK				LR		LR	08 26 36.4		
	comp=Z,86nm,20.0s,baz=228,slow=35								
CAN	**Canberra**	**50.83**	**156**	*eP*		**P**	**08 07 10.6**	**+0.3**
	comp=Z,37nm,1.1s								
DZM	**Mont Dzumac**	**51.40**	**130**	P		**P**	**08 07 14.4**	**-0.3**
DZM	**Mont Dzumac**	**51.40**	**130**	P		**P**	**08 07 14.4**	**-0.3**
	comp=Z,14nm,0.6s,baz=90,slow=20,SNR=24								
MK31	**Makanchi Array**	**51.41**	**323**	*eP*		**P**	**08 07 15.4**	**+1.0**
MKAR	**Makanchi Array**	**51.41**	**323**	P		**P**	**08 07 14.9**	**+0.5**
MKAR				ScP		**ScP**	**08 12 24.2**	**+5.7**
MKAR	**Makanchi Array**	**51.41**	**323**	P		**P**	**08 07 14.9**	**+0.5**
	comp=Z,12nm,0.7s,baz=120,slow=7.9,SNR=8.3								
MKAR				ScP		**ScP**	**08 12 24.2**	**+5.7**
	comp=Z,2.6nm,1.1s,baz=122,slow=5.2,SNR=7.6								
KSH	**Kashi**	**52.67**	**312**	P		**P**	**08 07 26.0**	**+1.9**
KSH				pP		pP	08 07 57.9	+16	
KSH				sP		sP	08 08 14.5	+24	
KSH				PP		PP	08 09 29.3	+5.5	
KSH				PcS		**PcS**	**08 12 30.8**	**-1.1**
KSH				S		**S**	**08 14 41.6**	**-5.0**
KSH				sS		sS	08 15 39.3	+22	
KSH				ScS		ScS	08 16 58.3	-9.2	
KSH				pmax		pmax			
	comp=Z,19nm,1.5s								
KSH				pmax		pmax			
	comp=Z,66nm,4.1s								
KSH				LR		LR			
	comp=N,87nm,5.9s								
KSH				LR		LR			
	comp=E,120nm,4.5s								
KSH				LR		LR			
	comp=Z,270nm,5.7s								
ULHL	**Ulahol**	**53.40**	**315**	P		**P**	**08 07 30.5**	**+1.0**
	SNR=7.2								
ZAA0	**Zalesovo Array**	**53.98**	**331**	*eP*		**P**	**08 07 33.5**	**+0.3**
ZALV	**Zalesovo Beam**	**53.98**	**331**	P		**P**	**08 07 33.0**	**-0.3**
ZALV	**Zalesovo Beam**	**53.98**	**331**	P		**P**	**08 07 33.0**	**-0.3**
	comp=Z,9.4nm,0.6s,baz=117,slow=7.3,SNR=13								
KZA	**Kyzart**	**54.03**	**315**	P		**P**	**08 07 35.4**	**+1.1**
	SNR=13								
AAK	**Ala-Archa**	**54.74**	**315**	P		**P**	**08 07 39.1**	**-0.1**
AAK	**Ala-Archa**	**54.74**	**315**	P		**P**	**08 07 39.1**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=143,slow=5.1,SNR=4.0								
USP	**Ospenovka**	**54.96**	**316**	P		**P**	**08 07 41.2**	**+0.6**
	SNR=5.0								
AML	**Almayashu**	**55.14**	**314**	P		**P**	**08 07 43.4**	**+1.0**
	SNR=9.2								
EKS2	**Erkin-Say**	**55.25**	**315**	P		**P**	**08 07 43.7**	**+0.8**
	SNR=6.2								
KURK	**Kurchatov**	**55.44**	**325**	P		**P**	**08 07 44.0**	**+0.2**
KURBB	**Kurchatov Arra**	**55.45**	**325**	P		**P**	**08 07 44.0**	**+0.1**
	comp=Z,9.9nm,0.7s,baz=124,slow=7.2,SNR=13								
FX1	**Attu Island--F**	**56.30**	**32**	*eP*		**P**	**08 07 51.6**	**+1.6**
FX1	**Attu Island--F**	**56.30**	**32**	LR		LR	08 30 31.7		
	comp=Z,16nm,19.3s,baz=247,slow=34								
KKAR	**Karatay Array**	**57.67**	**314**	*eP*		**P**	**08 08 00.1**	**+0.2**
	comp=Z,19nm,1.0s								
BVAR	**Borovoye Array**	**61.04**	**325**	P		**P**	**08 08 23.5**	**+0.6**
BVAR	**Borovoye Array**	**61.04**	**325**	P		**P**	**08 08 23.5**	**+0.6**
	comp=Z,10nm,0.9s,baz=111,slow=7.9,SNR=7.1								
BVAR				LR		LR	08 34 10.6		
	comp=Z,54nm,22.0s,baz=174,slow=35								
BRVK	**Borovoye**	**61.11**	**325**	*eP*		**P**	**08 08 23.8**	**+0.4**
	comp=Z,21nm,0.9s								
ABKAR	**Akbulak array**	**66.28**	**319**	*eP*		**P**	**08 08 57.4**	**-0.1**
	comp=Z,9.3nm,0.9s								
AKTO	**Aktyubinsk**	**67.72**	**320**	P		**P**	**08 09 07.1**	**+0.6**
AKTO	**Aktyubinsk**	**67.72**	**320**	P		**P**	**08 09 07.1**	**+0.6**
	comp=Z,4.6nm,0.9s,baz=93,slow=6.8,SNR=9.9								
KDAK	**Kodiak Island**	**76.23**	**33**	LR		LR	08 37 35.8		
	comp=Z,111nm,21.4s,baz=111,slow=31								
COLD	**Coldfoot**	**77.59**	**23**	*eP*		**P**	**08 10 06.1**	**+1.3**
	comp=Z,5.2nm,0.9s								
CASY	**Casey**	**77.82**	**186**	*eP*		**P**	**08 10 05.8**	**-0.1**
	comp=Z,12nm,0.7s								
MCK	**McKinley**	**78.08**	**27**	*eP*		**P**	**08 10 07.9**	**+0.3**
	comp=Z,8.2nm,0.8s								
ILAR	**Eielson Array**	**78.95**	**26**	P		**P**	**08 10 12.7**	**+0.3**
ILAR	**Eielson Array**	**78.95**	**26**	P		**P**	**08 10 12.7**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=252,slow=5.2,SNR=3.6								
ILAR				LR		LR	08 42 30.3		
	comp=Z,63nm,19.6s,baz=259,slow=34								
EGAK	**Eagle**	**81.40**	**26**	*eP*		**P**	**08 10 25.8**	**+0.3**
	comp=Z,2.6nm,0.4s								
JOF	**Joensuu**	**82.54**	**333**	*ep*		**P**	**08 10 31.7**	**+0.2**
	comp=Z,9.2nm,0.6s								
KEV	**Kevo**	**82.98**	**340**	*ep*		**P**	**08 10 34.0**	**+0.4**
	comp=Z,5.5nm,0.6s								
KEV	**Kevo**	**82.98**	**340**	*eP*		**P**	**08 10 34.1**	**+0.5**
	comp=Z,26nm,1.3s								
ARCES	**ARCESS Array B**	**83.54**	**340**	P		**P**	**08 10 37.1**	**+0.5**
ARCES	**ARCESS Array B**	**83.54**	**340**	P		**P**	**08 10 37.1**	**+0.5**
	comp=Z,8.6nm,0.6s,baz=81,slow=6.2,SNR=43								
INK	**Inuvik**	**83.77**	**22**	LR		LR	08 50 01.3		
	comp=Z,43nm,18.6s,baz=211,slow=37								
KAF	**Kangasniemi**	**84.98**	**332**	*ep*		**P**	**08 10 43.7**	**-0.3**
	comp=Z,7.9nm,0.7s								
BRTR	**Keskin Array B**	**84.99**	**309**	P		**P**	**08 10 44.0**	**-0.7**
BRTR	**Keskin Array B**	**84.99**	**309**	P		**P**	**08 10 44.0**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=120,slow=3.8,SNR=8.1								
FINES	**FINESS Array B**	**85.25**	**332**	P		**P**	**08 10 45.3**	**-0.1**
FINES	**FINESS Array B**	**85.25**	**332**	P		**P**	**08 10 45.3**	**-0.1**
	comp=Z,8.6nm,0.9s,baz=85,slow=5.2,SNR=16								
FINES				LR		LR	08 53 43.6		
	comp=Z,68nm,18.6s,baz=84,slow=39								
KIEV	**Kiev**	**85.97**	**321**	*eP*		**P**	**08 10 48.3**	**-0.9**
	comp=Z,13nm,1.2s								
DLBC	**Dease Lake**	**87.95**	**31**	LR		LR	08 50 04.3		
	comp=Z,58nm,18.6s,baz=263,slow=35								
KMBO	**Kilima Mbogo**	**89.06**	**269**	*eP*		**P**	**08 11 05.6**	**+0.5**
KMBO	**Kilima Mbogo**	**89.06**	**269**	P		**P**	**08 11 05.2**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=43,slow=7.8,SNR=6.6								
KMBO				LR		LR	08 50 14.0		
	comp=Z,70nm,20.0s,baz=266,slow=35								
BUR08	**Bucovina Ar. S**	**89.25**	**318**	*eP*		**P**	**08 11 05.2**	**+0.1**
MAW	**Mawson**	**90.23**	**200**	*eP*		**P**	**08 11 07.9**	**-1.0**
	comp=Z,1.6nm,1.0s								
MAW	**Mawson**	**90.23**	**200**	P		**P**	**08 11 08.2**	**-0.7**
	comp=Z,3.1nm,0.7s,baz=40,slow=7.3,SNR=3.9								
VNDA	**Vanda**	**90.58**	**173**	*eP*		**P**	**08 11 10.8**	**+0.4**
VNDA	**Vanda**	**90.58**	**173**	P		**P**	**08 11 09.9**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=306,slow=5.1,SNR=8.0								
RES	**Resolute Bay**	**90.91**	**10**	LR		LR	08 49 40.1		
	comp=Z,48nm,20.3s,baz=295,slow=34								
KECS	**Kecovo**	**92.03**	**320**	*eP*		**P**	**08 11 18.0**	**+0.1**
NB2	**NORSAR Subarra**	**92.11**	**334**	P		**P**	**08 11 16.9**	**-1.1**
	comp=Z,2.4nm,0.7s,baz=62,slow=4.6								
NOA	**NORSAR Array B**	**92.11**	**334**	P		**P**	**08 11 17.1**	**-0.9**
NOA	**NORSAR Array B**	**92.11**	**334**	P		**P**	**08 11 17.1**	**-0.9**
	comp=Z,2.1nm,0.7s,baz=63,slow=4.6,SNR=12								
VYHS	**Vyhne**	**93.06**	**320**	*eP*		**P**	**08 11 21.2**	**-1.4**
YKA	**Yellowknife Ar**	**93.26**	**24**	P		**P**	**08 11 23.9**	**+0.7**
YKA	**Yellowknife Ar**	**93.26**	**24**	P		**P**	**08 11 23.9**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=302,slow=4.4,SNR=12								
JCT	**Junction City**	**119.70**	**46**	*e*PKPdf		**PKPdf**	**08 17 00.1**	**+0.9**
TORD	**Torodi Ar. Bea**	**119.86**	**292**	PKP		**PKPdf**	**08 16 59.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**119.86**	**292**	PKP		**PKPdf**	**08 16 59.6**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=56,slow=1.8,SNR=6.1								
WVT	**Waverly**	**123.34**	**33**	*e*PKPdf		**PKPdf**	**08 17 06.4**	**+0.4**
PLCA	**Paso Flores**	**146.86**	**157**	PKPbc		**PKPab**	**08 17 52.4**	**-0.3**
PLCA	**Paso Flores**	**146.86**	**157**	PKPbc		**PKPab**	**08 17 52.4**	**-0.3**
	comp=Z,6.7nm,0.6s,baz=204,slow=3.8,SNR=21								
LPAZ	**La Paz**	**165.19**	**113**	PKP		**PKPdf**	**08 18 16.4**	**+1.8**
LPAZ				PKPab		**PKPab**	**08 19 11.7**	**-0.4**
LPAZ	**La Paz**	**165.19**	**113**	PKP		**PKPdf**	**08 18 16.4**	**+1.8**
	comp=Z,1.2nm,1.0s,baz=267,slow=8.5,SNR=3.5								
LPAZ				PKPab		**PKPab**	**08 19 11.7**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=247,slow=4.1,SNR=2.8								

NNC 23 08:03:50.4±0.4, 50.01N×78.71E, h0km, mb3.6, mpv3.3, 9C-9D, Error ellipse: s-maj=5.7km s-min=2.1km az=77.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR10	**Kurchatov Arra**	**0.54**	**346**	P	Pg	08 04 00.8	+0.1
KUR10				S	Sb	08 04 09.7	-1.3
KUR09	**Kurchatov Arra**	**0.55**	**347**	P	Pg	08 04 01.1	+0.1
KUR09				S	Sb	08 04 09.9	-1.5
KUR08	**Kurchatov Arra**	**0.57**	**347**	P	Pg	08 04 01.7	+0.3
KUR08				S	Sg	08 04 10.1	+1.3
KUR07	**Kurchatov Arra**	**0.59**	**348**	P	Pg	08 04 02.0	+0.2
KUR07				S	Sg	08 04 10.8	+1.5
KUR11	**Kurchatov Arra**	**0.60**	**359**	P	Pg	08 04 01.7	-0.2
KUR11				S	Sg	08 04 10.5	+0.9
KUR12	**Kurchatov Arra**	**0.60**	**357**	P	Pg	08 04 02.2	+0.3
KUR12				S	Sg	08 04 10.8	+1.1
KUR13	**Kurchatov Arra**	**0.61**	**355**	P	Pg	08 04 02.1	+0.1
KUR13				S	Sg	08 04 11.0	+1.1
KUR06	**Kurchatov Arra**	**0.61**	**349**	P	Pg	08 04 02.4	+0.3
KUR06				S	Sg	08 04 11.2	+1.2
KUR14	**Kurchatov Arra**	**0.61**	**353**	P	Pg	08 04 02.2	0.0
KUR14				S	Sg	08 04 10.9	+0.7
KUR15	**Kurchatov Arra**	**0.62**	**351**	P	Pg	08 04 02.3	0.0
KUR15				S	Sg	08 04 11.

GNL				*i*	S		Sn	08 17 51.0	+1.3

*IDC **23** 08:28:35.8±1.0,50°.22N×179°.94W,h0^{km},mb3.9/11, mb1 4.1/14,mb1mx3.9/30,mbtmp3.9/14,ML3.6/3,Error ellipse: s-maj=25.2km s-min=11.8km az=13.0*
*NEIC **23** 08:28:39.6,50°.12N×179°.95E,h20^{km},mb3.9/2, ML3.6(AEIC),After AEIC.*

ISC 23 08:28:36.2±2.2,50°.18N±0°.07×179°.91E±0°.04,h4^{km}±13^{km}, n65,σ1°.08/74,mb3.9/13,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.26**	**342**	P			**Pg**	**08 29 00.4**	**0.0**
AMKA				S			**Sb**	**08 29 17.5**	**+0.4**
CERAA	**Semis' Rag'd T**	**1.74**	**355**	P			**Pb**	**08 29 08.1**	**-0.5**
CESW	**Semis' Southwe**	**1.74**	**353**	P			**Pb**	**08 29 08.3**	**-0.4**
CERB	**Semis' Cerberu**	**1.77**	**354**	P			**Pb**	**08 29 09.0**	**-0.1**
CERB				S			**Sn**	**08 29 31.1**	**+0.7**
GALAA	**Gareloi Lava P**	**1.79**	**27**	P			**Pb**	**08 29 08.9**	**-0.7**
CETU	**Semis' Tuman**	**1.81**	**352**	P			**Pb**	**08 29 09.4**	**-0.5**
GAEA	**Gareloi East**	**1.82**	**27**	P			**Pn**	**08 29 09.0**	**+0.8**
CEAP	**Semis' Anvil P**	**1.84**	**354**	P			**Pb**	**08 29 10.2**	**-0.1**
GANE	**Gareloi Northe**	**1.84**	**26**	P			**Pn**	**08 29 09.1**	**+0.6**
LSSE	**Little Sitkin**	**1.95**	**335**	P			**Pn**	**08 29 11.0**	**+0.9**
LSPA	**Little Sitkin**	**1.97**	**335**	P			**Pn**	**08 29 11.1**	**+0.7**
LSPA				S			**Sb**	**08 29 37.9**	**+0.4**
LSSA	**Little Sitkin**	**1.98**	**334**	P			**Pn**	**08 29 11.2**	**+0.7**
LSNW	**Little Sitkin**	**2.00**	**334**	P			**Pn**	**08 29 11.3**	**+0.6**
TASE	**Tanaga Southea**	**2.11**	**37**	P			**Pn**	**08 29 13.0**	**+0.8**
TAFP	**Tanaga Falls P**	**2.18**	**37**	P			**Pn**	**08 29 13.9**	**+0.7**
TAFP				S			**Sn**	**08 29 39.6**	**-1.0**
TAPA	**Tanaga Point A**	**2.18**	**40**	P			**Pn**	**08 29 13.7**	**+0.5**
KIKV	**Kanaga Island**	**2.51**	**46**	P			**Pn**	**08 29 18.1**	**+0.3**
KIRH	**Kanaga Island**	**2.56**	**46**	P			**Pn**	**08 29 19.0**	**+0.6**
ADAG	**Mount Adagdak**	**2.85**	**49**	P			**Pn**	**08 29 23.5**	**+1.1**
ETKA	**Kagalaska Isla**	**2.88**	**53**	P			**Pn**	**08 29 22.6**	**-0.1**
GSCK	**Great Sitkin C**	**3.08**	**52**	P			**Pn**	**08 29 26.3**	**+0.7**
GSTD	**Great Sitkin T**	**3.12**	**51**	P			**Pn**	**08 29 26.8**	**+0.6**
GSTD				S			**Sn**	**08 30 02.4**	**-1.4**
GSMY	**Great Sitkin M**	**3.16**	**52**	P			**Pn**	**08 29 27.1**	**+0.5**
GSTR	**Great Sitkin T**	**3.18**	**51**	P			**Pn**	**08 29 28.0**	**+1.0**
ATKA	**Atka Island**	**4.23**	**59**	P			**Pn**	**08 29 41.0**	**-0.3**
ATKA				S			**Sn**	**08 30 28.8**	**-2.2**
FX1	**Attu Island--F**	**5.01**	**305**	P			**Pn**	**08 29 52.0**	**0.0**
FX1				Sn			**Sn**	**08 30 46.8**	**-3.4**
FX1				S			**Sn**	**08 30 47.5**	**-2.7**
FX1	**Attu Island--F** 4.0nm,0.3s,baz=295,slow=12,SNR=28	**5.01**	**305**	Pn			**Pn**	**08 29 51.9**	**0.0**
FX1				Sn			**Sn**	**08 30 46.8**	**-3.4**
MREP	**Makushin Rep't** 7.5nm,0.3s,baz=270,slow=20,SNR=14	**9.00**	**61**	P			**Pn**	**08 30 46.4**	**-0.4**
UNV	**Unalaska Valle**	**9.15**	**61**	P			**Pn**	**08 30 47.1**	**-1.6**
AKUT	**Akutan**	**9.65**	**60**	*e*Pn			**Pn**	**08 30 57.6**	**+2.0**
AKUT				*e*Sn			**Sn**	**08 32 46.5**	**+2.1**
PETK	**Petropavlovsk-**	**14.09**	**291**	Pn			**Pn**	**08 31 57.2**	**+0.9**
PETK	**Petropavlovsk-** 0.7nm,0.3s,baz=98,slow=18,SNR=17	**14.09**	**291**	Pn			**Pn**	**08 31 57.2**	**+0.9**
KDAK	**Kodiak Island**	**17.78**	**54**	P			**Pn**	**08 32 42.8**	**-1.5**
KDAK	**Kodiak Island** 0.4nm,0.3s,baz=235,slow=8.7,SNR=3.4	**17.78**	**54**	P			**Pn**	**08 32 42.8**	**-1.5**
ILAR	**Eielson Array**	**22.70**	**37**	P			**P**	**08 33 36.8**	**-1.6**
ILAR	**Eielson Array** 0.5nm,0.5s,baz=240,slow=8.7,SNR=7.2	**22.70**	**37**	P			**P**	**08 33 36.8**	**-1.6**
EGAK	**Eagle** 4.9nm,0.8s	**25.00**	**40**	*e*P			**P**	**08 33 59.8**	**-0.8**
YKA	**Yellowknife Ar**	**36.66**	**45**	P			**P**	**08 35 43.4**	**0.0**
YKA	**Yellowknife Ar** 3.1nm,0.6s,baz=282,slow=7.7,SNR=24	**36.66**	**45**	P			**P**	**08 35 43.4**	**0.0**
MCMT	**McKenzie Canyo** 0.7nm,0.6s	**44.35**	**70**	*e*P			**P**	**08 36 47.6**	**+0.1**
NVAR	**Mina Array Bea**	**44.54**	**81**	P			**P**	**08 36 48.5**	**-0.5**
NVAR	**Mina Array Bea** 0.7nm,0.8s,baz=277,slow=8.1,SNR=5.4	**44.54**	**81**	P			**P**	**08 36 48.5**	**-0.5**
SONM	**Songino Array**	**46.46**	**297**	P			**P**	**08 37 04.9**	**+0.9**
SONM	**Songino Array** 0.2nm,0.3s,baz=69,slow=9.4,SNR=3.0	**46.46**	**297**	P			**P**	**08 37 04.9**	**+0.9**
PDAR	**Pinedale Array**	**47.47**	**70**	P			**P**	**08 37 11.6**	**-0.6**
PDAR	**Pinedale Array** 0.7nm,0.6s,baz=316,slow=2.9,SNR=8.8	**47.47**	**70**	P			**P**	**08 37 11.6**	**-0.6**
ARCES	**ARCESS Array B**	**59.13**	**350**	P			**P**	**08 38 36.8**	**-0.5**
ARCES	**ARCESS Array B** 1.4nm,0.7s,baz=29,slow=9.4,SNR=5.3	**59.13**	**350**	P			**P**	**08 38 36.8**	**-0.5**
MKAR	**Makanchi Array**	**60.14**	**308**	P			**P**	**08 38 44.5**	**-0.1**
MKAR	**Makanchi Array** 0.8nm,0.7s,baz=56,slow=7.1,SNR=7.9	**60.14**	**308**	P			**P**	**08 38 44.5**	**-0.1**
BVAR	**Borovoye Array**	**61.27**	**320**	P			**P**	**08 38 53.3**	**+1.1**
BVAR	**Borovoye Array** baz=46,slow=6.2	**61.27**	**320**	P			**P**	**08 38 53.3**	**+1.1**
FINES	**FINESS Array B**	**66.77**	**347**	P			**P**	**08 39 28.2**	**+0.1**
FINES	**FINESS Array B** 3.0nm,0.7s,baz=15,slow=7.9,SNR=9.3	**66.77**	**347**	P			**P**	**08 39 28.2**	**+0.1**
AKTO	**Aktyubinsk**	**68.19**	**324**	P			**P**	**08 39 37.7**	**+0.4**
AKTO	**Aktyubinsk** 3.0nm,0.6s,baz=54,slow=6.1,SNR=15	**68.19**	**324**	P			**P**	**08 39 37.7**	**+0.4**
NB2	**NORSAR Subarra** comp=Z,3.4nm,0.9s,baz=6.9,slow=6.2	**68.76**	**354**	P			**P**	**08 39 41.0**	**+0.2**
NOA	**NORSAR Array B**	**68.76**	**354**	P			**P**	**08 39 41.0**	**+0.2**
NOA	**NORSAR Array B** comp=Z,2.3nm,0.8s,baz=6.7,slow=6.3,SNR=6.2	**68.76**	**354**	P			**P**	**08 39 41.0**	**+0.2**
BUR08	**Bucovina Ar. S**	**80.15**	**343**	*e*P			**P**	**08 40 48.5**	**+1.2**
VYHS	**Vyhne**	**80.37**	**347**	*e*P			P	08 40 39.5	-8.8
WRA	**Warramunga Arr**	**80.58**	**223**	P			**P**	**08 40 50.2**	**+0.6**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.6s,baz=33,slow=6.2,SNR=3.2	**80.58**	**223**	P			**P**	**08 40 50.2**	**+0.6**
BOSA	**Boshof**	**151.14**	**309**	PKPbc			**PKPbc**	**08 48 30.4**	**-0.1**
BOSA	**Boshof** comp=Z,6.0nm,1.1s,baz=45,slow=1.4,SNR=4.3	**151.14**	**309**	PKPbc			**PKPbc**	**08 48 30.4**	**-0.1**

IDC 23 08:42:16.2±2.6,47°.84N×151°.56E,h162^{km}±24^{km},mb3.3/5, mb1 3.2/8,mb1mx3.0/28,mbtmp3.3/8,Error ellipse: s-maj=64.8km s-min=16.4km az=147.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-** 0.8nm,0.3s,baz=204,slow=16,SNR=9.9	**6.57**	**34**	P			Pn	08 43 50.3	-0.2
ASAJ	**Asahikawa** 2.0nm,0.3s,baz=65,slow=12,SNR=13	**7.27**	**243**	P			Pn	08 43 59.4	-0.4
USRK	**Ussuriysk Arra** 0.3nm,0.3s,baz=70,slow=12,SNR=16	**14.07**	**262**	P			Pn	08 45 28.9	+0.6
KSRS	**Korea Array** 2.2nm,0.8s,baz=52,slow=10,SNR=7.2	**20.17**	**248**	P			P	08 46 38.5	+0.5
INK	**Inuvik** 0.6nm,0.6s,baz=235,slow=7.1,SNR=6.6	**41.31**	**33**	P			P	08 49 45.6	+0.4
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=72,slow=9.3,SNR=3.4	**45.51**	**296**	P			P	08 50 19.4	+0.1
MKAR				pP			pP	08 50 56.7	+1.7
HFS	**Hagfors** 0.8nm,0.4s,baz=36,slow=5.5,SNR=7.0	**67.06**	**339**	P			P	08 52 50.9	-0.6
SCHQ	**Schefferville** 0.5nm,0.4s,baz=324,slow=11,SNR=6.2	**72.71**	**22**	P			P	08 53 26.0	-0.1

MEX 23 08:55:17.6±0.8,16°.60N×100°.36W,h3^{km}±8^{km},MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.45**	**11**	*i* P			Pg	08 55 25.5	-0.7
CAIG				*i* S			Sg	08 55 32.8	+0.6
ZIIG	**Zihuatanejo**	**1.46**	**313**	*i* P			Pn	08 55 41.7	-3.1
ZIIG				*i* S			Sb	08 55 59.8	-4.5
ARIG	**Puente Sto Nin**	**1.67**	**0**	*i* P			Pn	08 55 43.7	-4.1
ARIG				*e*S			Sn	08 56 04.6	-5.1
PLIG	**Platanillo**	**1.96**	**24**	*e*P			Pn	08 55 48.6	-3.2
PLIG				*i* S			Sn	08 56 11.4	-5.6
YAIG	**Yautepec**	**2.56**	**28**	*i* P			Pn	08 55 57.9	-2.3
YAIG				*i* S			Sn	08 56 27.9	-4.2

IDC 23 09:05:19.0±47.0,16°.09S×175°.49W,h0^{km},mb3.9/3, mb1 4.1/3,mb1mx3.6/18,mbtmp3.9/3,Error ellipse: s-maj=882.1km s-min=164.8km az=78.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.5nm,0.5s,baz=91,slow=11,SNR=7.2	**41.95**	**240**	P			P	09 13 12.4	+0.7
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=95,slow=7.6,SNR=4.6	**47.73**	**258**	P			P	09 13 57.5	-0.5
ASAR	**Alice Springs**	**47.98**	**252**	P			P	09 13 59.5	-0.5
SLUM	baz=212	**5.40**	**208**	P			**Pn**	**09 15 53.1**	**-1.0**
SLUM		**5.40**	**208**	P			**Pn**	**09 15 53.1**	**-1.0**
HBRG	**Burj al 'Arab** baz=165	**5.89**	**166**	P			**Pn**	**09 15 59.2**	**-1.7**
HBRG	comp=N,140μm,0.2s,logA/T=5.8,baz=165			AMP				09 17 00.0	
HBRG	**Burj al 'Arab**	**5.89**	**166**	P			**Pn**	**09 15 59.2**	**-1.7**
HNAT	**Natroun** baz=161	**6.98**	**162**	P			**Pn**	**09 16 14.0**	**-1.7**
HNAT	**Natroun**	**6.98**	**162**	P			**Pn**	**09 16 14.0**	**-1.7**
FYM	**Al Fayyum** baz=158	**7.03**	**159**	P			**Pn**	**09 16 14.9**	**-1.6**
FYM	**Al Fayyum**	**7.03**	**159**	P			**Pn**	**09 16 14.9**	**-1.6**
HSAF	**As Saff** baz=155	**7.26**	**156**	P			**Pn**	**09 16 17.5**	**-2.1**
HSAF	**As Saff**	**7.26**	**156**	P			**Pn**	**09 16 17.5**	**-2.1**
SWA2	baz=201	**7.41**	**199**	P			**Pn**	**09 16 21.1**	**-0.5**
SWA2	baz=201			S			Sn	09 17 37.8	-6.5
SWA2		**7.41**	**199**	P			**Pn**	**09 16 21.1**	**-0.5**
ZAF	baz=150	**7.92**	**151**	P			**Pn**	**09 16 27.7**	**-0.9**
ZAF		**7.92**	**151**	P			**Pn**	**09 16 27.7**	**-0.9**
HFRF	**Wahat Farafira** baz=179	**9.14**	**179**	P			**Pn**	**09 16 43.4**	**-1.9**
HFRF	**Wahat Farafira**	**9.14**	**179**	P			**Pn**	**09 16 43.4**	**-1.9**

ISC 23 09:39:58.9±1.1,48°.13N±0°.05×23°.15E±0°.05,h10^{km},n7, σ1°.55/10,2C,Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KOLS	**Kolonicke sedl**	**0.99**	**324**	*e*PG			**Pg**	**09 40 17.2**	**-0.8**
KOLS				*e*SG			**Sn**	**09 40 33.0**	**0.0**
DRGR		**1.37**	**193**	↑*i* P			**Pn**	**09 40 23.7**	**-0.5**
DRGR		**1.37**	**193**	*i* S			**Sg**	**09 40 44.1**	**+1.0**
BURAR	**Bucovina Array**	**1.48**	**110**	↑*i* P			**Pn**	**09 40 25.2**	**-0.6**
BURAR	**Bucovina Array**	**1.48**	**110**	*i* S			**Sg**	**09 40 47.6**	**+1.0**
STHS	**Stebnicka Huta**	**1.80**	**316**	*e*PG			**Pg**	**09 40 29.4**	**-0.7**
STHS				*e*SG			**Sg**	**09 40 59.2**	**+2.4**
KECS	**Kecovo**	**1.81**	**282**	*e*PG			**Pg**	**09 40 28.0**	**-2.2**
KECS				*e*SG			**Sb**	**09 40 56.6**	**+1.6**

WEL 23 09:48:53.9±0.3,45°.43S×166°.72E,h24^{km}±1^{km},ML3.5/16, 1C-1D,Error ellipse: s-maj=2.4km s-min=1.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.31**	**99**	P*			Pb	09 49 00.7	-0.3
DCZ				S*			Sb	09 49 04.0	-2.0
DCZ				AML			AML	09 49 05.3	
DCZ				AML			AML	09 49 05.3	
DCZ				AML			AML	09 49 05.3	
WHZ	**Wether Hill Ro**	**0.98**	**119**	PN			Pn	09 49 11.9	-0.3
WHZ				SN			Sb	09 49 24.0	-0.8
WHZ				AML			AML	09 49 31.6	
MSZ	**Milford Sound**	**1.14**	**49**	PN			Pn	09 49 12.8	-1.6
MSZ				AML			AML	09 49 32.7	
MSZ				AML			AML	09 49 32.9	
MSZ				AML			AML	09 49 32.9	
MSZ				AML			AML	09 49 36.0	
APZ	**The Paps**	**1.66**	**148**	PN			Pb	09 49 23.2	-0.7
APZ				SN			Sb	09 49 45.7	+1.3
WKZ	**Wanaka**	**1.74**	**71**	PN			Pb	09 49 24.1	-1.1
WKZ				AML			AML	09 49 51.8	
WKZ				AML			AML	09 49 51.8	
WKZ				AML			AML	09 49 54.5	
WKZ				AML			AML	09 49 54.5	
EAZ	**Earnscleugh**	**1.84**	**85**	PN			Pn	09 49 25.4	+1.4
EAZ				AML			AML	09 49 52.8	
EAZ				AML			AML	09 49 56.8	
JCZ	**Jackson Bay**	**1.99**	**48**	PN			Pn	09 49 27.8	+1.6
JCZ				AML			AML	09 49 58.3	
JCZ				AML			AML	09 50 00.5	
SYZ	**Scrubby Hill**	**2.02**	**124**	PN			Pb	09 49 28.3	-1.6
TUZ	**Tuapeka**	**2.11**	**106**	AML			AML	09 49 21.4	
TUZ				PN			Pn	09 49 29.5	+1.8
TUZ				AML			AML	09 50 03.3	
LBZ	**Lake Benmore**	**2.67**	**68**	↓PN			Pn	09 49 37.8	+2.3
LBZ				AML			AML	09 50 14.1	
ODZ	**Otahua Downs**	**2.80**	**84**	↑PN			Pn	09 49 37.4	+0.2
ODZ				AML			AML	09 49 40.4	
ODZ				AML			AML	09 52 06.7	
FOZ	**Fox Glacier**	**2.83**	**50**	AML			AML	09 50 37.7	

*UPP **23** 09:51:44.9,59°.62N×25°.07E,h0^{km},ML2.3,Suspected Mining explosion.*
*ISCJB **23** 09:51:46.8±0.4,59°.50N±0°.02×24°.59E±0°.05,h0^{km},Error ellipse: s-maj=4.1km s-min=3.3km az=25.0*
*NAO **23** 09:51:47.8±1.0,59°.53N×24°.71E,ML2.2*
*CSEM **23** 09:51:47.9±0.2,59°.51N×24°.58E,h2^{km},ML1.7,Error ellipse: s-maj=4.6km s-min=3.3km az=130.0,Mining explosion.*
*HEL **23** 09:51:48.7±0.1,59°.51N×24°.61E,h0^{km},ML2.3, ML2.3(UPP),Explosion*
*BER **23** 09:51:48.6±3.4,59°.54N×24°.66E,h0^{km},ML2.2(NAO), Suspected explosion*
*IDC **23** 09:51:49.1±1.9,59°.59N×24°.63E,h0^{km},mb1 3.2/3, mb1mx2.9/26,mbtmp3.1/3,ML3.0/3,Error ellipse: s-maj=20.2km s-min=7.2km az=144.0*

ISC 23 09:51:46.5±0.7,59°.50N±0°.02×24°.54E±0°.03,h0^{km},n53, σ1°.23/79,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.72**	**354**	*e*P			**Pg**	**09 52 00.8**	**+0.6**
MEF				*e*S			**Sg**	**09 52 09.3**	**-0.3**
MEF	**Metsahovi** SNR=90	**0.72**	**354**	*e*P			**Pg**	**09 52 00.9**	**+0.6**
MEF	48nm,0.2s,SNR=90			*e*S			**Sg**	**09 52 10.0**	**+0.5**
MTSE	**Matsula**	**0.88**	**205**	*e*P			**Pg**	**09 52 04.5**	**+1.3**
MTSE				*e*S			**Sg**	**09 52 16.1**	**+1.6**
MTSE	**Matsula**	**0.88**	**205**	P			**Pg**	**09 52 04.5**	**+1.3**
MTSE				S			**Sg**	**09 52 16.1**	**+1.6**
PVF	**Pernaja**	**1.24**	**32**	*e*P			**Pg**	**09 52 10.0**	**-0.3**
PVF				*e*S			**Sg**	**09 52 26.2**	**-0.1**
PVF	**Pernaja**	**1.24**	**32**	P			**Pg**	**09 52 09.9**	**-0.3**
PVF				S			**Sg**	**09 52 26.1**	**-0.1**
VSU	**Vasula**	**1.55**	**132**	Pg			**Pn**	**09 52 16.0**	**+0.8**
VSU				Lg			Lg	09 52 35.6	
VSU	**Vasula**	**1.55**	**132**	Pg			**Pn**	**09 52 16.0**	**+0.8**
VSU				Lg			Lg	09 52 35.6	
VSU	**Vasula**	**1.55**	**132**	*e*P			**Pn**	**09 52 16.0**	**+0.8**
VSU				*e*S			**Sn**	**09 52 35.7**	**-0.2**
VSU	**Vasula** SNR=27	**1.55**	**132**	P			**Pn**	**09 52 16.0**	**+0.8**
VSU				Lg			Lg	09 52 35.6	
VJF	**Virojoki**	**1.84**	**54**	*e*P			**Pn**	**09 52 20.2**	**+0.9**
VJF				*e*S			**Sn**	**09 52 43.6**	**+0.5**
VJF	comp=Z,46nm,0.1s			MSG				09 52 46.5	
VJF	**Virojoki**	**1.84**	**54**	P			**Pn**	**09 52 20.1**	**+0.9**
VJF				S			**Sn**	**09 52 43.6**	**+0.5**
RAF	**Rauma**	**2.06**	**319**	*e*P			**Pb**	**09 52 24.8**	**+0.2**
RAF				*e*S			**Sb**	**09 52 51.9**	**+1.2**
RAF	comp=Z,13nm,0.1s			MSG				09 52 53.9	
RAF	**Rauma** SNR=50	**2.06**	**319**	*e*P			**Pb**	**09 52 24.5**	**-0.1**
RAF				S			**Sb**	**09 52 51.9**	**+1.2**
FIA0	**FINESS Array S** baz=198,slow=16	**2.09**	**21**	Pn			**Pn**	**09 52 24.1**	**+1.3**
FIA0	baz=194,slow=28			Pg			**Pb**	**09 52 25.1**	**-0.1**
FIA0	baz=192,slow=37			Lg			Lg	09 52 51.4	
FIA0	**FINESS Array S** baz=198,slow=16	**2.09**	**21**	Rg			**Rg**	**09 53 03.4**	
FIA0				Pn			**Pn**	**09 52 24.1**	**+1.3**
FIA0	baz=194,slow=28			Pg			**Pb**	**09 52 25.1**	**-0.1**
FIA0				Lg			Lg	09 52 51.4	
FIA0				Rg			**Rg**	**09 53 03.4**	

GNL				*i*	S		Sn	08 17 51.0	+1.3
HMAT					AMP			09 16 00.0	
HMAT	comp=E,70μm,0.4s,logA/T=5.2,baz=192								
HMAT	**Matruh**	**5.29**	**190**	P			**Pn**	**09 15 51.6**	**-1.0**
HMAT	**Matruh** baz=192	**5.29**	**190**	S			Sn	09 16 44.9	-7.2
ISCJB	**Burj al 'Arab** 2.5nm,0.5s,baz=89,slow=8.0,SNR=51	**5.89**	**166**	P			**Pn**	**09 15 59.2**	**-1.7**

	baz=192,slow=37								
FIA0	**FINESS Array S**	**2.09**	**21**	*e*P		**Pb**	**09 52 25.2**	**0.0**	
FIA0				*e*S		**Sn**	**09 52 50.6**	**+1.2**	
FIA0				MSG			09 52 54.8		
	comp=Z,15nm,0.2s								
FIA0	**FINESS Array S**	**2.09**	**21**	Pn		**Pn**	**09 52 24.0**	**+1.3**	
	baz=198,slow=15,SNR=50								
FIA0	**FINESS Array S**	**2.09**	**21**	P		**Pb**	**09 52 25.2**	**0.0**	
FIA0				S		**Sn**	**09 52 50.6**	**+1.2**	
FIA0				Lg		Lg	09 52 51.4		
	baz=194,slow=25,SNR=25								
FINES	**FINESS Array B**	**2.09**	**21**	Pn		**Pn**	**09 52 24.9**	**+2.2**	
	comp=Z,7.9nm,0.3s,baz=201,slow=14,SNR=247								
FINES				Lg		Lg	09 52 51.4		
	comp=Z,6.0nm,0.3s,baz=200,slow=28,SNR=17								
FINES				Rg		Rg	09 53 03.8		
	comp=Z,18nm,0.9s,baz=198,slow=35,SNR=16								
SLIT	**Slitere, Latvi**	**2.22**	**213**	*e*P		**Pb**	**09 52 27.6**	**+0.2**	
	SNR=50								
AAL	**Aland**	**2.39**	**288**	*e*P		**Pn**	**09 52 28.7**	**+1.8**	
AAL				*e*S		**Sb**	**09 53 00.2**	**-0.1**	
AAL	**Aland**	**2.39**	**288**	P		**Pn**	**09 52 28.6**	**+1.8**	
AAL				S		**Sb**	**09 53 00.2**	**-0.1**	
KEF	**Keuruu**	**2.68**	**3**	*e*P		**Pn**	**09 52 33.3**	**+2.5**	
KEF				*e*S		**Sn**	**09 53 06.1**	**+2.2**	
KEF	**Keuruu**	**2.68**	**3**	P		**Pn**	**09 52 33.3**	**+2.5**	
KEF				S		**Sn**	**09 53 06.0**	**+2.2**	
KAF	**Kangasniemi**	**2.76**	**18**	*e*P		**Pn**	**09 52 33.8**	**+1.9**	
KAF				*e*S		**Sn**	**09 53 07.3**	**+1.4**	
KAF	**Kangasniemi**	**2.76**	**18**	P		**Pn**	**09 52 33.7**	**+1.9**	
KAF				S		**Sn**	**09 53 07.3**	**+1.4**	
NRTU	**Norrtaelje**	**3.01**	**276**	P		**Pn**	**09 52 36.9**	**+1.6**	
NRTU	**Norrtaelje**	**3.01**	**276**	P		**Pn**	**09 52 36.9**	**+1.6**	
GRAU	**Graesoe**	**3.13**	**288**	P		**Pn**	**09 52 38.0**	**+1.0**	
GRAU	**Graesoe**	**3.13**	**288**	P		**Pn**	**09 52 38.0**	**+1.0**	
FORU	**Forsmark**	**3.32**	**288**	P		**Pn**	**09 52 41.0**	**+1.4**	
FORU	**Forsmark**	**3.32**	**288**	P		**Pn**	**09 52 41.0**	**+1.4**	
NYNU	**Nynaeshamn**	**3.39**	**264**	P		**Pn**	**09 52 42.7**	**+2.1**	
NYNU	**Nynaeshamn**	**3.39**	**264**	P		**Pn**	**09 52 42.6**	**+2.1**	
FLYU	**Flymyra**	**3.42**	**283**	P		**Pn**	**09 52 42.5**	**+1.6**	
FLYU	**Flymyra**	**3.42**	**283**	P		**Pn**	**09 52 42.5**	**+1.6**	
BACU	**Backbrunna**	**3.78**	**279**	P		**Pn**	**09 52 47.7**	**+1.7**	
BACU	**Backbrunna**	**3.78**	**279**	P		**Pn**	**09 52 47.6**	**+1.7**	
OSTU	**Oestervaala**	**3.80**	**284**	P		**Pn**	**09 52 47.6**	**+1.4**	
OSTU	**Oestervaala**	**3.80**	**284**	P		**Pn**	**09 52 47.6**	**+1.4**	
HFS	**Hagfors**	**5.51**	**281**	Pn		**Pn**	**09 53 10.2**	**+0.6**	
	baz=109,slow=12								
HFS				Sn		**Sn**	**09 54 13.5**	**-0.1**	
	baz=89,slow=37								
HFS				Lg		Lg	09 54 38.4		
	baz=81,slow=37								
HFS	**Hagfors**	**5.51**	**281**	Pn		**Pn**	**09 53 10.2**	**+0.6**	
	baz=109,slow=12								
HFS				Sn		**Sn**	**09 54 13.5**	**-0.1**	
	baz=89,slow=37								
HFS				Lg		Lg	09 54 38.4		
	baz=81,slow=37								
HFS	**Hagfors**	**5.51**	**281**	Pn		**Pn**	**09 53 10.8**	**+1.2**	
	comp=Z,0.2nm,0.3s,baz=96,slow=15,SNR=15								
HFS				Sn		**Sn**	**09 54 14.1**	**+0.5**	
	comp=Z,0.8nm,0.3s,baz=89,slow=29,SNR=9.3								
HFS				Lg		Lg	09 54 39.5		
	comp=Z,1.0nm,0.3s,baz=91,slow=34,SNR=6.0								
HFS	**Hagfors**	**5.51**	**281**	Pn		**Pn**	**09 53 10.2**	**+0.6**	
	baz=109,slow=12,SNR=50								
HFS				Sn		**Sn**	**09 54 13.5**	**-0.1**	
	baz=89,slow=31,SNR=50								
HFS				Lg		Lg	09 54 38.4		
	baz=81,slow=29,SNR=50								
NB2	**NORSAR Subarra**	**6.80**	**289**	Pn		**Pn**	**09 53 27.9**	**+0.5**	
	baz=96,slow=12								
NB2	**NORSAR Subarra**	**6.80**	**289**	Pn		**Pn**	**09 53 27.9**	**+0.5**	
	baz=96,slow=12								
NB2	**NORSAR Subarra**	**6.80**	**289**	Pn		**Pn**	**09 53 27.9**	**+0.5**	
	baz=96,slow=12,SNR=50								
NOA	**NORSAR Array B**	**6.80**	**289**	Pn		**Pn**	**09 53 27.6**	**+0.2**	
	comp=Z,0.3nm,0.3s,baz=97,slow=11,SNR=5.5								
NOA				Sn		**Sn**	**09 54 43.8**	**-1.7**	
	comp=Z,0.4nm,0.3s,baz=93,slow=15,SNR=4.3								
NOA				Lg		Lg	09 55 14.4		
	comp=Z,0.6nm,0.3s,baz=89,slow=19,SNR=3.1								
ARA0	**ARCESS Array S**	**10.08**	**2**	Pn		**Pn**	**09 54 11.6**	**-0.7**	
	baz=173,slow=16								
ARA0	**ARCESS Array S**	**10.08**	**2**	Pn		**Pn**	**09 54 11.6**	**-0.7**	
	baz=173,slow=16								
ARA0	**ARCESS Array S**	**10.08**	**2**	Pn		**Pn**	**09 54 11.6**	**-0.7**	
	baz=173,slow=15,SNR=50								
ARCES	**ARCESS Array B**	**10.08**	**2**	Pn		**Pn**	**09 54 11.6**	**-0.7**	
	comp=Z,0.3nm,0.3s,baz=183,slow=12,SNR=20								
ARCES				Sn		Sn	09 55 59.5	-6.5	
	comp=Z,0.1nm,0.3s,baz=182,slow=22,SNR=2.8								

CASC 23 10:20:54.0±1.4, 12.72N×90.63W, h34km±15km, MD3.7, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SBLS	**San Blas**	**1.48**	**41**	⇑*e*P		Pn	10 21 18.5	-0.1
SBLS				*e*S		Sn	10 21 38.5	+1.5
RTR	**El Retiro**	**1.51**	**39**	*e*P		Pn	10 21 19.2	+0.3
SNJE	**San Jose**	**1.51**	**41**	*e*P		Pn	10 21 19.0	0.0
BOQS	**Boqueron**	**1.65**	**52**	*e*P		Pn	10 21 20.9	0.0
BOQS				*e*S		Sn	10 21 42.5	+1.2
RBDL	**Robledal**	**1.66**	**33**	*e*P		Pn	10 21 21.1	+0.2
RBDL				*e*S		Sn	10 21 41.9	+0.6
SNET	**Serv Nac Est T**	**1.66**	**55**	*e*P		Pn	10 21 21.2	+0.3
FUG	**Fuego 3**	**1.73**	**353**	*e*P		Pn	10 21 22.6	+0.6
LFRS	**El Faro**	**1.77**	**59**	*e*P		Pn	10 21 22.1	-0.4
LFRS				*e*S		Sn	10 21 44.9	+1.0
LFU	**La Fuente**	**1.79**	**55**	*e*P		Pn	10 21 22.9	+0.2
LBRS	**Las Brisas**	**1.84**	**57**	*e*P		Pn	10 21 23.4	0.0
JAT	**Jato**	**1.87**	**328**	*e*P		Pn	10 21 23.6	0.0
NBG	**Las Nubes**	**1.88**	**8**	*e*P		Pn	10 21 23.9	-0.2
NBG				*e*S		Sn	10 21 47.9	+1.0
SNVI	**San Vicente**	**1.95**	**63**	*e*P		Pn	10 21 24.8	-0.3
VSM	**San Miguel**	**2.40**	**73**	*e*P		Pn	10 21 31.3	0.0
VSM				*e*S		Sn	10 22 00.5	+0.7
MRL	**Marmol**	**2.50**	**21**	*e*P		Pn	10 21 34.8	+2.2
MRL				*e*S		Sn	10 22 02.7	+0.6
CNCH	**Conchagua**	**2.78**	**78**	*e*P		Pn	10 21 36.1	-0.2
CNCH				*e*S		Sn	10 22 09.6	+0.7

*IDC **23** 11:13:01.5±2.2, 6.14S×130.20E, h0km, mb4.1/1, mb1 4.2/3, mb1mx3.7/18, mbtmp4.0/3, ML4.0/1, Error ellipse: s-maj=138.3km s-min=30.0km az=70.0*
*AUST **23** 11:13:13.3, 6.48S×130.03E, h200km*
*ISCJB **23** 11:13:14.9±0.8, 6.66S±0.04×130.2E±0.1, h146km, mb3.9/1, Error ellipse: s-maj=18.4km s-min=5.5km az=3.8*
ISC 23 11:13:14.2±1.4, 6.60S±0.07×130.1E±0.2, h146km, n9, σ2§96/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
FAKI	**Fak Fak**	**4.24**	**31**	P		Pn	11 14 19.9	+2.3
	baz=4.2,SNR=35							
FAKI				S		**Sn**	**11 15 07.5**	**+0.6**
	baz=4.2,SNR=28							
SWI	**Sorong**	**5.82**	**12**	P		Pn	11 14 40.7	+2.2
	baz=5.7,SNR=12							
SWI				S		**Sn**	**11 15 41.6**	**-2.7**
	baz=5.7,SNR=7.2							
MTN	**Manton Dam**	**6.29**	**171**	P		**Pn**	**11 14 47.2**	**+2.4**
	baz=6.5,SNR=24							
MTN				S		**Sn**	**11 15 53.4**	**-2.3**
	baz=6.5,SNR=13							
KDU	**Kakadu**	**6.49**	**159**	P		**Pn**	**11 14 49.8**	**+2.3**
	baz=6.7,SNR=123							
KDU				S		**Sn**	**11 15 59.0**	**-1.5**
	baz=6.7,SNR=11							
KNRA	**Kununurra**	**9.12**	**188**	P		**Pn**	**11 15 23.3**	**+0.7**
	baz=9.3,SNR=31							
KNRA				S		Sn	11 16 58.7	-5.0
	baz=9.3,SNR=5.7							
FITZ	**Fitzroy Crossi**	**12.23**	**200**	P		**Pn**	**11 16 03.4**	**-0.3**
	baz=12,SNR=21							
WRA	**Warramunga Arr**	**13.89**	**163**	Pn		**Pn**	**11 16 24.6**	**-0.5**
	0.7nm,0.3s,baz=347,slow=13,SNR=32							
WRA				Sn		Sn	11 18 49.8	-9.1
	1.2nm,0.3s,baz=339,slow=20,SNR=10							
ASAR	**Alice Springs**	**17.36**	**168**	P		**Pn**	**11 17 11.2**	**+3.3**
	0.6nm,0.3s,baz=352,slow=11,SNR=49							
ASAR				S		**S**	**11 20 14.8**	**-5.6**
	0.3nm,0.3s,baz=346,slow=26,SNR=5.8							

MKAR	**Makanchi Array**	**67.94**	**327**	P		P	11 24 00.3	+3.0	
	0.9nm,0.4s,baz=119,slow=7.4,SNR=19								

*CSEM **23** 11:17:39.9, 63.99N×28.10E, h0km, ML1.4, Mining explosion. After HEL*
HEL 23 11:17:39.9±0.3, 63.99N×28.10E, h0km, ML1.4, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SUF	**Sumiainen**	**1.55**	**215**	PG		Pn	11 18 07.6	-1.1
SUF				SG		Sn	11 18 27.4	-2.1
SUF	**Sumiainen**	**1.55**	**215**	Pg		Pn	11 18 07.6	-1.1
SUF				Sg		Sn	11 18 27.4	-2.1
JOF	**Joensuu**	**1.80**	**125**	PG		Pn	11 18 11.5	-0.7
	baz=313							
JOF				SG		Sn	11 18 34.8	-0.9
JOF	**Joensuu**	**1.80**	**125**	Pg		Pn	11 18 11.4	-0.8
JOF				Sg		Sn	11 18 34.8	-0.9
KAF	**Kangasniemi**	**2.06**	**204**	PN		Pn	11 18 16.0	+0.3
KAF				SG		Sb	11 18 44.0	-0.1
KAF				MSG			11 18 44.0	
	comp=Z,1.3nm,0.2s							
KAF	**Kangasniemi**	**2.06**	**204**	Pn		Pn	11 18 16.0	+0.3
KAF				Sg		Sb	11 18 44.0	-0.1
KU6	**Riekki**	**2.18**	**20**	SG		Sb	11 18 46.8	-0.9
KU6	**Riekki**	**2.18**	**20**	Sg		Sb	11 18 46.7	-1.0
KEF	**Keuruu**	**2.35**	**220**	SG		Sn	11 18 50.5	+1.3
KEF				MSG			11 18 50.5	
	comp=Z,1.0nm,0.2s							
KEF	**Keuruu**	**2.35**	**220**	Sg		Sn	11 18 50.4	+1.2
VAF	**Ylistaro**	**2.61**	**251**	SG		Sb	11 18 58.8	-1.3
VAF	**Ylistaro**	**2.61**	**251**	Sg		Sb	11 18 58.8	-1.3
FIA0	**FINESS Array S**	**2.72**	**201**	SG		Sn	11 19 00.1	+1.7
FIA0				MSG			11 19 00.1	
	comp=Z,1.4nm,0.4s							
FIA0	**FINESS Array S**	**2.72**	**201**	Sg		Sn	11 19 00.1	+1.7
VJF	**Virojoki**	**3.48**	**184**	SG		Sb	11 19 27.9	+3.0
VJF	**Virojoki**	**3.48**	**184**	Sg		Sb	11 19 27.8	+2.9

*CSEM **23** 11:18:54.5, 60.98N×29.09E, h0km, ML1.4, Mining explosion. After HEL*
HEL 23 11:18:54.5±0.5, 60.98N×29.09E, h0km, ML1.4, Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
VJF	**Virojoki**	**0.87**	**240**	PG		Pg	11 19 09.2	-2.0
VJF				SG		Sg	11 19 20.8	-1.7
VJF	**Virojoki**	**0.87**	**240**	Pg		Pg	11 19 09.1	-2.1
VJF				Sg		Sg	11 19 20.8	-1.7
FIA0	**FINESS Array S**	**1.53**	**289**	PG		Pn	11 19 20.6	-2.5
FIA0				RG		Rg	11 19 48.7	
FIA0	**FINESS Array S**	**1.53**	**289**	Pg		Pn	11 19 20.6	-2.5
PVF	**Pernaja**	**1.64**	**256**	PG		Pn	11 19 22.9	-1.6
PVF				SG		Sn	11 19 45.2	-1.2
PVF				MSG			11 19 45.2	
	comp=Z,1.9nm,0.1s							
PVF	**Pernaja**	**1.64**	**256**	Pg		Pn	11 19 22.9	-1.7
PVF				Sg		Sn	11 19 45.2	-1.2
KAF	**Kangasniemi**	**1.75**	**312**	PG		Pn	11 19 25.9	-0.2
KAF				SG		Sn	11 19 48.3	-0.9
KAF				MSG			11 19 48.3	
	comp=Z,1.9nm,0.2s							
KAF	**Kangasniemi**	**1.75**	**312**	Pg		Pn	11 19 25.9	-0.2
KAF				Sg		Sn	11 19 48.3	-0.9
JOF	**Joensuu**	**2.21**	**27**	PN		Pn	11 19 33.8	+1.4
JOF				SG		Sn	11 20 01.5	+1.0
JOF				MSG			11 20 01.5	
	comp=Z,2.3nm,0.4s							
JOF	**Joensuu**	**2.21**	**27**	Pn		Pn	11 19 33.8	+1.4
JOF				Sg		Sn	11 20 01.5	+1.0
SUF	**Sumiainen**	**2.24**	**323**	PN		Pn	11 19 34.0	+1.3
SUF				SG		Sb	11 20 03.1	-0.9
SUF				MSG			11 20 03.1	
	comp=Z,1.5nm,0.2s							
SUF	**Sumiainen**	**2.24**	**323**	Pn		Pn	11 19 34.0	+1.2
SUF				Sg		Sb	11 20 03.0	-1.0
KEF	**Keuruu**	**2.35**	**302**	PN		Pn	11 19 35.4	+1.1
KEF				SG		Sn	11 20 04.7	+1.0
KEF	**Keuruu**	**2.35**	**302**	Pn		Pn	11 19 35.3	+1.0
KEF				Sg		Sn	11 20 04.7	+1.0
MEF	**Metsahovi**	**2.44**	**254**	PN		Pn	11 19 36.2	+0.7
MEF				SG		Sb	11 20 09.8	+0.1
MEF	**Metsahovi**	**2.44**	**254**	Pn		Pn	11 19 36.2	+0.7
MEF				Sg		Sb	11 20 09.8	+0.1
VAF	**Ylistaro**	**3.67**	**307**	SG		Sb	11 20 48.1	+3.0
VAF	**Ylistaro**	**3.67**	**307**	Sg		Sb	11 20 48.1	+3.0

IDC 23 11:32:09.2±0.9, 10.02N×138.65E, h0km, mb3.6/9, mb1 3.9/9, mb1mx3.7/25, mbtmp3.6/9, Error ellipse: s-maj=38.7km s-min=21.4km az=84.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.08**	**188**	P		P	11 38 19.9	-0.6
	0.2nm,0.5s,baz=11,slow=9.5,SNR=3.2							
ASAR	**Alice Springs**	**33.80**	**188**	P		P	11 38 53.5	+0.3
	0.5nm,0.7s,baz=17,slow=12,SNR=8.1							
SONM	**Songino Array**	**46.45**	**335**	P		P	11 40 38.8	+0.8
	0.2nm,0.4s,baz=139,slow=11,SNR=2.5							
MKAR	**Makanchi Array**	**59.96**	**319**	P		P	11 42 17.3	-0.2
	0.4nm,0.7s,baz=99,slow=7.5,SNR=4.8							
KURBB	**Kurchatov Arra**	**63.52**	**322**	P		P	11 42 40.9	-0.5
	0.8nm,0.8s,baz=106,slow=7.1,SNR=5.8							
BVAR	**Borovoye Array**	**69.01**	**323**	P		P	11 43 16.4	-0.2
	0.6nm,0.5s,baz=108,slow=14,SNR=4.0							
ILAR	**Eielson Array**	**74.38**	**25**	P		P	11 43 47.9	-0.8
	0.5nm,0.4s,baz=247,slow=6.1,SNR=7.1							
YKA	**Yellowknife Ar**	**88.77**	**26**	P		P	11 45 05.0	+0.3
	0.2nm,0.6s,baz=291,slow=5.2,SNR=3.0							
NVAR	**Mina Array Bea**	**93.88**	**50**	P		P	11 45 30.0	+0.7
	0.7nm,0.7s,baz=265,slow=5.7,SNR=6.4							

*AUST **23** 11:43:40.6±11.0, 17.73S×179.83E, h584km±5km, Error ellipse: s-maj=5.3km s-min=2.2km az=264.0*
IDC 23 11:42:08.2±46.0, 16.08S×175.21W, h0km, mb4.7/3, mb1 4.8/3, mb1mx3.9/18, mbtmp4.7/3, Error ellipse: s-maj=874.8km s-min=156.1km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ARMA	**Armidale**	**33.50**	**239**	P		P	11 48 51.3	+1.6
	baz=29,SNR=12							
CNB	**Canberra Magne**	**36.96**	**232**	P		P	11 49 21.2	+1.7
	baz=32,SNR=11							
CMSA	**Cobar Meteorol**	**38.71**	**239**	P		P	11 49 34.5	+0.3
	baz=34,SNR=22							
TOO	**Toolangi**	**40.69**	**231**	P		P	11 49 52.0	+1.3
	baz=36,SNR=11							
STKA	**Stephens Creek**	**42.19**	**240**	P		P	11 50 03.5	+0.5
	5.4nm,0.4s,baz=90,slow=9.2,SNR=34							
STKA	**Stephens Creek**	**42.19**	**240**	P		P	11 50 03.5	+0.5
	baz=37,SNR=29							
BBOO	**Buckleboo**	**46.96**	**240**	P		P	11 50 40.9	-0.3
	baz=42,SNR=28							
WRA	**Warramunga Arr**	**47.99**	**257**	P		P	11 50 48.9	-0.5
	1.7nm,0.5s,baz=96,slow=7.5,SNR=21							
ASAR	**Alice Springs**	**48.24**	**252**	P		P	11 50 51.0	-0.3
	20nm,0.6s,baz=88,slow=8.2,SNR=246							
LUWI	**Luwuk**	**62.87**	**277**	P		P	11 52 43.5	+6.8
	baz=58,SNR=3.3							

GUC 23 11:57:58.8±0.8, 32.23S×71.70W, h28km±4km, MD3.6, ML2.9, 3C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CHNG	**Los Chungos**	**0.38**	**26**	⇓*i*P		Pb	11 58 07.2	0.0
CHNG				*i* S		Sb	11 58 13.4	+0.4
CHNG				AML		AML	11 58 13.8	
	comp=N,658nm,0.4s							
PTCH	**Petorca**	**0.65**	**93**	⇓*i*P		Pb	11 58 11.5	-0.2
PTCH				*i* S		Sb	11 58 20.7	+0.2
PTCH				AML		AML	11 58 20.9	
	comp=E,2μm,0.6s							
ROCH	**El Roble**	**0.94**	**142**	⇓*i*P		Pn	11 58 15.6	-0.8
ROCH				⇑*i*P		Pb	11 58 15.7	-1.2
ROCH				*i* S		Sn	11 58 28.4	-0.8
ROCH				AML		AML	11 58 30.5	
	comp=N,449nm,0.2s							
JACH	**Jahuel**	**1.04**	**116**	⇑*i*P		Pn	11 58 17.2	-0.4
JACH				*i* S		Sn	11 58 30.4	-0.9
CMCH	**Combarbala**	**1.21**	**30**	⇑*i*P		Pn	11 58 19.7	-0.2
CMCH				*i* S		Sn	11 58 35.8	+0.4
CMCH				AML		AML	11 58 43.1	
	comp=E,852nm,0.6s							
PEL	**Peldehue**	**1.25**	**137**	⇓*i*P		Pn	11 58 20.9	+0.4
PEL				*i* S		Sb	11 58 37.1	-0.5
PEL				AML		AML	11 58 39.6	
	comp=N,500nm,0.2s							
SAN	**Santiago**	**1.50**	**145**	*i* S		Sb	11 58 44.0	-0.8
CLCH	**Cerro Calan**	**1.52**	**140**	AML		AML	11 58 52.6	
	comp=N,261nm,0.4s							
ANTU	**Antumapu**	**1.61**	**147**	*i* S		Sb	11 58 47.5	-0.5
ANTU				AML		AML	11 58 52.3	
	comp=E,189nm,0.2s							
PCH	**Pirque**	**1.71**	**145**	*e*P		Pn	11 58 28.0	+1.1
PCH				*i* S		Sb	11 58 50.3	-0.6
LNV	**Longovilo**	**1.74**	**172**	*e*P		Pn	11 58 28.5	+1.4
LMEL	**Las Melosas**	**2.04**	**143**	⇓*i*P		Pn	11 58 33.0	+1.4
LMEL				*i* S		Sb	11 58 59.2	-1.5
LMEL				AML		AML	11 59 05.5	
	comp=N,225nm,0.2s							
CACH	**El Canelo**	**2.10**	**154**	*e*P		Pn	11 58 34.2	+2.0
CACH				*i* S		Sb	11 59 01.1	-1.0

*ISCJB **23** 12:02:01.6±0.4, 59.59N±0.03×22.31E±0.04, h0km, Error ellipse: s-maj=4.2km s-min=3.1km az=171.4*
*CSEM **23** 12:02:02.6±0.2, 59.60N×22.29E, h2km, ML2.4, Error ellipse: s-maj=4.6km s-min=3.2km az=175.0, Mining explosion.*
*HEL **23** 12:02:02.7±0.1, 59.55N×22.28E, h0km, ML2.4, ML2.4(UPP), Explosion*
*NAO **23** 12:02:02.5±1.4, 59.68N×22.19E, ML2.4*
*IDC **23** 12:02:03.0±2.2, 59.59N×22.34E, h0km, mb1 3.4/3, mb1mx3.1/27, mbtmp3.3/3, ML2.9/3, Error ellipse: s-maj=26.7km s-min=10.3km az=163.0*
*BER **23** 12:02:04.5±3.7, 59.74N×22.18E, h0km, ML2.4(NAO), Suspected explosion*
*UPP **23** 12:02:05.0, 59.64N×21.92E, h0km, ML2.4, Suspected Mining explosion.*
ISC 23 12:02:00.8±0.7, 59.55N±0.03×22.20E±0.02, h0km, n61, σ1§31/96, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MTSE	**Matsula**	**1.18**	**135**	*e*P		**Pg**	**12 02 23.1**	**-0.3**
MTSE				*e*S		**Sg**	**12 02 37.0**	**-1.7**
MTSE	**Matsula**	**1.18**	**135**	P		**Pg**	**12 02 23.1**	**-0.3**
AAL	**Aland**	**1.28**	**300**	*e*P		**Pg**	**12 02 25.9**	**+0.6**
AAL				*e*S		**Sb**	**12 02 43.3**	**+0.7**
AAL	**Aland**	**1.28**	**300**	P		**Pg**	**12 02 25.8**	**+0.6**
AAL				S		**Sb**	**12 02 43.3**	**+0.7**
MEF	**Metsahovi**	**1.29**	**58**	*e*P		**Pg**	**12 02 24.8**	**-0.8**
MEF				*e*S		**Sg**	**12 02 40.9**	**-1.5**
MEF				MSG			12 02 42.1	
	comp=Z,32nm,0.1s							
MEF	**Metsahovi**	**1.29**	**58**	P		**Pg**	**12 02 24.7**	**-0.8**
MEF				S		**Sg**	**12 02 40.8**	**-1.5**
RAF	**Rauma**	**1.49**	**352**	*e*P		**Pn**	**12 02 28.9**	**+0.1**
RAF				*e*S		**Sg**	**12 02 48.4**	**-0.4**
RAF				MSG			12 02 53.5	
	comp=Z,38nm,0.2s							
RAF	**Rauma**	**1.49**	**352**	*e*P		**Pb**	**12 02 29.7**	**+0.4**
	SNR=50							
RAF				S		**Sg**	**12 02 48.3**	**-0.4**
NRTU	**Norrtaelje**	**1.82**	**276**	*e*P		**Pb**	**12 02 35.4**	**+0.5**
NRTU				*e*S		**Sg**	**12 03 00.3**	**+1.2**
NRTU	**Norrtaelje**	**1.82**	**276**	P		**Pb**	**12 02 35.4**	**+0.5**
NRTU				S		**Sg**	**12 03 00.3**	**+1.2**
SLIT	**Slitere, Latvi**	**1.93**	**179**	*e*P		**Pb**	**12 02 37.2**	**+0.4**
	SNR=50							
SLIT				*e*S		**Sb**	**12 03 02.1**	**+0.8**
	SNR=50							
GRAU	**Graesoe**	**2.00**	**295**	*e*P		**Pb**	**12 02 37.7**	**-0.3**
GRAU	**Graesoe**	**2.00**	**295**	P		**Pb**	**12 02 37.7**	**-0.3**
PVF	**Pernaja**	**2.09**	**60**	*e*P		**Pn**	**12 02 38.6**	**+1.6**
PVF				*e*S		**Sn**	**12 03 04.0**	**+0.2**
PVF				MSG			12 03 08.8	
	comp=Z,34nm,0.2s							
PVF	**Pernaja**	**2.09**	**60**	P		**Pn**	**12 02 38.6**	**+1.6**
PVF				S		**Sn**	**12 03 03.9**	**+0.2**
FORU	**Forsmark**	**2.19**	**294**	*e*P		**Pb**	**12 02 41.0**	**-0.2**
FORU	**Forsmark**	**2.19**	**294**	P		**Pb**	**12 02 40.9**	**-0.2**
NYNU	**Nynaeshamn**	**2.22**	**258**	*e*P		**Pb**	**12 02 41.8**	**0.0**
NYNU	**Nynaeshamn**	**2.22**	**258**	P		**Pb**	**12 02 41.7**	**0.0**
FLYU	**Flymyra**	**2.25**	**287**	*e*P		**Pn**	**12 02 41.1**	**+1.9**
FLYU	**Flymy

HFS					Lg	Lg	12 04 16.8			
	baz=98,slow=37									
HFS	**Hagfors**	**4.33**	**281**		Pn	**Pn**	**12 03 06.9**	**-0.9**		
	baz=105,slow=12									
HFS					Sn	**Sn**	**12 03 57.9**	**-1.0**		
	baz=99,slow=28									
HFS					Lg	Lg	12 04 16.8			
	baz=98,slow=37									
HFS	**Hagfors**	**4.33**	**281**		Pn	**Pn**	**12 03 06.9**	**-0.9**		
	baz=105,slow=12,SNR=50									
HFS					Sn	**Sn**	**12 03 57.9**	**-1.0**		
	baz=99,slow=26,SNR=50									
HFS					Lg	Lg	12 04 16.8			
	baz=98,slow=29									
NB2	**NORSAR Subarra**	**5.66**	**290**		Pn	**Pn**	**12 03 27.0**	**+0.9**		
	baz=97,slow=14									
NB2					Lg	Lg	12 04 57.4			
NB2	**NORSAR Subarra**	**5.66**	**290**		Pn	**Pn**	**12 03 27.0**	**+0.9**		
	baz=97,slow=14									
NB2					Lg	Lg	12 04 57.4			
NB2	**NORSAR Subarra**	**5.66**	**290**		Pn	**Pn**	**12 03 27.0**	**+0.9**		
	baz=97,slow=13,SNR=50									
NB2					Lg	Lg	12 04 57.4			
	SNR=90									
NOA	**NORSAR Array B**	**5.66**	**290**		Pn	**Pn**	**12 03 27.4**	**+1.3**		
	comp=Z,0.4nm,0.3s,baz=94,slow=13,SNR=22									
NOA					Sn	**Sn**	**12 04 30.3**	**-1.5**		
	comp=Z,0.4nm,0.3s,baz=130,slow=17,SNR=2.6									
NOA					Lg	Lg	12 04 56.2			
	comp=Z,0.7nm,0.3s,baz=124,slow=19,SNR=3.7									
APA0	**Apatity Array**	**9.39**	**26**		Pn	**Pn**	**12 04 18.1**	**+1.0**		
	baz=215,slow=11									
APA0	**Apatity Array**	**9.39**	**26**		Pn	**Pn**	**12 04 18.1**	**+1.0**		
	baz=215,slow=11									
APA0	**Apatity Array**	**9.39**	**26**		Pn	**Pn**	**12 04 18.1**	**+1.0**		
	baz=215,slow=11,SNR=50									
ARCES	**ARCESS Array B**	**10.12**	**7**		Pn	**Pn**	**12 04 26.3**	**-0.9**		
	comp=Z,0.3nm,0.3s,baz=186,slow=13,SNR=44									
ARCES					Sn	Sn	12 06 14.1	-7.2		
	comp=Z,0.2nm,0.3s,baz=189,slow=23,SNR=4.6									
ARA0	**ARCESS Array S**	**10.12**	**7**		Pn	**Pn**	**12 04 26.2**	**-1.0**		
	baz=187,slow=14									
ARA0	**ARCESS Array S**	**10.12**	**7**		Pn	**Pn**	**12 04 26.2**	**-1.0**		
	baz=187,slow=14									
ARA0	**ARCESS Array S**	**10.12**	**7**		Pn	**Pn**	**12 04 26.2**	**-1.0**		
	baz=187,slow=13,SNR=50									

WEL 23 12:07:16.2±0.5, 45.74S×165.66E, h12km, ML3.9/18, 2C-1D, Error ellipse: s-maj=4.2km s-min=3.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**1.08**	**77**	⇑P*	Pb	12 07 35.4	-1.4
DCZ				S*	Sb	12 07 49.0	-1.9
DCZ				AML	AML	12 07 49.3	
DCZ				AML	AML	12 07 49.3	
DCZ				AML	AML	12 07 49.8	
WHZ	**Wether Hill Ro**	**1.60**	**96**	PN	Pn	12 07 43.2	-1.2
WHZ				SN	Sn	12 08 04.4	-0.7
WHZ				AML	AML	12 08 10.8	
MSZ	**Milford Sound**	**1.92**	**57**	PN	Pn	12 07 48.3	-0.5
MSZ				AML	AML	12 08 17.4	
MSZ				AML	AML	12 08 17.4	
MSZ				AML	AML	12 08 17.5	
MSZ				AML	AML	12 08 28.4	
APZ	**The Paps**	**1.95**	**125**	⇑PN	Pn	12 07 47.0	-2.2
APZ				SN	Sn	12 08 07.7	-6.0
WKZ	**Wanaka**	**2.54**	**70**	PN	Pn	12 07 58.5	+1.2
WKZ				AML	AML	12 08 30.6	
WKZ				AML	AML	12 08 30.6	
WKZ				AML	AML	12 08 31.5	
WKZ				AML	AML	12 08 31.5	
SYZ	**Scrubby Hill**	**2.54**	**110**	PN	Pn	12 07 56.3	-1.0
EAZ	**Earnscleugh**	**2.61**	**80**	PN	Pn	12 07 58.9	+0.6
EAZ				AML	AML	12 08 31.5	
EAZ				AML	AML	12 08 31.6	
EAZ				AML	AML	12 08 31.8	
EAZ				AML	AML	12 08 33.8	
JCZ	**Jackson Bay**	**2.76**	**54**	PN	Pn	12 08 00.5	+0.1
JCZ				AML	AML	12 08 42.6	
JCZ				AML	AML	12 09 04.1	
TUZ	**Tuapeka**	**2.78**	**96**	PN	Pn	12 08 00.2	-0.4
TUZ				AML	AML	12 08 35.0	
TUZ				AML	AML	12 08 51.3	
LBZ	**Lake Benmore**	**3.48**	**69**	PN	Pn	12 08 10.0	-0.1
LBZ				AML	AML	12 08 52.2	
LBZ				AML	AML	12 09 08.1	
ODZ	**Otahua Downs**	**3.58**	**81**	⇓PN	Pn	12 08 10.5	-1.0
ODZ				AML	AML	12 08 36.1	
ODZ				AML	AML	12 08 53.4	
ODZ				AML	AML	12 08 53.4	
ODZ				AML	AML	12 09 12.7	
FOZ	**Fox Glacier**	**3.60**	**54**	PN	Pn	12 08 12.4	+0.6
FOZ				AML	AML	12 08 59.8	
RPZ	**Rata Peaks**	**4.34**	**64**	PN	Pn	12 08 21.0	-1.1
RPZ				AML	AML	12 08 21.0	
RPZ				AML	AML	12 09 14.7	
WVZ	**Waitaha Valley**	**4.50**	**56**	AML	AML	12 09 18.8	
WVZ				AML	AML	12 11 12.1	

*ISCJB **23** 12:15:08.7±0.3, 59.60N±0.03×22.34E±0.04, h0km, Error ellipse: s-maj=3.9km s-min=2.8km az=2.4*
*CSEM **23** 12:15:09.5±0.2, 59.60N×22.39E, h2km, ML2.4, Error ellipse: s-maj=5.8km s-min=3.3km az=167.0, Mining explosion.*
*HEL **23** 12:15:10.0±0.1, 59.58N×22.32E, h0km, ML2.4, ML2.4(UPP), Explosion*
*NAO **23** 12:15:10.7±1.3, 59.71N×22.31E, ML2.5*
*IDC **23** 12:15:11.1±1.7, 59.65N×22.28E, h0km, mb1 3.3/4, mb1mx3.0/28, mbtmp3.2/4, ML2.8/4, Error ellipse: s-maj=22.9km s-min=7.4km az=161.0*
*BER **23** 12:15:12.3±3.3, 59.74N×22.21E, h0km, ML2.5(NO), Suspected explosion*
*UPP **23** 12:15:12.8, 59.62N×21.88E, h0km, ML2.4, Suspected Mining explosion.*

ISC 23 12:15:08.1±0.7, 59.59N±0.03×22.27E±0.02, h0km, n60, σ1.50/93, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTSE	**Matsula**	**1.19**	**137**	*e*P	**Pg**	**12 15 30.9**	**+0.1**
MTSE				*e*S	**Sg**	**12 15 45.0**	**-1.1**
MEF	**Metsahovi**	**1.25**	**59**	*e*P	**Pg**	**12 15 32.1**	**+0.2**
MEF				*e*S	**Sg**	**12 15 47.6**	**-0.4**
MEF	**Metsahovi**	**1.25**	**59**	P	**Pg**	**12 15 32.1**	**+0.2**
MEF				S	**Sg**	**12 15 47.6**	**-0.4**
AAL	**Aland**	**1.29**	**298**	*e*P	**Pb**	**12 15 33.5**	**+0.3**
AAL				*e*S	**Sb**	**12 15 50.6**	**+0.4**
AAL	**Aland**	**1.29**	**298**	P	**Pb**	**12 15 33.5**	**+0.3**
AAL				S	**Sb**	**12 15 50.6**	**+0.4**
RAF	**Rauma**	**1.46**	**350**	*e*P	**Pg**	**12 15 36.5**	**+0.5**
RAF				*e*S	**Sn**	**12 15 55.8**	**+0.3**
RAF				MSG		12 16 00.5	
	comp=Z,44nm,0.1s						
RAF	**Rauma**	**1.46**	**350**	*e*P	**Pb**	**12 15 38.2**	**+2.1**
	SNR=50						
RAF				S	**Sn**	**12 15 55.8**	**+0.3**
NRTU	**Norrtaelje**	**1.85**	**274**	*e*P	**Pb**	**12 15 42.9**	**+0.2**
NRTU	**Norrtaelje**	**1.85**	**274**	P	**Pb**	**12 15 42.9**	**+0.2**
SLIT	**Slitere, Latvi**	**1.97**	**180**	*e*S	**Sn**	**12 16 09.5**	**+1.6**
	SNR=50						
GRAU	**Graesoe**	**2.02**	**293**	*e*P	**Pb**	**12 15 45.2**	**-0.4**
GRAU	**Graesoe**	**2.02**	**293**	P	**Pb**	**12 15 45.2**	**-0.4**
PVF	**Pernaja**	**2.04**	**60**	*e*P	**Pb**	**12 15 46.0**	**0.0**
PVF				*e*S	**Sn**	**12 16 11.6**	**+1.8**
PVF				MSG		12 16 16.2	
	comp=Z,34nm,0.2s						
FORU	**Forsmark**	**2.20**	**293**	*e*P	**Pb**	**12 15 48.4**	**-0.3**
FORU	**Forsmark**	**2.20**	**293**	P	**Pb**	**12 15 48.4**	**-0.3**
NYNU	**Nynaeshamn**	**2.26**	**257**	*e*P	**Pb**	**12 15 49.1**	**-0.6**
NYNU	**Nynaeshamn**	**2.26**	**257**	P	**Pb**	**12 15 49.1**	**-0.6**
FLYU	**Flymyra**	**2.28**	**286**	*e*P	**Pn**	**12 15 48.7**	**+1.9**
FLYU	**Flymyra**	**2.28**	**286**	P	**Pn**	**12 15 48.7**	**+1.9**
UPP	**Uppsala**	**2.37**	**279**	*e*P	**Pb**	**12 15 51.1**	**-0.4**
UPP	**Uppsala**	**2.37**	**279**	P	**Pb**	**12 15 51.1**	**-0.4**
VSU	**Vasula**	**2.57**	**114**	Pn	**Pb**	**12 15 54.5**	**-0.6**
VSU				Sn	**Sb**	**12 16 26.4**	**-0.8**
VSU	**Vasula**	**2.57**	**114**	Pn	**Pb**	**12 15 54.5**	**-0.6**
VSU				*e*PB	**Pb**	**12 15 54.5**	**-0.6**
VSU				*e*SB	**Sn**	**12 16 26.0**	**+3.1**
VSU	**Vasula**	**2.57**	**114**	Pb	**Pb**	**12 15 54.4**	**-0.6**
VSU				*e*S	**Sn**	**12 16 24.1**	**+1.2**
	comp=Z,58nm,0.2s,SNR=50						
VSU				Sb	**Sn**	**12 16 25.9**	**+3.1**
VSU				Sn	**Sb**	**12 16 26.4**	**-0.8**
	SNR=50						
BACU	**Backbrunna**	**2.63**	**278**	*e*P	**Pn**	**12 15 54.0**	**+2.3**
BACU	**Backbrunna**	**2.63**	**278**	P	**Pn**	**12 15 54.0**	**+2.3**
FIA0	**FINESS Array S**	**2.65**	**44**	Pn	**Pn**	**12 15 54.5**	**+2.6**
	baz=222,slow=14						
FIA0				Sn	**Sn**	**12 16 24.9**	**+0.2**
	baz=215,slow=18						
FIA0				Lg	Lg	12 16 28.6	
	baz=222,slow=28						
FIA0	**FINESS Array S**	**2.65**	**44**	*e*PB	**Pb**	**12 15 55.1**	**-1.2**
FIA0				*e*S	**Sn**	**12 16 25.8**	**+1.0**
FIA0				MSG		12 16 31.1	
	comp=Z,11nm,0.2s						
FIA0	**FINESS Array S**	**2.65**	**44**	Pn	**Pn**	**12 15 54.5**	**+2.6**
	baz=222,slow=13,SNR=9.6						
FIA0	**FINESS Array S**	**2.65**	**44**	Pb	**Pb**	**12 15 55.1**	**-1.2**
FIA0				Sn	**Sn**	**12 16 24.9**	**+0.2**
	baz=215,slow=17,SNR=50						
FIA0				S	**Sn**	**12 16 25.7**	**+1.0**
FIA0				Lg	Lg	12 16 28.6	
	baz=222,slow=23						
FINES	**FINESS Array B**	**2.65**	**44**	Pn	**Pn**	**12 15 54.6**	**+2.6**
	comp=Z,2.1nm,0.3s,baz=226,slow=14,SNR=40						
FINES				Sn	**Sb**	**12 16 28.6**	**-0.8**
	comp=Z,3.2nm,0.3s,baz=225,slow=22,SNR=20						
OSTU	**Oestervaala**	**2.66**	**286**	*e*P	**Pn**	**12 15 54.3**	**+2.0**
OSTU				*e*S	**Sn**	**12 16 27.7**	**+2.6**
OSTU	**Oestervaala**	**2.66**	**286**	P	**Pn**	**12 15 54.2**	**+2.0**
OSTU				S	**Sn**	**12 16 27.7**	**+2.6**
VJF	**Virojoki**	**2.82**	**68**	*e*P	**Pn**	**12 15 55.4**	**+1.1**
VJF				*e*S	**Sn**	**12 16 29.7**	**+0.8**
KEF	**Keuruu**	**2.88**	**25**	*e*PB	**Pb**	**12 15 59.0**	**-1.4**
KEF				*e*SB	**Sb**	**12 16 35.4**	**-0.7**
KEF	**Keuruu**	**2.88**	**25**	Pb	**Pb**	**12 15 58.9**	**-1.4**
KEF				Sb	**Sb**	**12 16 35.4**	**-0.7**
ARNU	**Arnoeviken**	**3.20**	**313**	*e*P	**Pn**	**12 16 01.8**	**+2.2**
ARNU	**Arnoeviken**	**3.20**	**313**	P	**Pn**	**12 16 01.8**	**+2.2**
KAF	**Kangasniemi**	**3.21**	**36**	*e*P	**Pn**	**12 16 01.6**	**+1.8**
KAF				*e*SB	**Sb**	**12 16 45.1**	**-0.5**
KAF	**Kangasniemi**	**3.21**	**36**	P	**Pn**	**12 16 01.5**	**+1.8**
KAF				Sb	**Sb**	**12 16 45.1**	**-0.5**
FALU	**Falun**	**3.35**	**288**	*e*P	**Pn**	**12 16 03.6**	**+1.9**
FALU	**Falun**	**3.35**	**288**	P	**Pn**	**12 16 03.6**	**+1.9**
NRAU	**Nora**	**3.67**	**273**	*e*P	**Pn**	**12 16 08.0**	**+1.9**
NRAU	**Nora**	**3.67**	**273**	P	**Pn**	**12 16 08.0**	**+1.9**
HEMU	**Hemsoen**	**3.71**	**328**	*e*P	**Pn**	**12 16 09.6**	**+3.0**
HEMU	**Hemsoen**	**3.71**	**328**	P	**Pn**	**12 16 09.6**	**+3.0**
HFS	**Hagfors**	**4.36**	**281**	Pn	**Pn**	**12 16 17.3**	**+1.9**
	baz=102,slow=11						
HFS				Sn	**Sn**	**12 17 04.7**	**-2.2**
	baz=93,slow=28						
HFS				Lg	Lg	12 17 24.5	
	baz=85,slow=37						
HFS	**Hagfors**	**4.36**	**281**	Pn	**Pn**	**12 16 17.3**	**+1.9**
	baz=102,slow=11						
HFS				Sn	**Sn**	**12 17 04.7**	**-2.2**
	baz=93,slow=28						
HFS				Lg	Lg	12 17 24.5	
	baz=85,slow=37						
HFS	**Hagfors**	**4.36**	**281**	Pn	**Pn**	**12 16 17.6**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=93,slow=15,SNR=27						
HFS				Pg	**Pb**	**12 16 26.9**	**+1.5**
	comp=Z,1.6nm,0.3s,baz=89,slow=16,SNR=25						
HFS				Sn	**Sn**	**12 17 08.0**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=95,slow=30,SNR=5.7						
HFS				Lg	Lg	12 17 24.2	
	comp=Z,1.6nm,0.3s,baz=91,slow=30,SNR=8.1						
HFS	**Hagfors**	**4.36**	**281**	Pn	**Pn**	**12 16 17.3**	**+1.9**
	baz=102,slow=11,SNR=50						
HFS				Sn	**Sn**	**12 17 04.7**	**-2.2**
	baz=93,slow=26,SNR=50						
HFS				Lg	Lg	12 17 24.5	
	baz=85,slow=29,SNR=50						
NB2	**NORSAR Subarra**	**5.68**	**290**	Pn	**Pn**	**12 16 34.7**	**+0.9**
	baz=97,slow=14						
NB2	**NORSAR Subarra**	**5.68**	**290**	Pn	**Pn**	**12 16 34.7**	**+0.9**
	baz=97,slow=14						
NB2	**NORSAR Subarra**	**5.68**	**290**	Pn	**Pn**	**12 16 34.7**	**+0.9**
	baz=97,slow=13,SNR=2.4						
NOA	**NORSAR Array B**	**5.68**	**290**	Pn	**Pn**	**12 16 34.6**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=94,slow=13,SNR=20						
NOA				Sn	**Sn**	**12 17 38.5**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=128,slow=17,SNR=2.8						
NOA				Lg	Lg	12 18 03.4	
	comp=Z,0.7nm,0.3s,baz=107,slow=11,SNR=3.8						
ARA0	**ARCESS Array S**	**10.08**	**7**	Pn	**Pn**	**12 17 33.6**	**-0.3**
	baz=180,slow=16						
ARA0				Sn	Sn	12 19 21.4	-6.1
	baz=189,slow=28						
ARA0	**ARCESS Array S**	**10.08**	**7**	Pn	**Pn**	**12 17 33.6**	**-0.3**
	baz=180,slow=16						
ARA0				Sn	Sn	12 19 21.4	-6.1
	baz=189,slow=28						
ARA0	**ARCESS Array S**	**10.08**	**7**	Pn	**Pn**	**12 17 33.6**	**-0.3**
	baz=180,slow=14,SNR=50						
ARCES	**ARCESS Array B**	**10.08**	**7**	Pn	**Pn**	**12 17 33.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=183,slow=14,SNR=44						
ARCES				Sn	Sn	12 19 20.6	-7.0
	comp=Z,0.2nm,0.3s,baz=188,slow=23,SNR=5.5						

*NSSC **23** 12:16:00.1±1.1, 33.73N×35.60E, h0km±8km, ML1.9*
*GRAL **23** 12:16:02.2±0.3, 33.78N×35.76E, h0km, 15km, MD3.2*

CSEM 23 12:16:01.1±0.3, 33.78N×35.71E, h8km, ML3.2, Error ellipse: s-maj=7.8km s-min=4.2km az=75.0, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BHL	**Bhannes**	**0.14**	**341**	*e*P	Pg	12 16 04.8	+0.6
BHL				*e*S	Sg	12 16 06.9	+0.6
BHL	**Bhannes**	**0.14**	**341**	*e*P	Pg	12 16 04.8	+0.6
BHL				*e*S	Sg	12 16 06.9	+0.6
BEYL	**Beirut**	**0.20**	**298**	*e*P	Pg	12 16 06.5	+1.3
BEYL	**Beirut**	**0.20**	**298**	*e*P	Pg	12 16 06.5	+1.3
RCY	**Rachaya**	**0.30**	**159**	*e*P	Pg	12 16 07.3	+0.1
RCY				*e*S	Sg	12 16 11.2	-0.1
BRBR	**Barbar**	**0.42**	**151**	*e*P	Pg	12 16 08.4	-1.1
BRBR				*e*S	Sg	12 16 15.5	+0.3
BRBR				AML	AML	12 16 18.8	
	comp=N,378nm,0.4s						
BRBR				AML	AML	12 16 20.1	
	comp=E,173nm,0.5s						
BRBR	**Barbar**	**0.42**	**151**	*e*P	Pg	12 16 08.4	-1.1
	SNR=92						
BRBR				*e*S	Sg	12 16 15.5	+0.3
	comp=E,173nm,0.5s,SNR=59						
HWQ	**Hawqa**	**0.54**	**22**	*e*P	Pg	12 16 11.6	-0.2
HWQ				*e*S	Sg	12 16 18.5	-0.4
HWQ	**Hawqa**	**0.54**	**22**	*e*P	Pg	12 16 11.6	-0.1
HWQ				*e*S	Sg	12 16 18.5	-0.4
TOTH	**TOTAH**	**0.73**	**124**	*e*P	Pg	12 16 15.5	+0.2
TOTH				*e*S	Sb	12 16 27.0	+0.6
TOTH				AML	AML	12 16 33.4	
	comp=E,66nm,0.5s						
TOTH				AML	AML	12 16 41.7	
	comp=N,56nm,0.7s						
TOTH	**TOTAH**	**0.73**	**124**	*e*P	Pg	12 16 15.5	+0.2
	SNR=75						
TOTH				*e*S	Sb	12 16 27.0	+0.6
	comp=N,56nm,0.7s,SNR=59						
FKH	**Fakeheh**	**0.75**	**51**	*e*P	Pg	12 16 15.1	-0.6
FKH	**Fakeheh**	**0.75**	**51**	*e*P	Pg	12 16 15.1	-0.6
SALA	**Sala**	**1.37**	**141**	*e*P	Pb	12 16 27.2	0.0
SALA				*e*S	Sn	12 16 45.2	0.0
SALA				AML	AML	12 16 50.2	
	comp=E,4.7nm,0.4s						
SALA				AML	AML	12 16 57.1	
	comp=N,26nm,0.4s						
ZALF	**Zalf**	**1.61**	**122**	*e*P	Pb	12 16 30.8	-0.3

GUC 23 12:19:15.8±0.7, 22.38S×67.73W, h195km±7km, ML3.6, 5C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.12**	**258**	⇑*i*P	Pn	12 19 47.0	+0.8
LVC				*i* S	Sn	12 20 11.1	+1.4
PB09	**Plate Boundary**	**1.52**	**292**	⇑*i*P	Pn	12 19 51.1	+1.6
PB09				*i* S	Sn	12 20 17.9	+2.4
PB09				AML	AML	12 20 19.7	
	comp=N,402nm,0.3s						
PB04	**Plate Boundary**	**1.63**	**274**	⇑*i*P	Pn	12 19 58.4	+8.1
PB04				*i* S	Sn	12 20 30.2	+13
PB04				AML	AML	12 20 31.8	
	comp=N,161nm,0.3s						
PB01	**Plate Boundary**	**2.11**	**309**	⇑*i*P	Pn	12 19 56.3	+1.1
PB01				*i* S	Sn	12 20 27.3	+1.4
PB01				AML	AML	12 20 28.6	
	comp=N,186nm,0.2s						
ANCH	**Antofagasta**	**2.79**	**242**	⇓*i*P	Pn	12 20 04.6	+1.9
ANCH				*i* S	Sn	12 20 40.5	+1.2
PB10	**Plate Boundary**	**2.84**	**246**	⇑*i*P	Pn	12 20 04.7	+1.4
PB10				*i* S	Sn	12 20 42.2	+1.9
HMBC	**Humberstone**	**2.90**	**316**	*e*P	Pn	12 20 04.8	+0.5
HMBC				*i* S	Sn	12 20 42.0	0.0
HMBC				AML	AML	12 20 45.4	
	comp=N,205nm,0.5s						

GUC 23 12:28:10.0±0.6, 33.70S×72.15W, h36km±4km, MD3.5, ML2.2, 3C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**1.20**	**53**	⇑*i*P	Pn	12 28 31.6	+1.0
ROCH				*i* S	Sn	12 28 47.6	+1.8
ROCH				AML	AML	12 28 53.3	
	comp=N,63nm,0.4s						
CHCH	**Chadas Angostu**	**1.27**	**101**	*e*P	Pn	12 28 31.8	+0.5
PEL	**Peldehue**	**1.34**	**66**	⇑*i*P	Pn	12 28 33.6	+1.3
PEL				*i* S	Sn	12 28 51.5	+2.5
PEL				AML	AML	12 28 54.4	
	comp=E,95nm,0.3s						
CACH	**El Canelo**	**1.35**	**108**	*e*P	Pn	12 28 34.5	+2.0
CACH				*i* S	Sn	12 28 53.0	+3.6
LMEL	**Las Melosas**	**1.63**	**96**	⇑*i*P	Pn	12 28 38.1	+1.8
LMEL				*e*S	Sn	12 28 59.0	+2.8
LMEL				AML	AML	12 29 03.4	
	comp=N,66nm,0.1s						

MAN 23 12:33:10, 10.22N×121.78E, h40km, mb3.8, ML2.6, MS2.2, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.89**	**63**	*e*P	Pn	12 33 27.6	+1.5
GUIM				*e*S	Sn	12 33 38.2	+0.4
CUYO	**Cuyo Island**	**0.98**	**310**	*e*P	Pn	12 33 28.8	+1.5
RCP	**Roxas**	**1.64**	**35**	⇑*e*P	Pn	12 33 38.0	+1.7
RCP				*e*S	Sn	12 33 58.2	+2.0
SJMP	**San Jose**	**2.32**	**344**	*e*P	Pn	12 33 45.6	-0.2

IDC 23 12:47:51.5±6.6, 19.18N×145.94E, h132km±61km, mb3.5/13, mb1 3.6/14, mb1mx3.5/24, mbtmp3.4/14, MS2.8/1, Ms1 2.8/1, ms1mx2.2/21, Error ellipse: s-maj=28.5km s-min=13.8km az=90.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**18.59**	**340**	P	P	12 51 58.9	+0.4
	0.4nm,0.3s,baz=164,slow=15,SNR=4.9						
KSRS	**Korea Array**	**24.07**	**323**	P	P	12 52 54.8	+0.2
	1.8nm,0.6s,baz=150,slow=8.7,SNR=11						
KSRS				LR	LR	13 00 32.2	
	comp=Z,24nm,20.0s,baz=333,slow=32						
ASAJ	**Asahikawa**	**25.02**	**354**	P	P	12 53 02.9	-0.3
	1.2nm,0.6s,baz=230,slow=7.9,SNR=3.4						
USRK	**Ussuriysk Arra**	**27.54**	**338**	P	P	12 53 26.5	+0.8
	1.5nm,0.6s,baz=121,slow=10,SNR=7.0						
WRA	**Warramunga Arr**	**40.51**	**197**	P	P	12 55 17.3	-0.4
	1.2nm,0.5s,baz=20,slow=9.0,SNR=12						
SONM	**Songino Array**	**42.91**	**321**	P	P	12 55 36.5	-0.7
	0.6nm,0.6s,baz=124,slow=7.5,SNR=2.6						
ASAR	**Alice Springs**	**44.17**	**196**	P	P	12 55 47.5	+0.1
	0.5nm,0.5s,baz=20,slow=12,SNR=13						
ZALV	**Zalesovo Beam**	**57.78**	**322**	P	P	12 57 28.6	-0.1
	0.9nm,0.5s,baz=107,slow=7.7,SNR=3.1						
MKAR	**Makanchi Array**	**58.30**	**314**	P	P	12 57 32.5	0.0
	0.6nm,0.6s,baz=94,slow=9.8,SNR=4.9						
ILAR	**Eielson Array**	**63.12**	**26**	P	P	12 58 03.5	-1.2
	0.3nm,0.5s,baz=250,slow=6.2,SNR=5.9						
YKA	**Yellowknife Ar**	**77.46**	**28**	P	P	12 59 32.6	+0.6
	0.5nm,0.7s,baz=287,slow=5.6,SNR=5.2						
ARCES	**ARCESS Array B**	**82.11**	**342**	P	P	12 59 57.7	+0.7
	1.5nm,0.6s,baz=68,slow=8.0,SNR=11						
NVAR	**Mina Array Bea**	**82.67**	**52**	P	P	13 00 01.4	+0.5
	0.2nm,0.3s,baz=254,slow=6.5,SNR=3.1						
FINES	**FINESS Array B**	**86.55**	**335**	P	P	13 00 18.8	-0.7
	1.5nm,0.5s,baz=68,slow=5.2,SNR=16						

*IDC **23** 12:52:43.8±3.8, 61.17S×23.00W, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.6/16, mbtmp3.8/3, ML3.9/1, MS2.7/1, Ms1 2.7/1, ms1mx2.7/16, Error ellipse: s-maj=197.3km s-min=40.2km az=83.0*

ISC 23 12:52:49.3±2.4, 60.9S±0.2×19.9W±0.8, h10km, n8, σ2.5/60/8, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**10.90**	**159**	*e*Pn	**Pn**	**12 55 26.6**	**+1.6**
VNA1	**Neumayer--Stat**	**10.90**	**159**	*e*Sn	**Sn**	**12 57 29.6**	**+2.8**
SNAA	**Sanae**	**12.76**	**155**	*e*Pn	**Pn**	**12 55 51.6**	**+1.1**
SNAA	**Sanae**	**12.76**	**155**	*e*Sn	**Sn**	**12 58 08.9**	**-3.6**

SRS				S		**Sg**	**13 12 20.6**	**+0.6**
SRS	**Serrai**	**0.56**	**131**	P		**Pg**	**13 12 12.6**	**0.0**
SRS				S		**Sg**	**13 12 20.6**	**+0.6**
NVR	**Nevrokopi**	**0.64**	**102**	P		**Pg**	**13 12 14.1**	**-0.1**
NVR				S		**Sg**	**13 12 22.7**	**+0.2**
NVR	**Nevrokopi**	**0.64**	**102**	*e*PB		**Pg**	**13 12 14.1**	**-0.1**
NVR				*e*SN		**Sb**	**13 12 23.3**	**-1.4**
NVR	**Nevrokopi**	**0.64**	**102**	P		**Pg**	**13 12 14.1**	**-0.1**
NVR				S		**Sg**	**13 12 22.7**	**+0.2**
NVR				*e*Sn		**Sb**	**13 12 23.3**	**-1.4**
GRG	**Griva**	**0.71**	**222**	P		**Pb**	**13 12 15.7**	**-0.8**
GRG				S		**Sg**	**13 12 25.5**	**+0.8**
GRG	**Griva**	**0.71**	**222**	*e*PN		**Pb**	**13 12 15.8**	**-0.8**
GRG				*e*SN		**Sg**	**13 12 25.4**	**+0.8**
GRG	**Griva**	**0.71**	**222**	P		**Pb**	**13 12 15.7**	**-0.8**
GRG				*e*Sn		**Sg**	**13 12 25.4**	**+0.8**
THE	**Thessaloniki**	**0.85**	**183**	P		**Pb**	**13 12 18.3**	**-0.7**
THE				S		**Sg**	**13 12 29.8**	**+0.5**
THE	**Thessaloniki**	**0.85**	**183**	P		**Pb**	**13 12 18.3**	**-0.7**
THE				S		**Sg**	**13 12 29.8**	**+0.5**
HORT	**Hortiatis**	**0.89**	**176**	P		**Pg**	**13 12 18.9**	**0.0**
HORT				S		**Sb**	**13 12 31.3**	**-0.5**
HORT	**Hortiatis**	**0.89**	**176**	P		**Pg**	**13 12 18.9**	**0.0**
HORT				S		**Sb**	**13 12 31.3**	**-0.5**
VTS	**Vitosha**	**1.11**	**7**	P		**Pb**	**13 12 23.1**	**-0.5**
VTS				S		**Sb**	**13 12 38.0**	**-0.4**
VTS	**Vitosha**	**1.11**	**7**	*e*Pg		**Pb**	**13 12 23.2**	**-0.4**
VTS	**Vitosha**	**1.11**	**7**	P		**Pb**	**13 12 23.1**	**-0.5**
VTS				S		**Sb**	**13 12 38.0**	**-0.4**
PLG	**Polygyros**	**1.16**	**164**	P		**Pg**	**13 12 23.5**	**-0.5**
PLG				S		**Sg**	**13 12 38.9**	**0.0**
PLG	**Polygyros**	**1.16**	**164**	*e*PN		**Pg**	**13 12 23.4**	**-0.5**
PLG				*e*SN		**Sg**	**13 12 38.6**	**-0.3**
PLG	**Polygyros**	**1.16**	**164**	P		**Sg**	**13 12 23.5**	**-0.5**
PLG				*e*Sn		**Sg**	**13 12 38.6**	**-0.3**
KAVA	**Kavala**	**1.22**	**113**	P		**Pb**	**13 12 24.8**	**-0.5**
KAVA				S		**Sn**	**13 12 42.3**	**0.0**
KAVA	**Kavala**	**1.22**	**113**	P		**Pb**	**13 12 24.8**	**-0.5**
KAVA				S		**Sn**	**13 12 42.3**	**0.0**
OUR	**Ouranopolis**	**1.36**	**147**	P		**Pb**	**13 12 28.0**	**+0.4**
OUR	**Ouranopolis**	**1.36**	**147**	P		**Pb**	**13 12 28.0**	**+0.4**
PLD	**Plovdiv**	**1.40**	**63**	*e*Sg		**Sn**	**13 12 49.2**	**+2.6**
PLD	**Plovdiv**	**1.40**	**63**	*e*Sg		**Sn**	**13 12 49.2**	**+2.6**
BARS	**Barje**	**1.61**	**326**	*e*Sg		**Sg**	**13 12 54.3**	**+0.9**
BARS	**Barje**	**1.61**	**326**	*e*Sg		**Sg**	**13 12 54.3**	**+0.9**
PAIG	**Paliouri**	**1.64**	**162**	P		**Pn**	**13 12 31.2**	**+0.1**
PAIG	**Paliouri**	**1.64**	**162**	P		**Pn**	**13 12 31.2**	**+0.1**
ZAPS	**Zavoj**	**1.81**	**351**	*e*Pg		**Pb**	**13 12 34.9**	**-0.5**
ZAPS				*e*Sg		**Sg**	**13 13 00.0**	**0.0**
SELS	**Selova**	**2.24**	**321**	*e*Pn		**Pb**	**13 12 40.7**	**-1.9**
SELS				*e*Sg		**Sg**	**13 13 12.4**	**-1.2**

GUC 23 13:53:34.1±0.4, 24°08S×67°56W, h200km, ML3.8, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**2.64**	**278**	*e*P		Pn	13 54 21.1	+1.5
ANCH				*i* S		Sn	13 54 56.9	+1.8
PB09	**Plate Boundary**	**2.76**	**325**↑	*i*P		Pn	13 54 22.5	+1.3
PB09				*i* S		Sn	13 55 00.2	+2.2
PB09				AML	AML		13 55 01.3	
	comp=N,282nm,0.5s							
PB10	**Plate Boundary**	**2.81**	**281**	*e*P		Pn	13 54 23.0	+1.5
PB10				*i* S		Sn	13 54 60.0	+1.5
PB10				AML	AML		13 55 05.6	
	comp=N,181nm,0.5s							
PB07	**Plate Boundary**	**3.18**	**317**↓	*i*P		Pn	13 54 26.8	+0.6
PB07				*i* S		Sn	13 55 07.6	+0.7
PB07				AML	AML		13 55 09.4	
	comp=N,118nm,0.5s							
PB01	**Plate Boundary**	**3.51**	**329**	*e*P		Pn	13 54 30.4	+0.3
PB01				*i* S		Sn	13 55 14.3	+0.4
PB01				AML	AML		13 55 17.1	
	comp=N,48nm,0.3s							

ISCJB ***23*** *14:03:32.5±0.3, 56°25S±0°05×26°9W±0°1, h101km, mb5.1/26, Error ellipse: s-maj=10.4km s-min=6.4km az=147.0*

IDC ***23*** *14:03:37.2±1.2, 56°26S×27°19W, h127km±9km, mb4.7/16, mb1 4.8/18, mb1mx4.7/22, mbtmp4.7/18, MS3.6/9, Ms1 3.6/9, ms1mx3.4/19, Error ellipse: s-maj=13.9km s-min=10.4km az=43.0*

NEIC ***23*** *14:03:38.4±2.1, 56°29S×27°05W, h143km±19km, mb5.2/7, Error ellipse: s-maj=10.6km s-min=6.7km az=48.0*

ISC 23 14:03:33.4±0.3, 56°35S±0°07×27°08W±0°08, h101km, n133, σ1°60/178, mb5.2/26, 14C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.50**	**158**	*e*P		**P**	**14 07 21.7**	**+2.5**
SNAA	**Sanae**	**18.45**	**156**	*e*P		**Pn**	**14 07 42.6**	**+0.6**
SNAA	**Sanae**	**18.45**	**156**	P		**Pn**	**14 07 42.4**	**+0.4**
SNAA				S		**S**	**14 11 00.4**	**-5.3**
SNAA				PcP		**PcP**	**14 12 07.4**	**+1.0**
SNAA				ScP		**ScP**	**14 15 30.8**	**-1.5**
SNAA	**Sanae**	**18.45**	**156**	P		**Pn**	**14 07 42.4**	**+0.4**
	2.1nm,0.3s,baz=309,slow=9.7,SNR=272							
SNAA				S		**S**	**14 11 00.4**	**-5.3**
	0.1nm,0.3s,baz=186,slow=22,SNR=1.7							
SNAA				PcP		**PcP**	**14 12 07.4**	**+1.0**
	0.2nm,0.3s,baz=204,slow=3.6,SNR=4.1							
SNAA				LR		LR	14 13 21.0	
	comp=Z,37nm,21.5s,baz=145,slow=32							
SNAA				ScP		**ScP**	**14 15 30.8**	**-1.5**
	0.1nm,0.3s,baz=299,slow=2.5,SNR=10							
PMSA	**Palmer Station**	**19.75**	**230**	P		**Pn**	**14 07 58.4**	**+1.1**
PMSA	**Palmer Station**	**19.75**	**230**	P		**Pn**	**14 07 58.4**	**+1.1**
	13nm,0.3s,baz=59,slow=7.0,SNR=28							
USHA	**Ushuaia**	**23.17**	**256**	P		**P**	**14 08 31.1**	**+0.2**
USHA	**Ushuaia**	**23.17**	**256**	P		**P**	**14 08 31.1**	**+0.2**
	7.3nm,0.6s,baz=98,slow=15,SNR=3.4							
PLCA	**Paso Flores**	**32.12**	**280**	P		**P**	**14 09 49.8**	**-1.1**
PLCA				PcP		**PcP**	**14 12 37.0**	**-0.6**
PLCA				ScP		**ScP**	**14 16 08.7**	**-2.9**
PLCA	**Paso Flores**	**32.12**	**280**	P		**P**	**14 09 49.8**	**-1.1**
	9.7nm,0.8s,baz=137,slow=6.9,SNR=14							
PLCA				PcP		**PcP**	**14 12 37.0**	**-0.6**
	2.4nm,0.7s,baz=157,slow=18,SNR=3.8							
PLCA				ScP		**ScP**	**14 16 08.7**	**-2.9**
	1.3nm,0.6s,baz=196,slow=7.4,SNR=4.2							
PLCA				LR		LR	14 22 47.7	
	comp=Z,76nm,21.2s,baz=169,slow=36							
CAM4	**Nova Friburgo**	**35.82**	**335**	(P)		P	14 10 33.4	+10
CAM4				*i*			14 10 34.9	
CAM4				*i*			14 10 36.7	
CAM4				*i*			14 10 41.4	
CAM4				*i*			14 10 43.8	
CAM4				*i*			14 10 54.4	
CPUP	**Villa Florida**	**37.05**	**311**	P		**P**	**14 10 33.5**	**+0.1**
CPUP	**Villa Florida**	**37.05**	**311**	P		**P**	**14 10 33.5**	**+0.1**
	25nm,0.6s,baz=134,slow=9.3,SNR=50							
CFAA	**Coronel Fontan**	**37.73**	**293**	LR		LR	14 25 50.0	
	comp=Z,5.0nm,19.8s,baz=337,slow=35							
MAW	**Mawson**	**39.87**	**143**	P		**P**	**14 10 58.4**	**+1.9**
MAW				PcP		**PcP**	**14 13 01.3**	**+1.2**
MAW				ScP		**ScP**	**14 16 38.1**	**-1.3**
MAW	**Mawson**	**39.87**	**143**	P		**P**	**14 10 58.4**	**+1.9**
	12nm,0.6s,baz=233,slow=7.9,SNR=63							
MAW				PcP		**PcP**	**14 13 01.3**	**+1.2**
	3.8nm,0.5s,baz=270,slow=4.0,SNR=3.6							
MAW				ScP		**ScP**	**14 16 38.1**	**-1.3**
	3.4nm,0.8s,baz=267,slow=5.4,SNR=6.6							
BDFB	**Brasilia**	**43.65**	**330**	P		**P**	**14 11 29.4**	**+1.4**
BDFB	**Brasilia**	**43.65**	**330**	P		**P**	**14 11 29.4**	**+1.4**
	3.1nm,0.6s,baz=146,slow=8.3,SNR=6.3							
LVC	**Limon Verde**	**45.50**	**300**↑	*i*P		**P**	**14 11 43.9**	**+1.0**
LVC	**Limon Verde**	**45.50**	**300**↑	*i*P		**P**	**14 11 43.9**	**+1.0**
SBA	**Scott Base**	**45.79**	**184**	*e*P		**P**	**14 11 46.4**	**+2.3**
	42nm,1.0s							
BOSA	**Boshof**	**45.98**	**75**	P		**P**	**14 11 46.9**	**+0.4**
BOSA	**Boshof**	**45.98**	**75**	P		**P**	**14 11 46.9**	**+0.4**
	7.2nm,0.7s,baz=214,slow=3.9,SNR=9.5							
BOSA				LR		LR	14 25 37.8	
	comp=Z,172nm,20.5s,baz=166,slow=29							
PB04	**Plate Boundary**	**46.08**	**300**↑	*i*P		**P**	**14 11 49.5**	**+2.5**
PB04	**Plate Boundary**	**46.08**	**300**↑	*i*P		**P**	**14 11 49.5**	**+2.5**
VNDA	**Vanda**	**46.28**	**183**	P		**P**	**14 11 50.1**	**+2.1**
VNDA				ScP		**ScP**	**14 17 04.3**	**-1.0**
VNDA	**Vanda**	**46.28**	**183**	P		**P**	**14 11 50.1**	**+2.1**
	37nm,0.7s,baz=188,slow=6.5,SNR=123							
VNDA				ScP		**ScP**	**14 17 04.3**	**-1.0**
	1.3nm,0.7s,baz=176,slow=5.3,SNR=5.5							
VNDA				LR		LR	14 28 56.4	
	comp=Z,50nm,19.3s,baz=29,slow=33							
PB09	**Plate Boundary**	**46.36**	**300**↑	*i*P		**P**	**14 11 50.7**	**+1.2**
PB09	**Plate Boundary**	**46.36**	**300**↑	*i*P		**P**	**14 11 50.7**	**+1.2**
PB01	**Plate Boundary**	**47.12**	**301**↑	*i*P		**P**	**14 11 56.1**	**+0.8**
PB01	**Plate Boundary**	**47.12**	**301**↑	*i*P		**P**	**14 11 56.1**	**+0.8**
SIV	**San Ignacio**	**47.83**	**313**	P		**P**	**14 12 00.5**	**-0.2**
SIV				PcP		**PcP**	**14 13 28.2**	**+0.2**
SIV				ScP		**ScP**	**14 17 09.9**	**-2.8**
SIV	**San Ignacio**	**47.83**	**313**	P		**P**	**14 12 00.5**	**-0.2**
	12nm,0.6s,baz=173,slow=12							
SIV				PcP		**PcP**	**14 13 28.2**	**+0.2**
	3.6nm,0.8s,baz=64,slow=1.9,SNR=3.4							
SIV				ScP		**ScP**	**14 17 09.9**	**-2.8**
	4.5nm,0.9s,baz=142,slow=4.0,SNR=8.3							
HMBC	**Humberstone**	**47.96**	**301**↑	*i*P		**P**	**14 12 02.1**	**+0.3**
HMBC	**Humberstone**	**47.96**	**301**↑	*i*P		**P**	**14 12 02.1**	**+0.3**
PSGC	**Pisagua**	**48.66**	**301**↑	*i*P		**P**	**14 12 07.4**	**+0.2**
PSGC	**Pisagua**	**48.66**	**301**↑	*i*P		**P**	**14 12 07.4**	**+0.2**
MNMC	**Minimini**	**48.81**	**302**↑	*i*P		**P**	**14 12 09.7**	**+1.1**
MNMC	**Minimini**	**48.81**	**302**↑	*i*P		**P**	**14 12 09.7**	**+1.1**
LPAZ	**La Paz**	**50.60**	**305**	P		**P**	**14 12 23.6**	**+1.1**
LPAZ				PcP		**PcP**	**14 13 39.5**	**+0.7**
LPAZ				ScP		**ScP**	**14 17 22.4**	**-2.8**
LPAZ				S		**S**	**14 19 27.1**	**-2.7**
LPAZ	**La Paz**	**50.60**	**305**	P		**P**	**14 12 23.6**	**+1.1**
	45nm,0.6s,baz=154,slow=6.0,SNR=196							
LPAZ				PcP		**PcP**	**14 13 39.5**	**+0.7**
	6.4nm,0.6s,baz=170,slow=4.2,SNR=2.0							
LPAZ				ScP		**ScP**	**14 17 22.4**	**-2.8**
	1.6nm,0.7s,baz=88,slow=8.3,SNR=3.8							
LPAZ				S		**S**	**14 19 27.1**	**-2.7**
	0.8nm,0.6s,baz=340,slow=23,SNR=2.3							
RCBR	**Riachuelo**	**50.87**	**349**	LR		LR	14 30 30.4	
	comp=Z,50nm,18.3s,baz=319,slow=32							
SAML	**Samuel**	**55.05**	**315**	*e*P		**P**	**14 12 52.9**	**-1.7**
	26nm,0.8s							
LSZ	**Lusaka**	**58.42**	**69**	*e*P		**P**	**14 13 18.0**	**-0.5**
	30nm,0.9s							
LIC	**Lamto**	**64.94**	**24**	*e*P		**P**	**14 14 02.6**	**+0.5**
	78nm,0.7s							
KIC	**Kosan Boka**	**65.14**	**25**	*e*P		**P**	**14 14 03.8**	**+0.4**
	43nm,0.8s							
TIC	**Toumodi**	**65.35**	**24**	*e*P		**P**	**14 14 05.1**	**+0.4**
	52nm,0.8s							
DBIC	**Dimbokro**	**65.41**	**24**	P		**P**	**14 14 05.6**	**+0.5**
DBIC				PcP		**PcP**	**14 14 38.3**	**+2.0**
DBIC	**Dimbokro**	**65.41**	**24**	P		**P**	**14 14 05.6**	**+0.5**
	16nm,0.7s,baz=164,slow=8.1,SNR=18							
DBIC				PcP		**PcP**	**14 14 38.3**	**+2.0**
	4.1nm,0.7s,baz=154,slow=7.9,SNR=1.8							
DBIC				LR		LR	14 36 31.3	
	comp=Z,59nm,18.2s,baz=119,slow=30							
OTAV	**Otavalo**	**69.87**	**304**	*e*P		**P**	**14 14 34.1**	**+0.3**
	132nm,1.4s							
ROSC	**El Rosal**	**72.14**	**310**	P		**P**	**14 14 48.5**	**+1.1**
ROSC	**El Rosal**	**72.14**	**310**	P		**P**	**14 14 48.5**	**+1.1**
	12nm,0.5s,baz=121,slow=5.9,SNR=5.9							
TORD	**Torodi Ar. Bea**	**73.28**	**29**	P		**P**	**14 14 54.3**	**+0.8**
TORD				pP		pP	14 15 24.9	+5.7
TORD	**Torodi Ar. Bea**	**73.28**	**29**	P		**P**	**14 14 54.3**	**+0.8**
	31nm,0.8s,baz=199,slow=6.6,SNR=125							
TORD				pP		pP	14 15 24.9	+5.7
	12nm,0.8s,baz=196,slow=5.7,SNR=4.7							
TORD				LR		LR	14 42 08.5	
	comp=Z,42nm,19.4s,baz=170,slow=32							
KMBO	**Kilima Mbogo**	**75.08**	**69**	LR		LR	14 48 25.8	
	comp=Z,51nm,18.6s,baz=107,slow=36							
TAU	**Tasmania Unive**	**81.00**	**176**	*e*P		**P**	**14 15 36.5**	**0.0**
	38nm,0.8s							
JTS	**JuntasAbangare**	**81.72**	**303**	P		**P**	**14 15 41.5**	**+0.8**
JTS	**JuntasAbangare**	**81.72**	**303**	P		**P**	**14 15 41.5**	**+0.8**
	9.8nm,0.8s,baz=305,slow=20,SNR=5.0							
TAM	**Tamanrasset**	**83.52**	**30**	*e*P		**P**	**14 15 49.3**	**-0.6**
	10nm,1.4s							
URZ	**Urewera**	**83.55**	**199**	*e*P		**P**	**14 15 49.4**	**-0.4**
	45nm,0.4s							
STKA	**Stephens Creek**	**91.60**	**170**	P		**P**	**14 16 29.8**	**+1.0**
STKA	**Stephens Creek**	**91.60**	**170**	P		**P**	**14 16 29.8**	**+1.0**
	9.7nm,0.6s,baz=161,slow=5.7,SNR=12							
TEIG	**Tepich**	**91.93**	**305**	*e*P		**P**	**14 16 29.8**	**-0.4**
TEIG	**Tepich**	**91.93**	**305**	P		**P**	**14 16 30.9**	**+0.7**
	32nm,0.6s,baz=93,slow=1.4,SNR=15							
KEST	**Kesra**	**96.80**	**29**	LR		LR	14 51 48.9	
	comp=Z,20nm,21.1s,baz=211,slow=30							
ASAR	**Alice Springs**	**98.69**	**162**	P		**P**	**14 17 01.3**	**0.0**
ASAR				PP		**PP**	**14 20 59.8**	**-2.6**
ASAR				PKKPbc		**PKKPdf**	**14 33 28.6**	**+0.2**
ASAR	**Alice Springs**	**98.69**	**162**	P		**P**	**14 17 01.3**	**0.0**
	5.9nm,0.7s,baz=189,slow=4.2,SNR=49							
ASAR				PP		**PP**	**14 20 59.8**	**-2.6**
	1.6nm,0.8s,baz=186,slow=6.9,SNR=9.4							
ASAR				PKKPbc		**PKKPdf**	**14 33 28.6**	**+0.2**
	0.3nm,0.5s,baz=27,slow=1.7,SNR=5.4							
AS31	**Alice Springs**	**98.69**	**162**	*e*P		**P**	**14 17 00.9**	**-0.4**
BINY	**Binghamton**	**106.50**	**324**	*e*P		**PKiKP**	**14 21 49.7**	**+4.2**
CLL	**Collm**	**112.29**	**26**	*e*SP		SP	14 32 00.0	-5.6
EDW2	**Edwards Air Fo**	**118.70**	**290**	P		**PKPdf**	**14 22 09.5**	**+0.5**
	baz=119							
L20A	**Wamsutter**	**119.39**	**302**	P		**PKPdf**	**14 22 10.7**	**+0.4**
	baz=120							
H24A	**Dirks Ranch, A**	**119.79**	**307**	P		**PKPdf**	**14 22 10.4**	**-0.4**
	baz=120							
R11A	**Troy Canyon, C**	**120.12**	**295**	P		**PKPdf**	**14 22 12.3**	**+0.5**
	baz=120							
G24A	**Alzada**	**120.18**	**307**	P		**PKPdf**	**14 22 12.1**	**+0.5**
	baz=120							
J20A	**Shoshoni**	**120.31**	**303**	P		**PKPdf**	**14 22 12.0**	**+0.1**
	baz=120							
ULM	**Lac du Bonnet**	**120.51**	**316**	PKP		**PKPdf**	**14 22 10.9**	**-0.9**
ULM	**Lac du Bonnet**	**120.51**	**316**	PKP		**PKPdf**	**14 22 10.9**	**-0.9**
	2.1nm,0.5s,baz=75,slow=1.9,SNR=3.2							
PDAR	**Pinedale Array**	**120.55**	**302**	PKP		**PKPdf**	**14 22 11.5**	**-1.1**
PDAR	**Pinedale Array**	**120.55**	**302**	PKP		**PKPdf**	**14 22 11.5**	**-1.1**
	0.5nm,0.4s,baz=122,slow=4.4,SNR=9.3							
G21A	**Lodge Grass**	**121.35**	**305**	P		**PKPdf**	**14 22 13.9**	**+0.1**
	baz=122							
NVAR	**Mina Array Bea**	**121.57**	**293**	PKP		**PKPdf**	**14 22 15.4**	**+0.8**
NVAR	**Mina Array Bea**	**121.57**	**293**	PKP		**PKPdf**	**14 22 15.4**	**+0.8**
	0.6nm,0.5s,baz=144,slow=4.0,SNR=3.9							
D22A	**Cohagen**	**122.36**	**307**	P		**PKPdf**	**14 22 16.1**	**+0.5**
	baz=123							
C22A	**Vida**	**122.69**	**308**	P		**PKPdf**	**14 22 16.4**	**+0.2**
	baz=123							
E20A	**Meyer Farm, Mu**	**122.74**	**306**	P		**PKPdf**	**14 22 16.6**	**+0.2**
	baz=123							
A24A	**Westby**	**122.77**	**310**	P		**PKPdf**	**14 22 16.8**	**+0.4**
	baz=123							
F18A	**Big Timber**	**123.01**	**304**	P		**PKPdf**	**14 22 17.5**	**+0.5**
	baz=123							
D20A	**Manuel Ranch,**	**123.19**	**306**	P		**PKPdf**	**14 22 17.3**	**+0.1**
	baz=123							
C20A	**Veseth Ranch,**	**123.60**	**307**	P		**PKPdf**	**14 22 18.5**	**+0.5**
	baz=124							
E18A	**Harlowton**	**123.60**	**305**	P		**PKPdf**	**14 22 18.5**	**+0.4**
	baz=124							
E17A	**Martinsdale**	**123.96**	**304**	P		**PKPdf**	**14 22 19.4**	**+0.5**
	baz=124							
C19A	**Slack Wire Ran**	**124.08**	**306**	P		**PKPdf**	**14 22 19.4**	**+0.4**
	baz=124							
A21A	**Bergtoll Ranch**	**124.08**	**308**	P		**PKPdf**	**14 22 19.2**	**+0.3**
	baz=124							
D17A	**Six Diamond Ra**	**124.39**	**305**	P		**PKPdf**	**14 22 19.8**	**+0.2**
	baz=125							
EGMT	**Eagleton**	**124.61**	**306**	P		**PKPdf**	**14 22 20.4**	**+0.5**
	baz=125							
FINES	**FINESS Array B**	**124.61**	**28**	PKP		**PKPdf**	**14 22 19.2**	**-0.2**
FINES	**FINESS Array B**	**124.61**	**28**	PKP		**PKPdf**	**14 22 19.2**	**-0.2**
	2.1nm,0.5s,baz=170,slow=1.8,SNR=21							
C17A	**Wharram Farm,**	**124.78**	**305**	P		**PKPdf**	**14 22 20.3**	**0.0**
	baz=125							
CMAR	**Chiang Mai Arr**	**124.90**	**111**	PKP		**PKPdf**	**14 22 22.0**	**+0.8**
CMAR				pPKP		**pPKPdf**	**14 22 50.7**	**+1.7**
CMAR	**Chiang Mai Arr**	**124.90**	**111**	PKP		**PKPdf**	**14 22 22.2**	**+0.8**
	2.4nm,0.8s,baz=237,slow=3.9,SNR=8.3							
CMAR				pPKP		**pPKPdf**	**14 22 50.7**	**+1.7**
	2.2nm,0.9s,baz=242,slow=3.9,SNR=3.4							
G12A	**Big Creek, Yel**	**125.08**	**300**	P		**PKPdf**	**14 22 21.4**	**+0.4**
	baz=125							
KAF	**Kangasniemi**	**125.24**	**28**	*ep*		**PKPdf**	**14 22 25.3**	**+4.8**
	4.5nm,0.6s							
C16A	**Fuhringer Ranc**	**125.36**	**305**	P		**PKPdf**	**14 22 21.9**	**+0.5**
	baz=126							
A17A	**Triple J Farms**	**125.72**	**306**	P		**PKPdf**	**14 22 22.6**	**+0.5**
	baz=126							
BMO	**Blue Mountains**	**125.84**	**299**	*e*PKPdf		**PKPdf**	**14 22 22.6**	**+0.2**
A16A	**West Butte Ran**	**126.12**	**306**	P		**PKPdf**	**14 22 22.9**	**0.0**
	baz=126							
C14A	**Swan Lake**	**126.25**	**303**	P		**PKPdf**	**14 22 22.9**	**-0.2**
	baz=126							
B13A	**Whitefish**	**127.03**	**303**	P		**PKPdf**	**14 22 24.6**	**+0.1**
	baz=127							
JOF	**Joensuu**	**127.23**	**29**	*ep*		PKPdf	14 22 29.7	+5.4
	4.0nm,0.7s							
ABKAR	**Akbulak array**	**127.48**	**56**	*e*PKPdf		**PKPdf**	**14 22 25.8**	**+0.5**
ARCES	**ARCESS Array B**	**131.19**	**22**	PKP		**PKPdf**	**14 22 31.7**	**0.0**
ARCES				PP		**PP**	**14 24 50.0**	**-1.7**
ARCES				SKPbc		**SKPbc**	**14 25 43.8**	**-3.3**
ARCES	**ARCESS Array B**	**131.19**	**22**	PKP		**PKPdf**	**14 22 31.7**	**0.0**
	1.8nm,0.6s,baz=222,slow=1.6,SNR=17							
ARCES				PP		**PP**	**14 24 50.0**	**-1.7**
	2.3nm,0.8s,baz=224,slow=3.3,SNR=5.6							
ARCES				SKPbc		**SKPbc**	**14 25 43.8**	**-3.3**
	2.8nm,0.7s,baz=198,slow=3.5,SNR=8.1							
YKA	**Yellowknife Ar**	**136.43**	**318**	PKP		**PKPdf**	**14 22 41.5**	**-0.3**
YKA				PP		PP	14 25 18.7	-6.4
YKA				SKPbc		**SKPbc**	**14 26 00.5**	**-4.1**
YKA	**Yellowknife Ar**	**136.43**	**318**	PKP		**PKPdf**	**14 22 41.4**	**-0.3**
	3.8nm,0.6s,baz=126,slow=2.3,SNR=30							
YKA				PP		PP	14 25 18.7	-6.4
	1.0nm,0.7s,baz=125,slow=5.7,SNR=6.1							
YKA				SKPbc		**SKPbc**	**14 26 00.5**	**-4.1**
	2.6nm,0.8s,baz=120,slow=2.4,SNR=18							
MKAR	**Makanchi Array**	**136.92**	**72**	PKPpre		PKPpre	14 22 36.6	
MKAR				PKP		**PKiKP**	**14 22 45.3**	**+0.3**
MKAR				SKPbc		**SKPbc**	**14 26 03.2**	**-3.4**
MKAR	**Makanchi Array**	**136.92**	**72**	PKhKP		PKPpre	14 22 36.6	
	0.3nm,0.6s,baz=0.0,slow=0.0,SNR=3.2							
MKAR				PKP		**PKiKP**	**14 22 45.3**	**+0.3**
	0.5nm,0.4s,baz=242,slow=1.2,SNR=6.0							
MKAR				SKPbc		**SKPbc**	**14 26 03.2**	**-3.4**
	0.7nm,0.6s,baz=241,slow=3.4,SNR=6.8							
ZALV	**Zalesovo Beam**	**142.44**	**64**	PKPpre		PKPpre	14 22 46.6	
ZALV				PKP		**PKiKP**	**14 22 54.8**	**-1.2**
ZALV				SKPbc		**SKPbc**	**14 26 18.8**	**-2.5**
ZALV	**Zalesovo Beam**	**142.44**	**64**	PKhKP		PKPpre	14 22 46.6	
	0.4nm,0.4s,baz=220,slow=6.6,SNR=2.1							
ZALV				PKP		**PKiKP**	**14 22 54.8**	**-1.2**
	5.6nm,0.5s,baz=264,slow=3.0,SNR=30							
ZALV				SKPbc		**SKPbc**	**14 26 18.8**	**-2.5**
	0.6nm,0.6s,baz=272,slow=3.6,SNR=3.4							
EGAK	**Eagle**	**147.98**	**312**	*e*PKPbc		**PKPbc**	**14 23 04.8**	**-0.5**
BMRM	**Bremner River**	**148.28**	**305**	*e*PKPbc		**PKPbc**	**14 23 06.5**	**+0.1**
DIV	**Divide**	**148.87**	**305**	*e*PKPbc		**PKPbc**	**14 23 08.4**	**+0.5**
SML	**Sawmill**	**150.25**	**305**	*e*PKPbc		**PKPbc**	**14 23 11.6**	**+0.4**
ILAR	**Eielson Array**	**150.36**	**311**

ODZ	**Otahua Downs**	**2.79**	**84**	⇓PN	Pn	14 51 52.3	+0.8
ODZ				AML	AML	14 52 18.1	
ODZ				AML	AML	14 54 23.0	
FOZ	**Fox Glacier**	**2.81**	**50**	PN	Pn	14 51 54.4	+2.6
FOZ				AML	AML	14 52 41.1	
FOZ				AML	AML	14 52 46.0	
RPZ	**Rata Peaks**	**3.52**	**63**	PN	Pn	14 52 03.2	+1.5
RPZ				AML	AML	14 52 54.9	
RPZ				AML	AML	14 53 00.6	
WVZ	**Waitaha Valley**	**3.70**	**52**	AML	AML	14 52 52.7	
OXZ	**Oxford**	**4.34**	**63**	PN	Pn	14 52 13.6	+0.8
LTZ	**Lake Taylor**	**4.78**	**59**	AML	AML	14 53 18.0	
NNZ	**Nelson**	**6.41**	**52**	AML	AML	14 55 16.0	

IDC 23 14:53:35.0±0.9, 6°.51S×152°.78E, h0km, mb3.8/9, mb1 4.0/11, mb1mx3.9/19, mbtmp3.8/11, ML3.0/2, MS3.6/2, Ms1 3.5/2, ms1mx2.9/22, Error ellipse: s-maj=33.1km s-min=18.1km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.27**	**242**	Pn	Pn	14 55 10.4	+1.6
	0.7nm,0.3s,baz=68,slow=11,SNR=3.0						
PMG				Sn	Sn	14 56 19.9	-1.3
	0.6nm,0.3s,baz=299,slow=6.6,SNR=2.4						
CTA	**Charters Tower**	**14.91**	**205**	Pn	Pn	14 57 08.4	+1.1
	0.1nm,0.3s,baz=28,slow=15,SNR=2.9						
WRA	**Warramunga Arr**	**22.34**	**232**	P	P	14 58 35.0	+0.3
	1.8nm,0.6s,baz=54,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**24.90**	**225**	P	P	14 59 00.0	+0.1
	2.0nm,0.9s,baz=58,slow=9.2,SNR=25						
STKA	**Stephens Creek**	**27.31**	**201**	P	P	14 59 21.1	-0.5
	1.2nm,0.7s,baz=4.1,slow=13,SNR=3.6						
STKA				LR	LR	15 11 05.5	
	comp=Z,79nm,18.7s,baz=26,slow=38						
FITZ	**Fitzroy Crossi**	**28.86**	**244**	P	P	14 59 35.4	-0.2
	1.7nm,0.6s,baz=69,slow=5.7,SNR=11						
RPZ	**Rata Peaks**	**40.38**	**159**	LR	LR	15 14 31.2	
	comp=Z,119nm,21.9s,baz=188,slow=31						
PETK	**Petropavlovsk-**	**59.54**	**3**	P	P	15 03 42.9	+2.8
	0.9nm,0.6s,baz=166,slow=7.0,SNR=4.7						
SONM	**Songino Array**	**67.76**	**328**	P	P	15 04 36.3	+1.6
	0.4nm,0.5s,baz=145,slow=5.3,SNR=5.0						
VNDA	**Vanda**	**71.13**	**178**	P	P	15 04 55.0	+0.1
	0.7nm,0.8s,baz=337,slow=5.2,SNR=4.9						
MKAR	**Makanchi Array**	**81.60**	**319**	P	P	15 05 54.0	-1.0
	0.2nm,0.5s,baz=96,slow=4.3,SNR=3.9						
ILAR	**Eielson Array**	**83.74**	**22**	P	P	15 06 04.6	-1.1
	1.0nm,1.1s,baz=258,slow=5.2,SNR=4.8						
NVAR	**Mina Array Bea**	**93.15**	**52**	P	P	15 06 52.8	+1.1
	0.4nm,0.6s,baz=243,slow=4.0,SNR=2.9						
TORD	**Torodi Ar. Bea**	**150.78**	**285**	PKPbc	PKPbc	15 13 29.2	-1.2
	1.4nm,0.8s,baz=74,slow=2.1,SNR=8.2						

*IDC **23** 15:05:59.5±3.5, 4°.48S×153°.08E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=115.4km s-min=33.3km az=114.0*

ISC 23 15:06:04.0±3.1, 4.9S±0.4×153.8E±0.6, h56km, n9, σ1§07/9, mb3.6/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDU	**Kakadu**	**22.45**	**248**	P	**P**	**15 10 58.1**	**-0.4**
	baz=10,SNR=5.1						
MTN	**Manton Dam**	**23.74**	**249**	P	**P**	**15 11 12.8**	**+1.5**
	baz=12,SNR=3.5						
WRA	**Warramunga Arr**	**24.16**	**230**	P	**P**	**15 11 15.6**	**+0.5**
	1.4nm,0.5s,baz=52,slow=9.8,SNR=2.5						
ASAR	**Alice Springs**	**26.78**	**224**	P	**P**	**15 11 39.2**	**+0.3**
	0.1nm,0.6s,baz=55,slow=9.4,SNR=4.7						
KNRA	**Kununurra**	**26.84**	**245**	P	**P**	**15 11 40.8**	**+1.4**
	baz=15,SNR=8.7						
FITZ	**Fitzroy Crossi**	**30.51**	**242**	P	**P**	**15 12 10.9**	**-1.2**
	0.8nm,0.6s,baz=72,slow=9.6,SNR=5.4						
FITZ	**Fitzroy Crossi**	**30.51**	**242**	P	**P**	**15 12 11.1**	**-0.9**
	baz=18,SNR=4.1						
MKAR	**Makanchi Array**	**81.04**	**319**	P	**P**	**15 18 12.9**	**-0.2**
	0.4nm,0.6s,baz=104,slow=7.1,SNR=5.8						
TORD	**Torodi Ar. Bea**	**151.28**	**289**	PKPbc	**PKPbc**	**15 25 52.6**	**+0.3**
	1.1nm,0.9s,baz=67,slow=2.6,SNR=5.2						

MAN 23 15:13:42, 10°.23N×125°.19E, h32km, mb4.1, ML2.9, MS2.6, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.34**	**254**	*eP*	Pn	15 13 51.9	+1.2
MSLP				*eS*	Sn	15 13 59.0	+2.6
PLP	**Palo**	**0.95**	**348**	*eP*	Pn	15 13 59.3	0.0
PLP				*eS*	Sn	15 14 11.8	-0.9
OCLP	**Ormoc**	**1.00**	**325**	*eP*	Pb	15 14 00.5	-0.3
OCLP				*eS*	Sn	15 14 11.2	-1.6

*IDC **23** 15:22:20.2±0.5, 3°.54N×126°.61E, h0km, mb4.3/18, mb1 4.4/20, mb1mx4.3/27, mbtmp4.3/20, ML4.1/2, MS3.7/2, Ms1 3.7/2, ms1mx2.8/28, Error ellipse: s-maj=25.7km s-min=10.6km az=80.0*

*ISCJB **23** 15:22:25.4±0.3, 3°.57N±0°.03×126°.83E±0°.04, h53km, mb4.2/18, MS3.7/2, Error ellipse: s-maj=6.8km s-min=4.1km az=153.9*

*AUST **23** 15:22:30.6±0.3, 3°.40N×126°.95E, h90km, Error ellipse: s-maj=1.1km s-min=0.8km az=25.0*

*DJA **23** 15:22:31.4±1.2, 3°.N±14°×12°.7E±°, h10km, M4.8/7, mb5.0/5, mbB5.2/3, MLv4.7/7, Mw(mB)4.5/3*

ISC 23 15:22:27.1±0.4, 3°.50N±0°.05×126°.73E±0°.07, h53km, n64, σ1§29/61, mb4.3/18, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**2.78**	**223**	P	**Pn**	**15 23 11.2**	**+2.0**
TNTI	**Ternate**	**2.78**	**167**	P	**Pn**	**15 23 09.9**	**+0.7**
GSPH	**General Santos**	**3.12**	**325**	*eP*	**Pn**	**15 23 14.0**	**0.0**
MATI	**Mati**	**3.46**	**352**	*eP*	**Pn**	**15 23 19.7**	**+1.2**
KMSI	**Cibinong**	**4.00**	**223**	P	**Pn**	**15 23 28.8**	**+3.0**
LBMI	**Labuha**	**4.18**	**169**	P	**Pn**	**15 23 29.6**	**+1.2**
BUKP	**Musuan**	**4.66**	**339**	*eP*	**Pn**	**15 23 36.4**	**+1.5**
GTOI	**Gorontalo**	**4.68**	**233**	P	Pn	15 23 39.1	+3.9
PAGZ	**Pagadian**	**5.46**	**323**	*eP*	**Pn**	**15 23 47.1**	**+1.3**
MRSI	**Marisa**	**5.65**	**238**	P	Pn	15 23 51.7	+3.2
	95nm,0.5s,1μm0.4nm						
IPIL	**Ipil**	**5.94**	**316**	*eP*	**Pn**	**15 23 53.1**	**+0.6**
LUWI	**Luwuk**	**6.00**	**221**	P	Pn	15 24 00.0	+6.7
	95nm,1.1s,2μm1.8nm						
LUWI	**Luwuk**	**6.00**	**221**	P	Pn	15 23 58.1	+4.8
	baz=6.1,SNR=25						
SWI	**Sorong**	**6.27**	**134**	P	**Pn**	**15 23 57.9**	**+0.9**
	148nm,0.4s,3μm						
SWI	**Sorong**	**6.27**	**134**	P	**Pn**	**15 23 58.2**	**+1.2**
	baz=6.1,SNR=59						
SWI				S	**Sn**	**15 25 08.9**	**+1.6**
	baz=6.1,SNR=4.7						
FAKI	**Fak Fak**	**8.43**	**139**	P	**Pn**	**15 24 27.8**	**+1.1**
	baz=8.2,SNR=29						
PALU	**Palau**	**8.60**	**63**	P	**Pn**	**15 24 28.0**	**-1.1**
	baz=8.5,SNR=5.6						
RKPI	**Ransiki, Papua**	**8.95**	**124**	P	Pn	15 24 41.1	+7.3
	40nm,1.0s,0.1nm						
BAKI	**Biak**	**10.47**	**116**	P	Pn	15 24 58.7	+4.2
KKM	**Kota Kinabalu**	**10.78**	**284**	P	Pn	15 25 03.8	+4.9
	baz=11,SNR=3.8						
KAPI	**Kappang**	**10.96**	**220**	Pn	**Pn**	**15 24 59.3**	**-2.0**
	2.1nm,0.3s,baz=72,slow=17,SNR=3.7						
BATI	**Baumata**	**13.95**	**193**	Pn	**Pn**	**15 25 40.2**	**-1.9**
	0.6nm,0.3s,baz=22,slow=5.4,SNR=2.8						
JAY	**Jayapura**	**15.19**	**113**	P	**P**	**15 26 03.8**	**+1.2**
	baz=15,SNR=10.0						
KSM	**Kuching**	**16.53**	**263**	P	**P**	**15 26 19.5**	**+2.2**
	baz=17,SNR=4.0						
MTN	**Manton Dam**	**16.81**	**165**	P	**Pn**	**15 26 16.7**	**-2.3**
	baz=17,SNR=9.2						
KDU	**Kakadu**	**17.06**	**161**	P	**Pn**	**15 26 19.7**	**-2.4**
	baz=17,SNR=10						
KNRA	**Kununurra**	**19.16**	**174**	P	**P**	**15 26 46.9**	**+0.7**
	baz=19,SNR=14						
MANU	**Manus Island**	**21.35**	**105**	P	**P**	**15 27 09.5**	**-0.6**
	baz=21,SNR=3.6						
FITZ	**Fitzroy Crossi**	**21.49**	**183**	P	**P**	**15 27 11.4**	**-0.1**
	1.5nm,0.4s,baz=18,slow=8.5,SNR=15						
FITZ				S	**S**	**15 31 03.9**	**-3.2**
	2.9nm,0.9s,baz=125,slow=13,SNR=2.8						
FITZ	**Fitzroy Crossi**	**21.49**	**183**	P	**P**	**15 27 11.5**	**-0.1**
	baz=22,SNR=12						
WRA	**Warramunga Arr**	**24.46**	**162**	P	**P**	**15 27 41.0**	**-0.2**
	9.2nm,0.6s,baz=340,slow=10,SNR=7.4						
WRA				S	**S**	**15 31 55.1**	**-2.9**
	1.4nm,0.5s,baz=200,slow=11,SNR=1.6						
ASAR	**Alice Springs**	**27.89**	**166**	P	**P**	**15 28 11.6**	**-0.5**
	0.9nm,0.5s,baz=347,slow=7.6,SNR=31						
ASAR				S	S	15 33 01.1	+8.9
	0.2nm,0.6s,baz=48,slow=27,SNR=4.1						
JNU	**Nakatsue**	**29.73**	**7**	P	**P**	**15 28 27.8**	**-0.6**
	3.2nm,0.8s,baz=230,slow=7.9,SNR=2.5						
MEEK	**Meekatharra**	**30.97**	**194**	P	**P**	**15 28 41.0**	**+1.6**
	baz=31,SNR=4.8						
CMAR	**Chiang Mai Arr**	**30.99**	**301**	P	**P**	**15 28 39.8**	**+0.1**
	2.2nm,0.6s,baz=117,slow=5.3,SNR=12						
KSRS	**Korea Array**	**33.81**	**2**	P	**P**	**15 29 04.4**	**+0.3**
	1.4nm,0.6s,baz=181,slow=9.6,SNR=6.7						
BBOO	**Buckleboo**	**37.18**	**167**	P	**P**	**15 29 33.3**	**+0.2**
	baz=37,SNR=8.2						
STKA	**Stephens Creek**	**37.91**	**159**	P	**P**	**15 29 39.4**	**0.0**
	4.6nm,0.5s,baz=325,slow=8.1,SNR=22						
STKA	**Stephens Creek**	**37.91**	**159**	P	**P**	**15 29 39.7**	**+0.3**
	baz=38,SNR=11						
USRK	**Usuriysk Arra**	**40.80**	**6**	P	**P**	**15 30 03.7**	**+0.5**
	0.8nm,0.4s,baz=188,slow=7.7,SNR=6.8						
ARMA	**Armidale**	**41.27**	**147**	P	**P**	**15 30 08.6**	**+1.1**
	baz=41,SNR=4.1						
ASAJ	**Asahikawa**	**42.81**	**17**	P	**P**	**15 30 20.7**	**+1.0**
	4.7nm,0.8s,baz=75,slow=8.2,SNR=6.9						
TAPN	**Taplejung**	**44.15**	**306**	*eP*	**P**	**15 30 30.3**	**-0.9**
ODAN	**Odare**	**44.20**	**306**	*eP*	**P**	**15 30 30.1**	**-1.4**
	9.6nm,0.5s						
RAMN	**Ramite**	**44.88**	**305**	*eP*	**P**	**15 30 36.8**	**-0.1**
	9.5nm,0.6s						
JIRN	**Jiri**	**45.51**	**306**	*eP*	**P**	**15 30 41.8**	**-0.2**
	8.9nm,0.4s						
GUN	**Gumba**	**45.86**	**306**	*eP*	**P**	**15 30 44.5**	**-0.3**
	19nm,0.4s						
PKI	**Pulchoki**	**46.10**	**306**	*eP*	**P**	**15 30 45.7**	**-1.0**
PKIN	**Phulchoki**	**46.12**	**306**	*eP*	**P**	**15 30 45.6**	**-1.1**
	2.6nm,0.3s						
KKN	**Kakani**	**46.30**	**306**	*eP*	**P**	**15 30 46.9**	**-1.2**
	4.6nm,0.3s						
DMN	**Daman**	**46.36**	**305**	*eP*	**P**	**15 30 48.5**	**-0.2**
	5.5nm,0.4s						
SONM	**Songino Array**	**47.52**	**341**	P	**P**	**15 30 57.2**	**0.0**
	1.2nm,0.4s,baz=161,slow=8.5,SNR=14						
SONM				PcP	**PcP**	**15 32 27.5**	**+0.9**
	0.7nm,0.7s,baz=182,slow=3.0,SNR=3.1						
SONM				LR	LR	15 50 50.8	
	comp=Z,59nm,21.3s,baz=154,slow=36						
KOLN	**Koldanda**	**47.66**	**305**	*eP*	**P**	**15 30 58.3**	**-0.4**
	22nm,0.3s						
DANN	**Dangsing**	**47.75**	**306**	*eP*	**P**	**15 30 58.9**	**-0.6**
	32nm,0.5s						
PETK	**Petropavlovsk-**	**55.64**	**22**	P	**P**	**15 31 58.9**	**+1.3**
	3.2nm,0.8s,baz=217,slow=11,SNR=3.5						
MKAR	**Makanchi Array**	**57.74**	**325**	P	**P**	**15 32 11.9**	**-0.8**
	10nm,0.5s,baz=120,slow=7.1,SNR=138						
MKAR				PcP	**PcP**	**15 33 06.8**	**+1.8**
	1.6nm,0.5s,baz=124,slow=4.1,SNR=5.2						
ZALV	**Zalesovo Beam**	**60.79**	**333**	P	**P**	**15 32 32.2**	**-1.3**
	1.4nm,0.4s,baz=116,slow=6.8,SNR=8.7						
VNDA	**Vanda**	**83.20**	**173**	LR	LR	16 11 18.6	
	comp=Z,49nm,19.4s,baz=311,slow=35						
ILAR	**Eielson Array**	**85.31**	**25**	P	**P**	**15 34 57.9**	**-0.2**
	0.3nm,0.7s,baz=253,slow=5.2,SNR=4.9						
KMBO	**Kilima Mbogo**	**89.55**	**269**	P	**P**	**15 35 20.6**	**+0.7**
	1.3nm,0.6s,baz=124,slow=3.6,SNR=5.4						
BRTR	**Keskin Array B**	**90.17**	**310**	P	**P**	**15 35 21.2**	**-1.0**
	1.6nm,0.7s,baz=141,slow=5.1,SNR=8.3						
ARCES	**ARCESS Array B**	**90.67**	**340**	P	**P**	**15 35 23.0**	**-0.7**
	1.7nm,0.6s,baz=78,slow=6.7,SNR=13						
FINES	**FINESS Array B**	**92.03**	**332**	P	**P**	**15 35 29.3**	**-0.9**
	1.6nm,0.7s,baz=48,slow=8.5,SNR=6.0						
TORD	**Torodi Ar. Bea**	**122.99**	**288**	PKP	**PKPdf**	**15 41 17.9**	**-0.7**
	0.8nm,0.7s,baz=64,slow=1.3,SNR=5.7						

*IDC **23** 15:23:39.4±0.7, 0°.18S×125°.86E, h0km, mb4.2/9, mb1 4.4/11, mb1mx4.2/23, mbtmp4.2/11, ML4.0/2, MS3.4/2, Ms1 3.4/2, ms1mx2.7/30, Error ellipse: s-maj=37.9km s-min=15.0km az=79.0*

*ISCJB **23** 15:23:43.4±0.5, 0°.22S±0°.06×125°.9E±0°.1, h44km, mb4.2/11, MS3.3/2, Error ellipse: s-maj=14.6km s-min=8.5km az=166.7*

*NEIC **23** 15:23:45.0±2.6, 0°.19S×126°.01E, h42km±25km, mb4.6/2, Error ellipse: s-maj=23.1km s-min=8.2km az=58.0*

ISC 23 15:23:45.4±0.6, 0°.20S±0°.09×125°.9E±0°.1, h44km, n33, σ0§87/34, mb4.3/11, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.75**	**232**	*eP*	**Pn**	**15 25 37.1**	**+1.3**
	32nm,1.0s						
KAPI	**Kappang**	**7.75**	**232**	Pn	**Pn**	**15 25 34.4**	**-1.4**
	2.0nm,0.3s,baz=98,slow=5.7,SNR=6.8						
KSM	**Kuching**	**15.64**	**276**	*eP*	**P**	**15 27 25.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**17.79**	**181**	P	**P**	**15 27 49.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**17.79**	**181**	P	**P**	**15 27 49.8**	**-0.4**
	0.4nm,0.3s,baz=22,slow=12,SNR=7.7						
WRAB	**Tennant Creek**	**21.30**	**158**	*eP*	**P**	**15 28 26.9**	**-1.5**
	44nm,1.0s						
WRA	**Warramunga Arr**	**21.30**	**158**	P	**P**	**15 28 27.1**	**-1.4**
WRA	**Warramunga Arr**	**21.30**	**158**	P	**P**	**15 28 27.1**	**-1.4**
	25nm,0.8s,baz=337,slow=11,SNR=9.5						
PMG	**Port Moresby**	**23.08**	**114**	LR	LR	15 38 20.7	
	comp=Z,104nm,19.1s,baz=252,slow=38						
AS31	**Alice Springs**	**24.59**	**162**	*eP*	**P**	**15 29 01.0**	**-0.6**
ASAR	**Alice Springs**	**24.59**	**162**	P	**P**	**15 29 01.9**	**+0.3**
ASAR	**Alice Springs**	**24.59**	**162**	P	**P**	**15 29 01.9**	**+0.3**
	10nm,0.8s,baz=346,slow=5.1,SNR=26						
IPM	**Ipoh**	**25.25**	**281**	P	**P**	**15 29 07.6**	**0.0**
STKA	**Stephens Creek**	**34.84**	**156**	P	**P**	**15 30 32.5**	**+0.2**
STKA				ScP	ScP	15 36 54.0	+7.0
STKA	**Stephens Creek**	**34.84**	**156**	P	**P**	**15 30 32.5**	**+0.2**
	4.8nm,0.8s,baz=354,slow=7.3,SNR=3.5						
STKA				ScP	ScP	15 36 54.0	+7.0
	1.6nm,0.9s,baz=333,slow=4.5,SNR=3.3						
KSAR	**Wonju Array Be**	**37.51**	**3**	P	**P**	**15 30 56.0**	**+1.1**
KSRS	**Korea Array**	**37.52**	**3**	P	**P**	**15 30 56.1**	**+1.0**
	1.5nm,0.7s,baz=178,slow=10,SNR=6.6						
USRK	**Usuriysk Arra**	**44.55**	**6**	P	**P**	**15 31 53.5**	**+0.7**
	1.2nm,0.6s,baz=174,slow=8.9,SNR=4.2						
ULN	**Ulaanbaatar**	**50.60**	**344**	*eP*	**P**	**15 32 39.7**	**-0.3**
	3.1nm,0.9s						
SONM	**Songino Array**	**50.76**	**343**	P	**P**	**15 32 40.8**	**-0.4**
SONM	**Songino Array**	**50.76**	**343**	P	**P**	**15 32 40.8**	**-0.4**
	1.8nm,0.8s,baz=155,slow=8.8,SNR=5.9						
MKAR	**Makanchi Array**	**60.32**	**327**	P	**P**	**15 33 49.5**	**-0.2**
MKAR				PcP	**PcP**	**15 34 34.8**	**+0.2**
MKAR	**Makanchi Array**	**60.32**	**327**	P	**P**	**15 33 49.5**	**-0.2**
	1.8nm,0.6s,baz=119,slow=9.3,SNR=4.5						
MKAR				PcP	**PcP**	**15 34 34.8**	**+0.2**
	1.5nm,0.7s,baz=127,slow=4.8,SNR=4.2						
ZALV	**Zalesovo Beam**	**63.71**	**334**	P	**P**	**15 34 11.8**	**-0.5**
ZALV	**Zalesovo Beam**	**63.71**	**334**	P	**P**	**15 34 11.8**	**-0.5**
	1.0nm,0.6s,baz=123,slow=5.5,SNR=4.2						
ZALV				LR	LR	16 01 18.3	
	comp=Z,21nm,18.1s,baz=68,slow=36						
ILAR	**Eielson Array**	**89.00**	**25**	P	**P**	**15 36 33.9**	**-1.4**
ILAR	**Eielson Array**	**89.00**	**25**	P	**P**	**15 36 33.9**	**-1.4**
	0.4nm,0.7s,baz=231,slow=5.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**123.22**	**286**	PKP	**PKPdf**	**15 42 38.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**123.22**	**286**	PKP	**PKPdf**	**15 42 38.5**	**+0.1**
	1.1nm,0.8s,baz=20,slow=1.0,SNR=5.1						
TXAR	**Lajitas Array**	**124.64**	**54**	PKP	**PKPdf**	**15 42 41.9**	**+1.0**
TXAR	**Lajitas Array**	**124.64**	**54**	PKP	**PKPdf**	**15 42 41.9**	**+1.0**
	0.3nm,0.5s,baz=350,slow=4.6,SNR=3.0						
CPUP	**Villa Florida**	**153.44**	**174**	PKPbc	**PKPbc**	**15 43 40.9**	**+1.2**
CPUP	**Villa Florida**	**153.44**	**174**	PKPbc	**PKPbc**	**15 43 40.9**	**+1.2**
	1.7nm,0.6s,baz=135,slow=7.1,SNR=4.4						

NNC 23 15:29:21.2±2.5, 40°.29N×72°.64E, h0km, mb3.5, mpv2.9, 4C-1D, Error ellipse: s-maj=25.7km s-min=12.9km az=170.0, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**3.23**	**331**	Pn	Pn	15 30 13.8	+0.6
	3.2nm,0.5s,baz=147,slow=15,SNR=61						
KK31				⇑Lg	Lg	15 31 02.9	
	3.0nm,0.3s,baz=152,slow=27,SNR=3.7						
TKM2	**Tokmak 2**	**3.44**	**39**	⇓Pn	Pn	15 30 15.9	-0.4
	1.9nm,0.8s						
TKM2				⇑Lg	Lg	15 31 10.1	
	9.3nm,0.8s						
AB31	**Akbulak array**	**12.70**	**319**	⇑Pn	Pn	15 32 22.0	-1.0
	0.5nm,0.6s,baz=130,slow=13,SNR=14						
AKTO	**Aktyubinsk**	**14.41**	**320**	⇑Pn	Pn	15 32 46.6	+0.2
	2.8nm,0.9s						

WEL 23 15:33:24.0±0.4, 46°.10S×165°.82E, h12km, ML3.7/16, 1C-2D, Error ellipse: s-maj=3.5km s-min=2.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.12**	**57**	P*	Pb	15 33 43.7	-1.6
DCZ				AML	AML	15 33 59.1	
DCZ				AML	AML	15 34 05.7	
DCZ				AML	AML	15 34 05.7	
WHZ	**Wether Hill Ro**	**1.50**	**83**	⇑PN	Pn	15 33 49.9	-0.8
WHZ				SN	Sn	15 34 07.9	-2.3
WHZ				AML	AML	15 34 13.1	
APZ	**The Paps**	**1.67**	**117**	PN	Pn	15 33 52.2	-0.9
MLZ	**Mavora Lakes**	**1.81**	**66**	⇓PN	Pn	15 33 55.0	-0.1
MLZ				AML	AML	15 34 21.1	
MLZ				AML	AML	15 34 23.3	
MSZ	**Milford Sound**	**2.06**	**47**	PN	Pb	15 34 02.1	+0.8
MSZ				AML	AML	15 34 29.7	
MSZ				AML	AML	15 34 32.4	
SYZ	**Scrubby Hill**	**2.34**	**102**	PN	Pn	15 34 02.6	+0.4
WKZ	**Wanaka**	**2.58**	**62**	PN	Pn	15 34 07.3	+1.7
WKZ				AML	AML	15 34 47.8	
WKZ				AML	AML	15 34 53.7	
EAZ	**Earnscleugh**	**2.59**	**72**	⇓PN	Pn	15 34 07.1	+1.4
EAZ				AML	AML	15 34 43.0	
EAZ				AML	AML	15 34 51.0	
TUZ	**Tuapeka**	**2.66**	**88**	PN	Pn	15 34 07.0	+0.4
TUZ				AML	AML	15 34 41.9	
TUZ				AML	AML	15 34 44.9	
JCZ	**Jackson Bay**	**2.90**	**47**	PN	Pn	15 34 12.0	+1.9
JCZ				AML	AML	15 35 03.6	
JCZ				AML	AML	15 35 05.9	
LBZ	**Lake Benmore**	**3.53**	**63**	PN	Pn	15 34 18.3	-0.3
LBZ				AML	AML	15 35 28.8	
ODZ	**Otahua Downs**	**3.55**	**74**	PN	Pn	15 34 18.1	-0.8
ODZ				AML	AML	15 34 42.1	
FOZ	**Fox Glacier**	**3.74**	**49**	PN	Pn	15 34 22.9	+1.4
WVZ	**Waitaha Valley**	**4.63**	**51**	PN	Pn	15 34 33.7	0.0

*ISCJB **23** 15:40:19.0±0.7, 23°.98N±0°.08×93°.46E±0°.05, h57km, mb3.5/5, Error ellipse: s-maj=11.4km s-min=5.4km az=22.3*

*IDC **23** 15:40:21.4±4.6, 24°.34N×94°.03E, h81km±41km, mb3.4/4, mb1 3.6/5, mb1mx3.2/27, mbtmp3.3/5, ML4.0/1, Error ellipse: s-maj=66.2km s-min=19.9km az=70.0*

ISC 23 15:40:19.3±0.9, 24°.1N±0°.1×93°.61E±0°.08, h57km, n19, σ1§83/30, mb3.3/5, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.78**	**22**	*i* P	Pn	15 40 27.0	-7.5
IMP				*i* S	**Sn**	**15 40 47.0**	**+1.4**
SHL	**Shillong**	**2.18**	**314**	*i* PN	**Pn**	**15 40 55.5**	**+2.2**
SHL				*i* SN	**Sn**	**15 41 21.0**	**+1.7**
TAPN	**Taplejung**	**6.26**	**303**	*e*Pn	**Pn**	**15 41 51.7**	**+2.4**
TAPN				*e*Sn	**Sn**	**15 43 00.3**	**+0.7**
	54nm,0.4s						
ODAN	**Odare**	**6.28**	**298**	*e*Pn	**Pn**	**15 41 52.0**	**+2.4**
ODAN				*e*Sn	**Sn**	**15 43 00.8**	**+0.7**
	115nm,0.3s						
RAMN	**Ramite**	**6.96**	**296**	*e*Pn	**Pn**	**15 42 01.4**	**+2.5**
RAMN				*e*Sn	**Sn**	**15 43 16.2**	**-0.7**
	46nm,0.3s						
CMAR	**Chiang Mai Arr**	**7.46**	**137**	P	**Pn**	**15 42 07.2**	**+1.6**
	0.6nm,0.3s,baz=317,slow=14,SNR=4.3						
JIRN	**Jiri**	**7.59**	**300**	*e*Pn	**Pn**	**15 42 09.7**	**+2.1**
JIRN				*e*Sn	**Sn**	**15 43 31.4**	**-1.1**
	67nm,0.3s						
GUN	**Gumba**	**7.95**	**301**	*e*Pn	**Pn**	**15 42 14.2**	**+1.7**
GUN				*e*Sn	**Sn**	**15 43 40.8**	**-0.4**
	111nm,0.6s						
PKI	**Pulchoki**	**8.18**	**297**	*e*Pn	**Pn**	**15 42 18.0**	**+2.3**
PKI				*e*Sn	**Sn**	**15 43 45.9**	**-1.0**
	23nm,0.4s						
PKIN	**Phulchoki**	**8

	baz=8.1,SNR=4.9							
SWI				S	**Sn**	16 17 12.5	-1.5	
	baz=8.1,SNR=5.1							
PALU	**Palau**	**8.36**	**77**	P	**Pn**	**16 15 49.3**	**+0.5**	
	baz=8.4,SNR=11							
PALU				S	**Sn**	**16 17 16.7**	**-4.8**	
	baz=8.4,SNR=6.8							
FAKI	**Fak Fak**	**10.28**	**144**	P	**Pn**	**16 16 15.1**	**+0.2**	
	baz=10,SNR=5.6							
TTSI	**Tana Toraja**	**10.66**	**217**	P	Pn	16 16 22.4	+2.4	
	29nm,0.7s							
KAPI	**Kappang**	**12.30**	**212**	P	**Pn**	**16 16 42.2**	**+0.2**	
KAPI	**Kappang**	**12.30**	**212**	P	**Pn**	**16 16 40.9**	**-1.2**	
	1.2nm,0.3s,baz=51,slow=2.6,SNR=6.3							
BATI	**Baumata**	**15.82**	**189**	P	**P**	**16 17 28.2**	**-0.5**	
	8.5nm,0.3s,baz=11,slow=4.5,SNR=14							
KSM	**Kuching**	**16.42**	**256**	P	**P**	**16 17 37.2**	**+1.8**	
	baz=16,SNR=4.2							
MTN	**Manton Dam**	**18.85**	**165**	P	**Pn**	**16 18 02.7**	**-1.2**	
	baz=19,SNR=10							
KDU	**Kakadu**	**19.09**	**161**	P	**Pn**	**16 18 04.9**	**-1.8**	
	baz=19,SNR=5.0							
KNRA	**Kununurra**	**21.18**	**173**	P	**P**	**16 18 27.4**	**+0.1**	
	baz=21,SNR=28							
FITZ	**Fitzroy Crossi**	**23.46**	**182**	P	**P**	**16 18 50.2**	**-0.2**	
	15nm,0.7s,baz=18,slow=8.4,SNR=45							
PMG	**Port Moresby**	**25.55**	**125**	LR	LR	16 30 00.8		
	comp=Z,83nm,18.1s,baz=235,slow=38							
COEN	**Coen**	**25.60**	**139**	P	**P**	**16 19 10.8**	**+1.0**	
	baz=26,SNR=7.8							
WRA	**Warramunga Arr**	**26.50**	**163**	P	**P**	**16 19 18.9**	**+1.0**	
	1.5nm,0.5s,baz=346,slow=9.9,SNR=2.8							
PSI	**Prapat**	**27.40**	**265**	P	**P**	**16 19 22.4**	**-3.9**	
	10nm,0.9s,baz=127,slow=5.1,SNR=4.9							
MTSU	**Mount Surprise**	**29.47**	**143**	P	P	16 19 47.5	+3.1	
	baz=30,SNR=4.7							
CMAR	**Chiang Mai Arr**	**29.61**	**298**	P	**P**	**16 19 45.7**	**0.0**	
	0.9nm,0.7s,baz=96,slow=7.3,SNR=6.3							
ASAR	**Alice Springs**	**29.93**	**166**	P	**P**	**16 19 48.5**	**+0.1**	
	0.6nm,0.4s,baz=343,slow=7.0,SNR=32							
ASAR				PcP	**PcP**	**16 22 49.9**	**+1.2**	
	1.0nm,0.6s,baz=6.9,slow=2.2,SNR=7.3							
ASAR				ScP	**ScP**	**16 26 22.4**	**+1.3**	
	1.3nm,1.0s,baz=329,slow=2.2,SNR=7.4							
KSRS	**Korea Array**	**31.84**	**2**	P	P	16 20 06.7	+1.7	
	1.0nm,0.8s,baz=180,slow=9.0,SNR=3.1							
CTA	**Charters Tower**	**32.13**	**143**	P	P	16 20 11.3	+3.5	
	1.4nm,0.8s,baz=314,slow=13,SNR=4.2							
MEEK	**Meekatharra**	**32.80**	**193**	P	**P**	**16 20 12.9**	**-0.6**	
	baz=33,SNR=27							
MORW	**Morawa**	**35.75**	**195**	P	**P**	**16 20 38.5**	**-0.4**	
	baz=36,SNR=4.3							
BLDU	**Ballidu**	**37.06**	**194**	P	**P**	**16 20 49.6**	**-0.5**	
	baz=37,SNR=7.8							
KLBR	**Kellerberrin**	**37.77**	**192**	P	**P**	**16 20 55.9**	**-0.2**	
	baz=38,SNR=26							
USRK	**Ussuriysk Arra**	**38.87**	**7**	P	**P**	**16 21 06.5**	**+1.4**	
	2.2nm,0.8s,baz=212,slow=9.5,SNR=5.7							
NWAO	**Narrogin (SRO)**	**39.17**	**192**	P	**P**	**16 21 07.7**	**-0.1**	
	9.8nm,0.4s,baz=23,slow=9.1,SNR=29							
BBOO	**Buckleboo**	**39.22**	**167**	P	**P**	**16 21 09.0**	**+0.8**	
	baz=39,SNR=9.9							
STKA	**Stephens Creek**	**39.94**	**159**	P	**P**	**16 21 15.1**	**+0.9**	
	2.6nm,0.5s,baz=338,slow=7.1,SNR=19							
STKA				PcP	**PcP**	**16 23 16.6**	**-1.0**	
	1.4nm,0.6s,baz=346,slow=9.7,SNR=3.4							
STKA	**Stephens Creek**	**39.94**	**159**	P	**P**	**16 21 15.2**	**+1.0**	
	baz=40,SNR=16							
ASAJ	**Asahikawa**	**41.05**	**18**	P	P	16 21 24.8	+1.6	
	3.7nm,1.0s,baz=225,slow=13,SNR=3.8							
ARPS	**Mount Arapiles**	**44.50**	**162**	P	**P**	**16 21 52.8**	**+1.7**	
	baz=45,SNR=5.0							
SONM	**Songino Array**	**45.49**	**341**	P	**P**	**16 21 58.4**	**-0.5**	
	0.3nm,0.5s,baz=146,slow=10,SNR=5.1							
SONM				PcP	**PcP**	**16 23 36.7**	**+0.5**	
	0.8nm,0.7s,baz=161,slow=3.5,SNR=5.9							
SONM				ScP	**ScP**	**16 27 20.1**	**+1.0**	
	0.5nm,0.9s,baz=145,slow=3.5,SNR=3.0							
MKAR	**Makanchi Array**	**55.85**	**325**	P	**P**	**16 23 16.2**	**-0.6**	
	1.6nm,0.6s,baz=122,slow=8.3,SNR=25							
MKAR				pP	**pP**	**16 23 42.9**	**+0.1**	
	1.1nm,0.8s,baz=120,slow=7.2,SNR=2.9							
MKAR				ScP	**ScP**	**16 28 03.5**	**-0.1**	
	0.7nm,0.8s,baz=123,slow=4.5,SNR=4.8							
ZALV	**Zalesovo Beam**	**58.81**	**333**	P	**P**	**16 23 35.4**	**-2.0**	
	0.5nm,0.4s,baz=120,slow=5.8,SNR=4.3							
ILAR	**Eielson Array**	**83.71**	**26**	P	**P**	**16 26 07.9**	**+0.9**	
	0.4nm,0.5s,baz=248,slow=6.0,SNR=4.3							
ILAR				pP	**pP**	**16 26 37.3**	**+2.3**	
	0.8nm,0.8s,baz=258,slow=4.8,SNR=4.2							
VNDA	**Vanda**	**85.23**	**173**	P	**P**	**16 26 15.0**	**+0.7**	
	0.6nm,0.5s,baz=318,slow=6.7,SNR=4.5							
MAW	**Mawson**	**85.25**	**200**	P	**P**	**16 26 15.1**	**+0.5**	
	1.2nm,0.7s,baz=45,slow=5.7,SNR=3.3							
ARCES	**ARCESS Array B**	**88.64**	**340**	P	**P**	**16 26 30.6**	**-0.5**	
	2.8nm,0.8s,baz=90,slow=3.6,SNR=5.5							
ARCES				pP	**pP**	**16 27 02.3**	**+2.9**	
	0.6nm,0.5s,baz=58,slow=6.9,SNR=1.2							
FINES	**FINESS Array B**	**90.07**	**332**	P	**P**	**16 26 37.1**	**-0.8**	
	2.2nm,0.9s,baz=338,slow=2.1,SNR=5.2							
NOA	**NORSAR Array B**	**97.01**	**334**	P	Pdif	16 27 08.5	-1.5	
	0.9nm,0.8s,baz=352,slow=6.7,SNR=3.8							
TORD	**Torodi Ar. Bea**	**121.92**	**289**	PKP	**PKPdf**	**16 32 32.6**	**-0.4**	
	0.9nm,0.8s,baz=54,slow=2.4,SNR=5.8							

*AUST **23** 16:14:54.5±28.0, 10.29°S×172.60°E, h68km±3km, Error ellipse: s-maj=5.1km s-min=2.0km az=247.0*
*IDC **23** 16:15:52.4±10.0, 12.145°S×167.13°E, h181km±89km, mb3.8/7, mb1 4.0/7, mb1mx3.6/21, mbtmp3.8/7, Error ellipse: s-maj=121.9km s-min=35.1km az=142.0*
*ISCJB **23** 16:15:56.7±1.3, 12.21°S±0.3°×166.38°E±0.3, h220km, mb3.9/7, Error ellipse: s-maj=48.0km s-min=15.9km az=44.9*

ISC 23 16:15:57.5±1.4, 12.32°S±0.3°×166.39°E±0.3, h220km, n18, σ0.963/17, mb4.0/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EIDS	**Eidsvold**	**19.86**	**226**	P	**P**	**16 20 12.8**	**+0.7**
	baz=25,SNR=12						
CTA	**Charters Tower**	**21.30**	**246**	P	**P**	**16 20 27.6**	**+0.2**
	9.7nm,0.8s,baz=72,slow=11,SNR=13						
RMQ	**Roma**	**22.20**	**228**	P	**P**	**16 20 36.8**	**+0.8**
	baz=28,SNR=9.0						
WRA	**Warramunga Arr**	**32.17**	**252**	P	**P**	**16 22 03.6**	**-1.3**
	2.1nm,0.5s,baz=85,slow=9.3,SNR=2.4						
ASAR	**Alice Springs**	**33.31**	**245**	P	**P**	**16 22 13.8**	**-1.1**
	2.7nm,0.5s,baz=71,slow=9.6,SNR=20						
KDU	**Kakadu**	**33.60**	**265**	P	**P**	**16 22 17.5**	**+0.2**
	baz=39,SNR=3.4						
KNRA	**Kununurra**	**37.13**	**260**	P	**P**	**16 22 47.5**	**+0.1**
	baz=43,SNR=3.4						
FITZ	**Fitzroy Crossi**	**40.18**	**256**	P	**P**	**16 23 12.7**	**0.0**
	0.8nm,0.3s,baz=79,slow=10,SNR=7.6						
FITZ	**Fitzroy Crossi**	**40.18**	**256**	P	**P**	**16 23 13.0**	**+0.2**
	baz=46,SNR=5.3						
WSI	**Waingapu**	**45.77**	**268**	P	P	16 23 49.5	-8.1
	baz=52,SNR=5.5						
MEEK	**Meekatharra**	**47.46**	**245**	P	**P**	**16 24 10.6**	**0.0**
	baz=53,SNR=3.6						
ILAR	**Eielson Array**	**84.25**	**18**	P	**P**	**16 28 03.9**	**-0.1**
	2.5nm,0.6s,baz=245,slow=5.3,SNR=19						
MKAR	**Makanchi Array**	**95.12**	**317**	P	**P**	**16 28 56.5**	**+0.8**
	0.3nm,0.6s,baz=89,slow=7.6,SNR=4.2						
YKA	**Yellowknife Ar**	**95.48**	**27**	P	**P**	**16 28 56.3**	**-0.6**
	0.4nm,0.6s,baz=255,slow=4.5,SNR=3.6						
ARCES	**ARCESS Array B**	**117.72**	**346**	PKP	**PKPdf**	**16 34 16.6**	**-0.3**
	1.4nm,0.5s,baz=78,slow=2.4,SNR=14						
FINES	**FINESS Array B**	**123.24**	**339**	PKP	**PKPdf**	**16 34 27.7**	**0.0**
	0.4nm,0.4s,baz=348,slow=3.3,SNR=3.8						
KEST	**Kesra**	**149.00**	**323**	PKPbc	**PKPbc**	**16 35 20.1**	**+0.1**
	0.5nm,0.4s,baz=45,slow=4.3,SNR=3.2						
ESDC	**Sonseca Array**	**151.46**	**345**	PKPbc	**PKPbc**	**16 35 26.4**	**+0.7**
	0.6nm,0.5s,baz=5.6,slow=3.3,SNR=3.7						

SKHL 23 16:25:44.1±0.8, 56.23N×131.88E, h12km±1km, mb4.1/5, 1C, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BMKR	**Bomnak**	**2.30**	**230**	*e*Pn	Pn	16 26 23.4	+1.5
BMKR				*e*Pg	Pg	16 26 25.0	-0.6
BMKR				AMB	AMB	16 26 25.8	
	80nm,0.5s						
BMKR				AMB	AMB	16 26 25.8	
	65nm,0.5s						
BMKR				*e*Sn	Sb	16 26 52.2	-1.8
BMKR				*e*Sg	Sg	16 26 54.5	-3.7
BMKR				A	A	16 26 57.5	
	238nm,0.4s						
BMKR				A	A	16 26 57.5	
	171nm,0.4s						
EKMR	**Ekimchan**	**3.23**	**168**	*e*Pn	Pn	16 26 36.5	+1.9
EKMR				*e*Pg	Pb	16 26 41.6	+0.2
EKMR				AMB	AMB	16 26 42.4	
	22nm,0.4s						
EKMR				AMB	AMB	16 26 42.4	
	7.0nm,0.4s						
EKMR				AMB	AMB	16 26 42.4	
	34nm,0.4s						
EKMR				sPg	Sn	16 26 46.0	-27
EKMR				*e*Sg	Sb	16 27 22.7	+2.1
EKMR				A	A	16 27 28.0	
	35nm,0.5s						
EKMR				A	A	16 27 28.0	
	61nm,0.5s						
EKMR				A	A	16 27 28.0	
	23nm,0.5s						
KROS	**Kirovskiy**	**3.33**	**239**	*e*Pn	Pn	16 26 36.9	+0.9
KROS				⇑*i*Pg	Pb	16 26 43.6	+0.5
KROS				AMB	AMB	16 26 45.0	
	8.0nm,0.5s						
KROS				AMB	AMB	16 26 45.0	
	22nm,0.5s						
KROS				AMB	AMB	16 26 45.0	
	16nm,0.5s						
KROS				pPg	Pg	16 26 47.0	-1.0
KROS				*e*Sn	Sn	16 27 17.4	+1.9
KROS				*e*Sg	Sb	16 27 27.3	+3.7
KROS				A	A	16 27 28.2	
	130nm,0.5s						
KROS				A	A	16 27 28.2	
	67nm,0.5s						
KROS				A	A	16 27 28.2	
	32nm,0.5s						
ZEA	**Zeya**	**3.65**	**229**	*e*Pg	Pb	16 26 50.6	+2.0
ZEA				AMB	AMB	16 26 54.1	
	30nm,0.3s						
ZEA				*e*Sn	Sn	16 27 21.1	-2.3
ZEA				*e*Sg	Sg	16 27 38.0	-3.4
ZEA				A	A	16 27 39.0	
	73nm,0.8s						
ZEA				A	A	16 27 39.0	
	100nm,0.8s						
ZEA				A	A	16 27 40.0	
	200nm,1.0s						
NKL	**Nikolayevsk**	**5.96**	**118**	*e*rx	rx	16 27 35.0	
NKL				*e*Sg	Sg	16 28 50.0	-5.3
NKL				A	A	16 28 54.2	
	33nm,0.9s						
GRNR	**Gornyy**	**6.10**	**152**	*e*rx	rx	16 27 38.4	
GRNR				*e*Sg	Sg	16 28 57.2	-2.8
GRNR				A	A	16 29 03.0	
	10.0nm,0.6s						
KLR	**Kul'dur**	**7.01**	**181**	*e*rx	rx	16 28 53.2	
KLR				*e*Sg	Sg	16 29 23.1	-6.0
TUP	**Tupik**	**7.04**	**260**	*e*rx	rx	16 27 32.7	
TUP				*e*Pg	Pg	16 27 55.0	-3.9
TUP				AMB	AMB	16 28 02.2	
	3.0nm,0.4s						
TUP				*e*Sg	Sg	16 29 24.6	-5.4
TUP				A	A	16 29 41.4	
	37nm,1.2s						

*IDC **23** 16:34:56.4±1.1, 26.19°N×144.15°E, h0km, mb3.6/7, mb1 3.8/10, mb1mx3.7/24, mbtmp3.7/10, ML3.4/3, MS3.0/1, Ms1 3.0/1, ms1mx2.2/27, Error ellipse: s-maj=31.6km s-min=24.5km az=85.0*
*JMA **23** 16:35:00.1±0.3, 26.89°N×144.14°E, h6km, M4.0*

ISC 23 16:35:02.8±1.3, 26.5N±0.1°×144.09E±0.0°, 8, h31km, n18, σ1.850/22, mb3.8/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**1.72**	**276**	S	**Sb**	**16 35 54.6**	**-0.3**
CBIJ	**Chichi jima**	**1.81**	**290**	P	**Pn**	**16 35 31.2**	**-0.6**
CBIJ				*e*S	**Sn**	**16 35 54.0**	**+0.2**
BSO2	**Boso 2**	**8.74**	**342**	*e*S	**Sn**	**16 38 47.2**	**+3.2**
JOD2	**Odawara 2**	**9.76**	**335**	P	**Pn**	**16 37 21.8**	**+0.8**
JOD2				*e*S	**Sn**	**16 39 07.5**	**-2.0**
JHU	**Hanno**	**10.21**	**337**	P	**Pn**	**16 37 27.8**	**+0.6**
JHU				*e*S	**Sn**	**16 39 21.7**	**+1.0**
JRY	**Ryogami san**	**10.50**	**336**	P	**Pn**	**16 37 31.9**	**+0.8**
JRY				S	**Sn**	**16 39 28.6**	**+1.0**
JHO	**Hitachi**	**10.54**	**344**	P	**Pn**	**16 37 30.7**	**-1.0**
JHO				*e*S	**Sn**	**16 39 24.2**	**-4.5**
MJAR	**Matsushiro Arr**	**11.22**	**335**	Pn	**Pn**	**16 37 41.9**	**+0.9**
	0.7nm,0.3s,baz=159,slow=11,SNR=8.8						
MJAR				Sn	**Sn**	**16 39 45.5**	**+0.1**
	0.3nm,0.3s,baz=302,slow=47,SNR=2.2						
KSRS	**Korea Array**	**17.52**	**313**	P	**P**	**16 39 05.6**	**+0.1**
	0.1nm,0.3s,baz=120,slow=12,SNR=6.4						
ASAJ	**Asahikawa**	**17.65**	**356**	P	**P**	**16 39 07.4**	**+0.5**
	0.1nm,0.3s,baz=203,slow=13,SNR=2.7						
ASAJ				LR	LR	16 45 34.0	
	comp=Z,42nm,18.5s,baz=176,slow=36						
USRK	**Ussuriysk Arra**	**20.21**	**334**	P	Pn	16 39 40.1	+3.1
	2.2nm,0.8s,baz=163,slow=10,SNR=5.6						
SONM	**Songino Array**	**36.34**	**316**	P	**P**	**16 42 04.1**	**+0.2**
	0.3nm,0.6s,baz=91,slow=7.2,SNR=2.7						
ASAR	**Alice Springs**	**50.81**	**192**	P	P	16 43 56.8	-3.6
	0.2nm,0.7s,baz=11,slow=9.0,SNR=3.3						
MKAR	**Makanchi Array**	**52.18**	**310**	P	**P**	**16 44 10.8**	**+0.2**
	1.0nm,0.7s,baz=92,slow=9.0,SNR=11						
ILAR	**Eielson Array**	**57.45**	**28**	P	**P**	**16 44 48.0**	**-0.3**
	1.0nm,0.8s,baz=260,slow=5.9,SNR=11						
YKA	**Yellowknife Ar**	**71.88**	**29**	P	**P**	**16 46 23.0**	**+0.5**
	0.2nm,0.4s,baz=304,slow=6.6,SNR=3.5						
FINES	**FINESS Array B**	**79.25**	**334**	P	**P**	**16 47 04.7**	**0.0**
	1.2nm,1.0s,baz=90,slow=3.8,SNR=4.7						
NOA	**NORSAR Array B**	**84.81**	**339**	P	**P**	**16 47 32.9**	**-1.1**
	0.7nm,0.7s,baz=42,slow=4.8,SNR=3.5						

*IDC **23** 16:50:35.0±0.7, 40.08°N×77.25°E, h0km, mb4.2/16, mb1 4.4/22, mb1mx4.2/33, mbtmp4.3/22, ML3.9/6, MS3.8/13, Ms1 3.8/13, ms1mx3.5/33, Error ellipse: s-maj=13.2km s-min=11.0km az=31.0*
*NNC **23** 16:50:35.9±2.9, 40.15°N×77.06°E, h0km, mb4.8, mpv4.4, Error ellipse: s-maj=23.5km s-min=16.0km az=151.0*
*BJI **23** 16:50:35.9, 40.15°N×77.28°E, h5km, mB4.8/9, mb4.5/15, ML4.5/7, Ms4.0/11, Ms7 3.9/10*
*ISCJB **23** 16:50:37.5±0.2, 39.99°N±0.02°×77.57°E±0.03, h28km, mb4.3/43, MS3.8/20, Error ellipse: s-maj=3.8km s-min=2.8km az=171.8*
*MOS **23** 16:50:39.8±1.5, 40.27°N×77.51°E, h33km, mb4.5/25, Error ellipse: s-maj=8.0km s-min=4.4km az=114.0*

ISC 23 16:50:39.3±0.3, 40.13N±0.02°×77.42E±0.03, h28km, n144, σ2.910/151, mb4.4/43, MS3.8/19, 18C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.27**	**242**	Pg	Pb	16 51 06.8	+4.1
KSH				Sg	Sb	16 51 27.6	+8.8
KSH				smax	smax		
	comp=N,1μm,0.4s						
KSH				smax	smax		
	comp=E,3μm,0.5s						
ULHL	**Ulahol**	**2.30**	**338**	*i* PN	**Pn**	**16 51 17.4**	**+1.8**
ULHL	**Ulahol**	**2.30**	**338**	P	**Pn**	**16 51 17.4**	**+1.8**
	SNR=280						
KZA	**Kyzart**	**2.55**	**321**	*i* PN	**Pn**	**16 51 21.0**	**+1.8**
KZA	**Kyzart**	**2.55**	**321**	P	**Pn**	**16 51 20.6**	**+1.4**
	SNR=330						
UCH	**Uchtor**	**3.04**	**315**	*i* PN	**Pn**	**16 51 27.2**	**+1.3**
UCH	**Uchtor**	**3.04**	**315**	P	**Pn**	**16 51 27.2**	**+1.3**
	SNR=132						
KNDC	**Almaty**	**3.11**	**354**	⇑Pg	Pb	16 51 31.2	-2.7
KNDC				⇓Lg	Lg	16 52 12.3	
TKM2	**Tokmak 2**	**3.11**	**334**	⇑Pg	**Pn**	**16 51 29.7**	**+3.0**
	comp=E,376nm,0.8s						
TKM2				⇑Lg	Lg	16 52 10.2	
	comp=E,2μm,0.6s						
TKM2	**Tokmak 2**	**3.11**	**334**	*i* PN	**Pn**	**16 51 28.8**	**+2.1**
TKM2	**Tokmak 2**	**3.11**	**334**	P	**Pn**	**16 51 28.8**	**+2.1**
	SNR=416						
KBK	**Karagaybulak**	**3.14**	**324**	*i* PN	**Pn**	**16 51 29.2**	**+2.1**
KBK	**Karagaybulak**	**3.14**	**324**	P	**Pn**	**16 51 29.2**	**+2.1**
	SNR=543						
AAA	**Alma-Ata**	**3.16**	**354**	*i* PN	**Pb**	**16 51 33.2**	**-1.6**
AAA				*i* S	**Sb**	**16 52 14.4**	**+1.5**
AAA				pmax	pmax		
	comp=Z,2μm,0.3s						
AAA				smax	smax		
	comp=E,12μm,0.4s						
AAK	**Ala-Archa**	**3.33**	**320**	*c* iPN	**Pn**	**16 51 31.4**	**+1.6**
AAK	**Ala-Archa**	**3.33**	**320**	P	**Pn**	**16 51 31.6**	**+1.8**
	SNR=87						
AAK	**Ala-Archa**	**3.33**	**320**	Pn	**Pn**	**16 51 31.6**	**+1.8**
	comp=E,22nm,0.3s,baz=136,slow=9.5,SNR=153						
AAK				Lg	Lg	16 52 18.6	
	comp=E,72nm,0.3s,baz=351,slow=20,SNR=23						
FRU	**Bishkek**	**3.43**	**323**	*i* PN	**Pn**	**16 51 32.5**	**+1.6**
FRU				*i*		16 52 21.5	
FRU				pmax	pmax		
	comp=Z,1μm,1.6s						
FRU				smax	smax		
	comp=N,2μm,1.8s						
AML	**Almayashu**	**3.46**	**307**	*i* PN	**Pn**	**16 51 32.8**	**+1.2**
AML	**Almayashu**	**3.46**	**307**	P	**Pn**	**16 51 32.8**	**+1.2**
	SNR=587						
CHMS	**Chumysh**	**3.50**	**326**	*i* PN	**Pn**	**16 51 33.9**	**+2.0**
CHMS	**Chumysh**	**3.50**	**326**	P	**Pn**	**16 51 33.9**	**+2.0**
	SNR=135						
EKS2	**Erkin-Say**	**3.73**	**314**	*i* PN	**Pn**	**16 51 36.9**	**+1.7**
EKS2	**Erkin-Say**	**3.73**	**314**	P	**Pn**	**16 51 36.9**	**+1.7**
	SNR=347						
USP	**Ospenovka**	**3.83**	**326**	*i* PN	**Pn**	**16 51 38.2**	**+1.8**
USP	**Ospenovka**	**3.83**	**326**	P	**Pn**	**16 51 38.2**	**+1.8**
	SNR=49						
KK31	**Karatay Array**	**5.97**	**302**	Pn	**Pn**	**16 52 04.7**	**-1.2**
	comp=N,9.7nm,0.7s,baz=127,slow=13,SNR=72						
KK31				⇓Pg	**Pb**	**16 52 21.7**	**-0.9**
	comp=N,41nm,0.7s,baz=130,slow=16,SNR=14						
KK31				⇑Lg	Lg	16 53 37.4	
	comp=N,107nm,0.8s,baz=122,slow=28,SNR=6.2						
KK31	**Karatay Array**	**5.97**	**302**	*i* PN	**Pn**	**16 52 05.4**	**-0.5**
KK31				*e*		16 52 25.6	
KK31				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KK31				pmax	pmax		
	comp=Z,41nm,0.7s						
CHCP	**Chirah Chowk**	**7.26**	**209**	⇑P	**Pn**	**16 52 24.6**	**+0.9**
MK31	**Makanchi Array**	**7.54**	**26**	⇓Pn	**Pn**	**16 52 29.3**	**+1.9**
	comp=Z,5.0nm,0.5s						
MK31				⇑Pg	Pb	16 52 54.5	+5.2
	comp=Z,26nm,0.6s						
MK31				Sn	**Sn**	**16 53 56.6**	**+4.6**
MK31				⇑Lg	Lg	16 54 34.0	
	comp=Z,83nm,0.6s						
MK31	**Makanchi Array**	**7.54**	**26**	P	**Pn**	**16 52 29.1**	**+1.7**
MK31				pmax	pmax		
	comp=Z,26nm,0.6s						
MKAR	**Makanchi Array**	**7.54**	**26**	P	**Pn**	**16 52 28.4**	**+1.0**
MKAR						16 53 55.4	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR				smax	smax		
	comp=N,5.0nm,0.3s						
MKAR	**Makanchi Array**	**7.54**	**26**	Pn	**Pn**	**16 52 28.4**	**+1.0**
	comp=N,1.6nm,0.3s,baz=193,slow=12,SNR=46						
MKAR				Sn	**Sn**	**16 53 55.4**	**+3.5**
	comp=N,5.0nm,0.3s,baz=203,slow=18,SNR=5.2						
MKAR				Lg	Lg	16 54 31.4	
	comp=N,9.3nm,0.3s,baz=214,slow=26,SNR=5.4						
DLH	**Dalhousie**	**7.66**	**189**	*e*P	**Pn**	**16 52 30.0**	**+0.7**
DLH				*e*S	**Sn**	**16 53 58.0**	**+2.8**
CEP	**Cherat**	**7.68**	**217**	P	**Pn**	**16 52 30.1**	**+0.6**
CEP				S	**Sn**	**16 53 57.0**	**+1.3**
DHRM	**DHARAMSHALA**	**7.91**	**187**	*e*P	**Pn**	**16 52 33.1**	**+0.3**
DHRM				*e*S	**Sn**	**16 54 02.1**	**+0.6**
DHRM				AML	AML	16 54 06.1	
	comp=E,295nm,0.7s						
DHRM				AML	AML	16 54 08.7	
	comp=N,176nm,0.4s						
WMQ	**Urumqi**	**8.49**	**61**	P	**Pn**	**16 52 42.8**	**+2.3**
WMQ				pP	pP	16 52 45.8	
WMQ				sP		16 52 48.8	
WMQ				S	**Sn**	**16 54 19.8**	**+4.4**
WMQ				sS	sS	16 54 24.6	
WMQ				PcS	**PcS**	**17 02 45.8**	**+3.1**
WMQ				ScS	**ScS**	**17 06 15.3**	**+1.9**
WMQ				smax	smax		
	comp=N,130nm,1.0s						
WMQ				smax	smax		
	comp=E,120nm,0.7s						
SDNR	**Sundarnagar**	**8.62**	**183**	*e*P	**Pn**	**16 52 42.0**	**-0.2**
SDNR				*e*S	Sn	16 54 27.0	+8.5
THW	**Thamme Wali**	**8.63**	**214**	P	**Pn**	**16 52 41.0**	**-1.4**
SMLA	**Simla**	**8.98**	**181**	*e*P	**Pn**	**16 52 47.0**	**-0.1**
SMLA				*i* S	**Sn**	**16 54 23.8**	**-3.6**
SMLA				AML	AML	16 55 12.0	
	comp=N,71nm,0.4s						
SMLA				AML	AML	16 55 13.3	
	comp=E,49nm,0.3s						
DDI	**Dehra Dun**	**9.80**	**177**	*e*S	Sn	16 54 39.7	-7.8
KURBB	**Kurchatov Arra**	**10.52**	**4**	⇓Pn	**Pn**	**16 53 07.2**	**-1.0**
	comp=E,14nm,0.7s						
KURBB				⇑Lg	Lg	16 56 07.2	
	comp=E,168nm,0.9s						
KURBB	**Kurchatov Arra**	**10.52**	**4**	P

comp=Z,0.3nm,0.3s,baz=202,slow=11,SNR=26
ZALV Sn **Sn** **16 56 48.4 +1.3**
comp=Z,0.2nm,0.3s,baz=199,slow=26,SNR=1.6
ZALV Lg Lg 16 58 23.2
comp=Z,0.3nm,0.3s,baz=202,slow=23,SNR=3.7
ZALV LR LR 17 00 14.4
comp=Z,260nm,21.0s,baz=159,slow=39
RAMN Ramite 15.19 147 *eP* **Pn** **16 54 08.1 -4.1**
comp=Z,117nm,0.8s
NVS Novosibirsk 15.23 13 *eP* **Pn** **16 54 09.1 -3.1**
NVS pmax pmax
comp=Z,25nm,1.2s
NVS pmax pmax
comp=N,9.0nm,0.7s
TAPN Taplejung 15.33 143 *eP* Pn 16 54 09.6 -4.5
AB31 Akbulak array 15.39 312 Pn **Pn** **16 54 12.9 -1.5**
comp=N,28nm,1.3s,baz=115,slow=13,SNR=65
AB31 ⇓Sn **Sn** **16 57 00.5 -3.4**
comp=N,4.0nm,0.8s,baz=121,slow=24,SNR=3.9
AB31 Akbulak array 15.39 312 *i* P **Pn** **16 54 11.6 -2.8**
AB31 pmax pmax
comp=Z,8.0nm,0.8s
ODAN Odare 15.61 145 *eP* Pn 16 54 13.2 -4.4
comp=Z,90nm,1.1s
HVS Khovu-Aksy 15.80 40⇓ *eP* **Pn** **16 54 18.7 -1.1**
HVS pmax pmax
comp=Z,40nm,0.8s
BHPL Bhopal 16.84 180 *eP* **Pn** **16 54 31.6 -1.5**
BHPL *ex* x 16 57 31.9
AKTO Aktyubinsk 17.06 314 ⇓Pn **Pn** **16 54 33.5 -2.2**
comp=Z,30nm,0.9s
AKTO ⇑Sn **Sn** **16 57 40.6 -3.8**
comp=Z,15nm,1.1s
AKTO Aktyubinsk 17.06 314 P **Pn** **16 54 33.5 -2.2**
AKTO pmax pmax
comp=Z,30nm,1.0s
AKTO Aktyubinsk 17.06 314 P **Pn** **16 54 34.2 -1.5**
comp=Z,0.4nm,0.3s,baz=115,slow=12,SNR=21
AKTO S **S** **16 57 51.7 -1.8**
comp=Z,0.1nm,0.3s,baz=156,slow=20,SNR=0.9
AKTO Lg Lg 16 59 32.0
comp=Z,0.1nm,0.3s,baz=338,slow=9.8,SNR=2.5
AKTO LR LR 17 01 34.0
comp=Z,610nm,18.9s,baz=127,slow=39
GTA Gaotai 17.23 85 *eP* **Pn** **16 54 36.6 -1.4**
GTA pP **P** **16 54 40.4 +1.1**
GTA S **Sn** **16 57 49.1 +0.3**
GTA SS **SnSn** **16 58 09.5 +7.5**
GTA pmax pmax
comp=Z,41nm,4.8s
GTA LR LR
comp=N,250nm,12.3s
GTA LR LR
comp=E,310nm,12.3s
GTA LR LR
comp=Z,330nm,11.2s
BOK Bokaro 17.78 154 *eP* Pn 16 54 38.4 -6.4
KRAR Krasnoyarsk 18.88 28⇓ *eP* **Pn** **16 54 58.0 +0.1**
KRAR pmax pmax
comp=Z,68nm,1.2s
SHL Shillong 18.89 136 *eP* P 16 54 49.5 -8.3
SHL *ex* x 16 57 17.8
SVE Sverdlovsk 19.98 332 *eP* **P** **16 55 09.1 -0.2**
SVE *eS* **S** **16 58 51.0 -1.4**
SVE pmax pmax
comp=Z,13nm,0.9s
SVE MLR MLR
comp=Z,623nm,13.0s
ARU Arti 20.47 329 *d i* P **P** **16 55 14.9 +0.3**
ARU *e* 16 55 32.0
ARU S **S** **16 59 02.4 +0.3**
ARU SS **SnSn** **16 59 21.6 +0.4**
ARU pmax pmax
comp=Z,36nm,1.2s
ARU MLR MLR
comp=Z,248nm,14.0s
ZAK Zakamensk 20.79 52 *eP* Pn 16 55 19.4 -1.4
ZAK pmax pmax
comp=Z,3.0nm,0.9s
LZH Lanzhou 21.15 93 *eP* **P** **16 55 24.3 +2.0**
LZH pP **pP** **16 55 30.0 +0.1**
LZH sP **sP** **16 55 33.3 -0.1**
LZH pmax pmax
comp=Z,16nm,1.0s
SONM Songino Array 22.13 60 P **P** **16 55 33.9 +1.2**
comp=Z,4.2nm,0.7s,baz=256,slow=9.6,SNR=31
SONM LR LR 17 05 17.9
comp=Z,103nm,18.5s,baz=70,slow=40
MAK Makhachkala 22.52 287 *eP* **P** **16 55 38.7 +2.0**
MAK *e*PPP PPP 16 56 12.7
MAK *eS* **S** **16 59 46.1 +4.2**
MAK *e*SS **SnSn** **17 00 17.1 +5.6**
MAK *e*SSS SSS 17 00 34.1
MAK pmax pmax
comp=Z,36nm,0.4s
MAK MLR MLR
comp=Z,565nm,15.0s
SOKR Solikamsk 23.39 333 *d i* P **P** **16 55 46.8 +1.3**
SOKR pmax pmax
comp=Z,50nm,1.4s
SOKR MLR MLR
comp=Z,550nm,19.0s
GNI Garni 24.91 281 P **P** **16 55 59.0 -1.1**
comp=Z,4.8nm,0.6s,baz=48,slow=18,SNR=2.5
XAN Xi'an 25.77 94 P **P** **16 56 10.8 +3.1**
XAN pP **pP** **16 56 15.8 -0.1**
XAN pmax pmax
comp=Z,2.0nm,1.0s
XAN LR LR
comp=N,160nm,17.4s
XAN LR LR
comp=E,100nm,25.6s
XAN LR LR
comp=Z,63nm,18.4s
KBZ Khabaz 25.82 289 P **P** **16 56 10.7 +2.6**
KBZ pmax pmax
comp=Z,1.0nm,0.6s
KBZ MLR MLR
comp=Z,189nm,18.3s
KBZ Khabaz 25.82 289 P **P** **16 56 10.7 +2.6**
comp=Z,1.3nm,0.6s,baz=75,slow=12,SNR=3.4
KBZ LR LR 17 08 21.7
comp=Z,189nm,18.3s,baz=330,slow=42
KMI Kunming 25.93 118 P **P** **16 56 11.4 +1.9**
KMI pmax pmax
comp=Z,12nm,1.0s
KIV Kislovodsk 25.96 290 *eP* **P** **16 56 11.7 +2.2**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,138nm,15.0s
VRHR Novokhopersk 27.08 306 *eP* **P** **16 56 21.5 +2.2**
VRHR pmax pmax
comp=Z,4.0nm,0.3s
VRHR pmax pmax
comp=N,9.0nm,0.5s
VRHR pmax pmax
comp=E,6.0nm,0.5s
SOC Sochi 28.14 290 *eP* **P** **16 56 29.6 +0.7**
SOC *e* 16 57 15.8
SOC *eS* **S** **17 01 13.8 +1.5**
SOC MLR MLR
comp=Z,129nm,12.0s
CMAR Chiang Mai Arr 28.47 133 P **P** **16 56 34.0 +2.0**
comp=Z,0.4nm,0.3s,baz=316,slow=10,SNR=3.7
VORD Divnogorie 28.51 305 *eP* **P** **16 56 33.0 +0.9**
VORD pmax pmax
comp=Z,9.0nm,1.1s
VORD pmax pmax
comp=N,7.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.8s
VSR Storozhevoye 28.63 306 *eP* **P** **16 56 34.2 +1.0**
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=Z,10.0nm,1.3s
VSR pmax pmax
comp=E,10.0nm,0.9s
ANN Anapa 29.65 292 *eP* P 16 56 52.3 +10
ANN MLR MLR
comp=N,105nm,13.0s
ANN MLR MLR
comp=E,74nm,13.0s
ANN MLR MLR
comp=Z,133nm,13.0s

OBN Obninsk 30.84 313⇑ *eP* **P** **16 56 52.5 -0.1**
OBN pmax pmax
comp=Z,15nm,1.2s
OBN MLR MLR
comp=Z,200nm,16.0s
SIM Simferopol' **31.98 293** P P 16 57 06.6 +3.7
SIM pmax pmax
comp=Z,30nm,0.4s
SIM MLR MLR
comp=Z,30nm,9.1s
TMCR Tamitsa 33.21 329 *eP* **P** **16 57 10.8 -2.5**
TMCR *eS* **S** **17 02 28.5 -2.6**
TMCR pmax pmax
comp=Z,45nm,1.1s
BRTR Keskin Array B 33.33 284 P **P** **16 57 14.4 -0.5**
comp=Z,3.4nm,0.9s,baz=95,slow=7.5,SNR=7.3
LVZ Lovozero 36.17 334 *d i* P **P** **16 57 38.7 -0.3**
LVZ pmax pmax
comp=Z,28nm,1.2s
VSU Vasula 36.73 317⇑ *eP* **P** **16 57 44.8 +1.0**
VSU pmax pmax
comp=Z,29nm,1.2s
FINES FINESS Array B 37.52 322 P **P** **16 57 50.0 -0.5**
comp=Z,4.4nm,0.7s,baz=106,slow=12,SNR=15
FINES LR LR 17 14 12.7
comp=Z,152nm,21.0s,baz=96,slow=38
YAK Yakutsk 38.06 37 *i* P **P** **16 57 54.5 -0.5**
KLR Kul'dur 38.93 58 *eP* **P** **16 58 02.8 +0.3**
KSRS Korea Array 39.03 77 P **P** **16 58 05.2 +1.8**
comp=Z,1.1nm,0.6s,baz=285,slow=8.3,SNR=5.0
KOLS Kolonicke sedl 39.51 302 *eP* **P** **16 58 10.5 +3.1**
KOLS pmax pmax
comp=Z,3.0nm,1.1s
KOLS Kolonicke sedl 39.51 302 *eP* **P** **16 58 10.5 +3.1**
KOLS *e*PP **PP** **16 59 38.3 +0.2**
ARCES ARCESS Array B 39.89 334 P **P** **16 58 10.0 -0.2**
comp=Z,3.7nm,0.7s,baz=98,slow=8.7,SNR=10
ARCES LR LR 17 16 17.6
comp=Z,42nm,18.9s,baz=202,slow=39
USRK Ussuriysk Arra 40.04 66 P **P** **16 58 12.9 +1.2**
comp=Z,1.3nm,0.8s,baz=340,slow=11,SNR=4.3
KECS Kecovo 40.75 301 *eP* **P** **16 58 20.8 +3.1**
KECS pmax pmax
comp=Z,3.0nm,1.0s
KECS Kecovo 40.75 301 *eP* **P** **16 58 20.8 +3.1**
VYHS Vyhne 41.83 302 *eP* **P** **16 58 29.5 +3.0**
VYHS pmax pmax
comp=Z,2.0nm,1.1s
VYHS Vyhne 41.83 302 *eP* **P** **16 58 29.5 +3.0**
BRG Berggiesshubel 44.47 306 *eP* **P** **16 58 50.6 +2.8**
comp=Z,4.7nm,1.1s
BRG
comp=N,145nm,14.3s
BRG
comp=E,366nm,15.7s
BRG
comp=Z,465nm,15.4s
BRG Berggiesshubel 44.47 306 *eP* **P** **16 58 50.6 +2.8**
BRG pmax pmax
comp=Z,4.0nm,1.1s
BRG MLR MLR
comp=N,5μm,14.3s
BRG MLR MLR
comp=E,145nm,15.7s
BRG MLR MLR
comp=Z,366nm,15.4s
NB2 NORSAR Subarra 44.66 321 P **P** **16 58 47.9 -1.3**
comp=Z,5.8nm,0.8s,baz=88,slow=7.9
NOA NORSAR Array B 44.66 321 P **P** **16 58 48.1 -1.1**
comp=Z,3.5nm,0.8s,baz=88,slow=7.9,SNR=7.8
NOA LR LR 17 18 11.5
comp=Z,178nm,20.2s,baz=80,slow=37
CLL Collm 44.97 307 *eP* **P** **16 58 54.0 +2.3**
CLL pmax pmax
comp=Z,11nm,0.9s
CLL Collm 44.97 307 *eP* **P** **16 58 54.0 +2.3**
comp=Z,5.0nm,0.9s
GERES GERESS Array B 45.07 303 P **P** **16 58 52.2 -0.6**
comp=Z,5.3nm,0.9s,baz=76,slow=7.6,SNR=22
GERES LR LR 17 20 34.1
comp=Z,96nm,19.6s,baz=350,slow=40
GRF Grafenberg Arr 46.44 305 *eP* P 16 59 06.7 +3.2
comp=Z,9.0nm,1.0s
GRF Grafenberg Arr 46.44 305 *eP* P 16 59 06.7 +3.2
GRF pmax pmax
comp=Z,10.0nm,1.0s
YSS Yuzh-Sakhalins 46.62 59 *eP* **P** **16 59 05.9 +1.1**
MAJO Matsushiro 47.00 74 *eP* **P** **16 59 09.1 +1.1**
MJAR Matsushiro Arr 47.00 74 P **P** **16 59 09.1 +1.1**
comp=Z,4.9nm,0.9s,baz=287,slow=9.5,SNR=7.8
ASAJ Asahikawa 47.37 63 P **P** **16 59 11.8 +1.0**
comp=Z,1.7nm,0.5s,baz=225,slow=1.4,SNR=5.2
CDF Champ du Feu 49.29 304⇑ *i* P **P** **16 59 28.0 +2.4**
comp=Z,8.6nm,0.9s
HINF Hinteralfeld 49.75 304⇑ *i* P **P** **16 59 31.3 +2.2**
comp=Z,12nm,1.0s
LPG La Plagne 50.59 301 *eP* **P** **16 59 38.4 +2.6**
LPL La Plagne 50.60 301 *eP* **P** **16 59 38.3 +2.5**
comp=Z,16nm,1.2s
CABF La Chapelle 50.64 302 *eP* **P** **16 59 38.0 +2.1**
comp=Z,21nm,1.1s
MEZF Maizieres J'vi 50.67 305 *eP* **P** **16 59 38.7 +2.8**
SMF Signal de Mont 52.08 303 *eP* **P** **16 59 48.5 +1.9**
comp=Z,12nm,0.9s
AVF Avril sur Loir 52.34 303 *eP* **P** **16 59 50.5 +2.0**
comp=Z,18nm,1.0s
BGF Bois d'Agland 52.75 303 *eP* **P** **16 59 54.2 +2.7**
TCF Toulx Ste Croi 53.26 303 *eP* **P** **16 59 57.6 +2.3**
KMBO Kilima Mbogo 55.02 232 LR LR 17 26 02.8
comp=Z,58nm,20.7s,baz=99,slow=39
ESDC Sonseca Array 60.21 298 LR LR 17 31 53.2
comp=Z,72nm,18.9s,baz=75,slow=41
ILAR Eielson Array 69.83 19 P **P** **17 01 46.1 -0.7**
comp=Z,2.1nm,0.8s,baz=316,slow=5.5,SNR=18
ILAR LR LR 17 36 30.1
comp=Z,77nm,19.2s,baz=97,slow=39
TORD Torodi Ar. Bea 70.78 271 P **P** **17 01 52.2 -1.2**
comp=Z,3.1nm,0.6s,baz=48,slow=5.6,SNR=17
YKA Yellowknife Ar 77.27 6 P **P** **17 02 29.9 -0.7**
comp=Z,3.3nm,0.7s,baz=345,slow=5.6,SNR=39
ASAR Alice Springs 82.42 130 P **P** **17 02 58.4 -0.6**
comp=Z,0.6nm,0.8s,baz=304,slow=4.6,SNR=7.3
ULM Lac du Bonnet 89.81 356 LR LR 17 47 40.8
comp=Z,78nm,18.1s,baz=3.1,slow=38

*IDC **23** 17:01:14.1±1.4,38.97N×72.68E,h0km,mb3.6/5, mb1 3.9/7,mb1mx3.6/28,mbtmp3.7/7,ML3.4/2,Error ellipse: s-maj=35.3km s-min=25.2km az=23.0*
*ISCJB **23** 17:01:20.4±1.3,39.6N±0.1×72.14E±0.08,h33km,mb3.6/5, Error ellipse: s-maj=16.7km s-min=8.8km az=8.9*
*NNC **23** 17:01:23.3±1.7,40.13N×72.29E,h0km,mb3.9,mpv3.4, Error ellipse: s-maj=16.1km s-min=7.8km az=12.0*
ISC 23 17:01:21.2±1.5,39.5N±0.1×72.24E±0.10,h35km,n17, σ1§32/17,mb3.5/5,2C-4D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**2.84**	**22**	P	**Pn**	**17 02 04.7**	**+0.2**
	SNR=123						
KZA	**Kyzart**	**3.43**	**41**	P	**Pn**	**17 02 11.7**	**-0.9**
	SNR=15						
AAK	**Ala-Archa**	**3.56**	**28**	P	**Pn**	**17 02 15.1**	**+1.0**
	SNR=11						
KK31	**Karatay Array**	**3.82**	**341**	Pg	Pn	17 02 21.8	+4.3
	5.6nm,0.5s,baz=156,slow=12,SNR=137						
KK31				⇑Lg	Lg	17 03 07.4	
	7.4nm,0.3s,baz=147,slow=24,SNR=5.2						
CHMS	**Chumysh**	**3.97**	**28**	P	**Pn**	**17 02 20.2**	**+0.6**
	SNR=6.2						
ULHL	**Ulahol**	**4.08**	**47**	P	**Pn**	**17 02 20.8**	**-0.5**
	SNR=5.7						
TKM2	**Tokmak 2**	**4.24**	**36**	⇓Pn	**Pn**	**17 02 22.4**	**-1.2**
	4.4nm,0.4s						
TKM2				⇓Lg	Lg	17 03 22.7	
	13nm,0.5s						
AB31	**Akbulak array**	**13.11**	**322**	Pn	**Pn**	**17 04 25.2**	**+0.4**
	0.5nm,0.4s,baz=129,slow=14,SNR=22						
AB31				⇓Sn	**Sn**	**17 06 47.4**	**-1.8**
	2.7nm,0.9s,baz=129,slow=23,SNR=3.6						
BVAR	**Borovoye Array**	**13.58**	**355**	Pn	**P**	**17 04 41.2**	**+1.5**
	0.5nm,0.3s,baz=153,slow=7.9,SNR=7.5						
AKTO	**Aktyubinsk**	**14.83**	**322**	⇑Pn	**Pn**	**17 04 48.2**	**0.0**
	2.7nm,0.5s						
AKTO				⇓Sn	**Sn**	**17 07 29.9**	**-1.2**
	1.9nm,1.0s						
AKTO	**Aktyubinsk**	**14.83**	**322**	Pn	**P**	**17 04 52.1**	**-1.5**
	0.1nm,0.3s,baz=132,slow=14,SNR=2.3						
ZALV	**Zalesovo Beam**	**16.78**	**26**	P	**Pn**	**17 05 13.4**	**+0.1**
	0.2nm,0.3s,baz=220,slow=10,SNR=4.0						
SONM	**Songino Array**	**25.90**	**60**	P	**P**	**17 06 47.3**	**-2.6**
	0.3nm,0.5s,baz=261,slow=10.0,SNR=2.5						
FINES	**FINESS Array B**	**35.59**	**323**	P	**P**	**17 08 16.4**	**+1.4**
	0.6nm,0.6s,baz=123,slow=6.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**66.78**	**268**	P	**P**	**17 12 09.6**	**+0.2**
	0.2nm,0.4s,baz=56,slow=5.1,SNR=3.5						
ILAR	**Eielson Array**	**71.62**	**17**	P	**P**	**17 12 40.0**	**+1.4**
	0.3nm,0.7s,baz=331,slow=5.4,SNR=4.0						
WRA	**Warramunga Arr**	**82.78**	**123**	P	P	17 13 37.6	-4.2
	2.1nm,0.6s,baz=323,slow=4.5,SNR=2.1						

WEL 23 17:05:21.2±0.4,38.63S×175.50E,h172km±3km,ML3.9/18, 8C-3D,Error ellipse: s-maj=1.9km s-min=1.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FWVZ	**Far West T-bar**	**0.63**	**176**	⇑PN	Pn	17 05 46.3	+0.2
FWVZ				SN	Sn	17 06 05.2	-0.1
MTVZ	**Mangateitei**	**0.76**	**182**	⇑PN	Pn	17 05 46.8	+0.2
MTVZ				SN	Sn	17 06 05.9	-0.4
VRZ	**Vera Road**	**0.77**	**229**	⇑PN	Pn	17 05 46.5	0.0
MOVZ	**Moawhango**	**0.81**	**166**	⇑PN	Pn	17 05 46.8	-0.1
MOVZ				SN	Sn	17 06 05.5	-1.3
TOZ	**Tahuroa Road**	**0.89**	**0**	⇓PN	Pn	17 05 47.7	+0.3
BKZ	**Black Stump Fm**	**0.94**	**125**	⇑PN	Pn	17 05 47.9	+0.1
BKZ				AML	AML	17 06 10.2	
RAEZ	**Rainy Point**	**1.09**	**232**	PN	Pn	17 05 48.9	+0.1
WAZ	**Wanganui**	**1.20**	**199**	⇑PN	Pn	17 05 49.7	-0.1
NEZ	**North Egmont**	**1.27**	**239**	PN	Pn	17 05 50.6	+0.1
DFE	**Dawson Falls**	**1.29**	**237**	PN	Pn	17 05 49.9	-0.8
PKE	**Pukeiti**	**1.31**	**244**	PN	Pn	17 05 50.5	-0.3
URZ	**Urewera**	**1.31**	**74**	⇓PN	Pn	17 05 50.2	-0.6
URZ				AML	AML	17 06 13.2	
URZ				AML	AML	17 06 14.8	
KHEZ	**Kahui Hut**	**1.34**	**240**	PN	Pn	17 05 51.1	0.0
PNHZ	**Pukenui**	**1.40**	**157**	PN	Pn	17 05 51.5	-0.1
TSZ	**Takapari Road**	**1.48**	**166**	PN	Pn	17 05 52.1	-0.3
TSZ				AML	AML	17 06 17.0	
TSZ				AML	AML	17 06 17.4	
KAHZ	**Kahuranaki**	**1.58**	**138**	PN	Pn	17 05 53.8	+0.4
KAHZ				SN	Sn	17 06 17.1	-1.2
CKWZ	**Cape Kidnapper**	**1.60**	**131**	PN	Pn	17 05 54.1	+0.6
CKHZ				SN	Sn	17 06 18.5	-0.1
MWZ	**Matawai**	**1.62**	**80**	PN	Pn	17 05 53.5	-0.3
MWZ				AML	AML	17 06 19.7	
MWZ				AML	AML	17 06 19.7	
KNZ	**Kokohu**	**1.74**	**104**	PN	Pn	17 05 54.9	0.0
DVHZ	**Dannevirke**	**1.75**	**163**	PN	Pn	17 05 54.5	-0.5
PXZ	**Pawanui**	**1.76**	**144**	⇓PN	Pn	17 05 54.9	-0.2
PXZ				AML	AML	17 06 21.8	
PXZ				AML	AML	17 06 23.4	
MHGZ	**Mahia Peninsul**	**1.95**	**106**	PN	Pn	17 05 57.4	+0.2
PRWZ	**Pori Road**	**1.96**	**169**	PN	Pn	17 05 56.9	-0.5
ANWZ	**Angora Road**	**1.98**	**158**	PN	Pn	17 05 57.1	-0.4
MRZ	**Mangatainoka R**	**2.04**	**178**	PN	Pn	17 05 57.0	-1.2
MRZ				AML	AML	17 06 23.9	
MRZ				AML	AML	17 06 24.5	
BFZ	**Birch Farm**	**2.13**	**165**	PN	Pn	17 05 58.1	-1.1
BFZ				AML	AML	17 06 28.0	
BFZ				AML	AML	17 06 28.0	
BFZ				AML	AML	17 06 29.3	
BFZ				AML	AML	17 06 29.3	
TIWZ	**Tintock**	**2.17**	**172**	PN	Pn	17 05 58.6	-1.1
OGWZ	**Otaki Gorge**	**2.20**	**187**	PN	Pn	17 05 58.8	-1.2
PUZ	**Puketiti**	**2.24**	**77**	PN	Pn	17 05 59.7	-0.8
PUZ				AML	AML	17 06 32.2	
HOWZ	**Holdsworth Sta**	**2.27**	**180**	PN	Pn	17 05 59.2	-1.6
KIW	**Kapiti Island**	**2.28**	**191**	PN	Pn	17 05 59.2	-1.7
KIW				AML	AML	17 06 29.8	
KIW				AML	AML	17 06 32.0	
DUWZ	**D'Urville Isla**	**2.49**	**209**	PN	Pn	17 06 01.2	-2.1
TMWZ	**Te Maipa**	**2.50**	**173**	PN	Pn	17 06 01.7	-1.7
CAW	**Cannon Point**	**2.50**	**188**	PN	Pn	17 06 01.8	-1.7
CAW				AML	AML	17 06 34.3	
CAW				AML	AML	17 06 36.8	
MTW	**Mount Morrison**	**2.53**	**180**	PN	Pn	17 06 01.6	-2.0
MTW				AML	AML	17 06 35.2	
MTW				AML	AML	17 06 35.2	
WEL	**Wellington**	**2.72**	**192**	PN	Pn	17 06 03.9	-2.0
TCW	**Tory Channel**	**2.75**	**200**	PN	Pn	17 06 04.2	-2.2
TCW				AML	AML	17 06 39.2	
TCW				AML	AML	17 06 39.3	
PAWZ	**Paruwai Farm**	**2.75**	**181**	PN	Pn	17 06 04.1	-2.4
PAWZ				AML	AML	17 06 37.4	
PAWZ				AML	AML	17 06 40.8	
TRWZ	**Traveller**	**2.77**	**177**	PN	Pn	17 06 04.7	-2.1
TRWZ				AML	AML	17 06 40.4	
TRWZ				AML	AML	17 06 40.5	
MSWZ	**Moikau Station**	**2.79**	**184**	PN	Pn	17 06 04.8	-2.2
MSWZ				AML	AML	17 06 40.2	
MSWZ				AML	AML	17 06 40.6	
PLWZ	**Palliser**	**2.95**	**184**	PN	Pn	17 06 06.3	-2.6
TUWZ	**Tuamarina**	**3.05**	**203**	PN	Pn	17 06 07.3	-2.7
TUWZ				AML	AML	17 06 44.8	
TUWZ				AML	AML	17 06 45.1	
NNZ	**Nelson**	**3.06**	**212**	⇑PN	Pn	17 06 07.4	-2.8
BSWZ	**Blackbirch Sta**	**3.33**	**201**	PN	Pn	17 06 11.2	-2.3
BSWZ				AML	AML	17 06 52.9	
THZ	**Tophouse**	**3.71**	**212**	PN	Pn	17 06 14.7	-3.8
KHZ	**Kahutara**	**4.07**	**201**	⇑PN	Pn	17 06 20.1	-2.8
KHZ				AML	AML	17 07 07.4	
KHZ				AML	AML	17 07 07.9	
LTZ	**Lake Taylor**	**4.82**	**210**	PN	Pn	17 06 28.8	-4.0
OXZ	**Oxford**	**5.38**	**208**	PN	Pn	17 06 35.0	-4.9
MQZ	**McQueen's Vall**	**5.51**	**202**	PN	Pn	17 06 36.3	-5.3
ODZ	**Otahua Downs**	**7.37**	**208**	PN	Pn	17 07 01.5	-4.5

NNC 23 17:06:29.0±2.1,40.40N×76.66E,h0km,mb3.6,mpv3.2, 2C-4D,Error ellipse: s-maj=19.5km s-min=17.8km az=105.0,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**2.64**	**343**	⇓Pn	Pn	17 07 12.8	-0.5
	6.5nm,0.6s						
TKM2				⇑Lg	Lg	17 07 53.9	
	36nm,0.6s						
KNDC	**Almaty**	**2.83**	**5**	⇓Pn	Pn	17 07 15.9	+0.3
	19nm,0.6s						
KNDC				⇓Lg	Lg	17 07 57.9	
	208nm,0.6s						
KK31	**Karatay Array**	**5.33**	**302**	⇓Pg	Pb	17 08 06.4	+3.2
	0.7nm,0.6s,baz=129,slow=16,SNR=5.0						
KK31				⇑Lg	Lg	17 09 18.7	
	2.0nm,0.7s,baz=127,slow=24,SNR=4.3						

*IDC **23** 17:21:23.8±1.1,24.29S×175.82W,h0km,mb4.3/8, mb1 4.5/10,mb1mx4.2/21,mbtmp4.3/10,ML4.3/2,MS3.8/11, Ms1 3.7/11,ms1mx3.6/25,Error ellipse: s-maj=42.7km s-min=21.7km az=145.0*
*ISCJB **23** 17:21:26.5±0.9,24.58S±0.09×175.8W±0.2,h30km, mb4.4/11,MS3.8/10,Error ellipse: s-maj=23.5km s-min=10.1km az=20.3*
*NEIC **23** 17:21:29.3±0.8,24.35S×175.90W,h35km,mb4.6/4,Error ellipse: s-maj=22.8km s-min=14.8km az=118.0*
ISC 23 17:21:28.8±0.9,24.47S±0.09×175.9W±0.2,h30km,n44, σ1§48/31,mb4.3/11,MS3.8/10,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.10**	**201**	Pn	**Pn**	**17 22 44.5**	**+1.2**
RAO				Sn	**Sn**	**17 23 38.8**	**-2.4**
RAO	**Raoul Island**	**5.10**	**201**	Pn	**Pn**	**17 22 44.5**	**+1.2**
	35nm,0.3s,baz=80,slow=18,SNR=3.5						
RAO				Sn	**Sn**	**17 23 38.8**	**-2.4**
	15nm,0.3s,baz=101,slow=18,SNR=2.5						
AFI	**Afiamalu**	**11.19**	**21**	Pn	Pn	17 23 59.0	-7.9
AFI				Sn	Sn	17 25 51.5	-20
AFI	**Afiamalu**	**11.19**	**21**	Pn	Pn	17 23 59.0	-7.9
	6.1nm,0.3s,baz=171,slow=13,SNR=5.8						
AFI				Sn	Sn	17 25 51.5	-20
	2.7nm,0.3s,baz=256,slow=24,SNR=2.7						
URZ	**Urewera**	**14.99**	**202**	Pn	**Pn**	**17 25 00.2**	**+1.7**

URZ					Sn	Sn	17 27 33.2	-10	
URZ	**Urewera**	**14.99**	**202**	Pn	**Pn**	**17 25 00.2**	**+1.7**		
	0.4nm,0.3s,baz=338,slow=5.4,SNR=3.1								
URZ					Sn	Sn	17 27 33.2	-10	
	0.3nm,0.3s,baz=323,slow=17,SNR=1.2								
URZ					LR	LR	17 29 51.1		
	comp=Z,169nm,20.3s,baz=21,slow=33								
RAR	**Rarotonga**	**15.19**	**81**	Pn	Pn	17 24 50.8	-10		
RAR	**Rarotonga**	**15.19**	**81**	Pn	Pn	17 24 50.8	-10		
	3.3nm,0.3s,baz=243,slow=8.4,SNR=4.7								
DZM	**Mont Dzumac**	**16.43**	**275**	*e*LR	LR	17 28 53.8			
	311nm,24.6s								
RPZ	**Rata Peaks**	**21.99**	**206**	LR	LR	17 34 21.1			
	comp=Z,137nm,20.9s,baz=38,slow=35								
TBI	**Tubuai**	**24.16**	**93**	*e*LR	LR	17 32 18.2			
	218nm,29.0s								
PPT2	**Papeete2**	**25.45**	**79**	*e*LR	LR	17 32 50.0			
	276nm,28.2s								
PPT	**Papeete**	**25.45**	**79**	LR	LR	17 33 21.8			
	comp=Z,283nm,21.2s,baz=344,slow=28								
HNR	**Honiara**	**27.48**	**299**	LR	LR	17 36 32.4			
	comp=Z,126nm,18.6s,baz=125,slow=33								
CTA	**Charters Tower**	**35.25**	**269**	P	**P**	**17 28 20.8**	**-0.2**		
CTA	**Charters Tower**	**35.25**	**269**	P	**P**	**17 28 20.8**	**-0.2**		
	2.5nm,0.4s,baz=92,slow=12,SNR=13								
CTAO	**Charters Tower**	**35.25**	**269**	*e*P	**P**	**17 28 20.8**	**-0.2**		
	2.6nm,0.4s								
STKA	**Stephens Creek**	**38.03**	**249**	P	**P**	**17 28 45.3**	**+0.7**		
STKA	**Stephens Creek**	**38.03**	**249**	P	**P**	**17 28 45.3**	**+0.7**		
	0.9nm,0.6s,baz=113,slow=13,SNR=3.4								
STKA					LR	LR	17 43 31.2		
	comp=Z,127nm,18.5s,baz=297,slow=35								
ASAR	**Alice Springs**	**45.66**	**260**	P	**P**	**17 29 46.3**	**-0.9**		
ASAR	**Alice Springs**	**45.66**	**260**	P	**P**	**17 29 46.3**	**-0.9**		
	2.4nm,0.8s,baz=95,slow=7.3,SNR=26								
ASAR					LR	LR	17 49 19.6		
	comp=Z,222nm,20.2s,baz=87,slow=37								
WRAB	**Tennant Creek**	**46.12**	**265**	*e*P	**P**	**17 29 48.1**	**-2.7**		
	1.5nm,0.5s								
WRA	**Warramunga Arr**	**46.13**	**265**	P	**P**	**17 29 49.0**	**-1.8**		
WRA	**Warramunga Arr**	**46.13**	**265**	P	**P**	**17 29 49.0**	**-1.8**		
	2.4nm,0.6s,baz=106,slow=7.6,SNR=3.2								
FITZ	**Fitzroy Crossi**	**54.54**	**265**	LR	LR	17 54 21.8			
	comp=Z,172nm,19.0s,baz=80,slow=36								
QSPA	**South Pole Qui**	**65.62**	**180**	LR	LR	17 56 52.2			
	comp=Z,66nm,18.4s,baz=22,slow=32								
MJAR	**Matsushiro Arr**	**74.56**	**323**	LR	LR	18 01 36.1			
	comp=Z,59nm,21.6s,baz=230,slow=32								
KSRS	**Korea Array**	**81.15**	**318**	LR	LR	18 07 33.5			
	comp=Z,24nm,19.2s,baz=180,slow=34								
NVAR	**Mina Array Bea**	**82.59**	**42**	P	**P**	**17 33 47.7**	**-1.6**		
NVAR	**Mina Array Bea**	**82.59**	**42**	P	**P**	**17 33 47.7**	**-1.6**		
	2.7nm,0.8s,baz=222,slow=10.0,SNR=7.7								
USRK	**Ussuriysk Arra**	**83.33**	**325**	P	**P**	**17 33 52.8**	**+0.1**		
	2.2nm,0.7s,baz=128,slow=2.8,SNR=6.3								
ENH	**Enshi**	**89.88**	**303**	P	**P**	**17 34 25.9**	**+0.7**		
	25nm,1.5s								
PDAR	**Pinedale Array**	**90.52**	**42**	P	**P**	**17 34 26.3**	**-1.8**		
PDAR	**Pinedale Array**	**90.52**	**42**	P	**P**	**17 34 26.3**	**-1.8**		
	0.5nm,0.8s,baz=187,slow=3.7,SNR=5.2								
CMAR	**Chiang Mai Arr**	**93.28**	**289**	P	**P**	**17 34 42.0**	**+0.8**		
CMAR	**Chiang Mai Arr**	**93.28**	**289**	P	**P**	**17 34 42.0**	**+0.8**		
	2.3nm,0.9s,baz=141,slow=3.8,SNR=9.5								
CHTO	**Chiang Mai**	**93.42**	**289**	*e*P	**P**	**17 34 42.4**	**+0.6**		
	2.8nm,0.8s								
SONM	**Songino Array**	**100.02**	**318**	LR	LR	18 15 33.2			
	comp=Z,31nm,18.1s,baz=319,slow=32								
ARCES	**ARCESS Array B**	**133.16**	**350**	PKP	**PKPdf**	**17 40 42.2**	**+1.4**		
ARCES	**ARCESS Array B**	**133.16**	**350**	PKP	**PKPdf**	**17 40 42.2**	**+1.4**		
	0.9nm,0.7s,baz=46,slow=3.5,SNR=3.9								
BRTR	**Keskin Array B**	**150.91**	**309**	PKPbc	**PKPbc**	**17 41 18.1**	**-0.8**		
BRTR	**Keskin Array B**	**150.91**	**309**	PKPbc	**PKPbc**	**17 41 18.1**	**-0.8**		
	0.9nm,0.7s,baz=119,slow=3.1,SNR=4.8								
CLL	**Collm**	**152.35**	**348**	*e*(PKPbc)	**PKPbc**	**17 41 24.0**	**+2.4**		
BRG	**Berggiesshubel**	**152.57**	**346**	*e*P	**PKPbc**	**17 41 21.8**	**-0.3**		
	2.8nm,1.0s								

WEL 23 17:30:03.2±0.3, 45.47S×165.83E, h33km, ML3.5/17, Error ellipse: s-maj=2.6km s-min=1.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.93**	**91**	PN	Pn	17 30 19.2	-0.7
DCZ				AML	AML	17 30 32.5	
DCZ				AML	AML	17 30 32.7	
DCZ				AML	AML	17 30 33.3	
DCZ				SN	Sb	17 30 36.0	+3.1
WHZ	**Wether Hill Ro**	**1.54**	**107**	PN	Pb	17 30 29.8	-1.4
WHZ				SN	Sb	17 30 50.2	-0.1
WHZ				AML	AML	17 30 50.9	
MLZ	**Mavora Lakes**	**1.65**	**86**	PN	Pn	17 30 30.3	+0.3
MLZ				SN	Sb	17 30 52.4	-1.3
MSZ	**Milford Sound**	**1.69**	**62**	AML	AML	17 31 03.7	
MSZ				AML	AML	17 31 10.2	
APZ	**The Paps**	**2.02**	**133**	PN	Pn	17 30 36.2	+1.1
WKZ	**Wanaka**	**2.34**	**75**	PN	Pb	17 30 42.3	-2.6
EAZ	**Earnscleugh**	**2.46**	**86**	PN	Pn	17 30 43.3	+2.2
EAZ				AML	AML	17 31 25.5	
EAZ				AML	AML	17 31 32.9	
JCZ	**Jackson Bay**	**2.51**	**57**	PN	Pn	17 30 42.3	+0.4
JCZ				AML	AML	17 31 19.6	
SYZ	**Scrubby Hill**	**2.54**	**116**	PN	Pn	17 30 43.2	+1.1
TUZ	**Tuapeka**	**2.70**	**102**	PN	Pn	17 30 46.3	+2.0
TUZ				AML	AML	17 31 26.1	
TUZ				AML	AML	17 31 35.9	
LBZ	**Lake Benmore**	**3.27**	**72**	AML	AML	17 30 52.9	
LBZ				PN	Pn	17 30 53.4	+1.1
ODZ	**Otahua Downs**	**3.42**	**85**	PN	Pn	17 30 55.2	+0.9
ODZ				AML	AML	17 33 25.4	
WVZ	**Waitaha Valley**	**4.26**	**57**	AML	AML	17 30 58.8	
WVZ				PN	Pn	17 31 05.0	-0.8
MSWZ	**Moikau Station**	**7.96**	**63**	AML	AML	17 34 16.4	

IDC 23 17:38:41.4±1.1, 4.61N×61.27E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.6/24, mbtmp3.8/6, MS2.9/2, Ms1 2.9/2, ms1mx2.6/40, Error ellipse: s-maj=31.4km s-min=27.6km az=22.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**19.48**	**292**	LR	LR	17 49 54.7	
	comp=Z,20nm,18.9s,baz=45,slow=35						
KMBO	**Kilima Mbogo**	**24.66**	**257**	P	P	17 44 05.0	+0.4
	2.4nm,0.7s,baz=61,slow=24,SNR=8.3						
BRTR	**Keskin Array B**	**42.95**	**328**	P	P	17 46 41.4	-1.1
	1.1nm,0.8s,baz=152,slow=11,SNR=6.0						
MKAR	**Makanchi Array**	**45.79**	**20**	P	P	17 47 04.3	-0.6
	1.0nm,1.0s,baz=210,slow=9.2,SNR=4.1						
ZALV	**Zalesovo Beam**	**52.81**	**17**	P	P	17 47 59.6	+1.2
	1.2nm,0.7s,baz=243,slow=6.3,SNR=5.9						
VRAC	**Vranov**	**58.38**	**327**	LR	LR	18 11 09.1	
	comp=Z,22nm,21.6s,baz=331,slow=33						
TORD	**Torodi Ar. Bea**	**59.35**	**282**	P	P	17 48 49.7	+3.8
	0.3nm,0.7s,baz=99,slow=5.7,SNR=2.1						
WRA	**Warramunga Arr**	**75.76**	**112**	P	P	17 50 29.6	-0.1
	3.1nm,0.8s,baz=292,slow=4.8,SNR=2.7						
ASAR	**Alice Springs**	**76.06**	**116**	P	P	17 50 31.2	-0.2
	0.5nm,0.8s,baz=286,slow=6.0,SNR=5.2						

IDC 23 17:53:50.9±0.9, 60.56S×26.38W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/15, mbtmp3.6/3, Error ellipse: s-maj=40.9km s-min=30.4km az=77.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**42.07**	**183**	P	P	18 01 44.0	+0.4
	0.6nm,0.7s,baz=183,slow=6.8,SNR=3.0						
LPAZ	**La Paz**	**53.40**	**307**	P	P	18 03 13.8	+0.9
	0.3nm,0.4s,baz=207,slow=4.5,SNR=2.8						
TORD	**Torodi Ar. Bea**	**76.82**	**28**	P	P	18 05 44.6	+0.5
	0.3nm,0.4s,baz=197,slow=6.2,SNR=5.1						
SONM	**Songino Array**	**150.29**	**94**	PKPbc	PKPbc	18 13 43.0	+0.1
	0.2nm,0.5s,baz=222,slow=3.9,SNR=1.9						
SONM				PKPab	PKPab	18 13 48.5	-0.7
	0.6nm,0.8s,baz=231,slow=2.6,SNR=6.2						
ILAR	**Eielson Array**	**153.26**	**305**	PKPbc	PKPbc	18 13 46.5	-2.5
	0.3nm,0.9s,baz=149,slow=2.1,SNR=3.1						

KRSC 23 18:28:14.6±0.6, 55.16N×167.14E, h5km±5km, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.67**	**274**	*e*P	Pb	18 28 29.4	+0.6
BKI				*e*S	Sb	18 28 39.5	+1.1
KBG	**Krutoberegovo**	**2.74**	**295**	*e*P	Pn	18 28 59.3	+0.2
KBG				*e*S	Sn	18 29 31.6	-1.0
SMKR	**Semkarok**	**3.50**	**296**	*e*P	Pn	18 29 10.4	+0.7
BDR	**Baidarnaya**	**3.63**	**295**	*e*P	Pn	18 29 12.7	+1.2
SRKR	**Sorokina**	**3.68**	**296**	*e*P	Pn	18 29 13.5	+1.3
SRKR				*e*S	Sn	18 29 56.8	+0.8
ZLN	**Zelenaya**	**3.70**	**286**	*e*P	Pn	18 29 13.5	+1.0
BZGR	**Bezymyannyi-Gr**	**3.74**	**285**	*e*P	Pn	18 29 14.9	+1.8
BZMR	**Bezymyannaya**	**3.86**	**284**	*e*P	Pn	18 29 16.8	+2.1
BZWR	**Bezymyannyi-We**	**3.86**	**285**	*e*P	Pn	18 29 16.6	+1.8
KIRR	**Kirishev**	**3.94**	**284**	*e*P	Pn	18 29 18.1	+2.2
KMNR	**Kamenistaya**	**3.98**	**281**	*e*P	Pn	18 29 18.2	+1.9
TUMR	**Tumrok**	**4.01**	**275**	S	Sn	18 30 05.2	+1.0
KPT	**Kopyto**	**4.01**	**284**	*e*P	Pn	18 29 18.2	+1.4
SRDR	**Sredinnyy**	**4.35**	**288**	*e*P	Pn	18 29 23.3	+1.9
SRDR				*e*S	Sn	18 30 15.0	+2.4
NLC	**Nalytchevo**	**5.00**	**250**	*e*S	Sn	18 30 28.5	+0.3
SMAR	**Somma**	**5.25**	**252**	*e*P	Pn	18 29 36.6	+2.6
UGLR	**Uglovaya**	**5.26**	**252**	*e*P	Pn	18 29 36.7	+2.7
KRER	**Koryakskii**	**5.26**	**253**	*e*P	Pn	18 29 36.4	+2.3
AVH	**Avacha**	**5.28**	**252**	*e*P	Pn	18 29 36.4	+2.2
KOK	**Koryaka**	**5.33**	**253**	*e*P	Pn	18 29 37.4	+2.5
GNL	**Ganaly**	**5.57**	**258**	*e*P	Pn	18 29 41.0	+2.8
RUS	**Russkaya**	**5.80**	**245**	*e*P	Pn	18 29 43.0	+1.9
RUS				*e*S	Sn	18 30 47.9	0.0
MTVR	**Mutnovka**	**5.94**	**247**	*e*P	Pn	18 29 44.8	+1.4
MTVR				*e*S	Sn	18 30 52.2	+0.3
ASAK	**Asacha**	**6.14**	**247**	*e*P	Pn	18 29 48.9	+2.9

WEL 23 18:32:16.1±0.2, 45.38S×166.70E, h25km±1km, ML3.7/17, 1C-2D, Error ellipse: s-maj=2.0km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.33**	**108**	P*	Pb	18 32 23.0	-0.6
DCZ				S*	Sb	18 32 27.2	-1.5
DCZ				AML	AML	18 32 28.4	
DCZ				AML	AML	18 32 28.4	
DCZ				AML	AML	18 32 28.9	
WHZ	**Wether Hill Ro**	**1.01**	**121**	⇓P	Pn	18 32 34.5	-0.3
WHZ				SN	Sb	18 32 47.8	-0.2
WHZ				AML	AML	18 32 48.3	
MLZ	**Mavora Lakes**	**1.04**	**89**	PN	Pn	18 32 34.3	-0.9
MLZ				SN	Sb	18 32 47.4	-1.2
MLZ				AML	AML	18 32 49.8	
MSZ	**Milford Sound**	**1.12**	**51**	⇓PN	Pn	18 32 35.2	-0.9
MSZ				SN	Sb	18 32 50.9	+0.1
MSZ				AML	AML	18 32 55.9	
MSZ				AML	AML	18 32 56.0	
MSZ				AML	AML	18 32 56.0	
APZ	**The Paps**	**1.71**	**149**	PN	Pb	18 32 46.6	-0.4
WKZ	**Wanaka**	**1.73**	**72**	⇑PN	Pb	18 32 46.7	-0.5
WKZ				SN	Sb	18 33 08.8	+0.3
WKZ				AML	AML	18 33 11.7	
EAZ	**Earnscleugh**	**1.84**	**86**	PN	Pb	18 32 47.0	-1.3
EAZ				AML	AML	18 33 12.9	
EAZ				AML	AML	18 33 13.0	
EAZ				AML	AML	18 33 14.1	
EAZ				AML	AML	18 33 14.1	
JCZ	**Jackson Bay**	**1.96**	**49**	PN	Pb	18 32 50.2	-1.0
JCZ				SN	Sb	18 33 19.0	+3.6
JCZ				AML	AML	18 33 21.3	
SYZ	**Scrubby Hill**	**2.06**	**125**	PN	Pb	18 32 51.1	-1.7
TUZ	**Tuapeka**	**2.13**	**107**	PN	Pb	18 32 52.5	-1.6
TUZ				AML	AML	18 33 24.4	
TUZ				AML	AML	18 33 27.2	
LBZ	**Lake Benmore**	**2.66**	**69**	PN	Pn	18 32 58.9	+1.4
LBZ				AML	AML	18 33 46.8	
LBZ				AML	AML	18 33 52.0	
HHSZ	**Highcliff Hill**	**2.78**	**102**	PN	Pn	18 33 01.8	+2.7
FOZ	**Fox Glacier**	**2.80**	**51**	PN	Pn	18 33 02.1	+2.8
ODZ	**Otahua Downs**	**2.80**	**85**	PN	Pn	18 32 59.9	+0.5
ODZ				AML	AML	18 34 11.1	
ODZ				AML	AML	18 35 30.2	
RPZ	**Rata Peaks**	**3.52**	**63**	AML	AML	18 34 00.7	
RPZ				AML	AML	18 34 16.4	

MAN 23 19:11:27,12.66N×123.34E, h25km, mb4.2, ML3.0, MS2.7, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.41**	**137**	⇑*i*P	Pn	19 11 37.5	+0.2
MMPH				*i* S	Sn	19 11 46.1	+2.0
RCP	**Roxas**	**1.24**	**208**	⇓*e*P	Pb	19 11 49.4	-0.4
GQP	**Guinayangan**	**1.51**	**325**	⇓*e*P	Pn	19 11 52.8	+0.3
GQP				*e*S	Sb	19 12 12.8	-0.4
GUIM	**Jordan**	**2.15**	**200**	*e*P	Pb	19 12 04.8	-0.5
SJMP	**San Jose**	**2.18**	**265**	*e*P	Pn	19 12 02.5	+0.8
SJMP				*e*S	Sn	19 12 21.2	-6.6
CUYO	**Cuyo Island**	**2.90**	**232**	*e*P	Pn	19 12 12.4	+0.8

*LDG **23** 19:55:47.9±0.3, 11.54N×70.24W, h10km, Mb4.8/21, Ms3.6/9, Error ellipse: s-maj=19.0km s-min=7.9km az=174.0*
*ISCJB **23** 19:55:50.9±0.6, 11.60N±0.02×70.36W±0.02, h29km±4km, mb4.5/87, MS3.7/16, Error ellipse: s-maj=3.2km s-min=2.7km az=159.7*
*FUNV **23** 19:55:53.7, 11.58N×70.44W, h31km, MW4.6*
*NEIC **23** 19:55:53.2, 11.58N×70.46W, h29km, mb4.5/30, MW4.6(CAR), After CAR.*
NEIC Felt at Maracaibo and Punto Fijo. Felt [II] at Oranjestad, Aruba.
*BJI **23** 19:55:53.2, 11.60N×70.50W, h29km, mB5.7/3, Ms5.4/2, Ms7 5.3/2*
*IDC **23** 19:55:54.4±0.4, 11.43N×70.43W, h47km±4km, mb4.1/26, mb1 4.3/29, mb1mx4.4/31, mbtmp4.2/29, MS3.6/16, Ms1 3.6/16, ms1mx3.4/27, Error ellipse: s-maj=11.9km s-min=8.9km az=76.0*

ISC 23 19:55:53.8±0.3, 11.54N±0.03×70.41W±0.03, h43km±3km, h43km:pP-P, n440, σ1$37/517, mb4.5/87, MS3.7/16, 123C-111D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MONV	**Montecano**	**0.60**	**46**	*e*P	**Pn**	**19 56 05.3**	**-0.6**
MONV				*e*S	**Sn**	**19 56 14.3**	**-0.4**
MONV	**Montecano**	**0.60**	**46**	⇑*e*P	**Pn**	**19 56 05.5**	**-0.5**
MONV				*e*S	**Sn**	**19 56 14.2**	**-0.4**
DABV	**Dabajuro**	**0.65**	**200**	*e*P	**Pn**	**19 56 06.3**	**-0.3**
DABV				*e*S	**Sn**	**19 56 15.3**	**-0.6**
DABV	**Dabajuro**	**0.65**	**200**	⇓*i*P	**Pn**	**19 56 06.4**	**-0.3**
DABV				*e*S	**Sn**	**19 56 16.4**	**+0.5**
IMOV	**Isla Los Monje**	**0.95**	**329**	*e*P	**Pn**	**19 56 09.5**	**-1.1**
IMOV				*e*S	**Sn**	**19 56 21.4**	**-1.7**
IMOV	**Isla Los Monje**	**0.95**	**329**	⇓*e*P	**Pn**	**19 56 09.5**	**-1.1**
IMOV				*e*S	**Sn**	**19 56 21.5**	**-1.6**
SIQV	**Siquisique**	**1.06**	**146**	*e*P	**Pn**	**19 56 13.1**	**+0.8**
SIQV				*e*S	**Sn**	**19 56 26.5**	**+0.6**
SIQV	**Siquisique**	**1.06**	**146**	⇑*i*P	**Pn**	**19 56 13.2**	**+0.9**
SIQV				*e*S	**Sn**	**19 56 27.6**	**+1.7**
QARV	**Quebrada Arrib**	**1.33**	**185**	⇓*e*P	**Pn**	**19 56 18.0**	**+2.1**
QARV				*e*S	**Sn**	**19 56 32.9**	**+0.4**
CURV	**Curarigua**	**1.58**	**164**	*e*P	**Pn**	**19 56 19.6**	**+0.2**
CURV				*e*S	**Sn**	**19 56 38.4**	**-0.2**
CURV	**Curarigua**	**1.58**	**164**	⇑*e*P	**Pn**	**19 56 19.7**	**+0.3**
CURV				*e*S	**Sn**	**19 56 38.8**	**+0.1**
JACV	**Jacura**	**1.61**	**106**	⇑*e*P	**Pn**	**19 56 21.6**	**+1.8**
TEPV	**Terepaima**	**1.97**	**142**	⇑*e*P	**Pn**	**19 56 25.5**	**+0.8**
TEPV				*e*S	**Sn**	**19 56 48.1**	**-0.1**
SANV	**Sanarito**	**2.20**	**157**	*e*P	**Pn**	**19 56 28.5**	**+0.6**
SANV				*e*S	**Sn**	**19 56 53.7**	**-0.3**
SANV	**Sanarito**	**2.20**	**157**	⇑*e*P	**Pn**	**19 56 29.2**	**+1.3**
SANV				*e*S	**Sn**	**19 56 53.7**	**-0.3**
VIRV	**Villa del Rosa**	**2.21**	**243**	*e*P	**Pn**	**19 56 26.4**	**-1.7**
VIRV				*e*S	**Sn**	**19 56 52.4**	**-1.8**
VIRV	**Villa del Rosa**	**2.21**	**243**	⇑*i*P	**Pn**	**19 56 26.6**	**-1.4**
VIRV				*e*S	**Sn**	**19 56 53.2**	**-1.0**
MAPV	**Macapo**	**2.56**	**131**	*e*P	**Pn**	**19 56 33.2**	**+0.3**
SDV	**Santo Domingo**	**2.64**	**185**	*e*Pn	**Pn**	**19 56 34.9**	**+0.7**
SDV				*e*Sn	**Sn**	**19 57 04.2**	**-0.8**
TURV	**Turiamo**	**2.74**	**113**	⇑*e*P	**Pn**	**19 56 34.6**	**-0.7**
TURV				*e*S	**Sn**	**19 57 05.4**	**-1.8**
VIGV	**El Vigia**	**2.84**	**199**	*e*P	**Pn**	**19 56 37.1**	**+0.4**
VIGV				*e*S	**Sn**	**19 57 08.0**	**-1.8**
SOCV	**Socops**	**3.26**	**188**	*e*P	**Pn**	**19 56 42.6**	**+0.1**
SOCV	**Socops**	**3.26**	**188**	⇓*e*P	**Pn**	**19 56 43.1**	**+0.7**
SOCV				*e*S	**Sn**	**19 57 18.3**	**-1.8**
BAUV	**El Baul**	**3.48**	**138**	*e*P	**Pn**	**19 56 45.9**	**+0.5**
BAUV	**El Baul**	**3.48**	**138**	⇑*e*P	**Pn**	**19 56 45.9**	**+0.5**
BAUV				*e*S	**Sn**	**19 57 23.4**	**-1.9**
FUNV	**FUNVISIS**	**3.69**	**106**	⇓*e*P	**Pn**	**19 56 47.6**	**-0.8**
CAPV	**Capacho**	**4.10**	**207**	*e*P	**Pn**	**19 56 52.7**	**-1.5**
ORCV	**Isla La Orchil**	**4.14**	**86**	⇑*e*P	**Pn**	**19 56 53.4**	**-1.1**
ORCV				*e*S	**Sn**	**19 57 38.4**	**-3.2**
BIRV	**Birongo**	**4.20**	**104**	*e*P	**Pn**	**19 56 54.4**	**-1.0**
BIRV	**Birongo**	**4.20**	**104**	⇑*e*P	**Pn**	**19 56 54.5**	**-0.8**
BIRV				*e*S	**Sn**	**19 57 40.2**	**-2.9**
ELOV	**Elorza**	**4.60**	**168**	⇓*e*P	**Pn**	**19 57 01.5**	**+0.7**
ELOV				*e*S	**Sn**	**19 57 49.7**	**-3.3**
MERV	**Las Mercedes**	**4.64**	**119**	⇑*e*P	**Pn**	**19 57 01.9**	**+0.5**
MERV				*e*S	**Sn**	**19 57 49.1**	**-4.9**
CUPV	**Cœpira**	**4.77**	**108**	*e*P	**Pn**	**19 57 02.9**	**-0.3**
PCRV	**Puerto La Cruz**	**5.83**	**103**	*e*P	**Pn**	**19 57 17.8**	**0.0**
CRUV	**Carupano**	**7.09**	**96**	*e*P	**Pn**	**19 57 34.5**	**-0.6**
CRPR	**Cabo Rojo, PR**	**7.18**	**26**	*e*Pn	**Pn**	**19 57 34.9**	**-1.4**
	105nm,0.6s						
CRPR				*e*Sn	**Sn**	**19 58 51.3**	**-5.2**
ORIV	**Oritupano**	**7.31**	**109**	*e*P	**Pn**	**19 57 36.6**	**-1.4**
LSP	**Las Mesas**	**7.34**	**26**	*e*Pn	**Pn**	**19 57 37.2**	**-1.2**
LSP				*e*Sn	**Sn**	**19 58 53.5**	**-7.0**
OBIP	**Obispado Ponce**	**7.44**	**29**	*e*Pn	**Pn**	**19 57 37.9**	**-1.9**
	75nm,0.6s						
OBIP				*e*Sn	Sn	19 58 56.3	-6.6
SDDR	**Presa de Saban**	**7.45**	**354**	*e*Pn	**Pn**	**19 57 41.4**	**+1.4**
	76nm,0.5s						
SDDR				*e*Sn	**Sn**	**19 59 01.9**	**-1.4**
GUNV	**Guanoco**	**7.46**	**100**	⇑*e*P	**Pn**	**19 57 39.1**	**-1.0**
CELP	**Cerrillos**	**7.48**	**29**	*e*Pn	**Pn**	**19 57 38.7**	**-1.6**
CELP				*e*Sn	**Sn**	**19 59 01.3**	**-2.6**
LRS	**Lares**	**7.55**	**27**	*e*Pn	**Pn**	**19 57 39.5**	**-1.8**
LRS				*e*Sn	Sn	19 58 57.7	-7.9
AGPR	**Aguadilla, PR**	**7.59**	**24**	*e*Pn	**Pn**	**19 57 40.5**	**-1.4**
	487nm,0.8s						
AGPR				*e*		19 57 51.6	
ROSC	**El Rosal**	**7.69**	**211**	*e*Pn	**Pn**	**19 57 44.9**	**+1.3**
ROSC				*e*Sn	**Sn**	**19 59 09.1**	**-0.6**
ROSC				Lg	Lg	20 00 03.2	
ROSC	**El Rosal**	**7.69**	**211**	P	**Pn**	**19 57 44.8**	**+1.2**
	8.7nm,0.3s,baz=96,slow=7.7,SNR=18						
ROSC				S	**Sn**	**19 59 11.2**	**+1.6**
	baz=90,slow=20,SNR=1.6						
ROSC				Lg	Lg	20 00 03.2	
	8.4nm,0.3s,baz=86,slow=19,SNR=3.2						
SJG	**San Juan**	**7.72**	**32**	*e*Pn	**Pn**	**19 57 41.2**	**-2.5**
	126nm,0.6s						
SJG				*e*Sn	Sn	19 59 02.3	-7.6
GUIV	**Guiria**	**8.08**	**95**	*e*P	**Pn**	**19 57 47.2**	**-1.4**
GURV	**El Guri**	**8.14**	**117**	⇑*e*P	**Pn**	**19 57 47.4**	**-2.0**
CDVI	**St. Croix**	**8.24**	**41**	*e*Pn	**Pn**	**19 57 48.7**	**-2.1**
	213nm,0.4s						
CDVI				*e*Sn	**Sn**	**19 59 18.4**	**-4.3**
TCE	**Chacachacare**	**8.54**	**95**	*e*P	**Pn**	**19 57 56.2**	**+1.3**
STVI	**Saint Thomas**	**8.58**	**37**	*e*Pn	**Pn**	**19 57 52.6**	**-2.8**
	67nm,0.6s						
STVI				*e*Sn	Sn	19 59 20.7	-10
GRW	**Mount Saint Ca**	**8.59**	**85**	*e*P	**Pn**	**19 57 55.1**	**-0.5**
GRGR	**Grenville**	**8.59**	**85**	*e*Pn	**Pn**	**19 57 54.6**	**-1.0**
	382nm,0.5s						
GRGR				*e*Sn	Sn	19 59 24.8	-6.5
GRSS	**Sisters**	**8.64**	**84**	*e*P	**Pn**	**19 57 55.5**	**-0.8**
TPP	**Pointe-a-Pierr**	**8.88**	**97**	*e*P	**Pn**	**19 58 00.2**	**+0.6**
TRN	**Trinidad (W)**	**8.88**	**95**	*e*P	**Pn**	**19 58 01.5**	**+1.9**

JCT Junction City 33.13 309 ⇑P P 20 02 26.4 +0.4
baz=33
631A Perdido Creek 33.24 307 ⇑P P 20 02 27.8 +0.8
baz=33,SNR=15
432A Menard 33.31 310 ⇑P P 20 02 28.7 +1.1
baz=33
TUL1 Tulsa 33.40 321 ⇓P P 20 02 29.5 +1.2
baz=33
332A Millersview 33.52 311 ⇑P P 20 02 30.3 +0.8
baz=34,SNR=5.6
531A Rocksprings 33.55 308 ⇓P P 20 02 30.8 +1.0
baz=34
232A Coleman 33.70 312 ⇓P P 20 02 32.0 +0.9
baz=34,SNR=7.3
431A Sonora 33.84 309 ⇑P P 20 02 33.0 +0.7
baz=34,SNR=6.3
LVC Limon Verde 33.97 178 eP P 20 02 32.1 -1.5
comp=E,21nm,0.9s
LVC Limon Verde 33.97 178 P P 20 02 32.3 -1.3
comp=E,3.4nm,0.6s,baz=333,slow=2.3,SNR=3.9
331A San Angelo 33.99 310 ⇓P P 20 02 34.3 +0.7
baz=34,SNR=7.6
ABTX Abilene, Hawle 34.07 313 ⇑P P 20 02 34.9 +0.7
baz=34
530A J-C Ranch, Com 34.16 308 ⇑P P 20 02 36.1 +1.1
baz=34,SNR=8.6
231A Bronte 34.22 311 ⇑P P 20 02 35.8 +0.3
baz=34
Z32A Haskell 34.31 314 ⇑P P 20 02 37.5 +1.2
baz=34,SNR=6.1
330A Mertzon 34.60 310 ⇓P P 20 02 39.5 +0.6
baz=35,SNR=6.6
WMOK Wichita Mounta 34.62 316 eP P 20 02 39.0 +0.1
comp=E,6.0nm,0.5s
131A Roby 34.64 312 ⇑P P 20 02 39.8 +0.7
baz=35
Y32A R-V Farms, Ver 34.67 315 ⇓P P 20 02 40.7 +1.4
baz=35
230A Sterling City 34.78 310 ⇓P P 20 02 41.0 +0.6
baz=35,SNR=7.0
Z31A Sharp Cattle R 34.79 313 ⇑P P 20 02 41.5 +1.0
baz=35
429A Davenport Ranc 34.80 308 ⇓P P 20 02 41.4 +0.9
baz=35
529A Stev Forest Ra 34.84 307 ⇓P P 20 02 42.0 +1.1
baz=35,SNR=9.3
BDFB Brasilia 34.94 140 P P 20 02 42.0 +0.1
BDFB pP pP 20 02 54.4 +0.7
BDFB Brasilia 34.94 140 P P 20 02 42.0 +0.1
comp=E,5.6nm,0.6s,baz=298,slow=10,SNR=7.3
BDFB pP pP 20 02 54.4 +0.7
comp=E,13nm,0.8s,baz=305,slow=11,SNR=9.7
BDFB LR LR 20 17 58.5
comp=E,164nm,21.2s,baz=182,slow=38
130A Snyder 35.02 312 ⇓P P 20 02 43.4 +1.0
baz=35
628A Black Gap, Mar 35.10 305 ⇑P P 20 02 44.2 +1.0
baz=35,SNR=9.3
Y31A Rekieta Farm, 35.22 314 ⇑P P 20 02 44.9 +0.9
baz=35
329A Wagon Wheel Ra 35.25 309 ⇑P P 20 02 45.2 +0.8
baz=35,SNR=12
528A Cox Ranch, San 35.30 307 ⇑P P 20 02 45.8 +0.8
baz=35,SNR=15
229A Bryant Ranch, 35.34 310 ⇓P P 20 02 46.1 +0.8
baz=35
X31A McDonald Ranch 35.38 315 ⇓P P 20 02 46.2 +0.7
baz=35
428A Kincaid Ranch, 35.45 308 ⇑P P 20 02 47.5 +1.3
baz=35,SNR=12
Z30A Sanderson Ranc 35.48 313 ⇓P P 20 02 47.1 +0.7
baz=36,SNR=7.2
627A Terlingua Ranc 35.49 305 ⇓P P 20 02 47.8 +1.2
baz=35,SNR=22
Y30A Stafford Cattl 35.62 314 ⇓P P 20 02 48.4 +0.8
baz=36
W31A Holland Ranch, 35.66 316 ⇑P P 20 02 48.4 +0.4
baz=36
328A Wristen Ranch, 35.84 308 ⇓P P 20 02 50.4 +0.9
baz=36,SNR=7.5
Z29A Hungry Hill Ra 35.89 312 ⇑P P 20 02 50.5 +0.6
baz=36,SNR=13
X30A Coker Ranch, T 35.90 314 ⇑P P 20 02 50.7 +0.7
baz=36
V31A Spring Creek L 35.93 317 ⇑P P 20 02 51.2 +1.0
baz=36
527A Woodward Ranch 35.94 306 ⇑P P 20 02 51.4 +0.9
baz=36,SNR=9.0
228A UT Block 9, Go 36.00 310 ⇑P P 20 02 51.8 +0.8
baz=36
427A Hayter Ranch, 36.06 307 ⇓P P 20 02 52.6 +1.1
baz=36,SNR=12
626A Big Bend Ranch 36.12 305 ⇓P P 20 02 53.1 +1.1
baz=36,SNR=30
128A Castleberry Fa 36.16 311 ⇑P P 20 02 53.1 +0.9
baz=36,SNR=5.7
Y29A Porterfield Fa 36.16 313 ⇓P P 20 02 53.2 +0.9
baz=36,SNR=8.0
526A Mary Lane Ranc 36.29 306 ⇓P P 20 02 54.6 +1.1
baz=36,SNR=18
Z28A Tucker Farm, M 36.40 312 ⇓P P 20 02 55.1 +0.8
baz=36
426A McDonald Obser 36.48 307 ⇑P P 20 02 56.2 +1.0
baz=36,SNR=9.4
227A Bennet, Jal 36.48 309 ⇑P P 20 02 56.1 +1.0
baz=36
T31A Randall Ranch, 36.59 319 ⇓P P 20 02 56.5 +0.7
baz=37
Y28A McKinney Farm, 36.60 313 ⇓P P 20 02 57.0 +0.9
baz=37
AMTX Amarillo 36.70 314 eP P 20 02 56.6 -0.2
comp=E,13nm,1.0s
S31A Mullinville 36.78 320 ⇓P P 20 02 58.6 +1.1
baz=37
127A Arkansas Junct 36.83 310 ⇓P P 20 02 58.3 +0.3
baz=37
226B Tecolote Peak, 37.18 309 ⇓P P 20 03 02.2 +1.2
baz=37
R31A Burdett 37.22 321 ⇑P P 20 03 01.8 +0.7
baz=37
Y27A Causey 37.26 312 ⇓P P 20 03 02.2 +0.6
baz=37
425A Indio Mountain 37.28 306 ⇑P P 20 03 03.0 +1.1
baz=37,SNR=12
Z26A Caprock 37.57 311 ⇑P P 20 03 05.1 +0.8
baz=38,SNR=5.6
R30A Dighton 37.68 320 ⇑P P 20 03 06.2 +1.1
baz=38
225A Deer Hill, Car 37.70 308 ⇑P P 20 03 06.8 +1.4
baz=38,SNR=14
Y26A Elida 37.76 312 ⇓P P 20 03 06.7 +0.8
baz=38
W27A Bowe Ranch, En 37.76 314 ⇑P P 20 03 06.9 +1.0
baz=38
125A Gardner Draw, 37.81 309 ⇑P P 20 03 07.3 +1.0
baz=38,SNR=10.0
P31A Stockton 37.89 322 ⇑P P 20 03 07.9 +1.0
baz=38
324A Moseley Ranch, 37.94 307 ⇓P P 20 03 08.4 +1.0
baz=38,SNR=6.3
COWI Conover 37.95 339 eP P 20 03 07.6 +0.4
comp=E,4.0nm,0.8s
MNTX Cornudas Mount 37.96 307 eP P 20 03 07.9 +0.4
comp=E,5.6nm,0.9s
X26A CR and CF Fran 38.05 312 ⇑P P 20 03 09.5 +1.2
baz=38
Z25A Roswell 38.12 310 ⇓P P 20 03 10.3 +1.3
baz=38,SNR=5.8
224A Cornudas Mount 38.22 308 ⇑P P 20 03 11.0 +1.1
baz=38,SNR=23
U27A Thompson Grove 38.30 316 ⇑P P 20 03 11.1 +0.7
baz=38
Y25A Mesa, Roswell 38.40 311 ⇓P P 20 03 12.8 +1.5
baz=38
RCBR Riachuelo 38.42 115 P P 20 03 12.2 +0.6
RCBR Riachuelo 38.42 115 P P 20 03 12.2 +0.6
comp=E,28nm,1.2s,baz=323,slow=8.5,SNR=5.0
124A Stringfield Ra 38.43 309 ⇓P P 20 03 13.2 +1.5
baz=38
P30A Selden 38.43 322 ⇑P P 20 03 12.8 +1.4
baz=38
T27A Campo 38.57 317 ⇓P P 20 03 13.4 +0.7
baz=39
Z24A Sheeppen Canyo 38.63 310 ⇓P P 20 03 15.1 +1.7
baz=39,SNR=7.8
V26A Tequesquite Ra 38.64 314 ⇓P P 20 03 14.4 +1.1
baz=39
X25A Clemmons Ranch 38.65 312 ⇑P P 20 03 15.0 +1.5
baz=39,SNR=5.8
W25A X Bar L Ranch, 38.84 313 ⇑P P 20 03 16.1 +1.1
baz=39
U26A Atchley Ranch, 38.92 315 ⇑P P 20 03 16.4 +0.7
baz=39
Y24A Capitan 38.95 311 ⇓P P 20 03 17.2 +1.2
baz=39,SNR=6.0
T26A Comanche Natio 39.22 316 ⇑P P 20 03 19.1 +0.8
baz=39
V25A Rancho No Teng 39.25 314 ⇓P P 20 03 20.0 +1.6
baz=39
Z23A Rita Site, Whi 39.26 309 ⇑P P 20 03 19.9 +1.4
baz=39,SNR=6.5
R27A Eads 39.30 318 ⇑P P 20 03 20.0 +1.2
baz=39
Y23A Lovelace Mesa, 39.41 310 ⇓P P 20 03 21.4 +1.6
baz=39,SNR=10
222A Williams Famil 39.46 307 ⇑P P 20 03 21.9 +1.7
baz=39,SNR=12
W24A Lazy 6 Ranch, 39.51 312 ⇓P P 20 03 21.7 +1.0
baz=40
R26A Arlington 39.73 318 ⇓P P 20 03 23.5 +1.2
baz=40
CPUP Villa Florida 39.73 161 P P 20 03 20.4 -1.8
CPUP Villa Florida 39.73 161 P P 20 03 20.4 -1.8
comp=E,0.6nm,0.4s,baz=9.6,slow=7.7,SNR=3.2
CPUP LR LR 20 22 44.3
comp=E,60nm,18.6s,baz=143,slow=41
X23A Hourglass Bar 39.80 311 ⇓P P 20 03 24.5 +1.5
baz=40
Z22A Elephant Butte 39.81 309 ⇑P P 20 03 24.8 +1.6
baz=40,SNR=6.3
W23A Werner Place, 40.03 312 ⇓P P 20 03 26.7 +1.6
baz=40
S25A Robets Cordova 40.05 316 ⇑P P 20 03 26.4 +1.3
baz=40
ANMO Albuquerque 40.16 311 P P 20 03 27.6 +1.6
ANMO Albuquerque 40.16 311 P P 20 03 27.6 +1.6
comp=E,2.6nm,0.8s,baz=97,slow=7.9,SNR=5.9
121A Cookes Peak, D 40.16 307 ⇓P P 20 03 27.7 +1.6
baz=40,SNR=5.3
L29A Maesberg Ranch 40.16 325 ⇓P P 20 03 26.8 +1.0
baz=40
EYMN Ely 40.37 338 eP P 20 03 27.1 -0.2
comp=E,5.3nm,0.7s
EYMN e 20 03 39.1
X22A Bernardo 40.38 311 ⇓P P 20 03 29.8 +2.0
baz=40
Z21A St. Cloud Mine 40.38 308 ⇓P P 20 03 29.9 +2.0
baz=40
LAZ Ladron 40.43 310 eP P 20 03 29.8 +1.5
comp=E,2.2nm,0.9s
220A Playas Peak, P 40.51 306 ⇓P P 20 03 30.5 +1.6
baz=40,SNR=6.2
S24A Houchin Ranch, 40.56 316 ⇓P P 20 03 30.9 +1.4
baz=40
Y21A Point of Rocks 40.66 309 ⇑P P 20 03 32.4 +2.1
baz=41
R24A Sanders Place, 40.80 317 ⇑P P 20 03 32.5 +1.2
baz=41
SDCO Great Sand Dun 40.81 316 eP P 20 03 31.4 -0.1
comp=E,4.2nm,1.1s
120A U Bar Ranch, L 40.83 307 ⇓P P 20 03 33.5 +1.9
baz=41
319A Douglas 40.92 305 ⇑P P 20 03 34.4 +2.1
baz=41
X21A Alamocita Cree 40.93 310 ⇑P P 20 03 34.2 +1.7
baz=41,SNR=6.6
Z20A Nine Sixteen R 41.01 308 ⇑P P 20 03 34.7 +1.7
baz=41
U22A Llaves 41.10 313 ⇑P P 20 03 35.5 +1.7
baz=41
W21A San Fidel 41.11 311 ⇑P P 20 03 35.7 +1.7
baz=41
Y20A Horse Springs, 41.16 309 ⇓P P 20 03 36.0 +1.7
baz=41,SNR=6.7
R23A Moffat 41.26 316 ⇑P P 20 03 36.3 +1.1
baz=41
T22A Edith 41.43 314 ⇓P P 20 03 38.0 +1.4
baz=41
X20A Quemado 41.51 310 ⇓P P 20 03 38.2 +1.0
baz=42
U21A Nageezi 41.70 313 ⇓P P 20 03 40.9 +2.2
baz=42
S22A 4UR Ranch, Cre 41.73 315 ⇓P P 20 03 40.4 +1.4
baz=42
T21A Navajo Lake 41.87 314 ⇓P P 20 03 42.1 +2.0
baz=42
S21A Coal Bank Pass 42.36 314 ⇓P P 20 03 45.7 +1.5
baz=42
AGMN Agassiz Nation 42.37 335 eP P 20 03 43.9 +0.1
comp=E,39nm,1.0s
TUC Tucson 42.45 306 eP P 20 03 44.7 0.0
comp=E,2.5nm,0.8s
X18A Snowflake 42.60 309 ⇑P P 20 03 48.2 +2.2
baz=43
W18A Petrified Fore 42.67 310 ⇓P P 20 03 48.3 +1.7
baz=43
H27A Howes 42.72 326 ⇓P P 20 03 47.5 +0.7
baz=43
O22A Kremmling 42.76 318 ⇓P P 20 03 48.1 +0.7
baz=43
S20A Disappointment 42.84 314 ⇑P P 20 03 49.3 +1.3
baz=43
J25A Sunshine Ranch 42.90 324 ⇓P P 20 03 49.4 +1.2
baz=43
PV01 Paradox Valley 43.12 315 eP P 20 03 52.3 +2.0
I25A Rochford 43.25 325 ⇓P P 20 03 52.3 +1.2
baz=43
SCHQ Schefferville 43.28 3 eP P 20 03 51.7 +0.6
comp=E,15nm,0.7s
SCHQ pP pP 20 04 05.1 +2.1
SCHQ Schefferville 43.28 3 P P 20 03 52.0 +1.0
comp=E,14nm,0.6s,baz=192,slow=6.6,SNR=38
SCHQ pP pP 20 04 05.1 +2.1
comp=E,7.8nm,0.7s,baz=165,slow=6.5,SNR=7.3
SCHQ LR LR 20 19 34.9
comp=E,73nm,19.8s,baz=180,slow=33
L23A Garrett 43.28 321 ⇑P P 20 03 52.3 +0.8
baz=43
G25A Newell 43.81 326 ⇑P P 20 03 56.5 +1.0
baz=44
F26A Lodgepole 43.83 327 ⇓P P 20 03 56.1 +0.4
baz=44
ULM Lac du Bonnet 43.91 337 P P 20 03 56.0 -0.1
ULM Lac du Bonnet 43.91 337 P P 20 03 56.0 -0.1
comp=E,7.6nm,0.6s,baz=144,slow=8.4,SNR=10.0
ULM LR LR 20 24 30.2
comp=E,42nm,18.1s,baz=354,slow=39
214A Organ Pipe Nat 43.96 304 ⇓P P 20 03 57.5 +0.6
baz=44
WUAZ Wupatki 44.06 310 eP P 20 03 59.1 +1.3
comp=E,8.1nm,1.0s
WUAZ Wupatki 44.06 310 ⇓P P 20 03 59.6 +1.8
baz=44,SNR=5.1
H24A Dirks Ranch, A 44.16 325 ⇑P P 20 04 00.3 +1.9
baz=44
N20A Spence Gulch, 44.23 318 ⇑P P 20 04 00.6 +1.4
baz=44
L21A Rawlins 44.24 320 ⇑P P 20 04 01.0 +1.8
baz=44
J22A Midwest 44.49 322 ⇓P P 20 04 01.9 +0.8
baz=44,SNR=6.0
M20A Sweetwater, Wa 44.51 319 ⇑P P 20 04 02.5 +1.1
baz=44
K21A Alcova 44.53 321 ⇓P P 20 04 02.6 +1.1
baz=44,SNR=6.4
E25A Miller Ranch, 44.64 328 ⇓P P 20 04 04.0 +1.8
baz=45
Y14A Wickenburg 44.75 307 ⇓P P 20 04 04.7 +1.5
baz=45
I22A 9 Mile Ranch, 44.77 323 ⇑P P 20 04 04.1 +0.7
baz=45,SNR=6.5
L20A Wamsutter 44.88 320 ⇑P P 20 04 05.7 +1.4
baz=45
U15A North Rim 45.09 311 ⇓P P 20 04 07.4 +1.2
baz=45
I21A Big Trails, Te 45.20 322 ⇑P P 20 04 07.6 +0.8
baz=45
G22A Birney 45.43 324 ⇑P P 20 04 09.2 +0.7
baz=45
D24A Glendive 45.52 328 ⇓P P 20 04 10.5 +1.4
baz=46
PDMCI Parker Dam,Lak 45.75 307 ⇑P P 20 04 12.8 +1.7
baz=46
W13A Hualapai Mount 45.82 308 ⇑P P 20 04 13.6 +1.7
baz=46
MSU Marysvale 45.84 313 eP P 20 04 12.3 +0.3
comp=E,1.9nm,0.8s
MVU Marysvale 45.86 313 eP P 20 04 11.9 -0.3
comp=E,12nm,1.5s
E22A Miles City 45.97 326 ⇑P P 20 04 14.7 +2.0
baz=46
H20A Greybull 46.00 323 ⇑P P 20 04 13.5 +0.4
baz=46
DAU Daniels Canyon 46.02 316 eP P 20 04 14.2 +0.7
comp=E,7.4nm,0.9s
BW06 Boulder Array 46.04 320 eP P 20 04 13.3 -0.3
comp=E,3.5nm,1.1s
PDAR Pinedale Array 46.04 320 P P 20 04 13.4 -0.1
PDAR Pinedale Array 46.04 320 P P 20 04 13.4 -0.1
comp=E,0.9nm,0.7s,baz=113,slow=9.8,SNR=6.7
DGMT Dagmar 46.34 329 ⇓P P 20 04 17.5 +1.9
baz=46
I19A Meeteetse 46.36 322 ⇓P P 20 04 17.1 +1.1
baz=46
C23A Lambert 46.41 328 ⇑P P 20 04 17.7 +1.6
baz=46
IRM Iron Mountain 46.50 306 ⇑P P 20 04 18.3 +1.3
baz=46
D22A Cohagen 46.53 327 ⇓P P 20 04 18.7 +1.6
baz=46
G20A Bridger 46.54 323 ⇑P P 20 04 17.7 +0.4
baz=46
BC3 Big Chuckawall 46.59 306 ⇓P P 20 04 20.0 +2.1
baz=46
I18A Diamond G Ranc 46.69 321 ⇑P P 20 04 19.7 +1.1
baz=47
B23A Brockton 46.74 329 ⇑P P 20 04 20.4 +1.7
baz=47
F20A Billings 46.83 324 ⇑P P 20 04 19.8 +0.3
baz=47
D21A La Casta Ranch 46.92 326 ⇓P P 20 04 21.9 +1.8
baz=47
GMRC Granite Mounta 47.10 307 ⇑P P 20 04 22.9 +1.1
baz=47
H18A Shoshone NF, C 47.10 322 ⇑P P 20 04 22.6 +0.8
baz=47
BELC Belle Mtn. Jos 47.13 306 ⇑P P 20 04 23.6 +1.6
baz=47
MONP Monument Peak 47.15 304 ⇑P P 20 04 22.7 +0.3
baz=47
REDW Red Top Meadow 47.16 320 eP P 20 04 22.4 +0.1
comp=E,12nm,1.0s
E20A Meyer Farm, Mu 47.22 325 ⇑P P 20 04 23.8 +1.3
baz=47,SNR=7.2
MOOW Moose Ponds 47.29 320 eP P 20 04 23.9 +0.6
comp=E,5.8nm,1.1s
TPAW Teton Pass 47.29 320 eP P 20 04 23.7 +0.4
comp=E,6.4nm,0.8s
G18A Lazy EL Ranch, 47.39 323 ⇑P P 20 04 25.3 +1.4
baz=47
A22A Carney Farms, 47.55 329 ⇓P P 20 04 27.2 +2.3
baz=48
D20A Manuel Ranch, 47.56 325 ⇑P P 20 04 26.7 +1.6
baz=48
E19A Rath Farm, Rou 47.57 324 ⇓P P 20 04 26.5 +1.2
baz=48,SNR=6.6
F18A Big Timber 47.80 323 ⇓P P 20 04 28.8 +1.7
baz=48
I16A Newdale 47.82 320 ⇓P P 20 04 28.3 +1.0
baz=48
C20A Veseth Ranch, 47.86 326 ⇓P P 20 04 29.2 +1.7
baz=48
D19A Cripps Ranch, 48.02 325 ⇓P P 20 04 30.4 +1.7
baz=48
E18A Harlowton 48.27 324 ⇑P P 20 04 32.2 +1.4
baz=48
B20A Solberg Farm, 48.30 327 ⇑P P 20 04 32.9 +2.1
baz=48
F17A Fitzpatrick Pl 48.35 323 ⇓P P 20 04 32.8 +1.4
baz=48,SNR=5.6
A20A Cobblestone Ra 48.51 328 ⇑P P 20 04 34.4 +1.9
baz=48
FURC Furnace Creek, 48.56 309 ⇓P P 20 04 34.6 +1.8
baz=48
D18A Linhart Farms, 48.56 325 ⇓P P 20 04 33.8 +0.9
baz=48
E17A Martinsdale 48.77 323 ⇑P P 20 04 36.0 +1.4
baz=49,SNR=8.4
LRMC Laurel Mountai 48.89 307 ⇑P P 20 04 36.7 +1.1
baz=49
MPMC Manual Prospec 48.91 308 ⇓P P 20 04 37.5 +1.6
baz=49
A19A Klindworth Far 48.98 327 ⇑P P 20 04 38.0 +2.0
baz=49
EGMT Eagleton 49.00 326 eP P 20 04 37.1 +0.9
comp=E,9.9nm,1.0s
EGMT Eagleton 49.00 326 ⇓P P 20 04 37.5 +1.3
baz=49
D17A Six Diamond Ra 49.04 324 ⇓P P 20 04 37.9 +1.2
baz=49
I14A Mackay 49.09 319 ⇓P P 20 04 37.6 +0.5
baz=49
MCMT McKenzie Canyo 49.13 321 eP P 20 04 37.9 +0.3
comp=E,4.3nm,1.1s
B18A Beardsley Farm 49.22 326 ⇓P P 20 04 39.4 +1.5
baz=49
C17A Wharram Farm, 49.34 325 ⇓P P 20 04 40.2 +1.3
baz=49
FFC Flin Flon 49.74 337 eP P 20 04 41.5 -0.1
comp=E,4.8nm,0.6s
FFC ePcP PcP 20 06 03.1 +0.9
C16A Fuhringer Ranc 49.99 324 ⇑P P 20 04 44.9 +1.0
baz=50
A17A Triple J Farms 50.04 326 ⇑P P 20 04 45.5 +1.3
baz=50
NVAR Mina Array Bea 50.27 311 P P 20 04 47.6 +1.3
NVAR pP pP 20 05 00.5 +2.0
NVAR PcP PcP 20 06 05.5 +0.7
NVAR Mina Array Bea 50.27 311 P P 20 04 47.6 +1.3
comp=E,1.4nm,0.7s,baz=109,slow=7.5,SNR=8.8
NVAR pP pP 20 05 00.5 +2.0
comp=E,1.4nm,0.6s,baz=134,slow=6.7,SNR=5.9
NVAR PcP PcP 20 06 05.5 +0.7
comp=E,0.9nm,0.7s,baz=155,slow=3.9,SNR=3.7
B16A M & M Farms, S 50.30 325 ⇓P P 20 04 47.2 +1.0
baz=50
MFID Camas Ranch 50.40 318 ⇓P P 20 04 48.0 +1.0
baz=50
C15A Salmond Ranch, 50.47 324 ⇑P P 20 04 48.5 +0.9
baz=50
G12A Big Creek, Yel 50.83 320 ⇑P P 20 04 51.1 +0.8
baz=51
C14A Swan Lake 51.13 324 ⇑P P 20 04 53.3 +0.9
baz=51
B14A Marquette Ranc 51.16 324 ⇑P P 20 04 53.7 +1.0
baz=51
A15A Johnson Ranch, 51.18 325 ⇑P P 20 04 53.9 +1.1
baz=51
A14A Double T Ranch 51.56 325 ⇑P P 20 04 56.5 +0.8
baz=52
C13A Hot Springs 51.57 323 ⇓P P 20 04 57.1 +1.4
baz=52
BMO Blue Mountains 51.97 319 P P 20 04 59.0 +0.3
comp=E,2.1nm,0.9s
PLCA Paso Flores 52.01 180 P P 20 04 56.7 -2.2
PLCA Paso Flores 52.01 180 P P 20 04 56.7 -2.2
comp=E,2.7nm,0.8s,baz=352,slow=10,SNR=5.5
YKA Yellowknife Ar 59.85 338 P P 20 05 54.6 0.0
YKA Yellowknife Ar 59.85 338 P P 20 05 54.6 0.0
comp=E,3.5nm,0.8s,baz=122,slow=7.2,SNR=15
EVO Evora 61.35 52 eP P 20 06 05.8 +0.4
comp=E,9.6nm,0.9s
EVO eR
comp=E,126nm,23.0s
MDT Midelt 63.54 59 P P 20 06 22.1 +1.8
MDT pP pP 20 06 34.6 +1.7
MDT Midelt 63.54 59 P P 20 06 22.1 +1.8
comp=E,6.3nm,0.9s,baz=272,slow=6.8,SNR=12
MDT pP pP 20 06 34.6 +1.7
comp=E,5.8nm,0.8s,baz=308,slow=5.7,SNR=7.5
SUMG Summit 63.90 10 eP P 20 06 22.7 +0.5
comp=E,28nm,1.1s
SUMG e 20 06 35.7
SUMG Summit 63.90 10 ⇓iP P 20 06 23.1 +0.9
comp=E,14nm,0.8s
SUMG i 20 06 35.9
ESDC Sonseca Array 64.62 52 P P 20 06 27.6 +0.4
ESDC pP pP 20 06 40.9 +1.2
ESDC Sonseca Array 64.62 52 P P 20 06 27.6 +0.4
comp=E,0.7nm,0.5s,baz=272,slow=6.4,SNR=7.9
ESDC pP pP 20 06 40.9 +1.2
comp=E,0.3nm,0.3s,baz=268,slow=6.8,SNR=2.8
ESDC LR LR 20 28 44.9

comp=E,59nm,21.3s,baz=150,slow=30
TIC Toumodi 64.64 88 *e*P **P 20 06 28.8 +1.1**
comp=E,26nm,1.0s
LIC Lamto 64.70 89 *e*P **P 20 06 27.2 -0.8**
comp=E,14nm,0.7s,baz=277
LIC *e*R
comp=E,81nm,19.2s
LIC Lamto 64.70 89 *e*P **P 20 06 27.3 -0.8**
comp=E,23nm,0.7s
DBIC Dimbokro 64.80 88 P **P 20 06 28.7 +0.1**
DBIC Dimbokro 64.80 88 P **P 20 06 28.7 +0.1**
comp=E,3.1nm,0.5s,baz=283,slow=12,SNR=7.4
KIC Kosan Boka 64.96 88 *e*P **P 20 06 30.0 +0.3**
comp=E,212nm,2.1s
ROSF Rostrenen 66.29 42 *e*P **P 20 06 37.8 +0.1**
QUIF Quistinic 66.29 43 *e*P **P 20 06 38.1 +0.4**
comp=E,35nm,1.1s
SGMF Saint Gilles 66.75 42 *e*P **P 20 06 40.8 +0.2**
comp=E,44nm,1.2s
SJPF Ste Jean 67.02 48 *e*P **P 20 06 43.3 +0.8**
comp=E,25nm,0.9s
GRR Gorron 67.89 42 *e*P **P 20 06 48.2 +0.4**
comp=E,6.1nm,0.6s
MFF Saint Martin d 68.15 44 *e*P **P 20 06 50.1 +0.6**
comp=E,21nm,0.8s
EPF Esparros 68.16 48 *e*P **P 20 06 50.4 +0.7**
comp=E,6.2nm,0.6s
FLN La Foliniere 68.19 42 *e*P **P 20 06 50.1 +0.4**
comp=E,9.0nm,0.5s
FLN *e*R
comp=E,58nm,22.0s
LDF La Druitiere 68.40 42 *e*P **P 20 06 51.4 +0.3**
comp=E,5.6nm,0.6s
LFF La Frestale 68.61 46 *e*P **P 20 06 53.1 +0.7**
comp=E,6.7nm,0.6s
RJF Les Rejaudoux 69.18 46 *e*P **P 20 06 56.1 +0.1**
comp=E,3.8nm,0.6s
CAF Calviac 69.54 46 *e*P **P 20 06 58.4 +0.1**
comp=E,5.9nm,0.8s
MTLF Montolieu 69.55 48 *e*P **P 20 06 58.3 0.0**
comp=E,11nm,0.9s
TCF Toulx Ste Croi 69.75 45 *e*P **P 20 06 59.4 -0.1**
comp=E,3.9nm,0.7s
BGF Bois d'Agland 70.20 45 *e*P **P 20 07 02.2 -0.1**
TOA0 Torodi Ar. Sit 70.23 80 *e*P **P 20 07 03.1 +0.2**
TORD Torodi Ar. Bea 70.23 80 P **P 20 07 03.1 +0.1**
TORD Torodi Ar. Bea 70.23 80 P **P 20 07 03.1 +0.1**
comp=E,2.0nm,0.5s,baz=287,slow=7.3,SNR=41
TORD LR LR 20 33 40.1
comp=E,77nm,21.5s,baz=155,slow=32
AVF Avril sur Loir 70.57 44 *e*P **P 20 07 04.4 -0.1**
comp=E,6.1nm,0.8s
SMF Signal de Mont 70.89 45 *e*P **P 20 07 06.4 -0.1**
LOR Lormes 70.94 44 *e*P **P 20 07 06.6 -0.2**
comp=E,7.3nm,0.6s
LOR *e*R
comp=E,30nm,19.5s
BAIF Baives 71.37 41 *e*P **P 20 07 09.2 0.0**
GIVF Givet 71.77 41 *e*P **P 20 07 11.8 +0.1**
comp=E,13nm,0.6s
SFTF Sexfontaines 71.79 43 *e*P **P 20 07 11.8 -0.1**
comp=E,7.3nm,0.5s
MEZF Maizieres J'vi 71.82 43 *e*P **P 20 07 12.3 +0.3**
comp=E,17nm,0.7s
PAGF Fort de Pagny 72.27 43 *e*P **P 20 07 14.9 +0.2**
CABF La Chapelle 72.44 45 *e*P **P 20 07 15.4 -0.5**
TAM Tamanrasset 72.76 70 *e*P **P 20 07 19.1 +0.8**
comp=E,3.0nm,0.8s
HINF Hinteralfeld 73.00 43 *e*P **P 20 07 18.6 -0.5**
CDF Champ du Feu 73.29 43 *e*P **P 20 07 20.8 -0.1**
ILAR Eielson Array 73.87 334 P **P 20 07 23.9 +0.1**
ILAR Eielson Array 73.87 334 P **P 20 07 23.9 +0.1**
comp=E,2.5nm,0.7s,baz=111,slow=4.5,SNR=25
KEST Kesra 75.09 56 *e*P **P 20 07 32.9 +1.3**
KEST Kesra 75.09 56 P **P 20 07 32.7 +1.1**
comp=E,1.7nm,0.6s,baz=85,slow=3.4,SNR=10
KEST LR LR 20 34 39.6
comp=E,21nm,18.4s,baz=285,slow=31
TRF Thorofare Moun 75.23 333 *e*P **P 20 07 32.0 +0.1**
comp=E,5.6nm,0.8s
FETA Feichten 75.63 44⇓ *i*P **P 20 07 35.8 +1.2**
comp=E,4.4nm,0.7s
RETA Reutte 75.64 44⇓ *i*P **P 20 07 35.1 +0.6**
comp=E,9.9nm,1.3s
GRF Grafenberg Arr 75.89 41 *e*P **P 20 07 36.7 +0.8**
comp=Z,8.0nm,1.6s
NB2 NORSAR Subarra 75.93 30 P **P 20 07 37.4 +1.5**
comp=Z,20nm,1.2s,baz=269,slow=6.2
NB2 NORSAR Subarra baz=269,slow=6.2 **75.93 30** P **P 20 07 37.4 +1.5**
NOA NORSAR Array B 75.93 30 P **P 20 07 37.4 +1.5**
NOA pP **PcP 20 07 50.9 +2.7**
NOA NORSAR Array B 75.93 30 P **P 20 07 37.4 +1.5**
comp=Z,9.0nm,1.0s,baz=270,slow=5.9,SNR=14
NOA pP **PcP 20 07 50.9 +2.7**
comp=Z,2.5nm,0.7s,baz=270,slow=5.9,SNR=6.5
NOA LR LR 20 35 22.1
comp=Z,35nm,20.1s,baz=270,slow=31
NKC Novy Kostel 76.67 41 *e*P **P 20 07 41.5 +1.2**
ABTA Abfaltersbach 76.86 44⇓ *i*P **P 20 07 42.5 +1.0**
comp=Z,6.3nm,0.9s
CLL Collm 76.98 40 *e*P **P 20 07 43.0 +1.1**
comp=Z,15nm,1.8s
CLL *es*P **sP 20 07 56.0 -3.7**
KBA Koelnbreinsper 77.41 44⇑ *i*P **P 20 07 45.6 +0.9**
comp=Z,14nm,1.4s
KHC Kasperske Hory 77.45 42 *e*P **P 20 07 45.9 +1.2**
KHC *es*P **sP 20 07 58.7 -3.8**
KHC *ex* x 20 08 06.0
GERES GERESS Array B 77.55 42 P **P 20 07 46.1 +0.8**
GERES pP **pP 20 07 59.4 +1.2**
GERES GERESS Array B 77.55 42 P **P 20 07 46.1 +0.8**
comp=Z,2.7nm,0.9s,baz=260,slow=3.9,SNR=17
GERES pP **pP 20 07 59.4 +1.2**
comp=Z,2.2nm,0.8s,baz=270,slow=4.8,SNR=8.2
GERES LR LR 20 38 23.6
comp=Z,37nm,18.8s,baz=276,slow=33
BRG Berggiesshubel 77.59 40 *e*P **P 20 07 46.3 +0.9**
comp=Z,6.5nm,1.2s
MYKA Terra Mystica 77.64 45⇑ *i*P **P 20 07 46.7 +0.8**
comp=Z,6.0nm,1.4s
MOA Molln 77.99 43⇓ *i*P **P 20 07 47.9 +0.2**
comp=Z,7.2nm,1.5s
PRU Pruhonice 78.03 41 *e*P **P 20 07 48.9 +1.1**
PRU *es*P **sP 20 08 02.4 -3.2**
PRU *ex* x 20 08 11.3
ARSA Arzberg 78.88 44⇑ *i*P **P 20 07 52.7 +0.1**
comp=Z,5.8nm,1.5s
CONA Conrad Observa 79.05 43⇑ *i*P **P 20 07 54.2 +0.6**
comp=Z,7.7nm,1.4s
DPC Dobruska-Polom 79.14 41 *e*P **P 20 07 55.3 +1.3**
DPC *es*P **sP 20 08 08.8 -3.0**
OKC Ostrava-Krasne 80.36 41 *e*P **P 20 08 02.3 +1.7**
VYHS Vyhne 80.97 42 *e*P **P 20 08 05.5 +1.6**
PKSM Moragy 81.12 45⇓ *i*P **P 20 08 05.7 +1.0**
ARCES ARCESS Array B 81.34 21 P **P 20 08 06.1 +0.6**
ARCES ARCESS Array B 81.34 21 P **P 20 08 06.1 +0.6**
comp=Z,2.7nm,0.7s,baz=268,slow=4.1,SNR=13
ARCES LR LR 20 36 21.1
comp=Z,28nm,22.0s,baz=304,slow=30
KECS Kecovo 82.06 42 *e*P **P 20 08 11.5 +1.9**
STHS Stebnicka Huta 82.41 41 *e*P **P 20 08 13.5 +2.0**
KAF Kangasniemi 83.02 28 *ep* **P 20 08 15.1 +0.8**
comp=Z,3.1nm,0.5s
FINES FINESS Array B 83.05 29 P **P 20 08 15.5 +1.1**
FINES FINESS Array B 83.05 29 P **P 20 08 15.5 +1.1**
comp=Z,5.7nm,0.8s,baz=286,slow=1.4,SNR=18
FINES LR LR 20 40 09.9
comp=Z,53nm,21.8s,baz=290,slow=32
KOLS Kolonicke sedl 83.16 42 *e*P **P 20 08 17.6 +2.2**
BZS Buzias 83.27 45⇑ *i*P **P 20 08 16.8 +0.8**
KWP Kalwaria Pacla 83.32 41⇓ *i*P P 20 08 09.2 -7.0
PPT Papeete 83.33 251 LR LR 20 39 51.4
comp=Z,41nm,20.0s,baz=184,slow=32
GZR Gura Zlata 84.11 45⇑ *i*P **P 20 08 21.4 +1.0**
JOF Joensuu 85.09 27 *ep* **P 20 08 25.4 +0.5**
comp=Z,2.5nm,0.6s
BURAR Bucovina Array 85.33 42⇓ *i*P **P 20 08 28.5 +1.9**
ARR Arges 85.40 45⇑ *i*P **P 20 08 28.6 +1.7**
VOIR 85.67 45⇑ *i*P **P 20 08 29.9 +1.6**
MLR Muntele Rosu 86.28 44⇑ *i*P **P 20 08 33.3 +2.0**
VRI Vrincioaia 86.73 44⇑ *i*P **P 20 08 34.5 +1.1**
BRTR Keskin Array B 93.27 49 P **P 20 09 04.9 +0.5**
BRTR pP **pP 20 09 18.1 +0.6**
BRTR Keskin Array B 93.27 49 P **P 20 09 04.9 +0.5**
comp=Z,1.9nm,0.7s,baz=272,slow=4.0,SNR=11

BRTR pP **pP 20 09 18.1 +0.6**
comp=Z,1.9nm,0.7s,baz=259,slow=3.2,SNR=9.2
BRTR LR LR 20 48 19.7
comp=Z,25nm,19.5s,baz=98,slow=34
MKAR Makanchi Array 117.00 21 PKP **PKPdf 20 14 33.4 -0.8**
MKAR Makanchi Array 117.00 21 PKP **PKPdf 20 14 33.4 -0.8**
comp=Z,0.1nm,0.4s,baz=29,slow=3.3,SNR=2.9
KSH Kashi 120.36 30 *e*PKP **PKPdf 20 14 38.8 -2.2**
KSH sPKP 20 14 53.5
KSH PKS **PKSdf 20 18 13.8 -4.0**
KSH SKS **SKSdf 20 21 46.8 -3.1**
KSH AMB AMB
comp=Z,140nm,4.6s
KSH LR LR
comp=N,120nm,7.3s
KSH LR LR
comp=E,130nm,5.5s
KSH LR LR
comp=Z,170nm,5.7s
SONM Songino Array 120.83 3 PKP **PKPdf 20 14 41.1 -0.5**
SONM Songino Array 120.83 3 PKP **PKPdf 20 14 41.1 -0.5**
comp=Z,0.4nm,0.5s,baz=264,slow=0.6,SNR=5.5
MDJ Mudanjiang 121.24 343 PKP **PKPdf 20 14 43.8 +1.5**
MDJ PP **PP 20 16 14.3 +2.4**
MDJ AMB AMB
comp=Z,54nm,6.5s
WMQ Urumqi 121.41 18 PKP **PKPdf 20 14 43.1 +0.3**
HHC Hu-ho-hao-te 127.85 358 *e*PKP **PKPdf 20 14 54.1 -1.2**
HHC sPKP 20 15 08.3
HHC PP **PP 20 16 58.6 +2.5**
HHC PKS **PKSdf 20 18 29.8 -2.1**
HHC SKS **SKSdf 20 21 59.6 -4.2**
HHC SKKS **SKKSac 20 23 47.6 -4.1**
HHC SS **SS 20 34 05.4 +0.6**
HHC AMB AMB
comp=Z,440nm,5.9s
HHC LR LR
comp=N,210nm,15.5s
HHC LR LR
comp=E,190nm,15.5s
HHC LR LR
comp=Z,470nm,16.7s
KSRS Korea Array 128.32 341 PKP **PKPdf 20 14 55.8 -0.3**
comp=Z,0.4nm,0.4s,baz=316,slow=2.1,SNR=4.5
KSAR Wonju Array Be 128.34 341 PKP **PKPdf 20 14 55.8 -0.4**
GTA Gaotai 128.50 10 *e*PKP **PKPdf 20 14 57.1 +0.5**
STKA Stephens Creek 144.24 230 PKP **PKPdf 20 15 25.7 +0.1**
STKA Stephens Creek 144.24 230 PKP **PKPdf 20 15 25.7 +0.1**
comp=Z,1.2nm,0.8s,baz=121,slow=5.5,SNR=2.4
CMAR Chiang Mai Arr 148.40 20 PKP **PKPdf 20 15 33.0 0.0**
CMAR PKPbc **PKPbc 20 15 36.5 0.0**
CMAR Chiang Mai Arr 148.40 20 PKP **PKPdf 20 15 33.0 0.0**
comp=Z,4.1nm,0.7s,baz=344,slow=3.2,SNR=7.5
CMAR PKPbc **PKPbc 20 15 36.5 0.0**
comp=Z,5.4nm,0.9s,baz=329,slow=3.4,SNR=24
ASAR Alice Springs 153.93 239 PKP **PKPdf 20 15 41.2 -0.2**
ASAR PKPbc **PKPbc 20 15 48.6 -0.7**
ASAR PKPab **PKPab 20 16 01.9 -0.7**
ASAR Alice Springs 153.93 239 PKP **PKPdf 20 15 41.2 -0.2**
comp=Z,0.6nm,0.9s,baz=90,slow=0.9,SNR=3.8
ASAR PKPbc **PKPbc 20 15 48.6 -0.7**
comp=Z,0.5nm,0.6s,baz=104,slow=2.1,SNR=7.4
ASAR PKPab **PKPab 20 16 01.9 -0.7**
comp=Z,1.2nm,1.0s,baz=89,slow=2.4,SNR=5.7
WRA Warramunga Arr 154.78 248 PKP **PKPdf 20 15 42.5 -0.2**
WRA PKPbc **PKPbc 20 15 50.7 -0.6**
WRA PKPab **PKPab 20 16 07.8 +1.4**
WRA Warramunga Arr 154.78 248 PKP **PKPdf 20 15 42.5 -0.2**
comp=Z,0.9nm,0.7s,baz=135,slow=0.6,SNR=3.4
WRA PKPbc **PKPbc 20 15 50.7 -0.6**
comp=Z,0.7nm,0.9s,baz=97,slow=3.2,SNR=2.6
WRA PKPab **PKPab 20 16 07.8 +1.4**
comp=Z,1.4nm,0.8s,baz=103,slow=4.1,SNR=5.0

*IDC **23** 19:57:53.8±1.5, 7.43S×126.60E, h0km, mb3.6/2, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=137.8km s-min=28.9km az=63.0*
*ISCJB **23** 19:58:10.0±0.8, 7.67S±0.05×127.80E±0.06, h142km, mb3.2/2, Error ellipse: s-maj=8.2km s-min=7.4km az=139.0*
*AUST **23** 19:58:10.8±0.0, 7.56S×127.82E, h126km, Error ellipse: s-maj=1.3km s-min=0.8km az=308.0*
ISC 23 19:58:11.8±1.0, 7.69S±0.08×127.82E±0.06, h142km, n15, σ1s94/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.07**	**239**	P	**Pn**	**Pn**	**19 59 15.1**	**+2.2**
	baz=4.1,SNR=18							
SOEI				S	**Sn**	**Sn**	**20 00 02.3**	**+2.0**
	baz=4.1,SNR=6.0							
MTN	**Manton Dam**	**6.07**	**148**	P	**Pn**	**Pn**	**19 59 41.6**	**+2.2**
	baz=6.2,SNR=57							
MTN				S	**Sn**	**Sn**	**20 00 47.7**	**-0.1**
	baz=6.2,SNR=12							
FAKI	**Fak Fak**	**6.47**	**43**	P	**Pn**	**Pn**	**19 59 42.4**	**-2.4**
	baz=6.4,SNR=9.1							
KDU	**Kakadu**	**6.75**	**138**	P	**Pn**	**Pn**	**19 59 50.1**	**+1.6**
	baz=6.9,SNR=158							
KDU				S	**Sn**	**Sn**	**20 01 02.9**	**-1.3**
	baz=6.9,SNR=14							
SWI	**Sorong**	**7.60**	**27**	P	**Pn**	**Pn**	**19 59 58.9**	**-1.0**
	baz=7.5,SNR=4.1							
WSI	**Waingapu**	**7.69**	**255**	P	Pn	Pn	19 59 52.6	-8.5
	baz=7.7,SNR=3.1							
WSI				S	**Sn**	**Sn**	**20 01 23.9**	**-3.1**
	baz=7.7,SNR=7.8							
KNRA	**Kununurra**	**7.99**	**173**	P	**Pn**	**Pn**	**20 00 06.0**	**+0.9**
	baz=8.2,SNR=113							
KNRA				S	**Sn**	**Sn**	**20 01 31.1**	**-2.9**
	baz=8.2,SNR=19							
FITZ	**Fitzroy Crossi**	**10.56**	**191**	P	**Pn**	**Pn**	**20 00 38.0**	**-1.4**
	baz=11,SNR=127							
WRA	**Warramunga Ar**	**13.72**	**153**	Pn	**Pn**	**Pn**	**20 01 19.9**	**-0.6**
	0.9nm,0.3s,baz=325,slow=12,SNR=17							
WRA				Sn	Sn	Sn	20 03 44.5	-7.8
	3.3nm,0.3s,baz=323,slow=24,SNR=14							
ASAR	**Alice Springs**	**16.92**	**161**	P	**Pn**	**Pn**	**20 02 01.4**	**+1.2**
	1.1nm,0.3s,baz=339,slow=12,SNR=82							
ASAR				S	S	S	20 05 01.4	-7.6
	0.4nm,0.3s,baz=340,slow=25,SNR=6.0							
MTSU	**Mount Surprise**	**19.12**	**124**	P	**Pn**	**Pn**	**20 02 28.4**	**+2.0**
	baz=19,SNR=4.5							
MANU	**Manus Island**	**20.26**	**75**	S	**S**	**S**	**20 06 16.9**	**+0.9**
	baz=20,SNR=4.3							
MEEK	**Meekatharra**	**20.77**	**204**	P	**P**	**P**	**20 02 42.4**	**+0.7**
	baz=21,SNR=5.4							
MKAR	**Makanchi Array**	**67.64**	**328**	P	P	P	20 08 48.1	-5.3
	0.1nm,0.4s,baz=121,slow=8.0,SNR=3.4							
ZALV	**Zalesovo Beam**	**71.27**	**335**	P	P	P	20 09 09.3	-6.2
	0.4nm,0.4s,baz=130,slow=6.2,SNR=2.8							

CASC 23 20:05:49.4±1.6, 13.29N×90.44W, h31km±5km, MD3.5, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.88**	**359**	*e*P	Pb	Pb	20 06 06.4	-0.1
IXG				*e*S	Sb	Sb	20 06 18.7	+0.6
SBLS	**San Blas**	**0.96**	**55**	*e*P	Pn	Pn	20 06 06.8	-0.3
SBLS				*e*S	Sb	Sb	20 06 20.7	+0.1
RTR	**El Retiro**	**0.98**	**52**	*e*P	Pn	Pn	20 06 07.3	0.0
SNJE	**San Jose**	**0.99**	**54**	*e*P	Pn	Pn	20 06 07.2	-0.3
SNJE				*e*S	Sb	Sb	20 06 21.1	-0.3
RBDL	**Robledal**	**1.10**	**42**	*e*P	Pn	Pn	20 06 09.2	+0.3
RBDL				*e*S	Sb	Sb	20 06 25.4	+1.1
BOQS	**Boqueron**	**1.21**	**68**	*e*P	Pn	Pn	20 06 10.3	-0.2
BOQS				*e*S	Sb	Sb	20 06 28.3	+0.7
FUG	**Fuego 3**	**1.22**	**341**	*e*P	Pn	Pn	20 06 11.2	+0.6
LFRS	**El Faro**	**1.38**	**76**	*e*P	Pn	Pn	20 06 12.2	-0.5
SNVI	**San Vicente**	**1.59**	**78**	*e*P	Pn	Pn	20 06 10.6	-5.1

*NEIC **23** 20:18:35.4, 4.65N×76.81W, h26km, mb4.5/22, ML4.3(RSNC), After RSNC.*
NEIC Felt at Pereira.
*ISCJB **23** 20:18:38.7±0.3, 4.55N±0.04×76.58W±0.04, h103km, mb4.4/42, Error ellipse: s-maj=7.3km s-min=5.1km az=136.7*
*IDC **23** 20:18:38.0±1.9, 4.59N×76.65W, h75km±18km, mb4.0/15, mb1 4.2/19, mb1mx4.1/23, mbtmp4.0/19, MS3.7/9, Ms1 3.7/9, ms1mx3.4/21, Error ellipse: s-maj=18.0km s-min=11.0km az=64.0*
ISC 23 20:18:40.8±0.4, 4.50N±0.06×76.58W±0.06, h103km, n249, σ1s31/250, mb4.4/42, 72C-86D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.27**	**81**	*e*Pn		**Pn**	**20 19 15.5**	**-1.8**
ROSC				*e*Sn		**Sn**	**20 19 44.6**	**-0.6**
ROSC	**El Rosal**	**2.27**	**81**	P		**Pn**	**20 19 15.8**	**-1.5**
	158nm,0.3s,baz=295,slow=2.9,SNR=140							
ROSC				S		**Sn**	**20 19 47.6**	**+2.4**
	126nm,0.3s,baz=91,slow=21,SNR=3.9							
ROSC				LR		LR	20 20 23.8	
	comp=Z,699nm,18.4s,baz=22,slow=45							
OTAV	**Otavalo**	**4.63**	**204**	*e*Pn		Pn	20 19 42.4	-6.5
OTAV				*e*Sn		Sn	20 20 34.3	-7.5
BCIP	**Isla Barro Col**	**5.66**	**325**	*e*Pn		Pn	20 19 53.5	-9.0
	44nm,0.7s							
BCIP				*e*Sn		Sn	20 20 55.6	-11
SDV	**Santo Domingo**	**7.34**	**53**	*e*Pn		Pn	20 20 21.8	-3.7
	54nm,0.6s							
SDV				*e*Sn		**Sn**	**20 21 46.5**	**-0.9**
JTS	**JuntasAbangare**	**10.11**	**305**	P		Pn	20 20 57.3	-5.7
JTS	**JuntasAbangare**	**10.11**	**305**	P		Pn	20 20 57.3	-5.7
	0.4nm,0.3s,baz=154,slow=16,SNR=3.4							
JTS				LR		LR	20 24 38.5	
	comp=Z,767nm,20.9s,baz=153,slow=36							
ATAH	**Atahualpa**	**11.70**	**189**	P		**Pn**	**20 21 24.5**	**-0.3**
ATAH	**Atahualpa**	**11.70**	**189**	P		**Pn**	**20 21 24.5**	**-0.3**
	0.7nm,0.3s,baz=359,slow=4.5,SNR=8.4							
SDDR	**Presa de Saban**	**15.30**	**19**	*e*Pn		**Pn**	**20 22 08.7**	**-2.6**
	24nm,0.8s							
SAML	**Samuel**	**18.89**	**135**	*e*P		**P**	**20 22 52.0**	**-1.2**
	12nm,0.5s							
SAML				*e*S		**S**	**20 26 17.3**	**-5.4**
TEIG	**Tepich**	**19.35**	**325**	P		**P**	**20 22 56.1**	**-2.2**
TEIG	**Tepich**	**19.35**	**325**	P		**P**	**20 22 56.1**	**-2.2**
	1.2nm,0.3s,baz=137,slow=8.9,SNR=8.4							
LPAZ	**La Paz**	**22.28**	**158**	P		**P**	**20 23 27.2**	**-3.1**
LPAZ	**La Paz**	**22.28**	**158**	P		**P**	**20 23 27.2**	**-3.1**
	2.6nm,0.6s,baz=334,slow=13,SNR=14							
LPAZ				LR		LR	20 33 03.8	
	comp=Z,213nm,21.6s,baz=120,slow=39							
SIV	**San Ignacio**	**25.49**	**143**	P		**P**	**20 23 59.1**	**-0.6**
SIV	**San Ignacio**	**25.49**	**143**	P		**P**	**20 23 59.1**	**-0.6**
	3.5nm,0.4s,baz=338,slow=14,SNR=11							
SIV				LR		LR	20 34 32.4	
	comp=Z,331nm,20.2s,slow=37							
LVC	**Limon Verde**	**27.96**	**165**	P		**P**	**20 24 23.0**	**+0.9**
LVC	**Limon Verde**	**27.96**	**165**	P		**P**	**20 24 23.0**	**+0.9**
	4.8nm,0.5s,baz=318,slow=5.7,SNR=4.2							
LRAL	**Lakeview Retre**	**30.02**	**342**	*e*P		**P**	**20 24 38.6**	**-1.2**
	11nm,0.9s							
632A	**Uvalde**	**33.19**	**321**	⇑P		**P**	**20 25 05.8**	**-2.0**
	baz=33,SNR=5.8							
631A	**Perdido Creek**	**33.62**	**320**	⇑P		**P**	**20 25 10.0**	**-1.6**
	baz=33							
WHTX	**Lake Whitney**	**33.64**	**327**	⇑P		**P**	**20 25 09.6**	**-2.1**
	baz=34							
532A	**Rocksprings**	**33.70**	**322**	⇑P		**P**	**20 25 10.5**	**-1.8**
	baz=34,SNR=9.4							
531A	**Rocksprings**	**34.12**	**321**	⇓P		**P**	**20 25 14.3**	**-1.6**
	baz=34							
332A	**Millersview**	**34.49**	**324**	⇓P		**P**	**20 25 16.9**	**-2.2**
	baz=34							
431A	**Sonora**	**34.52**	**322**	⇑P		**P**	**20 25 17.5**	**-1.9**
	baz=34							
530A	**J-C Ranch, Com**	**34.61**	**320**	⇓P		**P**	**20 25 18.7**	**-1.5**
	baz=34							
BDFB	**Brasilia**	**34.64**	**126**	P		**P**	**20 25 21.1**	**+0.4**
BDFB	**Brasilia**	**34.64**	**126**	P		**P**	**20 25 21.1**	**+0.4**
	2.0nm,0.6s,baz=313,slow=19,SNR=3.2							
BDFB				LR		LR	20 40 14.1	
	comp=Z,441nm,18.4s,baz=114,slow=37							
232A	**Coleman**	**34.80**	**324**	⇓P		**P**	**20 25 20.1**	**-1.6**
	baz=35							
331A	**San Angelo**	**34.84**	**323**	⇑P		**P**	**20 25 20.3**	**-1.9**
	baz=35							
430A	**Baggett Ranch,**	**34.98**	**321**	⇑P		**P**	**20 25 21.2**	**-2.2**
	baz=35							
529A	**Stev Forest Ra**	**35.16**	**319**	⇓P		**P**	**20 25 23.2**	**-1.7**
	baz=35,SNR=7.3							
628A	**Black Gap, Mar**	**35.19**	**318**	⇑P		**P**	**20 25 23.9**	**-1.2**
	baz=35,SNR=7.5							
231A	**Bronte**	**35.22**	**324**	⇓P		**P**	**20 25 23.6**	**-1.8**
	baz=35							
429A	**Davenport Ranc**	**35.28**	**320**	⇑P		**P**	**20 25 24.3**	**-1.7**
	baz=35							
ABTX	**Abilene, Hawle**	**35.33**	**325**	⇓P		**P**	**20 25 24.8**	**-1.5**
	baz=35							
627A	**Terlingua Ranc**	**35.50**	**317**	⇑P		**P**	**20 25 26.9**	**-1.0**
	baz=35,SNR=9.1							
528A	**Cox Ranch, San**	**35.55**	**319**	⇑P		**P**	**20 25 27.1**	**-1.3**
	baz=35,SNR=5.3							
230A	**Sterling City**	**35.67**	**323**	⇑P		**P**	**20 25 27.0**	**-2.3**
	baz=36							
Z32A	**Haskell**	**35.74**	**326**	⇑P		**P**	**20 25 28.2**	**-1.7**
	baz=36,SNR=5.7							
131A	**Roby**	**35.80**	**324**	⇑P		**P**	**20 25 28.4**	**-1.9**
	baz=36							
428A	**Kincaid Ranch,**	**35.86**	**320**	⇓P		**P**	**20 25 29.6**	**-1.3**
	baz=36							
CPUP	**Villa Florida**	**35.87**	**150**	P		**P**	**20 25 29.0**	**-1.9**
CPUP	**Villa Florida**	**35.87**	**150**	P		**P**	**20 25 29.0**	**-1.9**
	0.5nm,0.4s,baz=338,slow=11,SNR=3.4							
CPUP				LR		LR	20 41 28.9	
	comp=Z,110nm,21.0s,baz=305,slow=38							
626A	**Big Bend Ranch**	**36.07**	**317**	⇓P		**P**	**20 25 31.7**	**-1.1**
	baz=36							
130A	**Snyder**	**36.08**	**324**	⇓P		**P**	**20 25 30.9**	**-1.9**
	baz=36							
527A	**Woodward Ranch**	**36.09**	**318**	⇑P		**P**	**20 25 31.5**	**-1.5**
	baz=36							
Z31A	**Sharp Cattle R**	**36.13**	**325**	⇓P		**P**	**20 25 31.3**	**-1.8**
	baz=36							
229A	**Bryant Ranch,**	**36.15**	**322**	⇓P		**P**	**20 25 31.5**	**-1.8**
	baz=36							
526A	**Mary Lane Ranc**	**36.35**	**317**	⇑P		**P**	**20 25 34.1**	**-1.1**
	baz=36							
328A	**Wristen Ranch,**	**36.37**	**320**	⇓P		**P**	**20 25 33.6**	**-1.7**
	baz=36							
427A	**Hayter Ranch,**	**36.40**	**319**	⇓P		**P**	**20 25 34.5**	**-1.1**
	baz=36							
WMOK	**Wichita Mounta**	**36.45**	**328**	*e*P		**P**	**20 25 33.0**	**-2.9**
	3.6nm,0.8s							
129A	**Stewart Farms,**	**36.64**	**323**	⇑P		**P**	**20 25 36.0**	**-1.6**
	baz=36							
Y31A	**Rekieta Farm,**	**36.67**	**326**	⇑P		**P**	**20 25 35.9**	**-1.8**
	baz=36							
Z30A	**Sanderson Ranc**	**36.67**	**324**	⇑P		**P**	**20 25 36.0**	**-1.8**
	baz=36,SNR=6.5							
426A	**McDonald Obser**	**36.70**	**318**	⇓P		**P**	**20 25 36.9**	**-1.3**
	baz=36,SNR=5.3							
228A	**UT Block 9, Go**	**36.73**	**322**	⇑P		**P**	**20 25 35.5**	**-2.9**
	baz=37							
CFAA	**Coronel Fontan**	**36.77**	**168**	P		**P**	**20 25 40.0**	**+1.4**
CFAA	**Coronel Fontan**	**36.77**	**168**	P		**P**	**20 25 40.0**	**+1.4**
	1.8nm,0.8s,baz=343,slow=7.2,SNR=22							
Y30A	**Stafford Cattl**	**36.96**	**325**	⇓P		**P**	**20 25 38.4**	**-1.9**
	baz=37							
Z29A	**Hungry Hill Ra**	**36.99**	**324**	⇑P		**P**	**20 25 38.7**	**-1.8**
	baz=37							
X31A	**McDonald Ranch**	**37.01**	**327**	⇑P		**P**	**20 25 39.0**	**-1.6**
	baz=37							
326A	**Caldwell Ranch**	**37.08**	**319**	⇓P		**P**	**20 25 39.6**	**-1.7**
	baz=37							
Y29A	**Porterfield Fa**	**37.40**	**324**	⇑P		**P**

baz=38
Z26A **Caprock** 38.37 322 ⇑P P 20 25 50.8 -1.4
baz=38
125A **Gardner Draw,** 38.39 320 ⇑P P 20 25 51.1 -1.3
baz=38
224A **Cornudas Mount** 38.58 319 ⇑P P 20 25 53.1 -0.9
baz=38
Y26A **Elida** 38.72 323 ⇑P P 20 25 53.7 -1.5
baz=39,SNR=5.8
Z25A **Roswell** 38.84 321 ⇑P P 20 25 55.1 -1.0
baz=39
124A **Stringfield Ra** 38.93 320 ⇓P P 20 25 56.2 -0.8
baz=39,SNR=13
S31A **Mullinville** 39.06 331 ⇓P P 20 25 57.2 -0.6
baz=39
W27A **Bowe Ranch, En** 39.06 325 ⇑P P 20 25 56.5 -1.4
baz=39,SNR=6.6
X26A **CR and CF Fran** 39.14 323 ⇓P P 20 25 57.6 -1.0
baz=39
Y25A **Mesa, Roswell** 39.25 322 ⇓P P 20 25 58.5 -1.1
baz=39,SNR=6.5
Z24A **Sheeppen Canyo** 39.28 320 ⇓P P 20 25 59.3 -0.6
baz=39
W26A **Owens Ranch, T** 39.48 324 ⇓P P 20 26 00.4 -1.1
baz=39
X25A **Clemmons Ranch** 39.63 322 ⇓P P 20 26 02.1 -0.7
baz=40
Y24A **Capitan** 39.71 321 ⇑P P 20 26 02.4 -1.0
baz=40
S29A **Ulysses** 39.88 329 ⇓P P 20 26 03.9 -0.7
baz=40
U27A **Thompson Grove** 39.89 326 ⇓P P 20 26 03.7 -1.2
baz=40,SNR=7.0
R30A **Dighton** 39.97 330 ⇑P P 20 26 04.7 -0.6
baz=40,SNR=6.7
W25A **X Bar L Ranch,** 39.98 323 ⇑P P 20 26 04.6 -1.0
baz=40,SNR=8.1
221A **Mesquite Ranch** 40.05 317 ⇓P P 20 26 06.5 +0.3
baz=40
Y23A **Lovelace Mesa,** 40.11 321 ⇑P P 20 26 05.8 -0.9
baz=40
S28A **Manter** 40.26 328 ⇑P P 20 26 07.1 -0.7
baz=40
Z22A **Elephant Butte** 40.26 319 ⇑P P 20 26 07.9 -0.1
baz=40
T27A **Campo** 40.30 327 ⇓P P 20 26 07.5 -0.7
baz=40
121A **Cookes Peak, D** 40.36 317 ⇑P P 20 26 09.0 +0.2
baz=40,SNR=13
U26A **Atchley Ranch,** 40.39 325 ⇓P P 20 26 08.5 -0.5
baz=40,SNR=9.5
Q30A **Quinter** 40.48 331 ⇓P P 20 26 08.9 -0.6
baz=40
220A **Playas Peak, P** 40.50 316 ⇓P P 20 26 10.3 +0.3
baz=40,SNR=20
R29A **Marienthal** 40.50 330 ⇓P P 20 26 09.6 -0.1
baz=40
V25A **Rancho No Teng** 40.50 324 ⇑P P 20 26 08.5 -1.5
baz=40,SNR=7.4
W24A **Lazy 6 Ranch,** 40.55 323 ⇑P P 20 26 10.0 -0.4
baz=40
BNM **Barren Site** 40.61 320 *eP* P 20 26 09.9 -1.1
1.8nm,0.7s
Y22A **Socorro** 40.69 320 ⇑P P 20 26 11.3 -0.2
baz=40
319A **Douglas** 40.72 315 ⇓P P 20 26 11.9 +0.2
baz=40,SNR=6.8
Z21A **St. Cloud Mine** 40.76 319 ⇑P P 20 26 11.8 -0.4
baz=41
U25A **Circle Dot Ran** 40.77 325 ⇓P P 20 26 11.6 -0.6
baz=41,SNR=7.2
R28A **Tribune** 40.78 329 ⇓P P 20 26 11.7 -0.4
baz=41
Q29A **Oakley** 40.78 330 ⇑P P 20 26 11.3 -0.7
baz=41
V24A **Rampart Ranch,** 40.81 323 ⇓P P 20 26 12.1 -0.5
baz=41
120A **U Bar Ranch, L** 40.95 317 ⇓P P 20 26 14.1 +0.5
baz=41
ANMO **Albuquerque** 41.02 321 *eP* P 20 26 13.4 -0.8
5.7nm,1.2s
X22A **Bernardo** 41.08 320 ⇑P P 20 26 14.9 +0.1
baz=41
S26A **Kim** 41.12 327 ⇓P P 20 26 14.2 -0.7
baz=41,SNR=5.8
Y21A **Point of Rocks** 41.19 319 ⇓P P 20 26 15.8 +0.1
baz=41,SNR=6.8
R27A **Eads** 41.25 328 ⇓P P 20 26 15.3 -0.7
baz=41
Z20A **Nine Sixteen R** 41.26 318 ⇑P P 20 26 16.3 +0.2
baz=41
T25A **Trinidad** 41.30 326 ⇓P P 20 26 16.5 0.0
baz=41
V23A **Ortiz Mt. (NFS** 41.38 323 ⇓P P 20 26 16.9 -0.2
baz=41
X21A **Alamocita Cree** 41.54 320 ⇓P P 20 26 18.4 -0.2
baz=41,SNR=8.5
Y20A **Horse Springs,** 41.59 319 ⇑P P 20 26 18.5 -0.5
baz=41
R26A **Arlington** 41.60 328 ⇓P P 20 26 18.3 -0.5
baz=42
S25A **Robets Cordova** 41.68 326 ⇓P P 20 26 19.4 -0.2
baz=42,SNR=8.0
P28A **Saint Francis** 41.69 330 ⇓P P 20 26 19.3 -0.2
baz=42
V22A **San Miguel Ran** 41.93 322 ⇑P P 20 26 21.8 +0.1
baz=42
R25A **Fountain Ranch** 41.94 327 ⇓P P 20 26 21.6 -0.1
baz=42
S24A **Houchin Ranch,** 42.10 325 ⇑P P 20 26 22.8 -0.3
baz=42
T23A **Casias Ranch,** 42.16 324 ⇑P P 20 26 23.5 -0.1
baz=42
V21A **Milan** 42.31 321 ⇑P P 20 26 24.9 +0.1
baz=42
SDCO **Great Sand Dun** 42.34 325 *eP* P 20 26 24.8 -0.3
8.9nm,0.9s
W20A **Ramah** 42.42 320 ⇑P P 20 26 25.7 0.0
baz=42
R24A **Sanders Place,** 42.46 326 ⇓P P 20 26 25.8 -0.1
baz=42
U21A **Nageezi** 42.72 322 ⇓P P 20 26 27.8 -0.4
baz=43
R23A **Moffat** 42.83 326 ⇓P P 20 26 28.8 -0.3
baz=43,SNR=11
X18A **Snowflake** 43.01 318 ⇑P P 20 26 30.4 0.0
baz=43
S22A **4UR Ranch, Cre** 43.10 324 ⇓P P 20 26 31.0 -0.3
baz=43,SNR=7.7
W18A **Petrified Fore** 43.22 319 ⇓P P 20 26 32.1 0.0
baz=43
O25A **Wiggins** 43.29 329 ⇑P P 20 26 32.4 -0.1
baz=43
R22A **Saguache, Gunn** 43.39 325 ⇓P P 20 26 33.6 0.0
baz=43
214A **Organ Pipe Nat** 43.57 313 ⇑P P 20 26 35.1 +0.3
baz=43
S21A **Coal Bank Pass** 43.61 323 ⇓P P 20 26 34.9 -0.4
baz=43,SNR=7.2
MVCO **Mesa Verde** 43.74 322 ⇓P P 20 26 35.7 -0.7
baz=44
ISCO **Idaho Springs** 43.85 327 *eP* P 20 26 36.5 -0.7
3.2nm,1.0s
ISCO **Idaho Springs** 43.85 327 ⇓P P 20 26 37.1 -0.1
baz=44
Q22A **Crested Butte,** 43.91 325 ⇓P P 20 26 37.4 -0.3
baz=44
X16A **Lo Mia Camp, P** 43.94 317 ⇑P P 20 26 38.0 +0.1
baz=44
S20A **Disappointment** 44.06 323 ⇑P P 20 26 39.1 +0.2
baz=44,SNR=10
SMCO **Snowmass** 44.16 326 *eP* P 20 26 39.6 -0.2
4.1nm,0.3s
N24A **Carr** 44.21 329 ⇓P P 20 26 40.4 +0.4
baz=44
R20A **Redvale** 44.31 324 ⇓P P 20 26 40.9 +0.1
baz=44,SNR=7.1
P22A **Eagle** 44.33 326 ⇓P P 20 26 40.9 -0.1
baz=44
PV01 **Paradox Valley** 44.39 323 *eP* P 20 26 41.5 0.0
537nm,0.9s
WUAZ **Wupatki** 44.53 318 *eP* P 20 26 42.3 -0.3
4.4nm,0.8s
WUAZ *e* 20 26 54.0
WUAZ **Wupatki** 44.53 318 ⇓P P 20 26 42.8 +0.3
baz=44,SNR=5.8
O22A **Kremmling** 44.61 327 ⇓P P 20 26 42.8 -0.5
baz=44

P21A **Newcastle** 44.67 326 ⇑P P 20 26 44.0 +0.3
baz=44
EYMN **Ely** 45.15 346 *eP* P 20 26 44.8 -2.2
3.2nm,0.5s
PLCA **Paso Flores** 45.35 174 P P 20 26 49.9 +1.1
PLCA **Paso Flores** 45.35 174 P P 20 26 49.9 +1.1
6.4nm,0.7s,baz=348,slow=9.7,SNR=12
H28A **Mission Ridge** 45.41 336 ⇓P P 20 26 50.6 +1.5
baz=45
O20A **White River Ci** 45.53 326 ⇓P P 20 26 50.2 -0.2
baz=45
P19A **Cripple Cowboy** 45.62 325 ⇓P P 20 26 50.6 -0.5
baz=46
U15A **North Rim** 45.66 319 ⇓P P 20 26 51.9 +0.2
baz=46
Y12C **Blythe** 45.73 314 ⇓P P 20 26 52.6 +0.8
baz=46
PDMCI **Parker Dam,Lak** 45.74 315 ⇑P P 20 26 52.4 +0.5
baz=46
W13A **Hualapai Mount** 45.99 316 ⇓P P 20 26 54.7 +0.5
baz=46
N20A **Spence Gulch,** 46.02 326 ⇑P P 20 26 54.0 -0.3
baz=46,SNR=5.5
BC3 **Big Chuckawall** 46.35 314 ⇓P P 20 26 57.0 +0.1
baz=46
IRM **Iron Mountain** 46.38 314 ⇑P P 20 26 57.3 +0.3
baz=46,SNR=5.9
MSU **Marysvale** 46.83 321 *eP* P 20 27 00.5 -0.2
4.0nm,0.9s
MVU **Marysvale** 46.84 321 *eP* P 20 27 00.6 -0.2
4.3nm,0.9s
BELC **Belle Mtn. Jos** 46.91 314 ⇓P P 20 27 02.0 +0.7
baz=47
GMRC **Granite Mounta** 47.06 315 ⇓P P 20 27 03.1 +0.6
baz=47
DAU **Daniels Canyon** 47.45 324 *eP* P 20 27 05.6 0.0
7.7nm,0.5s
HEC **Hector,Ludlow** 47.56 315 ⇓P P 20 27 06.5 +0.2
baz=47
TUQ **Turquoise Moun** 47.58 315 ⇑P P 20 27 06.7 +0.2
baz=47
M17A **Scullys Gap (B** 47.79 325 ⇓P P 20 27 07.2 -0.9
baz=48
PDAR **Pinedale Array** 48.05 327 LR LR 20 52 09.4
comp=Z,22nm,19.8s,baz=322,slow=42
DUG **Dugway** 48.24 323 *eP* P 20 27 11.1 -0.4
5.5nm,0.9s
DUG **Dugway** 48.24 323 ⇓P P 20 27 11.0 -0.5
baz=48,SNR=5.0
HWUT **Hardware Ranch** 48.39 325 *eP* P 20 27 11.2 -1.5
5.6nm,0.6s
ULM **Lac du Bonnet** 48.41 344 P P 20 27 09.9 -2.5
ULM **Lac du Bonnet** 48.41 344 P P 20 27 09.9 -2.5
6.0nm,0.6s,baz=155,slow=7.3,SNR=8.5
ULM LR LR 20 49 40.5
comp=Z,48nm,20.8s,baz=23,slow=39
EDW2 **Edwards Air Fo** 48.77 314 ⇑P P 20 27 15.6 0.0
baz=49
LRMC **Laurel Mountai** 48.85 315 ⇓P P 20 27 16.8 +0.5
baz=49
R11A **Troy Canyon, C** 48.91 319 ⇓P P 20 27 16.5 -0.2
baz=49
NVAR **Mina Array Bea** 50.76 318 P P 20 27 30.9 +0.1
NVAR PcP PcP 20 28 48.2 +1.7
NVAR **Mina Array Bea** 50.76 318 P P 20 27 30.9 +0.1
3.6nm,0.8s,baz=135,slow=6.5,SNR=14
NVAR PcP PcP 20 28 48.2 +1.7
1.2nm,0.6s,baz=176,slow=4.1,SNR=2.4
SCHQ **Schefferville** 50.80 7 P P 20 27 30.6 +0.1
SCHQ **Schefferville** 50.80 7 P P 20 27 30.6 +0.1
4.1nm,0.6s,baz=178,slow=7.7,SNR=14
A22A **Carney Farms,** 50.88 335 ⇓P P 20 27 31.1 -0.1
baz=51
HLID **Hailey** 51.26 325 *eP* P 20 27 33.5 -0.8
2.6nm,0.6s
HLID **Hailey** 51.26 325 ⇑P P 20 27 33.4 -1.0
baz=51
B20A **Solberg Farm,** 51.36 334 ⇓P P 20 27 34.9 +0.1
baz=51
HRY **Holter Researc** 51.92 330 P P 20 27 38.3 -0.9
2.4nm,0.4s
MFID **Camas Ranch** 51.98 324 *eP* P 20 27 39.0 -0.7
2.9nm,0.7s
MFID **Camas Ranch** 51.98 324 ⇓P P 20 27 39.2 -0.5
baz=52
C17A **Wharram Farm,** 52.04 331 ⇓P P 20 27 39.2 -0.8
baz=52
B18A **Beardsley Farm** 52.12 332 ⇑P P 20 27 40.4 -0.1
baz=52
H12A **Diamond D Ranc** 52.12 326 ⇓P P 20 27 40.3 -0.5
baz=52
A18A **Metzger Ranch,** 52.53 333 ⇓P P 20 27 43.3 -0.3
baz=52
A17A **Triple J Farms** 52.94 332 ⇑P P 20 27 46.3 -0.3
baz=53
C15A **Salmond Ranch,** 53.04 330 ⇑P P 20 27 46.9 -0.5
baz=53
A15A **Johnson Ranch,** 53.92 331 ⇑P P 20 27 52.9 -0.9
baz=54
C13A **Hot Springs** 53.96 329 ⇑P P 20 27 54.2 +0.1
baz=54
C12B **Naegeli Ranch,** 54.45 329 ⇑P P 20 27 57.6 0.0
baz=54
YKA **Yellowknife Ar** 64.31 341 P P 20 29 03.7 -1.3
YKA **Yellowknife Ar** 64.31 341 P P 20 29 03.7 -1.3
3.1nm,0.5s,baz=135,slow=6.2,SNR=20
TIC **Toumodi** 71.20 85 *eP* P 20 29 47.4 -1.9
4.0nm,0.2s
LIC **Lamto** 71.21 85 *eP* P 20 29 49.7 +0.3
12nm,0.5s
DBIC **Dimbokro** 71.36 85 P P 20 29 50.1 -0.1
DBIC **Dimbokro** 71.36 85 P P 20 29 50.1 -0.1
4.1nm,0.5s,baz=243,slow=3.7,SNR=8.0
KIC **Kosan Boka** 71.49 85 *eP* P 20 29 50.3 -0.7
40nm,1.2s
SUMG **Summit** 71.91 11 *eP* P 20 29 54.2 +1.3
8.2nm,0.8s
SUMG **Summit** 71.91 11 *i* P P 20 29 53.2 +0.3
9.8nm,0.9s
ESDC **Sonseca Array** 73.77 50 P P 20 30 05.1 +0.9
ESDC **Sonseca Array** 73.77 50 P P 20 30 05.1 +0.9
0.6nm,0.5s,baz=274,slow=2.2,SNR=4.6
TORD **Torodi Ar. Bea** 77.58 78 P P 20 30 26.4 +0.1
TORD **Torodi Ar. Bea** 77.58 78 P P 20 30 26.4 +0.1
2.2nm,0.5s,baz=283,slow=6.5,SNR=41
TORD LR LR 21 03 14.9
comp=Z,37nm,19.6s,baz=150,slow=34
ILAR **Eielson Array** 77.62 336 P P 20 30 25.1 -0.5
ILAR **Eielson Array** 77.62 336 P P 20 30 25.1 -0.5
1.6nm,0.6s,baz=111,slow=4.0,SNR=21
TAM **Tamanrasset** 81.00 68 *eP* P 20 30 47.5 +2.5
8.7nm,1.2s
KEST **Kesra** 84.09 55 P P 20 31 04.8 +4.1
KEST **Kesra** 84.09 55 P P 20 31 04.8 +4.1
0.9nm,0.7s,baz=222,slow=16,SNR=3.7
GERES **GERESS Array B** 86.83 41 P P 20 31 16.0 +2.0
GERES **GERESS Array B** 86.83 41 P P 20 31 16.0 +2.0
0.4nm,0.4s,baz=256,slow=2.8,SNR=5.3
FINES **FINESS Array B** 92.10 28 P P 20 31 40.0 +1.7
FINES **FINESS Array B** 92.10 28 P P 20 31 40.0 +1.7
2.5nm,1.0s,baz=216,slow=8.6,SNR=4.1
MKAR **Makanchi Array** 125.61 18 PKP PKPdf 20 37 29.8 -0.6
MKAR **Makanchi Array** 125.61 18 PKP PKPdf 20 37 29.8 -0.6
0.3nm,0.5s,baz=288,slow=3.1,SNR=4.2
SONM **Songino Array** 127.83 357 PKP PKPdf 20 37 35.2 +0.4
SONM **Songino Array** 127.83 357 PKP PKPdf 20 37 35.2 +0.4
0.5nm,0.8s,baz=188,slow=1.4,SNR=4.0
HHC **Hu-ho-hao-te** 134.26 351 *e*PKP PKPdf 20 37 48.8 +1.7
HHC sPKP 20 38 03.1
HHC PP PP 20 40 22.0 +3.9
HHC PKS PKSdf 20 41 23.9 +0.4
HHC SKS SKSdf 20 44 55.4 +6.2
HHC SKKS SKKSac 20 47 08.8 +3.4
HHC **Hu-ho-hao-te** 134.26 351 SS SS 20 58 03.3 +4.4
HHC AMB AMB
comp=Z,240nm,7.5s
HHC LR LR
comp=N,270nm,16.7s
HHC LR LR
comp=E,290nm,16.7s
HHC LR LR
comp=Z,760nm,17.8s
STKA **Stephens Creek** 135.05 228 PKP PKPdf 20 37 49.8 +1.1
STKA **Stephens Creek** 135.05 228 PKP PKPdf 20 37 49.8 +1.1
comp=Z,1.9nm,0.9s,baz=130,slow=7.9,SNR=2.9
AS31 **Alice Springs** 144.97 234 *e*PKPdf PKPdf 20 38 06.5 -0.4
ASAR **Alice Springs** 144.97 234 PKP PKPdf 20 38 06.5 -0.4

ASAR **Alice Springs** 144.97 234 PKP PKPdf 20 38 06.5 -0.4
comp=Z,5.3nm,0.4s,baz=118,slow=3.9,SNR=158
WRAB **Tennant Creek** 146.20 240 *e*PKPbc PKPab 20 38 10.8 -0.3
WRA **Warramunga Arr** 146.21 240 PKPbc PKPab 20 38 10.5 -0.6
WRA **Warramunga Arr** 146.21 240 PKPbc PKPab 20 38 10.5 -0.6
comp=Z,4.5nm,0.9s,baz=104,slow=2.7,SNR=9.9
CMAR **Chiang Mai Arr** 156.77 11 PKPab PKPab 20 38 56.1 +1.5
CMAR **Chiang Mai Arr** 156.77 11 PKPab PKPab 20 38 56.1 +1.5
comp=Z,1.5nm,0.7s,baz=326,slow=4.8,SNR=9.2

IDC 23 20:43:56.2±7.0, 13°41N×144°53E, h99km±64km, mb3.5/14, mb1 3.7/14, mb1mx3.6/25, mbtmp3.5/14, Error ellipse: s-maj=28.2km s-min=13.5km az=86.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**23.24**	**330**	P	P	20 48 55.3	+0.4
	6.2nm,1.0s,baz=151,slow=11,SNR=3.8						
MJAR	**Matsushiro Arr**	**23.72**	**347**	P	P	20 48 59.9	+0.6
	3.5nm,0.8s,baz=167,slow=8.8,SNR=12						
KSRS	**Korea Array**	**28.16**	**331**	P	P	20 49 39.2	+0.1
	0.8nm,0.5s,baz=144,slow=10.0,SNR=4.3						
USRK	**Ussuriysk Arra**	**32.51**	**343**	P	P	20 50 18.2	+0.8
	0.5nm,0.5s,baz=162,slow=10.0,SNR=3.3						
WRA	**Warramunga Arr**	**34.63**	**197**	P	P	20 50 35.6	-0.5
	0.8nm,0.7s,baz=18,slow=9.4,SNR=3.4						
ASAR	**Alice Springs**	**36.29**	**196**	P	P	20 51 07.3	+0.1
	0.2nm,0.4s,baz=14,slow=9.9,SNR=11						
CMAR	**Chiang Mai Arr**	**44.04**	**283**	P	P	20 51 54.4	-0.1
	1.9nm,0.7s,baz=82,slow=6.3,SNR=12						
CMAR				PcP	PcP	20 53 38.5	+0.1
	0.7nm,0.7s,baz=85,slow=2.4,SNR=4.6						
STKA	**Stephens Creek**	**45.12**	**184**	P	P	20 52 02.4	-0.4
	4.2nm,1.2s,baz=12,slow=9.3,SNR=4.0						
SONM	**Songino Array**	**46.69**	**325**	P	P	20 52 15.0	-0.2
	0.2nm,0.3s,baz=145,slow=8.0,SNR=6.2						
MKAR	**Makanchi Array**	**61.39**	**316**	P	P	20 54 01.4	-0.5
	0.5nm,0.5s,baz=88,slow=9.1,SNR=8.4						
ILAR	**Eielson Array**	**68.87**	**25**	P	P	20 54 48.0	-1.9
	0.4nm,0.5s,baz=253,slow=4.8,SNR=4.6						
YKA	**Yellowknife Ar**	**83.17**	**27**	P	P	20 56 10.6	-0.5
	0.2nm,0.4s,baz=289,slow=5.0,SNR=3.0						
NVAR	**Mina Array Bea**	**87.29**	**51**	P	P	20 56 33.6	+1.2
	0.5nm,0.5s,baz=257,slow=6.0,SNR=5.8						
FINES	**FINESS Array B**	**91.19**	**335**	P	P	20 56 48.8	-1.1
	0.4nm,0.6s,baz=43,slow=6.5,SNR=3.2						
TORD	**Torodi Ar. Bea**	**134.69**	**304**	PKP	PKPdf	21 03 03.9	-0.3
	0.3nm,0.7s,baz=33,slow=2.0,SNR=3.4						
LPAZ	**La Paz**	**148.32**	**99**	PKPbc	PKPbc	21 03 33.1	+0.4
	1.1nm,0.8s,baz=309,slow=6.5,SNR=4.1						

IDC 23 20:52:40.6±5.3, 29°51N×142°17E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.4/22, mbtmp3.7/4, ML2.7/1, Error ellipse: s-maj=273.2km s-min=40.1km az=76.0
JMA 23 20:53:19.8±0.2, 30°02N×139°67E, h426km, M3.7
ISC 23 20:53:20.1±0.9, 29°95N±0°07×139°4E±0°1, h388km, n14, σ2s45/20, mb3.1/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.17**	**6**	P	**Pn**	**20 54 26.4**	**+2.7**
CBIJ	**Chichi jima**	**3.73**	**139**	P	**Pn**	**20 54 30.6**	**+1.6**
CBIJ				*e*S	**S**	**20 55 26.4**	**+1.7**
BSO1	**Boso 1**	**4.87**	**15**	P	**Pn**	**20 54 42.3**	**+2.9**
BSO1				*e*S	**S**	**20 55 46.4**	**+2.4**
BSO3	**Boso 3**	**4.92**	**10**	*e*S	**S**	**20 55 46.5**	**+1.0**
JIE	**Ise**	**5.00**	**333**	P	**Pn**	**20 54 44.5**	**+3.2**
JIE				*e*S	**S**	**20 55 50.0**	**+2.6**
BSO4	**Boso 4**	**5.08**	**8**	*e*S	**S**	**20 55 50.3**	**+1.4**
JHU	**Hanno**	**5.89**	**359**	P	**Pn**	**20 54 51.3**	**+0.4**
JHU				*e*S	**S**	**20 56 01.6**	**-3.3**
JRY	**Ryogami san**	**6.07**	**356**	P	**Pn**	**20 54 54.2**	**+1.3**
JRY				*e*S	**S**	**20 56 04.3**	**-4.2**
JYT	**Yasato**	**6.29**	**6**	P	**Pn**	**20 54 55.4**	**+0.1**
JAG	**Ashikaga**	**6.46**	**0**	P	**Pn**	**20 54 57.3**	**+0.1**
JAG				*e*S	**S**	**20 56 11.8**	**-4.6**
USRK	**Ussuriysk Arra**	**15.40**	**339**	Pn	**P**	**20 56 36.5**	**-0.5**
	0.2nm,0.3s,baz=148,slow=11,SNR=9.1						
WRA	**Warramunga Arr**	**49.85**	**186**	P	**P**	**21 01 34.3**	**-1.4**
	0.5nm,0.5s,baz=13,slow=7.9,SNR=4.9						
ASAR	**Alice Springs**	**53.57**	**186**	P	**P**	**21 02 02.7**	**-0.2**
	0.3nm,0.5s,baz=23,slow=11,SNR=6.5						
STKA	**Stephens Creek**	**61.52**	**178**	P	**P**	**21 02 56.5**	**-0.9**
	2.2nm,1.1s,baz=31,slow=5.9,SNR=3.2						

ISCJB 23 21:13:23.5±0.5, 7°78S±0°05×118°68E±0°06, h10km, mb3.8/8, Error ellipse: s-maj=9.1km s-min=6.1km az=154.1
IDC 23 21:13:23.4±0.7, 7°73S×118°71E, h0km, mb3.8/8, mb1 3.9/12, mb1mx3.8/26, mbtmp3.8/12, ML3.8/4, Error ellipse: s-maj=27.1km s-min=13.4km az=73.0
DJA 23 21:13:26.0±0.4, 8°S±4°×11°9E±1°, h11km, M4.3/8, mb4.7/2, mB4.8/2, MLv4.2/8, Mw(mB)4.1/2
ISC 23 21:13:25.4±0.8, 7.75S±0°05×118°65E±0°08, h10km, n22, σ1s61/16, mb4.0/8, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**2.01**	**159**	P	**Pn**	**21 13 59.1**	**-0.4**
BSSI	**Bau Bau, Buton**	**2.43**	**49**	P	**Pn**	**21 14 06.8**	**+1.6**
WSI	**Waingapu**	**2.51**	**140**	P	Pg	21 14 20.8	+7.3
BKSI	**Bulukumba**	**2.83**	**31**	P	**Pn**	**21 14 10.7**	**0.0**
KAPI	**Kappang**	**2.94**	**22**	P	Pn	21 14 11.2	-1.0
KAPI	**Kappang**	**2.94**	**22**	Pn	Pn	21 14 11.0	-1.1
	5.7nm,0.3s,baz=198,slow=7.4,SNR=43						
KAPI				Pg	Pb	21 14 15.5	-2.4
	19nm,0.3s,baz=186,slow=4.7,SNR=38						
KAPI				Sn	**Sn**	**21 14 44.3**	**-3.2**
	32nm,0.3s,baz=208,slow=16,SNR=10.0						
KAPI				Lg	Lg	21 14 52.0	
	39nm,0.3s,baz=77,slow=22,SNR=12						
MMRI	**Maumere**	**3.66**	**104**	P	Pn	21 14 21.3	-0.9
KMMI	**Kalianget**	**4.70**	**278**	P	**Pn**	**21 14 37.6**	**+1.2**
TTSI	**Tana Toraja**	**4.82**	**14**	P	**Pn**	**21 14 39.7**	**+1.6**
KBKI	**Kotabaru**	**5.07**	**331**	P	**Pn**	**21 14 42.5**	**+1.0**
	64nm,0.8s,720nm						
BATI	**Baumata**	**5.52**	**117**	Pn	**Pn**	**21 14 47.6**	**-0.2**
	4.2nm,0.3s,baz=265,slow=8.1,SNR=6.3						
BATI				Sn	**Sn**	**21 15 54.3**	**+2.9**
	2.6nm,0.3s,baz=186,slow=10,SNR=3.0						
BBKI	**Banjar Baru**	**5.70**	**318**	P	**Pn**	**21 14 52.2**	**+1.9**
FITZ	**Fitzroy Crossi**	**12.33**	**147**	Pn	Pn	21 16 19.4	-1.8
	0.2nm,0.3s,baz=114,slow=3.9,SNR=9.7						
FITZ				Sn	Sn	21 18 28.8	-10
	0.5nm,0.3s,baz=178,slow=18,SNR=8.8						
WRA	**Warramunga Arr**	**19.44**	**130**	P	**P**	**21 17 51.0**	**-1.3**
	0.6nm,0.3s,baz=302,slow=12,SNR=11						
ASAR	**Alice Springs**	**21.55**	**139**	P	**P**	**21 18 14.2**	**-0.9**
	4.9nm,0.6s,baz=310,slow=8.6,SNR=47						
NWAO	**Narrogin (SRO)**	**25.08**	**183**	P	**P**	**21 18 49.5**	**-0.7**
	5.7nm,0.8s,baz=36,slow=11,SNR=3.1						
STKA	**Stephens Creek**	**32.13**	**141**	P	P	21 19 52.5	-0.7
	1.9nm,0.7s,baz=326,slow=12,SNR=5.5						
SONM	**Songino Array**	**56.40**	**350**	P	**P**	**21 23 07.4**	**+0.3**
	0.4nm,0.7s,baz=167,slow=8.9,SNR=3.2						
MKAR	**Makanchi Array**	**63.20**	**333**	P	P	21 23 53.2	-0.6
	0.4nm,0.7s,baz=123,slow=5.3,SNR=3.3						
KURBB	**Kurchatov Arra**	**67.70**	**334**	P	**P**	**21 24 22.4**	**-0.5**
	0.3nm,0.6s,baz=139,slow=5.4,SNR=3.5						
ZALV	**Zalesovo Beam**	**67.76**	**339**	P	P	21 24 22.2	-1.0
	0.4nm,0.5s,baz=158,slow=4.2,SNR=2.7						
MAW	**Mawson**	**70.28**	**200**	P	**P**	**21 24 39.2**	**+0.6**
	0.5nm,0.3s,baz=96,slow=10,SNR=4.8						

WEL 23 21:36:37.9±0.2, 45°41S×166°73E, h25km±1km, ML3.9/19, 3C, Error ellipse: s-maj=3.0km s-min=1.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.31**	**103**	⇑P*	Pb	21 36 44.8	-0.2
DCZ				S*	Sb	21 36 48.1	-1.7
DCZ				AML	AML	21 36 49.1	
DCZ				AML	AML	21 36 49.5	
DCZ				AML	AML	21 36 49.5	
WHZ	**Wether Hill Ro**	**0.98**	**120**	AML	AML	21 37 11.8	
WHZ				AML	AML	21 37 11.9	
MLZ	**Mavora Lakes**	**1.02**	**87**	⇑PN	Pn	21 36 55.9	-0.7
MLZ				SN	Sb	21 37 08.9	-1.1
MLZ				AML	AML	21 37 11.4	

MSZ	**Milford Sound**	**1.13**	**50**	PN	Pn	21 36 57.0	-1.0		
MSZ				AML	AML	21 37 17.0			
MSZ				AML	AML	21 37 17.0			
MSZ				AML	AML	21 37 20.3			
MSZ				AML	AML	21 37 20.4			
APZ	**The Paps**	**1.67**	**149**	PN	Pb	21 37 07.6	-0.4		
WKZ	**Wanaka**	**1.72**	**71**	PN	Pb	21 37 07.9	-1.0		
WKZ				AML	AML	21 37 35.8			
WKZ				AML	AML	21 37 35.9			
WKZ				AML	AML	21 37 39.0			
WKZ				AML	AML	21 37 39.0			
EAZ	**Earnscleugh**	**1.83**	**85**	PN	Pb	21 37 09.3	-1.3		
EAZ				AML	AML	21 37 36.9			
EAZ				AML	AML	21 37 36.9			
EAZ				AML	AML	21 37 37.7			
EAZ				AML	AML	21 37 40.9			
JCZ	**Jackson Bay**	**1.97**	**48**	PN	Pb	21 37 12.3	-0.8		
JCZ				AML	AML	21 37 43.6			
JCZ				AML	AML	21 37 48.9			
SYZ	**Scrubby Hill**	**2.02**	**125**	PN	Pn	21 37 11.8	+1.5		
TUZ	**Tuapeka**	**2.11**	**106**	PN	Pb	21 37 13.4	-1.9		
TUZ				AML	AML	21 37 42.3			
TUZ				AML	AML	21 37 48.1			
LBZ	**Lake Benmore**	**2.66**	**69**	PN	Pn	21 37 20.9	+1.8		
LBZ				AML	AML	21 38 03.3			
LBZ				AML	AML	21 38 15.0			
ODZ	**Otahua Downs**	**2.79**	**84**	⇑PN	Pn	21 37 21.5	+0.5		
ODZ				AML	AML	21 37 59.4			
ODZ				AML	AML	21 37 59.6			
ODZ				AML	AML	21 37 59.6			
ODZ				AML	AML	21 39 56.8			
FOZ	**Fox Glacier**	**2.81**	**50**	PN	Pn	21 37 24.0	+2.9		
FOZ				AML	AML	21 38 10.3			
FOZ				AML	AML	21 38 12.7			
RPZ	**Rata Peaks**	**3.52**	**63**	PN	Pn	21 37 32.9	+1.8		
RPZ				AML	AML	21 38 31.5			
RPZ				AML	AML	21 38 39.2			
WVZ	**Waitaha Valley**	**3.71**	**52**	PN	Pn	21 37 35.0	+1.6		
OTVZ	**Oturere**	**9.10**	**50**	AML	AML	21 39 53.9			

IDC ***23*** *22:07:23.6±2.0, 45.˝77S×165.˝87E, h0ᵏᵐ, mb3.5/2, mb1 3.8/3, mb1mx3.6/15, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=69.7km s-min=28.4km az=175.0*
ISCJB ***23*** *22:07:24.9±0.9, 45.˝72S±0.˝09×165.˝79E±0.˝08, h12ᵏᵐ, mb3.4/2, Error ellipse: s-maj=13.6km s-min=8.2km az=9.1*
WEL ***23*** *22:07:27.2±0.2, 45.˝81S×165.˝82E, h33ᵏᵐ, ML4.0/19, Error ellipse: s-maj=2.3km s-min=1.3km az=90.0*

ISC 23 22:07:25.7±1.0, 45.80S±0.08×165.85E±0.07, h12ᵏᵐ, n21, σ1§04/24, 3C, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
DCZ	**Deep Cove**	**0.97**	**71**	⇑PN **Pb**	**22 07 44.3**	**-0.1**
DCZ				SN **Sg**	**22 07 56.0**	**-1.1**
DCZ				AML AML	22 07 56.9	
DCZ				AML AML	22 07 57.0	
DCZ				AML AML	22 07 57.1	
WHZ	**Wether Hill Ro**	**1.47**	**94**	⇑PN **Pn**	**22 07 52.4**	**+0.4**
WHZ				SN **Sn**	**22 08 11.5**	**+0.4**
WHZ				AML AML	22 08 15.5	
MLZ	**Mavora Lakes**	**1.69**	**75**	PN **Pn**	**22 07 55.7**	**+0.6**
MLZ				AML AML	22 08 18.9	
MLZ				AML AML	22 08 28.1	
APZ	**The Paps**	**1.81**	**126**	PN **Pn**	**22 07 56.8**	**+0.1**
MSZ	**Milford Sound**	**1.85**	**53**	PN **Pb**	**22 08 00.2**	**+0.8**
MSZ				AML AML	22 08 23.2	
MSZ				AML AML	22 08 35.7	
MSZ				AML AML	22 08 35.7	
MSZ				AML AML	22 08 38.4	
SYZ	**Scrubby Hill**	**2.40**	**109**	PN **Pn**	**22 08 05.7**	**+0.9**
WKZ	**Wanaka**	**2.44**	**68**	PN **Pn**	**22 08 08.1**	**+2.8**
WKZ				AML AML	22 08 40.8	
WKZ				AML AML	22 08 56.0	
EAZ	**Earnscleugh**	**2.50**	**78**	PN **Pn**	**22 08 08.0**	**+1.9**
EAZ				AML AML	22 08 40.9	
EAZ				AML AML	22 08 41.0	
EAZ				AML AML	22 08 53.1	
EAZ				AML AML	22 08 53.2	
TUZ	**Tuapeka**	**2.65**	**95**	PN **Pn**	**22 08 09.3**	**+1.1**
TUZ				AML AML	22 08 47.1	
TUZ				AML AML	22 08 51.6	
JCZ	**Jackson Bay**	**2.69**	**51**	PN **Pn**	**22 08 10.0**	**+1.1**
JCZ				AML AML	22 09 03.0	
JCZ				AML AML	22 09 07.0	
LBZ	**Lake Benmore**	**3.38**	**67**	PN **Pn**	**22 08 19.0**	**+0.8**
LBZ				AML AML	22 09 03.2	
LBZ				AML AML	22 09 13.9	
ODZ	**Otahua Downs**	**3.46**	**79**	⇑PN **Pn**	**22 08 19.7**	**+0.3**
ODZ				AML AML	22 09 24.5	
ODZ				AML AML	22 10 50.6	
FOZ	**Fox Glacier**	**3.53**	**52**	PN **Pn**	**22 08 21.6**	**+1.2**
FOZ				AML AML	22 09 44.2	
RPZ	**Rata Peaks**	**4.25**	**62**	Pn **Pn**	**22 08 30.4**	**+0.2**
	3.3nm,0.3s,baz=69,slow=18,SNR=4.5					
RPZ				Sn **Sn**	**22 09 18.3**	**-1.6**
	7.2nm,0.3s,baz=345,slow=22,SNR=10					
RPZ	**Rata Peaks**	**4.25**	**62**	PN **Pn**	**22 08 30.3**	**0.0**
RPZ				AML AML	22 09 23.9	
RPZ				AML AML	22 09 56.1	
WVZ	**Waitaha Valley**	**4.43**	**54**	PN **Pn**	**22 08 31.9**	**-0.8**
WVZ				AML AML	22 13 19.6	
WVZ				AML AML	22 13 20.2	
ASAR	**Alice Springs**	**33.95**	**300**	P **P**	**22 14 08.8**	**-0.2**
	0.5nm,0.9s,baz=138,slow=8.5,SNR=4.2					
WRA	**Warramunga Arr**	**36.55**	**304**	P **P**	**22 14 30.7**	**-0.6**
	0.4nm,0.7s,baz=138,slow=7.9,SNR=4.6					
TORD	**Torodi Ar. Bea**	**144.79**	**207**	PKP **PKPab**	**22 27 02.0**	**+0.3**
	0.6nm,1.0s,baz=146,slow=1.5,SNR=4.1					
BRTR	**Keskin Array B**	**144.82**	**277**	PKP **PKPab**	**22 27 01.5**	**+0.2**
	0.4nm,0.7s,baz=146,slow=2.8,SNR=2.9					
ARCES	**ARCESS Array B**	**149.13**	**334**	PKPbc **PKPbc**	**22 27 12.0**	**-0.6**
	1.7nm,0.9s,baz=57,slow=6.6,SNR=3.6					

ISCJB ***23*** *22:08:34.4±0.5, 21.˝76S×0.˝07×176.˝84W±0.˝07, h183ᵏᵐ, mb3.9/7, Error ellipse: s-maj=11.4km s-min=7.2km az=145.6*
AUST ***23*** *22:08:41.7, 21.˝82S×175.˝99W, h300ᵏᵐ*
IDC ***23*** *22:08:42.4±2.0, 21.˝86S×177.˝00W, h244ᵏᵐ±20ᵏᵐ, mb3.6/7, mb1 3.9/9, mb1mx3.6/19, mbtmp3.7/9, Error ellipse: s-maj=25.0km s-min=13.1km az=141.0*

ISC 23 22:08:35.5±0.5, 21.8S±0.1×176.80W±0.09, h183ᵏᵐ, n45, σ1§14/42, mb3.8/7, 8C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
NIUE	**Niue**	**6.97**	**69**	P **Pn**	**22 10 17.8**	**+2.5**
	baz=6.3,SNR=20					
NIUE				S **Sn**	**22 11 32.3**	**-1.9**
	baz=6.3,SNR=8.1					
RAO	**Raoul Island**	**7.54**	**187**	P Pn	22 10 27.2	+4.5
	78nm,0.3s,baz=286,slow=19,SNR=8.1					
RAO				S **Sn**	**22 11 47.4**	**-0.2**
	202nm,0.3s,baz=204,slow=23,SNR=7.6					
AFI	**Afiamalu**	**9.15**	**32**	P Pn	22 10 52.5	+8.5
	4.3nm,0.3s,baz=102,slow=22,SNR=3.6					
AFI				S Sn	22 12 17.6	-8.6
	6.2nm,0.3s,baz=44,slow=18,SNR=4.4					
URZ	**Urewera**	**17.27**	**196**	P **P**	**22 12 24.7**	**+0.3**
	1.9nm,0.3s,baz=138,slow=22,SNR=7.1					
URZ				S S	22 15 24.0	-11
	7.0nm,0.3s,baz=113,slow=20,SNR=14					
RMQ	**Roma**	**31.73**	**255**	P **P**	**22 14 44.5**	**+2.1**
	baz=32,SNR=4.7					
CMSA	**Cobar Meteorol**	**34.77**	**246**	P **P**	**22 15 09.6**	**+0.9**
	baz=35,SNR=5.5					
MTSU	**Mount Surprise**	**36.67**	**269**	P **P**	**22 15 26.9**	**+1.9**
	baz=37,SNR=8.0					
STKA	**Stephens Creek**	**38.28**	**246**	P **P**	**22 15 38.1**	**-0.2**
	2.7nm,0.4s,baz=83,slow=9.5,SNR=16					
STKA	**Stephens Creek**	**38.28**	**246**	P **P**	**22 15 38.6**	**+0.3**
	baz=39,SNR=14					
COEN	**Coen**	**38.79**	**275**	P **P**	**22 15 44.8**	**+2.0**
	baz=40,SNR=5.8					
BBOO	**Buckleboo**	**43.02**	**245**	P **P**	**22 16 16.3**	**-0.8**
	baz=44,SNR=8.8					
ASAR	**Alice Springs**	**45.34**	**258**	P **P**	**22 16 35.1**	**-0.6**
	10nm,0.7s,baz=93,slow=8.0,SNR=97					
ASAR				S S	22 22 54.9	-7.8
	0.5nm,0.8s,baz=100,slow=14,SNR=4.1					

WRA	**Warramunga Arr**	**45.55**	**263**	P	**P**	**22 16 36.7**	**-0.6**		
	1.6nm,0.4s,baz=99,slow=7.3,SNR=34								
KDU	**Kakadu**	**49.10**	**272**	P	**P**	**22 17 04.7**	**-0.1**		
	baz=50,SNR=5.9								
FORT	**Forrest**	**49.84**	**248**	P	**P**	**22 17 09.1**	**-1.2**		
	baz=50,SNR=17								
KNRA	**Kununurra**	**51.70**	**267**	P	**P**	**22 17 24.1**	**-0.2**		
	baz=52,SNR=5.7								
FITZ	**Fitzroy Crossi**	**53.98**	**263**	P	**P**	**22 17 41.1**	**+0.1**		
	baz=55,SNR=6.3								
MEEK	**Meekatharra**	**58.58**	**251**	P	**P**	**22 18 13.0**	**-0.5**		
	baz=59,SNR=3.3								
MORW	**Morawa**	**60.40**	**248**	P	**P**	**22 18 24.9**	**-1.0**		
	baz=61,SNR=4.2								
MAW	**Mawson**	**80.77**	**200**	P	**P**	**22 20 28.3**	**+0.1**		
	1.3nm,0.6s,baz=140,slow=10,SNR=4.4								
NVAR	**Mina Array Bea**	**81.17**	**43**	P	**P**	**22 20 32.2**	**+1.2**		
	1.0nm,0.7s,baz=220,slow=8.2,SNR=4.9								
PDAR	**Pinedale Array**	**89.11**	**43**	P	**P**	**22 21 11.2**	**+0.9**		
	0.9nm,0.9s,baz=216,slow=2.9,SNR=6.1								
ILAR	**Eielson Array**	**89.28**	**12**	P	**P**	**22 21 10.2**	**-0.2**		
	1.0nm,0.9s,baz=230,slow=5.0,SNR=6.7								
MKAR	**Makanchi Array**	**112.87**	**313**	PKiKP	**PKiKP**	**22 26 49.1**	**-1.4**		
	0.1nm,0.5s,baz=143,slow=1.8,SNR=3.5								
ARCES	**ARCESS Array B**	**130.34**	**350**	PKP	**PKPdf**	**22 27 22.3**	**-1.1**		
	1.4nm,0.6s,baz=1.9,slow=2.7,SNR=5.0								
FINES	**FINESS Array B**	**137.28**	**344**	PKP	**PKPdf**	**22 27 36.3**	**-0.2**		
	1.0nm,0.7s,baz=70,slow=5.2,SNR=4.6								
NB2	**NORSAR Subarra**	**140.34**	**354**	PKP	PKPpre	22 27 34.4			
	comp=Z,0.5nm,0.6s,baz=12,slow=3.0								
NOA	**NORSAR Array B**	**140.34**	**354**	PKhKP	PKPpre	22 27 34.4			
	comp=Z,0.8nm,0.7s,baz=16,slow=4.7,SNR=4.6								
MUD	**Monsted U'grnd**	**145.06**	**354**	⇑*i*P	**PKPdf**	**22 27 50.8**	**+0.2**		
	comp=Z,15nm,0.9s								
BSD	**Bornholm Skovb**	**145.54**	**348**	*i* P	**PKPab**	**22 27 52.6**	**+0.1**		
	comp=Z,14nm,1.0s								
MALT	**Malatya**	**145.58**	**307**	⇑*i*P	PKPab	22 28 03.5	+10		
BRTR	**Keskin Array B**	**148.51**	**312**	PKPbc	**PKPbc**	**22 28 00.6**	**-0.4**		
	comp=Z,2.6nm,0.7s,baz=140,slow=5.7,SNR=14								
BURAR	**Bucovina Array**	**148.70**	**331**	⇑*i*P	**PKPbc**	**22 28 01.7**	**+0.5**		
TESR	**Tescani**	**148.81**	**328**	⇓*i*P	**PKPbc**	**22 28 01.2**	**-0.2**		
CFR	**Carcaliu**	**148.95**	**325**	⇓*i*P	**PKPbc**	**22 28 01.4**	**-0.3**		
VRI	**Vrincioaia**	**149.22**	**327**	⇑*i*P	**PKPbc**	**22 28 02.3**	**-0.1**		
CLL	**Collm**	**149.52**	**348**	⇑*i*PKP	**PKPbc**	**22 28 03.2**	**+0.3**		
	comp=Z,10.0nm,1.4s								
CLL				*i*		22 28 06.0			
CLL				*i*		22 28 08.7			
BRG	**Berggiesshubel**	**149.74**	**346**	*e*P	**PKPbc**	**22 28 03.6**	**+0.1**		
	comp=Z,6.8nm,1.3s								
BRG				*e*		22 28 09.5			
	comp=Z,4.3nm,0.9s								
MLR	**Muntele Rosu**	**149.88**	**327**	⇑*i*P	**PKPbc**	**22 28 03.9**	**-0.3**		
VOIR		**150.36**	**328**	⇓*i*P	**PKPbc**	**22 28 05.0**	**-0.3**		
ARR	**Arges**	**150.62**	**328**	⇑*i*P	**PKPbc**	**22 28 06.6**	**+0.7**		
GERES	**GERESS Array B**	**151.70**	**345**	PKPbc	**PKPbc**	**22 28 07.5**	**-0.8**		
	comp=Z,0.5nm,0.7s,baz=79,slow=5.1,SNR=4.1								
BZS	**Buzias**	**151.82**	**332**	⇓*i*P	**PKPbc**	**22 28 08.1**	**-0.4**		
PKSM	**Moragy**	**152.55**	**336**	⇑*i*P	**PKPab**	**22 28 17.2**	**-4.0**		
TORD	**Torodi Ar. Bea**	**171.32**	**170**	PKPab	**PKPab**	**22 29 43.3**	**-0.4**		
	comp=Z,1.3nm,1.1s,baz=178,slow=3.9,SNR=4.0								

IDC ***23*** *22:10:36.7±1.7, 45.˝69S×165.˝80E, h0ᵏᵐ, mb3.7/2, mb1 4.0/3, mb1mx3.7/15, mbtmp3.8/3, ML3.9/1, MS3.1/1, Ms1 3.0/1, ms1mx2.6/24, Error ellipse: s-maj=64.5km s-min=26.9km az=177.0*
WEL ***23*** *22:10:39.3±0.2, 45.˝81S×165.˝80E, h33ᵏᵐ, ML4.3/20, Error ellipse: s-maj=1.5km s-min=0.9km az=90.0*

ISC 23 22:10:36.5±3.0, 45.80S±0.08×165.82E±0.08, h4ᵏᵐ±18ᵏᵐ, n25, σ0§97/25, 3C, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
DCZ	**Deep Cove**	**0.99**	**71**	⇑PN **Pb**	**22 10 56.7**	**+0.4**
DCZ				SN **Sg**	**22 11 08.9**	**+0.6**
DCZ				AML AML	22 11 09.3	
DCZ				AML AML	22 11 09.5	
DCZ				AML AML	22 11 09.5	
WHZ	**Wether Hill Ro**	**1.49**	**94**	⇑PN **Pn**	**22 11 04.7**	**+0.6**
WHZ				SN **Sn**	**22 11 24.6**	**+0.6**
WHZ				AML AML	22 11 28.5	
MLZ	**Mavora Lakes**	**1.71**	**76**	⇑PN **Pn**	**22 11 07.9**	**+0.7**
MLZ				SN **Sn**	**22 11 30.0**	**+0.4**
MLZ				AML AML	22 11 40.6	
APZ	**The Paps**	**1.82**	**125**	PN **Pn**	**22 11 09.1**	**+0.4**
APZ				SN **Sn**	**22 11 30.7**	**-1.7**
MSZ	**Milford Sound**	**1.87**	**54**	PN **Pn**	**22 11 09.8**	**+0.5**
MSZ				AML AML	22 11 45.0	
MSZ				AML AML	22 11 45.0	
MSZ				AML AML	22 11 47.0	
MSZ				AML AML	22 11 47.0	
SYZ	**Scrubby Hill**	**2.42**	**109**	PN **Pn**	**22 11 18.0**	**+1.1**
WKZ	**Wanaka**	**2.46**	**68**	PN **Pb**	**22 11 20.1**	**-1.2**
WKZ				AML AML	22 12 06.9	
WKZ				AML AML	22 12 06.9	
WKZ				AML AML	22 12 11.1	
WKZ				AML AML	22 12 11.2	
EAZ	**Earnscleugh**	**2.52**	**78**	PN **Pb**	**22 11 20.5**	**-1.7**
EAZ				AML AML	22 12 02.4	
EAZ				AML AML	22 12 02.4	
EAZ				AML AML	22 12 05.9	
EAZ				AML AML	22 12 05.9	
TUZ	**Tuapeka**	**2.67**	**95**	PN **Pn**	**22 11 21.5**	**+1.3**
TUZ				AML AML	22 12 02.4	
TUZ				AML AML	22 12 07.4	
JCZ	**Jackson Bay**	**2.71**	**51**	AML AML	22 12 15.5	
JCZ				AML AML	22 12 19.1	
LBZ	**Lake Benmore**	**3.40**	**67**	PN **Pn**	**22 11 31.3**	**+0.9**
LBZ				AML AML	22 12 28.5	
LBZ				AML AML	22 12 28.7	
ODZ	**Otahua Downs**	**3.48**	**79**	PN **Pn**	**22 11 31.8**	**+0.4**
ODZ				AML AML	22 12 30.2	
ODZ				AML AML	22 12 34.8	
ODZ				AML AML	22 12 37.0	
ODZ				AML AML	22 12 37.0	
FOZ	**Fox Glacier**	**3.55**	**52**	PN **Pn**	**22 11 34.0**	**+1.5**
FOZ				AML AML	22 12 37.9	
FOZ				AML AML	22 12 48.7	
RPZ	**Rata Peaks**	**4.27**	**63**	Pn **Pn**	**22 11 42.7**	**+0.3**
	7.1nm,0.3s,baz=235,slow=6.3,SNR=14					
RPZ				Sn **Sn**	**22 12 31.6**	**-1.1**
	13nm,0.3s,baz=7.8,slow=22,SNR=8.8					
RPZ	**Rata Peaks**	**4.27**	**63**	PN **Pn**	**22 11 42.4**	**0.0**
RPZ				AML AML	22 12 37.1	
RPZ				AML AML	22 12 38.2	
DSZ	**Denniston Nort**	**5.93**	**49**	PN **Pn**	**22 12 04.5**	**-0.7**
MRZ	**Mangatainoka R**	**8.78**	**58**	PN Pn	22 12 38.2	-6.1
MRZ				AML AML	22 13 22.1	
MRZ				AML AML	22 13 26.1	
BFZ	**Birch Farm**	**9.17**	**60**	AML AML	22 12 30.3	
STKA	**Stephens Creek**	**23.32**	**298**	LR LR	22 23 05.7	
	comp=Z,56nm,21.9s,baz=25,slow=32					
ASAR	**Alice Springs**	**33.93**	**300**	P **P**	**22 17 21.1**	**+0.2**
	0.8nm,0.6s,baz=125,slow=8.3,SNR=2.0					
WRA	**Warramunga Arr**	**36.53**	**304**	P **P**	**22 17 42.6**	**-0.6**
	0.7nm,0.7s,baz=143,slow=8.6,SNR=2.8					
TORD	**Torodi Ar. Bea**	**144.78**	**208**	PKP PKPbc	22 30 14.2	+0.3
	1.5nm,0.9s,baz=142,slow=0.8,SNR=7.8					
BRTR	**Keskin Array B**	**144.80**	**278**	PKP **PKPdf**	**22 30 14.2**	**-0.2**
	2.2nm,1.0s,baz=116,slow=3.4,SNR=7.1					
ARCES	**ARCESS Array B**	**149.12**	**334**	PKPbc **PKPbc**	**22 30 25.8**	**+1.0**
	1.5nm,0.6s,baz=71,slow=3.9,SNR=7.8					
FINES	**FINESS Array B**	**152.03**	**319**	PKPbc **PKPbc**	**22 30 32.6**	**+0.8**
	1.1nm,0.7s,baz=90,slow=0.4,SNR=4.2					

IDC ***23*** *22:31:51.9±1.1, 7.˝78S×130.˝11E, h0ᵏᵐ, mb4.0/9, mb1 4.2/12, mb1mx4.0/21, mbtmp4.0/12, ML4.1/3, MS3.3/4, Ms1 3.3/4, ms1mx2.8/24, Error ellipse: s-maj=40.4km s-min=21.7km az=88.0*
ISCJB ***23*** *22:31:52.8±0.5, 7.˝81S±0.˝04×130.˝30E±0.˝06, h22ᵏᵐ, mb4.0/9, MS3.5/2, Error ellipse: s-maj=9.0km s-min=5.4km az=0.5*
AUST ***23*** *22:31:52.8±7.9, 7.˝61S×130.˝13E, h1ᵏᵐ, Error ellipse: s-maj=1.6km s-min=1.0km az=297.0*

ISC 23 22:31:55.3±0.6, 7.78S±0.05×130.22E±0.08, h22ᵏᵐ, n24, σ1§73/24, mb3.9/9, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
MTN	**Manton Dam**	**5.11**	**170**	P Pn	22 33 15.4	+4.8
	baz=5.3,SNR=17					

FAKI	**Fak Fak**	**5.24**	**23**	P	**Pn**	**22 33 10.9**	**-1.5**		
	baz=5.1,SNR=75								
KDU	**Kakadu**	**5.35**	**156**	P	Pn	22 33 18.1	+4.1		
	baz=5.6,SNR=81								
BATI	**Baumata**	**6.91**	**249**	Pn	**Pn**	**22 33 37.9**	**+2.5**		
	5.8nm,0.3s,baz=131,slow=5.3,SNR=4.7								
BATI				Sn	**Sn**	**22 34 55.3**	**+1.8**		
	2.3nm,0.3s,baz=335,slow=19,SNR=2.6								
KNRA	**Kununurra**	**7.97**	**190**	P	**Pn**	**22 33 51.7**	**+1.7**		
	baz=8.2,SNR=25								
KNRA				S	**Sn**	**22 35 21.1**	**+1.5**		
	baz=8.2,SNR=5.5								
FITZ	**Fitzroy Crossi**	**11.19**	**203**	Pn	**Pn**	**22 34 33.7**	**-0.4**		
	1.5nm,0.3s,baz=40,slow=12,SNR=23								
FITZ				Sn	**Sn**	**22 36 34.8**	**-3.7**		
	1.2nm,0.3s,baz=176,slow=21,SNR=5.8								
FITZ				LR	LR	22 39 13.9			
	comp=Z,77nm,20.8s,baz=347,slow=40								
FITZ	**Fitzroy Crossi**	**11.19**	**203**	P	**Pn**	**22 34 34.4**	**+0.4**		
	baz=11,SNR=8.4								
WRA	**Warramunga Arr**	**12.73**	**162**	Pn	**Pn**	**22 34 54.6**	**-0.6**		
	1.1nm,0.3s,baz=343,slow=13,SNR=33								
WRA				Sn	**Sn**	**22 37 15.8**	**-0.6**		
	1.3nm,0.3s,baz=44,slow=44,SNR=7.0								
COEN	**Coen**	**14.12**	**117**	P	**Pn**	**22 35 16.8**	**+2.6**		
	baz=14,SNR=9.7								
ASAR	**Alice Springs**	**16.18**	**168**	Pn	**Pn**	**22 35 39.8**	**-1.8**		
	0.6nm,0.3s,baz=336,slow=9.5,SNR=21								
ASAR				Sn	**Sn**	**22 38 37.9**	**-2.6**		
	0.3nm,0.3s,baz=345,slow=24,SNR=4.7								
ASAR				LR	LR	22 41 07.8			
	comp=Z,49nm,20.4s,baz=105,slow=34								
MTSU	**Mount Surprise**	**17.15**	**128**	P	**P**	**22 35 57.5**	**+2.1**		
	baz=17,SNR=4.3								
STKA	**Stephens Creek**	**26.21**	**158**	LR	LR	22 48 41.1			
	comp=Z,117nm,20.7s,baz=26,slow=38								
TOO	**Toolangi**	**32.73**	**157**	S	S	22 44 08.8	+27		
	baz=33,SNR=7.0								
CMAR	**Chiang Mai Arr**	**40.40**	**311**	P	**P**	**22 39 31.8**	**-0.4**		
	0.6nm,0.3s,baz=134,slow=7.7,SNR=4.6								
JNU	**Nakatsue**	**40.68**	**1**	P	**P**	**22 39 33.8**	**-0.4**		
	7.6nm,0.9s,baz=196,slow=9.7,SNR=3.5								
MJAR	**Matsushiro Arr**	**44.72**	**9**	P	**P**	**22 40 08.9**	**+1.9**		
	1.2nm,0.7s,baz=187,slow=9.6,SNR=4.8								
USRK	**Uesuriysk Arra**	**51.76**	**2**	P	**P**	**22 41 00.4**	**-0.8**		
	0.8nm,0.6s,baz=188,slow=8.7,SNR=3.1								
SONM	**Songino Array**	**59.25**	**342**	P	**P**	**22 41 54.7**	**-0.5**		
	0.3nm,0.4s,baz=159,slow=5.0,SNR=2.8								
PETK	**Petropavlovsk-**	**65.00**	**18**	P	**P**	**22 42 34.2**	**+0.7**		
	2.4nm,0.5s,baz=190,slow=7.5,SNR=3.6								
MKAR	**Makanchi Array**	**69.00**	**327**	P	**P**	**22 42 58.8**	**-0.3**		
	0.7nm,0.3s,baz=113,slow=8.5,SNR=24								
VNDA	**Vanda**	**71.65**	**173**	LR	LR	23 09 54.7			
	comp=Z,42nm,20.0s,baz=103,slow=32								
ZALV	**Zalesovo Beam**	**72.38**	**334**	P	**P**	**22 43 17.6**	**-1.9**		
	0.4nm,0.4s,baz=106,slow=5.1,SNR=2.7								
ILAR	**Eielson Array**	**93.96**	**25**	P	**P**	**22 45 10.6**	**-0.6**		
	0.3nm,0.7s,baz=243,slow=4.0,SNR=3.0								
TORD	**Torodi Ar. Bea**	**129.17**	**281**	PKP	**PKPdf**	**22 51 03.7**	**+0.8**		
	0.4nm,0.8s,baz=18,slow=2.0,SNR=5.0								

ISCJB ***23*** *22:37:32.9±0.3, 42.˝25N±0.˝02×13.˝48E±0.˝03, h12ᵏᵐ±3ᵏᵐ, Error ellipse: s-maj=3.6km s-min=2.4km az=153.7*
CSEM ***23*** *22:37:33.1±0.1, 42.˝25N×13.˝48E, h10ᵏᵐ, ML3.6/14, Error ellipse: s-maj=2.5km s-min=1.7km az=66.0*
ROM ***23*** *22:37:33.0±0.1, 42.˝25N×13.˝50E, h10ᵏᵐ, Ml3.1/33, Error ellipse: s-maj=0.8km s-min=0.6km az=78.0*

ISC 23 22:37:33.5±0.8, 42.25N±0.02×13.48E±0.02, h12ᵏᵐ±5ᵏᵐ, n76, σ0§76/111, 1D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
AQU	**L'Aquila**	**0.12**	**333**	Pg **Pg**	**22 37 36.5**	**-0.1**
AQU				Sg **Sg**	**22 37 38.5**	**-0.4**
	8µm,0.3s					
AQU	**L'Aquila**	**0.12**	**333**	Pg **Pg**	**22 37 36.5**	**-0.1**
AQU				Sg **Sg**	**22 37 38.5**	**-0.4**
	8µm,0.3s					
PTQR	**Pietraquaria**	**0.23**	**194**	Pg **Pg**	**22 37 38.8**	**+0.3**
PTQR				Sg **Sg**	**22 37 42.2**	**+0.3**
PTQR	**Pietraquaria**	**0.23**	**194**	Pg **Pg**	**22 37 38.8**	**+0.3**
PTQR				Sg **Sg**	**22 37 42.2

	2µm,0.6s									
OFFI	**Offida**	**0.70**	**13**	Pg		**Pg**		**22 37 47.2**	**+0.1**
	2µm,0.8s									
OFFI	**Offida**	**0.70**	**13**	Pg		**Pg**		**22 37 47.2**	**+0.1**
	2µm,0.8s									
GIUL	**Giuliano Di Ro**	**0.71**	**193**	Pg		**Pg**		**22 37 46.8**	**-0.5**
	664nm,0.9s									
GIUL	**Giuliano Di Ro**	**0.71**	**193**	Pg		**Pg**		**22 37 46.8**	**-0.5**
	664nm,0.9s									
RMP	**Rome, Mte Porz**	**0.72**	**233**	Pg		**Pg**		**22 37 47.1**	**-0.4**
	977nm,0.6s									
RMP	**Rome, Mte Porz**	**0.72**	**233**	Pg		**Pg**		**22 37 47.1**	**-0.4**
	977nm,0.6s									
RNI2	**Rionero Sannit**	**0.74**	**137**	Pg		**Pg**		**22 37 47.6**	**-0.3**
	806nm,0.6s									
RNI2	**Rionero Sannit**	**0.74**	**137**	Pg		**Pg**		**22 37 47.6**	**-0.3**
	806nm,0.6s									
CESX	**Cesi**	**0.75**	**299**	Pg		**Pg**		**22 37 48.1**	**0.0**
	441nm,0.7s									
CESX	**Cesi**	**0.75**	**299**	Pg		**Pg**		**22 37 48.1**	**0.0**
	441nm,0.7s									
CERA	**Filignano**	**0.77**	**148**	Pg		**Pg**		**22 37 47.4**	**-0.9**
	961nm,0.8s									
CERA	**Filignano**	**0.77**	**148**	Pg		**Pg**		**22 37 47.4**	**-0.9**
	961nm,0.8s									
FDMO	**Fiordimonte**	**0.84**	**340**	Pg		**Pg**		**22 37 48.5**	**-1.2**
FDMO				Sg		**Sb**		**22 38 01.4**	**+0.2**
	374nm,0.9s									
FDMO	**Fiordimonte**	**0.84**	**340**	Pg		**Pg**		**22 37 48.5**	**-1.2**
FDMO				Sg		**Sb**		**22 38 01.4**	**+0.2**
	374nm,0.9s									
MIDA	**Miranda**	**0.84**	**136**	Pg		**Pg**		**22 37 48.6**	**-1.1**
MIDA				Sg		**Sg**		**22 38 00.4**	**-0.3**
	528nm,0.5s									
MIDA	**Miranda**	**0.84**	**136**	Pg		**Pg**		**22 37 48.6**	**-1.1**
MIDA				Sg		**Sg**		**22 38 00.4**	**-0.3**
	528nm,0.5s									
CESI	**CESI - Serrava**	**0.86**	**331**	Pg		**Pg**		**22 37 49.5**	**-0.7**
	185nm,0.8s									
CESI	**CESI - Serrava**	**0.86**	**331**	Pg		**Pg**		**22 37 49.5**	**-0.7**
	185nm,0.8s									
GUMA	**Gualdo di Mace**	**0.88**	**23**	Pg		**Pg**		**22 37 49.1**	**-1.4**
	980nm,0.6s									
GUMA	**Gualdo di Mace**	**0.88**	**23**	Pg		**Pg**		**22 37 49.1**	**-1.4**
	980nm,0.6s									
ASSB	**Assisi San Ben**	**0.99**	**323**	Pg		**Pb**		**22 37 51.8**	**-0.9**
	250nm,0.5s									
ASSB	**Assisi San Ben**	**0.99**	**323**	Pg		**Pb**		**22 37 51.8**	**-0.9**
	250nm,0.5s									
VAGA	**Valle Agricola**	**1.01**	**145**	Pg		**Pb**		**22 37 51.1**	**-1.8**
	121nm,0.5s									
VAGA	**Valle Agricola**	**1.01**	**145**	Pg		**Pb**		**22 37 51.1**	**-1.8**
	121nm,0.5s									
CING	**Cingoli**	**1.14**	**350**	Pg		**Pb**		**22 37 54.3**	**-0.9**
	260nm,0.7s									
CING	**Cingoli**	**1.14**	**350**	Pg		**Pb**		**22 37 54.3**	**-0.9**
	260nm,0.7s									
MGAB	**Montegabbione**	**1.21**	**304**	Pg		**Pn**		**22 37 55.9**	**-0.3**
	177nm,0.5s									
MGAB	**Montegabbione**	**1.21**	**304**	Pg		**Pn**		**22 37 55.9**	**-0.3**
	177nm,0.5s									
ARVD	**Arcevia**	**1.31**	**343**	Pg		**Pn**		**22 37 56.9**	**-0.7**
	239nm,0.8s									
ARVD	**Arcevia**	**1.31**	**343**	Pg		**Pn**		**22 37 56.9**	**-0.7**
	239nm,0.8s									
PIEI	**Pieia**	**1.46**	**332**	Pg		**Pn**		**22 38 00.1**	**+0.4**
	139nm,0.9s									
PIEI	**Pieia**	**1.46**	**332**	Pg		**Pn**		**22 38 00.1**	**+0.4**
	139nm,0.9s									
NVLJ	**Novalja**	**2.53**	**23**	*e*Pn		**Pn**		**22 38 14.6**	**+0.2**
NVLJ				Sn		**Sn**		**22 38 46.1**	**+1.1**
NVLJ	**Novalja**	**2.53**	**23**	*e*Pn		**Pn**		**22 38 14.5**	**+0.2**
NVLJ				Sn		**Sn**		**22 38 46.1**	**+1.1**
UDBI	**Udbina**	**2.82**	**35**	*e*Pn		**Pn**		**22 38 20.4**	**+1.9**
UDBI				Sn		**Sn**		**22 38 53.7**	**+1.3**
UDBI	**Udbina**	**2.82**	**35**	*e*Pn		**Pn**		**22 38 20.3**	**+1.9**
UDBI				Sn		**Sn**		**22 38 53.7**	**+1.3**
STON	**Ston**	**3.18**	**77**	*e*Pn		**Pn**		**22 38 24.1**	**+0.8**
STON				Sn		**Sn**		**22 39 02.8**	**+1.7**
ABTA	**Abfaltersbach**	**4.55**	**352**	*i*Pn		**Pn**		**22 38 42.2**	**0.0**
ABTA	**Abfaltersbach**	**4.55**	**352**	Pn		**Pn**		**22 38 42.2**	**0.0**
BBLS	**Lazići**	**4.64**	**68**	*e*Pn		**Pn**		**22 38 46.4**	**+3.0**

*NEIC **23** 23:11:49.3, 19°22N×67°76W, h10km, MD3.3(RSPR), After RSPR.*

RSPR 23 23:11:49.3, 19°22N×67°76W, h10km±31km**, MD3.3**/18**, 16C-16D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.87**	**162**	*i*P	Pg	23 12 02.9	-3.2
IDE				*e*S	Sg	23 12 15.1	-2.4
IDE	**Isla Desecheo**	**0.87**	**162**	*i* Pu	Pg	23 12 02.9	-3.2
IDE				*e*S	Sg	23 12 15.1	-2.4
AGPR	**Aguadilla, PR**	**0.97**	**140**	*e*S	Sg	23 12 18.1	-2.5
AGPR	**Aguadilla, PR**	**0.97**	**140**	*e*P	Pg	23 12 04.9	-3.0
AGPR	**Aguadilla, PR**	**0.97**	**140**	*e*P	Pg	23 12 04.9	-3.0
AGPR				*e*S	Sg	23 12 18.1	-2.5
IMO	**Isla Mona**	**1.11**	**187**	*e*P	Pb	23 12 07.2	-3.4
IMO				*e*S	Sg	23 12 21.8	-3.3
IMO	**Isla Mona**	**1.11**	**187**	*e*P	Pb	23 12 07.2	-3.4
IMO				*e*S	Sg	23 12 21.8	-3.3
LSP	**Las Mesas**	**1.22**	**148**	*e*S	Sb	23 12 26.3	-2.1
LSP	**Las Mesas**	**1.22**	**148**	*e*P	Pn	23 12 09.0	-3.5
LSP	**Las Mesas**	**1.22**	**148**	*e*P	Pn	23 12 09.0	-3.5
LSP				*e*S	Sb	23 12 26.3	-2.1
LRS	**Lares**	**1.27**	**137**	*e*P	Pn	23 12 09.4	-3.7
LRS				*e*S	Sb	23 12 25.9	-3.8
LRS	**Lares**	**1.27**	**137**	*e*P	Pn	23 12 09.4	-3.7
LRS				*e*S	Sb	23 12 25.9	-3.8
AOPR	**Arecibo Observ**	**1.29**	**132**	*e*S	Sb	23 12 26.3	-4.1
AOPR	**Arecibo Observ**	**1.29**	**132**	*e*S	Sb	23 12 27.4	-3.0
AOPR	**Arecibo Observ**	**1.29**	**132**	*e*P	Pn	23 12 09.7	-3.7
AOPR	**Arecibo Observ**	**1.29**	**132**	*e*P	Pn	23 12 09.7	-3.7
AOPR				*e*S	Sb	23 12 27.4	-3.0
CRPR	**Cabo Rojo, PR**	**1.35**	**153**	*e*P	Pn	23 12 11.8	-2.4
CRPR	**Cabo Rojo, PR**	**1.35**	**153**	*e*S	Sb	23 12 29.1	-3.0
CRPR	**Cabo Rojo, PR**	**1.35**	**153**	*e*P	Pn	23 12 11.8	-2.4
CRPR				*e*S	Sb	23 12 29.1	-3.0
SMN1	**Samana, DR**	**1.43**	**269**	*e*P	Pn	23 12 12.1	-3.3
SMN1				*e*S	Sn	23 12 31.0	-3.3
GBPR	**Guanica, Bosqu**	**1.49**	**146**	*e*P	Pn	23 12 13.8	-2.4
GBPR	**Guanica, Bosqu**	**1.49**	**146**	*e*S	Sn	23 12 32.3	-3.4
GBPR	**Guanica, Bosqu**	**1.49**	**146**	*e*P	Pn	23 12 13.8	-2.4
GBPR				*e*S	Sn	23 12 32.3	-3.4
DR12	**Loma Pena Alta**	**1.59**	**255**	*e*P	Pn	23 12 15.3	-2.4
DR12				*e*S	Sn	23 12 35.0	-3.3
DR12	**Loma Pena Alta**	**1.59**	**255**	*e*P	Pn	23 12 15.3	-2.4
DR12				*e*S	Sn	23 12 35.0	-3.3
CELP	**Cerrillos**	**1.59**	**135**	*e*P	Pn	23 12 15.1	-2.6
CELP				*e*S	Sn	23 12 34.5	-3.8
CELP	**Cerrillos**	**1.59**	**135**	*e*P	Pn	23 12 15.1	-2.6
CELP				*e*S	Sn	23 12 34.5	-3.8
OBIP	**Obispado Ponce**	**1.60**	**137**	*e*P	Pn	23 12 15.0	-2.7
OBIP	**Obispado Ponce**	**1.60**	**137**	*e*S	Sn	23 12 35.2	-3.3
OBIP	**Obispado Ponce**	**1.60**	**137**	*e*P	Pn	23 12 15.0	-2.7
OBIP				*e*S	Sn	23 12 35.2	-3.3
SJG	**San Juan**	**1.88**	**125**	*e*P	Pn	23 12 19.2	-2.3
SJG	**San Juan**	**1.88**	**125**	*e*P	Pn	23 12 19.4	-2.1
SJG				*e*S	Sn	23 12 41.8	-3.6
SJG	**San Juan**	**1.88**	**125**	*e*P	Pn	23 12 19.2	-2.3
SJG				*e*S	Sn	23 12 41.4	-4.0
HUMP	**Col San Antoni**	**2.10**	**120**	*e*P	Pn	23 12 22.4	-2.2
HUMP	**Col San Antoni**	**2.10**	**120**	*e*S	Sn	23 12 46.9	-4.0
HUMP	**Col San Antoni**	**2.10**	**120**	*e*P	Pn	23 12 22.3	-2.4
HUMP				*e*S	Sn	23 12 47.1	-3.7
CPD	**Cerro la Pandu**	**2.11**	**124**	*e*P	Pn	23 12 21.7	-3.0
CPD	**Cerro la Pandu**	**2.11**	**124**	*e*S	Sn	23 12 47.8	-3.2
CPD	**Cerro la Pandu**	**2.11**	**124**	*e*P	Pn	23 12 21.7	-3.0
CPD				*e*S	Sn	23 12 47.8	-3.2
MTP	**Monte Pirata**	**2.37**	**118**	*e*P	Pn	23 12 24.6	-3.7
MTP	**Monte Pirata**	**2.37**	**118**	*e*S	Sn	23 12 54.5	-3.0
MTP	**Monte Pirata**	**2.37**	**118**	*e*P	Pn	23 12 24.6	-3.7
MTP				*e*S	Sn	23 12 54.5	-3.0
STVI	**Saint Thomas**	**2.79**	**107**	*e*P	Pn	23 12 30.7	-3.5
STVI	**Saint Thomas**	**2.79**	**107**	*e*S	Sn	23 13 04.2	-3.7
STVI	**Saint Thomas**	**2.79**	**107**	*e*P	Pn	23 12 30.7	-3.5
STVI				*e*S	Sn	23 13 04.2	-3.7
SDDR	**Presa de Saban**	**3.34**	**267**	*e*Pn	Pn	23 12 41.0	-0.8
SDDR				*e*Sn	Sn	23 13 20.1	-1.5

*ATH **23** 23:13:45.1, 36°62N×27°81E, h87km±1km*
*ISCJB **23** 23:13:46.0±0.5, 36°65N±0°04×27°77E±0°04, h83km±5km, Error ellipse: s-maj=6.9km s-min=3.6km az=143.2*
*CSEM **23** 23:13:46.9±0.1, 36°64N×27°79E, h76km±2km, MD3.0, Error ellipse: s-maj=3.9km s-min=2.1km az=146.0*
*THE **23** 23:13:47.5, 36°59N×27°77E, h92km±4km, ML3.3/1, Error ellipse: s-maj=4.4km s-min=1.9km az=89.0*
*ISK **23** 23:13:48.4, 36°79N×27°86E, h63km, MD3.0*
*DDA **23** 23:13:48.2, 36°73N×28°08E, h7km, MD2.8*

ISC 23 23:13:46.6±1.2, 36°65N±0°03×27°79E±0°03, h80km±6km**, n60, σ0°65/87, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.19**	**295**	*e*Pg	**Pn**	**23 13 58.6**	**+0.1**
DAT				*e*Sg	**Sn**	**23 14 07.0**	**-0.3**
DAT	**Datca**	**0.19**	**295**	*e*Pg	**Pn**	**23 13 58.6**	**+0.1**
DAT				*e*Sg	**Sn**	**23 14 07.0**	**-0.3**
NIS1	**Nisyros Isl.**	**0.49**	**265**	P	**Pn**	**23 14 00.7**	**+0.4**
NIS1				S	**Sn**	**23 14 11.3**	**+0.8**
NIS1	**Nisyros Isl.**	**0.49**	**265**	P	**Pn**	**23 14 00.7**	**+0.4**
NIS1				S	**Sn**	**23 14 11.3**	**+0.8**
ARG	**Arkhangelos**	**0.51**	**148**	P	**Pn**	**23 14 00.7**	**+0.2**
ARG				S	**Sn**	**23 14 11.1**	**+0.4**
ARG	**Arkhangelos**	**0.51**	**148**	*e*P	**Pn**	**23 14 00.4**	**-0.1**
ARG				*e*S	**Sn**	**23 14 10.9**	**+0.2**
ARG	**Arkhangelos**	**0.51**	**148**	*e*P	**Pn**	**23 14 00.4**	**-0.1**
ARG				*e*S	**Sn**	**23 14 10.9**	**+0.2**
BODT	**Bodrum**	**0.56**	**317**	*e*PG	**Pn**	**23 14 01.0**	**+0.1**
BODT				*e*SG	**Sn**	**23 14 11.6**	**0.0**
BODT	**Bodrum**	**0.56**	**317**	*e*Pg	**Pn**	**23 14 01.0**	**+0.1**
BODT				*e*Sg	**Sn**	**23 14 11.6**	**0.0**
YER	**Yerkesik**	**0.62**	**39**	*e*PG	**Pn**	**23 14 01.2**	**-0.4**
YER	**Yerkesik**	**0.62**	**39**	*e*Pg	**Pn**	**23 14 01.2**	**-0.4**
MLSB	**Milas**	**0.64**	**359**	*e*PG	**Pn**	**23 14 01.3**	**-0.4**
MLSB	**Milas**	**0.64**	**359**	*e*Pg	**Pn**	**23 14 01.3**	**-0.4**
DALY	**Dalyan (Mu¨la**	**0.71**	**76**	*e*PG	**Pn**	**23 14 02.4**	**0.0**
DALY	**Dalyan (Mu¨la**	**0.71**	**76**	*e*Pg	**Pn**	**23 14 02.4**	**0.0**
AYDN	**Tasoluk**	**1.01**	**4**	*i* P	**Pn**	**23 14 06.3**	**+0.5**
AYDN				*i* S	**Sn**	**23 14 19.8**	**-0.4**
AYDN	**Tasoluk**	**1.01**	**4**	*i* P	**Pn**	**23 14 06.3**	**+0.5**
AYDN				*i* S	**Sn**	**23 14 19.8**	**-0.4**
KARP	**Karpathos**	**1.21**	**205**	P	**Pn**	**23 14 08.1**	**-0.2**
KARP	**Karpathos**	**1.21**	**205**	*e*P	**Pn**	**23 14 08.1**	**-0.2**
KARP				*e*S	**Sn**	**23 14 24.0**	**-0.6**
KARP	**Karpathos**	**1.21**	**205**	P	**Pn**	**23 14 08.1**	**-0.2**
KARP				*e*S	**Sn**	**23 14 24.0**	**-0.6**
SMG	**Samos**	**1.30**	**325**	P	**Pn**	**23 14 09.5**	**+0.1**
SMG	**Samos**	**1.30**	**325**	*e*P	**Pn**	**23 14 09.5**	**+0.1**
SMG	**Samos**	**1.30**	**325**	P	**Pn**	**23 14 09.5**	**+0.1**
DNZL	**Cakiroluk**	**1.44**	**44**	*i* P	**Pn**	**23 14 11.7**	**+0.3**
DNZL				*i* S	**Sn**	**23 14 29.1**	**-1.0**
DNZL	**Cakiroluk**	**1.44**	**44**	*i* P	**Pn**	**23 14 11.7**	**+0.3**
DNZL				*i* S	**Sn**	**23 14 29.0**	**-1.0**
KSL	**Kastellorizon**	**1.53**	**109**	*e*P	**Pn**	**23 14 11.7**	**-0.6**
KSL	**Kastellorizon**	**1.53**	**109**	*e*P	**Pn**	**23 14 11.7**	**-0.6**
ELL	**Elmali**	**1.71**	**86**	*e*PN	**Pn**	**23 14 15.8**	**+1.1**
ELL	**Elmali**	**1.71**	**86**	*e*Pn	**Pn**	**23 14 15.8**	**+1.1**
APE	**Apeiranthos**	**1.86**	**284**	P	**Pn**	**23 14 17.6**	**+1.0**
APE	**Apeiranthos**	**1.86**	**284**	P	**Pn**	**23 14 17.6**	**+1.0**
THR3	**Thira Island,**	**1.94**	**264**	P	**Pn**	**23 14 18.4**	**+0.8**
THR3	**Thira Island,**	**1.94**	**264**	P	**Pn**	**23 14 18.4**	**+0.8**
KULA	**Kula-Manisa**	**1.98**	**20**	*e*PN	**Pn**	**23 14 18.3**	**-0.1**
KULA	**Kula-Manisa**	**1.98**	**20**	*e*Pn	**Pn**	**23 14 18.3**	**-0.1**
ZKR	**Zakros**	**1.99**	**220**	*e*P	**Pn**	**23 14 18.8**	**+0.4**
ZKR				*e*S	**Sn**	**23 14 42.6**	**-0.1**
ZKR	**Zakros**	**1.99**	**220**	*e*P	**Pn**	**23 14 18.8**	**+0.4**
ZKR				*e*S	**Sn**	**23 14 42.6**	**-0.1**
KORT	**Korkueli**	**2.09**	**80**	*i* P	**Pn**	**23 14 20.8**	**+1.1**
KORT				*i* S	**Sn**	**23 14 45.4**	**+0.4**
KORT	**Korkueli**	**2.09**	**80**	*i* P	**Pn**	**23 14 20.8**	**+1.1**
KORT				*i* S	**Sn**	**23 14 45.4**	**+0.4**
KHL	**Karahalli**	**2.17**	**39**	*e*PN	**Pn**	**23 14 20.8**	**0.0**
KHL	**Karahalli**	**2.17**	**39**	*e*Pn	**Pn**	**23 14 20.8**	**0.0**
KHAL	**Karahalli**	**2.19**	**38**	*i* P	**Pn**	**23 14 21.3**	**+0.2**
KHAL				*i* S	**Sn**	**23 14 45.9**	**-1.5**
KHAL	**Karahalli**	**2.19**	**38**	*i* P	**Pn**	**23 14 21.3**	**+0.2**
KHAL				*i* S	**Sn**	**23 14 45.9**	**-1.5**
NPS	**Neapolis**	**2.24**	**232**	P	**Pn**	**23 14 21.4**	**-0.4**
NPS				S	**Sn**	**23 14 47.0**	**-1.6**
NPS	**Neapolis**	**2.24**	**232**	*e*P	**Pn**	**23 14 21.3**	**-0.5**
NPS	**Neapolis**	**2.24**	**232**	P	**Pn**	**23 14 21.4**	**-0.4**
NPS				S	**Sn**	**23 14 47.0**	**-1.6**
BCK	**Bucak**	**2.38**	**69**	*e*PN	**Pn**	**23 14 24.8**	**+1.1**
BCK	**Bucak**	**2.38**	**69**	*e*Pn	**Pn**	**23 14 24.8**	**+1.1**
LAST	**Lasithi**	**2.39**	**232**	*e*P	**Pn**	**23 14 23.4**	**-0.4**
LAST	**Lasithi**	**2.39**	**232**	*e*P	**Pn**	**23 14 23.4**	**-0.4**
SUTC	**Sutluce-Ispart**	**2.70**	**71**	*e*PN	**Pn**	**23 14 28.8**	**+0.8**
SUTC	**Sutluce-Ispart**	**2.70**	**71**	*e*Pn	**Pn**	**23 14 28.8**	**+0.8**
IDI	**Anoyia**	**2.71**	**241**	*e*P	**Pn**	**23 14 28.0**	**-0.1**
IDI				*e*S	**Sn**	**23 14 59.1**	**-1.0**
IDI	**Anoyia**	**2.71**	**241**	*e*P	**Pn**	**23 14 28.0**	**-0.1**
IDI				*e*S	**Sn**	**23 14 59.1**	**-1.0**
SHUT	**Suhut-Afyon**	**2.90**	**48**	*e*PN	**Pn**	**23 14 31.4**	**+0.7**
SHUT	**Suhut-Afyon**	**2.90**	**48**	*e*Pn	**Pn**	**23 14 31.4**	**+0.7**
SIVA	**Sivas**	**2.92**	**237**	*e*P	**Pn**	**23 14 31.3**	**+0.5**
SIVA	**Sivas**	**2.92**	**237**	*e*P	**Pn**	**23 14 31.3**	**+0.5**
KARN	**Karanos**	**3.38**	**249**	*e*P	**Pn**	**23 14 37.8**	**+0.8**
KARN				*e*S	**Sn**	**23 15 16.2**	**+0.2**
KARN	**Karanos**	**3.38**	**249**	*e*P	**Pn**	**23 14 37.8**	**+0.8**
KARN				*e*S	**Sn**	**23 15 16.2**	**+0.2**

*IDC **23** 23:14:57.1±3.0, 45°41S×167°81E, h0km, Error ellipse: s-maj=235.0km s-min=83.5km az=90.0*
*ISCJB **23** 23:14:58.9±0.6, 45°42S±0°07×166°61E±0°06, h15km, Error ellipse: s-maj=10.6km s-min=5.6km az=12.6*
*AUST **23** 23:14:59.2±1.8, 45°51S×166°60E, h6km, Error ellipse: s-maj=2.3km s-min=0.8km az=24.0*
*WEL **23** 23:15:00.1±0.2, 45°46S×166°67E, h23km±1km, ML4.3/21, Error ellipse: s-maj=2.1km s-min=1.1km az=90.0*

ISC 23 23:14:59.8±0.8, 45°45S±0°07×166°71E±0°05, h15km**, n27, σ0°99/25, 1C-3D, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.32**	**96**	P*	**Pb**	**23 15 07.0**	**-0.1**
DCZ				S*	**Sb**	**23 15 11.8**	**-0.3**
DCZ				AML	AML	23 15 12.7	
DCZ				AML	AML	23 15 13.0	
DCZ				AML	AML	23 15 13.0	
WHZ	**Wether Hill Ro**	**0.98**	**118**	PN	**Pb**	**23 15 18.2**	**-0.2**
WHZ				SN	**Sg**	**23 15 31.5**	**0.0**
WHZ				AML	AML	23 15 35.7	
MLZ	**Mavora Lakes**	**1.04**	**85**	PN	**Pb**	**23 15 18.7**	**-0.7**
MLZ				AML	AML	23 15 32.9	
MLZ				AML	AML	23 15 33.2	
MSZ	**Milford Sound**	**1.16**	**49**	↑PN	**Pn**	**23 15 20.4**	**-1.1**
MSZ				AML	AML	23 15 41.2	
MSZ				AML	AML	23 15 41.7	
MSZ				AML	AML	23 15 41.9	
MSZ				AML	AML	23 15 43.9	
APZ	**The Paps**	**1.65**	**148**	↓PN	**Pb**	**23 15 29.0**	**-0.9**
WKZ	**Wanaka**	**1.75**	**70**	PN	**Pb**	**23 15 31.0**	**-0.6**
WKZ				AML	AML	23 15 58.8	
WKZ				AML	AML	23 15 58.8	
WKZ				AML	AML	23 16 04.1	
WKZ				AML	AML	23 16 04.1	
EAZ	**Earnscleugh**	**1.85**	**84**	↓PN	**Pb**	**23 15 32.5**	**-0.7**
EAZ				SN	**Sb**	**23 15 55.5**	**-0.7**
EAZ				AML	AML	23 16 00.7	
EAZ				AML	AML	23 16 02.4	
EAZ				AML	AML	23 16 02.5	
JCZ	**Jackson Bay**	**2.00**	**48**	AML	AML	23 16 07.7	
JCZ				AML	AML	23 16 09.1	
SYZ	**Scrubby Hill**	**2.02**	**124**	PN	**Pb**	**23 15 34.8**	**-1.3**
TUZ	**Tuapeka**	**2.11**	**105**	PN	**Pb**	**23 15 36.2**	**-1.5**
TUZ				AML	AML	23 16 06.7	
TUZ				AML	AML	23 16 09.1	
LBZ	**Lake Benmore**	**2.69**	**68**	PN	**Pn**	**23 15 43.0**	**+0.6**
LBZ				AML	AML	23 16 21.8	
LBZ				AML	AML	23 16 24.7	
LBZ				AML	AML	23 16 28.3	
LBZ				AML	AML	23 16 29.0	
HHSZ	**Highcliff Hill**	**2.77**	**101**	PN	**Pn**	**23 15 44.8**	**+1.3**
ODZ	**Otahua Downs**	**2.81**	**83**	↓PN	**Pn**	**23 15 44.6**	**+0.5**
ODZ				AML	AML	23 16 23.5	
ODZ				AML	AML	23 16 24.2	
ODZ				AML	AML	23 16 24.2	
FOZ	**Fox Glacier**	**2.84**	**50**	AML	AML	23 16 37.7	
FOZ				AML	AML	23 16 37.7	
FOZ				AML	AML	23 16 43.6	
FOZ				AML	AML	23 16 43.6	
RPZ	**Rata Peaks**	**3.56**	**62**	AML	AML	23 17 01.2	
RPZ				AML	AML	23 17 01.5	
WVZ	**Waitaha Valley**	**3.74**	**52**	PN	**Pn**	**23 15 58.4**	**+1.5**
WVZ				AML	AML	23 17 04.0	
WVZ				AML	AML	23 17 04.8	
OXZ	**Oxford**	**4.37**	**63**	PN	**Pn**	**23 16 06.3**	**+0.7**
MQZ	**McQueen's Vall**	**4.59**	**70**	PN	**Pn**	**23 16 09.9**	**+1.4**
LTZ	**Lake Taylor**	**4.81**	**58**	AML	AML	23 17 16.7	
LTZ				AML	AML	23 17 17.5	
THZ	**Tophouse**	**5.81**	**53**	AML	AML	23 17 43.6	
THZ				AML	AML	23 17 49.0	
MOO	**Moorlands** baz=14,SNR=3.3	**14.38**	**275**	P	**Pn**	**23 18 21.5**	**-1.1**
MILA	**Mila** baz=16,SNR=6.3	**15.61**	**296**	P	**Pn**	**23 18 37.7**	**-1.5**
TOO	**Toolangi** baz=18,SNR=4.4	**17.70**	**289**	P	**P**	**23 19 07.4**	**+1.0**
BRTR	**Keskin Array B** 0.9nm,0.8s,baz=134,slow=4.2,SNR=6.3	**145.37**	**277**	PKPbc	**PKPab**	**23 34 38.1**	**+1.3**
TORD	**Torodi Ar. Bea** 5.3nm,0.8s,baz=146,slow=2.3,SNR=67	**145.38**	**206**	PKPbc	**PKPbc**	**23 34 37.3**	**+0.1**
ARCES	**ARCESS Array B** 1.6nm,0.9s,baz=42,slow=4.2,SNR=4.6	**149.07**	**335**	PKPbc	**PKPbc**	**23 34 46.3**	**+0.4**
FINES	**FINESS Array B** 0.7nm,0.7s,baz=72,slow=4.5,SNR=6.2	**152.17**	**319**	PKPbc	**PKPbc**	**23 34 54.1**	**+0.6**

IDC 23 23:17:27.9±2.6, 25°24S×175°27W, h0km**, mb4.0/6, mb1 4.3/6, mb1mx4.0/17, mbtmp4.0/6, MS3.6/5, Ms1 3.6/5, ms1mx3.2/29, Error ellipse: s-maj=125.6km s-min=30.2km az=157.0, South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 261nm,25.8s	**17.04**	**277**	*e*LR	LR	23 25 22.7	
PPT2	**Papeete2** 252nm,29.0s	**25.08**	**77**	*e*LR	LR	23 28 49.7	
HNR	**Honiara** comp=Z,81nm,20.1s,baz=125,slow=31	**28.32**	**299**	LR	LR	23 32 15.7	
STKA	**Stephens Creek** comp=Z,98nm,21.8s,baz=205,slow=32	**38.26**	**250**	LR	LR	23 37 59.2	
ASAR	**Alice Springs** 1.5nm,0.9s,baz=100,slow=8.2,SNR=10	**46.06**	**261**	P	P	23 25 53.9	0.0
WRA	**Warramunga Arr** 1.2nm,0.6s,baz=104,slow=8.3,SNR=3.1	**46.61**	**266**	P	P	23 25 57.2	-0.9
MJAR	**Matsushiro Arr** comp=Z,58nm,18.1s,baz=55,slow=32	**75.50**	**323**	LR	LR	23 58 04.7	
PETK	**Petropavlovsk-** comp=Z,24nm,19.5s,baz=264,slow=33	**81.49**	**344**	LR	LR	00 02 08.0	
KSRS	**Korea Array** comp=Z,26nm,19.4s,baz=156,slow=33	**82.08**	**318**	LR	LR	00 02 51.2	
NVAR	**Mina Array Bea** 0.5nm,0.7s,baz=203,slow=8.8,SNR=3.7	**82.81**	**42**	P	P	23 29 54.2	-0.2
USRK	**Ussuriysk Arra** 3.2nm,0.9s,baz=128,slow=6.1,SNR=6.9	**84.27**	**325**	P	P	23 30 01.1	-0.3
PDAR	**Pinedale Array** 0.3nm,0.7s,baz=205,slow=4.0,SNR=3.1	**90.73**	**42**	P	P	23 30 33.3	+0.3
CMAR	**Chiang Mai Arr** 0.8nm,0.4s,baz=141,slow=2.6,SNR=8.7	**94.03**	**288**	P	P	23 30 50.1	+1.5
BRTR	**Keskin Array B** 0.8nm,0.8s,baz=86,slow=4.0,SNR

0.3nm,0.5s,baz=181,slow=2.9,SNR=7.1

IDC 23 23:49:25.6±32.0, 17°21'S×179°19'W, h628km±357km, mb3.4/3, mb1 3.6/3, mb1mx3.0/18, mbtmp3.4/3, Error ellipse: s-maj=211.8km s-min=115.4km az=62.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.32**	**240**	P	P	23 55 54.8	-0.1
	1.8nm,0.4s,baz=89,slow=8.3,SNR=7.4						
WRA	**Warramunga Arr**	**44.03**	**259**	P	P	23 56 39.7	-0.3
	1.7nm,0.5s,baz=93,slow=7.0,SNR=16						
ASAR	**Alice Springs**	**44.27**	**254**	P	P	23 56 42.2	+0.4
	15nm,0.5s,baz=88,slow=8.1,SNR=214						
BRTR	**Keskin Array B**	**143.76**	**315**	PKP	PKPab	00 07 50.6	0.0
	0.4nm,0.7s,baz=48,slow=2.1,SNR=3.4						
GERES	**GERESS Array B**	**146.74**	**344**	PKPbc	PKPbc	00 07 58.0	-0.6
	0.3nm,0.4s,baz=54,slow=2.5,SNR=3.2						

*ISCJB **24** 00:00:59.1±0.4, 44°.74N±0°.05×141°.36E±0°.09, h279km±3km, mb3.3/13, Error ellipse: s-maj=9.9km s-min=8.6km az=6.3*
*IDC **24** 00:00:59.5±0.7, 44°.85N×141°.26E, h266km±7km, mb3.2/13, mb1 3.4/13, mb1mx3.2/25, mbtmp3.2/13, Error ellipse: s-maj=17.9km s-min=14.9km az=146.0*
*JMA **24** 00:00:59.6±0.3, 44°.80N×141°.33E, h277km±2km, M3.1*

ISC 24 00:00:59.9±0.7, 44°.71N±0°.06×141°.37E±0°.07, h276km±5km, n34, σ1°14/46, mb3.5/13, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYG	**Yagishiri**	**0.29**	**172**	P	**Pn**	**00 01 35.6**	**+0.2**
JYG				eS	**S**	**00 02 03.4**	**0.0**
JSS	**Shosan**	**0.47**	**132**	P	**Pn**	**00 01 36.4**	**+0.7**
JSS				eS	**S**	**00 02 03.9**	**-0.1**
JWK2	**Keihoku**	**0.71**	**32**	P	**Pn**	**00 01 36.0**	**-0.3**
JWK2				eS	**S**	**00 02 04.1**	**-1.1**
JSE	**Soyaes**	**0.90**	**74**	eS	**S**	**00 02 05.3**	**-1.3**
JHR	**Hokuryu**	**1.00**	**165**	P	**Pn**	**00 01 38.7**	**+1.0**
ASAJ	**Asahikawa**	**1.06**	**124**	P	**Pn**	**00 01 38.3**	**+0.3**
ASAJ				eS	**S**	**00 02 08.6**	**+0.4**
ASAJ	**Asahikawa**	**1.06**	**124**	P	**Pn**	**00 01 38.5**	**+0.5**
	22nm,0.3s,baz=277,slow=8.3,SNR=44						
ASAJ				S	**S**	**00 02 07.2**	**-1.0**
	1.2nm,0.3s,baz=342,slow=20,SNR=4.9						
JKK2	**Kamakawa 2**	**1.30**	**130**	P	**Pn**	**00 01 40.1**	**+0.7**
JAB	**Ashibetsu**	**1.35**	**153**	P	**Pn**	**00 01 40.7**	**+0.9**
JSH	**Shakotan**	**1.50**	**208**	P	**Pn**	**00 01 41.2**	**+0.5**
JFR	**Furan**	**1.78**	**150**	P	**Pn**	**00 01 43.2**	**+0.4**
JEW	**Eniwo**	**1.87**	**178**	P	**Pn**	**00 01 44.8**	**+1.3**
JTKR	**Abashiri--Toko**	**1.97**	**111**	eS	**S**	**00 02 21.0**	**+1.6**
JAR	**Ashorobuto**	**2.23**	**128**	P	**Pn**	**00 01 47.8**	**+1.2**
JAR				eS	**S**	**00 02 24.6**	**+0.9**
JCH	**Churui**	**2.54**	**145**	P	**Pn**	**00 01 48.8**	**-0.7**
JCH				eS	**S**	**00 02 26.3**	**-2.6**
JNBK	**Urakawa-nobuka**	**2.63**	**157**	P	**Pn**	**00 01 51.2**	**+0.9**
JNBK				eS	**S**	**00 02 30.9**	**+0.5**
JKB	**Kayabe**	**2.83**	**185**	P	**Pn**	**00 01 52.3**	**0.0**
JKB				eS	**S**	**00 02 32.7**	**-1.3**
JAK	**Akkeshi**	**2.95**	**124**	P	**Pn**	**00 01 53.9**	**+0.4**
JAK				eS	**S**	**00 02 34.0**	**-2.2**
JOSM	**Okushiri--Mats**	**2.97**	**208**	P	**Pn**	**00 01 53.8**	**+0.1**
JOT	**Ohata**	**3.33**	**184**	P	**Pn**	**00 01 57.8**	**+0.2**
JOT				eS	**S**	**00 02 41.1**	**-2.4**
NEM2	**Nemuro 2**	**3.43**	**112**	P	**Pn**	**00 01 58.6**	**+0.1**
NEM2				eS	**S**	**00 02 42.3**	**-3.1**
SONM	**Songino Array**	**24.25**	**290**	P	**P**	**00 05 52.4**	**+0.3**
	0.2nm,0.4s,baz=98,slow=8.4,SNR=6.0						
MKAR	**Makanchi Array**	**40.43**	**295**	P	**P**	**00 08 11.1**	**-0.4**
	0.5nm,0.6s,baz=82,slow=9.6,SNR=6.0						
KDAK	**Kodiak Island**	**41.66**	**47**	P	**P**	**00 08 21.2**	**0.0**
	7.3nm,0.9s,baz=300,slow=8.1,SNR=2.9						
ILAR	**Eielson Array**	**43.18**	**36**	P	**P**	**00 08 33.2**	**-0.1**
	0.4nm,0.6s,baz=283,slow=8.2,SNR=6.5						
INK	**Inuvik**	**47.66**	**30**	P	**P**	**00 09 08.0**	**-0.2**
	0.5nm,0.3s,baz=294,slow=13,SNR=12						
FINES	**FINESS Array B**	**62.06**	**331**	P	**P**	**00 10 49.9**	**-1.0**
	0.8nm,0.5s,baz=51,slow=10.0,SNR=6.2						
WRA	**Warramunga Arr**	**64.66**	**187**	P	**P**	**00 11 09.1**	**+0.8**
	0.4nm,0.5s,baz=3.5,slow=7.0,SNR=4.9						
NOA	**NORSAR Array B**	**67.13**	**336**	P	**P**	**00 11 22.4**	**-1.3**
	1.3nm,1.1s,baz=26,slow=6.0,SNR=3.0						
ASAR	**Alice Springs**	**68.38**	**187**	P	**P**	**00 11 33.7**	**+1.9**
	0.5nm,0.5s,baz=1.4,slow=5.5,SNR=5.6						
NVAR	**Mina Array Bea**	**70.51**	**55**	P	**P**	**00 11 46.2**	**+1.1**
	0.3nm,0.3s,baz=288,slow=0.9,SNR=5.2						
PDAR	**Pinedale Array**	**72.38**	**47**	P	**P**	**00 11 57.0**	**+1.0**
	0.5nm,0.5s,baz=288,slow=1.0,SNR=6.4						
BRTR	**Keskin Array B**	**73.81**	**310**	P	**P**	**00 12 04.1**	**-0.3**
	0.5nm,0.7s,baz=14,slow=6.7,SNR=2.8						
SCHQ	**Schefferville**	**77.98**	**16**	P	**P**	**00 12 27.4**	**0.0**
	0.4nm,0.4s,baz=292,slow=11,SNR=3.2						

WEL 24 00:23:55.0±0.3, 46°.14S×166°.25E, h33km, ML3.6/13, 1C-1D, Error ellipse: s-maj=3.3km s-min=2.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.91**	**44**	↑PN	Pn	00 24 11.4	-0.1
DCZ				AML	AML	00 24 25.8	
DCZ				AML	AML	00 24 30.6	
WHZ	**Wether Hill Ro**	**1.21**	**79**	PN	Pb	00 24 16.8	-0.6
WHZ				SN	Sb	00 24 33.8	+1.1
WHZ				AML	AML	00 24 38.4	
APZ	**The Paps**	**1.39**	**121**	↓PN	Pn	00 24 18.1	-0.1
MLZ	**Mavora Lakes**	**1.56**	**60**	PN	Pb	00 24 22.5	-0.9
MLZ				SN	Sb	00 24 44.5	+1.6
MLZ				AML	AML	00 24 49.3	
MSZ	**Milford Sound**	**1.88**	**40**	PN	Pn	00 24 26.6	+1.8
MSZ				AML	AML	00 25 08.0	
MSZ				AML	AML	00 25 09.3	
SYZ	**Scrubby Hill**	**2.04**	**102**	PN	Pn	00 24 28.5	+1.5
EAZ	**Earnscleugh**	**2.33**	**68**	PN	Pb	00 24 34.4	-1.9
EAZ				AML	AML	00 25 06.7	
EAZ				AML	AML	00 25 06.7	
EAZ				AML	AML	00 25 07.0	
EAZ				AML	AML	00 25 07.0	
TUZ	**Tuapeka**	**2.37**	**87**	PN	Pn	00 24 33.9	+2.5
TUZ				AML	AML	00 25 06.8	
TUZ				AML	AML	00 25 10.8	
ODZ	**Otahua Downs**	**3.27**	**72**	PN	Pn	00 24 45.4	+1.4
LBZ	**Lake Benmore**	**3.29**	**59**	PN	Pn	00 24 47.4	+3.2
LBZ				AML	AML	00 25 49.8	

*ISCJB **24** 00:29:18.2±0.5, 7°.10S±0°.04×129°.74E±0°.05, h104km, mb4.0/11, Error ellipse: s-maj=6.8km s-min=5.5km az=7.6*
*IDC **24** 00:29:19.6±2.6, 7°.01S×129°.55E, h110km±23km, mb3.8/12, mb1 4.0/14, mb1mx3.9/21, mbtmp3.8/14, MS2.9/1, Ms1 2.9/1, ms1mx2.2/27, Error ellipse: s-maj=26.6km s-min=12.0km az=75.0*
*AUST **24** 00:29:20.0±0.0, 7°.12S×129°.61E, h104km, Error ellipse: s-maj=1.1km s-min=0.8km az=296.0*
*DJA **24** 00:29:23.2±0.5, 7°S±5'×13°0E±°, h54km±25km, M4.8/5, mb4.8/5, mB5.3/1, MLv4.8/5, Mw(mB)4.7/1*

ISC 24 00:29:19.7±0.5, 7°.12S±0°.05×129°.78E±0°.06, h104km, n47, σ2°02/39, mb4.0/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.58**	**3**	P	Pn	00 30 05.4	+5.4
	baz=2.6,SNR=3.2						
MSAI	**Masohi**	**3.84**	**347**	P	Pn	00 30 21.9	+5.1
NLAI	**Namlea**	**4.69**	**325**	P	Pn	00 30 38.9	+11
FAKI	**Fak Fak**	**4.84**	**31**	P	Pn	00 30 34.1	+3.8
FAKI	**Fak Fak**	**4.84**	**31**	P	**Pn**	**00 30 32.7**	**+2.4**
	baz=5.0,SNR=22						
FAKI				S	**Sn**	**00 31 26.1**	**+0.8**
	baz=5.0,SNR=16						
MTN	**Manton Dam**	**5.85**	**167**	P	Pn	00 30 47.0	+3.0
	baz=5.9,SNR=108						
MTN				S	**Sn**	**00 31 50.2**	**+0.5**
	baz=5.9,SNR=10						
SOEI	**Soe**	**6.05**	**244**	P	**Pn**	**00 30 48.6**	**+1.7**
	181nm,0.9s,2µm1.3nm						
SOEI	**Soe**	**6.05**	**244**	P	**Pn**	**00 30 48.8**	**+1.9**
	baz=5.9,SNR=18						
SOEI				S	**Sn**	**00 31 54.0**	**-0.9**
	baz=5.9,SNR=10						
KDU	**Kakadu**	**6.14**	**155**	P	Pn	00 30 51.1	+3.1
	baz=6.2,SNR=102						
KDU				S	**Sn**	**00 31 56.9**	**+0.1**
	baz=6.2,SNR=9.1						
SWI	**Sorong**	**6.38**	**13**	P	Pn	00 30 55.2	+3.9
	baz=6.5,SNR=4.1						
BATI	**Baumata**	**6.78**	**243**	LR	LR	00 33 36.0	
	comp=Z,100nm,19.8s,baz=145,slow=39						
BBSI	**Bau Bau**	**7.35**	**282**	P	Pn	00 31 11.2	+6.8
	67nm,1.0s,0.2nm						
KNRA	**Kununurra**	**8.57**	**187**	P	**Pn**	**00 31 21.6**	**+0.7**
	baz=8.6,SNR=38						
KNRA				S	**Sn**	**00 32 50.3**	**-5.6**
	baz=8.6,SNR=14						
FITZ	**Fitzroy Crossi**	**11.64**	**200**	P	**Pn**	**00 32 00.8**	**-1.8**
	1.8nm,0.3s,baz=31,slow=11,SNR=50						
FITZ				S	Sn	00 33 59.6	-11
	8.4nm,0.3s,baz=304,slow=23,SNR=9.6						
FITZ	**Fitzroy Crossi**	**11.64**	**200**	P	**Pn**	**00 32 00.8**	**-1.8**
	baz=12,SNR=63						
FITZ				S	Sn	00 34 00.9	-10
	baz=12,SNR=6.5						
WRA	**Warramunga Arr**	**13.50**	**161**	P	**Pn**	**00 32 25.4**	**-1.6**
	2.8nm,0.3s,baz=340,slow=13,SNR=15						
WRA				S	Sn	00 34 45.3	-10
	6.3nm,0.3s,baz=334,slow=24,SNR=12						
COEN	**Coen**	**14.81**	**118**	P	**P**	**00 32 47.4**	**+0.2**
	baz=15,SNR=11						
COEN				S	**Sn**	**00 35 23.9**	**-3.7**
	baz=15,SNR=8.5						
BBKI	**Banjar Baru**	**15.31**	**283**	P	**P**	**00 32 56.8**	**+4.1**
ASAR	**Alice Springs**	**16.93**	**167**	P	**P**	**00 33 10.7**	**+0.1**
	2.0nm,0.3s,baz=341,slow=10,SNR=62						
ASAR				S	Sn	00 36 06.9	-12
	0.7nm,0.3s,baz=342,slow=21,SNR=8.9						
ASAR				ScP	**ScP**	**00 41 12.5**	**-4.3**
	0.3nm,0.3s,baz=354,slow=1.7,SNR=10						
MTSU	**Mount Surprise**	**17.90**	**129**	P	**Pn**	**00 33 26.3**	**+4.1**
	baz=18,SNR=4.8						
CTA	**Charters Tower**	**20.53**	**131**	P	Pn	00 33 51.6	-1.4
	1.3nm,0.3s,baz=322,slow=12,SNR=2.5						
MEEK	**Meekatharra**	**22.13**	**207**	P	**P**	**00 34 07.8**	**+0.8**
	baz=22,SNR=6.8						
MEEK				S	S	00 38 12.1	+7.8
	baz=22,SNR=6.0						
FORT	**Forrest**	**23.60**	**184**	P	**P**	**00 34 22.1**	**+0.9**
	baz=24,SNR=36						
MORW	**Morawa**	**25.39**	**209**	P	**P**	**00 34 37.3**	**-0.2**
	baz=25,SNR=4.4						
BBOO	**Buckleboo**	**26.22**	**168**	P	**P**	**00 34 45.7**	**+0.7**
	baz=26,SNR=16						
RMQ	**Roma**	**26.41**	**139**	S	S	00 39 31.9	+19
	baz=27,SNR=5.2						
KLBR	**Kellerberrin**	**26.82**	**203**	P	**P**	**00 34 50.9**	**+0.5**
	baz=27,SNR=6.1						
STKA	**Stephens Creek**	**26.99**	**157**	P	**P**	**00 34 53.0**	**+1.2**
	6.2nm,0.6s,baz=331,slow=10.0,SNR=21						
STKA	**Stephens Creek**	**26.99**	**157**	P	**P**	**00 34 53.3**	**+1.4**
	baz=27,SNR=14						
EIDS	**Eidsvold**	**27.27**	**134**	S	S	00 39 17.0	-9.2
	baz=27,SNR=21						
NWAO	**Narogin (SRO)**	**28.20**	**203**	P	**P**	**00 35 02.4**	**-0.2**
	6.8nm,0.9s,baz=33,slow=11,SNR=4.8						
ARPS	**Mount Arapiles**	**31.50**	**161**	P	**P**	**00 35 34.0**	**+2.2**
	baz=32,SNR=8.8						
CMAR	**Chiang Mai Arr**	**39.64**	**310**	P	P	00 36 38.8	-2.8
	2.7nm,0.5s,baz=139,slow=7.0,SNR=10						
MJAR	**Matsushiro Arr**	**44.14**	**10**	P	**P**	**00 37 16.0**	**-2.0**
	1.7nm,0.7s,baz=189,slow=9.4,SNR=4.9						
USRK	**Ussuriysk Arra**	**51.12**	**2**	P	**P**	**00 38 09.8**	**-1.9**
	1.1nm,0.6s,baz=168,slow=7.4,SNR=6.3						
SONM	**Songino Array**	**58.48**	**342**	P	**P**	**00 39 04.1**	**-0.9**
	0.7nm,0.5s,baz=151,slow=7.0,SNR=6.6						
MKAR	**Makanchi Array**	**68.20**	**327**	P	**P**	**00 40 07.5**	**-1.5**
	2.2nm,0.4s,baz=115,slow=8.7,SNR=55						
ZALV	**Zalesovo Beam**	**71.59**	**334**	P	P	00 40 26.8	-2.8
	1.4nm,0.5s,baz=123,slow=5.5,SNR=9.9						
VNDA	**Vanda**	**72.36**	**173**	P	**P**	**00 40 33.7**	**-0.1**
	0.4nm,0.5s,baz=311,slow=8.0,SNR=3.9						
MAW	**Mawson**	**74.76**	**201**	P	**P**	**00 40 46.6**	**-1.4**
	1.4nm,0.6s,baz=90,slow=11,SNR=4.8						
ILAR	**Eielson Array**	**93.54**	**25**	P	P	00 42 20.9	-2.8
	0.3nm,0.6s,baz=248,slow=4.8,SNR=4.2						
PDAR	**Pinedale Array**	**117.12**	**45**	PKP	**PKPdf**	**00 47 53.0**	**-0.3**
	0.3nm,0.6s,baz=304,slow=2.1,SNR=3.0						
TXAR	**Lajitas Array**	**125.17**	**59**	PKP	**PKPdf**	**00 48 09.0**	**+0.1**
	0.1nm,0.6s,baz=217,slow=4.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**128.62**	**281**	PKP	**PKPdf**	**00 48 14.5**	**-1.2**
	0.2nm,0.6s,baz=99,slow=3.1,SNR=3.5						
LVC	**Limon Verde**	**145.25**	**149**	PKPbc	**PKPdf**	**00 48 47.2**	**+0.7**
	4.2nm,0.8s,baz=304,slow=3.6,SNR=4.1						
CPUP	**Villa Florida**	**146.04**	**169**	PKPbc	**PKPdf**	**00 48 48.2**	**+0.8**
	1.1nm,0.5s,baz=175,slow=8.2,SNR=3.8						
LPAZ	**La Paz**	**150.76**	**143**	PKPbc	**PKPbc**	**00 49 01.7**	**0.0**
	0.6nm,0.4s,baz=31,slow=4.9,SNR=5.6						

*AUST **24** 00:37:58.8±2.1, 3°.75N×121°.71E, h574km, Error ellipse: s-maj=3.3km s-min=2.3km az=13.0*
*ISCJB **24** 00:38:05.0±0.6, 3°.20N±0°.06×122°.5E±0°.1, h552km, mb3.8/10, Error ellipse: s-maj=19.9km s-min=7.9km az=172.8*
*IDC **24** 00:38:07.1±1.3, 3°.14N×122°.67E, h565km±17km, mb3.1/10, mb1 3.2/11, mb1mx3.0/27, mbtmp3.2/11, Error ellipse: s-maj=30.6km s-min=8.5km az=77.0*

ISC 24 00:38:06.2±0.6, 3°.17N±0°.07×122°.7E±0°.1, h552km, n21, σ1°38/27, mb3.9/10, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**4.18**	**179**	P	**P**	**00 39 28.8**	**-0.9**
	baz=4.9,SNR=5.8						
LUWI				S	**S**	**00 40 35.7**	**-2.0**
	baz=4.9,SNR=8.5						
KAPI	**Kappang**	**8.64**	**200**	P	**P**	**00 40 10.8**	**+0.3**
	1.0nm,0.3s,baz=15,slow=13,SNR=4.0						
FAKI	**Fak Fak**	**11.31**	**122**	P	**P**	**00 40 38.5**	**+0.8**
	baz=12,SNR=7.1						
MTN	**Manton Dam**	**17.98**	**152**	P	**P**	**00 41 45.2**	**+1.3**
	baz=19,SNR=14						
KDU	**Kakadu**	**18.51**	**149**	P	**P**	**00 41 49.0**	**+0.3**
	baz=20,SNR=14						
JAY	**Jayapura**	**18.87**	**107**	P	**P**	**00 41 55.4**	**+3.2**
	baz=20,SNR=3.7						
PMBI	**Palembang**	**18.91**	**251**	S	**S**	**00 44 59.0**	**+2.7**
	baz=18,SNR=5.0						
KNRA	**Kununurra**	**19.66**	**162**	P	**P**	**00 41 60.0**	**+0.7**
	baz=21,SNR=5.1						
FITZ	**Fitzroy Crossi**	**21.34**	**172**	P	**P**	**00 42 14.4**	**+0.1**
	1.5nm,0.4s,baz=357,slow=9.8,SNR=13						
FITZ	**Fitzroy Crossi**	**21.34**	**172**	P	**P**	**00 42 14.4**	**+0.1**
	baz=22,SNR=6.0						
WRA	**Warramunga Arr**	**25.66**	**154**	P	**P**	**00 42 52.5**	**-0.3**
	5.0nm,0.3s,baz=338,slow=9.4,SNR=28						
WRA				S	**S**	**00 46 39.6**	**-3.3**
	0.3nm,0.4s,baz=336,slow=15,SNR=2.6						
WRA				ScP	**ScP**	**00 48 51.9**	**-0.4**
	0.4nm,0.5s,baz=342,slow=2.9,SNR=3.7						
ASAR	**Alice Springs**	**28.82**	**158**	P	**P**	**00 43 21.0**	**+0.5**
	2.5nm,0.5s,baz=340,slow=7.5,SNR=25						
ASAR				S	**S**	**00 47 31.2**	**-1.0**
	0.9nm,1.0s,baz=353,slow=28,SNR=4.3						
ASAR				ScP	**ScP**	**00 49 01.3**	**-0.7**
	0.6nm,0.6s,baz=334,slow=3.0,SNR=5.5						
KSRS	**Korea Array**	**34.46**	**7**	P	**P**	**00 44 08.5**	**+0.3**
	0.3nm,0.3s,baz=190,slow=9.6,SNR=4.1						
BBOO	**Buckleboo**	**37.96**	**162**	P	**P**	**00 44 38.4**	**+1.2**
	baz=39,SNR=7.9						
STKA	**Stephens Creek**	**39.21**	**154**	P	**P**	**00 44 48.5**	**+1.1**
	2.2nm,0.4s,baz=328,slow=9.5,SNR=8.3						
USRK	**Ussuriysk Arra**	**41.68**	**10**	P	**P**	**00 45 06.6**	**-0.3**
	2.2nm,0.6s,baz=206,slow=6.8,SNR=9.1						
ASAJ	**Asahikawa**	**44.41**	**21**	P	**P**	**00 45 28.2**	**0.0**
	1.8nm,0.3s,baz=270,slow=20,SNR=3.0						
SONM	**Songino Array**	**46.66**	**345**	P	**P**	**00 45 45.2**	**-0.3**
	1.0nm,0.8s,baz=162,slow=9.4,SNR=7.5						
MKAR	**Makanchi Array**	**55.78**	**327**	P	**P**	**00 46 51.1**	**-0.2**
	0.1nm,0.3s,baz=122,slow=8.5,SNR=4.8						
MKAR				PcP	**PcP**	**00 47 40.6**	**-1.7**
	0.2nm,0.6s,baz=123,slow=3.8,SNR=3.9						
FX1	**Attu Island--F**	**64.61**	**31**	P	**P**	**00 47 49.5**	**0.0**
	3.2nm,0.8s,baz=248,slow=19,SNR=2.6						
TORD	**Torodi Ar. Bea**	**119.24**	**287**	PKP	**PKPdf**	**00 55 52.8**	**-1.2**
	0.2nm,0.4s,baz=86,slow=1.7,SNR=6.3						

IDC 24 00:38:51.3±4.8, 41°.30S×73°.81W, h0km, mb3.4/2, mb1 3.8/3, mbtmp3.5/16, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=147.5km s-min=18.1km az=180.0, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**2.53**	**78**	Pn	Pn	00 39 34.1	+0.4
	3.4nm,0.3s,baz=262,slow=18,SNR=68						
PLCA				Pg	Pb	00 39 37.1	-0.5
	4.6nm,0.3s,baz=256,slow=19,SNR=74						
PLCA				Lg	Lg	00 40 11.8	
	11nm,0.3s,baz=292,slow=19,SNR=11						
TXAR	**Lajitas Array**	**75.51**	**333**	P	P	00 50 37.8	+0.4
	0.2nm,0.8s,baz=170,slow=6.4,SNR=2.4						
PDAR	**Pinedale Array**	**89.68**	**335**	P	P	00 51 50.5	-0.5
	0.2nm,0.7s,baz=145,slow=3.3,SNR=2.5						

IDC 24 01:39:08.7±1.5, 11°.25S×165°.54E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.0/21, mbtmp4.0/10, ML4.0/1, MS3.4/5, Ms1 3.4/5, ms1mx2.9/30, Error ellipse: s-maj=45.2km s-min=24.2km az=116.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.79**	**288**	LR	LR	01 42 43.4	
	comp=Z,206nm,18.6s,baz=263,slow=37						
DZM	**Mont Dzumac**	**10.80**	**176**	Pn	Pn	01 41 45.1	+0.3
	1.2nm,0.3s,baz=90,slow=24,SNR=8.6						
PMG	**Port Moresby**	**18.17**	**274**	LR	LR	01 49 12.4	
	comp=Z,69nm,21.6s,baz=93,slow=33						
CTA	**Charters Tower**	**20.52**	**242**	P	P	01 43 49.1	+0.3
	3.3nm,0.7s,baz=81,slow=19,SNR=2.8						
STKA	**Stephens Creek**	**30.16**	**223**	P	P	01 45 20.8	+0.2
	2.4nm,0.8s,baz=90,slow=20,SNR=3.9						
STKA				LR	LR	01 56 59.3	
	comp=Z,70nm,18.9s,baz=24,slow=36						
WRA	**Warramunga Arr**	**31.22**	**250**	P	P	01 45 29.8	-0.4
	2.4nm,0.6s,baz=81,slow=9.1,SNR=8.8						
ASAR	**Alice Springs**	**32.52**	**243**	P	P	01 45 40.9	-0.8
	1.5nm,0.8s,baz=67,slow=10,SNR=12						
ASAR				PcP	PcP	01 48 28.8	+0.1
	0.6nm,0.7s,baz=74,slow=2.3,SNR=5.6						
FITZ	**Fitzroy Crossi**	**39.13**	**255**	LR	LR	02 01 54.1	
	comp=Z,59nm,19.1s,baz=67,slow=35						
NWAO	**Narrogin (SRO)**	**49.18**	**236**	LR	LR	02 08 51.4	
	comp=Z,107nm,21.7s,baz=271,slow=36						
CMAR	**Chiang Mai Arr**	**72.01**	**294**	P	P	01 50 35.3	+0.4
	0.7nm,0.3s,baz=106,slow=6.7,SNR=4.1						
SONM	**Songino Array**	**78.71**	**324**	P	P	01 51 13.0	-0.1
	0.2nm,0.4s,baz=140,slow=7.0,SNR=2.5						
ILAR	**Eielson Array**	**83.77**	**19**	P	P	01 51 38.4	-1.0
	0.3nm,0.9s,baz=219,slow=4.2,SNR=2.9						
MKAR	**Makanchi Array**	**93.53**	**317**	P	P	01 52 27.8	+1.2
	0.9nm,0.7s,baz=91,slow=5.9,SNR=7.6						
ZALV	**Zalesovo Beam**	**93.60**	**324**	P	P	01 52 26.3	-0.4
	0.5nm,0.4s,baz=88,slow=3.5,SNR=2.8						

*ISCJB **24** 01:59:28.8±0.3, 1°.56N±0°.04×126°.44E±0°.04, h47km, mb4.3/24, Error ellipse: s-maj=7.2km s-min=5.2km az=41.1*
*DJA **24** 01:59:29.7±0.3, 2°N±4'×12°7E±°, h10km, M4.3/8, mb4.5/5, mB5.4/1, MLv4.2/8, Mw(mB)4.9/1*
*IDC **24** 01:59:31.1±2.7, 1°.42N×126°.34E, h56km±24km, mb3.9/12, mb1 4.1/14, mb1mx3.9/24, mbtmp3.9/14, ML4.0/2, Error ellipse: s-maj=31.0km s-min=9.7km az=71.0*
*NEIC **24** 01:59:33.0±1.8, 1°.41N×126°.40E, h76km±17km, mb4.4/12, Error ellipse: s-maj=15.1km s-min=5.6km az=54.0*

ISC 24 01:59:30.4±0.4, 1°.51N±0°.06×126°.47E±0°.06, h47km, n57, σ1°57/59, mb4.4/24, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.16**	**129**	P	**Pn**	**01 59 50.1**	**-0.1**
TNTI				S	**Sn**	**02 00 06.9**	**+2.0**
GAMI	**Galela, Maluku**	**1.35**	**76**	P	**Pn**	**01 59 52.9**	**-0.1**
GAMI				S	**Sn**	**02 00 11.7**	**+1.9**
MNI	**Manado**	**1.63**	**268**	P	**Pn**	**01 59 58.5**	**+1.7**
LBMI	**Labuha**	**2.37**	**154**	P	**Pn**	**02 00 09.6**	**+2.8**
KMSI	**Cibinong**	**2.66**	**250**	P	**Pn**	**02 00 12.8**	**+2.0**
GTOI	**Gorontalo**	**3.57**	**256**	P	Pn	02 00 27.0	+3.7
LUWI	**Luwuk**	**4.48**	**236**	P	Pn	02 00 40.5	+4.6
MRSI	**Marisa**	**4.64**	**257**	P	Pn	02 00 41.8	+3.7
TTSI	**Tana Toraja**	**8.04**	**236**	P	**Pn**	**02 01 26.7**	**+1.9**
	29nm,0.7s,2µm						
SPSI	**Sidrap Palu**	**8.63**	**231**	P	**Pn**	**02 01 35.2**	**+2.4**
	16nm,0.4s						
MYLDM	**Lahad Datu**	**8.75**	**295**	P	**Pn

BRTR	**Keskin Array B**	**91.23**	**310**	P		**P**	**02 12 30.6**	**-0.7**
BRTR	**Keskin Array B**	**91.23**	**310**	P		**P**	**02 12 30.6**	**-0.7**
	0.7nm,0.8s,baz=115,slow=8.3,SNR=4.3							
SCHQ	**Schefferville**	**122.79**	**9**	PKP		**PKPdf**	**02 18 20.3**	**-1.0**
SCHQ	**Schefferville**	**122.79**	**9**	PKP		**PKPdf**	**02 18 20.3**	**-1.0**
	1.3nm,0.8s,baz=12,slow=9.3,SNR=2.7							
TORD	**Torodi Ar. Bea**	**123.33**	**287**	PKP		**PKPdf**	**02 18 23.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**123.33**	**287**	PKP		**PKPdf**	**02 18 23.1**	**-0.3**
	0.6nm,0.7s,baz=46,slow=1.4,SNR=5.1							

IDC 24 02:13:41.4±1.0, 16°65'N×119°10'E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/24, mbtmp3.6/7, Error ellipse: s-maj=58.8km s-min=18.7km az=69.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**22.14**	**19**	P	P	02 18 38.9	+0.2
	1.3nm,0.9s,baz=199,slow=10,SNR=3.6						
SONM	**Songino Array**	**32.81**	**344**	P	P	02 20 15.5	-1.1
	0.3nm,0.6s,baz=171,slow=10,SNR=2.8						
WRA	**Warramunga Arr**	**39.32**	**157**	P	P	02 21 12.7	+0.2
	0.5nm,0.4s,baz=335,slow=9.1,SNR=3.7						
ASAR	**Alice Springs**	**42.60**	**160**	P	P	02 21 39.1	-0.4
	0.6nm,0.6s,baz=336,slow=6.9,SNR=10						
MKAR	**Makanchi Array**	**42.76**	**323**	P	P	02 21 40.4	-0.3
	0.6nm,0.9s,baz=108,slow=8.3,SNR=4.4						
ZALV	**Zalesovo Beam**	**45.74**	**332**	P	P	02 22 04.1	-0.3
	0.2nm,0.3s,baz=120,slow=8.5,SNR=2.3						
KURBB	**Kurchatov Arra**	**46.90**	**325**	P	P	02 22 14.0	+0.6
	0.7nm,0.4s,baz=122,slow=8.2,SNR=9.7						

WEL 24 02:28:06.4±0.2, 46°16'S×165°81'E, h33km, ML4.3/19, 3D, Error ellipse: s-maj=1.5km s-min=1.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**1.16**	**55**	PN	Pn	02 28 25.9	-0.4
DCZ				AML	AML	02 28 41.3	
DCZ				AML	AML	02 28 42.0	
DCZ				AML	AML	02 28 42.1	
DCZ				AML	AML	02 28 42.8	
WHZ	**Wether Hill Ro**	**1.52**	**81**	⇓PN	Pn	02 28 32.3	+1.1
WHZ				SN	Sb	02 28 52.0	-0.8
WHZ				AML	AML	02 28 56.3	
APZ	**The Paps**	**1.65**	**115**	PN	Pn	02 28 34.1	+1.0
APZ				SN	Sb	02 28 55.3	-1.5
MLZ	**Mavora Lakes**	**1.84**	**65**	PN	Pn	02 28 37.0	+1.2
MLZ				AML	AML	02 29 05.2	
MLZ				AML	AML	02 29 07.3	
MSZ	**Milford Sound**	**2.11**	**46**	PN	Pn	02 28 40.1	+0.8
MSZ				AML	AML	02 29 17.6	
MSZ				AML	AML	02 29 17.6	
MSZ				AML	AML	02 29 23.1	
MSZ				AML	AML	02 29 23.2	
SYZ	**Scrubby Hill**	**2.34**	**101**	PN	Pn	02 28 44.8	+2.2
WKZ	**Wanaka**	**2.62**	**61**	PN	Pn	02 28 49.1	+2.6
WKZ				AML	AML	02 29 28.2	
WKZ				AML	AML	02 29 28.2	
WKZ				AML	AML	02 29 40.0	
EAZ	**Earnscleugh**	**2.62**	**71**	PN	Pn	02 28 48.7	+2.2
EAZ				AML	AML	02 29 31.2	
EAZ				AML	AML	02 29 31.2	
EAZ				AML	AML	02 29 32.3	
EAZ				AML	AML	02 29 32.3	
TUZ	**Tuapeka**	**2.67**	**87**	⇓PN	Pn	02 28 49.3	+2.3
TUZ				AML	AML	02 29 26.6	
TUZ				AML	AML	02 29 32.4	
JCZ	**Jackson Bay**	**2.95**	**46**	PN	Pn	02 28 52.8	+1.7
JCZ				AML	AML	02 29 46.6	
JCZ				AML	AML	02 29 47.2	
LBZ	**Lake Benmore**	**3.56**	**62**	⇓PN	Pn	02 29 00.2	+0.8
LBZ				AML	AML	02 30 06.7	
LBZ				AML	AML	02 30 16.0	
ODZ	**Otahua Downs**	**3.57**	**74**	PN	Pn	02 29 00.0	+0.5
ODZ				AML	AML	02 30 11.2	
ODZ				AML	AML	02 30 11.7	
ODZ				AML	AML	02 30 11.7	
FOZ	**Fox Glacier**	**3.79**	**48**	PN	Pn	02 29 04.7	+2.3
FOZ				AML	AML	02 30 11.6	
FOZ				AML	AML	02 30 13.3	
RPZ	**Rata Peaks**	**4.45**	**59**	PN	Pn	02 29 11.7	+0.1
RPZ				AML	AML	02 30 40.4	
RPZ				AML	AML	02 30 42.7	
WVZ	**Waitaha Valley**	**4.68**	**51**	PN	Pn	02 29 16.0	+0.4
WVZ				AML	AML	02 30 24.5	
WVZ				AML	AML	02 31 11.6	
OXZ	**Oxford**	**5.26**	**60**	PN	Pn	02 29 22.1	-0.6
LTZ	**Lake Taylor**	**5.72**	**56**	PN	Pn	02 29 28.9	-0.2
DSZ	**Denniston Nort**	**6.18**	**47**	PN	Pn	02 29 35.7	+0.4

*IDC **24** 02:33:24.4±1.4, 36°.08N×71°.28E, h0km, mb3.7/7, mb1 3.8/10, mb1mx3.5/30, mbtmp3.7/10, ML3.8/2, Error ellipse: s-maj=28.4km s-min=25.2km az=110.0*
*NNC **24** 02:33:44.1±1.4, 37°.26N×69°.99E, h0km, mb4.2, mpv4.3, Error ellipse: s-maj=11.8km s-min=9.4km az=128.0*

ISC 24 02:33:25.5±0.8, 36°24N±0°.07×71°45E±0°.10, h10km, n31, σ1s59/29, mb3.6/6, 4C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**5.18**	**136**	*e*P	**Pb**	**02 34 56.3**	**0.0**
THN				*e*S	Sb	02 35 51.3	-7.3
DLH	**Dalhousie**	**5.25**	**133**	*e*P	Pb	02 35 00.0	+2.5
DLH				*e*S	**Sb**	**02 35 58.0**	**-2.7**
AAK	**Ala-Archa**	**6.80**	**19**	Pn	Pn	02 35 12.3	+6.8
	1.5nm,0.3s,baz=180,slow=6.7,SNR=7.3						
AAK				Sn	**Sn**	**02 36 23.8**	**+0.7**
	0.8nm,0.3s,baz=247,slow=15,SNR=7.1						
KK31	**Karatay Array**	**6.89**	**354**	P	Pn	02 35 12.1	+5.5
	13nm,0.4s,baz=182,slow=14,SNR=103						
KK31				⇑S	**Sn**	**02 36 21.2**	**-3.9**
	8.7nm,0.3s,baz=189,slow=26						
AYAN	**Aya Nagar**	**9.10**	**147**	*ex*	x	02 37 04.5	
KUDL	**Kundal**	**9.13**	**151**	*e*P	Pn	02 35 48.5	+11
KUDL				*e*S	Sn	02 37 25.8	+5.6
KUDL				AML	AML	02 37 31.2	
	comp=E,4.1nm,0.2s						
KUDL				AML	AML	02 37 31.7	
	comp=E,3.6nm,0.3s						
SONA	**Sohna**	**9.29**	**148**	*e*S	Sn	02 37 29.2	+5.2
SONA				AML	AML	02 37 39.8	
	comp=E,14nm,0.3s						
SONA				AML	AML	02 37 39.8	
	comp=N,12nm,0.3s						
AGRA	**Agra**	**10.54**	**147**	*e*S	**Sn**	**02 37 57.8**	**+2.9**
AGRA				AML	AML	02 38 23.3	
	comp=N,60nm,0.2s						
AGRA				AML	AML	02 38 25.1	
	comp=E,58nm,0.1s						
DANN	**Dangsing**	**13.04**	**124**	*e*P	**P**	**02 36 39.0**	**-2.7**
	comp=E,9.6nm,0.3s						
DANN				*e*S	**Sn**	**02 38 55.7**	**-0.8**
MKAR	**Makanchi Array**	**13.29**	**34**	Pn	**P**	**02 36 44.5**	**+0.4**
	comp=E,0.0nm,0.3s,baz=211,slow=10,SNR=2.1						
KOLN	**Koldanda**	**13.32**	**126**	*e*P	**P**	**02 36 42.7**	**-2.0**
	comp=E,6.2nm,0.3s						
DMN	**Daman**	**14.43**	**123**	*e*P	**P**	**02 36 56.1**	**-0.9**
	comp=E,7.0nm,0.3s						
KKN	**Kakani**	**14.43**	**122**	*e*P	**P**	**02 36 56.1**	**-0.9**
	comp=E,14nm,0.4s						
PKIN	**Phulchoki**	**14.65**	**122**	*e*P	**P**	**02 36 59.7**	**+0.2**
	comp=E,13nm,0.4s						
PKI	**Pulchoki**	**14.66**	**122**	*e*P	**P**	**02 37 00.0**	**+0.3**
	comp=E,11nm,0.4s						
GUN	**Gumba**	**14.77**	**120**	*e*P	**P**	**02 37 01.6**	**+0.6**
	comp=E,10.0nm,0.5s						
JIRN	**Jiri**	**15.14**	**120**	*e*P	**P**	**02 37 06.0**	**+0.9**
	comp=E,16nm,0.3s						
KURBB	**Kurchatov Arra**	**15.25**	**17**	Pn	**Pn**	**02 37 02.0**	**+1.1**
	baz=206,slow=10,SNR=2.6						
AB31	**Akbulak array**	**15.48**	**331**	P	**Pn**	**02 37 04.3**	**+0.4**
	comp=E,1.0nm,0.3s,baz=148,slow=12,SNR=83						
AB31				⇑S	Sn	02 39 40.6	-15
	comp=E,1.1nm,0.5s,baz=153,slow=22,SNR=9.1						
RAMN	**Ramite**	**15.87**	**121**	*e*P	**P**	**02 37 15.0**	**+1.9**
	comp=E,15nm,0.5s						
ODAN	**Odare**	**16.48**	**120**	*e*P	**P**	**02 37 22.1**	**+2.3**
	comp=E,13nm,0.4s						
AKTO	**Aktyubinsk**	**17.18**	**330**	⇑P	**P**	**02 37 26.8**	**-0.4**
	comp=E,1.6nm,0.7s						
AKTO				⇑S	Sn	02 40 23.2	-13
	comp=E,2.2nm,0.8s						
AKTO	**Aktyubinsk**	**17.18**	**330**	P	**P**	**02 37 25.7**	**-1.5**
	comp=E,0.4nm,0.3s,baz=123,slow=12,SNR=6.9						
AKTO				S	Sn	02 40 23.0	-14
	comp=E,0.1nm,0.3s,baz=99,slow=19,SNR=4.4						
ZALV	**Zalesovo Beam**	**20.00**	**24**	P	**P**	**02 37 59.7**	**+1.6**
	comp=E,1.6nm,0.3s,baz=212,slow=11,SNR=6.2						
FINES	**FINESS Array B**	**37.90**	**326**	P	**P**	**02 40 43.5**	**+1.0**
	comp=E,0.3nm,0.3s,baz=122,slow=12,SNR=7.2						
ARCES	**ARCESS Array B**	**41.52**	**338**	P	**P**	**02 41 13.1**	**+0.5**
	comp=E,1.0nm,0.8s,baz=98,slow=13,SNR=3.1						
HFS	**Hagfors**	**43.49**	**322**	P	**P**	**02 41 29.7**	**+1.0**
	comp=E,1.4nm,0.5s,baz=110,slow=12,SNR=8.0						
NB2	**NORSAR Subarra**	**44.80**	**323**	P	**P**	**02 41 38.5**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=99,slow=7.9						
NOA	**NORSAR Array B**	**44.80**	**323**	P	**P**	**02 41 39.8**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=97,slow=7.7,SNR=4.9						
TORD	**Torodi Ar. Bea**	**66.08**	**269**	P	**P**	**02 44 12.5**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=52,slow=5.9,SNR=8.1						
WRA	**Warramunga Arr**	**81.55**	**122**	P	**P**	**02 45 44.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=334,slow=5.6,SNR=5.0						

BER 24 02:48:53.1±1.0, 62°09N×5°96E, h12km±6km, MD1.6, ML1.2, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOL	**Molde**	**0.88**	**56**	*e*P	Pn	02 49 16.5	+5.2
MOL				*e*S	Sn	02 49 27.8	+3.8
HYA	**Hoyanger**	**0.94**	**173**	*e*P	Pg	02 49 09.7	-1.4
HYA				*e*S	Sg	02 49 22.2	-1.1
HYA				AML	AML	02 49 25.5	
	comp=Z,6.4nm,0.1s						
SUE	**Sulen**	**1.19**	**209**	*e*P	Pn	02 49 13.7	-1.7
SUE				*e*S	Sb	02 49 29.5	-1.3
SUE				AML	AML	02 49 30.5	
	comp=Z,11nm,0.2s						
ASK	**Askoy**	**1.66**	**193**	*e*P	Pn	02 49 19.8	-2.1
ASK				*e*Sg	Sn	02 49 42.6	-0.4
ASK				AML	AML	02 49 43.8	
	comp=Z,4.3nm,0.1s						
RUND	**Rundenannen**	**1.71**	**190**	*e*P	Pn	02 49 21.0	-1.7
RUND				*e*Sg	Sn	02 49 44.2	-0.2
RUND				AML	AML	02 49 46.1	
	comp=Z,4.1nm,0.2s						
EGD	**Espegrend**	**1.86**	**191**	*e*Sg	Sn	02 49 48.4	+0.3
EGD				AML	AML	02 49 49.7	
	comp=Z,4.6nm,0.4s						
KMY	**Karmoy**	**2.91**	**187**	*e*S	Sn	02 50 10.2	-3.8

*ISCJB **24** 02:57:51.9±0.5, 6°.83N±0°.05×72°.92W±0°.05, h164km±5km, mb3.5/10, Error ellipse: s-maj=9.9km s-min=7.5km az=43.1*
*IDC **24** 02:57:51.8±0.8, 6°.75N×72°.90W, h151km±6km, mb3.5/11, mb1 3.7/14, mb1mx3.5/25, mbtmp3.5/14, Error ellipse: s-maj=15.8km s-min=9.3km az=93.0*
*FUNV **24** 02:57:56.7, 7°.02N×72°.88W, h154km, MW4.6*

ISC 24 02:57:52.6±0.7, 6°.94N±0°.06×72°.87W±0°.06, h155km±6km, n35, σ1s98/48, mb3.6/10, 3C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.08**	**31**	⇑*i*P	**Pn**	**02 59 21.3**	**+2.6**
CAPV				*e*S	**Sn**	**02 58 40.2**	**+1.4**
SOCV	**Socops**	**2.41**	**56**	*e*P	**Pn**	**02 58 35.2**	**+2.3**
VIGV	**El Vigia**	**2.41**	**38**	*e*P	**Pn**	**02 58 35.8**	**+2.9**
VIGV				*e*S	**Sn**	**02 59 03.6**	**-0.5**
ROSC	**El Rosal**	**2.52**	**215**	P	**Pn**	**02 58 33.2**	**-1.5**
	39nm,0.3s,baz=90,slow=12,SNR=60						
ROSC				S	Sn	02 59 02.9	-4.2
	70nm,0.3s,baz=92,slow=16,SNR=11						
ELOV	**Elorza**	**3.37**	**89**	*e*P	**Pn**	**02 58 47.5**	**+2.7**
VIRV	**Villa del Rosa**	**3.58**	**7**	⇑*i*P	**Pn**	**02 58 48.5**	**+1.0**
VIRV				*e*S	**Sn**	**02 59 28.1**	**-2.1**
QARV	**Quebrada Arrib**	**4.00**	**35**	*e*P	**Pn**	**02 58 55.7**	**+2.7**
QARV				*e*S	**Sn**	**02 59 38.1**	**-2.0**
SANV	**Sanarito**	**4.17**	**52**	*e*P	**Pn**	**02 58 57.7**	**+2.4**
SANV				*e*S	**Sn**	**02 59 42.8**	**-1.5**
CURV	**Curarigua**	**4.20**	**43**	*e*P	**Pn**	**02 58 58.0**	**+2.3**
CURV				*e*S	**Sn**	**02 59 42.3**	**-2.6**
DABV	**Dabajuro**	**4.54**	**29**	*e*P	**Pn**	**02 59 01.0**	**+1.0**
DABV				*e*S	**Sn**	**02 59 49.4**	**-3.2**
TEPV	**Terepaima**	**4.72**	**50**	*e*P	**Pn**	**02 59 05.1**	**+2.6**
SIQV	**Siquisique**	**4.77**	**39**	⇑*i*P	**Pn**	**02 59 05.4**	**+2.2**
SIQV				*e*S	**Sn**	**02 59 55.1**	**-3.2**
BAUV	**El Baul**	**5.18**	**67**	⇓*i*P	**Pn**	**02 59 09.8**	**+1.3**
MAPV	**Macapo**	**5.23**	**56**	*e*P	**Pn**	**02 59 11.4**	**+2.2**
MONV	**Montecano**	**5.75**	**30**	*e*P	**Pn**	**02 59 17.4**	**+1.3**
MONV				*e*S	**Sn**	**03 00 17.1**	**-4.4**
TURV	**Turiamo**	**6.08**	**55**	*e*P	**Pn**	**02 59 22.7**	**+2.3**
MERV	**Las Mercedes**	**6.91**	**70**	*e*P	**Pn**	**02 59 32.6**	**+1.1**
BIRV	**Birongo**	**7.41**	**61**	*e*P	**Pn**	**02 59 38.6**	**+0.3**
CUPV	**Cœpira**	**7.66**	**66**	*e*P	**Pn**	**02 59 42.8**	**+1.1**
CUPV				*e*S	Sn	03 01 01.3	-6.0
PCRV	**Puerto La Cruz**	**8.76**	**68**	*e*P	**Pn**	**02 59 57.2**	**+1.0**
JTS	**JuntasAbangare**	**12.40**	**286**	P	**Pn**	**03 00 44.0**	**0.0**
	0.3nm,0.3s,baz=100,slow=6.7,SNR=4.5						
ATAH	**Atahualpa**	**15.02**	**202**	P	**Pn**	**03 01 15.6**	**-2.0**
	0.5nm,0.3s,baz=355,slow=0.7,SNR=4.3						
TEIG	**Tepich**	**19.94**	**313**	P	**P**	**03 02 13.3**	**+0.6**
	8.5nm,0.5s,baz=138,slow=5.4,SNR=11						
LPAZ	**La Paz**	**23.55**	**169**	P	**P**	**03 02 46.9**	**-2.9**
	3.7nm,0.8s,baz=353,slow=12,SNR=7.9						
SIV	**San Ignacio**	**25.60**	**153**	P	**P**	**03 03 05.6**	**-2.1**
	1.7nm,0.9s,baz=346,slow=10,SNR=6.0						
BDFB	**Brasilia**	**33.31**	**132**	P	**P**	**03 04 15.7**	**-0.3**
	1.5nm,0.5s,baz=283,slow=12,SNR=6.1						
ULM	**Lac du Bonnet**	**47.26**	**340**	P	**P**	**03 06 10.3**	**+0.2**
	1.0nm,0.4s,baz=166,slow=4.6,SNR=3.0						
SCHQ	**Schefferville**	**48.01**	**5**	P	**P**	**03 06 17.6**	**+1.7**
	0.8nm,0.5s,baz=254,slow=5.3,SNR=5.1						
PDAR	**Pinedale Array**	**48.13**	**324**	P	**P**	**03 06 17.3**	**0.0**
	0.6nm,0.6s,baz=121,slow=8.6,SNR=5.1						
PDAR				pP	**pP**	**03 06 51.2**	**-1.0**
	0.4nm,0.6s,baz=125,slow=11,SNR=2.1						
NVAR	**Mina Array Bea**	**51.58**	**314**	P	**P**	**03 06 43.9**	**+0.5**
	0.5nm,0.7s,baz=125,slow=7.6,SNR=4.2						
NVAR				pP	**pP**	**03 07 18.8**	**+0.1**
	0.3nm,0.6s,baz=112,slow=7.1,SNR=2.6						
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**03 08 05.0**	**+0.7**
	0.5nm,0.4s,baz=131,slow=6.5,SNR=4.4						
YKA				pP	**pP**	**03 08 41.3**	**+0.3**
	0.8nm,0.6s,baz=134,slow=6.9,SNR=3.3						
TORD	**Torodi Ar. Bea**	**73.47**	**78**	P	**P**	**03 09 08.6**	**-0.2**
	0.5nm,1.1s,baz=274,slow=7.3,SNR=3.1						
ILAR	**Eielson Array**	**76.97**	**335**	P	**P**	**03 09 28.8**	**+1.0**
	0.1nm,0.4s,baz=104,slow=3.8,SNR=3.5						
ILAR				pP	**pP**	**03 10 04.5**	**-1.5**
	0.4nm,0.7s,baz=99,slow=3.8,SNR=3.6						
ASAR	**Alice Springs**	**149.38**	**234**	PKPbc	**PKPdf**	**03 17 22.6**	**+3.0**
	3.3nm,0.6s,baz=118,slow=3.4,SNR=14						
WRA	**Warramunga Arr**	**150.61**	**241**	PKPbc	**PKPbc**	**03 17 25.9**	**-1.3**
	2.3nm,0.4s,baz=106,slow=2.9,SNR=30						

*ISCJB **24** 02:58:03.8±0.2, 51°.44N±0°.01×6°.44E±0°.02, h0km, mb4.5/3, Error ellipse: s-maj=1.8km s-min=1.8km az=21.6*
*LDG **24** 02:58:04.2±0.1, 51°.55N×6°.38E, h1km, Ml3.9/39, Error ellipse: s-maj=3.1km s-min=2.6km az=173.0, Suspected Mining induced.*
*CSEM **24** 02:58:05.5±0.1, 51°.50N×6°.55E, h1km, ML3.0/5, Ms3.3, Error ellipse: s-maj=2.2km s-min=1.9km az=25.0*
*BUG **24** 02:58:05.7, 51°.52N×6°.58E, h1km, ML3.2*
BUG Felt in Kamp-Lintfort (IV), Duisburg (III), Moers (III-IV).
*BNS **24** 02:58:06.7±0.8, 51°.50N×6°.59E, h1km±5km, ML3.3, GESPUERT IN KAMP-LINTFORT IV, DUISBURG III, MOERS III-IV*
*UCC **24** 02:58:06.7±0.5, 51°.49N×6°.59E, h2km±3km, ML3.3*
*NEIC **24** 02:58:06.0±0.7, 51°.52N×6°.52E, h5km, mb4.1/1, Error ellipse: s-maj=9.7km s-min=8.4km az=61.0*
NEIC Felt at Kamp-Lintfort and Moers.
*BGR **24** 02:58:06.9±0.5, 51°.50N×6°.59E, h1km, ML3.4/7, Error ellipse: s-maj=5.6km s-min=3.3km az=109.0*
*PRU **24** 02:58:06.6, 51°.45N×6°.61E, h0km, M4.1*
*VIE **24** 02:58:10.2±0.4, 51°.35N×6°.86E, h10km±1km, mb3.0/7, ML3.0/5, Ms3.3/3, Error ellipse: s-maj=2.7km s-min=2.2km az=43.0*

ISC 24 02:58:04.9±0.5, 51°44N±0°.02×6°47E±0°.01, h0km, n251, σ1s58/430, mb4.1/3, 15C-14D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRHE	**Rheinberg**	**0.10**	**39**	Pg	**Pg**	**02 58 06.8**	**0.0**
BRHE				Sg	**Sg**	**02 58 07.9**	**-0.2**
BRHE	**Rheinberg**	**0.10**	**39**	Pg	**Pg**	**02 58 06.8**	**0.0**
BRHE				Sg	**Sg**	**02 58 07.9**	**-0.2**
LAUG	**Laupendahl**	**0.31**	**106**	*i* Pg	**Pg**	**02 58 11.8**	**+1.0**
LAUG				*e*Sg	**Sg**	**02 58 15.6**	**+0.8**
	2µm,0.5s						
LAUG	**Laupendahl**	**0.31**	**106**	Pg	**Pg**	**02 58 11.8**	**+1.0**
LAUG				Sg	**Sg**	**02 58 15.6**	**+0.8**
	2µm,0.5s						
HKB	**Herkenbosch**	**0.32**	**217**	P	**Pb**	**02 58 14.6**	**+1.2**
HKB				S	**Sb**	**02 58 20.8**	**+1.8**
RODG	**Roetgen-Dahlhe**	**0.35**	**212**	*e*Pg	**Pb**	**02 58 15.1**	**+1.2**
RODG				*e*Sg	**Sb**	**02 58 21.3**	**+1.3**
	5µm,0.2s						
RODG	**Roetgen-Dahlhe**	**0.35**	**212**	Pg	**Pb**	**02 58 15.1**	**+1.2**
RODG				Sg	**Sb**	**02 58 21.3**	**+1.3**
	5µm,0.2s						
RWB	**Wassenberg**	**0.39**	**211**	*e*Pg	**Pb**	**02 58 15.8**	**+1.1**
RWB				*e*Sg	**Sb**	**02 58 22.6**	**+1.4**
	2µm,0.2s						
RWB	**Wassenberg**	**0.39**	**211**	Pg	**Pb**	**02 58 15.8**	**+1.1**
RWB				Sg	**Sb**	**02 58 22.6**	**+1.4**
	2µm,0.2s						
JCK	**Jackerath**	**0.41**	**184**	*e*Pg	**Pb**	**02 58 15.5**	**+0.6**
JCK				*e*Sg	**Sb**	**02 58 22.0**	**+0.4**
	3µm,0.2s						
JCK	**Jackerath**	**0.41**	**184**	Pg	**Pb**	**02 58 15.5**	**+0.6**
JCK				Sg	**Sb**	**02 58 22.0**	**+0.4**
	3µm,0.2s						
PLH	**Pulheim**	**0.49**	**153**	*e*Pg	**Pb**	**02 58 16.4**	**+0.1**
PLH				*e*Sg	**Sb**	**02 58 23.3**	**-0.7**
	6µm,0.3s						
PLH	**Pulheim**	**0.49**	**153**	Pg	**Pb**	**02 58 16.4**	**+0.1**
PLH				Sg	**Sb**	**02 58 23.3**	**-0.7**
	6µm,0.3s						
BUG	**Bochum--Univer**	**0.50**	**89**	⇓*e*Pg	**Pg**	**02 58 14.9**	**+0.5**
BUG				Sg	**Sg**	**02 58 21.6**	**+0.7**
WTSB	**Winterswijk**	**0.57**	**21**	*e*Pg	**Pg**	**02 58 16.1**	**+0.4**
WTSB	**Winterswijk**	**0.57**	**21**	*e*Pg	**Pg**	**02 58 16.2**	**+0.4**
	68nm,0.4s,baz=182						
WTSB				*e*Sg	**Sg**	**02 58 23.0**	**-0.1**
WTSB	**Winterswijk**	**0.57**	**21**	Pg	**Pg**	**02 58 16.1**	**+0.4**
WTSB				*e*Sg	**Sg**	**02 58 23.0**	**-0.1**
BOPT	**Opiter**	**0.62**	**238**	P	**Pn**	**02 58 21.1**	**+0.2**
BOPT				S	**Sn**	**02 58 30.3**	**-1.2**
ENTS	**Ennepetalsperr**	**0.62**	**108**	*i* Pg	**Pg**	**02 58 17.6**	**+0.8**
ENTS				*e*Sg	**Sg**	**02 58 25.5**	**+0.7**
BNS	**Bensberg**	**0.65**	**137**	⇓*i*Pg	**Pb**	**02 58 19.4**	**+0.3**
BNS	**Bensberg**	**0.65**	**137**	Pg	**Pb**	**02 58 19.4**	**+0.3**
GSH	**Grosshau**	**0.71**	**185**	*i* Pg	**Pb**	**02 58 21.1**	**+1.0**
GSH				*e*Sg	**Sb**	**02 58 31.6**	**+1.3**
GSH	**Grosshau**	**0.71**	**185**	Pg	**Pb**	**02 58 21.1**	**+1.0**
GSH				Sg	**Sb**	**02 58 31.6**	**+1.3**
HOBG	**Hohbusch**	**0.71**	**130**	*i* Pg	**Pb**	**02 58 20.2**	**+0.1**
HOBG				*e*Sg	**Sb**	**02 58 29.7**	**-0.7**
	1µm,0.6s						
HOBG	**Hohbusch**	**0.71**	**130**	Pg	**Pb**	**02 58 20.2**	**+0.1**
HOBG				Sg	**Sb**	**02 58 29.7**	**-0.7**
	1µm,0.6s						
HGN	**Heimansgroeve**	**0.76**	**207**	*e*Pg	**Pn**	**02 58 22.1**	**-0.7**
	32nm,0.4s,baz=38						
HGN				*e*Sg	**Sb**	**02 58 33.4**	**+1.6**
HGN	**Heimansgroeve**	**0.76**	**207**	*e*Pg	**Pn**	**02 58 22.1**	**-0.7**
	32nm,0.4s						
HGN				*e*Sg	**Sb**	**02 58 33.4**	**+1.6**
KLL	**Kalltalsperre**	**0.80**	**187**	*e*Pg	**Pb**	**02 58 22.8**	**+1.1**
KLL				*e*Sg	**Sn**	**02 58 35.6**	**-0.4**
	1µm,0.6s						
KLL	**Kalltalsperre**	**0.80**	**187**	Pg	**Pb**	**02 58 22.8**	**+1.1**
KLL				Sg	**Sn**	**02 58 35.6**	**-0.4**
	1µm,0.6s						
WBS	**Wahnbachtalspe**	**0.81**	**141**	*e*Pg	**Pb**	**02 58 22.0**	**+0.1**
WBS				*e*Sg	**Sb**	**02 58 33.0**	**-0.4**
	541nm,0.2s						
WBS	**Wahnbachtalspe**	**0.81**	**141**	Pg	**Pb**	**02 58 22.0**	**+0.1**
WBS				Sg	**Sb**	**02 58 33.0**	**-0.4**
	541nm,0.2s						
BEBN	**Eben Emael**	**0.81**	**218**	⇑P	**Pn**	**02 58 23.9**	**+0.3**
BEBN				S	**Sn**	**02 58 35.5**	**-0.9**
	comp=E,665nm,0.5s						
BEBN	**Eben Emael**	**0.81**	**218**	P	**Pn**	**02 58 23.9**	**+0.3**
BEBN				S	**Sn**	**02 58 35.4**	**-0.9**

UCC S Sn 02 58 54.7 +2.0
comp=E,251nm,0.3s
UCC Uccle 1.48 245 P Pg 02 58 35.3 +2.1
UCC S Sn 02 58 54.7 +2.0
comp=E,251nm,0.3s
LVIA Vianden 1.52 187 P Pg 02 58 34.7 +0.8
BRQR Ronquı̈re 1.65 240 P Pg 02 58 37.1 +0.7
GIVF Givet 1.70 219 *e*Pg Pb 02 58 37.1 +0.1
GIVF *e*Sg Sg 02 59 01.1 +1.7
comp=E,604nm,0.3s
GIVF Givet 1.70 219 *e*Pg Pb 02 58 37.1 +0.1
GIVF *e*Sg Sg 02 59 01.1 +1.7
comp=E,302nm,0.3s
ABH Alteburg 1.70 156 Pn Pn 02 58 36.8 +0.9
ABH Alteburg 1.70 156 Pg Pg 02 58 38.9 +1.4
BSKQ Steenkerk 1.71 243 P Pg 02 58 37.4 -0.2
BSKQ S Sg 02 58 59.8 +0.2
comp=E,192nm,0.4s
TNS Taunus Mts 1.75 133 *e*Pn Pn 02 58 36.9 +0.4
TNS Taunus Mts 1.75 133 Pn Pn 02 58 36.9 +0.4
RUP Ruppelstein 1.78 168 Pn Pn 02 58 37.6 +0.7
WLF Walferdange 1.79 187 ⇑P Pg 02 58 39.4 +0.2
WLF Walferdange 1.79 187 *e*Pn Pb 02 58 39.2 +0.7
WLF *e*Sn Sb 02 59 01.8 +0.4
WLF Walferdange 1.79 187 *e*Pn Pb 02 58 39.2 +0.7
WLF *e*Sn Sg 02 59 02.8 +0.5
WLF Walferdange 1.79 187 Pn Pb 02 58 39.2 +0.7
WLF Sn Sb 02 59 01.8 +0.4
DOU Dourbes 1.80 222 ⇑P Pb 02 58 38.7 +0.1
DOU S Sb 02 59 01.8 +0.1
comp=N,164nm,0.5s
DOU Dourbes 1.80 222 P Pb 02 58 38.7 +0.1
DOU S Sb 02 59 01.8 +0.1
comp=N,164nm,0.5s
BBOU Bougnies 1.91 238 P Pb 02 58 41.2 +0.6
BAIF Baives 1.99 227 *e*Pg Pb 02 58 41.9 -0.1
BAIF *e*Sg Sg 02 59 10.6 +1.7
comp=N,429nm,0.6s
BAIF Baives 1.99 227 *e*Pg Pb 02 58 41.9 -0.1
BAIF *e*Sg Sg 02 59 10.6 +1.7
comp=N,215nm,0.6s
KTD Kalmit 2.36 153 Pn Pn 02 58 46.7 +1.8
TOD Tromm 2.36 140 Pn Pn 02 58 45.3 +0.4
LANF Langenberg 2.61 160 Pn Pn 02 58 49.9 +1.6
PAGF Fort de Pagny 2.93 190 *e*P Pn 02 58 53.9 +1.2
PAGF Fort de Pagny 2.93 190 *e*Pg Pg 02 59 00.6 -0.4
baz=6.4
PAGF *e*Sg Sg 02 59 39.5 +0.6
comp=N,73nm,0.6s
PAGF Fort de Pagny 2.93 190 *e*P Pn 02 58 53.9 +1.2
PAGF Fort de Pagny 2.93 190 *e*Pg Pg 02 59 00.6 -0.4
baz=6.4
PAGF *e*Sg Sg 02 59 39.5 +0.6
comp=N,37nm,0.6s
CDF Champ du Feu 3.07 170 *e*P Pn 02 58 55.5 +0.7
CDF Champ du Feu 3.07 170 *e*Pg Pg 02 59 02.7 -1.1
CDF *e*Sg Sg 02 59 42.8 -0.8
comp=N,95nm,0.6s
CDF Champ du Feu 3.07 170 *e*P Pn 02 58 55.5 +0.7
CDF Champ du Feu 3.07 170 *e*Pg Pg 02 59 02.7 -1.1
CDF *e*Sg Sg 02 59 42.8 -0.8
comp=N,48nm,0.6s
MEZF Maizieres J'vi 3.08 198 *e*P Pn 02 58 56.2 +1.4
baz=18
MEZF *e*Sg Sg 02 59 43.8 0.0
comp=N,224nm,0.4s
MEZF Maizieres J'vi 3.08 198 *e*P Pn 02 58 56.2 +1.4
baz=18
MEZF *e*Sg Sg 02 59 43.8 0.0
comp=N,112nm,0.4s
STU Stuttgart 3.19 146 *e*Pn Pn 02 58 57.3 +1.0
STU Stuttgart 3.19 146 *e*Pn Pn 02 58 57.3 +1.0
STU *e*Sn Sn 02 59 35.7 +0.6
STU Stuttgart 3.19 146 Pn Pn 02 58 57.3 +1.0
STU *e*Sn Sn 02 59 35.7 +0.6
THEF They Montfort 3.23 186 Pn Pn 02 58 58.9 +2.0
ECH Echery 3.26 172 *e*Pn Pn 02 58 57.6 +0.3
ECH *e*Sg Sg 02 59 49.9 +0.4
ECH Echery 3.26 172 Pn Pn 02 58 57.9 +0.7
ECH *e*Sg Sg 02 59 49.9 +0.4
BFO Black Forest 3.34 158 *e*Pn Pn 02 58 59.1 +0.8
BFO Black Forest 3.34 158 *e*Pn Pn 02 58 58.8 +0.5
BFO *e*Sn Sn 02 59 38.3 -0.3
BFO Black Forest 3.34 158 Pn Pn 02 58 59.1 +0.8
BFO *e*Sn Sn 02 59 38.3 -0.3
MOX Moxa 3.34 102 *e*Pn Pn 02 58 58.6 +0.2
MOX Moxa 3.34 102 Pn Pn 02 58 58.6 +0.2
ELSH Elham, Standar 3.36 267 *e*P Pn 02 59 00.8 +2.2
ELSH *e*S Sn 02 59 38.7 -0.5
SFTF Sexfontaines 3.37 197 *e*P Pn 02 59 00.0 +1.3
SFTF Sexfontaines 3.37 197 *e*Pg Pg 02 59 09.3 -0.1
baz=16
SFTF *e*Sg Sg 02 59 52.6 -0.4
comp=N,105nm,0.4s
SFTF Sexfontaines 3.37 197 *e*P Pn 02 59 00.0 +1.3
SFTF Sexfontaines 3.37 197 *e*Pg Pg 02 59 09.3 -0.1
baz=16
SFTF *e*Sg Sg 02 59 52.6 -0.4
comp=N,52nm,0.4s
HAU Haudompre 3.44 181 *e*P Pn 02 59 01.3 +1.6
HAU Haudompre 3.44 181 *e*Pg Pg 02 59 09.6 -1.2
HAU *e*Sg Sg 02 59 54.9 -0.4
comp=N,98nm,0.4s
HAU Haudompre 3.44 181 *e*P Pn 02 59 01.3 +1.6
HAU Haudompre 3.44 181 *e*Pg Pg 02 59 09.6 -1.2
HAU *e*Sg Sg 02 59 54.9 -0.4
comp=N,49nm,0.4s
GRFO Grafenberg 3.50 118 *e*Pn Pn 02 59 01.8 +1.3
GRFO *e*Sn Sn 02 59 41.6 -0.9
GRFO Grafenberg 3.50 118 *e*Pn Pn 02 59 01.8 +1.3
GRFO *e*Sn Sn 02 59 41.6 -0.9
GRA1 Grafenberg Arr 3.50 118 Pn Pn 02 59 01.0 +0.5
GRF Grafenberg Arr 3.50 118 *e*Pn Pn 02 59 01.0 +0.5
MOF Molkenrain 3.62 173 Pn Pn 02 59 02.9 +0.7
HINF Hinteralfeld 3.63 176 *e*Pn Pn 02 59 02.3 -0.1
HINF Hinteralfeld 3.63 176 *e*Pg Pg 02 59 13.3 -1.2
HINF *e*Sg Sg 03 00 00.6 -1.0
comp=N,68nm,0.5s
HINF Hinteralfeld 3.63 176 *e*Pn Pn 02 59 02.3 -0.1
HINF Hinteralfeld 3.63 176 *e*Pg Pg 02 59 13.3 -1.2
HINF *e*Sg Sg 03 00 00.6 -1.0
comp=N,34nm,0.5s
SPAK Spaichingen-Ko 3.66 155 Pn Pn 02 59 03.8 +1.0
FELD Feldberg im Sc 3.70 164 Pn Pn 02 59 04.4 +0.9
HMNX Herstmonceux 3.91 264 *e*P Pn 02 59 09.1 +3.0
HMNX *e*S Sn 02 59 50.7 -1.9
TANN Tannenbergstha 3.92 103 *e*Pn Pn 02 59 06.6 +0.2
TANN Tannenbergstha 3.92 103 Pn Pn 02 59 06.6 +0.2
NKC Novy Kostel 3.98 105 *e*PN Pn 02 59 07.5 +0.4
NKC *e*SG Sg 03 00 10.0 -2.5
comp=N,36nm,0.7s
NKC Novy Kostel 3.98 105 Pn Pn 02 59 07.5 +0.4
NKC Sg Sg 03 00 10.0 -2.5
comp=N,36nm,0.7s
ROTZ Rotzenmuhle 4.02 112 *e*Pn Pn 02 59 08.0 +0.3
ROTZ Rotzenmuhle 4.02 112 Pn Pn 02 59 08.0 +0.3
BBS Basel-Blauen 4.04 170 Pn Pn 02 59 09.6 +1.7
CLL Collm 4.09 89 *e*(Pn) Pn 02 59 09.0 +0.3
CLL *e*Pg Pb 02 59 20.0 +2.2
CLL *e*Sg Sg 03 00 14.0 -2.3
CLL Collm 4.09 89 *e*(Pn) Pn 02 59 09.0 +0.3
CLL *e*Pg Pb 02 59 20.0 +2.2
CLL *e*Sg Sg 03 00 14.0 -2.3
comp=Z,86nm,1.5s
CLL Collm 4.09 89 Pn Pn 02 59 09.0 +0.3
CLL Sg Sg 03 00 14.0 -2.3
LOMF Lomont 4.10 177 Pn Pn 02 59 09.9 +1.0
LOR Lormes 4.51 203 *e*P Pn 02 59 15.1 +0.7
LOR *e*Sn Sn 03 00 03.7 -3.9
LOR *e*Sg Sg 03 00 28.5 -1.2
comp=Z,71nm,0.4s
LOR Lormes 4.51 203 *e*P Pn 02 59 15.1 +0.7
WET Wettzell 4.71 117 *e*Pn Pn 02 59 17.3 +0.2
WET Wettzell 4.71 117 Pn Pn 02 59 17.3 +0.2
DAVA Damuels 4.71 151 ⇓*i*Pn Pn 02 59 18.9 +1.5
SNR=16
DAVA ⇓*i*Sn Sn 03 00 12.7 -0.1
DAVA Damuels 4.71 151 Pn Pn 02 59 18.9 +1.5
SNR=16
DAVA Sn Sn 03 00 12.7 -0.1
BRG Berggiesshubel 4.74 94 Pn Pn 02 59 17.7 +0.2
BRG PG Pg 02 59 34.5 -1.1
BRG SG Sg 03 00 33.9 -3.1

comp=Z,51nm,1.2s
SSF Saint Saulge 4.79 205 *e*P Pn 02 59 18.9 +0.6
SSF *e*Sn Sn 03 00 10.4 -4.1
SSF *e*Sg Sg 03 00 37.8 -1.0
comp=Z,142nm,0.6s
SSF Saint Saulge 4.79 205 *e*P Pn 02 59 18.9 +0.6
SSF *e*Sg Sg 03 00 37.8 -1.0
comp=Z,71nm,0.6s
WOL Wolverton 4.82 272 *e*P Pn 02 59 20.5 +1.8
CABF La Chapelle 4.84 183 *e*Pn Pn 02 59 19.5 +0.5
CABF *e*Sg Sg 03 00 38.5 -1.8
comp=Z,112nm,0.7s
CABF La Chapelle 4.84 183 *e*Pn Pn 02 59 19.5 +0.5
RETA Reutte 4.84 143 ⇓*i*Pn Pn 02 59 20.2 +1.1
SNR=7.3
RETA Reutte 4.84 143 Pn Pn 02 59 20.2 +1.1
SNR=7.3
HYF Humbligny 4.87 212 *e*P Pn 02 59 20.5 +1.2
HYF *e*Sn Sn 03 00 12.7 -3.7
HYF *e*Sg Sg 03 00 40.3 -0.9
HYF Humbligny 4.87 212 *e*P Pn 02 59 20.5 +1.2
HYF *e*Sg Sg 03 00 40.3 -0.9
AVF Avril sur Loir 5.08 205 *e*P Pn 02 59 22.7 +0.4
AVF *e*Sg Sg 03 00 47.2 -0.9
comp=Z,64nm,0.7s
AVF Avril sur Loir 5.08 205 *e*P Pn 02 59 22.7 +0.4
AVF *e*Sg Sg 03 00 47.2 -0.9
comp=Z,32nm,0.7s
MOTA Moosalm 5.09 142 ⇑*i*Pn Pn 02 59 23.1 +0.5
SNR=8.1
MOTA ⇑*i*Pg Pg 02 59 43.5 +1.0
MOTA ⇑*i*Sg Sg 03 00 50.6 +2.2
comp=Z,14nm,0.6s
MOTA Moosalm 5.09 142 Pn Pn 02 59 23.1 +0.5
SNR=8.1
SMF Signal de Mont 5.10 201 *e*P Pn 02 59 23.4 +0.9
SMF *e*Sg Sg 03 00 46.4 -2.2
comp=Z,63nm,0.4s
SMF Signal de Mont 5.10 201 *e*P Pn 02 59 23.4 +0.9
KHC Kasperske Hory 5.11 114 *e*PN Pn 02 59 22.9 +0.3
KHC *e*SG Sg 03 00 44.8 -4.1
comp=Z,27nm,1.0s
KHC Kasperske Hory 5.11 114 *e*Pn Pn 02 59 23.0 +0.3
KHC *e*Sn Sn 03 00 23.1 +0.8
KHC Kasperske Hory 5.11 114 Pn Pn 02 59 22.9 +0.3
KHC *e*Sn Sn 03 00 23.1 +0.8
KHC Sg Sg 03 00 44.8 -4.1
comp=Z,27nm,1.0s
SENIN Lac Senin/Sane 5.11 174 *e*Pn Pn 02 59 24.9 +2.0
SENIN *e*Sn Sn 03 00 21.8 -0.8
SENIN Lac Senin/Sane 5.11 174 *e*Pn Pn 02 59 24.9 +2.0
SENIN *e*Sn Sn 03 00 21.8 -0.8
LDF La Druitiere 5.12 239 *e*P Pn 02 59 23.9 +1.2
LDF *e*Sn Sn 03 00 19.1 -3.4
LDF *e*Sg Sg 03 00 48.6 -0.6
comp=Z,42nm,0.6s
LDF La Druitiere 5.12 239 *e*P Pn 02 59 23.9 +1.2
LDF *e*Sn Sn 03 00 19.1 -3.4
LDF *e*Sg Sg 03 00 48.6 -0.6
comp=Z,21nm,0.6s
SWN1 Swindon 5.17 274 *e*P Pn 02 59 25.5 +2.0
SWN1 *e*S Sn 03 00 20.6 -3.2
PVCC Panska Ves 5.20 97 *e*PN Pn 02 59 24.2 +0.4
PVCC *e*SG Sg 03 00 48.7 -3.0
comp=Z,66nm,1.0s
PVCC Panska Ves 5.20 97 Pn Pn 02 59 24.2 +0.4
PVCC Sg Sg 03 00 48.7 -3.0
comp=Z,66nm,1.0s
FLN La Foliniere 5.21 242 *e*P Pn 02 59 25.4 +1.3
baz=56
FLN *e*Sn Sn 03 00 21.7 -3.2
FLN *e*Sg Sg 03 00 50.2 -2.1
comp=Z,79nm,0.6s
FLN La Foliniere 5.21 242 *e*P Pn 02 59 25.4 +1.3
baz=56
FLN *e*Sn Sn 03 00 21.7 -3.2
FETA Feichten 5.23 146 ⇓*i*Pn Pn 02 59 25.8 +1.4
SNR=10
FETA ⇑*i*Sn Sn 03 00 25.4 -0.1
FETA Feichten 5.23 146 Pn Pn 02 59 25.8 +1.4
SNR=10
FETA Sn Sn 03 00 25.4 -0.1
MUD Monsted U'grnd 5.27 17 *i* P Sn 03 00 21.9 -4.3
TUE Stuetta 5.32 158 *e*Pn Pn 02 59 28.4 +2.6
TUE *e*Sn Sn 03 00 28.7 +0.9
TUE Stuetta 5.32 158 *e*Pn Pn 02 59 28.4 +2.6
TUE *e*Sn Sn 03 00 28.7 +0.9
PRU Pruhonice 5.33 103 *e*PN Pn 02 59 26.2 +0.5
PRU *e*SG Sg 03 00 53.7 -2.3
comp=Z,24nm,0.8s
PRU Pruhonice 5.33 103 Pn Pn 02 59 26.2 +0.5
PRU Sg Sg 03 00 53.7 -2.3
comp=Z,24nm,0.8s
WTTA Wattenberg 5.37 139 ⇓*i*Pn Pn 02 59 27.0 +0.6
WTTA ⇑*i*Sn Sn 03 00 28.1 -0.9
WTTA ⇑*i*Sg Sg 03 01 00.7 +3.4
comp=Z,9.6nm,0.5s
WTTA Wattenberg 5.37 139 Pn Pn 02 59 27.0 +0.6
WTTA Sn Sn 03 00 28.1 -0.9
WTTA Sg Sg 03 01 00.7 +3.4
comp=Z,9.6nm,0.5s
BGF Bois d'Agland 5.44 207 *e*P Pn 02 59 27.7 +0.5
BGF *e*Sn Sn 03 00 26.1 -4.3
BGF *e*Sg Sg 03 00 58.2 -1.2
comp=Z,131nm,0.4s
BGF Bois d'Agland 5.44 207 *e*P Pn 02 59 27.7 +0.5
HPK Haverah Park 5.53 300 *e*P Pn 02 59 29.0 +0.6
RJOB Jochberg 5.53 130 *e*Pn Pn 02 59 29.6 +1.0
RJOB Jochberg 5.53 130 Pn Pn 02 59 29.6 +1.0
STNC Stoke 5.58 291 *e*P Pn 02 59 29.8 +0.7
GRR Gorron 5.63 240 *e*P Pn 02 59 30.7 +0.9
GRR *e*Sn Sn 03 00 30.9 -4.3
comp=Z,58nm,0.3s
GRR Gorron 5.63 240 *e*P Pn 02 59 30.7 +0.9
PLDF La Plantade 5.79 200 Pn Pn 02 59 34.1 +2.0
AGO Saint Agoulin 5.83 204 Pn Pn 02 59 34.3 +1.8
TCF Toulx Ste Croi 5.87 210 *e*P Pn 02 59 33.7 +0.6
TCF *e*Sn Sn 03 00 36.8 -4.3
TCF *e*Sg Sg 03 01 11.2 -2.2
comp=Z,40nm,0.6s
TCF Toulx Ste Croi 5.87 210 *e*P Pn 02 59 33.7 +0.6
HLM1 Long Mynd 5.88 284 *e*P Pn 02 59 34.6 +1.4
MCH1 Michaelchurch 5.91 279 *e*P Pn 02 59 34.0 +0.3
LPL La Plagne 5.93 178 *e*Pn Pn 02 59 32.4 -1.7
LPL *e*Sg Sg 03 01 12.2 -3.1
comp=Z,38nm,1.1s
LPG La Plagne 5.95 178 *e*Pn Pn 02 59 32.8 -1.7
LPG *e*Sg Sg 03 01 13.4 -2.5
comp=Z,20nm,0.7s
FOEL Foel Wylfa 6.13 287 *e*P Pn 02 59 38.2 +1.6
PYM Petit Puy Mans 6.14 203 Pn Pn 02 59 38.5 +1.6
ABTA Abfaltersbach 6.14 137 ⇑*i*Pn Pn 02 59 38.3 +1.3
SNR=7.0
ABTA ⇑*i*Sn Sn 03 00 46.5 -1.5
ABTA ⇓*i*Sg Sg 03 01 26.2 +4.0
comp=Z,6.6nm,0.6s
ABTA Abfaltersbach 6.14 137 Pn Pn 02 59 38.3 +1.3
SNR=7.0
ABTA Sn Sn 03 00 46.5 -1.5
ABTA Sg Sg 03 01 26.2 +4.0
comp=Z,6.6nm,0.6s
MOA Molln 6.21 122 ⇑*i*Pn Pn 02 59 38.1 +0.4
SNR=11
MOA ⇑*i*Pg Pg 03 00 04.3 +0.6
MOA ⇓*i*Sn Sn 03 00 47.0 -2.3
MOA ⇓*i*Sg Sg 03 01 26.8 +2.7
comp=Z,16nm,0.9s
MOA Molln 6.21 122 Pn Pn 02 59 38.1 +0.4
SNR=11
DPC Dobruska-Polom 6.33 96 *e*PN Pn 02 59 39.8 +0.4
DPC comp=Z,230nm,1.6s *e*SG Sg 03 01 25.7 -2.3
DPC Dobruska-Polom 6.33 96 Pn Pn 02 59 39.8 +0.4
BNI Bardonecchia 6.39 179 *e*Pn Pn 02 59 42.3 +1.9
BNI *e*Sn Sn 03 00 54.0 -0.1
BNI Bardonecchia 6.39 179 *e*Pn Pn 02 59 42.3 +1.9
BNI *e*Sn Sn 03 00 54.0 -0.1
HEX Exmoor 6.46 271 *e*P Pn 02 59 41.7 +0.5
MFF Saint Martin d 6.51 225 *e*P Pn 02 59 41.8 0.0
MFF *e*Sn Sn 03 00 51.0 -5.7
MFF *e*Sg Sg 03 01 31.5 -2.3
comp=Z,33nm,0.6s
MFF Saint Martin d 6.51 225 *e*P Pn 02 59 41.8 0.0
ORIF Oris-en-Rattie 6.54 184 *e*Pn Pn 02 59 41.8 -0.6

ORIF *e*Sg Sg 03 01 31.7 -3.1
comp=Z,21nm,0.7s
ORIF Oris-en-Rattie 6.54 184 *e*Pn Pn 02 59 41.8 -0.6
LBL Lubilhac 6.57 200 Pn Pn 02 59 44.5 +1.7
SGMF Saint Gilles 6.65 245 *e*P Pn 02 59 43.9 +0.1
SGMF *e*Sn Sn 03 00 55.9 -4.4
SGMF *e*Sg Sg 03 01 35.3 -3.1
comp=Z,49nm,0.8s
SGMF Saint Gilles 6.65 245 *e*P Pn 02 59 43.9 +0.1
DYA Yadsworthy 6.65 265 *e*P Pn 02 59 44.6 +0.8
VIVF Saint-Julien-l 6.70 191 *e*Pn Pn 02 59 43.6 -0.9
VIVF *e*Sg Sg 03 01 37.2 -2.7
comp=Z,23nm,0.7s
VIVF Saint-Julien-l 6.70 191 *e*Pn Pn 02 59 43.6 -0.9
MBDF Montbardon 6.72 178 *e*Pn Pn 02 59 43.2 -1.7
MBDF *e*Sg Sg 03 01 37.1 -3.5
comp=Z,12nm,0.9s
ECK Cauldkaine Hil 6.86 307 *e*P Pn 02 59 47.4 +0.7
HTL Hartland 6.90 271 *e*P Pn 02 59 47.3 +0.1
RJF Les Rejaudoux 6.97 210 *e*Pn Pn 02 59 47.6 -0.6
RJF *e*Sn Sn 03 01 02.8 -5.3
RJF *e*Sg Sg 03 01 46.0 -2.6
comp=Z,56nm,0.9s
RJF Les Rejaudoux 6.97 210 *e*Pn Pn 02 59 47.6 -0.6
ESK Eskdalemuir 6.97 308 *e*Pn Pn 02 59 48.4 +0.2
ESK *e*Sn Sn 03 01 03.2 -4.9
ESK Eskdalemuir 6.97 308 *e*Pn Pn 02 59 48.4 +0.2
ESK Eskdalemuir 6.97 308 *e*P Pn 02 59 48.8 +0.6
ESY Stoneypath 7.02 313 *e*P Pn 02 59 49.4 +0.6
ROSF Rostrenen 7.02 248 *e*Pn Pn 02 59 47.4 -1.5
ROSF *e*Sn Sn 03 01 03.4 -5.9
comp=Z,15nm,0.6s
CAF Calviac 7.15 206 *e*P Pn 02 59 50.7 0.0
CAF *e*Sn Sn 03 01 07.5 -5.1
CAF *e*Sg Sg 03 01 50.8 -3.6
comp=Z,35nm,0.7s
CAF Calviac 7.15 206 *e*P Pn 02 59 50.7 0.0
QUIF Quistinic 7.18 244 *e*P Pn 02 59 50.4 -0.6
QUIF *e*Sn Sn 03 01 07.7 -5.5
QUIF *e*Sg Sg 03 01 51.5 -3.8
comp=Z,43nm,0.7s
QUIF Quistinic 7.18 244 *e*P Pn 02 59 50.4 -0.6
MORC Moravsky Berou 7.24 99 *e*Pn Pn 02 59 52.7 +0.8
MORC *e*Sn Sn 03 01 08.3 -6.5
MORC Moravsky Berou 7.24 99 *e*Pn Pn 02 59 52.7 +0.8
ARSA Arzberg 7.25 122 ⇓*i*Pn Pn 02 59 52.7 +0.7
ARSA ⇑*i*Sn Sn 03 01 12.5 -2.5
ARSA Arzberg 7.25 122 Pn Pn 02 59 52.7 +0.7
ARSA Sn Sn 03 01 12.5 -2.5
EDI Edinburgh 7.28 312 *e*P Pn 02 59 51.2 -1.2
TRI Trieste 7.50 137 *e*Pn Pn 02 59 56.3 +0.9
TRI Trieste 7.50 137 *e*Pn Pn 02 59 56.3 +0.9
LFF La Frestale 7.54 213 *e*Pn Pn 02 59 54.9 -1.2
LFF *e*Sn Sn 03 01 16.5 -5.8
LFF *e*Sg Sg 03 02 03.6 -3.5
comp=Z,61nm,0.7s
LASF Ste Croix 7.57 194 *e*Pn Pn 02 59 54.9 -1.6
LASF *e*Sg Sg 03 02 04.4 -3.6
comp=Z,27nm,0.8s
DRUM Mains of Drumt 7.59 320 *e*P Pn 02 59 56.6 -0.1
EAB Aberfoyle 7.97 311 *e*P Pn 03 00 01.9 0.0
MTLF Montolieu 8.60 201 *e*Pn Pn 03 00 08.5 -2.0
MTLF *e*Sg Sg 03 02 35.7 -5.1
comp=Z,22nm,0.9s
EPF Esparros 9.38 209 *e*Pn Pn 03 00 19.5 -1.9
EPF *e*Sn Sn 03 02 00.7 -6.9
EPF *e*Sg 03 03 01.1
comp=Z,24nm,0.8s
ETSF Etsaut 9.79 212 *e*Pn Pn 03 00 24.3 -2.6
ETSF *e*Sn Sn 03 02 10.2 -7.3
ETSF *e*Sg 03 03 13.8
comp=Z,12nm,0.7s
SJPF Ste Jean 9.83 215 *e*Pn Pn 03 00 25.8 -1.6
SJPF *e*Sg Sn 03 03 15.0 +57
comp=Z,6.4nm,0.7s
BRVK Borovoye 37.95 62 *e*P P 03 05 23.1 -0.7
comp=Z,2.9nm,0.8s
BRVK Borovoye 37.95 62 *e*P P 03 05 23.1 -0.7
comp=Z,2.9nm,0.8s
HHC Hu-ho-hao-te 67.39 53 *e*P P 03 09 02.6 +0.7
HHC PcP PcP 03 09 31.0 +1.5
HHC PP PP 03 11 30.8 +1.0
HHC PcS 03 13 35.0
HHC ScP 03 13 38.3
HHC pmax pmax
comp=Z,28nm,0.8s
HHC pmax pmax
comp=Z,180nm,5.4s
GYA Guiyang 75.74 66 *e*P P 03 09 51.8 -0.7
GYA pmax pmax
comp=Z,1.0nm,1.0s

IDC 24 03:02:28.6±3.4, 46°98N×153°01E, h75km±28km, mb3.6/4, mb1 3.7/6, mb1mx3.3/25, mbtmp3.5/6, Error ellipse: s-maj=44.6km s-min=21.9km az=114.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.83**	**24**	P	Pn	03 04 06.6	+0.5
	0.2nm,0.3s,baz=196,slow=14,SNR=3.5						
ASAJ	**Asahikawa**	**7.85**	**252**	P	Pn	03 04 19.2	-0.7
	baz=89,slow=14						
CMAR	**Chiang Mai Arr**	**52.35**	**256**	P	P	03 11 33.4	+0.5
	0.9nm,0.3s,baz=39,slow=7.3,SNR=3.8						
FINES	**FINESS Array B**	**63.80**	**335**	P	P	03 12 51.8	-0.4
	0.8nm,0.4s,baz=33,slow=7.0,SNR=13						
NB2	**NORSAR Subarra**	**67.98**	**341**	P	P	03 13 18.9	-0.2
	comp=Z,0.7nm,0.6s,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.98**	**341**	P	P	03 13 19.3	+0.1
	comp=Z,0.8nm,0.5s,baz=27,slow=6.2,SNR=6.3						
ASAR	**Alice Springs**	**72.41**	**198**	P	P	03 13 46.4	-0.1
	comp=Z,0.5nm,1.1s,baz=12,slow=4.9,SNR=3.2						

*BGS **24** 03:11:44.9±1.4, 29°.76N×87°.09E, h10km, mb5.8, MS5.6*
*DMN **24** 03:11:51.9±0.4, 31°.89N×86°.25E, h10km, Ml6.0/7, Error ellipse: s-maj=7.2km s-min=6.3km az=3.0*
*ISCJB **24** 03:11:53.6±0.4, 31°.21N±0°.02×85°.95E±0°.01, h4km±2km, mb5.7/390, MS5.5/245, Error ellipse: s-maj=3.0km s-min=1.7km az=25.4*
*IDC **24** 03:11:54.5±0.3, 31°.15N×86°.02E, h0km, mb5.4/34, mb1 5.5/37, mb1mx5.4/38, mbtmp5.3/37, ML4.5/3, MS5.3/41, Ms1 5.3/41, ms1mx5.2/46, Error ellipse: s-maj=11.4km s-min=8.7km az=24.0*
*LDG **24** 03:11:55.3±0.2, 31°.41N×85°.78E, h10km, Mb6.0/46, Ms5.3/11, Error ellipse: s-maj=8.7km s-min=4.6km az=113.0*
*NDI **24** 03:11:55.7±4.4, 31°.16N×86°.04E, h10km, mb5.7, mb5.7(NEIC)*
*NEIC **24** 03:11:56.8±0.1, 31°.16N×85°.90E, mb5.7/110, MS5.4/140, MW5.5, Error ellipse: s-maj=4.4km s-min=3.0km az=30.0, Moment Tensor Solution. s39 Moment tensor: Scale 10¹⁷Nm; Mrr0.00; Mθθ-2.30; Mφφ2.30; Mrθ0.67; Mθφ0.55; Mφr0.16; Best double couple: Mw2.50000×10¹⁷ NP1: φs231.00000°, δ84.00000°, λ-14.00000°. NP2: φs323.00000°, δ76.00000°, λ-174.00000°. Principal axes: T 2.3900, Plg5.0000°, Azm277.0000°; N 0.1400, Plg74.0000°, Azm29.0000°; P -2.5300, Plg14.0000°, Azm185.0000°;*
NEIC At least 6 houses destroyed and some damaged at Gyungcan. Minor damage and felt strongly at Coqen. Also felt strongly at Nyima. Telecommunications disrupted at Ceri.
*BJI **24** 03:11:56.6, 31°.25N×86°.05E, h13km, mB5.7/38, mb5.4/62, Ms6.0/78, Ms7 5.8/65*
*TEH **24** 03:11:56.0, 31°.12N×85°.86E, h7km, ML5.7*
*SZGRF **24** 03:11:57.4, 30°.53N×85°.75E, h33km, mb5.9, MS5.8, Xizang*
*BKK **24** 03:11:58.0±0.2, 31°.5°×8°.6E±°, h10km, M5.5/45, mb5.7/45, mB5.9/33, Mw(mB)5.5/33, Mwp5.2/1*
*MOS **24** 03:11:58.8±0.9, 31°.20N×85°.94E, h39km, mb5.7/101, MS5.4/82, Error ellipse: s-maj=6.3km s-min=3.1km az=121.8*
*GCMT **24** 03:12:02.7±0.1, 31°.05N×86°.10E, h28km, MW5.8, Moment Tensor Solution. s92,c171; s59,c75; Moment tensor: Scale 10¹⁷Nm; Mrr-0.65±.06; Mθθ-5.72±.05; Mφφ6.37±.06;*

M_{rr}1.71±.12; $M_{\theta\theta}$0.45±.05; $M_{\phi\phi}$0.67±.11; Best double couple: M_w6.40000×10^{17} NP1:ϕ_s318.00000°, δ74.00000°, λ-172.00000°. NP2:ϕ_s226.00000°, δ83.00000°, λ-16.00000°. Principal axes: T 6.4700, Plg6.0000°, Azm273.0000°; N -0.2100, Plg72.0000°, Azm22.0000°; P -6.2500, Plg17.0000°, Azm181.0000°; Data Used: ll IU CN IC G. Surface waves: sta=114, comp=244, per= 50.

*DJA **24** 03:12:02.6±0.2, 31°N±5°×8°6E±°, h50km, M5.7/68, mb5.7/68, mB6.0/44, Mw(mB)5.7/44, Mwp5.5/1*

*PDG **24** 03:12:05.7, 31°.20N×86°.00E, h10km, mb5.5/1*

ISC 24 03:11:57.0±0.3, 31°.17N±0°.02×85°.96E±0°.02, h13km±1km, h13km:pP-P, n1377, σ1936/1546, mb5.8/390, MS5.5/247, 201C-46D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUN	**Gumba**	**3.25**	**181**	*e*Pn		**Pn**	**03 12 50.9**	**+2.9**
GUN				*e*Sn		**Sb**	**03 13 34.7**	**+0.4**
	22μm,0.9s							
DANN	**Dangsing**	**3.40**	**215**	*e*Pn		Pn	03 12 53.5	+3.5
DANN				*e*Sn		**Sb**	**03 13 38.7**	**0.0**
	13μm,0.8s							
KKN	**Kakani**	**3.42**	**190**	*e*Pn		**Pn**	**03 12 53.2**	**+3.0**
KKN				*e*Sn		**Sb**	**03 13 39.4**	**+0.3**
JIRN	**Jiri**	**3.50**	**177**	*e*Pn		Pn	03 12 54.7	+3.2
JIRN				*e*Sn		**Sb**	**03 13 41.3**	**-0.4**
	8μm,0.7s							
PKIN	**Phulchoki**	**3.61**	**188**	*e*Pn		Pn	03 12 56.6	+3.7
PKI	**Pulchoki**	**3.62**	**188**	*e*Pn		Pn	03 12 56.6	+3.5
PKI				*e*Sn		**Sb**	**03 13 43.8**	**-1.2**
DMN	**Daman**	**3.62**	**192**	*e*Pn		**Pn**	**03 12 56.2**	**+3.1**
KOLN	**Koldanda**	**3.96**	**212**	*e*Pn		**Pn**	**03 13 00.3**	**+2.6**
KOLN				*e*Sn		**Sb**	**03 13 52.7**	**-2.1**
PYUN	**Piuthan**	**4.01**	**221**	*e*Sn		**Sb**	**03 13 52.4**	**-3.6**
	18μm,0.9s							
TAPN	**Taplejung**	**4.10**	**158**	*e*Pn		**Pn**	**03 13 01.8**	**+2.1**
TAPN				*e*Sn		**Sn**	**03 13 52.1**	**+4.5**
	9μm,0.8s							
RAMN	**Ramite**	**4.24**	**172**	*e*Pn		**Pn**	**03 13 03.5**	**+1.9**
RAMN				*e*Sn		**Sb**	**03 13 57.4**	**-5.4**
	8μm,0.7s							
GTK	**Gangtok**	**4.47**	**148**	*e*P		Pn	03 13 09.0	+4.3
GTK				*e*S		**Sn**	**03 14 02.5**	**+5.9**
ODAN	**Odare**	**4.47**	**163**	*e*Pn		**Pn**	**03 13 06.9**	**+2.2**
ODAN				*e*Sn		**Sn**	**03 14 02.0**	**+5.3**
	10μm,0.6s							
LSA	**Lhasa**	**4.71**	**107**	Pn		Pn	03 13 11.9	+3.7
LSA				Sn		**Sn**	**03 14 05.5**	**+2.5**
LSA				LR		LR		
	comp=N,85μm,11.1s							
LSA				LR		LR		
	comp=E,54μm,12.4s							
LSA				LR		LR		
	comp=Z,97μm,11.1s							
LSA	**Lhasa**	**4.71**	**107**	*e*P		**Pn**	**03 13 11.3**	**+3.1**
LSA	**Lhasa**	**4.71**	**107**	*e*Pn		**Pn**	**03 13 11.3**	**+3.1**
SLGI	**Shiliguri**	**4.95**	**154**	*i* x		**Pn**	**03 13 13.5**	**+2.5**
PTH	**Pithoragarh**	**5.22**	**253**	*e*4		Pn	03 13 09.9	-5.1
PTH				*e*4			03 14 46.9	
DDI	**Dehra Dun**	**6.86**	**265**	*e*P		**Pn**	**03 13 40.5**	**+3.1**
DDI				*e*x		x	03 14 56.6	
ALBI	**Allahabad**	**6.89**	**213**	*e*P		**Pn**	**03 13 35.5**	**-2.2**
ALBI				*e*x		x	03 14 48.5	
BOK	**Bokaro**	**7.35**	**181**	*e*P		**Pn**	**03 13 45.4**	**+1.4**
BOK				AMB		AMB	03 13 47.0	
	comp=Z,946nm,2.5s							
BOK				*i* S		Sn	03 15 00.0	-7.3
SMLA	**Simla**	**7.54**	**272**	*e*P		**Pn**	**03 13 48.1**	**+1.5**
SMLA				AMB		AMB	03 13 50.2	
	comp=Z,864nm,0.8s							
SMLA				*i* 4			03 15 11.5	
SHL	**Shillong**	**7.64**	**135**	*i* P		**Pn**	**03 13 46.1**	**-2.1**
SHL				*e*x		x	03 14 08.5	
SDNR	**Sundarnagar**	**7.70**	**275**	*e*P		**Pn**	**03 13 50.0**	**+1.1**
SDNR				*e*4			03 15 28.0	
NDI	**New Delhi**	**7.98**	**254**	*e*x		Pn	03 13 48.0	-4.7
NDI				*e*x		x	03 14 14.7	
NDI				AMB		AMB	03 14 16.2	
	comp=Z,858nm,1.1s							
NDI				*e*x		x	03 15 15.0	
BHK	**Bhakra**	**8.17**	**274**	*e*P		**Pn**	**03 13 54.9**	**-0.5**
BHK				*e*4			03 15 26.7	
DHRM	**DHARAMSHALA**	**8.30**	**280**	*e*P		**Pn**	**03 13 57.4**	**0.0**
DHRM				AMB		AMB	03 13 59.9	
	comp=Z,638nm,1.1s							
DHRM				*e*4			03 15 31.7	
DLH	**Dalhousie**	**8.61**	**282**	*e*P		**Pn**	**03 14 01.0**	**-0.6**
DLH				*e*x		x	03 15 39.0	
IMP	**Imphal**	**9.49**	**130**	*i* P		**Pn**	**03 14 13.0**	**-0.5**
IMP				*i* x		x	03 15 58.0	
JBP	**Jabalpur**	**9.58**	**215**	⇓*i*P		**Pn**	**03 14 13.4**	**-1.3**
JBP				*e*x		x	03 16 02.1	
BHPL	**Bhopal**	**10.96**	**226**	*e*P		**Pn**	**03 14 32.6**	**-1.0**
BHPL				AMB		AMB	03 14 34.9	
	comp=Z,293nm,0.7s							
BHPL				*e*S		Sn	03 16 25.8	-10
AJM	**Ajmer**	**10.97**	**248**	*i* P		**Pn**	**03 14 33.0**	**-0.7**
AJM				*i* 4			03 16 31.0	
CHCP	**Chirah Chowk**	**11.02**	**286**	P		**Pn**	**03 14 33.2**	**-1.1**
SARP	**Sargodha**	**11.37**	**277**	P		**Pn**	**03 14 37.5**	**-1.6**
KSH	**Kashi**	**11.65**	**318**	⇑*i*P		**Pn**	**03 14 41.8**	**-1.3**
KSH				S		**Sn**	**03 16 51.6**	**-1.4**
KSH				SS		**SnSn**	**03 17 06.5**	**+1.4**
KSH				pmax		pmax		
	comp=Z,110nm,1.3s							
KSH				LR		LR		
	comp=N,23μm,8.1s							
KSH				LR		LR		
	comp=E,20μm,8.0s							
KSH				LR		LR		
	comp=Z,24μm,7.6s							
NGP	**Nagpur**	**11.75**	**213**	*e*P		**Pn**	**03 14 41.3**	**-3.0**
NGP				AMB		AMB	03 14 42.7	
	comp=Z,317nm,1.1s							
NGP				*e*x		x	03 16 46.4	
CEP	**Cherat**	**12.16**	**286**	P		**Pn**	**03 14 48.5**	**-1.5**
THW	**Thamme Wali**	**12.18**	**281**	P		**Pn**	**03 14 48.4**	**-1.9**
WMQ	**Urumqi**	**12.70**	**6**	P		**Pn**	**03 14 59.0**	**+1.6**
WMQ				pP		P	03 15 02.3	-6.3
WMQ				sP			03 15 05.6	
WMQ				PP		**PnPn**	**03 15 09.4**	**+4.1**
WMQ				S		**Sn**	**03 17 22.4**	**+3.7**
WMQ				sS			03 17 27.6	
WMQ				SS		**SnSn**	**03 17 32.3**	**+1.2**
WMQ				PcP		**PcP**	**03 20 34.3**	**+0.1**
WMQ				ScP		**ScP**	**03 24 05.6**	**-1.4**
WMQ				PcS		**PcS**	**03 24 07.3**	**-1.1**
WMQ				ScS		**ScS**	**03 27 40.8**	**-2.4**
WMQ				pmax		pmax		
	comp=Z,160nm,1.4s							
WMQ				pmax		pmax		
	comp=Z,3μm,3.9s							
WMQ				LR		LR		
	comp=N,9μm,12.4s							
WMQ				LR		LR		
	comp=E,13μm,11.0s							
WMQ				LR		LR		
	comp=Z,10μm,24.1s							
AKL	**Akola**	**13.16**	**220**	⇑*i*P		**Pn**	**03 15 02.2**	**-1.5**
AKL				*i* x		x	03 17 20.4	
ULHL	**Ulahol**	**13.52**	**328**	*i* P		**Pn**	**03 15 09.8**	**+1.2**
ULHL	**Ulahol**	**13.52**	**328**	P		**Pn**	**03 15 09.8**	**+1.2**
	SNR=45							
VIS	**Vishakhapatnam**	**13.60**	**191**	*i* P		**Pn**	**03 15 07.7**	**-2.0**
VIS				AMB		AMB	03 15 08.9	
	comp=Z,169nm,1.3s							
VIS				*i* x		x	03 17 34.4	
KZA	**Kyzart**	**13.86**	**325**	*i* P		**Pn**	**03 15 14.2**	**+0.7**
KZA	**Kyzart**	**13.86**	**325**	P		**Pn**	**03 15 14.2**	**+0.7**
	SNR=63							
GTA	**Gaotai**	**13.97**	**50**	⇑P		**Pn**	**03 15 13.3**	**-1.5**
GTA				pP		**P**	**03 15 20.8**	**-2.0**
GTA				sP			03 15 25.5	
GTA				S		**Sn**	**03 17 48.9**	**-0.9**
GTA				sS		S	03 18 00.3	-11
GTA				SS		**SnSn**	**03 18 05.0**	**+2.7**
GTA				ScS		**ScS**	**03 27 44.9**	**-1.5**
GTA				pmax		pmax		
	comp=Z,45nm,1.7s							
GTA				pmax		pmax		
	comp=Z,410nm,4.3s							
GTA				LR		LR		
	comp=N,88μm,16.6s							
GTA				LR		LR		
	comp=E,44μm,15.4s							
GTA				LR		LR		
	comp=Z,26μm,15.7s							
AAA	**Alma-Ata**	**14.04**	**332**	*e*P		**Pn**	**03 15 17.3**	**+1.6**
AAA				*e*S		**Sn**	**03 17 56.3**	**+4.9**
AAA				pmax		pmax		
	comp=Z,2μm,4.0s							
AAA				smax		smax		
	comp=E,8μm,5.9s							
AAA				MLR		MLR		
	comp=Z,17μm,17.0s							
TKM2	**Tokmak 2**	**14.34**	**328**	*i* P		**Pn**	**03 15 19.3**	**-0.6**
TKM2				pmax		pmax		
	comp=Z,205nm,1.1s							
TKM2	**Tokmak 2**	**14.34**	**328**	P		**Pn**	**03 15 21.3**	**+1.4**
	SNR=128							
UCH	**Uchtor**	**14.34**	**323**	*i* P		**Pn**	**03 15 20.2**	**0.0**
UCH	**Uchtor**	**14.34**	**323**	P		**Pn**	**03 15 20.1**	**0.0**
	SNR=24							
KBK	**Karagaybulak**	**14.44**	**326**	*i* P		**Pn**	**03 15 22.6**	**+1.3**
KBK	**Karagaybulak**	**14.44**	**326**	P		**Pn**	**03 15 22.6**	**+1.3**
	SNR=40							
KBL	**Kabul**	**14.61**	**288**	*e*P		**Pn**	**03 15 21.4**	**-2.3**
KBL				*e*			03 17 59.5	
KBL	**Kabul**	**14.61**	**288**	*e*Pn		**Pn**	**03 15 21.4**	**-2.3**
KBL				*e*Sn		Sn	03 17 59.5	-6.2
AAK	**Ala-Archa**	**14.65**	**325**	Pn		**Pn**	**03 15 24.9**	**+0.8**
	comp=Z,853nm,0.9s,SNR=33							
AAK	**Ala-Archa**	**14.65**	**325**	*c i*P		**Pn**	**03 15 24.0**	**-0.1**
AAK	**Ala-Archa**	**14.65**	**325**	P		**Pn**	**03 15 25.0**	**+0.9**
	SNR=54							
AAK	**Ala-Archa**	**14.65**	**325**	*e*Pn		**Pn**	**03 15 24.5**	**+0.4**
AAK				Sn		**Sn**	**03 18 06.9**	**+0.6**
AAK	**Ala-Archa**	**14.65**	**325**	Pn		**Pn**	**03 15 23.3**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=150,slow=12,SNR=74							
AAK				Sn		**Sn**	**03 18 06.9**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=23,slow=18,SNR=1.9							
AAK				LR		LR	03 21 44.1	
	comp=Z,14μm,19.3s,baz=126,slow=40							
AML	**Almayashu**	**14.70**	**321**	*i* P		**Pn**	**03 15 25.0**	**0.0**
AML	**Almayashu**	**14.70**	**321**	P		**Pn**	**03 15 25.0**	**0.0**
	SNR=5.5							
FRU	**Bishkek**	**14.74**	**325**	⇑*i*P		**Pn**	**03 15 27.0**	**+1.8**
FRU				pmax		pmax		
	comp=Z,1μm,3.0s							
FRU				MLR		MLR		
	comp=Z,35μm,14.0s							
CHMS	**Chumysh**	**14.80**	**326**	*i* P		**Pn**	**03 15 27.8**	**+1.9**
CHMS	**Chumysh**	**14.80**	**326**	P		**Pn**	**03 15 27.9**	**+1.9**
	SNR=38							
EKS2	**Erkin-Say**	**15.03**	**323**	*i* P		**Pn**	**03 15 29.6**	**+0.4**
EKS2	**Erkin-Say**	**15.03**	**323**	P		**Pn**	**03 15 29.6**	**+0.4**
	SNR=111							
USP	**Ospenovka**	**15.12**	**326**	*i* P		**Pn**	**03 15 30.4**	**+0.1**
USP	**Ospenovka**	**15.12**	**326**	P		**Pn**	**03 15 30.4**	**+0.1**
	SNR=74							
HYB	**Hyderabad**	**15.26**	**208**	*i* P		**Pn**	**03 15 30.0**	**-2.2**
	comp=Z,194nm,0.5s							
HYB				*e*S		**Sn**	**03 18 26.0**	**+4.8**
HYB				LR		LR		
	comp=Z,27nm,18.0s							
HYB	**Hyderabad**	**15.26**	**208**	*e*P		**Pn**	**03 15 30.2**	**-2.1**
HYB				AMB		AMB	03 15 39.1	
	comp=Z,227nm,0.5s							
CD2	**Chengdu**	**15.26**	**86**	*e*P		**Pn**	**03 15 31.9**	**-0.3**
CD2				pP		**P**	**03 15 35.3**	**-1.8**
CD2				sP		**sP**	**03 15 39.3**	**-3.3**
CD2				PP		**pP**	**03 15 44.5**	**+3.6**
CD2				S		**Sn**	**03 18 23.5**	**+2.4**
CD2				sS		S	03 18 28.3	-10
CD2				SS		**SnSn**	**03 18 40.5**	**+6.7**
CD2				pmax		pmax		
	comp=Z,280nm,1.0s							
CD2				pmax		pmax		
	comp=Z,2μm,4.2s							
CD2				LR		LR		
	comp=E,17μm,6.5s							
CD2				LR		LR		
	comp=Z,17μm,6.4s							
LATR	**Latur**	**15.29**	**216**	*ex*		**Pn**	**03 15 29.5**	**-3.1**
LATR				*e*P		P	03 15 30.0	-7.4
LATR				*e*P		pP	03 15 30.2	-11
LATR				AMB		AMB	03 15 31.4	
	comp=Z,187nm,1.3s							
LATR				*e*4			03 18 07.6	
VJD	**Vijayawada**	**15.37**	**200**	*e*P		**Pn**	**03 15 32.0**	**-1.7**
LZH	**Lanzhou**	**15.68**	**67**	*e*P		**Pn**	**03 15 35.5**	**-2.3**
LZH				pP		**P**	**03 15 42.3**	**+0.5**
LZH				sP		**sP**	**03 15 45.3**	**-2.0**
LZH				S		**Sn**	**03 18 29.1**	**-2.3**
LZH				sS		S	03 18 35.8	-11
LZH				SS		**SnSn**	**03 18 50.5**	**+6.3**
LZH				pmax		pmax		
	comp=Z,290nm,1.0s							
LZH				pmax		pmax		
	comp=Z,1μm,4.0s							
LZH				LR		LR		
	comp=N,26μm,9.2s							
LZH				LR		LR		
	comp=E,29μm,10.0s							
LZH				LR		LR		
	comp=Z,31μm,12.7s							
MK31	**Makanchi Array**	**15.86**	**351**	*ce*P		**Pn**	**03 15 39.0**	**-0.9**
MK31				pmax		pmax		
	comp=Z,258nm,0.8s							
MKAR	**Makanchi Array**	**15.86**	**351**	*e*P		**Pn**	**03 15 40.0**	**+0.1**
MKAR	**Makanchi Array**	**15.86**	**351**	*e*Pn		**Pn**	**03 15 40.0**	**+0.1**
MKAR				ScP		**ScP**	**03 24 11.6**	**-0.7**
MKAR				PKiKP		**PKiKP**	**03 28 32.3**	**+0.1**
MKAR	**Makanchi Array**	**15.86**	**351**	Pn		**Pn**	**03 15 39.0**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=168,slow=9.8,SNR=79							
MKAR				LR		LR	03 22 37.7	
	comp=Z,5μm,19.6s,baz=166,slow=40							
MKAR				ScP		**ScP**	**03 24 11.6**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=158,slow=1.3,SNR=3.7							
MKAR				PKiKP		**PKiKP**	**03 28 32.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=230,slow=3.2,SNR=4.3							
KMI	**Kunming**	**15.97**	**108**	⇑P		**Pn**	**03 15 38.8**	**-2.9**
KMI				PP		**PnPn**	**03 15 53.8**	**+3.5**
KMI				S		**Sn**	**03 18 37.1**	**-1.6**
KMI				SS		**S**	**03 18 57.4**	**+4.7**
KMI				pmax		pmax		
	comp=Z,130nm,0.7s							
KMI				LR		LR		
	comp=N,26μm,10.3s							
KMI				LR		LR		
	comp=E,14μm,10.0s							
KMI				LR		LR		
	comp=Z,15μm,10.0s							
BHJ	**Bhuj**	**16.50**	**245**	*ex*		**Pn**	**03 15 45.4**	**-2.8**
BHJ				AMB		AMB	03 15 47.9	
	comp=Z,241nm,1.3s							
POO	**Poona**	**16.69**	**224**	*e*P		**Pn**	**03 15 48.5**	**-2.3**
POO				AMB		AMB	03 15 56.4	
	comp=Z,240nm,0.1s							
CHTO	**Chiang Mai**	**17.00**	**133**	*e*P		**Pn**	**03 15 52.2**	**-2.4**
CHTO				pmax		pmax		
	comp=Z,164nm,0.8s							
CHTO	**Chiang Mai**	**17.00**	**133**	*e*Pn		**Pn**	**03 15 52.1**	**-2.4**
	comp=Z,164nm,0.8s							
CHTO	**Chiang Mai**	**17.00**	**133**	P		**S**	**03 19 15.2**	**+1.7**
	comp=Z,68nm,2.4s							
CHTO	**Chiang Mai**	**17.00**	**133**	P		**Pn**	**03 15 53.7**	**-0.9**
	comp=Z,280nm,1.2s,comp=Z,4μm							
CHTO	**Chiang Mai**	**17.00**	**133**	P		**Pn**	**03 15 52.3**	**-2.4**
	comp=Z,172nm,0.8s,comp=Z,4μm							
CMMT	**Chiang Mai**	**17.01**	**133**	P		**Pn**	**03 15 53.5**	**-1.2**
	comp=Z,250nm,1.2s							
CMMT	**Chiang Mai**	**17.01**	**133**	P		**Pn**	**03 15 52.2**	**-2.5**
	comp=Z,250nm,1.2s,comp=Z,3μm							
KK31	**Karatay Array**	**17.10**	**318**	*ce*P		**Pn**	**03 15 54.1**	**-1.7**
KK31				pmax		pmax		
	comp=Z,460nm,1.2s							
KKAR	**Karatay Array**	**17.10**	**318**	*e*P		**Pn**	**03 15 54.0**	**-1.7**
KKAR	**Karatay Array**	**17.10**	**318**	*e*Pn		**Pn**	**03 15 54.0**	**-1.7**
CMAR	**Chiang Mai Arr**	**17.27**	**134**	P		**Pn**	**03 15 56.1**	**-1.9**
CMAR				ScP		**ScP**	**03 24 15.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**17.27**	**134**	P		**Pn**	**03 15 56.1**	**-1.9**
	comp=Z,2.9nm,0.3s,baz=313,slow=13,SNR=46							
CMAR				LR		LR	03 22 60.0	
	comp=Z,19μm,19.3s,baz=321,slow=39							
CMAR				ScP		**ScP**	**03 24 15.7**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=296,slow=3.1,SNR=8.3							
KAD	**Karad**	**17.47**	**221**	*i* x		**Pn**	**03 16 00.4**	**-0.1**
KAD				*i* 4			03 18 59.5	
LAMP	**Lampang**	**17.65**	**132**	P		**Pn**	**03 16 00.4**	**-2.3**
	comp=Z,69nm,1.0s,comp=Z,503nm							
NANT	**Nan**	**18.14**	**129**	P		**Pn**	**03 16 06.2**	**-2.6**
	comp=Z,408nm,0.8s,comp=Z,3μm							
GYA	**Guiyang**	**18.73**	**99**	P		**P**	**03 16 13.5**	**-2.1**
GYA				PP		**PnPn**	**03 16 29.3**	**+1.3**
GYA				S		**Sn**	**03 19 38.8**	**-6.7**
GYA				SS		**SnSn**	**03 20 02.9**	**+3.6**
GYA				PcP		**PcP**	**03 20 43.8**	**+0.5**
GYA				pmax		pmax		
	comp=Z,160nm,1.0s							
GYA				pmax		pmax		
	comp=Z,1μm,5.1s							
GYA				LR		LR		
	comp=N,14μm,11.2s							
GYA				LR		LR		
	comp=E,16μm,9.6s							
GYA				LR		LR		
	comp=Z,19μm,10.3s							
DGPR	**DIGLIPUR**	**19.02**	**159**	*e*P		**P**	**03 16 17.0**	**-1.7**
DGPR				AMB		AMB	03 16 22.6	
	comp=Z,271nm,1.4s							
LOEI	**Loei**	**19.44**	**131**	P		**Pn**	**03 16 26.1**	**+1.5**
	comp=Z,158nm,1.1s,comp=Z,3μm							
XAN	**Xi'an**	**19.55**	**75**	P		**P**	**03 16 23.1**	**-1.3**
XAN				pP		**pP**	**03 16 28.1**	**-0.1**
XAN				S		**S**	**03 19 59.3**	**-5.7**
XAN				pmax		pmax		
	comp=Z,77nm,1.4s							
XAN				pmax		pmax		
	comp=Z,480nm,4.7s							
XAN				LR		LR		
	comp=N,12μm,21.4s							
XAN				LR		LR		
	comp=E,2μm,14.2s							
XAN				LR		LR		
	comp=Z,5μm,8.2s							
PBKT	**Sadao Pong**	**19.95**	**133**	P		**Pn**	**03 16 30.2**	**-0.4**
	comp=Z,524nm,1.0s,comp=Z,4μm							
PBKT	**Sadao Pong**	**19.95**	**133**	P		**P**	**03 16 28.8**	**-0.1**
	comp=Z,525nm,1.0s,comp=Z,4μm							
KURBB	**Kurchatov Arra**	**20.21**	**346**	P		**P**	**03 16 30.6**	**-0.8**
	comp=Z,56nm,0.9s,baz=165,slow=10,SNR=194							
KURBB				PcP		**PcP**	**03 20 44.6**	**-0.8**
	comp=Z,7.4nm,1.0s,baz=140,slow=1.7,SNR=2.9							
KURBB				ScP		**ScP**	**03 24 21.0**	**-0.4**
	comp=Z,7.4nm,0.9s,baz=182,slow=2.1,SNR=8.2							
KURBB				PKiKP		**PKiKP**	**03 28 32.4**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=225,slow=0.4,SNR=6.4							
ENH	**Enshi**	**20.24**	**86**	*e*P		**P**	**03 16 32.9**	**+0.8**
	comp=Z,686nm,1.1s							
ENH				LR		LR		
	comp=Z,9μm,20.0s							
KURK	**Kurchatov**	**20.28**	**346**	P		**P**	**03 16 30.6**	**-1.6**
KURK							03 20 44.6	
KURK				pmax		pmax		
	comp=Z,56nm,0.9s							
KURK	**Kurchatov**	**20.28**	**346**	P		**P**	**03 16 30.6**	**-1.6**
KURK				PcP		**PcP**	**03 20 44.6**	**-0.9**
KURK				ScP		**ScP**	**03 24 21.0**	**-0.6**
KURK				PKiKP		**PKiKP**	**03 28 32.4**	**-1.4**
PBA	**Port Blair**	**20.41**	**161**	*e*P		P	03 16 33.7	-0.1
PBA				AMB		AMB	03 16 51.5	
	comp=Z,485nm,1.4s							
HVS	**Khovu-Aksy**	**20.76**	**14**	*d i*P		**P**	**03 16 37.3**	**-0.2**
HVS				pmax		pmax		
	comp=Z,980nm,1.0s							
CHAI	**Chaiyaphum**	**21.09**	**132**	P		**P**	**03 16 41.6**	**+0.3**
	comp=Z,146nm,1.0s,comp=Z,1μm							
BTO	**Baotou**	**21.59**	**58**	*e*P		**P**	**03 16 46.3**	**-0.3**
BTO				S		**S**	**03 20 46.3**	**+0.7**
BTO				pmax		pmax		
	comp=Z,57nm,1.1s							
BTO				LR		LR		
	comp=N,10μm,15.1s							
BTO				LR		LR		
	comp=E,4μm,12.9s							
SKNT	**Sakolnakorn**	**21.64**	**127**	P		**P**	**03 16 46.9**	**-0.3**
	comp=E,176nm,1.1s							
PANO	**Nakornpanom**	**21.96**	**125**	P		**P**	**03 16 50.1**	**-0.5**
	comp=E,454nm,1.0s,comp=E,5μm							
IMYA	**Miami**	**22.08**	**290**	*e*P		**P**	**03 16 52.3**	**+0.3**
PHET	**Kaeng Krachan**	**22.11**	**142**	P		**P**	**03 16 53.5**	**+1.3**
	comp=E,1μm,0.7s,comp=E,7μm							
IDAH	**Dahanechah**	**22.18**	**281**	*e*P		**P**	**03 16 53.3**	**+0.1**
MHI	**Mashad**	**22.59**	**290**	*e*P		**P**	**03 16 58.7**	**+1.4**
IMOG	**Moghan**	**22.68**	**290**	*e*P		**P**	**03 16 58.7**	**+0.2**
TIY	**Taiyuan**	**22.74**	**66**	*e*P		**P**	**03 16 58.0**	**-0.9**
TIY				S		**S**	**03 21 05.6**	**-1.8**
TIY				LR		LR		
	comp=N,14μm,10.5s							
TIY				LR		LR		
	comp=E,16μm,11.1s							
TIY				LR		LR		
	comp=Z,18μm,12.0s							
ZAA0	**Zalesovo Array**	**22.78**	**358**	*e*P		**P**	**03 16 58.1**	**-1.0**
ZALV	**Zalesovo Beam**	**22.78**	**358**	P		**P**	**03 16 58.0**	**-1.0**
ZALV							03 28 09.9	
ZALV				pmax		pmax		
	comp=Z,106nm,0.8s							
ZALV				MLR		MLR		
	comp=Z,6μm,21.6s							
ZALV	**Zalesovo Beam**	**22.78**	**358**	P		**P**	**03 16 58.0**	**-1.0**
ZALV				ScS		ScS	03 28 09.9	-3.1
ZALV				*e*			03 50 34.2	
ZALV	**Zalesovo Beam**	**22.78**	**358**	P		**P**	**03 16 58.0**	**-1.0**
	comp=Z,106nm,0.8s,baz=183,slow=8.9,SNR=51							
ZALV				LR		LR	03 27 07.7	
	comp=Z,6μm,21.6s,baz=333,slow=40							
ZALV				ScS		ScS	03 28 09.9	-3.1
	comp=Z,8.8nm,1.0s,baz=183,slow=7.4,SNR=9.7							
ZALV				P3KPbc			03 50 34.2	
	comp=Z,0.9nm,0.4s,baz=323,slow=4.5,SNR=3.6							
HHC	**Hu-ho-hao-te**	**22.78**	**58**	*e*P		**P**	**03 16 59.1**	**-0.3**
HHC				pP		**pP**	**03 17 03.6**	**+0.4**
HHC				sP		**sP**	**03 17 06.

NVS pmax pmax
comp=N,433nm,1.9s
NVS pmax pmax
comp=Z,549nm,1.9s
NVS pmax pmax
comp=N,191nm,1.8s
NVS pmax pmax
comp=Z,290nm,1.8s
NVS smax smax
comp=E,386nm,2.7s
CHBT CHBT 23.74 137 P **P** **03 17 09.6 +0.6**
comp=E,114nm,1.3s,comp=E,2µm
CHBT CHBT 23.74 137 P **P** **03 17 10.3 +1.3**
comp=E,114nm,1.3s,comp=E,2µm
ISFR Sfrayin 23.84 292 *eP* **P** **03 17 08.1 -2.1**
UBPT Khong Chiam 23.84 127 P **P** **03 17 08.5 -1.5**
comp=E,300nm,1.0s,comp=E,4µm
UBPT Khong Chiam 23.84 127 P **P** **03 17 09.2 -0.8**
comp=E,300nm,1.0s,comp=E,4µm
ISHV Shirvan 24.13 293 *eP* **P** **03 17 14.5 +1.7**
VOSK Vostochnaya 24.16 337 P **P** **03 17 12.1 -0.6**
VOSK pmax pmax
comp=Z,96nm,1.1s
PALK Pallekele 24.28 193 P **P** **03 17 15.2 +1.1**
comp=Z,1µm,0.9s,SNR=9.8
PALK Pallekele 24.28 193 *eP* **P** **03 17 14.9 +0.8**
comp=Z,176nm,0.9s
PALK *eS* S 03 21 51.1 +18
PALK Pallekele 24.28 193 P **P** **03 17 15.1 +1.0**
comp=Z,206nm,1.2s
TLY Talaya 24.29 27 P **P** **03 17 15.7 +1.8**
comp=Z,129nm,0.8s,SNR=10.0
WHN Wuhan 24.35 84 ⇑P **P** **03 17 15.0 +0.3**
WHN S S 03 21 22.9 -11
WHN LR LR
comp=N,34µm,12.2s
WHN LR LR
comp=E,34µm,12.2s
WHN LR LR
comp=Z,22µm,9.4s
BVA0 Borovoye Array 24.60 337 *i* P **P** **03 17 16.4 -0.4**
BVA0 pmax pmax
comp=Z,120nm,1.4s
BVAR Borovoye Array 24.60 337 P **P** **03 17 16.5 -0.3**
BVAR 03 20 54.3
BVAR pmax pmax
comp=Z,41nm,1.1s
BVAR MLR MLR
comp=Z,10µm,19.0s
BVAR Borovoye Array 24.60 337 P **P** **03 17 16.5 -0.3**
BVAR PcP **PcP** **03 20 54.3 +0.1**
BVAR ScP **ScP** **03 24 32.5 -0.2**
BVAR *e* 03 50 31.1
BVAR Borovoye Array 24.60 337 P **P** **03 17 16.5 -0.3**
comp=Z,41nm,1.1s,baz=146,slow=8.2,SNR=67
BVAR PcP **PcP** **03 20 54.3 +0.1**
comp=Z,10nm,0.6s,baz=209,slow=2.6,SNR=2.9
BVAR ScP **ScP** **03 24 32.5 -0.2**
comp=Z,2.2nm,0.6s,baz=145,slow=5.3,SNR=4.2
BVAR LR LR 03 27 54.6
comp=Z,10µm,19.0s,baz=147,slow=39
BVAR P3KPbc 03 50 31.1
comp=Z,0.3nm,0.4s,baz=346,slow=3.7,SNR=4.4
BRVK Borovoye 24.67 337 P **P** **03 17 17.8 +0.5**
comp=Z,541nm,1.0s,SNR=20
BRVK Borovoye 24.67 337 *de*P **P** **03 17 16.8 -0.5**
BRVK pmax pmax
comp=Z,128nm,1.2s
BRVK Borovoye 24.67 337 *eP* **P** **03 17 17.1 -0.2**
comp=Z,178nm,1.2s
BRVK LR LR
comp=Z,14µm,19.0s
QIZ Qiongzhong 24.71 114 P **P** **03 17 18.4 +0.3**
QIZ sP sP 03 17 29.8 +6.0
QIZ S **S** **03 21 36.8 -2.9**
QIZ pmax pmax
comp=Z,2µm,5.2s
QIZ LR LR
comp=N,15µm,21.5s
QIZ LR LR
comp=Z,7µm,12.2s
QIZ Qiongzhong 24.71 114 *eP* **P** **03 17 18.2 +0.1**
comp=Z,69nm,0.8s
QIZ LR LR
comp=Z,7µm,21.0s
KRAR Krasnoyarsk 25.31 9 *ce*P **P** **03 17 23.1 0.0**
KRAR pmax pmax
comp=Z,244nm,1.2s
WBK Wadi Bani Khal 25.49 257 P **P** **03 17 28.0 +2.9**
SNR=8.4
WBK P **pP** **03 17 29.6 +0.5**
SNR=8.9
GZH Guangzhou 25.62 102 P **P** **03 17 26.1 -0.1**
GZH S **S** **03 21 52.3 -1.7**
GZH LR LR
comp=N,12µm,9.6s
GZH LR LR
comp=E,8µm,9.8s
PKDT Phuket 25.88 151 P **P** **03 17 30.0 +1.4**
comp=E,424nm,0.8s,comp=E,4µm
IBND Bandar-abas 25.89 269 *eP* **P** **03 17 29.4 +0.8**
IBAF Bafgh 25.92 279 *ePn* **P** **03 17 30.3 +1.2**
IMND Minoodasht 25.92 292 *eP* **P** **03 17 32.1 +3.2**
BJI Beijing 26.01 62 P **P** **03 17 30.5 +0.9**
BJI S **S** **03 22 03.5 +3.5**
BJI pmax pmax
comp=Z,150nm,1.0s
BJI LR LR
comp=N,52µm,17.7s
BJI LR LR
comp=E,10µm,17.7s
BJI LR LR
comp=Z,6µm,14.0s
SMDO Samad 26.07 259 P **P** **03 17 32.7 +2.1**
SNR=30
JMDO Jabal Madar 26.32 257 ⇓P **P** **03 17 34.9 +2.3**
SNR=9.4
TIA Tai'an 26.35 71 *eP* **P** **03 17 29.3 -3.4**
TIA S **S** **03 21 58.6 -6.9**
TIA LR LR
comp=N,14µm,12.0s
TIA LR LR
comp=E,12µm,11.9s
TIA LR LR
comp=Z,15µm,12.5s
HOQ Hoqain 26.49 260 ⇑P **P** **03 17 35.9 +1.7**
SNR=21
AB31 Akbulak array 26.65 320 *ce*P **P** **03 17 35.7 +0.4**
AB31 pmax pmax
comp=Z,101nm,0.8s
ABKAR Akbulak array 26.65 320 *eP* **P** **03 17 35.9 +0.6**
comp=Z,82nm,0.8s
IMEH Mehriz 26.75 279 *eP* **P** **03 17 37.3 +0.6**
ICHK Chekchek 26.82 281 *eP* **P** **03 17 37.9 +0.6**
BSY Bisya 26.92 259 ⇓P **P** **03 17 40.0 +2.0**
SNR=17
IGLO Ghaloghah 27.14 290 *eP* **P** **03 17 41.5 +1.3**
ASHO Ashiyiah 27.15 264 P **P** **03 17 42.8 +2.7**
SNR=55
IKIA Kiasar 27.25 289 *eP* **P** **03 17 41.9 +0.7**
ARQ Araqi 27.25 261 P **P** **03 17 43.8 +2.8**
SNR=24
ISAD Sadrabad 27.47 280 *eP* **P** **03 17 43.7 +0.5**
SKLT Songkhla 27.53 147 P **P** **03 17 44.4 +0.9**
SKLT Songkhla 27.53 147 P P 03 17 52.0 +8.5
SKLT Songkhla 27.53 147 P P 03 17 52.0 +8.5
ISHM Shahmirzad 27.56 289 *eP* **P** **03 17 45.1 +1.1**
ILAS Lasjerd 27.84 288 *eP* **P** **03 17 47.0 +0.6**
IALA Alasht 27.96 289 *eP* **P** **03 17 49.1 +1.5**
NJ2 Nanjing 27.97 80 *eP* **P** **03 17 47.3 0.0**
NJ2 pP pP 03 17 56.6 +5.2
NJ2 sP sP 03 18 00.6 +7.5
NJ2 PP **PnPn** **03 18 36.5 +2.2**
NJ2 S **S** **03 22 29.0 -2.1**
NJ2 sS sS 03 22 45.0 +7.2
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 pmax pmax
comp=Z,410nm,5.2s
NJ2 LR LR
comp=N,12µm,15.6s
NJ2 LR LR
comp=E,12µm,15.5s
NJ2 LR LR
comp=Z,12µm,18.6s
IFIR Firoozkooh 28.00 288 *eP* **P** **03 17 48.7 +0.8**
AKTO Aktyubinsk 28.34 321 P **P** **03 17 50.8 +0.3**

AKTO pmax pmax
comp=Z,18nm,0.9s
AKTO MLR MLR
comp=Z,11µm,18.1s
AKTO Aktyubinsk 28.34 321 P **P** **03 17 50.8 +0.3**
AKTO Aktyubinsk 28.34 321 P **P** **03 17 50.8 +0.3**
comp=Z,18nm,0.9s,baz=122,slow=8.8,SNR=49
AKTO LR LR 03 30 17.7
comp=Z,11µm,18.1s,baz=295,slow=39
IPRN Peran 28.34 289 *eP* **P** **03 17 51.6 +0.8**
ISFB Sefidab 28.46 285 *eP* **P** **03 17 51.8 0.0**
IZEF Zefreh 28.50 282 *eP* **P** **03 17 52.4 0.0**
IDMV Damavand 28.59 288 *eP* **P** **03 17 54.1 +0.9**
IGAR Gharneh 28.79 281 *eP* **P** **03 17 55.7 +0.7**
IVRN Varamin 28.86 287 *eP* **P** **03 17 55.9 +0.6**
IKLH Kolahrood 29.09 283 *eP* **P** **03 17 58.4 +0.8**
KULM Kulim 29.21 149 *eP* **P** **03 17 58.3 -0.2**
comp=Z,179nm,1.3s
KULM *e*ScP **ScP** **03 24 48.2 +1.1**
KULM LR LR
comp=Z,4µm,20.0s
KULM Kulim 29.21 149 P **P** **03 17 58.7 +0.2**
KULM Kulim 29.21 149 P **P** **03 17 55.4 -3.1**
KULM Kulim 29.21 149 P **P** **03 17 59.5 +1.0**
comp=Z,78nm,1.5s,comp=Z,1µm
QZH Quanzhou 29.39 94 P **P** **03 18 01.1 +1.1**
QZH S **S** **03 22 52.0 -1.5**
QZH LR LR
comp=N,32µm,12.0s
QZH LR LR
comp=E,9µm,11.0s
QZH LR LR
comp=Z,24µm,12.5s
IR3 Iran Long-Peri 29.41 288 *eP* **P** **03 18 00.1 -0.2**
KCSI Kotacane, Aceh 29.67 156 P **P** **03 18 00.8 -1.8**
comp=Z,54nm,0.9s
KCSI Kotacane, Aceh 29.67 156 P **P** **03 18 03.3 +0.7**
comp=Z,54nm,0.9s
IMHD Mahdasht 29.70 288 *eP* **P** **03 18 03.7 +0.8**
IPIR Pirpir 29.73 282 *eP* **P** **03 18 04.9 +1.6**
IGZV Ghazvin 30.05 290 *eP* **P** **03 18 06.4 +0.3**
DL2 Dalian 30.06 65 P **P** **03 18 06.1 +0.3**
DL2 S **S** **03 23 05.3 +1.5**
DL2 pmax pmax
comp=Z,90nm,1.3s
DL2 pmax pmax
comp=Z,200nm,5.1s
DL2 LR LR
comp=N,9µm,14.1s
DL2 LR LR
comp=E,7µm,12.6s
DL2 LR LR
comp=Z,9µm,12.3s
SSE Sheshan 30.07 81 P **P** **03 18 07.3 +1.2**
SSE pP **pP** **03 18 10.3 +0.2**
SSE S **S** **03 23 08.0 +3.8**
SSE sS **sS** **03 23 13.1 +2.2**
SSE pmax pmax
comp=Z,110nm,1.1s
SSE pmax pmax
comp=Z,500nm,9.9s
SSE LR LR
comp=N,6µm,15.1s
SSE LR LR
comp=E,7µm,15.1s
SSE LR LR
comp=Z,10µm,14.1s
IPM Ipoh 30.10 149 *eP* **P** **03 18 05.0 -1.4**
comp=Z,30nm,0.7s
IPM Ipoh 30.10 149 P **P** **03 18 06.4 +0.1**
IPM Ipoh 30.10 149 P **P** **03 18 06.5 +0.1**
comp=Z,52nm,0.7s,comp=Z,721nm
SNSI Sinabang, Aceh 30.24 159 P **P** **03 18 09.2 +1.6**
comp=Z,488nm,0.8s
IRAZ Razeghan 30.31 288 *eP* **P** **03 18 08.0 -0.4**
KTGM Kuala Trenggan 30.35 144 P **P** **03 18 09.2 +0.6**
SHAO Shalim 30.42 252 P P 03 18 20.6 +11
SNR=23
PSI Prapat 30.76 154 P **P** **03 18 11.8 -0.6**
PSI PcP **PcP** **03 21 09.3 -0.5**
PSI ScP **ScP** **03 24 51.9 -0.4**
PSI Prapat 30.76 154 P **P** **03 18 11.8 -0.6**
comp=Z,19nm,0.6s,baz=323,slow=8.7,SNR=14
PSI PcP **PcP** **03 21 09.3 -0.5**
comp=Z,18nm,0.8s,baz=292,slow=5.4,SNR=4.0
PSI ScP **ScP** **03 24 51.9 -0.4**
comp=Z,16nm,1.0s,baz=254,slow=6.0,SNR=5.1
PSI LR LR 03 32 56.1
comp=Z,6µm,18.5s,baz=120,slow=41
SVE Sverdlovsk 31.11 333 *de*P **P** **03 18 15.9 +1.0**
SVE *e*S **S** **03 23 20.6 +0.6**
SVE *e* 03 25 19.4
SVE pmax pmax
comp=Z,123nm,1.3s
SVE MLR MLR
comp=Z,6µm,13.0s
HIA Hailar 31.15 45 *eP* **P** **03 18 16.1 +0.7**
comp=Z,61nm,1.1s
HIA LR LR
comp=Z,10µm,21.0s
FRIM Kepong 31.47 149 P **P** **03 18 19.5 +1.1**
ARU Arti 31.68 331 *d*iP **P** **03 18 20.0 +0.1**
ARU PPP PPP 03 19 29.5
ARU 03 21 08.9
ARU S **S** **03 23 30.6 +1.8**
ARU SS **SnSn** **03 25 16.3 +1.2**
ARU SSS SSS 03 25 35.4
ARU pmax pmax
comp=Z,78nm,1.2s
ARU MLR MLR
comp=Z,8µm,17.0s
ARU Arti 31.68 331 P **P** **03 18 20.3 +0.4**
comp=Z,643nm,0.6s,SNR=7.8
TPUB Ta-pu 31.71 96 *eP* P 03 18 25.1 +4.5
comp=Z,20nm,0.8s
SSLB Suanglung 31.80 95 *eP* **P** **03 18 22.7 +1.2**
comp=Z,28nm,0.8s
SSLB *e*ScP **ScP** **03 24 53.7 -1.9**
SNY Shenyang 31.83 60 ⇑P **P** **03 18 20.8 -0.6**
SNY S **S** **03 23 30.3 -1.1**
SNY pmax pmax
comp=Z,110nm,1.1s
SNY pmax pmax
comp=Z,560nm,3.5s
SNY LR LR
comp=N,12µm,14.0s
SNY LR LR
comp=E,14µm,12.8s
SNY LR LR
comp=Z,11µm,14.9s
YHNB Yeheng 31.86 93 *eP* **P** **03 18 24.8 +2.8**
comp=Z,28nm,0.8s
YHNB LR LR
comp=Z,6µm,20.0s
ISRB Sarab 32.09 293 *eP* **P** **03 18 24.7 +0.7**
NACB Ninganchiao 32.22 94 *eP* **P** **03 18 26.6 +1.6**
comp=Z,108nm,0.9s
YULB Yu-li 32.24 95 *eP* **P** **03 18 25.5 +0.2**
comp=Z,79nm,1.1s
TWG Pinlang 32.26 96 *eP* **P** **03 18 25.9 +0.4**
comp=Z,360nm,1.1s
IKOM Komasi 32.38 286 *eP* **P** **03 18 26.0 -0.6**
IHRS Heris 32.59 293 *eP* **P** **03 18 27.9 -0.5**
MAK Makhachkala 32.60 302 *eP* **P** **03 18 27.7 -0.5**
MAK *e* 03 19 33.8
MAK *eS* **S** **03 23 41.0 -2.4**
MAK pmax pmax
comp=Z,23nm,0.4s
MAK MLR MLR
comp=Z,33µm,16.0s
MAK MLR MLR
comp=N,18µm,14.0s
IVIS Veis 32.89 286 *eP* **P** **03 18 31.2 +0.2**
UMR Umm Al-Rimmam 32.94 277 *eP* **P** **03 18 31.3 0.0**
UMR AMb AMB 03 18 38.6
comp=Z,323nm,1.1s
KBD Kabd 33.04 277 *eP* **P** **03 18 31.6 -0.5**
KBD AMb AMB 03 18 39.5
comp=Z,144nm,0.9s
IGHG Ghaleghazi 33.14 286 *eP* **P** **03 18 33.5 +0.2**
MIB Mutribah 33.20 278 *eP* **P** **03 18 34.0 +0.4**
MIB AMb AMB 03 18 35.1
comp=Z,293nm,0.7s
RDF Al-Radifah 33.22 276 *eP* **P** **03 18 33.5 -0.3**
RDF AMb AMB 03 18 42.9

comp=Z,275nm,0.9s
IDHR Dehrash 33.26 287 *eP* **P** **03 18 34.1 -0.2**
ITBZ Tabriz 33.29 293 *eP* **P** **03 18 35.0 +0.5**
KGM Kluang 33.32 147 P **P** **03 18 35.3 +0.6**
NAY Al-Naaiem 33.41 277 *eP* **P** **03 18 35.5 +0.1**
NAY AMb AMB 03 18 42.7
comp=Z,134nm,1.2s
IAZR Azarshahr 33.43 292 *eP* **P** **03 18 37.2 +1.4**
CN2 Changchun 33.46 57 ⇑*i*P **P** **03 18 35.6 -0.1**
CN2 *e*pP pP 03 18 45.3 +5.5
CN2 *e*sP sP 03 18 49.3 +7.8
CN2 PP **PnPn** **03 19 47.1 +0.4**
CN2 *e*S **S** **03 23 52.8 -4.1**
CN2 SS **SnSn** **03 25 53.5 -5.3**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 LR LR
comp=N,15µm,14.0s
CN2 LR LR
comp=E,11µm,14.0s
CN2 LR LR
comp=Z,19µm,15.0s
ISHB Shabestar 33.71 293 *eP* **P** **03 18 39.5 +1.3**
MYKOM Kota Tinggi 33.76 146 P **P** **03 18 39.3 +0.8**
MYKOM Kota Tinggi 33.76 146 P **P** **03 18 37.2 -1.4**
comp=Z,72nm,1.6s,comp=Z,943nm
MYKOM Kota Tinggi 33.76 146 P **P** **03 18 39.8 +1.2**
comp=Z,72nm,1.6s,comp=Z,950nm
BKNI Bangkinang 33.84 152 P **P** **03 18 38.8 -0.4**
comp=Z,665nm,0.9s,comp=Z,7µm
BKNI Bangkinang 33.84 152 P **P** **03 18 40.0 +0.8**
comp=Z,664nm,0.9s,comp=Z,7µm
INCN Inchon 33.98 68 *eP* **P** **03 18 40.2 -0.1**
comp=Z,196nm,0.9s
INCN LR LR
comp=Z,5µm,21.0s
DGRG David-gareji 34.01 299 P **P** **03 18 42.2 +1.6**
DGRG S S 03 24 42.2 +37
PPI Padang Panjang 34.31 154 P **P** **03 18 44.1 +0.8**
comp=Z,115nm,1.1s,comp=Z,1µm
GNI Garni 34.41 297 *eP* **P** **03 18 45.8 +1.5**
comp=Z,156nm,1.1s
GNI LR LR
comp=Z,2µm,20.0s
GNI Garni 34.41 297 LR LR 03 36 13.9
comp=Z,3µm,18.5s,baz=104,slow=42
SOKR Solikamsk 34.50 334 *c*iP **P** **03 18 45.1 +0.6**
SOKR S **S** **03 24 13.3 +0.8**
SOKR pmax pmax
comp=Z,170nm,1.3s
SOKR MLR MLR
comp=Z,3µm,14.0s
TBLG Delisi 34.50 299 *i* P **P** **03 18 45.1 +0.3**
TBLG *e*S **S** **03 24 15.8 +2.7**
TBLG Delisi 34.50 299 P **P** **03 18 45.1 +0.3**
TBLG S **S** **03 24 15.8 +2.7**
TJN Taejon 34.61 70 *eP* **P** **03 18 44.6 -1.2**
KZR Kazreti 34.72 299 P **P** **03 18 48.2 +1.4**
KSAR Wonju Array Be 34.97 68 P **P** **03 18 47.5 -1.3**
KSAR PcP **PcP** **03 21 20.8 -0.4**
KSAR ScP **ScP** **03 25 06.4 +0.1**
KSRS Korea Array 35.00 68 P **P** **03 18 47.5 -1.6**
comp=Z,11nm,0.7s,baz=275,slow=9.0,SNR=20
KSRS PcP **PcP** **03 21 20.8 -0.4**
comp=Z,4.8nm,0.8s,baz=258,slow=1.6,SNR=4.7
KSRS ScP **ScP** **03 25 06.4 0.0**
comp=Z,2.0nm,0.9s,baz=253,slow=3.7,SNR=4.3
KSRS LR LR 03 33 45.1
comp=Z,3µm,20.3s,baz=272,slow=38
CLDR Calditan 35.03 295 *eP* **P** **03 18 50.1 +0.4**
ZEI Tsey 35.21 301 *eP* **P** **03 18 51.9 +0.8**
ZEI pmax pmax
comp=Z,92nm,1.0s
HAKT HAKKARI 35.23 292 *i* P **P** **03 18 52.9 +1.4**
CUKT Cukurca 35.33 292 *eP* **P** **03 18 52.8 +0.7**
AKH Akhalkalaki 35.42 299 P **P** **03 18 54.8 +1.9**
AKH S **S** **03 24 31.3 +3.8**
ONI Oni 35.52 301 P **P** **03 18 55.9 +2.2**
ONI S **S** **03 24 31.5 +2.7**
KBZ Khabaz 36.03 303 P **P** **03 18 57.8 -0.1**
KBZ pmax pmax
comp=Z,45nm,0.9s
KBZ MLR MLR
comp=Z,7µm,19.3s
KBZ Khabaz 36.03 303 P **P** **03 18 57.8 -0.1**
KBZ Khabaz 36.03 303 P **P** **03 18 57.8 -0.1**
comp=Z,45nm,0.8s,baz=142,slow=6.6,SNR=59
KBZ LR LR 03 34 57.5
comp=Z,7µm,19.3s,baz=88,slow=38
KIV Kislovodsk 36.20 303 *c*iP **P** **03 18 59.4 -0.1**
KIV *e* 03 20 18.0
KIV *i* S **S** **03 24 43.2 +3.9**
KIV pmax pmax
comp=Z,75nm,1.0s
KIV MLR MLR
comp=Z,10µm,21.0s
KIV Kislovodsk 36.20 303 P **P** **03 18 59.6 +0.1**
comp=Z,467nm,0.8s,SNR=10
SIRT Sirnak 36.24 292 *eP* **P** **03 19 00.5 +0.5**
TGY Tagaytay City 36.27 110 P **P** **03 19 02.7 +2.3**
TGY Tagaytay City 36.27 110 P **P** **03 19 02.7 +2.3**
comp=Z,151nm,0.4s,baz=108,slow=17,SNR=6.7
TGY LR LR 03 33 22.9
comp=Z,12nm,18.5s,baz=92,slow=36
MDJ Mudanjiang 36.52 56 P **P** **03 19 02.3 +0.2**
MDJ PP **PnPn** **03 20 24.9 +0.1**
MDJ PcP **PcP** **03 21 26.1 +0.5**
MDJ S **S** **03 24 46.6 +2.6**
MDJ ScP **ScP** **03 25 12.4 +0.5**
MDJ ScS **ScS** **03 29 20.3 +2.1**
MDJ pmax pmax
comp=Z,36nm,0.9s
MDJ pmax pmax
comp=Z,100nm,4.2s
MDJ LR LR
comp=N,22µm,20.8s
MDJ LR LR
comp=E,2µm,14.1s
MDJ LR LR
comp=Z,8µm,16.5s
MDJ Mudanjiang 36.52 56 *eP* **P** **03 19 01.7 -0.4**
comp=Z,46nm,0.9s
MDJ LR LR
comp=Z,8µm,19.0s
CHVG Ch'k'valeri 36.54 301 P **P** **03 19 03.9 +1.6**
RAYN Ar Rayn 36.58 268 P **P** **03 19 03.5 +0.6**
comp=Z,313nm,1.1s,SNR=28
RAYN Ar Rayn 36.58 268 *eP* **P** **03 19 03.2 +0.3**
comp=Z,68nm,1.1s
ARTV Artvin 36.59 298 *i* P **P** **03 19 04.6 +1.6**
BCA Borcka 36.82 299 *eP* **P** **03 19 03.5 -1.3**
ERZM Erzurum 37.00 296 *i* P **P** **03 19 09.5 +2.9**
EZM Erzurum 37.01 296 *eP* **P** **03 19 09.4 +2.8**
JOW Kunigami 37.10 86 *eP* **P** **03 19 09.2 +2.0**
comp=Z,28nm,0.6s
CLNS Chul'man 37.18 35 *eP* **P** **03 19 08.8 +1.2**
CLNS *e**PP pP 03 19 17.9 +6.2
CLNS *e* 03 20 32.1
CLNS *e* 03 21 28.1
CLNS *eS* **S** **03 24 56.4 +2.6**
CLNS *e* 03 25 12.0
CLNS pmax pmax
comp=E,23nm,1.4s
CLNS pmax pmax
comp=Z,26nm,1.2s
CLNS pmax pmax
comp=N,11nm,1.3s
CLNS pmax pmax
comp=N,14nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,1.1s
CLNS pmax pmax
comp=Z,7.0nm,1.1s
CLNS smax smax
comp=E,234nm,13.4s
CLNS smax smax
comp=N,387nm,13.0s
CLNS MLR MLR
comp=Z,3µm,11.0s
CLNS MLR MLR
comp=E,3µm,12.0s
CLNS MLR MLR
comp=N,2µm,11.0s
KSM Kuching 37.45 137 *eP* **P** **03 19 11.6 +1.3**
comp=N,67nm,0.9s

KSM ePcP PcP 03 21 29.3 +0.5
KSM LR LR
comp=Z,5µm,21.0s
KSM Kuching 37.45 137 P P 03 19 11.8 +1.5
KSM Kuching 37.45 137 P P 03 19 11.2 +0.9
comp=Z,83nm,1.1s
KSM Kuching 37.45 137 P P 03 19 11.4 +1.1
comp=Z,83nm,1.1s
MASI Maura Aman, Be 37.48 153 P P 03 19 10.1 -0.4
comp=Z,223nm,0.9s
KDM Kudat 37.62 123 P P 03 19 12.0 +0.3
KKM Kota Kinabalu 37.79 125 eP P 03 19 14.1 +0.8
comp=Z,117nm,1.0s
KKM LR LR
comp=Z,5µm,19.0s
KKM Kota Kinabalu 37.79 125 P P 03 19 13.7 +0.4
KKM Kota Kinabalu 37.79 125 P P 03 19 13.1 -0.2
comp=Z,133nm,1.3s,comp=Z,1µm
KKM Kota Kinabalu 37.79 125 P P 03 19 14.5 +1.2
comp=Z,133nm,1.3s,comp=Z,1µm
SBUM Sibu 37.82 134 P P 03 19 14.0 +0.6
SBUM Sibu 37.82 134 P P 03 19 14.0 +0.6
comp=Z,55nm,1.2s,comp=Z,646nm
SBUM Sibu 37.82 134 P P 03 19 14.3 +0.9
comp=Z,55nm,1.2s,comp=Z,646nm
MAZI Mazidag 37.83 292 eP P 03 19 13.9 +0.5
JNU Nakatsue 37.86 75 eP P 03 19 13.9 +0.2
comp=Z,63nm,1.2s
JNU Nakatsue 37.86 75 P P 03 19 13.5 -0.2
comp=Z,80nm,0.9s,baz=330,slow=3.8,SNR=20
JNU LR LR 03 34 36.4
comp=Z,4µm,21.0s,baz=284,slow=36
BAYT Ayd¯ntepe-Bay 37.94 297 eP P 03 19 15.2 +0.8
VLA Vladivostok 38.06 59⇓ iP P 03 19 15.1 0.0
VLA e 03 20 40.4
VLA S S 03 25 07.2 -0.1
VLA pmax pmax
comp=Z,278nm,1.5s
VLA MLR MLR
comp=E,148µm,19.0s
KSI Kapahiang 38.09 152 P P 03 19 11.7 -4.0
comp=E,563nm,0.7s
KSI Kapahiang 38.09 152 P P 03 19 15.1 -0.6
comp=E,563nm,0.7s
VRHR Novokhopersk 38.16 314 eP P 03 19 15.1 -0.8
VRHR eS S 03 25 07.6 -1.0
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=Z,90nm,0.8s
VRHR pmax pmax
comp=E,120nm,1.1s
VRHR smax smax
comp=N,310nm,1.9s
VRHR smax smax
comp=Z,60nm,2.2s
VRHR smax smax
comp=E,80nm,1.3s
VRHR MLR MLR
comp=Z,13µm,18.0s
VRHR MLR MLR
comp=N,4µm,14.0s
VRHR MLR MLR
comp=E,6µm,17.0s
USRK Ussuriysk Arra 38.20 57 P P 03 19 16.0 -0.3
comp=E,65nm,0.9s,baz=260,slow=6.9,SNR=86
USRK LR LR 03 35 12.5
comp=E,6µm,20.5s,baz=259,slow=37
PPBI Pangkal Pinang 38.30 146 P P 03 19 18.0 +0.6
comp=E,139nm,0.8s,comp=E,4µm
PPBI Pangkal Pinang 38.30 146 P P 03 19 18.8 +1.4
comp=E,139nm,0.8s,comp=E,4µm
SOC Sochi 38.32 302 *c iP* P 03 19 17.1 -0.2
SOC e 03 20 42.5
SOC *i* S S 03 25 12.6 +1.3
SOC *i* SSS SSS 03 28 14.5
SOC pmax pmax
comp=Z,46nm,0.9s
SOC MLR MLR
comp=Z,6µm,17.0s
PMBI Palembang 38.35 149 P P 03 19 18.6 +0.8
comp=Z,424nm,1.0s
PMBI Palembang 38.35 149 P P 03 19 25.0 +7.2
PTK Pertek 38.56 295 eP P 03 19 19.5 -0.2
KELT Kelkit 38.62 297 *i* P P 03 19 21.9 +1.7
KLR Kul'dur 38.67 49 eP P 03 19 16.6 -3.6
KLR eS S 03 25 14.0 -2.5
KLR pmax pmax
comp=E,96nm,1.4s
KLR pmax pmax
comp=Z,200nm,1.4s
KLR MLR MLR
comp=E,9µm,11.5s
KLR MLR MLR
comp=Z,23µm,11.5s
SDKM Sandakan 38.76 124 P P 03 19 22.0 +0.5
ESPY Espiye-Giresun 39.01 298 eP P 03 19 24.3 +1.1
ILIC ilic-Erzincan 39.18 296 eP P 03 19 26.1 +1.3
STKI Sintang 39.27 137 P P 03 19 26.1 +0.5
comp=Z,126nm,1.1s,comp=Z,11µm
STKI Sintang 39.27 137 P P 03 19 27.1 +1.5
comp=Z,126nm,1.1s,comp=Z,11µm
MALT Malatya 39.36 294 PFAKE 03 19 40.0 +14
MALT LR LR
comp=Z,4µm,21.0s
TPI Tanjungpandan 39.56 145 P P 03 19 29.0 +1.0
comp=Z,43nm,0.9s,comp=Z,472nm
TPI Tanjungpandan 39.56 145 P P 03 19 29.9 +1.9
comp=Z,43nm,0.9s,comp=Z,469nm
VORD Divnogorie 39.56 314 eP P 03 19 27.1 -0.5
VORD eS S 03 25 28.6 -1.2
VORD pmax pmax
comp=E,70nm,0.9s
VORD pmax pmax
comp=Z,50nm,0.9s
VORD pmax pmax
comp=N,40nm,0.8s
VORD smax smax
comp=E,70nm,0.8s
VORD smax smax
comp=Z,80nm,2.5s
VORD smax smax
comp=N,60nm,0.9s
VORD MLR MLR
comp=N,5µm,13.0s
VORD MLR MLR
comp=Z,6µm,13.0s
VORD MLR MLR
comp=E,6µm,14.0s
VSR Storozhevoye 39.69 314 eP P 03 19 28.0 -0.7
VSR eS S 03 25 29.6 -2.2
VSR pmax pmax
comp=Z,30nm,0.8s
VSR pmax pmax
comp=N,7.0nm,0.5s
VSR pmax pmax
comp=E,40nm,1.0s
VSR smax smax
comp=N,140nm,1.2s
VSR smax smax
comp=Z,8.0nm,0.8s
VSR smax smax
comp=E,50nm,1.1s
VSR MLR MLR
comp=N,6µm,15.0s
VSR MLR MLR
comp=E,8µm,19.0s
KLSI 39.91 150 P P 03 19 28.4 -2.4
comp=E,96nm,1.0s,comp=E,884nm
KLSI 39.91 150 P P 03 19 29.3 -1.5
comp=E,96nm,1.0s,comp=E,884nm
LWLI Liwa 39.92 151 P P 03 19 28.0 -3.1
comp=E,384nm,0.8s
LWLI Liwa 39.92 151 P P 03 19 30.1 -1.0
comp=E,384nm,0.8s
MYLDM Lahad Datu 40.01 124 P P 03 19 32.4 +0.6
MYLDM Lahad Datu 40.01 124 P P 03 19 33.5 +1.7
comp=E,92nm,1.4s,comp=E,1µm
ANN Anapa 40.02 304 eP P 03 19 29.9 -1.6
ANN e 03 21 03.3
ANN eS S 03 25 36.4 -0.4
ANN pmax pmax
comp=Z,54nm,1.2s
ANN MLR MLR
comp=N,2µm,13.0s
ANN MLR MLR
comp=E,2µm,13.0s
ANN MLR MLR
comp=Z,5µm,13.0s
DARE Darende-Malaty 40.08 294 eP P 03 19 33.8 +1.6
TSM Tawau 40.19 125 P P 03 19 33.6 +0.4
SVSK Karacayir 40.36 296 eP P 03 19 35.1 +0.7
DGAR Diego Garcia 40.48 201 PFAKE 03 19 50.0 +14
DGAR LR LR
comp=Z,5µm,21.0s
KASI Kota Agung 40.56 151 P P 03 19 32.6 -3.6
comp=Z,181nm,0.8s,comp=Z,2µm
KASI Kota Agung 40.56 151 P P 03 19 34.4 -1.8
comp=Z,181nm,0.8s,comp=Z,2µm
KMRS Kahramanmaras 40.63 293 eP P 03 19 37.8 +1.0
TOKT Tokat 40.69 297 eP P 03 19 37.7 +0.5
HABR Khabarovsk 40.71 50 eP P 03 19 35.5 -1.7
HABR eS S 03 25 46.4 -0.7
HABR eSS SS 03 28 47.5 0.0
HABR e 03 29 40.8
HABR MLR MLR
comp=Z,7µm,17.0s
BLSI Bandar Lampung 40.73 150 P P 03 19 36.0 -1.7
comp=Z,190nm,0.7s
TOKA Tokat 40.74 297 *i* P P 03 19 39.0 +1.4
SARI SarD1z-Kayseri 40.92 294 eP P 03 19 39.8 +0.5
PLP Palo 41.18 110⇓ eP P 03 19 41.4 -0.1
BNN Bunyan 41.33 295 eP P 03 19 43.5 +0.9
YAYL Yayladag 41.45 291 *i* P P 03 19 44.2 +0.6
ASF Jabal al Asfar 41.48 285 LR LR 03 39 31.5
comp=Z,3µm,18.1s,baz=131,slow=40
KOZT Kozan 41.48 293 eP P 03 19 43.6 -0.1
CEYT Ceyhan 41.60 292 eP P 03 19 45.5 +0.8
PBKI Pangkalan Bun 41.64 139 P P 03 19 46.5 +1.3
comp=Z,250nm,1.0s
MOS Moscow 41.67 321 eP P 03 19 42.1 -2.9
MOS e 03 20 00.1
MOS eS S 03 25 58.7 -2.4
MOS eSS SS 03 28 57.5 -8.8
MOS pmax pmax
comp=Z,400nm,2.2s
MOS pmax pmax
comp=Z,140nm,1.7s
MOS smax smax
comp=E,800nm,4.5s
MOS MLR MLR
comp=E,5µm,18.0s
MOS MLR MLR
comp=Z,5µm,18.0s
YAK Yakutsk 41.73 29 *i* P P 03 19 45.3 -0.1
YAK e 03 21 26.8
YAK e 03 21 43.3
YAK ePPP PPP 03 21 50.5
YAK eS S 03 26 03.7 +1.9
YAK eSSS SSS 03 29 39.3
YAK pmax pmax
comp=E,20nm,1.1s
YAK pmax pmax
comp=Z,50nm,0.9s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=Z,101nm,2.0s
YAK pmax pmax
comp=E,145nm,2.2s
YAK pmax pmax
comp=N,64nm,1.9s
YAK smax smax
comp=E,410nm,6.6s
YAK smax smax
comp=N,637nm,6.1s
YAK MLR MLR
comp=N,3µm,17.0s
YAK MLR MLR
comp=Z,4µm,13.0s
YAK MLR MLR
comp=E,3µm,12.0s
HWQ Hawqa 41.86 288 eP P 03 19 48.2 +1.2
RCY Rachaya 42.09 287 eP P 03 19 50.3 +1.3
OBN Obninsk 42.09 319 *c iP* P 03 19 47.1 -1.3
OBN *i* 03 19 59.0
OBN *i* S S 03 26 05.7 -1.6
OBN pmax pmax
comp=Z,94nm,1.5s
OBN MLR MLR
comp=Z,5µm,17.0s
OBN Obninsk 42.09 319 P P 03 19 48.7 +0.3
comp=Z,473nm,1.1s,SNR=7.6
AVNT Avonos 42.11 295 *i* P P 03 19 49.6 +0.6
KARA Karaisali 42.12 293 eP P 03 19 48.4 -0.6
MTKI Muara Teweh, K 42.12 134 P P 03 19 49.6 +0.4
comp=Z,165nm,0.9s,comp=Z,20µm
MTKI Muara Teweh, K 42.12 134 P P 03 19 53.2 +4.0
comp=Z,164nm,0.9s,comp=Z,20µm
CORM Corum 42.16 297 eP P 03 19 49.3 -0.1
BHL Bhannes 42.16 288 eP P 03 19 50.7 +1.2
SIM Simferopol' 42.38 304 *ceP* P 03 19 50.5 -0.5
SIM e 03 21 28.0
SIM eS S 03 26 11.0 -1.0
DBJI Dramaga 42.45 149 P P 03 19 47.0 -4.8
comp=Z,150nm,0.8s
DBJI Dramaga 42.45 149 P P 03 19 49.9 -1.9
comp=Z,150nm,0.8s
BZK Bozkurt 42.52 300 eP P 03 19 51.3 -0.8
MMAI Mount Meron Ar 42.54 286 P P 03 19 53.5 +1.0
MMAI PcP PcP 03 21 45.1 +0.2
MMAI ScP ScP 03 25 36.1 +0.6
MMAI Mount Meron Ar 42.54 286 P P 03 19 53.5 +1.0
comp=Z,54nm,0.8s,baz=66,slow=10,SNR=46
MMAI PcP PcP 03 21 45.1 +0.2
comp=Z,16nm,0.8s,baz=88,slow=3.6,SNR=3.7
MMAI ScP ScP 03 25 36.1 +0.6
comp=Z,1.8nm,0.5s,baz=90,slow=5.0,SNR=4.1
MMAI LR LR 03 39 08.2
comp=Z,2µm,21.3s,baz=55,slow=38
TOS Tosya 42.56 298 eP P 03 19 53.4 +0.8
ILGA Ilgaz 42.79 298 *i* P P 03 19 55.4 +0.8
BR131 Keskin Array S 42.95 296 eP P 03 19 55.9 0.0
comp=Z,9.3nm,0.6s
BRTR Keskin Array B 42.95 296 P P 03 19 56.0 0.0
BRTR PP PP 03 21 39.3 +3.8
BRTR ScP ScP 03 25 36.8 -0.3
BRTR Keskin Array B 42.95 296 P P 03 19 56.0 0.0
comp=Z,17nm,0.9s,baz=89,slow=5.2,SNR=85
BRTR PP PP 03 21 39.3 +3.8
comp=Z,20nm,1.0s,baz=96,slow=7.6,SNR=5.2
BRTR ScP ScP 03 25 36.8 -0.3
comp=Z,1.6nm,0.9s,baz=118,slow=3.9,SNR=3.6
BRTR LR LR 03 42 23.1
comp=Z,2µm,19.8s,baz=247,slow=42
EREN Erenkoy 43.08 290 eP P 03 19 56.6 -0.2
SULT Sultanhani-AKS 43.22 294 eP P 03 19 58.3 +0.4
MAJO Matsushiro 43.28 68 eP P 03 19 57.2 -1.2
MAJO pmax pmax
comp=Z,108nm,0.8s
MAJO MLR MLR
comp=Z,4µm,19.0s
MAJO Matsushiro 43.28 68 eP P 03 19 57.2 -1.2
comp=Z,108nm,0.8s
MAJO LR LR
comp=Z,4µm,19.0s
MAT Matsushiro 43.28 68 P P 03 19 57.0 -1.4
MAT S S 03 26 24.6 -0.8
PHNC Paralimni 43.28 289 P P 03 19 58.5 +0.1
comp=Z,4.1nm,0.8s
MJAR Matsushiro Arr 43.28 68 P P 03 19 57.6 -0.8
MJAR PcP PcP 03 21 48.8 +1.4
MJAR ScP ScP 03 25 41.6 +3.2
MJAR Matsushiro Arr 43.28 68 P P 03 19 57.6 -0.8
comp=Z,89nm,1.0s,baz=287,slow=10.0,SNR=72
MJAR PcP PcP 03 21 48.8 +1.4
comp=Z,8.3nm,0.8s,baz=289,slow=3.1,SNR=5.1
MJAR ScP ScP 03 25 41.6 +3.2
comp=Z,6.1nm,1.1s,baz=272,slow=4.2,SNR=4.5
MJAR LR LR 03 39 07.8
comp=Z,4µm,18.9s,baz=260,slow=38
BBAL Bala 43.37 296 *i* P P 03 19 59.6 +0.3
AFSR Af¯ar-Bala (A 43.42 296 eP P 03 19 58.8 -0.8
SAFT Safranbolu 43.55 299 eP P 03 20 01.3 +0.8
ANTO Ankara 43.59 297⇑ P P 03 20 01.2 +0.3
ANTO Ankara 43.59 297 eP P 03 20 01.6 +0.7
comp=Z,224nm,1.4s
ANTO LR LR
comp=Z,2µm,19.0s
ANTO Ankara 43.59 297⇑ *i* P P 03 20 01.2 +0.3
LOD Lodumlu 43.61 297 eP P 03 20 01.1 0.0
LFK Lefkose 43.64 290 eP P 03 20 00.9 -0.5
EIL Elat 43.70 282 P P 03 20 01.8 0.0
EIL Elat 43.70 282 P P 03 20 01.8 0.0
comp=Z,63nm,1.0s,baz=76,slow=3.5,SNR=39
EIL LR LR 03 41 17.5
comp=Z,4µm,18.1s,baz=211,slow=40
CSS Prodhromos 43.86 290 P P 03 20 03.0 -0.1
comp=Z,1.6nm,0.7s
CSS Prodhromos 43.86 290 P P 03 20 01.8 -1.3
CSS Prodhromos 43.86 290 eP P 03 20 02.5 -0.6
comp=Z,94nm,0.9s
CSS ePcP PcP 03 21 49.4 +0.1
CSS LR LR
comp=Z,2µm,19.0s
ERMK Ermenek 43.91 292 *i* P P 03 20 03.9 +0.2
MAMC Mammari 43.91 290 P P 03 20 03.5 0.0
BBKI Banjar Baru 44.08 136 P P 03 20 04.8 -0.2
BBKI Banjar Baru 44.08 136 P P 03 20 06.3 +1.3
comp=Z,219nm,1.2s
DAV Davao City (W) 44.08 115 P P 03 20 06.7 +1.6
DAV Davao City (W) 44.08 115 P P 03 20 11.0 +5.9
comp=Z,466nm,1.1s,comp=Z,7µm
DAV Davao City (W) 44.08 115 P P 03 20 06.6 +1.6
comp=Z,170nm,0.3s,baz=162,slow=7.5,SNR=18
DAV LR LR 03 42 13.7
comp=Z,2µm,19.8s,baz=296,slow=41
LADK Ladik-KONYA 44.12 294 eP P 03 20 04.8 -0.4
KONT Konya--Tatoy 44.15 294 eP P 03 20 04.8 -0.6
LEF Lefka 44.18 290 eP P 03 20 04.3 -1.3
KDHN Kadinhani 44.27 295 *i* P P 03 20 06.6 +0.1
ATD Arta Tunnel 44.31 254 P P 03 20 08.1 +1.1
ATD Arta Tunnel 44.31 254 P P 03 20 08.1 +1.1
comp=Z,58nm,0.9s,baz=331,slow=7.1,SNR=19
COCO West Island 44.36 165 eP P 03 20 07.2 +0.1
COCO pmax pmax
comp=Z,385nm,1.0s
COCO MLR MLR
comp=Z,2µm,21.0s
COCO West Island 44.36 165 eP P 03 20 07.2 +0.1
comp=Z,385nm,1.0s
COCO LR LR
comp=Z,2µm,21.0s
COCO West Island 44.36 165 P P 03 20 10.3 +3.2
comp=Z,353nm,1.0s
TMCR Tamitsa 44.39 332 eP P 03 20 07.5 +0.7
TMCR eS S 03 26 41.9 +1.1
TMCR pmax pmax
comp=Z,242nm,1.3s
KIZT Kizilcal 44.40 295 eP P 03 20 07.7 +0.1
ALFC Alevga 44.41 290 P P 03 20 07.7 +0.2
comp=Z,4.1nm,0.8s
BJII Banjamegara 44.52 145 P P 03 20 10.2 +1.6
comp=Z,138nm,1.3s
SVRH Sivrihisar-ESK 44.61 296 eP P 03 20 08.2 -0.9
AKMC Akamas 44.65 290 P P 03 20 09.2 -0.2
PPCY Paphos 44.67 290 P P 03 20 09.5 0.0
MDUB Mudurnu 44.74 298 eP P 03 20 10.0 -0.2
ESKT Eskisehir 45.12 296 eP P 03 20 11.3 -2.0
SEYT Eskypehyr 45.12 296 *i* P P 03 20 13.3 +0.1
GULT Gulveren 45.27 298 eP P 03 20 14.6 +0.3
SUTC Sutluce-Ispart 45.29 294 eP P 03 20 14.6 0.0
BORA Eskisehir 45.38 297 *i* P P 03 20 15.3 0.0
SHUT Suhut-Afyon 45.48 295 eP P 03 20 16.2 +0.2
ISP Isparta 45.61 294 PFAKE 03 20 30.0 +13
ISP LR LR
comp=Z,3µm,21.0s
BCK Bucak 45.61 294 eP P 03 20 14.6 -2.5
MRSI Marisa 45.74 125 P P 03 20 20.8 +2.6
comp=Z,70nm,0.8s
ALT Altintas 45.75 296 eP P 03 20 17.3 -0.9
CAVI Cavuskoy 45.80 298 eP P 03 20 16.4 -2.1
ASAJ Asahikawa 45.83 57 eP P 03 20 17.8 -0.8
comp=Z,143nm,1.6s
ASAJ Asahikawa 45.83 57 P P 03 20 18.9 +0.3
comp=Z,152nm,1.3s,baz=271,slow=15,SNR=19
YSS Yuzh-Sakhalins 45.83 53⇑ iP P 03 20 19.0 +0.4
YSS e 03 20 30.0
YSS eS S 03 27 02.0 -0.1
YSS pmax pmax
comp=E,60nm,1.0s
YSS smax smax
comp=N,900nm,8.0s
YSS MLR MLR
comp=Z,14µm,16.0s
YSS MLR MLR
comp=E,17µm,15.0s
ADVT Abdulvahap 45.86 298 eP P 03 20 18.2 -0.7
HRT Hereke 45.86 298 eP P 03 20 18.4 -0.7
KIEV Kiev 45.87 312 eP P 03 20 18.0 -0.8
KIEV eS S 03 27 02.5 0.0
KIEV pmax pmax
comp=Z,48nm,1.0s
KIEV MLR MLR
comp=Z,9µm,20.0s
KIEV Kiev 45.87 312 eP P 03 20 18.0 -0.8
comp=Z,48nm,1.0s
KIEV eS S 03 27 02.5 0.0
KIEV LR LR
comp=Z,9µm,20.0s
KORT Korkueli 45.88 293 *i* P P 03 20 19.3 +0.1
SJI Sawahan 45.90 143 P P 03 20 19.8 +0.3
comp=Z,147nm,1.1s
MSEY Mahe Island 46.01 225 PFAKE 03 20 30.0 +10
MSEY LR LR
comp=Z,3µm,21.0s
KIS Kishinev 46.07 307⇑ iP P 03 20 19.0 -1.5
comp=Z,300nm,2.0s
KIS eS S 03 27 02.0 -3.6
KIS eSS SS 03 30 45.0 +15
KIS eSSS SSS 03 33 10.0
KIS eLQ LQ 03 36 20.0
KIS LRM MLR 03 40 55.0
comp=Z,2µm,16.0s
KIS Kishinev 46.07 307 *α iP* P 03 20 19.0 -1.5
KIS e 03 22 10.0
KIS e 03 22 55.0
KIS eS S 03 27 02.0 -3.6
KIS pmax pmax
comp=Z,300nm,2.0s
KIS pmax pmax
comp=Z,500nm,4.0s
KIS MLR MLR
comp=Z,2µm,14.0s
KIS MLR MLR
comp=N,6µm,16.0s
KIS MLR MLR
comp=E,2µm,16.0s
KIS MLR MLR
comp=Z,4µm,16.0s
YLV Yalova 46.12 298 eP P 03 20 20.2 -0.8
TLCR 46.13 305⇓ iP P 03 20 21.2 +0.2
TLCR 46.13 305⇓ iP P 03 20 21.1 +0.1
TVSS Tavsanli 46.19 297 eP P 03 20 22.0 +0.3
GEMT Gemlik 46.27 298 eP P 03 20 22.1 -0.1
ISK Istanbul-Kandi 46.30 299 eP P 03 20 21.6 -0.7
KHL Karahalli 46.31 295 eP P 03 20 21.6 -1.0
GTOI Gorontalo 46.39 124 P P 03 20 24.1 +0.8
comp=Z,99nm,1.3s,comp=Z,2µm
ERM Erimo 46.41 60 P P 03 20 23.1 -0.1
comp=Z,612nm,1.1s,SNR=6.8
ERM Erimo 46.41 60 *c iP* P 03 20 23.8 +0.6
ERM pmax pmax
comp=Z,150nm,1.2s
ERM Erimo 46.41 60 eP P 03 20 24.3 +1.1
comp=Z,125nm,1.1s
ERM LR LR
comp=Z,5µm,19.0s
PUL Pulkovo 46.45 325⇓ iP P 03 20 24.1 +0.8
PUL pmax pmax
comp=Z,163nm,0.4s
GOLH Golhisar 46.46 293 *i* P P 03 20 23.2 -0.6
TIRR Tirgusor 46.46 304⇓ P P 03 20 23.2 -0.4
TIRR Tirgusor 46.46 304 eP P 03 20 23.0 -0.6
comp=Z,51nm,1.3s
TIRR Tirgusor 46.46 304⇓ iP P 03 20 23.2 -0.4
LEOM Leova 46.48 306⇑ P P 03 20 24.2 +0.5
LEOM Leova 46.48 306⇑ iP P 03 20 24.1 +0.4
KMMI Kalianget 46.50 140 P P 03 20 25.8 +1.7
comp=Z,175nm,1.1s,comp=Z,2µm
ARMT Armutlu 46.50 298 eP P 03 20 19.9 -4.1
TIXI Tiksi 46.58 17 *d iP* P 03 20 22.7 -1.4
TIXI pmax pmax
comp=Z,86nm,1.2s
AKAS Kas 46.60 292 *i* P P 03 20 21.7 -3.4

KRKI	**Karangkates**	**46.61 143**	P		P	03 20 30.3	+5.3	
	comp=Z,260nm,0.8s,comp=Z,27µm							
CFR	**Carcaliu**	**46.61 305**	⇑P		**P**	**03 20 24.6**	**-0.2**	
CFR	**Carcaliu**	**46.61 305**	⇑*i*P		**P**	**03 20 24.6**	**-0.2**	
CTKS	**Kestanelik-??a**	**46.69 299**	*e*P		**P**	**03 20 22.9**	**-2.5**	
JOF	**Joensuu**	**46.77 329**	*e*p		**P**	**03 20 26.7**	**+0.9**	
	comp=Z,78nm,0.6s							
JOF	**Joensuu**	**46.77 329**	*e*P		**P**	**03 20 26.7**	**+0.9**	
JOF			pmax	pmax				
	comp=Z,78nm,0.6s							
DNZL	**Cakiroluk**	**46.78 294**	*i* P		P	03 20 20.9	-5.6	
DEMI	**Demirci**	**46.82 296**	*i* P		**P**	**03 20 26.5**	**-0.1**	
TTSI	**Tana Toraja**	**46.87 130**	P		**P**	**03 20 27.2**	**+0.1**	
	comp=Z,146nm,1.0s							
BLJI	**Banyuglugur**	**46.87 141**	P		**P**	**03 20 27.9**	**+0.8**	
	comp=Z,197nm,0.9s,comp=Z,2µm							
KCTX	**Karacabey (Bur**	**46.92 298**	*e*P		**P**	**03 20 26.4**	**-1.0**	
DURS	**Dursunbey**	**46.93 297**	*i* P		**P**	**03 20 27.5**	**0.0**	
MICGM	**Minsk**	**46.95 317**	⇓*e*P		**P**	**03 20 25.0**	**-2.3**	
KULA	**Kula-Manisa**	**46.95 295**	*e*P		**P**	**03 20 26.2**	**-1.4**	
MNK	**Minsk**	**46.98 317**	*ce*P		**P**	**03 20 25.0**	**-2.5**	
MNK			*e*			03 22 16.0		
MNK			*e*S		**S**	**03 27 14.0**	**-4.3**	
MNK			*e*SS		SS	03 30 34.0	-11	
MNK			*e*SSS		SSS	03 31 42.0		
MNK			pmax	pmax				
	comp=Z,140nm,1.0s							
MNK			MLR	MLR				
	comp=N,12µm,13.0s							
MNK			MLR	MLR				
	comp=Z,10µm,13.0s							
MNK			MLR	MLR				
	comp=E,8µm,12.0s							
LVZ	**Lovozero**	**47.20 336**	*c i*P		**P**	**03 20 28.5**	**-0.6**	
LVZ			pmax	pmax				
	comp=Z,139nm,1.2s							
LVZ	**Lovozero**	**47.20 336**	P		**P**	**03 20 29.1**	**0.0**	
	comp=Z,514nm,0.9s,SNR=11							
PETR	**Petresti**	**47.22 305**	⇓*i*P		**P**	**03 20 30.8**	**+1.3**	
GMJI	**Gumukmas**	**47.23 142**	P		P	03 20 35.0	+5.1	
	comp=Z,65nm,0.9s,comp=Z,2µm							
DALY	**Dalyan (Mu¨la**	**47.25 293**	*e*P		**P**	**03 20 28.1**	**-1.8**	
TURN	**Turunc**	**47.28 293**	*i* P		**P**	**03 20 32.2**	**+2.1**	
BALB	**Balikesir**	**47.38 297**	*e*P		**P**	**03 20 30.0**	**-0.9**	
GONE	**Gonen-Balikesi**	**47.46 298**	*e*P		**P**	**03 20 30.7**	**-0.8**	
YER	**Yerkesik**	**47.48 294**	*e*P		P	03 20 27.2	-4.5	
SKSI	**Soroako, Sulaw**	**47.49 128**	P		**P**	**03 20 32.7**	**+0.7**	
	comp=Z,101nm,0.7s,comp=Z,6µm							
APA	**Apatity**	**47.50 336**	⇓*i*P		**P**	**03 20 32.4**	**+1.0**	
APA			*i*			03 21 58.0		
APA			*i*			03 22 27.0		
APA			*i* S		**S**	**03 27 26.0**	**+0.5**	
APA			*i*			03 30 20.0		
APA			pmax	pmax				
	comp=Z,36nm,1.2s							
APA			MLR	MLR				
	comp=Z,6µm,15.0s							
SPSI	**Sidrap Palu**	**47.53 131**	P		**P**	**03 20 32.5**	**+0.3**	
	comp=Z,52nm,0.8s							
BALY	**Balya**	**47.56 297**	*i* P		**P**	**03 20 32.6**	**+0.3**	
VRI	**Vrincioaia**	**47.56 306**	⇓P		**P**	**03 20 33.3**	**+1.1**	
VRI	**Vrincioaia**	**47.56 306**	⇓*i*P		**P**	**03 20 33.3**	**+1.1**	
TESR	**Tescani**	**47.58 306**	⇓*i*P		**P**	**03 20 32.2**	**-0.1**	
PLOR	**Plostina**	**47.62 306**	⇑P		**P**	**03 20 33.6**	**+0.9**	
PLOR	**Plostina**	**47.62 306**	⇑*i*P		**P**	**03 20 33.6**	**+0.9**	
NACGM	**Naroch**	**47.62 318**	*e*P		P	03 20 29.0	-3.5	
MFT	**Murefte**	**47.67 299**	*e*P		**P**	**03 20 30.4**	**-2.8**	
IDID	**Didziasalis**	**47.68 318**	*e*P		**P**	**03 20 32.9**	**0.0**	
IDID			AMB		AMB	03 20 44.1		
	comp=Z,23nm,1.0s							
KRBG	**Karabiga-Canak**	**47.71 298**	*e*P		**P**	**03 20 32.0**	**-1.4**	
ISR	**Istrita**	**47.74 305**	⇑P		**P**	**03 20 36.1**	**+2.4**	
ISR	**Istrita**	**47.74 305**	⇑*i*P		**P**	**03 20 36.1**	**+2.4**	
JAGI	**Jajag, Banyuwa**	**47.78 141**	P		P	03 20 39.3	+5.2	
	comp=Z,79nm,0.8s							
ARG	**Arkhangelos**	**47.78 292**	*e*P		**P**	**03 20 33.1**	**-0.9**	
MLSB	**Milas**	**47.85 294**	*e*P		**P**	**03 20 34.3**	**-0.3**	
EDRB	**Edirne**	**47.93 300**	*e*P		P	03 20 29.8	-5.3	
JMB	**Yambol**	**47.97 301**	P		**P**	**03 20 36.3**	**+0.9**	
IIGN	**Ignalina**	**47.98 318**	*e*P		**P**	**03 20 35.3**	**+0.1**	
IIGN			AMB		AMB	03 20 44.6		
	comp=Z,37nm,0.9s							
SULR		**47.98 304**	⇑*i*P		**P**	**03 20 36.5**	**+1.1**	
IZAR	**Zarasai**	**48.00 319**	*e*P		**P**	**03 20 35.4**	**0.0**	
IZAR			AMB		AMB	03 20 46.8		
	comp=Z,41nm,1.0s							
VSU	**Vasula**	**48.04 323**	*c i*P		**P**	**03 20 35.5**	**-0.1**	
VSU			pmax	pmax				
	comp=Z,262nm,1.0s							
SRBI	**Singaraja**	**48.04 139**	P		**P**	**03 20 36.8**	**+0.6**	
	comp=Z,187nm,1.2s,comp=Z,2µm							
ISAL	**Salakas**	**48.05 319**	*e*P		**P**	**03 20 35.8**	**0.0**	
ISAL			AMB		AMB	03 20 46.2		
	comp=Z,38nm,0.9s							
IZM	**Izmir**	**48.05 295**	*e*P		**P**	**03 20 35.4**	**-0.7**	
DAT	**Datca**	**48.11 293**	*e*P		**P**	**03 20 35.9**	**-0.8**	
LPK	**Lapseki**	**48.12 298**	*e*P		**P**	**03 20 35.9**	**-0.7**	
MLR	**Muntele Rosu**	**48.13 305**	⇓*i*P		**P**	**03 20 37.8**	**+1.0**	
MLR	**Muntele Rosu**	**48.13 305**	LR		LR	03 42 25.6		
	comp=Z,2µm,20.4s,baz=76,slow=38							
YUK	**Yuzh-Kuril'sk**	**48.18 57**	*i* P		P	03 20 33.6	-3.4	
YUK			*i*			03 21 57.5		
YUK			*i*			03 22 26.3		
YUK			*i* S		**S**	**03 27 34.8**	**-0.9**	
YUK			*i*			03 30 24.6		
YUK			*i* SSS		SSS	03 32 17.5		
YUK			pmax	pmax				
	comp=N,48nm,0.7s							
YUK			pmax	pmax				
	comp=E,309nm,1.4s							
YUK			MLR	MLR				
	comp=Z,2µm,18.0s							
YUK			MLR	MLR				
	comp=N,86nm,18.0s							
BODT	**Bodrum**	**48.26 294**	*e*P		**P**	**03 20 34.9**	**-2.9**	
KAPI	**Kappang**	**48.32 132**	*e*P		**P**	**03 20 36.8**	**-1.5**	
	comp=N,19nm,0.8s							
KAPI			*e*ScP		**ScP**	**03 25 59.6**	**+0.1**	
KAPI			LR		LR			
	comp=Z,3µm,22.0s							
KAPI	**Kappang**	**48.32 132**	P		**P**	**03 20 38.1**	**-0.2**	
	comp=Z,26nm,1.1s							
KAPI	**Kappang**	**48.32 132**	ScP		**ScP**	**03 25 59.3**	**-0.2**	
	comp=Z,2.9nm,0.3s,baz=239,slow=7.5,SNR=4.8							
GELI	**Tayfur-Gelibol**	**48.33 298**	*e*P		**P**	**03 20 37.4**	**-0.8**	
NIS1	**Nisyros Isl.**	**48.45 293**	P		**P**	**03 20 37.8**	**-1.5**	
DOPR	**Dopca**	**48.49 306**	⇓*i*P		**P**	**03 20 40.2**	**+0.8**	
KHKI	**Kahang-Kahang**	**48.49 139**	P		**P**	**03 20 37.6**	**-2.0**	
	comp=Z,131nm,1.3s,comp=Z,2µm							
BURAR	**Bucovina Array**	**48.50 308**	⇓P		**P**	**03 20 39.3**	**-0.2**	
BURAR	**Bucovina Array**	**48.50 308**	⇓*i*P		**P**	**03 20 39.3**	**-0.2**	
SMG	**Samos**	**48.51 295**	P		**P**	**03 20 38.7**	**-0.9**	
SMG	**Samos**	**48.51 295**	*e*P		**P**	**03 20 39.6**	**0.0**	
BUR08	**Bucovina Ar. S**	**48.51 308**	*e*P		**P**	**03 20 39.0**	**-0.6**	
ENEZ	**Enez**	**48.52 299**	*e*P		**P**	**03 20 39.7**	**0.0**	
ALN	**Alexandroupoli**	**48.58 299**	*e*P		**P**	**03 20 39.8**	**-0.3**	
PRK	**Paraskevi**	**48.67 297**	P		**P**	**03 20 40.4**	**-0.4**	
PRK	**Paraskevi**	**48.67 297**	*e*P		**P**	**03 20 40.3**	**-0.5**	
KARP	**Karpathos**	**48.69 292**	P		**P**	**03 20 40.6**	**-0.5**	
KARP	**Karpathos**	**48.69 292**	*e*P		**P**	**03 20 40.8**	**-0.3**	
VOIR		**48.77 305**	⇓P		**P**	**03 20 41.8**	**+0.2**	
VOIR		**48.77 305**	⇓*i*P		**P**	**03 20 41.8**	**+0.2**	
BKSI	**Bulukumba**	**48.79 132**	P		**P**	**03 20 43.0**	**+1.0**	
	comp=Z,33nm,0.8s,comp=Z,439nm							
FIA1	**FINESS Array S**	**48.83 326**	*e*P		**P**	**03 20 41.6**	**-0.1**	
FINES	**FINESS Array B**	**48.83 326**	P		**P**	**03 20 41.8**	**+0.1**	
FINES	**FINESS Array B**	**48.83 326**	P		**P**	**03 20 41.8**	**+0.1**	
	comp=Z,36nm,0.8s,baz=101,slow=9.9,SNR=104							
FINES			LR		LR	03 42 19.8		
	comp=Z,7µm,18.9s,baz=100,slow=37							
KAF	**Kangasniemi**	**48.84 327**	*e*p		**P**	**03 20 42.1**	**+0.3**	
	comp=Z,72nm,1.3s							
KAF	**Kangasniemi**	**48.84 327**	*e*P		**P**	**03 20 42.1**	**+0.3**	
KAF			pmax	pmax				
	comp=Z,72nm,1.3s							
GOLR		**48.88 304**	⇑*i*P		**P**	**03 20 44.6**	**+2.2**	
HUMR	**Humele**	**48.90 304**	⇑*i*P		**P**	**03 20 43.2**	**+0.6**	
CHOS	**Chios island**	**48.99 296**	P		**P**	**03 20 43.5**	**0.0**	
CHOS	**Chios island**	**48.99 296**	*e*P		**P**	**03 20 43.4**	**0.0**	
SMTH	**Samothraki Isl**	**49.03 299**	P		**P**	**03 20 42.4**	**-1.2**	
SMTH	**Samothraki Isl**	**49.03 299**	*e*P		**P**	**03 20 43.4**	**-0.2**	
ARR	**Arges**	**49.07 305**	⇑*i*P		**P**	**03 20 44.0**	**+0.1**	
GAMI	**Galela, Maluku**	**49.09 118**	P		P	03 20 48.3	+3.9	
	comp=Z,114nm,1.5s,comp=Z,6µm							
LVV	**L'vov**	**49.19 311**	*e*P		**P**	**03 20 43.2**	**-1.5**	
LVV			*e*S		**S**	**03 27 46.6**	**-3.2**	
LVV			MLR	MLR				
	comp=N,1µm,16.0s							
LVV			MLR	MLR				
	comp=E,2µm,16.0s							
LVV			MLR	MLR				
	comp=Z,2µm,16.0s							
LIA	**Limnos Island**	**49.39 298**	P		**P**	**03 20 45.9**	**-0.4**	
LIA	**Limnos Island**	**49.39 298**	*e*P		**P**	**03 20 45.2**	**-1.1**	
PLD	**Plovdiv**	**49.40 301**	P		**P**	**03 20 45.1**	**-1.3**	
ZKR	**Zakros**	**49.54 291**	*e*P		**P**	**03 20 46.6**	**-1.0**	
APE	**Apeiranthos**	**49.65 294**	⇑P		**P**	**03 20 47.7**	**-0.8**	
APE	**Apeiranthos**	**49.65 294**	*e*P		**P**	**03 20 47.6**	**-0.9**	
APE	**Apeiranthos**	**49.65 294**	⇑*i*P		**P**	**03 20 47.7**	**-0.8**	
CJR	**Cluj-Napoca**	**49.66 307**	⇑*i*P		**P**	**03 20 49.2**	**+0.8**	
LOT	**Lotru**	**49.66 305**	⇑*i*P		**P**	**03 20 49.2**	**+0.7**	
SUW	**Suwalki**	**49.67 316**	*e*P		**P**	**03 20 46.8**	**-1.5**	
SUW			pmax	pmax				
	comp=Z,68nm,0.7s							
SUW	**Suwalki**	**49.67 316**	*e*P		**P**	**03 20 46.8**	**-1.5**	
	comp=Z,68nm,0.7s							
SUW	**Suwalki**	**49.67 316**	*e*P		**P**	**03 20 47.6**	**-0.7**	
SUW			*e*S		**S**	**03 27 55.2**	**-1.3**	
SUW			LMZ		LR	03 41 16.0		
KAVA	**Kavala**	**49.71 299**	P		**P**	**03 20 48.4**	**-0.4**	
SANT	**Santorini**	**49.86 293**	P		**P**	**03 20 48.6**	**-1.4**	
SANT	**Santorini**	**49.86 293**	*e*P		**P**	**03 20 49.0**	**-1.0**	
	comp=Z,455nm,1.0s							
SANT			LR	LR				
	comp=Z,2µm,19.0s							
THR3	**Thira Island,**	**49.89 293**	P		**P**	**03 20 49.2**	**-1.0**	
NPS	**Neapolis**	**49.98 292**	P		**P**	**03 20 49.7**	**-1.3**	
NPS	**Neapolis**	**49.98 292**	*e*P		**P**	**03 20 50.1**	**-0.9**	
KWP	**Kalwaria Pacla**	**50.05 311**	⇑P		**P**	**03 20 52.0**	**+0.7**	
KWP	**Kalwaria Pacla**	**50.05 311**	*e*P		**P**	**03 20 50.9**	**-0.4**	
	comp=Z,108nm,1.0s							
KWP			LR	LR				
	comp=Z,7µm,21.0s							
KWP	**Kalwaria Pacla**	**50.05 311**	⇑*i*P		**P**	**03 20 52.0**	**+0.7**	
KWP	**Kalwaria Pacla**	**50.05 311**	*e*P		**P**	**03 20 51.3**	**0.0**	
KWP			*e*S		**S**	**03 28 02.2**	**+0.3**	
KWP			LMZ		LR	03 42 17.0		
LAST	**Lasithi**	**50.11 292**	P		**P**	**03 20 52.0**	**-0.1**	
LAST	**Lasithi**	**50.11 292**	*e*P		**P**	**03 20 51.5**	**-0.6**	
NVR	**Nevrokopi**	**50.14 300**	P		**P**	**03 20 51.7**	**-0.4**	
OUR	**Ouranopolis**	**50.22 299**	P		**P**	**03 20 52.4**	**-0.2**	
DEV	**Deva**	**50.22 306**	⇓P		**P**	**03 20 53.4**	**+0.8**	
DEV	**Deva**	**50.22 306**	⇓*i*P		**P**	**03 20 53.4**	**+0.8**	
WNDE	**Wendo Genet**	**50.22 252**	*e*P		**P**	**03 20 55.4**	**+2.2**	
TRPA	**Tarpa**	**50.26 309**	⇓*i*P		**P**	**03 20 53.4**	**+0.5**	
TRPA	**Tarpa**	**50.26 309**	⇓⇑*e*P		**P**	**03 20 53.3**	**+0.4**	
DRGR		**50.26 307**	⇓P		**P**	**03 20 53.7**	**+0.7**	
DRGR		**50.26 307**	⇓*i*P		**P**	**03 20 53.7**	**+0.7**	
GZR	**Gura Zlata**	**50.37 305**	⇓P		**P**	**03 20 53.8**	**0.0**	
GZR	**Gura Zlata**	**50.37 305**	⇓*i*P		**P**	**03 20 53.8**	**0.0**	
SRS	**Serrai**	**50.38 300**	P		**P**	**03 20 53.0**	**-0.9**	
KOLS	**Kolonicke sedl**	**50.38 310**	*e*P		**P**	**03 20 53.7**	**-0.1**	
KOLS			pmax	pmax				
	comp=Z,24nm,1.2s							
KOLS	**Kolonicke sedl**	**50.38 310**	*e*P		**P**	**03 20 53.7**	**-0.1**	
KOLS			*e*S		S	**03 28 05.3**	**-1.2**	
KOLS			*e*SS		SS	03 31 51.7	+12	
UZH	**Uzhgorod**	**50.39 309**	*e*P		**P**	**03 20 53.5**	**-0.3**	
UZH			*e*			03 21 12.9		
UZH			*e*S		**S**	**03 28 02.1**	**-4.5**	
UZH			*e*			03 31 27.1		
UZH			MLR	MLR				
	comp=N,3µm,15.0s							
UZH			MLR	MLR				
	comp=E,2µm,15.0s							
UZH			MLR	MLR				
	comp=Z,2µm,15.0s							
VTS	**Vitosha**	**50.43 302**	P		**P**	**03 20 54.1**	**-0.3**	
VTS	**Vitosha**	**50.43 302**	⇓P		**P**	**03 20 54.9**	**+0.5**	
VTS	**Vitosha**	**50.43 302**	⇓*i*P		**P**	**03 20 54.9**	**+0.5**	
KEV	**Kevo**	**50.45 337**	*ep*		**P**	**03 20 54.2**	**+0.2**	
	comp=Z,49nm,0.5s							
KEV	**Kevo**	**50.45 337**	*e*P		**P**	**03 20 53.9**	**-0.1**	
KEV			pmax	pmax				
	comp=Z,57nm,0.8s							
KEV			MLR	MLR				
	comp=Z,4µm,19.0s							
KEV	**Kevo**	**50.45 337**	*e*P		**P**	**03 20 53.9**	**-0.1**	
	comp=Z,57nm,0.8s							
KEV			LR	LR				
	comp=Z,4µm,19.0s							
AOS	**Alonnisos**	**50.51 297**	P		**P**	**03 20 54.5**	**-0.4**	
LBMI	**Labuha**	**50.52 121**	P		**P**	**03 20 57.9**	**+2.7**	
	comp=Z,156nm,1.2s,comp=Z,3µm							
PAIG	**Paliouri**	**50.52 298**	P		**P**	**03 20 54.4**	**-0.5**	
PLG	**Polygyros**	**50.62 299**	P		**P**	**03 20 55.4**	**-0.3**	
PLG	**Polygyros**	**50.62 299**	*e*P		**P**	**03 20 55.5**	**-0.3**	
SIVA	**Sivas**	**50.68 292**	P		**P**	**03 20 55.8**	**-0.4**	
SIVA	**Sivas**	**50.68 292**	*e*P		**P**	**03 20 55.3**	**-0.9**	
PTL	**Penteli**	**50.74 296**	P		**P**	**03 20 55.9**	**-0.8**	
PTL	**Penteli**	**50.74 296**	*e*P		**P**	**03 20 55.9**	**-0.8**	
SKIA	**Skiathos**	**50.83 297**	P		**P**	**03 20 56.3**	**-1.0**	
HORT	**Hortiatis**	**50.84 299**	P		**P**	**03 20 56.6**	**-0.8**	
ATH	**Athens Observa**	**50.88 296**	*e*P		**P**	**03 20 57.0**	**-0.6**	
KNT	**Kendrikon**	**50.89 300**	P		**P**	**03 20 57.1**	**-0.6**	
ARCES	**ARCESS Array B**	**50.89 337**	P		**P**	**03 20 57.6**	**+0.2**	
ARCES			PcP		**PcP**	**03 22 13.4**	**-0.2**	
ARCES	**ARCESS Array B**	**50.89 337**	P		**P**	**03 20 57.6**	**+0.2**	
	comp=Z,42nm,0.6s,baz=96,slow=7.4,SNR=93							
ARCES			PcP		**PcP**	**03 22 13.4**	**-0.2**	
	comp=Z,27nm,0.9s,baz=90,slow=3.6,SNR=4.4							
ARCES			LR		LR	03 43 55.1		
	comp=Z,3µm,18.7s,baz=108,slow=38							
ARE0	**ARCESS Array S**	**50.89 337**	*e*P		**P**	**03 20 57.7**	**+0.4**	
ARE0			*e*S		**S**	**03 28 14.3**	**+1.2**	
THE	**Thessaloniki**	**50.93 299**	P		**P**	**03 20 56.7**	**-1.3**	
NEO	**Neokhori**	**50.98 297**	P		**P**	**03 20 56.8**	**-1.7**	
NEO	**Neokhori**	**50.98 297**	*e*P		**P**	**03 20 57.8**	**-0.7**	
XOR	**Xorichti**	**51.00 298**	P		**P**	**03 20 58.0**	**-0.6**	
STHS	**Stebnicka Huta**	**51.02 311**	*e*P		**P**	**03 20 58.3**	**-0.3**	
STHS			pmax	pmax				
	comp=Z,21nm,1.1s							
STHS	**Stebnicka Huta**	**51.02 311**	*e*P		**P**	**03 20 58.3**	**-0.3**	
VAM	**Vamos**	**51.07 292**	P		**P**	**03 20 58.4**	**-0.8**	
VAM	**Vamos**	**51.07 292**	*e*P		**P**	**03 20 58.4**	**-0.8**	
SMIA	**Simia**	**51.08 297**	P		**P**	**03 20 59.0**	**-0.2**	
NAIG	**Nisos Aigina**	**51.10 295**	*e*P		**P**	**03 20 56.7**	**-2.6**	
VAY	**Valandovo**	**51.10 300**	P		**P**	**03 20 57.6**	**-1.7**	
VAY	**Valandovo**	**51.10 300**	*i* P		**P**	**03 20 58.9**	**-0.5**	
	comp=Z,67nm,1.0s							
BZS	**Buzias**	**51.15 306**	⇓P		**P**	**03 20 59.6**	**0.0**	
BZS	**Buzias**	**51.15 306**	⇓*i*P		**P**	**03 20 59.6**	**0.0**	
BEL	**Belsk**	**51.15 314**	*e*P		**P**	**03 20 59.4**	**-0.1**	
BEL			*e*S		**S**	**03 28 17.9**	**+0.8**	
BEL			LMZ		LR	03 42 32.9		
LKR	**Lokris**	**51.29 297**	*e*P		**P**	**03 20 59.5**	**-1.2**	
GRG	**Griva**	**51.29 300**	P		**P**	**03 20 59.5**	**-1.3**	
GRG	**Griva**	**51.29 300**	*e*P		**P**	**03 20 59.8**	**-1.0**	
KARN	**Karanos**	**51.30 292**	P		**P**	**03 21 00.3**	**-0.6**	
KARN	**Karanos**	**51.30 292**	*e*P		**P**	**03 21 00.6**	**-0.3**	
GVD	**Gavdhos**	**51.30 292**	P		**P**	**03 20 59.5**	**-1.4**	
GVD	**Gavdhos**	**51.30 292**	*e*P		**P**	**03 20 59.8**	**-1.1**	
GVD	**Gavdhos**	**51.30 292**	*e*P		**P**	**03 20 59.7**	**-1.2**	
	comp=Z,324nm,0.6s							
DID	**Didima**	**51.35 295**	P		**P**	**03 20 58.4**	**-2.9**	
DID	**Didima**	**51.35 295**	*e*P		**P**	**03 20 58.7**	**-2.6**	
DIDY	**Didyma**	**51.37 295**	P		**P**	**03 20 59.0**	**-2.5**	
LIT	**Litokhoron**	**51.38 299**	P		**P**	**03 21 00.2**	**-1.3**	
LTK	**Loutraki**	**51.44 296**	P		**P**	**03 20 59.9**	**-2.1**	
LTK	**Loutraki**	**51.44 296**	*e*P		**P**	**03 20 59.7**	**-2.3**	
AXAR	**Agios Charalam**	**51.52 297**	P		**P**	**03 21 01.6**	**-0.9**	
KTK1	**Kautokeino**	**51.54 336**	⇑*i*P		**P**	**03 21 02.1**	**-0.1**	
KTK1			AMB	AMB		03 21 03.9		
	comp=Z,724nm,0.8s							
KTK1			*e*S		**S**	**03 28 22.7**	**+0.6**	
KECS	**Kecovo**	**51.60 309**	*e*P		**P**	**03 21 02.9**	**0.0**	
KECS			pmax	pmax				
	comp=Z,11nm,1.0s							
KECS	**Kecovo**	**51.60 309**	*e*P		**P**	**03 21 02.9**	**0.0**	
KECS			*e*PP		PP	03 23 06.8	+6.6	
NIE	**Niedzica**	**51.62 311**	⇑*i*P		**P**	**03 21 05.4**	**+2.2**	
NIE			*e*S		**S**	**03 28 26.2**	**+2.4**	
NIE	**Niedzica**	**51.62 311**	*i* P		**P**	**03 21 05.4**	**+2.2**	
NIE			*e*S		**S**	**03 28 26.2**	**+2.4**	
ANKY	**Antikythira Is**	**51.67 293**	P		**P**	**03 21 02.5**	**-1.1**	
ANKY	**Antikythira Is**	**51.67 293**	*e*P		**P**	**03 21 02.6**	**-1.1**	
THAL	**Thalero**	**51.67 296**	P		**P**	**03 21 00.8**	**-2.8**	
DSF	**Desfina**	**51.70 296**	P		**P**	**03 21 01.5**	**-2.4**	
AGG	**Agios Georgios**	**51.72 297**	P		**P**	**03 21 02.6**	**-1.4**	
AGG	**Agios Georgios**	**51.72 297**	*e*P		**P**	**03 21 02.7**	**-1.3**	
VLI	**Veliai**	**51.76 294**	P		**P**	**03 21 01.8**	**-2.5**	
VLI	**Veliai**	**51.76 294**	*e*P		**P**	**03 21 02.2**	**-2.1**	
KYTH	**Kithira**	**51.78 294**	P		**P**	**03 21 02.7**	**-1.8**	
KYTH	**Kithira**	**51.78 294**	*e*P		**P**	**03 21 02.7**	**-1.8**	
SKO	**Skopje**	**51.82 301**	P		**P**	**03 21 03.5**	**-1.2**	
SKO	**Skopje**	**51.82 301**	*i* P		**P**	**03 21 01.6**	**-3.2**	
	comp=Z,115nm,1.0s							
THL	**Klokotos Trika**	**51.85 298**	P		**P**	**03 21 03.8**	**-1.1**	
THL	**Klokotos Trika**	**51.85 298**	*e*P		**P**	**03 21 03.5**	**-1.4**	
MAKR	**Makrakomi, Fth**	**51.87 297**	P		**P**	**03 21 04.3**	**-0.9**	
KZN	**Kozani**	**51.89 299**	P		**P**	**03 21 04.0**	**-1.3**	
KZN	**Kozani**	**51.89 299**	*e*P		**P**	**03 21 04.2**	**-1.1**	
OJC	**Ojcow**	**51.89 312**	⇑*i*P		**P**	**03 21 04.7**	**-0.4**	
OJC			*e*			03 22 16.4		
OJC			*i* S		**S**	**03 28 26.4**	**-0.9**	
OJC			MLR	MLR				
	comp=Z,6µm,20.5s							
OJC	**Ojcow**	**51.89 312**	*i* P		**P**	**03 21 04.7**	**-0.4**	
OJC			*e*pP		**pP**	**03 21 07.5**	**-1.8**	
OJC			*e*PcP		**PcP**	**03 22 16.4**	**-1.3**	
OJC			*i* S		**S**	**03 28 26.4**	**-0.9**	
OJC			L		L	03 43 07.8		
	comp=Z,6µm,20.5s							
GUR	**Goura**	**51.94 296**	P		**P**	**03 21 03.1**	**-2.7**	
GUR	**Goura**	**51.94 296**	*e*P		**P**	**03 21 03.7**	**-2.1**	
KALE	**Kalithea**	**52.00 296**	P		**P**	**03 21 03.9**	**-2.3**	
KALE	**Kalithea**	**52.00 296**	*e*P		**P**	**03 21 04.3**	**-1.9**	
NLAI	**Namlea**	**52.00 124**	P		**P**	**03 21 06.6**	**+0.3**	
	comp=Z,60nm,1.0s,comp=Z,742nm							
VLX	**Vlachokerasia**	**52.04 295**	P		**P**	**03 21 04.6**	**-1.9**	
VLX	**Vlachokerasia**	**52.04 295**	*e*P		**P**	**03 21 04.4**	**-2.1**	
PSZ	**Piszkesteto**	**52.05 309**	⇓P		**P**	**03 21 06.3**	**-0.1**	
PSZ	**Piszkesteto**	**52.05 309**	*e*P		**P**	**03 21 06.6**	**+0.1**	
	comp=Z,53nm,1.1s							
PSZ			LR	LR				
	comp=Z,4µm,21.0s							
PSZ	**Piszkesteto**	**52.05 309**	⇓*i*P		**P**	**03 21 06.3**	**-0.1**	
PSZ	**Piszkesteto**	**52.05 309**	⇑*e*P		**P**	**03 21 06.5**	**+0.1**	
TRIZ	**Trizonia**	**52.06 296**	P		**P**	**03 21 04.2**	**-2.3**	
TRIZ	**Trizonia**	**52.06 296**	*e*P		**P**	**03 21 04.5**	**-2.0**	
KLV	**Kalavryta, Ach**	**52.07 296**	P		**P**	**03 21 04.1**	**-2.6**	
KLV	**Kalavryta, Ach**	**52.07 296**	*e*P		**P**	**03 21 04.8**	**-1.9**	
BIA	**Bitola**	**52.08 300**	P		**P**	**03 21 05.0**	**-1.7**	
BIA	**Bitola**	**52.08 300**	*i* P		**P**	**03 21 05.9**	**-0.8**	
FNA	**Florina**	**52.09 300**	P		**P**	**03 21 05.5**	**-1.3**	
FNA	**Florina**	**52.09 300**	*e*P		**P**	**03 21 05.5**	**-1

DPC *eS* **S** **03 28 57.3 -0.2**
DPC Dobruska-Polom 54.09 312⇑ *iP* **P** **03 21 21.9 +0.5**
DPC *epP* **pP** **03 21 28.6 +3.0**
DPC *eS* **S** **03 28 57.3 -0.2**
DPC AMS AMS 03 46 20.0
DPC Dobruska-Polom 54.09 312 *eP* **P** **03 21 21.7 +0.3**
comp=Z,590nm,1.0s
STEI Steigen 54.28 334 *eP* **P** **03 21 22.5 +0.1**
BEHE Becsehely 54.36 307⇑ *eP* **P** **03 21 23.6 +0.3**
STON Ston 54.37 303 P **P** **03 21 21.6 -1.9**
BSD Bornholm Skovb 54.45 318⇑ *iP* **P** **03 21 22.8 -1.0**
BSD pmax pmax
comp=Z,27nm,0.8s
BSD MLR MLR
comp=Z,4µm,22.0s
BSD Bornholm Skovb 54.45 318⇑ *iP* **P** **03 21 22.8 -1.0**
comp=Z,27nm,0.8s
BSD
comp=Z,4µm,21.0s
MOR8 Moi Rana 54.48 332⇑ *iP* **P** **03 21 22.9 -1.0**
MOR8 AMB AMB 03 21 29.3
comp=Z,127nm,1.3s
KOGS Kog 54.72 307 *eP* **P** **03 21 25.4 -0.6**
KOGS *eS* **S** **03 29 05.2 -0.7**
CONA Conrad Observa 54.73 309 *i* P **P** **03 21 26.1 0.0**
comp=Z,151nm,1.1s,SNR=94
TREC Trest 54.77 311⇑ *iP* **P** **03 21 26.7 +0.4**
TREC *eS* **S** **03 29 06.1 -0.5**
TREC MLR MLR
comp=Z,6µm,21.1s
TREC Trest 54.77 311⇑ *iP* **P** **03 21 26.7 +0.4**
TREC *eS* **S** **03 29 06.1 -0.5**
TREC AMS AMS 03 44 30.0
comp=Z,6µm,21.1s
HFS Hagfors 54.79 324 LR LR 03 45 09.1
comp=Z,7µm,21.5s,baz=89,slow=36
SOEI Soe 54.80 132 P P 03 21 30.6 +3.6
comp=Z,238nm,1.0s,comp=Z,2µm
SISC Sisak 54.81 306 P **P** **03 21 26.9 +0.2**
FLOS Flostrand 54.92 332 *eP* **P** **03 21 27.3 +0.3**
KONS Konsvik 55.03 332 *eP* **P** **03 21 27.5 -0.3**
KONS AMB AMB 03 21 29.8
comp=Z,136nm,1.3s
PEA0B Petropavlovsk- 55.05 44 *eP* **P** **03 21 30.3 +2.1**
PETK Petropavlovsk- 55.05 44 P **P** **03 21 27.3 -1.0**
PETK pmax pmax
comp=Z,16nm,0.8s
PETK MLR MLR
comp=Z,1µm,19.8s
PETK Petropavlovsk- 55.05 44 P **P** **03 21 27.3 -1.0**
PETK Petropavlovsk- 55.05 44 P **P** **03 21 27.3 -1.0**
comp=Z,16nm,0.8s,baz=230,slow=1.6,SNR=13
PETK LR LR 03 44 42.9
comp=Z,1µm,19.8s,baz=118,slow=36
ARSA Arzberg 55.07 308 *i* P **P** **03 21 28.2 -0.3**
comp=Z,58nm,1.2s,SNR=21
PVCC Panska Ves 55.18 313⇑ *iP* **P** **03 21 29.5 +0.3**
PVCC MLR MLR
comp=Z,6µm,17.8s
PVCC Panska Ves 55.18 313⇑ *iP* **P** **03 21 29.5 +0.3**
PVCC AMS AMS 03 46 20.0
comp=Z,6µm,17.8s
GROS Grobnik 55.23 308 *i* P **P** **03 21 29.4 -0.3**
PRU Pruhonice 55.27 312⇑ *iP* **P** **03 21 30.3 +0.4**
PRU *eS* **S** **03 29 13.1 -0.2**
PRU MLR MLR
comp=Z,5µm,19.7s
PRU Pruhonice 55.27 312⇑ *iP* **P** **03 21 30.3 +0.4**
PRU *eS* **S** **03 29 13.1 -0.2**
PRU AMS AMS 03 45 50.0
comp=Z,5µm,19.7s
PRA Prague 55.33 312 ⇑P **P** **03 21 30.0 -0.3**
PRA AMS AMS 03 46 00.0
UDBI Udbina 55.42 305 P **P** **03 21 29.4 -1.7**
NSS Namsos 55.49 330 *eP* **P** **03 21 30.7 -0.5**
NSS AMB AMB 03 21 32.7
comp=Z,30nm,1.5s
NSS AMS AMS 03 46 07.3
comp=Z,1µm,13.5s
SOKA Soboth 55.51 308⇑ *iP* **P** **03 21 31.6 -0.1**
comp=Z,125nm,1.0s
BRG Berggiesshubel 55.52 313 *i* P **P** **03 21 31.9 +0.2**
comp=Z,169nm,1.2s
BRG *i* PCP **PcP** **03 22 31.6 +0.1**
comp=Z,42nm,1.3s
BRG S **S** **03 29 16.0 -0.5**
BRG *i* 03 31 45.8
comp=Z,79nm,1.3s
BRG SS **SS** **03 32 57.0 -4.0**
BRG PKPPKP P'P'df 03 51 47.3 +5.7
comp=Z,7.5nm,1.6s
BRG
comp=N,23µm,23.4s
BRG
comp=E,5µm,18.9s
BRG
comp=Z,7µm,18.8s
BRG Berggiesshubel 55.52 313 *eP* **P** **03 21 31.8 +0.1**
comp=Z,169nm,1.2s
BRG *eS* **S** **03 29 14.7 -1.8**
BRG Berggiesshubel 55.52 313 *i* P **P** **03 21 31.9 +0.2**
BRG *i* 03 22 31.6
BRG S **S** **03 29 16.0 -0.5**
BRG SS **SS** **03 32 57.0 -4.0**
BRG pmax pmax
comp=Z,169nm,1.2s
BRG MLR MLR
comp=N,23µm,23.4s
BRG MLR MLR
comp=E,5µm,18.9s
SPA0 Spitsbergen Ar 55.56 346 *eP* **P** **03 21 32.8 +1.2**
SPA0 *eS* **S** **03 29 18.8 +2.5**
FAKI Fak Fak 55.56 119 P **P** **03 21 33.3 +0.9**
comp=E,138nm,1.1s,comp=E,2µm
BOJS Bojanci 55.58 306 *eP* **P** **03 21 31.4 -0.7**
BOJS *eS* **S** **03 29 16.5 -1.0**
PET Petropavlovsk 55.63 44 *eP* **P** **03 21 35.0 +2.6**
PET *eS* **S** **03 29 16.7 -1.2**
PET *eSS* **SS** **03 33 03.2 +0.6**
PET pmax pmax
comp=Z,90nm,1.0s
PET pmax pmax
comp=Z,300nm,3.1s
PET pmax pmax
comp=Z,100nm,14.0s
PET MLR MLR
comp=Z,5µm,16.0s
PET MLR MLR
comp=Z,5µm,15.0s
COP Copenhagen 55.80 319⇑ *iP* **P** **03 21 33.7 +0.2**
COP *i* S **S** **03 29 21.0 +1.0**
COP pmax pmax
comp=Z,57nm,0.9s
COP MLR MLR
comp=Z,2µm,16.0s
COP Copenhagen 55.80 319⇑ *iP* **P** **03 21 33.7 +0.2**
comp=Z,57nm,0.9s
COP *i* S **S** **03 29 21.0 +1.0**
COP
comp=Z,2µm,16.0s
MOA Molln 55.81 309⇑ *iP* **P** **03 21 33.3 -0.5**
comp=Z,96nm,1.1s
NC602 NORSAR Array S 55.83 325 *eP* **P** **03 21 33.1 -0.6**
NC602 *eS* **S** **03 29 20.9 +0.6**
OBKA Obir 55.87 308⇓ *iP* **P** **03 21 34.0 -0.3**
comp=Z,54nm,1.0s,SNR=13
TIP Timpagrande 55.90 299 P **P** **03 21 33.6 -1.1**
TIP Timpagrande 55.90 299 *eP* **P** **03 21 33.7 -1.1**
comp=Z,139nm,1.0s
TIP LR LR
comp=Z,3µm,21.0s
LLD Lille Linde 55.96 319 *i* P **P** **03 21 35.5 +0.8**
LLD Lille Linde 55.96 319 *i* P **P** **03 21 35.5 +0.8**
NB2 NORSAR Subarra 55.97 325 P **P** **03 21 34.5 -0.3**
comp=Z,321nm,1.4s,baz=86,slow=7.4
NB2 NORSAR Subarra 55.97 325 P **P** **03 21 34.5 -0.3**
baz=86,slow=7.4
NOA NORSAR Array B 55.97 325 P **P** **03 21 34.3 -0.5**
NOA NORSAR Array B 55.97 325 P **P** **03 21 34.3 -0.5**
comp=Z,63nm,0.8s,baz=87,slow=7.4,SNR=161
NOA LR LR 03 46 29.7
comp=Z,5µm,19.4s,baz=100,slow=37
LJU Ljubljana 55.97 307 *i* P **P** **03 21 35.0 0.0**
LJU *ePP* **PP** **03 23 42.5 +2.9**
LJU *eS* **S** **03 29 21.4 -1.3**

GEC2 GERESS Array S 56.00 311 *eP* **P** **03 21 35.3 0.0**
comp=Z,138nm,1.0s
GEC2 *eS* **S** **03 29 22.9 -0.3**
GEC2 GERESS Array S 56.00 311 *eP* **P** **03 21 35.3 0.0**
GEC2 *eS* **S** **03 29 22.9 -0.3**
GEC2 pmax pmax
comp=Z,25nm,1.0s
GERES GERESS Array B 56.00 311 P **P** **03 21 35.3 0.0**
GERES GERESS Array B 56.00 311 P **P** **03 21 35.3 0.0**
comp=Z,72nm,0.9s,baz=77,slow=6.0,SNR=283
GERES LR LR 03 48 11.2
comp=Z,4µm,19.6s,baz=78,slow=39
KHC Kasperske Hory 56.03 311⇑ *iP* **P** **03 21 35.5 +0.1**
KHC *eS* **S** **03 29 22.6 -0.9**
KHC MLR MLR
comp=Z,6µm,23.0s
KHC Kasperske Hory 56.03 311⇑ *iP* **P** **03 21 35.5 +0.1**
KHC *epP* **pP** **03 21 39.5 -0.2**
KHC *eS* **S** **03 29 22.6 -0.9**
KHC AMS AMS 03 45 10.0
comp=Z,6µm,23.0s
KHC Kasperske Hory 56.03 311 *eP* **P** **03 21 35.2 -0.3**
comp=Z,75nm,0.9s
NVLJ Novalja 56.03 305 P **P** **03 21 33.8 -1.6**
CLL Collm 56.04 314 *eP* **P** **03 21 35.2 -0.2**
comp=Z,99nm,1.3s
CLL *ePP* **PP** **03 23 40.9 +0.9**
CLL *eS* **S** **03 29 21.7 -1.7**
CLL Collm 56.04 314⇑ *iP* **P** **03 21 35.0 -0.4**
CLL *eS* **S** **03 29 23.0 -0.4**
CLL pmax pmax
comp=Z,99nm,1.3s
CLL Collm 56.04 314⇑ *iP* **P** **03 21 35.0 -0.4**
comp=Z,99nm,1.3s
CLL *e* 03 21 44.0
CLL *e* 03 21 50.0
CLL *ePP* **PP** **03 23 41.0 +0.9**
CLL *eS* **S** **03 29 23.0 -0.4**
CLL *eScS* **ScS** **03 31 26.0 +1.8**
CLL *eSS* SS 03 33 00.0 -9.2
CLL *eSSS* SSS 03 35 24.0
CLL Lmax 03 47 00.0
RKPI Ransiki, Papua 56.12 116 P **P** **03 21 39.2 +2.8**
comp=Z,122nm,1.2s,comp=Z,4µm
KMBO Kilima Mbogo 56.26 245 *eP* **P** **03 21 38.3 +0.6**
KMBO Kilima Mbogo 56.26 245 *eP* **P** **03 21 37.1 -0.6**
comp=Z,50nm,1.0s
KMBO ScP **ScP** **03 26 35.9 +1.6**
KMBO *eScP* ScP 03 26 36.2 +1.9
KMBO LR LR
comp=Z,1µm,19.0s
KMBO Kilima Mbogo 56.26 245 P **P** **03 21 38.5 +0.7**
comp=Z,32nm,0.9s,baz=39,slow=10,SNR=62
KMBO ScP **ScP** **03 26 35.9 +1.6**
comp=Z,4.3nm,0.8s,baz=44,slow=11,SNR=5.2
KMBO LR LR 03 46 05.4
comp=Z,1µm,18.3s,baz=46,slow=36
TBLU Trondheim 56.28 328⇑ *iP* **P** **03 21 36.3 -0.7**
TBLU AMB AMB 03 21 38.1
comp=Z,188nm,2.2s
TBLU AMS AMS 03 45 52.4
comp=Z,4µm,16.2s
CUC Castrocucco 56.40 300 *eP* **P** **03 21 37.5 -0.8**
comp=Z,199nm,1.0s
CUC LR LR
comp=Z,3µm,20.0s
VOY Vojsko 56.41 307 *eP* **P** **03 21 37.4 -0.8**
VOY *e* 03 21 44.0
VOY *e* 03 21 55.8
MYKA Terra Mystica 56.46 308⇑ *iP* **P** **03 21 37.6 -1.0**
comp=Z,26nm,1.0s
CADS Cadrg 56.47 308 *i* P **P** **03 21 37.9 -0.7**
WET Wettzell 56.48 311 *eP* **P** **03 21 38.8 +0.2**
comp=Z,94nm,1.0s
WET *eS* **S** **03 29 29.8 +0.3**
WET Wettzell 56.48 311 *eP* **P** **03 21 38.8 +0.2**
WET *eS* **S** **03 29 29.8 +0.3**
WET pmax pmax
comp=Z,30nm,1.0s
TANN Tannenbergstha 56.52 313 *eP* **P** **03 21 39.0 0.0**
comp=Z,104nm,1.1s
TANN *eS* **S** **03 29 28.9 -1.1**
TRI Trieste 56.56 307 *eP* **P** **03 21 38.5 -0.7**
TRI pmax pmax
comp=Z,181nm,0.9s
TRI Trieste 56.56 307 *eP* **P** **03 21 38.5 -0.7**
comp=Z,181nm,0.9s
NKC Novy Kostel 56.56 312⇑ *iP* **P** **03 21 39.5 +0.3**
NKC *eS* S 03 29 21.6 -8.9
NKC MLR MLR
comp=Z,5µm,19.9s
NKC Novy Kostel 56.56 312⇑ *iP* **P** **03 21 39.5 +0.3**
NKC *eS* S 03 29 21.6 -8.9
NKC AMS AMS 03 46 40.0
comp=Z,5µm,19.9s
KBA Koelnbreinsper 56.57 309⇓ *iP* **P** **03 21 38.7 -0.7**
comp=Z,28nm,0.9s,SNR=9.8
KBS Kingsbay 56.57 347 *eP* P 03 21 42.9 +4.2
KBS AMS AMS 03 48 16.6
comp=Z,3µm,16.9s
KBS Kingsbay 56.57 347 *ceP* **P** **03 21 39.8 +1.0**
KBS pmax pmax
comp=Z,71nm,2.5s
KBS Kingsbay 56.57 347 *eP* **P** **03 21 39.4 +0.6**
comp=Z,37nm,1.2s
KBS LR LR
comp=Z,3µm,21.0s
GUMO Guam 56.59 94 PFAKE 03 21 50.0 +10
GUMO LR LR
comp=Z,2µm,21.0s
CEL Celeste 56.80 298 *eP* **P** **03 21 40.9 -0.2**
comp=Z,528nm,1.0s
CEL LR LR
comp=Z,1µm,19.0s
ROTZ Rotzenmuhle 56.80 312 *eP* **P** **03 21 41.6 +0.7**
comp=Z,170nm,1.1s
ROTZ *eS* **S** **03 29 34.8 +1.2**
RJOB Jochberg 56.80 309 *eP* **P** **03 21 40.5 -0.5**
comp=Z,40nm,1.1s
RJOB *eS* **S** **03 29 30.9 -2.9**
KONO Kongsberg 56.89 324 *eP* **P** **03 21 41.2 0.0**
KONO AMB AMB 03 21 43.2
comp=Z,281nm,1.8s
KONO *eS* **S** **03 29 34.8 +0.4**
KONO AMS AMS 03 46 51.1
comp=Z,6µm,18.2s
KONO Kongsberg 56.89 324 *eP* **P** **03 21 41.0 -0.3**
KONO pmax pmax
comp=Z,261nm,1.3s
KONO MLR MLR
comp=Z,3µm,20.0s
KONO Kongsberg 56.89 324 *eP* **P** **03 21 41.0 -0.3**
comp=Z,261nm,1.3s
KONO LR LR
comp=Z,3µm,20.0s
DOMB Dombas 56.92 327 *eP* **P** **03 21 41.6 0.0**
DOMB AMB AMB 03 21 43.6
comp=Z,116nm,1.3s
MOX Moxa 57.02 313 *eP* **P** **03 21 42.4 0.0**
comp=Z,123nm,1.1s
MOX *eS* **S** **03 29 35.3 -1.1**
MOX *eL* L 03 47 12.5
comp=Z,6µm,21.3s
MOX Moxa 57.02 313 *eP* **P** **03 21 42.4 0.0**
MOX *eS* **S** **03 29 35.3 -1.1**
MOX pmax pmax
comp=Z,22nm,1.1s
ABTA Abfaltersbach 57.19 308⇑ *iP* **P** **03 21 42.2 -1.6**
comp=Z,46nm,1.1s,SNR=23
BSEG Bad Segeberg 57.25 317 *eP* **P** **03 21 44.5 +0.6**
comp=Z,306nm,1.1s
BSEG Bad Segeberg 57.25 317 *eP* **P** **03 21 44.5 +0.6**
BSEG pmax pmax
comp=Z,63nm,1.1s
BAKI Biak 57.41 114 P **P** **03 21 47.8 +2.2**
comp=Z,195nm,1.1s,comp=Z,2µm
GRF Grafenberg Arr 57.44 312 *eP* **P** **03 21 46.1 +0.7**
comp=Z,245nm,1.3s
GRF *eS* **S** **03 29 42.4 +0.3**
GRF *eL* L 03 48 16.5
comp=Z,7µm,20.0s
GRF Grafenberg Arr 57.44 312 *eP* **P** **03 21 46.1 +0.7**
GRF *eS* **S** **03 29 42.4 +0.3**
GRF MLR MLR
comp=Z,245µm,20.0s

GRFO Grafenberg 57.44 312 *eP* **P** **03 21 45.6 +0.2**
GRFO pmax pmax
comp=Z,176nm,1.2s
GRFO Grafenberg 57.44 312 *eP* **P** **03 21 45.6 +0.2**
comp=Z,176nm,1.2s
MUD Monsted U'grnd 57.51 320⇑ *iP* **P** **03 21 46.0 +0.3**
MUD *i* S **S** **03 29 44.4 +1.7**
MUD pmax pmax
comp=Z,60nm,1.1s
MUD MLR MLR
comp=Z,3µm,15.0s
MUD Monsted U'grnd 57.51 320⇑ *iP* **P** **03 21 46.0 +0.3**
comp=Z,60nm,1.1s
MUD *i* S **S** **03 29 44.4 +1.7**
MUD
comp=Z,3µm,14.0s
MOL Molde 57.58 327 *eP* P 03 22 00.1 +14
MOL AMB AMB 03 22 02.6
comp=Z,215nm,1.5s
MOL AMS AMS 03 47 28.9
comp=Z,5µm,16.2s
AQU L'Aquila 57.58 303 *eP* **P** **03 21 46.1 -0.5**
comp=Z,304nm,1.0s
AQU LR LR
comp=Z,4µm,19.0s
NRDL Niedersach Rie 57.62 315 *eP* **P** **03 21 47.1 +0.7**
comp=Z,372nm,1.1s
HOMB Homborsund 57.62 322 *eP* **P** **03 21 46.4 -0.1**
HOMB AMB AMB 03 21 48.4
comp=Z,152nm,1.2s
WTTA Wattenberg 57.67 309 *i* P **P** **03 21 46.1 -1.2**
comp=Z,128nm,1.0s,SNR=44
WATA Walderalm 57.69 309⇑ *iP* **P** **03 21 46.2 -1.1**
comp=Z,46nm,0.8s,SNR=12
FUR Furstenfeldbru 57.72 310 *eP* **P** **03 21 47.5 +0.1**
comp=Z,345nm,1.0s
FUR Furstenfeldbru 57.72 310 *eP* **P** **03 21 47.5 +0.1**
FUR pmax pmax
comp=Z,96nm,1.0s
UBBA Unterbreizbach 57.99 313 *eP* **P** **03 21 49.2 +0.1**
comp=Z,115nm,1.6s
UBBA *ePP* **PP** **03 23 57.9 +0.6**
UBBA *eS* **S** **03 29 47.8 -1.2**
MOTA Moosalm 58.01 309⇑ *iP* **P** **03 21 47.6 -2.0**
comp=Z,123nm,0.9s,SNR=97
RETA Reutte 58.20 310⇑ *iP* **P** **03 21 49.8 -1.0**
comp=Z,110nm,1.5s,SNR=54
SNART Snartemo 58.28 323 *eP* **P** **03 21 51.3 +0.2**
SNART AMB AMB 03 21 53.6
comp=Z,272nm,1.3s
FETA Feichten 58.33 309 *i* P **P** **03 21 50.7 -1.2**
comp=Z,86nm,0.9s,SNR=61
ODD1 Odda 58.34 324 *eP* **P** **03 21 52.2 +0.7**
ODD1 *eS* **S** **03 29 54.6 +1.0**
HYA Hoyanger 58.38 326 *eP* **P** **03 21 52.3 +0.6**
HYA AMB AMB 03 21 54.1
comp=Z,132nm,1.3s
HYA *eS* **S** **03 29 57.0 +3.1**
BLS5 Blasjo 58.50 324⇑ *iP* **P** **03 21 52.7 0.0**
BLS5 AMB AMB 03 21 55.2
comp=Z,141nm,1.3s
WDD Wield Dalam 58.53 295 *eP* **P** **03 21 52.5 -0.7**
comp=Z,386nm,0.9s
WDD LR LR
comp=Z,797nm,19.0s
DAVA Damuels 58.83 309 *i* P **P** **03 21 54.5 -0.9**
comp=Z,220nm,1.0s,SNR=93
RUND Rundenannen 58.89 325 *eP* **P** **03 21 54.6 -0.8**
RUND AMB AMB 03 21 56.9
comp=Z,435nm,1.2s
BER Bergen 58.91 325 *eP* **P** **03 21 55.3 -0.2**
BER AMB AMB 03 21 56.2
comp=Z,228nm,1.5s
BER *eS* **S** **03 29 59.5 -1.3**
BER AMS AMS 03 47 30.0
comp=Z,5µm,27.3s
STU Stuttgart 58.94 311 *eP* **P** **03 21 55.8 0.0**
comp=Z,193nm,1.0s
DAVOX Davos/Dischmat 58.95 309 LR LR 03 53 56.8
comp=Z,2µm,18.4s,baz=225,slow=43
ASK Askoy 58.97 325 *eP* **P** **03 21 54.7 -1.1**
ASK AMB AMB 03 21 57.3
comp=Z,306nm,1.3s
EGD Espegrend 58.98 325 *eP* **P** **03 21 54.6 -1.3**
EGD AMB AMB 03 21 57.4
comp=Z,219nm,1.3s
IBBN Ibbenburen 59.06 316 *eP* **P** **03 21 56.8 +0.2**
comp=Z,211nm,1.1s
IBBN *ePP* **PP** **03 24 08.8 +1.9**
SUE Sulen 59.09 326 *eP* **P** **03 21 57.3 +0.7**
TNS Taunus Mts 59.09 313 *eP* **P** **03 21 56.9 0.0**
comp=Z,156nm,1.0s
TNS *eS* **S** **03 30 03.4 -0.2**
TNS Taunus Mts 59.09 313 *eP* **P** **03 21 56.9 0.0**
TNS *eS* **S** **03 30 03.4 -0.2**
TNS pmax pmax
comp=Z,57nm,1.0s
VLC Villacollemand 59.26 306 *eP* **P** **03 21 57.4 -0.8**
comp=Z,121nm,0.9s
VLC LR LR
comp=Z,4µm,21.0s
TUE Stuetta 59.38 309 *eP* **P** **03 21 58.1 -1.1**
comp=Z,60nm,0.8s
TUE LR LR
comp=Z,5µm,22.0s
BUG Bochum--Univer 59.55 315 *eP* **P** **03 22 00.1 +0.1**
comp=Z,209nm,1.1s
BFO Black Forest 59.60 311 P **P** **03 21 59.4 -1.1**
comp=Z,268nm,0.8s,SNR=20
BFO Black Forest 59.60 311 *eP* **P** **03 21 59.7 -0.8**
comp=Z,41nm,0.8s
BFO *eS* **S** **03 30 09.0 -1.2**
BFO Black Forest 59.60 311 *eP* **P** **03 21 59.7 -0.8**
BFO *eS* **S** **03 30 09.0 -1.2**
BFO pmax pmax
comp=Z,22nm,0.8s
BFO Black Forest 59.60 311 *eP* **P** **03 21 59.5 -0.9**
comp=Z,31nm,0.8s
BFO LR LR
comp=Z,3µm,21.0s
WTSB Winterswijk 59.71 315 *eP* **P** **03 22 01.5 +0.3**
comp=Z,195nm,0.9s
LANF Langenberg 59.78 312⇑ *eP* **P** **03 22 01.8 +0.1**
CDF Champ du Feu 60.26 311⇑ *iP* **P** **03 22 04.5 -0.6**
comp=Z,284nm,1.1s
ECH Echery 60.38 311 *eP* **P** **03 22 05.1 -0.8**
ECH pmax pmax
comp=Z,61nm,1.0s
ECH MLR MLR
comp=Z,4µm,21.0s
ECH Echery 60.38 311 *eP* **P** **03 22 05.1 -0.8**
comp=Z,61nm,1.0s
ECH LR LR
comp=Z,4µm,21.0s
ECH Echery 60.38 311⇑ *eP* **P** **03 22 05.5 -0.4**
MOF Molkenrain 60.49 311⇑ *eP* **P** **03 22 06.3 -0.4**
MEM Membach 60.52 314 P **P** **03 22 06.2 -0.5**
comp=Z,84nm,1.3s
HGN Heimansgroeve 60.52 314 *eP* **P** **03 22 06.6 -0.2**
comp=Z,116nm,1.2s
HGN *i* S **S** **03 30 25.2 +3.3**
WLF Walferdange 60.66 313 *eP* **P** **03 22 08.2 +0.5**
comp=Z,182nm,1.0s
WLF *eS* **S** **03 30 24.8 +1.1**
WLF Walferdange 60.66 313 *eP* **P** **03 22 07.4 -0.3**
WLF pmax pmax
comp=Z,147nm,0.9s
WLF MLR MLR
comp=Z,7µm,22.0s
WLF Walferdange 60.66 313 *eP* **P** **03 22 07.4 -0.3**
comp=Z,147nm,0.9s
WLF LR LR
comp=Z,7µm,22.0s
PGF Pioggiola 60.67 304⇑ *iP* **P** **03 22 07.0 -1.0**
comp=Z,137nm,0.8s
BEBN Eben Emael 60.67 314 P **P** **03 22 07.4 -0.3**
comp=Z,30nm,1.4s
HINF Hinteralfeld 60.69 311⇑ *iP* **P** **03 22 07.3 -0.7**
comp=Z,352nm,1.1s
SENIN Lac Senin/Sane 60.78 309 *eP* **P** **03 22 08.0 -0.9**
comp=Z,154nm,1.0s
LOMF Lomont 60.82 310⇑ *eP* **P** **03 22 08.1 -0.9**
HAU Haudompre 60.96 311⇑ *iP* **P** **03 22 09.3 -0.5**
comp=Z,297nm,1.1s
HAU *eR*
comp=Z,6µm,22.2s

MBAR Mbarara 61.09 250 P **P** **03 22 11.7 +0.4**
comp=Z,138nm,1.1s,SNR=6.5
MBAR Mbarara 61.09 250 *e*P **P** **03 22 10.9 -0.4**
MBAR Mbarara 61.09 250 PFAKE 03 22 20.0 +8.7
MBAR LR LR
comp=Z,464nm,22.0s
THEF They Montfort 61.14 311⇑*e*P **P** **03 22 10.5 -0.5**
PAGF Fort de Pagny 61.22 312⇑*i*P **P** **03 22 11.4 -0.1**
comp=Z,100nm,1.1s
SAOF Saorge 61.27 306⇑*e*P **P** **03 22 11.6 -0.4**
MBWA Marble Bar 61.30 144 *e*P **P** **03 22 12.3 +0.1**
comp=Z,91nm,0.8s
MBWA LR LR
comp=Z,2µm,20.0s
VSL Villasalto 61.31 301 *e*P **P** **03 22 11.0 -1.3**
comp=Z,95nm,1.1s
VSL LR LR
comp=Z,2µm,20.0s
AUTN L'Aution 61.35 306⇑*e*P **P** **03 22 12.6 -0.2**
GIVF Givet 61.38 314⇑*i*P **P** **03 22 12.6 0.0**
comp=Z,257nm,1.1s
LPG La Plagne 61.38 308⇑*i*P **P** **03 22 12.8 -0.2**
comp=Z,519nm,0.9s
SBF Sospel 61.38 306⇑*i*P **P** **03 22 12.2 -0.6**
comp=Z,540nm,0.8s
LPL La Plagne 61.39 308⇑*i*P **P** **03 22 12.8 -0.2**
comp=Z,567nm,0.9s
REVF Revere 61.47 306⇑*e*P **P** **03 22 12.8 -0.5**
TOUF Mont Tournerai 61.47 306⇑*e*P **P** **03 22 13.3 -0.2**
CABF La Chapelle 61.51 309⇑*i*P **P** **03 22 13.1 -0.6**
comp=Z,254nm,1.3s
DOU Dourbes 61.52 314 P **P** **03 22 12.4 -1.1**
comp=Z,49nm,1.5s
BNI Bardonecchia 61.56 308 *e*P **P** **03 22 13.0 -1.0**
BNI pmax pmax
comp=Z,103nm,0.9s
BNI MLR MLR
comp=Z,7µm,22.0s
BNI Bardonecchia 61.56 308 *e*P **P** **03 22 13.0 -1.0**
comp=Z,103nm,0.9s
BNI LR LR
comp=Z,7µm,22.0s
MVIF Mont Vial 61.57 306⇑*e*P **P** **03 22 13.8 -0.4**
MBDF Montbardon 61.59 307⇑*i*P **P** **03 22 12.9 -1.4**
comp=Z,127nm,0.7s
SURF Saint Ours 61.63 307⇑*e*P **P** **03 22 14.1 -0.5**
MEZF Maizieres J'vi 61.66 312⇑*i*P **P** **03 22 14.3 -0.2**
comp=Z,356nm,0.9s
SFTF Sexfontaines 61.75 311⇑*i*P **P** **03 22 14.6 -0.5**
comp=Z,344nm,1.1s
BAIF Baives 61.77 314⇑*i*P **P** **03 22 15.2 0.0**
comp=Z,223nm,1.1s
CALN Calern 61.79 306⇑*e*P **P** **03 22 14.9 -0.8**
JAY Jayapura 61.84 112 P **P** **03 22 16.2 0.0**
comp=Z,92nm,0.9s,comp=Z,4µm
GDM Grand'Maison 61.90 308⇑*e*P **P** **03 22 15.7 -0.7**
FRF La Foret Royal 62.02 306⇑*i*P **P** **03 22 16.2 -0.8**
comp=Z,196nm,0.9s
GRN Grenoble 62.14 308⇑*e*P **P** **03 22 17.6 -0.3**
ORIF Oris-en-Rattie 62.14 308⇑*i*P **P** **03 22 16.8 -1.1**
comp=Z,161nm,0.9s
ORIF *e*R
comp=Z,9µm,22.8s
LRW Lerwick 62.14 326 AMS AMS 03 49 28.5
comp=Z,4µm,23.7s
LMR La Mourre 62.18 306⇑*i*P **P** **03 22 17.4 -0.7**
comp=Z,205nm,1.0s
ABPO Ambohimpanom 62.24 222 *e*P **P** **03 22 18.1 -0.7**
ABPO pmax pmax
comp=Z,34nm,1.1s
ABPO MLR MLR
comp=Z,3µm,19.0s
ABPO Ambohimpanom 62.24 222 *e*P **P** **03 22 18.1 -0.7**
comp=Z,34nm,1.1s
ABPO LR LR
comp=Z,3µm,19.0s
JMIC Jan Mayen 62.31 338 *e*P P 03 22 24.9 +6.5
KEST Kesra 62.56 297 *e*P **P** **03 22 20.4 -0.5**
KEST Kesra 62.56 297 P **P** **03 22 20.5 -0.4**
comp=Z,44nm,1.0s,baz=351,slow=1.0,SNR=95
KEST LR LR 03 53 46.3
comp=Z,653nm,19.5s,baz=16,slow=40
SMRF Simiane la Rot 62.63 307⇑*i*P **P** **03 22 20.8 -0.4**
comp=Z,213nm,1.1s
LOR Lormes 62.79 311⇑*i*P **P** **03 22 21.1 -1.0**
comp=Z,230nm,1.1s
LOR *e*R
comp=Z,5µm,20.2s
SSB Saint Sauveur 62.94 308 *e*P **P** **03 22 21.7 -1.4**
SSB pmax pmax
comp=Z,99nm,0.9s
SSB MLR MLR
comp=Z,2µm,20.0s
SSB Saint Sauveur 62.94 308 *e*P **P** **03 22 21.7 -1.4**
comp=Z,99nm,0.9s
SSB LR LR
comp=Z,2µm,20.0s
VIVF Saint-Julien-l 62.98 308⇑*i*P **P** **03 22 22.8 -0.6**
comp=Z,267nm,1.1s
SMF Signal de Mont 62.98 310⇑*i*P **P** **03 22 22.6 -0.8**
comp=Z,372nm,0.9s
SSF Saint Saulge 63.08 311⇑*i*P **P** **03 22 23.3 -0.7**
comp=Z,357nm,1.0s
DAG Danmarks Havn 63.17 346⇑*i*P **P** **03 22 23.6 -0.5**
DAG pmax pmax
comp=Z,15nm,0.9s
DAG MLR MLR
comp=Z,3µm,20.0s
DAG Danmarks Havn 63.17 346⇑*i*P **P** **03 22 23.6 -0.5**
comp=Z,18nm,0.9s
DAG
comp=Z,3µm,20.0s
AVF Avril sur Loir 63.26 310⇑*i*P **P** **03 22 24.4 -0.8**
comp=Z,299nm,1.1s
ELSH Elham, Standar 63.34 315⇑*e*P **P** **03 22 25.3 -0.3**
ELSH AMB AMB 03 22 26.7
comp=Z,252nm,0.9s
ELSH AMS AMS 03 51 26.9
comp=Z,4µm,20.5s
HYF Humbligny 63.58 311⇑*i*P **P** **03 22 27.1 -0.2**
AGO Saint Agoulin 63.63 310⇑*e*P **P** **03 22 28.4 +0.6**
BGF Bois d'Agland 63.66 310⇑*i*P **P** **03 22 27.1 -0.8**
comp=Z,159nm,1.1s
DRUM Mains of Drumt 63.68 322⇑*e*P **P** **03 22 27.4 -0.4**
DRUM AMB AMB 03 22 28.4
comp=Z,199nm,1.0s
CMAH Djebel Manchou 63.71 298 P **P** **03 22 27.8 -0.7**
LASF Ste Croix 63.78 307⇑*i*P **P** **03 22 28.4 -0.3**
comp=Z,327nm,1.1s
ABSA Djebel Ababsia 63.79 298 P **P** **03 22 28.6 -0.4**
PYM Petit Puy Mans 63.81 309⇑*e*P **P** **03 22 29.5 +0.5**
LBL Lubilhac 63.82 309 *e*P **P** **03 22 29.8 +0.8**
HMNX Herstmonceux 63.91 315⇑*e*P **P** **03 22 28.8 -0.5**
HMNX AMB AMB 03 22 29.9
comp=Z,182nm,1.1s
ESY Stoneypath 64.05 321⇑*e*P **P** **03 22 29.8 -0.5**
HPK Haverah Park 64.10 319⇑*e*P **P** **03 22 30.1 -0.5**
HPK AMB AMB 03 22 31.1
comp=Z,124nm,1.0s
HPK AMS AMS 03 53 56.9
comp=Z,3µm,18.2s
XAL Allendale 64.15 320 *e*P **P** **03 22 29.9 -1.1**
TCF Toulx Ste Croi 64.17 310⇑*i*P **P** **03 22 31.0 -0.3**
comp=Z,520nm,1.1s
FX1 Attu Island--F 64.21 42 *e*P **P** **03 22 29.7 -1.7**
KBI1 Birley Grange 64.26 318⇑*e*P **P** **03 22 31.1 -0.6**
CKFL Kef-Lekhel 64.32 298 P **P** **03 22 31.6 -0.9**
EDI Edinburgh 64.35 321 AMB AMB 03 22 30.3
comp=Z,157nm,1.0s
EDI AMS AMS 03 51 16.6
comp=Z,3µm,17.1s
ELO Logie Almond 64.46 322⇑*e*P **P** **03 22 32.4 -0.6**
EAU Auchinoon 64.52 321⇑*i*P **P** **03 22 33.1 -0.2**
CASM Ain Smara 64.54 298 P **P** **03 22 32.8 -1.1**
ECK Cauldkaine Hil 64.55 321⇑*e*P **P** **03 22 33.0 -0.6**
ESK Eskdalemuir 64.55 321 P **P** **03 22 33.8 +0.2**
comp=Z,601nm,0.9s,SNR=14
ESK Eskdalemuir 64.55 321⇑*e*P **P** **03 22 33.0 -0.5**
ESK AMB AMB 03 22 34.5
comp=Z,123nm,1.3s
ESK Eskdalemuir 64.55 321 *e*P **P** **03 22 33.3 -0.3**
ESK pmax pmax
comp=Z,116nm,1.0s
ESK MLR MLR
comp=Z,4µm,22.0s
ESK Eskdalemuir 64.55 321 *e*P **P** **03 22 33.3 -0.3**
comp=Z,116nm,1.0s
ESK LR LR
comp=Z,4µm,22.0s
CTEI Djebel Teioual 64.68 298 P **P** **03 22 34.7 -0.2**
WOL Wolverton 64.70 316⇑*e*P **P** **03 22 34.1 -0.5**
WOL AMB AMB 03 22 35.7
comp=Z,215nm,1.2s
WOL AMS AMS 03 51 00.9
comp=Z,3µm,21.5s
STNC Stoke 64.70 318 *e*P **P** **03 22 34.4 -0.2**
STNC AMB AMB 03 22 36.0
comp=Z,124nm,1.5s
STNC AMS AMS 03 53 24.3
comp=Z,3µm,14.8s
CAF Calviac 64.71 309⇑*i*P **P** **03 22 34.5 -0.4**
comp=Z,237nm,1.1s
KESW Keswick, Cumbr 64.73 320⇑*e*P **P** **03 22 34.0 -0.8**
KESW AMB AMB 03 22 35.9
comp=Z,151nm,1.3s
SMY Shemya 64.80 42 *e*P **P** **03 22 34.5 -0.7**
SMY pmax pmax
comp=Z,226nm,1.3s
SMY Shemya 64.80 42 *e*P **P** **03 22 34.5 -0.7**
comp=Z,226nm,1.3s
EAB Aberfoyle 64.88 322⇑*i*P **P** **03 22 35.2 -0.4**
DFRA Djebel Bou Aff 64.90 299 P **P** **03 22 35.7 -0.6**
LDF La Druitiere 64.91 313⇑*i*P **P** **03 22 35.3 -0.7**
comp=Z,317nm,0.9s
RJF Les Rejaudoux 64.95 309⇑*i*P **P** **03 22 36.3 -0.1**
comp=Z,398nm,1.2s
KAC Achnashellach 64.95 323⇑*e*P **P** **03 22 35.7 -0.4**
SWN1 Swindon 64.98 316 AMS AMS 03 51 21.9
comp=Z,4µm,21.8s
SJAF Saint Jean de 64.98 306⇑*e*P **P** **03 22 35.5 -1.1**
PGBU Glenifferbraes 65.08 322⇑*e*P **P** **03 22 36.3 -0.7**
PGBU AMB AMB 03 22 37.6
comp=Z,141nm,1.0s
PGBU AMS AMS 03 55 00.9
comp=Z,3µm,15.4s
FLN La Foliniere 65.08 313⇑*i*P **P** **03 22 36.3 -0.8**
comp=Z,241nm,1.2s
FLN *e*R
comp=Z,8µm,22.5s
GCD Castle Douglas 65.10 320⇑*e*P **P** **03 22 36.7 -0.4**
MTLF Montolieu 65.14 307⇑*i*P **P** **03 22 37.1 -0.6**
comp=Z,190nm,1.1s
FILF Fillols 65.18 306⇑*e*P **P** **03 22 37.6 -0.4**
KPL Plockton 65.19 323 *e*P **P** **03 22 36.8 -0.8**
KPL AMB AMB 03 22 38.0
comp=Z,71nm,1.1s
KPL AMS AMS 03 52 22.0
comp=Z,3µm,14.8s
HLM1 Long Mynd 65.28 318⇑*e*P **P** **03 22 37.8 -0.5**
HLM1 AMB AMB 03 22 39.0
comp=Z,113nm,1.2s
FOEL Foel Wylfa 65.34 318⇑*e*P **P** **03 22 38.7 -0.1**
FOEL AMB AMB 03 22 39.5
comp=Z,201nm,1.0s
CKHR Kef el Ahmar 65.37 298 P **P** **03 22 38.9 -0.5**
SET Setif 65.39 299 P **P** **03 22 39.0 -0.5**
CARF Carcanieres 65.44 306⇑*e*P **P** **03 22 38.5 -1.2**
GRR Gorron 65.44 313⇑*i*P **P** **03 22 38.7 -0.8**
comp=Z,288nm,0.9s
ALE Alert 65.50 356 P **P** **03 22 38.0 -1.3**
comp=Z,127nm,1.1s,SNR=9.4
GAL1 Galloway 65.52 321 *e*P **P** **03 22 39.3 -0.5**
GAL1 AMB AMB 03 22 40.3
comp=Z,85nm,1.1s
GAL1 AMS AMS 03 52 57.0
comp=Z,3µm,16.4s
MCH1 Michaelchurch 65.52 317⇑*e*P **P** **03 22 38.3 -1.6**
MCH1 AMB AMB 03 22 40.0
comp=Z,133nm,1.4s
MCH1 AMS AMS 03 55 42.4
comp=Z,3µm,15.9s
LFF La Frestale 65.59 309⇑*i*P **P** **03 22 40.3 -0.2**
comp=Z,287nm,1.2s
MFF Saint Martin d 65.60 311⇑*i*P **P** **03 22 39.7 -0.8**
comp=Z,132nm,1.0s
VALF Valcebollere 65.61 306⇑*e*P **P** **03 22 40.6 -0.3**
WPM1 Penmaenmawr 65.61 319⇑*e*P **P** **03 22 40.2 -0.4**
WME Myndd Eilian 65.79 319 *e*P **P** **03 22 40.4 -1.3**
YLL Llanberis 65.80 319⇑*e*P **P** **03 22 40.9 -0.8**
WLF1 Llynfaes 65.88 319 *e*P **P** **03 22 42.0 -0.2**
WLF1 AMB AMB 03 22 42.8
comp=Z,116nm,1.1s
WLF1 AMS AMS 03 56 26.7
comp=Z,2µm,17.3s
JSA Saint Aubin 65.98 314⇑*e*P **P** **03 22 41.9 -1.0**
JSA AMB AMB 03 22 43.3
comp=Z,134nm,1.1s
YRC Rhoscolyn 65.99 319 *e*P **P** **03 22 42.3 -0.6**
YRE Yr Eifl 66.00 319 *e*P **P** **03 22 42.0 -1.0**
MLS Moulis 66.05 307⇑*e*P **P** **03 22 42.6 -0.9**
SALF Salau 66.05 307⇑*e*P **P** **03 22 42.2 -1.4**
HEX Exmoor 66.31 316⇑*e*P **P** **03 22 44.2 -0.9**
GMM Mts of Mourne 66.41 320⇑*i*P **P** **03 22 45.1 -0.5**
EPF Esparros 66.54 307⇑*i*P **P** **03 22 45.2 -1.5**
comp=Z,32nm,1.0s
SGMF Saint Gilles 66.55 313⇑*i*P **P** **03 22 46.2 -0.4**
comp=Z,373nm,1.1s
RESF Ens 66.62 307⇑*e*P **P** **03 22 47.1 -0.2**
LABF Labassere 66.71 307⇑*e*P **P** **03 22 48.5 +0.7**
HTL Hartland 66.74 317 AMS AMS 03 54 48.4
comp=Z,4µm,16.8s
VIEF Viey 66.81 307 *e*P **P** **03 22 48.3 -0.2**
ROSF Rostrenen 66.97 314⇑*i*P **P** **03 22 48.8 -0.5**
comp=Z,286nm,1.0s
REYF Montagne du Re 67.02 307 *e*P **P** **03 22 49.7 -0.1**
QUIF Quistinic 67.06 313⇑*i*P **P** **03 22 49.1 -0.7**
comp=Z,121nm,1.1s
ETSF Etsaut 67.20 307⇑*i*P **P** **03 22 50.6 -0.4**
comp=Z,95nm,0.9s
EMHD Djebel Mahouad 67.22 299 P **P** **03 22 51.5 +0.2**
LARF Larrau 67.44 308 *e*P **P** **03 22 52.5 +0.1**
SJPF Ste Jean 67.57 308⇑*i*P **P** **03 22 52.6 -0.6**
comp=Z,105nm,1.2s
EBNR Beni Rached 68.24 300 P **P** **03 22 58.5 +0.9**
AMKA Amchitka 68.28 42 *e*P **P** **03 22 56.1 -1.4**
comp=Z,121nm,1.0s
EANR 'Ain N'Sour 68.70 300 P **P** **03 23 00.0 -0.5**
WRA Warramunga Arr 68.84 131 P **P** **03 23 01.2 -0.2**
WRA S **S** **03 32 03.0 -2.1**
WRA ⇑*e* 03 51 13.4
WRA Warramunga Arr 68.84 131 P **P** **03 23 01.2 -0.2**
comp=Z,41nm,0.7s,baz=325,slow=6.3,SNR=170
WRA S **S** **03 32 03.0 -2.1**
comp=Z,3.6nm,1.3s,baz=314,slow=11,SNR=5.5
WRA PKP2bc 03 51 13.4
comp=Z,4.1nm,1.1s,baz=130,slow=2.8,SNR=8.4
WRA LR LR 03 58 14.9
comp=Z,1µm,20.4s,baz=305,slow=40
WRAB Tennant Creek 68.84 131 P **P** **03 23 01.0 -0.3**
comp=Z,661nm,0.8s,SNR=57
WRAB Tennant Creek 68.84 131 *e*P **P** **03 23 01.1 -0.3**
WRAB pmax pmax
comp=Z,88nm,0.8s
WRAB MLR MLR
comp=Z,1µm,19.0s
WRAB Tennant Creek 68.84 131 *e*P **P** **03 23 01.1 -0.3**
comp=Z,88nm,0.8s
WRAB LR LR
comp=Z,1µm,19.0s
BORG Borgarnes 69.15 334 PFAKE 03 23 10.0 +7.3
BORG LR LR
comp=Z,3µm,19.0s
VAL Valentia 69.69 319 *e*P **P** **03 23 05.8 -0.4**
VAL *e*S **S** **03 32 18.3 +3.9**
SUMG Summit 69.81 345⇑*i*P **P** **03 23 07.5 +0.3**
SUMG pmax pmax
comp=Z,45nm,1.1s
SUMG MLR MLR
comp=Z,3µm,18.0s
SUMG Summit 69.81 345 *e*P **P** **03 23 07.4 +0.3**
comp=Z,100nm,1.0s
SUMG Summit 69.81 345⇑*i*P **P** **03 23 07.5 +0.3**
comp=Z,45nm,1.1s
SUMG
comp=Z,3µm,18.0s
NWAO Narrogin (SRO) 70.27 152 *e*P **P** **03 23 09.0 -0.9**
comp=Z,38nm,0.9s
NWAO LR LR
comp=Z,2µm,21.0s
NWAO Narrogin (SRO) 70.27 152 LR LR 03 56 39.1
comp=Z,1µm,21.0s,baz=108,slow=38
TAM Tamanrasset 70.75 285 PFAKE 03 23 20.0 +6.6
TAM LR LR
comp=Z,2µm,19.0s
ESDC Sonseca Array 70.83 305 P **P** **03 23 12.7 -0.8**
ESDC P'P' 03 51 07.6
ESDC Sonseca Array 70.83 305 P **P** **03 23 12.7 -0.8**
comp=Z,21nm,0.9s,baz=57,slow=6.6,SNR=83
ESDC PKPPKP P'P'df 03 51 07.6 -8.5
comp=Z,0.2nm,0.4s,baz=205,slow=2.7,SNR=6.0
ESDC LR LR 03 55 41.5
comp=Z,1µm,20.3s,baz=55,slow=37
ESLA Sonseca Array 70.83 305 *e*P **P** **03 23 12.6 -0.9**
comp=Z,12nm,1.1s
COEN Coen 70.90 120 *e*P **P** **03 23 13.6 -0.6**
PMG Port Moresby 71.10 114 *e*P **P** **03 23 14.0 -1.4**
comp=Z,136nm,0.8s
PMG LR LR
comp=Z,690nm,19.0s
PAB San Pablo 71.16 305 *e*P **P** **03 23 14.8 -0.8**
PAB pmax pmax
comp=Z,51nm,1.2s
PAB MLR MLR
comp=Z,2µm,20.0s
PAB San Pablo 71.16 305 *e*P **P** **03 23 14.8 -0.8**
comp=Z,51nm,1.2s
PAB LR LR
comp=Z,2µm,20.0s
AS31 Alice Springs 71.28 134 *e*P **P** **03 23 15.9 -0.4**
ASAR Alice Springs 71.28 134 P **P** **03 23 16.4 +0.1**
ASAR S **S** **03 32 33.7 0.0**
ASAR P'P' 03 51 10.0
ASAR Alice Springs 71.28 134 P **P** **03 23 16.4 +0.1**
comp=Z,60nm,0.6s,baz=318,slow=5.9,SNR=630
ASAR S **S** **03 32 33.7 0.0**
comp=Z,5.3nm,1.1s,baz=308,slow=12,SNR=18
ASAR PKPPKP **P'P'df** **03 51 10.0 +3.4**
comp=Z,1.2nm,0.9s,baz=131,slow=3.4,SNR=4.9
ASAR LR LR 03 59 31.6
comp=Z,1µm,20.4s,baz=306,slow=40
PBRG Braganca 71.83 308 *e*P **P** **03 23 18.7 -0.9**
comp=Z,47nm,1.8s
LSZ Lusaka 72.16 239 *e*P **P** **03 23 21.9 0.0**
LSZ Lusaka 72.16 239 *e*P **P** **03 23 21.7 -0.2**
comp=Z,36nm,0.6s
LSZ LR LR
comp=Z,2µm,19.0s
MVO Moncorvo 72.31 308 *i* P **P** **03 23 21.9 -0.6**
comp=Z,78nm,1.1s
MVO *e*S **S** **03 32 43.8 -1.6**
MVO *e*LQ LQ 03 41 13.6
MVO *e*LR LR 03 47 56.5
comp=Z,2µm,18.0s
PVRL Vila Real 72.72 308 *e*P **P** **03 23 23.6 -1.3**
comp=Z,51nm,1.7s
POLO Lamas de Olo 72.73 308 *e*P **P** **03 23 24.4 -0.6**
comp=Z,18nm,1.5s
POLO *e*S **S** **03 32 49.6 -0.7**
PCAB Cabril 72.74 309 *e*P **P** **03 23 25.1 +0.1**
comp=Z,82nm,1.9s
PGAV Gavieira, Arco 72.79 309 *e*P **P** **03 23 25.2 -0.1**
comp=Z,86nm,1.6s
PGAV Gavieira, Arco 72.79 309 *e*LR LR 03 47 28.1
comp=Z,1µm,18.0s
MTE Manteigas 73.00 307 *i* P **P** **03 23 26.6 0.0**
comp=Z,86nm,2.1s
MTE *e*S **S** **03 32 52.2 -1.1**
MTE *e*LQ LQ 03 41 11.7
MTE *e*LR LR 03 47 14.8
comp=Z,2µm,20.0s
MTE Manteigas 73.00 307 *e*P **P** **03 23 26.1 -0.4**
comp=Z,46nm,1.0s
MTE LR LR
comp=Z,3µm,22.0s
PVIS Viseu 73.09 308 *e*P **P** **03 23 27.0 -0.1**
comp=Z,77nm,1.9s
PCBR Castelo Branco 73.20 307 *e*P **P** **03 23 27.8 +0.1**
comp=Z,46nm,1.1s
COLD Coldfoot 73.23 20 *e*P **P** **03 23 27.7 +0.4**
comp=Z,64nm,1.0s
PMRV Marv??o 73.33 306 *e*P **P** **03 23 27.8 -0.7**
comp=Z,42nm,1.2s
PMRV *e*S **S** **03 32 57.4 +0.4**
PMRV *e*LQ LQ 03 42 32.3
PMRV *e*LR LR 03 47 09.7
comp=Z,2µm,18.0s
PTO Porto 73.38 308 *e*P **P** **03 23 28.6 -0.1**
comp=Z,81nm,1.3s
FORT Forrest 73.43 143 *e*P **P** **03 23 29.0 0.0**
comp=Z,129nm,0.9s
PBAR Barrancos 73.64 305 *i* P **P** **03 23 29.8 -0.5**
comp=Z,78nm,1.9s
PBAR *e*S **SKiKP** **03 33 00.1 0.0**
PESTR Estremoz 73.72 306 *e*P **P** **03 23 29.7 -1.1**
comp=Z,35nm,2.6s
PESTR *e*S **SKiKP** **03 33 00.5 +0.3**
PCAS Casmilo, Conde 73.80 307 *e*P **P** **03 23 31.4 +0.1**
comp=Z,48nm,2.2s
PCAS *e*S **S** **03 33 03.2 +0.9**
PTOM Tomar 73.94 307 *e*P **P** **03 23 31.8 -0.2**
comp=Z,108nm,1.4s
PMTG Montargil 74.06 306 *i* P **P** **03 23 31.8 -1.0**
comp=Z,41nm,1.7s
PMTG *e*S **S** **03 33 05.2 -0.1**
EVO Evora 74.16 306⇑*i*P **P** **03 23 32.8 -0.6**
comp=Z,98nm,1.2s
EVO *e*R
comp=Z,3µm,22.2s
EVO Evora 74.16 306 *i* P **P** **03 23 33.0 -0.4**
comp=Z,53nm,1.4s
PBEJ Beja 74.29 305 *e*P **P** **03 23 33.9 -0.2**
comp=Z,50nm,1.5s
PVAQ Vaqueiros 74.47 304 *i* P **P** **03 23 34.6 -0.6**
comp=Z,86nm,1.2s
PVAQ *e*S **S** **03 33 09.5 -0.4**
PVAQ *e*LQ LQ 03 41 56.1
PVAQ *e*LR LR 03 48 08.2
comp=Z,2µm,20.0s
PCVE Castro Verde 74.59 305 *i* P **P** **03 23 35.3 -0.6**
comp=Z,46nm,1.4s
PCVE *e*S **S** **03 33 11.7 +0.4**
PBDV Barranco-do-Ve 74.70 304 *i* P **P** **03 23 36.2 -0.3**
comp=Z,113nm,1.1s
PBDV *e*S **S** **03 33 12.2 -0.3**
PNCL Nicolau / Gran 74.72 305 *e*P **P** **03 23 36.4 -0.2**
comp=Z,54nm,1.3s
PNCL *e*S **S** **03 33 12.4 -0.2**
PMAFR Mafra 74.85 306 *e*P **P** **03 23 37.0 -0.4**
comp=Z,133nm,2.0s
LIS Lisbon 74.87 306 *e*P **P** **03 23 37.0 -0.4**
LIS *e*SS SS 03 38 04.7 +2.9
LIS AMS AMS 03 57 34.3
comp=N,3µm,22.0s
LIS Lisbon 74.87 306 *e*P **P** **03 23 37.0 -0.4**
PTEO Sao Teotonio 75.12 305 *e*P **P** **03 23 38.8 -0.1**
comp=N,64nm,1.8s
PFVI Vila Bisbo 75.38 305 *e*P **P** **03 23 39.8 -0.6**
comp=N,84nm,1.6s
SVW2 Sparrevohn 75.42 26 *e*P **P** **03 23 41.4 +1.1**
comp=N,87nm,1.2s
COLA College 75.54 21 *e*P **P** **03 23 40.5 -0.3**
COLA MLR MLR
comp=Z,2µm,19.0s
COLA College 75.54 21 *e*P **P** **03 23 40.5 -0.3**
comp=Z,388nm,0.9s
COLA LR LR
comp=Z,2µm,19.0s
TRF Thorofare Moun 75.75 23 *e*P **P** **03 23 44.2 +1.9**
comp=Z,33nm,1.1s
TRF *e*PP **PP** **03 26 30.9 -0.7**
ILAR Eielson Array 75.91 21 P **P** **03 23 41.9 -1.1**
ILAR PP **PP** **03 26 31.5 -1.1**
ILAR P'P' 03 50 58.2
ILAR Eielson Array 75.91 21 P **P** **03 23 41.9 -1.1**
comp=Z,18nm,0.8s,baz=302,slow=4.5,SNR=127
ILAR PP **PP** **03 26 31.5 -1.1**
comp=Z,17nm,1.3s,baz=305,slow=7.8,SNR=5.8
ILAR PKPPKP P'P'df 03 50 58.2 -10
comp=Z,0.8nm,1.0s,baz=208,slow=3.8,SNR=5.0
ILAR LR LR 03 59 18.6
comp=Z,2µm,19.6s,baz=157,slow=38
MCK McKinley 76.00 22 *e*P **P** **03 23 43.0 -0.5**
MCK pmax pmax
comp=Z,41nm,1.1s
MCK McKinley 76.00 22 *e*P **P** **03 23 43.0 -0.5**
comp=Z,41nm,1.1s
SPU Mount Spurr 76.67 25 *e*P **P** **03 23 47.5 +0.1**
SFJD Kangerlussuaq 76.77 344 *e*P **P** **03 23 46.7 -1.0**

SFJD LR LR
comp=Z,1µm,20.0s
SFJD Kangerlussuaq 76.77 344 ⇑*i*P **P 03 23 47.0 -0.8**
comp=Z,26nm,0.9s
SFJD
comp=Z,1µm,16.0s
RSO Redoubt South 76.89 26 *e*P **P 03 23 48.5 -0.4**
CTA Charters Tower 77.09 123 S **S 03 33 38.2 -0.9**
comp=Z,4.2nm,0.8s,baz=122,slow=18,SNR=4.6
CTAO Charters Tower 77.09 123 *e*P **P 03 23 49.9 -0.4**
CTAO pmax pmax
comp=Z,120nm,1.0s
CTAO MLR MLR
comp=Z,1µm,22.0s
CTAO Charters Tower 77.09 123 *e*P **P 03 23 49.9 -0.4**
comp=Z,120nm,1.0s
CTAO LR LR
comp=Z,1µm,22.0s
CHGN Chignik 77.23 31 *e*P **P 03 23 48.9 -1.7**
PMR Palmer 77.42 24 *e*P **P 03 23 51.5 0.0**
PMR pmax pmax
comp=Z,62nm,0.9s
PMR Palmer 77.42 24 *e*P **P 03 23 51.5 0.0**
comp=Z,62nm,0.9s
SML Sawmill 77.55 23 *e*P **P 03 23 52.6 +0.3**
SML pmax pmax
comp=Z,33nm,0.9s
SML Sawmill 77.55 23 *e*P **P 03 23 52.6 +0.3**
comp=Z,34nm,0.9s
EGAK Eagle 77.56 19 *e*P **P 03 23 52.3 0.0**
EGAK LR LR
comp=Z,3µm,20.0s
POGA Pongola 77.95 228 *e*P **P 03 23 54.9 0.0**
POGA AMB AMB 03 23 59.6
comp=Z,89nm,3.2s
TOA0 Torodi Ar. Sit 78.47 278 *e*P **P 03 23 57.1 -1.1**
TORD Torodi Ar. Bea 78.47 278 P **P 03 23 57.0 -1.2**
TORD PKKPbc **PKKPbc 03 42 57.0 +3.6**
comp=Z,20nm,0.7s,baz=53,slow=4.9,SNR=194
TORD Torodi Ar. Bea 78.47 278 P **P 03 23 57.0 -1.2**
TORD PKKPbc **PKKPbc 03 42 57.0 +3.6**
comp=Z,0.5nm,0.9s,baz=272,slow=0.7,SNR=6.1
TORD LR LR 04 04 06.9
comp=Z,2µm,18.5s,baz=50,slow=40
KDAK Kodiak Island 78.74 28 P **P 03 23 59.4 +0.5**
comp=Z,661nm,0.6s,SNR=10.0
KDAK Kodiak Island 78.74 28 *e*P **P 03 23 59.3 +0.4**
comp=Z,88nm,0.8s
KDAK *e*pP **pP 03 24 03.1 -0.2**
KDAK LR LR
comp=Z,2µm,20.0s
OHAK Old Harbor 78.83 28 *e*P **P 03 23 59.3 -0.1**
comp=Z,185nm,1.4s
DIV Divide 78.89 23 *e*P **P 03 24 00.8 +0.9**
comp=Z,61nm,1.0s
SLR Silverton 78.99 231 *e*P **P 03 24 01.3 +0.3**
SLR AMB AMB 03 24 06.0
comp=Z,69nm,3.1s
BBOO Buckleboo 79.32 139 *e*P **P 03 24 02.1 -0.3**
BMRM Bremner River 79.40 23 *e*P **P 03 24 03.0 +0.4**
comp=Z,82nm,0.9s
BMRM *e*pP **pP 03 24 07.5 +0.5**
ERPM east rand prop 79.43 231 *e*P **P 03 24 03.1 -0.3**
ERPM AMB AMB 03 24 10.7
comp=Z,65nm,4.2s
KLOF Kloof 79.85 231 *e*P **P 03 24 07.4 +1.7**
KLOF AMB AMB 03 24 11.4
comp=Z,57nm,1.1s
MIDW Midway 81.12 63 PFAKE 03 24 20.0 +7.7
MIDW LR LR
comp=Z,816nm,19.0s
HNR Honiara 81.40 106 PFAKE 03 24 30.0 +16
HNR LR LR
comp=Z,969nm,22.0s
STKA Stephens Creek 81.89 135 *e*P **P 03 24 15.4 -0.7**
comp=Z,18nm,1.1s
STKA *e*pP **pP 03 24 19.3 -1.3**
STKA Stephens Creek 81.89 135 P **P 03 24 15.5 -0.7**
comp=Z,49nm,1.0s,baz=310,slow=5.2,SNR=52
STKA LR LR 04 04 39.4
comp=Z,1µm,19.8s,baz=301,slow=39
SWZ Schweizer 81.93 232 *e*P **P 03 24 16.1 -0.5**
SWZ AMB AMB 03 24 21.2
comp=Z,98nm,3.0s
PNL Peninsula 82.06 21 *e*P **P 03 24 17.5 +0.7**
comp=Z,96nm,0.9s
PNL *e*pP **PcP 03 24 21.9 -0.3**
TSUM Tsumeb 82.53 242 *e*P **P 03 24 21.1 +1.1**
TSUM AMB AMB 03 24 25.1
comp=Z,1µm,2.8s
TSUM Tsumeb 82.53 242 *e*P **P 03 24 20.9 +1.0**
comp=Z,37nm,1.1s
BOSA Boshof 82.91 231 *e*P **P 03 24 21.2 -0.5**
comp=Z,81nm,1.0s
BOSA *e*pP **pP 03 24 25.6 -0.6**
BOSA Boshof 82.91 231 P **P 03 24 21.4 -0.4**
comp=Z,72nm,1.0s,baz=56,slow=6.3,SNR=29
SKAG Skagway 83.46 20 *e*P **P 03 24 24.0 0.0**
comp=Z,380nm,1.6s
SKAG *e*pP **pP 03 24 29.4 +1.0**
EIDS Eidsvold 83.87 124 *e*P **P 03 24 26.2 -0.4**
comp=Z,110nm,1.3s
EIDS *e*pP **PcP 03 24 30.2 -0.4**
WIN Windhoek 84.88 240 *e*P **P 03 24 32.8 +0.7**
WIN AMB AMB 03 24 41.8
comp=Z,17nm,2.0s
YKW3 Yellowknife Ar 85.14 9 *e*P **P 03 24 31.7 -0.8**
YKW3 *e*pP **PcP 03 24 36.2 +0.5**
YKA Yellowknife Ar 85.21 9 P **P 03 24 31.9 -0.9**
YKA Yellowknife Ar 85.21 9 P **P 03 24 31.9 -0.9**
comp=Z,29nm,0.8s,baz=340,slow=4.9,SNR=96
SIT Sitka 85.44 21 *e*P **P 03 24 35.9 +1.8**
SIT pmax pmax
comp=Z,48nm,1.0s
SIT Sitka 85.44 21 *e*P **P 03 24 35.9 +1.8**
comp=Z,48nm,1.0s
CMLA Cha da Macela 86.26 312 *e*P **P 03 24 39.0 +0.4**
CMLA MLR MLR
comp=Z,1µm,21.0s
CMLA Cha da Macela 86.26 312 *e*P **P 03 24 39.0 +0.4**
comp=Z,210nm,0.8s
CMLA LR LR
comp=Z,1µm,21.0s
WRAK Wrangell Islan 86.88 20 *e*P **P 03 24 41.2 0.0**
comp=Z,55nm,1.0s
DBIC Dimbokro 87.29 276 *e*P **P 03 24 42.8 -1.1**
DBIC Dimbokro 87.29 276 *e*P **P 03 24 43.2 -0.8**
comp=Z,44nm,0.8s
DBIC Dimbokro 87.29 276 P **P 03 24 43.5 -0.4**
comp=Z,35nm,0.8s,baz=49,slow=5.5,SNR=36
DBIC LR LR 04 08 15.9
comp=Z,2µm,18.7s,baz=229,slow=39
KIC Kosan Boka 87.35 276 *e*PKP2 **P 03 24 43.8 -0.5**
comp=Z,79nm,0.7s
ARMA Armidale 87.38 128 *e*P **P 03 24 44.7 +0.6**
comp=Z,60nm,0.9s
ARMA *e*pP **pP 03 24 48.2 -0.3**
TIC Toumodi 87.44 276 *e*PKP2 **P 03 24 44.1 -0.6**
comp=Z,67nm,0.8s
LIC Lamto 87.67 276 ⇑*i*P **P 03 24 45.2 -0.6**
comp=Z,53nm,0.7s
LIC *e*R
comp=Z,3µm,22.0s
LIC Lamto 87.67 276 *e*P **P 03 24 45.1 -0.7**
comp=Z,88nm,0.7s
SUR Sutherland 88.26 230 *e*P **P 03 24 49.0 +0.6**
comp=Z,28nm,0.8s
SUR LR LR
comp=Z,3µm,21.0s
CAN Canberra 88.77 133 PFAKE 03 25 00.0 +9.5
CAN LR LR
comp=Z,2µm,21.0s
SCHQ Schefferville 91.20 345 *e*P **P 03 25 00.5 -1.2**
comp=Z,25nm,1.1s
SCHQ Schefferville 91.20 345 P **P 03 25 00.7 -1.0**
comp=Z,17nm,1.0s,baz=36,slow=6.3,SNR=17
SCHQ LR LR 04 11 02.7
comp=Z,2µm,18.1s,baz=27,slow=39
TAU Tasmania Unive 92.72 140 PFAKE 03 25 20.0 +11
TAU LR LR
comp=Z,2µm,21.0s
FFC Flin Flon 94.18 5 P **P 03 25 14.6 -0.9**
comp=Z,245nm,1.1s,SNR=21
FFC Flin Flon 94.18 5 *e*P **P 03 25 14.5 -0.9**
FFC pmax pmax
comp=Z,53nm,1.1s
FFC MLR MLR
comp=Z,2µm,19.0s
FFC Flin Flon 94.18 5 *e*P **P 03 25 14.5 -0.9**
comp=Z,54nm,1.1s
FFC LR LR
comp=Z,2µm,19.0s
FUNA Funafuti 97.10 96 PFAKE 03 25 40.0 +10
FUNA LR LR
comp=Z,8µm,20.0s
NLWA Neilton Lookou 97.32 20 PFAKE 03 25 40.0 +10
NLWA LR LR
comp=Z,1µm,19.0s
NEW Newport 98.26 15 *e*P **P 03 25 33.6 -0.5**
comp=Z,6.6nm,1.0s
NEW LR LR
comp=Z,2µm,19.0s
SACV Santiago Islan 98.36 293 PFAKE 03 25 50.0 +15
SACV LR LR
comp=Z,1µm,20.0s
A15A Johnson Ranch, 98.48 12 P **P 03 25 34.4 -0.8**
baz=98
LON Longmire 98.49 19 *e*P **P 03 25 34.9 -0.3**
LON pmax pmax
comp=Z,4.0nm,0.9s
LON Longmire 98.49 19 *e*P **P 03 25 34.9 -0.3**
comp=Z,3.6nm,0.9s
A16A West Butte Ran 98.71 12 P **P 03 25 35.7 -0.6**
baz=98
B13A Whitefish 98.73 14 P **P 03 25 35.6 -0.6**
baz=98
A17A Triple J Farms 98.87 11 P **P 03 25 36.1 -0.8**
baz=98
ULM Lac du Bonnet 98.92 1 P **P 03 25 35.2 -1.8**
ULM Lac du Bonnet 98.92 1 P **P 03 25 35.2 -1.8**
comp=Z,9.1nm,0.9s,baz=8.0,slow=6.1,SNR=5.1
ULM LR LR 04 17 04.6
comp=Z,2µm,19.0s,baz=179,slow=40
CASY Casey 98.95 170 PFAKE 03 25 50.0 +14
CASY LR LR
comp=Z,1µm,19.0s
B14A Marquette Ranc 98.97 13 P **P 03 25 37.0 -0.4**
baz=99
A18A Metzger Ranch, 99.03 10 P **Pdif 03 25 36.8 -0.8**
baz=99
BLMT Blacktail Moun 99.10 14 *e*Pdif **Pdif 03 25 37.2 -0.9**
comp=Z,2.1nm,0.2s
B15A Bradely Ranch, 99.15 12 P **Pdif 03 25 37.3 -0.9**
baz=99
BSMT Bassoo Peak 99.16 14 *e*P **Pdif 03 25 39.3 +0.9**
A19A Klindworth Far 99.19 10 P **Pdif 03 25 37.6 -0.7**
baz=99
JTMT Jette 99.36 14 *e*P **Pdif 03 25 39.8 +0.6**
HAWA Hanford 99.43 18 PFAKE 03 25 50.0 +11
HAWA LR LR
comp=Z,1µm,21.0s
SHEL Horse Pasture 99.52 257 PFAKE 03 25 50.0 +10
SHEL LR LR
comp=Z,674nm,19.0s
B18A Beardsley Farm 99.55 11 P **Pdif 03 25 39.2 -0.8**
baz=99
B19A Brinkman Farms 99.62 10 P **Pdif 03 25 40.3 +0.1**
baz=99
SWMT Swartz Lake 99.65 14 *e*Pdif **Pdif 03 25 40.8 +0.4**
C15A Salmond Ranch, 99.66 13 P **Pdif 03 25 39.6 -1.0**
baz=99
C16A Fuhringer Ranc 99.80 12 P **Pdif 03 25 40.3 -0.8**
baz=100
EGMT Eagleton 99.92 11 PFAKE 03 25 50.0 +8.4
EGMT LR LR
comp=Z,2µm,19.0s
MAW Mawson 100.00 189 LR LR 04 05 34.4
comp=Z,704nm,18.6s,baz=16,slow=32
SLMT Seeley Lake 100.00 13 *e*Pdif **Pdif 03 25 41.9 -0.2**
B23A Brockton 100.12 7 P **Pdif 03 25 41.3 -1.1**
baz=100
DGMT Dagmar 100.20 7 *e*Pdif **Pdif 03 25 42.6 -0.2**
DGMT LR LR
comp=Z,2µm,19.0s
CHMT Chamberlain Mo 100.37 13 *e*Pdif **Pdif 03 25 46.1 +2.3**
MSVF Nonsavu 100.70 104 PFAKE 03 26 00.0 +15
MSVF LR LR
comp=Z,809nm,20.0s
HRY Holter Researc 100.83 12 *e*Pdif **Pdif 03 25 47.5 +1.8**
AGMN Agassiz Nation 100.88 1 *e*Pdif **Pdif 03 25 45.3 -0.5**
AGMN LR LR
comp=Z,930nm,21.0s
D19A Cripps Ranch, 100.89 10 P **Pdif 03 25 44.9 -1.0**
baz=101
EYMN Ely 101.21 358 *e*Pdif **Pdif 03 25 46.2 -1.1**
EYMN LR LR
comp=Z,2µm,19.0s
D22A Cohagen 101.28 8 P **Pdif 03 25 48.1 +0.4**
baz=101
BMO Blue Mountains 101.43 17 PFAKE 03 26 00.0 +12
BMO LR LR
comp=Z,2µm,20.0s
E19A Rath Farm, Rou 101.59 10 P **Pdif 03 25 49.3 +0.2**
baz=101
BOZ Bozeman (W) 101.89 13 *e*P **Pdif 03 25 50.9 +0.4**
BOZ pmax pmax
comp=Z,4.0nm,1.1s
BOZ MLR MLR
comp=Z,2µm,20.0s
BOZ Bozeman (W) 101.89 13 *e*Pdif **Pdif 03 25 50.9 +0.4**
comp=Z,4.5nm,1.1s
BOZ LR LR
comp=Z,2µm,20.0s
F18A Big Timber 101.98 11 P **Pdif 03 25 51.1 +0.2**
baz=102
E22A Miles City 102.01 8 P **Pdif 03 25 51.0 +0.1**
baz=102
POHA Pohakuloa 102.25 58 PFAKE 03 26 00.0 +7.3
POHA LR LR
comp=Z,914nm,20.0s
LBNH Lisbon 102.28 344 PFAKE 03 26 00.0 +7.9
LBNH LR LR
comp=Z,2µm,22.0s
MCMT McKenzie Canyo 102.45 14 *e*Pdif **Pdif 03 25 52.7 -0.4**
comp=Z,1.3nm,0.9s
MCMT *e*PP **PP 03 30 01.1 -3.6**
LONY Lake Ozonia 102.51 346 PFAKE 03 26 00.0 +6.9
LONY LR LR
comp=Z,2µm,21.0s
RLMT Red Lodge 102.82 11 PFAKE 03 26 10.0 +15
RLMT LR LR
comp=Z,1µm,21.0s
ASCN Ascension 102.87 268 PFAKE 03 26 10.0 +15
ASCN LR LR
comp=Z,219nm,22.0s
COWI Conover 102.97 357 PFAKE 03 26 10.0 +15
COWI LR LR
comp=Z,2µm,19.0s
NCB Newcomb 103.06 345 PFAKE 03 26 10.0 +14
NCB LR LR
comp=Z,2µm,21.0s
MFID Camas Ranch 103.14 16 *e*Pdif **Pdif 03 25 55.2 -0.8**
comp=Z,4.0nm,0.9s
LKWY Lake 103.16 12 PFAKE 03 26 10.0 +14
LKWY LR LR
comp=Z,2µm,20.0s
HLID Hailey 103.32 15 PFAKE 03 26 10.0 +13
HLID LR LR
comp=Z,2µm,20.0s
IMW Indian Meadow 103.71 12 *e*Pdif **Pdif 03 26 00.1 +1.2**
GLMI Grayling 103.88 353 PFAKE 03 26 10.0 +11
GLMI LR LR
comp=Z,2µm,20.0s
MOOW Moose Ponds 103.89 12 *e*Pdif **Pdif 03 26 00.1 +0.6**
LOHW Long Hollow 104.05 12 *e*Pdif **Pdif 03 26 00.6 +0.3**
TPAW Teton Pass 104.10 13 *e*Pdif **Pdif 03 26 00.6 0.0**
RSSD Black Hills 104.52 7 *e*P **Pdif 03 26 03.1 +0.8**
RSSD Black Hills 104.52 7 *e*Pdif **Pdif 03 26 03.1 +0.8**
AHID Auburn Hatcher 104.78 13 PFAKE 03 26 10.0 +6.5
AHID LR LR
comp=Z,1µm,20.0s
BW06 Boulder Array 105.06 12 PFAKE 03 30 30.0
BW06 LR LR
comp=Z,2µm,20.0s
PDAR Pinedale Array 105.06 12 Pdif **Pdif 03 26 05.3 +0.5**
PDAR PKiKP **PKiKP 03 30 19.0 -0.3**
PDAR PKKPbc **PKKPbc 03 41 47.7 +1.2**
PDAR Pinedale Array 105.06 12 Pdif **Pdif 03 26 05.3 +0.5**
comp=Z,0.2nm,0.7s,baz=297,slow=0.2,SNR=2.2
PDAR PKiKP **PKiKP 03 30 19.0 -0.3**
comp=Z,1.7nm,0.9s,baz=111,slow=1.4,SNR=6.8
PDAR PKKPbc **PKKPbc 03 41 47.7 +1.2**
comp=Z,0.6nm,0.6s,baz=167,slow=4.3,SNR=4.4
ECSD EROS Data Cent 105.42 2 *e*Pdif **Pdif 03 26 04.9 -1.2**
ECSD LR LR
comp=Z,1µm,20.0s
BMN Battle Mountai 105.59 18 PFAKE 03 30 30.0
BMN LR LR
comp=Z,1µm,22.0s
HWUT Hardware Ranch 105.80 14 *e*Pdif **Pdif 03 26 08.9 +0.9**
comp=Z,4.3nm,0.9s
HWUT LR LR
comp=Z,1µm,20.0s
DUG Dugway 106.89 15 PFAKE 03 30 30.0
DUG LR LR
comp=Z,1µm,21.0s
PHWY Pilot Hill 107.12 9 *e*Pdif **Pdif 03 26 14.6 +0.5**
NVAR Mina Array Bea 107.16 20 Pdif **Pdif 03 26 20.1 +6.0**
NVAR PKiKP **PKiKP 03 30 23.3 0.0**
NVAR PKKPab **PKKPab 03 41 57.2 -0.7**
NVAR Mina Array Bea 107.16 20 Pdiff **Pdif 03 26 20.1 +6.0**
comp=Z,0.4nm,0.8s,baz=331,slow=3.3,SNR=3.2
NVAR PKiKP **PKiKP 03 30 23.3 0.0**
comp=Z,1.0nm,1.0s,baz=264,slow=1.8,SNR=3.3
NVAR PKKPab **PKKPab 03 41 57.2 -0.7**
comp=Z,0.6nm,0.8s,baz=145,slow=5.4,SNR=4.1
SCIA State Center 107.28 359 PFAKE 03 30 30.0
SCIA LR LR
comp=Z,2µm,19.0s
OGNE Ogallala 107.87 6 PFAKE 03 30 40.0
OGNE LR LR
comp=Z,2µm,19.0s
HDIL Hopedale 108.50 356 PFAKE 03 30 40.0
HDIL LR LR
comp=Z,2µm,20.0s
ISCO Idaho Springs 108.58 9 PFAKE 03 30 40.0
ISCO LR LR
comp=Z,2µm,20.0s
MVU Marysvale 108.64 15 PFAKE 03 30 40.0
MVU LR LR
comp=Z,954nm,20.0s
CBN Corbin 109.25 346 PFAKE 03 30 40.0
CBN LR LR
comp=Z,2µm,20.0s
KSU1 Kansas State U 110.05 2 PFAKE 03 30 40.0
KSU1 LR LR
comp=Z,1µm,19.0s
SDCO Great Sand Dun 110.61 10 PFAKE 03 30 40.0
SDCO LR LR
comp=Z,1µm,21.0s
MVCO Mesa Verde 110.64 12 PFAKE 03 30 40.0
MVCO LR LR
comp=Z,1µm,20.0s
BLA Blacksburg 110.79 348 PFAKE 03 30 40.0
BLA LR LR
comp=Z,2µm,19.0s
BBSR BB Station 110.97 334 PFAKE 03 30 40.0
BBSR LR LR
comp=Z,690nm,19.0s
PFO Pinyon Flat Ob 112.18 20 PFAKE 03 30 40.0
PFO LR LR
comp=Z,1µm,21.0s
CNNC Cliffs of the 112.22 346 PFAKE 03 30 40.0
CNNC LR LR
comp=Z,2µm,19.0s
WVT Waverly 112.80 355 *e*PKIKP **PKiKP 03 30 33.0 -0.7**
WVT Waverly 112.80 355 *e*PKP **PKiKP 03 30 33.0 -0.7**
ANMO Albuquerque 113.20 11 PFAKE 03 30 50.0
ANMO LR LR
comp=Z,1µm,20.0s
X23A Hourglass Bar 113.61 11 P 03 30 35.3
baz=113
AMTX Amarillo 113.91 7 PFAKE 03 30 50.0
AMTX LR LR
comp=Z,1µm,20.0s
BNM Barren Site 113.95 11 *e*PKP **PKiKP 03 30 36.0 -0.3**
X31A McDonald Ranch 114.31 5 P PKPdf 03 30 37.0 +0.3
baz=114
OXF Oxford 114.52 356 PFAKE 03 30 50.0 +13
OXF LR LR
comp=Z,2µm,20.0s
Z21A St. Cloud Mine 114.59 13 P PKPdf 03 30 38.1 +0.6
baz=114
MIAR Mount Ida 114.63 360 *e*PKIKP PKPdf 03 30 37.5 +0.2
MIAR MLR MLR
comp=Z,3µm,19.0s
MIAR Mount Ida 114.63 360 *e*PKP PKPdf 03 30 37.5 +0.2
MIAR LR LR
comp=Z,3µm,19.0s
Z24A Sheeppen Canyo 114.96 10 P PKPdf 03 30 38.5 +0.3
baz=115
Z25A Roswell 115.11 10 P **PKPdf 03 30 39.3 +0.9**
baz=115
120A U Bar Ranch, L 115.14 14 P **PKPdf 03 30 38.6 +0.1**
baz=115
121A Cookes Peak, D 115.32 13 P **PKPdf 03 30 39.6 +0.7**
baz=115
124A Stringfield Ra 115.56 11 P **PKPdf 03 30 38.6 -0.9**
baz=115
Z32A Haskell 115.67 5 P **PKPdf 03 30 38.6 -0.8**
baz=115
125A Gardner Draw, 115.73 10 P **PKPdf 03 30 39.2 -0.4**
baz=115
LRAL Lakeview Retre 115.80 353 PFAKE 03 30 50.0 +10
LRAL LR LR
comp=Z,1µm,19.0s
226B Tecolote Peak, 116.37 10 P **PKPdf 03 30 39.9 -1.0**
baz=116
MNTX Cornudas Mount 116.56 11 *e*PKPdf **PKPdf 03 30 40.6 -0.5**
MNTX LR LR
comp=Z,1µm,20.0s
324A Moseley Ranch, 116.79 11 P **PKPdf 03 30 40.9 -0.8**
baz=116
VBMS Vicksburg 116.87 357 PFAKE 03 30 50.0 +8.4
VBMS LR LR
comp=Z,1µm,20.0s
230A Sterling City 116.93 7 P **PKPdf 03 30 41.2 -0.6**
baz=117
VNDA Vanda 117.21 166 *e*PKPdf **PKPdf 03 30 40.1 -0.7**
VNDA PKKPbc **PKKPab 03 41 05.3 -1.2**
VNDA Vanda 117.21 166 PKP **PKPdf 03 30 39.6 -1.2**
comp=Z,2.2nm,1.0s,baz=264,slow=5.5,SNR=5.0
VNDA PKKPbc **PKKPab 03 41 05.3 -1.2**
comp=Z,1.1nm,0.8s,baz=87,slow=3.4,SNR=6.6
328A Wristen Ranch, 117.24 8 P **PKPdf 03 30 41.8 -0.7**
baz=117
330A Mertzon 117.40 7 P **PKPdf 03 30 41.8 -1.0**
baz=117
425A Indio Mountain 117.51 11 P **PKPdf 03 30 42.6 -0.5**
baz=117
332A Millersview 117.55 6 P **PKPdf 03 30 42.4 -0.7**
baz=117
331A San Angelo 117.57 6 P **PKPdf 03 30 42.7 -0.4**
baz=117
427A Hayter Ranch, 117.68 9 P **PKPdf 03 30 42.9 -0.5**
baz=117
426A McDonald Obser 117.77 10 P **PKPdf 03 30 43.0 -0.8**
baz=118
BRAL Brewton 117.81 353 PFAKE 03 30 50.0 +6.5
BRAL LR LR
comp=Z,2µm,20.0s
428A Kincaid Ranch, 117.90 8 P **PKPdf 03 30 43.3 -0.5**
baz=118
430A Baggett Ranch, 118.01 7 P **PKPdf 03 30 43.4 -0.6**
baz=118
429A Davenport Ranc 118.09 8 P **PKPdf 03 30 42.8 -1.4**
baz=118
431A Sonora 118.17 6 P **PKPdf 03 30 43.2 -1.1**
baz=118
SBA Scott Base 118.31 166 PFAKE 03 30 50.0 +7.1
SBA LR LR
comp=Z,711nm,19.0s
526A Mary Lane Ranc 118.36 10 P **PKPdf 03 30 43.8 -1.0**
baz=118
528A Cox Ranch, San 118.44 9 P **PKPdf 03 30 44.6 -0.3**
baz=118
JCT Junction City 118.45 6 *e*PKIKP **PKPdf 03 30 44.0 -0.8**
JCT MLR MLR
comp=Z,2µm,19.0s
JCT Junction City 118.45 6 *e*PKPdf **PKPdf 03 30 44.0 -0.8**
JCT LR LR
comp=Z,2µm,19.0s
JCT Junction City 118.45 6 P **PKPdf 03 30 44.2 -0.6**
baz=118
529A Stev Forest Ra 118.55 8 P **PKPdf 03 30 44.6 -0.4**
baz=118

530A	**J-C Ranch, Com**	**118.63**	**7**	P		**PKPdf**	**03 30 45.0**	**-0.2**
	baz=118							
531A	**Rocksprings**	**118.69**	**6**	P		**PKPdf**	**03 30 44.6**	**-0.7**
	baz=118							
532A	**Rocksprings**	**118.79**	**6**	P		**PKPdf**	**03 30 44.7**	**-0.8**
	baz=118							
626A	**Big Bend Ranch**	**118.85**	**10**	P		**PKPdf**	**03 30 45.0**	**-0.7**
	baz=118							
SNAA	**Sanae**	**118.87**	**201**	*e*P		**PKPdf**	**03 30 43.9**	**-0.3**
SNAA	**Sanae**	**118.87**	**201**	*e*western		**PKiKP**	**03 30 47.1**	**+2.8**
SNAA	**Sanae**	**118.87**	**201**	*e*PP		PP	03 32 02.7	-0.9
SNAA	**Sanae**	**118.87**	**201**	*e*PKPdf		**PKPdf**	**03 30 43.4**	**-0.9**
627A	**Terlingua Ranc**	**119.06**	**9**	P		**PKPdf**	**03 30 45.3**	**-0.8**
	baz=119							
628A	**Black Gap, Mar**	**119.09**	**9**	P		**PKPdf**	**03 30 45.6**	**-0.4**
	baz=119							
632A	**Uvalde**	**119.41**	**6**	P		**PKPdf**	**03 30 46.2**	**-0.5**
	baz=119							
631A	**Perdido Creek**	**119.43**	**7**	P		**PKPdf**	**03 30 45.6**	**-1.1**
	baz=119							
RCBR	**Riachuelo**	**120.14**	**282**	PFAKE			03 31 00.0	+12
RCBR				LR	LR			
	comp=Z,1µm,22.0s							
732A	**Laxson Ranch,**	**120.17**	**6**	P		**PKPdf**	**03 30 47.3**	**-0.8**
	baz=120							
VNA1	**Neumayer--Stat**	**120.44**	**203**	*e*P		**PKPdf**	**03 30 47.5**	**+0.4**
VNA1	**Neumayer--Stat**	**120.44**	**203**	*e*western		**PKiKP**	**03 30 50.6**	**+3.4**
QSPA	**South Pole Qui**	**120.96**	**180**	*e*PKPdf		**PKPdf**	**03 30 47.4**	**-1.0**
QSPA				LR	LR			
	comp=Z,1µm,22.0s							
KVTX	**Kingsville**	**121.50**	**4**	PFAKE			03 31 00.0	+9.4
KVTX				LR	LR			
	comp=Z,1µm,19.0s							
ANWB	**Willy Bob**	**122.40**	**323**	PFAKE			03 31 00.0	+7.4
ANWB				LR	LR			
	comp=Z,1µm,20.0s							
GRTK	**Grand Turk**	**123.20**	**334**	PFAKE			03 31 10.0	+16
GRTK				LR	LR			
	comp=Z,774nm,19.0s							
SJG	**San Juan**	**124.16**	**327**	PFAKE			03 31 10.0	+14
SJG				LR	LR			
	comp=Z,1µm,22.0s							
FDF	**Fort de France**	**124.49**	**320**	PFAKE			03 31 10.0	+13
FDF				LR	LR			
	comp=Z,1µm,22.0s							
BBGH	**Gun Hill**	**124.89**	**318**	PFAKE			03 31 10.0	+13
BBGH				LR	LR			
	comp=Z,2µm,22.0s							
SDDR	**Presa de Saban**	**125.56**	**333**	PFAKE			03 31 10.0	+11
SDDR				LR	LR			
	comp=Z,988nm,21.0s							
GTBY	**Guantanamo Bay**	**126.04**	**338**	PFAKE			03 31 10.0	+10
GTBY				LR	LR			
	comp=Z,845nm,19.0s							
GRGR	**Grenville**	**126.90**	**319**	PFAKE			03 31 10.0	+8.7
GRGR				LR	LR			
	comp=Z,772nm,21.0s							
PPT2	**Papeete2**	**128.12**	**89**	*e*LR	LR		04 11 24.0	
	comp=Z,805nm,22.5s							
MTDJ	**Mount Denham**	**128.39**	**340**	PFAKE			03 31 20.0	+16
MTDJ				LR	LR			
	comp=Z,791nm,20.0s							
TEIG	**Tepich**	**128.60**	**353**	*e*PKPdf		**PKPdf**	**03 31 04.4**	**0.0**
TBI	**Tubuai**	**130.54**	**95**	*e*LR	LR		04 12 33.9	
	comp=Z,802nm,27.2s							
SDV	**Santo Domingo**	**134.29**	**327**	*e*PKPdf		**PKPdf**	**03 31 11.5**	**-4.1**
SDV				*e*SKPbc		**SKPbc**	**03 34 44.4**	**-0.5**
TGUH	**Tegucigalpa,Un**	**134.57**	**351**	*e*PKPdf		**PKPdf**	**03 31 16.0**	**+0.2**
TGUH				*e*SKPbc		**SKPbc**	**03 34 43.8**	**-1.7**
BDFB	**Brasilia**	**135.35**	**279**	PKP		**PKPdf**	**03 31 18.0**	**+0.7**
BDFB	**Brasilia**	**135.35**	**279**	PKP		**PKPdf**	**03 31 18.0**	**+0.7**
	comp=Z,6.1nm,1.0s,baz=14,slow=4.9,SNR=3.8							
BCIP	**Isla Barro Col**	**137.65**	**339**	*e*PKPdf		**PKPdf**	**03 31 21.3**	**-0.2**
BCIP				LR	LR			
	comp=Z,518nm,21.0s							
ROSC	**El Rosal**	**139.53**	**329**	*e*PKPdf		**PKPdf**	**03 31 22.9**	**-2.7**
ROSC				*e*SKP			03 35 01.8	
ROSC	**El Rosal**	**139.53**	**329**	PKP		**PKPdf**	**03 31 22.7**	**-2.9**
	comp=Z,9.8nm,0.6s,baz=100,slow=11,SNR=5.1							
ROSC				SKPbc		**SKPbc**	**03 35 01.7**	**+0.9**
	comp=Z,23nm,1.0s,baz=70,slow=6.0,SNR=8.3							
PMSA	**Palmer Station**	**141.58**	**200**	PFAKE			03 31 40.0	+13
PMSA				LR	LR			
	comp=Z,713nm,21.0s							
RKT	**Rikitea**	**142.87**	**88**	*e*LR	LR		04 18 12.1	
	comp=Z,1µm,36.2s							
SAML	**Samuel**	**143.77**	**301**	*e*PKPdf		PKPab	03 31 29.1	-0.3
SAML				LR	LR			
	comp=Z,896nm,22.0s							
OTAV	**Otavalo**	**145.44**	**332**	*e*PKPbc		**PKPdf**	**03 31 36.1**	**0.0**
OTAV				LR	LR			
	comp=Z,935nm,20.0s							
SIV	**San Ignacio**	**146.38**	**289**	PKPbc		**PKPdf**	**03 31 37.4**	**+0.4**
SIV	**San Ignacio**	**146.38**	**289**	PKPbc		**PKPdf**	**03 31 37.4**	**+0.4**
	comp=Z,45nm,0.8s,baz=90,slow=5.0,SNR=85							
EFI	**East Falkland**	**146.61**	**222**	*e*PKP2		**PKPbc**	**03 31 37.6**	**-0.2**
EFI	**East Falkland**	**146.61**	**222**	*e*PKPbc		**PKPbc**	**03 31 37.6**	**-0.2**
PAYG	**Puerto Ayora**	**149.46**	**353**	*e*PKPbc		**PKPbc**	**03 31 46.3**	**-0.4**
PAYG				*e*PKPab		**PKPab**	**03 31 51.2**	**-0.2**
ATAH	**Atahualpa**	**151.97**	**325**	PKP		**PKPdf**	**03 31 47.4**	**+0.8**
ATAH				PKPbc		**PKPbc**	**03 31 52.1**	**-1.0**
ATAH	**Atahualpa**	**151.97**	**325**	PKP		**PKPdf**	**03 31 47.4**	**+0.8**
	comp=Z,14nm,1.1s,baz=90,slow=4.5,SNR=3.0							
ATAH				PKPbc		**PKPbc**	**03 31 52.1**	**-1.0**
	comp=Z,24nm,1.1s,baz=107,slow=3.3,SNR=9.8							
LPAZ	**La Paz**	**152.13**	**296**	*e*PKPdf		**PKPdf**	**03 31 45.0**	**-1.9**
LPAZ				*e*PKPbc		**PKPbc**	**03 31 52.2**	**-1.4**
LPAZ	**La Paz**	**152.13**	**296**	PKP		**PKPdf**	**03 31 47.3**	**+0.3**
	comp=Z,3.8nm,1.0s,baz=339,slow=5.0,SNR=8.4							
LPAZ				PKPbc		**PKPbc**	**03 31 52.7**	**-0.9**
	comp=Z,8.8nm,0.8s,baz=28,slow=6.4,SNR=17							
TRQA	**Tornquist**	**152.83**	**247**	*e*PKPbc		**PKPbc**	**03 31 53.8**	**-0.1**
TRQA				*e*PKPab		**PKPab**	**03 32 04.3**	**-0.6**
NNA	**Nana**	**155.16**	**316**	*e*PKPdf		**PKPdf**	**03 31 49.1**	**-1.6**
NNA				*e*PKPbc		PKPab	03 31 58.8	-16
NNA				*e*PKPab		PKPab	03 32 15.5	+0.3
NNA				LR	LR			
	comp=Z,1µm,22.0s							
NNA	**Nana**	**155.16**	**316**	PKPab		**PKPab**	**03 32 15.1**	**-0.2**
	comp=Z,29nm,0.8s,baz=357,slow=5.7,SNR=6.8							
LVC	**Limon Verde**	**156.07**	**285**	*e*PKPdf		**PKPdf**	**03 31 48.6**	**-3.3**
LVC				*e*PKPab		**PKPab**	**03 32 18.4**	**-1.0**
LVC				PP		**PP**	**03 36 00.1**	**+3.2**
LVC				LR	LR			
	comp=Z,747nm,20.0s							
LVC	**Limon Verde**	**156.07**	**285**	PKP		**PKPdf**	**03 31 55.0**	**+3.1**
	comp=Z,2.5nm,0.8s,baz=295,slow=7.7,SNR=3.4							
LVC				PKPab		**PKPab**	**03 32 18.7**	**-0.7**
	comp=Z,24nm,0.9s,baz=93,slow=3.9,SNR=9.8							
LVC				PP		**PP**	**03 36 00.1**	**+3.2**
	comp=Z,6.4nm,0.9s,baz=148,slow=4.3,SNR=3.1							
CFAA	**Coronel Fontan**	**157.98**	**262**	PKP		**PKPdf**	**03 31 54.3**	**+0.5**
CFAA				PP		PP	03 36 13.3	+5.9
CFAA	**Coronel Fontan**	**157.98**	**262**	PKP		**PKPdf**	**03 31 54.3**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=28,slow=2.5,SNR=1.6							
CFAA				PP		PP	03 36 13.3	+5.9
	comp=Z,0.6nm,1.0s,baz=313,slow=5.5,SNR=4.0							
PLCA	**Paso Flores**	**158.78**	**237**	PKP		**PKPdf**	**03 31 54.5**	**0.0**
PLCA				*e*PKPab		**PKPab**	**03 32 30.0**	**-0.3**
PLCA	**Paso Flores**	**158.78**	**237**	PKP		**PKPdf**	**03 31 54.5**	**0.0**
	comp=Z,1.7nm,0.8s,baz=146,slow=3.6,SNR=2.5							
PLCA				PKPab		**PKPab**	**03 32 29.9**	**-0.5**
	comp=Z,5.2nm,0.9s,baz=180,slow=1.0,SNR=5.2							
LCO	**Las Campanas**	**159.70**	**270**	*e*PKPdf		**PKPdf**	**03 31 54.6**	**-1.6**
LCO				*e*PKPab		**PKPab**	**03 32 33.5**	**-1.5**
LCO				LR	LR			
	comp=Z,1µm,20.0s							

*ISCJB **24** 03:27:40.0±0.5, 10°.70N±0°.04×62°.31W±0°.03, h89km±6km, Error ellipse: s-maj=6.9km s-min=4.1km az=158.5*
*FUNV **24** 03:27:43.4, 10°.64N×62°.32W, h73km, MW3.7*
*TRN **24** 03:27:43.3, 10°.84N×62°.14W, h81km, MD3.6*

ISC 24 03:27:40.0±1.3, 10°.72N±0°.05×62°.30W±0°.03, h93km±8km, n24, σ1§41/38, 3C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.10**	**135**	⇑*i*P	**Pn**	**03 27 53.6**	**+0.4**
GUIV				*e*S	**Sn**	**03 28 01.7**	**-1.2**
TCE	**Chacachacare**	**0.54**	**93**	*e*P	**Pn**	**03 27 56.3**	**+0.9**
TCE				*e*S	**Sn**	**03 28 06.4**	**-0.5**
GUNV	**Guanoco**	**0.84**	**229**	⇑*i*P	**Pn**	**03 27 59.8**	**+1.5**
GUNV				*e*S	**Sn**	**03 28 11.0**	**-0.9**
TRN	**Trinidad (W)**	**0.88**	**95**	*e*P	**Pn**	**03 27 59.7**	**+1.1**
TRN				*e*S	**Sn**	**03 28 11.8**	**-0.8**
CRUV	**Carupano**	**0.92**	**267**	⇑*i*P	**Pn**	**03 27 59.9**	**+0.9**
CRUV				*e*S	**Sn**	**03 28 12.0**	**-1.4**
TPP	**Pointe-a-Pierr**	**0.93**	**116**	*e*P	**Pn**	**03 28 00.2**	**+1.1**
TPP				*e*S	**Sn**	**03 28 14.3**	**+0.9**
TBH	**Brigand Hill**	**1.23**	**101**	*e*P	**Pn**	**03 28 04.7**	**+2.1**
TBH				*e*S	**Sn**	**03 28 18.3**	**-1.4**
GRW	**Mount Saint Ca**	**1.56**	**24**	*e*P	**Pn**	**03 28 07.6**	**+0.8**
TPR	**Prospect**	**1.56**	**73**	*e*P	**Pn**	**03 28 07.2**	**+0.5**
TPR				*e*S	**Sn**	**03 28 25.4**	**-1.6**
GRHS	**Sauteurs**	**1.63**	**23**	*e*P	**Pn**	**03 28 08.3**	**+0.8**
GRSS	**Sisters**	**1.71**	**23**	⇓*i*P	**Pn**	**03 28 09.9**	**+1.4**
TOSP	**Speyside**	**1.82**	**72**	*e*P	**Pn**	**03 28 10.9**	**+0.9**
TOSP				*e*S	**Sn**	**03 28 30.8**	**-2.1**
ORIV	**Oritupano**	**1.97**	**214**	*e*P	**Pn**	**03 28 12.9**	**+0.9**
PCRV	**Puerto La Cruz**	**2.36**	**257**	*e*P	**Pn**	**03 28 18.9**	**+1.7**
PCRV				*e*S	**Sn**	**03 28 44.3**	**-1.3**
RIOV	**Rio Grande**	**2.68**	**170**	*e*P	**Pn**	**03 28 22.8**	**+1.5**
RIOV				*e*S	**Sn**	**03 28 51.4**	**-1.7**
SVB	**Belmont**	**2.73**	**22**	*e*P	**Pn**	**03 28 22.8**	**+0.7**
SVB				*e*S	Sn	03 28 51.9	-2.5
PRGV	**PARIAGUAN**	**3.02**	**230**	*e*P	**Pn**	**03 28 27.2**	**+1.2**
PRGV				*e*S	**Sn**	**03 28 59.5**	**-1.9**
GURV	**El Guri**	**3.04**	**195**	*e*P	**Pn**	**03 28 28.0**	**+1.7**
MCLT	**Moule a Chique**	**3.25**	**24**	*e*P	**Pn**	**03 28 30.5**	**+1.5**
MCLT				*e*S	Sn	03 29 04.6	-2.3
CUPV	**Cœpira**	**3.50**	**259**	*e*P	**Pn**	**03 28 34.0**	**+1.6**
CUPV				*e*S	**Sn**	**03 29 11.4**	**-1.5**
BIRV	**Birongo**	**3.91**	**267**	*e*P	**Pn**	**03 28 40.3**	**+2.4**
MERV	**Las Mercedes**	**4.20**	**250**	*e*P	**Pn**	**03 28 43.3**	**+1.4**
MERV				*e*S	**Sn**	**03 29 27.8**	**-2.0**
LUEV	**Luepa**	**4.92**	**170**	*e*P	**Pn**	**03 28 51.7**	**0.0**
BAUV	**El Baul**	**5.93**	**253**	*e*P	**Pn**	**03 29 05.7**	**+0.3**
BAUV				*e*S	Sn	03 30 07.5	-4.4

TRN 24 03:33:31.3, 16°.02N×60°.92W, h32km, MD3.8, M2.6(FDF), 6C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MGG	**Marie-Galante**	**0.40**	**255**	⇓*i*P	Pn	03 33 41.8	+1.0
DWS	**Wesley**	**0.59**	**220**	*e*P	Pn	03 33 49.9	+6.6
DWS				*e*S	Sn	03 33 54.8	+3.0
DVCT	**Vielle Casse P**	**0.62**	**229**	*e*P	Pn	03 33 47.0	+3.2
DVCT				*e*S	Sn	03 33 56.3	+3.7
DOG	**Dongo Capester**	**0.67**	**271**	*e*P	Pb	03 33 46.0	+1.2
BCG	**Bois Riant Cap**	**0.68**	**276**	⇑*i*P	Pb	03 33 45.9	+1.0
SEG	**Port Louis**	**0.68**	**304**	⇑*e*P	Pb	03 33 45.4	+0.5
PHG	**Guadaloupe-2**	**0.70**	**270**	*e*P	Pb	03 33 46.3	+1.0
TBG	**Guadaloupe-3**	**0.72**	**257**	*e*P	Pb	03 33 46.1	+0.7
SCG	**Saint Claude**	**0.73**	**271**	⇑*i*P	Pb	03 33 46.8	+1.0
SCG				⇑*e*S	Sn	03 33 57.6	+2.0
HMG	**Houelmont**	**0.75**	**267**	*e*P	Pb	03 33 46.9	+0.8
HMG				*e*S	Sb	03 33 57.6	+1.5
LZG	**Guadaloupe-1**	**0.83**	**278**	*e*P	Pb	03 33 47.9	+0.5
FDF	**Fort de France**	**1.30**	**190**	⇑*e*P	Pn	03 33 53.9	+0.6
FDF				⇑*e*S	Sn	03 34 09.8	+0.2
MVM	**Montagne Vaucl**	**1.46**	**179**	*e*P	Pb	03 33 56.8	-1.1
MVM				*e*S	Sb	03 34 15.3	-0.8
SKI	**Saint Kitts**	**2.18**	**307**	*e*P	Pb	03 34 08.2	-1.9
SKI				*e*S	Sn	03 34 33.8	+2.5

IDC 24 03:57:35.1±1.9, 1°.80S×148°.35E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=117.5km s-min=26.3km az=121.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.64**	**216**	P	P	04 02 37.6	-0.4
	1.5nm,0.6s,baz=40,slow=10,SNR=8.0						
ASAR	**Alice Springs**	**25.85**	**212**	P	P	04 03 09.1	+0.5
	0.6nm,0.6s,baz=40,slow=7.7,SNR=8.9						
FITZ	**Fitzroy Crossi**	**27.55**	**233**	P	P	04 03 23.0	-0.9
	0.8nm,0.5s,baz=44,slow=9.8,SNR=5.6						
ILAR	**Eielson Array**	**81.11**	**23**	P	P	04 09 51.5	-0.5
	0.6nm,1.0s,baz=258,slow=4.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	**145.12**	**291**	PKPbc	PKPdf	04 17 15.5	-0.2
	0.6nm,1.0s,baz=52,slow=2.4,SNR=3.1						

IDC 24 04:01:00.0±1.2, 1°.81S×148°.12E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.7/18, mbtmp3.6/6, MS4.3/1, Ms1 4.3/1, ms1mx3.1/32, Error ellipse: s-maj=48.2km s-min=23.7km az=109.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.51**	**216**	P	P	04 06 01.3	-0.2
	1.5nm,0.6s,baz=40,slow=10,SNR=9.7						
ASAR	**Alice Springs**	**25.73**	**211**	P	P	04 06 32.5	+0.1
	0.6nm,0.5s,baz=40,slow=7.6,SNR=7.4						
DZM	**Mont Dzumac**	**26.89**	**140**	LR	LR	04 15 14.9	
	comp=Z,633nm,21.4s,baz=0.3,slow=32						
FITZ	**Fitzroy Crossi**	**27.37**	**232**	P	P	04 06 46.7	-0.6
	0.8nm,0.6s,baz=59,slow=8.9,SNR=5.1						
MKAR	**Makanchi Array**	**75.03**	**320**	P	P	04 12 44.2	+0.6
	0.3nm,0.7s,baz=100,slow=7.5,SNR=3.0						
VNDA	**Vanda**	**76.01**	**177**	P	P	04 12 48.9	+0.3
	0.5nm,0.6s,baz=352,slow=3.9,SNR=3.4						
ILAR	**Eielson Array**	**81.21**	**23**	P	P	04 13 16.9	-0.6
	0.1nm,0.3s,baz=235,slow=6.3,SNR=4.5						

IDC 24 04:09:52.3±2.2, 20°.01S×178°.13W, h529km±26km, mb3.3/11, mb1 3.5/13, mb1mx3.4/20, mbtmp3.3/13, Error ellipse: s-maj=19.4km s-min=13.7km az=121.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.59**	**46**	P	P	04 11 55.5	-0.1
	3.7nm,0.3s,baz=266,slow=15,SNR=3.6						
AFI				S	S	04 13 33.8	-2.9
	1.9nm,0.3s,baz=78,slow=20,SNR=3.4						
URZ	**Urewera**	**18.65**	**192**	P	P	04 13 36.0	-0.9
	1.5nm,0.3s,baz=7.8,slow=18,SNR=4.8						
STKA	**Stephens Creek**	**37.89**	**244**	P	P	04 16 24.3	0.0
	2.6nm,0.8s,baz=259,slow=9.0,SNR=4.5						
ASAR	**Alice Springs**	**44.51**	**256**	P	P	04 17 17.2	+0.2
	2.4nm,0.7s,baz=92,slow=7.8,SNR=24						
ASAR				pP	pP	04 18 52.7	-0.9
	0.2nm,0.5s,baz=88,slow=7.7,SNR=1.8						
WRA	**Warramunga Arr**	**44.55**	**262**	P	P	04 17 16.4	-0.8
	0.8nm,0.3s,baz=97,slow=7.8,SNR=14						
VNDA	**Vanda**	**58.38**	**185**	P	P	04 18 57.1	+0.8
	0.7nm,0.7s,baz=357,slow=8.6,SNR=7.8						
MJAR	**Matsushiro Arr**	**69.74**	**324**	P	P	04 20 08.7	-0.5
	1.1nm,0.5s,baz=163,slow=1.5,SNR=4.8						
ASAJ	**Asahikawa**	**73.24**	**332**	P	P	04 20 31.0	+1.6
	3.0nm,0.3s,baz=127,slow=20,SNR=4.5						
PETK	**Petropavlovsk-**	**75.77**	**345**	P	P	04 20 43.2	-0.2
	0.9nm,0.2s,baz=159,slow=8.6,SNR=7.8						
USRK	**Ussuriysk Arra**	**78.49**	**326**	P	P	04 20 59.0	+0.6
	1.6nm,0.7s,baz=113,slow=5.5,SNR=5.7						
NVAR	**Mina Array Bea**	**80.75**	**43**	P	P	04 21 11.3	+0.5
	0.9nm,0.8s,baz=221,slow=8.1,SNR=5.9						
ILAR	**Eielson Array**	**87.87**	**13**	P	P	04 21 43.7	-1.1
	0.9nm,0.6s,baz=215,slow=5.5,SNR=12						
PDAR	**Pinedale Array**	**88.69**	**43**	P	P	04 21 49.2	-0.3
	0.3nm,0.6s,baz=232,slow=1.0,SNR=3.7						
BRTR	**Keskin Array B**	**146.42**	**313**	PKPbc	PKPdf	04 28 33.1	+1.1
	0.4nm,0.5s,baz=174,slow=2.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**173.17**	**179**	PKPab	PKPab	04 30 31.7	-1.0
	0.4nm,0.8s,baz=175,slow=4.4,SNR=2.8						

*IDC **24** 04:09:45.4±1.2, 9°.63N×126°.62E, h0km, mb4.1/11, mb1 4.2/11, mb1mx3.9/26, mbtmp4.1/11, Error ellipse: s-maj=104.5km s-min=14.4km az=71.0*
*ISCJB **24** 04:09:54.7±1.2, 9°.50N±0°.05×126°.4E±0°.1, h86km±10km, mb4.0/11, Error ellipse: s-maj=17.6km s-min=7.2km az=169.1*
*MAN **24** 04:09:56, 6°.38N×124°.70E, h25km, mb4.2, ML3.0, MS2.8*
*AUST **24** 04:10:28.5±7.1, 7°.28N×125°.72E, h238km, Error ellipse: s-maj=6.1km s-min=2.5km az=322.0*

ISC 24 04:09:54.5±1.9, 9°.52N±0°.06×126°.5E±0°.1, h65km±16km, n32, σ1§33/33, mb4.3/11, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.04**	**238**	*e*P	**Pn**	**04 10 12.7**	**-0.6**
BUTP				*e*S	**Sn**	**04 10 26.6**	**-0.6**
CGP	**Cagayan de Oro**	**2.08**	**240**	⇑*i*P	**Pn**	**04 10 26.6**	**-0.6**
CGP				*i* S	**Sn**	**04 10 50.4**	**-1.8**
BUKP	**Musuan**	**2.17**	**221**	*e*P	**Pn**	**04 10 30.5**	**+2.0**
PLP	**Palo**	**2.22**	**317**	⇑*e*P	**Pn**	**04 10 28.8**	**-0.2**
PLP				*i* S	**Sn**	**04 10 55.5**	**+0.1**
DAV	**Davao City (W)**	**2.61**	**201**	Lg	Lg	04 11 10.1	
	71nm,0.3s,baz=132,slow=15,SNR=3.9						
TBP	**Tagbilaran**	**2.62**	**274**	*e*P	**Pn**	**04 10 34.8**	**+0.4**
LLP	**Lapu-Lapu**	**2.63**	**288**	*e*P	Pn	04 10 39.1	+4.5
LLP				*e*S	**Sn**	**04 11 09.2**	**+3.8**
DCPH	**Dipolog City**	**3.26**	**254**	⇑*e*P	**Pn**	**04 10 43.4**	**+0.2**
DCPH				*e*S	**Sn**	**04 11 19.3**	**-1.5**
PAGZ	**Pagadian**	**3.51**	**242**	*e*P	**Pn**	**04 10 47.6**	**+0.9**
GUIM	**Jordan**	**4.01**	**286**	*e*P	**Pn**	**04 10 53.3**	**-0.2**
RCP	**Roxas**	**4.22**	**299**	⇓*e*P	**Pn**	**04 10 57.5**	**+1.2**
KALP	**Kalibo**	**4.63**	**298**	*e*P	Pn	04 11 05.6	+3.7
LUWI	**Luwuk**	**11.14**	**200**	P	**Pn**	**04 12 31.3**	**+0.3**
	baz=8.8,SNR=4.3						
MTN	**Manton Dam**	**22.69**	**168**	P	**P**	**04 14 50.9**	**+0.1**
	baz=21,SNR=4.7						
MTN				S	S	04 18 10.0	-45
	baz=21,SNR=3.3						
KNRA	**Kununurra**	**25.14**	**175**	P	**P**	**04 15 17.3**	**+3.6**
	baz=23,SNR=3.7						
FITZ	**Fitzroy Crossi**	**27.46**	**182**	P	**P**	**04 15 34.6**	**+0.1**
	6.6nm,0.7s,baz=11,slow=9.9,SNR=19						
FITZ	**Fitzroy Crossi**	**27.46**	**182**	P	**P**	**04 15 34.7**	**+0.1**
	baz=25,SNR=10						
WRA	**Warramunga Arr**	**30.28**	**165**	P	**P**	**04 15 58.4**	**-1.2**
	0.4nm,0.4s,baz=346,slow=9.1,SNR=4.4						
ASAR	**Alice Springs**	**33.77**	**168**	P	**P**	**04 16 29.7**	**-0.5**
	0.4nm,0.8s,baz=342,slow=7.4,SNR=7.5						
MEEK	**Meekatharra**	**36.76**	**192**	P	**P**	**04 16 56.4**	**+0.5**
	baz=35,SNR=3.3						
FORT	**Forrest**	**40.10**	**178**	P	**P**	**04 17 24.6**	**+0.8**
	baz=38,SNR=12						
KLBR	**Kellerberrin**	**41.73**	**191**	P	P	04 17 33.6	-3.6
	baz=40,SNR=6.1						
SONM	**Songino Array**	**41.80**	**340**	P	**P**	**04 17 37.4**	**-0.4**
	0.6nm,0.5s,baz=159,slow=9.6,SNR=4.3						
BBOO	**Buckleboo**	**43.07**	**168**	P	**P**	**04 17 48.8**	**+0.7**
	baz=41,SNR=8.5						
STKA	**Stephens Creek**	**43.62**	**161**	P	**P**	**04 17 52.4**	**-0.2**
	0.9nm,0.4s,baz=344,slow=7.4,SNR=3.4						
MKAR	**Makanchi Array**	**52.76**	**323**	P	**P**	**04 19 02.0**	**-0.9**
	2.9nm,0.7s,baz=127,slow=7.7,SNR=28						
ZALV	**Zalesovo Beam**	**55.39**	**331**	P	**P**	**04 19 20.2**	**-1.7**
	0.8nm,0.5s,baz=117,slow=7.7,SNR=3.8						
KURBB	**Kurchatov Arra**	**56.82**	**326**	P	**P**	**04 19 31.1**	**-1.0**
	2.4nm,0.7s,baz=127,slow=6.7,SNR=26						
BVAR	**Borovoye Array**	**62.41**	**326**	P	**P**	**04 20 09.9**	**-0.7**
	1.9nm,0.7s,baz=124,slow=9.2,SNR=9.0						
ARCES	**ARCESS Array B**	**84.97**	**340**	P	**P**	**04 22 22.2**	**-0.2**
	2.0nm,0.7s,baz=80,slow=6.1,SNR=14						
FINES	**FINESS Array B**	**86.66**	**332**	P	**P**	**04 22 29.9**	**-0.9**
	0.9nm,0.4s,baz=80,slow=5.2,SNR=11						
TORD	**Torodi Ar. Bea**	**120.76**	**291**	PKP	**PKPdf**	**04 28 41.6**	**+1.4**
	0.4nm,0.9s,baz=92,slow=3.1,SNR=2.7						

**IDC 24 04:16:26.7±0.9, 31°.92N×96°.26E, h0km, mb3.7/10, mb1 3.8/12, mb1mx3.6/29, mbtmp3.7/12, ML3.3/2, MS4.0/1, Ms1 4.0/1, ms1mx2.8/40, Error ellipse: s

WEL 24 05:32:12.7±0.1, 40°.74S×174°.47E, h76km±1km, ML3.5/15, 4C, Error ellipse: s-maj=1.1km s-min=0.9km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIW	**Kapiti Island**	**0.35**	**110**	⇑PN	Pn	05 32 24.8	-0.2
KIW				SN	Sn	05 32 33.2	-0.7
KIW				AML	AML	05 32 34.7	
DUWZ	**D'Urville Isla**	**0.42**	**262**	PN	Pn	05 32 24.5	-0.9
TCW	**Tory Channel**	**0.49**	**197**	⇑PN	Pn	05 32 25.8	-0.2
TCW				SN	Sn	05 32 35.3	-0.6
TCW				AML	AML	05 32 36.2	
OGWZ	**Otaki Gorge**	**0.54**	**98**	PN	Pn	05 32 26.4	0.0
OGWZ				SN	Sn	05 32 36.1	-0.4
CAW	**Cannon Point**	**0.58**	**129**	⇑PN	Pn	05 32 26.7	-0.2
CAW				SN	Sn	05 32 37.4	+0.1
CAW				AML	AML	05 32 39.3	
WEL	**Wellington**	**0.59**	**157**	PN	Pn	05 32 26.7	-0.2
SNZO	**South Karori**	**0.59**	**163**	PN	Pn	05 32 26.7	-0.2
SNZO				AML	AML	05 32 38.4	
SNZO				AML	AML	05 32 38.5	
SNZO				AML	AML	05 32 38.5	
SNZO				AML	AML	05 32 38.7	
BHW	**Baring Head**	**0.73**	**156**	PN	Pn	05 32 28.1	-0.2
BHW				AML	AML	05 32 39.8	
BHW				AML	AML	05 32 39.9	
TUWZ	**Tuamarina**	**0.79**	**210**	⇑PN	Pn	05 32 28.8	-0.3
TUWZ				AML	AML	05 32 41.1	
TUWZ				AML	AML	05 32 41.2	
HOWZ	**Holdsworth Sta**	**0.81**	**101**	PN	Pn	05 32 28.9	-0.4
MRZ	**Mangatainoka R**	**0.85**	**85**	PN	Pn	05 32 29.2	-0.6
MRZ				AML	AML	05 32 42.4	
MRZ				AML	AML	05 32 43.3	
MTW	**Mount Morrison**	**0.89**	**118**	PN	Pn	05 32 29.8	-0.4
MTW				AML	AML	05 32 43.7	
MTW				AML	AML	05 32 43.7	
MSWZ	**Moikau Station**	**0.89**	**139**	PN	Pn	05 32 30.1	-0.2
MSWZ				AML	AML	05 32 44.2	
MSWZ				AML	AML	05 32 44.2	
NNZ	**Nelson**	**0.95**	**240**	PN	Pn	05 32 29.9	-1.0
PAWZ	**Paruwai Farm**	**0.96**	**132**	PN	Pn	05 32 30.9	-0.2
PAWZ				AML	AML	05 32 45.3	
PAWZ				AML	AML	05 32 47.0	
PLWZ	**Palliser**	**1.02**	**145**	PN	Pn	05 32 31.4	-0.4
POWZ	**Post Office Ro**	**1.05**	**71**	PN	Pn	05 32 31.4	-0.7
WAZ	**Wanganui**	**1.06**	**22**	PN	Pn	05 32 32.5	+0.2
BSWZ	**Blackbirch Sta**	**1.07**	**205**	PN	Pn	05 32 32.0	-0.4
BSWZ				AML	AML	05 32 49.4	
BSWZ				AML	AML	05 32 52.5	
TIWZ	**Tintock**	**1.08**	**92**	PN	Pn	05 32 31.9	-0.6
TRWZ	**Traveller**	**1.13**	**126**	PN	Pn	05 32 32.8	-0.3
TRWZ				AML	AML	05 32 48.9	
TRWZ				AML	AML	05 32 49.7	
TMWZ	**Te Maipa**	**1.14**	**109**	PN	Pn	05 32 32.9	-0.3
PRWZ	**Pori Road**	**1.16**	**81**	PN	Pn	05 32 33.1	-0.4
TSZ	**Takapari Road**	**1.33**	**60**	PN	Pn	05 32 34.0	-0.8
TSZ				AML	AML	05 32 58.1	
BFZ	**Birch Farm**	**1.35**	**88**	PN	Pn	05 32 35.2	-0.8
BFZ				AML	AML	05 32 53.5	
BFZ				AML	AML	05 32 53.5	
BFZ				AML	AML	05 32 54.2	
BFZ				AML	AML	05 32 54.2	
DVHZ	**Dannevirke**	**1.37**	**72**	PN	Pn	05 32 35.1	-1.1
NMEZ	**Namu Road**	**1.41**	**341**	*e*PN	Pn	05 32 36.6	-0.1
DFE	**Dawson Falls**	**1.44**	**349**	PN	Pn	05 32 37.4	+0.1
RAEZ	**Rainy Point**	**1.46**	**358**	PN	Pn	05 32 38.0	+0.7
KHEZ	**Kahui Hut**	**1.49**	**346**	PN	Pn	05 32 37.7	-0.2
ANWZ	**Angora Road**	**1.55**	**80**	PN	Pn	05 32 37.5	-1.1
THZ	**Tophouse**	**1.56**	**229**	PN	Pn	05 32 38.2	-0.6
PNHZ	**Pukenui**	**1.56**	**58**	PN	Pn	05 32 37.5	-1.3
PKE	**Pukeiti**	**1.59**	**346**	PN	Pn	05 32 39.0	-0.1
VRZ	**Vera Road**	**1.63**	**8**	PN	Pn	05 32 39.7	+0.1
MOVZ	**Moawhango**	**1.66**	**37**	PN	Pn	05 32 39.4	-0.7
WNWZ	**Wahianoa**	**1.66**	**32**	PN	Pn	05 32 39.6	-0.6
BHHZ	**Black Hill Sta**	**1.75**	**45**	PN	Pn	05 32 40.4	-0.9
KHZ	**Kahutara**	**1.81**	**202**	PN	Pn	05 32 41.3	-0.7
OTVZ	**Oturere**	**1.82**	**31**	PN	Pn	05 32 42.5	+0.1
TWVZ	**Taurewa**	**1.83**	**24**	PN	Pn	05 32 42.0	-0.4
WTVZ	**West Tongariro**	**1.84**	**28**	PN	Pn	05 32 43.1	+0.6
KRVZ	**Karewarewa**	**1.88**	**29**	PN	Pn	05 32 43.2	+0.2
BKZ	**Black Stump Fm**	**2.21**	**45**	AML	AML	05 33 58.8	
DSZ	**Denniston Nort**	**2.25**	**243**	PN	Pn	05 32 46.5	-1.4
HIZ	**Hauiti**	**2.25**	**8**	PN	Pn	05 32 47.7	-0.2
OXZ	**Oxford**	**3.15**	**214**	PN	Pn	05 32 57.2	-2.8
MQZ	**McQueen's Vall**	**3.25**	**204**	PN	Pn	05 32 59.3	-2.1
WVZ	**Waitaha Valley**	**3.63**	**229**	PN	Pn	05 33 06.1	-0.5
MKAZ	**Moumakai**	**3.67**	**9**	PN	Pn	05 33 06.9	-0.2

WEL 24 05:35:00.2±0.3, 45°.79S×165°.77E, h33km, ML3.2/8, Error ellipse: s-maj=2.7km s-min=1.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**1.02**	**73**	P*	Pn	05 35 17.5	-0.5
DCZ				S*	Sn	05 35 30.0	-1.2
DCZ				AML	AML	05 35 30.4	
DCZ	**Deep Cove**	**1.02**	**73**	PN	Pn	05 35 17.6	-0.5
DCZ				AML	AML	05 35 30.4	
DCZ				AML	AML	05 35 33.1	
DCZ				AML	AML	05 35 42.2	
WHZ	**Wether Hill Ro**	**1.52**	**95**	PN	Pn	05 35 26.2	+1.2
WHZ				SN	Sb	05 35 47.4	+0.6
WHZ	**Wether Hill Ro**	**1.52**	**95**	PN	Pn	05 35 26.2	+1.2
WHZ				SN	Sb	05 35 47.4	+0.6
MLZ	**Mavora Lakes**	**1.74**	**76**	PN	Pn	05 35 28.9	+0.8
MLZ				SN	Sb	05 35 51.7	-1.4
MLZ	**Mavora Lakes**	**1.74**	**76**	PN	Pn	05 35 28.9	+0.8
MLZ				SN	Sb	05 35 51.7	-1.4
APZ	**The Paps**	**1.86**	**125**	PN	Pn	05 35 30.4	+0.6
APZ	**The Paps**	**1.86**	**125**	PN	Pn	05 35 30.4	+0.6
SYZ	**Scrubby Hill**	**2.46**	**109**	PN	Pn	05 35 39.2	+1.3
SYZ				SN	Sn	05 36 09.0	+2.3
WKZ	**Wanaka**	**2.48**	**68**	PN	Pn	05 35 41.1	+2.8
WKZ				SN	Sn	05 36 10.7	+3.2
EAZ	**Earnscleugh**	**2.55**	**79**	PN	Pn	05 35 41.1	+2.0
EAZ				SN	Sn	05 36 12.2	+3.2
TUZ	**Tuapeka**	**2.70**	**95**	PN	Pn	05 35 42.9	+1.7
JCZ	**Jackson Bay**	**2.73**	**52**	PN	Pn	05 35 43.4	+1.6
JCZ				SN	Sn	05 36 14.8	+1.2
JCZ				AML	AML	05 36 36.3	
LBZ	**Lake Benmore**	**3.42**	**67**	PN	Pn	05 35 52.5	+1.3
ODZ	**Otahua Downs**	**3.51**	**80**	PN	Pn	05 35 53.0	+0.6

IDC 24 05:47:36.0±4.7, 6°.21S×147°.50E, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.7/18, mbtmp3.9/5, ML3.4/2, Error ellipse: s-maj=71.4km s-min=42.5km az=59.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.19**	**186**	Pn	Pn	05 48 29.3	+1.8
	3.7nm,0.3s,baz=30,slow=10,SNR=5.6						
PMG				Sn	Sn	05 49 06.7	+0.4
	26nm,0.3s,baz=342,slow=12,SNR=12						
WRA	**Warramunga Arr**	**18.70**	**222**	P	P	05 51 55.4	-0.7
	0.5nm,0.3s,baz=48,slow=11,SNR=26						
ASAR	**Alice Springs**	**21.73**	**216**	P	P	05 52 28.9	-0.2
	1.6nm,0.5s,baz=50,slow=9.1,SNR=41						
ASAR				S	S	05 56 27.4	-3.2
	0.4nm,0.9s,baz=33,slow=24,SNR=2.7						
FITZ	**Fitzroy Crossi**	**24.38**	**239**	P	P	05 52 56.1	0.0
	2.7nm,0.3s,baz=57,slow=8.2,SNR=38						
STKA	**Stephens Creek**	**26.13**	**191**	P	P	05 53 11.6	-0.2
	1.3nm,0.7s,baz=0.0,slow=10,SNR=2.8						

*SZGRF **24** 05:48:14.4, 36°.81N×36°.21E, h33km, mb4.4, Jordan - Syria region*
*NSSC **24** 05:48:17.0±1.2, 37°.53N×35°.47E, h22km±21km, MD2.0, ML4.2*
*BJI **24** 05:48:18.6, 37°.50N×35°.70E, h10km, mB4.7/10, mb4.7/25, Ms4.3/10, Ms7 4.1/10*
*DDA **24** 05:48:18.7, 37°.55N×35°.73E, h4km, ML4.5*
*IDC **24** 05:48:18.2±0.6, 37°.57N×35°.56E, h0km, mb4.1/25, mb1 4.2/30, mb1mx4.1/34, mbtmp4.1/30, ML4.4/3, MS3.8/21, Ms1 3.8/21, ms1mx3.7/37, Error ellipse: s-maj=13.9km s-min=11.5km az=154.0*
*MOS **24** 05:48:18.2±1.2, 37°.45N×35°.56E, h10km, mb4.3/28, Error ellipse: s-maj=7.3km s-min=3.7km az=107.6*
*NEIC **24** 05:48:19.0, 37°.55N×35°.69E, h6km, mb4.5/20, ML4.6(ISK), After ISK.*
*ISK **24** 05:48:19.4, 37°.56N×35°.69E, h7km, ML4.7*
*CSEM **24** 05:48:20.3±0.1, 37°.49N×35°.74E, h10km, mb4.2/7, Ms3.6, Mw4.1, Error ellipse: s-maj=2.6km s-min=2.1km az=74.0*
*THE **24** 05:48:22.5, 37°.21N×35°.89E, h20km±8km, ML4.8/2, Error ellipse: s-maj=11.4km s-min=1.0km az=73.0*
*TEH **24** 05:48:24.2, 37°.43N×36°.07E, h100km, ML4.5*
*NIC **24** 05:48:25.6±0.6, 37°.90N×34°.36E, h36km, mb4.6, ML4.3, MW4.1*
*AZER **24** 05:50:17.7, 37°.54N×35°.73E, h5km*

ISC 24 05:48:20.9±0.4, 37°.47N±0°.02×35°.71E±0°.01, h16km±2km, h15km:pP-P, n629, σ1°58/667, mb4.4/72, MS3.8/25, 34C-18D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.10**	**84**	PG	**Pg**	**05 48 23.6**	**-0.7**
KOZT				*e*SG	**Sg**	**05 48 25.6**	**-0.9**
KOZT	**Kozan**	**0.10**	**84**	*i* Pg	**Pg**	**05 48 23.6**	**-0.7**
KOZT				*e*Sg	**Sg**	**05 48 25.6**	**-0.9**
CEYT	**Ceyhan**	**0.46**	**176**	*e*PG	**Pg**	**05 48 30.4**	**+0.2**
CEYT				*e*SG	**Sb**	**05 48 39.0**	**+1.7**
CEYT	**Ceyhan**	**0.46**	**176**	*e*Pg	**Pg**	**05 48 30.4**	**+0.2**
KARA	**Karaisali**	**0.56**	**248**	*e*PG	**Pg**	**05 48 30.4**	**-1.6**
KARA				*e*SG	**Sg**	**05 48 39.4**	**0.0**
KARA	**Karaisali**	**0.56**	**248**	*e*Pg	**Pg**	**05 48 30.4**	**-1.6**
KARA				*e*Sg	**Sg**	**05 48 39.4**	**0.0**
YURE	**YUREGIR**	**0.65**	**185**	*i* P	**Pg**	**05 48 33.1**	**-0.5**
YURE				*i* S	**Sn**	**05 48 44.3**	**-1.1**
YURE	**YUREGIR**	**0.65**	**185**	*i* P	**Pg**	**05 48 33.1**	**-0.5**
YURE				*i* S	**Sn**	**05 48 44.3**	**-1.1**
GULE	**Gulek**	**0.76**	**256**	*i* P	**Pb**	**05 48 33.9**	**-2.0**
GULE				*i* S	**Sg**	**05 48 44.5**	**-1.4**
GULE	**Gulek**	**0.76**	**256**	*i* P	**Pb**	**05 48 33.9**	**-2.0**
GULE				*i* S	**Sg**	**05 48 44.5**	**-1.4**
AYKD	**Aykdinkavak**	**0.88**	**93**	*i* P	**Pb**	**05 48 35.9**	**-1.9**
AYKD				*i* S	**Sb**	**05 48 48.0**	**-1.4**
KRTS	**Karatas**	**0.94**	**197**	*e*PG	**Pb**	**05 48 38.6**	**-0.1**
KRTS	**Karatas**	**0.94**	**197**	*e*Pg	**Pb**	**05 48 38.6**	**-0.1**
KMRS	**Kahramanmaras**	**0.95**	**88**	*e*PG	**Pb**	**05 48 37.6**	**-1.5**
KMRS	**Kahramanmaras**	**0.95**	**88**	*e*Pg	**Pb**	**05 48 37.6**	**-1.5**
COBT	**Iskenderun**	**1.05**	**155**	*i* P	**Pb**	**05 48 39.1**	**-1.7**
COBT				*i* S	**Sb**	**05 48 51.0**	**-3.3**
COBT	**Iskenderun**	**1.05**	**155**	*i* P	**Pb**	**05 48 39.1**	**-1.7**
COBT				*i* S	**Sb**	**05 48 51.0**	**-3.3**
NIG	**Nigde**	**1.08**	**307**	*e*PG	**Pb**	**05 48 38.7**	**-2.7**
SARI	**SarD1z-Kayseri**	**1.09**	**31**	*e*PG	**Pb**	**05 48 39.8**	**-1.7**
DRWC	**Darouich**	**1.15**	**138**	*e*P	**Pn**	**05 48 41.3**	**-1.1**
DRWC				*e*S	**Sb**	**05 48 56.6**	**-0.4**
DRWC				AML	AML	05 49 04.5	
	comp=N,11μm,0.5s						
DRWC				AML	AML	05 49 07.7	
	comp=E,5μm,0.7s						
DRWC	**Darouich**	**1.15**	**138**	*e*P	**Pn**	**05 48 41.3**	**-1.1**
	SNR=92						
DRWC				*e*S	**Sb**	**05 48 56.7**	**-0.4**
	comp=E,5μm,0.7s,SNR=92						
KUZU	**Kuzuini**	**1.30**	**122**	*i* P	**Pn**	**05 48 43.9**	**-0.5**
KUZU				*i* S	**Sn**	**05 49 00.1**	**-1.4**
KUZU	**Kuzuini**	**1.30**	**122**	*i* P	**Pn**	**05 48 43.9**	**-0.5**
KUZU				*i* S	**Sn**	**05 49 00.1**	**-1.4**
PINB	**Pinarbasi**	**1.32**	**24**	*i* P	**Pn**	**05 48 42.4**	**-2.6**
PINB				*i* S	**Sn**	**05 49 02.2**	**-0.3**
PINB	**Pinarbasi**	**1.32**	**24**	*i* P	**Pn**	**05 48 42.4**	**-2.6**
PINB				*i* S	**Sn**	**05 49 02.2**	**-0.3**
BSTP	**Nigde**	**1.35**	**291**	*i* P	**Pn**	**05 48 44.3**	**-1.0**
BSTP				*i* S	**Sb**	**05 49 03.5**	**+0.4**
BNN	**Bunyan**	**1.38**	**5**	*e*PN	**Pn**	**05 48 43.9**	**-1.8**
BNN	**Bunyan**	**1.38**	**5**	*e*Pn	**Pn**	**05 48 43.9**	**-1.8**
AVNT	**Avonos**	**1.47**	**333**	*i* P	**Pn**	**05 48 45.5**	**-1.4**
AVNT				*i* S	**Sn**	**05 49 03.3**	**-2.6**
AVNT	**Avonos**	**1.47**	**333**	*i* P	**Pn**	**05 48 45.5**	**-1.4**
YAYL	**Yayladag**	**1.47**	**167**	*i* P	**Pn**	**05 48 45.8**	**-1.1**
YAYL				*i* S	**Sn**	**05 49 05.3**	**-0.5**
YAYL	**Yayladag**	**1.47**	**167**	*i* P	**Pn**	**05 48 45.8**	**-1.1**
YAYL				*i* S	**Sn**	**05 49 05.3**	**-0.5**
GZT	**Gaziantep**	**1.48**	**94**	*i* P	**Pn**	**05 48 45.7**	**-1.4**
GZT				*e*S	**Sn**	**05 49 04.9**	**-1.3**
BTCH	**Batrach**	**1.55**	**157**	*e*P	**Pn**	**05 48 45.4**	**-2.6**
BTCH				*e*S	**Sn**	**05 49 06.2**	**-1.7**
BTCH				AML	AML	05 49 14.5	
	comp=N,4μm,0.5s						
BTCH				AML	AML	05 49 19.8	
	comp=E,5μm,0.6s						
BTCH	**Batrach**	**1.55**	**157**	*e*P	**Pn**	**05 48 45.4**	**-2.6**
	SNR=57						
BTCH				*e*S	**Sn**	**05 49 06.2**	**-1.7**
	comp=E,5μm,0.6s,SNR=58						
KIZK	**Mersin**	**1.59**	**232**	*i* P	**Pn**	**05 48 48.9**	**+0.5**
KIZK				*i* S	**Sb**	**05 49 10.9**	**+1.0**
KIZK	**Mersin**	**1.59**	**232**	*i* P	**Pn**	**05 48 48.9**	**+0.5**
KIZK				*i* S	**Sb**	**05 49 10.9**	**+1.0**
ARNB	**Al Arnab**	**1.62**	**172**	*e*P	Pn	05 48 45.7	-3.2
ARNB				*e*S	**Sn**	**05 49 06.8**	**-2.8**
ARNB				AML	AML	05 49 16.4	
	comp=N,2μm,0.5s						
ARNB				AML	AML	05 49 20.0	
	comp=E,5μm,0.5s						
ARNB	**Al Arnab**	**1.62**	**172**	*e*P	Pn	05 48 45.7	-3.2
	SNR=57						
ARNB				*e*S	**Sn**	**05 49 06.8**	**-2.8**
	comp=E,5μm,0.5s,SNR=58						
DARE	**Darende-Malaty**	**1.78**	**51**	*e*PN	**Pn**	**05 48 50.7**	**-0.5**
SULT	**Sultanhani-AKS**	**1.88**	**293**	*e*PN	**Pn**	**05 48 52.5**	**0.0**
SULT	**Sultanhani-AKS**	**1.88**	**293**	*e*Pn	**Pn**	**05 48 52.5**	**0.0**
AKCD	**Akcadag**	**1.94**	**64**	*i* P	**Pn**	**05 48 52.6**	**-0.7**
AKCD				*i* S	**Sn**	**05 49 17.2**	**-0.2**
AKCD	**Akcadag**	**1.94**	**64**	*i* P	**Pn**	**05 48 52.6**	**-0.7**
AKCD				*i* S	**Sn**	**05 49 17.2**	**-0.2**
IKL	**Isikli**	**2.03**	**233**	*e*PN	**Pn**	**05 48 55.9**	**+1.4**
IKL	**Isikli**	**2.03**	**233**	*e*Pn	**Pn**	**05 48 55.9**	**+1.4**
WRDH	**Warideh**	**2.04**	**164**	*e*P	Pn	05 48 51.1	-3.5
WRDH	**Warideh**	**2.04**	**164**	*e*P	Pn	05 48 51.2	-3.5
	SNR=57						
ATAB	**Bozova**	**2.06**	**89**	*i* P	**Pn**	**05 48 53.4**	**-1.5**
ATAB				*i* S	**Sn**	**05 49 21.8**	**+1.5**
ATAB	**Bozova**	**2.06**	**89**	*i* P	**Pn**	**05 48 53.4**	**-1.5**
ATAB				*i* S	**Sn**	**05 49 21.8**	**+1.5**
YOZ	**Yozgat**	**2.19**	**352**	*e*PN	**Pn**	**05 48 56.3**	**-0.5**
YOZ	**Yozgat**	**2.19**	**352**	*e*Pn	**Pn**	**05 48 56.3**	**-0.5**
MALT	**Malatya**	**2.31**	**68**	⇑P	**Sn**	**05 49 26.9**	**+0.3**
MYA	**Malatya**	**2.31**	**68**	*e*PN	**Pn**	**05 48 58.2**	**-0.3**
MYA	**Malatya**	**2.31**	**68**	*e*Pn	**Pn**	**05 48 58.2**	**-0.3**
ERMK	**Ermenek**	**2.38**	**251**	*i* P	**Pn**	**05 49 00.9**	**+1.4**
ERMK				*i* S	**Sb**	**05 49 33.4**	**+0.6**
ERMK	**Ermenek**	**2.38**	**251**	*i* P	**Pn**	**05 49 00.9**	**+1.4**
ERMK				*i* S	**Sb**	**05 49 33.4**	**+0.6**
CDAG	**Cicekdag**	**2.39**	**334**	*i* P	**Pn**	**05 48 59.4**	**-0.2**
CDAG				*i* S	**Sb**	**05 49 31.0**	**-1.9**
CDAG	**Cicekdag**	**2.39**	**334**	*i* P	**Pn**	**05 48 59.3**	**-0.2**
CDAG				*i* S	**Sb**	**05 49 31.0**	**-1.9**
KAMT	**Kaman**	**2.46**	**321**	*e*PN	**Pn**	**05 49 00.6**	**+0.1**
KAMT	**Kaman**	**2.46**	**321**	*e*Pn	**Pn**	**05 49 00.6**	**+0.1**
URFA	**Urfa**	**2.48**	**90**	*e*PN	**Pn**	**05 49 01.1**	**+0.3**
URFA	**Urfa**	**2.48**	**90**	*e*Pn	**Pn**	**05 49 01.1**	**+0.3**
SVSK	**Karacayir**	**2.64**	**22**	*e*PN	**Pn**	**05 49 02.5**	**-0.3**
SVSK	**Karacayir**	**2.64**	**22**	*e*Pn	**Pn**	**05 49 02.6**	**-0.3**
KONT	**Konya--Tatoy**	**2.69**	**281**	*e*PN	**Pn**	**05 49 04.5**	**+0.9**
KONT	**Konya--Tatoy**	**2.69**	**281**	*e*Pn	**Pn**	**05 49 04.6**	**+0.9**
LADK	**Ladik-KONYA**	**2.74**	**286**	*e*PN	**Pn**	**05 49 05.3**	**+0.9**
LADK	**Ladik-KONYA**	**2.74**	**286**	*e*Pn	**Pn**	**05 49 05.3**	**+0.9**
BRTR	**Keskin Array B**	**2.77**	**325**	Pn	**Pn**	**05 49 04.8**	**0.0**
BRTR				Lg	Lg	05 49 45.9	
BRTR	**Keskin Array B**	**2.77**	**325**	Pn	**Pn**	**05 49 04.8**	**0.0**
	comp=E,26nm,0.3s,baz=163,slow=14,SNR=512						
BRTR				Lg	Lg	05 49 45.9	
	comp=E,42nm,0.3s,baz=147,slow=24,SNR=6.1						
BRTR	**Keskin Array B**	**2.77**	**325**	Pn	**Pn**	**05 49 04.8**	**0.0**
BRTR				Lg	Lg	05 49 45.9	
ELZG	**Elazig**	**2.79**	**67**	*i* P	**Pn**	**05 49 04.3**	**-0.7**
ELZG				*i* S	**Sg**	**05 49 48.7**	**-1.8**
ELZG	**Elazig**	**2.79**	**67**	*i* P	**Pn**	**05 49 04.3**	**-0.7**
LFK	**Lefkose**	**2.80**	**219**	*e*PN	**Pn**	**05 49 06.8**	**+1.6**
LFK	**Lefkose**	**2.80**	**219**	*e*Pn	**Pn**	**05 49 06.8**	**+1.6**
PHNC	**Paralimni**	**2.81**	**209**	P	**Pb**	**05 49 09.9**	**-0.8**
PHNC				S	**Sb**	**05 49 44.5**	**-0.4**
PHNC	**Paralimni**	**2.81**	**209**	P	**Pb**	**05 49 09.9**	**-0.8**
PHNC				S	**Sb**	**05 49 44.5**	**-0.4**
CORM	**Corum**	**2.83**	**343**	*e*PN	**Pn**	**05 49 05.9**	**+0.3**
CORM	**Corum**	**2.83**	**343**	*e*Pn	**Pn**	**05 49 05.9**	**+0.3**
AFSR	**Af˘ar-Bala (A**	**2.86**	**314**	*e*PN	**Pn**	**05 49 06.0**	**+0.1**
AFSR	**Af˘ar-Bala (A**	**2.86**	**314**	*e*Pn	**Pn**	**05 49 06.0**	**+0.1**
BBAL	**Bala**	**2.90**	**316**	*i* P	**Pn**	**05 49 06.8**	**+0.3**
BBAL				*i* S	**Sb**	**05 49 47.6**	**+0.1**
BBAL	**Bala**	**2.90**	**316**	*i* P	**Pn**	**05 49 06.8**	**+0.3**
TOKT	**Tokat**	**2.92**	**13**	*e*PN	**Pn**	**05 49 06.4**	**-0.3**
TOKT	**Tokat**	**2.92**	**13**	*e*Pn	**Pn**	**05 49 06.4**	**-0.3**
GAZI	**Gazipasa**	**2.99**	**247**	*i* P	**Pn**	**05 49 09.0**	**+1.4**
GAZI				*i* S	**Sb**	**05 49 49.4**	**-0.6**
GAZI	**Gazipasa**	**2.99**	**247**	*i* P	**Pn**	**05 49 09.0**	**+1.4**
SVRC	**Sivrice-ELAZID**	**2.99**	**71**	*e*PN	**Pn**	**05 49 08.9**	**+1.1**
SVRC	**Sivrice-ELAZID**	**2.99**	**71**	*e*Pn	**Pn**	**05 49 08.9**	**+1.1**
ILIC	**ilic-Erzincan**	**2.99**	**48**	*e*PN	**Pn**	**05 49 07.3**	**-0.5**
ILIC	**ilic-Erzincan**	**2.99**	**48**	*e*Pn	**Pn**	**05 49 07.3**	**-0.5**
KDHN	**Kadinhani**	**3.02**	**291**	*i* P	**Pn**	**05 49 09.1**	**+0.9**
KDHN				*e*S	**Sg**	**05 49 56.3**	**-1.7**
KDHN	**Kadinhani**	**3.02**	**291**	*i* P	**Pn**	**05 49 09.1**	**+0.9**
MAMC	**Mammari**	**3.05**	**222**	P	**Pn**	**05 49 09.3**	**+0.8**
MAMC	**Mammari**	**3.05**	**222**	P	**Pn**	**05 49 09.3**	**+0.8**
CSS	**Prodhromos**	**3.15**	**218**	P	**Pn**	**05 49 10.7**	**+0.7**
	comp=E,10nm,0.7s						
CSS				S	**Sn**	**05 49 48.4**	**+1.1**
CSS	**Prodhromos**	**3.15**	**218**	P	**Pn**	**05 49 08.0**	**-2.0**
CSS				S	**Sn**	**05 49 43.4**	**-3.9**
CSS	**Prodhromos**	**3.15**	**218**	*e*Pn	**Pn**	**05 49 09.9**	**0.0**
CSS	**Prodhromos**	**3.15**	**218**	*e*Pn	**Pn**	**05 49 09.9**	**0.0**
CSS	**Prodhromos**	**3.15**	**218**	P	**Pn**	**05 49 10.7**	**+0.7**
	comp=E,10nm,0.7s						
CSS				S	**Sn**	**05 49 48.4**	**+1.1**
RSDY	**Resadiye-TOKAT**	**3.18**	**23**	*e*PN	**Pn**	**05 49 10.1**	**-0.2**
RSDY	**Resadiye-TOKAT**	**3.18**	**23**	*e*Pn	**Pn**	**05 49 10.1**	**-0.2**
HWQ	**Hawqa**	**3.19**	**176**	*e*P	**Pn**	**05 49 11.9**	**+1.3**
HWQ	**Hawqa**	**3.19**	**176**	*e*P	**Pn**	**05 49 11.9**	**+1.3**
PTK	**Pertek**	**3.23**	**63**	*e*PN	**Pn**	**05 49 11.5**	**+0.3**
PTK	**Pertek**	**3.23**	**63**	*e*Pn	**Pn**	**05 49 11.5**	**+0.3**
LEF	**Lefka**	**3.27**	**225**	*e*PN	**Pn**	**05 49 12.8**	**+1.4**
LEF	**Lefka**	**3.27**	**225**	*e*Pn	**Pn**	**05 49 12.9**	**+1.4**
ANTO	**Ankara**	**3.31**	**317**	*e*P	**Pn**	**05 49 12.9**	**+0.8**
ANTO	**Ankara**	**3.31**	**317**	*e*Pn	**Pn**	**05 49 12.9**	**+0.8**
ANTO				*e*Sg	**Sg**	**05 50 07.3**	**+0.2**
ANTO	**Ankara**	**3.31**	**317**	‖P	**Pn**	**05 49 20.1**	**+1.5**
ANTO	**Ankara**	**3.31**	**317**	*e*P	**Pn**	**05 49 12.9**	**+0.8**
ANTO				*e*Sg	**Sg**	**05 50 07.3**	**+0.2**
KIZT	**Kizilcal**	**3.33**	**296**	*e*PN	**Pn**	**05 49 12.9**	**+0.5**
KIZT	**Kizilcal**	**3.33**	**296**	*e*Pn	**Pn**	**05 49 12.9**	**+0.5**
LOD	**Lodumlu**	**3.34**	**317**	*e*PN	**Pn**	**05 49 12.6**	**+0.1**
LOD	**Lodumlu**	**3.34**	**317**	*e*Pn	**Pn**	**05 49 12.6**	**+0.1**
SUSE	**Susehri**	**3.36**	**35**	*i* P	**Pn**	**05 49 12.4**	**-0.5**
SUSE				*i* S	**Sb**	**05 49 59.9**	**-0.9**
SUSE	**Susehri**	**3.36**	**35**	*i* P	**Pn**	**05 49 12.4**	**-0.5**
ALFC	**Alevga**	**3.41**	**228**	P	**Pn**	**05 49 12.0**

SIRT	**Sirnak**	**5.36**	**88**	*e*PN	**Pn**	**05 49 42.1 +1.8**
SIRT	**Sirnak**	**5.36**	**88**	*e*Pn	**Pn**	**05 49 42.1 +1.8**
ASF	**Jabal al Asfar**	**5.38**	**169**	Pn	**Pn**	**05 49 42.0 +1.4**
ASF				Lg	Lg	05 51 07.2
ASF	**Jabal al Asfar**	**5.38**	**169**	Pn	**Pn**	**05 49 42.0 +1.4**
ASF				Lg	Lg	05 51 07.2
ASF				LR	LR	05 52 04.8
	comp=E,1μm,18.9s,baz=354,slow=41					
KULA	**Kula-Manisa**	**5.66**	**283**	*e*PN	**Pn**	**05 49 46.5 +2.0**
KULA	**Kula-Manisa**	**5.66**	**283**	*e*Pn	**Pn**	**05 49 46.5 +2.0**
DALY	**Dalyan (Mu¨la**	**5.67**	**266**	*e*PN	**Pn**	**05 49 46.5 +2.1**
DALY	**Dalyan (Mu¨la**	**5.67**	**266**	*e*Pn	**Pn**	**05 49 46.6 +2.1**
GEMT	**Gemlik**	**5.88**	**302**	*e*PN	**Pn**	**05 49 49.3 +2.0**
GEMT	**Gemlik**	**5.88**	**302**	*e*Pn	**Pn**	**05 49 49.3 +2.0**
DSI	**Dead Sea**	**5.89**	**183**	Pn	**Pn**	**05 49 47.8 +0.2**
YER	**Yerkesik**	**5.93**	**269**	*e*PN	**Pn**	**05 49 50.1 +2.0**
YER	**Yerkesik**	**5.93**	**269**	*e*Pn	**Pn**	**05 49 50.1 +2.0**
DAGI	**Agillar**	**6.01**	**51**	*e*P	Pb	05 50 09.8 +4.4
DAGI				*i* S	Sb	05 51 24.9 +7.7
BCA	**Borcka**	**6.06**	**47**	*e*PN	**Pn**	**05 49 52.1 +2.2**
YTIR	**Yattir**	**6.11**	**185**	Pn	**Pn**	**05 49 51.5 +0.8**
MZDA	**Masada**	**6.15**	**183**	Pn	**Pn**	**05 49 51.3 +0.2**
ARMT	**Armutlu**	**6.16**	**302**	*e*PN	**Pn**	**05 49 52.9 +1.7**
ARMT	**Armutlu**	**6.16**	**302**	*e*Pn	**Pn**	**05 49 52.9 +1.7**
CUKT	**Cukurca**	**6.30**	**90**	*e*PN	**Pn**	**05 49 56.1 +2.8**
RTMI	**Retamim**	**6.46**	**188**	Pn	**Pn**	**05 49 56.0 +0.7**
DAT	**Datca**	**6.54**	**266**	*e*PN	**Pn**	**05 49 58.5 +2.0**
DAT	**Datca**	**6.54**	**266**	*e*Pn	**Pn**	**05 49 58.5 +2.0**
KZIT	**Kziot**	**6.64**	**190**	Pn	**Pn**	**05 49 58.0 +0.2**
BODT	**Bodrum**	**6.71**	**269**	*e*PN	**Pn**	**05 50 00.5 +1.7**
BODT	**Bodrum**	**6.71**	**269**	*e*Pn	**Pn**	**05 50 00.5 +1.7**
SOC	**Sochi**	**6.83**	**25**	*e*P	Pb	05 50 11.1 -8.0
SOC				*e*		05 51 24.2
SOC				MLR	MLR	
	comp=Z,416nm,11.0s					
ZFRI	**Zfri**	**6.91**	**184**	Pn	**Pn**	**05 50 02.9 +1.3**
YAL	**Yalta**	**7.11**	**351**	*e*P	**Pn**	**05 50 04.3 +0.1**
YAL	**Yalta**	**7.11**	**351**	*e*P	**Pn**	**05 50 04.3 +0.1**
PRNI	**Paran**	**7.12**	**185**	Pn	**Pn**	**05 50 05.4 +0.9**
KARP	**Karpathos**	**7.14**	**257**	P	**Pn**	**05 50 05.9 +1.1**
KARP	**Karpathos**	**7.14**	**257**	P	**Pn**	**05 50 05.9 +1.1**
CHVG	**Ch'k'valeri**	**7.17**	**41**	P	**Pn**	**05 50 06.6 +1.5**
CHVG	**Ch'k'valeri**	**7.17**	**41**	P	**Pn**	**05 50 06.6 +1.5**
AKH	**Akhalkalaki**	**7.20**	**54**	P	Pg	05 50 34.3 -4.3
AKH				S	**Sg**	**05 52 14.0 +2.2**
SEV	**Sevastopol'**	**7.23**	**348**	*e*P	**Pn**	**05 50 05.8 -0.1**
SEV	**Sevastopol'**	**7.23**	**348**	*e*P	**Pn**	**05 50 05.8 -0.1**
ALU	**Alushta**	**7.27**	**353**	*e*P	**Pn**	**05 50 08.9 +2.5**
ALU	**Alushta**	**7.27**	**353**	*e*P	**Pn**	**05 50 08.9 +2.5**
KRMI	**Paran Flat**	**7.38**	**187**	Pn	**Pn**	**05 50 08.4 +0.4**
SUDU	**Sudak**	**7.43**	**356**	*e*P	**Pn**	**05 50 08.0 -0.6**
SUDU				*e*S	**Sn**	**05 51 33.3 +0.7**
SUDU	**Sudak**	**7.43**	**356**	*e*P	**Pn**	**05 50 08.0 -0.6**
SUDU				*e*S	**Sn**	**05 51 33.3 +0.7**
HRFI	**Mount Harif**	**7.44**	**184**	Pn	**Pn**	**05 50 09.4 +0.6**
HRFI				Sn	**Sn**	**05 51 32.2 -0.7**
ANN	**Anapa**	**7.44**	**10**	*e*P	**Pn**	**05 50 08.6 -0.1**
ANN				*e*S	**Sn**	**05 51 35.9 +3.2**
ANN				pmax	pmax	
	comp=Z,19nm,1.1s					
ANN				MLR	MLR	
	comp=Z,297nm,11.0s					
ANN	**Anapa**	**7.44**	**10**	*e*P	**Pn**	**05 50 08.6 -0.1**
	comp=Z,19nm,1.1s					
GNI	**Garni**	**7.54**	**66**	*e*Pn	**Pn**	**05 50 12.8 +2.4**
	comp=Z,12nm,0.9s					
GNI				Lg	Lg	05 52 27.6
GNI	**Garni**	**7.54**	**66**	Pn	**Pn**	**05 50 13.1 +2.7**
	comp=Z,1.0nm,0.3s,baz=98,slow=20,SNR=3.3					
GNI				Lg	Lg	05 52 27.6
	comp=Z,0.1nm,0.3s,baz=168,slow=20,SNR=1.7					
GNI				LR	LR	05 53 43.5
	comp=Z,631nm,21.4s,baz=269,slow=43					
SIM	**Simferopol'**	**7.57**	**351**	*e*P	**Pn**	**05 50 12.8 +2.3**
SIM	**Simferopol'**	**7.57**	**351**	*e*P	Pn	05 50 17.3 +6.8
SIM				*e*S	Sn	05 51 45.8 +10
SIM				pmax	pmax	
	comp=Z,17nm,1.0s					
SIM				smax	smax	
	comp=E,10.0nm,1.1s					
SIM				smax	smax	
	comp=E,20nm,1.0s					
SIM				MLR	MLR	
	comp=Z,290nm,10.4s					
SIM	**Simferopol'**	**7.57**	**351**	*e*P	**Pn**	**05 50 12.8 +2.3**
MBRI	**Mt Berech**	**7.69**	**185**	Pn	**Pn**	**05 50 12.7 +0.4**
EIL	**Elat**	**7.81**	**185**	Pn	**Pn**	**05 50 15.7 +1.8**
EIL				Sn	**Sn**	**05 51 39.8 -2.2**
EIL				Lg	Lg	05 52 28.0
EIL	**Elat**	**7.81**	**185**	Pn	**Pn**	**05 50 15.7 +1.8**
	comp=Z,0.9nm,0.3s,baz=326,slow=13,SNR=11					
EIL				Sn	**Sn**	**05 51 39.8 -2.2**
	comp=Z,0.3nm,0.3s,baz=0.0,slow=17,SNR=2.2					
EIL				Lg	Lg	05 52 28.0
	comp=Z,1.4nm,0.3s,baz=75,slow=16,SNR=4.5					
EIL				LR	LR	05 53 42.3
	comp=Z,624nm,19.3s,baz=0.6,slow=41					
EIL	**Elat**	**7.81**	**185**	Pn	**Pn**	**05 50 14.5 +0.6**
ISHB	**Shabestar**	**7.88**	**81**	*e*P	Pb	05 50 45.5 +8.2
NAX	**Nakhchivan** SNR=3.8	**7.88**	**75**	⇑Pn	**Pn**	**05 50 17.6 +2.6**
NAX	**Nakhchivan** SNR=3.8	**7.88**	**75**	⇑P	**Pn**	**05 50 17.6 +2.6**
NAX				⇓S	Sb	05 52 53.7 +43
IAZR	**Azarshahr**	**8.16**	**85**	*e*P	Pb	05 50 33.8 -8.3
TBLG	**Delisi**	**8.17**	**56**	*e*P	Pn	05 50 23.2 +4.4
TBLG	**Delisi**	**8.17**	**56**	P	Pn	05 50 23.2 +4.4
TBLG				S	Sb	05 52 45.9 +27
ZEI	**Tsey**	**8.21**	**47**	*e*P	Pn	05 50 24.9 +5.4
ZEI				pmax	pmax	
	comp=Z,8.0nm,0.4s					
BHD	**Baghdad**	**8.23**	**118**	*e*Pn	Pb	05 50 33.0 -10
BHD				*e*Sn	Sb	05 52 19.0 -1.8
KBZ	**Khabaz**	**8.30**	**39**	P	Pn	05 50 27.4 +6.8
KBZ	**Khabaz**	**8.30**	**39**	Pn	Pn	05 50 27.4 +6.8
KBZ	**Khabaz**	**8.30**	**39**	Pn	Pn	05 50 27.4 +6.8
	comp=Z,0.1nm,0.3s,baz=233,slow=14,SNR=3.0					
KIV	**Kislovodsk**	**8.37**	**37**	*i* P	Pn	05 50 25.6 +4.0
KIV				*e*S	**Sn**	**05 51 58.9 +3.1**
KIV				pmax	pmax	
	comp=Z,8.0nm,0.9s					
KIV				MLR	MLR	
	comp=Z,200nm,17.0s					
DGRG	**David-gareji**	**8.47**	**59**	P	Pn	05 50 28.6 +5.7
DGRG				S	Sb	05 52 13.8 -14
GANJ	**Ganja** SNR=5.7	**8.85**	**66**	⇑Pn	Pn	05 50 32.5 +4.4
GANJ	**Ganja** SNR=5.7	**8.85**	**66**	⇑P	Pn	05 50 32.5 +4.4
TIRR	**Tirgusor**	**8.89**	**324**	*e*P	**Pn**	**05 50 28.9 +0.2**
TIRR				pmax	pmax	
	comp=Z,8.0nm,0.8s					
TIRR	**Tirgusor**	**8.89**	**324**	*e*Pn	**Pn**	**05 50 28.9 +0.2**
	comp=Z,8.2nm,0.8s					
TIRR	**Tirgusor**	**8.89**	**324**	⇑*i*P	**Pn**	**05 50 29.4 +0.7**
TIRR	**Tirgusor**	**8.89**	**324**	*e*P	**Pn**	**05 50 28.9 +0.2**
	comp=Z,8.0nm,0.8s					
SIVA	**Sivas**	**9.14**	**258**	P	**Pn**	**05 50 33.5 +1.4**
SIVA	**Sivas**	**9.14**	**258**	P	**Pn**	**05 50 33.5 +1.4**
IGHG	**Ghaleghazi**	**9.35**	**106**	*e*P	**Pn**	**05 50 34.8 -0.5**
IGHG	**Ghaleghazi**	**9.35**	**106**	*e*P	**Pn**	**05 50 34.8 -0.5**
GOF	**Gofitskoye**	**9.37**	**34**	*e*P	Pn	05 50 46.6 +11
GOF				pmax	pmax	
	comp=Z,30nm,1.0s					
IVIS	**Veis**	**9.50**	**105**	*e*P	Pn	05 50 32.1 -5.0
CFR	**Carcaliu**	**9.57**	**326**	⇑P	**Pn**	**05 50 39.8 +1.8**
CFR	**Carcaliu**	**9.57**	**326**	⇑*i*P	**Pn**	**05 50 39.8 +1.8**
CFR	**Carcaliu**	**9.57**	**326**	P	**Pn**	**05 50 39.8 +1.8**
SEKA	**Sheki** SNR=6.5	**9.65**	**64**	⇓Pn	**Pn**	**05 50 40.9 +1.7**
SEKA	**Sheki** SNR=6.5	**9.65**	**64**	⇓P	**Pn**	**05 50 40.9 +1.7**
SEKA				⇓S		05 53 57.2
KARN	**Karanos**	**9.72**	**261**	P	**Pn**	**05 50 42.4 +2.3**
KARN	**Karanos**	**9.72**	**261**	P	**Pn**	**05 50 42.4 +2.3**
GVD	**Gavdhos**	**9.76**	**258**	*e*Pn	**Pn**	**05 50 42.9 +2.4**
GVD	**Gavdhos**	**9.76**	**258**	*e*Pn	**Pn**	**05 50 42.9 +2.4**
IKOM	**Komasi**	**10.13**	**105**	*e*P	**Pn**	**05 50 44.2 -1.7**
IKOM	**Komasi**	**10.13**	**105**	*e*P	**Pn**	**05 50 44.2 -1.7**
MAK	**Makhachkala**	**10.55**	**55**	*e*P	Pn	05 50 48.0 -3.4
MAK				pmax	pmax	
	comp=Z,40nm,0.5s					
MAK				MLR	MLR	
	comp=Z,552nm,11.0s					
KNT	**Kendrikon**	**10.58**	**294**	P	Pn	05 50 55.7 +3.8
VRI	**Vrincioaia**	**10.74**	**324**	⇑P	**Pn**	**05 50 55.3 +1.3**
VRI	**Vrincioaia**	**10.74**	**324**	⇑*i*P	**Pn**	**05 50 55.3 +1.3**
VRI	**Vrincioaia**	**10.74**	**324**	P	**Pn**	**05 50 55.3 +1.3**
KLV	**Kalavryta, Ach**	**10.75**	**277**	P	Pn	05 50 57.6 +3.4
PLOR	**Plostina**	**10.76**	**324**	⇑P	**Pn**	**05 50 55.8 +1.4**
PLOR	**Plostina**	**10.76**	**324**	⇑*i*P	**Pn**	**05 50 55.8 +1.4**
PLOR	**Plostina**	**10.76**	**324**	P	**Pn**	**05 50 55.8 +1.4**
KIS	**Kishinev**	**10.80**	**334**	*e*P	**Pn**	**05 50 55.0 +0.2**
KIS				*e*S	Sn	05 53 03.0 +7.8
KIS				LRM	MLR	05 57 38.0
	comp=Z,1μm,14.0s					
KIS	**Kishinev**	**10.80**	**334**	*e*P	**Pn**	**05 50 55.0 +0.2**
KIS				*e*S	Sn	05 53 03.0 +7.8
KIS				MLR	MLR	
	comp=Z,1μm,13.0s					
KIS				MLR	MLR	
	comp=Z,1μm,14.0s					
KIS	**Kishinev**	**10.80**	**334**	*e*P	**Pn**	**05 50 55.0 +0.2**
TRIZ	**Trizonia**	**10.81**	**279**	P	Pn	05 50 58.5 +3.5
SIZA	**Siyzn**	**10.84**	**67**	⇑P	Pn	05 50 44.5 -11
MLR	**Muntele Rosu**	**10.85**	**321**	Pn	Pn	05 50 58.8 +3.2
MLR	**Muntele Rosu**	**10.85**	**321**	⇓*i*P	**Pn**	**05 50 55.6 0.0**
MLR	**Muntele Rosu**	**10.85**	**321**	Pn	Pn	05 50 58.8 +3.2
	comp=Z,0.1nm,0.3s,baz=156,slow=10,SNR=4.1					
MLR				LR	LR	05 55 55.0
	comp=Z,191nm,18.4s,baz=123,slow=43					
MLR	**Muntele Rosu**	**10.85**	**321**	P	**Pn**	**05 50 55.6 0.0**
VTS	**Vitosha**	**10.86**	**302**	⇓P	**Pn**	**05 50 54.4 -1.4**
VTS	**Vitosha**	**10.86**	**302**	⇓*i*P	**Pn**	**05 50 54.4 -1.4**
VTS	**Vitosha**	**10.86**	**302**	P	**Pn**	**05 50 54.4 -1.4**
TESR	**Tescani**	**11.26**	**326**	⇑*i*P	**Pn**	**05 51 02.5 +1.4**
VOIR		**11.27**	**318**	⇓P	**Pn**	**05 51 01.9 +0.5**
VOIR		**11.27**	**318**	⇓*i*P	**Pn**	**05 51 01.9 +0.5**
VOIR		**11.27**	**318**	P	**Pn**	**05 51 01.9 +0.5**
LOT	**Lotru**	**11.98**	**315**	⇑*i*P	**Pn**	**05 51 11.1 +0.1**
BURAR	**Bucovina Array**	**12.74**	**326**	⇑P	**Pn**	**05 51 22.3 +0.9**
BURAR	**Bucovina Array**	**12.74**	**326**	⇑*i*P	**Pn**	**05 51 22.3 +0.9**
BUR08	**Bucovina Ar. S**	**12.77**	**326**	*e*Pn	**Pn**	**05 51 21.7 -0.1**
BUR08	**Bucovina Ar. S**	**12.77**	**326**	*e*Pn	**Pn**	**05 51 21.7 -0.1**
IPIR	**Pirpir**	**13.32**	**106**	*e*P	**Pn**	**05 51 29.1 -0.5**
IPIR	**Pirpir**	**13.32**	**106**	*e*P	**Pn**	**05 51 29.1 -0.5**
DRGR		**13.39**	**318**	⇑P	**Pn**	**05 51 30.6 +0.3**
DRGR		**13.39**	**318**	⇑*i*P	**Pn**	**05 51 30.6 +0.3**
DRGR		**13.39**	**318**	P	**Pn**	**05 51 30.6 +0.3**
VSR	**Storozhevoye**	**13.96**	**9**	*e*P	**Pn**	**05 51 40.9 +2.9**
VSR				pmax	pmax	
	comp=Z,30nm,1.2s					
VSR				pmax	pmax	
	comp=N,80nm,1.3s					
VSR				pmax	pmax	
	comp=E,10.0nm,0.7s					
KIEV	**Kiev**	**14.01**	**343**	*e*P	**Pn**	**05 51 39.3 +0.7**
KIEV	**Kiev**	**14.01**	**343**	*e*Pn	**Pn**	**05 51 39.3 +0.7**
KIEV	**Kiev**	**14.01**	**343**	*e*P	**Pn**	**05 51 39.3 +0.7**
ISHM	**Shahmirzad**	**14.22**	**91**	*e*P	**Pn**	**05 51 44.5 +2.6**
ISHM	**Shahmirzad**	**14.22**	**91**	*e*P	**Pn**	**05 51 44.5 +2.6**
VRHR	**Novokhopersk**	**14.26**	**15**	*e*P	**P**	**05 51 46.8 -2.5**
VRHR				pmax	pmax	
	comp=Z,10.0nm,0.6s					
VRHR				pmax	pmax	
	comp=N,30nm,0.9s					
VRHR				pmax	pmax	
	comp=E,10.0nm,0.6s					
VRHR	**Novokhopersk**	**14.26**	**15**	*e*P	**P**	**05 51 46.8 -2.5**
	comp=E,30nm,0.9s					
IGAR	**Gharneh**	**14.32**	**106**	*e*P	**Pn**	**05 51 41.3 -1.9**
IZEF	**Zefreh**	**14.34**	**104**	*e*P	**Pn**	**05 51 41.7 -1.8**
TRPA	**Tarpa**	**14.36**	**322**	⇑*i*P	**Pn**	**05 51 41.8 -1.7**
UZH	**Uzhgorod**	**14.82**	**323**	*e*P	**Pn**	**05 51 49.9 +0.1**
UZH				*e*S	**Sn**	**05 54 32.1 -1.5**
UZH				MLR	MLR	
	comp=N,500nm,14.0s					
UZH				MLR	MLR	
	comp=E,500nm,14.0s					
UZH				MLR	MLR	
	comp=Z,100nm,14.0s					
LVV	**L'vov**	**14.93**	**329**	*e*P	P	05 52 02.6 +5.8
LVV				MLR	MLR	
	comp=N,130nm,12.0s					
LVV				MLR	MLR	
	comp=E,150nm,12.0s					
LVV				MLR	MLR	
	comp=Z,200nm,12.0s					
TIP	**Timpagrande**	**14.97**	**282**	*e*Pn	**Pn**	**05 51 50.5 -1.4**
TIP	**Timpagrande**	**14.97**	**282**	*e*Pn	**Pn**	**05 51 50.5 -1.4**
KOLS	**Kolonicke sedl**	**15.04**	**324**	*e*P	**P**	**05 51 59.1 +1.0**
KOLS				pmax	pmax	
	comp=Z,29nm,1.6s					
KOLS	**Kolonicke sedl**	**15.04**	**324**	*e*P	**P**	**05 51 59.1 +1.0**
KOLS	**Kolonicke sedl**	**15.04**	**324**	*e*P	**P**	**05 51 59.1 +1.0**
	comp=Z,29nm,1.6s					
PKS2	**Kecel**	**15.20**	**312**	*e*Pn	**P**	**05 51 58.2 -1.5**
PKS2	**Kecel**	**15.20**	**312**	*e*P	**P**	**05 51 58.2 -1.5**
PKSM	**Moragy**	**15.40**	**310**	*e*Pn	**P**	**05 52 00.5 -1.5**
PKSM	**Moragy**	**15.40**	**310**	*e*P	**P**	**05 52 00.5 -1.5**
PKS7	**Kunszentmiklos**	**15.52**	**313**	*e*Pn	**P**	**05 52 01.9 -1.3**
PKS7	**Kunszentmiklos**	**15.52**	**313**	*e*P	**P**	**05 52 01.9 -1.3**
PSZ	**Piszkesteto**	**15.59**	**317**	*e*P	**P**	**05 52 02.3 -1.9**
PSZ				pmax	pmax	
	comp=Z,16nm,0.9s					
PSZ	**Piszkesteto**	**15.59**	**317**	*e*P	**P**	**05 52 02.3 -1.9**
	comp=Z,16nm,0.9s					
PSZ	**Piszkesteto**	**15.59**	**317**	*e*Pn	**Pn**	**05 52 00.9 +0.9**
KECS	**Kecovo**	**15.63**	**320**	*e*P	**P**	**05 52 04.8 +0.3**
KECS				pmax	pmax	
	comp=Z,11nm,1.1s					
KECS	**Kecovo**	**15.63**	**320**	*e*P	**P**	**05 52 04.8 +0.3**
KECS	**Kecovo**	**15.63**	**320**	*e*P	**P**	**05 52 04.8 +0.3**
	comp=Z,11nm,1.1s					
CEL	**Celes**	**15.67**	**279**	*e*P	**Pn**	**05 52 02.8 +1.8**
	comp=Z,23nm,1.2s					
CUC	**Castrocucco**	**15.72**	**285**	*e*P	**Pn**	**05 52 03.2 +1.5**
	comp=Z,46nm,1.1s					
ISAD	**Sadrabad**	**15.79**	**105**	*e*P	**P**	**05 52 07.5 +0.8**
ISAD	**Sadrabad**	**15.79**	**105**	*e*P	**P**	**05 52 07.5 +0.8**
PKS9	**Tamasi**	**15.80**	**311**	*e*Pn	**P**	**05 52 04.7 -1.8**
PKS9	**Tamasi**	**15.80**	**311**	*e*P	**P**	**05 52 04.7 -1.8**
BUD	**Budapest**	**15.83**	**314**	*e*Pn	**Pn**	**05 52 04.5 +1.5**
STHS	**Stebnicka Huta**	**15.87**	**323**	*e*P	**P**	**05 52 09.3 +2.1**
STHS				pmax	pmax	
	comp=Z,7.0nm,1.0s					
STHS	**Stebnicka Huta**	**15.87**	**323**	*e*P	**P**	**05 52 09.2 +2.1**
STHS	**Stebnicka Huta**	**15.87**	**323**	*e*P	**P**	**05 52 09.3 +2.1**
	comp=Z,7.0nm,1.0s					
PKSG		**16.14**	**313**	*e*Pn	**P**	**05 52 10.3 +0.1**
PKSG		**16.14**	**313**	*e*P	**P**	**05 52 10.3 +0.1**
CSKK	**Cs¨ˇkako**	**16.20**	**313**	*e*Pn	**P**	**05 52 13.5 +2.6**
CSKK	**Cs¨ˇkako**	**16.20**	**313**	*e*P	**P**	**05 52 13.5 +2.6**
RAYN	**Ar Rayn**	**16.25**	**146**	*e*Pn	**P**	**05 52 12.1 +0.5**
	comp=Z,44nm,1.1s					
IPAR	**Pars**	**16.31**	**113**	*e*P	**Pn**	**05 52 07.9 -1.7**
NIE	**Niedzica**	**16.32**	**322**	⇓*e*P	**P**	**05 52 12.0 -0.2**
NIE	**Niedzica**	**16.32**	**322**	*e*P	**P**	**05 52 12.0 -0.2**
NIE	**Niedzica**	**16.32**	**322**	*e*P	**P**	**05 52 12.0 -0.2**
VYHS	**Vyhne**	**16.50**	**317**	*e*P	**P**	**05 52 18.3 +4.0**
VYHS				pmax	pmax	
	comp=Z,32nm,1.6s					
VYHS	**Vyhne**	**16.50**	**317**	*e*P	**P**	**05 52 18.3 +4.0**
ISRV	**Sarvestan**	**16.61**	**114**	*e*P	**Pn**	**05 52 10.6 -2.8**
BEHE	**Becsehely**	**16.67**	**309**	*e*	**P**	**05 52 20.1 +4.0**
IMEH	**Mehriz**	**16.73**	**106**	*e*P	**Pn**	**05 52 15.4 +0.6**
IMEH	**Mehriz**	**16.73**	**106**	*e*P	**Pn**	**05 52 15.4 +0.6**
OJC	**Ojcow**	**17.10**	**323**	⇓*e*P	**Pn**	**05 52 19.1 -0.1**
OJC	**Ojcow**	**17.10**	**323**	*e*Pn	**Pn**	**05 52 19.5 +0.3**
	comp=Z,83nm,1.9s					
OJC	**Ojcow**	**17.10**	**323**	*e*P	**Pn**	**05 52 19.1 -0.1**
OJC	**Ojcow**	**17.10**	**323**	*e*P	**Pn**	**05 52 19.1 -0.1**
OJC	**Ojcow**	**17.10**	**323**	*e*Pn	**Pn**	**05 52 19.5 +0.3**
	comp=Z,83nm,1.9s					
IBAF	**Bafgh**	**17.38**	**104**	*e*P	**Pn**	**05 52 19.0 -3.9**
OBN	**Obninsk**	**17.66**	**2**	*c i*P	**P**	**05 52 27.4 +0.5**
OBN				*e*S	**Sn**	**05 55 44.5 +2.3**
OBN				pmax	pmax	
	comp=Z,37nm,1.4s					
OBN				MLR	MLR	
	comp=Z,100nm,22.0s					
OBN	**Obninsk**	**17.66**	**2**	*i* P	**P**	**05 52 27.4 +0.5**
	comp=Z,100nm,22.0s					
OKC	**Ostrava-Krasne**	**17.67**	**320**	*e*P	**P**	**05 52 28.8 +1.7**
OKC				MLR	MLR	
	comp=Z,800nm,13.1s					
OKC	**Ostrava-Krasne**	**17.67**	**320**	*e*P	**P**	**05 52 28.8 +1.7**
OKC				*ex*	x	05 52 39.3
OKC				AMS	AMS	06 00 20.0
	comp=Z,800nm,13.1s					
OKC	**Ostrava-Krasne**	**17.67**	**320**	*e*P	**P**	**05 52 28.8 +1.7**
	comp=Z,800nm,13.1s					
CSNA	**Conrad Observa**	**17.89**	**312**	⇑*i*P	**Pn**	**05 52 28.8 -0.3**
	comp=Z,18nm,1.5s					
CSNA	**Conrad Observa**	**17.89**	**312**	P	**Pn**	**05 52 28.8 -0.3**
	comp=Z,18nm,1.5s					
MORC	**Moravsky Berou**	**17.95**	**319**	*e*P	**P**	**05 52 30.3 +0.1**
MORC				pmax	pmax	
	comp=Z,39nm,1.6s					
MORC	**Moravsky Berou**	**17.95**	**319**	*e*P	**P**	**05 52 30.3 +0.1**
	comp=Z,39nm,1.6s					
MORC	**Moravsky Berou**	**17.95**	**319**	*e*P	**P**	**05 52 30.3 +0.1**
	comp=Z,39nm,1.6s					
VRAC	**Vranov**	**18.19**	**317**	P	**P**	**05 52 32.8 0.0**
VRAC	**Vranov**	**18.19**	**317**	P	**P**	**05 52 32.8 0.0**
	comp=Z,1.0nm,0.3s,baz=122,slow=12,SNR=7.0					
VRAC				LR	LR	06 00 47.0
	comp=Z,346nm,19.0s,baz=138,slow=42					
VRAC	**Vranov**	**18.19**	**317**	P	**P**	**05 52 32.8 0.0**
	comp=Z,346nm,19.0s					
MOS	**Moscow**	**18.32**	**3**	*e*P	**Pn**	**05 52 30.4 -3.7**
MOS				pmax	pmax	
	comp=Z,103nm,1.3s					
MOS				pmax	pmax	
	comp=Z,100nm,1.4s					
IPAY	**Payeh**	**18.64**	**86**	*e*P	**Pn**	**05 52 39.1 +0.7**
IPAY	**Payeh**	**18.64**	**86**	*e*P	**Pn**	**05 52 39.1 +0.7**
SUW	**Suwalki**	**18.66**	**336**	*e*P	**P**	**05 52 37.7 -0.2**
SUW				pmax	pmax	
	comp=Z,41nm,0.7s					
SUW	**Suwalki**	**18.66**	**336**	*e*P	**P**	**05 52 37.7 -0.2**
	comp=Z,41nm,0.7s					
SUW	**Suwalki**	**18.66**	**336**	*e*P	**P**	**05 52 37.7 -0.2**
	comp=Z,41nm,0.7s					
MYKA	**Terra Mystica**	**18.72**	**306**	⇑*i*sP	sP	05 52 39.9 -5.3
	comp=Z,19nm,1.0s					
MYKA	**Terra Mystica**	**18.72**	**306**	P	sP	05 52 39.9 -5.3
	comp=Z,19nm,1.0s					
TREC	**Trest**	**18.79**	**315**	AMS	AMS	06 01 20.0
	comp=Z,600nm,12.2s					
MOA	**Molln**	**18.81**	**310**	⇑*i*P	**Pn**	**05 52 40.2 -0.1**
	comp=Z,13nm,0.9s					
MOA	**Molln**	**18.81**	**310**	P	**Pn**	**05 52 40.2 -0.1**
	comp=Z,13nm,0.9s					
DPC	**Dobruska-Polom**	**18.92**	**319**	*e*P	**Pn**	**05 52 41.7 +0.1**
DPC	**Dobruska-Polom**	**18.92**	**319**	*e*P	**Pn**	**05 52 41.7 +0.1**
DPC				*e*pP	pP	05 52 51.3 +5.9
DPC				*e*S	**S**	**05 56 21.9 +6.5**
DPC				AMS	AMS	06 01 20.0
DPC	**Dobruska-Polom**	**18.92**	**319**	*e*P	**Pn**	**05 52 41.7 +0.1**
ISRO	**Mashad**	**19.04**	**86**	*e*P	**P**	**05 52 41.4 -1.0**
ISRO	**Mashad**	**19.04**	**86**	*e*P	**P**	**05 52 41.4 -1.0**
KSP	**Ksiaz**	**19.23**	**320**	⇓*e*P	**P**	**05 52 43.9 -0.3**
KSP				*e*S	**S**	**05 56 22.5 +1.1**
KSP				MLR	MLR	
	comp=Z,1μm,15.0s					
KSP	**Ksiaz**	**19.23**	**320**	*e*P	**P**	**05 52 43.9 -0.3**
KSP	**Ksiaz**	**19.23**	**320**	*e*P	**P**	**05 52 43.9 -0.3**
	comp=Z,1μm,15.0s					
KSP				*e*S	**S**	**05 56 22.5 +1.1**
GEC2	**GERESS Array S**	**19.59**	**312**	*e*P	**P**	**05 52 48.3 -0.1**
	comp=Z,12nm,0.9s					
GEC2	**GERESS Array S**	**19.59**	**312**	*e*P	**P**	**05 52 48.3 -0.1**
GEC2				pmax	pmax	
	comp=Z,138nm,0.9s					
GEC2	**GERESS Array S**	**19.59**	**312**	*e*P	**P**	**05 52 48.3 -0.1**
	comp=Z,138nm,0.9s					
GERES	**GERESS Array B**	**19.59**	**312**	P	**P**	**05 52 48.0

PGF	**Pioggiola**	**21.03**	**292**	*e*P		**P**	**05 53 01.8**	**-2.3**
	comp=Z,74nm,1.3s								
PGF	**Pioggiola**	**21.03**	**292**	*e*P		**P**	**05 53 01.8**	**-2.3**
	comp=Z,37nm,1.3s								
TANN	**Tannenbergstha**	**21.05**	**315**	*e*P		**P**	**05 53 04.0**	**-0.1**
	comp=Z,40nm,1.7s								
ABKAR	**Akbulak array**	**21.09**	**48**	*e*P		**P**	**05 53 06.4**	**+1.9**
	comp=Z,1.1nm,0.4s								
ABKAR	**Akbulak array**	**21.09**	**48**	*e*P		**P**	**05 53 06.4**	**+1.9**
	comp=Z,1.1nm,0.4s								
CLL	**Collm**	**21.20**	**318**	*e*P		**P**	**05 53 05.5**	**-0.2**
	comp=Z,16nm,1.1s								
CLL	**Collm**	**21.20**	**318**	*e*P		**P**	**05 53 05.0**	**-0.7**
CLL				*i*			05 53 09.3		
CLL	**Collm**	**21.20**	**318**	*e*P		**P**	**05 53 05.0**	**-0.7**
CLL				*i*	sP	**sP**	**05 53 09.3**	**-2.9**
CLL				*i*			05 53 11.9		
	comp=Z,16nm,1.1s								
CLL				*e*(SS)			05 57 18.0		
CLL				Lmax			06 02 00.0		
CLL	**Collm**	**21.20**	**318**	*e*P		**P**	**05 53 05.0**	**-0.7**
DAVOX	**Davos/Dischmat**	**21.21**	**304**	P		**P**	**05 53 05.2**	**-0.8**
DAVOX	**Davos/Dischmat**	**21.21**	**304**	P		**P**	**05 53 05.2**	**-0.8**
	comp=Z,3.5nm,0.4s,baz=114,slow=13,SNR=6.9								
DAVOX					LR	LR	06 02 40.6		
	comp=Z,467nm,18.6s,baz=94,slow=41								
DAVOX	**Davos/Dischmat**	**21.21**	**304**	P		**P**	**05 53 05.2**	**-0.8**
	comp=Z,467nm,18.6s								
KEST	**Kesra**	**21.21**	**273**	*e*P		**P**	**05 53 05.8**	**-0.2**
KEST	**Kesra**	**21.21**	**273**	P		**P**	**05 53 05.4**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=153,slow=0.1,SNR=9.4								
KEST	**Kesra**	**21.21**	**273**	*e*P		**P**	**05 53 05.8**	**-0.2**
DAVA	**Damuels**	**21.36**	**306**	⇓*i*P		**P**	**05 53 06.1**	**-1.5**
	comp=Z,15nm,0.6s								
DAVA	**Damuels**	**21.36**	**306**	P		**P**	**05 53 06.1**	**-1.5**
	comp=Z,15nm,0.6s								
MOX	**Moxa**	**21.63**	**315**	*e*P		**P**	**05 53 09.2**	**-1.1**
	comp=Z,33nm,1.7s								
MOX	**Moxa**	**21.63**	**315**	*e*P		**P**	**05 53 09.2**	**-1.1**
MOX					pmax	pmax			
	comp=Z,6.0nm,1.7s								
MOX	**Moxa**	**21.63**	**315**	*e*P		**P**	**05 53 09.2**	**-1.1**
	comp=Z,6.0nm,1.7s								
VSU	**Vasula**	**21.81**	**347**	*i*P		**P**	**05 53 13.3**	**+1.2**
VSU					pmax	pmax			
	comp=Z,76nm,1.2s								
VSU					MLR	MLR			
	comp=Z,532nm,19.0s								
SPAK	**Spaichingen-Ko**	**22.32**	**307**	*e*P		**P**	**05 53 15.9**	**-1.9**
BFO	**Black Forest**	**22.68**	**307**	*e*P		**P**	**05 53 20.2**	**-1.4**
	comp=Z,56nm,1.5s								
BFO	**Black Forest**	**22.68**	**307**	*e*P		**P**	**05 53 20.2**	**-1.4**
BFO					pmax	pmax			
	comp=Z,41nm,1.5s								
BFO	**Black Forest**	**22.68**	**307**	*e*P		**P**	**05 53 20.2**	**-1.4**
	comp=Z,33nm,1.2s								
FELD	**Feldberg im Sc**	**22.75**	**306**	*e*P		**P**	**05 53 20.0**	**-2.5**
TOD	**Tromm**	**22.83**	**311**	*e*P		**P**	**05 53 21.3**	**-1.9**
MBDF	**Montbardon**	**22.90**	**298**	*e*P		**P**	**05 53 20.7**	**-3.3**
	comp=Z,28nm,1.0s								
MBDF	**Montbardon**	**22.90**	**298**	*e*P		**P**	**05 53 20.7**	**-3.3**
	comp=Z,14nm,1.0s								
LMR	**La Mourre**	**22.92**	**294**	*e*P		**P**	**05 53 20.4**	**-3.7**
LMR	**La Mourre**	**22.92**	**294**	*e*P		**P**	**05 53 20.4**	**-3.7**
BNI	**Bardonecchia**	**23.01**	**298**	*e*P		**P**	**05 53 24.2**	**-1.0**
BNI					pmax	pmax			
	comp=Z,15nm,1.0s								
BNI	**Bardonecchia**	**23.01**	**298**	*e*P		**P**	**05 53 24.2**	**-1.0**
	comp=Z,15nm,1.0s								
LPG	**La Plagne**	**23.03**	**300**	*e*P		**P**	**05 53 23.1**	**-2.5**
	comp=Z,26nm,0.9s								
LPG	**La Plagne**	**23.03**	**300**	*e*P		**P**	**05 53 23.1**	**-2.5**
	comp=Z,13nm,0.9s								
LPL	**La Plagne**	**23.05**	**300**	*e*P		**P**	**05 53 23.3**	**-2.4**
	comp=Z,14nm,0.6s								
LPL	**La Plagne**	**23.05**	**300**	*e*P		**P**	**05 53 23.3**	**-2.4**
	comp=Z,7.2nm,0.6s								
LANF	**Langenberg**	**23.22**	**309**	*e*P		**P**	**05 53 24.4**	**-2.8**
MOF	**Molkenrain**	**23.31**	**306**	*e*P		**P**	**05 53 25.5**	**-2.6**
NRDL	**Niedersach Rie**	**23.35**	**318**	*e*P		**P**	**05 53 27.6**	**-0.7**
	comp=Z,12nm,1.3s								
CDF	**Champ du Feu**	**23.38**	**307**	*e*P		**P**	**05 53 25.4**	**-3.4**
CDF	**Champ du Feu**	**23.38**	**307**	*e*P		**P**	**05 53 25.4**	**-3.4**
LOMF	**Lomont**	**23.38**	**304**⇑	*e*P		**P**	**05 53 26.9**	**-1.9**
LOMF	**Lomont**	**23.38**	**304**⇑	*e*P		**P**	**05 53 26.9**	**-1.9**
ECH	**Echery**	**23.39**	**306**	*e*P		**P**	**05 53 26.8**	**-2.1**
ECH	**Echery**	**23.39**	**306**	*e*P		**P**	**05 53 26.8**	**-2.1**
ECH	**Echery**	**23.39**	**306**⇑	*e*P		**P**	**05 53 27.7**	**-1.2**
ECH	**Echery**	**23.39**	**306**⇑	*e*P		**P**	**05 53 27.7**	**-1.2**
HINF	**Hinteralfeld**	**23.48**	**305**	*e*P		**P**	**05 53 26.3**	**-3.5**
	comp=Z,11nm,0.8s								
ORIF	**Oris-en-Rattie**	**23.55**	**298**	*e*P		**P**	**05 53 27.3**	**-3.3**
ORIF				*e*R					
	comp=Z,525nm,20.0s								
ORIF	**Oris-en-Rattie**	**23.55**	**298**	*e*P		**P**	**05 53 27.3**	**-3.3**
CABF	**La Chapelle**	**23.70**	**302**	*e*P		**P**	**05 53 29.0**	**-3.0**
	comp=Z,11nm,0.7s								
CABF	**La Chapelle**	**23.70**	**302**	*e*P		**P**	**05 53 29.0**	**-3.0**
	comp=Z,5.6nm,0.7s								
HAU	**Haudompre**	**23.86**	**306**	*e*P		**P**	**05 53 30.1**	**-3.3**
	comp=Z,20nm,0.6s								
HAU				*e*R					
	comp=Z,292nm,18.2s								
THEF	**They Montfort**	**24.15**	**306**	*e*P		**P**	**05 53 33.3**	**-2.9**
ARU	**Arti**	**24.36**	**32***d*	*i*P		**P**	**05 53 40.5**	**+2.6**
ARU							05 54 07.7		
ARU					S	**S**	**05 58 00.7**	**+4.2**
ARU					pmax	pmax			
	comp=Z,18nm,1.7s								
VIVF	**Saint-Julien-l**	**24.39**	**297**	*e*P		**P**	**05 53 35.3**	**-3.2**
	comp=Z,22nm,0.9s								
PAGF	**Fort de Pagny**	**24.41**	**307**	*e*P		**P**	**05 53 34.3**	**-4.2**
PAGF	**Fort de Pagny**	**24.41**	**307**	*e*P		**P**	**05 53 34.3**	**-4.2**
FINES	**FINESS Array B**	**24.74**	**349**	P		**P**	**05 53 39.9**	**-1.5**
FINES	**FINESS Array B**	**24.74**	**349**	P		**P**	**05 53 39.9**	**-1.5**
	comp=Z,3.4nm,0.6s,baz=150,slow=10,SNR=8.1								
FINES					LR	LR	06 05 03.9		
	comp=Z,239nm,18.9s,baz=2.7,slow=41								
SFTF	**Sexfontaines**	**24.76**	**305**	*e*P		**P**	**05 53 38.8**	**-2.9**
	comp=Z,21nm,0.8s								
MEZF	**Maizieres J'vi**	**24.82**	**306**	*e*P		**P**	**05 53 38.7**	**-3.6**
MEZF	**Maizieres J'vi**	**24.82**	**306**	*e*P		**P**	**05 53 38.7**	**-3.6**
LASF	**Ste Croix**	**24.90**	**295**	*e*P		**P**	**05 53 40.4**	**-2.6**
LASF	**Ste Croix**	**24.90**	**295**	*e*P		**P**	**05 53 40.4**	**-2.6**
SMF	**Signal de Mont**	**25.23**	**301**	*e*P		**P**	**05 53 42.4**	**-3.6**
	comp=Z,64nm,1.1s								
LOR	**Lormes**	**25.33**	**303**	*e*P		**P**	**05 53 43.1**	**-3.8**
	comp=Z,31nm,1.0s								
LOR				*e*R					
	comp=Z,523nm,18.0s								
KAF	**Kangasniemi**	**25.35**	**350**	*e*p		P	05 53 53.2	+6.4	
	comp=Z,4.1nm,0.6s								
KAF	**Kangasniemi**	**25.35**	**350**	*e*P		P	05 53 53.2	+6.4	
KAF					pmax	pmax			
	comp=Z,4.0nm,0.6s								
GIVF	**Givet**	**25.42**	**310**	*e*P		**P**	**05 53 44.3**	**-3.3**
SSF	**Saint Saulge**	**25.53**	**302**	*e*P		**P**	**05 53 45.2**	**-3.4**
	comp=Z,12nm,0.8s								
DOU	**Dourbes**	**25.56**	**310**	P		**P**	**05 53 49.6**	**+0.8**
AVF	**Avril sur Loir**	**25.58**	**302**	*e*P		**P**	**05 53 45.6**	**-3.5**
	comp=Z,20nm,0.7s								
AVF	**Avril sur Loir**	**25.58**	**302**	*e*P		**P**	**05 53 45.6**	**-3.5**
	comp=Z,9.8nm,0.7s								
JOF	**Joensuu**	**25.62**	**355**	*e*p		**P**	**05 53 48.6**	**-0.7**
	comp=Z,6.3nm,0.7s								
JOF	**Joensuu**	**25.62**	**355**	*e*P		**P**	**05 53 48.6**	**-0.7**
JOF					pmax	pmax			
	comp=Z,6.0nm,0.7s								
JOF	**Joensuu**	**25.62**	**355**	*e*P		**P**	**05 53 48.6**	**-0.7**
	comp=Z,6.3nm,0.7s								
BAIF	**Baives**	**25.79**	**309**	*e*P		**P**	**05 53 48.0**	**-3.0**
	comp=Z,28nm,1.1s								
TCF	**Toulx Ste Croi**	**26.29**	**300**	*e*P		**P**	**05 53 52.3**	**-3.3**
	comp=Z,24nm,1.1s								
ATD	**Arta Tunnel**	**26.61**	**164**	LR		LR	06 04 03.5		
	comp=Z,288nm,19.2s,baz=155,slow=35								
RJF	**Les Rejaudoux**	**26.66**	**298**	*e*P		**P**	**05 53 55.8**	**-3.2**
HFS	**Hagfors**	**26.67**	**335**	P		**P**	**05 53 57.7**	**-1.1**
HFS	**Hagfors**	**26.67**	**335**	P		**P**	**05 53 57.7**	**-1.1**
	comp=Z,2.8nm,0.5s,baz=153,slow=10.0,SNR=12								
HFS					LR	LR	06 06 05.6		
	comp=Z,256nm,18.2s,baz=135,slow=40								
TMCR	**Tamitsa**	**26.76**	**2**	*e*P		**P**	**05 53 58.8**	**-0.8**
TMCR				*e*			05 54 41.7		
TMCR					pmax	pmax			
	comp=Z,27nm,1.3s								
KKAR	**Karatay Array**	**27.01**	**67**	*e*P		**P**	**05 54 02.8**	**+0.6**
KKAR					pmax	pmax			
	comp=Z,2.0nm,0.6s								
KKAR	**Karatay Array**	**27.01**	**67**	*e*P		**P**	**05 54 02.8**	**+0.6**
	comp=Z,2.5nm,0.6s								
MFF	**Saint Martin d**	**27.94**	**300**	*e*P		**P**	**05 54 06.5**	**-3.9**
MFF	**Saint Martin d**	**27.94**	**300**	*e*P		**P**	**05 54 06.5**	**-3.9**
NB2	**NORSAR Subarra**	**28.17**	**335**	P		**P**	**05 54 10.3**	**-2.0**
	comp=Z,1.7nm,0.7s,baz=131,slow=10								
NOA	**NORSAR Array B**	**28.17**	**335**	P		**P**	**05 54 10.4**	**-1.9**
NOA	**NORSAR Array B**	**28.17**	**335**	P		**P**	**05 54 10.4**	**-1.9**
	comp=Z,1.0nm,0.6s,baz=129,slow=9.7,SNR=5.6								
NOA					LR	LR	06 06 53.0		
	comp=Z,165nm,18.3s,baz=140,slow=40								
BRVK	**Borovoye**	**28.55**	**46**	⇓*i*P		**P**	**05 54 17.1**	**+1.3**
BRVK					pmax	pmax			
	comp=Z,4.0nm,1.3s								
BRVK					MLR	MLR			
	comp=Z,109nm,18.0s								
BVAR	**Borovoye Array**	**28.60**	**46**	P		**P**	**05 54 15.8**	**-0.4**
BVAR					pmax	pmax			
	comp=Z,1.0nm,0.4s								
BVAR	**Borovoye Array**	**28.60**	**46**	P		**P**	**05 54 15.8**	**-0.4**
BVAR	**Borovoye Array**	**28.60**	**46**	P		**P**	**05 54 15.8**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=212,slow=5.1,SNR=2.9								
GRR	**Gorron**	**28.65**	**304**	*e*P		P	05 54 12.8	-3.9	
SGMF	**Saint Gilles**	**29.76**	**304**	*e*P		P	05 54 22.4	-4.1	
TAM	**Tamanrasset**	**29.77**	**249**	*e*P		**P**	**05 54 27.3**	**+0.3**
TAM					pmax	pmax			
	comp=Z,3.0nm,0.8s								
TAM	**Tamanrasset**	**29.77**	**249**	*e*P		**P**	**05 54 27.3**	**+0.3**
	comp=Z,2.8nm,0.8s								
AAK	**Ala-Archa**	**29.95**	**68**	P		**P**	**05 54 29.4**	**+0.9**
AAK					pmax	pmax			
	comp=Z,1.0nm,0.3s								
AAK					MLR	MLR			
	comp=Z,122nm,20.7s								
AAK	**Ala-Archa**	**29.95**	**68**	P		**P**	**05 54 29.4**	**+0.9**
AAK	**Ala-Archa**	**29.95**	**68**	P		**P**	**05 54 29.4**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=292,slow=5.4,SNR=4.2								
AAK					LR	LR	06 07 56.0		
	comp=Z,122nm,20.6s,baz=50,slow=39								
QUIF	**Quistinic**	**30.12**	**303**	*e*P		P	05 54 25.9	-3.9	
QUIF	**Quistinic**	**30.12**	**303**	*e*P		P	05 54 25.9	-3.9	
ROSF	**Rostrenen**	**30.24**	**304**	*e*P		P	05 54 26.5	-4.3	
LVZ	**Lovozero**	**30.48**	**359***c*	*i*P		**P**	**05 54 32.9**	**+0.1**
LVZ					pmax	pmax			
	comp=Z,9.0nm,2.7s								
LVZ					MLR	MLR			
	comp=Z,228nm,17.0s								
ESDC	**Sonseca Array**	**30.92**	**287**	LR		LR	06 08 26.3		
	comp=Z,122nm,18.2s,baz=80,slow=39								
KSH	**Kashi**	**31.40**	**74**	*e*P					
KSH					PP	**PnPn**	**05 55 45.5**	**+1.5**	
KSH					S	**S**	**05 59 48.0**	**-0.3**	
KSH					PcS	**PcS**	**06 01 20.0**	**+1.0**	
KSH					SS	**SnSn**	**06 01 33.3**	**+1.0**	
KSH					pmax	pmax			
	comp=Z,4.0nm,1.0s								
KSH					pmax	pmax			
	comp=Z,54nm,4.7s								
KSH					LR	LR			
	comp=N,99nm,5.3s								
KSH					LR	LR			
	comp=E,110nm,5.1s								
KSH					LR	LR			
	comp=Z,180nm,6.3s								
ARCES	**ARCESS Array B**	**32.60**	**353**	P		**P**	**05 54 50.0**	**-1.3**	
ARCES	**ARCESS Array B**	**32.60**	**353**	P		**P**	**05 54 50.0**	**-1.3**	
	comp=Z,1.3nm,0.7s,baz=160,slow=7.8,SNR=6.5								
ARCES					LR	LR	06 09 16.8		
	comp=Z,135nm,19.3s,baz=73,slow=39								
KURBB	**Kurchatov Arra**	**33.00**	**53**	P		**P**	**05 54 55.1**	**+0.1**	
	comp=Z,3.4nm,0.6s,baz=268,slow=8.8,SNR=19								
KURK	**Kurchatov**	**33.07**	**53**	P		**P**	**05 54 55.1**	**-0.5**	
KURK					pmax	pmax			
	comp=Z,3.0nm,0.6s								
KURK	**Kurchatov**	**33.07**	**53**	P		**P**	**05 54 55.1**	**-0.5**	
MK31	**Makanchi Array**	**35.33**	**60**	*e*P		**P**	**05 55 16.6**	**+1.3**	
MK31	**Makanchi Array**	**35.33**	**60**	*e*P		**P**	**05 55 16.6**	**+1.3**	
MKAR	**Makanchi Array**	**35.33**	**60**	*e*P		**P**	**05 55 18.3**	**+3.0**	
MKAR	**Makanchi Array**	**35.33**	**60**	*e*P		**P**	**05 55 18.2**	**+3.0**	
MKAR	**Makanchi Array**	**35.33**	**60**	P		**P**	**05 55 16.2**	**+0.9**	
	comp=Z,1.8nm,0.7s,baz=274,slow=7.8,SNR=13								
MKAR					LR	LR	06 11 47.8		
	comp=Z,117nm,21.3s,baz=50,slow=40								
NVS	**Novosibirsk**	**36.40**	**46**	*e*P		**P**	**05 55 24.8**	**+0.5**	
ZALV	**Zalesovo Beam**	**37.21**	**48**	*i*P		**P**	**05 55 33.2**	**+2.0**	
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.4s								
ZALV	**Zalesovo Beam**	**37.21**	**48**	P		**P**	**05 55 30.2**	**-1.0**	
ZALV	**Zalesovo Beam**	**37.21**	**48**	P		**P**	**05 55 30.2**	**-1.0**	
	comp=Z,0.9nm,0.4s,baz=263,slow=8.8,SNR=3.7								
KMBO	**Kilima Mbogo**	**38.43**	**178**	LR		LR	06 13 08.5		
	comp=Z,87nm,18.1s,baz=106,slow=39								
TOA0	**Torodi Ar. Sit**	**38.80**	**240**	*e*P		**P**	**05 55 43.1**	**-1.9**	
TORD	**Torodi Ar. Bea**	**38.80**	**240**	P		**P**	**05 55 43.6**	**-1.4**	
TORD	**Torodi Ar. Bea**	**38.80**	**240**	P		**P**	**05 55 43.6**	**-1.4**	
	comp=Z,2.4nm,0.8s,baz=49,slow=8.0,SNR=16								
WMQ	**Urumqi**	**39.41**	**64**	P		**P**	**05 55 49.9**	**-0.1**	
WMQ				pP		**pP**	**05 55 53.9**	**-1.0**	
WMQ				sP		**sP**	**05 55 56.4**	**-0.5**	
WMQ				PP		**PnPn**	**05 57 24.6**	**+1.4**	
WMQ				pmax	pmax				
	comp=Z,2.0nm,0.5s								
WMQ					LR	LR			
	comp=N,120nm,20.0s								
WMQ					LR	LR			
	comp=E,120nm,22.4s								
WMQ					LR	LR			
	comp=Z,120nm,21.2s								
SPITS	**Spitsbergen Ar**	**41.62**	**354**	P		**P**	**05 56 07.0**	**-0.8**	
SPITS	**Spitsbergen Ar**	**41.62**	**354**	P		**P**	**05 56 07.0**	**-0.8**	
	comp=Z,4.0nm,0.7s,baz=143,slow=5.0,SNR=5.5								
LSA	**Lhasa**	**46.27**	**83**	*e*P		**P**	**05 56 49.0**	**+2.7**	
LSA					pmax	pmax			
	comp=Z,6.0nm,0.5s								
LSA	**Lhasa**	**46.27**	**83**	*e*P		**P**	**05 56 49.0**	**+2.7**	
	comp=Z,6.3nm,0.5s								
DBIC	**Dimbokro**	**47.91**	**241**	*e*P		**P**	**05 56 57.1**	**-1.5**	
	comp=Z,7.8nm,1.1s								
DBIC	**Dimbokro**	**47.91**	**241**	P		**P**	**05 56 57.0**	**-1.5**	
	comp=Z,2.6nm,0.8s,baz=301,slow=7.3,SNR=4.6								
ZAK	**Zakamensk**	**48.73**	**52**	*e*P		**P**	**05 57 03.4**	**-1.3**	
ZAK					pmax	pmax			
	comp=Z,3.0nm,1.3s								
GTA	**Gaotai**	**49.29**	**67**	*e*P		P	05 57 13.5	+4.3	
GTA				pP		pP	05 57 18.0	+3.8	
GTA				sP		sP	05 57 20.5	+4.4	
GTA				S		S	06 04 24.4	+9.5	
GTA				sS		sS	06 04 31.5	+8.4	
GTA				pmax	pmax				
	comp=Z,3.0nm,1.3s								
GTA					pmax	pmax			
	comp=Z,33nm,6.2s								
GTA					LR	LR			
	comp=N,120nm,18.8s								
GTA					LR	LR			
	comp=E,150nm,19.5s								
GTA					LR	LR			
	comp=Z,100nm,20.2s								
SONM	**Songino Array**	**51.32**	**55**	P		**P**	**05 57 24.5**	**+0.1**	
SONM	**Songino Array**	**51.32**	**55**	P		**P**	**05 57 24.5**	**+0.1**	
	comp=Z,1.6nm,0.9s,baz=284,slow=9.3,SNR=7.0								
SONM					LR	LR	06 21 39.2		
	comp=Z,283nm,18.4s,baz=170,slow=39								
ULN	**Ulaanbaatar**	**51.74**	**54**	*e*P		**P**	**05 57 28.1**	**+0.5**	
	comp=Z,4.8nm,0.9s								
CD2	**Chengdu**	**55.58**	**75**	*e*P		**P**	**05 57 55.8**	**-0.1**	
CD2				pP		**pP**	**05 58 00.5**	**-0.4**	
CD2				sP		**sP**	**05 58 02.9**	**+0.1**	
CD2				pmax	pmax				
	comp=Z,10.0nm,0.8s								
CD2					pmax	pmax			
	comp=Z,50nm,6.2s								
HHC	**Hu-ho-hao-te**	**57.17**	**61**	*e*P		**P**	**05 58 08.4**	**+1.3**	
HHC				sP		**sP**	**05 58 15.9**	**+1.8**	
HHC				PP		**PP**	**06 00 17.5**	**+3.6**	
HHC				PcS		**PcS**	**06 03 02.5**	**-0.2**	
HHC				S		**S**	**06 06 01.8**	**-0.2**	
HHC				ScS		**ScS**	**06 07 51.8**	**-4.2**	
HHC				SS		**SS**	**06 09 47.5**	**-3.1**	
HHC				pmax	pmax				
	comp=Z,29nm,0.9s								
HHC					pmax	pmax			
	comp=Z,320nm,6.5s								
HHC					LR	LR			
	comp=N,230nm,15.9s								
HHC					LR	LR			
	comp=E,630nm,27.7s								
HHC					LR	LR			
	comp=Z,790nm,26.5s								
KMI	**Kunming**	**57.51**	**82**	P		**P**	**05 58 11.4**	**+1.5**	
KMI					pmax	pmax			
	comp=Z,5.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**57.95**	**91**	P		**P**	**05 58 13.9**	**+1.1**	
CMAR	**Chiang Mai Arr**	**57.95**	**91**	P		**P**	**05 58 13.9**	**+1.1**	
	comp=Z,1.4nm,0.5s,baz=295,slow=8.6,SNR=7.1								
XAN	**Xi'an**	**58.11**	**69**	P		P	05 58 17.1	+3.3	
XAN				pP		pP	05 58 23.3	+4.5	
XAN				pmax	pmax				
	comp=Z,1.0nm,0.9s								
XAN					LR	LR			
	comp=N,61nm,19.3s								
XAN					LR	LR			
	comp=Z,45nm,15.3s								
GYA	**Guiyang**	**59.92**	**78**	*e*P		**P**	**05 58 27.0**	**+0.5**	
GYA					pmax	pmax			
	comp=Z,10.0nm,1.0s								
BJI	**Beijing**	**60.70**	**60**	P		**P**	**05 58 32.5**	**+1.0**	
BJI					pmax	pmax			
	comp=Z,10.0nm,1.2s								
BJI					LR	LR			
	comp=N,130nm,25.1s								
BJI					LR	LR			
	comp=E,110nm,20.0s								
BJI					LR	LR			
	comp=Z,41nm,26.5s								
CN2	**Changchun**	**65.14**	**53**	*e*P		P	05 59 06.8	+5.8	
CN2					pmax	pmax			
	comp=Z,20nm,0.6s								
NJ2	**Nanjing**	**66.39**	**67**	*e*P		**P**	**05 59 08.4**	**-0.8**	
NJ2					pmax	pmax			
	comp=Z,20nm,0.5s								
BOSA	**Boshof**	**66.47**	**190**	*e*P		**P**	**05 59 09.9**	**+0.3**	
	comp=Z,19nm,1.2s								
BOSA	**Boshof**	**66.47**	**190**	P		**P**	**05 59 09.7**	**0.0**	
	comp=Z,7.7nm,1.0s,baz=258,slow=1.7,SNR=5.7								
BOSA					LR	LR	06 28 29.1		
	comp=Z,87nm,19.6s,baz=352,slow=36								
SCHQ	**Schefferville**	**66.79**	**322**	P		**P**	**05 59 10.3**	**-1.1**	
SCHQ	**Schefferville**	**66.79**	**322**	P		**P**	**05 59 10.3**	**-1.1**	
	comp=Z,2.5nm,0.9s,baz=29,slow=10,SNR=3.8								
PSI	**Prapat**	**67.20**	**105**	LR		LR	06 29 23.7		
	comp=Z,102nm,18.8s,baz=44,slow=37								
USRK	**Ussuriysk Arra**	**69.02**	**50**	P		**P**	**05 59 24.7**	**-0.8**	
	comp=Z,0.8nm,0.7s,baz=297,slow=9.5,SNR=3.5								
KSAR	**Wonju Array Be**	**69.96**	**58**	P		**P**	**05 59 32.5**	**+1.0**	
KSRS	**Korea Array**	**69.98**	**58**	P		**P**	**05 59 32.5**	**+0.9**	
	comp=Z,3.4nm,1.0s,baz=298,slow=5.4,SNR=8.3								
COLD	**Coldfoot**	**75.53**	**2**	*e*P		**P**	**06 00 04.8**	**+0.7**	
	comp=Z,7.0nm,1.0s								
MJAR	**Matsushiro Arr**	**77.27**	**54**	P		**P**	**06 00 16.0**	**+1.5**	
MJAR	**Matsushiro Arr**	**77.27**	**54**	P		**P**	**06 00 16.0**	**+1.5**	
	comp=Z,0.4nm,0.4s,baz=341,slow=6.4,SNR=4.0								
MJAR					LR	LR	06 37 42.3		
	comp=Z,104nm,19.7s,baz=280,slow=38								
YKA	**Yellowknife Ar**	**77.55**	**346**	P		**P**	**06 00 14.2**	**-1.4**	
YKA	**Yellowknife Ar**	**77.55**	**346**	P		**P**	**06 00 14.2**	**-1.4**	
	comp=Z,0.5nm,0.6s,baz=34,slow=5.1,SNR=3.6								
ILAR	**Eielson Array**	**78.07**	**1**	P		**P**	**06 00 18.2**	**-0.3**	
ILAR	**Eielson Array**	**78.07**	**1**	P		**P**	**06 00 18.2**	**-0.3**	
	comp=Z,0.6nm,0.9s,baz=321,slow=3.6,SNR=3.6								
ULM	**Lac du Bonnet**	**82.79**	**331**	P		**P**	**06 00 42.0**	**-2.1**	
ULM	**Lac du Bonnet**	**82.79**	**331**	P		**P**	**06 00 42.0**	**-2.1**	
	comp=Z,2.3nm,0.7s,baz=341,slow=6.2,SNR=3.4								
BDFB	**Brasilia**	**94.50**	**254**	LR		LR	06 45 51.8		
	comp=Z,50nm,18.4s,baz=295,slow=37								

ROM 24 05:48:49.7±0.2, 42.48N×13.34E, h16km±1km, Md1.5/4, Ml1.2/3, Error ellipse: s-maj=2.7km s-min=1.3km az=23.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.08**	**41**	Pg	Pg	05 48 53.2	+0.1
CAMP				Sg	Sg	05 48 55.3	0.0
	28nm,0.4s						
LNSS	**Leonessa**	**0.26**	**299**	Pg	Pg	05 48 55.5	0.0
LNSS				Sg	Sg	05 48 59.9	+0.4
	20nm,0.3s				

DCZ				AML	AML	06 15 20.6		
WHZ	**Wether Hill Ro**	**1.05**	**104**	P*	Pb	06 15 13.6	-0.7	
WHZ				AML	AML	06 15 35.6		
WHZ				AML	AML	06 15 38.0		
MLZ	**Mavora Lakes**	**1.23**	**76**	⇓PN	Pn	06 15 15.8	-1.2	
MLZ				SN	Sb	06 15 31.4	-1.5	
MLZ				AML	AML	06 15 32.8		
MSZ	**Milford Sound**	**1.42**	**47**	PN	Pg	06 15 24.1	+2.3	
MSZ				AML	AML	06 15 42.7		
MSZ				AML	AML	06 15 45.9		
MSZ				AML	AML	06 15 51.8		
MSZ				AML	AML	06 15 54.7		
APZ	**The Paps**	**1.57**	**139**	PN	Pn	06 15 21.0	-0.7	
APZ				SN	Sn	06 15 41.3	-0.5	
WKZ	**Wanaka**	**1.97**	**66**	PN	Pb	06 15 28.9	-1.1	
WKZ				AML	AML	06 15 58.8		
WKZ				AML	AML	06 15 58.8		
WKZ				AML	AML	06 16 02.8		
EAZ	**Earnscleugh**	**2.03**	**79**	PN	Pb	06 15 29.9	-1.1	
EAZ				AML	AML	06 15 59.7		
EAZ				AML	AML	06 15 59.7		
EAZ				AML	AML	06 16 00.2		
EAZ				AML	AML	06 16 00.2		
SYZ	**Scrubby Hill**	**2.05**	**116**	PN	Pn	06 15 29.4	+1.3	
TUZ	**Tuapeka**	**2.22**	**99**	PN	Pb	06 15 32.9	-1.3	
TUZ				AML	AML	06 16 04.7		
TUZ				AML	AML	06 16 05.6		
JCZ	**Jackson Bay**	**2.26**	**46**	PN	Pb	06 15 35.7	+0.6	
JCZ				AML	AML	06 16 15.2		
JCZ				AML	AML	06 16 17.3		
LBZ	**Lake Benmore**	**2.92**	**66**	PN	Pn	06 15 42.5	+2.3	
ODZ	**Otahua Downs**	**3.00**	**80**	PN	Pn	06 15 42.0	+0.8	
FOZ	**Fox Glacier**	**3.10**	**49**	PN	Pb	06 15 46.5	-2.6	
RPZ	**Rata Peaks**	**3.79**	**61**	PN	Pn	06 15 53.7	+1.5	
WVZ	**Waitaha Valley**	**3.99**	**51**	PN	Pn	06 15 56.3	+1.4	
OXZ	**Oxford**	**4.61**	**62**	PN	Pn	06 16 04.9	+1.6	
DSZ	**Denniston Nort**	**5.49**	**46**	PN	Pn	06 16 16.4	+0.8	

*BJI **24** 06:58:00.3,3˝.62N×126˚.67E,h18km,mB4.7/19,mb4.7/26, Ms4.4/10,Ms7 4.3/10*
*ISCJB **24** 06:58:01.1±0.5,3˚.02N±0˝.04×126˚.99E±0˝.04,h81km±6km, mb4.4/44,Error ellipse: s-maj=7.4km s-min=5.6km az=150.9*
*DJA **24** 06:58:02.7±1.0,3˚N±9˝×12˚.7E±˚,h20km,M4.8/10,mb4.9/7, mB5.4/5,MLv4.8/10,Mw(mB)4.8/5*
*NEIC **24** 06:58:02.7±2.0,3˚.20N×126˚.63E,h63km±19km,mb4.6/16, Error ellipse: s-maj=18.5km s-min=10.1km az=80.0*
*IDC **24** 06:58:03.5±3.6,2˚.97N×126˚.85E,h86km±34km,mb3.9/16, mb1 4.0/17,mb1mx3.9/22,mbtmp3.9/17,MS3.2/2, Ms1 3.3/2,ms1mx2.5/40,Error ellipse: s-maj=26.9km s-min=12.5km az=77.0*
*AUST **24** 06:58:04.2±0.6,3˚.22N×127˚.09E,h70km,Error ellipse: s-maj=1.3km s-min=1.2km az=333.0*

ISC 24 06:57:59.7±0.6,3˚.17N±0˝.06×126˚.77E±0˝.07,h36km±1km, n106,σ1§76/127,mb4.6/42,MS3.7/5,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**1.67**	**142**	P	**Pn**	**06 58 25.4**	**-1.0**
GAMI				S	**Sn**	**06 58 43.3**	**-3.3**
TNTI	**Ternate**	**2.46**	**166**	P	**Pn**	**06 58 37.2**	**0.0**
MNI	**Manado**	**2.58**	**228**	P	Pn	06 58 43.2	+4.2
KMSI	**Cibinong**	**3.80**	**227**	P	Pn	06 59 00.3	+4.6
LBMI	**Labuha**	**3.85**	**169**	P	**Pn**	**06 58 57.9**	**+1.4**
DAV	**Davao City (W)** 36nm,0.3s,baz=352,slow=19,SNR=5.3	**4.05**	**343**	S	Sn	06 59 54.7	+9.3
GTOI	**Gorontalo**	**4.52**	**236**	P	Pn	06 59 10.5	+4.8
MRSI	**Marisa** 373nm,0.8s,4µm1.5nm	**5.52**	**241**	P	Pn	06 59 25.1	+5.7
LUWI	**Luwuk** 173nm,0.7s,3µm1.0nm	**5.79**	**224**	P	Pn	06 59 28.1	+5.1
LUWI	**Luwuk** baz=6.1,SNR=16	**5.79**	**224**	P	Pn	06 59 28.8	+5.7
SWI	**Sorong** baz=5.8,SNR=5.0	**6.02**	**132**	P	**Pn**	**06 59 28.0**	**+1.8**
NLAI	**Namlea** 35nm,0.6s,2µm0.4nm	**6.38**	**177**	P	**Pn**	**06 59 31.5**	**+0.4**
SKSI	**Soroako, Sulaw** 43nm,0.7s,2µm0.2nm	**7.85**	**224**	P	**Pn**	**06 59 53.9**	**+2.5**
FAKI	**Fak Fak** baz=8.0,SNR=10	**8.16**	**138**	P	**Pn**	**06 59 56.3**	**+0.6**
MYLDM	**Lahad Datu** 79nm,0.9s	**8.49**	**284**	P	Pn	07 00 07.9	+7.8
PALU	**Palau** baz=8.4,SNR=7.2	**8.72**	**61**	P	**Pn**	**07 00 03.5**	**+0.2**
TTSI	**Tana Toraja** 42nm,0.9s,1µm	**9.29**	**228**	P	**Pn**	**07 00 14.4**	**+3.2**
SPSI	**Sidrap Palu**	**9.96**	**225**	P	Pn	07 00 31.6	+11
KAPI	**Kappang**	**10.74**	**221**	*e*Pn	**Pn**	**07 00 31.8**	**+0.8**
KAPI	**Kappang** 1.5nm,0.3s,baz=34,slow=18,SNR=5.8	**10.74**	**221**	P	**Pn**	**07 00 32.2**	**+1.3**
SBUM	**Sibu**	**14.55**	**268**	P	**P**	**07 01 28.7**	**-0.5**
MTN	**Manton Dam** baz=17,SNR=9.6	**16.49**	**165**	P	**Pn**	**07 01 44.6**	**-3.8**
KDU	**Kakadu** baz=17,SNR=3.5	**16.74**	**160**	P	**P**	**07 01 57.7**	**+4.3**
KNRA	**Kununurra** baz=19,SNR=6.1	**18.83**	**174**	P	**P**	**07 02 15.7**	**-0.8**
TPUB	**Ta-pu** 34nm,0.9s	**20.88**	**344**	*e*Pn	**P**	**07 02 38.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**21.17**	**183**	P	**P**	**07 02 41.6**	**-0.4**
FITZ	**Fitzroy Crossi** 1.4nm,0.5s,baz=1.5,slow=13,SNR=7.4	**21.17**	**183**	P	**P**	**07 02 41.6**	**-0.4**
FITZ	**Fitzroy Crossi** baz=21,SNR=13	**21.17**	**183**	P	P	07 02 50.0	+8.1
SSLB	**Suanglung** 14nm,0.7s	**21.25**	**345**	*e*P	**P**	**07 02 43.1**	**+0.2**
YHNB	**Yeheng** 22nm,0.9s	**22.00**	**347**	*e*P	**P**	**07 02 50.7**	**-0.2**
QIZ	**Qiongzhong**	**22.86**	**315**	P	**P**	**07 02 59.5**	**-0.6**
QIZ				S	**S**	**07 07 05.3**	**-2.0**
QIZ	comp=Z,130nm,3.9s			pmax	pmax		
COEN	**Coen** comp=Z,41nm,0.9s	**23.54**	**137**	*e*P	**P**	**07 03 11.1**	**+4.2**
WRAB	**Tennant Creek** comp=Z,20nm,0.5s	**24.14**	**162**	*e*P	**P**	**07 03 09.9**	**-2.5**
WRA	**Warramunga Arr**	**24.14**	**162**	P	**P**	**07 03 08.7**	**-3.8**
WRA	**Warramunga Arr** comp=Z,2.2nm,0.6s,baz=340,slow=10,SNR=32	**24.14**	**162**	P	**P**	**07 03 08.7**	**-3.8**
MBWA	**Marble Bar** comp=Z,7.0nm,0.8s	**25.14**	**196**	*e*P	**P**	**07 03 25.1**	**+3.6**
ASAR	**Alice Springs**	**27.57**	**166**	P	**P**	**07 03 40.2**	**-3.2**
ASAR	**Alice Springs** comp=Z,0.5nm,0.7s,baz=348,slow=7.6,SNR=6.4	**27.57**	**166**	P	**P**	**07 03 40.2**	**-3.2**
NJ2	**Nanjing**	**29.68**	**346**	*e*P	**P**	**07 04 02.6**	**+0.5**
NJ2	comp=Z,20nm,0.6s			pmax	pmax		
GYA	**Guiyang**	**30.13**	**322**	*e*P	**P**	**07 04 08.0**	**+1.6**
GYA				pP	**pP**	**07 04 17.8**	**+1.0**
GYA				PP	**PnPn**	**07 05 06.4**	**+1.9**
GYA				PcP	**PcP**	**07 07 10.3**	**+2.9**
GYA				S	**S**	**07 09 02.0**	**-1.1**
GYA				sS	**sS**	**07 09 19.4**	**-0.9**
GYA				ScP	**ScP**	**07 10 47.6**	**+0.5**
GYA				ScS	**ScS**	**07 14 41.8**	**-1.1**
GYA	comp=Z,10.0nm,0.8s			pmax	pmax		
MEEK	**Meekatharra** baz=31,SNR=7.4	**30.66**	**194**	P	P	07 04 17.1	+6.1
CMAR	**Chiang Mai Arr**	**31.19**	**301**	P	**P**	**07 04 16.3**	**+0.6**
CMAR	**Chiang Mai Arr** comp=Z,1.2nm,0.3s,baz=113,slow=6.9,SNR=7.8	**31.19**	**301**	P	**P**	**07 04 16.3**	**+0.6**
CHTO	**Chiang Mai** comp=Z,3.3nm,0.4s	**31.35**	**302**	*e*P	**P**	**07 04 17.4**	**+0.3**
KMI	**Kunming**	**31.80**	**316**	P	**P**	**07 04 23.3**	**+2.0**
KMI	comp=Z,8.0nm,0.8s			pmax	pmax		
FORT	**Forrest** comp=Z,13nm,0.5s	**33.78**	**178**	*e*P	**P**	**07 04 40.4**	**+2.2**
KSAR	**Wonju Arr Be**	**34.12**	**2**	P	**P**	**07 04 42.1**	**+1.1**
KSRS	**Korea Array** comp=Z,2.3nm,0.5s,baz=178,slow=9.2,SNR=11	**34.14**	**2**	P	**P**	**07 04 42.1**	**+1.0**
MJAR	**Matsushiro Arr**	**34.84**	**16**	P	**P**	**07 04 47.1**	**-0.2**
MJAR	**Matsushiro Arr** comp=Z,0.9nm,0.5s,baz=184,slow=9.5,SNR=3.0	**34.84**	**16**	P	**P**	**07 04 47.1**	**-0.2**
XAN	**Xi'an**	**34.93**	**334**	P	**P**	**07 04 47.5**	**-0.7**
XAN				pP	**pP**	**07 04 57.8**	**-0.9**
XAN	comp=Z,2.0nm,0.7s			pmax	pmax		
CD2	**Chengdu**	**35.12**	**324**	*e*P	**P**	**07 04 50.5**	**+0.6**
CD2				pP	**pP**	**07 05 01.1**	**+0.7**
CD2				sP	**sP**	**07 05 05.3**	**+0.6**
CD2				PP	**PP**	**07 06 09.8**	**-0.2**
CD2				S	**S**	**07 10 19.8**	**-0.6**
CD2				sS	**sS**	**07 10 36.4**	**-1.3**
CD2				SS	**SnSn**	**07 12 35.6**	**-3.3**
CD2	comp=Z,10.0nm,0.8s			pmax	pmax		
CD2	comp=Z,30nm,4.8s			pmax	pmax		
CD2	comp=E,160nm,5.8s			LR	LR		
CD2	comp=Z,270nm,4.8s			LR	LR		
BBOO	**Buckleboo** baz=37,SNR=6.1	**36.85**	**167**	P	**P**	**07 05 02.7**	**-1.9**
STKA	**Stephens Creek** comp=Z,3.2nm,0.7s	**37.60**	**159**	*e*P	**P**	**07 05 08.2**	**-2.8**
STKA	**Stephens Creek** comp=Z,3.8nm,0.6s,baz=338,slow=10,SNR=11	**37.60**	**159**	P	**P**	**07 05 08.2**	**-2.8**
STKA	**Stephens Creek** baz=38,SNR=5.0	**37.60**	**159**	P	P	07 05 16.6	+5.7
BJI	**Beijing**	**37.94**	**347**	P	**P**	**07 05 14.6**	**+0.9**
BJI	comp=Z,46nm,1.1s			pmax	pmax		
LZH	**Lanzhou**	**39.00**	**330**	*e*P	**P**	**07 05 24.0**	**+1.0**
LZH				pP	**pP**	**07 05 33.8**	**+0.3**
LZH				sP	**sP**	**07 05 37.6**	**-0.3**
LZH				PP	**PnPn**	**07 06 54.5**	**-0.9**
LZH				*e*S	**ScP**	**07 11 17.8**	**-0.8**
LZH				SS	SS	07 13 59.6	-13
LZH	comp=Z,17nm,1.0s			pmax	pmax		
LZH	comp=Z,79nm,4.0s			pmax	pmax		
LZH	comp=N,170nm,13.4s			LR	LR		
LZH	comp=E,230nm,14.9s			LR	LR		
LZH	comp=Z,500nm,16.2s			LR	LR		
HHC	**Hu-ho-hao-te**	**39.94**	**342**	*e*P	**P**	**07 05 32.8**	**+2.2**
HHC				pP	**pP**	**07 05 42.6**	**+1.4**
HHC				sP	**sP**	**07 05 46.8**	**+1.2**
HHC				PcS	**PcS**	**07 11 29.5**	**+3.6**
HHC				S	**S**	**07 11 35.3**	**+1.8**
HHC				SS	**SS**	**07 14 24.8**	**-6.4**
HHC				ScS	**ScS**	**07 15 37.3**	**+2.1**
HHC	comp=Z,34nm,0.9s			pmax	pmax		
HHC	comp=Z,180nm,7.7s			pmax	pmax		
HHC	comp=N,270nm,20.2s			LR	LR		
HHC	comp=E,640nm,19.4s			LR	LR		
HHC	comp=Z,330nm,21.6s			LR	LR		
CN2	**Changchun**	**40.48**	**359**	*e*P	**P**	**07 05 35.6**	**+0.7**
CN2	comp=Z,10.0nm,0.6s			pmax	pmax		
USRK	**Ussuriysk Arra** comp=Z,8.2nm,0.8s,baz=190,slow=6.6,SNR=22	**41.12**	**6**	P	**P**	**07 05 41.0**	**+0.9**
LSA	**Lhasa** comp=Z,7.0nm,0.6s	**42.84**	**312**	*e*P	**P**	**07 05 56.0**	**+1.0**
GTA	**Gaotai**	**43.59**	**329**	*e*P	**P**	**07 06 01.3**	**+0.7**
GTA				pP	**pP**	**07 06 11.0**	**-0.3**
GTA				sP	**sP**	**07 06 15.1**	**-0.5**
GTA				S	**S**	**07 12 27.8**	**+0.1**
GTA				sS	**sS**	**07 12 44.6**	**-0.7**
GTA				SS	SS	07 15 35.6	-7.9
GTA	comp=Z,3.0nm,1.1s			pmax	pmax		
GTA	comp=Z,58nm,5.9s			pmax	pmax		
GTA	comp=N,60nm,16.4s			LR	LR		
GTA	comp=E,65nm,15.9s			LR	LR		
GTA	comp=Z,54nm,15.4s			LR	LR		
TAPN	**Taplejung** comp=Z,22nm,0.5s	**44.38**	**307**	*e*P	**P**	**07 06 07.2**	**-0.1**
ODAN	**Odare** comp=Z,32nm,0.7s	**44.43**	**306**	*e*P	**P**	**07 06 07.6**	**0.0**
RAMN	**Ramite** comp=Z,28nm,0.6s	**45.10**	**306**	*e*P	**P**	**07 06 13.3**	**+0.3**
MILA	**Mila** baz=45,SNR=14	**45.12**	**155**	P	sP	07 06 30.0	+2.2
JIRN	**Jiri** comp=Z,33nm,0.5s	**45.73**	**306**	*e*P	**P**	**07 06 18.0**	**-0.1**
GUN	**Gumba** comp=Z,54nm,0.5s	**46.09**	**306**	*e*P	**P**	**07 06 20.7**	**-0.2**
PKI	**Pulchoki** comp=Z,10nm,0.4s	**46.33**	**306**	*e*P	**P**	**07 06 22.1**	**-0.6**
PKIN	**Phulchoki**	**46.34**	**306**	*e*P	**P**	**07 06 22.0**	**-0.8**
KKN	**Kakani** comp=Z,20nm,0.5s	**46.52**	**306**	*e*P	**P**	**07 06 23.6**	**-0.5**
DMN	**Daman** comp=Z,30nm,0.8s	**46.59**	**306**	*e*P	**P**	**07 06 24.4**	**-0.3**
ULN	**Ulaanbaatar** comp=Z,9.9nm,0.9s	**47.66**	**342**	*e*P	**P**	**07 06 33.8**	**+1.1**
SONM	**Songino Array**	**47.84**	**342**	P	**P**	**07 06 34.4**	**+0.5**
SONM				pP	pP	07 06 50.4	+5.7
SONM				PcP	**PcP**	**07 08 01.4**	**-0.9**
SONM	**Songino Array** comp=Z,4.2nm,0.7s,baz=155,slow=8.2,SNR=28	**47.84**	**342**	P	**P**	**07 06 34.4**	**+0.5**
SONM	comp=Z,1.1nm,0.6s,baz=158,slow=6.4,SNR=3.6			pP	pP	07 06 50.4	+5.7
SONM	comp=Z,1.8nm,0.8s,baz=157,slow=3.8,SNR=5.6			PcP	**PcP**	**07 08 01.4**	**-0.9**
SONM	comp=Z,31nm,21.1s,baz=6.6,slow=39			LR	LR	07 29 06.2		
KOLN	**Koldanda**	**47.88**	**305**	*e*P	**P**	**07 06 34.7**	**0.0**
DANN	**Dangsing** comp=Z,77nm,0.6s	**47.97**	**306**	*e*P	**P**	**07 06 35.3**	**-0.2**
PYUN	**Piuthan**	**48.50**	**305**	*e*P	**P**	**07 06 38.6**	**-0.9**
WMQ	**Urumqi**	**53.20**	**325**	P	**P**	**07 07 16.8**	**+2.3**
MK31	**Makanchi Array**	**58.03**	**325**	*e*P	**P**	**07 07 48.8**	**-0.3**
MKAR	**Makanchi Array**	**58.03**	**325**	*e*P	**P**	**07 07 49.0**	**-0.1**
MKAR	**Makanchi Array** comp=Z,5.5nm,0.6s,baz=121,slow=8.4,SNR=67	**58.03**	**325**	P	**P**	**07 07 48.9**	**-0.1**
KSH	**Kashi**	**58.47**	**315**	*e*P	P	07 07 56.6	+4.2
KSH				sP	sP	07 08 10.6	+3.0
KSH				PP	PP	07 10 08.3	+6.3
KSH				PcS	**PcS**	**07 12 46.6**	**+2.1**
KSH				S	**S**	**07 15 51.0**	**-2.4**
KSH				SS	**SS**	**07 19 47.0**	**+0.7**
KSH	comp=Z,78nm,4.5s			pmax	pmax		
KSH	comp=N,78nm,4.9s			LR	LR		
KSH	comp=E,120nm,6.2s			LR	LR		
KSH	comp=Z,180nm,6.0s			LR	LR		
ZALV	**Zalesovo Beam**	**61.10**	**333**	P	**P**	**07 08 09.0**	**-1.0**
ZALV	**Zalesovo Beam** comp=Z,1.3nm,0.4s,baz=140,slow=5.8,SNR=5.9	**61.10**	**333**	P	**P**	**07 08 09.0**	**-1.0**
KKAR	**Karatay Array** comp=Z,6.1nm,0.9s	**63.67**	**317**	*e*P	**P**	**07 08 26.9**	**-0.5**
BRVK	**Borovoye** comp=Z,9.1nm,0.8s	**67.88**	**327**	*e*P	**P**	**07 08 54.2**	**-0.2**
ABKAR	**Akbulak array** comp=Z,5.6nm,0.7s	**72.61**	**321**	*e*P	**P**	**07 09 22.8**	**-0.5**
UMR	**Umm Al-Rimmam**	**78.92**	**299**	*e*P	**P**	**07 09 58.5**	**-1.4**
UMR	comp=Z,23nm,0.7s			AMb	AMB	07 10 03.9		
RDF	**Al-Radifah**	**79.04**	**299**	*e*P	**P**	**07 09 58.6**	**-2.0**
RDF	comp=Z,23nm,0.6s			AMb	AMB	07 09 59.6		
NAY	**Al-Naaiem**	**79.32**	**299**	*e*P	**P**	**07 10 00.5**	**-1.6**
NAY	comp=Z,12nm,0.8s			AMb	AMB	07 10 03.5		
RAYN	**Ar Rayn** comp=Z,8.6nm,1.3s	**80.74**	**293**	*e*P	**P**	**07 10 09.4**	**-0.6**
COLD	**Coldfoot** comp=Z,5.2nm,1.1s	**84.39**	**23**	*e*P	**P**	**07 10 28.7**	**+0.7**
ILAR	**Eielson Array**	**85.59**	**25**	P	**P**	**07 10 32.4**	**-1.7**
ILAR	**Eielson Array** comp=Z,0.2nm,0.5s,baz=244,slow=5.5,SNR=6.3	**85.59**	**25**	P	**P**	**07 10 32.4**	**-1.7**
BRTR	**Keskin Array B**	**90.41**	**310**	P	**P**	**07 10 56.6**	**-1.3**
BRTR	**Keskin Array B** comp=Z,1.2nm,0.7s,baz=110,slow=5.4,SNR=6.6	**90.41**	**310**	P	**P**	**07 10 56.6**	**-1.3**
ARCES	**ARCESS Array B**	**90.98**	**340**	P	**P**	**07 10 57.9**	**-1.8**
ARCES	**ARCESS Array B** comp=Z,5.2nm,0.9s,baz=79,slow=6.0,SNR=14	**90.98**	**340**	P	**P**	**07 10 57.9**	**-1.8**
FINES	**FINESS Array B**	**92.34**	**332**	P	**P**	**07 11 04.1**	**-2.0**
FINES	**FINESS Array B** comp=Z,0.5nm,0.4s,baz=72,slow=8.9,SNR=2.0	**92.34**	**332**	P	**P**	**07 11 04.1**	**-2.0**
NOA	**NORSAR Array B**	**99.30**	**334**	P	**Pdif**	**07 11 35.3**	**-2.6**
NOA	**NORSAR Array B** comp=Z,0.3nm,0.5s,baz=73,slow=4.6,SNR=3.1	**99.30**	**334**	P	**Pdif**	**07 11 35.3**	**-2.6**
NOA	comp=Z,11nm,21.2s,baz=180,slow=40			LR	LR	08 04 38.4		
TORD	**Torodi Ar. Bea**	**123.13**	**288**	PKP	**PKPdf**	**07 16 52.1**	**-1.4**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.5s,baz=89,slow=1.7,SNR=11	**123.13**	**288**	PKP	**PKPdf**	**07 16 52.1**	**-1.4**

*IDC **24** 07:12:34.5±1.1,0˚.21S×123˚.65E,h0km,mb3.2/4, mb1 3.4/4,mb1mx3.3/20,mbtmp3.3/4,Error ellipse: s-maj=153.3km s-min=21.1km az=66.0*
*ISCJB **24** 07:12:46.7±0.7,0˚.51S±0˚.05×123˚.98E±0˚.07,h88km, mb3.2/4,Error ellipse: s-maj=10.2km s-min=6.1km az=24.1*
*DJA **24** 07:12:48.0±0.6,0˚S±6˝×12˚.4E±˚,h79km±18km,M4.6/7, mb5.5/1,mB5.6/1,MLv4.1/7,Mw(mB)5.1/1*

ISC 24 07:12:47.5±1.1,0˚.47S±0˚.06×123˚.99E±0˚.08,h88km,n12, σ1§03/15,mb3.2/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.03**	**360**	P	**Pn**	**07 13 08.8**	**+1.4**
KMSI				S	**Sn**	**07 13 21.4**	**-1.0**
LUWI	**Luwuk**	**1.34**	**245**	P	**Pn**	**07 13 11.0**	**-0.2**
GTOI	**Gorontalo**	**1.47**	**318**	P	**Pn**	**07 13 13.7**	**+1.0**
GTOI				S	**Sn**	**07 13 33.3**	**+1.5**
MNI	**Manado**	**2.08**	**24**	P	**Pn**	**07 13 20.3**	**-0.4**
MRSI	**Marisa**	**2.25**	**295**	P	**Pn**	**07 13 21.2**	**-1.7**
SKSI	**Soroako, Sulaw**	**3.35**	**232**	P	**Pn**	**07 13 38.3**	**+0.5**
TTSI	**Tana Toraja**	**4.89**	**238**	P	**Pn**	**07 13 59.3**	**+0.7**
TTSI				S	**Sn**	**07 14 53.3**	**-0.7**
SPSI	**Sidrap Palu**	**5.46**	**230**	P	**Pn**	**07 14 07.2**	**+0.8**
SPSI				S	**Sn**	**07 15 08.3**	**+0.3**
WRA	**Warramunga Arr** 0.3nm,0.8s,baz=332,slow=10,SNR=3.6	**21.85**	**153**	P	**P**	**07 17 32.7**	**-0.3**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=330,slow=8.9,SNR=3.6	**24.99**	**158**	P	**P**	**07 18 03.8**	**+0.6**
ASAR				PcP	**PcP**	**07 21 35.4**	**-1.0**
SONM	**Songino Array** 0.2nm,0.3s,baz=167,slow=7.2,SNR=2.2	**50.49**	**345**	P	P	07 21 32.1	-4.5
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=130,slow=7.9,SNR=6.2	**59.53**	**328**	P	P	07 22 36.9	-4.8

IDC 24 07:25:32.4±9.4,31˚.81S×179˚.46W,h279km±101km, mb2.8/2,mb1 3.1/3,mb1mx3.0/16,mbtmp2.9/3,MS3.2/1, Ms1 3.2/1,ms1mx2.8/4,Error ellipse: s-maj=101.2km s-min=44.1km az=1.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** comp=Z,400nm,20.9s,baz=184,slow=29	**2.87**	**28**	LR	LR	07 26 56.6	
URZ	**Urewera** 0.9nm,0.3s,baz=77,slow=20,SNR=10	**7.02**	**203**	P	Pn	07 27 14.3	+0.6
URZ	1.2nm,0.3s,baz=151,slow=19,SNR=5.6			S	S	07 28 34.7	-0.6
ASAR	**Alice Springs** 0.5nm,0.8s,baz=125,slow=9.1,SNR=3.5	**41.81**	**269**	P	P	07 32 55.9	+0.4
WRA	**Warramunga Arr** 0.6nm,0.8s,baz=111,slow=8.1,SNR=12	**42.93**	**274**	P	P	07 33 03.9	-0.5
FINES	**FINESS Array B** 0.9nm,0.4s,baz=36,slow=2.6,SNR=6.7	**146.01**	**338**	PKPbc	PKPdf	07 44 37.8	+0.4

WEL 24 07:46:59.4±0.2,45˚.81S×165˚.75E,h33km,ML3.8/19,1D, Error ellipse: s-maj=2.2km s-min=1.2km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.04**	**72**	⇓PN	Pn	07 47 17.1	-0.5
DCZ				SN	Sn	07 47 29.9	-1.1
DCZ				AML	AML	07 47 37.8	
DCZ				AML	AML	07 47 38.4	
WHZ	**Wether Hill Ro**	**1.54**	**94**	PN	Pn	07 47 25.3	+0.8
WHZ				AML	AML	07 47 52.8	
WHZ				AML	AML	07 47 59.3	
MLZ	**Mavora Lakes**	**1.76**	**76**	PN	Pn	07 47 28.4	+0.7
MLZ				AML	AML	07 48 00.2	
MLZ				AML	AML	07 48 01.6	
APZ	**The Paps**	**1.86**	**124**	PN	Pn	07 47 29.9	+0.8
APZ				SN	Sn	07 47 52.7	+1.2
MSZ	**Milford Sound**	**1.91**	**54**	PN	Pn	07 47 30.3	+0.6
MSZ				AML	AML	07 48 08.7	
MSZ				AML	AML	07 48 08.7	
MSZ				AML	AML	07 48 17.8	
MSZ				AML	AML	07 48 17.8	
SYZ	**Scrubby Hill**	**2.47**	**109**	PN	Pn	07 47 38.8	+1.5
WKZ	**Wanaka**	**2.50**	**68**	PN	Pn	07 47 40.6	+2.8
WKZ				AML	AML	07 48 30.3	
WKZ				AML	AML	07 48 38.1	
EAZ	**Earnscleugh**	**2.57**	**78**	PN	Pn	07 47 40.8	+2.1
EAZ				AML	AML	07 48 20.8	
EAZ				AML	AML	07 48 26.3	
EAZ				AML	AML	07 48 26.3	
TUZ	**Tuapeka**	**2.72**	**95**	PN	Pn	07 47 42.4	+1.7
TUZ				AML	AML	07 48 28.3	
TUZ				AML	AML	07 48 34.2	
JCZ	**Jackson Bay**	**2.75**	**52**	PN	Pb	07 47 45.2	-2.9
JCZ				AML	AML	07 48 35.7	
JCZ				AML	AML	07 48 40.1	
LBZ	**Lake Benmore**	**3.45**	**67**	PN	Pn	07 47 51.5	+0.7
LBZ				AML	AML	07 49 14.8	
LBZ				AML	AML	07 50 19.1	
ODZ	**Otahua Downs**	**3.53**	**79**	PN	Pn	07 47 52.5	+0.6
ODZ				AML	AML	07 48 53.7	
ODZ				AML	AML	07 49 01.1	
FOZ	**Fox Glacier**	**3.59**	**53**	PN	Pn	07 47 54.3	+1.5
FOZ				AML	AML	07 49 38.7	
RPZ	**Rata Peaks**	**4.32**	**63**	PN	Pn	07 48 02.8	0.0
RPZ				AML	AML	07 48 43.3	
RPZ				SN	Sn	07 48 52.7	+0.7
WVZ	**Waitaha Valley**	**4.50**	**54**	PN	Pn	07 48 05.3	+0.1
WVZ				AML	AML	07 48 30.8	
OXZ	**Oxford**	**5.13**	**63**	PN	Pn	07 48 13.0	-0.9

CASC 24 07:57:17.1±1.7,13˚.86N×91˚.59W,h26km±9km,MD3.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.46**	**354**	*e*P	Pb	07 57 27.3	+0.6
FUG	**Fuego 3**	**0.93**	**51**	*e*P	Pn	07 57 34.5	-0.4
PCG	**Pacaya**	**1.09**	**60**	*e*P	Pb	07 57 37.5	-0.2
PCG				*e*S	Sb	07 57 53.0	+1.3
RBDL	**Robledal**	**1.86**	**82**	*e*P	Pn	07 57 48.2	+0.6
RBDL				*e*S	Sn	07 58 11.3	+0.8
RTR	**El Retiro**	**1.89**	**88**	*e*P	Pn	07 57 48.5	+0.6
RTR				*e*S	Sn	07 58 11.7	+0.7
SBLS	**San Blas

	baz=91,slow=16							
APA0				Lg	Lg	08 23 52.7		
	baz=86,slow=28							
APA0				Rg	Rg	08 23 54.9		
	baz=81,slow=37							
APA0	**Apatity Array**	**0.62**	**271**	Pg	**Pg**	**08 23 46.8**	**+0.2**	
	baz=91,slow=16							
APA0				Lg	Lg	08 23 52.7		
	baz=86,slow=28							
APA0				Rg	Rg	08 23 54.9		
	baz=81,slow=37							
APA0	**Apatity Array**	**0.62**	**271**	Pg	**Pg**	**08 23 46.8**	**+0.2**	
	SNR=90							
APA0				Lg	Lg	08 23 52.7		
	SNR=23							
VRF	**Varrio**	**1.91**	**277**	PN	**Pn**	**08 24 09.6**	**+1.0**	
	baz=88							
VRF				SG	**Sn**	**08 24 32.1**	**-1.2**	
VRF				MSG		08 24 32.1		
	comp=Z,20nm,0.4s							
VRF	**Varrio**	**1.91**	**277**	Pn	**Pn**	**08 24 09.6**	**+1.0**	
VRF				Sg	**Sn**	**08 24 32.1**	**-1.2**	
KU6	**Riekki**	**2.45**	**232**	PN	Pn	08 24 19.1	+3.2	
	baz=50							
KU6				SG	**Sb**	**08 24 51.0**	**+0.8**	
KU6				MSG		08 24 51.0		
	comp=Z,11nm,0.4s							
KU6	**Riekki**	**2.45**	**232**	Pn	Pn	08 24 19.1	+3.2	
KU6				Sg	**Sb**	**08 24 51.0**	**+0.8**	
MSF	**Maaselka**	**2.78**	**235**	PN	**Pn**	**08 24 23.6**	**+3.1**	
MSF				SG	**Sb**	**08 25 00.2**	**+0.3**	
MSF				MSG		08 25 00.2		
	comp=Z,1.9nm,0.2s							
MSF	**Maaselka**	**2.78**	**235**	Pn	**Pn**	**08 24 23.6**	**+3.1**	
MSF				Sg	**Sb**	**08 25 00.2**	**+0.3**	
SGF	**Sodankyl**	**3.11**	**271**	SG	**Sb**	**08 25 08.2**	**-1.0**	
SGF				MSG		08 25 08.2		
	comp=Z,8.0nm,0.4s							
SGF	**Sodankyl**	**3.11**	**271**	Sg	**Sb**	**08 25 08.2**	**-1.0**	
RNF	**Rovaniemi**	**3.50**	**257**	PN	**Pn**	**08 24 31.7**	**+1.3**	
	baz=67							
RNF	**Rovaniemi**	**3.50**	**257**	Pn	**Pn**	**08 24 31.7**	**+1.3**	
KEV	**Kevo**	**3.52**	**311**	PN	**Pn**	**08 24 32.8**	**+2.1**	
KEV	**Kevo**	**3.52**	**311**	Pn	**Pn**	**08 24 32.7**	**+2.1**	
ARA0	**ARCESS Array S**	**3.86**	**304**	Pn	**Pn**	**08 24 36.5**	**+1.1**	
	baz=121,slow=14							
ARA0				Pg	**Pb**	**08 24 43.1**	**-0.6**	
	baz=120,slow=16							
ARA0				Sn	**Sn**	**08 25 18.6**	**-2.8**	
	baz=120,slow=28							
ARA0				Lg	Lg	08 25 30.6		
	baz=111,slow=37							
ARA0	**ARCESS Array S**	**3.86**	**304**	Pn	**Pn**	**08 24 36.5**	**+1.1**	
	baz=121,slow=14							
ARA0				Pg	**Pb**	**08 24 43.1**	**-0.6**	
	baz=120,slow=16							
ARA0				Sn	**Sn**	**08 25 18.6**	**-2.8**	
	baz=120,slow=28							
ARA0				Lg	Lg	08 25 30.6		
	baz=111,slow=37							
ARA0	**ARCESS Array S**	**3.86**	**304**	PN	**Pn**	**08 24 36.1**	**+0.8**	
	baz=120							
ARA0				SG	**Sb**	**08 25 31.4**	**+0.5**	
ARA0				MSG		08 25 31.4		
	comp=Z,20nm,0.4s							
ARA0	**ARCESS Array S**	**3.86**	**304**	Pn	**Pn**	**08 24 36.5**	**+1.1**	
	SNR=108							
ARA0	**ARCESS Array S**	**3.86**	**304**	Pg	**Pb**	**08 24 43.1**	**-0.6**	
	SNR=90							
ARA0				Sn	**Sn**	**08 25 18.6**	**-2.8**	
	SNR=50							
ARA0				Lg	Lg	08 25 30.6		
ARA0				Sg	**Sb**	**08 25 31.4**	**+0.5**	
HEF	**Hetta**	**4.20**	**286**	PN	**Pn**	**08 24 40.5**	**+0.6**	
	baz=103							
HEF				SG	**Sb**	**08 25 41.0**	**+0.5**	
HEF				MSG		08 25 41.0		
	comp=Z,9.6nm,0.4s							
HEF	**Hetta**	**4.20**	**286**	Pn	**Pn**	**08 24 40.5**	**+0.6**	
HEF				Sg	**Sb**	**08 25 41.0**	**+0.5**	
FIA0	**FINESS Array S**	**7.18**	**215**	Pn	**Pn**	**08 25 21.6**	**+0.7**	
	baz=26,slow=14							
FIA0				Sn	**Sn**	**08 26 39.1**	**-4.0**	
	baz=12,slow=22							
FIA0				Lg	Lg	08 27 16.9		
	baz=31,slow=28							
FIA0	**FINESS Array S**	**7.18**	**215**	Pn	**Pn**	**08 25 21.6**	**+0.7**	
	baz=26,slow=14							
FIA0				Sn	**Sn**	**08 26 39.1**	**-4.0**	
	baz=12,slow=22							
FIA0				Lg	Lg	08 27 16.9		
	baz=31,slow=28							
FIA0	**FINESS Array S**	**7.18**	**215**	Pn	**Pn**	**08 25 21.6**	**+0.7**	
	SNR=50							
FIA0				Sn	**Sn**	**08 26 39.1**	**-4.0**	
	SNR=50							
FIA0				Lg	Lg	08 27 16.9		
SPA0	**Spitsbergen Ar**	**11.80**	**342**	Pn	Pn	08 26 22.9	-1.2	
	baz=147,slow=18							
SPA0	**Spitsbergen Ar**	**11.80**	**342**	Pn	Pn	08 26 22.9	-1.2	
	baz=147,slow=18							

*CSEM **24** 08:26:56.0,37.°55N×35.°71E,h7km,MD2.8,After DDA*

DDA 24 08:26:56.0,37.°55N×35.°71E,h7km,MD2.8,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YURE	**YUREGIR**	**0.72**	**185**	*i* P	Pg	08 27 10.1	0.0
YURE				*i* S	Sb	08 27 21.4	+0.2
YURE	**YUREGIR**	**0.72**	**185**	*i* P	Pg	08 27 10.1	+0.1
YURE				*i* S	Sb	08 27 21.4	+0.2
GULE	**Gulek**	**0.79**	**251**	*i* P	Pg	08 27 11.2	-0.3
GULE				*i* S	Sb	08 27 22.7	-0.7
GULE	**Gulek**	**0.79**	**251**	*i* P	Pg	08 27 11.2	-0.2
GULE				*i* S	Sb	08 27 22.7	-0.6
AYKD	**Aykdinkavak**	**0.89**	**98**	*i* P	Pg	08 27 13.2	+0.1
AYKD				*i* S	Sn	08 27 27.0	-1.1
AVNT	**Avonos**	**1.40**	**332**	*i* P	Pn	08 27 22.2	0.0
AVNT				*i* S	Sg	08 27 42.7	+1.3
AVNT	**Avonos**	**1.40**	**332**	*i* P	Pn	08 27 22.2	0.0
AVNT				*i* S	Sg	08 27 42.7	+1.2
KZR	**Kazreti**	**7.75**	**58**	P	Pb	08 29 03.0	-7.7

*ISK **24** 08:27:53.8,37.°56N×35.°64E,h3km,MD3.4*
*DDA **24** 08:27:53.7,37.°55N×35.°70E,h14km,MD3.2,ML3.4*
*CSEM **24** 08:27:54.5±0.2,37.°55N×35.°66E,h2km,MD3.4,Error ellipse: s-maj=4.4km s-min=4.1km az=68.0*

ISC 24 08:27:55.1±0.9,37.°53N±0.°02×35.°68E±0.°02,h13km±6km, n46,σ0.°96/68,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.13**	**111**	*e*PG	**Pg**	**08 27 58.4**	**0.0**
KOZT				*e*SG	**Sg**	**08 28 00.8**	**0.0**
KOZT	**Kozan**	**0.13**	**111**	*e*Pg	**Pg**	**08 27 58.4**	**0.0**
KOZT				*e*Sg	**Sg**	**08 28 00.8**	**0.0**
CEYT	**Ceyhan**	**0.52**	**174**	*e*PG	**Pg**	**08 28 05.2**	**-0.1**
CEYT				*e*SG	**Sb**	**08 28 14.2**	**+0.7**
CEYT	**Ceyhan**	**0.52**	**174**	*e*Pg	**Pg**	**08 28 05.2**	**-0.1**
CEYT				*e*Sg	**Sb**	**08 28 14.2**	**+0.7**
KARA	**Karaisali**	**0.56**	**242**	*e*PG	**Pg**	**08 28 05.1**	**-1.0**
KARA				*e*SG	**Sg**	**08 28 13.6**	**0.0**
KARA	**Karaisali**	**0.56**	**242**	*e*Pg	**Pg**	**08 28 05.1**	**-1.0**
KARA				*e*Sg	**Sg**	**08 28 13.6**	**0.0**
YURE	**YUREGIR**	**0.70**	**183**	*i* P	**Pg**	**08 28 08.0**	**-0.7**
YURE				*i* S	**Sb**	**08 28 19.1**	**+0.3**
YURE	**YUREGIR**	**0.70**	**183**	*i* P	**Pg**	**08 28 08.0**	**-0.7**
YURE				*i* S	**Sb**	**08 28 19.1**	**+0.3**
AYKD	**Aykdinkavak**	**0.91**	**97**	*i* P	**Pg**	**08 28 09.9**	**-2.7**
AYKD				*i* S	**Sg**	**08 28 24.3**	**-0.1**
KMRS	**Kahramanmaras**	**0.97**	**91**	*e*PG	**Pg**	**08 28 13.5**	**-0.4**
KMRS	**Kahramanmaras**	**0.97**	**91**	*e*Pg	**Pg**	**08 28 13.5**	**-0.4**
KRTS	**Karatas**	**0.98**	**194**	*e*PG	**Pg**	**08 28 13.8**	**-0.3**
KRTS	**Karatas**	**0.98**	**194**	*e*Pg	**Pg**	**08 28 13.8**	**-0.3**
NIG	**Nigde**	**1.03**	**305**	*e*PG	**Pg**	**08 28 13.7**	**-1.3**
NIG	**Nigde**	**1.03**	**305**	*e*Pg	**Pg**	**08 28 13.7**	**-1.3**
SARI	**SarD1z-Kayseri**	**1.06**	**33**	*e*PG	**Pg**	**08 28 14.7**	**-0.9**
COBT	**Iskenderun**	**1.11**	**155**	*i* P	**Pb**	**08 28 15.0**	**-1.2**
COBT				*i* S	**Sb**	**08 28 31.0**	**+0.4**
COBT	**Iskenderun**	**1.11**	**155**	*i* P	**Pb**	**08 28 15.0**	**-1.2**
COBT				*i* S	**Sb**	**08 28 31.0**	**+0.4**
PINB	**Pinarbasi**	**1.28**	**26**	*i* P	**Pn**	**08 28 18.1**	**-1.0**
PINB				*i* S	**Sg**	**08 28 38.1**	**+1.6**
PINB	**Pinarbasi**	**1.28**	**26**	*i* P	**Pn**	**08 28 18.1**	**-1.0**
PINB				*i* S	**Sg**	**08 28 38.1**	**+1.6**
BNN	**Bunyan**	**1.33**	**6**	*e*PN	**Pn**	**08 28 18.6**	**-1.0**
BNN	**Bunyan**	**1.33**	**6**	*e*Pn	**Pn**	**08 28 18.6**	**-1.0**
KUZU	**Kuzuini**	**1.35**	**124**	*i* P	**Pn**	**08 28 18.7**	**-1.0**
KUZU				*i* S	**Sb**	**08 28 35.9**	**-1.5**
KUZU	**Kuzuini**	**1.35**	**124**	*i* P	**Pn**	**08 28 18.7**	**-1.0**
KUZU				*i* S	**Sb**	**08 28 35.9**	**-1.5**
AVNT	**Avonos**	**1.41**	**333**	*i* P	**Pn**	**08 28 20.7**	**0.0**
AVNT				*i* S	**Sn**	**08 28 39.3**	**+0.1**
AVNT	**Avonos**	**1.41**	**333**	*i* P	**Pn**	**08 28 20.7**	**0.0**
AVNT				*i* S	**Sn**	**08 28 39.3**	**+0.1**
HTY	**Hatay**	**1.45**	**165**	*e*PN	**Pb**	**08 28 22.1**	**+0.1**
HTY	**Hatay**	**1.45**	**165**	*e*Pn	**Pb**	**08 28 22.1**	**+0.1**
YAYL	**Yayladag**	**1.53**	**167**	*i* P	**Pn**	**08 28 21.3**	**-1.0**
YAYL				*i* S	**Sn**	**08 28 42.7**	**+0.6**
YAYL	**Yayladag**	**1.53**	**167**	*i* P	**Pn**	**08 28 21.3**	**-1.0**
YAYL				*i* S	**Sn**	**08 28 42.7**	**+0.6**
KIZK	**Mersin**	**1.61**	**230**	*i* P	**Pn**	**08 28 24.0**	**+0.7**
KIZK				*i* S	**Sg**	**08 28 47.3**	**+0.3**
KIZK	**Mersin**	**1.61**	**230**	*i* P	**Pn**	**08 28 24.0**	**+0.7**
KIZK				*i* S	**Sg**	**08 28 47.3**	**+0.3**
DARE	**Darende-Malaty**	**1.77**	**53**	*e*PN	**Pb**	**08 28 26.8**	**-0.6**
SULT	**Sultanhani-AKS**	**1.84**	**292**	*e*PN	**Pn**	**08 28 26.9**	**+0.4**
SULT	**Sultanhani-AKS**	**1.84**	**292**	*e*Pn	**Pn**	**08 28 26.9**	**+0.4**
AKCD	**Akcadag**	**1.93**	**66**	*i* P	**Pb**	**08 28 30.1**	**-0.2**
AKCD				*i* S	**Sb**	**08 28 55.8**	**+1.3**
AKCD	**Akcadag**	**1.93**	**66**	*i* P	**Pb**	**08 28 30.1**	**-0.2**
AKCD				*i* S	**Sb**	**08 28 55.8**	**+1.3**
IKL	**Isikli**	**2.05**	**232**	*e*PN	**Pn**	**08 28 30.3**	**+1.0**
IKL	**Isikli**	**2.05**	**232**	*e*Pn	**Pn**	**08 28 30.3**	**+1.0**
MYA	**Malataya**	**2.31**	**69**	*e*PN	**Pn**	**08 28 34.9**	**+1.8**
MYA	**Malataya**	**2.31**	**69**	*e*Pn	**Pn**	**08 28 34.9**	**+1.8**
URFA	**Urfa**	**2.50**	**91**	*e*PN	**Pn**	**08 28 37.3**	**+1.7**
URFA	**Urfa**	**2.50**	**91**	*e*Pn	**Pn**	**08 28 37.3**	**+1.7**
SUTC	**Sutluce-Ispart**	**3.72**	**271**	*e*PN	**Pn**	**08 28 53.5**	**+1.1**
SUTC	**Sutluce-Ispart**	**3.72**	**271**	*e*Pn	**Pn**	**08 28 53.5**	**+1.1**
VYHS	**Vyhne**	**16.45**	**317**	*e*PG		09 00 40.3	
VYHS				*e*SG		09 00 44.4	

IDC 24 08:42:08.0±2.3,0.°07N×98.°22E,h0km,mb3.6/5,mb1 3.7/6, mb1mx3.5/24,mbtmp3.6/6,ML3.2/1,Error ellipse: s-maj=81.4km s-min=20.7km az=66.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.80**	**14**	Pn	Pn	08 42 53.1	-1.2
	4.5nm,0.3s,baz=173,slow=8.1,SNR=11						
WRA	**Warramunga Arr**	**40.57**	**122**	P	P	08 49 48.9	-0.8
	0.3nm,0.3s,baz=305,slow=8.8,SNR=4.5						
ASAR	**Alice Springs**	**41.90**	**127**	P	P	08 50 00.2	-0.4
	0.2nm,0.6s,baz=300,slow=7.9,SNR=4.8						
SONM	**Songino Array**	**48.10**	**7**	P	P	08 50 50.7	+1.0
	0.3nm,0.4s,baz=175,slow=7.2,SNR=2.7						
MKAR	**Makanchi Array**	**48.58**	**345**	P	P	08 50 52.1	-1.1
	0.7nm,0.5s,baz=159,slow=8.7,SNR=9.3						
STKA	**Stephens Creek**	**51.84**	**132**	P	P	08 51 18.8	+0.5
	1.4nm,0.7s,baz=330,slow=10.0,SNR=4.0						

IDC 24 09:17:18.8±4.7,6.°00S×148.°55E,h207km±39km,mb2.6/2, mb1 2.9/4,mb1mx2.7/19,mbtmp2.7/4,Error ellipse: s-maj=92.0km s-min=44.3km az=127.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.65**	**202**	P	Pn	09 18 17.9	+1.3
	1.0nm,0.3s,baz=120,slow=20,SNR=3.5						
PMG				S	S	09 19 01.8	+0.4
	1.7nm,0.3s,baz=30,slow=23,SNR=8.0						
WRA	**Warramunga Arr**	**19.56**	**224**	P	P	09 21 30.8	-0.3
	0.2nm,0.3s,baz=50,slow=11,SNR=7.6						
ASAR	**Alice Springs**	**22.52**	**217**	P	P	09 22 02.4	+1.0
	0.3nm,0.6s,baz=58,slow=8.7,SNR=5.9						
FITZ	**Fitzroy Crossi**	**25.38**	**240**	P	P	09 22 27.2	-0.2
	0.4nm,0.6s,baz=52,slow=12,SNR=2.8						
TORD	**Torodi Ar. Bea**	**146.58**	**285**	PKPbc	PKPdf	09 36 35.7	+0.6
	0.1nm,0.4s,baz=62,slow=3.4,SNR=2.6						

*IDC **24** 09:19:05.7±0.5,3.°61S×81.°81W,h0km,mb4.5/15, mb1 4.7/18,mb1mx4.6/25,mbtmp4.5/18,ML4.5/3,MS3.9/13, Ms1 3.9/13,ms1mx3.7/24,Error ellipse: s-maj=25.9km s-min=11.8km az=61.0*
*ISCJB **24** 09:19:09.2±0.2,3.°68S±0.°04×81.°78W±0.°04,h33km, mb4.7/79,MS4.2/17,Error ellipse: s-maj=7.0km s-min=4.0km az=138.8*
*BJI **24** 09:19:09.5,3.°60S×81.°60W,h19km,mB5.1/6,Ms5.3/6, Ms7 4.8/7*
*NEIC **24** 09:19:11.2±0.2,3.°67S×81.°74W,h35km,mb4.8/62,Error ellipse: s-maj=6.7km s-min=3.6km az=57.0*

ISC 24 09:19:11.1±0.3,3.°66S±0.°05×81.°72W±0.°06,h35km,n526, σ0.°87/563,mb4.7/79,MS4.0/17,165C-181D,Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.78**	**136**	Pn	**Pn**	**09 20 22.7**	**+1.7**
ATAH				Sn	**Sn**	**09 21 17.1**	**+1.7**
ATAH	**Atahualpa**	**4.78**	**136**	Pn	**Pn**	**09 20 22.7**	**+1.7**
	37nm,0.3s,baz=348,slow=5.9,SNR=72						
ATAH				Sn	**Sn**	**09 21 17.1**	**+1.7**
	45nm,0.3s,baz=319,slow=20,SNR=9.6						
OTAV	**Otavalo**	**5.07**	**40**	*e*Pn	**Pn**	**09 20 23.2**	**-1.9**
OTAV				*e*Sn	**Sn**	**09 21 25.9**	**+3.3**
PAYG	**Puerto Ayora**	**9.06**	**289**	*e*Pn	**Pn**	**09 21 17.6**	**-1.9**
	127nm,0.9s						
PAYG				*e*Sn	**Sn**	**09 23 02.3**	**+1.9**
NNA	**Nana**	**9.57**	**150**	*e*Pn	**Pn**	**09 21 26.0**	**-0.6**
NNA				*e*Sn	**Sn**	**09 23 07.2**	**-5.8**
NNA				Sn	Sn	09 23 13.8	+0.7
NNA	**Nana**	**9.57**	**150**	Pn	**Pn**	**09 21 26.0**	**-0.6**
	4.3nm,0.3s,baz=320,slow=12,SNR=8.8						
NNA				Sn	**Sn**	**09 23 13.8**	**+0.7**
	8.1nm,0.3s,baz=291,slow=17,SNR=5.3						
JTS	**JuntasAbangare**	**14.23**	**347**	LR	LR	09 26 51.6	
	comp=Z,366nm,21.6s,baz=174,slow=33						
SDV	**Santo Domingo**	**16.66**	**42**	*e*Pn	**Pn**	**09 23 00.9**	**-1.3**
	54nm,0.8s						
LPAZ	**La Paz**	**18.32**	**134**	P	**Pn**	**09 23 23.5**	**+0.3**
LPAZ	**La Paz**	**18.32**	**134**	P	**Pn**	**09 23 23.5**	**+0.3**
	0.4nm,0.3s,baz=327,slow=12,SNR=27						
LPAZ				LR	LR	09 31 06.4	
	comp=Z,641nm,18.8s,baz=165,slow=39						
TGUH	**Tegucigalpa,Un**	**18.45**	**343**	*e*Pn	**P**	**09 23 23.5**	**-0.3**
	34nm,0.9s						
TGUH				*e*Sn	**S**	**09 26 51.9**	**-0.8**
SAML	**Samuel**	**19.15**	**107**	*e*P	**P**	**09 23 28.5**	**-3.1**
	127nm,1.1s						
LVC	**Limon Verde**	**22.56**	**148**	*e*P	**P**	**09 24 09.8**	**+1.2**
LVC	**Limon Verde**	**22.56**	**148**	P	**P**	**09 24 09.0**	**+0.4**
	17nm,0.9s,baz=303,slow=8.8,SNR=12						
SIV	**San Ignacio**	**23.71**	**123**	P	**P**	**09 24 20.8**	**+0.8**
SIV	**San Ignacio**	**23.71**	**123**	P	**P**	**09 24 20.8**	**+0.8**
	6.0nm,0.5s,baz=308,slow=8.9,SNR=20						
SIV				LR	LR	09 34 25.0	
	comp=Z,359nm,20.1s,slow=39						
TEIG	**Tepich**	**24.60**	**345**	*e*P	**P**	**09 24 28.5**	**+0.3**
TEIG	**Tepich**	**24.60**	**345**	P	**P**	**09 24 27.9**	**-0.3**
	5.5nm,0.6s,baz=346,slow=13,SNR=6.5						
TEIG				LR	LR	09 33 29.6	
	comp=Z,176nm,18.0s,baz=86,slow=35						
CELP	**Cerrillos**	**26.26**	**34**	*e*P	**P**	**09 24 46.3**	**+3.1**
LRS	**Lares**	**26.29**	**33**	*e*P	**P**	**09 24 43.8**	**+0.3**
AOPR	**Arecibo Observ**	**26.38**	**34**	*e*P	**P**	**09 24 48.0**	**+3.7**
	32nm,0.8s						
SJG	**San Juan**	**26.53**	**35**	*e*P	**P**	**09 24 46.9**	**+1.3**
	40nm,0.8s						
LCO	**Las Campanas**	**27.30**	**159**	*e*P	**P**	**09 24 53.1**	**+0.3**
	29nm,1.1s						
CPUP	**Villa Florida**	**32.47**	**136**	LR	LR	09 40 52.9	
	comp=Z,354nm,20.8s,baz=63,slow=40						
BDFB	**Brasilia**	**35.23**	**112**	LR	LR	09 41 23.2	
	comp=Z,292nm,20.2s,baz=246,slow=38						
732A	**Laxson Ranch,**	**36.68**	**333**	⇑P	**P**	**09 26 15.0**	**+0.3**
	baz=37						
632A	**Uvalde**	**37.26**	**333**	⇓P	**P**	**09 26 19.9**	**+0.3**
	baz=37,SNR=8.8						
631A	**Perdido Creek**	**37.53**	**332**	⇓P	**P**	**09 26 22.3**	**+0.3**
	baz=38						
532A	**Rocksprings**	**37.84**	**334**	⇑P	**P**	**09 26 25.1**	**+0.5**
	baz=38,SNR=18						
JCT	**Junction City**	**38.10**	**334**	*e*P	**P**	**09 26 27.4**	**+0.6**
	39nm,1.6s						
JCT	**Junction City**	**38.10**	**334**	⇓P	**P**	**09 26 27.2**	**+0.4**
	baz=38,SNR=9.5						
531A	**Rocksprings**	**38.16**	**333**	⇓P	**P**	**09 26 28.0**	**+0.7**
	baz=38,SNR=13						
PLCA	**Paso Flores**	**38.25**	**166**	P	**P**	**09 26 28.0**	**0.0**
PLCA	**Paso Flores**	**38.25**	**166**	P	**P**	**09 26 28.0**	**0.0**
	10nm,0.9s,baz=332,slow=11,SNR=3.9						
432A	**Menard**	**38.44**	**335**	⇓P	**P**	**09 26 29.9**	**+0.3**
	baz=39						
WHTX	**Lake Whitney**	**38.49**	**338**	⇓P	**P**	**09 26 29.7**	**-0.2**
	baz=39						
530A	**J-C Ranch, Com**	**38.51**	**332**	⇑P	**P**	**09 26 30.7**	**+0.5**
	baz=39,SNR=13						
KMSC	**Kings Mountain**	**38.60**	**1**	⇑P	**P**	**09 26 30.3**	**-0.6**
	baz=39						
431A	**Sonora**	**38.63**	**333**	⇑P	**P**	**09 26 31.6**	**+0.4**
	baz=39,SNR=6.5						
628A	**Black Gap, Mar**	**38.71**	**330**	⇑P	**P**	**09 26 32.0**	**0.0**
	baz=39						
332A	**Millersview**	**38.85**	**335**	⇑P	**P**	**09 26 33.4**	**+0.3**
	baz=39,SNR=5.9						
529A	**Stev Forest Ra**	**38.91**	**331**	⇓P	**P**	**09 26 34.1**	**+0.5**
	baz=39						
627A	**Terlingua Ranc**	**38.94**	**329**	⇑P	**P**	**09 26 34.2**	**+0.3**
	baz=39						
CPCT	**Cooper Cave**	**39.00**	**356**	*e*P	**P**	**09 26 34.4**	**+0.2**
430A	**Baggett Ranch,**	**39.00**	**333**	⇓P	**P**	**09 26 34.4**	**+0.1**
	baz=39						
331A	**San Angelo**	**39.08**	**334**	⇓P	**P**	**09 26 34.7**	**-0.3**
	baz=39						
TKL	**Tuckaleechee C**	**39.16**	**357**	P	**P**	**09 26 35.0**	**-0.5**
TKL	**Tuckaleechee C**	**39.16**	**357**	P	**P**	**09 26 35.0**	**-0.5**
	6.5nm,1.0s,baz=154,slow=7.9,SNR=5.2						
429A	**Davenport Ranc**	**39.17**	**332**	⇓P	**P**	**09 26 35.6**	**-0.2**
	baz=39						
232A	**Coleman**	**39.25**	**336**	⇑P	**P**	**09 26 36.5**	**0.0**
	baz=39,SNR=6.2						
626A	**Big Bend Ranch**	**39.40**	**328**	⇑P	**P**	**09 26 37.8**	**0.0**
	baz=40						
330A	**Mertzon**	**39.50**	**333**	⇑P	**P**	**09 26 39.0**	**+0.5**
	baz=40						
231A	**Bronte**	**39.58**	**335**	⇑P	**P**	**09 26 38.6**	**-0.5**
	baz=40						
527A	**Woodward Ranch**	**39.61**	**330**	⇑P	**P**	**09 26 39.6**	**0.0**
	baz=40,SNR=12						
428A	**Kincaid Ranch,**	**39.63**	**331**	⇓P	**P**	**09 26 40.2**	**+0.5**
	baz=40,SNR=9.5						
526A	**Mary Lane Ranc**	**39.79**	**329**	⇓P	**P**	**09 26 41.4**	**+0.3**
	baz=40,SNR=8.2						
230A	**Sterling City**	**39.88**	**334**	⇓P	**P**	**09 26 41.8**	**+0.1**
	baz=40						
ABTX	**Abilene, Hawle**	**39.90**	**336**	⇓P	**P**	**09 26 42.1**	**+0.3**
	baz=40,SNR=6.8						
329A	**Wagon Wheel Ra**	**39.93**	**333**	⇓P	**P**	**09 26 42.4**	**+0.3**
	baz=40,SNR=11						
427A	**Hayter Ranch,**	**40.08**	**330**	⇓P	**P**	**09 26 43.6**	**+0.2**
	baz=40,SNR=8.7						
328A	**Wristen Ranch,**	**40.23**	**332**	⇑P	**P**	**09 26 44.7**	**+0.1**
	baz=40,SNR=7.7						
131A	**Roby**	**40.24**	**335**	⇑P	**P**	**09 26 44.8**	**+0.1**
	baz=40						
426A	**McDonald Obser**	**40.24**	**330**	⇓P	**P**	**09 26 45.0**	**+0.1**
	baz=40,SNR=16						
229A	**Bryant Ranch,**	**40.26**	**333**	⇑P	**P**	**09 26 44.9**	**+0.1**
	baz=40						
130A	**Snyder**	**40.42**	**335**	⇓P	**P**	**09 26 46.3**	**+0.1**
	baz=41						
Z32A	**Haskell**	**40.43**	**337**	⇓P	**P**	**09 26 46.4**	**+0.2**
	baz=41,SNR=9.0						
Z31A	**Sharp Cattle R**	**40.70**	**336**	⇓P	**P**	**09 26 48.7**	**+0.2**
	baz=41,SNR=9.2						
228A	**UT Block 9, Go**	**40.74**	**332**	⇓P	**P**	**09 26 49.1**	**+0.3**
	baz=41						
326A	**Caldwell Ranch**	**40.74**	**330**	⇑P	**P**	**09 26 48.9**	**0.0**
	baz=41,SNR=20						
425A	**Indio Mountain**	**40.83**	**329**	⇑P	**P**	**09 26 49.8**	**+0.1**
	baz=41,SNR=11						
129A	**Stewart Farms,**	**40.84**	**334**	⇓P	**P**	**09 26 49.8**	**+0.1**
	baz=41						
227A	**Bennet, Jal**	**40.98**	**332**	⇓P	**P**	**09 26 51.1**	**+0.3**
	baz=41						
Y32A	**R-V Farms, Ver**	**41.03**	**337**	⇑P	**P**	**09 26 51.5**	**+0.4**
	baz=41						
Z30A	**Sanderson Ranc**	**41.08**	**335**	⇑P	**P**	**09 26 51.7**	**0.0**
	baz=41,SNR=8.5						
128A	**Castleberry Fa**	**41.11**	**333**	⇓P	**P**	**09 26 52.0**	**+0.1**
	baz=41						
Z29A	**Hungry Hill Ra**	**41.31**	**334

319A	Douglas baz=44,SNR=10	43.63	325	⇑P	P	09 27 13.2	+0.7
121A	Cookes Peak, D baz=44	43.67	327	⇓P	P	09 27 13.8	+1.0
U30A	WK&E Inc. Balk baz=44	43.72	338	⇓P	P	09 27 13.5	+0.5
W26A	Owens Ranch, T baz=44	43.76	334	⇑P	P	09 27 13.9	+0.5
Z22A	Elephant Butte baz=44	43.80	329	⇑P	P	09 27 14.7	+0.8
T31A	Randall Ranch, baz=44	43.87	339	⇑P	P	09 27 14.8	+0.6
Y23A	Lovelace Mesa, baz=44,SNR=14	43.88	330	⇑P	P	09 27 15.5	+0.9
X24A	Lazy VL Ranch, baz=44	44.09	332	⇓P	P	09 27 16.6	+0.3
120A	U Bar Ranch, L baz=44	44.14	327	⇑P	P	09 27 17.1	+0.4
W25A	X Bar L Ranch, baz=44,SNR=5.7	44.18	333	⇑P	P	09 27 17.2	+0.3
U28A	Mallet baz=44	44.20	336	⇑P	P	09 27 17.7	+0.7
Z21A	St. Cloud Mine baz=44	44.21	328	⇓P	P	09 27 18.2	+0.9
S31A	Mullinville baz=44	44.27	340	⇓P	P	09 27 17.8	+0.4
BNM	Barren Site 7.3nm,1.3s	44.34	330	eP	P	09 27 19.3	+1.0
BNM				ePcP	PP	09 29 02.5	+0.3
Y22A	Socorro baz=44,SNR=10	44.34	330	⇓P	P	09 27 19.0	+0.8
V26A	Tequesquite Ra baz=44,SNR=17	44.36	334	⇑P	P	09 27 19.0	+0.7
X23A	Hourglass Bar baz=45,SNR=6.9	44.47	331	⇓P	P	09 27 19.6	+0.3
U27A	Thompson Grove baz=45,SNR=7.1	44.49	336	⇓P	P	09 27 19.7	+0.4
T29A	Hugoton baz=45,SNR=8.2	44.52	338	⇓P	P	09 27 20.0	+0.6
Z20A	Nine Sixteen R baz=45,SNR=11	44.55	327	⇓P	P	09 27 20.8	+0.9
W24A	Lazy 6 Ranch, baz=45,SNR=8.4	44.61	332	⇑P	P	09 27 20.9	+0.5
S30A	Montezuma baz=45	44.63	339	⇑P	P	09 27 21.6	+1.2
KSU1	Kansas State U 17nm,0.9s	44.72	343	eP	P	09 27 21.1	+0.2
Y21A	Point of Rocks baz=45,SNR=11	44.76	329	⇓P	P	09 27 22.8	+1.1
V25A	Rancho No Teng baz=45,SNR=16	44.77	333	⇓P	P	09 27 22.1	+0.5
LAZ	Ladron 3.0nm,1.1s	44.80	330	eP	P	09 27 23.2	+1.3
LAZ				ePP	PP	09 29 07.5	+0.5
T28A	Walsh baz=45	44.80	337	⇓P	P	09 27 21.6	-0.1
U26A	Atchley Ranch, baz=45,SNR=9.0	44.85	335	⇑P	P	09 27 22.5	+0.3
S29A	Ulysses baz=45,SNR=7.4	44.86	338	⇑P	P	09 27 22.8	+0.6
R31A	Burdett baz=45	44.88	340	⇑P	P	09 27 22.9	+0.6
ANMO	Albuquerque 10nm,1.0s	44.90	331	eP	P	09 27 23.2	+0.6
W23A	Werner Place, baz=45,SNR=20	44.92	331	⇑P	P	09 27 23.6	+0.7
V24A	Rampart Ranch, baz=45,SNR=15	44.97	333	⇓P	P	09 27 23.7	+0.4
T27A	Campo baz=45,SNR=7.9	44.99	336	⇑P	P	09 27 23.6	+0.3
Y20A	Horse Springs, baz=45,SNR=9.5	45.05	328	⇓P	P	09 27 24.7	+0.7
S28A	Manter baz=45	45.13	337	⇑P	P	09 27 24.6	+0.3
R30A	Dighton baz=45,SNR=5.8	45.14	339	⇑P	P	09 27 25.0	+0.7
U25A	Circle Dot Ran baz=45,SNR=11	45.14	334	⇓P	P	09 27 25.2	+0.6
X21A	Alamocita Cree baz=45,SNR=18	45.16	329	⇓P	P	09 27 25.8	+0.9
TUC	Tucson 22nm,1.0s	45.18	325	eP	P	09 27 25.1	+0.3
W22A	Albuquerque baz=45	45.20	331	⇓P	P	09 27 25.8	+0.8
V23A	Ortiz Mt. (NFS baz=46,SNR=10	45.41	332	⇑P	P	09 27 27.6	+0.9
Q31A	Ellis baz=46	45.49	341	⇓P	P	09 27 27.5	+0.4
U24A	Moreno Valley baz=46	45.54	333	⇑P	P	09 27 28.3	+0.5
R29A	Marienthal baz=46	45.57	339	⇑P	P	09 27 28.6	+0.8
W21A	San Fidel baz=46	45.62	330	⇓P	P	09 27 29.4	+1.0
Q30A	Quinter baz=46	45.74	340	⇑P	P	09 27 29.7	+0.6
R28A	Tribune baz=46,SNR=17	45.75	338	⇑P	P	09 27 29.9	+0.6
T25A	Trinidad baz=46,SNR=15	45.76	335	⇓P	P	09 27 30.6	+1.1
S26A	Kim baz=46,SNR=7.6	45.78	336	⇓P	P	09 27 30.2	+0.6
U23A	El Rito baz=46,SNR=12	45.89	332	⇑P	P	09 27 31.3	+0.7
V22A	San Miguel Ran baz=46,SNR=7.0	45.89	331	⇓P	P	09 27 31.5	+0.9
Q29A	Oakley baz=46	45.93	339	⇑P	P	09 27 31.4	+0.8
W20A	Ramah baz=46,SNR=12	46.06	329	⇓P	P	09 27 32.6	+0.7
R27A	Eads baz=46,SNR=13	46.08	337	⇓P	P	09 27 32.3	+0.4
214A	Organ Pipe Nat baz=46	46.13	322	⇑P	P	09 27 32.9	+0.7
V21A	Milan baz=46	46.16	330	⇓P	P	09 27 33.6	+1.0
S25A	Robets Cordova baz=46,SNR=9.3	46.22	335	⇓P	P	09 27 33.8	+0.7
U22A	Llaves baz=46,SNR=11	46.24	332	⇓P	P	09 27 34.4	+1.1
P30A	Selden baz=46	46.26	340	⇓P	P	09 27 33.6	+0.4
R26A	Arlington baz=46,SNR=24	46.35	336	⇑P	P	09 27 34.8	+0.8
X18A	Snowflake baz=46,SNR=8.9	46.36	327	⇑P	P	09 27 35.0	+0.8
Q28A	Sharon Springs baz=47	46.39	338	⇓P	P	09 27 34.6	+0.3
T23A	Casias Ranch, baz=47,SNR=14	46.40	333	⇑P	P	09 27 35.5	+0.9
S24A	Houchin Ranch, baz=47	46.53	334	⇓P	P	09 27 36.4	+0.7
P29A	Atwood baz=47	46.55	339	⇑P	P	09 27 36.3	+0.8
R25A	Fountain Ranch baz=47	46.56	335	⇓P	P	09 27 36.4	+0.7
V20A	Brimhall baz=47	46.57	330	⇑P	P	09 27 36.6	+0.8
KSCO	Kaye Shedlock' baz=47	46.65	338	⇓P	P	09 27 37.0	+0.7
U21A	Nageezi baz=47,SNR=8.7	46.66	331	⇑P	P	09 27 37.5	+0.9
W18A	Petrified Fore baz=47	46.69	328	⇑P	P	09 27 37.6	+0.8
SDCO	Great Sand Dun 3.9nm,0.8s	46.74	334	eP	P	09 27 37.9	+0.6
O30A	MW Ranch, Wils baz=47	46.77	341	⇑P	P	09 27 37.6	+0.4
T22A	Edith baz=47	46.78	332	⇓P	P	09 27 38.2	+0.7
P28A	Saint Francis baz=47	46.81	339	⇓P	P	09 27 37.9	+0.3
Q26A	Hugo baz=47,SNR=5.9	46.92	337	⇑P	P	09 27 39.1	+0.6
S23A	Nye Farm, Mont baz=47	46.93	333	⇑P	P	09 27 39.7	+1.0
O29A	4D Ranch, Culb baz=47	46.97	340	⇑P	P	09 27 39.3	+0.6
R24A	Sanders Place, baz=47	46.98	335	⇑P	P	09 27 40.1	+1.0
U20A	Newcomb baz=47,SNR=13	47.05	330	⇓P	P	09 27 40.1	+0.5
T21A	Navajo Lake baz=47	47.06	332	⇓P	P	09 27 40.5	+0.8
X16A	Lo Mia Camp, P baz=47,SNR=12	47.10	326	⇑P	P	09 27 40.6	+0.6
P27A	Ficken Ranch, baz=47,SNR=6.4	47.10	338	⇑P	P	09 27 40.4	+0.5
Z14A	Wintersburg baz=47	47.20	324	⇑P	P	09 27 40.9	+0.3
Q25A	Bedland, Calha baz=47,SNR=7.2	47.20	336	⇓P	P	09 27 41.0	+0.3
R23A	Moffat baz=47	47.26	334	⇓P	P	09 27 41.2	-0.1
113A	Mohawk Valley, baz=47	47.27	323	⇑P	P	09 27 41.3	+0.1
N30A	Hueftle Ranch, baz=48	47.34	341	⇑P	P	09 27 41.2	-0.4
S22A	4UR Ranch, Cre baz=48,SNR=11	47.34	333	⇑P	P	09 27 42.4	+0.4
P26A	Davis Ranch, A baz=48	47.40	337	⇑P	P	09 27 42.5	+0.3
N29A	Votaw Ranch, W baz=48	47.53	341	⇑P	P	09 27 43.5	+0.4
Y14A	Wickenburg baz=48,SNR=7.4	47.64	324	⇑P	P	09 27 44.7	+0.6
P25A	Willow Gulch B baz=48	47.68	336	⇓P	P	09 27 44.7	+0.2
MVCO	Mesa Verde 7.7nm,0.6s	47.70	331	eP	P	09 27 45.2	+0.5
MVCO				ePcP	PcP	09 29 13.7	0.0
MVCO	Mesa Verde baz=48,SNR=8.5	47.70	331	⇓P	P	09 27 45.0	+0.3
R22A	Saguache, Gunn baz=48	47.70	333	⇓P	P	09 27 45.1	+0.3
S21A	Coal Bank Pass baz=48	47.72	332	⇑P	P	09 27 45.2	+0.2
N28A	Pribbeno Ranch baz=48	47.72	340	⇓P	P	09 27 45.0	+0.4
WUAZ	Wupatki 19nm,1.0s	47.87	327	eP	P	09 27 46.5	+0.5
WUAZ				ePcP	PcP	09 29 15.2	+0.9
WUAZ	Wupatki baz=48,SNR=11	47.87	327	⇓P	P	09 27 46.6	+0.7
S20A	Disappointment baz=48,SNR=9.5	48.12	332	⇑P	P	09 27 48.5	+0.5
O25A	Wiggins baz=48	48.17	337	⇓P	P	09 27 48.9	+0.7
N27A	Anderson Farm, baz=48	48.18	339	⇓P	P	09 27 49.2	+1.0
P23A	Jefferson baz=48,SNR=18	48.25	335	⇑P	P	09 27 50.3	+1.3
Q22A	Crested Butte, baz=48,SNR=16	48.29	334	⇓P	P	09 27 49.9	+0.6
Y12C	Blythe baz=48	48.41	323	⇓P	P	09 27 50.3	+0.3
R20A	Redvale baz=49,SNR=11	48.42	332	⇓P	P	09 27 50.9	+0.7
PV01	Paradox Valley 489nm,1.0s	48.46	332	eP	P	09 27 51.4	+0.8
ISCO	Idaho Springs 5.9nm,0.9s	48.51	335	eP	P	09 27 51.1	+0.1
ISCO				ePcP	PcP	09 29 16.9	+0.2
ISCO	Idaho Springs baz=49,SNR=9.5	48.51	335	⇓P	P	09 27 51.5	+0.5
O24A	Longmont baz=49	48.56	336	⇑P	P	09 27 51.1	-0.1
PDMCI	Parker Dam,Lak baz=49	48.56	324	⇓P	P	09 27 51.1	-0.1
L29A	Maesberg Ranch baz=49	48.60	341	⇓P	P	09 27 51.0	-0.4
P22A	Eagle baz=49	48.83	334	⇓P	P	09 27 53.5	+0.2
PV04	Paradox Valley	48.83	332	eP	P	09 27 53.6	+0.3
BC3	Big Chuckawall baz=49	48.91	322	⇓P	P	09 27 54.3	+0.4
W13A	Hualapai Mount baz=49,SNR=7.3	48.98	325	⇓P	P	09 27 55.2	+0.6
O23A	Lake Granby, G baz=49,SNR=11	48.98	335	⇑P	P	09 27 55.1	+0.5
MONP	Monument Peak baz=49	49.00	321	⇑P	P	09 27 55.3	+0.4
U15A	North Rim baz=49,SNR=6.1	49.05	327	⇓P	P	09 27 55.7	+0.6
ECSD	EROS Data Cent 8.9nm,1.0s	49.05	346	eP	P	09 27 53.8	-0.9
ECSD				ePcP	PcP	09 29 17.6	-0.6
IRM	Iron Mountain baz=49,SNR=8.0	49.07	323	⇑P	P	09 27 55.7	+0.6
P21A	Newcastle baz=49,SNR=7.6	49.07	334	⇑P	P	09 27 56.0	+0.8
K29A	Lazy Trails An baz=49	49.18	342	⇑P	P	09 27 56.7	+0.9
O22A	Kremmling baz=49,SNR=7.9	49.21	335	⇓P	P	09 27 56.5	+0.2
109C	Camp Elliot, M baz=50	49.44	320	⇓P	P	09 27 58.3	+0.5
K28A	Ten Mile Ranch baz=50	49.47	341	⇓P	P	09 27 58.5	+0.4
P20A	De Beque baz=50	49.48	333	⇑P	P	09 27 58.9	+0.6
BELC	Belle Mtn. Jos baz=50	49.48	322	⇓P	P	09 27 58.4	+0.1
PFO	Pinyon Flat Ob 16nm,1.7s	49.50	321	eP	P	09 27 59.2	+0.7
PFO	Pinyon Flat Ob baz=50	49.50	321	⇑P	P	09 27 58.6	+0.1
N23A	Red Feather La baz=50	49.57	336	⇓P	P	09 27 59.4	+0.3
M24A	Cheyenne baz=50	49.61	337	⇑P	P	09 27 59.5	+0.3
O21A	Pagoda baz=50	49.65	334	⇑P	P	09 28 00.4	+0.8
SPMN	St. Paul baz=50,SNR=10	49.67	350	⇓P	P	09 27 58.6	-0.8
N22A	Wattenberg Ran baz=50,SNR=5.9	49.70	335	⇑P	P	09 28 00.6	+0.5
PHWY	Pilot Hill 5.7nm,1.1s	49.72	337	eP	P	09 28 00.7	+0.4
K27A	Fluckinger Fa baz=50	49.75	340	⇑P	P	09 28 00.8	+0.6
GMRC	Granite Mounta baz=50	49.80	323	⇓P	P	09 28 00.9	+0.2
P19A	Cripple Cowboy baz=50,SNR=6.5	49.85	332	⇑P	P	09 28 01.2	0.0
O20A	White River Ci baz=50	49.92	333	⇑P	P	09 28 02.1	+0.4
MURC	Murrieta baz=50	49.96	321	⇑P	P	09 28 02.5	+0.6
J28A	Allard Ranch, baz=50,SNR=5.4	50.07	341	⇑P	P	09 28 02.9	+0.3
K26A	Motz Farm, Whi baz=50	50.08	339	⇓P	P	09 28 03.7	+1.0
N21A	Black Mountain baz=50,SNR=7.7	50.12	334	⇑P	P	09 28 04.0	+0.8
SRU	San Rafael 30nm,1.8s	50.17	331	eP	P	09 28 04.0	+0.4
BBRC	Big Bear Solar baz=50	50.22	322	⇓P	P	09 28 04.7	+0.6
HEC	Hector,Ludlow baz=50	50.24	323	⇑P	P	09 28 04.9	+0.8
BRSD	Miller baz=50	50.32	344	⇓P	P	09 28 04.2	-0.2
Q16A	Castle Valley baz=50	50.34	330	⇓P	P	09 28 05.7	+0.8
TUQ	Turquoise Moun baz=50	50.41	323	⇓P	P	09 28 05.7	+0.4
CCUT	Cedar City 11nm,1.0s	50.45	327	eP	P	09 28 07.2	+1.4
CCUT				ePcP	PcP	09 29 24.4	+0.7
O19A	Miners Draw (B baz=51	50.45	333	⇓P	P	09 28 06.3	+0.7
N20A	Spence Gulch, baz=51,SNR=9.0	50.50	334	⇑P	P	09 28 06.5	+0.4
L23A	Garrett baz=51	50.50	337	⇑P	P	09 28 06.3	+0.2
MSU	Marysvale	50.54	329	eP	P	09 28 06.9	+0.4
MSU				ePcP	PcP	09 29 24.5	+0.5
MVU	Marysvale 6.3nm,0.8s	50.55	329	eP	P	09 28 07.4	+0.8
MVU				ePcP	PcP	09 29 24.4	+0.3
I28A	Midland baz=51	50.57	342	⇑P	P	09 28 06.8	+0.5
BFSC	Mount Baldy Ra baz=51	50.67	321	⇑P	P	09 28 07.7	+0.3
ARUT	Antelope Range 12nm,0.8s	50.67	327	eP	P	09 28 08.6	+1.2
L22A	Ellis Ranch, M baz=51	50.72	336	⇑P	P	09 28 08.6	+0.9
M21A	Separation Pea baz=51,SNR=8.0	50.75	335	⇓P	P	09 28 08.3	+0.3
RWWY	Rawlins 11nm,0.9s	50.76	335	eP	P	09 28 08.8	+0.7
GSC	Goldstone	50.84	323	eP	P	09 28 09.5	+0.9
GSC	Goldstone baz=51,SNR=7.8	50.84	323	⇑P	P	09 28 08.9	+0.3
J25A	Sunshine Ranch baz=51	50.90	339	⇓P	P	09 28 09.7	+0.8
I27A	Quinn baz=51,SNR=11	50.91	341	⇓P	P	09 28 09.4	+0.5
M20A	Sweetwater, Wa baz=51	51.00	334	⇓P	P	09 28 10.3	+0.4
K23A	Bowen Ranch, D baz=51	51.02	337	⇓P	P	09 28 10.4	+0.5
L21A	Rawlins baz=51,SNR=11	51.05	335	⇑P	P	09 28 10.3	+0.1
H28A	Mission Ridge baz=51	51.13	342	⇓P	P	09 28 11.0	+0.5
I26A	New Underwood baz=51	51.14	340	⇓P	P	09 28 11.3	+0.6
K22A	Casper baz=52	51.28	337	⇑P	P	09 28 12.3	+0.5
EDW2	Edwards Air Fo baz=51	51.29	321	⇑P	P	09 28 12.4	+0.4
I25A	Rochford baz=52	51.43	340	⇑P	P	09 28 13.8	+0.9
G28A	Parade baz=52	51.46	343	⇑P	P	09 28 13.3	+0.3
L20A	Wamsutter baz=52	51.49	335	⇑P	P	09 28 13.7	+0.2
LRMC	Laurel Mountai baz=52	51.50	322	⇑P	P	09 28 14.1	+0.5
DAU	Daniels Canyon	51.54	331	eP	P	09 28 14.5	+0.5
K21A	Alcova baz=52,SNR=6.7	51.56	336	⇓P	P	09 28 14.2	+0.2
RSSD	Black Hills 5.2nm,0.8s	51.62	340	eP	P	09 28 14.9	+0.5
H26A	Fairpoint baz=52	51.63	341	⇓P	P	09 28 14.7	+0.4
FURC	Furnace Creek, baz=52	51.67	324	⇓P	P	09 28 15.2	+0.6
MPMC	Manual Prospec baz=52	51.77	323	⇓P	P	09 28 15.3	-0.4
JLU	Jordanelle 13nm,1.3s	51.78	331	eP	P	09 28 16.1	+0.4
J22A	Midwest baz=52,SNR=9.8	51.91	337	⇓P	P	09 28 16.5	0.0
H25A	Fruitdale baz=52	51.91	340	⇓P	P	09 28 16.7	+0.3
ARVC	Arvin baz=52	51.98	321	⇓P	P	09 28 17.3	+0.3
L19A	Farson baz=52	52.01	334	⇑P	P	09 28 17.3	0.0
K20A	Yellowstone Ra baz=52,SNR=9.6	52.03	335	⇑P	P	09 28 17.3	-0.1
G27A	Dupree baz=52	52.05	342	⇑P	P	09 28 17.6	+0.3
M17A	Scullys Gap (B baz=52	52.09	333	⇑P	P	09 28 18.0	0.0
ISA	Isabella baz=52	52.10	322	⇓P	P	09 28 18.2	+0.2
EYMN	Ely 9.6nm,0.9s	52.11	352	eP	P	09 28 17.4	-0.3
DUG	Dugway baz=52,SNR=7.0	52.14	330	⇓P	P	09 28 18.8	+0.5
L18A	Fontenelle, Gr baz=52	52.17	333	⇑P	P	09 28 18.4	-0.1
G26A	Maurine baz=52,SNR=6.2	52.18	341	⇑P	P	09 28 18.2	-0.1
J21A	Lysite baz=52,SNR=16	52.23	336	⇓P	P	09 28 19.7	+0.7
R11A	Troy Canyon, C baz=52	52.24	326	⇑P	P	09 28 19.5	+0.3
I22A	9 Mile Ranch, baz=52	52.32	338	⇑P	P	09 28 19.6	+0.1
GRAC	Grapevine Rang baz=52	52.33	324	⇓P	P	09 28 19.8	+0.2
H24A	Dirks Ranch, A baz=52	52.35	340	⇓P	P	09 28 19.9	+0.2
G25A	Newell baz=52	52.35	341	⇑P	P	09 28 19.8	+0.1
CWC	Cottonwood Cre baz=52	52.37	323	⇑P	P	09 28 19.6	-0.5
K19A	Absolon Red Bu baz=53,SNR=9.7	52.38	335	⇑P	P	09 28 19.9	-0.2
J20A	Shoshoni baz=53,SNR=12	52.50	336	⇓P	P	09 28 21.1	+0.3
I21A	Big Trails, Te baz=53,SNR=9.8	52.56	337	⇓P	P	09 28 21.2	-0.1
HWUT	Hardware Ranch 28nm,1.3s	52.62	332	eP	P	09 28 21.5	-0.3
HWUT				ePcP	PcP	09 29 31.6	-0.1
BW06	Boulder Array 10nm,1.3s	52.63	334	eP	P	09 28 21.7	-0.3
BW06				ePcP	PcP	09 29 31.2	-0.6
PDAR	Pinedale Array	52.63	334	P	P	09 28 21.7	-0.3
PDAR				PcP	PcP	09 29 31.2	-0.6
PDAR	Pinedale Array 3.8nm,1.0s,baz=130,slow=8.0,SNR=21	52.63	334	P	P	09 28 21.7	-0.3
PDAR	1.1nm,0.7s,baz=125,slow=4.7,SNR=3.1			PcP	PcP	09 29 31.2	-0.6
PDAR	comp=Z,63nm,19.3s,baz=324,slow=36			LR	LR	09 50 32.0	
F26A	Lodgepole baz=53,SNR=6.0	52.70	342	⇑P	P	09 28 22.0	-0.2
BGU	Big Grassy Mou 6.8nm,0.9s	52.80	330	eP	P	09 28 23.5	+0.3
J19A	Crowheart baz=53,SNR=8.8	52.83	335	⇓P	P	09 28 23.2	-0.1
SMMC	Simmler baz=53	52.83	321	⇑P	P	09 28 23.4	0.0
H22A	Clearmont baz=53	52.87	338	⇓P	P	09 28 23.9	+0.4
RCTC	Rector, Farmer baz=53	52.99	322	⇓P	P	09 28 24.8	+0.3
I20A	Worland baz=53,SNR=15	53.01	336	⇓P	P	09 28 24.9	+0.2
G23A	Biddle baz=53	53.04	339	⇓P	P	09 28 24.5	-0.2
H21A	Big Horn, Sher baz=53	53.15	338	⇓P	P	09 28 25.8	+0.1
E26A	Carlson Angus baz=53,SNR=6.3	53.19	342	⇑P	P	09 28 25.8	0.0
AGMN	Agassiz Nation 27nm,0.7s	53.21	348	eP	P	09 28 25.7	-0.1
F24A	Ekalaka baz=54,SNR=6.3	53.27	340	⇓P	P	09 28 26.6	+0.1
AHID	Auburn Hatcher 7.8nm,0.9s	53.31	333	eP	P	09 28 27.1	+0.1
HVU	Hansel Valley 5.5nm,0.8s	53.32	331	eP	P	09 28 26.9	-0.1
G22A	Birney baz=54	53.38	339	⇓P	P	09 28 27.0	-0.3
H20A	Greybull baz=54,SNR=8.5	53.41	337	⇓P	P	09 28 27.1	-0.4
I19A	Meeteetse baz=54	53.43	336	⇓P	P	09 28 28.5	+0.7
F23A	Volborg baz=54,SNR=7.5	53.49	340	⇑P	P	09 28 28.0	-0.1
I18A	Diamond G Ranc baz=54,SNR=6.7	53.50	335	⇓P	P	09 28 28.2	-0.2
E25A	Miller Ranch, baz=54,SNR=6.5	53.51	341	⇓P	P	09 28 28.3	+0.1
MLAC	Mammoth Lakes baz=54	53.61	323	⇑P	P	09 28 29.8	+0.5
MDND	Maddock baz=54,SNR=11	53.64	345	⇓P	P	09 28 29.6	+0.6
REDW	Red Top Meadow 14nm,1.1s	53.68	334	eP	P	09 28 29.5	-0.2
SNOW	Snow King Moun 3.2nm,0.3s	53.71	334	eP	P	09 28 30.9	+1.0
G21A	Lodge Grass baz=54	53.72	338	⇑P	P	09 28 29.8	0.0
LOHW	Long Hollow	53.77	334	eP	P	09 28 30.4	+0.1
NVAR	Mina Array Bea	53.84	325	P	P	09 28 31.2	+0.3
NVAR				PcP	PcP	09 29 36.5	+0.2
NVAR	Mina Array Bea 7.6nm,1.0s,baz=136,slow=6.9,SNR=39	53.84	325	P	P	09 28 31.2	+0.3
NVAR	1.7nm,0.7s,baz=140,slow=4.4,SNR=4.3			PcP	PcP	09 29 36.5	+0.2
F22A	Rosebud baz=54	53.84	339	⇑P	P	09 28 30.0	-0.6
E24A	Baker baz=54	53.85	341	⇑P	P	09 28 30.3	-0.4
RRI2	Red Ridge 7.7nm,0.6s	53.87	334	eP	P	09 28 31.3	+0.1
MOOW	Moose Ponds 2.7nm,0.8s	53.94	334	eP	P	09 28 31.5	-0.1
H19A	Powell baz=54	53.95	336	⇑P	P	09 28 31.4	-0.1
I17A	Pilgrim Ck. baz=54	54.00	334	⇑P	P	09 28 32.2	+0.2
G20A	Bridger baz=54,SNR=9.0	54.10	337	⇓P	P	09 28 32.2	-0.5

E23A	Ismay	54.13	340	⇑P		P	09 28 32.3	-0.4
	baz=54							
H18A	Shoshone NF, C	54.23	336	⇑P		P	09 28 33.3	-0.4
	baz=54,SNR=9.1							
D24A	Glendive	54.35	341	⇑P		P	09 28 34.8	+0.5
	baz=54							
I16A	Newdale	54.37	334	⇓P		P	09 28 34.5	-0.2
	baz=54,SNR=7.0							
D23A	Lindsay	54.69	341	⇓P		P	09 28 37.2	+0.4
	baz=55,SNR=6.3							
G18A	Lazy EL Ranch,	54.72	336	⇓P		P	09 28 37.0	-0.1
	baz=55,SNR=6.4							
C24A	Savage	54.75	341	⇓P		P	09 28 37.6	+0.5
	baz=55							
F19A	Roth Farm, Mol	54.91	337	⇓P		P	09 28 38.4	-0.1
	baz=55,SNR=7.6							
H16A	Russell Place,	54.92	335	⇑P		P	09 28 39.5	+0.8
	baz=55,SNR=12							
RKT	Rikitea	54.94	244	eLR		LR	09 44 20.5	
	244nm,31.2s							
D22A	Cohagen	55.00	340	⇑P		P	09 28 39.5	+0.5
	baz=55,SNR=11							
ULM	Lac du Bonnet	55.07	349	*e*P		P	09 28 38.7	-0.7
	17nm,0.8s							
ULM	Lac du Bonnet	55.07	349	P		P	09 28 38.8	-0.7
	18nm,0.6s,baz=162,slow=7.6,SNR=25							
QLMT	Earthquake Lak	55.10	335	*e*P		P	09 28 41.1	+1.2
E20A	Meyer Farm, Mu	55.15	338	⇑P		P	09 28 40.6	+0.5
	baz=55,SNR=18							
GCMT	Greycliff	55.15	336	*e*P		P	09 28 40.6	+0.4
	10nm,1.1s							
G17A	Pierce Place,	55.20	335	⇑P		P	09 28 41.8	+1.2
	baz=55,SNR=9.3							
D21A	La Casta Ranch	55.21	339	⇓P		P	09 28 41.0	+0.4
	baz=55,SNR=7.4							
F18A	Big Timber	55.26	336	⇑P		P	09 28 41.4	+0.4
	baz=55,SNR=16							
I14A	Mackay	55.29	332	⇑P		P	09 28 42.1	+0.7
	baz=56,SNR=8.6							
E19A	Rath Farm, Rou	55.36	338	⇑P		P	09 28 42.0	+0.3
	baz=56,SNR=15							
C22A	Vida	55.41	340	⇓P		P	09 28 42.5	+0.6
	baz=56,SNR=25							
HLID	Hailey	55.46	332	*e*P		P	09 28 43.3	+0.7
	7.7nm,0.9s							
HLID	Hailey	55.46	332	⇓P		P	09 28 43.2	+0.6
	baz=56,SNR=12							
DGMT	Dagmar	55.51	342	*e*P		P	09 28 43.4	+0.7
	9.7nm,0.8s							
DGMT	Dagmar	55.51	342	⇓P		P	09 28 42.7	+0.1
	baz=56							
F17A	Fitzpatrick Pl	55.64	336	⇑P		P	09 28 44.4	+0.6
	baz=56,SNR=7.9							
D20A	Manuel Ranch,	55.64	338	⇓P		P	09 28 44.0	+0.3
	baz=56,SNR=11							
MCMT	McKenzie Canyo	55.72	334	*e*P		P	09 28 45.4	+0.9
	2.4nm,0.8s							
MCMT				*e*PcP		PcP	09 29 44.0	+0.5
B23A	Brockton	55.75	341	⇓P		P	09 28 45.0	+0.6
	baz=56,SNR=8.2							
BOZ	Bozeman (W)	55.84	335	*e*P		P	09 28 45.0	-0.2
	16nm,1.4s							
A24A	Westby	55.85	342	⇓P		P	09 28 45.7	+0.7
	baz=56,SNR=7.3							
E18A	Harlowton	55.88	337	⇑P		P	09 28 45.6	+0.1
	baz=56							
C21A	Desert Coulee	55.90	340	⇓P		P	09 28 46.0	+0.6
	baz=56,SNR=15							
B22A	Reddig Ranch S	55.93	341	⇑P		P	09 28 46.2	+0.5
	baz=56							
D19A	Cripps Ranch,	55.98	338	⇑P		P	09 28 46.4	+0.3
	baz=56,SNR=16							
DLMT	Dillon	56.02	334	*e*P		P	09 28 47.0	+0.4
	15nm,1.2s							
MFID	Camas Ranch	56.04	330	*e*P		P	09 28 47.3	+0.7
	21nm,1.0s							
MFID	Camas Ranch	56.04	330	⇑P		P	09 28 47.3	+0.7
	baz=56,SNR=21							
A23A	Redstone	56.15	342	⇑P		P	09 28 47.9	+0.7
	baz=56							
E17A	Martinsdale	56.17	336	⇓P		P	09 28 47.8	+0.2
	baz=56,SNR=8.3							
LRM	Limekiln Ridge	56.32	335	*e*P		P	09 28 49.0	+0.2
D18A	Linhart Farms,	56.36	337	⇑P		P	09 28 48.6	-0.3
	baz=56							
B21A	Ellsworth Farm	56.38	340	⇑P		P	09 28 49.4	+0.5
	baz=57,SNR=8.1							
H12A	Diamond D Ranc	56.42	332	⇑P		P	09 28 49.9	+0.5
	baz=57,SNR=19							
A22A	Carney Farms,	56.51	341	⇓P		P	09 28 50.4	+0.6
	baz=57,SNR=6.3							
C19A	Slack Wire Ran	56.52	338	⇑P		P	09 28 50.4	+0.5
	baz=57,SNR=11							
D17A	Six Diamond Ra	56.67	337	⇓P		P	09 28 51.2	+0.1
	baz=57,SNR=8.0							
B20A	Solberg Farm,	56.74	339	⇑P		P	09 28 51.7	+0.2
	baz=57							
WVOR	Wild Horse Val	56.77	328	*e*P		P	09 28 51.9	0.0
	16nm,1.1s							
HRY	Holter Researc	56.77	336	*e*P		P	09 28 52.2	+0.4
EGMT	Eagleton	57.02	338	*e*P		P	09 28 53.4	-0.1
	37nm,1.7s							
EGMT	Eagleton	57.02	338	⇓P		P	09 28 53.6	+0.1
	baz=57,SNR=7.4							
G12A	Big Creek, Yel	57.08	332	⇓P		P	09 28 54.0	0.0
	baz=57							
A20A	Cobblestone Ra	57.08	340	⇓P		P	09 28 54.3	+0.5
	baz=57							
C17A	Wharram Farm,	57.09	337	⇑P		P	09 28 54.0	0.0
	baz=57,SNR=6.8							
B18A	Beardsley Farm	57.34	338	⇓P		P	09 28 55.9	+0.1
	baz=58,SNR=9.4							
A19A	Klindworth Far	57.41	339	⇓P		P	09 28 56.9	+0.6
	baz=58							
C16A	Fuhringer Ranc	57.61	336	⇓P		P	09 28 58.3	+0.6
	baz=58							
B17A	L&G Farms, Che	57.64	337	⇓P		P	09 28 58.7	+0.9
	baz=58							
KIPM	Iron Peak	57.80	323	*e*P		P	09 29 00.2	+1.0
A18A	Metzger Ranch,	57.80	338	⇓P		P	09 28 58.9	-0.1
	baz=58,SNR=11							
BMO	Blue Mountains	57.81	331	*e*P		P	09 28 58.6	-0.6
	10.0nm,1.4s							
SLMT	Seeley Lake	57.89	335	*e*P		P	09 29 00.2	+0.5
C15A	Salmond Ranch,	57.94	336	⇑P		P	09 29 00.8	+0.7
	baz=58							
B16A	M & M Farms, S	58.09	337	⇑P		P	09 29 01.0	0.0
	baz=58							
A17A	Triple J Farms	58.14	338	⇑P		P	09 29 01.8	+0.4
	baz=58							
SWMT	Swartz Lake	58.31	335	*e*P		P	09 29 03.0	+0.4
B15A	Bradely Ranch,	58.35	336	⇓P		P	09 29 03.1	+0.2
	baz=58,SNR=7.3							
C14A	Swan Lake	58.41	335	⇑P		P	09 29 03.7	+0.4
	baz=59							
YBMT	Yellow Bay	58.59	335	*e*P		P	09 29 05.4	+0.8
	8.6nm,0.8s							
JTMT	Jette	58.62	335	*e*P		P	09 29 05.3	+0.6
	7.4nm,1.1s							
B14A	Marquette Ranc	58.68	336	⇓P		P	09 29 05.7	+0.5
	baz=59,SNR=17							
C13A	Hot Springs	58.69	335	⇑P		P	09 29 05.7	+0.5
	baz=59,SNR=8.8							
BLMT	Blacktail Moun	58.85	335	*e*P		P	09 29 07.4	+0.9
	3.6nm,0.5s							
BSMT	Bassoo Peak	58.91	335	*e*P		P	09 29 07.7	+0.8
	7.4nm,0.9s							
A15A	Johnson Ranch,	58.95	337	⇓P		P	09 29 07.1	+0.1
	baz=59,SNR=9.2							
C12B	Naegeli Ranch,	59.10	334	⇓P		P	09 29 08.6	+0.5
	baz=59,SNR=7.5							
B13A	Whitefish	59.18	335	⇓P		P	09 29 09.2	+0.6
	baz=59							
A14A	Double T Ranch	59.22	336	⇓P		P	09 29 09.2	+0.2
	baz=59,SNR=12							
WALA	Waterton Lakes	59.49	336	*e*P		P	09 29 11.1	+0.3
	0.3nm,0.8s							
SCHQ	Schefferville	59.59	10	P		P	09 29 09.8	-1.3
SCHQ	Schefferville	59.59	10	P		P	09 29 09.8	-1.3
	4.0nm,0.7s,baz=180,slow=4.3,SNR=19							
A13A	Flathead Natio	59.59	336	⇑P		P	09 29 12.0	+0.5
	baz=60							
B12A	Libby	59.73	335	⇓P		P	09 29 13.2	+0.9
	baz=60,SNR=8.6							
A12A	Yaak River Ran	60.11	335	⇓P		P	09 29 15.0	0.0
	baz=60							
NEW	Newport	60.24	334	*e*P		P	09 29 15.7	-0.2
	11nm,1.1s							
NEW	Newport	60.24	334	⇓P		P	09 29 15.8	-0.1
	baz=60,SNR=8.3							
FFC	Flin Flon	60.57	347	*e*P		P	09 29 18.1	+0.2
	3.7nm,0.6s							
LON	Longmire	61.39	330	*e*P		P	09 29 23.6	-0.1
	7.7nm,1.2s							
PPT	Papeete	67.80	253		LR	LR	09 50 10.7	
	comp=Z,203nm,18.9s,baz=181,slow=28							
PPT2	Papeete2	67.80	253		eLR	LR	09 50 15.1	
	283nm,29.8s,baz=86							
YKA	Yellowknife Ar	70.56	344		P	P	09 30 21.1	-1.2
YKA	Yellowknife Ar	70.56	344		P	P	09 30 21.0	-1.2
	2.3nm,0.5s,baz=145,slow=6.3,SNR=11							
LIC	Lamto	77.20	83	*e*P		P	09 31 00.4	-1.8
	31nm,0.9s							
TIC	Toumodi	77.25	82	*e*P		P	09 31 03.1	+0.6
	49nm,1.1s							
DBIC	Dimbokro	77.41	82		P	P	09 31 03.9	+0.6
DBIC	Dimbokro	77.41	82		P	P	09 31 03.9	+0.6
	6.3nm,0.8s,baz=222,slow=3.5,SNR=5.9							
DBIC					LR	LR	10 01 03.8	
	comp=Z,75nm,19.6s,baz=234,slow=32							
KIC	Kosan Boka	77.50	83	*e*P		P	09 31 04.7	+0.8
	31nm,0.8s							
EGAK	Eagle	80.79	338	*e*P		P	09 31 20.4	-0.4
	11nm,1.1s							
SUMG	Summit	80.89	12	*e*P		P	09 31 21.9	+0.2
	14nm,0.9s							
SUMG	Summit	80.89	12	*i*P		P	09 31 21.7	0.0
	7.2nm,0.8s							
SUMG				*i*			09 31 30.3	
VNA1	Neumayer--Stat	81.11	161	*e*P		P	09 31 22.8	+0.4
VNA1	Neumayer--Stat	81.11	161	*es*P		sP	09 31 31.7	-5.7
SML	Sawmill	82.40	334	*e*P		P	09 31 29.2	-0.2
	4.5nm,1.1s							
ESDC	Sonseca Array	82.94	49	P		P	09 31 34.0	+1.3
ESDC	Sonseca Array	82.94	49	P		P	09 31 34.0	+1.3
	3.2nm,0.8s,baz=277,slow=4.7,SNR=10							
ILAR	Eielson Array	82.98	337		P	P	09 31 31.3	-1.0
ILAR					PP	PP	09 34 45.6	+2.3
ILAR	Eielson Array	82.98	337		P	P	09 31 31.3	-1.0
	2.7nm,0.9s,baz=139,slow=3.6,SNR=24							
ILAR					PP	PP	09 34 45.6	+2.3
	1.5nm,1.1s,baz=117,slow=6.6,SNR=6.7							
ILAR					LR	LR	10 08 25.7	
	comp=Z,58nm,18.3s,baz=47,slow=36							
SNAA	Sanae	83.04	162	*e*P		P	09 31 31.8	-0.8
SNAA	Sanae	83.04	162	*es*P		sP	09 31 40.9	-6.8
SNAA	Sanae	83.04	162	*e*P		P	09 31 31.9	-0.8
	7.9nm,0.9s							
TOA0	Torodi Ar. Sit	84.42	76	*e*P		P	09 31 41.3	+0.5
TORD	Torodi Ar. Bea	84.42	76	P		P	09 31 41.1	+0.3
TORD	Torodi Ar. Bea	84.42	76	P		P	09 31 41.1	+0.3
	1.9nm,0.7s,baz=282,slow=5.7,SNR=18							
TORD					LR	LR	10 07 14.2	
	comp=Z,88nm,18.9s,baz=190,slow=34							
COLD	Coldfoot	85.18	339	*e*P		P	09 31 44.0	+0.6
	2.8nm,0.6s							
DAG	Danmarks Havn	87.57	12	*i*P		P	09 31 54.8	-0.2
	4.2nm,1.0s							
DAG				*e*			09 32 03.2	
VNDA	Vanda	91.99	191		P	P	09 32 16.2	+0.5
VNDA	Vanda	91.99	191		P	P	09 32 16.2	+0.5
	0.8nm,1.0s,baz=112,slow=5.4,SNR=3.7							
KEST	Kesra	92.98	55		LR	LR	10 09 20.5	
	comp=Z,20nm,20.6s,baz=304,slow=32							
NOA	NORSAR Array B	94.61	29		LR	LR	10 10 04.0	
	comp=Z,26nm,21.2s,baz=100,slow=32							
KBZ	Khabaz	117.05	42		PKP	PKPdf	09 37 53.0	+0.5
KBZ	Khabaz	117.05	42		PKP	PKPdf	09 37 53.0	+0.5
	2.5nm,0.8s,baz=241,slow=2.8,SNR=6.1							
AKTO	Aktyubinsk	122.40	29		PKP	PKPdf	09 38 02.9	+0.2
AKTO	Aktyubinsk	122.40	29		PKP	PKPdf	09 38 02.9	+0.2
	1.3nm,0.7s,baz=315,slow=2.9,SNR=5.8							
ABKAR	Akbulak array	124.11	29	*e*	PKPdf	PKPdf	09 38 06.1	0.0
BVAR	Borovoye Array	125.69	20		PKP	PKPdf	09 38 09.5	+0.5
BVAR	Borovoye Array	125.69	20		PKP	PKPdf	09 38 09.5	+0.5
	0.9nm,0.4s,baz=347,slow=4.4,SNR=7.2							
STKA	Stephens Creek	125.76	226		PKP	PKPdf	09 38 09.4	-0.3
STKA	Stephens Creek	125.76	226		PKP	PKPdf	09 38 09.4	-0.3
	4.2nm,0.8s,baz=179,slow=6.4,SNR=8.5							
CTA	Charters Tower	127.32	241		PKP	PKPdf	09 38 12.7	-0.3
CTA	Charters Tower	127.32	241		PKP	PKPdf	09 38 12.7	-0.3
	3.3nm,0.7s,baz=150,slow=3.8,SNR=3.1							
ZALV	Zalesovo Beam	128.68	10		PKP	PKPdf	09 38 14.1	-0.5
ZALV	Zalesovo Beam	128.68	10		PKP	PKPdf	09 38 14.1	-0.5
	2.7nm,0.6s,baz=294,slow=1.5,SNR=8.6							
USRK	Ussuriysk Arra	129.88	329		PKP	PKPdf	09 38 16.6	-0.6
	2.4nm,0.8s,baz=217,slow=1.2,SNR=7.1							
KURK	Kurchatov	130.28	16		PKP	PKPdf	09 38 17.7	0.0
KURBB	Kurchatov Arra	130.33	16		PKP	PKPdf	09 38 17.7	-0.2
	3.6nm,0.8s,baz=327,slow=2.4,SNR=18							
CN2	Changchun	133.37	333	*e*	PKP	PKPdf	09 38 26.9	+3.1
CN2					PP	PP	09 40 57.6	+7.0
CN2					LR	LR		
	comp=N,200nm,19.0s							
CN2					LR	LR		
	comp=E,200nm,19.0s							
CN2					LR	LR		
	comp=Z,200nm,21.0s							
MKAR	Makanchi Array	134.85	15		PKP	PKPdf	09 38 26.1	-0.5
MKAR	Makanchi Array	134.85	15		PKP	PKPdf	09 38 26.1	-0.5
	comp=Z,1.1nm,0.7s,baz=8.5,slow=2.5,SNR=6.8							
SONM	Songino Array	135.44	352		PKP	PKPdf	09 38 27.4	-0.4
SONM	Songino Array	135.44	352		PKP	PKPdf	09 38 27.4	-0.4
	comp=Z,1.5nm,0.7s,baz=337,slow=0.8,SNR=9.2							
AS31	Alice Springs	135.93	230	*e*	PKPdf	PKPdf	09 38 28.3	-1.0
ASAR	Alice Springs	135.93	230		PKPpre	PKPpre	09 38 20.0	
ASAR					PKP	PKPdf	09 38 28.6	-0.7
ASAR	Alice Springs	135.93	230		PKhKP	PKPpre	09 38 20.0	
	comp=Z,1.0nm,0.7s,baz=122,slow=2.8,SNR=12							
ASAR					PKP	PKPdf	09 38 28.6	-0.7
	comp=Z,5.5nm,0.9s,baz=116,slow=2.3,SNR=30							
KSRS	Korea Array	136.78	325		PKP	PKPdf	09 38 30.1	-0.2
	comp=Z,4.0nm,0.9s,baz=13,slow=1.0,SNR=9.8							
KSAR	Wonju Array Be	136.81	325		PKP	PKPdf	09 38 30.1	-0.3
WRAB	Tennant Creek	137.51	235	*e*	PKPdf	PKPdf	09 38 31.6	-0.7
WRA	Warramunga Arr	137.52	235		PKP	PKPdf	09 38 31.5	-0.7
WRA	Warramunga Arr	137.52	235		PKP	PKPdf	09 38 31.5	-0.7
	comp=Z,6.9nm,1.0s,baz=117,slow=1.5,SNR=21							
WMQ	Urumqi	138.93	12		PKP	PKPdf	09 38 34.0	-0.3
WMQ					LR	LR		
	comp=Z,55nm,29.0s							
KSH	Kashi	138.98	27	*e*	PKP	PKPdf	09 38 36.1	+1.5
KSH					PP	PP	09 41 36.1	+10
KSH					PKS	PKSdf	09 42 09.8	-1.0
KSH					SKS	SKSdf	09 45 39.6	-3.2
KSH					AMB	AMB		
	comp=Z,140nm,5.8s							
KSH					LR	LR		
	comp=N,120nm,6.6s							
KSH					LR	LR		
	comp=E,88nm,5.5s							
KSH					LR	LR		
	comp=Z,160nm,6.4s							
BJI	Beijing	140.34	338		PKP	PKPdf	09 38 35.8	-1.0
HHC	Hu-ho-hao-te	141.09	344	*e*	PKP	PKPdf	09 38 40.4	+2.1
HHC					PP	PP	09 41 42.6	+4.0
HHC					SKS	SKSdf	09 45 45.8	-0.3
HHC					SKKS	SKKSac	09 48 32.3	+1.5
HHC					SS	SS	10 00 02.8	-0.9
HHC					LR	LR		
	comp=N,270nm,35.8s							
HHC					LR	LR		
	comp=E,430nm,32.9s							
HHC					LR	LR		
	comp=Z,530nm,31.9s							
GTA	Gaotai	144.39	358	*e*	PKP	PKPab	09 38 41.8	-0.5
GTA					pPKP	pPKPdf	09 38 52.3	-3.4
GTA					sPKP		09 38 56.3	
GTA					PP	PP	09 42 00.6	+2.2
GTA					SS	SS	10 00 40.6	-0.9
GTA					AMB	AMB		
	comp=Z,28nm,4.3s							
GTA					LR	LR		
	comp=N,47nm,15.0s							
GTA					LR	LR		
	comp=E,63nm,15.9s							
GTA					LR	LR		
	comp=Z,57nm,16.1s							
FITZ	Fitzroy Crossi	145.43	230		PKPbc	PKPbc	09 38 45.9	-0.5
FITZ	Fitzroy Crossi	145.43	230		PKPbc	PKPbc	09 38 45.9	-0.5
	comp=Z,36nm,0.9s,baz=156,slow=3.1,SNR=46							
NJ2	Nanjing	145.78	328	*e*	PKPbc	PKPab	09 38 47.8	+0.3
LZH	Lanzhou	147.33	352	*e*	PKPbc	PKPdf	09 38 48.8	-0.6
LZH					PKPbc	PKPbc	09 38 52.0	+0.2
LZH					pPKP	PKiKP	09 38 56.6	+2.5
LZH					sPKP		09 38 59.8	
LZH					PP	PP	09 42 17.3	+1.4
LZH					SKS	SKSdf	09 45 52.0	-3.9
LZH					SKKS	SKKSac	09 49 02.3	-4.4
LZH					AMB	AMB		
	comp=Z,91nm,5.6s							
LZH					LR	LR		
	comp=N,270nm,16.9s							
LZH					LR	LR		
	comp=E,310nm,17.0s							
LZH					LR	LR		
	comp=Z,410nm,19.8s							
MBWA	Marble Bar	147.59	220	*e*	PKPbc	PKPbc	09 38 51.8	-0.8
XAN	Xi'an	148.19	343		PKPbc	PKPbc	09 38 52.9	-1.1
WHN	Wuhan	149.25	332		PKPbc	PKPbc	09 38 55.0	-1.7
ENH	Enshi	151.49	339	*e*	PKPbc	PKPbc	09 39 01.2	-1.0
CD2	Chengdu	152.41	350	*e*	PKPbc	PKPdf	09 38 55.9	-1.5
CD2					sPKP		09 39 10.6	
CD2					PKPab	PKPab	09 39 15.3	+1.0
CD2					PP	PP	09 42 48.0	+2.9
CD2					SKKS		09 49 33.6	
CD2					SS	SS	10 02 12.6	+1.1
CD2					AMB	AMB		
	comp=Z,120nm,10.2s							
CD2					LR	LR		
	comp=E,120nm,22.0s							
CD2					LR	LR		
	comp=Z,140nm,24.0s							
GYA	Guiyang	155.95	341		PKP	PKPdf	09 39 02.0	-0.6
GYA					PKS	PKSdf	09 42 35.6	-1.3
GYA					PP	PP	09 43 09.8	+4.5
GYA					AMB	AMB		
	comp=Z,90nm,7.8s							
KMI	Kunming	158.24	349		PKP	PKPdf	09 39 07.1	+1.4
CMAR	Chiang Mai Arr	165.28	358		PKP	PKPdf	09 39 12.3	-0.5
CMAR					PKPab	PKPab	09 40 09.5	-0.6
CMAR	Chiang Mai Arr	165.28	358		PKP	PKPdf	09 39 12.3	-0.5
	comp=Z,0.8nm,0.3s,baz=328,slow=3.2,SNR=6.4							
CMAR					PKPab	PKPab	09 40 09.5	-0.6
	comp=Z,1.0nm,0.3s,baz=339,slow=4.8,SNR=4.1							

IDC 24 09:37:01.0±3.2, 11°.28S×118°.11E, h0km, **mb3.7**/1, **mb1 3.7**/4, **mb1mx3.5**/19, **mbtmp3.5**/4, **ML3.4**/3, **Error ellipse: s-maj=227.7km s-min=25.1km az=48.0, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	9.95	134	Pn	Pn	09 39 23.4	-2.0
	0.7nm,0.3s,baz=311,slow=9.3,SNR=11						
FITZ				Sn	Sn	09 41 08.8	-9.0
	0.4nm,0.3s,baz=36,slow=23,SNR=5.4						
WRA	Warramunga Arr	17.83	121	P	Pn	09 41 10.3	-0.5
	0.1nm,0.3s,baz=292,slow=13,SNR=4.5						
ASAR	Alice Springs	19.44	131	P	Pn	09 41 31.1	+0.7
	0.1nm,0.3s,baz=308,slow=13,SNR=11						
MKAR	Makanchi Array	66.09	334	P	P	09 47 49.8	-0.1
	0.3nm,0.4s,baz=137,slow=6.8,SNR=7.1						

IDC 24 09:40:08.5±1.6, 11°.71S×117°.86E, h0km, mb4.0/4, mb1 3.8/8, mb1mx3.6/20, mbtmp3.7/8, ML3.6/3, Error ellipse: s-maj=65.2km s-min=21.8km az=51.0
ISCJB 24 09:40:09.7±0.6, 12°.10S±0°.05×117°.74E±0°.07, h33km, mb4.0/4, Error ellipse: s-maj=10.8km s-min=6.0km az=154.6
AUST 24 09:40:10.8, 11°.98S×117°.41E, h60km
ISC 24 09:40:11.3±0.8, 11°.98S±0°.07×117°.90E±0°.08, h35km, n14, σ2s70/16, mb4.0/4, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	Jajag, Banyuwa	5.08	313	P	Pn	09 41 25.3	+0.2
	baz=4.8,SNR=7.5						
JAGI				S	Sn	09 42 12.4	-10
	baz=4.8,SNR=6.3						
KAPI	Kappang	7.16	15	Pn	Pn	09 41 50.9	-2.7
	1.1nm,0.3s,baz=206,slow=14,SNR=7.9						
KAPI				Sn	Sn	09 43 01.4	-12
	2.6nm,0.3s,baz=180,slow=22,SNR=8.6						
FITZ	Fitzroy Crossi	9.63	130	Pn	Pn	09 42 32.8	+5.3
	1.3nm,0.3s,baz=330,slow=12,SNR=13						
FITZ				Sn	Sn	09 44 16.5	+2.0
	0.7nm,0.3s,baz=180,slow=19,SNR=5.0						
FITZ	Fitzroy Crossi	9.63	130	P	Pn	09 42 33.4	+5.9
	baz=10.0,SNR=11						
FITZ				S	Sn	09 44 18.8	+4.2
	baz=10.0,SNR=4.6						
LUWI	Luwuk	11.89	24	P	Pn	09 43 02.0	+3.4
	baz=12,SNR=6.7						
LUWI				S	Sn	09 45 33.1	+23
	baz=12,SNR=5.1						
MTN	Manton Dam	12.95	95	S	Sn	09 45 34.8	-1.1
	baz=13,SNR=3.4						
MEEK	Meekatharra	14.59	177	S	Sn	09 46 13.5	-2.5
	baz=15,SNR=7.8						
MORW	Morawa	17.09	186	P	Pn	09 44 04.6	-2.9
	baz=17,SNR=3.3						
MORW				S	Sn	09 47 13.6	-2.9
	baz=17,SNR=6.8						
WRA	Warramunga Arr	17.66	119	P	P	09 44 17.4	+2.0
	0.1nm,0.3s,baz=287,slow=14,SNR=3.2						
WRA				S	Sn	09 47 25.6	-4.9
	0.2nm,0.3s,baz=289,slow=25,SNR=4.9						
ASAR	Alice Springs	19.13	130	P	Pn	09

JJT2	**Tamagusuku 2**	**2.63**	**212**	P		**Pn**	**09 44 11.8**	**+2.3**
JTN	**Tanegashima 3**	**2.69**	**32**	P		**Pn**	**09 44 10.8**	**+0.6**
JTN				*eS*		**Sn**	**09 44 41.7**	**-0.5**
JKE	**Kume jima 2**	**3.04**	**228**	P		**Pn**	**09 44 15.4**	**+0.4**
JKE				*eS*		**Sn**	**09 44 50.7**	**-0.2**
JNU	**Nakatsue**	**4.91**	**16**	*e*Pn		Pn	09 44 46.1	+5.3
JNU				Sn		**Sn**	**09 45 41.5**	**+4.4**
JNU	**Nakatsue**	**4.91**	**16**	Pn		**Pn**	**09 44 39.7**	**-1.1**
	0.3nm,0.3s,baz=187,slow=17,SNR=2.1							
JNU				Sn		**Sn**	**09 45 41.5**	**+4.4**
	baz=305,slow=19,SNR=2.2							
YHNB	**Yeheng**	**8.01**	**244**	*e*Pn		**Pn**	**09 45 24.0**	**+0.6**
	34nm,0.9s							
KSAR	**Wonju Array Be**	**9.11**	**353**	Pn		**Pn**	**09 45 37.7**	**-0.7**
KSRS	**Korea Array**	**9.12**	**353**	Pn		**Pn**	**09 45 37.7**	**-0.8**
	0.3nm,0.3s,baz=178,slow=12,SNR=3.1							
MKAR	**Makanchi Array**	**40.85**	**310**	P		**P**	**09 51 09.2**	**+0.7**
MKAR	**Makanchi Array**	**40.85**	**310**	P		**P**	**09 51 09.2**	**+0.7**
	0.6nm,0.5s,baz=117,slow=7.6,SNR=7.7							
KURK	**Kurchatov**	**43.95**	**315**	P		**P**	**09 51 34.3**	**+0.7**
KURBB	**Kurchatov Arra**	**43.99**	**315**	P		**P**	**09 51 34.3**	**+0.4**
	1.0nm,0.5s,baz=100,slow=8.9,SNR=5.3							
FITZ	**Fitzroy Crossi**	**46.35**	**185**	*e*P		**P**	**09 51 53.2**	**+0.3**
	2.9nm,0.7s							
FITZ	**Fitzroy Crossi**	**46.35**	**185**	P		**P**	**09 51 53.6**	**+0.7**
	1.1nm,0.4s,baz=14,slow=9.5,SNR=5.2							
WRAB	**Tennant Creek**	**48.28**	**174**	*e*P		**P**	**09 52 07.6**	**-0.4**
	1.9nm,0.6s							
WRA	**Warramunga Arr**	**48.29**	**174**	P		**P**	**09 52 08.1**	**0.0**
WRA	**Warramunga Arr**	**48.29**	**174**	P		**P**	**09 52 08.1**	**0.0**
	2.3nm,0.6s,baz=354,slow=8.3,SNR=18							
BVAR	**Borovoye Array**	**49.33**	**317**	P		**P**	**09 52 16.0**	**+0.2**
BVAR	**Borovoye Array**	**49.33**	**317**	P		**P**	**09 52 16.0**	**+0.2**
	0.5nm,0.3s,baz=88,slow=9.9,SNR=3.8							
CTA	**Charters Tower**	**50.90**	**159**	P		**P**	**09 52 28.0**	**0.0**
CTA	**Charters Tower**	**50.90**	**159**	P		**P**	**09 52 28.0**	**0.0**
	4.9nm,1.0s,baz=0.5,slow=11,SNR=3.7							
CTAO	**Charters Tower**	**50.90**	**159**	*e*P		**P**	**09 52 28.8**	**+0.9**
	4.7nm,0.7s							
ASAR	**Alice Springs**	**51.94**	**175**	P		**P**	**09 52 35.5**	**-0.2**
ASAR	**Alice Springs**	**51.94**	**175**	P		**P**	**09 52 35.6**	**-0.2**
	1.1nm,0.6s,baz=7.3,slow=14,SNR=23							
STKA	**Stephens Creek**	**61.06**	**168**	P		**P**	**09 53 40.3**	**-0.2**
STKA	**Stephens Creek**	**61.06**	**168**	P		**P**	**09 53 40.3**	**-0.2**
	1.2nm,0.7s,baz=5.7,slow=10,SNR=4.2							
ILAR	**Eielson Array**	**62.09**	**29**	P		**P**	**09 53 46.0**	**-1.1**
ILAR	**Eielson Array**	**62.09**	**29**	P		**P**	**09 53 46.0**	**-1.1**
	0.5nm,0.8s,baz=288,slow=6.7,SNR=8.6							
FINES	**FINESS Array B**	**71.46**	**330**	P		**P**	**09 54 46.0**	**-0.9**
FINES	**FINESS Array B**	**71.46**	**330**	P		**P**	**09 54 46.0**	**-0.9**
	1.1nm,0.5s,baz=80,slow=6.2,SNR=6.5							
BRTR	**Keskin Array B**	**76.47**	**308**	P		**P**	**09 55 16.8**	**0.0**
BRTR	**Keskin Array B**	**76.47**	**308**	P		**P**	**09 55 16.8**	**0.0**
	0.2nm,0.4s,baz=103,slow=5.6,SNR=4.5							
NB2	**NORSAR Subarra**	**77.81**	**334**	P		**P**	**09 55 22.3**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=52,slow=5.3							
NOA	**NORSAR Array B**	**77.81**	**334**	P		**P**	**09 55 22.4**	**-1.3**
NOA	**NORSAR Array B**	**77.81**	**334**	P		**P**	**09 55 22.4**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=51,slow=5.4,SNR=4.7							
GERES	**GERESS Array B**	**84.06**	**323**	P		**P**	**09 55 57.2**	**-0.3**
GERES	**GERESS Array B**	**84.06**	**323**	P		**P**	**09 55 57.2**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=91,slow=5.6,SNR=3.6							
TORD	**Torodi Ar. Bea**	**114.64**	**302**	PKP		PKPdf	10 02 06.6	-1.1
TORD	**Torodi Ar. Bea**	**114.64**	**302**	PKP		PKPdf	10 02 06.6	-1.1
	comp=Z,0.4nm,0.8s,baz=20,slow=2.0,SNR=2.5							

NEIC 24 10:19:38.6,51.65N×176.81E,h13km,ML3.5(AEIC)**, After AEIC., Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**1.10**	**73**	P	Pb	10 19 57.5	-2.0
LSNW	**Little Sitkin**	**1.11**	**72**	P	Pb	10 19 57.5	-2.1
LSSE	**Little Sitkin**	**1.13**	**75**	P	Pb	10 19 57.9	-2.1
LSPA	**Little Sitkin**	**1.14**	**73**	P	Pb	10 19 57.5	-2.6
LSPA				S	Sb	10 20 14.1	-0.7
AMKA	**Amchitka**	**1.58**	**99**	P	Pn	10 20 04.4	-1.8
AMKA				S	Sn	10 20 23.8	-2.7
CETU	**Semis' Tuman**	**1.70**	**78**	P	Pn	10 20 06.1	-1.8
CESW	**Semis' Southwe**	**1.73**	**80**	P	Pn	10 20 06.2	-2.1
CEAP	**Semis' Anvil P**	**1.75**	**77**	P	Pn	10 20 06.9	-1.8
CERAA	**Semis' Rag'd T**	**1.81**	**81**	P	Pn	10 20 07.4	-2.0
SMY	**Shemya**	**1.99**	**304**	P	Pn	10 20 10.7	-1.2
SMY				S	Sn	10 20 34.5	-2.1
FX1	**Attu Island--F**	**2.56**	**300**	P	Pn	10 20 17.5	-2.3
FX1				S	Sn	10 20 50.1	-0.6
GAKI	**Gareloi-Kavalg**	**2.73**	**90**	P	Pn	10 20 20.9	-1.2
GANE	**Gareloi Northe**	**2.75**	**85**	P	Pn	10 20 20.7	-1.7
GALAA	**Gareloi Lava P**	**2.75**	**86**	P	Pn	10 20 21.2	-1.2
GAEA	**Gareloi East**	**2.77**	**85**	P	Pn	10 20 21.2	-1.4
TASE	**Tanaga Southea**	**3.21**	**85**	P	Pn	10 20 27.4	-1.4
TAFP	**Tanaga Falls P**	**3.24**	**83**	P	Pn	10 20 27.4	-1.8
TAFP				S	Sn	10 21 04.5	-3.1
TAPA	**Tanaga Point A**	**3.35**	**85**	P	Pn	10 20 28.9	-1.7
KIRH	**Kanaga Island**	**3.79**	**84**	P	Pn	10 20 35.1	-1.6
ADAG	**Mount Adagdak**	**4.10**	**83**	P	Pn	10 20 39.5	-1.5
GSCK	**Great Sitkin C**	**4.38**	**82**	P	Pn	10 20 43.8	-0.9
GSMY	**Great Sitkin M**	**4.44**	**82**	P	Pn	10 20 44.3	-1.4

*ISCJB **24** 10:23:48.4±0.5, 7.51S±0.04×128.07E±0.07, h100km, mb3.9/8, Error ellipse: s-maj=10.5km s-min=6.0km az=175.3*

*IDC **24** 10:23:49.3±4.9, 7.61S×128.19E, h99km±56km, mb3.7/8, mb1 3.8/11, mb1mx3.6/22, mbtmp3.7/11, Error ellipse: s-maj=51.1km s-min=29.9km az=103.0*

*AUST **24** 10:24:02.9±1.2, 8.57S×128.25E, h126km, Error ellipse: s-maj=2.5km s-min=0.9km az=1.0*

ISC 24 10:23:49.9±0.7, 7.59S±0.06×128.1E±0.1, h100km, n23, σ2s10/22, mb3.9/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.37**	**240**	P	Pn	10 25 00.8	+6.6
	baz=4.1,SNR=21						
SOEI				S	Sn	10 25 52.7	+8.6
	baz=4.1,SNR=14						
MTN	**Manton Dam**	**6.01**	**151**	P	Pn	10 25 18.7	+2.4
	baz=5.1,SNR=36						
MTN				S	**Sn**	**10 26 25.2**	**+1.5**
	baz=5.1,SNR=7.7						
FAKI	**Fak Fak**	**6.21**	**42**	P	Pn	10 25 21.3	+2.3
	baz=6.9,SNR=7.1						
FAKI				S	**Sn**	**10 26 27.8**	**-0.8**
	baz=6.9,SNR=6.5						
KDU	**Kakadu**	**6.64**	**140**	P	Pn	10 25 26.5	+1.6
	baz=5.8,SNR=106						
KNRA	**Kununurra**	**8.06**	**176**	P	**Pn**	**10 25 45.8**	**+1.6**
	baz=7.1,SNR=50						
KNRA				S	**Sn**	**10 27 10.6**	**-3.2**
	baz=7.1,SNR=18						
FITZ	**Fitzroy Crossi**	**10.72**	**193**	P	**Pn**	**10 26 20.0**	**-0.4**
	1.4nm,0.3s,baz=36,slow=11,SNR=40						
FITZ				S	Sn	10 28 11.6	-6.9
	3.6nm,0.3s,baz=87,slow=20,SNR=9.3						
FITZ	**Fitzroy Crossi**	**10.72**	**193**	P	**Pn**	**10 26 20.1**	**-0.3**
	baz=9.9,SNR=12						
FITZ				S	**Sn**	**10 28 13.3**	**-5.2**
	baz=9.9,SNR=5.6						
WRA	**Warramunga Arr**	**13.68**	**154**	P	**Pn**	**10 26 57.9**	**-1.9**
	0.9nm,0.3s,baz=332,slow=12,SNR=29						
WRA				S	Sn	10 29 19.1	-11
	1.9nm,0.3s,baz=329,slow=22,SNR=8.2						
COEN	**Coen**	**16.09**	**114**	P	**P**	**10 27 33.1**	**+1.3**
	baz=16,SNR=4.9						
ASAR	**Alice Springs**	**16.92**	**161**	P	**P**	**10 27 40.3**	**-0.7**
	0.9nm,0.3s,baz=335,slow=9.3,SNR=63						
ASAR				S	Sn	10 30 37.8	-11
	0.7nm,0.3s,baz=348,slow=26,SNR=7.2						
MTSU	**Mount Surprise**	**18.94**	**125**	P	Pn	10 28 08.9	+4.0
	baz=18,SNR=4.4						
MANU	**Manus Island**	**19.95**	**75**	S	Sn	10 32 06.5	+4.8
	baz=20,SNR=3.6						
MEEK	**Meekatharra**	**20.98**	**204**	P	**P**	**10 28 28.7**	**+3.5**
	baz=20,SNR=5.9						
MEEK				S	**S**	**10 32 16.7**	**+3.1**
	baz=20,SNR=3.5						
MORW	**Morawa**	**24.20**	**207**	P	**P**	**10 28 59.5**	**+2.3**
	baz=24,SNR=5.6						
MORW				S	S	10 33 37.0	+28
	baz=24,SNR=4.1						
KSRS	**Korea Array**	**44.81**	**360**	P	**P**	**10 31 53.0**	**-0.8**
	1.0nm,0.5s,baz=179,slow=8.5,SNR=5.2						
MJAR	**Matsushiro Arr**	**44.91**	**12**	P	**P**	**10 31 53.3**	**-1.4**
	1.2nm,0.7s,baz=196,slow=9.2,SNR=4.4						
USRK	**Ussuriysk Arra**	**51.67**	**4**	P	**P**	**10 32 46.8**	**+0.3**
	1.3nm,0.5s,baz=180,slow=7.3,SNR=5.7						
SONM	**Songino Array**	**58.43**	**343**	P	**P**	**10 33 36.5**	**+1.2**
	1.3nm,0.6s,baz=170,slow=7.0,SNR=8.9						
MKAR	**Makanchi Array**	**67.71**	**328**	P	**P**	**10 34 36.8**	**+0.2**
	0.6nm,0.5s,baz=114,slow=8.3,SNR=8.8						
ZALV	**Zalesovo Beam**	**71.30**	**335**	P	**P**	**10 34 58.0**	**-0.4**
	0.9nm,0.3s,baz=123,slow=5.3,SNR=3.3						
KURBB	**Kurchatov Arra**	**72.05**	**329**	P	**P**	**10 35 02.4**	**-0.7**
	0.9nm,0.4s,baz=132,slow=5.1,SNR=13						
BVAR	**Borovoye Array**	**77.57**	**328**	P	**P**	**10 35 33.0**	**-1.8**
	0.4nm,0.4s,baz=116,slow=9.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**127.08**	**281**	PKP	**PKPdf**	**10 42 43.3**	**-0.2**
	0.2nm,0.6s,baz=134,slow=4.2,SNR=2.4						

IDC 24 10:36:33.6±7.1, 12.25N×124.35E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/23, mbtmp3.7/4,1C, Error ellipse: s-maj=248.8km s-min=29.1km az=44.0, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCP	**Roxas**	**1.71**	**247**	*e*P	Pg	10 37 09.5	+3.0
RCP				*eS*	Sg	10 37 29.9	+1.2
CMAR	**Chiang Mai Arr**	**25.25**	**287**	P	P	10 42 01.6	0.0
	1.0nm,0.5s,baz=101,slow=14,SNR=4.2						
WRA	**Warramunga Arr**	**33.47**	**163**	P	P	10 43 14.5	-0.3
	0.4nm,0.6s,baz=343,slow=9.0,SNR=3.9						
ASAR	**Alice Springs**	**36.90**	**165**	P	P	10 43 43.8	-0.6
	0.4nm,0.7s,baz=348,slow=7.4,SNR=7.7						
STKA	**Stephens Creek**	**46.88**	**160**	P	P	10 45 06.5	+0.6
	0.5nm,0.3s,baz=347,slow=14,SNR=4.6						

IDC 24 10:44:29.8±3.1, 31.42N×100.19E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/28, mbtmp3.5/4, ML3.7/2, Error ellipse: s-maj=82.5km s-min=35.5km az=85.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.96**	**185**	Pn	Pn	10 47 35.8	+0.4
	0.3nm,0.3s,baz=0.4,slow=13,SNR=2.4						
SONM	**Songino Array**	**17.06**	**14**	P	Pn	10 48 30.5	+0.6
	0.1nm,0.3s,baz=200,slow=13,SNR=3.7						
MKAR	**Makanchi Array**	**20.62**	**323**	P	Pn	10 49 12.4	-0.5
	3.4nm,0.9s,baz=137,slow=12,SNR=6.5						
LATR	**Latur**	**24.97**	**244**	*ex*	P	10 49 53.0	-2.2
KURBB	**Kurchatov Arra**	**25.04**	**326**	P	P	10 49 54.2	-1.3
	0.4nm,0.5s,baz=134,slow=11,SNR=6.2						

*BJI **24** 10:45:26.5, 4.58N×94.45E, h35km, mB4.9/23, mb4.8/42, Ms4.4/22, Ms7 4.1/23*

*NEIC **24** 10:45:33.5±0.3, 5.22N×94.72E, h35km, mb4.8/12, Error ellipse: s-maj=9.0km s-min=6.1km az=38.0*

NEIC Felt at Banda Aceh.

*ISCJB **24** 10:45:35.4±0.7, 5.21N±0.04×94.76E±0.04, h68km±5km, mb4.6/83, Error ellipse: s-maj=8.1km s-min=4.4km az=136.5*

*IDC **24** 10:45:35.5±0.6, 5.22N×94.83E, h55km±4km, mb4.3/25, mb1 4.4/27, mb1mx4.3/31, mbtmp4.3/27, MS3.6/17, Ms1 3.6/17, ms1mx3.4/39, Error ellipse: s-maj=15.1km s-min=9.9km az=47.0*

*AUST **24** 10:45:36.1±1.2, 5.27N×94.73E, h56km, Error ellipse: s-maj=2.3km s-min=1.0km az=225.0*

*BKK **24** 10:45:40.7±1.0, 5°N±5°×9°5E±1°0, h10km, M4.6/19, mB5.1/10, mb4.9/19, MLv4.7/6, Mw(mB)4.4/10*

*DJA **24** 10:45:41.6±1.3, 5°N±6°×9°5E±1°1, h12km±6km, M4.6/11, mB5.1/6, mb4.9/11, MLv4.6/5, Mw(mB)4.5/6*

ISC 24 10:45:33.7±0.4, 5.12N±0.05×94.63E±0.05, h41km±2km, h41km:pP-P,n225,σ1s55/269, mb4.8/83, MS3.8/26, 21C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**0.76**	**60**	P	**Pn**	**10 45 48.5**	**+0.5**
CMBY	**CAMPBELL BAY**	**2.00**	**340**	*e*P	**Pn**	**10 46 06.1**	**+1.0**
CMBY				*eS*	**Sn**	**10 46 31.9**	**+3.0**
LHMI	**Lhok Sumawe**	**2.31**	**87**	P	**Pn**	**10 46 10.7**	**+1.5**
LHMI	**Lhok Sumawe**	**2.31**	**87**	P	**Pn**	**10 46 10.8**	**+1.6**
	baz=2.2,SNR=55						
PSI	**Prapat**	**4.86**	**118**	P	**Pn**	**10 46 46.4**	**+1.9**
PSI				S	**Sn**	**10 47 43.2**	**+3.7**
PSI	**Prapat**	**4.86**	**118**	P	**Pn**	**10 46 46.4**	**+1.9**
	14nm,0.3s,baz=308,slow=14,SNR=44						
PSI				S	**Sn**	**10 47 43.2**	**+3.7**
	4.5nm,0.3s,baz=311,slow=20,SNR=3.7						
PSI				LR	LR	10 48 57.8	
	comp=Z,610nm,20.0s,baz=282,slow=42						
PSI	**Prapat**	**4.86**	**118**	P	Pn	10 46 47.7	+3.3
	baz=4.9,SNR=8.1						
KULM	**Kulim**	**6.00**	**88**	*e*Pn	**Pn**	**10 47 00.5**	**+0.6**
KULM				*eSn*	**Sn**	**10 48 05.7**	**-1.6**
KULM	**Kulim**	**6.00**	**88**	P	**Pn**	**10 47 00.8**	**+0.9**
	92nm,0.8s,1μm0.4nm						
SKLT	**Songkhla**	**6.29**	**71**	P	**Pn**	**10 47 05.1**	**+1.1**
	164nm,0.7s,2μm0.6nm						
SKLT	**Songkhla**	**6.29**	**71**	P	**Pn**	**10 47 05.6**	**+1.6**
	164nm,0.7s,0.2nm						
PPI	**Padang Panjang**	**7.99**	**134**	P	Pn	10 47 31.3	+4.0
	26nm,0.7s,0.2nm						
DGPR	**DIGLIPUR**	**8.18**	**348**	*e*P	**Pn**	**10 47 30.5**	**+0.6**
DGPR				AMB	AMB	10 47 34.2	
	comp=Z,81nm,2.8s						
DGPR				*eS*	**Sn**	**10 48 59.6**	**-1.5**
PHET	**Kaeng Krachan**	**9.18**	**32**	P	Pn	10 47 47.3	+3.7
	comp=Z,163nm,0.6s,comp=Z,3μmcomp=Z,0.8nm						
CHBT	**CHBT**	**10.74**	**45**	P	**Pn**	**10 48 07.1**	**+2.2**
	comp=Z,64nm,0.6s,comp=Z,3μm						
CHBT	**CHBT**	**10.74**	**45**	P	**Pn**	**10 48 08.0**	**+3.1**
	comp=Z,66nm,0.6s,comp=Z,3μm						
MNAI	**Manna**	**12.56**	**138**	P	Pn	10 48 33.5	+3.5
	baz=13,SNR=4.0						
MNAI				S	**Sn**	**10 50 44.6**	**-4.0**
	baz=13,SNR=3.3						
CHAI	**Chaiyaphum**	**12.92**	**33**	P	P	10 48 48.2	+3.6
PBKT	**Sadao Pong**	**12.96**	**28**	P	Pn	10 48 39.5	+4.1
	comp=Z,29nm,0.5s						
PBKT	**Sadao Pong**	**12.96**	**28**	P	Pn	10 48 39.3	+3.9
	comp=Z,29nm,0.5s						
CMAR	**Chiang Mai Arr**	**13.91**	**17**	P	**Pn**	**10 48 49.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**13.91**	**17**	P	**Pn**	**10 48 49.0**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=205,slow=12,SNR=7.6						
CMAR				LR	LR	10 53 56.6	
	comp=Z,150nm,20.7s,baz=41,slow=36						
LOEI	**Loei**	**13.92**	**27**	P	**P**	**10 48 54.8**	**-1.0**
	comp=Z,38nm,0.8s,comp=Z,853nm						
LAMP	**Lampang**	**14.19**	**20**	P	**P**	**10 48 59.1**	**+0.4**
	comp=Z,27nm,0.7s,comp=Z,203nm						
CHTO	**Chiang Mai**	**14.25**	**17**	*e*Pn	**Pn**	**10 48 54.9**	**+2.0**
CHTO	**Chiang Mai**	**14.25**	**17**	P	**P**	**10 48 59.1**	**-0.3**
	comp=Z,43nm,0.8s,comp=Z,439nm						
CHTO	**Chiang Mai**	**14.25**	**17**	P	**P**	**10 48 59.3**	**-0.1**
	comp=Z,43nm,0.8s,comp=Z,439nm						
CMMT	**Chiang Mai**	**14.25**	**17**	P	**P**	**10 48 59.4**	**0.0**
	comp=Z,39nm,0.8s,comp=Z,489nm						
CMMT	**Chiang Mai**	**14.25**	**17**	P	**P**	**10 48 59.1**	**-0.3**
	comp=Z,39nm,0.8s,comp=Z,491nm						
UBPT	**Khong Chiam**	**14.68**	**46**	P	**P**	**10 49 02.6**	**-1.6**
	comp=Z,26nm,0.9s						
UBPT	**Khong Chiam**	**14.68**	**46**	P	**P**	**10 49 04.9**	**+0.7**
	comp=Z,26nm,0.9s						
SKNT	**Sakolnakorn**	**14.92**	**37**	P	**P**	**10 49 06.7**	**-0.2**
	comp=Z,57nm,0.7s						
PAYA	**Payao**	**15.05**	**19**	P	**P**	**10 49 09.0**	**+0.7**
	comp=Z,13nm,0.8s,comp=Z,234nm						
PANO	**Nakornpanom**	**15.44**	**38**	P	**P**	**10 49 13.2**	**+0.5**
	comp=Z,30nm,1.0s						
KSM	**Kuching**	**16.06**	**103**	*e*Pn	**Pn**	**10 49 17.1**	**+0.3**
	comp=Z,15nm,0.7s						
KSM	**Kuching**	**16.06**	**103**	P	**P**	**10 49 20.4**	**+0.8**
	comp=Z,23nm,0.7s						
KSM	**Kuching**	**16.06**	**103**	P	**P**	**10 49 20.2**	**+0.6**
	baz=16,SNR=4.7						
VIS	**Vishakhapatnam**	**16.71**	**319**	*i* P	**Pn**	**10 49 22.7**	**-2.2**
VIS				*ex*	x	10 49 28.0	
	comp=Z,20nm,0.8s						
VIS				*i* 4		10 52 18.2	
SBUM	**Sibu**	**17.75**	**98**	P	**P**	**10 49 41.6**	**+3.3**
QIZ	**Qiongzhong**	**20.28**	**46**	P	Pn	10 50 07.8	-0.4
QIZ				sP	sP	10 50 20.8	-0.6
QIZ				S	Sn	10 53 56.3	+0.5
QIZ				LR	LR		
	comp=N,230nm,15.0s						
QIZ				LR	LR		
	comp=Z,290nm,18.2s						
BOK	**Bokaro**	**20.39**	**336**	*e*P	**P**	**10 50 05.7**	**-1.5**
SHL	**Shillong**	**20.50**	**353**	*e*P	**P**	**10 50 06.8**	**-1.7**
KMI	**Kunming**	**21.36**	**21**	P	**P**	**10 50 20.3**	**+2.5**
KMI				pmax	pmax		
	comp=Z,17nm,0.8s						
KMI				LR	LR		
	comp=N,160nm,17.4s						
KMI				LR	LR		
	comp=E,140nm,14.4s						
KMI				LR	LR		
	comp=Z,210nm,15.9s						
ODAN	**Odare**	**22.70**	**343**	*e*P	**P**	**10 50 29.1**	**-3.1**
	comp=Z,29nm,0.5s						
RAMN	**Ramite**	**23.02**	**341**	*e*P	**P**	**10 50 33.4**	**-2.1**
	comp=Z,31nm,0.5s						
TAPN	**Taplejung**	**23.07**	**344**	*e*P	**P**	**10 50 34.0**	**-2.1**
	comp=Z,26nm,0.4s						
JIRN	**Jiri**	**23.81**	**341**	*e*P	**P**	**10 50 41.4**	**-1.9**
	comp=Z,29nm,0.3s						
PKI	**Pulchoki**	**23.99**	**340**	*e*P	**P**	**10 50 44.0**	**-1.0**
PKIN	**Phulchoki**	**24.00**	**339**	*e*P	**P**	**10 50 42.7**	**-2.3**
GYA	**Guiyang**	**24.13**	**27**	P	**P**	**10 50 46.1**	**+0.1**
GYA				pP	**pP**	**10 50 57.8**	**+0.5**
GYA				PP	PnPn	10 51 24.5	+7.8
GYA				S	**S**	**10 55 02.6**	**+1.2**
GYA				sS	**sS**	**10 55 19.3**	**-0.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=N,480nm,15.1s						
GYA				LR	LR		
	comp=E,320nm,17.6s						
GYA				LR	LR		
	comp=Z,450nm,16.4s						
DMN	**Daman**	**24.14**	**339**	*e*P	**P**	**10 50 45.0**	**-1.2**
	comp=Z,30nm,0.7s						
GUN	**Gumba**	**24.15**	**341**	*e*P	**P**	**10 50 44.9**	**-1.5**
KKN	**Kakani**	**24.24**	**339**	*e*P	**P**	**10 50 45.7**	**-1.4**
BHPL	**Bhopal**	**24.50**	**319**	*e*P	**P**	**10 50 45.6**	**-3.7**
LSA	**Lhasa**	**24.67**	**353**	*e*P	**P**	**10 50 51.8**	**+0.6**
	comp=Z,40nm,0.6s						
KOLN	**Koldanda**	**24.85**	**336**	*e*P	**P**	**10 50 52.2**	**-0.5**
	comp=Z,85nm,0.7s						
DANN	**Dangsing**	**25.31**	**337**	*e*P	**P**	**10 50 57.0**	**+0.1**
	comp=Z,119nm,0.6s						
KAPI	**Kappang**	**27.03**	**111**	*e*P	**P**	**10 51 11.2**	**-1.1**
	comp=Z,13nm,0.6s						
KAPI	**Kappang**	**27.03**	**111**	P	**P**	**10 51 11.2**	**-1.1**
	comp=Z,10nm,0.5s,baz=298,slow=9.2,SNR=9.8						
KAPI				LR	LR	11 02 36.1	
	comp=Z,77nm,19.5s,baz=295,slow=38						
CD2	**Chengdu**	**27.05**	**17**	*e*P	**P**	**10 51 14.3**	**+1.9**
CD2				pP	**pP**	**10 51 24.0**	**+0.4**
CD2				sP	**sP**	**10 51 28.3**	**-0.3**
CD2				PP	**PnPn**	**10 52 01.8**	**+5.3**
CD2				S	**S**	**10 55 49.5**	**+2.0**
CD2				sS	**sS**	**10 56 06.9**	**+0.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CD2				pmax	pmax		
	comp=Z,30nm,4.8s						
CD2				LR	LR		
	comp=E,150nm,12.0s						
CD2				LR	LR		
	comp=Z,130nm,14.2s						
ENH	**Enshi**	**28.67**	**28**	*e*P	**P**	**10 51 25.3**	**-1.5**
	comp=Z,11nm,0.5s						
LUWI	**Luwuk**	**28.77**	**102**	S	S	10 55 43.0	-32
	baz=29,SNR=5.8						
SMLA	**Simla**	**30.64**	**330**	*e*P	P	10 51 40.6	-3.6
SMLA				AMB	AMB	10 51 50.4	
	comp=Z,8.2nm,0.8s						
WHN	**Wuhan**	**31.38**	**34**	↓P	**P**	**10 51 50.8**	**+0.1**
WHN				pmax	pmax		
	comp=Z,32nm,0.7s						
WHN				LR	LR		
	comp=N,1μm,19.4s						
WHN				LR	LR		
	comp=E,1μm,21.4s						
WHN				LR	LR		
	comp=Z,600nm,13.0s						
XAN	**Xi'an**	**31.69**	**23**	P	**P**	**10 51 51.8**	**-1.7**
XAN				pP	**pP**	**10 52 07.4**	**+2.6**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XAN				LR	LR		
	comp=N,93nm,18.3s						
XAN				LR	LR		
	comp=E,45nm,16.3s						

WMQ	**Urumqi**	**39.03**	**352**	P	**P**	**10 52 57.0**	**+0.6**
WMQ				pP	**pP**	**10 53 06.8**	**-1.1**
WMQ				sP	**sP**	**10 53 10.8**	**-2.0**
WMQ				PP	**PnPn**	**10 54 31.3**	**+2.1**
WMQ				pmax	pmax		
	comp=Z,11nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,130nm,4.8s						
KNRA	**Kununurra**	**39.61**	**122**	P	**P**	**10 53 00.2**	**-1.3**
	baz=40,SNR=5.4						
BJI	**Beijing**	**39.82**	**26**	P	**P**	**10 53 02.8**	**-0.2**
BJI				pmax	pmax		
	comp=Z,45nm,0.7s						
BJI				pmax	pmax		
	comp=Z,95nm,4.2s						
BJI				LR	LR		
	comp=N,150nm,22.2s						
BJI				LR	LR		
	comp=E,96nm,17.3s						
BJI				LR	LR		
	comp=Z,81nm,23.1s						
MTN	**Manton Dam**	**40.42**	**117**	P	**P**	**10 53 06.8**	**-1.5**
	baz=40,SNR=15						
KZA	**Kyzart**	**40.65**	**338**	P	**P**	**10 53 11.4**	**+1.1**
	SNR=7.1						
TKM2	**Tokmak 2**	**41.25**	**339**	P	**P**	**10 53 15.8**	**+0.7**
	SNR=14						
KBK	**Karagaybulak**	**41.26**	**338**	P	**P**	**10 53 16.5**	**+1.4**
	SNR=19						
AML	**Almayashu**	**41.30**	**336**	P	**P**	**10 53 16.7**	**+1.0**
	SNR=44						
AAK	**Ala-Archa**	**41.41**	**337**	P	**P**	**10 53 18.4**	**+2.1**
	SNR=8.7						
AAK	**Ala-Archa**	**41.41**	**337**	*e*P	**P**	**10 53 17.6**	**+1.3**
	comp=Z,13nm,0.6s						
KDU	**Kakadu**	**41.55**	**116**	P	**P**	**10 53 16.5**	**-1.2**
	baz=42,SNR=7.8						
EKS2	**Erkin-Say**	**41.72**	**337**	P	**P**	**10 53 19.9**	**+1.2**
	SNR=18						
USP	**Ospenovka**	**41.95**	**338**	P	**P**	**10 53 21.3**	**+0.7**
	SNR=30						
MKAR	**Makanchi Array**	**42.87**	**348**	P	**P**	**10 53 27.8**	**-0.2**
MKAR				pP	**pP**	**10 53 43.0**	**+3.4**
MKAR				PcP	**PcP**	**10 55 18.4**	**0.0**
MKAR	**Makanchi Array**	**42.87**	**348**	P	**P**	**10 53 27.8**	**-0.2**
	comp=Z,20nm,0.6s,baz=168,slow=7.7,SNR=153						
MKAR				pP	**pP**	**10 53 43.0**	**+3.4**
	comp=Z,3.0nm,0.4s,baz=160,slow=8.2,SNR=4.4						
MKAR				PcP	**PcP**	**10 55 18.4**	**0.0**
	comp=Z,1.6nm,0.5s,baz=197,slow=4.6,SNR=4.1						
MKAR				LR	LR	11 13 31.2	
	comp=Z,45nm,21.9s,baz=174,slow=39						
KKAR	**Karatay Array**	**43.43**	**334**	*e*P	**P**	**10 53 32.2**	**-0.3**
	comp=Z,5.2nm,0.4s						
KKAR				*e*pP	**pP**	**10 53 44.8**	**+0.6**
SONM	**Songino Array**	**43.74**	**11**	P	**P**	**10 53 34.0**	**-1.0**
SONM				PcP	**PcP**	**10 55 21.4**	**-0.1**
SONM				pPcP		10 55 36.5	
SONM				ScP	**ScP**	**10 59 07.7**	**-2.3**
SONM	**Songino Array**	**43.74**	**11**	P	**P**	**10 53 34.0**	**-1.0**
	comp=Z,11nm,0.8s,baz=191,slow=8.4,SNR=52						
SONM				PcP	**PcP**	**10 55 21.4**	**-0.1**
	comp=Z,2.7nm,0.5s,baz=198,slow=3.7,SNR=10						
SONM				pPcP		10 55 36.5	
	comp=Z,2.1nm,0.6s,baz=194,slow=4.5,SNR=5.0						
SONM				ScP	**ScP**	**10 59 07.7**	**-2.3**
	comp=Z,0.3nm,0.4s,baz=194,slow=4.2,SNR=3.7						
SONM				LR	LR	11 14 19.1	
	comp=Z,54nm,18.7s,baz=215,slow=40						
JNU	**Nakatsue**	**43.75**	**46**	P	**P**	**10 53 34.6**	**-0.7**
JNU	**Nakatsue**	**43.75**	**46**	P	**P**	**10 53 34.6**	**-0.7**
	comp=Z,13nm,0.8s,baz=301,slow=5.9,SNR=4.5						
ULN	**Ulaanbaatar**	**43.90**	**12**	*e*P	**P**	**10 53 34.7**	**-1.7**
	comp=Z,8.6nm,0.6s						
ULN				*e*pP	**pP**	**10 53 45.1**	**-2.9**
ULN				*e*sP	**sP**	**10 53 50.3**	**-2.7**
KSAR	**Wonju Array Be**	**44.22**	**39**	P	**P**	**10 53 38.1**	**-0.8**
KSRS	**Korea Array**	**44.25**	**39**	P	**P**	**10 53 38.1**	**-1.1**
	comp=Z,3.3nm,0.4s,baz=218,slow=8.7,SNR=20						
KSRS				LR	LR	11 13 44.4	
	comp=Z,52nm,19.4s,baz=68,slow=38						
WRA	**Warramunga Arr**	**46.30**	**124**	P	**P**	**10 53 55.7**	**0.0**
WRA	**Warramunga Arr**	**46.30**	**124**	P	**P**	**10 53 55.7**	**0.0**
	comp=Z,24nm,0.7s,baz=304,slow=9.2,SNR=150						
WRAB	**Tennant Creek**	**46.31**	**124**	*e*P	**P**	**10 53 55.9**	**+0.1**
	comp=Z,32nm,0.7s						
WRAB				*e*pP	**pP**	**10 54 06.9**	**-0.6**
CN2	**Changchun**	**47.11**	**30**	*e*P	P	10 54 05.3	+3.6
CN2				*e*S	**S**	**11 00 56.1**	**+4.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,200nm,14.0s						
CN2				LR	LR		
	comp=E,200nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
KURBB	**Kurchatov Arra**	**47.32**	**346**	P	**P**	**10 54 03.5**	**+0.3**
	comp=Z,26nm,0.5s,baz=169,slow=7.0,SNR=316						
KURBB				PcP	**PcP**	**10 55 33.8**	**+0.2**
	comp=Z,3.5nm,0.6s,baz=158,slow=2.9,SNR=6.5						
KURK	**Kurchatov**	**47.38**	**346**	P	**P**	**10 54 03.5**	**-0.2**
KURK				PcP	**PcP**	**10 55 33.8**	**-0.1**
ASAR	**Alice Springs**	**47.81**	**128**	P	**P**	**10 54 07.5**	**+0.1**
ASAR				PcP	**PcP**	**10 55 36.1**	**+0.1**
ASAR				S	**S**	**11 00 58.1**	**-3.6**
ASAR	**Alice Springs**	**47.81**	**128**	P	**P**	**10 54 07.5**	**+0.1**
	comp=Z,8.7nm,0.6s,baz=300,slow=8.0,SNR=213						
ASAR				PcP	**PcP**	**10 55 36.1**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=318,slow=3.7,SNR=3.0						
ASAR				S	**S**	**11 00 58.1**	**-3.6**
	comp=Z,0.6nm,0.9s,baz=295,slow=15,SNR=5.3						
ZAA0	**Zalesovo Array**	**49.33**	**352**	*e*P	**P**	**10 54 18.3**	**-0.3**
ZALV	**Zalesovo Beam**	**49.33**	**352**	P	**P**	**10 54 18.5**	**-0.2**
ZALV				PcP	**PcP**	**10 55 40.0**	**-0.9**
ZALV	**Zalesovo Beam**	**49.33**	**352**	P	**P**	**10 54 18.5**	**-0.2**
	comp=Z,35nm,0.5s,baz=190,slow=7.2,SNR=106						
ZALV				PcP	**PcP**	**10 55 40.0**	**-0.9**
	comp=Z,1.6nm,0.4s,baz=176,slow=1.8,SNR=2.1						
MDJ	**Mudanjiang**	**49.83**	**32**	P	**P**	**10 54 24.8**	**+2.2**
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,80nm,4.1s						
MJAR	**Matsushiro Arr**	**50.68**	**46**	P	**P**	**10 54 29.0**	**-0.2**
MJAR	**Matsushiro Arr**	**50.68**	**46**	P	**P**	**10 54 29.0**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=249,slow=7.4,SNR=7.4						
MJAR				LR	LR	11 16 08.6	
	comp=Z,58nm,19.7s,baz=75,slow=36						
RAYN	**Ar Rayn**	**50.70**	**296**	*e*P	**P**	**10 54 31.8**	**+2.2**
	comp=Z,5.0nm,1.0s						
USRK	**Ussuriysk Arra**	**50.88**	**34**	P	**P**	**10 54 30.1**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=240,slow=6.0,SNR=7.7						
USRK				LR	LR	11 18 18.1	
	comp=Z,91nm,18.1s,baz=206,slow=39						
COEN	**Coen**	**51.76**	**112**	P	**P**	**10 54 36.8**	**-0.8**
	baz=52,SNR=5.3						
BRVK	**Borovoye**	**51.80**	**342**	*e*P	**P**	**10 54 37.0**	**-0.4**
	comp=Z,11nm,0.5s						
OPO	**Ambohidratompo**	**52.34**	**242**	P	P	10 54 45.6	+3.5
OPO	**Ambohidratompo**	**52.34**	**242**	P	P	10 54 45.6	+3.5
	comp=Z,3.1nm,0.9s,baz=79,slow=5.2,SNR=2.7						
ABKAR	**Akbulak array**	**52.87**	**332**	*e*P	**P**	**10 54 45.7**	**+0.3**
	comp=Z,12nm,0.4s						
MTSU	**Mount Surprise**	**54.17**	**117**	P	**P**	**10 54 55.8**	**+0.4**
	baz=54,SNR=7.7						
KMBO	**Kilima Mbogo**	**57.65**	**265**	LR	LR	11 14 54.9	
	comp=Z,79nm,20.0s,baz=90,slow=30						
STKA	**Stephens Creek**	**57.88**	**133**	P	**P**	**10 55 20.9**	**-0.8**
STKA	**Stephens Creek**	**57.88**	**133**	P	**P**	**10 55 20.9**	**-0.8**
	comp=Z,4.2nm,0.8s,baz=247,slow=2.9,SNR=9.4						
STKA	**Stephens Creek**	**57.88**	**133**	P	**P**	**10 55 22.0**	**+0.3**
	baz=58,SNR=5.7						
KBZ	**Khabaz**	**59.45**	**319**	P	**P**	**10 55 32.5**	**+0.2**
KBZ				pP	**pP**	**10 55 47.8**	**+3.4**
KBZ	**Khabaz**	**59.45**	**319**	P	**P**	**10 55 32.5**	**+0.2**
	comp=Z,3.8nm,0.8s,baz=136,slow=7.0,SNR=8.2						
KBZ				pP	**pP**	**10 55 47.8**	**+3.4**
	comp=Z,2.4nm,0.7s,baz=105,slow=5.1,SNR=3.2						
CMSA	**Cobar Meteorol**	**60.76**	**130**	P	**P**	**10 55 42.4**	**+0.8**
	baz=61,SNR=12						
EIL	**Elat**	**61.23**	**301**	LR	LR	11 23 37.6	
	comp=Z,81nm,18.2s,baz=93,slow=37						
MMAI	**Mount Meron Ar**	**61.56**	**305**	LR	LR	11 23 47.1	
	comp=Z,51nm,18.3s,baz=220,slow=37						
BRTR	**Keskin Array B**	**64.60**	**312**	P	**P**	**10 56 07.0**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=127,slow=7.0,SNR=20						
BRTR				LR	LR	11 28 20.6	
	comp=Z,16nm,21.0s,baz=100,slow=40						
MILA	**Mila**	**65.84**	**134**	P	**P**	10 56 23.0	+7.8
	baz=66,SNR=6.9						
PETK	**Petropavlovsk-**	**69.96**	**35**	P	**P**	**10 56 39.1**	**-1.6**
PETK	**Petropavlovsk-**	**69.96**	**35**	P	**P**	**10 56 39.1**	**-1.6**
	comp=Z,2.2nm,0.9s,baz=248,slow=11,SNR=2.7						
PETK				LR	LR	11 27 49.6	
	comp=Z,41nm,18.6s,baz=91,slow=36						
VRI	**Vrincioaia**	**71.02**	**317**	*i*P	**P**	**10 56 48.5**	**+1.1**
PLOR	**Plostina**	**71.07**	**317**	*i*P	**P**	**10 56 48.7**	**+0.9**
MLR	**Muntele Rosu**	**71.48**	**316**	*i*P	**P**	**10 56 51.0**	**+0.7**
VOIR		**72.08**	**316**	*i*P	**P**	**10 56 53.8**	**-0.1**
BURAR	**Bucovina Array**	**72.41**	**318**	*i*P	**P**	**10 56 56.3**	**+0.5**
VTS	**Vitosha**	**72.90**	**313**	*i*P	**P**	**10 56 59.0**	**+0.1**
JOF	**Joensuu**	**73.53**	**335**	*ep*	**P**	**10 57 00.9**	**-1.1**
	comp=Z,7.3nm,0.7s						
DRGR		**73.93**	**317**	*i*P	**P**	**10 57 05.5**	**+0.7**
DRGR		**73.93**	**317**	S	S	11 06 54.3	+20
BOSA	**Boshof**	**74.56**	**239**	P	**P**	**10 57 11.0**	**+2.1**
BOSA	**Boshof**	**74.56**	**239**	P	**P**	**10 57 11.0**	**+2.1**
	comp=Z,4.0nm,1.1s,baz=149,slow=5.9,SNR=3.5						
BOSA				LR	LR	11 24 14.5	
	comp=Z,106nm,21.5s,baz=166,slow=31						
FINES	**FINESS Array B**	**75.36**	**332**	P	**P**	**10 57 12.6**	**-0.1**
FINES	**FINESS Array B**	**75.36**	**332**	P	**P**	**10 57 12.6**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=100,slow=5.9,SNR=18						
KAF	**Kangasniemi**	**75.45**	**333**	*ep*	**P**	**10 57 11.7**	**-1.5**
	comp=Z,3.6nm,0.4s						
NIE	**Niedzica**	**75.94**	**320**	*e*P	**P**	**10 57 19.1**	**+2.8**
OJC	**Ojcow**	**76.39**	**320**	*e*P	**P**	**10 57 18.9**	**+0.1**
PKSM	**Moragy**	**76.63**	**316**	*i*P	**P**	**10 57 20.1**	**-0.1**
KEV	**Kevo**	**77.58**	**341**	*ep*	**P**	**10 57 24.8**	**-0.3**
	comp=Z,12nm,0.7s						
ARCES	**ARCESS Array B**	**78.01**	**340**	P	**P**	**10 57 27.4**	**0.0**
ARCES	**ARCESS Array B**	**78.01**	**340**	P	**P**	**10 57 27.4**	**0.0**
	comp=Z,6.7nm,0.7s,baz=100,slow=5.8,SNR=50						
KOGS	**Kog**	**78.30**	**316**	*i*P	**P**	**10 57 30.2**	**+0.6**
BOJS	**Bojanci**	**78.92**	**315**	*i*P	**P**	**10 57 33.5**	**+0.5**
VISS	**Visnje**	**79.23**	**316**	*i*P	**P**	**10 57 35.2**	**+0.5**
LJU	**Ljubljana**	**79.47**	**316**	*e*P	**P**	**10 57 36.7**	**+0.7**
MYKA	**Terra Mystica**	**80.11**	**316**	*i*P	**P**	**10 57 39.9**	**+0.3**
	comp=Z,3.2nm,0.5s						
BRG	**Bergqiesshubel**	**80.17**	**321**	*e*(P)	**P**	**10 57 37.4**	**-2.3**
	comp=Z,3.1nm,0.7s						
GEC2	**GERESS Array S**	**80.20**	**319**	*e*P	**P**	**10 57 40.6**	**+0.6**
	comp=Z,11nm,0.7s						
GERES	**GERESS Array B**	**80.20**	**319**	P	**P**	**10 57 40.9**	**+0.9**
GERES	**GERESS Array B**	**80.20**	**319**	P	**P**	**10 57 40.9**	**+0.9**
	comp=Z,6.8nm,0.6s,baz=91,slow=5.3,SNR=43						
KBA	**Koelnbreinsper**	**80.34**	**317**	*i*P	**P**	**10 57 40.6**	**-0.3**
	comp=Z,2.7nm,0.5s						
RJOB	**Jochberg**	**80.74**	**317**	*e*P	**P**	**10 57 42.7**	**-0.2**
	comp=Z,6.0nm,0.7s						
WET	**Wettzell**	**80.75**	**319**	*e*P	**P**	**10 57 43.4**	**+0.5**
WTTA	**Wattenberg**	**81.51**	**317**	*i*P	**P**	**10 57 46.9**	**-0.3**
	comp=Z,11nm,0.6s						
MOTA	**Moosalm**	**81.88**	**317**	*i*P	**P**	**10 57 48.5**	**-0.6**
	comp=Z,7.2nm,0.5s						
FETA	**Feichten**	**82.12**	**317**	*i*P	**P**	**10 57 50.5**	**+0.1**
	comp=Z,6.2nm,0.6s						
NOA	**NORSAR Array B**	**82.36**	**331**	P	**P**	**10 57 50.3**	**-0.8**
NOA				pP	**pP**	**10 58 05.6**	**+2.0**
NOA	**NORSAR Array B**	**82.36**	**331**	P	**P**	**10 57 50.3**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=98,slow=5.3,SNR=2.4						
NOA				pP	**pP**	**10 58 05.6**	**+2.0**
	comp=Z,1.1nm,0.7s,baz=91,slow=5.4,SNR=3.8						
KEST	**Kesra**	**83.22**	**305**	P	**P**	**10 57 57.4**	**+1.2**
KEST	**Kesra**	**83.22**	**305**	P	**P**	**10 57 57.4**	**+1.2**
	comp=Z,1.7nm,0.5s,baz=267,slow=1.5,SNR=6.9						
PGF	**Pioggiola**	**83.35**	**312**	*e*P	**P**	**10 57 57.2**	**+0.4**
	comp=Z,22nm,0.8s						
BFO	**Black Forest**	**83.75**	**318**	*e*P	**P**	**10 57 58.3**	**-0.3**
	comp=Z,7.0nm,0.9s						
CDF	**Champ du Feu**	**84.45**	**318**	*e*P	**P**	**10 58 01.9**	**-0.3**
	comp=Z,3.9nm,0.6s						
SBF	**Sospel**	**84.47**	**313**	*e*P	**P**	**10 58 02.7**	**+0.3**
	comp=Z,32nm,0.7s						
HINF	**Hinteralfeld**	**84.75**	**317**	*e*P	**P**	**10 58 03.9**	**+0.2**
LPG	**La Plagne**	**84.90**	**315**	*i*P	**P**	**10 58 05.2**	**+0.4**
	comp=Z,17nm,0.7s						
LPL	**La Plagne**	**84.91**	**315**	*i*P	**P**	**10 58 05.2**	**+0.4**
	comp=Z,22nm,0.7s						
MBDF	**Montbardon**	**84.91**	**314**	*e*P	**P**	**10 58 04.3**	**-0.4**
	comp=Z,7.0nm,0.5s						
BNI	**Bardonecchia**	**84.97**	**315**	*e*P	**P**	**10 58 06.1**	**+1.1**
	comp=Z,5.8nm,0.8s						
FRF	**La Foret Royal**	**85.05**	**313**	*e*P	**P**	**10 58 05.7**	**+0.5**
	comp=Z,32nm,0.8s						
HAU	**Haudompre**	**85.08**	**318**	*i*P	**P**	**10 58 05.2**	**-0.2**
	comp=Z,17nm,0.6s						
HAU				*e*R			
	comp=Z,52nm,20.2s						
LMR	**La Mourre**	**85.16**	**313**	*e*P	**P**	**10 58 06.1**	**+0.3**
CABF	**La Chapelle**	**85.32**	**316**	*e*P	**P**	**10 58 07.0**	**+0.4**
	comp=Z,6.9nm,0.4s						
PAGF	**Fort de Pagny**	**85.48**	**318**	*e*P	**P**	**10 58 07.3**	**0.0**
	comp=Z,3.1nm,0.6s						
ORIF	**Oris-en-Rattie**	**85.54**	**315**	*i*P	**P**	**10 58 08.3**	**+0.5**
	comp=Z,12nm,0.7s						
ORIF				*e*R			
	comp=Z,71nm,22.0s						
SMRF	**Simiane la Rot**	**85.80**	**314**	*e*P	**P**	**10 58 10.0**	**+0.9**
	comp=Z,9.8nm,0.6s						
SFTF	**Sexfontaines**	**85.95**	**318**	*i*P	**P**	**10 58 09.6**	**0.0**
	comp=Z,14nm,0.5s						
BAIF	**Baives**	**86.39**	**320**	*i*P	**P**	**10 58 12.1**	**+0.4**
	comp=Z,9.0nm,0.6s						
VIVF	**Saint-Julien-l**	**86.40**	**315**	*i*P	**P**	**10 58 12.3**	**+0.3**
	comp=Z,10nm,0.8s						
LOR	**Lormes**	**86.80**	**317**	*i*P	**P**	**10 58 13.9**	**0.0**
	comp=Z,9.0nm,0.5s						
LOR				*e*R			
	comp=Z,38nm,22.2s						
SMF	**Signal de Mont**	**86.86**	**316**	*i*P	**P**	**10 58 14.1**	**-0.1**
	comp=Z,18nm,0.7s						
LASF	**Ste Croix**	**87.03**	**314**	*e*P	**P**	**10 58 16.4**	**+1.3**
	comp=Z,8.2nm,0.9s						
SSF	**Saint Saulge**	**87.06**	**317**	*e*P	**P**	**10 58 15.1**	**0.0**
TCF	**Toulx Ste Croi**	**88.01**	**316**	*e*P	**P**	**10 58 20.1**	**+0.4**
CAF	**Calviac**	**88.24**	**315**	*e*P	**P**	**10 58 21.5**	**+0.6**
	comp=Z,4.3nm,0.6s						
MTLF	**Montolieu**	**88.28**	**313**	*e*P	**P**	**10 58 21.1**	**+0.1**
	comp=Z,4.1nm,0.6s						
RJF	**Les Rejaudoux**	**88.59**	**315**	*e*P	**P**	**10 58 23.3**	**+0.8**
	comp=Z,6.7nm,0.5s						
LDF	**La Druitiere**	**89.34**	**319**	*e*P	**P**	**10 58 26.3**	**+0.4**
FLN	**La Foliniere**	**89.56**	**319**	*e*P	**P**	**10 58 27.2**	**+0.3**
	comp=Z,15nm,0.7s						
FLN				*e*R			
	comp=Z,54nm,22.8s						
EPF	**Esparros**	**89.68**	**313**	*e*P	**P**	**10 58 28.1**	**+0.4**
VNDA	**Vanda**	**90.15**	**168**	LR	LR	11 35 12.0	
	comp=Z,33nm,20.1s,baz=50,slow=33						
TORD	**Torodi Ar. Bea**	**91.70**	**283**	P	**P**	**10 58 39.0**	**+1.4**
TORD	**Torodi Ar. Bea**	**91.70**	**283**	P	**P**	**10 58 39.0**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=92,slow=5.4,SNR=4.1						
TORD				LR	LR	11 41 18.1	
	comp=Z,41nm,18.4s,baz=225,slow=36						
ESDC	**Sonseca Array**	**93.36**	**310**	P	**P**	**10 58 45.5**	**+0.7**
ESDC	**Sonseca Array**	**93.36**	**310**	P	**P**	**10 58 45.5**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=52,slow=4.7,SNR=5.0						
ILAR	**Eielson Array**	**97.09**	**22**	P	**P**	**10 59 00.3**	**-1.0**
ILAR	**Eielson Array**	**97.09**	**22**	P	**P**	**10 59 00.3**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=299,slow=4.4,SNR=12						
DBIC	**Dimbokro**	**98.79**	**278**	LR	LR	11 45 57.3	
	comp=Z,46nm,20.5s,baz=274,slow=37						
SCHQ	**Schefferville**	**118.30**	**348**	PKP	**PKPdf**	**11 04 16.5**	**-0.1**
SCHQ				pPKP	**pPKPdf**	**11 04 31.2**	**+1.6**
SCHQ	**Schefferville**	**118.30**	**348**	PKP	**PKPdf**	**11 04 16.5**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=23,slow=7.7,SNR=3.7						
SCHQ				pPKP	**pPKPdf**	**11 04 31.2**	**+1.6**
	comp=Z,0.9nm,0.5s,baz=214,slow=3.6,SNR=2.1						
SLMT	**Seeley Lake**	**122.25**	**22**	*e*PKPdf	**PKPdf**	**11 04 23.9**	**-0.7**
EGMT	**Eagleton**	**122.91**	**19**	*e*PKPdf	**PKPdf**	**11 04 25.5**	**-0.2**
ULM	**Lac du Bonnet**	**124.11**	**8**	PKP	**PKPdf**	**11 04 27.2**	**-0.6**
ULM	**Lac du Bonnet**	**124.11**	**8**	PKP	**PKPdf**	**11 04 27.2**	**-0.6**
	comp=Z,4.2nm,0.7s,baz=14,slow=0.4,SNR=5.9						
HLID	**Hailey**	**124.90**	**25**	*e*PKPdf	**PKPdf**	**11 04 30.0**	**+0.2**
NVAR	**Mina Array Bea**	**126.99**	**32**	PKP	**PKPdf**	**11 04 33.7**	**-0.3**
NVAR				pPKP	**pPKPdf**	**11 04 49.9**	**+2.8**
NVAR	**Mina Array Bea**	**126.99**	**32**	PKP	**PKPdf**	**11 04 33.7**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=281,slow=2.6,SNR=13						
NVAR				pPKP	**pPKPdf**	**11 04 49.9**	**+2.8**
	comp=Z,0.5nm,0.6s,baz=262,slow=3.0,SNR=3.7						
PDAR	**Pinedale Array**	**127.53**	**22**	PKP	**PKPdf**	**11 04 34.4**	**-0.5**
PDAR				pPKP	**pPKPdf**	**11 04 50.6**	**+2.7**
PDAR	**Pinedale Array**	**127.53**	**22**	PKP	**PKPdf**	**11 04 34.4**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=108,slow=1.5,SNR=13						
PDAR				pPKP	**pPKPdf**	**11 04 50.6**	**+2.7**
	comp=Z,0.9nm,0.9s,baz=85,slow=1.8,SNR=3.6						
DUG	**Dugway**	**128.32**	**27**	*e*PKPdf	**PKPdf**	**11 04 36.7**	**+0.3**
CPUP	**Villa Florida**	**145.90**	**229**	PKPbc	**PKPab**	**11 05 10.1**	**+0.2**
CPUP				pPKPbc	pPKPbc	11 05 26.4	+4.0
CPUP	**Villa Florida**	**145.90**	**229**	PKPbc	**PKPab**	**11 05 10.1**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=81,slow=7.5,SNR=5.1						
CPUP				pPKPbc	pPKPbc	11 05 26.4	+4.0
	comp=Z,1.7nm,0.6s,baz=104,slow=7.5,SNR=3.1						
CELP	**Cerrillos**	**150.42**	**322**	*e*PKPbc	**PKPbc**	**11 05 22.0**	**+0.2**

TIR ***24*** *11:21:29.8, 37.˚75N×21.˚48E, h30km, ML4.1*
IDC ***24*** *11:21:32.0±1.4, 38.˚12N×21.˚59E, h0km, mb3.7/6, mb1 3.6/10, mb1mx3.5/30, mbtmp3.5/10, ML3.7/4, MS2.6/1, Ms1 2.7/1, ms1mx2.0/45, Error ellipse: s-maj=25.4km s-min=20.4km az=137.0*
PDG ***24*** *11:21:33.6±0.1, 37.˚84N×20.˚86E, h22km±5km, ML3.8/8, Error ellipse: s-maj=6.9km s-min=1.0km az=90.0*
ATH ***24*** *11:21:33.6, 38.˚05N×21.˚55E, h20km, MD3.7/34, ML3.4*
CSEM ***24*** *11:21:34.0±0.1, 38.˚05N×21.˚57E, h10km, MD3.7, Error ellipse: s-maj=2.8km s-min=2.1km az=46.0*
ISCJB ***24*** *11:21:34.1±0.2, 38.˚07N±0.˚01×21.˚55E±0.˚02, h23km±2km, mb3.6/6, MS2.5/1, Error ellipse: s-maj=2.6km s-min=2.1km az=42.0*
THE ***24*** *11:21:34.0, 38.˚05N×21.˚59E, h17km, ML3.8/9, Error ellipse: s-maj=0.4km s-min=0.3km az=358.0*
ISC 24 11:21:34.2±0.8, 38.˚06N±0.˚01×21.˚58E±0.˚01, h18km±3km, n187, σ1°02/279, mb3.7/6, 6C-8D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
RLS	**Riolos of Patr**	**0.09**	**270**	P	**Pg**	**11 21 37.4**	**-0.3**
RLS				S	**Sg**	**11 21 40.1**	**0.0**
RLS	**Riolos of Patr**	**0.09**	**270**	*e*PB	**Pg**	**11 21 37.4**	**-0.3**
RLS				*e*SB	**Sg**	**11 21 40.2**	**+0.1**
RLS	**Riolos of Patr**	**0.09**	**270**	P	**Pg**	**11 21 37.4**	**-0.3**
RLS				S	**Sg**	**11 21 40.1**	**0.0**
AXS	**Araxos**	**0.21**	**311**	P	**Pg**	**11 21 39.0**	**-0.2**
AXS				S	**Sb**	**11 21 43.1**	**+0.3**
AXS	**Araxos**	**0.21**	**311**	P	**Pg**	**11 21 39.1**	**-0.2**
AXS				S	**Sb**	**11 21 43.1**	**+0.3**
PSA1	**Psathopyrgos**	**0.36**	**42**	*e*PB	**Pg**	**11 21 41.4**	**-0.3**
PSA1				*e*SB	**Sb**	**11 21 47.6**	**+0.2**
LAKA	**Lakka**	**0.36**	**60**	P	**Pg**	**11 21 41.4**	**-0.4**
LAKA				S	**Sg**	**11 21 47.2**	**+0.2**
LAKA	**Lakka**	**0.36**	**60**	*e*PB	**Pg**	**11 21 41.4**	**-0.4**
LAKA				*e*SB	**Sb**	**11 21 47.7**	**+0.1**
LAKA	**Lakka**	**0.36**	**60**	P	**Pg**	**11 21 41.4**	**-0.4**
LAKA				S	**Sg**	**11 21 47.2**	**+0.2**
EFP	**Efpalio**	**0.45**	**35**	P	**Pg**	**11 21 43.0**	**-0.3**
EFP				S	**Sb**	**11 21 50.4**	**+0.4**
EFP	**Efpalio**	**0.45**	**35**	*e*PB	**Pg**	**11 21 43.0**	**-0.3**
EFP				*e*SB	**Sb**	**11 21 50.2**	**+0.2**
EFP	**Efpalio**	**0.45**	**35**	P	**Pg**	**11 21 43.0**	**-0.3**
EFP				S	**Sb**	**11 21 50.2**	**+0.2**
KLV	**Kalavryta, Ach**	**0.

PYL	**PYLOS**	**1.17**	**174**	P		**Pn**	**11 21 55.2**	**-0.4**
PYL	**PYLOS**	**1.17**	**174**	*e*Pn		**Pb**	**11 21 55.8**	**0.0**
PYL				*e*Sn		**Sg**	**11 22 11.9**	**-0.1**
PYL				S		**Sn**	**11 22 14.3**	**+3.2**
LKR	**Lokris**	**1.26**	**62**	*e*PB		**Pn**	**11 21 57.0**	**0.0**
LKR				*e*SN		**Sg**	**11 22 15.6**	**+0.5**
LKR	**Lokris**	**1.26**	**62**	*e*Pb		**Pn**	**11 21 57.0**	**0.0**
LKR				*e*Sn		**Sg**	**11 22 15.6**	**+0.5**
VIL2	**Platees**	**1.34**	**83**	P		**Pb**	**11 21 58.8**	**0.0**
DID	**Didima**	**1.43**	**112**	P		**Pb**	**11 22 00.2**	**0.0**
DID	**Didima**	**1.43**	**112**	*e*PN		**Pb**	**11 22 00.4**	**+0.2**
DID				*e*SN		**Sg**	**11 22 20.7**	**+0.5**
DID	**Didima**	**1.43**	**112**	P		**Pb**	**11 22 00.3**	**0.0**
DID				S		**Sg**	**11 22 20.7**	**-0.5**
DID				*e*Sn		**Sg**	**11 22 20.7**	**+0.5**
DYR	**Agios Nikonas**	**1.43**	**155**	P		**Pn**	**11 21 59.4**	**+0.2**
DYR	**Agios Nikonas**	**1.43**	**155**	*e*PN		**Pb**	**11 22 00.6**	**+0.3**
DYR				*e*SN		**Sg**	**11 22 20.0**	**-0.3**
DYR	**Agios Nikonas**	**1.43**	**155**	*e*Pn		**Pb**	**11 22 00.6**	**+0.3**
DYR				*e*Sn		**Sg**	**11 22 20.0**	**-0.3**
SMIA	**Simia**	**1.52**	**57**	P		**Pn**	**11 22 01.0**	**+0.5**
SMIA				S		**Sn**	**11 22 19.1**	**-0.8**
SMIA	**Simia**	**1.52**	**57**	P		**Pn**	**11 22 01.0**	**+0.5**
SMIA				S		**Sn**	**11 22 19.1**	**-0.8**
NAIG	**Nisos Aigina**	**1.54**	**101**	*e*PN		**Pb**	**11 22 02.1**	**-0.1**
NAIG	**Nisos Aigina**	**1.54**	**101**	*e*Pn		**Pb**	**11 22 02.1**	**-0.1**
THL	**Klokotos Trika**	**1.54**	**13**	P		**Pb**	**11 22 02.3**	**+0.1**
THL	**Klokotos Trika**	**1.54**	**13**	*e*PN		**Pb**	**11 22 02.8**	**+0.6**
THL				*e*SN		**Sg**	**11 22 22.9**	**-1.1**
THL	**Klokotos Trika**	**1.54**	**13**	P		**Pb**	**11 22 02.3**	**+0.1**
THL	**Klokotos Trika**	**1.54**	**13**	*e*Pn		**Pb**	**11 22 02.8**	**+0.6**
THL				*e*Sn		**Sg**	**11 22 22.9**	**-1.1**
ATH	**Athens Observa**	**1.69**	**92**	*e*PN		**Pb**	**11 22 04.7**	**0.0**
ATH	**Athens Observa**	**1.69**	**92**	*e*Pn		**Pb**	**11 22 04.7**	**0.0**
JAN	**Janina**	**1.69**	**341**	P		**Pn**	**11 22 05.5**	**+0.7**
JAN	**Janina**	**1.69**	**341**	*e*PN		**Pb**	**11 22 04.2**	**-0.6**
JAN				*e*SN		**Sb**	**11 22 26.5**	**+0.6**
JAN	**Janina**	**1.69**	**341**	*e*Pn		**Pb**	**11 22 04.2**	**-0.6**
JAN	**Janina**	**1.69**	**341**	P		**Pb**	**11 22 05.5**	**+0.7**
JAN				*e*Sn		**Sb**	**11 22 26.5**	**+0.6**
VLI	**Veliai**	**1.72**	**141**	P		**Pb**	**11 22 05.7**	**+0.4**
VLI	**Veliai**	**1.72**	**141**	*e*PN		**Pb**	**11 22 05.1**	**-0.2**
VLI	**Veliai**	**1.72**	**141**	*e*Pn		**Pb**	**11 22 05.1**	**-0.2**
ATHU	**Athens Univers**	**1.75**	**92**	P		**Pn**	**11 22 04.2**	**+0.6**
NEO	**Neokhori**	**1.79**	**45**	P		**Pn**	**11 22 05.1**	**+0.8**
NEO	**Neokhori**	**1.79**	**45**	*e*PN		**Pb**	**11 22 05.5**	**-1.0**
NEO	**Neokhori**	**1.79**	**45**	P		**Pn**	**11 22 05.1**	**+0.8**
NEO	**Neokhori**	**1.79**	**45**	*e*Pn		**Pb**	**11 22 05.5**	**-1.0**
PTL	**Penteli**	**1.81**	**90**	P		**Pb**	**11 22 06.2**	**-0.5**
PTL	**Penteli**	**1.81**	**90**	*e*PN		**Pb**	**11 22 06.0**	**-0.7**
PTL	**Penteli**	**1.81**	**90**	*e*Pn		**Pb**	**11 22 06.0**	**-0.7**
XOR	**Xorichti**	**1.82**	**44**	P		**Pn**	**11 22 04.9**	**+0.3**
XOR				S		**Sn**	**11 22 26.8**	**-0.4**
XOR	**Xorichti**	**1.82**	**44**	P		**Pn**	**11 22 04.9**	**+0.3**
XOR				S		**Sn**	**11 22 26.8**	**-0.4**
AOS	**Alonnisos**	**2.12**	**58**	P		**Pn**	**11 22 08.7**	**0.0**
	400nm,1.2s							
AOS				S		**Sn**	**11 22 34.8**	**+0.2**
AOS	**Alonnisos**	**2.12**	**58**	P		**Pn**	**11 22 08.7**	**0.0**
	400nm,1.2s							
AOS				S		**Sn**	**11 22 34.8**	**+0.2**
KYTH	**Kithira**	**2.12**	**146**	*e*PN		**Pb**	**11 22 11.0**	**-1.1**
KYTH	**Kithira**	**2.12**	**146**	*e*Pn		**Pb**	**11 22 11.0**	**-1.1**
KEK	**Kerkira**	**2.16**	**321**	P		**Pn**	**11 22 10.6**	**+1.3**
KEK	**Kerkira**	**2.16**	**321**	*e*PN		**Pb**	**11 22 11.2**	**-1.5**
KEK	**Kerkira**	**2.16**	**321**	P		**Pn**	**11 22 10.6**	**+1.3**
KEK	**Kerkira**	**2.16**	**321**	*e*Pn		**Pb**	**11 22 11.2**	**-1.5**
SRN	**Sarande**	**2.20**	**326**	*e*PN		**Pb**	**11 22 12.6**	**-0.8**
SRN	**Sarande**	**2.20**	**326**	*e*Pn		**Pb**	**11 22 12.6**	**-0.8**
KZN	**Kozani**	**2.25**	**4**	*e*PN		**Pb**	**11 22 13.3**	**-1.1**
KZN	**Kozani**	**2.25**	**4**	*e*Pn		**Pb**	**11 22 13.3**	**-1.1**
NEST	**Nestorio**	**2.39**	**350**	P		**Pb**	**11 22 16.1**	**-0.6**
NEST	**Nestorio**	**2.39**	**350**	P		**Pb**	**11 22 16.1**	**-0.6**
ANKY	**Antikythira Is**	**2.59**	**147**	*e*PB		**Pb**	**11 22 19.6**	**-0.4**
KBN	**Korca**	**2.63**	**347**	*e*PN		**Pb**	**11 22 19.5**	**-1.4**
KBN	**Korca**	**2.63**	**347**	*e*Pn		**Pb**	**11 22 19.5**	**-1.4**
FNA	**Florina**	**2.73**	**357**	P		**Pn**	**11 22 19.6**	**+2.5**
FNA	**Florina**	**2.73**	**357**	*e*PB		**Pn**	**11 22 19.7**	**+2.6**
FNA	**Florina**	**2.73**	**357**	P		**Pn**	**11 22 19.6**	**+2.5**
PLG	**Polygyros**	**2.73**	**32**	*e*PN		**Pn**	**11 22 19.2**	**+2.0**
PLG	**Polygyros**	**2.73**	**32**	*e*Pn		**Pn**	**11 22 19.2**	**+2.0**
BIA	**Bitola**	**2.96**	**356**	*e*PN		**Pn**	**11 22 21.5**	**+1.0**
BIA	**Bitola**	**2.96**	**356**	*e*Pn		**Pn**	**11 22 21.4**	**+1.0**
GRG	**Griva**	**2.96**	**12**	P		**Pn**	**11 22 22.7**	**+2.3**
GRG	**Griva**	**2.96**	**12**	*e*PN		**Pn**	**11 22 22.7**	**+2.3**
GRG	**Griva**	**2.96**	**12**	P		**Pn**	**11 22 22.7**	**+2.3**
KNT	**Kendrikon**	**3.26**	**18**	P		**Pn**	**11 22 27.0**	**+2.5**
APE	**Apeiranthos**	**3.29**	**106**	*e*PN		**Pn**	**11 22 27.5**	**+2.6**
APE	**Apeiranthos**	**3.29**	**106**	*e*Pn		**Pn**	**11 22 27.5**	**+2.6**
VAY	**Valandovo**	**3.35**	**13**	*e*Pn		**Pn**	**11 22 27.4**	**+1.8**
LIA	**Limnos Island**	**3.36**	**56**	*e*PN		**Pn**	**11 22 27.7**	**+2.0**
LIA	**Limnos Island**	**3.36**	**56**	*e*Pn		**Pn**	**11 22 27.7**	**+2.0**
CHOS	**Chios island**	**3.54**	**83**	*e*PN		**Pn**	**11 22 30.1**	**+1.8**
CHOS	**Chios island**	**3.54**	**83**	*e*Pn		**Pn**	**11 22 30.1**	**+1.8**
PHP	**Peshkopia**	**3.73**	**347**	*e*PN		**Pn**	**11 22 33.0**	**+2.1**
PHP	**Peshkopia**	**3.73**	**347**	*e*Pn		**Pn**	**11 22 33.0**	**+2.1**
NVR	**Nevrokopi**	**3.73**	**27**	*e*PN		**Pn**	**11 22 32.4**	**+1.5**
NVR	**Nevrokopi**	**3.73**	**27**	*e*Pn		**Pn**	**11 22 32.4**	**+1.5**
TIP	**Timpagrande**	**3.94**	**288**	P		**Pn**	**11 22 34.6**	**+0.8**
TIP	**Timpagrande**	**3.94**	**288**	P		**Pn**	**11 22 34.6**	**+0.8**
PUK	**Puka**	**4.18**	**343**	*e*PN		**Pn**	**11 22 39.7**	**+2.5**
PUK	**Puka**	**4.18**	**343**	*e*Pn		**Pn**	**11 22 39.7**	**+2.5**
ULC	**Ulcinj**	**4.29**	**336**	*i*Pn		**Pn**	**11 22 39.2**	**+0.6**
ULC				*e*Sn		**Sn**	**11 23 28.4**	**+0.1**
ULC	**Ulcinj**	**4.29**	**336**	*i*Pn		**Pn**	**11 22 39.2**	**+0.6**
ULC				*e*Sn		**Sn**	**11 23 28.4**	**+0.1**
BCI	**Bajram Curri**	**4.46**	**345**	*e*PN		**Pn**	**11 22 43.4**	**+2.5**
BCI	**Bajram Curri**	**4.46**	**345**	*e*Pn		**Pn**	**11 22 43.4**	**+2.5**
PVY	**Plav**	**4.70**	**345**	*e*Pn		**Pn**	**11 22 45.6**	**+1.3**
PVY				*e*Sn		**Sn**	**11 23 40.0**	**+1.6**
PVY	**Plav**	**4.70**	**345**	*e*Pn		**Pn**	**11 22 45.6**	**+1.3**
PVY				*e*Sn		**Sn**	**11 23 40.0**	**+1.6**
BUM	**Brajici-Budva**	**4.71**	**335**	*e*Pn		**Pn**	**11 22 44.9**	**+0.5**
BUM				*e*Sn		**Sn**	**11 23 38.3**	**-0.3**
BUM	**Brajici-Budva**	**4.71**	**335**	*e*Pn		**Pn**	**11 22 44.9**	**+0.5**
BUM				*e*Sn		**Sn**	**11 23 38.3**	**-0.3**
PDG	**Podgorica**	**4.71**	**339**	*i*Pn		**Pn**	**11 22 45.5**	**+1.1**
PDG				*e*Sn		**Sn**	**11 23 38.8**	**+0.2**
TTG	**Podgorica**	**4.71**	**339**	*i*Pn		**Pn**	**11 22 45.5**	**+1.1**
TTG				*e*Sn		**Sn**	**11 23 38.8**	**+0.2**
BEY	**Berane**	**4.98**	**346**	*i*Pn		**Pn**	**11 22 50.0**	**+1.9**
BEY				*e*Sn		**Sn**	**11 23 47.4**	**+2.2**
IVA	**Berane**	**4.98**	**346**	*i*Pn		**Pn**	**11 22 50.0**	**+1.9**
IVA				*e*Sn		**Sn**	**11 23 47.4**	**+2.2**
HCY	**Herceg Novi**	**4.98**	**333**	*e*Pn		**Pn**	**11 22 48.3**	**+0.3**
HCY				*e*Sn		**Sn**	**11 23 44.1**	**-1.0**
HCY	**Herceg Novi**	**4.98**	**333**	*e*Pn		**Pn**	**11 22 48.3**	**+0.3**
HCY				*e*Sn		**Sn**	**11 23 44.1**	**-1.0**
NKY	**Niksic**	**5.14**	**338**	*i*Pn		**Pn**	**11 22 50.9**	**+0.5**
NKY				*e*Sn		**Sn**	**11 23 49.1**	**-0.2**
NKY	**Niksic**	**5.14**	**338**	*i*Pn		**Pn**	**11 22 50.9**	**+0.5**
NKY				*e*Sn		**Sn**	**11 23 49.1**	**-0.2**
BRY	**Bratogost**	**5.36**	**335**	*i*Pn		**Pn**	**11 22 53.6**	**+0.1**
BRY				*e*Sn		**Sn**	**11 23 54.1**	**-0.7**
BRY	**Bratogost**	**5.36**	**335**	*i*Pn		**Pn**	**11 22 53.6**	**+0.1**
BRY				*e*Sn		**Sn**	**11 23 54.1**	**-0.7**
UPM	**Unac-Piva**	**5.53**	**339**	*e*Pn		**Pn**	**11 22 56.2**	**+0.5**
UPM				*e*Sn		**Sn**	**11 23 59.0**	**+0.1**
UPM	**Unac-Piva**	**5.53**	**339**	*e*Pn		**Pn**	**11 22 56.2**	**+0.5**
UPM				*e*Sn		**Sn**	**11 23 59.0**	**+0.1**
GRUS	**Gruza**	**5.86**	**354**	*e*Pn		**Pn**	**11 23 01.1**	**+1.0**
BBLS	**Lazići**	**6.03**	**345**	*e*Pn		**Pn**	**11 23 03.3**	**+0.8**
DIVS	**Divibare**	**6.15**	**349**	*e*Pn		**Pn**	**11 23 04.1**	**-0.1**
TEKS	**Tekeris**	**6.67**	**347**	*e*Pn		**Pn**	**11 23 11.4**	**+0.2**
FGSL	**Fruska Gora**	**7.22**	**350**	*e*Pn		**Pn**	**11 23 17.4**	**-1.4**
VOIR		**7.82**	**18**	*i*P		Pn	11 23 36.8	+10
MLR	**Muntele Rosu**	**8.11**	**22**	*i*P		Pn	11 23 39.8	+8.7
MLR	**Muntele Rosu**	**8.11**	**22**	Pn		**Pn**	**11 23 33.0**	**+1.8**
	0.1nm,0.3s,baz=157,slow=7.7,SNR=2.3							
PLOR	**Plostina**	**8.65**	**24**	*i*P		Pn	11 23 43.2	+4.7
VRI	**Vrincioaia**	**8.69**	**25**	*i*P		Pn	11 23 45.7	+6.7
BRTR	**Keskin Array B**	**9.55**	**76**	Pn		**Pn**	**11 23 51.9**	**+0.9**
	0.1nm,0.3s,baz=252,slow=12,SNR=4.1							
VOY	**Vojsko**	**9.80**	**327**	*e*Pn		Pn	11 23 40.9	-13
VOY				*e*			11 24 08.1	
VOY				*e*Sn		**Sn**	**11 25 41.0**	**-2.9**
GERES	**GERESS Array B**	**12.20**	**335**	Pn		**Pn**	**11 24 26.9**	**-0.1**
	0.1nm,0.3s,baz=140,slow=11,SNR=2.7							
GERES				Sn		**Sn**	**11 26 37.0**	**-5.6**
	0.2nm,0.3s,baz=147,slow=24,SNR=3.5							
ESDC	**Sonseca Array**	**19.94**	**283**	P		**Pn**	**11 26 06.5**	**-0.3**
	0.5nm,0.3s,baz=76,slow=11,SNR=3.7							
HFS	**Hagfors**	**22.66**	**350**	P		**P**	**11 26 34.4**	**+0.2**
	2.8nm,0.7s,baz=173,slow=13,SNR=6.3							
FINES	**FINESS Array B**	**23.58**	**5**	P		**P**	**11 26 42.4**	**-1.1**
	0.8nm,0.6s,baz=182,slow=11,SNR=3.5							
NB2	**NORSAR Subarra**	**23.91**	**348**	P		**P**	**11 26 47.0**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=159,slow=9.3							
NB2	**NORSAR Subarra**	**23.91**	**348**	P		**P**	**11 26 47.0**	**+0.3**
	comp=Z,1.5nm,0.9s,SNR=5.2							
NOA	**NORSAR Array B**	**23.91**	**348**	P		**P**	**11 26 46.5**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=171,slow=13,SNR=3.3							
NOA				LR		LR	11 37 46.6	
	comp=Z,14nm,19.3s,baz=205,slow=41							
TORD	**Torodi Ar. Bea**	**30.47**	**221**	P		**P**	**11 27 47.2**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=31,slow=9.2,SNR=5.2							
MKAR	**Makanchi Array**	**44.65**	**58**	P		**P**	**11 29 45.4**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=277,slow=8.2,SNR=7.1							
ZALV	**Zalesovo Beam**	**45.15**	**48**	P		**P**	**11 29 48.5**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=283,slow=9.0,SNR=4.2							

IDC 24 11:37:19.1±5.5, 11°38S×117°96E, h0km, mb3.5/1, mb1 3.4/4, mb1mx3.2/19, mbtmp3.2/4, ML3.2/3, MS4.2/1, Ms1 4.2/1, ms1mx2.9/18, Error ellipse: s-maj=239.0km s-min=25.8km az=54.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
FITZ	**Fitzroy Crossi**	**9.99**	**133**	Pn		Pn	11 39 42.0		-1.9
	0.4nm,0.3s,baz=329,slow=11,SNR=13								
FITZ				Sn		Sn	11 41 26.4		-10
	0.2nm,0.3s,baz=315,slow=20,SNR=4.7								
WRA	**Warramunga Arr**	**17.91**	**120**	P		Pn	11 41 29.5		-0.3
	0.1nm,0.3s,baz=289,slow=14,SNR=3.7								
WRA				S		Sn	11 44 34.0		-16
	0.0nm,0.3s,baz=283,slow=22,SNR=2.8								
ASAR	**Alice Springs**	**19.48**	**131**	P		Pn	11 41 49.6		+0.6
	0.1nm,0.3s,baz=306,slow=12,SNR=3.7								
DZM	**Mont Dzumac**	**47.46**	**109**	LR		LR	12 04 48.3		
	comp=Z,272nm,19.9s,baz=197,slow=35								
SONM	**Songino Array**	**59.84**	**351**	P		P	11 47 26.3		-0.2
	0.2nm,0.4s,baz=156,slow=11,SNR=2.7								

WEL 24 11:39:52.7±0.7, 37°81S×176°24E, h199km±5km, ML4.0/17, 10C-2D, Error ellipse: s-maj=3.1km s-min=2.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
OPRZ	**Ohinepanea**	**0.26**	**99**	PN		Pn	11 40 18.7		-0.3
TARZ	**Mount Tarawera**	**0.48**	**154**	PN		Pn	11 40 20.7		+1.0
RRRZ	**Republican Roa**	**0.58**	**158**	PN		Pn	11 40 20.0		0.0
ALRZ	**Allen Road**	**0.76**	**174**	PN		Pn	11 40 21.2		+0.3
URZ	**Urewera**	**0.82**	**124**	⇑PN		Pn	11 40 20.8		-0.4
URZ				AML		AML	11 40 47.8		
URZ				AML		AML	11 40 36.7		
MKAZ	**Moumakai**	**1.10**	**309**	⇓PN		Pn	11 40 23.1		+0.1
MWZ	**Matawai**	**1.15**	**118**	PN		Pn	11 40 23.1		-0.3
MWZ				AML		AML	11 40 58.1		
MWZ				AML		AML	11 41 01.0		
MWZ				AML		AML	11 41 01.1		
RAHZ	**Arahi**	**1.29**	**149**	PN		Pn	11 40 24.9		+0.4
RAHZ				SN		Sn	11 40 50.1		+0.6
HIZ	**Hauiti**	**1.30**	**237**	PN		Pn	11 40 24.8		+0.2
BKZ	**Black Stump Fm**	**1.37**	**172**	⇑PN		Pn	11 40 24.9		-0.4
BKZ				SN		Sn	11 40 48.7		-2.0
BKZ				AML		AML	11 40 50.4		
TWVZ	**Taurewa**	**1.41**	**206**	PN		Pn	11 40 25.7		0.0
OTVZ	**Oturere**	**1.43**	**198**	PN		Pn	11 40 26.1		+0.2
WPVZ	**Whakapapa**	**1.50**	**201**	PN		Pn	11 40 26.4		0.0
TUVZ	**Tukino**	**1.53**	**197**	PN		Pn	11 40 26.7		0.0
FWVZ	**Far West T-bar**	**1.54**	**200**	PN		Pn	11 40 26.9		0.0
WHVZ	**Whangaehu Hut**	**1.56**	**199**	PN		Pn	11 40 26.9		-0.2
WNVZ	**Wahianoa**	**1.60**	**198**	⇑PN		Pn	11 40 27.2		-0.2
PUZ	**Puketiti**	**1.62**	**100**	PN		Pn	11 40 26.9		-0.5
PUZ				AML		AML	11 41 06.0		
PUZ				AML		AML	11 41 16.1		
MOVZ	**Moawhango**	**1.64**	**193**	PN		Pn	11 40 27.0		-0.7
KNZ	**Kokohu**	**1.66**	**137**	⇑PN		Pn	11 40 27.8		+0.1
KNZ				AML		AML	11 40 36.1		
KNZ				AML		AML	11 41 03.6		
MCHZ	**McNeill Hill**	**1.68**	**168**	PN		Pn	11 40 28.3		+0.5
BHHZ	**Black Hill Sta**	**1.69**	**185**	⇑PN		Pn	11 40 27.5		-0.6
MTVZ	**Mangateitei**	**1.69**	**201**	PN		Pn	11 40 27.9		-0.2
CNGZ	**Carnagh Statio**	**1.69**	**114**	PN		Pn	11 40 28.9		+0.8
PRGZ	**Paritu Road**	**1.71**	**131**	PN		Pn	11 40 28.4		+0.1
VRZ	**Vera Road**	**1.76**	**221**	PN		Pn	11 40 29.2		+0.5
VRZ				SN		Sn	11 40 58.2		+1.5
MHGZ	**Mahia Peninsul**	**1.88**	**136**	PN		Pn	11 40 30.3		+0.4
CKHZ	**Cape Kidnapper**	**1.96**	**161**	⇑PN		Pn	11 40 30.9		+0.2
KAHZ	**Kahuranaki**	**2.05**	**156**	⇑PN		Pn	11 40 31.7		+0.1
PNHZ	**Pukenui**	**2.11**	**181**	PN		Pn	11 40 31.5		-0.7
WAZ	**Wanganui**	**2.18**	**206**	PN		Pn	11 40 32.4		-0.6
TSZ	**Takapari Road**	**2.26**	**185**	⇑PN		Pn	11 40 33.0		-0.9
TSZ				AML		AML	11 41 05.3		
TSZ				AML		AML	11 41 06.0		
WPHZ	**Waipukurau**	**2.26**	**176**	PN		Pn	11 40 33.3		-0.6
PXZ	**Pawanui**	**2.28**	**168**	PN		Pn	11 40 33.5		-0.5
PXZ				AML		AML	11 41 05.9		
PXZ				AML		AML	11 41 08.1		
PXZ				AML		AML	11 41 08.2		
PRHZ	**Porangahau**	**2.48**	**173**	PN		Pn	11 40 35.4		-0.8
DVHZ	**Dannevirke**	**2.49**	**181**	PN		Pn	11 40 35.2		-1.2
POWZ	**Post Office Ro**	**2.61**	**188**	PN		Pn	11 40 36.3		-1.4
ANWZ	**Angora Road**	**2.66**	**176**	⇓PN		Pn	11 40 37.4		-0.8
PRWZ	**Pori Road**	**2.75**	**184**	PN		Pn	11 40 38.2		-1.2
BFZ	**Birch Farm**	**2.87**	**180**	PN		Pn	11 40 39.2		-1.5
BFZ				AML		AML	11 41 18.7		
MRZ	**Mangatainoka R**	**2.90**	**190**	⇑PN		Pn	11 40 39.2		-1.8
MRZ				AML		AML	11 41 17.6		
MRZ				AML		AML	11 41 18.0		
TIWZ	**Tintock**	**2.98**	**185**	PN		Pn	11 40 40.3		-1.7
OGWZ	**Otaki Gorge**	**3.12**	**195**	PN		Pn	11 40 41.8		-1.8
HOWZ	**Holdsworth Sta**	**3.14**	**190**	PN		Pn	11 40 41.7		-2.2
KIW	**Kapiti Island**	**3.22**	**198**	PN		Pn	11 40 42.5		-2.3
KIW				AML		AML	11 41 23.9		
TMWZ	**Te Maipa**	**3.31**	**185**	PN		Pn	11 40 43.9		-2.0
MTW	**Mount Morrison**	**3.40**	**189**	PN		Pn	11 40 44.3		-2.6
MTW				AML		AML	11 41 28.9		
MTW				AML		AML	11 41 30.1		
CAW	**Cannon Point**	**3.42**	**195**	PN		Pn	11 40 44.9		-2.3
CAW				AML		AML	11 41 27.4		
CAW				AML		AML	11 41 27.4		
DUWZ	**D'Urville Isla**	**3.49**	**210**	PN		Pn	11 40 45.8		-2.4
TRWZ	**Traveller**	**3.61**	**187**	PN		Pn	11 40 47.2		-2.4
TRWZ				AML		AML	11 41 29.0		
TRWZ				AML		AML	11 41 31.8		
PAWZ	**Paruwai Farm**	**3.63**	**190**	PN		Pn	11 40 47.0		-2.8
PAWZ				SN		Sn	11 41 29.2		-5.4
PAWZ				AML		AML	11 41 36.5		
WEL	**Wellington**	**3.66**	**198**	PN		Pn	11 40 47.6		-2.5
MSWZ	**Moikau Station**	**3.68**	**192**	PN		Pn	11 40 47.6		-2.9
MSWZ				AML		AML	11 41 32.6		
MSWZ				AML		AML	11 41 33.2		
TCW	**Tory Channel**	**3.73**	**203**	PN		Pn	11 40 48.7		-2.2
TCW				AML		AML	11 41 35.0		
TCW				AML		AML	11 41 35.8		
PLWZ	**Palliser**	**3.83**	**191**	PN		Pn	11 40 49.4		-3.0
TUWZ	**Tuamarina**	**4.03**	**205**	PN		Pn	11 40 52.0		-2.8
TUWZ				AML		AML	11 41 41.1		
TUWZ				AML		AML	11 41 41.2		
NNZ	**Nelson**	**4.06**	**212**	PN		Pn	11 40 52.0		-3.1
BSWZ	**Blackbirch Sta**	**4.31**	**204**	PN		Pn	11 40 55.5		-2.8
THZ	**Tophouse**	**4.71**	**192**	PN		Pn	11 41 00.4		-3.0
KHZ	**Kahutara**	**5.05**	**203**	⇑PN		Pn	11 41 04.5		-3.1
DSZ	**Denniston Nort**	**5.21**	**220**	PN		Pn	11 41 06.0		-3.7
LTZ	**Lake Taylor**	**5.82**	**210**	PN		Pn	11 41 13.6		-4.0
OXZ	**Oxford**	**6.37**	**209**	PN		Pn	11 41 19.9		-4.8
CRLZ	**Canterbury Las**	**6.38**	**204**	PN		Pn	11 41 20.5		-4.3
MQZ	**McQueen's Vall**	**6.49**	**204**	PN		Pn	11 41 21.8		-4.4
WVZ	**Waitaha Valley**	**6.73**	**217**	PN		Pn	11 41 25.3		-4.0
FOZ	**Fox Glacier**	**7.60**	**219**	PN		Pn	11 41 36.2		-4.4
LBZ	**Lake Benmore**	**8.00**	**213**	PN		Pn	11 41 41.2		-4.8
ODZ	**Otahua Downs**	**8.36**	**208**	PN		Pn	11 41 46.1		-4.5
JCZ	**Jackson Bay**	**8.44**	**220**	PN		Pn	11 41 46.9		-4.8
EAZ	**Earnscleugh**	**9.05**	**213**	PN		Pn	11 41 54.9		-4.6

IDC 24 11:54:56.2±1.0, 34°.00N×25°.39E, h0km, mb3.8/6, mb1 3.8/11, mb1mx3.6/31, mbtmp3.7/11, ML3.6/5, MS2.8/1, Ms1 2.8/1, ms1mx2.1/46, Error ellipse: s-maj=25.8km s-min=19.8km az=173.0
ISCJB 24 11:55:01.7±1.2, 34°.19N±0°.08×25°.34E±0°.05, h47km±11km, mb3.7/6, MS2.7/1, Error ellipse: s-maj=12.7km s-min=7.4km az=174.1
CSEM 24 11:55:01.2±0.5, 34°.28N×25°.30E, h8km, MD3.5, Error ellipse: s-maj=8.6km s-min=4.7km az=1.0
THE 24 11:55:01.9, 34°.31N×25°.32E, h4km±1km, Error ellipse: s-maj=1.7km s-min=0.5km az=171.0
ATH 24 11:55:02.0, 34°.32N×25°.25E, h26km±1km, MD3.5/8
ISC 24 11:55:01.7±1.5, 34°22N±0°.07×25°32E±0°.03, h30km±10km, n50, σ1°917/73, mb3.7/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
SIVA	**Sivas**	**0.91**	**332**	P		**Pn**	**11 55 17.7**		**-0.6**
SIVA				S		**Sb**	**11 55 30.1**		**-0.5**
SIVA	**Sivas**	**0.91**	**332**	*e*PN		**Pn**	**11 55 17.9**		**-0.4**
SIVA				*e*SN		**Sb**	**11 55 28.7**		**-1.9**
SIVA	**Sivas**	**0.91**	**332**	P		**Pn**	**11 55 17.7**		**-0.6**
SIVA				*e*Sn		**Sb**	**11 55 28.7**		**-1.9**
SIVA				S		**Sb**	**11 55 30.1**		**-0.5**
LAST	**Lasithi**	**0.95**	**8**	P		**Pn**	**11 55 18.4**		**-0.6**
LAST				S		**Sb**	**11 55 31.4**		**-0.6**
LAST	**Lasithi**	**0.95**	**8**	*e*PN	

Ms1 3.7/17,ms1mx3.4/41,Error ellipse: s-maj=26.3km s-min=15.0km az=51.0
*NEIC **24** 12:39:50.7±0.5,30.95N×85.81E,h10km,mb4.1/6,Error ellipse: s-maj=12.3km s-min=6.2km az=220.0*
*MOS **24** 12:39:51.8±1.3,30.93N×85.79E,h33km,mb4.2/14,Error ellipse: s-maj=14.6km s-min=7.6km az=117.6*
*NDI **24** 12:39:52.2±3.9,31.22N×86.04E,h10km,ML4.0,mb4.1(NEIC)*
*ISCJB **24** 12:39:52.5±0.3,30.95N±0.04×85.76E±0.03,h33km,mb4.1/22,MS3.7/15,Error ellipse: s-maj=5.9km s-min=4.0km az=8.3*
*BJI **24** 12:39:53.4,31.30N×86.00E,h15km,mB4.3/3,mb4.2/7,Ms4.4/9,Ms7 3.9/7*

ISC 24 12:39:54.2±0.5,31.00N±0.06×85.88E±0.04,h35km,n91,σ1ᵎ38/85,mb4.2/22,MS3.7/15,2D,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**4.74**	**105**	Pn	Pn	12 41 08.8	+5.2
LSA				Sn	Sn	12 42 07.3	+10
LSA	**Lhasa**	**4.74**	**105**	*e*P	**Pn**	**12 41 02.3**	**-1.3**
LSA				*e*		12 41 54.5	
LSA	**Lhasa**	**4.74**	**105**	*e*Pn	**Pn**	**12 41 02.3**	**-1.3**
LSA				*e*Sn	**Sn**	**12 41 54.5**	**-3.0**
PTH	**Pithoragarh**	**5.10**	**255**	*e*P	Pn	12 41 04.9	-3.4
PTH				*e*S	**Sn**	**12 42 01.3**	**-4.8**
DDI	**Dehra Dun**	**6.77**	**266**	*e*P	**Pn**	**12 41 33.6**	**+2.5**
DDI				*ex*	x	12 42 49.3	
DDI				AML	AML	12 43 00.3	
	comp=E,672nm,0.6s						
DDI				AML	AML	12 43 03.2	
	comp=N,786nm,0.5s						
BOK	**Bokaro**	**7.18**	**180**	*e*P	**Pn**	**12 41 38.6**	**+2.0**
SMLA	**Simla**	**7.47**	**273**	*e*P	**Pn**	**12 41 41.9**	**+1.3**
SMLA				*e*S	**Sn**	**12 43 03.0**	**-1.1**
SMLA				AML	AML	12 43 35.9	
	comp=E,45nm,0.7s						
SMLA				AML	AML	12 43 40.8	
	comp=N,41nm,0.5s						
SHL	**Shillong**	**7.57**	**134**	*e*P	**Pn**	**12 41 43.4**	**+1.2**
SHL				*ex*	x	12 43 06.0	
SDNR	**Sundarnagar**	**7.64**	**276**	*e*P	Pn	12 41 47.0	+4.0
SDNR				*e*4		12 43 21.0	
DHRM	**DHARAMSHALA**	**8.26**	**281**	*e*P	**Pn**	**12 41 53.2**	**+1.5**
DHRM				*e*S	**Sn**	**12 43 22.3**	**-1.6**
DHRM				AML	AML	12 43 38.5	
	comp=E,114nm,0.5s						
DHRM				AML	AML	12 43 39.5	
	comp=N,76nm,0.7s						
THN	**Thein Dam**	**8.77**	**282**	*e*P	**Pn**	**12 41 59.0**	**+0.5**
THN				*ex*	x	12 43 38.8	
JBP	**Jabalpur**	**9.40**	**215**	⇓*i*P	Pn	12 42 14.8	+7.7
JBP				*i* x	x	12 42 15.6	
	comp=Z,28nm,1.4s						
JBP				*e*S	Sn	12 43 59.3	+7.6
BHPL	**Bhopal**	**10.79**	**226**	*e*P	**Pn**	**12 42 28.6**	**+2.5**
CHCP	**Chirah Chowk**	**10.99**	**287**	P	**Pn**	**12 42 29.6**	**+0.6**
CEP	**Cherat**	**12.13**	**287**	P	**Pn**	**12 42 44.3**	**-0.4**
CEP				S	**Sn**	**12 45 00.0**	**+1.2**
THW	**Thamme Wali**	**12.14**	**282**	P	**Pn**	**12 42 43.8**	**-0.9**
WMQ	**Urumqi**	**12.88**	**6**	P	Pn	12 42 58.4	+3.7
AKL	**Akola**	**12.98**	**220**	*e*P	**Pn**	**12 42 57.8**	**+1.6**
AKL				*e*S	**Sn**	**12 45 16.6**	**-2.9**
GTA	**Gaotai**	**14.14**	**50**	*e*P	P	12 43 22.5	+3.4
GTA				pP	Pn	12 43 29.8	+18
GTA				sP		12 43 33.5	
GTA				pmax	pmax		
	comp=Z,6.0nm,1.5s						
KBL	**Kabul**	**14.60**	**288**	*e*P	**Pn**	**12 43 16.1**	**-2.2**
KBL				pmax	pmax		
	comp=Z,32nm,0.8s						
KBL	**Kabul**	**14.60**	**288**	*e*Pn	**Pn**	**12 43 16.1**	**-2.2**
	comp=Z,32nm,0.8s						
AAK	**Ala-Archa**	**14.74**	**325**	*e*P	**Pn**	**12 43 18.3**	**-1.9**
AAK				pmax	pmax		
	comp=Z,15nm,1.1s						
AAK	**Ala-Archa**	**14.74**	**325**	*e*Pn	**Pn**	**12 43 18.2**	**-1.9**
	comp=Z,16nm,1.1s						
AAK	**Ala-Archa**	**14.74**	**325**	Pn	**Pn**	**12 43 21.6**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=166,slow=7.6,SNR=3.8						
AAK				LR	LR	12 49 20.4	
	comp=Z,236nm,20.2s,baz=126,slow=39						
KMI	**Kunming**	**15.99**	**107**	P	**P**	**12 43 41.0**	**+1.1**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KMI				LR	LR		
	comp=N,430nm,10.1s						
KMI				LR	LR		
	comp=E,250nm,10.9s						
KMI				LR	LR		
	comp=Z,250nm,9.0s						
MKAR	**Makanchi Array**	**16.01**	**351**	P	**Pn**	**12 43 35.9**	**-0.8**
MKAR				MLR	MLR		
	comp=Z,59nm,18.0s						
MKAR	**Makanchi Array**	**16.01**	**351**	Pn	**Pn**	**12 43 35.9**	**-0.8**
MKAR	**Makanchi Array**	**16.01**	**351**	Pn	**Pn**	**12 43 35.9**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=176,slow=12,SNR=16						
MKAR				LR	LR	12 51 07.8	
	comp=Z,59nm,18.0s,baz=168,slow=42						
CHTO	**Chiang Mai**	**16.94**	**133**	*e*P	**Pn**	**12 43 47.6**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CHTO	**Chiang Mai**	**16.94**	**133**	*e*Pn	**Pn**	**12 43 47.6**	**-1.0**
	comp=Z,7.6nm,0.8s						
KKAR	**Karatay Array**	**17.18**	**319**	*e*P	**Pn**	**12 43 51.1**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KKAR	**Karatay Array**	**17.18**	**319**	*e*Pn	**Pn**	**12 43 51.1**	**-0.3**
	comp=Z,9.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**17.21**	**134**	P	**Pn**	**12 43 50.5**	**-1.4**
CMAR	**Chiang Mai Arr**	**17.21**	**134**	P	**Pn**	**12 43 50.5**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=303,slow=11,SNR=18						
XAN	**Xi'an**	**19.66**	**75**	P	**P**	**12 44 20.0**	**-0.1**
XAN				pP	**Pn**	**12 44 23.4**	**+1.7**
XAN				S	**S**	**12 48 00.3**	**+0.3**
XAN				LR	LR		
	comp=N,120nm,9.2s						
XAN				LR	LR		
	comp=E,110nm,11.3s						
XAN				LR	LR		
	comp=Z,79nm,9.2s						
ENH	**Enshi**	**20.33**	**86**	*e*Pn	Pn	12 44 31.5	+1.9
	comp=Z,18nm,0.9s						
KURBB	**Kurchatov Array**	**20.36**	**346**	P	**P**	**12 44 26.9**	**-0.5**
	comp=Z,4.0nm,0.9s,baz=173,slow=9.4,SNR=19						
KURK	**Kurchatov**	**20.43**	**347**	P	**P**	**12 44 26.9**	**-1.3**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KURK	**Kurchatov**	**20.43**	**347**	P	**P**	**12 44 26.9**	**-1.3**
ZAA0	**Zalesovo Array**	**22.95**	**358**	*e*P	**P**	**12 44 57.2**	**+2.1**
ZALV	**Zalesovo Beam**	**22.95**	**358**	P	**P**	**12 44 54.7**	**-0.5**
ZALV				pmax	pmax		
	comp=Z,12nm,1.0s						
ZALV				MLR	MLR		
	comp=Z,94nm,20.9s						
ZALV	**Zalesovo Beam**	**22.95**	**358**	P	**P**	**12 44 54.7**	**-0.5**
ZALV	**Zalesovo Beam**	**22.95**	**358**	P	**P**	**12 44 54.7**	**-0.5**
	comp=Z,12nm,1.0s,baz=186,slow=9.8,SNR=19						
ZALV				LR	LR	12 55 05.3	
	comp=Z,94nm,20.9s,baz=69,slow=40						
SONM	**Songino Array**	**22.99**	**37**	P	**P**	**12 44 57.1**	**+1.3**
SONM	**Songino Array**	**22.99**	**37**	P	**P**	**12 44 57.1**	**+1.3**
	comp=Z,2.0nm,0.8s,baz=222,slow=11,SNR=9.5						
ZAK	**Zakamensk**	**23.32**	**29**	*e*P	**P**	**12 44 58.0**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ULN	**Ulaanbaatar**	**23.36**	**38**	*e*P	**P**	**12 44 59.5**	**0.0**
	comp=Z,8.2nm,1.1s						
NVS	**Novosibirsk**	**23.90**	**356**	*e*P	**P**	**12 45 06.2**	**+1.8**
BVAR	**Borovoye Array**	**24.73**	**337**	P	**P**	**12 45 13.7**	**+1.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR				MLR	MLR		
	comp=Z,166nm,18.6s						
BVAR	**Borovoye Array**	**24.73**	**337**	P	**P**	**12 45 13.7**	**+1.6**
BVAR	**Borovoye Array**	**24.73**	**337**	P	**P**	**12 45 13.7**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=133,slow=15,SNR=4.0						
BVAR				LR	LR	12 55 49.3	
	comp=Z,166nm,18.6s,baz=331,slow=39						
ABKAR	**Akbulak array**	**26.73**	**320**	*e*P	**P**	**12 45 31.2**	**+1.0**
	comp=Z,2.5nm,0.6s						
AKTO	**Aktyubinsk**	**28.42**	**321**	P	**P**	**12 45 44.9**	**-0.4**
AKTO				MLR	MLR		
	comp=Z,151nm,19.4s						
AKTO	**Aktyubinsk**	**28.42**	**321**	P	**P**	**12 45 44.9**	**-0.4**
AKTO	**Aktyubinsk**	**28.42**	**321**	P	**P**	**12 45 44.9**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=132,slow=12,SNR=2.3						
AKTO				LR	LR	12 57 33.4	
	comp=Z,151nm,19.4s,baz=292,slow=37						
KSRS	**Korea Array**	**35.13**	**68**	LR	LR	13 01 39.4	
	comp=Z,71nm,20.8s,baz=184,slow=37						
KBZ	**Khabaz**	**36.06**	**303**	P	**P**	**12 46 53.9**	**+1.7**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KBZ				MLR	MLR		
	comp=Z,93nm,20.5s						
KBZ	**Khabaz**	**36.06**	**303**	P	**P**	**12 46 53.9**	**+1.7**
KBZ	**Khabaz**	**36.06**	**303**	P	**P**	**12 46 53.9**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=156,slow=20,SNR=2.8						
KBZ				LR	LR	13 03 01.6	
	comp=Z,93nm,20.5s,baz=262,slow=39						
JNU	**Nakatsue**	**37.98**	**75**	LR	LR	13 05 08.8	
	comp=Z,149nm,18.4s,baz=169,slow=40						
VLA	**Vladivostok**	**38.22**	**58**	⇓*e*P	P	12 47 18.6	+8.0
VLA				S	S	12 53 12.5	+11
VLA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
USRK	**Ussuriysk Array**	**38.36**	**57**	LR	LR	13 04 00.7	
	comp=Z,107nm,18.2s,baz=68,slow=38						
FINES	**FINESS Array B**	**48.93**	**327**	P	**P**	**12 48 36.5**	**0.0**
FINES	**FINESS Array B**	**48.93**	**327**	P	**P**	**12 48 36.5**	**0.0**
	comp=Z,1.2nm,0.7s,baz=120,slow=8.2,SNR=3.1						
FINES				LR	LR	13 10 14.3	
	comp=Z,100nm,18.8s,baz=150,slow=37						
ARCES	**ARCESS Array B**	**51.02**	**337**	P	**P**	**12 48 51.4**	**-0.8**
ARCES	**ARCESS Array B**	**51.02**	**337**	P	**P**	**12 48 51.4**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=90,slow=7.2,SNR=2.7						
ARCES				LR	LR	13 10 23.2	
	comp=Z,46nm,20.7s,baz=273,slow=36						
SPITS	**Spitsbergen Ar**	**55.70**	**346**	LR	LR	13 18 22.8	
	comp=Z,59nm,18.1s,baz=80,slow=42						
GERES	**GERESS Array B**	**56.05**	**311**	P	**P**	**12 49 30.6**	**+1.0**
GERES	**GERESS Array B**	**56.05**	**311**	P	**P**	**12 49 30.6**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=72,slow=4.3,SNR=9.9						
GERES				LR	LR	13 16 04.7	
	comp=Z,59nm,18.1s,baz=98,slow=39						
NB2	**NORSAR Subarra**	**56.06**	**326**	P	**P**	**12 49 29.5**	**+0.1**
	comp=Z,3.7nm,1.1s,baz=87,slow=7.4						
NOA	**NORSAR Array B**	**56.06**	**326**	P	**P**	**12 49 29.9**	**+0.5**
NOA	**NORSAR Array B**	**56.06**	**326**	P	**P**	**12 49 29.9**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=87,slow=7.1,SNR=7.7						
NOA				LR	LR	13 14 24.4	
	comp=Z,74nm,19.5s,baz=100,slow=37						
LPG	**La Plagne**	**61.43**	**308**	*e*P	**P**	**12 50 07.9**	**+0.6**
	comp=Z,15nm,0.8s						
LPL	**La Plagne**	**61.44**	**308**	*e*P	**P**	**12 50 07.8**	**+0.6**
	comp=Z,11nm,0.7s						
VIVF	**Saint-Julien-l**	**63.02**	**308**	*e*P	**P**	**12 50 17.9**	**+0.3**
TCF	**Toulx Ste Croi**	**64.22**	**310**	*e*P	**P**	**12 50 26.0**	**+0.5**
	comp=Z,8.9nm,0.8s						
MTLF	**Montolieu**	**65.19**	**307**	*e*P	**P**	**12 50 32.1**	**+0.3**
WRA	**Warramunga Arr**	**68.78**	**131**	P	**P**	**12 50 54.2**	**-0.7**
WRA	**Warramunga Arr**	**68.78**	**131**	P	**P**	**12 50 54.2**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=327,slow=6.4,SNR=5.8						
WRAB	**Tennant Creek**	**68.78**	**131**	*e*P	**P**	**12 50 55.5**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WRAB	**Tennant Creek**	**68.78**	**131**	*e*P	**P**	**12 50 55.5**	**+0.6**
	comp=Z,2.7nm,0.8s						
ASAR	**Alice Springs**	**71.22**	**134**	P	**P**	**12 51 11.3**	**+1.5**
ASAR	**Alice Springs**	**71.22**	**134**	P	**P**	**12 51 11.3**	**+1.5**
	comp=Z,1.7nm,0.6s,baz=318,slow=6.0,SNR=24						
ILAR	**Eielson Array**	**76.09**	**21**	P	**P**	**12 51 38.1**	**+0.3**
ILAR	**Eielson Array**	**76.09**	**21**	P	**P**	**12 51 38.1**	**+0.3**
	comp=Z,0.9nm,1.0s,baz=319,slow=4.9,SNR=4.8						
INK	**Inuvik**	**76.76**	**14**	LR	LR	13 32 13.1	
	comp=Z,48nm,18.3s,baz=8.0,slow=41						
TORD	**Torodi Ar. Bea**	**78.43**	**278**	P	**P**	**12 51 51.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**78.43**	**278**	P	**P**	**12 51 51.9**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=50,slow=4.3,SNR=7.9						
TORD				LR	LR	13 30 29.6	
	comp=Z,72nm,19.8s,baz=175,slow=39						
YKA	**Yellowknife Ar**	**85.39**	**9**	P	**P**	**12 52 28.8**	**+1.3**
YKA	**Yellowknife Ar**	**85.39**	**9**	P	**P**	**12 52 28.8**	**+1.3**
	comp=Z,1.6nm,0.8s,baz=47,slow=7.6,SNR=3.2						
DBIC	**Dimbokro**	**87.23**	**276**	LR	LR	13 38 17.7	
	comp=Z,50nm,18.4s,baz=173,slow=40						

FUNV 24 12:47:10.3,11.57N×70.46W,h26km,MW3.5,3C-3D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MONV	**Montecano**	**0.61**	**51**	⇑*i*P	Pb	12 47 22.7	+0.3
MONV				*e*S	Sb	12 47 31.4	+0.7
DABV	**Dabajuro**	**0.67**	**195**	⇓*e*P	Pb	12 47 23.6	+0.2
DABV				*e*S	Sb	12 47 32.1	-0.2
IMOV	**Isla Los Monje**	**0.90**	**331**	⇓*e*P	Pb	12 47 27.0	-0.3
IMOV				*e*S	Sb	12 47 38.7	-0.1
SIQV	**Siquisique**	**1.12**	**145**	*e*P	Pn	12 47 29.5	-0.9
SIQV				*e*S	Sn	12 47 44.7	-0.2
QARV	**Quebrada Arrib**	**1.36**	**183**	*e*P	Pn	12 47 34.0	+0.3
QARV				*e*S	Sn	12 47 50.4	-0.5
CURV	**Curarigua**	**1.62**	**162**	⇑*e*P	Pn	12 47 37.0	-0.4
CURV				*e*S	Sn	12 47 56.1	-1.4
JACV	**Jacura**	**1.67**	**107**	*e*P	Pn	12 47 37.7	-0.2
JACV				*e*S	Sn	12 47 57.5	-1.1
TEPV	**Terepaima**	**2.02**	**142**	*e*P	Pn	12 47 42.8	-0.1
TEPV				*e*S	Sn	12 48 05.1	-2.3
VIRV	**Villa del Rosa**	**2.19**	**241**	⇑*e*P	Pn	12 47 43.8	-1.3
VIRV				*e*S	Sn	12 48 10.3	-1.1
SANV	**Sanarito**	**2.25**	**156**	*e*P	Pn	12 47 45.9	-0.2
SANV				*e*S	Sn	12 48 11.3	-1.8
MAPV	**Macapo**	**2.62**	**131**	*e*P	Pn	12 47 50.6	-0.4
MAPV				*e*S	Sn	12 48 19.4	-2.7
TURV	**Turiamo**	**2.80**	**113**	*e*P	Pn	12 47 52.0	-1.5
VIGV	**El Vigia**	**2.86**	**198**	*e*P	Pn	12 47 54.0	-0.3
VIGV				*e*S	Sn	12 48 26.0	-1.9
SOCV	**Socops**	**3.29**	**187**	*e*P	Pn	12 48 00.1	-0.2
SOCV				*e*S	Sn	12 48 35.8	-2.9
BAUV	**El Baul**	**3.53**	**137**	*e*P	Pn	12 48 03.0	-0.5
BAUV				*e*S	Sn	12 48 40.6	-3.9
CAPV	**Capacho**	**4.11**	**207**	*e*P	Pn	12 48 10.3	-1.6
ORCV	**Isla La Orchil**	**4.18**	**86**	*e*P	Pn	12 48 10.7	-1.8
BIRV	**Birongo**	**4.25**	**104**	⇓*e*P	Pn	12 48 12.0	-1.5
BIRV				*e*S	Sn	12 48 58.8	-3.6
MERV	**Las Mercedes**	**4.70**	**119**	*e*P	Pn	12 48 18.1	-1.5
MERV				*e*S	Sn	12 49 08.5	-4.8
CUPV	**Cœpira**	**4.83**	**108**	*e*P	Pn	12 48 20.6	-0.9

IDC 24 12:50:01.1±15.0,12.31S×167.11E,h283km±152km,mb3.3/5,mb1 3.6/5,mb1mx3.2/19,mbtmp3.3/5,Error ellipse: s-maj=106.6km s-min=45.4km az=153.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.34**	**252**	P	P	12 56 03.6	-1.0
	0.5nm,0.6s,baz=84,slow=9.1,SNR=3.2						
ASAR	**Alice Springs**	**33.45**	**246**	P	P	12 56 14.8	+0.5
	0.6nm,0.7s,baz=70,slow=9.8,SNR=9.7						
ILAR	**Eielson Array**	**84.29**	**18**	P	P	13 02 00.6	-0.3
	2.7nm,0.6s,baz=245,slow=5.2,SNR=49						
NVAR	**Mina Array Bea**	**85.82**	**49**	P	P	13 02 09.9	+0.4
	0.6nm,0.8s,baz=241,slow=9.7,SNR=4.7						
MKAR	**Makanchi Array**	**95.35**	**317**	P	P	13 02 54.2	+0.8
	0.5nm,0.6s,baz=98,slow=5.8,SNR=5.2						
ARCES	**ARCESS Array B**	**117.88**	**346**	PKP	PKPdf	13 08 12.6	-0.9
	3.2nm,1.1s,baz=76,slow=2.2,SNR=7.1						

IDC 24 13:19:10.4±1.9,22.28N×144.13E,h0km,mb3.7/8,mb1 3.8/8,mb1mx3.6/24,mbtmp3.7/8,Error ellipse: s-maj=92.2km s-min=18.3km az=79.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**39.46**	**320**	P	P	13 26 43.1	+0.5
	0.3nm,0.4s,baz=127,slow=7.9,SNR=2.7						
WRA	**Warramunga Arr**	**43.04**	**194**	P	P	13 27 12.7	+0.7
	0.6nm,0.6s,baz=16,slow=8.9,SNR=12						
ASAR	**Alice Springs**	**46.74**	**193**	P	P	13 27 41.4	-0.1
	0.2nm,0.3s,baz=9.7,slow=12,SNR=4.1						
STKA	**Stephens Creek**	**53.90**	**183**	P	P	13 28 34.5	-1.1
	0.6nm,0.4s,baz=297,slow=5.6,SNR=4.4						
ZALV	**Zalesovo Beam**	**54.31**	**321**	P	P	13 28 37.7	-0.7
	0.4nm,0.4s,baz=103,slow=6.5,SNR=2.9						
MKAR	**Makanchi Array**	**54.96**	**312**	P	P	13 28 42.9	-0.4
	0.2nm,0.4s,baz=110,slow=8.1,SNR=2.9						
ARCES	**ARCESS Array B**	**78.65**	**342**	P	P	13 31 15.7	+1.7
	1.7nm,0.8s,baz=39,slow=7.8,SNR=4.8						
FINES	**FINESS Array B**	**83.04**	**335**	P	P	13 31 36.1	-1.3
	0.4nm,0.3s,baz=46,slow=5.5,SNR=7.1						

IDC 24 13:22:37.6±1.2,0.37N×129.31E,h0km,mb4.0/5,mb1 4.1/7,mb1mx3.8/23,mbtmp4.0/7,ML3.5/2,MS3.1/2,Ms1 3.1/2,ms1mx2.5/30,Error ellipse: s-maj=49.2km s-min=18.2km az=71.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**10.94**	**241**	Pn	Pn	13 25 17.0	+1.4
	0.8nm,0.3s,baz=60,slow=16,SNR=3.2						
FITZ	**Fitzroy Crossi**	**18.71**	**191**	P	P	13 26 57.2	-0.6
	0.1nm,0.3s,baz=30,slow=14,SNR=2.9						
FITZ				LR	LR	13 34 47.2	
	comp=Z,32nm,19.1s,baz=317,slow=39						
WRA	**Warramunga Arr**	**20.78**	**167**	P	P	13 27 20.3	-0.2
	3.2nm,0.8s,baz=345,slow=10,SNR=13						
ASAR	**Alice Springs**	**24.31**	**170**	P	P	13 27 57.5	+0.4
	9.3nm,0.9s,baz=347,slow=9.8,SNR=60						
STKA	**Stephens Creek**	**34.12**	**161**	P	P	13 29 23.8	-0.5
	1.6nm,0.5s,baz=350,slow=10,SNR=6.5						
MKAR	**Makanchi Array**	**61.77**	**325**	P	P	13 32 58.3	+0.1
	0.7nm,0.6s,baz=121,slow=8.1,SNR=6.8						
ZALV	**Zalesovo Beam**	**64.73**	**333**	LR	LR	14 06 35.8	
	comp=Z,23nm,18.5s,baz=160,slow=41						
KURBB	**Kurchatov Array**	**65.94**	**327**	P	P	13 33 25.4	-0.2
	1.0nm,0.6s,baz=127,slow=6.0,SNR=15						

*AUST **24** 13:28:37.9±1.2,45.40S×166.54E,h0km,Error ellipse: s-maj=1.4km s-min=0.9km az=2.0*
*IDC **24** 13:28:37.6±1.3,45.40S×166.78E,h0km,mb3.5/2,mb1 4.0/4,mb1mx3.8/16,mbtmp4.0/4,ML4.2/2,MS3.2/2,Ms1 3.1/2,ms1mx2.8/15,Error ellipse: s-maj=46.0km s-min=23.1km az=168.0*
*ISCJB **24** 13:28:39.5±0.8,45.29S±0.03×166.75E±0.05,h21km±6km,mb3.5/2,MS3.0/2,Error ellipse: s-maj=6.7km s-min=5.2km az=144.4*
*NEIC **24** 13:28:40.7,45.40S×166.75E,h12km,ML4.7(WEL),After WEL.*
*WEL **24** 13:28:40.3±0.1,45.39S×166.72E,h24km,ML4.6/29,Error ellipse: s-maj=1.3km s-min=0.8km az=90.0*
WEL Felt from Otago to Fiordland, maximum reported intensity MM 4.

ISC 24 13:28:40.2±1.2,45.35S±0.05×166.75E±0.05,h17km±7km,n87,σ1ᵎ15/95,3C-5D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.32**	**115**	P*	**Pg**	**13 28 47.3**	**+0.4**
DCZ				S*	**Sg**	**13 28 52.0**	**+0.6**
DCZ	**Deep Cove**	**0.32**	**115**	⇓P*	**Pg**	**13 28 47.3**	**+0.4**
DCZ				S*	**Sg**	**13 28 52.0**	**+0.6**
DCZ				AML	AML	13 28 52.2	
DCZ				AML	AML	13 28 52.5	
DCZ				AML	AML	13 28 52.5	
WHZ	**Wether Hill Ro**	**1.01**	**123**	P*	**Pb**	**13 28 58.4**	**-0.8**
WHZ				S*	**Sb**	**13 29 11.6**	**-0.6**
WHZ	**Wether Hill Ro**	**1.01**	**123**	PN	**Pb**	**13 28 58.3**	**-0.8**
WHZ				SN	**Sb**	**13 29 11.6**	**-0.6**
WHZ				AML	AML	13 29 12.0	
MLZ	**Mavora Lakes**	**1.01**	**91**	P*	**Pb**	**13 28 58.1**	**-1.1**
MLZ				S*	**Sb**	**13 29 11.2**	**-1.0**
MLZ	**Mavora Lakes**	**1.01**	**91**	⇑PN	**Pb**	**13 28 58.1**	**-1.1**
MLZ				SN	**Sb**	**13 29 11.2**	**-1.0**
MLZ				AML	AML	13 29 12.9	
MSZ	**Milford Sound**	**1.08**	**52**	P*	**Pb**	**13 28 58.4**	**-1.9**
MSZ	**Milford Sound**	**1.08**	**52**	PN	**Pb**	**13 28 58.4**	**-1.9**
MSZ				AML	AML	13 29 21.4	
MSZ				AML	AML	13 29 21.4	
MSZ				AML	AML	13 29 24.5	
MSZ				AML	AML	13 29 24.6	
WKZ	**Wanaka**	**1.69**	**73**	Pn	**Pn**	**13 29 09.7**	**+0.6**
WKZ	**Wanaka**	**1.69**	**73**	⇓PN	**Pn**	**13 29 09.6**	**+0.6**
WKZ				AML	AML	13 29 41.0	
WKZ				AML	AML	13 29 41.1	
WKZ				AML	AML	13 29 44.6	
WKZ				AML	AML	13 29 44.6	
APZ	**The Paps**	**1.72**	**150**	Pn	**Pn**	**13 29 09.7**	**+0.3**
APZ	**The Paps**	**1.72**	**150**	⇓PN	**Pn**	**13 29 09.6**	**+0.2**
EAZ	**Earnscleugh**	**1.81**	**87**	Pn	**Pn**	**13 29 11.4**	**+0.7**
EAZ	**Earnscleugh**	**1.81**	**87**	⇑PN	**Pn**	**13 29 11.2**	**+0.5**
EAZ				AML	AML	13 29 38.9	
EAZ				AML	AML	13 29 39.0	
EAZ				AML	AML	13 29 40.0	
EAZ				AML	AML	13 29 40.0	
JCZ	**Jackson Bay**	**1.92**	**49**	Pn	**Pn**	**13 29 12.5**	**+0.4**
JCZ	**Jackson Bay**	**1.92**	**49**	⇑PN	**Pn**	**13 29 12.3**	**+0.2**
JCZ				AML	AML	13 29 45.5	
JCZ		

NNZ				AML	AML	13 32 22.3		
NNZ				AML	AML	13 32 45.0		
TUWZ	**Tuamarina**	**6.54**	**56**	Pn	**Pn**	**13 30 17.7**	**+2.1**	
TUWZ	**Tuamarina**	**6.54**	**56**	PN	**Pn**	**13 30 17.7**	**+2.1**	
TUWZ				AML	AML	13 31 37.4		
TCW	**Tory Channel**	**6.87**	**56**	Pn	**Pn**	**13 30 22.6**	**+2.5**	
TCW	**Tory Channel**	**6.87**	**56**	PN	**Pn**	**13 30 22.6**	**+2.5**	
TCW				AML	AML	13 31 45.6		
TCW				AML	AML	13 31 45.8		
DUWZ	**D'Urville Isla**	**6.94**	**52**	Pn	**Pn**	**13 30 23.1**	**+2.0**	
DUWZ	**D'Urville Isla**	**6.94**	**52**	PN	**Pn**	**13 30 23.1**	**+2.0**	
DUWZ				AML	AML	13 31 48.6		
DUWZ				AML	AML	13 31 49.8		
CAW	**Cannon Point**	**7.41**	**58**	Pn	**Pn**	**13 30 27.8**	**+0.3**	
CAW	**Cannon Point**	**7.41**	**58**	PN	**Pn**	**13 30 27.8**	**+0.3**	
CAW				AML	AML	13 31 56.3		
CAW				AML	AML	13 31 56.5		
KHEZ	**Kahui Hut**	**8.10**	**44**	PN	**Pn**	**13 30 38.9**	**+1.8**	
NEZ	**North Egmont**	**8.15**	**44**	PN	**Pn**	**13 30 39.5**	**+1.7**	
PKE	**Pukeiti**	**8.16**	**44**	PN	**Pn**	**13 30 38.7**	**+0.9**	
WAZ	**Wanganui**	**8.26**	**50**	Pn	**Pn**	**13 30 41.7**	**+2.5**	
WAZ	**Wanganui**	**8.26**	**50**	PN	**Pn**	**13 30 41.6**	**+2.5**	
WAZ				AML	AML	13 32 27.9		
HIZ	**Hauiti**	**9.11**	**44**	Pn	**Pn**	**13 30 51.9**	**+1.0**	
HIZ	**Hauiti**	**9.11**	**44**	PN	**Pn**	**13 30 51.8**	**+0.9**	
HIZ				AML	AML	13 31 03.5		
HIZ				AML	AML	13 32 56.9		
MKAZ	**Moumakai**	**10.38**	**41**	Pn	**Pn**	**13 31 08.4**	**+0.1**	
MKAZ	**Moumakai**	**10.38**	**41**	PN	**Pn**	**13 31 08.3**	**0.0**	
URZ	**Urewera**	**10.48**	**51**	Pn	**Pn**	**13 31 09.5**	**-0.1**	
URZ	**Urewera**	**10.48**	**51**	Pn	**Pn**	**13 31 09.5**	**-0.1**	
	0.4nm,0.3s,baz=300,slow=20,SNR=3.2							
WCZ	**Waipu Caves**	**11.02**	**34**	Pn	**Pn**	**13 31 16.6**	**-0.4**	
WCZ	**Waipu Caves**	**11.02**	**34**	PN	**Pn**	**13 31 16.6**	**-0.4**	
MILA	**Mila**	**15.59**	**296**	P	**Pn**	**13 32 16.7**	**-2.5**	
	baz=16,SNR=10							
TOO	**Toolangi**	**17.69**	**289**	P	**P**	**13 32 47.5**	**+1.0**	
	baz=18,SNR=7.5							
STKA	**Stephens Creek**	**23.70**	**296**	LR	LR	13 41 41.0		
	comp=Z,47nm,21.2s,baz=133,slow=33							
VNDA	**Vanda**	**32.34**	**182**	LR	LR	13 45 57.7		
	comp=Z,44nm,19.2s,baz=356,slow=32							
ASAR	**Alice Springs**	**34.28**	**298**	P	**P**	**13 35 26.9**	**+1.3**	
ASAR	**Alice Springs**	**34.28**	**298**	P	**P**	**13 35 26.9**	**+1.3**	
	0.7nm,0.8s,baz=126,slow=8.3,SNR=3.5							
WRA	**Warramunga Arr**	**36.82**	**303**	P	**P**	**13 35 47.3**	**0.0**	
WRA	**Warramunga Arr**	**36.82**	**303**	P	**P**	**13 35 47.3**	**0.0**	
	0.3nm,0.5s,baz=137,slow=6.3,SNR=3.2							
MTN	**Manton Dam**	**44.29**	**306**	P	P	13 37 04.1	+15	
	baz=44,SNR=3.7							
QSPA	**South Pole Qui**	**44.78**	**180**	*eP*	**P**	**13 36 52.6**	**-0.1**	
PLCA	**Paso Flores**	**80.14**	**140**	*eP*	**P**	**13 40 50.9**	**+1.5**	
BRTR	**Keskin Array B**	**145.38**	**278**	PKPbc	**PKPab**	**13 48 17.2**	**+0.2**	
BRTR	**Keskin Array B**	**145.38**	**278**	PKPbc	**PKPab**	**13 48 17.2**	**+0.2**	
	1.5nm,0.7s,baz=141,slow=4.3,SNR=8.3							
TORD	**Torodi Ar. Bea**	**145.48**	**206**	PKPbc	**PKPbc**	**13 48 17.1**	**-0.4**	
TORD	**Torodi Ar. Bea**	**145.48**	**206**	PKPbc	**PKPbc**	**13 48 17.1**	**-0.4**	
	9.7nm,0.6s,baz=140,slow=2.3,SNR=97							
ARCES	**ARCESS Array B**	**148.99**	**335**	PKPbc	**PKPbc**	**13 48 24.4**	**-1.5**	
ARCES	**ARCESS Array B**	**148.99**	**335**	PKPbc	**PKPbc**	**13 48 24.4**	**-1.5**	
	3.0nm,0.8s,baz=0.0,slow=1.5,SNR=6.6							
FINES	**FINESS Array B**	**152.12**	**319**	PKPbc	**PKPbc**	**13 48 33.2**	**-0.3**	
FINES	**FINESS Array B**	**152.12**	**319**	PKPbc	**PKPbc**	**13 48 33.2**	**-0.3**	
	1.7nm,0.6s,baz=106,slow=6.2,SNR=8.9							

IDC 24 13:36:40.3±7.9, 3°.25N×128°.68E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/22, mbtmpg3.7/4, Error ellipse: s-maj=129.2km s-min=98.6km az=140.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.43**	**188**	P	P	13 41 30.7	+0.6
	2.3nm,1.1s,baz=16,slow=7.4,SNR=3.3						
WRA	**Warramunga Arr**	**23.71**	**167**	P	P	13 41 52.7	-1.4
	1.6nm,0.6s,baz=345,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**27.23**	**169**	P	P	13 42 26.9	+0.6
	0.4nm,0.7s,baz=359,slow=9.3,SNR=6.4						
STKA	**Stephens Creek**	**37.03**	**162**	P	P	13 43 52.0	+0.1
	1.1nm,0.4s,baz=358,slow=8.7,SNR=7.3						

NNC 24 13:36:54.7±0.8, 50°.58N×73°.57E, h0km, mb3.5, mpv3.2, 10C-5D, Error ellipse: s-maj=15.5km s-min=8.2km az=35.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOSK	**Vostochnaya**	**2.68**	**324**	⇑Pn	Pn	13 37 37.7	-1.5
	7.2nm,0.5s						
VOSK				⇓Sn	Sn	13 38 10.0	-2.3
	63nm,1.1s						
BVA0	**Borovoye Array**	**3.14**	**322**	⇑Pn	Pn	13 37 45.7	+0.3
	4.0nm,0.7s,baz=140,slow=19,SNR=22						
BVA0				⇑Pg	Pb	13 37 49.5	-2.0
	6.3nm,0.7s,baz=135,slow=16,SNR=5.3						
BVA0				⇓Sn	Sb	13 38 27.1	-3.2
	101nm,1.1s						
KURBB	**Kurchatov Arra**	**3.16**	**87**	⇓Pn	Pn	13 37 45.9	+0.2
	7.9nm,0.7s						
KURBB				⇑Pg	Pg	13 37 53.9	-1.4
	13nm,0.5s						
KURBB				⇑Lg	Lg	13 38 30.4	
	163nm,1.0s						
BRVK	**Borovoye**	**3.21**	**322**	⇑Pn	Pn	13 37 48.2	+1.9
	7.8nm,0.5s						
BRVK				⇑Lg	Lg	13 38 23.6	
	71nm,0.7s						
MK31	**Makanchi Array**	**6.91**	**120**	⇑Pn	Pn	13 38 39.8	+2.6
	0.7nm,0.7s						
MK31				⇓Pg	Pb	13 38 57.6	+2.1
	0.6nm,0.5s						
MK31				⇓Lg	Lg	13 40 30.5	
	20nm,0.9s						
KK31	**Karatay Array**	**7.77**	**197**	⇑Pn	Pn	13 38 51.7	+2.7
	0.2nm,0.3s,baz=290,slow=15,SNR=6.4						
KK31				⇑Lg	Lg	13 41 02.1	
	7.7nm,0.8s						

WEL 24 14:03:47.8±0.3, 46°.15S×165°.85E, h33km, ML3.6/14, Error ellipse: s-maj=3.0km s-min=2.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.13**	**54**	PN	Pn	14 04 07.1	-0.3
DCZ				AML	AML	14 04 22.0	
DCZ				AML	AML	14 04 22.3	
DCZ				AML	AML	14 04 26.9	
DCZ				AML	AML	14 04 27.3	
WHZ	**Wether Hill Ro**	**1.48**	**81**	PN	Pn	14 04 13.3	+1.1
WHZ				SN	Sb	14 04 32.6	-0.8
WHZ				AML	AML	14 04 41.1	
APZ	**The Paps**	**1.63**	**116**	PN	Pn	14 04 15.1	+0.8
MLZ	**Mavora Lakes**	**1.81**	**65**	PN	Pn	14 04 18.5	+1.7
MLZ				AML	AML	14 04 46.2	
MLZ				AML	AML	14 04 48.0	
MSZ	**Milford Sound**	**2.08**	**45**	PN	Pn	14 04 22.1	+1.7
MSZ				AML	AML	14 05 04.1	
MSZ				AML	AML	14 05 04.3	
SYZ	**Scrubby Hill**	**2.31**	**101**	PN	Pn	14 04 25.5	+2.0
WKZ	**Wanaka**	**2.59**	**60**	PN	Pb	14 04 31.0	-2.7
WKZ				SN	Sn	14 05 01.3	+3.4
EAZ	**Earnscleugh**	**2.59**	**70**	PN	Pn	14 04 30.2	+2.8
EAZ				AML	AML	14 05 10.8	
EAZ				AML	AML	14 05 14.3	
TUZ	**Tuapeka**	**2.64**	**87**	PN	Pn	14 04 31.0	+2.9
TUZ				SN	Sn	14 05 02.1	+3.1
TUZ				AML	AML	14 05 05.2	
JCZ	**Jackson Bay**	**2.92**	**46**	PN	Pn	14 04 34.7	+2.6
JCZ				AML	AML	14 05 07.4	
JCZ				AML	AML	14 05 26.8	
ODZ	**Otahua Downs**	**3.54**	**74**	PN	Pn	14 04 41.2	+0.7

*ISCJB **24** 14:10:31.2±0.4, 10°.77N×0°.03×61°.97W×0°.03, h69km±6km, Error ellipse: s-maj=5.8km s-min=3.5km az=143.9*
*TRN **24** 14:10:34.0, 10°.85N×61°.88W, h48km, MD3.5*
*FUNV **24** 14:10:35.1, 10°.62N×61°.94W, h49km, MW3.6*
ISC 24 14:10:31.6±1.2, 10°.75N×61°.95W±0°.04, h71km±8km, n30, σ1§51/48, 1C-3D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.20**	**105**	⇓*eP*	**Pn**	**14 10 42.3**	**-0.1**
TCE				*eS*	**Sn**	**14 10 48.3**	**-2.0**
GUIV	**Guiria**	**0.29**	**250**	*eS*	**Sn**	**14 10 50.3**	**-0.8**
TRN	**Trinidad (W)**	**0.54**	**100**	⇑*eP*	**Pn**	**14 10 45.3**	**+0.3**
TRN	**Trinidad (W)**	**0.54**	**100**	*e*	Pn	14 10 49.8	+4.8
TRN				*eS*	**Sn**	**14 10 53.1**	**-1.7**
TPP	**Pointe-a-Pierr**	**0.65**	**131**	*eP*	**Pn**	**14 10 47.5**	**+1.5**
TPP				*eS*	**Sn**	**14 10 57.1**	**+0.4**
TBH	**Brigand Hill**	**0.90**	**107**	*eP*	**Pn**	**14 10 50.4**	**+1.3**
TBH				*eS*	**Sn**	**14 11 03.0**	**+1.0**
GUNV	**Guanoco**	**1.14**	**239**	⇓*eP*	**Pn**	**14 10 53.9**	**+1.9**
GUNV				*eS*	**Sn**	**14 11 06.9**	**-0.3**
TPR	**Prospect**	**1.23**	**69**	*eP*	**Pn**	**14 10 53.7**	**+0.6**
TPR				*eS*	**Sn**	**14 11 08.2**	**-1.0**
CRUV	**Carupano**	**1.27**	**267**	⇓*eP*	**Pn**	**14 10 54.6**	**+1.0**
CRUV				*eS*	**Sn**	**14 11 10.6**	**+0.5**
GRW	**Mount Saint Ca**	**1.43**	**11**	*eP*	**Pn**	**14 10 56.3**	**+0.4**
TOSP	**Speyside**	**1.49**	**68**	*eP*	**Pn**	**14 10 57.0**	**+0.5**
TOSP				*eS*	**Sn**	**14 11 14.3**	**-0.9**
GRHS	**Sauteurs**	**1.50**	**12**	*eS*	**Sn**	**14 11 14.1**	**-1.4**
GRSS	**Sisters**	**1.58**	**12**	*eP*	**Pn**	**14 10 58.2**	**+0.6**
GRSS				*eS*	**Sn**	**14 11 17.1**	**-0.2**
ORIV	**Oritupano**	**2.20**	**221**	*eP*	**Pn**	**14 11 07.2**	**+1.2**
ORIV				*eS*	**Sn**	**14 11 30.6**	**-1.8**
SVB	**Belmont**	**2.60**	**15**	*eP*	**Pn**	**14 11 12.8**	**+1.4**
SVB				*eS*	**Sn**	**14 11 39.9**	**-2.1**
RIOV	**Rio Grande**	**2.66**	**177**	*eP*	**Pn**	**14 11 13.2**	**+0.8**
RIOV				*eS*	**Sn**	**14 11 41.3**	**-2.3**
PCRV	**Puerto La Cruz**	**2.71**	**258**	*eP*	**Pn**	**14 11 14.7**	**+1.8**
PCRV				*eS*	**Sn**	**14 11 44.2**	**-0.4**
MCLT	**Moule a Chique**	**3.10**	**18**	*eP*	**Pn**	**14 11 19.2**	**+0.9**
MCLT				*eS*	**Sn**	**14 11 53.0**	**-1.4**
GURV	**El Guri**	**3.17**	**201**	*eP*	**Pn**	**14 11 20.1**	**+0.8**
PRGV	**PARIAGUAN**	**3.31**	**234**	*eP*	**Pn**	**14 11 22.8**	**+1.6**
PRGV				*eS*	**Sn**	**14 11 58.6**	**-0.8**
CUPV	**Cœpira**	**3.84**	**260**	*eP*	**Pn**	**14 11 30.6**	**+2.2**
CUPV				*eS*	**Sn**	**14 12 11.4**	**-1.0**
BIRV	**Birongo**	**4.26**	**267**	*eP*	**Pn**	**14 11 36.1**	**+2.1**
BIRV				*eS*	**Sn**	**14 12 22.1**	**-0.4**
MERV	**Las Mercedes**	**4.54**	**251**	*eP*	**Pn**	**14 11 39.2**	**+1.4**
MERV				*eS*	**Sn**	**14 12 27.3**	**-2.0**
LUEV	**Luepa**	**4.90**	**174**	*eP*	**Pn**	**14 11 44.0**	**+1.0**
TURV	**Turiamo**	**5.80**	**268**	*eP*	**Pn**	**14 11 57.4**	**+2.2**
BAUV	**El Baul**	**6.27**	**254**	*eP*	**Pn**	**14 12 02.0**	**+0.5**
BAUV				*eS*	**Sn**	**14 13 07.0**	**-4.8**
MAPV	**Macapo**	**6.47**	**262**	*eP*	**Pn**	**14 12 05.3**	**+1.0**
TEPV	**Terepaima**	**7.17**	**264**	*eP*	**Pn**	**14 12 14.7**	**+0.8**
MONV	**Montecano**	**7.96**	**279**	*eP*	**Pn**	**14 12 26.7**	**+2.0**
SOCV	**Socops**	**9.12**	**255**	*eP*	**Pn**	**14 12 40.1**	**-0.5**

*IDC **24** 14:26:54.4±0.5, 53°.81N×169°.02E, h0km, mb4.5/27, mb1 4.6/30, mb1mx4.6/34, mbtmpg4.5/30, ML4.3/3, MS3.7/16, Ms1 3.8/16, ms1mx3.6/29, Error ellipse: s-maj=14.2km s-min=8.0km az=6.0*
*MOS **24** 14:26:55.1±1.1, 53°.66N×169°.14E, h24km, mb4.9/55, Error ellipse: s-maj=7.3km s-min=5.4km az=114.3*
*KRSC **24** 14:26:56.3±0.2, 53°.60N×168°.71E, h21km±20km, ML5.1*
*ISCJB **24** 14:26:56.6±0.2, 53°.67N±0°.03×169°.09E±0°.02, h33km, mb4.7/146, MS4.0/31, Error ellipse: s-maj=4.4km s-min=1.8km az=10.3*
*NEIC **24** 14:26:59.2±0.7, 53°.71N×169°.23E, h46km±7km, mb4.7/44, Error ellipse: s-maj=11.1km s-min=4.3km az=174.0*
*BJI **24** 14:27:02.3, 54°.06N×168°.51E, h62km, mB4.9/25, mb4.9/38, Ms4.6/25, Ms7 4.2/24*
ISC 24 14:26:57.4±0.4, 53°.55N±0°.06×168°.92E±0°.03, h35km, n360, σ1§50/235, mb4.8/146, MS4.0/31, 29C-8D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.40**	**315**	PN	**Pn**	**14 27 33.7**	**-0.3**
BKI				S	**Sn**	**14 28 02.0**	**-0.1**
BKI	**Bering**	**2.40**	**315**	*eP*	**Pn**	**14 27 33.7**	**-0.3**
BKI				*i* S	**Sn**	**14 28 02.0**	**-0.1**
FX1	**Attu Island--F**	**2.64**	**103**	P	**Pn**	**14 27 36.5**	**-0.9**
FX1				S	**Sn**	**14 28 07.9**	**-0.2**
FX1	**Attu Island--F**	**2.64**	**103**	Pn	**Pn**	**14 27 36.5**	**-0.9**
	266nm,0.3s,baz=322,slow=6.5,SNR=1432						
FX1				Sn	**Sn**	**14 28 08.1**	**0.0**
	222nm,0.3s,baz=234,slow=23,SNR=12						
SMY	**Shemya**	**3.22**	**103**	PN	**Pn**	**14 27 45.5**	**+0.1**
SMY				S	**Sn**	**14 28 22.3**	**-0.3**
SMY	**Shemya**	**3.22**	**103**	P	**Pn**	**14 27 45.5**	**+0.1**
SMY				S	**Sn**	**14 28 22.2**	**-0.3**
KBG	**Krutoberegovo**	**4.50**	**310**	PN	Pn	14 28 03.9	+1.0
KBG	**Krutoberegovo**	**4.50**	**310**	*eP*	Pn	14 28 03.9	+1.0
KBG				*i* S	**Sn**	**14 28 53.8**	**-0.1**
SMKR	**Semkarok**	**5.25**	**308**	*eP*	Pn	14 28 15.0	+1.6
SMKR				*i* S	**Sn**	**14 29 12.7**	**0.0**
ZLN	**Zelenaya**	**5.31**	**301**	*i* P	Pn	14 28 16.3	+2.1
ZLN				*i* S	**Sn**	**14 29 14.2**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**5.33**	**300**	*i* P	Pn	14 28 16.7	+2.2
BZGR				*i* S	**Sn**	**14 29 15.3**	**+0.6**
SPN	**Mys Shipunski**	**5.35**	**269**	PN	Pn	14 28 16.4	+1.7
SPN	**Mys Shipunski**	**5.35**	**269**	*eP*	Pn	14 28 16.4	+1.7
SPN				*i* S	**Sn**	**14 29 13.3**	**-1.7**
BDR	**Baidarnaya**	**5.37**	**307**	*eP*	Pn	14 28 16.2	+1.3
BDR				*i* S	**Sn**	**14 29 14.6**	**-0.9**
CIRR	**Tsirk**	**5.38**	**302**	P	Pn	14 28 17.9	+2.7
CIRR				*i* S	Sn	14 29 17.6	+1.7
LGNR	**Loginova**	**5.40**	**301**	P	Pn	14 28 18.3	+2.8
SRKR	**Sorokina**	**5.43**	**308**	P	Pn	14 28 17.4	+1.6
SRKR				*i* S	**Sn**	**14 29 15.2**	**-1.9**
BZMR	**Bezymyannaya**	**5.44**	**299**	P	Pn	14 28 18.2	+2.2
BZMR				*i* S	**Sn**	**14 29 18.1**	**+0.8**
BZWR	**Bezymyannyi-We**	**5.45**	**300**	P	Pn	14 28 18.7	+2.6
BZWR				*i* S	**Sn**	**14 29 18.4**	**+0.8**
KMNR	**Kamenistaya**	**5.51**	**297**	P	Pn	14 28 19.0	+2.1
KMNR				*i* S	**Sn**	**14 29 18.7**	**-0.2**
KLY	**Klyuchi**	**5.51**	**303**	PN	Pn	14 28 17.8	+0.9
KLY	**Klyuchi**	**5.51**	**303**	*i* P	Pn	14 28 17.8	+0.9
KLY				*i* S	**Sn**	**14 29 16.7**	**-2.3**
KRSR	**Krestovskiy**	**5.52**	**302**	*eP*	Pn	14 28 19.0	+2.0
KIRR	**Kirishev**	**5.52**	**299**	P	Pn	14 28 19.8	+2.7
KIRR				*i* S	Sn	14 29 20.8	+1.4
KPT	**Kopyto**	**5.59**	**299**	*i* P	Pn	14 28 20.5	+2.5
KPT				*i* S	**Sn**	**14 29 22.2**	**+1.2**
NLC	**Nalytchevo**	**5.75**	**270**	PN	Pn	14 28 21.9	+1.8
NLC	**Nalytchevo**	**5.75**	**270**	*i* P	Pn	14 28 21.9	+1.8
NLC				*i* S	**Sn**	**14 29 22.7**	**-2.0**
KOZR	**Kozyr**	**5.80**	**299**	PN	Pn	14 28 23.6	+2.8
KOZ	**Kozyrevsk**	**5.81**	**299**	*i* P	Pn	14 28 23.6	+2.7
SRDR	**Sredinnyy**	**5.99**	**301**	P	Pn	14 28 26.1	+2.7
LSNW	**Little Sitkin**	**6.04**	**101**	P	**Pn**	**14 28 23.9**	**-0.1**
LSSA	**Little Sitkin**	**6.04**	**101**	P	**Pn**	**14 28 25.6**	**+1.4**
UGLR	**Uglovaya**	**6.05**	**271**	P	Pn	14 28 26.8	+2.4
UGLR				*i* S	**Sn**	**14 29 30.5**	**-1.9**
SMAR	**Somma**	**6.06**	**271**	*eP*	Pn	14 28 26.7	+2.1
SMAR				*i* S	**Sn**	**14 29 30.5**	**-2.3**
LSPA	**Little Sitkin**	**6.07**	**101**	P	**Pn**	**14 28 25.1**	**+0.5**
KRER	**Koryakskii**	**6.09**	**272**	P	Pn	14 28 27.3	+2.4
KRER				*i* S	**Sn**	**14 29 31.9**	**-1.5**
AVK	**Avacha**	**6.10**	**271**	P	Pn	14 28 27.4	+2.4
KOK	**Koryaka**	**6.16**	**272**	P	Pn	14 28 27.8	+2.0
KOK				*i* S	**Sn**	**14 29 33.4**	**-1.5**
PET	**Petropavlovsk**	**6.18**	**269**	⇓*i*PN	Pn	14 28 28.3	+2.3
PET				pmax	pmax		
	comp=Z,100nm,1.4s						
PET				pmax	pmax		
	comp=Z,103nm,0.5s						
PET				MLR	MLR		
	comp=Z,600nm,17.0s						
PET				MLR	MLR		
	comp=Z,700nm,15.0s						
PET	**Petropavlovsk**	**6.18**	**269**	*eP*	Pn	14 28 28.6	+2.6
PET				*i* S	**Sn**	**14 29 33.4**	**-2.0**
ESO	**Esso**	**6.38**	**296**	PN	Pn	14 28 30.5	+1.7
ESO	**Esso**	**6.38**	**296**	*eP*	Pn	14 28 30.5	+1.7
ESO				*i* S	**Sn**	**14 29 38.9**	**-1.5**
RUS	**Russkaya**	**6.38**	**264**	PN	Pn	14 28 30.9	+2.1
RUS	**Russkaya**	**6.38**	**264**	P	Pn	14 28 30.9	+2.1
RUS				*i* S	**Sn**	**14 29 37.9**	**-2.5**
GNL	**Ganaly**	**6.54**	**276**	P	Pn	14 28 33.8	+2.8
GNL				*i* S	**Sn**	**14 29 44.1**	**-0.2**
MTVR	**Mutnovka**	**6.57**	**265**	*eP*	Pn	14 28 33.5	+2.0
MTVR				*i* S	**Sn**	**14 29 43.2**	**-1.9**

CETU	**Semis' Tuman**	**6.61**	**100**	P	**Pn**	**14 28 32.8**	**+0.8**	
GRL	**Gorelyy**	**6.62**	**266**	P	Pn	14 28 35.6	+3.5	
GRL				*i* S	**Sn**	**14 29 46.6**	**+0.3**	
CEAP	**Semis' Anvil P**	**6.65**	**99**	P	**Pn**	**14 28 33.8**	**+1.3**	
CESW	**Semis' Southwe**	**6.67**	**100**	P	**Pn**	**14 28 32.7**	**0.0**	
AMKA	**Amchitka**	**6.71**	**105**	P	**Pn**	**14 28 34.5**	**+1.3**	
AMKA				S	**Sn**	**14 29 49.7**	**+1.4**	
PEA0B	**Petropavlovsk-**	**6.74**	**271**	*e*Pn	Pn	14 28 35.4	+1.7	
PETK	**Petropavlovsk-**	**6.74**	**271**	PN	Pn	14 28 36.3	+2.6	
PETK				pmax	pmax			
	comp=Z,26nm,0.3s							
PETK	**Petropavlovsk-**	**6.74**	**271**	Pn	Pn	14 28 36.3	+2.6	
PETK				Sn	**Sn**	**14 29 50.4**	**+1.2**	
PETK	**Petropavlovsk-**	**6.74**	**271**	Pn	Pn	14 28 36.3	+2.6	
	comp=Z,26nm,0.3s,baz=85,slow=18,SNR=518							
PETK				Sn	**Sn**	**14 29 50.4**	**+1.2**	
	comp=Z,18nm,0.3s,baz=117,slow=12,SNR=8.1							
CERAA	**Semis' Rag'd T**	**6.74**	**100**	P	**Pn**	**14 28 33.7**	**0.0**	
ASAK	**Asacha**	**6.76**	**265**	P	Pn	14 28 36.7	+2.6	
ASAK				*i* S	**Sn**	**14 29 48.4**	**-1.4**	
TILK	**Tilichiki**	**7.08**	**349**	*i* P	Pn	14 28 40.5	+2.2	
TILK				*i* S	**Sn**	**14 29 56.2**	**-1.3**	
APC	**Apacha**	**7.09**	**270**	*i* P	Pn	14 28 41.6	+3.1	
APC				*i* S	**Sn**	**14 29 58.2**	**+0.5**	
PALN	**Palana**	**7.46**	**322**	*eP*	Pn	14 28 45.3	+1.8	
PALN				*i* S	**Sn**	**14 30 04.1**	**-2.6**	
MIPR	**Malaya Ipel'ka**	**7.47**	**265**	*eP*	Pn	14 28 46.9	+3.2	
GANE	**Gareloi Northe**	**7.68**	**98**	P	**Pn**	**14 28 46.9**	**+0.4**	
PAU	**Pauzhetka**	**7.68**	**259**	PN	Pn	14 28 50.0	+3.4	
PAU	**Pauzhetka**	**7.68**	**259**	*eP*	Pn	14 28 50.0	+3.4	
PAU				*i* S	**Sn**	**14 30 12.6**	**+0.4**	
SKR	**Severo-Kuril's**	**8.39**	**255**	*e*PN	**Pn**	**14 28 55.5**	**-0.7**	
SKR				pmax	pmax			
	comp=E,60nm,0.5s							
SKR				pmax	pmax			
	comp=Z,90nm,0.5s							
SKR				MLR	MLR			
	comp=N,1μm,14.0s							
SKR				MLR	MLR			
	comp=E,800nm,14.0s							
SKR				MLR	MLR			
	comp=Z,800nm,14.0s							
SKR	**Severo-Kuril's**	**8.39**	**255**	*e*P	Pn	14 28 58.0	+1.8	
ADK	**Adak**	**8.90**	**95**	*e*PN	**Pn**	**14 29 02.9**	**-0.4**	
ADK	**Adak**	**8.90**	**95**	*e*Pn	**Pn**	**14 29 02.9**	**-0.4**	
ATKA	**Atka Island**	**10.30**	**91**	*e*Pn	**Pn**	**14 29 22.7**	**+0.3**	
UNV	**Unalaska Valle**	**14.54**	**79**	*e*Pn	**Pn**	**14 30 17.5**	**-2.9**	
YUK	**Yuzh-Kuril'sk**	**17.85**	**247**	*e*P	**P**	**14 31 01.3**	**-1.9**	
YUK				*i* S	**Sn**	**14 34 17.4**	**-3.1**	
YUK				MLR	MLR			
	comp=E,189nm,18.0s							
YUK				MLR	MLR			
	comp=Z,113nm,18.0s							
YUK				MLR	MLR			
	comp=N,27nm,18.0s							
YSS	**Yuzh-Sakhalins**	**17.92**	**259**	*e*P	P	14 31 08.0	+4.1	
ASAJ	**Asahikawa**	**19.63**	**252**	*e*P	**Pn**	**14 31 24.8**	**+0.6**	
	comp=N,10nm,1.1s							
ASAJ	**Asahikawa**	**19.63**	**252**	P	**Pn**	**14 31 25.5**	**+1.3**	
	comp=N,0.7nm,0.3s,baz=43,slow=9.0,SNR=10.0							
ASAJ				LR	LR	14 38 36.9		
	comp=N,63nm,21.6s,baz=353,slow=36							
OHAK	**Old Harbor**	**21.59**	**65**	*e*P	**P**	**14 31 40.5**	**-3.2**	
	comp=N,43nm,1.0s							
HABR	**Khabarovsk**	**21.77**	**270**	*c*e*P	**P**	**14 31 45.7**	**0.0**	
HABR				*e**PP	pP	14 31 58.4	+3.4	
HABR				*e*		14 32 08.8		
HABR				*e*		14 35 42.7		
HABR				*e*S	**S**	**14 35 44.1**	**-0.3**	
HABR				*e*		14 42 58.8		
HABR				pmax	pmax			
	comp=Z,37nm,1.0s							
HABR				pmax	pmax			
	comp=E,23nm,0.9s							
HABR				pm

CLNS MLR MLR
comp=E,395nm,15.0s
TIXI Tiksi 25.07 331 ⇓*i*P **P 14 32 18.7 +0.7**
TIXI pmax pmax
comp=Z,104nm,0.8s
TIXI MLR MLR
comp=Z,165nm,16.0s
PAX Paxson 25.24 50 *e*P **P 14 32 17.9 -1.9**
PAX pmax pmax
comp=Z,21nm,1.2s
PAX Paxson 25.24 50 *e*P **P 14 32 17.9 -1.9**
comp=Z,21nm,1.2s
BMRM Bremner River 25.72 55 *e*P **P 14 32 22.5 -1.5**
comp=Z,44nm,1.4s
USRK Ussuriysk Arra 25.76 264 P **P 14 32 26.3 +1.9**
comp=Z,4.1nm,0.7s,baz=56,slow=8.7,SNR=16
MENT Mentasta 26.04 50 *e*P **P 14 32 24.2 -2.8**
MDJ Mudanjiang 26.96 267 P **P 14 32 37.4 +2.1**
MDJ pP pP 14 32 49.9 +4.6
MDJ sP sP 14 32 56.6 +7.0
MDJ PcP **PcP 14 35 57.6 +1.3**
MDJ S **S 14 37 12.3 +2.3**
MDJ ScP **ScP 14 39 33.3 -0.2**
MDJ PcS **PcS 14 39 39.1 +1.5**
MDJ ScS **ScS 14 43 24.3 0.0**
MDJ pmax pmax
comp=Z,18nm,1.0s
MDJ pmax pmax
comp=Z,47nm,5.3s
MDJ LR LR
comp=N,160nm,26.4s
MDJ LR LR
comp=E,78nm,24.6s
MDJ LR LR
comp=Z,110nm,22.9s
MDJ Mudanjiang 26.96 267 *e*P **P 14 32 37.2 +1.9**
comp=Z,20nm,0.9s
EGAK Eagle 27.17 46 *e*P **P 14 32 34.2 -2.8**
comp=Z,18nm,0.7s
MJAR Matsushiro Arr 27.27 244 P P 14 32 41.2 +3.1
MJAR Matsushiro Arr 27.27 244 P P 14 32 41.2 +3.1
comp=Z,1.6nm,0.7s,baz=28,slow=7.1,SNR=6.1
MAJO Matsushiro 27.27 244 *e*P **P 14 32 39.5 +1.3**
MAJO pmax pmax
comp=Z,9.0nm,0.8s
MAJO Matsushiro 27.27 244 *e*P **P 14 32 39.5 +1.3**
comp=Z,9.0nm,0.8s
INK Inuvik 30.24 39 P **P 14 33 03.7 -0.6**
INK Inuvik 30.24 39 P **P 14 33 03.7 -0.6**
comp=Z,2.6nm,0.4s,baz=266,slow=8.2,SNR=11
KSRS Korea Array 32.40 257 P P 14 33 28.1 +4.5
comp=Z,3.3nm,0.8s,baz=49,slow=9.5,SNR=11
KSRS LR LR 14 47 29.5
comp=Z,51nm,20.5s,baz=2.7,slow=38
KSAR Wonju Array Be 32.43 257 P P 14 33 28.1 +4.2
ULN Ulaanbaatar 38.49 287 *e*P P 14 34 17.1 +1.1
comp=Z,18nm,1.1s
SONM Songino Array 38.88 288 P P 14 34 22.3 +3.1
SONM Songino Array 38.88 288 P P 14 34 22.3 +3.1
comp=Z,12nm,0.7s,baz=60,slow=9.3,SNR=58
SONM LR LR 14 50 24.6
comp=Z,89nm,21.7s,baz=253,slow=36
YKA Yellowknife Ar 39.15 46 P **P 14 34 21.3 +0.2**
YKA Yellowknife Ar 39.15 46 P **P 14 34 21.3 +0.2**
comp=Z,4.7nm,0.7s,baz=292,slow=7.5,SNR=9.3
ZAK Zakamensk 39.29 293 ⇓*i*P P 14 34 24.4 +1.9
ZAK pmax pmax
comp=Z,6.0nm,1.1s
MOY Mondy 39.87 296 *e*P P 14 34 29.9 +2.5
MOY pmax pmax
comp=Z,17nm,1.3s
HHC Hu-ho-hao-te 39.91 275 *e*P P 14 34 28.8 +0.9
HHC pP pP 14 34 44.0 +5.9
HHC sP sP 14 34 51.3 +9.0
HHC S **S 14 40 30.3 -0.1**
HHC sS sS 14 40 55.6 +8.3
HHC SS **SS 14 43 21.3 -6.1**
HHC ScS **ScS 14 44 29.4 -2.6**
HHC pmax pmax
comp=Z,44nm,0.9s
HHC pmax pmax
comp=Z,160nm,11.4s
HHC LR LR
comp=N,200nm,9.6s
HHC LR LR
comp=E,300nm,12.4s
HHC LR LR
comp=Z,220nm,12.2s
NJ2 Nanjing 41.49 259 *e*P P 14 34 42.6 +1.8
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
HVS Khovu-Aksy 44.02 299*c i*P P 14 35 02.9 +1.6
HVS pmax pmax
comp=Z,75nm,1.4s
NEW Newport 44.99 65 *e*P **P 14 35 07.1 -1.9**
comp=Z,11nm,1.3s
WHN Wuhan 45.23 262 P P 14 35 14.3 +3.3
WHN pmax pmax
comp=Z,46nm,0.9s
WALA Waterton Lakes 46.25 63 *e*P **P 14 35 18.1 -0.9**
comp=Z,0.9nm,1.3s
BSMT Bassoo Peak 46.50 64 *e*P **P 14 35 19.1 -2.0**
JTMT Jette 46.83 64 *e*P **P 14 35 22.8 -0.8**
ZAA0 Zalesovo Array 46.88 306 *e*P **P 14 35 24.2 +0.5**
ZALV Zalesovo Beam 46.88 306 P **P 14 35 24.2 +0.5**
ZALV pmax pmax
comp=Z,4.0nm,0.7s
ZALV MLR MLR
comp=Z,111nm,18.5s
ZALV Zalesovo Beam 46.88 306 P **P 14 35 24.2 +0.5**
ZALV Zalesovo Beam 46.88 306 P **P 14 35 24.2 +0.5**
comp=Z,3.6nm,0.7s,baz=61,slow=6.1,SNR=9.4
ZALV LR LR 14 56 12.5
comp=Z,111nm,18.5s,baz=70,slow=38
YBMT Yellow Bay 46.91 64 *e*P **P 14 35 22.2 -2.0**
comp=Z,14nm,1.0s
NVS Novosibirsk 47.12 308 *i*P **P 14 35 25.6 +0.1**
NVS *e* 14 37 06.0
NVS pmax pmax
comp=Z,22nm,1.6s
NVS pmax pmax
comp=N,8.0nm,1.7s
NVS pmax pmax
comp=E,12nm,1.5s
SWMT Swartz Lake 47.13 64 *e*P **P 14 35 24.3 -1.6**
LZH Lanzhou 47.60 276 *e*P P 14 35 34.0 +4.2
LZH pP pP 14 35 44.3 +4.1
LZH sP sP 14 35 49.8 +5.5
LZH *e*S **S 14 42 24.3 +1.5**
LZH sS sS 14 42 48.6 +8.7
LZH pmax pmax
comp=Z,30nm,1.0s
LZH pmax pmax
comp=Z,100nm,4.0s
LZH LR LR
comp=N,180nm,9.8s
LZH LR LR
comp=E,160nm,11.9s
LZH LR LR
comp=Z,290nm,13.8s
GTA Gaotai 47.76 282 ⇑P P 14 35 34.0 +3.1
GTA pP pP 14 35 44.4 +3.1
GTA S S 14 42 27.8 +3.0
GTA sS sS 14 42 44.3 +2.3
GTA pmax pmax
comp=Z,30nm,1.1s
GTA pmax pmax
comp=Z,77nm,5.5s
GTA LR LR
comp=N,260nm,15.2s
GTA LR LR
comp=E,230nm,15.4s
GTA LR LR
comp=Z,390nm,16.1s
CHMT Chamberlain Mo 47.90 65 *e*P **P 14 35 30.6 -1.4**
ENH Enshi 48.32 266 *e*P P 14 35 36.6 +1.5
comp=Z,30nm,1.2s
BEKR Beckworth 48.40 76 *e*P **P 14 35 33.1 -2.8**
comp=Z,2.0nm,0.9s
LRM Limekiln Ridge 49.01 65 *e*P **P 14 35 37.7 -3.0**
EGMT Eagleton 49.07 61 *e*P **P 14 35 39.2 -1.6**
comp=Z,5.2nm,0.9s
HLID Hailey 49.38 69 *e*P **P 14 35 40.5 -2.9**
comp=Z,5.7nm,1.3s
MCMT McKenzie Canyo 49.43 67 *e*P **P 14 35 43.2 -0.6**
comp=Z,1.5nm,0.6s

BOZ Bozeman (W) 49.57 65 *e*P **P 14 35 43.5 -1.3**
BOZ pmax pmax
comp=Z,3.0nm,0.8s
BOZ Bozeman (W) 49.57 65 *e*P **P 14 35 43.5 -1.3**
comp=Z,2.5nm,0.8s
WAKR Walker 49.84 77 *e*P **P 14 35 45.8 -1.2**
DAG Danmarks Havn 49.86 2 *i*P **P 14 35 46.3 -0.1**
DAG pmax pmax
comp=Z,6.0nm,0.7s
DAG Danmarks Havn 49.86 2 *i*P **P 14 35 46.3 -0.1**
comp=Z,8.0nm,0.7s
QLMT Earthquake Lak 50.20 66 *e*P **P 14 35 47.9 -1.8**
NVAR Mina Array Bea 50.55 76 P **P 14 35 53.5 +1.1**
NVAR Mina Array Bea 50.55 76 P **P 14 35 53.5 +1.1**
comp=Z,3.4nm,0.8s,baz=292,slow=7.4,SNR=22
IMW Indian Meadow 51.08 66 *e*P **P 14 35 55.0 -1.3**
comp=Z,15nm,1.5s
FLWY Flagg Ranch 51.09 66 *e*P **P 14 35 54.4 -1.9**
comp=Z,5.4nm,0.7s
CD2 Chengdu 51.27 271 *e*P P 14 35 59.5 +1.8
CD2 pP pP 14 36 13.6 +5.4
CD2 sP sP 14 36 20.5 +8.2
CD2 PP PP 14 37 58.3 +3.7
CD2 S **S 14 43 12.8 -1.2**
CD2 SS **SS 14 46 46.3 -3.1**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 pmax pmax
comp=Z,30nm,4.8s
MOOW Moose Ponds 51.28 66 *e*P **P 14 35 55.1 -2.7**
comp=Z,2.2nm,1.0s
LOHW Long Hollow 51.45 66 *e*P **P 14 35 56.7 -2.3**
comp=Z,8.8nm,1.5s
WMQ Urumqi 51.72 294 P P 14 36 03.5 +2.6
WMQ pP pP 14 36 18.8 +7.5
WMQ sP sP 14 36 25.8 +10
WMQ PcP **PcP 14 37 15.6 +1.7**
WMQ PP PP 14 38 02.8 +4.5
WMQ ScP **ScP 14 41 05.8 -1.8**
WMQ PcS **PcS 14 41 12.3 +0.4**
WMQ S **S 14 43 20.3 +0.4**
WMQ sS sS 14 43 47.3 +10
WMQ ScS **ScS 14 45 44.8 -3.2**
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ pmax pmax
comp=Z,150nm,4.7s
WMQ LR LR
comp=N,310nm,15.2s
WMQ LR LR
comp=E,89nm,10.6s
WMQ LR LR
comp=Z,140nm,23.8s
KURK Kurchatov 51.87 306 P P 14 36 03.7 +1.9
KURK pmax pmax
comp=Z,17nm,0.9s
KURK Kurchatov 51.87 306 P P 14 36 03.7 +1.9
KURBB Kurchatov Arra 51.98 306 P P 14 36 03.7 +1.1
comp=Z,17nm,0.9s,baz=51,slow=7.5,SNR=128
DUG Dugway 52.50 71 *e*P **P 14 36 05.7 -1.1**
DUG pmax pmax
comp=Z,4.0nm,0.8s
DUG Dugway 52.50 71 *e*P **P 14 36 05.7 -1.1**
comp=Z,3.7nm,0.8s
BW06 Boulder Array 52.58 67 *e*P **P 14 36 05.9 -1.6**
comp=Z,12nm,1.3s
PDAR Pinedale Array 52.58 67 P **P 14 36 09.9 +2.5**
PDAR Pinedale Array 52.58 67 P **P 14 36 09.9 +2.5**
comp=Z,1.8nm,0.9s,baz=309,slow=4.7,SNR=13
MK31 Makanchi Array 52.62 300 *i*P **P 14 36 07.6 +0.1**
MK31 pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 52.62 300 P **P 14 36 08.2 +0.7**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR MLR MLR
comp=Z,239nm,20.0s
MKAR Makanchi Array 52.62 300 *e*P **P 14 36 08.2 +0.7**
MKAR Makanchi Array 52.62 300 P **P 14 36 08.2 +0.7**
comp=Z,2.9nm,0.5s,baz=52,slow=6.3,SNR=51
MKAR LR LR 14 59 20.7
comp=Z,239nm,20.0s,baz=27,slow=37
SUMG Summit 52.74 10 *i*P **P 14 36 08.3 -0.1**
SUMG *i* 14 36 20.5
SUMG pmax pmax
comp=Z,8.0nm,0.8s
SUMG Summit 52.74 10 *e*P **P 14 36 08.8 +0.4**
comp=Z,14nm,1.1s
SUMG Summit 52.74 10 *i*P **P 14 36 08.3 -0.1**
comp=Z,7.9nm,0.8s
SUMG *i* 14 36 20.5
GYA Guiyang 52.80 265 *e*P P 14 36 12.5 +3.3
GYA pP pP 14 36 27.3 +7.6
GYA sP sP 14 36 33.0 +9.2
GYA PP PP 14 38 13.4 +4.9
GYA ScP **ScP 14 41 11.8 -0.8**
GYA S **S 14 43 35.3 +0.1**
GYA sS sS 14 44 01.0 +8.5
GYA pmax pmax
comp=Z,10.0nm,0.8s
KEV Kevo 53.93 345 *e*p **P 14 36 16.5 -0.2**
comp=Z,2.8nm,0.5s
KEV Kevo 53.93 345 *e*P **P 14 36 16.5 -0.2**
KEV pmax pmax
comp=Z,3.0nm,0.5s
MVU Marysvale 53.99 72 *e*P **P 14 36 16.4 -1.5**
comp=Z,15nm,1.8s
CCUT Cedar City 53.99 74 *e*P **P 14 36 16.7 -1.2**
comp=Z,3.7nm,0.8s
MSU Marysvale 54.01 72 *e*P **P 14 36 16.7 -1.3**
MSU Marysvale 54.01 72 *e*P **P 14 36 16.7 -1.3**
BVA0 Borovoye Array 54.13 313 P **P 14 36 19.2 +0.8**
BVA0 pmax pmax
comp=Z,26nm,0.9s
BVAR Borovoye Array 54.13 313 P P 14 36 19.7 +1.3
BVAR pmax pmax
comp=Z,19nm,0.7s
BVAR Borovoye Array 54.13 313 P P 14 36 19.7 +1.3
BVAR Borovoye Array 54.13 313 P P 14 36 19.7 +1.3
comp=Z,19nm,0.7s,baz=50,slow=7.9,SNR=114
BRVK Borovoye 54.15 313*c i*P P 14 36 19.7 +1.1
BRVK pmax pmax
comp=Z,38nm,0.8s
BRVK Borovoye 54.15 313 *e*P P 14 36 19.9 +1.4
comp=Z,32nm,0.7s
LVZ Lovozero 54.19 340*c i*P **P 14 36 18.9 +0.2**
LVZ pmax pmax
comp=Z,18nm,1.0s
ARCES ARCESS Array B 54.37 345 P **P 14 36 20.3 +0.4**
ARCES ARCESS Array B 54.37 345 P **P 14 36 20.3 +0.4**
comp=Z,9.0nm,0.8s,baz=16,slow=8.9,SNR=23
ARCES LR LR 15 02 21.6
comp=Z,121nm,18.4s,baz=101,slow=39
ULM Lac du Bonnet 54.52 52 P **P 14 36 21.9 +0.6**
ULM Lac du Bonnet 54.52 52 P **P 14 36 21.9 +0.6**
comp=Z,3.3nm,0.7s,baz=327,slow=8.5,SNR=3.3
SRU San Rafael 54.53 70 *e*P **P 14 36 20.4 -1.4**
SRU pmax pmax
comp=Z,13nm,0.8s
SRU San Rafael 54.53 70 *e*P **P 14 36 20.4 -1.4**
comp=Z,13nm,0.8s
RSSD Black Hills 54.63 62 *e*P **P 14 36 21.3 -1.2**
RSSD pmax pmax
comp=Z,12nm,1.2s
RSSD Black Hills 54.63 62 *e*P **P 14 36 21.3 -1.2**
comp=Z,12nm,1.2s
SVE Sverdlovsk 55.43 321 ⇑*i*P P 14 36 29.7 +1.9
SVE pmax pmax
comp=Z,20nm,0.9s
SVE MLR MLR
comp=Z,367nm,19.0s
KMI Kunming 56.13 267 P P 14 37 04.8 +31
KMI pmax pmax
comp=Z,5.0nm,1.1s
KMI Kunming 56.13 267 P P 14 36 36.8 +3.3
KMI pmax pmax
comp=Z,10.0nm,1.0s
KMI LR LR
comp=N,140nm,16.5s
KMI LR LR
comp=E,89nm,12.5s
KMI LR LR
comp=Z,130nm,16.0s
ARU Arti 56.51 321*c i*P **P 14 36 36.3 +0.8**
ARU *PP pP 14 36 50.4 +4.4
ARU 14 37 28.5
ARU 14 38 38.5
ARU S **S 14 44 24.4 +0.4**
ARU pmax pmax
comp=Z,24nm,0.8s
ARU MLR MLR
comp=Z,266nm,17.0s
ISCO Idaho Springs 56.77 67 *e*P **P 14 36 35.3 -2.8**
ISCO pmax pmax
comp=Z,12nm,1.3s
ISCO Idaho Springs 56.77 67 *e*P **P 14 36 35.2 -2.8**
comp=Z,12nm,1.3s
EYMN Ely 58.18 51 *e*P **P 14 36 46.7 -0.7**
comp=Z,13nm,0.9s
ECSD EROS Data Cent 58.73 58 *e*P **P 14 36 50.9 -0.5**
comp=Z,9.7nm,1.1s
TUC Tucson 59.20 76 *e*P **P 14 36 53.4 -1.5**
TUC pmax pmax
comp=Z,19nm,0.8s
TUC Tucson 59.20 76 *e*P **P 14 36 53.4 -1.5**
comp=Z,18nm,0.8s
JOF Joensuu 59.22 339 *e*p **P 14 36 54.1 -0.3**
comp=Z,26nm,0.4s
JOF Joensuu 59.22 339 *e*P **P 14 36 54.1 -0.3**
JOF pmax pmax
comp=Z,26nm,0.4s
AAK Ala-Archa 59.50 301*c i*P P 14 36 58.5 +1.6
AAK pmax pmax
comp=Z,36nm,1.7s
AAK Ala-Archa 59.50 301 *e*P P 14 36 58.3 +1.4
AAK Ala-Archa 59.50 301 P P 14 36 58.1 +1.2
comp=Z,5.8nm,0.5s,baz=129,slow=3.6,SNR=9.6
AAK LR LR 15 02 17.2
comp=Z,72nm,20.0s,baz=28,slow=36
KAF Kangasniemi 60.97 341 *e*p **P 14 37 06.6 +0.2**
comp=Z,12nm,0.5s
KAF Kangasniemi 60.97 341 *e*P **P 14 37 06.6 +0.2**
KAF pmax pmax
comp=Z,12nm,0.5s
KSH Kashi 61.00 298 P P 14 37 12.4 +5.3
KSH pP pP 14 37 28.3 +11
KSH sP sP 14 37 35.8 +14
KSH PP PP 14 39 30.8 +9.5
KSH PcS **PcS 14 41 55.4 +2.4**
KSH S S 14 45 27.5 +4.4
KSH sS sS 14 45 53.8 +13
KSH SS SS 14 49 30.5 +8.3
KSH pmax pmax
comp=Z,12nm,0.9s
KSH LR LR
comp=N,93nm,6.3s
KSH LR LR
comp=E,91nm,5.6s
KSH LR LR
comp=Z,130nm,10.4s
KK31 Karatay Array 61.16 304*ce*P **P 14 37 08.9 +0.9**
KK31 pmax pmax
comp=Z,7.0nm,0.6s
AKTO Aktyubinsk 61.27 317 *i*P **P 14 37 09.3 +0.7**
AKTO pmax pmax
comp=Z,20nm,1.1s
AB31 Akbulak array 61.38 315*ce*P **P 14 37 09.9 +0.6**
AB31 pmax pmax
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 61.38 315 *e*P P 14 37 10.5 +1.2
FINES FINESS Array B 61.63 341 P **P 14 37 11.7 +0.9**
FINES FINESS Array B 61.63 341 P **P 14 37 11.7 +0.9**
comp=Z,16nm,0.7s,baz=38,slow=9.6,SNR=46
FINES LR LR 15 07 28.4
comp=Z,96nm,18.8s,baz=174,slow=40
SCHQ Schefferville 62.60 33 P **P 14 37 17.4 -0.1**
SCHQ Schefferville 62.60 33 P **P 14 37 17.4 -0.1**
comp=Z,2.9nm,0.5s,baz=332,slow=8.7,SNR=6.6
CHTO Chiang Mai 63.21 266 *e*P **P 14 37 22.1 +0.1**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 63.21 266 *e*P **P 14 37 22.1 +0.1**
comp=Z,7.3nm,0.9s
TAPN Taplejung 63.40 281 *e*P P 14 37 26.1 +2.5
comp=Z,36nm,0.6s
CMAR Chiang Mai Arr 63.48 265 P P 14 37 27.1 +3.2
CMAR Chiang Mai Arr 63.48 265 P P 14 37 27.1 +3.2
comp=Z,4.2nm,0.6s,baz=26,slow=7.0,SNR=26
CMAR LR LR 15 06 56.0
comp=Z,56nm,19.1s,baz=156,slow=38
ODAN Odare 63.95 280 *e*P P 14 37 29.3 +2.2
comp=Z,11nm,0.5s
MOS Moscow 63.96 332 *e*P **P 14 37 26.3 -0.1**
GUN Gumba 64.05 282 *e*P P 14 37 30.1 +2.2
comp=Z,42nm,0.5s
JIRN Jiri 64.06 282 *e*P P 14 37 30.3 +2.3
comp=Z,30nm,0.7s
VSU Vasula 64.22 339*c i*P P 14 37 29.4 +1.3
VSU pmax pmax
comp=Z,61nm,0.6s
RAMN Ramite 64.35 281 *e*P P 14 37 32.0 +2.3
comp=Z,88nm,0.5s
NB2 NORSAR Subarra 64.39 348 P **P 14 37 29.9 +0.6**
comp=Z,7.2nm,0.6s,baz=15,slow=6.9
NOA NORSAR Array B 64.39 348 P **P 14 37 30.0 +0.8**
NOA NORSAR Array B 64.39 348 P **P 14 37 30.0 +0.8**
comp=Z,6.8nm,0.6s,baz=17,slow=6.7,SNR=38
NOA LR LR 15 07 11.3
comp=Z,31nm,19.1s,baz=20,slow=38
KKN Kakani 64.49 283 *e*P P 14 37 32.9 +2.3
comp=Z,36nm,0.9s
PKI Pulchoki 64.58 282 *e*P P 14 37 33.6 +2.3
comp=Z,42nm,0.6s
PKIN Phulchoki 64.58 282 *e*P P 14 37 33.3 +2.0
comp=Z,33nm,0.5s
DMN Daman 64.72 283 *e*P P 14 37 34.6 +2.4
comp=Z,17nm,0.6s
HDIL Hopedale 64.73 56 *e*P **P 14 37 30.6 -1.1**
comp=Z,31nm,0.7s
OBN Obninsk 64.80 332 *e*P **P 14 37 32.3 +0.4**
OBN *e* 14 38 05.7
OBN pmax pmax
comp=Z,9.0nm,0.4s
OBN MLR MLR
comp=Z,200nm,20.0s
DANN Dangsing 64.95 284 *e*P P 14 37 36.0 +2.3
comp=Z,40nm,0.7s
KOLN Koldanda 65.48 284 *e*P P 14 37 38.9 +1.9
comp=Z,18nm,0.6s
TXAR Lajitas Array 65.50 73 P **P 14 37 38.6 +1.6**
TXAR Lajitas Array 65.50 73 P **P 14 37 38.6 +1.6**
comp=Z,2.0nm,0.6s,baz=303,slow=4.1,SNR=20
VSR Storozhevoye 67.43 328 *e*P **P 14 37 49.5 +0.6**
VSR pmax pmax
comp=N,20nm,1.1s
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.0s
MICGM Minsk 67.60 337 *e* **P 14 37 51.0 +1.1**
MNK Minsk 67.61 337 *e*P **P 14 37 51.0 +1.1**
PLAL Pickwick Lake 69.65 59 *e*P P 14 37 59.4 -3.6
comp=E,8.5nm,0.9s
BSEG Bad Segeberg 71.42 347 *e*P P 14 38 15.1 +1.6
comp=Z,13nm,0.8s
BSEG Bad Segeberg 71.42 347 *e*P P 14 38 15.1 +1.6
BSEG pmax pmax
comp=Z,306nm,0.8s
GOF Gofitskoye 71.45 323 *e*P P 14 38 08.8 -5.0
KIV Kislovodsk 72.53 322⇓*e*P P 14 38 21.8 +1.4
KIV pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 72.64 322 P P 14 38 23.1 +2.1
KBZ pmax pmax
comp=Z,8.0nm,0.9s
KBZ MLR MLR
comp=Z,131nm,18.4s
KBZ Khabaz 72.64 322 P P 14 38 23.1 +2.1
KBZ Khabaz 72.64 322 P P 14 38 23.1 +2.1
comp=Z,7.9nm,0.9s,baz=85,slow=3.1,SNR=14
KBZ LR LR 15 15 10.6
comp=Z,131nm,18.4s,baz=243,slow=40
OJC Ojcow 73.39 340 *e*P P 14 38 27.4 +2.1
OJC Ojcow 73.39 340 *e*P **P 14 38 25.9 +0.6**
comp=Z,18nm,0.8s
OJC Ojcow 73.39 340 *e*P P 14 38 27.4 +2.1
KSP Ksiaz 73.47 342⇑*e*P P 14 38 27.2 +1.5
KSP *e**PP **PcP 14 38 37.6 -4.1**
CLL Collm 73.58 345 *e*P **P 14 38 27.3 +0.9**
comp=Z,8.0nm,0.7s
CLL Collm 73.58 345 *i*P **P 14 38 27.1 +0.7**

CLL				*e**PP	**PcP**	**14 38 40.0**	**-2.2**
CLL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CLL	**Collm**	**73.58**	**345**	*i* P	**P**	**14 38 27.1**	**+0.7**
	comp=Z,8.0nm,0.7s						
CLL				*e*pP	**PcP**	**14 38 40.0**	**-2.2**
STHS	**Stebnicka Huta**	**73.84**	**339**	*e*P	P	14 38 30.5	+2.5
STHS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
STHS	**Stebnicka Huta**	**73.84**	**339**	*e*P	P	14 38 30.5	+2.5
BRG	**Berggiesshubel**	**73.85**	**344**	*e*P	**P**	**14 38 28.8**	**+0.8**
	comp=Z,5.6nm,0.8s						
BRG				*e*		14 38 41.9	
	comp=Z,5.3nm,1.0s						
BRG	**Berggiesshubel**	**73.85**	**344**	*e*P	**P**	**14 38 29.2**	**+1.2**
	comp=Z,6.0nm,0.4s						
BRG	**Berggiesshubel**	**73.85**	**344**	*e*P	**P**	**14 38 28.8**	**+0.8**
BRG				*e*		14 38 41.9	
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
DPC	**Dobruska-Polom**	**73.94**	**342**	⇑*i*P	P	14 38 30.6	+2.0
DPC				*e*		14 38 41.4	
DPC	**Dobruska-Polom**	**73.94**	**342**	⇑*i*P	P	14 38 30.6	+2.0
DPC				*e*pP	**PcP**	**14 38 41.4**	**-2.4**
DPC				AMS	AMS	15 17 10.0	
DPC	**Dobruska-Polom**	**73.94**	**342**	*e*P	**P**	**14 38 28.8**	**+0.3**
KOLS	**Kolonicke sedl**	**74.07**	**338**	*e*P	P	14 38 31.5	+2.2
KOLS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KOLS	**Kolonicke sedl**	**74.07**	**338**	*e*P	P	14 38 31.5	+2.2
OKC	**Ostrava-Krasne**	**74.08**	**341**	*e*P	P	14 38 31.4	+2.1
OKC				MLR	MLR		
	comp=Z,100nm,13.7s						
OKC	**Ostrava-Krasne**	**74.08**	**341**	⇑*e*P	P	14 38 31.4	+2.1
OKC				AMS	AMS	15 14 20.0	
	comp=Z,100nm,13.7s						
KRLC	**Kraliky**	**74.11**	**342**	*i* P	P	14 38 31.7	+2.1
KRLC	**Kraliky**	**74.11**	**342**	⇑*e*P	P	14 38 31.8	+2.1
MORC	**Moravsky Berou**	**74.25**	**341**	*e*P	P	14 38 32.3	+1.9
MORC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MORC	**Moravsky Berou**	**74.25**	**341**	*e*P	P	14 38 32.3	+1.9
	comp=Z,6.1nm,0.9s						
MOX	**Moxa**	**74.44**	**345**	*e*P	P	14 38 32.8	+1.4
	comp=Z,5.0nm,0.5s						
MOX	**Moxa**	**74.44**	**345**	*e*P	P	14 38 32.8	+1.4
MOX				pmax	pmax		
	comp=Z,33nm,0.5s						
UBBA	**Unterbreizbach**	**74.51**	**346**	*e*P	**P**	**14 38 32.8**	**+1.1**
WERD	**Werda**	**74.53**	**345**	*e*P	P	14 38 33.5	+1.5
TANN	**Tannenbergstha**	**74.53**	**345**	*e*P	P	14 38 33.6	+1.6
	comp=Z,4.0nm,0.9s						
PRU	**Pruhonice**	**74.60**	**343**	*i* P	P	14 38 33.8	+1.4
PRU	**Pruhonice**	**74.60**	**343**	⇑*i*P	P	14 38 33.8	+1.4
BURAR	**Bucovina Array**	**74.61**	**335**	⇑*i*P	P	14 38 34.2	+1.6
WERN	**Wernitzgruen**	**74.67**	**345**	*e*P	P	14 38 34.5	+1.7
NKC	**Novy Kostel**	**74.71**	**345**	*e*P	P	14 38 34.7	+1.7
NKC	**Novy Kostel**	**74.71**	**345**	*i* P	P	14 38 34.5	+1.5
NKC	**Novy Kostel**	**74.71**	**345**	⇑*i*P	P	14 38 34.5	+1.5
ROHR	**Rohrbach**	**74.73**	**345**	*e*P	P	14 38 34.8	+1.6
TRPA	**Tarpa**	**74.76**	**337**	⇓*i*P	P	14 38 35.4	+2.1
KECS	**Kecovo**	**74.89**	**339**	*e*P	P	14 38 36.5	+2.4
KECS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KECS	**Kecovo**	**74.89**	**339**	*e*P	P	14 38 36.5	+2.4
TREC	**Trest**	**75.10**	**342**	⇑AMS	AMS	15 18 00.0	
	comp=Z,100nm,18.9s						
ROTZ	**Rotzenmuhle**	**75.20**	**345**	*e*P	P	14 38 37.6	+1.7
	comp=Z,10.0nm,1.4s						
VYHS	**Vyhne**	**75.22**	**340**	*e*P	P	14 38 38.1	+2.1
VYHS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VYHS	**Vyhne**	**75.22**	**340**	*e*P	P	14 38 38.1	+2.1
GRF	**Grafenberg Arr**	**75.43**	**345**	*e*P	P	14 38 39.2	+2.0
	comp=Z,7.0nm,0.6s						
GRF	**Grafenberg Arr**	**75.43**	**345**	*e*P	P	14 38 39.2	+2.0
GRF				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KHC	**Kasperske Hory**	**75.59**	**344**	⇑*i*P	P	14 38 40.1	+1.9
KHC				*e*		14 38 50.5	
KHC	**Kasperske Hory**	**75.59**	**344**	⇑*i*P	P	14 38 40.1	+1.9
KHC				*e*pP	**PcP**	**14 38 50.5**	**-0.5**
KHC	**Kasperske Hory**	**75.59**	**344**	*e*P	P	14 38 40.1	+1.9
	comp=Z,13nm,1.0s						
WET	**Wettzell**	**75.70**	**344**	*e*P	P	14 38 40.6	+1.9
	comp=Z,10.0nm,1.0s						
WET	**Wettzell**	**75.70**	**344**	*e*P	P	14 38 40.6	+1.9
WET				pmax	pmax		
	comp=Z,25nm,1.0s						
GEC2	**GERESS Array S**	**75.85**	**343**	*e*P	P	14 38 41.3	+1.6
	comp=Z,8.0nm,0.7s						
GEC2	**GERESS Array S**	**75.85**	**343**	*e*P	P	14 38 41.3	+1.6
GEC2				pmax	pmax		
	comp=Z,12nm,0.7s						
GERES	**GERESS Array B**	**75.85**	**343**	P	P	14 38 41.3	+1.6
GERES	**GERESS Array B**	**75.85**	**343**	P	P	14 38 41.3	+1.6
	comp=Z,5.6nm,0.7s,baz=35,slow=4.9,SNR=42						
GERES				LR	LR	15 15 42.1	
	comp=Z,48nm,20.5s,baz=70,slow=39						
CONA	**Conrad Observa**	**76.35**	**342**	⇑*i*P	P	14 38 44.8	+2.3
	comp=Z,13nm,1.3s						
MLR	**Muntele Rosu**	**76.40**	**334**	⇑*i*P	P	14 38 45.7	+2.8
VOIR		**76.68**	**335**	⇓*i*P	P	14 38 47.0	+2.6
ARSA	**Arzberg**	**77.06**	**342**	⇓*i*P	P	14 38 49.0	+2.5
	comp=Z,6.1nm,0.6s						
GZR	**Gura Zlata**	**77.28**	**336**	⇓*i*P	P	14 38 49.8	+2.0
PAGF	**Fort de Pagny**	**77.28**	**349**	*e*P	P	14 38 49.3	+1.6
	comp=Z,3.2nm,0.5s						
KBA	**Koelnbreinsper**	**77.62**	**343**	⇑*i*P	P	14 38 52.4	+2.6
	comp=Z,18nm,0.8s						
SOKA	**Soboth**	**77.70**	**342**	⇑*i*P	P	14 38 52.5	+2.3
	comp=Z,6.6nm,0.6s						
GROS	**Grobnik**	**77.83**	**342**	*i* P	P	14 38 52.8	+2.0
GRR	**Gorron**	**78.07**	**353**	*e*P	**P**	**14 38 53.2**	**+1.1**
	comp=Z,21nm,0.8s						
FETA	**Feichten**	**78.10**	**345**	⇑*i*P	**P**	**14 38 53.7**	**+1.2**
	comp=Z,10nm,1.3s						
ROSF	**Rostrenen**	**78.28**	**355**	*e*P	**P**	**14 38 54.4**	**+1.2**
SGMF	**Saint Gilles**	**78.32**	**354**	*e*P	**P**	**14 38 54.6**	**+1.2**
QUIF	**Quistinic**	**78.69**	**355**	*e*P	**P**	**14 38 56.5**	**+1.0**
	comp=Z,11nm,0.6s						
LOR	**Lormes**	**78.76**	**350**	*e*P	**P**	**14 38 57.2**	**+1.3**
	comp=Z,14nm,0.8s						
LOR				*e*R			
	comp=Z,44nm,21.0s						
BOJS	**Bojanci**	**78.79**	**341**	*i* P	P	14 38 57.9	+1.8
SSF	**Saint Saulge**	**79.00**	**350**	*e*P	**P**	**14 38 58.5**	**+1.3**
	comp=Z,7.0nm,0.7s						
WRA	**Warramunga Arr**	**79.04**	**213**	P	P	14 39 01.1	+3.5
WRA	**Warramunga Arr**	**79.04**	**213**	P	P	14 39 01.1	+3.5
	comp=Z,2.6nm,0.9s,baz=29,slow=6.0,SNR=8.5						
CABF	**La Chapelle**	**79.15**	**348**	*e*P	P	14 38 59.7	+1.5
	comp=Z,14nm,0.9s						
AVF	**Avril sur Loir**	**79.29**	**350**	*e*P	P	14 39 00.2	+1.4
	comp=Z,23nm,0.9s						
PPT	**Papeete**	**79.30**	**140**	LR	LR	15 05 10.8	
	comp=Z,130nm,21.2s,baz=343,slow=29						
PPT2	**Papeete2**	**79.32**	**140**	*e*LR	LR	15 03 46.2	
	comp=Z,174nm,24.5s,baz=336						
SMF	**Signal de Mont**	**79.38**	**350**	*e*P	**P**	**14 39 00.6**	**+1.3**
	comp=Z,11nm,0.8s						
BRTR	**Keskin Array B**	**79.41**	**326**	P	P	14 39 01.1	+1.3
BRTR	**Keskin Array B**	**79.41**	**326**	P	P	14 39 01.1	+1.3
	comp=Z,4.0nm,0.7s,baz=68,slow=3.7,SNR=22						
BRTR				LR	LR	15 20 53.4	
	comp=Z,35nm,20.0s,baz=284,slow=41						
MFF	**Saint Martin d**	**79.79**	**352**	*e*P	P	14 39 03.0	+1.5
TCF	**Toulx Ste Croi**	**79.90**	**351**	*e*P	**P**	**14 39 03.6**	**+1.4**
LPL	**La Plagne**	**80.15**	**347**	*e*P	P	14 39 06.0	+2.2
	comp=Z,15nm,0.9s						
LPG	**La Plagne**	**80.16**	**347**	*e*P	P	14 39 06.3	+2.4
	comp=Z,28nm,1.1s						
ORIF	**Oris-en-Rattie**	**80.84**	**348**	*e*P	P	14 39 09.6	+2.2
	comp=Z,13nm,0.8s						
ORIF				*e*R			
	comp=Z,69nm,22.2s						
MBDF	**Montbardon**	**80.92**	**347**	*e*P	P	14 39 09.9	+2.1
	comp=Z,14nm,0.8s						
VIVF	**Saint-Julien-l**	**81.05**	**349**	*e*P	P	14 39 10.3	+1.9
CAF	**Calviac**	**81.26**	**351**	*e*P	P	14 39 11.5	+2.0
	comp=Z,18nm,0.9s						
SMRF	**Simiane la Rot**	**81.81**	**348**	*e*P	P	14 39 14.9	+2.5
	comp=Z,18nm,0.9s						
LASF	**Ste Croix**	**81.92**	**349**	*e*P	P	14 39 14.6	+1.6
	comp=Z,9.8nm,0.9s						
FRF	**La Foret Royal**	**82.08**	**347**	*e*P	P	14 39 15.3	+1.5
ASAR	**Alice Springs**	**82.66**	**212**	P	P	14 39 20.4	+3.5
ASAR	**Alice Springs**	**82.66**	**212**	P	P	14 39 20.4	+3.5
	comp=Z,1.4nm,0.7s,baz=18,slow=5.9,SNR=33						
PGF	**Pioggiola**	**82.74**	**345**	*e*P	P	14 39 19.2	+1.8
	comp=Z,23nm,0.9s						
MTLF	**Montolieu**	**82.82**	**350**	*e*P	P	14 39 19.2	+1.6
	comp=Z,9.5nm,0.6s						
UMR	**Umm Al-Rimmam**	**82.86**	**311**	*e*P	P	14 39 19.2	+1.2
UMR				AMb	AMB	14 39 21.1	
	comp=Z,32nm,1.2s						
KBD	**Kabd**	**83.19**	**311**	*e*P	P	14 39 21.3	+1.5
KBD				AMb	AMB	14 39 21.8	
	comp=Z,27nm,1.3s						
EPF	**Esparros**	**83.30**	**352**	*e*P	**P**	**14 39 21.4**	**+1.2**
NAY	**Al-Naaiem**	**83.33**	**312**	*e*P	**P**	**14 39 21.4**	**+0.9**
NAY				AMb	AMB	14 39 22.4	
	comp=Z,15nm,0.7s						
SJPF	**Ste Jean**	**83.34**	**353**	*e*P	**P**	**14 39 21.7**	**+1.3**
	comp=Z,12nm,0.8s						
RDF	**Al-Radifah**	**83.47**	**311**	*e*P	P	14 39 22.7	+1.5
RDF				AMb	AMB	14 39 24.6	
	comp=Z,62nm,1.0s						
ETSF	**Etsaut**	**83.51**	**352**	*e*P	P	14 39 23.4	+2.1
	comp=Z,12nm,0.7s						
STKA	**Stephens Creek**	**88.32**	**203**	LR	LR	15 18 36.5	
	comp=Z,136nm,21.3s,baz=25,slow=35						
TORD	**Torodi Ar. Bea**	**112.68**	**347**	PP	PP	14 46 18.7	+2.1
TORD	**Torodi Ar. Bea**	**112.68**	**347**	PP	PP	14 46 18.7	+2.1
	comp=Z,0.4nm,0.6s,baz=6.2,slow=7.7,SNR=4.7						
SYO	**Syowa Base**	**152.23**	**217**	⇑*e*P	PKPab	14 47 06.2	+8.6

WEL 24 14:35:18.7±0.3, 45.95S×166.48E, h30km±1km, ML3.8/19, 1D, Error ellipse: s-maj=4.1km s-min=2.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.67**	**46**	⇓PN	Pb	14 35 31.2	-0.6
DCZ				AML	AML	14 35 41.2	
DCZ				AML	AML	14 35 41.2	
DCZ				S*	Sn	14 35 41.3	-0.2
DCZ				AML	AML	14 35 42.0	
WHZ	**Wether Hill Ro**	**1.03**	**88**	PN	Pn	14 35 37.0	-0.1
WHZ				SN	Sb	14 35 51.2	+0.1
WHZ				AML	AML	14 35 51.6	
MLZ	**Mavora Lakes**	**1.33**	**64**	PN	Pn	14 35 42.0	+0.7
MLZ				AML	AML	14 36 06.4	
MLZ				AML	AML	14 36 08.8	
APZ	**The Paps**	**1.37**	**131**	PN	Pn	14 35 40.3	-1.6
MSZ	**Milford Sound**	**1.63**	**39**	PN	Pn	14 35 45.5	+0.1
MSZ				AML	AML	14 36 21.0	
MSZ				AML	AML	14 36 21.0	
MSZ				AML	AML	14 36 25.1	
MSZ				AML	AML	14 36 25.1	
SYZ	**Scrubby Hill**	**1.94**	**109**	PN	Pn	14 35 49.6	0.0
SYZ				SN	Sn	14 36 15.0	+2.1
WKZ	**Wanaka**	**2.11**	**59**	PN	Pb	14 35 54.6	-1.7
WKZ				AML	AML	14 36 25.3	
WKZ				AML	AML	14 36 28.0	
EAZ	**Earnscleugh**	**2.11**	**71**	PN	Pn	14 35 53.5	+1.5
EAZ				AML	AML	14 36 26.1	
EAZ				AML	AML	14 36 35.3	
TUZ	**Tuapeka**	**2.20**	**91**	PN	Pn	14 35 53.9	+0.7
TUZ				AML	AML	14 36 23.6	
TUZ				AML	AML	14 36 24.4	
JCZ	**Jackson Bay**	**2.47**	**42**	PN	Pb	14 35 60.0	-2.6
JCZ				AML	AML	14 36 43.2	
JCZ				AML	AML	14 36 46.5	
HHSZ	**Highcliff Hill**	**2.88**	**90**	PN	Pn	14 36 03.5	+1.0
LBZ	**Lake Benmore**	**3.05**	**61**	PN	Pn	14 36 05.7	+0.8
LBZ				AML	AML	14 36 50.0	
ODZ	**Otahua Downs**	**3.07**	**74**	PN	Pn	14 36 04.8	-0.3
ODZ				AML	AML	14 37 03.6	
FOZ	**Fox Glacier**	**3.30**	**45**	PN	Pn	14 36 12.2	+3.9
RPZ	**Rata Peaks**	**3.94**	**57**	PN	Pn	14 36 17.6	+0.4
RPZ				AML	AML	14 37 31.3	
WVZ	**Waitaha Valley**	**4.18**	**48**	PN	Pn	14 36 22.0	+1.6
OXZ	**Oxford**	**4.75**	**59**	PN	Pn	14 36 28.2	-0.2
LTZ	**Lake Taylor**	**5.22**	**55**	PN	Pn	14 36 35.1	+0.4
LTZ				AML	AML	14 37 42.2	
DSZ	**Denniston Nort**	**5.70**	**44**	PN	Pn	14 36 42.9	+1.6
THZ	**Tophouse**	**6.25**	**50**	PN	Pn	14 36 50.0	+1.1
THZ				AML	AML	14 38 17.2	

IDC 24 14:36:36.8±2.6, 27.82N×141.95E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/24, mbtmp3.6/6, Error ellipse: s-maj=114.6km s-min=22.8km az=75.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.05**	**190**	P	P	14 45 17.9	-0.2
	0.2nm,0.3s,baz=6.1,slow=7.7,SNR=3.8						
MKAR	**Makanchi Array**	**49.85**	**309**	P	P	14 45 32.0	+0.2
	0.1nm,0.3s,baz=88,slow=7.7,SNR=4.9						
ASAR	**Alice Springs**	**51.77**	**189**	P	P	14 45 46.2	-0.2
	0.3nm,0.9s,baz=1.6,slow=5.4,SNR=4.8						
KURBB	**Kurchatov Arra**	**52.38**	**314**	P	P	14 45 51.2	+0.6
	0.7nm,0.4s,baz=91,slow=8.0,SNR=8.2						
BVAR	**Borovoye Array**	**57.37**	**317**	P	P	14 46 26.2	-0.5
	0.6nm,0.4s,baz=105,slow=6.0,SNR=4.2						
FINES	**FINESS Array B**	**77.20**	**334**	P	P	14 48 32.0	-0.3
	0.6nm,0.3s,baz=62,slow=4.9,SNR=7.8						

*CSEM **24** 14:36:56.2±0.2, 50.58N×5.72E, h1km, ML1.5, Error ellipse: s-maj=6.2km s-min=2.6km az=143.0, Mining explosion.*

UCC 24 14:36:56.3±0.4, 50.60N×5.72E, h1km±3km, ML1.5, 3C, Mining explosion., Belgium

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLCH	**La Chartreuse**	**0.09**	**296**	P	Pg	14 36 57.8	-0.2
BLCH				S	Sg	14 36 59.6	+0.5
BSTI	**Sart Tilman**	**0.10**	**259**	P	Pg	14 36 57.9	-0.3
MEM	**Membach**	**0.18**	**88**	⇑P	Pg	14 36 60.0	+0.2
MEM	**Membach**	**0.18**	**88**	P	Pg	14 36 59.9	+0.1
BEBN	**Eben Emael**	**0.20**	**352**	⇑P	Pg	14 37 00.4	+0.3
BEBN	**Eben Emael**	**0.20**	**352**	P	Pg	14 37 00.4	+0.3
HGN	**Heimansgroeve**	**0.21**	**40**	*i* P	Pg	14 37 00.6	+0.3
	52nm,0.3s						
HGN				*e*Sg	Sg	14 37 04.2	+1.1
HGN	**Heimansgroeve**	**0.21**	**40**	*i* P	Pg	14 37 00.6	+0.2
	52nm,0.3s						
HGN				*e*Sg	Sg	14 37 04.2	+1.1
BGES	**Gesves**	**0.46**	**242**	P	Pg	14 37 04.5	-0.6
BGES				S	Sg	14 37 11.9	+0.8
DOU	**Dourbes**	**0.88**	**235**	⇑P	Pg	14 37 13.3	+0.1
DOU				S	Sg	14 37 24.5	-0.1
	comp=N,9.4nm,0.3s						
DOU	**Dourbes**	**0.88**	**235**	P	Pg	14 37 13.3	+0.1
DOU				S	Sg	14 37 24.5	-0.1
	comp=N,9.4nm,0.3s						

GUC 24 14:43:39.9±0.6, 24.08S×67.62W, h197km±16km, ML4.1, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.89**	**321**	*e*P	Pn	14 44 18.4	+1.0
LVC				*i* S	Sn	14 44 48.1	+1.7
PB04	**Plate Boundary**	**2.50**	**316**	⇓*i*P	Pn	14 44 30.0	+6.4
PB04				*i* S	Sn	14 45 08.4	+11
PB04				AML	AML	14 45 10.0	
	comp=N,190nm,0.6s						
ANCH	**Antofagasta**	**2.59**	**278**	*e*P	Pn	14 44 26.3	+1.7
ANCH				*i* S	Sn	14 45 00.9	+1.5
PB09	**Plate Boundary**	**2.72**	**326**	*e*P	Pn	14 44 28.1	+1.7
PB09				*e*S	Sn	14 45 05.0	+2.3
PB09				AML	AML	14 45 06.0	
	comp=N,767nm,0.6s						
PB07	**Plate Boundary**	**3.14**	**318**	⇑*i*P	Pn	14 44 32.4	+1.1
PB07				*i* S	Sn	14 45 12.6	+1.0
PB07				AML	AML	14 45 14.5	
	comp=N,237nm,0.5s						
PB01	**Plate Boundary**	**3.48**	**330**	*e*P	Pn	14 44 35.9	+0.5
PB01				*i* S	Sn	14 45 19.2	+0.4
PB01				AML	AML	14 45 21.7	
	comp=N,142nm,0.4s						

MEX 24 15:18:42.2±0.6, 16.69N×99.36W, h16km±7km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.94**	**293**	*e*P	Pb	15 18 56.6	-3.6
CAIG				*i* S	Sb	15 19 08.4	-4.1
PNIG	**Pinotepa**	**1.21**	**104**	*e*P	Pn	15 19 01.0	-3.6
PNIG				*i* S	Sb	15 19 15.2	-5.2
PLIG	**Platanillo**	**1.70**	**355**	*e*P	Pn	15 19 08.6	-2.8
PLIG				*i* S	Sn	15 19 27.6	-5.3
ARIG	**Puente Sto Nin**	**1.85**	**329**	*e*P	Pn	15 19 09.3	-4.0
ARIG				*i* S	Sn	15 19 31.8	-4.6
YAIG	**Yautepec**	**2.18**	**7**	*e*P	Pn	15 19 14.4	-3.7
YAIG				*i* S	Sn	15 19 40.2	-4.7
PPM	**Popocatepetl**	**2.47**	**16**	*e*P	Pn	15 19 19.1	-3.4
PPM				*i* S	Sn	15 19 48.8	-4.0

WEL 24 15:25:03.6±0.1, 46.16S×165.88E, h33km, ML3.7/14, 1C, Error ellipse: s-maj=1.1km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**1.12**	**53**	⇑PN	Pn	15 25 22.4	-0.4
DCZ				AML	AML	15 25 40.8	
DCZ				AML	AML	15 25 40.9	
DCZ				AML	AML	15 25 42.8	
DCZ				AML	AML	15 25 42.9	
APZ	**The Paps**	**1.60**	**116**	PN	Pn	15 25 30.9	+1.3
MLZ	**Mavora Lakes**	**1.80**	**64**	PN	Pn	15 25 33.6	+1.3
MLZ				SN	Sb	15 25 56.9	-1.2
MLZ				AML	AML	15 26 00.7	
MSZ	**Milford Sound**	**2.07**	**45**	PN	Pn	15 25 36.8	+0.8
MSZ				AML	AML	15 26 19.0	
MSZ				AML	AML	15 26 20.6	
SYZ	**Scrubby Hill**	**2.29**	**101**	PN	Pn	15 25 41.5	+2.5
SYZ				SN	Sb	15 26 10.3	-1.7
EAZ	**Earnscleugh**	**2.57**	**70**	PN	Pn	15 25 45.7	+2.8
EAZ				SN	Sn	15 26 16.4	+3.4
EAZ				AML	AML	15 26 25.6	
WKZ	**Wanaka**	**2.57**	**60**	PN	Pn	15 25 45.6	+2.7
WKZ				SN	Sn	15 26 15.8	+2.6
WKZ				AML	AML	15 26 27.7	
TUZ	**Tuapeka**	**2.62**	**87**	PN	Pn	15 25 46.1	+2.6
TUZ				AML	AML	15 26 23.0	
TUZ				AML	AML	15 26 31.6	
JCZ	**Jackson Bay**	**2.91**	**45**	PN	Pn	15 25 49.5	+1.8
JCZ				AML	AML	15 26 41.0	
JCZ				AML	AML	15 26 42.6	
LBZ	**Lake Benmore**	**3.52**	**61**	PN	Pn	15 25 56.8	+0.9
LBZ				AML	AML	15 26 44.7	
ODZ	**Otahua Downs**	**3.52**	**73**	PN	Pn	15 25 56.6	+0.6
FOZ	**Fox Glacier**	**3.75**	**48**	PN	Pn	15 26 01.3	+2.2
WVZ	**Waitaha Valley**	**4.63**	**50**	PN	Pn	15 26 11.9	+0.7
OXZ	**Oxford**	**5.22**	**59**	PN	Pn	15 26 18.8	-0.5
LTZ	**Lake Taylor**	**5.68**	**56**	PN	Pn	15 26 25.5	-0.2
DSZ	**Denniston Nort**	**6.14**	**46**	PN	Pn	15 26 32.1	+0.1

*NIED **24** 15:48:00, 32.00N×132.00E, h23km, Mw3.8 Best double couple: M0=5.06000×10^14 NP1:φs=31.00000°, δ=71.00000°, λ=85.00000°. NP2:φs=226.00000°, δ=20.00000°, λ=104.00000°.*
*IDC **24** 15:48:24.9±3.4, 31.57N×131.81E, h0km, mb3.3/2, mb1 3.2/4, mb1mx3.2/27, mbtmp3.2/4, ML3.0/2, Error ellipse: s-maj=47.0km s-min=41.0km az=9.0*
*ISCJB **24** 15:48:30.7±1.0, 32.00N±0.05×132.02E±0.06, h25km±8km, mb3.2/2, Error ellipse: s-maj=10.5km s-min=6.2km az=137.3*
*JMA **24** 15:48:31.0±0.1, 32.03N×131.99E, h22km±2km, M3.5*

ISC 24 15:48:29.8±2.1, 31.95N±0.07×131.98E±0.06, h18km±8km, n12, σ1=10/19, 4D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTSN	**Tsuno**	**0.49**	**306**	⇓P	**Pb**	**15 48 40.1**	**+0.1**
JTSN				*e*S	**Sg**	**15 48 46.7**	**+0.2**
JNAR	**Kushima--Naru**	**0.74**	**235**	⇓P	**Pn**	**15 48 46.1**	**+0.8**
JNAR				S	**Sn**	**15 48 57.5**	**+1.5**
JTZ	**Takazaki**	**0.76**	**266**	⇓P	**Pn**	**15 48 45.3**	**-0.3**
JTZ				*e*S	**Sn**	**15 48 56.2**	**-0.4**
JKIT	**Kitakata**	**0.80**	**327**	⇓P	**Pb**	**15 48 45.3**	**+0.1**
JUS	**Usuki**	**1.12**	**350**	P	**Pb**	**15 48 51.1**	**+0.4**
JUS				*e*S	**Sb**	**15 49 05.6**	**+0.6**
JTO	**Tosashimizu**	**1.14**	**38**	P	**Pn**	**15 48 50.1**	**-0.8**
JTO				*e*S	**Sb**	**15 49 04.4**	**-1.1**
JIU2	**Izumi 2**	**1.15**	**301**	P	**Pg**	**15 48 51.6**	**-0.4**
JIU2				*e*S	**Sg**	**15 49 07.0**	**0.0**
JNU	**Nakatsue**	**1.49**	**322**	Pn	**Pb**	**15 48 57.0**	**+0.1**
	55nm,0.3s,baz=143,slow=7.9,SNR=89						
JNU				Sn	**Sg**	**15 49 18.3**	**+0.4**
	30nm,0.3s,baz=0.3,slow=21,SNR=20						
KSRS	**Korea Array**	**6.42**	**330**	Pn	**Pn**	**15 50 05.1**	**+1.7**
	0.2nm,0.3s,baz=145,slow=15,SNR=3.5						
MJAR	**Matsushiro Arr**	**6.90**	**47**	Pn	**Pn**	**15 50 12.3**	**

DCZ					AML	AML	16 59 41.5	
DCZ					AML	AML	16 59 41.7	
WHZ	**Wether Hill Ro**	**1.05**	**110**	P*	Pb	16 59 46.0	-0.7
WHZ					AML	AML	17 00 08.0	
WHZ					AML	AML	17 00 10.0	
MLZ	**Mavora Lakes**	**1.16**	**81**	P*	Pn	16 59 46.8	-1.8
MLZ				S*	Sb	17 00 02.0	-1.6
MLZ					AML	AML	17 00 11.1	
MSZ	**Milford Sound**	**1.31**	**49**	PN	Pn	16 59 50.6	0.0
MSZ					AML	AML	17 00 10.9	
MSZ					AML	AML	17 00 12.6	
MSZ					AML	AML	17 00 12.6	
APZ	**The Paps**	**1.64**	**143**	PN	Pn	16 59 55.2	-0.1
APZ					SN	Sn	17 00 15.5	-0.5
WKZ	**Wanaka**	**1.89**	**69**	PN	Pn	16 59 59.0	+0.4
WKZ					AML	AML	17 00 28.7	
WKZ					AML	AML	17 00 29.4	
WKZ					AML	AML	17 00 31.0	
WKZ					AML	AML	17 00 31.1	
EAZ	**Earnscleugh**	**1.97**	**82**	PN	Pn	17 00 00.6	+0.9
EAZ					AML	AML	17 00 30.0	
EAZ					AML	AML	17 00 32.9	
SYZ	**Scrubby Hill**	**2.07**	**120**	PN	Pn	17 00 02.4	+1.4
JCZ	**Jackson Bay**	**2.15**	**48**	PN	Pb	17 00 04.5	-1.1
JCZ					AML	AML	17 00 38.8	
JCZ					AML	AML	17 00 40.1	
TUZ	**Tuapeka**	**2.20**	**102**	PN	Pb	17 00 04.8	-1.6
TUZ					AML	AML	17 00 36.4	
TUZ					AML	AML	17 00 37.3	
LBZ	**Lake Benmore**	**2.83**	**67**	PN	Pn	17 00 13.3	+1.7
ODZ	**Otahua Downs**	**2.94**	**82**	PN	Pn	17 00 12.7	-0.2
FOZ	**Fox Glacier**	**2.99**	**50**	PN	Pb	17 00 18.4	-1.4
RPZ	**Rata Peaks**	**3.70**	**62**	PN	Pn	17 00 24.7	+1.2
OXZ	**Oxford**	**4.51**	**63**	PN	Pn	17 00 35.8	+1.1

IDC 24 17:02:25.3±11.0, 16°35S×175°15E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.6/19, mbtmp4.0/4, ML3.9/1, Error ellipse: s-maj=226.4km s-min=99.6km az=105.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.00**	**234**	Pn	Pn	17 04 50.3	-0.1
	1.0nm,0.3s,baz=271,slow=24,SNR=7.1						
STKA	**Stephens Creek**	**34.14**	**237**	P	P	17 09 11.8	-0.3
	1.4nm,0.9s,baz=63,slow=11,SNR=5.4						
WRA	**Warramunga Arr**	**38.88**	**258**	P	P	17 09 53.1	+0.2
	0.2nm,0.3s,baz=83,slow=6.6,SNR=2.8						
ASAR	**Alice Springs**	**39.33**	**253**	P	P	17 09 56.3	-0.3
	1.5nm,0.4s,baz=80,slow=8.9,SNR=95						

*NIED **24** 17:51:00, 33°30N×137°20E, h14km, Mw3.3 Best double couple: M0 8.46000×10^13 NP1:φs 37.00000°, δ 58.00000°, λ 64.00000°. NP2:φs 260.00000°, δ 41.00000°, λ 125.00000°.*

JMA 24 17:51:38.3±0.1, 33°27N×137°22E, h54km±1km, M3.5, 11D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TTO2	**TONANKAI O.B.S**	**0.49**	**341**	⇓P	Pn	17 51 49.8	+0.5
TTO1	**TONANKAI O.B.S**	**0.51**	**314**	⇓P	Pn	17 51 49.8	+0.3
TTO1				S	Sn	17 51 59.0	+1.4
TK01	**Tokai 1**	**0.58**	**32**	*e*S	Sn	17 51 58.8	-0.4
TTO3	**TONANKAI O.B.S**	**0.61**	**14**	⇓P	Pn	17 51 51.3	+0.4
TTO3				S	Sn	17 52 00.9	+0.8
TTO4	**TONANKAI O.B.S**	**0.78**	**20**	⇓P	Pn	17 51 53.4	+0.4
TTO4				S	Sn	17 52 04.1	+0.4
TK02	**Tokai 2**	**0.81**	**33**	P	Pn	17 51 53.6	+0.2
TK02				S	Sn	17 52 05.0	+0.6
TTO5	**TONANKAI O.B.S**	**1.06**	**23**	⇓P	Pn	17 51 57.3	+0.5
TTO5				S	Sn	17 52 11.0	+0.5
TK03	**Tokai 3**	**1.09**	**35**	P	Pn	17 51 57.6	+0.5
TK03				S	Sn	17 52 11.8	+0.7
JIE	**Ise**	**1.20**	**339**	⇓P	Pn	17 51 59.6	+0.8
JIE				S	Sn	17 52 14.9	+0.9
TK04	**Tokai 4**	**1.24**	**26**	P	Pn	17 51 59.9	+0.7
TK04				S	Sn	17 52 15.7	+0.9
JKN2	**Miekihoku**	**1.25**	**321**	⇓P	Pn	17 51 59.9	+0.5
JKN2				S	Sn	17 52 14.6	-0.6
JWZ	**Kozaga**	**1.29**	**282**	⇓P	Pn	17 52 00.1	+0.1
JWZ				S	Sn	17 52 15.3	-0.9
JAA	**Atsumi**	**1.36**	**357**	⇓P	Pn	17 52 01.5	+0.5
JAA				*e*S	Sn	17 52 17.5	-0.4
TSUJ	**Tsu 2**	**1.58**	**335**	⇓P	Pn	17 52 04.9	+0.9
TSUJ				S	Sn	17 52 24.1	+0.8
JWY	**Kouya**	**1.65**	**305**	⇓P	Pn	17 52 06.1	+1.0
JWY				S	Sn	17 52 25.6	+0.3
JWM	**Minabe**	**1.66**	**291**	P	Pn	17 52 05.7	+0.6
JWM				S	Sn	17 52 25.0	-0.3
MAT	**Matsushiro**	**3.36**	**14**	P	Pn	17 52 30.6	+2.2
MAT				S	Sn	17 53 08.4	+1.3

IDC 24 18:14:02.1±0.9, 31°09N×85°73E, h0km, mb3.4/7, mb1 3.6/9, mb1mx3.4/29, mbtmp3.4/9, ML3.3/2, Error ellipse: s-maj=32.7km s-min=18.7km az=60.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**11.99**	**287**	P	Pn	18 16 57.4	+2.9
MKAR	**Makanchi Array**	**15.90**	**351**	Pn	Pn	18 17 46.7	-0.6
	0.1nm,0.3s,baz=168,slow=12,SNR=11						
CMAR	**Chiang Mai Arr**	**17.36**	**133**	P	Pn	18 18 04.8	-1.1
	0.1nm,0.3s,baz=308,slow=12,SNR=2.9						
KURBB	**Kurchatov Arra**	**20.24**	**347**	P	P	18 18 38.5	-0.3
	0.6nm,0.7s,baz=160,slow=10,SNR=5.7						
ZALV	**Zalesovo Beam**	**22.85**	**359**	P	P	18 19 06.2	-0.6
	0.6nm,0.4s,baz=184,slow=11,SNR=5.6						
SONM	**Songino Array**	**22.99**	**37**	P	P	18 19 08.6	0.0
	0.3nm,0.4s,baz=215,slow=12,SNR=2.8						
NOA	**NORSAR Array B**	**55.92**	**326**	P	P	18 23 42.1	+0.4
	0.6nm,0.8s,baz=86,slow=6.7,SNR=2.5						
WRA	**Warramunga Arr**	**68.94**	**131**	P	P	18 25 09.1	-0.1
	0.6nm,0.8s,baz=327,slow=6.2,SNR=2.3						
ASAR	**Alice Springs**	**71.37**	**134**	P	P	18 25 24.8	+0.6
	0.6nm,0.6s,baz=315,slow=6.0,SNR=8.2						
TORD	**Torodi Ar. Bea**	**78.29**	**278**	P	P	18 26 04.2	-0.3
	0.2nm,0.4s,baz=56,slow=6.0,SNR=3.5						

MEX 24 18:32:19.0±0.5, 17°22N×100°17W, h43km±6km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.20**	**210**	*e*P	Pn	18 32 24.9	-1.7
CAIG				*i* S	Sn	18 32 30.2	-1.6
ACP2	**Acapulco**	**0.43**	**142**	*e*P	Pn	18 32 27.7	-1.3
ACP2				*e*S	Sn	18 32 35.0	-1.2
ARIG	**Puente Sto Nin**	**1.07**	**351**	*e*P	Pn	18 32 35.8	-1.8
ARIG				*i* S	Sn	18 32 49.6	-1.7
ZIIG	**Zihuatanejo**	**1.30**	**287**	*i* P	Pn	18 32 39.4	-1.3
ZIIG				*i* S	Sn	18 32 54.4	-2.5
PLIG	**Platanillo**	**1.33**	**28**	*i* P	Pn	18 32 39.6	-1.7
PLIG				*i* S	Sn	18 32 55.0	-2.8
YAIG	**Yautepec**	**1.94**	**32**	*i* P	Pn	18 32 48.5	-1.2
YAIG				*i* S	Sn	18 33 11.1	-1.9
PNIG	**Pinotepa**	**2.12**	**113**	*i* P	Pn	18 32 51.0	-1.0
PNIG				*i* S	Sn	18 33 15.0	-2.2

IDC 24 18:45:49.8±12.0, 25°47S×179°55E, h588km±155km, mb3.0/5, mb1 3.3/5, mb1mx3.0/17, mbtmp3.0/5, Error ellipse: s-maj=146.2km s-min=54.3km az=167.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**33.78**	**250**	P	P	18 51 44.0	-0.2
	1.3nm,0.6s,baz=93,slow=14,SNR=3.2						
ASAR	**Alice Springs**	**41.40**	**262**	P	P	18 52 46.4	+0.1
	1.1nm,0.3s,baz=91,slow=7.8,SNR=48						
WRA	**Warramunga Arr**	**41.91**	**268**	P	P	18 52 50.0	-0.4
	1.7nm,0.5s,baz=104,slow=8.0,SNR=16						
NVAR	**Mina Array Bea**	**86.16**	**44**	P	P	18 57 30.1	+0.2
	0.7nm,0.8s,baz=222,slow=8.4,SNR=4.4						
TXAR	**Lajitas Array**	**91.61**	**58**	P	P	18 57 54.9	-0.4
	0.4nm,0.7s,baz=224,slow=7.0,SNR=3.7						
NB2	**NORSAR Subarra**	**143.56**	**350**	PKP	PKPbc	19 04 17.1	+0.3
	comp=Z,0.2nm,0.7s,baz=27,slow=3.8						
NOA	**NORSAR Array B**	**143.56**	**350**	PKP	PKPbc	19 04 17.2	+0.4
	comp=Z,1.3nm,0.8s,baz=21,slow=3.9,SNR=5.9						

IDC 24 19:00:51.0±0.7, 3°85S×34°79E, h0km, mb4.0/15, mb1 4.2/18, mb1mx4.1/29, mbtmp4.1/18, ML4.6/4, MS3.4/14, Ms1 3.4/14, ms1mx3.1/44, Error ellipse: s-maj=15.6km s-min=14.9km az=102.0, Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOND	**KOND**	**0.97**	**135**	*i* P	Pn	19 01 15.9	+3.8
KOND				*i* S	Sn	19 01 32.7	+5.9
KOND				AMP		19 01 37.4	
	comp=Z,794μm,0.6s						
I32KE	**NAIROBI INFRAS**	**3.29**	**38**	Pn	Pn	19 01 42.8	-1.4
	baz=222,slow=20						
I32KE				Lg	Lg	19 02 33.5	
	baz=211,slow=44						
KMBO	**Kilima Mbogo**	**3.66**	**42**	Pn	Pn	19 01 48.0	-1.2
	comp=Z,24nm,0.3s,baz=206,slow=17,SNR=62						
KMBO				Pg	Pb	19 01 58.0	+1.1
	comp=Z,138nm,0.3s,baz=217,slow=18,SNR=59						
KMBO				Lg	Lg	19 02 42.5	
	comp=Z,294nm,0.3s,baz=258,slow=22,SNR=8.1						
MBAR	**Mbarara**	**5.17**	**308**	Pn	Pn	19 02 09.4	-0.6
	comp=Z,98nm,0.3s,baz=121,slow=20,SNR=206						
MBAR				Sn	Sn	19 03 09.0	-1.6
	comp=Z,504nm,0.3s,baz=325,slow=18,SNR=12						
MBAR				Lg	Lg	19 03 34.1	
	comp=Z,803nm,0.3s,baz=185,slow=23,SNR=18						
MBAR				LR	LR	19 04 28.8	
	comp=Z,259nm,18.3s,baz=35,slow=42						
LSZ	**Lusaka**	**13.08**	**209**	Pn	Pn	19 03 56.3	-2.1
	comp=Z,1.4nm,0.3s,baz=31,slow=11,SNR=22						
LSZ				Sn	Sn	19 06 18.4	-6.5
	comp=Z,2.0nm,0.3s,baz=244,slow=8.0,SNR=4.2						
LSZ				Lg	Lg	19 07 36.5	
	comp=Z,7.0nm,0.3s,baz=299,slow=22,SNR=14						
LSZ				LR	LR	19 08 11.4	
	comp=Z,133nm,19.2s,baz=214,slow=34						
ATD	**Arta Tunnel**	**17.25**	**28**	LR	LR	19 11 39.2	
	comp=Z,97nm,19.2s,baz=202,slow=38						
OPO	**Ambohidratompo**	**19.00**	**141**	P	P	19 05 14.1	-0.6
	comp=Z,0.3nm,0.3s,baz=325,slow=15,SNR=5.1						
TSUM	**Tsumeb**	**22.70**	**226**	Lg	Lg	19 12 55.8	
	comp=Z,11nm,1.0s,baz=18,slow=16,SNR=3.9						
TSUM				LR	LR	19 15 08.7	
	comp=Z,153nm,18.7s,baz=119,slow=38						
LBTB	**Lobatse**	**22.83**	**202**	P	P	19 05 55.8	-0.2
	comp=Z,5.9nm,0.8s,baz=27,slow=10,SNR=5.6						
LBTB				Lg	Lg	19 12 33.6	
	comp=Z,16nm,1.1s,baz=288,slow=14,SNR=4.5						
LBTB				LR	LR	19 14 09.1	
	comp=Z,78nm,19.6s,baz=44,slow=35						
BOSA	**Boshof**	**26.24**	**199**	P	P	19 06 29.4	+1.3
	comp=Z,8.2nm,0.9s,baz=33,slow=9.9,SNR=6.3						
BOSA				Lg	Lg	19 14 29.8	
	comp=Z,14nm,1.0s,baz=294,slow=21,SNR=3.5						
BOSA				LR	LR	19 16 15.7	
	comp=Z,73nm,20.4s,baz=201,slow=35						
TORD	**Torodi Ar. Bea**	**36.95**	**298**	P	P	19 08 02.2	0.0
	comp=Z,2.2nm,0.7s,baz=114,slow=7.3,SNR=8.0						
TORD				PP	PnPn	19 09 28.8	+2.4
	comp=Z,1.3nm,0.8s,baz=108,slow=9.9,SNR=4.1						
DBIC	**Dimbokro**	**40.33**	**285**	P	P	19 08 35.1	-0.5
	comp=Z,5.4nm,1.0s,baz=95,slow=13,SNR=3.8						
BRTR	**Keskin Array B**	**43.37**	**359**	P	P	19 08 56.3	+0.9
	comp=Z,0.6nm,0.7s,baz=177,slow=9.6,SNR=5.2						
KEST	**Kesra**	**46.03**	**331**	LR	LR	19 30 17.9	
	comp=Z,16nm,19.6s,baz=240,slow=38						
KBZ	**Khabaz**	**47.92**	**8**	P	P	19 09 32.0	+0.9
	comp=Z,0.8nm,0.4s,baz=183,slow=3.6,SNR=3.6						
GERES	**GERESS Array B**	**55.60**	**343**	P	P	19 10 28.9	+0.2
	comp=Z,1.2nm,0.7s,baz=159,slow=8.2,SNR=10						
ESDC	**Sonseca Array**	**56.07**	**324**	P	P	19 10 33.0	+0.9
	comp=Z,1.7nm,0.7s,baz=133,slow=6.9,SNR=9.0						
AKTO	**Aktyubinsk**	**57.65**	**17**	LR	LR	19 35 47.7	
	comp=Z,29nm,21.1s,baz=232,slow=36						
AAK	**Ala-Archa**	**58.57**	**34**	LR	LR	19 38 12.0	
	comp=Z,34nm,19.8s,baz=34,slow=38						
PSI	**Prapat**	**64.44**	**85**	LR	LR	19 36 55.7	
	comp=Z,98nm,18.3s,baz=190,slow=34						
FINES	**FINESS Array B**	**65.45**	**355**	P	P	19 11 35.5	0.0
	comp=Z,2.0nm,0.7s,baz=191,slow=3.9,SNR=6.2						
MKAR	**Makanchi Array**	**65.50**	**34**	P	P	19 11 35.7	-0.5
	comp=Z,1.2nm,0.6s,baz=234,slow=6.1,SNR=17						
HFS	**Hagfors**	**65.91**	**349**	LR	LR	19 44 38.8	
	comp=Z,13nm,20.1s,baz=322,slow=40						
CMAR	**Chiang Mai Arr**	**66.93**	**68**	P	P	19 11 46.0	+0.1
	comp=Z,0.7nm,0.6s,baz=263,slow=7.2,SNR=7.5						
NB2	**NORSAR Subarra**	**67.24**	**348**	P	P	19 11 46.7	-0.4
	comp=Z,2.0nm,0.9s,baz=154,slow=6.2						
NOA	**NORSAR Array B**	**67.24**	**348**	P	P	19 11 47.0	-0.1
	comp=Z,1.3nm,0.8s,baz=154,slow=5.9,SNR=4.3						
ZALV	**Zalesovo Beam**	**71.03**	**29**	P	P	19 12 10.1	-0.5
	comp=Z,0.6nm,0.6s,baz=235,slow=5.2,SNR=4.5						
ZALV				LR	LR	19 46 55.5	
	comp=Z,23nm,18.0s,baz=70,slow=39						
ARCES	**ARCESS Array B**	**73.51**	**357**	P	P	19 12 25.1	-0.1
	comp=Z,2.8nm,0.9s,baz=176,slow=5.7,SNR=7.5						
SONM	**Songino Array**	**80.63**	**40**	P	P	19 13 06.0	+0.1
	comp=Z,0.7nm,0.8s,baz=256,slow=5.1,SNR=5.7						
QSPA	**South Pole Qui**	**86.20**	**180**	LR	LR	19 48 26.1	
	comp=Z,4.6nm,19.0s,baz=98,slow=33						
USHA	**Ushuaia**	**94.45**	**214**	LR	LR	19 50 41.9	
	comp=Z,130nm,21.3s,baz=20,slow=32						
PDAR	**Pinedale Array**	**129.95**	**326**	PKP	PKPdf	19 20 01.7	-1.7
	comp=Z,0.8nm,1.1s,baz=57,slow=5.5,SNR=4.4						

WEL 24 19:03:07.6±0.2, 45°51S×166°57E, h20km, ML4.0/19, 1C-2D, Error ellipse: s-maj=1.7km s-min=0.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.41**	**86**	⇓P*	Pb	19 03 16.0	-0.1
DCZ				S*	Sb	19 03 21.6	-0.3
DCZ				AML	AML	19 03 21.8	
DCZ				AML	AML	19 03 22.2	
DCZ				AML	AML	19 03 22.2	
WHZ	**Wether Hill Ro**	**1.04**	**112**	PN	Pb	19 03 26.5	-0.4
WHZ				AML	AML	19 03 41.6	
WHZ				AML	AML	19 03 49.1	
MLZ	**Mavora Lakes**	**1.14**	**83**	⇓PN	Pn	19 03 27.5	-1.0
MLZ				AML	AML	19 03 50.6	
MLZ				AML	AML	19 03 53.6	
MSZ	**Milford Sound**	**1.27**	**50**	PN	Pn	19 03 29.0	-1.2
MSZ				AML	AML	19 03 51.5	
MSZ				AML	AML	19 03 51.5	
MSZ				AML	AML	19 03 52.6	
MSZ				AML	AML	19 03 52.7	
APZ	**The Paps**	**1.65**	**144**	PN	Pn	19 03 36.3	+0.7
APZ				SN	Sn	19 03 57.0	+0.8
WKZ	**Wanaka**	**1.86**	**70**	PN	Pb	19 03 39.7	-1.2
WKZ				AML	AML	19 04 09.2	
WKZ				AML	AML	19 04 09.3	
WKZ				AML	AML	19 04 14.4	
EAZ	**Earnscleugh**	**1.95**	**83**	⇑PN	Pb	19 03 41.1	-1.4
EAZ				AML	AML	19 04 11.1	
EAZ				AML	AML	19 04 14.0	
SYZ	**Scrubby Hill**	**2.07**	**121**	PN	Pb	19 03 43.2	-1.2
JCZ	**Jackson Bay**	**2.12**	**48**	PN	Pn	19 03 43.2	+1.3
JCZ				AML	AML	19 04 18.0	
JCZ				AML	AML	19 04 20.0	
TUZ	**Tuapeka**	**2.19**	**103**	PN	Pb	19 03 45.1	-1.4
TUZ				AML	AML	19 04 17.9	
TUZ				AML	AML	19 04 18.1	
LBZ	**Lake Benmore**	**2.80**	**68**	PN	Pn	19 03 51.6	+0.3
LBZ				AML	AML	19 04 31.0	
LBZ				AML	AML	19 04 47.8	
HHSZ	**Highcliff Hill**	**2.85**	**99**	PN	Pn	19 03 53.5	+1.6
ODZ	**Otahua Downs**	**2.92**	**82**	PN	Pn	19 03 53.1	+0.3
ODZ				AML	AML	19 04 36.1	
ODZ				AML	AML	19 04 37.9	
FOZ	**Fox Glacier**	**2.96**	**50**	PN	Pn	19 03 55.4	+2.0
FOZ				AML	AML	19 04 49.1	
FOZ				AML	AML	19 04 50.4	
RPZ	**Rata Peaks**	**3.67**	**62**	PN	Pn	19 04 02.8	-0.4
RPZ				AML	AML	19 04 52.7	
RPZ				AML	AML	19 05 11.2	
WVZ	**Waitaha Valley**	**3.85**	**52**	PN	Pn	19 04 07.1	+1.4
WVZ				AML	AML	19 05 14.3	
OXZ	**Oxford**	**4.49**	**63**	PN	Pn	19 04 15.9	+1.5
LTZ	**Lake Taylor**	**4.92**	**58**	PN	Pn	19 04 22.0	+1.6
DSZ	**Denniston Nort**	**5.34**	**47**	PN	Pn	19 04 27.7	+1.5

GUC 24 19:12:47.4±0.5, 23°86S×67°40W, h234km±11km, ML3.9, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.86**	**311**	*i* S	Sn	19 14 01.0	+1.8
PB04	**Plate Boundary**	**2.49**	**309**	*e*P	Pn	19 13 40.9	+7.5
PB04				*i* S	Sn	19 14 21.5	+12
PB04				AML	AML	19 14 27.6	
	comp=N,143nm,0.4s						
ANCH	**Antofagasta**	**2.76**	**273**	*e*P	Pn	19 13 38.0	+1.7
ANCH				*i* S	Sn	19 14 16.5	+1.8
PB07	**Plate Boundary**	**3.12**	**312**	⇓*i* P	Pn	19 13 43.2	+2.7
PB07				*i* S	Sn	19 14 24.7	+2.3
PB07				AML	AML	19 14 25.9	
	comp=E,138nm,0.3s						
PB01	**Plate Boundary**	**3.40**	**325**	*e*P	Pn	19 13 45.3	+1.7
PB01				*i* S	Sn	19 14 30.3	+2.4
PB01				AML	AML	19 14 33.6	
	comp=E,90nm,0.4s						

IDC 24 19:20:48.9±1.4, 1°29N×120°84E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.6/4, Error ellipse: s-maj=166.5km s-min=25.1km az=61.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.91**	**149**	P	P	19 26 13.9	0.0
	0.2nm,0.3s,baz=331,slow=9.7,SNR=3.3						
SONM	**Songino Array**	**48.02**	**347**	P	P	19 29 30.5	+0.5
	0.6nm,0.5s,baz=164,slow=8.0,SNR=5.8						
MKAR	**Makanchi Array**	**56.39**	**329**	P	P	19 30 32.8	+0.6
	0.4nm,0.3s,baz=124,slow=8.9,SNR=15						
KURBB	**Kurchatov Arra**	**60.78**	**331**	P	P	19 31 01.4	-1.3
	0.4nm,0.4s,baz=116,slow=6.1,SNR=7.8						

*ISCJB **24** 19:21:01.1±0.2, 52°35N±0°07×178°95W±0°04, h186km±3km, mb4.0/24, Error ellipse: s-maj=12.3km s-min=3.6km az=171.2*
*NEIC **24** 19:21:02.9, 52°11N×178°87W, h186km, mb4.3/10, After AEIC.*
*IDC **24** 19:21:02.5±1.4, 52°47N×179°01W, h185km±11km, mb3.6/21, mb1 3.8/24, mb1mx3.7/34, mbtmp3.6/24, Error ellipse: s-maj=16.9km s-min=7.8km az=167.0*

ISC 24 19:21:01.6±0.6, 52°33N±0°08×178°98W±0°03, h181km±5km, n210, σ0°92/222, mb4.0/24, 63C-73D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GANE	**Gareloi Northe**	**0.52**	**166**	P	**Pn**	**19 21 26.7**	**+0.1**
GAEA	**Gareloi East**	**0.56**	**165**	P	**Pn**	**19 21 27.1**	**+0.3**
GALAA	**Gareloi Lava P**	**0.58**	**167**	P	**Pn**	**19 21 27.4**	**+0.5**
TANO	**Tanaga North**	**0.67**	**128**	P	**Pn**	**19 21 28.0**	**+0.7**
TAFP	**Tanaga Falls P**	**0.75**	**124**	P	**Pn**	**19 21 27.9**	**+0.2**
TAFP				S	**Sn**	**19 21 47.8**	**-0.1**
TASE	**Tanaga Southea**	**0.76**	**130**	P	**Pn**	**19 21 28.1**	**+0.2**
GAKI	**Gareloi-Kavalg**	**0.78**	**172**	P	**Pn**	**19 21 28.1**	**+0.2**
TAPA	**Tanaga Point A**	**0.88**	**125**	P	**Pn**	**19 21 28.7**	**+0.1**
CERAA	**Semis' Rag'd T**	**0.93**	**244**	P	**Pn**	**19 21 29.7**	**+0.8**
CEAP	**Semis' Anvil P**	**0.95**	**251**	P	**Pn**	**19 21 30.5**	**+1.5**
CESW	**Semis' Southwe**	**1.00**	**245**	P	**Pn**	**19 21 30.2**	**+0.9**
CETU	**Semis' Tuman**	**1.01**	**250**	P	**Pn**	**19 21 30.6**	**+1.2**
KIKV	**Kanaga Island**	**1.20**	**111**	P	**Pn**	**19 21 31.2**	**+0.2**
KINC	**Kanaga Island**	**1.21**	**108**	P	**Pn**	**19 21 31.2**	**+0.3**
KIRH	**Kanaga Island**	**1.24**	**109**	P	**Pn**	**19 21 31.6**	**+0.4**
AMKA	**Amchitka**	**1.43**	**229**	P	**Pn**	**19 21 33.2**	**+0.3**
AMKA				S	**Sn**	**19 21 56.3**	**-0.8**
LSPA	**Little Sitkin**	**1.55**	**257**	P	**Pn**	**19 21 35.8**	**+1.7**
LSSE	**Little Sitkin**	**1.56**	**256**	P	**Pn**	**19 21 35.7**	**+1.5**
LSNW	**Little Sitkin**	**1.58**	**258**	P	**Pn**	**19 21 35.7**	**+1.3**
LSSA	**Little Sitkin**	**1.59**	**257**	P	**Pn**	**19 21 35.8**	**+1.3**
GSCK	**Great Sitkin C**	**1.76**	**99**	P	**Pn**	**19 21 36.2**	**0.0**
GSTD	**Great Sitkin T**	**1.76**	**98**	P	**Pn**	**19 21 36.0**	**-0.3**
GSTD				S	**Sn**	**19 22 02.7**	**-0.5**
GSTR	**Great Sitkin T**	**1.81**	**96**	P	**Pn**	**19 21 36.9**	**+0.3**
GSMY	**Great Sitkin M**	**1.82**	**98**	P	**Pn**	**19 21 36.6**	**-0.1**
ATKA	**Atka Island**	**2.94**	**91**	P	**Pn**	**19 21 49.5**	**+0.1**
ATKA				S	**Sn**	**19 22 24.8**	**-1.9**
FX1	**Attu Island--F**	**4.82**	**280**	P	**Pn**	**19 22 14.1**	**+0.9**
FX1				S	**Sn**	**19 23 08.9**	**-0.5**
FX1	**Attu Island--F**	**4.82**	**280**	P	**Pn**	**19 22 13.3**	**+0.2**
	6.0nm,0.3s,baz=53,slow=21,SNR=76						
FX1				S	**Sn**	**19 23 07.3**	**-2.1**
	28nm,0.3s,baz=284,slow=22,SNR=32						
NIKH	**Nikolski High**	**6.20**	**80**	P	**Pn**	**19 22 31.1**	**+0.1**
NIKH				S	**Sn**	**19 23 38.1**	**-3.4**
OKSP	**Okmok Steeple**	**6.55**	**78**	P	**Pn**	**19 22 37.1**	**+1.4**
OKRE	**Okmok R'deer

	8.1nm,0.7s							
I14A	**Mackay**	43.15	74	⇓P		P	19 28 44.9	+0.8
	baz=43							
E17A	**Martinsdale**	43.23	69	⇑P		P	19 28 44.9	+0.2
	baz=43							
D18A	**Linhart Farms,**	43.43	68	⇓P		P	19 28 46.4	+0.2
	baz=43							
NVAR	**Mina Array Bea**	43.55	84	P		P	19 28 48.8	+1.3
	7.3nm,0.6s,baz=297,slow=7.4,SNR=51							
NVAR				ScP		ScP	19 34 03.9	-1.8
	0.2nm,0.5s,baz=301,slow=3.1,SNR=4.3							
C19A	**Slack Wire Ran**	43.56	67	⇓P		P	19 28 47.1	-0.1
	baz=43							
F17A	**Fitzpatrick Pl**	43.66	70	⇑P		P	19 28 48.1	0.0
	baz=44							
E18A	**Harlowton**	43.71	69	⇑P		P	19 28 48.0	-0.5
	baz=44							
A21A	**Bergtoll Ranch**	44.06	64	⇑P		P	19 28 50.5	-0.6
	baz=44							
C20A	**Veseth Ranch,**	44.16	66	⇓P		P	19 28 51.7	-0.2
	baz=44							
H18A	**Shoshone NF, C**	44.94	71	⇑P		P	19 28 58.5	+0.2
	baz=45							
GRAC	**Grapevine Rang**	45.03	85	⇑P		P	19 29 00.8	+1.9
	baz=45							
ISA	**Isabella**	45.22	87	⇓P		P	19 29 01.6	+1.0
	baz=45							
R11A	**Troy Canyon, C**	45.25	82	⇑P		P	19 29 01.6	+0.7
	baz=45,SNR=17							
G20A	**Bridger**	45.46	69	⇑P		P	19 29 01.9	-0.4
	baz=45							
D22A	**Cohagen**	45.50	66	⇓P		P	19 29 02.4	-0.2
	baz=45							
MPMC	**Manual Prospec**	45.57	86	⇑P		P	19 29 04.4	+1.1
	baz=45,SNR=5.0							
FURC	**Furnace Creek,**	45.68	85	⇑P		P	19 29 05.3	+1.3
	baz=46,SNR=5.5							
DUG	**Dugway**	45.77	78	⇑P		P	19 29 05.4	+0.5
	baz=46							
PDAR	**Pinedale Array**	46.13	73	P		P	19 29 07.3	-0.4
	2.7nm,0.8s,baz=311,slow=4.3,SNR=20							
SONM	**Songino Array**	46.13	296	P		P	19 29 08.0	+0.5
	0.3nm,0.5s,baz=57,slow=5.6,SNR=3.8							
SONM				ScP		ScP	19 34 13.6	-2.5
	0.7nm,0.8s,baz=35,slow=5.4,SNR=4.6							
SHOC	**Shoshone**	46.41	85	⇓P		P	19 29 10.9	+1.1
	baz=46,SNR=6.0							
K19A	**Absolon Red Bu**	46.51	72	⇓P		P	19 29 10.0	-0.7
	baz=46							
A26A	**Wade Farm, Ken**	46.79	62	⇑P		P	19 29 12.9	+0.4
	baz=47							
I21A	**Big Trails, Te**	46.82	70	⇓P		P	19 29 11.7	-1.3
	baz=47							
TUQ	**Turquoise Moun**	46.94	85	⇑P		P	19 29 14.5	+0.5
	baz=47,SNR=5.7							
HEC	**Hector,Ludlow**	47.09	86	⇓P		P	19 29 16.4	+1.3
	baz=47							
M19A	**Rock Springs**	47.14	74	⇑P		P	19 29 15.6	+0.1
	baz=47							
I22A	**9 Mile Ranch,**	47.24	70	⇓P		P	19 29 15.8	-0.4
	baz=47							
GMRC	**Granite Mounta**	47.53	86	⇓P		P	19 29 19.1	+0.6
	baz=47,SNR=6.6							
J22A	**Midwest**	47.53	70	⇑P		P	19 29 17.9	-0.6
	baz=47							
PFO	**Pinyon Flat Ob**	47.83	87	⇑P		P	19 29 21.3	+0.4
	baz=48							
BELC	**Belle Mtn. Jos**	47.85	87	⇑P		P	19 29 21.3	+0.3
	baz=48,SNR=5.6							
L21A	**Rawlins**	47.90	73	⇓P		P	19 29 21.2	-0.3
	baz=48							
O19A	**Miners Draw (B**	47.91	75	⇓P		P	19 29 21.4	-0.1
	baz=48							
N20A	**Spence Gulch,**	48.08	74	⇓P		P	19 29 23.1	+0.2
	baz=48							
M21A	**Separation Pea**	48.13	73	⇑P		P	19 29 22.5	-0.7
	baz=48							
IRM	**Iron Mountain**	48.26	86	⇑P		P	19 29 24.7	+0.7
	baz=48,SNR=5.8							
W13A	**Hualapai Mount**	48.40	84	⇓P		P	19 29 25.9	+0.5
	baz=48,SNR=7.7							
BC3	**Big Chuckawall**	48.41	87	⇑P		P	19 29 25.7	+0.4
	baz=48							
P19A	**Cripple Cowboy**	48.41	76	⇑P		P	19 29 25.1	-0.3
	baz=48,SNR=5.7							
U15A	**North Rim**	48.49	81	⇓P		P	19 29 27.4	+1.3
	baz=48,SNR=17							
N21A	**Black Mountain**	48.57	74	⇓P		P	19 29 26.7	+0.1
	baz=48							
PDMCI	**Parker Dam,Lak**	48.78	85	⇓P		P	19 29 29.0	+1.0
	baz=49							
P20A	**De Beque**	48.85	76	⇓P		P	19 29 28.5	-0.1
	baz=49							
Y12C	**Blythe**	48.92	86	⇓P		P	19 29 29.4	+0.4
	baz=49							
G27A	**Dupree**	48.92	66	⇑P		P	19 29 28.1	-0.9
	baz=49							
N22A	**Wattenberg Ran**	49.17	73	⇓P		P	19 29 31.0	-0.2
	baz=49							
GLA	**Glamis**	49.21	87	⇑P		P	19 29 32.2	+0.9
	baz=49							
WUAZ	**Wupatki**	49.66	82	*e*P		P	19 29 35.4	+0.6
	5.7nm,0.7s							
WUAZ	**Wupatki**	49.66	82	⇑P		P	19 29 35.6	+0.8
	baz=50							
Y14A	**Wickenburg**	49.72	84	⇑P		P	19 29 36.2	+1.1
	baz=50							
S20A	**Disappointment**	49.95	77	⇓P		P	19 29 36.9	-0.2
	baz=50							
X16A	**Lo Mia Camp, P**	50.35	83	⇓P		P	19 29 41.4	+1.3
	baz=50,SNR=8.5							
J28A	**Allard Ranch,**	50.53	67	⇑P		P	19 29 40.8	-0.3
	baz=50							
R22A	**Saguache, Gunn**	50.65	76	⇓P		P	19 29 41.4	-1.0
	baz=50							
W18A	**Petrified Fore**	50.92	81	⇑P		P	19 29 44.4	+0.1
	baz=51							
214A	**Organ Pipe Nat**	51.20	86	⇓P		P	19 29 47.5	+1.3
	baz=51							
U21A	**Nageezi**	51.29	78	⇓P		P	19 29 47.5	+0.4
	baz=51							
X20A	**Quemado**	52.05	81	⇑P		P	19 29 53.0	+0.2
	baz=52							
X21A	**Alamocita Cree**	52.55	80	⇓P		P	19 29 57.7	+1.2
	baz=52,SNR=9.9							
R26A	**Arlington**	52.56	74	⇓P		P	19 29 56.8	+0.5
	baz=52							
Y20A	**Horse Springs,**	52.56	81	⇑P		P	19 29 58.0	+1.4
	baz=52							
T25A	**Trinidad**	52.76	75	⇓P		P	19 29 58.2	+0.2
	baz=53							
Y21A	**Point of Rocks**	52.92	81	⇓P		P	19 29 59.7	+0.5
	baz=53							
Z20A	**Nine Sixteen R**	52.97	82	⇓P		P	19 30 00.5	+1.0
	baz=53,SNR=6.6							
X22A	**Bernardo**	52.98	80	⇓P		P	19 30 00.8	+1.3
	baz=53							
S26A	**Kim**	52.99	74	⇓P		P	19 29 59.8	+0.3
	baz=53							
V24A	**Rampart Ranch,**	53.20	77	⇑P		P	19 30 02.2	+1.0
	baz=53							
T26A	**Comanche Natio**	53.22	75	⇑P		P	19 30 01.6	+0.3
	baz=53							
U25A	**Circle Dot Ran**	53.26	76	⇓P		P	19 30 01.8	+0.2
	baz=53							
120A	**U Bar Ranch, L**	53.34	83	⇑P		P	19 30 02.9	+0.7
	baz=53,SNR=5.2							
Y22A	**Socorro**	53.39	80	⇑P		P	19 30 03.9	+1.4
	baz=53							
W24A	**Lazy 6 Ranch,**	53.46	78	⇓P		P	19 30 04.1	+1.0
	baz=53							
V25A	**Rancho No Teng**	53.51	77	⇑P		P	19 30 04.2	+0.8
	baz=53							
U26A	**Atchley Ranch,**	53.66	76	⇓P		P	19 30 04.9	+0.5
	baz=54							
319A	**Douglas**	53.76	84	⇑P		P	19 30 05.9	+0.8
	baz=54							
220A	**Playas Peak, P**	53.85	83	⇓P		P	19 30 06.6	+0.8
	baz=54,SNR=12							
Z22A	**Elephant Butte**	53.86	81	⇓P		P	19 30 07.3	+1.3
	baz=54							
121A	**Cookes Peak, D**	53.86	82	⇑P		P	19 30 06.9	+0.9
	baz=54							
Y23A	**Lovelace Mesa,**	53.95	79	⇑P		P	19 30 07.4	+0.8
	baz=54,SNR=9.2							
W25A	**X Bar L Ranch,**	54.03	77	⇑P		P	19 30 07.5	+0.4
	baz=54							
V26A	**Tequesquite Ra**	54.04	76	⇓P		P	19 30 07.6	+0.5
	baz=54							
T28A	**Walsh**	54.13	74	⇑P		P	19 30 08.1	+0.3
	baz=54							
U27A	**Thompson Grove**	54.18	75	⇓P		P	19 30 08.8	+0.6
	baz=54							
122A	**Conniff Cattle**	54.23	81	⇓P		P	19 30 10.1	+1.6
	baz=54							
Z23A	**Rita Site, Whi**	54.30	80	⇑P		P	19 30 09.8	+0.7
	baz=54							
Y24A	**Capitan**	54.33	79	⇓P		P	19 30 10.1	+0.8
	baz=54,SNR=11							
R30A	**Dighton**	54.42	72	⇑P		P	19 30 10.0	+0.2
	baz=54							
U28A	**Mallet**	54.57	75	⇓P		P	19 30 11.0	0.0
	baz=54							
Z24A	**Sheeppen Canyo**	54.78	79	⇓P		P	19 30 13.3	+0.7
	baz=55							
X26A	**CR and CF Fran**	54.87	77	⇓P		P	19 30 13.5	+0.4
	baz=55							
124A	**Stringfield Ra**	55.16	80	⇑P		P	19 30 16.0	+0.6
	baz=55							
224A	**Cornudas Mount**	55.55	81	⇑P		P	19 30 18.7	+0.6
	baz=55							
T31A	**Randall Ranch,**	55.58	72	⇓P		P	19 30 18.0	-0.1
	baz=55							
125A	**Gardner Draw,**	55.67	80	⇓P		P	19 30 19.4	+0.5
	baz=56							
Y27A	**Causey**	55.72	77	⇓P		P	19 30 19.5	+0.3
	baz=56							
225A	**Deer Hill, Car**	55.95	80	⇓P		P	19 30 21.3	+0.3
	baz=56							
226B	**Tecolote Peak,**	56.37	80	⇑P		P	19 30 23.9	+0.1
	baz=56							
V31A	**Spring Creek L**	56.39	74	⇓P		P	19 30 24.0	+0.1
	baz=56							
425A	**Indio Mountain**	56.79	81	⇓P		P	19 30 27.7	+0.9
	baz=57,SNR=6.4							
128A	**Castleberry Fa**	57.01	78	⇑P		P	19 30 28.4	+0.2
	baz=57							
326A	**Caldwell Ranch**	57.02	80	⇓P		P	19 30 28.8	+0.4
	baz=57							
Z29A	**Hungry Hill Ra**	57.02	77	⇑P		P	19 30 28.7	+0.3
	baz=57							
Y30A	**Stafford Cattl**	57.08	76	⇑P		P	19 30 29.0	+0.2
	baz=57							
ARCES	**ARCESS Array B**	57.14	350	P		P	19 30 28.9	+0.4
	2.3nm,0.8s,baz=18,slow=8.2,SNR=5.9							
Z30A	**Sanderson Ranc**	57.35	77	⇑P		P	19 30 30.7	+0.1
	baz=57							
426A	**McDonald Obser**	57.45	81	⇓P		P	19 30 31.8	+0.2
	baz=57,SNR=6.0							
328A	**Wristen Ranch,**	57.68	79	⇓P		P	19 30 33.2	+0.2
	baz=58							
427A	**Hayter Ranch,**	57.70	80	⇑P		P	19 30 33.3	+0.1
	baz=58							
526A	**Mary Lane Ranc**	57.84	81	⇓P		P	19 30 34.6	+0.4
	baz=58,SNR=8.1							
130A	**Snyder**	57.93	77	⇑P		P	19 30 34.9	+0.2
	baz=58							
527A	**Woodward Ranch**	58.07	81	⇓P		P	19 30 36.1	+0.3
	baz=58							
329A	**Wagon Wheel Ra**	58.11	79	⇓P		P	19 30 36.5	+0.5
	baz=58							
626A	**Big Bend Ranch**	58.18	82	⇓P		P	19 30 36.8	+0.3
	baz=58,SNR=10							
428A	**Kincaid Ranch,**	58.22	80	⇑P		P	19 30 37.3	+0.5
	baz=58,SNR=7.8							
Z32A	**Haskell**	58.32	75	⇑P		P	19 30 37.5	+0.2
	baz=58							
230A	**Sterling City**	58.34	78	⇓P		P	19 30 37.7	+0.1
	baz=58							
KURBB	**Kurchatov Arra**	58.40	313	P		P	19 30 37.8	+0.3
	0.3nm,0.5s,baz=43,slow=6.5,SNR=6.2							
528A	**Con Ranch, San**	58.56	80	⇑P		P	19 30 39.7	+0.5
	baz=58							
TXAR	**Lajitas Array**	58.62	82	P		P	19 30 39.9	+0.3
	4.7nm,0.7s,baz=302,slow=4.9,SNR=34							
330A	**Mertzon**	58.65	78	⇓P		P	19 30 39.6	-0.1
	baz=58							
ABTX	**Abilene, Hawle**	58.70	76	⇑P		P	19 30 40.0	0.0
	baz=58							
627A	**Terlingua Ranc**	58.70	81	⇑P		P	19 30 40.1	0.0
	baz=58,SNR=6.5							
429A	**Davenport Ranc**	58.77	79	⇓P		P	19 30 40.2	-0.4
	baz=59							
231A	**Bronte**	58.79	77	⇓P		P	19 30 40.2	-0.4
	baz=59							
628A	**Black Gap, Mar**	58.98	81	⇑P		P	19 30 42.2	+0.2
	baz=59,SNR=7.5							
430A	**Baggett Ranch,**	59.05	79	⇑P		P	19 30 42.6	+0.1
	baz=59							
331A	**San Angelo**	59.17	78	⇓P		P	19 30 43.1	-0.1
	baz=59							
232A	**Coleman**	59.22	77	⇓P		P	19 30 43.4	-0.2
	baz=59							
SCHQ	**Schefferville**	59.33	39	P		P	19 30 43.5	-0.4
	3.1nm,0.9s,baz=303,slow=8.3,SNR=5.5							
530A	**J-C Ranch, Com**	59.45	79	⇑P		P	19 30 45.5	+0.3
	baz=59							
431A	**Sonora**	59.51	78	⇓P		P	19 30 45.4	-0.1
	baz=59							
332A	**Millersview**	59.52	77	⇓P		P	19 30 45.4	-0.2
	baz=59,SNR=6.9							
432A	**Menard**	59.85	78	⇑P		P	19 30 47.7	-0.2
	baz=60							
BVAR	**Borovoye Array**	60.10	319	P		P	19 30 48.0	-1.2
	0.5nm,0.4s,baz=60,slow=8.5,SNR=3.5							
532A	**Rocksprings**	60.32	78	⇑P		P	19 30 50.3	-0.8
	baz=60							
FINES	**FINESS Array B**	64.83	347	P		P	19 31 20.2	-0.2
	1.1nm,0.6s,baz=101,slow=4.1,SNR=5.9							
CMAR	**Chiang Mai Arr**	70.81	275	P		P	19 31 59.0	+0.6
	1.4nm,0.6s,baz=29,slow=7.7,SNR=8.3							
WRA	**Warramunga Arr**	82.62	224	P		P	19 33 04.3	+0.1
	0.6nm,0.5s,baz=33,slow=6.0,SNR=3.5							
PSI	**Prapat**	82.96	265	P		P	19 33 07.1	+0.7
	baz=315,slow=1.4							
BRTR	**Keskin Array B**	84.04	335	P		P	19 33 11.6	0.0
	0.6nm,0.7s,baz=46,slow=3.1,SNR=4.6							
ASAR	**Alice Springs**	86.11	222	P		P	19 33 22.6	+0.9
	0.8nm,0.5s,baz=22,slow=5.3,SNR=39							
STKA	**Stephens Creek**	90.66	213	P		P	19 33 44.5	+1.4
	2.3nm,0.8s,baz=347,slow=4.7,SNR=4.3							
BOSA	**Boshof**	150.25	313	PKPbc		PKPbc	19 40 30.2	-0.7
	2.4nm,0.7s,baz=197,slow=14,SNR=5.7							

MOS ***24*** *19:28:51.4± 1.5, 50°.81N× 155°.27E, h166km, mb4.0/18, Error ellipse: s-maj=13.2km s-min=7.7km az=67.1*
ISCJB ***24*** *19:28:52.0± 0.4, 50°.76N± 0°.05× 155°.28E± 0°.09, h171km± 4km, mb3.9/27, Error ellipse: s-maj=11.9km s-min=5.1km az=43.0*
KRSC ***24*** *19:28:52.1± 1.2, 50°.49N× 156°.13E, h167km± 33km, ML4.1*
IDC ***24*** *19:28:54.4± 1.1, 50°.92N× 155°.21E, h175km± 10km, mb3.6/21, mb1 3.8/24, mb1mx3.7/33, mbtmp3.6/24, Error ellipse: s-maj=13.7km s-min=8.4km az=150.0*

ISC 24 19:28:51.5±0.6, 50°.68N±0°.06× 155°.34E±0°.06, h157km±5km, n75, σ1°53/98, mb3.9/27, 5C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.50**	**89**	*i* P			**Pn**	**19 29 11.5**	**-2.1**
SKR				*i* S			**Sn**	**19 29 29.0**	**-1.4**
SKR	comp=Z,2μm,0.5s			pmax	pmax				
SKR	comp=N,180nm,0.4s			pmax	pmax				
SKR	comp=E,310nm,0.5s			pmax	pmax				
SKR	comp=Z,2μm,0.4s			pmax	pmax				
SKR	comp=N,900nm,2.0s			pmax	pmax				
SKR	comp=E,1μm,2.0s			smax	smax				
SKR	comp=N,2μm,2.5s			smax	smax				
SKR	comp=E,1μm,2.0s			smax	smax				
SKR	comp=N,400nm,0.6s			smax	smax				
SKR	comp=E,540μm,0.5s								
SKR	**Severo-Kuril's**	**0.50**	**89**	*i* P			**Pn**	**19 29 14.6**	**+1.0**
SKR				*e*S			**Sn**	**19 29 31.3**	**+0.9**
PAU	**Pauzhetka**	**1.22**	**49**	PN			**Pn**	**19 29 19.4**	**+0.6**
PAU				S			**Sn**	**19 29 39.3**	**-0.5**
PAU	**Pauzhetka**	**1.22**	**49**	*i* P			**Pn**	**19 29 19.4**	**+0.6**

PAU				*e*S			**Sn**	**19 29 39.3**	**-0.5**
MIPR	**Malaya Ipel'ka**	**1.83**	**28**	*e*P			**Pn**	**19 29 26.4**	**+1.3**
MIPR				*e*S			**Sn**	**19 29 51.4**	**+0.4**
ASAK	**Asacha**	**2.34**	**42**	P			**Pn**	**19 29 32.5**	**+1.4**
ASAK				*e*S			**Sn**	**19 30 02.1**	**+0.5**
APC	**Apacha**	**2.52**	**26**	*e*P			**Pn**	**19 29 34.5**	**+1.4**
MTVR	**Mutnovka**	**2.53**	**43**	*e*P			**Pn**	**19 29 34.9**	**+1.5**
MTVR				*e*S			**Sn**	**19 30 06.1**	**+0.2**
RUS	**Russkaya**	**2.65**	**47**	PN			**Pn**	**19 29 35.4**	**+0.7**
RUS				S			**Sn**	**19 30 07.2**	**-0.9**
RUS	**Russkaya**	**2.65**	**47**	*e*P			**Pn**	**19 29 35.4**	**+0.7**
RUS				*e*S			**Sn**	**19 30 07.2**	**-0.9**
PETK	**Petropavlovsk-**	**2.84**	**30**	PN			**Pn**	**19 29 37.8**	**+0.7**
PETK				S			**Sn**	**19 30 14.5**	**+2.1**
PETK	comp=Z,2.0nm,0.3s			pmax	pmax				
PETK	comp=N,2.0nm,0.3s			smax	smax				
PETK	**Petropavlovsk-**	**2.84**	**30**	P			**Pn**	**19 29 37.8**	**+0.7**
PETK	comp=N,1.5nm,0.3s,baz=173,slow=11,SNR=23			S			**Sn**	**19 30 14.5**	**+2.1**
PET	comp=N,2.1nm,0.3s,baz=180,slow=16,SNR=4.8 **Petropavlovsk**	**3.12**	**40**	S			**Sn**	**19 30 18.1**	**-0.5**
KOK	**Koryaka**	**3.32**	**37**	*e*P			**Pn**	**19 29 45.9**	**+2.7**
KOK				*e*S			**Sn**	**19 30 25.6**	**+2.3**
UGLR	**Uglovaya**	**3.33**	**39**	*e*P			**Pn**	**19 29 46.0**	**+2.7**
UGLR				S			**Sn**	**19 30 25.7**	**+2.2**
AVH	**Avacha**	**3.33**	**38**	P			**Pn**	**19 29 45.9**	**+2.5**
AVH				*e*S			**Sn**	**19 30 25.5**	**+1.8**
SMAR	**Somma**	**3.36**	**38**	*e*P			**Pn**	**19 29 46.1**	**+2.3**
KRER	**Koryakskii**	**3.37**	**37**	*e*P			**Pn**	**19 29 46.9**	**+3.0**
KRER				*e*S			**Sn**	**19 30 26.8**	**+2.1**
GNL	**Ganaly**	**3.42**	**27**	*e*P			**Pn**	**19 29 46.0**	**+1.5**
NLC	**Nalytchevo**	**3.52**	**43**	*e*S			**Sn**	**19 30 25.2**	**-2.5**
SPN	**Mys Shipunski**	**3.78**	**48**	*e*S			**Sn**	**19 30 31.0**	**-2.7**
ESO	**Esso**	**5.63**	**20**	PN			**Pn**	**19 30 15.9**	**+2.7**
ESO	**Esso**	**5.63**	**20**	*e*P			**Pn**	**19 30 15.9**	**+2.7**
KMNR	**Kamenistaya**	**5.87**	**28**	P			**Pn**	**19 30 17.8**	**+1.2**
KOZ	**Kozyrevsk**	**6.03**	**25**	P			**Pn**	**19 30 19.7**	**+1.1**
KOZR	**Kozyr**	**6.04**	**25**	PN			**Pn**	**19 30 19.7**	**+0.9**
KPT	**Kopyto**	**6.05**	**27**	P			**Pn**	**19 30 20.4**	**+1.5**
BZMR	**Bezymyannaya**	**6.10**	**28**	*e*P			**Pn**	**19 30 21.6**	**+2.0**
BZWR	**Bezymyannyi-We**	**6.13**	**28**	*e*P			**Pn**	**19 30 21.9**	**+1.9**
BZGR	**Bezymyannyi-Gr**	**6.17**	**29**	*e*P			**Pn**	**19 30 22.5**	**+2.0**
SRDR	**Sredinnyy**	**6.22**	**23**	P			**Pn**	**19 30 23.7**	**+2.6**
ZLN	**Zelenaya**	**6.27**	**29**	P			**Pn**	**19 30 22.8**	**+1.0**
KRSR	**Krestovskiy**	**6.36**	**27**	P			**Pn**	**19 30 25.1**	**+2.0**
BDR	**Baidarnaya**	**6.85**	**28**	*e*P			**Pn**	**19 30 30.7**	**+1.2**
SRKR	**Sorokina**	**6.91**	**28**	P			**Pn**	**19 30 30.6**	**+0.3**
SMKR	**Semkarok**	**6.94**	**29**	P			**Pn**	**19 30 31.3**	**+0.6**
BKI	**Bering**	**7.86**	**51**	PN			**Pn**	**19 30 41.5**	**-1.3**
BKI	**Bering**	**7.86**	**51**	*e*P			**Pn**	**19 30 41.5**	**-1.3**
BKI				*e*S			Sn	19 31 59.6	-11
YUK	**Yuzh-Kuril'sk**	**9.24**	**228**	*i* PN			**Pn**	**19 31 03.3**	**+2.0**
YUK				*i* S			**Sn**	**19 32 44.6**	**+0.7**
YUK	comp=E,32nm,0.7s			pmax	pmax				
YUK	comp=N,18nm,0.7s			pmax	pmax				
YUK	comp=Z,37nm,0.7s			pmax	pmax				
YUK	comp=Z,103nm,2.3s			pmax	pmax				
YUK	comp=E,150nm,2.3s			smax	smax				
YUK	comp=N,31nm,2.3s			smax	smax				
YUK	comp=Z,101nm,5.0s			MLR	MLR				
YUK	comp=E,240nm,5.0s			MLR	MLR				
ASAJ	**Asahikawa**	**10.84**	**238**	P			Pn	19 31 25.6	+3.3
FX1	comp=E,1.1nm,0.3s,baz=76,slow=14,SNR=14 **Attu Island--F**	**11.26**	**72**	P			**Pn**	**19 31 28.9**	**+1.1**
FX1	comp=E,1.7nm,0.3s,baz=227,slow=23,SNR=6.8			S			Sn	19 33 27.1	-5.2
ERM	comp=E,2.1nm,0.3s,baz=83,slow=23,SNR=11 **Erimo**	**12.07**	**229**	*i* PN			**Pn**	**19 31 40.1**	**+1.8**
VLA	**Vladivostok**	**17.67**	**254**	*e*P			**P**	**19 32 45.1**	**-1.3**
YAK	**Yakutsk**	**18.05**	**319**	*d* iP			**Pn**	**19 32 51.0**	**-1.2**
YAK				*e*S			**Sn**	**19 36 10.3**	**-4.5**
YAK	comp=Z,30nm,0.9s			pmax	pmax				
YAK	comp=N,8.0nm,1.1s			pmax	pmax				
YAK	comp=E,15nm,1.1s			pmax	pmax				
YAK	comp=N,32nm,3.0s			smax	smax				
YAK	comp=E,30nm,3.0s			smax	smax				
MJAR	**Matsushiro Arr**	**18.74**	**228**	P			**Pn**	**19 33 01.0**	**+0.5**
KSRS	comp=E,0.4nm,0.3s,baz=38,slow=7.9,SNR=5.7 **Korea Array**	**23.56**	**246**	P			**P**	**19 33 48.4**	**+0.9**
TIXI	comp=E,0.7nm,0.6s,baz=42,slow=8.7,SNR=3.1 **Tiksi**	**24.19**	**340**	*i* iP			**P**	**19 33 52.5**	**-0.4**
TIXI	comp=Z,9.0nm,0.8s			pmax	pmax				
SONM	**Songino Array**	**31.61**	**284**	P			**P**	**19 34 59.0**	**-0.3**
SONM	comp=Z,0.5nm,0.5s,baz=69,slow=8.0,SNR=6.9			PcP			**PcP**	**19 37 47.7**	**+0.1**
ZAK	comp=Z,0.6nm,0.5s,baz=81,slow=1.3,SNR=6.5 **Zakamensk**	**32.53**	**290**	*e*P			**P**	**19 35 07.8**	**+0.5**
ZAK	comp=Z,2.0nm,1.0s			pmax	pmax				
ILAR	**Eielson Array**	**32.60**	**42**	P			**P**	**19 35 07.3**	**-0.3**
INK	comp=Z,3.9nm,0.5s,baz=265,slow=6.2,SNR=44 **Inuvik**	**37.56**	**35**	P			**P**	**19 35 50.5**	**+0.5**
ZALV	comp=Z,2.5nm,0.5s,baz=292,slow=6.4,SNR=11 **Zalesovo Beam**	**41.61**	**303**

PDAR	**Pinedale Array**	**61.30**	**57**	P		**P**		**19 38 50.8**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=310,slow=1.8,SNR=18								
HFS	**Hagfors**	**65.28**	**340**	P		**P**		**19 39 14.5**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=64,slow=3.4,SNR=5.9								
SCHQ	**Schefferville**	**69.11**	**25**	P		**P**		**19 39 39.7**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=351,slow=7.4,SNR=11								
WRA	**Warramunga Arr**	**72.71**	**201**	P		**P**		**19 40 03.0**	**+0.9**
	comp=Z,6.7nm,1.0s,baz=9.6,slow=23,SNR=10								
EKA	**Eskdalemuir Ar**	**72.84**	**347**	P		**P**		**19 40 00.9**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=21,slow=5.4,SNR=7.8								
TXAR	**Lajitas Array**	**74.33**	**63**	P		**P**		**19 40 12.8**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=290,slow=4.0,SNR=14								
ASAR	**Alice Springs**	**76.41**	**200**	P		**P**		**19 40 25.6**	**+2.2**
	comp=Z,0.9nm,0.4s,baz=14,slow=5.1,SNR=18								
MMAI	**Mount Meron Ar**	**81.28**	**313**	P		**P**		**19 40 50.1**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=39,slow=6.8,SNR=8.2								
ESDC	**Sonseca Array**	**88.21**	**344**	P		**P**		**19 41 23.5**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=348,slow=3.0,SNR=3.1								

GUC 24 19:56:11.3±0.4, 24°00S×67°58W, h214km±9km, ML3.8, 3C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.85**	**318**	⇓*iP*	Pn	19 56 51.1	+1.3
LVC				*i* S	S	19 57 21.3	+2.0
PB04	**Plate Boundary**	**2.47**	**314**	⇓*iP*	Pn	19 57 02.7	+7.0
PB04				*e*S	S	19 57 41.2	+11
PB04				AML	AML	19 57 43.1	
	comp=E,83nm,0.4s						
ANCH	**Antofagasta**	**2.61**	**276**	⇓*iP*	Pn	19 56 58.8	+1.6
PB09	**Plate Boundary**	**2.68**	**325**	⇑*iP*	Pn	19 57 00.8	+2.5
PB09				*i* S	S	19 57 38.0	+3.4
PB09				AML	AML	19 57 38.9	
	comp=N,291nm,0.5s						
PB07	**Plate Boundary**	**3.11**	**316**	⇑*iP*	Pn	19 57 05.2	+2.0
PB07				*i* S	S	19 57 45.9	+2.4
PB07				AML	AML	19 57 48.9	
	comp=E,117nm,0.6s						
PB01	**Plate Boundary**	**3.43**	**329**	⇑*iP*	Pn	19 57 08.5	+1.6
PB01				*i* S	S	19 57 52.6	+2.4
PB01				AML	AML	19 57 55.4	
	comp=N,40nm,0.2s						

IDC 24 20:04:03.5±1.1, 19°26N×120°34E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/24, mbtmp3.8/8, Error ellipse: s-maj=145.7km s-min=15.8km az=65.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**30.68**	**341**	P	P	20 10 19.6	-0.5
	0.1nm,0.3s,baz=189,slow=8.5,SNR=2.8						
WRA	**Warramunga Arr**	**41.30**	**160**	P	P	20 11 51.0	0.0
	8.4nm,1.0s,baz=340,slow=9.0,SNR=3.3						
MKAR	**Makanchi Array**	**41.46**	**320**	P	P	20 11 52.0	-0.2
	0.5nm,0.6s,baz=130,slow=10,SNR=5.4						
ZALV	**Zalesovo Beam**	**44.03**	**330**	P	P	20 12 12.3	-0.5
	0.2nm,0.4s,baz=131,slow=5.9,SNR=2.0						
ASAR	**Alice Springs**	**44.67**	**162**	P	P	20 12 17.9	-0.4
	1.1nm,0.7s,baz=347,slow=6.9,SNR=22						
KURBB	**Kurchatov Arra**	**45.47**	**323**	P	P	20 12 23.9	-0.4
	0.7nm,0.6s,baz=122,slow=7.8,SNR=11						
STKA	**Stephens Creek**	**54.77**	**158**	P	P	20 13 35.0	-0.1
	1.4nm,0.7s,baz=328,slow=5.9,SNR=4.3						
FINES	**FINESS Array B**	**75.30**	**330**	P	P	20 15 49.3	+1.0
	1.3nm,0.8s,baz=50,slow=7.4,SNR=2.4						

GUC 24 20:06:48.3±0.5, 32°56S×71°83W, h14km±51km, MD3.5, ML2.5, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.80**	**121**	⇓*iP*	Pg	20 07 03.0	-1.2
ROCH				*i* S	Sg	20 07 13.9	-1.1
ROCH				AML	AML	20 07 15.9	
	comp=E,192nm,0.2s						
PEL	**Peldehue**	**1.12**	**121**	⇑*iP*	Pb	20 07 08.3	-1.3
PEL				*i* S	Sb	20 07 23.3	-0.9
PEL				AML	AML	20 07 24.7	
	comp=E,417nm,0.3s						
CLCH	**Cerro Calan**	**1.37**	**128**	*e*P	Pn	20 07 12.1	-0.9
CLCH				*i* S	Sn	20 07 30.1	-1.0
CLCH				AML	AML	20 07 37.2	
	comp=N,90nm,0.7s						
LNV	**Longovilo**	**1.43**	**166**	*e*P	Pn	20 07 12.8	-1.0
FCH	**Farellones**	**1.50**	**121**	⇑*iP*	Pn	20 07 14.7	-0.5
FCH				*i* S	Sb	20 07 36.0	+0.3
CACH	**El Canelo**	**1.86**	**147**	*e*P	Pn	20 07 20.8	+0.9
LMEL	**Las Melosas**	**1.87**	**134**	⇓*iP*	Pn	20 07 20.4	+0.3
LMEL				*i* S	Sn	20 07 44.4	+0.7
LMEL				AML	AML	20 07 48.7	
	comp=N,112nm,0.2s						

WEL 24 20:08:21.2±0.4, 46°16S×165°86E, h12km, ML3.7/14, 1C-1D, Error ellipse: s-maj=4.2km s-min=2.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**1.13**	**54**	P*	Pb	20 08 40.6	-1.9
DCZ				AML	AML	20 09 00.2	
DCZ				AML	AML	20 09 00.5	
DCZ				AML	AML	20 09 01.1	
DCZ				AML	AML	20 09 01.1	
WHZ	**Wether Hill Ro**	**1.48**	**81**	⇓PN	Pn	20 08 46.5	-1.0
WHZ				SN	Sn	20 09 05.7	-1.1
WHZ				AML	AML	20 09 09.5	
APZ	**The Paps**	**1.62**	**116**	⇑PN	Pn	20 08 48.6	-1.0
APZ				SN	Sn	20 09 08.8	-1.6
MLZ	**Mavora Lakes**	**1.81**	**64**	PN	Pn	20 08 51.8	-0.4
MLZ				AML	AML	20 09 18.3	
MLZ				AML	AML	20 09 18.9	
MSZ	**Milford Sound**	**2.08**	**45**	PN	Pn	20 08 56.4	+0.6
MSZ				AML	AML	20 09 32.0	
MSZ				AML	AML	20 09 32.1	
MSZ				AML	AML	20 09 37.6	
MSZ				AML	AML	20 09 37.7	
SYZ	**Scrubby Hill**	**2.30**	**101**	PN	Pn	20 08 59.0	+0.1
EAZ	**Earnscleugh**	**2.59**	**70**	PN	Pn	20 09 03.8	+1.0
EAZ				AML	AML	20 09 37.8	
EAZ				AML	AML	20 09 37.8	
EAZ				AML	AML	20 09 38.3	
EAZ				AML	AML	20 09 38.6	
WKZ	**Wanaka**	**2.59**	**60**	PN	Pn	20 09 03.9	+1.1
WKZ				SN	Sn	20 09 34.7	+0.4
WKZ				AML	AML	20 09 44.1	
TUZ	**Tuapeka**	**2.63**	**87**	PN	Pn	20 09 04.0	+0.5
TUZ				AML	AML	20 09 36.9	
TUZ				AML	AML	20 09 41.1	
JCZ	**Jackson Bay**	**2.92**	**46**	PN	Pn	20 09 08.1	+0.5
JCZ				AML	AML	20 09 56.8	
JCZ				AML	AML	20 10 02.0	
LBZ	**Lake Benmore**	**3.53**	**61**	PN	Pn	20 09 15.3	-0.5
ODZ	**Otahua Downs**	**3.54**	**73**	PN	Pn	20 09 14.9	-0.9
ODZ				SN	Sn	20 09 55.6	-2.0
FOZ	**Fox Glacier**	**3.76**	**48**	PN	Pn	20 09 20.6	+1.7
WVZ	**Waitaha Valley**	**4.65**	**50**	PN	Pn	20 09 32.0	+0.9

*CSEM **24** 20:10:59.2, 42°.62N×12°.58E, h8km, MD2.3/12, After ROM*
ROM 24 20:10:59.2±0.1, 42°.62N×12°.58E, h8km, Md2.3/12, Ml1.7/9, Error ellipse: s-maj=1.3km s-min=0.8km az=34.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CESX	**Cesi**	**0.01**	**168**	Pg	Pg	20 11 00.9	+0.3
CESX				Sg	Sg	20 11 01.8	+0.3
	3µm,0.2s						
CESX	**Cesi**	**0.01**	**168**	Pg	Pg	20 11 00.9	+0.3
CESX				Sg	Sg	20 11 01.8	+0.3
	3µm,0.2s						
MNS	**Montasola**	**0.24**	**162**	Pg	Pg	20 11 05.2	+1.1
MNS				Sg	Sg	20 11 09.0	+1.5
	79nm,0.3s						
MNS	**Montasola**	**0.24**	**162**	Pg	Pg	20 11 05.2	+1.1
MNS				Sg	Sg	20 11 09.0	+1.5
	79nm,0.3s						
LNSS	**Leonessa**	**0.34**	**92**	Pg	Pg	20 11 06.7	+0.6
LNSS				Sg	Sb	20 11 12.2	-1.3
	134nm,0.1s						
LNSS	**Leonessa**	**0.34**	**92**	Pg	Pg	20 11 06.7	+0.6
LNSS				Sg	Sb	20 11 12.2	-1.3
	134nm,0.1s						
ASSB	**Assisi San Ben**	**0.43**	**8**	Pg	Pg	20 11 08.2	+0.5
ASSB				Sg	Sb	20 11 15.2	-0.7
	39nm,0.6s						
ASSB	**Assisi San Ben**	**0.43**	**8**	Pg	Pg	20 11 08.2	+0.5
ASSB				Sg	Sb	20 11 15.2	-0.7
	39nm,0.6s						
NRCA	**Norcia**	**0.45**	**61**	Pg	Pg	20 11 08.5	+0.4
NRCA				Sg	Sb	20 11 15.8	-0.8
	136nm,0.1s						
NRCA	**Norcia**	**0.45**	**61**	Pg	Pg	20 11 08.5	+0.4
NRCA				Sg	Sb	20 11 15.8	-0.8
	136nm,0.1s						
MGAB	**Montegabbione**	**0.45**	**311**	Pg	Pg	20 11 08.8	+0.7
MGAB				Sg	Sb	20 11 15.6	-0.9
	42nm,0.4s						
MGAB	**Montegabbione**	**0.45**	**311**	Pg	Pg	20 11 08.8	+0.7
MGAB				Sg	Sb	20 11 15.6	-0.9
	42nm,0.4s						
CESI	**CESI - Serrava**	**0.46**	**32**	Pg	Pg	20 11 08.8	+0.6
CESI				Sg	Sb	20 11 16.3	-0.4
	20nm,0.2s						
CESI	**CESI - Serrava**	**0.46**	**32**	Pg	Pg	20 11 08.8	+0.6
CESI				Sg	Sb	20 11 16.3	-0.4
	20nm,0.2s						
FIAM	**Fiamignano**	**0.53**	**131**	Pg	Pg	20 11 10.0	+0.4
FIAM				Sg	Sb	20 11 18.3	-0.6
FIAM	**Fiamignano**	**0.53**	**131**	Pg	Pg	20 11 10.0	+0.4
FIAM				Sg	Sb	20 11 18.3	-0.6
SACS	**San Casciano d**	**0.54**	**295**	Pg	Pb	20 11 10.9	-0.3
SACS				Sg	Sb	20 11 18.6	-0.7
	16nm,0.3s						
FDMO	**Fiordimonte**	**0.56**	**42**	Pg	Pg	20 11 10.5	+0.3
FDMO				Sg	Sb	20 11 19.5	-0.2
	34nm,0.1s						
FDMO	**Fiordimonte**	**0.56**	**42**	Pg	Pg	20 11 10.5	+0.3
FDMO				Sg	Sb	20 11 19.5	-0.2
	34nm,0.1s						
TERO	**Teramo**	**0.76**	**89**	Pg	Pg	20 11 13.5	-0.4
TERO				Sg	Sb	20 11 25.0	-0.3
TERO	**Teramo**	**0.76**	**89**	Pg	Pg	20 11 13.5	-0.4
TERO				Sg	Sb	20 11 25.0	-0.3

*CSEM **24** 20:13:22.3, 46°.05N×13°.91E, h0km, ML0.4, After LJU*
LJU 24 20:13:22.3, 46°.05N×13°.91E, h11km, ML0.4, Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VOJS	**Vojsko**	**0.02**	**231**	*i* Pg	Pg	20 13 24.4	0.0
VOJS				*i* Sg	Sg	20 13 25.8	0.0
VOJS	**Vojsko**	**0.02**	**231**	*i* Pg	Pg	20 13 24.4	+0.1
VOJS				*i* Sg	Sg	20 13 25.8	0.0
JAVS	**Javornik**	**0.19**	**145**	*i* Pg	Pg	20 13 26.5	0.0
JAVS				*i* Sg	Sg	20 13 29.6	+0.3
JAVS							
	comp=Z,1.0nm,0.0s						
JAVS	**Javornik**	**0.19**	**145**	*i* Pg	Pg	20 13 26.5	0.0
JAVS				*i* Sg	Sg	20 13 29.6	+0.3
	comp=Z,1.0nm,0.0s						
CADS	**Cadrg**	**0.22**	**327**	*i* Sg	Sg	20 13 30.6	+0.5
CADS	**Cadrg**	**0.22**	**327**	*i* Sg	Sg	20 13 30.6	+0.5
CRNS	**Crni Vrh**	**0.25**	**82**	*i* Pg	Pg	20 13 27.5	0.0
CRNS				*i* Sg	Sg	20 13 31.4	+0.4
CRNS							
	comp=Z,3.0nm,0.1s						
GORS	**Gorjuse**	**0.28**	**12**	*i* Pg	Pg	20 13 27.9	-0.3
GORS	**Gorjuse**	**0.28**	**12**	*i* Pg	Pg	20 13 27.9	-0.2

*BJI **24** 20:27:08.0, 45°.70N×26°.50E, h133km, mB4.8/1, mb4.7/4*
*CSEM **24** 20:27:09.7±0.1, 45°.74N×26°.59E, h134km±1km, mb4.3/11, Error ellipse: s-maj=3.0km s-min=2.3km az=14.0*
*BUC **24** 20:27:09.7±1.0, 45°.70N×26°.61E, h140km±10km, MD5.1/2, Error ellipse: s-maj=7.3km s-min=6.9km az=112.0*
*MOS **24** 20:27:09.0±0.8, 45°.73N×26°.58E, h138km, mb4.4/19, Error ellipse: s-maj=5.8km s-min=4.2km az=111.6*
MOS Felt (II) at Kishinev.
*NEIC **24** 20:27:09.8±0.2, 45°.71N×26°.47E, mb4.5/17, Error ellipse: s-maj=5.6km s-min=4.4km az=182.0*
NEIC Felt [II] at Chisinau, Moldova.
*ISCJB **24** 20:27:09.0±0.1, 45°.71N±0°.01×26°.60E±0°.02, h140km±1km, mb4.3/36, Error ellipse: s-maj=2.3km s-min=2.1km az=27.6*
*PRU **24** 20:27:10.5, 45°.74N×26°.84E, h120km, M4.0*
*IDC **24** 20:27:10.1±0.4, 45°.72N×26°.44E, h132km±3km, mb4.0/15, mb1 3.9/21, mb1mx3.8/34, mbtmp3.8/21, MS2.5/1, Ms1 2.5/1, ms1mx1.8/39, Error ellipse: s-maj=14.8km s-min=8.3km az=156.0*
*TEH **24** 20:27:10.0, 45°.70N×26°.56E, h133km, ML4.0*
ISC 24 20:27:10.6±0.4, 45°.74N±0°.02×26°.60E±0°.02, h140km±3km, h140km:pP-P, n499, σ1°39/588, mb4.5/36, 109C-49D, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.12**	**16**	⇑P	Pn	**20 27 28.8**	**-0.9**
PLOR				S	Sn	**20 27 42.7**	**-1.5**
PLOR	**Plostina**	**0.12**	**16**	⇑*i*P	Pn	**20 27 28.8**	**-0.9**
PLOR				*i* S	Sn	**20 27 42.7**	**-1.5**
PLOR	**Plostina**	**0.12**	**16**	⇑*i*P	Pn	**20 27 28.8**	**-0.9**
PLOR	**Plostina**	**0.12**	**16**	⇑*i*P	Pn	**20 27 28.8**	**-0.9**
PLOR				*i* S	Sn	**20 27 42.7**	**-1.5**
VRI	**Vrincioaia**	**0.16**	**34**	⇑P	Pn	**20 27 29.1**	**-0.7**
VRI				S	Sn	**20 27 42.6**	**-1.6**
VRI	**Vrincioaia**	**0.16**	**34**	⇑*i*P	Pn	**20 27 29.0**	**-0.7**
VRI				*i* S	Sn	**20 27 42.6**	**-1.6**
VRI	**Vrincioaia**	**0.16**	**34**	⇑*i*P	Pn	**20 27 29.0**	**-0.7**
VRI	**Vrincioaia**	**0.16**	**34**	⇑*i*P	Pn	**20 27 29.0**	**-0.7**
VRI				*i* S	Sn	**20 27 42.6**	**-1.6**
ODBI	**Odobesti**	**0.32**	**85**	⇑*i*P	Pn	**20 27 30.4**	**+0.3**
ODBI				*i* S	Sn	**20 27 45.4**	**+0.6**
ODBI	**Odobesti**	**0.32**	**85**	⇑*i*P	Pn	**20 27 30.4**	**+0.3**
ODBI	**Odobesti**	**0.32**	**85**	⇑*i*P	Pn	**20 27 30.4**	**+0.3**
ODBI				*i* S	Sn	**20 27 45.4**	**+0.6**
GRER		**0.44**	**143**	⇑*i*P	Pn	**20 27 30.9**	**+0.3**
GRER				*i* S	Sn	**20 27 46.2**	**+0.5**
GRER		**0.44**	**143**	⇑*i*P	Pn	**20 27 30.9**	**+0.3**
GRER		**0.44**	**143**	⇑*i*P	Pn	**20 27 30.9**	**+0.3**
GRER				*i* S	Sn	**20 27 46.2**	**+0.5**
PETR	**Petresti**	**0.44**	**91**	⇑*i*P	Pn	**20 27 30.4**	**-0.1**
PETR				*i* S	Sn	**20 27 45.5**	**-0.1**
PETR	**Petresti**	**0.44**	**91**	⇑*i*P	Pn	**20 27 30.4**	**-0.1**
PETR	**Petresti**	**0.44**	**91**	⇑*i*P	Pn	**20 27 30.4**	**-0.1**
PETR				*i* S	Sn	**20 27 45.5**	**-0.1**
MLR	**Muntele Rosu**	**0.52**	**242**	P	Pn	**20 27 30.1**	**-1.1**
MLR				S	Sn	**20 27 44.5**	**-2.2**
MLR	**Muntele Rosu**	**0.52**	**242**	⇑*i*P	Pn	**20 27 30.4**	**-0.8**
MLR				*i* S	Sn	**20 27 45.6**	**-1.1**
MLR	**Muntele Rosu**	**0.52**	**242**	⇑*i*P	Pn	**20 27 30.4**	**-0.8**
MLR	**Muntele Rosu**	**0.52**	**242**	P	Pn	**20 27 30.1**	**-1.1**
	302nm,0.3s,baz=58,slow=1.5						
MLR				S	Sn	**20 27 44.5**	**-2.2**
	238nm,0.3s,baz=141,slow=20,SNR=6.5						
MLR	**Muntele Rosu**	**0.52**	**242**	P	Pn	**20 27 30.1**	**-1.1**
	302nm,0.3s						
MLR				*i* S	Sn	**20 27 45.6**	**-1.1**
ISR	**Istrita**	**0.62**	**184**	⇑P	Pn	**20 27 31.2**	**-0.5**
ISR				S	Sn	**20 27 47.7**	**+0.1**
ISR	**Istrita**	**0.62**	**184**	⇑*i*P	Pn	**20 27 31.1**	**-0.6**
ISR				*i* S	Sn	**20 27 48.0**	**+0.4**
ISR	**Istrita**	**0.62**	**184**	⇑*i*P	Pn	**20 27 31.1**	**-0.6**
ISR	**Istrita**	**0.62**	**184**	⇑*i*P	Pn	**20 27 31.1**	**-0.6**
ISR				S	Sn	**20 27 47.7**	**+0.1**
TESR	**Tescani**	**0.78**	**2**	⇓*i*P	Pn	**20 27 31.7**	**-1.0**
TESR				*i* S	Sn	**20 27 47.7**	**-1.8**
TESR	**Tescani**	**0.78**	**2**	⇓*i*P	Pn	**20 27 31.7**	**-1.0**
TESR	**Tescani**	**0.78**	**2**	⇓*i*P	Pn	**20 27 31.7**	**-1.0**
TESR				*i* S	Sn	**20 27 47.7**	**-1.8**
DOPR	**Dopca**	**0.88**	**286**	⇑*i*P	Pn	**20 27 32.7**	**-0.8**
DOPR	**Dopca**	**0.88**	**286**	⇑*i*P	Pn	**20 27 32.7**	**-0.8**
DOPR	**Dopca**	**0.88**	**286**	⇑*i*P	Pn	**20 27 32.7**	**-0.8**
PLAR	**PLOIESTI**	**0.92**	**206**	⇑*i*P	Pn	**20 27 33.5**	**-0.3**
PLAR				*i* S	Sn	**20 27 51.5**	**+0.2**
PLAR	**PLOIESTI**	**0.92**	**206**	⇑*i*P	Pn	**20 27 33.5**	**-0.3**
PLAR				*i* S	Sn	**20 27 51.5**	**+0.2**
SULR		**1.08**	**193**	⇑*i*P	Pn	**20 27 34.7**	**-0.5**
SULR				*i* S	Sn	**20 27 53.5**	**-0.4**
SULR		**1.08**	**193**	⇑*i*P	Pn	**20 27 34.7**	**-0.5**
SULR		**1.08**	**193**	⇑*i*P	Pn	**20 27 34.7**	**-0.5**
SULR				*i* S	Sn	**20 27 53.5**	**-0.4**
VOIR		**1.13**	**255**	⇑P	Pn	**20 27 34.7**	**-1.1**
VOIR				S	Sn	**20 27 53.7**	**-1.1**
VOIR		**1.13**	**255**	⇑*i*P	Pn	**20 27 34.6**	**-1.2**
VOIR				*i* S	Sn	**20 27 53.8**	**-1.1**
VOIR		**1.13**	**255**	⇑*i*P	Pn	**20 27 34.6**	**-1.2**
VOIR		**1.13**	**255**	P	Pn	**20 27 34.7**	**-1.1**
VOIR				*i* S	Sn	**20 27 53.8**	**-1.1**
MTUR	**Matau**	**1.20**	**245**	⇑P	Pn	**20 27 35.8**	**-0.6**
MTUR	**Matau**	**1.20**	**245**	⇑*i*P	Pn	**20 27 35.8**	**-0.6**
MTUR	**Matau**	**1.20**	**245**	⇑*i*P	Pn	**20 27 35.8**	**-0.6**
MTUR	**Matau**	**1.20**	**245**	⇑*i*P	Pn	**20 27 35.8**	**-0.6**
CFR	**Carcaliu**	**1.22**	**117**	⇑*i*P	Pn	**20 27 35.6**	**-0.9**
CFR				*i* S	Sn	**20 27 54.5**	**-1.6**
CFR	**Carcaliu**	**1.22**	**117**	⇑*i*P	Pn	**20 27 35.6**	**-0.9**
CFR	**Carcaliu**	**1.22**	**117**	⇑*i*P	Pn	**20 27 35.6**	**-0.9**
CFR				*i* S	Sn	**20 27 54.5**	**-1.6**
AMRR	**Amara**	**1.24**	**155**	⇓P	Pn	**20 27 36.1**	**-0.6**
AMRR				S	Sn	**20 27 55.9**	**-0.7**
AMRR	**Amara**	**1.24**	**155**	⇑*i*P	Pn	**20 27 36.1**	**-0.6**
AMRR				*i* S	Sn	**20 27 55.3**	**-1.3**
AMRR	**Amara**	**1.24**	**155**	⇑*i*P	Pn	**20 27 36.1**	**-0.6**
AMRR	**Amara**	**1.24**	**155**	⇑*i*P	Pn	**20 27 36.1**	**-0.6**
AMRR				S	Sn	**20 27 55.9**	**-0.7**
INCR	**INCERC-Sediu C**	**1.33**	**194**	⇑*i*P	Pn	**20 27 36.7**	**-1.0**
INCR				*i* S	Sn	**20 27 57.3**	**-0.9**
INCR	**INCERC-Sediu C**	**1.33**	**194**	⇑*i*P	Pn	**20 27 36.7**	**-1.0**
INCR	**INCERC-Sediu C**	**1.33**	**194**	⇑*i*P	Pn	**20 27 36.7**	**-1.0**
INCR				*i* S	Sn	**20 27 57.3**	**-0.9**
LEOM	**Leova**	**1.36**	**57**	⇑P	Pn	**20 27 37.0**	**-0.9**
LEOM				S	Sn	**20 27 58.1**	**-0.7**
LEOM	**Leova**	**1.36**	**57**	⇓*i*P	Pn	**20 27 37.8**	**-0.1**
LEOM				*i* S	Sn	**20 27 58.1**	**-0.7**
LEOM	**Leova**	**1.36**	**57**	⇓*i*P	Pn	**20 27 37.8**	**-0.1**
LEOM	**Leova**	**1.36**	**57**	P	Pn	**20 27 37.0**	**-0.9**
LEOM				*i* S	Sn	**20 27 58.1**	**-0.7**
BUC	**Bucharest**	**1.37**	**195**	⇓P	Pn	**20 27 37.1**	**-1.0**
BUC				S	Sn	**20 27 58.5**	**-0.4**
BUC	**Bucharest**	**1.37**	**195**	⇓*i*P	Pn	**20 27 37.1**	**-1.0**
BUC				*i* S	Sn	**20 27 58.0**	**-0.9**
BUC	**Bucharest**	**1.37**	**195**	⇓*i*P	Pn	**20 27 37.1**	**-1.0**
CIOR	**Ciorogarla**	**1.38**	**202**	⇑*i*P	Pn	**20 27 37.2**	**-1.0**
CIOR				*i* S	Sn	**20 27 57.8**	**-1.4**
CIOR	**Ciorogarla**	**1.38**	**202**	⇑*i*P	Pn	**20 27 37.2**	**-1.0**
CIOR	**Ciorogarla**	**1.38**	**202**	⇑*i*P	Pn	**20 27 37.2**	**-1.0**
CIOR				*i* S	Sn	**20 27 57.8**	**-1.4**
ARR	**Arges**	**1.43**	**256**	⇑*i*P	Pn	**20 27 37.8**	**-1.0**
ARR				*i* S	Sn	**20 27 59.8**	**-0.4**
ARR	**Arges**	**1.43**	**256**	⇑*i*P	Pn	**20 27 37.8**	**-1.0**
ARR	**Arges**	**1.43**	**256**	⇑*i*P	Pn	**20 27 37.8**	**-1.0**
ARR				*i* S	Sn	**20 27 59.8**	**-0.4**
BUC1	**Bucharest**	**1.45**	**197**	⇑P	Pn	**20 27 38.0**	**-0.9**
BUC1				S	Sn	**20 27 59.1**	**-1.3**
BUC1	**Bucharest**	**1.45**	**197**	⇑*i*P	Pn	**20 27 38.0**	**-0.9**
BUC1				*i* S	Sn	**20 27 59.1**	**-1.3**
BUC1	**Bucharest**	**1.45**	**197**	⇑*i*P	Pn	**20 27 38.0**	**-0.9**
BUC1	**Bucharest**	**1.45**	**197**	⇑*i*P	Pn	**20 27 38.0**	**-0.9**
BUC1				*i* S	Sn	**20 27 59.1**	**-1.3**
GOLR		**1.46**	**233**	⇑*i*P	Pn	**20 27 38.3**	**-0.8**
GOLR				*i* S	Sn	**20 28 00.2**	**-0.5**
GOLR		**1.46**	**233**	⇑*i*P	Pn	**20 27 38.3**	**-0.8**
GOLR		**1.46**	**233**	⇑*i*P	Pn	**20 27 38.3**	**-0.8**
GOLR				*i* S	Sn	**20 28 00.2**	**-0.5**
MDB	**Medias**	**1.60**	**286**	⇓*i*P	Pn	**20 27 40.5**	**-0.1**
MDB	**Medias**	**1.60**	**286**	⇓*i*P	Pn	**20 27 40.5**	**-0.1**
MDB	**Medias**	**1.60**	**286**	⇓*i*P	Pn	**20 27 40.5**	**-0.1**
IAS	**Iasi**	**1.60**	**24**	⇓P	Pn	**20 27 39.9**	**-0.6**
IAS				S	Sn	**20 28 02.3**	**-1.2**
IAS	**Iasi**	**1.60**	**24**	⇑*i*P	Pn	**20 27 40.0**	**-0.6**
IAS				*i* S	Sn	**20 28 02.1**	**-1.4**
IAS	**Iasi**	**1.60**	**24**	⇑*i*P	Pn	**20 27 40.0**	**-0.6**
IAS	**Iasi**	**1.60**	**24**	P	Pn	**20 27 39.9**	**-0.6**
IAS				S	Sn	**20 28 02.3**	**-1.2**
PRAR	**RASCA**	**1.65**	**351**	⇓*i*P	Pn	**20 27 41.1**	**0.0**
PRAR	**RASCA**	**1.65**	**351**	⇓*i*P	Pn	**20 27 41.1**	**0.0**
PRAR	**RASCA**	**1.65**	**351**	⇓*i*P	Pn	**20 27 41.1**	**0.0**
TLCR		**1.65**	**109**	⇑P	Pn	**20 27 40.4**	**-0.7**
TLCR				S	Sn	**20 28 03.2**	**-1.2**
TLCR		**1.65**	**109**	⇓*i*P	Pn	**20 27 40.4**	**-0.7**
TLCR				*i* S	Sn	**20 28 03.1**	**-

ZIMR		2.26 203	⇑	*i*	P	Pn	20 27 47.0	-1.2
CJR	Cluj-Napoca	2.30 296	⇓	*i*	P	Pn	20 27 48.0	-0.9
CJR				*i*	S	Sn	20 28 18.4	+0.1
CJR	Cluj-Napoca	2.30 296	⇓	*i*	P	Pn	20 27 48.0	-0.9
MANR	Mangalia	2.38 143	⇓	*i*	P	Pn	20 27 49.1	-0.7
MANR				*i*	S	Sn	20 28 17.1	-2.8
MANR	Mangalia	2.38 143	⇓	*i*	P	Pn	20 27 49.1	-0.7
MANR	Mangalia	2.38 143	⇓	*i*	P	Pn	20 27 49.1	-0.7
MANR				*i*	S	Sn	20 28 17.1	-2.8
DEV	Deva	2.59 275	⇑		P	Pn	20 27 52.3	-0.1
DEV					S	Sn	20 28 25.6	+1.1
DEV	Deva	2.59 275	⇑	*i*	P	Pn	20 27 52.3	-0.1
DEV				*i*	S	Sn	20 28 24.4	-0.1
DEV	Deva	2.59 275	⇑	*i*	P	Pn	20 27 52.3	-0.1
DEV	Deva	2.59 275	⇑	*i*	P	Pn	20 27 52.3	-0.1
DEV				*i*	S	Sn	20 28 24.4	-0.1
GZR	Gura Zlata	2.71 264	⇓		P	Pn	20 27 53.6	-0.3
GZR	Gura Zlata	2.71 264	⇑	*i*	P	Pn	20 27 53.1	-0.8
GZR				*i*	S	Sn	20 28 27.3	0.0
GZR	Gura Zlata	2.71 264	⇑	*i*	P	Pn	20 27 53.1	-0.8
GZR	Gura Zlata	2.71 264	⇑	*i*	P	Pn	20 27 53.1	-0.8
GZR				*i*	S	Sn	20 28 27.3	0.0
DRGR		2.90 293	⇓		P	Pn	20 27 55.2	-1.1
DRGR		2.90 293	⇓	*i*	P	Pn	20 27 54.9	-1.4
DRGR		2.90 293	⇓	*i*	P	Pn	20 27 54.9	-1.4
DRGR		2.90 293		P		Pn	20 27 55.2	-1.1
BZS	Buzias	3.50 270	⇓		P	Pn	20 28 02.7	-1.2
BZS					S	Sn	20 28 42.9	-2.4
BZS	Buzias	3.50 270	⇑	*i*	P	Pn	20 28 02.8	-1.2
BZS				*i*	S	Sn	20 28 42.6	-2.7
BZS	Buzias	3.50 270	⇑	*i*	P	Pn	20 28 02.8	-1.2
BZS	Buzias	3.50 270	⇑	*i*	P	Pn	20 28 02.8	-1.2
BZS					S	Sn	20 28 42.9	-2.4
TRPA	Tarpa	3.67 312	⇓	*e*	Pn	Pn	20 28 05.5	-0.7
TRPA	Tarpa	3.67 312	⇓	*e*	P	Pn	20 28 05.5	-0.7
ZAPS	Zavoj	3.76 230	⇑	*i*	Pn	Pn	20 28 06.0	-1.5
ZAPS				*e*	Sn	Sn	20 28 46.4	-5.1
BOLS	Boljevac	3.82 242	⇑	*i*	Pn	Pn	20 28 04.4	-3.8
EDRB	Edirne	3.89 178		*e*	P	Pn	20 28 08.4	-0.7
VTS	Vitosha	3.98 219	⇑		P	Pn	20 28 08.9	-1.6
VTS	Vitosha	3.98 219	⇑	*i*	P	Pn	20 28 08.9	-1.6
VTS	Vitosha	3.98 219	⇑	*i*	P	Pn	20 28 08.9	-1.6
VTS	Vitosha	3.98 219	⇑	*i*	P	Pn	20 28 08.9	-1.6
UZH	Uzhgorod	4.13 316	⇓	*i*	P	Pn	20 28 11.7	-0.5
UZH				*e*	S	Sn	20 28 58.5	-1.5
UZH	Uzhgorod	4.13 316		*i*	P	Pn	20 28 11.7	-0.5
UZH				*e*	S	Sn	20 28 58.5	-1.5
PHSR	Pinarhisar	4.16 170		*e*	P	Pn	20 28 11.9	-0.8
KOLS	Kolonicke sedl	4.35 319		*e*	P	Pn	20 28 15.3	+0.2
KOLS	Kolonicke sedl	4.35 319		*e*	P	Pn	20 28 15.3	+0.2
KOLS	Kolonicke sedl	4.35 319		*e*	P	Pn	20 28 15.3	+0.2
LVV	L'vov	4.44 338		*i*	P	Pn	20 28 14.5	-1.8
LVV				*e*	S	Sn	20 29 00.0	-7.5
LVV	L'vov	4.44 338		*i*	P	Pn	20 28 14.5	-1.8
BARS	Barje	4.51 231	⇑	*i*	Pn	Pn	20 28 15.8	-1.5
GRUS	Gruza	4.58 248	⇑	*i*	Pn	Pn	20 28 16.5	-1.7
RDO	Rodhopi	4.65 190		*e*	P	Pn	20 28 18.0	-1.2
SLVT	Silivri	4.65 165		*e*	P	Pn	20 28 18.4	-0.8
KWP	Kalwaria Pacla	4.70 327		*e*	P	Pn	20 28 20.0	+0.2
KWP	Kalwaria Pacla	4.70 327		*e*	Pn	Pn	20 28 20.0	+0.2
KWP	Kalwaria Pacla	4.70 327		*e*	P	Pn	20 28 20.2	+0.4
KWP	Kalwaria Pacla	4.70 327		*e*	P	Pn	20 28 20.0	+0.2
CTKS	Kestanelik-??a	4.71 162		*e*	P	Pn	20 28 18.6	-1.3
PKSN	Nyarlorinc	4.81 286	⇓	*e*	Pn	Pn	20 28 21.7	+0.5
PKSN	Nyarlorinc	4.81 286	⇓	*e*	P	Pn	20 28 21.7	+0.5
FGSL	Fruska Gora	4.81 266		*i*	Pn	Pn	20 28 17.0	-4.4
NVR	Nevrokopi	4.81 205		*e*	P	Pn	20 28 20.5	-0.9
BGKT	Bogazkoy	4.82 160		*e*	P	Pn	20 28 20.1	-1.3
KLYT	Kilyos	4.82 158		*e*	P	Pn	20 28 20.5	-0.9
ALN	Alexandroupoli	4.85 185		*e*	P	Pn	20 28 21.5	-0.4
DIVS	Divibare	4.97 253	⇑	*i*	Pn	Pn	20 28 21.6	-1.9
DIVS				*e*	Sn	Sn	20 29 14.5	-5.8
MFT	Murefte	4.97 174		*e*	P	Pn	20 28 21.9	-1.6
ISK	Istanbul-Kandi	5.00 158		*e*	P	Pn	20 28 22.7	-1.2
KECS	Kecovo	5.00 306		*e*	P	Pn	20 28 23.2	-0.6
KECS	Kecovo	5.00 306		*e*	P	Pn	20 28 23.2	-0.6
KECS	Kecovo	5.00 306		*e*	P	Pn	20 28 23.2	-0.6
ENEZ	Enez	5.01 184		*e*	P	Pn	20 28 22.5	-1.5
RKY	Sarkoy-Tekirda	5.06 175		*e*	P	Pn	20 28 23.3	-1.5
SILT	Sile	5.09 153		*e*	P	Pn	20 28 23.9	-1.1
PSZ	Piszkesteto	5.09 298		*e*	P	Pn	20 28 23.2	-1.9
PSZ					pmax	pmax		
	comp=Z,30nm,0.9s							
PSZ	Piszkesteto	5.09 298		*e*	Pn	Pn	20 28 23.2	-1.9
	comp=Z,30nm,0.9s							
PSZ	Piszkesteto	5.09 298		*e*	Pn	Pn	20 28 23.8	-1.3
PSZ	Piszkesteto	5.09 298		*e*	P	Pn	20 28 23.2	-1.9
	comp=Z,30nm,0.9s							
SEV	Sevastopol'	5.14 101		*e*	P	Pn	20 28 24.4	-1.3
SEV				*e*	S	Sn	20 29 21.6	-2.5
SEV	Sevastopol'	5.14 101		*e*	P	Pn	20 28 24.4	-1.3
SEV				*e*	S	Sn	20 29 21.6	-2.5
STHS	Stebnicka Huta	5.17 317		*e*	P	Pn	20 28 26.1	+0.1
STHS	Stebnicka Huta	5.17 317		*e*	P	Pn	20 28 26.1	+0.1
STHS	Stebnicka Huta	5.17 317		*e*	P	Pn	20 28 26.1	+0.1
BUY	Buyukada	5.21 158		*e*	P	Pn	20 28 25.8	-0.9
KIEV	Kiev	5.26 18		*e*	P	Pn	20 28 26.3	-0.9
KIEV				*e*			20 29 21.9	
KIEV					pmax	pmax		
	comp=Z,117nm,0.5s							
KIEV	Kiev	5.26 18		*i*	P	Pn	20 28 26.2	-0.9
KIEV	Kiev	5.26 18		*e*	Pn	Pn	20 28 26.3	-0.9
	comp=Z,116nm,0.5s							
KIEV				*e*	Sn	Sn	20 29 21.9	-5.1
KIEV	Kiev	5.26 18		*e*	P	Pn	20 28 26.3	-0.9
	comp=Z,117nm,0.5s							
KIEV				*e*	S	Sn	20 29 21.9	-5.1
VAY	Valandovo	5.30 215		*e*	Pn	Pn	20 28 26.1	-1.7
VAY				*e*	Sn	Sn	20 29 18.5	-9.4
VAY				*e*	Lg	Lg	20 29 36.0	
	comp=N,103nm,0.7s							
VAY				*e*	Lg	Lg	20 29 41.4	
	comp=E,93nm,0.8s							
VAY	Valandovo	5.30 215		*e*	Pn	Pn	20 28 26.1	-1.7
VAY				*e*	Lg	Lg	20 29 41.4	
	comp=E,93nm,0.8s							
SKO	Skopje	5.30 227		*e*	Pn	Pn	20 28 25.4	-2.5
SKO				*e*	Sn	Sn	20 29 17.8	-10
SKO				*e*	Lg	Lg	20 29 24.0	
	comp=N,40nm,0.7s							
SKO				*e*	Lg	Lg	20 29 32.7	
	comp=E,75nm,1.1s							
SKO	Skopje	5.30 227		*e*	Pn	Pn	20 28 25.3	-2.5
SKO				*e*	Lg	Lg	20 29 32.7	
	comp=E,75nm,1.1s							
SMTH	Samothraki Isl	5.32 189		*e*	P	Pn	20 28 26.5	-1.7
GELI	Tayfur-Gelibol	5.33 181		*e*	P	Pn	20 28 26.1	-2.3
SIM	Simferopol'	5.36 96		*de*	P	Pn	20 28 27.5	-1.1
SIM				*e*	S	Sn	20 29 26.0	-3.3
SIM					pmax	pmax		
	comp=Z,68nm,0.4s							
SIM	Simferopol'	5.36 96		*e*	P	Pn	20 28 27.5	-1.1
	comp=Z,68nm,0.4s							
SIM				*e*	S	Sn	20 29 26.0	-3.3
LPK	Lapseki	5.36 179		*e*	P	Pn	20 28 26.9	-1.8
KRBG	Karabiga-Canak	5.36 174		*e*	P	Pn	20 28 27.1	-1.6
ARMT	Armutlu	5.42 161		*e*	P	Pn	20 28 28.5	-1.1
BNT	Bandirma	5.46 169		*e*	P	Pn	20 28 28.8	-1.3
YAL	Yalta	5.49 100		*i*	P	Pn	20 28 29.0	-1.3
YAL				*e*	S	Sn	20 29 32.1	-0.4
YAL	Yalta	5.49 100		*i*	P	Pn	20 28 29.0	-1.3
YAL				*e*	S	Sn	20 29 32.1	-0.4
PKSM	Moragy	5.57 278	⇑	*e*	Pn	Pn	20 28 31.0	-0.4
PKSM	Moragy	5.57 278	⇑	*e*	P	Pn	20 28 31.0	-0.4
ALU	Alushta	5.61 98		*e*	P	Pn	20 28 30.0	-2.0
ALU	Alushta	5.61 98		*e*	P	Pn	20 28 30.0	-2.0
KCTX	Karacabey (Bur	5.62 166		*e*	P	Pn	20 28 30.6	-1.5
NIE	Niedzica	5.63 313		*e*	P	Pn	20 28 33.9	+1.7
NIE	Niedzica	5.63 313		*e*	Pn	Pn	20 28 33.9	+1.7
GRG	Griva	5.67 214		*e*	P	Pn	20 28 31.5	-1.4
GONE	Gonen-Balikesi	5.74 172		*e*	P	Pn	20 28 32.4	-1.3
ADVT	Abdulvahap	5.78 155		*e*	P	Pn	20 28 33.5	-0.8
PLG	Polygyros	5.83 204		*e*	P	Pn	20 28 33.5	-1.6
LIA	Limnos Island	5.93 191		*e*	P	Pn	20 28 35.0	-1.2
VYHS	Vyhne	5.97 300		*e*	P	Pn	20 28 36.2	-0.6
VYHS	Vyhne	5.97 300		*e*	P	Pn	20 28 36.2	-0.6
VYHS	Vyhne	5.97 300		*e*	P	Pn	20 28 36.2	-0.6
SUDU	Sudak	5.98 95		*e*	P	Pn	20 28 34.8	-2.1
SUDU				*e*	S	Sn	20 29 43.5	-0.8
SUDU	Sudak	5.98 95		*e*	P	Pn	20 28 34.8	-2.1
SUDU				*e*	S	Sn	20 29 43.5	-0.8
GULT	Gulveren	6.02 150		*e*	P	Pn	20 28 36.9	-0.8
BIA	Bitola	6.08 221		*e*	Pn	Pn	20 28 36.3	-2.1
BIA	Bitola	6.08 221		*e*	P	Pn	20 28 36.2	-2.1
PKST	T"s	6.11 288	⇓	*e*	Pn	Pn	20 28 38.3	-0.3
PKST	T"s	6.11 288	⇓	*e*	P	Pn	20 28 38.3	-0.3
BALB	Balikesir	6.16 171		*e*	P	Pn	20 28 38.2	-1.2
MDUB	Mudurnu	6.24 146		*e*	P	Pn	20 28 39.8	-0.8
FNA	Florina	6.25 219		*e*	P	Pn	20 28 40.5	-0.1
DST	Dursunbey	6.30 166		*e*	P	Pn	20 28 40.1	-1.3
SAFT	Safranbolu	6.31 133		*e*	P	Pn	20 28 39.2	-2.1
OJC	Ojcow	6.40 317		*e*	P	Pn	20 28 40.8	-1.7
OJC	Ojcow	6.40 317		*e*	Pn	Pn	20 28 40.8	-1.7
OJC	Ojcow	6.40 317		*e*	P	Pn	20 28 40.8	-1.7
KZN	Kozani	6.48 215		*e*	P	Pn	20 28 43.0	-0.7
PRK	Paraskevi	6.49 182		*e*	P	Pn	20 28 43.0	-0.8
TVSB	Tavsanli	6.63 160		*e*	P	Pn	20 28 44.6	-1.1
NEO	Neokhori	6.89 202		*e*	P	Pn	20 28 47.0	-2.2
STON	Ston	7.00 249		*e*	Pn	Pn	20 28 50.8	+0.2
STON					Sn	Sn	20 30 07.9	-0.9
STON	Ston	7.00 249		*e*	Pn	Pn	20 28 50.7	+0.2
STON					Sn	Sn	20 30 07.8	-0.9
OKC	Ostrava-Krasne	7.02 309		*e*	P	Pn	20 28 49.0	-1.8
OKC	Ostrava-Krasne	7.02 309		*e*	PN	Pn	20 28 49.0	-1.8
OKC				*ex*		x	20 28 57.2	
OKC	Ostrava-Krasne	7.02 309			Pn	Pn	20 28 49.0	-1.8
THL	Klokotos Trika	7.03 210		*e*	P	Pn	20 28 50.5	-0.5
TOS	Tosya	7.16 128		*e*	P	Pn	20 28 50.9	-2.0
ALT	Altintas	7.16 158		*e*	P	Pn	20 28 51.7	-1.2
CANT	Cankiri	7.25 133		*e*	P	Pn	20 28 53.0	-1.0
SVRH	Sivrihisar-ESK	7.26 148		*e*	P	Pn	20 28 52.9	-1.3
MORC	Moravsky Berou	7.32 307		*e*	P	Pn	20 28 53.1	-1.8
MORC	Moravsky Berou	7.32 307		*e*	Pn	Pn	20 28 53.1	-1.8
MORC	Moravsky Berou	7.32 307		*e*	P	Pn	20 28 53.1	-1.8
CHOS	Chios island	7.35 183		*e*	P	Pn	20 28 54.5	-1.0
KULA	Kula-Manisa	7.38 167		*e*	P	Pn	20 28 54.5	-1.3
AGG	Agios Georgios	7.42 207		*e*	P	Pn	20 28 55.0	-1.2
ANTO	Ankara	7.42 140		*e*	P	Pn	20 28 55.0	-1.3
ANTO	Ankara	7.42 140		*e*	Pn	Pn	20 28 55.0	-1.3
ANTO	Ankara	7.42 140		*e*	P	Pn	20 28 55.0	-1.3
DIKM	Dikmen	7.48 120		*e*	P	Pn	20 28 55.0	-2.1
LKR	Lokris	7.57 202		*e*	P	Pn	20 28 56.0	-2.2
VRAC	Vranov	7.66 301		P	P	Pn	20 28 58.1	-1.3
VRAC	Vranov	7.66 301		P	P	Pn	20 28 58.1	-1.3
	comp=Z,0.2nm,0.3s,baz=115,slow=12,SNR=12							
VRAC	Vranov	7.66 301		P	P	Pn	20 28 58.1	-1.3
VRAC	Vranov	7.66 301		*e*	Pn	Pn	20 28 58.5	-0.9
EVR	Evrytania	7.68 209		*e*	P	Pn	20 28 56.5	-3.4
ANN	Anapa	7.70 93		*e*	P	Pn	20 28 57.5	-2.4
ANN					eS	Sn	20 30 22.0	-3.6
ANN					pmax	pmax		
	comp=Z,9.0nm,1.0s							
ANN	Anapa	7.70 93		*e*	P	Pn	20 28 57.5	-2.4
	comp=Z,9.0nm,1.0s							
KHL	Karahalli	7.72 163		*e*	P	Pn	20 28 59.3	-1.0
KEK	Kerkira	7.83 222		*e*	P	Pn	20 29 03.0	+1.3
KIZT	Kizilcal	7.89 148		*e*	P	Pn	20 29 01.7	-0.9
AFSR	Af`ar-Bala (A	7.89 141		*e*	P	Pn	20 29 01.3	-1.3
BR131	Keskin Array S	7.93 137		*e*	Pn	Pn	20 29 01.4	-1.8
	comp=Z,4.8nm,0.7s							
BR131	Keskin Array S	7.93 137		*e*	Pn	Pn	20 29 01.4	-1.8
	comp=Z,4.8nm,0.7s							
BRTR	Keskin Array B	7.93 137		P	P	Pn	20 29 02.0	-1.2
BRTR	Keskin Array B	7.93 137		P	P	Pn	20 29 02.0	-1.2
	comp=Z,0.4nm,0.3s,baz=324,slow=10,SNR=41							
BRTR	Keskin Array B	7.93 137		P	P	Pn	20 29 02.0	-1.2
PTL	Penteli	7.95 196		*e*	P	Pn	20 29 02.0	-1.3
SMG	Samos	8.02 179		*e*	P	Pn	20 29 04.5	+0.2
KALE	Kalithea	8.05 206		*e*	P	Pn	20 29 04.0	-0.8
CORM	Corum	8.09 131		*e*	P	Pn	20 29 03.3	-2.1
EFP	Efpalio	8.09 207		*e*	P	Pn	20 29 04.0	-1.3
TRIZ	Trizonia	8.10 206		*e*	P	Pn	20 29 04.0	-1.3
LTK	Loutraki	8.17 201		*e*	P	Pn	20 29 06.5	+0.2
LKD2	Lefkada island	8.22 214		*e*	P	Pn	20 29 11.0	+4.0
LAKA	Lakka	8.24 206		*e*	P	Pn	20 29 05.5	-1.8
DPC	Dobruska-Polom	8.29 308		*e*	P	Pn	20 29 06.9	-1.0
DPC	Dobruska-Polom	8.29 308		*e*	PN	Pn	20 29 06.9	-1.0
DPC				*ex*		x	20 29 14.9	
DPC	Dobruska-Polom	8.29 308			Pn	Pn	20 29 06.9	-1.0
TREC	Trest	8.32 299		*e*	P	Pn	20 29 08.0	-0.3
TREC	Trest	8.32 299		*e*	PN	Pn	20 29 08.0	-0.3
TREC	Trest	8.32 299			Pn	Pn	20 29 08.0	-0.3
KLV	Kalavryta, Ach	8.37 205		*e*	P	Pn	20 29 08.0	-1.1
GUR	Goura	8.41 204		*e*	P	Pn	20 29 10.0	+0.3
KSP	Ksiaz	8.56 310		*e*	P	Pn	20 29 10.3	-1.1
KSP	Ksiaz	8.56 310		*e*	P	Pn	20 29 10.9	-0.5
KSP	Ksiaz	8.56 310		*e*	P	Pn	20 29 10.3	-1.1
RLS	Riolos of Patr	8.57 208		*e*	P	Pn	20 29 13.0	+1.3
SUW	Suwalki	8.57 346		*e*	P	Pn	20 29 09.6	-2.0
SUW					pmax	pmax		
	comp=Z,53nm,0.8s							
SUW	Suwalki	8.57 346		*e*	Pn	Pn	20 29 09.6	-2.0
	comp=Z,53nm,0.8s							
SUW	Suwalki	8.57 346		*e*	P	Pn	20 29 09.1	-2.5
SUW	Suwalki	8.57 346		*e*	P	Pn	20 29 09.6	-2.0
	comp=Z,53nm,0.8s							
DID	Didima	8.60 198		*e*	P	Pn	20 29 11.0	-1.1
MNK	Minsk	8.81 5		*e*	P	Pn	20 29 10.0	-4.7
MICGM	Minsk	8.81 5		*e*		Pn	20 29 10.0	-4.8
VLX	Vlachokerasia	8.94 202		*e*	P	Pn	20 29 17.0	+0.3
AMT	Artemida-Makis	8.97 206		*e*	P	Pn	20 29 18.0	+0.9
PRU	Pruhonice	9.15 302		*e*	P	Pn	20 29 18.2	-1.2
PRU	Pruhonice	9.15 302		*e*	PN	Pn	20 29 18.2	-1.2
PRU	Pruhonice	9.15 302			Pn	Pn	20 29 18.2	-1.2
NACGM	Naroch	9.18 1		*e*	P	Pn	20 29 26.0	+6.4
ITM	Ithomi	9.24 204		*e*	P	Pn	20 29 21.0	+0.4
GERES	GERESS Array B	9.30 294		P	P	Pn	20 29 20.1	-1.4
GERES	GERESS Array B	9.30 294		P	P	Pn	20 29 20.1	-1.4
	comp=Z,0.1nm,0.3s,baz=113,slow=14,SNR=11							
GERES					LR	LR	20 32 15.4	
	comp=Z,25nm,19.0s,baz=147,slow=33							
GERES	GERESS Array B	9.30 294		P	P	Pn	20 29 20.1	-1.4
	comp=Z,25nm,19.0s							
VLI	Veliai	9.42 198		*e*	P	Pn	20 29 23.0	0.0
KHC	Kasperske Hory	9.46 296		*e*	P	Pn	20 29 23.5	0.0
KHC	Kasperske Hory	9.46 296		*e*	PN	Pn	20 29 23.5	0.0
KHC				*ex*		x	20 29 32.1	
KHC	Kasperske Hory	9.46 296		*e*	Pn	Pn	20 29 23.4	0.0
	comp=Z,1.8nm,0.8s							
KHC	Kasperske Hory	9.46 296		*e*	Pn	Pn	20 29 23.4	0.0
	comp=Z,1.8nm,0.8s							
DYR	Agios Nikonas	9.52 201		*e*	P	Pn	20 29 28.0	+3.6
PYL	PYLOS	9.55 204		*e*	P	Pn	20 29 29.0	+4.2
IDID	Didziasalis	9.59 0		*e*	P	Sn	20 31 03.7	-7.4
IDID	Didziasalis	9.59 0		*e*	P	Sn	20 31 03.7	-7.4
	SNR=47							
SOC	Sochi	9.59 98		*e*	P	Pn	20 29 29.0	+3.7
SOC				*e*			20 31 15.9	
SOC					pmax	pmax		
	comp=Z,11nm,0.9s							
IIGN	Ignalina	9.63 359		*e*	P	Sn	20 31 03.7	-8.4
IIGN	Ignalina	9.63 359		*e*	P	Sn	20 31 03.7	-8.4
	SNR=47							
CUC	Castrocucco	9.78 238		*e*	Pn	Pn	20 29 26.5	-1.3
	comp=Z,3.3nm,0.3s							
CUC	Castrocucco	9.78 238		*e*	Pn	Pn	20 29 26.5	-1.3
	comp=Z,3.3nm,0.3s							
TIP	Timpagrande	9.78 231		*e*	Pn	Pn	20 29 26.4	-1.5
	comp=Z,7.6nm,0.4s							
TIP	Timpagrande	9.78 231		*e*	Pn	Pn	20 29 26.4	-1.5
	comp=Z,7.6nm,0.4s							
ISAL	Salakas	9.85 358		*e*	P	Sn	20 31 05.2	-12
ISAL	Salakas	9.85 358		*e*	P	Sn	20 31 05.2	-12
	SNR=47							
VSR	Storozhevoye	9.98 52		*e*	P	Pn	20 29 29.2	-1.1
VSR				*e*	S	Sn	20 31 13.9	-6.7
VSR					pmax	pmax		
	comp=Z,80nm,1.2s							
VSR					pmax	pmax		
	comp=N,10.0nm,0.7s							
VSR					pmax	pmax		
	comp=E,10.0nm,0.7s							
VSR					smax	smax		
	comp=E,650nm,3.0s							
VSR					smax	smax		
	comp=Z,230nm,1.9s							
VSR					smax	smax		
	comp=N,540nm,2.4s							
VSR	Storozhevoye	9.98 52		*e*	P	Pn	20 29 29.2	-1.1
	comp=N,80nm,1.2s							
IZAR	Zarasai	10.03 359		*e*	P	Sn	20 31 03.4	-18
	SNR=47							
AQU	L'Aquila	10.09 255		Pn		Pn	20 29 27.9	-4.0
VAM	Vamos	10.48 191		*e*	P	Pn	20 29 41.0	+3.9
KARN	Karanos	10.52 192		*e*	P	Pn	20 29 42.0	+4.3
LAST	Lasithi	10.60 185		*e*	P	Pn	20 29 45.0	+6.2
ZKR	Zakros	10.61 182		*e*	P	Pn	20 30 07.0	+28
CEL	Celeste	10.91 231		*e*	Pn	Pn	20 29 40.3	-2.6
	comp=N,11nm,0.9s							
CEL	Celeste	10.91 231		*e*	Pn	Pn	20 29 40.3	-2.6
	comp=N,11nm,0.9s							
GVD	Gavdhos	11.05 191		*e*	P	P	20 30 08.0	+14
OBN	Obninsk	11.33 30		*c*	P	Pn	20 29 44.7	-3.4
OBN				*i*	S	Sn	20 31 42.4	-11
OBN					pmax	pmax		
	comp=Z,15nm,0.5s							
OBN	Obninsk	11.33 30		*i*	P	Pn	20 29 44.7	-3.4
	comp=Z,15nm,0.5s							
KIV	Kislovodsk	11.56 93		*e*	P	Pn	20 29 54.8	+3.4
KIV					pmax	pmax		
	comp=Z,7.0nm,1.4s							
KBZ	Khabaz	11.77 94			P	Pn	20 29 56.8	+2.8
KBZ	Khabaz	11.77 94			P	Pn	20 29 56.8	+2.8
KBZ	Khabaz	11.77 94			P	Pn	20 29 56.8	+2.8
	comp=Z,0.2nm,0.3s,baz=324,slow=8.7,SNR=5.1							
BSD	Bornholm Skovb	11.97 326		*e*	P	Pn	20 29 56.3	-0.3
BSD	Bornholm Skovb	11.97 326		*i*	P	Pn	20 29 56.3	-0.3
BSD	Bornholm Skovb	11.97 326		*e*	P	Pn	20 29 56.3	-0.3
MOS	Moscow	12.19 31		*e*	P	Pn	20 29 57.9	-1.5
MOS				*e*			20 32 18.6	
MOS					pmax	pmax		
	comp=Z,53nm,1.2s							
MOS	Moscow	12.19 31		*e*	P	Pn	20 29 57.9	-1.5
	comp=Z,53nm,1.2s							
VSU	Vasula	12.75 0	⇑	*i*	P	Pn	20 30 03.3	-3.3
PGF	Pioggiola	13.04 262		*e*	P	Pn	20 30 12.6	+2.0
	comp=Z,17nm,0.9s							
PGF	Pioggiola	13.04 262		*e*	P	Pn	20 30 12.6	+2.0
	comp=Z,17nm,0.9s							
LPL	La Plagne	13.91 276		*e*	P	P	20 30 26.2	+0.7
	comp=Z,4.5nm,0.5s							
LPL	La Plagne	13.91 276		*e*	P	P	20 30 26.2	+0.7
	comp=Z,4.0nm,0.5s							
MBDF	Montbardon	14.01 273		*e*	P	P	20 30 26.8	+0.2
	comp=Z,9.9nm,0.8s							
MBDF	Montbardon	14.01 273		*e*	P	P	20 30 26.8	+0.2
	comp=Z,9.0nm,0.8s							
VSL	Villasalto	14.12 250		*e*	Pn	P	20 30 28.5	+0.8
CABF	La Chapelle	14.24 281		*e*	P	P	20 30 29.6	+0.6
	comp=Z,9.1nm,0.6s							
CABF	La Chapelle	14.24 281		*e*	P	P	20 30 29.6	+0.6
	comp=Z,9.0nm,0.6s							
FRF	La Foret Royal	14.37 268		*e*	P	P	20 30 30.4	0.0
	comp=Z,13nm,0.7s							
FRF	La Foret Royal	14.37 268		*e*	P	P	20 30 30.4	0.0
	comp=Z,13nm,0.7s							
ORIF	Oris-en-Rattie	14.60 274		*e*	P	P	20 30 33.8	+0.8
ORIF	Oris-en-Rattie	14.60 274		*e*	P	P	20 30 33.8	+0.8
SMRF	Simi

ISRV	**Sarvestan**	**26.44**	**119**	*e*P		**P**	**20 32 34.1**	**-0.6**
ISRV	**Sarvestan**	**26.44**	**119**	*e*P		**P**	**20 32 34.1**	**-0.6**
MDT	**Midelt**	**27.20**	**253**	P		**P**	**20 32 42.1**	**+0.8**
MDT	**Midelt**	**27.20**	**253**	P		**P**	**20 32 42.1**	**+0.8**
	comp=Z,2.7nm,0.9s,baz=78,slow=11,SNR=3.7							
MDT	**Midelt**	**27.20**	**253**	P		**P**	**20 32 42.1**	**+0.8**
TAM	**Tamanrasset**	**28.59**	**224**	*e*P		**P**	**20 32 54.7**	**+0.9**
TAM				pmax	pmax			
	comp=Z,1.0nm,0.7s							
TAM	**Tamanrasset**	**28.59**	**224**	*e*P		**P**	**20 32 54.6**	**+0.9**
	comp=Z,1.5nm,0.7s							
TAM	**Tamanrasset**	**28.59**	**224**	*e*P		**P**	**20 32 54.7**	**+0.9**
	comp=Z,1.5nm,0.7s							
BRVK	**Borovoye**	**28.98**	**59**	*c*i P		**P**	**20 32 58.2**	**+1.5**
BRVK				pmax	pmax			
	comp=Z,9.0nm,0.9s							
BRVK	**Borovoye**	**28.98**	**59**	*e*P		**P**	**20 32 58.2**	**+1.5**
	comp=Z,7.3nm,0.5s							
BRVK	**Borovoye**	**28.98**	**59**	*e*P		**P**	**20 32 58.2**	**+1.5**
	comp=Z,7.3nm,0.5s							
BVAR	**Borovoye Array**	**29.04**	**59**	P		**P**	**20 32 58.9**	**+1.6**
BVAR				*PP		**pP**	**20 33 26.6**	**-0.5**
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BVAR	**Borovoye Array**	**29.04**	**59**	P		**P**	**20 32 58.9**	**+1.6**
BVAR				pP		**pP**	**20 33 26.6**	**-0.5**
BVAR	**Borovoye Array**	**29.04**	**59**	P		**P**	**20 32 58.9**	**+1.6**
	comp=Z,2.3nm,0.6s,baz=272,slow=8.3,SNR=17							
BVAR				pP		**pP**	**20 33 26.6**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=278,slow=10,SNR=3.2							
BVAR	**Borovoye Array**	**29.04**	**59**	P		**P**	**20 32 58.9**	**+1.6**
	comp=Z,2.0nm,0.6s							
KKAR	**Karatay Array**	**31.18**	**79**	*e*P		**P**	**20 33 17.7**	**+1.4**
KKAR				pmax	pmax			
	comp=Z,6.0nm,0.6s							
KKAR	**Karatay Array**	**31.18**	**79**	*e*P		**P**	**20 33 17.7**	**+1.4**
	comp=Z,5.8nm,0.6s							
KKAR	**Karatay Array**	**31.18**	**79**	*e*P		**P**	**20 33 17.7**	**+1.4**
	comp=Z,5.8nm,0.6s							
SPITS	**Spitsbergen Ar**	**32.80**	**356**	P		**P**	**20 33 30.9**	**+0.9**
SPITS	**Spitsbergen Ar**	**32.80**	**356**	P		**P**	**20 33 30.9**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=143,slow=11,SNR=5.7							
AAK	**Ala-Archa**	**34.08**	**78**	*ce*P		**P**	**20 33 43.9**	**+2.2**
AAK				*e*			20 35 05.8	
AAK				pmax	pmax			
	comp=Z,20nm,0.7s							
AAK	**Ala-Archa**	**34.08**	**78**	P		**P**	**20 33 43.4**	**+1.7**
AAK	**Ala-Archa**	**34.08**	**78**	P		**P**	**20 33 43.4**	**+1.7**
	comp=Z,9.1nm,0.7s,baz=250,slow=3.7,SNR=10							
KURBB	**Kurchatov Arra**	**34.38**	**63**	P		**P**	**20 33 44.9**	**+1.0**
	comp=Z,4.0nm,0.4s,baz=287,slow=9.4,SNR=26							
KURK	**Kurchatov**	**34.41**	**62**	P		**P**	**20 33 44.9**	**+0.7**
KURK				pmax	pmax			
	comp=Z,4.0nm,0.4s							
KURK	**Kurchatov**	**34.41**	**62**	P		**P**	**20 33 44.9**	**+0.7**
NVS	**Novosibirsk**	**36.38**	**55**	*i* P		**P**	**20 34 01.9**	**+0.9**
NVS				*e*			20 35 24.6	
NVS				pmax	pmax			
	comp=Z,14nm,0.9s							
NVS				pmax	pmax			
	comp=E,5.0nm,0.8s							
ZAA0	**Zalesovo Array**	**37.46**	**56**	*e*P		**P**	**20 34 10.9**	**+0.8**
ZALV	**Zalesovo Beam**	**37.46**	**56**	P		**P**	**20 34 11.1**	**+1.0**
ZALV				*PP		**pP**	**20 34 40.3**	**-0.4**
ZALV				pmax	pmax			
	comp=Z,10.0nm,0.6s							
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ZALV	**Zalesovo Beam**	**37.46**	**56**	P		**P**	**20 34 11.1**	**+1.0**
ZALV				pP		**pP**	**20 34 40.3**	**-0.4**
ZALV	**Zalesovo Beam**	**37.46**	**56**	P		**P**	**20 34 11.1**	**+1.0**
	comp=Z,10nm,0.6s,baz=282,slow=8.8,SNR=47							
ZALV				pP		**pP**	**20 34 40.3**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=280,slow=9.2,SNR=4.3							
MK31	**Makanchi Array**	**37.83**	**68**	*e*P		**P**	**20 34 14.4**	**+1.1**
MK31				*e*			20 34 44.1	
MK31	**Makanchi Array**	**37.83**	**68**	*e*P		**P**	**20 34 14.4**	**+1.1**
MK31				*e*			20 34 44.1	
MKAR	**Makanchi Array**	**37.83**	**68**	P		**P**	**20 34 14.6**	**+1.2**
MKAR				*PP		**pP**	**20 34 44.8**	**+0.8**
MKAR				pmax	pmax			
	comp=Z,5.0nm,0.5s							
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**37.83**	**68**	P		**P**	**20 34 14.6**	**+1.2**
MKAR				pP		**pP**	**20 34 44.8**	**+0.8**
MKAR	**Makanchi Array**	**37.83**	**68**	P		**P**	**20 34 14.6**	**+1.2**
	comp=Z,5.1nm,0.5s,baz=271,slow=8.3,SNR=113							
MKAR				pP		**pP**	**20 34 44.8**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=278,slow=8.6,SNR=3.6							
TOA0	**Tordoi Ar. Sit**	**38.73**	**221**	*e*P		**P**	**20 34 20.9**	**-0.2**
TORD	**Tordoi Ar. Bea**	**38.73**	**221**	P		**P**	**20 34 21.3**	**+0.2**
TORD				pP		**pP**	**20 34 51.3**	**-0.6**
TORD	**Tordoi Ar. Bea**	**38.73**	**221**	P		**P**	**20 34 21.3**	**+0.2**
	comp=Z,4.0nm,0.5s,baz=32,slow=8.9,SNR=43							
TORD				pP		**pP**	**20 34 51.3**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=28,slow=8.4,SNR=5.0							
HVS	**Khovu-Aksy**	**43.45**	**58**	⇑*i* P		**P**	**20 35 01.0**	**+1.5**
HVS				pmax	pmax			
	comp=Z,56nm,1.0s							
DBIC	**Dimbokro**	**47.48**	**225**	*e*P		**P**	**20 35 29.9**	**-1.5**
DBIC	**Dimbokro**	**47.48**	**225**	P		**P**	**20 35 30.2**	**-1.2**
	comp=Z,4.2nm,0.3s,baz=9.9,slow=9.5,SNR=25							
TIC	**Toumodi**	**47.59**	**225**	*e*P		**P**	**20 35 29.7**	**-2.6**
	comp=Z,5.6nm,0.2s							
KIC	**Kosan Boka**	**47.69**	**224**	*e*P		**P**	**20 35 32.6**	**-0.5**
	comp=Z,8.2nm,0.5s							
LIC	**Lamto**	**47.95**	**225**	*e*P		**P**	**20 35 34.1**	**-1.0**
	comp=Z,11nm,0.6s							
LIC	**Lamto**	**47.95**	**225**	*e*P		**P**	**20 35 34.5**	**-0.6**
	comp=Z,9.1nm,0.3s							
LSA	**Lhasa**	**52.14**	**84**	*e*P		**P**	**20 36 08.6**	**+1.5**
LSA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
LSA	**Lhasa**	**52.14**	**84**	*e*P		**P**	**20 36 08.6**	**+1.5**
	comp=Z,9.8nm,0.9s							
SONM	**Songino Array**	**52.33**	**57**	P		**P**	**20 36 09.3**	**+1.4**
SONM				pP		**pP**	**20 36 40.5**	**+0.2**
SONM	**Songino Array**	**52.33**	**57**	P		**P**	**20 36 09.3**	**+1.4**
	comp=Z,5.5nm,0.8s,baz=294,slow=8.3,SNR=43							
SONM				pP		**pP**	**20 36 40.5**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=300,slow=8.8,SNR=5.8							
ULN	**Ulaanbaatar**	**52.70**	**57**	*e*P		**P**	**20 36 11.8**	**+1.2**
	comp=Z,1.7nm,0.6s							
PALK	**Pallekele**	**60.19**	**112**	*e*P		**P**	**20 37 03.8**	**0.0**
ENH	**Enshi**	**64.34**	**72**	*e*P		**P**	**20 37 31.9**	**+0.5**
	comp=Z,7.2nm,0.6s							
CHTO	**Chiang Mai**	**64.53**	**89**	*e*P		**P**	**20 37 32.8**	**+0.1**
CHTO				pmax	pmax			
	comp=Z,4.0nm,0.8s							
CHTO	**Chiang Mai**	**64.53**	**89**	*e*P		**P**	**20 37 32.8**	**+0.1**
	comp=Z,4.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**64.77**	**89**	P		**P**	**20 37 33.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**64.77**	**89**	P		**P**	**20 37 33.5**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=302,slow=7.2,SNR=4.7							
CN2	**Changchun**	**65.52**	**52**	*e*P		**P**	**20 37 39.4**	**+0.7**
YKA	**Yellowknife Ar**	**67.75**	**342**	P		**P**	**20 37 52.2**	**-0.2**
YKA	**Yellowknife Ar**	**67.75**	**342**	P		**P**	**20 37 52.2**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=26,slow=5.8,SNR=5.8							
USRK	**Ussuriysk Arra**	**68.77**	**48**	P		**P**	**20 37 59.7**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=307,slow=6.4,SNR=5.1							

*ISCJB **24** 20:30:15.9±0.9, 3°.7S±0°.1×34°.80E±0°.06, h10km, mb3.6/7, MS3.1/3, Error ellipse: s-maj=14.6km s-min=8.7km az=1.3*
*IDC **24** 20:30:16.2±1.3, 3°.73S×34°.85E, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.6/28, mbtmp3.7/9, ML3.9/3, MS3.1/4, Ms1 3.1/4, ms1mx2.8/33, Error ellipse: s-maj=24.8km s-min=17.1km az=177.0*

ISC 24 20:30:18.2±0.7, 3°.61S±0°.07×34°.81E±0°.06, h10km, n15, σ1°39/15, mb3.7/7, MS3.2/3, Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOND	**KOND**	**1.14**	**144**	*i* P	**Pg**	**20 30 40.3**	**+0.1**
KOND				*i* S	**Sn**	**20 30 57.3**	**+1.0**
KOND				AMP		20 31 01.8	
	comp=Z,174μm,0.8s						
KMBO	**Kilima Mbogo**	**3.47**	**45**	Pn	**Pn**	**20 31 12.4**	**-0.3**
	comp=Z,3.1nm,0.3s,baz=224,slow=19,SNR=30						
KMBO				Pg	**Pb**	**20 31 21.0**	**+0.9**
	comp=Z,16nm,0.3s,baz=219,slow=18,SNR=55						
KMBO				Sn	**Sn**	**20 31 52.2**	**-1.8**
	comp=Z,36nm,0.3s,baz=57,slow=23,SNR=4.1						
KMBO				Lg	Lg	20 32 06.3	
	comp=Z,96nm,0.3s,baz=62,slow=24,SNR=7.6						
MBAR	**Mbarara**	**5.04**	**306**	Pn	**Pn**	**20 31 34.1**	**-0.1**
	comp=Z,33nm,0.3s,baz=121,slow=16,SNR=76						
MBAR				Sn	**Sn**	**20 32 31.6**	**-1.1**
	comp=Z,76nm,0.3s,baz=68,slow=22,SNR=12						
MBAR				Lg	Lg	20 32 58.2	
	comp=Z,161nm,0.3s,baz=191,slow=23,SNR=18						
MBAR				LR	LR	20 33 53.5	
	comp=Z,151nm,18.6s,baz=44,slow=42						
LSZ	**Lusaka**	**13.30**	**209**	Pn	Pn	20 33 22.1	-5.2
	comp=Z,0.6nm,0.3s,baz=30,slow=9.6,SNR=7.6						
LSZ				Sn	Sn	20 35 42.3	-13
	comp=Z,0.3nm,0.3s,baz=301,slow=16,SNR=4.6						
LSZ				Lg	Lg	20 36 58.7	
	comp=Z,1.1nm,0.3s,baz=307,slow=22,SNR=6.7						
OPO	**Ambohidratompo**	**19.18**	**142**	P	**P**	**20 34 38.7**	**-3.7**
	comp=Z,0.2nm,0.3s,baz=301,slow=13,SNR=3.7						
TSUM	**Tsumeb**	**22.87**	**226**	LR	LR	20 43 52.5	
	comp=Z,33nm,20.7s,baz=135,slow=36						
BOSA	**Boshof**	**26.47**	**199**	LR	LR	20 45 03.4	
	comp=Z,95nm,21.4s,baz=194,slow=34						
TORD	**Tordoi Ar. Bea**	**36.85**	**297**	P	**P**	**20 37 26.4**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=106,slow=11,SNR=3.6						
KEST	**Kesra**	**45.83**	**331**	LR	LR	20 59 30.6	
	comp=Z,28nm,20.5s,baz=197,slow=38						
GERES	**GERESS Array B**	**55.38**	**343**	P	**P**	**20 39 53.8**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=193,slow=5.5,SNR=5.9						
ESDC	**Sonseca Array**	**55.89**	**324**	P	**P**	**20 39 57.0**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=140,slow=9.4,SNR=4.5						
MKAR	**Makanchi Array**	**65.30**	**34**	P	**P**	**20 41 00.3**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=232,slow=6.0,SNR=7.4						
KURBB	**Kurchatov Arra**	**65.72**	**29**	P	**P**	**20 41 03.5**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=229,slow=7.5,SNR=4.3						
NOA	**NORSAR Array B**	**67.02**	**348**	P	**P**	**20 41 12.0**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=150,slow=6.1,SNR=2.5						
SONM	**Songino Array**	**80.44**	**40**	P	**P**	**20 42 31.0**	**+0.6**
	comp=Z,0.3nm,0.9s,baz=216,slow=7.1,SNR=2.8						

*IDC **24** 20:47:20.2±5.7, 7°.50S×127°.99E, h124km±55km, mb3.4/5, mb1 3.8/8, mb1mx3.5/20, mbtmp3.6/8, Error ellipse: s-maj=69.1km s-min=22.1km az=60.0*
*ISCJB **24** 20:47:24.0±0.7, 7°.80S±0°.04×127°.99E±0°.06, h150km, mb3.5/5, Error ellipse: s-maj=8.2km s-min=6.2km az=13.4*
*AUST **24** 20:47:25.5, 7°.99S×128°.04E, h200km*

ISC 24 20:47:24.7±0.9, 7°.87S±0°.06×128°.02E±0°.08, h150km, n17, σ1°89/18, mb3.6/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**4.15**	**243**	P	**Pn**	**20 48 28.2**	**+1.1**
	baz=4.1,SNR=10						
SOEI				S	**Sn**	**20 49 15.9**	**+0.3**
	baz=4.1,SNR=22						
MTN	**Manton Dam**	**5.81**	**148**	P	Pn	20 48 52.6	+3.7
	baz=5.7,SNR=168						
FAKI	**Fak Fak**	**6.47**	**41**	P	**Pn**	**20 48 56.1**	**-1.6**
	baz=6.6,SNR=7.5						
KDU	**Kakadu**	**6.49**	**138**	P	Pn	20 49 01.7	+3.8
	baz=6.4,SNR=193						
KDU				S	**Sn**	**20 50 12.4**	**+1.4**
	baz=6.4,SNR=9.3						
SWI	**Sorong**	**7.67**	**25**	P	**Pn**	**20 49 12.5**	**-1.3**
	baz=7.8,SNR=4.7						
SWI				S	**Sn**	**20 50 40.9**	**+1.4**
	baz=7.8,SNR=3.1						
KNRA	**Kununurra**	**7.79**	**175**	P	**Pn**	**20 49 17.8**	**+2.4**
	baz=7.7,SNR=142						
KNRA				S	**Sn**	**20 50 42.1**	**-0.2**
	baz=7.7,SNR=21						
FITZ	**Fitzroy Crossi**	**10.43**	**193**	P	**Pn**	**20 49 50.1**	**-0.3**
	2.8nm,0.3s,baz=28,slow=11,SNR=79						
FITZ				S	**Sn**	**20 51 42.9**	**-3.0**
	3.8nm,0.3s,baz=78,slow=22,SNR=6.9						
FITZ	**Fitzroy Crossi**	**10.43**	**193**	P	**Pn**	**20 49 50.2**	**-0.3**
	baz=10,SNR=104						
FITZ				S	**Sn**	**20 51 47.3**	**+1.5**
	baz=10,SNR=3.9						
WRA	**Warramunga Arr**	**13.47**	**154**	P	**Pn**	**20 50 30.9**	**+0.8**
	2.7nm,0.3s,baz=323,slow=14,SNR=13						
WRA				S	**Sn**	**20 52 55.5**	**-3.8**
	2.5nm,0.3s,baz=329,slow=23,SNR=4.0						
ASAR	**Alice Springs**	**16.69**	**161**	P	**Pn**	**20 51 12.6**	**+2.7**
	1.9nm,0.3s,baz=334,slow=11,SNR=125						
ASAR				S	**S**	**20 54 14.3**	**-1.2**
	1.1nm,0.3s,baz=326,slow=19,SNR=7.3						
MEEK	**Meekatharra**	**20.69**	**204**	P	Pn	20 52 06.9	+10
	baz=21,SNR=5.2						
STKA	**Stephens Creek**	**27.03**	**154**	P	**P**	**20 52 53.8**	**+0.9**
	1.5nm,0.7s,baz=326,slow=7.3,SNR=4.0						
CMAR	**Chiang Mai Arr**	**38.83**	**313**	P	P	20 54 31.9	-3.5
	0.5nm,0.6s,baz=141,slow=6.5,SNR=3.5						
SONM	**Songino Array**	**58.67**	**343**	P	P	20 57 02.6	-3.8
	0.4nm,0.8s,baz=144,slow=9.9,SNR=3.5						
MKAR	**Makanchi Array**	**67.89**	**328**	P	P	20 58 03.1	-3.9
	0.5nm,0.5s,baz=117,slow=8.8,SNR=10						
ZALV	**Zalesovo Beam**	**71.51**	**335**	P	P	20 58 24.4	-4.6
	0.6nm,0.3s,baz=140,slow=6.0,SNR=4.7						
TORD	**Tordoi Ar. Bea**	**127.04**	**280**	PKP	**PKPdf**	**21 06 10.4**	**-1.6**
	0.3nm,0.6s,baz=109,slow=4.6,SNR=4.3						

GUC 24 20:48:18.8±0.6, 25°.12S×69°.11W, h108km±24km, ML4.1, 2C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANCH	**Antofagasta**	**1.85**	**320**	⇓*i* P	Pn	20 48 53.1	+3.2
ANCH				*i* S	Sn	20 49 17.2	+3.7
ANCH				AML	AML	20 49 20.7	
	comp=E,1μm,0.1s						
CDCH	**Caldera**	**2.48**	**218**	*e*P	Pn	20 48 58.8	+0.9
CDCH				*i* S	Sn	20 49 29.2	+1.4
CDCH				AML	AML	20 49 33.6	
	comp=E,372nm,0.2s						
CPCH	**Copiapo**	**2.50**	**206**	⇑*i* P	Pn	20 48 57.1	-1.0
CPCH				*i* S	Sn	20 49 28.2	-0.1
CPCH				AML	AML	20 49 31.3	
	comp=N,6μm,0.1s						
LVC	**Limon Verde**	**2.50**	**4**	⇓*i* P	Pn	20 48 60.0	+1.4
LVC				*i* S	Sn	20 49 30.6	+1.6
PB04	**Plate Boundary**	**2.86**	**353**	⇓*i* P	Pn	20 49 05.3	+2.5
PB04				AML	AML	20 49 43.5	
	comp=N,304nm,0.1s						
PB09	**Plate Boundary**	**3.31**	**358**	⇓*i* P	Pn	20 49 10.8	+1.7
PB09				AML	AML	20 50 04.5	
	comp=N,813nm,0.4s						
PB07	**Plate Boundary**	**3.45**	**348**	⇓*i* P	Pn	20 49 11.7	+0.7
PB07				*i* S	Sn	20 49 52.1	+0.8
PB07				AML	AML	20 49 55.2	
	comp=N,154nm,0.3s						
LCO	**Las Campanas**	**4.13**	**200**	⇑*i* P	Pn	20 49 19.3	-0.9
LCO				*i* S	Sn	20 50 07.1	-0.7

IDC 24 20:52:15.0±1.1, 55°.69S×27°.89W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/16, mbtmp4.0/3, Error ellipse: s-maj=49.6km s-min=30.0km az=95.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**46.92**	**183**	P	P	21 00 46.5	0.0
	0.9nm,0.6s,baz=175,slow=6.9,SNR=14						
LPAZ	**La Paz**	**49.84**	**306**	P	P	21 01 10.6	+0.1
	0.8nm,0.6s,baz=150,slow=8.1,SNR=3.6						
TORD	**Tordoi Ar. Bea**	**72.94**	**30**	P	P	21 03 46.1	+0.1
	2.0nm,0.6s,baz=200,slow=6.7,SNR=20						
ILAR	**Eielson Array**	**149.58**	**312**	PKPbc	PKPbc	21 12 04.0	-0.9
	0.2nm,0.6s,baz=90,slow=2.7,SNR=2.8						

*ISCJB **24** 21:09:03.2±1.5, 20°.04S±0°.05×70°.7W±0°.1, h44km, mb3.3/1, Error ellipse: s-maj=17.3km s-min=6.4km az=8.9*
*GUC **24** 21:09:05.0±0.4, 20°.07S×70°.45W, h45km±2km, ML3.9*
*IDC **24** 21:09:11.3±3.5, 20°.19S×70°.10W, h90km±24km, mb3.2/2, mb1 3.3/5, mb1mx3.2/20, mbtmp3.2/5, Error ellipse: s-maj=53.4km s-min=16.2km az=93.0*

ISC 24 21:09:04.9±1.8, 20°.02S±0°.05×70°.6W±0°.2, h44km, n10, σ0°62/14, 1C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSGC	**Pisagua**	**0.61**	**46**	⇑*i* P	**Pn**	**21 09 17.1**	**-0.3**
PSGC				⇓*i* S	**Sn**	**21 09 26.0**	**-0.3**
PSGC				AML	AML	21 09 26.8	
	comp=N,7μm,0.3s						
MNMC	**Minimini**	**1.29**	**47**	⇓*i* P	**Pn**	**21 09 27.0**	**+0.2**
MNMC				*i* S	**Sn**	**21 09 44.0**	**+0.9**
MNMC				AML	AML	21 09 47.1	
	comp=E,2μm,0.3s						
PB09	**Plate Boundary**	**2.17**	**145**	⇓*i* P	**Pn**	**21 09 38.7**	**-0.1**
PB09				*i* S	**Sn**	**21 10 04.0**	**-0.5**
PB09				AML	AML	21 10 09.8	
	comp=N,5μm,0.6s						
LVC	**Limon Verde**	**3.02**	**149**	⇓*i* P	**Pn**	**21 09 50.6**	**+0.1**
LVC				*i* S	**Sn**	**21 10 25.9**	**+0.3**
LVC	**Limon Verde**	**3.02**	**149**	P	**Pn**	**21 09 50.6**	**+0.1**
	comp=N,11nm,0.3s,baz=338,slow=7.9,SNR=73						
LVC				S	**Sn**	**21 10 25.2**	**-0.3**
	comp=N,53nm,0.3s,baz=165,slow=23,SNR=21						
LPAZ	**La Paz**	**4.39**	**33**	P	Pn	21 10 16.1	+6.5
	comp=N,0.4nm,0.3s,baz=198,slow=8.0,SNR=8.2						
SIV	**San Ignacio**	**9.90**	**68**	P	**Pn**	**21 11 25.2**	**+0.4**
	comp=N,0.3nm,0.3s,baz=264,slow=13,SNR=4.4						
PLCA	**Paso Flores**	**20.64**	**180**	P	**P**	**21 13 41.7**	**+0.8**
	comp=N,1.6nm,0.5s,baz=360,slow=12,SNR=7.7						
TORD	**Tordoi Ar. Bea**	**78.36**	**71**	P	**P**	**21 21 00.0**	**-1.2**
	comp=N,0.4nm,1.0s,baz=252,slow=3.7,SNR=3.0						
MKAR	**Makanchi Array**	**145.32**	**33**	PKPbc	**PKPbc**	**21 28 38.2**	**+0.4**
	comp=N,0.7nm,0.7s,baz=311,slow=3.6,SNR=8.4						

FUNV 24 21:45:31.1, 7°.55N×72°.25W, h1km, MW3.5, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**0.32**	**348**	⇑*i* P	Pg	21 45 37.2	-0.3
CAPV				*e*S	Sg	21 45 42.1	+0.2
VIGV	**El Vigia**	**1.55**	**34**	*e*P	Pn	21 45 59.2	-0.7
VIGV				*e*S	Sn	21 46 20.2	-0.5
SOCV	**Socops**	**1.56**	**62**	*e*P	Pn	21 45 58.8	-1.2
SOCV				*e*S	Sn	21 46 19.9	-1.0
ELOV	**Elorza**	**2.80**	**101**	*e*P	Pn	21 46 15.7	-1.4
ELOV				*e*S	Sn	21 46 50.0	-1.4
VIRV	**Villa del Rosa**	**2.94**	**357**	*e*P	Pn	21 46 17.6	-1.3
VIRV				*e*S	Sn	21 46 53.0	-1.9
SANV	**Sanarito**	**3.31**	**54**	*e*P	Pn	21 46 23.5	-0.7
CURV	**Curarigua**	**3.33**	**43**	*e*P	Pn	21 46 23.1	-1.4
CURV				*e*S	Sn	21 47 02.0	-2.8
DABV	**Dabajuro**	**3.71**	**25**	*e*P	Pn	21 46 28.9	-0.6
TEPV	**Terepaima**	**3.86**	**51**	*e*P	Pn	21 46 30.6	-1.0
SIQV	**Siquisique**	**3.91**	**38**	*e*P	Pn	21 46 30.9	-1.5
MAPV	**Macapo**	**4.38**	**59**	*e*P	Pn	21 46 38.3	-0.5
BAUV	**El Baul**	**4.39**	**71**	*e*P	Pn	21 46 36.8	-2.2
BAUV				*e*S	Sn	21 47 26.9	-3.8
MONV	**Montecano**	**4.92**	**27**	*e*P	Pn	21 46 44.5	-1.7
MONV				*e*S	Sn	21 47 39.2	-4.6
TURV	**Turiamo**	**5.22**	**56**	*e*P	Pn	21 46 49.2	-1.1
BIRV	**Birongo**	**6.58**	**63**	*e*P	Pn	21 47 07.4	-1.7
CUPV	**Cicepira**	**6.85**	**68**	*e*P	Pn	21 47 10.6	-2.3
PCRV	**Puerto La Cruz**	**7.96**	**70**	*e*P	Pn	21 47 26.1	-2.0

*IDC **24** 21:45:50.7±0.5, 59°.28S×149°.33E, h0km, mb4.7/12, mb1 4.8/12, mb1mx4.7/16, mbtmp4.7/12, MS4.8/13, Ms1 4.8/13, ms1mx4.8/15, Error ellipse: s-maj=24.0km s-min=15.3km az=96.0*
*ISCJB **24** 21:45:50.9±0.3, 59°.40S±0°.05×149°.4E±0°.1, h10km, mb5.0/25, MS4.9/31, Error ellipse: s-maj=9.5km s-min=6.4km az=16.9*
*MOS **24** 21:45:52.7±2.6, 59°.23S×149°.34E, h10km, mb5.2/8, MS4.9/7, Error ellipse: s-maj=31.2km s-min=10.2km az=88.7*
*BJI **24** 21:45:52.7, 59°.40S×149°.30E, h10km, mB5.8/9, mb5.6/10, Ms5.2/13, Ms7 5.0/13*
*NEIC **24** 21:45:52.0±3.2, 59°.40S×149°.32E, h10km±19km, mb5.3/16, Error ellipse: s-maj=9.5km s-min=6.4km az=91.0*
*BKK **24** 21:45:56.6±0.5, 60°.5S±5°.×15°.0E±1°.3, h10km, M5.0/11, mB5.5/2, mb5.0/11, Mw(mB)4.9/2*
*DJA **24** 21:45:56.6±2.2, 60°.5S±4°.×15°.0E±°., h31km±19km, M5.8/19, mB5.7/7, mb5.0/19, MLv6.8/1, Mw(mB)5.2/7*
*GCMT **24** 21:45:56.0±0.1, 59°.30S×149°.22E, h12km, MW5.4, Moment Tensor Solution. s73,c133; s89,c172; Moment tensor: Scale 10^17 Nm; Mrr=0.02±.02; Mθθ=0.71±.02

comp=Z,18nm,1.7s
MAW Mawson 36.35 220 P **P** **21 52 56.6 +0.2**
comp=Z,13nm,0.9s,baz=129,slow=11,SNR=8.2
MAW LR LR 22 06 57.1
comp=Z,1μm,20.6s,baz=108,slow=35
ASAR Alice Springs 37.46 336 P **P** **21 53 03.8 -2.6**
ASAR Alice Springs 37.46 336 P **P** **21 53 03.8 -2.6**
comp=Z,8.2nm,0.7s,baz=166,slow=9.3,SNR=53
ASAR LR LR 22 05 54.4
comp=Z,1μm,19.6s,baz=164,slow=32
DZM Mont Dzumac 39.25 25 *e*S **S** **21 59 23.2 +1.4**
comp=Z,675nm,25.9s
DZM *e*LR LR 22 03 57.8
comp=Z,7μm,25.7s
DZM Mont Dzumac 39.25 25 P **P** **21 53 20.9 -0.6**
DZM Mont Dzumac 39.25 25 P **P** **21 53 20.9 -0.6**
comp=Z,12nm,1.1s,baz=179,slow=15,SNR=4.0
CTAO Charters Tower 39.42 355 *e*P **P** **21 53 22.0 -0.7**
CTAO Charters Tower 39.42 355 *e*P **P** **21 53 22.0 -0.7**
WRA Warramunga Arr 40.99 338 P **P** **21 53 32.8 -3.0**
WRA Warramunga Arr 40.99 338 P **P** **21 53 32.8 -3.0**
comp=Z,12nm,0.8s,baz=172,slow=6.9,SNR=8.9
WRA LR LR 22 08 19.1
comp=Z,2μm,21.2s,baz=160,slow=33
WRAB Tennant Creek 41.00 338 P **P** **21 53 33.0 -2.8**
comp=Z,183nm,1.0s,SNR=13
WRAB Tennant Creek 41.00 338 *e*P **P** **21 53 33.1 -2.8**
WRAB pmax pmax
comp=Z,36nm,1.0s
WRAB Tennant Creek 41.00 338 *e*P **P** **21 53 33.0 -2.8**
comp=Z,36nm,1.0s
SYO Syowa Base 42.34 210⇑*i*P **P** **21 53 45.4 -0.9**
SYO Syowa Base 42.34 210⇑*e*X 21 53 50.4
MBWA Marble Bar 43.80 318 *e*P **P** **21 53 56.1 -2.5**
comp=Z,27nm,1.3s
FITZ Fitzroy Crossi 44.83 327 *e*P **P** **21 54 05.2 -1.7**
comp=Z,148nm,2.2s
SNAA Sanae 47.73 191 *e*P **P** **21 54 29.3 0.0**
SNAA Sanae 47.73 191 *e*P **P** **21 54 28.6 -0.6**
VNA1 Neumayer--Stat 49.22 190 *e*P **P** **21 54 40.8 +0.2**
TBI Tubuai 55.47 77 *e*S **S** **22 03 14.9 +2.5**
comp=Z,418nm,27.2s
TBI *e*LR LR 22 11 32.6
comp=Z,880nm,30.0s
KAPI Kappang 58.96 325 *e*P **P** **21 55 50.4 -1.8**
KAPI Kappang 58.96 325 P **P** **21 55 54.7 +2.4**
comp=Z,26nm,1.7s
PPT2 Papeete2 60.29 74 *e*S **S** **22 04 16.5 +0.8**
comp=Z,94nm,30.8s
PPT2 *e*LQ LQ 22 11 15.3
comp=Z,816nm,24.2s
PPT2 *e*LR LR 22 13 49.8
comp=Z,1μm,26.2s,baz=218
PPT Papeete 60.30 73 LR LR 22 18 49.8
comp=Z,292nm,18.9s,baz=205,slow=33
RKT Rikitea 63.00 90 *e*LR LR 22 15 05.4
comp=Z,733nm,26.5s
SBUM Sibu 68.36 319 P P 21 56 57.5 +3.2
comp=Z,13nm,2.1s
MYLDM Lahad Datu 69.01 327 P **P** **21 57 00.9 +2.6**
comp=Z,23nm,1.3s
PLCA Paso Flores 74.78 149 *e*P **P** **21 57 33.4 +0.5**
comp=Z,8.6nm,1.3s
PLCA Paso Flores 74.78 149 P **P** **21 57 33.8 +0.9**
comp=Z,6.9nm,1.1s,baz=208,slow=7.9,SNR=5.9
KULM Kulim 75.22 309 *e*P **P** **21 57 33.2 -2.3**
KULM Kulim 75.22 309 P **P** **21 57 35.1 -0.5**
BOSA Boshof 81.00 227 P **P** **21 58 07.7 0.0**
BOSA Boshof 81.00 227 P **P** **21 58 07.7 0.0**
comp=Z,3.9nm,0.8s,baz=198,slow=4.2,SNR=4.4
BOSA LR LR 22 28 21.3
comp=Z,817nm,21.6s,baz=161,slow=32
QIZ Qiongzhong 84.69 323 P **P** **21 58 26.3 -0.3**
QIZ PP **PP** **22 01 38.9 -4.0**
QIZ S **S** **22 08 55.3 +1.4**
QIZ sS **sS** **22 09 02.0 +2.6**
QIZ SS **SS** **22 14 28.8 +2.7**
QIZ LR LR
comp=N,280nm,25.7s
QIZ LR LR
comp=Z,380nm,25.6s
CMAR Chiang Mai Arr 87.91 313 P **P** **21 58 41.6 -0.8**
CMAR Chiang Mai Arr 87.91 313 P **P** **21 58 41.6 -0.8**
comp=Z,8.0nm,1.3s,baz=168,slow=5.8,SNR=5.5
CMAR LR LR 22 33 16.4
comp=Z,486nm,21.2s,baz=149,slow=32
CHTO Chiang Mai 88.23 313 *e*P **P** **21 58 42.7 -1.3**
CHTO pmax pmax
comp=Z,53nm,1.9s
CHTO Chiang Mai 88.23 313 *e*P **P** **21 58 42.7 -1.3**
comp=Z,53nm,1.9s
CHTO Chiang Mai 88.23 313 P P 21 58 52.7 +8.7
comp=Z,14nm,1.4s
CPUP Villa Florida 91.66 156 P **P** **21 59 00.6 +0.5**
CPUP Villa Florida 91.66 156 P **P** **21 59 00.6 +0.5**
comp=Z,1.7nm,0.6s,baz=146,slow=4.7,SNR=5.1
GYA Guiyang 92.64 322 *e*P **P** **21 59 05.8 +1.3**
GYA PP **PP** **22 02 50.5 +3.9**
GYA SKS **SKSac** **22 09 38.0 +0.1**
GYA S **S** **22 10 08.3 -0.6**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.8s
GYA LR LR
comp=N,580nm,20.1s
GYA LR LR
comp=E,470nm,21.6s
GYA LR LR
comp=Z,550nm,20.4s
KMI Kunming 92.68 319 P **P** **21 59 06.4 +1.6**
KMI pP **pP** **21 59 08.8 +0.6**
KMI PP **PP** **22 02 51.8 +4.8**
KMI SKS **SKSac** **22 09 39.8 +1.4**
KMI S **S** **22 10 09.3 -0.2**
KMI SS **SS** **22 16 21.3 -1.4**
KMI pmax pmax
comp=Z,4.0nm,0.7s
KMI LR LR
comp=N,350nm,20.0s
KMI LR LR
comp=E,200nm,22.0s
KMI LR LR
comp=Z,570nm,23.9s
WHN Wuhan 94.31 330 *e*P P 21 59 23.4 +11
WHN Wuhan 94.31 330 S S 22 10 32.3 +9.2
WHN Wuhan 94.31 330 SS SS 22 16 34.9 -11
WHN LR LR
comp=N,1μm,36.2s
WHN LR LR
comp=E,450nm,22.5s
WHN LR LR
comp=Z,920nm,31.8s
NJ2 Nanjing 94.68 334 *e*P **P** **21 59 14.3 +0.7**
NJ2 pP **pP** **21 59 17.8 +0.9**
NJ2 PP **PP** **22 03 03.5 +1.1**
NJ2 S **S** **22 10 29.0 +2.7**
NJ2 sS **sS** **22 10 35.0 +3.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,410nm,6.7s
NJ2 LR LR
comp=N,310nm,14.6s
NJ2 LR LR
comp=E,220nm,12.5s
NJ2 LR LR
comp=Z,350nm,13.6s
MJAR Matsushiro Arr 96.13 351 LR LR 22 40 13.6
comp=Z,246nm,21.8s,baz=180,slow=34
CD2 Chengdu 97.70 322 *e*P Pdif 21 59 29.3 +1.8
CD2 pP pP 21 59 34.3 +3.5
CD2 sP sP 21 59 36.5 +4.6
CD2 PP **PP** **22 03 30.5 +4.7**
CD2 SKS **SKSac** **22 10 05.5 +1.0**
CD2 S **S** **22 10 52.0 -0.6**
CD2 sS sS 22 10 59.5 +1.4
CD2 pmax pmax
comp=Z,20nm,1.2s
CD2 pmax pmax
comp=Z,120nm,9.2s
CD2 LR LR
comp=E,510nm,25.0s
CD2 LR LR
comp=Z,400nm,21.4s
KSRS Korea Array 98.24 343 LR LR 22 45 32.0
comp=Z,198nm,18.0s,baz=83,slow=36
LPAZ La Paz 98.51 144 LR LR 22 34 27.5
comp=Z,402nm,21.9s,baz=158,slow=30
LZH Lanzhou 102.46 324 *e*P **Pdif** **21 59 50.1 +1.4**
LZH pP 21 59 55.0
LZH sP 21 59 57.3
LZH PP **PKiKP** **22 04 06.3 -3.7**
LZH SKS **SKSac** **22 10 27.9 0.0**
LZH S **Sdif** **22 11 31.1 -1.4**
LZH sS sS 22 11 40.3 +1.8
LZH pmax pmax
comp=Z,21nm,1.2s
LZH pmax pmax
comp=Z,170nm,7.8s
LZH LR LR
comp=N,280nm,15.4s
LZH LR LR
comp=E,250nm,16.3s
LZH LR LR
comp=Z,360nm,17.8s
BJI Beijing 102.94 334 P **Pdif** **21 59 50.5 0.0**
BJI PP **PP** **22 04 03.8 -1.6**
BJI SKS 22 10 33.4
BJI S **Sdif** **22 11 39.5 +3.6**
BJI pmax pmax
comp=Z,5.0nm,0.4s
BJI LR LR
comp=N,290nm,19.5s
BJI LR LR
comp=E,160nm,24.4s
BJI LR LR
comp=Z,230nm,22.0s
CN2 Changchun 104.83 342 *e*P **Pdif** **21 59 58.6 -0.2**
CN2 PP **PP** **22 04 22.9 +3.5**
CN2 SS SS 22 19 13.4 +1.1
CN2 LR LR
comp=N,300nm,23.0s
CN2 LR LR
comp=E,200nm,23.0s
CN2 LR LR
comp=Z,400nm,23.0s
WMQ Urumqi 114.79 315 PKP PKPdf 22 04 32.8 +0.1
WMQ PP **PP** **22 05 35.6 +3.9**
WMQ PKS **PKSdf** **22 08 08.3 -1.0**
WMQ SKS **SKSdf** **22 11 39.9 -4.4**
WMQ LR LR
comp=N,180nm,17.0s
WMQ LR LR
comp=E,140nm,15.0s
WMQ LR LR
comp=Z,300nm,15.2s
KSH Kashi 115.70 305 *e*PKP **PKPdf** **22 04 37.9 +3.3**
KSH PKS **PKSdf** **22 08 13.5 +2.1**
KSH SKS **SKSdf** **22 11 48.5 +2.1**
KSH AMB AMB
comp=Z,76nm,6.2s
KSH LR LR
comp=N,150nm,6.2s
KSH LR LR
comp=E,79nm,5.3s
KSH LR LR
comp=Z,170nm,12.2s
MKAR Makanchi Array 119.31 313 PKiKP **PKPdf** **22 04 40.1 -1.1**
MKAR Makanchi Array 119.31 313 PKP **PKPdf** **22 04 40.1 -1.1**
MKAR Makanchi Array 119.31 313 PKP **PKPdf** **22 04 40.1 -1.1**
comp=Z,0.2nm,0.6s,baz=104,slow=2.0,SNR=3.4
TXAR Lajitas Array 123.19 88 PKP **PKPdf** **22 04 49.9 +0.6**
TXAR Lajitas Array 123.19 88 PKP **PKPdf** **22 04 49.9 +0.6**
comp=Z,0.3nm,0.5s,baz=132,slow=1.3,SNR=3.4
526A Mary Lane Ranc 123.56 87 P **PKPdf** **22 04 51.5 +1.4**
baz=124
DBIC Dimbokro 123.83 211 PKP **PKPdf** **22 04 50.1 -0.8**
DBIC Dimbokro 123.83 211 PKP **PKPdf** **22 04 50.1 -0.8**
comp=Z,1.2nm,0.6s,baz=100,slow=5.9,SNR=2.0
527A Woodward Ranch 123.87 87 P **PKPdf** **22 04 52.2 +1.5**
baz=124
MNTX Cornudas Mount 124.22 85 *e*PKPdf **PKPdf** **22 04 50.5 -0.6**
HUMO Hull Mountain 124.28 63 *e*PKPdf **PKPdf** **22 04 48.1 -2.8**
428A Kincaid Ranch, 124.81 88 P **PKPdf** **22 04 53.7 +1.3**
baz=125
125A Gardner Draw, 125.35 85 P **PKPdf** **22 04 54.8 +1.3**
baz=126
NVS Novosibirsk 125.67 319 *e*PKiKP **PKPdf** **22 04 52.5 -0.6**
WVOR Wild Horse Val 126.14 66 *e*PKiKP **PKPdf** **22 04 55.5 +0.9**
WVOR Wild Horse Val 126.14 66 *e*PKPdf **PKPdf** **22 04 55.5 +0.9**
T22A Edith 127.65 79 P **PKPdf** **22 04 59.1 +1.3**
baz=128
S21A Coal Bank Pass 127.70 78 P **PKPdf** **22 04 59.6 +1.6**
baz=128
TORD Torodi Ar. Bea 128.00 221 PKP **PKPdf** **22 04 58.1 -0.7**
TORD Torodi Ar. Bea 128.00 221 PKP **PKPdf** **22 04 58.1 -0.7**
comp=Z,1.6nm,0.9s,baz=144,slow=1.1,SNR=4.8
S22A 4UR Ranch, Cre 128.25 79 P **PKPdf** **22 05 00.3 +1.3**
baz=129
V26A Tequesquite Ra 128.27 83 P **PKPdf** **22 05 00.8 +1.9**
baz=129
U25A Circle Dot Ran 128.43 82 P **PKPdf** **22 05 01.1 +1.8**
baz=129
Y31A Rekieta Farm, 128.62 87 P **PKPdf** **22 05 01.3 +1.8**
baz=129
R22A Saguache, Gunn 128.66 79 P **PKPdf** **22 05 01.4 +1.5**
baz=129
S24A Houchin Ranch, 128.98 80 P **PKPdf** **22 05 02.1 +1.7**
baz=129
O19A Miners Draw (B 129.07 75 P **PKPdf** **22 05 02.5 +2.1**
baz=129
U27A Thompson Grove 129.24 83 P **PKPdf** **22 05 02.4 +1.6**
baz=130
S25A Robets Cordova 129.39 81 P **PKPdf** **22 05 02.6 +1.5**
baz=130
T26A Comanche Natio 129.44 82 P **PKPdf** **22 05 03.0 +1.8**
baz=130
H12A Diamond D Ranc 129.53 67 P **PKPdf** **22 05 02.9 +1.8**
baz=130
ILAR Eielson Array 132.79 32 PKP **PKPdf** **22 05 07.3 +1.0**
ILAR Eielson Array 132.79 32 PKP **PKPdf** **22 05 07.3 +1.0**
comp=Z,0.4nm,0.8s,baz=59,slow=0.5,SNR=3.3
KIV Kislovodsk 134.59 284 *e*PKiKP **PKPdf** **22 05 09.1 -1.4**
KIV *e* 22 07 44.1
KIV pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 136.03 273 PKP **PKPdf** **22 05 12.9 -0.5**
BRTR Keskin Array B 136.03 273 PKP **PKPdf** **22 05 12.9 -0.5**
comp=Z,0.2nm,0.4s,baz=151,slow=3.3,SNR=2.9
CPCT Cooper Cave 137.79 100 *e*PKPdf **PKPdf** **22 05 18.3 +1.7**
YKA Yellowknife Ar 141.77 48 PKP **PKPdf** **22 05 22.4 -0.5**
YKA Yellowknife Ar 141.77 48 PKP **PKPdf** **22 05 22.4 -0.5**
comp=Z,0.9nm,0.8s,baz=224,slow=2.8,SNR=3.2
COWI Conover 143.31 85 *e*PKPdf PKPbc 22 05 24.2 +0.7
CEL Celeste 143.90 255 *e*PKPdf PKPbc 22 05 25.6 +0.2
VRI Vrincioaia 143.98 274 ⇓PKiKP PKPbc 22 05 25.3 -0.1
VRI Vrincioaia 143.98 274 ⇓*i*P PKPbc 22 05 25.3 -0.1
PLOR Plostina 144.00 274 ⇓PKiKP PKPbc 22 05 25.2 -0.3
PLOR Plostina 144.00 274 ⇓*i*P PKPab 22 05 25.1 +0.1
MLR Muntele Rosu 144.12 273 ⇓*i*P **PKPab** **22 05 25.7 +0.2**
TIP Timpagrande 144.18 257 *e*PKPdf PKPbc 22 05 26.3 0.0
TESR Tescani 144.46 275⇑*i*P PKPbc 22 05 26.7 -0.1
SDMD Soldier's Deli 144.71 104 *e*PKPdf **PKPdf** **22 05 28.8 -0.1**
MOS Moscow 144.81 294 *e*PKHKP PKPpre 22 05 24.2
MOS pmax pmax
comp=Z,36nm,1.2s
OBN Obninsk 144.94 293 ⇓*i*PKiKP **PKPab** **22 05 27.0 -1.0**
OBN *e*SS SS 22 27 37.0 +0.1
OBN pmax pmax
comp=Z,24nm,0.8s
KEST Kesra 145.01 245 PKP **PKPdf** **22 05 29.6 0.0**
KEST *e*PKPdf **PKPdf** **22 05 29.7 0.0**
KEST Kesra 145.01 245 PKP **PKPdf** **22 05 29.6 0.0**
comp=Z,4.3nm,0.9s,baz=246,slow=1.3,SNR=18
LOT Lotru 145.20 271 ⇓*i*P **PKPbc** **22 05 29.4 0.0**
CUC Castrocucco 145.27 257 *e*PKPdf **PKPbc** **22 05 28.5 -1.2**
KIEV Kiev 145.88 282 *e*PKiKP **PKPdf** **22 05 29.0 -1.5**
KIEV Kiev 145.88 282 *e*PKPdf **PKPdf** **22 05 29.0 -1.5**
BURAR Bucovina Array 145.92 275⇑PKP2 PKPab 22 05 41.1 +9.0
BURAR Bucovina Array 145.92 275⇑*i*P PKPab 22 05 41.1 +9.0
ABSA Djebel Ababsia 146.32 243 P PKPab 22 05 44.0 +10
BZS Buzias 146.41 269 ⇓PKP2 **PKPbc** **22 05 32.7 -0.3**
BZS Buzias 146.41 269 ⇓*i*P **PKPbc** **22 05 32.7 -0.3**
CMAH Djebel Manchou 146.63 244 P PKPab 22 05 43.7 +8.6
CASM Ain Smara 146.76 242 P **PKPbc** **22 05 34.0 -0.4**
CKFL Kef-Lekhel 146.77 243 P **PKPab** **22 05 39.0 +3.3**
DFRA Djebel Bou Aff 147.27 242 P **PKPdf** **22 05 32.2 -1.3**
TRPA Tarpa 147.62 273⇑*i*P PKPab 22 05 45.9 +7.3
TRPA Tarpa 147.62 273 ⇓*e*PKPdf **PKPbc** **22 05 35.8 -0.5**
LVV L'vov 147.94 277 *e*PKP2 **PKPab** **22 05 41.4 +1.6**
UZH Uzhgorod 148.07 274 *e*PKiKP **PKPdf** **22 05 34.9 +0.6**
PKSN Nyarlorinc 148.17 269 ⇓*e* **PKPab** **22 05 45.9 +5.1**
KOLS Kolonicke sedl 148.27 274 *e*PKP2 **PKPbc** **22 05 39.0 +0.9**
KOLS Kolonicke sedl 148.27 274 *e*PKP **PKPbc** **22 05 39.2 +1.1**
PKSM Moragy 148.34 267 ⇓PKP2 **PKPbc** **22 05 38.4 +0.1**
PKSM Moragy 148.34 267 ⇓*i*P **PKPbc** **22 05 38.4 +0.1**
PKSM Moragy 148.34 267 *e*PKPdf **PKPbc** **22 05 38.2 -0.1**
KWP Kalwaria Pacla 148.49 276 *e*PKP **PKPbc** **22 05 38.5 -0.1**
PKS7 Kunszentmiklos 148.63 269 ⇓*e* **PKPab** **22 05 41.2 -1.5**
MIGM Minsk 148.76 287 *e* **PKPbc** **22 05 38.0 -1.1**
PKS9 Tamasi 148.78 268 ⇓*e* **PKPbc** **22 05 40.1 +0.7**
MNK Minsk 148.79 287 *e*PKP2 **PKPbc** **22 05 38.0 -1.1**
PSZ Piszkesteto 148.83 271 ⇓*e* **PKPbc** **22 05 40.6 +1.0**
KECS Kecovo 148.90 272 *e*PKP2 **PKPbc** **22 05 39.4 -0.2**
KECS Kecovo 148.90 272 *e*PKP **PKPbc** **22 05 40.0 +0.4**
STHS Stebnicka Huta 149.10 274 *e*PKP2 **PKPbc** **22 05 40.5 +0.3**
STHS Stebnicka Huta 149.10 274 *e*PKP **PKPbc** **22 05 40.5 +0.3**
CSKK Cs̈‡kako 149.30 269 *e*PKPdf **PKPbc** **22 05 40.6 -0.1**
PKST T̈"s 149.35 268 *e*PKPdf **PKPbc** **22 05 41.1 +0.3**
BEHE Becsehely 149.46 266 *e* **PKPbc** **22 05 42.5 +1.4**
NIE Niedzica 149.58 274 *e*PKP2 **PKPbc** **22 05 43.9 +2.5**
NIE Niedzica 149.58 274 *e*PKPdf **PKPbc** **22 05 43.9 +2.5**
VYHS Vyhne 149.75 271 *e*PKP2 **PKPbc** **22 05 41.9 +0.1**
VYHS Vyhne 149.75 271 *e*PKP **PKPbc** **22 05 41.9 +0.1**
IDID Didziasalis 149.76 288 *e*P **PKPbc** **22 05 42.5 +0.9**
IDID AMB AMB 22 05 57.5
comp=Z,9.1nm,1.3s
IIGN Ignalina 150.03 287 *e*P **PKPbc** **22 05 42.5 +0.3**
IIGN AMB AMB 22 05 58.1
comp=Z,7.8nm,1.4s
ISAL Salakas 150.19 288 *e*P **PKPbc** **22 05 42.1 -0.5**
ISAL AMB AMB 22 05 53.3
comp=Z,16nm,1.0s
IZAR Zarasai 150.22 288 *e*P **PKPbc** **22 05 41.0 -1.6**
IZAR AMB AMB 22 05 53.3
comp=Z,9.0nm,0.9s
OJC Ojcow 150.34 274 *e*PKiKP **PKPbc** **22 05 43.4 +0.3**
OJC Ojcow 150.34 274 *e*PKPdf **PKPbc** **22 05 43.4 +0.3**
SUW Suwalki 150.81 283 *e*PKP **PKPbc** **22 05 43.4 -0.7**
OKC Ostrava-Krasne 150.94 272 *e*PKiKP **PKPbc** **22 05 45.4 +0.9**
OKC *e* 22 05 52.9
OKC MLR MLR
comp=Z,200nm,23.5s
OKC Ostrava-Krasne 150.94 272⇑*e*PKP **PKPbc** **22 05 45.4 +0.9**
OKC *e*PKPAB **PKPab** **22 05 52.9 +0.8**
OKC AMS AMS 23 21 30.0
comp=Z,200nm,23.5s
JOF Joensuu 151.08 304 *e*p **PKPbc** **22 05 43.1 -1.3**
comp=Z,15nm,1.0s
JOF Joensuu 151.08 304 *e*PKiKP **PKPbc** **22 05 43.1 -1.3**
JOF pmax pmax
comp=Z,15nm,1.0s
MORC Moravsky Berou 151.21 272 *e*PKiKP **PKPbc** **22 05 45.1 -0.2**
MORC Moravsky Berou 151.21 272 *e*PKPbc **PKPbc** **22 05 45.1 -0.2**
APA Apatity 151.71 313 ⇓*e*PKiKP PKPdf 22 05 33.0 -6.4
APA MLR MLR
comp=Z,400nm,25.0s
KRLC Kraliky 151.78 272 *e*PKiKP **PKPab** **22 05 53.0 -2.7**
KRLC Kraliky 151.78 272 *e*PKPAB **PKPab** **22 05 53.0 -2.7**
TREC Trest 151.96 269 *e*PKiKP **PKPab** **22 05 55.1 -1.3**
TREC MLR MLR
comp=Z,200nm,22.2s
TREC Trest 151.96 269 *e*PKPAB **PKPab** **22 05 55.1 -1.3**
TREC AMS AMS 23 23 00.0
comp=Z,200nm,22.2s
DPC Dobruska-Polom 152.19 272 *e*PKiKP **PKPbc** **22 05 47.6 +0.1**
DPC *e* 22 05 57.0
DPC Dobruska-Polom 152.19 272⇑*e*PKP **PKPbc** **22 05 47.6 +0.1**
DPC *e*PKPAB **PKPab** **22 05 57.0 -0.4**
DPC AMS AMS 23 22 30.0
RJOB Jochberg 152.33 264 *e*PKPbc **PKPbc** **22 05 47.6 -0.3**
KSP Ksiaz 152.50 273 ⇓*e*PKiKP **PKPab** **22 05 56.2 -2.4**
GEC2 GERESS Array S 152.59 267 *e*PKPbc **PKPbc** **22 05 49.1 +0.6**
GEC2 GERESS Array S 152.59 267 *e*PKiKP **PKPbc** **22 05 49.1 +0.6**
GERES GERESS Array B 152.59 267 PKPbc **PKPbc** **22 05 45.9 -2.6**
GERES GERESS Array B 152.59 267 PKPbc **PKPbc** **22 05 45.9 -2.6**
comp=Z,1.9nm,0.8s,baz=132,slow=2.0,SNR=10
FINES FINESS Array B 152.82 299 PKPbc **PKPbc** **22 05 47.2 -1.3**
FINES FINESS Array B 152.82 299 PKPbc **PKPbc** **22 05 47.2 -1.3**
comp=Z,3.0nm,0.7s,baz=135,slow=0.5,SNR=9.3
KHC Kasperske Hory 152.83 267 *e*PKiKP **PKPbc** **22 05 50.9 +2.0**
KHC *e* 22 06 01.1
KHC MLR MLR
comp=Z,300nm,24.7s
KHC Kasperske Hory 152.83 267⇑*e*PKP **PKPbc** **22 05 50.9 +2.0**
KHC *e*PKPAB **PKPab** **22 06 01.1 +1.0**
KHC *e*SS SS 22 28 56.5 -9.0
KHC AMS AMS 23 18 30.0
comp=Z,300nm,24.7s
PRU Pruhonice 152.88 270 *e*PKiKP **PKPbc** **22 05 46.9 -2.0**
PRU *e* 22 05 59.0
PRU *e* 22 29 05.2
PRU MLR MLR
comp=Z,200nm,22.5s
PRU Pruhonice 152.88 270⇑*e*PKP **PKPbc** **22 05 46.9 -2.0**
PRU *e*PKPAB **PKPab** **22 05 59.0 -1.2**
PRU *e*SS SS 22 29 05.2 -0.7
PRU AMS AMS 23 13 00.0
comp=Z,200nm,22.5s
KAF Kangasniemi 152.96 300 *e*p **PKPbc** **22 05 47.4 -1.3**
comp=Z,8.7nm,1.0s
KAF Kangasniemi 152.96 300 *e*PKiKP **PKPbc** **22 05 47.4 -1.3**
KAF pmax pmax
comp=Z,9.0nm,1.0s
PRA Prague 152.98 270 ⇑PKP **PKPbc** **22 05 47.0 -2.2**
PRA PKPAB **PKPab** **22 05 59.0 -1.6**
PVCC Panska Ves 153.19 271 AMS AMS 23 22 10.0
comp=Z,200nm,21.4s
MBDF Montbardon 153.26 253 *e*PKiKP **PKPdf** **22 05 41.2 -1.5**
comp=Z,29nm,1.1s
ORIF Oris-en-Rattie 153.83 252 *e*PKiKP **PKPdf** **22 05 42.4 -1.0**
LPL La Plagne 153.85 254 *e*PKiKP **PKPdf** **22 05 42.6 -1.0**
comp=Z,32nm,1.3s
NKC Novy Kostel 154.09 268 *e*SS SS 22 29 16.9 -2.4
ESDC Sonseca Array 154.10 232 PKPbc **PKPbc** **22 05 51.0 -1.0**
ESDC Sonseca Array 154.10 232 PKPbc **PKPbc** **22 05 51.0 -1.0**
comp=Z,0.3nm,0.3s,baz=167,slow=1.3,SNR=6.3
GRF Grafenberg Arr 154.39 266 *e*PKPbc **PKPbc** **22 05 53.6 +1.3**
GRF Grafenberg Arr 154.39 266 *e*PKiKP **PKPbc** **22 05 53.6 +1.3**
CLL Collm 154.45 271 *e*PKiKP **PKPbc** **22 05 51.0 -1.3**
CLL *i* 22 06 00.2
CLL pmax pmax
comp=Z,6.0nm,1.4s
CLL pmax pmax
comp=Z,7.0nm,1.3s
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL MLR MLR
comp=Z,300nm,21.1s
CLL Collm 154.45 271 *e*PKPbc **PKPbc** **22 05 51.0 -1.3**
comp=Z,6.0nm,1.4s
CLL *i* 22 06 00.2
comp=Z,7.0nm,1.3s
CLL *i* 22 06 15.6
comp=Z,7.0nm,1.1s
CLL *i* 22 06 28.8
CLL *e* 22 11 12.0
CLL *e*(PPP) 22 13 48.0
CLL *e*PPS PPS 22 22 48.0
CLL *e* 22 24 45.0
CLL *e*SS SS 22 29 23.0 -0.1
CLL *e*PSS PSS 22 30 31.0
CLL *e*PSPS 22 31 00.0
CLL *e*SSS SSS 22 35 12.0
CLL LmV 23 22 00.0
comp=Z,300nm,21.1s
EVO Evora 154.64 224 *e*PKiKP **PKPdf** **22 05 47.5 +2.9**
comp=Z,43nm,1.3s
ARCES ARCESS Array B 154.91 317 PKPab **PKPab** **22 06 05.9 -2.4**
ARCES ARCESS Array B 154.91 317 PKPab **PKPab** **22 06 05.9 -2.4**
comp=Z,4.9nm,0.9s,baz=99,slow=6.3,SNR=6.3

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*DDA **24** 22:16:45.9,35.63N×26.51E,h27km,MD3.4*
*ATH **24** 22:16:46.9,35.65N×26.61E,h36km±3km,MD3.5/21, ML3.2*
*ISCJB **24** 22:16:47.8±0.6,35.66N±0.03×26.61E±0.03,h29km±6km, Error ellipse: s-maj=5.9km s-min=2.6km az=151.4*
*CSEM **24** 22:16:47.7±0.2,35.59N×26.63E,h20km,MD3.5, Error ellipse: s-maj=5.7km s-min=2.8km az=159.0*
*ISK **24** 22:16:48.1,35.83N×26.67E,h11km,MD3.3,ML3.3*
ISC 24 22:16:47.0±1.4,35.62N±0.03×26.63E±0.02,h19km±5km,

n99,σ1ᵍ18/136, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.44**	**99**	*e*PB	**Pn**	**22 16 57.8**	**-0.5**
KARP				*e*SB	**Sn**	**22 17 04.6**	**-1.1**
KARP	**Karpathos**	**0.44**	**99**	*e*Pb	**Pn**	**22 16 57.8**	**-0.5**
KARP				*e*Sb	**Sn**	**22 17 04.6**	**-1.1**
ZKR	**Zakros**	**0.60**	**214**	*e*PN	**Pn**	**22 17 00.1**	**-0.4**
ZKR				*e*SN	**Sn**	**22 17 09.2**	**-0.6**
ZKR	**Zakros**	**0.60**	**214**	*e*Pn	**Pn**	**22 17 00.1**	**-0.4**
ZKR				*e*Sn	**Sn**	**22 17 09.2**	**-0.6**
NPS	**Neapolis**	**0.90**	**247**	*e*PN	**Pg**	**22 17 04.2**	**-0.5**
NPS				*e*SN	**Sg**	**22 17 16.5**	**-0.1**
NPS	**Neapolis**	**0.90**	**247**	*e*Pn	**Pg**	**22 17 04.2**	**-0.5**
NPS				*e*Sn	**Sg**	**22 17 16.5**	**-0.1**
LAST	**Lasithi**	**1.04**	**245**	*e*PN	**Pb**	**22 17 06.6**	**+0.1**
LAST				*e*SN	**Sn**	**22 17 21.3**	**+0.5**
LAST	**Lasithi**	**1.04**	**245**	*e*Pn	**Pb**	**22 17 06.6**	**+0.1**
LAST				*e*Sn	**Sn**	**22 17 21.3**	**+0.5**
SANT	**Santorini**	**1.21**	**309**	*e*PN	**Pn**	**22 17 09.2**	**+0.2**
SANT	**Santorini**	**1.21**	**309**	*e*Pn	**Pn**	**22 17 09.2**	**+0.2**
DAT	**Datca**	**1.35**	**34**	*e*PN	**Pn**	**22 17 10.5**	**-0.4**
DAT				*e*SN	**Sn**	**22 17 27.4**	**-0.9**
DAT	**Datca**	**1.35**	**34**	*e*Pn	**Pn**	**22 17 10.5**	**-0.4**
DAT				*e*Sn	**Sn**	**22 17 27.4**	**-0.9**
IDI	**Anoyia**	**1.46**	**258**	*e*PB	**Pn**	**22 17 11.8**	**-0.6**
IDI				*e*SN	**Sn**	**22 17 30.7**	**-0.3**
IDI	**Anoyia**	**1.46**	**258**	*e*Pb	**Pn**	**22 17 11.8**	**-0.6**
IDI				*e*Sn	**Sn**	**22 17 30.7**	**-0.3**
BODT	**Bodrum**	**1.54**	**21**	*e*PN	**Pn**	**22 17 13.2**	**-0.3**
BODT				*e*SN	**Sn**	**22 17 31.4**	**-1.6**
BODT	**Bodrum**	**1.54**	**21**	*e*Pn	**Pn**	**22 17 13.2**	**-0.3**
BODT				*e*Sn	**Sn**	**22 17 31.4**	**-1.6**
SIVA	**Sivas**	**1.60**	**249**	*e*PB	**Pb**	**22 17 15.3**	**-0.7**
SIVA				*e*SN	**Sn**	**22 17 35.0**	**+0.6**
SIVA	**Sivas**	**1.60**	**249**	*e*Pb	**Pb**	**22 17 15.3**	**-0.7**
SIVA				*e*Sn	**Sn**	**22 17 35.0**	**+0.6**
APE	**Apeiranthos**	**1.70**	**329**	*e*PN	**Pn**	**22 17 16.2**	**+0.5**
APE	**Apeiranthos**	**1.70**	**329**	*e*PN	**Pn**	**22 17 15.6**	**-0.1**
APE	**Apeiranthos**	**1.70**	**329**	*e*Pn	**Pn**	**22 17 16.2**	**+0.5**
MLSB	**Milas**	**1.91**	**29**	*e*PN	**Pn**	**22 17 18.6**	**+0.1**
MLSB	**Milas**	**1.91**	**29**	*e*Pn	**Pn**	**22 17 18.7**	**+0.1**
VAM	**Vamos**	**2.00**	**265**	*e*PN	**Pn**	**22 17 19.7**	**0.0**
VAM				*e*SN	**Sn**	**22 17 44.5**	**+0.4**
VAM	**Vamos**	**2.00**	**265**	*e*Pn	**Pn**	**22 17 19.7**	**0.0**
VAM				*e*Sn	**Sn**	**22 17 44.5**	**+0.4**
YER	**Yerkesik**	**2.02**	**41**	*e*PN	**Pn**	**22 17 20.7**	**+0.7**
YER	**Yerkesik**	**2.02**	**41**	*e*Pn	**Pn**	**22 17 20.7**	**+0.7**
DALY	**Dalyan (Mu¨la**	**2.03**	**53**	*e*PN	**Pn**	**22 17 21.1**	**+1.0**
DALY	**Dalyan (Mu¨la**	**2.03**	**53**	*e*Pn	**Pn**	**22 17 21.1**	**+1.0**
TURN	**Turunc**	**2.03**	**51**	*i* P	Pn	22 17 16.3	-3.8
TRN				*i* S	Sn	22 17 35.1	-10
TURN	**Turunc**	**2.03**	**51**	*i* P	Pn	22 17 16.3	-3.8
GVD	**Gavdhos**	**2.22**	**250**	*e*PN	**Pn**	**22 17 23.1**	**+0.3**
GVD	**Gavdhos**	**2.22**	**250**	*e*Pn	**Pn**	**22 17 23.1**	**+0.3**
KARN	**Karanos**	**2.22**	**265**	*e*PN	**Pn**	**22 17 22.5**	**-0.3**
KARN				*e*SN	**Sn**	**22 17 49.8**	**0.0**
KARN	**Karanos**	**2.22**	**265**	*e*Pn	**Pn**	**22 17 22.5**	**-0.3**
KARN				*e*Sn	**Sn**	**22 17 49.8**	**0.0**
AYDN	**Tasoluk**	**2.27**	**26**	*i* P	**Pn**	**22 17 24.2**	**+0.6**
AYDN				*i* S	**Sn**	**22 17 51.7**	**+0.6**
AYDN	**Tasoluk**	**2.27**	**26**	*i* P	**Pn**	**22 17 24.2**	**+0.6**
AYDN				*i* S	**Sn**	**22 17 51.7**	**+0.6**
AKAS	**Kas**	**2.49**	**75**	*i* P	**Pn**	**22 17 27.7**	**+1.1**
AKAS				*i* S	**Sn**	**22 17 56.4**	**-0.2**
AKAS	**Kas**	**2.49**	**75**	*i* P	**Pn**	**22 17 27.7**	**+1.1**
AKAS				*i* S	**Sn**	**22 17 56.4**	**-0.2**
ANKY	**Antikythira Is**	**2.72**	**276**	*e*PN	**Pn**	**22 17 30.1**	**+0.5**
ANKY				*e*SN	**Sn**	**22 17 58.1**	**-0.9**
ANKY	**Antikythira Is**	**2.72**	**276**	*e*Pn	**Pn**	**22 17 30.1**	**+0.5**
ANKY				*e*Sn	**Sn**	**22 18 01.1**	**-0.9**
CHOS	**Chios island**	**2.80**	**351**	*e*PN	**Pn**	**22 17 30.7**	**-0.2**
CHOS				*e*SN	**Sn**	**22 18 03.2**	**-1.0**
CHOS	**Chios island**	**2.80**	**351**	*e*Pn	**Pn**	**22 17 30.7**	**-0.2**
CHOS				*e*Sn	**Sn**	**22 18 03.2**	**-1.0**
DNZL	**Cakiroluk**	**2.84**	**42**	*i* P	**Pn**	**22 17 33.3**	**+1.9**
DNZL				*i* S	**Sn**	**22 18 07.1**	**+1.9**
DNZL	**Cakiroluk**	**2.84**	**42**	*i* P	**Pn**	**22 17 33.3**	**+1.9**
DNZL				*i* S	**Sn**	**22 18 07.1**	**+1.4**
GOLH	**Golhisar**	**2.86**	**55**	*i* P	**Pn**	**22 17 33.8**	**+2.1**
GOLH				*i* S	**Sn**	**22 18 07.1**	**+1.4**
GOLH	**Golhisar**	**2.86**	**55**	*i* P	**Pn**	**22 17 33.8**	**+2.1**
GOLH				*i* S	**Sn**	**22 18 07.1**	**+1.4**
KYTH	**Kithira**	**2.99**	**284**	*e*PN	**Pn**	**22 17 33.3**	**-0.1**
KYTH	**Kithira**	**2.99**	**284**	*e*Pn	**Pn**	**22 17 33.3**	**-0.1**
MANT	**Manisa**	**3.26**	**28**	*i* P	**Pn**	**22 17 38.5**	**+1.3**
MANT				*i* S	**Sn**	**22 18 13.9**	**-1.7**
MANT	**Manisa**	**3.26**	**28**	*i* P	**Pn**	**22 17 38.5**	**+1.3**
PTL	**Penteli**	**3.29**	**318**	*e*PN	**Pn**	**22 17 37.8**	**+0.3**
PTL	**Penteli**	**3.29**	**318**	*e*Pn	**Pn**	**22 17 37.8**	**+0.3**
ATH	**Athens Observa**	**3.32**	**316**	*e*PN	**Pn**	**22 17 38.2**	**+0.4**
ATH	**Athens Observa**	**3.32**	**316**	*e*Pn	**Pn**	**22 17 38.2**	**+0.4**
KULA	**Kula-Manisa**	**3.32**	**29**	*e*PN	**Pn**	**22 17 38.5**	**+0.6**
KULA	**Kula-Manisa**	**3.32**	**29**	*e*Pn	**Pn**	**22 17 38.5**	**+0.6**
DID	**Didima**	**3.32**	**306**	*e*PN	**Pn**	**22 17 39.0**	**+1.1**
DID	**Didima**	**3.32**	**306**	*e*Pn	**Pn**	**22 17 39.0**	**+1.1**
KHAL	**Karahalli**	**3.58**	**39**	*i* P	**Pn**	**22 17 42.9**	**+1.4**
KHAL				*i* S	**Sn**	**22 18 22.3**	**-1.0**
KHAL	**Karahalli**	**3.58**	**39**	*i* P	**Pn**	**22 17 42.9**	**+1.4**
KHAL				*i* S	**Sn**	**22 18 22.3**	**-1.0**
DYR	**Agios Nikonas**	**3.66**	**289**	*e*PN	**Pn**	**22 17 44.0**	**+1.4**
DYR	**Agios Nikonas**	**3.66**	**289**	*e*Pn	**Pn**	**22 17 44.0**	**+1.4**
BCK	**Bucak**	**3.68**	**59**	*e*PN	**Pn**	**22 17 44.8**	**+1.9**
BCK	**Bucak**	**3.68**	**59**	*e*Pn	**Pn**	**22 17 44.8**	**+1.9**
LTK	**Loutraki**	**3.80**	**310**	*e*PN	**Pn**	**22 17 45.4**	**+0.9**
LTK	**Loutraki**	**3.80**	**310**	*e*Pn	**Pn**	**22 17 45.4**	**+0.9**
DEMI	**Demirci**	**3.80**	**25**	*i* P	**Pn**	**22 17 45.8**	**+1.2**
DEMI				*i* S	**Sn**	**22 18 27.0**	**-1.8**
DEMI	**Demirci**	**3.80**	**25**	*i* P	**Pn**	**22 17 45.8**	**+1.2**
DEMI				*i* S	**Sn**	**22 18 27.0**	**-1.8**
VLX	**Vlachokerasia**	**3.85**	**298**	*e*PN	**Pn**	**22 17 46.6**	**+1.4**
VLX	**Vlachokerasia**	**3.85**	**298**	*e*Pn	**Pn**	**22 17 46.6**	**+1.4**
ITM	**Ithomi**	**4.10**	**294**	*e*PN	**Pn**	**22 17 50.4**	**+1.7**
ITM	**Ithomi**	**4.10**	**294**	*e*Pn	**Pn**	**22 17 50.4**	**+1.7**
GUR	**Goura**	**4.15**	**305**	*e*PN	**Pn**	**22 17 50.8**	**+1.4**
GUR	**Goura**	**4.15**	**305**	*e*Pn	**Pn**	**22 17 50.8**	**+1.4**
PYL	**PYLOS**	**4.15**	**289**	*e*PN	**Pn**	**22 17 50.7**	**+1.4**
PYL	**PYLOS**	**4.15**	**289**	*e*Pn	**Pn**	**22 17 50.7**	**+1.4**
BALY	**Balya**	**4.19**	**10**	*i* P	**Pn**	**22 17 50.7**	**+0.8**
BALY				*i* S	**Sn**	**22 18 35.7**	**-2.7**
BALY	**Balya**	**4.19**	**10**	*i* P	**Pn**	**22 17 50.7**	**+0.8**
BALY				*i* S	**Sn**	**22 18 35.7**	**-2.7**
KLV	**Kalavryta, Ach**	**4.33**	**305**	*e*PN	**Pn**	**22 17 54.3**	**+2.4**
KLV	**Kalavryta, Ach**	**4.33**	**305**	*e*Pn	**Pn**	**22 17 54.3**	**+2.4**
AMT	**Artemida-Makis**	**4.40**	**297**	*e*PN	**Pn**	**22 17 53.6**	**+0.9**
AMT	**Artemida-Makis**	**4.40**	**297**	*e*Pn	**Pn**	**22 17 53.6**	**+0.9**
KALE	**Kalithea**	**4.54**	**309**	*e*PN	**Pn**	**22 17 55.8**	**+1.1**
KALE	**Kalithea**	**4.54**	**309**	*e*Pn	**Pn**	**22 17 55.8**	**+1.1**
LAKA	**Lakka**	**4.55**	**306**	*e*PN	**Pn**	**22 17 56.3**	**+1.4**
LAKA	**Lakka**	**4.55**	**306**	*e*Pn	**Pn**	**22 17 56.3**	**+1.4**
TRIZ	**Trizonia**	**4.56**	**308**	*e*PN	**Pn**	**22 17 56.1**	**+1.1**
TRIZ	**Trizonia**	**4.56**	**308**	*e*Pn	**Pn**	**22 17 56.1**	**+1.1**
GAZI	**Gazipasa**	**4.65**	**81**	*i* P	**Pn**	**22 17 55.6**	**-0.6**
GAZI				*i* S	Sn	22 18 40.0	-10
GAZI	**Gazipasa**	**4.65**	**81**	*i* P	**Pn**	**22 17 55.6**	**-0.6**
EFP	**Efpalio**	**4.71**	**308**	*e*PN	**Pn**	**22 17 58.5**	**+1.6**
EFP	**Efpalio**	**4.71**	**308**	*e*Pn	**Pn**	**22 17 58.5**	**+1.6**
RLS	**Riolos of Patr**	**4.81**	**302**	*e*PN	**Pn**	**22 18 00.0**	**+1.7**
RLS	**Riolos of Patr**	**4.81**	**302**	*e*Pn	**Pn**	**22 18 00.0**	**+1.7**
EVR	**Evrytania**	**5.06**	**312**	*e*PN	**Pn**	**22 18 04.7**	**+2.8**
EVR	**Evrytania**	**5.06**	**312**	*e*Pn	**Pn**	**22 18 04.7**	**+2.8**
VLS	**Valsamata**	**5.47**	**300**	*e*PN	**Pn**	**22 18 09.9**	**+2.4**
VLS	**Valsamata**	**5.47**	**300**	*e*Pn	**Pn**	**22 18 09.9**	**+2.4**

*IDC **24** 22:34:15.6±3.7, 13.°63N×91.°99W, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.6/23, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=70.7km s-min=59.7km az=160.0*
*CASC **24** 22:34:21.3±2.2, 13.°70N×91.°82W, h13km±26km, MD3.7*
ISC 24 22:34:18.7±4.1, 13.°7N±0.°1×91.°99W±0.°09, h16km±24km, n16, σ0ˢ64/21, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.67**	**30**	*e*P	**Pn**	**22 34 34.3**	**+0.8**
FUG	**Fuego 3**	**1.32**	**57**	*e*P	**Pn**	**22 34 42.6**	**0.0**
PCG	**Pacaya**	**1.49**	**64**	*e*P	**Pb**	**22 34 46.3**	**+0.2**
IXG	**Ixpaco**	**1.55**	**73**	*e*P	**Pn**	**22 34 46.0**	**+0.2**
NBG	**Las Nubes**	**1.80**	**62**	*e*P	**Pb**	**22 34 51.1**	**-0.4**
RBDL	**Robledal**	**2.26**	**80**	*e*P	**Pn**	**22 34 56.0**	**+0.4**
RBDL				*e*S	**Sn**	**22 35 22.6**	**-0.7**
RTR	**El Retiro**	**2.28**	**86**	*e*P	**Pn**	**22 34 56.5**	**+0.7**
RTR				*e*S	**Sn**	**22 35 24.1**	**+0.5**
SBLS	**San Blas**	**2.30**	**87**	*e*P	**Pn**	**22 34 55.9**	**-0.3**
SBLS				*e*S	**Sn**	**22 35 23.9**	**-0.3**
SNJE	**San Jose**	**2.32**	**86**	*e*P	**Pn**	**22 34 56.6**	**+0.3**
SNJE				*e*S	**Sn**	**22 35 25.0**	**+0.4**
MRL	**Marmol**	**2.59**	**59**	*e*P	**Pb**	**22 35 04.0**	**-0.8**
BOQS	**Boqueron**	**2.63**	**90**	*e*P	**Pn**	**22 35 01.8**	**+1.1**
BOQS				*e*S	**Sn**	**22 35 33.1**	**+0.7**
TEIG	**Tepich** baz=213,slow=5.4	**7.37**	**28**	Pn	**Pn**	**22 36 06.2**	**+0.6**
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=141,slow=11,SNR=7.6	**18.92**	**327**	P	**Pn**	**22 38 40.1**	**+0.5**
ANMO	**Albuquerque** 1.2nm,0.8s,baz=147,slow=11,SNR=3.8	**24.84**	**331**	P	**P**	**22 39 41.1**	**+0.5**
ILAR	**Eielson Array** 0.7nm,1.0s,baz=124,slow=5.7,SNR=4.9	**63.09**	**337**	P	**P**	**22 44 44.0**	**-1.1**
CMAR	**Chiang Mai Arr** 0.4nm,0.5s,baz=343,slow=2.8,SNR=4.6	**146.25**	**341**	PKPbc	**PKPbc**	**22 53 59.4**	**0.0**

*IDC **24** 22:46:09.9±1.4, 27.°12N×97.°18E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.3/27, mbtmp3.4/5, Error ellipse: s-maj=73.3km s-min=20.5km az=63.0*
*ISCJB **24** 22:46:11.6±0.8, 27.°0N±0.°1×97.°00E±0.°08, h28km, mb3.2/5, Error ellipse: s-maj=17.9km s-min=10.4km az=1.4*
ISC 24 22:46:13.9±1.2, 27.°1N±0.°2×97.°1E±0.°1, h28km, n16, σ0ˢ84/14, mb3.3/5, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	**Taplejung** 16nm,0.3s	**8.34**	**274**	*e*P	**Pn**	**22 48 14.5**	**+1.3**
ODAN	**Odare** 14nm,0.6s	**8.64**	**270**	*e*P	**Pn**	**22 48 18.3**	**+0.9**
RAMN	**Ramite** 22nm,0.6s	**9.34**	**271**	*e*P	**Pn**	**22 48 26.8**	**-0.2**
JIRN	**Jiri** 13nm,0.3s	**9.69**	**276**	*e*P	**Pn**	**22 48 31.4**	**-0.4**
GUN	**Gumba** 21nm,0.4s	**9.97**	**277**	*e*P	**Pn**	**22 48 35.5**	**-0.2**
PKI	**Pulchoki** 5.2nm,0.3s	**10.38**	**275**	*e*P	**Pn**	**22 48 40.6**	**-0.7**
PKIN	**Phulchoki** 8.8nm,0.4s	**10.39**	**275**	*e*P	**Pn**	**22 48 40.6**	**-0.8**
KKN	**Kakani** 9.4nm,0.4s	**10.50**	**276**	*e*P	**Pn**	**22 48 41.9**	**-0.9**
DMN	**Daman** 6.2nm,0.6s	**10.65**	**275**	*e*P	**Pn**	**22 48 43.4**	**-1.5**
KOLN	**Koldanda**	**11.99**	**276**	*e*P	Pn	22 48 57.7	-5.4
PYUN	**Piuthan** 2μm,0.7s	**12.53**	**278**	*e*P	Pn	22 49 05.0	-5.6
SONM	**Songino Array** 0.3nm,0.8s,baz=198,slow=9.2,SNR=3.7	**21.92**	**17**	P	**P**	**22 51 04.8**	**-0.2**
MKAR	**Makanchi Array** 0.8nm,0.8s,baz=126,slow=9.7,SNR=4.9	**22.84**	**333**	P	**P**	**22 51 15.7**	**+0.9**
KURBB	**Kurchatov Arra** 0.2nm,0.6s,baz=147,slow=10,SNR=2.4	**27.40**	**334**	P	**P**	**22 51 56.8**	**0.0**
WRA	**Warramunga Arr** 0.6nm,0.7s,baz=328,slow=7.4,SNR=6.0	**59.10**	**138**	P	**P**	**22 56 12.0**	**0.0**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=324,slow=6.9,SNR=6.6	**61.77**	**141**	P	**P**	**22 56 30.1**	**-0.1**

*IDC **24** 23:01:46.3±0.9, 15.°17N×144.°32E, h0km, mb4.0/13, mb1 4.2/13, mb1mx4.0/24, mbtmp4.0/13, MS3.6/14, Ms1 3.7/14, ms1mx3.4/40, Error ellipse: s-maj=33.2km s-min=15.6km az=82.0*
*ISCJB **24** 23:01:47.4±0.5, 15.°16N±0.°06×144.°4E±0.°2, h22km, mb4.0/15, MS3.6/14, Error ellipse: s-maj=22.0km s-min=6.6km az=164.9*
*NEIC **24** 23:01:50.7±0.5, 15.°15N×144.°49E, h35km, mb4.3/2, Error ellipse: s-maj=21.8km s-min=9.2km az=81.0*
ISC 24 23:01:48.9±0.6, 15.°13N±0.°08×144.°4E±0.°2, h22km, n45, σ1ᵍ11/35, mb4.0/15, MS3.5/14, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.59**	**165**	*e*Pn	**Pn**	**23 02 14.9**	**-0.8**
GUMO				*e*Sn	**Sn**	**23 02 35.4**	**-0.3**
DAV	**Davao City (W)** comp=Z,209nm,20.1s,baz=215,slow=32	**20.15**	**249**	LR	LR	23 12 21.1	
JNU	**Nakatsue** comp=Z,62nm,18.8s,baz=91,slow=33	**21.73**	**328**	LR	LR	23 13 39.2	
MJAR	**Matsushiro Arr**	**22.03**	**347**	P	**P**	**23 06 43.1**	**+1.1**
MJAR	**Matsushiro Arr** 0.6nm,0.3s,baz=162,slow=10,SNR=4.0	**22.03**	**347**	P	**P**	**23 06 43.1**	**+1.1**
PMG	**Port Moresby** comp=Z,88nm,21.3s,baz=180,slow=32	**24.53**	**174**	LR	LR	23 14 54.4	
KSRS	**Korea Array** 3.4nm,0.8s,baz=147,slow=9.9,SNR=8.9	**26.63**	**330**	P	**P**	**23 07 26.9**	**+1.0**
KSRS	comp=Z,66nm,18.9s,baz=344,slow=32			LR	LR	23 16 09.8	
KSAR	**Wonju Array Be**	**26.64**	**330**	P	**P**	**23 07 26.9**	**+0.9**
ASAJ	**Asahikawa** comp=Z,81nm,18.3s,baz=184,slow=35	**28.93**	**357**	LR	LR	23 18 35.7	
USRK	**Ussuriysk Arra** comp=Z,124nm,21.4s,baz=264,slow=33	**30.85**	**342**	LR	LR	23 18 31.4	
KAPI	**Kappang** comp=Z,84nm,21.9s,baz=54,slow=33	**31.61**	**233**	LR	LR	23 18 53.8	
WRAB	**Tennant Creek**	**36.23**	**196**	*e*P	**P**	**23 08 51.3**	**+0.8**
WRA	**Warramunga Arr**	**36.24**	**196**	P	**P**	**23 08 51.8**	**+1.2**
WRA	**Warramunga Arr** 3.6nm,0.8s,baz=16,slow=9.4,SNR=15	**36.24**	**196**	P	**P**	**23 08 51.8**	**+1.2**
FITZ	**Fitzroy Crossi**	**37.87**	**210**	*e*P	**P**	**23 09 05.4**	**+1.0**
PETK	**Petropavlovsk-** comp=Z,72nm,19.3s,baz=24,slow=32	**38.31**	**13**	LR	LR	23 22 46.4	
ASAR	**Alice Springs**	**39.91**	**195**	P	**P**	**23 09 22.9**	**+1.4**
ASAR	**Alice Springs** 1.2nm,0.8s,baz=16,slow=13,SNR=10	**39.91**	**195**	P	**P**	**23 09 22.9**	**+1.4**
CMAR	**Chiang Mai Arr**	**43.60**	**281**	P	**P**	**23 09 51.4**	**-0.5**
CMAR	**Chiang Mai Arr** 1.0nm,0.4s,baz=75,slow=6.9,SNR=5.1	**43.60**	**281**	P	**P**	**23 09 51.4**	**-0.5**
CMAR	comp=Z,86nm,19.8s,baz=151,slow=33			LR	LR	23 25 25.8	
SONM	**Songino Array**	**45.24**	**324**	P	**P**	**23 10 03.9**	**-0.9**
SONM	**Songino Array** 0.1nm,0.3s,baz=157,slow=7.8,SNR=2.4	**45.24**	**324**	P	**P**	**23 10 03.9**	**-0.9**
SONM	comp=Z,100nm,19.3s,baz=266,slow=35			LR	LR	23 27 54.5	
STKA	**Stephens Creek**	**46.82**	**183**	*e*P	**P**	**23 10 17.4**	**+0.3**
STKA	**Stephens Creek** 1.5nm,0.8s,baz=325,slow=3.2,SNR=4.1	**46.82**	**183**	P	**P**	**23 10 17.9**	**+0.8**
MK31	**Makanchi Array**	**60.10**	**316**	*e*P	**P**	**23 11 55.5**	**+0.9**
MKAR	**Makanchi Array**	**60.10**	**316**	P	**P**	**23 11 55.2**	**+0.6**
MKAR	**Makanchi Array** 0.8nm,0.8s,baz=96,slow=7.4,SNR=7.9	**60.10**	**316**	P	**P**	**23 11 55.2**	**+0.6**
ZALV	**Zalesovo Beam**	**60.13**	**324**	P	**P**	**23 11 54.8**	**+0.2**
ZALV	**Zalesovo Beam** 0.7nm,0.6s,baz=103,slow=6.7,SNR=4.4	**60.13**	**324**	P	**P**	**23 11 54.8**	**+0.2**
KURBB	**Kurchatov Arra** 4.2nm,0.9s,baz=99,slow=6.7,SNR=25	**63.19**	**319**	P	**P**	**23 12 15.4**	**+0.1**
ILAR	**Eielson Array**	**67.36**	**26**	P	**P**	**23 12 44.5**	**+2.4**
ILAR	**Eielson Array** 0.5nm,0.9s,baz=265,slow=6.3,SNR=5.2	**67.36**	**26**	P	**P**	**23 12 44.5**	**+2.4**
BRVK	**Borovoye** 2.8nm,0.8s	**68.53**	**321**	*e*P	**P**	**23 12 48.4**	**-1.3**
PPT	**Papeete** comp=Z,210nm,21.8s,baz=316,slow=30	**72.72**	**114**	LR	LR	23 37 41.4	
ABKAR	**Akbulak array** 1.9nm,0.8s	**75.13**	**318**	*e*P	**P**	**23 13 28.4**	**-1.0**
ARCES	**ARCESS Array B**	**85.50**	**342**	P	**P**	**23 14 24.1**	**-0.7**
ARCES	**ARCESS Array B** 5.4nm,1.0s,baz=30,slow=9.8,SNR=5.2	**85.50**	**342**	P	**P**	**23 14 24.1**	**-0.7**
GNI	**Garni** comp=Z,66nm,19.1s,baz=48,slow=38	**87.60**	**311**	LR	LR	23 57 05.0	
FINES	**FINESS Array B**	**89.59**	**335**	P	**P**	**23 14 43.7**	**-1.0**
FINES	**FINESS Array B** 1.6nm,0.7s,baz=114,slow=9.0,SNR=3.3	**89.59**	**335**	P	**P**	**23 14 43.7**	**-1.0**
DAU	**Daniels Canyon**	**90.84**	**48**	*e*P	**P**	**23 14 49.2**	**-2.1**
HFS	**Hagfors** comp=Z,50nm,18.7s,baz=356,slow=38	**95.22**	**338**	LR	LR	00 01 39.5	
NOA	**NORSAR Array B** comp=Z,22nm,18.1s,baz=270,slow=39	**95.47**	**339**	LR	LR	00 03 26.9	
LPAZ	**La Paz**	**148.64**	**97**	PKPbc	**PKPbc**	**23 21 35.8**	**-0.2**
LPAZ	**La Paz** 0.8nm,0.9s,baz=27,slow=2.3,SNR=3.1	**148.64**	**97**	PKPbc	**PKPbc**	**23 21 35.8**	**-0.2**

IDC 24 23:39:32.4±47.0, 15.°44S×171.°40W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/21, mbtmp4.1/3, Error ellipse: s-maj=926.1km s-min=188.0km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.2nm,0.5s,baz=102,slow=13,SNR=6.8	**45.69**	**240**	P	P	23 47 55.6	+0.3
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=95,slow=7.0,SNR=5.4	**51.72**	**257**	P	P	23 48 41.4	-0.5
ASAR	**Alice Springs** 4.9nm,0.6s,baz=89,slow=8.1,SNR=67	**51.93**	**252**	P	P	23 48 43.3	-0.2

WEL 24 23:57:33.3±0.1, 45.°39S×166.°59E, h20km, ML3.6/17, 1C, Error ellipse: s-maj=1.2km s-min=0.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.41**	**103**	P*	Pg	23 57 41.5	-0.3
DCZ				S*	Sg	23 57 47.1	-0.4
DCZ				AML	AML	23 57 47.6	
DCZ				AML	AML	23 57 47.6	
DCZ				AML	AML	23 58 01.4	
WHZ	**Wether Hill Ro**	**1.08**	**118**	PN	Pb	23 57 52.6	-0.7
WHZ				SN	Sn	23 58 07.6	-0.1
WHZ				AML	AML	23 58 10.7	
MLZ	**Mavora Lakes**	**1.11**	**88**	PN	Pn	23 57 52.8	-1.1
MLZ				SN	Sb	23 58 07.5	-0.6
MLZ				AML	AML	23 58 08.4	
MSZ	**Milford Sound**	**1.19**	**53**	⇑PN	Pn	23 57 54.4	-0.3
MSZ				AML	AML	23 58 15.9	
MSZ				AML	AML	23 58 27.5	
MSZ				AML	AML	23 58 27.6	
MSZ				AML	AML	23 58 38.9	
APZ	**The Paps**	**1.74**	**147**	PN	Pn	23 58 03.5	+1.0
WKZ	**Wanaka**	**1.81**	**73**	PN	Pb	23 58 05.1	-0.7
WKZ				SN	Sb	23 58 28.5	+0.5
WKZ				AML	AML	23 58 48.9	
WKZ				AML	AML	23 58 49.3	
EAZ	**Earnscleugh**	**1.92**	**86**	PN	Pn	23 58 06.2	+1.3
EAZ				AML	AML	23 58 36.4	
EAZ				AML	AML	23 58 36.8	
EAZ				AML	AML	23 58 47.4	
EAZ				AML	AML	23 58 50.6	
JCZ	**Jackson Bay**	**2.03**	**50**	PN	Pn	23 58 07.3	+0.8
JCZ				AML	AML	23 58 41.7	
JCZ				AML	AML	23 58 44.2	
SYZ	**Scrubby Hill**	**2.12**	**124**	PN	Pn	23 58 08.7	+1.2
TUZ	**Tuapeka**	**2.21**	**106**	PN	Pb	23 58 10.7	-1.8
TUZ				AML	AML	23 58 40.9	
TUZ				AML	AML	23 58 44.4	
LBZ	**Lake Benmore**	**2.74**	**70**	PN	Pn	23 58 17.2	+0.9
LBZ				AML	AML	23 59 15.4	
LBZ				AML	AML	00 00 48.7	
FOZ	**Fox Glacier**	**2.87**	**52**	PN	Pn	23 58 20.8	+2.9
ODZ	**Otahua Downs**	**2.88**	**85**	PN	Pn	23 58 18.7	+0.6
ODZ				AML	AML	23 59 21.6	
RPZ	**Rata Peaks**	**3.60**	**64**	PN	Pn	23 58 30.5	+2.5
RPZ				AML	AML	23 59 33.4	
WVZ	**Waitaha Valley**	**3.77**	**54**	PN	Pn	23 58 31.4	+1.2

*IDC **25** 00:28:07.2±0.6, 56.°40S×26.°76W, h70km±5km, mb4.2/13, mb1 4.2/14, mb1mx4.0/21, mbtmp4.1/

IDC ***25*** *01:03:09.5±0.7, 13°.34S×167°.14E, h182km±6km, mb4.2/24, mb1 4.3/25, mb1mx4.3/26, mbtmp4.2/25, Error ellipse: s-maj=12.0km s-min=9.1km az=109.0*

ISCJB ***25*** *01:03:12.6±1.2, 13°.37S±0°.05×167°.10E±0°.05, h226km±12km, mb4.6/63, Error ellipse: s-maj=8.2km s-min=7.5km az=14.8*

BJI ***25*** *01:03:13.1, 13°.30S×167°.10E, h227km, mB4.9/16, mb4.7/25*

NEIC ***25*** *01:03:13.2±0.9, 13°.34S×167°.10E, h219km±8km, mb4.8/33, Error ellipse: s-maj=5.4km s-min=5.0km az=163.0*

ISC 25 01:03:14.2±0.4, 13°.42S±0°.05×167°.13E±0°.06, h227km±3km, n249, σ1§24/324, mb4.7/63, 10C-5D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
DZM	**Mont Dzumac**	**8.63**	**184**	P	**Pn**	**01**	**05**	**14.4**	**-1.2**
DZM				S	**S**	**01**	**06**	**53.3**	**+0.1**
DZM	**Mont Dzumac**	**8.63**	**184**	P	**Pn**	**01**	**05**	**14.4**	**-1.2**
	3.2nm,0.3s,baz=130,slow=15,SNR=15								
DZM				S	**S**	**01**	**06**	**53.3**	**+0.1**
	baz=331,slow=19								
MSVF	**Nonsavu**	**11.36**	**114**	*e*Pn	**Pn**	**01**	**05**	**52.1**	**+1.6**
MSVF				*e*P	P	01	05	58.8	+3.6
EIDS	**Eidsvold**	**19.22**	**229**	*e*P	**P**	**01**	**07**	**22.5**	**+0.9**
	15nm,0.6s								
PMG	**Port Moresby**	**19.97**	**279**	*e*P	**P**	**01**	**07**	**29.2**	**-0.5**
	29nm,0.9s								
PMG	**Port Moresby**	**19.97**	**279**	P	**P**	**01**	**07**	**28.8**	**-0.9**
	1.2nm,0.3s,baz=47,slow=2.2,SNR=5.1								
RAO	**Raoul Island**	**20.99**	**141**	S	**S**	**01**	**11**	**20.5**	**+0.4**
RAO	**Raoul Island**	**20.99**	**141**	S	**S**	**01**	**11**	**20.5**	**+0.4**
	577nm,1.0s,baz=150,slow=20,SNR=2.2								
CTA	**Charters Tower**	**21.05**	**249**	P	**P**	**01**	**07**	**40.2**	**-0.8**
CTA	**Charters Tower**	**21.05**	**249**	P	**P**	**01**	**07**	**40.2**	**-0.8**
	13nm,0.7s,baz=78,slow=12,SNR=15								
CTAO	**Charters Tower**	**21.05**	**249**	*e*P	**P**	**01**	**07**	**40.4**	**-0.7**
	18nm,0.7s								
ARMA	**Armidale**	**22.16**	**218**	*e*P	**P**	**01**	**07**	**53.0**	**+1.2**
	18nm,0.7s								
OUZ	**Omahuta**	**22.48**	**166**	*e*P	**P**	**01**	**07**	**53.1**	**-1.4**
	454nm,2.3s								
COEN	**Coen**	**23.28**	**266**	*e*P	**P**	**01**	**08**	**02.0**	**-0.1**
	1µm,2.5s								
URZ	**Urewera**	**26.28**	**162**	P	**P**	**01**	**08**	**29.1**	**+0.3**
URZ				S	**S**	**01**	**12**	**42.7**	**-1.6**
URZ	**Urewera**	**26.28**	**162**	P	**P**	**01**	**08**	**29.1**	**+0.3**
	3.4nm,0.4s,baz=338,slow=5.4,SNR=5.6								
URZ				S	**S**	**01**	**12**	**42.7**	**-1.6**
	11nm,1.0s,baz=353,slow=18,SNR=2.3								
SNZO	**South Karori**	**28.56**	**168**	*e*P	**P**	**01**	**08**	**49.4**	**+0.3**
	257nm,1.5s								
KHZ	**Kahutara**	**29.42**	**170**	*e*P	**P**	**01**	**08**	**56.7**	**+0.1**
	28nm,0.9s								
STKA	**Stephens Creek**	**29.75**	**228**	*e*P	**P**	**01**	**08**	**59.9**	**+0.1**
	3.2nm,0.5s								
STKA				PcP	**PcP**	**01**	**11**	**58.3**	**+0.6**
STKA	**Stephens Creek**	**29.75**	**228**	P	**P**	**01**	**09**	**00.3**	**+0.5**
	19nm,0.4s,baz=50,slow=8.9,SNR=50								
STKA				PcP	**PcP**	**01**	**11**	**58.3**	**+0.6**
	15nm,0.7s,baz=53,slow=2.7,SNR=17								
RPZ	**Rata Peaks**	**30.38**	**174**	*e*P	**P**	**01**	**09**	**05.6**	**+0.5**
	37nm,0.9s								
RPZ	**Rata Peaks**	**30.38**	**174**	P	**P**	**01**	**09**	**05.7**	**+0.5**
	26nm,0.7s,baz=283,slow=2.4,SNR=15								
ODZ	**Otahua Downs**	**31.66**	**175**	*e*P	**P**	**01**	**09**	**16.0**	**-0.3**
	367nm,2.9s								
WRAB	**Tennant Creek**	**32.02**	**254**	*e*P	**P**	**01**	**09**	**17.7**	**-2.1**
	99nm,2.7s								
WRA	**Warramunga Arr**	**32.03**	**254**	P	**P**	**01**	**09**	**18.2**	**-1.7**
WRA				pP	pP	01	09	55.9	-10
WRA				PcP	**PcP**	**01**	**12**	**04.0**	**0.0**
WRA				ScP	**ScP**	**01**	**15**	**31.1**	**+5.1**
WRA				PKiKP	**PKiKP**	**01**	**19**	**30.8**	**-1.3**
WRA	**Warramunga Arr**	**32.03**	**254**	P	**P**	**01**	**09**	**18.2**	**-1.7**
	3.5nm,0.6s,baz=84,slow=8.8,SNR=44								
WRA				pP	pP	01	09	55.9	-10
	4.3nm,0.8s,baz=85,slow=8.8,SNR=5.9								
WRA				PcP	**PcP**	**01**	**12**	**04.0**	**0.0**
	1.8nm,0.8s,baz=82,slow=3.7,SNR=5.5								
WRA				ScP	**ScP**	**01**	**15**	**31.1**	**+5.1**
	2.5nm,0.8s,baz=86,slow=3.6,SNR=12								
WRA				PKiKP	**PKiKP**	**01**	**19**	**30.8**	**-1.3**
	0.6nm,0.5s,baz=14,slow=0.6,SNR=13								
ASAR	**Alice Springs**	**33.03**	**247**	P	**P**	**01**	**09**	**27.4**	**-1.2**
ASAR				PcP	**PcP**	**01**	**12**	**06.9**	**+0.1**
ASAR				S	**S**	**01**	**14**	**30.0**	**-0.4**
ASAR				ScP	**ScP**	**01**	**15**	**34.4**	**+5.0**
ASAR				PKiKP	**PKiKP**	**01**	**19**	**31.4**	**-1.2**
ASAR	**Alice Springs**	**33.03**	**247**	P	**P**	**01**	**09**	**27.4**	**-1.2**
	6.2nm,0.4s,baz=75,slow=9.1,SNR=152								
ASAR				PcP	**PcP**	**01**	**12**	**06.9**	**+0.1**
	3.8nm,0.7s,baz=75,slow=2.4,SNR=15								
ASAR				S	**S**	**01**	**14**	**30.0**	**-0.4**
	1.9nm,0.9s,baz=78,slow=16,SNR=8.0								
ASAR				ScP	**ScP**	**01**	**15**	**34.4**	**+5.0**
	3.3nm,0.8s,baz=79,slow=3.0,SNR=18								
ASAR				PKiKP	**PKiKP**	**01**	**19**	**31.4**	**-1.2**
	0.6nm,0.7s,baz=75,slow=2.1,SNR=5.7								
TAU	**Tasmania Unive**	**34.00**	**206**	*e*P	**P**	**01**	**09**	**37.2**	**+0.7**
	70nm,1.4s								
BBOO	**Buckleboo**	**34.29**	**230**	*e*P	**P**	**01**	**09**	**39.0**	**-0.3**
	4µm,2.3s								
FORT	**Forrest**	**39.86**	**238**	*e*P	**P**	**01**	**10**	**25.8**	**-0.2**
	43nm,0.6s								
FITZ	**Fitzroy Crossi**	**40.14**	**258**	P	**P**	**01**	**10**	**28.0**	**-0.6**
FITZ				PcP	**PcP**	**01**	**12**	**29.4**	**+1.1**
FITZ	**Fitzroy Crossi**	**40.14**	**258**	P	**P**	**01**	**10**	**28.0**	**-0.6**
	1.4nm,0.4s,baz=94,slow=8.4								
FITZ				PcP	**PcP**	**01**	**12**	**29.4**	**+1.1**
	2.7nm,0.6s,baz=110,slow=7.9,SNR=3.4								
MBWA	**Marble Bar**	**45.77**	**254**	*e*P	**P**	**01**	**11**	**13.4**	**-0.2**
	11nm,0.5s								
KAPI	**Kappang**	**47.43**	**276**	*e*P	**P**	**01**	**11**	**25.3**	**-1.3**
	8.8nm,0.8s								
OPA	**Opana**	**48.86**	**45**	*e*P	**P**	**01**	**11**	**36.7**	**-0.6**
NWAO	**Narrogin (SRO)**	**49.31**	**238**	*e*P	**P**	**01**	**11**	**39.8**	**-0.8**
	84nm,1.5s								
NWAO	**Narrogin (SRO)**	**49.31**	**238**	P	**P**	**01**	**11**	**40.1**	**-0.5**
	22nm,1.1s,baz=85,slow=6.0,SNR=15								
KKM	**Kota Kinabalu**	**54.13**	**288**	*e*P	**P**	**01**	**12**	**15.8**	**-0.8**
	18nm,0.8s								
MJAR	**Matsushiro Arr**	**56.69**	**332**	P	**P**	**01**	**12**	**32.7**	**-1.5**
MJAR				PcP	**PcP**	**01**	**13**	**28.0**	**+0.4**
MJAR	**Matsushiro Arr**	**56.69**	**332**	P	**P**	**01**	**12**	**32.7**	**-1.5**
	9.0nm,0.6s,baz=170,slow=8.3,SNR=25								
MJAR				PcP	**PcP**	**01**	**13**	**28.0**	**+0.4**
	1.3nm,0.5s,baz=168,slow=4.1,SNR=2.7								
MAJO	**Matsushiro**	**56.69**	**332**	*e*P	**P**	**01**	**12**	**33.1**	**-1.2**
	16nm,0.9s								
MAT	**Matsushiro**	**56.69**	**332**	P	**P**	**01**	**12**	**32.8**	**-1.5**
ASAJ	**Asahikawa**	**61.47**	**340**	*e*P	**P**	**01**	**13**	**07.2**	**+0.4**
	8.5nm,0.6s								
KSRS	**Korea Array**	**62.59**	**325**	P	**P**	**01**	**13**	**13.6**	**-0.8**
	3.6nm,0.8s,baz=135,slow=7.0,SNR=11								
KSRS				PcP	**PcP**	**01**	**13**	**51.3**	**+0.1**
	1.3nm,0.5s,baz=122,slow=3.1,SNR=2.9								
KSAR	**Wonju Array Be**	**62.60**	**325**	P	**P**	**01**	**13**	**13.6**	**-0.9**
KSAR				PcP	**PcP**	**01**	**13**	**51.3**	**0.0**
VNDA	**Vanda**	**64.16**	**181**	P	**P**	**01**	**13**	**25.0**	**+0.9**
VNDA	**Vanda**	**64.16**	**181**	P	**P**	**01**	**13**	**25.0**	**+0.9**
	2.9nm,0.6s,baz=0.5,slow=6.0,SNR=43								
SBA	**Scott Base**	**64.44**	**180**	*e*P	**P**	**01**	**13**	**27.8**	**+1.9**
	11nm,0.8s								
NJ2	**Nanjing**	**64.65**	**315**	*e*P	**P**	**01**	**13**	**28.4**	**+0.4**
NJ2				pmax	pmax				
	comp=Z,20nm,0.5s								
QIZ	**Qiongzhong**	**64.99**	**299**	P	**P**	**01**	**13**	**30.5**	**+0.1**
QIZ				S	**S**	**01**	**21**	**55.1**	**+0.8**
QIZ				pmax	pmax				
	comp=Z,17nm,1.6s								
USRK	**Ussuriysk Arra**	**65.66**	**333**	P	**P**	**01**	**13**	**34.7**	**+0.5**
	comp=Z,7.0nm,0.7s,baz=122,slow=5.8,SNR=22								
USRK				PcP	**PcP**	**01**	**14**	**04.1**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=134,slow=4.2,SNR=2.7								
PEA0B	**Petropavlovsk-**	**66.75**	**354**	*e*P	**P**	**01**	**13**	**40.7**	**-0.2**
PETK	**Petropavlovsk-**	**66.75**	**354**	P	**P**	**01**	**13**	**41.1**	**+0.2**
PETK	**Petropavlovsk-**	**66.75**	**354**	P	**P**	**01**	**13**	**41.1**	**+0.2**
	comp=Z,19nm,0.7s,baz=158,slow=9.0,SNR=46								
MDJ	**Mudanjiang**	**67.07**	**332**	P	**P**	**01**	**13**	**43.3**	**+0.2**
MDJ				pmax	pmax				
	comp=Z,9.0nm,1.0s								
MDJ				pmax	pmax				
	comp=Z,33nm,4.0s								
IPM	**Ipoh**	**67.97**	**280**	*e*P	**P**	**01**	**13**	**49.6**	**+0.2**
	comp=Z,23nm,0.8s								
CN2	**Changchun**	**68.46**	**329**	*e*P	**P**	**01**	**13**	**51.6**	**-0.2**
KULM	**Kulim**	**68.56**	**281**	*e*P	**P**	**01**	**13**	**52.2**	**-0.9**
	comp=Z,5.8nm,0.6s								
GYA	**Guiyang**	**70.86**	**304**	*e*P	**P**	**01**	**14**	**08.0**	**+1.0**
GYA				pP	**pP**	**01**	**15**	**01.5**	**+1.5**
GYA				sP	**sP**	**01**	**15**	**26.3**	**+2.0**
GYA				S	**S**	**01**	**23**	**03.8**	**-0.1**
GYA				SKS	**SKSac**	**01**	**23**	**43.0**	**-4.8**
GYA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
BJI	**Beijing**	**71.17**	**321**	P	**P**	**01**	**14**	**08.3**	**-0.1**
BJI				pP	**pP**	**01**	**14**	**56.8**	**-4.6**
BJI				pmax	pmax				
	comp=Z,12nm,1.1s								
KMI	**Kunming**	**73.51**	**302**	P	**P**	**01**	**14**	**23.3**	**+0.5**
KMI				pmax	pmax				
	comp=Z,17nm,1.0s								
CMAR	**Chiang Mai Arr**	**74.30**	**294**	P	**P**	**01**	**14**	**28.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**74.30**	**294**	P	**P**	**01**	**14**	**28.1**	**+0.8**
	comp=Z,9.5nm,0.7s,baz=127,slow=4.7,SNR=31								
CHTO	**Chiang Mai**	**74.42**	**294**	*e*P	**P**	**01**	**14**	**28.2**	**+0.3**
	comp=Z,5.9nm,0.7s								
HHC	**Hu-ho-hao-te**	**74.50**	**320**	*e*P	**P**	**01**	**14**	**26.9**	**-1.2**
HHC				PcP	**PcP**	**01**	**14**	**40.4**	**-1.0**
HHC				pP	**pP**	**01**	**15**	**25.5**	**+3.9**
HHC				PP	**PP**	**01**	**17**	**18.6**	**+0.4**
HHC				S	**S**	**01**	**23**	**40.4**	**-4.1**
HHC				SKS	SKSac	01	24	04.3	-10
HHC				SS	**SS**	**01**	**28**	**32.9**	**-3.8**
HHC				pmax	pmax				
	comp=Z,30nm,1.3s								
HHC				pmax	pmax				
	comp=Z,100nm,7.1s								
CD2	**Chengdu**	**75.11**	**307**	*e*P	**P**	**01**	**14**	**32.6**	**+0.9**
CD2				pP	**pP**	**01**	**15**	**26.9**	**+1.6**
CD2				sP	**sP**	**01**	**15**	**51.0**	**+1.6**
CD2				PP	**PP**	**01**	**17**	**26.4**	**+3.0**
CD2				S	**S**	**01**	**23**	**51.3**	**-0.1**
CD2				sS	**sS**	**01**	**25**	**25.5**	**+0.3**
CD2				SS	**SS**	**01**	**28**	**48.3**	**+2.2**
CD2				pmax	pmax				
	comp=Z,10.0nm,1.2s								
CD2				pmax	pmax				
	comp=Z,60nm,6.0s								
QSPA	**South Pole Qui**	**76.60**	**180**	*e*P	**P**	**01**	**14**	**40.5**	**+0.9**
	comp=Z,24nm,0.9s								
LZH	**Lanzhou**	**77.34**	**312**	*e*P	**P**	**01**	**14**	**46.0**	**+1.7**
LZH				pP	**pP**	**01**	**15**	**36.8**	**-1.4**
LZH				sP	**sP**	**01**	**15**	**59.6**	**-2.7**
LZH				pmax	pmax				
	comp=Z,17nm,1.0s								
OHAK	**Old Harbor**	**77.62**	**21**	*e*P	**P**	**01**	**14**	**43.8**	**-1.3**
	comp=Z,15nm,0.6s								
RSO	**Redoubt South**	**80.30**	**19**	*e*P	**P**	**01**	**14**	**58.7**	**-1.2**
ULN	**Ulaanbaatar**	**81.00**	**324**	*e*P	**P**	**01**	**15**	**03.8**	**-0.1**
	comp=Z,25nm,1.4s								
SONM	**Songino Array**	**81.37**	**324**	P	**P**	**01**	**15**	**05.5**	**-0.2**
SONM	**Songino Array**	**81.37**	**324**	P	**P**	**01**	**15**	**05.5**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=126,slow=7.3,SNR=20								
GTA	**Gaotai**	**81.67**	**314**	P	**P**	**01**	**15**	**07.8**	**+0.3**
GTA				pP	**pP**	**01**	**16**	**01.8**	**-0.2**
GTA				sP	**sP**	**01**	**16**	**25.3**	**-0.6**
GTA				S	**S**	**01**	**25**	**02.0**	**+1.0**
GTA				sS	**sS**	**01**	**26**	**37.8**	**+1.5**
GTA				pmax	pmax				
	comp=Z,10.0nm,1.4s								
GTA				pmax	pmax				
	comp=Z,58nm,5.5s								
GTA				LR	LR				
	comp=N,610nm,17.6s								
GTA				LR	LR				
	comp=E,790nm,17.6s								
MAW	**Mawson**	**83.04**	**202**	P	**P**	**01**	**15**	**14.8**	**+0.9**
MAW	**Mawson**	**83.04**	**202**	P	**P**	**01**	**15**	**14.8**	**+0.9**
	comp=E,6.6nm,0.6s,baz=112,slow=7.7,SNR=13								
DIV	**Divide**	**83.12**	**21**	*e*P	**P**	**01**	**15**	**14.1**	**-0.3**
	comp=E,11nm,0.6s								
MCK	**McKinley**	**83.96**	**18**	*e*P	**P**	**01**	**15**	**17.8**	**-0.7**
	comp=E,10nm,0.8s								
YBH	**Yreka Blue Hor**	**84.59**	**45**	P	**P**	**01**	**15**	**23.1**	**+0.8**
YBH	**Yreka Blue Hor**	**84.59**	**45**	P	**P**	**01**	**15**	**23.1**	**+0.8**
	comp=E,1.6nm,0.6s,baz=180,slow=1.0,SNR=2.9								
COLA	**College**	**85.12**	**18**	*e*P	**P**	**01**	**15**	**22.7**	**-1.5**
	comp=E,19nm,0.6s								
ILAR	**Eielson Array**	**85.33**	**18**	P	**P**	**01**	**15**	**24.1**	**-1.3**
ILAR				pP	pP	01	16	10.6	-10
ILAR	**Eielson Array**	**85.33**	**18**	P	**P**	**01**	**15**	**24.1**	**-1.3**
	comp=E,10nm,0.6s,baz=241,slow=5.0,SNR=122								
ILAR				pP	pP	01	16	10.6	-10
	comp=E,3.8nm,0.9s,baz=228,slow=5.6,SNR=3.9								
COLD	**Coldfoot**	**86.21**	**15**	*e*P	**P**	**01**	**15**	**29.7**	**0.0**
	comp=E,5.3nm,0.8s								
NVAR	**Mina Array Bea**	**86.52**	**49**	P	**P**	**01**	**15**	**31.8**	**-0.3**
NVAR				pP	pP	01	16	18.8	-8.4
NVAR				PKKPbc	**PKKPbc**	**01**	**33**	**28.0**	**-0.6**
NVAR				P'P'		01	41	34.3	
NVAR	**Mina Array Bea**	**86.52**	**49**	P	**P**	**01**	**15**	**31.8**	**-0.3**
	comp=E,0.6nm,0.7s,baz=245,slow=8.8,SNR=5.9								
NVAR				pP	pP	01	16	18.8	-8.4
	comp=E,0.8nm,0.9s,baz=228,slow=8.6,SNR=3.1								
NVAR				PKKPbc	**PKKPbc**	**01**	**33**	**28.0**	**-0.6**
	comp=E,0.4nm,0.6s,baz=102,slow=3.8,SNR=4.6								
NVAR				PKPPKP	**P'P'df**	**01**	**41**	**34.3**	**-0.2**
	comp=E,0.3nm,0.5s,baz=53,slow=2.7,SNR=4.5								
EGAK	**Eagle**	**87.14**	**20**	*e*P	**P**	**01**	**15**	**33.3**	**-0.8**
	comp=E,4.4nm,0.6s								
WVOR	**Wild Horse Val**	**87.67**	**45**	*e*P	**P**	**01**	**15**	**37.3**	**0.0**
SYO	**Syowa Base**	**89.92**	**197**	*e*P	**P**	**01**	**15**	**46.2**	**-1.0**
NEW	**Newport**	**90.66**	**40**	*e*P	**P**	**01**	**15**	**50.0**	**-1.1**
	comp=E,1.7nm,0.8s								
WMQ	**Urumqi**	**91.72**	**315**	P	**P**	**01**	**15**	**56.6**	**+0.5**
DAU	**Daniels Canyon**	**92.33**	**49**	*e*P	**P**	**01**	**15**	**58.8**	**-0.5**
	comp=E,11nm,1.2s								
PDAR	**Pinedale Array**	**94.16**	**47**	P	**P**	**01**	**16**	**06.8**	**-0.9**
PDAR				PKKPbc	**PKKPdf**	**01**	**33**	**07.3**	**-1.3**
PDAR	**Pinedale Array**	**94.16**	**47**	P	**P**	**01**	**16**	**06.8**	**-0.9**
	comp=E,0.1nm,0.5s,baz=260,slow=4.3,SNR=2.4								
PDAR				PKKPbc	**PKKPdf**	**01**	**33**	**07.3**	**-1.3**
	comp=E,0.6nm,0.7s,baz=90,slow=5.9,SNR=6.5								
SNAA	**Sanae**	**94.84**	**183**	*e*P	**P**	**01**	**16**	**09.7**	**-0.3**
TXAR	**Lajitas Array**	**95.77**	**61**	P	**P**	**01**	**16**	**15.2**	**+0.1**
TXAR				PKKPbc	**PKKPbc**	**01**	**33**	**04.6**	**+0.1**
TXAR	**Lajitas Array**	**95.77**	**61**	P	**P**	**01**	**16**	**15.2**	**+0.1**
	comp=E,0.1nm,0.8s,baz=197,slow=12,SNR=2.3								
TXAR				PKKPbc	**PKKPbc**	**01**	**33**	**04.6**	**+0.1**
	comp=E,0.3nm,0.5s,baz=84,slow=3.5,SNR=6.9								
MK31	**Makanchi Array**	**96.17**	**317**	*e*P	**P**	**01**	**16**	**16.2**	**-0.2**
MKAR	**Makanchi Array**	**96.17**	**317**	P	**P**	**01**	**16**	**16.1**	**-0.3**
MKAR				pP	pP	01	17	02.7	-9.3
MKAR				PKiKP	**PKiKP**	**01**	**20**	**53.0**	**-0.5**
MKAR	**Makanchi Array**	**96.17**	**317**	P	**P**	**01**	**16**	**16.1**	**-0.3**
	comp=E,5.9nm,0.6s,baz=91,slow=6.4,SNR=56								
MKAR				pP	pP	01	17	02.7	-9.3
	comp=E,0.6nm,0.6s,baz=111,slow=5.3,SNR=1.9								
MKAR				PKiKP	**PKiKP**	**01**	**20**	**53.0**	**-0.5**
	comp=E,0.6nm,0.5s,baz=190,slow=1.0,SNR=5.5								
ZALV	**Zalesovo Beam**	**96.26**	**324**	P	**P**	**01**	**16**	**15.4**	**-1.2**
ZALV	**Zalesovo Beam**	**96.26**	**324**	P	**P**	**01**	**16**	**15.4**	**-1.2**
	comp=E,4.2nm,0.6s,baz=116,slow=4.5,SNR=20								
YKA	**Yellowknife Ar**	**96.45**	**27**	P	**P**	**01**	**16**	**15.3**	**-2.0**
YKA	**Yellowknife Ar**	**96.45**	**27**	P	**P**	**01**	**16**	**15.3**	**-2.0**
	comp=E,0.6nm,0.6s,baz=259,slow=4.3,SNR=3.4								
KSH	**Kashi**	**99.28**	**308**	*e*P	**Pdif**	**01**	**16**	**34.4**	**+3.7**
KSH				pP	**pP**	**01**	**17**	**28.8**	**+2.4**
KSH				SKS	**SKSac**	**01**	**26**	**50.6**	**+3.3**
KSH				S	**S**	**01**	**27**	**44.9**	**+2.3**
KSH				pmax	pmax				
	comp=Z,75nm,4.6s								
KSH				LR	LR				
	comp=N,69nm,5.7s								
KSH				LR	LR				
	comp=E,62nm,6.0s								
KSH				LR	LR				
	comp=E,84nm,8.5s								
ABKAR	**Akbulak array**	**111.26**	**318**	*e*PKP	**PKiKP**	**01**	**21**	**20.2**	**-0.8**
LPAZ	**La Paz**	**117.92**	**117**	PKP	**PKPdf**	**01**	**21**	**35.5**	**0.0**
LPAZ	**La Paz**	**117.92**	**117**	PKP	**PKPdf**	**01**	**21**	**35.5**	**0.0**
	comp=Z,0.6nm,0.6s,baz=225,slow=5.7,SNR=2.5								
KEV	**Kevo**	**118.43**	**345**	*e*p	**PKPdf**	**01**	**21**	**33.9**	**-0.2**
ARCES	**ARCESS Array B**	**118.96**	**346**	PKP	**PKPdf**	**01**	**21**	**34.9**	**-0.4**
ARCES				PKKPbc	**PKKPab**	**01**	**31**	**50.3**	**-2.4**
ARCES	**ARCESS Array B**	**118.96**	**346**	PKP	**PKPdf**	**01**	**21**	**34.9**	**-0.4**
	comp=Z,8.3nm,0.5s,baz=76,slow=1.6,SNR=111								
ARCES				PKKPbc	**PKKPab**	**01**	**31**	**50.3**	**-2.4**
	comp=Z,1.3nm,0.5s,baz=189,slow=2.4,SNR=10								
SCHQ	**Schefferville**	**121.28**	**33**	PKP	**PKPdf**	**01**	**21**	**39.3**	**-0.8**
SCHQ				PKKPbc	**PKKPbc**	**01**	**31**	**43.9**	**-0.3**
SCHQ	**Schefferville**	**121.28**	**33**	PKP	**PKPdf**	**01**	**21**	**39.3**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=264,slow=9.2,SNR=3.4								
SCHQ				PKKPbc	**PKKPbc**	**01**	**31**	**43.9**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=52,slow=18,SNR=5.0								
CPUP	**Villa Florida**	**121.44**	**133**	PKP	**PKPdf**	**01**	**21**	**40.5**	**-0.7**
CPUP	**Villa Florida**	**121.44**	**133**	PKP	**PKPdf**	**01**	**21**	**40.5**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=158,slow=2.6,SNR=5.4								
JOF	**Joensuu**	**121.63**	**338**	*ep*	**PKPdf**	**01**	**21**	**39.9**	**-0.6**
	comp=Z,11nm,0.6s								
JMIC	**Jan Mayen**	**122.40**	**358**	PKP	**PKPdf**	**01**	**21**	**41.2**	**-0.5**
JMIC	**Jan Mayen**	**122.40**	**358**	PKP	**PKPdf**	**01**	**21**	**41.2**	**-0.5**
	comp=Z,30nm,0.4s,baz=159,slow=8.9								
GNI	**Garni**	**123.20**	**309**	*e*PKPdf	**PKPdf**	**01**	**21**	**43.8**	**-0.7**
KBZ	**Khabaz**	**123.76**	**314**	PKP	**PKPdf**	**01**	**21**	**46.0**	**+0.9**
KBZ	**Khabaz**	**123.76**	**314**	PKP	**PKPdf**	**01**	**21**	**46.0**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=73,slow=5.9,SNR=5.7								
KAF	**Kangasniemi**	**123.93**	**339**	*ep*	**PKPdf**	**01**	**21**	**44.4**	**-0.5**
	comp=Z,9.1nm,0.6s								
SUR	**Sutherland**	**124.21**	**215**	*e*PKPdf	**PKPdf**	**01**	**21**	**47.2**	**+0.5**
BOSA	**Boshof**	**124.27**	**221**	PKP	**PKPdf**	**01**	**21**	**47.4**	**+0.5**
BOSA	**Boshof**	**124.27**	**221**	PKP	**PKPdf**	**01**	**21**	**47.4**	**+0.5**
	comp=Z,8.9nm,0.8s,baz=195,slow=3.5,SNR=20								
FINES	**FINESS Array B**	**124.46**	**339**	PKP	**PKPdf**	**01**	**21**	**45.7**	**-0.2**
FINES	**FINESS Array B**	**124.46**	**339**	PKP	**PKPdf**	**01**	**21**	**45.7**	**-0.2**
	comp=Z,5.4nm,0.5s,baz=31,slow=2.4,SNR=55								
SAML	**Samuel**	**125.33**	**111**	*e*PKPdf	**PKPdf**	**01**	**21**	**48.3**	**-0.7**
KMBO	**Kilima Mbogo**	**128.26**	**258**	PKP	**PKPdf**	**01**	**21**	**54.9**	**-0.1**
KMBO				*e*PKPdf	**PKiKP**	**01**	**21**	**56.1**	**+0.5**
KMBO	**Kilima Mbogo**	**128.26**	**258**	PKP	**PKPdf**	**01**	**21**	**54.9**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=144,slow=2.3,SNR=4.0								
MALT	**Malatya**	**128.39**	**308**	*i*P	PKPdf	01	22	13.1	+19
NB2	**NORSAR Subarra**	**129.33**	**345**	PKPdf	**PKPdf**	**01**	**21**	**55.0**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=31,slow=1.9								
NOA	**NORSAR Array B**	**129.33**	**345**	PKP	**PKPdf**	**01**	**21**	**55.6**	**+0.2**
NOA	**NORSAR Array B**	**129.33**	**345**	PKP	**PKPdf**	**01**	**21**	**55.6**	**+0.2**
	comp=Z,3.9nm,0

PVRL	**Vila Real**	**151.88 352**	*e*PKPbc	**PKPbc**	**01 22 43.2**	**+0.7**
PVRL	**Vila Real**	**151.88 352**	*e*PKPab	**PKPab**	**01 22 52.8**	**+0.4**
MVO	**Moncorvo**	**151.89 351**	*e*PKPbc	**PKPbc**	**01 22 43.0**	**+0.4**
CKHR	**Kef el Ahmar**	**152.08 327**	P	**PKPbc**	**01 22 43.5**	**+0.2**
PTO	**Porto**	**152.13 353**	*e*PKPbc	**PKPbc**	**01 22 43.4**	**+0.4**
PVIS	**Viseu**	**152.46 352**	*e*PKPbc	**PKPbc**	**01 22 44.1**	**+0.3**
PVIS	**Viseu**	**152.46 352**	*e*PKPab	**PKPab**	**01 22 55.0**	**+0.1**
ESDC	**Sonseca Array**	**152.69 345**	PKPbc	**PKPbc**	**01 22 44.7**	**+0.3**
ESDC			PKPab	**PKPab**	**01 22 56.2**	**+0.4**
ESDC	**Sonseca Array**	**152.69 345**	PKPbc	**PKPbc**	**01 22 44.7**	**+0.3**
	comp=Z,8.0nm,0.7s,baz=14,slow=3.1,SNR=55					
ESDC			PKPab	**PKPab**	**01 22 56.2**	**+0.4**
	comp=Z,5.0nm,0.7s,baz=13,slow=3.8,SNR=11					
MTE	**Manteigas**	**152.72 351**	*e*PKPbc	**PKPbc**	**01 22 44.9**	**+0.5**
PAB	**San Pablo**	**152.91 345**	*e*PKPbc	**PKPbc**	**01 22 45.0**	**+0.1**
PAB			*e*PKPab	**PKPab**	**01 22 56.9**	**+0.1**
PCAS	**Casmilo, Conde**	**153.19 353**	*e*PKPbc	**PKPbc**	**01 22 45.4**	**0.0**
PCBR	**Castelo Branco**	**153.25 351**	*e*PKPbc	**PKPbc**	**01 22 45.9**	**+0.4**
PTOM	**Tomar**	**153.61 352**	*e*PKPbc	**PKPbc**	**01 22 46.7**	**+0.4**
PMRV	**Marv??o**	**153.64 350**	*e*PKPbc	**PKPbc**	**01 22 46.8**	**+0.4**
PMTG	**Montargil**	**154.12 352**	*e*PKPbc	**PKPbc**	**01 22 47.6**	**+0.2**
PBAR	**Barrancos**	**154.80 349**	*e*PKPab	**PKPab**	**01 23 05.3**	**+0.5**
PBEJ	**Beja**	**155.09 351**	*e*PKPab	**PKPab**	**01 23 06.7**	**+0.7**
PCVE	**Castro Verde**	**155.50 351**	*e*PKPab	**PKPab**	**01 23 08.8**	**+1.0**
PVAQ	**Vaqueiros**	**155.67 350**	*e*PKPab	**PKPab**	**01 23 09.2**	**+0.7**
MDT	**Midelt**	**159.27 340**	PKPab	**PKPab**	**01 23 25.6**	**+1.2**
MDT	**Midelt**	**159.27 340**	PKPab	**PKPab**	**01 23 25.6**	**+1.2**
	comp=Z,2.8nm,0.8s,baz=32,slow=5.0,SNR=7.0					
TAM	**Tamanrasset**	**160.21 301**	*e*PKPdf	**PKPdf**	**01 22 47.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**165.82 271**	PKP	**PKPdf**	**01 22 52.3**	**-0.5**
TORD			PKPab	**PKPab**	**01 23 53.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**165.82 271**	PKP	**PKPdf**	**01 22 52.3**	**-0.5**
	comp=Z,3.7nm,0.9s,baz=44,slow=1.2,SNR=16					
TORD			PKPab	**PKPab**	**01 23 53.5**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=89,slow=5.0,SNR=7.0					
DBIC	**Dimbokro**	**169.65 230**	PKP	**PKPdf**	**01 22 55.1**	**-0.4**
DBIC	**Dimbokro**	**169.65 230**	PKP	**PKPdf**	**01 22 55.1**	**-0.4**
	comp=Z,9.3nm,1.2s,baz=160,slow=4.6,SNR=3.1					

GUC 25 01:31:54.1±0.4,**23°.97S**×**67°.61W**,**h218**km±8km,**ML3.9,**
1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.80**	**318**	*i* P	Pn	01 32 33.8	+1.3
LVC				*i* S	S	01 33 04.1	+1.9
ANCH	**Antofagasta**	**2.58**	**276**	↑*i* P	Pn	01 32 41.6	+1.7
ANCH				*i* S	S	01 33 17.4	+1.8
ANCH				AML	AML	01 33 20.2	
	comp=E,321nm,0.1s						
PB09	**Plate Boundary**	**2.63**	**325**	↓*i* P	Pn	01 32 43.4	+2.5
PB09				*i* S	S	01 33 20.4	+3.2
PB09				AML	AML	01 33 23.3	
	comp=N,206nm,0.3s						
PB07	**Plate Boundary**	**3.06**	**316**	*e*P	Pn	01 32 47.8	+2.1
PB07				*i* S	S	01 33 28.2	+2.4

MOS ***25*** *01:42:22.1±1.0, 6°.41S×154°.96E, h28km, mb6.1/61, MS5.6/63, Error ellipse: s-maj=7.5km s-min=6.0km az=82.8*

BKK ***25*** *01:42:22.1±0.3, 6°.5±4°×15°.5E±°, h10km, M6.1/51, mb6.1/51, mB6.4/45, MLv6.1/1, Mw(mB)6.1/45, Mwp5.8/4*

BJI ***25*** *01:42:22.2, 6°.50S×154°.90E, h35km, mB5.8/48, mb5.8/69, Ms5.8/69, Ms7 5.5/63*

NEIC ***25*** *01:42:23.9±0.1, 6°.49S×154°.97E, h32km, mb5.9/146, ME5.6, MS5.7/153, MW5.9, MW5.9, Error ellipse: s-maj=4.1km s-min=3.4km az=134.0, Moment Tension Solution. s22 Moment tensor: Scale 10^{17}Nm; M_{rr}6.35; $M_{\theta\theta}$-3.84; $M_{\phi\phi}$-2.51; $M_{r\theta}$0.62; $M_{r\phi}$6.25; $M_{\theta r}$-0.49; Best double couple: M_o8.40000×10^{17} NP1:ϕ_s313.00000°, δ42.00000°, λ91.00000°. NP2:ϕ_s131.00000°, δ48.00000°, λ89.00000°. Principal axes: T 6.3900, Plg87.0000°, Azm25.0000°; N 3.1100, Plg0.0000°, Azm131.0000°; P -9.5000, Plg2.0000°, Azm221.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

ISCJB ***25*** *01:42:24.2±0.7, 6°.51S±0°.03×154°.95E±0°.02, h45km±6km, mb5.9/233, MS5.6/215 Error ellipse: s-maj=4.6km s-min=3.2km az=26.5*

IDC ***25*** *01:42:25.2±1.5, 6°.53S×155°.00E, h39km±12km, mb5.7/38, mb1 5.7/39, mb1mx5.7/39, mbtmp5.7/39, ML4.8/1, MS5.5/27, Ms1 5.5/27, ms1mx5.4/37, Error ellipse: s-maj=9.9km s-min=8.4km az=104.0*

TEH ***25*** *01:42:28.0, 6°.50S×154°.88E, h66km, ML6.2*

GCMT ***25*** *01:42:29.6±0.1, 6°.76S×154°.92E, h42km, MW5.9, Moment Tensor Solution. s110, c222; s78, c102; Moment tensor: Scale 10^{17}Nm; M_{rr}8.88±.09; $M_{\theta\theta}$-4.68±.07; $M_{\phi\phi}$-4.20±.07; $M_{r\theta}$0.48±.07; $M_{r\phi}$5.35±.05; $M_{\theta r}$-1.24±.07; Best double couple: M_o9.40000×10^{17} NP1:ϕ_s310.00000°, δ41.00000°, λ84.00000°. NP2:ϕ_s138.00000°, δ49.00000°, λ95.00000°. Principal axes: T 9.0000, Plg85.0000°, Azm91.0000°; N 0.8800, Plg4.0000°, Azm314.0000°; P -9.8700, Plg4.0000°, Azm224.0000°; Data Used: II IU CN IC G. Surface waves: sta=116, comp=232, per= 50.*

DJA ***25*** *01:42:30.4±0.9, 7°.5±4°×15°.5E±°, h78km±10km, M5.8/23, mB6.1/18, mb5.6/23, Mw(mB)5.7/18, Mwp6.0/9*

NEIC ***25*** *01:42:38.5±0.0, 6°.69S×154°.36E, h37km, Moment Tensor Solution. s136 Moment tensor: Scale 10^{17}Nm; M_{rr}9.19; $M_{\theta\theta}$-5.10; $M_{\phi\phi}$-4.09; $M_{r\theta}$2.15; $M_{r\phi}$4.76; $M_{\theta r}$0.05; Best double couple: M_o9.50000×10^{17} NP1:ϕ_s123.00000°, δ50.00000°, λ79.00000°. NP2:ϕ_s321.00000°, δ41.00000°, λ104.00000°. Principal axes: T 9.5500, Plg79.0000°, Azm339.0000°; N -0.0400, Plg8.0000°, Azm130.0000°; P -9.5100, Plg4.0000°, Azm221.0000°;*

ISC 25 01:42:24.5±0.3,**6°.51S**±0°.03×**154°.96E**±0°.03,**h40**km±1km,
h40km:**pP-P, n1505,** σ1**932**/1652,**mb5.9**/237,**MS5.6**/216,
266C-200D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.73**	**121**	*e*Pn	Pn	01 43 51.8	+4.6
HNR				*e*Sn	**Sn**	**01 44 55.2**	**+3.6**
HNR	**Honiara**	**5.73**	**121**	Pn	Pn	01 43 51.2	+4.1
	257nm,0.3s,baz=205,slow=4.0,SNR=35						
HNR				Sn	**Sn**	**01 44 57.4**	**+5.8**
	212nm,0.3s,baz=297,slow=3.2,SNR=3.8						
HNR				LR	LR	01 45 30.5	
	comp=Z,16μm,18.8s,baz=288,slow=33						
PMG	**Port Moresby**	**8.24**	**249**	*e*Pn	Pn	01 44 25.8	+4.0
PMG				*e*Sn	**Sn**	**01 45 57.4**	**+3.8**
PMG	**Port Moresby**	**8.24**	**249**	P	Pn	01 44 26.5	+4.8
	1μm,0.9s,9μm57μm						
PMG	**Port Moresby**	**8.24**	**249**	Pn	Pn	01 44 25.6	+3.9
	50nm,0.3s,baz=55,slow=8.1,SNR=38						
PMG				Sn	Sn	01 46 03.0	+9.3
	32nm,0.3s,baz=82,slow=15,SNR=5.6						
PMG				LR	LR	01 47 29.6	
	comp=Z,43μm,20.8s,baz=42,slow=37						
COEN	**Coen**	**13.75**	**237**	*e*Pn	**Pn**	**01 45 39.3**	**+2.2**
JAY	**Jayapura**	**14.75**	**285**	P	**P**	**01 45 54.2**	**-1.9**
	118nm,1.0s,6μm						
CTA	**Charters Tower**	**15.93**	**211**	Pn	**P**	**01 46 08.4**	**-0.7**
CTA				Sn	**S**	**01 49 11.1**	**-3.2**
CTA	**Charters Tower**	**15.93**	**211**	Pn	**P**	**01 46 08.4**	**-0.7**
	2.6nm,0.3s,baz=33,slow=15,SNR=27						
CTA				Sn	**S**	**01 49 11.1**	**-3.2**
	0.3nm,0.3s,baz=63,slow=18,SNR=1.1						
CTA				LR	LR	01 51 32.6	
	comp=Z,18μm,20.4s,baz=23,slow=34						
CTAO	**Charters Tower**	**15.93**	**211**	*e*P	**P**	**01 46 07.6**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,164nm,0.9s						
CTAO	**Charters Tower**	**15.93**	**211**	*e*Pn	**P**	**01 46 07.6**	**-1.4**
	comp=Z,164nm,0.9s						
NOUC	**Port Laguerre**	**18.98**	**146**	*e*P	**Pn**	**01 46 44.4**	**+0.6**
DZM	**Mont Dzumac**	**19.04**	**146**	*e*P	**Pn**	**01 46 44.9**	**+0.4**
	comp=Z,751nm,1.2s						
DZM				*e*S	**Sn**	**01 50 12.7**	**-4.2**
	comp=Z,13μm,26.2s						
DZM				*e*LR	LR	01 51 15.1	
	comp=Z,33μm,26.4s						
DZM	**Mont Dzumac**	**19.04**	**146**	*e*P	**Pn**	**01 46 45.8**	**+1.3**
DZM	**Mont Dzumac**	**19.04**	**146**	*e*P	**Pn**	**01 46 44.2**	**-0.3**
	comp=Z,155nm,0.6s						
EIDS	**Eidsvold**	**19.12**	**191**	*e*Pn	**Pn**	**01 46 46.8**	**+1.4**
	comp=Z,214nm,1.0s						
BAKI	**Biak**	**19.53**	**285**	P	**Pn**	**01 46 52.4**	**+2.0**
	comp=Z,419nm,1.2s,comp=Z,7μm						
TARA	**Tarawa**	**19.56**	**67**	*e*Pn	**Pn**	**01 46 52.3**	**+1.6**
	comp=Z,1μm,0.8s						
KWAJ	**Kwajalein Atol**	**19.76**	**40**	*e*P	**Pn**	**01 46 55.1**	**+2.1**
KWAJ				pmax	pmax		
	comp=Z,1μm,0.6s						
KWAJ	**Kwajalein Atol**	**19.76**	**40**	*e*P	**Pn**	**01 46 55.1**	**+2.1**
	comp=Z,1μm,0.6s						
RKPI	**Ransiki, Papua**	**21.31**	**283**	P	**P**	**01 47 11.4**	**+3.2**
	comp=Z,364nm,1.5s,comp=Z,135μm						
GUMO	**Guam**	**22.34**	**333**	*e*P	**P**	**01 47 19.0**	**-0.2**
	comp=Z,690nm,1.2s						
GUMO				LR	LR		
	comp=Z,7μm,22.0s						
FAKI	**Fak Fak**	**22.91**	**278**	P	**P**	**01 47 26.0**	**+0.7**
	comp=Z,380nm,2.0s,comp=Z,9μmcomp=Z,26μm						
ARMA	**Armidale**	**23.99**	**187**	*e*P	**P**	**01 47 36.6**	**+1.0**
	comp=Z,343nm,1.4s						
WRAB	**Tennant Creek**	**24.05**	**234**	*e*P	**P**	**01 47 37.3**	**+1.1**
WRAB				*e*		01 51 17.9	
WRAB				pmax	pmax		
	comp=Z,274nm,0.9s						
WRAB				MLR	MLR		
	comp=Z,12μm,21.0s						
WRAB	**Tennant Creek**	**24.05**	**234**	*e*P	**P**	**01 47 37.3**	**+1.1**
	comp=Z,274nm,0.9s						
WRAB				*e*PcP	**PcP**	**01 51 17.9**	**+0.5**
WRAB				LR	LR		
	comp=Z,12μm,21.0s						
WRA	**Warramunga Arr**	**24.07**	**234**	P	**P**	**01 47 37.7**	**+1.3**
WRA				PcP	**PcP**	**01 51 18.7**	**+1.3**
WRA				S	**S**	**01 51 52.8**	**+1.4**
WRA				ScP	**ScP**	**01 54 51.8**	**-1.1**
WRA				*e*		02 20 55.0	
WRA	**Warramunga Arr**	**24.07**	**234**	P	**P**	**01 47 37.7**	**+1.3**
	comp=Z,121nm,0.8s,baz=58,slow=9.7,SNR=100						
WRA				PcP	**PcP**	**01 51 18.7**	**+1.3**
	comp=Z,70nm,0.8s,baz=56,slow=1.9,SNR=13						
WRA				S	**S**	**01 51 52.8**	**+1.4**
	comp=Z,4.1nm,0.6s,baz=58,slow=14,SNR=5.0						
WRA				ScP	**ScP**	**01 54 51.8**	**-1.1**
	comp=Z,8.7nm,0.9s,baz=60,slow=3.5,SNR=3.8						
WRA				P3KPbc		02 20 55.0	
	comp=Z,1.7nm,0.5s,baz=240,slow=2.5,SNR=6.6						
FUNA	**Funafuti**	**24.11**	**96**	PFAKE		01 47 50.0	+13
FUNA				LR	LR		
	comp=Z,10μm,20.0s						
SWI	**Sorong**	**24.30**	**282**	P	**P**	**01 47 39.6**	**+1.1**
	comp=Z,609nm,1.0s,comp=Z,6μmcomp=Z,19μm						
MSVF	**Nonsavu**	**25.14**	**118**	P	**P**	**01 47 45.8**	**-0.5**
	comp=Z,935nm,0.8s,SNR=13						
MSVF	**Nonsavu**	**25.14**	**118**	*e*P	**P**	**01 47 45.2**	**-1.1**
MSVF				pmax	pmax		
	comp=Z,268nm,1.1s						
MSVF				MLR	MLR		
	comp=Z,13μm,20.0s						
MSVF	**Nonsavu**	**25.14**	**118**	*e*P	**P**	**01 47 45.2**	**-1.1**
	comp=Z,268nm,1.1s						
MSVF				LR	LR		
	comp=Z,13μm,20.0s						
AS31	**Alice Springs**	**26.47**	**228**	*e*P	**P**	**01 47 58.7**	**+0.5**
ASAR	**Alice Springs**	**26.47**	**228**	P	**P**	**01 47 59.9**	**+1.7**
ASAR				PcP	**PcP**	**01 51 23.8**	**+1.0**
ASAR				ScP	**ScP**	**01 54 59.9**	**+0.2**
ASAR				ScS	**ScS**	**01 58 46.2**	**-4.1**
ASAR				*e*		02 20 43.7	
ASAR	**Alice Springs**	**26.47**	**228**	P	**P**	**01 47 59.9**	**+1.7**
	comp=Z,37nm,0.7s,baz=60,slow=8.7,SNR=147						
ASAR				PcP	**PcP**	**01 51 23.8**	**+1.0**
	comp=Z,77nm,0.8s,baz=54,slow=2.8,SNR=18						
ASAR				ScP	**ScP**	**01 54 59.9**	**+0.2**
	comp=Z,8.2nm,0.7s,baz=75,slow=2.5,SNR=5.8						
ASAR				ScS	**ScS**	**01 58 46.2**	**-4.1**
	comp=Z,3.4nm,1.0s,baz=39,slow=4.7,SNR=4.6						
ASAR				P3KPbc		02 20 43.7	
	comp=Z,6.8nm,0.8s,baz=232,slow=4.2,SNR=29						
LBMI	**Labuha**	**28.01**	**281**	P	**P**	**01 48 14.7**	**+2.6**
	comp=Z,925nm,1.1s,comp=Z,10μm						
WAKE	**Wake Island**	**28.10**	**24**	PFAKE		01 48 20.0	+7.3
WAKE				LR	LR		
	comp=Z,15μm,20.0s						
STKA	**Stephens Creek**	**28.16**	**205**	P	**P**	**01 48 13.7**	**+0.5**
STKA				PcP	**PcP**	**01 51 26.8**	**+0.2**
STKA				ScP	**ScP**	**01 55 06.3**	**+1.7**
STKA				*e*		02 20 36.3	
STKA	**Stephens Creek**	**28.16**	**205**	P	**P**	**01 48 13.7**	**+0.5**
	comp=Z,20nm,0.6s,baz=20,slow=9.6,SNR=50						
STKA				PcP	**PcP**	**01 51 26.8**	**+0.2**
	comp=Z,47nm,0.7s,baz=9.4,slow=3.8,SNR=6.2						
STKA				ScP	**ScP**	**01 55 06.3**	**+1.7**
	comp=Z,23nm,1.1s,baz=49,slow=9.3,SNR=5.0						
STKA				LR	LR	01 59 19.0	
	comp=Z,15μm,20.2s,baz=21,slow=36						
STKA				P3KPbc		02 20 36.3	
	comp=Z,4.2nm,0.8s,baz=153,slow=2.3,SNR=7.8						
GAMI	**Galela, Maluku**	**28.36**	**286**	P	**P**	**01 48 17.5**	**+2.2**
	comp=Z,118nm,0.9s,comp=Z,106μmcomp=Z,117μm						
TNTI	**Ternate**	**28.48**	**284**	P	**P**	**01 48 17.6**	**+1.4**
	comp=Z,232nm,1.2s,comp=Z,4μmcomp=Z,12μm						
CAN	**Canberra**	**29.19**	**190**	*e*P	**P**	**01 48 23.8**	**+1.4**
CAN				pmax	pmax		
	comp=Z,43nm,0.9s						
CAN				MLR	MLR		
	comp=Z,13μm,22.0s						
CAN	**Canberra**	**29.19**	**190**	*e*P	**P**	**01 48 23.8**	**+1.4**
	comp=Z,42nm,0.9s						
CAN				LR	LR		
	comp=Z,13μm,22.0s						
FITZ	**Fitzroy Crossi**	**30.82**	**245**	P	**P**	**01 48 37.9**	**+0.9**
FITZ				PcP	**PcP**	**01 51 34.7**	**+1.1**
FITZ	**Fitzroy Crossi**	**30.82**	**245**	P	**P**	**01 48 37.9**	**+0.9**
	comp=Z,61nm,0.6s,baz=90,slow=13,SNR=6.4						
FITZ				PcP	**PcP**	**01 51 34.7**	**+1.1**
	comp=Z,95nm,0.9s,baz=148,slow=0.6,SNR=7.0						
FITZ				LR	LR	02 01 53.7	
	comp=Z,11μm,20.1s,baz=79,slow=38						
BATI	**Baumata**	**31.17**	**261**	P	**P**	**01 48 42.4**	**+2.2**
BATI				PcP	**PcP**	**01 51 36.3**	**+1.6**
BATI				*e*		02 20 24.4	
BATI	**Baumata**	**31.17**	**261**	P	**P**	**01 48 42.4**	**+2.2**
	comp=Z,116nm,0.8s,baz=136,slow=1.9,SNR=5.5						
BATI				PcP	**PcP**	**01 51 36.3**	**+1.6**
	comp=Z,120nm,0.7s,baz=263,slow=0.3,SNR=4.4						
BATI				P3KPbc		02 20 24.4	
	comp=Z,32nm,0.6s,baz=309,slow=6.5,SNR=5.0						
BBOO	**Buckleboo**	**31.53**	**211**	*e*P	**P**	**01 48 43.3**	**+0.3**
	comp=Z,2μm,0.7s						
BBOO				*e*PcP	**PcP**	**01 51 35.2**	**0.0**
DAV	**Davao City (W)**	**32.27**	**294**	P	P	01 48 52.8	+3.1
DAV	**Davao City (W)**	**32.27**	**294**	P	P	01 48 52.8	+3.1
	comp=Z,161nm,0.4s,baz=35,slow=1.7,SNR=6.2						
DAV				LR	LR	02 00 24.8	
	comp=Z,5μm,21.4s,baz=301,slow=33						
BUTP	**Butuan**	**33.04**	**297**	*e*P	**P**	**01 48 58.0**	**+1.5**
BUKP	**Musuan**	**33.07**	**295**	*e*P	**P**	**01 48 58.2**	**+1.4**
OUZ	**Omahuta**	**33.33**	**152**	*e*P	**P**	**01 49 00.8**	**+2.1**
	comp=Z,207nm,1.4s						
AFI	**Afiamalu**	**33.52**	**105**	P	**P**	**01 49 00.4**	**-0.4**
AFI	**Afiamalu**	**33.52**	**105**	P	**P**	**01 49 00.4**	**-0.4**
	comp=Z,56nm,0.7s,baz=90,slow=16,SNR=4.8						
AFI				LR	LR	02 00 45.4	
	comp=Z,8μm,19.6s,baz=286,slow=33						
CGP	**Cagayan de Oro**	**33.64**	**296**	*e*P	**P**	**01 49 03.2**	**+1.5**
RAO	**Raoul Island**	**34.15**	**135**	P	**P**	**01 49 05.9**	**-0.1**
RAO	**Raoul Island**	**34.15**	**135**	P	**P**	**01 49 05.9**	**-0.1**
	comp=Z,1μm,1.0s,baz=78,slow=21,SNR=5.6						
RAO				LR	LR	02 00 54.6	
	comp=Z,5μm,21.9s,baz=356,slow=32						
MSLP	**Maasin**	**34.24**	**299**	*e*P	**P**	**01 49 08.4**	**+1.5**
WCZ	**Waipu Caves**	**34.27**	**151**	PcP	**PcP**	**01 51 43.8**	**+1.0**
PAGZ	**Pagadian**	**34.57**	**294**	*e*P	**P**	**01 49 12.0**	**+2.2**
PLP	**Palo**	**34.62**	**300**	↑*i* P	**P**	**01 49 10.9**	**+0.7**
FORT	**Forrest**	**34.92**	**223**	*e*P	**P**	**01 49 13.2**	**+0.6**
	comp=Z,246nm,0.6s						
FORT				*e*PcP	**PcP**	**01 51 45.2**	**+0.4**
KAPI	**Kappang**	**35.06**	**271**	*e*P	**P**	**01 49 14.2**	**+0.1**
	comp=Z,79nm,0.7s						
KAPI				*e*PcP	**PcP**	**01 51 45.1**	**-0.4**
KAPI				*e*ScP	**ScP**	**01 55 27.0**	**-1.2**
KAPI				LR	LR		
	comp=Z,3μm,19.0s						
KAPI	**Kappang**	**35.06**	**271**	P	**P**	**01 49 14.3**	**+0.3**
	comp=Z,34nm,0.7s,baz=131,slow=4.0,SNR=20						
KAPI				PcP	**PcP**	**01 51 45.6**	**+0.1**
	comp=Z,74nm,0.8s,baz=306,slow=0.4,SNR=5.2						
GUIM	**Jordan**	**36.45**	**298**	*e*P	**P**	**01 49 27.5**	**+1.6**
HIZ	**Hauiti**	**36.60**	**153**	PN	**P**	**01 49 28.5**	**+1.5**
RCP	**Roxas**	**36.73**	**299**	↑*i* P	**P**	**01 49 30.0**	**+1.6**
TAU	**Tasmania Unive**	**36.88**	**189**	*e*P	**P**	**01 49 31.3**	**+2.1**
TAU				*e*		01 51 51.0	
TAU				pmax	pmax		
	comp=Z,135nm,0.7s						
TAU				MLR	MLR		
	comp=Z,5μm,19.0s						
TAU	**Tasmania Unive**	**36.88**	**189**	*e*P	**P**	**01 49 31.2**	**+2.1**
	comp=Z,135nm,0.7s						
TAU				*e*PcP	**PcP**	**01 51 51.0**	**+0.6**
TAU				LR	LR		
	comp=Z,5μm,19.0s						
MBWA	**Marble Bar**	**37.06**	**243**	*e*P	**P**	**01 49 31.8**	**+0.7**
	comp=Z,134nm,0.7s						
MBWA				LR	LR		
	comp=Z,12μm,20.0s						
URZ	**Urewera**	**37.45**	**151**	*e*P	**P**	**01 49 35.2**	**+1.1**
	comp=Z,241nm,1.2s						
URZ				PcP	**PcP**	**01 51 49.2**	**-2.9**
URZ				*e*PcP	**PcP**	**01 51 49.9**	**-2.3**
URZ	**Urewera**	**37.45**	**151**	P	**P**	**01 49 34.6**	**+0.5**
	comp=Z,77nm,0.8s,baz=358,slow=3.4,SNR=34						
URZ				PcP	**PcP**	**01 51 49.2**	**-2.9**
	comp=Z,49nm,0.8s,baz=299,slow=2.5,SNR=5.0						
URZ				LR	LR	02 01 55.0	
	comp=Z,2μm,20.7s,baz=329,slow=31						
URZ	**Urewera**	**37.45**	**151**	PN	**P**	**01 49 35.2**	**+1.1**
PUZ	**Puketiti**	**37.87**	**149**	PN	**P**	**01 49 38.6**	**+0.9**
MYLDM	**Lahad Datu**	**38.20**	**287**	P	P	01 49 44.2	+3.4
NNZ	**Nelson**	**38.27**	**157**	PN	**P**	**01 49 41.4**	**+0.4**
TSZ	**Takapari Road**	**38.36**	**154**	PN	**P**	**01 49 42.3**	**+0.5**
TSM	**Tawau**	**38.55**	**285**	P	**P**	**01 49 45.8**	**+2.0**
THZ	**Tophouse**	**38.56**	**158**	PN	**P**	**01 49 44.1**	**+0.5**
KIW	**Kapiti Island**	**38.57**	**155**	PN	**P**	**01 49 43.2**	**-0.4**
TCW	**Tory Channel**	**38.61**	**156**	*e*PN	**P**	**01 49 44.4**	**+0.5**
TUWZ	**Tuamarina**	**38.67**	**157**	*e*PN	**P**	**01 49 44.7**	**+0.4**
MRZ	**Mangatainoka R**	**38.69**	**155**	PN	**P**	**01 49 44.6**	**0.0**
CAW	**Cannon Point**	**38.85**	**156**	PN	**P**	**01 49 46.4**	**+0.5**
HOWZ	**Holdsworth Sta**	**38.86**	**155**	PN	**P**	**01 49 45.9**	**-0.1**
SNZO	**South Karori**	**38.87**	**156**	*e*P	**P**	**01 49 47.3**	**+1.3**
	comp=Z,96nm,0.7s						
SNZO				LR	LR		
	comp=Z,7μm,22.0s						
SNZO	**South Karori**	**38.87**	**156**	PN	**P**	**01 49 47.1**	**+1.1**
ANWZ	**Angora Road**	**38.91**	**154**	PN	**P**	**01 49 46.8**	**+0.3**
WVZ	**Waitaha Valley**	**38.99**	**162**	PN	**P**	**01 49 47.3**	**+0.3**
BFZ	**Birch Farm**	**38.99**	**154**	PN	**P**	**01 49 46.3**	**-0.8**
MTW	**Mount Morrison**	**39.07**	**155**	PN	**P**	**01 49 47.8**	**+0.1**
LTZ	**Lake Taylor**	**39.23**	**160**	PN	**P**	**01 49 49.5**	**+0.3**
KHZ	**Kahutara**	**39.37**	**158**	*e*P	**P**	**01 49 50.1**	**-0.1**
	comp=Z,234nm,0.5s						
KHZ	**Kahutara**	**39.37**	**158**	PN	**P**	**01 49 48.9**	**-1.3**
TGY	**Tagaytay City**	**39.49**	**301**	P	**P**	**01 49 53.7**	**+2.0**
TGY	**Tagaytay City**	**39.49**	**301**	P	**P**	**01 49 53.7**	**+2.0**
	comp=Z,193nm,0.4s,baz=298,slow=3.2,SNR=7.9						
TGY				LR	LR	02 04 09.0	
	comp=Z,15nm,18.3s,baz=125,slow=33						
PPR	**Puerto Princes**	**39.55**	**294**	‖*e*P	**P**	**01 49 54.0**	**+1.9**
SDKM	**Sandakan**	**39.58**	**287**	P	**P**	**01 49 53.6**	**+1.1**
RPZ	**Rata Peaks**	**39.66**	**162**	*e*P	**P**	**01 49 53.7**	**+1.0**
	comp=Z,151nm,0.5s						
RPZ	**Rata Peaks**	**39.66**	**162**	P	**P**	**01 49 53.5**	**+0.8**
	comp=Z,81nm,0.7s,baz=344,slow=3.3,SNR=37						
RPZ				LR	LR	02 04 35.4	
	comp=Z,7μm,19.6s,baz=63,slow=34						
LBZ	**Lake Benmore**	**40.01**	**163**	PN	**P**	**01 49 56.4**	**+0.8**
KKM	**Kota Kinabalu**	**40.63**	**287**	*e*P	**P**	**01 50 02.4**	**+1.2**
KKM				LR	LR		
	comp=Z,3μm,21.0s						
KKM	**Kota Kinabalu**	**40.63**	**287**	P	**P**	**01 50 02.6**	**+1.4**
ODZ	**Otahua Downs**	**40.75**	**163**	*e*P	**P**	**01 50 01.6**	**0.0**
	comp=Z,114nm,1.2s						
ODZ				*e*PcP	**PcP**	**01 52 03.0**	**+0.5**
JOW	**Kunigami**	**42.04**	**323**	*e*P	**P**	**01 50 13.7**	**+1.3**
BTM	**Bint

SSE				LR	LR				
	comp=Z,2μm,21.2s								
ERM	**Erimo**	**49.48**	**348**	*e*P	**P**	**01 51 12.6**	**+1.7**		
ERM				pmax	pmax				
	comp=Z,42nm,0.8s								
ERM				MLR	MLR				
	comp=Z,5μm,21.0s								
ERM	**Erimo**	**49.48**	**348**	*e*P	**P**	**01 51 12.6**	**+1.7**		
	comp=Z,42nm,0.8s								
ERM				LR	LR				
	comp=Z,5μm,21.0s								
GZH	**Guangzhou**	**50.20**	**307**	P	**P**	**01 51 18.3**	**+1.6**		
GZH				S	**S**	**01 58 29.8**	**+3.5**		
GZH				LR	LR				
	comp=N,1μm,17.4s								
GZH				LR	LR				
	comp=E,3μm,19.2s								
GZH				LR	LR				
	comp=Z,6μm,23.9s								
KSRS	**Korea Array**	**50.50**	**332**	P	**P**	**01 51 19.1**	**+0.4**		
	comp=Z,85nm,0.7s,baz=148,slow=8.4,SNR=176								
KSRS				ScP	**ScP**	**01 56 31.4**	**+2.0**		
	comp=Z,3.9nm,0.9s,baz=148,slow=5.2,SNR=4.3								
KSAR	**Wonju Array Be**	**50.51**	**332**	P	**P**	**01 51 19.1**	**+0.3**		
KSAR				ScP	**ScP**	**01 56 31.4**	**+2.0**		
YUK	**Yuzh-Kuril'sk**	**50.98**	**352**	*i* P	P	01 51 18.3	-3.9		
YUK				*i*		01 53 12.4			
YUK				*e*S	S	01 58 28.7	-7.7		
YUK				*e*SS	**SS**	**02 02 14.2**	**+2.2**		
YUK				pmax	pmax				
	comp=E,263nm,0.7s								
YUK				pmax	pmax				
	comp=Z,619nm,1.5s								
YUK				pmax	pmax				
	comp=N,34nm,0.7s								
YUK				pmax	pmax				
	comp=Z,970nm,1.5s								
YUK				MLR	MLR				
	comp=Z,3μm,21.0s								
INCN	**Inchon**	**51.13**	**331**	*e*P	**P**	**01 51 23.5**	**0.0**		
	comp=Z,363nm,0.6s								
INCN				LR	LR				
	comp=Z,2μm,21.0s								
QIZ	**Qiongzhong**	**51.18**	**301**	P	**P**	**01 51 26.4**	**+2.1**		
QIZ				pP	**pP**	**01 51 34.5**	**-1.3**		
QIZ				S	**S**	**01 58 41.6**	**+1.5**		
QIZ				sS	**sS**	**01 58 57.3**	**-2.0**		
QIZ				pmax	pmax				
	comp=Z,150nm,1.1s								
QIZ				pmax	pmax				
	comp=Z,810nm,13.6s								
QIZ				LR	LR				
	comp=N,1μm,21.2s								
QIZ				LR	LR				
	comp=E,1μm,21.4s								
QIZ				LR	LR				
	comp=Z,4μm,22.9s								
QIZ	**Qiongzhong**	**51.18**	**301**	PFAKE		01 51 40.0	+16		
QIZ				LR	LR				
	comp=Z,4μm,22.0s								
NJ2	**Nanjing**	**51.52**	**320**	*e*P	**P**	**01 51 27.3**	**+0.8**		
NJ2				pP	**pP**	**01 51 36.6**	**-1.5**		
NJ2				sP	**sP**	**01 51 40.6**	**-2.2**		
NJ2				S	**S**	**01 58 46.0**	**+1.6**		
NJ2				sS	**sS**	**01 59 02.0**	**-1.5**		
NJ2				pmax	pmax				
	comp=Z,20nm,0.8s								
NJ2				pmax	pmax				
	comp=Z,110nm,5.2s								
NJ2				LR	LR				
	comp=N,2μm,11.6s								
NJ2				LR	LR				
	comp=E,2μm,14.5s								
NJ2				LR	LR				
	comp=Z,2μm,12.6s								
ASAJ	**Asahikawa**	**51.61**	**349**	*e*P	**P**	**01 51 28.2**	**+1.2**		
	comp=Z,80nm,0.6s								
ASAJ	**Asahikawa**	**51.61**	**349**	P	**P**	**01 51 28.4**	**+1.4**		
	comp=Z,224nm,0.7s,baz=220,slow=9.6,SNR=65								
MYKOM	**Kota Tinggi**	**51.68**	**277**	P	**P**	**01 51 30.0**	**+1.9**		
KUR	**Kuril'sk**	**51.90**	**354**	*c i* P	**P**	**01 51 27.3**	**-1.8**		
KUR				*i* SSS	SSS	02 04 07.0			
KUR				pmax	pmax				
	comp=Z,221nm,1.1s								
KUR				pmax	pmax				
	comp=E,59nm,1.1s								
KUR				pmax	pmax				
	comp=N,42nm,1.1s								
KUR				MLR	MLR				
	comp=E,2μm,22.0s								
KUR				MLR	MLR				
	comp=Z,3μm,22.0s								
KGM	**Kluang**	**52.24**	**278**	P	**P**	**01 51 33.7**	**+1.4**		
KTGM	**Kuala Trenggan**	**53.05**	**282**	P	**P**	**01 51 39.9**	**+1.7**		
WHN	**Wuhan**	**53.57**	**316**	⇑*i* P	**P**	**01 51 43.0**	**+1.3**		
WHN				S	**S**	**01 59 12.5**	**+0.1**		
WHN				pmax	pmax				
	comp=Z,450nm,1.2s								
WHN				pmax	pmax				
	comp=Z,2μm,10.8s								
WHN				LR	LR				
	comp=N,3μm,20.6s								
WHN				LR	LR				
	comp=E,2μm,16.3s								
WHN				LR	LR				
	comp=Z,4μm,20.7s								
UBPT	**Khong Chiam**	**53.60**	**294**	P	**P**	**01 51 43.9**	**+1.7**		
	comp=Z,128nm,1.5s,comp=Z,3μm								
VLA	**Vladivostok**	**53.66**	**339**	*c i* P	**P**	**01 51 42.9**	**+0.8**		
VLA				pmax	pmax				
	comp=Z,112nm,1.0s								
KIP	**Kipapa**	**53.83**	**58**	*c e*P	**P**	**01 51 45.1**	**+1.3**		
KIP				pmax	pmax				
	comp=Z,267nm,1.2s								
KIP	**Kipapa**	**53.83**	**58**	*e*P	**P**	**01 51 45.0**	**+1.3**		
	comp=Z,153nm,0.8s								
KIP				LR	LR				
	comp=Z,9μm,19.0s								
FRIM	**Kepong**	**54.12**	**279**	P	**P**	**01 51 46.6**	**+0.5**		
YSS	**Yuzh-Sakhalins**	**54.32**	**350**	α *i* P	**P**	**01 51 48.8**	**+1.9**		
YSS				*e**SP	**sP**	**01 52 05.0**	**+1.8**		
YSS				*e*		01 53 58.0			
YSS				*e*PPP	PPP	01 54 57.0			
YSS				*e*S	**S**	**01 59 24.0**	**+2.0**		
YSS				*e*		02 01 33.0			
YSS				pmax	pmax				
	comp=N,110nm,0.7s								
YSS				pmax	pmax				
	comp=E,50nm,0.7s								
YSS				pmax	pmax				
	comp=Z,170nm,0.7s								
YSS				pmax	pmax				
	comp=Z,600nm,6.0s								
YSS				MLR	MLR				
	comp=Z,4μm,15.0s								
USRK	**Ussuriysk Arra**	**54.57**	**340**	P	**P**	**01 51 49.7**	**+1.0**		
	comp=Z,77nm,0.8s,baz=156,slow=7.5,SNR=111								
USRK				PKP2bc		02 22 09.0			
	comp=Z,2.7nm,0.9s,baz=346,slow=0.8,SNR=5.5								
USRK				PKP2ab		02 22 29.2			
	comp=Z,2.5nm,0.9s,baz=283,slow=0.6,SNR=4.3								
DL2	**Dalian**	**54.74**	**328**	⇑*i* P	**P**	**01 51 50.4**	**+0.3**		
DL2				S	**S**	**01 59 27.3**	**-0.6**		
DL2				sS	**sS**	**01 59 48.5**	**+1.3**		
DL2				pmax	pmax				
	comp=Z,250nm,0.7s								
DL2				pmax	pmax				
	comp=Z,440nm,6.2s								
DL2				LR	LR				
	comp=N,2μm,18.0s								
DL2				LR	LR				
	comp=E,2μm,15.5s								
DL2				LR	LR				
	comp=Z,2μm,17.3s								
IPM	**Ipoh**	**54.94**	**280**	*e*P	**P**	**01 51 52.2**	**+0.1**		
	comp=Z,205nm,1.0s								
IPM				*e*PcP	**PcP**	**01 52 54.3**	**+0.6**		
IPM	**Ipoh**	**54.94**	**280**	P	**P**	**01 51 52.7**	**+0.6**		
PPT	**Papeete**	**55.17**	**107**	P	**P**	**01 51 56.5**	**+2.8**		
PPT	**Papeete**	**55.17**	**107**	P	**P**	**01 51 56.5**	**+2.8**		
	comp=Z,140nm,1.0s,baz=42,slow=5.5,SNR=4.4								
PPT2	**Papeete2**	**55.17**	**107**	*e*S	**S**	**01 59 35.3**	**+0.7**		
	comp=Z,2μm,24.2s								
PPT2				*e*LQ	LQ	02 05 39.2			
	comp=Z,5μm,28.2s								
PPT2				*e*LR	LR	02 07 53.7			
	comp=Z,4μm,22.2s,baz=279								
PAE	**Paea**	**55.17**	**107**	*e*P	**P**	**01 51 54.6**	**+1.0**		
	comp=Z,26nm,1.0s								
TIA	**Tai'an**	**55.36**	**323**	⇑P	**P**	**01 51 54.5**	**-0.2**		
TIA				S	S	01 59 29.5	-6.9		
TIA				pmax	pmax				
	comp=Z,110nm,0.8s								
TIA				LR	LR				
	comp=N,4μm,17.6s								
TIA				LR	LR				
	comp=E,5μm,17.6s								
TIA				LR	LR				
	comp=Z,3μm,22.5s								
PUH	**Pauahi**	**55.38**	**61**	*e*P	**P**	**01 51 55.9**	**+0.6**		
KULM	**Kulim**	**55.46**	**281**	*e*P	**P**	**01 51 55.9**	**+0.1**		
	comp=Z,331nm,1.4s								
KULM				*e*PcP	**PcP**	**01 52 56.4**	**+0.6**		
KULM				LR	LR				
	comp=Z,1μm,21.0s								
KULM	**Kulim**	**55.46**	**281**	P	P	**01 51 56.6**	**+0.7**		
SKNT	**Sakolnakorn**	**55.53**	**296**	P	P	**01 51 57.4**	**+1.2**		
	comp=Z,418nm,1.2s,comp=Z,5μm								
CHBT	**CHBT**	**55.69**	**290**	P	P	**01 51 58.8**	**+1.4**		
	comp=Z,177nm,1.1s,comp=Z,3μm								
MDJ	**Mudanjiang**	**55.78**	**338**	P	**P**	**01 51 57.8**	**+0.3**		
MDJ				pP	**pP**	**01 52 06.5**	**-2.7**		
MDJ				sP	sP	01 52 09.5	-4.3		
MDJ				PP	**PP**	**01 54 04.3**	**+1.9**		
MDJ				ScP	**ScP**	**01 56 52.0**	**-0.3**		
MDJ				PcS	**PcS**	**01 56 56.8**	**+0.4**		
MDJ				S	**S**	**01 59 41.3**	**-0.4**		
MDJ				sS	**sS**	**01 59 57.9**	**-3.1**		
MDJ				pmax	pmax				
	comp=Z,74nm,1.1s								
MDJ				pmax	pmax				
	comp=Z,580nm,10.1s								
MDJ				LR	LR				
	comp=N,3μm,23.1s								
MDJ				LR	LR				
	comp=E,2μm,23.1s								
MDJ				LR	LR				
	comp=Z,4μm,15.1s								
MDJ	**Mudanjiang**	**55.78**	**338**	*e*P	**P**	**01 51 57.6**	**+0.1**		
	comp=Z,68nm,0.8s								
MDJ				LR	LR				
	comp=Z,3μm,19.0s								
SKLT	**Songkhla**	**55.89**	**283**	P	**P**	**01 51 59.6**	**+0.7**		
	comp=Z,161nm,1.3s,comp=Z,3μm								
TBI	**Tubuai**	**55.90**	**114**	*e*S	**S**	**01 59 43.2**	**-0.9**		
	comp=Z,2μm,28.8s								
TBI				*e*LQ	LQ	02 05 56.9			
	comp=Z,5μm,41.5s								
TBI				*e*LR	LR	02 08 14.0			
	comp=Z,13μm,28.5s,baz=284								
SNY	**Shenyang**	**56.00**	**332**	⇑P	**P**	**01 51 59.3**	**+0.2**		
SNY				S	**S**	**01 59 43.3**	**-1.4**		
SNY				pmax	pmax				
	comp=Z,34nm,0.7s								
SNY				pmax	pmax				
	comp=Z,780nm,14.1s								
SNY				LR	LR				
	comp=N,2μm,15.7s								
SNY				LR	LR				
	comp=E,3μm,13.2s								
SNY				LR	LR				
	comp=Z,4μm,17.6s								
PMOR	**Pomariorio Ree**	**56.64**	**104**	*e*P	**P**	**01 52 04.8**	**+0.6**		
	comp=Z,403nm,0.9s								
PSI	**Prapat**	**56.70**	**278**	P	**P**	**01 52 04.2**	**-0.7**		
PSI				PcP	**PcP**	**01 53 00.1**	**-0.7**		
PSI	**Prapat**	**56.70**	**278**	P	**P**	**01 52 04.2**	**-0.7**		
	comp=Z,24nm,0.6s,baz=135,slow=5.9,SNR=23								
PSI				PcP	**PcP**	**01 53 00.1**	**-0.7**		
	comp=Z,54nm,0.9s,baz=120,slow=2.7,SNR=8.5								
PSI				LR	LR	02 15 27.6			
	comp=Z,2μm,20.9s,baz=350,slow=35								
CN2	**Changchun**	**56.74**	**335**	⇑P	**P**	**01 52 04.8**	**+0.4**		
CN2				PcP	**PcP**	**01 53 00.1**	**+0.1**		
CN2				*e*S	**S**	**01 59 53.8**	**-0.6**		
CN2				pmax	pmax				
	comp=Z,700nm,12.0s								
CN2				LR	LR				
	comp=N,3μm,19.0s								
CN2				LR	LR				
	comp=E,3μm,19.0s								
CN2				LR	LR				
	comp=Z,3μm,18.0s								
ENH	**Enshi**	**56.89**	**313**	*e*P	**P**	**01 52 05.9**	**+0.2**		
	comp=Z,120nm,0.8s								
ENH				LR	LR				
	comp=Z,3μm,21.0s								
SKR	**Severo-Kuril's**	**56.97**	**1**	*e*P	**P**	**01 52 03.0**	**-2.8**		
SKR				pmax	pmax				
	comp=N,1μm,6.0s								
SKR				pmax	pmax				
	comp=E,1μm,6.0s								
SKR				pmax	pmax				
	comp=Z,1μm,6.0s								
SKR				pmax	pmax				
	comp=N,110nm,0.9s								
SKR				pmax	pmax				
	comp=E,110nm,0.9s								
SKR				pmax	pmax				
	comp=Z,280nm,0.9s								
CHAI	**Chaiyaphum**	**56.97**	**294**	P	**P**	**01 52 07.5**	**+1.0**		
	comp=Z,67nm,0.6s,comp=Z,629nm								
GYA	**Guiyang**	**57.13**	**307**	⇑*i* P	**P**	**01 52 08.9**	**+1.2**		
GYA				PP	**PP**	**01 54 17.3**	**+2.3**		
GYA				ScP	**ScP**	**01 56 58.9**	**0.0**		
GYA				S	**S**	**01 59 54.8**	**-5.7**		
GYA				SS	**SS**	**02 03 45.4**	**-4.7**		
GYA				pmax	pmax				
	comp=Z,70nm,1.0s								
GYA				pmax	pmax				
	comp=Z,700nm,8.4s								
GYA				LR	LR				
	comp=N,1μm,21.1s								
GYA				LR	LR				
	comp=E,3μm,22.6s								
GYA				LR	LR				
	comp=Z,4μm,21.4s								
HABR	**Khabarovsk**	**57.48**	**344**	*de*P	**P**	**01 52 09.7**	**+0.2**		
HABR				*e*		01 53 00.7			
HABR				*e*		01 54 15.8			
HABR				PPP	PPP	01 55 33.5			
HABR				*e*S	**S**	**02 00 00.8**	**-3.1**		
HABR				*e*		02 00 19.9			
HABR				*e**SS	sS	02 00 29.5	+6.2		
HABR				*e*		02 01 50.9			
HABR				*e*SS	**SS**	**02 03 52.1**	**-2.3**		
HABR				pmax	pmax				
	comp=Z,179nm,1.4s								
HABR				pmax	pmax				
	comp=N,49nm,1.4s								
HABR				pmax	pmax				
	comp=E,58nm,2.0s								
HABR				pmax	pmax				
	comp=Z,306nm,1.6s								
HABR				MLR	MLR				
	comp=Z,3μm,15.0s								
COCO	**West Island**	**57.55**	**260**	PFAKE		01 52 20.0	+9.4		
COCO				LR	LR				
	comp=Z,2μm,20.0s								
PBKT	**Sadao Pong**	**58.11**	**294**	P	**P**	**01 52 16.0**	**+1.5**		
	comp=Z,271nm,1.6s,comp=Z,4μm								
LOEI	**Loei**	**58.15**	**295**	P	**P**	**01 52 13.6**	**-1.2**		
	comp=Z,773nm,1.1s,comp=Z,7μm								
PKDT	**Phuket**	**58.26**	**283**	P	**P**	**01 52 16.5**	**+0.9**		
	comp=Z,186nm,1.3s								
PHET	**Kaeng Krachan**	**58.26**	**289**	P	**P**	**01 52 17.6**	**+2.0**		
	comp=Z,729nm,1.1s,comp=Z,6μm								
BJT	**Baijiatuau**	**58.49**	**326**	PFAKE		01 52 30.0	+13		
BJT				LR	LR				
	comp=Z,3μm,19.0s								
BJI	**Beijing**	**58.50**	**326**	P	**P**	**01 52 16.8**	**0.0**		
BJI				S	**S**	**02 00 14.6**	**-3.0**		
BJI				pmax	pmax				
	comp=Z,65nm,0.8s								
BJI				pmax	pmax				
	comp=Z,660nm,5.6s								
BJI				LR	LR				
	comp=N,3μm,16.0s								
BJI				LR	LR				
	comp=E,3μm,16.8s								
BJI				LR	LR				
	comp=Z,2μm,36.4s								
NANT	**Nan**	**59.09**	**296**	P	**P**	**01 52 22.5**	**+1.2**		
	comp=Z,2μm,0.9s,comp=Z,15μm								
KLR	**Kul'dur**	**59.10**	**342**	*e*	**P**	**01 52 18.0**	**-2.8**		
TIY	**Taiyuan**	**59.19**	**321**	*e*P	**P**	**01 52 22.1**	**+0.3**		
TIY				S	**S**	**02 00 26.3**	**-0.6**		
TIY				pmax	pmax				
	comp=Z,570nm,7.2s								
TIY				LR	LR				
	comp=N,5μm,13.5s								
TIY				LR	LR				
	comp=E,4μm,12.5s								
TIY				LR	LR				
	comp=Z,3μm,15.6s								
XAN	**Xi'an**	**59.34**	**316**	P	P	01 52 27.3	+4.5		
XAN				pmax	pmax				
	comp=Z,49nm,0.5s								
XAN	**Xi'an**	**59.34**	**316**	P	**P**	**01 52 22.9**	**+0.1**		
XAN				PP	**PP**	**01 54 36.3**	**+2.0**		
XAN				S	**S**	**02 00 27.1**	**-1.7**		
XAN				SS	**SS**	**02 04 22.6**	**-1.7**		
XAN				pmax	pmax				
	comp=Z,32nm,0.9s								
XAN				pmax	pmax				
	comp=Z,220nm,9.8s								
XAN				LR	LR				
	comp=N,3μm,16.3s								
XAN				LR	LR				
	comp=E,3μm,17.3s								
XAN				LR	LR				
	comp=Z,1μm,15.3s								
PET	**Petropavlovsk**	**59.39**	**3**	α *i* P	**P**	**01 52 23.8**	**+1.1**		
PET				*e*		01 53 12.6			
PET				*e*S	**S**	**02 00 29.0**	**+0.4**		
PET				pmax	pmax				
	comp=Z,1μm,5.7s								
PET				pmax	pmax				
	comp=Z,1μm,19.6s								
PET				pmax	pmax				
	comp=Z,560nm,0.6s								
PETK	**Petropavlovsk-**	**59.44**	**2**	P	**P**	**01 52 25.0**	**+1.9**		
PETK	**Petropavlovsk-**	**59.44**	**2**	P	**P**	**01 52 25.0**	**+1.9**		
PETK				P'P'		02 21 52.3			
PETK				⇑*e*		02 22 02.7			
PETK	**Petropavlovsk-**	**59.44**	**2**	P	**P**	**01 52 25.0**	**+1.9**		
	comp=Z,430nm,0.7s,baz=165,slow=7.1,SNR=125								
PETK				LR	LR	02 14 07.0			
	comp=Z,3μm,19.9s,baz=182,slow=32								
PETK				PKPPKP	**P'P'df**	**02 21 52.3**	**+1.2**		
	comp=Z,1.8nm,0.9s,baz=151,slow=6.4,SNR=3.6								
PETK				PKP2bc		02 22 02.7			
	comp=Z,3.8nm,0.8s,baz=44,slow=4.6,SNR=8.3								
KMI	**Kunming**	**59.72**	**304**	P	**P**	**01 52 27.8**	**+1.9**		
KMI				pP	**pP**	**01 52 39.1**	**+1.5**		
KMI				sP	**sP**	**01 52 43.0**	**+0.8**		
KMI				S	**S**	**02 00 36.3**	**+1.9**		
KMI				sS	**sS**	**02 00 52.3**	**-1.6**		
KMI				SS	**SS**	**02 04 31.3**	**+0.3**		
KMI				pmax	pmax				
	comp=Z,250nm,1.3s								
KMI				pmax	pmax				
	comp=Z,1μm,6.2s								
KMI				LR	LR				
	comp=N,1μm,18.3s								
KMI				LR	LR				
	comp=E,2μm,22.3s								
KMI				LR	LR				
	comp=Z,3μm,24.9s								
PAYA	**Payao**	**60.02**	**297**	P	**P**	**01 52 30.2**	**+2.4**		
	comp=Z,269nm,0.9s								
CMAR	**Chiang Mai Arr**	**60.55**	**295**	P	**P**	**01 52 33.8**	**+2.4**		
CMAR				P'P'		02 21 50.2			
CMAR				⇑*e*		02 22 00.7			
CMAR	**Chiang Mai Arr**	**60.55**	**295**	P	**P**	**01 52 33.8**	**+2.4**		
	comp=Z,351nm,0.8s,baz=118,slow=5.1,SNR=712								
CMAR				LR	LR	02 17 60.0			
	comp=Z,1μm,20.4s,baz=360,slow=35								
CMAR				PKPPKP	**P'P'df**	**02 21 50.2**	**-3.0**		
	comp=Z,4.6nm,0.9s,baz=275,slow=3.4,SNR=10								
CMAR				PKP2bc		02 22 00.7			
	comp=Z,13nm,1.1s,baz=297,slow=3.4,SNR=11								
CMMT	**Chiang Mai**	**60.66**	**296**	P	**P**	**01 52 33.2**	**+1.1**		
	comp=Z,447nm,1.3s,comp=Z,5μm								
CHTO	**Chiang Mai**	**60.66**	**296**	*e*P	**P**	**01 52 33.5**	**+1.3**		
CHTO				pmax	pmax				
	comp=Z,379nm,1.0s								
CHTO				MLR	MLR				
	comp=Z,2μm,21.0s								
CHTO	**Chiang Mai**	**60.66**	**296**	*e*P	**P**	**01 52 33.5**	**+1.3**		
	comp=Z,379nm,1.0s								
CHTO				LR	LR				
	comp=Z,2μm,21.0s								
CHTO	**Chiang Mai**	**60.66**	**296**	P	**P**	**01 52 33.3**	**+1.1**		
	comp=Z,492nm,1.3s,comp=Z,6μm								
CMAI	**Chiengmai2**	**60.94**	**297**	P	**P**	**01 52 35.5**	**+1.3**		
	comp=Z,433nm,1.1s,comp=Z,5μm								
FX1	**Attu Island--F**	**61.15**	**12**	*e*P	**P**	**01 52 36.2**	**+1.4**		
FX1	**Attu Island--F**	**61.15**	**12**	P	**P**	**01 52 36.6**	**+1.8**		
	comp=Z,693nm,0.6s,baz=193,slow=2.8,SNR=179								
FX1				LR	LR	02 15 16.9			
	comp=Z,8μm,20.4s,baz=212,slow=32								
SMY	**Shemya**	**61.22**	**13**	*e*P	**P**	**01 52 36.5**	**+1.3**		
SMY				pmax	pmax				
	comp=Z,365nm,0.6s								
SMY	**Shemya**	**61.22**	**13**	*e*P	**P**	**01 52 36.5**	**+1.3**		
	comp=Z,365nm,0.6s								
CD2	**Chengdu**	**61.48**	**310**	⇑*i* P	**P**	**01 52 38.5**	**+1.0**		
CD2				pP	**pP**	**01 52 49.5**	**+0.2**		
CD2				sP	**sP**	**01 52 53.8**	**-0.1**		
CD2				PcP	**PcP**	**01 53 20.3**	**+1.0**		
CD2				PP	**PP**	**01 54 56.5**	**+3.2**		
CD2				S	**S**	**02 00 56.3**	**-0.1**		
CD2				sS	**sS**	**02 01 14.3**	**-1.6**		
CD2				ScS	**SKKSac**	**02 02 23.8**	**-2.4**		
CD2				SS	**SS**	**02 04 59.3**	**+1.3**		
CD2				pmax	pmax				
	comp=Z,170nm,0.9s								
CD2				pmax	pmax				
	comp=Z,1μm,8.2s								
CD2				LR	LR				
	comp=E,2μm,24.2s								
CD2				LR	LR				
	comp=Z,2μm,20.2s								
HHC	**Hu-ho-hao-te**	**61.69**	**324**	⇑*i* P	**P**	**01 52 39.4**	**+0.6**		
HHC				pP	**pP**	**01 52 50.3**	**-0.3**		
HHC				sP	**sP**	**01 52 55.0**	**-0.2**		
HHC				PcP	**PcP**	**01 53 20.0**	**+0.1**		
HHC				PP	**PP**	**01 54 57.5**	**+2.4**		
HHC				ScP	**ScP**	**01 57 16.8**	**-1.9**		
HHC				S	**S**	**02 00 59.1**	**+0.3**		
HHC				sS	**sS**	**02 01 16.9**	**-1.4**		
HHC				ScS	**SKKSac**	**02 02 24.8**	**-2.7**		
HHC				SS	**SS**	**02 05 01.8**	**+0.7**		
HHC				pmax	pmax				
	comp=Z,93nm,1.3s								
HHC				pmax	pmax				
	comp=Z,820nm,10.7s								
HHC				LR	LR				
	comp=N,9μm,21.4s								
HHC				LR	LR				
	comp=E,13μm,22.6s								
HHC				LR	LR				
	comp=Z,15μm,16.7s								
BTO	**Baotou**	**62.45**	**323**	*e*P	**P**	**01 52 44.8**	**+0.8**		
GSTR	**Great Sitkin T**	**63.41**	**20**	*e*P	**P**	**01 52 48.6**	**-1.4**		
LZH	**Lanzhou**	**63.95**	**315**	⇑P	**P**	**01 52 55.5**	**+1.4**		
LZH				pP	**pP**	**01 53 02.5**	**-3.4**		
LZH				sP	**sP**	**01 53 07.1**	**-3.4**		
LZH				PP	**PP**	**01 55 17.5**	**+2.3**		
LZH				S	S	02 01 18.8	-8.7		
LZH				SS	**SS**	**02 05 36.3**	**-0.5**		
LZH				pmax	pmax				
	comp=Z,270nm,1.2s								
LZH				pmax	pmax				
	comp=Z,960nm,5.8s								
LZH				LR	LR				
	comp=N,8μm,16.4s								
LZH				LR	LR				
	comp=E,6μm,15.3s								
LZH				LR	LR				
	comp=Z,9μm,17.2s								
DGPR	**DIGLIPUR**	**64.63**	**288**	*e*P	**P**	**01 52 58.6**	**0.0**		
DGPR				AMB	AMB	01 53 01.9			
	comp=Z,248nm,1.1s								

CASY	**Casey**	**67.04**	**198**	*e*	P	**P**	**01 53 13.4**	**+0.2**
	comp=Z,19nm,0.5s								
CASY					LR	LR			
	comp=Z,4μm,20.0s								
CLNS	**Chul'man**	**67.76**	**343**	*e*	P	**P**	**01 53 18.4**	**+0.4**
CLNS				*e**	PP	**PcP**	**01 53 44.9**	**+0.4**
CLNS				*e*			01 55 43.6		
CLNS				*e*	S	**S**	**02 02 12.3**	**-0.5**
CLNS				*e*	SS	**SS**	**02 06 31.4**	**-3.5**
CLNS					pmax	pmax			
	comp=Z,172nm,0.8s								
CLNS					pmax	pmax			
	comp=N,68nm,0.9s								
CLNS					pmax	pmax			
	comp=E,49nm,0.9s								
CLNS					pmax	pmax			
	comp=Z,11nm,0.9s								
CLNS					pmax	pmax			
	comp=N,12nm,1.1s								
CLNS					pmax	pmax			
	comp=E,11nm,1.0s								
CLNS					smax	smax			
	comp=E,362nm,10.5s								
CLNS					smax	smax			
	comp=N,372nm,10.9s								
CLNS					MLR	MLR			
	comp=N,994nm,15.0s								
CLNS					MLR	MLR			
	comp=E,571nm,12.0s								
CLNS					MLR	MLR			
	comp=Z,790nm,12.0s								
CIT	**Chita**	**68.16**	**334**	*e*	P	**P**	**01 53 21.2**	**+0.6**
UNV	**Unalaska Valle**	**68.30**	**23**	*e*	P	**P**	**01 53 21.5**	**+0.2**
	comp=Z,193nm,0.9s								
UNV				*e*	pP	**PcP**	**01 53 42.4**	**-4.3**
GTA	**Gaotai**	**68.36**	**317**	⇑*e*	P	**P**	**01 53 23.1**	**+0.8**
GTA					S	**S**	**02 02 19.5**	**-1.5**
GTA					SS	**SS**	**02 06 41.3**	**-3.9**
GTA					pmax	pmax			
	comp=Z,140nm,1.2s								
GTA					pmax	pmax			
	comp=Z,870nm,6.7s								
GTA					LR	LR			
	comp=N,4μm,17.8s								
GTA					LR	LR			
	comp=E,5μm,16.6s								
GTA					LR	LR			
	comp=Z,7μm,18.5s								
ULN	**Ulaanbaatar**	**68.58**	**328**	*e*	P	**P**	**01 53 24.3**	**+0.9**
	comp=Z,63nm,1.9s								
ULN					LR	LR			
	comp=Z,9μm,19.0s								
AKUT	**Akutan**	**68.80**	**24**	*e*	P	**P**	**01 53 25.0**	**+0.5**
	comp=Z,216nm,0.8s								
SONM	**Songino Array**	**68.91**	**327**		P	**P**	**01 53 26.7**	**+1.2**
SONM				⇑*e*			02 21 35.1		
SONM	**Songino Array**	**68.91**	**327**		P	**P**	**01 53 26.7**	**+1.2**
	comp=Z,102nm,0.8s,baz=131,slow=6.1,SNR=463								
SONM					PKP2bc		02 21 35.1		
	comp=Z,12nm,1.1s,baz=270,slow=2.0,SNR=13								
SHL	**Shillong**	**69.02**	**300**	*e*	P	**P**	**01 53 27.3**	**+0.6**
SHL					AMB	AMB	01 53 28.2		
	comp=Z,277nm,1.5s								
SHL				*e*	S	**S**	**02 02 29.8**	**+0.4**
RKT	**Rikitea**	**69.15**	**112**	*e*	P	**P**	**01 53 27.0**	**-0.4**
	comp=Z,135nm,1.0s								
RKT				*e*	S	**S**	**02 02 29.5**	**-1.2**
	comp=Z,2μm,32.8s								
RKT				*e*	SS	**SS**	**02 06 57.3**	**-0.3**
	comp=Z,2μm,31.8s								
RKT				*e*	LQ	LQ	02 11 32.2		
	comp=Z,3μm,35.5s								
RKT				*e*	LR	LR	02 14 23.7		
	comp=Z,9μm,28.5s,baz=278								
SEY	**Seymchan**	**69.27**	**359**	*e*	P	**P**	**01 53 28.1**	**+0.9**
SEY	**Seymchan**	**69.27**	**359**	P		**P**	**01 53 27.6**	**+0.4**
SEY	**Seymchan**	**69.27**	**359**	P		**P**	**01 53 27.6**	**+0.4**
	comp=Z,784nm,0.6s,baz=90,slow=23,SNR=12								
FALS	**False Pass**	**70.27**	**24**	*e*	P	**P**	**01 53 34.0**	**+0.5**
	comp=Z,325nm,0.7s								
LSA	**Lhasa**	**70.97**	**304**	P		**P**	**01 53 40.1**	**+1.1**
LSA				S		S	02 02 43.3	-9.4	
LSA					pmax	pmax			
	comp=Z,80nm,1.0s								
LSA					pmax	pmax			
	comp=Z,540nm,10.0s								
LSA					LR	LR			
	comp=N,440nm,20.0s								
LSA					LR	LR			
	comp=E,1μm,25.0s								
LSA					LR	LR			
	comp=Z,2μm,22.0s								
LSA	**Lhasa**	**70.97**	**304**	*e*	P	**P**	**01 53 40.1**	**+1.1**
LSA					pmax	pmax			
	comp=Z,95nm,0.7s								
LSA					MLR	MLR			
	comp=Z,3μm,20.0s								
LSA	**Lhasa**	**70.97**	**304**	*e*	P	**P**	**01 53 40.1**	**+1.1**
	comp=Z,95nm,0.7s								
LSA					LR	LR			
	comp=Z,3μm,20.0s								
VNDA	**Vanda**	**71.06**	**178**	*e*	P	**P**	**01 53 38.6**	**+0.5**
	comp=Z,60nm,1.0s								
VNDA	**Vanda**	**71.06**	**178**	P		**P**	**01 53 38.8**	**+0.7**
	comp=Z,13nm,0.7s,baz=336,slow=6.7,SNR=76								
VNDA					LR	LR	02 21 31.8		
	comp=Z,2μm,19.3s,baz=359,slow=33								
YAK	**Yakutsk**	**71.08**	**348**	*c*	P	**P**	**01 53 38.6**	**+0.3**
YAK				*e**	PP	**pP**	**01 53 54.3**	**+4.0**
YAK				*e*			01 53 58.7		
YAK				*e*			01 56 18.9		
YAK				*e*	PPP	PPP	01 58 02.8		
YAK				*e*	S	**S**	**02 02 56.8**	**+5.2**
YAK				*e**	SS	**SKiKP**	**02 03 21.2**	**+4.6**
YAK				*e*			02 03 42.2		
YAK				*e*	SS	**SS**	**02 07 25.1**	**-0.7**
YAK				*e*	SSS	SSS	02 10 39.0		
YAK					pmax	pmax			
	comp=Z,103nm,1.0s								
YAK					pmax	pmax			
	comp=N,38nm,1.2s								
YAK					pmax	pmax			
	comp=E,18nm,1.1s								
YAK					pmax	pmax			
	comp=Z,17nm,0.8s								
YAK					pmax	pmax			
	comp=E,16nm,0.9s								
YAK					smax	smax			
	comp=E,126nm,1.8s								
YAK					smax	smax			
	comp=N,26nm,1.8s								
SBA	**Scott Base**	**71.57**	**177**	*e*	P	**P**	**01 53 42.7**	**+1.5**
SBA					pmax	pmax			
	comp=Z,76nm,1.0s								
SBA					MLR	MLR			
	comp=Z,2μm,19.0s								
SBA	**Scott Base**	**71.57**	**177**	*e*	P	**P**	**01 53 42.7**	**+1.5**
	comp=Z,76nm,1.0s								
SBA					LR	LR			
	comp=Z,2μm,19.0s								
ZAK	**Zakamensk**	**72.07**	**328**	⇑*i*	P	**P**	**01 53 45.2**	**+0.5**
ZAK					pmax	pmax			
	comp=Z,130nm,1.0s								
IRK	**Irkutsk**	**72.65**	**330**	*e*	P	**P**	**01 53 46.6**	**-1.4**
IRK					pmax	pmax			
	comp=Z,150nm,0.8s								
TAPN	**Taplejung**	**73.12**	**301**	*e*	P	**P**	**01 53 52.4**	**+0.7**
	comp=Z,358nm,0.9s								
MIR	**Mirnyy**	**73.13**	**202**	⇑*i*	P	**P**	**01 53 53.0**	**+2.4**
MIR				*i*			01 54 03.0		
MIR					pmax	pmax			
	comp=Z,390nm,1.7s								
ODAN	**Odare**	**73.26**	**300**	*e*	P	**P**	**01 53 53.0**	**+0.6**
	comp=Z,717nm,0.8s								
CHGN	**Chignik**	**73.33**	**25**	*e*	P	**P**	**01 53 52.1**	**+0.2**
BOK	**Bokaro**	**73.75**	**297**	*e*	P	**P**	**01 53 56.3**	**+1.2**
BOK					AMB	AMB	01 53 56.9		
	comp=Z,245nm,1.7s								
RAMN	**Ramite**	**73.96**	**300**	*e*	P	**P**	**01 53 56.9**	**+0.3**
	comp=Z,125nm,0.7s								
JIRN	**Jiri**	**74.51**	**301**	*e*	P	**P**	**01 54 00.5**	**+0.6**
	comp=Z,235nm,0.7s								
VIS	**Vishakhapatnam**	**74.67**	**290**	*i*	P	**P**	**01 54 01.2**	**+0.6**
VIS				*e*	P	pP	01 54 01.2	-11	
VIS					AMB	AMB	01 54 02.4		
	comp=Z,288nm,0.9s								
GUN	**Gumba**	**74.84**	**301**	*e*	P	**P**	**01 54 02.3**	**+0.5**
	comp=Z,570nm,0.8s								
PKI	**Pulchoki**	**75.15**	**301**	*e*	P	**P**	**01 54 03.7**	**+0.1**
	comp=Z,242nm,1.0s								
PKIN	**Phulchoki**	**75.16**	**301**	*e*	P	**P**	**01 54 04.5**	**+0.9**
	comp=Z,131nm,0.7s								
KKN	**Kakani**	**75.32**	**301**	*e*	P	**P**	**01 54 04.7**	**+0.3**
	comp=Z,306nm,0.7s								
PALK	**Pallekele**	**75.33**	**279**		P	**P**	**01 54 05.9**	**+1.4**
	comp=Z,1μm,0.9s,SNR=16								
PALK	**Pallekele**	**75.33**	**279**	*e*	P	**P**	**01 54 05.5**	**+1.0**
	comp=Z,292nm,1.1s								
DMN	**Daman**	**75.42**	**301**	*e*	P	**P**	**01 54 05.6**	**+0.6**
	comp=Z,621nm,0.9s								
KDAK	**Kodiak Island**	**76.75**	**26**		P	**P**	**01 54 12.0**	**+0.5**
	comp=Z,2μm,0.7s,SNR=23								
KDAK	**Kodiak Island**	**76.75**	**26**	*e*	P	**P**	**01 54 12.2**	**+0.7**
KDAK	**Kodiak Island**	**76.75**	**26**	*e*	P	**P**	**01 54 12.6**	**+1.0**
	comp=Z,251nm,0.8s,baz=230,slow=2.9,SNR=52								
KDAK					LR	LR	02 22 13.7		
	comp=Z,3μm,20.6s,baz=242,slow=31								
KOLN	**Koldanda**	**76.75**	**300**	*e*	P	**P**	**01 54 12.6**	**+0.1**
	comp=Z,236nm,0.7s								
DANN	**Dangsing**	**76.76**	**301**	*e*	P	**P**	**01 54 12.6**	**-0.1**
	comp=Z,218nm,0.7s								
TNA	**Tin City**	**76.86**	**15**	*e*	P	**P**	**01 54 12.2**	**+0.1**
	comp=Z,95nm,1.0s								
HVS	**Khovu-Aksy**	**77.67**	**326**	*c*	*i* P	**P**	**01 54 17.3**	**+0.3**
RSO	**Redoubt South**	**78.27**	**24**	*e*	P	**P**	**01 54 19.9**	**-0.4**
	comp=Z,275nm,0.8s								
WMQ	**Urumqi**	**78.45**	**317**		P	**P**	**01 54 22.0**	**+0.5**
WMQ					pP	**pP**	**01 54 32.4**	**-1.2**
WMQ					sP	**sP**	**01 54 36.3**	**-1.9**
WMQ					PP	**PP**	**01 57 21.3**	**+1.9**
WMQ					S	**S**	**02 04 14.0**	**-0.8**
WMQ					SKS	**SKSac**	**02 04 28.9**	**-4.5**
WMQ					sS	**SKKSac**	**02 04 31.4**	**-3.1**
WMQ					ScS	**ScS**	**02 04 36.6**	**-2.7**
WMQ					SS	**SS**	**02 09 20.1**	**+1.3**
WMQ					pmax	pmax			
	comp=Z,81nm,1.4s								
WMQ					pmax	pmax			
	comp=Z,920nm,5.6s								
WMQ					LR	LR			
	comp=N,4μm,14.5s								
WMQ					LR	LR			
	comp=E,2μm,12.3s								
WMQ					LR	LR			
	comp=Z,4μm,18.2s								
JBP	**Jabalpur**	**78.87**	**295**	⇑*i*	P	**P**	**01 54 24.7**	**+0.5**
JBP				*i*	x	x	01 54 27.5		
	comp=Z,178nm,1.3s								
JBP				*e*	x	x	01 56 15.6		
HYB	**Hyderabad**	**79.08**	**289**	⇑*i*	P	**P**	**01 54 25.0**	**-0.5**
HYB				*e*	S	**S**	**02 04 19.0**	**-3.4**
HYB				*e*	SKS	**SKSac**	**02 04 36.0**	**-2.8**
HYB	**Hyderabad**	**79.08**	**289**	*e*	P	**P**	**01 54 25.3**	**-0.2**
HYB					AMB	AMB	01 54 25.9		
	comp=Z,214nm,0.8s								
TIXI	**Tiksi**	**79.87**	**352**	*c*	*i* P	**P**	**01 54 28.6**	**0.0**
TIXI					pmax	pmax			
	comp=Z,52nm,1.5s								
TIXI					MLR	MLR			
	comp=Z,894nm,21.0s								
PPLA	**Purkeypile**	**79.94**	**22**	*e*	P	**P**	**01 54 28.9**	**-0.5**
	comp=Z,128nm,0.9s								
KRAR	**Krasnoyarsk**	**80.33**	**330**	*e*	P	**P**	**01 54 31.7**	**+0.4**
KRAR					pmax	pmax			
	comp=Z,75nm,0.7s								
PMR	**Palmer**	**80.36**	**24**	*e*	P	**P**	**01 54 31.6**	**+0.2**
PMR	**Palmer**	**80.36**	**24**	*e*	P	**P**	**01 54 31.6**	**+0.2**
SML	**Sawmill**	**80.80**	**24**	*e*	P	**P**	**01 54 34.5**	**+0.7**
SML					pmax	pmax			
	comp=Z,133nm,0.7s								
SML	**Sawmill**	**80.80**	**24**	*e*	P	**P**	**01 54 34.5**	**+0.7**
	comp=Z,133nm,0.7s								
TRF	**Thorofare Moun**	**80.96**	**22**	*e*	P	**P**	**01 54 33.7**	**-1.2**
	comp=Z,280nm,0.7s								
LATR	**Latur**	**81.12**	**290**	*e*	P	**P**	**01 54 34.4**	**-2.0**
BHPL	**Bhopal**	**81.19**	**295**	*e*	P	**P**	**01 54 36.6**	**-0.2**
BHPL					AMB	AMB	01 54 37.2		
	comp=Z,181nm,1.4s								
DIV	**Divide**	**81.49**	**25**	*e*	P	**P**	**01 54 38.3**	**+0.7**
	comp=Z,286nm,0.8s								
MCK	**McKinley**	**81.62**	**22**	*e*	P	**P**	**01 54 37.4**	**-0.7**
MCK					pmax	pmax			
	comp=Z,323nm,0.7s								
MCK	**McKinley**	**81.62**	**22**	*e*	P	**P**	**01 54 37.4**	**-0.7**
	comp=Z,323nm,0.7s								
DGAR	**Diego Garcia**	**81.78**	**263**		PFAKE		01 54 50.0	+10	
DGAR					LR	LR			
	comp=Z,2μm,19.0s								
BMRM	**Bremner River**	**81.90**	**25**	*e*	P	**P**	**01 54 40.7**	**+1.0**
	comp=Z,200nm,0.8s								
NDI	**New Delhi**	**82.44**	**300**	*e*	P	**P**	**01 54 41.0**	**-2.2**
PAX	**Paxson**	**82.55**	**23**	*e*	P	**P**	**01 54 43.7**	**+0.6**
PAX					pmax	pmax			
	comp=Z,47nm,0.4s								
PAX	**Paxson**	**82.55**	**23**	*e*	P	**P**	**01 54 43.7**	**+0.6**
	comp=Z,47nm,0.4s								
COLA	**College**	**82.64**	**21**	*e*	P	**P**	**01 54 43.0**	**-0.4**
COLA					pmax	pmax			
	comp=Z,528nm,0.8s								
COLA					MLR	MLR			
	comp=Z,6μm,22.0s								
COLA	**College**	**82.64**	**21**	*e*	P	**P**	**01 54 43.0**	**-0.4**
	comp=Z,528nm,0.8s								
COLA					LR	LR			
	comp=Z,6μm,22.0s								
ILAR	**Eielson Array**	**82.94**	**22**		P	**P**	**01 54 44.9**	**-0.1**
ILAR					PKiKP	**PKiKP**	**02 00 03.7**	**-0.3**
ILAR					PKKP	**PKKPdf**	**02 13 02.9**	**+1.2**
ILAR					P'P'		02 21 11.9		
ILAR	**Eielson Array**	**82.94**	**22**		P	**P**	**01 54 44.9**	**-0.1**
	comp=Z,37nm,0.4s,baz=239,slow=5.4,SNR=122								
ILAR					PKiKP	**PKiKP**	**02 00 03.7**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=269,slow=2.6,SNR=4.3								
ILAR					PKKP	**PKKPdf**	**02 13 02.9**	**+1.2**
	comp=Z,1.5nm,0.9s,baz=120,slow=3.2,SNR=4.1								
ILAR					PKPPKP	**P'P'df**	**02 21 11.9**	**+0.4**
	comp=Z,1.5nm,1.1s,baz=7.4,slow=2.1,SNR=5.3								
ILAR					LR	LR	02 26 20.7		
	comp=Z,7μm,22.0s,baz=247,slow=32								
SMLA	**Simla**	**82.98**	**302**	*i*	P	**P**	**01 54 45.6**	**-0.3**
SMLA					AMB	AMB	01 54 48.3		
	comp=Z,126nm,1.5s								
MK31	**Makanchi Array**	**83.02**	**319**	*c*	P	**P**	**01 54 45.6**	**-0.2**
MK31					pmax	pmax			
	comp=Z,42nm,0.4s								
MK31	**Makanchi Array**	**83.02**	**319**	*e*	P	**P**	**01 54 45.0**	**-0.8**
MKAR	**Makanchi Array**	**83.02**	**319**		P	**P**	**01 54 46.5**	**+0.7**
MKAR	**Makanchi Array**	**83.02**	**319**		P	**P**	**01 54 46.5**	**+0.7**
MKAR					PKiKP	**PKiKP**	**02 00 03.8**	**-1.0**
MKAR					PKKPbc	**PKKPbc**	**02 13 07.9**	**-2.0**
MKAR					P'P'		02 21 13.1		
MKAR	**Makanchi Array**	**83.02**	**319**		P	**P**	**01 54 46.5**	**+0.7**
	comp=Z,81nm,0.6s,baz=93,slow=6.8,SNR=246								
MKAR					PKiKP	**PKiKP**	**02 00 03.8**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=101,slow=1.9,SNR=2.6								
MKAR					PKKPbc	**PKKPbc**	**02 13 07.9**	**-2.0**
	comp=Z,3.2nm,0.9s,baz=298,slow=2.6,SNR=14								
MKAR					PKPPKP	**P'P'df**	**02 21 13.1**	**+0.4**
	comp=Z,2.7nm,1.1s,baz=270,slow=1.4,SNR=8.6								
COLD	**Coldfoot**	**83.16**	**19**	*e*	P	**P**	**01 54 47.1**	**+1.0**
	comp=Z,35nm,0.6s								
KAD	**Karad**	**83.17**	**288**	*i*	P	**P**	**01 54 47.2**	**-0.1**
GOA	**Goa**	**83.24**	**286**	*e*	P	**P**	**01 54 47.7**	**+0.2**
GOA					AMB	AMB	01 54 48.6		
	comp=Z,143nm,1.0s								
QSPA	**South Pole Qui**	**83.46**	**180**	*e*	P	**P**	**01 54 48.0**	**+0.1**
QSPA					LR	LR			
	comp=Z,2μm,22.0s								
QSPA	**South Pole Qui**	**83.46**	**180**		P	**P**	**01 54 48.8**	**+0.9**
	comp=Z,80nm,0.8s,baz=356,slow=1.7,SNR=185								
PNL	**Peninsula**	**83.63**	**28**	*e*	P	**P**	**01 54 49.7**	**+1.0**
	comp=Z,405nm,0.8s								
POO	**Poona**	**83.68**	**289**	*e*	P	**P**	**01 54 49.6**	**-0.2**
POO					AMB	AMB	01 54 50.2		
	comp=Z,206nm,0.0s								
ZALV	**Zalesovo Beam**	**83.76**	**326**		P	**P**	**01 54 48.8**	**-0.6**
ZALV	**Zalesovo Beam**	**83.76**	**326**		P	**P**	**01 54 48.8**	**-0.6**
ZALV					PKKPbc	**PKKPbc**	**02 13 06.3**	**-2.1**
ZALV	**Zalesovo Beam**	**83.76**	**326**		P	**P**	**01 54 48.8**	**-0.6**
	comp=Z,34nm,0.5s,baz=108,slow=5.3,SNR=39								
ZALV					PKKPbc	**PKKPbc**	**02 13 06.3**	**-2.1**
	comp=Z,3.0nm,0.7s,baz=309,slow=3.1,SNR=6.8								
DHRM	**DHARAMSHALA**	**83.93**	**303**	*e*	P	**P**	**01 54 50.5**	**-0.6**
DHRM					AMB	AMB	01 54 52.8		
	comp=Z,99nm,1.1s								
MAW	**Mawson**	**84.83**	**203**		P	**P**	**01 54 54.9**	**+0.3**
MAW					P'P'		02 21 09.3		
MAW	**Mawson**	**84.83**	**203**		P	**P**	**01 54 54.9**	**+0.3**
	comp=Z,73nm,0.8s,baz=90,slow=7.9,SNR=74								
MAW					PKPPKP	**P'P'df**	**02 21 09.3**	**-0.9**	
	comp=Z,4.6nm,0.9s,baz=254,slow=3.4,SNR=4.1								
MAW					LR	LR	02 28 43.5		
	comp=Z,2μm,21.8s,baz=90,slow=33								
VIB	**Van Inlet**	**84.86**	**35**		T	T	03 28 10.3		
	SNR=65								
DIB	**Dawson Inlet,**	**84.89**	**35**		T	T	03 28 19.8		
	SNR=58								
NVS	**Novosibirsk**	**84.93**	**327**	⇑*i*	P	**P**	**01 54 53.6**	**-1.7**
NVS				*e*			01 58 09.3		
NVS					pmax	pmax			
	comp=N,33nm,1.4s								
NVS					pmax	pmax			
	comp=E,68nm,1.4s								
NVS					pmax	pmax			
	comp=Z,132nm,1.4s								
NVS					pmax	pmax			
	comp=Z,30nm,2.2s								
NVS					pmax	pmax			
	comp=N,8.0nm,1.6s								
NVS					pmax	pmax			
	comp=E,19nm,1.6s								
EGAK	**Eagle**	**85.08**	**23**	*e*	P	**P**	**01 54 56.8**	**+0.9**
	comp=E,182nm,0.8s								
EGAK					LR	LR			
	comp=Z,9μm,22.0s								
KSH	**Kashi**	**85.67**	**310**	⇑*i*	P	**P**	**01 55 01.3**	**+1.7**
KSH					sP	**sP**	**01 55 15.8**	**-0.6**
KSH					PP	**PP**	**01 58 21.3**	**+2.2**
KSH					SKS	**SKSac**	**02 05 21.5**	**-0.8**
KSH					S	**S**	**02 05 30.9**	**+1.5**
KSH					sS	**sS**	**02 05 48.1**	**-1.7**
KSH					pmax	pmax			
	comp=Z,65nm,0.9s								
KSH					pmax	pmax			
	comp=Z,800nm,3.9s								
KSH					LR	LR			
	comp=N,1μm,14.1s								
KSH					LR	LR			
	comp=E,3μm,16.7s								
KSH					LR	LR			
	comp=Z,4μm,21.8s								
AAA	**Alma-Ata**	**85.77**	**314**	*e*	P	**P**	**01 54 59.8**	**-0.1**
AAA					pmax	pmax			
	comp=Z,1μm,8.2s								
WRAK	**Wrangell Islan**	**85.95**	**32**	*e*	P	**P**	**01 55 01.6**	**+1.3**
	comp=Z,445nm,1.4s								
WRAK					LR	LR			
	comp=Z,4μm,20.0s								
ULHL	**Ulahol**	**86.05**	**313**		P	**P**	**01 55 01.7**	**+0.1**
	SNR=32								
KURK	**Kurchatov**	**86.43**	**322**		P	**P**	**01 55 01.4**	**-1.5**
KURK					pmax	pmax			
	comp=Z,33nm,0.5s								
KURK	**Kurchatov**	**86.43**	**322**		PKKPbc	PKKPbc	02 12 59.4	-2.5	
KURBB	**Kurchatov Arra**	**86.46**	**322**		PKKPbc	PKKPbc	02 12 59.4	-2.4	
	comp=Z,4.4nm,0.9s,baz=288,slow=2.8,SNR=4.3								
TKM2	**Tokmak 2**	**86.66**	**314**	*e*	P	**P**	**01 55 03.9**	**-0.6**
TKM2					pmax	pmax			
	comp=Z,45nm,0.6s								
TKM2					MLR	MLR			
	comp=Z,3μm,21.0s								
TKM2	**Tokmak 2**	**86.66**	**314**		P	**P**	**01 55 04.3**	**-0.2**
	SNR=20								
TKM2	**Tokmak 2**	**86.66**	**314**	*e*	P	**P**	**01 55 03.9**	**-0.6**
	comp=Z,46nm,0.6s								
TKM2					LR	LR			
	comp=Z,3μm,21.0s								
KZA	**Kyzart**	**86.74**	**313**		P	**P**	**01 55 05.8**	**+0.7**
	SNR=30								
KBK	**Karagaybulak**	**87.07**	**313**		P	**P**	**01 55 06.8**	**+0.3**
	SNR=15								
BBB	**Bella Bella**	**87.15**	**37**		P	**P**	**01 55 06.9**	**+0.6**
BBB	**Bella Bella**	**87.15**	**37**		P	**P**	**01 55 06.9**	**+0.6**
	comp=Z,64nm,0.8s,baz=257,slow=5.1,SNR=19								
BBB					LR	LR	02 29 27.2		
	comp=Z,4μm,18.1s,baz=306,slow=32								
CHMS	**Chumysh**	**87.28**	**314**		P	**P**	**01 55 06.1**	**-1.2**
	SNR=19								
FRU	**Bishkek**	**87.35**	**313**	*e*	P	**P**	**01 55 07.0**	**-0.6**
FRU				*i*			01 55 18.0		
FRU					pmax	pmax			
	comp=Z,53nm,1.8s								
AAK	**Ala-Archa**	**87.39**	**313**		P	**P**	**01 55 07.7**	**-0.3**
	comp=Z,306nm,0.6s,SNR=8.6								
AAK	**Ala-Archa**	**87.39**	**313**	*c*	*i* P	**P**	**01 55 08.0**	**0.0**
AAK					pmax	pmax			
	comp=Z,48nm,1.1s								
AAK	**Ala-Archa**	**87.39**	**313**		P	**P**	**01 55 07.1**	**-0.9**
	SNR=20								
AAK	**Ala-Archa**	**87.39**	**313**	*e*	P	**P**	**01 55 06.7**	**-1.3**
	comp=Z,30nm,0.6s								
AAK					LR	LR			
	comp=Z,4μm,20.0s								
USP	**Ospenovka**	**87.51**	**314**		P	**P**	**01 55 08.1**	**-0.4**
	SNR=28								
KBO	**Bosley Butte**	**87.57**	**47**	*e*	P	**P**	**01 55 09.9**	**+1.2**
	comp=Z,86nm,0.9s								
KCPM	**Cahto Peak**	**87.58**	**50**	*e*	P	**P**	**01 55 09.8**	**+0.9**
	comp=Z,44nm,0.8s								
KEBM	**Edson Butte**	**87.61**	**47**	*e*	P	**P**	**01 55 10.4**	**+1.5**
	comp=Z,161nm,1.3s								
KRMB	**Red Mountain**	**87.67**	**48**	*e*	P	**P**	**01 55 10.9**	**+1.6**
	comp=Z,21nm,0.7s								
KIPM	**Iron Peak**	**87.68**	**50**	*e*	P	**P**	**01 55 10.3**	**+0.9**
	comp=Z,52nm,0.8s								
KHMM	**Horse Mountain**	**87.68**	**49**	*e*	P	**P**	**01 55 10.6**	**+1.2**
	comp=Z,102nm,1.0s								
DLBC	**Dease Lake**	**87.74**	**31**		P	**P**	**01 55 10.8**	**+1.6**
DLBC	**Dease Lake**	**87.74**	**31**		P	**P**	**01 55 10.8**	**+1.6**
	comp=Z,173nm,0.9s,baz=266,slow=4.8,SNR=51								
DLBC					LR	LR	02 32 02.5		
	comp=Z,3μm,18.8s,baz=292,slow=34								
HOPS	**Hopland**	**87.84**	**51**	*e*	P	**P**	**01 55 11.0**	**+1.0**

comp=Z,7.6nm,0.8s,baz=57,slow=4.3,SNR=11
INK LR LR 02 31 47.2
comp=Z,4µm,20.1s,baz=250,slow=33
PGC Sidney 89.31 41 *e*P **P 01 55 16.9 +0.3**
comp=Z,3.4nm,1.1s
SMMC Simmler 89.69 55 ⇓P **P 01 55 20.5 +1.7**
baz=90,SNR=12
TDL Tradedollar La 89.73 43 P **P 01 55 19.5 +0.6**
CMB Columbia Colle 89.77 52 *e*P **P 01 55 19.5 +0.3**
CMB pmax pmax
comp=Z,15nm,0.7s
CMB Columbia Colle 89.77 52 *e*P **P 01 55 19.5 +0.3**
comp=Z,15nm,0.7s
PKM Peak Mountain 89.78 55 ⇑P **P 01 55 20.9 +1.5**
baz=90,SNR=19
SBC Santa Barbara 89.80 55 ⇑P **P 01 55 20.8 +1.5**
baz=90
BEKR Beckworth 90.06 50 *e*P **P 01 55 21.2 +0.5**
VFP Flag Point 90.08 45 P **P 01 55 20.9 +0.3**
RMW Rattlesnake Mo 90.19 42 P **P 01 55 21.3 +0.3**
RMW Rattlesnake Mo 90.19 42 P **P 01 55 21.3 +0.3**
WPW White Pass 90.24 43 P **P 01 55 21.4 +0.2**
BLG Laguna Peak 90.29 56 ⇑P **P 01 55 22.4 +0.8**
baz=90
RCTC Rector, Farmer 90.44 54 ⇑P **P 01 55 22.7 +0.5**
baz=90,SNR=7.2
VES Vestal, Richgr 90.50 54 ⇓P **P 01 55 23.1 +0.5**
baz=90,SNR=9.2
SCI San Clemente I 90.57 57 ⇓P **P 01 55 23.7 +0.8**
baz=91,SNR=16
WAKR Walker 90.58 51 *e*P **P 01 55 24.3 +1.1**
comp=Z,56nm,0.8s
ARVC Arvin 90.61 55 ⇓P **P 01 55 24.2 +1.1**
baz=91,SNR=13
OSI Osito Adit 90.63 55 ⇓P **P 01 55 24.7 +1.4**
baz=91
CIS Catalina Islan 90.74 57 ⇓P **P 01 55 24.5 +0.7**
baz=91,SNR=21
PAHR Pah Rah Range 90.78 50 *e*P **P 01 55 25.0 +1.0**
comp=Z,107nm,0.9s
WRW Wenatchee Ridg 90.87 42 P **P 01 55 24.3 +0.1**
FMP Fort Macarthur 90.87 56 ⇓P **P 01 55 25.5 +1.2**
baz=91
DECC Green Verdugo 90.91 56 ⇓P **P 01 55 25.5 +1.0**
baz=91,SNR=8.9
MLAC Mammoth Lakes 90.93 52 ⇑P **P 01 55 26.1 +1.2**
baz=91
TBM Table Mountain 90.95 43 P **P 01 55 24.9 +0.3**
ISA Isabella 90.97 54 *e*P **P 01 55 25.6 +0.7**
ISA pmax pmax
comp=Z,56nm,1.0s
ISA Isabella 90.97 54 *e*P **P 01 55 25.6 +0.7**
comp=Z,56nm,1.0s
ISA Isabella 90.97 54 ⇓P **P 01 55 25.6 +0.7**
baz=91,SNR=29
PASC Pasadena Art C 91.02 56 *e*P **P 01 55 26.0 +0.9**
comp=Z,104nm,0.7s
BLTW Bickleton 91.06 44 P **P 01 55 25.3 +0.3**
MWC Mount Wilson 91.13 56 *e*P **P 01 55 27.0 +1.2**
MWC pmax pmax
comp=Z,217nm,0.8s
MWC Mount Wilson 91.13 56 *e*P **P 01 55 27.0 +1.2**
comp=Z,217nm,0.8s
EDW2 Edwards Air Fo 91.26 55 ⇑P **P 01 55 27.6 +1.3**
baz=91,SNR=56
TIN Tinemaha 91.34 53 ⇑P **P 01 55 27.7 +1.1**
baz=91,SNR=12
CWC Cottonwood Cre 91.38 54 ⇓P **P 01 55 27.8 +0.9**
baz=91,SNR=12
NVAR Mina Array Bea 91.45 52 P **P 01 55 28.4 +1.2**
NVAR PKiKP **PKiKP 02 00 19.4 +0.3**
NVAR PKKPbc **PKKPbc 02 12 50.6 +1.3**
NVAR P'P' 02 20 57.2
NVAR Mina Array Bea 91.45 52 P **P 01 55 28.4 +1.2**
comp=Z,112nm,0.9s,baz=254,slow=6.7,SNR=376
NVAR PKiKP **PKiKP 02 00 19.4 +0.3**
comp=Z,2.4nm,0.6s,baz=265,slow=1.6,SNR=10
NVAR PKKPbc **PKKPbc 02 12 50.6 +1.3**
comp=Z,2.3nm,0.7s,baz=104,slow=3.0,SNR=11
NVAR PKPPKP **P'P'df 02 20 57.2 -1.0**
comp=Z,2.4nm,0.9s,baz=86,slow=3.7,SNR=12
BFSC Mount Baldy Ra 91.46 56 ⇓P **P 01 55 28.0 +0.7**
baz=92,SNR=27
VOSK Vostochnaya 91.49 323 P P 01 55 23.3 -3.5
VOSK pmax pmax
comp=Z,16nm,0.5s
HAWA Hanford 91.57 44 *e*P **P 01 55 27.7 +0.4**
comp=Z,65nm,1.0s
HAWA LR LR
comp=Z,6µm,19.0s
LRMC Laurel Mountai 91.58 55 ⇑P **P 01 55 29.2 +1.4**
baz=92,SNR=15
H2OWA Water 91.65 44 P **P 01 55 28.5 +0.9**
LOCW Locke Island 91.68 43 P **P 01 55 28.3 +0.5**
WVOR Wild Horse Val 91.69 48 *e*P **P 01 55 28.7 +0.5**
WVOR pmax pmax
comp=Z,49nm,0.9s
WVOR MLR MLR
comp=Z,5µm,20.0s
WVOR Wild Horse Val 91.69 48 *e*P **P 01 55 28.6 +0.5**
comp=Z,49nm,0.9s
WVOR LR LR
comp=Z,5µm,20.0s
109C Camp Elliot, M 91.76 57 ⇑P **P 01 55 29.9 +1.4**
baz=92,SNR=12
MURC Murrieta 91.76 57 ⇓P **P 01 55 29.5 +1.0**
baz=92,SNR=20
MPMC Manual Prospec 91.81 54 ⇓P **P 01 55 30.2 +1.3**
baz=92,SNR=96
BVA0 Borovoye Array 91.89 323 *i* P **P 01 55 27.1 -1.5**
BVA0 pmax pmax
comp=Z,24nm,0.5s
BVAR Borovoye Array 91.89 323 PKKPbc PKKPbc 02 12 46.7 -1.7
BVAR Borovoye Array 91.89 323 PKKPbc PKKPbc 02 12 46.7 -1.7
comp=Z,1.3nm,0.6s,baz=294,slow=1.5,SNR=5.6
BRVK Borovoye 91.96 323 *c i e* P **P 01 55 27.4 -1.5**
BRVK 01 59 14.2
BRVK pmax pmax
comp=Z,34nm,1.0s
BRVK Borovoye 91.96 323 *e*P **P 01 55 27.2 -1.7**
comp=Z,22nm,0.6s
BRVK LR LR
comp=Z,5µm,22.0s
GRAC Grapevine Rang 92.01 53 ⇑P **P 01 55 30.8 +1.2**
baz=92,SNR=21
BBRC Big Bear Solar 92.07 56 ⇓P **P 01 55 31.2 +1.0**
baz=92
RRX Edison Barstow 92.07 55 ⇓P **P 01 55 31.1 +1.1**
baz=92,SNR=8.2
BAR Barrett 92.10 58 *e*P **P 01 55 31.2 +1.1**
comp=Z,28nm,0.7s
TPH Tonopah 92.25 52 PFAKE 01 55 40.0 +9.1
TPH LR LR
comp=Z,3µm,20.0s
GSC Goldstone 92.28 55 *e*P **P 01 55 32.1 +1.1**
GSC pmax pmax
comp=Z,60nm,0.9s
GSC Goldstone 92.28 55 *e*P **P 01 55 32.1 +1.1**
comp=Z,60nm,0.9s
GSC Goldstone 92.28 55 ⇓P **P 01 55 32.1 +1.1**
baz=92,SNR=41
MONP Monument Peak 92.33 57 ⇓P **P 01 55 32.7 +1.3**
baz=92,SNR=53
FURC Furnace Creek, 92.36 54 ⇓P **P 01 55 32.5 +1.4**
baz=92,SNR=26
PFO Pinyon Flat Ob 92.38 57 *e*P **P 01 55 32.8 +1.2**
comp=Z,66nm,0.7s
PFO Pinyon Flat Ob 92.38 57 LR LR 02 32 23.5
comp=Z,5µm,18.8s,baz=337,slow=32
PFO Pinyon Flat Ob 92.38 57 ⇑P **P 01 55 32.6 +1.1**
baz=92,SNR=61
BMN Battle Mountai 92.51 50 *e*P **P 01 55 33.1 +1.1**
BMN pmax pmax
comp=Z,130nm,0.9s
BMN MLR MLR
comp=Z,4µm,20.0s
BMN Battle Mountai 92.51 50 *e*P **P 01 55 33.1 +1.1**
comp=Z,130nm,0.9s
BMN LR LR
comp=Z,4µm,20.0s
DVTC Desert V Tower 92.58 58 ⇑P **P 01 55 33.7 +1.4**
baz=93,SNR=12
HEC Hector,Ludlow 92.61 55 ⇓P **P 01 55 33.5 +1.0**
baz=93,SNR=43
SHOC Shoshone 92.77 54 ⇓P **P 01 55 34.1 +1.0**
baz=93,SNR=14
SYO Syowa Base 92.77 199 ⇓*i* P **P 01 55 30.5 -1.9**

BELC Belle Mtn. Jos 92.80 56 ⇑P **P 01 55 34.9 +1.4**
baz=93,SNR=181
SWSC Sam W. Stewart 92.86 57 ⇓P **P 01 55 34.9 +1.4**
baz=93,SNR=17
BMO Blue Mountains 92.94 45 *e*P **P 01 55 33.7 -0.1**
BMO pmax pmax
comp=Z,42nm,0.8s
BMO MLR MLR
comp=Z,5µm,20.0s
BMO Blue Mountains 92.94 45 *e*P **P 01 55 33.6 -0.1**
comp=Z,42nm,0.8s
BMO LR LR
comp=Z,5µm,20.0s
TUQ Turquoise Moun 93.01 55 ⇑P **P 01 55 35.5 +1.1**
baz=93,SNR=57
GMRC Granite Mounta 93.16 56 ⇓P **P 01 55 36.2 +1.1**
baz=93,SNR=105
BC3 Big Chuckawall 93.22 57 ⇓P **P 01 55 36.6 +1.2**
baz=93,SNR=124
NEW Newport 93.42 42 *e*P **P 01 55 35.6 -0.3**
comp=Z,46nm,0.9s
NEW LR LR
comp=Z,10µm,22.0s
NEW Newport 93.42 42 ⇓P **P 01 55 35.9 +0.1**
baz=94,SNR=20
IRM Iron Mountain 93.52 56 ⇑P **P 01 55 38.0 +1.3**
baz=94,SNR=111
R11A Troy Canyon, C 93.56 52 ⇑P **P 01 55 38.0 +1.1**
baz=94,SNR=110
LDFC Landfair 93.64 55 *e*P **P 01 55 38.4 +1.2**
comp=Z,116nm,0.7s
GLA Glamis 93.68 57 *e*P **P 01 55 39.3 +1.9**
GLA pmax pmax
comp=Z,88nm,0.9s
GLA Glamis 93.68 57 *e*P **P 01 55 39.3 +1.9**
comp=Z,88nm,0.9s
GLA Glamis 93.68 57 ⇑P **P 01 55 39.1 +1.6**
baz=94,SNR=22
MFID Camas Ranch 93.85 47 *e*P **P 01 55 38.2 +0.1**
comp=Z,31nm,1.4s
MFID Camas Ranch 93.85 47 ⇑P **P 01 55 38.4 +0.3**
baz=94,SNR=17
Y12C Blythe 94.00 57 ⇑P **P 01 55 40.1 +1.3**
baz=94,SNR=19
NEE2 Needles Airpor 94.01 56 ⇓P **P 01 55 40.4 +1.6**
baz=94,SNR=6.2
ELK Elko 94.05 50 P **P 01 55 40.2 +1.0**
ELK PKiKP **PKiKP 02 00 24.6 +1.1**
ELK Elko 94.05 50 P **P 01 55 40.2 +1.0**
comp=Z,43nm,1.0s,baz=256,slow=4.1,SNR=98
ELK PKiKP **PKiKP 02 00 24.6 +1.1**
comp=Z,3.5nm,0.6s,baz=286,slow=4.3,SNR=9.5
G12A Big Creek, Yel 94.36 45 ⇓P **P 01 55 40.3 -0.1**
baz=94
PDMCI Parker Dam,Lak 94.36 56 ⇓P **P 01 55 41.4 +1.0**
baz=94,SNR=35
A12A Yaak River Ran 94.45 41 ⇑P **P 01 55 41.0 +0.4**
baz=94,SNR=8.1
B12A Libby 94.46 42 ⇓P **P 01 55 40.9 +0.3**
baz=94
C12B Naegeli Ranch, 94.47 43 ⇑P **P 01 55 40.6 -0.1**
baz=94,SNR=7.2
113A Mohawk Valley, 94.55 58 ⇑P **P 01 55 42.1 +0.8**
baz=95,SNR=6.0
W13A Hualapai Mount 94.64 55 ⇓P **P 01 55 43.2 +1.2**
baz=95,SNR=90
H12A Diamond D Ranc 94.65 46 ⇑P **P 01 55 41.5 -0.3**
baz=95
HLID Hailey 94.89 47 *e*P **P 01 55 43.2 +0.3**
comp=Z,9.6nm,0.6s
HLID LR LR
comp=Z,7µm,22.0s
HLID Hailey 94.89 47 ⇓P **P 01 55 43.1 +0.2**
baz=95,SNR=21
BSMT Bassoo Peak 94.94 43 *e*P **P 01 55 43.2 +0.1**
comp=Z,25nm,0.8s
C13A Hot Springs 95.08 43 ⇑P **P 01 55 43.7 +0.2**
baz=95
B13A Whitefish 95.19 42 ⇓P **P 01 55 44.2 +0.2**
baz=95,SNR=10
ARUT Antelope Range 95.20 53 *e*P **P 01 55 45.7 +1.2**
ARUT pmax pmax
comp=Z,27nm,0.7s
ARUT Antelope Range 95.20 53 *e*P **P 01 55 45.7 +1.2**
comp=Z,26nm,0.7s
BLMT Blacktail Moun 95.24 42 *e*P **P 01 55 44.4 -0.1**
comp=Z,49nm,1.6s
CCUT Cedar City 95.25 53 *e*P **P 01 55 46.1 +1.4**
comp=Z,33nm,0.7s
A13A Flathead Natio 95.27 41 ⇓P **P 01 55 44.9 +0.5**
baz=95
Y14A Wickenburg 95.27 57 ⇓P **P 01 55 45.8 +1.1**
baz=95,SNR=16
JTMT Jette 95.28 43 *e*P **P 01 55 44.6 0.0**
comp=Z,79nm,2.1s
Z14A Wintersburg 95.28 57 ⇑P **P 01 55 45.7 +1.0**
baz=95,SNR=11
214A Organ Pipe Nat 95.29 59 ⇓P **P 01 55 45.0 +0.2**
baz=95
SWMT Swartz Lake 95.45 43 *e*P **P 01 55 45.4 +0.1**
comp=Z,8.2nm,0.9s
WALA Waterton Lakes 95.61 41 *e*P **P 01 55 46.7 +0.7**
comp=Z,1.8nm,0.8s
I14A Mackay 95.61 47 ⇓P **P 01 55 46.6 +0.4**
baz=96,SNR=32
C14A Swan Lake 95.64 43 ⇓P **P 01 55 46.4 +0.2**
baz=96
BGU Big Grassy Mou 95.73 50 *e*P **P 01 55 47.4 +0.6**
comp=Z,73nm,0.8s
SLMT Seeley Lake 95.78 43 *e*P **P 01 55 47.6 +0.8**
comp=Z,230nm,2.3s
DUG Dugway 95.85 50 *e*P **P 01 55 47.6 +0.3**
DUG pmax pmax
comp=Z,19nm,0.9s
DUG MLR MLR
comp=Z,3µm,22.0s
DUG Dugway 95.85 50 *e*P **P 01 55 47.6 +0.3**
comp=Z,19nm,0.9s
DUG LR LR
comp=Z,3µm,22.0s
DUG Dugway 95.85 50 ⇑P **P 01 55 47.9 +0.6**
baz=96,SNR=21
A14A Double T Ranch 95.92 41 ⇓P **P 01 55 48.3 +0.8**
baz=96,SNR=8.3
CHMT Chamberlain Mo 95.92 44 *e*P **P 01 55 47.5 -0.1**
comp=Z,4.0nm,0.7s
YKA Yellowknife Ar 95.92 28 P **P 01 55 47.8 +0.8**
YKA PP **PP 01 59 38.9 -0.5**
YKA PKiKP **PKiKP 02 00 25.6 -0.2**
YKA PKKPbc **PKKPbc 02 12 34.7 -3.4**
YKA Yellowknife Ar 95.92 28 P **P 01 55 47.8 +0.8**
comp=Z,138nm,0.8s,baz=268,slow=4.6,SNR=237
YKA PP **PP 01 59 38.9 -0.5**
comp=Z,2.8nm,0.8s,baz=271,slow=7.8,SNR=4.3
YKA PKiKP **PKiKP 02 00 25.6 -0.2**
comp=Z,2.8nm,0.7s,baz=258,slow=1.5,SNR=5.8
YKA PKKPbc **PKKPbc 02 12 34.7 -3.4**
comp=Z,5.4nm,0.7s,baz=87,slow=2.9,SNR=14
HVU Hansel Valley 95.98 49 *e*P **P 01 55 48.3 +0.4**
HVU pmax pmax
comp=Z,63nm,0.9s
HVU Hansel Valley 95.98 49 *e*P **P 01 55 48.3 +0.4**
comp=Z,62nm,0.9s
B14A Marquette Ranc 95.99 42 ⇓P **P 01 55 48.2 +0.4**
baz=96
U15A North Rim 96.03 54 ⇑P **P 01 55 50.0 +1.6**
baz=96,SNR=76
MCMT McKenzie Canyo 96.09 46 *e*P **P 01 55 48.7 +0.3**
comp=Z,8.4nm,0.9s
SPUT South Promonto 96.19 49 *e*P **P 01 55 49.1 +0.3**
comp=Z,27nm,0.9s
MVU Marysvale 96.22 52 *e*P **P 01 55 50.5 +1.3**
MVU pmax pmax
comp=Z,32nm,1.3s
MVU LR LR
comp=Z,4µm,21.0s
MSU Marysvale 96.24 52 *e*P **P 01 55 50.6 +1.3**
MSU pmax pmax
comp=Z,53nm,1.3s
MSU Marysvale 96.24 52 *e*P **P 01 55 50.6 +1.3**
comp=Z,53nm,1.3s
DLMT Dillon 96.30 45 *e*P **P 01 55 48.2 -1.0**
comp=Z,15nm,0.9s
A15A Johnson Ranch, 96.38 41 ⇑P **P 01 55 49.8 +0.3**
baz=96
NLU North Lily Min 96.40 51 *e*P **P 01 55 50.6 +0.7**
comp=Z,35nm,1.0s
C15A Salmond Ranch, 96.41 43 ⇑P **P 01 55 49.4 -0.2**
baz=96

LRM Limekiln Ridge 96.42 45 *e*P **P 01 55 48.6 -1.4**
B15A Bradely Ranch, 96.46 42 ⇑P **P 01 55 50.1 +0.2**
baz=96
X16A Lo Mia Camp, P 96.60 56 ⇓P **P 01 55 51.9 +1.0**
baz=97,SNR=16
WUAZ Wupatki 96.72 55 *e*P **P 01 55 52.9 +1.5**
comp=Z,42nm,0.8s
WUAZ LR LR
comp=Z,3µm,20.0s
WUAZ Wupatki 96.72 55 ⇑P **P 01 55 52.9 +1.5**
baz=97,SNR=42
MPU Maple Canyon 96.75 51 *e*P **P 01 55 52.1 +0.6**
comp=Z,21nm,0.9s
HWUT Hardware Ranch 96.87 49 *e*P **P 01 55 52.1 +0.1**
comp=Z,32nm,0.8s
HWUT LR LR
comp=Z,4µm,19.0s
JLU Jordanelle 96.91 50 *e*P **P 01 55 52.6 +0.4**
comp=Z,36nm,1.2s
LPIG La Paz 96.93 67 LR LR 02 32 57.4
comp=Z,471nm,19.8s,baz=311,slow=31
C16A Fuhringer Ranc 96.99 43 ⇑P **P 01 55 52.2 -0.1**
baz=97
BOZ Bozeman (W) 96.99 45 *e*P **P 01 55 52.2 -0.2**
BOZ pmax pmax
comp=Z,12nm,0.8s
BOZ MLR MLR
comp=Z,4µm,21.0s
BOZ Bozeman (W) 96.99 45 *e*P **P 01 55 52.2 -0.2**
comp=Z,12nm,0.8s
BOZ LR LR
comp=Z,4µm,21.0s
I16A Newdale 97.03 47 ⇑P Pdif 01 55 53.2 +0.5
baz=97
TUC Tucson 97.03 58 *e*P Pdif 01 55 54.3 +1.4
TUC pmax pmax
comp=Z,8.0nm,0.8s
TUC MLR MLR
comp=Z,4µm,20.0s
TUC Tucson 97.03 58 *e*P Pdif 01 55 54.3 +1.5
comp=Z,8.2nm,0.8s
TUC LR LR
comp=Z,4µm,20.0s
B16A M & M Farms, S 97.03 42 ⇑P **P 01 55 52.4 0.0**
baz=97
TMUT Trail Mountain 97.04 51 *e*P Pdif 01 55 54.2 +1.1
comp=Z,64nm,0.8s
Q16A Castle Valley 97.05 52 ⇓P Pdif 01 55 54.1 +1.1
baz=97,SNR=23
DAU Daniels Canyon 97.05 50 *e*P Pdif 01 55 53.8 +0.7
DAU pmax pmax
comp=Z,28nm,0.8s
DAU Daniels Canyon 97.05 50 *e*P Pdif 01 55 53.8 +0.6
comp=Z,28nm,0.8s
QLMT Earthquake Lak 97.10 46 *e*P Pdif 01 55 53.8 +0.7
A16A West Butte Ran 97.12 42 ⇑P Pdif 01 55 53.2 +0.2
baz=97
RRI2 Red Ridge 97.12 47 *e*P Pdif 01 55 53.6 +0.3
comp=Z,31nm,0.9s
H16A Russell Place, 97.23 46 ⇓P Pdif 01 55 54.4 +0.7
baz=97
AHID Auburn Hatcher 97.26 48 *e*P Pdif 01 55 54.3 +0.4
comp=Z,28nm,0.9s
AHID LR LR
comp=Z,4µm,20.0s
TPAW Teton Pass 97.40 47 *e*P **P 01 55 54.4 -0.1**
IMW Indian Meadow 97.42 47 *e*P Pdif 01 55 54.6 0.0
REDW Red Top Meadow 97.47 47 *e*P **P 01 55 54.6 -0.1**
YFT Old Faithful 97.51 46 *e*P Pdif 01 55 56.8 +1.9
comp=Z,45nm,1.0s
M17A Scullys Gap (B 97.54 49 ⇑P **P 01 55 55.0 -0.1**
baz=98
SNOW Snow King Moun 97.54 47 *e*P Pdif 01 55 54.4 +0.3
comp=Z,45nm,1.3s
E17A Martinsdale 97.55 44 ⇓P Pdif 01 55 54.9 -0.1
baz=98,SNR=6.0
MOOW Moose Ponds 97.56 47 *e*P Pdif 01 55 55.3 +0.1
SRU San Rafael 97.56 51 *e*P Pdif 01 55 55.6 +0.3
SRU pmax pmax
comp=Z,24nm,0.7s
SRU San Rafael 97.56 51 *e*P Pdif 01 55 55.6 +0.3
comp=Z,24nm,0.7s
G17A Pierce Place, 97.61 45 ⇑P Pdif 01 55 56.0 +0.8
baz=98,SNR=9.5
B17A L&G Farms, Che 97.64 42 ⇑P **P 01 55 54.8 -0.3**
baz=98
C17A Wharram Farm, 97.65 43 ⇑P Pdif 01 55 55.2 0.0
baz=98,SNR=14
LOHW Long Hollow 97.66 47 *e*P Pdif 01 55 55.6 0.0
F17A Fitzpatrick Pl 97.68 45 ⇑P Pdif 01 55 56.1 +0.6
baz=98,SNR=30
I17A Pilgrim Ck. 97.69 47 ⇑P Pdif 01 55 56.1 +0.4
baz=98
D17A Six Diamond Ra 97.69 43 ⇑P Pdif 01 55 55.7 +0.1
baz=98,SNR=19
H17A Grant Village 97.70 46 ⇑P Pdif 01 55 57.0 +1.1
baz=98
A17A Triple J Farms 97.72 42 ⇑P Pdif 01 55 55.8 +0.3
baz=98,SNR=10.0
IMYA Miami 97.72 306 *e*P **P 01 55 54.5 -1.5**
LKWY Lake 97.83 46 PFAKE 01 56 10.0 +14
LKWY LR LR
comp=Z,6µm,19.0s
X18A Snowflake 97.83 56 ⇓P Pdif 01 55 57.9 +1.4
baz=98,SNR=9.9
L18A Fontenelle, Gr 98.03 49 ⇓P Pdif 01 55 57.9 +0.6
baz=98
W18A Petrified Fore 98.03 56 ⇓P Pdif 01 55 58.2 +0.8
baz=98
ABKAR Akbulak array 98.17 319 *e*P **P 01 55 56.9 -0.4**
E18A Harlowton 98.21 44 ⇑P Pdif 01 55 58.6 +0.7
baz=98,SNR=13
I18A Diamond G Ranc 98.23 47 ⇑P Pdif 01 55 58.8 +0.6
baz=98,SNR=8.8
319A Douglas 98.26 59 ⇓P Pdif 01 55 59.9 +1.5
baz=98
A18A Metzger Ranch, 98.28 42 ⇓P Pdif 01 55 58.0 0.0
baz=98,SNR=7.8
D18A Linhart Farms, 98.29 43 ⇑P **P 01 55 57.8 -0.3**
baz=98,SNR=5.2
B18A Beardsley Farm 98.32 42 ⇓Pdiff Pdif 01 55 58.3 +0.1
baz=98
EGMT Eagleton 98.33 42 *e*P **P 01 55 57.9 -0.4**
comp=Z,26nm,0.7s
EGMT LR LR
comp=Z,6µm,21.0s
EGMT Eagleton 98.33 42 ⇑Pdiff Pdif 01 55 58.5 +0.2
baz=98
F18A Big Timber 98.34 45 ⇓Pdiff Pdif 01 55 59.2 +0.7
baz=98
H18A Shoshone NF, C 98.36 46 ⇓Pdiff Pdif 01 55 59.0 +0.3
baz=98
BW06 Boulder Array 98.40 48 *e*P **P 01 55 58.1 -0.8**
comp=Z,32nm,0.9s
BW06 LR LR
comp=Z,4µm,19.0s
PDAR Pinedale Array 98.40 48 P **P 01 55 58.5 -0.4**
PDAR PP **PP 01 59 58.5 -0.9**
PDAR PKiKP **PKiKP 02 00 31.6 +0.5**
PDAR PKKPbc **PKKPbc 02 12 29.4 -1.5**
PDAR P'P' 02 20 46.0
PDAR Pinedale Array 98.40 48 P **P 01 55 58.5 -0.4**
comp=Z,29nm,0.9s,baz=247,slow=2.2,SNR=122
PDAR PP **PP 01 59 58.5 -0.9**
comp=Z,5.5nm,1.0s,baz=268,slow=7.4,SNR=4.9
PDAR PKiKP **PKiKP 02 00 31.6 +0.5**
comp=Z,3.9nm,0.8s,baz=183,slow=2.1,SNR=6.3
PDAR PKKPbc **PKKPbc 02 12 29.4 -1.5**
comp=Z,1.1nm,0.6s,baz=106,slow=6.0,SNR=6.2
PDAR PKPPKP **P'P'df 02 20 46.0 +1.1**
comp=Z,1.6nm,1.0s,baz=116,slow=2.1,SNR=10
PDAR LR LR 02 36 38.9
comp=Z,3µm,18.6s,baz=310,slow=33
G18A Lazy EL Ranch, 98.44 45 ⇑Pdiff Pdif 01 55 59.1 +0.1
baz=98
L19A Farson 98.54 48 ⇑Pdiff Pdif 01 55 59.9 +0.4
baz=98
RLMT Red Lodge 98.64 45 *e*P Pdif 01 56 00.4 +0.4
comp=Z,14nm,0.8s
RLMT LR LR
comp=Z,3µm,20.0s
M19A Rock Springs 98.67 49 ⇑Pdiff Pdif 01 56 00.3 +0.1
baz=99
O19A Miners Draw (B 98.68 50 ⇓Pdiff Pdif 01 56 00.4 +0.3
baz=99
ITEG Tejag 98.70 302 *e*P **P 01 55 59.0 -1.4**
P19A Cripple Cowboy 98.77 51 ⇓Pdiff Pdif 01 56 01.5 +0.8

	baz=99								
J19A	**Crowheart**	**98.78**	**47**	⇑Pdiff		**Pdif**		**01 56 00.7**	**+0.2**
	baz=99								
C19A	**Slack Wire Ran**	**98.81**	**43**	⇑Pdiff		Pdif		01 56 01.0	+0.6
	baz=99								
PV04	**Paradox Valley**	**98.81**	**52**	*eP*		Pdif		01 56 01.8	+1.0
I19A	**Meeteetse**	**98.83**	**47**	⇓Pdiff		Pdif		01 56 01.3	+0.6
	baz=99								
H19A	**Powell**	**98.84**	**46**	⇓Pdiff		Pdif		01 56 01.5	+0.8
	baz=99								
120A	**U Bar Ranch, L**	**98.86**	**58**	⇓Pdiff		Pdif		01 56 01.9	+0.8
	baz=99								
MSEY	**Mahe Island**	**98.86**	**264**		PFAKE			01 56 10.0	+8.6
MSEY					LR	LR			
	comp=Z,1µm,20.0s								
B19A	**Brinkman Farms**	**98.87**	**42**	⇑Pdiff		Pdif		01 56 01.2	+0.5
	baz=99								
F19A	**Roth Farm, Mol**	**98.88**	**45**	⇑Pdiff		Pdif		01 56 01.7	+0.8
	baz=99								
Z20A	**Nine Sixteen R**	**98.91**	**58**	⇑Pdiff		Pdif		01 56 02.3	+1.0
	baz=99								
D19A	**Cripps Ranch,**	**98.92**	**43**	⇑Pdiff		Pdif		01 56 01.5	+0.5
	baz=99								
220A	**Playas Peak, P**	**98.92**	**59**	⇑Pdiff		Pdif		01 56 02.4	+1.0
	baz=99								
K19A	**Absolon Red Bu**	**98.92**	**48**	⇓Pdiff		Pdif		01 56 01.3	0.0
	baz=99								
ARU	**Arti**	**98.93**	**326**	*d iP*		Pdif		01 56 01.0	+0.4
ARU								02 00 02.8	
ARU				S		**SKSac**		**02 06 32.5**	**-3.1**
ARU				SP		**SP**		**02 08 49.3**	**-4.0**
ARU				pmax		pmax			
	comp=Z,31nm,1.7s								
E19A	**Rath Farm, Rou**	**98.99**	**44**	⇓Pdiff		Pdif		01 56 01.9	+0.6
	baz=99								
A19A	**Klindworth Far**	**99.00**	**42**	⇓Pdiff		**Pdif**		**01 56 01.7**	**+0.5**
	baz=99								
IKRD	**Kardeh**	**99.02**	**306**	*eP*		**Pdif**		**01 55 57.5**	**-4.3**
X20A	**Quemado**	**99.03**	**56**	⇑Pdiff		**Pdif**		**01 56 04.0**	**+2.0**
	baz=99								
W20A	**Ramah**	**99.05**	**56**	⇓Pdiff		**Pdif**		**01 56 03.7**	**+1.7**
	baz=99								
PV01	**Paradox Valley**	**99.06**	**53**	*eP*		**Pdif**		**01 56 02.5**	**+0.5**
U20A	**Newcomb**	**99.06**	**54**	⇑Pdiff		**Pdif**		**01 56 03.6**	**+1.7**
	baz=99								
V20A	**Brimhall**	**99.09**	**55**	⇑Pdiff		**Pdif**		**01 56 03.6**	**+1.5**
	baz=99								
MVCO	**Mesa Verde**	**99.10**	**53**	*eP*		**Pdif**		**01 56 03.3**	**+1.1**
	comp=Z,20nm,0.7s								
MVCO				LR		LR			
	comp=Z,3µm,22.0s								
MVCO	**Mesa Verde**	**99.10**	**53**	⇑Pdiff		**Pdif**		**01 56 03.7**	**+1.5**
	baz=99								
R20A	**Redvale**	**99.22**	**52**	⇑Pdiff		**Pdif**		**01 56 03.8**	**+1.1**
	baz=99								
S20A	**Disappointment**	**99.22**	**53**	⇓Pdiff		**Pdif**		**01 56 03.8**	**+1.1**
	baz=99								
P20A	**De Beque**	**99.23**	**51**	⇓Pdiff		**Pdif**		**01 56 03.7**	**+1.1**
	baz=99								
L20A	**Wamsutter**	**99.29**	**49**	⇑Pdiff		**Pdif**		**01 56 03.5**	**+0.6**
	baz=99								
Q20A	**Ridgley Place,**	**99.29**	**52**	⇓Pdiff		**Pdif**		**01 56 03.8**	**+0.8**
	baz=99								
K20A	**Yellowstone Ra**	**99.30**	**48**	⇑Pdiff		**Pdif**		**01 56 02.9**	**+0.1**
	baz=99								
N20A	**Spence Gulch,**	**99.34**	**50**	⇓Pdiff		**Pdif**		**01 56 03.7**	**+0.6**
	baz=99								
O20A	**White River Ci**	**99.35**	**50**	⇓Pdiff		**Pdif**		**01 56 04.1**	**+1.0**
	baz=99								
G20A	**Bridger**	**99.39**	**45**	⇓Pdiff		**Pdif**		**01 56 04.1**	**+0.9**
	baz=99								
M20A	**Sweetwater, Wa**	**99.40**	**49**	⇓Pdiff		**Pdif**		**01 56 04.4**	**+1.0**
	baz=99								
AKTO	**Aktyubinsk**	**99.41**	**320**		PKKPbc	PKKPbc		02 12 24.9	-3.2
AKTO	**Aktyubinsk**	**99.41**	**320**		PKKPbc	PKKPbc		02 12 24.9	-3.2
	comp=Z,23nm,0.9s,baz=225,slow=6.6,SNR=7.1								
D20A	**Manuel Ranch,**	**99.43**	**43**	⇓Pdiff		**Pdif**		**01 56 03.5**	**+0.3**
	baz=99								
F20A	**Billings**	**99.43**	**45**	⇓Pdiff		**Pdif**		**01 56 03.8**	**+0.5**
	baz=99								
ISFR	**Sfrayin**	**99.43**	**306**	*eP*		**Pdif**		**01 56 04.0**	**+0.3**
E20A	**Meyer Farm, Mu**	**99.44**	**44**	⇓Pdiff		**Pdif**		**01 56 03.9**	**+0.7**
	baz=99								
I20A	**Worland**	**99.45**	**47**	⇑Pdiff		**Pdif**		**01 56 03.7**	**+0.3**
	baz=100								
J20A	**Shoshoni**	**99.49**	**47**	⇓Pdiff		**Pdif**		**01 56 04.0**	**+0.4**
	baz=100								
B20A	**Solberg Farm,**	**99.49**	**42**	⇑Pdiff		**Pdif**		**01 56 04.0**	**+0.6**
	baz=100								
C20A	**Veseth Ranch,**	**99.51**	**43**	⇓Pdiff		**Pdif**		**01 56 03.7**	**+0.2**
	baz=100								
H20A	**Greybull**	**99.54**	**46**	⇑Pdiff		**Pdif**		**01 56 04.0**	**+0.2**
	baz=100								
A20A	**Cobblestone Ra**	**99.55**	**42**	⇑Pdiff		**Pdif**		**01 56 04.0**	**+0.4**
	baz=100								
121A	**Cookes Peak, D**	**99.57**	**58**	⇑Pdiff		**Pdif**		**01 56 05.2**	**+0.9**
	baz=100								
X21A	**Alamocita Cree**	**99.62**	**56**	⇑Pdiff		**Pdif**		**01 56 06.1**	**+1.5**
	baz=100								
S21A	**Coal Bank Pass**	**99.67**	**53**	⇓Pdiff		**Pdif**		**01 56 06.1**	**+1.3**
	baz=100								
Z21A	**St. Cloud Mine**	**99.69**	**57**	⇓Pdiff		**Pdif**		**01 56 06.6**	**+1.8**
	baz=100								
W21A	**San Fidel**	**99.75**	**56**	⇑Pdiff		**Pdif**		**01 56 06.8**	**+1.7**
	baz=100								
U21A	**Nageezi**	**99.76**	**54**	⇓Pdiff		**Pdif**		**01 56 07.0**	**+1.8**
	baz=100								
V21A	**Milan**	**99.77**	**55**	⇑Pdiff		**Pdif**		**01 56 07.1**	**+1.9**
	baz=100								
Q21A	**Lamborn Mesa,**	**99.86**	**52**	⇓Pdiff		**Pdif**		**01 56 07.0**	**+1.5**
	baz=100								
T21A	**Navajo Lake**	**99.87**	**54**	⇑Pdiff		**Pdif**		**01 56 07.1**	**+1.5**
	baz=100								
R21A	**Cimarron**	**99.87**	**52**	⇓Pdiff		**Pdif**		**01 56 06.9**	**+1.3**
	baz=100								
N21A	**Black Mountain**	**99.91**	**50**	⇑Pdiff		**Pdif**		**01 56 06.5**	**+0.8**
	baz=100								
O21A	**Pagoda**	**99.94**	**50**	⇑Pdiff		**Pdif**		**01 56 06.6**	**+0.8**
	baz=100								
J21A	**Lysite**	**99.95**	**47**	⇑Pdiff		**Pdif**		**01 56 06.3**	**+0.5**
	baz=100								
P21A	**Newcastle**	**99.96**	**51**	⇓Pdiff		**Pdif**		**01 56 07.0**	**+1.0**
	baz=100								
L21A	**Rawlins**	**100.02**	**49**	⇑Pdiff		**Pdif**		**01 56 06.1**	**0.0**
	baz=100								
M21A	**Separation Pea**	**100.02**	**49**	⇑Pdiff		**Pdif**		**01 56 06.2**	**+0.1**
	baz=100								
I21A	**Big Trails, Te**	**100.06**	**47**	⇑Pdiff		**Pdif**		**01 56 06.5**	**+0.3**
	baz=100								
G21A	**Lodge Grass**	**100.10**	**45**	⇑Pdiff		**Pdif**		**01 56 07.2**	**+0.9**
	baz=100								
K21A	**Alcova**	**100.10**	**48**	⇓Pdiff		**Pdif**		**01 56 07.0**	**+0.5**
	baz=100								
C21A	**Desert Coulee**	**100.12**	**43**	⇓Pdiff		**Pdif**		**01 56 06.4**	**+0.2**
	baz=100								
RWWY	**Rawlins**	**100.14**	**49**	*e*Pdif		**Pdif**		**01 56 06.3**	**-0.4**
	comp=Z,60nm,1.0s								
F21A	**Absaloka Mine,**	**100.15**	**45**	⇑Pdiff		**Pdif**		**01 56 07.2**	**+0.7**
	baz=100								
LAZ	**Ladron**	**100.15**	**56**	*e*Pdif		**Pdif**		**01 56 08.8**	**+1.9**
	comp=Z,3.1nm,0.8s								
B21A	**Ellsworth Farm**	**100.16**	**42**	⇑Pdiff		**Pdif**		**01 56 06.8**	**+0.5**
	baz=100								
E21A	**Keefer Ranch,**	**100.17**	**44**	⇓Pdiff		**Pdif**		**01 56 07.1**	**+0.7**
	baz=100								
A21A	**Bergtoll Ranch**	**100.20**	**41**	⇓Pdiff		**Pdif**		**01 56 07.2**	**+0.6**
	baz=100								
D21A	**La Casta Ranch**	**100.21**	**43**	⇑Pdiff		**Pdif**		**01 56 07.1**	**+0.4**
	baz=100								
H21A	**Big Horn, Sher**	**100.23**	**46**	⇓Pdiff		**Pdif**		**01 56 07.3**	**+0.4**
	baz=100								
Z22A	**Elephant Butte**	**100.28**	**57**	⇓Pdiff		**Pdif**		**01 56 09.0**	**+1.6**
	baz=100								
LENM	**Lemitar**	**100.28**	**57**	*e*Pdif		**Pdif**		**01 56 10.3**	**+2.9**
	comp=Z,4.4nm,0.9s								
SMCO	**Snowmass**	**100.32**	**51**	*e*Pdif		**Pdif**		**01 56 08.8**	**+1.0**
	comp=Z,43nm,1.0s								
Q22A	**Crested Butte,**	**100.37**	**52**	⇓Pdiff		**Pdif**		**01 56 09.5**	**+1.6**
	baz=100								
T22A	**Edith**	**100.37**	**54**	⇓Pdiff		**Pdif**		**01 56 09.2**	**+1.3**
	baz=100								
U22A	**Llaves**	**100.41**	**54**	⇓Pdiff		**Pdif**		**01 56 09.7**	**+1.7**
	baz=100								
S22A	**4UR Ranch, Cre**	**100.44**	**53**	⇑Pdiff		**Pdif**		**01 56 09.7**	**+1.5**
	baz=100								
P22A	**Eagle**	**100.49**	**51**	⇓Pdiff		**Pdif**		**01 56 09.8**	**+1.5**
	baz=100								
R22A	**Saguache, Gunn**	**100.49**	**52**	⇓Pdiff		**Pdif**		**01 56 10.0**	**+1.5**
	baz=100								
BNM	**Barren Site**	**100.57**	**57**	*e*Pdif		**Pdif**		**01 56 10.7**	**+1.9**
M22A	**Cedar Creek Ra**	**100.60**	**49**	⇓Pdiff		**Pdif**		**01 56 09.2**	**+0.4**
	baz=101								
SNAA	**Sanae**	**100.62**	**187**	*e*P		**Pdif**		**01 56 08.1**	**+0.1**
SNAA	**Sanae**	**100.62**	**187**	*e*Pdif		**Pdif**		**01 56 06.9**	**-1.1**
	comp=Z,7.6nm,1.0s								
SNAA				PP		**PP**		**02 00 14.8**	**+0.1**
SNAA				PKiKP		**PKiKP**		**02 00 34.7**	**+0.6**
SNAA				PKKPbc		**PKKPbc**		**02 12 22.8**	**-2.3**
SNAA	**Sanae**	**100.62**	**187**	P		**Pdif**		**01 56 07.8**	**-0.2**
	comp=Z,1.4nm,0.9s,baz=189,slow=1.6,SNR=9.5								
SNAA				PP		**PP**		**02 00 14.8**	**+0.1**
	comp=Z,1.8nm,1.1s,baz=193,slow=10.0,SNR=4.1								
SNAA				PKiKP		**PKiKP**		**02 00 34.7**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=212,slow=4.2,SNR=6.4								
SNAA				PKKPbc		**PKKPbc**		**02 12 22.8**	**-2.3**
	comp=Z,1.0nm,0.6s,baz=317,slow=2.7,SNR=12								
K22A	**Casper**	**100.64**	**48**	⇓Pdiff		**Pdif**		**01 56 09.3**	**+0.5**
	baz=101								
I22A	**9 Mile Ranch,**	**100.64**	**47**	⇓Pdiff		**Pdif**		**01 56 09.4**	**+0.6**
	baz=101								
O22A	**Kremmling**	**100.65**	**50**	⇑Pdiff		**Pdif**		**01 56 09.9**	**+0.8**
	baz=101								
J22A	**Midwest**	**100.66**	**47**	⇑Pdiff		**Pdif**		**01 56 08.7**	**-0.2**
	baz=101								
L22A	**Ellis Ranch, M**	**100.71**	**49**	⇑Pdiff		**Pdif**		**01 56 10.4**	**+1.2**
	baz=101								
N22A	**Wattenberg Ran**	**100.71**	**50**	⇑Pdiff		**Pdif**		**01 56 10.1**	**+0.7**
	baz=101								
H22A	**Clearmont**	**100.72**	**46**	⇓Pdiff		**Pdif**		**01 56 10.0**	**+0.9**
	baz=101								
ANMO	**Albuquerque**	**100.72**	**56**	*e*Pdif		**Pdif**		**01 56 11.0**	**+1.6**
	comp=Z,6.5nm,0.8s								
ANMO				LR		LR			
	comp=Z,3µm,20.0s								
G22A	**Birney**	**100.75**	**45**	⇓Pdiff		**Pdif**		**01 56 09.8**	**+0.7**
	baz=101								
F22A	**Rosebud**	**100.75**	**45**	⇓Pdiff		**Pdif**		**01 56 09.6**	**+0.5**
	baz=101								
D22A	**Cohagen**	**100.76**	**43**	⇓Pdiff		**Pdif**		**01 56 09.5**	**+0.4**
	baz=101								
B22A	**Reddig Ranch S**	**100.84**	**42**	⇑Pdiff		**Pdif**		**01 56 09.8**	**+0.3**
	baz=101								
A22A	**Carney Farms,**	**100.87**	**41**	⇑Pdiff		**Pdif**		**01 56 09.4**	**-0.2**
	baz=101								
C22A	**Vida**	**100.94**	**43**	⇑Pdiff		**Pdif**		**01 56 09.9**	**+0.1**
	baz=101								
U23A	**El Rito**	**100.94**	**54**	⇑Pdiff		**Pdif**		**01 56 11.9**	**+1.5**
	baz=101								
E22A	**Miles City**	**100.95**	**44**	⇑Pdiff		**Pdif**		**01 56 10.8**	**+0.9**
	baz=101								
V23A	**Ortiz Mt. (NFS**	**100.95**	**55**	⇑Pdiff		**Pdif**		**01 56 12.3**	**+1.9**
	baz=101								
W23A	**Werner Place,**	**100.97**	**56**	⇓Pdiff		**Pdif**		**01 56 12.5**	**+1.9**
	baz=101								
Y23A	**Lovelace Mesa,**	**101.05**	**57**	⇓Pdiff		**Pdif**		**01 56 12.5**	**+1.7**
	baz=101								
T23A	**Casias Ranch,**	**101.07**	**54**	⇑Pdiff		**Pdif**		**01 56 12.7**	**+1.8**
	baz=101								
S23A	**Nye Farm, Mont**	**101.09**	**53**	⇓Pdiff		**Pdif**		**01 56 12.5**	**+1.4**
	baz=101								
N23A	**Red Feather La**	**101.10**	**50**	⇑Pdiff		**Pdif**		**01 56 12.5**	**+1.5**
	baz=101								
O23A	**Lake Granby, G**	**101.13**	**50**	⇑Pdiff		**Pdif**		**01 56 12.6**	**+1.4**
	baz=101								
P23A	**Jefferson**	**101.20**	**51**	⇑Pdiff		**Pdif**		**01 56 13.1**	**+1.5**
	baz=101								
R23A	**Moffat**	**101.23**	**52**	⇑Pdiff		**Pdif**		**01 56 13.1**	**+1.4**
	baz=101								
L23A	**Garrett**	**101.26**	**48**	⇑Pdiff		**Pdif**		**01 56 12.3**	**+0.7**
	baz=101								
K23A	**Bowen Ranch, D**	**101.30**	**48**	⇓Pdiff		**Pdif**		**01 56 12.5**	**+0.8**
	baz=101								
J23A	**Dilts Ranch, B**	**101.33**	**47**	⇑Pdiff		**Pdif**		**01 56 12.5**	**+0.7**
	baz=101								
F23A	**Volborg**	**101.35**	**45**	⇓Pdiff		**Pdif**		**01 56 12.8**	**+1.0**
	baz=101								
ISCO	**Idaho Springs**	**101.37**	**51**	*eP*		**Pdif**		**01 56 13.3**	**+1.0**
ISCO				pmax		pmax			
	comp=Z,9.0nm,0.8s								
ISCO				MLR		MLR			
	comp=Z,3µm,20.0s								
ISCO	**Idaho Springs**	**101.37**	**51**	*e*Pdif		**Pdif**		**01 56 13.3**	**+1.0**
	comp=Z,9.4nm,0.8s								
ISCO				LR		LR			
	comp=Z,3µm,20.0s								
ISCO	**Idaho Springs**	**101.37**	**51**	⇑Pdiff		**Pdif**		**01 56 13.5**	**+1.1**
	baz=101								
G23A	**Biddle**	**101.38**	**45**	⇑Pdiff		**Pdif**		**01 56 13.0**	**+1.1**
	baz=101								
E23A	**Ismay**	**101.39**	**44**	⇑Pdiff		**Pdif**		**01 56 13.0**	**+1.1**
	baz=101								
C23A	**Lambert**	**101.41**	**43**	⇓Pdiff		**Pdif**		**01 56 13.0**	**+1.1**
	baz=101								
D23A	**Lindsay**	**101.43**	**43**	⇓Pdiff		**Pdif**		**01 56 13.2**	**+1.1**
	baz=101								
PHWY	**Pilot Hill**	**101.46**	**49**	*e*Pdif		**Pdif**		**01 56 13.3**	**+0.6**
	comp=Z,6.9nm,0.8s								
SDCO	**Great Sand Dun**	**101.49**	**53**	*e*Pdif		**Pdif**		**01 56 14.1**	**+1.2**
	comp=Z,6.1nm,0.7s								
SDCO				LR		LR			
	comp=Z,3µm,20.0s								
B23A	**Brockton**	**101.50**	**42**	⇓Pdiff		**Pdif**		**01 56 13.2**	**+0.8**
	baz=102								
A23A	**Redstone**	**101.55**	**41**	⇑Pdiff		**Pdif**		**01 56 13.4**	**+0.8**
	baz=102								
Y24A	**Capitan**	**101.56**	**57**	⇑Pdiff		**Pdif**		**01 56 14.2**	**+1.0**
	baz=102								
W24A	**Lazy 6 Ranch,**	**101.58**	**55**	⇓Pdiff		**Pdif**		**01 56 14.7**	**+1.4**
	baz=102								
MNTX	**Cornudas Mount**	**101.59**	**59**	*e*Pdif		**Pdif**		**01 56 15.5**	**+2.4**
	comp=Z,3.6nm,0.8s								
MNTX				LR		LR			
	comp=Z,5µm,22.0s								
U24A	**Moreno Valley**	**101.68**	**54**	⇑Pdiff		**Pdif**		**01 56 15.2**	**+1.5**
	baz=102								
V24A	**Rampart Ranch,**	**101.69**	**55**	⇑Pdiff		**Pdif**		**01 56 15.5**	**+1.8**
	baz=102								
S24A	**Houchin Ranch,**	**101.72**	**53**	⇑Pdiff		**Pdif**		**01 56 15.8**	**+1.8**
	baz=102								
Q24A	**Divide**	**101.75**	**52**	⇑Pdiff		**Pdif**		**01 56 15.5**	**+1.5**
	baz=102								
O24A	**Longmont**	**101.78**	**50**	⇓Pdiff		**Pdif**		**01 56 15.3**	**+1.3**
	baz=102								
R24A	**Sanders Place,**	**101.79**	**52**	⇑Pdiff		**Pdif**		**01 56 15.7**	**+1.6**
	baz=102								
K24A	**Anderson Ranch**	**101.89**	**48**	⇓Pdiff		**Pdif**		**01 56 15.5**	**+1.1**
	baz=102								
N24A	**Carr**	**101.91**	**50**	⇓Pdiff		**Pdif**		**01 56 16.0**	**+1.5**
	baz=102								
P24A	**Kohler Place,**	**101.92**	**51**	⇓Pdiff		**Pdif**		**01 56 15.9**	**+1.3**
	baz=102								
M24A	**Cheyenne**	**101.93**	**49**	⇑Pdiff		**Pdif**		**01 56 15.6**	**+1.0**
	baz=102								
C24A	**Savage**	**101.94**	**43**	⇓Pdiff		**Pdif**		**01 56 15.2**	**+0.9**
	baz=102								
J24A	**Dixon Ranch, L**	**101.98**	**47**	⇓Pdiff		**Pdif**		**01 56 15.0**	**+0.3**
	baz=102								
I24A	**Kuemmerle Ranc**	**101.99**	**47**	⇓Pdiff		**Pdif**		**01 56 15.2**	**+0.5**
	baz=102								
H24A	**Dirks Ranch, A**	**102.00**	**46**	⇑Pdiff		**Pdif**		**01 56 15.2**	**+0.5**
	baz=102								
F24A	**Ekalaka**	**102.02**	**45**	⇑Pdiff		**Pdif**		**01 56 15.3**	**+0.6**
	baz=102								
D24A	**Glendive**	**102.03**	**43**	⇑Pdiff		**Pdif**		**01 56 15.5**	**+0.8**
	baz=102								
DGMT	**Dagmar**	**102.03**	**42**	*e*Pdif		**Pdif**		**01 56 14.5**	**-0.2**
	comp=Z,54nm,0.9s								
DGMT				LR		LR			
	comp=Z,6µm,22.0s								
DGMT	**Dagmar**	**102.03**	**42**	⇑Pdiff		**Pdif**		**01 56 15.3**	**+0.6**
	baz=102								
G24A	**Alzada**	**102.07**	**45**	⇑Pdiff		**Pdif**		**01 56 15.3**	**+0.3**
	baz=102								
E24A	**Baker**	**102.07**	**44**	⇑Pdiff		**Pdif**		**01 56 15.6**	**+0.6**
	baz=102								
A24A	**Westby**	**102.13**	**41**	⇑Pdiff		**Pdif**		**01 56 15.6**	**+0.4**
	baz=102								
V25A	**Rancho No Teng**	**102.22**	**55**	⇓Pdiff		**Pdif**		**01 56 17.4**	**+1.3**
	baz=102								
S25A	**Robets Cordova**	**102.33**	**53**	⇑Pdiff		**Pdif**		**01 56 18.1**	**+1.6**
	baz=102								
W25A	**X Bar L Ranch,**	**102.36**	**55**	⇑Pdiff		**Pdif**		**01 56 18.0**	**+1.4**
	baz=102								
ICHK	**Chekchek**	**102.36**	**301**	*eP*		**Pdif**		**01 56 25.8**	**+9.0**
T25A	**Trinidad**	**102.37**	**54**	⇓Pdiff		**Pdif**		**01 56 18.1**	**+1.4**
	baz=102								
U25A	**Circle Dot Ran**	**102.38**	**54**	⇑Pdiff		**Pdif**		**01 56 18.2**	**+1.4**
	baz=102								
RSSD	**Black Hills**	**102.40**	**46**	*eP*		**Pdif**		**01 56 16.5**	**-0.2**
RSSD	**Black Hills**	**102.40**	**46**	*e*Pdif		**Pdif**		**01 56 16.5**	**-0.2**
R25A	**Fountain Ranch**	**102.44**	**52**	⇓Pdiff		**Pdif**		**01 56 18.5**	**+1.5**
	baz=102								
Q25A	**Bedland, Calha**	**102.45**	**52**	⇓Pdiff		**Pdif**		**01 56 18.2**	**+1.2**
	baz=102								
P25A	**Willow Gulch B**	**102.49**	**51**	⇓Pdiff		**Pdif**		**01 56 18.1**	**+0.9**
	baz=102								
M25A	**Palm-Egli Farm**	**102.51**	**49**	⇓Pdiff		**Pdif**		**01 56 18.4**	**+1.2**
	baz=102								
O25A	**Wiggins**	**102.51**	**50**	⇓Pdiff		**Pdif**		**01 56 18.1**	**+1.0**
	baz=102								
L25A	**Engebretsen Ra**	**102.55**	**48**	⇑Pdiff		**Pdif**		**01 56 18.0**	**+0.8**
	baz=102								
K25A	**Mack Ranch, Ha**	**102.59**	**48**	⇓Pdiff		**Pdif**		**01 56 18.3**	**+0.8**
	baz=103								
J25A	**Sunshine Ranch**	**102.61**	**47**	⇑Pdiff		**Pdif**		**01 56 17.8**	**+0.3**
	baz=103								
I25A	**Rochford**	**102.62**	**46**	⇑Pdiff		**Pdif**		**01 56 17.9**	**+0.2**
	baz=103								
626A	**Big Bend Ranch**	**102.65**	**61**	⇑Pdiff		**Pdif**		**01 56 19.8**	**+1.8**
	baz=103								
H25A	**Fruitdale**	**102.69**	**46**	⇓Pdiff		**Pdif**		**01 56 18.6**	**+0.9**
	baz=103								
E25A	**Miller Ranch,**	**102.70**	**44**	⇑Pdiff		**Pdif**		**01 56 18.7**	**+1.0**
	baz=103								
G25A	**Newell**	**102.78**	**45**	⇓Pdiff		**Pdif**		**01 56 18.7**	**+0.6**
	baz=103								
Z26A	**Caprock**	**102.78**	**57**	⇓Pdiff		**Pdif**		**01 56 19.8**	**+1.4**
	baz=103								
IGLO	**Ghaloghah**	**102.78**	**306**	*eP*		**Pdif**		**01 56 11.5**	**-7.1**
FFC	**Flin Flon**	**102.83**	**35**	*eP*		**Pdif**		**01 56 18.5**	**+0.5**
FFC				MLR		MLR			
	comp=Z,3µm,20.0s								
FFC	**Flin Flon**	**102.83**	**35**	*e*Pdif		**Pdif**		**01 56 18.4**	**+0.5**
FFC				LR		LR			
	comp=Z,3µm,20.0s								
V26A	**Tequesquite Ra**	**102.90**	**55**	⇑Pdiff		**Pdif**		**01 56 20.2**	**+1.2**
	baz=103								
Y26A	**Elida**	**102.90**	**57**	⇓Pdiff		**Pdif**		**01 56 20.4**	**+1.3**
	baz=103								
U26A	**Atchley Ranch,**	**102.92**	**54**	⇓Pdiff		**Pdif**		**01 56 20.9**	**+1.8**
	baz=103								
Q26A	**Hugo**	**103.02**	**52**	⇑Pdiff		**Pdif**		**01 56 21.1**	**+1.7**
	baz=103								
T26A	**Comanche Natio**	**103.02**	**53**	⇑Pdiff		**Pdif**		**01 56 21.1**	**+1.6**
	baz=103								
TXAR	**Lajitas Array**	**103.06**	**61**	Pdif		**Pdif**		**01 56 22.5**	**+2.7**
TXAR				PP		**PP**		**02 00 32.2**	**-2.7**
TXAR				PKiKP		**PKiKP**		**02 00 39.9**	**+0.2**
TXAR				PKKPbc		**PKKPbc**		**02 12 13.9**	**-2.9**
TXAR				P'P'				02 20 35.9	
TXAR	**Lajitas Array**	**103.06**	**61**	Pdiff		**Pdif**		**01 56 22.5**	**+2.7**
	comp=Z,2.1nm,0.7s,baz=258,slow=3.8,SNR=18								
TXAR				PP		**PP**		**02 00 32.2**	**-2.7**
	comp=Z,2.5nm,1.0s,baz=251,slow=7.2,SNR

S29A	**Ulysses**	**104.97**	**53**	⇓Pdiff	**Pdif**	**01 56 29.9**	**+1.8**
	baz=105						
S29A				⇓PKiKP	**PKiKP**	**02 00 43.2**	**+0.3**
	baz=105						
S29A				⇓PKiKP	**PKiKP**	**02 00 43.2**	**+0.3**
	baz=105						
S29A				⇓PKiKP	**PKiKP**	**02 00 43.2**	**+0.3**
	baz=105						
Q29A	**Oakley**	**105.00**	**52**	⇓Pdiff	**Pdif**	**01 56 29.9**	**+1.7**
	baz=105						
M29A	**Burnside Ranch**	**105.03**	**49**	⇓PKiKP	**PKiKP**	**02 00 42.8**	**-0.1**
	baz=105						
O29A	**4D Ranch, Culb**	**105.05**	**50**	⇑PKiKP	**PKiKP**	**02 00 43.0**	**0.0**
	baz=105						
530A	**J-C Ranch, Com**	**105.08**	**61**	⇑PKiKP	**PKiKP**	**02 00 43.2**	**-0.1**
	baz=105						
N29A	**Votaw Ranch, W**	**105.13**	**50**	⇑PKiKP	**PKiKP**	**02 00 43.1**	**0.0**
	baz=105						
L29A	**Maesberg Ranch**	**105.14**	**48**	⇑PKiKP	**PKiKP**	**02 00 43.0**	**-0.1**
	baz=105						
430A	**Baggett Ranch,**	**105.15**	**60**	⇑PKiKP	**PKiKP**	**02 00 43.5**	**+0.1**
	baz=105						
MDND	**Maddock**	**105.15**	**42**	⇑PKiKP	**PKiKP**	**02 00 42.6**	**-0.2**
	baz=105						
Z30A	**Sanderson Ranc**	**105.17**	**57**	⇓PKiKP	**PKiKP**	**02 00 43.3**	**-0.1**
	baz=105						
330A	**Mertzon**	**105.19**	**59**	⇑PKiKP	**PKiKP**	**02 00 43.2**	**-0.3**
	baz=105						
K29A	**Lazy Trails An**	**105.20**	**48**	⇑PKiKP	**PKiKP**	**02 00 43.2**	**+0.1**
	baz=105						
230A	**Sterling City**	**105.23**	**59**	⇑PKiKP	**PKiKP**	**02 00 43.2**	**-0.4**
	baz=105						
SPA0	**Spitsbergen Ar**	**105.30**	**352**	*e*P	**PKiKP**	**02 00 45.1**	**+2.8**
SPITS	**Spitsbergen Ar**	**105.30**	**352**	Pdif	**Pdif**	**01 56 30.8**	**+2.2**
SPITS				PKiKP	**PKiKP**	**02 00 45.1**	**+2.8**
SPITS				PKKPbc	**PKKPbc**	**02 12 09.1**	**-2.3**
SPITS	**Spitsbergen Ar**	**105.30**	**352**	Pdif	**Pdif**	**01 56 30.8**	**+2.2**
	comp=Z,3.7nm,0.5s,baz=97,slow=6.8,SNR=13						
SPITS				PKiKP	**PKiKP**	**02 00 45.1**	**+2.8**
	comp=Z,1.5nm,0.4s,baz=117,slow=5.1,SNR=8.5						
SPITS				PKKPbc	**PKKPbc**	**02 12 09.1**	**-2.3**
	comp=Z,6.9nm,0.8s,baz=157,slow=2.4,SNR=5.5						
KBS	**Kingsbay**	**105.30**	**353**	PFAKE		02 00 50.0	
KBS				LR	LR		
	comp=Z,2μm,20.0s						
IPIR	**Pirpir**	**105.32**	**302**	*e*P	**PKiKP**	**01 56 30.1**	**+0.1**
130A	**Snyder**	**105.33**	**58**	⇓PKiKP	**PKiKP**	**02 00 43.5**	**-0.2**
	baz=105						
X30A	**Coker Ranch, T**	**105.33**	**56**	⇑PKiKP	**PKiKP**	**02 00 43.6**	**0.0**
	baz=105						
Y30A	**Stafford Cattl**	**105.33**	**57**	⇓PKiKP	**PKiKP**	**02 00 43.6**	**-0.1**
	baz=105						
U30A	**WK&E Inc. Balk**	**105.40**	**54**	⇓PKiKP	**PKiKP**	**02 00 43.9**	**+0.1**
	baz=105						
V30A	**Spur Ranch, Mi**	**105.42**	**55**	⇑PKiKP	**PKiKP**	**02 00 43.9**	**+0.1**
	baz=105						
T30A	**Plains**	**105.47**	**53**	⇓PKiKP	**PKiKP**	**02 00 44.0**	**+0.2**
	baz=106						
S30A	**Montezuma**	**105.48**	**53**	⇓PKiKP	**PKiKP**	**02 00 44.1**	**+0.3**
	baz=106						
P30A	**Selden**	**105.52**	**51**	⇓PKiKP	**PKiKP**	**02 00 44.0**	**+0.1**
	baz=106						
Q30A	**Quinter**	**105.58**	**51**	⇓PKiKP	**PKiKP**	**02 00 43.7**	**-0.3**
	baz=106						
R30A	**Dighton**	**105.59**	**52**	⇓PKiKP	**PKiKP**	**02 00 44.0**	**-0.1**
	baz=106						
O30A	**MW Ranch, Wils**	**105.61**	**50**	⇓PKiKP	**PKiKP**	**02 00 44.4**	**+0.4**
	baz=106						
431A	**Sonora**	**105.69**	**60**	⇓PKiKP	**PKiKP**	**02 00 44.3**	**-0.1**
	baz=106						
631A	**Perdido Creek**	**105.76**	**61**	⇑PKiKP	**PKiKP**	**02 00 44.4**	**-0.1**
	baz=106						
531A	**Rocksprings**	**105.76**	**61**	⇓PKiKP	**PKiKP**	**02 00 44.4**	**-0.1**
	baz=106						
131A	**Roby**	**105.81**	**58**	⇑PKiKP	**PKiKP**	**02 00 44.6**	**+0.1**
	baz=106						
331A	**San Angelo**	**105.83**	**59**	⇑PKiKP	**PKiKP**	**02 00 44.8**	**+0.1**
	baz=106						
Y31A	**Rekieta Farm,**	**105.86**	**57**	⇓PKiKP	**PKiKP**	**02 00 44.7**	**+0.1**
	baz=106						
231A	**Bronte**	**105.90**	**59**	⇑PKiKP	**PKiKP**	**02 00 44.8**	**0.0**
	baz=106						
Z31A	**Sharp Cattle R**	**105.99**	**57**	⇑PKiKP	**PKiKP**	**02 00 45.2**	**+0.3**
	baz=106						
BRSD	**Miller**	**106.01**	**46**	⇑PKiKP	**PKiKP**	**02 00 44.6**	**+0.1**
	baz=106						
W31A	**Holland Ranch,**	**106.06**	**55**	⇓PKiKP	**PKiKP**	**02 00 45.2**	**+0.2**
	baz=106						
V31A	**Spring Creek L**	**106.10**	**55**	⇑PKiKP	**PKiKP**	**02 00 45.3**	**+0.3**
	baz=106						
T31A	**Randall Ranch,**	**106.15**	**53**	⇑PKiKP	**PKiKP**	**02 00 45.1**	**+0.1**
	baz=106						
R31A	**Burdett**	**106.18**	**52**	⇑PKiKP	**PKiKP**	**02 00 45.3**	**+0.2**
	baz=106						
P31A	**Stockton**	**106.19**	**51**	⇓PKiKP	**PKiKP**	**02 00 44.8**	**-0.3**
	baz=106						
732A	**Laxson Ranch,**	**106.30**	**62**	⇑PKiKP	**PKiKP**	**02 00 45.4**	**-0.1**
	baz=106						
532A	**Rocksprings**	**106.32**	**61**	⇑PKiKP	**PKiKP**	**02 00 45.4**	**-0.2**
	baz=106						
432A	**Menard**	**106.39**	**60**	⇑PKiKP	**PKiKP**	**02 00 45.2**	**-0.5**
	baz=106						
JCT	**Junction City**	**106.40**	**60**	*e*Pdif	**PKiKP**	**02 00 45.7**	**-0.1**
JCT				LR	LR		
	comp=Z,6μm,22.0s						
JCT	**Junction City**	**106.40**	**60**	⇓PKiKP	**PKiKP**	**02 00 45.6**	**-0.1**
	baz=106						
332A	**Millersview**	**106.41**	**59**	⇓PKiKP	**PKiKP**	**02 00 45.7**	**0.0**
	baz=106						
ABTX	**Abilene, Hawle**	**106.44**	**58**	⇓PKiKP	**PKiKP**	**02 00 45.7**	**-0.1**
	baz=106						
632A	**Uvalde**	**106.44**	**61**	⇓PKiKP	**PKiKP**	**02 00 45.9**	**+0.1**
	baz=106						
232A	**Coleman**	**106.47**	**59**	⇓PKiKP	**PKiKP**	**02 00 46.0**	**+0.2**
	baz=106						
Y32A	**R-V Farms, Ver**	**106.54**	**57**	⇑PKiKP	**PKiKP**	**02 00 46.0**	**+0.1**
	baz=106						
Z32A	**Haskell**	**106.55**	**57**	⇓PKiKP	**PKiKP**	**02 00 46.0**	**+0.1**
	baz=106						
BGNE	**Belgrade**	**106.94**	**49**	⇓PKiKP	**PKiKP**	**02 00 46.1**	**-0.3**
	baz=107						
WMOK	**Wichita Mounta**	**107.04**	**56**	*e*P	**Pdif**	**01 56 38.3**	**+1.0**
WMOK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WMOK	**Wichita Mounta**	**107.04**	**56**	*e*Pdif	**Pdif**	**01 56 38.3**	**+1.0**
	comp=Z,2.9nm,0.7s						
WMOK				*e*PKP	**PKiKP**	**02 00 46.6**	**-0.2**
WMOK				LR	LR		
	comp=Z,3μm,19.0s						
ULM	**Lac du Bonnet**	**107.20**	**39**	Pdif	**Pdif**	**01 56 37.4**	**-0.2**
ULM				PKiKP	**PKiKP**	**02 00 45.7**	**-0.8**
ULM	**Lac du Bonnet**	**107.20**	**39**	Pdif	**Pdif**	**01 56 37.4**	**-0.2**
	comp=Z,6.1nm,0.6s,baz=255,slow=4.5,SNR=6.2						
ULM				PKiKP	**PKiKP**	**02 00 45.7**	**-0.8**
	comp=Z,18nm,0.7s,baz=322,slow=3.0,SNR=15						
AGMN	**Agassiz Nation**	**107.56**	**41**	*e*Pdif	**Pdif**	**01 56 38.2**	**-1.0**
AGMN				*e*PKP	**PKiKP**	**02 00 46.0**	**-1.2**
AGMN				LR	LR		
	comp=Z,6μm,21.0s						
APA	**Apatity**	**107.67**	**340**	⇓*i*P	**Pdif**	**01 56 41.0**	**+1.7**
APA				*e*		02 01 08.2	
APA				MLR	MLR		
	comp=Z,3μm,24.0s						
ECSD	**EROS Data Cent**	**107.77**	**46**	*e*Pdif	**Pdif**	**01 56 39.5**	**-0.8**
	comp=Z,5.1nm,0.7s						
ECSD				LR	LR		
	comp=Z,4μm,20.0s						
KVTX	**Kingsville**	**108.17**	**63**	PFAKE		02 01 00.0	
KVTX				LR	LR		
	comp=Z,4μm,20.0s						
WHTX	**Lake Whitney**	**108.33**	**59**	⇑PKiKP	**PKiKP**	**02 00 49.3**	**+0.1**
	baz=108						
KSU1	**Kansas State U**	**108.37**	**51**	*e*Pdif	**Pdif**	**01 56 44.9**	**+1.9**
	comp=Z,9.7nm,0.6s						
KSU1				LR	LR		
	comp=Z,3μm,20.0s						
KEV	**Kevo**	**108.56**	**343**	PFAKE		02 01 00.0	
KEV				LR	LR		
	comp=Z,1μm,22.0s						
RFTA	**Plano**	**108.90**	**57**	*e*PKP	**PKiKP**	**02 00 51.0**	**+0.8**
ARCES	**ARCESS Array B**	**109.12**	**343**	Pdif	**Pdif**	**01 56 48.2**	**+2.5**
ARCES				PKiKP	**PKiKP**	**02 00 49.5**	**-0.1**
ARCES				PKKPbc	**PKKPbc**	**02 11 56.0**	**-3.4**
ARCES	**ARCESS Array B**	**109.12**	**343**	Pdiff	**Pdif**	**01 56 48.2**	**+2.5**
	comp=Z,1.5nm,0.5s,baz=53,slow=4.3,SNR=14						
ARCES				PKiKP	**PKiKP**	**02 00 49.5**	**-0.1**
	comp=Z,3.7nm,0.4s,baz=70,slow=1.3,SNR=16						
ARCES				PKKPbc	**PKKPbc**	**02 11 56.0**	**-3.4**
	comp=Z,8.3nm,0.8s,baz=242,slow=2.6,SNR=14						
ARE0	**ARCESS Array S**	**109.12**	**343**	*e*P	**PKiKP**	**02 00 49.6**	**0.0**
TUL1	**Tulsa**	**109.37**	**54**	⇑PKiKP	**PKiKP**	**02 00 51.0**	**-0.1**
	baz=109						
GNI	**Garni**	**109.61**	**310**	PFAKE		02 01 00.0	
GNI				LR	LR		
	comp=Z,1μm,22.0s						
KTK1	**Kautokeino**	**110.08**	**343**	*e*P	**PKiKP**	**02 00 50.9**	**-0.5**
SPMN	**St. Paul**	**110.21**	**44**	⇑PKiKP	**PKiKP**	**02 00 52.3**	**0.0**
	baz=110						
KBZ	**Khabaz**	**110.37**	**314**	PKiKP	**PKiKP**	**02 00 52.1**	**-0.6**
KBZ						02 01 28.6	
KBZ						02 11 53.6	
KBZ	**Khabaz**	**110.37**	**314**	PKiKP	**PKiKP**	**02 00 52.1**	**-0.6**
KBZ				PP	**PP**	**02 01 28.6**	**+0.6**
KBZ				PKKPbc	**PKKPbc**	**02 11 53.6**	**-0.8**
KBZ	**Khabaz**	**110.37**	**314**	PKiKP	**PKiKP**	**02 00 52.1**	**-0.6**
	comp=Z,3.9nm,0.7s,baz=106,slow=4.9,SNR=7.4						
KBZ				PP	**PP**	**02 01 28.6**	**+0.6**
	comp=Z,6.6nm,1.1s,baz=22,slow=5.4,SNR=3.6						
KBZ				PKKPbc	**PKKPbc**	**02 11 53.6**	**-0.8**
	comp=Z,6.2nm,0.8s,baz=297,slow=2.8,SNR=12						
KIV	**Kislovodsk**	**110.48**	**314**	⇑*i*PKiKP	**PKiKP**	**02 00 51.4**	**-1.6**
KIV				*e*		02 01 30.4	
KIV				*e*		02 07 23.6	
KIV				*e*PS	**PS**	**02 11 00.0**	**+0.3**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KIV				MLR	MLR		
	comp=Z,900nm,17.0s						
EYMN	**Ely**	**110.50**	**41**	*e*PKP	**PKiKP**	**02 00 51.8**	**-1.0**
EYMN				LR	LR		
	comp=Z,7μm,21.0s						
SCIA	**State Center**	**110.53**	**48**	PFAKE		02 01 10.0	
SCIA				LR	LR		
	comp=Z,4μm,21.0s						
JOF	**Joensuu**	**110.62**	**336**	*e*p	**Pdif**	**01 56 50.3**	**-2.2**
	comp=Z,4.9nm,0.8s						
JOF	**Joensuu**	**110.62**	**336**	*e*p	**PKKPbc**	**02 11 50.7**	**-3.6**
	comp=Z,8.5nm,0.6s						
JOF	**Joensuu**	**110.62**	**336**	*e*P	**Pdif**	**01 56 50.3**	**-2.2**
JOF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TRO	**Tromso**	**110.85**	**345**	*e*P	**PKiKP**	**02 00 55.1**	**+2.3**
VORD	**Divnogorie**	**111.06**	**322**	*i* PKiKP	**PKiKP**	**02 00 50.1**	**-3.6**
VORD				pmax	pmax		
	comp=Z,8.0nm,0.6s						
VORD				pmax	pmax		
	comp=N,50nm,0.8s						
VORD				pmax	pmax		
	comp=E,50nm,0.6s						
VORD				MLR	MLR		
	comp=Z,2μm,21.0s						
VORD				MLR	MLR		
	comp=N,520nm,17.0s						
VORD				MLR	MLR		
	comp=E,1μm,17.0s						
VSR	**Storozhevoye**	**111.07**	**323**	*i* PKiKP	**PKiKP**	**02 00 52.6**	**-1.1**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR				pmax	pmax		
	comp=N,6.0nm,0.7s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.8s						
VSR				MLR	MLR		
	comp=Z,2μm,27.0s						
VSR				MLR	MLR		
	comp=N,390nm,14.0s						
VSR				MLR	MLR		
	comp=E,520nm,16.0s						
OBN	**Obninsk**	**111.32**	**327**	*i* PKiKP	**PKiKP**	**02 00 53.5**	**-0.6**
OBN				*e*		02 01 42.1	
OBN				*e*		02 08 01.2	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MIAR	**Mount Ida**	**111.33**	**56**	*e*PKiKP	**PKiKP**	**02 00 54.3**	**-0.5**
MIAR				MLR	MLR		
	comp=Z,4μm,20.0s						
MIAR	**Mount Ida**	**111.33**	**56**	*e*PKP	**PKiKP**	**02 00 54.3**	**-0.5**
MIAR				LR	LR		
	comp=Z,4μm,20.0s						
UALR	**University of**	**112.31**	**55**	*e*PKP	**PKiKP**	**02 00 56.4**	**-0.3**
COWI	**Conover**	**112.51**	**43**	*e*PKP	**PKiKP**	**02 00 56.0**	**-0.7**
COWI				LR	LR		
	comp=Z,4μm,20.0s						
KAF	**Kangasniemi**	**113.03**	**336**	*e*p	**PKKPbc**	**02 11 43.2**	**-3.0**
	comp=Z,11nm,0.6s						
FINES	**FINESS Array B**	**113.48**	**336**	Pdif	**Pdif**	**01 57 08.0**	**+2.8**
FINES				PKiKP	**PKiKP**	**02 00 57.9**	**-0.1**
FINES				PP	**PP**	**02 01 50.0**	**+0.6**
FINES				PKKPbc	**PKKPbc**	**02 11 41.9**	**-2.8**
FINES	**FINESS Array B**	**113.48**	**336**	Pdiff	**Pdif**	**01 57 08.0**	**+2.8**
	comp=Z,1.3nm,0.5s,baz=48,slow=2.8,SNR=14						
FINES				PKiKP	**PKiKP**	**02 00 57.9**	**-0.1**
	comp=Z,4.5nm,0.7s,baz=69,slow=2.2,SNR=16						
FINES				PP	**PP**	**02 01 50.0**	**+0.6**
	comp=Z,5.1nm,0.8s,baz=46,slow=8.2,SNR=4.1						
FINES				PKKPbc	**PKKPbc**	**02 11 41.9**	**-2.8**
	comp=Z,8.9nm,0.6s,baz=214,slow=2.6,SNR=29						
SUMG	**Summit**	**113.49**	**4**	*i* P	**PKKPbc**	**02 11 42.9**	**-2.6**
	comp=Z,5.7nm,0.8s						
HDIL	**Hopedale**	**113.69**	**49**	*e*PKP	**PKiKP**	**02 00 58.7**	**-0.4**
HDIL				LR	LR		
	comp=Z,4μm,20.0s						
ANN	**Anapa**	**113.96**	**316**	*i* PKiKP	PKiKP	02 00 41.6	-18
ANN				*e*		02 07 47.4	
ANN				pmax	pmax		
	comp=Z,51nm,1.4s						
GNAR	**Gosnell**	**114.00**	**54**	*e*PKP	**PKiKP**	**02 00 59.6**	**-0.2**
PARMO	**Parma**	**114.09**	**53**	*e*PKP	PKPdf	02 00 59.5	-0.4
VBMS	**Vicksburg**	**114.16**	**58**	PFAKE		02 01 10.0	+10
VBMS				LR	LR		
	comp=Z,4μm,21.0s						
SIUC	**Southern Illin**	**114.32**	**52**	*e*PKP	PKPdf	02 00 59.8	-0.6
HALT	**Halls**	**114.56**	**54**	*e*PKP	PKPdf	02 00 59.7	-1.1
OXF	**Oxford**	**114.74**	**55**	*e*PKiKP	PKPdf	02 01 00.3	-1.0
OXF				MLR	MLR		
	comp=Z,3μm,20.0s						
OXF	**Oxford**	**114.74**	**55**	*e*PKP	PKPdf	02 01 00.2	-1.0
OXF				LR	LR		
	comp=Z,3μm,20.0s						
MALT	**Malatya**	**114.75**	**309**	PFAKE		02 01 10.0	+8.6
MALT				LR	LR		
	comp=Z,1μm,20.0s						
VSU	**Vasula**	**114.77**	**333**	*c i* PKiKP	PKPdf	02 01 00.0	-0.6
SFIN	**Scholer Farm**	**115.36**	**48**	⇓PKiKP	**PKPdf**	**02 01 02.2**	**-0.1**
	baz=115						
USIN	**University of**	**115.47**	**51**	*e*PKPdf	**PKPdf**	**02 01 02.0**	**-0.6**
EFI	**East Falkland**	**115.51**	**158**	PFAKE		02 01 10.0	+7.7
EFI				LR	LR		
	comp=Z,765nm,21.0s						
WVT	**Waverly**	**115.72**	**53**	*e*PKiKP	**PKPdf**	**02 01 01.7**	**-1.4**
WVT	**Waverly**	**115.72**	**53**	*e*PKPdf	**PKPdf**	**02 01 01.7**	**-1.4**
GLMI	**Grayling**	**115.92**	**43**	PFAKE		02 01 20.0	+17
GLMI				LR	LR		
	comp=Z,4μm,20.0s						
BLO	**Bloomington**	**116.08**	**50**	*e*PKiKP	**PKPdf**	**02 01 03.0**	**-0.7**
BLO	**Bloomington**	**116.08**	**50**	*e*PKPdf	**PKPdf**	**02 01 03.0**	**-0.7**
WCI	**Wyandotte Cave**	**116.47**	**50**	*e*PKiKP	**PKPdf**	**02 01 03.6**	**-1.0**
WCI	**Wyandotte Cave**	**116.47**	**50**	*e*PKPdf	**PKPdf**	**02 01 03.6**	**-1.0**
NACGM	**Naroch**	**116.53**	**330**	*e*	**PS**	**02 11 52.0**	**-2.3**
LRAL	**Lakeview Retre**	**116.97**	**56**	*e*PKPdf	**PKPdf**	**02 01 04.6**	**-1.0**
LRAL				LR	LR		
	comp=Z,3μm,21.0s						
SFJD	**Kangerlussuaq**	**117.12**	**11**	PKP	**PKPdf**	**02 01 06.2**	**+1.3**
SFJD				LR	LR		
	comp=Z,1μm,19.0s						
SFJD	**Kangerlussuaq**	**117.12**	**11**	*i* P	**PKPdf**	**02 01 05.8**	**+0.9**
	comp=Z,11nm,0.7s						
SFJD	**Kangerlussuaq**	**117.12**	**11**	PKP	**PKPdf**	**02 01 06.2**	**+1.3**
	baz=35,slow=1.2						
PLCA	**Paso Flores**	**117.12**	**142**	PKP	**PKPdf**	**02 01 05.5**	**-0.4**
PLCA				PKKPbc	**PKKPbc**	**02 11 30.8**	**-0.9**
PLCA	**Paso Flores**	**117.12**	**142**	PKP	**PKPdf**	**02 01 05.5**	**-0.4**
	comp=Z,6.3nm,0.7s,baz=355,slow=8.4,SNR=8.1						
PLCA				PKKPbc	**PKKPbc**	**02 11 30.8**	**-0.9**
	comp=Z,3.6nm,0.9s,baz=115,slow=4.4,SNR=3.9						
KIEV	**Kiev**	**117.14**	**325**	*e*PKiKP	**PKPdf**	**02 01 04.0**	**-1.4**
KIEV				MLR	MLR		
	comp=Z,1μm,21.0s						
KIEV	**Kiev**	**117.14**	**325**	*e*PKPdf	**PKPdf**	**02 01 04.0**	**-1.4**
KIEV				LR	LR		
	comp=Z,1μm,21.0s						
BRAL	**Brewton**	**117.26**	**59**	PFAKE		02 01 20.0	+14
BRAL				LR	LR		
	comp=Z,3μm,22.0s						
TEIG	**Tepich**	**117.31**	**71**	*e*PKPdf	**PKPdf**	**02 01 05.8**	**-0.9**
TEIG				LR	LR		
	comp=Z,3μm,21.0s						
KMBO	**Kilima Mbogo**	**117.37**	**265**	*e*PKPdf	**PKPdf**	**02 01 07.6**	**+0.3**
KMBO				PKP	**PKPdf**	**02 01 08.1**	**+0.8**
KMBO				PKKPbc	**PKKPbc**	**02 11 31.3**	**+1.2**
KMBO				LR	LR		
	comp=Z,1μm,22.0s						
KMBO	**Kilima Mbogo**	**117.37**	**265**	PKP	**PKPdf**	**02 01 08.1**	**+0.8**
	comp=Z,9.4nm,0.9s,baz=58,slow=5.3,SNR=23						
KMBO				PKKPbc	**PKKPbc**	**02 11 31.3**	**+1.2**
	comp=Z,4.3nm,1.0s,baz=269,slow=2.2,SNR=6.7						
BRTR	**Keskin Array B**	**118.04**	**312**	PKP	**PKPdf**	**02 01 06.8**	**-0.9**
BRTR				PP	**PP**	**02 02 23.6**	**+1.1**
BRTR				PKKPbc	**PKKPbc**	**02 11 28.2**	**-0.1**
BRTR				SKKPbc	SKKPbc	02 15 17.4	+4.4
BRTR	**Keskin Array B**	**118.04**	**312**	PKP	**PKPdf**	**02 01 06.8**	**-0.9**
	comp=Z,13nm,0.9s,baz=109,slow=1.5,SNR=40						
BRTR				PP	**PP**	**02 02 23.6**	**+1.1**
	comp=Z,6.6nm,1.0s,baz=101,slow=6.0,SNR=5.8						
BRTR				PKKPbc	**PKKPbc**	**02 11 28.2**	**-0.1**
	comp=Z,7.3nm,0.8s,baz=220,slow=3.8,SNR=27						
BRTR				SKKPbc	SKKPbc	02 15 17.4	+4.4
	comp=Z,1.1nm,0.9s,baz=220,slow=8.7,SNR=3.2						
TGUH	**Tegucigalpa,Un**	**118.45**	**78**	*e*PKPdf	**PKPdf**	**02 01 08.7**	**-0.2**
TGUH				LR	LR		
	comp=Z,3μm,21.0s						
CPCT	**Cooper Cave**	**118.49**	**53**	*e*PKPdf	**PKPdf**	**02 01 07.4**	**-1.1**
ANTO	**Ankara**	**118.62**	**312**	PFAKE		02 01 20.0	+11
ANTO				LR	LR		
	comp=Z,677nm,21.0s						
ANTO	**Ankara**	**118.62**	**312**	⇑*i*P	**PKKPab**	**02 11 27.1**	**-0.6**
SUW	**Suwalki**	**118.79**	**330**	*e*PKIKP	**PKPdf**	**02 01 07.9**	**-0.6**
SUW	**Suwalki**	**118.79**	**330**	*e*PKPdf	**PKPdf**	**02 01 07.9**	**-0.6**
SUW	**Suwalki**	**118.79**	**330**	*e*PKP	**PKPdf**	**02 01 08.2**	**-0.3**
SUW				*e*SKSac	**SKSac**	**02 07 56.7**	**-3.5**
KIS	**Kishinev**	**118.90**	**321**	*e*P	**PKPdf**	**02 01 08.0**	**-0.9**
KIS	**Kishinev**	**118.90**	**321**	*e*P	**PKPKbc**	**02 11 23.0**	**-2.3**
KIS	**Kishinev**	**118.90**	**321**	*e*PKIKP	**PKPdf**	**02 01 08.0**	**-0.9**
KIS				*e*		02 02 25.0	
KIS	**Kishinev**	**118.90**	**321**	⇓*i*P	**PKKPbc**	**02 11 24.3**	**-1.0**
TZTN	**Tazewell**	**119.00**	**52**	*e*PKPdf	**PKPdf**	**02 01 08.9**	**-0.5**
TKL	**Tuckaleechee C**	**119.03**	**53**	*e*PKPdf	**PKPdf**	**02 01 08.8**	**-0.8**
TKL				PKKPbc	**PKKPab**	**02 11 25.9**	**0.0**
TKL	**Tuckaleechee C**	**119.03**	**53**	PKKPbc	PKKPbc	02 11 25.9	+1.4
	comp=Z,2.1nm,0.8s,baz=113,slow=7.7,SNR=2.9						
HFS	**Hagfors**	**119.04**	**339**	PKKPbc	PKKPbc	02 11 22.9	-2.2
HFS	**Hagfors**	**119.04**	**339**	PKKPbc	PKKPbc	02 11 22.9	-2.2
	comp=Z,6.4nm,0.7s,baz=187,slow=1.2,SNR=10						
NB2	**NORSAR Subarra**	**119.23**	**341**	PKPdf	**PKPdf**	**02 01 07.9**	**-1.3**
	comp=Z,3.0nm,0.6s,baz=39,slow=1.9						
NB2	**NORSAR Subarra**	**119.23**	**341**	PKPdf	**PKPdf**	**02 01 07.9**	**-1.3**
	baz=39,slow=1.9						
NOA	**NORSAR Array B**	**119.23**	**341**	PKP	**PKPdf**	**02 01 08.4**	**-0.8**
NOA				PP	**PP**	**02 02 32.1**	**+2.5**
NOA				PKKPbc	**PKKPab**	**02 11 21.2**	**-3.3**
NOA	**NORSAR Array B**	**119.23**	**341**	PKP	**PKPdf**	**02 01 08.4**	**-0.8**
	comp=Z,5.0nm,0.5s,baz=45,slow=1.9,SNR=31						
NOA				PP	**PP**	**02 02 32.1**	**+2.5**
	comp=Z,3.6nm,0.8s,baz=41,slow=6.6,SNR=5.1						
NOA				PKKPbc	**PKKPab**	**02 11 21.2**	**-3.3**
	comp=Z,1.2nm,0.9s,baz=42,slow=4.2,SNR=21						
NC602	**NORSAR Array S**	**119.35**	**340**	*e*P	**PKPdf**	**02 01 08.8**	**-0.6**
NAO01	**NORSAR Array S**	**119.48**	**341**	*e*PKPdf	**PKPdf**	**02 01 09.6**	**-0.1**
CSS	**Prodhromos**	**119.49**	**307**	*e*PKPdf	**PKPdf**	**02 01 09.6**	**-0.8**
CSS				LR	LR		
	comp=Z,891nm,21.0s						
SADO	**Sadowa**	**119.61**	**42**	PKKPbc	PKKPbc	02 11 23.6	+1.0
SADO	**Sadowa**	**119.61**	**42**	PKKPbc	PKKPbc	02 11 23.6	+1.0
	comp=Z,2.5nm,0.7s,baz=102,slow=4.2,SNR=3.4						
TLCR		**119.61**	**319**	⇑*i*P	**PKPdf**	**02 01 10.3**	**0.0**
TLCR		**119.61**	**319**	⇑*i*P	**PKKPbc**	**02 11 21.4**	**-1.2**
ALLY	**Alegheny Colle**	**120.04**	**45**	*e*PKPdf	**PKP

BSD Bornholm Skovb 121.99 334 *i* P PKKPab 02 11 12.2 -0.3
comp=Z,20nm,0.8s
UZH Uzhgorod 122.08 325 *e*PKIKP PKPdf 02 01 13.3 -1.7
UZH *e* 02 01 23.1
GKP Gorka Klasztor 122.11 332 *e*PKP PKPdf 02 01 15.0 +0.1
TRPA Tarpa 122.19 324⇑ *i*P PKPdf 02 01 15.1 -0.1
TRPA Tarpa 122.19 324⇓ *i*P PKKPab 02 11 12.7 +0.8
ARR Arges 122.22 321⇑ *i*P PKPdf 02 01 15.5 0.0
ARR Arges 122.22 321⇓ *i*P PKKPab 02 11 11.9 0.0
HOMB Homborsund 122.23 340 *e*P PKPdf 02 01 15.1 +0.1
STHS Stebnicka Huta 122.26 326 *e*PKIKP PKPdf 02 01 16.1 +0.8
STHS Stebnicka Huta 122.26 326 *e*PKP PKPdf 02 01 16.1 +0.8
STHS *e* 02 11 12.7
MSNY Massena 122.29 40 *e*PKPdf PKPdf 02 01 14.7 -0.8
ZIMR 122.49 318⇑ *i*P PKPdf 02 01 16.1 +0.2
OJC Ojcow 122.61 327 *e*PKIKP PKPdf 02 01 15.9 -0.1
OJC Ojcow 122.61 327 *e*PKP PKPdf 02 01 15.9 -0.1
OJC Ojcow 122.61 327 *e*PX PKKPab 02 11 10.6 +0.6
LONY Lake Ozonia 122.63 40 *e*PKPdf PKPdf 02 01 15.4 -0.8
LONY LR LR
comp=Z,5μm,20.0s
BINY Binghamton 122.72 43 *e*PKPdf PKPdf 02 01 15.7 -0.8
BINY LR LR
comp=Z,4μm,19.0s
LOT Lotru 122.73 321⇑ *i*P PKPdf 02 01 16.0 -0.5
LOT Lotru 122.73 321⇑ *i*P PKKPab 02 11 10.1 +0.3
DRGR 122.74 323⇑ *i*P PKKPab 02 11 08.9 -0.7
NIE Niedzica 122.77 326 *e*PKIKP PKPdf 02 01 18.5 +2.2
NIE Niedzica 122.77 326 *e*PKP PKPdf 02 01 18.5 +2.2
NIE Niedzica 122.77 326 *e*PX 02 11 12.1
LSZ Lusaka 123.00 247 *e*PKPdf PKPdf 02 01 17.4 -0.4
LSZ PKKPbc PKKPab 02 11 10.2 +0.3
LSZ LR LR
comp=Z,2μm,22.0s
LSZ Lusaka 123.00 247 PKKPbc PKKPbc 02 11 10.2 +0.9
comp=Z,5.1nm,0.7s,baz=16,slow=6.5,SNR=12
JSRW J. Sargeant Re 123.00 49 *e*PKPdf PKPdf 02 01 16.2 -0.9
DEV Deva 123.06 322⇑ *i*P PKKPab 02 11 09.3 +1.1
NCB Newcomb 123.15 41 *e*PKPdf PKPdf 02 01 16.4 -0.8
NCB LR LR
comp=Z,8μm,22.0s
FRNY Flat Rock 123.17 40 *e*PKPdf PKPdf 02 01 16.3 -0.9
SDMD Soldier's Deli 123.18 47 *e*PKPdf PKPdf 02 01 16.9 -0.5
KECS Kecovo 123.18 325 *e*PKIKP PKPdf 02 01 15.3 -1.8
KECS Kecovo 123.18 325 *e*PKP PKPdf 02 01 15.3 -1.8
KECS *e* 02 11 08.3
CBN Corbin 123.21 48 *e*PKPdf PKPdf 02 01 16.8 -0.7
CBN LR LR
comp=Z,3μm,21.0s
ARG Arkhangelos 123.23 309 *e*P PKPdf 02 01 17.4 -0.2
MUD Monsted U'grnd 123.36 338 *i* PKIKP PKPdf 02 01 15.8 -1.3
MUD pmax pmax
comp=Z,13nm,0.9s
MUD Monsted U'grnd 123.36 338 *i* P PKPdf 02 01 15.8 -1.3
comp=Z,13nm,0.9s
MUD Monsted U'grnd 123.36 338 *i* P PKKPab 02 11 07.9 +1.3
comp=Z,16nm,1.0s
GZR Gura Zlata 123.37 321⇑ *i*P PKPdf 02 01 17.2 -0.5
GZR Gura Zlata 123.37 321⇓ *i*P PKKPab 02 11 07.5 +0.5
LCO Las Campanas 123.64 131 *e*PKPdf PKPdf 02 01 18.7 -0.3
LCO LR LR
comp=Z,1μm,21.0s
SMTH Samothraki Isl 123.66 315 P PKPdf 02 01 17.7 -0.6
SMTH Samothraki Isl 123.66 315 *e*P PKPdf 02 01 17.1 -1.2
OKC Ostrava-Krasne 123.70 328 *e*PKIKP PKPdf 02 01 18.3 +0.2
OKC MLR MLR
comp=Z,1μm,21.0s
OKC Ostrava-Krasne 123.70 328 *e*PKPdf PKPdf 02 01 18.3 +0.2
OKC *e*PP PP 02 03 03.8 +3.4
OKC *e*PKKP PKKPbc 02 11 06.4 -0.8
OKC AMS AMS 02 54 30.0
comp=Z,1μm,21.0s
SMG Samos 123.72 311 *e*P PKPdf 02 01 18.0 -0.5
ACCN Adirondack Com 123.77 41 *e*PKPdf PKPdf 02 01 17.4 -1.0
CNNC Cliffs of the 123.77 52 *e*PKPdf PKPdf 02 01 18.2 -0.4
CNNC LR LR
comp=Z,4μm,20.0s
MDV Middlebury 123.81 40 *e*PKPdf PKPdf 02 01 17.8 -0.6
PSZ Piszkesteto 123.81 325 *e*PKIKP PKPdf 02 01 17.8 -0.7
PSZ MLR MLR
comp=Z,1μm,22.0s
PSZ Piszkesteto 123.81 325 *e*PKPdf PKPdf 02 01 17.8 -0.7
PSZ LR LR
comp=Z,1μm,22.0s
PSZ Piszkesteto 123.81 325⇑ *e* PKPdf 02 01 18.1 -0.3
MBAR Mbarara 123.89 265 PFAKE 02 01 30.0 +10
MBAR LR LR
comp=Z,482nm,20.0s
TRQA Tornquist 123.90 145 *e*PKPdf PKPdf 02 01 18.0 -0.9
TRQA LR LR
comp=Z,951nm,20.0s
BZS Buzias 123.98 322⇑ *i*P PKPdf 02 01 18.3 -0.4
BZS Buzias 123.98 322⇓ *i*P PKKPbc 02 11 05.3 -0.6
BZS Buzias 123.98 322⇓ *i*P PKPdf 02 01 18.3 -0.4
CFAA Coronel Fontan 124.01 135 PKP PKPdf 02 01 18.9 -0.4
CFAA Coronel Fontan 124.01 135 PKP PKPdf 02 01 18.9 -0.4
comp=Z,3.8nm,0.7s,baz=253,slow=3.8,SNR=15
TRY Troy 124.06 42 *e*PKPdf PKPdf 02 01 18.3 -0.6
MORC Moravsky Berou 124.06 328 *e*PKIKP PKPdf 02 01 18.6 -0.2
MORC Moravsky Berou 124.06 328 *e*PKPdf PKPdf 02 01 18.6 -0.2
KSP Ksiaz 124.06 330 *e*PKIKP PKPdf 02 01 18.8 +0.1
KSP *e* 02 03 01.5
KSP MLR MLR
comp=Z,6μm,23.6s
KSP Ksiaz 124.06 330 *e*PKP PKPdf 02 01 19.0 +0.3
KSP *e*SKSac SKSac 02 08 17.2 -1.1
VYHS Vyhne 124.09 326 *e*PKIKP PKPdf 02 01 18.8 -0.1
VYHS Vyhne 124.09 326 *e*PKP PKPdf 02 01 18.8 -0.1
VYHS *e* 02 11 04.2
LIA Limnos Island 124.13 314 P PKPdf 02 01 18.1 -1.1
LIA Limnos Island 124.13 314 *e*P PKPdf 02 01 18.3 -0.9
KAVA Kavala 124.16 316 P PKPdf 02 01 18.4 -0.8
KRLC Kraliky 124.28 329 *e*PKIKP PKPdf 02 01 19.5 +0.3
KRLC Kraliky 124.28 329 *e*PKPdf PKPdf 02 01 19.5 +0.3
KRLC *e*PKKP PKKPbc 02 11 04.1 -0.9
BRNJ Basking Ridge 124.31 44 *e*PKPdf PKPdf 02 01 20.1 +0.7
DPC Dobruska-Polom 124.35 329 *e*PKIKP PKPdf 02 01 19.3 -0.1
DPC Dobruska-Polom 124.35 329 *e*PKPdf PKPdf 02 01 19.3 -0.1
DPC *e*PP PP 02 03 05.9 +1.2
DPC *e*PKKP PKKPbc 02 11 04.3 -0.4
DPC AMS AMS 02 54 40.0
PKSN Nyarlorinc 124.37 324⇓ *e* PKPdf 02 01 20.3 +0.9
VTS Vitosha 124.37 318 P PKPdf 02 01 19.4 -0.4
VTS Vitosha 124.37 318 ⇓PKIKP PKPdf 02 01 19.8 0.0
VTS Vitosha 124.37 318⇓ *i*P PKPdf 02 01 19.8 0.0
VTS Vitosha 124.37 318⇓ *i*P PKKPbc 02 11 04.0 -0.5
ZAPS Zavoj 124.44 319⇑ *i*P PKPdf 02 01 20.0 +0.2
NVR Nevrokopi 124.46 317 P PKPdf 02 01 18.8 -1.0
NVR Nevrokopi 124.46 317 *e*P PKPdf 02 01 18.8 -1.0
LBNH Lisbon 124.50 40 *e*PKIKP PKPdf 02 01 19.7 -0.1
LBNH MLR MLR
comp=Z,6μm,20.0s
LBNH Lisbon 124.50 40 *e*PKPdf PKPdf 02 01 19.7 -0.1
LBNH LR LR
comp=Z,6μm,20.0s
HNH Hanover 124.52 40 *e*PKPdf PKPdf 02 01 19.6 -0.2
BUD Budapest 124.54 325⇑ *e* PKPdf 02 01 20.0 +0.3
CPNY Central Park 124.68 44 *e*PKPdf PKPdf 02 01 19.6 -0.6
PKS7 Kunszentmiklos 124.70 325⇓ *e* PKPdf 02 01 20.4 +0.4
SRS Serrai 124.75 316 P PKPdf 02 01 18.7 -1.7
BSEG Bad Segeberg 124.75 335 *e*PKPdf PKPdf 02 01 20.4 +0.5
BSEG *e*PP PP 02 03 05.4 -1.7
BSEG Bad Segeberg 124.75 335 *e*PKIKP PKPdf 02 01 20.4 +0.5
BSEG *e* 02 03 05.4
OUR Ouranopolis 124.80 315 P PKPdf 02 01 19.1 -1.3
VRAC Vranov 124.83 328 PKKPbc PKKPbc 02 11 01.3 -1.4
VRAC Vranov 124.83 328 PKKPbc PKKPbc 02 11 01.3 -1.4
comp=Z,5.3nm,0.8s,baz=249,slow=3.2,SNR=7.0
SMOL Smolenice 124.85 327 *e*PKIKP PKPdf 02 01 20.9 +0.6
SMOL Smolenice 124.85 327 *e*PKP PKPdf 02 01 20.9 +0.6
PKS2 Kecel 124.97 324⇓ *e* PKPdf 02 01 21.1 +0.5
ATAH Atahualpa 125.07 103 PKP PKPdf 02 01 23.1 +0.8
ATAH Atahualpa 125.07 103 PKP PKPdf 02 01 23.1 +0.8
comp=Z,20nm,0.9s,baz=129,slow=2.1,SNR=8.9
PVCC Panska Ves 125.12 330 *e*PKIKP PKPdf 02 01 20.9 +0.1
PVCC MLR MLR
comp=Z,1μm,22.5s
PVCC Panska Ves 125.12 330 *e*PKPdf PKPdf 02 01 20.9 +0.1
PVCC *e*PP PP 02 03 10.9 +1.1
PVCC AMS AMS 02 56 00.0
comp=Z,1μm,22.5s
QUA2 Belchertown 125.13 42 *e*PKPdf PKPdf 02 01 20.9 -0.2

PLG Polygyros 125.16 316 P PKPdf 02 01 19.6 -1.6
PLG Polygyros 125.16 316 *e*P PKPdf 02 01 19.8 -1.4
YLE Yale 125.16 43 *e*PKPdf PKPdf 02 01 20.5 -0.6
PAIG Paliouri 125.18 315 P PKPdf 02 01 20.1 -1.1
KNT Kendrikon 125.20 317 P PKPdf 02 01 19.9 -1.3
SANT Santorini 125.21 310 PFAKE 02 01 30.0 +8.6
SANT LR LR
comp=Z,708nm,19.0s
PKST T"s 125.23 325⇓ *e* PKPdf 02 01 20.9 -0.2
NNA Nana 125.31 110 *e*PKPdf PKPdf 02 01 22.6 +0.3
NNA LR LR
comp=Z,1μm,21.0s
AOS Alonnisos 125.34 314 P PKPdf 02 01 20.1 -1.4
VAY Valandovo 125.36 317 P PKPdf 02 01 19.3 -2.2
CLL Collm 125.37 332 *e*PKPdf PKPdf 02 01 21.2 0.0
CLL *e*PP PP 02 03 10.7 -0.7
CLL Collm 125.37 332⇑ *i*PKIKP PKPdf 02 01 21.1 -0.1
CLL *e* 02 03 12.0
CLL pmax pmax
comp=Z,42nm,0.8s
CLL MLR MLR
comp=Z,2μm,21.7s
CLL Collm 125.37 332⇑ *i*PKPdf PKPdf 02 01 21.1 -0.1
comp=Z,42nm,0.8s
CLL *e*(PKiKP) 02 01 24.0
CLL *e*PP PP 02 03 12.0 +0.6
CLL *e* 02 04 36.0
CLL *e*SKKPbc SKKPbc 02 14 43.0 -6.4
CLL *i* PcPP 02 14 52.7
comp=Z,9.0nm,1.2s
CLL *i* pSKKPbc 02 14 56.3
comp=Z,10.0nm,1.1s
CLL Lm MLR 03 00 00.0
comp=Z,2μm,21.7s
TREC Trest 125.42 329 *e*PKIKP PKPdf 02 01 21.3 -0.1
TREC MLR MLR
comp=Z,2μm,21.3s
TREC Trest 125.42 329 *e*PKPdf PKPdf 02 01 21.3 -0.1
TREC *ex* x 02 10 59.5
TREC AMS AMS 02 58 30.0
comp=Z,2μm,21.3s
PKSM Moragy 125.45 324⇓ PKIKP PKPdf 02 01 21.4 -0.1
PKSM Moragy 125.45 324⇓ *i*P PKPdf 02 01 21.4 -0.1
PKSM Moragy 125.45 324⇑ *i*P PKKPbc 02 10 58.7 -1.4
PKSM Moragy 125.45 324⇑ PKPdf 02 01 21.8 +0.3
PKS9 Tamasi 125.46 324⇓ *e* PKPdf 02 01 21.7 +0.2
PRU Pruhonice 125.47 330 *e*PKIKP PKPdf 02 01 21.4 -0.1
PRU MLR MLR
comp=Z,2μm,20.8s
PRU Pruhonice 125.47 330 *e*PKPdf PKPdf 02 01 21.4 -0.1
PRU *e*PP PP 02 03 13.3 +1.1
PRU *ex* x 02 10 59.2
PRU AMS AMS 02 56 20.0
comp=Z,2μm,20.8s
PRA Prague 125.48 330 PKPdf PKPdf 02 01 22.0 +0.6
PRA PP PP 02 03 13.0 +0.8
PRA PKKP PKKPbc 02 11 00.0 -0.2
HRV Adam Dziewonsk 125.55 41 *e*PKIKP PKPdf 02 01 22.0 +0.2
HRV Adam Dziewonsk 125.55 41 *e*PKPdf PKPdf 02 01 21.9 +0.2
LAST Lasithi 125.61 309 P PKPdf 02 01 22.1 -0.2
LAST Lasithi 125.61 309 *e*P PKPdf 02 01 21.9 -0.4
PQI Presque Isle 125.61 35 *e*PKPdf PKPdf 02 01 21.1 -0.7
GRG Griva 125.63 317 P PKPdf 02 01 21.3 -0.8
GRG Griva 125.63 317 *e*P PKPdf 02 01 21.0 -1.0
BCIP Isla Barro Col 125.69 83 *e*PKPdf PKPdf 02 01 21.6 -1.3
BCIP LR LR
comp=Z,2μm,20.0s
DIVS Divibare 125.73 321 P PKPdf 02 01 22.1 -0.2
XOR Xorichti 125.75 315 P PKPdf 02 01 20.9 -1.5
NEO Neokhori 125.75 314 P PKPdf 02 01 20.9 -1.4
NEO Neokhori 125.75 314 *e*P PKPdf 02 01 21.0 -1.4
WES Weston 125.76 41 *e*PKIKP PKPdf 02 01 22.0 -0.2
WES Weston 125.76 41 *e*PKPdf PKPdf 02 01 22.0 -0.2
PTL Penteli 125.79 313 P PKPdf 02 01 21.6 -0.9
PTL Penteli 125.79 313 *e*P PKPdf 02 01 21.6 -0.9
SKO Skopje 125.82 318 *e*PKP PKPdf 02 01 22.3 -0.1
comp=Z,112nm,1.1s
BRYW Bryant College 125.83 42 *e*PKPdf PKPdf 02 01 22.4 0.0
NRDL Niedersach Rie 125.86 334 *e*PKPdf PKPdf 02 01 22.6 +0.6
NRDL *e*PP PP 02 03 14.1 -0.4
ATH Athens Observa 125.92 313 *e*P PKPdf 02 01 21.7 -1.0
SMIA Simia 125.93 314 P PKPdf 02 01 22.3 -0.4
IDI Anoyia 126.02 309 P PKPdf 02 01 22.6 -0.5
IDI Anoyia 126.02 309 *e*PKPdf PKPdf 02 01 22.5 -0.5
CONA Conrad Observa 126.05 327 *i* PKiKP PKPdf 02 01 22.6 -0.1
comp=Z,23nm,0.9s,SNR=9.0
SIVA Sivas 126.17 309 P PKPdf 02 01 23.2 0.0
NAIG Nisos Aigina 126.17 313 *e*P PKPdf 02 01 22.0 -1.2
LKR Lokris 126.18 314 *e*P PKPdf 02 01 21.9 -1.2
TANN Tannenbergstha 126.22 331 *e*PKPdf PKPdf 02 01 23.2 +0.2
TANN *e*PP PP 02 03 17.1 -0.1
BIA Bitola 126.33 317 P PKPdf 02 01 22.4 -1.1
BIA Bitola 126.33 317 *e*PKP PKPdf 02 01 22.4 -1.1
KZN Kozani 126.34 316 *e*P PKPdf 02 01 22.7 -0.8
NKC Novy Kostel 126.35 331 *e*PKIKP PKPdf 02 01 23.3 +0.1
NKC MLR MLR
comp=Z,800nm,20.0s
NKC Novy Kostel 126.35 331 *e*PKPdf PKPdf 02 01 23.3 +0.1
NKC AMS AMS 02 57 50.0
comp=Z,800nm,20.0s
AXAR Agios Charalam 126.37 314 P PKPdf 02 01 22.5 -1.1
BEHE Becsehely 126.39 325⇑ *e* PKPdf 02 01 23.7 +0.4
FNA Florina 126.40 317 P PKPdf 02 01 23.2 -0.4
FNA Florina 126.40 317 *e*P PKPdf 02 01 23.1 -0.5
LTK Loutraki 126.45 313 P PKPdf 02 01 22.6 -1.1
LTK Loutraki 126.45 313 *e*P PKPdf 02 01 22.3 -1.4
DID Didima 126.45 312 P PKPdf 02 01 22.1 -1.7
DID Didima 126.45 312 *e*P PKPdf 02 01 22.2 -1.6
MOX Moxa 126.47 332 *e*PKPdf PKPdf 02 01 23.5 +0.1
MOX *e*PP PP 02 03 18.0 -0.7
MOX Moxa 126.47 332 *e*PKIKP PKPdf 02 01 23.5 +0.1
MOX *e* 02 03 18.0
DIDY Didyma 126.48 312 P PKPdf 02 01 22.7 -1.2
THL Klokotos Trika 126.50 315 P PKPdf 02 01 22.4 -1.3
THL Klokotos Trika 126.50 315 *e*P PKPdf 02 01 22.5 -1.3
AGG Agios Georgios 126.50 315 P PKPdf 02 01 22.4 -1.4
AGG Agios Georgios 126.50 315 *e*P PKPdf 02 01 22.9 -0.9
KHC Kasperske Hory 126.50 329 *e*PKIKP PKPdf 02 01 23.6 +0.1
KHC MLR MLR
comp=Z,2μm,20.7s
KHC Kasperske Hory 126.50 329 *e*PKPdf PKPdf 02 01 23.6 +0.1
KHC *e*PP PP 02 03 20.6 +1.5
KHC *ex* x 02 10 55.7
KHC AMS AMS 02 57 00.0
comp=Z,2μm,20.7s
KHC Kasperske Hory 126.50 329 *e*PKPdf PKPdf 02 01 23.6 +0.1
VAM Vamos 126.51 310 P PKPdf 02 01 24.0 +0.1
VAM Vamos 126.51 310 *e*P PKPdf 02 01 24.2 +0.3
DSF Desfina 126.61 314 P PKPdf 02 01 22.8 -1.3
PHP Peshkopia 126.62 318 P PKPdf 02 01 21.0 -3.0
GEC2 GERESS Array S 126.62 329 *e*PKPdf PKPdf 02 01 23.9 +0.1
GEC2 *e*PP PP 02 03 20.0 +0.1
GEC2 GERESS Array S 126.62 329 *e*PKIKP PKPdf 02 01 23.9 +0.1
GEC2 *e* 02 03 20.0
GERES GERESS Array B 126.62 329 PKP PKPdf 02 01 24.1 +0.2
GERES PKKPab PKKPbc 02 10 57.7 +1.7
GERES SKKPbc SKKPbc 02 14 38.1 -7.1
GERES GERESS Array B 126.62 329 PKP PKPdf 02 01 24.1 +0.2
comp=Z,25nm,0.8s,baz=70,slow=1.6,SNR=142
GERES PKKPab PKKPbc 02 10 57.7 +1.7
comp=Z,0.8nm,0.6s,baz=233,slow=1.3,SNR=6.1
GERES SKKPbc SKKPbc 02 14 38.1 -7.1
comp=Z,0.7nm,0.8s,baz=180,slow=2.7,SNR=4.8
ARSA Arzberg 126.63 326⇑ *i*PKPdf PKPdf 02 01 23.1 -0.7
comp=Z,13nm,1.2s,SNR=5.7
MAKR Makrakomi, Fth 126.64 315 P PKPdf 02 01 24.0 -0.1
KOGS Kog 126.70 325 *i* PKPdf PKPdf 02 01 23.2 -0.7
KARN Karanos 126.72 310 P PKPdf 02 01 24.2 -0.1
KARN Karanos 126.72 310 *e*P PKPdf 02 01 24.3 -0.1
ROTZ Rotzenmuhle 126.77 331 *e*PKPdf PKPdf 02 01 24.3 +0.3
ROTZ *e*PP PP 02 03 21.1 +0.3
GVD Gavdhos 126.79 309 P PKPdf 02 01 24.1 -0.3
GVD Gavdhos 126.79 309 *e*P PKPdf 02 01 24.2 -0.2
GVD Gavdhos 126.79 309 *e*PKPdf PKPdf 02 01 24.1 -0.3
NEST Nestorio 126.79 317 P PKPdf 02 01 23.9 -0.5
WET Wettzell 126.85 330 *e*PKPdf PKPdf 02 01 24.5 +0.3
WET *e*PP PP 02 03 21.7 +0.4
WET Wettzell 126.85 330 *e*PKIKP PKPdf 02 01 24.5 +0.3
WET *e* 02 03 21.7
KBN Korca 126.88 317 P PKPdf 02 01 24.2 -0.3
KALE Kalithea 126.90 314 *e*P PKPdf 02 01 23.9 -0.7
EVR Evrytania 126.91 315 P PKPdf 02 01 24.5 -0.1

EVR Evrytania 126.91 315 *e*P PKPdf 02 01 24.6 -0.1
GUR Goura 126.94 313 P PKPdf 02 01 24.7 -0.1
GUR Goura 126.94 313 *e*P PKPdf 02 01 24.1 -0.7
MOA Molln 126.95 328⇑ *i*PKPdf PKPdf 02 01 23.9 -0.5
comp=Z,11nm,0.8s,SNR=8.8
TRIZ Trizonia 126.96 314 P PKPdf 02 01 23.7 -0.9
TRIZ Trizonia 126.96 314 *e*P PKPdf 02 01 24.1 -0.5
IBBN Ibbenburen 126.99 335 *e*PKPdf PKPdf 02 01 24.7 +0.4
IBBN *e*PP PP 02 03 21.3 -0.7
ANKY Antikythira Is 127.03 311 P PKPdf 02 01 25.2 +0.4
ANKY Antikythira Is 127.03 311 *e*P PKPdf 02 01 25.1 +0.3
KLV Kalavryta, Ach 127.03 313 P PKPdf 02 01 24.4 -0.5
KLV Kalavryta, Ach 127.03 313 *e*P PKPdf 02 01 24.3 -0.6
EFP Efpalio 127.05 314 P PKPdf 02 01 25.0 +0.2
EFP Efpalio 127.05 314 *e*P PKPdf 02 01 25.0 +0.2
LAKA Lakka 127.08 314 P PKPdf 02 01 25.0 0.0
LAKA Lakka 127.08 314 *e*P PKPdf 02 01 24.9 0.0
UBBA Unterbreizbach 127.09 333 *e*PKPdf PKPdf 02 01 24.8 +0.4
UBBA *e*PP PP 02 03 22.6 -0.1
GROS Grobnik 127.11 326 *i* PKPdf PKPdf 02 01 24.1 -0.7
VLX Vlachokerasia 127.14 313 P PKPdf 02 01 24.5 -0.7
VLX Vlachokerasia 127.14 313 *e*P PKPdf 02 01 25.4 +0.2
TIR Tirane 127.16 318 *e*PKIKP PKPdf 02 01 25.3 +0.4
TIR MLR MLR
comp=Z,779nm,20.0s
TIR Tirane 127.16 318 *e*PKPdf PKPdf 02 01 25.3 +0.4
TIR LR LR
comp=Z,779nm,20.0s
JAN Janina 127.26 316 P PKPdf 02 01 25.3 0.0
JAN Janina 127.26 316 *e*P PKPdf 02 01 25.4 +0.1
GRF Grafenberg Arr 127.30 331 *e*PKPdf PKPdf 02 01 25.2 +0.2
GRF *e*PP PP 02 03 24.4 +0.2
GRF Grafenberg Arr 127.30 331 *e*PKIKP PKPdf 02 01 25.2 +0.2
GRF *e* 02 03 24.4
GRFO Grafenberg 127.30 331 *e*PKIKP PKPdf 02 01 25.2 +0.2
GRFO Grafenberg 127.30 331 *e*PKPdf PKPdf 02 01 25.2 +0.2
DYR Agios Nikonas 127.41 312 P PKPdf 02 01 24.9 -0.7
DYR Agios Nikonas 127.41 312 *e*P PKPdf 02 01 24.7 -0.9
RLS Riolos of Patr 127.52 314 P PKPdf 02 01 25.6 -0.1
RLS Riolos of Patr 127.52 314 *e*P PKPdf 02 01 25.9 +0.2
AXS Araxos 127.52 314 P PKPdf 02 01 26.2 +0.5
ITM Ithomi 127.54 313 P PKPdf 02 01 25.1 -0.8
ITM Ithomi 127.54 313 *e*P PKPdf 02 01 25.0 -0.8
AMT Artemida-Makis 127.56 313 P PKPdf 02 01 26.1 +0.2
MTDJ Mount Denham 127.59 72 PFAKE 02 01 40.0 +13
MTDJ LR LR
comp=Z,1μm,19.0s
WTSB Winterswijk 127.64 336 *e*PKPdf PKPdf 02 01 25.5 0.0
IGT Igoumenitsa 127.68 316 P PKPdf 02 01 25.4 -0.6
SRN Sarande 127.75 316 P PKPdf 02 01 25.5 -0.6
LKD2 Lefkada island 127.78 315 P PKPdf 02 01 25.6 -0.7
LKD2 Lefkada island 127.78 315 *e*P PKPdf 02 01 26.2 -0.1
PYL PYLOS 127.79 312 *e*P PKPdf 02 01 25.1 -1.2
RJOB Jochberg 127.79 328 *e*PKPdf PKPdf 02 01 25.7 -0.4
RJOB *e*PP PP 02 03 27.7 0.0
BOJS Bojanci 127.81 325 *e*PKPdf PKPdf 02 01 26.0 -0.1
BUG Bochum--Univer 127.84 335 *e*PKPdf PKPdf 02 01 26.1 +0.2
BUG *e*PP PP 02 03 26.5 -1.1
LJU Ljubljana 127.90 326 *i* PKPdf PKPdf 02 01 25.9 -0.4
KEK Kerkira 127.96 316 P PKPdf 02 01 26.4 -0.4
KEK Kerkira 127.96 316 *e*P PKPdf 02 01 26.1 -0.4
VLS Valsamata 128.09 314 *e*P PKPdf 02 01 26.3 -0.6
TNS Taunus Mts 128.22 333 *e*PKPdf PKPdf 02 01 27.1 +0.3
TNS *e*PP PP 02 03 30.0 -0.3
TNS Taunus Mts 128.22 333 *e*PKIKP PKPdf 02 01 27.1 +0.3
TNS *e* 02 03 30.0
LVC Limon Verde 128.23 125 PKP PKPdf 02 01 28.8 +1.0
LVC LR LR
comp=Z,2μm,20.0s
LVC Limon Verde 128.23 125 PKP PKPdf 02 01 28.8 +1.0
comp=Z,24nm,1.0s,baz=354,slow=2.4,SNR=3.3
EKA Eskdalemuir Ar 128.26 344 PKP PKPdf 02 01 27.2 +0.6
EKA PP PP 02 03 31.9 +1.7
EKA Eskdalemuir Ar 128.26 344 PKP PKPdf 02 01 27.2 +0.6
comp=Z,6.1nm,0.4s,baz=24,slow=2.5,SNR=30
EKA PP PP 02 03 31.9 +1.7
comp=Z,3.2nm,0.8s,baz=30,slow=7.4,SNR=5.0
ESK Eskdalemuir 128.29 344 *e*PKIKP PKPdf 02 01 26.7 +0.1
ESK MLR MLR
comp=Z,1μm,20.0s
ESK Eskdalemuir 128.29 344 *e*PKPdf PKPdf 02 01 26.7 +0.1
ESK LR LR
comp=Z,1μm,20.0s
FUR Furstenfeldbru 128.29 330 *e*PKPdf PKPdf 02 01 27.1 +0.2
FUR *e*PP PP 02 03 30.6 -0.2
FUR Furstenfeldbru 128.29 330 *e*PKIKP PKPdf 02 01 27.1 +0.2
FUR *e* 02 03 30.6
ABTA Abfaltersbach 128.57 328⇓ *i*PKPdf PKPdf 02 01 26.2 -1.4
comp=Z,37nm,0.9s,SNR=11
WATA Walderalm 128.68 329⇓ *i*PKPdf PKPdf 02 01 27.3 -0.6
comp=Z,20nm,0.8s,SNR=9.6
WTTA Wattenberg 128.70 329⇑ *i*PKiKP PKPdf 02 01 27.9 -0.1
comp=Z,72nm,0.9s,SNR=20
STU Stuttgart 128.90 331 *e*PKPdf PKPdf 02 01 28.4 +0.3
STU *e*PP PP 02 03 34.8 +0.1
STU Stuttgart 128.90 331 *e*PKIKP PKPdf 02 01 28.3 +0.3
STU Stuttgart 128.90 331 *e*PKPdf PKPdf 02 01 28.3 +0.3
HGN Heimansgroeve 128.91 335 *e*PKPdf PKPdf 02 01 28.0 +0.1
HGN *e*PP PP 02 03 41.3 +6.7
HGN *e*SKS SKSdf 02 08 25.8 -11
MOTA Moosalm 128.92 329⇑ *i*PKPdf PKPdf 02 01 27.5 -0.9
comp=Z,40nm,0.8s,SNR=22
BEBN Eben Emael 128.99 335 PKP PKPdf 02 01 28.4 +0.3
MEM Membach 128.99 335 PKP PKPdf 02 01 28.0 -0.2
RETA Reutte 129.00 329⇑ *i*PKPdf PKPdf 02 01 27.9 -0.5
comp=Z,19nm,1.1s,SNR=7.0
FETA Feichten 129.33 329⇑ *i*PKiKP PKPdf 02 01 29.4 +0.2
comp=Z,44nm,0.9s
LANF Langenberg 129.40 332 PKP PKPdf 02 01 29.4 +0.4
DAVA Damuels 129.58 330⇑ *i*PKPdf PKPdf 02 01 29.2 -0.4
comp=Z,32nm,0.8s,SNR=8.7
BFO Black Forest 129.62 332 *e*PKPdf PKPdf 02 01 29.4 0.0
BFO *e*PP PP 02 03 39.6 +0.2
BFO Black Forest 129.62 332 *e*PKIKP PKPdf 02 01 29.4 0.0
BFO *e* 02 03 39.6
BFO Black Forest 129.62 332 *e*PKPpre PKPpre 02 01 25.6
BFO *e*PKPdf PKPdf 02 01 29.4 0.0
BFO LR LR
comp=Z,1μm,21.0s
WLF Walferdange 129.64 334 PKP PKPdf 02 01 30.4 +1.1
WLF Walferdange 129.64 334 *e*PKPdf PKPdf 02 01 30.5 +1.1
WLF *e*PP PP 02 03 39.8 +0.4
WLF Walferdange 129.64 334 *e*PKIKP PKPdf 02 01 24.9 -4.5
WLF MLR MLR
comp=Z,2μm,20.0s
WLF Walferdange 129.64 334 *e*PKPpre PKPpre 02 01 24.9
WLF *e*PKPdf PKiKP 02 01 30.0 -0.2
WLF LR LR
comp=Z,2μm,20.0s
GTBY Guantanamo Bay 129.66 70 *e*PKPdf PKPdf 02 01 29.8 -0.5
GTBY LR LR
comp=Z,2μm,22.0s
GIVF Givet 129.87 335 *e*PKIKP PKPdf 02 01 29.8 0.0
comp=Z,134nm,1.3s
DAVOX Davos/Dischmat 129.92 329 SKPbc SKPbc 02 04 49.5 -0.3
DAVOX Davos/Dischmat 129.92 329 SKPbc SKPbc 02 04 49.5 -0.3
comp=Z,4.8nm,0.7s,baz=192,slow=4.0,SNR=5.4
DOU Dourbes 129.97 335 PKP PKPdf 02 01 30.4 +0.3
CDF Champ du Feu 130.05 332 *e*PKIKP PKPdf 02 01 29.7 -0.7
comp=Z,52nm,1.2s
BAIF Baives 130.16 336 *e*PKIKP PKPdf 02 01 30.4 0.0
comp=Z,55nm,1.2s
ECH Echery 130.25 332 *e*PKIKP PKPdf 02 01 29.8 -0.9
ECH MLR MLR
comp=Z,1μm,20.0s
ECH Echery 130.25 332 *e*PKPdf PKPdf 02 01 29.8 -0.9
ECH LR LR
comp=Z,1μm,20.0s
ECH Echery 130.25 332 PKP PKPdf 02 01 30.0 -0.7
TIP Timpagrande 130.29 317 P PKPdf 02 01 30.9 -0.2
TIP Timpagrande 130.29 317 *e*PKPdf PKPdf 02 01 30.5 -0.6
TIP LR LR
comp=Z,2μm,22.0s
TUE Stuetta 130.40 329 *e*PKPdf PKPdf 02 01 31.0 -0.3
TUE LR LR
comp=Z,1μm,19.0s
CUC Castrocucco 130.50 319 *e*PKPdf PKPdf 02 01 30.1 -1.3
CUC LR LR
comp=Z,1μm,21.0s
MOF Molkenrain 130.52 332 PKP PKPdf 02 01 30.9 -0.4
HINF Hinteralfeld 130.68 332 *e*PKIKP PKPdf 02 01 31.0 -0.5
comp=Z,115nm,1.3s
AQU L'Aquila 130.73 323 *e*PKPdf PKPdf 02 01 31.2 -0.6

AQU LR LR
comp=Z,1μm,21.0s
HAU Haudompre 130.77 332 *e*PKIKP **PKPdf 02 01 31.3 -0.4**
comp=Z,166nm,1.3s
HAU *e*R
comp=Z,3μm,23.0s
THEF They Montfort 130.78 333 PKP **PKPdf 02 01 31.3 -0.3**
TSUM Tsumeb 130.85 238 *e*PKPdf **PKPdf 02 01 33.3 +0.5**
TSUM SKPbc **SKPab 02 04 55.3 +1.1**
TSUM LR LR
comp=Z,2μm,20.0s
TSUM Tsumeb 130.85 238 SKPbc **SKPab 02 04 55.3 +1.1**
comp=Z,9.2nm,0.8s,baz=139,slow=6.4,SNR=6.8
ROSC El Rosal 130.94 89 PKP **PKPdf 02 01 33.9 +0.5**
ROSC El Rosal 130.94 89 PKP **PKPdf 02 01 33.9 +0.5**
comp=Z,26nm,0.4s,baz=90,slow=3.1,SNR=25
MEZF Maizieres J'vi 130.99 334 *e*PKIKP **PKPdf 02 01 32.3 +0.3**
comp=Z,97nm,0.9s
LOMF Lomont 131.03 332 PKP **PKPdf 02 01 31.5 -0.7**
SFTF Sexfontaines 131.22 334 *e*PKIKP **PKPdf 02 01 32.4 -0.1**
comp=Z,51nm,1.0s
CEL Celeste 131.33 317 *e*PKPdf **PKPdf 02 01 32.0 -1.1**
CEL LR LR
comp=Z,1μm,22.0s
VLC Villacollemand 131.37 326 PFAKE 02 01 40.0 +7.1
VLC LR LR
comp=Z,1μm,20.0s
LPAZ La Paz 131.72 118 PKPpre PKPpre 02 01 26.4
LPAZ PKP **PKPdf 02 01 35.3 +0.2**
LPAZ SKPbc **SKPbc 02 04 57.8 0.0**
LPAZ La Paz 131.72 118 PKPpre PKPpre 02 01 26.4
comp=Z,2.8nm,0.6s,baz=282,slow=4.7,SNR=3.9
LPAZ PKP **PKPdf 02 01 35.3 +0.2**
comp=Z,24nm,0.9s,baz=319,slow=2.2,SNR=20
LPAZ SKPbc **SKPbc 02 04 57.8 0.0**
comp=Z,6.2nm,0.7s,baz=359,slow=3.1,SNR=4.0
CABF La Chapelle 131.91 331 *e*PKIKP **PKPdf 02 01 33.8 -0.2**
comp=Z,66nm,1.0s
LPL La Plagne 132.38 330 *e*PKIKP **PKPdf 02 01 35.2 +0.2**
comp=Z,40nm,0.8s
LPG La Plagne 132.38 330 *e*PKIKP **PKPdf 02 01 35.3 +0.2**
comp=Z,49nm,0.8s
LOR Lormes 132.45 334 *e*PKIKP **PKPdf 02 01 34.9 0.0**
LOR *e*R
comp=Z,2μm,23.0s
OG35 Corcelles 132.57 331 PKP **PKPdf 02 01 36.0 +0.8**
BNI Bardonecchia 132.73 330 *e*PKIKP **PKPdf 02 01 35.4 -0.2**
BNI MLR MLR
comp=Z,2μm,22.0s
BNI Bardonecchia 132.73 330 *e*PKPdf **PKPdf 02 01 35.4 -0.2**
BNI LR LR
comp=Z,2μm,22.0s
SSF Saint Saulge 132.76 334 *e*PKIKP **PKPdf 02 01 35.5 +0.1**
comp=Z,45nm,1.0s
MBDF Montbardon 132.91 329 *e*PKIKP **PKPdf 02 01 35.6 -0.4**
comp=Z,18nm,0.6s
SMF Signal de Mont 132.93 333 *e*PKIKP **PKPdf 02 01 35.7 -0.1**
comp=Z,60nm,1.0s
HYF Humbligny 132.98 334 *e*PKIKP **PKPdf 02 01 36.4 +0.6**
AVF Avril sur Loir 133.03 333 *e*PKIKP **PKPdf 02 01 35.8 -0.1**
comp=Z,18nm,0.9s
FLN La Foliniere 133.03 338 *e*PKIKP **PKPdf 02 01 35.9 0.0**
comp=Z,63nm,0.9s
FLN *e*R
comp=Z,2μm,23.0s
LDF La Druitiere 133.04 338 *e*PKIKP **PKPdf 02 01 35.1 -0.8**
comp=Z,31nm,0.9s
GRTK Grand Turk 133.06 67 *e*PKPdf **PKPdf 02 01 36.8 +0.1**
GRTK LR LR
comp=Z,3μm,22.0s
AUTN L'Aution 133.08 328 PKP **PKPdf 02 01 36.8 +0.4**
TOUF Mont Tournerai 133.16 328 PKP **PKPdf 02 01 36.6 +0.1**
SBF Sospel 133.16 328 *e*PKIKP **PKPdf 02 01 35.9 -0.5**
comp=Z,72nm,0.9s
PGF Pioggiola 133.18 325 *e*PKIKP **PKPdf 02 01 35.7 -0.8**
comp=Z,84nm,0.9s
ORIF Oris-en-Rattie 133.23 330 *e*PKIKP **PKPdf 02 01 36.5 0.0**
comp=Z,58nm,0.8s
ORIF *e*R
comp=Z,2μm,22.0s
SDDR Presa de Saban 133.36 70 *e*PKPdf **PKPdf 02 01 37.1 -0.3**
SDDR LR LR
comp=Z,3μm,21.0s
BGF Bois d'Agland 133.44 334 *e*PKIKP **PKPdf 02 01 37.0 +0.3**
comp=Z,54nm,1.0s
WDD Wield Dalam 133.46 315 PFAKE 02 01 50.0 +13
WDD LR LR
comp=Z,574nm,20.0s
GRR Gorron 133.49 338 *e*PKIKP **PKPdf 02 01 37.0 +0.3**
comp=Z,32nm,0.7s
CALN Calern 133.53 328 PKP **PKPdf 02 01 37.7 +0.5**
SSB Saint Sauveur 133.62 331 *e*PKIKP **PKPdf 02 01 35.8 -1.4**
SSB MLR MLR
comp=Z,1μm,20.0s
SSB Saint Sauveur 133.62 331 *e*PKPdf **PKPdf 02 01 35.8 -1.4**
SSB LR LR
comp=Z,1μm,20.0s
SSB Saint Sauveur 133.62 331 PKP **PKPdf 02 01 37.3 +0.1**
AGO Saint Agoulin 133.70 333 PKP **PKPdf 02 01 38.5 +1.3**
FRF La Foret Royal 133.79 328 *e*PKIKP **PKPdf 02 01 36.6 -0.9**
comp=Z,33nm,0.8s
VIVF Saint-Julien-l 133.87 331 *e*PKIKP **PKPdf 02 01 37.9 +0.3**
comp=Z,72nm,0.9s
TCF Toulx Ste Croi 133.93 334 *e*PKIKP **PKPdf 02 01 38.0 +0.3**
comp=Z,77nm,1.0s
PYM Petit Puy Mans 133.98 333 PKP **PKPdf 02 01 37.6 -0.3**
LMR La Mourre 134.02 328 *e*PKIKP **PKPdf 02 01 38.0 +0.1**
comp=Z,64nm,1.1s
SMRF Simiane la Rot 134.05 329 *e*PKIKP **PKPdf 02 01 38.5 +0.5**
comp=Z,61nm,1.0s
SGMF Saint Gilles 134.22 339 *e*PKIKP **PKPdf 02 01 38.2 +0.1**
comp=Z,24nm,0.7s
VERF Verneugheol 134.22 333 PKP **PKPdf 02 01 38.6 +0.3**
LBL Lubilhac 134.26 332 PKP **PKPdf 02 01 39.3 +0.9**
ROSF Rostrenen 134.40 340 *e*PKIKP **PKPdf 02 01 38.5 +0.1**
comp=Z,32nm,0.9s
MFF Saint Martin d 134.67 336 *e*PKIKP **PKPdf 02 01 38.4 -0.6**
comp=Z,34nm,0.8s
QUIF Quistinic 134.72 339 *e*PKIKP **PKPdf 02 01 38.3 -0.7**
CPUP Villa Florida 134.76 138 PKPpre PKPpre 02 01 26.4
CPUP PKP **PKPdf 02 01 39.6 -0.2**
CPUP Villa Florida 134.76 138 PKHKP PKPpre 02 01 26.4
comp=Z,1.3nm,0.6s,baz=232,slow=6.1,SNR=3.1
CPUP PKP **PKPdf 02 01 39.6 -0.2**
comp=Z,16nm,0.8s,baz=217,slow=3.4,SNR=16
SDV Santo Domingo 134.78 84 *e*PKPdf **PKPdf 02 01 40.5 +0.1**
LASF Ste Croix 134.84 331 *e*PKIKP **PKPdf 02 01 39.9 +0.5**
comp=Z,79nm,1.0s
VSL Villasalto 134.88 322 *e*PKPdf **PKPdf 02 01 39.3 -0.4**
VSL LR LR
comp=Z,733nm,22.0s
BBSR BB Station 135.02 50 *e*PKPdf **PKPdf 02 01 40.5 +0.4**
BBSR LR LR
comp=Z,3μm,20.0s
TRIS Tristan da Cun 135.04 194 *e*P **Pdif 01 58 39.2 -2.6**
TRIS LR LR
comp=Z,1μm,20.0s
LFF La Frestale 135.62 334 *e*PKIKP **PKPdf 02 01 40.7 -0.1**
comp=Z,64nm,1.1s
MTLF Montolieu 136.18 331 *e*PKIKP **PKPdf 02 01 41.3 -0.6**
KEST Kesra 137.11 318 PKPpre PKPpre 02 01 34.8
KEST PKP **PKiKP 02 01 46.4 +0.5**
KEST Kesra 137.11 318 PKhKP PKPpre 02 01 34.8
comp=Z,2.2nm,0.8s,baz=0.0,slow=2.0,SNR=10
KEST PKP **PKiKP 02 01 46.4 +0.5**
comp=Z,11nm,1.0s,baz=113,slow=2.6,SNR=19
EPF Esparros 137.29 332 *e*PKIKP **PKPdf 02 01 43.8 -0.3**
comp=Z,14nm,0.7s
AGPR Aguadilla, PR 137.35 70 *e*PKPdf **PKPdf 02 01 45.9 +1.1**
VIEF Viey 137.56 333 PKP **PKPdf 02 01 42.3 -2.3**
ETSF Etsaut 137.81 333 *e*PKIKP **PKPdf 02 01 45.3 +0.2**
comp=Z,40nm,0.7s
CMAH Djebel Manchou 137.85 320 P **PKPdf 02 01 40.3 -5.0**
LARF Larrau 137.89 334 PKP **PKPdf 02 01 41.6 -3.6**
SIV San Ignacio 137.90 122 PKPpre PKPpre 02 01 31.0
SIV PKP **PKPdf 02 01 46.1 +0.2**
SIV San Ignacio 137.90 122 PKhKP PKPpre 02 01 31.0
comp=Z,5.5nm,0.9s,baz=323,slow=1.3,SNR=5.2
SIV PKP **PKPdf 02 01 46.1 +0.2**
comp=Z,17nm,0.9s,baz=298,slow=0.8,SNR=12
ABSA Djebel Ababsia 138.02 319 P **PKPdf 02 01 45.3 -0.4**
SJG San Juan 138.31 70 PFAKE 02 02 00.0 +13
SJG LR LR
comp=Z,2μm,21.0s
CKFL Kef-Lekhel 138.43 320 P PKPdf 02 01 40.0 -6.5
CBYP Canovanas 138.56 70 *e*PKPpre PKPpre 02 01 37.4
CBYP *e*PKPdf **PKPdf 02 01 46.9 -0.2**
CASM Ain Smara 138.66 320 P **PKPdf 02 01 42.1 -4.7**
DFRA Djebel Bou Aff 138.87 321 P **PKPdf 02 01 42.6 -4.7**
MTP Monte Pirata 138.88 70 *e*PKPpre PKPpre 02 01 37.8
MTP *e*PKPdf **PKPdf 02 01 47.4 -0.2**
SAML Samuel 139.00 112 *e*PKPpre PKPpre 02 01 35.9
SAML *e*PKPdf **PKPdf 02 01 47.0 -0.9**
SAML LR LR
comp=Z,1μm,22.0s
SET Setif 139.39 321 P **PKPdf 02 01 46.0 -2.2**
EMHD Djebel Mahouad 140.89 323 P **PKPdf 02 01 50.0 -1.0**
PBRG Braganca 141.27 338 *e*PKPdf **PKPdf 02 01 49.7 -1.7**
SKI Saint Kitts 141.65 70 *e* PKPdf 02 01 47.0 -5.6
PGAV Gavieira, Arco 141.68 340 *e*PKPdf **PKPdf 02 01 49.3 -2.9**
PCAB Cabril 141.82 339 *e*PKPdf **PKPdf 02 01 48.8 -3.5**
ESDC Sonseca Array 141.92 333 PKPpre PKPpre 02 01 49.0
ESDC PKP **PKPdf 02 01 53.5 +0.9**
ESDC PP **PP 02 04 57.3 +0.4**
ESDC Sonseca Array 141.92 333 PKhKP PKPpre 02 01 49.0
comp=Z,5.3nm,0.7s,baz=12,slow=2.5,SNR=12
ESDC PKP **PKPdf 02 01 53.5 +0.9**
comp=Z,7.8nm,0.8s,baz=46,slow=3.7,SNR=22
ESDC PP **PP 02 04 57.3 +0.4**
comp=Z,5.4nm,1.0s,baz=32,slow=6.7,SNR=6.9
ESLA Sonseca Array 141.92 333 *e*PKPdf **PKPdf 02 01 52.0 -0.6**
MVO Moncorvo 141.93 338 *e*PKPdf **PKPdf 02 01 48.7 -3.9**
POLO Lamas de Olo 142.03 339 *e*PKPdf **PKPdf 02 01 48.0 -4.8**
PVRL Vila Real 142.09 339 *e*PKPdf **PKPdf 02 01 49.8 -3.1**
EANR 'Ain N'Sour 142.15 324 P **PKPdf 02 01 53.5 +0.4**
PAB San Pablo 142.20 334 *e*PKIKP **PKPdf 02 01 52.3 -0.9**
PAB MLR MLR
comp=Z,1μm,21.0s
PAB San Pablo 142.20 334 *e*PKPdf **PKPdf 02 01 52.3 -0.9**
PAB LR LR
comp=Z,1μm,21.0s
ANWB Willy Bob 142.47 69 *e*PKPpre PKPpre 02 01 48.1
ANWB *e*PKPdf **PKPdf 02 01 53.8 -0.3**
ANWB LR LR
comp=Z,2μm,21.0s
PTO Porto 142.53 339 *e*PKPdf **PKPdf 02 01 52.5 -1.0**
PVIS Viseu 142.65 338 *e*PKPdf **PKPdf 02 01 49.6 -4.3**
LZG Guadaloupe-1 142.79 72 *e*P **PKPdf 02 01 49.6 -5.1**
MTE Manteigas 142.79 338 *e*PKPdf **PKPdf 02 01 50.1 -4.1**
MTE Manteigas 142.79 338 *e*PKPdf **PKPdf 02 01 53.8 -0.3**
MTE LR LR
comp=Z,974nm,20.0s
HMG Houelmont 142.89 72 *e*P **PKPdf 02 01 50.2 -4.7**
SCG Saint Claude 142.90 72 *e*P **PKPdf 02 01 50.9 -4.1**
PHG Guadaloupe-2 142.94 72 *e*P **PKPdf 02 01 50.9 -4.2**
BCG Bois Riant Cap 142.95 72 *e*P **PKPdf 02 01 50.7 -4.3**
DOG Dongo Capester 142.96 72 *e*P **PKPdf 02 01 50.6 -4.4**
TBG Guadaloupe-3 142.96 72 *e*P **PKPdf 02 01 50.1 -4.8**
PCBR Castelo Branco 143.25 337 *e*PKPdf PKPbc 02 01 52.4 +0.5
MGG Marie-Galante 143.26 72 *e*P PKPab 02 01 51.1 -0.2
DEG La Desirade 143.43 71 *e*P PKPab 02 01 51.4 -0.7
PCAS Casmilo, Conde 143.45 338 *e*PKPdf **PKPdf 02 01 55.1 -0.1**
GRW Mount Saint Ca 143.46 78 *e* PKPab 02 01 50.2 -2.1
GRGR Grenville 143.47 78 PFAKE 02 02 10.0 +14
GRGR LR LR
comp=Z,1μm,21.0s
TCE Chacachacare 143.48 81 *e* PKPab 02 01 51.8 -0.5
PMRV Marv??o 143.57 337 *e*PKPdf PKPbc 02 01 52.8 -0.1
FDF Fort de France 143.62 74 *e*PKHKP PKPpre 02 01 51.6
FDF MLR MLR
comp=Z,2μm,21.0s
FDF Fort de France 143.62 74 *e*PKPpre PKPpre 02 01 51.6
FDF LR LR
comp=Z,2μm,21.0s
FDF Fort de France 143.62 74[1] *e*P PKPab 02 01 52.6 -0.3
SVB Belmont 143.73 76 *e* PKPab 02 01 51.9 -1.3
PTOM Tomar 143.80 338 *e*PKPdf PKPbc 02 01 53.5 0.0
TPP Pointe-a-Pierr 143.80 81 *e* PKPab 02 01 51.3 -2.2
TRN Trinidad (W) 143.82 81 *e* PKPab 02 01 52.8 -0.8
BHS Barnard House 143.85 76 *e* PKPbc 02 01 55.0 +0.6
SLB Belfond 143.86 76 *e* PKPab 02 01 51.2 -2.6
MVM Montagne Vaucl 143.90 74 *e*P PKPab 02 01 54.1 +0.2
PESTR Estremoz 144.13 336 *e*PKPdf PKPbc 02 01 54.5 -0.1
TBH Brigand Hill 144.16 81 *e* PKPbc 02 01 55.2 -0.2
PMTG Montargil 144.21 337 *e*PKPdf **PKPab 02 01 54.3 0.0**
ALMR Almeirim 144.26 338 *e*P **PKPdf 02 01 55.8 -0.9**
ALMR Almeirim 144.26 338 *e*P **PKPdf 02 01 55.8 -0.9**
TPR Prospect 144.40 80 *e* **PKPab 02 01 54.5 -1.3**
PBAR Barrancos 144.50 335 *e*PKPdf PKPbc 02 01 55.6 -0.1
EVO Evora 144.59 337[1] *e*PKIKP PKPbc 02 01 55.9 -0.1
comp=Z,63nm,0.8s
EVO *e*R
comp=Z,1μm,21.2s
EVO Evora 144.59 337 *e*PKPbc **PKPab 02 01 55.6 -0.2**
TOSP Speyside 144.63 80 *e* **PKPab 02 01 56.0 -0.6**
PACT Alcochete 144.70 338 *e*PKPdf PKPbc 02 01 56.7 +0.4
PMAFR Mafra 144.70 339 *e*PKPbc **PKPab 02 01 55.2 -1.0**
PMST Lisbon--Monsan 144.86 338 *e*PKPab **PKPab 02 01 56.0 -0.7**
LIS Lisbon 144.86 338 *e*P **PKPab 02 01 56.1 -0.7**
LIS Lisbon 144.86 338 *e*P **PKPab 02 01 56.1 -0.7**
PBEJ Beja 144.97 336 *e*PKPdf PKPbc 02 01 57.2 0.0
PNCL Nicolau / Gran 145.16 337 *e*PKPdf **PKPab 02 01 58.0 -0.2**
PCVE Castro Verde 145.37 336 *e*PKPdf **PKPab 02 01 58.7 0.0**
BBGH Gun Hill 145.38 76 *e*PKPbc **PKPab 02 02 00.5 +1.2**
BBGH LR LR
comp=Z,3μm,20.0s
PVAQ Vaqueiros 145.44 335 *e*PKPab **PKPab 02 01 58.8 -0.1**
PBDV Barranco-do-Ve 145.66 335 *e*PKPab **PKPab 02 02 00.2 +0.4**
PTEO Sao Teotonio 145.72 337 *e*PKPab **PKPab 02 02 00.0 0.0**
MORF Marmelete 145.90 336 *e*PKPab **PKPab 02 02 00.4 -0.3**
PFVI Vila Bisbo 146.12 336 *e*PKPab **PKPab 02 02 01.2 -0.3**
TAM Tamanrasset 146.40 302 *e*PKIKP **PKPdf 02 02 00.8 -0.2**
TAM MLR MLR
comp=Z,1μm,20.0s
TAM Tamanrasset 146.40 302 *e*PKPbc **PKPdf 02 02 00.8 -0.2**
TAM LR LR
comp=Z,1μm,20.0s
PGRA Graciosa 147.52 4 *e*PKP **PKPab 02 02 05.9 -0.9**
MDT Midelt 147.66 327 PKP **PKPdf 02 02 03.2 +0.4**
MDT PKPbc **PKiKP 02 02 06.5 -1.1**
MDT PP **PP 02 05 31.1 -0.3**
MDT Midelt 147.66 327 PKP **PKPdf 02 02 03.2 +0.4**
comp=Z,29nm,0.9s,baz=34,slow=2.6,SNR=4.2
MDT PKPbc **PKiKP 02 02 06.5 -1.1**
comp=Z,26nm,0.5s,baz=46,slow=5.2,SNR=5.3
MDT PP **PP 02 05 31.1 -0.3**
comp=Z,6.4nm,0.9s,baz=60,slow=7.4,SNR=3.2
ROSA Rosais 147.80 5 *e*PKP **PKPab 02 02 10.1 +2.1**
PCED Cedros 147.85 5 *e*PKP **PKPbc 02 02 06.2 +0.5**
CALA Caldeira 147.90 5 *e*PKP **PKPab 02 02 08.7 +0.2**
PMAN Manadas 147.90 4 *e*PKP **PKPbc 02 02 06.7 +0.8**
ADH Angra Heroismo 147.94 3 *e*PKP **PKPab 02 02 07.3 -1.2**
PICO Pico 148.00 5 *e*PKP **PKPbc 02 02 07.4 +1.2**
BDFB Brasilia 148.34 134 PKP **PKPdf 02 02 05.2 +0.8**
BDFB PKPbc **PKPbc 02 02 08.0 +0.2**
BDFB PP **PP 02 05 33.8 -2.1**
BDFB Brasilia 148.34 134 PKP **PKPdf 02 02 05.2 +0.8**
comp=Z,193nm,0.7s,baz=237,slow=1.5,SNR=36
BDFB PKPbc **PKPbc 02 02 08.0 +0.2**
comp=Z,193nm,0.7s,baz=275,slow=1.6,SNR=37
BDFB PP **PP 02 05 33.8 -2.1**
comp=Z,10nm,0.8s,baz=186,slow=9.2,SNR=2.3
PSET Sete Cidades 148.82 1 *e*PKP **PKPbc 02 02 09.2 +0.9**
BART Pico Bartolome 148.88 0 *e*PKP **PKPbc 02 02 08.8 +0.3**
GRON Grota Negra 148.88 1 *e*PKP **PKPbc 02 02 09.1 +0.6**
CMLA Cha da Macela 148.88 1 *e*PKP **PKPbc 02 02 08.2 -0.3**
CMLA Cha da Macela 148.88 1 *e*PKP2 **PKPbc 02 02 09.2 +0.7**
CMLA MLR MLR
comp=Z,2μm,22.0s
CMLA Cha da Macela 148.88 1 *e*PKPbc **PKPbc 02 02 09.2 +0.7**
CMLA LR LR
comp=Z,2μm,22.0s
PDA Ponta Delgada 148.90 1 *e*PKP **PKPbc 02 02 09.8 +1.3**
PSMN Pico do Norte, 149.65 0 *e*PKP **PKPbc 02 02 09.8 -0.6**
PSMA Santa Maria 149.66 0 *e*PKP **PKPbc 02 02 09.5 -0.9**
SHEL Horse Pasture 150.62 220 *e*PKPbc **PKPbc 02 02 14.8 +1.5**
SHEL LR LR
comp=Z,2μm,20.0s
PMPST Porto Santo, M 152.35 344 *e*PKPbc **PKPbc 02 02 17.8 +0.9**
PMPS Porto Santo 152.37 344 *e*PKPbc **PKPbc 02 02 17.2 +0.3**
PMAR Madeira 152.84 345 *e*PKPbc **PKPbc 02 02 18.9 +0.7**
TORD Torodi Ar. Bea 152.86 286 PKP **PKPdf 02 02 10.2 -1.1**
TORD PKPbc **PKPbc 02 02 18.4 -0.1**
TORD PP **PP 02 06 02.2 -0.6**
TORD Torodi Ar. Bea 152.86 286 PKP **PKPdf 02 02 10.2 -1.1**
comp=Z,19nm,0.8s,baz=38,slow=1.6,SNR=97
TORD PKPbc **PKPbc 02 02 18.4 -0.1**
comp=Z,136nm,0.7s,baz=65,slow=2.2,SNR=130
TORD PP **PP 02 06 02.2 -0.6**
comp=Z,7.6nm,1.0s,baz=86,slow=5.6,SNR=3.8
FUL Funchal 152.91 345 *e*PKPbc **PKPbc 02 02 18.9 +0.8**
KIC Kosan Boka 159.83 271 *e*PKP1 **PKPdf 02 02 19.8 -0.6**
comp=Z,566nm,1.0s
KIC Kosan Boka 159.83 271 *e*P **PP 02 06 41.8 +0.1**
comp=Z,164nm,1.5s
DBIC Dimbokro 159.95 272 *e*PKPdf **PKPdf 02 02 19.9 -0.7**
DBIC PKP **PKPdf 02 02 20.0 -0.5**
DBIC *e*PKPab **PKPab 02 03 00.1 0.0**
DBIC PKPab PKPab 02 03 00.2 +0.1
DBIC PP **PP 02 06 45.1 +2.8**
DBIC Dimbokro 159.95 272 PKP **PKPdf 02 02 20.0 -0.5**
comp=Z,11nm,0.8s,baz=36,slow=3.3,SNR=12
DBIC PKPab **PKPab 02 03 00.2 +0.1**
comp=Z,137nm,0.9s,baz=79,slow=6.0,SNR=26
DBIC PP **PP 02 06 45.1 +2.8**
comp=Z,14nm,1.0s,baz=36,slow=9.3,SNR=6.0
LIC Lamto 160.11 270 *e*PKIKP **PKPdf 02 02 20.3 -0.4**
comp=Z,28nm,0.9s
LIC *e*R
comp=Z,3μm,22.0s
LIC Lamto 160.11 270 *e*PKP1 **PKPdf 02 02 20.3 -0.4**
comp=Z,374nm,0.8s
LIC Lamto 160.11 270 *e*P **PP 02 06 45.4 +2.2**
comp=Z,62nm,1.3s
TIC Toumodi 160.11 272 *e*PKP1 **PKPdf 02 02 18.8 -1.9**
comp=Z,432nm,1.0s
TIC Toumodi 160.11 272 *e*P **PP 02 06 45.1 +1.9**
comp=Z,89nm,1.2s
RCBR Riachuelo 163.64 138 *e*PKPdf **PKPdf 02 02 23.8 -0.6**
RCBR *e*PKPab **PKPab 02 03 16.4 +0.4**
RCBR LR LR
comp=Z,2μm,20.0s
SACV Santiago Islan 171.47 351 PFAKE 02 02 40.0 +10
SACV LR LR
comp=Z,1μm,20.0s

BJI ***25*** *01:43:38.0, 59°.30N×143°.60W, h12km, mB5.1/5, mb4.8/13, Ms5.7/2, Ms7 5.3/2*
ISCJB ***25*** *01:43:39.5±0.1, 59°.37N±0°.02×143°.78W±0°.03, h10km, mb5.0/202, MS5.3/225, Error ellipse: s-maj=2.8km s-min=1.8km az=43.2*
MOS ***25*** *01:43:39.8±1.1, 59°.40N×143°.70W, h10km, mb5.3/64, MS5.2/56, Error ellipse: s-maj=10.4km s-min=4.1km az=97.3*
NEIC ***25*** *01:43:40.7, 59°.29N×143°.66W, h10km, mb5.0/98, MS5.3/153, After AEIC.*
IDC ***25*** *01:43:40.6±0.6, 59°.44N×143°.60W, h0km, mb4.4/17, mb1 4.6/23, mb1mx4.6/30, mbtmp4.4/23, ML4.1/6, MS5.2/41, Ms1 5.2/41, ms1mx5.1/56, Error ellipse: s-maj=13.0km s-min=8.6km az=30.0*
GCMT ***25*** *01:43:49.1±0.1, 59°.32N×143°.74W, h12km, MW5.6, Moment Tensor Solution. s74,c115; s42,c46; Moment tensor: Scale 10^17 Nm; Mrr 2.81±.04; Mθθ -2.32±.04; Mφφ -0.49±.04; Mrθ 2.13±.11; Mrφ -1.03±.03; Mθφ 0.57±.13; Best double couple: M0 3.60000×10^17 NP1: κ8, 240.00000°, δ26.00000°, λ80.00000°. NP2: κ171.00000°, δ64.00000°, λ95.00000°. Principal axes: T 3.5900, Plg70.0000°, Azm352.0000°; N -0.0600, Plg4.0000°, Azm249.0000°; P -3.5300, Plg19.0000°, Azm158.0000°; Data Used: II IU IC G CN. Surface waves: sta=106, comp=225, per= 50.*
SZGRF ***25*** *01:43:54.5, 60°.44N×142°.78W, h33km, mb5.3, Southern Alaska, United States*

ISC 25 01:43:42.5±0.4, 59°.41N±0°.03×143°.64W±0°.02, h15km±1km, h14km: pP-P, n1011, σ1938/841, mb5.1/206, MS5.3/225, 177C-159D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAIM	**Kayak Island**	**0.65**	**323**	P		**Pg**	**01 43 55.0**	**-0.3**
SUCK	**Suckling Hills**	**0.67**	**354**	P		**Pg**	**01 43 55.2**	**-0.3**
SUCK				S		**Sn**	**01 44 08.1**	**+0.4**
BGLC	**Bering Glacier**	**0.73**	**14**	P		**Pg**	**01 43 56.0**	**-0.8**
NICHA	**Nichawak Mount**	**0.84**	**349**	P		**Pg**	**01 43 57.8**	**-1.1**
NICHA				S		**Sn**	**01 44 12.0**	**0.0**
GRIN	**Grindle Hills**	**0.89**	**10**	P		**Pg**	**01 43 58.8**	**-0.9**
KULT	**Dultieth River**	**0.96**	**29**	P		**Pg**	**01 43 59.1**	**-2.0**
BERG	**Berg Lake**	**0.98**	**358**	P		**Pg**	**01 43 59.8**	**-1.8**
RAGM	**Ragged Mountai**	**1.11**	**332**	P		**Pb**	**01 44 01.9**	**-1.6**
RAGM				S		**Sg**	**01 44 18.1**	**-0.2**
MESA	**MESA**	**1.15**	**47**	P		**Pb**	**01 44 02.0**	**-2.2**
BARK	**Barkley Ridge**	**1.15**	**30**	P		**Pb**	**01 44 02.3**	**-1.9**
GOAT	**Goat Mountain**	**1.29**	**335**	P		**Pn**	**01 44 04.2**	**-1.9**
BAGL	**Bagley Icefiel**	**1.33**	**35**	P		**Pn**	**01 44 04.7**	**-1.8**
BAGL				S		**Sb**	**01 44 23.8**	**-0.2**
ISLE	**Juniper Island**	**1.36**	**28**	P		**Pn**	**01 44 05.2**	**-1.9**
MID	**Middleton Isla**	**1.38**	**272**	P		Pn	01 44 03.5	-3.7
MID	**Middleton Isla**	**1.38**	**272**	P		Pn	01 44 03.5	-3.7
RKAV	**Rock Avalanche**	**1.46**	**51**	P		**Pn**	**01 44 06.7**	**-1.8**
EYAK	**Cordova Ski Ar**	**1.56**	**318**	P		**Pn**	**01 44 07.4**	**-2.3**
SAMH	**Samovar Hills**	**1.61**	**62**	P		**Pn**	**01 44 09.2**	**-1.4**
SAMH				S		**Sn**	**01 44 29.3**	**-1.9**
TABL	**Table Mountain**	**1.62**	**50**	P		**Pn**	**01 44 09.0**	**-1.8**
GRNC	**Granite Creek**	**1.62**	**35**	P		**Pn**	**01 44 09.0**	**-1.8**
BMRM	**Bremner River**	**1.63**	**343**	*e*Pn		**Pn**	**01 44 08.8**	**-2.0**
BMRM				*e*Sn		**Sn**	**01 44 30.2**	**-1.3**
BMRM				*e*Sg		**Sb**	**01 44 33.8**	**+1.0**
KIAG	**Kiagna River**	**1.64**	**22**	P		**Pn**	**01 44 09.3**	**-1.8**
BALM	**Baldy**	**1.75**	**21**	P		**Pn**	**01 44 10.8**	**-1.7**
BALM	**Baldy**	**1.75**	**21**	P		**Pn**	**01 44 10.8**	**-1.7**
VRDI	**Verde Repeater**	**1.82**	**3**	P		**Pn**	**01 44 12.0**	**-1.5**
PTPK	**Patty Peak**	**1.87**	**18**	P		**Pn**	**01 44 13.0**	**-1.3**
PTPK				S		**Sb**	**01 44 39.3**	**-0.5**
BARN	**Barnard Glacie**	**1.92**	**30**	P		**Pn**	**01 44 13.5**	**-1.4**
FID	**Port Fidalgo**	**1.96**	**314**	P		**Pn**	**01 44 13.1**	**-2.1**
MCARA	**McCarthy VSAT**	**2.00**	**9**	P		**Pn**	**01 44 14.3**	**-1.5**
DIV	**Divide**	**2.02**	**329**	P		**Pn**	**01 44 14.9**	**-1.3**
YKU2	**Yakutat**	**2.03**	**86**	P		**Pn**	**01 44 13.9**	**-2.2**
GLB	**Gilahina Butte**	**2.04**	**358**	P		**Pn**	**01 44 15.0**	**-1.3**
PNL	**Peninsula**	**2.17**	**81**	P		**Pn**	**01 44 15.4**	**-2.8**
PNL				*e*Pg		**Pb**	**01 44 22.8**	**+1.2**
PNL				*e*Sg		**Sb**	**01 44 48.6**	**+0.3**
VLZ	**Valdez**	**2.19**	**323**	P		**Pn**	**01 44 16.1**	**-2.1**
KLU	**Klutina**	**2.37**	**333**	P		**Pn**	**01 44 19.3**	**-1.7**
SCM	**Sheep Creek Mo**	**3.03**	**325**	P		**Pn**	**01 44 28.9**	**-1.2**
SCM	**Sheep Creek Mo**	**3.03**	**325**	P		**Pn**	**01 44 28.9**	**-1.2**
HARP	**HAARP**	**3.09**	**347**	P		**Pn**	**01 44 30.0**	**-0.8**
SML	**Sawmill**	**3.34**	**318**	P		**Pn**	**01 44 32.8**	**-1.4**
SML	**Sawmill**	**3.34**	**318**	P		**Pn**	**01 44 32.8**	**-1.4**
HYT	**Haines Junctio**	**3.38**	**63**	P		**Pn**	**01 44 33.5**	**-1.3**
PMR	**Palmer**	**3.49**	**311**	*e*P		**Pn**	**01 44 35.2**	**-1.0**
PMR	**Palmer**	**3.49**	**311**	*e*Pn		**Pn**	**01 44 35.2**	**-1.0**
PMR				*e*Pg		**Pb**	**01 44 45.1**	**+1.2**
MENT	**Mentasta**	**3.54**	**359**	P		**Pn**	**01 44 36.5**	**-0.4**
PAX	**Paxson**	**3.68**	**347**	P		**Pn**	**01 44 37.9**	**-1.0**
PAX	**Paxson**	**3.68**	**347**	P		**Pn**	**01 44 37.9**	**-1.0**
BRLK	**Bradley Lake**	**3.70**	**279**	P		**Pn**	**01 44 37.0**	**-2.1**
BCA3	**Beaver Creek A**	**3.77**	**13**	P		**Pn**	**01 44 39.1**	**-1.0**
CNPM	**China Poot**	**3.88**	**275**	P		**Pn**	**01 44 39.4**	**-2.2**
DHY	**Denali Highway**	**4.09**	**335**	P		**Pn**	**01 44 43.8**	**-0.9**
SKAG	**Skagway**	**4.24**	**86**	P		**Pn**	**01 44 45.8**	**-0.8**
TRAP	**Trapper Creek**	**4.36**	**315**	P		**Pn**	**01 44 47.5**	**-0.7**
DDM	**Donnelly Dome**	**4.52**	**347**	P		**Pn**	**01 44 48.9**	**-1.5**
SPU	**Mount Spurr**

EGAK **Eagle** 5.51 11 P **Pn** 01 45 03.5 -0.4
OHAK **Old Harbor** 5.54 251 P Pn 01 45 01.3 -3.1
IL1 **Eielson Array** 5.59 346 P **Pn** 01 45 03.2 -1.8
ILAR **Eielson Array** 5.59 346 Pn **Pn** 01 45 04.3 -0.7
ILAR Lg Lg 01 46 40.3
ILAR Eielson Array 5.59 346 Pn **Pn** 01 45 04.3 -0.7
28nm,0.3s,baz=174,slow=13,SNR=554
ILAR Lg Lg 01 46 40.3
baz=159,slow=30,SNR=2.8
CCB Clear Creek Bu 5.61 341 P **Pn** 01 45 04.2 -1.1
NEA Nenana 5.78 336 P **Pn** 01 45 05.7 -1.9
COLA College 5.82 342 P **Pn** 01 45 07.1 -1.1
COLA College 5.82 342 P **Pn** 01 45 07.1 -1.1
MDM Murphy Dome 5.96 341 P **Pn** 01 45 08.1 -2.1
SVW2 Sparrevohn 6.18 291 P **Pn** 01 45 11.2 -1.9
MLY Manley 6.54 333 P **Pn** 01 45 16.7 -1.4
WRAK Wrangell Islan 6.72 112 *e*Pn **Pn** 01 45 19.4 -1.1
82nm,0.4s
CRAG Craig 6.91 120 P Pn 01 45 19.6 -3.6
TT01 Tatalina 6.94 306 P **Pn** 01 45 20.8 -2.7
DLBC Dease Lake 7.11 92 Pn **Pn** 01 45 24.9 -1.2
DLBC Lg Lg 01 47 30.3
DLBC Dease Lake 7.11 92 Pn **Pn** 01 45 24.9 -1.2
3.2nm,0.3s,baz=282,slow=13,SNR=15
DLBC Sn **Sn** 01 46 44.5 -2.1
6.6nm,0.3s,baz=262,slow=15,SNR=2.8
DLBC Lg Lg 01 47 30.3
7.4nm,0.3s,baz=172,slow=8.0,SNR=3.5
DLBC LR LR 01 48 21.7
comp=Z,23µm,21.1s,baz=283,slow=40
BM3 Burnt Mountain 8.05 357 P **Pn** 01 45 37.6 -1.2
IM3 Indian Mountai 8.06 329 P **Pn** 01 45 37.1 -1.8
ANPK Aniakchak Peak 8.09 258 P Pn 01 45 36.0 -3.4
COLD Coldfoot 8.38 342 P **Pn** 01 45 41.5 -1.8
CHGN Chignik 8.47 255 *e*Pn **Pn** 01 45 42.6 -1.9
VIB Van Inlet 8.72 130 Pn Pn 01 45 44.8 -3.2
VIB T T 01 55 08.0
DIB Dawson Inlet, 8.78 130 Pn Pn 01 45 45.6 -3.2
DIB T T 01 54 59.2
SDPT Sand Point 9.95 253 *e*Pn **Pn** 01 46 02.9 -2.0
INK Inuvik 9.96 22 Pn **Pn** 01 46 05.6 +0.7
INK Lg Lg 01 48 53.3
INK Inuvik 9.96 22 Pn **Pn** 01 46 05.6 +0.7
1.5nm,0.3s,baz=220,slow=15,SNR=15
INK Lg Lg 01 48 53.3
0.2nm,0.3s,baz=267,slow=18,SNR=3.3
INK LR LR 01 50 30.3
comp=Z,21µm,20.2s,baz=207,slow=41
BBB Bella Bella 11.33 123 Pn **Pn** 01 46 22.3 -1.3
BBB Bella Bella 11.33 123 Pn **Pn** 01 46 22.3 -1.3
0.5nm,0.3s,baz=306,slow=6.5,SNR=3.8
BBB LR LR 01 50 12.0
comp=Z,14µm,18.9s,baz=314,slow=35
FALS False Pass 11.66 256 *e*Pn **Pn** 01 46 26.3 -1.8
UNV Unalaska Valle 13.72 256 *e*Pn **Pn** 01 46 53.9 -2.5
YKA Yellowknife Ar 14.37 65 Pn **Pn** 01 47 03.7 -1.4
YKA Yellowknife Ar 14.37 65 Pn **Pn** 01 47 03.7 -1.4
0.2nm,0.3s,baz=268,slow=13,SNR=11
PGC Sidney 15.95 124 *e*Pn **Pn** 01 47 23.8 -2.4
NLWA Neilton Lookou 16.76 127 *e*Pn **Pn** 01 47 36.2 -0.4
258nm,1.7s
JCW Jim Creek 16.95 122 P **P** 01 47 40.7 -0.2
HTW Haystack Looko 17.32 122 P **P** 01 47 44.6 -0.4
ETW Entiat 18.10 120 P **P** 01 47 55.6 +1.9
LON Longmire 18.12 125 *e*P **Pn** 01 47 51.5 -2.1
LON pmax pmax
comp=Z,133nm,1.8s
LON Longmire 18.12 125 *e*Pn **Pn** 01 47 51.5 -2.1
comp=Z,133nm,1.8s
WPW White Pass 18.28 124 P **P** 01 47 58.1 +2.5
TBM Table Mountain 18.32 122 P **P** 01 47 57.1 +1.1
NEW Newport 19.07 114 *e*P **Pn** 01 48 05.9 +0.8
comp=Z,131nm,1.7s
NEW Newport 19.07 114 ⇑P **P** 01 48 03.5 -0.7
baz=19,SNR=10
A12A Yaak River Ran 19.30 111 ⇓P **P** 01 48 06.8 +0.1
baz=19
HAWA Hanford 19.38 122 *e*P **P** 01 48 07.6 0.0
comp=Z,108nm,1.8s
VFP Flag Point 19.42 127 P **Pn** 01 48 11.7 +2.3
BLTW Bickleton 19.48 124 P **Pn** 01 48 11.9 +2.0
B12A Libby 19.65 111 ⇓P **P** 01 48 09.5 -1.1
baz=20
A13A Flathead Natio 19.89 109 ⇑P **P** 01 48 12.1 -1.1
baz=20
WALA Waterton Lakes 20.05 108 *e*P **P** 01 48 15.9 +0.9
IRO Indian Ridge 20.19 130 P Pn 01 48 20.8 +2.2
C12B Naegeli Ranch, 20.24 113 ⇑P **P** 01 48 17.7 +0.7
baz=20,SNR=6.8
B13A Whitefish 20.25 110 ⇑P **P** 01 48 15.2 -1.9
baz=20
A14A Double T Ranch 20.35 108 ⇓P **P** 01 48 16.7 -1.5
baz=20,SNR=20
BSMT Bassoo Peak 20.47 112 *e*P **P** 01 48 19.5 -0.1
BLMT Blacktail Moun 20.55 111 *e*P **P** 01 48 18.4 -2.2
A15A Johnson Ranch, 20.68 107 ⇑P **P** 01 48 20.9 -0.9
baz=21,SNR=30
C13A Hot Springs 20.69 112 ⇑P **P** 01 48 21.3 -0.6
baz=21,SNR=7.0
C13A ⇑S **S** 01 52 13.5 +1.1
baz=21
C13A ⇑S **S** 01 52 13.5 +1.1
baz=21
C13A ⇑S **S** 01 52 13.5 +1.1
baz=21
JTMT Jette 20.78 111 *e*P **P** 01 48 23.5 +0.6
YBMT Yellow Bay 20.83 111 *e*P **P** 01 48 24.4 +0.9
comp=Z,50nm,1.6s
B14A Marquette Ranc 20.84 109 ⇓P **P** 01 48 21.2 -2.4
baz=21
C14A Swan Lake 21.02 110 ⇓P **P** 01 48 24.3 -1.1
baz=21
SWMT Swartz Lake 21.08 111 *e*P **P** 01 48 26.3 +0.1
HUMO Hull Mountain 21.12 134 *e*P **P** 01 48 29.5 +3.0
comp=Z,108nm,1.7s
B15A Bradely Ranch, 21.21 108 ⇑P **P** 01 48 27.0 -0.6
baz=21,SNR=24
A16A West Butte Ran 21.26 105 ⇓P **P** 01 48 27.0 -1.1
baz=21
SLMT Seeley Lake 21.52 111 *e*P **P** 01 48 31.5 +0.6
BMO Blue Mountains 21.56 121 *e*P **P** 01 48 32.3 +1.0
comp=Z,96nm,1.5s
BMO LR LR
comp=Z,5µm,20.0s
B16A M & M Farms, S 21.57 107 ⇑P **P** 01 48 29.5 -1.9
baz=22
C15A Salmond Ranch, 21.57 109 ⇓P **P** 01 48 29.9 -1.5
baz=22,SNR=66
A17A Triple J Farms 21.71 104 ⇑P **P** 01 48 31.5 -1.3
baz=22,SNR=37
CHMT Chamberlain Mo 21.86 111 *e*P **P** 01 48 35.9 +1.2
C16A Fuhringer Ranc 21.96 108 ⇑P **P** 01 48 34.1 -1.6
baz=22,SNR=36
YBH Yreka Blue Hor 21.97 134 *e*P **P** 01 48 37.5 +1.8
comp=Z,95nm,1.7s
YBH Yreka Blue Hor 21.97 134 P P 01 48 42.0 +6.3
comp=Z,8.4nm,1.1s,baz=325,slow=6.5,SNR=8.8
YBH LR LR 01 55 22.0
comp=Z,11µm,19.2s,baz=338,slow=32
A18A Metzger Ranch, 22.15 103 ⇑P **P** 01 48 34.9 -2.6
baz=22
G12A Big Creek, Yel 22.23 117 ⇑P **P** 01 48 36.8 -1.7
baz=22
KHMM Horse Mountain 22.36 137 *e*P **P** 01 48 38.9 -1.1
comp=Z,174nm,1.6s
B18A Beardsley Farm 22.53 104 ⇓P **P** 01 48 40.5 -1.1
baz=22,SNR=36
C17A Wharram Farm, 22.56 107 ⇓P **P** 01 48 40.4 -1.6
baz=22,SNR=28
A19A Klindworth Far 22.69 102 ⇓P **P** 01 48 42.2 -1.1
baz=23,SNR=8.5
HRY Holter Researc 22.69 110 *e*P **P** 01 48 44.2 +0.8
EGMT Eagleton 22.79 105 *e*P **P** 01 48 44.9 +0.5
comp=Z,74nm,0.9s
EGMT LR LR
comp=Z,9µm,22.0s
EGMT Eagleton 22.79 105 ⇑P **P** 01 48 43.0 -1.4
baz=23,SNR=26
FFC Flin Flon 22.84 83 *e*P **P** 01 48 45.3 +0.6
FFC pmax pmax
comp=Z,56nm,1.2s
FFC MLR MLR
comp=Z,4µm,21.0s
FFC Flin Flon 22.84 83 *e*P **P** 01 48 45.3 +0.6
comp=Z,56nm,1.2s

FFC LR LR
comp=Z,4µm,21.0s
H12A Diamond D Ranc 22.89 118 ⇓P **P** 01 48 42.3 -3.3
baz=23,SNR=9.2
B19A Brinkman Farms 22.90 103 ⇓P **P** 01 48 42.2 -3.4
baz=23
D17A Six Diamond Ra 22.93 108 ⇑P **P** 01 48 43.6 -2.4
baz=23
WVOR Wild Horse Val 22.95 127 *e*P **P** 01 48 45.6 -0.6
WVOR pmax pmax
comp=Z,111nm,1.7s
WVOR MLR MLR
comp=Z,10µm,19.0s
WVOR Wild Horse Val 22.95 127 *e*P **P** 01 48 45.6 -0.6
comp=Z,111nm,1.7s
WVOR LR LR
comp=Z,10µm,19.0s
WDC Whiskeytown Da 23.04 136 *e*P **P** 01 48 48.0 +1.1
WDC pmax pmax
comp=Z,111nm,1.6s
WDC Whiskeytown Da 23.04 136 *e*P **P** 01 48 48.0 +1.1
comp=Z,111nm,1.6s
LRM Limekiln Ridge 23.04 112 *e*P **P** 01 48 47.5 +0.2
A20A Cobblestone Ra 23.13 101 ⇓P **P** 01 48 46.5 -1.4
baz=23,SNR=7.1
DLMT Dillon 23.31 113 *e*P **P** 01 48 51.6 +1.7
comp=Z,197nm,1.8s
D18A Linhart Farms, 23.33 107 ⇓P **P** 01 48 47.5 -2.6
baz=23
C19A Slack Wire Ran 23.34 105 ⇑P **P** 01 48 49.2 -0.7
baz=23,SNR=10
E17A Martinsdale 23.34 109 ⇑P **P** 01 48 49.0 -1.2
baz=23,SNR=6.7
MFID Camas Ranch 23.35 121 *e*P **P** 01 48 50.9 +0.7
comp=Z,263nm,2.4s
MFID Camas Ranch 23.35 121 ⇑P **P** 01 48 49.4 -0.8
baz=23,SNR=15
B20A Solberg Farm, 23.37 102 ⇓P **P** 01 48 49.4 -0.9
baz=23,SNR=5.7
BOZ Bozeman (W) 23.56 112 *e*P **P** 01 48 53.1 +0.8
BOZ pmax pmax
comp=Z,52nm,1.6s
BOZ MLR MLR
comp=Z,7µm,22.0s
BOZ Bozeman (W) 23.56 112 *e*P **P** 01 48 53.0 +0.8
comp=Z,52nm,1.6s
BOZ LR LR
comp=Z,7µm,22.0s
A21A Bergtoll Ranch 23.56 100 ⇑P **P** 01 48 51.9 -0.3
baz=24
MCMT McKenzie Canyo 23.60 115 *e*P **P** 01 48 53.4 +0.6
comp=Z,45nm,1.6s
E18A Harlowton 23.72 108 ⇓P **P** 01 48 51.8 -2.1
baz=24
D19A Cripps Ranch, 23.81 106 ⇓P **P** 01 48 54.0 -0.7
baz=24,SNR=6.8
F17A Fitzpatrick Pl 23.84 110 ⇑P **P** 01 48 54.0 -1.0
baz=24
HLID Hailey 23.86 119 *e*P **P** 01 48 56.7 +1.5
comp=Z,145nm,2.3s
HLID LR LR
comp=Z,5µm,19.0s
HLID Hailey 23.86 119 ⇑P **P** 01 48 53.4 -1.9
baz=24
C20A Veseth Ranch, 23.87 104 ⇑P **P** 01 48 52.4 -2.8
baz=24
B21A Ellsworth Farm 23.88 101 ⇑P **P** 01 48 55.0 -0.3
baz=24,SNR=6.5
I14A Mackay 24.01 117 ⇓P **P** 01 48 56.3 -0.3
baz=24,SNR=7.5
A22A Carney Farms, 24.07 99 ⇓P **P** 01 48 55.9 -1.2
baz=24
G17A Pierce Place, 24.22 111 ⇑P **P** 01 48 57.2 -1.5
baz=24
D20A Manuel Ranch, 24.23 105 ⇑P **P** 01 48 58.7 +0.1
baz=24,SNR=6.3
C21A Desert Coulee 24.24 102 ⇓P **P** 01 48 57.4 -1.3
baz=24
QLMT Earthquake Lak 24.26 113 *e*P **P** 01 48 58.8 -0.2
F18A Big Timber 24.29 109 ⇓P **P** 01 48 58.2 -1.0
baz=24
E19A Rath Farm, Rou 24.35 107 ⇓P **P** 01 48 59.9 +0.2
baz=24
GCMT Griffi 24.40 109 *e*P **P** 01 49 00.6 +0.4
comp=Z,5.8nm,1.0s
H16A Russell Place, 24.44 113 ⇓P **P** 01 48 59.5 -1.2
baz=24
BEKR Beckworth 24.47 133 *e*P **P** 01 48 59.9 -1.1
comp=Z,11nm,1.3s
B22A Reddig Ranch S 24.48 100 ⇓P **P** 01 49 00.4 -0.5
baz=24
FX1 Attu Island--F 24.57 274 *e*P **P** 01 49 00.9 -0.6
FX1 Attu Island--F 24.57 274 P **P** 01 49 04.2 +2.7
comp=Z,46nm,1.0s,baz=347,slow=7.0,SNR=6.2
A23A Redstone 24.62 98 ⇓P **P** 01 49 00.8 -1.2
baz=24
E20A Meyer Farm, Mu 24.64 106 ⇑P **P** 01 49 02.9 +0.6
baz=24
F19A Roth Farm, Mol 24.70 108 ⇑P **P** 01 49 01.9 -1.0
baz=25
G18A Lazy EL Ranch, 24.79 109 ⇓P **P** 01 49 03.5 -0.3
baz=25
D21A La Casta Ranch 24.81 104 ⇑P **P** 01 49 03.7 -0.1
baz=25
YFT Old Faithful 24.82 112 *e*P **P** 01 49 04.7 +0.5
comp=Z,8.9nm,0.7s
B23A Brockton 24.88 99 ⇑P **P** 01 49 04.0 -0.4
baz=25
C22A Vida 24.91 101 ⇓P **P** 01 49 04.2 -0.4
baz=25
LKWY Lake 24.95 112 PFAKE 01 49 20.0 +15
LKWY LR LR
comp=Z,12µm,19.0s
I16A Newdale 24.95 114 ⇑P **P** 01 49 05.1 -0.2
baz=25,SNR=8.2
PAHR Pah Rah Range 24.98 131 *e*P **P** 01 49 04.5 -0.9
comp=Z,73nm,1.8s
RLMT Red Lodge 25.08 109 *e*P **P** 01 49 06.1 -0.4
comp=Z,23nm,1.0s
RLMT LR LR
comp=Z,7µm,21.0s
A24A Westby 25.08 97 ⇓P **P** 01 49 04.3 -1.9
baz=25,SNR=6.3
F20A Billings 25.13 107 ⇑P **P** 01 49 05.4 -1.3
baz=25
E21A Keefer Ranch, 25.13 105 ⇓P **P** 01 49 07.5 +0.7
baz=25
D22A Cohagen 25.16 102 ⇓P **P** 01 49 07.8 +0.8
baz=25,SNR=8.1
FLWY Flagg Ranch 25.17 113 *e*P **P** 01 49 08.5 +1.3
comp=Z,168nm,1.7s
IMW Indian Meadow 25.20 113 *e*P **P** 01 49 07.6 0.0
comp=Z,301nm,1.9s
BMN Battle Mountai 25.21 127 PFAKE 01 49 20.0 +12
BMN LR LR
comp=Z,7µm,22.0s
H18A Shoshone NF, C 25.21 111 ⇓P **P** 01 49 06.6 -1.1
baz=25
C23A Lambert 25.22 100 ⇓P **P** 01 49 05.5 -2.0
baz=25
DGMT Dagmar 25.28 98 *e*P **P** 01 49 05.8 -2.2
comp=Z,129nm,1.5s
DGMT LR LR
comp=Z,11µm,21.0s
DGMT Dagmar 25.28 98 ⇑P **P** 01 49 08.8 +0.8
baz=25
I17A Pilgrim Ck. 25.35 113 ⇑P **P** 01 49 08.2 -0.7
baz=25
MOOW Moose Ponds 25.40 113 *e*P **P** 01 49 09.5 +0.1
comp=Z,121nm,1.7s
RRI2 Red Ridge 25.44 115 *e*P **P** 01 49 06.5 -3.3
comp=Z,105nm,2.0s
TPAW Teton Pass 25.50 114 *e*P **P** 01 49 09.4 -1.0
comp=Z,154nm,2.3s
G20A Bridger 25.52 108 ⇓P **P** 01 49 11.0 +0.7
baz=25,SNR=8.1
H19A Powell 25.54 110 ⇑P **P** 01 49 10.3 -0.2
baz=25
LOHW Long Hollow 25.57 113 *e*P **P** 01 49 09.8 -1.1
comp=Z,111nm,2.0s
SNOW Snow King Moun 25.61 114 *e*P **P** 01 49 11.0 -0.3
comp=Z,334nm,3.0s
F21A Absaloka Mine, 25.62 106 ⇓P **P** 01 49 10.2 -0.9
baz=26
D23A Lindsay 25.63 101 ⇓P **P** 01 49 10.8 -0.5
baz=26
REDW Red Top Meadow 25.64 114 *e*P **P** 01 49 11.2 -0.4
E22A Miles City 25.76 103 ⇓P **P** 01 49 09.6 -2.8
baz=26
ELK Elko 25.77 124 P **P** 01 49 14.6 +1.8
ELK Elko 25.77 124 P **P** 01 49 14.6 +1.8
comp=Z,8.7nm,1.3s,baz=326,slow=3.0,SNR=8.9
ELK LR LR 01 58 55.6
comp=Z,7µm,18.7s,baz=321,slow=36
C24A Savage 25.78 100 ⇑P **P** 01 49 13.4 +0.8
baz=26
I18A Diamond G Ranc 25.87 112 ⇑P **P** 01 49 14.1 +0.4
baz=26
AHID Auburn Hatcher 25.99 115 PFAKE 01 49 20.0 +5.2
AHID LR LR
comp=Z,5µm,19.0s
G21A Lodge Grass 26.00 107 ⇑P **P** 01 49 14.1 -0.6
baz=26
WAKR Walker 26.00 133 *e*P **P** 01 49 13.3 -1.6
HVU Hansel Valley 26.01 119 *e*P **P** 01 49 13.8 -1.0
HVU pmax pmax
comp=Z,47nm,1.3s
HVU Hansel Valley 26.01 119 *e*P **P** 01 49 13.8 -1.0
comp=Z,47nm,1.3s
I19A Meeteetse 26.01 111 ⇑P **P** 01 49 14.6 -0.3
baz=26,SNR=9.1
E23A Ismay 26.04 103 ⇑P **P** 01 49 13.7 -1.2
baz=26
CMB Columbia Colle 26.07 135 *e*P **P** 01 49 13.3 -1.9
CMB pmax pmax
comp=Z,41nm,1.6s
CMB Columbia Colle 26.07 135 *e*P **P** 01 49 13.3 -1.9
comp=Z,41nm,1.6s
F22A Rosebud 26.07 105 ⇓P **P** 01 49 14.4 -0.9
baz=26
A26A Wade Farm, Ken 26.10 95 ⇓P **P** 01 49 16.3 +0.8
baz=26
D24A Glendive 26.11 101 ⇓P **P** 01 49 15.2 -0.4
baz=26
H20A Greybull 26.16 109 ⇑P **P** 01 49 16.3 +0.2
baz=26,SNR=7.0
G22A Birney 26.46 106 ⇓P **P** 01 49 17.4 -1.4
baz=26
I20A Worland 26.49 110 ⇑P **P** 01 49 18.9 -0.2
baz=26
E24A Baker 26.50 101 ⇓P **P** 01 49 19.0 -0.1
baz=26
NVAR Mina Array Bea 26.50 131 P **P** 01 49 21.4 +2.1
NVAR Mina Array Bea 26.50 131 P **P** 01 49 21.4 +2.1
comp=Z,1.5nm,0.8s,baz=309,slow=7.6,SNR=13
H21A Big Horn, Sher 26.52 108 ⇓P **P** 01 49 19.6 +0.2
baz=26
SPUT South Promonto 26.53 119 *e*P **P** 01 49 19.1 -0.5
comp=Z,36nm,1.4s
F23A Volborg 26.54 104 ⇓P **P** 01 49 20.5 +1.1
baz=26
J19A Crowheart 26.57 112 ⇑P **P** 01 49 21.9 +2.1
baz=26
BGU Big Grassy Mou 26.58 120 *e*P **P** 01 49 18.7 -1.3
comp=Z,42nm,1.7s
HWUT Hardware Ranch 26.69 118 *e*P **P** 01 49 22.6 +1.5
comp=Z,64nm,1.8s
HWUT LR LR
comp=Z,5µm,20.0s
BW06 Boulder Array 26.71 113 *e*P **P** 01 49 20.5 -0.7
comp=Z,28nm,1.5s
BW06 LR LR
comp=Z,5µm,19.0s
PDAR Pinedale Array 26.71 113 P **P** 01 49 22.6 +1.3
PDAR Pinedale Array 26.71 113 P **P** 01 49 22.6 +1.3
comp=Z,4.6nm,1.2s,baz=282,slow=7.4,SNR=15
PDAR LR LR 01 59 47.4
comp=Z,4µm,19.2s,baz=326,slow=36
H22A Clearmont 26.88 107 ⇑P **P** 01 49 22.4 -0.2
baz=27
G23A Biddle 26.91 105 ⇑P **P** 01 49 22.0 -0.9
baz=27
F24A Ekalaka 26.93 103 ⇓P **P** 01 49 23.5 +0.5
baz=27,SNR=5.8
J20A Shoshoni 26.96 111 ⇓P **P** 01 49 23.1 -0.3
baz=27
E25A Miller Ranch, 27.00 101 ⇑P **P** 01 49 23.9 +0.3
baz=27
I21A Big Trails, Te 27.00 109 ⇓P **P** 01 49 23.9 +0.1
baz=27
K19A Absolon Red Bu 27.00 112 ⇓P **P** 01 49 24.5 +0.7
baz=27,SNR=6.9
C27A Sayler Ranch, 27.14 97 ⇓P **P** 01 49 23.2 -1.6
baz=27
L18A Fontenelle, Gr 27.14 115 ⇓P **P** 01 49 23.6 -1.6
baz=27
TPH Tonopah 27.23 130 PFAKE 01 49 40.0 +14
TPH LR LR
comp=Z,7µm,19.0s
J21A Lysite 27.27 110 ⇑P **P** 01 49 26.6 +0.3
baz=27,SNR=9.8
DUG Dugway 27.27 121 *e*P **P** 01 49 26.7 +0.4
DUG pmax pmax
comp=Z,72nm,2.0s
DUG MLR MLR
comp=Z,5µm,20.0s
DUG Dugway 27.27 121 *e*P **P** 01 49 26.7 +0.4
comp=Z,72nm,2.0s
DUG LR LR
comp=Z,5µm,20.0s
DUG Dugway 27.27 121 ⇓P **P** 01 49 29.1 +2.8
baz=27
G24A Alzada 27.31 104 ⇑P **P** 01 49 26.3 -0.1
baz=27
L19A Farson 27.32 114 ⇑P **P** 01 49 26.7 0.0
baz=27
I22A 9 Mile Ranch, 27.33 108 ⇓P **P** 01 49 27.3 +0.6
baz=27
K20A Yellowstone Ra 27.37 112 ⇑P **P** 01 49 26.8 -0.3
baz=27
E26A Carlson Angus 27.49 100 ⇑P **P** 01 49 29.1 +1.1
baz=27
JLU Jordanelle 27.55 119 *e*P **P** 01 49 26.1 -2.7
comp=Z,32nm,1.4s
R11A Troy Canyon, C 27.65 127 ⇓P **P** 01 49 30.3 +0.6
baz=28,SNR=9.5
H24A Dirks Ranch, A 27.65 105 ⇓P **P** 01 49 29.0 -0.6
baz=28
J22A Midwest 27.69 109 ⇓P **P** 01 49 30.3 +0.4
baz=28,SNR=5.2
DAU Daniels Canyon 27.79 119 *e*P **P** 01 49 29.2 -1.8
DAU Daniels Canyon 27.79 119 *e*P **P** 01 49 29.2 -1.8
NLU North Lily Min 27.80 120 *e*P **P** 01 49 28.6 -2.3
comp=Z,18nm,1.1s
F26A Lodgepole 27.81 101 ⇑P **P** 01 49 33.6 +2.7
baz=28
L20A Wamsutter 27.87 113 ⇑P **P** 01 49 32.5 +0.8
baz=28
M19A Rock Springs 27.88 115 ⇓P **P** 01 49 32.1 +0.4
baz=28
G25A Newell 27.90 103 ⇓P **P** 01 49 32.8 +1.1
baz=28
K21A Alcova 27.90 111 ⇓P **P** 01 49 32.4 +0.4
baz=28,SNR=5.5
MDND Maddock 28.02 95 ⇑P **P** 01 49 33.5 +0.8
baz=28
H25A Fruitdale 28.22 104 ⇑P **P** 01 49 34.4 -0.1
baz=28
K22A Casper 28.24 110 ⇑P **P** 01 49 35.8 +0.9
baz=28
I24A Kuemmerle Ranc 28.26 106 ⇓P **P** 01 49 34.0 -1.0
baz=28
M20A Sweetwater, Wa 28.34 113 ⇑P **P** 01 49 34.7 -1.2
baz=28
L21A Rawlins 28.36 112 ⇓P **P** 01 49 36.5 +0.4
baz=28
RSSD Black Hills 28.36 105 *e*P **P** 01 49 33.5 -2.5
RSSD pmax pmax
comp=Z,63nm,1.7s
RSSD Black Hills 28.36 105 *e*P **P** 01 49 33.5 -2.5
comp=Z,63nm,1.7s
ULM Lac du Bonnet 28.41 87 P **P** 01 49 38.4 +2.2
ULM Lac du Bonnet 28.41 87 P **P** 01 49 38.4 +2.2
comp=Z,5.4nm,1.0s,baz=291,slow=11,SNR=4.3
ULM LR LR 02 01 09.8
comp=Z,5µm,21.4s,baz=310,slow=37
I25A Rochford 28.59 105 ⇓P **P** 01 49 40.9 +2.9
baz=28
K23A Bowen Ranch, D 28.59 109 ⇑P **P** 01 49 39.3 +1.3
baz=28
M21A Separation Pea 28.64 112 ⇑P **P** 01 49 38.4 -0.1
baz=28,SNR=7.6
RWWY Rawlins 28.65 112 *e*P P 01 49 35.0 -3.7
comp=Z,55nm,1.6s
TMUT Trail Mountain 28.72 120 *e*P **P** 01 49 37.8 -1.5
comp=Z,27nm,1.3s

N20A **Spence Gulch,** 28.82 114 ⇓P P 01 49 40.9 +0.7
baz=29,SNR=25
O19A **Miners Draw (B** 28.85 116 ⇑P P 01 49 41.1 +0.8
baz=29,SNR=7.0
MPMC **Manual Prospec** 28.89 132 ⇑P P 01 49 40.7 0.0
baz=29
MVU **Marysvale** 28.93 122 *e*P P 01 49 40.7 -0.5
MVU LR LR
comp=Z,6µm,21.0s
MSU **Marysvale** 28.94 122 *e*P P 01 49 42.7 +1.5
MSU **Marysvale** 28.94 122 *e*P P 01 49 42.7 +1.5
J25A **Sunshine Ranch** 29.01 106 ⇑P P 01 49 43.9 +2.2
baz=29
L23A **Garrett** 29.04 110 ⇓P P 01 49 42.4 +0.3
baz=29,SNR=7.0
Q16A **Castle Valley** 29.05 120 ⇓P P 01 49 42.3 +0.1
baz=29,SNR=8.3
PKM **Peak Mountain** 29.08 137 ⇓P P 01 49 44.1 +1.7
baz=29
M22A **Cedar Creek Ra** 29.16 112 ⇑P P 01 49 44.4 +1.2
baz=29
SRU **San Rafael** 29.17 119 *e*P P 01 49 44.2 +1.0
SRU pmax pmax
comp=Z,22nm,1.0s
SRU **San Rafael** 29.17 119 *e*P P 01 49 44.2 +1.0
comp=Z,22nm,1.0s
N21A **Black Mountain** 29.23 114 ⇑P P 01 49 44.0 +0.2
baz=29,SNR=6.9
CCUT **Cedar City** 29.25 125 *e*P P 01 49 43.0 -0.9
comp=Z,11nm,1.1s
O20A **White River Ci** 29.39 115 ⇓P P 01 49 46.0 +0.9
baz=29,SNR=7.4
P19A **Cripple Cowboy** 29.45 117 ⇓P P 01 49 46.2 +0.5
baz=29,SNR=7.7
AGMN **Agassiz Nation** 29.64 91 *e*P P 01 49 46.9 -0.1
comp=Z,11nm,1.0s
AGMN LR LR
comp=Z,8µm,19.0s
O21A **Pagoda** 29.68 114 ⇑P P 01 49 47.0 -0.8
baz=30
N22A **Wattenberg Ran** 29.70 112 ⇓P P 01 49 47.5 -0.4
baz=30
PHWY **Pilot Hill** 29.78 110 *e*P P 01 49 46.2 -2.5
comp=Z,3.9nm,0.7s
GSC **Goldstone** 29.82 132 *e*P P 01 49 46.5 -2.3
GSC pmax pmax
comp=Z,26nm,1.3s
GSC **Goldstone** 29.82 132 *e*P P 01 49 46.5 -2.3
comp=Z,26nm,1.3s
GSC **Goldstone** 29.82 132 ⇓P P 01 49 49.1 +0.3
baz=30,SNR=6.8
P20A **De Beque** 29.82 116 ⇑P P 01 49 49.7 +0.7
baz=30,SNR=5.8
N23A **Red Feather La** 29.87 111 ⇓P P 01 49 51.0 +1.6
baz=30
M24A **Cheyenne** 29.96 109 ⇑P P 01 49 51.1 +0.9
baz=30
TUQ **Turquoise Moun** 30.04 131 ⇑P P 01 49 51.7 +0.9
baz=30
O22A **Kremmling** 30.15 113 ⇓P P 01 49 53.9 +1.9
baz=30
P21A **Newcastle** 30.24 115 ⇓P P 01 49 53.5 +0.8
baz=30
J28A **Allard Ranch,** 30.26 103 ⇓P P 01 49 53.7 +1.1
baz=30
Q20A **Ridgley Place,** 30.31 117 ⇓P P 01 49 53.7 +0.4
baz=30,SNR=6.3
O23A **Lake Granby, G** 30.41 112 ⇓P P 01 49 55.5 +1.2
baz=30,SNR=6.5
BFSC **Mount Baldy Ra** 30.44 134 ⇓P P 01 49 58.9 +4.4
baz=30
ALE **Alert** 30.45 15 P P 01 49 54.3 +0.4
comp=Z,176nm,0.8s,SNR=6.3
PV04 **Paradox Valley** 30.49 118 *e*P P 01 49 52.1 -2.7
P22A **Eagle** 30.50 114 ⇑P P 01 49 55.9 +0.8
baz=30
U15A **North Rim** 30.65 125 ⇑P P 01 49 58.3 +1.9
baz=30,SNR=6.1
GMRC **Granite Mounta** 30.71 131 ⇑P P 01 49 58.1 +1.3
baz=31
SMCO **Snowmass** 30.74 115 *e*P P 01 49 55.2 -2.1
PV01 **Paradox Valley** 30.85 118 *e*P P 01 49 59.3 +1.1
comp=Z,6µm,1.4s
ISCO **Idaho Springs** 30.88 112 *e*P P 01 49 57.9 -0.5
ISCO pmax pmax
comp=Z,9.0nm,1.3s
ISCO MLR MLR
comp=Z,8µm,19.0s
ISCO **Idaho Springs** 30.88 112 *e*P P 01 49 57.9 -0.5
comp=Z,8.5nm,1.3s
ISCO LR LR
comp=Z,8µm,19.0s
ISCO **Idaho Springs** 30.88 112 ⇑P P 01 49 58.4 -0.1
baz=31
R20A **Redvale** 30.89 118 ⇑P P 01 49 59.3 +0.9
baz=31,SNR=9.7
P23A **Jefferson** 31.11 113 ⇓P P 01 50 01.2 +0.7
baz=31
R21A **Cimarron** 31.12 116 ⇓P P 01 50 01.3 +0.7
baz=31,SNR=8.6
W13A **Hualapai Mount** 31.14 128 ⇑P P 01 50 02.2 +1.6
baz=31,SNR=5.8
S20A **Disappointment** 31.19 118 ⇑P P 01 50 02.0 +0.8
baz=31,SNR=7.2
PFO **Pinyon Flat Ob** 31.45 133 *e*P P 01 49 57.5 -5.8
comp=Z,15nm,1.3s
PFO LR LR
comp=Z,3µm,20.0s
PFO **Pinyon Flat Ob** 31.45 133 ⇓P P 01 50 00.2 -3.1
baz=31
IRM **Iron Mountain** 31.46 131 ⇓P P 01 50 03.1 -0.1
baz=31
S21A **Coal Bank Pass** 31.59 117 ⇑P P 01 50 06.1 +1.4
baz=32,SNR=8.2
R22A **Saguache, Gunn** 31.60 116 ⇓P P 01 50 05.6 +0.8
baz=32,SNR=7.2
MVCO **Mesa Verde** 31.64 119 *e*P P 01 50 04.2 -0.9
comp=Z,98nm,2.0s
MVCO LR LR
comp=Z,4µm,20.0s
OGNE **Ogallala** 31.72 107 PFAKE 01 50 20.0 +14
OGNE LR LR
comp=Z,5µm,20.0s
BC3 **Big Chuckawall** 31.79 132 ⇓P P 01 50 07.2 +0.9
baz=32
PET **Petropavlovsk** 31.80 284 *c i*P P 01 50 05.8 -0.2
PET *e*S S 01 55 14.3 -1.1
PET pmax pmax
comp=Z,300nm,15.5s
PET pmax pmax
comp=Z,300nm,12.7s
PET MLR MLR
comp=Z,2µm,18.0s
PET MLR MLR
comp=Z,2µm,15.0s
WUAZ **Wupatki** 31.81 124 *e*P P 01 50 07.0 +0.4
comp=Z,47nm,1.2s
WUAZ LR LR
comp=Z,7µm,21.0s
WUAZ **Wupatki** 31.81 124 ⇓P P 01 50 07.6 +1.1
baz=32,SNR=16
S22A **4UR Ranch, Cre** 31.96 116 ⇓P P 01 50 09.5 +1.5
baz=32,SNR=7.2
R23A **Moffat** 32.06 114 ⇓P P 01 50 10.5 +1.7
baz=32,SNR=7.2
Y12C **Blythe** 32.06 130 ⇓P P 01 50 12.0 +3.4
baz=32
EYMN **Ely** 32.10 87 *e*P P 01 50 08.2 -0.6
comp=Z,16nm,0.9s
EYMN LR LR
comp=Z,2µm,22.0s
MONP **Monument Peak** 32.11 134 ⇓P P 01 50 10.8 +1.6
baz=32
PETK **Petropavlovsk-** 32.23 285 P P 01 50 09.4 -0.4
PETK **Petropavlovsk-** 32.23 285 P P 01 50 09.4 -0.4
PETK **Petropavlovsk-** 32.23 285 P P 01 50 09.4 -0.4
comp=Z,4.5nm,0.7s,baz=78,slow=11,SNR=11
Q25A **Bedland, Calha** 32.23 112 ⇑P P 01 50 13.0 +2.8
baz=32
T21A **Navajo Lake** 32.26 118 ⇑P P 01 50 13.2 +2.8
baz=32
SWSC **Sam W. Stewart** 32.29 133 ⇑P P 01 50 12.4 +1.9
baz=32
ECSD **EROS Data Cent** 32.36 98 *e*P P 01 50 04.7 -6.4
comp=Z,30nm,1.4s
ECSD LR LR
comp=Z,14µm,19.0s
Y14A **Wickenburg** 32.50 128 ⇑P P 01 50 13.0 +0.6
baz=32
T22A **Edith** 32.52 117 ⇓P P 01 50 14.3 +1.4
baz=32,SNR=5.7
GLA **Glamis** 32.56 131 ⇑P P 01 50 16.4 +3.4
baz=32
Q26A **Hugo** 32.57 111 ⇓P P 01 50 14.0 +0.9
baz=32
SDCO **Great Sand Dun** 32.57 115 *e*P P 01 50 10.5 -2.8
comp=Z,17nm,1.6s
SDCO LR LR
comp=Z,3µm,21.0s
U21A **Nageezi** 32.67 119 ⇑P P 01 50 15.1 +1.0
baz=32,SNR=6.3
X16A **Lo Mia Camp, P** 32.73 125 ⇑P P 01 50 17.4 +2.8
baz=33
S24A **Houchin Ranch,** 32.79 114 ⇓P P 01 50 16.8 +1.5
baz=33
R25A **Fountain Ranch** 32.82 113 ⇓P P 01 50 16.3 +0.9
baz=33,SNR=7.6
V20A **Brimhall** 32.83 120 ⇓P P 01 50 17.1 +1.6
baz=33
T23A **Casias Ranch,** 32.90 116 ⇑P P 01 50 16.1 -0.1
baz=33
R26A **Arlington** 33.09 112 ⇓P P 01 50 19.8 +2.1
baz=33
S25A **Rebels Cordova** 33.14 113 ⇓P P 01 50 19.8 +1.6
baz=33
V21A **Milan** 33.19 119 ⇓P P 01 50 22.2 +3.5
baz=33
113A **Mohawk Valley,** 33.23 130 ⇓P P 01 50 21.8 +3.1
baz=33
SPMN **St. Paul** 33.25 92 ⇑P P 01 50 21.6 +2.7
baz=33
X18A **Snowflake** 33.26 123 ⇓P P 01 50 20.4 +1.1
baz=33,SNR=5.9
W20A **Ramah** 33.38 121 ⇑P P 01 50 20.8 +0.5
baz=33,SNR=10
U23A **El Rito** 33.41 117 ⇑P P 01 50 21.9 +1.3
baz=33,SNR=8.3
R27A **Eads** 33.42 111 ⇑P P 01 50 21.3 +0.9
baz=33,SNR=6.5
V22A **San Miguel Ran** 33.43 118 ⇑P P 01 50 21.5 +0.7
baz=33,SNR=7.1
T25A **Trinidad** 33.57 114 ⇑P P 01 50 25.1 +3.1
baz=34
S26A **Kim** 33.63 112 ⇑P P 01 50 23.2 +0.8
baz=34,SNR=9.0
U24A **Moreno Valley** 33.76 116 ⇑P P 01 50 26.8 +3.1
baz=34
W21A **San Fidel** 33.77 120 ⇑P P 01 50 25.6 +2.0
baz=34
Q29A **Oakley** 33.82 108 ⇓P P 01 50 26.9 +2.9
baz=34
S27A **Las Animas** 33.85 112 ⇑P P 01 50 25.0 +0.7
baz=34,SNR=6.7
X20A **Quemado** 33.88 122 ⇑P P 01 50 26.2 +1.6
baz=34
V23A **Ortiz Mt. (NFS** 33.90 118 ⇓P P 01 50 26.0 +1.2
baz=34,SNR=7.2
T26A **Comanche Natio** 33.93 113 ⇑P P 01 50 25.5 +0.5
baz=34,SNR=8.0
U25A **Circle Dot Ran** 34.17 115 ⇑P P 01 50 28.2 +1.0
baz=34,SNR=24
X21A **Alamocita Cree** 34.27 121 ⇓P P 01 50 29.1 +1.1
baz=34,SNR=8.9
214A **Organ Pipe Nat** 34.32 129 ⇓P P 01 50 30.1 +1.8
baz=34
V24A **Rampart Ranch,** 34.33 116 ⇑P P 01 50 29.5 +0.9
baz=34,SNR=6.5
W23A **Werner Place,** 34.40 118 ⇑P P 01 50 30.7 +1.6
baz=34
S28A **Manter** 34.40 111 ⇓P P 01 50 30.3 +1.3
baz=34
T27A **Campo** 34.43 112 ⇓P P 01 50 29.3 -0.1
baz=34,SNR=5.2
ANMO **Albuquerque** 34.44 119 *e*P P 01 50 26.9 -2.6
comp=Z,25nm,1.6s
ANMO LR LR
comp=Z,4µm,20.0s
U26A **Atchley Ranch,** 34.49 114 ⇑P P 01 50 30.0 +0.1
baz=34,SNR=8.3
COWI **Conover** 34.53 88 *e*P P 01 50 27.5 -2.4
comp=Z,19nm,1.3s
COWI LR LR
comp=Z,4µm,19.0s
V25A **Rancho No Teng** 34.54 116 ⇑P P 01 50 31.0 +0.6
baz=34,SNR=8.3
LAZ **Ladron** 34.59 120 *e*P P 01 50 28.5 -2.3
comp=Z,6.0nm,1.2s
R30A **Dighton** 34.63 108 ⇓P P 01 50 32.7 +1.8
baz=34
T28A **Walsh** 34.67 111 ⇓P P 01 50 34.3 +2.9
baz=35
Y21A **Point of Rocks** 34.69 121 ⇑P P 01 50 32.6 +0.9
baz=35,SNR=6.4
W24A **Lazy 6 Ranch,** 34.69 117 ⇑P P 01 50 32.3 +0.6
baz=35,SNR=6.0
TIXI **Tiksi** 34.70 326 ⇑*i*P P 01 50 32.8 +1.7
TIXI pmax pmax
comp=Z,9.0nm,0.8s
TIXI MLR MLR
comp=Z,9µm,17.0s
TUC **Tucson** 34.83 126 *e*P P 01 50 31.3 -1.4
TUC pmax pmax
comp=Z,22nm,1.5s
TUC MLR MLR
comp=Z,5µm,22.0s
TUC **Tucson** 34.83 126 *e*P P 01 50 31.3 -1.4
comp=Z,22nm,1.5s
TUC LR LR
comp=Z,5µm,22.0s
LENM **Lemitar** 34.86 120 *e*P P 01 50 32.8 -0.3
U27A **Thompson Grove** 34.90 113 ⇓P P 01 50 34.9 +1.6
baz=35,SNR=5.5
V26A **Tequesquite Ra** 34.96 115 ⇑P P 01 50 34.6 +0.7
baz=35,SNR=21
R31A **Burdett** 34.99 107 ⇑P P 01 50 35.5 +1.4
baz=35
BNM **Barren Site** 35.03 120 *e*P P 01 50 32.7 -1.9
comp=Z,11nm,1.2s
Z20A **Nine Sixteen R** 35.05 123 ⇑P P 01 50 34.3 -0.5
baz=35,SNR=6.0
Y22A **Socorro** 35.06 120 ⇓P P 01 50 37.6 +2.8
baz=35
W25A **X Bar L Ranch,** 35.12 116 ⇑P P 01 50 35.6 +0.3
baz=35,SNR=7.7
Z21A **St. Cloud Mine** 35.28 122 ⇓P P 01 50 37.9 +1.1
baz=35,SNR=7.2
SCIA **State Center** 35.41 97 PFAKE 01 50 50.0 +12
SCIA LR LR
comp=Z,8µm,22.0s
Y23A **Lovelace Mesa,** 35.47 119 ⇑P P 01 50 39.2 +0.8
baz=35,SNR=5.4
120A **U Bar Ranch, L** 35.52 124 ⇑P P 01 50 41.2 +2.4
baz=35
S31A **Mullinville** 35.54 108 ⇓P P 01 50 41.0 +2.2
baz=35
Z22A **Elephant Butte** 35.64 121 ⇓P P 01 50 41.0 +1.2
baz=36,SNR=6.1
V28A **Channing** 35.73 113 ⇓P P 01 50 42.2 +1.7
baz=36
Y24A **Capitan** 35.75 118 ⇓P P 01 50 41.9 +1.1
baz=36,SNR=6.7
KSU1 **Kansas State U** 35.80 103 *e*P P 01 50 39.0 -2.0
comp=Z,39nm,1.3s
KSU1 LR LR
comp=Z,5µm,22.0s
W27A **Bowe Ranch, En** 35.89 114 ⇑P P 01 50 44.0 +2.1
baz=36
121A **Cookes Peak, D** 35.90 122 ⇓P P 01 50 42.8 +0.8
baz=36,SNR=7.4
X26A **CR and CF Fran** 35.97 116 ⇑P P 01 50 44.7 +2.0
baz=36
Y25A **Mesa, Roswell** 36.09 117 ⇑P P 01 50 44.0 +0.3
baz=36,SNR=7.7
122A **Conniff Cattle** 36.10 121 ⇓P P 01 50 47.3 +3.6
baz=36
220A **Playas Peak, P** 36.12 124 ⇑P P 01 50 44.5 +0.6
baz=36,SNR=7.5
X27A **F and S Farms,** 36.22 115 ⇓P P 01 50 46.4 +1.7
baz=36
Z24A **Sheeppen Canyo** 36.28 119 ⇑P P 01 50 46.0 +0.6
baz=36,SNR=6.6
Z25A **Roswell** 36.62 118 ⇑P P 01 50 48.5 +0.3
baz=36,SNR=7.9
AMTX **Amarillo** 36.69 113 *e*P P 01 50 49.3 +0.6
comp=Z,28nm,1.1s
AMTX LR LR
comp=Z,5µm,20.0s
X28A **Dimmitt** 36.75 114 ⇓P P 01 50 51.3 +2.1
baz=37
124A **Stringfield Ra** 36.78 119 ⇑P P 01 50 50.1 +0.5
baz=37,SNR=6.2
Y27A **Causey** 36.82 116 ⇓P P 01 50 50.2 +0.3
baz=37,SNR=7.0
V31A **Spring Creek L** 36.84 110 ⇑P P 01 50 52.1 +2.2
baz=37
Z26A **Caprock** 36.96 117 ⇑P P 01 50 51.6 +0.6
baz=37,SNR=6.4
X29A **Tulia** 37.04 114 ⇓P P 01 50 53.4 +1.7
baz=37
125A **Gardner Draw,** 37.17 119 ⇓P P 01 50 52.8 0.0
baz=37,SNR=8.3
Y28A **McKinney Farm,** 37.23 115 ⇑P P 01 50 54.2 +0.9
baz=37
224A **Cornudas Mount** 37.28 120 ⇑P P 01 50 55.0 +1.3
baz=37
X30A **Coker Ranch, T** 37.43 113 ⇑P P 01 50 54.3 -0.6
baz=37
Y29A **Porterfield Fa** 37.53 114 ⇑P P 01 50 59.2 +3.3
baz=37
225A **Deer Hill, Car** 37.56 119 ⇓P P 01 50 58.6 +2.4
baz=37
MNTX **Cornudas Mount** 37.66 120 *e*P P 01 50 55.5 -1.4
comp=Z,22nm,1.5s
MNTX LR LR
comp=Z,748nm,19.0s
Z28A **Tucker Farm, M** 37.68 115 ⇓P P 01 50 58.0 +0.9
baz=38
GDL2 **Guadalupe Moun** 37.69 119 *e*P P 01 50 55.0 -2.2
GLMI **Grayling** 37.72 86 PFAKE 01 51 10.0 +13
GLMI LR LR
comp=Z,3µm,20.0s
324A **Moseley Ranch,** 37.83 121 ⇑P P 01 51 00.2 +1.7
baz=38
226B **Tecolote Peak,** 37.88 118 ⇓P P 01 51 00.5 +1.7
baz=38
Y30A **Stafford Cattl** 37.88 113 ⇓P P 01 50 59.8 +1.0
baz=38
Z29A **Hungry Hill Ra** 38.02 115 ⇑P P 01 51 00.9 +1.0
baz=38,SNR=9.5
WMOK **Wichita Mounta** 38.19 110 *e*P P 01 51 00.3 -1.0
WMOK pmax pmax
comp=Z,14nm,0.8s
WMOK MLR MLR
comp=Z,5µm,19.0s
WMOK **Wichita Mounta** 38.19 110 *e*P P 01 51 00.3 -1.0
comp=Z,14nm,0.8s
WMOK LR LR
comp=Z,5µm,19.0s
128A **Castleberry Fa** 38.19 116 ⇓P P 01 51 03.9 +2.5
baz=38
Z30A **Sanderson Ranc** 38.26 114 ⇓P P 01 51 03.8 +1.8
baz=38
HDIL **Hopedale** 38.40 95 *e*P P 01 51 03.2 +0.2
comp=Z,26nm,1.0s
HDIL LR LR
comp=Z,5µm,20.0s
Y32A **R-V Farms, Ver** 38.47 111 ⇑P P 01 51 05.9 +2.2
baz=38
228A **UT Block 9, Go** 38.56 117 ⇑P P 01 51 03.9 -0.6
baz=38
326A **Caldwell Ranch** 38.61 119 ⇑P P 01 51 06.3 +1.3
baz=38
425A **Indio Mountain** 38.62 121 ⇓P P 01 51 05.8 +0.7
baz=38,SNR=6.6
Z31A **Sharp Cattle R** 38.70 113 ⇑P P 01 51 06.6 +1.0
baz=39
TUL1 **Tulsa** 38.70 106 ⇑P P 01 51 06.2 +0.6
baz=39
SFJD **Kangerlussuaq** 38.77 39 *e*P P 01 51 03.3 -2.5
comp=Z,80nm,1.4s
SFJD **Kangerlussuaq** 38.77 39 *i*P P 01 51 10.2 +4.4
comp=Z,22nm,0.8s
SFJD
comp=Z,3µm,21.0s
SFJD **Kangerlussuaq** 38.77 39 LR LR 02 07 53.2
comp=Z,4µm,18.9s,baz=312,slow=38
MIDW **Midway** 38.79 231 PFAKE 01 51 20.0 +14
MIDW LR LR
comp=Z,14µm,21.0s
SUMG **Summit** 38.82 28 *e*P P 01 51 03.2 -3.5
SUMG pmax pmax
comp=Z,397nm,3.0s
SUMG **Summit** 38.82 28 *e*P P 01 51 03.2 -3.5
comp=Z,397nm,3.0s
SUMG **Summit** 38.82 28 *i*P P 01 51 04.0 -2.7
comp=Z,6.8nm,0.8s
SUMG
comp=Z,4µm,18.0s
130A **Snyder** 38.91 114 ⇓P P 01 51 08.8 +1.4
baz=39
Z32A **Haskell** 39.02 112 ⇑P P 01 51 08.9 +0.6
baz=39
426A **McDonald Obser** 39.14 120 ⇓P P 01 51 09.9 +0.4
baz=39,SNR=8.8
427A **Hayter Ranch,** 39.27 119 ⇑P P 01 51 10.2 -0.2
baz=39
KIP **Kipapa** 39.32 201 PFAKE 01 51 20.0 +9.2
KIP LR LR
comp=Z,9µm,19.0s
329A **Wagon Wheel Ra** 39.37 116 ⇑P P 01 51 12.3 +1.0
baz=39
230A **Sterling City** 39.43 115 ⇑P P 01 51 12.8 +1.0
baz=39
YAK **Yakutsk** 39.48 312 *e*P P 01 51 14.7 +2.9
YAK *e**PP pP 01 51 20.4 +4.0
YAK *e* 01 52 48.2
YAK *e*PPP PPP 01 53 12.6
YAK *e* 01 53 22.9
YAK *e*S S 01 57 16.7 +3.8
YAK *e*SS SS 02 00 05.1 -1.7
YAK *e*SSS SSS 02 00 32.3
YAK *e* 02 01 22.0
YAK pmax pmax
comp=Z,25nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=Z,84nm,2.0s
YAK pmax pmax
comp=E,41nm,2.1s
YAK smax smax
comp=N,125nm,3.3s
YAK smax smax
comp=E,100nm,3.5s
YAK MLR MLR
comp=Z,10µm,19.0s
YAK MLR MLR
comp=N,6µm,17.0s
YAK MLR MLR
comp=E,6µm,15.0s
ABTX **Abilene, Hawle** 39.51 113 ⇓P P 01 51 12.2 -0.2
baz=39,SNR=5.0
526A **Mary Lane Ranc** 39.63 120 ⇓P P 01 51 14.1 +0.5
baz=40,SNR=6.9
SFIN **Scholer Farm** 39.65 93 ⇓P P 01 51 15.7 +2.2
baz=40
428A **Kincaid Ranch,** 39.69 118 ⇓P P 01 51 14.7 +0.7
baz=40,SNR=6.1
DAG **Danmarks Havn** 39.76 17 *i*P P 01 51 14.2 +0.3
DAG pmax pmax
comp=Z,30nm,1.0s
DAG MLR MLR
comp=Z,5µm,17.0s
DAG **Danmarks Havn** 39.76 17 *i*P P 01 51 14.2 +0.3
comp=Z,30nm,1.0s
DAG
comp=Z,5µm,16.0s
231A **Bronte** 39.76 114 ⇓P P 01 51 15.2 +0.6
baz=40
527A **Woodward Ranch** 39.77 119 ⇑P P 01 51 16.3 +1.6
baz=40,SNR=6.6
SCHQ **Schefferville** 39.78 62 P P 01 51 15.7 +1.2
SCHQ **Schefferville** 39.78 62 P P 01 51 15.7 +1.2
comp=Z,5.6nm,1.0s,baz=296,slow=9.3,SNR=6.2
SCHQ LR LR 02 08 04.3
comp=Z,3µm,18.3s,baz=311,slow=37
330A **Mertzon** 39.81 116 ⇑P P 01 51 15.8 +0.8
baz=40,SNR=5.9
626A **Big Bend Ranch** 40.05 121 ⇑P P 01 51 18.2 +1.2
baz=40,SNR=8.1
232A **Coleman** 40.12 114 ⇑P P 01 51 17.7 +0.2
baz=40,SNR=8.5

528A Cox Ranch, San 40.13 118 ⇓P P 01 51 18.5 +0.9
baz=40,SNR=26
429A Davenport Ranc 40.14 117 ⇑P P 01 51 17.3 -0.4
baz=40,SNR=7.0
331A San Angelo 40.24 115 ⇑P P 01 51 17.9 -0.6
baz=40
430A Baggett Ranch, 40.30 116 ⇓P P 01 51 19.0 -0.1
baz=40,SNR=5.6
529A Stev Forest Ra 40.41 118 ⇑P P 01 51 20.1 +0.1
baz=40,SNR=8.4
TXAR Lajitas Array 40.44 120 P P 01 51 21.2 +0.9
TXAR PcP PcP 01 53 22.2 -0.7
TXAR Lajitas Array 40.44 120 P P 01 51 21.2 +0.9
comp=Z,0.8nm,0.6s,baz=326,slow=6.8,SNR=12
TXAR PcP PcP 01 53 22.2 -0.7
comp=Z,0.7nm,0.8s,baz=321,slow=1.2,SNR=3.0
TXAR LR LR 02 07 55.9
comp=Z,3μm,21.3s,baz=0.0,slow=36
627A Terlingua Ranc 40.46 120 ⇑P P 01 51 20.2 -0.2
baz=40,SNR=6.1
POHA Pohakuloa 40.53 197 PFAKE 01 51 30.0 +8.8
POHA LR LR
comp=Z,5μm,21.0s
SADO Sadowa 40.54 82 LR LR 02 08 38.5
comp=Z,4μm,19.0s,baz=352,slow=37
628A Black Gap, Mar 40.66 119 ⇓P P 01 51 21.8 -0.1
baz=40,SNR=8.5
431A Sonora 40.68 116 ⇓P P 01 51 21.6 -0.6
baz=41
530A J-C Ranch, Com 40.79 117 ⇑P P 01 51 22.9 -0.2
baz=41
MIAR Mount Ida 40.88 105 eP P 01 51 19.2 -4.5
MIAR MLR MLR
comp=Z,3μm,22.0s
MIAR Mount Ida 40.88 105 eP P 01 51 19.2 -4.5
MIAR LR LR
comp=Z,3μm,22.0s
WHTX Lake Whitney 41.07 111 ⇑P P 01 51 25.6 +0.3
baz=41
KBS Kingsbay 41.14 7 eP P 01 51 30.3 +5.0
KBS AMS AMS 02 05 35.5
comp=Z,3μm,26.1s
KBS Kingsbay 41.14 7c iP P 01 51 26.1 +0.8
KBS pmax pmax
comp=Z,24nm,1.8s
KBS MLR MLR
comp=Z,2μm,17.0s
KBS Kingsbay 41.14 7 PFAKE 01 51 40.0 +15
KBS LR LR
comp=Z,3μm,22.0s
531A Rocksprings 41.14 116 ⇑P P 01 51 26.5 +0.5
baz=41,SNR=5.8
JCT Junction City 41.22 115 eP P 01 51 25.4 -1.2
JCT MLR MLR
comp=Z,5μm,19.0s
JCT Junction City 41.22 115 eP P 01 51 25.4 -1.2
JCT LR LR
comp=Z,5μm,19.0s
JCT Junction City 41.22 115 ⇓P P 01 51 25.7 -0.9
baz=41
532A Rocksprings 41.47 115 ⇓P P 01 51 28.8 +0.1
baz=41,SNR=23
631A Perdido Creek 41.77 117 ⇓P P 01 51 31.3 +0.3
baz=42,SNR=6.9
632A Uvalde 42.05 116 ⇑P P 01 51 33.7 +0.3
baz=42
SPA0 Spitsbergen Ar 42.12 6 eP P 01 51 39.0 +5.7
SPITS Spitsbergen Ar 42.12 6 LR LR 02 09 23.6
comp=Z,4μm,18.6s,baz=355,slow=37
KUR Kuril'sk 42.22 282 i 01 53 20.0
KUR i S S 01 57 59.6 +5.6
KUR pmax pmax
comp=Z,221nm,1.1s
KUR pmax pmax
comp=E,59nm,1.1s
KUR pmax pmax
comp=N,42nm,1.1s
MSNY Massena 42.53 78 eP P 01 51 35.6 -1.5
comp=N,182nm,1.1s
732A Laxson Ranch, 42.62 116 ⇓P P 01 51 38.0 0.0
baz=42,SNR=5.3
LONY Lake Ozonia 42.94 78 PFAKE 01 51 50.0 +10
LONY LR LR
comp=Z,5μm,19.0s
OXF Oxford 42.99 101 eP P 01 51 40.5 -0.4
OXF pmax pmax
comp=Z,28nm,0.8s
OXF MLR MLR
comp=Z,13μm,20.0s
OXF Oxford 42.99 101 eP P 01 51 40.5 -0.4
comp=Z,28nm,0.8s
OXF LR LR
comp=Z,13μm,20.0s
NCB Newcomb 43.58 79 PFAKE 01 52 00.0 +14
NCB LR LR
comp=Z,4μm,20.0s
BINY Binghamton 43.98 82 eP P 01 51 49.6 +0.7
comp=Z,63nm,1.3s
BINY LR LR
comp=Z,4μm,19.0s
VBMS Vicksburg 44.27 104 PFAKE 01 52 00.0 +8.8
VBMS LR LR
comp=Z,3μm,20.0s
TZTN Tazewell 44.37 93 eP P 01 51 49.8 -2.3
LBNH Lisbon 44.53 77 PFAKE 01 52 00.0 +6.7
LBNH LR LR
comp=Z,4μm,19.0s
KVTX Kingsville 44.59 115 PFAKE 01 52 00.0 +6.2
KVTX LR LR
comp=Z,3μm,22.0s
CLNS Chul'man 44.71 309 eP P 01 52 00.1 +5.6
CLNS pmax pmax
comp=Z,32nm,1.1s
CLNS pmax pmax
comp=E,24nm,1.1s
CLNS pmax pmax
comp=N,15nm,0.9s
TKL Tuckaleechee C 44.94 94 LR LR 02 11 42.0
comp=N,8μm,19.2s,baz=332,slow=37
LRAL Lakeview Retre 45.37 100 PFAKE 01 52 10.0 +10
LRAL LR LR
comp=Z,11μm,19.0s
BLA Blacksburg 45.45 90 PFAKE 01 52 10.0 +9.3
BLA LR LR
comp=Z,2μm,22.0s
BJO Bjornoya 45.86 6 AMS AMS 02 09 54.4
comp=Z,3μm,23.5s
JMIC Jan Mayen 46.12 19 eP P 01 52 11.1 +5.6
JMIC ePP PP 01 53 52.6 -0.7
JMIC AMS AMS 02 12 35.5
comp=Z,2μm,20.7s
JMIC Jan Mayen 46.12 19 LR LR 02 12 43.4
comp=Z,3μm,20.7s,baz=318,slow=38
CBN Corbin 46.26 87 PFAKE 01 52 20.0 +13
CBN LR LR
comp=Z,4μm,20.0s
JSRW J. Sargeant Re 46.39 88 eP P 01 52 07.2 -0.8
KMSC Kings Mountain 46.59 93 ⇓P P 01 52 12.3 +2.6
baz=46
ERM Erimo 46.91 282 eP P 01 52 11.5 -0.5
ERM MLR MLR
comp=Z,3μm,20.0s
ERM Erimo 46.91 282 PFAKE 01 52 20.0 +8.0
ERM LR LR
comp=Z,5μm,21.0s
BRAL Brewton 46.97 101 PFAKE 01 52 20.0 +7.4
BRAL LR LR
comp=Z,9μm,20.0s
KLR Kul'dur 47.12 297 eP P 01 52 09.2 -4.4
KLR eS S 01 59 07.0 +2.0
KLR MLR MLR
comp=Z,5μm,13.5s
CNNC Cliffs of the 48.27 90 PFAKE 01 52 30.0 +7.3
CNNC LR LR
comp=Z,3μm,21.0s
TIGA Tifton 48.37 98 ⇑P P 01 52 26.2 +2.7
baz=48
BORG Borgarnes 48.77 29 LR LR 02 14 47.9
comp=Z,4μm,18.9s,baz=320,slow=38
TRO Tromso 50.64 8 eP P 01 52 40.0 -0.3
TRO AMS AMS 02 11 30.8
comp=Z,3μm,23.4s
KEV Kevo 50.95 4 PFAKE 01 52 50.0 +7.4
KEV LR LR
comp=Z,3μm,20.0s
ARCES ARCESS Array B 51.11 5 P P 01 52 43.4 -0.5
comp=Z,1.9nm,0.7s,baz=9.9,slow=7.8,SNR=7.6
ARCES LR LR 02 14 55.1
comp=Z,1μm,19.4s,baz=342,slow=37
ARE0 ARCESS Array S 51.11 5 eP P 01 52 43.0 -0.9
MDJ Mudanjiang 51.53 294 PFAKE 01 53 00.0 +13
MDJ LR LR
comp=Z,3μm,19.0s
HIA Hailar 52.36 305 eP P 01 52 50.6 -2.9
comp=Z,150nm,0.7s
HIA LR LR
comp=Z,11μm,19.0s
LVZ Lovozero 52.98 1 eP P 01 52 59.5 +1.6
LVZ pmax pmax
comp=Z,40nm,1.6s
LVZ MLR MLR
comp=Z,3μm,17.0s
WAKE Wake Island 53.53 244 PFAKE 01 53 10.0 +7.6
WAKE LR LR
comp=Z,2μm,19.0s
MAJO Matsushiro 53.56 282 PFAKE 01 53 10.0 +7.5
MAJO LR LR
comp=Z,4μm,22.0s
CN2 Changchun 54.07 297 eP P 01 53 05.3 -0.8
CN2 eS S 02 00 37.9 -3.7
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,3μm,16.0s
CN2 LR LR
comp=E,3μm,16.0s
CN2 LR LR
comp=Z,2μm,16.0s
TEIG Tepich 55.37 110 PFAKE 01 53 30.0 +14
TEIG LR LR
comp=Z,1μm,20.0s
TBLU Trondheim 56.04 14 eS S 02 01 06.3 -1.2
KRAR Krasnoyarsk 56.46 326 eP P 01 53 24.3 +1.2
KRAR pmax pmax
comp=Z,21nm,0.5s
KRAR MLR MLR
comp=Z,3μm,24.0s
TMCR Tamitsa 56.73 359 eP P 01 53 27.9 +2.9
TMCR e 01 54 22.1
TMCR pmax pmax
comp=Z,15nm,0.7s
BBSR BB Station 57.25 81 PFAKE 01 53 40.0 +11
BBSR LR LR
comp=Z,1μm,21.0s
MOY Mondy 57.60 318 eP P 01 53 32.5 +1.1
MOY pmax pmax
comp=Z,67nm,1.8s
ZAK Zakamensk 57.87 316 eP P 01 53 33.8 +0.4
ZAK pmax pmax
comp=Z,5.0nm,1.0s
KSRS Korea Array 57.90 290 P P 01 53 34.8 +1.2
comp=Z,3.0nm,0.7s,baz=33,slow=7.3,SNR=3.0
KSAR Wonju Array Be 57.92 290 P P 01 53 34.8 +1.0
JOF Joensuu 57.93 3 ep P 01 53 33.0 -0.4
JOF Joensuu 57.93 3 eP P 01 53 33.0 -0.4
BER Bergen 58.12 18 eP P 01 53 35.6 +0.8
XMAS Kiritimati 58.22 196 PFAKE 01 53 50.0 +14
XMAS LR LR
comp=Z,8μm,19.0s
NB2 NORSAR Subarra 58.30 14 P P 01 53 35.7 -0.4
comp=Z,14nm,1.0s,baz=348,slow=6.9
NB2 NORSAR Subarra 58.30 14 P P 01 53 35.7 -0.4
baz=348,slow=6.9
NOA NORSAR Array B 58.30 14 P P 01 53 35.3 -0.8
NOA NORSAR Array B 58.30 14 P P 01 53 35.3 -0.8
comp=Z,5.8nm,0.8s,baz=348,slow=6.8,SNR=12
NOA LR LR 02 20 24.9
comp=Z,2μm,20.1s,baz=350,slow=38
INCN Inchon 58.49 291 PFAKE 01 53 50.0 +12
INCN LR LR
comp=Z,2μm,21.0s
KAF Kangasniemi 58.55 6 ep P 01 53 37.9 +0.1
KAF Kangasniemi 58.55 6 eP P 01 53 37.9 +0.1
ULN Ulaanbaatar 58.57 312 eP P 01 53 37.4 -0.9
ULN LR LR
comp=Z,9μm,19.0s
NC602 NORSAR Array S 58.64 14 eP P 01 53 38.7 +0.3
NC602 ePP PP 01 55 47.4 -0.1
NC602 eS S 02 01 43.7 +2.0
FIA1 FINESS Array S 59.21 6 eP P 01 53 41.2 -1.1
FINES FINESS Array B 59.21 6 P P 01 53 41.5 -0.9
FINES FINESS Array B 59.21 6 P P 01 53 41.5 -0.9
comp=Z,9.1nm,0.8s,baz=3.0,slow=8.6,SNR=20
FINES LR LR 02 19 56.5
comp=Z,1μm,18.9s,baz=46,slow=37
KONO Kongsberg 59.44 15 eP P 01 53 44.5 +0.6
KONO eS S 02 01 57.3 +5.2
KONO Kongsberg 59.44 15 eP P 01 53 43.0 -1.0
KONO pmax pmax
comp=Z,24nm,1.1s
KONO MLR MLR
comp=Z,3μm,21.0s
KONO Kongsberg 59.44 15 eP P 01 53 43.0 -1.0
comp=Z,24nm,1.1s
KONO LR LR
comp=Z,3μm,21.0s
HFS Hagfors 59.48 13 LR LR 02 19 53.7
comp=Z,2μm,20.7s,baz=352,slow=37
NVS Novosibirsk 60.08 331 iP P 01 53 45.9 -2.5
NVS pmax pmax
comp=Z,40nm,1.9s
NVS pmax pmax
comp=N,17nm,1.8s
NVS pmax pmax
comp=E,15nm,1.5s
SOKR Solikamsk 60.25 348d iP P 01 53 53.9 +4.4
SOKR S S 02 02 29.4 +27
SOKR SS SS 02 06 00.5 +1.8
SOKR pmax pmax
comp=Z,100nm,1.4s
HVS Khovu-Aksy 60.43 322d iP P 01 53 51.5 +0.5
HVS pmax pmax
comp=Z,42nm,0.6s
HVS MLR MLR
comp=Z,26μm,21.0s
ZALV Zalesovo Beam 60.48 329 P P 01 53 51.1 -0.1
ZALV Zalesovo Beam 60.48 329 P P 01 53 51.1 -0.1
ZALV Zalesovo Beam 60.48 329 P P 01 53 51.1 -0.1
comp=Z,3.2nm,0.3s,baz=37,slow=7.4,SNR=1.9
ZALV LR LR 02 24 26.5
comp=Z,4μm,18.8s,baz=66,slow=40
TGUH Tegucigalpa,Un 61.16 113 PFAKE 01 54 10.0 +14
TGUH LR LR
comp=Z,960nm,19.0s
BJI Beijing 61.23 300 P P 01 53 53.8 -2.7
BJI pmax pmax
comp=Z,18nm,0.9s
BJT Baijiatuau 61.26 300 PFAKE 01 54 10.0 +13
BJT LR LR
comp=Z,3μm,19.0s
EKA Eskdalemuir Ar 61.32 24 LR LR 02 21 05.2
comp=Z,3μm,20.9s,baz=25,slow=37
ESK Eskdalemuir 61.33 25 eP P 01 53 56.6 -0.4
ESK pmax pmax
comp=Z,38nm,1.2s
ESK MLR MLR
comp=Z,4μm,20.0s
ESK Eskdalemuir 61.33 25 eP P 01 53 56.6 -0.4
comp=Z,38nm,1.2s
ESK LR LR
comp=Z,4μm,20.0s
GTBY Guantanamo Bay 62.14 98 PFAKE 01 54 10.0 +7.1
GTBY LR LR
comp=Z,6μm,19.0s
VSU Vasula 62.22 6c iP P 01 54 02.0 -0.9
VSU pmax pmax
comp=Z,39nm,0.7s
VSU MLR MLR
comp=Z,2μm,20.0s
MTDJ Mount Denham 62.35 101 PFAKE 01 54 20.0 +16
MTDJ LR LR
comp=Z,4μm,20.0s
MUD Monsted U'grnd 62.47 17 eP P 01 54 09.7 +5.1
MUD pmax pmax
comp=Z,14nm,0.9s
MUD MLR MLR
comp=Z,2μm,20.0s
MUD Monsted U'grnd 62.47 17 i P P 01 54 09.7 +5.1
comp=Z,14nm,0.9s
MUD
comp=Z,2μm,19.0s
SVE Sverdlovsk 62.51 345⇑ eP P 01 54 05.5 +0.6
SVE pmax pmax
comp=Z,73nm,0.9s
HHC Hu-ho-hao-te 62.56 304 eP P 01 54 07.0 +1.4
HHC pP pP 01 54 10.8 +0.4
HHC sP sP 01 54 13.8 +1.6
HHC PcP PcP 01 54 45.8 +1.2
HHC PP PP 01 56 26.9 +4.1
HHC ScP ScP 01 58 46.0 +0.2
HHC S S 02 02 33.3 +0.7
HHC ScS SKKSac 02 03 55.3 -2.0
HHC SS SS 02 06 38.3 +2.4
HHC pmax pmax
comp=Z,25nm,1.3s
GRTK Grand Turk 62.84 93 PFAKE 01 54 20.0 +12
GRTK LR LR
comp=Z,2μm,19.0s
ARU Arti 63.16 346c iP P 01 54 08.7 -0.5
ARU 01 54 45.7
ARU 01 56 24.8
ARU S S 02 02 39.0 -0.4
ARU 02 03 57.7
ARU pmax pmax
comp=Z,22nm,0.7s
ARU MLR MLR
comp=Z,3μm,22.0s
ARU Arti 63.16 346 P P 01 54 09.2 0.0
comp=Z,413nm,0.7s,SNR=14
COP Copenhagen 63.67 15 eP P 01 54 16.2 +3.7
COP MLR MLR
comp=Z,560nm,20.0s
COP Copenhagen 63.67 15 i P P 01 54 16.2 +3.7
COP
comp=Z,560nm,19.0s
BSD Bornholm Skovb 64.54 13 eP P 01 54 22.3 +4.0
BSD pmax pmax
comp=Z,20nm,1.0s
BSD MLR MLR
comp=Z,940nm,24.0s
BSD Bornholm Skovb 64.54 13 i P P 01 54 22.3 +4.0
comp=Z,20nm,0.9s
BSD
comp=Z,930nm,24.0s
BRVK Borovoye 64.59 338c iP P 01 54 18.1 -0.6
BRVK pmax pmax
comp=Z,11nm,0.8s
BRVK MLR MLR
comp=Z,5μm,22.0s
BRVK Borovoye 64.59 338 eP P 01 54 18.4 -0.3
comp=Z,90nm,1.6s
BRVK LR LR
comp=Z,5μm,22.0s
BVAR Borovoye Array 64.61 338 LR LR 02 27 02.4
comp=Z,4μm,19.7s,baz=60,slow=40
SDDR Presa de Saban 64.88 95 PFAKE 01 54 30.0 +8.9
SDDR LR LR
comp=Z,2μm,19.0s
IZAR Zarasai 64.90 6 eP P 01 54 21.3 +0.7
IZAR AMB AMB 01 54 30.8
comp=Z,16nm,1.6s
ISAL Salakas 65.07 6 eP P 01 54 22.4 +0.7
ISAL AMB AMB 01 54 33.2
comp=Z,20nm,1.1s
BSEG Bad Segeberg 65.08 17 eP P 01 54 26.1 +4.3
comp=Z,64nm,1.5s
BSEG Bad Segeberg 65.08 17 eP P 01 54 26.1 +4.3
BSEG pmax pmax
comp=Z,13nm,1.5s
MOS Moscow 65.19 359 eP P 01 54 23.1 +0.6
MOS i 01 54 30.8
MOS e 01 56 46.6
MOS eS S 02 02 59.1 -5.4
MOS pmax pmax
comp=Z,43nm,1.1s
MOS MLR MLR
comp=N,2μm,21.0s
MOS MLR MLR
comp=Z,2μm,21.0s
IIGN Ignalina 65.30 6 eP P 01 54 23.9 +0.7
IIGN AMB AMB 01 54 32.0
comp=Z,15nm,0.9s
IDID Didziasalis 65.36 6 eP P 01 54 24.3 +0.7
IDID AMB AMB 01 54 32.4
comp=Z,15nm,0.9s
NACGM Naroch 65.78 6 e P 01 54 26.0 -0.3
OBN Obninsk 65.82 360c iP P 01 54 26.4 -0.2
OBN e*PP pP 01 54 31.0 -0.4
OBN e*SP sP 01 54 34.0 +0.8
OBN e 01 56 48.0
OBN pmax pmax
comp=Z,49nm,1.3s
OBN MLR MLR
comp=Z,2μm,20.0s
MNK Minsk 66.23 5 eP P 01 54 28.0 -1.2
MICGM Minsk 66.23 5 eP P 01 54 28.0 -1.3
IBBN Ibbenburen 66.26 19 eP P 01 54 33.4 +4.0
comp=Z,60nm,1.5s
SUW Suwalki 66.43 8 eP P 01 54 29.9 -0.6
SUW pmax pmax
comp=Z,65nm,0.9s
SUW Suwalki 66.43 8 eP P 01 54 29.9 -0.6
comp=Z,65nm,0.9s
SUW Suwalki 66.43 8 eP P 01 54 29.6 -0.9
SUW ePP pP 01 54 33.1 -2.2
SUW LMZ LR 02 22 01.1
NRDL Niedersach Rie 66.44 17 eP P 01 54 34.6 +4.0
comp=Z,28nm,1.4s
NJ2 Nanjing 66.60 293 eP P 01 54 30.6 -1.4
NJ2 pmax pmax
comp=Z,20nm,0.6s
GKP Gorka Klasztor 66.62 12 eP P 01 54 31.5 -0.2
GKP ePP pP 01 54 36.0 -0.5
GKP LMZ LR 02 18 43.8
TARA Tarawa 66.96 228 PFAKE 01 54 40.0 +5.6
TARA LR LR
comp=Z,3μm,19.0s
BUG Bochum--Univer 67.01 19 eP P 01 54 38.0 +3.7
comp=Z,69nm,1.6s
MEM Membach 67.59 20 P P 01 54 38.2 +0.2
comp=Z,22nm,1.7s
MKAR Makanchi Array 67.67 328 LR LR 02 26 48.6
comp=Z,5μm,21.4s,baz=35,slow=38
BAIF Baives 67.79 22 eP P 01 54 39.5 +0.3
comp=Z,65nm,1.3s
GIVF Givet 67.86 21 eP P 01 54 39.9 +0.2
CLL Collm 68.02 16 eP P 01 54 44.3 +3.6
comp=Z,26nm,1.4s
CLL Collm 68.02 16 eP P 01 54 41.0 +0.3
CLL e*PP pP 01 54 45.0 -0.5
CLL e 01 54 49.0
CLL MLR MLR
comp=Z,1μm,19.4s
CLL Collm 68.02 16 eP P 01 54 41.0 +0.3
CLL ePP pP 01 54 45.0 -0.5
CLL e 01 54 49.0
comp=Z,26nm,1.4s
CLL ePP PP 01 57 12.0 +2.0
CLL eSS SS 02 07 54.0 -5.9
CLL e 02 08 48.0
CLL e 02 11 54.0
CLL Lm MLR 02 26 00.0
comp=N,2μm,19.9s
CLL Lm MLR 02 26 00.0
comp=E,500nm,21.3s
CLL Lm MLR 02 26 00.0
comp=Z,1μm,19.4s
UBBA Unterbreizbach 68.06 18 eP P 01 54 45.0 +4.2
comp=Z,26nm,1.6s
SJG San Juan 68.23 91 PFAKE 01 54 50.0 +7.6
SJG LR LR
comp=Z,1μm,20.0s
LDF La Druitiere 68.30 25 eP P 01 54 42.5 0.0
comp=Z,88nm,1.4s
GRR Gorron 68.33 26 eP P 01 54 43.0 +0.3
comp=Z,99nm,1.4s
TNS Taunus Mts 68.38 19 eP P 01 54 47.0 +3.9
comp=Z,35nm,1.5s
TNS Taunus Mts 68.38 19 eP P 01 54 47.0 +3.9
TNS pmax pmax
comp=Z,156nm,1.5s
BEL Belsk 68.39 10 eP P 01 54 42.9 -0.1
BEL LMZ LR 02 24 10.5
MOX Moxa 68.47 17 eP P 01 54 47.5 +4.0

comp=Z,23nm,1.3s
MOX Moxa 68.47 17 *e*P P 01 54 47.5 +4.0
MOX pmax pmax
comp=Z,5.0nm,1.3s
GTA Gaotai 68.51 312 *e*P **P 01 54 43.5 -0.6**
GTA pP **pP 01 54 48.1 -0.9**
GTA pmax pmax
comp=Z,12nm,1.6s
WLF Walferdange 68.53 21 P P 01 54 48.9 +5.1
WLF Walferdange 68.53 21 *e*P P 01 54 48.5 +4.6
comp=Z,52nm,1.6s
WLF Walferdange 68.53 21 *e*P **P 01 54 43.6 -0.3**
WLF pmax pmax
comp=Z,36nm,1.3s
WLF MLR MLR
comp=Z,3µm,21.0s
WLF Walferdange 68.53 21 *e*P **P 01 54 43.6 -0.3**
comp=Z,36nm,1.3s
WLF LR LR
comp=Z,3µm,21.0s
TANN Tannenbergstha 68.81 16 *e*P P 01 54 49.7 +4.0
comp=Z,40nm,1.5s
KSP Ksiaz 68.90 13 *e*P **P 01 54 46.7 +0.5**
KSP *e**PP **pP 01 54 50.4 -0.6**
KSP Ksiaz 68.90 13 *e*P **P 01 54 46.1 -0.1**
KSP *e*pP **pP 01 54 49.4 -1.6**
KSP *e*S **S 02 03 49.7 +0.3**
KSP LMZ LR 02 21 17.5
BCIP Isla Barro Col 68.97 108 PFAKE 01 55 00.0 +13
BCIP LR LR
comp=Z,2µm,21.0s
NKC Novy Kostel 68.99 16 *e*P **P 01 54 47.4 +0.6**
NKC MLR MLR
comp=Z,700nm,19.3s
NKC Novy Kostel 68.99 16 *e*P **P 01 54 47.4 +0.6**
NKC *ex* x 01 57 33.8
NKC AMS AMS 02 26 50.0
comp=Z,700nm,19.3s
PVCC Panska Ves 68.99 15 *e*P **P 01 54 47.4 +0.7**
PVCC *e* 01 54 51.6
PVCC MLR MLR
comp=Z,1µm,22.1s
PVCC Panska Ves 68.99 15 AMS AMS 01 25 50.0
comp=Z,1µm,22.1s
PVCC *e*P **P 01 54 47.4 +0.7**
PVCC *e*pP pP 01 54 51.6 0.0
GUMO Guam 69.00 261 PFAKE 01 55 00.0 +13
GUMO LR LR
comp=Z,1µm,20.0s
AKTO Aktyubinsk 69.10 345 *i* P **P 01 54 46.9 -0.5**
AKTO pmax pmax
comp=Z,48nm,1.2s
AKTO Aktyubinsk 69.10 345 LR LR 02 26 32.5
comp=Z,2µm,20.8s,baz=65,slow=37
GRF Grafenberg Arr 69.34 17 *e*P P 01 54 52.8 +3.9
comp=Z,34nm,1.5s
GRF Grafenberg Arr 69.34 17 *e*P P 01 54 52.8 +3.9
GRF pmax pmax
comp=Z,7.0nm,1.5s
GRFO Grafenberg 69.34 17 *e*P P 01 54 45.7 -3.2
GRFO pmax pmax
comp=Z,21nm,1.3s
GRFO Grafenberg 69.34 17 *e*P P 01 54 45.7 -3.2
comp=Z,21nm,1.3s
DPC Dobruska-Polom 69.38 14 *e*P **P 01 54 49.6 +0.3**
DPC *e* 01 54 53.8
DPC Dobruska-Polom 69.38 14 AMS AMS 01 26 10.0
DPC *e*P **P 01 54 49.6 +0.3**
DPC *e*pP pP 01 54 53.8 -0.3
ROTZ Rotzenmuhle 69.41 16 *e*P P 01 54 53.8 +4.4
comp=Z,29nm,1.6s
PRA Prague 69.42 15 P P 01 54 54.0 +4.6
MEZF Maizieres J'vi 69.44 22 *e*P **P 01 54 49.8 +0.2**
comp=Z,52nm,1.2s
LANF Langenberg 69.48 20 *e*P P 01 54 54.0 +4.2
PRU Pruhonice 69.52 15 *e*P P 01 54 54.0 +4.0
PRU *e* 01 54 57.1
PRU MLR MLR
comp=Z,1µm,21.4s
PRU Pruhonice 69.52 15 AMS AMS 01 25 50.0
comp=Z,1µm,21.4s
PRU *e*P **P 01 54 54.0 +4.0**
PRU *e*pP pwP 01 54 57.1 +2.2
PRU *ex* x 01 57 36.0
VSR Storozhevoye 69.70 358 *e*P **P 01 54 50.5 -0.6**
VSR pmax pmax
comp=Z,4.0nm,0.6s
VSR pmax pmax
comp=N,5.0nm,0.4s
VSR pmax pmax
comp=E,9.0nm,0.9s
VSR MLR MLR
comp=Z,2µm,22.0s
VSR MLR MLR
comp=N,1µm,20.0s
VSR MLR MLR
comp=E,420nm,20.0s
KRLC Kraliky 69.71 13 *e*P **P 01 54 52.0 +0.7**
KRLC *e* 01 54 55.7
KRLC Kraliky 69.71 13 *e*P **P 01 54 52.0 +0.7**
KRLC *e*pP **pP 01 54 55.7 -0.4**
SFTF Sexfontaines 69.72 22 *e*P **P 01 54 51.3 0.0**
comp=E,80nm,1.4s
LZH Lanzhou 69.80 307 *e*P **P 01 54 51.6 -0.6**
LZH pP **pP 01 54 56.3 -0.7**
LZH sP **sP 01 54 58.8 0.0**
LZH PP **PP 01 57 27.3 +1.3**
LZH SS **SS 02 08 27.8 -0.7**
LZH pmax pmax
comp=Z,42nm,1.1s
LZH pmax pmax
comp=Z,120nm,5.3s
LZH LR LR
comp=N,1µm,16.0s
LZH LR LR
comp=E,1µm,13.8s
LZH LR LR
comp=Z,2µm,16.2s
THEF They Montfort 69.88 21 *e*P **P 01 54 54.0 +1.7**
OJC Ojcow 69.89 11 *e*P **P 01 54 51.7 -0.7**
OJC Ojcow 69.89 11 *e*P **P 01 54 51.7 -0.7**
STU Stuttgart 69.91 19 *e*P P 01 54 56.6 +4.1
CDF Champ du Feu 69.93 20 *e*P **P 01 54 53.0 +0.3**
comp=Z,34nm,1.3s
VORD Divnogorie 69.95 358 *e*P **P 01 54 51.6 -1.0**
VORD pmax pmax
comp=N,80nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD pmax pmax
comp=E,130nm,0.8s
VORD MLR MLR
comp=Z,2µm,22.0s
VORD MLR MLR
comp=N,3µm,18.0s
VORD MLR MLR
comp=E,3µm,29.0s
WHN Wuhan 69.96 296 *e*P P 01 54 59.3 +6.3
AB31 Akbulak array 69.99 344 *i* P **P 01 54 52.1 -0.8**
AB31 pmax pmax
comp=Z,74nm,1.0s
ABKAR Akbulak array 69.99 344 *e*P **P 01 54 52.5 -0.4**
comp=Z,25nm,0.8s
MORC Moravsky Berou 70.09 13 *e*P **P 01 54 53.2 -0.4**
MORC pmax pmax
comp=Z,32nm,1.5s
MORC Moravsky Berou 70.09 13 *e*P **P 01 54 53.2 -0.4**
comp=Z,32nm,1.5s
KIEV Kiev 70.09 5 *e*P **P 01 54 52.5 -1.0**
KIEV pmax pmax
comp=Z,58nm,1.3s
KIEV MLR MLR
comp=Z,1µm,20.0s
KIEV Kiev 70.09 5 *e*P **P 01 54 52.5 -1.0**
comp=Z,58nm,1.3s
KIEV LR LR
comp=Z,1µm,20.0s
OKC Ostrava-Krasne 70.10 12 *e*P **P 01 54 54.1 +0.5**
OKC *e* 01 54 57.6
OKC MLR MLR
comp=Z,1µm,19.9s
OKC Ostrava-Krasne 70.10 12 AMS AMS 01 26 10.0
comp=Z,1µm,19.9s
OKC *e*P **P 01 54 54.1 +0.5**
OKC *e*pP pP 01 54 57.6 -0.8

ECH Echery 70.10 20 *e*P **P 01 54 53.6 -0.1**
ECH pmax pmax
comp=Z,28nm,1.4s
ECH MLR MLR
comp=Z,2µm,20.0s
ECH Echery 70.10 20 *e*P **P 01 54 53.5 -0.1**
comp=Z,28nm,1.4s
ECH LR LR
comp=Z,2µm,20.0s
WET Wettzell 70.11 16 *e*P P 01 54 58.3 +4.5
comp=Z,34nm,1.6s
WET Wettzell 70.11 16 *e*P P 01 54 58.3 +4.5
WET pmax pmax
comp=Z,10.0nm,1.6s
HYF Humbligny 70.15 24 *e*P **P 01 54 54.4 +0.5**
HAU Haudompre 70.16 21 *e*P **P 01 54 54.1 +0.1**
HAU *e*R
comp=Z,4µm,22.0s
MFF Saint Martin d 70.18 26 *e*P **P 01 54 54.5 +0.3**
comp=Z,115nm,1.5s
BFO Black Forest 70.20 19 *e*P P 01 54 58.0 +3.7
comp=Z,16nm,1.4s
BFO Black Forest 70.20 19 *e*P **P 01 54 53.6 -0.7**
BFO pmax pmax
comp=Z,15nm,1.4s
BFO MLR MLR
comp=Z,1µm,19.0s
BFO Black Forest 70.20 19 *e*P **P 01 54 53.6 -0.7**
comp=Z,15nm,1.4s
BFO LR LR
comp=Z,1µm,19.0s
KHC Kasperske Hory 70.23 16 *e*P **P 01 54 55.3 +0.8**
KHC *e* 01 54 59.2
KHC MLR MLR
comp=Z,1µm,23.3s
KHC Kasperske Hory 70.23 16 AMS AMS 01 26 00.0
comp=Z,1µm,23.3s
KHC *e*P **P 01 54 55.3 +0.8**
KHC *e*pP pP 01 54 59.2 -0.1
KHC Kasperske Hory 70.23 16 *e*P **P 01 54 53.5 -1.0**
comp=Z,41nm,1.4s
TREC Trest 70.32 14 *e*P **P 01 54 54.9 -0.1**
TREC *e* 01 54 59.1
TREC MLR MLR
comp=Z,1µm,19.4s
TREC Trest 70.32 14 *e*P **P 01 54 54.9 -0.1**
TREC *e*pP **pP 01 54 59.1 -0.7**
TREC AMS AMS 02 28 00.0
comp=Z,1µm,19.4s
LOR Lormes 70.39 23 *e*P **P 01 54 55.6 +0.1**
comp=Z,44nm,1.2s
LOR *e*R
comp=Z,3µm,20.5s
HINF Hinteralfeld 70.43 21 *e*P **P 01 54 55.6 -0.1**
comp=Z,89nm,1.8s
VRAC Vranov 70.44 14 LR LR 02 27 55.3
comp=Z,1µm,20.0s,baz=334,slow=38
SSF Saint Saulge 70.52 23 *e*P **P 01 54 56.4 +0.2**
comp=Z,65nm,1.3s
GEC2 GERESS Array S 70.52 16 *e*P P 01 55 00.6 +4.3
comp=Z,29nm,1.5s
GEC2 GERESS Array S 70.52 16 *e*P P 01 55 00.6 +4.3
GEC2 pmax pmax
comp=Z,11nm,1.5s
GERES GERESS Array B 70.52 16 P **P 01 54 56.3 0.0**
GERES GERESS Array B 70.52 16 P **P 01 54 56.3 0.0**
comp=Z,1.2nm,0.7s,baz=19,slow=4.5,SNR=10
GERES LR LR 02 28 39.2
comp=Z,1µm,19.1s,baz=157,slow=38
CMLA Cha da Macela 70.54 48 PFAKE 01 55 10.0 +13
CMLA LR LR
comp=Z,1µm,19.0s
LVV L'vov 70.66 8 *e*P **P 01 54 59.2 +2.2**
LVV *e* 01 57 30.0
LVV *e*PPP PPP 01 59 10.2
NIE Niedzica 70.74 11 *e*P P 01 55 03.8 +6.2
KWP Kalwaria Pacla 70.74 9 *e*P **P 01 54 56.7 -0.9**
KWP pmax pmax
comp=Z,41nm,1.3s
KWP MLR MLR
comp=Z,2µm,20.0s
KWP Kalwaria Pacla 70.74 9 *e*P **P 01 54 56.7 -0.9**
comp=Z,41nm,1.3s
KWP LR LR
comp=Z,2µm,20.0s
KWP Kalwaria Pacla 70.74 9⇓*i*P P 01 55 02.2 +4.6
KWP Kalwaria Pacla 70.74 9 *e*P **P 01 54 59.6 +2.0**
KWP *e*pP **pP 01 55 04.1 +1.7**
KWP *e*S **S 02 04 10.3 -0.9**
KWP LMZ LR 02 24 52.0
AVF Avril sur Loir 70.75 23 *e*P **P 01 54 57.6 0.0**
comp=Z,32nm,1.0s
STHS Stebnicka Huta 70.83 10 *e*P **P 01 54 58.6 +0.5**
STHS pmax pmax
comp=Z,11nm,0.9s
STHS Stebnicka Huta 70.83 10 *e*P **P 01 54 58.6 +0.5**
ANWB Willy Bob 70.83 88 PFAKE 01 55 10.0 +12
ANWB LR LR
comp=Z,2µm,22.0s
FUR Furstenfeldbru 70.83 17 *e*P P 01 55 02.4 +4.2
comp=Z,26nm,0.9s
FUR Furstenfeldbru 70.83 17 *e*P P 01 55 02.4 +4.2
FUR pmax pmax
comp=Z,345nm,0.9s
BGF Bois d'Agland 70.87 24 *e*P **P 01 54 58.3 -0.1**
comp=Z,43nm,1.0s
SMF Signal de Mont 70.98 23 *e*P **P 01 54 58.9 -0.2**
comp=Z,113nm,1.7s
TCF Toulx Ste Croi 70.99 24 *e*P **P 01 54 59.2 +0.1**
comp=Z,88nm,1.3s
TATO Taipei 71.25 287 PFAKE 01 55 10.0 +9.0
TATO LR LR
comp=Z,2µm,22.0s
KOLS Kolonicke sedl 71.40 10 *e*P P 01 55 05.7 +4.1
KOLS pmax pmax
comp=Z,30nm,1.3s
KOLS Kolonicke sedl 71.40 10 *e*P P 01 55 05.7 +4.1
AGO Saint Agoulin 71.41 24 *e*P **P 01 55 02.0 +0.3**
CABF La Chapelle 71.45 22 *e*P **P 01 55 02.3 +0.3**
comp=Z,49nm,1.0s
DAVA Damuels 71.47 19⇑*i*pP pP 01 55 05.2 -1.9
comp=Z,19nm,1.5s
RJOB Jochberg 71.48 17 *e*P P 01 55 06.1 +4.0
comp=Z,8.0nm,0.9s
VYHS Vyhne 71.50 12 *e*P P 01 55 05.7 +3.5
VYHS pmax pmax
comp=Z,18nm,1.4s
VYHS Vyhne 71.50 12 *e*P P 01 55 05.7 +3.5
VERF Verneugheol 71.56 24 *e*P P 01 55 07.4 +4.8
YHNB Yeheng 71.56 287 PFAKE 01 55 10.0 +7.0
YHNB LR LR
comp=Z,1µm,21.0s
MOTA Moosalm 71.61 18⇓*i*pP **P 01 55 04.7 +1.7**
comp=Z,9.5nm,0.9s
KECS Kecovo 71.68 11 *e*P **P 01 55 03.6 +0.4**
KECS pmax pmax
comp=Z,5.0nm,1.1s
KECS Kecovo 71.68 11 *e*P **P 01 55 03.6 +0.4**
WATA Walderalm 71.69 17⇓*i*pP **P 01 55 04.0 +0.5**
comp=Z,25nm,1.0s
UZH Uzhgorod 71.70 10 *e*P P 01 55 07.1 +3.8
UZH *e* 01 55 12.9
UZH *e* 01 55 22.3
UZH *e*S **S 02 04 22.0 -0.2**
UZH MLR MLR
comp=N,600nm,20.0s
UZH MLR MLR
comp=E,1µm,20.0s
UZH MLR MLR
comp=Z,600nm,20.0s
CONA Conrad Observa 71.71 14⇑*i*pP pP 01 55 07.9 -0.4
comp=Z,37nm,1.5s
WTTA Wattenberg 71.77 17⇑*i*pP **P 01 55 05.3 +1.3**
comp=Z,45nm,1.1s
RJF Les Rejaudoux 71.78 25 *e*P **P 01 55 03.8 -0.1**
comp=Z,66nm,1.2s
LFF La Frestale 71.96 26 *e*P **P 01 55 05.3 +0.4**
comp=Z,176nm,1.5s
DAVOX Davos/Dischmat 71.96 19 LR LR 02 28 58.2
comp=Z,1µm,20.8s,baz=165,slow=38
COLF Collangettes 72.03 24 *e*P **P 01 55 03.0 -2.5**
TUE Stuetta 72.17 19 *e*P **P 01 55 07.0 +0.5**
comp=Z,16nm,0.8s
TUE LR LR
comp=Z,2µm,21.0s
PSZ Piszkesteto 72.18 12 *e*P **P 01 55 06.1 -0.3**

PSZ pmax pmax
comp=Z,47nm,1.4s
PSZ MLR MLR
comp=Z,2µm,20.0s
PSZ Piszkesteto 72.18 12 *e*P **P 01 55 06.1 -0.3**
comp=Z,47nm,1.4s
PSZ LR LR
comp=Z,2µm,20.0s
PSZ Piszkesteto 72.18 12 *e*P P 01 55 11.1 +4.8
TRPA Tarpa 72.22 10⇑*i*P P 01 55 11.8 +5.4
TRPA Tarpa 72.22 10 *e*P **P 01 55 07.1 +0.7**
CAF Calviac 72.26 25 *e*P **P 01 55 06.8 0.0**
comp=Z,77nm,1.3s
AAA Alma-Ata 72.34 330 *e*S SKiKP 02 05 09.1 +27
AAA pmax pmax
comp=Z,1µm,8.2s
AAA smax smax
comp=E,1µm,17.3s
AAA MLR MLR
comp=Z,6µm,16.0s
ENH Enshi 72.39 300 PFAKE 01 55 20.0 +12
ENH LR LR
comp=Z,2µm,20.0s
SSB Saint Sauveur 72.43 23 PFAKE 01 55 20.0 +12
SSB LR LR
comp=Z,3µm,20.0s
PGAV Gavieira, Arco 72.48 33 *e*S **SKiKP 02 04 42.8 +0.6**
PGAV Gavieira, Arco 72.48 33 *e*LR LR 02 18 41.7
comp=Z,2µm,20.0s
LPL La Plagne 72.63 21 *e*P **P 01 55 10.1 +0.9**
comp=Z,18nm,0.9s
PKST T''s 72.63 13 *e*P P 01 55 14.1 +5.1
LPG La Plagne 72.65 21 *e*P **P 01 55 10.5 +1.0**
comp=Z,63nm,1.3s
VIVF Saint-Julien-l 72.87 23 *e*P **P 01 55 10.7 +0.3**
comp=Z,15nm,0.8s
BUR08 Bucovina Ar. S 72.91 8 *e*P **P 01 55 10.9 +0.1**
BURAR Bucovina Array 72.94 8⇓P **P 01 55 11.2 +0.3**
BURAR Bucovina Array 72.94 8⇓*i*P **P 01 55 11.2 +0.3**
TKM2 Tokmak 2 73.01 331 PFAKE 01 55 20.0 +8.4
TKM2 LR LR
comp=Z,3µm,21.0s
PBRG Braganca 73.05 32 *e*pP pP 01 55 16.4 0.0
BNI Bardonecchia 73.07 22 *e*P **P 01 55 11.8 +0.1**
BNI pmax pmax
comp=Z,71nm,1.8s
BNI MLR MLR
comp=Z,2µm,19.0s
BNI Bardonecchia 73.07 22 *e*P **P 01 55 11.8 +0.1**
comp=Z,71nm,1.8s
BNI LR LR
comp=Z,2µm,19.0s
POLO Lamas de Olo 73.16 33 *e*P **P 01 55 13.2 +0.9**
comp=Z,19nm,1.4s
PKSN Nyarlorinc 73.19 12 *e*P P 01 55 18.1 +5.9
PVRL Vila Real 73.27 33 *e*pP pP 01 55 17.4 -0.4
LASF Ste Croix 73.45 24 *e*P **P 01 55 14.5 +0.6**
comp=Z,90nm,1.5s
AAK Ala-Archa 73.56 332 LR LR 02 32 03.8
comp=Z,4µm,20.3s,baz=39,slow=40
MVO Moncorvo 73.56 33 *e*pP **pP 01 55 19.6 +0.1**
MVO *e*S **S 02 04 47.5 +3.6**
MVO Moncorvo 73.56 33 *e*LR LR 02 18 50.7
comp=Z,2µm,20.0s
ETSF Etsaut 73.59 27 *e*P **P 01 55 15.7 +0.9**
comp=Z,60nm,0.9s
FDF Fort de France 73.63 89 PFAKE 01 55 30.0 +15
FDF LR LR
comp=Z,2µm,20.0s
EPF Esparros 73.68 27 *e*P **P 01 55 14.9 -0.4**
comp=Z,23nm,1.2s
EKS2 Erkin-Say 73.70 332 PFAKE 01 55 30.0 +14
EKS2 LR LR
comp=Z,4µm,22.0s
PKSM Moragy 73.73 13⇓P **P 01 55 17.1 +1.7**
PKSM Moragy 73.73 13⇓*i*P **P 01 55 17.1 +1.7**
VIEF Viey 73.74 27 *e*P P 01 55 20.8 +5.1
SDV Santo Domingo 73.76 100 PFAKE 01 55 30.0 +14
SDV LR LR
comp=Z,543nm,22.0s
KIS Kishinev 73.77 5 *e*P **P 01 55 17.0 +1.4**
KIS LRM MLR 02 29 40.0
comp=Z,1µm,22.0s
KIS Kishinev 73.77 5 *e*P **P 01 55 17.0 +1.4**
KIS *e* 01 55 23.0
KIS *e* 01 58 06.0
KIS MLR MLR
comp=Z,1µm,20.0s
KIS MLR MLR
comp=N,700nm,19.0s
KIS MLR MLR
comp=Z,1µm,22.0s
MTLF Montolieu 73.80 25 *e*P **P 01 55 16.1 +0.2**
comp=Z,63nm,1.5s
RESF Ems 73.89 27 *e*P P 01 55 21.8 +5.2
MLS Moulis 73.92 26 *e*P P 01 55 20.7 +4.1
FUNA Funafuti 73.95 218 PFAKE 01 55 30.0 +13
FUNA LR LR
comp=Z,8µm,21.0s
KK31 Karatay Array 74.03 335 *i* P **P 01 55 17.2 -0.1**
KK31 pmax pmax
comp=Z,17nm,0.7s
KKAR Karatay Array 74.03 335 *e*P **P 01 55 16.8 -0.5**
KKAR pmax pmax
comp=Z,16nm,0.7s
MTE Manteigas 74.13 33 *e*S S 02 04 56.6 +6.3
MTE Manteigas 74.13 33 *e*LR LR 02 18 54.8
comp=Z,2µm,20.0s
MTE Manteigas 74.13 33 PFAKE 01 55 30.0 +12
MTE LR LR
comp=Z,2µm,20.0s
TESR Tescani 74.13 7⇓*i*P P 01 55 21.7 +3.9
PMOR Pomariorio Ree 74.23 184 *e*T T 03 16 33.9
comp=Z,43nm,0.3s
SBF Sospel 74.36 21 *e*P **P 01 55 19.6 +0.4**
comp=Z,62nm,0.8s
FRF La Foret Royal 74.50 22 *e*P **P 01 55 20.2 +0.2**
comp=Z,35nm,0.9s
VLC Villacollemand 74.59 19 PFAKE 01 55 30.0 +9.5
VLC LR LR
comp=Z,2µm,19.0s
BZS Buzias 74.63 11⇑P **P 01 55 21.4 +0.7**
BZS Buzias 74.63 11⇑*i*P **P 01 55 21.4 +0.7**
PCBR Castelo Branco 74.67 34 *e*P **P 01 55 21.0 0.0**
LMR La Mourre 74.69 22 *e*P **P 01 55 21.3 +0.2**
comp=Z,105nm,1.4s
VRI Vrincioaia 74.78 7⇓P **P 01 55 23.2 +1.6**
VRI Vrincioaia 74.78 7⇓*i*P **P 01 55 23.2 +1.6**
PLOR Plostina 74.79 7⇑P **P 01 55 22.5 +0.8**
PLOR Plostina 74.79 7⇑*i*P **P 01 55 22.5 +0.8**
GZR Gura Zlata 74.96 10⇑P **P 01 55 23.0 +0.3**
GZR Gura Zlata 74.96 10⇑*i*P **P 01 55 23.0 +0.3**
LOT Lotru 74.99 9⇑*i*P **P 01 55 22.6 -0.3**
PMRV Marv??o 75.08 34 *e*LR LR 02 19 44.5
comp=Z,2µm,20.0s
VOIR 75.10 8⇓P P 01 55 28.1 +4.6
VOIR 75.10 8⇓*i*P P 01 55 28.1 +4.6
MLR Muntele Rosu 75.11 8⇑*i*P **P 01 55 24.8 +1.2**
ARR Arges 75.13 9⇑*i*P P 01 55 28.6 +4.9
ROSC El Rosal 75.39 106 LR LR 02 33 37.2
comp=Z,769nm,19.4s,baz=16,slow=40
CFR Carcaliu 75.55 6⇓P **P 01 55 26.2 +0.2**
CFR Carcaliu 75.55 6⇓*i*P **P 01 55 26.2 +0.2**
GRGR Grenville 75.57 91 PFAKE 01 55 40.0 +13
GRGR LR LR
comp=Z,2µm,20.0s
TLCR 75.58 6⇑P **P 01 55 26.5 +0.4**
TLCR 75.58 6⇑*i*P **P 01 55 26.5 +0.4**
BBGH Gun Hill 75.78 88 PFAKE 01 55 40.0 +12
BBGH LR LR
comp=Z,4µm,20.0s
ESDC Sonseca Array 75.78 31 P **P 01 55 27.9 +0.4**
ESDC Sonseca Array 75.78 31 P **P 01 55 27.9 +0.4**
comp=Z,11nm,0.8s,baz=336,slow=5.9,SNR=31
ESDC LR LR 02 26 50.7
comp=Z,1µm,21.6s,baz=325,slow=34
ESLA Sonseca Array 75.78 31 *e*P **P 01 55 28.0 +0.5**
comp=Z,4.2nm,0.9s
PAB San Pablo 75.80 31 *e*P **P 01 55 27.6 -0.1**
PAB pmax pmax
comp=Z,21nm,1.3s
PAB MLR MLR
comp=Z,1µm,20.0s
PAB San Pablo 75.80 31 *e*P **P 01 55 27.6 -0.1**
comp=Z,21nm,1.3s

PAB LR LR
comp=Z,1μm,20.0s
PNCL Nicolau / Gran 75.97 35 *e*P **P 01 55 27.7 -0.8**
comp=Z,47nm,1.9s
SIM Simferopol' 75.98 2 *e*P **P 01 55 28.0 -0.5**
SIM *e* 01 58 19.0
SIM pmax pmax
comp=Z,100nm,9.0s
SIM MLR MLR
comp=Z,1μm,18.0s
ANN Anapa 76.14 359 *e*P **P 01 55 32.3 +2.9**
ANN *e**PP **pP 01 55 37.1 +2.8**
ANN *e* 01 55 42.9
ANN *e*S S 02 05 19.9 +7.6
ANN pmax pmax
comp=Z,31nm,1.1s
PBEJ Beja 76.24 35 *e*pP pP 01 55 34.6 -0.4
TIRR Tirgusor 76.28 6 ⇑P P 01 55 34.6 +4.4
TIRR Tirgusor 76.28 6 ⇑*i*P P 01 55 34.5 +4.4
PBAR Barrancos 76.34 34 *e*pP pP 01 55 38.3 +2.8
AFI Afiamalu 76.55 208 LR LR 02 21 43.5
comp=Z,2μm,20.4s,baz=22,slow=30
AQU L'Aquila 76.83 17 PFAKE 01 55 40.0 +6.6
AQU LR LR
comp=Z,2μm,19.0s
PPT Papeete 76.86 186 LR LR 02 22 29.1
comp=Z,2μm,18.7s,baz=329,slow=30
KIV Kislovodsk 76.86 355*c i*P **P 01 55 33.5 -0.1**
KIV *e**PP **pP 01 55 37.2 -1.3**
KIV *e**SP **sP 01 55 40.5 +0.2**
KIV *e* 01 58 24.4
KIV pmax pmax
comp=Z,14nm,1.2s
KIV MLR MLR
comp=Z,2μm,19.0s
PVAQ Vaqueiros 76.86 35 *e*S **S 02 05 23.0 +2.5**
PVAQ Vaqueiros 76.86 35 *e*LR LR 02 21 06.8
comp=Z,2μm,18.0s
PPT2 Papeete2 76.88 186 *e*LR LR 02 19 21.6
comp=Z,7μm,29.0s,baz=354
GYA Guiyang 76.92 300 *e*P **P 01 55 33.0 -1.2**
KBZ Khabaz 77.08 355 P **P 01 55 35.8 +1.2**
KBZ Khabaz 77.08 355 P **P 01 55 35.8 +1.2**
KBZ Khabaz 77.08 355 P **P 01 55 35.8 +1.2**
comp=Z,6.9nm,0.9s,baz=320,slow=6.1,SNR=12
KBZ LR LR 02 33 19.0
comp=Z,2μm,19.2s,baz=15,slow=39
SOC Sochi 77.33 358*c i*P P 01 55 26.7 -9.4
SOC *e* 01 58 34.0
SOC *e* 02 05 58.1
SOC *e*SS SS 02 10 26.8 +4.7
SOC *e*SSS SSS 02 13 36.9
SOC MLR MLR
comp=Z,2μm,20.0s
OTAV Otavalo 77.40 112 PFAKE 01 55 50.0 +13
OTAV LR LR
comp=Z,999nm,22.0s
MAK Makhachkala 77.57 352 *i* P **P 01 55 36.6 -0.8**
VTS Vitosha 77.78 10 P **P 01 55 38.6 -0.2**
VTS Vitosha 77.78 10 ⇓P **P 01 55 42.0 +3.2**
VTS Vitosha 77.78 10 ⇓*i*P **P 01 55 42.0 +3.2**
ONI Oni 78.19 355 P **P 01 55 43.0 +2.0**
TIR Tirane 78.67 13 PFAKE 01 55 50.0 +6.4
TIR LR LR
comp=Z,2μm,21.0s
VSL Villasalto 78.94 21 PFAKE 01 56 00.0 +15
VSL LR LR
comp=Z,2μm,22.0s
TBLG Delisi 78.98 354 *e*P **P 01 55 45.4 +0.1**
TBLG Delisi 78.98 354 P **P 01 55 45.4 +0.1**
VAY Valandovo 78.98 11 *e*PKP 02 01 20.2
comp=Z,44nm,0.9s
NVR Nevrokopi 79.06 10 P **P 01 55 45.1 -0.7**
KNT Kendrikon 79.17 10 P **P 01 55 46.0 -0.3**
DGRG David-gareji 79.22 353 P P 01 55 51.5 +4.8
SRS Serrai 79.27 10 P **P 01 55 46.7 -0.2**
GRG Griva 79.32 11 P **P 01 55 46.5 -0.7**
AKH Akhalkalaki 79.36 355 P **P 01 55 49.3 +1.7**
FNA Florina 79.39 12 P **P 01 55 48.7 +1.0**
CUC Castrocucco 79.50 16 *e*P **P 01 55 47.0 -1.2**
comp=Z,13nm,1.1s
CUC LR LR
comp=Z,1μm,20.0s
NEST Nestorio 79.72 12 P **P 01 55 49.5 0.0**
KMI Kunming 79.80 302 P **P 01 55 49.6 -0.7**
KMI sP **sP 01 55 58.4 +1.4**
KMI pmax pmax
comp=Z,8.0nm,1.3s
PLG Polygyros 80.00 10 P **P 01 55 49.2 -1.7**
SMTH Samothraki Isl 80.07 8 P **P 01 55 53.7 +2.4**
KEK Kerkira 80.28 13 P P 01 55 56.0 +3.6
LSA Lhasa 80.38 314 PFAKE 01 56 00.0 +6.3
LSA LR LR
comp=Z,3μm,20.0s
TIP Timpagrande 80.43 15 *e*P **P 01 55 52.5 -0.8**
comp=Z,24nm,1.3s
TIP LR LR
comp=Z,2μm,22.0s
PAIG Paliouri 80.46 10 P P 01 55 50.2 -3.1
IGT Igoumenitsa 80.52 13 P **P 01 55 52.6 -1.1**
GNI Garni 80.55 353 *e*P **P 01 55 53.5 -0.6**
comp=Z,46nm,1.4s
GNI LR LR
comp=Z,1μm,22.0s
THL Klokotos Trika 80.66 11 P **P 01 55 53.2 -1.2**
ANTO Ankara 81.03 3 ⇑P **P 01 55 57.2 +0.7**
ANTO Ankara 81.03 3 *e*P **P 01 55 56.8 +0.2**
comp=Z,21nm,0.9s
ANTO LR LR
comp=Z,1μm,21.0s
ANTO Ankara 81.03 3 ⇑*i*P **P 01 55 57.2 +0.7**
BRTR Keskin Array B 81.19 2 P **P 01 55 57.5 0.0**
BRTR Keskin Array B 81.19 2 P **P 01 55 57.5 0.0**
comp=Z,5.7nm,0.9s,baz=9.8,slow=2.6,SNR=18
BRTR LR LR 02 35 46.7
comp=Z,1μm,20.5s,baz=22,slow=38
CEL Celeste 81.21 16 PFAKE 01 56 10.0 +13
CEL LR LR
comp=Z,892nm,22.0s
EVR Evrytania 81.28 11 P P 01 55 53.3 -4.6
SMIA Simia 81.46 10 P **P 01 55 56.7 -2.0**
AXAR Agios Charalam 81.52 11 P P 01 56 02.6 +3.5
EFP Efpalio 81.78 11 P **P 01 56 01.0 +0.6**
DSF Desfina 81.86 11 P **P 01 55 58.5 -2.4**
QIZ Qiongzhong 81.90 294 P **P 01 55 58.9 -2.4**
QIZ S **S 02 06 13.4 -0.9**
QIZ Qiongzhong 81.90 294 PFAKE 01 56 10.0 +8.7
QIZ LR LR
comp=Z,1μm,19.0s
AXS Araxos 81.95 12 P **P 01 55 59.7 -1.6**
HNR Honiara 82.00 236 LR LR 02 30 15.0
comp=Z,626nm,18.3s,baz=213,slow=34
RLS Riolos of Patr 82.10 12 P **P 01 56 01.9 -0.2**
KLV Kalavryta, Ach 82.18 11 P **P 01 55 59.9 -2.7**
THAL Thalero 82.24 11 P **P 01 56 01.2 -1.6**
GUR Goura 82.31 11 P **P 01 56 03.0 -0.3**
ISHB Shabestar 82.36 353 *e*P **P 01 56 03.9 +0.1**
RKT Rikitea 82.54 172 *e*LR LR 02 21 59.8
comp=Z,4μm,29.2s,baz=358
RKT Rikitea 82.54 172 *e*T T 03 26 58.7
comp=Z,6.5nm,0.3s
KEST Kesra 82.59 22 *e*P **P 01 56 04.4 -0.4**
KEST Kesra 82.59 22 P **P 01 56 05.5 +0.7**
comp=Z,2.8nm,1.0s,baz=349,slow=7.5,SNR=7.6
TBI Tubuai 82.59 185 *e*LR LR 02 22 01.2
comp=Z,5μm,29.2s,baz=356
TBI Tubuai 82.59 185 *e*T T 03 27 00.3
comp=Z,25nm,0.3s
MALT Malatya 82.61 358 PFAKE 01 56 20.0 +15
MALT LR LR
comp=Z,1μm,20.0s
MALT Malatya 82.61 358 ⇑*i*P P 01 56 29.4 +24
ISRB Sarab 82.66 351 *e*P **P 01 56 05.6 +0.3**
MSVF Nonsavu 82.98 217 PFAKE 01 56 20.0 +13
MSVF LR LR
comp=Z,2μm,21.0s
ISP Isparta 83.00 5 *e*P **P 01 56 06.4 -0.5**
ISP pmax pmax
comp=Z,30nm,0.8s
ISP MLR MLR
comp=Z,1μm,22.0s
ISP Isparta 83.00 5 *e*P **P 01 56 06.4 -0.5**
comp=Z,30nm,0.8s
ISP LR LR
comp=Z,1μm,22.0s
WDD Wield Dalam 83.35 18 PFAKE 01 56 20.0 +11
WDD LR LR
comp=Z,1μm,20.0s
SANT Santorini 84.14 9 PFAKE 01 56 20.0 +7.3
SANT LR LR
comp=Z,1μm,22.0s
DAV Davao City (W) 84.37 274 LR LR 02 28 33.0
comp=Z,790nm,21.4s,baz=39,slow=32
IRAZ Razeghan 84.86 349 *e*P P 01 56 20.8 +4.2
IDHR Dehrash 85.87 352 *e*P **P 01 56 22.0 +0.4**
CSS Prodhromos 85.94 2 *e*P **P 01 56 21.2 -0.5**
comp=Z,64nm,1.4s
CSS LR LR
comp=Z,1μm,22.0s
IVIS Veis 86.00 351 *e*P **P 01 56 22.2 0.0**
IGHG Ghaleghazi 86.22 352 *e*P **P 01 56 26.0 +2.6**
IKOM Komasi 86.30 351 *e*P **P 01 56 23.7 0.0**
IKOO Kooshah 86.59 341 *e*P **P 01 56 24.2 -1.1**
CHTO Chiang Mai 87.00 303 *e*P **P 01 56 26.4 -0.7**
CHTO Chiang Mai 87.00 303 *e*P **P 01 56 26.4 -0.7**
comp=Z,12nm,1.0s
CHTO LR LR
comp=Z,2μm,19.0s
CMAR Chiang Mai Arr 87.31 302 P **P 01 56 29.8 +1.1**
CMAR Chiang Mai Arr 87.31 302 P **P 01 56 29.8 +1.1**
comp=Z,9.6nm,0.8s,baz=10,slow=5.5,SNR=7.0
CMAR LR LR 02 39 07.2
comp=Z,2μm,20.9s,baz=285,slow=38
PMG Port Moresby 87.73 247 PFAKE 01 56 40.0 +9.4
PMG LR LR
comp=Z,1μm,19.0s
MMAI Mount Meron Ar 87.91 1 LR LR 02 37 53.9
comp=Z,487nm,21.8s,baz=205,slow=37
IBAF Bafgh 87.94 344 *e*P **P 01 56 34.4 +2.6**
IMEH Mehriz 88.28 344 *e*P **P 01 56 35.3 +1.9**
ASF Jabal al Asfar 88.75 360 LR LR 02 35 18.4
comp=Z,262nm,21.8s,baz=46,slow=35
NNA Nana 88.86 116 PFAKE 01 56 50.0 +14
NNA LR LR
comp=Z,1μm,21.0s
KKM Kota Kinabalu 89.98 282 PFAKE 01 56 50.0 +8.5
KKM LR LR
comp=Z,447nm,19.0s
DZM Mont Dzumac 90.90 225 LR LR 02 35 07.3
comp=Z,1μm,18.6s,baz=0.0,slow=34
SACV Santiago Islan 91.53 57 PFAKE 01 57 00.0 +11
SACV LR LR
comp=Z,592nm,21.0s
RAO Raoul Island 92.78 210 LR LR 02 28 20.6
comp=Z,1μm,21.5s,baz=344,slow=29
SAML Samuel 92.81 103 *e*P **P 01 56 54.1 -0.2**
comp=Z,3.5nm,0.8s
SAML LR LR
comp=Z,2μm,22.0s
TAM Tamanrasset 94.25 28 *e*P **P 01 57 01.0 -0.2**
TAM Tamanrasset 94.25 28 *e*P **P 01 57 01.0 -0.2**
comp=Z,1.9nm,1.1s
TAM LR LR
comp=Z,1μm,21.0s
KSM Kuching 96.86 285 PFAKE 01 57 20.0 +7.0
KSM LR LR
comp=Z,476nm,20.0s
CTAO Charters Tower 97.46 243 PFAKE 01 57 30.0 +14
CTAO LR LR
comp=Z,971nm,20.0s
KAPI Kappang 97.66 273 PFAKE 01 57 30.0 +13
KAPI LR LR
comp=Z,413nm,20.0s
KULM Kulim 98.18 295 PFAKE 01 57 30.0 +11
KULM LR LR
comp=Z,1μm,19.0s
LVC Limon Verde 101.77 114 PFAKE 01 57 50.0 +15
LVC LR LR
comp=Z,2μm,20.0s
RCBR Riachuelo 103.98 78 PFAKE 01 58 00.0 +15
RCBR LR LR
comp=Z,859nm,20.0s
SNZO South Karori 106.10 211 PFAKE 02 02 20.0
SNZO LR LR
comp=Z,1μm,21.0s
LCO Las Campanas 106.45 119 PFAKE 02 02 20.0
LCO LR LR
comp=Z,1μm,21.0s
CAN Canberra 109.49 233 PFAKE 02 02 20.0
CAN LR LR
comp=Z,786nm,20.0s
MBWA Marble Bar 111.32 264 PFAKE 02 02 30.0
MBWA LR LR
comp=Z,1μm,19.0s
ASCN Ascension 116.01 59 PFAKE 02 02 40.0 +15
ASCN LR LR
comp=Z,507nm,21.0s
TAU Tasmania Unive 116.65 230 PFAKE 02 02 40.0 +15
TAU LR LR
comp=Z,530nm,19.0s
TRQA Tornquist 117.97 118 PFAKE 02 02 40.0 +12
TRQA LR LR
comp=Z,951nm,20.0s
MBAR Mbarara 121.19 7 PFAKE 02 02 50.0 +15
MBAR LR LR
comp=Z,482nm,20.0s
DGAR Diego Garcia 121.33 317 PFAKE 02 02 50.0 +15
DGAR LR LR
comp=Z,2μm,19.0s
KMBO Kilima Mbogo 121.87 359 PFAKE 02 02 50.0 +14
KMBO LR LR
comp=Z,1μm,22.0s
NWAO Narrogin (SRO) 122.22 259 PFAKE 02 02 50.0 +14
NWAO LR LR
comp=Z,617nm,19.0s
MSEY Mahe Island 123.44 337 PFAKE 02 02 50.0 +11
MSEY LR LR
comp=Z,1μm,20.0s
SHEL Horse Pasture 126.85 54 PFAKE 02 03 00.0 +15
SHEL LR LR
comp=Z,1μm,19.0s
EFI East Falkland 130.38 125 PFAKE 02 03 00.0 +9.0
EFI LR LR
comp=Z,701nm,19.0s
LSZ Lusaka 135.52 11 PFAKE 02 03 10.0 +8.0
LSZ LR LR
comp=Z,2μm,22.0s
TSUM Tsumeb 137.60 27 PFAKE 02 03 20.0 +14
TSUM LR LR
comp=Z,2μm,20.0s
ABPO Ambohimpanom 138.89 344 PFAKE 02 03 20.0 +12
ABPO LR LR
comp=Z,984nm,20.0s
SBA Scott Base 140.32 195 PFAKE 02 03 20.0 +11
SBA LR LR
comp=Z,2μm,20.0s
TRIS Tristan da Cun 141.80 76 PFAKE 02 03 20.0 +7.3
TRIS LR LR
comp=Z,1μm,20.0s
LBTB Lobatse 144.80 17 *e*PKPdf **PKPab 02 03 17.6 +0.1**
LBTB PKP **PKPdf 02 03 18.6 +0.1**
LBTB Lobatse 144.80 17 PKP **PKPdf 02 03 18.6 +0.1**
comp=Z,9.7nm,0.8s,baz=203,slow=2.9,SNR=4.0
CASY Casey 147.39 226 PFAKE 02 03 30.0 +4.0
CASY LR LR
comp=Z,743nm,19.0s
BOSA Boshof 148.28 19 PKPbc **PKPbc 02 03 27.4 -0.3**
BOSA Boshof 148.28 19 PKPbc **PKPbc 02 03 27.4 -0.3**
comp=Z,5.1nm,0.8s,baz=342,slow=4.3,SNR=3.5
QSPA South Pole Qui 149.22 180 *e*PKPbc **PKPbc 02 03 28.8 -0.1**
QSPA LR LR
comp=Z,2μm,22.0s
QSPA South Pole Qui 149.22 180 PKPbc **PKPbc 02 03 28.7 -0.1**
comp=Z,6.2nm,0.6s,baz=219,slow=2.1,SNR=8.4
SUR Sutherland 151.03 28 *e*PKPbc **PKPbc 02 03 33.4 -1.0**
SUR LR LR
comp=Z,1μm,21.0s
SUR Sutherland 151.03 28 PKPbc **PKPbc 02 03 34.0 -0.4**
comp=Z,10nm,1.0s,baz=337,slow=3.4,SNR=2.6

IDC 25 01:43:56.2±4.4, 8°22S×125°92E, h116km±53km, mb3.9/3, mb1 4.3/7, mb1mx4.1/21, mbtmp4.1/7, MS4.3/2, Ms1 4.3/2, ms1mx3.4/35, Error ellipse: s-maj=47.3km s-min=22.9km az=30.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.98**	**228**	P	Pn	01 44 43.4	+1.3
	68nm,0.3s,baz=105,slow=1.7,SNR=65						
BATI				S	Sn	01 45 17.8	+0.3
	222nm,0.3s,baz=270,slow=20,SNR=42						
KAPI	**Kappang**	**6.91**	**297**	S	Sn	01 46 53.1	+1.0
	baz=191,slow=19,SNR=3.0						
FITZ	**Fitzroy Crossi**	**9.82**	**182**	P	Pn	01 46 12.8	-1.6
	6.5nm,0.3s,baz=7.2,slow=9.5,SNR=51						
FITZ				S	Sn	01 47 54.9	-8.0
	7.1nm,0.3s,baz=18,slow=13,SNR=8.4						
FITZ				LR	LR	01 49 41.6	
	comp=Z,460nm,20.8s,baz=165,slow=35						
WRA	**Warramunga Arr**	**14.22**	**146**	P	Pn	01 47 12.0	-0.4
	3.7nm,0.3s,baz=324,slow=13,SNR=55						
WRA				S	Sn	01 49 42.5	-6.9
	8.9nm,0.3s,baz=323,slow=22,SNR=6.4						
ASAR	**Alice Springs**	**17.16**	**154**	P	Pn	01 47 50.4	+1.4
	1.4nm,0.3s,baz=318,slow=11,SNR=37						
ASAR				S	Sn	01 50 55.1	-5.2
	2.2nm,0.3s,baz=315,slow=20,SNR=3.8						
CMAR	**Chiang Mai Arr**	**37.57**	**315**	P	P	01 50 59.8	+0.1
	1.2nm,0.6s,baz=147,slow=7.2,SNR=5.1						
MJAR	**Matsushiro Arr**	**46.00**	**14**	P	P	01 52 08.1	+0.1
	12nm,0.7s,baz=195,slow=9.1,SNR=4.1						
MJAR				LR	LR	02 10 42.9	
	comp=Z,1μm,19.1s,baz=160,slow=35						
MKAR	**Makanchi Array**	**67.11**	**329**	P	P	01 54 37.0	-0.4
	1.4nm,0.5s,baz=128,slow=7.0,SNR=21						

ISK ***25*** *01:46:16.3, 35°.59N×28°.52E, h11km, MD3.6*
ATH ***25*** *01:46:16.7, 35°.44N×28°.54E, h45km, MD3.7/7*
ISCJB ***25*** *01:46:17.6±0.7, 35°.48N±0°.06×28°.51E±0°.05, h36km, Error ellipse: s-maj=9.1km s-min=5.1km az=160.7*
CSEM ***25*** *01:46:18.7±0.2, 35°.55N×28°.47E, h30km, MD3.7, Error ellipse: s-maj=5.3km s-min=2.6km az=160.0*

ISC 25 01:46:19.7±1.5, 35°.54N±0°.06×28°.46E±0°.04, h36km, n42, σ0.966/48, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.73**	**338**	*e*P	**Pn**	**01 46 33.2**	**-0.3**
ARG	**Arkhangelos**	**0.73**	**338**	*e*P	**Pn**	**01 46 33.2**	**-0.3**
KARP	**Karpathos**	**1.06**	**271**	*e*P	**Pn**	**01 46 37.3**	**-0.8**
KARP				*e*S	**Sn**	**01 46 52.1**	**+0.4**
KARP	**Karpathos**	**1.06**	**271**	*e*P	**Pn**	**01 46 37.3**	**-0.8**
KARP				*e*S	**Sn**	**01 46 52.1**	**+0.4**
DALY	**Dalyan (Mu˘la**	**1.28**	**7**	*e*PN	**Pn**	**01 46 39.9**	**-1.1**
DALY	**Dalyan (Mu˘la**	**1.28**	**7**	*e*Pn	**Pn**	**01 46 39.9**	**-1.1**
DAT	**Datca**	**1.39**	**329**	*e*PN	**Pn**	**01 46 42.1**	**-0.5**
DAT				*e*SN	**Sn**	**01 47 00.8**	**+1.0**
DAT	**Datca**	**1.39**	**329**	*e*Pn	**Pn**	**01 46 42.1**	**-0.5**
DAT				*e*Sn	**Sn**	**01 47 00.8**	**+1.0**
YER	**Yerkesik**	**1.60**	**355**	*e*PN	**Pn**	**01 46 44.8**	**-0.7**
YER				*e*SN	**Sn**	**01 47 05.3**	**+0.4**
YER	**Yerkesik**	**1.60**	**355**	*e*Pn	**Pn**	**01 46 44.8**	**-0.7**
YER				*e*Sn	**Sn**	**01 47 05.3**	**+0.4**
ELL	**Elmali**	**1.68**	**44**	*e*PN	**Pn**	**01 46 45.7**	**-0.9**
ELL	**Elmali**	**1.68**	**44**	*e*Pn	**Pn**	**01 46 45.7**	**-0.9**
BODT	**Bodrum**	**1.78**	**329**	*e*PN	**Pn**	**01 46 47.3**	**-0.7**
BODT	**Bodrum**	**1.78**	**329**	*e*Pn	**Pn**	**01 46 47.3**	**-0.7**
MLSB	**Milas**	**1.84**	**343**	*e*PN	**Pn**	**01 46 48.2**	**-0.5**
MLSB	**Milas**	**1.84**	**343**	*e*Pn	**Pn**	**01 46 48.2**	**-0.5**
NPS	**Neapolis**	**2.35**	**264**	*e*P	**Pn**	**01 46 55.1**	**-0.6**
NPS	**Neapolis**	**2.35**	**264**	*e*P	**Pn**	**01 46 55.1**	**-0.6**
BCK	**Bucak**	**2.57**	**41**	*e*PN	**Pn**	**01 46 58.0**	**-0.8**
BCK	**Bucak**	**2.57**	**41**	*e*Pn	**Pn**	**01 46 58.0**	**-0.8**
SUTC	**Sutluce-Ispart**	**2.81**	**46**	*e*PN	**Pn**	**01 47 01.5**	**-0.7**
SUTC	**Sutluce-Ispart**	**2.81**	**46**	*e*Pn	**Pn**	**01 47 01.5**	**-0.7**
APE	**Apeiranthos**	**2.82**	**304**	*e*PN	**Pn**	**01 47 01.9**	**-0.3**
APE	**Apeiranthos**	**2.82**	**304**	*e*Pn	**Pn**	**01 47 01.9**	**-0.3**
KHL	**Karahalli**	**2.90**	**17**	*e*PN	**Pn**	**01 47 03.0**	**-0.5**
KHL	**Karahalli**	**2.90**	**17**	*e*Pn	**Pn**	**01 47 03.0**	**-0.5**
IDI	**Anoyia**	**2.93**	**266**	*e*P	**Pn**	**01 47 02.8**	**-1.0**
IDI	**Anoyia**	**2.93**	**266**	*e*P	**Pn**	**01 47 02.8**	**-1.0**
KULA	**Kula-Manisa**	**2.97**	**3**	*e*PN	**Pn**	**01 47 03.7**	**-0.7**
KULA	**Kula-Manisa**	**2.97**	**3**	*e*Pn	**Pn**	**01 47 03.7**	**-0.7**
VAM	**Vamos**	**3.48**	**269**	*e*P	**Pn**	**01 47 11.3**	**0.0**
VAM	**Vamos**	**3.48**	**269**	*e*P	**Pn**	**01 47 11.3**	**0.0**
KARN	**Karanos**	**3.71**	**269**	*e*P	**Pn**	**01 47 14.6**	**+0.1**
KARN	**Karanos**	**3.71**	**269**	*e*P	**Pn**	**01 47 14.6**	**+0.1**
KONT	**Konya--Tatoy**	**3.94**	**51**	*e*PN	**Pn**	**01 47 18.1**	**+0.4**
KONT	**Konya--Tatoy**	**3.94**	**51**	*e*Pn	**Pn**	**01 47 18.1**	**+0.4**
LADK	**Ladik-KONYA**	**4.10**	**49**	*e*PN	**Pn**	**01 47 19.7**	**-0.2**
LADK	**Ladik-KONYA**	**4.10**	**49**	*e*Pn	**Pn**	**01 47 19.7**	**-0.2**
IKL	**Isikli**	**4.30**	**79**	*e*PN	**Pn**	**01 47 22.5**	**0.0**
IKL	**Isikli**	**4.30**	**79**	*e*Pn	**Pn**	**01 47 22.5**	**0.0**
VLI	**Veliai**	**4.62**	**286**	*e*P	**Pn**	**01 47 26.5**	**-0.5**
VLI	**Veliai**	**4.62**	**286**	*e*P	**Pn**	**01 47 26.5**	**-0.5**

IDC 25 01:54:24.2±2.0, 6°56S×129°84E, h0km, mb3.9/2, mb1 3.9/5, mb1mx3.7/21, mbtmp3.8/5, ML3.6/3, Error ellipse: s-maj=103.4km s-min=25.5km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.18**	**199**	Pn	Pn	01 57 19.9	+0.8
	0.1nm,0.3s,baz=22,slow=13,SNR=11						
FITZ				Sn	Sn	01 59 22.9	-13
	baz=102,slow=19						
WRA	**Warramunga Arr**	**14.00**	**162**	Pn	Pn	01 57 42.9	-1.1
	0.6nm,0.3s,baz=336,slow=17,SNR=12						
WRA				Sn	Sn	02 00 08.1	-12
	0.7nm,0.3s,baz=337,slow=22,SNR=7.3						
ASAR	**Alice Springs**	**17.45**	**167**	P	Pn	01 58 29.4	+0.2
	0.2nm,0.3s,baz=344,slow=8.9,SNR=6.6						
ASAR				S	Sn	02 01 30.9	-13
	0.2nm,0.3s,baz=350,slow=26,SNR=4.6						
MKAR	**Makanchi Array**	**67.78**	**327**	P	P	02 05 24.3	+0.4
	0.6nm,0.4s,baz=122,slow=7.4,SNR=10.0						
KURBB	**Kurchatov Arra**	**72.06**	**328**	P	P	02 05 49.7	-0.4
	0.4nm,0.5s,baz=128,slow=5.6,SNR=4.2						

ISCJB ***25*** *01:57:13.4±0.6, 24°.28S±0°.05×67°.23W±0°.06, h179km±9km, mb4.1/6, Error ellipse: s-maj=9.7km s-min=7.6km az=4.4*
IDC ***25*** *01:57:13.8±0.9, 24°.30S×67°.11W, h165km±10km, mb3.9/5, mb1 3.8/11, mb1mx3.6/23, mbtmp3.8/11, Error ellipse: s-maj=14.7km s-min=11.0km az=79.0*
GUC ***25*** *01:57:16.6±0.4, 24°.15S×67°.53W, h190km±13km, ML4.8*

ISC 25 01:57:15.1±1.3, 24°21S±0°.09×67°.2W±0°.1, h178km±14km, n21, σ2.958/26, mb4.2/5, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.21**	**315**	⇑*i*P	**Pn**	**01 57 55.8**	**+1.2**
LVC				*i* S	**Sn**	**01 58 26.0**	**+0.6**
LVC	**Limon Verde**	**2.21**	**315**	P	**Pn**	**01 57 55.8**	**+1.2**
	44nm,0.3s,baz=145,slow=5.5,SNR=324						
LVC				S	**Sn**	**01 58 26.1**	**+0.7**
	79nm,0.3s,baz=351,slow=19,SNR=65						
ANCH	**Antofagasta**	**2.96**	**280**	⇑*i*P	**Pn**	**01 58 03.4**	**+0.4**
ANCH				*i* S	**Sn**	**01 58 38.7**	**-1.7**
ANCH				AML	AML	01 58 42.5	
	comp=E,880nm,0.3s						
PB09	**Plate Boundary**	**3.03**	**322**	*i* P	**Pn**	**01 58 05.7**	**+1.5**
PB09				*i* S	**Sn**	**01 58 42.7**	**+0.2**
PB09				AML	AML	01 58 44.1	
	comp=N,4μm,0.5s						
PB07	**Plate Boundary**	**3.48**	**315**	⇑*i*P	**Pn**	**01 58 09.9**	**+0.2**
PB07				*i* S	**Sn**	**01 58 50.7**	**-1.6**
PB01	**Plate Boundary**	**3.78**	**326**	⇑*i*P	**Pn**	**01 58 12.9**	**-0.5**
PB01				*i* S	**Sn**	**01 58 57.4**	**-1.6**
CFAA	**Coronel Fontan**	**7.42**	**187**	P	Pn	01 58 58.0	-2.8
	comp=N,0.2nm,0.3s,baz=8.8,slow=12,SNR=20						
CFAA				S	Sn	02 00 17.6	-6.8
	comp=N,0.3nm,0.3s,baz=260,slow=18,SNR=9.8						
LPAZ	**La Paz**	**7.92**	**354**	P	**Pn**	**01 59 08.6**	**+0.5**
	comp=N,4.6nm,0.3s,baz=153,slow=5.9,SNR=92						
LPAZ				S	**Sn**	**02 00 36.9**	**-0.4**
	comp=N,0.1nm,0.3s,baz=47,slow=19,SNR=2.7						
CPUP	**Villa Florida**	**9.21**	**105**	P	Pn	01 59 21.5	-2.7
	comp=N,0.3nm,0.3s,baz=246,slow=12,SNR=5.5						
CPUP				S	Sn	02 01 07.3	+0.4
	comp=N,0.2nm,0.3s,baz=282,slow=20,SNR=1.6						
SIV	**San Ignacio**	**10.01**	**36**	P	Pn	01 59 32.4	-2.5
	comp=N,1.7nm,0.3s,baz=234,slow=13,SNR=19						
SIV				S	**Sn**	**02 01 25.3**	**-1.1**
	baz=112,slow=23,SNR=4.0						
PLCA	**Paso Flores**	**16.71**	**189**	P	**P**	**02 00 57.7**	**-0.6**
	comp=N,0.2nm,0.3s,baz=6.8,slow=14,SNR=2.9						
BDFB	**Brasilia**	**19.96**	**68**	P	**P**	**02 01 32.7**	**-1.1**

comp=N,2.7nm,0.3s,baz=239,slow=10,SNR=24
QSPA South Pole Qui 66.00 180 P **P 02 07 42.7 +0.5**
comp=N,2.6nm,0.7s,baz=241,slow=2.1,SNR=7.2
TORD Torodi Ar. Bea 76.84 69 P **P 02 08 46.7 -1.0**
comp=N,1.3nm,0.5s,baz=254,slow=4.7,SNR=19
SCHQ Schefferville 78.71 0 P **P 02 08 57.2 0.0**
comp=N,1.6nm,1.0s,baz=225,slow=4.3,SNR=2.3
BOSA Boshof 80.82 117 P **P 02 09 09.3 -0.3**
comp=N,4.7nm,1.0s,baz=207,slow=2.3,SNR=7.9
LBTB Lobatse 82.49 114 P **P 02 09 18.0 -0.3**
comp=N,9.5nm,1.2s,baz=252,slow=8.5,SNR=5.7
DAVOX Davos/Dischmat 98.99 43 P **Pdif 02 10 42.9 +7.4**
comp=N,2.6nm,0.7s,baz=138,slow=11,SNR=3.6
CLL Collm 102.72 39 *i* (PKP) **Pdif 02 11 00.1 +8.4**
comp=Z,11nm,0.9s
CLL *i* 02 11 01.9
ZALV Zalesovo Beam 143.67 28 PKP **PKPdf 02 16 27.2 -1.2**
comp=Z,0.9nm,0.5s,baz=328,slow=1.9,SNR=3.4
MKAR Makanchi Array 146.82 40 PKPbc **PKPbc 02 16 36.6 +0.4**
comp=Z,1.3nm,0.6s,baz=314,slow=2.7,SNR=15

KRSC 25 01:58:53.8±1.2, 50.01N×157.14E, h10km±10km, ML4.3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.94**	**316**	*i* P	Pg	01 59 11.5	-0.4
SKR				*i* S	Sb	01 59 25.1	+0.4
PAU	**Pauzhetka**	**1.47**	**352**	*i* P	Pb	01 59 21.1	-0.2
PAU				*e*S	Sg	01 59 41.0	-0.2
MIPR	**Malaya Ipel'ka**	**2.28**	**354**	*e*P	Pn	01 59 32.7	+1.2
ASAK	**Asacha**	**2.42**	**11**	*e*P	Pn	01 59 34.9	+1.3
ASAK				S	Sn	02 00 05.1	+1.7
MTVR	**Mutnovka**	**2.56**	**14**	*e*P	Pn	01 59 36.4	+0.8
MTVR				*e*S	Sn	02 00 07.8	+0.9
RUS	**Russkaya**	**2.58**	**19**	*e*P	Pn	01 59 35.7	+0.2
RUS				*e*S	Sn	02 00 06.4	-0.5
GRL	**Gorelyy**	**2.61**	**13**	P	Pn	01 59 37.7	+1.5
APC	**Apacha**	**2.92**	**0**	*e*P	Pn	01 59 42.2	+2.0
PET	**Petropavlovsk**	**3.16**	**17**	S	Sn	02 00 22.7	+1.4
UGLR	**Uglovaya**	**3.37**	**17**	P	Pn	01 59 48.2	+1.6
AVH	**Avacha**	**3.41**	**16**	P	Pn	01 59 49.5	+2.4
AVH				S	Sn	02 00 29.4	+1.8
KOK	**Koryaka**	**3.42**	**15**	*e*P	Pn	01 59 49.5	+2.3
KRER	**Koryakskii**	**3.45**	**16**	P	Pn	01 59 49.7	+1.9
GNL	**Ganaly**	**3.72**	**7**	*e*P	Pn	01 59 53.7	+2.2

CSEM ***25*** *01:59:39.2±0.1, 42.57N×13.18E, h10km, ML2.9/8, Error ellipse: s-maj=3.1km s-min=2.6km az=62.0*
ROM 25 01:59:39.0±0.1, 42.57N×13.19E, h10km, Ml2.4/21, 2C, Error ellipse: s-maj=0.9km s-min=0.7km az=65.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.12**	**285**	Pg	Pg	01 59 42.4	+0.4
LNSS				Sg	Sg	01 59 44.8	+0.6
	4µm,0.2s						
LNSS	**Leonessa**	**0.12**	**285**	Pg	Pg	01 59 42.4	+0.4
LNSS				Sg	Sg	01 59 44.8	+0.6
	4µm,0.2s						
CAMP	**Campotosto**	**0.17**	**103**	Pg	Pg	01 59 43.3	+0.4
CAMP				Sg	Sg	01 59 46.2	+0.7
	868nm,0.3s						
CAMP	**Campotosto**	**0.17**	**103**	Pg	Pg	01 59 43.3	+0.4
CAMP				Sg	Sg	01 59 46.2	+0.7
	868nm,0.3s						
NRCA	**Norcia**	**0.27**	**348**	Pg	Pg	01 59 44.8	+0.2
NRCA				Sg	Sg	01 59 49.1	+0.8
	1µm,0.1s						
NRCA	**Norcia**	**0.27**	**348**	Pg	Pg	01 59 44.8	+0.2
NRCA				Sg	Sg	01 59 49.1	+0.8
	1µm,0.1s						
AQU	**L'Aquila**	**0.27**	**144**	Pg	Pb	01 59 45.3	-0.7
AQU				Sg	Sb	01 59 50.3	-0.4
	484nm,0.4s						
AQU	**L'Aquila**	**0.27**	**144**	Pg	Pb	01 59 45.3	-0.7
AQU				Sg	Sb	01 59 50.3	-0.4
	484nm,0.4s						
FIAM	**Fiamignano**	**0.31**	**190**	Pg	Pg	01 59 45.8	+0.4
FIAM				Sg	Sb	01 59 50.8	-1.1
	447nm,0.5s						
FIAM	**Fiamignano**	**0.31**	**190**	Pg	Pg	01 59 45.8	+0.4
FIAM				Sg	Sb	01 59 50.8	-1.1
	447nm,0.5s						
TERO	**Teramo**	**0.31**	**81**	*i*Pg	Pg	01 59 45.5	+0.2
TERO				Sg	Sg	01 59 50.2	+0.6
	584nm,0.4s						
TERO	**Teramo**	**0.31**	**81**	*i*Pg	Pg	01 59 45.5	+0.2
TERO				Sg	Sg	01 59 50.2	+0.6
	584nm,0.4s						
MNS	**Montasola**	**0.42**	**244**	Pg	Pg	01 59 47.7	+0.3
MNS				Sg	Sb	01 59 54.2	-0.8
	238nm,0.2s						
MNS	**Montasola**	**0.42**	**244**	Pg	Pg	01 59 47.7	+0.3
MNS				Sg	Sb	01 59 54.2	-0.8
	238nm,0.2s						
CESX	**Cesi**	**0.45**	**275**	Pg	Pg	01 59 48.0	+0.1
	138nm,0.3s						
CESX	**Cesi**	**0.45**	**275**	Pg	Pg	01 59 48.0	+0.1
	138nm,0.3s						
CESI	**CESI - Serrava**	**0.48**	**334**	Pg	Pg	01 59 48.6	+0.1
CESI				Sg	Sb	01 59 56.1	-0.7
	65nm,0.3s						
CESI	**CESI - Serrava**	**0.48**	**334**	Pg	Pg	01 59 48.6	+0.1
CESI				Sg	Sb	01 59 56.1	-0.7
	65nm,0.3s						
VCEL	**Villa Celiera**	**0.51**	**110**	Pg	Pg	01 59 49.7	+0.5
	300nm,0.4s						
VCEL	**Villa Celiera**	**0.51**	**110**	Pg	Pg	01 59 49.7	+0.5
	300nm,0.4s						
OFFI	**Offida**	**0.51**	**45**	Pg	Pb	01 59 50.0	-0.1
	630nm,0.4s						
OFFI	**Offida**	**0.51**	**45**	Pg	Pb	01 59 50.0	-0.1
	630nm,0.4s						
PTQR	**Pietraquaria**	**0.57**	**164**	Pg	Pg	01 59 50.6	+0.3
	11nm,0.3s						
PTQR	**Pietraquaria**	**0.57**	**164**	Pg	Pg	01 59 50.6	+0.3
	11nm,0.3s						
ASSB	**Assisi San Ben**	**0.61**	**320**	Pg	Pg	01 59 50.8	-0.2
	85nm,0.2s						
ASSB	**Assisi San Ben**	**0.61**	**320**	Pg	Pg	01 59 50.8	-0.2
	85nm,0.2s						
CERT	**Cerreto**	**0.64**	**194**	Pg	Pg	01 59 51.2	-0.4
	254nm,0.4s						
CERT	**Cerreto**	**0.64**	**194**	Pg	Pg	01 59 51.2	-0.4
	254nm,0.4s						
MTCE	**Montecelio**	**0.64**	**211**	Pg	Pg	01 59 51.2	-0.3
	105nm,0.8s						
MTCE	**Montecelio**	**0.64**	**211**	Pg	Pg	01 59 51.2	-0.3
	105nm,0.8s						
SNTG	**Esanatoglia**	**0.71**	**345**	Pg	Pg	01 59 52.4	-0.4
	40nm,0.4s						
SNTG	**Esanatoglia**	**0.71**	**345**	Pg	Pg	01 59 52.4	-0.4
	40nm,0.4s						
GUMA	**Gualdo di Mace**	**0.73**	**48**	Pg	Pg	01 59 49.4	-3.9
GUMA				Sg	Sg	01 59 57.4	-5.6
	542nm,0.4s						
INTR	**Introdacqua**	**0.77**	**136**	Pg	Pg	01 59 53.5	-0.5
	66nm,0.4s						
INTR	**Introdacqua**	**0.77**	**136**	Pg	Pg	01 59 53.5	-0.5
	66nm,0.4s						
CING	**Cingoli**	**0.80**	**0**	Pg	Pg	01 59 54.4	-0.2
	64nm,0.3s						
CING	**Cingoli**	**0.80**	**0**	Pg	Pg	01 59 54.4	-0.2
	64nm,0.3s						
LPEL	**Lama dei Pelig**	**0.91**	**125**	Pg	Pg	01 59 55.7	-0.9
	54nm,0.3s						
LPEL	**Lama dei Pelig**	**0.91**	**125**	Pg	Pg	01 59 55.7	-0.9
	54nm,0.3s						
ARVD	**Arcevia**	**0.94**	**349**	Pg	Pg	01 59 56.8	-0.4
	71nm,0.7s						
ARVD	**Arcevia**	**0.94**	**349**	Pg	Pg	01 59 56.8	-0.4
	71nm,0.7s						
PIEI	**Pieia**	**1.08**	**334**	Pg	Pb	01 59 59.4	-0.4
	50nm,0.4s						
PIEI	**Pieia**	**1.08**	**334**	Pg	Pb	01 59 59.4	-0.4
	50nm,0.4s						
NVLJ	**Novalja**	**2.33**	**31**	*i* Pn	Pn	02 00 18.3	+0.9
NVLJ				Sn	Sn	02 00 47.0	+0.9
NVLJ	**Novalja**	**2.33**	**31**	*i* Pn	Pn	02 00 18.2	+0.8
NVLJ				Sn	Sn	02 00 46.9	+0.8
UDBI	**Udbina**	**2.71**	**43**	*e*Pn	Pn	02 00 24.9	+2.3
UDBI				Sn	Sb	02 00 58.7	-2.2
UDBI	**Udbina**	**2.71**	**43**	*e*Pn	Pn	02 00 24.8	+2.2
STON	**Ston**	**3.34**	**83**	*e*Pn	Pn	02 00 33.0	+1.8
STON				Sn	Sn	02 01 13.1	+2.4
STON	**Ston**	**3.34**	**83**	*e*Pn	Pn	02 00 32.9	+1.8
STON				Sn	Sn	02 01 13.1	+2.4

IDC 25 02:15:01.4±2.0, 6.80S×129.57E, h0km, mb3.5/1, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=66.5km s-min=28.5km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.87**	**198**	Pn	Pn	02 17 52.2	+0.2
	0.3nm,0.3s,baz=271,slow=19,SNR=28						
FITZ				Sn	Sn	02 19 50.7	-15
	0.3nm,0.3s,baz=211,slow=23,SNR=8.0						
WRA	**Warramunga Arr**	**13.86**	**161**	Pn	Pn	02 18 18.7	-0.5
	0.3nm,0.3s,baz=340,slow=14,SNR=21						
WRA				Sn	Sn	02 20 41.1	-13
	1.1nm,0.3s,baz=337,slow=23,SNR=9.9						
ASAR	**Alice Springs**	**17.28**	**167**	P	Pn	02 19 04.3	+0.1
	0.2nm,0.3s,baz=338,slow=11,SNR=9.8						
ASAR				S	Sn	02 22 05.5	-12
	0.3nm,0.3s,baz=317,slow=15,SNR=4.7						
MKAR	**Makanchi Array**	**67.83**	**327**	P	P	02 26 01.4	0.0
	0.2nm,0.4s,baz=119,slow=8.0,SNR=5.1						

IDC 25 02:28:31.9±16.0, 0.65N×127.01E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/21, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=253.4km s-min=103.6km az=151.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.68**	**184**	P	P	02 32 51.4	-0.3
	0.1nm,0.3s,baz=356,slow=13,SNR=2.8						
WRA	**Warramunga Arr**	**21.69**	**161**	P	P	02 33 24.4	-0.1
	0.6nm,0.4s,baz=340,slow=11,SNR=14						
ASAR	**Alice Springs**	**25.08**	**165**	P	P	02 33 59.3	+1.0
	0.2nm,0.4s,baz=344,slow=11,SNR=5.4						
STKA	**Stephens Creek**	**35.17**	**158**	P	P	02 35 26.6	-1.1
	1.6nm,0.9s,baz=328,slow=9.5,SNR=2.9						

IDC 25 02:37:16.2±11.0, 0.97N×96.99E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.6/26, mbtmp3.8/6, Error ellipse: s-maj=235.9km s-min=44.4km az=177.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.66**	**47**	Pn	Pn	02 37 59.8	-0.7
	1.5nm,0.3s,baz=298,slow=9.2,SNR=5.6						
SONM	**Songino Array**	**47.39**	**9**	P	P	02 45 51.6	-0.7
	0.4nm,0.5s,baz=184,slow=9.0,SNR=5.5						
MKAR	**Makanchi Array**	**47.41**	**346**	P	P	02 45 52.6	+0.2
	0.5nm,0.4s,baz=156,slow=8.5,SNR=7.5						
KURBB	**Kurchatov Arra**	**51.90**	**345**	P	P	02 46 26.4	0.0
	0.3nm,0.5s,baz=164,slow=7.0,SNR=3.0						
USRK	**Ussuriysk Arra**	**53.08**	**31**	P	P	02 46 35.3	-0.1
	1.9nm,0.8s,baz=190,slow=5.9,SNR=4.7						
ZALV	**Zalesovo Beam**	**53.75**	**351**	P	P	02 46 40.0	-0.2
	1.1nm,0.4s,baz=157,slow=7.7,SNR=4.3						

WEL 25 02:49:25.0±0.2, 45.39S×166.60E, h20km, ML3.5/15, 2D, Error ellipse: s-maj=1.4km s-min=0.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.40**	**103**	P*	Pg	02 49 33.1	-0.2
DCZ				S*	Sg	02 49 38.9	0.0
DCZ				AML	AML	02 49 39.2	
DCZ				AML	AML	02 49 39.5	
DCZ				AML	AML	02 49 39.5	
WHZ	**Wether Hill Ro**	**1.07**	**118**	PN	Pb	02 49 44.3	-0.6
WHZ				SN	Sb	02 49 58.7	+0.2
WHZ				AML	AML	02 49 59.9	
MLZ	**Mavora Lakes**	**1.11**	**88**	PN	Pn	02 49 44.5	-1.0
MLZ				SN	Sb	02 49 59.0	-0.7
MLZ				AML	AML	02 49 59.3	
MSZ	**Milford Sound**	**1.18**	**53**	PN	Pn	02 49 44.4	-2.1
MSZ				SN	Sg	02 50 03.7	+0.2
MSZ				AML	AML	02 50 06.1	
MSZ				AML	AML	02 50 06.1	
MSZ				AML	AML	02 50 12.1	
APZ	**The Paps**	**1.73**	**147**	PN	Pb	02 49 55.7	-0.5
WKZ	**Wanaka**	**1.80**	**73**	PN	Pn	02 49 56.1	+1.1
WKZ				AML	AML	02 50 28.0	
WKZ				AML	AML	02 50 30.9	
EAZ	**Earnscleugh**	**1.92**	**86**	PN	Pb	02 49 58.1	-1.2
EAZ				AML	AML	02 50 26.2	
EAZ				AML	AML	02 50 29.2	
EAZ				AML	AML	02 50 29.2	
JCZ	**Jackson Bay**	**2.02**	**50**	PN	Pb	02 50 00.2	-1.1
JCZ				AML	AML	02 50 33.7	
JCZ				AML	AML	02 50 34.4	
SYZ	**Scrubby Hill**	**2.11**	**124**	PN	Pn	02 49 59.9	+0.7
TUZ	**Tuapeka**	**2.20**	**106**	PN	Pn	02 50 00.5	+0.1
TUZ				AML	AML	02 50 32.6	
TUZ				AML	AML	02 50 35.7	
LBZ	**Lake Benmore**	**2.74**	**70**	PN	Pn	02 50 08.5	+0.7
LBZ				AML	AML	02 51 00.5	
ODZ	**Otahua Downs**	**2.88**	**84**	PN	Pn	02 50 10.3	+0.5

IDC 25 02:53:33.2±1.7, 3.96N×126.42E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/23, mbtmp3.5/5, MS3.8/1, Ms1 4.0/1, ms1mx3.3/18, Error ellipse: s-maj=106.6km s-min=23.1km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.93**	**182**	P	P	02 58 28.8	+0.3
	0.6nm,0.4s,baz=7.1,slow=8.1,SNR=9.9						
WRA	**Warramunga Arr**	**24.99**	**162**	P	P	02 58 58.0	-0.9
	1.1nm,0.6s,baz=341,slow=10,SNR=22						
ASAR	**Alice Springs**	**28.41**	**165**	P	P	02 59 29.9	+0.2
	0.2nm,0.3s,baz=336,slow=8.0,SNR=4.5						
CMAR	**Chiang Mai Arr**	**30.49**	**300**	LR	LR	03 11 52.4	
	comp=Z,188nm,19.9s,baz=26,slow=36						
STKA	**Stephens Creek**	**38.45**	**159**	P	P	03 00 57.3	+0.4
	0.5nm,0.3s,baz=7.0,slow=8.8,SNR=3.7						
MKAR	**Makanchi Array**	**57.19**	**325**	P	P	03 03 22.2	0.0
	0.2nm,0.4s,baz=119,slow=6.6,SNR=3.2						

WEL 25 03:02:49.8±0.1, 45.39S×166.59E, h20km, ML3.8/18, 2D, Error ellipse: s-maj=1.1km s-min=0.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.41**	**103**	P*	Pg	03 02 58.0	-0.2
DCZ				S*	Sg	03 03 03.5	-0.5
DCZ				AML	AML	03 03 03.9	
DCZ				AML	AML	03 04 37.3	
DCZ				AML	AML	03 04 37.5	
WHZ	**Wether Hill Ro**	**1.08**	**119**	PN	Pb	03 03 09.2	-0.6
WHZ				SN	Sb	03 03 23.8	+0.3
WHZ				AML	AML	03 03 27.4	
MLZ	**Mavora Lakes**	**1.12**	**89**	PN	Pn	03 03 09.4	-0.9
MLZ				AML	AML	03 03 28.9	
MLZ				AML	AML	03 03 28.2	
MSZ	**Milford Sound**	**1.19**	**54**	PN	Pn	03 03 10.3	-0.9
MSZ				SN	Sg	03 03 30.1	+1.8
MSZ				AML	AML	03 05 08.5	
MSZ				AML	AML	03 05 08.5	
MSZ				AML	AML	03 05 08.7	
APZ	**The Paps**	**1.75**	**147**	PN	Pn	03 03 20.0	+1.0
APZ				SN	Sb	03 03 42.1	-0.6
WKZ	**Wanaka**	**1.81**	**73**	PN	Pb	03 03 21.1	-1.1
WKZ				AML	AML	03 03 53.2	
WKZ				AML	AML	03 03 56.6	
WKZ				AML	AML	03 05 18.9	
WKZ				AML	AML	03 05 26.0	
EAZ	**Earnscleugh**	**1.92**	**86**	PN	Pb	03 03 22.9	-1.2
EAZ				AML	AML	03 03 49.3	
EAZ				AML	AML	03 03 53.3	
EAZ				AML	AML	03 05 22.2	
EAZ				AML	AML	03 05 24.2	
JCZ	**Jackson Bay**	**2.03**	**50**	PN	Pb	03 03 25.3	-0.7
JCZ				AML	AML	03 05 31.4	
JCZ				AML	AML	03 05 32.4	
SYZ	**Scrubby Hill**	**2.12**	**124**	PN	Pn	03 03 25.5	+1.4
TUZ	**Tuapeka**	**2.21**	**106**	PN	Pb	03 03 27.4	-1.6
TUZ				AML	AML	03 05 33.9	
TUZ				AML	AML	03 05 34.3	
LBZ	**Lake Benmore**	**2.74**	**70**	PN	Pn	03 03 33.5	+0.8
LBZ				AML	AML	03 04 17.4	
LBZ				AML	AML	03 05 55.8	
FOZ	**Fox Glacier**	**2.87**	**52**	AML	AML	03 04 33.1	
FOZ				AML	AML	03 06 02.6	
ODZ	**Otahua Downs**	**2.88**	**85**	PN	Pn	03 03 35.2	+0.6
ODZ				AML	AML	03 05 53.6	
ODZ				AML	AML	03 05 55.4	
RPZ	**Rata Peaks**	**3.60**	**64**	AML	AML	03 06 06.2	
RPZ				AML	AML	03 06 22.7	

TIR ***25*** *03:14:01.4±1.2, 41.89N×19.70E, h23km±9km, ML2.8*
CSEM ***25*** *03:14:01.9±0.2, 41.85N×19.67E, h10km, ML2.8, Error ellipse: s-maj=4.3km s-min=3.2km az=39.0*
ISCJB ***25*** *03:14:01.1±0.5, 41.82N±0.03×19.67E±0.03, h6km±3km, Error ellipse: s-maj=4.7km s-min=3.0km az=29.8*
SKO ***25*** *03:14:01.2, 41.99N×19.78E, h5km, M1.6*
PDG ***25*** *03:14:02.2±0.3, 41.88N×19.71E, h16km, ML2.0/8, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
BEO ***25*** *03:14:02.5±0.3, 41.89N×19.74E, h4km±2km, ML1.9/9*
ISC 25 03:14:01.6±1.1, 41.85N±0.02×19.69E±0.02, h13km±9km, n53, σ0.95/98, 9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.24**	**38**	*e*PG	Pb	03 14 07.4	-0.5
PUK				*i* SG	Sb	03 14 11.7	-0.5
PUK	**Puka**	**0.24**	**38**	*e*Pg	Pb	03 14 07.4	-0.5
	SNR=129						
PUK				*i* Sg	Sb	03 14 11.7	-0.5
	SNR=129						
ULC	**Ulcinj**	**0.35**	**289**	*i*Pg	Pb	03 14 08.9	-0.9
ULC				*e*Sg	Sb	03 14 15.1	-0.2
ULC	**Ulcinj**	**0.35**	**289**	P	Pb	03 14 09.1	-0.7
ULC				*e*Sg	Sb	03 14 15.1	-0.2
TIR	**Tirane**	**0.52**	**166**	*e*PG	Pb	03 14 12.3	-0.3
TIR				*i* SG	Sn	03 14 22.1	-1.4
TIR	**Tirane**	**0.52**	**166**	*e*Sg	Sb	03 14 21.3	+1.3
TIR	**Tirane**	**0.52**	**166**	*e*Pg	Pb	03 14 12.3	-0.3
	SNR=99						
TIR	**Tirane**	**0.52**	**166**	P	Pb	03 14 12.8	+0.2
TIR				*e*Sg	Sb	03 14 21.3	+1.3
PHP	**Peshkopia**	**0.58**	**106**	*e*PG	Pg	03 14 13.0	0.0
PHP				*i* SG	Sb	03 14 22.8	+0.8
PHP	**Peshkopia**	**0.58**	**106**	*e*Pg	Pg	03 14 13.0	0.0
	SNR=98						
PHP				*i* Sg	Sb	03 14 22.8	+0.8
	SNR=98						
BCI	**Bajram Curri**	**0.58**	**28**	*e*PG	Pg	03 14 12.8	-0.3
BCI				*i* SG	Sb	03 14 22.1	+0.1
BCI	**Bajram Curri**	**0.58**	**28**	*e*Pg	Pg	03 14 12.8	-0.3
	SNR=99						
BCI				*i* Sg	Sb	03 14 22.1	+0.1
	SNR=99						
PDG	**Podgorica**	**0.66**	**331**	*e*Pg	Pb	03 14 14.3	-0.8
PDG				*e*Sg	Sb	03 14 24.8	+0.6
PDG	**Podgorica**	**0.66**	**331**	*e*Pg	Pb	03 14 14.3	-0.8
PDG				*e*Sg	Sb	03 14 24.8	+0.6
TTG	**Podgorica**	**0.66**	**331**	*i*Pg	Pb	03 14 14.2	-0.8
TTG				*e*Sg	Sn	03 14 25.4	-1.6
BUM	**Brajici-Budva**	**0.75**	**307**	*i*Pg	Pb	03 14 16.0	-0.5
BUM				*e*Sg	Sn	03 14 28.4	-0.8
BUM	**Brajici-Budva**	**0.75**	**307**	*i*Pg	Pb	03 14 16.0	-0.5
BUM				*e*Sg	Sn	03 14 28.4	-0.8
PVY	**Plav**	**0.77**	**15**	*i*Pg	Pg	03 14 15.8	-0.8
PVY				*e*Sg	Sb	03 14 27.5	+0.1
PVY	**Plav**	**0.77**	**15**	*i*Pg	Pg	03 14 15.8	-0.8
PVY				*e*Sg	Sb	03 14 27.5	+0.1
PRZK	**Prizren**	**0.87**	**65**	P	Pg	03 14 18.2	-0.3
PEJK	**Peje**	**0.90**	**29**	P	Pg	03 14 18.5	-0.6
PEJK				S	Sn	03 14 32.8	-0.2
ZATK	**Zatriq**	**0.91**	**49**	P	Pb	03 14 19.5	+0.1
ZATK				S	Sn	03 14 34.0	+0.6
BEY	**Berane**	**1.03**	**8**	P	Pg	03 14 21.0	-0.6
BEY				S	Sn	03 14 36.6	+0.3
BEY				*e*Sg	Sn	03 14 37.0	+0.8
IVA	**Berane**	**1.03**	**8**	*i*Pg	Pg	03 14 20.9	-0.6
IVA				*e*Sg	Sn	03 14 37.0	+0.8
HCY	**Herceg Novi**	**1.07**	**304**	*i*Pg	Pn	03 14 21.9	-0.5
HCY				*e*Sg	Sn	03 14 38.7	+1.5
HCY	**Herceg Novi**	**1.07**	**304**	*i*Pg	Pn	03 14 21.9	-0.5
HCY				*e*Sg	Sn	03 14 38.7	+1.5
NKY	**Niksic**	**1.09**	**332**	*e*Pg	Pb	03 14 21.2	-1.3
NKY				*e*Sg	Sn	03 14 39.0	+1.2
NKY	**Niksic**	**1.09**	**332**	*e*Pg	Pb	03 14 21.2	-1.3
NKY				*e*Sg	Sn	03 14 39.0	+1.2
SKO	**Skopje**	**1.31**	**84**	*e*Pg	Pn	03 14 23.4	-2.2
SKO				*e*Sg	Sb	03 14 40.9	-2.0
SKO				*e*Lg	Lg	03 14 44.2	
	comp=N,27nm,0.4s						
SKO				*e*Lg	Lg	03 14 46.1	
	comp=E,26nm,0.9s						
SKO	**Skopje**	**1.31**	**84**	*e*Pg	Pn	03 14 23.4	-2.2
SKO				*e*Sg	Sb	03 14 40.8	-2.0
SKO				*e*Lg	Lg	03 14 46.1	
	comp=E,26nm,0.9s						
BRY	**Bratogost**	**1.35**	**321**	*e*Pg	Pg	03 14 27.3	-0.4
BRY				*e*Sg	Sg	03 14 47.4	+2.1
BRY	**Bratogost**	**1.35**	**321**	*e*Pg	Pg	03 14 27.3	-0.4
BRY				*e*Sg	Sg	03 14 47.4	+2.1
SJES	**Sjenica**	**1.42**	**8**	*e*Pn	Pb	03 14 27.6	-0.5
SJES				*e*Sn	Sg	03 14 47.8	+0.3
SJES	**Sjenica**	**1.42**	**8**	*e*Pn	Pb	03 14 27.6	-0.5
SJES				*e*Sn	Sg	03 14 47.8	+0.3
GJIK	**Gjilan**	**1.43**	**64**	P	Pg	03 14 29.0	-0.1
GJIK				S	Sg	03 14 48.6	+0.9
UPM	**Unac-Piva**	**1.47**	**337**	*e*Pg	Pg	03 14 29.1	-0.8
UPM				*e*Sg	Sg	03 14 50.0	+1.0
UPM	**Unac-Piva**	**1.47**	**337**	*e*Pg	Pg	03 14 29.1	-0.8
UPM				*e*Sg	Sg	03 14 50.0	+1.0
BIA	**Bitola**	**1.48**	**124**	*e*Pg	Pb	03 14 29.2	+0.2
BIA				*e*Sg	Sg	03 14 49.5	+0.1
BIA

*ATH **25** 03:21:13.4,40.37N×20.85E,h15km,MD3.4/4*
ISC 25 03:20:56.8±0.9,41.87N±0.02×19.68E±0.02,h13km±7km, n122,σ0.96/184,23C-15D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.24**	**42**	*e*PG	**Pg**	**03 21 01.1**	**-0.8**
PUK				*i* SG	**Sg**	**03 21 06.5**	**+1.1**
PUK	**Puka**	**0.24**	**42**	*e*Pg	**Pg**	**03 21 01.1**	**-0.8**
	SNR=134						
PUK				*i* Sg	**Sg**	**03 21 06.5**	**+1.1**
	SNR=134						
ULC	**Ulcinj**	**0.34**	**287**	⇓*i*Pg	**Pg**	**03 21 03.0**	**-0.8**
ULC				*e*Sg	**Sb**	**03 21 09.0**	**-1.1**
ULC	**Ulcinj**	**0.34**	**287**	P	**Pg**	**03 21 02.9**	**-0.8**
ULC				*e*Sg	**Sb**	**03 21 09.0**	**-1.1**
ULC				S	**Sg**	**03 21 10.4**	**+2.1**
TIR	**Tirane**	**0.54**	**165**	*e*PG	**Pg**	**03 21 06.3**	**-0.9**
TIR				*i* SG	**Sb**	**03 21 16.7**	**+1.0**
TIR	**Tirane**	**0.54**	**165**	P	**Pg**	**03 21 06.2**	**-1.1**
TIR	**Tirane**	**0.54**	**165**	⇑*i*Pg	**Pg**	**03 21 06.6**	**-0.7**
TIR				*e*Sg	**Sb**	**03 21 16.5**	**+0.8**
TIR	**Tirane**	**0.54**	**165**	P	**Pg**	**03 21 06.8**	**-0.5**
TIR	**Tirane**	**0.54**	**165**	*e*Pn	**Pg**	**03 21 07.2**	**-0.1**
TIR				*e*Sg	**Sb**	**03 21 16.5**	**+0.8**
BCI	**Bajram Curri**	**0.58**	**30**	*e*PG	**Pg**	**03 21 06.6**	**-1.5**
BCI				*i* SG	**Sg**	**03 21 15.9**	**+0.2**
BCI	**Bajram Curri**	**0.58**	**30**	*e*Pg	**Pg**	**03 21 06.6**	**-1.5**
	SNR=105						
BCI				*i* Sg	**Sg**	**03 21 15.9**	**+0.2**
	SNR=105						
PHP	**Peshkopia**	**0.60**	**107**	*e*PG	**Pg**	**03 21 07.7**	**-0.8**
PHP				*i* SG	**Sb**	**03 21 17.4**	**-0.1**
PHP	**Peshkopia**	**0.60**	**107**	P	**Pg**	**03 21 07.0**	**-1.4**
PHP	**Peshkopia**	**0.60**	**107**	P	**Pg**	**03 21 07.0**	**-1.4**
PHP	**Peshkopia**	**0.60**	**107**	*e*Pg	**Pg**	**03 21 07.7**	**-0.8**
	SNR=102						
PHP				*i* Sg	**Sb**	**03 21 17.4**	**-0.1**
	SNR=102						
PDG	**Podgorica**	**0.65**	**331**	P	**Pg**	**03 21 08.9**	**-0.5**
PDG	**Podgorica**	**0.65**	**331**	⇓*i*Pg	**Pg**	**03 21 08.6**	**-0.8**
PDG				*e*Sg	**Sb**	**03 21 19.3**	**+0.4**
PDG	**Podgorica**	**0.65**	**331**	⇓*i*Pg	**Pg**	**03 21 08.6**	**-0.8**
PDG	**Podgorica**	**0.65**	**331**	P	**Pg**	**03 21 08.9**	**-0.5**
PDG				*e*Sg	**Sb**	**03 21 19.3**	**+0.4**
TTG	**Podgorica**	**0.65**	**331**	⇑*i*Pg	**Pg**	**03 21 08.6**	**-0.8**
TTG				*e*Sg	**Sb**	**03 21 19.7**	**+0.8**
BUM	**Brajici-Budva**	**0.73**	**307**	*e*Pg	**Pg**	**03 21 10.0**	**-1.0**
BUM				*e*Sg	**Sb**	**03 21 21.7**	**+0.3**
BUM	**Brajici-Budva**	**0.73**	**307**	*e*Pg	**Pg**	**03 21 10.0**	**-1.0**
BUM				*e*Sg	**Sb**	**03 21 21.7**	**+0.3**
PVY	**Plav**	**0.76**	**16**	⇓*i*Pg	**Pg**	**03 21 10.9**	**-0.6**
PVY				*e*Sg	**Sb**	**03 21 23.2**	**+1.0**
PVY	**Plav**	**0.76**	**16**	⇓*i*Pg	**Pg**	**03 21 10.9**	**-0.6**
PVY				*e*Sg	**Sb**	**03 21 23.2**	**+1.0**
PRZK	**Prizren**	**0.87**	**66**	P	**Pg**	**03 21 11.9**	**-1.8**
PEJK	**Peje**	**0.89**	**30**	P	**Pg**	**03 21 12.2**	**-1.9**
ZATK	**Zatriq**	**0.91**	**50**	P	**Pg**	**03 21 12.8**	**-1.6**
BEY	**Berane**	**1.02**	**9**	P	**Pb**	**03 21 14.7**	**-1.6**
BEY	**Berane**	**1.02**	**9**	⇑*i*Pg	**Pb**	**03 21 15.1**	**-1.2**
BEY				*e*Sg	**Sn**	**03 21 32.1**	**+1.0**
IVA	**Berane**	**1.02**	**9**	⇑*i*Pg	**Pb**	**03 21 15.1**	**-1.2**
IVA				*e*Sg	**Sn**	**03 21 32.1**	**+1.0**
HCY	**Herceg Novi**	**1.06**	**304**	*e*Pg	**Pb**	**03 21 16.1**	**-0.9**
HCY				*e*Sg	**Sn**	**03 21 33.1**	**+1.1**
HCY	**Herceg Novi**	**1.06**	**304**	*e*Pg	**Pb**	**03 21 16.1**	**-0.9**
HCY				*e*Sg	**Sn**	**03 21 33.1**	**+1.1**
NKY	**Niksic**	**1.07**	**332**	⇑*i*Pg	**Pb**	**03 21 16.9**	**-0.4**
NKY				*e*Sg	**Sn**	**03 21 33.3**	**+0.7**
NKY	**Niksic**	**1.07**	**332**	⇑*i*Pg	**Pb**	**03 21 16.9**	**-0.4**
NKY				*e*Sg	**Sn**	**03 21 33.3**	**+0.7**
SKO	**Skopje**	**1.32**	**85**	*e*Pg	**Pg**	**03 21 22.2**	**+0.1**
SKO				*e*Sg	**Sg**	**03 21 39.0**	**-0.2**
SKO				*e*Lg	Lg	03 21 40.4	
	comp=E,64nm,0.5s						
SKO				*e*Lg	Lg	03 21 41.2	
	comp=N,99nm,0.4s						
SKO	**Skopje**	**1.32**	**85**	*e*Pg	**Pg**	**03 21 22.1**	**+0.1**
SKO				*e*Sg	**Sg**	**03 21 39.0**	**-0.2**
SKO				*e*Lg	Lg	03 21 41.2	
	comp=N,99nm,0.4s						
BRY	**Bratogost**	**1.34**	**321**	*e*Pg	**Pb**	**03 21 21.5**	**-0.3**
BRY				*e*Sg	**Sg**	**03 21 41.0**	**+1.1**
BRY	**Bratogost**	**1.34**	**321**	*e*Pg	**Pb**	**03 21 21.5**	**-0.3**
BRY				*e*Sg	**Sg**	**03 21 41.0**	**+1.1**
SJES	**Sjenica**	**1.41**	**9**	⇓*i*Pg	**Pn**	**03 21 21.4**	**-0.9**
SJES				*e*Sg	**Sg**	**03 21 42.7**	**+0.4**
SJES	**Sjenica**	**1.41**	**9**	⇓*i*Pg	**Pn**	**03 21 21.4**	**-0.9**
SJES				*e*Sg	**Sg**	**03 21 42.7**	**+0.4**
UPM	**Unac-Piva**	**1.45**	**337**	⇓*i*Pg	**Pb**	**03 21 23.4**	**-0.4**
UPM				*e*Sg	**Sg**	**03 21 44.1**	**+0.4**
UPM	**Unac-Piva**	**1.45**	**337**	⇓*i*Pg	**Pb**	**03 21 23.4**	**-0.4**
UPM	**Unac-Piva**	**1.45**	**337**	P	**Pb**	**03 21 23.3**	**0.0**
UPM				*e*Sg	**Sg**	**03 21 44.1**	**+0.4**
PLE	**Pljevlja**	**1.48**	**352**	*e*Pg	**Pn**	**03 21 22.9**	**-0.4**
PLE				*e*Sg	**Sg**	**03 21 44.9**	**+0.5**
PLE	**Pljevlja**	**1.48**	**352**	*e*Pg	**Pn**	**03 21 22.9**	**-0.4**
PLE				*e*Sg	**Sg**	**03 21 44.9**	**+0.5**
BIA	**Bitola**	**1.50**	**124**	P	**Pb**	**03 21 23.9**	**-0.6**
BIA	**Bitola**	**1.50**	**124**	*i* Pg	**Pn**	**03 21 23.5**	**+0.1**
BIA				*i* Sg	**Sg**	**03 21 45.7**	**+0.8**
BIA	**Bitola**	**1.50**	**124**	*i* Pg	**Pn**	**03 21 23.5**	**+0.1**
BIA	**Bitola**	**1.50**	**124**	P	**Pb**	**03 21 23.9**	**-0.6**
BIA				*i* Sg	**Sg**	**03 21 45.7**	**+0.8**
FNA	**Florina**	**1.67**	**130**	P	**Pb**	**03 21 27.0**	**-0.4**
FNA				S	**Sb**	**03 21 49.5**	**+1.0**
FNA	**Florina**	**1.67**	**130**	*e*PN	**Pb**	**03 21 27.1**	**-0.4**
FNA	**Florina**	**1.67**	**130**	P	**Pb**	**03 21 27.0**	**-0.4**
FNA				S	**Sb**	**03 21 49.5**	**+1.0**
SELS	**Selova**	**1.72**	**38**	*e*Sg	**Sb**	**03 21 50.6**	**+0.8**
STON	**Ston**	**1.78**	**305**	*i* Pn	**Pn**	**03 21 27.0**	**-0.3**
STON				Sn	**Sn**	**03 21 50.0**	**+0.3**
STON	**Ston**	**1.78**	**305**	⇑*i*Pn	**Pn**	**03 21 26.9**	**-0.3**
STON				*e*Sn	**Sn**	**03 21 50.0**	**+0.3**
STON	**Ston**	**1.78**	**305**	*i* Pn	**Pn**	**03 21 26.9**	**-0.3**
STON				Sn	**Sn**	**03 21 50.0**	**+0.3**
NEST	**Nestorio**	**1.78**	**144**	P	**Pb**	**03 21 28.6**	**-0.7**
NEST				S	**Sb**	**03 21 52.2**	**+0.6**
NEST	**Nestorio**	**1.78**	**144**	P	**Pb**	**03 21 28.6**	**-0.7**
NEST				S	**Sb**	**03 21 52.2**	**+0.6**
BARS	**Barje**	**1.84**	**58**	*e*Pn	**Pn**	**03 21 28.1**	**-0.1**
BARS				*e*Sn	**Sb**	**03 21 52.8**	**-0.6**
SRN	**Sarande**	**2.00**	**173**	P	**Pn**	**03 21 30.5**	**+0.2**
SRN	**Sarande**	**2.00**	**173**	P	**Pn**	**03 21 30.5**	**+0.2**
BBLS	**Lazići**	**2.01**	**354**	*e*Pn	**Pn**	**03 21 31.5**	**+1.0**
BBLS				*e*Sg	**Sb**	**03 21 58.9**	**+0.7**
BBLS	**Lazići**	**2.01**	**354**	*e*Pn	**Pn**	**03 21 31.5**	**+1.0**
BBLS				*e*Sg	**Sb**	**03 21 58.9**	**+0.7**
KEK	**Kerkira**	**2.15**	**178**	P	**Pn**	**03 21 31.9**	**-0.5**
KEK	**Kerkira**	**2.15**	**178**	*e*PN	**Pn**	**03 21 31.6**	**-0.8**
KEK	**Kerkira**	**2.15**	**178**	*e*Pb	**Pn**	**03 21 31.6**	**-0.8**
KEK	**Kerkira**	**2.15**	**178**	P	**Pn**	**03 21 31.9**	**-0.5**
GRUS	**Gruza**	**2.16**	**20**	*e*Pn	**Pn**	**03 21 33.1**	**+0.6**
GRUS	**Gruza**	**2.16**	**20**	*e*Pn	**Pn**	**03 21 33.1**	**+0.6**
KZN	**Kozani**	**2.22**	**134**	P	**Pn**	**03 21 34.1**	**+0.7**
KZN				S	**Sb**	**03 22 03.6**	**-0.6**
KZN	**Kozani**	**2.22**	**134**	P	**Pn**	**03 21 34.1**	**+0.7**
KZN				S	**Sb**	**03 22 03.6**	**-0.6**
VAY	**Valandovo**	**2.23**	**103**	*e*Pn	**Pn**	**03 21 34.0**	**+0.4**
VAY				*e*Sn	**Sn**	**03 22 01.2**	**+0.2**
VAY				*e*Lg	Lg	03 22 01.7	
	comp=N,37nm,0.9s						
VAY				*e*Lg	Lg	03 22 01.8	
	comp=E,46nm,0.8s						
VAY	**Valandovo**	**2.23**	**103**	*e*Pn	**Pn**	**03 21 33.9**	**+0.4**
VAY				*e*Sn	**Sn**	**03 22 01.1**	**+0.2**
VAY				*e*Lg	Lg	03 22 01.7	
	comp=E,46nm,0.8s						
GRG	**Griva**	**2.24**	**113**	P	**Pn**	**03 21 34.2**	**+0.6**
GRG				S	**Sb**	**03 22 03.8**	**-0.9**
GRG	**Griva**	**2.24**	**113**	*e*PN	**Pn**	**03 21 34.7**	**+1.1**
GRG	**Griva**	**2.24**	**113**	P	**Pn**	**03 21 34.2**	**+0.6**
GRG	**Griva**	**2.24**	**113**	*e*Pn	**Pn**	**03 21 34.7**	**+1.1**
GRG				S	**Sb**	**03 22 03.8**	**-0.9**
DIVS	**Divibare**	**2.24**	**6**	P	**Pn**	**03 21 34.3**	**+0.6**
DIVS	**Divibare**	**2.24**	**6**	*e*Sn	**Sn**	**03 22 02.7**	**+1.4**
DIVS	**Divibare**	**2.24**	**6**	P	**Pn**	**03 21 34.3**	**+0.6**
DIVS				*e*Sn	**Sn**	**03 22 02.7**	**+1.4**
KNT	**Kendrikon**	**2.52**	**105**	P	**Pn**	**03 21 38.3**	**+0.9**
KNT				S	**Sb**	**03 22 10.8**	**-1.9**
KNT	**Kendrikon**	**2.52**	**105**	P	**Pn**	**03 21 38.3**	**+0.9**
KNT				S	**Sb**	**03 22 10.8**	**-1.9**
BOLS	**Boljevac**	**2.58**	**40**	*e*Pn	**Pn**	**03 21 37.7**	**-0.5**
BOLS	**Boljevac**	**2.58**	**40**	*e*Pn	**Pn**	**03 21 37.7**	**-0.5**
ZAPS	**Zavoj**	**2.59**	**56**	⇓*i*Pn	**Pn**	**03 21 40.0**	**+1.5**
ZAPS	**Zavoj**	**2.59**	**56**	⇓*i*Pn	**Pn**	**03 21 40.0**	**+1.5**
TEKS	**Tekeris**	**2.68**	**358**	⇑*i*Pn	**Pn**	**03 21 40.8**	**+1.1**
TEKS	**Tekeris**	**2.68**	**358**	⇑*i*Pn	**Pn**	**03 21 40.8**	**+1.1**
VTS	**Vitosha**	**2.72**	**73**	P	**Pn**	**03 21 41.2**	**+0.9**
VTS	**Vitosha**	**2.72**	**73**	⇑*i*P	**Pn**	**03 21 42.3**	**+2.0**
VTS	**Vitosha**	**2.72**	**73**	P	**Pn**	**03 21 41.2**	**+0.9**
SRS	**Serrai**	**3.03**	**103**	P	**Pn**	**03 21 45.5**	**+1.0**
SRS	**Serrai**	**3.03**	**103**	P	**Pn**	**03 21 45.5**	**+1.0**
LKD2	**Lefkada island**	**3.16**	**166**	*e*PN	**Pn**	**03 21 45.4**	**-0.9**
LKD2	**Lefkada island**	**3.16**	**166**	*e*Pn	**Pn**	**03 21 45.4**	**-0.9**
FGSL	**Fruska Gora**	**3.29**	**2**	*e*Pn	**Pn**	**03 21 47.8**	**-0.3**
FRGS	**Fruska Gora**	**3.29**	**2**	*e*Pn	**Pn**	**03 21 47.8**	**-0.3**
EVR	**Evrytania**	**3.36**	**150**	P	**Pn**	**03 21 49.9**	**+0.8**
EVR	**Evrytania**	**3.36**	**150**	P	**Pn**	**03 21 49.9**	**+0.8**
AGG	**Agios Georgios**	**3.49**	**144**	P	**Pn**	**03 21 52.1**	**+1.3**
AGG	**Agios Georgios**	**3.49**	**144**	P	**Pn**	**03 21 52.1**	**+1.3**
UDBI	**Udbina**	**3.91**	**314**	*e*Pn	**Pn**	**03 21 58.0**	**+1.3**
UDBI				Sn	**Sn**	**03 22 44.3**	**+1.9**
UDBI	**Udbina**	**3.91**	**314**	*e*Pn	**Pn**	**03 21 57.9**	**+1.3**
UDBI				Sn	**Sn**	**03 22 44.3**	**+1.9**
BZS	**Buzias**	**4.00**	**20**	⇓*i*P	**Pn**	**03 21 58.1**	**+0.3**
BZS	**Buzias**	**4.00**	**20**	⇑*i*Pn	**Pn**	**03 21 57.9**	**+0.1**
BZS				*e*Sn	**Sn**	**03 22 43.9**	**-0.7**
BZS	**Buzias**	**4.00**	**20**	⇓*i*P	**Pn**	**03 21 58.1**	**+0.3**
BZS				*e*Sn	**Sn**	**03 22 43.9**	**-0.7**
GZR	**Gura Zlata**	**4.18**	**31**	⇑*i*P	**Pn**	**03 22 01.1**	**+0.8**
GZR	**Gura Zlata**	**4.18**	**31**	⇑*i*P	**Pn**	**03 22 01.1**	**+0.8**
PKSM	**Moragy**	**4.41**	**351**	⇑*i*P	**Pn**	**03 22 02.8**	**-0.6**
PKSM	**Moragy**	**4.41**	**351**	⇑*i*Pn	**Pn**	**03 22 02.8**	**-0.6**
NVLJ	**Novalja**	**4.43**	**309**	*e*Pn	**Pn**	**03 22 01.7**	**-2.0**
NVLJ				Sn	**Sn**	**03 22 53.5**	**-1.6**
NVLJ	**Novalja**	**4.43**	**309**	*e*Pn	**Pn**	**03 22 01.6**	**-2.0**
NVLJ				Sn	**Sn**	**03 22 53.5**	**-1.6**
LOT	**Lotru**	**4.65**	**38**	⇓*i*P	**Pn**	**03 22 07.8**	**+1.0**
LOT	**Lotru**	**4.65**	**38**	⇓*i*P	**Pn**	**03 22 07.8**	**+1.0**
ARR	**Arges**	**5.02**	**44**	⇑*i*P	**Pn**	**03 22 13.7**	**+1.9**
ARR	**Arges**	**5.02**	**44**	⇑*i*P	**Pn**	**03 22 13.7**	**+1.9**
VOIR		**5.28**	**46**	⇑*i*P	**Pn**	**03 22 16.5**	**+1.0**
VOIR		**5.28**	**46**	⇑*i*P	**Pn**	**03 22 16.5**	**+1.0**
TRPA	**Tarpa**	**6.58**	**17**	⇑*i*P	**Pn**	**03 22 34.2**	**+1.0**
TRPA	**Tarpa**	**6.58**	**17**	⇑*i*P	**Pn**	**03 22 34.2**	**+1.0**
TLCR		**7.42**	**60**	⇑*i*P	**Pn**	**03 22 46.7**	**+2.0**
TLCR		**7.42**	**60**	⇑*i*P	**Pn**	**03 22 46.7**	**+2.0**

*ISCJB **25** 03:23:36.4±0.4,35.80N±0.07×135.20E±0.08, h370km±3km,mb3.3/11, Error ellipse: s-maj=12.2km s-min=8.5km az=145.7*
*IDC **25** 03:23:36.7±0.9,35.77N×135.27E,h363km±9km,mb3.0/11, mb1 3.3/14,mb1mx3.2/28,mbtmp3.1/14, Error ellipse: s-maj=17.7km s-min=12.8km az=78.0*
*JMA **25** 03:23:37.2±0.1,35.80N×135.24E,h364km±1km,M3.2*
ISC 25 03:23:37.0±0.7,35.81N±0.08×135.20E±0.07,h363km±6km, n30,σ0.73/38,mb3.3/11,Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	**Yasaka**	**0.20**	**203**	P	**Pn**	**03 24 22.8**	**+0.3**
JKY				S	**S**	**03 24 58.7**	**-0.2**
JWT	**Wachi**	**0.55**	**163**	P	**Pn**	**03 24 23.2**	**+0.2**
JWT				S	**S**	**03 24 59.0**	**-0.8**
JGM	**Miyama**	**1.24**	**95**	P	**Pn**	**03 24 25.3**	**0.0**
JGM				S	**S**	**03 25 03.5**	**-0.5**
JWY	**Kouya**	**1.62**	**168**	P	**Pn**	**03 24 27.8**	**+0.4**
JIE	**Ise**	**1.88**	**139**	P	**Pn**	**03 24 29.1**	**+0.3**
JIE				S	**S**	**03 25 09.4**	**-1.0**
JHS	**Saijyo**	**1.89**	**245**	P	**Pn**	**03 24 29.4**	**+0.5**
JAI	**Aioi**	**2.11**	**197**	P	**Pn**	**03 24 30.8**	**+0.4**
JWZ	**Kozaga**	**2.32**	**169**	P	**Pn**	**03 24 31.9**	**0.0**
JMN	**Monobe**	**2.35**	**208**	P	**Pn**	**03 24 32.8**	**+0.6**
JSZ	**Suzu**	**2.38**	**46**	P	**Pn**	**03 24 32.7**	**+0.5**
JHG	**Hegura jima**	**2.46**	**34**	P	**Pn**	**03 24 33.5**	**+0.8**
MAT	**Matsushiro**	**2.54**	**72**	P	**Pn**	**03 24 33.5**	**0.0**
MAT				S	**S**	**03 25 18.5**	**-0.5**
MJAR	**Matsushiro Arr**	**2.54**	**72**	P	**Pn**	**03 24 33.8**	**+0.3**
	4.6nm,0.3s,baz=267,slow=8.6,SNR=66						
MJAR				S	**S**	**03 25 18.5**	**-0.5**
	baz=250,slow=13,SNR=2.0						
JHT	**Toyohira**	**2.55**	**244**	P	**Pn**	**03 24 34.4**	**+0.7**
JRY	**Ryogami san**	**3.01**	**85**	P	**Pn**	**03 24 37.8**	**+0.3**
JRY				eS	**S**	**03 25 28.2**	**+2.1**
JOD2	**Odawara 2**	**3.22**	**99**	P	**Pn**	**03 24 39.5**	**+0.1**
JOD2				S	**S**	**03 25 31.6**	**+2.0**
JTO	**Tosashimizu**	**3.55**	**215**	P	**Pn**	**03 24 43.5**	**+1.0**
USRK	**Ussuriysk Arra**	**8.73**	**345**	P	**P**	**03 25 41.0**	**-0.6**
	0.7nm,0.3s,baz=165,slow=10,SNR=19						
ASAJ	**Asahikawa**	**10.04**	**32**	P	**Pn**	**03 25 54.9**	**-0.4**
	7.8nm,0.3s,baz=235,slow=11,SNR=58						
ASAJ				S	S	03 27 39.5	-9.3
	2.3nm,0.3s,baz=64,slow=31,SNR=9.2						
SONM	**Songino Array**	**24.45**	**308**	P	**P**	**03 28 25.2**	**+0.8**
	0.4nm,0.5s,baz=113,slow=9.4,SNR=4.3						
MKAR	**Makanchi Array**	**40.53**	**303**	P	**P**	**03 30 42.7**	**+0.5**
	0.4nm,0.5s,baz=92,slow=10,SNR=6.1						
ILAR	**Eielson Array**	**53.18**	**32**	P	**P**	**03 32 18.2**	**-0.4**
	0.7nm,0.6s,baz=263,slow=6.0,SNR=17						
WRA	**Warramunga Arr**	**55.46**	**181**	P	**P**	**03 32 34.5**	**-0.9**
	0.8nm,0.4s,baz=358,slow=7.6,SNR=19						
ASAR	**Alice Springs**	**59.17**	**181**	P	**P**	**03 33 00.5**	**-0.5**
	0.4nm,0.6s,baz=12,slow=12,SNR=5.5						
ARCES	**ARCESS Array B**	**63.32**	**339**	P	**P**	**03 33 27.6**	**-0.3**
	1.8nm,0.8s,baz=56,slow=8.9,SNR=9.7						
FINES	**FINESS Array B**	**67.48**	**331**	P	**P**	**03 33 54.0**	**-0.4**
	0.9nm,0.5s,baz=76,slow=6.4,SNR=14						
NOA	**NORSAR Array B**	**73.28**	**335**	P	**P**	**03 34 29.0**	**-0.3**
	0.5nm,0.7s,baz=18,slow=16,SNR=2.7						
NVAR	**Mina Array Bea**	**79.67**	**50**	P	**P**	**03 35 05.8**	**+0.4**
	0.4nm,0.7s,baz=287,slow=5.1,SNR=3.6						
PDAR	**Pinedale Array**	**82.02**	**42**	P	**P**	**03 35 17.2**	**-0.4**
	0.3nm,0.7s,baz=306,slow=3.0,SNR=3.0						
TXAR	**Lajitas Array**	**94.76**	**49**	P	**P**	**03 36 19.0**	**+0.6**
	0.2nm,0.8s,baz=339,slow=12,SNR=3.5						

GUC 25 03:23:46.8±0.6,34.65S×72.44W,h25km±2km,MD3.5, ML3.5,3C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.00**	**139**	⇓*i*P	Pn	03 24 04.8	-0.5
TALC				*i* S	Sb	03 24 18.0	-0.3
TALC				AML	AML	03 24 19.9	
	comp=E,6μm,0.1s						
LNV	**Longovilo**	**1.10**	**51**	⇑*i*P	Pn	03 24 06.2	-0.4
LNV				*i* S	Sn	03 24 20.8	-0.1
COCH	**Cobquecura**	**1.51**	**191**	*i* P	Pn	03 24 12.7	+0.5
COCH				*i* S	Sn	03 24 31.8	+0.8
COCH				AML	AML	03 24 36.4	
	comp=N,568nm,0.4s						
TACH	**Talagante**	**1.59**	**52**	*i* P	Pn	03 24 13.7	+0.3
TACH				*i* S	Sb	03 24 34.5	-0.9
CACH	**El Canelo**	**1.61**	**71**	*e*P	Pb	03 24 15.0	-1.1
CACH				*i* S	Sb	03 24 36.3	+0.1
CHCH	**Chadas Angostu**	**1.65**	**65**	⇓*i*P	Pn	03 24 14.9	+0.7
CHCH				*i* S	Sb	03 24 36.1	-0.8
ANTU	**Antumapu**	**1.85**	**55**	AML	AML	03 24 47.7	
	comp=E,888nm,0.6s						
PCH	**Pirque**	**1.90**	**58**	⇑*i*P	Pn	03 24 18.7	+1.0
PCH				*i* S	Sb	03 24 43.4	-0.9
CCHI	**Chillan**	**1.98**	**171**	*e*P	Pn	03 24 20.1	+1.5
CCHI				*i* S	Sb	03 24 44.7	-1.6
CCHI				AML	AML	03 24 53.7	
	comp=N,484nm,0.5s						
SJCH	**San Jose de Ma**	**2.00**	**61**	*i* P	Pn	03 24 20.3	+1.2
SJCH				*i* S	Sb	03 24 46.3	-1.0
SJCH				AML	AML	03 24 49.1	
	comp=N,545nm,0.4s						
CLCH	**Cerro Calan**	**2.02**	**52**	*i* P	Pn	03 24 20.7	+1.4
CLCH				*i* S	Sb	03 24 46.2	-1.5
CLCH				AML	AML	03 24 55.4	
	comp=N,639nm,0.3s						
CLCH				AML	AML	03 24 59.0	
	comp=E,643nm,0.8s						
LMEL	**Las Melosas**	**2.02**	**67**	⇓*i*P	Pn	03 24 21.0	+1.6
LMEL				*i* S	Sb	03 24 46.7	-1.3
LMEL				AML	AML	03 24 51.4	
	comp=N,722nm,0.4s						
PEL	**Peldehue**	**2.09**	**45**	⇑*i*P	Pn	03 24 21.6	+1.2
PEL				*i* S	Sb	03 24 47.8	-2.1
PEL				AML	AML	03 24 55.7	
	comp=E,550nm,0.5s						

JMA 25 03:45:12.0±0.1,36.54N×140.90E,h49km±1km,M3.5,4D Broadband fault plane solution: P waves. NP1: φs18.00000°,δ81.00000°,λ86.00000°. **NP2:**φs224.00000°, δ10.00000°,λ115.00000°. **Principal axes:** T Plg54.0000°, Azm283.0000°; N Plg4.0000°, Azm19.0000°; P Plg36.0000°, Azm112.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.28**	**285**	⇓P	Pn	03 45 20.9	+0.1
JHO				S	Sn	03 45 26.6	-0.5
ONAJ	**Iwakimizuishiy**	**0.57**	**352**	⇓P	Pn	03 45 23.6	-0.5
ONAJ				S	Sn	03 45 31.9	-0.9
JYT	**Yasato**	**0.65**	**242**	⇓P	Pn	03 45 24.9	-0.1
JYT				S	Sn	03 45 33.9	-0.5
JFK	**Kawauchi**	**0.82**	**359**	P	Pn	03 45 26.7	-0.7
JFK				S	Sn	03 45 37.4	-1.3
JFT	**Otama**	**1.07**	**335**	P	Pn	03 45 31.5	+0.7
JFT				S	Sn	03 45 45.2	+0.6
JAG	**Ashikaga**	**1.17**	**265**	⇓P	Pn	03 45 32.2	+0.2
JAG				S	Sn	03 45 46.6	-0.3
JFY	**Yanaizu**	**1.29**	**312**	P	Pn	03 45 34.5	+0.8
JFY				S	Sn	03 45 51.3	+1.4
JMM	**Marumori**	**1.33**	**356**	P	Pn	03 45 34.2	+0.1
JMM				S	Sn	03 45 51.3	+0.6
JKT	**Katashina**	**1.35**	**280**	P	Pn	03 45 35.4	+0.9
JKT				S	Sn	03 45 52.1	+0.7
MAT	**Matsushiro**	**2.17**	**271**	P	Pn	03 45 47.1	+1.4
MAT				S	Sn	03 46 13.0	+1.6

SKHL 25 04:11:48.0±0.8,54.31N×126.14E,h8km±1km,mb4.2/6,2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KROS	**Kirovskiy**	**0.50**	**75**	⇓*i*Pg	Pg	04 11 57.5	-0.3
KROS				AMB	AMB	04 11 58.5	
	110nm,0.5s						
KROS				AMB	AMB	04 11 58.5	
	120nm,0.5s						
KROS				AMB	AMB	04 11 58.5	
	150nm,0.5s						
KROS				pPg	Pb	04 12 00.0	+0.9
KROS				*e*Sg	Sg	04 12 04.3	-0.1
KROS				A	A	04 12 05.1	
	610nm,0.5s						
KROS				A	A	04 12 05.1	
	320nm,0.5s						
KROS				A	A	04 12 05.1	
	200nm,0.5s						
ZEA	**Zeya**	**0.87**	**131**	⇓*i*Pg	Pg	04 12 04.6	-0.1
ZEA				AMB	AMB	04 12 04.8	
	210nm,0.2s						
ZEA				pPg	Pn	04 12 06.8	+0.3
ZEA				*e*Sg	Sg	04 12 15.9	-0.2
ZEA				A	A	04 12 16.0	

KUZU *i* S **Sn** **04 16 11.3 -0.1**
PINB Pinarbasi **1.48 297** *i* P **Pn** **04 15 49.0 -2.8**
PINB Pinarbasi **1.48 297** *i* P **Pn** **04 15 49.0 -2.8**
PINB Pinarbasi **1.48 297** *i* P **Pn** **04 15 49.0 -2.8**
ILIC ilic-Erzincan **1.49 15** *e*PN **Pn** **04 15 51.7 -0.2**
ILIC ilic-Erzincan **1.49 15** *e*Pn **Pn** **04 15 51.7 -0.2**
DIY Diyarbakir **1.70 93** *e*PN **Pn** **04 15 54.0 -0.7**
DIY Diyarbakir **1.70 93** *e*Pn **Pn** **04 15 54.1 -0.7**
KOZT Kozan **1.86 254** *e*PN **Pn** **04 15 56.7 -0.3**
KOZT Kozan **1.86 254** *e*Pn **Pn** **04 15 56.7 -0.3**
BNN Bunyan **1.94 296** *e*PN **Pn** **04 15 57.8 -0.4**
BNN Bunyan **1.94 296** *e*Pn **Pn** **04 15 57.8 -0.4**
MAZI Mazidag **1.96 106** *e*PN **Pn** **04 15 57.9 -0.5**
MAZI Mazidag **1.96 106** *e*Pn **Pn** **04 15 57.9 -0.5**
EZC Erzincan **2.00 29** *e*Pn **Pg** **04 16 59.6 +0.6**
ERZN Erzincan **2.03 39** *e*PN **Pn** **04 15 59.5 +0.2**
BINT Bingol **2.08 65** *e*Pn **Pg** **04 16 03.2 -0.9**
SVSK Karacayir **2.08 336** *e*PN **Pn** **04 15 60.0 +0.1**
SVSK Karacayir **2.08 336** *e*Pn **Pn** **04 16 00.0 +0.1**
CEYT Ceyhan **2.11 242** *e*PN **Pn** **04 16 01.0 +0.7**
CEYT Ceyhan **2.11 242** *e*Pn **Pn** **04 16 01.0 +0.7**
KBSD Kabsdagh **2.21 117** *i* P **Pn** **04 16 00.4 -1.3**
KBSD *e*S **Sb** **04 16 33.0 +0.6**
KBSD Kabsdagh **2.21 117** *i* P **Pn** **04 16 00.4 -1.3**
SNR=45
KBSD *e*S **Sb** **04 16 33.0 +0.6**
SNR=40
MARD Mardin **2.25 107** *i* P **Pn** **04 16 01.4 -1.0**
MARD Mardin **2.25 107** *i* P **Pn** **04 16 01.4 -1.0**
BNGB Bing¨ll **2.26 64** *e*PN **Pn** **04 16 03.2 +0.7**
SFNV Sufian **2.27 134** *i* P **Pn** **04 16 01.8 -0.9**
SFNV *e*S **Sg** **04 16 37.5 +0.2**
SFNV Sufian **2.27 134** *i* P **Pn** **04 16 01.8 -0.9**
SNR=45
MNKR ALMNKUR **2.28 155** *i* P **Pn** **04 16 02.5 -0.1**
MNKR *e*S **Sg** **04 16 38.6 +1.2**
MNKR AML AML 04 16 45.1
comp=E,2µm,0.2s
MNKR AML AML 04 16 47.6
comp=N,2µm,0.2s
MNKR ALMNKUR **2.28 155** *i* P **Pn** **04 16 02.5 -0.1**
SNR=45
JHLN Al Jahlan **2.35 173** *i* P **Pb** **04 16 06.3 -1.0**
JHLN *e*S **Sg** **04 16 41.7 +1.8**
JHLN AML AML 04 16 43.2
comp=N,391nm,0.4s
JHLN AML AML 04 16 46.1
comp=E,176nm,0.5s
JHLN Al Jahlan **2.35 173** *i* P **Pb** **04 16 06.3 -1.0**
SNR=45
BTCH Batrach **2.36 214** *i* P **Pn** **04 16 02.3 -1.5**
BTCH *e*S **Sg** **04 16 39.0 -1.1**
BTCH AML AML 04 16 40.5
comp=E,464nm,0.4s
BTCH AML AML 04 16 42.5
comp=N,710nm,0.4s
BTCH Batrach **2.36 214** *i* P **Pn** **04 16 02.3 -1.5**
SNR=45
BTCH *e*S **Sg** **04 16 39.0 -1.1**
comp=N,710nm,0.4s,SNR=40
HTY Hatay **2.44 220** *e*PN **Pn** **04 16 06.3 +1.4**
HTY Hatay **2.44 220** *e*Pn **Pn** **04 16 06.3 +1.4**
RSDY Resadiye-TOKAT **2.45 346** *e*PN **Pn** **04 16 05.7 +0.6**
RSDY Resadiye-TOKAT **2.45 346** *e*Pn **Pn** **04 16 05.7 +0.6**
KARA Karaisali **2.52 254** *e*PN **Pn** **04 16 07.5 +1.6**
KARA Karaisali **2.52 254** *e*Pn **Pn** **04 16 07.5 +1.6**
YAYL Yayladag **2.53 219** *i* P **Pn** **04 16 05.2 -1.0**
YAYL Yayladag **2.53 219** *i* P **Pn** **04 16 05.2 -1.0**
YAYL Yayladag **2.53 219** *i* P **Pn** **04 16 05.2 -1.0**
KRTS Karatas **2.59 237** *e*PN **Pn** **04 16 08.3 +1.4**
KRTS Karatas **2.59 237** *e*Pn **Pn** **04 16 08.3 +1.4**
TOKT Tokat **2.59 333** *e*PN **Pn** **04 16 07.6 +0.6**
TOKT Tokat **2.59 333** *e*Pn **Pn** **04 16 07.6 +0.6**
GUMT Gumushane **2.67 24** *e*PN **Pn** **04 16 08.9 +0.7**
GUMT Gumushane **2.67 24** *e*Pn **Pn** **04 16 08.9 +0.7**
YOZ Yozgat **2.70 308** *e*PN **Pn** **04 16 09.0 +0.5**
YOZ Yozgat **2.70 308** *e*Pn **Pn** **04 16 09.0 +0.5**
NIG Nigde **2.74 273** *e*PN **Pn** **04 16 10.3 +1.1**
NIG Nigde **2.74 273** *e*Pn **Pn** **04 16 10.3 +1.1**
BAYT Ayd¨¬ntepe-Bay **2.87 33** *e*PN **Pn** **04 16 11.8 +0.9**
BAYT Ayd¨¬ntepe-Bay **2.87 33** *e*Pn **Pn** **04 16 11.8 +0.9**
ESPY Espiye-Giresun **2.94 10** *e*PN **Pn** **04 16 12.5 +0.7**
ESPY Espiye-Giresun **2.94 10** *e*Pn **Pn** **04 16 12.5 +0.7**
EZM Erzurum **3.18 53** *e*PN **Pn** **04 16 16.1 +0.8**
KVT Kavak **3.44 333** *e*PN **Pn** **04 16 19.8 +1.1**
KVT Kavak **3.44 333** *e*Pn **Pn** **04 16 19.8 +1.1**
CORM Corum **3.44 310** *e*PN **Pn** **04 16 20.4 +1.6**
CORM Corum **3.44 310** *e*Pn **Pn** **04 16 20.4 +1.6**
SIRT Sirnak **3.49 97** *e*PN **Pn** **04 16 21.1 +1.6**
SIRT Sirnak **3.49 97** *e*Pn **Pn** **04 16 21.1 +1.6**
KAMT Kaman **3.67 293** *e*PN **Pn** **04 16 23.1 +1.1**
KAMT Kaman **3.67 293** *e*Pn **Pn** **04 16 23.1 +1.1**
IKL Isikli **3.93 245** *e*PN **Pn** **04 16 27.8 +2.4**
IKL Isikli **3.93 245** *e*Pn **Pn** **04 16 27.8 +2.4**
AGRB Hanur-Agry **4.14 66** *e*PN **Pn** **04 16 30.3 +1.8**
AGRB Hanur-Agry **4.14 66** *e*Pn **Pn** **04 16 30.3 +1.8**
CUKT Cukurca **4.46 98** *e*PN **Pn** **04 16 34.9 +2.2**
CUKT Cukurca **4.46 98** *e*Pn **Pn** **04 16 34.9 +2.2**

ISCJB ***25*** *04:17:10.9±0.5,24˚.02S±0˚.03×66˚.70W±0˚.04,h188km±3km, mb5.0/151,Error ellipse: s-maj=6.8km s-min=4.6km az=142.3*
NEIC ***25*** *04:17:11.8±0.4,24˚.01S×66˚.59W,h185km±3km,mb5.1/110, Error ellipse: s-maj=6.0km s-min=3.9km az=61.0*
BJI ***25*** *04:17:12.4,24˚.00S×66˚.50W,h181km,mB5.0/12*
IDC ***25*** *04:17:14.9±0.6,23˚.94S×66˚.59W,h210km±4km,mb4.4/21, mb1 4.6/26,mb1mx4.6/27,mbtmp4.5/26,Error ellipse: s-maj=12.1km s-min=7.5km az=57.0*
GUC ***25*** *04:17:14.1±0.3,23˚.77S×67˚.28W,h239km±6km,ML6.2*
MOS ***25*** *04:17:14.4±1.3,23˚.73S×66˚.59W,h210km,mb5.0/34, Error ellipse: s-maj=14.7km s-min=7.3km az=117.0*
GCMT ***25*** *04:17:18.0±0.3,24˚.16S×66˚.97W,h212km±2km,MW5.2, Moment Tensor Solution. s44,c58; s67,c108; Moment tensor: Scale 10¹⁶Nm; Mrr-4.83±.23; Mθθ0.82±.26; Mϕϕ4.01±.32; Mrθ-0.18±.19; Mθϕ0.85±.24; Mϕr-6.56±.22; Best double couple: Mo8.00000×10¹⁶ NP1:φ=200.00000°, δ18.00000°,λ-75.00000°. NP2:φ=4.00000°,δ73.00000°, λ-95.00000°. Principal axes: T 7.6000, Plg28.0000°, Azm98.0000°; N 0.7200, Plg5.0000°, Azm6.0000°; P -8.3300, Plg62.0000°, Azm267.0000°; Data Used: II IU IC G CN.*
DJA ***25*** *04:17:19.4±11.0,24˚S±42˚×6˚6W±3˚2,h224km±95km, M5.0/7,mb5.0/7*
ISC 25 04:17:13.9±0.4,24˚.00S±0˚.04×66˚.77W±0˚.05,h204km±2km, h204km:pP-P,n806,σ1˚17/870,mb5.0/151,235C-217D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
LVC	**Limon Verde**	**2.41**	**305**	⇑*i*P		**Pn**	**04 17 56.7**	**-0.7**
LVC				*i*S		**S**	**04 18 29.0**	**-1.6**
LVC	**Limon Verde**	**2.41**	**305**	⇑*i*P		**Pn**	**04 17 56.7**	**-0.7**
LVC				*i*S		**S**	**04 18 29.0**	**-1.6**
LVC	**Limon Verde**	**2.41**	**305**	P		**Pn**	**04 17 56.6**	**-0.7**
	1µm,0.3s,baz=131,slow=6.1,SNR=8007							
LVC				S		**S**	**04 18 30.3**	**-0.3**
	1µm,0.3s,baz=356,slow=18,SNR=36							
PB09	**Plate Boundary**	**3.17**	**313**	⇑*i*P		**Pn**	**04 18 05.4**	**-0.5**
PB09				*i*S		**S**	**04 18 44.0**	**-2.0**
PB09	**Plate Boundary**	**3.17**	**313**	⇑*i*P		**Pn**	**04 18 05.4**	**-0.5**
PB09				*i*S		**S**	**04 18 44.0**	**-2.0**
PB09				AML		AML	04 18 45.6	
	comp=N,58µm,0.6s							
ANCH	**Antofagasta**	**3.35**	**275**	⇑*i*P		**Pn**	**04 18 06.5**	**-1.4**
ANCH				*i*S		**S**	**04 18 46.0**	**-3.6**
ANCH	**Antofagasta**	**3.35**	**275**	⇑*i*P		**Pn**	**04 18 06.5**	**-1.4**
ANCH				*i*S		**S**	**04 18 46.0**	**-3.6**
ANCH				AML		AML	04 18 48.9	
	comp=E,20µm,0.5s							
PB07	**Plate Boundary**	**3.66**	**308**	⇑*i*P		**Pn**	**04 18 10.2**	**-1.7**
PB07				*i*S		**S**	**04 18 52.6**	**-4.2**
PB07	**Plate Boundary**	**3.66**	**308**	⇑*i*P		**Pn**	**04 18 10.2**	**-1.7**
PB07				*i*S		**S**	**04 18 52.6**	**-4.2**
PB01	**Plate Boundary**	**3.87**	**319**	⇑*i*P		**Pn**	**04 18 12.8**	**-1.6**
PB01				*i*S		**S**	**04 18 57.6**	**-3.7**
PB01	**Plate Boundary**	**3.87**	**319**	⇑*i*P		**Pn**	**04 18 12.8**	**-1.6**
PB01				*i*S		**S**	**04 18 57.6**	**-3.7**
HMBC	**Humberstone**	**4.70**	**321**	⇑*i*P		**Pn**	**04 18 22.0**	**-2.8**
HMBC				*i*S		**S**	**04 19 14.7**	**-5.5**
HMBC	**Humberstone**	**4.70**	**321**	⇓*i*P		**Pn**	**04 18 22.0**	**-2.8**
HMBC				*i*S		**S**	**04 19 14.7**	**-5.5**
LCO	**Las Campanas**	**6.11**	**214**	*e*Pn		Pn	04 18 38.6	-4.2
CFAA	**Coronel Fontan**	**7.68**	**189**	P		Pn	04 18 59.5	-3.5
CFAA				S		S	04 20 21.4	-8.5
CFAA	**Coronel Fontan**	**7.68**	**189**	P		Pn	04 18 59.5	-3.5
	comp=E,2.7nm,0.3s,baz=355,slow=12,SNR=593							
CFAA				S		S	04 20 21.4	-8.5
	comp=E,14nm,0.3s,baz=198,slow=14,SNR=18							
LPAZ	**La Paz**	**7.78**	**350**	*e*Pn		**Pn**	**04 19 03.8**	**-1.1**
	comp=E,58nm,0.5s							
LPAZ				*e*Sn		**S**	**04 20 32.1**	**-1.1**
LPAZ	**La Paz**	**7.78**	**350**	P		**Pn**	**04 19 04.5**	**-0.5**
	comp=E,14nm,0.3s,baz=169,slow=8.5,SNR=167							
LPAZ				S		**S**	**04 20 33.1**	**-0.1**
	comp=E,11nm,0.3s,baz=90,slow=25,SNR=7.2							
CPUP	**Villa Florida**	**8.86**	**107**	P		**Pn**	**04 19 16.7**	**-1.6**
CPUP	**Villa Florida**	**8.86**	**107**	P		**Pn**	**04 19 16.7**	**-1.6**
	comp=E,4.3nm,0.3s,baz=275,slow=12,SNR=132							
SIV	**San Ignacio**	**9.60**	**35**	P		**Pn**	**04 19 26.3**	**-1.7**
SIV				S		S	04 21 01.7	-14
SIV	**San Ignacio**	**9.60**	**35**	P		**Pn**	**04 19 26.3**	**-1.7**
	comp=E,22nm,0.3s,baz=226,slow=13,SNR=572							
SIV				S		S	04 21 01.7	-14
	baz=270,slow=17,SNR=2.9							
TRQA	**Tornquist**	**14.59**	**165**	*e*Pn		Pn	04 20 27.2	-3.7
TRQA				*e*P		**P**	**04 20 31.1**	**-0.8**
NNA	**Nana**	**15.31**	**320**	*e*Pn		**Pn**	**04 20 39.4**	**-0.4**
	comp=E,556nm,2.3s							
NNA				S		S	04 23 23.1	-6.6
NNA	**Nana**	**15.31**	**320**	P		**P**	**04 20 40.5**	**+0.5**
	comp=E,3.5nm,0.3s,baz=179,slow=13,SNR=10.0							
NNA				S		S	04 23 23.1	-6.6
	comp=E,2.1nm,0.3s,baz=258,slow=14,SNR=3.5							
SAML	**Samuel**	**15.36**	**13**	*e*Pn		**Pn**	**04 20 39.3**	**-1.1**
	comp=E,88nm,1.9s							
PLCA	**Paso Flores**	**16.98**	**190**	*e*P		**P**	**04 20 57.1**	**-1.2**
	comp=E,60nm,0.9s							
PLCA				S		**S**	**04 24 05.5**	**+0.7**
PLCA				ScP		**ScP**	**04 28 48.8**	**+0.4**
PLCA	**Paso Flores**	**16.98**	**190**	P		**P**	**04 20 57.4**	**-0.9**
	comp=E,1.1nm,0.3s,baz=12,slow=12,SNR=42							
PLCA				S		**S**	**04 24 05.5**	**+0.7**
	baz=205,slow=17,SNR=1.3							
PLCA				ScP		**ScP**	**04 28 48.8**	**+0.4**
	comp=E,0.1nm,0.3s,baz=11,slow=2.7,SNR=4.3							
BDFB	**Brasilia**	**19.49**	**68**	P		**P**	**04 21 25.0**	**-0.7**
BDFB				ScP		**ScP**	**04 28 55.4**	**+1.1**
BDFB	**Brasilia**	**19.49**	**68**	P		**P**	**04 21 25.0**	**-0.7**
	comp=E,25nm,0.3s,baz=239,slow=11,SNR=486							
BDFB				ScP		**ScP**	**04 28 55.4**	**+1.1**
	comp=E,0.3nm,0.3s,baz=180,slow=8.1,SNR=3.2							
ATAH	**Atahualpa**	**20.14**	**324**	P		**P**	**04 21 35.1**	**+2.0**
ATAH	**Atahualpa**	**20.14**	**324**	P		**P**	**04 21 35.1**	**+2.0**
	comp=E,14nm,0.9s,baz=161,slow=8.6,SNR=12							
COYC	**Coyhaique**	**21.95**	**190**	⇓*i*P		**P**	**04 21 49.1**	**-1.9**
COYC	**Coyhaique**	**21.95**	**190**	⇓*i*P		**P**	**04 21 49.1**	**-1.9**
ROSC	**El Rosal**	**29.62**	**345**	P		**P**	**04 23 01.4**	**+0.7**
ROSC	**El Rosal**	**29.62**	**345**	P		**P**	**04 23 01.4**	**+0.7**
	comp=E,2.8nm,0.4s,baz=93,slow=17,SNR=5.1							
USHA	**Ushuaia**	**30.82**	**182**	P		**P**	**04 23 10.6**	**+0.2**
USHA	**Ushuaia**	**30.82**	**182**	P		**P**	**04 23 10.6**	**+0.2**
	comp=E,18nm,0.8s,baz=345,slow=6.3,SNR=4.7							
RCBR	**Riacho**	**34.73**	**64**	*e*P		**P**	**04 23 43.5**	**-1.4**
	comp=E,57nm,0.7s							
BCIP	**Isla Barro Col**	**35.35**	**337**	*e*P		**P**	**04 23 50.8**	**+0.7**
	comp=E,296nm,1.9s							
JTS	**JuntasAbangare**	**38.44**	**330**	P		**P**	**04 24 18.0**	**+1.9**
JTS	**JuntasAbangare**	**38.44**	**330**	P		**P**	**04 24 18.0**	**+1.9**
	comp=E,38nm,1.0s,baz=124,slow=5.6,SNR=14							
CRPR	**Cabo Rojo, PR**	**41.76**	**360**	*e*P		**P**	**04 24 41.2**	**-2.0**
	comp=E,81nm,0.9s							
OBIP	**Obispado Ponce**	**41.79**	**0**	*e*P		**P**	**04 24 41.2**	**-2.3**
	comp=E,46nm,0.8s							
CELP	**Cerrillos**	**41.82**	**0**	*e*P		P	04 24 41.1	-2.7
SJG	**San Juan**	**41.86**	**1**	*e*P		**P**	**04 24 41.6**	**-2.5**
	comp=E,75nm,1.1s							
LSP	**Las Mesas**	**41.92**	**360**	*e*P		**P**	**04 24 42.6**	**-2.0**
MPR	**Mayaguez**	**41.96**	**359**	*e*P		**P**	**04 24 43.0**	**-1.8**
	comp=E,388nm,2.0s							
LRS	**Lares**	**42.04**	**360**	*e*P		**P**	**04 24 44.4**	**-1.2**
AOPR	**Arecibo Observ**	**42.09**	**0**	*e*P		**P**	**04 24 44.1**	**-1.9**
	comp=E,37nm,0.9s							
TGUH	**Tegucigalpa,Un**	**42.81**	**330**	*e*P		**P**	**04 24 51.8**	**0.0**
	comp=E,104nm,1.0s							
TEIG	**Tepich**	**48.70**	**333**	*e*P		**P**	**04 25 37.3**	**-0.4**
	comp=E,143nm,1.7s							
TEIG				*e*pP		pP	04 26 16.2	-6.4
TEIG				*e*sP		sP	04 26 33.8	-11
TEIG	**Tepich**	**48.70**	**333**	P		**P**	**04 25 37.3**	**-0.4**
	comp=E,16nm,0.6s,baz=158,slow=5.7,SNR=30							
ASCN	**Ascension**	**52.55**	**81**	*e*P		**P**	**04 26 04.9**	**-1.9**
	comp=E,113nm,0.9s							
VNA1	**Neumayer--Stat**	**57.27**	**160**	*e*P		**P**	**04 26 40.8**	**+1.1**
TIGA	**Tifton**	**57.43**	**343**	⇓P		**P**	**04 26 40.9**	**-0.4**
	baz=58							
BRAL	**Brewton**	**58.05**	**339**	*e*P		**P**	**04 26 45.4**	**-0.2**
	comp=E,124nm,1.0s							
GOGA	**Godfrey**	**59.27**	**344**	*e*P		**P**	**04 26 53.3**	**-0.7**
GOGA				pmax		pmax		
	comp=E,26nm,1.0s							
GOGA	**Godfrey**	**59.27**	**344**	*e*P		**P**	**04 26 53.3**	**-0.7**
	comp=Z,26nm,1.0s							
SNAA	**Sanae**	**59.28**	**161**	*e*P		**P**	**04 26 53.8**	**+0.1**
SNAA	**Sanae**	**59.28**	**161**	*e*pP		pP	04 27 39.8	-0.4
SNAA	**Sanae**	**59.28**	**161**	*e*P		**P**	**04 26 52.8**	**-0.9**
	comp=E,24nm,0.8s							
SNAA				*e*PcP		**pP**	**04 27 39.0**	**-1.2**
SNAA	**Sanae**	**59.28**	**161**	P		**P**	**04 26 53.9**	**+0.3**
	comp=Z,7.3nm,0.7s,baz=284,slow=6.5,SNR=144							
LRAL	**Lakeview Retre**	**59.91**	**340**	*e*P		**P**	**04 26 57.2**	**-1.2**
	comp=Z,33nm,1.0s							
VBMS	**Vicksburg**	**60.34**	**337**	*e*P		**P**	**04 27 01.0**	**-0.2**
	comp=Z,71nm,1.3s							
KMSC	**Kings Mountain**	**60.42**	**346**	⇑P		**P**	**04 27 01.7**	**0.0**
	baz=61,SNR=14							
732A	**Laxson Ranch,**	**61.41**	**327**	⇓P		**P**	**04 27 08.7**	**+0.1**
	baz=62,SNR=26							
CPCT	**Cooper Cave**	**61.48**	**344**	*e*P		**P**	**04 27 08.2**	**-0.7**
TKL	**Tuckaleechee C**	**61.48**	**344**	P		**P**	**04 27 08.2**	**-0.7**
TKL	**Tuckaleechee C**	**61.48**	**344**	P		**P**	**04 27 08.2**	**-0.7**
	comp=Z,22nm,1.0s,baz=155,slow=8.3,SNR=20							
632A	**Uvalde**	**61.95**	**327**	⇓P		**P**	**04 27 12.4**	**+0.2**
	baz=62,SNR=22							
OXF	**Oxford**	**62.04**	**339**	*e*P		**P**	**04 27 11.3**	**-1.3**
OXF				pmax		pmax		
	comp=Z,108nm,1.1s							
OXF	**Oxford**	**62.04**	**339**	*e*P		**P**	**04 27 11.3**	**-1.3**
	comp=Z,108nm,1.1s							
PLAL	**Pickwick Lake**	**62.05**	**340**	*e*P		**P**	**04 27 11.3**	**-1.4**
	comp=Z,32nm,0.8s							
631A	**Perdido Creek**	**62.27**	**327**	⇑P		**P**	**04 27 14.1**	**-0.2**
	baz=63,SNR=12							
TZTN	**Tazewell**	**62.27**	**345**	*e*P		**P**	**04 27 13.6**	**-0.5**
	comp=Z,54nm,1.7s							
532A	**Rocksprings**	**62.52**	**328**	⇓P		**P**	**04 27 16.3**	**+0.3**
	baz=63,SNR=34							
JCT	**Junction City**	**62.76**	**328**	*e*P		**P**	**04 27 17.7**	**+0.1**
JCT				*e*			04 27 54.8	
JCT				pmax		pmax		
	comp=Z,48nm,0.9s							
JCT	**Junction City**	**62.76**	**328**	*e*P		**P**	**04 27 17.7**	**+0.1**
	comp=Z,48nm,0.9s							
JCT				*e*PcP		**PcP**	**04 27 54.8**	**+0.7**
JCT	**Junction City**	**62.76**	**328**	⇑P		**P**	**04 27 17.6**	**+0.1**
	baz=63,SNR=21							
531A	**Rocksprings**	**62.87**	**327**	⇑P		**P**	**04 27 18.8**	**+0.5**
	baz=63,SNR=35							
WHTX	**Lake Whitney**	**62.94**	**331**	⇓P		**P**	**04 27 18.6**	**-0.1**
	baz=63,SNR=7.2							
WVT	**Waverly**	**63.03**	**341**	*e*P		**P**	**04 27 17.9**	**-1.3**
WVT				pmax		pmax		
	comp=Z,66nm,0.8s							
WVT	**Waverly**	**63.03**	**341**	*e*P		**P**	**04 27 17.9**	**-1.3**
	comp=Z,66nm,0.8s							
432A	**Menard**	**63.08**	**328**	⇑P		**P**	**04 27 19.7**	**0.0**
	baz=63,SNR=50							
530A	**J-C Ranch, Com**	**63.25**	**327**	⇑P		**P**	**04 27 21.1**	**+0.3**
	baz=64,SNR=27							
UALR	**University of**	**63.30**	**337**	*e*P		**P**	**04 27 20.5**	**-0.4**
	comp=Z,40nm,1.2s							
431A	**Sonora**	**63.32**	**328**	⇓P		**P**	**04 27 21.2**	**-0.1**
	baz=64							
RFTA	**Plano**	**63.47**	**332**	*e*P		**P**	**04 27 22.9**	**+0.8**
332A	**Millersview**	**63.48**	**329**	⇑P		**P**	**04 27 22.2**	**0.0**
	baz=64,SNR=40							
628A	**Black Gap, Mar**	**63.51**	**325**	⇑P		**P**	**04 27 23.5**	**+1.0**
	baz=64,SNR=52							
MIAR	**Mount Ida**	**63.55**	**335**	*e*P		**P**	**04 27 22.4**	**-0.2**
MIAR				*e*			04 28 13.3	
MIAR				pmax		pmax		
	comp=Z,51nm,1.1s							
MIAR	**Mount Ida**	**63.55**	**335**	*e*P		**P**	**04 27 22.4**	**-0.2**
	comp=Z,51nm,1.1s							
MIAR				*e*			04 28 13.3	
GNAR	**Gosnell**	**63.57**	**339**	*e*P		**P**	**04 27 23.1**	**+0.4**
	comp=Z,782nm,0.8s							
GLAT	**Glass**	**63.61**	**340**	*e*P		**P**	**04 27 22.7**	**-0.3**
529A	**Stev Forest Ra**	**63.68**	**326**	⇓P		**P**	**04 27 24.1**	**+0.5**
	baz=64,SNR=78							
430A	**Baggett Ranch,**	**63.72**	**327**	⇓P		**P**	**04 27 23.9**	**0.0**
	baz=64,SNR=33							
331A	**San Angelo**	**63.74**	**328**	⇓P		**P**	**04 27 23.8**	**-0.2**
	baz=64,SNR=29							
627A	**Terlingua Ranc**	**63.75**	**325**	⇑P		**P**	**04 27 24.5**	**+0.3**
	baz=64,SNR=37							
TXAR	**Lajitas Array**	**63.80**	**324**	P		**P**	**04 27 24.8**	**+0.3**
TXAR	**Lajitas Array**	**63.80**	**324**	P		**P**	**04 27 24.8**	**+0.3**
	comp=Z,7.1nm,0.8s,baz=152,slow=8.5,SNR=65							
232A	**Coleman**	**63.85**	**329**	⇑P		**P**	**04 27 24.8**	**+0.1**
	baz=64,SNR=52							
429A	**Davenport Ranc**	**63.91**	**326**	⇓P		**P**	**04 27 25.5**	**+0.4**
	baz=64,SNR=55							
528A	**Cox Ranch, San**	**64.00**	**325**	⇑P		**P**	**04 27 26.0**	**+0.2**
	baz=64,SNR=37							
PARMO	**Parma**	**64.12**	**340**	*e*P		**P**	**04 27 26.6**	**+0.3**
330A	**Mertzon**	**64.19**	**328**	⇑P		**P**	**04 27 26.6**	**-0.3**
	baz=64,SNR=20							
231A	**Bronte**	**64.21**	**329**	⇑P		**P**	**04 27 26.7**	**-0.3**
	baz=65,SNR=15							
626A	**Big Bend Ranch**	**64.23**	**324**	⇑P		**P**	**04 27 28.2**	**+1.0**
	baz=65,SNR=137							
428A	**Kincaid Ranch,**	**64.40**	**326**	⇓P		**P**	**04 27 28.8**	**+0.5**
	baz=65,SNR=14							
527A	**Woodward Ranch**	**64.42**	**325**	⇑P		**P**	**04 27 28.8**	**+0.2**
	baz=65,SNR=43							
ABTX	**Abilene, Hawle**	**64.46**	**329**	⇑P		**P**	**04 27 28.4**	**-0.2**
	baz=65,SNR=14							
230A	**Sterling City**	**64.55**	**328**	⇑P		**P**	**04 27 29.1**	**-0.2**
	baz=65							
WCI	**Wyandotte Cave**	**64.56**	**343**	*e*P		**P**	**04 27 27.5**	**-1.6**
WCI				pmax		pmax		
	comp=Z,16nm,0.5s							
WCI	**Wyandotte Cave**	**64.56**	**343**	*e*P		**P**	**04 27 27.5**	**-1.6**
	comp=Z,16nm,0.5s							
526A	**Mary Lane Ranc**	**64.60**	**324**	⇑P		**P**	**04 27 30.5**	**+0.7**
	baz=65,SNR=125							
329A	**Wagon Wheel Ra**	**64.66**	**327**	⇓P		**P**	**04 27 30.1**	**+0.1**
	baz=65							
USIN	**University of**	**64.69**	**342**	*e*P		**P**	**04 27 28.4**	**-1.6**
	comp=Z,25nm,0.9s							
131A	**Roby**	**64.85**	**329**	⇓P		**P**	**04 27 31.3**	**+0.1**
	baz=65,SNR=10.0							
427A	**Hayter Ranch,**	**64.87**	**325**	⇓P		**P**	**04 27 31.8**	**+0.4**
	baz=65,SNR=32							
SIUC	**Southern Illin**	**64.92**	**340**	*e*P		**P**	**04 27 30.6**	**-0.8**
	comp=Z,41nm,1.0s							
Z32A	**Haskell**	**64.96**	**330**	⇑P		**P**	**04 27 31.8**	**0.0**
	baz=65,SNR=14							
229A	**Bryant Ranch,**	**64.96**	**327**	⇑P		**P**	**04 27 31.7**	**-0.3**
	baz=65,SNR=16							
328A	**Wristen Ranch,**	**64.99**	**326**	⇓P		**P**	**04 27 32.3**	**+0.2**
	baz=65,SNR=37							
426A	**McDonald Obser**	**65.05**	**325**	⇑P		**P**	**04 27 33.3**	**+0.6**
	baz=65,SNR=40							
130A	**Snyder**	**65.06**	**328**	⇑P		**P**	**04 27 32.5**	**-0.1**
	baz=65,SNR=16							
Z31A	**Sharp Cattle R**	**65.27**	**330**	⇓P		**P**	**04 27 33.9**	**+0.1**
	baz=66,SNR=35							
327A	**Balmorhea Ranc**	**65.33**	**326**	⇓P		**P**	**04 27 34.8**	**+0.6**
	baz=66							
228A	**UT Block 9, Go**	**65.47**	**327**	⇑P		**P**	**04 27 35.0**	**-0.2**
	baz=66,SNR=11							
BLO	**Bloomington**	**65.51**	**343**	*e*P		**P**	**04 27 34.0**	**-1.2**
BLO				pmax		pmax		
	comp=Z,50nm,1.3s							
BLO	**Bloomington**	**65.51**	**343**	*e*P		**P**	**04 27 34.0**	**-1.

comp=Z,12nm,0.8s
223A **Chaparral, Ant** 67.37 324 ⇑P P 04 27 47.7 +0.4
baz=68
124A **Stringfield Ra** 67.39 325 ⇑P P 04 27 48.0 +0.4
baz=68,SNR=63
TIC **Toumodi** 67.45 71 eP P 04 27 46.4 -1.7
comp=Z,20nm,0.7s
W29A **Amraillo** 67.46 329 ⇑P P 04 27 47.7 -0.1
baz=68
Z25A **Roswell** 67.47 326 ⇓P P 04 27 47.9 -0.1
baz=68,SNR=40
Y26A **Elida** 67.53 327 ⇑P P 04 27 48.3 0.0
baz=68,SNR=5.7
KIC **Kosan Boka** 67.55 72 eP P 04 27 47.4 -1.3
comp=Z,38nm,0.5s
V30A **Spur Ranch, Mi** 67.55 331 ⇑P P 04 27 49.2 +0.9
baz=68
DBIC **Dimbokro** 67.60 71 eP P 04 27 47.5 -1.5
comp=Z,8.6nm,0.6s
DBIC pP pP 04 28 37.5 +0.7
DBIC **Dimbokro** 67.60 71 P P 04 27 47.8 -1.2
comp=Z,14nm,0.5s,baz=214,slow=6.9,SNR=37
DBIC pP pP 04 28 37.5 +0.7
comp=Z,17nm,1.0s,baz=201,slow=3.9,SNR=5.3
U31A **Nine Bar Ranch** 67.69 332 ⇓P P 04 27 49.3 +0.2
baz=68
X27A **F and S Farms,** 67.76 328 ⇑P P 04 27 49.6 -0.1
baz=68,SNR=5.5
123A **Bell Site, Whi** 67.77 325 ⇑P P 04 27 50.4 +0.6
baz=68
222A **Williams Famil** 67.81 324 ⇓P P 04 27 51.2 +1.1
baz=68,SNR=7.8
W28A **Vega** 67.83 329 ⇓P P 04 27 50.5 +0.4
baz=68
Z24A **Sheeppen Canyo** 67.84 326 ⇑P P 04 27 50.7 +0.4
baz=68,SNR=42
Y25A **Mesa, Roswell** 67.97 327 ⇓P P 04 27 50.9 -0.1
baz=68,SNR=15
V29A **Stinnett** 68.02 330 ⇑P P 04 27 51.5 +0.2
baz=68
X26A **CR and CF Fran** 68.03 328 ⇑P P 04 27 51.6 +0.2
baz=68,SNR=17
W27A **Bowe Ranch, En** 68.08 328 ⇓P P 04 27 51.8 +0.1
baz=68,SNR=16
221A **Mesquite Ranch** 68.11 323 ⇑P P 04 27 53.4 +1.5
baz=68
U30A **WK&E Inc. Balk** 68.17 331 ⇓P P 04 27 52.5 +0.3
baz=68,SNR=11
122A **Conniff Cattle** 68.21 324 ⇓P P 04 27 54.1 +1.6
baz=69,SNR=7.9
T31A **Randall Ranch,** 68.23 332 ⇑P P 04 27 52.8 +0.3
baz=69,SNR=10.0
Z23A **Rita Site, Whi** 68.24 325 ⇑P P 04 27 53.7 +1.0
baz=69,SNR=17
V28A **Channing** 68.24 329 ⇑P P 04 27 53.0 +0.3
baz=69,SNR=10
Y24A **Capitan** 68.35 326 ⇓P P 04 27 53.6 +0.1
baz=69
U29A **Oasis Ranch, S** 68.39 331 ⇓P P 04 27 54.1 +0.6
baz=69
X25A **Clemmons Ranch** 68.43 327 ⇑P P 04 27 53.8 -0.2
baz=69
W26A **Owens Ranch, T** 68.44 328 ⇑P P 04 27 54.6 +0.7
baz=69,SNR=17
220A **Playas Peak, P** 68.44 322 ⇑P P 04 27 55.0 +1.0
baz=69,SNR=36
319A **Douglas** 68.47 322 ⇓P P 04 27 55.5 +1.3
baz=69,SNR=29
121A **Cookes Peak, D** 68.51 323 ⇓P P 04 27 55.9 +1.5
baz=69,SNR=43
V27A **Dan Oppiter Fa** 68.54 329 ⇓P P 04 27 55.0 +0.5
baz=69,SNR=7.6
T30A **Plains** 68.56 331 ⇓P P 04 27 54.9 +0.4
baz=69
S31A **Mullinville** 68.59 333 ⇓P P 04 27 55.2 +0.5
baz=69,SNR=7.1
Z22A **Elephant Butte** 68.62 324 ⇓P P 04 27 56.6 +1.5
baz=69,SNR=64
Y23A **Lovelace Mesa,** 68.67 326 ⇓P P 04 27 56.2 +0.8
baz=69,SNR=14
KSU1 **Kansas State U** 68.71 335 eP P 04 27 54.3 -1.0
comp=Z,75nm,1.1s
U28A **Mallet** 68.76 330 ⇑P P 04 27 56.1 +0.3
baz=69,SNR=16
X24A **Lazy VL Ranch,** 68.85 326 ⇓P P 04 27 57.0 +0.4
baz=69,SNR=5.8
W25A **X Bar L Ranch,** 68.88 328 ⇑P P 04 27 57.0 +0.3
baz=69,SNR=21
T29A **Hugoton** 68.98 331 ⇓P P 04 27 57.6 +0.4
baz=69,SNR=8.0
120A **U Bar Ranch, L** 68.98 323 ⇑P P 04 27 58.7 +1.3
baz=69,SNR=26
V26A **Tequesquite Ra** 69.02 328 ⇑P P 04 27 57.8 +0.3
baz=69,SNR=22
S30A **Montezuma** 69.02 332 ⇑P P 04 27 57.8 +0.4
baz=69
Z21A **St. Cloud Mine** 69.04 324 ⇓P P 04 27 59.2 +1.5
baz=69,SNR=33
MSNY **Massena** 69.06 354 eP P 04 27 56.6 -0.7
comp=Z,210nm,1.3s
U27A **Thompson Grove** 69.07 329 ⇓P P 04 27 58.1 +0.3
baz=69
BNM **Barren Site** 69.14 325 eP P 04 27 59.3 +0.9
comp=Z,62nm,1.4s
Y22A **Socorro** 69.15 325 ⇓P P 04 27 59.4 +1.0
baz=70
R31A **Burdett** 69.17 333 ⇑P P 04 27 58.5 +0.2
baz=70
X23A **Hourglass Bar** 69.25 326 ⇓P P 04 28 00.1 +1.1
baz=70
LPM **Los Pinos Moun** 69.26 325 eP P 04 28 00.2 +1.1
S29A **Ulysses** 69.29 331 ⇑P P 04 27 59.7 +0.7
baz=70,SNR=10
T28A **Walsh** 69.32 330 ⇓P P 04 27 59.2 -0.1
baz=70
W24A **Lazy 6 Ranch,** 69.34 327 ⇓P P 04 28 00.1 +0.5
baz=70,SNR=21
Z20A **Nine Sixteen R** 69.39 323 ⇓P P 04 28 01.4 +1.5
baz=70,SNR=24
V25A **Rancho No Teng** 69.45 328 ⇓P P 04 28 00.7 +0.5
baz=70,SNR=23
U26A **Atchley Ranch,** 69.48 329 ⇓P P 04 28 00.9 +0.5
baz=70,SNR=30
R30A **Dighton** 69.48 332 ⇓P P 04 28 00.7 +0.5
baz=70,SNR=7.1
T27A **Campo** 69.55 330 ⇓P P 04 28 01.2 +0.5
baz=70,SNR=25
Y21A **Point of Rocks** 69.58 325 ⇓P P 04 28 02.6 +1.5
baz=70,SNR=29
LAZ **Ladron** 69.60 325 eP P 04 28 02.1 +1.0
comp=Z,39nm,1.8s
LAZ e 04 28 54.8
S28A **Manter** 69.61 331 ⇑P P 04 28 01.2 +0.2
baz=70,SNR=22
X22A **Bernardo** 69.61 325 ⇑P P 04 28 02.9 +1.7
baz=70
ANMO **Albuquerque** 69.67 326 eP P 04 28 02.6 +1.0
comp=Z,50nm,1.3s
ANMO **Albuquerque** 69.67 326 P P 04 28 02.6 +1.0
comp=Z,17nm,0.9s,baz=144,slow=7.7,SNR=56
W23A **Werner Place,** 69.68 326 ⇑P P 04 28 02.6 +0.9
baz=70,SNR=16
V24A **Rampart Ranch,** 69.69 327 ⇑P P 04 28 02.2 +0.4
baz=70,SNR=20
Q31A **Ellis** 69.72 333 ⇓P P 04 28 02.2 +0.6
baz=70,SNR=12
U25A **Circle Dot Ran** 69.80 328 ⇑P P 04 28 03.1 +0.7
baz=70,SNR=24
R29A **Marienthal** 69.97 332 ⇓P P 04 28 03.6 +0.4
baz=70
X21A **Alamocita Cree** 69.97 325 ⇓P P 04 28 05.0 +1.5
baz=70,SNR=41
W22A **Albuquerque** 69.98 326 ⇓P P 04 28 04.9 +1.5
baz=70,SNR=6.4
SCIA **State Center** 70.00 339 eP P 04 28 02.9 -0.3
comp=Z,64nm,1.0s
TUC **Tucson** 70.02 321 eP P 04 28 04.7 +1.1
TUC **Tucson** 70.02 321 eP P 04 28 04.7 +1.1
Q30A **Quinter** 70.04 333 ⇓P P 04 28 04.3 +0.8
baz=70,SNR=26
T26A **Comanche Natio** 70.04 329 ⇑P P 04 28 04.5 +0.7
baz=70,SNR=26
V23A **Ortiz Mt. (NFS** 70.16 327 ⇓P P 04 28 05.9 +1.4
baz=70,SNR=16
P31A **Stockton** 70.16 334 ⇓P P 04 28 04.8 +0.5
baz=70
R28A **Tribune** 70.19 331 ⇑P P 04 28 04.8 +0.3
baz=71,SNR=9.6

U24A **Moreno Valley** 70.23 328 ⇑P P 04 28 06.3 +1.2
baz=71
Q29A **Oakley** 70.29 332 ⇓P P 04 28 05.4 +0.3
baz=71,SNR=10
S26A **Kim** 70.35 330 ⇓P P 04 28 06.5 +0.9
baz=71,SNR=30
T25A **Trinidad** 70.40 329 ⇓P P 04 28 07.0 +1.0
baz=71,SNR=25
W21A **San Fidel** 70.42 325 ⇓P P 04 28 07.5 +1.4
baz=71
X20A **Quemado** 70.42 324 ⇑P P 04 28 07.7 +1.5
baz=71
P30A **Selden** 70.53 333 ⇓P P 04 28 06.8 +0.3
baz=71
R27A **Eads** 70.58 331 ⇓P P 04 28 07.3 +0.3
baz=71,SNR=9.5
U23A **El Rito** 70.62 327 ⇓P P 04 28 08.5 +1.2
baz=71,SNR=14
V22A **San Miguel Ran** 70.65 326 ⇓P P 04 28 09.1 +1.5
baz=71,SNR=18
Q28A **Sharon Springs** 70.80 332 ⇑P P 04 28 08.7 +0.5
baz=71
S25A **Robets Cordova** 70.83 329 ⇓P P 04 28 09.6 +1.1
baz=71
P29A **Atwood** 70.86 333 ⇑P P 04 28 09.2 +0.6
baz=71
W20A **Ramah** 70.87 325 ⇑P P 04 28 10.0 +1.1
baz=71,SNR=14
R26A **Arlington** 70.89 330 ⇑P P 04 28 09.5 +0.7
baz=71,SNR=30
214A **Organ Pipe Nat** 70.94 320 ⇑P P 04 28 10.5 +1.4
baz=71,SNR=21
V21A **Milan** 70.94 326 ⇑P P 04 28 10.7 +1.4
baz=71
U22A **Llaves** 70.99 327 ⇑P P 04 28 11.2 +1.6
baz=71,SNR=18
O30A **MW Ranch, Wils** 70.99 334 ⇑P P 04 28 09.8 +0.6
baz=71,SNR=6.3
T23A **Casias Ranch,** 71.10 328 ⇑P P 04 28 11.4 +1.1
baz=72
KSCO **Kaye Shedlock'** 71.10 331 ⇑P P 04 28 11.1 +1.0
baz=72,SNR=11
R25A **Fountain Ranch** 71.15 330 ⇓P P 04 28 11.1 +0.7
baz=72,SNR=11
S24A **Houchin Ranch,** 71.18 329 ⇓P P 04 28 12.3 +1.5
baz=72,SNR=33
P28A **Saint Francis** 71.19 332 ⇑P P 04 28 11.7 +1.1
baz=72
X18A **Snowflake** 71.20 323 ⇓P P 04 28 12.2 +1.4
baz=72,SNR=19
O29A **4D Ranch, Culb** 71.25 333 ⇓P P 04 28 11.4 +0.5
baz=72
BGNE **Belgrade** 71.29 336 ⇓P P 04 28 11.2 +0.2
baz=72,SNR=37
V20A **Brimhall** 71.37 325 ⇑P P 04 28 13.0 +1.1
baz=72,SNR=10
SDCO **Great Sand Dun** 71.40 328 eP P 04 28 12.9 +0.8
comp=Z,52nm,1.4s
SDCO e 04 29 04.7
Q26A **Hugo** 71.43 331 ⇓P P 04 28 13.1 +1.0
baz=72,SNR=17
U21A **Nageezi** 71.43 326 ⇑P P 04 28 13.4 +1.1
baz=72,SNR=27
T22A **Edith** 71.51 327 ⇑P P 04 28 14.1 +1.4
baz=72,SNR=25
W18A **Petrified Fore** 71.52 324 ⇑P P 04 28 14.0 +1.2
baz=72,SNR=13
N30A **Hueftle Ranch,** 71.53 334 ⇑P P 04 28 13.2 +0.6
baz=72
P27A **Ficken Ranch,** 71.53 332 ⇓P P 04 28 13.4 +0.8
baz=72
R24A **Sanders Place,** 71.60 329 ⇑P P 04 28 14.3 +1.1
baz=72,SNR=17
S23A **Nye Farm, Mont** 71.61 328 ⇓P P 04 28 14.5 +1.2
baz=72
O28A **Krutsinger Ran** 71.66 332 ⇑P P 04 28 14.3 +1.0
baz=72
Q25A **Bedland, Calha** 71.75 330 ⇓P P 04 28 14.6 +0.5
baz=72
N29A **Votaw Ranch, W** 71.76 334 ⇓P P 04 28 14.6 +0.7
baz=72
T21A **Navajo Lake** 71.81 327 ⇑P P 04 28 15.9 +1.5
baz=72
U20A **Newcomb** 71.84 326 ⇓P P 04 28 15.5 +0.9
baz=72,SNR=6.9
P26A **Davis Ranch, A** 71.87 331 ⇑P P 04 28 15.4 +0.7
baz=72
R23A **Moffat** 71.91 329 ⇓P P 04 28 16.4 +1.3
baz=72
X16A **Lo Mia Camp, P** 71.94 322 ⇓P P 04 28 16.7 +1.5
baz=72,SNR=4
O27A **Beecher Island** 72.01 332 ⇑P P 04 28 16.6 +1.1
baz=72,SNR=12
N28A **Pribbeno Ranch** 72.03 333 ⇓P P 04 28 16.1 +0.6
baz=72
Z14A **Wintersburg** 72.03 321 ⇑P P 04 28 16.7 +1.1
baz=72
S22A **4UR Ranch, Cre** 72.05 328 ⇑P P 04 28 17.0 +1.0
baz=72,SNR=15
M30A **Dale-Ortello V** 72.07 334 ⇓P P 04 28 16.1 +0.4
baz=72
113A **Mohawk Valley,** 72.09 320 ⇑P P 04 28 17.1 +1.2
baz=72
P25A **Willow Gulch B** 72.20 330 ⇓P P 04 28 18.0 +1.3
baz=73,SNR=12
Q24A **Divide** 72.21 329 ⇑P P 04 28 18.0 +1.1
baz=73,SNR=13
M29A **Burnside Ranch** 72.31 334 ⇓P P 04 28 18.0 +0.8
baz=73,SNR=8.6
R22A **Saguache, Gunn** 72.39 328 ⇑P P 04 28 19.2 +1.2
baz=73,SNR=14
O26A **Horse Wrangler** 72.42 331 ⇓P P 04 28 18.9 +1.0
baz=73
OGNE **Ogallala** 72.45 333 eP P 04 28 18.6 +0.6
comp=Z,121nm,1.6s
OGNE **Ogallala** 72.45 333 ⇓P P 04 28 18.8 +0.8
baz=73
S21A **Coal Bank Pass** 72.46 327 ⇓P P 04 28 19.5 +1.1
baz=73,SNR=24
MVCO **Mesa Verde** 72.47 326 eP P 04 28 19.5 +1.1
comp=Z,110nm,1.6s
MVCO e 04 29 12.5
MVCO **Mesa Verde** 72.47 326 ⇓P P 04 28 19.5 +1.1
baz=73,SNR=21
Y14A **Wickenburg** 72.48 321 ⇓P P 04 28 19.5 +1.2
baz=73,SNR=21
Q23A **Hartsel** 72.48 329 ⇑P P 04 28 19.5 +0.9
baz=73
P24A **Kohler Place,** 72.54 330 ⇓P P 04 28 20.1 +1.4
baz=73,SNR=6.0
N27A **Anderson Farm,** 72.55 332 ⇓P P 04 28 19.5 +0.9
baz=73,SNR=5.3
M28A **Bar X Bar Ranc** 72.55 333 ⇑P P 04 28 19.7 +1.1
baz=73
COWI **Conover** 72.67 344 eP P 04 28 18.4 -0.7
comp=Z,61nm,1.5s
O25A **Wiggins** 72.67 331 ⇑P P 04 28 20.5 +1.1
baz=73
WUAZ **Wupatki** 72.71 323 eP P 04 28 21.1 +1.3
comp=Z,42nm,1.0s
WUAZ e 04 29 11.9
WUAZ **Wupatki** 72.71 323 ⇓P P 04 28 21.4 +1.6
baz=73,SNR=28
L29A **Maesberg Ranch** 72.75 334 ⇓P P 04 28 20.5 +0.8
baz=73
ECSD **EROS Data Cent** 72.76 338 eP P 04 28 19.1 -0.6
comp=Z,74nm,1.1s
P23A **Jefferson** 72.86 329 ⇑P P 04 28 22.1 +1.3
baz=73
N26A **Koester Ranch,** 72.86 332 ⇑P P 04 28 21.4 +1.0
baz=73,SNR=5.0
SPMN **St. Paul** 72.87 341 ⇓P P 04 28 19.5 -0.7
baz=73,SNR=20
S20A **Disappointment** 72.87 327 ⇑P P 04 28 22.4 +1.6
baz=73,SNR=24
R21A **Cimarron** 72.89 328 ⇓P P 04 28 22.1 +1.3
baz=73,SNR=23
GLA **Glamis** 72.92 319 eP P 04 28 22.4 +1.5
GLA pmax pmax
comp=Z,38nm,1.2s
GLA **Glamis** 72.92 319 eP P 04 28 22.4 +1.5
comp=Z,38nm,1.2s
GLA **Glamis** 72.92 319 ⇓P P 04 28 22.1 +1.2
baz=73,SNR=6.7
Q22A **Crested Butte,** 72.96 328 ⇑P P 04 28 22.6 +1.2
baz=73,SNR=15
M27A **Reverse DX Ran** 73.08 333 ⇑P P 04 28 23.0 +1.3
baz=73

ISCO **Idaho Springs** 73.09 330 eP P 04 28 23.1 +1.0
ISCO pmax pmax
comp=Z,52nm,1.4s
ISCO **Idaho Springs** 73.09 330 eP P 04 28 23.1 +1.0
comp=Z,52nm,1.4s
ISCO **Idaho Springs** 73.09 330 ⇓P P 04 28 23.2 +1.0
baz=74,SNR=28
O24A **Longmont** 73.10 330 ⇓P P 04 28 23.1 +1.1
baz=74
L28A **Connealy Angus** 73.12 334 ⇑P P 04 28 22.9 +0.9
baz=74
R20A **Redvale** 73.16 327 ⇑P P 04 28 23.9 +1.5
baz=74,SNR=19
PV01 **Paradox Valley** 73.21 327 eP P 04 28 24.1 +1.3
comp=Z,4μm,1.5s
N25A **Grover** 73.22 331 ⇓P P 04 28 23.7 +1.1
baz=74
Y12C **Blythe** 73.23 320 ⇓P P 04 28 24.2 +1.6
baz=74,SNR=18
SMCO **Snowmass** 73.24 328 eP P 04 28 24.4 +1.4
comp=Z,108nm,1.8s
Q21A **Lamborn Mesa,** 73.26 328 ⇑P P 04 28 24.2 +1.2
baz=74,SNR=5.9
K29A **Lazy Trails An** 73.28 335 ⇑P P 04 28 23.6 +0.7
baz=74,SNR=8.1
M26A **McRoberts Ranc** 73.35 332 ⇓P P 04 28 24.3 +1.0
baz=74
PDMCI **Parker Dam,Lak** 73.39 321 ⇑P P 04 28 24.9 +1.4
baz=74
DVTC **Desert V Tower** 73.41 318 ⇓P P 04 28 25.3 +1.4
baz=74
SWSC **Sam W. Stewart** 73.42 319 ⇓P P 04 28 25.1 +1.4
baz=74,SNR=5.9
P22A **Eagle** 73.47 329 ⇑P P 04 28 25.3 +1.1
baz=74,SNR=16
SYO **Syowa Base** 73.47 159 eP P 04 28 22.8 -0.7
L27A **T5 Ranch, Ells** 73.51 333 ⇓P P 04 28 25.4 +1.1
baz=74,SNR=13
O23A **Lake Granby, G** 73.56 330 ⇑P P 04 28 25.9 +1.0
baz=74,SNR=18
PV04 **Paradox Valley** 73.58 327 eP P 04 28 26.1 +1.3
N24A **Carr** 73.59 331 ⇓P P 04 28 26.1 +1.3
baz=74
K28A **Ten Mile Ranch** 73.66 334 ⇓P P 04 28 26.2 +1.2
baz=74,SNR=9.6
Q20A **Ridgley Place,** 73.71 327 ⇑P P 04 28 26.4 +0.9
baz=74,SNR=6.2
BC3 **Big Chuckawall** 73.71 319 ⇓P P 04 28 26.9 +1.3
baz=74,SNR=26
M25A **Palm-Egli Farm** 73.72 332 ⇑P P 04 28 26.5 +1.0
baz=74
SBA **Scott Base** 73.73 190 eP P 04 28 26.5 +1.6
SBA pmax pmax
comp=Z,50nm,1.4s
SBA **Scott Base** 73.73 190 eP P 04 28 26.5 +1.6
comp=Z,50nm,1.4s
P21A **Newcastle** 73.74 328 ⇑P P 04 28 27.2 +1.4
baz=74,SNR=18
MONP **Monument Peak** 73.77 318 ⇓P P 04 28 27.2 +1.1
baz=74,SNR=8.4
BAR **Barrett** 73.78 318 eP P 04 28 27.1 +1.2
comp=Z,69nm,1.3s
L26A **Underwood Farm** 73.79 333 ⇓P P 04 28 27.2 +1.3
baz=74
O22A **Kremmling** 73.81 329 ⇑P P 04 28 27.1 +0.8
baz=74,SNR=23
W13A **Hualapai Mount** 73.81 321 ⇑P P 04 28 27.9 +1.6
baz=74,SNR=20
U15A **North Rim** 73.88 323 ⇑P P 04 28 28.5 +1.8
baz=74,SNR=37
IRM **Iron Mountain** 73.89 320 ⇓P P 04 28 27.9 +1.4
baz=74,SNR=24
K27A **Flueckinger Fa** 74.00 334 ⇑P P 04 28 28.3 +1.2
baz=74,SNR=16
NEE2 **Needles Airpor** 74.00 321 ⇑P P 04 28 28.1 +1.0
baz=74
M24A **Cheyenne** 74.08 331 ⇑P P 04 28 29.1 +1.5
baz=74,SNR=21
N23A **Red Feather La** 74.12 330 ⇑P P 04 28 29.1 +1.1
baz=74,SNR=12
P20A **De Beque** 74.18 328 ⇓P P 04 28 29.4 +1.2
baz=74,SNR=15
J28A **Allard Ranch,** 74.20 335 ⇑P P 04 28 28.9 +0.7
baz=75,SNR=31
BRSD **Miller** 74.21 337 ⇑P P 04 28 28.0 -0.1
baz=75,SNR=5.2
PHWY **Pilot Hill** 74.23 331 eP P 04 28 29.5 +0.9
comp=Z,48nm,1.4s
L25A **Engebretsen Ra** 74.27 332 ⇓P P 04 28 30.1 +1.5
baz=75
BELC **Belle Mtn. Jos** 74.28 319 ⇓P P 04 28 30.3 +1.3
baz=75,SNR=12
N22A **Wattenberg Ran** 74.28 330 ⇓P P 04 28 30.3 +1.4
baz=75,SNR=18
PFO **Pinyon Flat Ob** 74.28 319 P P 04 28 30.9 +2.0
comp=Z,122nm,1.0s,SNR=9.2
PFO **Pinyon Flat Ob** 74.28 319 eP P 04 28 30.4 +1.4
comp=Z,28nm,1.1s
PFO **Pinyon Flat Ob** 74.28 319 ⇓P P 04 28 30.4 +1.4
baz=75,SNR=13
O21A **Pagoda** 74.29 329 ⇓P P 04 28 30.4 +1.4
baz=75,SNR=5.0
K26A **Motz Farm, Whi** 74.38 333 ⇓P P 04 28 30.4 +1.2
baz=75,SNR=8.9
LDFC **Landfair** 74.51 321 eP P 04 28 32.0 +1.9
comp=Z,47nm,1.1s
P19A **Cripple Cowboy** 74.57 327 ⇑P P 04 28 32.0 +1.4
baz=75
L24A **Wheatland** 74.59 331 ⇓P P 04 28 31.7 +1.2
baz=75
O20A **White River Ci** 74.60 328 ⇑P P 04 28 31.9 +1.3
baz=75,SNR=21
K25A **Mack Ranch, Ha** 74.60 332 ⇓P P 04 28 32.1 +1.5
baz=75
GMRC **Granite Mounta** 74.62 320 ⇑P P 04 28 32.4 +1.5
baz=75,SNR=34
I28A **Midland** 74.66 335 ⇓P P 04 28 31.1 +0.4
baz=75,SNR=16
MURC **Murrieta** 74.73 318 ⇑P P 04 28 32.7 +1.3
baz=75,SNR=6.0
VNDA **Vanda** 74.73 190 eP P 04 28 31.8 +1.1
comp=Z,19nm,1.1s
VNDA **Vanda** 74.73 190 P P 04 28 31.8 +1.1
comp=Z,11nm,1.0s,baz=140,slow=5.0,SNR=47
N21A **Black Mountain** 74.74 329 ⇑P P 04 28 32.9 +1.3
baz=75,SNR=6.6
M22A **Cedar Creek Ra** 74.82 330 ⇑P P 04 28 33.2 +1.1
baz=75
SRU **San Rafael** 74.94 326 eP P 04 28 33.7 +1.0
SRU e 04 29 25.9
SRU pmax pmax
comp=Z,26nm,1.0s
SRU **San Rafael** 74.94 326 eP P 04 28 33.7 +1.0
comp=Z,26nm,1.0s
SRU e 04 29 25.9
L23A **Garrett** 74.99 331 ⇑P P 04 28 33.7 +0.8
baz=75,SNR=7.9
EYMN **Ely** 74.99 343 eP P 04 28 31.9 -0.6
comp=Z,35nm,1.2s
BBRC **Big Bear Solar** 75.01 319 ⇑P P 04 28 34.9 +1.7
baz=75
HEC **Hector,Ludlow** 75.05 320 ⇓P P 04 28 35.0 +1.7
baz=75,SNR=17
I27A **Quinn** 75.06 334 ⇓P P 04 28 33.8 +0.7
baz=75,SNR=13
K24A **Anderson Ranch** 75.09 332 ⇑P P 04 28 34.7 +1.3
baz=76
Q16A **Castle Valley** 75.13 326 ⇑P P 04 28 35.1 +1.3
baz=76,SNR=22
SCI **San Clemente I** 75.14 317 ⇓P P 04 28 35.1 +1.4
baz=76
N20A **Spence Gulch,** 75.15 329 ⇓P P 04 28 34.9 +1.0
baz=76,SNR=16
O19A **Miners Draw (B** 75.15 328 ⇓P P 04 28 34.8 +1.0
baz=76,SNR=14
H28A **Mission Ridge** 75.17 335 ⇓P P 04 28 34.0 +0.4
baz=76,SNR=16
J25A **Sunshine Ranch** 75.21 333 ⇓P P 04 28 35.2 +1.2
baz=76,SNR=8.0
TUQ **Turquoise Moun** 75.23 320 ⇑P P 04 28 35.6 +1.3
baz=76,SNR=14
L22A **Ellis Ranch, M** 75.25 331 ⇑P P 04 28 35.9 +1.5
baz=76,SNR=5.4
CCUT **Cedar City** 75.29 323 eP P 04 28 36.7 +2.0
comp=Z,48nm,1.0s
CCUT e pP 04 29 24.2 +0.7
RWWY **Rawlins** 75.33 330 eP P 04 28 36.1 +1.2
comp=Z,58nm,1.2s

M21A	Separation Pea	75.33	330	⇓P		P	04 28	36.0 +1.1
	baz=76,SNR=17							
CIS	Catalina Islan	75.34	317	⇓P		P	04 28	36.2 +1.3
	baz=76							
I26A	New Underwood	75.35	334	⇑P		P	04 28	35.4 +0.6
	baz=76,SNR=7.2							
MSU	Marysvale	75.36	325	*e*P		P	04 28	36.6 +1.5
MSU	Marysvale	75.36	325	*e*P		P	04 28	36.6 +1.5
MVU	Marysvale	75.37	325	*e*P		P	04 28	36.6 +1.4
	comp=Z,33nm,1.1s							
TMUT	Trail Mountain	75.43	326	*e*P		P	04 28	37.3 +1.6
BFSC	Mount Baldy Ra	75.44	318	⇓P		P	04 28	36.6 +1.0
	baz=76,SNR=8.1							
K23A	Bowen Ranch, D	75.47	331	⇓P		P	04 28	36.6 +1.1
	baz=76,SNR=19							
G28A	Parade	75.47	336	⇑P		P	04 28	35.9 +0.5
	baz=76,SNR=14							
RRX	Edison Barstow	75.48	319	⇓P		P	04 28	37.1 +1.5
	baz=76							
ARUT	Antelope Range	75.50	323	*e*P		P	04 28	37.2 +1.3
ARUT				pmax		pmax		
	comp=Z,51nm,1.2s							
ARUT	Antelope Range	75.50	323	*e*P		P	04 28	37.1 +1.3
	comp=Z,51nm,1.2s							
J24A	Dixon Ranch, L	75.52	332	⇑P		P	04 28	37.3 +1.6
	baz=76,SNR=16							
H27A	Howes	75.55	335	⇑P		P	04 28	36.2 +0.4
	baz=76,SNR=23							
L21A	Rawlins	75.62	330	⇑P		P	04 28	37.4 +0.9
	baz=76							
SUR	Sutherland	75.62	119	*e*P		P	04 28	36.3 -0.6
	comp=Z,15nm,0.8s							
M20A	Sweetwater, Wa	75.63	329	⇑P		P	04 28	37.6 +1.1
	baz=76,SNR=10							
GSC	Goldstone	75.66	320	*e*P		P	04 28	38.1 +1.4
GSC				pmax		pmax		
	comp=Z,69nm,1.5s							
GSC	Goldstone	75.66	320	*e*P		P	04 28	38.1 +1.4
	comp=Z,69nm,1.5s							
GSC	Goldstone	75.66	320	⇓P		P	04 28	38.2 +1.4
	baz=76,SNR=17							
MWC	Mount Wilson	75.67	318	*e*P		P	04 28	38.5 +1.5
MWC				pmax		pmax		
	comp=Z,63nm,1.4s							
MWC	Mount Wilson	75.67	318	*e*P		P	04 28	38.5 +1.5
	comp=Z,63nm,1.4s							
I25A	Rochford	75.70	333	⇑P		P	04 28	38.1 +1.3
	baz=76,SNR=39							
SHOC	Shoshone	75.76	320	⇑P		P	04 28	38.6 +1.4
	baz=76							
K22A	Casper	75.78	331	⇑P		P	04 28	38.5 +1.1
	baz=76,SNR=16							
H26A	Fairpoint	75.81	334	⇑P		P	04 28	37.6 +0.3
	baz=76							
DECC	Green Verdugo	75.86	318	⇓P		P	04 28	39.0 +1.2
	baz=76							
RSSD	Black Hills	75.91	333	*e*P		P	04 28	38.9 +0.8
RSSD				pmax		pmax		
	comp=Z,32nm,1.2s							
RSSD	Black Hills	75.91	333	*e*P		P	04 28	38.9 +0.8
	comp=Z,32nm,1.2s							
I24A	Kuemmerle Ranc	75.94	333	⇓P		P	04 28	39.0 +0.8
	baz=76,SNR=7.1							
J23A	Dilts Ranch, B	75.96	332	⇓P		P	04 28	39.2 +0.9
	baz=76							
EDW2	Edwards Air Fo	76.08	319	⇑P		P	04 28	39.9 +0.9
	baz=76,SNR=5.5							
K21A	Alcova	76.09	330	⇑P		P	04 28	40.4 +1.2
	baz=76,SNR=50							
M19A	Rock Springs	76.10	329	⇓P		P	04 28	39.9 +0.7
	baz=76,SNR=6.4							
L20A	Wamsutter	76.10	329	⇑P		P	04 28	40.4 +1.1
	baz=76,SNR=20							
G27A	Dupree	76.11	335	⇑P		P	04 28	39.4 +0.4
	baz=76,SNR=23							
H25A	Fruitdale	76.14	334	⇑P		P	04 28	39.8 +0.6
	baz=76							
MPU	Maple Canyon	76.19	326	*e*P		P	04 28	40.7 +0.9
	comp=Z,51nm,1.4s							
BLG	Laguna Peak	76.22	317	⇓P		P	04 28	40.8 +1.0
	baz=77							
DAU	Daniels Canyon	76.30	327	*e*P		P	04 28	41.8 +1.3
DAU				*e*			04 29	36.8
DAU	Daniels Canyon	76.30	327	*e*P		P	04 28	41.8 +1.3
DAU				*e*			04 29	36.8
G26A	Maurine	76.30	335	⇓P		P	04 28	40.2 +0.2
	baz=77,SNR=18							
LRMC	Laurel Mountai	76.30	319	⇓P		P	04 28	41.8 +1.4
	baz=77							
OSI	Osito Adit	76.34	318	⇓P		P	04 28	41.6 +1.1
	baz=77							
J22A	Midwest	76.37	331	⇑P		P	04 28	41.2 +0.6
	baz=77,SNR=45							
NLU	North Lily Min	76.37	326	*e*P		P	04 28	42.5 +1.7
	comp=Z,54nm,1.6s							
TOA0	Torodi Ar. Sit	76.37	69	*e*P		P	04 28	39.9 -1.2
TOA0				*e*		pP	04 29	30.0 +0.1
TORD	Torodi Ar. Bea	76.37	69	P		P	04 28	39.9 -1.1
TORD				pP		pP	04 29	30.4 +0.5
TORD	Torodi Ar. Bea	76.37	69	P		P	04 28	39.9 -1.1
	comp=Z,24nm,0.5s,baz=256,slow=5.7,SNR=447							
TORD				pP		pP	04 29	30.4 +0.5
	comp=Z,18nm,0.9s,baz=251,slow=5.6,SNR=7.1							
I23A	Meade Ranch, G	76.37	332	⇑P		P	04 28	41.4 +0.8
	baz=77							
FURC	Furnace Creek,	76.50	321	⇓P		P	04 28	42.7 +1.5
	baz=77,SNR=15							
JLU	Jordanelle	76.53	327	*e*P		P	04 28	43.0 +1.3
	comp=Z,43nm,1.3s							
JLU				*e*		pP	04 29	32.2 +1.5
G25A	Newell	76.54	334	⇓P		P	04 28	42.0 +0.6
	baz=77,SNR=15							
AGMN	Agassiz Nation	76.56	340	*e*P		P	04 28	41.0 -0.4
	comp=Z,44nm,1.0s							
MPMC	Manual Prospec	76.58	320	⇑P		P	04 28	43.0 +0.9
	baz=77,SNR=18							
K20A	Yellowstone Ra	76.61	330	⇑P		P	04 28	42.5 +0.5
	baz=77,SNR=22							
H24A	Dirks Ranch, A	76.63	333	⇑P		P	04 28	42.4 +0.4
	baz=77,SNR=31							
L19A	Farson	76.65	329	⇑P		P	04 28	43.5 +1.2
	baz=77,SNR=24							
J21A	Lysite	76.75	331	⇑P		P	04 28	43.8 +1.0
	baz=77,SNR=27							
ARVC	Arvin	76.75	318	⇓P		P	04 28	44.1 +1.4
	baz=77							
I22A	9 Mile Ranch,	76.75	332	⇓P		P	04 28	43.5 +0.7
	baz=77,SNR=32							
F26A	Lodgepole	76.79	335	⇓P		P	04 28	43.4 +0.6
	baz=77,SNR=34							
M17A	Scullys Gap (B	76.80	328	⇑P		P	04 28	43.6 +0.4
	baz=77,SNR=9.0							
H23A	Clabaugh Cattl	76.83	333	⇓P		P	04 28	43.6 +0.5
	baz=77							
SBC	Santa Barbara	76.84	317	⇓P		P	04 28	44.1 +0.9
	baz=77							
L18A	Fontenelle, Gr	76.84	328	⇑P		P	04 28	44.4 +1.0
	baz=77,SNR=38							
ISA	Isabella	76.90	319	*e*P		P	04 28	45.2 +1.5
ISA				pmax		pmax		
	comp=Z,43nm,1.2s							
ISA	Isabella	76.90	319	*e*P		P	04 28	45.2 +1.5
	comp=Z,43nm,1.2s							
ISA	Isabella	76.90	319	⇑P		P	04 28	45.1 +1.5
	baz=77,SNR=18							
DUG	Dugway	76.93	326	*e*P		P	04 28	45.1 +1.3
DUG				pmax		pmax		
	comp=Z,33nm,1.3s							
DUG	Dugway	76.93	326	*e*P		P	04 28	45.1 +1.3
	comp=Z,33nm,1.3s							
DUG	Dugway	76.93	326	⇑P		P	04 28	45.1 +1.3
	baz=77,SNR=24							
K19A	Absolon Red Bu	76.97	330	⇓P		P	04 28	44.7 +0.6
	baz=77,SNR=21							
J20A	Shoshoni	77.04	330	⇑P		P	04 28	45.6 +1.2
	baz=77							
I21A	Big Trails, Te	77.05	331	⇓P		P	04 28	44.9 +0.5
	baz=77,SNR=54							
G24A	Alzada	77.05	334	⇓P		P	04 28	44.8 +0.5
	baz=77,SNR=17							
R11A	Troy Canyon, C	77.08	323	⇑P		P	04 28	46.4 +1.6
	baz=77,SNR=53							
GRAC	Grapevine Rang	77.16	321	⇓P		P	04 28	46.5 +1.4
	baz=78							
CWC	Cottonwood Cre	77.19	320	⇑P		P	04 28	46.6 +1.2
	baz=78							
PKM	Peak Mountain	77.20	318	⇑P		P	04 28	46.9 +1.3
	baz=78,SNR=12							
E26A	Carlson Angus	77.23	336	⇓P		P	04 28	45.6 +0.4
	baz=78,SNR=15							
BW06	Boulder Array	77.26	329	*e*P		P	04 28	46.1 +0.3
	comp=Z,37nm,1.5s							
PDAR	Pinedale Array	77.26	329	P		P	04 28	46.1 +0.4
PDAR				pP		pP	04 29	37.5 +2.8
PDAR	Pinedale Array	77.26	329	P		P	04 28	46.1 +0.4
	comp=Z,5.4nm,0.9s,baz=124,slow=7.4,SNR=29							
PDAR				pP		pP	04 29	37.5 +2.8
	comp=Z,1.6nm,0.7s,baz=138,slow=6.7,SNR=1.5							
H22A	Clearmont	77.26	332	⇓P		P	04 28	45.9 +0.4
	baz=78,SNR=17							
G23A	Biddle	77.35	333	⇑P		P	04 28	46.5 +0.6
	baz=78,SNR=26							
HWUT	Hardware Ranch	77.35	327	*e*P		P	04 28	46.8 +0.6
	comp=Z,60nm,1.4s							
HWUT				*e*			04 29	39.1
MDND	Maddock	77.37	338	⇑P		P	04 28	46.6 +0.7
	baz=78,SNR=32							
VES	Vestal, Richgr	77.39	319	⇑P		P	04 28	47.3 +1.1
	baz=78,SNR=11							
J19A	Crowheart	77.41	330	⇑P		P	04 28	47.3 +0.8
	baz=78,SNR=40							
TSUM	Tsumeb	77.45	106	*e*P		P	04 28	46.3 -0.9
	comp=Z,16nm,0.6s							
F24A	Ekalaka	77.49	334	⇓P		P	04 28	47.2 +0.5
	baz=78,SNR=24							
I20A	Worland	77.53	331	⇓P		P	04 28	47.8 +0.8
	baz=78,SNR=20							
SPUT	South Promonto	77.56	326	*e*P		P	04 28	48.2 +0.8
	comp=Z,80nm,1.6s							
BGU	Big Grassy Mou	77.58	326	*e*P		P	04 28	48.4 +1.0
	comp=Z,48nm,1.4s							
H21A	Big Horn, Sher	77.58	332	⇓P		P	04 28	47.7 +0.3
	baz=78,SNR=11							
SMMC	Simmler	77.59	318	⇓P		P	04 28	49.1 +1.6
	baz=78,SNR=9.0							
E25A	Miller Ranch,	77.62	335	⇓P		P	04 28	48.1 +0.7
	baz=78,SNR=14							
TIN	Tinemaha	77.69	320	⇑P		P	04 28	49.3 +1.2
	baz=78							
G22A	Birney	77.74	333	⇑P		P	04 28	48.4 +0.3
	baz=78,SNR=5.3							
F23A	Volborg	77.77	333	⇓P		P	04 28	48.7 +0.5
	baz=78,SNR=30							
RCTC	Rector, Farmer	77.79	319	⇑P		P	04 28	48.9 +0.4
	baz=78							
H20A	Greybull	77.89	331	⇑P		P	04 28	49.4 +0.4
	baz=78,SNR=30							
C27A	Sayler Ranch,	77.93	337	⇓P		P	04 28	49.8 +0.8
	baz=78							
PTRM	Twissleman Ran	77.94	318	*e*P		P	04 28	51.2 +1.8
I19A	Meeteetse	77.98	330	⇑P		P	04 28	50.6 +0.9
	baz=78,SNR=29							
AHID	Aurn Hatcher	77.99	328	*e*P		P	04 28	50.4 +0.7
	comp=Z,104nm,1.4s							
E24A	Baker	78.02	335	⇓P		P	04 28	50.6 +1.0
	baz=78,SNR=15							
HVU	Hansel Valley	78.08	327	*e*P		P	04 28	51.0 +0.8
HVU				pmax		pmax		
	comp=Z,40nm,1.2s							
HVU	Hansel Valley	78.08	327	*e*P		P	04 28	51.0 +0.8
	comp=Z,40nm,1.2s							
I18A	Diamond G Ranc	78.10	330	⇓P		P	04 28	51.4 +1.1
	baz=78							
G21A	Lodge Grass	78.13	332	⇓P		P	04 28	51.0 +0.7
	baz=78,SNR=13							
F22A	Rosebud	78.17	333	⇑P		P	04 28	51.0 +0.5
	baz=78,SNR=31							
ULM	Lac du Bonnet	78.30	341	P		P	04 28	50.6 -0.3
ULM	Lac du Bonnet	78.30	341	P		P	04 28	50.6 -0.3
	comp=Z,20nm,0.7s,baz=154,slow=6.0,SNR=20							
REDW	Red Top Meadow	78.33	329	*e*P		P	04 28	52.6 +1.0
SNOW	Snow King Moun	78.36	329	*e*P		P	04 28	52.8 +1.0
	comp=Z,30nm,1.0s							
E23A	Ismay	78.36	334	⇑P		P	04 28	51.7 +0.2
	baz=79,SNR=18							
LOHW	Long Hollow	78.40	329	*e*P		P	04 28	52.9 +1.0
	comp=Z,14nm,0.8s							
LOHW				*e*pP		pP	04 29	44.1 +3.0
MLAC	Mammoth Lakes	78.44	320	⇓P		P	04 28	53.6 +1.3
	baz=79							
TPAW	Teton Pass	78.47	329	*e*P		P	04 28	53.4 +1.0
	comp=Z,43nm,1.3s							
H19A	Powell	78.47	331	⇑P		P	04 28	53.0 +0.8
	baz=79,SNR=14							
D24A	Glendive	78.48	335	⇑P		P	04 28	53.2 +1.0
	baz=79,SNR=9.8							
SCHQ	Schefferville	78.51	360	P		P	04 28	51.9 -0.1
SCHQ	Schefferville	78.51	360	P		P	04 28	51.9 -0.1
	comp=Z,11nm,0.8s,baz=167,slow=4.8,SNR=27							
RRI2	Red Ridge	78.54	329	*e*P		P	04 28	54.2 +1.4
	comp=Z,77nm,1.4s							
RRI2				*e*pP		pP	04 29	45.7 +3.8
G20A	Bridger	78.56	331	⇓P		P	04 28	53.1 +0.4
	baz=79,SNR=35							
MOOW	Moose Ponds	78.57	329	*e*P		P	04 28	53.7 +0.8
	comp=Z,74nm,1.8s							
F21A	Absaloka Mine,	78.57	332	⇑P		P	04 28	53.3 +0.6
	baz=79							
E22A	Miles City	78.58	334	⇓P		P	04 28	52.8 +0.2
	baz=79,SNR=6.0							
I17A	Pilgrim Ck.	78.62	329	⇑P		P	04 28	54.7 +1.5
	baz=79							
NVAR	Mina Array Bea	78.67	321	P		P	04 28	54.6 +1.1
NVAR	Mina Array Bea	78.67	321	P		P	04 28	54.6 +1.1
	comp=Z,10.0nm,1.0s,baz=153,slow=6.1,SNR=47							
IMW	Indian Meadow	78.77	329	*e*P		P	04 28	55.1 +1.0
	comp=Z,66nm,1.3s							
H18A	Shoshone NF, C	78.78	330	⇑P		P	04 28	54.7 +0.7
	baz=79,SNR=31							
C24A	Savage	78.86	335	⇓P		P	04 28	55.2 +1.1
	baz=79,SNR=26							
D23A	Lindsay	78.88	334	⇓P		P	04 28	55.3 +1.0
	baz=79,SNR=25							
RLMT	Red Lodge	78.95	331	*e*P		P	04 28	55.7 +0.8
	comp=Z,117nm,1.7s							
H17A	Grant Village	78.98	330	⇑P		P	04 28	56.7 +1.5
	baz=79							
F20A	Billings	78.99	332	⇓P		P	04 28	55.5 +0.5
	baz=79							
I16A	Newdale	79.02	329	⇓P		P	04 28	56.4 +1.1
	baz=79,SNR=26							
A26A	Wade Farm, Ken	79.12	337	⇓P		P	04 28	56.1 +0.6
	baz=80							
E21A	Keefer Ranch,	79.12	333	⇓P		P	04 28	56.4 +0.7
	baz=80,SNR=13							
YFT	Old Faithful	79.15	330	*e*P		P	04 28	58.3 +2.3
	comp=Z,20nm,1.0s							
G18A	Lazy EL Ranch,	79.23	331	⇑P		P	04 28	57.2 +0.8
	baz=80,SNR=36							
D22A	Cohagen	79.25	334	⇓P		P	04 28	57.1 +0.8
	baz=80,SNR=22							
YMR	Madison River	79.37	330	*e*P		P	04 28	58.7 +1.5
	comp=Z,144nm,1.4s							
YMR				*e*pP		pP	04 29	50.6 +4.1
F19A	Roth Farm, Mol	79.38	331	⇓P		P	04 28	57.8 +0.7
	baz=80,SNR=37							
WAKR	Walker	79.38	321	*e*P		P	04 28	58.9 +1.5
C23A	Lambert	79.38	335	⇑P		P	04 28	57.8 +0.9
	baz=80							
D21A	La Casta Ranch	79.51	333	⇑P		P	04 28	58.6 +0.9
	baz=80,SNR=15							
H16A	Russell Place,	79.53	329	⇑P		P	04 28	59.4 +1.4
	baz=80,SNR=23							
E20A	Meyer Farm, Mu	79.54	332	⇑P		P	04 28	58.7 +0.8
	baz=80,SNR=43							
DGMT	Dagmar	79.55	336	*e*P		P	04 28	58.9 +1.1
	comp=Z,132nm,1.1s							
DGMT	Dagmar	79.55	336	⇑P		P	04 28	58.9 +1.1
	baz=80,SNR=20							
C22A	Vida	79.61	334	⇑P		P	04 28	58.7 +0.5
	baz=80,SNR=22							
CMB	Columbia Colle	79.62	320	*e*P		P	04 28	59.1 +0.6
CMB				pmax		pmax		
	comp=Z,15nm,1.3s							
CMB	Columbia Colle	79.62	320	*e*P		P	04 28	59.1 +0.6
	comp=Z,15nm,1.3s							
GCMT	Greyclif	79.65	331	*e*P		P	04 28	59.2 +0.6
	comp=Z,52nm,1.3s							
QLMT	Earthquake Lak	79.71	329	*e*P		P	04 29	00.7 +1.6
F18A	Big Timber	79.75	331	⇑P		P	04 28	60.0 +0.9
	baz=80,SNR=57							
G17A	Pierce Place,	79.77	330	⇑P		P	04 29	00.5 +1.3
	baz=80							
E19A	Rath Farm, Rou	79.78	332	⇓P		P	04 28	59.9 +0.7
	baz=80,SNR=74							
B23A	Brockton	79.85	335	⇓P		P	04 29	00.3 +0.9
	baz=80,SNR=19							
A24A	Westby	79.85	336	⇓P		P	04 29	00.6 +1.1
	baz=80,SNR=12							
I14A	Mackay	80.00	328	⇑P		P	04 29	02.1 +1.6
	baz=80,SNR=41							
D20A	Manuel Ranch,	80.00	333	⇓P		P	04 29	00.8 +0.5
	baz=80,SNR=30							
B22A	Reddig Ranch S	80.10	335	⇓P		P	04 29	01.6 +0.7
	baz=80,SNR=18							
PAHR	Pah Rah Range	80.16	322	*e*P		P	04 29	02.9 +1.5
	comp=Z,105nm,1.3s							
PAHR				*e*pP		pP	04 29	54.5 +3.7
C21A	Desert Coulee	80.16	334	⇓P		P	04 29	01.7 +0.5
	baz=80,SNR=14							
F17A	Fitzpatrick Pl	80.18	331	⇓P		P	04 29	02.6 +1.1
	baz=80,SNR=49							
HLID	Hailey	80.21	327	*e*P		P	04 29	03.3 +1.6
HLID	Hailey	80.21	327	⇑P		P	04 29	03.2 +1.6
	baz=81,SNR=91							
A23A	Redstone	80.21	336	⇑P		P	04 29	02.1 +0.7
	baz=81,SNR=5.9							
E18A	Harlowton	80.36	331	⇓P		P	04 29	03.0 +0.7
	baz=81,SNR=21							
D19A	Cripps Ranch,	80.38	332	⇑P		P	04 29	02.8 +0.4
	baz=81,SNR=32							
MCMT	McKenzie Canyo	80.38	329	*e*P		P	04 29	04.0 +1.4
	comp=Z,28nm,1.1s							
MCMT				*e*pP		pP	04 29	53.7 +1.7
BOZ	Bozeman (W)	80.42	330	*e*P		P	04 29	03.2 +0.5
BOZ				pmax		pmax		
	comp=Z,30nm,1.6s							
BOZ	Bozeman (W)	80.42	330	*e*P		P	04 29	03.2 +0.5
	comp=Z,30nm,1.6s							
C20A	Veseth Ranch,	80.44	333	⇑P		P	04 29	02.7 +0.1
	baz=81							
BOSA	Boshof	80.54	117	*e*P		P	04 29	02.7 -1.2
	comp=Z,24nm,1.0s							
BOSA	Boshof	80.54	117	P		P	04 29	03.3 -0.6
	comp=Z,17nm,0.8s,baz=248,slow=2.9,SNR=34							
B21A	Ellsworth Farm	80.61	334	⇑P		P	04 29	04.3 +0.8
	baz=81,SNR=29							
A22A	Carney Farms,	80.63	335	⇓P		P	04 29	04.4 +0.8
	baz=81,SNR=30							
DLMT	Dillon	80.66	329	*e*P		P	04 29	05.1 +1.1
	comp=Z,63nm,1.3s							
E17A	Martinsdale	80.69	331	⇑P		P	04 29	05.0 +0.8
	baz=81,SNR=33							
D18A	Linhart Farms,	80.79	332	⇑P		P	04 29	05.2 +0.6
	baz=81,SNR=25							
MFID	Camas Ranch	80.81	326	*e*P		P	04 29	05.5 +0.7
	comp=Z,39nm,1.4s							
MFID	Camas Ranch	80.81	326	⇓P		P	04 29	05.9 +1.1
	baz=81,SNR=19							
C19A	Slack Wire Ran	80.89	333	⇑P		P	04 29	05.6 +0.5
	baz=81,SNR=12							
LRM	Limekiln Ridge	80.93	330	*e*P		P	04 29	06.5 +0.9
B20A	Solberg Farm,	81.02	334	⇑P		P	04 29	06.0 +0.3
	baz=81							
A21A	Bergtoll Ranch	81.02	335	⇓P		P	04 29	06.0 +0.3
	baz=81							
OHCM	Honcut	81.12	320	*e*P		P	04 29	07.2 +0.8
H12A	Diamond D Ranc	81.14	327	⇓P		P	04 29	07.8 +1.1
	baz=82,SNR=56							
D17A	Six Diamond Ra	81.14	331	⇓P		P	04 29	07.0 +0.5
	baz=82,SNR=69							
HRY	Holter Researc	81.32	330	*e*P		P	04 29	08.6 +1.1
A20A	Cobblestone Ra	81.33	334	⇑P		P	04 29	07.7 +0.4
	baz=82,SNR=34							
MAW	Mawson	81.37	163	P		P	04 29	08.4 +1.1
MAW	Mawson	81.37	163	P		P	04 29	08.4 +1.1
	comp=Z,37nm,0.9s,baz=227,slow=6.3,SNR=41							
B19A	Brinkman Farms	81.41	333	⇑P		P	04 29	08.2 +0.4
	baz=82,SNR=16							
EGMT	Eagleton	81.42	332	*e*P		P	04 29	07.8 -0.1
	comp=Z,73nm,1.2s							
EGMT	Eagleton	81.42	332	⇑P		P	04 29	08.0 +0.2
	baz=82,SNR=18							
C17A	Wharram Farm,	81.55	332	⇓P		P	04 29	08.8 +0.2
	baz=82,SNR=27							
A19A	Klindworth Far	81.70	334	⇓P		P	04 29	09.5 +0.1
	baz=82,SNR=13							
B18A	Beardsley Farm	81.71	333	⇑P		P	04 29	09.8 +0.4
	baz=82,SNR=31							
G12A	Big Creek, Yel	81.79	328	⇑P		P	04 29	10.7 +0.7
	baz=82							
B17A	L&G Farms, Che	82.07	332	⇓P		P	04 29	11.4 +0.2
	baz=82,SNR=17							
C16A	Fuhringer Ranc	82.10	331	⇓P		P	04 29	11.9 +0.4
	baz=82,SNR=25							
CHMT	Chamberlain Mo	82.12	330	*e*P		P	04 29	12.3 +0.6
A18A	Metzger Ranch,	82.15	333	⇓P		P	04 29	11.6 0.0
	baz=82,SNR=28							
LBTB	Lobatse	82.19	114	*e*P		P	04 29	11.9 -0.7
	comp=Z,13nm,0.6s							
PBDV	Barranco-do-Ve	82.30	44	*e*P		P	04 29	13.9 +1.2
	comp=Z,63nm,1.3s							
C15A	Salmond Ranch,	82.47	331	⇓P		P	04 29	14.2 +0.8
	baz=83,SNR=71							
PNCL	Nicolau / Gran	82.47	43	*e*P		P	04 29	14.5 +1.1
	comp=Z,38nm,1.8s							
SLMT	Seeley Lake	82.47	330	*e*P		P	04 29	14.1 +0.6
PCVE	Castro Verde	82.47	43	*e*P		P	04 29	14.8

TAM	**Tamanrasset**	**84.21**	**62**	*e*P		**P**	**04 29 23.4**	**+0.5**
	comp=Z,12nm,0.8s							
TAM				*ep*P		**pP**	**04 30 15.1**	**+2.4**
PTO	**Porto**	**84.30**	**40**	*e*P		**P**	**04 29 24.2**	**+1.5**
	comp=Z,62nm,1.9s							
B12A	**Libby**	**84.33**	**330**	⇓P		**P**	**04 29 23.5**	**+0.7**
	baz=85,SNR=8.6							
MTE	**Manteigas**	**84.48**	**41**	*e*P		**P**	**04 29 24.2**	**+0.5**
	comp=Z,39nm,1.3s							
REDWA	**Red Mountain**	**84.67**	**326**	P		**P**	**04 29 25.6**	**+1.1**
A12A	**Yaak River Ran**	**84.69**	**330**	⇑P		**P**	**04 29 25.1**	**+0.5**
	baz=85,SNR=12							
HAWA	**Hanford**	**84.78**	**326**	*e*P		**P**	**04 29 25.9**	**+0.9**
	comp=Z,59nm,1.3s							
BROR	**Big Rock Looko**	**84.89**	**323**	P		**P**	**04 29 25.8**	**+0.2**
NEW	**Newport**	**84.90**	**329**	*e*P		**P**	**04 29 25.2**	**-0.4**
	comp=Z,22nm,1.4s							
NEW	**Newport**	**84.90**	**329**	⇑P		**P**	**04 29 25.2**	**-0.4**
	baz=85,SNR=13							
PVRL	**Vila Real**	**84.91**	**40**	*e*P		**P**	**04 29 26.8**	**+1.0**
	comp=Z,36nm,1.2s							
POLO	**Lamas de Olo**	**84.93**	**40**	*e*P		**P**	**04 29 27.2**	**+1.2**
	comp=Z,18nm,1.7s							
PCAB	**Cabril**	**85.00**	**40**	*e*P		**P**	**04 29 26.9**	**+0.7**
	comp=Z,24nm,1.6s							
OD2	**Odessa Site #2**	**85.05**	**328**	P		**P**	**04 29 26.9**	**+0.5**
C09A	**Chrisman Ranch**	**85.12**	**328**	P		**P**	**04 29 27.3**	**+0.6**
TRW	**Toppenish Ridg**	**85.22**	**326**	P		**P**	**04 29 28.5**	**+1.2**
MVO	**Moncorvo**	**85.25**	**41**	*e*P		**P**	**04 29 28.6**	**+1.0**
	comp=Z,42nm,2.1s							
PBRG	**Braganca**	**85.81**	**40**	*e*P		**P**	**04 29 31.1**	**+0.8**
	comp=Z,22nm,1.8s							
TBM	**Table Mountain**	**85.84**	**326**	P		**P**	**04 29 31.4**	**+1.1**
WTV	**Waterville**	**85.88**	**327**	P		**P**	**04 29 31.1**	**+0.7**
PAB	**San Pablo**	**85.94**	**43**	*e*P		**P**	**04 29 31.9**	**+0.9**
PAB				pmax	pmax			
	comp=Z,33nm,1.2s							
PAB	**San Pablo**	**85.94**	**43**	*e*P		**P**	**04 29 31.9**	**+0.9**
	comp=Z,33nm,1.2s							
ETW	**Entiat**	**86.00**	**327**	P		**P**	**04 29 31.6**	**+0.4**
ESDC	**Sonseca Array**	**86.25**	**43**	P		**P**	**04 29 33.8**	**+1.3**
ESDC				pP		**pP**	**04 30 23.9**	**+1.4**
ESDC	**Sonseca Array**	**86.25**	**43**	P		**P**	**04 29 33.8**	**+1.3**
	comp=Z,4.7nm,0.7s,baz=238,slow=4.9,SNR=34							
ESDC				pP		**pP**	**04 30 24.0**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=239,slow=4.8,SNR=2.3							
CMW	**Cultus Mountai**	**87.44**	**327**	P		**P**	**04 29 38.0**	**-0.1**
VDB	**Vedder Mountai**	**87.83**	**327**	P		**P**	**04 29 39.8**	**0.0**
LSZ	**Lusaka**	**88.30**	**106**	*e*P		**P**	**04 29 44.0**	**+1.0**
	comp=Z,27nm,1.0s							
LSZ				*ep*P		**pP**	**04 30 35.3**	**+2.0**
SJPF	**Ste Jean**	**89.90**	**42**	*e*P		**P**	**04 29 50.7**	**+1.1**
	comp=Z,23nm,1.0s							
ETSF	**Etsaut**	**90.19**	**42**	*e*P		**P**	**04 29 52.1**	**+1.1**
	comp=Z,24nm,1.0s							
EPF	**Esparros**	**90.81**	**42**	*e*P		**P**	**04 29 54.7**	**+0.8**
	comp=Z,6.2nm,0.7s							
MTLF	**Montolieu**	**92.14**	**43**	*e*P		**P**	**04 30 00.2**	**+0.2**
MFF	**Saint Martin d**	**92.45**	**39**	*e*P		**P**	**04 30 01.6**	**+0.3**
	comp=Z,45nm,1.1s							
CAF	**Calviac**	**92.87**	**42**	*e*P		**P**	**04 30 03.8**	**+0.4**
GRR	**Gorron**	**93.02**	**38**	*e*P		**P**	**04 30 03.5**	**-0.4**
KEST	**Kesra**	**93.24**	**52**	*e*P		**P**	**04 30 06.3**	**+0.9**
KEST	**Kesra**	**93.24**	**52**	P		**P**	**04 30 05.9**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=269,slow=3.0,SNR=8.4							
LDF	**La Druitiere**	**93.54**	**38**	*e*P		**P**	**04 30 05.9**	**-0.4**
	comp=Z,6.9nm,0.7s							
YKA	**Yellowknife Ar**	**94.20**	**340**	P		**P**	**04 30 08.9**	**-0.1**
YKA				pP		**pP**	**04 31 02.5**	**+3.0**
YKA	**Yellowknife Ar**	**94.20**	**340**	P		**P**	**04 30 08.9**	**-0.1**
	comp=Z,7.0nm,0.7s,baz=136,slow=4.7,SNR=37							
YKA				pP		**pP**	**04 31 02.5**	**+3.0**
	comp=Z,3.1nm,0.8s,baz=133,slow=4.8,SNR=4.4							
SMF	**Signal de Mont**	**94.82**	**41**	*e*P		**P**	**04 30 12.4**	**+0.2**
LOR	**Lormes**	**95.14**	**40**	*e*P		**P**	**04 30 13.3**	**-0.4**
ORIF	**Oris-en-Rattie**	**95.21**	**43**	*e*P		**P**	**04 30 15.2**	**+1.0**
MBDF	**Montbardon**	**95.68**	**43**	*e*P		**P**	**04 30 17.3**	**+0.9**
	comp=Z,16nm,1.0s							
LPG	**La Plagne**	**96.03**	**43**	*e*P		**P**	**04 30 19.2**	**+1.1**
CDF	**Champ du Feu**	**97.71**	**40**	*e*P		**P**	**04 30 25.3**	**-0.1**
	comp=Z,7.5nm,1.0s							
AQU	**L'Aquila**	**98.96**	**48**	*e*P		**P**	**04 30 30.8**	**-0.3**
GERES	**GERESS Array B**	**101.75**	**42**	PKKPbc	PKKPbc		04 46 49.7	-0.6
GERES	**GERESS Array B**	**101.75**	**42**	PKKPbc	PKKPbc		04 46 49.7	-0.6
	comp=Z,0.5nm,0.8s,baz=40,slow=2.3,SNR=4.2							
ILAR	**Eielson Array**	**107.35**	**334**	PP	PP		04 35 25.3	-13
ILAR	**Eielson Array**	**107.35**	**334**	PP	PP		04 35 25.3	-13
	comp=Z,0.5nm,0.9s,baz=109,slow=5.5,SNR=4.8							
KIEV	**Kiev**	**111.88**	**43**	*e*PKIKP		**PKiKP**	**04 35 23.5**	**-0.7**
KIEV	**Kiev**	**111.88**	**43**	*e*PKP		**PKiKP**	**04 35 23.5**	**-0.7**
FINES	**FINESS Array B**	**112.12**	**31**	PKKPbc	PKKPbc		04 46 14.9	-3.3
FINES	**FINESS Array B**	**112.12**	**31**	PKKPbc	PKKPbc		04 46 14.9	-3.3
	comp=Z,0.8nm,0.9s,baz=92,slow=5.7,SNR=7.6							
BRTR	**Keskin Array B**	**112.64**	**55**	PKiKP		**PKiKP**	**04 35 26.4**	**+0.2**
BRTR				PKKPbc		**PKKPab**	**04 46 22.3**	**-0.5**
BRTR	**Keskin Array B**	**112.64**	**55**	PKiKP		**PKiKP**	**04 35 26.4**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=166,slow=1.0,SNR=3.6							
BRTR				PKKPbc		**PKKPab**	**04 46 22.3**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=84,slow=5.1,SNR=4.6							
ARCES	**ARCESS Array B**	**113.04**	**22**	PKKPbc	PKKPbc		04 46 13.4	-1.9
ARCES	**ARCESS Array B**	**113.04**	**22**	PKKPbc	PKKPbc		04 46 13.4	-1.9
	comp=Z,1.9nm,0.8s,baz=83,slow=3.8,SNR=6.1							
ANN	**Anapa**	**116.34**	**50**	*i* PKIKP		**PKPdf**	**04 35 33.5**	**+0.6**
ANN				*e*			04 36 45.0	
ANN				*e*PPP		PPP	04 39 14.6	
ANN				*e*SS		SS	04 52 40.6	+10
ANN				pmax	pmax			
	comp=Z,30nm,1.3s							
OBN	**Obninsk**	**116.89**	**39**	⇑*i* PKIKP		**PKPdf**	**04 35 33.5**	**-0.1**
OBN				*e*			04 36 43.3	
OBN				*e*			04 42 24.3	
OBN				*e*PS		**PKKPdf**	**04 46 27.7**	**-0.5**
OBN				*e*SS		SS	04 52 38.4	+1.3
OBN				pmax	pmax			
	comp=Z,26nm,1.7s							
KIV	**Kislovodsk**	**119.98**	**52**	⇑*i* PKIKP		**PKPdf**	**04 35 40.5**	**+0.4**
KIV				*e*			04 42 20.2	
KIV				*e*			04 42 32.0	
KIV				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KBZ	**Khabaz**	**120.11**	**52**	PKIKP		**PKPdf**	**04 35 41.0**	**+0.8**
KBZ	**Khabaz**	**120.11**	**52**	PKP		**PKPdf**	**04 35 41.0**	**+0.8**
KBZ	**Khabaz**	**120.11**	**52**	PKP		**PKPdf**	**04 35 41.0**	**+0.8**
	comp=Z,4.4nm,0.9s,baz=227,slow=3.8,SNR=8.4							
GNI	**Garni**	**121.12**	**56**	*e*PKPdf		**PKPdf**	**04 35 42.7**	**+0.1**
CTAO	**Charters Tower**	**125.64**	**219**	*e*PKIKP		**PKPdf**	**04 35 51.9**	**+0.2**
CTAO	**Charters Tower**	**125.64**	**219**	*e*PKPdf		**PKPdf**	**04 35 51.9**	**+0.2**
ASAR	**Alice Springs**	**128.54**	**204**	PKP		**PKPdf**	**04 35 56.7**	**-0.5**
ASAR				SKPbc	SKiKP		04 38 57.5	-17
ASAR	**Alice Springs**	**128.54**	**204**	PKP		**PKPdf**	**04 35 56.7**	**-0.5**
	comp=Z,8.7nm,0.8s,baz=150,slow=2.2,SNR=64							
ASAR				SKPbc	SKiKP		04 38 57.5	-17
	comp=Z,0.6nm,0.5s,baz=148,slow=3.4,SNR=6.8							
ARU	**Arti**	**129.06**	**36**	*i* PKIKP		**PKPdf**	**04 35 58.0**	**+1.0**
ARU							04 38 07.6	
AB31	**Akbulak array**	**131.59**	**45**	*c i* PKIKP		**PKPdf**	**04 36 02.7**	**+0.7**
AB31				pmax	pmax			
	comp=Z,4.0nm,0.5s							
ABKAR	**Akbulak array**	**131.59**	**45**	*e*PKPdf		**PKPdf**	**04 36 02.3**	**+0.3**
WRA	**Warramunga Arr**	**131.72**	**207**	PKP		**PKPdf**	**04 36 03.0**	**-0.2**
WRA				SKPbc		**SKPbc**	**04 39 09.6**	**-0.2**
WRA	**Warramunga Arr**	**131.72**	**207**	PKP		**PKPdf**	**04 36 03.0**	**-0.2**
	comp=Z,3.9nm,0.4s,baz=155,slow=2.0,SNR=6.6							
WRA				SKPbc		**SKPbc**	**04 39 09.6**	**-0.2**
	comp=Z,11nm,1.1s,baz=152,slow=3.5,SNR=17							
WRAB	**Tennant Creek**	**131.72**	**207**	*e*PKIKP		**PKPdf**	**04 36 02.9**	**-0.3**
WRAB	**Tennant Creek**	**131.72**	**207**	*e*PKPdf		**PKPdf**	**04 36 02.9**	**-0.3**
PETK	**Petropavlovsk-**	**135.74**	**323**	PKIKP		**PKPdf**	**04 36 10.5**	**+0.8**
PETK	**Petropavlovsk-**	**135.74**	**323**	PKP		**PKPdf**	**04 36 10.5**	**+0.8**
PETK				SKPbc		**SKPbc**	**04 39 22.6**	**+0.7**
PETK	**Petropavlovsk-**	**135.74**	**323**	PKP		**PKPdf**	**04 36 10.5**	**+0.8**
	comp=Z,1.8nm,0.4s,baz=127,slow=6.5,SNR=8.7							
PETK				SKPbc		**SKPbc**	**04 39 22.6**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=104,slow=6.3,SNR=3.7							
FITZ	**Fitzroy Crossi**	**136.44**	**197**	PKP		**PKPdf**	**04 36 13.0**	**+0.9**
FITZ				SKPbc		**SKPbc**	**04 39 25.7**	**+0.5**
FITZ	**Fitzroy Crossi**	**136.44**	**197**	PKP		**PKPdf**	**04 36 13.0**	**+0.9**
	comp=Z,3.4nm,0.7s,baz=149,slow=5.9							
FITZ				SKPbc		**SKPbc**	**04 39 25.7**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=194,slow=7.7,SNR=3.6							
BRVK	**Borovoye**	**136.60**	**37**	*e*PKIKP		**PKPdf**	**04 36 12.2**	**+0.9**
BRVK	**Borovoye**	**136.60**	**37**	*e*PKPdf		**PKPdf**	**04 36 12.2**	**+0.9**
BVA0	**Borovoye Array**	**136.67**	**37**	*i* PKIKP		**PKPdf**	**04 36 11.8**	**+0.4**
BVA0				pmax	pmax			
	comp=Z,4.0nm,0.8s							
EKS2	**Erkin-Say**	**142.56**	**50**	*e*PKIKP		**PKPdf**	**04 36 22.4**	**-0.2**
EKS2	**Erkin-Say**	**142.56**	**50**	*e*PKPdf		**PKPdf**	**04 36 22.4**	**-0.2**
AAK	**Ala-Archa**	**143.07**	**50**	*c i* PKIKP		PKPbc	04 36 21.8	+0.7
AAK	**Ala-Archa**	**143.07**	**50**	*e*PKPdf		PKPbc	04 36 21.4	+0.3
ZALV	**Zalesovo Beam**	**143.30**	**28**	PKIKP		PKPbc	04 36 21.5	+0.4
ZALV	**Zalesovo Beam**	**143.30**	**28**	PKP		PKPbc	04 36 21.4	+0.4
ZALV	**Zalesovo Beam**	**143.30**	**28**	PKP		PKPbc	04 36 21.4	+0.4
	comp=Z,17nm,0.6s,baz=299,slow=4.5,SNR=59							
TKM2	**Tokmak 2**	**143.75**	**49**	*e*PKIKP		PKPbc	04 36 23.5	+0.5
TKM2	**Tokmak 2**	**143.75**	**49**	*e*PKPdf		PKPbc	04 36 23.5	+0.5
CLNS	**Chul'man**	**146.12**	**349**	*e*PKP2		**PKPdf**	**04 36 29.0**	**+0.8**
CLNS				pmax	pmax			
	comp=Z,24nm,1.0s							
CLNS				pmax	pmax			
	comp=N,11nm,1.0s							
CLNS				pmax	pmax			
	comp=E,7.0nm,1.1s							
MK31	**Makanchi Array**	**146.39**	**40**	PKIKP		**PKPdf**	**04 36 29.5**	**+0.5**
MK31				pmax	pmax			
	comp=Z,26nm,0.6s							
MK31	**Makanchi Array**	**146.39**	**40**	*e*PKPbc		**PKPdf**	**04 36 29.4**	**+0.3**
MKAR	**Makanchi Array**	**146.39**	**40**	PKP2		**PKPdf**	**04 36 29.6**	**+0.6**
MKAR	**Makanchi Array**	**146.39**	**40**	PKPbc		**PKPdf**	**04 36 29.6**	**+0.6**
MKAR				pPKPbc		pPKPbc	04 37 24.3	+1.5
MKAR	**Makanchi Array**	**146.39**	**40**	PKPbc		**PKPdf**	**04 36 29.6**	**+0.6**
	comp=Z,28nm,0.6s,baz=314,slow=1.8,SNR=125							
MKAR				pPKPbc		pPKPbc	04 37 24.3	+1.5
	comp=Z,6.7nm,0.8s,baz=297,slow=3.7,SNR=3.1							
HYB	**Hyderabad**	**146.97**	**95**	*i* PKP		**PKPbc**	**04 36 33.0**	**-0.1**
YSS	**Yuzh-Sakhalins**	**147.12**	**322**	⇑*e*PKP2		**PKPbc**	**04 36 32.1**	**-0.5**
YSS				pmax	pmax			
	comp=Z,30nm,1.0s							
NDI	**New Delhi**	**147.47**	**74**	*e*P		**PKPdf**	**04 36 30.0**	**-1.3**
GUMO	**Guam**	**148.38**	**257**	*e*PKPbc		**PKPbc**	**04 36 35.6**	**-1.3**
ASAJ	**Asahikawa**	**148.72**	**317**	*e*PKPbc		**PKPbc**	**04 36 37.0**	**+0.1**
ASAJ				*e*PKPab		**PKPab**	**04 36 41.8**	**+0.5**
HVS	**Khovu-Aksy**	**149.00**	**24**	*e*PKIKP		**PKPdf**	**04 36 33.2**	**-0.1**
HVS				*i*			04 36 37.7	
ERM	**Erimo**	**149.36**	**313**	*ce*PKIKP		**PKPdf**	**04 36 32.0**	**-2.0**
ERM				pmax	pmax			
	comp=Z,63nm,1.2s							
HABR	**Khabarovsk**	**150.10**	**330**	*de*PKIKP		**PKPdf**	**04 36 34.1**	**-0.8**
HABR				*e*			04 36 47.1	
HABR							04 37 31.1	
HABR				pmax	pmax			
	comp=Z,79nm,1.2s							
HABR				pmax	pmax			
	comp=N,21nm,1.6s							
HABR				pmax	pmax			
	comp=E,37nm,2.0s							
KAPI	**Kappang**	**150.47**	**193**	*e*PKPbc		**PKPbc**	**04 36 41.0**	**-1.1**
KAPI				*e*PKPab		**PKPab**	**04 36 48.6**	**-0.6**
KAPI	**Kappang**	**150.47**	**193**	PKPbc		**PKPbc**	**04 36 41.7**	**-0.4**
	comp=E,12nm,0.4s,baz=184,slow=1.5,SNR=8.4							
MOY	**Mondy**	**150.82**	**16**	*e*PKIKP		**PKPbc**	**04 36 43.3**	**+1.4**
MOY				pmax	pmax			
	comp=Z,72nm,1.7s							
KLR	**Kul'dur**	**150.92**	**335**	*e*PKIKP		**PKPdf**	**04 36 33.0**	**-3.2**
KLR				*e*			04 36 38.0	
KLR				pmax	pmax			
	comp=Z,140nm,1.8s							
IRK	**Irkutsk**	**150.98**	**11**	*e*PKIKP		**PKPdf**	**04 36 36.4**	**+0.2**
IRK				pmax	pmax			
	comp=Z,57nm,1.5s							
WMQ	**Urumqi**	**151.21**	**40**	PKPbc		**PKPdf**	**04 36 37.6**	**+0.7**
ZAK	**Zakamensk**	**152.55**	**14**	*e*PKIKP		**PKPdf**	**04 36 39.4**	**+0.6**
ZAK				*e*			04 37 32.8	
ZAK				*e*			04 40 29.5	
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.4s							
USRK	**Ussuriysk Arra**	**154.67**	**327**	PKP		**PKPdf**	**04 36 42.2**	**+0.4**
	comp=Z,3.0nm,1.0s,baz=342,slow=2.4,SNR=8.7							
USRK				PKPbc		**PKPbc**	**04 36 50.8**	**+0.3**
	comp=Z,3.7nm,0.9s,baz=29,slow=4.4,SNR=8.3							
USRK				PKPab		**PKPab**	**04 37 04.8**	**-1.3**
	comp=Z,2.7nm,1.0s,baz=50,slow=6.0,SNR=5.5							
MJAR	**Matsushiro Arr**	**155.15**	**306**	PKPbc		PKPdf	04 36 51.9	+9.1
MJAR				PKPab		**PKPab**	**04 37 08.7**	**+0.1**
MJAR	**Matsushiro Arr**	**155.15**	**306**	PKPbc		PKPdf	04 36 51.9	+9.1
	comp=Z,1.9nm,0.5s,baz=138,slow=0.5,SNR=8.1							
MJAR				PKPab		**PKPab**	**04 37 08.7**	**+0.1**
	comp=Z,12nm,1.0s,baz=66,slow=2.1,SNR=17							
MAJO	**Matsushiro**	**155.15**	**306**	*e*PKIKP		**PKPdf**	**04 36 43.4**	**+0.6**
MAJO				*e*			04 37 09.1	
MAJO	**Matsushiro**	**155.15**	**306**	*e*PKPdf		**PKPdf**	**04 36 43.4**	**+0.6**
MAJO				*e*PKPab		**PKPab**	**04 37 09.1**	**+0.5**
MDJ	**Mudanjiang**	**155.48**	**331**	PKP		**PKPdf**	**04 36 42.5**	**-0.4**
SONM	**Songino Array**	**155.60**	**11**	PKP		**PKPdf**	**04 36 44.3**	**+1.1**
SONM				PKPab		**PKPab**	**04 37 11.4**	**+1.2**
SONM	**Songino Array**	**155.60**	**11**	PKP		**PKPdf**	**04 36 44.3**	**+1.1**
	comp=Z,2.8nm,0.9s,baz=290,slow=0.6,SNR=18							
SONM				PKPab		**PKPab**	**04 37 11.4**	**+1.2**
	comp=Z,4.5nm,0.7s,baz=321,slow=4.6,SNR=14							
ULN	**Ulaanbaatar**	**155.68**	**10**	*e*PKPdf		**PKPdf**	**04 36 44.4**	**+1.1**
ULN				*e*PKPab		**PKPab**	**04 37 11.2**	**+0.7**
CN2	**Changchun**	**157.85**	**336**	*e*PKP		**PKPdf**	**04 36 46.9**	**+0.9**
GTA	**Gaotai**	**160.90**	**33**	PKP		**PKPdf**	**04 36 51.0**	**+1.2**
GTA				pPKP		**PKPab**	**04 37 33.6**	**+0.2**
GTA				PKPab		PKPab	04 37 36.4	+3.0
GTA				PP		**PP**	**04 41 20.4**	**+4.0**
GTA				SKKS			04 47 50.9	
GTA				AMB	AMB			
	comp=Z,88nm,5.2s							
GTA				LR	LR			
	comp=N,94nm,17.3s							
GTA				LR	LR			
	comp=E,140nm,17.8s							
GTA				LR	LR			
	comp=Z,76nm,18.3s							
KSRS	**Korea Array**	**161.62**	**320**	PKP		**PKPdf**	**04 36 50.8**	**+0.3**
	comp=Z,3.7nm,1.0s,baz=57,slow=1.5,SNR=10							
KSRS				PKPab		**PKPab**	**04 37 37.0**	**+0.6**
	comp=Z,3.2nm,1.0s,baz=43,slow=4.3,SNR=6.1							
KSAR	**Wonju Array Be**	**161.65**	**320**	PKP		**PKPdf**	**04 36 50.8**	**+0.3**
KSAR				PKPab		**PKPab**	**04 37 37.0**	**+0.4**
HHC	**Hu-ho-hao-te**	**163.14**	**4**	*e*PKP		**PKPdf**	**04 36 52.3**	**+0.3**
HHC				pPKP		PKPab	04 37 37.0	-6.1
HHC				sPKP			04 37 53.6	
HHC				PKS		**PKSdf**	**04 40 24.6**	**-0.5**
HHC				SKS		**SKSdf**	**04 43 39.8**	**+2.5**
HHC				SKKS		**SKKSac**	**04 48 02.5**	**+6.1**
HHC				SS		**SS**	**05 01 35.9**	**+1.0**
HHC				AMB	AMB			
	comp=Z,130nm,10.1s							
BJI	**Beijing**	**163.82**	**352**	PKP		**PKPdf**	**04 36 51.3**	**-1.2**
LZH	**Lanzhou**	**165.48**	**32**	*e*PKP		**PKPdf**	**04 36 54.3**	**0.0**
LZH				LR	LR			
	comp=N,110nm,18.0s							
LZH				LR	LR			
	comp=E,110nm,16.8s							
LZH				LR	LR			
	comp=Z,140nm,19.6s							
CMAR	**Chiang Mai Arr**	**165.58**	**110**	PKP		**PKPdf**	**04 36 55.4**	**+0.7**
CMAR				PKPab		**PKPab**	**04 37 54.5**	**0.0**
CMAR	**Chiang Mai Arr**	**165.58**	**110**	PKP		**PKPdf**	**04 36 55.4**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=272,slow=1.1,SNR=9.9							
CMAR				PKPab		**PKPab**	**04 37 54.5**	**0.0**
	comp=Z,4.7nm,0.7s,baz=254,slow=5.1,SNR=16							
CHTO	**Chiang Mai**	**165.73**	**108**	*e*PKIKP		**PKPdf**	**04 36 54.9**	**+0.1**
CHTO				*e*			04 37 54.2	
CHTO	**Chiang Mai**	**165.73**	**108**	*e*PKPdf		**PKPdf**	**04 36 54.9**	**+0.1**
CHTO				*e*PKPab		**PKPab**	**04 37 54.2**	**-1.0**
CD2	**Chengdu**	**169.13**	**49**	*e*PKP		**PKPdf**	**04 36 55.3**	**-1.7**
CD2				pPKP		pPKPdf	04 37 42.8	-7.5
CD2				sPKP			04 38 01.5	
CD2				PKPab		**PKPab**	**04 38 08.9**	**-1.0**
CD2				PP		**PP**	**04 41 59.8**	**+0.1**
CD2				SKS		**SKSdf**	**04 43 38.5**	**-2.9**
CD2				SKKS		**SKKSac**	**04 48 25.9**	**-1.1**
CD2				SS		**SS**	**05 02 34.6**	**-3.0**
CD2				AMB	AMB			
	comp=Z,120nm,10.2s							
CD2				LR	LR			
	comp=E,180nm,24.2s							
CD2				LR	LR			
	comp=Z,150nm,26.2s							
KMI	**Kunming**	**170.38**	**81**	PKP		**PKPdf**	**04 36 58.0**	**-0.1**
WHN	**Wuhan**	**173.41**	**352**	*e*PKP		**PKPdf**	**04 36 59.8**	**+0.8**
GYA	**Guiyang**	**173.57**	**66**	*e*PKP		**PKPdf**	**04 36 59.6**	**+0.2**
GYA				pPKP		**pPKPdf**	**04 37 46.4**	**-6.3**
GYA				sPKP			04 38 04.0	
GYA				PKPab		**PKPab**	**04 38 28.6**	**-1.3**
GYA				PKS		**PKSdf**	**04 40 28.3**	**-3.5**
GYA				PP		**PP**	**04 42 21.1**	**-1.2**
GYA				AMB	AMB			
	comp=Z,120nm,8.0s							

IDC 25 04:39:19.4±3.7, 6.40S×128.47E, h360km±37km, mb3.1/1, mb1 3.5/5, mb1mx3.1/21, mbtmp3.4/5, Error ellipse: s-maj=48.8km s-min=14.1km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.08**	**231**	P	Pn	04 40 52.2	+0.7
	6.4nm,0.3s,baz=337,slow=3.2,SNR=3.2						
BATI				S	S	04 42 05.0	-1.3
	12nm,0.3s,baz=281,slow=22,SNR=7.3						
FITZ	**Fitzroy Crossi**	**11.96**	**193**	P	Pn	04 42 00.6	0.0
	0.3nm,0.3s,baz=17,slow=5.5,SNR=7.1						
WRA	**Warramunga Arr**	**14.62**	**158**	P	P	04 42 29.9	+0.3
	1.7nm,0.3s,baz=340,slow=11,SNR=123						
WRA				S	S	04 45 05.0	-2.2
	0.2nm,0.3s,baz=333,slow=20,SNR=6.2						
ASAR	**Alice Springs**	**17.95**	**164**	P	P	04 43 06.2	+0.7
	3.0nm,0.3s,baz=345,slow=11,SNR=215						
ASAR				S	S	04 46 13.2	+0.4
	0.3nm,0.3s,baz=343,slow=22,SNR=11						
MKAR	**Makanchi Array**	**66.90**	**327**	P	P	04 49 33.8	-0.2
	0.7nm,0.6s,baz=136,slow=7.3,SNR=7.9						

IDC 25 04:48:24.8±1.9, 3.91S×150.47E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/19, mbtmp3.6/4, MS3.1/1, Ms1 3.6/1, ms1mx2.8/31, Error ellipse: s-maj=109.3km s-min=26.4km az=126.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.39**	**223**	P	P	04 53 24.6	-0.5
	1.1nm,0.9s,baz=48,slow=9.5,SNR=6.9						
ASAR	**Alice Springs**	**25.33**	**218**	P	P	04 53 53.8	+0.1
	0.5nm,0.7s,baz=47,slow=8.0,SNR=8.6						
FITZ	**Fitzroy Crossi**	**28.10**	**238**	P	P	04 54 18.8	+0.2
	1.7nm,0.6s,baz=57,slow=7.7,SNR=5.5						
KSRS	**Korea Array**	**46.19**	**335**	LR	LR	05 12 38.2	
	comp=Z,71nm,21.6s,baz=302,slow=32						
ILAR	**Eielson Array**	**82.22**	**23**	P	P	05 00 47.7	+0.1
	0.5nm,0.7s,baz=238,slow=7.1,SNR=6.2						
TORD	**Torodi Ar. Bea**	**147.82**	**289**	PKPbc	PKPbc	05 08 12.1	-0.8
	0.4nm,0.8s,baz=73,slow=2.6,SNR=2.9						

**WEL 25 04:58:51.0±0.4, 36.97S×176.58E, h293km±3km, ML3.7/10, 1C,

FITZ	**Fitzroy Crossi**	**27.86 237**	P	**P**	**05 27 37.9**	**+1.2**
	11nm,0.8s,baz=76,slow=9.1,SNR=14						
FITZ			LR	LR	05 39 36.6		
	comp=Z,122nm,19.9s,baz=191,slow=38						
STKA	**Stephens Creek**	**29.08 195**	LR	LR	05 40 19.1		
	comp=Z,112nm,20.8s,baz=21,slow=38						
AFI	**Afiamalu**	**38.94 107**	LR	LR	05 42 38.9		
	comp=Z,55nm,21.9s,baz=357,slow=32						
RAO	**Raoul Island**	**39.52 133**	LR	LR	05 42 44.2		
	comp=Z,286nm,21.8s,baz=203,slow=32						
MJAR	**Matsushiro Arr**	**41.61 346**	LR	LR	05 43 41.7		
	comp=Z,69nm,21.0s,baz=175,slow=32						
NWAO	**Narrogin (SRO)**	**42.25 223**	LR	LR	05 48 21.1		
	comp=Z,151nm,20.5s,baz=176,slow=38						
URZ	**Urewera**	**42.26 148**	LR	LR	05 43 28.1		
	comp=Z,168nm,21.8s,baz=34,slow=31						
RPZ	**Rata Peaks**	**43.89 158**	LR	LR	05 45 12.6		
	comp=Z,262nm,21.0s,baz=10,slow=32						
KSRS	**Korea Array**	**45.90 335**	LR	LR	05 45 07.6		
	comp=Z,52nm,20.4s,baz=283,slow=31						
ASAJ	**Asahikawa**	**48.14 353**	*eP*	**P**	**05 30 26.9**	**+0.2**
	9.1nm,1.3s						
CMAR	**Chiang Mai Arr**	**55.00 296**	P	**P**	**05 31 18.6**	**0.0**
CMAR	**Chiang Mai Arr**	**55.00 296**	P	**P**	**05 31 18.6**	**0.0**
	1.0nm,0.4s,baz=114,slow=5.7,SNR=5.1						
CMAR			LR	LR	05 52 09.2		
	comp=Z,19nm,20.4s,baz=105,slow=33						
PETK	**Petropavlovsk-**	**57.03 5**	P	**P**	**05 31 32.6**	**+0.2**
PETK	**Petropavlovsk-**	**57.03 5**	P	**P**	**05 31 32.6**	**+0.2**
	2.0nm,0.5s,baz=198,slow=14,SNR=2.9						
SONM	**Songino Array**	**64.03 329**	P	**P**	**05 32 20.3**	**-0.3**
SONM	**Songino Array**	**64.03 329**	P	**P**	**05 32 20.3**	**-0.3**
	0.4nm,0.6s,baz=131,slow=4.5,SNR=3.5						
SONM			LR	LR	05 58 17.6		
	comp=Z,58nm,20.2s,baz=105,slow=34						
MKAR	**Makanchi Array**	**77.79 319**	P	**P**	**05 33 43.6**	**-0.3**
MKAR	**Makanchi Array**	**77.79 319**	P	**P**	**05 33 43.6**	**-0.3**
	0.8nm,1.1s,baz=111,slow=6.6,SNR=4.4						
MKAR			LR	LR	06 05 57.0		
	comp=Z,38nm,19.8s,baz=171,slow=34						
ZALV	**Zalesovo Beam**	**78.81 327**	LR	LR	06 07 33.9		
	comp=Z,39nm,18.8s,baz=71,slow=35						
ILAR	**Eielson Array**	**82.24 23**	P	**P**	**05 34 06.8**	**-0.8**
ILAR	**Eielson Array**	**82.24 23**	P	**P**	**05 34 06.8**	**-0.8**
	1.9nm,1.0s,baz=259,slow=4.7,SNR=14						
KKAR	**Karatay Array**	**84.97 314**	*eP*	**P**	**05 34 22.6**	**+0.6**
	5.0nm,1.2s						
YBH	**Yreka Blue Hor**	**90.39 48**	LR	LR	06 10 47.4		
	comp=Z,114nm,18.2s,baz=200,slow=33						
YKA	**Yellowknife Ar**	**95.78 28**	P	**P**	**05 35 13.2**	**+0.7**
YKA	**Yellowknife Ar**	**95.78 28**	P	**P**	**05 35 13.2**	**+0.7**
	1.0nm,0.8s,baz=274,slow=5.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**147.42 289**	PKPbc	**PKPbc**	**05 41 30.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**147.42 289**	PKPbc	**PKPbc**	**05 41 30.9**	**-0.6**
	4.5nm,0.8s,baz=82,slow=2.3,SNR=15						

IDC 25 05:30:14.6±2.1, 6.63S×129.59E, h0km, mb3.8/1, mb1 3.6/4, mb1mx3.5/20, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=88.0km s-min=26.9km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.04**	**198**	Pn		Pn		05 33 09.5	+1.8
	0.3nm,0.3s,baz=29,slow=14,SNR=26								
FITZ				Sn		Sn		05 35 08.6	-14
	0.3nm,0.3s,baz=149,slow=20,SNR=4.3								
WRA	**Warramunga Arr**	**14.02**	**161**	Pn		Pn		05 33 33.2	-1.5
	0.2nm,0.3s,baz=341,slow=14,SNR=20								
WRA				Sn		Sn		05 35 55.5	-16
	0.4nm,0.3s,baz=335,slow=21,SNR=8.8								
ASAR	**Alice Springs**	**17.44**	**167**	P		Pn		05 34 19.1	-0.5
	0.1nm,0.3s,baz=346,slow=9.3,SNR=11								
ASAR				S		Sn		05 37 20.0	-15
	0.1nm,0.3s,baz=321,slow=16,SNR=5.9								
MKAR	**Makanchi Array**	**67.69**	**327**	P		P		05 41 13.8	0.0
	0.5nm,0.4s,baz=127,slow=8.3,SNR=12								

*TRN **25** 05:33:18.9, 13.44N×59.85W, h54km, MD3.9, M3.5(FDF)*
*ISCJB **25** 05:33:19.4±0.7, 13.42N±0.02×59.96W±0.07, h95km±8km, Error ellipse: s-maj=11.1km s-min=3.8km az=4.6*
*FUNV **25** 05:33:20.5, 13.18N×59.51W, h72km, MW3.5*
ISC 25 05:33:19.7±1.6, 13.42N±0.03×59.9W±0.1, h80km±15km, n39, σ1°08/55, 2C-2D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MCLT	**Moule a Chique**	**1.07**	**286**	*eP*		**Pn**		**05 33 39.3**	**-0.4**
MCLT				*eS*		**Sn**		**05 33 54.0**	**-0.6**
SLW	**Petit Monier**	**1.19**	**300**	*eP*		**Pn**		**05 33 41.2**	**+0.1**
SLB	**Belfond**	**1.20**	**290**	*eP*		**Pn**		**05 33 42.0**	**+0.8**
SLB				*eS*		**Sn**		**05 33 57.6**	**+0.1**
BHS	**Barnard House**	**1.22**	**264**	*eP*		**Pn**		**05 33 41.4**	**-0.1**
BHS				*eS*		**Sn**		**05 33 58.4**	**+0.5**
SVB	**Belmont**	**1.35**	**264**	*eP*		**Pn**		**05 33 42.8**	**-0.3**
SVB				*eS*		**Sn**		**05 34 01.0**	**+0.3**
MVM	**Montagne Vaucl**	**1.50**	**319**	↑*eP*		**Pn**		**05 33 44.7**	**-0.3**
MVM				↑*eS*		**Sn**		**05 34 03.2**	**-1.0**
FDF	**Fort de France**	**1.80**	**317**	↓*eP*		**Pn**		**05 33 48.6**	**-0.3**
FDF				↓*eS*		**Sn**		**05 34 10.4**	**-0.8**
GRSS	**Sisters**	**2.03**	**237**	*eP*		**Pn**		**05 33 52.2**	**+0.3**
GRSS				*eS*		**Sn**		**05 34 17.1**	**+0.6**
GRHS	**Sauteurs**	**2.09**	**236**	*eP*		**Pn**		**05 33 53.2**	**+0.4**
GRHS				*eS*		**Sn**		**05 34 19.0**	**+0.8**
GRW	**Mount Saint Ca**	**2.15**	**234**	*eP*		**Pn**		**05 33 54.0**	**+0.3**
GRW				*eS*		**Sn**		**05 34 19.4**	**-0.1**
TOSP	**Speyside**	**2.21**	**197**	*eP*		**Pn**		**05 33 55.5**	**+1.1**
TOSP				*eS*		**Sn**		**05 34 20.5**	**-0.4**
TPR	**Prospect**	**2.39**	**202**	*eP*		**Pn**		**05 33 57.3**	**+0.4**
MGG	**Marie-Galante**	**2.85**	**331**	*eP*		**Pn**		**05 34 02.5**	**-0.5**
TBG	**Guadaloupe-3**	**2.96**	**325**	*eP*		**Pn**		**05 34 04.8**	**+0.3**
PHG	**Guadaloupe-2**	**3.09**	**327**	*eP*		**Pn**		**05 34 07.1**	**+0.7**
DOG	**Dongo Capester**	**3.09**	**327**	*eP*		**Pn**		**05 34 07.8**	**+1.5**
HMG	**Houelmont**	**3.10**	**326**	*eP*		**Pn**		**05 34 07.3**	**+0.9**
SCG	**Saint Claude**	**3.12**	**326**	*eP*		**Pn**		**05 34 07.2**	**+0.4**
TRN	**Trinidad (W)**	**3.13**	**209**	*eP*		**Pn**		**05 34 08.6**	**+1.7**
TRN				*eS*		**Sn**		**05 34 42.9**	**-0.4**
BCG	**Bois Riant Cap**	**3.14**	**328**	*eP*		**Pn**		**05 34 07.2**	**+0.2**
TBH	**Brigand Hill**	**3.14**	**202**	*eP*		**Pn**		**05 34 08.7**	**+1.7**
TBH				*eS*		**Sn**		**05 34 43.0**	**-0.6**
LZG	**Guadaloupe-1**	**3.27**	**326**	*eP*		**Pn**		**05 34 09.4**	**+0.7**
TCE	**Chacachacare**	**3.27**	**214**	*eP*		**Pn**		**05 34 10.3**	**+1.5**
SEG	**Port Louis**	**3.35**	**332**	*eP*		**Pn**		**05 34 10.0**	**+0.1**
TPP	**Pointe-a-Pierr**	**3.45**	**207**	*eP*		**Pn**		**05 34 12.3**	**+1.1**
GUIV	**Guiria**	**3.59**	**220**	*eP*		**Pn**		**05 34 13.3**	**+0.3**
GUIV				*eS*		**Sn**		**05 34 53.2**	**-1.1**
GUNV	**Guanoco**	**4.42**	**223**	*eP*		**Pn**		**05 34 24.3**	**0.0**
GUNV				*eS*		**Sn**		**05 35 12.7**	**-1.9**
SKI	**Saint Kitts**	**4.77**	**325**	*eP*		**Pn**		**05 34 30.1**	**+1.0**
SKI				*eS*		**Sn**		**05 35 22.9**	**-0.3**
ORIV	**Oritupano**	**5.54**	**219**	*eP*		**Pn**		**05 34 39.4**	**-0.3**
ORIV				*eS*		**Sn**		**05 35 37.9**	**-4.2**
RIOV	**Rio Grande**	**5.65**	**200**	*eP*		**Pn**		**05 34 39.4**	**-1.8**
RIOV				*eS*		Sn		05 35 37.1	-7.6
PCRV	**Puerto La Cruz**	**5.67**	**236**	*eP*		**Pn**		**05 34 42.3**	**+0.9**
GURV	**El Guri**	**6.45**	**210**	*eP*		**Pn**		**05 34 51.7**	**-0.4**
PRGV	**PARIAGUAN**	**6.58**	**226**	*eP*		**Pn**		**05 34 54.4**	**+0.5**
CUPV	**Cœpira**	**6.68**	**241**	*eP*		**Pn**		**05 34 56.6**	**+1.2**
CUPV				*eS*		**Sn**		**05 36 08.5**	**-1.6**
BIRV	**Birongo**	**6.91**	**246**	*eP*		**Pn**		**05 35 00.2**	**+1.9**
MERV	**Las Mercedes**	**7.54**	**237**	*eP*		**Pn**		**05 35 08.1**	**+1.1**
LUEV	**Luepa**	**7.69**	**192**	*eP*		**Pn**		05 35 05.7	-3.5
MAPV	**Macapo**	**9.13**	**248**	*eP*		**Pn**		**05 35 30.0**	**+1.3**
BAUV	**El Baul**	**9.16**	**242**	*eP*		**Pn**		**05 35 29.1**	**0.0**

IDC 25 05:41:48.0±2.6, 23.60S×179.96E, h522km±27km, mb3.5/13, mb1 3.7/14, mb1mx3.5/21, mbtmp3.5/14, Error ellipse: s-maj=26.0km s-min=18.1km az=151.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.81**	**189**	P		P		05 44 55.6	-0.2
	2.9nm,0.3s,baz=48,slow=3.2,SNR=17								
URZ				S		S		05 47 29.4	-1.3
	0.8nm,0.3s,baz=194,slow=20,SNR=9.9								
CTA	**Charters Tower**	**31.44**	**270**	P		P		05 47 27.4	+0.8
	18nm,0.4s,baz=96,slow=11,SNR=44								
PMG	**Port Moresby**	**34.37**	**289**	P		P		05 47 51.6	+0.1
	8.2nm,0.5s,baz=81,slow=8.5,SNR=4.0								
STKA	**Stephens Creek**	**34.80**	**248**	P		P		05 47 55.2	+0.2
	0.7nm,0.4s,baz=109,slow=20,SNR=3.6								
ASAR	**Alice Springs**	**42.05**	**260**	P		P		05 48 53.9	-0.1
	5.4nm,0.7s,baz=101,slow=7.1,SNR=54								
ASAR				ScP		ScP		05 53 38.6	+1.0
	1.5nm,0.7s,baz=109,slow=4.2,SNR=14								
WRA	**Warramunga Arr**	**42.39**	**266**	P		P		05 48 56.0	-0.8
	5.8nm,0.3s,baz=91,slow=8.4,SNR=126								
WRA				S		S		05 54 35.5	-4.9
	1.1nm,0.8s,baz=94,slow=13,SNR=4.8								
FITZ	**Fitzroy Crossi**	**50.82**	**265**	P		P		05 50 00.2	-0.3
	3.8nm,0.5s,baz=129,slow=5.5,SNR=26								
MJAR	**Matsushiro Arr**	**71.63**	**326**	P		P		05 52 16.0	-0.7
	2.3nm,0.7s,baz=172,slow=6.2,SNR=6.9								
KSRS	**Korea Array**	**78.00**	**320**	P		P		05 52 52.4	+0.1
	0.9nm,0.6s,baz=154,slow=9.8,SNR=4.4								
PETK	**Petropavlovsk-**	**78.80**	**347**	P		P		05 52 56.0	-0.3
	2.1nm,0.6s,baz=139,slow=7.1,SNR=6.4								
USRK	**Ussuriysk Arra**	**80.49**	**327**	P		P		05 53 06.0	+0.7
	3.1nm,0.9s,baz=131,slow=5.3,SNR=5.0								
CMAR	**Chiang Mai Arr**	**89.39**	**290**	P		P		05 53 50.7	+1.3
	0.7nm,0.3s,baz=101,slow=2.8,SNR=4.0								
TXAR	**Lajitas Array**	**90.31**	**58**	P		P		05 53 54.5	+0.9
	0.5nm,0.7s,baz=216,slow=7.0,SNR=9.3								
PDAR	**Pinedale Array**	**92.50**	**44**	P		P		05 54 04.1	+0.6
	0.2nm,0.6s,baz=243,slow=6.0,SNR=2.6								
MKAR	**Makanchi Array**	**111.93**	**313**	PKiKP		PKiKP		05 59 22.4	-1.2
	0.2nm,0.4s,baz=222,slow=2.1,SNR=3.9								
KURBB	**Kurchatov Arra**	**115.01**	**316**	PKP		PKPdf		05 59 27.5	-1.8
	0.1nm,0.3s,baz=107,slow=1.9,SNR=4.3								
BVAR	**Borovoye Array**	**120.19**	**319**	PKP		PKPdf		05 59 37.8	-1.4
	0.9nm,0.4s,baz=116,slow=3.4,SNR=3.7								
ARCES	**ARCESS Array B**	**131.59**	**348**	PKP		PKPdf		05 59 59.2	-1.3
	1.4nm,0.8s,baz=29,slow=2.8,SNR=5.4								
FINES	**FINESS Array B**	**138.16**	**342**	PKhKP		PKPpre		06 00 06.8	
	0.6nm,0.5s,baz=69,slow=4.6,SNR=4.9								
NOA	**NORSAR Array B**	**141.78**	**351**	PKhKP		PKPpre		06 00 14.5	
	0.8nm,0.6s,baz=16,slow=4.6,SNR=4.3								
BRTR	**Keskin Array B**	**147.37**	**308**	PKPbc		PKPbc		06 00 32.2	-1.1
	1.1nm,0.6s,baz=140,slow=4.2,SNR=4.7								

IDC 25 05:41:50.1±6.1, 0.70N×99.38E, h164km±28km, mb3.6/7, mb1 3.5/8, mb1mx3.3/27, mbtmp3.5/8, Error ellipse: s-maj=91.6km s-min=64.5km az=93.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.14**	**348**	P		Pn		05 42 27.1	-0.8
	2.4nm,0.3s,baz=150,slow=7.5,SNR=7.0								
PSI				S		Sn		05 42 55.3	-1.9
	1.4nm,0.3s,baz=52,slow=19,SNR=3.3								
SONM	**Songino Array**	**47.34**	**6**	P		P		05 50 07.5	0.0
	0.8nm,0.8s,baz=184,slow=11,SNR=4.3								
MKAR	**Makanchi Array**	**48.28**	**344**	P		P		05 50 15.0	+0.4
	1.0nm,0.3s,baz=158,slow=8.1,SNR=22								
KURBB	**Kurchatov Arra**	**52.80**	**343**	P		P		05 50 48.6	+0.2
	0.6nm,0.4s,baz=157,slow=6.3,SNR=8.1								
ZALV	**Zalesovo Beam**	**54.42**	**349**	P		P		05 50 59.9	-0.3
	2.5nm,0.5s,baz=180,slow=7.3,SNR=10								
BVAR	**Borovoye Array**	**57.45**	**340**	P		P		05 51 21.3	-0.4
	1.3nm,0.5s,baz=126,slow=9.9,SNR=7.6								
FINES	**FINESS Array B**	**81.45**	**332**	P		P		05 53 48.6	0.0
	0.4nm,0.4s,baz=107,slow=6.4,SNR=6.8								
ARCES	**ARCESS Array B**	**83.74**	**340**	P		P		05 54 00.1	-0.3
	1.1nm,0.6s,baz=103,slow=4.2,SNR=12								

IDC 25 05:51:54.6±6.4, 17.83S×178.40W, h658km±76km, mb2.8/5, mb1 3.0/5, mb1mx2.7/20, mbtmp2.8/5, Error ellipse: s-maj=100.3km s-min=38.7km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.67**	**241**	P		P		05 58 25.3	+0.1
	0.6nm,0.3s,baz=79,slow=10,SNR=3.3								
WRA	**Warramunga Arr**	**44.65**	**259**	P		P		05 59 11.6	-0.4
	0.7nm,0.4s,baz=95,slow=7.6,SNR=50								
WRA				PcP		PcP		06 00 39.4	-0.3
	0.1nm,0.3s,baz=90,slow=3.7,SNR=6.3								
ASAR	**Alice Springs**	**44.82**	**254**	P		P		05 59 13.3	+0.1
	2.1nm,0.6s,baz=90,slow=8.2,SNR=45								
ASAR				PcP		PcP		06 00 39.7	-0.6
	0.3nm,0.5s,baz=102,slow=3.8,SNR=5.7								
FITZ	**Fitzroy Crossi**	**53.05**	**260**	P		P		06 00 14.3	+0.8
	0.4nm,0.3s,baz=75,slow=12,SNR=3.7								
TXAR	**Lajitas Array**	**85.95**	**58**	P		P		06 03 28.0	+0.2
	0.2nm,0.6s,baz=193,slow=3.7,SNR=3.9								

*CSEM **25** 05:57:42.1, 45.49N×26.32E, h133km, MD4.1/2, After BUC*
BUC 25 05:57:42.1±1.0, 45.49N×26.32E, h133km±10km, MD4.1/2, 48C-18D, Error ellipse: s-maj=7.2km s-min=6.3km az=346.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.26**	**270**	↑*iP*		Pn		05 58 01.0	+0.3
MLR				*iS*		Sn		05 58 14.8	+0.1
MLR	**Muntele Rosu**	**0.26**	**270**	↑*iP*		Pn		05 58 01.0	+0.3
MLR	**Muntele Rosu**	**0.26**	**270**	↑*iP*		Pn		05 58 01.0	+0.3
MLR				*iS*		Sn		05 58 14.8	+0.1
ISR	**Istrita**	**0.41**	**157**	↓*iP*		Pn		05 58 01.8	+0.7
ISR				*iS*		Sn		05 58 16.5	+1.0
ISR	**Istrita**	**0.41**	**157**	↓*iP*		Pn		05 58 01.8	+0.7
ISR	**Istrita**	**0.41**	**157**	↓*iP*		Pn		05 58 01.8	+0.7
ISR				*iS*		Sn		05 58 16.5	+1.0
PLOR	**Plostina**	**0.43**	**33**	↑*iP*		Pn		05 58 01.3	+0.1
PLOR				*iS*		Sn		05 58 15.9	+0.2
PLOR	**Plostina**	**0.43**	**33**	↑*iP*		Pn		05 58 01.3	+0.1
PLOR	**Plostina**	**0.43**	**33**	↑*iP*		Pn		05 58 01.3	+0.1
PLOR				*iS*		Sn		05 58 15.9	+0.2
VRI	**Vrincioaia**	**0.47**	**37**	↑*iP*		Pn		05 58 01.7	+0.3
VRI				*iS*		Sn		05 58 15.8	-0.2
VRI	**Vrincioaia**	**0.47**	**37**	↑*iP*		Pn		05 58 01.7	+0.3
VRI	**Vrincioaia**	**0.47**	**37**	↑*iP*		Pn		05 58 01.7	+0.3
VRI				*iS*		Sn		05 58 15.8	-0.2
PETR	**Petresti**	**0.68**	**70**	↑*iP*		Pn		05 58 03.5	+0.9
PETR				*iS*		Sn		05 58 19.1	+1.0
PETR	**Petresti**	**0.68**	**70**	↑*iP*		Pn		05 58 03.5	+0.9
PETR	**Petresti**	**0.68**	**70**	↑*iP*		Pn		05 58 03.5	+0.9
PETR				*iS*		Sn		05 58 19.1	+1.0
DOPR	**Dopca**	**0.81**	**306**	↑*iP*		Pn		05 58 03.4	-0.2
DOPR				*iS*		Sn		05 58 19.1	-0.9
DOPR	**Dopca**	**0.81**	**306**	↑*iP*		Pn		05 58 03.4	-0.2
DOPR	**Dopca**	**0.81**	**306**	↑*iP*		Pn		05 58 03.4	-0.2
DOPR				*iS*		Sn		05 58 19.1	-0.9
SULR		**0.82**	**183**	↓*iP*		Pn		05 58 04.4	+0.7
SULR				*iS*		Sn		05 58 21.5	+1.5
SULR		**0.82**	**183**	↓*iP*		Pn		05 58 04.4	+0.7
SULR		**0.82**	**183**	↓*iP*		Pn		05 58 04.4	+0.7
SULR				*iS*		Sn		05 58 21.5	+1.5
VOIR		**0.90**	**267**	↑*iP*		Pn		05 58 04.3	-0.2
VOIR				*iS*		Sn		05 58 20.1	-1.3
VOIR		**0.90**	**267**	↑*iP*		Pn		05 58 04.3	-0.2
VOIR		**0.90**	**267**	↑*iP*		Pn		05 58 04.3	-0.2
VOIR				*iS*		Sn		05 58 20.1	-1.3
MTUR	**Matau**	**0.93**	**254**	↓*iP*		Pn		05 58 04.9	+0.2
MTUR	**Matau**	**0.93**	**254**	↓*iP*		Pn		05 58 04.9	+0.2
MTUR	**Matau**	**0.93**	**254**	↓*iP*		Pn		05 58 04.9	+0.2
TESR	**Tescani**	**1.04**	**13**	↑*iP*		Pn		05 58 05.6	-0.1
TESR				*iS*		Sn		05 58 22.5	-1.2
TESR	**Tescani**	**1.04**	**13**	↑*iP*		Pn		05 58 05.6	-0.1
TESR	**Tescani**	**1.04**	**13**	↑*iP*		Pn		05 58 05.6	-0.1
TESR				*iS*		Sn		05 58 22.5	-1.2
CIOR	**Ciorogarla**	**1.09**	**197**	↑*iP*		Pn		05 58 07.2	+1.1
CIOR				*iS*		Sn		05 58 24.8	+0.5
CIOR	**Ciorogarla**	**1.09**	**197**	↑*iP*		Pn		05 58 07.2	+1.1
CIOR	**Ciorogarla**	**1.09**	**197**	↑*iP*		Pn		05 58 07.2	+1.1
CIOR				*iS*		Sn		05 58 24.8	+0.5
AMRR	**Amara**	**1.14**	**140**	↑*iP*		Pn		05 58 07.5	+0.9
AMRR				*iS*		Sn		05 58 25.7	+0.6
AMRR	**Amara**	**1.14**	**140**	↑*iP*		Pn		05 58 07.5	+0.9
AMRR	**Amara**	**1.14**	**140**	↑*iP*		Pn		05 58 07.5	+0.9
AMRR				*iS*		Sn		05 58 25.7	+0.6
BUC1	**Bucharest**	**1.16**	**190**	*iS*		Sn		05 58 25.9	+0.3
BUC1	**Bucharest**	**1.16**	**190**	S		Sn		05 58 25.9	+0.3
BUC1	**Bucharest**	**1.16**	**190**	*iS*		Sn		05 58 25.9	+0.3
ARR	**Arges**	**1.20**	**265**	↓*iP*		Pn		05 58 07.9	+0.7
ARR				*iS*		Sn		05 58 25.3	-1.1
ARR	**Arges**	**1.20**	**265**	↓*iP*		Pn		05 58 07.9	+0.7
ARR	**Arges**	**1.20**	**265**	↓*iP*		Pn		05 58 07.9	+0.7
ARR				*iS*		Sn		05 58 25.3	-1.1
CFR	**Carcaliu**	**1.32**	**103**	↑*iP*		Pn		05 58 08.4	0.0
CFR				*iS*		Sn		05 58 27.6	-0.8
CFR	**Carcaliu**	**1.32**	**103**	↑*iP*		Pn		05 58 08.4	0.0
CFR	**Carcaliu**	**1.32**	**103**	↑*iP*		Pn		05 58 08.4	0.0
CFR				*iS*		Sn		05 58 27.6	-0.8
HUMR	**Humele**	**1.35**	**225**	↑*iP*		Pn		05 58 08.6	-0.2
HUMR				*iS*		Sn		05 58 28.6	-0.5
HUMR	**Humele**	**1.35**	**225**	↑*iP*		Pn		05 58 08.6	-0.2
HUMR	**Humele**	**1.35**	**225**	↑*iP*		Pn		05 58 08.6	-0.2
HUMR				*iS*		Sn		05 58 28.6	-0.5
LEOM	**Leova**	**1.66**	**53**	↑*iP*		Pn		05 58 12.7	+0.5
LEOM				*iS*		Sn		05 58 34.9	-0.3
LEOM	**Leova**	**1.66**	**53**	↑*iP*		Pn		05 58 12.7	+0.5
LEOM	**Leova**	**1.66**	**53**	↑*iP*		Pn		05 58 12.7	+0.5
LEOM				*iS*		Sn		05 58 34.9	-0.3
CVD	**Cernavoda**	**1.69**	**133**	↑*iP*		Pn		05 58 12.9	+0.3
CVD				*iS*		Sn		05 58 35.2	-0.6
CVD	**Cernavoda**	**1.69**	**133**	↑*iP*		Pn		05 58 12.9	+0.3
CVD	**Cernavoda**	**1.69**	**133**	↑*iP*		Pn		05 58 12.9	+0.3
CVD				*iS*		Sn		05 58 35.2	-0.6
TLCR		**1.79**	**99**	↑*iP*		Pn		05 58 14.1	+0.5
TLCR				*iS*		Sn		05 58 38.1	+0.4
TLCR		**1.79**	**99**	↑*iP*		Pn		05 58 14.1	+0.5
TLCR		**1.79**	**99**	↑*iP*		Pn		05 58 14.1	+0.5
TLCR				*iS*		Sn		05 58 38.1	+0.4
LOT	**Lotru**	**1.80**	**269**	↑*iP*		Pn		05 58 14.9	+1.0
LOT				*iS*		Sn		05 58 36.9	-1.4
LOT	**Lotru**	**1.80**	**269**	↑*iP*		Pn		05 58 14.9	+1.0
LOT	**Lotru**	**1.80**	**269**	↑*iP*		Pn		05 58 14.9	+1.0
LOT				*iS*		Sn		05 58 36.9	-1.4
TIRR	**Tirgusor**	**1.81**	**124**	↓*iP*		Pn		05 58 14.2	+0.3
TIRR				*iS*		Sn		05 58 36.8	-1.4
TIRR	**Tirgusor**	**1.81**	**124**	↓*iP*		Pn		05 58 14.2	+0.3
TIRR	**Tirgusor**	**1.81**	**124**	↓*iP*		Pn		05 58 14.2	+0.3
TIRR				*iS*		Sn		05 58 36.8	-1.4
BURAR	**Bucovina Array**	**2.25**	**341**	↑*iP*		Pn		05 58 20.9	+1.4
BURAR	**Bucovina Array**	**2.25**	**341**	↑*iP*		Pn		05 58 20.9	+1.4
BURAR	**Bucovina Array**	**2.25**	**341**	↑*iP*		Pn		05 58 20.9	+1.4
GZR	**Gura Zlata**	**2.50**	**269**	↓*iP*		Pn		05 58 23.1	+0.7
GZR				*iS*		Sn		05 58 52

USHA **Ushuaia** 17.05 169 LR LR 06 50 26.0
comp=E,3µm,18.4s,baz=308,slow=42
CPUP **Villa Florida** 18.19 54 P Pn 06 42 33.7 -1.2
CPUP **Villa Florida** 18.19 54 P Pn 06 42 33.7 -1.2
comp=E,0.4nm,0.3s,baz=225,slow=10,SNR=18
CPUP LR LR 06 50 20.3
comp=E,2µm,19.8s,baz=214,slow=40
LPAZ **La Paz** 22.35 14 P P 06 43 22.4 +1.3
LPAZ **La Paz** 22.35 14 P P 06 43 22.4 +1.3
comp=E,7.0nm,0.8s,baz=169,slow=7.5,SNR=22
SIV **San Ignacio** 24.75 30 P P 06 43 43.1 -0.9
SIV **San Ignacio** 24.75 30 P P 06 43 43.1 -0.9
comp=E,3.3nm,0.9s,baz=225,slow=11,SNR=10
SIV LR LR 06 55 19.3
comp=E,1µm,19.5s,slow=41
PMSA **Palmer Station** 27.25 171 LR LR 06 55 38.0
comp=E,881nm,18.2s,baz=195,slow=38
BDFB **Brasilia** 31.90 52 P P 06 44 48.0 +0.2
BDFB **Brasilia** 31.90 52 P P 06 44 48.0 +0.2
comp=E,5.5nm,0.9s,baz=21,slow=25,SNR=4.5
BDFB LR LR 06 59 20.3
comp=E,601nm,18.8s,baz=73,slow=40
SNAA **Sanae** 48.28 156 eP P 06 47 03.3 +0.4
SNAA **Sanae** 48.28 156 epP pP 06 47 13.6 +4.5
SNAA **Sanae** 48.28 156 esP sP 06 47 15.9 +4.4
SNAA **Sanae** 48.28 156 P P 06 47 02.9 0.0
SNAA **Sanae** 48.28 156 P P 06 47 02.9 0.0
comp=E,2.1nm,0.9s,baz=271,slow=7.3,SNR=15
QSPA **South Pole Qui** 52.07 180 P P 06 47 31.8 0.0
QSPA **South Pole Qui** 52.07 180 P P 06 47 31.8 0.0
comp=E,6.0nm,1.0s,baz=151,slow=6.0,SNR=10.0
RKT **Rikitea** 53.88 268 eS S 06 55 16.6 -3.3
comp=E,203nm,26.5s
RKT eLR LR 07 03 13.8
comp=E,591nm,25.5s,baz=124
RKT **Rikitea** 53.88 268 eT T 07 45 23.6
comp=E,2.5nm,0.2s
TEIG **Tepich** 59.67 344 eP P 06 48 27.0 +0.4
comp=E,18nm,1.0s
TBI **Tubuai** 65.09 259 eS S 06 57 39.0 -5.6
comp=E,371nm,26.5s
TBI **Tubuai** 65.09 259 eLR LR 07 08 27.1
comp=E,428nm,26.0s,baz=127
TBI **Tubuai** 65.09 259 eT T 07 59 25.7
comp=E,4.7nm,0.2s
TVO **Taravao** 68.00 264 eT T 08 03 02.3
comp=E,6.3nm,0.3s
PPT2 **Papeete2** 68.36 264 eS S 06 58 18.6 -5.9
comp=E,194nm,23.2s
PPT2 **Papeete2** 68.36 264 eLR LR 07 09 57.9
comp=E,360nm,26.5s
PPT **Papeete** 68.37 264 LR LR 07 12 11.4
comp=E,254nm,19.5s,baz=199,slow=30
MAW **Mawson** 69.57 164 LR LR 07 23 22.2
comp=E,368nm,19.7s,baz=357,slow=39
732A **Laxson Ranch,** 70.94 336 ⇓P P 06 49 40.3 +0.9
baz=71,SNR=10
632A **Uvalde** 71.60 336 ⇓P P 06 49 44.0 +0.6
baz=72,SNR=7.1
LRAL **Lakeview Retre** 71.91 348 eP P 06 49 44.0 -1.2
comp=E,11nm,1.1s
LRAL e pP 06 49 51.6 0.0
532A **Rocksprings** 72.21 336 ⇓P P 06 49 47.6 +0.4
baz=72,SNR=10
531A **Rocksprings** 72.45 336 ⇓P P 06 49 49.4 +0.8
baz=73,SNR=9.0
JCT **Junction City** 72.51 337 eP P 06 49 49.1 +0.2
comp=E,27nm,1.1s
JCT **Junction City** 72.51 337 ⇑P P 06 49 49.6 +0.7
baz=73,SNR=9.8
628A **Black Gap, Mar** 72.62 334 ⇑P P 06 49 50.2 +0.6
baz=73,SNR=8.9
530A **J-C Ranch, Com** 72.70 335 ⇓P P 06 49 51.2 +1.2
baz=73,SNR=12
TXAR **Lajitas Array** 72.76 333 P P 06 49 50.9 +0.4
TXAR **Lajitas Array** 72.76 333 P P 06 49 50.9 +0.4
comp=E,0.4nm,0.5s,baz=160,slow=7.4,SNR=11
TXAR LR LR 07 16 50.8
comp=E,197nm,19.8s,baz=355,slow=32
627A **Terlingua Ranc** 72.77 333 ⇓P P 06 49 52.1 +1.6
baz=73,SNR=8.4
432A **Menard** 72.87 337 ⇓P P 06 49 52.8 +1.8
baz=73,SNR=6.6
431A **Sonora** 72.95 336 ⇓P P 06 49 52.2 +0.7
baz=73
529A **Stev Forest Ra** 72.97 334 ⇑P P 06 49 51.4 -0.2
baz=73
626A **Big Bend Ranch** 73.12 333 ⇑P P 06 49 54.0 +1.4
baz=73,SNR=9.4
528A **Cox Ranch, San** 73.20 334 ⇓P P 06 49 54.7 +1.7
baz=74,SNR=8.5
WHTX **Lake Whitney** 73.22 339 ⇑P P 06 49 55.5 +2.5
baz=74,SNR=7.6
430A **Baggett Ranch,** 73.25 335 ⇓P P 06 49 53.8 +0.5
baz=74,SNR=12
429A **Davenport Ranc** 73.32 335 ⇑P P 06 49 54.3 +0.6
baz=74,SNR=11
332A **Millersview** 73.33 337 ⇓P P 06 49 54.8 +1.1
baz=74,SNR=11
331A **San Angelo** 73.47 336 ⇑P P 06 49 55.2 +0.6
baz=74,SNR=10
527A **Woodward Ranch** 73.47 333 ⇓P P 06 49 55.5 +0.7
baz=74,SNR=11
526A **Mary Lane Ranc** 73.57 333 ⇑P P 06 49 56.6 +1.4
baz=74,SNR=9.3
428A **Kincaid Ranch,** 73.68 334 ⇑P P 06 49 57.1 +1.2
baz=74
OXF **Oxford** 73.77 347 eP P 06 49 55.2 -1.0
comp=E,23nm,1.1s
OXF e pP 06 50 01.4 -1.2
232A **Coleman** 73.77 337 ⇑P P 06 49 57.4 +1.1
baz=74,SNR=7.3
330A **Mertzon** 73.80 336 ⇑P P 06 49 57.7 +1.1
baz=74,SNR=7.6
CPCT **Cooper Cave** 73.93 351 eP P 06 49 56.6 -0.5
CPCT e pP 06 50 03.3 -0.2
231A **Bronte** 74.02 337 ⇓P P 06 49 58.5 +0.8
baz=74,SNR=6.7
427A **Hayter Ranch,** 74.04 334 ⇓P P 06 49 59.0 +1.1
baz=74
426A **McDonald Obser** 74.10 333 ⇓P P 06 49 58.7 +0.3
baz=74,SNR=11
329A **Wagon Wheel Ra** 74.14 335 ⇑P P 06 49 59.5 +1.0
baz=74
230A **Sterling City** 74.23 336 ⇑P P 06 50 00.1 +1.1
baz=74
328A **Wristen Ranch,** 74.32 334 ⇑P P 06 50 00.7 +1.1
baz=75
ABTX **Abilene, Hawle** 74.45 338 ⇑P P 06 50 01.0 +0.8
baz=75
229A **Bryant Ranch,** 74.53 335 ⇑P P 06 50 00.2 -0.6
baz=75
425A **Indio Mountain** 74.55 332 ⇓P P 06 50 01.6 +0.6
baz=75
MIAR **Mount Ida** 74.66 343 P P 06 49 59.1 -2.2
comp=E,7.8nm,1.1s
MIAR e 06 50 08.4
326A **Caldwell Ranch** 74.67 333 ⇑P P 06 50 02.1 +0.4
baz=75,SNR=5.2
131A **Roby** 74.73 337 ⇓P P 06 50 01.8 -0.1
baz=75
130A **Snyder** 74.83 336 ⇑P P 06 50 01.6 -0.9
baz=75
228A **UT Block 9, Go** 74.92 335 ⇑P P 06 50 04.4 +1.3
baz=75,SNR=7.1
Z32A **Haskell** 75.04 338 ⇓P P 06 50 04.8 +1.2
baz=75,SNR=9.4
227A **Bennet, Jal** 75.06 334 ⇑P P 06 50 04.0 +0.2
baz=75
WVT **Waverly** 75.08 348 eP P 06 50 02.5 -1.2
comp=E,14nm,1.0s
WVT e pP 06 50 09.8 -0.4
129A **Stewart Farms,** 75.16 336 ⇑P P 06 50 06.6 +2.2
baz=76,SNR=6.4
Z31A **Sharp Cattle R** 75.25 337 ⇓P P 06 50 06.6 +1.7
baz=76,SNR=9.7
128A **Castleberry Fa** 75.35 335 ⇓P P 06 50 07.5 +1.9
baz=76,SNR=7.6
226B **Tecolote Peak,** 75.42 334 ⇓P P 06 50 07.0 +1.1
baz=76
MNTX **Cornudas Mount** 75.52 332 eP P 06 50 06.9 +0.5
comp=E,3.0nm,1.0s
MNTX e pP 06 50 13.3 +0.4
Z30A **Sanderson Ranc** 75.53 337 ⇑P P 06 50 08.4 +1.9
baz=76,SNR=10
Y32A **R-V Farms, Ver** 75.68 338 ⇓P P 06 50 07.7 +0.4
baz=76
Z29A **Hungry Hill Ra** 75.68 336 ⇑P P 06 50 09.2 +1.8
baz=76,SNR=15
225A **Deer Hill, Car** 75.69 333 ⇓P P 06 50 08.0 +0.4
baz=76
127A **Arkansas Junct** 75.69 335 ⇑P P 06 50 06.8 -0.7
baz=76
Y31A **Rekieta Farm,** 75.89 337 ⇑P P 06 50 10.0 +1.5
baz=76,SNR=7.0
126A **Clayton Basin,** 75.89 334 ⇑P P 06 50 09.6 +1.0
baz=76
224A **Cornudas Mount** 75.91 333 ⇑P P 06 50 09.6 +0.8
baz=76
Z28A **Tucker Farm, M** 75.93 336 ⇑P P 06 50 11.1 +2.2
baz=76
Y30A **Stafford Cattl** 76.00 337 ⇑P P 06 50 11.1 +1.9
baz=76
125A **Gardner Draw,** 76.12 333 ⇓P P 06 50 11.3 +1.3
baz=76
WMOK **Wichita Mounta** 76.18 339 eP P 06 50 10.1 0.0
comp=E,12nm,1.3s
WMOK e pP 06 50 16.1 -0.4
223A **Chaparral, Ant** 76.18 332 ⇑P P 06 50 12.4 +2.0
baz=76
Y29A **Porterfield Fa** 76.23 336 ⇓P P 06 50 12.4 +1.9
baz=76
124A **Stringfield Ra** 76.45 333 ⇓P P 06 50 13.5 +1.6
baz=77,SNR=8.5
Z26A **Caprock** 76.45 334 ⇑P P 06 50 13.1 +1.3
baz=77,SNR=8.3
TUL1 **Tulsa** 76.49 342 ⇑P P 06 50 12.5 +0.7
baz=77,SNR=8.2
X30A **Coker Ranch, T** 76.52 337 ⇑P P 06 50 14.2 +2.1
baz=77,SNR=7.4
221A **Mesquite Ranch** 76.69 331 ⇓P P 06 50 14.8 +1.6
baz=77
Z25A **Roswell** 76.71 334 ⇓P P 06 50 14.2 +0.9
baz=77
319A **Douglas** 76.72 329 ⇓P P 06 50 14.8 +1.4
baz=77,SNR=11
Y27A **Causey** 76.73 335 ⇓P P 06 50 14.8 +1.4
baz=77
X29A **Tulia** 76.78 337 ⇓P P 06 50 14.3 +0.6
baz=77,SNR=5.8
220A **Playas Peak, P** 76.89 330 ⇑P P 06 50 15.8 +1.4
baz=77,SNR=8.7
W31A **Holland Ranch,** 76.93 338 ⇑P P 06 50 14.0 -0.4
baz=77
Z24A **Sheeppen Canyo** 76.98 333 ⇑P P 06 50 16.5 +1.6
baz=77
Y26A **Elida** 76.99 335 ⇑P P 06 50 14.2 -0.7
baz=77
X28A **Dimmitt** 77.00 336 ⇓P P 06 50 13.5 -1.4
baz=77
W30A **Cricket Farms** 77.11 338 ⇑P P 06 50 15.0 -0.5
baz=77
121A **Cookes Peak, D** 77.16 331 ⇑P P 06 50 15.9 -0.1
baz=77
AMTX **Amarillo** 77.17 337 eP P 06 50 14.7 -1.2
comp=E,26nm,1.2s
AMTX e pP 06 50 22.4 +0.1
Z23A **Rita Site, Whi** 77.23 333 ⇑P P 06 50 16.7 +0.5
baz=78
W29A **Amraillo** 77.38 337 ⇓P P 06 50 18.9 +1.9
baz=78,SNR=5.8
LIC **Lamto** 77.39 72 eP P 06 50 18.4 +0.9
comp=E,36nm,0.8s
X27A **F and S Farms,** 77.41 336 ⇓P P 06 50 16.2 -1.0
baz=78
V31A **Spring Creek L** 77.45 338 ⇓P P 06 50 19.9 +2.6
baz=78,SNR=8.6
120A **U Bar Ranch, L** 77.50 330 ⇑P P 06 50 15.3 -2.5
baz=78
Y24A **Capitan** 77.55 333 ⇑P P 06 50 20.4 +2.4
baz=78,SNR=6.1
X26A **CR and CF Fran** 77.56 335 ⇑P P 06 50 17.8 -0.3
baz=78
TIC **Toumodi** 77.68 71 eP P 06 50 20.2 +1.1
comp=E,57nm,1.2s
KIC **Kosan Boka** 77.70 72 eP P 06 50 18.6 -0.6
comp=E,24nm,0.8s
W27A **Bowe Ranch, En** 77.78 336 ⇑P P 06 50 21.6 +2.3
baz=78,SNR=10
DBIC **Dimbokro** 77.81 71 P P 06 50 20.3 +0.5
DBIC **Dimbokro** 77.81 71 P P 06 50 20.3 +0.5
comp=E,8.0nm,0.8s,baz=187,slow=6.7,SNR=7.7
DBIC LR LR 07 21 29.3
comp=E,220nm,19.7s,baz=220,slow=33
Z20A **Nine Sixteen R** 77.99 331 ⇓P P 06 50 20.4 -0.1
baz=78,SNR=5.5
Y22A **Socorro** 78.11 332 ⇑P P 06 50 20.8 -0.4
baz=78
X24A **Lazy VL Ranch,** 78.12 334 ⇑P P 06 50 21.7 +0.4
baz=78
V28A **Channing** 78.14 337 ⇓P P 06 50 20.3 -1.0
baz=78
W25A **X Bar L Ranch,** 78.38 335 ⇑P P 06 50 25.1 +2.5
baz=79,SNR=9.0
U30A **WK&E Inc. Balk** 78.39 338 ⇑P P 06 50 25.6 +3.1
baz=79,SNR=5.5
X23A **Hourglass Bar** 78.40 333 ⇑P P 06 50 24.0 +1.2
baz=79
Y21A **Point of Rocks** 78.43 332 ⇑P P 06 50 25.4 +2.3
baz=79,SNR=14
LAZ **Ladron** 78.59 332 eP P 06 50 22.0 -1.8
comp=E,4.3nm,1.1s
LAZ e 06 50 31.6
Y20A **Horse Springs,** 78.61 331 ⇑P P 06 50 26.9 +2.8
baz=79,SNR=5.5
X22A **Bernardo** 78.63 332 ⇑P P 06 50 25.3 +1.2
baz=79
T31A **Ranall Ranch,** 78.64 339 ⇑P P 06 50 25.1 +1.2
baz=79
V26A **Tequesquite Ra** 78.68 335 ⇑P P 06 50 24.8 +0.6
baz=79
W24A **Lazy 6 Ranch,** 78.70 334 ⇑P P 06 50 27.5 +3.1
baz=79,SNR=6.6
214A **Organ Pipe Nat** 78.70 327 ⇑P P 06 50 28.1 +3.8
baz=79,SNR=8.1
ANMO **Albuquerque** 78.83 333 eP P 06 50 25.4 +0.2
comp=E,12nm,1.1s
ANMO e pP 06 50 32.5 +0.9
T30A **Plains** 78.84 338 ⇓P P 06 50 24.5 -0.4
baz=79
X21A **Alamocita Cree** 78.86 332 ⇓P P 06 50 29.0 +3.6
baz=79,SNR=11
W23A **Werner Place,** 78.91 333 ⇑P P 06 50 26.0 +0.4
baz=79
V25A **Rancho No Teng** 79.00 335 ⇑P P 06 50 25.7 -0.3
baz=79,SNR=8.6
V24A **Rampart Ranch,** 79.12 334 ⇓P P 06 50 27.6 +0.8
baz=79
SFIN **Scholer Farm** 79.13 350 ⇑P P 06 50 25.6 -0.8
baz=80
T29A **Hugoton** 79.16 338 ⇑P P 06 50 26.7 -0.1
baz=80
BOSA **Boshof** 79.34 118 P P 06 50 27.9 -0.4
BOSA **Boshof** 79.34 118 P P 06 50 27.9 -0.4
comp=E,6.4nm,0.8s,baz=244,slow=6.8,SNR=9.1
BOSA LR LR 07 22 03.7
comp=E,186nm,19.6s,baz=176,slow=33
S30A **Montezuma** 79.37 339 ⇑P P 06 50 27.8 0.0
baz=80
T28A **Walsh** 79.37 337 ⇓P P 06 50 29.4 +1.5
baz=80
W21A **San Fidel** 79.41 332 ⇑P P 06 50 28.3 -0.1
baz=80
U25A **Circle Dot Ran** 79.44 335 ⇑P P 06 50 27.7 -0.7
baz=80,SNR=8.0
T27A **Campo** 79.50 337 ⇓P P 06 50 28.5 -0.2
baz=80
S29A **Ulysses** 79.54 338 ⇑P P 06 50 28.3 -0.5
baz=80
R31A **Burdett** 79.71 340 ⇓P P 06 50 30.1 +0.4
baz=80
W20A **Ramah** 79.73 332 ⇓P P 06 50 31.3 +1.1
baz=80,SNR=10
U24A **Moreno Valley** 79.74 335 ⇑P P 06 50 29.3 -0.9
baz=80
S28A **Manter** 79.74 338 ⇑P P 06 50 30.2 +0.3
baz=80,SNR=5.7
X18A **Snowflake** 79.76 330 ⇓P P 06 50 31.0 +0.7
baz=80
113A **Mohawk Valley,** 79.81 327 ⇓P P 06 50 30.3 0.0
baz=80,SNR=5.8
V22A **San Miguel Ran** 79.86 333 ⇓P P 06 50 29.9 -0.9
baz=80,SNR=10
T26A **Comanche Natio** 79.88 336 ⇑P P 06 50 31.0 +0.1
baz=80,SNR=6.6
U23A **El Rito** 79.98 334 ⇓P P 06 50 31.8 +0.4
baz=80,SNR=6.2
T25A **Trinidad** 80.11 336 ⇑P P 06 50 33.8 +1.7
baz=80,SNR=10
W18A **Petrified Fore** 80.20 331 ⇓P P 06 50 34.1 +1.5
baz=80,SNR=6.3
S26A **Kim** 80.25 336 ⇑P P 06 50 33.4 +0.6
baz=81,SNR=9.9
U22A **Llaves** 80.25 333 ⇑P P 06 50 33.3 +0.4
baz=80
X16A **Lo Mia Camp, P** 80.26 329 ⇑P P 06 50 34.4 +1.5
baz=80,SNR=12
V20A **Brimhall** 80.32 332 ⇑P P 06 50 31.2 -2.1
baz=81
R28A **Tribune** 80.41 338 ⇑P P 06 50 34.2 +0.7
baz=81,SNR=5.2
Y14A **Wickenburg** 80.49 328 ⇓P P 06 50 35.2 +1.2
baz=81,SNR=5.1
Q30A **Quinter** 80.54 339 ⇑P P 06 50 36.2 +2.0
baz=81
T23A **Casias Ranch,** 80.56 334 ⇑P P 06 50 37.5 +2.9
baz=81,SNR=5.3
U21A **Nageezi** 80.58 333 ⇑P P 06 50 37.9 +3.2
baz=81,SNR=7.1
S25A **Robets Cordova** 80.60 336 ⇓P P 06 50 37.5 +2.8
baz=81,SNR=5.7
R27A **Eads** 80.66 337 ⇓P P 06 50 37.7 +2.8
baz=81,SNR=9.8
Q29A **Oakley** 80.68 339 ⇓P P 06 50 37.3 +2.4
baz=81
P31A **Stockton** 80.82 340 ⇓P P 06 50 36.1 +0.4
baz=81
S24A **Houchin Ranch,** 80.83 335 ⇓P P 06 50 38.9 +2.8
baz=81,SNR=9.5
T22A **Edith** 80.84 334 ⇑P P 06 50 38.7 +2.6
baz=81,SNR=6.1
SWSC **Sam W. Stewart** 80.85 325 ⇑P P 06 50 37.1 +1.1
baz=81
R26A **Arlington** 80.87 337 ⇑P P 06 50 39.2 +3.2
baz=81,SNR=9.6
Y12C **Blythe** 80.98 327 ⇓P P 06 50 40.8 +4.2
baz=81,SNR=6.7
SDCO **Great Sand Dun** 81.02 335 eP P 06 50 36.7 -0.4
comp=E,3.7nm,1.0s
T21A **Navajo Lake** 81.05 333 ⇓P P 06 50 36.7 -0.4
baz=81
P30A **Selden** 81.08 340 ⇑P P 06 50 37.5 +0.4
baz=81
Q28A **Sharon Springs** 81.08 338 ⇓P P 06 50 38.2 +1.1
baz=81
WUAZ **Wupatki** 81.19 330 eP P 06 50 36.9 -1.0
comp=E,13nm,1.2s
WUAZ e 06 50 46.1
WUAZ **Wupatki** 81.19 330 ⇓P P 06 50 42.2 +4.3
baz=82,SNR=5.7
KSCO **Kaye Shedlock'** 81.27 338 ⇓P P 06 50 38.4 +0.2
baz=82
PDMCI **Parker Dam,Lak** 81.28 327 ⇓P P 06 50 41.0 +2.9
baz=82
BC3 **Big Chuckawall** 81.30 326 ⇓P P 06 50 38.3 -0.2
baz=82
P29A **Atwood** 81.33 339 ⇑P P 06 50 38.7 +0.4
baz=82
R24A **Sanders Place,** 81.33 336 ⇓P P 06 50 42.3 +3.6
baz=82,SNR=8.3
Q26A **Hugo** 81.46 337 ⇑P P 06 50 43.2 +4.0
baz=82,SNR=5.9
S22A **4UR Ranch, Cre** 81.47 334 ⇓P P 06 50 43.0 +3.5
baz=82,SNR=7.8
P28A **Saint Francis** 81.53 338 ⇓P P 06 50 41.4 +1.9
baz=82
R23A **Moffat** 81.53 335 ⇑P P 06 50 40.9 +1.1
baz=82
MVCO **Mesa Verde** 81.59 333 eP P 06 50 38.8 -1.3
comp=E,8.5nm,1.2s
MVCO e 06 50 47.6
O30A **MW Ranch, Wils** 81.62 340 ⇑P P 06 50 41.9 +2.0
baz=82
Q25A **Bedland, Calha** 81.68 336 ⇓P P 06 50 41.3 +0.9
baz=82
PFO **Pinyon Flat Ob** 81.71 325 eP P 06 50 39.2 -1.4
comp=E,15nm,1.4s
PFO e 06 50 49.9
PFO **Pinyon Flat Ob** 81.71 325 ⇓P P 06 50 42.4 +1.8
baz=82
S21A **Coal Bank Pass** 81.74 333 ⇑P P 06 50 44.6 +3.7
baz=82,SNR=5.5
W13A **Hualapai Mount** 81.86 328 ⇓P P 06 50 45.2 +3.8
baz=82,SNR=5.9
P26A **Davis Ranch, A** 81.99 337 ⇑P P 06 50 43.0 +1.0
baz=82
O28A **Krutsinger Ran** 82.05 339 ⇓P P 06 50 42.5 +0.3
baz=82
S20A **Disappointment** 82.09 333 ⇓P P 06 50 45.8 +3.1
baz=82,SNR=5.8
P25A **Willow Gulch B** 82.20 337 ⇓P P 06 50 46.2 +3.0
baz=82,SNR=6.9
BGNE **Belgrade** 82.28 342 ⇑P P 06 50 42.6 -0.7
baz=83
R21A **Cimarron** 82.28 334 ⇑P P 06 50 46.3 +2.6
baz=83,SNR=6.0
O27A **Beecher Island** 82.31 338 ⇓P P 06 50 43.1 -0.5
baz=83
U15A **North Rim** 82.35 330 ⇓P P 06 50 46.7 +2.6
baz=83,SNR=8.8
LDFC **Landfair** 82.36 327 eP P 06 50 43.2 -0.8
comp=E,11nm,1.3s
R20A **Redvale** 82.41 333 ⇑P P 06 50 47.1 +2.8
baz=83,SNR=8.4
PV01 **Paradox Valley** 82.43 333 P P 06 50 42.4 -2.1
comp=E,486nm,1.1s
P24A **Kohler Place,** 82.44 336 ⇑P P 06 50 44.5 +0.1
baz=83
BBRC **Big Bear Solar** 82.47 325 ⇓P P 06 50 43.5 -1.2
baz=83
Q22A **Crested Butte,** 82.51 334 ⇑P P 06 50 47.0 +2.1
baz=83,SNR=5.2
O26A **Horse Wrangler** 82.61 338 ⇑P P 06 50 43.8 -1.4
baz=83
P23A **Jefferson** 82.61 335 ⇑P P 06 50 46.2 +0.7
baz=83
HEC **Hector,Ludlow** 82.68 326 ⇓P P 06 50 43.9 -1.8
baz=83
Q21A **Lamborn Mesa,** 82.71 334 ⇑P P 06 50 46.2 +0.4
baz=83
PV10 **Paradox Valley** 82.82 333 eP P 06 50 46.7 +0.2
comp=E,112nm,0.9s
ISCO **Idaho Springs** 82.92 336 eP P 06 50 45.6 -1.4
comp=E,9.4nm,1.5s
ISCO e 06 50 55.5
ISCO **Idaho Springs** 82.92 336 ⇑P P 06 50 46.2 -0.9
baz=83
TUQ **Turquoise Moun** 83.01 326 ⇓P P 06 50 46.8 -0.6
baz=83
O23A **Lake Granby, G** 83.39 336 ⇑P P 06 50 50.2 +0.7
baz=84
O22A **Kremmling** 83.56 335 ⇑P P 06 50 52.4 +2.1
baz=84,SNR=6.4
P20A **De Beque** 83.59 334 ⇓P P 06 50 52.2 +1.8
baz=84,SNR=5.8
CCUT **Cedar City** 83.75 329 eP P 06 50 52.0 +0.8
comp=E,7.5nm,1.1s
O21A **Pagoda** 83.91 335 ⇓P P 06 50 53.6 +1.5
baz=84
P19A **Cripple Cowboy** 83.91 333 ⇑P P 06 50 53.9 +1.8
baz=84,SNR=7.9
ARUT **Antelope Range** 83.98 329 eP P 06 50 51.4 -1.0
comp=E,5.9nm,1.1s
ARUT e 06 51 01.6
SRU **San Rafael** 84.01 332 eP P 06 50 50.7 -1.8
comp=E,5.4nm,0.9s
Q16A **Castle Valley** 84.08 332 ⇓P P 06 50 54.3 +1.4
baz=84,SNR=5.3
N22A **Wattenberg Ran** 84.10 336 ⇑P P 06 50 54.6 +1.6
baz=84
K29A **Lazy Trails An** 84.10 341 ⇑P P 06 50 53.9 +1.2
baz=84
MSU **Marysvale** 84.11 331 eP P 06 50 49.9 -3.2
comp=E,5.1nm,1.2s
MVU **Marysvale** 84.12 331 eP P 06 50 52.8 -0.4
comp=E,6.7nm,1.3s
ECSD **EROS Data Cent** 84.12 344 eP P 06 50 52.8 0.0
comp=E,18nm,1.0s
PKM **Peak Mountain** 84.33 323 ⇓P P 06 50 56.2 +2.0
baz=85
K28A **Ten Mile Ranch** 84.34 340 ⇑P P 06 50 55.1 +1.1
baz=85
O19A **Miners Draw (B** 84.55 334 ⇑P P 06 50 56.6 +1.4

baz=85,SNR=5.3
N20A Spence Gulch, 84.73 334 ⇓P **P** 06 50 56.5 +0.3
baz=85
SPMN St. Paul 84.78 347 ⇑P **P** 06 50 57.4 +1.4
baz=85
J28A Allard Ranch, 84.96 340 ⇓P P 06 51 00.3 +3.2
baz=85
L22A Ellis Ranch, M 85.20 336 ⇓P **P** 06 50 57.7 -0.8
baz=86
R11A Troy Canyon, C 85.33 328 ⇑P **P** 06 51 01.6 +2.4
baz=86,SNR=6.6
BRSD Miller 85.34 342 ⇑P **P** 06 51 00.9 +2.1
baz=86
DAU Daniels Canyon 85.42 332 *e*P **P** 06 50 59.1 -0.7
L21A Rawlins 85.45 336 ⇑P **P** 06 51 01.3 +1.6
baz=86
I28A Midland 85.48 341 ⇑P **P** 06 51 01.2 +1.6
baz=86
K23A Bowen Ranch, D 85.61 337 ⇑P **P** 06 51 01.8 +1.3
baz=86
J25A Sunshine Ranch 85.64 339 ⇑P **P** 06 51 01.2 +0.6
baz=86
I27A Quinn 85.78 340 ⇑P **P** 06 51 02.7 +1.5
baz=86
K22A Casper 85.79 336 ⇑P **P** 06 51 02.7 +1.3
baz=86
DUG Dugway 85.81 331 ⇓P **P** 06 51 03.8 +2.3
baz=86,SNR=5.8
I26A New Underwood 85.97 339 ⇓P **P** 06 51 03.6 +1.5
baz=86
M17A Scullys Gap (B 86.14 333 ⇑P P 06 51 06.3 +3.1
baz=86
I25A Rochford 86.20 339 ⇓P **P** 06 51 05.9 +2.6
baz=86
L19A Farson 86.23 334 ⇑P **P** 06 51 05.8 +2.2
baz=86,SNR=8.1
H27A Howes 86.31 340 ⇑P **P** 06 51 04.5 +0.8
baz=87
L18A Fontenelle, Gr 86.31 334 ⇑P **P** 06 51 05.6 +1.6
baz=87,SNR=5.7
RSSD Black Hills 86.38 339 *e*P **P** 06 51 02.9 -1.4
comp=E,1.9nm,0.8s
K20A Yellowstone Ra 86.39 335 ⇓P **P** 06 51 03.5 -0.8
baz=87
G28A Parade 86.42 341 ⇓P **P** 06 51 04.2 0.0
baz=87
NVAR Mina Array Bea 86.56 326 P **P** 06 51 06.8 +1.5
NVAR Mina Array Bea 86.56 326 P **P** 06 51 06.8 +1.5
comp=E,0.2nm,0.7s,baz=159,slow=5.6,SNR=2.5
HWUT Hardware Ranch 86.58 333 *e*P **P** 06 51 05.2 -0.1
comp=E,9.1nm,1.7s
HWUT *e* **pP** 06 51 13.2 +1.4
K19A Absolon Red Bu 86.70 335 ⇓P **P** 06 51 07.7 +1.8
baz=87,SNR=6.0
H25A Fruitdale 86.72 339 ⇑P **P** 06 51 06.8 +1.1
baz=87
PDAR Pinedale Array 86.89 334 P **P** 06 51 07.7 +0.8
PDAR Pinedale Array 86.89 334 P **P** 06 51 07.7 +0.8
comp=E,0.4nm,0.9s,baz=162,slow=3.8,SNR=3.0
PDAR LR LR 07 25 38.4
comp=E,180nm,20.5s,baz=8.5,slow=33
TORD Torodi Ar. Bea 86.90 71 P **P** 06 51 06.3 -1.0
TORD Torodi Ar. Bea 86.90 71 P **P** 06 51 06.3 -1.0
comp=E,1.1nm,0.8s,baz=221,slow=5.2,SNR=7.6
J20A Shoshoni 86.92 336 ⇓P **P** 06 51 08.7 +1.8
baz=87,SNR=7.9
G27A Dupree 86.96 341 ⇑P **P** 06 51 08.1 +1.2
baz=87
G26A Maurine 87.06 340 ⇓P **P** 06 51 08.9 +1.5
baz=87
I21A Big Trails, Te 87.08 336 ⇑P **P** 06 51 08.5 +0.9
baz=87
H24A Dirks Ranch, A 87.10 339 ⇓P **P** 06 51 07.1 -0.6
baz=87
J19A Crowheart 87.17 335 ⇓P **P** 06 51 09.2 +1.1
baz=88,SNR=6.9
G25A Newell 87.19 339 ⇑P **P** 06 51 09.1 +1.1
baz=88
I18A Diamond G Ranc 87.81 335 ⇓P **P** 06 51 10.3 -0.9
baz=88
I19A Meeteetse 87.83 335 ⇑P **P** 06 51 10.5 -0.9
baz=88
H20A Greybull 87.91 336 ⇓P **P** 06 51 12.5 +0.9
baz=88
TPAW Teton Pass 88.01 334 *e*P P 06 51 09.5 -2.8
comp=E,4.0nm,1.1s
TPAW *e* 06 51 19.9
AGMN Agassiz Nation 88.32 345 *e*P **P** 06 51 12.1 -1.1
comp=E,9.9nm,1.4s
AGMN *e* **pP** 06 51 20.3 +0.5
IMW Indian Meadow 88.36 334 *e*P **P** 06 51 13.4 -0.5
comp=E,7.6nm,1.3s
E25A Miller Ranch, 88.39 340 ⇑P **P** 06 51 14.8 +1.1
baz=89
H18A Shoshone NF, C 88.62 335 ⇓P **P** 06 51 15.4 +0.3
baz=89
MDND Maddock 88.69 343 ⇓P **P** 06 51 17.1 +2.0
baz=89
HLID Hailey 89.32 332 *e*P **P** 06 51 17.9 -0.4
comp=E,6.4nm,1.2s
HLID *e* 06 51 27.3
HLID Hailey 89.32 332 ⇓P **P** 06 51 20.5 +2.1
baz=90,SNR=6.8
D23A Lindsay 89.51 339 ⇑P **P** 06 51 18.4 -0.6
baz=90
MCMT McKenzie Canyo 89.84 333 *e*P **P** 06 51 18.3 -2.5
comp=E,3.0nm,1.3s
MCMT *e* 06 51 30.1
C15A Salmond Ranch, 92.32 335 ⇓P **P** 06 51 33.8 +1.6
baz=93
A16A West Butte Ran 93.01 336 ⇓P **P** 06 51 35.7 +0.5
baz=93
BRTR Keskin Array B 124.98 64 PKP **PKPdf** 06 57 22.4 +0.2
BRTR Keskin Array B 124.98 64 PKP **PKPdf** 06 57 22.4 +0.2
comp=E,0.7nm,0.6s,baz=174,slow=4.8,SNR=4.3
AKTO Aktyubinsk 143.98 54 PKP PKPab 06 57 54.8 +0.4
AKTO Aktyubinsk 143.98 54 PKP PKPab 06 57 54.8 +0.4
comp=E,3.2nm,0.6s,baz=242,slow=3.4,SNR=15
ABKAR Akbulak array 145.25 56 *e*PKPdf **PKPbc** 06 57 58.7 -0.3
BRVK Borovoye 151.12 47 *e*PKPbc **PKPbc** 06 58 13.8 -0.8
BVAR Borovoye Array 151.20 47 PKP **PKPdf** 06 58 08.9 0.0
BVAR PKPbc **PKPbc** 06 58 15.1 +0.3
BVAR Borovoye Array 151.20 47 PKP **PKPdf** 06 58 08.9 0.0
comp=E,0.2nm,0.4s,baz=282,slow=2.8,SNR=2.6
BVAR PKPbc **PKPbc** 06 58 15.1 +0.3
comp=E,2.5nm,0.7s,baz=274,slow=4.2,SNR=15
KKAR Karatay Array 152.56 68 *e*PKPbc **PKPbc** 06 58 17.0 -1.3
KSH Kashi 156.42 77 *e*PKPbc PKPdf 06 58 25.3 +8.4
KSH PKS PKSdf 07 01 58.0 +7.1
KSH PP PP 07 02 30.5 +6.5
KSH SKS **SKSdf** 07 05 28.0 +5.9
KSH AMB AMB
comp=Z,40nm,6.2s
KURBB Kurchatov Arra 156.75 49 PKP **PKPdf** 06 58 17.7 +0.9
comp=Z,0.3nm,0.4s,baz=332,slow=2.6,SNR=5.2
KURBB PKPab **PKPab** 06 58 46.7 +0.3
comp=Z,1.1nm,0.5s,baz=290,slow=5.4,SNR=8.3
KURK Kurchatov 156.77 48 PKP **PKPdf** 06 58 17.6 +0.9
KURK PKPab **PKPab** 06 58 46.7 +0.2
ZALV Zalesovo Beam 158.45 36 PKPab **PKPab** 06 58 54.0 +0.4
ZALV Zalesovo Beam 158.45 36 PKPab **PKPab** 06 58 54.0 +0.4
comp=Z,1.7nm,0.6s,baz=288,slow=6.1,SNR=5.0
MKAR Makanchi Array 160.39 56 PKP **PKPdf** 06 58 20.8 -0.6
MKAR PKPab **PKPab** 06 59 02.0 -0.3
MKAR Makanchi Array 160.39 56 PKP **PKPdf** 06 58 20.8 -0.6
comp=Z,0.6nm,1.0s,baz=225,slow=0.2,SNR=4.4
MKAR PKPab **PKPab** 06 59 02.0 -0.3
comp=Z,2.2nm,0.7s,baz=291,slow=3.9,SNR=18
CN2 Changchun 164.47 297 *e*PKP PKPdf 06 58 36.3 +11
WMQ Urumqi 164.90 62 PKP PKPdf 06 58 34.5 +8.6
WMQ LR LR
comp=Z,130nm,24.5s
NJ2 Nanjing 168.02 243 *e*PKP PKPdf 06 58 40.5 +12
GYA Guiyang 168.31 182 *e*PKP PKPdf 06 58 39.3 +10
GYA sPKP 06 58 54.0
GYA PKPab PKPab 06 59 52.5 +15
GYA PKS PKSdf 07 02 10.5 +8.6
GYA PP PP 07 03 41.8 +16
GYA AMB AMB
comp=Z,90nm,7.8s
SONM Songino Array 170.34 359 PKPab **PKPab** 06 59 46.2 +0.1
SONM Songino Array 170.34 359 PKPab **PKPab** 06 59 46.2 +0.1
comp=Z,0.4nm,0.4s,baz=70,slow=1.7,SNR=3.6
CD2 Chengdu 172.47 163 *e*PKP PKPdf 06 58 40.0 +8.8
GTA Gaotai 174.81 74 *e*PKP PKPdf 06 58 40.8 +8.9
GTA pPKP pPKPdf 06 58 51.5 +13
GTA sPKP 06 58 55.3
HHC Hu-ho-hao-te 175.11 305 *e*PKP PKPdf 06 58 41.0 +9.1
HHC pPKP pPKPdf 06 58 51.0 +12
HHC sPKP 06 58 56.0
HHC PKS PKSdf 07 02 12.0 +7.9
HHC PP PP 07 04 12.3 +12
HHC SKS **SKSdf** **07 05 38.0 +4.1**
HHC SKKS SKKSac 07 10 53.0 +7.5
HHC AMB AMB
comp=Z,110nm,11.9s
LZH Lanzhou 177.16 136 *e*PKP PKPdf 06 58 41.5 +8.9
LZH pPKP pPKPdf 06 58 52.5 +13
LZH sPKP 06 58 57.0
LZH LR LR
comp=N,110nm,19.0s
LZH LR LR
comp=E,100nm,18.6s
LZH LR LR
comp=Z,130nm,20.3s

IDC 25 06:50:18.1±1.6, 38.14S×73.87W, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.6/17, mbtmp3.4/6, ML3.5/3, Error ellipse: s-maj=42.7km s-min=17.6km az=58.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**3.65**	**136**	Pn	Pn	06 51 16.8	+0.9
	0.8nm,0.3s,baz=273,slow=9.2,SNR=14						
PLCA				Pg	Pb	06 51 23.1	-0.6
	2.0nm,0.3s,baz=307,slow=17,SNR=22						
PLCA				Lg	Lg	06 52 16.1	
	3.8nm,0.3s,baz=218,slow=12,SNR=5.6						
CFAA	**Coronel Fontan**	**7.99**	**37**	Pn	Pn	06 52 14.2	-1.4
	0.1nm,0.3s,baz=210,slow=10,SNR=7.9						
CFAA				Sn	Sn	06 53 43.2	-3.5
	0.1nm,0.3s,baz=267,slow=18,SNR=2.4						
CPUP	**Villa Florida**	**18.25**	**55**	P	P	06 54 34.0	+1.0
	0.1nm,0.3s,baz=217,slow=14,SNR=3.8						
LPAZ	**La Paz**	**22.34**	**15**	P	P	06 55 19.3	+1.0
	0.8nm,0.6s,baz=184,slow=6.3,SNR=4.8						
TXAR	**Lajitas Array**	**72.67**	**333**	P	P	07 01 48.3	+0.6
	0.5nm,0.7s,baz=150,slow=8.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**86.99**	**71**	P	P	07 03 05.0	-0.5
	0.4nm,0.7s,baz=240,slow=2.6,SNR=2.6						
BVAR	**Borovoye Array**	**151.25**	**47**	PKPbc	PKPbc	07 10 12.5	-0.3
	0.5nm,0.7s,baz=235,slow=5.1,SNR=3.5						
BVAR				PKPab	PKPab	07 10 20.0	-0.8
	0.5nm,0.5s,baz=276,slow=4.3,SNR=4.8						
MKAR	**Makanchi Array**	**160.46**	**56**	PKPab	PKPab	07 10 59.2	-1.2
	0.4nm,0.6s,baz=296,slow=3.4,SNR=5.5						

IDC 25 06:51:32.2±1.7, 10.26S×123.66E, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.3/20, mbtmp3.2/4, ML3.1/3, Error ellipse: s-maj=114.9km s-min=26.6km az=61.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**0.05**	**5**	Pn	Pg	06 51 38.2	+4.9
	baz=53,slow=20						
BATI				Sn	Sg	06 51 40.8	+6.8
	3µm,0.3s,baz=233,slow=20,SNR=360						
FITZ	**Fitzroy Crossi**	**8.03**	**166**	Pn	Pn	06 53 31.5	+1.3
	0.4nm,0.3s,baz=349,slow=18,SNR=14						
FITZ				Sn	Sn	06 54 58.2	-3.6
	0.4nm,0.3s,baz=236,slow=18,SNR=7.0						
WRA	**Warramunga Arr**	**14.10**	**134**	Pn	Pn	06 54 52.3	-1.1
	0.1nm,0.3s,baz=306,slow=14,SNR=6.1						
WRA				Sn	Sn	06 57 19.2	-12
	0.1nm,0.3s,baz=309,slow=25,SNR=4.6						
ASAR	**Alice Springs**	**16.53**	**145**	Pn	Pn	06 55 24.8	-0.9
	0.1nm,0.3s,baz=317,slow=12,SNR=5.8						
ASAR				Sn	Sn	06 58 23.6	-6.4
	0.1nm,0.3s,baz=316,slow=21,SNR=4.4						
MKAR	**Makanchi Array**	**67.73**	**331**	P	P	07 02 31.6	0.0
	0.3nm,0.8s,baz=124,slow=5.7,SNR=3.0						

IDC 25 07:15:52.9±1.2, 8.95S×74.79W, h0km, mb3.6/2, mb1 3.9/5, mb1mx3.7/23, mbtmp3.7/5, ML3.7/3, Error ellipse: s-maj=35.8km s-min=23.5km az=50.0, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.63**	**214**	Pn	Pn	07 16 50.0	-0.5
	1.9nm,0.3s,baz=48,slow=7.1,SNR=7.3						
NNA				Sn	Sn	07 17 30.3	-3.9
	15nm,0.3s,baz=290,slow=18,SNR=8.4						
LPAZ	**La Paz**	**9.76**	**139**	Pn	Pn	07 18 17.0	+1.5
	0.1nm,0.3s,baz=333,slow=14,SNR=5.8						
LPAZ				Lg	Lg	07 21 02.6	
	0.5nm,0.3s,baz=194,slow=16,SNR=6.0						
SIV	**San Ignacio**	**15.10**	**119**	Pn	Pn	07 19 28.7	+1.0
	1.4nm,0.3s,baz=302,slow=12,SNR=61						
TXAR	**Lajitas Array**	**47.15**	**325**	P	P	07 24 27.7	+0.4
	0.3nm,0.8s,baz=154,slow=8.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**79.04**	**75**	P	P	07 27 59.0	-0.7
	0.6nm,0.8s,baz=264,slow=5.3,SNR=4.4						
FITZ	**Fitzroy Crossi**	**146.40**	**217**	PKPbc	PKPdf	07 35 35.7	+0.2
	1.2nm,0.6s,baz=157,slow=2.4,SNR=5.2						

*ISCJB **25** 07:20:10.8±0.4, 38.14S±0.03×74.12W±0.07, h10km, mb4.5/22, MS4.2/7, Error ellipse: s-maj=7.9km s-min=4.2km az=11.0*
*GUC **25** 07:20:12.5±0.7, 38.19S×74.06W, h28km±4km, ML4.7*
*NEIC **25** 07:20:12.5, 38.19S×74.06W, h28km, mb4.7/11, ML4.7(GUC), After GUC.*
NEIC Felt [II] at Canete, Los Alamos and Tirua.
*IDC **25** 07:20:13.3±0.7, 38.15S×73.68W, h0km, mb4.2/9, mb1 4.3/13, mb1mx4.2/19, mbtmp4.2/13, ML3.9/4, MS4.1/10, Ms1 4.0/10, ms1mx3.8/23, Error ellipse: s-maj=24.3km s-min=13.6km az=77.0*
*BJI **25** 07:20:26.4, 37.53S×72.40W, h34km, mB5.1/3, Ms7 4.6/1*
ISC 25 07:20:22.9±0.4, 38.28S±0.03×72.82W±0.09, h33km, n343, σ1°61/318, mb4.6/22, MS4.2/7, 130C-120D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**1.45**	**351**	*e*P	Pn	07 20 38.8	-8.0
CCSP				*i* S	Sn	07 20 58.7	-5.9
VLCH	**Valdivia**	**1.56**	**192**	*e*P	Pn	07 20 41.5	-6.7
VLCH				*i* S	**Sn**	**07 21 04.0**	**-3.2**
VLCH	**Valdivia**	**1.56**	**192**	*e*P	Pn	07 20 41.5	-6.7
VLCH				*i* S	**Sn**	**07 21 04.0**	**-3.2**
VLCH				AML	AML	07 21 18.7	
	comp=N,22µm,0.4s						
CCHI	**Chillan**	**1.78**	**20**	*e*P	**Pn**	**07 20 48.9**	**-2.4**
CCHI				S	**Sb**	**07 21 17.7**	**+1.0**
CCHI	**Chillan**	**1.78**	**20**	*e*P	**Pn**	**07 20 48.9**	**-2.4**
CCHI				*e*S	**Sb**	**07 21 17.7**	**+1.0**
CCHI				AML	AML	07 21 39.4	
	comp=N,3µm,0.7s						
COCH	**Cobquecura**	**2.15**	**1**	*e*P	Pn	07 20 49.8	-6.5
COCH	**Cobquecura**	**2.15**	**1**	*e*P	Pn	07 20 49.8	-6.5
COCH				AML	AML	07 21 34.2	
	comp=E,1µm,0.4s						
PUYE	**Entre Lagos**	**2.41**	**176**	P	**Pn**	**07 20 57.4**	**-2.5**
PUYE				S	**Sn**	**07 21 27.0**	**-1.2**
PUYE	**Entre Lagos**	**2.41**	**176**	*e*P	**Pn**	**07 20 57.4**	**-2.5**
PUYE				*e*S	**Sn**	**07 21 27.0**	**-1.2**
PUYE				AML	AML	07 21 55.3	
	comp=N,12µm,0.6s						
PLCA	**Paso Flores**	**3.01**	**145**	Pn	**Pn**	**07 21 09.7**	**+1.3**
PLCA				Pg	**Pb**	**07 21 17.2**	**+1.3**
PLCA				Lg	Lg	07 22 06.9	
PLCA	**Paso Flores**	**3.01**	**145**	Pn	**Pn**	**07 21 09.7**	**+1.3**
	comp=N,1.6nm,0.3s,baz=309,slow=16,SNR=18						
PLCA				Pg	**Pb**	**07 21 17.2**	**+1.3**
	comp=N,10nm,0.3s,baz=296,slow=15,SNR=57						
PLCA				Lg	Lg	07 22 06.9	
	comp=N,31nm,0.3s,baz=356,slow=18,SNR=8.3						
TALC	**Talca**	**3.03**	**19**	*e*P	Pn	07 21 05.3	-3.3
TALC				*e*S	**Sn**	**07 21 44.6**	**+0.9**
TALC	**Talca**	**3.03**	**19**	*e*P	Pn	07 21 05.3	-3.3
TALC				*e*S	**Sn**	**07 21 44.6**	**+0.9**
TALC				AML	AML	07 22 13.7	
	comp=N,4µm,0.8s						
CACH	**El Canelo**	**4.53**	**24**	P	Pn	07 21 23.5	-5.7
CACH	**El Canelo**	**4.53**	**24**	*e*P	Pn	07 21 23.5	-5.7

CHCH Chadas Angostu 4.68 23 *e*P Pn 07 21 27.9 -3.4
CHCH Chadas Angostu 4.68 23 *e*P Pn 07 21 27.9 -3.4
TACH Talagante 4.87 19‖ *e*P Pn 07 21 29.6 -4.1
TACH Talagante 4.87 19‖ *e*P Pn 07 21 29.6 -4.1
LMEL Las Melosas 4.91 26 *e*P **Pn** **07 21 32.0 -2.4**
LMEL Las Melosas 4.91 26 *e*P **Pn** **07 21 32.0 -2.4**
PCH Pirque 5.01 23‖ *e*P Pn 07 21 32.2 -3.7
PCH Pirque 5.01 23‖ *e*P Pn 07 21 32.2 -3.7
CLCH Cerro Calan 5.22 22 *e*P Pn 07 21 29.1 -10
CFAA Coronel Fontan 7.65 31 LR LR 07 25 21.6
comp=N,136nm,18.9s,baz=219,slow=39
TRQA Tornquist 8.54 92 *e*Pn Pn 07 22 30.2 +5.9
LCO Las Campanas 9.41 11 *e*Pn Pn 07 22 29.2 -7.2
LVC Limon Verde 15.97 13 Pn **Pn** **07 24 01.5 -3.9**
LVC Limon Verde 15.97 13 Pn **Pn** **07 24 01.5 -3.9**
comp=N,0.2nm,0.3s,baz=219,slow=6.5,SNR=2.3
USHA Ushuaia 16.82 171 P **Pn** **07 24 13.7 -2.0**
USHA Ushuaia 16.82 171 P **Pn** **07 24 13.7 -2.0**
comp=N,0.2nm,0.3s,baz=0.9,slow=10,SNR=3.9
USHA LR LR 07 31 42.1
comp=N,993nm,19.1s,baz=39,slow=40
CPUP Villa Florida 17.68 52 P **P** **07 24 27.2 0.0**
CPUP Villa Florida 17.68 52 P **P** **07 24 27.2 0.0**
comp=N,0.3nm,0.3s,baz=214,slow=11,SNR=7.8
CPUP LR LR 07 32 12.8
comp=N,755nm,21.2s,baz=210,slow=40
LPAZ La Paz 22.30 12 P P 07 25 13.3 -4.8
LPAZ La Paz 22.30 12 P P 07 25 13.3 -4.8
comp=N,6.2nm,0.9s,baz=144,slow=6.2,SNR=4.9
SIV San Ignacio 24.50 28 LR LR 07 37 11.5
comp=N,644nm,18.1s,slow=41
BDFB Brasilia 31.40 51 P **P** **07 26 41.1 +0.1**
BDFB Brasilia 31.40 51 P **P** **07 26 41.1 +0.1**
comp=N,3.5nm,0.8s,baz=204,slow=8.6,SNR=4.2
BDFB LR LR 07 40 33.9
comp=N,354nm,18.6s,baz=77,slow=38
SNAA Sanae 47.90 156 *e*P **P** **07 28 56.2 -1.2**
SNAA Sanae 47.90 156 *e*pP pP 07 29 05.5 -1.8
SNAA Sanae 47.90 156 P **P** **07 28 56.4 -1.0**
SNAA Sanae 47.90 156 P **P** **07 28 56.4 -1.0**
comp=N,3.3nm,1.1s,baz=274,slow=5.9,SNR=14
QSPA South Pole Qui 51.96 180 P P 07 29 24.6 -3.9
QSPA South Pole Qui 51.96 180 P P 07 29 24.6 -3.9
comp=N,5.6nm,0.9s,baz=147,slow=2.2,SNR=13
RKT Rikitea 54.59 267 *e*LR LR 07 45 08.9
comp=N,251nm,28.0s
VNDA Vanda 59.79 192 P P 07 30 19.9 -4.2
VNDA Vanda 59.79 192 P P 07 30 19.9 -4.2
comp=N,0.9nm,0.9s,baz=267,slow=10.0,SNR=4.0
TBI Tubuai 65.78 259 *e*LR LR 07 50 20.1
comp=N,149nm,24.8s
PPT2 Papeete2 69.06 264 *e*S S 07 40 10.6 -18
comp=N,95nm,24.2s
PPT2 Papeete2 69.06 264 *e*LR LR 07 51 50.3
comp=N,147nm,26.8s
PPT Papeete 69.08 264 LR LR 07 53 19.0
comp=N,76nm,21.8s,baz=148,slow=29
MAW Mawson 69.27 163 LR LR 08 02 41.1
comp=N,217nm,22.0s,baz=107,slow=37
732A Laxson Ranch, 71.34 335 ⇑P **P** **07 31 38.9 -0.3**
baz=71,SNR=8.7
632A Uvalde 71.99 335 ⇑P **P** **07 31 43.5 +0.3**
baz=72,SNR=6.7
631A Perdido Creek 72.17 335 ⇑P **P** **07 31 44.7 +0.5**
baz=72
LRAL Lakeview Retre 72.17 348 *e*P P 07 31 32.7 -11
comp=N,10nm,1.2s
LRAL *e* 07 31 43.1
532A Rocksprings 72.61 336 ⇑P **P** **07 31 47.0 +0.2**
baz=72,SNR=9.3
531A Rocksprings 72.85 335 ⇑P **P** **07 31 48.6 +0.3**
baz=73,SNR=8.9
JCT Junction City 72.90 336 *e*P P 07 31 39.0 -10
comp=N,24nm,1.3s
JCT *e* 07 31 48.4
JCT Junction City 72.90 336 ⇓P **P** **07 31 48.7 +0.1**
baz=73,SNR=10
628A Black Gap, Mar 73.04 333 ⇑P **P** **07 31 49.7 +0.2**
baz=73,SNR=7.2
530A J-C Ranch, Com 73.10 334 ⇓P **P** **07 31 49.9 +0.1**
baz=73,SNR=11
TXAR Lajitas Array 73.18 332 P P 07 31 43.8 -6.6
TXAR Lajitas Array 73.18 332 P P 07 31 43.8 -6.6
comp=N,0.4nm,0.7s,baz=156,slow=7.9,SNR=6.4
627A Terlingua Ranc 73.19 332 ⇓P **P** **07 31 50.1 -0.3**
baz=73,SNR=5.9
432A Menard 73.26 336 ⇓P **P** **07 31 50.5 -0.3**
baz=73,SNR=6.5
431A Sonora 73.35 335 ⇓P **P** **07 31 51.6 +0.4**
baz=73
529A Stev Forest Ra 73.38 334 ⇓P **P** **07 31 51.4 -0.1**
baz=73,SNR=5.4
KMSC Kings Mountain 73.48 353 ⇓P **P** **07 31 52.0 +0.2**
baz=74
626A Big Bend Ranch 73.56 332 ⇑P **P** **07 31 52.8 +0.2**
baz=73,SNR=6.6
WHTX Lake Whitney 73.58 338 ⇓P **P** **07 31 52.5 -0.1**
baz=74
430A Baggett Ranch, 73.65 335 ⇓P **P** **07 31 53.1 0.0**
baz=74,SNR=14
332A Millersview 73.71 336 ⇑P **P** **07 31 52.9 -0.5**
baz=74,SNR=9.0
429A Davenport Ranc 73.73 334 ⇑P **P** **07 31 53.3 -0.2**
baz=74,SNR=8.3
331A San Angelo 73.86 336 ⇓P **P** **07 31 53.7 -0.6**
baz=74,SNR=9.3
527A Woodward Ranch 73.90 333 ⇑P **P** **07 31 54.4 -0.2**
baz=74,SNR=5.5
526A Mary Lane Ranc 74.00 332 ⇓P **P** **07 31 55.1 -0.1**
baz=74,SNR=8.6
232A Coleman 74.15 336 ⇑P **P** **07 31 55.5 -0.4**
baz=74,SNR=6.3
330A Mertzon 74.20 335 ⇓P **P** **07 31 55.8 -0.4**
baz=74,SNR=6.2
231A Bronte 74.41 336 ⇓P **P** **07 31 56.9 -0.5**
baz=74,SNR=5.9
427A Hayter Ranch, 74.46 333 ⇑P **P** **07 31 57.6 -0.2**
baz=74
426A McDonald Obser 74.52 332 ⇑P **P** **07 31 58.4 0.0**
baz=74,SNR=10
329A Wagon Wheel Ra 74.55 334 ⇓P **P** **07 31 58.3 +0.1**
baz=74
230A Sterling City 74.62 335 ⇑P **P** **07 31 58.6 0.0**
baz=74
328A Wristen Ranch, 74.73 334 ⇓P **P** **07 31 58.3 -1.0**
baz=75
ABTX Abilene, Hawle 74.83 337 ⇑P **P** **07 31 59.0 -0.9**
baz=75
229A Bryant Ranch, 74.93 335 ⇑P **P** **07 31 59.6 -0.9**
baz=75
425A Indio Mountain 74.98 332 ⇑P **P** **07 32 00.3 -0.6**
baz=75
326A Caldwell Ranch 75.09 333 ⇑P **P** **07 32 01.2 -0.3**
baz=75
131A Roby 75.11 336 ⇑P **P** **07 32 00.9 -0.6**
baz=75
TZTN Tazewell 75.11 351 *e*P P 07 31 51.7 -10
comp=N,14nm,1.1s
130A Snyder 75.23 336 ⇑P **P** **07 32 01.3 -0.9**
baz=75
228A UT Block 9, Go 75.33 334 ⇓P **P** **07 32 02.3 -0.5**
baz=75
Z32A Haskell 75.42 337 ⇑P **P** **07 32 02.7 -0.4**
baz=75,SNR=10
227A Bennet, Jal 75.48 334 ⇓P **P** **07 32 03.8 +0.1**
baz=75
129A Stewart Farms, 75.55 335 ⇓P **P** **07 32 03.8 -0.2**
baz=75
Z31A Sharp Cattle R 75.63 337 ⇓P **P** **07 32 04.0 -0.4**
baz=76,SNR=6.3
128A Castleberry Fa 75.75 334 ⇑P **P** **07 32 04.9 -0.4**
baz=76
324A Moseley Ranch, 75.76 332 ⇑P **P** **07 32 04.4 -0.9**
baz=76
226B Tecolote Peak, 75.84 333 ⇓P **P** **07 32 05.8 0.0**
baz=76
Z30A Sanderson Ranc 75.91 336 ⇓P **P** **07 32 05.4 -0.7**
baz=76,SNR=7.6
Y32A R-V Farms, Ver 76.05 337 ⇓P **P** **07 32 06.4 -0.4**
baz=76,SNR=5.1
Z29A Hungry Hill Ra 76.08 335 ⇑P **P** **07 32 06.7 -0.3**
baz=76,SNR=12
Y31A Rekieta Farm, 76.26 337 ⇓P **P** **07 32 07.9 -0.1**
baz=76
126A Clayton Basin, 76.31 333 ⇑P **P** **07 32 08.2 -0.2**
baz=76
Z28A Tucker Farm, M 76.33 335 ⇑P **P** **07 32 08.3 -0.2**

baz=76
224A **Cornudas Mount** 76.34 332 ⇓P P 07 32 08.1 -0.5
baz=76
WMOK **Wichita Mounta** 76.54 338 *e*P P 07 31 58.7 -11
comp=N,15nm,1.4s
WMOK *e* 07 32 08.9
125A **Gardner Draw,** 76.55 333 ⇓P P 07 32 09.3 -0.5
baz=76
X31A **McDonald Ranch** 76.80 337 ⇑P P 07 32 10.7 -0.3
baz=77,SNR=9.1
TUL1 **Tulsa** 76.82 341 ⇓P P 07 32 10.6 -0.4
baz=77,SNR=7.2
Y28A **McKinney Farm,** 76.85 335 ⇓P P 07 32 11.1 -0.3
baz=77
Z26A **Caprock** 76.86 334 ⇓P P 07 32 11.5 -0.1
baz=77
124A **Stringfield Ra** 76.87 332 ⇑P P 07 32 11.8 0.0
baz=77,SNR=8.5
X30A **Coker Ranch, T** 76.90 336 ⇑P P 07 32 11.7 0.0
baz=77
Z25A **Roswell** 77.13 333 ⇑P P 07 32 13.2 +0.2
baz=77
Y27A **Causey** 77.13 334 ⇓P P 07 32 13.0 -0.1
baz=77
X29A **Tulia** 77.16 336 ⇑P P 07 32 13.1 0.0
baz=77
DBIC **Dimbokro** 77.17 71 P P 07 32 12.0 -1.5
DBIC **Dimbokro** 77.17 71 P P 07 32 12.0 -1.5
comp=N,5.4nm,0.8s,baz=197,slow=6.1,SNR=5.3
DBIC LR LR 08 04 54.0
comp=N,134nm,19.3s,baz=186,slow=34
319A **Douglas** 77.19 329 ⇑P P 07 32 13.5 +0.1
baz=77
W31A **Holland Ranch,** 77.30 337 ⇑P P 07 32 14.0 +0.2
baz=77
220A **Playas Peak, P** 77.35 329 ⇓P P 07 32 14.2 -0.2
baz=77
X28A **Dimmitt** 77.39 335 ⇑P P 07 32 14.4 0.0
baz=77
Y26A **Elida** 77.40 334 ⇓P P 07 32 14.5 -0.1
baz=77
Z24A **Sheeppen Canyo** 77.41 333 ⇑P P 07 32 14.8 +0.1
baz=77
Y25A **Mesa, Roswell** 77.70 333 ⇓P P 07 32 16.5 +0.2
baz=78
W29A **Amraillo** 77.77 336 ⇑P P 07 32 16.6 0.0
baz=78
X27A **F and S Farms,** 77.81 335 ⇑P P 07 32 16.8 0.0
baz=78
V31A **Spring Creek L** 77.82 338 ⇑P P 07 32 16.8 +0.1
baz=78,SNR=5.5
120A **U Bar Ranch, L** 77.95 330 ⇑P P 07 32 18.3 +0.6
baz=78
X26A **CR and CF Fran** 77.96 334 ⇑P P 07 32 17.8 +0.1
baz=78
Y24A **Capitan** 77.97 333 ⇑P P 07 32 17.8 0.0
baz=78
W27A **Bowe Ranch, En** 78.18 335 ⇑P P 07 32 18.5 -0.4
baz=78,SNR=6.6
Y23A **Lovelace Mesa,** 78.20 332 ⇑P P 07 32 19.4 +0.3
baz=78
Z21A **St. Cloud Mine** 78.25 331 ⇓P P 07 32 20.1 +0.7
baz=78
W26A **Owens Ranch, T** 78.44 335 ⇓P P 07 32 20.9 +0.6
baz=78
Z20A **Nine Sixteen R** 78.44 330 ⇓P P 07 32 20.8 +0.4
baz=78
BOSA **Boshof** 78.66 117 P P 07 32 20.9 -1.1
BOSA **Boshof** 78.66 117 P P 07 32 20.9 -1.1
comp=N,7.8nm,0.9s,baz=215,slow=4.7,SNR=6.4
BOSA LR LR 08 02 27.7
comp=N,117nm,18.7s,baz=166,slow=32
W25A **X Bar L Ranch,** 78.79 334 ⇓P P 07 32 22.0 -0.2
baz=79,SNR=5.9
Y21A **Point of Rocks** 78.87 331 ⇑P P 07 32 23.5 +0.7
baz=79,SNR=9.4
T31A **Randall Ranch,** 79.00 338 ⇑P P 07 32 23.6 +0.4
baz=79
Y20A **Horse Springs,** 79.05 330 ⇑P P 07 32 23.7 -0.2
baz=79
X22A **Bernardo** 79.06 332 ⇑P P 07 32 24.8 +1.0
baz=79
V26A **Tequesquite Ra** 79.08 335 ⇑P P 07 32 24.4 +0.5
baz=79
U28A **Mallet** 79.11 336 ⇓P P 07 32 24.2 +0.3
baz=79
W24A **Lazy 6 Ranch,** 79.11 333 ⇑P P 07 32 24.7 +0.6
baz=79
214A **Organ Pipe Nat** 79.19 326 ⇑P P 07 32 24.9 +0.5
baz=79
ANMO **Albuquerque** 79.25 332 *e*P P 07 32 13.2 -12
comp=N,13nm,1.3s
ANMO *e* 07 32 25.1
X21A **Alamocita Cree** 79.30 331 ⇑P P 07 32 25.6 +0.5
baz=79,SNR=8.1
W23A **Werner Place,** 79.33 333 ⇓P P 07 32 25.3 0.0
baz=79
U27A **Thompson Grove** 79.34 336 ⇓P P 07 32 25.6 +0.4
baz=79
V25A **Rancho No Teng** 79.40 334 ⇓P P 07 32 25.8 +0.1
baz=79,SNR=7.6
W22A **Albuquerque** 79.52 332 ⇓P P 07 32 26.7 +0.4
baz=79
V24A **Rampart Ranch,** 79.53 334 ⇓P P 07 32 26.7 +0.3
baz=79
T29A **Hugoton** 79.53 337 ⇓P P 07 32 26.6 +0.4
baz=79
U26A **Atchley Ranch,** 79.61 335 ⇓P P 07 32 27.8 +1.0
baz=80
X20A **Quemado** 79.66 331 ⇑P P 07 32 27.7 +0.6
baz=79
S30A **Montezuma** 79.73 338 ⇑P P 07 32 27.5 +0.3
baz=80
T28A **Walsh** 79.75 337 ⇑P P 07 32 27.8 +0.4
baz=80
U25A **Circle Dot Ran** 79.84 335 ⇓P P 07 32 28.2 +0.1
baz=80,SNR=7.3
W21A **San Fidel** 79.84 332 ⇓P P 07 32 28.4 +0.3
baz=80,SNR=5.6
V23A **Ortiz Mt. (NFS** 79.87 333 ⇑P P 07 32 28.6 +0.4
baz=80
T27A **Campo** 79.89 336 ⇓P P 07 32 28.5 +0.3
baz=80
S29A **Ulysses** 79.91 338 ⇑P P 07 32 28.7 +0.5
baz=80
R31A **Burdett** 80.06 339 ⇓P P 07 32 29.3 +0.3
baz=80
S28A **Manter** 80.12 337 ⇓P P 07 32 29.8 +0.4
baz=80,SNR=5.2
W20A **Ramah** 80.17 331 ⇓P P 07 32 30.4 +0.5
baz=80,SNR=10
R30A **Dighton** 80.28 338 ⇓P P 07 32 30.7 +0.6
baz=80
T26A **Comanche Natio** 80.28 336 ⇓P P 07 32 30.4 0.0
baz=80
V22A **San Miguel Ran** 80.28 333 ⇑P P 07 32 31.1 +0.6
baz=80,SNR=6.6
113A **Mohawk Valley,** 80.30 326 ⇓P P 07 32 30.8 +0.5
baz=80
U23A **El Rito** 80.39 333 ⇑P P 07 32 31.5 +0.4
baz=80
V21A **Milan** 80.45 332 ⇑P P 07 32 31.5 +0.2
baz=80
T25A **Trinidad** 80.51 335 ⇑P P 07 32 32.3 +0.7
baz=80,SNR=8.1
S26A **Kim** 80.64 336 ⇑P P 07 32 32.9 +0.6
baz=80,SNR=6.4
W18A **Petrified Fore** 80.65 330 ⇓P P 07 32 33.1 +0.7
baz=80
U22A **Llaves** 80.68 333 ⇓P P 07 32 33.1 +0.5
baz=80
X16A **Lo Mia Camp, P** 80.72 328 ⇑P P 07 32 33.4 +0.6
baz=80,SNR=8.3
V20A **Brimhall** 80.76 331 ⇑P P 07 32 33.4 +0.5
baz=80
R28A **Tribune** 80.78 337 ⇑P P 07 32 33.2 +0.3
baz=81,SNR=7.6
Q30A **Quinter** 80.90 339 ⇓P P 07 32 34.1 +0.6
baz=81
Y14A **Wickenburg** 80.97 327 ⇓P P 07 32 34.4 +0.4
baz=81
T23A **Casias Ranch,** 80.98 334 ⇑P P 07 32 34.7 +0.5
baz=81
S25A **Robets Cordova** 80.99 335 ⇓P P 07 32 34.4 +0.2
baz=81
U21A **Nageezi** 81.01 332 ⇓P P 07 32 34.8 +0.4
baz=81,SNR=5.6
R27A **Eads** 81.04 337 ⇑P P 07 32 34.7 +0.4
baz=81,SNR=5.1
Q29A **Oakley** 81.04 338 ⇑P P 07 32 34.7 +0.5
baz=81
S24A **Houchin Ranch,** 81.24 335 ⇑P P 07 32 36.5 +0.8
baz=81,SNR=6.0
R26A **Arlington** 81.25 336 ⇑P P 07 32 36.2 +0.7
baz=81,SNR=6.9
T22A **Edith** 81.26 333 ⇑P P 07 32 36.1 +0.4
baz=81,SNR=6.3
P30A **Selden** 81.44 339 ⇓P P 07 32 37.2 +0.9
baz=81
Q28A **Sharon Springs** 81.45 338 ⇑P P 07 32 37.3 +0.8
baz=81
T21A **Navajo Lake** 81.47 333 ⇓P P 07 32 37.4 +0.6
baz=81
WUAZ **Wupatki** 81.65 329 ⇓P P 07 32 38.5 +0.8
baz=81
P29A **Atwood** 81.69 338 ⇑P P 07 32 38.4 +0.8
baz=82
R24A **Sanders Place,** 81.73 335 ⇓P P 07 32 39.0 +0.9
baz=82,SNR=7.4
Q26A **Hugo** 81.85 336 ⇓P P 07 32 39.2 +0.6
baz=82
S22A **4UR Ranch, Cre** 81.89 333 ⇑P P 07 32 39.7 +0.6
baz=82
P28A **Saint Francis** 81.90 338 ⇓P P 07 32 39.8 +1.0
baz=82
R23A **Moffat** 81.94 334 ⇑P P 07 32 40.1 +0.8
baz=82
MVCO **Mesa Verde** 82.02 332 *e*P P 07 32 27.6 -12
comp=N,8.7nm,1.3s
MVCO *e* 07 32 39.2
MVCO **Mesa Verde** 82.02 332 ⇓P P 07 32 40.4 +0.7
baz=82
Q25A **Bedland, Calha** 82.07 336 ⇓P P 07 32 40.4 +0.5
baz=82
IRM **Iron Mountain** 82.09 326 ⇑P P 07 32 40.5 +0.7
baz=82
P27A **Ficken Ranch,** 82.13 337 ⇑P P 07 32 41.2 +1.1
baz=82
S21A **Coal Bank Pass** 82.16 333 ⇑P P 07 32 41.3 +0.8
baz=82
PFO **Pinyon Flat Ob** 82.22 324 ⇓P P 07 32 42.0 +1.3
baz=82
R22A **Saguache, Gunn** 82.30 334 ⇑P P 07 32 42.3 +1.1
baz=82
W13A **Hualapai Mount** 82.33 327 ⇑P P 07 32 42.2 +0.8
baz=82
BELC **Belle Mtn. Jos** 82.33 325 ⇑P P 07 32 42.3 +1.1
baz=82
O28A **Krutsinger Ran** 82.42 338 ⇓P P 07 32 42.7 +1.2
baz=82
S20A **Disappointment** 82.51 332 ⇓P P 07 32 43.4 +1.1
baz=82
P25A **Willow Gulch B** 82.59 336 ⇑P P 07 32 43.5 +0.9
baz=82
O27A **Beecher Island** 82.69 338 ⇑P P 07 32 44.0 +1.0
baz=83
R21A **Cimarron** 82.70 333 ⇑P P 07 32 44.5 +1.2
baz=82
U15A **North Rim** 82.81 329 ⇓P P 07 32 44.9 +1.0
baz=83,SNR=6.2
R20A **Redvale** 82.84 332 ⇓P P 07 32 45.0 +1.1
baz=83
LDFC **Landfair** 82.84 326 *e*P P 07 32 31.4 -13
comp=N,2.2nm,0.8s
PV01 **Paradox Valley** 82.86 332 *e*P P 07 32 31.5 -13
comp=N,271nm,1.1s
PV01 *e* 07 32 44.5
Q22A **Crested Butte,** 82.92 334 ⇓P P 07 32 45.3 +0.9
baz=83
Q21A **Lamborn Mesa,** 83.12 333 ⇑P P 07 32 46.7 +1.3
baz=83
SMCO **Snowmass** 83.22 334 *e*P P 07 32 35.5 -11
comp=N,7.7nm,1.1s
SMCO *e* 07 32 47.2
BFSC **Mount Baldy Ra** 83.29 324 ⇑P P 07 32 47.7 +1.5
baz=83
ISCO **Idaho Springs** 83.32 335 ⇑P P 07 32 47.3 +0.8
baz=83
TUQ **Turquoise Moun** 83.50 326 ⇑P P 07 32 48.4 +1.1
baz=83
P22A **Eagle** 83.52 334 ⇑P P 07 32 48.2 +0.8
baz=83
P21A **Newcastle** 83.69 334 ⇓P P 07 32 49.0 +0.7
baz=84
GSC **Goldstone** 83.78 325 ⇑P P 07 32 49.8 +1.1
baz=84
O23A **Lake Granby, G** 83.79 335 ⇓P P 07 32 50.0 +1.1
baz=84
EDW2 **Edwards Air Fo** 83.97 324 ⇓P P 07 32 50.8 +1.1
baz=84
P19A **Cripple Cowboy** 84.33 333 ⇑P P 07 32 52.3 +0.7
baz=84
N23A **Red Feather La** 84.42 335 ⇓P P 07 32 53.1 +1.1
baz=84
SRU **San Rafael** 84.44 331 *e*P P 07 32 41.7 -10
comp=N,4.9nm,1.1s
SRU *e* 07 32 52.0
N22A **Wattenberg Ran** 84.50 335 ⇓P P 07 32 53.7 +1.3
baz=84
O20A **White River Ci** 84.52 333 ⇑P P 07 32 53.0 +0.5
baz=84
Q16A **Castle Valley** 84.52 331 ⇓P P 07 32 53.4 +0.9
baz=84
FURC **Furnace Creek,** 84.78 326 ⇓P P 07 32 55.3 +1.8
baz=84
N21A **Black Mountain** 84.82 334 ⇑P P 07 32 54.9 +0.9
baz=85
O19A **Miners Draw (B** 84.97 333 ⇑P P 07 32 55.0 +0.4
baz=85
SPMN **St. Paul** 85.06 346 ⇑P P 07 32 55.3 +0.6
baz=85
N20A **Spence Gulch,** 85.14 334 ⇓P P 07 32 56.6 +1.0
baz=85
J28A **Allard Ranch,** 85.31 340 ⇑P P 07 32 57.7 +1.5
baz=85
L23A **Garrett** 85.44 336 ⇓P P 07 32 57.8 +0.8
baz=85
R11A **Troy Canyon, C** 85.81 328 ⇑P P 07 32 59.6 +0.7
baz=86
I28A **Midland** 85.83 340 ⇑P P 07 32 59.9 +1.2
baz=86
L21A **Rawlins** 85.85 335 ⇓P P 07 32 59.9 +0.8
baz=86
K23A **Bowen Ranch, D** 85.99 336 ⇓P P 07 33 00.7 +1.0
baz=86
I27A **Quinn** 86.13 339 ⇑P P 07 33 01.3 +1.0
baz=86
K22A **Casper** 86.18 336 ⇑P P 07 33 01.6 +0.9
baz=86
L20A **Wamsutter** 86.21 334 ⇓P P 07 33 01.6 +0.7
baz=86
J24A **Dixon Ranch, L** 86.22 337 ⇑P P 07 33 02.1 +1.3
baz=86
DUG **Dugway** 86.26 330 ⇑P P 07 33 01.5 +0.5
baz=86
TORD **Torodi Ar. Bea** 86.26 70 P P 07 32 59.1 -2.4
TORD **Torodi Ar. Bea** 86.26 70 P P 07 32 59.1 -2.4
comp=N,1.3nm,0.9s,baz=237,slow=2.4,SNR=5.0
K21A **Alcova** 86.41 335 ⇓P P 07 33 02.5 +0.7
baz=86
H28A **Mission Ridge** 86.41 340 ⇑P P 07 33 02.5 +1.0
baz=86
M17A **Scullys Gap (B** 86.56 332 ⇑P P 07 33 03.6 +1.0
baz=86
I25A **Rochford** 86.57 338 ⇓P P 07 33 03.4 +0.9
baz=86
MLAC **Mammoth Lakes** 86.63 325 ⇑P P 07 33 04.6 +1.5
baz=86
L19A **Farson** 86.65 334 ⇓P P 07 33 03.6 +0.6
baz=86,SNR=5.4
H27A **Howes** 86.66 340 ⇓P P 07 33 03.6 +0.8
baz=87
L18A **Fontenelle, Gr** 86.73 333 ⇓P P 07 33 04.4 +1.0
baz=87
G28A **Parade** 86.76 340 ⇑P P 07 33 04.5 +1.2
baz=87
K20A **Yellowstone Ra** 86.79 335 ⇑P P 07 33 04.6 +0.9
baz=87
HWUT **Hardware Ranch** 87.01 332 *e*P P 07 32 55.4 -9.3
comp=N,14nm,1.4s
HWUT *e* 07 33 04.8
H25A **Fruitdale** 87.08 339 ⇓P P 07 33 06.6 +1.7
baz=87
J21A **Lysite** 87.11 335 ⇑P P 07 33 06.6 +1.4
baz=87
K19A **Absolon Red Bu** 87.11 334 ⇑P P 07 33 06.3 +1.1
baz=87
PDAR **Pinedale Array** 87.30 334 P P 07 33 03.2 -3.0
comp=N,2.7nm,1.2s,baz=158,slow=4.8,SNR=10
G27A **Dupree** 87.31 340 ⇓P P 07 33 06.8 +0.9
baz=87
J20A **Shoshoni** 87.32 335 ⇓P P 07 33 07.3 +1.1
baz=87
G26A **Maurine** 87.41 339 ⇓P P 07 33 07.4 +1.0
baz=87
H24A **Dirks Ranch, A** 87.47 338 ⇓P P 07 33 07.4 +0.6
baz=87
I21A **Big Trails, Te** 87.47 336 ⇑P P 07 33 07.8 +0.9
baz=87
G25A **Newell** 87.55 339 ⇓P P 07 33 07.6 +0.5
baz=88
J19A **Crowheart** 87.57 334 ⇓P P 07 33 08.0 +0.6
baz=87
ELK **Elko** 87.69 329 LR LR 08 09 22.1
comp=N,72nm,19.4s,baz=269,slow=34
I20A **Worland** 87.87 335 ⇓P P 07 33 09.4 +0.7
baz=88
F26A **Lodgepole** 87.94 340 ⇓P P 07 33 09.5 +0.5
baz=88
I18A **Diamond G Ranc** 88.22 334 ⇑P P 07 33 11.2 +0.7
baz=88
I19A **Meeteetse** 88.23 335 ⇑P P 07 33 11.7 +1.1
baz=88
H20A **Greybull** 88.31 336 ⇑P P 07 33 12.1 +1.4
baz=88
F24A **Ekalaka** 88.44 338 ⇑P P 07 33 12.0 +0.6
baz=88
E26A **Carlson Angus** 88.46 340 ⇓P P 07 33 12.2 +0.8
baz=88
IMW **Indian Meadow** 88.78 333 *e*P P 07 33 04.0 -9.3
comp=N,4.5nm,1.3s
IMW *e* 07 33 13.2
I16A **Newdale** 88.95 333 ⇑P P 07 33 15.1 +1.2
baz=89
MDND **Maddock** 89.01 342 ⇓P P 07 33 15.3 +1.4
baz=89
H18A **Shoshone NF, C** 89.02 335 ⇑P P 07 33 15.6 +1.2
baz=89
G20A **Bridger** 89.03 336 ⇑P P 07 33 15.5 +1.3
baz=89
C27A **Sayler Ranch,** 89.36 341 ⇓P P 07 33 17.3 +1.7
baz=89
H16A **Russell Place,** 89.59 334 ⇓P P 07 33 18.0 +1.0
baz=89
I14A **Mackay** 89.71 332 ⇑P P 07 33 19.1 +1.5
baz=90
HLID **Hailey** 89.76 331 ⇑P P 07 33 19.2 +1.4
baz=90
F19A **Roth Farm, Mol** 89.83 336 ⇑P P 07 33 19.2 +1.3
baz=90
D23A **Lindsay** 89.87 339 ⇑P P 07 33 19.3 +1.3
baz=90
C24A **Savage** 89.97 339 ⇓P P 07 33 19.7 +1.2
baz=90
F18A **Big Timber** 90.12 335 ⇑P P 07 33 20.2 +0.9
baz=90
E20A **Meyer Farm, Mu** 90.14 336 ⇓P P 07 33 20.4 +1.1
baz=90
MFID **Camas Ranch** 90.18 330 ⇑P P 07 33 21.2 +1.5
baz=90
F17A **Fitzpatrick Pl** 90.44 335 ⇓P P 07 33 22.0 +1.2
baz=90
D20A **Manuel Ranch,** 90.67 337 ⇓P P 07 33 23.3 +1.6
baz=91
DGMT **Dagmar** 90.76 340 ⇑P P 07 33 23.6 +1.5
baz=91
H12A **Diamond D Ranc** 90.77 331 ⇑P P 07 33 23.5 +1.1
baz=91
D19A **Cripps Ranch,** 90.97 336 ⇓P P 07 33 24.0 +0.8
baz=91
E17A **Martinsdale** 90.99 335 ⇓P P 07 33 24.3 +0.8
baz=91
D18A **Linhart Farms,** 91.29 336 ⇓P P 07 33 26.0 +1.3
baz=91
G12A **Big Creek, Yel** 91.44 331 ⇑P P 07 33 27.0 +1.5
baz=91
C19A **Slack Wire Ran** 91.53 336 ⇓P P 07 33 27.2 +1.5
baz=91
C16A **Fuhringer Ranc** 92.46 335 ⇑P P 07 33 31.5 +1.5
baz=92
C14A **Swan Lake** 93.11 334 ⇓P P 07 33 34.1 +1.0
baz=93
A17A **Triple J Farms** 93.11 336 ⇑P P 07 33 33.9 +0.9
baz=93
B15A **Bradely Ranch,** 93.17 335 ⇑P P 07 33 34.3 +1.0
baz=93
C13A **Hot Springs** 93.33 333 ⇓P P 07 33 35.7 +1.6
baz=93
A16A **West Butte Ran** 93.41 336 ⇑P P 07 33 35.5 +1.1
baz=93
C12B **Naegeli Ranch,** 93.67 333 ⇓P P 07 33 37.4 +1.8
baz=94
A15A **Johnson Ranch,** 93.81 335 ⇓P P 07 33 38.0 +1.7
baz=94
B13A **Whitefish** 93.88 334 ⇑P P 07 33 38.0 +1.4
baz=94
NEW **Newport** 94.74 332 ⇓P P 07 33 41.8 +1.3
baz=94
BRTR **Keskin Array B** 124.38 64 PKP PKPdf 07 39 14.9 -3.5
BRTR **Keskin Array B** 124.38 64 PKP PKPdf 07 39 14.9 -3.5
comp=N,0.6nm,0.7s,baz=201,slow=5.7,SNR=3.0
AKTO **Aktyubinsk** 143.46 54 PKP PKPab 07 39 47.5 -2.3
AKTO **Aktyubinsk** 143.46 54 PKP PKPab 07 39 47.5 -2.3
comp=N,2.3nm,0.7s,baz=253,slow=4.2,SNR=12
ABKAR **Akbulak array** 144.71 56 *e*PKPdf PKPab 07 39 51.2 -3.3
BVAR **Borovoye Array** 150.74 48 PKP PKPdf 07 40 01.2 -4.3
BVAR PKPbc PKPbc 07 40 07.8 -3.3
BVAR PKPab PKiKP 07 40 14.8 +3.1
BVAR **Borovoye Array** 150.74 48 PKP PKPdf 07 40 01.2 -4.3
comp=N,0.3nm,0.4s,baz=247,slow=5.9,SNR=3.4
BVAR PKPbc PKPbc 07 40 07.8 -3.3
comp=N,2.4nm,0.8s,baz=240,slow=8.4,SNR=14
BVAR PKPab PKiKP 07 40 14.8 +3.1
comp=N,4.6nm,0.8s,baz=302,slow=3.3,SNR=15
KSH **Kashi** 155.74 77 *e*PKPbc PKPdf 07 40 17.8 +4.5
KSH PP PP 07 44 23.8 +6.2
KSH SKS SKSdf 07 47 19.3 +2.1
KSH SKKS SKKSac 07 51 08.0 +3.7
KSH AMB AMB
comp=Z,78nm,4.5s
KURBB **Kurchatov Arra** 156.28 49 PKPab PKPab 07 40 38.9 -2.8
comp=Z,1.4nm,0.6s,baz=286,slow=5.1,SNR=6.1
KURK **Kurchatov** 156.30 49 PKPab PKPab 07 40 38.9 -2.9
ZALV **Zalesovo Beam** 158.10 37 PKPab PKPab 07 40 45.8 -3.6
ZALV **Zalesovo Beam** 158.10 37 PKPab PKPab 07 40 45.8 -3.6
comp=Z,1.2nm,0.7s,baz=308,slow=7.3,SNR=5.1
MKAR **Makanchi Array** 159.85 57 PKP PKPdf 07 40 13.8 -4.2
MKAR PKPab PKPab 07 40 55.1 -2.3
MKAR **Makanchi Array** 159.85 57 PKP PKPdf 07 40 13.8 -4.2
comp=Z,0.5nm,1.0s,baz=293,slow=0.9,SNR=3.6
MKAR PKPab PKPab 07 40 55.1 -2.3
comp=Z,1.7nm,0.8s,baz=286,slow=4.3,SNR=14
WMQ **Urumqi** 164.31 63 PKP PKPdf 07 40 27.5 +4.8
WMQ LR LR
comp=Z,110nm,24.5s
CN2 **Changchun** 165.16 298 *e*PKP PKPdf 07 40 28.0 +4.7
NJ2 **Nanjing** 168.60 240 *e*PKP PKPdf 07 40 32.5 +6.3
SONM **Songino Array** 170.43 3 PKPab PKPab 07 41 38.9 -4.9
SONM **Songino Array** 170.43 3 PKPab PKPab 07 41 38.9 -4.9
comp=Z,0.5nm,0.6s,baz=120,slow=2.0,SNR=2.6
CD2 **Chengdu** 172.13 158 *e*PKP PKPdf 07 40 33.0 +4.7
GTA **Gaotai** 174.14 77 *e*PKP PKPdf 07 40 32.0 +3.0
GTA pPKP pPKPdf 07 40 43.0 +3.1
GTA sPKP 07 40 46.5
HHC **Hu-ho-hao-te** 175.75 308 *e*PKP PKPdf 07 40 34.3 +4.9
HHC pPKP pPKPdf 07 40 44.8 +4.5
HHC sPKP 07 40 48.3
HHC PKS PKSdf 07 44 05.8 +4.3
HHC PP PP 07 46 04.5 +3.8
HHC SKS SKSdf 07 47 32.5 +2.6
HHC SKKS SKKSac 07 52 46.5 +2.1
HHC SS SS 08 07 22.3 -3.3
HHC AMB AMB
comp=Z,200nm,9.1s
LZH **Lanzhou** 176.55 128 *e*PKP PKPdf 07 40 34.5 +4.7
LZH pPKP pPKPdf 07 40 45.3 +4.6
LZH sPKP 07 40 49.0
LZH PKP PKPab 07 42 20.5 +8.9
LZH LR LR
comp=N,100nm,18.8s
LZH LR LR
comp=E,98nm,17.2s

LZH LR LR
comp=Z,120nm,20.0s

JMA 25 07:43:18.1±0.3, 26.26°N×124.76°E, h177km, M3.5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMJ	**Miyako jima 2**	**1.52**	**161**	S	Sn	07 44 14.4	-0.3
JOGS	**Gusukube**	**1.60**	**159**	S	Sn	07 44 16.6	+0.4
JTJ	**Tarama**	**1.61**	**182**	P	Pn	07 43 51.8	+0.9
JTJ				S	Sn	07 44 16.0	-0.3
JKE	**Kume jima 2**	**1.82**	**87**	P	Pn	07 43 53.7	+0.7
JKE				S	Sn	07 44 19.7	-0.3
JIJ	**Ishigaki jima**	**1.97**	**197**	P	Pn	07 43 54.5	-0.2
JIJ				S	Sn	07 44 21.0	-2.0
JKRS	**Kuro-shima**	**2.13**	**199**	P	Pn	07 43 56.7	+0.3
JKRS				S	Sn	07 44 24.5	-1.5
IRIF	**Iriomote-Funau**	**2.13**	**206**	P	Pn	07 43 55.9	-0.5
IRIF				S	Sn	07 44 25.5	-0.7
JAGN	**Aguni-jima**	**2.25**	**81**	P	Pn	07 43 57.7	0.0
JAGN				S	Sn	07 44 27.4	-1.0
HATJ	**Hateruma jima**	**2.36**	**202**	S	Sn	07 44 28.7	-2.1
YOJ	**Yonaguni jima**	**2.39**	**222**	P	Pn	07 44 00.0	+0.6
JJT2	**Tamagusuku 2**	**2.69**	**92**	P	Pn	07 44 03.3	+0.5
JIH	**Iheya**	**2.97**	**74**	P	Pn	07 44 06.0	-0.2
JIH				S	Sn	07 44 41.1	-2.6
JOW	**Kunigami**	**3.20**	**79**	P	Pn	07 44 08.4	-0.6
JOW				S	Sn	07 44 45.0	-3.8
JTK	**Tokunoshima**	**4.04**	**67**	P	Pn	07 44 18.0	-1.5
JTK				S	Sn	07 45 03.1	-4.5
JAMN	**Amaminishikomi**	**4.40**	**62**	P	Pn	07 44 22.2	-2.0
JAMN				S	Sn	07 45 11.8	-4.1
JAM	**Amami Oshima**	**4.81**	**62**	P	Pn	07 44 27.3	-2.2
JAM				S	Sn	07 45 19.8	-5.8
JMZ	**Minamidaito 2**	**5.83**	**93**	P	Pn	07 44 41.1	-1.7

*IDC **25** 07:46:02.3±0.6, 61.50N×147.73W, h0km, mb4.1/16, mb1 4.3/19, mb1mx4.1/30, mbtmp4.1/19, ML3.4/3, MS3.3/8, Ms1 3.3/8, ms1mx3.1/38, Error ellipse: s-maj=14.7km s-min=9.8km az=46.0*

*BJI **25** 07:46:02.0, 61.40N×147.40W, h5km, mB4.2/2, Ms4.5/2, Ms7 4.5/2*

*MOS **25** 07:46:02.8±1.9, 61.42N×147.47W, h10km, mb4.6/16, Error ellipse: s-maj=13.7km s-min=6.0km az=92.6*

*ISCJB **25** 07:46:06.5±0.3, 61.41N±0.02×147.46W±0.03, h32km±3km, mb4.2/54, MS3.7/4, Error ellipse: s-maj=3.7km s-min=2.5km az=26.3*

*NEIC **25** 07:46:07.8, 61.36N×147.42W, h23km, mb4.3/32, ML4.0(AEIC), After AEIC.*

NEIC Felt [II] at Anchorage and Girdwood. Also felt at Cordova, Eagle River and Sutton.

ISC 25 07:46:05.6±0.7, 61.38N±0.03×147.43W±0.02, h17km±4km, n488, σ1°16/509, mb4.3/54, MS3.8/5, 141C-143D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCM	**Sheep Creek Mo**	**0.46**	**6**	P	**Pb**	**07 46 15.8**	**+0.6**
SCM				S	**Sb**	**07 46 22.9**	**+1.1**
SCM	**Sheep Creek Mo**	**0.46**	**6**	P	**Pb**	**07 46 15.8**	**+0.6**
SCM				S	**Sb**	**07 46 22.9**	**+1.1**
JPK	**Jack Peak**	**0.52**	**129**	P	**Pg**	**07 46 16.9**	**+0.9**
GLI	**Glacier Island**	**0.53**	**162**	P	**Pg**	**07 46 16.9**	**+0.7**
VLZ	**Valdez**	**0.59**	**115**	P	**Pg**	**07 46 17.4**	**+0.2**
VLZ				S	**Sb**	**07 46 26.4**	**+1.1**
SML	**Sawmill**	**0.61**	**315**	P	**Pb**	**07 46 18.0**	**+0.2**
SML				S	**Sb**	**07 46 26.7**	**+0.6**
SML	**Sawmill**	**0.61**	**315**	P	**Pb**	**07 46 17.9**	**+0.2**
SML				S	**Sb**	**07 46 26.7**	**+0.6**
KLU	**Klutina**	**0.73**	**81**	P	**Pb**	**07 46 19.6**	**-0.3**
DIV	**Divide**	**0.84**	**107**	P	**Pb**	**07 46 21.2**	**-0.5**
PMR	**Palmer**	**0.84**	**285**	P	**Pb**	**07 46 21.5**	**-0.2**
PMR				S	**Sn**	**07 46 35.1**	**+0.5**
PMR	**Palmer**	**0.84**	**285**	P	**Pb**	**07 46 21.5**	**-0.2**
PMR				S	**Sn**	**07 46 35.1**	**+0.5**
PTE	**Portage**	**0.93**	**237**	P	**Pb**	**07 46 23.1**	**-0.1**
EYAK	**Cordova Ski Ar**	**1.17**	**135**	P	**Pn**	**07 46 27.4**	**+0.3**
EYAK				S	**Sn**	**07 46 43.3**	**+0.7**
SGAM	**Sherman Glacie**	**1.40**	**128**	P	**Pn**	**07 46 31.2**	**+1.0**
BMRM	**Bremner River**	**1.43**	**106**	P	**Pn**	**07 46 31.0**	**+0.2**
HARP	**HAARP**	**1.49**	**45**	P	**Pn**	**07 46 32.1**	**+0.6**
GOAT	**Goat Mountain**	**1.54**	**120**	P	**Pn**	**07 46 32.9**	**+0.6**
SUA	**Susitna One**	**1.59**	**274**	P	**Pn**	**07 46 33.4**	**+0.3**
WACK	**Wrangell Chich**	**1.60**	**66**	P	**Pn**	**07 46 33.8**	**+0.6**
SLKM	**Skilak Lake**	**1.62**	**238**	P	**Pn**	**07 46 34.1**	**+0.7**
SLKM	**Skilak Lake**	**1.62**	**238**	P	**Pn**	**07 46 34.0**	**+0.7**
TRAP	**Trapper Creek**	**1.64**	**307**	P	**Pn**	**07 46 34.0**	**+0.4**
WASW	**Wrangell South**	**1.65**	**69**	P	**Pn**	**07 46 34.6**	**+0.7**
RAGM	**Ragged Mountai**	**1.68**	**125**	P	**Pn**	**07 46 34.9**	**+0.8**
DHY	**Denali Highway**	**1.70**	**1**	P	**Pn**	**07 46 34.6**	**0.0**
WANC	**Wrangell North**	**1.72**	**67**	P	**Pn**	**07 46 35.4**	**+0.7**
GLB	**Gilahina Butte**	**1.74**	**86**	P	**Pn**	**07 46 35.3**	**+0.2**
PAX	**Paxson**	**1.84**	**29**	P	**Pn**	**07 46 37.5**	**+1.0**
PAX	**Paxson**	**1.84**	**29**	P	**Pn**	**07 46 37.5**	**+1.0**
HUR	**Hurricane**	**1.91**	**328**	P	**Pn**	**07 46 38.7**	**+1.4**
VRDI	**Verde Repeater**	**1.93**	**93**	P	**Pn**	**07 46 38.2**	**+0.5**
NKA	**Nikishka**	**1.96**	**253**	P	**Pb**	**07 46 40.4**	**-0.3**
MID	**Middleton Isla**	**2.03**	**164**	P	**Pn**	**07 46 40.0**	**+1.0**
MID	**Middleton Isla**	**2.03**	**164**	P	**Pn**	**07 46 40.0**	**+1.0**
SKT	**Skwentna**	**2.04**	**289**	P	**Pn**	**07 46 39.8**	**+0.6**
NICHA	**Nichawak Mount**	**2.05**	**123**	P	**Pn**	**07 46 39.8**	**+0.6**
BERG	**Berg Lake**	**2.08**	**117**	P	**Pn**	**07 46 40.0**	**+0.4**
STLK	**Strandline Lak**	**2.12**	**275**	P	**Pn**	**07 46 41.3**	**+1.0**
MCARA	**McCarthy VSAT**	**2.12**	**88**	P	**Pn**	**07 46 41.3**	**+1.1**
RND	**Reindeer**	**2.14**	**343**	P	**Pn**	**07 46 41.6**	**+1.1**
RND	**Reindeer**	**2.14**	**343**	P	**Pn**	**07 46 41.6**	**+1.1**
SPU	**Mount Spurr**	**2.24**	**267**	P	**Pn**	**07 46 42.5**	**+0.6**
GRIN	**Grindle Hills**	**2.30**	**117**	P	**Pn**	**07 46 43.3**	**+0.6**
MENT	**Mentasta**	**2.34**	**46**	ePn	**Pn**	**07 46 44.3**	**+1.3**
BRLK	**Bradley Lake**	**2.35**	**228**	P	**Pn**	**07 46 44.0**	**+0.5**
CKL	**Chakachamna La**	**2.38**	**268**	P	**Pn**	**07 46 44.4**	**+0.5**
BGL	**Barrier Glacie**	**2.40**	**269**	P	**Pn**	**07 46 44.6**	**+0.5**
PTPK	**Patty Peak**	**2.41**	**92**	P	**Pn**	**07 46 45.3**	**+1.0**
MCK	**McKinley**	**2.46**	**344**	P	**Pn**	**07 46 45.5**	**+1.6**
MCK	**McKinley**	**2.46**	**344**	P	**Pn**	**07 46 46.5**	**+1.6**
TRF	**Thorofare Moun**	**2.47**	**329**	P	**Pn**	**07 46 45.6**	**+0.5**
BALM	**Baldy**	**2.48**	**96**	P	**Pn**	**07 46 46.0**	**+0.7**
BALM	**Baldy**	**2.48**	**96**	P	**Pn**	**07 46 46.0**	**+0.7**
KIAG	**Kiagna River**	**2.50**	**98**	P	**Pn**	**07 46 46.2**	**+0.6**
BGRM	**Barrier Glacie**	**2.50**	**258**	P	**Pn**	**07 46 45.8**	**+0.3**
KULT	**Kultieth River**	**2.57**	**114**	P	**Pn**	**07 46 46.9**	**+0.4**
ISLE	**Juniper Island**	**2.60**	**105**	P	**Pn**	**07 46 47.0**	**+0.1**
BARK	**Barkley Ridge**	**2.61**	**110**	P	**Pn**	**07 46 47.9**	**+1.0**
CNPM	**China Poot**	**2.65**	**227**	P	**Pn**	**07 46 48.5**	**+1.0**
DFR	**Drift River**	**2.68**	**255**	P	**Pn**	**07 46 48.4**	**+0.4**
PPLA	**Purkeypile**	**2.70**	**306**	ePn	**Pn**	**07 46 49.0**	**+0.7**
PPLA				eSg	**Sb**	**07 47 28.4**	**+2.1**
BAGL	**Bagley Icefiel**	**2.76**	**107**	P	**Pn**	**07 46 50.2**	**+1.3**
RSO	**Redoubt South**	**2.76**	**253**	ePn	**Pn**	**07 46 49.5**	**+0.4**
NCT	**North Crescent**	**2.81**	**255**	P	**Pn**	**07 46 50.1**	**+0.4**
BARN	**Barnard Glacie**	**2.81**	**94**	P	**Pn**	**07 46 51.0**	**+1.1**
GRNC	**Granite Creek**	**2.84**	**101**	P	**Pn**	**07 46 50.9**	**+0.7**
MESA	**MESA**	**2.95**	**112**	P	**Pn**	**07 46 52.6**	**+0.9**
BWN	**Browne**	**2.95**	**342**	P	**Pn**	**07 46 52.9**	**+1.3**
ILIM	**Iliamna**	**3.01**	**247**	P	**Pn**	**07 46 53.0**	**+0.5**
SCRK	**Sand Creek**	**3.05**	**30**	P	**Pn**	**07 46 53.9**	**+0.8**
WRH	**Wood River Hil**	**3.12**	**355**	P	**Pn**	**07 46 54.8**	**+0.9**
BCA3	**Beaver Creek A**	**3.14**	**55**	P	**Pn**	**07 46 55.6**	**+1.4**
RKAV	**Rock Avalanche**	**3.17**	**107**	P	**Pn**	**07 46 56.1**	**+1.4**
TABL	**Table Mountain**	**3.21**	**104**	P	**Pn**	**07 46 56.9**	**+1.5**
CCB	**Clear Creek Bu**	**3.28**	**357**	P	**Pn**	**07 46 56.7**	**+0.6**
NEA	**Nenana**	**3.29**	**348**	P	**Pn**	**07 46 57.1**	**+0.8**
OPT	**Oil Point**	**3.35**	**241**	P	**Pn**	**07 46 58.7**	**+1.6**
IL1	**Eielson Array**	**3.41**	**4**	P	**Pn**	**07 46 58.4**	**+0.5**
ILAR	**Eielson Array**	**3.41**	**4**	Pn	**Pn**	**07 46 57.9**	**-0.1**
ILAR				Pg	Pb	07 47 00.6	-5.0
ILAR				Lg	Lg	07 47 43.1	
ILAR	**Eielson Array**	**3.41**	**4**	Pn	**Pn**	**07 46 57.9**	**-0.1**
	7.9nm,0.3s,baz=195,slow=12,SNR=275						
ILAR				Pg	Pb	07 47 00.6	-5.0
	11nm,0.3s,baz=191,slow=14,SNR=289						
ILAR				Lg	Lg	07 47 43.1	
	34nm,0.3s,baz=186,slow=21,SNR=10						
ILAR				LR	LR	07 48 26.7	
	comp=Z,305nm,19.4s,baz=304,slow=44						
COLA	**College**	**3.51**	**357**	P	**Pn**	**07 47 00.3**	**+1.0**
COLA	**College**	**3.51**	**357**	P	**Pn**	**07 47 00.3**	**+1.0**
MDM	**Murphy Dome**	**3.61**	**355**	P	**Pn**	**07 47 01.4**	**+0.7**
SVW2	**Sparrevohn**	**3.95**	**269**	P	**Pn**	**07 47 05.1**	**-0.3**
MLY	**Manley**	**3.96**	**339**	P	**Pn**	**07 47 06.7**	**+1.3**
TT01	**Tatalina**	**4.31**	**295**	P	**Pn**	**07 47 09.8**	**-0.5**
PNL	**Peninsula**	**4.33**	**110**	P	**Pn**	**07 47 11.3**	**+0.8**
EGAK	**Eagle**	**4.44**	**37**	ePn	**Pn**	**07 47 13.3**	**+1.3**
KDAK	**Kodiak Island**	**4.46**	**218**	P	**Pn**	**07 47 12.3**	**0.0**
KDAK				Lg	Lg	07 48 22.6	
KDAK	**Kodiak Island**	**4.46**	**218**	Pn	**Pn**	**07 47 12.3**	**0.0**
	8.5nm,0.3s,baz=41,slow=12,SNR=40						
KDAK				Lg	Lg	07 48 22.6	
	7.4nm,0.3s,baz=116,slow=22,SNR=6.3						
KDAK				LR	LR	07 49 11.8	
	comp=Z,322nm,18.7s,baz=50,slow=42						
DAWY	**Dawson**	**4.58**	**50**	P	**Pn**	**07 47 15.2**	**+1.3**
HYT	**Haines Junctio**	**4.85**	**92**	P	**Pn**	**07 47 18.4**	**+0.6**
OHAK	**Old Harbor**	**5.14**	**218**	P	**Pn**	**07 47 20.9**	**-0.7**
IM3	**Indian Mountai**	**5.41**	**331**	P	**Pn**	**07 47 26.2**	**+0.9**
COLD	**Coldfoot**	**5.99**	**350**	P	**Pn**	**07 47 34.2**	**+0.9**
WHY	**Whitehorse**	**6.14**	**91**	P	**Pn**	**07 47 35.0**	**-0.5**
BM3	**Burnt Mountain**	**6.18**	**10**	P	**Pn**	**07 47 36.0**	**-0.1**
SKAG	**Skagway**	**6.29**	**102**	ePn	**Pn**	**07 47 39.1**	**+1.7**
INK	**Inuvik**	**9.11**	**34**	P	**Pn**	**07 48 14.7**	**-1.3**
INK				Pn	Pn	07 48 17.1	+1.1
INK				Lg	Lg	07 50 50.8	
INK	**Inuvik**	**9.11**	**34**	Pn	**Pn**	**07 48 17.1**	**+1.1**
	0.3nm,0.3s,baz=243,slow=13,SNR=11						
INK				Lg	Lg	07 50 50.8	
	0.3nm,0.3s,baz=268,slow=2.6,SNR=4.6						
INK				LR	LR	07 52 19.7	
	comp=Z,95nm,19.8s,baz=292,slow=42						
DLBC	**Dease Lake**	**9.22**	**101**	P	**Pn**	**07 48 16.7**	**-0.9**
DLBC				Pn	Pn	07 48 19.1	+1.4
DLBC				Lg	Lg	07 50 47.1	
DLBC	**Dease Lake**	**9.22**	**101**	Pn	**Pn**	**07 48 19.1**	**+1.5**
	0.4nm,0.3s,baz=283,slow=12,SNR=12						
DLBC				Lg	Lg	07 50 47.1	
	0.2nm,0.3s,baz=52,slow=19,SNR=3.2						
DLBC				LR	LR	07 52 08.4	
	comp=Z,322nm,18.4s,baz=330,slow=39						
WRAK	**Wrangell Islan**	**9.24**	**116**	ePn	**Pn**	**07 48 19.2**	**+1.3**
	9.3nm,0.8s						
BBB	**Bella Bella**	**13.98**	**123**	LR	LR	07 54 50.9	
	comp=Z,79nm,20.6s,baz=81,slow=37						
YKA	**Yellowknife Ar**	**15.39**	**71**	Pn	**Pn**	**07 49 40.2**	**-1.5**
YKA	**Yellowknife Ar**	**15.39**	**71**	Pn	**Pn**	**07 49 40.2**	**-1.5**
	0.1nm,0.3s,baz=277,slow=12,SNR=5.9						
NEW	**Newport**	**21.59**	**114**	eP	**P**	**07 50 56.5**	**+2.2**
	14nm,1.3s						
NEW	**Newport**	**21.59**	**114**	⇓P	**P**	**07 50 56.3**	**+2.1**
	baz=22						
A12A	**Yaak River Ran**	**21.75**	**110**	⇑P	**P**	**07 50 57.5**	**+1.5**
	baz=22						
B12A	**Libby**	**22.12**	**111**	⇓P	**P**	**07 51 01.7**	**+1.8**
	baz=22						
A13A	**Flathead Natio**	**22.32**	**109**	⇑P	**P**	**07 51 03.3**	**+1.3**
	baz=22						
WALA	**Waterton Lakes**	**22.45**	**108**	eP	**P**	**07 51 04.0**	**+0.4**
	0.3nm,1.1s						
FX1	**Attu Island--F**	**22.69**	**266**	P	**P**	**07 51 03.0**	**-2.9**
FX1	**Attu Island--F**	**22.69**	**266**	P	**P**	**07 51 03.0**	**-2.9**
	3.1nm,0.4s,baz=88,slow=18,SNR=6.8						
FX1				LR	LR	07 59 24.2	
	comp=Z,59nm,19.8s,baz=301,slow=36						
B13A	**Whitefish**	**22.70**	**110**	⇑P	**P**	**07 51 07.4**	**+1.3**
	baz=23						
A14A	**Double T Ranch**	**22.74**	**108**	⇑P	**P**	**07 51 07.8**	**+1.2**
	baz=23,SNR=6.4						
C12B	**Naegeli Ranch,**	**22.74**	**112**	⇑P	**P**	**07 51 07.9**	**+1.3**
	baz=23						
A15A	**Johnson Ranch,**	**23.05**	**107**	⇓P	**P**	**07 51 10.5**	**+0.7**
	baz=23						
C13A	**Hot Springs**	**23.16**	**111**	⇓P	**P**	**07 51 12.0**	**+1.0**
	baz=23						
JTMT	**Jette**	**23.25**	**111**	eP	**P**	**07 51 13.7**	**+1.8**
	3.5nm,1.1s						
B14A	**Marquette Ranc**	**23.25**	**108**	⇓P	**P**	**07 51 12.5**	**+0.6**
	baz=23,SNR=8.0						
C14A	**Swan Lake**	**23.47**	**110**	⇓P	**P**	**07 51 15.1**	**+1.0**
	baz=23						
SWMT	**Swartz Lake**	**23.55**	**111**	eP	**P**	**07 51 15.6**	**+0.8**
	1.6nm,0.9s						
A16A	**West Butte Ran**	**23.60**	**105**	⇓P	**P**	**07 51 16.1**	**+0.8**
	baz=24						
B15A	**Bradely Ranch,**	**23.61**	**108**	⇓P	**P**	**07 51 15.7**	**+0.3**
	baz=24,SNR=8.5						
B16A	**M & M Farms, S**	**23.93**	**106**	⇑P	**P**	**07 51 19.0**	**+0.5**
	baz=24						
C15A	**Salmond Ranch,**	**23.98**	**109**	⇑P	**P**	**07 51 19.4**	**+0.3**
	baz=24						
A17A	**Triple J Farms**	**24.02**	**104**	⇑P	**P**	**07 51 20.3**	**+1.0**
	baz=24						
CHMT	**Chamberlain Mo**	**24.33**	**111**	eP	**P**	**07 51 22.6**	**+0.3**
	2.4nm,1.1s						
C16A	**Fuhringer Ranc**	**24.36**	**108**	⇓P	**P**	**07 51 23.4**	**+0.9**
	baz=24,SNR=11						
A18A	**Metzger Ranch,**	**24.44**	**103**	⇑P	**P**	**07 51 23.4**	**+0.4**
	baz=24						
B17A	**L&G Farms, Che**	**24.44**	**106**	⇑P	**P**	**07 51 23.6**	**+0.5**
	baz=24,SNR=9.3						
FFC	**Flin Flon**	**24.52**	**85**	*i* P	**P**	**07 51 25.2**	**+1.5**
YBH	**Yreka Blue Hor**	**24.69**	**131**	eP	**P**	**07 51 27.6**	**+2.1**
	11nm,1.3s						
YBH	**Yreka Blue Hor**	**24.69**	**131**	P	**P**	**07 51 27.6**	**+2.1**
	6.3nm,0.9s,baz=314,slow=4.4,SNR=4.9						
G12A	**Big Creek, Yel**	**24.80**	**116**	⇑P	**P**	**07 51 26.6**	**+0.1**
	baz=25						
B18A	**Beardsley Farm**	**24.84**	**104**	⇑P	**P**	**07 51 27.8**	**+1.0**
	baz=25						
C17A	**Wharram Farm,**	**24.93**	**107**	⇓P	**P**	**07 51 28.0**	**+0.4**
	baz=25,SNR=9.4						
A19A	**Klindworth Far**	**24.95**	**102**	⇓P	**P**	**07 51 28.1**	**+0.4**
	baz=25						
EGMT	**Eagleton**	**25.12**	**105**	eP	**P**	**07 51 29.7**	**+0.5**
	8.0nm,0.8s						
EGMT	**Eagleton**	**25.12**	**105**	⇓P	**P**	**07 51 29.8**	**+0.5**
	baz=25,SNR=11						
B19A	**Brinkman Farms**	**25.19**	**103**	⇓P	**P**	**07 51 30.6**	**+0.8**
	baz=25,SNR=18						
D17A	**Six Diamond Ra**	**25.32**	**107**	⇓P	**P**	**07 51 31.3**	**+0.1**
	baz=25						
A20A	**Cobblestone Ra**	**25.37**	**101**	⇑P	**P**	**07 51 32.3**	**+0.8**
	baz=25						
H12A	**Diamond D Ranc**	**25.46**	**116**	⇓P	**P**	**07 51 33.3**	**+0.7**
	baz=25						
LRM	**Limekiln Ridge**	**25.52**	**112**	eP	**P**	**07 51 33.6**	**+0.5**
WVOR	**Wild Horse Val**	**25.63**	**124**	eP	**P**	**07 51 35.3**	**+1.3**
WVOR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
WVOR	**Wild Horse Val**	**25.63**	**124**	eP	**P**	**07 51 35.3**	**+1.3**
	comp=Z,4.2nm,1.1s						
C19A	**Slack Wire Ran**	**25.66**	**105**	⇑P	**P**	**07 51 34.9**	**+0.7**
	baz=26,SNR=6.5						
D18A	**Linhart Farms,**	**25.70**	**106**	⇓P	**P**	**07 51 35.5**	**+1.0**
	baz=26,SNR=9.2						
E17A	**Martinsdale**	**25.76**	**109**	⇓P	**P**	**07 51 35.6**	**+0.4**
	baz=26						
A21A	**Bergtoll Ranch**	**25.76**	**100**	⇓P	**P**	**07 51 35.8**	**+0.7**
	baz=26						
DLMT	**Dillon**	**25.82**	**112**	eP	**P**	**07 51 38.1**	**+2.4**
	comp=Z,8.4nm,1.1s						
MFID	**Camas Ranch**	**25.97**	**119**	eP	**P**	**07 51 38.2**	**+1.1**
	comp=Z,5.8nm,1.0s						
MFID	**Camas Ranch**	**25.97**	**119**	⇓P	**P**	**07 51 37.9**	**+0.8**
	baz=26,SNR=7.6						
BOZ	**Bozeman (W)**	**26.03**	**111**	eP	**P**	**07 51 38.4**	**+0.8**
BOZ				pmax	pmax		
	comp=Z,4.0nm,1.3s						
BOZ	**Bozeman (W)**	**26.03**	**111**	eP	**P**	**07 51 38.4**	**+0.8**
	comp=Z,3.8nm,1.3s						
B21A	**Ellsworth Farm**	**26.11**	**101**	⇓P	**P**	**07 51 38.9**	**+0.6**
	baz=26						
E18A	**Harlowton**	**26.11**	**107**	⇑P	**P**	**07 51 39.1**	**+0.7**
	baz=26						
MCMT	**McKenzie Canyo**	**26.12**	**113**	eP	**P**	**07 51 39.1**	**+0.5**
D19A	**Cripps Ranch,**	**26.15**	**105**	⇓P	**P**	**07 51 39.1**	**+0.5**
	baz=26,SNR=5.2						
C20A	**Veseth Ranch,**	**26.16**	**103**	⇓P	**P**	**07 51 39.2**	**+0.5**
	baz=26						
A22A	**Carney Farms,**	**26.24**	**99**	⇑P	**P**	**07 51 40.0**	**+0.6**
	baz=26						
F17A	**Fitzpatrick Pl**	**26.27**	**109**	⇑P	**P**	**07 51 40.5**	**+0.7**
	baz=26						
HLID	**Hailey**	**26.45**	**117**	eP	**P**	**07 51 42.4**	**+0.9**
	comp=Z,1.2nm,0.8s						
HLID	**Hailey**	**26.45**	**117**	⇑P	**P**	**07 51 42.2**	**+0.7**
	baz=26						
C21A	**Desert Coulee**	**26.50**	**102**	⇓P	**P**	**07 51 42.2**	**+0.4**
	baz=26						
D20A	**Manuel Ranch,**	**26.55**	**105**	⇑P	**P**	**07 51 43.0**	**+0.7**
	baz=26,snr=11						
I14A	**Mackay**	**26.57**	**115**	⇓P	**P**	**07 51 43.4**	**+0.8**
	baz=26						
G17A	**Pierce Place,**	**26.68**	**110**	⇑P	**P**	**07 51 44.3**	**+0.8**
	baz=27						
B22A	**Reddig Ranch S**	**26.69**	**100**	⇓P	**P**	**07 51 44.2**	**+0.7**
	baz=27						
F18A	**Big Timber**	**26.70**	**108**	⇑P	**P**	**07 51 45.0**	**+1.3**
	baz=27						
E19A	**Rath Farm, Rou**	**26.71**	**106**	⇑P	**P**	**07 51 44.7**	**+1.0**
	baz=27						
H16A	**Russell Place,**	**26.93**	**112**	⇑P	**P**	**07 51 47.2**	**+1.3**
	baz=27,SNR=6.9						
B23A	**Brockton**	**27.05**	**99**	⇑P	**P**	**07 51 47.0**	**+0.3**
	baz=27						
F19A	**Roth Farm, Mol**	**27.09**	**107**	⇓P	**P**	**07 51 47.8**	**+0.6**
	baz=27						
D21A	**La Casta Ranch**	**27.10**	**103**	⇓P	**P**	**07 51 48.2**	**+1.0**
	baz=27						
C22A	**Vida**	**27.13**	**101**	⇓P	**P**	**07 51 47.6**	**+0.1**
	baz=27						
A24A	**Westby**	**27.20**	**97**	⇓P	**P**	**07 51 48.1**	**+0.1**
	baz=27						
G18A	**Lazy EL Ranch,**	**27.22**	**109**	⇓P	**P**	**07 51 48.9**	**+0.5**
	baz=27						
C23A	**Lambert**	**27.42**	**100**	⇓P	**P**	**07 51 50.5**	**+0.5**
	baz=27						
E21A	**Keefer Ranch,**	**27.45**	**104**	⇓P	**P**	**07 51 50.8**	**+0.5**
	baz=27						
I16A	**Newdale**	**27.47**	**113**	⇑P	**P**	**07 51 52.3**	**+1.7**
	baz=27,SNR=6.5						
RLMT	**Red Lodge**	**27.50**	**109**	eP	**P**	**07 51 52.4**	**+1.4**
	comp=Z,10nm,1.2s						
H18A	**Shoshone NF, C**	**27.66**	**110**	⇓P	**P**	**07 51 53.1**	**+0.7**
	baz=28						
IMW	**Indian Meadow**	**27.70**	**112**	eP	**P**	**07 51 55.0**	**+2.2**
	comp=Z,5.7nm,0.8s						
D23A	**Lindsay**	**27.86**	**101**	⇑P	**P**	**07 51 54.5**	**+0.4**
	baz=28						
MOOW	**Moose Ponds**	**27.90**	**112**	eP	**P**	**07 51 56.3**	**+1.7**
	comp=Z,1.5nm,1.0s						
H19A	**Powell**	**27.98**	**109**	⇑P	**P**	**07 51 56.2**	**+1.0**
	baz=28						
C24A	**Savage**	**27.98**	**100**	⇑P	**P**	**07 51 56.0**	**+1.0**
	baz=28						
TPAW	**Teton Pass**	**28.01**	**113**	eP	**P**	**07 51 57.8**	**+2.1**
	comp=Z,4.4nm,0.8s						
E22A	**Miles City**	**28.05**	**103**	⇑P	**P**	**07 51 56.7**	**+1.0**
	baz=28,SNR=5.1						
LOHW	**Long Hollow**	**28.07**	**112**	eP	**P**	**07 51 57.9**	**+1.8**
	comp=Z,2.0nm,1.1s						
D24A	**Glendive**	**28.32**	**100**	⇑P	**P**	**07 51 59.0**	**+1.0**
	baz=28						
I18A	**Diamond G Ranc**	**28.35**	**111**	⇑P	**P**	**07 51 59.9**	**+1.3**
	baz=28						
G21A	**Lodge Grass**	**28.37**	**106**	⇑P	**P**	**07 51 59.5**	**+0.9**
	baz=28						
ELK	**Elko**	**28.43**	**122**	P	**P**	**07 52 01.3**	**+2.0**
ELK	**Elko**	**28.43**	**122**	P	**P**	**07 52 01.3**	**+2.0**
	comp=Z,3.9nm,0.9s,baz=320,slow=9.8,SNR=16						
I19A	**Meeteetse**	**28.46**	**110**	⇓P	**P**	**07 52 00.7**	**+1.1**
	baz=28						
H20A	**Greybull**	**28.57**	**108**	⇑P	**P**	**07 52 01.2**	**+0.8**
	baz=28						
E24A	**Baker**	**28.73**	**101**	⇑P	**P**	**07 52 03.1**	**+1.3**
	baz=29						
G22A	**Birney**	**28.80**	**105**	⇑P	**P**	**07 52 03.6**	**+1.2**
	baz=29						
F23A	**

baz=31,SNR=17
O19A **Miners Draw (B** 31.39 114 ⇑P P 07 52 26.6 +1.2
baz=31
G28A **Parade** 31.43 100 ⇓P P 07 52 26.2 +0.5
baz=31
L23A **Garrett** 31.47 108 ⇑P P 07 52 26.9 +0.8
baz=31
FURC **Furnace Creek,** 31.48 128 ⇑P P 07 52 27.7 +1.7
baz=31
MVU **Marysvale** 31.57 120 eP P 07 52 28.7 +1.6
comp=Z,8.1nm,0.9s
MSU **Marysvale** 31.57 120 eP P 07 52 29.1 +1.9
MSU **Marysvale** 31.57 120 eP P 07 52 29.1 +1.9
ISA **Isabella** 31.59 131 ⇑P P 07 52 28.4 +1.2
baz=32
MPMC **Manual Prospec** 31.60 129 ⇑P P 07 52 28.7 +1.3
baz=32
M22A **Cedar Creek Ra** 31.62 110 ⇑P P 07 52 28.5 +0.9
baz=32
Q16A **Castle Valley** 31.66 118 ⇓P P 07 52 28.9 +1.0
baz=32,SNR=9.4
ARUT **Antelope Range** 31.67 122 eP P 07 52 29.4 +1.5
ARUT pmax pmax
comp=Z,7.0nm,1.2s
ARUT **Antelope Range** 31.67 122 eP P 07 52 29.4 +1.5
comp=Z,7.1nm,1.2s
H28A **Mission Ridge** 31.68 100 ⇓P P 07 52 28.7 +0.9
baz=32
N21A **Black Mountain** 31.73 112 ⇑P P 07 52 29.0 +0.5
baz=32
SRU **San Rafael** 31.77 117 eP P 07 52 30.7 +1.9
SRU pmax pmax
comp=Z,8.0nm,0.8s
SRU **San Rafael** 31.77 117 eP P 07 52 30.7 +1.9
comp=Z,7.9nm,0.8s
CCUT **Cedar City** 31.91 123 eP P 07 52 31.6 +1.5
comp=Z,4.3nm,1.0s
O20A **White River Ci** 31.91 114 ⇑P P 07 52 30.8 +0.7
baz=32
P19A **Cripple Cowboy** 32.00 115 ⇓P P 07 52 31.7 +0.8
baz=32,SNR=5.4
LRMC **Laurel Mountai** 32.05 130 ⇓P P 07 52 32.5 +1.3
baz=32
I28A **Midland** 32.12 101 ⇓P P 07 52 32.1 +0.4
baz=32
N22A **Wattenberg Ran** 32.17 111 ⇓P P 07 52 32.9 +0.5
baz=32
N23A **Red Feather La** 32.33 110 ⇑P P 07 52 34.6 +0.8
baz=32
P20A **De Beque** 32.37 114 ⇑P P 07 52 34.4 +0.4
baz=32
M24A **Cheyenne** 32.38 108 ⇓P P 07 52 34.8 +0.7
baz=32
EDW2 **Edwards Air Fo** 32.47 131 ⇑P P 07 52 35.8 +1.0
baz=32
J28A **Allard Ranch,** 32.52 102 ⇑P P 07 52 36.0 +0.8
baz=32
GSC **Goldstone** 32.53 129 eP P 07 52 37.3 +1.9
GSC pmax pmax
comp=Z,5.0nm,1.1s
GSC **Goldstone** 32.53 129 eP P 07 52 37.3 +1.9
comp=Z,5.2nm,1.1s
GSC **Goldstone** 32.53 129 ⇓P P 07 52 36.8 +1.4
baz=32
TUQ **Turquoise Moun** 32.74 128 ⇓P P 07 52 38.5 +1.2
baz=33
M25A **Palm-Egli Farm** 32.76 107 ⇑P P 07 52 38.1 +0.7
baz=33
P21A **Newcastle** 32.77 113 ⇑P P 07 52 38.3 +0.7
baz=33
N24A **Carr** 32.86 109 ⇑P P 07 52 39.2 +0.8
baz=33
O23A **Lake Granby, G** 32.89 111 ⇑P P 07 52 39.9 +1.2
baz=33
K28A **Ten Mile Ranch** 33.01 103 ⇑P P 07 52 40.0 +0.5
baz=33
P22A **Eagle** 33.01 112 ⇓P P 07 52 40.2 +0.4
baz=33
BFSC **Mount Baldy Ra** 33.16 131 ⇓P P 07 52 42.8 +1.8
baz=33
U15A **North Rim** 33.31 122 ⇓P P 07 52 43.9 +1.5
baz=33,SNR=6.4
ISCO **Idaho Springs** 33.36 111 ⇓P P 07 52 43.5 +0.7
baz=33
LDFC **Landfair** 33.37 127 eP P 07 52 44.1 +1.3
comp=Z,3.6nm,0.8s
GMRC **Granite Mounta** 33.42 128 ⇑P P 07 52 44.7 +1.4
baz=33
PV01 **Paradox Valley** 33.42 116 eP P 07 52 44.4 +1.1
comp=Z,485nm,1.1s
R20A **Redvale** 33.46 116 ⇓P P 07 52 44.5 +0.8
baz=33,SNR=6.3
K29A **Lazy Trails An** 33.46 102 ⇑P P 07 52 44.1 +0.6
baz=33
R21A **Cimarron** 33.67 115 ⇑P P 07 52 46.3 +0.8
baz=34
S20A **Disappointment** 33.77 116 ⇑P P 07 52 46.8 +0.4
baz=34
MURC **Murrieta** 33.91 131 ⇓P P 07 52 49.2 +1.9
baz=34
O26A **Horse Wrangler** 34.05 108 ⇑P P 07 52 49.3 +0.7
baz=34
R22A **Saguache, Gunn** 34.14 114 ⇓P P 07 52 50.5 +0.8
baz=34
S21A **Coal Bank Pass** 34.16 116 ⇑P P 07 52 50.8 +1.0
baz=34
IRM **Iron Mountain** 34.17 128 ⇑P P 07 52 51.0 +1.4
baz=34
MVCO **Mesa Verde** 34.23 117 ⇑P P 07 52 51.2 +0.8
baz=34
M29A **Burnside Ranch** 34.31 104 ⇑P P 07 52 51.6 +0.7
baz=34
PDMCI **Parker Dam,Lak** 34.43 127 ⇓P P 07 52 52.9 +1.1
baz=34
WUAZ **Wupatki** 34.47 122 eP P 07 52 53.9 +1.5
comp=Z,11nm,1.0s
WUAZ **Wupatki** 34.47 122 ⇓P P 07 52 54.1 +1.7
baz=34,SNR=9.3
O27A **Beecher Island** 34.47 107 ⇓P P 07 52 52.7 +0.5
baz=34
ECSD **EROS Data Cent** 34.48 97 eP P 07 52 51.4 -0.8
comp=Z,2.9nm,1.1s
BC3 **Big Chuckawall** 34.50 129 ⇑P P 07 52 54.1 +1.5
baz=34
S22A **4UR Ranch, Cre** 34.51 114 ⇓P P 07 52 53.8 +1.0
baz=34
N28A **Pribbeno Ranch** 34.51 105 ⇓P P 07 52 53.4 +0.8
baz=34
P26A **Davis Ranch, A** 34.58 109 ⇓P P 07 52 54.2 +0.9
baz=34
R23A **Moffat** 34.58 113 ⇑P P 07 52 54.4 +0.9
baz=34
Y12C **Blythe** 34.77 127 ⇓P P 07 52 56.0 +1.3
baz=35
MONP **Monument Peak** 34.83 131 ⇓P P 07 52 56.5 +1.0
baz=35
T21A **Navajo Lake** 34.83 116 ⇓P P 07 52 56.6 +1.1
baz=35
R24A **Sanders Place,** 34.87 112 ⇓P P 07 52 56.2 +0.4
baz=35
P27A **Ficken Ranch,** 34.93 108 ⇑P P 07 52 56.9 +0.6
baz=35
Q26A **Hugo** 35.02 109 ⇑P P 07 52 58.0 +0.9
baz=35
T22A **Edith** 35.08 115 ⇓P P 07 52 58.8 +1.0
baz=35
Y14A **Wickenburg** 35.19 125 ⇑P P 07 53 00.1 +1.6
baz=35
SPMN **St. Paul** 35.21 92 ⇓P P 07 52 59.2 +0.8
baz=35
U21A **Nageezi** 35.25 117 ⇓P P 07 53 00.6 +1.4
baz=35
P28A **Saint Francis** 35.30 107 ⇓P P 07 53 00.1 +0.7
baz=35
R25A **Fountain Ranch** 35.30 111 ⇓P P 07 53 00.4 +0.8
baz=35
S24A **Houchin Ranch,** 35.31 113 ⇑P P 07 53 01.2 +1.4
baz=35
KSCO **Kaye Shedlock'** 35.35 108 ⇑P P 07 53 01.7 +1.8
baz=35
X16A **Lo Mia Camp, P** 35.39 123 ⇑P P 07 53 02.2 +1.8
baz=35
V20A **Brimhall** 35.44 118 ⇑P P 07 53 02.2 +1.5
baz=35
W18A **Petrified Fore** 35.49 120 ⇓P P 07 53 02.7 +1.5
baz=35
R26A **Arlington** 35.56 110 ⇓P P 07 53 02.5 +0.8
baz=35
S25A **Robets Cordova** 35.64 112 ⇑P P 07 53 03.7 +1.3
baz=36,SNR=5.4
Z14A **Wintersburg** 35.72 126 ⇑P P 07 53 04.1 +1.1
baz=36
R27A **Eads** 35.86 109 ⇓P P 07 53 05.0 +0.7
baz=36
X18A **Snowflake** 35.91 121 ⇓P P 07 53 05.8 +1.0
baz=36
113A **Mohawk Valley,** 35.93 127 ⇑P P 07 53 06.2 +1.5
baz=36
U23A **El Rito** 35.97 115 ⇑P P 07 53 07.0 +1.7
baz=36
W20A **Ramah** 36.00 119 ⇑P P 07 53 07.1 +1.5
baz=36,SNR=7.6
V22A **San Miguel Ran** 36.01 116 ⇑P P 07 53 07.1 +1.4
baz=36,SNR=5.3
P30A **Selden** 36.02 105 ⇑P P 07 53 06.5 +1.0
baz=36
T25A **Trinidad** 36.08 112 ⇓P P 07 53 07.4 +1.1
baz=36
S26A **Kim** 36.10 111 ⇓P P 07 53 06.9 +0.6
baz=36
Q29A **Oakley** 36.20 107 ⇓P P 07 53 07.8 +0.6
baz=36
R28A **Tribune** 36.27 108 ⇑P P 07 53 08.6 +0.8
baz=36
W21A **San Fidel** 36.37 118 ⇓P P 07 53 09.6 +0.8
baz=36
T26A **Comanche Natio** 36.41 111 ⇑P P 07 53 09.8 +0.6
baz=36
V23A **Ortiz Mt. (NFS** 36.46 116 ⇑P P 07 53 11.1 +1.6
baz=36
X20A **Quemado** 36.50 119 ⇑P P 07 53 11.2 +1.3
baz=36
U25A **Circle Dot Ran** 36.69 113 ⇑P P 07 53 13.3 +1.8
baz=37,SNR=11
S28A **Manter** 36.84 109 ⇓P P 07 53 13.8 +1.2
baz=37
X21A **Alamocita Cree** 36.88 119 ⇓P P 07 53 14.9 +1.7
baz=37,SNR=12
T27A **Campo** 36.90 110 ⇑P P 07 53 14.3 +1.1
baz=37
W23A **Werner Place,** 36.97 116 ⇑P P 07 53 15.2 +1.3
baz=37
U26A **Atchey Ranch,** 36.99 112 ⇓P P 07 53 15.3 +1.3
baz=37
214A **Organ Pipe Nat** 37.02 127 ⇓P P 07 53 15.2 +1.1
baz=37
R30A **Dighton** 37.02 107 ⇓P P 07 53 15.2 +1.1
baz=37
V25A **Rancho No Teng** 37.07 114 ⇓P P 07 53 16.0 +1.3
baz=37
Y20A **Horse Springs,** 37.09 120 ⇓P P 07 53 16.7 +1.7
baz=37
T28A **Wash** 37.13 110 ⇑P P 07 53 16.0 +1.0
baz=37
X22A **Bernardo** 37.16 118 ⇓P P 07 53 16.5 +1.0
baz=37
LAZ **Ladron** 37.19 118 eP P 07 53 17.2 +1.4
comp=Z,0.5nm,0.6s
W24A **Lazy 6 Ranch,** 37.25 115 ⇑P P 07 53 17.5 +1.2
baz=37
R31A **Burdett** 37.36 106 ⇓P P 07 53 17.7 +0.7
baz=37
U27A **Thompson Grove** 37.38 111 ⇓P P 07 53 17.9 +0.6
baz=37
X23A **Hourglass Bar** 37.45 117 ⇓P P 07 53 19.3 +1.3
baz=37
V26A **Tequesquite Ra** 37.47 113 ⇓P P 07 53 19.5 +1.5
baz=37,SNR=7.0
W25A **X Bar L Ranch,** 37.66 114 ⇑P P 07 53 20.9 +1.2
baz=38
Y22A **Socorro** 37.67 118 ⇓P P 07 53 21.0 +1.3
baz=38
Z20A **Nine Sixteen R** 37.69 121 ⇓P P 07 53 21.4 +1.4
baz=38
Z21A **St. Cloud Mine** 37.91 119 ⇓P P 07 53 24.0 +2.1
baz=38
Y23A **Lovelace Mesa,** 38.06 117 ⇓P P 07 53 24.6 +1.5
baz=38,SNR=5.6
120A **U Bar Ranch, L** 38.17 121 ⇓P P 07 53 25.6 +1.6
baz=38
V28A **Channing** 38.21 111 ⇓P P 07 53 25.4 +1.1
baz=38
Z22A **Elephant Butte** 38.25 119 ⇓P P 07 53 26.1 +1.4
baz=38
T31A **Randall Ranch,** 38.26 107 ⇑P P 07 53 25.4 +0.9
baz=38
U30A **WK&E Inc. Balk** 38.28 109 ⇑P P 07 53 25.4 +0.6
baz=38
Y24A **Capitan** 38.33 116 ⇓P P 07 53 26.8 +1.5
baz=38,SNR=5.8
W27A **Bowe Ranch, En** 38.41 113 ⇓P P 07 53 27.3 +1.4
baz=38
X26A **CR and CF Fran** 38.51 114 ⇑P P 07 53 27.4 +0.6
baz=38
Z23A **Rita Site, Whi** 38.56 118 ⇑P P 07 53 28.9 +1.7
baz=38
220A **Playas Peak, P** 38.77 121 ⇓P P 07 53 30.5 +1.5
baz=39,SNR=6.3
Z24A **Sheeppen Canyo** 38.87 117 ⇓P P 07 53 31.4 +1.5
baz=39,SNR=6.2
319A **Douglas** 38.93 123 ⇑P P 07 53 31.9 +1.5
baz=39
X28A **Dimmitt** 39.25 112 ⇓P P 07 53 33.9 +0.9
baz=39
V31A **Spring Creek L** 39.27 108 ⇑P P 07 53 34.1 +1.0
baz=39,SNR=5.4
Y27A **Causey** 39.36 114 ⇑P P 07 53 34.7 +0.8
baz=39
124A **Stringfield Ra** 39.37 117 ⇓P P 07 53 34.7 +0.6
baz=39
Z26A **Caprock** 39.52 115 ⇓P P 07 53 36.4 +1.2
baz=39
W31A **Holland Ranch,** 39.71 109 ⇑P P 07 53 37.0 +0.3
baz=40
Y28A **McKinney Farm,** 39.74 113 ⇓P P 07 53 37.5 +0.4
baz=40
125A **Gardner Draw,** 39.75 116 ⇑P P 07 53 38.4 +1.2
baz=40
224A **Cornudas Mount** 39.88 118 ⇓P P 07 53 39.1 +0.8
baz=40
X30A **Coker Ranch, T** 39.91 111 ⇑P P 07 53 38.9 +0.6
baz=40
225A **Deer Hill, Car** 40.15 117 ⇑P P 07 53 41.7 +1.1
baz=40,SNR=5.5
X31A **McDonald Ranch** 40.16 110 ⇑P P 07 53 41.2 +0.8
baz=40
Z28A **Tucker Farm, M** 40.20 113 ⇑P P 07 53 41.3 +0.4
baz=40
Y30A **Stafford Cattl** 40.37 111 ⇓P P 07 53 43.1 +0.8
baz=40
324A **Moseley Ranch,** 40.44 118 ⇓P P 07 53 43.8 +0.8
baz=40
226B **Tecolote Peak,** 40.46 116 ⇓P P 07 53 43.9 +0.9
baz=40
Z29A **Hungry Hill Ra** 40.53 113 ⇑P P 07 53 44.3 +0.7
baz=40,SNR=10
Y31A **Rekieta Farm,** 40.59 110 ⇓P P 07 53 44.6 +0.6
baz=40
WMOK **Wichita Mounta** 40.61 108 eP P 07 53 44.4 +0.2
WMOK pmax pmax
comp=Z,9.0nm,1.1s
WMOK **Wichita Mounta** 40.61 108 eP P 07 53 44.4 +0.2
comp=Z,8.7nm,1.1s
128A **Castleberry Fa** 40.73 114 ⇓P P 07 53 45.7 +0.5
baz=41
Z30A **Sanderson Ranc** 40.77 112 ⇓P P 07 53 46.1 +0.6
baz=41
Y32A **R-V Farms, Ver** 40.92 110 ⇑P P 07 53 47.3 +0.6
baz=41
TUL1 **Tulsa** 41.03 104 ⇑P P 07 53 47.6 0.0
baz=41
228A **UT Block 9, Go** 41.11 114 ⇓P P 07 53 48.2 -0.1
baz=41
Z31A **Sharp Cattle R** 41.18 111 ⇑P P 07 53 48.7 -0.1
baz=41
326A **Caldwell Ranch** 41.20 117 ⇓P P 07 53 50.0 +0.9
baz=41
425A **Indio Mountain** 41.22 118 ⇓P P 07 53 51.0 +1.6
baz=41,SNR=16
Z32A **Haskell** 41.49 110 ⇓P P 07 53 51.5 +0.1
baz=41
426A **McDonald Obser** 41.73 117 ⇑P P 07 53 54.8 +1.1
baz=42,SNR=5.1
427A **Hayter Ranch,** 41.85 116 ⇑P P 07 53 55.3 +0.9
baz=42
329A **Wagon Wheel Ra** 41.92 114 ⇑P P 07 53 55.7 +0.7
baz=42
230A **Sterling City** 41.96 113 ⇑P P 07 53 55.7 +0.4
baz=42
ABTX **Abilene, Hawle** 41.99 111 ⇑P P 07 53 55.9 +0.4
baz=42
526A **Mary Lane Ranc** 42.23 118 ⇑P P 07 53 59.3 +1.6
baz=42,SNR=7.1
428A **Kincaid Ranch,** 42.26 116 ⇓P P 07 53 59.1 +1.2
baz=42
231A **Bronte** 42.27 112 ⇑P P 07 53 58.1 +0.3
baz=42
330A **Mertzon** 42.34 113 ⇑P P 07 53 58.8 +0.4
baz=42,SNR=5.7
527A **Woodward Ranch** 42.37 117 ⇑P P 07 53 59.8 +1.1
baz=42
232A **Coleman** 42.61 111 ⇓P P 07 54 01.2 +0.6
baz=42,SNR=9.8
626A **Big Bend Ranch** 42.66 118 ⇓P P 07 54 01.8 +0.8
baz=43
429A **Davenport Ranc** 42.70 115 ⇓P P 07 54 02.0 +0.6
baz=43,SNR=7.0
528A **Cox Ranch, San** 42.70 116 ⇓P P 07 54 02.7 +1.2
baz=43,SNR=7.9
331A **San Angelo** 42.76 113 ⇑P P 07 54 02.0 +0.3
baz=43
430A **Baggett Ranch,** 42.84 114 ⇓P P 07 54 02.9 +0.4
baz=43,SNR=7.0
529A **Stev Forest Ra** 42.98 116 ⇓P P 07 54 04.3 +0.7
baz=43
332A **Millersview** 43.00 112 ⇓P P 07 54 03.9 +0.1
baz=43
TXAR **Lajitas Array** 43.05 118 P P 07 54 05.2 +0.9
TXAR PcP PcP 07 55 53.0 -1.1
TXAR **Lajitas Array** 43.05 118 P P 07 54 05.2 +0.9
comp=Z,1.8nm,0.7s,baz=332,slow=6.5,SNR=25
TXAR PcP PcP 07 55 53.0 -1.1
comp=Z,0.2nm,0.5s,baz=39,slow=3.1,SNR=4.0
627A **Terlingua Ranc** 43.06 117 ⇓P P 07 54 05.5 +1.1
baz=43,SNR=5.6
MIAR **Mount Ida** 43.19 103 eP P 07 54 04.8 -0.4
MIAR pmax pmax
comp=Z,8.0nm,1.1s
MIAR **Mount Ida** 43.19 103 eP P 07 54 04.8 -0.4
comp=Z,8.0nm,1.1s
431A **Sonora** 43.21 113 ⇓P P 07 54 06.0 +0.5
baz=43
628A **Black Gap, Mar** 43.25 117 ⇑P P 07 54 06.7 +1.0
baz=43,SNR=6.9
530A **J-C Ranch, Com** 43.35 115 ⇓P P 07 54 07.1 +0.6
baz=43,SNR=5.2
432A **Menard** 43.41 112 ⇑P P 07 54 07.3 +0.3
baz=43
WHTX **Lake Whitney** 43.51 109 ⇓P P 07 54 08.5 +0.6
baz=43
531A **Rocksprings** 43.68 114 ⇓P P 07 54 10.2 +0.9
baz=44,SNR=6.2
JCT **Junction City** 43.74 113 eP P 07 54 10.1 +0.4
JCT pmax pmax
comp=Z,7.0nm,0.7s
JCT **Junction City** 43.74 113 eP P 07 54 10.1 +0.4
comp=Z,6.7nm,0.7s
JCT **Junction City** 43.74 113 ⇓P P 07 54 10.4 +0.7
baz=44,SNR=8.4
532A **Rocksprings** 44.00 113 ⇑P P 07 54 12.7 +0.9
baz=44,SNR=5.8
631A **Perdido Creek** 44.31 114 ⇓P P 07 54 14.8 +0.5
baz=44,SNR=5.2
632A **Uvalde** 44.58 113 ⇑P P 07 54 16.9 +0.5
baz=44
732A **Laxson Ranch,** 45.17 114 ⇑P P 07 54 21.9 +0.8
baz=45
OXF **Oxford** 45.18 99 eP P 07 54 21.2 +0.1
OXF pmax pmax
comp=Z,22nm,1.1s
OXF **Oxford** 45.18 99 eP P 07 54 21.2 +0.1
comp=Z,22nm,1.1s
ARCES **ARCESS Array B** 49.27 3 P P 07 54 50.2 -2.4
ARCES PcP PcP 07 56 13.2 -1.9
ARCES **ARCESS Array B** 49.27 3 P P 07 54 50.2 -2.4
comp=Z,1.1nm,0.6s,baz=358,slow=8.3,SNR=11
ARCES PcP PcP 07 56 13.2 -1.9
comp=Z,1.7nm,0.6s,baz=17,slow=5.1,SNR=4.7
JOF **Joensuu** 56.02 1 ep P 07 55 41.6 -0.9
comp=Z,1.9nm,0.6s
JOF **Joensuu** 56.02 1 eP P 07 55 41.6 -0.9
JOF pmax pmax
comp=Z,2.0nm,0.6s
SONM **Songino Array** 56.13 309 P P 07 55 42.5 -1.3
SONM **Songino Array** 56.13 309 P P 07 55 42.5 -1.3
comp=Z,0.5nm,0.5s,baz=72,slow=9.3,SNR=3.5
KAF **Kangasniemi** 56.73 4 ep P 07 55 45.9 -1.7
comp=Z,1.8nm,0.5s
KAF **Kangasniemi** 56.73 4 eP P 07 55 45.9 -1.7
KAF pmax pmax
comp=Z,2.0nm,0.5s
NB2 **NORSAR Subarra** 56.81 12 P P 07 55 47.2 -1.1
comp=Z,0.9nm,0.7s,baz=348,slow=7.4
NOA **NORSAR Array B** 56.81 12 P P 07 55 47.1 -1.1
NOA **NORSAR Array B** 56.81 12 P P 07 55 47.1 -1.1
comp=Z,1.7nm,0.8s,baz=349,slow=7.1,SNR=5.6
FINES **FINESS Array B** 57.40 4 P P 07 55 50.9 -1.4
FINES **FINESS Array B** 57.40 4 P P 07 55 50.9 -1.4
comp=Z,5.7nm,0.6s,baz=5.7,slow=8.7,SNR=49
ZALV **Zalesovo Beam** 57.81 326 P P 07 55 53.5 -1.8
ZALV **Zalesovo Beam** 57.81 326 P P 07 55 53.5 -1.8
ZALV **Zalesovo Beam** 57.81 326 P P 07 55 53.5 -1.8
comp=Z,2.3nm,0.6s,baz=25,slow=7.6,SNR=8.6
HHC **Hu-ho-hao-te** 59.91 301 eP P 07 56 13.0 +2.7
HHC PcP PcP 07 56 59.5 +3.0
HHC PP PP 07 58 26.5 +4.4
HHC ScP ScP 08 01 01.0 +4.7
HHC S S 08 04 23.3 +2.0
HHC ScS ScS 08 06 02.0 +2.3
HHC SS SS 08 08 21.0 +4.1
HHC pmax pmax
comp=Z,150nm,8.3s
HHC LR LR
comp=N,300nm,20.2s
HHC LR LR
comp=E,230nm,21.4s
HHC LR LR
comp=Z,770nm,17.8s
BRVK **Borovoye** 62.04 335 ⇓iP P 07 56 22.6 -1.8
BRVK pmax pmax
comp=Z,3.0nm,0.7s
OBN **Obninsk** 63.80 357 ⇑iP P 07 56 35.4 -0.7
OBN e 07 58 54.2
OBN eS S 08 05 06.5 -3.3
OBN pmax pmax
comp=Z,7.0nm,0.9s
MKAR **Makanchi Array** 64.98 325 P P 07 56 41.5 -2.5
MKAR **Makanchi Array** 64.98 325 P P 07 56 41.5 -2.5
MKAR **Makanchi Array** 64.98 325 P P 07 56 41.5 -2.5
comp=Z,0.5nm,0.5s,baz=41,slow=6.6,SNR=8.1
WMQ **Urumqi** 66.08 319 eP P 07 56 56.0 +4.8
WMQ pP pP 07 56 58.3 +1.5
WMQ sP sP 07 56 59.8 +0.9
WMQ PP PP 07 59 23.8 +7.7
WMQ pmax pmax
comp=Z,2.0nm,3.8s
WMQ LR LR
comp=N,62nm,28.5s
WMQ LR LR
comp=E,190nm,35.0s
WMQ LR LR
comp=Z,130nm,21.6s
CLL **Collm** 66.58 13 eP P 07 56 53.0 -1.1
CLL **Collm** 66.58 13 eP P 07 56 53.0 -1.1
LZH **Lanzhou** 67.12 304 eP P 07 56 59.3 +1.2
LZH pP pP 07 57 04.0 +0.3
LZH sP sP 07 57 06.3 +0.5
ABKAR **Akbulak array** 67.54 341 eP P 07 56 58.7 -1.6
comp=Z,3.4nm,0.6s
GERES **GERESS Array B** 69.08 13 P P 07 57 09.6 -0.5
GERES **GERESS Array B** 69.08 13 P P 07 57 09.6 -0.5
comp=Z,0.6nm,0.6s,baz=343,slow=4.2,SNR=5.2
KIV **Kislovodsk** 74.70 352 eP P 07 57 42.5 -1.4
KIV e 08 00 27.0
KIV eSS SS 08 12 01.0 -4.0
KIV pmax pmax
comp=Z,4.0nm,0.8s
ESDC **Sonseca Array** 75.00 28 P P 07 57 45.0 -0.6
ESDC **Sonseca Array** 75.00 28 P P 07 57 45.0 -0.6
comp=Z,0.7nm,0.5s,baz=347,slow=5.7,SNR=7.9
BRTR **Keskin Array B** 79.24 359 P P 07 58 08.8 -0.8
BRTR **Keskin Array B** 79.24 359 P P 07 58 08.8 -0.8

comp=Z,2.0nm,0.8s,baz=352,slow=2.5,SNR=11
BRTR LR LR 08 36 35.3
comp=Z,44nm,18.2s,baz=282,slow=38
BOSA Boshof 146.87 12 PKPbc **PKPdf 08 05 44.9 +0.4**
BOSA Boshof 146.87 12 PKPbc **PKPdf 08 05 44.9 +0.4**
comp=Z,3.3nm,1.1s,baz=0.0,slow=1.0,SNR=3.6

*ISCJB **25** 07:59:13.4±1.0, 36°.26N±0°.04×21°.87E±0°.06, h7km±5km, Error ellipse: s-maj=8.6km s-min=4.6km az=144.9*
*CSEM **25** 07:59:13.2±0.3, 36°.23N×21°.88E, h10km, ML2.5/4, Error ellipse: s-maj=6.4km s-min=3.5km az=49.0*
*THE **25** 07:59:14.5, 36°.27N×21°.94E, h7km, ML2.5/4, Error ellipse: s-maj=0.8km s-min=0.4km az=54.0*
*ATH **25** 07:59:14.4, 36°.26N×21°.91E, h25km±3km, MD3.1/8*
ISC 25 07:59:14.6±1.4, 36°.27N±0°.05×21°.95E±0°.05, h9km±9km, n46, σ0°.50/74, 2C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYR	**Agios Nikonas**	**0.58**	**32**	P	**Pg**	**07 59 25.7**	**-0.1**
DYR				S	**Sg**	**07 59 33.8**	**+0.4**
DYR	**Agios Nikonas**	**0.58**	**32**	*i* PB	**Pg**	**07 59 26.0**	**+0.2**
DYR				*e*SN	**Sb**	**07 59 35.5**	**+0.2**
DYR	**Agios Nikonas**	**0.58**	**32**	P	**Pg**	**07 59 25.7**	**-0.1**
DYR	**Agios Nikonas**	**0.58**	**32**	*i* Pb	**Pg**	**07 59 26.0**	**+0.2**
DYR				S	**Sg**	**07 59 33.8**	**+0.4**
DYR				*e*Sn	**Sb**	**07 59 35.5**	**+0.2**
PYL	**PYLOS**	**0.64**	**345**	P	**Pg**	**07 59 26.6**	**-0.5**
PYL				S	**Sg**	**07 59 38.5**	**+0.6**
PYL	**PYLOS**	**0.64**	**345**	*e*Pn	**Pb**	**07 59 27.7**	**-0.4**
PYL				*e*SN	**Sb**	**07 59 38.5**	**+1.3**
PYL	**PYLOS**	**0.64**	**345**	P	**Pg**	**07 59 26.6**	**-0.5**
PYL	**PYLOS**	**0.64**	**345**	*e*Pn	**Pb**	**07 59 27.7**	**-0.4**
PYL				S	**Sg**	**07 59 36.1**	**+0.6**
PYL				*e*Sn	**Sb**	**07 59 38.5**	**+1.3**
KYTH	**Kithira**	**0.88**	**89**	P	**Pg**	**07 59 31.1**	**-0.4**
KYTH	**Kithira**	**0.88**	**89**	*e*PN	**Pg**	**07 59 32.0**	**+0.5**
KYTH	**Kithira**	**0.88**	**89**	P	**Pg**	**07 59 31.1**	**-0.4**
KYTH	**Kithira**	**0.88**	**89**	*e*Pn	**Pg**	**07 59 32.0**	**+0.5**
ITM	**Ithomi**	**0.91**	**359**	P	**Pg**	**07 59 31.6**	**-0.4**
ITM				S	**Sb**	**07 59 44.7**	**-0.1**
ITM	**Ithomi**	**0.91**	**359**	*e*PN	**Pg**	**07 59 32.1**	**+0.1**
ITM				*e*SN	**Sb**	**07 59 45.4**	**+0.6**
ITM	**Ithomi**	**0.91**	**359**	P	**Pg**	**07 59 31.6**	**-0.4**
ITM	**Ithomi**	**0.91**	**359**	*e*Pn	**Pg**	**07 59 32.1**	**+0.1**
ITM				S	**Sb**	**07 59 44.7**	**-0.1**
ITM				*e*Sn	**Sb**	**07 59 45.4**	**+0.6**
VLI	**Veliai**	**0.91**	**60**	P	**Pg**	**07 59 31.6**	**-0.5**
VLI				S	**Sb**	**07 59 45.5**	**+0.7**
VLI	**Veliai**	**0.91**	**60**	*e*PB	**Pg**	**07 59 31.9**	**-0.2**
VLI				*e*SN	**Sn**	**07 59 46.7**	**-0.2**
VLI	**Veliai**	**0.91**	**60**	P	**Pg**	**07 59 31.6**	**-0.5**
VLI	**Veliai**	**0.91**	**60**	*e*Pb	**Pg**	**07 59 31.9**	**-0.2**
VLI				S	**Sb**	**07 59 45.5**	**+0.7**
VLI				*e*Sn	**Sn**	**07 59 46.7**	**-0.2**
VLX	**Vlachokerasia**	**1.15**	**17**	P	**Pb**	**07 59 35.9**	**-0.8**
VLX				S	**Sn**	**07 59 53.0**	**+0.1**
VLX	**Vlachokerasia**	**1.15**	**17**	*e*PN	**Pb**	**07 59 36.0**	**-0.8**
VLX				*e*SN	**Sn**	**07 59 53.7**	**+0.8**
VLX	**Vlachokerasia**	**1.15**	**17**	*e*Pn	**Pb**	**07 59 36.0**	**-0.8**
VLX				S	**Sn**	**07 59 53.0**	**+0.1**
ANKY	**Antikythira Is**	**1.17**	**110**	P	**Pb**	**07 59 36.4**	**-0.5**
ANKY				S	**Sn**	**07 59 53.5**	**+0.3**
ANKY	**Antikythira Is**	**1.17**	**110**	*e*PN	**Pn**	**07 59 37.2**	**+0.1**
ANKY	**Antikythira Is**	**1.17**	**110**	P	**Pn**	**07 59 36.4**	**-0.5**
ANKY	**Antikythira Is**	**1.17**	**110**	*e*Pn	**Pn**	**07 59 37.2**	**+0.1**
AMT	**Artemida-Makis**	**1.27**	**351**	*e*PN	**Pb**	**07 59 38.6**	**-0.2**
AMT	**Artemida-Makis**	**1.27**	**351**	*e*Pn	**Pb**	**07 59 38.6**	**-0.2**
DIDY	**Didyma**	**1.57**	**40**	P	**Pn**	**07 59 42.4**	**-0.4**
DIDY				S	**Sn**	**08 00 03.5**	**+0.2**
DIDY	**Didyma**	**1.57**	**40**	P	**Pn**	**07 59 42.4**	**-0.4**
DIDY				S	**Sn**	**08 00 03.5**	**+0.2**
DID	**Didima**	**1.60**	**40**	P	**Pn**	**07 59 42.9**	**-0.3**
DID	**Didima**	**1.60**	**40**	*e*PB	**Pn**	**07 59 43.0**	**-0.3**
DID	**Didima**	**1.60**	**40**	P	**Pn**	**07 59 42.9**	**-0.3**
GUR	**Goura**	**1.69**	**10**	P	**Pn**	**07 59 43.8**	**-0.7**
GUR				S	**Sn**	**08 00 06.7**	**+0.4**
GUR	**Goura**	**1.69**	**10**	*e*PN	**Pn**	**07 59 44.5**	**0.0**
GUR	**Goura**	**1.69**	**10**	P	**Pn**	**07 59 43.8**	**-0.7**
GUR	**Goura**	**1.69**	**10**	*e*Pn	**Pn**	**07 59 44.5**	**0.0**
GUR				S	**Sn**	**08 00 06.7**	**+0.4**
KLV	**Kalavryta, Ach**	**1.77**	**5**	P	**Pn**	**07 59 44.9**	**-0.7**
KLV				S	**Sn**	**08 00 08.5**	**+0.1**
KLV	**Kalavryta, Ach**	**1.77**	**5**	P	**Pn**	**07 59 44.9**	**-0.7**
KLV				S	**Sn**	**08 00 08.5**	**+0.1**
KARN	**Karanos**	**1.82**	**118**	*e*PN	**Pb**	**07 59 47.5**	**-0.6**
KARN	**Karanos**	**1.82**	**118**	*e*Pn	**Pb**	**07 59 47.5**	**-0.6**
LAKA	**Lakka**	**1.96**	**1**	P	**Pn**	**07 59 47.3**	**-0.9**
LAKA				S	**Sn**	**08 00 13.2**	**+0.2**
LAKA	**Lakka**	**1.96**	**1**	*e*PB	**Pn**	**07 59 48.2**	**0.0**
LAKA	**Lakka**	**1.96**	**1**	P	**Pn**	**07 59 47.3**	**-0.9**
LAKA	**Lakka**	**1.96**	**1**	*e*Pb	**Pn**	**07 59 48.2**	**0.0**
LAKA				S	**Sn**	**08 00 13.2**	**+0.2**

*ISCJB **25** 07:59:39.3±0.6, 34°.31N±0°.08×137°.7E±0°.1, h327km±4km, mb3.3/5, Error ellipse: s-maj=17.0km s-min=11.3km az=20.2*
*IDC **25** 07:59:39.5±1.0, 34°.27N×137°.80E, h316km±16km, mb3.1/5, mb1 3.1/8, mb1mx2.9/28, mbtmp3.0/8, Error ellipse: s-maj=45.9km s-min=14.6km az=69.0*
*JMA **25** 07:59:40.2±0.1, 34°.38N×137°.57E, h324km±2km, M2.9*
ISC 25 07:59:40.3±0.9, 34°.34N±0°.10×137°.6E±0°.1, h321km±7km, n24, σ0°.68/30, mb3.2/5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO5	**TONANKAI O.B.S**	**0.12**	**136**	P	**Pn**	**08 00 21.3**	**+0.7**
TK04	**Tokai 4**	**0.22**	**78**	P	**Pn**	**08 00 21.6**	**+1.0**
TTO4	**TONANKAI O.B.S**	**0.34**	**191**	P	**Pn**	**08 00 21.4**	**+0.7**
TK02	**Tokai 2**	**0.41**	**163**	P	**Pn**	**08 00 21.6**	**+0.7**
HMMJ	**Hamamatsu 2**	**0.52**	**10**	P	**Pn**	**08 00 21.5**	**+0.3**
JAO	**Obara**	**0.97**	**343**	P	**Pn**	**08 00 23.1**	**+0.3**
JAO				*e*S	**S**	**08 00 56.7**	**0.0**
JNY	**Yasuok**	**1.04**	**11**	P	**Pn**	**08 00 23.4**	**+0.3**
JKN2	**Miekihoku**	**1.11**	**265**	P	**Pn**	**08 00 23.4**	**0.0**
JEG	**Eigenji**	**1.28**	**309**	P	**Pn**	**08 00 24.6**	**+0.3**
JGM	**Miyama**	**1.54**	**332**	P	**Pn**	**08 00 26.1**	**+0.4**
JWY	**Kouya**	**1.68**	**266**	P	**Pn**	**08 00 26.7**	**0.0**
JRY	**Ryogami san**	**1.98**	**32**	P	**Pn**	**08 00 29.3**	**+0.6**
JRY				*e*S	**S**	**08 01 07.2**	**-0.2**
JHU	**Hanno**	**2.04**	**42**	P	**Pn**	**08 00 29.4**	**+0.3**
JHU				*e*S	**S**	**08 01 07.5**	**-0.7**
JWT	**Wachi**	**2.05**	**298**	P	**Pn**	**08 00 29.2**	**0.0**
MJAR	**Matsushiro Arr**	**2.25**	**12**	P	**Pn**	**08 00 30.9**	**+0.1**
	3.8nm,0.3s,baz=194,slow=9.7,SNR=64						
MJAR				S	**S**	**08 01 10.0**	**-1.2**
	0.5nm,0.3s,baz=186,slow=16,SNR=5.0						
MAT	**Matsushiro**	**2.25**	**12**	P	**Pn**	**08 00 30.9**	**+0.1**
MAT				S	**S**	**08 01 10.1**	**-1.1**
MAT	**Matsushiro**	**2.25**	**12**	P	**Pn**	**08 00 30.7**	**-0.1**
MAT				*e*S	**S**	**08 01 10.3**	**-0.9**
ASAJ	**Asahikawa**	**10.50**	**20**	P	**Pn**	**08 02 04.3**	**+0.1**
	0.5nm,0.3s,baz=208,slow=17,SNR=3.7						
USRK	**Ussuriysk Arra**	**10.76**	**338**	P	**P**	**08 02 09.9**	**+0.6**
	0.1nm,0.3s,baz=158,slow=17,SNR=3.1						
SONM	**Songino Array**	**26.91**	**310**	P	**P**	**08 04 54.3**	**+1.4**
	0.7nm,0.7s,baz=105,slow=9.1,SNR=2.6						
MKAR	**Makanchi Array**	**42.99**	**304**	P	**P**	**08 07 08.9**	**+0.1**
	0.4nm,0.4s,baz=83,slow=11,SNR=8.4						
WRA	**Warramunga Arr**	**54.07**	**184**	P	**P**	**08 08 31.8**	**-0.9**
	0.6nm,0.3s,baz=0.1,slow=7.5,SNR=46						
ASAR	**Alice Springs**	**57.79**	**184**	P	**P**	**08 08 57.9**	**-1.0**
	0.3nm,0.3s,baz=349,slow=4.8,SNR=9.5						
FINES	**FINESS Array B**	**69.73**	**332**	P	**P**	**08 10 15.6**	**-0.1**
	3.7nm,1.1s,baz=72,slow=6.2,SNR=6.4						

IDC 25 08:13:31.4±62.0, 18°.55S×171°.66W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/21, mbtmp4.0/3, Error ellipse: s-maj=1216.0km s-min=195.9km az=84.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.01**	**243**	P	P	08 21 39.6	-1.2
	2.9nm,1.0s,baz=103,slow=14,SNR=2.8						
ASAR	**Alice Springs**	**50.79**	**254**	P	P	08 22 35.0	+1.2
	2.7nm,0.5s,baz=90,slow=7.1,SNR=41						
WRA	**Warramunga Arr**	**50.82**	**259**	P	P	08 22 33.5	-0.6
	0.5nm,0.8s,baz=91,slow=6.7,SNR=5.5						

IDC 25 08:15:22.8±1.8, 2°.13S×151°.05E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/18, mbtmp3.7/3, MS3.5/2, Ms1 3.5/2, ms1mx2.8/30, Error ellipse: s-maj=154.4km s-min=26.5km az=123.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.08**	**222**	P	P	08 20 41.0	+0.8
	0.9nm,0.3s,baz=46,slow=9.5,SNR=30						
ASAR	**Alice Springs**	**27.09**	**216**	P	P	08 21 07.0	-0.4
	0.9nm,0.3s,baz=50,slow=8.4,SNR=19						
JNU	**Nakatsue**	**39.91**	**333**	LR	LR	08 38 04.0	
	comp=Z,46nm,18.3s,baz=294,slow=34						
KDAK	**Kodiak Island**	**74.61**	**28**	LR	LR	09 00 18.1	
	comp=Z,31nm,18.6s,baz=282,slow=36						
ILAR	**Eielson Array**	**80.37**	**23**	P	P	08 27 35.6	-0.2
	0.1nm,0.7s,baz=234,slow=5.5,SNR=3.4						

*DDA **25** 08:15:32.9, 39°.39N×32°.88E, h3km, MD2.7*
*ISCJB **25** 08:15:34.9±0.7, 39°.48N±0°.04×32°.95E±0°.05, h2km±6km, Error ellipse: s-maj=7.1km s-min=5.6km az=33.1*
*ISK **25** 08:15:34.6, 39°.52N×33°.00E, h5km, MD2.5*
*CSEM **25** 08:15:35.0±0.1, 39°.51N×33°.00E, h5km, MD2.5, Error ellipse: s-maj=3.5km s-min=3.0km az=46.0*
ISC 25 08:15:35.1±1.0, 39°.50N±0°.03×33°.00E±0°.03, h9km±6km, n19, σ0°.47/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Afˇar-Bala (A**	**0.07**	**134**	*e*PG	**Pg**	**08 15 37.0**	**-0.3**
AFSR				*e*SG	**Sg**	**08 15 39.2**	**+0.3**
AFSR	**Afˇar-Bala (A**	**0.07**	**134**	*e*Pg	**Pg**	**08 15 37.0**	**-0.3**
AFSR				*e*Sg	**Sg**	**08 15 39.2**	**+0.3**
BBAL	**Bala**	**0.10**	**64**	*i* P	**Pg**	**08 15 37.8**	**0.0**
BBAL				*i* S	**Sg**	**08 15 40.2**	**+0.5**
ANTO	**Ankara**	**0.40**	**337**	*e*PG	**Pg**	**08 15 42.9**	**-0.2**
ANTO	**Ankara**	**0.40**	**337**	*e*Pg	**Pg**	**08 15 42.9**	**-0.2**
LOD	**Lodumlu**	**0.43**	**335**	*e*PG	**Pg**	**08 15 43.1**	**-0.5**
LOD				*e*SG	**Sg**	**08 15 49.6**	**+0.3**
LOD	**Lodumlu**	**0.43**	**335**	*e*Pg	**Pg**	**08 15 43.1**	**-0.5**
LOD				*e*Sg	**Sg**	**08 15 49.6**	**+0.3**
KAMT	**Kaman**	**0.56**	**103**	*e*PG	**Pg**	**08 15 46.1**	**0.0**
KAMT	**Kaman**	**0.56**	**103**	*e*Pg	**Pg**	**08 15 46.1**	**0.0**
ELDT	**Eldivan**	**1.04**	**18**	*i* P	**Pb**	**08 15 55.1**	**-0.4**
ELDT				*i* S	**Sn**	**08 16 12.1**	**+1.1**
ELDT	**Eldivan**	**1.04**	**18**	*i* P	**Pb**	**08 15 55.1**	**-0.4**
ELDT				*i* S	**Sn**	**08 16 12.1**	**+1.1**
CDAG	**Cicekdag**	**1.07**	**83**	*i* P	**Pg**	**08 15 55.1**	**-0.5**
CDAG				*i* S	**Sn**	**08 16 11.3**	**-0.1**
CDAG	**Cicekdag**	**1.07**	**83**	*i* P	**Pg**	**08 15 55.1**	**-0.5**
CDAG				*i* S	**Sn**	**08 16 11.3**	**-0.1**
KIZT	**Kizilcal**	**1.07**	**235**	*e*PG	**Pb**	**08 15 55.6**	**-0.3**
KIZT	**Kizilcal**	**1.07**	**235**	*e*Pg	**Pb**	**08 15 55.6**	**-0.3**
LADK	**Ladik-KONYA**	**1.39**	**201**	*e*PN	**Pg**	**08 16 01.7**	**-0.1**
LADK	**Ladik-KONYA**	**1.39**	**201**	*e*Pn	**Pg**	**08 16 01.7**	**-0.1**
CORM	**Corum**	**1.43**	**61**	*e*PN	**Pb**	**08 16 01.7**	**-0.3**
CORM	**Corum**	**1.43**	**61**	*e*Pn	**Pb**	**08 16 01.7**	**-0.3**

*IDC **25** 08:36:19.8±0.7, 35°.28S×78°.51E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.0/23, mbtmp4.1/11, MS4.1/22, Ms1 4.0/22, ms1mx3.8/36, Error ellipse: s-maj=25.5km s-min=20.2km az=19.0*
*ISCJB **25** 08:36:20.2±0.5, 35°.4S±0°.1×78°.5E±0°.1, h14km, mb4.1/12, MS4.1/22, Error ellipse: s-maj=20.1km s-min=14.1km az=18.6*
*NEIC **25** 08:36:21.4±0.5, 35°.36S×78°.50E, h10km, mb4.6/2, Error ellipse: s-maj=21.0km s-min=14.8km az=199.0*
ISC 25 08:36:22.1±0.6, 35°.4S±0°.1×78°.5E±0°.1, h14km, n41, σ1°.14/26, mb4.1/12, MS4.0/22, 1C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**32.02**	**97**	LR	LR	08 52 43.7	
	comp=Z,589nm,18.4s,baz=252,slow=31						
OPO	**Ambohidratompo**	**32.34**	**293**	LR	LR	08 52 38.4	
	comp=Z,445nm,19.3s,baz=152,slow=30						
MAW	**Mawson**	**33.52**	**191**	LR	LR	08 54 02.9	
	comp=Z,287nm,18.9s,baz=17,slow=32						
SYO	**Syowa Base**	**39.96**	**201**	*e*P	P	08 44 01.6	+6.0
BOSA	**Boshof**	**45.20**	**263**	LR	LR	08 59 04.5	
	comp=Z,316nm,22.0s,baz=152,slow=30						
LBTB	**Lobatse**	**46.40**	**268**	P	**P**	**08 44 46.6**	**-1.7**
LBTB	**Lobatse**	**46.40**	**268**	P	**P**	**08 44 46.6**	**-1.7**
	5.3nm,1.0s,baz=101,slow=5.2,SNR=3.6						
ASAR	**Alice Springs**	**49.05**	**92**	P	**P**	**08 45 08.2**	**-0.8**
ASAR	**Alice Springs**	**49.05**	**92**	P	**P**	**08 45 08.2**	**-0.8**
	0.8nm,0.8s,baz=243,slow=6.4,SNR=6.1						
ASAR				LR	LR	09 03 44.5	
	comp=Z,138nm,21.9s,baz=269,slow=34						
LSZ	**Lusaka**	**49.10**	**281**	*e*P	**P**	**08 45 09.0**	**-0.4**
	5.9nm,0.9s						
WRA	**Warramunga Arr**	**51.17**	**88**	P	**P**	**08 45 24.3**	**-0.7**
WRA	**Warramunga Arr**	**51.17**	**88**	P	**P**	**08 45 24.3**	**-0.7**
	1.4nm,0.9s,baz=240,slow=7.6,SNR=6.5						
WRA				LR	LR	09 05 11.8	
	comp=Z,206nm,19.3s,baz=280,slow=34						
STKA	**Stephens Creek**	**51.88**	**105**	P	**P**	**08 45 29.6**	**-0.6**
STKA	**Stephens Creek**	**51.88**	**105**	P	**P**	**08 45 29.6**	**-0.6**
	2.4nm,0.8s,baz=322,slow=21,SNR=3.1						
STKA				LR	LR	09 04 03.3	
	comp=Z,279nm,20.1s,baz=206,slow=32						
VNDA	**Vanda**	**54.36**	**165**	*e*P	**P**	**08 45 48.2**	**+0.5**
VNDA	**Vanda**	**54.36**	**165**	P	**P**	**08 45 47.8**	**+0.1**
	1.5nm,0.9s,baz=259,slow=7.4,SNR=3.8						
VNDA				LR	LR	09 07 06.6	
	comp=Z,153nm,21.2s,baz=273,slow=34						
QSPA	**South Pole Qui**	**54.81**	**180**	*e*P	**P**	**08 45 52.0**	**+0.7**
	6.9nm,1.0s						
QSPA	**South Pole Qui**	**54.81**	**180**	P	**P**	**08 45 52.4**	**+1.0**
	5.9nm,0.9s,baz=278,slow=3.4,SNR=13						
CMAR	**Chang Mai Arr**	**56.92**	**23**	LR	LR	09 06 12.4	
	comp=Z,42nm,18.3s,baz=159,slow=32						
CTA	**Charters Tower**	**60.83**	**95**	P	**P**	**08 46 34.0**	**-0.2**
CTA	**Charters Tower**	**60.83**	**95**	P	**P**	**08 46 34.0**	**-0.2**
	3.2nm,0.9s,baz=42,slow=5.3,SNR=3.5						
URZ	**Urewera**	**75.01**	**126**	LR	LR	09 14 24.4	
	comp=Z,99nm,22.0s,baz=242,slow=30						
AAK	**Ala-Archa**	**77.69**	**357**	LR	LR	09 18 40.9	
	comp=Z,110nm,21.7s,baz=165,slow=33						
KKAR	**Karatay Array**	**78.42**	**354**	*e*P	**P**	**08 48 23.9**	**+1.9**
MKAR	**Makanchi Array**	**81.84**	**3**	P	**P**	**08 48 40.6**	**+0.2**
MKAR	**Makanchi Array**	**81.84**	**3**	P	**P**	**08 48 40.6**	**+0.2**
	0.5nm,0.7s,baz=148,slow=5.6,SNR=5.0						
MKAR				LR	LR	09 22 33.4	
	comp=Z,67nm,20.7s,baz=62,slow=34						
RAO	**Raoul Island**	**83.56**	**121**	LR	LR	09 18 45.1	
	comp=Z,139nm,18.2s,baz=260,slow=30						
KBZ	**Khabaz**	**85.11**	**335**	LR	LR	09 22 34.1	
	comp=Z,47nm,18.9s,baz=358,slow=33						
BRTR	**Keskin Array B**	**85.39**	**327**	P	**P**	**08 48 57.9**	**-1.0**
BRTR	**Keskin Array B**	**85.39**	**327**	P	**P**	**08 48 57.9**	**-1.0**
	1.1nm,0.8s,baz=166,slow=6.4,SNR=5.3						
BRTR				LR	LR	09 22 47.8	
	comp=Z,30nm,18.9s,baz=282,slow=33						
SONM	**Songino Array**	**86.49**	**18**	P	**P**	**08 49 03.2**	**-1.0**
SONM	**Songino Array**	**86.49**	**18**	P	**P**	**08 49 03.2**	**-1.0**
	0.3nm,0.3s,baz=204,slow=3.2,SNR=2.9						
SONM				LR	LR	09 27 27.0	
	comp=Z,66nm,19.6s,baz=257,slow=36						
TORD	**Torodi Ar. Bea**	**87.03**	**288**	P	**P**	**08 49 08.6**	**+1.1**
TORD	**Torodi Ar. Bea**	**87.03**	**288**	P	**P**	**08 49 08.6**	**+1.1**
	0.7nm,1.0s,baz=123,slow=5.3,SNR=2.9						
TORD				LR	LR	09 24 58.6	
	comp=Z,235nm,20.7s,baz=150,slow=34						
BVAR	**Borovoye Array**	**88.29**	**355**	LR	LR	09 26 25.8	
	comp=Z,57nm,19.0s,baz=235,slow=34						
DBIC	**Dimbokro**	**88.42**	**279**	LR	LR	09 23 56.8	
	comp=Z,165nm,18.8s,baz=114,slow=32						
ZALV	**Zalesovo Beam**	**89.10**	**4**	LR	LR	09 27 15.3	
	comp=Z,54nm,18.7s,baz=339,slow=34						
KEST	**Kesra**	**95.63**	**310**	LR	LR	09 30 36.0	
	comp=Z,24nm,18.9s,baz=315,slow=34						
PLCA	**Paso Flores**	**99.11**	**203**	LR	LR	09 26 47.2	
	comp=Z,218nm,19.6s,baz=195,slow=30						
YKA	**Yellowknife Ar**	**151.62**	**13**	PKPbc	**PKPbc**	**08 56 17.1**	**+2.1**
YKA	**Yellowknife Ar**	**151.62**	**13**	PKPbc	**PKPbc**	**08 56 17.1**	**+2.1**
	1.4nm,0.8s,baz=316,slow=3.8,SNR=4.6						

*SZGRF **25** 08:43:14.8, 23°.01S×179°.44W, h33km, South of Fiji Islands*
*ISCJB **25** 08:44:21.6±0.3, 21°.40S±0°.07×179°.12W±0°.07, h602km, mb4.1/31, Error ellipse: s-maj=10.7km s-min=7.1km az=44.8*
*NEIC **25** 08:44:23.6±0.6, 21°.35S×179°.20W, h617km±8km, mb4.2/18, Error ellipse: s-maj=12.4km s-min=8.7km az=129.0*
*BJI **25** 08:44:23.5, 21°.40S×179°.20W, h616km, mB4.8/2, mb4.4/2*
*IDC **25** 08:44:24.9±1.7, 21°.45S×179°.14W, h634km±18km, mb3.5/12, mb1 3.7/14, mb1mx3.5/23, mbtmp3.5/14, Error ellipse: s-maj=17.9km s-min=12.5km az=149.0*
ISC 25 08:44:22.4±0.5, 21°.41S±0°.08×179°.10W±0°.08, h602km, n198, σ0°.89/211, mb4.1/31, 68C-64D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.54**	**323**	*e*Pn	**P**	**08 45 53.8**	**+1.7**
RAO	**Raoul Island**	**7.88**	**172**	*e*Pn	**P**	**08 46 22.7**	**+2.1**
DZM	**Mont Dzumac**	**13.45**	**265**	P	**P**	**08 47 16.3**	**+0.3**
	0.8nm,0.3s,baz=91,slow=20,SNR=8.6						
URZ	**Urewera**	**17.11**	**190**	*e*P	**P**	**08 47 49.8**	**+0.1**
	44nm,1.4s						
URZ	**Urewera**	**17.11**	**190**	P	**P**	**08 47 50.1**	**+0.5**
	4.1nm,0.3s,baz=269,slow=2.2,SNR=31						
URZ				S	**S**	**08 50 35.2**	**-2.9**
	0.2nm,0.3s,baz=95,slow=12,SNR=3.9						
KHZ	**Kahutara**	**21.84**	**195**	*e*P	**P**	**08 48 33.0**	**+0.7**
	28nm,1.2s						
CTA	**Charters Tower**	**32.39**	**266**	P	**P**	**08 50 05.6**	**+1.0**
	1.1nm,0.4s,baz=85,slow=11,SNR=13						
CTAO	**Charters Tower**	**32.39**	**266**	*e*P	**P**	**08 50 05.0**	**+0.4**
	8.5nm,0.5s						
PMG	**Port Moresby**	**34.56**	**285**	P	**P**	**08 50 23.2**	**+0.4**
	15nm,1.0s,baz=34,slow=17,SNR=3.8						
STKA	**Stephens Creek**	**36.47**	**245**	*e*P	**P**	**08 50 38.6**	**+0.3**
	0.7nm,1.0s						
COEN	**Coen**	**36.63**	**275**	*e*P	**P**	**08 50 38.9**	**-1.0**
	306nm,1.5s						
ASAR	**Alice Springs**	**43.32**	**258**	P	**P**	**08 51 33.6**	**+0.6**
	2.4nm,0.6s,baz=97,slow=7.6,SNR=40						
ASAR				PcP	**PcP**	**08 53 08.1**	**+0.1**
	1.1nm,0.6s,baz=100,slow=4.3,SNR=8.6						
ASAR				S	**S**	**08 57 16.2**	**-2.2**
	0.8nm,0.7s,baz=94,slow=16,SNR=4.4						
WRAB	**Tennant Creek**	**43.46**	**263**	*e*P	**P**	**08 51 33.8**	**-0.3**
	7.2nm,1.2s						
WRA	**Warramunga Arr**	**43.47**	**263**	P	**P**	**08 51 34.1**	**0.0**
	1.3nm,0.3s,baz=97,slow=7.4,SNR=40						
POHA	**Pohakuloa**	**46.96**	**31**	*e*P	**P**	**08 52 00.9**	**0.0**
KIP	**Kipapa**	**47.29**	**27**	*e*P	**P**	**08 52 02.1**	**-0.9**
	31nm,0.9s						
MJAR	**Matsushiro Arr**	**70.34**	**325**	P	**P**	**08 54 35.8**	**-1.0**
	0.5nm,0.5s,baz=170,slow=5.6,SNR=4.3						
ASAJ	**Asahikawa**	**74.04**	**332**	P	**P**	**08 54 58.9**	**+1.0**
	2.8nm,0.8s,baz=270,slow=20,SNR=3.7						
PETK	**Petropavlovsk-**	**76.89**	**346**	P	**P**	**08 55 12.7**	**-0.8**
	3.7nm,0.6s,baz=147,slow=8.5,SNR=7.6						
USRK	**Ussuriysk Arra**	**79.14**	**326**	P	**P**	**08 55 26.3**	**+0.6**
	2.5nm,0.8s,baz=136,slow=4.9,SNR=5.6						
MONP	**Monument Peak**	**80.58**	**49**	⇓P	**P**	**08 55 34.6**	**+0.8**
	baz=81						
EDW2	**Edwards Air Fo**	**80.59**	**47**	⇑P	**P**	**08 55 34.6**	**+1.0**
	baz=81						
ISA	**Isabella**	**80.70**	**46**	*e*P	**P**	**08 55 35.0**	**+0.8**
	3.1nm,0.8s						
ISA	**Isabella**	**80.70**	**46**	⇑P	**P**	**08 55 34.8**	**+0.6**
	baz=81						
CMB	**Columbia Colle**	**80.82**	**43**	*e*P	**P**	**08 55 35.2**	**+0.5**
	6.1nm,1.3s						
SWSC	**Sam W. Stewart**	**81.05**	**50**	⇑P	**P**	**08 55 36.8**	**+0.9**
	baz=81		

526A	Mary Lane Ranc baz=89	88.39	57	⇑P		P	08 56 12.7	+0.8
TXAR	Lajitas Array 2.3nm,0.8s,baz=218,slow=5.5,SNR=31	88.41	58	P		P	08 56 12.8	+0.9
I14A	Mackay baz=89,SNR=6.7	88.47	41	⇓P		P	08 56 12.6	+0.6
124A	Stringfield Ra baz=89	88.50	54	⇑P		P	08 56 12.9	+0.5
U21A	Nageezi baz=89	88.59	50	⇑P		P	08 56 13.6	+0.8
Y23A	Lovelace Mesa, baz=89	88.61	53	⇑P		P	08 56 13.2	+0.3
627A	Terlingua Ranc baz=89	88.68	58	⇓P		P	08 56 14.1	+1.0
426A	McDonald Obser baz=89	88.70	56	⇓P		P	08 56 14.2	+0.9
225A	Deer Hill, Car baz=89	88.72	55	⇓P		P	08 56 14.2	+0.8
ANMO	Albuquerque 1.7nm,1.2s	88.77	52	*e*P		P	08 56 13.8	+0.2
527A	Woodward Ranch baz=89	88.80	57	⇓P		P	08 56 14.4	+0.6
X23A	Hourglass Bar baz=89	88.80	52	⇓P		P	08 56 14.3	+0.5
M17A	Scullys Gap (B baz=89	88.97	44	⇑P		P	08 56 14.5	+0.2
Y24A	Capitan baz=89,SNR=7.5	89.06	53	⇑P		P	08 56 15.0	0.0
S21A	Coal Bank Pass baz=89	89.07	49	⇓P		P	08 56 15.7	+0.6
628A	Black Gap, Mar baz=89	89.08	58	⇓P		P	08 56 15.4	+0.4
125A	Gardner Draw, baz=89	89.09	54	⇓P		P	08 56 15.7	+0.7
W23A	Werner Place, baz=89	89.09	52	⇓P		P	08 56 15.9	+0.8
P19A	Cripple Cowboy baz=89	89.19	47	⇑P		P	08 56 16.1	+0.7
226B	Tecolote Peak, baz=89	89.21	55	⇑P		P	08 56 16.4	+0.8
HHC	Hu-ho-hao-te	89.26	315	*e*P		P	08 56 17.5	+1.9
HHC				pP		pP	08 58 30.0	+4.6
HHC				sP		sP	08 59 27.0	+1.7
HHC				PP		PP	09 00 00.3	+2.3
HHC				SKS		SKSac	09 05 50.0	+1.2
HHC				S		S	09 06 13.8	-1.4
HHC				sS		sS	09 10 05.5	-1.3
HHC				SS		SS	09 12 29.5	+0.3
HHC				pmax		pmax		
	comp=Z,280nm,7.1s							
427A	Hayter Ranch, baz=90,SNR=9.4	89.26	56	⇑P		P	08 56 16.2	+0.3
MCMT	McKenzie Canyo	89.31	41	*e*P		P	08 56 15.3	-0.6
COLA	College comp=Z,23nm,0.8s	89.31	13	*e*P		P	08 56 13.2	-1.9
Z25A	Roswell baz=90	89.31	54	⇓P		P	08 56 16.8	+0.7
Q20A	Ridgley Place, baz=90	89.33	47	⇑P		P	08 56 16.4	+0.4
V23A	Ortiz Mt. (NFS baz=90	89.33	51	⇓P		P	08 56 16.9	+0.7
O19A	Miners Draw (B baz=90	89.41	46	⇓P		P	08 56 17.0	+0.6
ILAR	Eielson Array comp=Z,1.2nm,0.5s,baz=215,slow=5.2,SNR=30	89.43	13	P		P	08 56 14.2	-1.5
528A	Cox Ranch, San baz=90	89.45	57	⇓P		P	08 56 17.6	+0.8
P20A	De Beque baz=90	89.52	47	⇓P		P	08 56 17.8	+0.8
R21A	Cimarron baz=90	89.57	48	⇓P		P	08 56 17.6	+0.4
U23A	El Rito baz=90	89.59	51	⇓P		P	08 56 17.8	+0.4
L18A	Fontenelle, Gr baz=90	89.60	44	⇓P		P	08 56 17.6	+0.3
I16A	Newdale baz=90	89.65	42	⇓P		P	08 56 18.1	+0.6
W24A	Lazy 6 Ranch, baz=90	89.66	52	⇓P		P	08 56 18.0	+0.3
428A	Kincaid Ranch, baz=90	89.77	57	⇓P		P	08 56 18.3	+0.1
BSMT	Bassoo Peak	89.78	37	*e*P		P	08 56 17.2	-0.7
S22A	4UR Ranch, Cre baz=90	89.78	49	⇑P		P	08 56 19.0	+0.6
REDW	Red Top Meadow comp=Z,5.8nm,1.1s	89.79	43	*e*P		P	08 56 18.4	+0.3
Z26A	Caprock baz=90	89.86	54	⇓P		P	08 56 19.1	+0.5
529A	Stev Forest Ra baz=90	89.88	58	⇓P		P	08 56 19.3	+0.7
SNOW	Snow King Moun comp=Z,2.9nm,0.9s	89.91	43	*e*P		P	08 56 18.8	+0.1
V24A	Rampart Ranch, baz=90	89.99	51	⇑P		P	08 56 19.9	+0.6
R22A	Saguache, Gunn baz=90	90.06	49	⇓P		P	08 56 20.3	+0.7
L19A	Farson baz=90,SNR=6.8	90.13	44	⇑P		P	08 56 19.8	+0.1
H16A	Russell Place, baz=90	90.22	41	⇓P		P	08 56 21.3	+1.2
Q22A	Crested Butte, baz=90	90.24	48	⇓P		P	08 56 21.1	+0.6
N20A	Spence Gulch, baz=90,SNR=5.2	90.24	46	⇑P		P	08 56 20.4	+0.1
PDAR	Pinedale Array comp=Z,1.7nm,0.8s,baz=205,slow=3.4,SNR=16	90.32	44	P		P	08 56 20.6	-0.1
429A	Davenport Ranc baz=90	90.35	57	⇑P		P	08 56 21.1	+0.3
W25A	X Bar L Ranch, baz=91	90.36	52	⇓P		P	08 56 21.4	+0.6
V25A	Rancho No Teng baz=91	90.51	52	⇑P		P	08 56 21.8	+0.2
329A	Wagon Wheel Ra baz=91	90.64	56	⇑P		P	08 56 22.2	+0.1
N21A	Black Mountain baz=91	90.71	46	⇑P		P	08 56 23.1	+0.6
SDCO	Great Sand Dun comp=Z,0.8nm,0.8s	90.72	50	*e*P		P	08 56 23.0	+0.3
L20A	Wamsutter baz=91	90.75	45	⇑P		P	08 56 23.2	+0.6
K19A	Absolon Red Bu baz=91	90.81	44	⇓P		P	08 56 22.3	-0.5
S24A	Houchin Ranch, baz=91	90.88	50	⇑P		P	08 56 23.8	+0.3
631A	Perdido Creek baz=91	90.89	59	⇓P		P	08 56 23.4	+0.1
J19A	Crowheart baz=91	90.89	43	⇓P		P	08 56 23.5	+0.3
U25A	Circle Dot Ran baz=91	90.91	51	⇓P		P	08 56 23.3	-0.2
O22A	Kremmling baz=91	91.09	47	⇓P		P	08 56 24.7	+0.4
732A	Laxson Ranch, baz=91	91.10	60	⇓P		P	08 56 24.9	+0.7
A14A	Double T Ranch baz=91	91.15	37	⇑P		P	08 56 24.4	+0.2
M21A	Separation Pea baz=91	91.20	45	⇑P		P	08 56 25.0	+0.3
531A	Rocksprings baz=91	91.22	58	⇑P		P	08 56 25.5	+0.6
S25A	Robetes Cordova baz=92	91.44	50	⇑P		P	08 56 26.3	+0.5
N22A	Wattenberg Ran baz=92	91.44	46	⇑P		P	08 56 26.4	+0.4
J20A	Shoshoni baz=92	91.55	44	⇑P		P	08 56 26.8	+0.6
ISCO	Idaho Springs baz=92	91.56	48	⇓P		P	08 56 26.9	+0.4
532A	Rocksprings baz=92	91.71	58	⇓P		P	08 56 27.7	+0.6
D17A	Six Diamond Ra baz=92	91.79	39	⇑P		P	08 56 27.7	+0.6
I20A	Worland baz=92	91.81	43	⇓P		P	08 56 27.8	+0.5
N23A	Red Feather La baz=92	91.83	47	⇓P		P	08 56 28.1	+0.4
J21A	Lysite baz=92	91.96	44	⇑P		P	08 56 28.6	+0.5
C17A	Wharram Farm, baz=92	91.98	39	⇓P		P	08 56 28.4	+0.4
L22A	Ellis Ranch, M baz=92	92.02	45	⇑P		P	08 56 29.2	+0.8
432A	Menard baz=92	92.10	58	⇑P		P	08 56 28.9	0.0
231A	Bronte baz=92	92.11	57	⇑P		P	08 56 28.9	0.0
S26A	Kim baz=92	92.12	50	⇑P		P	08 56 29.3	+0.4
A16A	West Butte Ran baz=92	92.17	38	⇑P		P	08 56 29.0	+0.2
I21A	Big Trails, Te baz=92	92.28	43	⇓P		P	08 56 29.7	+0.2
332A	Millersview baz=92	92.34	57	⇓P		P	08 56 30.1	+0.2
R26A	Arlington baz=93	92.42	50	⇑P		P	08 56 30.6	+0.3
P25A	Willow Gulch B baz=93	92.44	48	⇓P		P	08 56 30.6	+0.2
LZH	Lanzhou	92.51	308	*e*P		P	08 56 31.0	+0.2
LZH				pP		pP	08 58 42.3	+1.2
LZH				sP		sP	08 59 41.0	+0.2
L23A	Garrett baz=93	92.54	46	⇓P		P	08 56 31.0	+0.1
232A	Coleman baz=93	92.62	57	⇓P		P	08 56 32.0	+0.8
J22A	Midwest baz=93	92.62	44	⇓P		P	08 56 31.9	+0.9
Q26A	Hugo baz=93	92.64	49	⇑P		P	08 56 31.8	+0.5
A17A	Triple J Farms baz=93	92.68	38	⇓P		P	08 56 31.2	+0.1
R27A	Eads baz=93	92.88	50	⇑P		P	08 56 32.2	-0.2
R28A	Tribune baz=94	93.61	50	⇑P		P	08 56 35.7	0.0
C20A	Veseth Ranch, baz=94	93.66	40	⇑P		P	08 56 35.8	+0.3
L27A	T5 Ranch, Ells baz=95	94.80	47	⇑P		P	08 56 41.5	+0.5
A21A	Bergtoll Ranch baz=95	94.88	39	⇑P		P	08 56 41.8	+0.7
MKAR	Makanchi Array comp=Z,0.3nm,0.4s,baz=179,slow=0.8,SNR=6.0	111.07	313	PKiKP		PKiKP	09 01 47.1	-1.3
BVAR	Borovoye Array comp=Z,1.7nm,0.4s,baz=95,slow=2.7,SNR=8.6	119.11	320	PKP		PKPdf	09 02 02.1	-1.5
AKTO	Aktyubinsk comp=Z,0.3nm,0.4s,baz=102,slow=1.9,SNR=3.6	127.05	318	PKP		PKPdf	09 02 17.6	-1.3
ARCES	ARCESS Array B comp=Z,2.5nm,0.6s,baz=46,slow=1.6,SNR=18	129.62	349	PKP		PKPdf	09 02 22.1	-1.1
FINES	FINESS Array B comp=Z,1.0nm,0.5s,baz=116,slow=1.6,SNR=8.5	136.34	343	PKP		PKPdf	09 02 34.2	-1.9
FINES				SKP			09 05 11.1	
	comp=Z,1.7nm,0.8s,baz=158,slow=1.5,SNR=3.4							
NB2	NORSAR Subarra comp=Z,0.2nm,0.3s,baz=10,slow=3.2	139.75	352	PKP		PKPdf	09 02 34.1	-8.3
NOA	NORSAR Array B comp=Z,0.6nm,0.7s,baz=17,slow=2.8,SNR=5.4	139.75	352	PKhKP		PKPpre	09 02 35.4	
EKA	Eskdalemuir Ar comp=Z,3.9nm,0.6s,baz=334,slow=2.6,SNR=14	145.99	4	PKPbc		PKPdf	09 02 54.4	+0.9
BRTR	Keskin Array B comp=Z,2.3nm,0.6s,baz=134,slow=4.2,SNR=14	146.67	311	PKPbc		PKPbc	09 02 57.4	-0.7
MLR	Muntele Rosu comp=Z,0.3nm,0.4s,baz=225,slow=5.4,SNR=4.4	148.41	325	PKPbc		PKPbc	09 03 01.7	-0.6
DPC	Dobruska-Polom	148.66	341	⇑*e*PKP		PKPbc	09 03 02.6	-0.1
DPC				*e*PKPAB		PKPab	09 03 08.6	-0.2
CLL	Collm	148.69	345	*e*PKPbc		PKPbc	09 03 02.1	-0.5
CLL	Collm comp=Z,10.0nm,1.0s	148.69	345	*i* PKPbc		PKPbc	09 03 02.1	-0.5
CLL				*i* PKPab		PKPab	09 03 07.7	-1.1
	comp=Z,5.0nm,1.0s							
PVCC	Panska Ves	149.01	343	⇑*e*PKP		PKPbc	09 03 03.4	0.0
PRU	Pruhonice	149.51	343	⇑*e*PKP		PKPbc	09 03 04.2	-0.4
MOX	Moxa	149.63	346	*e*PKPbc		PKPbc	09 03 04.3	-0.6
TANN	Tannenbergstha	149.65	345	*e*PKPbc		PKPbc	09 03 04.6	-0.5
ROTZ	Rotzenmuhle	150.32	345	*e*PKPbc		PKPbc	09 03 06.2	-0.4
KHC	Kasperske Hory	150.55	343	⇑*e*PKP		PKPbc	09 03 06.8	-0.4
KHC				*e*PKPAB		PKPab	09 03 13.5	-3.2
KHC	Kasperske Hory	150.55	343	*e*PKPbc		PKPbc	09 03 06.4	-0.7
TNS	Taunus Mts	150.63	350	*e*PKPbc		PKPbc	09 03 07.0	-0.3
GEC2	GERESS Array S	150.78	343	*e*PKPbc		PKPbc	09 03 07.1	-0.7
GERES	GERESS Array B comp=Z,2.3nm,0.6s,baz=101,slow=1.4,SNR=14	150.78	343	PKPbc		PKPbc	09 03 07.0	-0.7
DOU	Dourbes	151.22	355	PKPbc		PKPbc	09 03 08.3	-0.3
DAVOX	Davos/Dischmat	153.66	346	PKPbc		PKPbc	09 03 13.7	-0.5
	comp=Z,1.9nm,0.5s,baz=24,slow=2.3,SNR=3.5							
ESDC	Sonseca Array comp=Z,0.5nm,0.6s,baz=340,slow=3.9,SNR=5.0	161.32	12	PKPab		PKPab	09 04 02.6	-0.8
TORD	Torodi Ar. Bea comp=Z,0.8nm,0.9s,baz=173,slow=2.4,SNR=3.8	171.75	185	PKP		PKPdf	09 03 22.3	-1.4
TORD				PKPab		PKPab	09 04 49.3	-0.6
	comp=Z,0.5nm,1.0s,baz=172,slow=3.7,SNR=3.0							

IDC 25 08:46:46.2±13.0, 17°82S×178°75W, h643km±184km, mb3.0/8, mb1 3.3/8, mb1mx3.1/19, mbtmp3.0/8, Error ellipse: s-maj=53.0km s-min=31.1km az=66.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek 5.2nm,0.5s,baz=94,slow=11,SNR=18	38.39	241	P		P	P	08 53 15.6	+0.3
WRA	Warramunga Arr 3.0nm,0.5s,baz=94,slow=7.0,SNR=26	44.33	259	P		P	P	08 54 01.5	-0.5
ASAR	Alice Springs 32nm,0.6s,baz=88,slow=8.4,SNR=191	44.50	254	P		P	P	08 54 03.5	+0.2
FITZ	Fitzroy Crossi 1.0nm,0.4s,baz=108,slow=6.4,SNR=9.4	52.72	261	P		P	P	08 55 04.1	+0.3
VNDA	Vanda 0.3nm,0.4s,baz=345,slow=6.8,SNR=5.9	60.51	185	P		P	P	08 55 55.5	-0.2
NVAR	Mina Array Bea 0.6nm,0.7s,baz=221,slow=9.7,SNR=4.3	79.59	44	P		P	P	08 57 48.4	-0.6
ILAR	Eielson Array 0.3nm,0.4s,baz=222,slow=5.0,SNR=6.8	85.87	13	P		P	P	08 58 19.1	-0.2
TXAR	Lajitas Array 0.6nm,0.7s,baz=220,slow=6.6,SNR=8.3	86.22	58	P		P	P	08 58 23.3	+1.4
PDAR	Pinedale Array 0.5nm,0.6s,baz=215,slow=3.6,SNR=5.2	87.51	44	P		P	P	08 58 27.5	-0.3

IDC 25 08:47:54.1±2.6, 20°40S×70°67W, h0km, mb3.8/1, mb1 3.7/3, mb1mx3.5/19, mbtmp3.6/3, ML3.6/2, Error ellipse: s-maj=85.2km s-min=43.4km az=123.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz 1.0nm,0.3s,baz=210,slow=6.6,SNR=20	4.75	31	Pn		Pn	Pn	08 49 06.7	-1.1
LPAZ				Sn		Sn	Sn	08 50 06.1	+2.0
	0.1nm,0.3s,baz=229,slow=11,SNR=1.4								
SIV	San Ignacio 0.4nm,0.3s,baz=265,slow=9.7,SNR=10	10.12	66	Pn		Pn	Pn	08 50 21.1	+0.3
TORD	Torodi Ar. Bea 0.2nm,0.5s,baz=260,slow=5.6,SNR=5.2	78.55	71	P		P	P	08 59 57.8	-0.1
MKAR	Makanchi Array 0.4nm,0.7s,baz=325,slow=2.3,SNR=3.2	145.67	34	PKPbc		PKPdf		09 07 34.2	-0.3

IDC 25 09:10:05.4±1.7, 53°47S×135°23W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.8/15, mbtmp3.7/3, MS3.8/4, Ms1 3.9/4, ms1mx3.4/27, Error ellipse: s-maj=84.1km s-min=37.1km az=122.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	Vanda 0.8nm,0.9s,baz=73,slow=6.5,SNR=4.0	32.69	201	P		P	P	09 16 38.8	0.0
URZ	Urewera comp=Z,70nm,21.7s,baz=352,slow=31	35.78	276	LR		LR		09 28 30.9	
RPZ	Rata Peaks comp=Z,87nm,21.1s,baz=74,slow=28	36.05	263	LR		LR		09 26 41.7	
PPT	Papeete comp=Z,112nm,19.6s,baz=226,slow=29	37.54	337	LR		LR		09 28 13.2	
LPAZ	La Paz comp=Z,310nm,18.7s,baz=287,slow=30	63.46	81	LR		LR		09 41 27.3	
ASAR	Alice Springs 0.7nm,0.8s,baz=138,slow=6.0,SNR=5.9	71.84	255	P		P		09 21 30.1	0.0
TXAR	Lajitas Array 0.3nm,0.8s,baz=193,slow=7.4,SNR=5.9	86.90	27	P		P		09 22 51.8	0.0
MKAR	Makanchi Array 0.5nm,1.0s,baz=204,slow=3.2,SNR=2.8	155.26	270	PKPbc		PKPdf		09 30 08.4	+8.7

*IDC **25** 09:15:49.3±1.1, 39°32N×73°91E, h0km, mb3.7/5, mb1 3.7/7, mb1mx3.4/28, mbtmp3.6/7, ML2.9/3, Error ellipse: s-maj=23.2km s-min=12.6km az=110.0*
*NNC **25** 09:15:56.2±5.2, 39°67N×73°73E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=42.8km s-min=26.5km az=177.0*
ISC 25 09:15:55.2±1.1, 39°64N±0°09×73°61E±0°07, h29km, n23, σ2°04/21, mb3.6/5, 5C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AML	Almayashu SNR=42	2.49	1	P		P	Pb	09 16 38.1	-1.3
UCH	Uchtor SNR=6.1	2.67	15	P		P	Pb	09 16 44.4	+1.8
KZA	Kyzart SNR=260	2.73	27	P		P	Pb	09 16 44.8	+1.2
EKS2	Erkin-Say SNR=16	3.02	2	P		P	Pb	09 16 46.0	-2.3
AAK	Ala-Archa SNR=12	3.06	12	P		P	Pb	09 16 48.9	-0.1
AAK	Ala-Archa 5.9nm,0.3s,baz=155,slow=7.3,SNR=15	3.06	12	Pn		P	Pb	09 16 46.6	-2.4
AAK				Pg		Pn		09 16 52.5	+11
	9.5nm,0.3s,baz=159,slow=10,SNR=13								
AAK				Sn		Sn	Sb	09 17 27.9	+1.8
	4.4nm,0.3s,baz=135,slow=20,SNR=3.8								
AAK				Lg		Lg		09 17 34.2	
	13nm,0.3s,baz=7.2,slow=19,SNR=9.8								
KBK	Karagaybulak SNR=7.2	3.18	18	P		P	Pb	09 16 53.0	+2.0
ULHL	Ulahol SNR=48	3.28	37	P		P	Pb	09 16 54.1	+1.4
CHMS	Chumysh SNR=6.7	3.46	14	P		P	Pb	09 16 52.2	-3.5
TKM2	Tokmak 2 5.9nm,0.3s	3.60	24	⇑Pn		P	Pb	09 16 54.0	-4.2
TKM2				⇑Lg		Lg		09 17 48.6	
	19nm,0.5s								
TKM2	Tokmak 2 SNR=11	3.60	24	P		P	Pb	09 16 54.1	-4.2
USP	Ospenovka SNR=6.5	3.68	10	P		P	Pb	09 17 02.9	+3.3
KK31	Karatay Array 2.4nm,0.4s,baz=142,slow=13,SNR=77	4.17	327	⇓Pn		P	Pn	09 17 01.5	+4.6
KK31				⇓Pg		P	Pb	09 17 10.9	+3.1
	3.3nm,0.3s,baz=144,slow=15,SNR=8.2								
KK31				⇑Sn		Sn	Sb	09 17 53.8	-4.0
	4.4nm,0.3s,baz=147,slow=28,SNR=5.2								
KK31				⇓Lg		Lg		09 18 07.2	
	18nm,0.5s,baz=136,slow=25,SNR=4.1								
MKAR	Makanchi Array 0.0nm,0.3s,baz=215,slow=9.7,SNR=2.3	9.55	39	Pn		Pn	Pn	09 18 09.1	-1.6
VOSK	Vostochnaya 0.7nm,0.6s	13.21	353	⇑P		P	Pn	09 19 00.8	+0.2
BVAR	Borovoye Array 0.1nm,0.3s,baz=154,slow=14,SNR=4.7	13.57	352	Pn		P	Pn	09 19 06.5	+1.0
AB31	Akbulak array 0.3nm,0.3s,baz=130,slow=14,SNR=15	13.68	319	⇑P		P	Pn	09 19 08.1	+1.1
ZALV	Zalesovo Beam 0.1nm,0.3s,baz=229,slow=5.5,SNR=1.9	16.21	24	Pn		P	Pn	09 19 38.1	-2.4
BRTR	Keskin Array B 0.5nm,0.7s,baz=97,slow=7.4,SNR=3.3	30.59	283	P		P	P	09 22 06.5	0.0
FINES	FINESS Array B 0.9nm,0.6s,baz=119,slow=14,SNR=5.1	36.12	323	P		P	P	09 22 56.2	+1.9
ARCES	ARCESS Array B 0.7nm,0.5s,baz=106,slow=8.9,SNR=5.7	39.09	335	P		P	P	09 23 21.3	+2.0
TORD	Torodi Ar. Bea 0.5nm,0.4s,baz=53,slow=5.3,SNR=10	67.84	269	P		P	P	09 26 50.7	-0.3
WRA	Warramunga Arr 0.2nm,0.7s,baz=327,slow=5.3,SNR=3.1	81.97	124	P		P	P	09 28 10.3	-2.1

IDC 25 09:16:07.0±2.4, 6°80S×130°34E, h0km, mb3.4/1, mb1 4.1/3, mb1mx3.6/19, mbtmp3.8/3, ML4.1/2, Error ellipse: s-maj=134.3km s-min=32.5km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 1.1nm,0.3s,baz=347,slow=13,SNR=33	13.63	164	Pn		Pn	Pn	09 19 21.9	+0.2
WRA				Sn		Sn		09 21 41.4	-13
	1.3nm,0.3s,baz=331,slow=22,SNR=12								
ASAR	Alice Springs 0.7nm,0.3s,baz=342,slow=9.1,SNR=40	17.12	169	P		Pn	Pn	09 20 07.7	-0.2
ASAR				S		Sn		09 23 02.8	-16
	0.2nm,0.3s,baz=341,slow=25,SNR=6.2								
MKAR	Makanchi Array 0.1nm,0.5s,baz=108,slow=7.9,SNR=4.3	68.24	327	P		P	P	09 27 09.7	0.0

*IDC **25** 09:19:55.3±1.0, 38°11S×73°77W, h0km, mb3.8/6, mb1 3.9/9, mb1mx3.8/18, mbtmp3.7/9, ML3.7/3, Error ellipse: s-maj=27.2km s-min=15.2km az=73.0*
*ISCJB **25** 09:19:57.2±0.7, 38°09S±0°06×73°7W±0°1, h22km, mb4.3/13, Error ellipse: s-maj=13.4km s-min=7.8km az=13.1*
*NEIC **25** 09:19:57.6±4.9, 38°09S×73°77W, h14km±29km, mb4.8/3, ML4.7(GUC), Error ellipse: s-maj=19.4km s-min=9.0km az=78.0*
NEIC Felt [II] at Canete, Los Alamos and Tirua.
ISC 25 09:19:59.2±0.7, 38°13S±0°06×73°7W±0°1, h22km, n114, σ1°48/112, mb4.4/13, 29C-50D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.54	138	Pn		Pn	Pn	09 20 53.7	+0.8
PLCA				Lg		Lg		09 21 52.3	
PLCA	Paso Flores 1.0nm,0.3s,baz=287,slow=8.6,SNR=12	3.54	138	Pn		Pn	Pb	09 21 01.6	+0.4
PLCA				Pg		Pb		09 21 01.6	+0.4
	6.9nm,0.3s,baz=315,slow=16,SNR=27								
PLCA				Lg		Lg		09 21 52.3	
	7.6nm,0.3s,baz=210,slow=22,SNR=6.6								
CFAA	Coronel Fontan 0.2nm,0.3s,baz=209,slow=10,SNR=33	7.89	36	Pn		Pn	Pn	09 21 50.9	-1.8
CFAA				Sn		Sn	Sn	09 23 21.2	-0.1
CFAA	Coronel Fontan 0.2nm,0.3s,baz=209,slow=10,SNR=33	7.89	36	Pn		Pn	Pn	09 21 50.9	-1.8
CFAA				Sn		Sn	Sn	09 23 21.2	-0.1
	0.2nm,0.3s,baz=322,slow=3.5,SNR=3.7								
TRQA	Tornquist 7.6nm,0.6s	9.22	93	Pn		Pn	Pn	09 22 12.3	+1.6
LCO	Las Campanas 17nm,0.3s	9.43	16	*e*Pn		Pn	Pn	09 22 12.1	-1.8
LCO				*e*Sn		Sn	Sn	09 24 01.7	+2.3
CPUP	Villa Florida	18.12	54	P		Pn	Pn	09 24 09.6	+0.1
CPUP	Villa Florida 0.4nm,0.3s,baz=212,slow=10,SNR=6.6	18.12	54	P		Pn	Pn	09 24 09.6	+0.1
LPAZ	La Paz	22.30	14	P		P	P	09 24 56.6	+0.9
LPAZ	La Paz 2.3nm,0.8s,baz=187,slow=5.9,SNR=6.9	22.30	14	P		P	P	09 24 56.6	+0.9
SNAA	Sanae	48.30	156	P		P	P	09 28 37.8	-0.5
SNAA	Sanae 0.4nm,0.8s,baz=260,slow=6.9,SNR=3.7	48.30	156	P		P	P	09 28 37.8	-0.5
QSPA	South Pole Qui	52.11	180	P		P	P	09 29 06.8	-0.6
QSPA	South Pole Qui 1.5nm,0.9s,baz=274,slow=4.6,SNR=4.2	52.11	180	P		P	P	09 29 06.8	-0.6
732A	Laxson Ranch, baz=71,SNR=5.6	70.92	336	⇑P		P	P	09 31 15.4	+0.8
632A	Uvalde baz=72	71.58	336	⇑P		P	P	09 31 19.5	+0.9
631A	Perdido Creek baz=72	71.75	335	⇑P		P	P	09 31 20.5	+0.9
532A	Rocksprings baz=72,SNR=5.9	72.20	336	⇑P		P	P	09 31 22.7	+0.4
531A	Rocksprings baz=73,SNR=6.2	72.44	336	⇓P		P	P	09 31 24.6	+0.9
JCT	Junction City 10.0nm,1.1s	72.49	337	P	

baz=74
429A Davenport Ranc 73.31 335 ⇓P P 09 31 30.1 +1.2
baz=74
332A Millersview 73.31 337 ⇓P P 09 31 29.2 +0.3
baz=74,SNR=6.3
331A San Angelo 73.46 336 ⇓P P 09 31 30.6 +0.8
baz=74
527A Woodward Ranch 73.46 333 ⇓P P 09 31 31.5 +1.6
baz=74,SNR=5.3
526A Mary Lane Ranc 73.56 333 ⇓P P 09 31 30.0 -0.4
baz=74,SNR=5.4
428A Kincaid Ranch, 73.67 334 ⇑P P 09 31 31.0 -0.1
baz=74
232A Coleman 73.75 337 ⇓P P 09 31 31.7 +0.2
baz=74
330A Mertzon 73.79 336 ⇓P P 09 31 32.1 +0.4
baz=74
231A Bronte 74.00 337 ⇑P P 09 31 33.8 +0.9
baz=74
427A Hayter Ranch, 74.03 334 ⇓P P 09 31 33.6 +0.4
baz=74
426A McDonald Obser 74.09 333 ⇓P P 09 31 34.5 +0.9
baz=74,SNR=7.6
425A Indio Mountain 74.54 332 ⇓P P 09 31 37.4 +1.2
baz=75
Z32A Haskell 75.02 338 ⇑P P 09 31 41.7 +2.9
baz=75
Z31A Sharp Cattle R 75.23 337 ⇑P P 09 31 43.3 +3.2
baz=76
128A Castleberry Fa 75.34 335 ⇓P P 09 31 43.4 +2.7
baz=76
226B Tecolote Peak, 75.41 334 ⇑P P 09 31 43.4 +2.3
baz=76
Z30A Sanderson Ranc 75.51 336 ⇑P P 09 31 44.8 +3.2
baz=76
Y32A R-V Farms, Ver 75.66 338 ⇓P P 09 31 44.9 +2.4
baz=76
Z29A Hungry Hill Ra 75.67 336 ⇑P P 09 31 44.2 +1.6
baz=76
Z28A Tucker Farm, M 75.92 335 ⇓P P 09 31 46.6 +2.6
baz=76
X31A McDonald Ranch 76.41 338 ⇑P P 09 31 48.4 +1.7
baz=77
Z26A Caprock 76.43 334 ⇓P P 09 31 47.7 +0.7
baz=77
124A Stringfield Ra 76.44 333 ⇑P P 09 31 48.1 +0.9
baz=77
TUL1 Tulsa 76.47 342 ⇓P P 09 31 49.5 +2.6
baz=77
X30A Coker Ranch, T 76.50 337 ⇓P P 09 31 49.3 +2.0
baz=77
Y27A Causey 76.72 335 ⇓P P 09 31 50.9 +2.3
baz=77
220A Playas Peak, P 76.88 330 ⇑P P 09 31 53.6 +4.0
baz=77
LIC Lamto 77.33 72 *eP* P 09 31 59.6 +7.2
34nm,1.4s
Z22A Elephant Butte 77.49 332 ⇑P P 09 31 54.8 +1.8
baz=78
Y24A Capitan 77.53 333 ⇓P P 09 31 55.2 +1.9
baz=78
TIC Toumodi 77.61 71 *eP* P 09 31 59.8 +5.8
5.0nm,0.2s
KIC Kosan Boka 77.64 72 *eP* P 09 32 01.4 +7.3
166nm,2.1s
DBIC Dimbokro 77.75 71 P P 09 31 55.3 +0.6
DBIC Dimbokro 77.75 71 P P 09 31 55.3 +0.6
3.2nm,0.8s,baz=149,slow=5.9,SNR=2.4
W27A Bowe Ranch, En 77.76 336 ⇑P P 09 31 56.4 +1.9
baz=78
Z21A St. Cloud Mine 77.80 331 ⇑P P 09 31 56.5 +1.7
baz=78
W25A X Bar L Ranch, 78.37 335 ⇓P P 09 32 00.1 +2.3
baz=79
U30A WK&E Inc. Balk 78.37 338 ⇓P P 09 31 60.0 +2.3
baz=79
Y21A Point of Rocks 78.42 332 ⇓P P 09 31 58.7 +0.5
baz=79,SNR=6.2
Y20A Horse Springs, 78.60 331 ⇓P P 09 32 01.2 +1.9
baz=79
W24A Lazy 6 Ranch, 78.69 334 ⇓P P 09 32 01.8 +2.2
baz=79
X21A Alamocita Cree 78.85 332 ⇑P P 09 32 01.5 +0.8
baz=79,SNR=6.0
V25A Rancho No Teng 78.98 335 ⇓P P 09 32 04.0 +2.7
baz=79
U26A Atchley Ranch, 79.20 336 ⇓P P 09 32 05.2 +2.8
baz=80
X20A Quemado 79.21 331 ⇓P P 09 32 06.1 +3.6
baz=80
T28A Walsh 79.36 337 ⇓P P 09 32 05.0 +1.9
baz=80
U25A Circle Dot Ran 79.43 335 ⇓P P 09 32 05.5 +1.9
baz=80
V23A Ortiz Mt. (NFS 79.44 334 ⇑P P 09 32 05.6 +1.8
baz=80
R31A Burdett 79.69 340 ⇑P P 09 32 06.2 +1.3
baz=80
S28A Manter 79.72 338 ⇑P P 09 32 07.9 +2.8
baz=80
W20A Ramah 79.72 332 ⇓P P 09 32 06.9 +1.5
baz=80
V22A San Miguel Ran 79.85 333 ⇓P P 09 32 07.8 +1.7
baz=80
T26A Comanche Natio 79.87 336 ⇓P P 09 32 07.9 +1.9
baz=80
R30A Dighton 79.89 339 ⇓P P 09 32 08.0 +2.0
baz=80
T25A Trinidad 80.10 336 ⇓P P 09 32 08.8 +1.5
baz=80
S26A Kim 80.24 336 ⇓P P 09 32 09.2 +1.3
baz=80
U22A Llaves 80.24 333 ⇑P P 09 32 10.2 +2.1
baz=80
X16A Lo Mia Camp, P 80.25 329 ⇓P P 09 32 08.7 +0.6
baz=80,SNR=5.6
V20A Brimhall 80.31 332 ⇓P P 09 32 10.0 +1.6
baz=81
R28A Tribune 80.39 338 ⇓P P 09 32 10.0 +1.3
baz=81
U21A Nageezi 80.57 333 ⇑P P 09 32 11.7 +1.7
baz=81
S25A Robets Cordova 80.58 336 ⇑P P 09 32 11.9 +2.1
baz=81
R27A Eads 80.64 337 ⇑P P 09 32 10.1 +0.1
baz=81
T22A Edith 80.83 334 ⇑P P 09 32 11.5 +0.2
baz=81
R26A Arlington 80.85 337 ⇑P P 09 32 12.9 +1.7
baz=81
WUAZ Wupatki 81.18 330 ⇑P P 09 32 15.0 +1.9
baz=81
R24A Sanders Place, 81.32 335 ⇓P P 09 32 14.9 +1.1
baz=82
Q26A Hugo 81.45 337 ⇓P P 09 32 16.5 +2.1
baz=82
SMCO Snowmass 82.80 335 *eP* P 09 32 21.3 -0.5
6.0nm,1.2s
ECSD EROS Data Cent 84.10 343 *eP* P 09 32 27.4 -0.5
11nm,1.2s
TORD Torodi Ar. Bea 86.84 71 P P 09 32 41.2 -1.0
TORD Torodi Ar. Bea 86.84 71 P P 09 32 41.2 -1.0
0.3nm,0.4s,baz=227,slow=3.5,SNR=4.2
PDAR Pinedale Array 86.88 334 P P 09 32 47.7 +5.6
PDAR Pinedale Array 86.88 334 P P 09 32 47.7 +5.6
1.0nm,1.0s,baz=167,slow=7.3,SNR=6.7
ABKAR Akbulak array 145.18 56 *e*PKPbc **PKPbc** 09 39 34.4 +0.3
BVAR Borovoye Array 151.13 47 PKPbc **PKPbc** 09 39 49.6 -0.3
BVAR PKPab **PKPab** 09 39 56.5 -1.2
BVAR Borovoye Array 151.13 47 PKPbc **PKPbc** 09 39 49.6 -0.3
0.7nm,0.6s,baz=211,slow=4.3,SNR=4.2
BVAR PKPab **PKPab** 09 39 56.5 -1.2
1.2nm,0.5s,baz=264,slow=3.0,SNR=7.0
ZALV Zalesovo Beam 158.38 36 PKPab **PKPab** 09 40 27.9 -0.7
ZALV Zalesovo Beam 158.38 36 PKPab **PKPab** 09 40 27.9 -0.7
0.4nm,0.3s,baz=332,slow=5.7,SNR=3.4
MKAR Makanchi Array 160.32 56 PKPab **PKPab** 09 40 36.6 -0.7
MKAR Makanchi Array 160.32 56 PKPab **PKPab** 09 40 36.6 -0.7
0.6nm,0.7s,baz=273,slow=4.7,SNR=8.3

IDC 25 09:25:16.5±1.0,38.07S×73.79W,h0km,mb3.8/7, mb1 3.9/10,mb1mx3.8/19,mbtmp3.8/10,ML4.2/2, MS3.8/2,Ms1 3.7/2,ms1mx3.2/19,Error ellipse: s-maj=27.9km s-min=14.7km az=76.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.66**	**138**	Pn	Pn	Pn	09 26 15.4	+1.0
	4.2nm,0.3s,baz=299,slow=12,SNR=27							
PLCA				Pg	Pb	Pb	09 26 23.6	+1.5
	8.2nm,0.3s,baz=306,slow=18,SNR=27							
PLCA				Lg	Lg	Lg	09 27 14.6	
	12nm,0.3s,baz=228,slow=23,SNR=5.7							
CFAA	**Coronel Fontan**	**7.90**	**37**	Pn	Pn	Pn	09 27 11.2	-1.5
	0.1nm,0.3s,baz=251,slow=20,SNR=16							
CFAA				Sn	Sn	Sn	09 28 42.5	-0.3
	0.1nm,0.3s,baz=285,slow=3.4,SNR=2.3							
CPUP	**Villa Florida**	**18.16**	**55**	P	P	P	09 29 30.7	+0.2
	0.2nm,0.3s,baz=213,slow=12,SNR=5.6							
LPAZ	**La Paz**	**22.26**	**14**	P	P	P	09 30 16.2	+0.3
	1.7nm,0.8s,baz=191,slow=8.6,SNR=4.3							
SIV	**San Ignacio**	**24.69**	**30**	P	P	P	09 30 38.7	-0.6
	0.8nm,0.6s,baz=256,slow=11,SNR=3.2							
SIV				LR	LR	LR	09 42 05.2	
	comp=Z,246nm,20.2s,slow=41							
BDFB	**Brasilia**	**31.87**	**53**	LR	LR	LR	09 44 05.2	
	comp=Z,113nm,18.4s,baz=82,slow=35							
SNAA	**Sanae**	**48.40**	**156**	P	P	P	09 33 59.6	-0.3
	0.7nm,0.9s,baz=271,slow=8.4,SNR=6.3							
QSPA	**South Pole Qui**	**52.17**	**180**	P	P	P	09 34 27.4	-1.3
	2.1nm,1.0s,baz=142,slow=2.9,SNR=5.6							
TXAR	**Lajitas Array**	**72.64**	**333**	P	P	P	09 36 47.1	+1.2
	0.6nm,0.9s,baz=165,slow=8.2,SNR=4.7							
BOSA	**Boshof**	**79.43**	**118**	P	P	P	09 37 24.9	-0.1
	3.7nm,0.8s,baz=171,slow=5.4,SNR=4.5							
PDAR	**Pinedale Array**	**86.78**	**334**	P	P	P	09 38 09.2	+6.7
	2.7nm,1.2s,baz=183,slow=5.3,SNR=7.6							
TORD	**Torodi Ar. Bea**	**86.91**	**71**	P	P	P	09 38 03.4	-0.1
	1.0nm,0.8s,baz=219,slow=5.0,SNR=4.6							
BVAR	**Borovoye Array**	**151.16**	**47**	PKPbc	PKPbc		09 45 11.2	+0.1
	0.8nm,0.4s,baz=297,slow=6.5,SNR=4.5							
BVAR				PKPab	PKPab		09 45 17.7	-1.1
	1.0nm,0.4s,baz=270,slow=1.5,SNR=5.9							
ZALV	**Zalesovo Beam**	**158.39**	**36**	PKPab	PKPab		09 45 50.5	+0.9
	0.7nm,0.5s,baz=297,slow=6.3,SNR=2.9							
MKAR	**Makanchi Array**	**160.37**	**56**	PKPab	PKPab		09 45 56.9	-1.7
	0.8nm,0.7s,baz=289,slow=4.5,SNR=3.9							

IDC 25 09:43:13.8±2.3,1.14S×132.55E,h0km,mb3.4/2, mb1 3.7/4,mb1mx3.4/21,mbtmp3.5/4,ML3.5/2,Error ellipse: s-maj=94.4km s-min=24.5km az=78.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.18**	**202**	P	P	Pn	09 47 26.5	-1.2
	0.1nm,0.3s,baz=27,slow=11,SNR=2.6							
WRA	**Warramunga Arr**	**18.77**	**175**	P	P	Pn	09 47 35.3	+0.2
	0.2nm,0.3s,baz=355,slow=11,SNR=10							
ASAR	**Alice Springs**	**22.43**	**177**	P	P		09 48 14.7	+0.2
	0.9nm,0.6s,baz=356,slow=12,SNR=22							
MKAR	**Makanchi Array**	**64.86**	**324**	P	P	P	09 53 54.8	0.0
	0.3nm,0.7s,baz=127,slow=7.5,SNR=2.9							

IDC 25 10:07:26.3±1.9,38.00S×73.75W,h0km,mb3.2/2, mb1 3.4/4,mb1mx3.4/16,mbtmp3.1/4,ML2.8/2,Error ellipse: s-maj=53.4km s-min=18.0km az=60.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.68**	**139**	Pn	Pn	Pn	10 08 24.6	-0.1
	0.3nm,0.3s,baz=296,slow=13,SNR=3.8							
PLCA				Pg	Pb	Pb	10 08 34.4	+2.0
	1.4nm,0.3s,baz=293,slow=14,SNR=15							
PLCA				Lg	Lg	Lg	10 09 22.9	
	1.3nm,0.3s,baz=25,slow=19,SNR=4.2							
CFAA	**Coronel Fontan**	**7.82**	**37**	Pn	Pn	Pn	10 09 22.1	+0.6
	0.1nm,0.3s,baz=212,slow=15,SNR=5.3							
LPAZ	**La Paz**	**22.19**	**14**	P	P	P	10 12 24.6	-0.4
	0.9nm,0.8s,baz=216,slow=4.1,SNR=2.6							
TXAR	**Lajitas Array**	**72.60**	**333**	P	P	P	10 18 55.8	+0.3
	0.2nm,0.6s,baz=170,slow=7.3,SNR=3.0							
BVAR	**Borovoye Array**	**151.09**	**47**	PKPbc	PKPbc		10 27 20.2	-0.4
	0.5nm,0.4s,baz=293,slow=5.6,SNR=3.0							
MKAR	**Makanchi Array**	**160.30**	**56**	PKPab	PKPab		10 28 07.2	-0.9
	0.1nm,0.3s,baz=343,slow=3.0,SNR=2.8							

NIED ***25*** *10:12:00,24.00N×122.10E,h8km,Mw3.9 Best double couple: M₀8.61000×10¹⁴ NP1:φ₀67.00000°,δ85.00000°, λ84.00000°. NP2:φ₀298.00000°,δ8.00000°,λ141.00000°.*
IDC ***25*** *10:12:05.5±1.9,24.12N×122.48E,h0km,mb3.7/8, mb1 3.7/8,mb1mx3.6/26,mbtmp3.7/8,Error ellipse: s-maj=133.8km s-min=18.7km az=64.0*
JMA ***25*** *10:12:07.8±0.3,24.04N×122.09E,h26km,M3.6*
ISCJB ***25*** *10:12:09.0±0.6,23.94N±0.02×122.30E±0.01,h9km±4km, mb3.6/8,Error ellipse: s-maj=2.8km s-min=2.1km az=152.7*
TAP ***25*** *10:12:10.0,24.01N×122.28E,h19km,ML4.0,C*
ISC 25 10:12:10.2±1.1,23.97N±0.02×122.27E±0.02,h25km±9km, n78,σ1°08/135,mb3.5/8,1C-7D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.61**	**271**	P	P	**Pb**	**10 12 22.6**	**+0.4**
	baz=252							
HWA				*e*S		**Sn**	**10 12 32.1**	**-0.1**
	baz=252							
TWD	**Chiawan**	**0.62**	**281**	⇓*i*P		**Pb**	**10 12 22.5**	**0.0**
	baz=276							
TWD				S		**Sb**	**10 12 31.6**	**+0.7**
	baz=276							
ENA	**Nanau**	**0.67**	**314**	*i* P		**Pb**	**10 12 22.6**	**-0.6**
	baz=322							
TWC	**Suao**	**0.74**	**329**	⇑*i*P		**Pb**	**10 12 23.5**	**-1.1**
	baz=326							
TWC				S		**Sb**	**10 12 32.6**	**-1.7**
	baz=326							
ESL	**Shilin**	**0.78**	**259**	*e*P		**Pb**	**10 12 24.5**	**-0.6**
	baz=243							
ESL				S		**Sb**	**10 12 35.4**	**+0.1**
	baz=243							
YOJ	**Yonaguni jima**	**0.84**	**54**	P		**Pb**	**10 12 25.0**	**-1.1**
YOJ				*e*S		**Sn**	**10 12 37.4**	**-0.5**
ILA	**Ilan**	**0.93**	**329**	*e*P		**Pb**	**10 12 27.2**	**-0.4**
	baz=327							
ILA				S		**Sn**	**10 12 39.8**	**-0.3**
	baz=327							
ENTT	**Nioudou**	**0.93**	**316**	*e*P		**Pb**	**10 12 27.1**	**-0.5**
	baz=327							
ENTT				*e*S		**Sb**	**10 12 39.7**	**+0.1**
	baz=327							
WHF	**Hehuan Shan**	**0.93**	**281**	⇓*i*P		**Pn**	**10 12 27.6**	**-0.5**
	baz=278							
WHF				S		**Sb**	**10 12 40.6**	**+0.5**
	baz=278							
NNS	**Nan Shan**	**0.94**	**300**	*e*P		**Pn**	**10 12 27.8**	**-0.1**
	baz=297							
NNS				*e*S		**Sb**	**10 12 38.8**	**-1.4**
	baz=297							
EHY	**Hungye**	**0.98**	**242**	*e*P		**Pn**	**10 12 27.9**	**-0.4**
	baz=240							
EHY				*e*S		**Sb**	**10 12 40.9**	**-0.2**
	baz=240							
TWT	**Tachien**	**1.04**	**286**	P		**Pn**	**10 12 29.5**	**+0.2**
	baz=271							
TWT				S		**Sn**	**10 12 44.1**	**+1.0**
	baz=271							
TWB1	**Santiao Chiao**	**1.07**	**346**	*i* P		**Pn**	**10 12 29.2**	**-0.3**
	baz=330							
TWB1				*i* S		**Sn**	**10 12 43.7**	**+0.1**
	baz=330							
TWF1	**Yuli**	**1.08**	**236**	P		**Pn**	**10 12 29.5**	**-0.2**
	baz=220							
TWF1				*e*S		**Sn**	**10 12 44.2**	**+0.3**
	baz=220							
NSK	**Sanguang**	**1.09**	**311**	⇓*i*P		**Pn**	**10 12 29.9**	**0.0**
	baz=307							
NSK				*e*S		**Sn**	**10 12 43.7**	**-0.6**
	baz=307							
NWF	**Wu-fen Shan**	**1.19**	**338**	*i* P		**Pn**	**10 12 31.2**	**0.0**
	baz=335							
NWF				*i* S		**Sb**	**10 12 47.4**	**+0.3**
	baz=335							
TWA	**Mucha**	**1.19**	**328**	*e*P		**Pb**	**10 12 32.2**	**+0.2**
	baz=325							
TWA				*e*S		**Sb**	**10 12 47.7**	**+0.7**
	baz=325							

CHKT Chengkung 1.20 224 *e*P Pn 10 12 29.9 -1.4
baz=210
CHKT *e*S Sn 10 12 45.3 -1.4
baz=210
SMLT Sun Moon Lake 1.25 266 P Pn 10 12 32.7 +0.5
baz=264
SMLT *e*S Sn 10 12 48.7 +0.4
baz=264
TAP1 Taipei 1.27 328 *e*P Pb 10 12 33.0 -0.4
baz=324
TAP1 *e*S Sb 10 12 51.0 +1.7
baz=324
TAP Taipei 1.27 327 *e*P Pb 10 12 33.6 0.0
baz=324
TAP *e*S Sb 10 12 51.5 +2.0
baz=324
TYC Yuchr 1.29 268 ⇓P Pn 10 12 33.0 +0.4
baz=266
YUS Yu-Shan 1.30 249 *e*P Pn 10 12 33.6 +0.4
baz=247
YUS *e*S Sn 10 12 50.1 +0.2
baz=247
NSTT Nanjuang 1.33 300 ⇓P Pn 10 12 34.5 0.0
baz=283
NSTT S Sb 10 12 51.6 +0.5
baz=283
TWS1 Kuangyinshan 1.37 326 *e*P Pn 10 12 34.2 +0.6
baz=324
ELDTW Lidau 1.38 236 *e*P Pn 10 12 33.6 -0.4
baz=235
ELDTW *e*S Sn 10 12 50.7 -0.9
baz=235
IRIF Iriomote-Funau 1.39 74 P Pn 10 12 34.4 +0.5
IRIF *e*S Sb 10 12 53.3 +0.6
NCU National Centr 1.40 316 *e*P Pn 10 12 34.2 0.0
baz=314
HATJ Hateruma jima 1.41 86 P Pn 10 12 34.6 +0.4
ALS Alishan 1.42 252 ⇓*i*P Pn 10 12 35.6 +1.0
baz=250
ALS *i* S Sn 10 12 53.7 +1.1
baz=250
TWQ1 Liyutan 1.42 286 ⇓*i*P Pb 10 12 36.2 +0.2
baz=284
TWQ1 *e*S Sb 10 12 54.7 +1.1
baz=284
TWY Chenhua 1.44 335 P Pb 10 12 35.5 -0.8
baz=350
HSN Hsinchu 1.45 305 *e*P Pn 10 12 35.7 +0.9
baz=304
HSN *e*S Sb 10 12 54.7 +0.3
baz=304
NSY Sanyi 1.45 288 *e*P Pb 10 12 36.6 +0.2
baz=272
NSY *e*S Sb 10 12 56.0 +1.5
baz=272
WNT Mingjian 1.45 267 *e*P Pb 10 12 36.6 0.0
baz=265
WNT *i* S Sb 10 12 56.2 +1.6
baz=265
TCU Taichung 1.47 277 *e*P Pb 10 12 36.9 +0.1
baz=275
TCU *e*S Sb 10 12 56.9 +1.8
baz=275
CHN5 Tsauling 1.50 256 P Pb 10 12 37.2 -0.3
baz=242
CHN5 *e*S Sb 10 12 57.1 +1.0
baz=242
TWG Pinlang 1.58 224 *e*P Pn 10 12 36.3 -0.3
baz=237
TWG *e*S Sn 10 12 55.6 -0.7
baz=237
TTN Taitung 1.59 221 *e*P Pn 10 12 33.9 -2.8
baz=207
WGK Gukeng 1.59 260 *e*P Pb 10 12 38.1 -0.8
baz=259
WGK *e*S Sb 10 12 59.2 +0.7
baz=259
STYT Tauyuan 1.60 240 *e*P Pn 10 12 37.8 +0.8
baz=228
STYT *e*S Sn 10 12 58.3 +1.5
baz=228
JKRS Kuro-shima 1.61 80 P Pn 10 12 37.6 +0.6
JKRS *e*S Sb 10 13 00.2 +0.9
CHN4 Tsaushan 1.65 249 *e*P Pb 10 12 39.7 -0.3
baz=248
CHN4 *e*S Sb 10 13 01.0 +0.6
baz=248
PCYT Pengchaiyu 1.67 354 P Pn 10 12 37.5 -0.2
baz=352
WTP Ta-pu 1.68 245 *e*P Pb 10 12 39.7 -0.7
baz=244
WTP *e*S Sb 10 13 01.7 +0.5
baz=244
CHY Chiayi 1.75 255 *e*P Pb 10 12 40.7 -1.0
baz=254
CHY *e*S Sb 10 13 03.1 -0.1
baz=254
JlJ Ishigaki jima 1.76 77 P Pn 10 12 38.9 -0.1
JlJ *e*S Sn 10 13 01.5 +0.9
TWK Hsinying 1.77 247 *e*P Pn 10 12 41.0 +1.6
baz=246
TWK *e*S Sb 10 13 04.3 +0.3
baz=246
CHN1 Nanshi 1.78 244 P Pb 10 12 41.4 -0.7
baz=244
CHN1 S Sb 10 13 04.7 +0.7
baz=244
SGST Jiashian 1.78 241 *e*P Pb 10 12 41.6 -0.6
baz=228
SGST *e*S Sb 10 13 04.9 +0.9
baz=228
ECL Taimali 1.82 222 *e*P Pn 10 12 38.8 -1.1
baz=233
WTCT Ta-ch'eng 1.82 267 P Pn 10 12 41.5 +1.6
baz=266
WTCT *e*S Sb 10 13 05.9 +0.7
baz=266
WSF Szhu 1.90 261 *e*P Pn 10 12 42.8 +1.8
baz=260
WSF *e*S Sb 10 13 08.3 +0.7
baz=260
CHN3 Shinhua 1.96 243 *e*P Pb 10 12 46.6 +1.4
baz=243
CHN3 *e*S Sb 10 13 10.2 +1.1
baz=243
CHN8 Yiju 1.98 252 *e*P Pn 10 12 43.6 +1.4
baz=252
CHN8 *e*S Sb 10 13 09.1 -0.9
baz=252
LAY Lan-yu 2.03 199 *e*P Pn 10 12 41.8 -1.0
baz=199
TAW Tawu 2.04 219 *e*P Pn 10 12 42.4 -0.5
baz=218
TWM1 Shoushan 2.04 236 *e*P Pn 10 12 45.1 +2.1
baz=235
TWM1 *e*S Sb 10 13 12.7 +1.1
baz=235
SGLT Jiouru 2.05 233 *e*P Pn 10 12 44.0 +1.0
baz=222
SGLT *e*S Sb 10 13 10.3 -1.5
baz=222
SCLT Jiali 2.06 248 *e*P Pn 10 12 44.1 +1.0
baz=248
SCLT *e*S Sb 10 13 10.7 -1.4
baz=248
TAI1 Yung-k'ang 2.09 244 *e*P Pb 10 12 46.2 -1.1
baz=244
TAI1 *e*S Sb 10 13 11.8 -1.1
baz=244
SCZT Fangliau 2.19 224 *e*P Pn 10 12 46.9 +1.9
baz=216
SCZT *e*S Sn 10 13 13.9 +2.5
baz=216
JTJ Tarama 2.32 73 P Pn 10 12 47.5 +0.7
JTJ *e*S Sn 10 13 16.4 +1.9
TWP Hsiaoliuchiu 2.38 228 *e*P Pn 10 12 50.3 +2.7
baz=228
HEN Hengchun 2.41 216 *e*P Pn 10 12 49.9 +1.9
baz=215
TSEB Hengchuen, Pin 2.41 212 *e*P Pn 10 12 49.6 +1.6
baz=214
TSEB *e*S Sn 10 13 18.3 +1.5
baz=214
TWK1 Hengchun 2.42 214 *e*P Pn 10 12 50.0 +1.8
baz=215
TWK1 *e*S Sn 10 13 17.8 +0.7
baz=215
PNG Penghu 2.52 261 *e*P Pn 10 12 50.3 +0.8

baz=261
PNG eS Sn 10 13 21.0 +1.6
baz=261
JOGS Gusukube 2.97 74 P Pn 10 12 57.5 +1.8
JOGS eS Sn 10 13 33.5 +3.0
KNM Kinmen 3.53 278 eP Pn 10 13 05.0 +1.6
baz=276
KNM eS Sn 10 13 45.8 +1.5
baz=276
SONM Songino Array 26.96 336 P P 10 17 48.9 -0.9
2.3nm,0.6s,baz=154,slow=11,SNR=11
MKAR Makanchi Array 39.18 316 P P 10 19 35.6 -0.4
0.4nm,0.5s,baz=99,slow=11,SNR=8.3
ZALV Zalesovo Beam 40.97 327 P P 10 19 48.4 -2.3
1.4nm,0.3s,baz=111,slow=8.2,SNR=3.6
KURBB Kurchatov Arra 42.91 320 P P 10 20 05.6 -1.1
0.2nm,0.4s,baz=110,slow=8.9,SNR=3.4
WRA Warramunga Arr 45.20 164 P P 10 20 25.1 -0.2
0.4nm,0.8s,baz=346,slow=8.8,SNR=6.0
BVAR Borovoye Array 48.47 321 P P 10 20 49.6 -1.0
0.5nm,0.5s,baz=129,slow=8.0,SNR=2.5
ASAR Alice Springs 48.68 166 P P 10 20 52.1 -0.4
0.2nm,0.5s,baz=356,slow=14,SNR=5.0
BRTR Keskin Array B 74.10 307 P P 10 23 44.6 +0.1
0.3nm,0.5s,baz=98,slow=5.1,SNR=2.5

CSEM ***25*** *10:15:53.7±0.8, 38.12N×35.89E, h30km, MD2.4, Error ellipse: s-maj=24.4km s-min=10.2km az=58.0*
ISK 25 10:16:02.3, 37.54N×35.66E, h4km, MD2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.15**	**114**	*e*PG	Pg	10 16 06.3	+1.0
KOZT				*e*SG	Sg	10 16 08.6	+1.3
KOZT	**Kozan**	**0.15**	**114**	*e*Pg	Pg	10 16 06.3	+1.0
CEYT	**Ceyhan**	**0.54**	**172**	*e*PG	Pg	10 16 13.2	+0.6
CEYT				*e*SG	Sb	10 16 21.8	-0.5
CEYT	**Ceyhan**	**0.54**	**172**	*e*Pg	Pg	10 16 13.2	+0.6
KARA	**Karaisali**	**0.56**	**240**	*e*PG	Pg	10 16 13.8	+0.8
KARA				*e*SG	Sb	10 16 22.1	-0.8
KARA	**Karaisali**	**0.56**	**240**	*e*Pg	Pg	10 16 13.8	+0.8
YURE	**YUREGIR**	**0.71**	**182**	*i* P	Pg	10 16 15.6	-0.5
YURE				*i* S	Sn	10 16 31.8	+1.1
YURE	**YUREGIR**	**0.71**	**182**	*i* P	Pg	10 16 15.6	-0.5
YURE				*i* S	Sn	10 16 31.8	+1.1
GULE	**Gulek**	**0.75**	**250**	*i* P	Pb	10 16 18.0	-0.1
GULE				*i* S	Sb	10 16 29.5	+0.7
GULE	**Gulek**	**0.75**	**250**	*i* P	Pb	10 16 18.0	-0.1
GULE				*i* S	Sb	10 16 29.5	+0.7
KMRS	**Kahramanmaras**	**0.99**	**92**	*e*PG	Pb	10 16 22.2	+0.1

DDA ***25*** *10:16:42.7, 39.08N×27.75E, h6km, MD3.0*
ISCJB ***25*** *10:16:46.9±0.6, 39.45N±0.05×28.14E±0.06, h8km±6km, Error ellipse: s-maj=10.5km s-min=4.1km az=40.2*
ISK ***25*** *10:16:46.4, 39.44N×28.12E, h10km, MD2.8*
CSEM ***25*** *10:16:47.0±0.2, 39.44N×28.12E, h10km, MD2.8, Error ellipse: s-maj=4.9km s-min=2.6km az=36.0*
ISC 25 10:16:46.2±1.5, 39.44N±0.03×28.11E±0.03, h4km±13km, n39, σ0s56/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.27**	**319**	*e*PG	**Pb**	**10 16 52.8**	**-0.9**
BALB				*e*SG	**Sb**	**10 16 57.4**	**-1.2**
BALB	**Balikesir**	**0.27**	**319**	*e*Pg	**Pb**	**10 16 52.8**	**-0.9**
BALB				*e*Sg	**Sb**	**10 16 57.4**	**-1.2**
BALY	**Balya**	**0.49**	**309**	*i* P	**Pg**	**10 16 56.2**	**+0.7**
BALY				*i* S	**Sb**	**10 17 05.2**	**+0.3**
BALY	**Balya**	**0.49**	**309**	*i* P	**Pg**	**10 16 56.2**	**+0.7**
BALY				*i* S	**Sb**	**10 17 05.2**	**+0.3**
DEMI	**Demirci**	**0.61**	**130**	*i* P	**Pb**	**10 16 58.9**	**-0.6**
DEMI				*i* S	**Sb**	**10 17 07.9**	**-0.6**
DEMI	**Demirci**	**0.61**	**130**	*i* P	**Pb**	**10 16 58.9**	**-0.6**
DEMI				*i* S	**Sb**	**10 17 07.9**	**-0.6**
GONE	**Gonen-Balikesi**	**0.69**	**332**	*e*PG	**Pg**	**10 16 59.5**	**0.0**
GONE				*e*SG	**Sb**	**10 17 10.6**	**-0.1**
GONE	**Gonen-Balikesi**	**0.69**	**332**	*e*Pg	**Pg**	**10 16 59.5**	**0.0**
GONE				*e*Sg	**Sb**	**10 17 10.6**	**-0.1**
ORLT	**Orhaneli**	**0.86**	**45**	*e*PG	**Pg**	**10 17 03.1**	**+0.5**
ORLT	**Orhaneli**	**0.86**	**45**	*e*Pg	**Pg**	**10 17 03.1**	**+0.5**
BNT	**Bandirma**	**0.93**	**351**	*e*PG	**Pg**	**10 17 04.3**	**+0.3**
BNT	**Bandirma**	**0.93**	**351**	*e*Pg	**Pg**	**10 17 04.3**	**+0.3**
KULA	**Kula-Manisa**	**1.02**	**155**	*e*PG	**Pb**	**10 17 06.3**	**-0.1**
KULA	**Kula-Manisa**	**1.02**	**155**	*e*Pg	**Pb**	**10 17 06.3**	**-0.1**
TVSB	**Tavsanli**	**1.05**	**89**	*e*PG	**Pn**	**10 17 07.2**	**-0.6**
TVSB	**Tavsanli**	**1.05**	**89**	*e*Pg	**Pn**	**10 17 07.2**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.10**	**32**	*e*PN	**Pn**	**10 17 08.3**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.10**	**32**	*e*Pn	**Pn**	**10 17 08.3**	**-0.2**
GDZ	**Gediz**	**1.12**	**108**	*i* P	**Pn**	**10 17 08.1**	**-0.7**
GDZ				*i* S	**Sn**	**10 17 26.0**	**+1.3**
GDZ	**Gediz**	**1.12**	**108**	*i* P	**Pg**	**10 17 08.1**	**+0.5**
GDZ	**Gediz**	**1.12**	**108**	*i* S	**Sn**	**10 17 26.0**	**+1.3**
KRBG	**Karabiga-Canak**	**1.14**	**327**	*e*PN	**Pg**	**10 17 08.5**	**+0.4**
KRBG	**Karabiga-Canak**	**1.14**	**327**	*e*Pn	**Pg**	**10 17 08.5**	**+0.4**
ARMT	**Armutlu**	**1.27**	**27**	*e*PN	**Pg**	**10 17 10.7**	**+0.2**
ARMT	**Armutlu**	**1.27**	**27**	*e*Pn	**Pg**	**10 17 10.7**	**+0.2**
GEMT	**Gemlik**	**1.30**	**39**	*e*PN	**Pb**	**10 17 10.9**	**-0.3**
GEMT	**Gemlik**	**1.30**	**39**	*e*Pn	**Pb**	**10 17 10.9**	**-0.3**
LPK	**Lapseki**	**1.40**	**312**	*e*PN	**Pn**	**10 17 12.3**	**-0.1**
LPK	**Lapseki**	**1.40**	**312**	*e*Pn	**Pn**	**10 17 12.4**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.44**	**330**	*e*PN	**Pb**	**10 17 13.4**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.44**	**330**	*e*Pn	**Pb**	**10 17 13.4**	**-0.2**
YLV	**Yalova**	**1.49**	**40**	*e*PN	**Pb**	**10 17 14.5**	**0.0**
YLV	**Yalova**	**1.49**	**40**	*e*Pn	**Pb**	**10 17 14.5**	**0.0**
CAVI	**Cavuskoy**	**1.54**	**60**	*e*PN	**Pb**	**10 17 14.8**	**-0.5**
CAVI	**Cavuskoy**	**1.54**	**60**	*e*Pn	**Pb**	**10 17 14.8**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.58**	**308**	*e*PN	**Pb**	**10 17 15.8**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.58**	**308**	*e*Pn	**Pb**	**10 17 15.8**	**-0.2**
HRT	**Hereke**	**1.83**	**40**	*e*PN	**Pn**	**10 17 18.4**	**-0.1**
HRT	**Hereke**	**1.83**	**40**	*e*Pn	**Pn**	**10 17 18.4**	**-0.1**

MDD ***25*** *10:21:33.9±2.7, 37.14N×13.17W, h0km, mb3.9/2, Error ellipse: s-maj=23.9km s-min=22.3km az=16.0, PRXIMO*
INMG ***25*** *10:21:35.5±0.9, 36.99N×13.56W, h10km, ML1.8, Error ellipse: s-maj=7.7km s-min=6.6km az=34.0*
CSEM ***25*** *10:21:36.7±0.5, 37.30N×12.95W, h10km, ML2.8/13, Error ellipse: s-maj=9.0km s-min=8.8km az=174.0*
ISC 25 10:21:32.6±3.9, 37.3N±0.1×13.2W±0.2, h10km, n41, σ1s50/67, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.51**	**91**	*e*Pn	**Pn**	**10 22 27.8**	**+0.7**
PFVI				*e*Sn	**Sn**	**10 23 06.8**	**-1.9**
PFVI				A	A	10 23 09.9	
	1.5nm,0.1s						
PFVI	**Vila Bisbo**	**3.51**	**91**	Pn	**Pn**	**10 22 27.8**	**+0.7**
	2.1nm,0.1s,SNR=7.9						
PFVI				Sn	**Sn**	**10 23 07.0**	**-1.7**
	5.4nm,0.3s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.51**	**91**	Pn	**Pn**	**10 22 27.8**	**+0.7**
	2.1nm,0.1s,SNR=7.9						
PFVI				Sn	**Sn**	**10 23 07.0**	**-1.7**
	5.4nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**3.54**	**60**	Pn	**Pn**	**10 22 29.7**	**+2.1**
	1.4nm,0.1s,SNR=7.9						
PMAFR				Sn	**Sn**	**10 23 10.7**	**+1.2**
	1.9nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**3.54**	**60**	Pn	**Pn**	**10 22 29.7**	**+2.1**
	1.4nm,0.1s,SNR=7.9						
PMAFR				Sn	**Sn**	**10 23 10.7**	**+1.2**
	1.9nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**3.64**	**88**	*e*Sn	**Sn**	**10 23 11.0**	**-1.1**
MORF				A	A	10 23 13.4	
	2.0nm,0.2s						
MORF	**Marmelete**	**3.64**	**88**	Sn	**Sn**	**10 23 11.0**	**-1.1**
	2.0nm,0.2s						
MORF	**Marmelete**	**3.64**	**88**	*e*Sn	**Sn**	**10 23 11.0**	**-1.1**
	2.0nm,0.2s						
PNCL	**Nicolau / Gran**	**3.82**	**76**	*e*Pn	**Pn**	**10 22 33.1**	**+1.7**
PNCL				*e*Sn	**Sn**	**10 23 15.6**	**-0.7**
PNCL	**Nicolau / Gran**	**3.82**	**76**	*e*Pn	**Pn**	**10 22 33.1**	**+1.7**
PNCL				*e*Sn	**Sn**	**10 23 15.6**	**-0.7**
PCVE	**Castro Verde**	**4.14**	**83**	*e*Pn	**Pn**	**10 22 36.9**	**+1.1**
PCVE				*e*Sn	**Sn**	**10 23 23.7**	**-0.6**
PCVE				A	A	10 23 28.0	
	1.1nm,0.3s						
PCVE	**Castro Verde**	**4.14**	**83**	Pn	**Pn**	**10 22 36.9**	**+1.1**
PCVE				Sn	**Sn**	**10 23 23.7**	**-0.6**
	1.1nm,0.3s						
PCVE	**Castro Verde**	**4.14**	**83**	Pn	**Pn**	**10 22 36.9**	**+1.1**
PCVE				*e*Sn	**Sn**	**10 23 23.7**	**-0.6**
	1.1nm,0.3s						
PBDV	**Barranco-do-Ve**	**4.22**	**89**	*e*Sn	**Sn**	**10 23 25.1**	**-1.1**
PBDV				A	A	10 23 29.5	
	1.1nm,0.2s						
PBDV	**Barranco-do-Ve**	**4.22**	**89**	Sn	**Sn**	**10 23 25.1**	**-1.1**
	1.1nm,0.2s						
PBDV	**Barranco-do-Ve**	**4.22**	**89**	*e*Sn	**Sn**	**10 23 25.1**	**-1.1**
	1.1nm,0.2s						
PMTG	**Montargil**	**4.33**	**64**	*e*Pn	**Pn**	**10 22 40.3**	**+1.8**
PMTG				*e*Sn	**Sn**	**10 23 29.2**	**+0.2**
PMTG				A	A	10 23 38.7	
	0.5nm,0.1s						
PMTG	**Montargil**	**4.33**	**64**	*e*Pn	**Pn**	**10 22 40.3**	**+1.8**
PMTG				*e*Sn	**Sn**	**10 23 29.2**	**+0.2**
	0.5nm,0.1s						
PVAQ	**Vaqueiros**	**4.38**	**86**	*e*Pn	**Pn**	**10 22 40.5**	**+1.3**
PVAQ				*e*Sn	**Sn**	**10 23 29.8**	**-0.6**
PVAQ				A	A	10 23 33.4	
	1.0nm,0.1s						
PVAQ	**Vaqueiros**	**4.38**	**86**	Pn	**Pn**	**10 22 40.5**	**+1.3**
PVAQ				Sn	**Sn**	**10 23 29.8**	**-0.6**
	1.0nm,0.1s						
PVAQ	**Vaqueiros**	**4.38**	**86**	*e*Pn	**Pn**	**10 22 40.5**	**+1.3**
PVAQ				*e*Sn	**Sn**	**10 23 29.8**	**-0.6**
	1.0nm,0.1s						
EGRO	**El Granado**	**4.57**	**85**	Pn	**Pn**	**10 22 43.0**	**+1.2**
	0.2nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**10 23 32.4**	**-2.6**
	0.5nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**4.57**	**85**	Pn	**Pn**	**10 22 43.0**	**+1.2**
	0.2nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**10 23 32.4**	**-2.6**
	0.5nm,0.2s,SNR=7.9						
PBAR	**Barrancos**	**4.98**	**77**	*e*Pn	**Pn**	**10 22 48.9**	**+1.4**
PBAR				*e*Sn	**Sn**	**10 23 44.7**	**-0.4**
PBAR	**Barrancos**	**4.98**	**77**	Pn	**Pn**	**10 22 48.9**	**+1.4**
PBAR				Sn	**Sn**	**10 23 44.7**	**-0.4**
PBAR	**Barrancos**	**4.98**	**77**	Pn	**Pn**	**10 22 48.9**	**+1.4**
PBAR				Sn	**Sn**	**10 23 44.7**	**-0.4**
EBAD	**Badajoz**	**5.12**	**71**	Pn	**Pn**	**10 22 50.8**	**+1.4**
	0.6nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**10 23 46.8**	**-1.8**
	0.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.12**	**71**	Pn	**Pn**	**10 22 50.8**	**+1.4**
	0.6nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**10 23 46.8**	**-1.8**
	0.6nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.23**	**82**	Pn	**Pn**	**10 22 51.3**	**+0.5**
	0.2nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**10 23 48.5**	**-2.6**
	0.2nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.23**	**82**	Pn	**Pn**	**10 22 51.3**	**+0.5**
	0.2nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**10 23 48.5**	**-2.6**
	0.2nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**6.09**	**39**	Sn	**Sn**	**10 24 10.8**	**-1.7**
	0.8nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.09**	**39**	Sn	**Sn**	**10 24 10.8**	**-1.7**
	0.8nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**6.19**	**49**	Pn	**Pn**	**10 23 05.0**	**+0.9**
	0.3nm,0.1s,SNR=4.0						
MVO				Sn	**Sn**	**10 24 13.9**	**-1.1**
	0.6nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**6.19**	**49**	Pn	**Pn**	**10 23 05.0**	**+0.9**
	0.3nm,0.1s,SNR=4.0						
MVO				Sn	**Sn**	**10 24 13.9**	**-1.1**
	0.6nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**6.24**	**80**	Pn	**Pn**	**10 23 05.6**	**+0.8**
	0.2nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**6.24**	**80**	Pn	**Pn**	**10 23 05.6**	**+0.8**
	0.2nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.55**	**28**	Sn	**Sn**	**10 24 18.9**	**-4.9**
	1.2nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.85**	**45**	Sn	**Sn**	**10 24 30.0**	**-1.3**
	0.3nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**6.85**	**45**	Sn	**Sn**	**10 24 30.0**	**-1.3**
	0.3nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.91**	**80**	Pn	**Pn**	**10 23 15.5**	**+1.5**
	0.2nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.91**	**80**	Pn	**Pn**	**10 23 15.5**	**+1.5**
	0.2nm,0.2s,SNR=7.9						

JMA 25 10:45:02.2±0.3, 31.74N×137.93E, h489km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	**Kozaga**	**2.58**	**314**	P	P	10 46 10.3	+0.8
HMMJ	**Hamamatsu 2**	**3.11**	**357**	P	P	10 46 13.3	+0.4
JWY	**Kouya**	**3.16**	**322**	P	P	10 46 14.3	+0.9
JOD2	**Odawara 2**	**3.65**	**15**	P	P	10 46 18.3	+1.4
BSO3	**Boso 3**	**3.74**	**35**	P	P	10 46 18.2	+0.9
BSO3				*e*S	S	10 47 08.7	-10
BSO4	**Boso 4**	**3.82**	**31**	P	P	10 46 19.9	+1.8
BSO4				*e*S	S	10 47 08.6	-12
BSO1	**Boso 1**	**3.87**	**41**	P	P	10 46 19.8	+1.8
BSO1				*e*S	S	10 47 10.5	-9.4
JWT	**Wachi**	**4.12**	**330**	P	P	10 46 21.3	+0.6
JHU	**Hanno**	**4.25**	**15**	P	P	10 46 22.3	+0.4
JHU				*e*S	S	10 47 11.5	-15
JRY	**Ryogami san**	**4.34**	**10**	P	P	10 46 24.0	+1.4
JKY	**Yasaka**	**4.54**	**329**	P	P	10 46 25.0	+0.7
JNG	**Nsakai**	**4.66**	**2**	P	P	10 46 26.4	+0.9
JKSM	**Kasumi**	**4.71**	**326**	P	P	10 46 27.0	+1.2
MAT	**Matsushiro**	**4.80**	**3**	P	P	10 46 27.1	+0.5
MAT	**Matsushiro**	**4.80**	**3**	P	P	10 46 27.5	+0.9
JAG	**Ashikaga**	**4.84**	**15**	P	P	10 46 27.6	+0.6
JAG				*e*S	S	10 47 21.3	-15
JYT	**Yasato**	**4.86**	**22**	P	P	10 46 27.5	+0.4
JYT				*e*S	S	10 47 22.2	-14
JHO	**Hitachi**	**5.33**	**24**	P	P	10 46 32.4	+0.9
JHO				*e*S	S	10 47 30.1	-14
JHK	**Hiroka**	**5.57**	**9**	P	P	10 46 35.1	+1.4

IDC ***25*** *10:48:15.9±1.3, 72.30N×2.51E, h0km, mb3.4/5, mb1 3.7/11, mb1mx3.5/32, mbtmp3.5/11, ML3.3/6, MS2.8/6, Ms1 2.8/6, ms1mx2.6/34, Error ellipse: s-maj=23.1km s-min=20.5km az=76.0*
ISCJB ***25*** *10:48:16.1±0.9, 72.31N±0.07×3.6E±0.2, h10km, mb3.4/5, MS2.7/2, Error ellipse: s-maj=10.0km s-min=9.0km az=13.5*
BER ***25*** *10:48:19.6±2.6, 72.63N×3.02E, h10km, MD2.5, ML2.5*
ISC 25 10:48:18.6±1.3, 72.3N±0.1×3.5E±0.1, h10km, n18, σ1s44/18, mb3.5/5, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LOF	**Lofoten**	**5.41**	**136**	*e*P	Sg	10 51 30.4	+18
TRO	**Tromso**	**5.72**	**110**	*e*P	**Pn**	**10 49 44.2**	**+0.8**
TRO				*e*S	**Sn**	**10 50 46.8**	**-2.3**
TRO				AML	AML	10 50 48.3	
	comp=Z,6.5nm,0.7s						
SPITS	**Spitsbergen Ar**	**6.74**	**23**	Pn	**Pn**	**10 49 56.2**	**-1.2**
	baz=206,slow=16,SNR=5.2						
MOR8	**Moi Rana**	**7.28**	**142**	*e*P	**Pn**	**10 50 06.3**	**+1.5**
MOR8				*e*S	**Sn**	**10 51 26.4**	**-1.0**
MOR8				AML	AML	10 51 29.6	
	comp=Z,4.7nm,0.3s						
KTK1	**Kautokeino**	**7.33**	**107**	*e*P	**Pn**	**10 50 07.2**	**+1.7**
KTK1				*e*S	**Sn**	**10 51 27.4**	**-1.2**
KTK1				AML	AML	10 51 32.7	
	comp=Z,11nm,0.7s						
ARCES	**ARCESS Array B**	**7.71**	**100**	Pn	**Pn**	**10 50 11.4**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=302,slow=12,SNR=25						
ARCES				Sn	**Sn**	**10 51 36.4**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=306,slow=21,SNR=1.7						
ARCES				LR	LR	10 53 01.7	
	comp=Z,41nm,20.9s,baz=145,slow=36						
ARE0	**ARCESS Array S**	**7.71**	**100**	*e*P	**Pn**	**10 50 11.5**	**+0.7**
NOA	**NORSAR Array B**	**11.71**	**161**	Pn	**Pn**	**10 51 05.2**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=338,slow=13,SNR=2.6						
NOA				LR	LR	10 55 30.3	
	comp=Z,31nm,21.3s,baz=350,slow=37						
HFS	**Hagfors**	**12.87**	**156**	Pn	**Pn**	**10 51 21.7**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=353,slow=11,SNR=18						
HFS				LR	LR	10 55 43.7	
	comp=Z,40nm,22.0s,baz=346,slow=34						
FINES	**FINESS Array B**	**13.93**	**130**	Pn	**Pn**	**10 51 36.2**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=340,slow=14,SNR=9.1						
EKA	**Eskdalemuir Ar**	**17.27**	**193**	P	**Pn**	**10 52 17.5**	**-1.9**
	baz=6.9,slow=13,SNR=3.4						
SFJD	**Kangerlussuaq**	**18.91**	**281**	LR	LR	10 58 52.6	
	comp=Z,82nm,18.5s,baz=222,slow=34						
GERES	**GERESS Array B**	**24.00**	**163**	P	**P**	**10 53 33.5**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=354,slow=11,SNR=8.8						
GERES				LR	LR	11 02 25.6	
	comp=Z,19nm,19.6s,baz=289,slow=35						
DAVOX	**Davos/Dischmat**	**25.78**	**170**	LR	LR	11 05 07.3	
	comp=Z,33nm,18.6s,baz=86,slow=39						
BRTR	**Keskin Array B**	**35.91**	**139**	P	**P**	**10 55 20.9**	**+2.1**
	comp=Z,0.3nm,0.4s,baz=0.0,slow=6.4,SNR=3.6						
MKAR	**Makanchi Array**	**42.91**	**82**	P	**P**	**10 56 18.4**	**+1.5**
	comp=Z,0.4nm,0.9s,baz=353,slow=8.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**59.14**	**182**	P	**P**	**10 58 17.9**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=351,slow=7.1,SNR=4.4						
TXAR	**Lajitas Array**	**67.33**	**295**	P	P	10 59 09.8	-3.7
	comp=Z,0.1nm,0.4s,baz=17,slow=3.3,SNR=2.7						

IDC 25 11:13:46.4±3.3, 3.51N×93.03E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/26, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=116.6km s-min=28.8km az=62.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.94**	**21**	Pn	Pn	11 17 32.5	+0.1
	0.1nm,0.3s,baz=223,slow=14,SNR=8.5						
MKAR	**Makanchi Array**	**44.11**	**349**	P	P	11 21 56.4	-0.1
	0.4nm,0.6s,baz=170,slow=9.0,SNR=6.2						
WRA	**Warramunga Arr**	**46.79**	**122**	P	P	11 22 18.1	-0.1
	0.5nm,0.5s,baz=301,slow=8.6,SNR=3.3						
ASAR	**Alice Springs**	**48.11**	**126**	P	P	11 22 28.3	-0.2
	0.1nm,0.4s,baz=298,slow=7.5,SNR=3.8						

BKK ***25*** *11:16:17.4±0.6, 14.5±8×16.8E±1.1, h10km, M5.2/19, mB5.7/2, mb5.2/19, Mw(mB)5.3/2*
NOU ***25*** *11:16:33.4±0.4, 14.43S×168.23E, h30km, MD4.2, ML2.7, MS2.3*
NEIC ***25*** *11:16:36.4±0.2, 14.60S×167.41E, mb4.9/28, Error ellipse: s-maj=7.3km s-min=5.3km az=128.0*
NEIC Felt at Lakatoro.
IDC ***25*** *11:16:37.4±0.5, 14.66S×167.18E, h166km±4km, mb4.4/22, mb1 4.5/24, mb1mx4.4/26, mbtmp4.4/24, MS3.9/4, Ms1 3.9/4, ms1mx3.2/34, Error ellipse: s-maj=10.9km s-min=8.7km az=115.0*
BJI ***25*** *11:16:38.8, 14.30S×167.78E, h199km, mB4.9/23, mb4.8/36*
ISCJB ***25*** *11:16:38.0±0.9, 14.74S±0.04×167.35E±0.05, h191km±8km, mb4.8/68, Error ellipse: s-maj=7.7km s-min=6.4km az=167.7*
GCMT ***25*** *11:16:40.0±0.2, 14.67S×167.19E, h171km±1km, MW5.2, Moment Tensor Solution. s48,c57; s83,c134; Moment tensor: Scale 10^16 Nm; Mrr6.38±.17; Mθθ-1.10±.21; Mφφ-5.28±.20; Mrθ-1.45±.20; Mrφ2.77±.20; Mθφ-1.67±.20; Best double couple: M06.90000×10^16 NP1:φs318.00000°, δ44.00000°, λ65.00000°. NP2:φs170.00000°, δ51.00000°, λ112.00000°. Principal axes: T 7.0500, Plg73.0000°, Azm142.0000°; N -0.3300, Plg17.0000°, Azm336.0000°; P -6.7200, Plg4.0000°, Azm245.0000°; Data Used: II IU IC G CN.*
DJA ***25*** *11:16:42.8±3.1, 15.52S×167.72E±1.3, h215km±26km, M4.7/32, mB5.2/5, mb4.8/32, Mw(mB)4.6/5*
ISC 25 11:16:36.8±0.4, 14.67S±0.04×167.32E±0.06, h166km±2km, h166km:pP-P, n244, σ1s48/306, mb4.8/67, 3C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.41**	**186**	*e*P	**Pn**	**11 18 24.8**	**+2.3**
	393nm,1.1s						
DZM	**Mont Dzumac**	**7.41**	**186**	*e*P	**Pn**	**11 18 23.7**	**+1.2**
DZM				*e*S	**Sn**	**11 19 44.9**	**-0.8**
DZM				AMP		11 20 01.8	
	comp=Z,946nm,6.8s						
DZM	**Mont Dzumac**	**7.41**	**186**	P	**Pn**	**11 18 24.1**	**+1.7**
DZM				S	**Sn**	**11 19 45.8**	**+0.1**
DZM				eSn	Sn	11 19 46.5	+0.7
DZM	**Mont Dzumac**	**7.41**	**186**	P	**Pn**	**11 18 24.1**	**+1.7**
	comp=Z,11nm,0.3s,baz=270,slow=24,SNR=28						
DZM				S	**Sn**	**11 19 45.8**	**+0.1**
	comp=Z,6.1nm,0.3s,baz=129,slow=22,SNR=4.3						
NOUC	**Port Laguerre**	**7.46**	**187**	*e*P	**Pn**	**11 18 24.1**	**+1.1**
NOUC				*e*S	**Sn**	**11 19 46.2**	**-0.4**
NOUC				AMP		11 20 04.5	
	comp=Z,40nm,11.5s						
BAYA	**Yate Dam**	**7.46**	**183**	*e*S	**Sn**	**11 19 45.0**	**-1.7**
BAYA				AMP		11 20 19.2	
	comp=Z,7.9nm,0.7s						
HNR

PPT2 eLR LR 11 36 02.5
comp=Z,196nm,29.5s
TBI Tubuai 41.64 109 eLQ LQ 11 34 20.2
comp=Z,655nm,28.0s
TBI eLR LR 11 36 02.6
comp=Z,226nm,36.0s
SOEI Soe 42.31 272 P **P** **11 24 16.0 +1.2**
BATI Baumata 42.81 271 P **P** **11 24 20.1 +1.4**
comp=Z,82nm,0.8s,comp=Z,776nm
BATI Baumata 42.81 271 LR LR 11 41 33.5
comp=Z,239nm,18.9s,baz=116,slow=35
MBWA Marble Bar 45.61 255 eP **P** **11 24 41.1 +0.2**
comp=Z,26nm,0.8s
SKSI Soroako, Sulaw 46.93 280 P **P** **11 24 52.6 +1.3**
comp=Z,60nm,1.0s,comp=Z,1µm
BKSI Bulukumba 47.31 276 P **P** **11 24 55.0 +0.8**
comp=Z,23nm,1.0s
KAPI Kappang 47.75 277 eP **P** **11 24 57.6 +0.1**
comp=Z,46nm,1.0s
KAPI Kappang 47.75 277 P **P** **11 24 56.9 -0.6**
comp=Z,50nm,1.1s
NWAO Narrogin (SRO) 48.82 239 eP **P** **11 25 05.5 0.0**
MYLDM Lahad Datu 52.26 289 P **P** **11 25 34.2 +2.7**
MYLDM Lahad Datu 52.26 289 P **P** **11 25 33.0 +1.5**
comp=Z,36nm,1.4s
KKM Kota Kinabalu 54.69 288 P **P** **11 25 50.0 +0.7**
KKM Kota Kinabalu 54.69 288 P **P** **11 25 48.6 -0.7**
comp=Z,54nm,1.4s,comp=Z,574nm
SBUM Sibu 57.14 283 P **P** **11 26 07.4 +0.7**
comp=Z,19nm,1.3s
MJAR Matsushiro Arr 57.87 332 P **P** **11 26 10.6 -0.8**
MJAR pP **pP** **11 26 48.3 -1.5**
MJAR Matsushiro Arr 57.87 332 P **P** **11 26 10.6 -0.8**
comp=Z,3.7nm,0.6s,baz=174,slow=8.2,SNR=12
MJAR pP **pP** **11 26 48.3 -1.5**
comp=Z,6.5nm,1.0s,baz=169,slow=8.4,SNR=3.6
MAJO Matsushiro 57.88 332 eP **P** **11 26 10.8 -0.5**
comp=Z,48nm,1.6s
MAT Matsushiro 57.88 332 P **P** **11 26 10.7 -0.7**
KSM Kuching 58.65 281 P **P** **11 26 17.8 +0.7**
KSM Kuching 58.65 281 P **P** **11 26 17.5 +0.4**
comp=Z,32nm,1.0s
YHNB Yeheng 59.48 311 eP **P** **11 26 22.3 -0.4**
comp=Z,34nm,1.0s
ASAJ Asahikawa 62.70 340 eP **P** **11 26 44.9 +0.9**
comp=Z,12nm,1.0s
ASAJ Asahikawa 62.70 340 P **P** **11 26 45.0 +1.1**
comp=Z,24nm,0.9s,baz=228,slow=12,SNR=17
VNDA Vanda 62.92 181 eP **P** **11 26 45.4 +0.4**
comp=Z,37nm,1.4s
VNDA Vanda 62.92 181 P **P** **11 26 45.5 +0.4**
comp=Z,9.8nm,0.8s,baz=360,slow=7.0,SNR=46
SBA Scott Base 63.20 180 eP **P** **11 26 47.8 +1.0**
comp=Z,49nm,1.0s
CASY Casey 63.60 202 eP **P** **11 26 49.9 +0.3**
comp=Z,29nm,1.3s
KSRS Korea Array 63.72 326 P **P** **11 26 50.9 +0.2**
comp=Z,3.1nm,0.8s,baz=140,slow=6.7,SNR=10
KSRS pP **PcP** **11 27 26.9 +1.6**
comp=Z,2.5nm,1.0s,baz=120,slow=7.3,SNR=3.0
KSAR Wonju Array Be 63.73 326 P **P** **11 26 50.9 +0.1**
KSAR pP **PcP** **11 27 26.9 +1.5**
MYKOM Kota Tinggi 64.90 279 P **P** **11 27 00.4 +1.5**
KGM Kluang 65.47 279 P **P** **11 27 04.0 +1.4**
NJ2 Nanjing 65.67 316 eP **P** **11 27 06.5 +3.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
QIZ Qiongzhong 65.75 299 P **P** **11 27 07.0 +2.7**
QIZ S **S** **11 35 37.0 -0.7**
QIZ pmax pmax
comp=Z,14nm,2.1s
KTGM Kuala Trenggan 66.64 282 P **P** **11 27 11.9 +1.8**
USRK Ussuriysk Arra 66.85 333 P **P** **11 27 11.4 +0.7**
comp=Z,6.9nm,0.8s,baz=134,slow=5.5,SNR=28
USRK pP **pP** **11 27 50.6 +0.3**
comp=Z,7.4nm,1.0s,baz=131,slow=5.3,SNR=5.3
FX1 Attu Island--F 67.46 4 LR LR 11 50 09.1
comp=Z,74nm,20.4s,baz=206,slow=30
PEA0B Petropavlovsk- 68.00 354 eP **P** **11 27 18.2 +0.4**
PETK Petropavlovsk- 68.00 354 P **P** **11 27 17.9 +0.1**
PETK Petropavlovsk- 68.00 354 P **P** **11 27 17.9 +0.1**
comp=Z,16nm,0.8s,baz=155,slow=9.2,SNR=41
PETK LR LR 11 53 16.5
comp=Z,42nm,20.7s,baz=331,slow=32
MDJ Mudanjiang 68.25 332 P **P** **11 27 20.0 +0.4**
MDJ pmax pmax
comp=Z,17nm,1.2s
MDJ pmax pmax
comp=Z,48nm,4.7s
MDJ Mudanjiang 68.25 332 eP **P** **11 27 20.3 +0.8**
comp=Z,30nm,1.3s
IPM Ipoh 68.38 281 eP **P** **11 27 21.0 -0.1**
comp=Z,34nm,1.1s
IPM Ipoh 68.38 281 P **P** **11 27 21.9 +0.8**
IPM Ipoh 68.38 281 P **P** **11 27 21.3 +0.2**
comp=Z,38nm,1.2s
KULM Kulim 68.98 282 P **P** **11 27 25.8 +1.0**
KULM Kulim 68.98 282 P **P** **11 27 24.9 +0.1**
comp=Z,24nm,1.4s
CN2 Changchun 69.62 329 eP **P** **11 27 27.5 -0.5**
CN2 pmax pmax
comp=Z,20nm,1.2s
PSI Prapat 69.90 279 P **P** **11 27 29.2 -1.4**
PSI Prapat 69.90 279 P **P** **11 27 29.2 -1.4**
comp=Z,21nm,0.8s,baz=173,slow=4.5,SNR=8.2
ENH Enshi 71.36 309 eP **P** **11 27 39.0 0.0**
comp=Z,15nm,0.7s
GYA Guiyang 71.72 305 eP **P** **11 27 42.0 +0.7**
GYA PP **PP** **11 30 26.0 +3.0**
GYA S **S** **11 36 44.3 -3.8**
GYA SKS **SKSac** **11 37 23.0 -6.6**
GYA pmax pmax
comp=Z,10.0nm,0.7s
GYA pmax pmax
comp=Z,90nm,5.2s
BJI Beijing 72.25 321 P **P** **11 27 44.0 +0.1**
BJI sP sP 11 28 50.0 +8.2
BJI S **S** **11 36 55.0 +1.7**
BJI sS sS 11 38 14.3 +12
BJI SS **SS** **11 41 33.0 -2.0**
BJI pmax pmax
comp=Z,13nm,0.9s
BJI pmax pmax
comp=Z,56nm,3.1s
PBKT Sadao Pong 72.48 293 P **P** **11 27 47.1 +1.3**
comp=Z,19nm,1.1s
PBKT Sadao Pong 72.48 293 P **P** **11 27 47.1 +1.3**
comp=Z,19nm,1.1s,comp=Z,896nm
XAN Xi'an 73.68 313 P **P** **11 27 53.0 +0.4**
XAN pmax pmax
comp=Z,4.0nm,1.1s
XAN LR LR
comp=N,150nm,16.3s
XAN LR LR
comp=Z,63nm,22.4s
KMI Kunming 74.31 302 P **P** **11 27 58.3 +1.6**
KMI sP sP 11 29 03.5 +8.8
KMI S **S** **11 37 12.5 -5.2**
KMI pmax pmax
comp=Z,22nm,0.9s
KMI pmax pmax
comp=Z,100nm,6.5s
KMI LR LR
comp=N,110nm,17.7s
KMI LR LR
comp=E,140nm,12.4s
KMI LR LR
comp=Z,74nm,16.0s
CMAR Chiang Mai Arr 74.97 294 P **P** **11 28 01.6 +1.2**
CMAR pP **pP** **11 28 41.6 +0.9**
CMAR sP **sP** **11 28 57.1 -1.3**
CMAR Chiang Mai Arr 74.97 294 P **P** **11 28 01.6 +1.2**
comp=Z,9.5nm,1.0s,baz=114,slow=3.9,SNR=28
CMAR pP **pP** **11 28 41.6 +0.9**
comp=Z,4.9nm,0.9s,baz=129,slow=4.8,SNR=4.9
CMAR sP **sP** **11 28 57.1 -1.3**
comp=Z,4.4nm,1.0s,baz=123,slow=4.8,SNR=3.1
CMMT Chiang Mai 75.09 294 P **P** **11 28 01.1 +0.1**
comp=Z,19nm,1.6s
CMMT Chiang Mai 75.09 294 P **P** **11 28 02.3 +1.3**
comp=Z,19nm,1.6s
CHTO Chiang Mai 75.10 294 eP **P** **11 28 02.1 +1.0**
comp=Z,27nm,1.4s
CHTO Chiang Mai 75.10 294 P **P** **11 28 01.3 +0.2**
comp=Z,21nm,1.6s
CHTO Chiang Mai 75.10 294 P **P** **11 28 02.5 +1.4**
comp=Z,26nm,1.1s
HHC Hu-ho-hao-te 75.57 320 eP **P** **11 28 04.0 +0.6**
HHC PcP **PcP** **11 28 15.8 +0.2**
HHC pP pP 11 28 53.8 +10
HHC sP sP 11 29 15.0 +13
HHC PP **PP** **11 30 57.5 +2.1**
HHC S **S** **11 37 26.3 -4.4**
HHC SKS SKSac 11 37 49.0 -8.9
HHC sS sS 11 38 52.0 +11
HHC pmax pmax
comp=Z,40nm,1.1s
HHC pmax pmax
comp=Z,120nm,6.0s
CD2 Chengdu 76.01 308 eP **P** **11 28 07.0 +0.9**
CD2 pP pP 11 28 55.0 +8.5
CD2 sP sP 11 29 16.3 +12
CD2 PP **PP** **11 31 02.0 +2.8**
CD2 S **S** **11 37 32.0 -3.8**
CD2 sS sS 11 38 56.0 +10
CD2 SS **SS** **11 42 33.3 +0.6**
CD2 pmax pmax
comp=Z,40nm,1.0s
CD2 pmax pmax
comp=Z,150nm,6.2s
LZH Lanzhou 78.31 312 ⇑P **P** **11 28 20.8 +1.8**
LZH PP PP 11 31 25.5 +7.0
LZH eS **S** **11 37 56.3 -4.5**
LZH SS **SS** **11 43 04.0 -3.5**
LZH pmax pmax
comp=Z,54nm,1.4s
LZH pmax pmax
comp=Z,97nm,4.0s
LZH LR LR
comp=N,170nm,11.5s
LZH LR LR
comp=E,290nm,14.0s
LZH LR LR
comp=Z,330nm,16.6s
MAW Mawson 81.96 202 P **P** **11 28 38.1 +0.4**
MAW Mawson 81.96 202 P **P** **11 28 38.1 +0.4**
comp=Z,19nm,0.9s,baz=109,slow=5.9,SNR=26
ULN Ulaanbaatar 82.11 324 eP **P** **11 28 39.6 +0.6**
comp=Z,40nm,1.4s
ULN Ulaanbaatar 82.11 324 P **P** **11 28 38.7 -0.3**
comp=Z,23nm,1.4s,comp=Z,285nm
SONM Songino Array 82.48 324 P **P** **11 28 41.1 +0.2**
SONM pP **pP** **11 29 21.7 -0.3**
SONM Songino Array 82.48 324 P **P** **11 28 41.1 +0.2**
comp=Z,5.8nm,0.8s,baz=139,slow=5.3,SNR=33
SONM pP **pP** **11 29 21.7 -0.3**
comp=Z,3.1nm,0.9s,baz=142,slow=7.5,SNR=3.4
GTA Gaotai 82.66 314 ⇑P **P** **11 28 43.3 +1.3**
GTA SKS **S** **11 38 43.3 -2.5**
GTA S **SKSac** **11 38 45.0 -2.9**
GTA SS **SS** **11 44 14.8 +2.7**
GTA pmax pmax
comp=Z,19nm,1.5s
GTA pmax pmax
comp=Z,90nm,4.3s
GTA LR LR
comp=N,65nm,15.9s
GTA LR LR
comp=E,120nm,16.4s
GTA LR LR
comp=Z,130nm,15.7s
PMR Palmer 83.43 19 eP **P** **11 28 44.6 -0.5**
comp=Z,10nm,1.0s
SHL Shillong 83.58 298 eP **P** **11 28 48.0 +0.9**
SHL ex x 11 29 29.0
TRF Thorofare Moun 84.47 18 eP **P** **11 28 48.7 -2.0**
comp=Z,7.4nm,0.8s
MCK McKinley 85.08 18 eP **P** **11 28 52.7 -0.9**
comp=Z,8.8nm,0.9s
CMB Columbia Colle 85.52 49 eP **P** **11 28 54.1 -2.3**
comp=Z,2.5nm,0.8s
ISA Isabella 86.07 52 eP **P** **11 28 59.2 0.0**
comp=Z,3.9nm,1.0s
COLA College 86.24 18 eP **P** **11 28 58.1 -1.1**
comp=Z,19nm,0.7s
WAKR Walker 86.39 49 eP **P** **11 29 00.8 -0.1**
comp=Z,5.8nm,1.1s
ILAR Eielson Array 86.45 18 P **P** **11 28 58.2 -2.1**
ILAR pP **pP** **11 29 41.3 -0.4**
ILAR Eielson Array 86.45 18 P **P** **11 28 58.2 -2.1**
comp=Z,6.8nm,0.7s,baz=237,slow=5.5,SNR=58
ILAR pP **pP** **11 29 41.3 -0.4**
comp=Z,1.5nm,0.7s,baz=232,slow=6.0,SNR=2.0
NVAR Mina Array Bea 87.19 49 P **P** **11 29 04.6 -0.1**
NVAR pP **pP** **11 29 43.9 -2.4**
NVAR Mina Array Bea 87.19 49 P **P** **11 29 04.6 -0.1**
comp=Z,2.0nm,0.8s,baz=229,slow=8.0,SNR=13
NVAR pP **pP** **11 29 43.9 -2.4**
comp=Z,1.4nm,1.1s,baz=234,slow=3.1,SNR=2.4
TAPN Taplejung 87.69 299 eP **P** **11 29 07.5 0.0**
ODAN Odare 87.82 298 eP **P** **11 29 08.2 +0.2**
comp=Z,77nm,1.1s
GLA Glamis 88.03 55 eP **P** **11 29 09.2 +0.6**
comp=Z,6.8nm,0.7s
LDFC Landfair 88.46 53 eP **P** **11 29 11.0 +0.3**
comp=Z,31nm,1.4s
RAMN Ramite 88.52 298 eP **P** **11 29 11.2 -0.1**
SYO Syowa Base 88.78 197|eP **P** **11 29 09.7 -1.7**
JIRN Jiri 89.07 299 eP **P** **11 29 14.3 +0.2**
GUN Gumba 89.41 299 eP **P** **11 29 15.9 +0.3**
PKI Pulchoki 89.71 298 eP **P** **11 29 16.8 -0.2**
KKN Kakani 89.88 299 eP **P** **11 29 17.6 -0.1**
comp=Z,36nm,1.0s
DMN Daman 89.98 298 eP **P** **11 29 18.4 +0.2**
comp=Z,72nm,1.1s
BMO Blue Mountains 90.17 43 eP **P** **11 29 18.1 -0.3**
comp=Z,7.8nm,1.4s
WMQ Urumqi 92.72 315 P **P** **11 29 31.0 +0.8**
SNAA Sanae 93.61 183 eP **P** **11 29 33.1 -0.8**
SNAA Sanae 93.61 183 eP **P** **11 29 32.7 -1.2**
comp=Z,13nm,1.1s
TXAR Lajitas Array 96.20 61 P **P** **11 29 46.1 -0.5**
TXAR pP **pP** **11 30 26.9 -1.5**
TXAR Lajitas Array 96.20 61 P **P** **11 29 46.1 -0.5**
comp=Z,0.4nm,0.7s,baz=216,slow=4.7,SNR=6.6
TXAR pP **pP** **11 30 26.9 -1.5**
comp=Z,0.1nm,0.8s,baz=232,slow=4.4,SNR=1.4
MKAR Makanchi Array 97.19 316 P Pdif 11 29 50.7 +0.1
MKAR pP pP 11 30 32.5 +0.1
MKAR PKiKP **PKiKP** **11 34 24.0 -1.2**
MKAR Makanchi Array 97.19 316 P Pdif 11 29 50.7 +0.1
comp=Z,6.9nm,0.8s,baz=96,slow=6.3,SNR=67
MKAR pP pP 11 30 32.5 +0.1
comp=Z,2.8nm,0.9s,baz=88,slow=7.6,SNR=4.6
MKAR PKiKP **PKiKP** **11 34 24.0 -1.2**
comp=Z,1.5nm,1.2s,baz=101,slow=6.3,SNR=4.2
ZAA0 Zalesovo Array 97.37 324 eP **P** **11 29 50.1 -1.0**
ZALV Zalesovo Beam 97.37 324 P **P** **11 29 50.3 -0.8**
ZALV pP **pP** **11 30 32.2 -0.7**
ZALV Zalesovo Beam 97.37 324 P **P** **11 29 50.3 -0.8**
comp=Z,4.6nm,0.6s,baz=118,slow=4.3,SNR=17
ZALV pP **pP** **11 30 32.2 -0.7**
comp=Z,1.2nm,0.3s,baz=94,slow=5.9,SNR=1.9
YKA Yellowknife Ar 97.47 27 P **P** **11 29 50.0 -1.3**
YKA Yellowknife Ar 97.47 27 P **P** **11 29 50.0 -1.3**
comp=Z,1.0nm,0.7s,baz=255,slow=4.7,SNR=7.3
KSH Kashi 100.20 308 eP **Pdif** **11 30 05.0 +0.7**
KSH PP **PP** **11 34 16.0 +3.6**
KSH SKS 11 40 25.8
KSH S **Sdif** **11 41 20.5 -4.9**
KSH pmax pmax
comp=Z,43nm,5.7s
KSH LR LR
comp=N,72nm,7.3s
KSH LR LR
comp=E,93nm,5.9s
KSH LR LR
comp=Z,140nm,6.9s
MSNY Massena 119.85 46 ePKPdf **PKPdf** **11 35 11.1 +3.6**
ARCES ARCESS Array B 120.20 345 PKP **PKPdf** **11 35 07.1 -0.3**
ARCES ARCESS Array B 120.20 345 PKP **PKPdf** **11 35 07.1 -0.3**
comp=Z,7.7nm,0.7s,baz=42,slow=2.0,SNR=23
JOF Joensuu 122.85 338 ep **PKPdf** **11 35 13.0 +0.3**
comp=Z,10nm,0.8s
BOSA Boshof 123.45 220 PKP **PKPdf** **11 35 15.4 +0.2**
BOSA Boshof 123.45 220 PKP **PKPdf** **11 35 15.4 +0.2**
comp=Z,2.1nm,0.6s,baz=182,slow=3.6,SNR=3.5
KBZ Khabaz 124.75 313 PKP **PKPdf** **11 35 16.7 -0.2**
KBZ Khabaz 124.75 313 PKP **PKPdf** **11 35 16.7 -0.2**
comp=Z,1.3nm,0.7s,baz=206,slow=4.7,SNR=4.8
KAF Kangasniemi 125.16 339 ep **PKPdf** **11 35 16.7 -0.4**
comp=Z,6.3nm,0.7s
FINES FINESS Array B 125.68 338 PKP **PKPdf** **11 35 17.6 -0.6**
FINES FINESS Array B 125.68 338 PKP **PKPdf** **11 35 17.6 -0.6**
comp=Z,11nm,0.9s,baz=88,slow=6.3,SNR=16
LSZ Lusaka 129.83 235 ePKPdf **PKPdf** **11 35 28.5 +0.9**
NB2 NORSAR Subarra 130.58 345 PKPdf **PKPdf** **11 35 27.4 -0.2**
comp=Z,3.3nm,1.0s,baz=31,slow=1.9
NOA NORSAR Array B 130.58 345 PKP **PKPdf** **11 35 27.8 +0.2**
NOA SKPbc **SKPab** **11 38 37.6 +1.6**
NOA NORSAR Array B 130.58 345 PKP **PKPdf** **11 35 27.8 +0.2**
comp=Z,3.4nm,0.8s,baz=33,slow=2.0,SNR=10
NOA SKPbc **SKPab** **11 38 37.6 +1.6**
comp=Z,2.8nm,0.8s,baz=32,slow=3.1,SNR=8.2
HFS Hagfors 130.68 343 PKP **PKPdf** **11 35 27.1 -0.7**
HFS Hagfors 130.68 343 PKP **PKPdf** **11 35 27.1 -0.7**
comp=Z,3.1nm,0.8s,baz=212,slow=8.1,SNR=4.6
BRTR Keskin Array B 132.51 311 PKP **PKPdf** **11 35 31.9 -0.2**
BRTR SKPbc **SKPab** **11 38 46.6 +1.5**
BRTR Keskin Array B 132.51 311 PKP **PKPdf** **11 35 31.9 -0.2**
comp=Z,2.1nm,1.0s,baz=132,slow=3.5,SNR=6.4
BRTR SKPbc **SKPab** **11 38 46.6 +1.5**
comp=Z,0.9nm,0.9s,baz=108,slow=4.0,SNR=4.1
KOLS Kolonicke sedl 135.42 327 ePKP **PKPdf** **11 35 38.1 +1.1**
OJC Ojcow 135.83 330 ePKP **PKPdf** **11 35 37.7 0.0**
NIE Niedzica 136.11 329 ePKP **PKPdf** **11 35 40.8 +2.5**
MORC Moravsky Berou 137.20 331 ePKPdf **PKPdf** **11 35 41.0 +0.7**
DPC Dobruska-Polom 137.35 333 ePKPdf **PKPdf** **11 35 41.3 +0.7**
VRAC Vranov 137.97 331 PKP **PKPdf** **11 35 42.9 +1.1**
VRAC Vranov 137.97 331 PKP **PKPdf** **11 35 42.9 +1.1**
comp=Z,1.2nm,0.4s,baz=116,slow=6.7,SNR=3.6
CLL Collm 138.02 336 ePKPdf **PKPdf** **11 35 43.0 +1.3**
EKA Eskdalemuir Ar 138.75 352 PKP **PKPdf** **11 35 44.2 +1.3**
EKA Eskdalemuir Ar 138.75 352 PKP **PKPdf** **11 35 44.2 +1.3**
comp=Z,2.8nm,1.0s,baz=35,slow=2.0,SNR=3.7
NKC Novy Kostel 139.08 335 ePKPdf **PKPdf** **11 35 43.6 -0.2**
KHC Kasperske Hory 139.45 333 ePKPdf **PKPdf** **11 35 41.9 -2.6**
KHC ex x 11 35 45.0
KHC Kasperske Hory 139.45 333 ePKPdf **PKPdf** **11 35 45.0 +0.5**
GERES GERESS Array B 139.61 333 PKPpre PKPpre 11 35 37.4
GERES PKP **PKPdf** **11 35 44.6 -0.2**
GERES pPKP pPKPdf 11 36 28.5 -0.1
GERES GERESS Array B 139.61 333 PKhKP PKPpre 11 35 37.4
comp=Z,0.2nm,0.4s,baz=12,slow=5.0,SNR=2.6
GERES PKP **PKPdf** **11 35 44.6 -0.2**
comp=Z,3.0nm,0.9s,baz=64,slow=3.1,SNR=9.9
GERES pPKP pPKPdf 11 36 28.5 -0.1
comp=Z,0.6nm,0.7s,baz=157,slow=5.2,SNR=1.2
GRF Grafenberg Arr 139.99 336 ePKPdf **PKPdf** **11 35 48.0 +2.6**
LANF Langenberg 141.87 338 PKP **PKPdf** **11 35 50.3 +1.5**
BFO Black Forest 142.22 337 ePKPdf **PKPdf** **11 35 48.4 -1.1**
FETA Feichten 142.29 334⇑iPKPdf **PKPdf** **11 35 46.1 -3.7**
comp=Z,17nm,1.0s
ECH Echery 142.74 338 PKP **PKPdf** **11 35 47.3 -3.1**
DAVOX Davos/Dischmat 142.85 334 PKPpre PKPpre 11 35 47.8
DAVOX Davos/Dischmat 142.85 334 PKhKP PKPpre 11 35 47.8
comp=Z,10nm,0.9s,baz=314,slow=2.8,SNR=12
MOF Molkenrain 143.06 338 PKP PKPbc 11 35 48.0 -0.4
TUE Stuetta 143.31 334 ePKPdf PKPbc 11 35 50.0 +0.8
LOMF Lomont 143.59 338 PKP PKPbc 11 35 50.7 +0.8
AQU L'Aquila 144.41 326 ePKPdf **PKPdf** **11 35 53.4 -0.2**
TIP Timpagrande 144.43 319 ePKPdf **PKPdf** **11 35 53.4 -0.4**
OG01 Vacheresse 144.50 337 PKP **PKPdf** **11 35 53.4 -0.2**
CUC Castrocucco 144.54 321 ePKPdf **PKPab** **11 35 51.7 -1.0**
OG35 Corcelles 145.16 338 PKP **PKPab** **11 35 55.3 +0.4**
CEL Celeste 145.51 318 ePKPdf **PKPdf** **11 35 55.4 -0.2**
BNI Bardonecchia 145.56 335 ePKPdf **PKPbc** **11 35 56.0 -0.1**
GDM Grand'Maison 145.66 336 PKP **PKPab** **11 35 57.3 +0.4**
GRN Grenoble 145.77 337 PKP **PKPab** **11 35 57.9 +0.7**
SURF Saint Ours 145.97 335 PKP **PKPab** **11 35 58.3 +0.1**
AGO Saint Agoulin 146.00 340 PKP **PKPab** **11 35 58.1 +0.1**
SAOF Saorge 146.06 333 PKP **PKPbc** **11 35 57.7 +0.2**
AUTN L'Aution 146.11 334 PKP **PKPbc** **11 35 58.1 +0.2**
TOUF Mont Tournerai 146.17 334 PKP **PKPbc** **11 35 58.2 +0.2**
SSB Saint Sauveur 146.19 338 ePKPbc **PKPab** **11 35 58.9 +0.1**
SSB Saint Sauveur 146.19 338 PKP **PKPab** **11 35 58.6 -0.2**
PYM Petit Puy Mans 146.31 340 PKP **PKPab** **11 35 59.0 -0.3**
OG25 Le Caire 146.37 335 PKP **PKPab** **11 35 59.1 -0.5**
LBL Lubilhac 146.69 339 PKP **PKPab** **11 36 00.5 -0.2**
FRNF Fournols 146.78 340 PKP **PKPab** **11 36 01.6 +0.5**
FILF Fillols 149.26 338 PKP **PKPbc** **11 36 06.5 +0.4**
MLS Moulis 149.42 340 PKP **PKPbc** **11 36 06.5 0.0**
LABF Labassere 149.67 341 PKP **PKPbc** **11 36 08.2 +1.1**
RESF Ens 149.80 341 PKP **PKPbc** **11 36 08.8 +1.3**
VIEF Viey 149.83 341 PKP **PKPbc** **11 36 08.8 +1.2**
LARF Larrau 149.99 343 PKP **PKPbc** **11 36 09.0 +1.1**
KEST Kesra 151.19 321 ePKPdf **PKPdf** **11 36 03.8 -1.1**
KEST ePKPbc **PKPbc** **11 36 11.6 +0.6**
KEST ePKPab **PKPab** **11 36 19.3 -0.1**
KEST Kesra 151.19 321 PKPbc **PKPbc** **11 36 11.6 +0.6**
comp=Z,7.7nm,0.7s,baz=246,slow=1.0,SNR=24
PBRG Braganca 152.47 350 ePKPbc **PKPbc** **11 36 13.9 +0.2**
PBRG Braganca 152.47 350 ePKPab **PKPab** **11 36 25.1 +0.7**
PGAV Gavieira, Arco 152.53 353 ePKPbc **PKPbc** **11 36 13.8 -0.1**
POLO Lamas de Olo 153.05 352 ePKPbc **PKPbc** **11 36 15.5 +0.5**
POLO Lamas de Olo 153.05 352 ePKPab **PKPab** **11 36 27.4 +0.5**
PVRL Vila Real 153.14 352 ePKPbc **PKPbc** **11 36 16.1 +1.0**
PVRL Vila Real 153.14 352 ePKPab **PKPab** **11 36 27.6 +0.4**
MVO Moncorvo 153.15 351 ePKPbc **PKPbc** **11 36 15.4 +0.2**
PVIS Viseu 153.71 352 ePKPab **PKPab** **11 36 30.6 +0.9**
ESDC Sonseca Array 153.94 345 PKP **PKPdf** **11 36 09.5 +0.6**
ESDC PKPbc **PKiKP** **11 36 17.0 0.0**
ESDC PKPab **PKPab** **11 36 30.7 0.0**
ESDC PP PP 11 39 59.0 -5.8
ESDC Sonseca Array 153.94 345 PKP **PKPdf** **11 36 09.5 +0.6**
comp=Z,0.4nm,0.5s,baz=301,slow=2.6,SNR=6.5
ESDC PKPbc **PKiKP** **11 36 17.0 0.0**
comp=Z,2.4nm,0.8s,baz=2.5,slow=1.9,SNR=12
ESDC PKPab **PKPab** **11 36 30.7 0.0**
comp=Z,2.8nm,0.7s,baz=20,slow=4.0,SNR=10
ESDC PP PP 11 39 59.0 -5.8
comp=Z,0.1nm,0.3s,baz=359,slow=7.2,SNR=4.7
MTE Manteigas 153.97 351 ePKPbc **PKPbc** **11 36 17.9 +0.9**
MTE Manteigas 153.97 351 ePKPab **PKPab** **11 36 31.9 +1.1**
PCAS Casmilo, Conde 154.45 353 ePKPbc **PKPbc** **11 36 17.6 -0.3**
PCAS Casmilo, Conde 154.45 353 ePKPab **PKPab** **11 36 33.0 +0.2**
PMRV Marv??o 154.90 350 ePKPbc **PKPbc** **11 36 19.6 +0.7**
PMTG Montargil 155.38 352 ePKPbc **PKPbc** **11 36 19.7 +0.9**
PMTG Montargil 155.38 352 ePKPab **PKPab** **11 36 37.7 +0.9**
PBAR Barrancos 156.06 349 ePKPdf **PKPdf** **11 36 14.4 +2.7**
PBAR Barrancos 156.06 349 ePKPab **PKPab** **11 36 40.7 +1.0**
PBEJ Beja 156.34 350 ePKPab **PKPab** **11 36 42.2 +1.2**
PCVE Castro Verde 156.76 351 ePKPab **PKPab** **11 36 43.3 +0.6**
MORF Marmelete 157.17 352 ePKPab **PKPab** **11 36 46.0 +1.4**
TORD Torodi Ar. Bea 165.96 266 PKP **PKPdf** **11 36 21.7 -1.1**
TORD PKPab **PKPab** **11 37 23.8 -0.1**
TORD pPKPab **pPKPab** **11 38 06.1 +0.3**
TORD Torodi Ar. Bea 165.96 266 PKP **PKPdf** **11 36 21.7 -1.1**
comp=Z,1.4nm,1.0s,baz=105,slow=1.3,SNR=6.1
TORD PKPab **PKPab** **11 37 23.8 -0.1**
comp=Z,10nm,0.9s,baz=104,slow=3.9,SNR=34
TORD pPKPab **pPKPab** **11 38 06.1 +0.3**
comp=Z,1.8nm,0.9s,baz=112,slow=3.8,SNR=2.4
DBIC Dimbokro 168.95 225 PKP **PKPdf** **11 36 23.7 -1.4**
DBIC Dimbokro 168.95 225 PKP **PKPdf** **11 36 23.7 -1.4**
comp=Z,4.8nm,1.0s,baz=170,slow=4.8,SNR=3.0

NIED ***25*** *11:18:00,35˚40N×140˚50E,h77km,Mw3.9 Best double couple: M0 9.25000×10^14 NP1:φs328.00000°,δ84.00000°, λ85.00000°. NP2:φs188.00000°,δ8.00000°,λ130.00000°.*

IDC ***25*** *11:18:32.1±1.0,35˚26N×140˚63E,h0km,mb3.7/7, mb1 4.0/9,mb1mx3.7/27,mbtmp3.7/9,ML3.6/2,MS2.6/1, Ms1 2.6/1,ms1mx2.1/41,Error ellipse: s-maj=34.5km s-min=19.7km az=107.0*

ISCJB ***25*** *11:18:38.1±0.4,35˚40N±0˚04×140˚46E±0˚05,h61km±4km, mb3.7/7, Error ellipse: s-maj=7.0km s-min=5.7km az=154.6*

JMA ***25*** *11:18:38.4±0.1,35˚45N×140˚45E,h56km±2km,M3.5 Broadband fault plane solution: P waves. NP1: φs148.00000°,δ88.00000°,λ-82.00000°. NP2: φs250.00000°,δ8.00000°,λ-169.00000°. Principal axes: T Plg43.0000°, Azm231.0000°; N Plg8.0000°, Azm328.0000°; P Plg46.0000°, Azm66.0000°;*

JMA Felt I J1.

ISC 25 11:18:39.1±0.8,35˚48N±0˚05×140˚45E±0˚05,h52km±7km, n22,σ1°44/32,mb3.8/7,2C-7D,Near east coast of eastern Honshu

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

JCN	**Nagara**	**0.21**	**252**	P	**Pn**	**11 18 48.1**	**+0.4**
JCN				S	**Sn**	**11 18 55.7**	**+1.8**
KTR	**Katsuura**	**0.35**	**198**	⇓P	**Pn**	**11 18 48.4**	**-0.5**
KTR				S	**Sn**	**11 18 55.5**	**-0.4**
CHOJ	**Chosi**	**0.40**	**56**	⇑P	**Pn**	**11 18 49.7**	**+0.4**
CHOJ				S	**Sn**	**11 18 57.5**	**+0.8**
BSO4	**Boso 4**	**0.50**	**191**	⇓P	**Pn**	**11 18 50.0**	**-0.4**
BSO4				S	**Sn**	**11 18 59.2**	**+0.7**
BSO3	**Boso 3**	**0.68**	**176**	⇓P	**Pn**	**11 18 51.7**	**-0.7**
BSO3				*e*S	**Sn**	**11 19 00.5**	**-1.6**
JYT	**Yasato**	**0.77**	**344**	⇑P	**Pn**	**11 18 53.7**	**-0.1**
JYT				S	**Sn**	**11 19 05.5**	**+0.9**
BSO1	**Boso 1**	**0.93**	**152**	⇓P	**Pn**	**11 18 54.3**	**-1.1**
BSO1				*e*S	**Sn**	**11 19 07.1**	**-0.5**
JIM2	**Oshima 3**	**1.13**	**228**	P	**Pn**	**11 18 57.2**	**-1.5**
JIM2				S	**Sn**	**11 19 11.2**	**-2.0**
JOD2	**Odawara 2**	**1.14**	**259**	⇓P	**Pn**	**11 18 58.1**	**-0.6**
JOD2				*e*S	**Sn**	**11 19 12.0**	**-1.2**
JAG	**Ashikaga**	**1.24**	**320**	⇓P	**Pn**	**11 19 00.5**	**+0.4**
JRY	**Ryogami san**	**1.37**	**293**	⇓P	**Pn**	**11 19 02.1**	**+0.3**
MJAR	**Matsushiro Arr**	**2.10**	**301**	Pn	**Pn**	**11 19 11.9**	**+0.1**
	9.0nm,0.3s,baz=132,slow=14,SNR=101						
MAT	**Matsushiro**	**2.10**	**301**	P	**Pn**	**11 19 12.4**	**+0.5**
MAT				S	**Sn**	**11 19 39.2**	**+2.3**
ASAJ	**Asahikawa**	**8.78**	**10**	Pn	**Pn**	**11 20 42.2**	**-1.1**
	0.8nm,0.3s,baz=198,slow=12,SNR=11						
ASAJ				Sn	**Sn**	**11 22 16.0**	**-4.7**
	0.2nm,0.3s,baz=302,slow=33,SNR=2.2						
KSRS	**Korea Array**	**10.28**	**285**	Pn	Pn	11 21 07.4	+3.5
	0.1nm,0.3s,baz=105,slow=14,SNR=3.7						
KSRS				LR	LR	11 25 08.1	
	comp=Z,31nm,19.7s,baz=110,slow=38						
PETK	**Petropavlovsk-**	**21.42**	**29**	P	**P**	**11 23 23.0**	**+0.5**
	0.8nm,0.6s,baz=210,slow=8.3,SNR=3.3						
ILAR	**Eielson Array**	**51.22**	**32**	P	**P**	**11 27 36.9**	**-0.1**
	1.2nm,0.8s,baz=266,slow=6.5,SNR=13						
WRA	**Warramunga Arr**	**55.43**	**187**	P	**P**	**11 28 06.5**	**-1.7**
	1.0nm,0.6s,baz=3.0,slow=7.5,SNR=3.9						
INK	**Inuvik**	**56.12**	**27**	P	**P**	**11 28 13.7**	**+1.1**
	0.5nm,0.6s,baz=283,slow=4.6,SNR=3.8						
ASAR	**Alice Springs**	**59.15**	**187**	P	**P**	**11 28 33.2**	**-1.3**
	0.4nm,0.5s,baz=19,slow=13,SNR=6.4						
NVAR	**Mina Array Bea**	**76.54**	**52**	P	**P**	**11 30 25.8**	**+1.7**
	1.1nm,0.8s,baz=275,slow=5.2,SNR=4.3						
PDAR	**Pinedale Array**	**79.31**	**45**	P	**P**	**11 30 40.4**	**+1.0**
	0.6nm,0.5s,baz=268,slow=1.8,SNR=7.7						

DJA 25 11:29:12.0±0.8, 0°S±4°×12°3E±°, h63km±10km, M3.5/5, MLv3.5/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.74**	**181**	P	Pn	11 29 27.0	+0.1
LUWI				S	Sn	11 29 40.5	+2.7
GTOI	**Gorontalo**	**0.95**	**13**	P	Pn	11 29 29.8	+0.2
GTOI				S	Sn	11 29 44.4	+1.8
MRSI	**Marisa**	**1.15**	**312**	P	Pn	11 29 31.7	-0.4
KMSI	**Cibinong**	**1.47**	**54**	P	Pn	11 29 37.0	+0.6
KMSI				S	Sn	11 29 55.3	+0.5
TTSI	**Tana Toraja**	**4.03**	**227**	P	Pn	11 30 11.8	+0.5

DJA 25 11:29:38.6±2.1, 1°S±7°×13°2E±°, h12km±22km, M3.9/3, MLv3.9/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**1.08**	**294**	P	Pb	11 29 57.5	-1.7
SWI				S	Sb	11 30 12.6	-0.6
FAKI	**Fak Fak**	**1.60**	**180**	P	Pn	11 30 05.9	-0.8
RKPI	**Ransiki, Papua**	**1.95**	**96**	P	Pn	11 30 11.4	-0.1

PDG ***25*** *11:31:46.6, 45˚.10N×148˚.00E, h100km, mb5.3/1*

NIED ***25*** *11:32:00, 44˚.50N×148˚.10E, h83km, Mw4.8 Best double couple: M₀1.87000×10¹⁶ NP1:φs154.00000°, δ79.00000°, λ-40.00000°. NP2:φs253.00000°, δ50.00000°, λ-166.00000°.*

BKK ***25*** *11:32:12.5±1.7, 45˚N±14˚×14˚8E±2˚9, h10km, M5.3/12, mB5.7/6, mb5.3/12, Mw(mB)5.2/6*

SZGRF ***25*** *11:32:21.3, 46˚.17N×147˚.86E, h33km, mb5.9, Northwest of Kuril Islands, Russia*

IDC ***25*** *11:32:22.7±0.3, 44˚.87N×148˚.06E, h101km±2km, mb4.8/39, mb1 4.9/44, mb1mx4.9/45, mbtmp4.7/44, MS3.7/20, Ms1 3.7/20, ms1mx3.6/33, Error ellipse: s-maj=9.0km s-min=7.8km az=135.0*

NEIC ***25*** *11:32:22.5±0.1, 44˚.86N×147˚.97E, mb5.1/136, Error ellipse: s-maj=4.7km s-min=2.4km az=157.0*

NEIC Felt [III] on Shikotan and Iturup and [II] at Yuzhno-Kuril'sk. Recorded [1 JMA] in eastern Hokkaido. Also recorded [1 JMA] in Aomori, Honshu.

ISCJB ***25*** *11:32:22.7±0.3, 44˚.79N±0˚.03×148˚.07E±0˚.02, h114km±2km, mb5.2/321, Error ellipse: s-maj=4.8km s-min=2.6km az=161.0*

BJI ***25*** *11:32:22.9, 44˚.86N×148˚.05E, h118km, mB5.1/30, mb5.2/50*

MOS ***25*** *11:32:22.0±1.0, 45˚.04N×147˚.98E, h99km, mb5.3/88, Error ellipse: s-maj=6.3km s-min=4.4km az=101.8*

MOS Felt (III) at Malokuril'skoye, (II-III) at Goryachiye Klyuchi,(II) at Yuzhno-Kuril'sk.

SKHL ***25*** *11:32:24.5±1.5, 44˚.87N×148˚.29E, h109km±19km, mb5.6/2, mbh5.7/1, msh5.5/4*

SKHL Felt (II-III) at Malokurilskoe, Goryachie Kluchi, (II) at Yuchno-Kurilsk.

JMA ***25*** *11:32:24.6±0.4, 44˚.38N×148˚.18E, h105km, M4.9*

JMA Felt I J1.

GCMT ***25*** *11:32:25.8±0.2, 44˚.83N×148˚.23E, h103km±3km, MW5.0, Moment Tensor Solution. s33,c41; s79,c121; Moment tensor: Scale 10¹⁶Nm; Mrr 1.23±.15; Mθθ 0.93±.16; Mφφ -2.16±.13; Mrθ 3.33±.09; Mrφ -1.31±.14; Mθφ 1.91±.08; Best double couple: M₀4.50000×10¹⁶ NP1:φs164.00000°, δ27.00000°, λ20.00000°. NP2:φs56.00000°, δ81.00000°, λ116.00000°. Principal axes: T 4.4500, Plg48.0000°, Azm353.0000°; N 0.0300, Plg25.0000°, Azm232.0000°; P -4.4900, Plg31.0000°, Azm125.0000°; Data Used: ll IU IC G CN.*

BGS ***25*** *11:32:28.8±1.8, 45˚.93N×147˚.46E, h98km, mb5.3*

DJA ***25*** *11:32:50.4±7.0, 45˚N±16˚×14˚7E±3˚3, h301km±60km, M5.0/6, mB5.4/3, mb5.0/6, Mw(mB)4.8/3*

ISC 25 11:32:23.1±0.3, 44°78N±0°.04×148°05E±0°.03, h107km±1km, h107km; pP-P, n1203, σ1s13/1357, mb5.2/329, 309C-260D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.47**	**344**	*d*iPN	**Pn**	**11 32 40.7**	**+1.2**
KUR				*i* S	**Sn**	**11 32 54.0**	**+2.3**
KUR				pmax	pmax		
	comp=N,2μm,0.6s						
KUR				pmax	pmax		
	comp=E,2μm,0.6s						
KUR				pmax	pmax		
	comp=Z,8μm,0.6s						
KUR				pmax	pmax		
	comp=Z,24μm,1.9s						
KUR				smax	smax		
	comp=E,16μm,0.3s						
KUR				smax	smax		
	comp=N,43μm,0.5s						
KUR	**Kuril'sk**	**0.47**	**344**	⇓*i*P	**Pn**	**11 32 40.7**	**+1.2**
KUR				AMB	AMB	11 32 41.0	
	comp=N,38μm,1.0s						
KUR				AMB	AMB	11 32 41.4	
	comp=N,2μm,0.6s						
KUR				AMB	AMB	11 32 41.4	
	comp=N,2μm,0.6s						
KUR				AMB	AMB	11 32 41.4	
	comp=N,8μm,0.6s						
KUR				AMB	AMB	11 32 44.4	
	comp=N,19μm,1.8s						
KUR				AMB	AMB	11 32 44.4	
	comp=N,20μm,1.8s						
KUR				AMB	AMB	11 32 44.4	
	comp=N,33μm,1.4s						
KUR				*i* S	**Sn**	**11 32 54.0**	**+2.3**
KUR				A	A	11 32 54.7	
	comp=N,43μm,0.4s						
KUR				A	A	11 32 54.7	
	comp=N,16μm,0.4s						
KUR				A	A	11 32 56.0	
	comp=N,100μm,1.1s						
KUR				A	A	11 32 56.0	
	comp=N,150μm,1.1s						
KUR				A	A	11 32 56.0	
	comp=N,188μm,1.8s						
KUR				A	A	11 32 56.0	
	comp=N,162μm,1.8s						
YUK	**Yuzh-Kuril'sk**	**1.74**	**245**	*i* PN	**Pn**	**11 32 54.0**	**+1.4**
YUK				*i* S	**Sn**	**11 33 16.2**	**+1.1**
YUK				pmax	pmax		
	comp=N,413nm,0.2s						
YUK				pmax	pmax		
	comp=E,320nm,0.2s						
YUK				pmax	pmax		
	comp=Z,3μm,0.2s						
YUK				smax	smax		
	comp=N,6μm,0.3s						
YUK				smax	smax		
	comp=E,22μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**1.74**	**245**	⇓*i*P	**Pn**	**11 32 54.0**	**+1.4**
YUK				AMB	AMB	11 32 55.0	
	comp=E,413nm,0.2s						
YUK				AMB	AMB	11 32 55.0	
	comp=E,320nm,0.2s						
YUK				AMB	AMB	11 32 55.0	
	comp=E,3μm,0.2s						
YUK				*i* S	**Sn**	**11 33 16.2**	**+1.1**
YUK				A	A	11 33 18.9	
	comp=E,6μm,0.5s						
YUK				A	A	11 33 18.9	
	comp=E,22μm,0.5s						
NEM2	**Nemuro 2**	**2.18**	**230**	P	**Pn**	**11 32 58.1**	**-0.2**
NEM2				*e*S	**Sn**	**11 33 23.2**	**-2.0**
JRA	**Rausu**	**2.26**	**249**	P	**Pn**	**11 33 01.1**	**+1.8**
JRA				*e*S	**Sn**	**11 33 28.9**	**+1.9**
JNK	**Nakash**	**2.68**	**245**	P	**Pn**	**11 33 06.1**	**+1.3**
JAK	**Akkeshi**	**3.01**	**235**	P	**Pn**	**11 33 09.1**	**0.0**
JAK				*e*S	**Sn**	**11 33 42.7**	**-1.9**
JTKR	**Abashiri--Toko**	**3.08**	**256**	P	**Pn**	**11 33 12.1**	**+2.1**
JAR	**Ashorobuto**	**3.42**	**246**	P	**Pn**	**11 33 16.6**	**+1.9**
JSE	**Soyaes**	**3.89**	**275**	P	**Pn**	**11 33 23.6**	**+2.7**
JKK2	**Kamakawa 2**	**3.91**	**258**	P	**Pn**	**11 33 23.7**	**+2.5**
ASAJ	**Asahikawa**	**3.96**	**262**	*e*Pn	**Pn**	**11 33 24.5**	**+2.7**
ASAJ				S	**Sn**	**11 34 05.0**	**-2.4**
ASAJ				*e*Sn		11 34 11.2	
ASAJ	**Asahikawa**	**3.96**	**262**	P	**Pn**	**11 33 24.5**	**+2.7**
	comp=E,53nm,0.3s,baz=86,slow=17,SNR=376						
ASAJ				S	**Sn**	**11 34 05.0**	**-2.4**
	comp=E,36nm,0.3s,baz=305,slow=26,SNR=2.6						
JCH	**Churui**	**4.03**	**239**	P	**Pn**	**11 33 23.1**	**+0.3**
JCH				*e*S	**Sn**	**11 34 07.5**	**-1.5**
JFR	**Furan**	**4.26**	**250**	P	**Pn**	**11 33 27.9**	**+2.0**
JFR				*e*S	**Sn**	**11 34 16.8**	**+2.3**
YSS	**Yuzh-Sakhalins**	**4.29**	**302**	κ *i*PN	Pn	11 33 30.0	+3.7
YSS				pmax	pmax		
	comp=Z,240nm,0.8s						
YSS				pmax	pmax		
	comp=N,160nm,1.0s						
YSS				pmax	pmax		
	comp=E,320nm,1.0s						
YSS				pmax	pmax		
	comp=Z,800nm,4.0s						
YSS				MLR	MLR		
	comp=Z,700nm,10.0s						
YSS	**Yuzh-Sakhalins**	**4.29**	**302**	⇓*i*P	Pn	11 33 30.0	+3.7
YSS				⇓*i*P	Pn	11 33 30.0	+3.7
YSS				AMB	AMB	11 33 31.1	
	comp=Z,160nm,1.0s						
YSS				AMB	AMB	11 33 31.1	
	comp=Z,320nm,1.0s						
YSS				AMB	AMB	11 33 31.1	
	comp=Z,240nm,0.8s						
YSS				AMB	AMB	11 33 33.0	
	comp=Z,800nm,4.0s						
YSS				*i* S	**Sn**	**11 34 18.0**	**+2.7**
YSS				A	A	11 34 24.2	
	comp=Z,690nm,1.0s						
YSS				A	A	11 34 24.2	
	comp=Z,940nm,1.0s						
YSS				A	A	11 34 28.0	
	comp=Z,2μm,4.0s						
YSS				A	A	11 34 28.0	
	comp=Z,1μm,3.0s						
YSS				AMS	AMS	11 35 16.0	
	comp=Z,700nm,10.0s						
JWK2	**Keihoku**	**4.39**	**279**	P	Pn	11 33 31.7	+4.0
ERM	**Erimo**	**4.51**	**234**	Pn	**Pn**	**11 33 30.1**	**+0.9**
	comp=Z,3μm,0.4s						
ERM	**Erimo**	**4.51**	**234**	*c*ePN	**Pn**	**11 33 31.0**	**+1.8**
ERM				pmax	pmax		
	comp=Z,154nm,1.0s						
ERM	**Erimo**	**4.51**	**234**	*e*Pn	**Pn**	**11 33 30.4**	**+1.2**
ERM				*e*Sn	**Sn**	**11 34 19.7**	**-0.9**
JNBK	**Urakawa-nobuka**	**4.59**	**239**	P	**Pn**	**11 33 30.0**	**-0.3**
JNBK				*e*S	**Sn**	**11 34 20.8**	**-1.8**
JHR	**Hokuryu**	**4.66**	**259**	P	Pn	11 33 34.9	+3.6
JYG	**Yagishiri**	**4.74**	**268**	P	**Pn**	**11 33 35.4**	**+3.0**
JEW	**Eniwo**	**5.16**	**250**	P	**Pn**	**11 33 40.0**	**+2.0**
JEW				*e*S	**Sn**	**11 34 39.1**	**+2.9**
JSK	**Shakotan**	**5.64**	**258**	P	**Pn**	**11 33 46.4**	**+1.9**
JKB	**Kayabe**	**5.88**	**243**	P	**Pn**	**11 33 47.6**	**-0.1**
JKB				*e*S	**Sn**	**11 34 49.7**	**-4.0**
UGL	**Uglegorsk**	**5.94**	**319**	*e*PN	Pn	11 33 52.0	+3.5
UGL				pmax	pmax		
	comp=Z,258nm,1.0s						
UGL	**Uglegorsk**	**5.94**	**319**	*e*P	Pn	11 33 52.0	+3.5
UGL				AMB	AMB	11 33 53.0	
	comp=Z,258nm,1.0s						
UGL				*e*S	**Sn**	**11 34 59.5**	**+4.3**
UGL				A	A	11 35 06.0	
	comp=Z,6μm,5.0s						
UGL				A	A	11 35 06.0	
	comp=Z,3μm,5.0s						
JOT	**Ohata**	**6.15**	**239**	P	**Pn**	**11 33 50.5**	**-0.9**
JOT				*e*S	**Sn**	**11 34 54.6**	**-5.7**
JOSM	**Okushiri--Mats**	**6.80**	**250**	P	**Pn**	**11 34 00.8**	**+0.6**
JOSM				*e*S	**Sn**	**11 35 15.6**	**-0.5**
TYV	**Tymovskoe**	**7.09**	**331**	*e*P	**Pn**	**11 34 07.0**	**+2.9**
TYV				AMB	AMB	11 34 08.0	
	comp=Z,26nm,0.6s						
TYV				AMB	AMB	11 34 08.0	
	comp=Z,15nm,0.8s						
TYV				AMB	AMB	11 34 08.0	
	comp=Z,33nm,0.8s						
TYV				A	A	11 35 42.8	
	comp=Z,80nm,1.2s						
TYV				A	A	11 35 42.8	
	comp=Z,192nm,1.2s						
TYV				A	A	11 35 57.0	
	comp=Z,2μm,8.0s						
SKR	**Severo-Kuril's**	**8.03**	**40**	*e*PN	Pn	11 34 12.5	-4.3
SKR				pmax	pmax		
	comp=N,70nm,0.4s						
SKR				pmax	pmax		
	comp=E,40nm,0.4s						
SKR				pmax	pmax		
	comp=Z,80nm,0.4s						
SKR				MLR	MLR		
	comp=Z,500nm,14.0s						
SKR				MLR	MLR		
	comp=N,800nm,16.0s						
SKR	**Severo-Kuril's**	**8.03**	**40**	*e*P	Pn	11 34 12.5	-4.3
SKR				AMB	AMB	11 34 13.9	
	comp=N,70nm,0.4s						
SKR				AMB	AMB	11 34 13.9	
	comp=N,40nm,0.4s						
SKR				AMB	AMB	11 34 13.9	
	comp=N,80nm,0.4s						
SKR				*e*S	Sn	11 35 38.0	-7.8
SKR				A	A	11 35 46.1	
	comp=N,100nm,0.9s						
SKR				A	A	11 35 46.1	
	comp=N,150nm,0.5s						
SKR				A	A	11 35 46.1	
	comp=N,80nm,0.5s						
SKR				AMS	AMS	11 37 44.0	
	comp=N,800nm,16.0s						
SKR				AMS	AMS	11 37 44.0	
	comp=N,500nm,14.0s						
TEY	**Ternei**	**8.13**	**276**	*e*P	**Pn**	**11 34 21.2**	**+2.9**
TEY				AMB	AMB	11 34 21.8	
	comp=N,21nm,0.8s						
TEY				AMB	AMB	11 34 21.8	
	comp=N,27nm,0.9s						
OKH	**Okha**	**9.39**	**341**	⇑*i*PN	**Pn**	**11 34 38.0**	**+2.7**
OKH				pmax	pmax		
	comp=Z,2μm,4.0s						
OKH	**Okha**	**9.39**	**341**	⇑*i*P	**Pn**	**11 34 38.0**	**+2.7**
OKH				AMB	AMB	11 34 38.2	
	comp=Z,1μm,4.0s						
OKH				AMB	AMB	11 34 38.2	
	comp=Z,1μm,4.4s						
OKH				AMB	AMB	11 34 38.2	
	comp=Z,2μm,4.0s						
OKH				*e*S	Sn	11 36 27.0	+8.0
OKH				A	A	11 36 31.0	
	comp=Z,2μm,4.0s						
OKH				A	A	11 36 31.0	
	comp=Z,1μm,7.0s						
OKH				*e*LQ	LQ	11 37 36.2	
OKH				AMS	AMS	11 39 57.2	
	comp=Z,1μm,15.0s						
OKH				AMS	AMS	11 39 57.2	
	comp=Z,1μm,14.0s						
OKH				AMS	AMS	11 39 57.2	
	comp=Z,1μm,14.0s						
HABR	**Khabarovsk**	**9.68**	**297**	*de*PN	Pn	11 34 43.1	+3.9
HABR				*e*S	Sn	11 36 32.7	+6.8
HABR				pmax	pmax		
	comp=Z,89nm,1.0s						
HABR				pmax	pmax		
	comp=E,97nm,1.4s						
HABR				pmax	pmax		
	comp=N,22nm,0.9s						
PEA0B	**Petropavlovsk-**	**10.47**	**34**	*e*Pn	**Pn**	**11 34 48.5**	**-1.5**
PETK	**Petropavlovsk-**	**10.47**	**34**	PN	**Pn**	**11 34 48.3**	**-1.7**
PETK				pmax	pmax		
	comp=Z,9.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,82nm,19.8s						
PETK	**Petropavlovsk-**	**10.47**	**34**	P	**Pn**	**11 34 48.3**	**-1.7**
PETK				PcP	**PcP**	**11 40 44.8**	**-0.2**
PETK				ScP	**ScP**	**11 44 06.1**	**-1.2**
PETK	**Petropavlovsk-**	**10.47**	**34**	P	**Pn**	**11 34 48.3**	**-1.7**
	comp=Z,8.7nm,0.3s,baz=187,slow=12,SNR=157						
PETK				LR	LR	11 38 59.0	
	comp=Z,82nm,19.8s,baz=215,slow=38						
PETK				PcP	**PcP**	**11 40 44.8**	**-0.2**
	baz=160,slow=4.7,SNR=3.6						
PETK				ScP	**ScP**	**11 44 06.1**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=132,slow=2.2,SNR=5.1						
PET	**Petropavlovsk**	**10.80**	**36**	*e*PN	**Pn**	**11 34 52.9**	**-1.5**
PET				*e*S	**Sn**	**11 36 50.2**	**-2.8**
PET				pmax	pmax		
	comp=Z,26nm,1.1s						
PET				smax	smax		
	comp=N,43nm,0.5s						
PET				MLR	MLR		
	comp=Z,200nm,13.0s						
PET				MLR	MLR		
	comp=Z,300nm,14.0s						
MAJO	**Matsushiro**	**11.11**	**226**	*e*PN	**Pn**	**11 34 57.1**	**-1.7**
MAJO	**Matsushiro**	**11.11**	**226**	*e*Pn	**Pn**	**11 34 57.1**	**-1.7**
MAT	**Matsushiro**	**11.11**	**226**	P	**Pn**	**11 34 56.8**	**-1.9**
MAT				S	**Sn**	**11 36 58.6**	**-2.3**
MJAR	**Matsushiro Arr**	**11.11**	**226**	P	**Pn**	**11 34 57.3**	**-1.4**
MJAR				S	Sn	11 36 53.5	-7.4
MJAR	**Matsushiro Arr**	**11.11**	**226**	P	**Pn**	**11 34 57.3**	**-1.4**
	comp=Z,1.2nm,0.3s,baz=30,slow=13,SNR=56						
MJAR				S	Sn	11 36 53.5	-7.4
	comp=Z,1.5nm,0.3s,baz=52,slow=51,SNR=1.6						
MJAR				LR	LR	11 39 47.4	
	comp=Z,264nm,18.7s,baz=80,slow=40						
USRK	**Ussuriysk Arra**	**11.49**	**273**	P	**Pn**	**11 35 04.9**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=88,slow=13,SNR=52						
USRK				LR	LR	11 39 43.6	
	comp=Z,180nm,19.3s,baz=228,slow=38						
VLA	**Vladivostok**	**11.77**	**268**	⇓*e*PN	**Pn**	**11 35 09.1**	**+1.6**
KLR	**Kul'dur**	**11.98**	**298**	*e*PN	**Pn**	**11 35 09.7**	**-0.6**
KLR				*e*S	**Sn**	**11 37 25.5**	**+3.6**
KLR				smax	smax		
	comp=N,900nm,8.5s						
KLR				smax	smax		
	comp=E,500nm,8.5s						
MDJ	**Mudanjiang**	**13.14**	**276**	Pn	**Pn**	**11 35 24.6**	**-0.8**
	comp=E,30nm,0.9s						
CN2	**Changchun**	**16.21**	**275**	*e*P	**Pn**	**11 36 04.5**	**0.0**
CN2				*e*S	**Sn**	**11 38 58.5**	**-5.6**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,1μm,14.0s						
CN2				LR	LR		
	comp=E,300nm,14.0s						
CN2				LR	LR		
	comp=Z,400nm,14.0s						
ZEA	**Zeya**	**16.22**	**311**	*e*P	**Pn**	**11 36 02.1**	**-2.4**
ZEA				AMB	AMB	11 36 05.2	
	comp=Z,41nm,1.0s						
ZEA				AMB	AMB	11 36 06.0	
	comp=Z,600nm,5.0s						
ZEA				AMB	AMB	11 36 06.0	
	comp=Z,300nm,5.0s						
ZEA				AMB	AMB	11 36 06.0	
	comp=Z,300nm,4.0s						
ZEA				*e*S	**Sn**	**11 39 03.0**	**-1.2**
ZEA				A	A	11 39 06.0	
	comp=Z,500nm,6.0s						
ZEA				A	A	11 39 06.0	
	comp=Z,400nm,6.0s						
ZEA				A	A	11 39 06.0	
	comp=Z,200nm,6.0s						
KSRS	**Korea Array**	**16.82**	**251**	P	**Pn**	**11 36 11.6**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=62,slow=11,SNR=26						
KSRS				PcP	**PcP**	**11 40 53.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=353,slow=0.8,SNR=5.2						
KSRS				LR	LR	11 42 48.7	
	comp=Z,85nm,19.2s,baz=225,slow=37						
KSAR	**Wonju Array Be**	**16.85**	**251**	P	**Pn**	**11 36 11.6**	**-0.8**
KSAR				PcP	**PcP**	**11 40 53.7**	**+0.3**
JNU	**Nakatsue**	**17.68**	**235**	*e*P	**Pn**	**11 36 22.9**	**+0.4**
	comp=Z,13nm,0.7s						
JNU	**Nakatsue**	**17.68**	**235**	P	**Pn**	**11 36 25.2**	**+2.7**
	comp=Z,1.0nm,0.3s,baz=72,slow=12,SNR=4.3						
JNU				LR	LR	11 43 51.4	
	comp=Z,163nm,18.2s,baz=24,slow=39						
SNY	**Shenyang**	**18.04**	**269**	⇓P	**Pn**	**11 36 27.8**	**+1.1**
SNY				S	**S**	**11 39 46.0**	**-1.0**
SNY				pmax	pmax		
	comp=Z,40nm,0.8s						
SNY				LR	LR		
	comp=N,270nm,3.6s						
SNY				LR	LR		
	comp=E,260nm,3.1s						
SNY				LR	LR		
	comp=Z,260nm,13.7s						
FX1	**Attu Island--F**	**18.34**	**55**	P	**Pn**	**11 36 30.0**	**-0.2**
FX1				S	S	11 39 41.5	-11
FX1	**Attu Island--F**	**18.34**	**55**	P	**Pn**	**11 36 30.0**	**-0.2**
	comp=Z,8.6nm,0.3s,baz=261,slow=4.7,SNR=20						
FX1				S	S	11 39 41.5	-11
	comp=Z,3.7nm,0.3s,baz=15,slow=21,SNR=3.1						
SMY	**Shemya**	**18.85**	**56**	*e*P	**Pn**	**11 36 36.8**	**+0.6**
SMY				pmax	pmax		
	comp=Z,218nm,1.1s						
SMY	**Shemya**	**18.85**	**56**	*e*Pn	**Pn**	**11 36 36.8**	**+0.6**
	comp=Z,218nm,1.1s						
CLNS	**Chul'man**	**18.86**	**318**	*e*P	**P**	**11 36 34.3**	**-0.3**
CLNS				*e*S	**S**	**11 40 02.1**	**-1.1**
CLNS				pmax	pmax		
	comp=Z,24nm,1.3s						
CLNS				pmax	pmax		
	comp=E,13nm,1.3s						
CLNS				pmax	pmax		
	comp=N,18nm,1.2s						
CLNS				smax	smax		
	comp=N,22nm,1.3s						
CLNS				smax	smax		
	comp=E,38nm,1.6s						
CLNS				MLR	MLR		
	comp=Z,298nm,14.0s						
CLNS				MLR	MLR		
	comp=N,162nm,12.0s						

comp=E,16nm,0.6s
YAK Yakutsk 20.33 335*c iP* **P 11 36 48.0 -2.4**
YAK *e*PP* **pP 11 37 15.0 +4.5**
YAK *eS* **S 11 40 25.2 -6.9**
YAK *e* 11 40 52.3
YAK pmax pmax
comp=Z,285nm,0.9s
YAK pmax pmax
comp=E,58nm,1.0s
YAK pmax pmax
comp=N,70nm,1.0s
YAK smax smax
comp=N,401nm,2.3s
YAK smax smax
comp=E,409nm,2.3s
DL2 Dalian 20.49 263 P **P 11 36 53.0 +0.6**
DL2 S **S 11 40 34.5 -1.2**
DL2 sS **sS 11 41 04.5 -4.7**
DL2 pmax pmax
comp=Z,74nm,1.0s
DL2 pmax pmax
comp=Z,210nm,3.8s
BJI Beijing 23.92 270 P **P 11 37 27.5 +0.5**
BJI pP **pP 11 37 51.0 +1.5**
BJI S **S 11 41 36.5 +1.0**
BJI sS **sS 11 42 15.5 -0.4**
BJI pmax pmax
comp=Z,53nm,1.0s
BJI pmax pmax
comp=Z,280nm,3.6s
BJT Baijiatuan 23.93 270 *eP* **P 11 37 27.9 +0.8**
comp=Z,50nm,0.8s
JOW Kunigami 23.93 228 *eP* **P 11 37 28.2 +1.0**
comp=Z,16nm,0.9s
ADK Adak 24.31 60 *eP* **P 11 37 30.0 -0.5**
ADK pmax pmax
comp=Z,234nm,1.3s
ADK Adak 24.31 60 *eP* **P 11 37 30.0 -0.5**
comp=Z,234nm,1.3s
HHC Hu-ho-hao-te 26.91 275 *eP* **P 11 37 55.5 +1.4**
HHC pP **pP 11 38 18.5 +0.9**
HHC sP **sP 11 38 30.3 +0.2**
HHC PP **PnPn 11 38 44.5 +1.9**
HHC PcP **PcP 11 41 16.8 +3.3**
HHC S **S 11 42 18.5 -4.6**
HHC SS **SnSn 11 43 39.5 -0.6**
HHC ScP **ScP 11 44 45.0 +1.3**
HHC ScS **ScS 11 48 35.5 +0.7**
HHC pmax pmax
comp=Z,59nm,0.9s
HHC pmax pmax
comp=Z,390nm,4.8s
BTO Baotou 28.09 275 *eP* **P 11 38 05.5 +0.8**
BTO pmax pmax
comp=Z,29nm,0.9s
ULN Ulaanbaatar 28.25 291 *eP* **P 11 38 05.9 -0.1**
comp=Z,19nm,0.7s
ULN *e*PcP **PcP 11 41 17.1 +0.4**
ULN Ulaanbaatar 28.25 291 P **P 11 38 07.0 +0.9**
comp=Z,27nm,1.1s
SONM Songino Array 28.69 291 P **P 11 38 11.2 +1.2**
SONM PcP **PcP 11 41 18.1 +0.3**
SONM Songino Array 28.69 291 P **P 11 38 11.1 +1.2**
comp=Z,11nm,0.7s,baz=81,slow=8.2,SNR=57
SONM PcP **PcP 11 41 18.1 +0.3**
comp=Z,4.8nm,1.0s,baz=44,slow=1.5,SNR=3.9
SONM LR LR 11 49 58.3
comp=Z,167nm,18.5s,baz=72,slow=37
IRK Irkutsk 29.57 300 *eP* P 11 38 09.9 -7.7
IRK pmax pmax
comp=Z,37nm,0.8s
ZAK Zakamensk 30.35 297 *eP* **P 11 38 23.4 -1.2**
ZAK *e* 11 41 22.3
TNA Tin City 31.64 33 *eP* **P 11 38 35.9 +0.4**
comp=Z,53nm,1.1s
XAN Xi'an 31.80 264 P **P 11 38 37.8 +0.4**
XAN pP **pP 11 39 02.8 +1.6**
XAN pmax pmax
comp=Z,9.0nm,1.0s
ENH Enshi 33.50 258 *eP* **P 11 38 52.2 -0.1**
comp=Z,60nm,1.2s
ENH *e*PcP **PcP 11 41 31.6 +0.8**
LZH Lanzhou 34.39 271 ⇑P **P 11 39 01.8 +1.7**
LZH pP **pP 11 39 25.8 +1.7**
LZH sP **sP 11 39 37.3 +0.9**
LZH PP **PP 11 40 19.3 -0.6**
LZH *eS* **S 11 44 20.5 +0.3**
LZH sS **sS 11 45 01.3 -0.5**
LZH SS **SnSn 11 46 33.5 -8.2**
LZH pmax pmax
comp=Z,60nm,1.0s
LZH pmax pmax
comp=Z,250nm,4.0s
LZH LR LR
comp=N,490nm,12.6s
LZH LR LR
comp=E,510nm,16.6s
LZH LR LR
comp=Z,720nm,18.4s
GTA Gaotai 35.77 279 ⇑P **P 11 39 13.5 +1.6**
GTA pP **pP 11 39 36.8 +0.9**
GTA sP **sP 11 39 49.8 +1.6**
GTA PcP **PcP 11 41 38.5 +1.2**
GTA S **S 11 44 42.0 +0.8**
GTA ScP **ScP 11 45 14.0 +0.6**
GTA sS **sS 11 45 22.0 -0.9**
GTA SS **SnSn 11 47 06.5 -8.2**
GTA ScS **ScS 11 49 19.8 +0.9**
GTA pmax pmax
comp=Z,100nm,1.0s
GTA pmax pmax
comp=Z,300nm,5.7s
GTA LR LR
comp=N,120nm,15.2s
GTA LR LR
comp=E,120nm,13.1s
GTA LR LR
comp=Z,130nm,14.5s
HVS Khovu-Aksy 36.23 300*c iP* **P 11 39 15.5 -0.1**
HVS pmax pmax
comp=Z,153nm,1.0s
SVW2 Sparrevohn 36.37 43 *eP* **P 11 39 17.8 +1.2**
comp=Z,89nm,1.3s
CD2 Chengdu 37.16 264 *eP* **P 11 39 24.5 +0.9**
CD2 pP **pP 11 39 50.0 +2.2**
CD2 sP **sP 11 40 03.5 +3.4**
CD2 PP **PnPn 11 40 54.5 +2.5**
CD2 S **S 11 45 01.0 -1.3**
CD2 sS **sS 11 45 45.8 +1.6**
CD2 SS SnSn 11 47 37.5 -11
CD2 pmax pmax
comp=Z,220nm,1.1s
CD2 pmax pmax
comp=Z,410nm,4.8s
OHAK Old Harbor 37.77 49 *eP* **P 11 39 27.9 -0.4**
comp=Z,62nm,1.0s
RSO Redoubt South 37.77 44 *eP* **P 11 39 29.4 +0.8**
GYA Guiyang 37.81 255⇑ *iP* **P 11 39 29.3 +0.1**
GYA pP **pP 11 39 54.5 +1.0**
GYA sP **sP 11 40 10.0 +4.3**
GYA PP **PnPn 11 41 02.0 +2.1**
GYA PcP **PcP 11 41 44.3 +0.6**
GYA S **S 11 45 11.8 -0.5**
GYA ScP **ScP 11 45 21.3 +0.1**
GYA PcS **PcS 11 45 33.5 +0.7**
GYA sS **sS 11 45 55.3 +1.0**
GYA SS **SS 11 47 53.3 -9.0**
GYA ScS **ScS 11 49 28.0 -2.6**
GYA pmax pmax
comp=Z,20nm,0.9s
KDAK Kodiak Island 38.08 48 P **P 11 39 30.9 -0.1**
comp=Z,561nm,1.0s,SNR=10
KDAK Kodiak Island 38.08 48 P **P 11 39 30.5 -0.5**
comp=Z,12nm,0.9s
KDAK Kodiak Island 38.08 48 P **P 11 39 30.5 -0.5**
comp=Z,72nm,0.8s,baz=295,slow=4.3,SNR=32
SPU Mount Spurr 38.08 43 *eP* **P 11 39 31.9 +0.8**
TRF Thorofare Moun 38.83 39 *eP* **P 11 39 37.0 -0.4**
comp=Z,28nm,0.8s
COLD Coldfoot 38.94 33 *eP* **P 11 39 38.1 +0.1**
comp=Z,22nm,0.7s
COLD *e*PcP **PcP 11 41 47.4 +1.1**
COLD *e*ScP **ScP 11 45 24.8 +0.2**
MCK McKinley 39.42 39 *eP* **P 11 39 42.0 -0.2**
MCK *e* 11 41 47.4
MCK pmax pmax
comp=Z,77nm,1.0s
MCK McKinley 39.42 39 *eP* **P 11 39 42.0 -0.2**
comp=Z,77nm,1.0s
MCK *e*PcP **PcP 11 41 47.4 -0.6**
PMR Palmer 39.46 42 *eP* **P 11 39 42.0 -0.4**
PMR Palmer 39.46 42 *eP* **P 11 39 42.0 -0.4**
SML Sawmill 39.82 42 *eP* **P 11 39 45.7 +0.2**
SML pmax pmax
comp=Z,57nm,0.9s
SML Sawmill 39.82 42 *eP* **P 11 39 45.7 +0.2**
comp=Z,56nm,0.9s
COLA College 39.86 37 *eP* **P 11 39 46.1 +0.4**
COLA pmax pmax
comp=Z,58nm,1.8s
COLA College 39.86 37 *eP* **P 11 39 46.1 +0.4**
comp=Z,58nm,1.8s
ILAR Eielson Array 40.28 37 P **P 11 39 48.8 -0.4**
ILAR ScP **ScP 11 45 28.0 -1.9**
ILAR Eielson Array 40.28 37 P **P 11 39 48.8 -0.4**
comp=Z,25nm,0.9s,baz=259,slow=6.6,SNR=155
ILAR ScP **ScP 11 45 28.0 -1.9**
comp=Z,0.6nm,0.8s,baz=287,slow=4.7,SNR=4.9
QIZ Qiongzhong 40.81 244 P **P 11 39 55.5 +1.4**
QIZ S **S 11 45 59.5 +2.4**
QIZ pmax pmax
comp=Z,11nm,2.1s
ZAA0 Zalesovo Array 40.90 306 *eP* **P 11 39 53.1 -1.4**
ZALV Zalesovo Beam 40.90 306 *i P* **P 11 39 53.0 -1.5**
ZALV Zalesovo Beam 40.90 306 P **P 11 39 53.0 -1.5**
ZALV PcP **PcP 11 41 52.9 +0.1**
ZALV ScP **ScP 11 45 31.3 -1.2**
ZALV Zalesovo Beam 40.90 306 P **P 11 39 53.0 -1.5**
comp=Z,3.5nm,0.4s,baz=69,slow=8.2,SNR=14
ZALV PcP **PcP 11 41 52.9 +0.1**
comp=Z,8.8nm,0.5s,baz=77,slow=2.9,SNR=16
ZALV ScP **ScP 11 45 31.3 -1.2**
comp=Z,3.8nm,0.8s,baz=74,slow=5.3,SNR=6.9
ZALV LR LR 11 57 12.1
comp=Z,64nm,19.6s,baz=70,slow=36
PAX Paxson 41.04 40 *eP* **P 11 39 55.4 -0.2**
PAX pmax pmax
comp=Z,36nm,1.0s
PAX Paxson 41.04 40 *eP* **P 11 39 55.4 -0.2**
comp=Z,36nm,1.0s
PAX *e*ScP **ScP 11 45 33.1 +0.1**
DIV Divide 41.12 42 *eP* **P 11 39 56.6 +0.3**
comp=Z,135nm,1.2s
KMI Kunming 41.37 257 P **P 11 39 59.3 +0.4**
KMI pP **pP 11 40 23.3 -0.2**
KMI PP **PnPn 11 41 43.3 +1.3**
KMI S **S 11 46 04.3 -1.6**
KMI SS SS 11 49 05.8 -7.8
KMI pmax pmax
comp=Z,46nm,1.0s
KMI pmax pmax
comp=Z,190nm,3.2s
KMI LR LR
comp=N,110nm,17.3s
KMI LR LR
comp=E,140nm,18.3s
KMI LR LR
comp=Z,74nm,17.3s
NVS Novosibirsk 41.59 308 *eP* **P 11 39 57.0 -3.1**
NVS pmax pmax
comp=Z,17nm,1.6s
NVS pmax pmax
comp=N,6.0nm,1.7s
NVS pmax pmax
comp=E,14nm,1.7s
BMRM Bremner River 41.70 43 *eP* **P 11 40 01.6 +0.6**
comp=E,118nm,1.0s
MENT Mentasta 41.84 40 *eP* **P 11 40 02.9 +0.8**
WMQ Urumqi 42.33 291 P **P 11 40 07.0 +0.7**
WMQ pP **pP 11 40 32.5 +1.5**
WMQ sP **sP 11 40 45.5 +2.4**
WMQ PP **PP 11 41 49.5 +3.3**
WMQ PcP **PcP 11 42 00.0 +2.1**
WMQ S **S 11 46 18.5 -0.7**
WMQ sS **sS 11 47 03.0 +1.2**
WMQ pmax pmax
comp=Z,74nm,1.0s
WMQ pmax pmax
comp=Z,330nm,3.9s
WMQ LR LR
comp=N,270nm,10.5s
WMQ LR LR
comp=E,120nm,7.6s
WMQ LR LR
comp=Z,140nm,19.7s
EGAK Eagle 42.72 37 *eP* **P 11 40 08.8 -0.3**
PNL Peninsula 44.50 44 *eP* **P 11 40 24.0 +0.5**
comp=Z,18nm,1.0s
MK31 Makanchi Array 44.69 297 *i P* **P 11 40 24.6 -0.6**
MK31 pmax pmax
comp=Z,29nm,0.5s
MKAR Makanchi Array 44.69 297 *eP* **P 11 40 24.8 -0.4**
MKAR 11 42 05.8
MKAR Makanchi Array 44.69 297 *eP* **P 11 40 24.8 -0.4**
MKAR PcP **PcP 11 42 05.8 0.0**
MKAR ScP **ScP 11 45 46.7 -1.3**
MKAR Makanchi Array 44.69 297 P **P 11 40 24.6 -0.6**
comp=Z,32nm,0.8s,baz=77,slow=7.4,SNR=215
MKAR PcP **PcP 11 42 05.8 0.0**
comp=Z,9.2nm,0.8s,baz=66,slow=6.0,SNR=5.0
MKAR ScP **ScP 11 45 46.7 -1.3**
comp=Z,1.6nm,0.9s,baz=62,slow=6.7,SNR=4.8
MKAR LR LR 12 00 39.6
comp=Z,158nm,18.3s,baz=56,slow=38
INK Inuvik 45.19 31 P **P 11 40 28.9 +0.2**
INK Inuvik 45.19 31 P **P 11 40 28.9 +0.2**
comp=Z,34nm,0.4s,baz=289,slow=7.3,SNR=319
KURK Kurchatov 45.50 303 P **P 11 40 30.9 -0.6**
KURK 11 42 08.9
KURK pmax pmax
comp=Z,19nm,0.4s
KURK Kurchatov 45.50 303 P **P 11 40 30.9 -0.6**
KURK PcP **PcP 11 42 08.9 +0.5**
KURBB Kurchatov Arra 45.58 303 P **P 11 40 30.9 -1.2**
comp=Z,19nm,0.4s,baz=70,slow=8.5,SNR=155
KURBB PcP **PcP 11 42 08.9 +0.1**
comp=Z,10nm,0.8s,baz=76,slow=3.7,SNR=9.7
SKNT Sakolnakorn 46.10 247 P **P 11 40 37.9 +1.3**
comp=Z,37nm,1.0s
SKAG Skagway 46.55 43 *eP* **P 11 40 40.9 +1.3**
comp=Z,35nm,1.1s
LSA Lhasa 46.81 271 *eP* **P 11 40 42.5 -0.1**
LSA Lhasa 46.81 271 *eP* **P 11 40 42.5 -0.1**
comp=Z,7.1nm,0.6s
CMAI Chengmai2 47.36 255 P **P 11 40 47.7 +1.2**
comp=Z,27nm,1.2s
LOEI Loei 47.53 251 P **P 11 40 46.1 -1.6**
comp=Z,32nm,1.3s,comp=Z,911nm
IMP Imphal 47.77 264 *eP* **P 11 40 48.0 -1.6**
CMMT Chiang Mai 48.19 254 P **P 11 40 54.1 +1.3**
comp=Z,32nm,0.9s,comp=Z,423nm
CMMT Chiang Mai 48.19 254 P **P 11 40 53.7 +0.9**
comp=Z,32nm,0.9s,comp=Z,423nm
CHTO Chiang Mai 48.19 254 *eP* **P 11 40 53.8 +1.0**
CHTO Chiang Mai 48.19 254 *eP* **P 11 40 53.8 +1.0**
CHTO Chiang Mai 48.19 254 P **P 11 40 54.1 +1.3**
comp=Z,35nm,0.9s
CHTO Chiang Mai 48.19 254 P **P 11 40 53.8 +1.0**
comp=Z,35nm,0.9s
CHAI Chaiyaphum 48.19 248 P **P 11 40 53.6 +0.8**
comp=Z,11nm,0.9s,comp=Z,112nm
CMAR Chiang Mai Arr 48.44 254 P **P 11 40 55.8 +1.1**
CMAR pP **pP 11 41 18.9 -1.0**
CMAR PcP **PcP 11 42 20.6 +1.2**
CMAR Chiang Mai Arr 48.44 254 P **P 11 40 55.8 +1.1**
comp=Z,6.9nm,0.8s,baz=38,slow=7.1,SNR=30
CMAR pP **pP 11 41 18.9 -1.0**
comp=Z,4.0nm,1.0s,baz=34,slow=6.8,SNR=2.2
CMAR PcP **PcP 11 42 20.6 +1.2**
comp=Z,1.6nm,0.6s,baz=18,slow=2.5,SNR=4.1
SHL Shillong 48.74 266 *eP* **P 11 40 58.0 +0.8**
CRAG Craig 49.03 48 *eP* **P 11 40 59.9 +1.2**
comp=Z,64nm,1.3s
CRAG *e*PcP **PcP 11 42 20.4 -0.5**
WRAK Wrangell Islan 49.08 46 *eP* **P 11 41 00.8 +1.7**
comp=Z,35nm,1.1s
BVA0 Borovoye Array 49.36 309 P **P 11 40 59.8 -1.5**
BVA0 pmax pmax
comp=Z,9.0nm,0.7s
BVAR Borovoye Array 49.36 309 P **P 11 41 00.3 -1.0**
BVAR 11 42 22.1
BVAR pmax pmax
comp=Z,4.0nm,0.4s
BVAR MLR MLR
comp=Z,135nm,18.8s
BVAR Borovoye Array 49.36 309 P **P 11 41 00.2 -1.0**
BVAR PcP **PcP 11 42 22.1 -0.1**
BVAR ScP **ScP 11 46 06.0 -1.5**
BVAR Borovoye Array 49.36 309 P **P 11 41 00.2 -1.0**
comp=Z,4.1nm,0.4s,baz=50,slow=8.1,SNR=16
BVAR PcP **PcP 11 42 22.1 -0.1**
comp=Z,9.5nm,0.8s,baz=79,slow=3.2,SNR=9.3
BVAR ScP **ScP 11 46 06.0 -1.5**
comp=Z,2.7nm,1.0s,baz=93,slow=5.8,SNR=4.6
BVAR LR LR 12 05 47.8
comp=Z,134nm,18.8s,baz=290,slow=41
BRVK Borovoye 49.40 309 P **P 11 41 00.8 -0.8**
comp=Z,97nm,0.6s,SNR=7.0
BRVK Borovoye 49.40 309*c iP* **P 11 41 00.3 -1.3**
BRVK pmax pmax
comp=Z,18nm,1.1s
BRVK Borovoye 49.40 309 *eP* **P 11 41 00.9 -0.8**
comp=Z,12nm,0.7s
KIP Kipapa 49.79 100*ceP* **P 11 41 05.9 +0.9**
KIP pmax pmax
comp=Z,106nm,2.5s
ULHL Ulahol 50.56 294 P **P 11 41 12.0 +1.2**
SNR=22
TAPN Taplejung 50.63 271 *eP* **P 11 41 12.8 +1.1**
comp=Z,79nm,0.9s
TKM2 Tokmak 2 50.65 295 *i P* **P 11 41 12.5 +1.0**
TKM2 Tokmak 2 50.65 295 P **P 11 41 12.5 +1.0**
SNR=70
ODAN Odare 51.16 271 *eP* **P 11 41 16.4 +0.9**
comp=Z,97nm,1.2s
CHMS Chumysh 51.16 296 P **P 11 41 15.9 +0.8**
SNR=10
USP Ospenovka 51.19 296 P **P 11 41 16.2 +0.9**
SNR=55
KBK Karagaybulak 51.20 295 P **P 11 41 16.7 +1.1**
SNR=28
KZA Kyzart 51.28 294 P **P 11 41 18.2 +1.7**
SNR=118
FRU Bishkek 51.33 295⇑ *iP* **P 11 41 17.0 +0.7**
FRU pmax pmax
comp=Z,150nm,1.8s
AAK Ala-Archa 51.50 295 P **P 11 41 18.0 +0.2**
comp=Z,315nm,1.2s,SNR=11
AAK Ala-Archa 51.50 295 *i P* **P 11 41 18.7 +0.9**
AAK Ala-Archa 51.50 295 P **P 11 41 18.8 +0.9**
SNR=19
AAK Ala-Archa 51.50 295 *eP* **P 11 41 18.4 +0.6**
comp=Z,69nm,1.1s
AAK Ala-Archa 51.50 295 P **P 11 41 18.6 +0.9**
comp=Z,44nm,0.9s,baz=101,slow=5.3,SNR=63
AAK LR LR 12 03 26.5
comp=Z,49nm,20.0s,baz=40,slow=36
JIRN Jiri 51.53 273 *eP* **P 11 41 19.6 +1.1**
comp=Z,46nm,0.3s
GUN Gumba 51.60 273 *eP* **P 11 41 19.8 +0.8**
comp=Z,76nm,0.4s
RAMN Ramite 51.66 272 *eP* **P 11 41 20.1 +0.8**
comp=Z,231nm,0.7s
PHET Kaeng Krachan 51.92 248 P **P 11 41 23.9 +2.9**
comp=Z,75nm,0.9s
EKS2 Erkin-Say 51.95 296 P **P 11 41 21.9 +0.8**
SNR=28
ALE Alert 52.03 5 P **P 11 41 19.9 -1.1**
comp=Z,122nm,1.1s,SNR=5.5
KSH Kashi 52.09 291⇑ *iP* P 11 41 27.0 +4.8
KSH pP pP 11 41 53.3 +5.6
KSH sP sP 11 42 06.3 +6.7
KSH PP PP 11 43 28.8 +7.7
KSH PcS **PcS 11 46 33.8 +2.6**
KSH S **S 11 48 42.5 +4.5**
KSH sS sS 11 49 29.5 +7.7
KSH pmax pmax
comp=Z,62nm,1.0s
KSH pmax pmax
comp=Z,260nm,2.6s
KSH LR LR
comp=N,97nm,8.4s
KSH LR LR
comp=E,120nm,6.7s
KSH LR LR
comp=Z,120nm,8.6s
KKN Kakani 52.10 273 *eP* **P 11 41 23.4 +0.9**
comp=Z,89nm,0.9s
PKI Pulchoki 52.14 273 *eP* **P 11 41 23.6 +0.7**
PKIN Phulchoki 52.15 273 *eP* **P 11 41 23.9 +1.0**
AML Almayashu 52.27 295 P **P 11 41 25.2 +1.4**
SNR=34
DMN Daman 52.33 273 *eP* **P 11 41 25.4 +1.1**
comp=Z,108nm,0.9s
SVE Sverdlovsk 52.84 316⇓ *iP* **P 11 41 25.9 -1.4**
SVE pmax pmax
comp=Z,29nm,0.9s
DANN Dangsing 52.85 275 *eP* **P 11 41 29.4 +1.3**
KOLN Koldanda 53.31 274 *eP* **P 11 41 32.5 +1.1**
comp=Z,64nm,0.6s
SOKR Solikamsk 53.39 321*c iP* **P 11 41 29.3 -1.9**
SOKR pmax pmax
comp=Z,30nm,1.1s
KK31 Karatay Array 53.81 298 *i P* **P 11 41 34.7 +0.1**
KK31 pmax pmax
comp=Z,8.0nm,0.3s
KKAR Karatay Array 53.81 298 *eP* **P 11 41 34.9 +0.3**
KKAR Karatay Array 53.81 298 *eP* **P 11 41 34.9 +0.3**
KBS Kingsbay 53.88 350 *eP* **P 11 41 32.6 -1.9**
KBS Kingsbay 53.88 350⇓ *iP* **P 11 41 31.8 -2.8**
KBS pmax pmax
comp=Z,32nm,1.1s
KBS Kingsbay 53.88 350 *eP* **P 11 41 32.8 -1.8**
SPA0 Spitsbergen Ar 53.90 349 *eP* **P 11 41 32.4 -2.3**
SPITS Spitsbergen Ar 53.90 349 P **P 11 41 32.2 -2.5**
SPITS PcP **PcP 11 42 38.7 0.0**
SPITS Spitsbergen Ar 53.90 349 P **P 11 41 32.2 -2.5**
comp=Z,2.3nm,0.4s,baz=65,slow=8.4,SNR=12
SPITS PcP **PcP 11 42 38.7 0.0**
comp=Z,3.7nm,0.6s,baz=122,slow=4.1,SNR=3.3
ARU Arti 54.04 317*c iP* **P 11 41 34.3 -1.7**
ARU **PP* **pP 11 42 00.1 -1.6**
ARU 11 42 38.4
ARU 11 43 35.5
ARU S **S 11 49 02.9 -0.7**
ARU pmax pmax
comp=Z,54nm,1.2s
ARU MLR MLR
comp=Z,146nm,15.0s
ARU Arti 54.04 317 P **P 11 41 34.3 -1.7**
comp=Z,487nm,0.4s,SNR=22
YKA Yellowknife Ar 54.59 34 P **P 11 41 39.9 0.0**
YKA pP **pP 11 42 05.8 +0.2**
YKA Yellowknife Ar 54.59 34 P **P 11 41 39.9 0.0**
comp=Z,25nm,0.7s,baz=303,slow=7.5,SNR=116
YKA pP **pP 11 42 05.8 +0.2**
comp=Z,8.1nm,0.9s,baz=301,slow=7.0,SNR=3.1
ABKAR Akbulak array 56.93 309 *eP* **P 11 41 56.1 -0.7**
comp=Z,60nm,0.4s
KULM Kulim 57.02 241 *eP* **P 11 41 59.3 +1.4**
LVZ Lovozero 57.13 336*ceP* **P 11 41 55.6 -2.4**
LVZ pmax pmax
comp=Z,30nm,1.2s
LVZ Lovozero 57.13 336 P **P 11 41 56.7 -1.3**
comp=Z,189nm,0.8s,SNR=6.5
NDI New Delhi 57.27 279 *eP* **P 11 41 57.5 -2.1**
AKTO Aktyubinsk 57.36 311 P **P 11 41 59.7 -0.2**
AKTO pmax pmax
comp=Z,16nm,0.6s
AKTO Aktyubinsk 57.36 311 P **P 11 41 59.7 -0.2**
AKTO Aktyubinsk 57.36 311 P **P 11 41 59.7 -0.2**
comp=Z,16nm,0.6s,baz=66,slow=8.8,SNR=61
APA Apatity 57.71 336⇓ *iP* **P 11 42 02.4 +0.4**
APA *i* 11 42 28.0
APA *i* 11 42 55.0
APA MLR MLR
comp=Z,100nm,12.0s
NLWA Neilton Lookou 57.91 53 *eP* **P 11 42 04.9 +1.1**
KEV Kevo 57.98 339 *ep* **P 11 42 02.0 -1.9**
comp=Z,9.6nm,0.5s
KEV Kevo 57.98 339 *eP* **P 11 42 02.0 -1.9**
KEV pmax pmax
comp=Z,10.0nm,0.5s
KEV Kevo 57.98 339 *eP* **P 11 42 01.9 -1.9**
comp=Z,23nm,0.9s

MBW **Mount Baker** 58.26 51 P P 11 42 06.6 +0.2
TMCR **Tamitsa** 58.39 331 eP P 11 42 05.9 -0.8
TMCR pmax pmax
comp=Z,64nm,0.8s
DAG **Danmarks Havn** 58.43 356 i P P 11 42 04.7 -2.2
DAG pmax pmax
comp=Z,7.0nm,1.0s
DAG **Danmarks Havn** 58.43 356 i P P 11 42 04.7 -2.2
comp=Z,7.0nm,1.0s
ARCES **ARCESS Array B** 58.51 340 P P 11 42 05.9 -1.7
ARCES PcP PcP 11 42 57.1 +0.2
ARCES **ARCESS Array B** 58.51 340 P P 11 42 05.9 -1.7
comp=Z,15nm,0.9s,baz=48,slow=8.0,SNR=37
ARCES PcP PcP 11 42 57.1 +0.2
comp=Z,4.0nm,0.5s,baz=64,slow=5.1,SNR=6.7
ARCES LR LR 12 08 45.1
comp=Z,73nm,21.6s,baz=291,slow=37
ARE0 **ARCESS Array S** 58.51 340 ⇑i P P 11 42 05.8 -1.8
JCW **Jim Creek** 58.56 52 P P 11 42 08.9 +0.5
TDL **Tradedollar La** 59.43 54 P P 11 42 15.2 +0.7
FL2 **Flat Top 2** 59.44 54 P P 11 42 15.3 +0.8
KTK1 **Kautokeino** 59.45 340 ⇓i P P 11 42 12.6 -1.5
KBL **Kabul** 59.45 290 eP P 11 42 14.4 -0.5
KBL pmax pmax
comp=Z,110nm,0.9s
KBL **Kabul** 59.45 290 eP P 11 42 14.4 -0.5
comp=Z,110nm,0.9s
WPW **White Pass** 59.62 53 P P 11 42 16.4 +0.6
ASR **Mount Adams--S** 59.90 53 P P 11 42 18.3 +0.7
TRO **Tromso** 59.99 342 ⇑i P P 11 42 15.8 -1.9
TRO AMB AMB 11 42 17.5
comp=Z,62nm,0.5s
VLL **Laurance Lake** 60.24 54 P P 11 42 21.2 +1.2
TRW **Toppenish Ridg** 60.42 53 P P 11 42 22.1 +1.0
VFP **Flag Point** 60.45 54 P P 11 42 22.3 +0.8
OD2 **Odessa Site #2** 60.81 51 P P 11 42 23.9 +0.2
BLTW **Bickleton** 60.84 53 P P 11 42 24.9 +0.9
NEW **Newport** 61.17 49 eP P 11 42 26.4 +0.3
NEW **Newport** 61.17 49 ⇓P P 11 42 26.5 +0.3
baz=61,SNR=34
JOF **Joensuu** 61.48 332 ep P 11 42 27.2 -0.7
comp=Z,17nm,0.5s
JOF **Joensuu** 61.48 332 eP P 11 42 27.2 -0.7
JOF pmax pmax
comp=Z,17nm,0.5s
A12A **Yaak River Ran** 61.56 48 ⇓P P 11 42 29.5 +0.6
baz=61,SNR=8.1
B12A **Libby** 61.87 49 ⇓P P 11 42 31.6 +0.7
baz=62
A13A **Flathead Natio** 62.22 48 ⇓P P 11 42 33.8 +0.6
baz=62,SNR=19
C12B **Naegeli Ranch,** 62.39 49 ⇑P P 11 42 34.8 +0.4
baz=62,SNR=9.4
WALA **Waterton Lakes** 62.41 47 eP P 11 42 34.9 +0.3
comp=Z,0.9nm,0.8s
B13A **Whitefish** 62.53 48 ⇑P P 11 42 36.3 +1.0
baz=62,SNR=50
BSMT **Bassoo Peak** 62.67 49 eP P 11 42 37.2 +0.8
A14A **Double T Ranch** 62.71 47 ⇓P P 11 42 36.9 +0.3
baz=62,SNR=24
BLMT **Blacktail Moun** 62.80 48 eP P 11 42 38.2 +0.9
SUMG **Summit** 62.86 2⇑i P P 11 42 36.7 -0.8
SUMG pmax pmax
comp=Z,42nm,0.8s
SUMG **Summit** 62.86 2 eP P 11 42 36.6 -0.8
comp=Z,68nm,0.9s
SUMG **Summit** 62.86 2⇑i P P 11 42 36.7 -0.8
comp=Z,42nm,0.8s
C13A **Hot Springs** 62.89 49 ⇑P P 11 42 38.5 +0.8
baz=63,SNR=20
JTMT **Jette** 63.01 49 eP P 11 42 39.4 +0.8
A15A **Johnson Ranch,** 63.07 47 ⇑P P 11 42 38.7 -0.2
baz=63,SNR=24
YBMT **Yellow Bay** 63.08 48 eP P 11 42 39.6 +0.5
comp=Z,14nm,1.1s
BMO **Blue Mountains** 63.10 53 eP P 11 42 39.7 +0.5
BMO pmax pmax
comp=Z,23nm,1.5s
BMO **Blue Mountains** 63.10 53 eP P 11 42 39.7 +0.5
comp=Z,23nm,1.5s
B14A **Marquette Ranc** 63.17 48 ⇑P P 11 42 40.0 +0.4
baz=63,SNR=24
C14A **Swan Lake** 63.28 48 ⇓P P 11 42 41.0 +0.7
baz=63
SWMT **Swartz Lake** 63.30 49 eP P 11 42 41.2 +0.7
comp=Z,44nm,1.2s
HYB **Hyderabad** 63.45 269 i P P 11 42 41.0 -0.8
B15A **Bradely Ranch,** 63.57 47 ⇓P P 11 42 42.4 +0.2
baz=63,SNR=20
A16A **West Butte Ran** 63.67 46 ⇑P P 11 42 43.0 0.0
baz=63
KAF **Kangasniemi** 63.68 334 ep P 11 42 41.0 -1.6
comp=Z,14nm,0.5s
KAF **Kangasniemi** 63.68 334 eP P 11 42 41.0 -1.6
KAF pmax pmax
comp=Z,14nm,0.5s
SLMT **Seeley Lake** 63.74 49 eP P 11 42 43.9 +0.4
comp=Z,47nm,1.0s
MOR8 **Moi Rana** 63.78 341 eP P 11 42 40.1 -3.1
MOR8 AMB AMB 11 42 43.1
comp=Z,89nm,1.1s
WVOR **Wild Horse Val** 63.80 55 eP P 11 42 44.3 +0.4
WVOR pmax pmax
comp=Z,17nm,1.1s
WVOR **Wild Horse Val** 63.80 55 eP P 11 42 44.3 +0.4
comp=Z,17nm,1.1s
C15A **Salmond Ranch,** 63.88 48 ⇑P P 11 42 44.9 +0.5
baz=64,SNR=41
B16A **M & M Farms, S** 63.95 47 ⇑P P 11 42 44.8 +0.1
baz=64,SNR=18
G12A **Big Creek, Yel** 64.05 51 ⇓P P 11 42 45.4 -0.1
baz=64,SNR=14
CHMT **Chamberlain Mo** 64.07 49 eP P 11 42 45.8 +0.1
comp=Z,7.6nm,0.9s
A17A **Triple J Farms** 64.14 46 ⇓P P 11 42 46.0 +0.1
baz=64,SNR=24
FIA1 **FINESS Array S** 64.25 333 eP P 11 42 44.5 -1.7
FINES **FINESS Array B** 64.25 333 P P 11 42 44.8 -1.5
FINES PcP PcP 11 43 19.7 -0.5
FINES **FINESS Array B** 64.25 333 P P 11 42 44.8 -1.5
comp=Z,41nm,0.5s,baz=31,slow=8.5,SNR=429
FINES PcP PcP 11 43 19.7 -0.5
comp=Z,7.0nm,0.5s,baz=72,slow=8.2,SNR=4.5
FINES LR LR 12 15 32.3
comp=Z,83nm,18.5s,baz=44,slow=40
C16A **Fuhringer Ranc** 64.32 47 ⇓P P 11 42 47.6 +0.5
baz=64,SNR=74
BEKR **Beckworth** 64.34 59 eP P 11 42 47.8 +0.2
comp=Z,4.7nm,0.8s
FFC **Flin Flon** 64.49 37 P P 11 42 48.9 +0.9
comp=Z,348nm,1.1s,SNR=39
FFC **Flin Flon** 64.49 37 eP P 11 42 48.2 +0.2
FFC pmax pmax
comp=Z,66nm,1.0s
FFC **Flin Flon** 64.49 37 eP P 11 42 48.2 +0.2
comp=Z,66nm,1.0s
B17A **L&G Farms, Che** 64.50 47 ⇓P P 11 42 48.5 +0.2
baz=64,SNR=22
A18A **Metzger Ranch,** 64.59 46 ⇓P P 11 42 48.9 +0.1
baz=64,SNR=24
H12A **Diamond D Ranc** 64.67 52 ⇑P P 11 42 49.6 +0.1
baz=64,SNR=24
MFID **Camas Ranch** 64.82 53 eP P 11 42 51.1 +0.6
comp=Z,6.6nm,0.9s
MFID **Camas Ranch** 64.82 53 ⇑P P 11 42 50.8 +0.3
baz=65
OBN **Obninsk** 64.87 324 c iP P 11 42 49.1 -1.3
OBN e*PP pP 11 43 16.6 -0.3
OBN e 11 43 22.6
OBN e 11 45 09.8
OBN eS S 11 51 23.0 +0.2
OBN pmax pmax
comp=Z,41nm,1.3s
C17A **Wharram Farm,** 64.94 47 ⇓P P 11 42 51.1 0.0
baz=65,SNR=51
HRY **Holter Researc** 64.96 48 eP P 11 42 52.0 +0.6
comp=Z,27nm,0.8s
B18A **Beardsley Farm** 64.96 46 ⇓P P 11 42 51.5 +0.2
baz=65,SNR=40
A19A **Klindworth Far** 65.14 45 ⇓P P 11 42 53.0 +0.6
baz=65,SNR=25
LRM **Limekiln Ridge** 65.19 49 eP P 11 42 53.4 +0.4
comp=Z,271nm,0.9s
EGMT **Eagleton** 65.21 46 eP P 11 42 53.3 +0.5
comp=Z,48nm,0.9s
EGMT **Eagleton** 65.21 46 ⇑P P 11 42 53.2 +0.3
baz=65,SNR=37
D17A **Six Diamond Ra** 65.28 47 ⇓P P 11 42 53.7 +0.3
baz=65,SNR=27
B19A **Brinkman Farms** 65.35 46 ⇑P P 11 42 54.1 +0.4
baz=65,SNR=11
DLMT **Dillon** 65.40 50 eP P 11 42 54.5 +0.2
comp=Z,32nm,1.2s
CMB **Columbia Colle** 65.46 60 eP P 11 42 54.8 +0.2
CMB pmax pmax
comp=Z,4.0nm,0.8s
CMB **Columbia Colle** 65.46 60 eP P 11 42 54.8 +0.2
comp=Z,4.2nm,0.8s
HLID **Hailey** 65.53 52 eP P 11 42 55.7 +0.6
comp=Z,13nm,1.2s
HLID **Hailey** 65.53 52 ⇑P P 11 42 55.8 +0.6
baz=65,SNR=17
A20A **Cobblestone Ra** 65.58 45 ⇑P P 11 42 55.6 +0.3
baz=65,SNR=20
WRAB **Tennant Creek** 65.60 194 eP P 11 42 55.1 -0.4
WRAB pmax pmax
comp=Z,8.0nm,0.7s
WRAB **Tennant Creek** 65.60 194 eP P 11 42 55.1 -0.4
comp=Z,8.2nm,0.7s
MCMT **McKenzie Canyo** 65.60 50 eP P 11 42 56.0 +0.3
comp=Z,5.7nm,1.1s
WRA **Warramunga Arr** 65.61 194 P P 11 42 54.9 -0.7
WRA pP pP 11 43 20.2 -1.9
WRA sP sP 11 43 33.7 0.0
WRA **Warramunga Arr** 65.61 194 P P 11 42 54.9 -0.7
comp=Z,4.9nm,0.9s,baz=11,slow=6.6,SNR=7.5
WRA pP pP 11 43 20.2 -1.9
comp=Z,10nm,1.1s,baz=9.7,slow=6.8,SNR=8.0
WRA sP sP 11 43 33.7 0.0
comp=Z,7.9nm,0.7s,baz=14,slow=6.8,SNR=6.0
E17A **Martinsdale** 65.64 48 ⇓P P 11 42 56.5 +0.7
baz=65,SNR=42
D18A **Linhart Farms,** 65.72 47 ⇓P P 11 42 56.8 +0.6
baz=65,SNR=22
NSS **Namsos** 65.72 341 eP P 11 42 54.8 -1.0
NSS AMB AMB 11 42 55.8
comp=Z,17nm,0.9s
BOZ **Bozeman (W)** 65.75 49 eP P 11 42 57.2 +0.7
BOZ pmax pmax
comp=Z,32nm,0.9s
BOZ **Bozeman (W)** 65.75 49 eP P 11 42 57.2 +0.7
comp=Z,32nm,0.9s
WAKR **Walker** 65.75 59 eP P 11 42 57.4 +0.7
comp=Z,5.5nm,0.9s
C19A **Slack Wire Ran** 65.76 46 ⇑P P 11 42 57.1 +0.7
baz=66
B20A **Solberg Farm,** 65.82 45 ⇓P P 11 42 56.9 +0.1
baz=66
FITZ **Fitzroy Crossi** 65.83 203 P P 11 42 58.7 +1.7
FITZ pP pP 11 43 23.1 -0.5
FITZ **Fitzroy Crossi** 65.83 203 P P 11 42 58.7 +1.7
comp=Z,3.8nm,1.0s,baz=14,slow=10,SNR=3.6
FITZ pP pP 11 43 23.1 -0.5
comp=Z,3.9nm,0.9s,baz=65,slow=5.0,SNR=3.5
I14A **Mackay** 65.84 52 ⇓P P 11 42 58.0 +0.8
baz=66,SNR=31
VOR **Voronezh** 66.01 320 P P 11 42 57.0 -0.8
A21A **Bergtoll Ranch** 66.01 44 ⇓P P 11 42 58.6 +0.6
baz=66,SNR=22
E18A **Harlowton** 66.07 48 ⇓P P 11 42 59.2 +0.7
baz=66,SNR=16
F17A **Fitzpatrick Pl** 66.10 49 ⇑P P 11 42 59.4 +0.7
baz=66,SNR=25
D19A **Cripps Ranch,** 66.22 47 ⇑P P 11 43 00.1 +0.7
baz=66,SNR=21
VSU **Vasula** 66.26 331 ⇓i P P 11 42 57.8 -1.5
VSU pmax pmax
comp=Z,167nm,1.0s
C20A **Veseth Ranch,** 66.31 46 ⇓P P 11 43 00.7 +0.8
baz=66,SNR=46
B21A **Ellsworth Farm** 66.34 45 ⇓P P 11 43 00.6 +0.5
baz=66,SNR=12
VSR **Storozhevoye** 66.37 319 eP P 11 42 59.3 -0.9
VSR pmax pmax
comp=Z,80nm,1.2s
VSR pmax pmax
comp=N,30nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.5s
QLMT **Earthquake Lak** 66.38 50 eP P 11 43 01.3 +0.7
comp=E,4.2nm,1.2s
G17A **Pierce Place,** 66.43 49 ⇓P P 11 43 01.6 +0.7
baz=66,SNR=22
VORD **Divnogorie** 66.48 319 eP P 11 43 00.7 -0.2
VORD pmax pmax
comp=Z,60nm,1.0s
VORD pmax pmax
comp=N,40nm,1.5s
VORD pmax pmax
comp=E,30nm,0.8s
NVAR **Mina Array Bea** 66.49 59 P P 11 43 02.1 +0.7
NVAR pP pP 11 43 26.0 -2.0
NVAR **Mina Array Bea** 66.49 59 P P 11 43 02.1 +0.7
comp=E,7.3nm,0.7s,baz=286,slow=7.0,SNR=68
NVAR pP pP 11 43 26.0 -2.0
comp=E,10nm,0.9s,baz=292,slow=6.2,SNR=6.4
A22A **Carney Farms,** 66.51 44 ⇑P P 11 43 01.0 -0.2
baz=66,SNR=20
H16A **Russell Place,** 66.56 50 ⇓P P 11 43 02.6 +0.9
baz=66,SNR=28
F18A **Big Timber** 66.60 48 ⇓P P 11 43 02.6 +0.7
baz=66,SNR=38
D20A **Manuel Ranch,** 66.65 46 ⇓P P 11 43 03.1 +1.0
baz=66,SNR=38
MLAC **Mammoth Lakes** 66.67 60 ⇓P P 11 43 03.4 +0.8
baz=66
C21A **Desert Coulee** 66.69 45 ⇓P P 11 43 02.7 +0.4
baz=66,SNR=20
GCMT **Greycliff** 66.70 48 eP P 11 43 03.2 +0.6
comp=E,16nm,0.9s
E19A **Rath Farm, Rou** 66.73 47 ⇓P P 11 43 03.2 +0.6
baz=66,SNR=32
YMR **Madison River** 66.73 50 eP P 11 43 03.8 +0.9
comp=E,17nm,0.9s
B22A **Reddig Ranch S** 66.93 44 ⇓P P 11 43 04.3 +0.5
baz=67,SNR=7.2
YFT **Old Faithful** 66.95 50 eP P 11 43 06.1 +1.8
comp=E,27nm,0.9s
I16A **Newdale** 66.96 51 ⇑P P 11 43 05.0 +0.7
baz=67
A23A **Redstone** 67.04 43 ⇓P P 11 43 04.7 +0.2
baz=67
E20A **Meyer Farm, Mu** 67.04 47 ⇑P P 11 43 05.2 +0.6
baz=67,SNR=16
F19A **Roth Farm, Mol** 67.04 48 ⇓P P 11 43 05.3 +0.6
baz=67,SNR=41
G18A **Lazy EL Ranch,** 67.07 48 ⇑P P 11 43 04.8 -0.1
baz=67,SNR=6.6
LKWY **Lake** 67.11 49 eP P 11 43 07.6 +2.3
LKWY pmax pmax
comp=Z,12nm,0.9s
LKWY **Lake** 67.11 49 eP P 11 43 07.6 +2.3
comp=Z,12nm,0.9s
H17A **Grant Village** 67.12 50 ⇑P P 11 43 07.5 +2.0
baz=67,SNR=31
D21A **La Casta Ranch** 67.25 46 ⇓P P 11 43 06.5 +0.6
baz=67,SNR=9.9
IMW **Indian Meadow** 67.25 50 eP P 11 43 07.1 +0.9
comp=Z,27nm,1.0s
B23A **Bron** 67.32 44 ⇑P P 11 43 06.4 +0.1
baz=67,SNR=24
RLMT **Red Lodge** 67.35 48 eP P 11 43 07.5 +0.7
comp=Z,36nm,1.4s
C22A **Vida** 67.36 45 ⇓P P 11 43 06.3 -0.2
baz=67,SNR=7.1
RRI2 **Red Ridge** 67.40 51 eP P 11 43 08.2 +1.0
comp=Z,38nm,0.9s
H18A **Shoshone NF, C** 67.43 49 ⇑P P 11 43 07.8 +0.5
baz=67,SNR=14
I17A **Pigrim Ck.** 67.44 50 ⇓P P 11 43 08.9 +1.6
baz=67
MOOW **Moose Ponds** 67.45 50 eP P 11 43 08.6 +1.1
comp=Z,22nm,1.0s
A24A **Westby** 67.49 43 ⇑P P 11 43 07.4 +0.1
baz=67,SNR=12
F20A **Billings** 67.50 47 ⇑P P 11 43 07.9 +0.3
baz=67
TPAW **Teton Pass** 67.51 51 eP P 11 43 08.9 +1.1
comp=Z,32nm,0.9s
E21A **Keefer Ranch,** 67.56 46 ⇑P P 11 43 08.5 +0.6
baz=67,SNR=11
D22A **Cohagen** 67.61 45 ⇑P P 11 43 08.4 +0.3
baz=67,SNR=14
LOHW **Long Hollow** 67.62 50 eP P 11 43 09.2 +0.7
comp=Z,22nm,1.2s
SNOW **Snow King Moun** 67.64 51 eP P 11 43 10.0 +1.4
comp=Z,19nm,1.0s
REDW **Red Top Meadow** 67.65 51 eP P 11 43 09.5 +0.8
comp=Z,25nm,1.0s
SFJD **Kangerlussuaq** 67.65 8 i P P 11 43 07.2 -0.7
comp=Z,21nm,0.8s
VES **Vestal, Richgr** 67.65 61 ⇑P P 11 43 10.2 +1.7
baz=67
C23A **Lambert** 67.67 44 ⇓P P 11 43 08.7 +0.2
baz=67,SNR=9.3
DGMT **Dagmar** 67.70 43 eP P 11 43 08.9 +0.2
comp=Z,73nm,0.8s
DGMT **Dagmar** 67.70 43 ⇑P P 11 43 08.8 +0.1
baz=67,SNR=16
PKM **Peak Mountain** 67.79 63 ⇓P P 11 43 10.4 +0.8
baz=68
H19A **Powell** 67.80 49 ⇑P P 11 43 10.3 +0.8
baz=68,SNR=7.4
G20A **Bridger** 67.85 48 ⇑P P 11 43 09.5 -0.3
baz=68,SNR=16
CWC **Cottonwood Cre** 67.89 60 ⇓P P 11 43 10.5 +0.3
baz=68
AHID **Auburn Hatcher** 67.90 51 eP P 11 43 10.8 +0.6
comp=Z,14nm,1.0s
GRAC **Grapevine Rang** 67.97 59 ⇑P P 11 43 11.3 +0.7
baz=68,SNR=7.7
I18A **Diamond G Ranc** 67.99 50 ⇑P P 11 43 11.8 +1.0
baz=68,SNR=6.2
F21A **Absaloka Mine,** 68.02 47 ⇑P P 11 43 11.4 +0.6
baz=68
D23A **Lindsay** 68.08 45 ⇓P P 11 43 12.0 +0.8
baz=68
ISA **Isabella** 68.14 61 eP P 11 43 10.0 -1.7
ISA pmax pmax
comp=Z,6.0nm,1.0s
ISA **Isabella** 68.14 61 eP P 11 43 09.9 -1.7
comp=Z,6.1nm,1.0s
ISA **Isabella** 68.14 61 ⇓P P 11 43 13.1 +1.4
baz=68
SBC **Santa Barbara** 68.15 63 ⇓P P 11 43 12.5 +0.9
baz=68
R11A **Troy Canyon, C** 68.18 57 ⇑P P 11 43 12.3 +0.2
baz=68,SNR=13
E22A **Miles City** 68.20 46 ⇓P P 11 43 12.2 +0.3
baz=68,SNR=6.2
I19A **Meeteetse** 68.22 49 ⇓P P 11 43 13.0 +0.7
baz=68,SNR=11
C24A **Savage** 68.23 44 ⇓P P 11 43 12.3 +0.2
baz=68,SNR=9.2
ARVC **Arvin** 68.26 62 ⇓P P 11 43 13.1 +0.7
baz=68
G21A **Lodge Grass** 68.37 47 ⇓P P 11 43 12.8 -0.3
baz=68
HWUT **Hardware Ranch** 68.40 52 eP P 11 43 13.9 +0.6
comp=Z,17nm,1.0s
A26A **Wade Farm, Ken** 68.45 42 ⇑P P 11 43 13.6 +0.2
baz=68
H20A **Greybull** 68.45 48 ⇑P P 11 43 13.4 -0.1
baz=68,SNR=9.0
IZAR **Zarasai** 68.48 329 eP P 11 43 12.7 -0.7
IZAR AMB AMB 11 43 14.8
comp=Z,10.0nm,0.7s
E23A **Ismay** 68.49 45 ⇑P P 11 43 13.9 +0.3
baz=68
F22A **Rosebud** 68.49 46 ⇓P P 11 43 14.0 +0.3
baz=68,SNR=28
MPMC **Manual Prospec** 68.50 60 ⇓P P 11 43 14.0 -0.1
baz=68,SNR=9.0
D24A **Glendive** 68.56 44 ⇑P P 11 43 14.8 +0.7
baz=68,SNR=20
DUG **Dugway** 68.61 54 eP P 11 43 15.3 +0.6
DUG pmax pmax
comp=Z,10.0nm,0.9s
DUG **Dugway** 68.61 54 eP P 11 43 15.2 +0.6
comp=Z,10nm,0.9s
DUG **Dugway** 68.61 54 ⇓P P 11 43 15.2 +0.6
baz=68,SNR=15
DZM **Mont Dzumac** 68.61 162 P P 11 43 16.6 +2.0
DZM **Mont Dzumac** 68.61 162 P P 11 43 16.6 +2.0
comp=Z,19nm,0.8s,baz=90,slow=24,SNR=21
FURC **Furnace Creek,** 68.62 60 ⇓P P 11 43 15.0 +0.4
baz=68,SNR=18
IDID **Didziasalis** 68.63 328 eP P 11 43 13.6 -0.6
IDID AMB AMB 11 43 14.3
comp=Z,13nm,0.8s
ISAL **Salakas** 68.66 329 eP P 11 43 13.8 -0.7
ISAL AMB AMB 11 43 15.3
comp=Z,11nm,0.8s
J19A **Crowheart** 68.70 50 ⇑P P 11 43 15.5 +0.3
baz=68,SNR=24
I20A **Worland** 68.74 49 ⇑P P 11 43 16.1 +0.7
baz=68,SNR=21
LRMC **Laurel Mountai** 68.75 61 ⇓P P 11 43 16.0 +0.4
baz=69
BW06 **Boulder Array** 68.75 51 eP P 11 43 15.6 0.0
comp=Z,20nm,1.0s
PDAR **Pinedale Array** 68.75 51 P P 11 43 15.8 +0.1
PDAR pP PcP 11 43 39.3 -0.3
PDAR **Pinedale Array** 68.75 51 P P 11 43 15.8 +0.1
comp=Z,12nm,0.8s,baz=283,slow=1.8,SNR=103
PDAR pP PcP 11 43 39.3 -0.3
comp=Z,8.8nm,0.8s,baz=268,slow=2.1,SNR=3.9
IIGN **Ignalina** 68.80 329 eP P 11 43 14.6 -0.7
IIGN AMB AMB 11 43 15.3
comp=Z,22nm,0.7s
MICGM **Minsk** 68.81 327 e P 11 43 14.0 -1.4
MNK **Minsk** 68.83 327 eP P 11 43 14.0 -1.5
G22A **Birney** 68.85 47 ⇓P P 11 43 16.1 +0.1
baz=69,SNR=11
H21A **Big Horn, Sher** 68.86 48 ⇑P P 11 43 16.6 +0.4
baz=69,SNR=19
NB2 **NORSAR Subarra** 68.88 339 P P 11 43 14.5 -1.3
comp=Z,30nm,0.4s,baz=31,slow=6.5
NB2 **NORSAR Subarra** 68.88 339 P P 11 43 14.5 -1.3
baz=31,slow=6.5
NOA **NORSAR Array B** 68.88 339 P P 11 43 14.6 -1.3
NOA **NORSAR Array B** 68.88 339 P P 11 43 14.6 -1.3
comp=Z,43nm,0.6s,baz=32,slow=6.2,SNR=267
NOA LR LR 12 15 25.2
comp=Z,37nm,20.5s,baz=35,slow=38
NACGM **Naroch** 68.93 328 e P 11 43 12.0 -4.2
EDW2 **Edwards Air Fo** 68.95 62 ⇓P P 11 43 16.9 +0.2
baz=69
E24A **Baker** 68.95 45 ⇓P P 11 43 16.9 +0.4
baz=69,SNR=6.1
F23A **Volborg** 68.97 46 ⇓P P 11 43 17.1 +0.4
baz=69,SNR=26
HFS **Hagfors** 68.99 337 P P 11 43 15.1 -1.4
HFS **Hagfors** 68.99 337 P P 11 43 15.1 -1.4
comp=Z,28nm,0.4s,baz=51,slow=5.5,SNR=196
M17A **Scullys Gap (B** 69.00 52 ⇓P P 11 43 17.3 +0.2
baz=69,SNR=9.0
L18A **Fontenelle, Gr** 69.05 51 ⇓P P 11 43 17.5 0.0
baz=69,SNR=14
NC602 **NORSAR Array S** 69.05 339 eP P 11 43 15.4 -1.5
K19A **Absolon Red Bu** 69.10 50 ⇓P P 11 43 17.5 -0.2
baz=69,SNR=14
JLU **Jordanelle** 69.13 53 eP P 11 43 18.2 +0.2
comp=Z,13nm,1.1s
J20A **Shoshoni** 69.16 49 ⇓P P 11 43 18.5 +0.5
baz=69,SNR=27
H22A **Clearmont** 69.25 47 ⇑P P 11 43 18.4 0.0
baz=69,SNR=5.2
I21A **Big Trails, Te** 69.28 48 ⇑P P 11 43 19.2 +0.4
baz=69,SNR=46
L19A **Farson** 69.31 51 ⇑P P 11 43 19.3 +0.3
baz=69,SNR=11
AS31 **Alice Springs** 69.33 194 eP P 11 43 19.7 +0.8
ASAR **Alice Springs** 69.33 194 P P 11 43 19.1 +0.2
ASAR pP pP 11 43 44.8 -1.0
ASAR sP sP 11 43 56.1 -1.2
ASAR P'P' 12 11 27.2
ASAR **Alice Springs** 69.33 194 P P 11 43 19.1 +0.2
comp=Z,2.7nm,0.7s,baz=13,slow=5.2,SNR=23
ASAR pP pP 11 43 44.8 -1.0
comp=Z,2.5nm,0.7s,baz=4.0,slow=6.6,SNR=4.8
ASAR sP sP 11 43 56.1 -1.2
comp=Z,5.5nm,0.8s,baz=12,slow=5.8,SNR=5.6
ASAR PKPPKP P'P'df 12 11 27.2 +2.0
comp=Z,2.6nm,1.0s,baz=185,slow=3.0,SNR=14
G23A **Biddle** 69.33 46 ⇓P P 11 43 18.9 0.0
baz=69,SNR=16
SHOC **Shoshone** 69.35 60 ⇑P P 11 43 19.2 +0.1
baz=69
DAU **Daniels Canyon** 69.36 53 eP P 11 43 20.2 +0.7
DAU pmax pmax

comp=Z,19nm,1.2s
DAU **Daniels Canyon** 69.36 53 *e*P P 11 43 20.2 +0.7
comp=Z,20nm,1.2s
F24A **Ekalaka** 69.38 45 ⇓P P 11 43 19.3 +0.1
baz=69,SNR=17
GSC **Goldstone** 69.41 60 *e*P P 11 43 20.0 +0.4
GSC **Goldstone** 69.41 60 *e*P P 11 43 20.0 +0.4
comp=Z,4.9nm,1.0s
GSC **Goldstone** 69.41 60 ⇑P P 11 43 19.8 +0.2
baz=69
E25A **Miller Ranch,** 69.45 44 ⇓P P 11 43 20.0 +0.4
baz=69,SNR=14
K20A **Yellowstone Ra** 69.49 50 ⇑P P 11 43 19.7 -0.4
baz=69,SNR=11
J21A **Lysite** 69.51 49 ⇓P P 11 43 20.3 0.0
baz=69,SNR=16
C27A **Sayler Ranch,** 69.53 42 ⇓P P 11 43 20.4 +0.4
baz=69
KIV **Kislovodsk** 69.56 312 *c iP* P 11 43 21.3 +0.9
KIV *e* 11 43 46.8
KIV *e* 11 45 57.2
KIV *e*S S 11 52 23.1 +3.4
KIV *e*SS SS 11 56 49.9 +1.4
KIV pmax pmax
comp=Z,285nm,1.1s
KIV **Kislovodsk** 69.56 312 P P 11 43 21.5 +1.1
comp=Z,2µm,0.8s,SNR=22
BFSC **Mount Baldy Ra** 69.57 62 ⇑P P 11 43 21.1 +0.4
baz=69
KBZ **Khabaz** 69.60 312 P P 11 43 21.5 +1.0
KBZ pmax pmax
comp=Z,110nm,0.9s
KBZ **Khabaz** 69.60 312 P P 11 43 21.5 +1.0
KBZ **Khabaz** 69.60 312 P P 11 43 21.5 +1.0
comp=Z,110nm,0.9s,baz=56,slow=4.8,SNR=196
KBZ LR LR 12 20 25.7
comp=Z,173nm,18.4s,baz=225,slow=42
I22A **9 Mile Ranch,** 69.65 48 ⇓P P 11 43 21.1 +0.1
baz=69,SNR=8.0
ZEI **Tsey** 69.70 310 *e*P P 11 43 21.0 -0.4
ZEI pmax pmax
comp=Z,95nm,0.9s
DUS **Dusheti** 69.73 309 P P 11 43 23.1 +1.6
G24A **Alzada** 69.75 46 ⇑P P 11 43 21.1 -0.4
baz=70,SNR=8.0
H23A **Clabaugh Cattl** 69.77 47 ⇓P P 11 43 21.5 -0.2
baz=70
DGRG **David-gareji** 69.79 309 P P 11 43 22.5 +0.7
M19A **Rock Springs** 69.82 51 ⇑P P 11 43 22.2 0.0
baz=70
ARUT **Antelope Range** 69.83 57 *e*P P 11 43 22.8 +0.6
ARUT **Antelope Range** 69.83 57 *e*P P 11 43 22.8 +0.6
comp=Z,5.7nm,1.0s
TUQ **Turquoise Moun** 69.87 60 ⇓P P 11 43 22.8 +0.3
baz=70,SNR=8.5
L20A **Wamsutter** 69.93 50 ⇓P P 11 43 23.1 +0.3
baz=70,SNR=8.1
E26A **Carlson Angus** 69.93 44 ⇓P P 11 43 22.4 -0.1
baz=70,SNR=9.7
TBLG **Delisi** 69.95 309 P P 11 43 24.0 +1.3
TBLG **Delisi** 69.95 309 P P 11 43 24.0 +1.3
HYA **Hoyanger** 69.98 341 ⇓ *iP* P 11 43 21.8 -0.7
HYA AMB AMB 11 43 22.6
comp=Z,60nm,0.8s
J22A **Midwest** 69.98 48 ⇑P P 11 43 23.0 -0.1
baz=70
HEC **Hector,Ludlow** 70.02 61 ⇓P P 11 43 23.4 0.0
baz=70,SNR=8.4
BBRC **Big Bear Solar** 70.02 61 ⇑P P 11 43 23.5 0.0
baz=70
H24A **Dirks Ranch, A** 70.08 46 ⇓P P 11 43 23.1 -0.4
baz=70,SNR=18
MVU **Marysvale** 70.08 55 *e*P P 11 43 24.6 +0.7
comp=Z,3.2nm,0.8s
K21A **Alcova** 70.10 49 ⇑P P 11 43 23.9 0.0
baz=70,SNR=11
F26A **Lodgepole** 70.26 44 ⇑P P 11 43 24.7 +0.1
baz=70,SNR=16
MURC **Murrieta** 70.28 62 ⇑P P 11 43 25.1 +0.2
baz=70
ULM **Lac du Bonnet** 70.29 38 P P 11 43 24.1 -0.5
ULM pP pP 11 43 50.3 -1.2
ULM **Lac du Bonnet** 70.29 38 P P 11 43 24.1 -0.5
comp=Z,8.1nm,0.4s,baz=313,slow=6.4,SNR=13
ULM pP pP 11 43 50.3 -1.2
comp=Z,5.2nm,0.7s,baz=330,slow=10,SNR=2.8
MDND **Maddock** 70.34 41 ⇓P P 11 43 25.1 +0.1
baz=70,SNR=11
G25A **Newell** 70.35 45 ⇓P P 11 43 24.8 -0.4
baz=70,SNR=5.9
M20A **Sweetwater, Wa** 70.37 51 ⇓P P 11 43 26.3 +0.8
baz=70,SNR=8.5
KZR **Kazreti** 70.37 309 P P 11 43 26.5 +1.2
Q16A **Castle Valley** 70.41 54 ⇑P P 11 43 26.3 +0.5
baz=70,SNR=5.1
GMRC **Granite Mounta** 70.46 60 ⇓P P 11 43 26.1 0.0
baz=70,SNR=6.8
K22A **Casper** 70.48 49 ⇓P P 11 43 26.1 -0.1
baz=70,SNR=13
J23A **Diltz Ranch, B** 70.48 48 ⇓P P 11 43 26.0 -0.1
baz=70
KONO **Kongsberg** 70.49 339 *e*P P 11 43 25.5 -0.1
KONO **Kongsberg** 70.49 339 *e*P P 11 43 25.3 -0.3
KONO pmax pmax
comp=Z,24nm,1.0s
KONO **Kongsberg** 70.49 339 *e*P P 11 43 25.3 -0.3
comp=Z,24nm,1.0s
L21A **Rawlins** 70.49 50 ⇓P P 11 43 26.2 -0.1
baz=70
BORG **Borgarnes** 70.50 355 *e*P P 11 43 26.1 +0.6
comp=Z,48nm,0.9s
BORG **Borgarnes** 70.50 355 P P 11 43 26.5 +1.0
comp=Z,30nm,0.6s,baz=24,slow=4.1,SNR=9.8
LDFC **Landfair** 70.61 60 *e*P P 11 43 27.2 +0.2
comp=Z,67nm,1.3s
O19A **Miners Draw (B** 70.65 52 ⇓P P 11 43 27.1 -0.1
baz=70,SNR=5.9
I24A **Kuemmerle Ranc** 70.65 47 ⇑P P 11 43 26.7 -0.4
baz=70
H25A **Fruitdale** 70.65 46 ⇓P P 11 43 27.0 0.0
baz=70
SRU **San Rafael** 70.65 54 *e*P P 11 43 27.6 +0.3
SRU pmax pmax
comp=Z,15nm,0.9s
SRU **San Rafael** 70.65 54 *e*P P 11 43 27.6 +0.3
comp=Z,15nm,0.9s
G26A **Maurine** 70.69 45 ⇓P P 11 43 27.2 0.0
baz=70,SNR=13
CHVG **Ch'k'valeri** 70.72 311 P P 11 43 28.4 +1.0
M21A **Separation Pea** 70.74 50 ⇓P P 11 43 27.7 -0.1
baz=70,SNR=14
PFO **Pinyon Flat Ob** 70.74 62 *e*P P 11 43 27.8 0.0
comp=Z,16nm,1.3s
PFO **Pinyon Flat Ob** 70.74 62 ⇑P P 11 43 28.1 +0.3
baz=70
RWWY **Rawlins** 70.77 50 *e*P P 11 43 27.8 -0.2
comp=Z,22nm,1.1s
BELC **Belle Mtn. Jos** 70.77 61 ⇓P P 11 43 27.9 -0.1
baz=71
N20A **Spence Gulch,** 70.77 51 ⇓P P 11 43 28.4 +0.4
baz=70,SNR=24
RSSD **Black Hills** 70.78 47 *e*P P 11 43 27.9 -0.1
RSSD pmax pmax
comp=Z,25nm,0.9s
RSSD **Black Hills** 70.78 47 *e*P P 11 43 27.9 -0.1
comp=Z,25nm,0.9s
109C **Camp Elliot, M** 70.81 63 ⇓P P 11 43 28.0 0.0
baz=71
AKH **Akhalkalaki** 70.86 310 P P 11 43 30.1 +1.6
BER **Bergen** 70.86 341 *e*P P 11 43 26.6 -1.3
K23A **Bowen Ranch, D** 70.89 48 ⇓P P 11 43 28.0 -0.6
baz=71
SUW **Suwalki** 70.95 329 *e*P P 11 43 27.9 -0.6
L22A **Ellis Ranch, M** 70.95 49 ⇓P P 11 43 29.7 +0.6
baz=71,SNR=18
G27A **Dupree** 70.96 44 ⇑P P 11 43 28.6 -0.2
baz=71,SNR=18
ODD1 **Odda** 70.98 341 *e*P P 11 43 28.6 -0.1
ODD1 AMB AMB 11 43 34.3
comp=Z,45nm,1.8s
J24A **Dixon Ranch, L** 71.00 47 ⇓P P 11 43 28.8 -0.4
baz=71
I25A **Rochford** 71.00 46 ⇓P P 11 43 29.2 -0.1
baz=71,SNR=14
GNI **Garni** 71.02 308 *e*P P 11 43 30.8 +1.4
comp=Z,79nm,0.9s
GNI pP pP 11 43 55.8 -0.6

GNI **Garni** 71.02 308 P P 11 43 31.0 +1.6
comp=Z,41nm,0.8s,baz=351,slow=0.8,SNR=17
GNI pP pP 11 43 55.8 -0.6
comp=Z,57nm,0.9s,baz=42,slow=12,SNR=4.1
H26A **Fairpoint** 71.08 45 ⇑P P 11 43 29.2 -0.4
baz=71,SNR=6.3
KIEV **Kiev** 71.14 324 *e*P P 11 43 29.0 -0.7
KIEV pmax pmax
comp=Z,141nm,1.3s
KIEV **Kiev** 71.14 324 *e*P P 11 43 29.0 -0.7
comp=Z,141nm,1.3s
P19A **Cripple Cowboy** 71.18 53 ⇑P P 11 43 30.6 +0.1
baz=71,SNR=9.6
IRM **Iron Mountain** 71.19 60 ⇑P P 11 43 30.7 +0.3
baz=71,SNR=7.5
BAR **Barrett** 71.22 62 *e*P P 11 43 30.0 -0.5
comp=Z,7.6nm,1.0s
N21A **Black Mountain** 71.23 51 ⇓P P 11 43 30.8 0.0
baz=71,SNR=12
MONP **Monument Peak** 71.24 62 ⇓P P 11 43 31.1 +0.2
baz=71
O20A **White River Ci** 71.26 52 ⇓P P 11 43 31.0 +0.1
baz=71,SNR=11
L23A **Garrett** 71.29 49 ⇓P P 11 43 30.7 -0.4
baz=71,SNR=8.2
M22A **Cedar Creek Ra** 71.30 50 ⇓P P 11 43 31.2 0.0
baz=71
BC3 **Big Chuckawall** 71.34 61 ⇓P P 11 43 31.0 -0.3
baz=71,SNR=5.5
W13A **Hualapai Mount** 71.34 59 ⇑P P 11 43 31.5 0.0
baz=71,SNR=9.4
SOC **Sochi** 71.37 313 *e*P P 11 43 30.6 -0.7
SOC *e* 11 43 48.5
SOC *e**PP pP 11 43 58.3 +0.1
SOC *e* 11 46 06.6
SOC *e*PPP PPP 11 47 53.3
SOC *e*S S 11 52 37.0 -3.5
SOC pmax pmax
comp=Z,95nm,0.9s
J25A **Sunshine Ranch** 71.41 47 ⇓P P 11 43 31.6 0.0
baz=71
U15A **North Rim** 71.42 57 ⇑P P 11 43 32.6 +0.6
baz=71,SNR=15
I26A **New Underwood** 71.45 46 ⇑P P 11 43 31.8 0.0
baz=71,SNR=6.6
P20A **De Beque** 71.61 52 ⇑P P 11 43 32.7 -0.2
baz=71
O21A **Pagoda** 71.63 51 ⇑P P 11 43 33.1 -0.1
baz=71
ANN **Anapa** 71.67 315 *c iP* P 11 43 27.8 -5.2
ANN *e* 11 43 49.1
ANN *e**PP PcP 11 43 55.5 +3.9
ANN *e*S S 11 52 36.3 -7.6
ANN *e**SS SKSac 11 53 20.8 -5.7
ANN pmax pmax
comp=Z,128nm,1.1s
G28A **Parade** 71.69 44 ⇓P P 11 43 33.1 -0.1
baz=71,SNR=6.9
PDMCI **Parker Dam,Lak** 71.72 60 ⇓P P 11 43 33.9 +0.4
baz=72
AGMN **Agassiz Nation** 71.73 39 *e*P P 11 43 32.6 -0.7
comp=Z,36nm,1.1s
L24A **Wheatland** 71.75 49 ⇑P P 11 43 34.5 +0.7
baz=72
N22A **Wattenberg Ran** 71.79 50 ⇑P P 11 43 34.7 +0.5
baz=72,SNR=5.8
I27A **Quinn** 71.83 46 ⇑P P 11 43 34.2 +0.1
baz=72,SNR=14
Y12C **Blythe** 71.85 60 ⇑P P 11 43 34.7 +0.4
baz=72
H28A **Mission Ridge** 71.92 45 ⇓P P 11 43 34.9 +0.3
baz=72,SNR=21
PHWY **Pilot Hill** 71.99 49 *e*P P 11 43 35.3 0.0
comp=Z,6.5nm,1.0s
N23A **Red Feather La** 72.00 50 ⇓P P 11 43 35.9 +0.5
baz=72,SNR=17
Q20A **Ridgley Place,** 72.03 53 ⇑P P 11 43 35.9 +0.4
baz=72
PV04 **Paradox Valley** 72.07 54 *e*P P 11 43 36.0 +0.3
P21A **Newcastle** 72.12 52 ⇓P P 11 43 36.6 +0.4
baz=72,SNR=14
GLA **Glamis** 72.13 61 *e*P P 11 43 36.8 +0.8
GLA pmax pmax
comp=Z,16nm,1.0s
GLA **Glamis** 72.13 61 *e*P P 11 43 36.8 +0.8
comp=Z,16nm,1.0s
GLA **Glamis** 72.13 61 ⇓P P 11 43 36.4 +0.4
baz=72
O22A **Kremmling** 72.18 51 ⇑P P 11 43 36.6 +0.1
baz=72,SNR=11
L25A **Engebretsen Ra** 72.19 48 ⇑P P 11 43 36.7 +0.3
baz=72
M24A **Cheyenne** 72.21 49 ⇓P P 11 43 37.3 +0.7
baz=72,SNR=14
K26A **Motz Farm, Whi** 72.22 47 ⇓P P 11 43 36.6 +0.1
baz=72
I28A **Midland** 72.33 45 ⇑P P 11 43 36.8 -0.2
baz=72,SNR=14
PV01 **Paradox Valley** 72.44 54 *e*P P 11 43 38.3 +0.2
comp=Z,648nm,0.8s
LRW **Lerwick** 72.45 344 *e*P P 11 43 36.5 -0.8
LRW AMB AMB 11 43 36.9
comp=Z,52nm,1.0s
P22A **Eagle** 72.46 51 ⇓P P 11 43 38.4 +0.3
baz=72,SNR=9.2
O23A **Lake Granby, G** 72.49 51 ⇑P P 11 43 39.0 +0.6
baz=72,SNR=26
R20A **Redvale** 72.51 53 ⇑P P 11 43 38.6 +0.1
baz=72,SNR=10.0
Q21A **Lamborn Mesa,** 72.52 52 ⇑P P 11 43 39.0 +0.5
baz=72,SNR=5.3
WUAZ **Wupatki** 72.58 57 *e*P P 11 43 39.1 +0.3
comp=Z,4.5nm,0.8s
WUAZ **Wupatki** 72.58 57 ⇓P P 11 43 39.5 +0.6
baz=72,SNR=6.7
SMCO **Snowmass** 72.62 52 *e*P P 11 43 39.6 +0.3
comp=Z,10nm,0.8s
N24A **Carr** 72.63 49 ⇑P P 11 43 39.4 +0.3
baz=72,SNR=8.1
M25A **Palm-Egli Farm** 72.65 49 ⇓P P 11 43 39.8 +0.7
baz=72
Y14A **Wickenburg** 72.66 59 ⇓P P 11 43 39.5 +0.3
baz=72,SNR=12
J28A **Allard Ranch,** 72.70 46 ⇑P P 11 43 39.5 +0.1
baz=72,SNR=13
K27A **Fluckinger Fa** 72.71 47 ⇓P P 11 43 39.4 0.0
baz=72
S20A **Disappointment** 72.77 54 ⇓P P 11 43 40.2 +0.2
baz=72,SNR=12
BSD **Bornholm Skovb** 72.86 334 ⇑ *iP* P 11 43 39.0 -0.9
BSD pmax pmax
comp=Z,41nm,0.9s
BSD **Bornholm Skovb** 72.86 334 ⇑ *iP* P 11 43 39.0 -0.9
comp=Z,41nm,0.9s
R21A **Cimarron** 72.86 53 ⇓P P 11 43 41.0 +0.4
baz=73,SNR=23
Q22A **Crested Butte,** 72.88 52 ⇓P P 11 43 41.2 +0.5
baz=73,SNR=16
ISCO **Idaho Springs** 72.95 51 *e*P P 11 43 41.6 +0.4
ISCO pmax pmax
comp=Z,16nm,1.1s
ISCO **Idaho Springs** 72.95 51 *e*P P 11 43 41.5 +0.4
comp=Z,16nm,1.1s
ISCO **Idaho Springs** 72.95 51 ⇑P P 11 43 41.6 +0.4
baz=73,SNR=17
O24A **Longmont** 73.02 50 ⇓P P 11 43 42.2 +0.9
baz=73,SNR=5.6
Z14A **Wintersburg** 73.08 60 ⇓P P 11 43 42.4 +0.8
baz=73
BRSD **Miller** 73.11 44 ⇓P P 11 43 41.7 0.0
baz=73
M26A **McRoberts Ranc** 73.11 48 ⇓P P 11 43 42.3 +0.5
baz=73
MVCO **Mesa Verde** 73.11 54 *e*P P 11 43 42.4 +0.3
comp=Z,7.3nm,0.8s
MVCO **Mesa Verde** 73.11 54 ⇓P P 11 43 42.2 +0.1
baz=73,SNR=10
P23A **Jefferson** 73.12 51 ⇑P P 11 43 43.0 +0.8
baz=73,SNR=8.3
COP **Copenhagen** 73.12 336 ⇑ *iP* P 11 43 41.7 +0.3
COP pmax pmax
comp=Z,30nm,0.9s
COP **Copenhagen** 73.12 336 ⇑ *iP* P 11 43 41.7 +0.3
comp=Z,30nm,0.9s
K28A **Ten Mile Ranch** 73.15 46 ⇓P P 11 43 42.4 +0.4
baz=73,SNR=7.3
SIM **Simferopol'** 73.20 317 P P 11 43 41.7 -0.4

SIM pmax pmax
comp=Z,115nm,0.9s
S21A **Coal Bank Pass** 73.21 53 ⇓P P 11 43 43.3 +0.6
baz=73,SNR=19
X16A **Lo Mia Camp, P** 73.29 58 ⇑P P 11 43 43.7 +0.6
baz=73,SNR=23
MUD **Monsted U'grnd** 73.38 338 *i* P P 11 43 41.5 -1.4
MUD pmax pmax
comp=Z,19nm,0.8s
MUD **Monsted U'grnd** 73.38 338 *i* P P 11 43 41.5 -1.4
comp=Z,19nm,0.8s
R22A **Saguache, Gunn** 73.41 52 ⇓P P 11 43 45.0 +1.1
baz=73,SNR=13
LLD **Lille Linde** 73.49 335 *e*P P 11 43 43.3 -0.3
LLD pmax pmax
comp=Z,63nm,0.8s
LLD **Lille Linde** 73.49 335 *i* P P 11 43 43.3 -0.3
comp=Z,63nm,0.7s
N26A **Koester Ranch,** 73.52 49 ⇑P P 11 43 44.5 +0.3
baz=73
P24A **Kohler Place,** 73.54 50 ⇓P P 11 43 45.2 +0.7
baz=73,SNR=6.3
O25A **Wiggins** 73.55 50 ⇓P P 11 43 44.8 +0.4
baz=73,SNR=6.1
BEL **Belsk** 73.56 329 *e*P P 11 43 44.3 +0.2
GKP **Gorka Klasztor** 73.64 332 *e*P P 11 43 44.3 -0.2
K29A **Lazy Trails An** 73.65 46 ⇓P P 11 43 45.2 +0.3
baz=73,SNR=5.6
S22A **4UR Ranch, Cre** 73.70 53 ⇓P P 11 43 46.3 +0.8
baz=74,SNR=17
T21A **Navajo Lake** 73.82 54 ⇑P P 11 43 46.7 +0.5
baz=74
W18A **Petrified Fore** 73.83 57 ⇑P P 11 43 46.6 +0.4
baz=74
O26A **Horse Wrangler** 73.89 49 ⇑P P 11 43 46.3 -0.1
baz=74
N27A **Anderson Farm,** 73.90 48 ⇓P P 11 43 46.8 +0.4
baz=74,SNR=14
EYMN **Ely** 73.92 37 *e*P P 11 43 45.5 -0.8
comp=Z,66nm,1.5s
LVV **L'vov** 73.94 326 *i* P P 11 43 46.0 -0.3
P25A **Willow Gulch B** 73.94 50 ⇑P P 11 43 47.0 +0.2
baz=74,SNR=6.7
R23A **Moffat** 73.96 52 ⇓P P 11 43 47.7 +0.6
baz=74
OGNE **Ogallala** 74.07 48 ⇑P P 11 43 47.4 0.0
baz=74,SNR=12
M28A **Bar X Bar Ranc** 74.09 47 ⇓P P 11 43 47.7 +0.1
baz=74
X18A **Snowflake** 74.11 57 ⇓P P 11 43 48.5 +0.6
baz=74
V20A **Brimhall** 74.11 55 ⇑P P 11 43 48.2 +0.3
baz=74
KIS **Kishinev** 74.12 322 ⇑ *iP* P 11 43 46.0 -1.4
comp=Z,400nm,1.0s
KIS **Kishinev** 74.12 322 *α iP* P 11 43 46.0 -1.4
KIS *e* 11 44 08.0
KIS *e* 11 53 10.0
KIS pmax pmax
comp=Z,400nm,1.0s
KIS pmax pmax
comp=Z,200nm,1.0s
214A **Organ Pipe Nat** 74.12 61 ⇓P P 11 43 48.1 +0.3
baz=74
U21A **Nageezi** 74.14 54 ⇑P P 11 43 48.2 +0.1
baz=74,SNR=7.7
T22A **Edith** 74.17 53 ⇓P P 11 43 48.7 +0.5
baz=74,SNR=10
S23A **Nye Farm, Mont** 74.20 52 ⇑P P 11 43 48.8 +0.4
baz=74
Q25A **Bedland, Calha** 74.32 51 ⇓P P 11 43 49.1 +0.1
baz=74
R24A **Sanders Place,** 74.33 52 ⇓P P 11 43 49.6 +0.5
baz=74,SNR=14
P26A **Davis Ranch, A** 74.36 50 ⇑P P 11 43 49.3 +0.1
baz=74,SNR=5.1
O27A **Beecher Island** 74.37 49 ⇓P P 11 43 49.1 -0.1
baz=74,SNR=9.1
M29A **Burnside Ranch** 74.41 47 ⇓P P 11 43 49.3 -0.1
baz=74
SDCO **Great Sand Dun** 74.45 52 *e*P P 11 43 50.4 +0.4
comp=Z,7.0nm,1.0s
N28A **Pribbeno Ranch** 74.51 48 ⇓P P 11 43 50.0 +0.1
baz=74
IAS **Iasi** 74.52 322 ⇑P P 11 43 50.2 +0.5
IAS **Iasi** 74.52 322 ⇑ *iP* P 11 43 50.2 +0.5
W20A **Ramah** 74.56 56 ⇓P P 11 43 50.9 +0.4
baz=74
V21A **Milan** 74.59 55 ⇑P P 11 43 51.1 +0.4
baz=74
KWP **Kalwaria Pacla** 74.61 327 ⇑P P 11 43 50.9 +0.6
KWP **Kalwaria Pacla** 74.61 327 *eP* P 11 43 50.8 +0.6
comp=Z,345nm,1.1s
KWP **Kalwaria Pacla** 74.61 327 ⇑ *iP* P 11 43 50.9 +0.6
KWP **Kalwaria Pacla** 74.61 327 *eP* P 11 43 50.9 +0.6
U22A **Llaves** 74.64 54 ⇓P P 11 43 51.3 +0.4
baz=74
T23A **Casias Ranch,** 74.65 53 ⇑P P 11 43 51.3 +0.3
baz=74,SNR=7.0
S24A **Houchin Ranch,** 74.69 52 ⇓P P 11 43 51.8 +0.5
baz=74,SNR=7.2
Q26A **Hugo** 74.72 50 ⇓P P 11 43 51.6 +0.4
baz=74
LEOM **Leova** 74.77 322 ⇓P P 11 43 51.6 +0.4
LEOM **Leova** 74.77 322 ⇓ *iP* P 11 43 51.6 +0.4
ECSD **EROS Data Cent** 74.77 43 *eP* P 11 43 50.9 -0.4
comp=Z,46nm,1.0s
P27A **Ficken Ranch,** 74.77 49 ⇓P P 11 43 51.2 -0.3
baz=74
O28A **Krutsinger Ran** 74.79 48 ⇑P P 11 43 51.5 -0.1
baz=74
R25A **Fountain Ranch** 74.85 51 ⇑P P 11 43 51.8 -0.2
baz=75,SNR=10
N29A **Votaw Ranch, W** 74.90 47 ⇑P P 11 43 52.0 -0.2
baz=75
V22A **San Miguel Ran** 74.94 54 ⇓P P 11 43 52.9 +0.2
baz=75,SNR=7.4
PRAR **RASCA** 74.96 323 ⇓ *iP* P 11 43 52.3 0.0
X20A **Quemado** 74.96 56 ⇑P P 11 43 53.3 +0.4
baz=75
U23A **El Rito** 75.06 54 ⇓P P 11 43 54.2 +0.9
baz=75,SNR=28
W21A **San Fidel** 75.06 55 ⇑P P 11 43 53.3 -0.1
baz=75
MVH1 **Achvaich** 75.08 345 *eP* P 11 43 51.9 -0.9
S25A **Robets Cordova** 75.11 52 ⇑P P 11 43 53.6 0.0
baz=75,SNR=6.6
KSCO **Kaye Shedlock'** 75.14 50 ⇑P P 11 43 53.8 +0.2
baz=75
N30A **Hueftle Ranch,** 75.19 47 ⇑P P 11 43 53.7 -0.2
baz=75
BURAR **Bucovina Array** 75.19 324 ⇑P P 11 43 54.1 +0.3
BURAR **Bucovina Array** 75.19 324 ⇑ *iP* P 11 43 54.1 +0.3
R26A **Arlington** 75.20 51 ⇓P P 11 43 54.0 -0.1
baz=75,SNR=7.7
P28A **Saint Francis** 75.20 49 ⇑P P 11 43 53.8 -0.2
baz=75
MCD **Coleburn Disti** 75.23 344 *eP* P 11 43 53.3 -0.4
OJC **Ojcow** 75.24 329 *eP* P 11 43 54.2 +0.3
OJC **Ojcow** 75.24 329 *eP* P 11 43 54.2 +0.3
BSEG **Bad Segeberg** 75.26 336 *eP* P 11 43 54.1 +0.3
comp=Z,152nm,1.0s
BSEG **Bad Segeberg** 75.26 336 *eP* P 11 43 54.1 +0.3
BSEG pmax pmax
comp=Z,64nm,1.0s
O29A **4D Ranch, Culb** 75.31 48 ⇓P P 11 43 54.1 -0.4
baz=75,SNR=10.0
KOLS **Kolonicke sedl** 75.34 326 *eP* P 11 43 54.8 +0.3
KOLS pmax pmax
comp=Z,70nm,1.1s
KOLS **Kolonicke sedl** 75.34 326 *eP* P 11 43 54.8 +0.3
STHS **Stebnicka Huta** 75.35 327 *eP* P 11 43 55.5 +1.0
STHS pmax pmax
comp=Z,80nm,1.1s
STHS **Stebnicka Huta** 75.35 327 *eP* P 11 43 55.5 +1.0
MME1 **Meikle Cairn** 75.43 344 *eP* P 11 43 53.9 -0.9
SPMN **St. Paul** 75.43 40 ⇑P P 11 43 54.7 -0.3
baz=75,SNR=6.5
TESR **Tescani** 75.44 322 ⇑ *iP* P 11 43 55.4 +0.3
X21A **Alamocita Cree** 75.45 56 ⇓P P 11 43 56.6 +0.9
baz=75,SNR=14
V23A **Ortiz Mt. (NFS** 75.47 54 ⇑P P 11 43 57.0 +1.3
baz=75,SNR=11
Y20A **Horse Springs,** 75.47 57 ⇓P P 11 43 56.9 +1.1
baz=75,SNR=11
T25A **Trinidad** 75.49 52 ⇓P P 11 43 55.8 0.0
baz=75,SNR=13

TLCR 75.50 320 ⇑P P 11 43 56.0 +0.6
TLCR 75.50 320 ⇑iP P 11 43 56.0 +0.6
U24A Moreno Valley 75.52 53 ⇓P P 11 43 57.0 +0.9
baz=75,SNR=6.8
Q28A Sharon Springs 75.53 49 ⇑P P 11 43 55.9 +0.1
baz=75
R27A Eads 75.57 50 ⇑P P 11 43 55.6 -0.5
baz=75,SNR=19
MDO Dochfour 75.57 345 ⇑eP P 11 43 55.3 -0.3
UZH Uzhgorod 75.57 326 eP P 11 43 55.3 -0.5
UZH e 11 44 13.5
UZH e 11 44 28.9
P29A Atwood 75.62 48 ⇓P P 11 43 56.4 +0.1
baz=75
O30A MW Ranch, Wils 75.66 47 ⇑P P 11 43 56.0 -0.5
baz=75,SNR=5.7
S26A Kim 75.67 51 ⇑P P 11 43 56.3 -0.4
baz=75,SNR=7.4
KAC Achnashellach 75.69 346 ⇑eP P 11 43 55.6 -0.7
NIE Niedzica 75.70 328 eP P 11 43 59.2 +2.6
NIE Niedzica 75.70 328 eP P 11 43 59.2 +2.6
BGNE Belgrade 75.74 45 ⇓P P 11 43 56.8 -0.2
baz=75
PETR Petresti 75.80 322 ⇑iP P 11 43 58.6 +1.5
MALT Malatya 75.80 310 ⇓P P 11 44 02.3 +4.8
MALT Malatya 75.80 310 eP P 11 44 02.2 +4.8
comp=Z,91nm,0.6s
MALT Malatya 75.80 310 ⇓iP P 11 44 02.3 +4.8
CFR Carcaliu 75.82 321 ⇑P P 11 43 57.4 +0.2
CFR Carcaliu 75.82 321 ⇑iP P 11 43 57.4 +0.2
Y21A Point of Rocks 75.82 56 ⇓P P 11 43 58.8 +1.0
baz=76,SNR=7.4
LAZ Ladron 75.86 56 eP P 11 43 58.9 +1.0
comp=Z,10nm,1.6s
X22A Bernardo 75.86 55 ⇑P P 11 43 59.2 +1.2
baz=76
TRPA Tarpa 75.88 326 ⇑iP P 11 43 58.3 +0.8
TRPA Tarpa 75.88 326 ⇑e P 11 43 58.6 +1.1
ANMO Albuquerque 75.88 55 eP P 11 43 58.3 +0.2
comp=Z,6.9nm,1.0s
Z20A Nine Sixteen R 75.90 57 ⇑P P 11 43 58.6 +0.4
baz=76,SNR=9.4
W23A Werner Place, 75.90 54 ⇓P P 11 43 58.7 +0.5
baz=76,SNR=5.4
VRI Vrincioaia 75.91 322 ⇓P P 11 43 58.4 +0.6
VRI Vrincioaia 75.91 322 ⇓iP P 11 43 58.4 +0.6
T26A Comanche Natio 75.92 51 ⇓P P 11 43 57.8 -0.5
baz=76,SNR=22
RAC Raciborz 75.94 329 eP P 11 43 58.8 +0.9
S27A Las Animas 75.94 51 ⇓P P 11 43 58.3 +0.1
baz=76
PLOR Plostina 75.95 322 ⇓P P 11 43 58.6 +0.5
PLOR Plostina 75.95 322 ⇓iP P 11 43 58.6 +0.5
KSB Sheil Bridge 75.98 345 eP P 11 43 57.5 -0.4
KSP Ksiaz 75.99 331 ⇑P P 11 43 58.2 +0.1
KSP Ksiaz 75.99 331 eP P 11 43 58.2 +0.1
V24A Rampart Ranch, 76.01 53 ⇓P P 11 43 59.4 +0.6
baz=76,SNR=12
U25A Circle Dot Ran 76.02 52 ⇓P P 11 43 58.7 -0.1
baz=76,SNR=5.7
P30A Selden 76.03 48 ⇑P P 11 43 58.1 -0.5
baz=76,SNR=7.3
R28A Tribune 76.06 50 ⇑P P 11 43 58.2 -0.7
baz=76,SNR=9.9
Q29A Oakley 76.11 49 ⇓P P 11 43 58.5 -0.6
baz=76,SNR=7.8
OKC Ostrava-Krasne 76.17 329 ⇑iP P 11 43 59.5 +0.4
OKC Ostrava-Krasne 76.17 329 ⇑iP P 11 43 59.5 +0.4
GRER 76.18 322 ⇑iP P 11 44 01.4 +2.1
LPM Los Pinos Moun 76.22 55 eP P 11 44 00.1 +0.1
TIRR Tirgusor 76.25 320 ⇑P P 11 44 00.0 +0.3
TIRR Tirgusor 76.25 320 ⇑iP P 11 44 00.0 +0.3
120A U Bar Ranch, L 76.27 58 ⇑P P 11 44 01.0 +0.7
baz=76,SNR=11
Y22A Socorro 76.29 56 ⇓P P 11 44 00.7 +0.4
baz=76
X23A Hourglass Bar 76.29 55 ⇑P P 11 44 01.0 +0.6
baz=76,SNR=6.7
W24A Lazy 6 Ranch, 76.30 54 ⇓P P 11 44 01.3 +0.9
baz=76,SNR=18
V25A Rancho No Teng 76.30 53 ⇑P P 11 44 00.7 +0.3
baz=76,SNR=6.2
Z21A St. Cloud Mine 76.31 57 ⇑P P 11 44 01.3 +0.7
baz=76,SNR=14
BNM Barren Site 76.34 55 eP P 11 44 01.2 +0.5
comp=Z,3.1nm,1.0s
R29A Marienthal 76.37 49 ⇓P P 11 44 00.2 -0.4
baz=76,SNR=9.7
DPC Dobruska-Polom 76.39 331 ⇑iP P 11 44 01.1 +0.6
DPC Dobruska-Polom 76.39 331 ⇑iP P 11 44 01.1 +0.6
U26A Atchley Ranch, 76.40 52 ⇑P P 11 44 01.0 0.0
baz=76,SNR=5.6
KECS Kecovo 76.40 327 eP P 11 44 00.9 +0.4
KECS pmax pmax
comp=Z,30nm,1.0s
KECS Kecovo 76.40 327 eP P 11 44 00.9 +0.4
DOPR Dopca 76.41 323 ⇓iP P 11 44 02.0 +1.4
MORC Moravsky Berou 76.43 330 eP P 11 44 01.1 +0.4
MORC pmax pmax
comp=Z,118nm,0.9s
MORC Moravsky Berou 76.43 330 eP P 11 44 01.1 +0.4
comp=Z,118nm,0.9s
SCHQ Schefferville 76.44 20 P P 11 44 00.5 -0.1
comp=Z,10nm,1.1s
SCHQ Schefferville 76.44 20 P P 11 44 00.5 -0.1
comp=Z,17nm,0.8s,baz=354,slow=5.8,SNR=32
Q30A Quinter 76.45 48 ⇑P P 11 44 00.7 -0.4
baz=76
T27A Campo 76.49 51 ⇓P P 11 44 01.1 -0.3
baz=76
P31A Stockton 76.50 47 ⇓P P 11 44 00.8 -0.5
baz=76,SNR=8.4
STKA Stephens Creek 76.52 186 P P 11 44 01.6 +0.5
STKA Stephens Creek 76.52 186 P P 11 44 01.6 +0.5
comp=Z,2.1nm,0.5s,baz=339,slow=9.9,SNR=4.7
STKA LR LR 12 16 14.8
comp=Z,88nm,21.6s,baz=25,slow=34
UMR Umm Al-Rimmam 76.52 298 eP P 11 44 01.6 +0.2
UMR AMb AMB 11 44 03.3
comp=Z,148nm,0.8s
MLR Muntele Rosu 76.55 322 P P 11 44 02.0 +0.4
MLR Muntele Rosu 76.55 322 ⇑iP P 11 44 01.9 +0.4
MLR Muntele Rosu 76.55 322 P P 11 44 02.0 +0.4
comp=Z,6.2nm,0.4s,baz=2.4,slow=2.7,SNR=55
S28A Manter 76.56 50 ⇓P P 11 44 01.5 -0.3
baz=76,SNR=9.4
ISR Istrita 76.57 322 ⇑P P 11 44 02.6 +1.0
ISR Istrita 76.57 322 ⇑iP P 11 44 02.6 +1.0
NRDL Niedersach Rie 76.58 335 eP P 11 44 01.3 0.0
comp=Z,84nm,1.2s
CJR Cluj-Napoca 76.58 324 ⇑iP P 11 44 02.6 +1.0
AMRR Amara 76.62 321 ⇑P P 11 44 03.3 +1.6
AMRR Amara 76.62 321 ⇑iP P 11 44 03.3 +1.6
319A Douglas 76.70 59 ⇓P P 11 44 03.2 +0.5
baz=76,SNR=8.9
CLL Collm 76.70 333 eP P 11 44 01.7 -0.4
comp=Z,192nm,1.0s
CLL Collm 76.70 333 ⇑iP P 11 44 01.9 -0.2
CLL eS S 11 53 47.0 +7.1
CLL pmax pmax
comp=Z,193nm,1.0s
CLL Collm 76.70 333 ⇑iP P 11 44 01.9 -0.2
comp=Z,193nm,1.0s
CLL eS S 11 53 47.0 +7.1
Z22A Elephant Butte 76.77 56 ⇓P P 11 44 03.5 +0.4
baz=76,SNR=10
T28A Walsh 76.78 51 ⇑P P 11 44 02.6 -0.4
baz=76,SNR=6.0
220A Playas Peak, P 76.79 58 ⇓P P 11 44 03.5 +0.4
baz=77,SNR=8.7
121A Cookes Peak, D 76.79 57 ⇑P P 11 44 03.9 +0.7
baz=77,SNR=7.6
KBD Kabd 76.79 298 eP P 11 44 03.4 +0.3
KBD AMb AMB 11 44 05.2
comp=Z,60nm,1.3s
V26A Tequesquite Ra 76.80 53 ⇑P P 11 44 03.2 0.0
baz=77,SNR=5.5
Y23A Lovelace Mesa, 76.83 55 ⇑P P 11 44 03.9 +0.5
baz=77,SNR=12
W25A X Bar L Ranch, 76.83 53 ⇓P P 11 44 03.7 +0.4
baz=77,SNR=17
PVCC Panska Ves 76.84 332 ⇑iP P 11 44 03.4 +0.5
PVCC Panska Ves 76.84 332 ⇑iP P 11 44 03.4 +0.5
DRGR 76.88 325 ⇑P P 11 44 03.8 +0.5
DRGR 76.88 325 ⇑iP P 11 44 03.8 +0.5

U27A Thompson Grove 76.89 51 ⇓P P 11 44 03.4 -0.3
baz=77,SNR=5.6
R30A Dighton 76.93 49 ⇑P P 11 44 03.5 -0.2
baz=77
S29A Ulysses 76.96 50 ⇑P P 11 44 03.7 -0.2
baz=77
VOIR 76.98 323 ⇓P P 11 44 04.6 +0.7
VOIR 76.98 323 ⇓iP P 11 44 04.6 +0.7
VYHS Vyhne 77.02 328 eP P 11 44 04.7 +0.7
VYHS pmax pmax
comp=Z,57nm,1.3s
VYHS Vyhne 77.02 328 eP P 11 44 04.7 +0.7
NAY Al-Naaiem 77.03 298 eP P 11 44 04.4 +0.1
NAY AMb AMB 11 44 05.7
comp=Z,83nm,1.2s
RDF Al-Radifah 77.06 298 eP P 11 44 05.0 +0.5
RDF AMb AMB 11 44 06.5
comp=Z,217nm,0.6s
PSZ Piszkesteto 77.09 327 ⇑P P 11 44 05.2 +0.7
PSZ Piszkesteto 77.09 327 eP P 11 44 05.1 +0.7
comp=Z,79nm,1.0s
PSZ Piszkesteto 77.09 327 ⇑iP P 11 44 05.2 +0.7
PSZ Piszkesteto 77.09 327 eP P 11 44 05.2 +0.7
122A Conniff Cattle 77.14 57 ⇑P P 11 44 06.1 +1.0
baz=77
VRAC Vranov 77.17 330 P P 11 44 05.5 +0.7
VRAC Vranov 77.17 330 P P 11 44 05.5 +0.7
comp=Z,100nm,1.0s,baz=39,slow=5.3,SNR=106
Y24A Capitan 77.19 55 ⇑P P 11 44 05.7 +0.2
baz=77,SNR=10
Z23A Rita Rite, Whi 77.20 56 ⇑P P 11 44 05.6 +0.2
baz=77
ARR Arges 77.21 323 ⇓iP P 11 44 06.9 +1.7
X25A Clemmons Ranch 77.21 54 ⇓P P 11 44 05.9 +0.4
baz=77,SNR=7.8
U28A Mallet 77.26 51 ⇓P P 11 44 05.3 -0.4
baz=77
PRA Prague 77.28 331 ⇑P P 11 44 06.0 +0.6
BR131 Keskin Array S 77.30 314 eP P 11 44 06.4 +0.6
comp=Z,5.8nm,0.5s
BRTR Keskin Array B 77.30 314 P P 11 44 06.5 +0.6
BRTR Keskin Array B 77.30 314 P P 11 44 06.5 +0.6
comp=Z,7.5nm,0.5s,baz=72,slow=4.0,SNR=57
BRTR LR LR 12 26 30.9
comp=Z,54nm,18.4s,baz=94,slow=42
S30A Montezuma 77.30 49 ⇓P P 11 44 05.5 -0.4
baz=77,SNR=6.8
PRU Pruhonice 77.31 331 ⇑iP P 11 44 05.9 +0.3
PRU Pruhonice 77.31 331 ⇑iP P 11 44 05.9 +0.3
PRU AMS AMS 12 21 30.0
comp=Z,100nm,20.8s
EKA Eskdalemuir Ar 77.32 344 P P 11 44 05.3 -0.2
EKA Eskdalemuir Ar 77.32 344 P P 11 44 05.3 -0.2
comp=Z,24nm,0.6s,baz=20,slow=5.2,SNR=134
W26A Owens Ranch, T 77.32 53 ⇓P P 11 44 06.7 +0.6
baz=77,SNR=5.3
R31A Burdett 77.33 48 ⇑P P 11 44 05.2 -0.7
baz=77
ESK Eskdalemuir 77.35 344 P P 11 44 06.9 +1.2
comp=Z,351nm,0.8s,SNR=6.2
ESK Eskdalemuir 77.35 344 eP P 11 44 04.8 -0.9
ESK AMB AMB 11 44 06.2
comp=Z,55nm,0.9s
ESK Eskdalemuir 77.35 344 iP P 11 44 06.0 +0.3
ESK Eskdalemuir 77.35 344 eP P 11 44 05.8 +0.1
comp=Z,36nm,0.8s
V27A Dan Oppiter Fa 77.37 52 ⇓P P 11 44 06.2 -0.1
baz=77,SNR=7.3
IBBN Ibbenburen 77.43 336 eP P 11 44 06.1 -0.1
comp=Z,127nm,1.0s
GOLR 77.49 322 ⇑iP P 11 44 07.8 +1.2
SMOL Smolenice 77.53 329 eP P 11 44 08.3 +1.5
SMOL Smolenice 77.53 329 eP P 11 44 08.3 +1.5
DEV Deva 77.53 324 ⇑P P 11 44 07.6 +0.7
DEV Deva 77.53 324 ⇑iP P 11 44 07.6 +0.7
ANTO Ankara 77.62 315 ⇓P P 11 44 08.9 +1.3
ANTO Ankara 77.62 315 eP P 11 44 08.7 +1.1
comp=Z,129nm,1.5s
ANTO Ankara 77.62 315 ⇓iP P 11 44 08.9 +1.3
TANN Tannenbergstha 77.64 333 eP P 11 44 07.5 0.0
comp=Z,38nm,1.0s
Z24A Sheeppen Canyo 77.66 55 ⇑P P 11 44 08.4 +0.3
baz=77
X26A CR and CF Fran 77.69 53 ⇑P P 11 44 08.5 +0.4
baz=77,SNR=5.6
V28A Channing 77.71 52 ⇑P P 11 44 08.4 +0.1
baz=78
MOX Moxa 77.72 333 eP P 11 44 07.8 0.0
comp=Z,69nm,1.0s
MOX Moxa 77.72 333 eP P 11 44 07.8 0.0
MOX pmax pmax
comp=Z,23nm,1.0s
W27A Bowe Ranch, En 77.74 53 ⇑P P 11 44 08.5 +0.1
baz=78,SNR=9.8
BUD Budapest 77.78 327 ⇓eP P 11 44 09.4 +1.2
SCIA State Center 77.79 42 eP P 11 44 08.8 +0.4
comp=Z,69nm,0.8s
NKC Novy Kostel 77.80 333 ⇑iP P 11 44 08.4 +0.1
NKC Novy Kostel 77.80 333 ⇑iP P 11 44 08.4 +0.1
S31A Mullinville 77.84 49 ⇓P P 11 44 08.4 -0.5
baz=78
PKSN Nyarlorinc 77.94 327 ⇓eP P 11 44 10.7 +1.6
GZR Gura Zlata 77.98 324 ⇑P P 11 44 09.6 +0.1
GZR Gura Zlata 77.98 324 ⇑iP P 11 44 09.6 +0.1
WTSB Winterswijk 78.00 337 eP P 11 44 09.3 0.0
comp=Z,126nm,1.0s
U30A WK&E Inc. Balk 78.01 50 ⇓P P 11 44 09.5 -0.3
baz=78
V29A Stinnett 78.02 51 ⇓P P 11 44 09.8 -0.1
baz=78
X27A F and S Farms, 78.02 53 ⇓P P 11 44 10.4 +0.4
baz=78
124A Stringfield Ra 78.06 56 ⇓P P 11 44 10.5 +0.2
baz=78
UBBA Unterbreizbach 78.07 334 eP P 11 44 09.8 +0.2
comp=Z,50nm,1.1s
Z25A Roswell 78.07 55 ⇑P P 11 44 10.5 +0.2
baz=78
W28A Vega 78.08 52 ⇑P P 11 44 10.5 +0.3
baz=78
PKS7 Kunszentmiklos 78.09 327 ⇓eP P 11 44 11.0 +1.1
PKSG 78.10 328 ⇓eP P 11 44 11.2 +1.2
T31A Randall Ranch, 78.12 49 ⇓P P 11 44 09.9 -0.4
baz=78,SNR=6.5
Y26A Elida 78.13 54 ⇓P P 11 44 10.5 -0.1
baz=78
CSKK Cs˝ikako 78.17 328 ⇓eP P 11 44 11.6 +1.2
KSU1 Kansas State U 78.24 46 eP P 11 44 10.1 -0.8
comp=Z,53nm,1.1s
BZS Buzias 78.28 325 ⇑P P 11 44 11.0 0.0
BZS Buzias 78.28 325 ⇑iP P 11 44 11.0 0.0
ROTZ Rotzenmuhle 78.28 333 eP P 11 44 11.5 +0.5
comp=Z,92nm,1.0s
BUG Bochum--Univer 78.34 336 eP P 11 44 11.1 -0.1
comp=Z,151nm,1.1s
PKST T˝s 78.34 328 ⇓eP P 11 44 12.5 +1.1
KHC Kasperske Hory 78.37 331 ⇑iP P 11 44 12.0 +0.5
KHC MLR MLR
comp=Z,100nm,17.9s
KHC Kasperske Hory 78.37 331 ⇑iP P 11 44 12.0 +0.5
KHC AMS AMS 12 22 50.0
comp=Z,100nm,17.9s
KHC Kasperske Hory 78.37 331 eP P 11 44 12.0 +0.5
comp=Z,124nm,0.8s
224A Cornudas Mount 78.46 56 ⇑P P 11 44 12.8 +0.3
baz=78,SNR=6.1
W29A Amarillo 78.49 52 ⇓P P 11 44 12.7 +0.2
baz=78
Z26A Caprock 78.51 54 ⇑P P 11 44 12.9 +0.2
baz=78,SNR=18
PKS2 Kecel 78.53 327 ⇓eP P 11 44 13.1 +0.8
Y27A Causey 78.54 53 ⇑P P 11 44 13.0 +0.2
baz=78,SNR=11
SOP Sopron 78.54 329 ⇑eP P 11 44 23.2 +11
125A Gardner Draw, 78.55 55 ⇓P P 11 44 12.9 0.0
baz=78,SNR=9.1
V30A Spur Ranch, Mi 78.56 51 ⇓P P 11 44 13.0 +0.2
baz=78
U31A Nine Bar Ranch 78.57 50 ⇓P P 11 44 12.9 0.0
baz=78
GEC2 GERESS Array S 78.57 331 eP P 11 44 12.7 0.0
GEC2 GERESS Array S 78.57 331 eP P 11 44 12.7 0.0
GEC2 pmax pmax
comp=Z,29nm,1.2s
GERES GERESS Array B 78.57 331 P P 11 44 12.8 0.0

GERES GERESS Array B 78.57 331 P P 11 44 12.8 0.0
comp=Z,20nm,0.5s,baz=39,slow=5.6,SNR=185
GERES LR LR 12 23 27.7
comp=Z,66nm,21.3s,baz=22,slow=39
CONA Conrad Observa 78.59 329 iP P 11 44 13.6 +0.8
comp=Z,69nm,0.7s,SNR=73
WET Wettzell 78.60 332 eP P 11 44 13.3 +0.5
comp=Z,158nm,1.1s
WET Wettzell 78.60 332 eP P 11 44 13.3 +0.5
WET pmax pmax
comp=Z,34nm,1.1s
X28A Dimmitt 78.62 52 ⇓P P 11 44 12.9 -0.3
baz=78
AMTX Amarillo 78.65 52 eP P 11 44 13.7 +0.4
comp=Z,17nm,0.8s
GRF Grafenberg Arr 78.67 333 eP P 11 44 13.6 +0.5
comp=Z,264nm,1.1s
GRF Grafenberg Arr 78.67 333 eP P 11 44 13.6 +0.5
GRF pmax pmax
comp=Z,34nm,1.1s
GRFO Grafenberg 78.67 333 eP P 11 44 13.7 +0.6
GRFO pmax pmax
comp=Z,175nm,0.9s
GRFO Grafenberg 78.67 333 eP P 11 44 13.7 +0.6
comp=Z,175nm,0.9s
PKS9 Tamasi 78.81 327 ⇓eP P 11 44 14.3 +0.4
MNTX Cornudas Mount 78.82 56 eP P 11 44 14.6 +0.4
comp=Z,16nm,1.5s
225A Deer Hill, Car 78.85 56 ⇓P P 11 44 14.9 +0.3
baz=79
GMM Mts of Mourne 78.90 345 ⇑eP P 11 44 14.0 -0.2
KBI1 Birley Grange 78.92 342 ⇑eP P 11 44 14.6 +0.2
126A Clayton Basin, 78.94 55 ⇑P P 11 44 15.0 0.0
baz=79
324A Moseley Ranch, 78.94 57 ⇑P P 11 44 14.8 -0.3
baz=79,SNR=5.4
X29A Tulia 78.96 52 ⇓P P 11 44 15.4 +0.3
baz=79,SNR=6.9
PKSM Moragy 78.98 327 ⇑P P 11 44 14.5 -0.3
PKSM Moragy 78.98 327 ⇑iP P 11 44 14.5 -0.3
PKSM Moragy 78.98 327 ⇑eP P 11 44 14.9 +0.1
V31A Spring Creek L 79.01 50 ⇑P P 11 44 15.7 +0.4
baz=79,SNR=5.9
Y28A McKinney Farm, 79.04 53 ⇓P P 11 44 15.6 +0.1
baz=79
GDL2 Guadalupe Moun 79.06 55 eP P 11 44 15.9 +0.3
comp=Z,4.6nm,0.8s
TNS Taunus Mts 79.07 335 eP P 11 44 15.4 0.0
comp=Z,118nm,1.2s
TNS Taunus Mts 79.07 335 eP P 11 44 15.4 0.0
TNS pmax pmax
comp=Z,35nm,1.2s
MOA Molln 79.23 330 ⇓iP P 11 44 16.5 +0.3
comp=Z,37nm,0.8s,SNR=22
226B Tecolote Peak, 79.26 55 ⇑P P 11 44 16.8 0.0
baz=79
ARSA Arzberg 79.29 329 ⇑iP P 11 44 17.0 +0.4
comp=Z,63nm,1.4s,SNR=20
HGN Heimansgroeve 79.32 337 eP P 11 44 16.5 -0.1
comp=Z,99nm,1.0s
BEBN Eben Emael 79.37 337 P P 11 44 16.8 0.0
comp=Z,44nm,1.2s
WME Myndd Eilian 79.38 344 ⇑eP P 11 44 16.4 -0.4
W31A Holland Ranch, 79.39 51 ⇑P P 11 44 17.7 +0.3
baz=79,SNR=9.6
Z28A Tucker Farm, M 79.41 53 ⇑P P 11 44 17.3 -0.3
baz=79
X30A Coker Ranch, T 79.42 52 ⇓P P 11 44 17.3 -0.3
baz=79
WPM1 Penmaenmawr 79.43 343 ⇑eP P 11 44 16.9 -0.2
MEM Membach 79.44 337 P P 11 44 17.2 -0.1
comp=Z,72nm,1.3s
BEHE Becsehely 79.48 328 ⇑eP P 11 44 18.4 +0.8
YLL Llanberis 79.59 343 eP P 11 44 17.9 -0.2
KOGS Kog 79.69 328 iP P 11 44 18.4 -0.3
425A Indio Mountain 79.71 57 ⇓P P 11 44 19.4 +0.1
baz=80,SNR=5.1
X31A McDonald Ranch 79.78 51 ⇑P P 11 44 19.6 +0.1
baz=80,SNR=9.1
YRE Yr Eifl 79.79 344 ⇑eP P 11 44 19.1 0.0
227A Bennet, Jal 79.82 55 ⇓P P 11 44 19.9 +0.1
baz=80
Z29A Hungry Hill Ra 79.82 53 ⇓P P 11 44 20.0 +0.2
baz=80,SNR=25
Y30A Stafford Cattl 79.83 52 ⇓P P 11 44 19.9 +0.1
baz=80
RJOB Jochberg 79.83 331 eP P 11 44 20.1 +0.5
comp=Z,73nm,1.0s
128A Castleberry Fa 79.84 54 ⇓P P 11 44 20.0 +0.1
baz=80,SNR=13
326A Caldwell Ranch 79.92 56 ⇑P P 11 44 20.6 +0.3
baz=80,SNR=11
SOKA Soboth 79.95 329 ⇑iP P 11 44 20.4 +0.2
comp=Z,106nm,1.3s
GROS Grobnik 79.96 329 iP P 11 44 20.3 0.0
FUR Furstenfeldbru 79.98 332 eP P 11 44 20.7 +0.4
comp=Z,271nm,1.3s
FUR Furstenfeldbru 79.98 332 eP P 11 44 20.7 +0.4
FUR pmax pmax
comp=Z,26nm,1.3s
VTS Vitosha 80.05 322 ⇑P P 11 44 21.4 +0.5
VTS Vitosha 80.05 322 ⇑iP P 11 44 21.4 +0.5
STU Stuttgart 80.12 334 eP P 11 44 21.0 0.0
comp=Z,126nm,1.0s
STU Stuttgart 80.12 334 eP P 11 44 21.2 +0.2
STU pmax pmax
comp=Z,140nm,1.1s
STU Stuttgart 80.12 334 eP P 11 44 21.2 +0.2
comp=Z,140nm,1.1s
Y31A Rekieta Farm, 80.12 52 ⇑P P 11 44 21.0 -0.3
baz=80
Z30A Sanderson Ranc 80.13 53 ⇑P P 11 44 21.1 -0.3
baz=80,SNR=14
228A UT Block 9, Go 80.15 54 ⇓P P 11 44 21.4 -0.1
baz=80
129A Stewart Farms, 80.19 54 ⇓P P 11 44 21.5 -0.3
baz=80
KBA Koelnbreinsper 80.21 330 ⇑iP P 11 44 22.1 +0.4
comp=Z,134nm,1.1s,SNR=22
GIVF Givet 80.23 337 ⇑iP P 11 44 21.3 -0.2
comp=Z,121nm,1.1s
WLF Walferdange 80.25 336 P P 11 44 21.2 -0.4
comp=Z,42nm,2.1s
WLF Walferdange 80.25 336 eP P 11 44 22.5 +0.9
comp=Z,118nm,1.8s
WLF Walferdange 80.25 336 eP P 11 44 21.5 -0.2
WLF pmax pmax
comp=Z,106nm,1.6s
WLF Walferdange 80.25 336 eP P 11 44 21.5 -0.2
comp=Z,106nm,1.6s
OBKA Obir 80.27 329 ⇑iP P 11 44 22.0 0.0
comp=Z,32nm,1.2s
GOLS Golise 80.30 329 iP P 11 44 22.1 +0.1
DOU Dourbes 80.30 337 P P 11 44 21.6 -0.3
comp=Z,26nm,1.4s
426A McDonald Obser 80.36 56 ⇓P P 11 44 22.6 -0.3
baz=80,SNR=8.1
WMOK Wichita Mounta 80.36 50 eP P 11 44 22.4 -0.2
WMOK pmax pmax
comp=Z,18nm,0.9s
WMOK Wichita Mounta 80.36 50 eP P 11 44 22.4 -0.2
comp=Z,18nm,0.9s
LANF Langenberg 80.37 335 eP P 11 44 22.6 +0.3
MCH1 Michaelchurch 80.42 342 ⇑eP P 11 44 21.2 -1.3
MCH1 AMB AMB 11 44 22.9
comp=Z,96nm,1.3s
BAIF Baives 80.44 337 ⇑iP P 11 44 22.5 -0.1
comp=Z,120nm,1.3s
MYKA Terra Mystica 80.49 330 ⇑iP P 11 44 22.7 -0.4
comp=Z,43nm,1.2s
Y32A R-V Farms, Ver 80.55 51 ⇑P P 11 44 23.2 -0.4
baz=80,SNR=6.1
328A Wristen Ranch, 80.56 55 ⇓P P 11 44 23.4 -0.3
baz=80,SNR=10
427A Hayter Ranch, 80.60 56 ⇓P P 11 44 24.0 0.0
baz=80,SNR=9.0
WATA Walderalm 80.60 332 iP P 11 44 24.1 +0.4
comp=Z,49nm,0.5s,SNR=36
WTTA Wattenberg 80.64 332 iP P 11 44 24.5 +0.5
comp=Z,64nm,0.5s,SNR=57
Z31A Sharp Cattle R 80.66 52 ⇑P P 11 44 23.8 -0.4
baz=80,SNR=13
LJU Ljubljana 80.67 329 eP P 11 44 23.2 -0.8
SMTH Samothraki Isl 80.69 319 P P 11 44 23.9 -0.3
229A Bryant Ranch, 80.71 54 ⇑P P 11 44 24.9 +0.4
baz=80,SNR=6.1
130A Snyder 80.73 53 ⇑P P 11 44 24.4 -0.2

baz=80
RETA Reutte 80.74 332⇑ *i*P P 11 44 24.8 +0.3
comp=Z_91nm,1.2s,SNR=28
MOTA Moosalm 80.75 332⇑ *i*P P 11 44 24.9 +0.3
comp=Z_80nm,0.8s,SNR=53
NVR Nevrokopi 80.75 321 P P 11 44 24.9 +0.3
BFO Black Forest 80.78 334 P P 11 44 24.8 +0.2
comp=Z_357nm,1.0s,SNR=17
BFO Black Forest 80.78 334 *e*P P 11 44 24.5 -0.1
comp=Z_80nm,1.1s
BFO Black Forest 80.78 334 *e*P P 11 44 24.5 -0.1
BFO pmax pmax
comp=Z_16nm,1.1s
BFO Black Forest 80.78 334 *e*P P 11 44 24.3 -0.2
comp=Z_72nm,1.1s
ABTA Abfaltersbach 80.79 331⇑ *i*P P 11 44 23.7 -1.0
comp=Z_44nm,1.3s,SNR=7.2
329A Wagon Wheel Ra 80.96 54 ⇓P P 11 44 25.8 -0.1
baz=81
CEY Cerknica 80.97 329 *i* P P 11 44 24.9 -0.7
527A Woodward Ranch 80.99 56 ⇓P P 11 44 26.4 +0.2
baz=81,SNR=8.4
131A Roby 81.00 53 ⇓P P 11 44 26.0 0.0
baz=81
CDF Champ du Feu 81.03 335⇑ *i*P P 11 44 25.9 -0.1
comp=Z_209nm,1.2s
CSS Prodhromos 81.04 311 *e*P P 11 44 26.7 +0.6
comp=Z_36nm,0.8s
Z32A Haskell 81.04 52 ⇑P P 11 44 26.0 -0.2
baz=81,SNR=9.5
SRS Serrai 81.06 321 P P 11 44 25.8 -0.4
TUL1 Tulsa 81.08 48 ⇓P P 11 44 26.2 -0.2
baz=81,SNR=8.8
626A Big Bend Ranch 81.11 57 ⇑P P 11 44 26.6 -0.1
baz=81,SNR=14
428A Kincaid Ranch, 81.11 55 ⇑P P 11 44 27.0 +0.3
baz=81,SNR=11
FETA Feichten 81.16 332⇑ *i*P P 11 44 27.0 +0.2
comp=Z_68nm,1.2s,SNR=24
230A Sterling City 81.17 54 ⇓P P 11 44 26.6 -0.4
baz=81,SNR=14
DAVA Damuels 81.20 333⇑ *i*P P 11 44 27.1 +0.1
comp=Z_89nm,1.1s,SNR=22
IVA Berane 81.23 324 *e*P P 11 44 27.3 +0.1
ECH Echery 81.24 335 *e*P P 11 44 26.8 -0.2
ECH pmax pmax
comp=Z_58nm,1.1s
ECH Echery 81.24 335 *e*P P 11 44 26.8 -0.2
comp=Z_58nm,1.1s
ECH Echery 81.24 335 *e*P P 11 44 27.0 0.0
LIA Limnos Island 81.31 319 P P 11 44 27.3 -0.1
PRK Paraskevi 81.31 318 P P 11 44 27.3 -0.2
KNT Kendrikon 81.33 321 P P 11 44 29.6 +2.0
MMAI Mount Meron Ar 81.36 308 P P 11 44 29.2 +1.3
MMAI Mount Meron Ar 81.36 308 P P 11 44 29.2 +1.3
comp=Z_51nm,0.7s,baz=40,slow=6.9,SNR=62
PVY Plav 81.44 324 *e*P P 11 44 27.6 -0.7
ABTX Abilene, Hawle 81.46 52 ⇑P P 11 44 28.6 +0.1
baz=81
528A Cox Ranch, San 81.46 56 ⇑P P 11 44 28.7 +0.1
baz=81
330A Mertzon 81.49 54 ⇑P P 11 44 28.4 -0.2
baz=81,SNR=11
OUR Ouranopolis 81.51 320 P P 11 44 28.6 +0.1
TXAR Lajitas Array 81.54 57 P P 11 44 29.3 +0.2
TXAR pP **pP 11 44 54.8 -1.7**
TXAR PKKPbc **PKKPbc 12 03 02.0 +2.9**
TXAR Lajitas Array 81.54 57 P P 11 44 29.3 +0.2
comp=Z_13nm,0.8s,baz=295,slow=4.0,SNR=138
TXAR pP **pP 11 44 54.8 -1.7**
comp=Z_11nm,0.8s,baz=290,slow=4.2,SNR=10
TXAR PKKPbc **PKKPbc 12 03 02.0 +2.9**
comp=Z_0.4nm,0.7s,baz=155,slow=8.8,SNR=5.4
MOF Molkenrain 81.58 335 *e*P P 11 44 28.7 -0.2
THEF They Montfort 81.58 335 *e*P P 11 44 28.7 -0.1
231A Bronte 81.59 53 ⇑P P 11 44 28.8 -0.3
baz=81,SNR=7.4
MEZF Maizieres J'vi 81.61 336⇑ *i*P P 11 44 29.1 +0.2
comp=Z_130nm,1.0s
627A Terlingua Ranc 81.62 57 ⇑P P 11 44 29.5 0.0
baz=81,SNR=9.3
429A Davenport Ranc 81.65 55 ⇑P P 11 44 29.2 -0.3
baz=81,SNR=5.8
DAVOX Davos/Dischmat 81.65 332 P P 11 44 29.9 +0.5
DAVOX Davos/Dischmat 81.65 332 P P 11 44 29.9 +0.5
comp=Z_22nm,0.5s,baz=346,slow=2.8,SNR=47
NKY Niksic 81.66 325⇑ *i*P P 11 44 28.2 -1.2
HAU Haudompre 81.67 335⇑ *i*P P 11 44 29.0 -0.3
comp=Z_57nm,0.9s
HAU *e*R
comp=Z_95nm,21.8s
HINF Hinteralfeld 81.69 335⇑ *i*P P 11 44 29.0 -0.4
comp=Z_35nm,0.8s
PLG Polygyros 81.72 321 P P 11 44 29.5 -0.2
SLM Saint Louis 81.76 42 *e*P P 11 44 29.8 -0.1
SLM pmax pmax
comp=Z_45nm,0.9s
SLM Saint Louis 81.76 42 *e*P P 11 44 29.8 -0.1
comp=Z_45nm,0.9s
BRY Bratogost 81.77 325⇓ *i*P P 11 44 29.2 -0.8
529A Stev Forest Ra 81.82 55 ⇑P P 11 44 30.5 +0.1
baz=82,SNR=6.0
SFIN Scholer Farm 81.83 39 ⇓P P 11 44 29.7 -0.5
baz=82,SNR=6.0
VAL Valentia 81.86 347⇓ *i*P P 11 44 30.7 +0.6
TTG Podgorica 81.86 324⇑ *i*P P 11 44 30.1 -0.2
SFTF Sexfontaines 81.88 336⇑ *i*P P 11 44 30.4 +0.1
comp=Z_142nm,0.9s
628A Black Gap, Mar 81.89 56 ⇓P P 11 44 30.9 +0.1
baz=82,SNR=8.6
430A Baggett Ranch, 81.91 54 ⇑P P 11 44 30.9 0.0
baz=82,SNR=15
PAIG Paliouri 81.98 320 P P 11 44 30.7 -0.3
331A San Angelo 81.99 54 ⇑P P 11 44 31.1 -0.2
baz=82,SNR=6.8
232A Coleman 82.00 53 ⇓P P 11 44 31.4 0.0
baz=82,SNR=18
TUE Stuetta 82.10 333 *e*P P 11 44 32.1 +0.3
comp=Z_88nm,1.1s
LOMF Lomont 82.12 335 *e*P P 11 44 31.8 +0.1
BUM Brajici-Budva 82.12 324 *e*P P 11 44 31.1 -0.7
RAYN Ar Rayn 82.15 295 P P 11 44 32.0 -0.2
comp=Z_117nm,1.1s,SNR=10.0
HCY Herceg Novi 82.17 325⇑ *i*P P 11 44 31.3 -0.6
ULC Ulcinj 82.25 324⇓ *i*P P 11 44 31.8 -0.6
530A J-C Ranch, Com 82.32 55 ⇓P P 11 44 33.2 +0.2
baz=82,SNR=11
332A Millersview 82.33 53 ⇓P P 11 44 32.9 -0.1
baz=82,SNR=14
431A Sonora 82.35 54 ⇑P P 11 44 32.8 -0.3
baz=82
LIT Litokhoron 82.38 321 P P 11 44 32.4 -0.7
AOS Alonnisos 82.49 320 P P 11 44 35.8 +2.1
TIR Tirane 82.50 323 *e*P P 11 44 33.7 0.0
TIR pmax pmax
comp=Z_41nm,0.4s
TIR Tirane 82.50 323 *e*P P 11 44 33.7 0.0
comp=Z_41nm,0.4s
XOR Xorichti 82.65 320 P P 11 44 33.8 -0.8
432A Menard 82.67 53 ⇑P P 11 44 34.8 -0.1
baz=82,SNR=10
NEO Neokhori 82.69 320 P P 11 44 34.0 -0.7
NEST Nestorio 82.76 322 P P 11 44 34.9 -0.3
531A Rocksprings 82.77 54 ⇓P P 11 44 35.4 +0.1
baz=82,SNR=16
RFTA Plano 82.80 50 *e*P P 11 44 35.5 +0.1
FLN La Foliniere 82.86 340⇑ *i*P P 11 44 34.4 -1.0
comp=Z_71nm,0.6s
FLN *e*R
comp=Z_61nm,21.2s
LDF La Druitiere 82.92 339⇑ *i*P P 11 44 35.6 -0.1
comp=Z_93nm,1.0s
JCT Junction City 82.96 54 *e*P P 11 44 36.3 0.0
JCT pmax pmax
comp=Z_24nm,0.9s
JCT Junction City 82.96 54 *e*P P 11 44 36.3 0.0
comp=Z_24nm,0.9s
JCT Junction City 82.96 54 ⇑P P 11 44 36.4 0.0
baz=83,SNR=8.2
SIUC Southern Illin 82.98 42 *e*P P 11 44 36.3 +0.1
comp=Z_90nm,1.1s
MRKA Markates 83.00 319 P P 11 44 35.7 -0.7
CABF La Chapelle 83.00 335⇑ *i*P P 11 44 36.4 +0.1
comp=Z_38nm,0.9s
LOR Lormes 83.07 336⇑ *i*P P 11 44 36.4 -0.2
comp=Z_130nm,0.9s
LOR *e*R
comp=Z_88nm,22.8s
PMOR Pomariorio Ree 83.08 119 *e*T T 13 15 53.3
comp=Z_38nm,0.2s
WHTX Lake Whitney 83.15 51 ⇑P P 11 44 37.2 -0.1
baz=83,SNR=6.1
532A Rocksprings 83.17 54 ⇓P P 11 44 37.2 -0.2
baz=83,SNR=23
MIAR Mount Ida 83.29 47 *e*P P 11 44 38.0 +0.1
MIAR pmax pmax
comp=Z_36nm,0.8s
MIAR Mount Ida 83.29 47 *e*P P 11 44 38.0 +0.1
comp=Z_36nm,0.8s
GRR Gorron 83.30 340⇑ *i*P P 11 44 37.9 +0.2
comp=Z_127nm,0.7s
631A Perdido Creek 83.31 55 ⇓P P 11 44 38.2 +0.1
baz=83,SNR=36
SSF Saint Saulge 83.36 336⇑ *i*P P 11 44 37.9 -0.1
comp=Z_41nm,0.8s
PTL Penteli 83.40 319 P P 11 44 37.3 -1.1
HYF Humbligny 83.41 337 *e*P P 11 44 38.7 +0.4
MAKR Makrakomi, Fth 83.42 321 P P 11 44 37.4 -1.1
USIN University of 83.51 41 *e*P P 11 44 38.8 -0.1
comp=Z_29nm,1.0s
PARMO Parma 83.56 43 *e*P P 11 44 39.7 +0.5
SMF Signal de Mont 83.64 336⇑ *i*P P 11 44 39.6 +0.1
comp=Z_184nm,1.0s
AVF Avril sur Loir 83.65 336⇑ *i*P P 11 44 39.7 +0.2
comp=Z_26nm,0.5s
OG35 Corcelles 83.67 335 *e*P P 11 44 39.7 0.0
632A Uvalde 83.70 54 ⇓P P 11 44 40.1 0.0
baz=84
DSF Desfina 83.73 320 P P 11 44 39.3 -0.8
ALLY Alegheny Colle 83.74 34 *e*P P 11 44 40.1 0.0
comp=Z_153nm,1.6s
LPL La Plagne 83.78 334⇑ *i*P P 11 44 40.9 +0.4
comp=Z_27nm,0.5s
LPG La Plagne 83.80 334⇑ *i*P P 11 44 41.1 +0.4
comp=Z_92nm,1.0s
SGMF Saint Gilles 83.83 341 *e*P P 11 44 40.3 -0.1
comp=Z_41nm,0.5s
LTK Loutraki 83.84 319 P P 11 44 38.8 -1.9
ROSF Rostrenen 83.92 341 *e*P P 11 44 40.6 -0.2
comp=Z_247nm,1.3s
KALE Kalithea 83.92 320 P P 11 44 41.0 -0.1
GNAR Gosnell 83.98 44 *e*P P 11 44 41.9 +0.5
comp=Z_935nm,1.1s
BGF Bois d'Agland 84.00 337 *e*P P 11 44 41.5 +0.2
comp=Z_26nm,0.6s
PPT Papeete 84.00 122 LR LR 12 16 26.3
comp=Z_121nm,20.7s,baz=178,slow=31
PPT2 Papeete2 84.02 122 *e*S S 11 55 18.8 +22
comp=Z_68nm,28.5s
PPT2 Papeete2 84.02 122 *e*LR LR 12 11 01.8
comp=Z_344nm,33.8s
PPT2 Papeete2 84.02 122 *e*T T 13 17 09.4
comp=Z_7.7nm,0.3s
EIL Élat 84.11 306 P P 11 44 43.0 +0.8
EIL pP **pP 11 45 08.3 -1.6**
EIL Elat 84.11 306 P P 11 44 43.0 +0.8
comp=Z_49nm,0.8s,baz=22,slow=4.4,SNR=29
EIL pP **pP 11 45 08.3 -1.6**
comp=Z_21nm,0.9s,baz=28,slow=19,SNR=3.4
LAKA Lakka 84.12 320 P P 11 44 42.2 +0.1
BST Brest 84.13 342 *e*P P 11 44 41.8 -0.1
732A Laxson Ranch, 84.17 55 ⇓P P 11 44 42.7 +0.3
baz=84,SNR=9.0
GUR Goura 84.20 320 P P 11 44 43.2 +0.6
KLV Kalavryta, Ach 84.20 320 P P 11 44 42.2 -0.4
BNI Bardonecchia 84.22 334 *e*P P 11 44 43.0 +0.4
BNI pmax pmax
comp=Z_25nm,0.9s
BNI Bardonecchia 84.22 334 *e*P P 11 44 43.0 +0.4
comp=Z_25nm,0.9s
LKD2 Lefkada island 84.26 321 P P 11 44 42.1 -0.7
QUIF Quistinic 84.29 341 *e*P P 11 44 42.2 -0.5
comp=Z_38nm,0.5s
MDV Middlebury 84.30 29 *e*P P 11 44 42.4 -0.5
AGO Saint Agoulin 84.38 336 *e*P P 11 44 44.9 +1.6
TCF Toulx Ste Croi 84.43 337⇑ *i*P P 11 44 44.0 +0.5
comp=Z_77nm,1.0s
MBDF Rottbardon 84.48 333⇑ *i*P P 11 44 43.7 -0.3
comp=Z_21nm,0.4s
RLS Riolos of Patr 84.50 320 P P 11 44 43.8 -0.2
ORIF Oris-en-Rattie 84.59 334⇑ *i*P P 11 44 44.8 +0.4
comp=Z_85nm,1.1s
ORIF *e*R
comp=Z_64nm,20.2s
ZKR Zakros 84.61 316 P P 11 44 44.4 -0.2
VLX Vlachokerasia 84.64 319 P P 11 44 43.6 -1.2
ACCN Adirondack Com 84.67 29 *e*P P 11 44 44.3 -0.5
comp=Z_56nm,1.4s
ACCN *e*PcP **PcP 11 44 49.8 +1.7**
SSB Saint Sauveur 84.67 335 *e*P P 11 44 45.0 +0.2
SSB pmax pmax
comp=Z_77nm,1.3s
SSB Saint Sauveur 84.67 335 *e*P P 11 44 45.0 +0.2
comp=Z_77nm,1.3s
SSB Saint Sauveur 84.67 335 *e*P P 11 44 45.9 +1.1
MET Memphis--Engin 84.69 44 *e*P P 11 44 47.8 +2.8
comp=Z_65nm,0.4s
PYM Petit Puy Mans 84.69 336 *e*P P 11 44 46.4 +1.5
MFF Saint Martin d 84.77 339 *e*P P 11 44 45.2 0.0
comp=Z_88nm,0.8s
VLS Valsamata 84.80 321 P P 11 44 44.7 -0.8
SAOF Saorge 84.89 333 *e*P P 11 44 43.8 -2.1
VLI Veliai 84.91 319 P P 11 44 43.7 -2.4
WVT Waverly 84.91 42 *e*P P 11 44 46.1 0.0
WVT pmax pmax
comp=Z_23nm,0.8s
WVT Waverly 84.91 42 *e*P P 11 44 46.1 0.0
comp=Z_23nm,0.8s
AUTN L'Aution 84.92 333 *e*P P 11 44 46.7 +0.4
LAST Lasithi 84.94 316 P P 11 44 46.4 +0.1
TOUF Mont Tournerai 84.96 333 *e*P P 11 44 46.0 -0.4
VIVF Saint-Julien-l 85.02 335⇑ *i*P P 11 44 47.2 +0.7
comp=Z_102nm,1.0s
OG25 Le Caire 85.02 334 *e*P P 11 44 47.1 +0.5
SBF Sospel 85.03 333 *e*P P 11 44 46.4 -0.2
comp=Z_68nm,0.6s
LBL Lubilhac 85.10 336 *e*P P 11 44 48.0 +1.1
MVIF Mont Vial 85.10 333 *e*P P 11 44 47.0 -0.1
IDI Anoyia 85.12 317 *e*P P 11 44 45.9 -1.4
comp=Z_30nm,0.8s
DYR Agios Nikonas 85.16 319 P P 11 44 47.8 +0.5
REVF Revere 85.17 333 *e*P P 11 44 45.4 -1.9
KYTH Kithira 85.22 318 P P 11 44 48.4 +0.8
CALN Kalamata 85.31 333 *e*P P 11 44 48.0 -0.1
PYL PYLOS 85.32 320 P P 11 44 46.7 -1.4
ANKY Antikythira Is 85.43 318 P P 11 44 49.2 +0.6
OXF Oxford 85.44 44 *e*P P 11 44 48.1 -0.6
OXF pmax pmax
comp=Z_90nm,1.2s
OXF Oxford 85.44 44 *e*P P 11 44 48.1 -0.6
comp=Z_90nm,1.2s
RJF Les Rejaudoux 85.52 337⇑ *i*P P 11 44 49.4 +0.4
comp=Z_141nm,1.4s
SMRF Simiane la Rot 85.53 334 *e*P P 11 44 49.7 +0.6
comp=Z_110nm,1.4s
FRF La Foret Royal 85.56 333 *e*P P 11 44 49.1 -0.1
comp=Z_74nm,1.1s
TIP Timpagrande 85.62 324 *e*P P 11 44 49.1 -0.5
comp=Z_38nm,1.1s
PGF Pioggiola 85.67 331⇑ *i*P P 11 44 49.5 -0.4
comp=Z_63nm,1.1s
CAF Calviac 85.72 337⇑ *i*P P 11 44 50.8 +0.8
comp=Z_117nm,1.1s
LMR La Mourre 85.81 333⇑ *i*P P 11 44 50.4 0.0
comp=Z_169nm,1.2s
GVD Gavdhos 85.88 317 *e*P P 11 44 50.8 -0.1
comp=Z_127nm,0.9s
LASF Ste Croix 85.97 335⇑ *i*P P 11 44 51.9 +0.7
comp=Z_149nm,1.6s
LFF La Frestale 86.07 337⇑ *i*P P 11 44 51.9 +0.2
comp=Z_52nm,0.5s
TZTN Tazewell 86.56 39 *e*P P 11 44 53.9 -0.4
comp=Z_36nm,1.2s
CPCT Cooper Cave 87.02 40 *e*P P 11 44 56.4 -0.1
MTLF Montolieu 87.13 336⇑ *i*P P 11 44 57.3 +0.4
comp=Z_51nm,1.2s
TKL Tuckaleechee C 87.20 40 *e*P P 11 44 57.3 0.0
BLA Blacksburg 87.38 37 *e*P P 11 44 58.2 0.0
BLA pmax pmax
comp=Z_53nm,1.0s
BLA Blacksburg 87.38 37 *e*P P 11 44 58.2 0.0
comp=Z_53nm,1.0s
MLS Moulis 87.80 336 *e*P P 11 45 00.4 +0.3
LRAL Lakeview Retre 87.81 44 *e*P P 11 44 59.9 -0.4
comp=Z_6.0nm,0.7s
EPF Esparros 87.95 337 *e*P P 11 45 00.3 -0.5
comp=Z_18nm,0.8s
VALF Valcebollere 88.05 336 *e*P P 11 45 02.0 +0.5
SJPF Ste Jean 88.30 338⇑ *i*P P 11 45 02.4 -0.1
comp=Z_10nm,0.8s
ETSF Etsaut 88.32 337⇑ *i*P P 11 45 02.6 0.0
comp=Z_33nm,0.7s
TBI Tubuai 88.53 125 *e*LR LR 12 12 53.6
comp=Z_190nm,34.8s
TBI Tubuai 88.53 125 *e*T T 13 22 47.0
comp=Z_5.6nm,0.2s
KMSC Kings Mountain 88.72 38 ⇓P P 11 45 04.4 -0.2
baz=88,SNR=12
TIGA Tifton 90.77 42 ⇓P P 11 45 14.3 +0.1
baz=90
POLO Lamas de Olo 91.54 342 *e*P P 11 45 16.4 -1.3
comp=Z_8.9nm,0.4s
KEST Kesra 91.56 328 *e*P P 11 45 17.4 -0.4
KEST Kesra 91.56 328 P P 11 45 17.5 -0.4
comp=Z_2.3nm,0.6s,baz=306,slow=3.8,SNR=14
KEST LR LR 12 30 32.3
comp=Z_51nm,18.8s,baz=284,slow=38
MVO Moncorvo 91.57 341 *e*P P 11 45 16.7 -1.1
comp=Z_23nm,2.8s
PVRL Vila Real 91.62 342 *e*P P 11 45 17.0 -1.0
comp=Z_29nm,1.9s
ESDC Sonseca Array 92.24 339 P P 11 45 20.4 -0.6
ESDC Sonseca Array 92.24 339 P P 11 45 20.4 -0.6
comp=Z_1.8nm,0.5s,baz=20,slow=4.2,SNR=16
ESDC LR LR 12 34 40.2
comp=Z_56nm,18.1s,baz=35,slow=41
PBAR Barrancos 94.42 341 *e*P P 11 45 29.5 -1.4
comp=Z_12nm,1.6s
TORD Torodi Ar. Bea 114.77 324 PKP PKPdf 11 50 50.3 -1.0
TORD pPKP pPKiKP 11 51 18.9 -1.6
TORD sPKP 11 51 29.6
TORD PP **PP 11 51 45.1 -4.7**
TORD Torodi Ar. Bea 114.77 324 PKP PKPdf 11 50 50.3 -1.0
comp=Z_1.5nm,0.8s,baz=19,slow=1.8,SNR=8.0
TORD pPKP pPKiKP 11 51 19.0 -1.6
comp=Z_0.3nm,0.3s,baz=5.8,slow=1.9,SNR=2.3
TORD sPKP 11 51 29.6
comp=Z_1.6nm,0.9s,baz=23,slow=8.2,SNR=6.7
TORD PP **PP 11 51 45.1 -4.7**
comp=Z_1.9nm,0.9s,baz=21,slow=8.1,SNR=5.9
LSZ Lusaka 121.74 280 PKP PKPdf 11 51 03.9 -0.9
LSZ Lusaka 121.74 280 PKP PKPdf 11 51 03.9 -0.9
comp=Z_2.4nm,0.6s,baz=12,slow=2.9,SNR=4.8
VNDA Vanda 122.32 176 PKP PKPdf 11 51 04.1 +0.1
VNDA pPKP **pPKPdf 11 51 32.2 -0.9**
VNDA Vanda 122.32 176 PKP PKPdf 11 51 04.1 +0.1
comp=Z_0.9nm,0.6s,baz=320,slow=4.3,SNR=11
VNDA pPKP **pPKPdf 11 51 32.2 -0.9**
comp=Z_1.5nm,0.8s,baz=341,slow=5.2,SNR=4.7
DBIC Dimbokro 123.29 327 PKP PKPdf 11 51 06.6 -1.2
DBIC Dimbokro 123.29 327 PKP PKPdf 11 51 06.6 -1.2
comp=Z_5.0nm,0.9s,baz=336,slow=4.8,SNR=3.3
MAW Mawson 128.72 209 PKP PKPdf 11 51 17.2 +0.8
MAW Mawson 128.72 209 PKP PKPdf 11 51 17.2 +0.8
comp=Z_2.3nm,0.7s,baz=56,slow=7.9,SNR=3.1
BOSA Boshof 132.35 270 SKPbc SKPbc 11 54 41.3 -0.3
BOSA Boshof 132.35 270 SKPbc SKPbc 11 54 41.3 -0.3
comp=Z_3.0nm,0.9s,baz=94,slow=4.7,SNR=3.7
LPAZ La Paz 138.39 59 PKP PKPdf 11 51 37.0 +0.1
LPAZ SKPbc **SKPbc 11 55 00.7 -0.8**
LPAZ La Paz 138.39 59 PKP PKPdf 11 51 37.0 +0.1
comp=Z_1.9nm,0.6s,baz=342,slow=4.4,SNR=7.6
LPAZ SKPbc **SKPbc 11 55 00.7 -0.8**
comp=Z_1.8nm,0.8s,baz=348,slow=6.1,SNR=5.0
LCO Las Campanas 145.61 76 *e*PKPbc PKPbc 11 51 49.7 +0.2
BDFB Brasilia 147.94 30 PKPbc PKPdf 11 51 53.8 +0.8
BDFB pPKPbc **pPKPbc 11 52 22.3 -2.8**
BDFB Brasilia 147.94 30 PKPbc PKPdf 11 51 53.8 +0.8
comp=Z_13nm,0.8s,baz=263,slow=0.5,SNR=14
BDFB pPKPbc **pPKPbc 11 52 22.3 -2.8**
comp=Z_7.5nm,0.6s,baz=17,slow=2.4,SNR=3.5
SNAA Sanae 149.63 198 *e*P PKPbc 11 51 58.8 0.0
SNAA Sanae 149.63 198 *e*PKPab PKPab 11 52 08.5 +4.1
SNAA Sanae 149.63 198 *e*PKPdf PKPdf 11 51 52.8 -1.3
SNAA PKPbc **PKPbc 11 51 58.5 -0.3**
SNAA *e*PKPbc **PKPbc 11 51 58.8 0.0**
SNAA PKPab **PKPab 11 52 05.3 +0.9**
SNAA pPKPbc **pPKPbc 11 52 27.1 -0.8**
SNAA Sanae 149.63 198 PKPbc PKPbc 11 51 58.5 -0.3
comp=Z_3.3nm,1.0s,baz=89,slow=2.9,SNR=15
SNAA PKPab **PKPab 11 52 05.3 +0.9**
comp=Z_1.3nm,0.7s,baz=140,slow=4.1,SNR=12
SNAA pPKPbc **pPKPbc 11 52 27.1 -0.8**
comp=Z_0.8nm,0.7s,baz=183,slow=5.1,SNR=1.7
VNA1 Neumayer--Stat 151.55 196 *e*P PKPbc 11 52 03.8 +0.6
PLCA Paso Flores 151.55 96 PKPbc PKPbc 11 52 04.8 +0.5
PLCA Paso Flores 151.55 96 PKPbc PKPbc 11 52 04.8 +0.5
comp=Z_4.1nm,0.8s,baz=242,slow=7.2,SNR=4.8
CPUP Villa Florida 152.52 56 PKP PKPdf 11 51 60.0 +0.2
CPUP PKPbc **PKPbc 11 52 06.3 -0.5**
CPUP pPKPbc **pPKPbc 11 52 34.3 -1.6**
CPUP Villa Florida 152.52 56 PKP PKPdf 11 51 60.0 +0.2
comp=Z_0.4nm,0.3s,baz=191,slow=3.1,SNR=3.9
CPUP PKPbc **PKPbc 11 52 06.3 -0.5**
comp=Z_2.1nm,0.5s,baz=276,slow=1.3,SNR=6.2
CPUP pPKPbc **pPKPbc 11 52 34.3 -1.6**
comp=Z_1.0nm,0.5s,baz=353,slow=4.2,SNR=2.4

LJU 25 11:42:55.9, 45°.83N×14°.99E, h0km, ML0.4, 1C-1D,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PDKS	**Podkum**	**0.23**	**1**	⇓*i*	Pg	Pg	11 43 00.6	+0.3
PDKS				*i*	Sg	Sg	11 43 03.5	+0.1
PDKS	comp=Z_3.0nm,0.1s							
LEGS	**Legarje**	**0.26**	**63**	⇑*i*	Pg	Pg	11 43 01.2	+0.3
LEGS				*i*	Sg	Sg	11 43 04.2	0.0
VNDS	**Vrh nad Dolski**	**0.34**	**323**	*i*	Pg	Pg	11 43 03.0	+0.6
VNDS				*i*	Sg	Sg	11 43 07.2	+0.4
VNDS	comp=Z_1.0nm,0.1s							

*IDC **25** 12:16:21.0±7.0, 32°.19S×69°.38W, h77km±52km, mb3.2/4, mb1 3.5/8, mb1mx3.5/19, mbtmp3.2/8, ML3.8/4, Error ellipse: s-maj=62.5km s-min=31.9km az=26.0*
*NEIC **25** 12:16:25.7, 31°.87S×69°.93W, h150km, mb4.6/1, MD4.1(GUC), After GUC.*
*GUC **25** 12:16:25.7±0.4, 31°.87S×69°.93W, h150km±3km, MD4.1, ML4.0*

ISC 25 12:16:26.8±0.8, 31°.88S±0°.03×69°.9W±0°.1, h140km±9km, n55, σ0°.86/72, mb3.3/4, 11C-5D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PTCH	**Petorca**	**0.99**	**247**	⇑*i*	P	**Pn**	**12 16 50.2**	**-0.4**
PTCH				*i*	S	**Sn**	**12 17 08.8**	**+0.1**
PTCH	**Petorca**	**0.99**	**247**	⇑*i*	P	**Pn**	**12 16 50.2**	**-0.4**
PTCH				*i*	S	**Sn**	**12 17 08.8**	**+0.1**
PTCH	comp=N,6μm,0.4s				AML	AML	12 17 09.1	
JACH	**Jahuel**	**1.02**	**218**	⇓*i*	P	**Pn**	**12 16 50.7**	**-0.2**
JACH				*i*	S	**Sn**	**12 17 09.8**	**+0.4**
JACH	**Jahuel**	**1.02**	**218**	⇓*i*	P	**Pn**	**12 16 50.7**	**-0.2**
JACH				*i*	S	**Sn**	**12 17 09.8**	**+0.4**
CMCH	**Combarbala**	**1.21**	**305**	⇓*i*	P	**Pn**	**12 16 52.0**	**-0.7**
CMCH				*i*	S	**Sn**	**12 17 12.4**	**+0.1**
CMCH	**Combarbala**	**1.21**	**305**	⇓*i*	P	**Pn**	**12 16 52.0**	**-0.7**
CMCH				*i*	S	**Sn**	**12 17 12.4**	**+0.1**
CMCH	comp=N,3μm,0.2s				AML	AML	12 17 14.2	
PEL	**Peldehue**	**1.45**	**209**	⇓*i*	P	**Pn**	**12 16 54.8**	**-0.3**
PEL				*i*	S	**Sn**	**12 17 16.5**	**-0.2**
PEL	comp=E,3μm,0.4s				AML	AML	12 17 18.5	
ROCH	**El Roble**	**1.47**	**222**	⇑*i*	P	**Pn**	**12 16 55.3**	**-0.2**
ROCH				*i*	S	**Sn**	**12 17 18.0**	**+0.5**
ROCH	comp=N,2μm,0.3s				AML	AML	12 17 22.1	
CLCH	**Cerro Calan**	**1.62**	**201**	⇑*i*	P	**Pn**	**12 16 57.0**	**-0.1**
CLCH				*e*	S	**Sn**	**12 17 20.5**	**+0.3**
CLCH	comp=E,1μm,0.5s				AML	AML	12 17 22.2	

CLCH					AML	AML	12 17 22.9		
	comp=E,2μm,0.4s								
STL	**Santa Lucia**	**1.69 203**	⇑	*i*	P	**Pn**	**12 16 57.5**	**-0.3**	
STL				*i*	S	**Sn**	**12 17 21.7**	**+0.1**	
SAN	**Santiago**	**1.71 203**		*e*	P	**Pn**	**12 16 57.7**	**-0.3**	
SAN				*e*	S	**Sn**	**12 17 21.9**	**-0.1**	
SAN	**Santiago**	**1.71 203**		*e*	P	**Pn**	**12 16 57.7**	**-0.3**	
SAN				*e*	S	**Sn**	**12 17 21.9**	**-0.1**	
SJCH	**San Jose de Ma**	**1.81 193**	⇑	*i*	P	**Pn**	**12 16 58.4**	**-0.8**	
SJCH				*i*	S	**Sn**	**12 17 23.8**	**-0.3**	
SJCH	**San Jose de Ma**	**1.81 193**	⇑	*i*	P	**Pn**	**12 16 58.4**	**-0.8**	
SJCH				*i*	S	**Sn**	**12 17 23.8**	**-0.3**	
ANTU	**Antumapu**	**1.81 201**		*e*	P	**Pn**	**12 16 58.9**	**-0.3**	
ANTU				*i*	S	**Sn**	**12 17 24.0**	**0.0**	
ANTU	**Antumapu**	**1.81 201**		*e*	P	**Pn**	**12 16 58.9**	**-0.3**	
ANTU				*i*	S	**Sn**	**12 17 24.0**	**0.0**	
ANTU					AML	AML	12 17 28.2		
	comp=E,857nm,0.3s								
PCH	**Pirque**	**1.83 198**		*e*	P	**Pn**	**12 16 59.0**	**-0.3**	
PCH				*i*	S	**Sn**	**12 17 24.6**	**+0.2**	
PCH	**Pirque**	**1.83 198**		*e*	P	**Pn**	**12 16 59.0**	**-0.3**	
PCH				*i*	S	**Sn**	**12 17 24.6**	**+0.2**	
TLL	**Tololo Astrono**	**1.89 334**		*e*	P	**Pn**	**12 17 01.8**	**+1.4**	
TLL				*i*	S	**Sn**	**12 17 27.7**	**+1.8**	
TLL	**Tololo Astrono**	**1.89 334**		*e*	P	**Pn**	**12 17 01.8**	**+1.4**	
TLL				*i*	S	**Sn**	**12 17 27.7**	**+1.8**	
TLL					AML	AML	12 17 32.0		
	comp=E,559nm,0.3s								
IHA	**Instituto Hidr**	**1.90 232**		*i*	P	**Pn**	**12 16 59.4**	**-0.7**	
IHA				*i*	S	**Sn**	**12 17 24.7**	**-0.9**	
IHA	**Instituto Hidr**	**1.90 232**		*i*	P	**Pn**	**12 16 59.4**	**-0.7**	
IHA				*i*	S	**Sn**	**12 17 24.7**	**-0.9**	
LMEL	**Las Melosas**	**1.99 188**	⇑	*i*	P	**Pn**	**12 17 01.1**	**-0.2**	
LMEL				*i*	S	**Sn**	**12 17 28.5**	**+0.6**	
LMEL	**Las Melosas**	**1.99 188**	⇑	*i*	P	**Pn**	**12 17 01.1**	**-0.2**	
LMEL				*i*	S	**Sn**	**12 17 28.5**	**+0.6**	
LMEL					AML	AML	12 17 33.9		
	comp=N,458nm,0.2s								
TACH	**Talagante**	**2.00 207**		*e*	P	**Pn**	**12 17 00.8**	**-0.4**	
TACH				*i*	S	**Sn**	**12 17 27.6**	**-0.2**	
TACH	**Talagante**	**2.00 207**		*e*	P	**Pn**	**12 17 00.8**	**-0.4**	
TACH				*i*	S	**Sn**	**12 17 27.6**	**-0.2**	
TACH				*e*			12 17 35.9		
CHCH	**Chadas Angostu**	**2.16 198**		*i*	P	**Pn**	**12 17 03.0**	**-0.3**	
CHCH				*i*	S	**Sn**	**12 17 31.4**	**0.0**	
CHCH	**Chadas Angostu**	**2.16 198**		*i*	P	**Pn**	**12 17 03.0**	**-0.3**	
CHCH				*i*	S	**Sn**	**12 17 31.4**	**0.0**	
LCO	**Las Campanas**	**2.95 345**	⇑	*i*	P	**Pn**	**12 17 12.2**	**-1.2**	
LCO				*i*	S	**Sn**	**12 17 48.3**	**-1.0**	
LCO	**Las Campanas**	**2.95 345**	⇑	*i*	P	**Pn**	**12 17 12.2**	**-1.2**	
LCO				*i*	S	**Sn**	**12 17 48.3**	**-1.0**	
TRQA	**Tornquist**	**8.93 136**		*e*	Pn	Pn	12 18 29.2	-3.4	
	comp=N,7.8nm,0.4s								
TRQA					eSn	Sn	12 20 02.3	-9.3	
LVC	**Limon Verde**	**9.26 5**		P		**Pn**	**12 18 35.9**	**-1.5**	
LVC				S		Sn	12 20 12.5	-7.7	
LVC	**Limon Verde**	**9.26 5**		P		**Pn**	**12 18 35.9**	**-1.5**	
	comp=N,0.3nm,0.3s,baz=153,slow=9.0,SNR=4.2								
LVC				S		Sn	12 20 12.5	-7.7	
	comp=N,0.2nm,0.3s,baz=49,slow=20,SNR=2.7								
CPUP	**Villa Florida**	**12.26 66**		P		Pn	12 19 09.8	-6.9	
CPUP	**Villa Florida**	**12.26 66**		P		Pn	12 19 09.8	-6.9	
	comp=N,0.6nm,0.3s,baz=218,slow=9.9,SNR=5.5								
LPAZ	**La Paz**	**15.60 6**		P		**P**	**12 20 01.3**	**+0.3**	
LPAZ	**La Paz**	**15.60 6**		P		**P**	**12 20 01.3**	**+0.3**	
	comp=N,0.1nm,0.3s,baz=201,slow=6.9,SNR=3.8								
SIV	**San Ignacio**	**17.72 29**		P		**P**	**12 20 22.0**	**-1.8**	
SIV	**San Ignacio**	**17.72 29**		P		**P**	**12 20 22.0**	**-1.8**	
	comp=N,0.1nm,0.3s,baz=239,slow=12,SNR=4.6								
TXAR	**Lajitas Array**	**68.83 329**		P		P	12 27 20.2	+4.1	
TXAR	**Lajitas Array**	**68.83 329**		P		P	12 27 20.2	+4.1	
	comp=N,0.2nm,0.4s,baz=151,slow=8.7,SNR=5.2								
TORD	**Torodi Ar. Bea**	**81.75 69**		P		P	12 28 31.3	+1.2	
TORD				sP		sP	12 29 00.7	-19	
TORD	**Torodi Ar. Bea**	**81.75 69**		P		P	12 28 31.3	+1.2	
	comp=N,0.4nm,0.8s,baz=275,slow=6.2,SNR=3.2								
TORD				sP		sP	12 29 00.7	-19	
	comp=N,0.3nm,0.8s,baz=249,slow=5.6,SNR=3.6								
PDAR	**Pinedale Array**	**82.73 332**		P		P	12 28 39.0	+4.0	
PDAR	**Pinedale Array**	**82.73 332**		P		P	12 28 39.0	+4.0	
	comp=N,0.4nm,0.8s,baz=133,slow=6.5,SNR=3.5								
NVAR	**Mina Array Bea**	**83.23 324**		P		P	12 28 42.0	+4.4	
NVAR	**Mina Array Bea**	**83.23 324**		P		P	12 28 42.0	+4.4	
	comp=N,0.3nm,0.7s,baz=160,slow=6.4,SNR=3.4								
WRA	**Warramunga Arr**	**123.50 208**		PKP		**PKPdf**	**12 35 09.7**	**+1.6**	
WRA	**Warramunga Arr**	**123.50 208**		PKP		**PKPdf**	**12 35 09.7**	**+1.6**	
	comp=N,1.6nm,0.6s,baz=160,slow=1.8,SNR=2.5								
AAK	**Ala-Archa**	**149.86 59**		PKPbc		**PKPbc**	**12 35 59.1**	**-1.3**	
AAK	**Ala-Archa**	**149.86 59**		PKPbc		**PKPbc**	**12 35 59.1**	**-1.3**	
	comp=N,2.7nm,0.4s,baz=235,slow=7.9,SNR=3.0								
ZALV	**Zalesovo Beam**	**151.45 32**		PKPbc		PKPab	12 36 05.5	-6.8	
ZALV	**Zalesovo Beam**	**151.45 32**		PKPbc		PKPab	12 36 05.5	-6.8	
	comp=N,1.9nm,0.4s,baz=304,slow=2.9,SNR=4.5								
MKAR	**Makanchi Array**	**153.98 47**		PKPab		**PKPab**	**12 36 25.2**	**+1.8**	
MKAR	**Makanchi Array**	**153.98 47**		PKPab		**PKPab**	**12 36 25.2**	**+1.8**	
	comp=N,0.3nm,0.6s,baz=292,slow=5.3,SNR=3.6								

*IDC **25** 13:32:46.1±1.6,5.°32N×126.°37E,h53km±14km,mb4.2/25, mb1 4.3/27,mb1mx4.3/31,mbtmp4.2/27,ML4.4/2,MS3.9/22, Ms1 3.9/22,ms1mx3.8/34,Error ellipse: s-maj=22.2km s-min=9.7km az=74.0*

*MAN **25** 13:32:48,5.°40N×126.°25E,h32km,mb5.4, ML4.4,MS4.7*

ISC 25 13:32:46.7±0.4,5.°40N±0.°03×126.°49E±0.°05,h60km±2km, n167,σ2≥04/164,mb4.6/54,4C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.55**	**352**	*e*P	**Pn**	**13 33 13.7**	**+1.6**
MATI				*e*S	**Sn**	**13 33 32.7**	**+1.5**
GSPH	**General Santos**	**1.68**	**294**	*e*P	Pn	13 33 10.7	-3.2
GSPH				*i* S	**Sn**	**13 33 32.1**	**-2.3**
DAV	**Davao City (W)**	**1.89**	**331**	*e*Pn	Pn	13 33 11.7	-4.9
DAV	**Davao City (W)**	**1.89**	**331**	P	**Pn**	**13 33 17.9**	**+1.3**
	111nm,0.3s,baz=222,slow=12,SNR=19						
DAV				S	**Sn**	**13 33 44.5**	**+5.1**
	210nm,0.3s,baz=305,slow=16,SNR=13						
DAV				LR	LR	13 34 16.6	
	comp=Z,6μm,18.3s,baz=165,slow=48						
DMPH	**Davao City--Mi**	**1.93**	**330**	⇑*e*P	**Pn**	**13 33 18.9**	**+1.6**
BUKP	**Musuan**	**2.84**	**330**	*e*P	**Pn**	**13 33 30.9**	**+1.2**
CTBH	**Cotabato--PC H**	**2.87**	**309**	*e*P	**Pn**	**13 33 30.1**	**0.0**
CTBH				*i* S	**Sn**	**13 34 02.7**	**-0.7**
CGP	**Cagayan de Oro**	**3.52**	**330**	*e*P	**Pn**	**13 33 40.8**	**+1.9**
CGP				*i* S	Sn	13 34 26.6	+7.3
BUTP	**Butuan**	**3.65**	**346**	*e*P	Pn	13 33 44.3	+3.6
GAMI	**Galela, Maluku**	**3.77**	**160**	P	**Pn**	**13 33 40.7**	**-1.7**
PAGZ	**Pagadian**	**3.93**	**308**	*e*P	**Pn**	**13 33 46.3**	**+1.8**
MNI	**Manado**	**4.26**	**203**	P	**Pn**	**13 33 49.4**	**+0.3**
DCPH	**Dipolog City**	**4.43**	**316**	⇑*e*P	**Pn**	**13 33 54.5**	**+3.0**
TNTI	**Ternate**	**4.68**	**169**	P	**Pn**	**13 33 54.3**	**-0.6**
MSLP	**Maasin**	**4.97**	**341**	*e*P	Pn	13 34 02.8	+4.0
KMSI	**Cibinong**	**5.41**	**208**	P	**Pn**	**13 34 07.9**	**+3.1**
	813nm,0.8s,12μm4.6nm						
LLP	**Lapu-Lapu**	**5.49**	**333**	*e*P	Pn	13 34 15.0	+9.1
GTOI	**Gorontalo**	**5.87**	**216**	P	**Pn**	**13 34 10.2**	**-1.0**
	346nm,1.1s,4μm1.5nm						
OCLP	**Ormoc**	**5.91**	**342**	*e*P	Pn	13 34 15.5	+3.8
PLP	**Palo**	**5.92**	**345**	⇑*e*P	**Pn**	**13 34 13.9**	**+2.0**
LBMI	**Labuha**	**6.08**	**170**	P	**Pn**	**13 34 13.7**	**-0.4**
	217nm,0.8s,4μm1.2nm						
MRSI	**Marisa**	**6.67**	**223**	P	**Pn**	**13 34 22.5**	**+0.3**
	332nm,0.6s,4μm1.7nm						
RCP	**Roxas**	**7.15**	**329**	⇑*e*P	**Pn**	**13 34 31.1**	**+2.4**
LUWI	**Luwuk**	**7.40**	**210**	P	Pn	13 34 35.4	+3.3
	500nm,1.0s,4μm1.7nm						
SWI	**Sorong**	**7.84**	**142**	P	**Pn**	**13 34 37.6**	**-0.5**
	54nm,0.8s,1μm0.2nm						
MYLDM	**Lahad Datu**	**7.96**	**269**	P	**Pn**	**13 34 42.2**	**+2.5**
	88nm,0.8s,1μm						
SKSI	**Soroako, Sulaw**	**9.41**	**213**	P	**Pn**	**13 35 01.8**	**+2.1**
	68nm,1.1s						
FAKI	**Fak Fak**	**10.07**	**145**	P	**Pn**	**13 35 08.4**	**-0.3**
	64nm,1.4s						
KKM	**Kota Kinabalu**	**10.24**	**274**	*e*Pn	**Pn**	**13 35 10.2**	**-1.0**
KKM	**Kota Kinabalu**	**10.24**	**274**	P	**Pn**	**13 35 12.8**	**+1.7**
	32nm,1.3s,402nm						
TTSI	**Tana Toraja**	**10.71**	**219**	P	**Pn**	**13 35 19.6**	**+2.1**
	72nm,1.0s,632nm						
SPSI	**Sidrap Palu**	**11.47**	**216**	P	**Pn**	**13 35 28.1**	**+0.3**
	30nm,0.9s,663nm						
KAPI	**Kappang**	**12.34**	**213**	*e*Pn	**Pn**	**13 35 38.9**	**-0.8**
KAPI	**Kappang**	**12.34**	**213**	P	Pn	13 35 43.1	+3.4
	40nm,1.0s						
KAPI	**Kappang**	**12.34**	**213**	P	**Pn**	**13 35 38.3**	**-1.4**
	0.9nm,0.3s,baz=312,slow=12,SNR=3.7						
KBKI	**Kotabaru**	**13.45**	**230**	P	**P**	**13 36 04.5**	**+2.3**
SBUM	**Sibu**	**14.53**	**259**	P	**P**	**13 36 12.9**	**-1.3**
	40nm,1.6s,614nm						
BBKI	**Banjar Baru**	**14.59**	**233**	P	P	13 36 18.9	+4.0
SOEI	**Soe**	**15.22**	**188**	P	**Pn**	**13 36 19.6**	**+1.4**
	93nm,0.8s						
BATI	**Baumata**	**15.76**	**190**	P	**Pn**	**13 36 24.7**	**-0.4**
BATI	**Baumata**	**15.76**	**190**	P	**P**	**13 36 27.3**	**-0.6**
	47nm,0.9s						
BATI	**Baumata**	**15.76**	**190**	P	**Pn**	**13 36 24.7**	**-0.4**
	3.1nm,0.3s,baz=130,slow=7.9,SNR=2.8						
KSM	**Kuching**	**16.61**	**257**	*e*Pn	**Pn**	**13 36 33.2**	**-2.6**
	25nm,0.9s						
KSM	**Kuching**	**16.61**	**257**	P	**P**	**13 36 41.2**	**+3.9**
	29nm,0.9s						
TWG	**Pinlang**	**18.09**	**344**	*e*P	P	13 36 47.2	-6.4
	122nm,1.1s						
YULB	**Yu-li**	**18.57**	**345**	*e*P	P	13 36 52.6	-6.3
TPUB	**Ta-pu**	**18.67**	**343**	*e*P	P	13 36 53.9	-6.1
	104nm,1.8s						
SSLB	**Sunglung**	**19.04**	**344**	*e*P	P	13 36 56.7	-7.4
	14nm,0.9s						
NACB	**Ninganchiao**	**19.25**	**346**	*e*P	P	13 37 00.2	-6.1
	16nm,0.8s						
TATO	**Taipei**	**20.05**	**347**	*e*P	P	13 37 09.1	-5.9
	138nm,1.4s						
QIZ	**Qiongzhong**	**21.14**	**311**	P	**P**	**13 37 23.3**	**-3.5**
QIZ				S	**S**	**13 41 18.3**	**-0.5**
QIZ				pmax	pmax		
	comp=Z,14nm,1.9s						
QIZ				LR	LR		
	comp=N,240nm,20.2s						
QIZ				LR	LR		
	comp=E,170nm,20.9s						
QIZ				LR	LR		
	comp=Z,540nm,24.6s						
UBPT	**Khong Chiam**	**22.86**	**297**	P	P	13 37 51.8	+6.5
	comp=Z,18nm,1.0s						
UBPT	**Khong Chiam**	**22.86**	**297**	P	P	13 37 51.8	+6.5
	comp=Z,18nm,1.0s						
MYKOM	**Kota Tinggi**	**22.87**	**262**	P	**P**	**13 37 46.7**	**+1.3**
	comp=Z,47nm,1.3s						
FITZ	**Fitzroy Crossi**	**23.37**	**182**	P	**P**	**13 37 49.2**	**-1.0**
FITZ	**Fitzroy Crossi**	**23.37**	**182**	P	**P**	**13 37 49.2**	**-1.0**
	comp=Z,12nm,0.8s,baz=9.6,slow=10,SNR=34						
KLSI		**23.93**	**246**	P	P	13 38 12.4	+17
SKNT	**Sakolnakorn**	**24.86**	**299**	P	**P**	**13 38 06.3**	**+2.5**
	comp=Z,25nm,1.1s						
PMG	**Port Moresby**	**25.32**	**125**	*e*P	P	13 38 02.5	-5.4
	comp=Z,26nm,1.1s						
PMG	**Port Moresby**	**25.32**	**125**	LR	LR	13 48 44.7	
	comp=Z,179nm,20.5s,baz=296,slow=38						
IPM	**Ipoh**	**25.38**	**269**	*e*P	**P**	**13 38 06.9**	**-1.8**
	comp=Z,96nm,1.8s						
IPM	**Ipoh**	**25.38**	**269**	P	**P**	**13 38 13.0**	**+4.3**
	comp=Z,27nm,1.5s						
KSI	**Kapahiang**	**25.50**	**250**	P	P	13 38 17.4	+7.6
	comp=Z,78nm,1.2s,comp=Z,8μm						
MASI	**Maura Aman, Be**	**25.66**	**251**	P	P	13 38 17.0	+5.7
	comp=Z,159nm,1.2s						
KULM	**Kulim**	**25.73**	**271**	*e*P	**P**	**13 38 09.7**	**-2.1**
	comp=Z,53nm,1.5s						
KULM	**Kulim**	**25.73**	**271**	P	P	13 38 16.7	+4.9
	comp=Z,22nm,1.7s						
WRAB	**Tennant Creek**	**26.34**	**163**	*e*P	**P**	**13 38 17.0**	**-0.2**
	comp=Z,45nm,0.9s						
WRA	**Warramunga Arr**	**26.34**	**163**	P	**P**	**13 38 17.1**	**-0.1**
WRA	**Warramunga Arr**	**26.34**	**163**	P	**P**	**13 38 17.1**	**-0.1**
	comp=Z,12nm,0.6s,baz=342,slow=10,SNR=9.8						
PPI	**Pangang Panjang**	**26.70**	**258**	P	P	13 38 25.5	+5.0
	comp=Z,28nm,1.1s						
PBKT	**Sadao Pong**	**27.36**	**296**	P	**P**	**13 38 29.2**	**+2.8**
PBKT	**Sadao Pong**	**27.36**	**296**	P	P	13 38 32.3	+5.9
WHN	**Wuhan**	**27.50**	**337**	P	P	13 38 33.0	+5.5
WHN				S	S	13 43 12.5	+8.3
WHN				LR	LR		
	comp=Z,1μm,21.2s						
GYA	**Guiyang**	**28.23**	**320**	*e*P	P	13 38 21.0	-13
GYA				pP	pP	13 38 48.3	-0.8
GYA				sP	sP	13 38 56.8	+0.6
GYA				PP	**PnPn**	**13 39 26.3**	**+0.9**
GYA				S	S	**13 43 13.5**	**-2.6**
GYA				sS	sS	13 43 41.0	-0.4
GYA				ScP	SS	13 45 01.8	-16
GYA	**Guiyang**	**28.23**	**320**	ScS	ScS	13 49 09.8	-6.0
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ASAR	**Alice Springs**	**29.79**	**166**	P	**P**	**13 38 47.2**	**-0.8**
ASAR				PcP	**PcP**	**13 41 52.5**	**+2.0**
ASAR				ScP	**ScP**	**13 45 28.9**	**+1.3**
ASAR	**Alice Springs**	**29.79**	**166**	P	**P**	**13 38 47.2**	**-0.8**
	comp=Z,2.9nm,0.7s,baz=342,slow=6.6,SNR=35						
ASAR				PcP	**PcP**	**13 41 52.5**	**+2.0**
	comp=Z,1.2nm,0.6s,baz=354,slow=2.6,SNR=4.1						
ASAR				ScP	**ScP**	**13 45 28.9**	**+1.3**
	comp=Z,2.2nm,1.1s,baz=5.2,slow=3.4,SNR=5.7						
CMAR	**Chiang Mai Arr**	**29.85**	**298**	P	**P**	**13 38 49.2**	**+0.6**

*IDC **25** 13:32:25.3±1.3,5.°32N×82.°61W,h0km,mb3.8/11, mb1 4.1/13,mb1mx4.0/24,mbtmp3.9/13,ML3.6/2, MS3.5/8,Ms1 3.5/8,ms1mx3.1/30,Error ellipse: s-maj=44.8km s-min=18.3km az=43.0,South of Panama*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**5.46**	**335**	Pn	Pn	13 33 47.6	-0.5
	13nm,0.3s,baz=136,slow=8.5,SNR=38						
JTS				Sn	Sn	13 34 51.9	+0.2
	22nm,0.3s,baz=314,slow=22,SNR=21						
ROSC	**El Rosal**	**8.26**	**93**	Pn	Pn	13 34 28.5	+1.6
	4.2nm,0.3s,baz=262,slow=14,SNR=2.6						
ROSC				LR	LR	13 38 11.8	
	comp=Z,107nm,18.6s,baz=210,slow=42						
ATAH	**Atahualpa**	**13.06**	**161**	LR	LR	13 39 53.9	
	comp=Z,496nm,20.4s,baz=127,slow=34						
LPAZ	**La Paz**	**25.81**	**147**	P	P	13 37 58.6	-0.6
	0.9nm,0.5s,baz=330,slow=8.1,SNR=3.8						
LPAZ				LR	LR	13 49 10.3	
	comp=Z,150nm,19.5s,baz=247,slow=39						
SIV	**San Ignacio**	**30.04**	**135**	LR	LR	13 50 40.6	
	comp=Z,217nm,18.6s,slow=36						
TXAR	**Lajitas Array**	**31.10**	**323**	P	P	13 38 45.6	-0.2
	0.5nm,1.0s,baz=121,slow=8.5,SNR=2.6						
TXAR				LR	LR	13 52 55.0	
	comp=Z,41nm,21.4s,baz=180,slow=40						
ANMO	**Albuquerque**	**36.81**	**326**	LR	LR	13 55 48.6	
	comp=Z,57nm,21.7s,baz=306,slow=38						
CPUP	**Villa Florida**	**39.88**	**143**	LR	LR	13 55 33.1	
	comp=Z,73nm,21.2s,baz=305,slow=35						
BDFB	**Brasilia**	**40.09**	**122**	LR	LR	13 57 40.6	
	comp=Z,128nm,18.8s,baz=7.4,slow=38						
PDAR	**Pinedale Array**	**44.28**	**331**	P	P	13 40 37.1	-0.1
	0.6nm,0.8s,baz=119,slow=12,SNR=5.6						
NVAR	**Mina Array Bea**	**46.20**	**321**	P	P	13 40 53.4	+0.9
	2.0nm,0.8s,baz=126,slow=6.8,SNR=15						
SCHQ	**Schefferville**	**50.99**	**12**	P	P	13 41 28.4	-0.4
	3.9nm,0.9s,baz=207,slow=6.8,SNR=4.7						
YKA	**Yellowknife Ar**	**61.73**	**344**	P	P	13 42 44.8	-0.4
	1.0nm,0.8s,baz=140,slow=6.6,SNR=9.7						
DLBC	**Dease Lake**	**64.36**	**335**	P	P	13 43 04.1	+1.1
	1.4nm,0.7s,baz=173,slow=10,SNR=6.0						
INK	**Inuvik**	**71.41**	**342**	P	P	13 43 46.0	-1.1
	1.2nm,0.8s,baz=135,slow=5.7,SNR=2.9						
ILAR	**Eielson Array**	**74.43**	**336**	P	P	13 44 04.7	-0.4
	0.7nm,0.8s,baz=122,slow=4.3,SNR=9.6						
ESDC	**Sonseca Array**	**77.89**	**51**	P	P	13 44 25.4	+0.1
	0.1nm,0.3s,baz=281,slow=6.6,SNR=5.1						
TORD	**Torodi Ar. Bea**	**83.27**	**77**	P	P	13 44 54.8	+0.1
	0.2nm,0.5s,baz=290,slow=5.9,SNR=5.2						

*NEIC **25** 13:32:37.8±0.5,5.°68N×126.°80E,h10km,mb4.8/17,Error ellipse: s-maj=15.6km s-min=8.8km az=73.0*

*BKK **25** 13:32:43.7±0.8,6.°N±6.°×12.°7E±.°,h10km,M5.1/11,mB5.3/3, mb4.7/11,MLv5.4/4,Mw(mB)4.7/3*

*DJA **25** 13:32:44.8±2.1,5.°N±5.°×12.°7E±.°,h11km±14km,M5.0/27, mB5.3/12,mb4.9/27,MLv5.3/9,Mw(mB)4.8/12*

*BJI **25** 13:32:44.2,5.°38N×126.°42E,h65km,mB4.9/21,mb4.8/29, Ms4.3/24,Ms7 4.0/24*

*ISCJB **25** 13:32:46.3±0.4,5.°33N±0.°03×126.°53E±0.°05,h74km±4km, mb4.5/55,Error ellipse: s-maj=8.3km s-min=3.9km az=167.9*

CMAR				ScP	**ScP**	**13 45 30.9**	**+3.0**		
CMAR	**Chiang Mai Arr**	**29.85**	**298**	P	**P**	**13 38 49.2**	**+0.6**		
	comp=Z,1.1nm,0.7s,baz=124,slow=7.2,SNR=6.5								
CMAR				ScP	**ScP**	**13 45 30.9**	**+3.0**		
	comp=Z,1.9nm,1.0s,baz=141,slow=2.3,SNR=8.0								
CMAR				LR	LR	13 51 08.5			
	comp=Z,273nm,18.1s,baz=281,slow=37								
KMI	**Kunming**	**30.05**	**313**	P	**P**	**13 38 49.5**	**-1.1**		
KMI				pP	**pP**	**13 39 05.3**	**-0.1**		
KMI				sP	**sP**	**13 39 13.0**	**+0.5**		
KMI				S	**S**	**13 43 42.8**	**-2.2**		
KMI				sS	**sS**	**13 44 12.0**	**+1.7**		
KMI				SS	**SnSn**	**13 45 23.3**	**+0.9**		
				pmax	pmax				
	comp=Z,6.0nm,0.6s								
KMI				pmax	pmax				
	comp=Z,55nm,4.0s								
KMI				LR	LR				
	comp=N,250nm,23.9s								
KMI				LR	LR				
	comp=E,180nm,23.9s								
KMI				LR	LR				
	comp=Z,410nm,25.6s								
CTA	**Charters Tower**	**31.93**	**143**	P	**P**	**13 39 06.7**	**-0.2**		
CTA	**Charters Tower**	**31.93**	**143**	P	**P**	**13 39 06.7**	**-0.2**		
	comp=Z,7.9nm,0.9s,baz=324,slow=11,SNR=4.0								
KSRS	**Korea Array**	**31.93**	**2**	P	P	13 39 09.8	+3.1		
	comp=Z,2.5nm,0.6s,baz=186,slow=8.1,SNR=2.0								
KSRS				LR	LR	13 53 30.6			
	comp=Z,107nm,18.3s,baz=104,slow=39								
MJAR	**Matsushiro Arr**	**32.80**	**18**	ScP	**ScP**	**13 45 40.4**	**+3.0**		
MJAR	**Matsushiro Arr**	**32.80**	**18**	ScP	**ScP**	**13 45 40.4**	**+3.0**		
	comp=Z,2.2nm,1.0s,baz=199,slow=4.0,SNR=4.8								
XAN	**Xi'an**	**32.83**	**332**	P	**P**	**13 39 15.0**	**+0.3**		
XAN				pP	**pP**	**13 39 26.3**	**-3.3**		
XAN				S	**S**	**13 44 30.3**	**+2.5**		
XAN				pmax	pmax				
	comp=Z,2.0nm,1.2s								
XAN				pmax	pmax				
	comp=Z,11nm,5.9s								
XAN				LR	LR				
	comp=N,220nm,27.6s								
XAN				LR	LR				
	comp=Z,100nm,26.6s								
CD2	**Chengdu**	**33.17**	**323**	*e*P	**P**	**13 39 14.8**	**-2.9**		
CD2				pP	**pP**	**13 39 31.0**	**-1.7**		
CD2				sP	**sP**	**13 39 39.0**	**-0.7**		
CD2				PP	**PnPn**	**13 40 28.0**	**-1.5**		
CD2				S	**S**	**13 44 29.3**	**-3.9**		
CD2				sS	**sS**	**13 44 57.0**	**-1.6**		
CD2				pmax	pmax				
	comp=Z,20nm,1.0s								
CD2				pmax	pmax				
	comp=Z,80nm,4.8s								
CD2				LR	LR				
	comp=E,460nm,17.8s								
CD2				LR	LR				
	comp=Z,320nm,15.5s								
BJI	**Beijing**	**35.72**	**346**	P	**P**	**13 39 40.3**	**+0.8**		
BJI				pP	**pP**	**13 39 49.8**	**-4.7**		
BJI				sP	**sP**	**13 39 57.5**	**-4.1**		
BJI				S	**S**	**13 45 10.3**	**-1.7**		
BJI				pmax	pmax				
	comp=Z,34nm,0.9s								
BJI				LR	LR				
	comp=N,110nm,23.2s								
BJI				LR	LR				
	comp=E,160nm,27.1s								
BJI				LR	LR				
	comp=Z,79nm,26.2s								
HNR	**Honiara**	**36.46**	**114**	LR	LR	13 53 37.4			
	comp=Z,251nm,21.4s,baz=94,slow=34								
LZH	**Lanz

PEA0B	**Petropavlovsk-**	**53.99**	**23**	*eP*		P		13 41 57.3	-7.2
PETK	**Petropavlovsk-**	**53.99**	**23**	P		**P**		**13 42 06.0**	**+1.5**
	comp=Z,5.7nm,0.9s,baz=201,slow=6.5,SNR=12								
PETK					LR	LR		14 05 48.2	
	comp=Z,51nm,18.6s,baz=34,slow=37								
MSVF	**Nonsavu**	**55.84**	**116**	*eP*		P		13 42 11.8	-6.7
MKAR	**Makanchi Array**	**56.06**	**325**	*eP*		P		13 42 14.9	-4.7
MKAR					PcP	**PcP**		**13 43 17.7**	**+0.6**
MKAR					ScP	**ScP**		**13 47 12.7**	**+1.4**
MKAR	**Makanchi Array**	**56.06**	**325**	P		**P**		**13 42 19.5**	**-0.1**
	comp=Z,3.8nm,0.5s,baz=122,slow=8.4,SNR=57								
MKAR					PcP	**PcP**		**13 43 17.7**	**+0.6**
	comp=Z,3.6nm,0.8s,baz=132,slow=5.1,SNR=5.9								
MKAR					ScP	**ScP**		**13 47 12.7**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=130,slow=5.1,SNR=3.7								
MKAR					LR	LR		14 07 05.5	
	comp=Z,178nm,21.4s,baz=116,slow=37								
KSH	**Kashi**	**56.70**	**314**	P		**P**		**13 42 25.8**	**+1.4**
KSH				pP		**pP**		**13 42 41.0**	**+0.6**
KSH				sP		**sP**		**13 42 48.0**	**+0.7**
KSH				PcS		**PcS**		**13 47 17.5**	**-3.4**
KSH				S		**S**		**13 50 13.0**	**+0.2**
KSH				sS		**sS**		**13 50 39.8**	**0.0**
KSH				pmax	pmax				
	comp=Z,13nm,1.3s								
KSH				pmax	pmax				
	comp=Z,48nm,3.7s								
KSH				LR	LR				
	comp=N,70nm,7.4s								
KSH				LR	LR				
	comp=E,100nm,5.6s								
KSH				LR	LR				
	comp=Z,150nm,5.3s								
TKM2	**Tokmak 2**	**58.35**	**318**	*eP*		**P**		**13 42 33.7**	**-2.3**
	comp=Z,2.9nm,0.7s								
ZAA0	**Zalesovo Array**	**59.00**	**333**	*eP*		P		13 42 34.5	-5.5
ZALV	**Zalesovo Beam**	**59.00**	**333**	P		**P**		**13 42 39.4**	**-0.7**
ZALV	**Zalesovo Beam**	**59.00**	**333**	P		**P**		**13 42 39.4**	**-0.7**
	comp=Z,1.4nm,0.4s,baz=136,slow=6.8,SNR=7.4								
ZALV					LR	LR		14 09 47.6	
	comp=Z,75nm,20.7s,baz=70,slow=38								
EKS2	**Erkin-Say**	**59.46**	**317**	*eP*		P		13 42 38.8	-4.9
	comp=Z,6.9nm,1.0s								
KURBB	**Kurchatov Arra**	**60.21**	**327**	P		**P**		**13 42 47.9**	**-0.6**
	comp=Z,5.1nm,0.7s,baz=125,slow=6.2,SNR=67								
KURK	**Kurchatov**	**60.21**	**327**	P		**P**		**13 42 47.9**	**-0.6**
FX1	**Attu Island--F**	**60.77**	**30**	LR		LR		14 04 33.6	
	comp=Z,42nm,20.0s,baz=254,slow=31								
KKAR	**Karatay Array**	**61.86**	**316**	*eP*		P		13 42 55.7	-4.1
RPZ	**Rata Peaks**	**63.26**	**145**	LR		LR		14 12 35.0	
	comp=Z,169nm,19.3s,baz=341,slow=38								
URZ	**Urewera**	**63.92**	**137**	LR		LR		14 09 44.0	
	comp=Z,184nm,19.3s,baz=304,slow=35								
AFI	**Afiamalu**	**64.18**	**108**	LR		LR		14 05 06.6	
	comp=Z,179nm,20.4s,baz=342,slow=30								
BVAR	**Borovoye Array**	**65.80**	**327**	P		**P**		**13 43 25.4**	**-0.1**
BVAR	**Borovoye Array**	**65.80**	**327**	P		**P**		**13 43 25.4**	**-0.1**
	comp=Z,4.1nm,0.8s,baz=126,slow=7.5,SNR=18								
BRVK	**Borovoye**	**65.87**	**327**	*eP*		P		13 43 22.0	-4.0
	comp=Z,8.8nm,0.9s								
ABKAR	**Akbulak array**	**70.71**	**320**	*eP*		P		13 43 52.3	-4.0
AKTO	**Aktyubinsk**	**72.21**	**321**	P		**P**		**13 44 05.0**	**-0.4**
AKTO	**Aktyubinsk**	**72.21**	**321**	P		**P**		**13 44 05.0**	**-0.4**
	comp=Z,4.2nm,0.7s,baz=98,slow=7.6,SNR=13								
KBZ	**Khabaz**	**81.66**	**313**	LR		LR		14 25 48.9	
	comp=Z,64nm,20.2s,baz=259,slow=39								
COLD	**Coldfoot**	**82.46**	**23**	*eP*		P		13 44 55.3	-7.1
MCK	**McKinley**	**82.78**	**27**	*eP*		P		13 44 56.6	-7.5
ILAR	**Eielson Array**	**83.71**	**25**	P		**P**		**13 45 09.1**	**+0.3**
ILAR	**Eielson Array**	**83.71**	**25**	P		**P**		**13 45 09.1**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=246,slow=4.8,SNR=13								
VNDA	**Vanda**	**85.11**	**173**	*eP*		P		13 45 11.9	-3.7
	comp=Z,6.8nm,1.2s								
VNDA	**Vanda**	**85.11**	**173**	P		**P**		**13 45 15.4**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=299,slow=5.3,SNR=12								
VNDA					LR	LR		14 23 31.2	
	comp=Z,80nm,21.7s,baz=344,slow=36								
PPT	**Papeete**	**85.86**	**108**	LR		LR		14 18 39.4	
	comp=Z,102nm,20.7s,baz=163,slow=32								
PPT2	**Papeete2**	**85.86**	**108**	*eLR*		LR		14 12 22.6	
	comp=Z,199nm,26.5s								
TBI	**Tubuai**	**86.68**	**114**	*eLR*		LR		14 12 46.7	
	comp=Z,186nm,28.8s								
JOF	**Joensuu**	**87.59**	**333**	*ep*		**P**		**13 45 28.4**	**+0.3**
	comp=Z,2.5nm,0.3s								
INK	**Inuvik**	**88.71**	**21**	P		**P**		**13 45 34.2**	**+1.0**
INK	**Inuvik**	**88.71**	**21**	P		**P**		**13 45 34.2**	**+1.0**
	comp=Z,1.9nm,1.1s,baz=281,slow=5.2,SNR=2.0								
BRTR	**Keskin Array B**	**88.78**	**310**	P		**P**		**13 45 33.6**	**-0.9**
BRTR	**Keskin Array B**	**88.78**	**310**	P		**P**		**13 45 33.6**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=90,slow=6.2,SNR=4.9								
BRTR					LR	LR		14 29 07.1	
	comp=Z,30nm,19.5s,baz=296,slow=38								
SPITS	**Spitsbergen Ar**	**88.80**	**349**	P		**P**		**13 45 34.0**	**+0.4**
SPITS	**Spitsbergen Ar**	**88.80**	**349**	P		**P**		**13 45 34.0**	**+0.4**
	comp=Z,2.9nm,0.6s,baz=157,slow=4.1,SNR=10								
ARCES	**ARCESS Array B**	**88.81**	**340**	P		**P**		**13 45 33.8**	**0.0**
ARCES	**ARCESS Array B**	**88.81**	**340**	P		**P**		**13 45 33.8**	**0.0**
	comp=Z,6.6nm,0.7s,baz=77,slow=5.9,SNR=17								
ARCES					LR	LR		14 30 17.9	
	comp=Z,60nm,19.2s,baz=50,slow=39								
KAF	**Kangasniemi**	**90.01**	**332**	*ep*		**P**		**13 45 39.6**	**+0.1**
	comp=Z,2.6nm,0.4s								
FINES	**FINESS Array B**	**90.25**	**332**	P		**P**		**13 45 40.7**	**0.0**
FINES	**FINESS Array B**	**90.25**	**332**	P		**P**		**13 45 40.7**	**0.0**
	comp=Z,1.8nm,0.5s,baz=63,slow=5.3,SNR=23								
FINES					LR	LR		14 29 40.1	
	comp=Z,104nm,19.0s,baz=221,slow=38								
HFS	**Hagfors**	**96.44**	**332**	P		**P**		**13 46 08.7**	**-0.5**
HFS	**Hagfors**	**96.44**	**332**	P		**P**		**13 46 08.7**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=122,slow=7.0,SNR=3.6								
NB2	**NORSAR Subarra**	**97.19**	**334**	P		**P**		**13 46 11.5**	**-1.1**
	comp=Z,7nm,0.8s,baz=67,slow=4.6								
NOA	**NORSAR Array B**	**97.19**	**334**	P		**P**		**13 46 12.2**	**-0.4**
NOA	**NORSAR Array B**	**97.19**	**334**	P		**P**		**13 46 12.2**	**-0.4**
	comp=Z,2.2nm,0.9s,baz=66,slow=4.6,SNR=5.0								
NOA					LR	LR		14 33 57.6	
	comp=Z,94nm,21.7s,baz=80,slow=38								
YKA	**Yellowknife Ar**	**98.08**	**24**	P		Pdif		13 46 17.4	+0.8
YKA	**Yellowknife Ar**	**98.08**	**24**	P		Pdif		13 46 17.4	+0.8
	comp=Z,0.3nm,0.7s,baz=287,slow=4.5,SNR=3.4								
NVAR	**Mina Array Bea**	**105.97**	**48**	Pdiff		**Pdif**		**13 46 55.3**	**+2.7**
	comp=Z,0.3nm,0.6s,baz=266,slow=5.9,SNR=3.8								
PDAR	**Pinedale Array**	**110.26**	**41**	PKKPbc		PKKPbc		14 02 23.6	+8.7
	comp=Z,0.4nm,0.7s,baz=101,slow=7.7,SNR=3.9								
TXAR	**Lajitas Array**	**120.76**	**51**	PKP		**PKPdf**		**13 51 30.8**	**-2.1**
TXAR	**Lajitas Array**	**120.76**	**51**	PKP		**PKPdf**		**13 51 30.8**	**-2.1**
	comp=Z,0.1nm,0.5s,baz=143,slow=2.3,SNR=2.9								
TORD	**Torodi Ar. Bea**	**122.16**	**289**	PKP		**PKPdf**		**13 51 35.8**	**0.0**
TORD	**Torodi Ar. Bea**	**122.16**	**289**	PKP		**PKPdf**		**13 51 35.8**	**0.0**
	comp=Z,2.1nm,0.8s,baz=56,slow=1.9,SNR=11								
DBIC	**Dimbokro**	**129.98**	**283**	SKPbc		**SKPbc**		**13 55 08.7**	**+0.2**
	comp=Z,7.5nm,1.1s,baz=23,slow=5.4,SNR=3.8								
CPUP	**Villa Florida**	**158.87**	**170**	PKPab		**PKPab**		**13 53 18.8**	**+4.3**
	comp=Z,0.8nm,0.5s,baz=189,slow=2.9,SNR=6.1								

*CASC **25** 13:51:19.8±2.5,5.˚18N×82.˚62W, h35km±999km, MD4.5*
*IDC **25** 13:51:21.2±16.0,5.˚89N×82.˚05W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.5/20, mbtmp3.5/3, MS3.3/5, Ms1 3.3/5, ms1mx3.1/19, Error ellipse: s-maj=397.3km s-min=141.5km az=179.0*
ISC 25 13:51:23.2±1.8, 5.˚5N±0.˚1×82.˚7W±0.˚2, h15km, n18, σ2§13/21, mb3.7/3, MS3.4/3, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**3.18**	**352**	*eP*	**Pn**	**13 52 11.7**	**-1.1**
ACR				*eS*	**Sn**	**13 52 54.0**	**+3.6**
BRU2	**Volcan**	**3.29**	**0**	*eP*	**Pn**	**13 52 13.6**	**-0.8**
BRU2				*eS*	**Sn**	**13 52 55.3**	**+2.0**
TBS2		**3.29**	**1**	*eS*	**Sb**	**13 52 57.4**	**-3.9**
QCR	**Quepos**	**4.17**	**340**	*eP*	**Pn**	**13 52 25.6**	**-0.7**
QCR				*eS*	**Sn**	**13 53 17.1**	**+2.2**
BUS	**Buena Vista**	**4.17**	**346**	*eP*	**Pn**	**13 52 27.1**	**+0.3**
BUS				*eS*	**Sn**	**13 53 16.6**	**+1.1**
URSC	**Urasca**	**4.45**	**346**	*eP*	**Pn**	**13 52 30.9**	**+0.6**
URSC				*eS*	**Sn**	**13 53 25.2**	**+3.3**
SJS	**Escuela Geolog**	**4.62**	**343**	*eP*	**Pn**	**13 52 32.9**	**+0.3**
SJS				*eS*	**Sn**	**13 53 29.7**	**+3.6**
CGA2	**Cerro Gallo 2**	**4.82**	**339**	*eP*	**Pn**	**13 52 35.5**	**0.0**
JCR	**Jicaral**	**4.94**	**331**	*eP*	**Pn**	**13 52 36.6**	**-0.5**
JCR				*eS*	**Sn**	**13 53 30.6**	**-3.4**
VCR	**Vista de Mar**	**5.44**	**328**	*eP*	**Pn**	**13 52 43.6**	**-0.4**
VCR				*eS*	**Sn**	**13 53 48.3**	**+1.9**
ROSC	**El Rosal**	**8.38**	**94**	LR	LR	13 56 41.9	
	comp=Z,46nm,19.2s,baz=233,slow=41						
ATAH	**Atahualpa**	**13.26**	**161**	LR	LR	13 58 49.1	
	comp=Z,291nm,20.8s,baz=345,slow=33						
LPAZ	**La Paz**	**26.01**	**147**	LR	LR	14 07 57.2	
	comp=Z,120nm,20.4s,baz=252,slow=38						
TXAR	**Lajitas Array**	**30.90**	**323**	LR	LR	14 12 52.3	
	comp=Z,25nm,19.9s,baz=180,slow=42						
CPUP	**Villa Florida**	**40.08**	**143**	LR	LR	14 15 13.6	
	comp=Z,71nm,20.2s,baz=261,slow=36						
NVAR	**Mina Array Bea**	**46.00**	**321**	P	**P**	**13 59 47.6**	**+1.1**
	0.8nm,0.8s,baz=142,slow=7.6,SNR=6.2						
YKA	**Yellowknife Ar**	**61.54**	**344**	P	**P**	**14 01 38.7**	**-0.7**
	0.6nm,0.9s,baz=132,slow=7.6,SNR=5.1						
ILAR	**Eielson Array**	**74.23**	**336**	P	**P**	**14 02 59.1**	**-0.3**
	0.3nm,0.7s,baz=126,slow=4.6,SNR=4.2						

*MAN **25** 13:59:09,5.˚25N×126.˚20E, h133km, mb4.5, ML3.4, MS3.3*
*IDC **25** 13:59:16.4±2.2,5.˚15N×125.˚84E, h89km±28km, mb3.5/6, mb1 3.7/6, mb1mx3.3/23, mbtmp3.5/6, Error ellipse: s-maj=97.1km s-min=15.8km az=73.0*
ISC 25 13:59:11.3±0.9,5.˚10N±0.˚09×126.˚2E±0.˚1, h35km, n11, σ2§10/11, mb3.6/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.58**	**308**	*eP*	**Pn**	**13 59 36.7**	**-0.3**
GSPH				*eS*	**Sn**	**13 59 57.3**	**+1.0**
MATI	**Mati**	**1.84**	**2**	*eP*	**Pn**	**13 59 39.5**	**-0.8**
MATI				*eS*	Sn	13 59 44.9	-18
DAV	**Davao City (W)**	**2.06**	**343**	P	Pn	13 59 47.6	+4.3
	20nm,0.3s,baz=122,slow=12,SNR=2.2						
DAV				S	**Sn**	**14 00 11.8**	**+4.0**
	37nm,0.3s,baz=250,slow=23,SNR=6.1						
BUKP	**Musuan**	**2.99**	**338**	*eP*	**Pn**	**13 59 56.9**	**+0.7**
BUKP				*eS*	Sn	14 00 16.9	-14
BUTP	**Butuan**	**3.89**	**352**	*eP*	Pn	14 00 04.4	-4.2
FITZ	**Fitzroy Crossi**	**23.06**	**181**	P	**P**	**14 04 14.9**	**+1.1**
	0.8nm,0.4s,baz=4.1,slow=10,SNR=14						
WRA	**Warramunga Arr**	**26.14**	**162**	P	**P**	**14 04 44.3**	**+1.9**
	1.5nm,0.4s,baz=342,slow=10,SNR=2.6						
ASAR	**Alice Springs**	**29.56**	**166**	P	**P**	**14 05 13.9**	**+0.9**
	0.3nm,0.5s,baz=341,slow=6.9,SNR=7.6						
STKA	**Stephens Creek**	**39.59**	**159**	P	**P**	**14 06 40.2**	**+0.8**
	0.6nm,0.4s,baz=12,slow=9.3,SNR=3.2						
MKAR	**Makanchi Array**	**56.14**	**325**	P	**P**	**14 08 45.1**	**-2.4**
	0.3nm,0.5s,baz=114,slow=7.5,SNR=7.1						
ARCES	**ARCESS Array B**	**88.99**	**340**	P	**P**	**14 12 00.0**	**-2.2**
	1.2nm,0.7s,baz=88,slow=6.8,SNR=5.2						

*NIED **25** 14:55:00, 31.˚60N×140.˚40E, h26km, Mw3.8 Best double couple: M0 6.41000×10^14 NP1:φ§108.00000°, δ§86.00000°, λ§-149.00000°. NP2:φ§15.00000°, δ§89.00000°, λ§-5.00000°.*
JMA 25 14:55:54.7±0.1, 31.˚57N×140.˚38E, h0km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.58**	**342**	P	Pn	14 56 24.1	+0.1
JHCJ				*eS*	Sn	14 56 44.6	-0.5
JHJ2	**Mitsune**	**1.61**	**343**	P	Pn	14 56 24.7	+0.3
JHJ2				*eS*	Sn	14 56 45.3	-0.6
BSO1	**Boso 1**	**3.12**	**9**	*eS*	Sn	14 57 22.8	+1.0
BSO2	**Boso 2**	**3.19**	**6**	*eS*	Sn	14 57 25.8	+1.6
BSO3	**Boso 3**	**3.23**	**2**	P	Pn	14 56 48.0	+1.7
BSO3				*eS*	Sn	14 57 26.0	+0.9
JHU	**Hanno**	**4.37**	**348**	P	Pn	14 57 04.5	+2.2
JHU				*eS*	Sn	14 57 54.8	+0.8
JHO	**Hitachi**	**5.03**	**2**	P	Pn	14 57 12.7	+1.3
JHO				*eS*	Sn	14 58 11.7	+1.4
MAT	**Matsushiro**	**5.28**	**341**	P	Pn	14 57 19.1	+4.2
MAT				S	Sn	14 58 21.6	+5.2

*IDC **25** 14:57:09.8±1.5, 42.˚53N×75.˚69E, h0km, mb3.7/3, mb1 3.7/7, mb1mx3.4/31, mbtmp3.6/7, ML3.6/4, MS2.8/1, Ms1 2.8/1, ms1mx2.2/33, Error ellipse: s-maj=19.6km s-min=7.2km az=162.0*
*ISCJB **25** 14:57:10.0±0.5, 42.˚59N±0.˚03×75.˚70E±0.˚03, h4km±4km, mb3.5/3, Error ellipse: s-maj=4.7km s-min=3.6km az=4.4*
*KNET **25** 14:57:09.5±0.3, 42.˚57N×75.˚72E, h18km±3km, ml3.2, Error ellipse: s-maj=2.9km s-min=1.7km az=54.0*
*NNC **25** 14:57:10.8±1.0, 42.˚59N×75.˚71E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=7.1km s-min=4.9km az=52.0*
*MOS **25** 14:57:10.6±1.5, 42.˚62N×75.˚67E, h13km, mb4.0/2, Error ellipse: s-maj=7.9km s-min=7.3km az=92.1*
*BJI **25** 14:57:13.5, 42.˚50N×75.˚60E, h10km, ML3.3/4*
ISC 25 14:57:10.7±1.1, 42.˚57N±0.˚03×75.˚69E±0.˚02, h3km±8km, n50, σ1§38/64, mb3.5/3, 17C-14D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.35**	**349**	↑P	**Pg**	**14 57 17.4**	**-0.3**
	348nm,0.2s						
TKM2				↓S	**Sg**	**14 57 22.6**	**+0.3**
	2μm,0.2s						
TKM2	**Tokmak 2**	**0.35**	**349**	*i* PG	**Pg**	**14 57 17.3**	**-0.3**
TKM2				pmax	pmax		
	comp=Z,348nm,0.2s						
TKM2	**Tokmak 2**	**0.35**	**349**	P	**Pg**	**14 57 17.7**	**+0.1**
	comp=Z,1μm,0.2s,SNR=1118						
TKM2				↓S	**Sg**	**14 57 22.9**	**+0.6**
	comp=Z,9μm,0.2s						
ULHL	**Ulahol**	**0.53**	**128**	*i* PG	**Pg**	**14 57 20.3**	**-0.5**
ULHL	**Ulahol**	**0.53**	**128**	P	**Pg**	**14 57 20.4**	**-0.4**
	comp=Z,142nm,0.2s,SNR=431						
ULHL				↑S	**Sg**	**14 57 27.6**	**0.0**
	comp=Z,748nm,0.4s						
KBK	**Karagaybulak**	**0.55**	**279**	*i* PG	**Pg**	**14 57 21.8**	**+0.5**
KBK	**Karagaybulak**	**0.55**	**279**	↑P	**Pg**	**14 57 21.9**	**+0.5**
	comp=Z,654nm,0.2s,SNR=268						
KBK				↓S	**Sb**	**14 57 30.2**	**-1.4**
	comp=Z,897nm,0.2s						
KZA	**Kyzart**	**0.59**	**213**	*i* PG	**Pb**	**14 57 22.6**	**-1.4**
KZA	**Kyzart**	**0.59**	**213**	↓P	**Pb**	**14 57 22.5**	**-1.5**
	comp=Z,346nm,0.3s,SNR=693						
KZA				↓S	**Sb**	**14 57 30.8**	**-2.1**
	comp=Z,1μm,0.4s						
CHMS	**Chumysh**	**0.81**	**302**	*i* PG	**Pg**	**14 57 25.8**	**-0.4**
CHMS	**Chumysh**	**0.81**	**302**	P	**Pg**	**14 57 25.9**	**-0.4**
	comp=Z,73nm,0.2s,SNR=127						
CHMS				↓S	**Sg**	**14 57 36.8**	**+0.1**
	comp=Z,511nm,0.2s						
FRU	**Bishkek**	**0.83**	**289**	↑*i* PG	**Pg**	**14 57 26.2**	**-0.5**
FRU				*eS*	**Sg**	**14 57 37.4**	**0.0**
FRU				pmax	pmax		
	comp=Z,228nm,1.8s						
FRU				smax	smax		
	comp=N,547nm,1.8s						
AAK	**Ala-Archa**	**0.88**	**274**	PG	**Pg**	**14 57 27.5**	**-0.1**
AAK				pmax	pmax		
	comp=Z,180nm,0.3s						
AAK	**Ala-Archa**	**0.88**	**274**	↑P	**Pg**	**14 57 27.6**	**-0.1**
	comp=Z,406nm,0.2s,SNR=202						
AAK	**Ala-Archa**	**0.88**	**274**	Pg	**Pg**	**14 57 27.5**	**-0.1**
	comp=Z,180nm,0.3s,baz=99,slow=9.3,SNR=434						
AAK				Lg	Lg	14 57 39.7	
	comp=Z,103nm,0.3s,baz=317,slow=19,SNR=33						
UCH	**Uchtor**	**0.94**	**249**	*i* PG	**Pg**	**14 57 28.5**	**-0.2**
UCH	**Uchtor**	**0.94**	**249**	↑P	**Pg**	**14 57 28.4**	**-0.2**
	comp=Z,77nm,0.3s,SNR=51						
USP	**Ospenovka**	**1.11**	**309**	*i* PG	**Pb**	**14 57 31.2**	**-1.5**
USP	**Ospenovka**	**1.11**	**309**	P	**Pb**	**14 57 31.3**	**-1.5**
	comp=Z,79nm,0.2s,SNR=155						
USP				↑S	**Sb**	**14 57 46.6**	**-1.1**
	comp=Z,445nm,0.2s						
KNDC	**Almaty**	**1.14**	**55**	↑P	**Pb**	**14 57 32.1**	**-1.0**
KNDC				↑S	**Sb**	**14 57 47.7**	**-0.6**
AAA	**Alma-Ata**	**1.16**	**53**	*e*PG	**Pb**	**14 57 31.7**	**-1.8**
AAA				*eS*	**Sb**	**14 57 46.7**	**-2.2**
AAA				pmax	pmax		
	comp=Z,734nm,0.3s						
AAA				smax	smax		
	comp=N,2μm,0.5s						
EKS2	**Erkin-Say**	**1.41**	**274**	*i* PG	**Pb**	**14 57 37.5**	**-0.3**
AML	**Almayashu**	**1.54**	**254**	*i* P*	**Pb**	**14 57 39.5**	**-0.7**
KSH	**Kashi**	**3.06**	**176**	Pg	Pg	14 58 15.8	+6.4
KSH				Sg	Sg	14 59 01.3	+12
KSH				smax	smax		
	comp=N,170nm,0.6s						
KSH				smax	smax		
	comp=E,110nm,0.7s						
KK31	**Karatay Array**	**3.84**	**280**	Pn	**Pn**	**14 58 12.3**	**+1.5**
	comp=E,0.4nm,0.3s,baz=92,slow=13,SNR=512						
KK31				↑Pg	**Pb**	**14 58 20.4**	**+1.2**
	comp=E,28nm,0.5s,baz=92,slow=16						
KK31				↑Lg	Lg	14 59 14.1	
	comp=E,13nm,0.3s,baz=90,slow=28						
KK31	**Karatay Array**	**3.84**	**280**	*i* PN	**Pn**	**14 58 12.3**	**+1.5**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.2s						
MK31	**Makanchi Array**	**6.32**	**46**	↑Pn	**Pn**	**14 58 46.5**	**+1.6**
	comp=Z,3.1nm,0.4s						
MK31				↓Sn	**Sn**	**14 59 59.4**	**+1.8**
	comp=Z,2.8nm,0.5s						
MK31				↓Lg	Lg	15 00 30.4	
	comp=Z,6.8nm,0.6s,baz=222,slow=30,SNR=5.7						
MK31	**Makanchi Array**	**6.32**	**46**	*i* PN	**Pn**	**14 58 46.4**	**+1.6**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.2s						
MKAR	**Makanchi Array**	**6.32**	**46**	PN	**Pn**	**14 58 45.7**	**+0.9**
MKAR						14 59 03.7	
MKAR						14 59 59.6	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR				smax	smax		
	comp=N,1.0nm,0.3s						
MKAR	**Makanchi Array**	**6.32**	**46**	Pn	**Pn**	**14 58 45.7**	**+0.9**
	comp=N,3.4nm,0.3s,baz=223,slow=15,SNR=139						
MKAR				Pg	**Pb**	**14 59 03.7**	**+2.3**
	comp=N,0.9nm,0.3s,baz=231,slow=13,SNR=6.3						
MKAR				Sn	**Sn**	**14 59 59.6**	**+2.0**
	comp=N,1.3nm,0.3s,baz=225,slow=26,SNR=4.5						
MKAR				Lg	Lg	15 00 30.6	
	comp=N,2.2nm,0.3s,baz=227,slow=27,SNR=6.2						
KURBB	**Kurchatov Arra**	**8.29**	**13**	↓Pn	**Pn**	**14 59 11.2**	**-0.5**
	comp=N,0.9nm,0.3s						
KURBB				↓Lg	Lg	15 01 33.2	
	comp=N,60nm,0.8s						
KURBB	**Kurchatov Arra**	**8.29**	**13**	Pn	**Pn**	**14 59 10.9**	**-0.8**
	comp=N,0.2nm,0.3s,baz=201,slow=12,SNR=13						
KURBB				Lg	Lg	15 01 33.5	
	comp=N,0.6nm,0.3s,baz=204,slow=32,SNR=14						
KURK	**Kurchatov**	**8.39**	**13**	P	**Pn**	**14 59 11.8**	**-1.4**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
VOSK	**Vostochnaya**	**10.64**	**344**	↑Pn	Pn	14 59 48.4	+4.5
	comp=Z,0.6nm,0.5s						
VOSK				↑Lg	Lg	15 02 43.4	
	comp=Z,17nm,0.9s						
BVA0	**Borovoye Array**	**11.04**	**343**	↑Pn	**Pn**	**14 59 48.4**	**-1.2**
	comp=Z,3.1nm,1.2s,baz=151,slow=14,SNR=6.5						
BVA0				↑Lg	Lg	15 02 55.3	
	comp=Z,18nm,1.1s,baz=154,slow=28,SNR=5.4						
BVAR	**Borovoye Array**	**11.04**	**343**	P	**Pn**	**14 59 48.0**	**-1.5**
BVAR						15 01 50.9	
BVAR				MLR	MLR		
	comp=Z,43nm,18.3s						
BVAR	**Borovoye Array**	**11.04**	**343**	Pn	**Pn**	**14 59 48.0**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=144,slow=14,SNR=6.4						
BVAR				Sn	**Sn**	**15 01 50.9**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=153,slow=22,SNR=3.2						
BVAR				Lg	Lg	15 03 02.4	
	comp=Z,1.4nm,0.3s,baz=153,slow=26,SNR=5.5						
BVAR				LR	LR	15 04 03.9	
	comp=Z,43nm,18.3s,baz=118,slow=37						
BRVK	**Borovoye**	**11.10**	**343**	*eP*	**Pn**	**14 59 52.2**	**+1.9**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AB31	**Akbulak array**	**12.83**	**307**	↑Pn	**Pn**	**15 00 12.6**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=123,slow=13,SNR=

AGRA					AML	AML	15 10 55.5	
	comp=N,50nm,0.3s							
KK31	**Karatay Array**	**9.01**	**323**	⇑Pn		**Pn**	**15 09 21.1**	**+1.5**
	comp=N,0.5nm,0.4s,baz=141,slow=14,SNR=13							
KK31				⇓Sn		**Sn**	**15 10 57.2**	**-2.2**
	comp=N,1.1nm,0.4s,baz=147,slow=22,SNR=4.4							
WMQ	**Urumqi**	**10.67**	**41**	P		**Pn**	**15 09 42.5**	**+0.2**
WMQ				S		**Sn**	**15 11 38.8**	**-1.0**
MK31	**Makanchi Array**	**11.10**	**16**	⇑Pn		**Pn**	**15 09 47.7**	**-0.3**
	comp=N,3.0nm,0.4s,baz=196,slow=13,SNR=4.6							
MK31				⇓Sn		**Sn**	**15 11 45.0**	**-5.1**
	comp=N,10nm,0.6s,baz=194,slow=24,SNR=13							
MKAR	**Makanchi Array**	**11.10**	**16**	Pn		**Pn**	**15 09 48.2**	**+0.2**
	comp=N,4.0nm,0.3s,baz=196,slow=14,SNR=137							
KURBB	**Kurchatov Arra**	**14.46**	**1**	⇓Pn		**Pn**	**15 10 32.9**	**+0.4**
	comp=N,2.2nm,0.9s							
KURBB	**Kurchatov Arra**	**14.46**	**1**	Pn		**Pn**	**15 10 33.1**	**+0.5**
	comp=N,0.1nm,0.3s,baz=184,slow=12,SNR=4.9							
GTA	**Gaotai**	**17.55**	**73**	*e*P		**Pn**	**15 11 14.0**	**+2.5**
GTA				pP		P	15 11 20.0	+8.7
BVAR	**Borovoye Array**	**17.68**	**345**	P		**Pn**	**15 11 13.0**	**+0.2**
	comp=N,0.7nm,0.3s,baz=158,slow=12,SNR=9.9							
BVAR				LR		LR	15 18 10.1	
	comp=N,21nm,20.9s,baz=116,slow=37							
ZALV	**Zalesovo Beam**	**18.41**	**13**	P		**Pn**	**15 11 22.3**	**+0.8**
	comp=N,0.2nm,0.3s,baz=189,slow=11,SNR=3.8							
AKTO	**Aktyubinsk**	**20.27**	**321**	P		Pn	15 11 42.4	-1.1
	comp=N,0.8nm,0.5s,baz=131,slow=11,SNR=2.2							
SONM	**Songino Array**	**23.98**	**52**	P		**P**	**15 12 20.7**	**+1.9**
	comp=N,0.3nm,0.4s,baz=248,slow=7.6,SNR=3.0							
CMAR	**Chiang Mai Arr**	**25.55**	**128**	P		**P**	**15 12 32.4**	**-0.8**
	comp=N,0.8nm,0.6s,baz=311,slow=9.3,SNR=5.5							
FINES	**FINESS Array B**	**40.96**	**325**	P		**P**	**15 14 46.7**	**+0.6**
	comp=N,1.9nm,0.8s,baz=108,slow=8.9,SNR=3.9							
TORD	**Torodi Ar. Bea**	**71.36**	**273**	P		**P**	**15 18 22.2**	**-1.0**
	comp=N,0.2nm,0.4s,baz=53,slow=5.5,SNR=5.1							
WRA	**Warramunga Arr**	**77.14**	**127**	P		**P**	**15 18 56.1**	**-0.5**
	comp=N,1.1nm,0.5s,baz=320,slow=6.3,SNR=2.8							
ASAR	**Alice Springs**	**79.56**	**129**	P		**P**	**15 19 09.5**	**-0.4**
	comp=N,0.6nm,0.8s,baz=316,slow=5.5,SNR=6.3							
YKA	**Yellowknife Ar**	**81.16**	**6**	P		**P**	**15 19 18.0**	**+0.2**
	comp=N,0.2nm,0.5s,baz=349,slow=5.5,SNR=3.5							

*ISCJB **25** 15:14:21.1±0.5,21.˚53S±0.˚04×68.˚34W±0.˚07, h109km±6km, mb4.0/8, Error ellipse: s-maj=11.5km s-min=6.7km az=167.8*

*GUC **25** 15:14:22.1±0.5,21.˚59S×68.˚64W, h122km±4km, ML4.5*

*IDC **25** 15:14:23.3±0.5,21.˚68S×68.˚44W, h116km±5km, mb3.8/9, mb1 3.9/12, mb1mx3.8/19, mbtmp3.7/12, Error ellipse: s-maj=7.3km s-min=10.7km az=118.0*

ISC 25 15:14:22.7±0.6, **21.˚58S**±0.˚05×**68.˚46W**±0.˚08, **h111**km±6km, **n29,** σ1**92/34, mb4.0/8, 5C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB09	**Plate Boundary**	**0.76**	**253**	⇑*i*P		**Pn**	**15 14 41.8**	**-0.2**
PB09				*i* S		**Sn**	**15 14 56.0**	**-0.4**
PB09				AML		AML	15 15 01.3	
	comp=E,26μm,0.3s							
LVC	**Limon Verde**	**1.11**	**202**	⇑*i*P		**Pn**	**15 14 45.6**	**+0.1**
LVC	**Limon Verde**	**1.11**	**202**	P		**Pn**	**15 14 45.2**	**-0.3**
	comp=E,330nm,0.3s,baz=20,slow=10,SNR=1959							
LVC				S		**Sn**	**15 15 02.5**	**-0.2**
	comp=E,350nm,0.3s,baz=107,slow=19,SNR=73							
PB04	**Plate Boundary**	**1.18**	**234**	⇑*i*P		Pn	15 14 51.5	+5.6
PB04				*i* S		Sn	15 15 13.8	+10
PB04				AML		AML	15 15 20.4	
	comp=N,3μm,0.2s							
HMBC	**Humberstone**	**1.86**	**314**	⇑*i*P		**Pn**	**15 14 53.4**	**-0.7**
HMBC				*i* S		**Sn**	**15 15 17.4**	**-0.7**
HMBC				AML		AML	15 15 18.9	
	comp=E,6μm,0.9s							
PSGC	**Pisagua**	**2.51**	**321**	⇑*i*P		**Pn**	**15 15 01.0**	**-1.5**
PSGC				*i* S		**Sn**	**15 15 31.4**	**-1.6**
PSGC				AML		AML	15 15 36.5	
	comp=E,2μm,0.7s							
MNMC	**Minimini**	**2.66**	**336**	*e*P		**Pn**	**15 15 04.7**	**+0.1**
MNMC				*i* S		**Sn**	**15 15 37.1**	**+0.6**
MNMC				AML		AML	15 15 44.7	
	comp=E,2μm,0.2s							
ANCH	**Antofagasta**	**2.77**	**220**	AML		AML	15 15 46.8	
	comp=N,1μm,0.3s							
LPAZ	**La Paz**	**5.27**	**3**	P		**Pn**	**15 15 41.4**	**+1.6**
	comp=N,2.3nm,0.3s,baz=180,slow=10,SNR=56							
LPAZ				S		**Sn**	**15 16 36.5**	**-3.2**
	comp=N,1.1nm,0.3s,baz=217,slow=7.6,SNR=3.9							
SIV	**San Ignacio**	**8.93**	**53**	P		Pn	15 16 26.5	-2.5
	comp=N,4.0nm,0.3s,baz=255,slow=13,SNR=136							
SIV				S		Sn	15 18 01.2	-6.6
	comp=N,0.2nm,0.3s,baz=2.2,slow=22,SNR=3.0							
CFAA	**Coronel Fontan**	**9.99**	**179**	P		Pn	15 16 38.9	-4.3
	comp=N,0.1nm,0.3s,baz=7.5,slow=14,SNR=7.1							
CPUP	**Villa Florida**	**11.22**	**117**	P		**Pn**	**15 16 58.3**	**-1.5**
	comp=N,0.4nm,0.3s,baz=284,slow=13,SNR=8.4							
PLCA	**Paso Flores**	**19.18**	**185**	P		**Pn**	**15 18 38.6**	**-1.1**
	comp=N,0.1nm,0.3s,baz=356,slow=12,SNR=4.6							
BDFB	**Brasilia**	**20.25**	**77**	P		**P**	**15 18 48.9**	**-0.5**
	comp=N,2.0nm,0.5s,baz=236,slow=11,SNR=4.1							
TXAR	**Lajitas Array**	**60.93**	**325**	P		**P**	**15 24 24.5**	**+0.3**
	comp=N,0.6nm,0.5s,baz=148,slow=8.8,SNR=12							
DBIC	**Dimbokro**	**68.35**	**73**	P		**P**	**15 25 12.6**	**-0.1**
	comp=N,4.4nm,0.8s,baz=249,slow=5.5,SNR=3.0							
PDAR	**Pinedale Array**	**74.39**	**330**	P		**P**	**15 25 49.1**	**+0.5**
	comp=N,0.5nm,0.7s,baz=124,slow=7.7,SNR=5.4							
ULM	**Lac du Bonnet**	**75.52**	**342**	P		**P**	**15 25 54.4**	**-0.2**
	comp=N,2.6nm,0.5s,baz=167,slow=5.8,SNR=5.1							
NVAR	**Mina Array Bea**	**75.81**	**322**	P		**P**	**15 25 57.5**	**+0.6**
	comp=N,1.1nm,0.9s,baz=160,slow=6.8,SNR=6.7							
TORD	**Torodi Ar. Bea**	**76.98**	**70**	P		**P**	**15 26 03.4**	**-0.3**
	comp=N,1.4nm,0.3s,baz=254,slow=5.4,SNR=30							
TORD				pP		**pP**	**15 26 32.8**	**+0.7**
	comp=N,1.3nm,0.6s,baz=260,slow=5.2,SNR=3.2							
ESDC	**Sonseca Array**	**85.59**	**44**	P		**P**	**15 26 49.0**	**+0.3**
	comp=N,0.2nm,0.3s,baz=251,slow=3.9,SNR=3.5							
YKA	**Yellowknife Ar**	**91.40**	**340**	P		**P**	**15 27 16.0**	**+0.4**
	comp=N,2.9nm,0.5s,baz=134,slow=4.5,SNR=56							
YKA				pP		**pP**	**15 27 46.8**	**+2.2**
	comp=N,0.6nm,0.6s,baz=133,slow=4.2,SNR=3.0							
ASAR	**Alice Springs**	**130.04**	**207**	PKP		**PKPdf**	**15 33 20.4**	**+0.2**
	comp=N,1.1nm,0.8s,baz=126,slow=2.0,SNR=10							
WRA	**Warramunga Arr**	**133.10**	**210**	PKP		**PKPdf**	**15 33 26.4**	**+0.3**
	comp=N,1.7nm,0.6s,baz=152,slow=1.8,SNR=2.9							
ZALV	**Zalesovo Beam**	**141.84**	**25**	PKP		**PKPdf**	**15 33 40.6**	**-0.4**
	comp=N,1.3nm,0.7s,baz=325,slow=1.8,SNR=6.5							
MKAR	**Makanchi Array**	**145.45**	**36**	PKPbc		**PKPab**	**15 33 48.5**	**+0.3**
	comp=N,1.8nm,0.7s,baz=316,slow=4.2,SNR=21							
MKAR				pPKPbc		pPKPbc	15 34 19.5	+1.7
	comp=N,2.2nm,0.9s,baz=336,slow=2.7,SNR=6.0							
USRK	**Ussuriysk Arra**	**151.79**	**328**	PKPbc		**PKPbc**	**15 34 04.8**	**+0.5**
	comp=N,2.2nm,0.8s,baz=321,slow=1.9,SNR=7.8							
MJAR	**Matsushiro Arr**	**152.45**	**309**	PKPbc		**PKPbc**	**15 34 05.9**	**-0.3**
	comp=N,0.7nm,0.5s,baz=81,slow=2.3,SNR=3.8							
SONM	**Songino Array**	**153.47**	**8**	PKP		**PKPdf**	**15 34 01.4**	**+0.9**
	comp=N,0.4nm,0.7s,baz=299,slow=3.0,SNR=4.9							
SONM				PKPbc		**PKiKP**	**15 34 08.6**	**+0.3**
	comp=N,0.6nm,0.7s,baz=318,slow=1.9,SNR=4.1							

*DDA **25** 15:16:43.1,38.˚47N×27.˚95E, h25km, MD2.7*

*CSEM **25** 15:16:46.7±0.2,39.˚09N×27.˚66E, h15km, MD2.9, Error ellipse: s-maj=4.3km s-min=3.3km az=89.0*

*ISK **25** 15:16:46.3,39.˚09N×27.˚66E, h18km, MD2.9*

*ISCJB **25** 15:16:47.5±0.5, 39.˚09N±0.˚03×27.˚66E±0.˚06, h25km±6km, Error ellipse: s-maj=7.8km s-min=5.3km az=24.0*

ISC 25 15:16:46.8±1.1, **39.˚11N**±0.˚03×**27.˚65E**±0.˚04, **h14**km±8km, **n32,** σ0**51/42, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKHS	**Akhisar**	**0.26**	**151**	*i* P		**Pg**	**15 16 51.8**	**-0.7**
AKHS				*i* S		**Sg**	**15 16 57.2**	**+1.0**
AKHS	**Akhisar**	**0.26**	**151**	*i* P		**Pg**	**15 16 51.8**	**-0.7**
AKHS				*i* S		**Sg**	**15 16 57.2**	**+1.0**
IZM	**Izmir**	**0.77**	**203**	*e*PG		**Pb**	**15 17 01.4**	**-0.6**
IZM				*e*SG		**Sb**	**15 17 12.7**	**+0.3**
IZM	**Izmir**	**0.77**	**203**	*e*Pg		**Pb**	**15 17 01.4**	**-0.6**
IZM				*e*Sg		**Sb**	**15 17 12.7**	**+0.3**
DST	**Dursunbey**	**0.90**	**56**	*e*PG		**Pb**	**15 17 04.7**	**+0.4**
DST				*e*SG		**Sn**	**15 17 17.6**	**-0.4**
DST	**Dursunbey**	**0.90**	**56**	*e*Pg		**Pb**	**15 17 04.7**	**+0.4**
DST				*e*Sg		**Sn**	**15 17 17.6**	**-0.4**
GONE	**Gonen-Balikesi**	**0.94**	**2**	*e*PG		**Pb**	**15 17 04.3**	**-0.6**
GONE				*e*SG		**Sn**	**15 17 19.2**	**+0.4**
GONE	**Gonen-Balikesi**	**0.94**	**2**	*e*Pg		**Pb**	**15 17 04.3**	**-0.6**
GONE				*e*Sg		**Sn**	**15 17 19.2**	**+0.4**
KULA	**Kula-Manisa**	**0.99**	**127**	*e*PG		**Pb**	**15 17 05.5**	**-0.3**
KULA				*e*SG		**Sg**	**15 17 19.3**	**+0.5**
KULA	**Kula-Manisa**	**0.99**	**127**	*e*Pg		**Pb**	**15 17 05.5**	**-0.3**
KULA				*e*Sg		**Sg**	**15 17 19.3**	**+0.5**
URLA	**Izmir**	**1.11**	**228**	*i* P		Pn	15 17 02.5	-5.5
URLA				*i* S		**Sn**	**15 17 23.8**	**+0.7**
URLA	**Izmir**	**1.11**	**228**	*i* P		Pn	15 17 02.5	-5.5
URLA				*i* S		**Sn**	**15 17 23.8**	**+0.7**
KCTX	**Karacabey (Bur**	**1.28**	**25**	*e*PN		**Pn**	**15 17 09.8**	**-0.5**
KCTX	**Karacabey (Bur**	**1.28**	**25**	*e*Pn		**Pn**	**15 17 09.8**	**-0.5**
KRBG	**Karabiga-Canak**	**1.31**	**348**	*e*PN		**Pn**	**15 17 10.7**	**0.0**
KRBG	**Karabiga-Canak**	**1.31**	**348**	*e*Pn		**Pn**	**15 17 10.7**	**0.0**
LPK	**Lapseki**	**1.44**	**332**	*e*PN		**Pn**	**15 17 12.4**	**0.0**
LPK	**Lapseki**	**1.44**	**332**	*e*Pn		**Pn**	**15 17 12.4**	**0.0**
GELI	**Tayfur-Gelibol**	**1.57**	**325**	*e*PN		**Pn**	**15 17 14.3**	**0.0**
GELI	**Tayfur-Gelibol**	**1.57**	**325**	*e*Pn		**Pn**	**15 17 14.3**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.62**	**347**	*e*PN		**Pn**	**15 17 14.9**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.62**	**347**	*e*Pn		**Pn**	**15 17 14.9**	**-0.1**
MFT	**Murefte**	**1.70**	**351**	*e*PN		**Pn**	**15 17 16.7**	**+0.5**
MFT	**Murefte**	**1.70**	**351**	*e*Pn		**Pn**	**15 17 16.7**	**+0.5**
ARMT	**Armutlu**	**1.73**	**32**	*e*PN		**Pn**	**15 17 17.3**	**+0.8**
ARMT	**Armutlu**	**1.73**	**32**	*e*Pn		**Pn**	**15 17 17.3**	**+0.8**
YLV	**Yalova**	**1.97**	**42**	*e*PN		**Pn**	**15 17 19.6**	**-0.3**
YLV	**Yalova**	**1.97**	**42**	*e*Pn		**Pn**	**15 17 19.6**	**-0.3**
ENEZ	**Enez**	**1.99**	**325**	*e*PN		**Pn**	**15 17 20.1**	**0.0**
ENEZ	**Enez**	**1.99**	**325**	*e*Pn		**Pn**	**15 17 20.1**	**0.0**
CAVI	**Cavuskoy**	**2.02**	**56**	*e*PN		**Pn**	**15 17 20.0**	**-0.4**
CAVI	**Cavuskoy**	**2.02**	**56**	*e*Pn		**Pn**	**15 17 20.0**	**-0.4**

*MAN **25** 15:19:36, 5.˚23N×126.˚49E, h30km, mb5.0, ML3.9, MS4.0*

*IDC **25** 15:19:37.0±3.1, 5.˚00N×125.˚52E, h43km±33km, mb3.6/9, mb1 3.7/10, mb1mx3.5/25, mbtmp3.7/10, ML3.8/1, Error ellipse: s-maj=70.5km s-min=12.3km az=76.0*

*ISCJB **25** 15:19:37.1±0.6, 5.˚16N±0.˚06×126.˚2E±0.˚1, h66km, mb3.7/9, Error ellipse: s-maj=16.6km s-min=6.7km az=155.7*

ISC 25 15:19:38.5±0.8, **5.˚21N**±0.˚08×**126.˚3E**±0.˚1, **h66**km, **n16,** σ1**51/20, mb3.9/9, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSPH	**General Santos**	**1.57**	**304**	⇓*e*P		**Pn**	**15 20 02.1**	**-2.3**
GSPH				*e*S		**Sn**	**15 20 22.2**	**-1.7**
MATI	**Mati**	**1.72**	**360**	*e*P		**Pn**	**15 20 04.9**	**-1.5**
DAV	**Davao City (W)**	**1.96**	**340**	P		**Pn**	**15 20 09.1**	**-0.5**
	31nm,0.3s,baz=56,slow=14,SNR=4.6							
DAV				S		**Sn**	**15 20 34.1**	**+0.8**
	51nm,0.3s,baz=204,slow=20,SNR=5.6							
BUKP	**Musuan**	**2.90**	**336**	*e*P		**Pn**	**15 20 22.4**	**-0.1**
BUTP	**Butuan**	**3.78**	**350**	*e*P		**Pn**	**15 20 36.1**	**+1.7**
PAGZ	**Pagadian**	**3.88**	**313**	*e*P		**Pn**	**15 20 38.3**	**+2.7**
IPIL	**Ipil**	**4.47**	**305**	*e*P		**Pn**	**15 20 46.5**	**+2.7**
FITZ	**Fitzroy Crossi**	**23.18**	**181**	P		**P**	**15 24 38.0**	**-1.7**
	1.1nm,0.5s,baz=7.2,slow=8.4,SNR=7.8							
WRA	**Warramunga Arr**	**26.23**	**163**	P		**P**	**15 25 08.6**	**+1.0**
	4.0nm,0.7s,baz=342,slow=10,SNR=3.0							
ASAR	**Alice Springs**	**29.66**	**166**	P		**P**	**15 25 38.0**	**-0.1**
	0.3nm,0.5s,baz=340,slow=6.8,SNR=8.5							
ASAR				PcP		**PcP**	**15 28 43.2**	**+1.9**
	0.2nm,0.4s,baz=350,slow=2.4,SNR=5.3							
STKA	**Stephens Creek**	**39.67**	**159**	P		**P**	**15 27 05.0**	**+0.7**
	1.9nm,0.7s,baz=341,slow=10,SNR=5.4							
SONM	**Songino Array**	**45.75**	**341**	P		**P**	**15 27 53.5**	**0.0**
	0.4nm,0.6s,baz=149,slow=7.8,SNR=3.5							
MKAR	**Makanchi Array**	**56.08**	**325**	P		**P**	**15 29 10.2**	**-0.8**
	0.8nm,0.6s,baz=118,slow=7.1,SNR=12							
MKAR				PcP		**PcP**	**15 30 08.3**	**-0.1**
	0.3nm,0.5s,baz=121,slow=3.1,SNR=2.7							
AKTO	**Aktyubinsk**	**72.21**	**321**	P		**P**	**15 30 55.5**	**-1.1**
	0.3nm,0.3s,baz=90,slow=6.1,SNR=3.1							
ARCES	**ARCESS Array B**	**88.90**	**340**	P		**P**	**15 32 26.4**	**+1.0**
	1.6nm,0.7s,baz=91,slow=6.1,SNR=5.6							
FINES	**FINESS Array B**	**90.31**	**332**	P		**P**	**15 32 31.9**	**-0.2**
	0.5nm,0.7s,baz=84,slow=7.9,SNR=4.0							

FUNV 25 15:27:19.1, 6.˚83N×73.˚06W, h170km, MW3.6, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAPV	**Capacho**	**1.27**	**36**	⇑*i*P		Pn	15 27 47.4	-1.1
CAPV				*e*S		Sn	15 28 08.9	-2.2
VIGV	**El Vigia**	**2.61**	**40**	*e*P		Pn	15 28 01.9	-0.8
VIGV				*e*S		Sn	15 28 33.3	-3.3
SOCV	**Socops**	**2.62**	**56**	*e*P		Pn	15 28 01.6	-1.2
SOCV				*e*S		Sn	15 28 33.5	-3.2
VIRV	**Villa del Rosa**	**3.71**	**10**	*e*P		Pn	15 28 14.5	-1.8
VIRV				*e*S		Sn	15 28 55.7	-5.2
CURV	**Curarigua**	**4.41**	**44**	*e*P		Pn	15 28 24.3	-1.0
CURV				*e*S		Sn	15 29 12.5	-4.7
TEPV	**Terepaima**	**4.94**	**51**	*e*P		Pn	15 28 31.3	-0.9
BAUV	**El Baul**	**5.40**	**67**	*e*P		Pn	15 28 35.6	-2.5
BAUV				*e*S		Sn	15 29 33.1	-7.1
MAPV	**Macapo**	**5.45**	**56**	*e*P		Pn	15 28 37.5	-1.4
MAPV				*e*S		Sn	15 29 34.1	-7.2
MONV	**Montecano**	**5.94**	**31**	*e*P		Pn	15 28 43.7	-1.5

*IDC **25** 15:47:16.0±3.6, 3.˚15S×129.˚89E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.5/21, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=316.9km s-min=26.3km az=71.0*

*ISCJB **25** 15:47:18.8±0.7, 3.˚33S±0.˚08×129.˚18E±0.˚08, h37km, mb3.3/2, Error ellipse: s-maj=13.0km s-min=10.2km az=142.6*

*DJA **25** 15:47:18.7±0.4, 3.˚3S±5.˚×12.˚9E±.˚, h20km, M4.5/6, mb6.5/1, MLv3.4/6*

ISC 25 15:47:20.8±1.1, **3.˚32S**±0.˚08×**129.˚22E**±0.˚10, **h37**km, **n10,** σ1**90/8, Seram**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSAI	**Masohi**	**0.29**	**266**	P		Pn	15 47 24.8	-4.2
BNDI	**Bandanaira**	**1.37**	**150**	P		**Pn**	**15 47 42.8**	**-0.6**
FAKI	**Fak Fak**	**3.05**	**83**	P		**Pn**	**15 48 06.2**	**-0.3**
LBMI	**Labuha**	**3.17**	**327**	P		**Pn**	**15 48 06.7**	**-1.5**
SWI	**Sorong**	**3.18**	**40**	P		**Pn**	**15 48 07.0**	**-1.3**
WRA	**Warramunga Arr**	**17.26**	**164**	P		**P**	**15 51 18.4**	**-1.8**
	0.3nm,0.3s,baz=349,slow=12,SNR=2.3							
ASAR	**Alice Springs**	**20.73**	**168**	P		Pn	15 51 58.7	-2.1
	1.6nm,0.7s,baz=349,slow=11,SNR=20							
RGRI	**Rengat**	**27.03**	**276**	P		**P**	**15 52 59.5**	**-0.3**
MKAR	**Makanchi Array**	**64.75**	**326**	P		**P**	**15 57 57.7**	**+2.2**
	0.1nm,0.5s,baz=108,slow=8.1,SNR=2.3							
KURBB	**Kurchatov Arra**	**68.99**	**328**	P		**P**	**15 58 24.7**	**+2.3**
	0.3nm,0.5s,baz=126,slow=6.1,SNR=4.1							

*ISCJB **25** 15:59:35.8±0.5, 36.˚81N±0.˚04×71.˚37E±0.˚08, h106km, mb3.6/7, Error ellipse: s-maj=9.7km s-min=4.1km az=161.1*

*IDC **25** 15:59:35.9±5.2, 36.˚73N×71.˚46E, h87km±44km, mb3.4/7, mb1 3.6/11, mb1mx3.3/29, mbtmp3.5/11, Error ellipse: s-maj=34.2km s-min=21.6km az=26.0*

*NNC **25** 15:59:40.7±6.7, 37.˚16N×71.˚04E, h118km±86km, mb3.5, mpv4.3, Error ellipse: s-maj=53.2km s-min=34.5km az=8.0*

ISC 25 15:59:35.6±0.8, **36.˚78N**±0.˚06×**71.˚25E**±0.˚10, **h106**km, **n42,** σ2**11/48, mb3.5/7, 2C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**5.67**	**19**	P		**Pn**	**16 00 59.0**	**+1.2**
	SNR=80							
DLH	**Dalhousie**	**5.74**	**136**	*e*P		**Pn**	**16 01 00.0**	**+1.3**
DLH				*e*S		**Sn**	**16 02 02.0**	**-1.4**
UCH	**Uchtor**	**6.00**	**24**	P		**Sn**	**16 02 07.6**	**-2.1**
	SNR=9.1							
KZA	**Kyzart**	**6.13**	**29**	P		**Pn**	**16 01 05.3**	**+1.3**
	SNR=23							
EKS2	**Erkin-Say**	**6.19**	**18**	P		**Pn**	**16 01 06.1**	**+1.6**
	SNR=22							
KK31	**Karatay Array**	**6.34**	**355**	⇑P		**Pn**	**16 01 07.4**	**+0.9**
	12nm,0.3s,baz=182,slow=14,SNR=464							
KK31				⇓S		**Sn**	**16 02 15.3**	**-2.2**
	17nm,0.3s,baz=180,slow=31							
AAK	**Ala-Archa**	**6.36**	**22**	P		**Pn**	**16 01 08.5**	**+1.7**
	SNR=18							
AAK	**Ala-Archa**	**6.36**	**22**	P		**Pn**	**16 01 08.2**	**+1.4**
	9.3nm,0.3s,baz=166,slow=6.4,SNR=24							
AAK				S		**Sn**	**16 02 17.4**	**-0.6**
	3.2nm,0.3s,baz=314,slow=23,SNR=11							
KBK	**Karagaybulak**	**6.52**	**25**	P		**Pn**	**16 01 11.9**	**+2.8**
	SNR=8.4							
ULHL	**Ulahol**	**6.68**	**34**	P		**Pn**	**16 01 13.3**	**+2.0**
	SNR=7.0							
CHMS	**Chumysh**	**6.77**	**22**	P		**Pn**	**16 01 13.8**	**+1.5**
	SNR=33							
USP	**Ospenovka**	**6.94**	**20**	P		**Pn**	**16 01 16.0**	**+1.3**
	SNR=7.9							
TKM2	**Tokmak 2**	**6.98**	**27**	⇓P		**Pn**	**16 01 16.7**	**+1.4**
	7.0nm,0.5s							
TKM2				⇓S		**Sn**	**16 02 30.7**	**-2.6**
	7.0nm,0.5s							
TKM2	**Tokmak 2**	**6.98**	**27**	P		**Pn**	**16 01 16.8**	**+1.4**
	SNR=19							
SDNR	**Sundarnagar**	**7.09**	**136**	*e*P		**Pn**	**16 01 18.0**	**+1.3**
SDNR				*e*S		**Sn**	**16 02 32.0**	**-3.7**
SMLA	**Simla**	**7.48**	**137**	*i* P		**Pn**	**16 01 23.7**	**+1.7**
SMLA				*i* P		**Pn**	**16 01 23.7**	**+1.7**
SMLA				*i* S		**Sn**	**16 02 42.2**	**-3.0**
SMLA				*i* S		**Sn**	**16 02 42.3**	**-3.0**
KUDL	**Kundal**	**9.68**	**151**	*e*P		**Pn**	**16 01 52.4**	**+0.5**
KUDL				*e*S		**Sn**	**16 03 33.0**	**-5.7**
KUDL				AML		AML	16 03 38.6	
	comp=N,13nm,0.5s							
KUDL				AML		AML	16 03 40.5	
	comp=E,18nm,0.7s							
SONA	**Sohna**	**9.83**	**148**	*e*S		**Sn**	**16 03 37.7**	**-4.6**
SONA				AML		AML	16 03 41.9	
	comp=E,32nm,0.3s							
SONA				AML		AML	16 03 41.9	
	comp=N,25nm,0.2s							
AGRA	**Agra**	**11.08**	**147**	*e*S		Sn	16 04 04.1	-8.7
AGRA				AML		AML	16 04 21.6	
	comp=N,76nm,0.2s							
AGRA				AML		AML	16 04 28.2	
	comp=E,74nm,0.1s							
MKAR	**Makanchi Array**	**12.95**	**36**	P		**Pn**	**16 02 35.8**	**+0.3**
	baz=220,slow=13,SNR=2.1							
KOLN	**Koldanda**	**13.77**	**127**	*e*P		**Pn**	**16 02 45.9**	**-0.6**
KURBB	**Kurchatov Arra**	**14.79**	**18**	P		**Pn**	**16 02 57.7**	**-1.5**
	comp=E,0.0nm,0.3s,baz=213,slow=13,SNR=4.6							
KKN	**Kakani**	**14.86**	**123**	*e*P		**Pn**	**16 02 59.9**	**-0.6**
AB31	**Akbulak array**	**14.94**	**330**	P		**Pn**	**16 03 00.1**	**-0.9**
	comp=E,1.6nm,0.3s,baz=138,slow=13,SNR=78							
PKIN	**Phulchoki**	**15.07**	**123**	*e*P		**Pn**	**16 03 03.7**	**+0.4**
PKI	**Pulchoki**	**15.09**	**123**	*e*P		**Pn**	**16 03 03.8**	**+0.3**
JIRN	**Jiri**	**15.56**	**122**	*e*P		**Pn**	**16 03 08.8**	**-0.6**
JIRN				*e*S		Sn	16 05 48.3	-14
VOSK	**Vostochnaya**	**15.94**	**359**	P		**Pn**	**16 03 12.3**	**

EAZ					AML	AML	16 20 02.1	
EAZ					AML	AML	16 20 03.4	
WKZ	**Wanaka**	**2.64**	**60**	PN	Pb	16 17 41.2	-3.1
WKZ					AML	AML	16 19 59.2	
WKZ					AML	AML	16 20 02.6	
TUZ	**Tuapeka**	**2.68**	**86**	PN	Pn	16 17 40.0	+1.7
TUZ					AML	AML	16 18 54.9	
JCZ	**Jackson Bay**	**2.98**	**46**	PN	Pn	16 17 45.4	+2.8
JCZ					AML	AML	16 20 07.8	
JCZ					AML	AML	16 20 08.1	
ODZ	**Otahua Downs**	**3.59**	**73**	PN	Pn	16 17 52.0	+1.2

IDC 25 16:27:17.8±19.0, 17°60S×179°00W, h555km±231km, mb3.1/4, mb1 3.4/4, mb1mx2.9/19, mbtmp3.1/4, Error ellipse: s-maj=170.1km s-min=55.4km az=175.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.29**	**241**	P	P	16 33 51.5	+0.2
	1.3nm,0.4s,baz=79,slow=10,SNR=5.3						
WRA	**Warramunga Arr**	**44.14**	**259**	P	P	16 34 37.0	-0.9
	1.8nm,0.8s,baz=96,slow=8.5,SNR=2.5						
ASAR	**Alice Springs**	**44.34**	**254**	P	P	16 34 39.2	-0.1
	3.7nm,0.6s,baz=89,slow=8.1,SNR=123						
TXAR	**Lajitas Array**	**86.31**	**58**	P	P	16 39 01.5	-0.2
	0.3nm,0.7s,baz=206,slow=5.4,SNR=3.5						
GERES	**GERESS Array B**	**147.17**	**344**	PKPbc	PKPbc	16 45 58.4	-0.6
	0.2nm,0.4s,baz=36,slow=1.8,SNR=2.6						

IDC 25 16:52:45.6±4.4, 31°78S×179°51E, h501km±45km, mb3.0/2, mb1 3.2/3, mb1mx2.8/18, mbtmp3.0/3, Error ellipse: s-maj=57.0km s-min=32.5km az=28.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.76**	**196**	P	P	16 54 30.6	+1.3
	2.0nm,0.3s,baz=285,slow=4.0,SNR=17						
URZ				S	S	16 55 52.9	-1.4
	1.6nm,0.3s,baz=45,slow=22,SNR=14						
ASAR	**Alice Springs**	**40.93**	**270**	P	P	16 59 44.2	+0.1
	0.6nm,0.5s,baz=108,slow=7.2,SNR=17						
WRA	**Warramunga Arr**	**42.05**	**275**	P	P	16 59 52.6	-0.4
	1.4nm,0.4s,baz=113,slow=7.9,SNR=2.6						
FINES	**FINESS Array B**	**145.65**	**338**	PKPbc	PKPdf	17 11 26.2	+0.5
	0.8nm,0.5s,baz=63,slow=4.7,SNR=14						
TORD	**Torodi Ar. Bea**	**161.35**	**187**	PKPab	PKPab	17 12 35.9	-0.4
	0.1nm,0.3s,baz=166,slow=3.3,SNR=2.6						

*NIED **25** 17:09:00, 25°00N×128°10E, h8km, Mw4.2 Best double couple: M0 2.56000×10^15 NP1:ϕs=212.00000°, δ57.00000°, λ-93.00000°. NP2:ϕs=37.00000°, δ33.00000°, λ-86.00000°.*
*JMA **25** 17:09:48.2±0.2, 25°01N×128°09E, h77km, M4.0*
*IDC **25** 17:09:48.7±6.8, 24°94N×128°45E, h33km±54km, mb3.6/10, mb1 3.8/13, mb1mx3.7/27, mbtmp3.7/13, ML3.1/3, MS3.3/4, Ms1 3.3/4, ms1mx2.7/38, Error ellipse: s-maj=29.9km s-min=17.7km az=74.0*

ISC 25 17:09:47.2±2.3, 25°00N±0°08×128°09E±0°07, h13km±12km, n32, σ1°19/35, mb3.8/10, MS3.2/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**1.17**	**345**	P	**Pg**	**17 10 09.4**	**-0.3**
JJT2				*eS*	**Sg**	**17 10 25.0**	**0.0**
JAGN	**Aguni-jima**	**1.75**	**334**	P	**Pn**	**17 10 17.4**	**+0.1**
JAGN				*eS*	**Sn**	**17 10 39.2**	**-0.4**
JKE	**Kume jima 2**	**1.77**	**318**	P	**Pn**	**17 10 17.3**	**-0.2**
JKE				*eS*	**Sn**	**17 10 38.9**	**-1.0**
JOW	**Kunigami**	**1.83**	**5**	P	**Pn**	**17 10 17.7**	**-0.7**
JOW				*eS*	**Sn**	**17 10 39.5**	**-1.9**
JIH	**Iheya**	**2.03**	**357**	P	**Pn**	**17 10 21.0**	**-0.1**
JIH				*eS*	**Sn**	**17 10 44.4**	**-1.9**
JOGS	**Gusukube**	**2.45**	**265**	P	**Pn**	**17 10 26.7**	**-0.2**
JOGS				*eS*	**Sn**	**17 10 55.2**	**-1.6**
JMJ	**Miyako jima 2**	**2.55**	**266**	P	**Pn**	**17 10 28.1**	**-0.2**
JMJ				*eS*	**Sn**	**17 10 57.3**	**-1.9**
JTK	**Tokunoshima**	**2.88**	**15**	P	**Pn**	**17 10 32.4**	**-0.4**
JTK				*eS*	Sn	17 11 03.4	-3.9
JMZ	**Minamidaito 2**	**2.94**	**73**	P	Pn	17 10 29.4	-4.3
JMZ				*eS*	Sn	17 11 00.9	-8.0
JTJ	**Tarama**	**3.10**	**264**	P	**Pn**	**17 10 35.1**	**-0.8**
JTJ				*eS*	Sn	17 11 09.3	-3.5
JAMN	**Amaminishikomi**	**3.37**	**16**	P	**Pn**	**17 10 40.0**	**+0.5**
JIJ	**Ishigaki jima**	**3.65**	**261**	P	**Pn**	**17 10 42.1**	**-1.3**
JIJ				*eS*	Sn	17 11 21.2	-5.2
JAM	**Amami Oshima**	**3.65**	**21**	P	**Pn**	**17 10 43.2**	**-0.3**
JAM				*eS*	**Sn**	**17 11 23.7**	**-2.8**
JZK	**Kikaishima**	**3.70**	**27**	P	**Pn**	**17 10 44.3**	**+0.2**
JZK				*eS*	**Sn**	**17 11 24.8**	**-2.9**
JKRS	**Kuro-shima**	**3.79**	**259**	P	**Pn**	**17 10 44.3**	**-1.1**
JKRS				*eS*	Sn	17 11 26.2	-3.7
HATJ	**Hateruma jima**	**4.02**	**257**	P	**Pn**	**17 10 46.9**	**-1.6**
HATJ				*eS*	Sn	17 11 29.9	-5.5
IRIF	**Iriomote-Funau**	**4.02**	**261**	P	**Pn**	**17 10 48.4**	**-0.2**
IRIF				*eS*	Sn	17 11 32.1	-3.5
YOJ	**Yonaguni jima**	**4.65**	**264**	P	**Pn**	**17 10 56.6**	**-0.6**
JNU	**Nakatsue**	**8.45**	**16**	Pn	Pn	17 11 47.3	-2.0
	0.5nm,0.3s,baz=199,slow=16,SNR=10						
KSRS	**Korea Array**	**12.41**	**359**	Pn	**Pn**	**17 12 43.8**	**+0.2**
	0.1nm,0.3s,baz=173,slow=13,SNR=5.5						
KSRS				LR	LR	17 18 01.0	
	comp=Z,71nm,19.0s,baz=173,slow=40						
USRK	**Ussuriysk Arra**	**19.41**	**8**	P	**P**	**17 14 12.8**	**-0.3**
	0.1nm,0.3s,baz=183,slow=10,SNR=7.5						
CMAR	**Chiang Mai Arr**	**27.81**	**262**	P	**P**	**17 15 37.4**	**+1.0**
	0.6nm,0.9s,baz=110,slow=21,SNR=3.7						
SONM	**Songino Array**	**28.52**	**329**	P	**P**	**17 15 44.5**	**+1.9**
	0.8nm,0.7s,baz=134,slow=6.2,SNR=4.7						
SONM				LR	LR	17 29 03.1	
	comp=Z,54nm,19.5s,baz=239,slow=40						
MKAR	**Makanchi Array**	**42.27**	**313**	P	**P**	**17 17 41.3**	**+0.9**
	1.3nm,0.6s,baz=91,slow=8.3,SNR=23						
ZALV	**Zalesovo Beam**	**43.15**	**324**	P	**P**	**17 17 47.7**	**+0.3**
	1.3nm,0.7s,baz=101,slow=8.0,SNR=7.0						
ZALV				LR	LR	17 37 26.8	
	comp=Z,29nm,20.9s,baz=69,slow=38						
WRA	**Warramunga Arr**	**45.09**	**172**	P	P	17 18 01.2	-2.0
	2.4nm,0.4s,baz=353,slow=8.5,SNR=3.0						
KURBB	**Kurchatov Arra**	**45.66**	**317**	P	**P**	**17 18 07.8**	**+0.2**
	0.8nm,0.7s,baz=106,slow=8.5,SNR=11						
ASAR	**Alice Springs**	**46.71**	**173**	P	P	17 18 29.3	-2.3
	0.5nm,0.7s,baz=0.5,slow=10,SNR=6.2						
KBZ	**Khabaz**	**69.84**	**310**	P	**P**	**17 20 58.4**	**+0.7**
	0.9nm,0.4s,baz=45,slow=1.6,SNR=4.6						
BRTR	**Keskin Array B**	**77.69**	**308**	P	**P**	**17 21 43.8**	**-0.2**
	0.4nm,0.6s,baz=61,slow=6.2,SNR=3.4						
YKA	**Yellowknife Ar**	**79.69**	**25**	P	P	17 21 51.8	-2.5
	1.1nm,1.1s,baz=301,slow=5.0,SNR=5.1						
GERES	**GERESS Array B**	**86.10**	**323**	LR	LR	18 03 30.7	
	comp=Z,32nm,18.2s,baz=65,slow=37						

WEL 25 17:22:10.0±0.5, 46°14S×165°77E, h12km, ML3.7/14, 1C-1D, Error ellipse: s-maj=4.3km s-min=3.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**1.17**	**56**	P*	Pb	17 22 30.5	-1.7
DCZ				S*	Sb	17 22 46.1	-1.2
DCZ				AML	AML	17 22 47.0	
DCZ				AML	AML	17 22 47.0	
DCZ				AML	AML	17 22 48.7	
WHZ	**Wether Hill Ro**	**1.54**	**82**	PN	Pn	17 22 36.3	-1.0
WHZ				SN	Sn	17 22 55.7	-1.5
WHZ				AML	AML	17 22 59.3	
APZ	**The Paps**	**1.69**	**115**	⇑PN	Pn	17 22 38.1	-1.3
MLZ	**Mavora Lakes**	**1.86**	**66**	PN	Pn	17 22 41.6	-0.1
MLZ				SN	Sn	17 23 04.4	-0.8
MLZ				AML	AML	17 23 09.4	
MSZ	**Milford Sound**	**2.11**	**47**	PN	Pn	17 22 45.7	+0.6
MSZ				AML	AML	17 23 21.0	
MSZ				AML	AML	17 23 21.1	
MSZ				AML	AML	17 23 21.7	
MSZ				AML	AML	17 23 32.6	
SYZ	**Scrubby Hill**	**2.37**	**101**	PN	Pn	17 22 48.9	+0.3
WKZ	**Wanaka**	**2.63**	**61**	PN	Pn	17 22 53.9	+1.5
WKZ				AML	AML	17 23 35.3	
EAZ	**Earnscleugh**	**2.64**	**71**	PN	Pn	17 22 53.5	+1.1
EAZ				AML	AML	17 23 31.3	
EAZ				AML	AML	17 23 35.0	
TUZ	**Tuapeka**	**2.70**	**88**	PN	Pn	17 22 53.6	+0.4
TUZ				AML	AML	17 23 30.6	
TUZ				AML	AML	17 23 30.7	
JCZ	**Jackson Bay**	**2.95**	**47**	PN	Pn	17 22 58.4	+1.5
JCZ				AML	AML	17 23 47.6	
JCZ				AML	AML	17 23 52.3	
LBZ	**Lake Benmore**	**3.58**	**62**	PN	Pn	17 23 04.9	-0.4
ODZ	**Otahua Downs**	**3.59**	**74**	⇓PN	Pn	17 23 04.5	-1.0
FOZ	**Fox Glacier**	**3.79**	**49**	PN	Pn	17 23 09.3	+1.1
WVZ	**Waitaha Valley**	**4.68**	**51**	PN	Pn	17 23 20.2	-0.3

IDC 25 17:35:21.1±1.0, 21°33S×68°03W, h118km±14km, mb3.4/1, mb1 3.3/3, mb1mx3.1/17, mbtmp3.2/3, Error ellipse: s-maj=44.8km s-min=14.6km az=123.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.51**	**212**	P	Pn	17 35 49.0	+0.1
	42nm,0.3s,baz=27,slow=11,SNR=69						
LVC				S	Sn	17 36 09.8	-0.1
	9.0nm,0.3s,baz=182,slow=19,SNR=26						
LPAZ	**La Paz**	**5.02**	**359**	P	Pn	17 36 34.6	-0.6
	1.5nm,0.3s,baz=152,slow=11,SNR=25						
SIV	**San Ignacio**	**8.47**	**52**	P	Pn	17 37 20.5	-0.6
	0.5nm,0.3s,baz=243,slow=11,SNR=8.9						
SIV				S	Sn	17 38 56.8	+1.7
	0.2nm,0.3s,baz=230,slow=16,SNR=2.5						
TORD	**Torodi Ar. Bea**	**76.53**	**70**	P	P	17 46 58.7	-0.2
	0.4nm,0.4s,baz=246,slow=5.6,SNR=9.7						
MKAR	**Makanchi Array**	**145.02**	**36**	PKPbc	PKPbc	17 54 43.8	-0.3
	0.3nm,0.7s,baz=316,slow=3.3,SNR=4.6						

IDC 25 17:44:04.9±13.0, 56°18S×27°34W, h167km±115km, mb3.5/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.5/3, Error ellipse: s-maj=56.1km s-min=32.0km az=112.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**34.07**	**180**	P	P	17 50 32.8	-0.2
	2.2nm,0.6s,baz=182,slow=2.8,SNR=8.4						
VNDA	**Vanda**	**46.44**	**183**	P	P	17 52 14.1	0.0
	1.5nm,0.7s,baz=190,slow=6.3,SNR=18						
TORD	**Torodi Ar. Bea**	**73.21**	**30**	P	P	17 55 17.5	+0.2
	0.5nm,0.5s,baz=203,slow=6.4,SNR=6.0						
YKA	**Yellowknife Ar**	**136.21**	**318**	PKP	PKPdf	18 03 03.9	-0.9
	0.3nm,0.6s,baz=136,slow=2.3,SNR=4.3						
ILAR	**Eielson Array**	**150.14**	**312**	PKPbc	PKPbc	18 03 33.8	-0.5
	2.2nm,0.7s,baz=126,slow=2.1,SNR=19						
SONM	**Songino Array**	**150.82**	**87**	PKPbc	PKPbc	18 03 36.7	+0.1
	1.3nm,0.5s,baz=228,slow=2.8,SNR=11						
SONM				PKPab	PKPab	18 03 43.5	-1.0
	0.2nm,0.5s,baz=221,slow=4.0,SNR=2.5						

*ISCJB **25** 17:46:25.7±0.5, 36°94S±0°03×178°94E±0°06, h46km, mb4.5/18, MS4.1/10, Error ellipse: s-maj=6.7km s-min=4.5km az=4.1*
*NEIC **25** 17:46:26.8, 36°76S×178°77E, h33km, mb4.6/10, ML4.9(WEL), After WEL.*
*WEL **25** 17:46:26.6±0.4, 36°84S×178°68E, h12km, ML4.9/60, Error ellipse: s-maj=3.8km s-min=2.0km az=90.0*
*IDC **25** 17:46:28.0±2.1, 36°72S×178°86E, h42km±17km, mb4.3/11, mb1 4.4/12, mb1mx4.3/19, mbtmp4.3/12, ML4.6/1, MS4.1/11, Ms1 4.1/11, ms1mx3.8/33, Error ellipse: s-maj=18.0km s-min=13.6km az=149.0*
*GCMT **25** 17:46:27.4±0.4, 36°89S×179°07E, h17km±1km, MW4.9, Moment Tensor Solution. s21,c23; s52,c80; Moment tensor: Scale 10^16Nm; Mrr-2.44±.23; Mθθ-1.05±.16; Mϕϕ3.50±.16; Mrθ0.33±.47; Mrϕ0.40±.11; Mθϕ-0.64±.33; Best double couple: M0 3.10000×10^16 NP1:ϕs200.00000°, δ41.00000°, λ-68.00000°. NP2:ϕs352.00000°, δ52.00000°, λ-108.00000°. Principal axes: T 3.6000, Plg6.0000°, Azm95.0000°; N -0.9900, Plg14.0000°, Azm3.0000°; P -2.6000, Plg75.0000°, Azm206.0000°; Data Used: II IC IU G.*

ISC 25 17:46:27.5±0.3, 36°90S±0°03×178°89E±0°04, h46km, n270, σ1°30/200, mb4.6/18, MS4.0/10, 5C-8D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.81**	**215**	P*	Pn	17 46 39.6	-2.9
MXZ				S*	**Sn**	**17 46 50.5**	**-3.1**
MXZ				AML	AML	17 47 47.0	
PUZ	**Puketiti**	**1.28**	**203**	Pn	**Pn**	**17 46 49.3**	**+0.3**
PUZ	**Puketiti**	**1.28**	**203**	⇑PN	**Pn**	**17 46 49.3**	**+0.3**
PUZ				S*	**Sn**	**17 47 07.5**	**+2.6**
PUZ				AML	AML	17 47 25.9	
WIZ	**White Island**	**1.50**	**245**	P*	**Pn**	**17 46 49.5**	**-2.3**
WIZ	**White Island**	**1.50**	**245**	P*	**Pn**	**17 46 49.5**	**-2.3**
CNGZ	**Carnagh Statio**	**1.68**	**199**	Pn	**Pn**	**17 46 55.2**	**+0.8**
CNGZ	**Carnagh Statio**	**1.68**	**199**	PN	**Pn**	**17 46 55.2**	**+0.8**
MWZ	**Matawai**	**1.80**	**216**	P*	**Pn**	**17 46 56.8**	**+0.7**
MWZ	**Matawai**	**1.80**	**216**	P*	**Pn**	**17 46 56.8**	**+0.7**
MWZ				AML	AML	17 47 25.2	
MWZ				AML	AML	17 47 25.2	
MWZ				AML	AML	17 47 26.7	
MWZ				AML	AML	17 47 26.8	
URZ	**Urewera**	**1.96**	**225**	⇑*e*Pn	**Pn**	**17 46 57.5**	**-0.7**
URZ				P*	**Pn**	**17 46 57.6**	**-0.7**
URZ				S	**Sn**	**17 47 25.2**	**+3.6**
URZ	**Urewera**	**1.96**	**225**	P	**Pn**	**17 46 58.5**	**+0.2**
	184nm,0.3s,baz=50,slow=10.0,SNR=343						
URZ				S	**Sn**	**17 47 25.2**	**+3.6**
	321nm,0.3s,baz=168,slow=20,SNR=17						
URZ				LR	LR	17 48 06.1	
	comp=Z,6μm,19.8s,baz=25,slow=47						
URZ	**Urewera**	**1.96**	**225**	P*	**Pn**	**17 46 57.6**	**-0.7**
URZ				AML	AML	17 47 26.6	
URZ				AML	AML	17 47 36.4	
MARZ	**Manawahe**	**2.07**	**238**	P*	**Pn**	**17 46 58.6**	**-1.2**
MARZ	**Manawahe**	**2.07**	**238**	⇓P*	**Pn**	**17 46 58.6**	**-1.2**
OPRZ	**Ohinepanea**	**2.09**	**242**	P*	**Pn**	**17 46 58.1**	**-1.9**
OPRZ	**Ohinepanea**	**2.09**	**242**	⇑P*	**Pn**	**17 46 58.1**	**-1.9**
EDRZ	**Edgecumbe**	**2.09**	**234**	P*	**Pn**	**17 46 59.5**	**-0.7**
EDRZ	**Edgecumbe**	**2.09**	**234**	P*	**Pn**	**17 46 59.5**	**-0.7**
EDRZ				AML	AML	17 47 39.7	
EDRZ				AML	AML	17 47 53.5	
MYRZ	**Mayor Island**	**2.15**	**259**	P*	**Pn**	**17 46 59.3**	**-1.6**
PRGZ	**Paritu Road**	**2.17**	**201**	Pn	**Pn**	**17 47 01.2**	**-0.1**
PRGZ	**Paritu Road**	**2.17**	**201**	PN	**Pn**	**17 47 01.2**	**-0.1**
TGRZ	**Tauranga**	**2.25**	**248**	P*	**Pn**	**17 47 00.9**	**-1.3**
TGRZ	**Tauranga**	**2.25**	**248**	⇓P*	**Pn**	**17 47 00.9**	**-1.3**
TGRZ				AML	AML	17 47 41.8	
TGRZ				AML	AML	17 47 50.3	
LIRZ	**Lichensteins R**	**2.28**	**240**	P*	**Pn**	**17 47 02.1**	**-0.5**
LIRZ	**Lichensteins R**	**2.28**	**240**	P*	**Pn**	**17 47 02.1**	**-0.5**
MKRZ	**Makatiti**	**2.29**	**236**	AML	AML	17 47 15.4	
MKRZ				AML	AML	17 47 54.5	
TARZ	**Mount Tarawera**	**2.32**	**234**	P*	**Pn**	**17 47 03.4**	**+0.2**
TARZ	**Mount Tarawera**	**2.32**	**234**	⇑P*	**Pn**	**17 47 03.4**	**+0.2**
KNZ	**Kokohu**	**2.33**	**204**	Pn	**Pn**	**17 47 03.0**	**-0.3**
KNZ	**Kokohu**	**2.33**	**204**	PN	**Pn**	**17 47 02.9**	**-0.3**
KNZ				AML	AML	17 47 50.7	
KNZ				AML	AML	17 48 25.9	
OMRZ	**Omania**	**2.34**	**238**	P*	**Pn**	**17 47 02.7**	**-0.7**
OMRZ	**Omania**	**2.34**	**238**	P*	**Pn**	**17 47 02.7**	**-0.7**
RRRZ	**Republican Roa**	**2.37**	**232**	P*	**Pn**	**17 47 03.4**	**-0.5**
RRRZ	**Republican Roa**	**2.37**	**232**	P*	**Pn**	**17 47 03.4**	**-0.5**
MHGZ	**Mahia Peninsul**	**2.38**	**199**	Pn	**Pn**	**17 47 03.8**	**-0.3**
MHGZ	**Mahia Peninsul**	**2.38**	**199**	PN	**Pn**	**17 47 03.8**	**-0.3**
KARZ	**Kaharoa**	**2.38**	**241**	P*	**Pn**	**17 47 03.1**	**-1.0**
KARZ	**Kaharoa**	**2.38**	**241**	P*	**Pn**	**17 47 03.1**	**-1.0**
HLRZ	**Highlands Stat**	**2.43**	**235**	P*	**Pn**	**17 47 04.6**	**-0.1**
RAHZ	**Arahi**	**2.47**	**215**	Pn	**Pn**	**17 47 06.3**	**+1.0**
RAHZ	**Arahi**	**2.47**	**215**	PN	**Pn**	**17 47 06.3**	**+1.0**
UTU	**Utuhina**	**2.50**	**238**	P*	**Pn**	**17 47 05.8**	**+0.2**
UTU	**Utuhina**	**2.50**	**238**	P*	**Pn**	**17 47 05.8**	**+0.2**
UTU				AML	AML	17 47 47.9	
UTU				AML	AML	17 48 13.2	
PRRZ	**Plateau Road**	**2.54**	**230**	P*	**Pn**	**17 47 05.9**	**-0.3**
PRRZ	**Plateau Road**	**2.54**	**230**	⇑P*	**Pn**	**17 47 05.9**	**-0.3**
KUZ	**Kuaotunu**	**2.54**	**272**	Pn	**Pn**	**17 47 04.3**	**-1.9**
KUZ	**Kuaotunu**	**2.54**	**272**	⇓PN	**Pn**	**17 47 04.3**	**-1.9**
KUZ				AML	AML	17 47 33.6	
KUZ				AML	AML	17 47 33.6	
KUZ				AML	AML	17 47 34.8	
KUZ				AML	AML	17 47 34.8	
HRRZ	**Handcock Road**	**2.55**	**233**	P*	**Pn**	**17 47 06.4**	**0.0**
ALRZ	**Allen Road**	**2.62**	**230**	P*	**Pn**	**17 47 07.0**	**-0.2**
ALRZ	**Allen Road**	**2.62**	**230**	P*	**Pn**	**17 47 07.0**	**-0.2**
TOZ	**Tahuroa Road**	**2.82**	**252**	P*	**Pn**	**17 47 08.7**	**-1.4**
TOZ	**Tahuroa Road**	**2.82**	**252**	P*	**Pn**	**17 47 08.7**	**-1.4**
TOZ				AML	AML	17 47 48.9	
TOZ				AML	AML	17 47 49.3	
BKZ	**Black Stump Fm**	**2.95**	**219**	P*	**Pn**	**17 47 12.3**	**+0.4**
BKZ	**Black Stump Fm**	**2.95**	**219**	P*	**Pn**	**17 47 12.3**	**+0.4**
BKZ				AML	AML	17 48 03.4	
BKZ				AML	AML	17 48 16.8	
HATZ	**Hinemaiaia**	**2.98**	**227**	AML	AML	17 47 53.5	
HATZ				AML	AML	17 47 57.3	
MKAZ	**Moumakai**	**2.99**	**265**	Pn	**Pn**	**17 47 11.0**	**-1.3**
MKAZ	**Moumakai**	**2.99**	**265**	PN	**Pn**	**17 47 11.0**	**-1.3**
MKAZ				AML	AML	17 47 46.9	
MKAZ				AML	AML	17 47 47.1	
TLZ	**Tolley Road**	**3.02**	**241**	P*	**Pn**	**17 47 12.0**	**-0.9**
MCHZ	**McNeill Hill**	**3.07**	**213**	Pn	**Pn**	**17 47 13.9**	**+0.4**
MCHZ	**McNeill Hill**	**3.07**	**213**	PN	**Pn**	**17 47 13.9**	**+0.4**
WATZ	**Wairara**	**3.08**	**233**	P*	Pn	17 47 16.0	+2.3
WATZ	**Wairara**	**3.08**	**233**	AML	AML	17 47 55.2	
WATZ				AML	AML	17 47 55.2	
CKHZ	**Cape Kidnapper**	**3.10**	**207**	Pn	**Pn**	**17 47 13.8**	**-0.2**
CKHZ	**Cape Kidnapper**	**3.10**	**207**	PN	**Pn**	**17 47 13.8**	**-0.2**
RATZ	**Rangitukua**	**3.15**	**230**	P*	**Pn**	**17 47 14.9**	**+0.2**
RATZ	**Rangitukua**	**3.15**	**230**	P*	**Pn**	**17 47 14.9**	**+0.2**
RATZ				AML	AML	17 47 23.6	
RATZ				AML	AML	17 47 23.6	
RITZ	**Rihia Road**	**3.17**	**228**	P*	**Pn**	**17 47 15.4**	**+0.5**
RITZ	**Rihia Road**	**3.17**	**228**	AML	AML	17 47 34.8	
RITZ				AML	AML	17 48 11.9	
OTAZ	**Otara**	**3.17**	**268**	Pn	**Pn**	**17 47 14.2**	**-0.7**
OTAZ	**Otara**	**3.17**	**268**	PN	**Pn**	**17 47 14.2**	**-0.7**
MTAZ	**Motutapu**	**3.19**	**271**	Pn	**Pn**	**17 47 14.7**	**-0.5**
MTAZ	**Motutapu**	**3.19**	**271**	PN	**Pn**	**17 47 14.7**	**-0.5**
KBAZ	**Karaka Road Bo**	**3.21**	**265**	⇓PN	**Pn**	**17 47 15.0**	**-0.3**
KATZ	**Kakaramea**	**3.27**	**230**	*e*P*	**Pn**	**17 47 17.0**	**+0.7**
KATZ	**Kakaramea**	**3.27**	**230**	AML	AML	17 47 28.1	
KATZ				AML	AML	17 47 28.4	
ABAZ	**Army Bay**	**3.27**	**274**	PN	**Pn**	**17 47 15.5**	**-0.7**
KAHZ	**Kahuranaki**	**3.30**	**208**	Pn	**Pn**	**17 47 15.9**	**-0.8**
KAHZ	**Kahuranaki**	**3.30**	**208**	⇓PN	**Pn**	**17 47 15.9**	**-0.8**
KAAZ	**Kauri Point**	**3.35**	**270**	Pn	**Pn**	**17 47 17.3**	**-0.1**
KAAZ	**Kauri Point**	**3.35**	**270**	⇓PN	**Pn**	**17 47 17.3**	**-0.1**
KRVZ	**Karewarewa**	**3.38**	**228**	P*	**Pn**	**17 47 18.2**	**+0.4**
KRVZ	**Karewarewa**	**3.38**	**228**	AML	AML	17 47 31.4	
KRVZ				AML	AML	17 47 33.0	
OTVZ	**Oturere**	**3.41**	**227**	P*	**Pn**	**17 47 18.6**	**+0.4**
OTVZ	**Oturere**	**3.41**	**227**	P*	**Pn**	**17 47 18.6**	**+0.4**
OTVZ				AML	AML	17 47 40.0	
OTVZ				AML	AML	17 48 22.4	
BHHZ	**Black Hill Sta**	**3.41**	**220**	P*	**Pn**	**17 47 18.6**	**+0.4**
BHHZ	**Black Hill Sta**	**3.41**	**220**	P*	**Pn**	**17 47 18.6**	**+0.4**
WTVZ	**West Tongariro**	**3.42**	**229**	P*	**Pn**	**17 47 18.9**	**+0.5**
WTVZ	**West Tongariro**	**3.42**	**229**	P*	**Pn**	**17 47 18.9**	**+0.5**
WTVZ				AML	AML	17 47 33.3	
WTVZ				AML	AML	17 47 39.0	
NGZ	**Ngauruhoe**	**3.45**	**228**	P*	**Pn**	**17 47 19.5**	**+0.6**
NGZ	**Ngauruhoe**	**3.45**	**228**	P*	**Pn**	**17 47 19.5**	**+0.6**
NGZ				AML	AML	17 47 34.1	
NGZ				AML	AML	17 48 04.8	
WTAZ	**Waiatarua**	**3.46**	**268**	Pn	**Pn**	**17 47 18.4**	**-0.4**
RVAZ	**Riverhead Bore**	**3.46**	**271**	PN	**Pn**	**17 47 18.6**	**-0.2**
TUVZ	**Tukino**	**3.48**	**226**	P*	**Pn**	**17 47 19.7**	**+0.5**
TUVZ	**Tukino**	**3.48**	**226**	P*	**Pn**	**17 47 19.7**	**+0.5**
TUVZ				AML	AML	17 48 13.3	
TUVZ				AML	AML	17 48 29.3	
TWVZ	**Taurewa**	**3.48**	**230**	*e*P*	**Pn**	**17 47 20.6**	**+1.4**
TWVZ	**Taurewa**	**3.48**	**230**	AML	AML	17 47 28.4	
TWVZ				AML	AML	17 47 30.7	
WPVZ	**Whakapapa**	**3.50**	**228**	P*	**Pn**	**17 47 20.1**	**+0.6**
WPVZ

OUZ				AML	AML	17 47 45.3	
OUZ				AML	AML	17 49 15.7	
HOWZ	**Holdsworth Sta**	**4.79 212**	Pn	**Pn**		**17 47 34.4**	**-2.6**
HOWZ	**Holdsworth Sta**	**4.79 212**	PN	**Pn**		**17 47 34.4**	**-2.6**
TMWZ	**Te Maipa**	**4.81 208**	Pn	**Pn**		**17 47 34.6**	**-2.7**
TMWZ	**Te Maipa**	**4.81 208**	PN	**Pn**		**17 47 34.6**	**-2.7**
OGWZ	**Otaki Gorge**	**4.87 215**	Pn	**Pn**		**17 47 35.9**	**-2.3**
OGWZ	**Otaki Gorge**	**4.87 215**	PN	**Pn**		**17 47 35.9**	**-2.3**
MTW	**Mount Morrison**	**5.01 211**	Pn	Pn		17 47 37.2	-2.9
MTW	**Mount Morrison**	**5.01 211**	PN	Pn		17 47 37.2	-2.9
MTW				AML	AML	17 48 35.5	
MTW				AML	AML	17 48 36.9	
KIW	**Kapiti Island**	**5.03 217**	Pn	**Pn**		**17 47 38.1**	**-2.3**
KIW	**Kapiti Island**	**5.03 217**	PN	**Pn**		**17 47 38.1**	**-2.3**
KIW				AML	AML	17 48 37.6	
KIW				AML	AML	17 48 39.0	
TRWZ	**Traveller**	**5.14 208**	Pn	Pn		17 47 38.2	-3.7
TRWZ	**Traveller**	**5.14 208**	AML	AML		17 48 39.9	
TRWZ				AML	AML	17 48 52.8	
CAW	**Cannon Point**	**5.15 214**	Pn	Pn		17 47 39.0	-3.0
CAW	**Cannon Point**	**5.15 214**	PN	Pn		17 47 39.0	-3.0
CAW				AML	AML	17 49 16.9	
CAW				AML	AML	17 49 18.3	
PAWZ	**Paruwai Farm**	**5.22 210**	Pn	**Pn**		**17 47 40.2**	**-2.9**
PAWZ	**Paruwai Farm**	**5.22 210**	PN	**Pn**		**17 47 40.2**	**-2.9**
PAWZ				AML	AML	17 48 41.1	
PAWZ				AML	AML	17 48 42.6	
MSWZ	**Moikau Station**	**5.33 211**	Pn	Pn		17 47 41.2	-3.3
MSWZ	**Moikau Station**	**5.33 211**	PN	Pn		17 47 41.2	-3.3
MSWZ				AML	AML	17 48 43.5	
MSWZ				AML	AML	17 48 46.1	
WEL	**Wellington**	**5.43 215**	Pn	**Pn**		**17 47 43.6**	**-2.2**
PLWZ	**Palliser**	**5.45 210**	Pn	Pn		17 47 42.7	-3.5
PLWZ	**Palliser**	**5.45 210**	PN	Pn		17 47 42.7	-3.5
SNZO	**South Karori**	**5.48 215**	Pn	Pn		17 47 43.0	-3.5
SNZO	**South Karori**	**5.48 215**	PN	Pn		17 47 43.0	-3.5
SNZO				AML	AML	17 49 12.7	
SNZO				AML	AML	17 49 14.2	
DUWZ	**D'Urville Isla**	**5.50 223**	Pn	**Pn**		**17 47 45.6**	**-1.2**
DUWZ	**D'Urville Isla**	**5.50 223**	PN	**Pn**		**17 47 45.6**	**-1.2**
DUWZ				AML	AML	17 49 08.5	
DUWZ				AML	AML	17 49 11.5	
TCW	**Tory Channel**	**5.61 218**	Pn	**Pn**		**17 47 45.8**	**-2.5**
TCW	**Tory Channel**	**5.61 218**	PN	**Pn**		**17 47 45.8**	**-2.5**
TCW				AML	AML	17 48 52.1	
TCW				AML	AML	17 48 52.1	
TUWZ	**Tuamarina**	**5.94 219**	Pn	Pn		17 47 49.9	-2.9
TUWZ	**Tuamarina**	**5.94 219**	PN	Pn		17 47 49.9	-2.9
TUWZ				AML	AML	17 49 00.7	
TUWZ				AML	AML	17 49 18.5	
NNZ	**Nelson**	**6.08 223**	Pn	**Pn**		**17 47 52.0**	**-2.8**
NNZ	**Nelson**	**6.08 223**	AML	AML		17 49 13.2	
NNZ				AML	AML	17 49 18.9	
BSWZ	**Blackbirch Sta**	**6.18 217**	Pn	Pn		17 47 53.0	-3.2
BSWZ	**Blackbirch Sta**	**6.18 217**	AML	AML		17 49 11.1	
BSWZ				AML	AML	17 49 49.0	
THZ	**Tophouse**	**6.72 222**	Pn	Pn		17 48 00.1	-3.4
THZ	**Tophouse**	**6.72 222**	AML	AML		17 49 20.2	
THZ				AML	AML	17 49 27.8	
KHZ	**Kahutara**	**6.88 215**	*e*Pn	Pn		17 48 02.6	-3.2
	74nm,0.9s						
KHZ	**Kahutara**	**6.88 215**	AML	AML		17 49 24.9	
KHZ				AML	AML	17 49 27.3	
DSZ	**Denniston Nort**	**7.32 226**	Pn	**Pn**		**17 48 09.2**	**-2.6**
DSZ	**Denniston Nort**	**7.32 226**	AML	AML		17 49 33.6	
DSZ				AML	AML	17 49 34.4	
CTZ	**Chatham Island**	**7.64 155**	Pn	**Pn**		**17 48 14.2**	**-2.0**
LTZ	**Lake Taylor**	**7.78 219**	Pn	Pn		17 48 14.0	-4.0
LTZ	**Lake Taylor**	**7.78 219**	AML	AML		17 49 44.2	
LTZ				AML	AML	17 49 54.2	
CRLZ	**Canterbury Las**	**8.21 214**	Pn	Pn		17 48 20.1	-3.8
MQZ	**McQueen's Vall**	**8.30 213**	Pn	Pn		17 48 20.6	-4.6
MQZ	**McQueen's Vall**	**8.30 213**	AML	AML		17 49 52.4	
MQZ				AML	AML	17 49 52.4	
WVZ	**Waitaha Valley**	**8.79 223**	Pn	Pn		17 48 28.8	-3.1
WVZ	**Waitaha Valley**	**8.79 223**	AML	AML		17 50 06.5	
RPZ	**Rata Peaks**	**9.06 219**	*e*Pn	Pn		17 48 31.6	-4.1
	23nm,0.7s						
RPZ			*e*Sn	Sn		17 50 09.5	-6.8
RPZ			S	Sn		17 50 09.9	-6.4
RPZ	**Rata Peaks**	**9.06 219**	P	Pn		17 48 32.1	-3.6
	3.3nm,0.3s,baz=99,slow=1.5,SNR=19						
RPZ			S	Sn		17 50 09.9	-6.4
	18nm,0.3s,baz=49,slow=14,SNR=14						
RPZ	**Rata Peaks**	**9.06 219**	AML	AML		17 50 18.9	
RPZ			AML	AML		17 50 20.1	
FOZ	**Fox Glacier**	**9.68 224**	Pn	Pn		17 48 40.6	-3.5
LBZ	**Lake Benmore**	**9.98 219**	Pn	Pn		17 48 44.7	-3.6
LBZ	**Lake Benmore**	**9.98 219**	PN	Pn		17 48 44.7	-3.6
ODZ	**Otahua Downs**	**10.25 215**	Pn	Pn		17 48 46.8	-5.0
JCZ	**Jackson Bay**	**10.53 224**	AML	AML		17 50 48.4	
WKZ	**Wanaka**	**10.88 220**	Pn	Pn		17 48 57.3	-3.3
EAZ	**Earnscleugh**	**11.02 218**	Pn	Pn		17 48 58.0	-4.5
MSVF	**Nonsavu**	**19.10 358**	*e*P	**Pn**		**17 50 45.3**	**-2.4**
	13nm,0.8s						
RAR	**Rarotonga**	**24.25 56**	LR	LR		17 58 30.2	
	comp=Z,335nm,19.2s,baz=107,slow=30						
TBI	**Tubuai**	**30.37 73**	*e*LR	LR		18 00 16.7	
	754nm,29.8s,baz=234						
STKA	**Stephens Creek**	**31.05 268**	P	**P**		**17 52 39.8**	**-1.2**
	1.2nm,0.9s						
STKA	**Stephens Creek**	**31.05 268**	P	P		17 52 43.2	+2.2
	4.9nm,0.9s,baz=117,slow=12,SNR=5.5						
STKA			LR	LR		18 04 51.3	
	comp=Z,539nm,19.1s,baz=122,slow=36						
PPT2	**Papeete2**	**33.77 64**	*e*LR	LR		18 01 47.7	
	923nm,30.0s,baz=229						
PPT	**Papeete**	**33.79 64**	LR	LR		18 03 10.3	
	comp=Z,238nm,21.1s,baz=196,slow=30						
AS31	**Alice Springs**	**40.67 276**	*e*P	P		17 54 04.5	+1.1
ASAR	**Alice Springs**	**40.67 276**	P	P		17 54 04.8	+1.3
ASAR			ScP	**ScP**		**17 59 50.5**	**+0.3**
ASAR			S	**S**		**18 00 10.9**	**+0.5**
ASAR	**Alice Springs**	**40.67 276**	P	P		17 54 04.8	+1.3
	18nm,0.8s,baz=120,slow=7.8,SNR=260						
ASAR			ScP	**ScP**		**17 59 50.6**	**+0.3**
	0.7nm,0.8s,baz=120,slow=3.6,SNR=4.5						
ASAR			S	**S**		**18 00 10.9**	**+0.5**
	2.8nm,1.0s,baz=126,slow=14,SNR=11						
ASAR			LR	LR		18 10 52.0	
	comp=Z,477nm,18.3s,baz=110,slow=36						
SBA	**Scott Base**	**41.39 184**	*e*P	P		17 54 12.9	+4.3
	2.4nm,0.8s						
VNDA	**Vanda**	**41.39 186**	P	P		17 54 12.3	+3.6
	2.1nm,1.0s						
VNDA	**Vanda**	**41.39 186**	LR	LR		18 08 55.6	
	comp=Z,142nm,19.9s,baz=28,slow=32						
RKT	**Rikitea**	**41.86 84**	*e*LR	LR		18 05 23.0	
	740nm,32.8s						
WRAB	**Tennant Creek**	**42.25 281**	*e*P	**P**		**17 54 17.1**	**+0.7**
	7.7nm,0.6s						
WRA	**Warramunga Arr**	**42.26 281**	P	P		17 54 17.3	+0.9
WRA			S	S		18 00 39.9	+5.9
WRA	**Warramunga Arr**	**42.26 281**	P	P		17 54 17.3	+0.9
	11nm,0.9s,baz=122,slow=7.8,SNR=3.7						
WRA			S	S		18 00 39.9	+5.9
	2.1nm,0.7s,baz=124,slow=14,SNR=2.5						
WRA			LR	LR		18 12 17.9	
	comp=Z,549nm,18.9s,baz=110,slow=37						
CASY	**Casey**	**48.22 210**	*e*P	P		17 55 05.5	+2.5
	24nm,1.0s						
FITZ	**Fitzroy Crossi**	**50.15 277**	*e*P	**P**		**17 55 19.3**	**+0.8**
	11nm,1.0s						
QSPA	**South Pole Qui**	**53.23 180**	P	P		17 55 44.8	+3.7
QSPA	**South Pole Qui**	**53.23 180**	P	P		17 55 44.7	+3.7
	8.8nm,1.0s,baz=29,slow=1.5,SNR=18						
MBWA	**Marble Bar**	**53.26 270**	*e*P	**P**		**17 55 40.4**	**-1.3**
	13nm,0.9s						
BATI	**Baumata**	**56.27 284**	LR	LR		18 20 37.1	
	comp=Z,1μm,18.6s,baz=128,slow=36						
RPN	**Rapa Nui**	**60.36 103**	LR	LR		18 15 54.0	
	comp=Z,48nm,19.1s,baz=72,slow=29						
SNAA	**Sanae**	**71.73 179**	*e*P	**P**		**17 57 46.5**	**+2.2**
SNAA	**Sanae**	**71.73 179**	*e*P	**P**		**17 57 45.6**	**+1.3**
	9.0nm,1.2s						
SNAA	**Sanae**	**71.73 179**	P	**P**		**17 57 46.2**	**+1.9**
	1.7nm,1.1s,baz=198,slow=9.0,SNR=7.4						
VNA1	**Neumayer--Stat**	**72.63 178**	*e*P	P		17 57 52.4	+2.8
KSM	**Kuching**	**73.89 284**	*e*P	**P**		**17 57 57.8**	**-0.2**
	14nm,1.1s						
MJAR	**Matsushiro Arr**	**82.23 328**	P	**P**		**17 58 42.9**	**-0.7**
MJAR	**Matsushiro Arr**	**82.23 328**	P	**P**		**17 58 42.9**	**-0.7**
	1.7nm,0.8s,baz=167,slow=5.0,SNR=6.6						
MAJO	**Matsushiro**	**82.23 328**	P	**P**		**17 58 42.9**	**-0.7**
CFAA	**Coronel Fontan**	**87.37 128**	LR	LR		18 32 21.2	
	comp=Z,10nm,18.1s,baz=245,slow=32						
KSRS	**Korea Array**	**87.72 322**	P	P		17 59 12.1	+1.0
	1.3nm,0.8s,baz=145,slow=5.9,SNR=8.1						
KSAR	**Wonju Array Be**	**87.73 322**	P	P		17 59 12.1	+1.0
USRK	**Ussuriysk Arra**	**91.22 328**	P	P		17 59 28.6	+1.3
	0.6nm,0.5s,baz=132,slow=2.1,SNR=5.1						
PETK	**Petropavlovsk-**	**91.51 347**	P	**P**		**17 59 28.6**	**+0.2**
PETK	**Petropavlovsk-**	**91.51 347**	P	**P**		**17 59 28.6**	**+0.2**
	5.5nm,0.6s,baz=135,slow=5.2,SNR=30						
CMAR	**Chiang Mai Arr**	**93.17 291**	P	P		17 59 38.3	+1.3
CMAR	**Chiang Mai Arr**	**93.17 291**	P	P		17 59 38.3	+1.3
	4.1nm,0.9s,baz=150,slow=3.5,SNR=17						
NVAR	**Mina Array Bea**	**94.72 45**	P	**P**		**17 59 43.3**	**-0.6**
NVAR	**Mina Array Bea**	**94.72 45**	P	**P**		**17 59 43.3**	**-0.6**
	0.7nm,0.9s,baz=197,slow=2.8,SNR=5.5						
TXAR	**Lajitas Array**	**98.00 59**	LR	LR		18 35 24.0	
	comp=Z,68nm,21.1s,baz=80,slow=30						
YKA	**Yellowknife Ar**	**112.40 27**	PKiKP	**PKiKP**		**18 04 58.6**	**+1.2**
YKA	**Yellowknife Ar**	**112.40 27**	PKiKP	**PKiKP**		**18 04 58.6**	**+1.2**
	0.4nm,0.7s,baz=251,slow=1.5,SNR=6.0						
MKAR	**Makanchi Array**	**119.84 308**	PKP	**PKPdf**		**18 05 11.6**	**-0.7**
MKAR	**Makanchi Array**	**119.84 308**	PKP	**PKPdf**		**18 05 11.6**	**-0.7**
	0.9nm,1.0s,baz=70,slow=1.9,SNR=4.4						
ZALV	**Zalesovo Beam**	**121.05 317**	PKP	**PKPdf**		**18 05 13.6**	**-0.7**
ZALV	**Zalesovo Beam**	**121.05 317**	PKP	**PKPdf**		**18 05 13.5**	**-0.7**
	0.4nm,0.5s,baz=119,slow=1.8,SNR=3.6						
ARCES	**ARCESS Array B**	**144.26 344**	PKP	**PKPdf**		**18 05 56.3**	**-0.9**
ARCES	**ARCESS Array B**	**144.26 344**	PKP	**PKPdf**		**18 05 56.3**	**-0.9**
	2.8nm,0.6s,baz=54,slow=3.1,SNR=15						
JOF	**Joensuu**	**147.27 333**	*ep*	**PKPab**		**18 06 04.7**	**-2.1**
	3.4nm,0.4s						
KAF	**Kangasniemi**	**149.56 335**	*ep*	**PKPbc**		**18 06 10.4**	**-0.5**
	3.0nm,0.5s						
DBIC	**Dimbokro**	**149.72 173**	PKPbc	**PKPbc**		**18 06 12.8**	**+0.1**
DBIC	**Dimbokro**	**149.72 173**	PKPbc	**PKPbc**		**18 06 12.8**	**+0.1**
	5.6nm,0.9s,baz=203,slow=5.4,SNR=4.7						
FINES	**FINESS Array B**	**150.10 334**	PKPbc	**PKPbc**		**18 06 12.4**	**+0.2**
FINES	**FINESS Array B**	**150.10 334**	PKPbc	**PKPbc**		**18 06 12.4**	**+0.2**
	5.5nm,0.7s,baz=46,slow=4.6,SNR=15						
BRTR	**Keskin Array B**	**152.69 287**	PKPbc	**PKPbc**		**18 06 19.1**	**+0.1**
BRTR			PKPab	**PKPab**		**18 06 28.9**	**-1.1**
BRTR	**Keskin Array B**	**152.69 287**	PKPbc	**PKPbc**		**18 06 19.2**	**+0.1**
	2.0nm,0.8s,baz=123,slow=3.7,SNR=11						
BRTR			PKPab	**PKPab**		**18 06 28.9**	**-1.1**
	1.7nm,0.9s,baz=134,slow=3.6,SNR=5.1						
NOA	**NORSAR Array B**	**154.60 346**	PKPab	**PKPab**		**18 06 37.3**	**+0.1**
NOA	**NORSAR Array B**	**154.60 346**	PKPab	**PKPab**		**18 06 37.3**	**+0.1**
	0.9nm,0.7s,baz=27,slow=3.3,SNR=4.6						
TORD	**Torodi Ar. Bea**	**156.22 187**	PKP	**PKPdf**		**18 06 18.8**	**+1.3**
TORD			PKPab	**PKPab**		**18 06 46.6**	**+1.4**
TORD	**Torodi Ar. Bea**	**156.22 187**	PKP	**PKPdf**		**18 06 18.8**	**+1.3**
	0.9nm,0.9s,baz=17,slow=2.7,SNR=3.7						
TORD			PKPab	**PKPab**		**18 06 46.6**	**+1.4**
	5.4nm,0.9s,baz=170,slow=3.4,SNR=17						
GERES	**GERESS Array B**	**163.89 322**	PKP	**PKPdf**		**18 06 25.5**	**+0.4**
GERES			PKPab	**PKPab**		**18 07 18.1**	**+0.1**
GERES	**GERESS Array B**	**163.89 322**	PKP	**PKPdf**		**18 06 25.5**	**+0.4**
	0.3nm,0.8s,baz=0.0,slow=1.6,SNR=4.0						
GERES			PKPab	**PKPab**		**18 07 18.2**	**+0.1**
	0.7nm,0.8s,baz=36,slow=7.1,SNR=4.5						

*IDC **25** 17:48:59.1±1.0,23.˚90S×66.˚69W,h204km±11km,mb3.5/3, mb1 3.5/8,mb1mx3.3/21,mbtmp3.4/8,Error ellipse: s-maj=16.4km s-min=15.4km az=177.0*

*GUC **25** 17:49:01.0±0.4,23.˚73S×67.˚24W,h238km±7km,ML4.4*

ISC 25 17:49:01.2±1.3,23.˚70S±0.˚09×67.˚1W±0.˚2,h238km±14km, n21,σ0°86/25,mb3.6/3,3C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.02**	**302**	*i*P		**Pn**	**17 49 43.5**	**+0.3**
LVC				*i* S		**S**	**17 50 15.8**	**-0.2**
LVC	**Limon Verde**	**2.02**	**302**	P		**Pn**	**17 49 43.7**	**+0.5**
	36nm,0.3s,baz=130,slow=7.8,SNR=80							
LVC				S		**S**	**17 50 16.7**	**+0.6**
	26nm,0.3s,baz=108,slow=20,SNR=26							
PB04	**Plate Boundary**	**2.65**	**302**	*i*P		Pn	17 49 55.3	+6.1
PB04				*i* S		S	17 50 37.0	+10
PB09	**Plate Boundary**	**2.77**	**313**	*i*P		**Pn**	**17 49 51.7**	**+1.0**
PB09				*i* S		**S**	**17 50 29.9**	**+0.5**
PB09					AML	AML	17 50 32.6	
	comp=N,569nm,0.6s							
ANCH	**Antofagasta**	**3.07**	**270**	*e*P		**Pn**	**17 49 53.9**	**+0.1**
ANCH				*e*S		**S**	**17 50 33.6**	**-1.4**
PB07	**Plate Boundary**	**3.27**	**306**	*i* P		**Pn**	**17 49 56.8**	**+0.6**
PB07				*i* S		**S**	**17 50 39.4**	**-0.1**
PB01	**Plate Boundary**	**3.47**	**319**	*e*P		**Pn**	**17 49 58.7**	**+0.3**
PB01				*i* S		**S**	**17 50 43.3**	**-0.3**
HMBC	**Humberstone**	**4.30**	**322**	*i* P		**Pn**	**17 50 08.2**	**-0.1**
HMBC				*i* S		**S**	**17 51 00.8**	**-0.6**
PSGC	**Pisagua**	**4.98**	**325**	*e*P		**Pn**	**17 50 15.9**	**-0.6**
PSGC				*i* S		**S**	**17 51 15.3**	**-1.1**
MNMC	**Minimini**	**5.12**	**332**	*i* P		**Pn**	**17 50 18.9**	**+0.4**
MNMC				*i* S		**S**	**17 51 20.0**	**+0.1**
LPAZ	**La Paz**	**7.45**	**352**	P		**Pn**	**17 50 49.6**	**+1.5**
	comp=N,0.9nm,0.3s,baz=164,slow=6.9,SNR=18							
CFAA	**Coronel Fontan**	**7.94**	**187**	P		Pn	17 50 48.7	-5.0
	comp=N,0.1nm,0.3s,baz=28,slow=13,SNR=12							
CFAA				S		S	17 52 10.9	-13
	comp=N,0.2nm,0.3s,baz=108,slow=20,SNR=10.0							
CPUP	**Villa Florida**	**9.21**	**109**	P		Pn	17 51 02.7	-7.1
	comp=N,0.2nm,0.3s,baz=274,slow=12,SNR=8.7							
SIV	**San Ignacio**	**9.52**	**37**	P		Pn	17 51 10.7	-3.2
	comp=N,0.4nm,0.3s,baz=230,slow=14,SNR=7.2							
BDFB	**Brasilia**	**19.63**	**69**	P		**P**	**17 53 10.7**	**-1.7**
	comp=N,0.7nm,0.3s,baz=229,slow=9.4,SNR=6.9							
QSPA	**South Pole Qui**	**66.50**	**180**	P		**P**	**17 59 26.1**	**+0.9**
	comp=N,1.1nm,0.5s,baz=150,slow=8.1,SNR=7.7							
TORD	**Torodi Ar. Bea**	**76.52**	**69**	P		**P**	**18 00 24.8**	**-0.8**
	comp=N,0.5nm,0.6s,baz=258,slow=5.9,SNR=6.4							
YKA	**Yellowknife Ar**	**93.83**	**340**	P		P	18 01 53.9	+3.1
	comp=N,0.3nm,0.6s,baz=128,slow=4.6,SNR=5.5							
ASAR	**Alice Springs**	**128.70**	**205**	PKP		**PKPdf**	**18 07 42.4**	**+1.5**
	comp=N,0.4nm,0.7s,baz=140,slow=1.5,SNR=6.4							
ZALV	**Zalesovo Beam**	**143.16**	**28**	PKP		**PKPdf**	**18 08 06.5**	**+0.1**
	comp=N,0.5nm,0.6s,baz=302,slow=2.8,SNR=3.6							
MKAR	**Makanchi Array**	**146.33**	**39**	PKPbc		**PKPab**	**18 08 14.8**	**-0.4**
	comp=N,0.9nm,0.6s,baz=304,slow=2.8,SNR=12							

*ISCJB **25** 18:12:22.8±0.6,55.˚4S±0.˚1×125.˚0W±0.˚2,h10km,mb4.0/12, MS4.4/12,Error ellipse: s-maj=15.4km s-min=14.2km az=144.6*

*IDC **25** 18:12:23.1±0.7,55.˚34S×125.˚10W,h0km,mb3.9/10, mb1 4.1/10,mb1mx4.1/16,mbtmp3.9/10,MS4.4/12, Ms1 4.4/12,ms1mx4.1/29,Error ellipse: s-maj=28.5km s-min=18.4km az=156.0*

*NEIC **25** 18:12:24.6±0.5,55.˚37S×125.˚02W,h10km,mb4.5/2,Error ellipse: s-maj=18.8km s-min=13.0km az=152.0*

*GCMT **25** 18:12:29.0±0.2,55.˚49S×124.˚99W,h21km±1km,MW5.1, Moment Tensor Solution. s34,c38; s71,c103; Moment tensor: Scale 10^{16}Nm; M_{rr}0.32±.21; $M_{\theta\theta}$3.14±.21; $M_{\phi\phi}$-3.46±.18; $M_{r\theta}$0.87±.32; $M_{\theta\phi}$3.41±.13; $M_{\phi r}$1.44±.31; Best double couple: $M_0$5.00000×10^{16} NP1:ϕ_s113.00000°, δ71.00000°, λ4.00000°. NP2:ϕ_s21.00000°, δ86.00000°, λ161.00000°. Principal axes: T 4.9900, Plg17.0000°, Azm335.0000°; N 0.1000, Plg70.0000°, Azm190.0000°; P -5.0900, Plg11.0000°, Azm69.0000°; Data Used: II IU G IC CN.*

ISC 25 18:12:24.7±0.6,55.˚4S±0.˚1×125.˚0W±0.˚1,h10km,n43, σ0°95/33,mb3.9/12,MS4.4/12,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**33.03**	**343**	*e*LR		LR	18 27 43.9	
	2μm,27.0s,baz=159							
VNDA	**Vanda**	**33.14**	**202**	P		**P**	**18 19 01.6**	**+1.2**
VNDA	**Vanda**	**33.14**	**202**	P		**P**	**18 19 01.6**	**+1.2**
	0.6nm,0.9s,baz=105,slow=12,SNR=4.2							
QSPA	**South Pole Qui**	**34.82**	**180**	P		**P**	**18 19 16.5**	**+1.1**
QSPA	**South Pole Qui**	**34.82**	**180**	P		**P**	**18 19 16.5**	**+1.1**
	1.6nm,1.0s,baz=67,slow=7.7,SNR=3.3							
QSPA				LR		LR	18 31 02.5	
	comp=Z,442nm,18.8s,baz=89,slow=32							
TBI	**Tubuai**	**36.74**	**321**	*e*LQ		LQ	18 27 57.2	
	248nm,26.0s							
TBI				*e*LR		LR	18 29 31.4	
	1μm,26.5s,baz=165							
PLCA	**Paso Flores**	**38.21**	**91**	P		**P**	**18 19 44.7**	**+0.3**
PLCA	**Paso Flores**	**38.21**	**91**	P		**P**	**18 19 44.7**	**+0.3**
	1.0nm,0.6s,baz=193,slow=9.5,SNR=3.1							
PLCA				LR		LR	18 31 38.3	
	comp=Z,372nm,20.5s,baz=222,slow=30							
RPZ	**Rata Peaks**	**41.64**	**259**	LR		LR	18 32 58.4	
	comp=Z,602nm,20.9s,baz=292,slow=30							
URZ	**Urewera**	**41.81**	**269**	LR		LR	18 33 34.4	
	comp=Z,530nm,18.9s,baz=192,slow=30							
PPT2	**Papeete2**	**42.10**	**324**	*e*S		**S**	**18 26 35.8**	**-0.4**
	106nm,26.0s							
PPT2				*e*LQ		LQ	18 30 06.5	
	580nm,25.8s							
PPT2				*e*LR		LR	18 31 59.8	
	1μm,25.5s,baz=164							
PPT	**Papeete**	**42.12**	**324**	LR		LR	18 32 51.2	
	comp=Z,572nm,19.7s,baz=166,slow=29							
RAO	**Raoul Island**	**45.56**	**283**	LR		LR	18 34 12.0	
	comp=Z,306nm,19.4s,baz=172,slow=29							
VNA1	**Neumayer--Stat**	**46.51**	**156**	*e*P		**P**	**18 20 51.2**	**-0.3**
SNAA	**Sanae**	**46.96**	**159**	*e*P		**P**	**18 20 54.0**	**-1.1**
SNAA	**Sanae**	**46.96**	**159**	*e*P		**P**	**18 20 53.6**	**-1.5**
	7.1nm,1.2s							
CPUP	**Villa Florida**	**56.18**	**88**	P		**P**	**18 22 03.7**	**-0.8**
CPUP	**Villa Florida**	**56.18**	**88**	P		**P**	**18 22 03.7**	**-0.8**
	0.3nm,0.4s,baz=206,slow=14,SNR=2.2							
CPUP				LR		LR	18 42 55.5	
	comp=Z,682nm,18.9s,baz=210,slow=33							
MAW	**Mawson**	**57.22**	**184**	P		**P**	**18 22 10.7**	**-0.6**
MAW	**Mawson**	**57.22**	**184**	P		**P**	**18 22 10.7**	**-0.6**
	1.2nm,0.4s,baz=202,slow=7.2,SNR=3.1							
MAW				LR		LR	18 46 07.5	
	comp=Z,255nm,21.6s,baz=162,slow=35							
LPAZ	**La Paz**	**58.11**	**71**	P		**P**	**18 22 18.8**	**-0.2**
LPAZ	**La Paz**	**58.11**	**71**	P		**P**	**18 22 18.8**	**-0.2**
	1.0nm,0.6s,baz=179,slow=6.8,SNR=4.6							
LPAZ				LR		LR	18 41 16.5	
	comp=Z,269nm,19.1s,baz=24,slow=30							
DZM	**Mont Dzumac**	**59.96**	**274**	*e*LR		LR	18 40 09.5	
	480nm,25.8s							
STKA	**Stephens Creek**	**66.25**	**248**	P		**P**	**18 23 12.4**	**-0.3**
STKA	**Stephens Creek**	**66.25**	**248**	P		**P**	**18 23 12.4**	**-0.3**
	1.6nm,0.8s,baz=139,slow=4.8,SNR=2.2							
SAML	**Samuel**	**66.85**	**71**	P		**P**	**18 23 15.3**	**-1.4**
	1.7nm,0.6s							
BDFB	**Brasilia**	**69.91**	**88**	LR		LR	18 51 20.0	
	comp=Z,584nm,18.9s,baz=16,slow=33							
ROSC	**El Rosal**	**73.06**	**54**	LR		LR	18 50 48.6	
	comp=Z,142nm,21.3s,baz=196,slow=32							
ASAR	**Alice Springs**	**76.87**	**248**	P		**P**	**18 24 16.4**	**-0.5**
ASAR	**Alice Springs**	**76.87**	**248**	P		**P**	**18 24 16.4**	**-0.5**
	0.7nm,0.8s,baz=142,slow=4.6,SNR=6.2							
WRA	**Warramunga Arr**	**79.68**	**250**	P		**P**	**18 24 32.1**	**-0.4**
WRA	**Warramunga Arr**	**79.68**	**250**	P		**P**	**18 24 32.1**	**-0.4**
	5.7nm,0.7s,baz=146,slow=5.1,SNR=6.0							
TXAR	**Lajitas Array**	**86.31**	**19**	P		**P**	**18 25 08.1**	**+1.6**
TXAR	**Lajitas Array**	**86.31**	**19**	P		**P**	**18 25 08.1**	**+1.6**
	0.4nm,0.8s,baz=188,slow=7.4,SNR=3.5							
BOSA

ISC 25 18:41:58.0±0.3,1.86N±0.03×96.96E±0.04,h40km±1km,
h40km:pP-P,n633,σ1930/733,mb5.2/211,MS4.6/47,
57C-22D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res ISC
				Op			h m s	
PSI	**Prapat**	**2.18**	**64**	P		**Pn**	**18 42 31.6**	**-0.3**
PSI				S		**Sn**	**18 43 02.4**	**+4.6**
PSI	**Prapat**	**2.18**	**64**	P		**Pn**	**18 42 31.6**	**-0.3**
	20nm,0.3s,baz=248,slow=5.3,SNR=106							
PSI				LR	LR		18 42 54.3	
	comp=Z,3μm,19.4s,baz=267,slow=27							
PSI				S		**Sn**	**18 43 02.4**	**+4.6**
	217nm,0.3s,baz=263,slow=19,SNR=6.0							
TSI	**Tuntungan**	**2.29**	**44**	P		**Pn**	**18 42 34.7**	**+1.4**
TSI				S		**Sn**	**18 43 05.9**	**+5.6**
LHMI	**Lhok Sumawe**	**3.35**	**360**	P		**Pn**	**18 42 47.4**	**-0.5**
LHMI				S		Sn	18 43 06.7	-20
BSI	**Banda Aceh**	**3.98**	**335**	P		**Pn**	**18 42 54.5**	**-2.1**
PPI	**Padang Panjang**	**4.14**	**124**	P		**Pn**	**18 42 59.1**	**+0.4**
BKNI	**Bangkinang**	**4.36**	**110**	P		**Pn**	**18 43 01.5**	**-0.3**
IPM	**Ipoh**	**4.83**	**57**	*e*Pn		**Pn**	**18 43 08.5**	**+0.3**
IPM	**Ipoh**	**4.83**	**57**	P		**Pn**	**18 43 09.2**	**+0.9**
IPM	**Ipoh**	**4.83**	**57**	P		**Pn**	**18 43 08.5**	**+0.3**
	825nm,0.8s,10μm4.5nm							
FRIM	**Kepong**	**4.86**	**74**	P		**Pn**	**18 43 09.0**	**+0.3**
FRIM	**Kepong**	**4.86**	**74**	P		**Pn**	**18 43 09.3**	**+0.6**
KULM	**Kulim**	**5.02**	**47**	⇑*i*Pn		**Pn**	**18 43 11.1**	**+0.2**
KULM	**Kulim**	**5.02**	**47**	P		**Pn**	**18 43 11.1**	**+0.2**
KULM	**Kulim**	**5.02**	**47**	P		**Pn**	**18 43 10.7**	**-0.2**
	772nm,1.2s,7μm3.2nm							
CMBY	**CAMPBELL BAY**	**5.94**	**330**	*e*P		**Pn**	**18 43 23.7**	**+0.1**
CMBY					AMB	AMB	18 43 54.3	
	comp=Z,330nm,0.5s							
PKDT	**Phuket**	**6.15**	**13**	P		**Pn**	**18 43 25.5**	**-0.9**
	comp=Z,191nm,0.8s,comp=Z,3μmcomp=Z,1.5nm							
KGM	**Kluang**	**6.36**	**88**	P		**Pn**	**18 43 30.3**	**+1.0**
SKLT	**Songkhla**	**6.42**	**35**	P		**Pn**	**18 43 29.4**	**-0.6**
	comp=Z,678nm,0.7s,comp=Z,6μmcomp=Z,2.5nm							
SKLT	**Songkhla**	**6.42**	**35**	P		**Pn**	**18 43 29.5**	**-0.6**
	comp=Z,678nm,0.7s,comp=Z,6μmcomp=Z,2.5nm							
MYKOM	**Kota Tinggi**	**6.89**	**90**	P		**Pn**	**18 43 37.4**	**+0.9**
MYKOM	**Kota Tinggi**	**6.89**	**90**	P		**Pn**	**18 43 37.1**	**+0.5**
	comp=Z,182nm,1.2s,comp=Z,2μmcomp=Z,1.3nm							
KTGM	**Kuala Trenggan**	**7.06**	**61**	P		**Pn**	**18 43 39.1**	**+0.1**
KSI	**Kapahiang**	**7.85**	**134**	P		**Pn**	**18 43 50.4**	**+0.5**
	comp=Z,316nm,0.9s,comp=Z,3μmcomp=Z,1.3nm							
LWLI	**Liwa**	**9.85**	**134**	P		**Pn**	**18 44 17.1**	**-0.2**
	comp=Z,244nm,0.8s,comp=Z,2μm							
KLSI		**10.13**	**130**	P		**Pn**	**18 44 20.2**	**-0.8**
	comp=Z,62nm,0.9s,comp=Z,910nm							
KASI	**Kota Agung**	**10.51**	**134**	P		Pn	18 44 22.6	-3.6
	comp=Z,92nm,0.9s							
PBA	**Port Blair**	**10.60**	**337**	*e*P		Pn	18 44 28.4	+1.0
PHET	**Kaeng Krachan**	**11.30**	**13**	P		Pn	18 44 44.1	+7.1
TPI	**Tanjungpandan**	**11.63**	**113**	P		**Pn**	**18 44 41.5**	**-0.1**
	comp=Z,46nm,1.4s							
DGPR	**DIGLIPUR**	**11.93**	**341**	*e*P		**Pn**	**18 44 44.5**	**-1.2**
CHBT	**CHBT**	**12.06**	**26**	P		**Pn**	**18 44 48.5**	**+1.0**
	comp=Z,122nm,1.1s,comp=Z,1μm							
CHBT	**CHBT**	**12.06**	**26**	P		**Pn**	**18 44 48.5**	**+1.0**
	comp=Z,122nm,1.1s,comp=Z,1μm							
TNG	**Tangerang**	**12.54**	**130**	P		Pn	18 44 58.8	+4.8
KSM	**Kuching**	**13.35**	**91**	*e*Pn		**Pn**	**18 45 05.6**	**+0.5**
KSM	**Kuching**	**13.35**	**91**	P		**Pn**	**18 45 03.3**	**-1.9**
KSM	**Kuching**	**13.35**	**91**	P		**Pn**	**18 45 05.9**	**+0.8**
	comp=Z,86nm,1.4s,comp=Z,1μm							
CHAI	**Chaiyaphum**	**14.81**	**19**	P		**Pn**	**18 45 24.9**	**0.0**
	comp=Z,17nm,1.0s,comp=Z,172nm							
PBKT	**Sadao Pong**	**15.14**	**15**	P		**Pn**	**18 45 28.3**	**-1.0**
	comp=Z,85nm,0.8s,comp=Z,1μm							
PBKT	**Sadao Pong**	**15.14**	**15**	P		**Pn**	**18 45 28.6**	**-0.7**
	comp=Z,85nm,0.8s,comp=Z,1μm							
SBUM	**Sibu**	**15.26**	**88**	P		**Pn**	**18 45 29.0**	**-1.9**
SBUM	**Sibu**	**15.26**	**88**	P		**Pn**	**18 45 31.8**	**+1.0**
SBUM	**Sibu**	**15.26**	**88**	P		**Pn**	**18 45 31.1**	**+0.2**
	comp=Z,74nm,1.2s,comp=Z,938nm							
UBPT	**Khong Chiam**	**15.76**	**32**	P		**Pn**	**18 45 37.6**	**+0.3**
	comp=Z,162nm,1.2s,comp=Z,1μm							
UBPT	**Khong Chiam**	**15.76**	**32**	P		**P**	**18 45 39.5**	**-1.2**
	comp=Z,163nm,1.2s,comp=Z,1μm							
LOEI	**Loei**	**16.12**	**15**	P		**Pn**	**18 45 41.9**	**0.0**
	comp=Z,46nm,0.8s							
BTM	**Bintulu**	**16.17**	**85**	P		**Pn**	**18 45 42.5**	**0.0**
SKNT	**Sakolnakorn**	**16.54**	**24**	P		**Pn**	**18 45 46.4**	**-0.7**
	comp=Z,58nm,1.2s,comp=Z,1μm							
CM31	**Chiang Mai Arr**	**16.61**	**7**	*e*P		**Pn**	**18 45 47.1**	**-1.0**
	comp=Z,24nm,0.7s							
CMAR	**Chiang Mai Arr**	**16.61**	**7**	P		**Pn**	**18 45 48.0**	**-0.2**
CMAR				PcP		**PcP**	**18 50 37.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**16.61**	**7**	P		**Pn**	**18 45 48.0**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=198,slow=12,SNR=50							
CMAR				PcP		**PcP**	**18 50 37.9**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=198,slow=1.7,SNR=5.9							
CMAR				LR		LR	18 52 58.9	
	comp=Z,2μm,18.6s,baz=189,slow=40							
LAMP	**Lampang**	**16.77**	**9**	P		**Pn**	**18 45 49.3**	**-0.8**
	comp=Z,23nm,0.9s,comp=Z,173nm							
PANO	**Nakornpanom**	**16.96**	**26**	P		**Pn**	**18 45 51.8**	**-0.6**
	comp=Z,127nm,1.0s							
CHTO	**Chiang Mai**	**16.96**	**6**	*e*P		**Pn**	**18 45 50.0**	**-2.5**
CHTO					pmax	pmax		
	comp=Z,29nm,0.9s							
CHTO	**Chiang Mai**	**16.96**	**6**	*e*Pn		**Pn**	**18 45 50.0**	**-2.5**
	comp=Z,29nm,0.9s							
CHTO	**Chiang Mai**	**16.96**	**6**	P		**Pn**	**18 45 51.3**	**-1.2**
	comp=Z,42nm,1.1s							
CHTO	**Chiang Mai**	**16.96**	**6**	P		**Pn**	**18 45 51.3**	**-1.2**
	comp=Z,42nm,1.1s							
CMMT	**Chiang Mai**	**16.96**	**6**	P		**Pn**	**18 45 51.1**	**-1.4**
	comp=Z,38nm,1.0s,comp=Z,672nm							
CMMT	**Chiang Mai**	**16.96**	**6**	P		**Pn**	**18 45 51.1**	**-1.4**
	comp=Z,38nm,1.0s,comp=Z,672nm							
PALK	**Pallekele**	**17.07**	**289**	*e*Pn		**Pn**	**18 45 52.3**	**-1.6**
	comp=Z,183nm,1.7s							
CMAI	**Chiengmai2**	**18.08**	**6**	P		**Pn**	**18 46 05.4**	**-1.1**
	comp=Z,237nm,1.1s,comp=Z,20μm							
KKM	**Kota Kinabalu**	**19.65**	**77**	*e*P		**P**	**18 46 23.8**	**0.0**
	comp=Z,69nm,0.8s							
KKM	**Kota Kinabalu**	**19.65**	**77**	P		**Pn**	**18 46 24.8**	**-0.7**
KDM	**Kudat**	**20.44**	**75**	P		**P**	**18 46 33.0**	**+0.8**
SDKM	**Sandakan**	**20.54**	**79**	P		**P**	**18 46 33.8**	**+0.5**
SDKM	**Sandakan**	**20.54**	**79**	P		**P**	**18 46 33.9**	**+0.5**
VIS	**Vishakhapatnam**	**20.68**	**321**	*i* P		Pn	18 46 37.1	-0.2
VIS					AMB	AMB	18 46 40.1	
	comp=Z,94nm,0.7s							
VIS				*i* x		x	18 50 29.5	
TRD	**Trivandrum**	**20.97**	**289**	*e*P		**P**	**18 46 38.2**	**+0.1**
TRD				⇓*ex*		x	18 47 11.4	
TSM	**Tawau**	**21.02**	**83**	P		**P**	**18 46 38.3**	**-0.3**
TSM	**Tawau**	**21.02**	**83**	P		**P**	**18 46 38.3**	**-0.3**
QIZ	**Qiongzhong**	**21.23**	**36**	P		**P**	**18 46 40.5**	**-0.2**
QIZ				pP		**pP**	**18 46 52.0**	**+1.2**
QIZ				sP		**sP**	**18 46 57.0**	**+1.2**
QIZ				S		**S**	**18 50 36.5**	**+1.8**
QIZ					pmax	pmax		
	comp=Z,55nm,1.3s							
QIZ					LR	LR		
	comp=N,2μm,16.6s							
QIZ					LR	LR		
	comp=E,960nm,16.4s							
QIZ					LR	LR		
	comp=Z,3μm,13.6s							
QIZ	**Qiongzhong**	**21.23**	**36**	*e*P		**P**	**18 46 38.5**	**-2.2**
	comp=Z,76nm,1.1s							
MYLDM	**Lahad Datu**	**21.75**	**81**	P		**P**	**18 46 46.8**	**+0.4**
MYLDM	**Lahad Datu**	**21.75**	**81**	P		**P**	**18 46 47.5**	**+1.2**
MYLDM	**Lahad Datu**	**21.75**	**81**	P		**P**	**18 46 48.0**	**+1.6**
IMP	**Imphal**	**22.98**	**353**	*e*P		**P**	**18 46 58.0**	**-1.4**
IMP				*ex*		x	18 50 56.0	
KAPI	**Kappang**	**23.77**	**107**	*e*P		**P**	**18 47 04.3**	**-2.9**
	comp=Z,50nm,0.9s							
KAPI	**Kappang**	**23.77**	**107**	P		**P**	**18 47 06.6**	**-0.5**
	comp=Z,27nm,0.8s,baz=293,slow=10.0							
HYB	**Hyderabad**	**23.79**	**312**	*i* P		**P**	**18 47 08.5**	**+1.1**
HYB				*e*S		**S**	**18 51 20.0**	**-0.5**
HYB	**Hyderabad**	**23.79**	**312**	*e*P		**P**	**18 47 08.0**	**+0.6**
KMI	**Kunming**	**23.80**	**13**	P		**P**	**18 47 07.5**	**0.0**
KMI				pP		**pP**	**18 47 15.8**	**-2.5**
KMI				sP		**sP**	**18 47 19.8**	**-3.3**
KMI				PP		PnPn	18 47 44.5	+7.9
KMI				S		**S**	**18 51 21.5**	**+0.8**
KMI				sS		**sS**	**18 51 37.8**	**-1.1**
KMI				pmax		pmax		
	comp=Z,92nm,1.1s							
KMI					pmax	pmax		
	comp=Z,370nm,5.2s							
KMI					LR	LR		
	comp=N,3μm,14.5s							
KMI					LR	LR		
	comp=E,600nm,16.7s							
KMI					LR	LR		
	comp=Z,3μm,15.1s							
SHL	**Shillong**	**24.07**	**349**	*e*P		**P**	**18 47 10.0**	**0.0**
SHL					AMB	AMB	18 47 10.2	
	comp=Z,125nm,0.0s							
SHL				*e*S		**S**	**18 51 28.0**	**+2.9**
BOK	**Bokaro**	**24.30**	**335**	*e*P		**P**	**18 47 11.8**	**-0.2**
BOK					AMB	AMB	18 47 23.1	
	comp=Z,205nm,1.3s							
LATR	**Latur**	**25.90**	**311**	*e*P		**P**	**18 47 28.2**	**+1.7**
GYA	**Guiyang**	**26.18**	**20**	⇑*i*P		**P**	**18 47 28.0**	**-1.1**
GYA				pP		**pP**	**18 47 39.8**	**-0.2**
GYA				sP		**sP**	**18 47 47.8**	**+2.9**
GYA				PP		**PnPn**	**18 48 10.3**	**+1.3**
GYA				PcP		**PcP**	**18 50 57.0**	**+1.4**
GYA				S		**S**	**18 51 58.8**	**+0.2**
GYA				sS		**sS**	**18 52 17.5**	**+0.6**
GYA				ScP		**ScP**	**18 54 31.3**	**-1.1**
GYA					pmax	pmax		
	comp=Z,20nm,0.9s							
GYA					pmax	pmax		
	comp=Z,130nm,5.8s							
GYA					LR	LR		
	comp=N,3μm,15.5s							
GYA					LR	LR		
	comp=E,940nm,12.6s							
GYA					LR	LR		
	comp=Z,4μm,14.8s							
GZH	**Guangzhou**	**26.42**	**36**	P		P	18 47 36.5	+5.3
GZH				S		S	18 52 27.0	+25
GZH					LR	LR		
	comp=N,2μm,13.4s							
GZH					LR	LR		
	comp=E,4μm,15.3s							
ODAN	**Odare**	**26.50**	**341**	*e*P		**P**	**18 47 32.9**	**+0.8**
TGY	**Tagaytay City**	**26.64**	**62**	P		**P**	**18 47 33.5**	**+0.2**
TGY	**Tagaytay City**	**26.64**	**62**	P		**P**	**18 47 33.5**	**+0.2**
	comp=E,99nm,0.4s,baz=229,slow=9.3,SNR=3.2							
TAPN	**Taplejung**	**26.85**	**342**	*e*P		**P**	**18 47 36.5**	**+1.1**
	comp=E,330nm,1.0s							
RAMN	**Ramite**	**26.86**	**339**	*e*P		**P**	**18 47 36.7**	**+1.3**
	comp=E,144nm,0.8s							
JIRN	**Jiri**	**27.65**	**339**	*e*P		**P**	**18 47 43.7**	**+1.1**
	comp=E,148nm,0.8s							
PKI	**Pulchoki**	**27.86**	**338**	*e*P		**P**	**18 47 45.1**	**+0.7**
GUN	**Gumba**	**27.99**	**339**	*e*P		**P**	**18 47 46.5**	**+0.9**
	comp=E,163nm,0.6s							
DMN	**Daman**	**28.01**	**337**	*e*P		**P**	**18 47 46.5**	**+0.8**
KKN	**Kakani**	**28.10**	**338**	*e*P		**P**	**18 47 47.1**	**+0.6**
LSA	**Lhasa**	**28.23**	**349**	*e*P		**P**	**18 47 48.4**	**+0.5**
LSA					pmax	pmax		
	comp=Z,50nm,0.9s							
LSA	**Lhasa**	**28.23**	**349**	*e*P		**P**	**18 47 48.4**	**+0.5**
	comp=Z,50nm,0.9s							
BHPL	**Bhopal**	**28.47**	**320**	*e*P		**P**	**18 47 51.5**	**+1.9**
BHPL					AMB	AMB	18 47 58.6	
	comp=Z,34nm,1.4s							
KOLN	**Koldanda**	**28.76**	**335**	*e*P		**P**	**18 47 53.5**	**+1.1**
	comp=Z,75nm,0.7s							
DAV	**Davao City (W)**	**28.99**	**79**	P		**P**	**18 47 55.1**	**+0.8**
DAV	**Davao City (W)**	**28.99**	**79**	P		**P**	**18 47 55.1**	**+0.8**
	comp=Z,53nm,0.4s,baz=225,slow=5.7,SNR=7.0							
BATI	**Baumata**	**29.16**	**115**	P		**P**	**18 47 53.4**	**-2.4**
BATI	**Baumata**	**29.16**	**115**	P		**P**	**18 47 53.4**	**-2.4**
	comp=Z,10nm,0.5s,baz=290,slow=12,SNR=7.2							
BATI					LR	LR	19 02 16.2	
	comp=Z,2μm,18.6s,baz=136,slow=42							
DANN	**Dangsing**	**29.21**	**336**	*e*P		**P**	**18 47 56.7**	**+0.3**
	comp=Z,108nm,0.6s							
CD2	**Chengdu**	**29.61**	**12**	*e*P		**P**	**18 47 58.8**	**-0.8**
CD2				pP		**pP**	**18 48 10.5**	**-0.1**
CD2				sP		**sP**	**18 48 15.8**	**+0.4**
CD2				PP		**PnPn**	**18 48 57.0**	**+1.4**
CD2				PcP		**PcP**	**18 51 01.8**	**-2.0**
CD2				S		**S**	**18 52 51.3**	**-1.0**
CD2				sS		**sS**	**18 53 10.8**	**+0.2**
CD2				SS		**SnSn**	**18 54 28.3**	**+5.0**
CD2				ScS		**ScS**	**18 58 32.8**	**-4.9**
CD2					pmax	pmax		
	comp=Z,50nm,0.7s							
CD2					pmax	pmax		
	comp=Z,160nm,6.2s							
CD2					LR	LR		
	comp=E,2μm,20.2s							
CD2					LR	LR		
	comp=Z,2μm,15.5s							
ENH	**Enshi**	**30.66**	**22**	*e*P		**P**	**18 48 07.2**	**-1.7**
	comp=Z,50nm,0.6s							
QZH	**Quanzhou**	**31.03**	**40**	⇑*i*P		**P**	**18 48 10.8**	**-1.4**
QZH					pmax	pmax		
	comp=Z,660nm,2.4s							
QZH					LR	LR		
	comp=N,4μm,13.4s							
QZH					LR	LR		
	comp=E,3μm,13.2s							
QZH					LR	LR		
	comp=Z,6μm,15.4s							
TPUB	**Ta-pu**	**31.32**	**45**	*e*P		**P**	**18 48 14.3**	**-0.5**
	comp=Z,57nm,1.1s							
TWG	**Pinlang**	**31.34**	**46**	*e*P		**P**	**18 48 14.7**	**-0.3**
	comp=Z,113nm,0.8s							
YULB	**Yu-li**	**31.86**	**46**	*e*P		**P**	**18 48 19.2**	**-0.3**
	comp=Z,48nm,0.8s							
SSLB	**Suanglung**	**31.86**	**45**	*e*P		**P**	**18 48 19.0**	**-0.6**
	comp=Z,49nm,0.9s							
MBWA	**Marble Bar**	**31.94**	**137**	*e*P		**P**	**18 48 19.5**	**-0.8**
	comp=Z,19nm,0.9s							
NACB	**Ninganchiao**	**32.56**	**45**	*e*P		**P**	**18 48 26.1**	**+0.5**
	comp=Z,33nm,0.8s							
NDI	**New Delhi**	**32.65**	**327**	*e*P		**P**	**18 48 25.0**	**-1.4**
YHNB	**Yeheng**	**32.72**	**44**	*e*P		**P**	**18 48 26.9**	**-0.2**
	comp=Z,21nm,0.8s							
WHN	**Wuhan**	**32.95**	**28**	⇑P		**P**	**18 48 28.8**	**-0.2**
WHN				S		**S**	**18 53 47.5**	**+3.0**
WHN					pmax	pmax		
	comp=Z,530nm,1.3s							
WHN					pmax	pmax		
	comp=Z,420nm,4.6s							
WHN					LR	LR		
	comp=N,2μm,13.0s							
WHN					LR	LR		
	comp=E,4μm,22.4s							
WHN					LR	LR		
	comp=Z,5μm,14.6s							
XAN	**Xi'an**	**33.91**	**18**	P		**P**	**18 48 36.0**	**-1.4**
XAN				pP		**pP**	**18 48 48.3**	**-0.2**
XAN				S		**S**	**18 53 59.5**	**0.0**
XAN				ScS		**ScS**	**18 58 59.3**	**+0.2**
XAN					pmax	pmax		
	comp=Z,36nm,0.8s							
XAN					pmax	pmax		
	comp=Z,38nm,6.4s							
XAN					LR	LR		
	comp=N,1μm,14.3s							
XAN					LR	LR		
	comp=E,400nm,16.4s							
XAN					LR	LR		
	comp=Z,770nm,15.3s							
FITZ	**Fitzroy Crossi**	**34.51**	**126**	*e*P		**P**	**18 48 41.3**	**-1.4**
	comp=Z,13nm,0.9s							
FITZ	**Fitzroy Crossi**	**34.51**	**126**	P		**P**	**18 48 41.7**	**-1.0**
	comp=Z,4.8nm,0.8s,baz=228,slow=6.5,SNR=7.6							
FITZ					LR	LR	19 02 36.8	
	comp=Z,470nm,21.2s,baz=304,slow=36							
SMLA	**Simla**	**34.61**	**329**	*e*P		**P**	**18 48 44.3**	**+0.9**
SMLA					AMB	AMB	18 48 51.8	
	comp=Z,50nm,1.7s							
LZH	**Lanzhou**	**34.65**	**10**	⇑P		**P**	**18 48 43.5**	**-0.4**
LZH				pP		**pP**	**18 48 51.3**	**-3.7**
LZH				sP		**sP**	**18 48 56.3**	**-3.5**
LZH				S		**S**	**18 54 07.0**	**-4.1**
LZH				sS		**sS**	**18 54 26.5**	**-3.0**
LZH				SS		**SnSn**	**18 56 22.5**	**-3.5**
LZH					pmax	pmax		
	comp=Z,47nm,1.0s							
LZH					pmax	pmax		
	comp=Z,200nm,4.0s							
LZH					LR	LR		
	comp=N,760nm,12.7s							
LZH					LR	LR		
	comp=E,710nm,14.8s							
LZH					LR	LR		
	comp=Z,1μm,15.3s							
DHRM	**DHARAMSHALA**	**35.95**	**329**	*e*P		**P**	**18 48 55.2**	**0.0**
NJ2	**Nanjing**	**36.44**	**32**	*e*P		**P**	**18 48 59.3**	**+0.2**
NJ2				pP		**pP**	**18 49 11.8**	**+1.5**
NJ2				sP		**sP**	**18 49 17.5**	**+2.5**
NJ2				PcP		**PcP**	**18 51 22.5**	**-0.2**
NJ2				S		**S**	**18 54 41.0**	**+2.8**
NJ2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
NJ2					pmax	pmax		
	comp=Z,410nm,6.7s							
NJ2					LR	LR		
	comp=N,310nm,9.6s							
NJ2					LR	LR		
	comp=E,220nm,7.5s							
NJ2					LR	LR		
	comp=Z,350nm,8.6s							
SSE	**Sheshan**	**37.02**	**36**	P		**P**	**18 49 04.5**	**+0.4**
SSE				S		**S**	**18 54 49.3**	**+2.1**
SSE				sS		**ScP**	**18 55 09.0**	**+0.5**
SSE				ScS		**ScS**	**18 59 15.0**	**-1.0**
SSE					pmax	pmax		
	comp=Z,50nm,0.8s							
SSE					pmax	pmax		
	comp=Z,130nm,7.0s							
SSE					LR	LR		
	comp=N,1μm,14.8s							
SSE					LR	LR		
	comp=E,1μm,14.8s							
SSE					LR	LR		
	comp=Z,2μm,15.9s							
GTA	**Gaotai**	**37.47**	**4**	⇑P		**P**	**18 49 07.8**	**-0.1**
GTA				pP		**pP**	**18 49 20.0**	**+0.9**
GTA				sP		**sP**	**18 49 25.3**	**+1.4**
GTA				PcP		**PcP**	**18 51 25.3**	**-0.6**
GTA				S		**S**	**18 54 53.5**	**-0.5**
GTA				sS		**sS**	**18 55 14.0**	**+1.4**
GTA				SS		**SnSn**	**18 57 29.3**	**-4.7**
GTA					pmax	pmax		
	comp=E,61nm,1.1s							
GTA					pmax	pmax		
	comp=Z,320nm,6.2s							
GTA					LR	LR		
	comp=N,440nm,16.9s							
GTA					LR	LR		
	comp=E,880nm,16.9s							
GTA					LR	LR		
	comp=Z,610nm,16.6s							
JOW	**Kunigami**	**38.98**	**48**	*e*P		**P**	**18 49 20.5**	**-0.2**
	comp=Z,20nm,0.8s							
NWAO	**Narrogin (SRO)**	**39.55**	**153**	P		P	18 49 32.1	+6.7
NWAO	**Narrogin (SRO)**	**39.55**	**153**	LR		LR	19 05 08.3	
	comp=Z,971nm,21.2s,baz=188,slow=35							
BTO	**Baotou**	**40.35**	**15**	*e*P		**P**	**18 49 31.5**	**-0.5**
HHC	**Hu-ho-hao-te**	**41.00**	**17**	*e*P		**P**	**18 49 38.5**	**+1.1**
HHC				pP		**pP**	**18 49 50.0**	**+1.3**
HHC				sP		**sP**	**18 49 54.8**	**+1.4**
HHC				PP		**PnPn**	**18 51 19.0**	**+1.9**
HHC				PcP		**PcP**	**18 51 38.3**	**+1.3**
HHC				ScP		**ScP**	**18 55 21.8**	**-2.0**
HHC				S		**S**	**18 55 49.0**	**+1.9**
HHC				sS		**sS**	**18 56 08.0**	**+2.2**
HHC				SS		**SS**	**18 58 48.8**	**-1.5**
HHC				ScS		**ScS**	**18 59 36.3**	**-2.8**
HHC					pmax	pmax		
	comp=Z,110nm,1.2s							
HHC					pmax	pmax		
	comp=Z,230nm,8.3s							
HHC					LR	LR		
	comp=N,3μm,15.5s							
HHC					LR	LR		
	comp=E,2μm,15.5s							
HHC					LR	LR		
	comp=Z,2μm,16.7s							
KBL	**Kabul**	**41.65**	**324**	*e*P		**P**	**18 49 44.4**	**+1.5**
KBL					pmax	pmax		
	comp=Z,8.0nm,0.6s							
KBL	**Kabul**	**41.65**	**324**	*e*P		**P**	**18 49 44.4**	**+1.5**
	comp=Z,8.4nm,0.6s							
BJT	**Baijiatuao**	**41.80**	**22**	*e*P		**P**	**18 49 44.6**	**+0.8**
	comp=Z,403nm,1.1s							
BJI	**Beijing**	**41.83**	**22**	P		**P**	**18 49 44.5**	**+0.5**
BJI				S		**S**	**18 56 01.5**	**+2.5**
BJI					pmax	pmax		
	comp=Z,240nm,1.0s							
BJI					pmax	pmax		
	comp=Z,440nm,3.8s							
BJI					LR	LR		
	comp=N,480nm,19.6s							
BJI					LR	LR		
	comp=E,1μm,16.5s							
BJI					LR	LR		
	comp=Z,370nm,18.6s							
KSH	**Kashi**	**42.08**	**336**	P		**P**	**18 49 45.5**	**-0.8**
KSH				pP		**pP**	**18 49 56.5**	**-1.0**
KSH				sP		**sP**	**18 50 00.3**	**-2.0**
KSH				PP		**PP**	**18 51 25.8**	**+1.6**
KSH				PcS		**PcS**	**18 55 33.3**	**+0.9**
KSH				S		**S**	**18 56 00.5**	**-2.6**
KSH				sS		**sS**	**18 56 18.0**	**-3.8**
KSH				SS		SS	18 59 01.0	-11
KSH					pmax	pmax		
	comp=Z,14nm,0.7s							
KSH					pmax	pmax		
	comp=Z,140nm,4.5s							
KSH					LR	LR		
	comp=N,92nm,8.1s							
KSH					LR	LR		
	comp=E,130nm,6.0s							
KSH					LR	LR		
	comp=Z,300nm,15.2s							
WRA	**Warramunga Arr**	**42.59**	**122**	P		**P**	**18 49 50.2**	**-0.4**
WRA	**Warramunga Arr**	**42.59**	**122**	P		**P**	**18 49 50.2**	**-0.4**
	comp=Z,5.3nm,0.6s,baz=301,slow=9.

comp=Z,6.0nm,0.8s,baz=298,slow=7.6,SNR=53
ASAR S **S** **18 56 28.9 -2.4**
comp=Z,3.5nm,1.1s,baz=296,slow=14,SNR=8.1
ULHL Ulahol 44.30 338 P **P** **18 50 05.4 +1.1**
SNR=40
JNU Nakatsue 44.48 42 *e*P **P** **18 50 05.5 -0.2**
comp=Z,15nm,0.8s
JNU Nakatsue 44.48 42 P **P** **18 50 05.7 +0.1**
comp=Z,35nm,0.8s,baz=188,slow=3.0,SNR=20
KZA Kyzart 44.54 337 P **P** **18 50 07.7 +1.3**
SNR=17
INCN Inchon 44.74 34 *e*P **P** **18 50 06.0 -1.7**
comp=Z,69nm,1.2s
TKM2 Tokmak 2 45.12 338 *i* P **P** **18 50 12.0 +1.2**
TKM2 Tokmak 2 45.12 338 P **P** **18 50 12.1 +1.2**
SNR=41
TKM2 Tokmak 2 45.12 338 *e*P **P** **18 50 11.8 +0.9**
comp=Z,73nm,1.1s
KBK Karagaybulak 45.15 337 P **P** **18 50 12.1 +1.2**
SNR=38
AML Almayashu 45.21 336 P **P** **18 50 13.3 +1.6**
SNR=16
AAK Ala-Archa 45.30 337 P **P** **18 50 14.9 +2.7**
comp=Z,151nm,1.7s,SNR=6.4
AAK Ala-Archa 45.30 337 *i* P **P** **18 50 13.6 +1.3**
AAK Ala-Archa 45.30 337 P **P** **18 50 15.2 +3.0**
SNR=6.7
AAK Ala-Archa 45.30 337 *e*P **P** **18 50 13.5 +1.3**
comp=Z,46nm,1.1s
AAK Ala-Archa 45.30 337 P **P** **18 50 13.6 +1.3**
comp=Z,7.2nm,0.7s,baz=141,slow=10.0,SNR=21
KSAR Wonju Array Be 45.42 35 P **P** **18 50 12.8 -0.3**
FRU Bishkek 45.42 337 *e*P **P** **18 50 14.0 +1.0**
FRU pmax pmax
comp=Z,76nm,1.8s
KSRS Korea Array 45.45 35 P **P** **18 50 12.8 -0.5**
comp=Z,54nm,1.0s,baz=224,slow=9.1,SNR=113
KSRS LR LR 19 10 44.3
comp=Z,650nm,18.9s,baz=225,slow=38
CHMS Chumysh 45.51 337 P **P** **18 50 14.8 +1.1**
SNR=10
EKS2 Erkin-Say 45.62 336 *e*P **P** **18 50 15.9 +1.2**
EKS2 pmax pmax
comp=Z,34nm,0.8s
EKS2 Erkin-Say 45.62 336 P **P** **18 50 16.1 +1.5**
SNR=34
EKS2 Erkin-Say 45.62 336 *e*P **P** **18 50 15.9 +1.2**
comp=Z,34nm,0.8s
USP Ospenovka 45.84 337 P **P** **18 50 17.5 +1.2**
SNR=61
SNY Shenyang 46.44 28 ⇑P **P** **18 50 20.5 -0.4**
SNY pmax pmax
comp=Z,71nm,1.0s
SNY LR LR
comp=N,1μm,17.7s
SNY LR LR
comp=E,770nm,18.1s
SNY LR LR
comp=Z,1μm,18.0s
SONM Songino Array 46.52 9 P **P** **18 50 22.1 +0.4**
SONM PcP **PcP** **18 51 56.5 +0.9**
SONM ScP **ScP** **18 55 46.3 +0.2**
SONM Songino Array 46.52 9 P **P** **18 50 22.1 +0.4**
comp=Z,32nm,0.8s,baz=190,slow=9.0,SNR=170
SONM PcP **PcP** **18 51 56.5 +0.9**
comp=Z,8.2nm,0.7s,baz=193,slow=3.5,SNR=5.0
SONM ScP **ScP** **18 55 46.3 +0.2**
comp=Z,2.1nm,1.0s,baz=206,slow=3.1,SNR=3.9
MK31 Makanchi Array 46.55 346 *e*P **P** **18 50 22.2 +0.4**
MK31 Makanchi Array 46.55 346 *e*P **P** **18 50 22.2 +0.4**
MK31 *e*ScP **ScP** **18 55 45.2 -0.9**
MKAR Makanchi Array 46.55 346 *e*P **P** **18 50 22.4 +0.6**
MKAR Makanchi Array 46.55 346 *e*P **P** **18 50 22.4 +0.6**
MKAR Makanchi Array 46.55 346 P **P** **18 50 22.3 +0.5**
comp=Z,41nm,0.8s,baz=160,slow=8.1,SNR=228
MKAR LR LR 19 13 47.2
comp=Z,543nm,20.7s,baz=158,slow=41
ULN Ulaanbaatar 46.66 9 *e*P **P** **18 50 23.2 +0.4**
comp=Z,35nm,1.0s
KK31 Karatay Array 47.36 334 *i* P **P** **18 50 28.6 +0.4**
KK31 pmax pmax
comp=Z,49nm,1.0s
KKAR Karatay Array 47.36 334 *e*P **P** **18 50 28.8 +0.6**
KKAR Karatay Array 47.36 334 *e*P **P** **18 50 28.8 +0.6**
COEN Coen 48.42 110 *e*P **P** **18 50 35.8 -1.0**
comp=Z,187nm,1.4s
ZAK Zakamensk 48.65 5 *e*P **P** **18 50 38.2 +0.1**
ZAK pmax pmax
comp=Z,17nm,1.6s
CN2 Changchun 48.83 27 ⇑P **P** **18 50 39.0 -0.5**
CN2 *e*pP **pP** **18 50 51.3 +0.3**
CN2 *e*sP **sP** **18 50 56.5 +0.8**
CN2 *e*S **S** **18 57 39.0 -1.2**
CN2 pmax pmax
comp=Z,60nm,1.1s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,700nm,17.0s
CN2 LR LR
comp=E,900nm,17.0s
CN2 LR LR
comp=Z,900nm,18.0s
HVS Khovu-Aksy 49.18 357*c i*P **P** **18 50 42.3 +0.1**
HVS pmax pmax
comp=Z,286nm,1.8s
MOY Mondy 49.75 3 *e*P **P** **18 50 46.7 +0.2**
MOY pmax pmax
comp=Z,52nm,2.4s
IRK Irkutsk 50.58 6⇑*i*P **P** **18 50 53.2 +0.5**
IRK *e* 18 50 59.6
IRK pmax pmax
comp=Z,62nm,1.9s
KURBB Kurchatov Arra 51.04 345 P **P** **18 50 56.8 +0.6**
comp=Z,36nm,0.8s,baz=167,slow=6.9,SNR=374
KURK Kurchatov 51.10 345 P **P** **18 50 56.8 +0.2**
KURK Kurchatov 51.10 345 P **P** **18 50 56.8 +0.2**
HIA Hailar 51.10 19 *e*P **P** **18 50 56.4 -0.3**
comp=Z,29nm,0.8s
PMG Port Moresby 51.24 104 *e*P **P** **18 50 58.0 -0.3**
comp=Z,33nm,0.8s
PMG Port Moresby 51.24 104 P **P** **18 50 57.9 -0.3**
comp=Z,34nm,0.8s,baz=296,slow=5.5,SNR=8.3
MAJO Matsushiro 51.37 43 *e*P **P** **18 50 57.8 -1.1**
MAJO pmax pmax
comp=Z,29nm,0.8s
MAJO Matsushiro 51.37 43 *e*P **P** **18 50 57.8 -1.1**
comp=Z,29nm,0.8s
MAT Matsushiro 51.37 43 P **P** **18 50 58.2 -0.8**
MAT S S 18 58 30.8 +15
MJAR Matsushiro Arr 51.38 43 P **P** **18 50 58.5 -0.5**
MJAR Matsushiro Arr 51.38 43 P **P** **18 50 58.5 -0.5**
comp=Z,35nm,1.0s,baz=218,slow=6.4,SNR=94
MDJ Mudanjiang 51.42 30 P **P** **18 50 59.8 +0.7**
MDJ pP **pP** **18 51 11.0 +0.4**
MDJ sP **sP** **18 51 16.0 +0.7**
MDJ PP **PP** **18 52 57.0 +0.4**
MDJ ScP **ScP** **18 56 05.8 -1.1**
MDJ PcS **PcS** **18 56 10.8 -0.1**
MDJ S **S** **18 58 18.3 +2.2**
MDJ sS **sS** **18 58 33.8 -1.5**
MDJ ScS **ScS** **19 00 45.3 -1.0**
MDJ pmax pmax
comp=Z,35nm,1.2s
MDJ pmax pmax
comp=Z,160nm,5.2s
MDJ LR LR
comp=N,690nm,13.3s
MDJ LR LR
comp=E,640nm,13.3s
MDJ LR LR
comp=Z,1μm,13.3s
MDJ Mudanjiang 51.42 30 *e*P **P** **18 50 59.4 +0.3**
comp=Z,39nm,1.0s
VLA Vladivostok 51.54 32⇑*i*P **P** **18 51 00.6 +0.6**
VLA pmax pmax
comp=Z,126nm,1.3s
CIT Chita 51.89 13 *e*P **P** **18 51 03.6 +1.1**
CIT *e* 18 51 11.6
CIT *e* 18 51 18.1
CIT *e* 18 53 05.1
CIT pmax pmax
comp=Z,144nm,1.7s
USRK Ussuriysk Arra 52.34 31 P **P** **18 51 06.3 +0.3**
comp=Z,67nm,1.0s,baz=234,slow=5.5,SNR=105
ZAA0 Zalesovo Array 52.88 351 *e*P **P** **18 51 10.2 +0.4**
ZALV Zalesovo Beam 52.88 351 P **P** **18 51 10.5 +0.8**
ZALV Zalesovo Beam 52.88 351 P **P** **18 51 10.5 +0.8**
ZALV Zalesovo Beam 52.88 351 P **P** **18 51 10.5 +0.8**
comp=Z,202nm,0.8s,baz=179,slow=6.4,SNR=802
ZALV LR LR 19 19 40.2
comp=Z,325nm,19.3s,baz=69,slow=43
OPO Ambohidratompo 52.98 245 P **P** **18 51 12.1 +0.8**
OPO Ambohidratompo 52.98 245 P **P** **18 51 12.1 +0.8**
comp=Z,2.1nm,0.6s,baz=121,slow=5.9,SNR=4.4
CTA Charters Tower 53.01 117 P **P** **18 51 11.8 +0.4**
CTA Charters Tower 53.01 117 P **P** **18 51 11.8 +0.4**
comp=Z,16nm,0.8s,baz=287,slow=9.9,SNR=10
CTAO Charters Tower 53.01 117 *e*P **P** **18 51 11.5 +0.1**
CTAO Charters Tower 53.01 117 *e*P **P** **18 51 11.5 +0.1**
STKA Stephens Creek 53.98 132 P **P** **18 51 16.1 -2.2**
STKA Stephens Creek 53.98 132 P **P** **18 51 16.1 -2.2**
comp=Z,8.0nm,1.0s,baz=301,slow=4.3,SNR=12
NVS Novosibirsk 53.99 350⇑*i*P **P** **18 51 17.0 -0.9**
NVS *i* 18 51 25.1
NVS *e* 18 52 28.6
NVS *i* S **S** **18 58 50.4 -0.5**
NVS *i* SS **PnS** **18 59 03.7 -0.9**
NVS *e* 19 00 54.8
NVS pmax pmax
comp=N,62nm,0.9s
NVS pmax pmax
comp=Z,96nm,0.9s
NVS pmax pmax
comp=E,55nm,1.1s
NVS smax smax
comp=N,11nm,1.5s
NVS smax smax
comp=E,43nm,1.5s
KRAR Krasnoyarsk 54.09 357*c i*P **P** **18 51 19.6 +1.0**
KRAR pmax pmax
comp=Z,169nm,1.0s
RDF Al-Radifah 54.16 305 *e*P **P** **18 51 20.1 +0.5**
RDF AMb AMB 18 51 30.9
comp=Z,79nm,1.3s
RAYN Ar Rayn 54.24 298 P **P** **18 51 22.0 +1.6**
comp=Z,146nm,1.1s,SNR=9.7
RAYN Ar Rayn 54.24 298 *e*P **P** **18 51 20.7 +0.3**
comp=Z,30nm,1.1s
ATD Arta Tunnel 54.50 283 P **P** **18 51 23.6 +1.1**
ATD Arta Tunnel 54.50 283 P **P** **18 51 23.6 +1.1**
comp=Z,2.7nm,0.3s,baz=330,slow=8.1,SNR=3.3
ATD LR LR 19 09 31.1
comp=Z,86nm,21.6s,baz=314,slow=30
NAY Al-Naaiem 54.52 305 *e*P **P** **18 51 22.3 0.0**
NAY AMb AMB 18 51 34.6
comp=Z,25nm,1.1s
MIB Mutribah 54.64 306 *e*P **P** **18 51 23.5 +0.4**
MIB AMb AMB 18 51 34.3
comp=Z,135nm,1.0s
VOSK Vostochnaya 55.11 341 P **P** **18 51 25.3 -0.8**
VOSK pmax pmax
comp=Z,38nm,0.6s
BVA0 Borovoye Array 55.55 341 *i* P **P** **18 51 28.4 -0.9**
BVA0 pmax pmax
comp=Z,42nm,0.7s
BVAR Borovoye Array 55.55 341 P **P** **18 51 29.3 0.0**
BVAR Borovoye Array 55.55 341 P **P** **18 51 29.3 0.0**
BVAR Borovoye Array 55.55 341 P **P** **18 51 29.3 0.0**
comp=Z,40nm,0.7s,baz=144,slow=8.3,SNR=128
BRVK Borovoye 55.62 341 P **P** **18 51 29.4 -0.3**
comp=Z,298nm,0.7s,SNR=7.3
BRVK Borovoye 55.62 341*c i*P **P** **18 51 29.8 0.0**
BRVK pmax pmax
comp=Z,42nm,0.8s
BRVK Borovoye 55.62 341 *e*P **P** **18 51 29.8 0.0**
comp=Z,36nm,0.8s
KLR Kul'dur 55.78 27⇓*i*P **P** **18 51 28.2 -2.8**
KLR *e*S **S** **18 59 14.5 -0.6**
KLR pmax pmax
comp=E,70nm,1.8s
KLR pmax pmax
comp=Z,240nm,1.8s
KLR MLR MLR
comp=N,2μm,14.0s
KLR MLR MLR
comp=E,600nm,14.0s
KLR MLR MLR
comp=Z,2μm,14.0s
HABR Khabarovsk 56.81 29*ce*P **P** **18 51 37.0 -1.3**
HABR *e**PP **pP** **18 51 45.9 -4.1**
HABR *e**SP **sP** **18 51 50.0 -4.6**
HABR *e* 18 52 31.2
HABR *e* 18 53 42.6
HABR *e*S **S** **18 59 28.5 -0.2**
HABR *e* 18 59 39.8
HABR *e**SS **sS** **18 59 44.6 -3.4**
HABR *e* 19 01 22.5
HABR *e*SS **SS** **19 03 17.4 +0.1**
HABR pmax pmax
comp=N,13nm,0.9s
HABR pmax pmax
comp=Z,56nm,0.9s
HABR pmax pmax
comp=E,44nm,0.9s
HABR MLR MLR
comp=E,941nm,16.0s
HABR MLR MLR
comp=N,1μm,16.0s
HABR MLR MLR
comp=Z,2μm,16.0s
AB31 Akbulak array 56.82 332 *i* P **P** **18 51 38.2 -0.2**
AB31 pmax pmax
comp=Z,56nm,0.8s
ABKAR Akbulak array 56.82 332 *e*P **P** **18 51 38.5 +0.1**
ERM Erimo 57.52 40*d i*P **P** **18 51 44.4 +0.9**
ERM Erimo 57.52 40 *e*P **P** **18 51 43.4 0.0**
comp=Z,167nm,1.9s
ASAJ Asahikawa 58.29 37 *e*P **P** **18 51 48.4 -0.5**
comp=Z,24nm,1.0s
ASAJ Asahikawa 58.29 37 P **P** **18 51 48.9 +0.1**
comp=Z,35nm,0.8s,baz=278,slow=8.7,SNR=30
EIDS Eidsvold 58.92 121 *e*P **P** **18 51 53.1 -0.5**
comp=Z,24nm,0.9s
CLNS Chul'man 59.19 17 *e*P **P** **18 51 54.7 -0.2**
CLNS *e**PP **pP** **18 52 04.3 -2.3**
CLNS *e* 18 52 43.3
CLNS *e* 18 54 04.3
CLNS *e*S **S** **19 00 01.6 +1.9**
CLNS *e*SS **SS** **19 03 54.2 -0.4**
CLNS pmax pmax
comp=Z,46nm,0.9s
CLNS pmax pmax
comp=E,19nm,0.9s
CLNS pmax pmax
comp=N,20nm,0.9s
CLNS pmax pmax
comp=Z,4.0nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,1.1s
CLNS pmax pmax
comp=N,7.0nm,1.1s
CLNS smax smax
comp=N,82nm,12.3s
CLNS smax smax
comp=E,91nm,15.4s
CLNS MLR MLR
comp=N,871nm,18.0s
CLNS MLR MLR
comp=E,639nm,16.0s
CLNS MLR MLR
comp=Z,1μm,17.0s
KMBO Kilima Mbogo 59.77 268 P **P** **18 51 59.4 -0.6**
KMBO Kilima Mbogo 59.77 268 P **P** **18 51 59.4 -0.6**
comp=Z,7.4nm,0.8s,baz=54,slow=9.5,SNR=13
KMBO LR LR 19 15 45.3
comp=Z,431nm,18.6s,baz=94,slow=34
YSS Yuzh-Sakhalins 59.95 35⇑*e*P **P** **18 52 01.6 +1.4**
YSS *i* *PP **pP** **18 52 14.0 +2.0**
YSS *e*S **S** **19 00 10.0 +0.3**
YSS pmax pmax
comp=N,50nm,1.2s
YSS pmax pmax
comp=Z,190nm,1.2s
YSS MLR MLR
comp=N,300nm,15.0s
YSS MLR MLR
comp=Z,500nm,15.0s
YUK Yuzh-Kuril'sk 60.26 39 P **P** **18 52 01.0 -1.4**
YUK *e*S **S** **19 00 12.9 -0.8**
YUK MLR MLR
comp=E,707nm,16.0s
YUK MLR MLR
comp=Z,790nm,16.0s
GNI Garni 60.66 316 *e*P **P** **18 52 05.5 0.0**
comp=Z,24nm,0.9s
GNI Garni 60.66 316 P **P** **18 52 05.6 0.0**
comp=Z,1.7nm,0.4s,baz=85,slow=11,SNR=2.9
DGRG David-gareji 60.78 318 P **P** **18 52 06.4 +0.3**
ARMA Armidale 61.12 126 *e*P **P** **18 52 09.6 +0.9**
comp=Z,32nm,1.2s
TBLG Delisi 61.34 318 *e*P **P** **18 52 10.7 +0.8**
TBLG Delisi 61.34 318 P **P** **18 52 10.7 +0.8**
DUS Dusheti 61.52 318 P **P** **18 52 12.2 +1.0**
SVE Sverdlovsk 61.99 338*d i*P **P** **18 52 14.2 +0.2**
SVE pmax pmax
comp=Z,57nm,0.9s
ZEI Tsey 62.35 318 *e*P **P** **18 52 17.4 +0.5**
ZEI pmax pmax
comp=Z,6.0nm,0.5s
ARU Arti 62.49 337*c i*P **P** **18 52 16.9 -0.4**
ARU 18 52 54.9
ARU 18 54 32.9
ARU PPP PPP 18 56 08.7
ARU S **S** **19 00 43.2 +1.5**
ARU 19 02 00.3
ARU pmax pmax
comp=Z,33nm,1.0s
ARU MLR MLR
comp=Z,292nm,18.0s
ARU Arti 62.49 337 P **P** **18 52 16.8 -0.5**
comp=Z,166nm,1.0s,SNR=14
ONI Oni 62.57 318 P **P** **18 52 18.9 +0.7**
KBZ Khabaz 63.42 319 P **P** **18 52 24.0 +0.3**
KBZ Khabaz 63.42 319 P **P** **18 52 23.9 +0.3**
KBZ Khabaz 63.42 319 P **P** **18 52 23.9 +0.3**
comp=Z,8.1nm,0.8s,baz=122,slow=6.7,SNR=18
CHVG Ch'k'valeri 63.54 318 P **P** 18 52 27.9 +3.3
KIV Kislovodsk 63.66 319*c i*P **P** **18 52 25.6 +0.2**
KIV *e**PP **pP** **18 52 33.4 -3.8**
KIV *e* 18 52 59.6
KIV pmax pmax
comp=Z,16nm,0.9s
MALT Malatya 64.51 312⇑*i*P P 18 52 52.5 +21
YAK Yakutsk 64.86 16*c i*P **P** **18 52 32.4 -0.4**
YAK *e**PP **pP** **18 52 42.7 -1.9**
YAK *e* 18 53 03.4
YAK *e*PPP PPP 18 56 24.5
YAK *e*S **S** **19 01 10.5 -0.5**
YAK *e**SS sS 19 01 25.3 -5.3
YAK *e* 19 02 25.0
YAK *e*SS **SS** **19 05 24.2 +1.2**
YAK pmax pmax
comp=Z,228nm,1.0s
YAK pmax pmax
comp=N,75nm,1.1s
YAK pmax pmax
comp=E,80nm,1.4s
YAK pmax pmax
comp=Z,33nm,3.1s
YAK pmax pmax
comp=N,29nm,2.4s
YAK pmax pmax
comp=E,32nm,2.5s
YAK smax smax
comp=N,102nm,3.0s
YAK smax smax
comp=E,53nm,2.7s
YAK MLR MLR
comp=Z,2μm,18.0s
YAK MLR MLR
comp=N,926nm,16.0s
YAK MLR MLR
comp=E,301nm,17.0s
SOKR Solikamsk 65.41 339*c i*P **P** **18 52 36.7 +0.4**
SOKR pmax pmax
comp=Z,50nm,1.1s
SOKR MLR MLR
comp=Z,360nm,21.0s
SOC Sochi 65.47 318 *e*P P 18 52 33.2 -4.0
SOC *e**PP pP 18 52 44.7 -4.3
SOC *e*PPP PPP 18 56 32.3
SOC *e*S **S** **19 01 17.0 -2.2**
MBAR Mbarara 66.25 269 P **P** **18 52 43.8 +0.8**
MBAR Mbarara 66.25 269 P **P** **18 52 43.8 +0.8**
comp=Z,3.1nm,0.5s,baz=68,slow=10.0,SNR=6.5
ANN Anapa 67.45 318 *e*P P 18 52 41.7 -8.1
ANN *e**PP pP 18 52 51.5 -10
ANN *e* 18 53 10.8
ANN pmax pmax
comp=Z,23nm,1.1s
BRTR Keskin Array B 68.49 312 P **P** **18 52 56.5 -0.2**
BRTR Keskin Array B 68.49 312 P **P** **18 52 56.5 -0.2**
comp=Z,3.3nm,0.8s,baz=133,slow=7.3,SNR=24
CASY Casey 68.68 174 *e*P **P** **18 52 57.6 +0.6**
comp=Z,17nm,1.3s
VORD Divnogorie 68.72 325 *e*P **P** **18 52 56.8 -0.8**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.8s
VSR Storozhevoye 68.89 325 *e*P **P** **18 52 57.5 -1.2**
VSR pmax pmax
comp=Z,20nm,0.9s
VSR pmax pmax
comp=N,6.0nm,0.5s
VSR pmax pmax
comp=E,10.0nm,1.0s
ANTO Ankara 69.16 312 P **P** **18 52 59.8 -0.9**
ANTO pmax pmax
comp=Z,23nm,1.2s
ANTO Ankara 69.16 312 P **P** **18 52 59.8 -0.9**
comp=Z,23nm,1.2s
SIM Simferopol' 69.72 318 *e*P **P** **18 53 03.4 -0.6**
SIM *e*S **S** **19 02 06.0 -4.1**
SIM pmax pmax
comp=Z,74nm,0.9s
LSZ Lusaka 70.07 253 *e*P **P** **18 53 07.6 +0.8**
PETK Petropavlovsk- 71.33 34 P **P** **18 53 13.6 0.0**
PETK Petropavlovsk- 71.33 34 P **P** **18 53 13.6 0.0**
PETK Petropavlovsk- 71.33 34 P **P** **18 53 13.6 0.0**
comp=Z,10.0nm,0.8s,baz=197,slow=4.6,SNR=13
MOS Moscow 71.65 329 *e*P **P** **18 53 14.6 -0.8**
MOS *e* 18 53 22.6
MOS *e* 18 53 28.3
MOS pmax pmax
comp=Z,39nm,0.7s
PET Petropavlovsk 71.83 34 *e*P **P** **18 53 16.5 -0.1**
PET *e*S **S** **19 02 34.0 -0.2**
PET pmax pmax
comp=Z,200nm,5.1s
PET pmax pmax
comp=Z,71nm,0.9s
PET pmax pmax
comp=Z,100nm,20.2s
PET MLR MLR
comp=Z,300nm,21.0s
PET MLR MLR
comp=Z,300nm,20.0s
OBN Obninsk 71.94 328*c i*P **P** **18 53 17.1 -0.1**
OBN *e* 18 53 24.2
OBN *e* 18 53 33.6
OBN *e* 18 55 56.4
OBN *e*S **S** **19 02 35.8 +0.4**
OBN *e*SS **SS** **19 07 12.0 -0.5**
OBN pmax pmax
comp=Z,34nm,1.3s
OBN MLR MLR
comp=Z,200nm,19.0s
TIXI Tiksi 72.59 10*c i*P **P** **18 53 20.4 -0.4**
TIXI pmax pmax
comp=Z,21nm,0.8s
MAW Mawson 73.29 193 P **P** **18 53 24.8 -0.2**
MAW Mawson 73.29 193 P **P** **18 53 24.8 -0.2**
comp=Z,5.2nm,0.8s,baz=333,slow=8.6,SNR=6.6
TIRR Tirgusor 73.48 316⇓*i*P **P** **18 53 27.3 +0.7**
TIRR Tirgusor 73.48 316 *e*P **P** **18 53 26.5 -0.2**
comp=Z,21nm,1.0s
TIRR Tirgusor 73.48 316⇓*i*P **P** **18 53 27.3 +0.7**
KIS Kishinev 73.85 319 *e*P P 18 53 35.0 +6.3
KIS Kishinev 73.85 319 *e*P P 18 53 35.0 +6.3
CFR Carcaliu 73.85 317⇑P **P** **18 53 29.3 +0.6**
CFR Carcaliu 73.85 317⇑*i*P **P** **18 53 29.3 +0.6**
LBTB Lobatse 73.96 243 *e*P **P** **18 53 29.8 -0.2**
comp=Z,14nm,1.0s

IDI **Anoyia** 74.32 306 *e*P P 18 53 33.5 +1.7
comp=Z,19nm,0.9s
KIEV **Kiev** 74.60 322 *e*P P 18 53 32.8 -0.2
KIEV **Kiev** 74.60 322 *e*P P 18 53 32.8 -0.2
BOSA **Boshof** 74.90 240 P P 18 53 35.5 +0.1
BOSA **Boshof** 74.90 240 P P 18 53 35.5 +0.1
comp=Z,6.3nm,0.9s,baz=78,slow=8.6,SNR=6.5
BOSA LR LR 19 25 32.8
comp=Z,556nm,18.4s,baz=242,slow=35
VRI **Vrincioaia** 74.97 317 ⇓P P 18 53 36.8 +1.5
VRI **Vrincioaia** 74.97 317 ⇓*i*P P 18 53 36.8 +1.5
PLOR **Plostina** 75.02 317 ⇑*i*P P 18 53 37.2 +1.6
PLOR **Plostina** 75.02 317 ⇑*i*P P 18 53 37.2 +1.6
TESR **Tescani** 75.17 318 ⇓*i*P P 18 53 36.8 +0.3
TMCR **Tamitsa** 75.23 337 *e*P P 18 53 36.4 +0.1
TMCR *e* 18 53 48.2
TMCR pmax pmax
comp=Z,49nm,1.2s
MLR **Muntele Rosu** 75.43 317 ⇓*i*P P 18 53 39.1 +1.0
VOIR 76.03 316 ⇑P P 18 53 40.9 -0.6
VOIR 76.03 316 ⇑*i*P P 18 53 40.9 -0.6
ARR **Arges** 76.30 316 ⇑*i*P P 18 53 43.1 +0.1
BURAR **Bucovina Array** 76.37 319 ⇑P P 18 53 44.6 +1.2
BURAR **Bucovina Array** 76.37 319 ⇑*i*P P 18 53 44.6 +1.2
BUR08 **Bucovina Ar. S** 76.39 319 *e*P P 18 53 44.3 +0.8
MICGM **Minsk** 76.45 326 *e* P 18 53 42.0 -1.5
MNK **Minsk** 76.47 326 *e*P P 18 53 42.0 -1.7
VTS **Vitosha** 76.81 313 ⇑P P 18 53 45.8 -0.2
VTS **Vitosha** 76.81 313 ⇑*i*P P 18 53 45.8 -0.2
NACGM **Naroch** 77.17 326 *e* P 18 53 44.0 -3.6
JOF **Joensuu** 77.45 335 *e*p P 18 53 49.8 +0.8
comp=Z,7.2nm,0.7s
JOF **Joensuu** 77.45 335 *e*P P 18 53 49.8 +0.8
JOF pmax pmax
comp=Z,7.0nm,0.7s
DEV **Deva** 77.59 317 ⇑P P 18 53 51.9 +1.7
DEV **Deva** 77.59 317 ⇑*i*P P 18 53 51.9 +1.7
LVV **L'vov** 77.61 321 *e*P P 18 53 49.8 -0.4
DRGR 77.89 317 ⇑P P 18 53 53.1 +1.2
DRGR 77.89 317 ⇑*i*P P 18 53 53.1 +1.2
LVZ **Lovozero** 78.14 340 ⇓*i*P P 18 53 53.1 +0.3
LVZ pmax pmax
comp=Z,34nm,1.5s
TRPA **Tarpa** 78.24 319 ⇓*i*P P 18 53 55.2 +1.5
APA **Apatity** 78.43 339 ⇑*i*P P 18 53 54.8 +0.5
APA *i* 18 54 08.0
APA pmax pmax
comp=Z,26nm,1.0s
APA MLR MLR
comp=Z,200nm,21.0s
BZS **Buzias** 78.44 316 ⇑P P 18 53 55.8 +1.0
BZS **Buzias** 78.44 316 ⇑*i*P P 18 53 55.8 +1.0
UZH **Uzhgorod** 78.50 319 *e*P P 18 53 57.0 +1.9
UZH *i* 18 54 02.8
UZH *e* 18 57 02.0
SUW **Suwalki** 79.00 325 *e*P P 18 53 58.0 +0.2
SUW pmax pmax
comp=Z,54nm,0.9s
SUW **Suwalki** 79.00 325 *e*P P 18 53 58.0 +0.2
comp=Z,54nm,0.9s
SUW **Suwalki** 79.00 325 *e*P P 18 53 57.6 -0.1
FIA1 **FINESS Array S** 79.31 332 *e*P P 18 53 59.2 0.0
FINES **FINESS Array B** 79.31 332 P P 18 53 59.3 0.0
FINES **FINESS Array B** 79.31 332 P P 18 53 59.3 0.0
comp=Z,11nm,0.7s,baz=106,slow=6.8,SNR=34
STHS **Stebnicka Huta** 79.31 320 *e*P P 18 54 01.3 +1.7
STHS pmax pmax
comp=Z,8.0nm,0.9s
STHS **Stebnicka Huta** 79.31 320 *e*P P 18 54 01.3 +1.7
SUR **Sutherland** 79.32 237 *e*P P 18 54 01.3 +1.1
KAF **Kangasniemi** 79.39 333 *e*p P 18 54 00.1 +0.4
comp=Z,15nm,0.7s
KAF **Kangasniemi** 79.39 333 *e*P P 18 54 00.1 +0.4
KAF pmax pmax
comp=Z,15nm,0.7s
KECS **Kecovo** 79.65 319 *e*P P 18 54 02.3 +0.8
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS **Kecovo** 79.65 319 *e*P P 18 54 02.3 +0.8
PKSN **Nyarlorinc** 79.83 317 ⇓*e*P P 18 54 04.1 +1.7
NIE **Niedzica** 79.91 320 *e*P P 18 54 05.3 +2.4
NIE **Niedzica** 79.91 320 *e*P P 18 54 05.3 +2.4
PSZ **Piszkesteto** 79.96 318 ⇑P P 18 54 03.7 +0.5
PSZ **Piszkesteto** 79.96 318 *e*P P 18 54 04.0 +0.7
comp=Z,22nm,1.1s
PSZ **Piszkesteto** 79.96 318 ⇑*i*P P 18 54 03.7 +0.5
PSZ **Piszkesteto** 79.96 318 ⇓*e*P P 18 54 04.0 +0.7
FX1 **Attu Island--F** 80.21 37 P P 18 54 04.4 +0.1
FX1 **Attu Island--F** 80.21 37 P P 18 54 04.4 +0.1
comp=Z,11nm,0.5s,baz=308,slow=4.0,SNR=6.1
PKS2 **Kecel** 80.22 317 ⇓*e*P P 18 54 05.8 +1.3
PKS7 **Kunszentmiklos** 80.33 317 ⇓*e*P P 18 54 06.4 +1.3
OJC **Ojcow** 80.36 321 *e*P P 18 54 06.1 +0.8
OJC pmax pmax
comp=Z,17nm,1.2s
OJC **Ojcow** 80.36 321 *e*P P 18 54 06.1 +0.8
comp=Z,16nm,1.2s
OJC **Ojcow** 80.36 321 *e*P P 18 54 05.6 +0.3
SYO **Syowa Base** 80.55 198 ⇓*e*P P 18 54 06.0 +0.2
SYO **Syowa Base** 80.55 198 ⇓*e*sP sP 18 54 13.8 -8.7
PKSM **Moragy** 80.58 316 ⇑P P 18 54 07.6 +1.1
PKSM **Moragy** 80.58 316 ⇑*i*P P 18 54 07.6 +1.1
PKSM **Moragy** 80.58 316 ⇓*e*P P 18 54 07.1 +0.6
TSUM **Tsumeb** 80.58 250 *e*P P 18 54 08.9 +1.6
comp=Z,20nm,1.3s
VYHS **Vyhne** 80.74 319 *e*P P 18 54 07.9 +0.6
VYHS pmax pmax
comp=Z,2.0nm,1.0s
VYHS **Vyhne** 80.74 319 *e*P P 18 54 07.9 +0.6
PKS9 **Tamasi** 80.87 317 ⇓*e*P P 18 54 16.8 +8.7
PKSG 80.90 318 ⇑*e*P P 18 54 09.2 +1.0
CSKK **Cs˘‡kako** 80.98 318 ⇓*e*P P 18 54 09.9 +1.3
TIP **Timpagrande** 81.23 309 *e*P P 18 54 09.5 -0.7
comp=Z,20nm,1.1s
OKC **Ostrava-Krasne** 81.37 320 *i*P P 18 54 11.3 +0.7
OKC *e* 18 54 19.0
OKC *e* 19 04 18.0
OKC MLR MLR
comp=Z,200nm,18.5s
OKC **Ostrava-Krasne** 81.37 320 *i*P P 18 54 11.3 +0.7
OKC *e*pP PcP 18 54 19.0 +2.4
OKC *e*S S 19 04 18.0 -0.8
OKC AMS AMS 19 39 30.0
comp=Z,200nm,18.5s
MORC **Moravsky Berou** 81.75 320 *e*P P 18 54 12.9 +0.2
MORC pmax pmax
comp=Z,17nm,1.2s
MORC **Moravsky Berou** 81.75 320 *e*P P 18 54 12.9 +0.2
comp=Z,17nm,1.2s
CEL **Celeste** 81.83 308 *e*P P 18 54 12.9 -0.5
comp=Z,27nm,1.1s
ARCES **ARCESS Array B** 81.84 340 P P 18 54 13.7 +0.9
ARCES **ARCESS Array B** 81.84 340 P P 18 54 13.7 +0.9
comp=Z,10nm,0.8s,baz=93,slow=3.1,SNR=18
ARE0 **ARCESS Array S** 81.84 340 P P 18 54 11.8 -0.9
MSVF **Nonsavu** 82.08 108 *e*P P 18 54 13.3 -1.8
MSVF **Nonsavu** 82.08 108 *e*P P 18 54 13.3 -1.8
KOGS **Kog** 82.25 316 *e*P P 18 54 16.0 +0.6
KOGS *e* 18 54 23.4
KRLC **Kraliky** 82.27 320 *i*P P 18 54 16.9 +1.5
KRLC **Kraliky** 82.27 320 *i*P P 18 54 16.9 +1.5
DPC **Dobruska-Polom** 82.59 320 *i*P P 18 54 18.0 +0.9
DPC *e* 19 04 33.4
DPC **Dobruska-Polom** 82.59 320 *i*P P 18 54 18.0 +0.9
DPC *e*pP pP 18 54 26.7 -2.6
DPC *e*S S 19 04 33.4 +1.9
DPC AMS AMS 19 40 40.0
DPC **Dobruska-Polom** 82.59 320 *e*P P 18 54 18.3 +1.1
comp=Z,186nm,1.6s
GCIS **Gornji Cirnik** 82.63 316 *i*P P 18 54 18.0 +0.6
CONA **Conrad Observa** 82.65 318 ⇑*i*P P 18 54 16.3 -1.2
comp=Z,4.9nm,0.8s
KSP **Ksiaz** 82.66 321 *e*P P 18 54 18.4 +1.0
KSP *e*PP PcP 18 54 24.5 +2.2
KSP *e*S S 19 04 33.0 +0.9
KSP **Ksiaz** 82.66 321 *e*P P 18 54 18.5 +1.0
GROS **Grobnik** 82.77 316 *i*P P 18 54 18.6 +0.5
ARSA **Arzberg** 82.82 317 ⇑*i*P P 18 54 19.3 +0.9
comp=Z,11nm,0.8s,SNR=12
TREC **Trest** 83.03 319 AMS AMS 19 39 40.0
comp=Z,200nm,18.9s
SOKA **Soboth** 83.11 317 ⇑*i*P P 18 54 20.6 +0.6
comp=Z,14nm,0.9s
LJU **Ljubljana** 83.41 316 *i*P P 18 54 22.2 +0.8
LJU *e* 18 54 29.8
URZ **Urewera** 83.41 129 *e*P P 18 54 20.9 -0.6
URZ **Urewera** 83.41 129 P P 18 54 21.7 +0.2
comp=Z,12nm,1.0s,baz=288,slow=3.2,SNR=3.3
CRNS **Crni Vrh** 83.59 316 *i*P P 18 54 22.6 +0.2
PRU **Pruhonice** 83.70 320 *i*P P 18 54 23.2 +0.4
PRU *e* 18 54 30.7
PRU *e* 19 04 41.9
PRU MLR MLR
comp=Z,200nm,24.3s
PRU **Pruhonice** 83.70 320 *i*P P 18 54 23.2 +0.4
PRU *ex* x 18 54 30.7
PRU *eS* S 19 04 41.9 -0.7
PRU AMS AMS 19 40 40.0
comp=Z,200nm,24.3s
PVCC **Panska Ves** 83.73 320 *i*P P 18 54 24.1 +1.2
PVCC *e* 18 54 32.1
PVCC MLR MLR
comp=Z,200nm,19.5s
PVCC **Panska Ves** 83.73 320 *i*P P 18 54 24.1 +1.2
PVCC *e*pP pP 18 54 32.1 -3.0
PVCC AMS AMS 19 40 40.0
comp=Z,200nm,19.5s
PRA **Prague** 83.78 320 P P 18 54 24.0 +0.9
PRA AMS AMS 19 41 00.0
VOY **Vojsko** 83.85 316 *e*P P 18 54 23.8 +0.1
AQU **L'Aquila** 83.99 312 *e*P P 18 54 24.1 -0.4
GEC2 **GERESS Array S** 84.16 319 *e*P P 18 54 25.8 +0.5
comp=Z,19nm,1.2s
GEC2 **GERESS Array S** 84.16 319 *e*P P 18 54 25.8 +0.5
GEC2 pmax pmax
comp=Z,65nm,1.2s
GERES **GERESS Array B** 84.16 319 P P 18 54 25.8 +0.5
GERES **GERESS Array B** 84.16 319 P P 18 54 25.7 +0.5
comp=Z,11nm,0.9s,baz=97,slow=5.5,SNR=70
KHC **Kasperske Hory** 84.26 319 *i*P P 18 54 26.1 +0.4
KHC *e* 18 54 33.5
KHC *e* 19 04 49.2
KHC MLR MLR
comp=Z,200nm,20.6s
KHC **Kasperske Hory** 84.26 319 *i*P P 18 54 26.1 +0.4
KHC *ex* x 18 54 33.5
KHC *eS* S 19 04 49.2 +0.8
KHC AMS AMS 19 37 50.0
comp=Z,200nm,20.6s
KHC **Kasperske Hory** 84.26 319 *e*P P 18 54 25.7 0.0
RJOB **Jochberg** 84.70 318 *e*P P 18 54 27.6 -0.4
comp=Z,8.0nm,0.9s
WET **Wettzell** 84.72 319 *e*P P 18 54 28.4 +0.4
comp=Z,12nm,1.1s
WET **Wettzell** 84.72 319 *e*P P 18 54 28.4 +0.4
WET pmax pmax
comp=Z,158nm,1.1s
CLL **Collm** 84.77 321 *e*P P 18 54 28.2 0.0
comp=Z,12nm,1.2s
CLL **Collm** 84.77 321 ⇓*i*P P 18 54 28.9 +0.7
CLL *eS* S 19 04 52.0 -1.2
CLL pmax pmax
comp=Z,12nm,1.2s
ABTA **Abfaltersbach** 84.84 317 ⇑*i*P P 18 54 28.6 -0.1
comp=Z,9.5nm,1.1s
NKC **Novy Kostel** 85.06 320 *i*P P 18 54 30.7 +1.0
NKC MLR MLR
comp=Z,100nm,23.1s
NKC **Novy Kostel** 85.06 320 *i*P P 18 54 30.7 +1.0
NKC AMS AMS 19 38 30.0
comp=Z,100nm,23.1s
TANN **Tannenbergstha** 85.06 320 *e*P P 18 54 30.0 +0.2
comp=Z,5.0nm,1.1s
ROTZ **Rotzenmuhle** 85.19 320 *e*P P 18 54 31.2 +0.8
comp=Z,12nm,0.9s
WTTA **Wattenberg** 85.46 317 ⇑*i*P P 18 54 31.9 -0.1
comp=Z,15nm,1.0s,SNR=7.0
MOX **Moxa** 85.61 320 *e*P P 18 54 32.8 +0.4
comp=Z,6.0nm,1.0s
MOX **Moxa** 85.61 320 *e*P P 18 54 32.8 +0.4
MOX pmax pmax
comp=Z,69nm,1.0s
FUR **Furstenfeldbru** 85.74 318 *e*P P 18 54 32.9 -0.2
comp=Z,13nm,0.8s
FUR **Furstenfeldbru** 85.74 318 *e*P P 18 54 32.9 -0.2
FUR pmax pmax
comp=Z,271nm,0.8s
GRF **Grafenberg Arr** 85.83 320 *e*P P 18 54 34.2 +0.7
comp=Z,20nm,1.0s
GRF **Grafenberg Arr** 85.83 320 *e*P P 18 54 34.2 +0.7
GRF pmax pmax
comp=Z,264nm,1.0s
MOTA **Moosalm** 85.83 317 ⇑*i*P P 18 54 33.5 -0.3
comp=Z,13nm,0.9s,SNR=8.3
GRFO **Grafenberg** 85.83 320 *e*P P 18 54 32.1 -1.4
GRFO pmax pmax
comp=Z,21nm,1.0s
GRFO **Grafenberg** 85.83 320 *e*P P 18 54 32.1 -1.4
comp=Z,21nm,1.0s
RETA **Reutte** 86.06 317 ⇑*i*P P 18 54 34.8 -0.1
comp=Z,9.6nm,0.8s,SNR=5.5
FETA **Feichten** 86.07 317 ⇑*i*P P 18 54 34.9 -0.1
comp=Z,8.1nm,1.0s
NB2 **NORSAR Subarra** 86.32 331 P P 18 54 35.8 +0.1
comp=Z,8.8nm,0.8s,baz=94,slow=5.1
NOA **NORSAR Array B** 86.32 331 P P 18 54 35.8 +0.1
NOA **NORSAR Array B** 86.32 331 P P 18 54 35.8 +0.1
comp=Z,7.8nm,0.8s,baz=94,slow=5.0,SNR=20
NOA LR LR 19 37 37.4
comp=Z,120nm,21.1s,baz=90,slow=39
VNDA **Vanda** 86.51 169 P P 18 54 36.0 -0.3
VNDA **Vanda** 86.51 169 P P 18 54 36.0 -0.3
comp=Z,2.4nm,1.2s,baz=275,slow=4.9,SNR=5.4
BSEG **Bad Segeberg** 86.53 324 *e*P P 18 54 37.6 +0.8
comp=Z,36nm,1.2s
BSEG **Bad Segeberg** 86.53 324 *e*P P 18 54 37.6 +0.8
BSEG pmax pmax
comp=Z,152nm,1.2s
NRDL **Niedersach Rie** 86.61 322 *e*P P 18 54 38.1 +0.9
comp=Z,7.0nm,1.0s
UBBA **Unterbreizbach** 86.64 321 *e*P P 18 54 37.9 +0.5
comp=Z,34nm,2.2s
DAVA **Damuels** 86.66 317 ⇑*i*P P 18 54 38.4 +0.6
comp=Z,16nm,0.9s
KEST **Kesra** 86.98 306 P P 18 54 40.9 +1.3
KEST **Kesra** 86.98 306 P P 18 54 40.9 +1.3
comp=Z,3.1nm,0.9s,baz=357,slow=3.0,SNR=9.1
STU **Stuttgart** 87.14 319 *e*P P 18 54 40.1 +0.1
KBS **Kingsbay** 87.23 349 *ce*P P 18 54 39.6 -0.2
KBS pmax pmax
comp=Z,32nm,2.0s
KBS **Kingsbay** 87.23 349 *e*P P 18 54 39.6 -0.2
comp=Z,10nm,1.1s
SBA **Scott Base** 87.61 169 *e*P P 18 54 43.0 +1.4
SBA pmax pmax
comp=Z,14nm,1.2s
SBA **Scott Base** 87.61 169 *e*P P 18 54 43.0 +1.4
comp=Z,14nm,1.2s
TNS **Taunus Mts** 87.63 320 *e*P P 18 54 43.0 +0.6
comp=Z,10.0nm,0.9s
TNS **Taunus Mts** 87.63 320 *e*P P 18 54 43.0 +0.6
TNS pmax pmax
comp=Z,118nm,0.9s
BFO **Black Forest** 87.71 318 *e*P P 18 54 42.4 -0.4
comp=Z,7.0nm,1.1s
BFO **Black Forest** 87.71 318 *e*P P 18 54 42.4 -0.4
BFO pmax pmax
comp=Z,80nm,1.1s
BFO **Black Forest** 87.71 318 *e*P P 18 54 42.2 -0.5
comp=Z,5.8nm,0.9s
IBBN **Ibbenburen** 88.05 322 *e*P P 18 54 44.7 +0.5
comp=Z,36nm,1.2s
BUG **Bochum-Univer** 88.37 321 *e*P P 18 54 46.4 +0.7
comp=Z,20nm,1.0s
SBF **Sospel** 88.38 314 *e*P P 18 54 46.3 +0.2
comp=Z,73nm,1.3s
CDF **Champ du Feu** 88.41 318 *e*P P 18 54 46.3 +0.1
comp=Z,7.4nm,0.8s
ECH **Echery** 88.49 318 *e*P P 18 54 47.1 +0.6
ECH pmax pmax
comp=Z,7.0nm,1.1s
ECH **Echery** 88.49 318 *e*P P 18 54 47.1 +0.6
comp=Z,7.5nm,1.1s
HINF **Hinteralfeld** 88.71 318 *e*P P 18 54 47.5 0.0
LPG **La Plagne** 88.83 315 *e*P P 18 54 49.0 +0.5
comp=Z,17nm,0.8s
MBDF **Montbardon** 88.84 315 *e*P P 18 54 49.0 +0.7
comp=Z,36nm,1.5s
LPL **La Plagne** 88.85 315 *e*P P 18 54 49.0 +0.5
comp=Z,32nm,1.1s
FRF **La Foret Royal** 88.96 313 *e*P P 18 54 49.4 +0.7
HAU **Haudompre** 89.04 318 *e*P P 18 54 49.3 +0.2
comp=Z,16nm,0.8s
LMR **La Mourre** 89.06 313 *e*P P 18 54 49.3 +0.1
comp=Z,42nm,1.2s
WLF **Walferdange** 89.12 319 P P 18 54 52.0 +2.6
comp=Z,16nm,1.9s
WLF **Walferdange** 89.12 319 *e*P P 18 54 50.4 +1.1
comp=Z,12nm,1.1s
MEM **Membach** 89.18 320 P P 18 54 51.0 +1.4
comp=Z,8.2nm,1.1s
CABF **La Chapelle** 89.26 316 *e*P P 18 54 50.9 +0.7
comp=Z,21nm,1.0s
ORIF **Oris-en-Rattie** 89.47 315 *e*P P 18 54 52.2 +1.0
comp=Z,81nm,1.8s
SMRF **Simiane la Rot** 89.72 314 *e*P P 18 54 53.7 +1.3
comp=Z,38nm,1.3s
MEZF **Maizieres J'vi** 89.89 318 *e*P P 18 54 53.7 +0.7
SFTF **Sexfontaines** 89.91 318 *e*P P 18 54 53.7 +0.6
comp=Z,69nm,1.1s
GIVF **Givet** 89.96 320 *e*P P 18 54 54.1 +0.8
DOU **Dourbes** 90.11 320 P P 18 54 55.3 +1.4
comp=Z,6.4nm,1.5s
VIVF **Saint-Julien-l** 90.33 315 *e*P P 18 54 55.9 +0.7
comp=Z,32nm,1.3s
BAIF **Baives** 90.36 320 *e*P P 18 54 56.3 +1.2
comp=Z,42nm,0.9s
SSB **Saint Sauveur** 90.40 315 *e*P P 18 54 55.5 0.0
SSB pmax pmax
comp=Z,7.0nm,0.9s
SSB **Saint Sauveur** 90.40 315 *e*P P 18 54 55.5 0.0
comp=Z,6.7nm,0.9s
TAM **Tamanrasset** 90.61 293 *e*P P 18 54 59.5 +2.4
TAM pmax pmax
comp=Z,25nm,1.3s
TAM **Tamanrasset** 90.61 293 *e*P P 18 54 59.5 +2.4
comp=Z,25nm,1.3s
LOR **Lormes** 90.76 317 *e*P P 18 54 57.7 +0.6
comp=Z,78nm,1.5s
SMF **Signal de Mont** 90.81 317 *e*P P 18 54 57.9 +0.6
comp=Z,34nm,1.2s
LASF **Ste Croix** 90.95 314 *e*P P 18 54 58.6 +0.5
comp=Z,30nm,1.2s
SSF **Saint Saulge** 91.01 317 *e*P P 18 54 59.1 +0.9
comp=Z,75nm,1.6s
AVF **Avril sur Loir** 91.13 317 *e*P P 18 54 59.5 +0.7
comp=Z,46nm,1.4s
BGF **Bois d'Agland** 91.50 316 *e*P P 18 55 01.7 +1.2
comp=Z,64nm,1.1s
QSPA **South Pole Qui** 91.80 180 *e*P P 18 55 02.3 +0.8
comp=Z,6.7nm,1.1s
TCF **Toulx Ste Croi** 91.96 316 *e*P P 18 55 03.7 +1.0
comp=Z,17nm,1.1s
CAF **Calviac** 92.17 315 *e*P P 18 55 04.9 +1.2
comp=Z,24nm,1.2s
MTLF **Montolieu** 92.19 313 *e*P P 18 55 04.9 +1.1
comp=Z,33nm,1.2s
RJF **Les Rejaudoux** 92.53 315 *e*P P 18 55 06.6 +1.3
comp=Z,46nm,1.4s
LFF **La Frestale** 93.11 315 *e*P P 18 55 08.5 +0.5
LDF **La Druitiere** 93.31 319 *e*P P 18 55 09.4 +0.6
FLN **La Foliniere** 93.53 319 *e*P P 18 55 10.5 +0.7
MFF **Saint Martin d** 93.55 317 *e*P P 18 55 10.7 +0.7
comp=Z,13nm,0.9s
EPF **Esparros** 93.59 313 *e*P P 18 55 11.7 +1.4
GRR **Gorron** 93.82 319 *e*P P 18 55 11.9 +0.7
comp=Z,56nm,1.4s
DAG **Danmarks Havn** 93.91 348 *i*P P 18 55 09.7 -1.3
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG **Danmarks Havn** 93.91 348 *i*P P 18 55 09.7 -1.3
comp=Z,6.1nm,0.8s
ETSF **Etsaut** 94.26 313 *e*P P 18 55 14.6 +1.2
TOA0 **Torodi Ar. Sit** 94.70 283 P P 18 55 16.7 +0.7
TORD **Torodi Ar. Bea** 94.70 283 P P 18 55 17.2 +1.3
TORD **Torodi Ar. Bea** 94.70 283 P P 18 55 17.2 +1.3
comp=Z,1.8nm,1.1s,baz=79,slow=4.7,SNR=4.3
SJPF **Ste Jean** 94.72 313 *e*P P 18 55 16.7 +1.2
comp=Z,27nm,1.2s
SNAA **Sanae** 94.84 198 *e*P P 18 55 17.5 +2.1
SNAA **Sanae** 94.84 198 *e*P P 18 55 16.6 +1.2
SGMF **Saint Gilles** 94.96 319 *e*P P 18 55 17.9 +1.5
QUIF **Quistinic** 95.41 318 *e*P P 18 55 19.7 +1.2
ESDC **Sonseca Array** 97.22 310 P Pdif 18 55 27.6 +0.5
ESDC **Sonseca Array** 97.22 310 P Pdif 18 55 27.6 +0.5
comp=Z,0.1nm,0.3s,baz=83,slow=4.7,SNR=3.1
MCK **McKinley** 98.79 24 P P 18 55 32.0 -1.5
MCK pmax pmax
comp=Z,6.0nm,0.9s
MCK **McKinley** 98.79 24 P P 18 55 32.0 -1.5
comp=Z,5.6nm,0.9s
ILAR **Eielson Array** 99.19 23 P Pdif 18 55 34.8 -0.4
ILAR PP PP 18 59 37.9 +0.1
ILAR **Eielson Array** 99.19 23 P Pdif 18 55 34.8 -0.4
comp=Z,0.5nm,0.7s,baz=298,slow=5.0,SNR=5.5
ILAR PP PP 18 59 37.9 +0.1
comp=Z,2.1nm,1.0s,baz=287,slow=8.4,SNR=7.8
YKA **Yellowknife Ar** 111.53 15 PKiKP PKiKP 19 00 27.9 +0.1
YKA PP PP 19 01 10.3 +1.7
YKA **Yellowknife Ar** 111.53 15 PKiKP PKiKP 19 00 27.9 +0.1
comp=Z,0.2nm,0.6s,baz=303,slow=1.7,SNR=4.1
YKA PP PP 19 01 10.3 +1.7
comp=Z,2.8nm,0.9s,baz=330,slow=7.2,SNR=7.8
FFC **Flin Flon** 121.48 13 *i*PKIKP PKPdf 19 00 47.7 +0.5
SCHQ **Schefferville** 121.94 349 PKP PKPdf 19 00 47.8 -0.3
SCHQ **Schefferville** 121.94 349 PKP PKPdf 19 00 47.8 -0.3
comp=Z,5.0nm,0.9s,baz=230,slow=11,SNR=4.1
HAWA **Hanford** 122.20 29 *e*PKPdf PKPdf 19 00 48.5 -0.3
A13A **Flathead Natio** 122.59 24 P PKPdf 19 00 50.0 +0.4
baz=122
B13A **Whitefish** 123.00 24 P PKPdf 19 00 50.4 0.0
baz=123
A15A **Johnson Ranch,** 123.22 23 P PKPdf 19 00 50.4 -0.5
baz=123
BSMT **Bassoo Peak** 123.28 25 *e*PKPdf PKPdf 19 00 50.8 -0.3
B14A **Marquette Ranc** 123.50 24 P PKPdf 19 00 51.3 -0.1
baz=123
C13A **Hot Springs** 123.50 25 P PKPdf 19 00 51.4 0.0
baz=123
C14A **Swan Lake** 123.78 24 P PKPdf 19 00 51.8 -0.2
baz=124
B15A **Bradely Ranch,** 123.82 23 P PKPdf 19 00 51.7 -0.4
baz=124
A17A **Triple J Farms** 124.02 22 P PKPdf 19 00 52.2 -0.1
baz=124
B16A **M & M Farms, S** 124.08 23 P PKPdf 19 00 52.3 -0.2
baz=124
C15A **Salmond Ranch,** 124.24 24 P PKPdf 19 00 52.8 -0.1
baz=124
A18A **Metzger Ranch,** 124.35 21 P PKPdf 19 00 53.0 0.0
baz=124
C16A **Fuhringer Ranc** 124.56 23 P PKPdf 19 00 53.2 -0.3
baz=124
CHMT **Chamberlain Mo** 124.66 25 *e*PKPdf PKPdf 19 00 53.1 -0.7
A19A **Klindworth Far** 124.73 20 P PKPdf 19 00 53.5 -0.2
baz=124
B18A **Beardsley Farm** 124.82 21 P PKPdf 19 00 54.0 +0.1
baz=125
C17A **Wharram Farm,** 125.08 23 P PKPdf 19 00 54.6 +0.1
baz=125
EGMT **Eagleton** 125.13 22 *e*PKPdf PKPdf 19 00 54.5 -0.1
EGMT **Eagleton** 125.13 22 P PKPdf 19 00 54.8 +0.3
baz=125
A21A **Bergtoll Ranch** 125.29 19 P PKPdf 19 00 55.0 +0.2
baz=125
B20A **Solberg Farm,** 125.40 20 P PKPdf 19 00 55.1 +0.1
baz=125
WVOR **Wild Horse Val** 125.45 32 *e*PKIKP PKPdf 19 00 56.2 +0.8
WVOR **Wild Horse Val** 125.45 32 *e*PKPdf PKPdf 19 00 56.2 +0.8
D17A **Six Diamond Ra** 125.50 23 P PKPdf 19 00 55.3 -0.1
baz=125
A22A **Carney Farms,** 125.62 18 P PKPdf 19 00 55.7 +0.3
baz=125
C19A **Slack Wire Ran** 125.64 21 P PKPdf 19 00 56.0 +0.5
baz=125
H12A **Diamond D Ranc** 125.79 28 P PKPdf 19 00 56.2 +0.2
baz=126
C20A **Veseth Ranch,** 126.03 21 P PKPdf 19 00 56.3 +0.1
baz=126
DLMT **Dillon** 126.17 26 *e*PKPdf PKPdf 19 00 57.1 +0.4
MFID **Camas Ranch** 126.18 29 *e*PKPdf PKPdf 19 00 57.5 +0.8
D19A **Cripps Ranch,** 126.18 22 P PKPdf 19 00 56.7 +0.1
baz=126
BOZ **Bozeman (W)** 126.35 25 *e*PKIKP PKPdf 19 00 57.3 +0.2
BOZ **Bozeman (W)** 126.35 25 *e*PKPdf PKPdf 19 00 57.2 +0.2

F17A	Fitzpatrick Pl	126.54	24	P	PKPdf	19 00 57.8	+0.4
	baz=126						
HLID	Hailey	126.74	28	ePKPdf	PKPdf	19 00 59.0	+1.1
HLID	Hailey	126.74	28	P	PKPdf	19 00 58.6	+0.7
	baz=126						
E19A	Rath Farm, Rou	126.81	22	P	PKPdf	19 00 58.0	+0.2
	baz=127						
C23A	Lambert	126.89	19	P	PKPdf	19 00 57.9	0.0
	baz=127						
F18A	Big Timber	126.91	23	P	PKPdf	19 00 58.2	+0.1
	baz=127						
ULM	Lac du Bonnet	126.94	10	PKP	PKPdf	19 00 57.1	-0.7
ULM	Lac du Bonnet	126.94	10	PKP	PKPdf	19 00 57.1	-0.7
	comp=Z,6.4nm,0.7s,baz=18,slow=4.2,SNR=7.6						
D22A	Cohagen	127.14	20	P	PKPdf	19 00 59.0	+0.6
	baz=127						
E22A	Miles City	127.84	20	P	PKPdf	19 00 60.0	+0.3
	baz=128						
E24A	Baker	128.27	19	P	PKPdf	19 01 01.3	+0.7
	baz=128						
NVAR	Mina Array Bea	128.39	35	PKP	PKPdf	19 01 02.5	+1.3
NVAR	Mina Array Bea	128.39	35	PKP	PKPdf	19 01 02.6	+1.3
	comp=Z,2.0nm,0.8s,baz=258,slow=2.1,SNR=13						
REDW	Red Top Meadow	128.52	26	ePKPdf	PKPdf	19 01 01.3	0.0
I20A	Worland	129.16	23	P	PKPdf	19 01 02.8	+0.4
	baz=129						
PDAR	Pinedale Array	129.56	25	PKP	PKPdf	19 01 03.3	-0.1
PDAR				PP	PP	19 03 14.3	+1.7
PDAR	Pinedale Array	129.56	25	PKP	PKPdf	19 01 03.3	-0.1
	comp=Z,1.4nm,0.6s,baz=298,slow=1.9,SNR=13						
PDAR				PP	PP	19 03 14.3	+1.7
	comp=Z,1.3nm,0.9s,baz=352,slow=2.1,SNR=3.7						
I21A	Big Trails, Te	129.61	23	P	PKPdf	19 01 02.7	-0.6
	baz=129						
J20A	Shoshoni	129.68	24	P	PKPdf	19 01 02.6	-0.8
	baz=130						
H24A	Dirks Ranch, A	129.79	20	P	PKPdf	19 01 03.1	-0.5
	baz=130						
K19A	Absolon Red Bu	129.81	25	P	PKPdf	19 01 03.0	-0.8
	baz=130						
R11A	Troy Canyon, C	129.99	34	P	PKPdf	19 01 05.0	+0.8
	baz=130						
DUG	Dugway	130.08	30	ePKIKP	PKPdf	19 01 05.4	+1.1
DUG	Dugway	130.08	30	ePKPdf	PKPdf	19 01 05.4	+1.1
DUG	Dugway	130.08	30	P	PKPdf	19 01 05.1	+0.8
	baz=130						
J25A	Sunshine Ranch	131.25	20	P	PKPdf	19 01 06.6	+0.2
	baz=131						
M21A	Separation Pea	131.43	24	P	PKPdf	19 01 07.0	0.0
	baz=131						
L23A	Garrett	131.66	23	P	PKPdf	19 01 07.3	0.0
	baz=132						
MSU	Marysvale	131.68	31	ePKIKP	PKPdf	19 01 08.5	+1.0
MSU	Marysvale	131.68	31	ePKPdf	PKPdf	19 01 08.5	+1.0
MSU				eSKPbc	SKPab	19 04 31.6	+0.9
N21A	Black Mountain	132.07	25	P	PKPdf	19 01 07.5	-0.7
	baz=132						
ECSD	EROS Data Cent	133.01	13	ePKPdf	PKPdf	19 01 09.7	+0.1
PV01	Paradox Valley	133.74	28	ePKPdf	PKPdf	19 01 12.3	+0.9
MVCO	Mesa Verde	134.52	29	ePKPdf	PKPdf	19 01 13.7	+0.8
ANMO	Albuquerque	137.32	29	ePKPdf	PKPdf	19 01 16.7	-1.4
MNTX	Cornudas Mount	140.46	31	ePKPdf	PKPdf	19 01 24.0	+0.2
425A	Indio Mountain	141.39	31	P	PKPdf	19 01 20.1	-5.5
	baz=141						
Z31A	Sharp Cattle R	141.47	23	P	PKPdf	19 01 19.9	-5.6
	baz=141						
WVT	Waverly	141.95	6	ePKIKP	PKPdf	19 01 22.2	-4.0
WVT	Waverly	141.95	6	ePKPdf	PKPdf	19 01 22.2	-4.0
329A	Wagon Wheel Ra	142.27	27	P	PKPdf	19 01 22.1	-5.0
	baz=142						
ABTX	Abilene, Hawle	142.28	23	P	PKPdf	19 01 22.8	-4.1
	baz=142						
230A	Sterling City	142.31	26	P	PKPdf	19 01 22.2	-4.9
	baz=142						
MIAR	Mount Ida	142.46	14	ePKIKP	PKPpre	19 01 22.5	
MIAR	Mount Ida	142.46	14	ePKPpre	PKPpre	19 01 22.5	
428A	Kincaid Ranch,	142.58	28	P	PKPdf	19 01 24.3	-3.4
	baz=142						
527A	Woodward Ranch	142.61	30	P	PKPdf	19 01 24.1	-3.7
	baz=142						
528A	Cox Ranch, San	143.00	29	P	PKPbc	19 01 25.1	-0.1
	baz=143						
430A	Baggett Ranch,	143.20	27	P	PKPbc	19 01 26.0	+0.3
	baz=143						
TXAR	Lajitas Array	143.24	31	PKPpre	PKPpre	19 01 25.9	
TXAR	Lajitas Array	143.24	31	PKhKP	PKPpre	19 01 25.9	
	comp=Z,1.3nm,0.8s,baz=279,slow=2.4,SNR=14						
627A	Terlingua Ranc	143.28	30	P	PKPbc	19 01 26.4	+0.5
	baz=143						
529A	Stev Forest Ra	143.30	28	P	PKPbc	19 01 26.2	+0.3
	baz=143						
332A	Millersview	143.33	24	P	PKPbc	19 01 25.7	-0.2
	baz=143						
628A	Black Gap, Mar	143.51	30	P	PKPbc	19 01 27.7	+1.1
	baz=143						
530A	J-C Ranch, Com	143.70	27	P	PKPbc	19 01 27.6	+0.5
	baz=144						
531A	Rocksprings	144.04	26	P	PKPab	19 01 27.8	+0.3
	baz=144						
JCT	Junction City	144.09	25	ePKHKP	PKPpre	19 01 25.7	
JCT	Junction City	144.09	25	ePKPdf	PKPpre	19 01 25.7	
JCT	Junction City	144.09	25	P	PKPbc	19 01 28.5	+0.3
	baz=144						
532A	Rocksprings	144.35	26	P	PKPbc	19 01 29.1	0.0
	baz=144						
631A	Perdido Creek	144.67	27	P	PKPbc	19 01 30.1	+0.1
	baz=144						
632A	Uvalde	144.94	26	P	PKPdf	19 01 31.9	+0.2
	baz=145						
LRAL	Lakeview Retre	145.10	6	ePKPdf	PKPbc	19 01 30.6	-0.7
CPUP	Villa Florida	145.32	223	PKPbc	PKPdf	19 01 33.2	+0.8
CPUP	Villa Florida	145.32	223	PKPbc	PKPdf	19 01 33.2	+0.8
	comp=Z,14nm,0.7s,baz=97,slow=3.4,SNR=36						
VBMS	Vicksburg	145.38	11	ePKPdf	PKPbc	19 01 32.1	-0.1
732A	Laxson Ranch,	145.53	27	P	PKPab	19 01 33.6	+0.6
	baz=145						
BRAL	Brewton	147.09	6	ePKPbc	PKPab	19 01 38.1	-0.7
LCO	Las Campanas	150.54	202	ePKPbc	PKPbc	19 01 47.8	+1.1
SDDR	Presa de Saban	156.28	331	ePKPab	PKPab	19 02 18.7	+1.3
LPAZ	La Paz	159.47	225	PKP	PKPdf	19 01 54.4	+0.2
LPAZ	La Paz	159.47	225	PKP	PKPdf	19 01 54.4	+0.2
	comp=Z,1.9nm,1.1s,baz=123,slow=4.7,SNR=4.2						

IDC 25 18:43:39.5±14.0, 7°.16S×155°.05E, h201km±90km, mb3.7/6, mb1 3.8/7, mb1mx3.5/20, mbtmp3.7/7, Error ellipse: s-maj=159.5km s-min=26.5km az=102.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.12	254	P	Pn	18 45 34.2	-0.2
	1.8nm,0.3s,baz=63,slow=6.8,SNR=7.9						
WRA	Warramunga Arr	23.77	236	P	P	18 48 34.9	+1.1
	5.7nm,0.6s,baz=60,slow=9.4,SNR=6.1						
ASAR	Alice Springs	26.10	229	P	P	18 48 54.3	-0.7
	0.9nm,0.7s,baz=61,slow=9.3,SNR=19						
SONM	Songino Array	69.50	327	P	P	18 54 26.8	+0.4
	1.6nm,0.7s,baz=132,slow=6.5,SNR=5.8						
MKAR	Makanchi Array	83.56	319	P	P	18 55 45.9	+0.7
	2.4nm,0.7s,baz=109,slow=5.3,SNR=8.6						
ZALV	Zalesovo Beam	84.35	326	P	P	18 55 48.2	-0.7
	1.9nm,0.6s,baz=118,slow=5.3,SNR=5.2						
KURBB	Kurchatov Arra	87.03	322	P	P	18 56 01.4	-0.7
	0.5nm,0.5s,baz=106,slow=4.6,SNR=4.8						

IDC 25 18:47:49.4±5.1, 1°.74N×96°.94E, h47km±42km, mb3.8/10, mb1 3.8/11, mb1mx3.6/27, mbtmp3.7/11, ML2.7/1, Error ellipse: s-maj=50.8km s-min=18.6km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.25	62	P	Pn	18 48 23.6	-0.6
	2.3nm,0.3s,baz=303,slow=9.3,SNR=6.2						
WRA	Warramunga Arr	42.54	122	P	P	18 55 41.5	+0.6
	4.0nm,0.7s,baz=304,slow=9.0,SNR=3.2						
ASAR	Alice Springs	43.93	127	P	P	18 55 51.1	-0.9
	0.9nm,0.9s,baz=312,slow=4.9,SNR=3.1						
KSRS	Korea Array	45.56	35	P	P	18 56 03.9	-0.8
	2.1nm,1.0s,baz=220,slow=9.2,SNR=5.3						
SONM	Songino Array	46.64	9	P	P	18 56 11.8	-1.5
	0.4nm,0.4s,baz=187,slow=9.5,SNR=4.6						
MKAR	Makanchi Array	46.66	346	P	P	18 56 13.4	+0.1
	2.0nm,0.8s,baz=162,slow=9.5,SNR=5.1						
KURBB	Kurchatov Arra	51.14	345	P	P	18 56 47.1	-0.5
	1.4nm,0.7s,baz=163,slow=6.9,SNR=5.2						
MJAR	Matsushiro Arr	51.47	43	P	P	18 56 50.4	+0.1
	1.1nm,0.8s,baz=225,slow=6.5,SNR=4.6						
USRK	Ussuriysk Arra	52.45	31	P	P	18 56 57.9	+0.6
	1.0nm,0.7s,baz=193,slow=5.9,SNR=4.7						
ZALV	Zalesovo Beam	52.99	351	P	P	18 57 02.1	+0.9
	8.0nm,0.7s,baz=176,slow=6.7,SNR=18						
BVAR	Borovoye Array	55.66	341	P	P	18 57 20.0	-0.6
	1.9nm,0.7s,baz=148,slow=8.7,SNR=4.8						

MAN 25 18:53:13, 18°.11N×120°.73E, h5km, mb4.1, ML3.0, MS2.7, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.24	335	⇑iP	Pg	18 53 18.8	+1.1
PIP				eS	Sg	18 53 22.2	+1.3
SIPP	Brgy, Tapao	0.32	234	⇓iP	Pg	18 53 15.7	-3.4
SIPP				eS	Sg	18 53 20.2	-3.1
ABRA	Dolores	0.46	182	eP	Pb	18 53 23.1	-0.5
ABRA				eS	Sb	18 53 29.8	-0.9
APYP	Conner	0.55	116	eP	Pb	18 53 24.5	-0.6
APYP				eS	Sb	18 53 33.7	+0.3
CAUP	Cauayan	1.56	138	eP	Pb	18 53 42.4	0.0
PALP	Palanan	1.93	122	eP	Pn	18 53 44.6	-1.8
BALP	Baler	2.49	161	eP	Pb	18 53 56.5	-1.7

IDC 25 19:02:04.6±17.0, 23°.27S×179°.89E, h660km±207km, mb3.3/5, mb1 3.4/5, mb1mx2.9/20, mbtmp3.3/5, Error ellipse: s-maj=158.7km s-min=58.3km az=47.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	31.38	269	P	P	19 07 35.5	+0.3
	6.5nm,0.3s,baz=93,slow=10,SNR=14						
STKA	Stephens Creek	34.87	247	P	P	19 08 04.0	-0.2
	2.2nm,0.9s,baz=95,slow=12,SNR=5.1						
ASAR	Alice Springs	42.04	260	P	P	19 09 02.0	+0.2
	3.5nm,0.9s,baz=94,slow=7.3,SNR=24						
WRA	Warramunga Arr	42.35	265	P	P	19 09 04.0	-0.2
	7.4nm,0.8s,baz=101,slow=8.1,SNR=9.4						
QSPA	South Pole Qui	66.81	180	P	P	19 11 53.2	+0.2
	1.3nm,0.8s,baz=23,slow=1.6,SNR=17						

WEL 25 19:02:21.6±0.4, 45°.56S×165°.74E, h5km, ML3.5/10, 1C, Error ellipse: s-maj=3.3km s-min=1.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	1.00	86	P*	Pg	19 02 39.6	-1.1
DCZ				S*	Sg	19 02 52.0	-1.6
DCZ				AML	AML	19 02 53.9	
DCZ				AML	AML	19 02 54.0	
DCZ				AML	AML	19 02 54.2	
WHZ	Wether Hill Ro	1.58	103	PN	Pn	19 02 50.0	-0.3
WHZ				SN	Sn	19 03 09.9	-1.2
WHZ				AML	AML	19 03 14.2	
MLZ	Mavora Lakes	1.72	84	PN	Pn	19 02 50.8	-1.5
MLZ				SN	Sn	19 03 12.9	-1.9
MLZ				AML	AML	19 03 17.0	
MSZ	Milford Sound	1.78	61	PN	Pn	19 02 51.2	-1.8
MSZ				SN	Sn	19 03 12.3	-3.8
MSZ				AML	AML	19 03 22.0	
APZ	The Paps	2.02	130	PN	Pn	19 02 55.2	-1.1
APZ				SN	Sn	19 03 19.8	-2.1
EAZ	Earnscleugh	2.53	84	⇑PN	Pn	19 03 03.5	+0.1
SYZ	Scrubby Hill	2.56	114	PN	Pn	19 03 02.9	-0.8
JCZ	Jackson Bay	2.61	56	PN	Pn	19 03 02.7	-1.9
JCZ				SN	Sn	19 03 32.8	-3.9
TUZ	Tuapeka	2.75	100	PN	Pn	19 03 06.3	0.0
TUZ				SN	Sn	19 03 38.2	-1.8
LBZ	Lake Benmore	3.36	71	PN	Pn	19 03 13.8	-1.0
FOZ	Fox Glacier	3.45	56	PN	Pn	19 03 14.9	-1.1
ODZ	Otahua Downs	3.50	83	PN	Pn	19 03 15.5	-1.1
WVZ	Waitaha Valley	4.36	57	PN	Pn	19 03 25.7	-2.7

*DJA **25** 19:03:15.5±2.5, 29°.S±19°.×17°.6W±2°.1, h77km±20km, M5.5/11, mB5.8/6, mb5.5/11, Mw(mB)5.4/6*

*ISCJB **25** 19:03:18.9±0.1, 29°.92S±0°.03×177°.69W±0°.04, h31km, mb5.4/145, MS5.1/196, Error ellipse: s-maj=5.3km s-min=3.1km az=31.1*

*BJI **25** 19:03:18.5, 29°.68S×177°.16W, h33km, mB5.8/23, mb5.4/32, Ms5.3/35, Ms7 5.1/35*

*BKK **25** 19:03:19.8±0.8, 30°.S±12°.×17°.8W±1°.6, h10km, M5.5/22, mB5.9/10, mb5.5/22, Mw(mB)5.4/10*

*NEIC **25** 19:03:20.9±0.1, 29°.77S×177°.69W, h35km, mb5.5/97, MS5.2/136, MW5.6, Error ellipse: s-maj=6.5km s-min=4.6km az=140.0, Moment Tensor Solution. s26 Moment tensor: Scale 10^17 Nm; Mrr 2.78; Mθθ -0.29; Mφφ -2.49; Mrθ 0.10; Mrφ -0.54; Mθφ 0.45; Best double couple: M◎2.70000×10^17 NP1:φs 13.00000°, δ50.00000°, λ90.00000°. NP2:φs 193.00000°, δ40.00000°, λ90.00000°. Principal axes: T 2.8200, Plg85.0000°, Azm282.0000°; N -0.1600, Plg0.0000°, Azm13.0000°; P -2.6600, Plg4.0000°, Azm103.0000°;*

*MOS **25** 19:03:20.1±1.0, 29°.65S×177°.61W, h33km, mb5.7/42, MS5.1/41 Error ellipse: s-maj=9.5km s-min=8.1km az=82.6*

*IDC **25** 19:03:22.6±0.9, 29°.56S×177°.65W, h44km±7km, mb4.9/31, mb1 5.0/31, mb1mx5.0/32, mbtmp4.9/31, MS5.0/32, Ms1 5.0/32, ms1mx4.9/37, Error ellipse: s-maj=13.3km s-min=11.1km az=163.0*

*GCMT **25** 19:03:24.0±0.1, 29°.65S×177°.24W, h41km, MW5.6, Moment Tensor Solution. s97,c193; s48,c52; Moment tensor: Scale 10^17 Nm; Mrr 2.77±.04; Mθθ 0.06±.03; Mφφ -2.82±.03; Mrθ 0.29±.04; Mrφ -0.60±.03; Mθφ 1.59±.04; Best double couple: M◎3.30000×10^17 NP1:φs 192.00000°, δ30.00000°, λ91.00000°. NP2:φs 11.00000°, δ60.00000°, λ89.00000°. Principal axes: T 3.2000, Plg75.0000°, Azm279.0000°; N 0.1800, Plg0.0000°, Azm11.0000°; P -3.3700, Plg15.0000°, Azm101.0000°; Data Used: II IU CN IC G. Surface waves: sta= 99, comp=194, per= 50.*

ISC 25 19:03:20.9±0.3, 29°.77S±0°.04×177°.58W±0°.05, h34km; pP-P, n1020, σ1°.24/975, mb5.5/145, MS5.2/197, 178C-153D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.59	330	⇓iP	Pn	19 03 32.9	0.0
RAO				P	Pn	19 03 33.0	+0.2
RAO	Raoul Island	0.59	330	P	Pn	19 03 33.0	+0.2
	8μm,0.3s,baz=172,slow=2.2,SNR=312						
PUZ	Puketiti	8.98	202	PN	Pn	19 05 24.6	-3.5
PUZ				SN	Sn	19 07 07.6	-0.5
WCZ	Waipu Caves	9.17	226	PN	Pn	19 05 39.7	+8.9
OUZ	Omahuta	9.23	232	ePn	Pn	19 05 39.7	+8.2
	172nm,0.6s						
OUZ	Omahuta	9.23	232	PN	Pn	19 05 39.7	+8.2
CNGZ	Carnagh Statio	9.37	201	PN	Pn	19 05 30.3	-3.2
CNGZ				SN	Sn	19 07 18.6	+1.0
MWZ	Matawai	9.46	204	PN	Pn	19 05 31.3	-3.5
URZ	Urewera	9.55	206	ePn	Pn	19 05 32.6	-3.3
URZ				P	Pn	19 05 34.1	-1.8
URZ				eSn	Sn	19 07 21.9	-0.1
URZ				S	Sn	19 07 22.8	+0.8
URZ	Urewera	9.55	206	P	Pn	19 05 34.1	-1.8
	2.4nm,0.3s,baz=130,slow=7.0,SNR=20						
URZ				S	Sn	19 07 22.8	+0.8
	27nm,0.3s,baz=108,slow=20,SNR=12						
URZ	Urewera	9.55	206	PN	Pn	19 05 33.1	-2.8
URZ				SN	Sn	19 07 22.5	+0.5
PRGZ	Paritu Road	9.87	201	PN	Pn	19 05 36.5	-3.9
KNZ	Kokohu	10.03	202	SN	Sn	19 07 29.3	-4.5
MHGZ	Mahia Peninsul	10.08	200	PN	Pn	19 05 39.2	-3.9
RAHZ	Arahi	10.14	204	PN	Pn	19 05 41.2	-2.8
RAHZ				SN	Sn	19 07 35.1	-1.4
BKZ	Black Stump Fm	10.57	206	PN	Pn	19 05 46.4	-3.6
KAHZ	Kahuranaki	10.99	203	PN	Pn	19 05 51.3	-4.4
BHHZ	Black Hill Sta	11.02	207	PN	Pn	19 05 52.3	-3.8
PNHZ	Pukenui	11.34	205	PN	Pn	19 05 57.3	-3.1
WPHZ	Waipukurau	11.38	204	PN	Pn	19 05 57.0	-4.0
TSZ	Takapari Road	11.55	206	PN	Pn	19 05 59.8	-3.6
BFZ	Birch Farm	12.00	203	PN	Pn	19 06 03.2	-6.3
TIWZ	Tintock	12.21	204	PN	Pn	19 06 07.0	-5.4
OGWZ	Otaki Gorge	12.51	206	PN	Pn	19 06 13.3	-3.2
MSVF	Nonsavu	12.63	341	Pn	Pn	19 06 20.0	+1.8
	855nm,1.1s,SNR=18						
MSVF	Nonsavu	12.63	341	eP	Pn	19 06 19.0	+0.7
MSVF	Nonsavu	12.63	341	ePn	Pn	19 06 18.9	+0.7
KIW	Kapiti Island	12.65	207	PN	Pn	19 06 12.6	-5.7
SNZO	South Karori	13.11	206	ePn	Pn	19 06 22.9	-1.8
SNZO				eSn	Sn	19 08 39.8	-9.4
KHZ	Kahutara	14.51	207	ePn	Pn	19 06 38.6	-5.1
KHZ				eSn	Sn	19 09 12.9	-10
DZM	Mont Dzumac	16.28	294	eP	P	19 07 14.1	+4.3
	476nm,1.4s						
DZM				eLR	LR	19 10 53.0	
	24μm,24.8s						
DZM	Mont Dzumac	16.28	294	eP	P	19 07 13.8	+4.0
	277nm,1.3s						
DZM	Mont Dzumac	16.28	294	P	P	19 07 13.8	+4.0
	2.1nm,0.3s,baz=88,slow=17,SNR=17						
DZM				LR	LR	19 12 04.8	
	comp=Z,15μm,20.4s,baz=152,slow=32						
NOUC	Port Laguerre	16.38	294	eP	P	19 07 14.6	+3.9
RPZ	Rata Peaks	16.61	210	ePn	Pn	19 07 05.3	-5.8
	50nm,0.6s						
RPZ				P	Pn	19 07 07.7	-3.5
RPZ				eSn	Sn	19 09 57.6	-17
RPZ				S	Sn	19 09 59.7	-15
RPZ	Rata Peaks	16.61	210	P	Pn	19 07 07.7	-3.5
	11nm,0.3s,baz=122,slow=0.7,SNR=32						
RPZ				S	Sn	19 09 59.7	-15
	8.0nm,0.3s,baz=359,slow=23,SNR=7.9						
AFI	Afiamalu	16.67	20	P	Pn	19 07 05.6	-6.4
AFI				S	Sn	19 09 56.8	-19
AFI	Afiamalu	16.67	20	P	Pn	19 07 05.6	-6.4
	2.2nm,0.3s,baz=172,slow=14,SNR=2.9						
AFI				S	Sn	19 09 56.8	-19
	3.7nm,0.3s,baz=106,slow=20,SNR=4.0						
ODZ	Otahua Downs	17.86	208	ePn	Pn	19 07 26.1	-0.5
	64nm,0.9s						
RAR	Rarotonga	18.17	66	P	Pn	19 07 25.7	-4.9
RAR				S	Sn	19 10 34.7	-18
RAR	Rarotonga	18.17	66	P	Pn	19 07 25.7	-4.9
	5.9nm,0.3s,baz=204,slow=7.7,SNR=7.2						
RAR				S	Sn	19 10 34.7	-18
	5.0nm,0.3s,baz=216,slow=19,SNR=4.0						
RAR				LR	LR	19 12 54.4	
	comp=Z,4μm,18.1s,baz=282,slow=32						
FUNA	Funafuti	21.35	351	PFAKE		19 08 20.0	+15
FUNA				LR	LR		
	comp=Z,4μm,20.0s						
TBI	Tubuai	25.91	82	eS	S	19 13 20.5	+2.7
	comp=Z,3μm,29.0s						
TBI				eLR	LR	19 15 21.2	
	comp=Z,14μm,26.8s,baz=249						
ARMA	Armidale	26.61	261	eP	P	19 08 60.0	+3.6
	comp=Z,64nm,0.7s						
ARMA				ePcP	PcP	19 12 34.5	+15
EIDS	Eidsvold	28.08	271	eP	P	19 09 11.6	+2.2
	comp=Z,66nm,0.9s						
PPT2	Papeete2	28.28	71	eS	S	19 14 00.8	+5.3
	comp=Z,2μm,26.8s						
PPT2				eLR	LR	19 16 21.6	
	comp=Z,13μm,26.0s,baz=235						
PPT	Papeete	28.29	71	LR	LR	19 17 25.8	
	comp=Z,3μm,21.7s,baz=239,slow=30						
CAN	Canberra	28.63	250	eP	P	19 09 16.9	+2.6
CAN				pmax	pmax		
	comp=Z,49nm,1.0s						
CAN				MLR	MLR		
	comp=Z,4μm,19.0s						
CAN	Canberra	28.63	250	eP	P	19 09 16.9	+2.6
	comp=Z,49nm,1.0s						
CAN				LR	LR		
	comp=Z,4μm,19.0s						
HNR	Honiara	29.18	309	LR	LR	19 18 58.5	
	comp=Z,2μm,20.7s,baz=322,slow=32						
TAU	Tasmania Unive	30.94	235	P	P	19 09 35.6	+1.0
TAU				pmax	pmax		
	comp=Z,39nm,1.0s						
TAU				MLR	MLR		
	comp=Z,5μm,20.0s						
TAU	Tasmania Unive	30.94	235	P	P	19 09 35.6	+1.0
	comp=Z,39nm,1.0s						
TAU				LR	LR		
	comp=Z,5μm,20.0s						
TARA	Tarawa	32.25	342	eP	P	19 09 45.9	-0.4
	comp=Z,105nm,1.0s						
TARA				LR	LR		
	comp=Z,3μm,19.0s						
CTA	Charters Tower	34.07	278	P	P	19 10 04.1	+1.9
CTA	Charters Tower	34.07	278	P	P	19 10 04.1	+1.9
	comp=Z,88nm,0.5s,baz=102,slow=11,SNR=84						
CTA				LR	LR	19 22 38.2	
	comp=Z,6μm,18.3s,baz=120,slow=34						
CTAO	Charters Tower	34.07	278	eP	P	19 10 04.3	+2.1
CTAO				pmax	pmax		
	comp=Z,104nm,0.5s						
CTAO				MLR	MLR		
	comp=Z,6μm,19.0s						
CTAO	Charters Tower	34.07	278	eP	P	19 10 04.3	+2.1
	comp=Z,104nm,0.5s						
CTAO				LR	LR		
	comp=Z,6μm,19.0s						
STKA	Stephens Creek	34.98	256	eP	P	19 10 12.0	+1.9
	comp=Z,23nm,1.0s						
STKA	Stephens Creek	34.98	256	P	P	19 10 12.3	+2.3
	comp=Z,68nm,0.8s,baz=94,slow=9.7,SNR=57						
STKA				LR	LR	19 23 29.1	
	comp=Z,5μm,18.1s,baz=82,slow=34						
XMAS	Kiritimati	37.03	35	PFAKE		19 10 40.0	+12
XMAS				LR	LR		
	comp=Z,3μm,22.0s						
RKT	Rikitea	38.55	90	eS	S	19 16 34.1	-0.1
	comp=Z,2μm,28.5s						
RKT				eLR	LR	19 21 12.4	
	comp=Z,8μm,26.8s,baz=260						
PMG	Port Moresby	38.67	294	LR	LR	19 23 46.3	
	comp=Z,4μm,21.7s,baz=131,slow=32						
COEN	Coen	39.46	285	eP	P	19 10 49.2	+1.0
	comp=Z,294nm,1.0s						
BBOO	Buckleboo	39.50	253	eP	P	19 10 48.6	+0.3
	comp=Z,809nm,1.0s						
ASAR	Alice Springs	43.51	266	P	P	19 11 21.3	-0.1
ASAR				ScP	ScP	19 16 58.1	+0.2
ASAR				S	S

SBA Scott Base 48.69 184 *e*P P 19 12 05.3 +3.9
SBA MLR MLR
comp=Z,9.0nm,0.6s
SBA MLR MLR
comp=Z,1μm,20.0s
SBA Scott Base 48.69 184 *e*P P 19 12 05.3 +3.9
SBA LR LR
comp=Z,1μm,20.0s
VNDA Vanda 48.76 186 *e*P **P** **19 12 04.5 +2.6**
comp=Z,34nm,1.3s
VNDA *e*PcP **PcP** **19 13 27.4 +1.1**
VNDA Vanda 48.76 186 P **P** **19 12 04.7 +2.8**
comp=Z,5.6nm,0.8s,baz=6.8,slow=7.7,SNR=14
VNDA LR LR 19 27 56.8
comp=Z,637nm,19.2s,baz=28,slow=30
WAKE Wake Island 51.08 341 PFAKE 19 12 30.0 +10
WAKE LR LR
comp=Z,3μm,20.0s
FITZ Fitzroy Crossi 52.73 269 P **P** **19 12 32.9 +0.3**
FITZ Fitzroy Crossi 52.73 269 P **P** **19 12 32.9 +0.3**
comp=Z,69nm,1.1s,baz=126,slow=7.0,SNR=32
FITZ LR LR 19 34 31.0
comp=Z,1μm,18.5s,baz=131,slow=36
POHA Pohakuloa 53.62 26 *e*P P 19 12 35.5 -3.8
comp=Z,123nm,1.2s
KIP Kipapa 54.27 23 *c e*P **P** **19 12 43.6 -0.1**
KIP pmax pmax
comp=Z,150nm,1.1s
KIP Kipapa 54.27 23 *e*P **P** **19 12 43.9 +0.2**
comp=Z,118nm,1.0s
NWAO Narrogin (SRO) 54.97 249 P **P** **19 12 48.6 -0.2**
NWAO Narrogin (SRO) 54.97 249 P **P** **19 12 48.6 -0.2**
comp=Z,34nm,1.2s,baz=130,slow=4.6,SNR=4.2
NWAO LR LR 19 34 02.6
comp=Z,2μm,19.8s,baz=100,slow=34
CASY Casey 55.87 208 *e*P **P** **19 12 54.5 -0.2**
comp=Z,21nm,0.6s
CASY LR LR
comp=Z,2μm,20.0s
GUMO Guam 56.30 315 PFAKE 19 13 10.0 +12
GUMO LR LR
comp=Z,1μm,19.0s
MBWA Marble Bar 56.66 263 *e*P **P** **19 12 59.6 -1.5**
comp=Z,53nm,1.3s
MBWA LR LR
comp=Z,4μm,19.0s
MIDW Midway 57.66 0 PFAKE 19 13 20.0 +12
MIDW LR LR
comp=Z,2μm,20.0s
BATI Baumata 57.94 277 P **P** **19 13 11.4 +1.2**
BATI Baumata 57.94 277 P **P** **19 13 11.4 +1.2**
comp=Z,34nm,1.0s,baz=162,slow=6.4,SNR=4.7
BATI LR LR 19 38 53.7
comp=Z,8μm,18.3s,baz=142,slow=37
QSPA South Pole Qui 60.34 180 *e*P **P** **19 13 28.2 +2.0**
comp=Z,107nm,0.7s
QSPA S S 19 21 46.7 +8.4
QSPA LR LR
comp=Z,1μm,21.0s
QSPA South Pole Qui 60.34 180 P **P** **19 13 28.4 +2.2**
comp=Z,41nm,1.0s,baz=39,slow=2.8,SNR=43
QSPA S S 19 21 46.7 +8.4
comp=Z,1.5nm,1.0s,baz=19,slow=18,SNR=3.2
MIR Mirnyy 62.85 207 ⇑ *i*P **P** **19 13 44.5 +1.6**
MIR *i* 19 14 00.0
MIR pmax pmax
comp=Z,134nm,2.0s
MNI Manado 63.03 289 P **P** **19 13 44.1 -0.8**
comp=Z,110nm,1.0s,comp=Z,1μm
BKSI Bulukumba 63.39 280 P **P** **19 13 45.7 -1.6**
comp=Z,28nm,1.1s,comp=Z,563nm
KAPI Kappang 63.86 280 *e*P **P** **19 13 48.9 -1.6**
comp=Z,30nm,1.1s
KAPI Kappang 63.86 280 P **P** **19 13 49.0 -1.4**
comp=Z,28nm,1.4s,comp=Z,715nm
KAPI Kappang 63.86 280 P **P** **19 13 49.2 -1.3**
comp=Z,13nm,1.0s,baz=143,slow=5.1,SNR=4.1
KAPI LR LR 19 41 49.9
comp=Z,842nm,19.9s,baz=142,slow=36
GTOI Gorontalo 64.09 287 P **P** **19 13 51.9 0.0**
comp=Z,73nm,1.2s,comp=Z,1μm
TTSI Tana Toraja 64.81 282 P **P** **19 13 55.7 -1.0**
DAV Davao City (W) 65.70 294 P **P** **19 14 01.7 -0.7**
DAV LR LR
comp=Z,617nm,20.0s
DAV Davao City (W) 65.70 294 P **P** **19 14 01.7 -0.7**
comp=Z,60nm,0.4s,baz=32,slow=19,SNR=3.6
MYLDM Lahad Datu 70.34 288 P **P** **19 14 32.7 +1.1**
TSM Tawau 70.38 287 P **P** **19 14 31.9 +0.1**
SDKM Sandakan 71.68 288 P **P** **19 14 39.3 -0.5**
PMSA Palmer Station 72.69 156 P **P** **19 14 44.1 -0.8**
PMSA Palmer Station 72.69 156 LR LR 19 41 16.3
comp=Z,837nm,19.1s,baz=215,slow=31
KKM Kota Kinabalu 72.71 288 *e*P **P** **19 14 44.7 -1.3**
comp=Z,123nm,1.4s
KKM LR LR
comp=Z,531nm,20.0s
KKM Kota Kinabalu 72.71 288 P P 19 14 49.9 +3.9
MAW Mawson 73.03 200 P **P** **19 14 48.2 +1.4**
MAW Mawson 73.03 200 P **P** **19 14 48.2 +1.4**
comp=Z,49nm,1.1s,baz=116,slow=7.4,SNR=35
MAW LR LR 19 43 10.8
comp=Z,1μm,19.9s,baz=117,slow=33
BTM Bintulu 73.81 283 P **P** **19 14 52.5 +0.2**
SBUM Sibu 74.14 282 P **P** **19 14 54.8 +0.5**
KSM Kuching 75.27 280 *e*P **P** **19 14 59.4 -1.5**
comp=Z,96nm,1.5s
KSM LR LR
comp=Z,792nm,21.0s
KSM Kuching 75.27 280 P **P** **19 15 00.9 +0.1**
SYO Syowa Base 77.81 193 ‖ *e*P **P** **19 15 13.6 -0.7**
MJAR Matsushiro Arr 77.93 325 P **P** **19 15 13.8 -1.6**
MJAR Matsushiro Arr 77.93 325 P **P** **19 15 13.8 -1.6**
comp=Z,18nm,0.9s,baz=156,slow=5.5,SNR=34
MJAR LR LR 19 50 26.3
comp=Z,440nm,18.1s,baz=125,slow=36
MAJO Matsushiro 77.94 325 *e*P **P** **19 15 15.7 +0.3**
MAJO pmax pmax
comp=Z,31nm,0.9s
MAJO MLR MLR
comp=Z,615nm,20.0s
MAJO Matsushiro 77.94 325 *e*P **P** **19 15 15.7 +0.3**
comp=Z,31nm,0.9s
MAJO LR LR
comp=Z,615nm,20.0s
MAT Matsushiro 77.94 325 P **P** **19 15 14.7 -0.7**
MAT S **S** **19 25 06.0 -0.3**
SNAA Sanae 78.78 178 *e*P **P** **19 15 20.3 +0.6**
SNAA Sanae 78.78 178 *e*PcP **PcP** **19 15 27.2 -1.2**
SNAA Sanae 78.78 178 *es*P sP 19 15 35.2 +0.8
SNAA Sanae 78.78 178 *e*P **P** **19 15 20.4 +0.6**
comp=Z,80nm,1.3s
SNAA *e* 19 15 35.1
JNU Nakatsue 79.33 318 P **P** **19 15 22.4 -0.7**
JNU Nakatsue 79.33 318 P **P** **19 15 22.4 -0.7**
comp=Z,16nm,0.8s,baz=140,slow=5.4,SNR=4.5
JNU LR LR 19 44 47.3
comp=Z,330nm,20.9s,baz=124,slow=31
TPUB Ta-pu 79.42 304 *e*P **P** **19 15 21.4 -2.5**
comp=Z,21nm,0.8s
SSLB Suanglung 79.50 305 *e*P **P** **19 15 22.6 -1.7**
comp=Z,53nm,1.6s
VNA1 Neumayer--Stat 79.58 176 *e*P **P** **19 15 25.0 +1.0**
VNA1 Neumayer--Stat 79.58 176 *e*pP pP 19 15 33.8 -0.9
YHNB Yeheng 79.75 306 P **P** **19 15 25.1 -0.7**
comp=Z,28nm,1.1s
YHNB LR LR
comp=Z,961nm,22.0s
TATO Taipei 79.87 306 PFAKE 19 15 40.0 +14
TATO LR LR
comp=Z,778nm,20.0s
ERM Erimo 80.08 331 PFAKE 19 15 40.0 +13
ERM LR LR
comp=Z,2μm,20.0s
COCO West Island 80.27 262 *i* P **P** **19 15 30.2 +1.5**
COCO West Island 80.27 262 PFAKE 19 15 40.0 +11
COCO LR LR
comp=Z,1μm,20.0s
YUK Yuzh-Kuril'sk 80.70 334 *d i*P **P** **19 15 29.9 -0.3**
YUK *e*S **S** **19 25 33.3 -1.9**
YUK pmax pmax
comp=Z,1μm,1.9s
MYKOM Kota Tinggi 80.98 277 P **P** **19 15 32.7 +0.2**
KUR Kuril'sk 81.00 336 *e*P **P** **19 15 31.3 -0.5**
KUR *e*S **S** **19 25 39.3 +1.0**
KUR MLR MLR
comp=N,782nm,18.0s
KUR MLR MLR
comp=E,837nm,18.0s
KUR MLR MLR
comp=Z,944nm,18.0s
ADK Adak 81.30 1 *e*P **P** **19 15 30.6 -2.7**
ADK pmax pmax
comp=Z,216nm,0.8s
ADK MLR MLR
comp=Z,1μm,20.0s
ADK Adak 81.30 1 *e*P **P** **19 15 30.6 -2.7**
comp=Z,216nm,0.8s
ADK LR LR
comp=Z,1μm,20.0s
KGM Kluang 81.55 277 P **P** **19 15 35.7 +0.2**
ATKA Atka Island 81.67 2 *e*P **P** **19 15 34.8 -0.4**
comp=Z,106nm,1.0s
ASAJ Asahikawa 82.05 332 P **P** **19 15 37.0 -0.4**
ASAJ Asahikawa 82.05 332 P **P** **19 15 37.0 -0.4**
comp=Z,31nm,0.8s,baz=202,slow=4.8,SNR=23
ASAJ LR LR 19 46 06.2
comp=Z,2μm,21.6s,baz=181,slow=31
PLCA Paso Flores 82.67 133 P **P** **19 15 42.1 +1.0**
PLCA Paso Flores 82.67 133 P **P** **19 15 42.1 +1.0**
comp=Z,13nm,1.0s,baz=241,slow=6.0,SNR=14
PLCA LR LR 19 43 56.9
comp=Z,1μm,19.8s,baz=244,slow=29
EFI East Falkland 83.12 147 P **P** **19 15 42.2 -0.9**
EFI pmax pmax
comp=Z,568nm,1.4s
EFI East Falkland 83.12 147 P **P** **19 15 42.2 -0.9**
comp=Z,568nm,1.4s
KTGM Kuala Trenggan 83.38 280 P **P** **19 15 45.4 +0.3**
SKR Severo-Kuril's 83.41 344 *e*P P 19 15 36.1 -8.2
SKR *e*S **S** **19 26 06.0 +3.2**
SKR *e*PS **PnS** **19 26 51.0 -7.2**
SKR pmax pmax
comp=Z,40nm,1.0s
SKR pmax pmax
comp=E,600nm,12.0s
SKR smax smax
comp=N,900nm,12.0s
SKR smax smax
comp=E,900nm,12.0s
SKR smax smax
comp=Z,800nm,12.0s
FRIM Kepong 83.62 277 P P 19 15 50.3 +3.9
UNV Unalaska Valle 83.82 7 *e*P **P** **19 15 45.5 -0.8**
comp=Z,52nm,1.5s
KSRS Korea Array 84.11 319 P **P** **19 15 48.5 +0.3**
comp=Z,15nm,1.0s,baz=142,slow=5.9,SNR=33
KSRS LR LR 19 50 52.3
comp=Z,614nm,20.0s,baz=147,slow=34
KSAR Wonju Array Be 84.12 319 P **P** **19 15 48.5 +0.2**
AKUT Akutan 84.18 7 *e*P **P** **19 15 47.0 -1.1**
comp=Z,81nm,1.4s
BLG Laguna Peak 84.20 45 ⇓P **P** **19 15 49.8 +1.0**
baz=84
PKM Peak Mountain 84.26 44 ⇓P **P** **19 15 50.3 +1.0**
baz=85,SNR=6.8
YSS Yuzh-Sakhalins 84.34 334 *oe*P **P** **19 15 50.2 +1.1**
YSS *e**PP **pP** **19 16 00.0 0.0**
YSS *e**SP **sP** **19 16 04.8 +0.9**
YSS *e*S **S** **19 26 12.0 -0.3**
YSS pmax pmax
comp=Z,50nm,0.9s
YSS MLR MLR
comp=N,500nm,19.0s
YSS MLR MLR
comp=Z,600nm,19.0s
SMMC Simmler 84.43 44 ⇓P **P** **19 15 51.0 +1.1**
baz=85
SAO San Andreas Ge 84.56 42 *e*P P 19 15 46.9 -3.7
SAO pmax pmax
comp=Z,31nm,1.2s
SAO San Andreas Ge 84.56 42 *e*P P 19 15 46.9 -3.7
comp=Z,31nm,1.2s
109C Camp Elliot, M 84.63 47 ⇓P **P** **19 15 52.0 +1.0**
baz=85
OSI Osito Adit 84.74 45 ⇑P **P** **19 15 52.2 +0.6**
baz=85
DECC Green Verdugo 84.75 46 ⇓P **P** **19 15 52.1 +0.5**
baz=85
IPM Ipoh 84.76 278 *e*P **P** **19 15 50.9 -1.3**
comp=Z,27nm,0.8s
IPM Ipoh 84.76 278 P **P** **19 15 51.4 -0.7**
BAR Barrett 84.77 48 *e*P **P** **19 15 52.3 +0.5**
comp=Z,72nm,1.5s
BAR *e* 19 16 07.4
PASC Pasadena Art C 84.78 46 *e*P **P** **19 15 51.6 -0.2**
comp=Z,26nm,1.1s
INCN Inchon 84.86 319 PFAKE 19 16 00.0 +7.9
INCN LR LR
comp=Z,469nm,19.0s
MWC Mount Wilson 84.90 46 *e*P **P** **19 15 52.6 0.0**
MWC *e* 19 16 07.8
MWC pmax pmax
comp=Z,26nm,1.0s
MWC Mount Wilson 84.90 46 *e*P **P** **19 15 52.6 0.0**
comp=Z,26nm,1.0s
MWC *e* 19 16 07.8
PET Petropavlovsk 85.01 346 *e*P **P** **19 15 51.6 -0.7**
PET *e*S **S** **19 26 18.8 +0.1**
PET pmax pmax
comp=Z,400nm,6.0s
PET pmax pmax
comp=Z,16nm,0.8s
PET pmax pmax
comp=Z,300nm,17.4s
PET MLR MLR
comp=Z,500nm,20.0s
PET MLR MLR
comp=Z,400nm,19.0s
ARVC Arvin 85.02 45 ⇑P **P** **19 15 53.8 +0.9**
baz=85,SNR=6.3
MURC Murrieta 85.03 47 ⇑P **P** **19 15 53.9 +0.9**
baz=85,SNR=6.9
QIZ Qiongzhong 85.06 295 P **P** **19 15 53.5 0.0**
QIZ pP **pP** **19 16 05.5 +1.2**
QIZ sP **sP** **19 16 11.3 +3.1**
QIZ PP PP 19 19 16.8 +5.7
QIZ S **SKKSac** **19 26 21.5 -0.6**
QIZ sS **sS** **19 26 37.8 -0.8**
QIZ SS **SS** **19 31 59.5 +4.5**
QIZ pmax pmax
comp=Z,18nm,2.1s
QIZ LR LR
comp=Z,640nm,34.9s
QIZ Qiongzhong 85.06 295 PFAKE 19 16 00.0 +6.5
QIZ LR LR
comp=Z,323nm,20.0s
MONP Monument Peak 85.07 48 ⇑P **P** **19 15 54.1 +0.7**
baz=85
DVTC Desert V Tower 85.13 48 ⇑P **P** **19 15 54.8 +1.2**
baz=85
BFSC Mount Baldy Ra 85.16 46 ⇑P **P** **19 15 54.5 +0.7**
baz=86,SNR=9.7
PEA0B Petropavlovsk- 85.29 345 *e*P **P** **19 15 53.0 -0.8**
PETK Petropavlovsk- 85.29 345 P **P** **19 15 53.3 -0.6**
PETK Petropavlovsk- 85.29 345 P **P** **19 15 53.2 -0.6**
PETK Petropavlovsk- 85.29 345 P **P** **19 15 53.2 -0.6**
comp=Z,18nm,0.8s,baz=136,slow=7.6,SNR=24
PETK LR LR 19 48 36.3
comp=Z,454nm,21.3s,baz=170,slow=32
VES Vestal, Richgr 85.34 44 ⇑P **P** **19 15 55.2 +0.7**
baz=86,SNR=6.7
EDW2 Edwards Air Fo 85.37 45 ⇑P **P** **19 15 55.6 +0.8**
baz=86,SNR=23
KULM Kulim 85.49 279 *e*P **P** **19 15 54.6 -1.2**
comp=Z,38nm,1.1s
KULM LR LR
comp=Z,886nm,20.0s
KULM Kulim 85.49 279 P **P** **19 15 56.9 +1.1**
SWSC Sam W. Stewart 85.50 48 ⇓P **P** **19 15 56.2 +0.8**
baz=86
PFO Pinyon Flat Ob 85.51 47 P **P** **19 15 57.0 +1.4**
comp=Z,109nm,1.0s,SNR=6.3
PFO Pinyon Flat Ob 85.51 47 *e*P **P** **19 15 56.1 +0.6**
comp=Z,64nm,1.4s
PFO *e* 19 16 10.7
PFO LR LR
comp=Z,1μm,20.0s
PFO Pinyon Flat Ob 85.51 47 P **P** **19 15 56.5 +0.9**
comp=Z,16nm,1.1s,baz=259,slow=3.0,SNR=12
PFO Pinyon Flat Ob 85.51 47 ⇓P **P** **19 15 56.4 +0.9**
baz=86,SNR=9.4
KIPM Iron Peak 85.54 39 *e*P **P** **19 15 56.3 +0.8**
comp=Z,29nm,1.2s
ISA Isabella 85.59 44 *e*P **P** **19 15 57.1 +1.2**
ISA *e* 19 16 11.6
ISA pmax pmax
comp=Z,88nm,1.4s
ISA Isabella 85.59 44 *e*P **P** **19 15 57.1 +1.2**
comp=Z,88nm,1.4s
ISA *e* 19 16 11.6
ISA Isabella 85.59 44 ⇓P **P** **19 15 56.9 +1.0**
baz=86,SNR=14
PSI Prapat 85.74 276 LR LR 19 57 02.1
comp=Z,2μm,18.8s,baz=150,slow=38
LRMC Laurel Mountai 85.95 45 ⇑P **P** **19 15 58.5 +0.8**
baz=86,SNR=14
RRX Edison Barstow 85.99 46 ⇑P **P** **19 15 58.6 +0.8**
baz=86
CMB Columbia Colle 86.05 42 *e*P **P** **19 15 58.4 +0.4**
CMB *e* 19 16 13.3
CMB pmax pmax
comp=Z,53nm,1.4s
CMB Columbia Colle 86.05 42 *e*P **P** **19 15 58.4 +0.4**
comp=Z,53nm,1.4s
CMB *e* 19 16 13.3
BELC Belle Mtn. Jos 86.05 47 ⇓P **P** **19 15 59.4 +1.2**
baz=86,SNR=24
VLA Vladivostok 86.09 325 ⇓ *i*P **P** **19 15 59.4 +1.4**
VLA pmax pmax
comp=Z,22nm,0.9s
NJ2 Nanjing 86.11 310 S **S** **19 26 34.0 +3.5**
NJ2 pmax pmax
comp=Z,310nm,0.8s
NJ2 pmax pmax
comp=Z,410nm,4.7s
NJ2 LR LR
comp=N,310nm,19.6s
NJ2 LR LR
comp=E,220nm,17.5s
NJ2 LR LR
comp=Z,350nm,18.6s
NJ2 Nanjing 86.11 310 PcP **PcP** **19 16 02.5 +1.5**
NJ2 pP **pP** **19 16 10.8 +1.6**
NJ2 sP **sP** **19 16 13.5 +0.3**
NJ2 PP **PP** **19 19 21.0 +1.5**
KHMM Horse Mountain 86.16 38 *e*P **P** **19 16 00.7 +2.1**
comp=Z,33nm,1.2s
BC3 Big Chuckawall 86.18 48 ⇑P **P** **19 16 00.2 +1.3**
baz=86,SNR=26
GLA Glamis 86.20 48 *e*P **P** **19 16 00.4 +1.5**
GLA *e* 19 16 15.3
GLA pmax pmax
comp=Z,141nm,1.6s
GLA Glamis 86.20 48 *e*P **P** **19 16 00.4 +1.5**
comp=Z,141nm,1.6s
GLA *e* 19 16 15.3
GLA Glamis 86.20 48 ⇓P **P** **19 16 00.4 +1.5**
baz=86,SNR=8.9
OHCM Honcut 86.31 40 *e*P **P** **19 16 00.1 +0.9**
CWC Cottonwood Cre 86.34 44 ⇓P **P** **19 16 00.5 +0.8**
baz=87
HEC Hector,Ludlow 86.38 46 ⇓P **P** **19 16 00.6 +0.9**
baz=87,SNR=31
GSC Goldstone 86.38 46 *e*P **P** **19 16 00.7 +0.9**
GSC *e* 19 16 15.5
GSC pmax pmax
comp=Z,95nm,1.4s
GSC Goldstone 86.38 46 *e*P **P** **19 16 00.7 +0.9**
comp=Z,95nm,1.4s
GSC *e* 19 16 15.5
GSC Goldstone 86.38 46 ⇓P **P** **19 16 00.8 +0.9**
baz=87,SNR=37
MPMC Manual Prospec 86.45 45 ⇑P **P** **19 16 01.3 +1.0**
baz=87,SNR=35
WDC Whiskeytown Da 86.59 39 *e*P **P** **19 16 00.7 +0.1**
WDC pmax pmax
comp=Z,61nm,1.4s
WDC Whiskeytown Da 86.59 39 *e*P **P** **19 16 00.7 +0.1**
comp=Z,60nm,1.4s
TIN Tinemaha 86.66 44 ⇓P **P** **19 16 01.8 +0.6**
baz=87
MLAC Mammoth Lakes 86.68 43 ⇑P **P** **19 16 02.5 +1.1**
baz=87
IRM Iron Mountain 86.69 47 ⇑P **P** **19 16 02.6 +1.4**
baz=87,SNR=38
113A Mohawk Valley, 86.72 49 ⇑P **P** **19 16 02.6 +1.3**
baz=87
GMRC Granite Mounta 86.77 47 ⇑P **P** **19 16 02.9 +1.1**
baz=87,SNR=18
SPIA Saint Paul Isl 86.83 4 *e*P **P** **19 16 02.7 +1.5**
comp=Z,144nm,1.2s
USRK Ussuriysk Arra 86.84 326 P **P** **19 16 02.2 +0.6**
comp=Z,23nm,0.9s,baz=127,slow=2.9,SNR=27
USRK LR LR 19 51 47.0
comp=Z,769nm,19.9s,baz=295,slow=34
Y12C Blythe 86.84 48 ⇑P **P** **19 16 03.3 +1.3**
baz=87,SNR=8.4
214A Organ Pipe Nat 86.85 50 ⇓P **P** **19 16 03.1 +1.0**
baz=87
WAKR Walker 86.91 42 *e*P **P** **19 16 03.2 +0.7**
WAKR *e* 19 16 17.8
TUQ Turquoise Moun 87.02 46 ⇓P **P** **19 16 04.0 +1.0**
baz=87,SNR=18
SHOC Shoshone 87.09 45 ⇓P **P** **19 16 04.0 +0.8**
baz=87
FURC Furnace Creek, 87.11 45 ⇓P **P** **19 16 04.1 +1.0**
baz=87,SNR=12
GRAC Grapevine Rang 87.14 44 ⇓P **P** **19 16 04.6 +1.2**
baz=88
LDFC Landfair 87.30 47 *e*P **P** **19 16 05.5 +1.2**
comp=Z,232nm,1.4s
BEKR Beckworth 87.31 40 *e*P **P** **19 16 04.6 +0.3**
comp=Z,23nm,1.5s
BEKR *e* 19 16 19.7
YBH Yreka Blue Hor 87.31 38 *e*P **P** **19 16 04.6 +0.4**
comp=Z,12nm,1.0s
YBH Yreka Blue Hor 87.31 38 P **P** **19 16 04.9 +0.7**
comp=Z,10nm,1.1s,baz=191,slow=4.9,SNR=9.6
NEE2 Needles Airpor 87.42 47 ⇓P **P** **19 16 06.0 +1.3**
baz=88
PDMCI Parker Dam,Lak 87.43 48 ⇑P **P** **19 16 06.1 +1.3**
baz=88
NVAR Mina Array Bea 87.53 43 P **P** **19 16 06.0 +0.6**
NVAR PKKPbc **PKKPbc** **19 33 54.9 -0.5**
NVAR Mina Array Bea 87.53 43 P **P** **19 16 06.0 +0.6**
comp=Z,19nm,1.0s,baz=220,slow=7.7,SNR=61
NVAR PKKPbc **PKKPbc** **19 33 54.9 -0.5**
comp=Z,0.9nm,0.9s,baz=111,slow=3.3,SNR=3.8
Z14A Wintersburg 87.63 49 ⇓P **P** **19 16 07.2 +1.4**
baz=88,SNR=11
PAHR Pah Rah Range 87.75 41 *e*P **P** **19 16 06.2 -0.2**
comp=Z,42nm,1.4s
PAHR *e* 19 16 21.2
HUMO Hull Mountain 87.79 37 *e*P **P** **19 16 07.1 +0.8**
comp=Z,39nm,1.4s
TPH Tonopah 87.93 43 PFAKE 19 16 20.0 +13
TPH LR LR
comp=Z,888nm,19.0s
Y14A Wickenburg 87.94 49 ⇑P **P** **19 16 08.5 +1.2**
baz=88,SNR=29
W13A Hualapai Mount 88.09 47 ⇓P **P** **19 16 09.6 +1.3**
baz=88,SNR=24
PANO Nakornpanom 88.24 291 P **P** **19 16 11.2 +2.2**
comp=Z,68nm,1.2s
WHN Wuhan 88.26 307 ⇑ *i*P **P** **19 16 08.5 -0.3**
WHN S **S** **19 26 54.0 +2.7**
WHN LR LR
comp=Z,1μm,19.7s
MDJ Mudanjiang 88.31 325 P **P** **19 16 09.5 +0.8**
MDJ pP **pP** **19 16 18.5 -1.1**
MDJ sP **sP** **19 16 22.5 -1.0**
MDJ PP **PP** **19 19 36.0 -1.0**
MDJ S **S** **19 26 52.5 +1.3**
MDJ sS **sS** **19 27 08.8 -0.4**
MDJ pmax pmax
comp=Z,20nm,1.1s
MDJ pmax pmax
comp=Z,260nm,7.4s
MDJ LR LR
comp=N,450nm,18.7s
MDJ LR LR
comp=E,300nm,19.6s
MDJ LR LR
comp=Z,630nm,20.4s
MDJ Mudanjiang 88.31 325 *e*P **P** **19 16 09.0 +0.3**

comp=Z,22nm,1.1s
MDJ LR LR
comp=Z,612nm,20.0s
TUC Tucson 88.43 51 *e*P **P 19 16 11.4 +1.7**
TUC *e* 19 16 25.8
TUC pmax pmax
comp=Z,1µm,2.0s
TUC MLR MLR
comp=Z,781nm,22.0s
TUC Tucson 88.43 51 *e*P **P 19 16 11.3 +1.7**
comp=Z,1µm,2.0s
TUC *e* 19 16 25.8
TUC LR LR
comp=Z,781nm,22.0s
SKNT Sakolnakorn 88.66 290 P **P 19 16 12.0 +1.0**
comp=Z,42nm,1.0s,comp=Z,976nm
HABR Khabarovsk 88.67 331 *e*P **P 19 16 09.9 -0.4**
HABR *e**PP **pP 19 16 20.4 -0.8**
HABR *e**SP **sP 19 16 24.4 -0.7**
HABR *e*PPP PPP 19 21 34.5
HABR *e*S **SKSac 19 26 35.7 -0.9**
HABR *e* 19 26 50.2
HABR *e*SS **SS 19 32 47.1 +0.1**
HABR *e*SSS SSS 19 36 21.9
HABR pmax pmax
comp=Z,31nm,0.9s
HABR MLR MLR
comp=Z,396nm,19.0s
DL2 Dalian 88.74 317 ⇑P **P 19 16 11.8 +0.9**
DL2 S **S 19 26 54.5 -0.9**
DL2 pmax pmax
comp=Z,32nm,0.6s
DL2 pmax pmax
comp=Z,310nm,4.6s
DL2 LR LR
comp=N,160nm,18.1s
DL2 LR LR
comp=E,340nm,19.7s
DL2 LR LR
comp=Z,310nm,20.7s
319A Douglas 88.91 53 ⇓P **P 19 16 13.3 +1.3**
baz=89
LCO Las Campanas 89.01 123 PFAKE 19 16 20.0 +7.0
LCO LR LR
comp=Z,2µm,22.0s
R11A Troy Canyon, C 89.09 44 ⇑P **P 19 16 14.7 +1.9**
baz=89
X16A Lo Mia Camp, P 89.26 49 ⇓P **P 19 16 15.4 +1.7**
baz=90,SNR=39
CFAA Coronel Fontan 89.32 126 LR LR 19 47 30.4
comp=Z,103nm,19.8s,baz=272,slow=30
BMN Battle Mountai 89.47 42 *e*P **P 19 16 15.0 +0.5**
BMN *e* 19 16 29.5
BMN pmax pmax
comp=Z,47nm,1.4s
BMN MLR MLR
comp=Z,1µm,19.0s
BMN Battle Mountai 89.47 42 *e*P **P 19 16 15.0 +0.5**
comp=Z,47nm,1.4s
BMN *e* 19 16 29.5
BMN LR LR
comp=Z,1µm,19.0s
SNY Shenyang 89.54 320 ⇓P **P 19 16 16.0 +1.4**
TRQA Tornquist 89.62 135 *e*P **P 19 16 15.7 +0.4**
TRQA *e* 19 16 30.9
TRQA LR LR
comp=Z,1µm,21.0s
KDAK Kodiak Island 89.71 13 P **P 19 16 15.0 +0.1**
KDAK LR LR
comp=Z,1µm,21.0s
KDAK Kodiak Island 89.71 13 P **P 19 16 15.0 +0.1**
comp=Z,21nm,1.1s,baz=170,slow=9.4,SNR=2.8
220A Playas Peak, P 89.73 53 ⇓P **P 19 16 17.5 +1.6**
baz=90,SNR=30
CHAI Chaiyaphum 89.74 288 P **P 19 16 17.1 +1.0**
comp=Z,7.1nm,0.7s,comp=Z,66nm
CN2 Changchun 89.86 323 *e*P **P 19 16 18.5 +2.5**
CN2 *ep*P **pP 19 16 29.0 +2.1**
CN2 Changchun 89.86 323 *e*S **S 19 27 06.8 +1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,22.0s
CN2 LR LR
comp=E,300nm,22.0s
CN2 LR LR
comp=Z,600nm,22.0s
U15A North Rim 89.93 47 ⇑P **P 19 16 18.6 +1.7**
baz=90,SNR=38
CCUT Cedar City 89.95 46 *e*P **P 19 16 17.9 +1.0**
comp=Z,39nm,1.3s
CCUT *e* 19 16 33.4
WUAZ Wupatki 89.97 48 *e*P **P 19 16 18.2 +1.3**
comp=Z,63nm,1.1s
WUAZ *e* 19 16 33.3
WUAZ LR LR
comp=Z,745nm,19.0s
WUAZ Wupatki 89.97 48 ⇓P **P 19 16 18.3 +1.3**
baz=90,SNR=19
WVOR Wild Horse Val 90.00 39 *e*P **P 19 16 17.0 +0.1**
WVOR pmax pmax
comp=Z,53nm,1.5s
WVOR MLR MLR
comp=Z,2µm,19.0s
WVOR Wild Horse Val 90.00 39 *e*P **P 19 16 16.9 +0.1**
comp=Z,53nm,1.5s
WVOR LR LR
comp=Z,2µm,19.0s
120A U Bar Ranch, L 90.04 52 ⇑P **P 19 16 19.0 +1.6**
baz=90,SNR=37
ARUT Antelope Range 90.05 45 *e*P **P 19 16 17.4 +0.1**
ARUT pmax pmax
comp=Z,14nm,1.1s
ARUT Antelope Range 90.05 45 *e*P **P 19 16 17.4 +0.1**
comp=Z,14nm,1.1s
PHET Kaeng Krachan 90.19 285 P **P 19 16 20.7 +2.5**
comp=Z,77nm,1.0s
X18A Snowflake 90.31 50 ⇑P **P 19 16 20.1 +1.5**
baz=91,SNR=16
221A Mesquite Ranch 90.31 53 ⇑P **P 19 16 20.1 +1.4**
baz=91,SNR=7.9
Z20A Nine Sixteen R 90.39 52 ⇓P **P 19 16 20.7 +1.7**
baz=91,SNR=45
VFP Flag Point 90.46 36 P **P 19 16 19.1 +0.1**
121A Cookes Peak, D 90.61 52 ⇑P **P 19 16 21.4 +1.3**
baz=91,SNR=8.8
FL2 Flat Top 2 90.62 35 P **P 19 16 20.9 +1.2**
NLWA Neilton Lookou 90.73 33 PFAKE 19 16 30.0 +10
NLWA LR LR
comp=Z,1µm,20.0s
TDL Tradedollar La 90.80 35 P **P 19 16 21.5 +0.9**
W18A Petrified Fore 90.80 49 ⇓P **P 19 16 22.1 +1.2**
baz=91,SNR=8.0
ELK Elko 90.83 42 P **P 19 16 21.0 +0.1**
ELK Elko 90.83 42 P **P 19 16 21.0 +0.1**
comp=Z,6.3nm,1.1s,baz=216,slow=4.7,SNR=12
222A Williams Famil 90.84 53 ⇑P **P 19 16 22.4 +1.3**
baz=91,SNR=11
PBKT Sadao Pong 90.92 288 P P 19 16 25.9 +4.3
Y20A Horse Springs, 91.00 51 ⇑P **P 19 16 23.7 +1.7**
baz=91,SNR=58
Z21A St. Cloud Mine 91.14 52 ⇑P **P 19 16 24.0 +1.5**
baz=91,SNR=8.2
122A Conniff Cattle 91.25 53 ⇓P **P 19 16 24.3 +1.3**
baz=92
223A Chaparral, Ant 91.25 54 ⇓P **P 19 16 24.1 +1.1**
baz=92
MVU Marysvale 91.25 46 *e*P **P 19 16 24.2 +1.2**
comp=Z,24nm,1.3s
MVU *e* 19 16 39.3
MVU LR LR
comp=Z,786nm,19.0s
LON Longmire 91.28 35 *e*P **P 19 16 22.6 0.0**
LON pmax pmax
comp=Z,41nm,1.9s
LON Longmire 91.28 35 *e*P **P 19 16 22.6 0.0**
comp=Z,41nm,1.9s
MSU Marysvale 91.28 46 *e*P **P 19 16 24.2 +1.1**
MSU *e* 19 16 38.9
MSU Marysvale 91.28 46 *e*P **P 19 16 24.2 +1.1**
MSU *e* 19 16 38.9
X20A Quemado 91.29 50 ⇓P **P 19 16 24.8 +1.6**
baz=92
WPW White Pass 91.37 35 P **P 19 16 23.5 +0.4**

626A Big Bend Ranch 91.52 57 ⇓P **P 19 16 24.9 +0.7**
baz=92,SNR=22
Y21A Point of Rocks 91.54 51 ⇓P **P 19 16 26.2 +1.8**
baz=92,SNR=17
ENH Enshi 91.55 304 *e*P **P 19 16 24.0 -0.3**
comp=Z,103nm,1.5s
ENH LR LR
comp=Z,369nm,22.0s
GYA Guiyang 91.56 300 P **P 19 16 25.0 +0.5**
GYA pP **pP 19 16 35.5 +0.1**
GYA PP **PP 19 20 02.5 -0.8**
GYA SKS **SKSac 19 26 53.8 -1.0**
GYA S **S 19 27 21.3 -1.0**
GYA SS **SS 19 33 31.3 +1.5**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,250nm,11.6s
GYA LR LR
comp=N,680nm,23.5s
GYA LR LR
comp=E,510nm,25.3s
GYA LR LR
comp=Z,600nm,23.0s
425A Indio Mountain 91.59 55 ⇓P **P 19 16 25.3 +0.7**
baz=92,SNR=18
Z22A Elephant Butte 91.59 52 ⇓P **P 19 16 25.8 +1.3**
baz=92,SNR=14
TRW Toppenish Ridg 91.60 36 P **P 19 16 25.1 +0.9**
324A Moseley Ranch, 91.60 54 ⇓P **P 19 16 24.9 +0.3**
baz=92,SNR=14
W20A Ramah 91.63 50 ⇑P **P 19 16 26.4 +1.6**
baz=92,SNR=40
X21A Alamocita Cree 91.71 51 ⇑P **P 19 16 26.7 +1.5**
baz=92,SNR=43
123A Bell Site, Whi 91.72 53 ⇑P **P 19 16 25.7 +0.6**
baz=92
TXAR Lajitas Array 91.74 57 P **P 19 16 25.9 +0.7**
TXAR PKKPbc **PKKPdf 19 33 41.6 -0.3**
TXAR Lajitas Array 91.74 57 P **P 19 16 25.9 +0.7**
comp=Z,8.7nm,1.0s,baz=207,slow=5.3,SNR=55
TXAR PKKPbc **PKKPdf 19 33 41.6 -0.3**
comp=Z,0.3nm,0.8s,baz=127,slow=2.4,SNR=2.3
TXAR LR LR 19 54 23.1
comp=Z,367nm,18.2s,baz=0.0,slow=33
MNTX Cornudas Mount 91.81 54 *e*P **P 19 16 25.9 +0.5**
comp=Z,27nm,1.3s
MNTX *e* 19 16 40.5
MNTX LR LR
comp=Z,426nm,20.0s
526A Mary Lane Ranc 91.83 56 ⇓P **P 19 16 26.4 +0.7**
baz=92,SNR=24
DUG Dugway 91.92 44 *e*P **P 19 16 25.9 0.0**
DUG pmax pmax
comp=Z,13nm,1.4s
DUG MLR MLR
comp=Z,1µm,19.0s
DUG Dugway 91.92 44 *e*P **P 19 16 25.9 0.0**
comp=Z,13nm,1.4s
DUG LR LR
comp=Z,1µm,19.0s
DUG Dugway 91.92 44 ⇑P **P 19 16 26.3 +0.4**
baz=92
224A Cornudas Mount 91.93 54 ⇓P **P 19 16 26.8 +0.7**
baz=92,SNR=18
Y22A Socorro 91.98 52 ⇓P **P 19 16 27.3 +0.9**
baz=92,SNR=17
627A Terlingua Ranc 92.01 57 ⇑P **P 19 16 27.2 +0.6**
baz=92,SNR=30
V20A Brimhall 92.04 49 ⇓P **P 19 16 27.5 +0.9**
baz=92
Y22D IRIS PASSCAL I 92.09 52 ⇑P **P 19 16 27.9 +1.1**
baz=92
Z23A Rita Site, Whi 92.10 53 ⇑P **P 19 16 27.9 +1.0**
baz=92
LENM Lemitar 92.10 52 *e*P **P 19 16 27.9 +1.0**
LENM *e* 19 16 42.5
LAZ Ladron 92.12 51 *e*P **P 19 16 28.1 +1.0**
comp=Z,45nm,1.6s
LAZ *e* 19 16 42.9
Q16A Castle Valley 92.15 46 ⇓P **P 19 16 28.3 +1.2**
baz=92
HAWA Hanford 92.18 36 *e*P **P 19 16 27.2 +0.5**
comp=Z,55nm,1.6s
HAWA LR LR
comp=Z,1µm,22.0s
W21A San Fidel 92.19 50 ⇑P **P 19 16 28.6 +1.2**
baz=92
MFID Camas Ranch 92.20 40 *e*P **P 19 16 27.2 +0.1**
comp=Z,38nm,1.5s
MFID Camas Ranch 92.20 40 ⇑P **P 19 16 27.7 +0.6**
baz=92,SNR=15
426A McDonald Obser 92.21 56 ⇓P **P 19 16 28.0 +0.4**
baz=92,SNR=18
527A Woodward Ranch 92.22 56 ⇑P **P 19 16 27.8 +0.2**
baz=92,SNR=18
BGU Big Grassy Mou 92.25 43 *e*P **P 19 16 27.1 -0.3**
comp=Z,41nm,1.9s
BGU *e* 19 16 42.1
X22A Bernardo 92.27 51 ⇑P **P 19 16 29.1 +1.4**
baz=93,SNR=7.7
BMO Blue Mountains 92.32 38 *e*P **P 19 16 27.2 -0.4**
BMO pmax pmax
comp=Z,25nm,1.6s
BMO MLR MLR
comp=Z,785nm,19.0s
BMO Blue Mountains 92.32 38 *e*P **P 19 16 27.2 -0.4**
comp=Z,25nm,1.6s
BMO LR LR
comp=Z,785nm,19.0s
124A Stringfield Ra 92.32 53 ⇑P **P 19 16 28.8 +0.7**
baz=93,SNR=11
BNM Barren Site 92.33 52 *e*P **P 19 16 28.7 +0.7**
comp=Z,36nm,1.4s
BNM *e* 19 16 43.6
U20A Newcomb 92.34 49 ⇑P **P 19 16 28.9 +0.9**
baz=93
TMUT Trail Mountain 92.36 45 *e*P **P 19 16 29.1 +0.9**
comp=Z,84nm,1.8s
TMUT *e* 19 16 44.5
628A Black Gap, Mar 92.39 57 ⇑P **P 19 16 28.9 +0.7**
baz=93,SNR=19
LPM Los Pinos Moun 92.42 52 *e*P **P 19 16 29.4 +1.0**
LPM *e* 19 16 43.6
225A Deer Hill, Car 92.44 54 ⇓P **P 19 16 29.1 +0.6**
baz=93,SNR=7.2
MPU Maple Canyon 92.53 45 P **P 19 16 29.0 +0.2**
comp=Z,8.8nm,0.9s
V21A Milan 92.59 50 ⇓P **P 19 16 29.9 +0.7**
baz=93
Y23A Lovelace Mesa, 92.60 52 ⇑P **P 19 16 29.8 +0.6**
baz=93,SNR=7.4
326A Caldwell Ranch 92.60 55 ⇓P **P 19 16 29.4 +0.2**
baz=93
SRU San Rafael 92.67 46 *e*P **P 19 16 29.4 -0.1**
SRU *e* 19 16 45.0
SRU pmax pmax
comp=Z,33nm,1.3s
SRU San Rafael 92.67 46 *e*P **P 19 16 29.4 -0.1**
comp=Z,33nm,1.3s
SRU *e* 19 16 45.0
W22A Albuquerque 92.69 51 ⇑P **P 19 16 30.9 +1.2**
baz=93
BJT Baijiatuau 92.72 315 PFAKE 19 16 40.0 +11
BJT LR LR
comp=Z,724nm,22.0s
BJI Beijing 92.73 315 P **P 19 16 29.8 +0.4**
BJI SKS **SKSac 19 26 58.0 -2.4**
BJI S **S 19 27 32.0 +0.1**
BJI SS **SS 19 33 49.3 +3.3**
BJI pmax pmax
comp=Z,16nm,0.8s
BJI pmax pmax
comp=Z,320nm,7.0s
BJI LR LR
comp=N,540nm,22.2s
BJI LR LR
comp=E,510nm,24.7s
Z24A Sheeppen Canyo 92.74 53 ⇓P **P 19 16 30.7 +0.8**
baz=93,SNR=6.5
427A Hayter Ranch, 92.76 56 ⇓P **P 19 16 30.6 +0.7**
baz=93,SNR=18
GDL2 Guadalupe Moun 92.81 54 *e*P **P 19 16 30.8 +0.6**
comp=E,3.1nm,0.7s
GDL2 *e* 19 16 45.5
SPUT South Promonto 92.83 43 *e*P **P 19 16 30.2 +0.2**
comp=E,32nm,1.0s

528A Cox Ranch, San 92.83 57 ⇑P **P 19 16 30.7 +0.4**
baz=93,SNR=6.3
MVCO Mesa Verde 92.84 48 *e*P **P 19 16 29.4 -0.9**
comp=E,27nm,1.5s
MVCO *e* 19 16 46.0
MVCO LR LR
comp=Z,711nm,19.0s
MVCO Mesa Verde 92.84 48 ⇓P **P 19 16 31.1 +0.7**
baz=93
125A Gardner Draw, 92.86 54 ⇑P **P 19 16 30.9 +0.5**
baz=93,SNR=11
X23A Hourglass Bar 92.87 52 ⇓P **P 19 16 30.9 +0.4**
baz=93
226B Tecolote Peak, 92.89 55 ⇑P **P 19 16 30.8 +0.3**
baz=93,SNR=6.5
ANMO Albuquerque 92.90 51 *e*P **P 19 16 30.7 +0.1**
comp=Z,66nm,1.4s
ANMO *e* 19 16 45.9
ANMO LR LR
comp=Z,802nm,20.0s
ANMO Albuquerque 92.90 51 P **P 19 16 31.3 +0.7**
comp=Z,9.7nm,1.0s,baz=214,slow=5.3,SNR=22
HVU Hansel Valley 92.92 43 *e*P **P 19 16 30.8 +0.3**
HVU pmax pmax
comp=Z,61nm,1.5s
HVU Hansel Valley 92.92 43 *e*P **P 19 16 30.8 +0.3**
comp=Z,61nm,1.5s
U21A Nageezi 92.94 49 ⇓P **P 19 16 31.9 +1.1**
baz=93,SNR=34
JLU Jordanelle 93.00 44 *e*P **P 19 16 31.9 +0.9**
comp=Z,34nm,1.6s
JLU *e* 19 16 46.1
DAU Daniels Canyon 93.00 44 *e*P **P 19 16 31.5 +0.4**
DAU *e* 19 16 46.8
DAU Daniels Canyon 93.00 44 *e*P **P 19 16 31.5 +0.4**
DAU *e* 19 16 46.8
Y24A Capitan 93.02 52 ⇓P **P 19 16 32.0 +0.7**
baz=93,SNR=25
HLID Hailey 93.09 41 *e*P **P 19 16 31.5 +0.2**
comp=Z,17nm,1.2s
HLID *e* 19 16 47.3
HLID LR LR
comp=Z,880nm,19.0s
HLID Hailey 93.09 41 ⇑P **P 19 16 31.9 +0.6**
baz=93,SNR=24
V22A San Miguel Ran 93.14 50 ⇓P **P 19 16 32.4 +0.7**
baz=93
Z25A Roswell 93.16 53 ⇓P **P 19 16 32.4 +0.7**
baz=93,SNR=16
428A Kincaid Ranch, 93.21 56 ⇓P **P 19 16 32.4 +0.4**
baz=94,SNR=6.1
529A Stev Forest Ra 93.22 57 ⇑P **P 19 16 32.0 0.0**
baz=94,SNR=9.8
W23A Werner Place, 93.22 51 ⇓P **P 19 16 32.6 +0.4**
baz=94
NNA Nana 93.24 106 LR LR 19 47 57.9
comp=Z,579nm,20.6s,baz=169,slow=29
PV04 Paradox Valley 93.27 47 *e*P **P 19 16 33.1 +0.9**
PV04 *ep*P **pP 19 16 42.5 -0.7**
S20A Disappointment 93.29 48 ⇓P **P 19 16 33.2 +0.7**
baz=94,SNR=6.5
126A Clayton Basin, 93.30 54 ⇓P **P 19 16 32.7 +0.3**
baz=94
PV01 Paradox Valley 93.33 48 *e*P **P 19 16 32.5 -0.1**
comp=Z,2µm,1.4s
PV01 *e* 19 16 47.3
T21A Navajo Lake 93.34 49 ⇑P **P 19 16 33.1 +0.5**
baz=94
X24A Lazy VL Ranch, 93.38 52 ⇑P **P 19 16 32.9 0.0**
baz=94
U22A Llaves 93.44 50 ⇑P **P 19 16 33.4 +0.3**
baz=94
H12A Diamond D Ranc 93.46 40 ⇑P **P 19 16 33.2 +0.3**
baz=94,SNR=24
328A Wristen Ranch, 93.47 56 ⇓P **P 19 16 33.2 +0.1**
baz=94
R20A Redvale 93.48 48 ⇑P **P 19 16 33.5 +0.3**
baz=94
V23A Ortiz Mt. (NFS 93.53 51 ⇑P **P 19 16 34.5 +0.9**
baz=94
Y25A Mesa, Roswell 93.53 53 ⇑P **P 19 16 33.8 +0.3**
baz=94,SNR=18
HWUT Hardware Ranch 93.54 43 *e*P **P 19 16 33.1 -0.3**
HWUT LR LR
comp=Z,1µm,19.0s
CMAR Chiang Mai Arr 93.54 289 P **P 19 16 34.6 +0.9**
CMAR Chiang Mai Arr 93.54 289 P **P 19 16 34.6 +0.9**
comp=Z,2.0nm,1.0s,baz=145,slow=2.2,SNR=8.0
CMAR LR LR 19 55 42.0
comp=Z,205nm,21.9s,baz=161,slow=34
S21A Coal Bank Pass 93.56 48 ⇑P **P 19 16 34.2 +0.4**
baz=94,SNR=6.6
Z26A Caprock 93.67 54 ⇓P **P 19 16 34.2 +0.1**
baz=94,SNR=9.6
CHTO Chiang Mai 93.72 289 P **P 19 16 33.3 -1.2**
CHTO MLR MLR
comp=Z,535nm,20.0s
CHTO Chiang Mai 93.72 289 P **P 19 16 33.3 -1.2**
CHTO LR LR
comp=Z,535nm,20.0s
429A Davenport Ranc 93.73 57 ⇑P **P 19 16 34.4 0.0**
baz=94,SNR=28
W24A Lazy 6 Ranch, 93.76 51 ⇑P **P 19 16 34.9 +0.4**
baz=94,SNR=9.5
T22A Edith 93.77 49 ⇓P **P 19 16 34.5 -0.2**
baz=94
127A Arkansas Junct 93.78 54 ⇑P **P 19 16 34.7 0.0**
baz=94
U23A El Rito 93.86 50 ⇑P **P 19 16 35.7 +0.7**
baz=94
I14A Mackay 93.86 41 ⇑P **P 19 16 35.5 +0.7**
baz=94,SNR=11
KMI Kunming 93.87 297 P **P 19 16 36.8 +1.5**
KMI pP **pP 19 16 47.0 +0.7**
KMI sP **sP 19 16 50.8 +0.6**
KMI PP **PP 19 20 25.0 +3.4**
KMI S **S 19 27 43.0 -0.1**
KMI sS **sS 19 27 59.8 -1.5**
KMI pmax pmax
comp=Z,7.0nm,1.3s
KMI pmax pmax
comp=Z,240nm,6.1s
KMI LR LR
comp=N,300nm,23.6s
KMI LR LR
comp=E,320nm,20.9s
KMI LR LR
comp=Z,530nm,19.8s
530A J-C Ranch, Com 93.88 57 ⇓P **P 19 16 35.4 +0.3**
baz=94,SNR=8.2
X25A Clemmons Ranch 93.89 52 ⇑P **P 19 16 35.3 +0.2**
baz=94
LVC Limon Verde 93.92 119 *e*P **P 19 16 36.6 +0.8**
comp=Z,79nm,2.0s
LVC *e* 19 16 53.4
LVC LR LR
comp=Z,1µm,22.0s
P19A Cripple Cowboy 93.94 46 ⇓P **P 19 16 35.5 +0.2**
baz=94
Q20A Ridgley Place, 93.98 47 ⇓P **P 19 16 35.8 +0.3**
baz=94,SNR=5.0
M17A Scullys Gap (B 93.99 44 ⇓P **P 19 16 35.7 +0.1**
baz=94,SNR=6.6
228A UT Block 9, Go 94.03 55 ⇑P **P 19 16 35.5 -0.2**
baz=94
WRAK Wrangell Islan 94.04 23 PFAKE 19 16 50.0 +15
WRAK LR LR
comp=Z,542nm,21.0s
631A Perdido Creek 94.05 58 ⇓P **P 19 16 35.9 0.0**
baz=94,SNR=7.8
R21A Cimarron 94.12 48 ⇓P **P 19 16 37.0 +0.7**
baz=94,SNR=7.4
329A Wagon Wheel Ra 94.13 56 ⇑P **P 19 16 36.3 +0.1**
baz=94,SNR=6.3
V24A Rampart Ranch, 94.14 51 ⇓P **P 19 16 37.0 +0.6**
baz=94,SNR=8.4
Y26A Elida 94.14 53 ⇓P **P 19 16 36.5 +0.2**
baz=94,SNR=5.9
732A Laxson Ranch, 94.15 59 ⇑P **P 19 16 36.0 -0.2**
baz=94
S22A 4UR Ranch, Cre 94.23 49 ⇑P **P 19 16 37.6 +0.7**
baz=94,SNR=5.8
P20A De Beque 94.24 46 ⇑P **P 19 16 37.0 +0.3**
baz=94,SNR=11
O19A Miners Draw (B 94.24 46 ⇑P **P 19 16 37.0 +0.4**
baz=94
430A Baggett Ranch, 94.29 57 ⇑P **P 19 16 37.4 +0.4**

baz=95
BMRM Bremner River 94.32 15 *e*P P 19 16 36.3 -0.1
comp=Z,17nm,0.9s
T23A Casias Ranch, 94.36 50 ⇓P P 19 16 37.7 +0.4
baz=95
128A Castleberry Fa 94.37 55 ⇓P P 19 16 37.6 +0.2
baz=95,SNR=5.4
Q21A Lamborn Mesa, 94.37 47 ⇑P P 19 16 37.6 +0.3
baz=95
ATAH Atahualpa 94.40 101 LR LR 19 49 13.6
comp=Z,770nm,20.7s,baz=210,slow=29
W25A X Bar L Ranch, 94.41 52 ⇓P P 19 16 37.8 +0.3
baz=95,SNR=15
531A Rocksprings 94.47 58 ⇓P P 19 16 38.2 +0.4
baz=95,SNR=16
X26A CR and CF Fran 94.49 53 ⇓P P 19 16 37.9 0.0
baz=95,SNR=5.8
229A Bryant Ranch, 94.50 56 ⇓P P 19 16 37.8 -0.1
baz=95
AHID Auburn Hatcher 94.51 43 PFAKE 19 16 50.0 +12
AHID LR LR
comp=Z,1μm,19.0s
R22A Saguache, Gunn 94.56 48 ⇓P P 19 16 38.9 +0.6
baz=95
Y27A Causey 94.58 54 ⇓P P 19 16 38.3 0.0
baz=95,SNR=13
V25A Rancho No Teng 94.64 51 ⇑P P 19 16 39.0 +0.4
baz=95,SNR=9.8
L18A Fontenelle, Gr 94.64 44 ⇓P P 19 16 38.5 0.0
baz=95
NEW Newport 94.65 36 PFAKE 19 16 50.0 +12
NEW LR LR
comp=Z,1μm,20.0s
NEW Newport 94.65 36 ⇑P P 19 16 38.1 0.0
baz=95
330A Mertzon 94.67 56 ⇑P P 19 16 38.4 -0.2
baz=95
632A Uvalde 94.69 59 ⇑P P 19 16 38.8 0.0
baz=95
431A Sonora 94.70 57 ⇑P P 19 16 38.4 -0.4
baz=95
O20A White River Ci 94.70 46 ⇓P P 19 16 38.6 -0.2
baz=95
RRI2 Red Ridge 94.73 42 *e*P P 19 16 39.9 +0.9
comp=Z,29nm,1.5s
S23A Nye Farm, Mont 94.75 49 ⇑P P 19 16 39.3 +0.1
baz=95
MCMT McKenzie Canyo 94.76 40 *e*P P 19 16 39.0 0.0
comp=Z,5.2nm,1.0s
Z28A Tucker Farm, M 94.80 54 ⇑P P 19 16 39.3 0.0
baz=95
W26A Owens Ranch, T 94.81 52 ⇑P P 19 16 39.7 +0.3
baz=95
Q22A Crested Butte, 94.82 48 ⇓P P 19 16 40.0 +0.5
baz=95,SNR=5.6
129A Stewart Farms, 94.82 55 ⇑P P 19 16 39.5 +0.2
baz=95
P21A Newcastle 94.85 47 ⇑P P 19 16 39.8 +0.2
baz=95
532A Rocksprings 94.92 58 ⇑P P 19 16 40.1 +0.2
baz=95,SNR=17
M19A Rock Springs 94.93 45 ⇓P P 19 16 39.8 0.0
baz=95
I16A Newdale 94.95 42 ⇑P P 19 16 40.4 +0.6
baz=95,SNR=12
SMCO Snowmass 94.95 47 *e*P P 19 16 40.5 +0.2
comp=Z,14nm,1.2s
230A Sterling City 94.97 56 ⇑P P 19 16 39.9 -0.1
baz=95
REDW Red Top Meadow 95.01 42 *e*P P 19 16 40.3 +0.2
comp=Z,20nm,1.0s
REDW *e* 19 16 55.6
TPAW Teton Pass 95.03 42 *e*P P 19 16 41.0 +0.6
comp=Z,20nm,1.4s
X27A F and S Farms, 95.03 53 ⇑P P 19 16 40.9 +0.5
baz=95
N20A Spence Gulch, 95.09 45 ⇓P P 19 16 41.0 +0.3
baz=95,SNR=10
U25A Circle Dot Ran 95.09 51 ⇓P P 19 16 40.8 +0.2
baz=95,SNR=6.3
KVTX Kingsville 95.10 61 PFAKE 19 16 50.0 +9.3
KVTX LR LR
comp=Z,995nm,19.0s
SDCO Great Sand Dun 95.11 49 *e*P P 19 16 41.2 +0.4
comp=Z,6.8nm,1.3s
SDCO *e* 19 16 56.3
SDCO LR LR
comp=Z,611nm,22.0s
SNOW Snow King Moun 95.13 42 *e*P P 19 16 41.5 +0.8
comp=Z,16nm,0.9s
C12B Naegeli Ranch, 95.14 37 ⇓P P 19 16 40.5 +0.1
baz=96
R23A Moffat 95.14 49 ⇓P P 19 16 41.5 +0.5
baz=95,SNR=5.7
L19A Farson 95.16 44 ⇑P P 19 16 40.9 +0.1
baz=96
331A San Angelo 95.16 57 ⇑P P 19 16 40.9 0.0
baz=95
V26A Tequesquite Ra 95.18 52 ⇑P P 19 16 41.2 +0.2
baz=96
JCT Junction City 95.18 58 *e*P P 19 16 40.2 -0.8
JCT *e* 19 16 55.8
JCT pmax pmax
comp=Z,29nm,1.4s
JCT MLR MLR
comp=Z,685nm,21.0s
JCT Junction City 95.18 58 *e*P P 19 16 40.2 -0.8
comp=Z,29nm,1.4s
JCT *e* 19 16 55.8
JCT LR LR
comp=Z,685nm,21.0s
JCT Junction City 95.18 58 ⇓P P 19 16 41.3 +0.2
baz=95
DLMT Dillon 95.22 40 *e*P P 19 16 41.9 +0.9
comp=Z,11nm,1.1s
Y28A McKinney Farm, 95.23 54 ⇑P P 19 16 41.5 +0.3
baz=96
S24A Houchin Ranch, 95.24 49 ⇑P P 19 16 41.5 +0.1
baz=96
Z29A Hungry Hill Ra 95.27 55 ⇓P P 19 16 41.3 -0.1
baz=96,SNR=8.4
IMW Indian Meadow 95.28 42 *e*P P 19 16 42.4 +1.0
comp=Z,19nm,1.4s
W27A Bowe Ranch, En 95.28 53 ⇓P P 19 16 41.4 -0.1
baz=96,SNR=5.4
MOOW Moose Ponds 95.31 42 *e*P P 19 16 39.8 -1.7
comp=Z,16nm,1.4s
LOHW Long Hollow 95.31 42 *e*P P 19 16 41.8 +0.3
comp=Z,18nm,1.4s
P22A Eagle 95.33 47 ⇓P P 19 16 42.2 +0.5
baz=96
432A Menard 95.40 58 ⇓P P 19 16 41.6 -0.4
baz=96,SNR=8.9
TRF Thorofare Moun 95.40 12 *e*P P 19 16 40.6 -0.7
comp=Z,10.0nm,0.8s
BW06 Boulder Array 95.42 43 PFAKE 19 16 50.0 +7.9
BW06 LR LR
comp=Z,1μm,22.0s
PDAR Pinedale Array 95.42 43 P P 19 16 41.8 -0.3
PDAR PP PP 19 20 29.1 -4.4
PDAR PKKPbc PKKPbc 19 33 34.5 -0.6
PDAR Pinedale Array 95.42 43 P P 19 16 41.8 -0.3
comp=Z,3.9nm,1.0s,baz=204,slow=3.3,SNR=19
PDAR PP PP 19 20 29.1 -4.4
comp=Z,1.1nm,0.9s,baz=224,slow=4.1,SNR=5.6
PDAR PKKPbc PKKPbc 19 33 34.5 -0.6
comp=Z,1.3nm,0.7s,baz=116,slow=2.1,SNR=5.8
PDAR LR LR 19 56 12.5
comp=Z,788nm,18.4s,baz=242,slow=33
130A Snyder 95.44 56 ⇑P P 19 16 42.2 0.0
baz=96
T25A Trinidad 95.49 50 ⇓P P 19 16 42.6 +0.1
baz=96
I17A Pilgrim Ck. 95.51 42 ⇑P P 19 16 42.7 +0.3
baz=96
N21A Black Mountain 95.51 46 ⇑P P 19 16 42.8 +0.2
baz=96,SNR=6.0
M20A Sweetwater, Wa 95.51 45 ⇓P P 19 16 42.7 +0.2
baz=96,SNR=6.1
Q23A Hartsel 95.53 48 ⇓P P 19 16 43.0 +0.2
baz=96
U26A Atchley Ranch, 95.54 51 ⇑P P 19 16 42.7 0.0
baz=96
QLMT Earthquake Lak 95.56 41 *e*P P 19 16 43.4 +0.8
B12A Libby 95.56 36 ⇑P P 19 16 42.6 +0.3
baz=96
231A Bronte 95.57 56 ⇑P P 19 16 42.6 -0.1
baz=96

LRM Limekiln Ridge 95.59 40 *e*P P 19 16 43.2 +0.5
H16A Russell Place, 95.59 41 ⇑P P 19 16 42.7 -0.1
baz=96
X28A Dimmitt 95.59 53 ⇓P P 19 16 42.5 -0.3
baz=96
Y29A Porterfield Fa 95.61 54 ⇑P P 19 16 42.6 -0.3
baz=96
R24A Sanders Place, 95.63 49 ⇑P P 19 16 42.5 -0.6
baz=96
Z30A Sanderson Ranc 95.69 55 ⇓P P 19 16 42.7 -0.6
baz=96
332A Millersview 95.70 57 ⇓P P 19 16 42.8 -0.5
baz=96
L20A Wamsutter 95.72 44 ⇓P P 19 16 43.8 +0.4
baz=96,SNR=14
S25A Robets Cordova 95.76 50 ⇑P P 19 16 42.9 -0.8
baz=96
H17A Grant Village 95.79 42 ⇑P P 19 16 43.6 -0.2
baz=96
V27A Dan Oppiter Fa 95.81 52 ⇓P P 19 16 43.4 -0.4
baz=96
CHMT Chamberlain Mo 95.82 38 *e*P P 19 16 42.9 -0.9
CHMT *e* 19 16 57.7
K19A Absolon Red Bu 95.88 44 ⇑P P 19 16 44.0 -0.1
baz=96
131A Roby 95.90 56 ⇑P P 19 16 43.9 -0.4
baz=96
MCK McKinley 95.90 12 *e*P P 19 16 43.2 -0.2
MCK pmax pmax
comp=Z,15nm,1.0s
MCK McKinley 95.90 12 *e*P P 19 16 43.2 -0.2
comp=Z,14nm,1.0s
BOZ Bozeman (W) 95.94 40 PFAKE 19 17 00.0 +16
BOZ LR LR
comp=Z,763nm,19.0s
LKWY Lake 95.99 41 PFAKE 19 17 00.0 +15
LKWY LR LR
comp=Z,2μm,19.0s
J19A Crowheart 96.02 43 ⇑P P 19 16 44.7 0.0
baz=96,SNR=6.7
232A Coleman 96.03 57 ⇑P P 19 16 44.6 -0.3
baz=96
T26A Comanche Natio 96.06 51 ⇓P P 19 16 45.0 -0.1
baz=96,SNR=6.5
HHC Hu-ho-hao-te 96.06 314 *e*P P 19 16 45.0 +0.1
HHC pP **pP** 19 16 55.5 -0.3
HHC sP **sP** 19 16 59.0 -0.7
HHC SKS **SKSac** 19 27 17.0 -1.7
HHC S **S** 19 27 58.5 -2.8
HHC sS **sS** 19 28 16.5 -3.0
HHC SS **SS** 19 34 34.0 +0.3
HHC pmax pmax
comp=Z,24nm,1.1s
HHC pmax pmax
comp=Z,280nm,9.5s
HHC LR LR
comp=N,610nm,22.6s
HHC LR LR
comp=E,880nm,21.4s
HHC LR LR
comp=Z,1μm,25.0s
CD2 Chengdu 96.06 302 P P 19 16 46.0 +1.0
CD2 pP **pP** 19 16 56.0 0.0
CD2 sP **sP** 19 16 59.8 -0.1
CD2 PP **PP** 19 20 41.5 +3.1
CD2 SKS **SKSac** 19 27 18.3 -0.7
CD2 S **S** 19 27 59.5 -2.1
CD2 sS **sS** 19 28 16.5 -3.3
CD2 SS **SS** 19 34 35.5 +1.5
CD2 pmax pmax
comp=Z,10.0nm,1.4s
CD2 pmax pmax
comp=Z,100nm,9.6s
CD2 LR LR
comp=E,350nm,17.8s
CD2 LR LR
comp=Z,410nm,20.2s
M21A Separation Pea 96.09 45 ⇓P P 19 16 44.5 -0.6
baz=96
K20A Yellowstone Ra 96.09 44 ⇓P P 19 16 44.8 -0.3
baz=96
R25A Fountain Ranch 96.13 49 ⇑P P 19 16 44.2 -1.1
baz=96
AMTX Amarillo 96.14 53 PFAKE 19 17 00.0 +15
AMTX LR LR
comp=Z,453nm,21.0s
ISCO Idaho Springs 96.17 47 *e*P P 19 17 01.3 +16
ISCO MLR MLR
comp=Z,790nm,22.0s
ISCO Idaho Springs 96.17 47 *e*pP **pP** 19 17 01.3 +4.7
ISCO LR LR
comp=Z,790nm,22.0s
ISCO Idaho Springs 96.17 47 ⇑P P 19 16 44.5 -1.2
baz=96
N22A Wattenberg Ran 96.20 46 ⇑P P 19 16 44.9 -0.8
baz=96
RWWY Rawlins 96.23 45 *e*P P 19 16 45.5 -0.3
RWWY *e* 19 17 01.0
G17A Pierce Place, 96.24 41 ⇓P P 19 16 45.6 0.0
baz=97
L21A Rawlins 96.29 45 ⇓P P 19 16 45.7 -0.4
baz=97
S26A Kim 96.38 50 ⇑P P 19 16 46.5 +0.1
baz=97
DLBC Dease Lake 96.40 23 P P 19 16 46.1 +0.2
DLBC Dease Lake 96.40 23 P P 19 16 46.1 +0.2
comp=Z,0.8nm,0.4s,baz=198,slow=20,SNR=2.0
ABTX Abilene, Hawle 96.41 56 ⇓P P 19 16 46.7 +0.1
baz=97
Z31A Sharp Cattle R 96.41 55 ⇓P P 19 16 46.5 -0.1
baz=97
HIA Hailar 96.42 324 PFAKE 19 17 00.0 +14
HIA LR LR
comp=Z,1μm,20.0s
M22A Cedar Creek Ra 96.45 46 ⇓P P 19 16 46.5 -0.3
baz=97
A13A Flathead Natio 96.46 36 ⇓P P 19 16 47.2 +0.8
baz=97
P24A Kohler Place, 96.47 48 ⇓P P 19 16 46.7 -0.2
baz=97
X30A Coker Ranch, T 96.48 54 ⇓P P 19 16 47.0 +0.2
baz=97
H18A Shoshone NF, C 96.48 42 ⇑P P 19 16 47.1 +0.2
baz=97
I19A Meeteetse 96.50 43 ⇑P P 19 16 47.2 +0.3
baz=97,SNR=9.7
N23A Red Feather La 96.57 46 ⇓P P 19 16 47.4 0.0
baz=97
Q25A Bedland, Calha 96.57 49 ⇑P P 19 16 47.9 +0.5
baz=97
T27A Campo 96.59 51 ⇑P P 19 16 47.6 +0.2
baz=97
F17A Fitzpatrick Pl 96.64 40 ⇑P P 19 16 47.9 +0.5
baz=97
J20A Shoshoni 96.64 43 ⇑P P 19 16 47.8 +0.3
baz=97,SNR=5.8
Y31A Rekieta Farm, 96.66 55 ⇓P P 19 16 47.7 0.0
baz=97
C15A Salmond Ranch, 96.69 38 ⇑P P 19 16 47.8 +0.2
baz=97
B14A Marquette Ranc 96.70 37 ⇓P P 19 16 47.3 -0.3
baz=97
O24A Longmont 96.70 47 ⇑P P 19 16 47.6 -0.2
baz=97
K21A Alcova 96.74 44 ⇓P P 19 16 48.1 +0.1
baz=97,SNR=9.8
R26A Arlington 96.77 50 ⇑P P 19 16 48.0 -0.2
baz=97
WALA Waterton Lakes 96.80 36 *e*P P 19 16 48.0 0.0
comp=Z,0.2nm,1.1s
E17A Martinsdale 96.86 40 ⇓P P 19 16 48.6 +0.2
baz=97
H19A Powell 96.87 42 ⇑P P 19 16 49.0 +0.6
baz=97
Z32A Haskell 96.88 56 ⇓P P 19 16 48.6 -0.1
baz=97
G18A Lazy EL Ranch, 96.91 41 ⇑P P 19 16 49.1 +0.4
baz=97
P25A Willow Gulch B 96.95 48 ⇓P P 19 16 49.1 +0.1
baz=97
I20A Worland 96.96 43 ⇑P P 19 16 49.2 +0.3
baz=97
RLMT Red Lodge 96.97 42 PFAKE 19 17 00.0 +11
RLMT LR LR
comp=Z,1μm,19.0s
A14A Double T Ranch 97.00 37 ⇓P 19 16 49.5
baz=97

J21A Lysite 97.02 44 ⇓P Pdif 19 16 49.6 +0.2
baz=97,SNR=9.4
T28A Walsh 97.03 51 ⇓P P 19 16 49.4 +0.1
baz=97
TGUH Tegucigalpa,Un 97.11 78 PFAKE 19 17 00.0 +10
TGUH LR LR
comp=Z,1μm,22.0s
COLA College 97.14 12 P P 19 16 47.9 -1.0
COLA MLR MLR
comp=Z,810nm,20.0s
COLA College 97.14 12 P P 19 16 47.9 -1.0
COLA LR LR
comp=Z,810nm,20.0s
F18A Big Timber 97.17 41 ⇓P Pdif 19 16 50.3 +0.4
baz=98
C16A Fuhringer Ranc 97.17 38 ⇑P Pdif 19 16 50.2 +0.3
baz=98
R27A Eads 97.19 50 ⇓P P 19 16 50.1 +0.1
baz=98
K22A Casper 97.19 45 ⇓P Pdif 19 16 50.3 +0.2
baz=98
ILAR Eielson Array 97.23 13 P P 19 16 48.7 -0.7
ILAR PP PP 19 20 46.4 -0.2
ILAR PKKPbc PKKPdf 19 33 32.9 -0.5
ILAR PKKPab PKKPbc 19 33 50.5 +20
ILAR Eielson Array 97.23 13 P P 19 16 48.7 -0.7
comp=Z,2.8nm,0.9s,baz=220,slow=6.3,SNR=12
ILAR PP PP 19 20 46.4 -0.2
comp=Z,0.7nm,0.9s,baz=223,slow=6.8,SNR=3.3
ILAR PKKPbc PKKPdf 19 33 32.9 -0.5
comp=Z,0.4nm,0.6s,baz=31,slow=2.3,SNR=4.3
ILAR PKKPab PKKPbc 19 33 50.5 +20
comp=Z,0.5nm,0.8s,baz=347,slow=1.9,SNR=4.1
ILAR LR LR 20 01 27.9
comp=Z,321nm,18.2s,baz=26,slow=36
H20A Greybull 97.34 43 ⇑P Pdif 19 16 51.0 +0.4
baz=98
A15A Johnson Ranch, 97.36 37 ⇑P Pdif 19 16 50.9 +0.3
baz=98
D17A Six Diamond Ra 97.36 39 ⇑P Pdif 19 16 51.3 +0.5
baz=98
I21A Big Trails, Te 97.38 43 ⇓P P 19 16 50.9 +0.1
baz=98
L23A Garrett 97.40 45 ⇑P Pdif 19 16 51.4 +0.2
baz=98
E18A Harlowton 97.44 40 ⇓P Pdif 19 16 52.1 +1.0
baz=98
F19A Roth Farm, Mol 97.58 41 ⇓P Pdif 19 16 52.2 +0.5
baz=98
M24A Cheyenne 97.59 46 ⇑P Pdif 19 16 52.5 +0.5
baz=98
C17A Wharram Farm, 97.60 39 ⇓P P 19 16 51.6 -0.1
baz=98
J22A Midwest 97.64 44 ⇑P Pdif 19 16 52.2 +0.1
baz=98
K23A Bowen Ranch, D 97.80 45 ⇑P P 19 16 52.7 -0.1
baz=98
R28A Tribune 97.88 50 ⇑P P 19 16 53.2 +0.1
baz=98
I22A 9 Mile Ranch, 97.91 44 ⇑P Pdif 19 16 53.6 +0.4
baz=98
A16A West Butte Ran 97.94 37 ⇓P Pdif 19 16 53.6 +0.4
baz=98
H21A Big Horn, Sher 97.99 43 ⇓P P 19 16 53.5 0.0
baz=98
F20A Billings 98.00 41 ⇑P Pdif 19 16 54.2 +0.6
baz=98
LPAZ La Paz 98.06 114 P P 19 16 55.1 -0.1
LPAZ La Paz 98.06 114 P P 19 16 55.1 -0.1
comp=Z,0.5nm,0.6s,baz=236,slow=7.3,SNR=2.3
LPAZ LR LR 19 53 23.2
comp=Z,439nm,21.9s,baz=145,slow=31
WMOK Wichita Mounta 98.11 55 PFAKE 19 17 10.0 +16
WMOK LR LR
comp=Z,529nm,22.0s
G21A Lodge Grass 98.22 42 ⇑Pdiff Pdif 19 16 55.4 +0.9
baz=98
H22A Clearmont 98.38 43 ⇑Pdiff Pdif 19 16 56.2 +1.0
baz=99
EGMT Eagleton 98.38 39 PFAKE 19 17 10.0 +15
EGMT LR LR
comp=Z,1μm,19.0s
A17A Triple J Farms 98.41 38 ⇑Pdiff Pdif 19 16 56.5 +1.3
baz=99
EGAK Eagle 98.42 15 PFAKE 19 17 10.0 +15
EGAK LR LR
comp=Z,592nm,20.0s
B18A Beardsley Farm 98.58 39 ⇑Pdiff Pdif 19 16 57.7 +1.6
baz=99
C19A Slack Wire Ran 98.60 39 ⇑Pdiff Pdif 19 16 57.8 +1.6
baz=99
LZH Lanzhou 98.64 307 *e*P Pdif 19 16 57.8 +1.1
LZH pP pP 19 17 06.0 -1.6
LZH sP sP 19 17 11.8 +0.3
LZH PP **PP** 19 20 59.5 +1.2
LZH SKS **SKSac** 19 27 31.5 -0.8
LZH *e*S **S** 19 28 22.3 -1.4
LZH SS **SS** 19 35 10.5 +0.1
LZH pmax pmax
comp=Z,11nm,1.1s
LZH pmax pmax
comp=Z,87nm,4.5s
LZH LR LR
comp=N,630nm,16.8s
LZH LR LR
comp=E,440nm,17.0s
LZH LR LR
comp=Z,710nm,18.5s
T31A Randall Ranch, 98.68 52 ⇑Pdiff Pdif 19 16 57.5 +0.8
baz=99
D20A Manuel Ranch, 98.74 40 ⇓Pdiff Pdif 19 16 58.1 +1.3
baz=99
A18A Metzger Ranch, 98.85 38 ⇓Pdiff Pdif 19 16 58.5 +1.3
baz=99
R30A Dighton 98.88 51 ⇑Pdiff Pdif 19 16 58.9 +1.3
baz=99
F22A Rosebud 99.09 42 ⇓Pdiff **Pdif** 19 16 59.6 +1.3
baz=99
OGNE Ogallala 99.09 48 PFAKE 19 17 10.0 +11
OGNE LR LR
comp=Z,942nm,19.0s
TEIG Tepich 99.19 72 PFAKE 19 17 10.0 +11
TEIG LR LR
comp=Z,482nm,20.0s
J25A Sunshine Ranch 99.27 45 ⇑Pdiff **Pdif** 19 16 59.8 +0.5
baz=100
Q30A Quinter 99.27 50 ⇑Pdiff **Pdif** 19 17 00.1 +0.8
baz=100
G23A Biddle 99.28 43 ⇓Pdiff **Pdif** 19 17 00.7 +1.5
baz=100
K26A Motz Farm, Whi 99.29 46 ⇓Pdiff **Pdif** 19 17 00.5 +1.1
baz=100
RSSD Black Hills 99.51 44 *e*P **Pdif** 19 17 00.5 0.0
RSSD Black Hills 99.51 44 *e*Pdif **Pdif** 19 17 00.5 0.0
H24A Dirks Ranch, A 99.54 44 ⇑Pdiff **Pdif** 19 17 01.4 +1.0
baz=100
F23A Volborg 99.56 43 ⇓Pdiff **Pdif** 19 17 01.3 +0.9
baz=100
I25A Rochford 99.64 45 ⇓Pdiff **Pdif** 19 17 01.8 +0.8
baz=100
A20A Cobblestone Ra 99.87 39 ⇑Pdiff **Pdif** 19 17 03.0 +1.3
baz=100
G24A Alzada 99.93 43 ⇓Pdiff **Pdif** 19 17 03.1 +1.0
baz=100
CPUP Villa Florida 100.09 128 P **Pdif** 19 17 03.3 0.0
CPUP PKKPbc **PKKPbc** 19 33 21.9 +1.1
CPUP Villa Florida 100.09 128 P **Pdif** 19 17 03.3 0.0
comp=Z,0.3nm,0.3s,baz=283,slow=18,SNR=2.0
CPUP PKKPbc **PKKPbc** 19 33 21.9 +1.1
comp=Z,0.8nm,0.5s,baz=50,slow=1.1,SNR=3.5
F24A Ekalaka 100.19 43 ⇓Pdiff **Pdif** 19 17 04.3 +1.0
baz=100
A21A Bergtoll Ranch 100.48 39 ⇑Pdiff **Pdif** 19 17 05.9 +1.5
baz=101
BCIP Isla Barro Col 101.17 86 PFAKE 19 17 20.0 +12
BCIP LR LR
comp=Z,703nm,19.0s
G27A Dupree 101.45 44 ⇑Pdiff **Pdif** 19 17 09.9 +1.1
baz=102
DGMT Dagmar 101.72 41 PFAKE 19 17 20.0 +10
DGMT LR LR
comp=Z,622nm,21.0s
MIAR Mount Ida 101.76 57 PFAKE 19 17 20.0 +10
MIAR LR LR
comp=Z,685nm,22.0s
KSU1 Kansas State U 101.77 52 PFAKE 19 17 20.0 +10
KSU1 LR LR

comp=Z,500nm,20.0s
ULN Ulaanbaatar 102.55 318 PFAKE 19 17 20.0 +6.2
ULN LR LR
comp=Z,420nm,19.0s
SONM Songino Array 102.92 318 Pdif **Pdif** **19 17 17.0 +1.6**
SONM PKiKP **PKiKP** **19 21 36.9 +1.4**
SONM PKKPbc **PKKPbc** **19 33 13.8 -0.1**
SONM PKKPab PKKPdf 19 33 29.8 +7.5
SONM Songino Array 102.92 318 Pdiff **Pdif** **19 17 17.0 +1.6**
comp=Z,0.8nm,0.9s,baz=119,slow=5.1,SNR=3.2
SONM PKiKP **PKiKP** **19 21 36.9 +1.4**
comp=Z,0.3nm,0.6s,baz=91,slow=6.2,SNR=2.7
SONM PKKPbc **PKKPbc** **19 33 13.8 -0.1**
comp=Z,1.1nm,0.8s,baz=258,slow=2.8,SNR=6.9
SONM PKKPab PKKPdf 19 33 29.8 +7.5
comp=Z,2.5nm,1.2s,baz=267,slow=4.4,SNR=4.7
VBMS Vicksburg 102.96 60 PFAKE 19 17 30.0 +14
VBMS LR LR
comp=Z,564nm,20.0s
GTA Gaotai 103.04 308 *e*P **PKiKP** **19 21 36.3 +0.3**
GTA pP PP 19 21 41.5 +10
GTA sP 19 21 44.5
GTA pmax pmax
comp=Z,2.0nm,1.2s
ECSD EROS Data Cent 103.96 48 PFAKE 19 17 30.0 +10
ECSD LR LR
comp=Z,698nm,20.0s
YKA Yellowknife Ar 104.72 25 Pdif **Pdif** **19 17 24.6 +1.7**
YKA PKiKP **PKiKP** **19 21 36.9 -1.3**
YKA PKKPbc **PKKPbc** **19 33 07.0 -1.7**
YKA PKKPab **PKKPab** **19 33 22.6 -0.1**
YKA Yellowknife Ar 104.72 25 Pdiff **Pdif** **19 17 24.6 +1.7**
comp=Z,0.2nm,0.5s,baz=224,slow=4.1,SNR=3.3
YKA PKiKP **PKiKP** **19 21 36.8 -1.3**
comp=Z,0.9nm,1.0s,baz=274,slow=1.6,SNR=5.6
YKA PKKPbc **PKKPbc** **19 33 07.0 -1.7**
comp=Z,0.4nm,0.5s,baz=36,slow=3.1,SNR=5.8
YKA PKKPab **PKKPab** **19 33 22.6 -0.1**
comp=Z,2.2nm,1.0s,baz=46,slow=4.1,SNR=9.5
OXF Oxford 104.81 59 PFAKE 19 17 40.0 +16
OXF LR LR
comp=Z,623nm,19.0s
BRAL Brewton 105.07 63 PFAKE 19 21 50.0
BRAL LR LR
comp=Z,440nm,20.0s
LSA Lhasa 105.09 296 PFAKE 19 21 50.0
LSA LR LR
comp=Z,422nm,21.0s
SCIA State Center 105.36 50 PFAKE 19 21 50.0
SCIA LR LR
comp=Z,721nm,19.0s
LRAL Lakeview Retre 105.98 61 PFAKE 19 21 50.0
LRAL LR LR
comp=Z,365nm,20.0s
FFC Flin Flon 106.08 36 PFAKE 19 21 50.0
FFC LR LR
comp=Z,702nm,21.0s
SAML Samuel 106.17 110 PFAKE 19 21 50.0
SAML LR LR
comp=Z,995nm,20.0s
AGMN Agassiz Nation 106.50 44 PFAKE 19 21 50.0
AGMN LR LR
comp=Z,846nm,19.0s
MTDJ Mount Denham 107.32 79 PFAKE 19 22 00.0
MTDJ LR LR
comp=Z,977nm,22.0s
ULM Lac du Bonnet 107.35 42 Pdif **Pdif** **19 17 36.7 +1.9**
ULM Lac du Bonnet 107.35 42 Pdiff **Pdif** **19 17 36.7 +1.9**
comp=Z,2.2nm,0.8s,baz=298,slow=6.7,SNR=2.5
HDIL Hopedale 107.46 53 PFAKE 19 22 00.0
HDIL LR LR
comp=Z,523nm,20.0s
EYMN Ely 109.01 45 PFAKE 19 22 00.0
EYMN LR LR
comp=Z,1μm,19.0s
SDV Santo Domingo 109.04 91 PFAKE 19 22 00.0
SDV LR LR
comp=Z,158nm,22.0s
COWI Conover 109.77 48 PFAKE 19 22 00.0
COWI LR LR
comp=Z,692nm,19.0s
GTBY Guantanamo Bay 110.12 78 PFAKE 19 22 00.0
GTBY LR LR
comp=Z,374nm,19.0s
GLMI Grayling 112.27 50 PFAKE 19 22 00.0
GLMI LR LR
comp=Z,567nm,19.0s
BLA Blacksburg 112.58 59 PFAKE 19 22 10.0
BLA LR LR
comp=Z,663nm,19.0s
SDDR Presa de Saban 112.98 81 PFAKE 19 22 10.0
SDDR LR LR
comp=Z,687nm,22.0s
WMQ Urumqi 113.12 308 PKP **PKiKP** **19 21 54.0 -0.6**
WMQ sPKP 19 22 08.3
WMQ PKS **PKSdf** **19 25 29.5 -1.7**
WMQ SKS **SKSdf** **19 29 01.3 -2.8**
WMQ LR LR
comp=N,250nm,26.0s
WMQ LR LR
comp=E,530nm,26.0s
WMQ LR LR
comp=Z,610nm,26.0s
CNNC Cliffs of the 113.80 62 PFAKE 19 22 10.0
CNNC LR LR
comp=Z,697nm,19.0s
GRTK Grand Turk 114.16 78 PFAKE 19 22 10.0 +13
GRTK LR LR
comp=Z,374nm,20.0s
CBN Corbin 115.19 59 PFAKE 19 22 10.0 +11
CBN LR LR
comp=Z,436nm,19.0s
SUR Sutherland 115.78 197 PFAKE 19 22 10.0 +10
SUR LR LR
comp=Z,580nm,20.0s
SJG San Juan 117.05 84 PFAKE 19 22 10.0 +7.2
SJG LR LR
comp=Z,346nm,21.0s
BINY Binghamton 117.41 55 PFAKE 19 22 10.0 +7.2
BINY LR LR
comp=Z,793nm,20.0s
MK31 Makanchi Array 117.65 310 *i* PKIKP **PKPdf** **19 22 01.7 -1.5**
MK31 pmax pmax
comp=Z,4.0nm,0.4s
MK31 Makanchi Array 117.65 310 *e*PKPdf **PKPdf** **19 22 01.8 -1.3**
MKAR Makanchi Array 117.65 310 PKIKP **PKPdf** **19 22 01.9 -1.3**
MKAR Makanchi Array 117.65 310 PKP **PKPdf** **19 22 01.9 -1.3**
MKAR PKKPbc **PKKPbc** **19 32 26.1 +0.6**
MKAR Makanchi Array 117.65 310 PKP **PKPdf** **19 22 01.9 -1.3**
comp=Z,4.5nm,0.9s,baz=66,slow=2.9,SNR=26
MKAR PKKPbc **PKKPbc** **19 32 26.1 +0.6**
comp=Z,0.6nm,0.7s,baz=285,slow=4.6,SNR=3.8
ZAA0 Zalesovo Array 117.80 319 *e*PKPdf **PKPdf** **19 22 01.7 -1.5**
ZALV Zalesovo Beam 117.80 319 PKIKP **PKPdf** **19 22 01.8 -1.4**
ZALV Zalesovo Beam 117.80 319 PKP **PKPdf** **19 22 01.8 -1.4**
ZALV Zalesovo Beam 117.80 319 PKP **PKPdf** **19 22 01.8 -1.4**
comp=Z,2.9nm,0.8s,baz=166,slow=1.2,SNR=11
BOSA Boshof 117.98 203 PKP **PKPdf** **19 22 05.1 +0.5**
BOSA Boshof 117.98 203 PKP **PKPdf** **19 22 05.1 +0.5**
comp=Z,2.0nm,0.5s,baz=192,slow=14,SNR=7.3
GRGR Grenville 118.35 92 PFAKE 19 22 20.0 +15
GRGR LR LR
comp=Z,724nm,22.0s
MSEY Mahe Island 118.74 245 PFAKE 19 22 20.0 +14
MSEY LR LR
comp=Z,817nm,21.0s
NVS Novosibirsk 118.90 319⇑ *i* PKIKP **PKPdf** **19 22 03.0 -2.2**
NVS pmax pmax
comp=Z,15nm,1.1s
NVS pmax pmax
comp=N,5.0nm,1.3s
NVS pmax pmax
comp=E,12nm,1.5s
LONY Lake Ozonia 119.04 53 PFAKE 19 22 20.0 +14
LONY LR LR
comp=Z,553nm,19.0s
NCB Newcomb 119.13 54 PFAKE 19 22 20.0 +14
NCB LR LR
comp=Z,436nm,20.0s
FDF Fort de France 119.95 90 PFAKE 19 22 20.0 +12
FDF LR LR
comp=Z,606nm,21.0s
BBGH Gun Hill 120.63 92 PFAKE 19 22 20.0 +10
BBGH LR LR
comp=Z,2μm,22.0s

ANWB Willy Bob 120.64 86 PFAKE 19 22 20.0 +10
ANWB LR LR
comp=Z,359nm,20.0s
ULHL Ulahol 120.72 304 P **PKPdf** **19 22 09.3 -0.2**
SNR=13
LBNH Lisbon 120.80 54 PFAKE 19 22 20.0 +11
LBNH LR LR
comp=Z,593nm,21.0s
KURK Kurchatov 120.88 314 PKIKP **PKPdf** **19 22 07.7 -1.5**
KURK pmax pmax
comp=Z,19nm,0.8s
TKM2 Tokmak 2 121.34 305 *e*PKIKP **PKPdf** **19 22 09.4 -1.2**
TKM2 MLR MLR
comp=Z,379nm,20.0s
TKM2 Tokmak 2 121.34 305 P **PKPdf** **19 22 10.0 -0.7**
SNR=11
TKM2 Tokmak 2 121.34 305 *e*PKPdf **PKPdf** **19 22 09.4 -1.2**
TKM2 LR LR
comp=Z,379nm,20.0s
KZA Kyzart 121.39 304 P **PKPdf** **19 22 11.4 +0.4**
SNR=18
KBK Karagaybulak 121.74 304 P **PKPdf** **19 22 11.0 -0.4**
SNR=6.7
CHMS Chumysh 121.96 305 P **PKPdf** **19 22 11.1 -0.5**
SNR=8.8
AAK Ala-Archa 122.06 304 *c* *i* PKIKP **PKPdf** **19 22 11.9 -0.1**
AAK pmax pmax
comp=Z,25nm,1.2s
AAK Ala-Archa 122.06 304 *e*PKPdf **PKPdf** **19 22 10.8 -1.1**
AAK LR LR
comp=Z,399nm,20.0s
USP Ospenovka 122.20 305 P **PKPdf** **19 22 11.5 -0.5**
SNR=11
AML Almayashu 122.53 303 P **PKPdf** **19 22 12.9 -0.3**
SNR=12
EKS2 Erkin-Say 122.59 304 *e*PKIKP **PKPdf** **19 22 12.2 -0.7**
EKS2 MLR MLR
comp=Z,555nm,22.0s
EKS2 Erkin-Say 122.59 304 P **PKPdf** **19 22 12.8 -0.1**
SNR=14
EKS2 Erkin-Say 122.59 304 *e*PKPdf **PKPdf** **19 22 12.2 -0.7**
EKS2 LR LR
comp=Z,555nm,22.0s
BBSR BB Station 123.32 69 PFAKE 19 22 30.0 +16
BBSR LR LR
comp=Z,490nm,20.0s
KBL Kabul 124.31 293 *e*PKIKP **PKPdf** **19 22 16.4 -0.2**
KBL Kabul 124.31 293 *e*PKPdf **PKPdf** **19 22 16.4 -0.2**
KK31 Karatay Array 125.03 304 *i* PKIKP **PKPdf** **19 22 16.5 -0.9**
KK31 pmax pmax
comp=Z,15nm,0.6s
KKAR Karatay Array 125.03 304 *e*PKIKP **PKPdf** **19 22 16.6 -0.8**
KKAR Karatay Array 125.03 304 *e*PKPdf **PKPdf** **19 22 16.6 -0.8**
KKAR *e*SKP 19 25 50.6
SCHQ Schefferville 125.53 42 *e*PKPdf **PKPdf** **19 22 17.5 -0.5**
SCHQ PKP **PKPdf** **19 22 17.8 -0.2**
SCHQ Schefferville 125.53 42 PKP **PKPdf** **19 22 17.8 -0.2**
comp=Z,9.6nm,1.0s,baz=270,slow=2.3,SNR=4.7
VOSK Vostochnaya 125.83 316 PKIKP **PKPdf** **19 22 16.7 -2.0**
VOSK pmax pmax
comp=Z,21nm,0.6s
BVA0 Borovoye Array 126.21 316 *i* PKIKP **PKPdf** **19 22 18.4 -1.0**
BVA0 pmax pmax
comp=Z,38nm,1.1s
BRVK Borovoye 126.27 316 *c* *i* PKIKP **PKPdf** **19 22 19.0 -0.5**
BRVK pmax pmax
comp=Z,26nm,1.0s
BRVK Borovoye 126.27 316 *e*PKPdf **PKPdf** **19 22 18.6 -0.8**
BRVK LR LR
comp=Z,479nm,22.0s
LSZ Lusaka 128.78 213 *e*PKPdf **PKPdf** **19 22 25.8 +0.1**
LSZ LR LR
comp=Z,434nm,21.0s
RCBR Riachuelo 128.96 127 PFAKE 19 22 40.0 +14
RCBR LR LR
comp=Z,979nm,21.0s
TSUM Tsumeb 129.17 199 PFAKE 19 22 40.0 +14
TSUM LR LR
comp=Z,745nm,19.0s
KBS Kingsbay 130.57 358 PFAKE 19 22 40.0 +13
KBS LR LR
comp=Z,353nm,20.0s
SPA0 Spitsbergen Ar 131.10 356 *e*P PKPdf 19 22 34.8 +6.8
SFJD Kangerlussuaq 131.27 25 PFAKE 19 22 40.0 +11
SFJD LR LR
comp=Z,717nm,22.0s
SVE Sverdlovsk 131.64 321 *i* PKIKP **PKPdf** **19 22 29.5 0.0**
SVE pmax pmax
comp=Z,16nm,1.4s
SVE MLR MLR
comp=Z,798nm,20.0s
DAG Danmarks Havn 131.88 6 *e*PKIKP **PKPdf** **19 22 29.7 +0.2**
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 131.88 6 *i* P **PKPdf** **19 22 29.7 +0.2**
comp=Z,3.6nm,0.8s
SUMG Summit 132.00 15 *i* PKIKP **PKPdf** **19 22 31.6 +1.3**
SUMG pmax pmax
comp=Z,4.0nm,1.2s
SUMG Summit 132.00 15 *i* P **PKPdf** **19 22 31.6 +1.3**
comp=Z,4.1nm,1.2s
AB31 Akbulak array 132.77 311 *i* PKIKP **PKPdf** **19 22 31.3 -0.6**
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 132.77 311 *e*PKPdf **PKPdf** **19 22 31.1 -0.9**
ABKAR *e*SKP 19 25 56.2
ARU Arti 132.83 321 *i* PKIKP **PKPdf** **19 22 31.2 -0.6**
ARU 19 24 53.0
ARU MLR MLR
comp=Z,798nm,22.0s
SOKR Solikamsk 133.07 326 *c* *i* PKIKP **PKPdf** **19 22 31.6 -0.5**
SOKR pmax pmax
comp=Z,20nm,1.0s
KMBO Kilima Mbogo 134.74 234 PKP **PKPdf** **19 22 38.6 +1.5**
KMBO *e*PKPdf **PKiKP** **19 22 38.8 +0.2**
KMBO LR LR
comp=Z,384nm,19.0s
KMBO Kilima Mbogo 134.74 234 PKP **PKPdf** **19 22 38.6 +1.5**
comp=Z,2.7nm,0.7s,baz=52,slow=23,SNR=5.7
KEV Kevo 137.59 348 PFAKE 19 22 50.0 +10
KEV LR LR
comp=Z,838nm,22.0s
ARCES ARCESS Array B 138.05 348 PKPpre PKPpre 19 22 32.5
ARCES PKP **PKiKP** **19 22 42.9 -0.3**
ARCES SKPbc **SKPbc** **19 26 09.0 -3.7**
ARCES ARCESS Array B 138.05 348 PKhKP PKPpre 19 22 32.5
comp=Z,4.6nm,0.7s,baz=98,slow=1.1,SNR=18
ARCES PKP **PKiKP** **19 22 42.9 -0.3**
comp=Z,5.1nm,0.5s,baz=41,slow=2.9,SNR=13
ARCES SKPbc **SKPbc** **19 26 09.0 -3.7**
comp=Z,1.5nm,0.6s,baz=64,slow=2.1,SNR=4.8
ARE0 ARCESS Array S 138.05 348 *e* PKPdf 19 22 35.9 -5.4
KTK1 Kautokeino 138.90 349 *e* PKPdf 19 22 35.3 -7.5
TRO Tromso 138.99 351 *e* PKPdf 19 22 35.1 -7.7
TRO *e*PP **PP** **19 25 35.4 -0.1**
MBAR Mbarara 139.49 227 PFAKE 19 23 00.0 +14
MBAR LR LR
comp=Z,543nm,20.0s
RDF Al-Radifah 140.85 280 *e*P PKPdf 19 22 41.2 -6.4
RDF AMb AMB 19 22 49.9
comp=Z,23nm,0.9s
NAY Al-Naaiem 141.18 281 *e*P PKPdf 19 22 41.3 -6.8
NAY AMb AMB 19 22 59.8
comp=Z,17nm,1.5s
MIB Mutribah 141.21 282 *e*P PKPdf 19 22 41.3 -6.9
MIB AMb AMB 19 22 49.7
comp=Z,32nm,1.1s
MAK Makhachkala 141.82 303 *e*PKIKP **PKPdf** **19 22 48.2 -0.6**
MAK *e* 19 25 54.5
MAK *e*SS SS 19 44 16.9 -7.3
MAK pmax pmax
comp=Z,86nm,1.5s
BORG Borgarnes 141.96 16 PKP **PKPdf** **19 22 46.1 -2.3**
BORG LR LR
comp=Z,509nm,19.0s
BORG Borgarnes 141.96 16 PKP **PKPdf** **19 22 46.1 -2.3**
comp=Z,8.6nm,0.9s,baz=245,slow=14,SNR=3.2
JOF Joensuu 141.96 339 *e*p PKPdf 19 22 43.1 -5.3
comp=Z,14nm,0.9s
DGRG David-gareji 143.53 300 P PKPab 19 22 48.8 +0.3
DUS Dusheti 143.97 302 P PKPbc 19 22 50.5 -0.3
TBLG Delisi 143.98 301 P PKPab 19 22 47.6 -2.6
MOS Moscow 144.02 326 *e*PKHKP PKPpre 19 22 46.9
MOS pmax pmax
comp=Z,36nm,1.0s
MOS MLR MLR
comp=Z,1μm,20.0s
KAF Kangasniemi 144.07 341 *e*p **PKPab** **19 22 49.0 -0.8**
comp=Z,19nm,0.8s
KAF Kangasniemi 144.07 341 *e*PKIKP **PKPab** **19 22 49.0 -0.8**
KAF pmax pmax
comp=Z,19nm,0.8s
GNI Garni 144.10 298 *e*P PKPbc 19 22 51.2 -0.1
GNI Garni 144.10 298 *e*PKPdf **PKPdf** **19 22 54.9 +1.7**
GNI *e*SKP 19 26 21.8
GNI LR LR
comp=Z,377nm,22.0s
KZR Kazreti 144.25 300 P **PKPab** **19 22 46.8 -4.4**
ZEI Tsey 144.48 303 *e*PKIKP **PKPdf** **19 22 54.2 +0.4**
ZEI pmax pmax
comp=Z,31nm,1.4s
FINES FINESS Array B 144.68 341 PKP **PKPab** **19 22 51.1 -0.9**
FINES FINESS Array B 144.68 341 PKP **PKPab** **19 22 51.1 -0.9**
comp=Z,66nm,0.7s,baz=53,slow=3.6,SNR=325
NSS Namsos 144.70 353 *e*P **PKPab** **19 22 51.7 -0.3**
NSS AMB AMB 19 22 53.2
comp=Z,66nm,1.2s
CLDR Caldiran 144.79 297 *e*P **PKPdf** **19 22 54.2 -0.3**
ONI Oni 144.83 303 P PKPbc 19 22 53.7 +0.3
OBN Obninsk 144.86 326 *c* *i* PKIKP **PKPab** **19 22 52.4 -0.5**
OBN *e* 19 23 04.3
OBN pmax pmax
comp=Z,90nm,1.0s
OBN MLR MLR
comp=Z,500nm,22.0s
AKH Akhalkalaki 144.94 301 P **PKPab** **19 22 53.8 -0.2**
KBZ Khabaz 145.06 305 PKIKP **PKPbc** **19 22 53.6 -0.4**
KBZ Khabaz 145.06 305 PKP **PKPbc** **19 22 53.6 -0.4**
KBZ Khabaz 145.06 305 PKP **PKPbc** **19 22 53.6 -0.4**
comp=Z,9.7nm,0.9s,baz=80,slow=2.0,SNR=10
CUKT Cukurca 145.07 293 *e*P **PKPab** **19 22 54.5 +0.1**
VOR Voronezh 145.08 319 PKIKP **PKPbc** **19 22 53.0 -0.8**
VOR pmax pmax
comp=Z,200nm,1.2s
KIV Kislovodsk 145.17 305 *c* *i* PKIKP **PKPbc** **19 22 54.1 -0.4**
KIV *e* 19 23 06.5
KIV *e* 19 26 11.7
KIV pmax pmax
comp=Z,17nm,1.2s
KIV MLR MLR
comp=Z,500nm,19.0s
VSR Storozhevoye 145.31 319 *e*PKP2 **PKPbc** **19 22 53.3 -1.2**
VSR pmax pmax
comp=Z,90nm,1.5s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,30nm,1.0s
VSR MLR MLR
comp=Z,440nm,21.0s
VSR MLR MLR
comp=N,300nm,23.0s
VSR MLR MLR
comp=E,250nm,20.0s
VORD Divnogorie 145.34 318 *e*PKHKP PKPpre 19 22 48.6
VORD pmax pmax
comp=N,480nm,0.6s
VORD pmax pmax
comp=Z,740nm,0.6s
VORD pmax pmax
comp=E,590nm,0.5s
VORD MLR MLR
comp=Z,620nm,24.0s
VORD MLR MLR
comp=N,390nm,14.0s
VORD MLR MLR
comp=E,1μm,24.0s
AGRB Hanur-Agry 145.48 298 *e*P **PKPab** **19 22 56.2 +0.2**
CHVG Ch'k'valeri 145.81 303 P **PKPab** **19 22 56.7 -0.2**
TBLU Trondheim 146.12 354 *e*P **PKPdf** **19 22 55.3 -0.4**
TBLU AMB AMB 19 23 00.7
comp=Z,136nm,1.3s
BCA Borcka 146.34 301 *e*P **PKPbc** **19 22 58.1 0.0**
EZM Erzurum 146.71 298 *e*P **PKPbc** **19 22 59.9 +0.4**
MSKU Masuku 146.97 201 PFAKE 19 23 10.0 +7.9
MSKU LR LR
comp=Z,2.0nm,20.0s
MOL Molde 147.02 356 *e*P **PKPbc** **19 22 58.6 -0.7**
MOL AMB AMB 19 23 01.0
comp=Z,107nm,1.3s
BNGB Bing¶ll 147.31 297 *e*P **PKPbc** **19 23 00.9 -0.1**
SOC Sochi 147.35 305 *e*PKP2 **PKPbc** **19 23 00.1 -0.8**
SOC *e* 19 26 32.3
SOC *e*PPP PPP 19 29 42.1
SOC MLR MLR
comp=Z,540nm,23.0s
MZRK Al-Mazaregh 147.45 291 *e*P **PKPab** **19 23 03.1 -0.4**
KBSD Kabsdagh 147.53 293 *e*P **PKPbc** **19 23 01.9 +0.3**
BAYT Ayd¯–ntepe-Bay 147.58 299 *e*P **PKPbc** **19 23 01.7 -0.1**
MAZI Mazidag 147.59 294 *e*P **PKPbc** **19 23 01.2 -0.7**
GUMT Gumushane 148.07 300 *e*P **PKPbc** **19 23 04.2 +1.1**
NB2 NORSAR Subarra 148.18 352 PKP **PKPbc** **19 23 02.2 -0.4**
comp=Z,2.8nm,0.7s,baz=27,slow=3.1
NB2 NORSAR Subarra 148.18 352 PKP **PKPbc** **19 23 02.2 -0.4**
baz=27,slow=3.1
NOA NORSAR Array B 148.18 352 PKP **PKPdf** **19 22 59.3 0.0**
NOA PKPbc **PKPbc** **19 22 02.3 -0.4**
NOA NORSAR Array B 148.18 352 PKP **PKPdf** **19 22 59.3 0.0**
comp=Z,50nm,1.0s,baz=18,slow=4.3,SNR=63
NOA PKPbc **PKPbc** **19 23 02.3 -0.4**
comp=Z,44nm,1.0s,baz=15,slow=4.3,SNR=60
PTK Pertek 148.32 297 *e*P **PKPbc** **19 23 05.1 +1.2**
NAO01 NORSAR Array S 148.41 352 *e*PKPbc **PKPbc** **19 23 03.0 -0.2**
NC602 NORSAR Array S 148.44 351 *e*P **PKPbc** **19 23 02.7 -0.5**
ESPY Espiye-Giresun 148.57 301 *e*P **PKPbc** **19 23 03.6 -0.6**
ANN Anapa 148.64 308 *i* PKHKP PKPpre 19 22 50.0
ANN *e* 19 30 01.9
ANN pmax pmax
comp=Z,25nm,0.9s
URFA Urfa 148.88 294 *e*P **PKPbc** **19 23 05.0 -0.2**
IZAR Zarasai 149.00 334 *e*P **PKPbc** **19 23 04.8 0.0**
IZAR AMB AMB 19 23 06.7
comp=Z,51nm,1.0s
IDID Didziasalis 149.12 333 *e*P **PKPbc** **19 23 05.2 +0.1**
IDID AMB AMB 19 23 05.8
comp=Z,29nm,1.1s
MALT Malatya 149.13 296⇑ PKP2 PKPab 19 23 24.3 +14
MALT Malatya 149.13 296 PFAKE 19 23 10.0 -0.3
MALT LR LR
comp=Z,434nm,22.0s
MALT Malatya 149.13 296⇑ *i*P PKPab 19 23 24.3 +14
ISAL Salakas 149.18 334 *e*P **PKPbc** **19 23 05.0 -0.3**
ISAL AMB AMB 19 23 06.0
comp=Z,31nm,1.1s
MICGM Minsk 149.22 331 *e*P **PKPbc** **19 23 04.0 -1.4**
MNK Minsk 149.24 331 *e*PKIKP **PKPbc** **19 23 04.0 -1.4**
MNK pmax pmax
comp=Z,340nm,1.0s
IIGN Ignalina 149.30 333 *e*P **PKPbc** **19 23 05.7 +0.1**
IIGN AMB AMB 19 23 06.3
comp=Z,41nm,0.9s
BER Bergen 149.32 357 *e*P **PKPbc** **19 23 04.9 -0.5**
NACGM Naroch 149.40 332 *e*P **PKPdf** **19 23 03.0 +1.6**
RSDY Resadiye-TOKAT 149.71 300 *e*P **PKPbc** **19 23 07.8 +0.7**
ODD1 Odda 149.72 356 *e*P **PKPbc** **19 23 06.8 +0.3**
ODD1 AMB AMB 19 23 08.5
comp=Z,98nm,1.1s
KONO Kongsberg 149.72 353 *e*P **PKPbc** **19 23 06.3 -0.2**
KONO AMB AMB 19 23 08.0
comp=Z,111nm,1.1s
KONO Kongsberg 149.72 353 *e*PKP2 **PKPbc** **19 23 06.0 -0.5**
KONO MLR MLR
comp=Z,455nm,20.0s
KONO Kongsberg 149.72 353 *e*PKPdf **PKPbc** **19 23 06.0 -0.5**
KONO LR LR
comp=Z,455nm,20.0s
DARE Darende-Malaty 149.84 296 *e*P **PKPbc** **19 23 08.6 +1.0**
SVSK Karacayir 150.03 299 *e*P **PKPbc** **19 23 08.9 +1.1**
ZALF Zalf 150.10 285 *e*P **PKPbc** **19 23 08.6 +0.3**
ROOS tl_alroos 150.19 288 *e*P **PKPbc** **19 23 09.3 +0.8**
KMRS Kahramanmaras 150.40 294 *e*P **PKPbc** **19 23 09.4 +0.5**
KVT Kavak 150.54 302 *e*P **PKPbc** **19 23 09.4 +0.3**
SALA Sala 150.59 285 *e*P **PKPbc** **19 23 10.5 +0.8**
SARI SarD1z-Kayseri 150.69 296 *e*P **PKPbc** **19 23 10.4 +0.7**
SIM Simferopol' 150.83 310 *i* PKIKP **PKPbc** **19 23 09.1 -0.5**
SIM pmax pmax
comp=Z,52nm,0.9s
BTCH Batrach 150.85 291 *e*P **PKPbc** **19 23 09.3 -0.8**
MARH Ras Al Marh 150.85 287 *e*P **PKPbc** **19 23 10.7 +0.3**

TOTH	**TOTAH**	**150.88**	**286**	*e*P	**PKPbc**	**19 23 10.6**	**+0.5**
HAWK	**Haweek**	**150.92**	**288**	*e*P	**PKPbc**	**19 23 10.0**	**-0.3**
BIDA	**Albida**	**150.99**	**289**	*e*P	**PKPbc**	**19 23 10.5**	**+0.1**
DIKM	**Dikmen**	**150.99**	**303**	*e*P	**PKPbc**	**19 23 10.4**	**+0.3**
KIEV	**Kiev**	**151.03**	**324**	*e*PKIKP	**PKPbc**	**19 23 08.8**	**-1.0**
KIEV				*e*		19 26 43.4	
KIEV				MLR	MLR		
	comp=Z,445nm,22.0s						
KIEV	**Kiev**	**151.03**	**324**	*e*PKPbc	**PKPbc**	**19 23 08.8**	**-1.0**
KIEV				*e*SKP		19 26 43.4	
KIEV				LR	LR		
	comp=Z,445nm,22.0s						
BNN	**Bunyan**	**151.07**	**297**	*e*P	**PKPbc**	**19 23 10.9**	**+0.3**
HOMB	**Homborsund**	**151.19**	**353**	*e*P	**PKPbc**	**19 23 10.5**	**+0.5**
HOMB				AMB	AMB	19 23 12.1	
	comp=Z,161nm,1.3s						
ARNB	**Al Arnab**	**151.25**	**291**	*e*P	**PKPbc**	**19 23 10.1**	**-1.0**
BRBR	**Barbar**	**151.28**	**286**	*e*P	**PKPbc**	**19 23 11.3**	**0.0**
CEYT	**Ceyhan**	**151.36**	**293**	*e*P	**PKPbc**	**19 23 11.7**	**+0.6**
SUW	**Suwalki**	**151.48**	**334**	*e*PKIKP	**PKPbc**	**19 23 10.2**	**-0.6**
SUW	**Suwalki**	**151.48**	**334**	*e*PKPbc	**PKPbc**	**19 23 10.2**	**-0.6**
SUW	**Suwalki**	**151.48**	**334**	*e*PKPc	**PKPbc**	**19 23 10.6**	**-0.2**
CORM	**Corum**	**151.78**	**300**	*e*P	**PKPbc**	**19 23 12.9**	**+0.8**
BZK	**Bozkurt**	**151.82**	**304**	*e*P	**PKPbc**	**19 23 12.4**	**+0.4**
SACV	**Santiago Islan**	**151.87**	**116**	PFAKE		19 23 20.0	-2.0
SACV				LR	LR		
	comp=Z,413nm,19.0s						
TOS	**Tosya**	**152.04**	**302**	*e*P	**PKPbc**	**19 23 13.0**	**+0.4**
NIG	**Nigde**	**152.14**	**296**	*e*P	**PKPbc**	**19 23 13.6**	**+0.4**
CANT	**Cankiri**	**152.44**	**302**	*e*P	**PKPbc**	**19 23 13.4**	**-0.1**
BR131	**Keskin Array S**	**152.61**	**300**	*e*PKPdf	**PKPdf**	**19 23 06.3**	**-0.8**
BR131				*e*PKPbc	**PKPbc**	**19 23 13.0**	**-1.1**
BRTR	**Keskin Array B**	**152.61**	**300**	PKP	**PKPdf**	**19 23 06.8**	**-0.3**
BRTR				PKPbc	**PKPbc**	**19 23 13.8**	**-0.3**
BRTR	**Keskin Array B**	**152.61**	**300**	PKP	**PKPdf**	**19 23 06.8**	**-0.3**
	comp=Z,13nm,0.9s,baz=129,slow=3.3,SNR=8.1						
BRTR				PKPbc	**PKPbc**	**19 23 13.8**	**-0.3**
	comp=Z,13nm,0.8s,baz=126,slow=2.5,SNR=45						
SAFT	**Safranbolu**	**152.97**	**303**	*e*P	**PKPbc**	**19 23 14.2**	**-0.4**
BSD	**Bornholm Skovb**	**153.13**	**344**	⇑*i*PKIKP	**PKPbc**	**19 23 14.1**	**-0.3**
BSD				pmax	pmax		
	comp=Z,35nm,1.0s						
BSD	**Bornholm Skovb**	**153.13**	**344**	⇑*i*P	**PKPbc**	**19 23 14.1**	**-0.3**
	comp=Z,35nm,1.0s						
COP	**Copenhagen**	**153.13**	**347**	*i* PKIKP	**PKPbc**	**19 23 17.7**	**+3.3**
COP				pmax	pmax		
	comp=Z,28nm,0.9s						
COP	**Copenhagen**	**153.13**	**347**	*i* P	**PKPbc**	**19 23 17.7**	**+3.3**
	comp=Z,28nm,0.9s						
ANTO	**Ankara**	**153.22**	**300**	⇑PKIKP	**PKPbc**	**19 23 15.3**	**0.0**
ANTO	**Ankara**	**153.22**	**300**	*e*PKPbc	**PKPbc**	**19 23 14.6**	**-0.7**
ANTO				LR	LR		
	comp=Z,363nm,22.0s						
ANTO	**Ankara**	**153.22**	**300**	⇑*i*P	**PKPbc**	**19 23 15.3**	**0.0**
LOD	**Lodumlu**	**153.24**	**300**	*e*P	**PKPbc**	**19 23 15.5**	**+0.1**
LFK	**Lefkose**	**153.26**	**290**	*e*P	**PKPbc**	**19 23 15.2**	**-0.3**
KIS	**Kishinev**	**153.28**	**317**	*e*PKP	**PKPbc**	**19 23 13.0**	**-2.1**
KIS				LRM	MLR	20 29 24.0	
	comp=Z,400nm,24.0s						
KIS	**Kishinev**	**153.28**	**317**	*e*PKIKP	**PKPbc**	**19 23 13.0**	**-2.1**
KIS				*e*		19 23 25.0	
KIS				MLR	MLR		
	comp=Z,400nm,22.0s						
KIS				MLR	MLR		
	comp=Z,400nm,24.0s						
CSS	**Prodhromos**	**153.45**	**289**	*e*P	**PKPbc**	**19 23 15.8**	**-0.1**
CSS	**Prodhromos**	**153.45**	**289**	*e*PKPbc	**PKPbc**	**19 23 15.5**	**-0.4**
CSS				LR	LR		
	comp=Z,752nm,20.0s						
LEF	**Lefka**	**153.80**	**290**	*e*P	**PKPbc**	**19 23 16.3**	**-0.3**
LEOM	**Leova**	**153.89**	**317**	⇓PKIKP	**PKPbc**	**19 23 16.7**	**+0.3**
LEOM	**Leova**	**153.89**	**317**	⇓*i*P	**PKPbc**	**19 23 16.7**	**+0.3**
BEL	**Belsk**	**154.08**	**333**	*e*PKP	**PKPbc**	**19 23 17.0**	**+0.4**
KIZT	**Kizilcal**	**154.12**	**298**	*e*P	**PKPbc**	**19 23 16.5**	**-0.8**
ESK	**Eskdalemuir**	**154.15**	**7**	*i* PKIKP	**PKPbc**	**19 23 19.0**	**+2.3**
ESK	**Eskdalemuir**	**154.15**	**7**	PFAKE		19 23 20.0	+3.3
ESK				LR	LR		
	comp=Z,502nm,21.0s						
LVV	**L'vov**	**154.15**	**327**	*e*PKIKP	**PKPbc**	**19 23 15.2**	**-1.7**
TLCR		**154.16**	**314**	⇑PKIKP	**PKPbc**	**19 23 16.4**	**-0.6**
TLCR		**154.16**	**314**	⇑*i*P	**PKPbc**	**19 23 16.4**	**-0.6**
CFR	**Carcaliu**	**154.59**	**314**	⇑PKIKP	**PKPbc**	**19 23 17.9**	**0.0**
CFR	**Carcaliu**	**154.59**	**314**	⇑*i*P	**PKPbc**	**19 23 17.9**	**0.0**
TIRR	**Tirgusor**	**154.75**	**313**	⇑PKIKP	**PKPbc**	**19 23 23.4**	**+5.1**
TIRR	**Tirgusor**	**154.75**	**313**	⇑*i*P	**PKPbc**	**19 23 23.4**	**+5.1**
TESR	**Tescani**	**154.80**	**318**	⇑*i*P	**PKPbc**	**19 23 17.4**	**-1.0**
KWP	**Kalwaria Pacla**	**154.90**	**328**	PFAKE		19 23 20.0	+1.5
KWP				LR	LR		
	comp=Z,706nm,22.0s						
KWP	**Kalwaria Pacla**	**154.90**	**328**	*e*PKP	**PKPab**	**19 23 34.1**	**+0.2**
BUR08	**Bucovina Ar. S**	**154.96**	**322**	*e*PKPbc	**PKPbc**	**19 23 19.1**	**+0.3**
BURAR	**Bucovina Array**	**154.97**	**322**	⇑PKIKP	**PKPbc**	**19 23 19.1**	**+0.3**
BURAR	**Bucovina Array**	**154.97**	**322**	⇑*i*P	**PKPbc**	**19 23 19.1**	**+0.3**
VRI	**Vrincioaia**	**155.10**	**317**	⇓PKIKP	PKPdf	19 23 18.6	+8.4
VRI	**Vrincioaia**	**155.10**	**317**	⇓*i*P	PKPdf	19 23 18.6	+8.4
ISP	**Isparta**	**155.37**	**296**	PFAKE		19 23 20.0	+9.1
ISP				LR	LR		
	comp=Z,625nm,20.0s						
CMLA	**Cha da Macela**	**155.50**	**64**	PFAKE		19 23 20.0	+9.0
CMLA				LR	LR		
	comp=Z,418nm,19.0s						
LIC	**Lamto**	**155.55**	**162**	*e*PKIKP	**PKPdf**	**19 23 10.5**	**-1.2**
LIC				*e*R			
	comp=Z,695nm,22.2s						
LIC	**Lamto**	**155.55**	**162**	*e*P	PKPdf	19 23 17.1	+5.4
	comp=Z,47nm,0.8s						
STHS	**Stebnicka Huta**	**155.72**	**329**	*e*PKP2	**PKPab**	**19 23 40.2**	**+2.8**
STHS	**Stebnicka Huta**	**155.72**	**329**	*e*PKP	**PKPab**	**19 23 40.2**	**+2.8**
OJC	**Ojcow**	**155.73**	**332**	*e*PKP2	**PKPab**	**19 23 35.7**	**-1.7**
OJC				*e*		19 27 13.4	
OJC	**Ojcow**	**155.73**	**332**	*e*PKPdf	**PKPdf**	**19 23 10.1**	**-0.8**
OJC				*e*PKPab	**PKPab**	**19 23 35.7**	**-1.7**
OJC				*e*PP	**PP**	**19 27 13.4**	**-0.7**
KIC	**Kosan Boka**	**155.76**	**162**	*e*P	PKPdf	19 23 17.9	+5.9
	comp=Z,79nm,1.3s						
MLR	**Muntele Rosu**	**155.77**	**317**	⇓*i*P	PKPdf	19 23 20.9	+10
UZH	**Uzhgorod**	**155.80**	**327**	*e*PKIKP	PKPdf	19 23 20.0	+9.0
UZH				*e*		19 23 34.2	
TIC	**Toumodi**	**155.95**	**162**	*e*P	PKPdf	19 23 20.0	+7.7
	comp=Z,154nm,1.5s						
DBIC	**Dimbokro**	**156.02**	**162**	PKP	**PKPdf**	**19 23 11.8**	**-0.5**
DBIC				*e*PKPdf	**PKPdf**	**19 23 12.2**	**-0.2**
DBIC	**Dimbokro**	**156.02**	**162**	PKP	**PKPdf**	**19 23 11.8**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=272,slow=5.7,SNR=3.0						
NIE	**Niedzica**	**156.13**	**330**	*e*PKP2	**PKPab**	**19 23 38.3**	**-0.8**
NIE				*e*		19 27 16.8	
NIE	**Niedzica**	**156.13**	**330**	*e*PKPdf	**PKPdf**	**19 23 11.9**	**+0.4**
NIE				*e*PKPab	**PKPab**	**19 23 38.3**	**-0.8**
NIE				*e*PP	**PP**	**19 27 16.8**	**+0.4**
KSP	**Ksiaz**	**156.52**	**338**	*e*PKP2	**PKPab**	**19 23 40.1**	**-0.6**
KSP				*e*		19 27 16.0	
KSP				MLR	MLR		
	comp=Z,1μm,23.8s						
KSP	**Ksiaz**	**156.52**	**338**	*e*PKP	**PKPdf**	**19 23 11.9**	**0.0**
KSP				*e*		19 23 26.2	
KSP				*e*		19 23 41.2	
OKC	**Ostrava-Krasne**	**156.69**	**334**	*e*PKIKP	**PKPdf**	**19 23 12.0**	**-0.1**
OKC				MLR	MLR		
	comp=Z,400nm,22.1s						
OKC	**Ostrava-Krasne**	**156.69**	**334**	*e*PKPDF	**PKPdf**	**19 23 12.0**	**-0.1**
OKC				*e*PKPAB	**PKPab**	**19 23 40.6**	**-0.9**
OKC				*e*PP	PP	19 27 13.7	-5.6
OKC				AMS	AMS	20 32 40.0	
	comp=Z,400nm,22.1s						
KECS	**Kecovo**	**156.75**	**329**	*e*PKP2	**PKPab**	**19 23 44.2**	**+2.4**
KECS	**Kecovo**	**156.75**	**329**	*e*PKP	**PKPab**	**19 23 44.2**	**+2.4**
DRGR		**156.82**	**323**	⇓PKIKP	PKPdf	19 23 22.2	+10
DRGR		**156.82**	**323**	⇓*i*P	PKPdf	19 23 22.1	+10
DPC	**Dobruska-Polom**	**156.93**	**337**	*e*PKIKP	**PKPdf**	**19 23 12.5**	**0.0**
DPC	**Dobruska-Polom**	**156.93**	**337**	*e*PKPDF	**PKPdf**	**19 23 12.5**	**0.0**
DPC				*e*PKPAB	**PKPab**	**19 23 41.9**	**-0.6**
DPC				AMS	AMS	20 31 00.0	
MORC	**Moravsky Berou**	**156.97**	**334**	*e*PKIKP	**PKPdf**	**19 23 12.7**	**+0.1**
MORC	**Moravsky Berou**	**156.97**	**334**	*e*PKPdf	**PKPdf**	**19 23 12.7**	**+0.1**
KRLC	**Kraliky**	**157.00**	**336**	*e*PKP2	**PKPab**	**19 23 42.8**	**-0.1**
KRLC	**Kraliky**	**157.00**	**336**	*e*PKPAB	**PKPab**	**19 23 42.8**	**-0.1**
CLL	**Collm**	**157.08**	**343**	*e*pPKPdf	**pPKPdf**	**19 23 23.1**	**-0.7**
CLL				*e*PKPab	**PKPab**	**19 23 42.1**	**-1.0**
CLL	**Collm**	**157.08**	**343**	⇑*e*PKIKP	**PKPdf**	**19 23 12.0**	**-0.6**
CLL				*i*		19 23 23.0	
CLL				pmax	pmax		
	comp=Z,11nm,1.1s						
CLL				pmax	pmax		
	comp=Z,33nm,1.1s						
CLL	**Collm**	**157.08**	**343**	*e*PKPdf	**PKPdf**	**19 23 12.0**	**-0.6**
CLL				⇑*i*PKPdiff	PKPab	19 23 23.0	-20
	comp=Z,11nm,1.1s						
CLL				⇓*i*PKPab	PKPab	19 23 42.5	-0.6
	comp=Z,33nm,1.1s						
CLL				*i* pPKPab	**pPKPab**	**19 23 53.0**	**-1.0**
CLL				*e*PP	**PP**	**19 27 20.0**	**-1.3**
CLL				*e*PPP	PPP	19 31 00.0	
CLL				*e*		19 33 43.0	
CLL				*e*SKKSac	SKKSac	19 34 00.0	-8.2
CLL				*e*		19 36 50.0	
CLL				*e*PSKS		19 37 48.0	
CLL				*e*PPPPrev		19 39 25.0	
CLL				*e*PPS	PPS	19 40 31.0	
CLL				*e*SS	SS	19 47 24.0	+12
CLL				*e*SSS	SSS	19 53 30.0	
CLL				*e*PSSrev		19 56 00.0	
CLL				*e*SSSS		19 57 42.0	
FBE	**Freiberg**	**157.34**	**342**	*e*pPKPdf	**pPKPdf**	**19 23 24.1**	**0.0**
FBE				*e*PKPab	**PKPab**	**19 23 43.9**	**-0.3**
PVCC	**Panska Ves**	**157.34**	**340**	*e*PKIKP	**PKPdf**	**19 23 12.8**	**-0.1**
PVCC				MLR	MLR		
	comp=Z,700nm,20.6s						
PVCC	**Panska Ves**	**157.34**	**340**	*e*PKPDF	**PKPdf**	**19 23 12.8**	**-0.1**
PVCC				*e*PKPAB	**PKPab**	**19 23 44.4**	**+0.2**
PVCC				AMS	AMS	20 39 10.0	
	comp=Z,700nm,20.6s						
PSZ	**Piszkesteto**	**157.43**	**328**	⇓PKP2	**PKPab**	**19 23 46.9**	**+2.1**
PSZ	**Piszkesteto**	**157.43**	**328**	PFAKE		19 23 20.0	+6.8
PSZ				LR	LR		
	comp=Z,712nm,21.0s						
PSZ	**Piszkesteto**	**157.43**	**328**	⇓*i*P	**PKPab**	**19 23 46.9**	**+2.1**
VYHS	**Vyhne**	**157.46**	**331**	*e*PKP2	**PKPab**	**19 23 44.3**	**-0.6**
VYHS	**Vyhne**	**157.46**	**331**	*e*PKP	**PKPab**	**19 23 44.3**	**-0.6**
PRA	**Prague**	**157.78**	**339**	PKPDF	**PKPdf**	**19 23 13.0**	**-0.5**
PRA				PKPAB	**PKPab**	**19 23 46.0**	**-0.1**
PRA				PP	**PP**	**19 27 24.0**	**-1.2**
PRA				AMS	AMS	20 30 00.0	
PRU	**Pruhonice**	**157.82**	**339**	*e*PKIKP	**PKPdf**	**19 23 13.0**	**-0.5**
PRU				*e*		19 23 46.1	
PRU				*e*SS	SS	19 47 26.3	+5.9
PRU				MLR	MLR		
	comp=Z,500nm,22.0s						
PRU	**Pruhonice**	**157.82**	**339**	*e*PKPDF	**PKPdf**	**19 23 13.0**	**-0.5**
PRU				*e*PKPAB	**PKPab**	**19 23 46.1**	**-0.2**
PRU				*e*PP	**PP**	**19 27 20.4**	**-5.1**
PRU				*e*SS	SS	19 47 26.3	+5.9
PRU				AMS	AMS	20 29 40.0	
	comp=Z,500nm,22.0s						
MOX	**Moxa**	**158.03**	**344**	*e*PKPab	**PKPab**	**19 23 46.3**	**-0.9**
MOX	**Moxa**	**158.03**	**344**	*e*PKP2	**PKPab**	**19 23 46.3**	**-0.9**
TANN	**Tannenbergstha**	**158.03**	**343**	*e*PKPab	**PKPab**	**19 23 46.7**	**-0.6**
WERD	**Werda**	**158.04**	**343**	*e*PKPab	**PKPab**	**19 23 46.6**	**-0.7**
PLN	**Plauen**	**158.05**	**343**	*e*PKPab	**PKPab**	**19 23 46.6**	**-0.7**
TREC	**Trest**	**158.11**	**337**	*e*PKP2	**PKPab**	**19 23 47.1**	**-0.5**
TREC				MLR	MLR		
	comp=Z,500nm,25.4s						
TREC	**Trest**	**158.11**	**337**	*e*PKPAB	**PKPab**	**19 23 47.1**	**-0.5**
TREC				*e*PP	PP	19 27 19.0	-8.1
TREC				AMS	AMS	20 31 30.0	
	comp=Z,500nm,25.4s						
BZS	**Buzias**	**158.16**	**322**	⇑PKIKP	**PKPdf**	**19 23 16.5**	**+2.4**
BZS	**Buzias**	**158.16**	**322**	⇑*i*P	**PKPdf**	**19 23 16.5**	**+2.4**
WERN	**Wernitzgruen**	**158.17**	**343**	*e*PKPab	**PKPab**	**19 23 47.5**	**-0.4**
NKC	**Novy Kostel**	**158.20**	**342**	*e*PKPab	**PKPab**	**19 23 47.4**	**-0.6**
NKC	**Novy Kostel**	**158.20**	**342**	*e*PKP2	**PKPab**	**19 23 47.9**	**-0.1**
NKC				MLR	MLR		
	comp=Z,300nm,20.9s						
NKC	**Novy Kostel**	**158.20**	**342**	*e*PKPAB	**PKPab**	**19 23 47.9**	**-0.1**
NKC				*e*PP	**PP**	**19 27 22.9**	**-4.6**
NKC				AMS	AMS	20 36 00.0	
	comp=Z,300nm,20.9s						
ROHR	**Rohrbach**	**158.24**	**343**	*e*PKPab	**PKPab**	**19 23 47.7**	**-0.5**
ROTZ	**Rotzenmuhle**	**158.69**	**342**	*e*PKPab	**PKPab**	**19 23 50.0**	**-0.1**
KHC	**Kasperske Hory**	**158.87**	**339**	*e*PKIKP	**PKPdf**	**19 23 14.6**	**-0.3**
KHC				*e*		19 23 51.3	
KHC	**Kasperske Hory**	**158.87**	**339**	*e*PKPDF	**PKPdf**	**19 23 14.3**	**-0.6**
KHC				*e*PKPAB	**PKPab**	**19 23 51.2**	**+0.2**
KHC				*e*PP	PP	19 27 24.5	-6.8
KHC				AMS	AMS	20 31 50.0	
	comp=Z,700nm,21.0s						
KHC	**Kasperske Hory**	**158.87**	**339**	*e*PKPdf	**PKPdf**	**19 23 14.6**	**-0.3**
KHC				*e*PKPab	**PKPab**	**19 23 51.2**	**+0.2**
VTS	**Vitosha**	**158.97**	**313**	⇓*i*P	**PKPab**	**19 23 52.5**	**+0.7**
MEM	**Membach**	**159.01**	**354**	PKP	**PKPdf**	**19 23 16.4**	**+1.4**
MEM				PKPab	**PKPab**	**19 23 51.5**	**0.0**
GRF	**Grafenberg Arr**	**159.01**	**344**	*e*PKPab	**PKPab**	**19 23 51.5**	**0.0**
GRF	**Grafenberg Arr**	**159.01**	**344**	*e*PKP2	**PKPab**	**19 23 51.5**	**0.0**
WET	**Wettzell**	**159.07**	**341**	*e*PKPab	**PKPab**	**19 23 51.5**	**-0.3**
WET	**Wettzell**	**159.07**	**341**	*e*PKP2	**PKPab**	**19 23 51.5**	**-0.3**
GEC2	**GERESS Array S**	**159.09**	**339**	*e*PKPab	**PKPab**	**19 23 51.3**	**-0.7**
GEC2	**GERESS Array S**	**159.09**	**339**	*e*PKP2	**PKPab**	**19 23 51.3**	**-0.7**
GERES	**GERESS Array B**	**159.09**	**339**	PKP	**PKPdf**	**19 23 13.4**	**-1.9**
GERES				PKPab	**PKPab**	**19 23 51.0**	**-1.0**
GERES	**GERESS Array B**	**159.09**	**339**	PKP	**PKPdf**	**19 23 13.4**	**-1.9**
	comp=Z,1.6nm,0.9s,baz=82,slow=1.9,SNR=7.7						
GERES				PKPab	**PKPab**	**19 23 51.0**	**-1.0**
	comp=Z,3.9nm,0.8s,baz=46,slow=2.8,SNR=7.3						
CONA	**Conrad Observa**	**159.12**	**334**	⇑*i*PKPab	**PKPab**	**19 23 52.4**	**+0.2**
	comp=Z,13nm,1.1s						
GIVF	**Givet**	**159.61**	**356**	*e*PKIKP	**PKPdf**	**19 23 15.0**	**-0.7**
SANT	**Santorini**	**159.63**	**295**	PFAKE		19 23 30.0	+14
SANT				LR	LR		
	comp=Z,387nm,22.0s						
DOU	**Dourbes**	**159.63**	**356**	PKPab	**PKPab**	**19 23 53.6**	**-0.5**
BAIF	**Baives**	**159.69**	**357**	*e*PKIKP	**PKPdf**	**19 23 15.3**	**-0.4**
WLF	**Walferdange**	**159.93**	**353**	PKPab	**PKPab**	**19 23 55.5**	**0.0**
WLF	**Walferdange**	**159.93**	**353**	PFAKE		19 23 30.0	+14
WLF				LR	LR		
	comp=Z,697nm,20.0s						
LANF	**Langenberg**	**160.38**	**349**	PKP	**PKPdf**	**19 23 15.9**	**-0.7**
FLN	**La Foliniere**	**160.90**	**6**	*e*PKIKP	**PKPdf**	**19 23 16.6**	**-0.5**
	comp=Z,38nm,1.1s						
FLN				*e*R			
	comp=Z,653nm,22.0s						
BFO	**Black Forest**	**160.91**	**348**	PFAKE		19 23 30.0	+13
BFO				LR	LR		
	comp=Z,655nm,22.0s						
ROSF	**Rostrenen**	**160.95**	**12**	*e*PKIKP	**PKPdf**	**19 23 16.0**	**-1.2**
CDF	**Champ du Feu**	**161.01**	**350**	*e*PKIKP	**PKPdf**	**19 23 16.3**	**-1.1**
LDF	**La Druitiere**	**161.10**	**5**	*e*PKIKP	**PKPdf**	**19 23 16.6**	**-0.8**
SGMF	**Saint Gilles**	**161.15**	**10**	*e*PKIKP	**PKPdf**	**19 23 16.5**	**-0.9**
	comp=Z,45nm,1.3s						
MEZF	**Maizieres J'vi**	**161.18**	**355**	*e*PKIKP	**PKPdf**	**19 23 17.3**	**-0.2**
ECH	**Echery**	**161.22**	**350**	PFAKE		19 23 30.0	+12
ECH				LR	LR		
	comp=Z,554nm,20.0s						
GRR	**Gorron**	**161.23**	**7**	*e*PKIKP	**PKPdf**	**19 23 17.1**	**-0.4**
	comp=Z,54nm,1.4s						
QUIF	**Quistinic**	**161.37**	**12**	*e*PKIKP	**PKPdf**	**19 23 17.1**	**-0.6**
SFTF	**Sexfontaines**	**161.48**	**354**	*e*PKIKP	**PKPdf**	**19 23 17.2**	**-0.6**
HAU	**Haudompre**	**161.54**	**352**	*e*PKIKP	**PKPdf**	**19 23 17.0**	**-0.9**
HAU				*e*R			
	comp=Z,712nm,21.0s						
DAVA	**Damuels**	**161.58**	**344**	⇓*i*PKPab	**PKPab**	**19 24 02.5**	**-0.5**
	comp=Z,15nm,1.0s						
MOF	**Molkenrain**	**161.58**	**350**	PKP	**PKPdf**	**19 23 17.0**	**-1.0**
HINF	**Hinteralfeld**	**161.66**	**350**	*e*PKIKP	**PKPdf**	**19 23 17.1**	**-1.0**
	comp=Z,28nm,1.4s						
TIR	**Tirane**	**161.74**	**314**	PFAKE		19 23 30.0	+12
TIR				LR	LR		
	comp=Z,886nm,22.0s						
LOMF	**Lomont**	**162.11**	**350**	PKP	**PKPdf**	**19 23 15.2**	**-3.4**
TUE	**Stuetta**	**162.47**	**344**	PFAKE		19 23 30.0	+11
TUE				LR	LR		
	comp=Z,763nm,20.0s						
LOR	**Lormes**	**162.49**	**357**	*e*PKIKP	**PKPdf**	**19 23 18.3**	**-0.6**
	comp=Z,62nm,1.8s						
LOR				*e*R			
	comp=Z,763nm,20.8s						
SSF	**Saint Saulge**	**162.71**	**358**	*e*PKIKP	**PKPdf**	**19 23 18.6**	**-0.5**
CABF	**La Chapelle**	**162.94**	**351**	*e*PKIKP	**PKPdf**	**19 23 19.3**	**-0.1**
	comp=Z,15nm,1.0s						
AVF	**Avril sur Loir**	**162.99**	**358**	*e*PKIKP	**PKPdf**	**19 23 18.4**	**-0.9**
MFF	**Saint Martin d**	**163.07**	**6**	*e*PKIKP	**PKPdf**	**19 23 19.0**	**-0.4**
SMF	**Signal de Mont**	**163.11**	**357**	*e*PKIKP	**PKPdf**	**19 23 18.6**	**-0.9**
	comp=Z,19nm,1.1s						
TOA0	**Torodi Ar. Sit**	**163.45**	**178**	*e*PKPdf	**PKPdf**	**19 23 19.4**	**-1.4**
TOA0				*e*PKPab	**PKPab**	**19 24 11.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**163.45**	**178**	PKP	**PKPdf**	**19 23 20.7**	**-0.1**
TORD				PKPab	**PKPab**	**19 24 12.1**	**+0.5**
	comp=Z,6.9nm,1.1s,baz=214,slow=0.3,SNR=18						
TORD				PKPab	**PKPab**	**19 24 12.1**	**+0.5**
	comp=Z,18nm,1.2s,baz=180,slow=2.9,SNR=11						
TCF	**Toulx Ste Croi**	**163.50**	**1**	*e*PKIKP	**PKPdf**	**19 23 19.5**	**-0.4**
	comp=Z,12nm,1.0s						
AGO	**Saint Agoulin**	**163.73**	**358**	PKP	**PKPdf**	**19 23 21.9**	**+1.8**
LPL	**La Plagne**	**163.92**	**349**	*e*PKIKP	**PKPdf**	**19 23 20.3**	**-0.3**
	comp=Z,49nm,1.7s						
PYM	**Petit Puy Mans**	**164.04**	**359**	PKP	**PKPdf**	**19 23 21.2**	**+0.7**
VLC	**Villacollemand**	**164.30**	**338**	PFAKE		19 23 30.0	+9.3
VLC				LR	LR		
	comp=Z,533nm,20.0s						
BNI	**Bardonecchia**	**164.38**	**349**	PFAKE		19 23 30.0	+9.1
BNI				LR	LR		
	comp=Z,611nm,22.0s						
SSB	**Saint Sauveur**	**164.43**	**354**	PFAKE		19 23 30.0	+9.2
SSB				LR	LR		
	comp=Z,526nm,22.0s						
RJF	**Les Rejaudoux**	**164.47**	**2**	*e*PKIKP	**PKPdf**	**19 23 20.4**	**-0.4**
	comp=Z,26nm,1.5s						
LBL	**Lubilhac**	**164.55**	**358**	PKP	**PKPdf**	**19 23 22.6**	**+1.6**
ORIF	**Oris-en-Rattie**	**164.63**	**351**	*e*PKIKP	**PKPdf**	**19 23 20.7**	**-0.4**
ORIF				*e*R			
	comp=Z,723nm,22.0s						
AQU	**L'Aquila**	**164.64**	**328**	PFAKE		19 23 30.0	+8.9
AQU				LR	LR		
	comp=Z,756nm,20.0s						
MBDF	**Montbardon**	**164.68**	**348**	*e*PKIKP	**PKPdf**	**19 23 21.9**	**+0.7**
	comp=Z,8.0nm,0.9s						
VIVF	**Saint-Julien-l**	**164.83**	**354**	*e*PKIKP	**PKPdf**	**19 23 20.9**	**-0.3**
	comp=Z,19nm,1.3s						
CAF	**Calviac**	**164.87**	**1**	*e*PKIKP	**PKPdf**	**19 23 21.2**	**0.0**
TIP	**Timpagrande**	**164.92**	**312**	PFAKE		19 23 30.0	+8.5
TIP				LR	LR		
	comp=Z,775nm,22.0s						
CUC	**Castrocucco**	**165.02**	**316**	PFAKE		19 23 30.0	+8.5
CUC				LR	LR		
	comp=Z,644nm,22.0s						
LASF	**Ste Croix**	**165.67**	**356**	*e*PKIKP	**PKPdf**	**19 23 21.8**	**-0.1**
	comp=Z,65nm,1.6s						
CEL	**Celeste**	**165.99**	**311**	PFAKE		19 23 30.0	+7.6
CEL				LR	LR		
	comp=Z,389nm,22.0s						
MTLF	**Montolieu**	**166.45**	**1**	*e*PKIKP	**PKPdf**	**19 23 22.2**	**-0.3**
	comp=Z,6.1nm,0.9s						
MTE	**Manteigas**	**166.63**	**35**	PFAKE		19 23 30.0	+7.2
MTE				LR	LR		
	comp=Z,853nm,20.0s						
WDD	**Wield Dalam**	**168.15**	**304**	PFAKE

	1.2nm,0.8s,baz=172,slow=5.6,SNR=3.6							
KSRS	**Korea Array**	**83.94**	**319**	P	**P**	19 19 23.5	**+0.9**	
	0.4nm,0.5s,baz=115,slow=5.9,SNR=2.8							
KSAR	**Wonju Array Be**	**83.96**	**319**	P	**P**	19 19 23.5	**+0.8**	
PETK	**Petropavlovsk-**	**85.14**	**345**	P	**P**	19 19 28.3	**0.0**	
PETK	**Petropavlovsk-**	**85.14**	**345**	P	**P**	19 19 28.3	**0.0**	
	1.6nm,0.5s,baz=124,slow=6.8,SNR=4.9							
NVAR	**Mina Array Bea**	**87.50**	**43**	P	**P**	19 19 40.3	**-0.2**	
NVAR	**Mina Array Bea**	**87.50**	**43**	P	**P**	19 19 40.3	**-0.2**	
	0.8nm,0.6s,baz=234,slow=7.7,SNR=4.7							
TXAR	**Lajitas Array**	**91.75**	**57**	P	**P**	19 20 00.5	**0.0**	
TXAR	**Lajitas Array**	**91.75**	**57**	P	**P**	19 20 00.5	**0.0**	
	0.8nm,1.0s,baz=212,slow=5.9,SNR=3.6							
PDAR	**Pinedale Array**	**95.40**	**43**	P	**P**	19 20 17.0	**-0.2**	
PDAR	**Pinedale Array**	**95.40**	**43**	P	**P**	19 20 17.0	**-0.2**	
	0.4nm,0.8s,baz=197,slow=2.8,SNR=3.3							
MKAR	**Makanchi Array**	**117.49**	**310**	PKP	**PKPdf**	19 25 37.2	**-0.7**	
MKAR	**Makanchi Array**	**117.49**	**310**	PKP	**PKPdf**	19 25 37.2	**-0.7**	
	0.6nm,0.8s,baz=116,slow=3.4,SNR=2.8							
ZALV	**Zalesovo Beam**	**117.64**	**319**	PKP	**PKPdf**	19 25 35.7	**-2.2**	
ZALV	**Zalesovo Beam**	**117.64**	**319**	PKP	**PKPdf**	19 25 35.7	**-2.2**	
	0.9nm,0.7s,baz=90,slow=2.9,SNR=2.5							
FINES	**FINESS Array B**	**144.52**	**341**	PKP	**PKPab**	19 26 25.9	**-0.7**	
FINES	**FINESS Array B**	**144.52**	**341**	PKP	**PKPab**	19 26 25.9	**-0.7**	
	14nm,0.5s,baz=61,slow=3.5,SNR=21							
NOA	**NORSAR Array B**	**148.04**	**352**	PKPbc	**PKPbc**	19 26 36.8	**-0.5**	
NOA	**NORSAR Array B**	**148.04**	**352**	PKPbc	**PKPbc**	19 26 36.8	**-0.5**	
	4.8nm,0.7s,baz=15,slow=4.5,SNR=5.0							
BRTR	**Keskin Array B**	**152.46**	**300**	PKPbc	**PKPbc**	19 26 48.3	**-0.5**	
BRTR	**Keskin Array B**	**152.46**	**300**	PKPbc	**PKPbc**	19 26 48.3	**-0.5**	
	0.9nm,0.4s,baz=120,slow=2.0,SNR=5.8							
TORD	**Torodi Ar. Bea**	**163.58**	**178**	PKPab	**PKPab**	19 27 48.0	**+0.6**	
TORD	**Torodi Ar. Bea**	**163.58**	**178**	PKPab	**PKPab**	19 27 48.0	**+0.6**	
	1.0nm,0.9s,baz=202,slow=3.1,SNR=3.5							

SKO ***25*** *19:19:00.6,40.˚54N×22.˚93E,h8km,M1.4,ML1.8*
ISCJB ***25*** *19:19:01.8±0.4,40.˚63N±0.˚03×22.˚89E±0.˚04,h11km±3km, Error ellipse: s-maj=5.1km s-min=4.1km az=135.3*
CSEM ***25*** *19:19:01.8±0.1,40.˚62N×22.˚89E,h10km,ML1.9/4, Error ellipse: s-maj=2.8km s-min=2.3km az=50.0*
ATH ***25*** *19:19:01.8,40.˚65N×22.˚89E,h24km±1km, MD2.6/4*
THE ***25*** *19:19:02.3,40.˚63N×22.˚90E,h10km,ML1.9/4, Error ellipse: s-maj=0.9km s-min=0.5km az=55.0*

ISC 25 19:19:01.5±0.8, 40.˚66N±0.˚03×22.˚90E±0.˚02, h15km±5km, n35, σ0.956/55, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THE	**Thessaloniki**	**0.05**	**118**	P		**Pg**	**19 19 04.3**	**0.0**
THE				S		**Sg**	**19 19 05.6**	**-0.5**
THE	**Thessaloniki**	**0.05**	**118**	P		**Pg**	**19 19 04.3**	**0.0**
THE				S		**Sg**	**19 19 05.6**	**-0.5**
HORT	**Hortiatis**	**0.16**	**111**	P		**Pg**	**19 19 05.8**	**+0.2**
HORT				S		**Sg**	**19 19 08.3**	**0.0**
HORT	**Hortiatis**	**0.16**	**111**	P		**Pg**	**19 19 05.8**	**+0.2**
HORT				S		**Sg**	**19 19 08.3**	**0.0**
GRG	**Griva**	**0.48**	**308**	P		**Pb**	**19 19 11.8**	**0.0**
GRG				S		**Sb**	**19 19 19.3**	**+0.5**
GRG	**Griva**	**0.48**	**308**	*e*PB		**Pb**	**19 19 11.8**	**0.0**
GRG				*e*SB		**Sb**	**19 19 18.9**	**+0.1**
GRG	**Griva**	**0.48**	**308**	P		**Pb**	**19 19 11.8**	**0.0**
GRG				*e*Sb		**Sb**	**19 19 18.9**	**+0.1**
GRG				S		**Sb**	**19 19 19.3**	**+0.5**
PLG	**Polygyros**	**0.50**	**124**	P		**Pg**	**19 19 11.6**	**+0.2**
PLG	**Polygyros**	**0.50**	**124**	*e*PN		**Pg**	**19 19 11.6**	**+0.2**
PLG				*e*SN		**Sb**	**19 19 19.1**	**-0.1**
PLG	**Polygyros**	**0.50**	**124**	P		**Pg**	**19 19 11.6**	**+0.2**
PLG				*e*Sn		**Sb**	**19 19 19.1**	**-0.1**
KNT	**Kendrikon**	**0.50**	**360**	P		**Pb**	**19 19 12.8**	**+0.7**
KNT				S		**Sb**	**19 19 20.6**	**+1.3**
KNT	**Kendrikon**	**0.50**	**360**	P		**Pb**	**19 19 12.8**	**+0.7**
KNT				S		**Sb**	**19 19 20.6**	**+1.3**
SRS	**Serrai**	**0.70**	**48**	P		**Pb**	**19 19 15.9**	**+0.5**
SRS				S		**Sn**	**19 19 26.2**	**-1.2**
SRS	**Serrai**	**0.70**	**48**	P		**Pb**	**19 19 15.9**	**+0.5**
SRS				S		**Sn**	**19 19 26.2**	**-1.2**
VAY	**Valandovo**	**0.71**	**339**	P		**Pb**	**19 19 15.6**	**0.0**
VAY	**Valandovo**	**0.71**	**339**	*e*Pg		**Pn**	**19 19 16.1**	**-0.9**
VAY				*e*Sg		**Sb**	**19 19 25.8**	**+0.5**
VAY				*e*Lg		Lg	19 19 25.9	
	comp=N,35nm,0.6s							
VAY				*e*Lg		Lg	19 19 26.1	
	comp=E,27nm,0.5s							
VAY	**Valandovo**	**0.71**	**339**	P		**Pb**	**19 19 15.6**	**0.0**
VAY	**Valandovo**	**0.71**	**339**	*e*Pg		**Pn**	**19 19 16.1**	**-0.9**
VAY				*e*Sg		**Sb**	**19 19 25.7**	**+0.5**
VAY				*e*Lg		Lg	19 19 26.1	
	comp=E,27nm,0.5s							
OUR	**Ouranopolis**	**0.88**	**111**	P		**Pb**	**19 19 19.1**	**+0.6**
OUR	**Ouranopolis**	**0.88**	**111**	P		**Pb**	**19 19 19.1**	**+0.6**
KZN	**Kozani**	**0.93**	**248**	P		**Pb**	**19 19 19.6**	**+0.2**
KZN	**Kozani**	**0.93**	**248**	*e*PN		**Pb**	**19 19 19.9**	**+0.5**
KZN				*e*SN		**Sb**	**19 19 32.7**	**+1.1**
KZN	**Kozani**	**0.93**	**248**	P		**Pb**	**19 19 19.6**	**+0.2**
KZN	**Kozani**	**0.93**	**248**	*e*Pn		**Pb**	**19 19 19.9**	**+0.5**
KZN				*e*Sn		**Sb**	**19 19 32.7**	**+1.1**
PAIG	**Paliouri**	**0.94**	**141**	P		**Pg**	**19 19 19.3**	**-0.4**
PAIG	**Paliouri**	**0.94**	**141**	P		**Pg**	**19 19 19.3**	**-0.4**
NVR	**Nevrokopi**	**1.00**	**46**	P		**Pn**	**19 19 21.6**	**+0.5**
NVR	**Nevrokopi**	**1.00**	**46**	*e*PN		**Pn**	**19 19 21.4**	**+0.3**
NVR	**Nevrokopi**	**1.00**	**46**	P		**Pn**	**19 19 21.6**	**+0.5**
KAVA	**Kavala**	**1.27**	**74**	P		**Pg**	**19 19 25.8**	**-0.1**
KAVA	**Kavala**	**1.27**	**74**	P		**Pg**	**19 19 25.8**	**-0.1**
THL	**Klokotos Trika**	**1.29**	**212**	*e*PN		**Pg**	**19 19 26.5**	**+0.2**
THL				*e*SN		**Sg**	**19 19 43.3**	**+0.3**
THL	**Klokotos Trika**	**1.29**	**212**	*e*Pn		**Pg**	**19 19 26.5**	**+0.2**
THL				*e*Sn		**Sg**	**19 19 43.3**	**+0.3**
XOR	**Xorichti**	**1.31**	**170**	P		**Pn**	**19 19 24.9**	**-0.4**
XOR	**Xorichti**	**1.31**	**170**	P		**Pn**	**19 19 24.9**	**-0.4**

NEIC ***25*** *19:19:15.6±0.5,29.˚64S×177.˚50W,h35km,mb4.5/9, Error ellipse: s-maj=14.5km s-min=11.6km az=81.0*
ISCJB ***25*** *19:19:16.4±0.6,29.˚73S±0.˚06×177.˚7W±0.˚1,h52km, mb4.4/20, Error ellipse: s-maj=16.5km s-min=8.6km az=173.7*
IDC ***25*** *19:19:17.0±1.3,29.˚56S×177.˚59W,h42km±9km,mb4.0/14, mb1 4.1/14,mb1mx4.0/21,mbtmp4.0/14,MS4.3/1, Ms1 4.3/1,ms1mx3.3/33,Error ellipse: s-maj=22.0km s-min=16.3km az=84.0*

ISC 25 19:19:18.0±0.6, 29.˚72S±0.˚06×177.˚7W±0.˚1, h52km, n71, σ1.853/72, mb4.4/20, 1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.52**	**334**	P		**Pn**	**19 19 27.4**	**-2.3**
RAO				S		**Sn**	**19 19 36.5**	**-1.5**
RAO	**Raoul Island**	**0.52**	**334**	P		**Pn**	**19 19 27.3**	**-2.3**
	2μm,0.3s,baz=83,slow=0.4,SNR=234							
RAO				S		**Sn**	**19 19 36.5**	**-1.5**
	4μm,0.3s,baz=90,slow=20,SNR=25							
OUZ	**Omahuta**	**9.20**	**231**	*e*Pn		Pn	19 21 34.1	+6.0
	71nm,1.3s							
URZ	**Urewera**	**9.56**	**206**	P		Pn	19 21 28.0	-5.0
URZ				S		**Sn**	**19 23 15.7**	**-3.3**
URZ	**Urewera**	**9.56**	**206**	P		Pn	19 21 28.0	-5.0
	0.6nm,0.3s,baz=141,slow=13,SNR=7.2							
URZ				S		**Sn**	**19 23 15.7**	**-3.3**
	6.7nm,0.3s,baz=72,slow=20,SNR=11							
DZM	**Mont Dzumac**	**16.20**	**294**	P		**P**	**19 23 08.6**	**+3.9**
DZM	**Mont Dzumac**	**16.20**	**294**	P		**P**	**19 23 08.6**	**+3.9**
	0.4nm,0.3s,baz=155,slow=19,SNR=3.7							
DZM				LR		LR	19 28 06.7	
	comp=Z,882nm,18.3s,baz=346,slow=33							
RPZ	**Rata Peaks**	**16.62**	**210**	P		**Pn**	**19 23 05.9**	**-1.6**
RPZ				S		Sn	19 25 53.9	-17
RPZ	**Rata Peaks**	**16.62**	**210**	P		**Pn**	**19 23 05.9**	**-1.6**
	1.4nm,0.3s,baz=42,slow=3.2,SNR=6.2							
RPZ				S		Sn	19 25 53.9	-17
	1.0nm,0.3s,baz=124,slow=15,SNR=4.2							
EIDS	**Eidsvold**	**28.01**	**271**	*e*P		**P**	**19 25 05.9**	**+1.7**
	9.8nm,0.9s							
CTA	**Charters Tower**	**33.99**	**278**	P		**P**	**19 25 58.9**	**+1.9**
CTA	**Charters Tower**	**33.99**	**278**	P		**P**	**19 25 58.9**	**+1.9**
	7.8nm,0.4s,baz=107,slow=11,SNR=19							
CTAO	**Charters Tower**	**33.99**	**278**	*e*P		**P**	**19 25 58.8**	**+1.9**
	8.4nm,0.5s							
STKA	**Stephens Creek**	**34.93**	**256**	*e*P		**P**	**19 26 06.5**	**+1.6**
	1.7nm,0.8s							
STKA	**Stephens Creek**	**34.93**	**256**	P		**P**	**19 26 06.5**	**+1.6**
	6.4nm,0.7s,baz=97,slow=8.8,SNR=16							

AS31	**Alice Springs**	**43.45**	**266**	*e*P		**P**	**19 27 16.1**	**-0.1**
ASAR	**Alice Springs**	**43.45**	**266**	P		**P**	**19 27 15.6**	**-0.6**
ASAR				PcP		**PcP**	**19 29 03.2**	**-0.5**
ASAR	**Alice Springs**	**43.45**	**266**	P		**P**	**19 27 15.6**	**-0.6**
	2.6nm,0.4s,baz=100,slow=7.4,SNR=56							
ASAR				PcP		**PcP**	**19 29 03.2**	**-0.5**
	0.5nm,0.7s,baz=107,slow=4.7,SNR=3.6							
WRAB	**Tennant Creek**	**44.37**	**271**	*e*P		**P**	**19 27 22.6**	**-1.0**
	4.9nm,0.7s							
WRA	**Warramunga Arr**	**44.38**	**271**	P		**P**	**19 27 22.6**	**-1.0**
WRA	**Warramunga Arr**	**44.38**	**271**	P		**P**	**19 27 22.6**	**-1.0**
	4.7nm,0.6s,baz=112,slow=6.5,SNR=5.4							
SBA	**Scott Base**	**48.74**	**184**	*e*P		P	19 28 03.7	+6.7
	2.3nm,0.6s							
VNDA	**Vanda**	**48.80**	**186**	*e*P		**P**	**19 27 58.9**	**+1.4**
	2.0nm,1.0s							
VNDA	**Vanda**	**48.80**	**186**	P		**P**	**19 27 59.5**	**+2.0**
	0.3nm,0.5s,baz=7.9,slow=6.9,SNR=4.5							
FITZ	**Fitzroy Crossi**	**52.66**	**269**	P		**P**	**19 28 26.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**52.66**	**269**	P		**P**	**19 28 26.8**	**-0.5**
	4.2nm,0.8s,baz=181,slow=6.1,SNR=9.0							
NWAO	**Narrogin (SRO)**	**54.92**	**249**	P		P	19 28 48.0	+4.3
	36nm,1.4s							
CASY	**Casey**	**55.88**	**208**	*e*P		**P**	**19 28 49.4**	**-0.6**
	4.0nm,0.5s							
QSPA	**South Pole Qui**	**60.39**	**180**	P		**P**	**19 29 23.1**	**+1.3**
QSPA	**South Pole Qui**	**60.39**	**180**	P		**P**	**19 29 23.1**	**+1.3**
	10nm,0.6s,baz=37,slow=1.5,SNR=70							
MAW	**Mawson**	**73.05**	**200**	P		**P**	**19 30 42.7**	**+0.6**
MAW	**Mawson**	**73.05**	**200**	P		**P**	**19 30 42.7**	**+0.6**
	2.6nm,0.6s,baz=122,slow=2.4,SNR=5.1							
SYO	**Syowa Base**	**77.84**	**193**	*e*P		P	19 31 06.3	-3.2
MJAR	**Matsushiro Arr**	**77.86**	**325**	P		**P**	**19 31 09.1**	**-0.9**
MJAR	**Matsushiro Arr**	**77.86**	**325**	P		**P**	**19 31 09.1**	**-0.9**
	2.4nm,1.1s,baz=151,slow=6.3,SNR=4.9							
MAJO	**Matsushiro**	**77.86**	**325**	P		**P**	**19 31 08.7**	**-1.3**
SNAA	**Sanae**	**78.83**	**178**	*e*P		**P**	**19 31 14.4**	**-0.7**
	2.7nm,0.8s							
ASAJ	**Asahikawa**	**81.98**	**332**	P		**P**	**19 31 31.2**	**-0.8**
ASAJ	**Asahikawa**	**81.98**	**332**	P		**P**	**19 31 31.2**	**-0.8**
	2.5nm,0.8s,baz=133,slow=19,SNR=3.0							
KSRS	**Korea Array**	**84.03**	**319**	P		**P**	**19 31 43.1**	**+0.3**
	1.2nm,1.0s,baz=140,slow=6.1,SNR=4.0							
KSAR	**Wonju Array Be**	**84.04**	**319**	P		**P**	**19 31 43.1**	**+0.2**
PETK	**Petropavlovsk-**	**85.23**	**345**	P		**P**	**19 31 48.0**	**-0.5**
PETK	**Petropavlovsk-**	**85.23**	**345**	P		**P**	**19 31 48.0**	**-0.5**
	1.4nm,0.5s,baz=140,slow=7.5,SNR=3.7							
USRK	**Ussuriysk Arra**	**86.76**	**326**	P		**P**	**19 31 57.7**	**+1.5**
	2.1nm,0.9s,baz=134,slow=5.5,SNR=6.2							
NVAR	**Mina Array Bea**	**87.54**	**43**	P		**P**	**19 32 00.5**	**-0.1**
NVAR	**Mina Array Bea**	**87.54**	**43**	P		**P**	**19 32 00.5**	**-0.1**
	0.5nm,0.8s,baz=210,slow=8.8,SNR=4.2							
MKAR	**Makanchi Array**	**117.56**	**310**	PKP		**PKPdf**	**19 37 55.6**	**-2.3**
MKAR	**Makanchi Array**	**117.56**	**310**	PKP		**PKPdf**	**19 37 55.6**	**-2.3**
	0.5nm,0.8s,baz=90,slow=2.3,SNR=4.5							
ZALV	**Zalesovo Beam**	**117.72**	**319**	PKP		**PKPdf**	**19 37 56.7**	**-1.2**
ZALV	**Zalesovo Beam**	**117.72**	**319**	PKP		**PKPdf**	**19 37 56.7**	**-1.2**
	0.4nm,0.5s,baz=96,slow=1.4,SNR=2.9							
KMBO	**Kilima Mbogo**	**134.72**	**234**	PKP		**PKPdf**	**19 38 33.8**	**+1.8**
KMBO	**Kilima Mbogo**	**134.72**	**234**	PKP		**PKPdf**	**19 38 33.8**	**+1.8**
	0.7nm,0.3s,baz=54,slow=18,SNR=3.3							
ARCES	**ARCESS Array B**	**137.98**	**348**	PKP		**PKPdf**	**19 38 37.1**	**+1.1**
ARCES	**ARCESS Array B**	**137.98**	**348**	PKP		**PKPdf**	**19 38 37.1**	**+1.1**
	3.8nm,1.1s,baz=20,slow=3.9,SNR=5.0							
FINES	**FINESS Array B**	**144.61**	**340**	PKP		**PKPab**	**19 38 45.6**	**-1.1**
FINES	**FINESS Array B**	**144.61**	**340**	PKP		**PKPab**	**19 38 45.6**	**-1.1**
	5.6nm,0.5s,baz=56,slow=3.6,SNR=72							
KBZ	**Khabaz**	**144.97**	**305**	PKP		**PKPdf**	**19 38 50.0**	**+0.7**
KBZ	**Khabaz**	**144.97**	**305**	PKP		**PKPdf**	**19 38 50.0**	**+0.7**
	2.2nm,0.7s,baz=69,slow=0.7,SNR=4.9							
NB2	**NORSAR Subarra**	**148.12**	**352**	PKP		**PKPbc**	**19 38 56.1**	**-1.3**
	comp=Z,3.6nm,0.7s,baz=15,slow=2.9							
NOA	**NORSAR Array B**	**148.12**	**352**	PKPbc		**PKPbc**	**19 38 56.3**	**-1.1**
NOA	**NORSAR Array B**	**148.12**	**352**	PKPbc		**PKPbc**	**19 38 56.3**	**-1.1**
	comp=Z,2.5nm,0.6s,baz=14,slow=4.4,SNR=9.5							
KIEV	**Kiev**	**150.95**	**324**	*e*PKPbc		**PKPbc**	**19 39 03.1**	**-1.5**
KIEV				*e*PKPab		**PKiKP**	**19 39 08.0**	**+2.9**
BR131	**Keskin Array S**	**152.53**	**300**	*e*PKPbc		**PKPbc**	**19 39 07.6**	**-1.2**
BRTR	**Keskin Array B**	**152.53**	**300**	PKPbc		**PKPbc**	**19 39 07.8**	**-1.0**
BRTR	**Keskin Array B**	**152.53**	**300**	PKPbc		**PKPbc**	**19 39 07.8**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=135,slow=4.0,SNR=8.4							
CSS	**Prodhromos**	**153.37**	**289**	*e*PKPbc		**PKPbc**	**19 39 09.5**	**-1.2**
CLL	**Colim**	**157.01**	**343**	*e*PKPab		**PKPab**	**19 39 39.0**	**+1.2**
	comp=Z,3.0nm,0.8s							
GERES	**GERESS Array B**	**159.02**	**339**	PKPab		**PKPab**	**19 39 46.7**	**0.0**
GERES	**GERESS Array B**	**159.02**	**339**	PKPab		**PKPab**	**19 39 46.7**	**0.0**
	comp=Z,0.9nm,0.8s,baz=18,slow=4.6,SNR=5.9							
TORD	**Torodi Ar. Bea**	**163.50**	**178**	PKPab		**PKPab**	**19 40 07.5**	**+0.7**
TORD	**Torodi Ar. Bea**	**163.50**	**178**	PKPab		**PKPab**	**19 40 07.5**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=174,slow=3.0,SNR=3.2							

FUNV 25 19:31:33.5, 10.˚05N×73.˚17W, h128km, MW3.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VIRV	**Villa del Rosa**	**0.87**	**59**	*e*P		Pn	19 31 54.5	-0.6
VIRV				*e*S		Sn	19 32 10.4	-1.1
VIGV	**El Vigia**	**2.15**	**124**	*e*P		Pn	19 32 08.8	-0.5
VIGV				*e*S		Sn	19 32 33.8	-2.9
CAPV	**Capacho**	**2.33**	**159**	*e*P		Pn	19 32 11.1	-0.7
CAPV				*e*S		Sn	19 32 38.6	-2.6
DABV	**Dabajuro**	**2.63**	**71**	*e*P		Pn	19 32 13.8	-1.6
DABV				*e*S		Sn	19 32 44.7	-2.9
SOCV	**Socops**	**2.88**	**127**	*e*P		Pn	19 32 17.5	-1.1
SOCV				*e*S		Sn	19 32 49.8	-3.5
CURV	**Curarigua**	**3.16**	**90**	*e*P		Pn	19 32 20.9	-1.3
CURV				*e*S		Sn	19 32 56.2	-3.6
SIQV	**Siquisique**	**3.36**	**80**	*e*P		Pn	19 32 24.0	-0.8
SIQV				*e*S		Sn	19 33 00.5	-3.9
SANV	**Sanarito**	**3.62**	**98**	*e*P		Pn	19 32 28.0	-0.3
SANV				*e*S		Sn	19 33 06.8	-4.1
MONV	**Montecano**	**3.66**	**59**	*e*P		Pn	19 32 26.6	-2.2
MONV				*e*S		Sn	19 33 07.8	-3.8
TEPV	**Terepaima**	**3.92**	**91**	*e*P		Pn	19 32 31.1	-1.1
TEPV				*e*S		Sn	19 33 13.8	-3.9
BAUV	**El Baul**	**5.17**	**102**	*e*P		Pn	19 32 46.8	-2.1
BAUV				*e*S		Sn	19 33 41.4	-6.3

ISCJB ***25*** *19:38:34.0±0.3,23.˚18N±0.˚02×121.˚52E±0.˚02,h21km±3km, Error ellipse: s-maj=3.6km s-min=2.9km az=143.0*
TAP ***25*** *19:38:34.8,23.˚22N×121.˚41E,h22km,ML3.7,B*
JMA ***25*** *19:38:35.9±0.4,23.˚21N×121.˚55E,h83km,M2.9*

ISC 25 19:38:34.4±0.9, 23.˚19N±0.˚02×121.˚47E±0.˚02, h24km±6km, n63, σ0.987/98, 17C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.13**	**226**	*i*P		**Pb**	**19 38 39.7**	**+0.4**
	baz=183							
CHKT				*i* S		**Sb**	**19 38 43.1**	**+0.6**
	baz=183							
TWF1	**Yuli**	**0.23**	**315**	*i*P		**Pb**	**19 38 40.2**	**-0.2**
	baz=312							
TWF1				*i* S		**Sb**	**19 38 44.3**	**-0.1**
	baz=312							
EHY	**Hungye**	**0.34**	**336**	*i*P		**Pb**	**19 38 41.5**	**-0.6**
	baz=333							
EHY				S		**Sb**	**19 38 47.1**	**-0.1**
	baz=333							
ELDTW	**Lidau**	**0.42**	**270**	*i*P		**Pb**	**19 38 42.4**	**-0.9**
	baz=265							
ELDTW				S		**Sb**	**19 38 47.5**	**-1.9**
	baz=265							
TWG	**Pinlang**	**0.52**	**225**	*i*P		**Pb**	**19 38 44.4**	**-0.5**
	baz=229							
TWG				*e*S		**Sb**	**19 38 51.6**	**-0.5**
	baz=229							
TTN	**Taitung**	**0.53**	**214**	*e*P		**Pn**	**19 38 45.5**	**-0.9**
	baz=206							
YUS	**Yu-Shan**	**0.56**	**302**	*i*P		**Pb**	**19 38 45.3**	**-0.6**
	baz=297							
YUS				*e*S		**Sb**	**19 38 51.5**	**-2.2**
	baz=297							
ESL	**Shilin**	**0.62**	**357**	*e*P		**Pb**	**19 38 45.5**	**-1.1**
	baz=354							
ESL				*e*S		**Sn**	**19 38 56.2**	**-0.7**
	baz=354							
STYT	**Tauyuan**	**0.66**	**268**	*i*P		**Pb**	**19 38 46.7**	**-0.6**
	baz=260							
STYT				S		**Sb**	**19 38 55.0**	**-1.1**
	baz=260							
ALS	**Alishan**	**0.69**	**298**	*i*P		**Pb**	**19 38 47.5**	**-0.4**
	baz=297							
ECL	**Taimali**	**0.76**	**219**	*e*P		**Pb**	**19 38 47.5**	**-1.4**
	baz=213							
WTP	**Ta-pu**	**0.79**	**274**	*i*P		**Pn**	**19 38 49.5**	**-0.5**
	baz=272							
WTP				S		**Sb**	**19 38 59.6**	**-0.3**
	baz=272							
HWA	**Hwalien**	**0.79**	**9**	*e*P		**Pb**	**19 38 49.0**	**-0.5**
	baz=360							
CHN4	**Tsaushan**	**0.82**	**281**	P		**Pn**	**19 38 50.0**	**-0.4**
	baz=280							
CHN4				S		**Sn**	**19 39 01.5**	**-0.4**
	baz=280							
SGST	**Jiashian**	**0.82**	**263**	P		**Pn**	**19 38 50.2**	**-0.3**
	baz=260							
SGST				*e*S		**Sn**	**19 39 01.0**	**-0.9**
	baz=260							
CHN5	**Tsauling**	**0.83**	**299**	*i*P		**Pn**	**19 38 50.2**	**-0.4**
	baz=299							
CHN5				*e*S		**Sn**	**19 39 02.1**	**-0.1**
	baz=299							
SMLT	**Sun Moon Lake**	**0.86**	**323**	P		**Pb**	**19 38 50.0**	**-0.8**
	baz=330							
CHN1	**Nanshi**	**0.87**	**270**	*i*P		**Pn**	**19 38 51.1**	**0.0**
	baz=268							
CHN1				S		**Sn**	**19 39 02.7**	**-0.3**
	baz=268							
TWD	**Chiawan**	**0.89**	**7**	*e*P		**Pb**	**19 38 50.1**	**-1.1**
TWD				*e*S		**Sn**	**19 39 03.4**	**-0.1**
TYC	**Yuchr**	**0.91**	**322**	*i*P		**Pb**	**19 38 50.8**	**-0.7**
	baz=332							
TYC				*e*S		**Sn**	**19 39 03.8**	**0.0**
	baz=332							
TWK	**Hsinying**	**0.91**	**275**	*e*P		Pn	**19 38 51.4**	**-0.2**
	baz=273							
TWK				*e*S		**Sn**	**19 39 03.5**	**-0.5**
	baz=273							
WHF	**Hehuan Shan**	**0.97**	**349**	*e*P		Pn	**19 38 51.5**	**-1.4**
	baz=1.0							
WNT	**Mingjian**	**0.99**	**314**	*i*P		**Pb**	**19 38 53.3**	**+0.3**
	baz=314							
WNT				*e*S		**Sn**	**19 39 06.5**	**+0.5**
	baz=314							
CHY	**Chiayi**	**1.01**	**288**	*i*P		**Pb**	**19 38 53.6**	**+0.4**
	baz=287							
CHY				*e*S		**Sn**	**19 39 06.8**	**+0.4**
	baz=287							
SGLT	**Jiouru**	**1.02**	**243**	*e*P		Pn	**19 38 53.8**	**+0.5**
	baz=241							
CHN3	**Shinhua**	**1.02**	**264**	*e*P		Pn	**19 38 54.9**	**+1.4**
	baz=262							
CHN3				S		**Sn**	**19 39 09.6**	**+2.8**
	baz=262							
TWM1	**Shoushan**	**1.03**	**249**	*e*P		Pb	**19 38 55.0**	**+1.4**
	baz=247							
TWT	**Tachien**	**1.09**	**346**	P		Pn	**19 38 53.9**	**-0.4**
	baz=346							
SCZT	**Fangliau**	**1.13**	**224**	*e*P		Pn	**19 38 53.8**	**-0.9**
	baz=216							
LAY	**Lan-yu**

235nm,0.3s,baz=77,slow=19,SNR=68
PB04 Plate Boundary 2.86 308 ⇑*i*P Pn 19 41 28.3 +5.8
PB04 *i* S Sn 19 42 06.2 +7.5
PB04 AML AML 19 42 15.7
comp=N,2μm,0.4s
PB09 Plate Boundary 3.02 318 ⇑*i*P **Pn 19 41 25.9 +1.3**
PB09 *i* S **Sn 19 42 01.6 -0.9**
PB09 AML AML 19 42 04.2
comp=N,3μm,0.6s
ANCH Antofagasta 3.09 276 ⇑*i*P **Pn 19 41 25.5 +0.3**
ANCH *i* S **Sn 19 42 00.9 -2.7**
PB01 Plate Boundary 3.75 323 ⇑*i*P **Pn 19 41 33.7 0.0**
PB01 *i* S **Sn 19 42 16.6 -2.2**
CFAA Coronel Fontan 7.58 188 P **Pn 19 42 22.3 -1.3**
comp=N,0.1nm,0.3s,baz=360,slow=14,SNR=12
CFAA S Sn 19 43 42.7 -6.1
comp=N,0.4nm,0.3s,baz=90,slow=4.0,SNR=10
LPAZ La Paz 7.80 352 P **Pn 19 42 28.6 +1.4**
comp=N,2.1nm,0.3s,baz=164,slow=6.3,SNR=43
LPAZ S **Sn 19 43 52.3 -2.7**
comp=N,0.4nm,0.3s,baz=141,slow=8.4,SNR=4.8
CPUP Villa Florida 9.10 106 P **Pn 19 42 43.4 -0.2**
comp=N,0.6nm,0.3s,baz=279,slow=9.6,SNR=6.3
CPUP LR LR 19 46 45.0
comp=N,130nm,19.9s,baz=41,slow=41
SIV San Ignacio 9.80 36 P **Pn 19 42 52.2 -0.8**
comp=N,2.1nm,0.3s,baz=223,slow=14,SNR=31
SIV S Sn 19 44 31.4 -11
comp=N,0.2nm,0.3s,baz=294,slow=20,SNR=5.1
SIV LR LR 19 46 17.7
comp=N,60nm,21.9s,slow=35
PLCA Paso Flores 16.88 189 P **Pn 19 44 22.1 +0.1**
comp=N,0.3nm,0.3s,baz=346,slow=20,SNR=4.0
BDFB Brasilia 19.76 68 P **P 19 44 53.2 +0.4**
comp=N,2.6nm,0.3s,baz=238,slow=11,SNR=49
ATAH Atahualpa 20.04 325 P **P 19 44 57.0 +0.9**
comp=N,3.1nm,0.6s,baz=153,slow=9.0,SNR=2.6
TXAR Lajitas Array 63.70 324 P **P 19 50 48.7 -0.4**
comp=N,0.2nm,0.5s,baz=155,slow=11,SNR=3.2
VNDA Vanda 74.63 190 P **P 19 51 56.5 +0.9**
comp=N,1.3nm,0.9s,baz=124,slow=3.4,SNR=7.9
TORD Torodi Ar. Bea 76.64 69 P **P 19 52 08.2 +0.1**
comp=N,1.0nm,0.6s,baz=254,slow=3.8,SNR=12
PDAR Pinedale Array 77.18 329 P **P 19 52 11.2 +0.4**
comp=N,0.2nm,0.3s,baz=129,slow=7.2,SNR=2.9
NVAR Mina Array Bea 78.56 321 P **P 19 52 20.1 +1.6**
comp=N,0.1nm,0.3s,baz=165,slow=6.2,SNR=3.7
MAW Mawson 81.39 163 P **P 19 52 33.4 +0.5**
comp=N,1.9nm,0.5s,baz=209,slow=13,SNR=3.7
YKA Yellowknife Ar 94.17 340 P **P 19 53 33.8 -0.6**
comp=N,0.7nm,0.8s,baz=135,slow=3.6,SNR=5.7
ASAR Alice Springs 128.37 205 PKP **PKPdf 19 59 22.7 0.0**
comp=N,1.1nm,0.7s,baz=132,slow=2.0,SNR=13
WRA Warramunga Arr 131.54 207 PKP **PKPdf 19 59 28.9 +0.2**
comp=N,0.9nm,0.5s,baz=157,slow=1.7,SNR=1.6
ZALV Zalesovo Beam 143.48 28 PKP **PKPdf 19 59 48.2 -1.3**
comp=N,1.2nm,0.6s,baz=307,slow=5.7,SNR=7.4
MKAR Makanchi Array 146.61 40 PKPbc **PKPbc 19 59 56.1 -1.0**
comp=N,1.3nm,0.6s,baz=48,slow=1.8,SNR=18

*CSEM **25** 19:44:56.1,42.°58N×13.°21E,h10km, MD2.2/15, After ROM*
ROM 25 19:44:56.1±0.1,**42.°58N×13.°21E,h10km,Md2.2/15,Ml2.0/12,Error ellipse: s-maj=1.0km s-min=0.7km az=51.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNSS	**Leonessa**	**0.13**	**282**	Pg	Pg	19 44 59.7	+0.4
LNSS				Sg	Sg	19 45 02.0	+0.5
	1μm,0.1s						
LNSS	**Leonessa**	**0.13**	**282**	Pg	Pg	19 44 59.7	+0.4
LNSS				Sg	Sg	19 45 02.0	+0.5
	1μm,0.1s						
CAMP	**Campotosto**	**0.15**	**106**	Pg	Pg	19 45 00.2	+0.5
CAMP				Sg	Sg	19 45 02.9	+0.7
	427nm,0.3s						
CAMP	**Campotosto**	**0.15**	**106**	Pg	Pg	19 45 00.2	+0.5
CAMP				Sg	Sg	19 45 02.9	+0.7
	427nm,0.3s						
AQU	**L'Aquila**	**0.27**	**147**	Pg	Pb	19 45 02.5	-0.6
AQU				Sg	Sb	19 45 07.0	-0.7
	136nm,0.3s						
AQU	**L'Aquila**	**0.27**	**147**	Pg	Pb	19 45 02.5	-0.6
AQU				Sg	Sb	19 45 07.0	-0.7
	136nm,0.3s						
NRCA	**Norcia**	**0.27**	**345**	Pg	Pg	19 45 02.1	+0.4
NRCA				Sg	Sg	19 45 06.4	+1.0
	291nm,0.2s						
NRCA	**Norcia**	**0.27**	**345**	Pg	Pg	19 45 02.1	+0.4
NRCA				Sg	Sg	19 45 06.4	+1.0
	291nm,0.2s						
TERO	**Teramo**	**0.29**	**81**	Pg	Pg	19 45 02.5	+0.4
TERO				Sg	Sg	19 45 07.2	+1.0
TERO	**Teramo**	**0.29**	**81**	Pg	Pg	19 45 02.5	+0.4
TERO				Sg	Sg	19 45 07.2	+1.0
FIAM	**Fiamignano**	**0.32**	**192**	Pg	Pg	19 45 03.0	+0.4
FIAM				Sg	Sg	19 45 07.9	+1.0
	173nm,0.5s						
FIAM	**Fiamignano**	**0.32**	**192**	Pg	Pg	19 45 03.0	+0.4
FIAM				Sg	Sg	19 45 07.9	+1.0
	173nm,0.5s						
MNS	**Montasola**	**0.43**	**244**	Pg	Pg	19 45 05.0	+0.3
	80nm,0.5s						
MNS	**Montasola**	**0.43**	**244**	Pg	Pg	19 45 05.0	+0.3
	80nm,0.5s						
CESX	**Cesi**	**0.47**	**274**	Pg	Pg	19 45 05.6	+0.3
	81nm,0.7s						
CESX	**Cesi**	**0.47**	**274**	Pg	Pg	19 45 05.6	+0.3
	81nm,0.7s						
CESI	**CESI - Serrava**	**0.48**	**332**	Pg	Pg	19 45 06.0	+0.3
CESI				Sg	Sb	19 45 13.5	-0.6
	15nm,0.4s						
CESI	**CESI - Serrava**	**0.48**	**332**	Pg	Pg	19 45 06.0	+0.3
CESI				Sg	Sb	19 45 13.5	-0.6
	15nm,0.4s						
VCEL	**Villa Celiera**	**0.50**	**111**	Pg	Pb	19 45 06.7	-0.5
	138nm,0.6s						
VCEL	**Villa Celiera**	**0.50**	**111**	Pg	Pb	19 45 06.7	-0.5
	138nm,0.6s						
ASSB	**Assisi San Ben**	**0.62**	**319**	Pg	Pg	19 45 08.6	+0.4
	36nm,0.2s						
ASSB	**Assisi San Ben**	**0.62**	**319**	Pg	Pg	19 45 08.6	+0.4
	36nm,0.2s						
GUMA	**Gualdo di Mace**	**0.72**	**47**	Pg	Pg	19 45 06.6	-3.5
	177nm,0.5s						
GUMA	**Gualdo di Mace**	**0.72**	**47**	Pg	Pg	19 45 06.6	-3.5
	177nm,0.5s						

*CSEM **25** 19:45:46.0,43.°09N×13.°18E,h10km, After ROM*
ROM 25 19:45:46.0±0.1,**43.°09N×13.°18E,h10km,Ml1.7/1,Error ellipse: s-maj=1.2km s-min=0.8km az=173.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.08**	**233**	Pg	Pg	19 45 48.7	+0.2
FDMO				Sg	Sg	19 45 50.5	+0.3
FDMO	**Fiordimonte**	**0.08**	**233**	Pg	Pg	19 45 48.7	+0.2
FDMO				Sg	Sg	19 45 50.5	+0.3
CESI	**CESI - Serrava**	**0.22**	**248**	Pg	Pg	19 45 51.2	+0.6
CESI				Sg	Sg	19 45 55.2	+1.4
CESI	**CESI - Serrava**	**0.22**	**248**	Pg	Pg	19 45 51.2	+0.6
CESI				Sg	Sg	19 45 55.2	+1.4
SNTG	**Esanatoglia**	**0.24**	**314**	Pg	Pg	19 45 51.5	+0.4
SNTG				Sg	Sg	19 45 55.6	+1.1
SNTG	**Esanatoglia**	**0.24**	**314**	Pg	Pg	19 45 51.5	+0.4
SNTG				Sg	Sg	19 45 55.6	+1.1
NRCA	**Norcia**	**0.26**	**190**	Pg	Pg	19 45 51.7	+0.3
NRCA				Sg	Sg	19 45 56.2	+1.2
NRCA	**Norcia**	**0.26**	**190**	Pg	Pg	19 45 51.7	+0.3
NRCA				Sg	Sg	19 45 56.2	+1.2
ASSB	**Assisi San Ben**	**0.38**	**264**	Pg	Pg	19 45 54.0	+0.3
ASSB				Sg	Sb	19 46 00.3	-0.7
ASSB	**Assisi San Ben**	**0.38**	**264**	Pg	Pg	19 45 54.0	+0.3
ASSB				Sg	Sb	19 46 00.3	-0.7
MURB	**Monte Urbino**	**0.51**	**290**	Pg	Pg	19 45 56.4	+0.3
	47nm,0.3s						
MURB	**Monte Urbino**	**0.51**	**290**	Pg	Pg	19 45 56.4	+0.3
	47nm,0.3s						
GUMA	**Gualdo di Mace**	**0.56**	**92**	Pg	Pg	19 45 49.4	-7.5
GUMA				Sg	Sg	19 45 51.9	-12
GUMA	**Gualdo di Mace**	**0.56**	**92**	Pg	Pg	19 45 49.4	-7.5
GUMA				Sg	Sg	19 45 51.9	-12

*IDC **25** 19:55:35.1±1.1,1.°31N×127.°17E,h0km,mb3.8/5, mb1 4.1/8,mb1mx3.8/23,mbtmp4.0/8,ML3.9/3, Error ellipse: s-maj=45.9km s-min=17.3km az=75.0*
*ISCJB **25** 19:55:43.8±0.7, 1.°09N±0.°07×126.°84E±0.°05,h72km, mb3.9/5, Error ellipse: s-maj=10.0km s-min=7.7km az=1.1*
*DJA **25** 19:55:45.7±0.8, 1.°1N±5.°×12.°7E±.°,h37km±11km,M4.4/9, mb4.7/7,mB5.0/1,MLv4.3/9,Mw(mB)4.3/1*
ISC 25 19:55:44.3±0.9,**1.°11N±0.°08×126.°81E±0.°07,h72km,n22,σ1§65/23,mb4.0/5,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.65**	**121**	P	Pn	19 55 58.9	**0.0**
GAMI	**Galela, Maluku**	**1.22**	**53**	P	Pn	19 56 06.5	**+0.7**
LBMI	**Labuha**	**1.87**	**158**	P	Pn	19 56 15.4	**+1.1**
MNI	**Manado**	**1.99**	**280**	P	Pn	19 56 16.5	**+0.6**
GTOI	**Gorontalo**	**3.82**	**263**	P	Pn	19 56 43.2	**+2.4**
SWI	**Sorong**	**4.87**	**114**	P	Pn	19 56 54.6	**-0.4**
MRSI	**Marisa**	**4.90**	**263**	P	Pn	19 56 59.0	+3.4
BBSI	**Bau Bau**	**7.80**	**213**	P	Pn	19 57 37.8	**+2.7**
	55nm,0.6s,0.2nm						
TTSI	**Tana Toraja**	**8.11**	**239**	P	Pn	19 57 39.3	**-0.1**
	22nm,0.6s						
BKSI	**Bulukumba**	**9.24**	**226**	P	Pn	19 57 57.1	**+2.3**
	59nm,0.6s,668nm						
KAPI	**Kappang**	**9.31**	**229**	Pn	Pn	19 57 55.8	**+0.1**
	6.1nm,0.3s,baz=48,slow=4.7,SNR=17						
KAPI				Sn	Sn	19 59 36.4	**-2.5**
	1.2nm,0.3s,baz=137,slow=19,SNR=4.4						
BSSI	**Bau Bau, Buton**	**9.57**	**221**	P	Pn	19 58 00.9	**+1.5**
	40nm,1.5s						
SOEI	**Soe**	**11.08**	**193**	P	Pn	19 58 23.2	**+3.1**
	44nm,1.2s						
BATI	**Baumata**	**11.66**	**195**	P	Pn	19 58 30.6	**+2.6**
BATI	**Baumata**	**11.66**	**195**	Pn	Pn	19 58 28.2	**+0.2**
	0.4nm,0.3s,baz=59,slow=19,SNR=1.8						
STKI	**Sintang**	**15.36**	**266**	P	P	19 59 26.7	+6.5
FITZ	**Fitzroy Crossi**	**19.12**	**183**	P	P	20 00 02.4	**+0.7**
	0.1nm,0.3s,baz=4.1,slow=14,SNR=4.7						
WRA	**Warramunga Arr**	**22.18**	**161**	P	P	20 00 34.1	**-0.7**
	2.6nm,0.3s,baz=337,slow=11,SNR=6.8						
WRA				S	S	20 04 33.5	**-1.4**
	5.4nm,0.7s,baz=341,slow=18,SNR=4.1						
ASAR	**Alice Springs**	**25.57**	**165**	P	P	20 01 07.1	**+0.2**
	3.5nm,0.3s,baz=344,slow=11,SNR=4.3						
ASAR				S	S	20 05 29.4	**-0.2**
	0.3nm,0.8s,baz=333,slow=14,SNR=3.0						
STKA	**Stephens Creek**	**35.67**	**158**	P	P	20 02 35.0	**-0.8**
	0.9nm,0.5s,baz=328,slow=9.5,SNR=4.9						
SONM	**Songino Array**	**49.80**	**342**	P	P	20 04 27.9	**-2.1**
	0.3nm,0.8s,baz=145,slow=8.9,SNR=2.6						
MKAR	**Makanchi Array**	**59.75**	**326**	P	P	20 05 43.0	**+1.2**
	0.5nm,0.5s,baz=121,slow=8.4,SNR=12						

*TIF **25** 20:06:39.7, 40.°08N×43.°20E,h10km±4km*
*NSSP **25** 20:06:39.5, 40.°35N×43.°13E,h17km, Ms3.7*
*ISK **25** 20:06:40.6, 40.°12N×43.°33E,h5km, MD3.7, ML3.8*
*IDC **25** 20:06:40.4±0.9, 40.°08N×43.°30E, h0km, mb3.7/9, mb1 3.7/15,mb1mx3.6/31,mbtmp3.6/15, ML3.0/6, MS3.3/1, Ms1 3.3/1,ms1mx2.6/33, Error ellipse: s-maj=13.9km s-min=7.9km az=7.0*
*DDA **25** 20:06:40.9, 40.°12N×43.°38E,h8km,MD3.7*
*MOS **25** 20:06:41.0±0.9, 40.°04N×43.°34E,h13km,mb4.1/8, Error ellipse: s-maj=11.9km s-min=7.8km az=89.8*
*CSEM **25** 20:06:42.2±0.2, 40.°13N×43.°37E,h5km, mb3.9/8, Error ellipse: s-maj=4.9km s-min=3.8km az=153.0*
*AZER **25** 20:06:48.8, 40.°90N×43.°16E, h45km*
ISC 25 20:06:41.8±1.0,**40.°12N±0.°02×43.°34E±0.°02,h8km±7km, n149,σ1§23/180,mb3.9/12,20C-27D, Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DIGO	**Kars**	**0.29**	**5**	*i* P	**Pg**	**20 06 47.7**	**0.0**
DIGO				*i* S	**Sg**	**20 06 52.8**	**+1.1**
DIGO	**Kars**	**0.29**	**5**	*i* P	**Pg**	**20 06 47.7**	**0.0**
DIGO				*i* S	**Sg**	**20 06 52.8**	**+1.1**
NARZ	**Nor Artik**	**0.44**	**40**	⇑*i*P	**Pb**	**20 06 52.0**	**0.0**
NARZ				⇑*i*S	**Sg**	**20 06 55.1**	**-1.3**
NARZ	**Nor Artik**	**0.44**	**40**	⇑P	**Pb**	**20 06 52.0**	**0.0**
NARZ				S	**Sg**	**20 06 55.1**	**-1.3**
KARS	**Kars**	**0.54**	**338**	*e*Pg	**Pg**	**20 06 51.7**	**-0.7**
KARS				*e*Sg	**Sg**	**20 07 00.4**	**+0.9**
LERZ	**Lernakert**	**0.64**	**46**	⇓*i*P	**Pg**	**20 06 54.4**	**+0.1**
LERZ				⇓*i*S	**Sg**	**20 07 01.0**	**-1.7**
LERZ	**Lernakert**	**0.64**	**46**	⇓P	**Pg**	**20 06 54.4**	**+0.1**
HARI	**Harich**	**0.70**	**46**	⇓*i*P	**Pg**	**20 06 55.5**	**+0.2**
HARI				⇓*i*S	**Sg**	**20 07 05.5**	**+1.1**
HARI	**Harich**	**0.70**	**46**	⇓P	**Pg**	**20 06 55.5**	**+0.2**
GMRZ	**Gyumri**	**0.78**	**28**	⇓*i*P	**Pb**	**20 06 58.0**	**+0.2**
GMRZ				⇓*i*S	**Sb**	**20 07 08.0**	**-0.6**
GYMZ	**Gyumri**	**0.78**	**28**	⇓*i*P	**Pg**	**20 06 57.0**	**+0.1**
GYMZ				⇓*i*S	**Sg**	**20 07 08.0**	**+0.9**
GYMZ	**Gyumri**	**0.78**	**28**	⇓P	**Pg**	**20 06 57.0**	**+0.1**
HNAZ	**Hnaberd**	**0.80**	**50**	⇓P	**Pg**	**20 06 57.2**	**0.0**
KAMZ	**Kamo**	**0.84**	**33**	⇓*i*P	**Pg**	**20 06 57.8**	**-0.2**
KAMZ				⇓*i*S	**Sb**	**20 07 10.5**	**+0.3**
KAMZ	**Kamo**	**0.84**	**33**	⇓P	**Pg**	**20 06 57.8**	**-0.2**
SPIZ	**Spitak**	**0.99**	**45**	⇑*i*P	**Pn**	**20 07 04.0**	**+1.7**
BAW	**Bavra**	**1.05**	**19**	*i* P	Pn	20 07 13.0	+10
GNI	**Garni**	**1.07**	**88**	*e*PN	**Pg**	**20 07 02.5**	**+0.1**
GNI				*e*SN	**Sn**	**20 07 19.0**	**+0.5**
GNI	**Garni**	**1.07**	**88**	⇑*i*P	**Pg**	**20 07 01.9**	**-0.5**
GNI				⇓*i*S	**Sn**	**20 07 19.8**	**+1.3**
GNI	**Garni**	**1.07**	**88**	Pg	**Pg**	**20 07 02.2**	**-0.3**
	277nm,0.3s,baz=290,slow=4.2,SNR=540						
GNI				Lg	Lg	20 07 18.6	
	383nm,0.3s,baz=270,slow=20,SNR=18						
GNI	**Garni**	**1.07**	**88**	⇑P	**Pg**	**20 07 01.9**	**-0.5**
GNI				*e*Sn	**Sn**	**20 07 19.0**	**+0.5**
CLDR	**Caldiran**	**1.07**	**155**	*e*PG	**Pg**	**20 07 01.4**	**-1.0**
CLDR				*e*SG	**Sb**	**20 07 18.1**	**+1.0**
CLDR	**Caldiran**	**1.07**	**155**	*e*Pg	**Pg**	**20 07 01.5**	**-1.0**
CLDR				*e*Sg	**Sb**	**20 07 18.1**	**+1.0**
HOMI	**Horasan**	**1.11**	**266**	*i* P	**Pg**	**20 07 02.3**	**-0.8**
HOMI				*i* S	**Sn**	**20 07 20.2**	**+0.8**
LMTZ	**Lermontov**	**1.18**	**57**	⇑*i*P	**Pn**	**20 07 05.4**	**+0.6**
STEZ	**Stepenevan**	**1.19**	**42**	⇓*i*P	**Pn**	**20 07 05.3**	**+0.4**
CKLZ	**Chkalov**	**1.28**	**50**	⇓*i*P	**Pg**	**20 07 07.3**	**+0.8**
AKH	**Akhalkalaki**	**1.29**	**5**	P	**Pn**	**20 07 05.2**	**-1.2**
AKH				S	**Sb**	**20 07 23.5**	**+0.2**
AKH	**Akhalkalaki**	**1.29**	**5**	P	**Pn**	**20 07 05.2**	**-1.2**
AKH				S	**Sb**	**20 07 23.5**	**+0.2**
DDEM	**Demirkent**	**1.44**	**303**	*i* P	**Pn**	**20 07 07.8**	**-0.5**
DDEM	**Demirkent**	**1.44**	**303**	*i* P	**Pn**	**20 07 07.8**	**-0.5**
DAGI	**Agillar**	**1.45**	**312**	*i* P	**Pn**	**20 07 07.7**	**-0.7**
DAGI				*i* S	**Sg**	**20 07 30.0**	**+1.6**
KZR	**Kazreti**	**1.50**	**33**	P	**Pn**	**20 07 08.9**	**-0.2**
KZR				S	**Sg**	**20 07 30.3**	**+0.3**
ARTV	**Artvin**	**1.51**	**315**	*i* P	**Pn**	**20 07 07.9**	**-1.5**
ARTV				*i* S	**Sg**	**20 07 30.9**	**+0.5**
ARTV	**Artvin**	**1.51**	**315**	*i* P	**Pn**	**20 07 07.9**	**-1.5**
ARTV				*i* S	**Sg**	**20 07 30.9**	**+0.5**
ERZM	**Erzurum**	**1.53**	**262**	*i* P	**Pg**	**20 07 10.9**	**-0.4**
ERZM	**Erzurum**	**1.53**	**262**	*i* P	**Pg**	**20 07 10.9**	**-0.4**
EZM	**Erzurum**	**1.54**	**262**	*e*PN	**Pb**	**20 07 10.5**	**-0.2**
DBAD	**Bademkaya**	**1.54**	**306**	*i* P	**Pn**	**20 07 10.0**	**+0.3**
DBAD				*i* S	**Sn**	**20 07 28.4**	**-1.6**
DBAD	**Bademkaya**	**1.54**	**306**	*i* P	**Pn**	**20 07 10.0**	**+0.3**
DBAD				*i* S	**Sn**	**20 07 28.4**	**-1.6**
VADZ	**Vardenis**	**1.84**	**88**	*e*P	**Pn**	**20 07 15.0**	**+1.1**
VADZ				⇓S	**Sg**	**20 07 42.0**	**+1.0**
BCA	**Borcka**	**1.86**	**316**	*e*PN	**Pn**	**20 07 14.5**	**+0.5**
BCA	**Borcka**	**1.86**	**316**	*e*Pn	**Pn**	**20 07 14.5**	**+0.5**
TBLG	**Delisi**	**1.92**	**33**	*i* PN	**Pb**	**20 07 16.0**	**-1.1**
TBLG				*i* S	**Sg**	**20 07 43.5**	**-0.1**
TBLG	**Delisi**	**1.92**	**33**	P	**Pb**	**20 07 16.0**	**-1.1**
TBLG				S	**Sg**	**20 07 43.5**	**-0.1**
TBLG	**Delisi**	**1.92**	**33**	P	**Pb**	**20 07 16.0**	**-1.1**
TBLG				*i* Sg	**Sg**	**20 07 43.5**	**-0.1**
DGRG	**David-gareji**	**2.03**	**49**	P	**Pb**	**20 07 18.4**	**-0.6**
DGRG				S	**Sg**	**20 07 49.0**	**+1.8**
DGRG	**David-gareji**	**2.03**	**49**	P	**Pb**	**20 07 18.4**	**-0.6**
BNGL	**BINGOL**	**2.06**	**236**	*i* P	**Pb**	**20 07 18.8**	**-0.8**
BNGL				*i* S	Sg	20 07 56.5	+8.4
PZAR	**Pazar-Rize**	**2.14**	**300**	*e*PN	**Pn**	**20 07 18.9**	**+1.1**
PZAR	**Pazar-Rize**	**2.14**	**300**	*e*Pn	**Pn**	**20 07 18.9**	**+1.1**
KOPT	**Kop Dagi**	**2.19**	**268**	*i* P	**Pb**	**20 07 22.6**	**+0.8**
KOPT	**Kop Dagi**	**2.19**	**268**	*i* P	**Pb**	**20 07 22.6**	**+0.8**
DUS	**Dusheti**	**2.22**	**27**	P	**Pb**	**20 07 22.6**	**+0.4**
DUS				S	**Sg**	**20 07 55.2**	**+2.1**
DUS	**Dusheti**	**2.22**	**27**	P	**Pb**	**20 07 22.6**	**+0.4**
GANJ	**Ganja**	**2.33**	**76**	⇑P	**Pn**	**20 07 22.1**	**+1.5**
GANJ				⇑S	**Sg**	**20 07 56.2**	**-0.6**
BNGB	**Bing¯¶l**	**2.35**	**242**	*e*PN	**Pn**	**20 07 21.7**	**+0.9**
GRS	**Goris**	**2.38**	**104**	⇓P	**Pn**	**20 07 23.0**	**+1.6**
BAYT	**Ayd¯–ntepe-Bay**	**2.47**	**277**	*e*PN	**Pn**	**20 07 23.5**	**+1.0**
BAYT	**Ayd¯–ntepe-Bay**	**2.47**	**277**	*e*Pn	**Pn**	**20 07 23.5**	**+1.0**
ONI	**Oni**	**2.47**	**2**	*e*PN	**Pn**	**20 07 23.8**	**+1.5**
ONI	**Oni**	**2.47**	**2**	P	**Pn**	**20 07 23.9**	**+1.5**
ONI				S	**Sg**	**20 07 59.9**	**-1.2**
BINT	**Bingol**	**2.54**	**241**	*e*Pn	**Pn**	**20 07 21.7**	**-1.7**
ZEI	**Tsey**	**2.68**	**9**	*e*PN	**Pn**	**20 07 25.9**	**+0.5**
ZEI				pmax	pmax		
	comp=Z,82nm,0.8s						
ZEI	**Tsey**	**2.68**	**9**	*e*Pn	**Pn**	**20 07 25.9**	**+0.5**
	comp=Z,82nm,0.8s						
SIRT	**Sirnak**	**2.71**	**195**	*e*PN	**Pn**	**20 07 26.3**	**+0.5**
SIRT	**Sirnak**	**2.71**	**195**	*e*Pn	**Pn**	**20 07 26.3**	**+0.5**
CHVG	**Ch'k'valeri**	**2.76**	**340**	P	Pn	20 07 28.5	+2.1
CHVG				S	**Sb**	**20 08 07.3**	**+1.9**
CHVG	**Ch'k'valeri**	**2.76**	**340**	P	**Pn**	**20 07 28.5**	**+2.1**
ERZN	**Erzincan**	**2.84**	**260**	*e*PN	**Pn**	**20 07 29.0**	**+1.4**
CUKT	**Cukurca**	**2.88**	**176**	*e*PN	**Pn**	**20 07 29.9**	**+1.7**
CUKT	**Cukurca**	**2.88**	**176**	*e*Pn	**Pn**	**20 07 29.9**	**+1.7**
BRDA	**Brd**	**2.94**	**86**	⇓P	**Pb**	**20 07 33.2**	**-1.3**
BRDA	**Brd**	**2.94**	**86**	P	**Pb**	**20 07 33.2**	**-1.3**
GUMT	**Gumushane**	**2.97**	**278**	*e*PN	**Pn**	**20 07 30.9**	**+1.5**
GUMT	**Gumushane**	**2.97**	**278**	*e*Pn	**Pn**	**20 07 30.9**	**+1.5**
EZC	**Erzincan**	**3.09**	**264**	*e*Pn	**Pn**	**20 07 29.0**	**-2.1**
SEKA	**Sheki**	**3.13**	**68**	⇓P	**Pn**	**20 07 32.9**	**+1.4**
	SNR=17						
SEKA	**Sheki**	**3.13**	**68**	P	**Pn**	**20 07 32.9**	**+1.4**
	SNR=17						
PTK	**Pertek**	**3.29**	**249**	*e*PN	**Pn**	**20 07 35.4**	**+1.5**
PTK	**Pertek**	**3.29**	**249**	*e*Pn	**Pn**	**20 07 35.4**	**+1.5**
MAZI	**Mazidag**	**3.49**	**221**	*e*PN	**Pn**	**20 07 38.3**	**+1.7**
MAZI	**Mazidag**	**3.49**	**221**	*e*Pn	**Pn**	**20 07 38.3**	**+1.7**
ESPY	**Espiye-Giresun**	**3.61**	**284**	*e*PN	**Pn**	**20 07 40.3**	**+2.3**
ESPY	**Espiye-Giresun**	**3.61**	**284**	*e*Pn	**Pn**	**20 07 40.3**	**+2.3**
KBZ	**Khabaz**	**3.62**	**355**	PN	**Pn**	**20 07 39.7**	**+1.6**
KBZ						20 07 46.8	
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KBZ	**Khabaz**	**3.62**	**355**	Pn	**Pn**	**20 07 39.6**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=165,slow=8.8,SNR=12						
KBZ				Pg	**Pb**	**20 07 46.8**	**+0.8**
	comp=Z,2.5nm,0.3s,baz=170,slow=12,SNR=45						
KBZ	**Khabaz**	**3.62**	**355**	Pn	**Pn**	**20 07 39.7**	**+1.6**
	comp=Z,1.0nm,0.3s						
KBZ	**Khabaz**	**3.62**	**355**	Pb	**Pb**	**20 07 46.8**	**+0.8**
	comp=Z,3.0nm,0.3s						
ILIC	**ilic-Erzincan**	**3.74**	**261**	*e*PN	**Pn**	**20 07 42.1**	**+2.2**
ILIC	**ilic-Erzincan**	**3.74**	**261**	*e*Pn	**Pn**	**20 07 42.2**	**+2.2**
IML	**Ismayilli**	**3.75**	**78**	⇓P	**Pb**	**20 07 48.3**	**0.0**
	SNR=5.2						
BEYR	**Belyy Ugol+**	**3.91**	**354**	⇑*e*PN	**Pn**	**20 07 45.0**	**+2.8**
BEYR	**Belyy Ugol+**	**3.91**	**354**	*e*Pn	**Pn**	**20 07 45.0**	**+2.8**
GLBA	**Cilabad**	**3.99**	**101**	⇑P	**Pg**	**20 07 57.2**	**-1.1**
	SNR=5.0						
PQL	**Pirkuli**	**4.06**	**79**	⇑P	**Pb**	**20 07 51.9**	**-1.8**
	SNR=4.8						
QUBA	**Quba, Azerbaij**	**4.10**	**71**	⇑P	**Pb**	**20 07 53.0**	**-1.3**
	SNR=5.5						
SIZA	**Siyzn**	**4.33**	**76**	⇑P	**Pb**	**20 07 55.5**	**-2.8**
SOC	**Sochi**	**4.39**	**323**	*e*PN	**Pb**	**20 07 56.7**	**-2.5**
SOC				*e*		20 08 48.3	
SOC				pmax	pmax		
	comp=Z,12nm,0.5s						
SOC				MLR	MLR	

comp=Z,2.0nm,1.0s
KURK Kurchatov 26.69 55 P **P** **20 12 21.4 +0.2**
comp=Z,2.0nm,1.0s
HFS Hagfors 27.22 327 P **P** **20 12 26.8 +0.9**
comp=Z,3.0nm,1.0s,baz=152,slow=16,SNR=3.1
HFS Hagfors 27.22 327 P **P** **20 12 26.8 +0.9**
comp=Z,3.0nm,1.0s
MKAR Makanchi Array 28.82 64 *eP* **P** **20 12 40.4 0.0**
MKAR Makanchi Array 28.82 64 P **P** **20 12 40.8 +0.4**
comp=Z,0.4nm,0.7s,baz=269,slow=5.9,SNR=4.6
MKAR Makanchi Array 28.82 64 *eP* **P** **20 12 40.4 0.0**
SONM Songino Array 44.89 58 PcP **PcP** **20 16 37.6 -0.7**
comp=Z,0.8nm,1.0s,baz=270,slow=1.4,SNR=3.9
TORD Torodi Ar. Bea 45.31 246 P **P** **20 14 58.9 -1.5**
comp=Z,0.5nm,0.6s,baz=41,slow=8.1,SNR=7.3
YKA Yellowknife Ar 76.20 350 P **P** **20 18 29.8 -0.4**
comp=Z,1.1nm,0.8s,baz=7.8,slow=5.9,SNR=7.2
YKA Yellowknife Ar 76.20 350 P **P** **20 18 29.8 -0.4**
comp=Z,1.0nm,0.9s

*IDC **25** 20:16:53.3±1.7,21.°91S×169.°53E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, MS3.7/1, Ms1 3.6/1, ms1mx3.0/23, Error ellipse: s-maj=64.9km s-min=20.3km az=153.0*
*NOU **25** 20:16:53.1±1.1,20.°75S×169.°57E, h30km, MD3.3, ML3.5, MS2.4*
*ISCJB **25** 20:16:54.8±1.0,22.°1S±0.°3×169.°64E±0.°08, h25km, mb3.9/7, MS3.6/1, Error ellipse: s-maj=37.4km s-min=7.4km az=169.4*

ISC 25 20:16:56.7±1.4,22.°0S±0.°3×169.°6E±0.°1, h25km, n16, σ0.98/19, mb3.8/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BAYA	**Yate Dam**	**2.52**	**265**			*eS*	**Sn**	**20 18 06.6**	**+0.5**
PLUM	**Mont Dore**	**2.76**	**263**			*eP*	**Pn**	**20 17 38.7**	**-0.6**
PLUM						*eS*	**Sn**	**20 18 14.1**	**+2.2**
PLUM				AMP				20 18 23.9	
	comp=Z,249nm,14.3s								
NORM	**Noumea**	**2.90**	**264**			*eP*	**Pn**	**20 17 40.6**	**-0.6**
NORM						*eS*	**Sn**	**20 18 15.2**	**-0.1**
DZM	**Mont Dzumac**	**2.93**	**268**			*e*Pn	**Pn**	**20 17 41.5**	**-0.3**
	comp=Z,63nm,0.2s								
DZM						*e*Sn	**Sn**	**20 18 16.1**	**-0.1**
	comp=Z,110nm,0.2s								
DZM	**Mont Dzumac**	**2.93**	**268**			*eP*	**Pn**	**20 17 40.7**	**-1.1**
DZM				AMP				20 18 32.4	
	comp=Z,1μm,3.5s								
DZM	**Mont Dzumac**	**2.93**	**268**			Pn	**Pn**	**20 17 41.6**	**-0.1**
	comp=Z,11nm,0.3s,baz=102,slow=18,SNR=511								
DZM						Sn	**Sn**	**20 18 16.7**	**+0.5**
	comp=Z,15nm,0.3s,baz=92,slow=14,SNR=6.9								
NOUC	**Port Laguerre**	**3.06**	**267**			*eP*	**Pn**	**20 17 43.1**	**-0.4**
NOUC				AMP				20 18 32.6	
	comp=Z,67nm,4.0s								
STKA	**Stephens Creek**	**26.77**	**242**			P	**P**	**20 22 35.7**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=68,slow=16,SNR=2.1								
STKA				LR		LR	LR	20 32 06.4	
	comp=Z,168nm,19.9s,baz=25,slow=34								
ASAR	**Alice Springs**	**32.89**	**260**			P	**P**	**20 23 28.6**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=81,slow=9.5,SNR=12								
WRA	**Warramunga Arr**	**32.94**	**267**			P	**P**	**20 23 27.7**	**-1.9**
	comp=Z,1.0nm,0.9s,baz=100,slow=8.3,SNR=1.3								
PPT2	**Papeete2**	**38.59**	**91**	*e*LR		LR	LR	20 34 44.1	
	comp=Z,97nm,22.0s								
PETK	**Petropavlovsk-**	**75.48**	**353**			P	**P**	**20 28 38.9**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=111,slow=8.1,SNR=5.7								
SONM	**Songino Array**	**89.60**	**323**			P	**P**	**20 29 53.3**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=114,slow=6.6,SNR=5.0								
NVAR	**Mina Array Bea**	**90.36**	**48**			P	**P**	**20 29 56.6**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=222,slow=8.6,SNR=5.8								
ILAR	**Eielson Array**	**92.73**	**17**			P	**P**	**20 30 05.7**	**-0.5**
	comp=Z,0.6nm,1.0s,baz=220,slow=6.4,SNR=3.8								
GERES	**GERESS Array B**	**147.04**	**330**			PKPbc	**PKPab**	**20 36 37.9**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=17,slow=2.3,SNR=11								

IDC 25 20:46:35.1±20.0, 14.°92S×175.°26W, h221km±193km, mb3.5/5, mb1 3.7/5, mb1mx3.3/19, mbtmp3.5/5, Error ellipse: s-maj=118.5km s-min=40.5km az=142.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
STKA	**Stephens Creek**	**42.74**	**239**			P	P	20 54 10.8	0.0
	2.8nm,0.9s,baz=94,slow=14,SNR=2.5								
WRA	**Warramunga Arr**	**48.21**	**256**			P	P	20 54 54.1	+0.2
	4.9nm,0.9s,baz=96,slow=7.0,SNR=3.6								
ASAR	**Alice Springs**	**48.56**	**252**			P	P	20 54 56.3	-0.3
	3.4nm,0.6s,baz=88,slow=7.7,SNR=46								
ILAR	**Eielson Array**	**82.33**	**12**			P	P	20 58 31.8	0.0
	0.3nm,0.5s,baz=217,slow=5.9,SNR=7.0								
PDAR	**Pinedale Array**	**83.11**	**43**			P	P	20 58 36.6	0.0
	0.3nm,0.7s,baz=224,slow=5.0,SNR=2.8								
BRTR	**Keskin Array B**	**144.65**	**320**			PKP	PKPbc	21 05 45.3	+0.1
	0.5nm,0.9s,baz=66,slow=4.9,SNR=3.2								

IDC 25 20:47:31.2±63.0, 13.°96S×166.°49E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/19, mbtmp4.1/3, Error ellipse: s-maj=1063.0km s-min=110.3km az=64.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
STKA	**Stephens Creek**	**28.93**	**228**			P	P	20 53 32.0	-0.3
	3.5nm,0.8s,baz=45,slow=8.9,SNR=6.6								
WRA	**Warramunga Arr**	**31.29**	**255**			P	P	20 53 53.5	+0.2
	1.7nm,0.7s,baz=85,slow=9.2,SNR=3.2								
ASAR	**Alice Springs**	**32.25**	**248**			P	P	20 54 01.8	0.0
	0.7nm,0.4s,baz=76,slow=8.9,SNR=26								

*NNC **25** 20:51:42.1±10.0, 40.°89N×73.°87E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=97.9km s-min=36.1km az=169.0*

ISC 25 20:51:44.0±2.6, 41.°3N±0.°2×73.°84E±0.°06, h4km, n13, σ1.9s40/14, 3C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AML	**Almayashu**	**0.87**	**353**			P	Pg	20 51 59.8	-0.9
	SNR=114								
UCH	**Uchtor**	**1.09**	**27**			P	**Pg**	**20 52 03.7**	**-1.1**
	SNR=17								
KZA	**Kyzart**	**1.33**	**52**			P	Pn	20 51 50.4	-20
	SNR=12								
EKS2	**Erkin-Say**	**1.40**	**358**			P	**Pn**	**20 52 09.3**	**-1.0**
	SNR=19								
AAK	**Ala-Archa**	**1.45**	**19**			P	**Pn**	**20 52 10.4**	**-0.8**
	SNR=20								
KBK	**Karagaybulak**	**1.62**	**30**			P	**Pn**	**20 52 13.4**	**-0.1**
	SNR=40								
CHMS	**Chumysh**	**1.86**	**21**			P	**Pn**	**20 52 17.8**	**+1.1**
	SNR=16								
ULHL	**Ulahol**	**2.05**	**61**			P	**Pn**	**20 52 20.3**	**+0.8**
	SNR=26								
USP	**Ospenovka**	**2.06**	**14**			P	**Pn**	**20 52 21.4**	**+1.9**
	SNR=40								
TKM2	**Tokmak 2**	**2.11**	**38**			⇓Pn	**Pn**	**20 52 21.1**	**+0.8**
	18nm,0.4s								
TKM2						⇓Sn	**Sb**	**20 52 51.9**	**+2.3**
	44nm,0.5s								
TKM2	**Tokmak 2**	**2.11**	**38**			P	**Pn**	**20 52 21.7**	**+1.4**
	SNR=21								
KNDC	**Almaty**	**3.03**	**49**			⇓Pn	**Pb**	**20 52 37.2**	**-1.4**
KNDC						⇓Sn	**Sg**	**20 53 21.5**	**+0.1**
KK31	**Karatay Array**	**3.08**	**308**			⇑Pn	**Pn**	**20 52 34.1**	**+0.7**
	1.9nm,0.3s,baz=133,slow=17,SNR=7.9								
KK31						⇑Sn	**Sb**	**20 53 18.7**	**+1.5**
	4.4nm,0.4s,baz=129,slow=29,SNR=8.1								

IDC 25 21:21:17.4±2.1, 6.°71S×129.°88E, h0km, mb3.9/1, mb1 3.9/4, mb1mx3.5/20, mbtmp3.8/4, ML3.6/3, Error ellipse: s-maj=87.4km s-min=27.0km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BATI	**Baumata**	**7.06**	**240**			Sn	Sn	21 24 25.1	+1.8
	3.0nm,0.3s,baz=340,slow=22,SNR=4.2								
FITZ	**Fitzroy Crossi**	**12.05**	**200**			Pn	Pn	21 24 10.4	-0.2
	0.3nm,0.3s,baz=26,slow=13,SNR=22								
FITZ						Sn	Sn	21 26 11.3	-15
	0.4nm,0.3s,baz=38,slow=17,SNR=5.2								
WRA	**Warramunga Arr**	**13.85**	**162**			Pn		21 24 34.2	-1.0
	0.3nm,0.3s,baz=345,slow=13,SNR=3.2								
WRA						Sn	Sn	21 26 56.6	-13
	0.6nm,0.3s,baz=339,slow=23,SNR=3.4								
ASAR	**Alice Springs**	**17.29**	**167**			P	P	21 25 21.4	-0.6
	0.3nm,0.3s,baz=342,slow=9.1,SNR=21								
ASAR						S	Sn	21 28 20.3	-14
	0.2nm,0.3s,baz=349,slow=27,SNR=6.2								
MKAR	**Makanchi Array**	**67.92**	**327**			P	P	21 32 18.1	0.0
	0.5nm,0.4s,baz=120,slow=8.0,SNR=13								

IDC 25 21:24:55.7±12.0, 25.°78S×178.°23E, h273km±117km, mb3.7/3, mb1 3.8/4, mb1mx3.3/19, mbtmp3.6/4, MS3.3/1, Ms1 3.3/1, ms1mx2.6/31, Error ellipse: s-maj=94.0km s-min=40.0km az=25.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
RAO	**Raoul Island**	**4.86**	**136**			LR	LR	21 27 27.7	
	comp=Z,380nm,21.7s,baz=349,slow=31								
URZ	**Urewera**	**12.48**	**184**			P	Pn	21 27 44.9	+0.5
	0.4nm,0.3s,baz=249,slow=5.6,SNR=4.0								
URZ						S	S	21 30 01.6	-1.5
	0.2nm,0.3s,baz=328,slow=15,SNR=2.6								
CTA	**Charters Tower**	**29.94**	**274**			P	P	21 30 43.0	+3.9
	2.5nm,0.4s,baz=89,slow=6.8,SNR=4.4								
ASAR	**Alice Springs**	**40.18**	**265**			P	P	21 32 06.8	+0.7
	2.6nm,0.5s,baz=95,slow=8.8,SNR=40								
WRA	**Warramunga Arr**	**40.72**	**269**			P	P	21 32 10.7	+0.3
	2.1nm,0.5s,baz=104,slow=8.0,SNR=5.3								
FITZ	**Fitzroy Crossi**	**49.12**	**268**			P	P	21 33 14.9	-1.4
	1.6nm,0.5s,baz=109,slow=7.9,SNR=8.4								
BRTR	**Keskin Array B**	**147.36**	**304**			PKPbc	PKPbc	21 44 07.0	-0.5
	0.3nm,0.8s,baz=47,slow=2.8,SNR=2.5								

*JMA **25** 21:33:11.2±0.4, 38.°50N×135.°31E, h414km, M2.7*
*IDC **25** 21:33:13.5±1.9, 38.°41N×135.°21E, h392km±29km, mb2.3/1, mb1 2.3/4, mb1mx2.2/28, mbtmp2.3/4, Error ellipse: s-maj=45.6km s-min=35.8km az=37.0*
*ISCJB **25** 21:33:14.8±0.8, 38.°6N±0.°1×135.°3E±0.°1, h350km, mb2.6/1, Error ellipse: s-maj=16.9km s-min=11.0km az=34.6*

ISC 25 21:33:14.3±1.3, 38.°6N±0.°1×135.°2E±0.°1, h350km, n16, σ1.9s53/16, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JKG	**Kaga**	**2.44**	**159**			P	**Pn**	**21 34 10.9**	**+1.9**
JKY	**Yasaka**	**2.92**	**182**			P	**Pn**	**21 34 14.6**	**+1.5**
MJAR	**Matsushiro Arr**	**3.11**	**129**			P	**Pn**	**21 34 16.6**	**+1.9**
	0.6nm,0.3s,baz=307,slow=10,SNR=13								
JNG	**Nsakai**	**3.14**	**132**			P	**Pn**	**21 34 16.6**	**+1.6**
JWT	**Wachi**	**3.27**	**177**			P	**Pn**	**21 34 17.2**	**+1.0**
JRY	**Ryogami san**	**3.88**	**130**			P	**Pn**	**21 34 22.4**	**+0.3**
JAG	**Ashikaga**	**3.98**	**121**			P	**Pn**	**21 34 23.3**	**+0.2**
JHU	**Hanno**	**4.22**	**129**			P	**Pn**	**21 34 25.2**	**-0.4**
JIE	**Ise**	**4.33**	**164**			P	**Pn**	**21 34 27.3**	**+0.6**
JKN2	**Miekihoku**	**4.39**	**169**			P	**Pn**	**21 34 27.5**	**+0.1**
JOD2	**Odawara 2**	**4.51**	**136**			P	**Pn**	**21 34 28.6**	**-0.1**
JYT	**Yasato**	**4.59**	**119**			P	**Pn**	**21 34 29.1**	**-0.4**
JHO	**Hitachi**	**4.67**	**113**			P	**Pn**	**21 34 29.3**	**-1.0**
KSRS	**Korea Array**	**5.87**	**261**			P	**Pn**	**21 34 44.5**	**+1.0**
	0.2nm,0.3s,baz=81,slow=12,SNR=6.3								
USRK	**Ussuriysk Arra**	**6.14**	**338**			P	**Pn**	**21 34 48.6**	**+2.1**
	0.2nm,0.3s,baz=159,slow=12,SNR=6.9								
SONM	**Songino Array**	**22.86**	**303**			P	**P**	**21 37 45.1**	**-3.2**
	0.2nm,0.5s,baz=103,slow=8.8,SNR=2.4								

WEL 25 21:55:55.4±0.2, 46.°26S×165.°96E, h33km, ML3.5/12, 2D, Error ellipse: s-maj=1.7km s-min=1.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
DCZ	**Deep Cove**	**1.14**	**47**			PN	Pn	21 56 14.8	-0.2
DCZ						SN	Sn	21 56 29.2	-0.3
DCZ						AML	AML	21 56 30.4	
DCZ						AML	AML	21 56 30.9	
DCZ						AML	AML	21 56 31.0	
WHZ	**Wether Hill Ro**	**1.43**	**76**			PN	Pn	21 56 18.1	-0.9
WHZ						SN	Sn	21 56 35.0	-1.6
WHZ						AML	AML	21 56 43.5	
APZ	**The Paps**	**1.51**	**113**			PN	Pb	21 56 22.4	-0.5
APZ						SN	Sb	21 56 41.1	-0.6
MLZ	**Mavora Lakes**	**1.80**	**60**			⇓PN	Pb	21 56 26.0	-1.7
MLZ						AML	AML	21 56 51.1	
MLZ						AML	AML	21 56 53.7	
MSZ	**Milford Sound**	**2.11**	**42**			PN	Pb	21 56 31.3	-1.6
MSZ						AML	AML	21 57 09.9	
MSZ						AML	AML	21 57 11.9	
SYZ	**Scrubby Hill**	**2.21**	**98**			PN	Pb	21 56 32.5	-2.2
EAZ	**Earnscleugh**	**2.56**	**67**			PN	Pb	21 56 37.9	-2.7
EAZ						AML	AML	21 57 20.8	
TUZ	**Tuapeka**	**2.57**	**84**			PN	Pn	21 56 37.3	+2.8
TUZ						AML	AML	21 57 11.5	
WKZ	**Wanaka**	**2.58**	**57**			PN	Pb	21 56 38.4	-2.6
ODZ	**Otahua Downs**	**3.50**	**71**			⇓PN	Pn	21 56 48.9	+1.4

IDC 25 22:20:27.3±1.2, 13.°30N×92.°72E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.4/26, mbtmp3.5/6, Error ellipse: s-maj=80.4km s-min=20.3km az=50.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MKAR	**Makanchi Array**	**34.53**	**347**			P	P	22 27 17.1	-0.3
	0.2nm,0.7s,baz=145,slow=11,SNR=3.0								
KURBB	**Kurchatov Arra**	**38.98**	**346**			P	P	22 27 55.3	+0.1
	0.2nm,0.2s,baz=168,slow=7.5,SNR=2.7								
WRA	**Warramunga Arr**	**52.61**	**128**			P	P	22 29 43.2	-0.2
	0.4nm,0.5s,baz=307,slow=8.0,SNR=18								
ASAR	**Alice Springs**	**54.51**	**132**			P	P	22 29 57.4	+0.1
	0.3nm,0.4s,baz=309,slow=7.3,SNR=8.6								
BRTR	**Keskin Array B**	**57.91**	**309**			P	P	22 30 21.6	0.0
	0.1nm,0.4s,baz=123,slow=5.3,SNR=3.7								
GERES	**GERESS Array B**	**72.90**	**317**			P	P	22 31 58.5	-0.1
	0.5nm,0.7s,baz=118,slow=7.9,SNR=4.2								

FUNV 25 22:55:28.4, 6.°84N×73.°06W, h178km, MW3.5, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CAPV	**Capacho**	**1.26**	**36**	⇓	*eP*	Pn		22 55 57.2	-1.1
CAPV					*eS*	Sn		22 56 19.3	-2.2
VIGV	**El Vigia**	**2.60**	**40**		*eP*	Pn		22 56 11.4	-0.8
VIGV					*eS*	Sn		22 56 43.0	-3.4
SOCV	**Socops**	**2.61**	**57**		*eP*	Pn		22 56 11.4	-1.0
SOCV					*eS*	Sn		22 56 43.0	-3.6
VIRV	**Villa del Rosa**	**3.69**	**10**	⇑	*iP*	Pn		22 56 24.2	-1.4
VIRV					*eS*	Sn		22 57 05.2	-5.3
CURV	**Curarigua**	**4.40**	**44**		*eP*	Pn		22 56 33.9	-0.8
CURV					*eS*	Sn		22 57 21.6	-5.0
TEPV	**Terepaima**	**4.93**	**51**		*eP*	Pn		22 56 39.5	-2.0
BAUV	**El Baul**	**5.39**	**67**		*eP*	Pn		22 56 45.3	-2.2
BAUV					*eS*	Sn		22 57 42.8	-6.9
MAPV	**Macapo**	**5.44**	**57**		*eP*	Pn		22 56 46.5	-1.6
MONV	**Montecano**	**5.92**	**31**		*eP*	Pn		22 56 53.3	-1.2

*NIED **25** 23:05:00.27°.40N×126.°20E, h145km, Mw3.8 Best double couple: M0:5.5400×10^14 NP1:ϕs265.0000°, δ87.0000°, λ.153.00000°. NP2:ϕs357.00000°, δ63.00000°, λ.3.00000°.*
*ISCJB **25** 23:05:04.5±0.4, 27.°31N±0.°06×126.°22E±0.°05, h203km±5km, mb3.7/8, Error ellipse: s-maj=11.1km s-min=4.2km az=142.5*
*JMA **25** 23:05:07.3±0.5, 27.°37N×126.°21E, h187km, M4.1*
*IDC **25** 23:05:11.0±5.2, 27.°43N×126.°18E, h252km±60km, mb3.4/8, mb1 3.4/10, mb1mx3.2/27, mbtmp3.3/10, Error ellipse: s-maj=52.6km s-min=11.7km az=63.0*

ISC 25 23:05:05.3±0.8, 27.°37N±0.°07×126.°17E±0.°06, h198km±8km, n28, σ1.9s58/43, mb3.8/8, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JKE	**Kume jima 2**	**1.17**	**152**			P	**Pn**	**23 05 37.0**	**+0.8**
JKE						*eS*	**Sn**	**23 06 00.1**	**+0.1**
JAGN	**Aguni-jima**	**1.23**	**129**			P	**Pn**	**23 05 37.6**	**+1.0**
JAGN						S	**Sn**	**23 05 59.9**	**-0.9**
JIH	**Iheya**	**1.64**	**101**			P	**Pn**	**23 05 41.1**	**+1.0**
JIH						S	**Sn**	**23 06 05.8**	**-1.2**
JJT2	**Tamagusuku 2**	**1.87**	**130**			P	**Pn**	**23 05 43.8**	**+1.5**
JJT2						*eS*	**Sn**	**23 06 11.8**	**+0.7**
JOW	**Kunigami**	**1.95**	**105**			P	**Pn**	**23 05 43.9**	**+0.7**
JOW						*eS*	**Sn**	**23 06 10.8**	**-1.8**
JTK	**Tokunoshima**	**2.50**	**80**			P	**Pn**	**23 05 49.4**	**+0.3**
JTK						*eS*	**Sn**	**23 06 20.9**	**-2.4**
JMJ	**Miyako jima 2**	**2.66**	**197**			*eS*	**Sn**	**23 06 25.1**	**-1.4**
JOGS	**Gusukube**	**2.68**	**195**			P	**Pn**	**23 05 52.0**	**+0.8**
JOGS						*eS*	**Sn**	**23 06 26.3**	**-0.7**
JAMN	**Amaminishikomi**	**2.80**	**71**			P	**Pn**	**23 05 52.8**	**+0.3**
JAMN						*eS*	**Sn**	**23 06 26.6**	**-2.8**
JTJ	**Tarama**	**3.02**	**206**			P	**Pn**	**23 05 55.7**	**+0.6**
JTJ						*eS*	**Sn**	**23 06 32.2**	**-1.8**
JAM	**Amami Oshima**	**3.22**	**70**			P	**Pn**	**23 05 58.1**	**+0.7**
JAM						*eS*	**Sn**	**23 06 35.3**	**-2.8**
JZK	**Kikaishima**	**3.50**	**73**			*eS*	**Sn**	**23 06 42.6**	**-1.7**
JIJ	**Ishigaki jima**	**3.50**	**212**			P	**Pn**	**23 06 00.4**	**-0.5**
JIJ						*eS*	**Sn**	**23 06 40.2**	**-4.3**
JKRS	**Kuro-shima**	**3.67**	**212**			P	**Pn**	**23 06 02.8**	**-0.2**
JKRS						*eS*	**Sn**	**23 06 45.0**	**-3.2**
IRIF	**Iriomote-Funau**	**3.73**	**217**			P	**Pn**	**23 06 03.4**	**-0.3**
IRIF						*eS*	**Sn**	**23 06 48.1**	**-1.4**
HATJ	**Hateruma jima**	**3.92**	**213**			P	**Pn**	**23 06 06.3**	**+0.2**
HATJ						*eS*	**Sn**	**23 06 51.3**	**-2.5**
YOJ	**Yonaguni jima**	**4.05**	**225**			P	**Pn**	**23 06 08.3**	**+0.6**
YOJ						*eS*	**Sn**	**23 06 56.6**	**-0.1**
JMZ	**Minamidaito 2**	**4.78**	**108**			P	**Pn**	**23 06 16.9**	**+0.1**
JMZ						*eS*	**Sn**	**23 07 09.5**	**-3.6**
KSRS	**Korea Array**	**10.17**	**8**			P	Pn	23 07 29.9	+3.2
	0.1nm,0.3s,baz=187,slow=13,SNR=6.5								
USRK	**Ussuriysk Arra**	**17.44**	**14**			P	**Pn**	**23 08 57.2**	**+0.6**
	0.2nm,0.3s,baz=190,slow=7.3,SNR=3.4								
SONM	**Songino Array**	**25.61**	**328**			P	**P**	**23 10 17.2**	**+0.8**
	2.7nm,0.7s,baz=142,slow=11,SNR=19								
MKAR	**Makanchi Array**	**39.41**	**311**			P	**P**	**23 12 16.3**	**+0.5**
	1.6nm,0.5s,baz=94,slow=10,SNR=33								
ZALV	**Zalesovo Beam**	**40.23**	**323**			P	**P**	**23 12 22.8**	**+0.4**
	2.1nm,0.5s,baz=116,slow=8.8,SNR=16								
KURBB	**Kurchatov Arra**	**42.76**	**316**			P	**P**	**23 12 43.0**	**0.0**
	0.3nm,0.4s,baz=106,slow=9.0,SNR=4.7								
WRA	**Warramunga Arr**	**47.69**	**170**			P	**P**	**23 13 22.6**	**+0.6**
	1.6nm,0.7s,baz=352,slow=8.7,SNR=15								
ASAR	**Alice Springs**	**51.28**	**171**			P	**P**	**23 13 50.5**	**+1.3**
	0.8nm,0.4s,baz=358,slow=16,SNR=12								
STKA	**Stephens Creek**	**60.72**	**165**			P	**P**	**23 14 56.1**	**+0.3**
	1.7nm,0.6s,baz=17,slow=11,SNR=6.0								
FINES	**FINESS Array B**	**70.97**	**330**			P	**P**	**23 16 00.2**	**-0.7**
	1.8nm,0.9s,baz=85,slow=4.8,SNR=4.2								

IDC 25 23:08:28.1±2.5, 38.°07S×73.°80W, h0km, mb3.6/1, mb1 3.3/3, mb1mx3.3/14, mbtmp3.2/3, ML3.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/30, Error ellipse: s-maj=67.2km s-min=20.3km az=62.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PLCA	**Paso Flores**	**3.66**	**138**			Pn	Pn	23 09 27.1	+0.9
	1.0nm,0.3s,baz=300,slow=11,SNR=12								
PLCA						Pg	Pb	23 09 34.6	+0.8
	4.5nm,0.3s,baz=310,slow=17,SNR=22								
PLCA						Lg	Lg	23 10 24.1	
	6.3nm,0.3s,baz=220,slow=23,SNR=6.8								
CFAA	**Coronel Fontan**	**7.91**	**37**			Pn	Pn	23 10 24.7	+0.3
	0.1nm,0.3s,baz=193,slow=15,SNR=8.5								
CFAA						Sn	Sn	23 11 54.6	+0.1
	0.1nm,0.3s,baz=187,slow=18,SNR=2.1								
CPUP	**Villa Florida**	**18.17**	**55**			P	P	23 12 43.9	+1.7
	0.3nm,0.3s,baz=239,slow=7.7,SNR=5.2								
LPAZ	**La Paz**	**22.27**	**15**			P	P	23 13 30.8	+3.3
	1.4nm,0.8s,baz=207,slow=4.5,SNR=5.5								
SIV	**San Ignacio**	**24.69**	**30**			P	P	23 13 58.4	+7.5
	0.7nm,0.6s,baz=238,slow=9.8,SNR=3.9								
SIV						LR	LR	23 24 41.2	
	comp=Z,66nm,20.2s,slow=39								
TXAR	**Lajitas Array**	**72.64**	**333**			P	P	23 20 01.2	+3.7
	0.3nm,0.6s,baz=153,slow=8.1,SNR=3.0								
TORD	**Torodi Ar. Bea**	**86.92**	**71**			P	P	23 21 14.8	-0.4
	0.3nm,0.7s,baz=239,slow=4.4,SNR=3.2								
BVAR	**Borovoye Array**	**151.16**	**47**			PKPbc	PKPbc	23 28 23.0	+0.4
	0.4nm,0.6s,baz=298,slow=3.1,SNR=3.6								

WNDE eS Sg 00 31 38.6 -1.8
KMBO Kilima Mbogo 14.55 207 LR LR 00 36 55.0
comp=E,176nm,20.3s,baz=272,slow=38
MBAR Mbarara 18.01 227 LR LR 00 38 56.3
comp=E,149nm,18.2s,baz=138,slow=38
GNI Garni 28.08 2 LR LR 00 45 04.6
comp=E,36nm,19.2s,baz=67,slow=36
BRTR Keskin Array B 29.07 344 P P 00 34 04.7 +9.4
comp=E,1.3nm,0.9s,baz=142,slow=8.4,SNR=7.3
GERES GERESS Array B 44.45 332 P P 00 36 13.7 +7.9
comp=E,0.5nm,0.8s,baz=142,slow=6.8,SNR=6.4
MKAR Makanchi Array 47.47 35 P P 00 36 37.3 +7.8
comp=E,2.4nm,0.8s,baz=228,slow=7.6,SNR=20
ZALV Zalesovo Beam 52.94 29 P P 00 37 17.8 +7.0
comp=E,2.0nm,0.8s,baz=243,slow=6.3,SNR=7.7
NOA NORSAR Array B 54.46 341 LR LR 01 01 07.9
comp=E,10nm,20.6s,baz=155,slow=36
SONM Songino Array 62.88 42 P P 00 38 29.3 +8.3
comp=E,0.9nm,0.8s,baz=252,slow=7.5,SNR=6.9

IDC 26 00:38:38.5±2.1,1°25N×127°16E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.4/20,mbtmp3.6/3,Error ellipse: s-maj=172.3km s-min=24.9km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.21	162	P	P	00 43 37.3	+0.5
	1.0nm,0.4s,baz=341,slow=11,SNR=29						
ASAR	Alice Springs	25.62	166	P	P	00 44 09.5	-0.4
	1.1nm,0.4s,baz=344,slow=11,SNR=18						
MKAR	Makanchi Array	59.83	326	P	P	00 48 45.9	0.0
	0.2nm,0.4s,baz=117,slow=5.0,SNR=6.5						

NIED ***26*** *01:00:00,23°.70N×121°.00E,h26km,Mw5.0 Best double couple: M₀4.03000×10¹⁶ NP1:φ₀s40.00000°,δ83.00000°, λ-144.00000°. NP2:φ₀s305.00000°,δ54.00000°, λ-8.00000°.*

IDC ***26*** *01:00:09.1±0.4,23°.59N×121°.16E,h0km,mb4.4/29, mb1 4.6/30,mb1mx4.6/33,mbtmp4.4/30,ML4.0/1,MS4.4/27, Ms1 4.4/27,ms1mx4.2/41,Error ellipse: s-maj=14.3km s-min=11.2km az=71.0*

BJI ***26*** *01:00:10.5,23°.70N×121°.02E,h6km,mB5.0/36,mb4.5/49, ML5.0/9,Ms5.1/63,Ms7 5.0/56*

NEIC ***26*** *01:00:12.4±0.4,23°.64N×121°.08E,h18km±2km,mb4.9/57, ML5.4(TAP),Error ellipse: s-maj=3.9km s-min=3.3km az=104.0*

NEIC Felt [II] at Taipei. Also felt at Chu-pei, Kao-hsiung, Nan-t'ou, Pu-li, Ta-ch'ia, T'ai-chung, Tan-shui, T'ien-chung and Tou-liu. Recorded [4 TAP] in Yun-lin; [3 TAP] in Chang-hua, Hua-lien and Nan-t'ou; [2 TAP] in Chia-i, I-lan, Kao-hsiung, Miao-li, T'ai-chung, T'ai-nan and T'ai-tung; [1 TAP] in Hsin-chu P'eng-hu, P'ing-tung and T'ao-yuan.

TAP ***26*** *01:00:12.4,23°.69N×120°.96E,h14km,ML5.3,B*

MOS ***26*** *01:00:13.0±1.1,23°.67N×121°.16E,h33km,mb5.1/57, MS4.8/20,Error ellipse: s-maj=7.6km s-min=4.7km az=113.6*

ISCJB ***26*** *01:00:13.0±0.2,23°.71N±0°.01×120°.98E±0°.01,h27km±1km, mb4.8/154,MS4.7/54,Error ellipse: s-maj=2.2km s-min=1.6km az=145.0*

JMA ***26*** *01:00:13.7±0.4,23°.71N×120°.96E,h97km,M5.2*

GCMT ***26*** *01:00:13.8±0.2,23°.65N×120°.79E,h22km,MW5.1, Moment Tensor Solution. s46,c57; s80,c129; Moment tensor: Scale 10¹⁶Nm; Mrr4.49±.20; Mθθ-0.06±.11; Mφφ-4.43±.14; Mrθ-0.09±.19; Mrφ-0.51±.08; Mθφ-3.22±.19; Best double couple: M₀5.50000×10¹⁶ NP1:φ₀9.00000°, δ27.00000°,λ95.00000°. NP2:φ₀184.00000°,δ63.00000°, λ87.00000°. Principal axes: T 5.5300, Plg72.0000°, Azm88.0000°; N -0.0200, Plg2.0000°, Azm185.0000°; P -5.5200, Plg18.0000°, Azm276.0000°; Data Used: II IU IC G CN.*

DJA ***26*** *01:00:18.1±0.6,24°N±6°×12°1E±°,h53km±9km,M5.0/11, mB5.4/9,mb4.8/11,MLv5.4/1,Mw(mB)4.8/9,Mwp5.8/1*

BKK ***26*** *01:00:19.7±0.6,24°N±6°×12°1E±°,h63km±9km,M5.0/13, mB5.3/9,mb4.7/13,MLv5.3/1,Mw(mB)4.8/9*

ISC 26 01:00:13.0±0.3,23°.68N±0°.01×121°.01E±0°.01,h19km, h19km:pP-P,n503,σ1§54/628,mb4.9/153,MS4.7/55, 63C-29D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SSLB	Suanglung	0.12	336	ePg	Pb	01 00 15.4	+0.9
SSLB				eSg	Sb	01 00 16.9	+1.6
YUS	Yu-Shan	0.20	195	eP	Pb	01 00 17.9	+0.1
	baz=180						
SMLT	Sun Moon Lake	0.23	334	⇓iP	Pb	01 00 17.5	-0.7
SMLT	baz=354			i S	Sb	01 00 21.4	-0.2
	baz=354						
ALS	Alishan	0.25	228	⇓iP	Pb	01 00 18.1	-0.9
	baz=210						
ALS				S	Sb	01 00 21.9	-0.9
	baz=210						
TYC	Yuchr	0.26	329	⇓iP	Pb	01 00 18.0	-1.0
	baz=340						
CHN5	Tsauling	0.31	255	⇑iP	Pg	01 00 18.9	-1.0
	baz=251						
EHY	Hungye	0.34	121	⇑iP	Pb	01 00 20.8	+0.3
	baz=118						
WNT	Mingjian	0.35	304	⇑iP	Pg	01 00 20.2	-0.4
	baz=308						
WNT				eS	Sg	01 00 25.8	+0.1
	baz=308						
YULB	Yu-li	0.39	137	ePg	Pg	01 00 20.9	-0.3
YULB				eSg	Sb	01 00 27.7	+0.5
ESL	Shilin	0.41	71	⇑iP	Pb	01 00 22.1	+0.3
	baz=80						
ESL				eS	Sb	01 00 27.9	+0.1
	baz=80						
TWF1	Yuli	0.42	141	⇑iP	Pb	01 00 22.2	+0.3
	baz=128						
TWF1				S	Sb	01 00 29.1	+1.1
	baz=128						
ELDTW	Lidau	0.49	179	⇑iP	Pg	01 00 22.5	-0.5
	baz=173						
TEGC	Jichi Village	0.49	86	eP	Pb	01 00 24.0	+1.0
	baz=88						
TEGC				eS	Sn	01 00 33.4	+0.3
	baz=88						
ESF	Shoufeng Towns	0.50	67	⇓P	Pb	01 00 23.4	+0.3
	baz=70						
ESF				i S	Sb	01 00 30.6	+0.6
	baz=70						
CHN4	Tsaushan	0.50	229	⇑iP	Pg	01 00 22.7	-0.4
	baz=225						
TPUB	Ta-pu	0.51	223	ePg	Pg	01 00 22.4	-1.0
TPUB				eSg	Sg	01 00 30.1	-0.2
WHF	Hehuan Shan	0.52	27	⇑iP	Pg	01 00 23.6	-0.1
	baz=32						
TCU	Taichung	0.56	327	⇑iP	Pb	01 00 23.9	-0.1
	baz=331						
WTP	Ta-pu	0.56	220	⇑iP	Pb	01 00 23.6	-0.6
	baz=225						
STYT	Tauyuan	0.56	204	⇑iP	Pb	01 00 23.9	-0.4
	baz=193						
STYT				eS	Sb	01 00 31.8	-0.1
	baz=193						
CHY	Chiayi	0.56	251	⇑iP	Pb	01 00 23.6	-0.6
	baz=249						
TWT	Tachien	0.59	15	eP	Pb	01 00 24.1	-0.8
	baz=18						
HWA	Hwalien	0.62	61	⇑iP	Pg	01 00 26.1	+0.7
	baz=72						
TWK	Hsinying	0.63	229	⇑iP	Pb	01 00 24.9	-0.5
	baz=225						
TWK				eS	Sg	01 00 34.3	+0.4
	baz=225						
CHN1	Nanshi	0.66	222	⇑iP	Pb	01 00 25.5	-0.3
	baz=229						
CHN1				eS	Sg	01 00 35.2	+0.2
	baz=229						
CHKT	Chengkung	0.67	150	⇑iP	Pn	01 00 27.4	0.0
	baz=147						
CHKT				eS	Sn	01 00 37.8	+0.5
	baz=147						
TWD	Chiawan	0.67	53	⇑iP	Pg	01 00 26.3	0.0
	baz=67						
TWD				S	Sg	01 00 36.0	+0.7
	baz=67						
WTCT	Ta-ch'eng	0.69	286	⇑iP	Pb	01 00 25.3	-1.1
	baz=286						
WTCT				S	Sb	01 00 35.3	-0.2
	baz=286						
TWQ1	Liyutan	0.70	342	⇑iP	Pg	01 00 26.9	0.0
	baz=332						
TWQ1				eS	Sn	01 00 37.6	-0.6
	baz=332						
SGST	Jiashian	0.71	213	⇑iP	Pb	01 00 26.8	0.0
	baz=219						
SGST				eS	Sg	01 00 36.7	+0.2
	baz=219						
WSF	Szhu	0.72	267	⇑P	Pb	01 00 25.7	-1.2
	baz=266						
WSF				S	Sb	01 00 36.0	-0.4
	baz=266						
NACB	Ninganchiao	0.73	47	ePg	Pb	01 00 26.9	-0.3
NACB				eSg	Sb	01 00 35.2	-1.5
NACB				eSn	Sg	01 00 37.5	+0.3
NSY	Sanyi	0.77	343	⇑iP	Pg	01 00 28.4	+0.3
	baz=335						
NSY				S	Sn	01 00 39.6	-0.3
	baz=335						
CHN8	Yiju	0.80	246	⇑iP	Pb	01 00 27.5	-0.8
	baz=243						
CHN8				eS	Sg	01 00 39.4	+0.1
	baz=243						
NNS	Nan Shan	0.83	24	⇑iP	Pb	01 00 28.6	-0.3
	baz=27						
CHN3	Shinhua	0.84	225	⇑iP	Pg	01 00 29.5	+0.1
	baz=234						
CHN3				S	Sn	01 00 42.7	+1.0
	baz=234						
TWG	Pinlang	0.86	176	⇑iP	Pg	01 00 29.7	-0.1
	baz=167						
TWG				eS	Sn	01 00 42.9	+0.8
	baz=167						
TWG	Pinlang	0.86	176	ePg	Pb	01 00 29.4	+0.2
TWG				eSg	Sg	01 00 41.4	+0.2
TWG				eSn	Sn	01 00 43.7	+1.6
SCLT	Jiali	0.90	236	eP	Pb	01 00 29.4	-0.6
	baz=234						
SCLT				S	Sn	01 00 43.2	+0.1
	baz=234						
EHP	Heping Village	0.92	47	eP	Pb	01 00 30.6	+0.2
	baz=60						
EHP				eS	Sn	01 00 44.5	+0.8
	baz=60						
TTN	Taitung	0.93	172	eP	Pg	01 00 32.2	+1.0
	baz=168						
NSTT	Nanjuang	0.95	360	⇓P	Pn	01 00 31.2	-0.1
	baz=347						
TAI1	Yung-k'ang	0.96	228	⇑P	Pb	01 00 31.0	0.0
	baz=237						
TAI1				eS	Sn	01 00 44.8	+0.3
	baz=237						
ENA	Nanau	1.00	42	⇑iP	Pn	01 00 32.0	-0.1
	baz=44						
ENA				eS	Sg	01 00 46.3	+0.5
	baz=44						
TWM1	Shoushan	1.01	212	⇑P	Pg	01 00 33.6	+1.0
	baz=211						
YHNB	Yeheng	1.04	19	ePg	Pb	01 00 32.0	-0.5
YHNB				eSg	Sb	01 00 42.9	-2.9
NSK	Sanguang	1.04	18	⇑iP	Pb	01 00 32.4	-0.1
	baz=20						
SGLT	Jiouru	1.06	207	eP	Pg	01 00 34.1	+0.5
	baz=204						
SGLT				eS	Sg	01 00 50.6	+3.0
	baz=204						
ECL	Taimali	1.08	183	⇑iP	Pn	01 00 33.3	+0.2
	baz=169						
ENTT	Nioudou	1.08	28	⇑iP	Pb	01 00 33.1	-0.1
	baz=25						
HSN	Hsinchu	1.12	358	eP	Pg	01 00 34.4	-0.3
	baz=1.0						
TWE	Neicheng	1.20	30	⇑P	Pb	01 00 35.6	+0.4
	baz=29						
TWE				eS	Sg	01 00 52.0	0.0
	baz=29						
TWC	Suao	1.20	40	⇑iP	Pb	01 00 35.7	+0.5
	baz=47						
ILA	Ilan	1.28	32	⇓iP	Pg	01 00 37.7	0.0
	baz=41						
NCU	National Centr	1.29	7	eP	Pn	01 00 36.4	+0.2
	baz=10.0						
NCU				eS	Sg	01 00 54.5	-0.6
	baz=10.0						
TAW	Tawu	1.32	184	⇓iP	Pg	01 00 38.0	-0.6
	baz=171						
PNG	Penghu	1.34	265	⇑iP	Pn	01 00 35.2	-1.4
	baz=265						
PNG				eS	Sn	01 00 52.7	-1.2
	baz=265						
SCZT	Fangliau	1.35	195	⇑P	Pb	01 00 38.0	+0.3
	baz=192						
SCZT				eS	Sg	01 00 57.0	+0.3
	baz=192						
TATO	Taipei	1.36	19	ePn	Pb	01 00 37.7	-0.3
TATO				eSn	Sn	01 00 53.4	-1.2
TWA	Mucha	1.40	22	⇓P	Pb	01 00 38.9	+0.3
	baz=24						
TWA				eS	Sg	01 00 59.9	+1.5
	baz=24						
TAP	Taipei	1.43	19	eP	Pg	01 00 40.8	+0.2
	baz=29						
TAP				eS	Sg	01 01 00.1	+0.8
	baz=29						
TAP1	Taipei	1.43	19	eP	Pb	01 00 38.9	-0.3
	baz=20						
TWP	Hsiaoliuchiu	1.45	204	eP	Pb	01 00 38.9	-0.6
	baz=204						
TWS1	Kuangyinshan	1.46	15	eP	Pb	01 00 39.3	-0.4
	baz=17						
TWS1				eS	Sg	01 01 01.6	+1.2
	baz=17						
NWF	Wu-fen Shan	1.56	27	eP	Pb	01 00 40.8	-0.4
	baz=14						
NWF				eS	Sg	01 01 04.0	+0.7
	baz=14						
TWB1	Santiao Chiao	1.60	34	⇑iP	Pb	01 00 42.7	+0.8
	baz=44						
TWB1				eS	Sg	01 01 04.5	-0.2
	baz=44						
TWY	Chenhua	1.68	19	eP	Pn	01 00 42.0	+0.7
	baz=19						
HEN	Hengchun	1.68	188	eP	Pn	01 00 42.4	+0.9
	baz=185						
LAY	Lan-yu	1.71	163	eP	Pb	01 00 43.3	-0.5
	baz=148						
TWK1	Hengchun	1.74	186	eP	Pn	01 00 42.8	+0.6
	baz=203						
TSEB	Hengchuen, Pin	1.77	183	eP	Pb	01 00 45.0	+0.1
	baz=201						
YOJ	Yonaguni jima	1.99	67	⇓iP	Pn	01 00 47.0	+1.3
	baz=81						
YOJ				eS	Sb	01 01 12.4	-0.7
	baz=81						
YOJ	Yonaguni jima	1.99	67	P	Pn	01 00 46.9	+1.3
YOJ				eS	Sb	01 01 11.9	-1.2
PCYT	Pengchaiyu	2.17	26	eP	Pn	01 00 49.2	+1.0
	baz=10.0						
KNM	Kinmen	2.46	288	eP	Pn	01 00 52.4	+0.3
	baz=288						
QZH	Quanzhou	2.54	300	⇓iPn	Pn	01 00 50.8	-2.4
QZH				Sn	Sn	01 01 21.5	-2.1
QZH				smax	smax		
	comp=N,8μm,0.9s						
QZH				smax	smax		
	comp=E,10μm,1.3s						
IRIF	Iriomote-Funau	2.58	75	P	Pn	01 00 54.9	+1.2
IRIF				eS	Sn	01 01 26.9	+2.4
HATJ	Hateruma jima	2.59	81	P	Pn	01 00 54.8	+0.9
HATJ				eS	Sn	01 01 26.3	+1.4
JKRS	Kuro-shima	2.80	78	P	Pn	01 00 58.3	+1.5
JKRS				eS	Sn	01 01 31.9	+1.8
JIJ	Ishigaki jima	2.95	76	P	Pn	01 00 59.7	+0.9
JIJ				S	Sn	01 01 34.2	+0.5
JTJ	Tarama	3.51	73	P	Pn	01 01 07.8	+1.3
JTJ				eS	Sn	01 01 48.2	+0.6
JMJ	Miyako jima 2	4.07	73	eP	Pn	01 01 14.1	-0.2
	baz=77						
JMJ	Miyako jima 2	4.07	73	P	Pn	01 01 16.5	+2.2
JMJ				eS	Sn	01 02 02.8	+1.3
JOGS	Gusukube	4.16	74	P	Pn	01 01 15.7	+0.2
JOGS				eS	Sn	01 02 05.9	+2.3
JKE	Kume jima 2	5.87	62	P	Pn	01 01 40.4	+1.4
JKE				eS	Sn	01 02 46.4	+0.6
JAGN	Aguni-jima	6.35	62	P	Pn	01 01 47.0	+1.4
JAGN				eS	Sn	01 02 58.5	+0.9
JJT2	Tamagusuku 2	6.59	67	P	Pn	01 01 55.2	+6.3
JJT2				eS	Sn	01 03 04.7	+1.1
GZH	Guangzhou	7.06	267	P	Pn	01 01 50.3	-5.1
GZH				S	Sn	01 03 01.5	-14
GZH				smax	smax		
	comp=N,950nm,1.1s						
GZH				smax	smax		
	comp=E,640nm,1.0s						
JIH	Iheya	7.13	61	P	Pn	01 01 57.3	+1.0
JIH				eS	Sn	01 03 17.1	+0.3
JOW	Kunigami	7.29	63	eP	Pn	01 01 59.0	+0.4
	baz=68						
JOW	Kunigami	7.29	63	ePn	Pn	01 01 58.3	-0.3
JOW	Kunigami	7.29	63	P	Pn	01 01 58.7	+0.2
JOW				eS	Sn	01 03 19.6	-1.2
SSE	Sheshan	7.39	1	P	Pn	01 02 01.3	+1.4
SSE				S	Sn	01 03 21.8	-1.4
SSE				pmax	pmax		
	comp=Z,24nm,0.6s						
SSE				LR	LR		
	comp=N,4μm,11.5s						
SSE				LR	LR		
	comp=E,2μm,11.5s						
SSE				LR	LR		
	comp=Z,5μm,13.2s						
JTK	Tokunoshima	8.25	59	P	Pn	01 02 11.4	-0.3
JTK				eS	Sn	01 03 42.2	-2.2
NJ2	Nanjing	8.55	348	eP	Pn	01 02 14.3	-1.6
NJ2				pP		01 02 17.3	
NJ2				sP		01 02 20.5	
NJ2				S	Sn	01 03 46.5	-5.4
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
NJ2				smax	smax		
	comp=N,890nm,0.6s						
NJ2				smax	smax		
	comp=E,580nm,0.8s						
NJ2				LR	LR		
	comp=N,5μm,5.4s						
NJ2				LR	LR		
	comp=E,2μm,6.0s						
NJ2				LR	LR		
	comp=Z,10μm,9.8s						
JAMN	Amaminishikomi	8.64	57	P	Pn	01 02 16.4	-0.7
JAMN				eS	Sn	01 03 51.8	-2.2
WHN	Wuhan	9.05	321	P	Pn	01 02 21.3	-1.3
WHN				LR	LR		
	comp=N,16μm,7.3s						
WHN				LR	LR		
	comp=E,30μm,10.6s						
WHN				LR	LR		
	comp=Z,32μm,12.7s						
JAM	Amami Oshima	9.05	57	P	Pn	01 02 21.8	-0.9
JAM				eS	Sn	01 04 01.0	-3.2
JZK	Kikaishima	9.29	58	P	Pn	01 02 26.0	0.0
JMZ	Minamidaito 2	9.53	75	P	Pn	01 02 26.8	-2.4
JMZ				eS	Sn	01 04 07.4	-8.4
JSJ	Shimokoshiki	11.09	42	P	Pn	01 02 55.9	+5.3
QIZ	Qiongzhong	11.38	248	P	Pn	01 02 56.0	+1.3
QIZ				S	Sn	01 05 03.8	+2.4
QIZ				pmax	pmax		
	comp=Z,23nm,2.1s						
QIZ				LR	LR		
	comp=N,4μm,17.4s						
QIZ				LR	LR		
	comp=E,1μm,17.6s						
QIZ				LR	LR		
	comp=Z,5μm,16.6s						
ENH	Enshi	12.19	305	ePn	Pn	01 03 05.7	0.0
	comp=Z,37nm,1.0s						
JIU2	Izumi 2	12.36	42	P	Pn	01 03 11.5	+3.5
JNU	Nakatsue	12.80	41	ePn	Pn	01 03 19.1	+5.1
JNU	Nakatsue	12.80	41	P	P	01 03 19.7	-5.2
TIA	Tai'an	12.93	346	⇑P	P	01 03 26.3	-0.1
TIA				S	Sn	01 05 56.5	+17
TIA				LR	LR		
	comp=N,5μm,11.8s						
TIA				LR	LR		
	comp=E,4μm,8.6s						
TIA				LR	LR		
	comp=Z,8μm,9.7s						
GYA	Guiyang	13.29	285	P	Pn	01 03 20.5	-0.4
GYA				PP	P	01 03 31.0	+0.5
GYA				S	Sn	01 05 49.3	+1.1
GYA				SS	SnSn	01 06 04.3	+3.8
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				LR	LR		
	comp=N,3μm,9.0s						
GYA				LR	LR		
	comp=E,12μm,10.4s						
GYA				LR	LR		
	comp=Z,14μm,10.2s						
INCN	Inchon	14.58	18	ePn	P	01 03 41.6	-3.1
XAN	Xi'an	14.77	317	P	Pn	01 03 42.3	+1.3
XAN				LR	LR		
	comp=N,5μm,10.0s						
XAN				LR	LR		
	comp=E,2μm,14.1s						
XAN				LR	LR		
	comp=Z,3μm,14.1s						
KSAR	Wonju Array Be	14.93	22	Pn	P	01 03 46.2	-2.4
KSRS	Korea Array	14.96	22	Pn	P	01 03 46.2	-2.6
	comp=Z,1.6nm,0.3s,baz=208,slow=14,SNR=24						
KSRS				LR	LR	01 10 03.7	
	comp=Z,1μm,20.5s,baz=206,slow=40						
DL2	Dalian	15.19	2	P	P	01 03 54.0	+2.6
DL2				S	S	01 06 52.5	+1.6
DL2				pmax	pmax		
	comp=Z,46nm,1.3s						
DL2				pmax	pmax		
	comp=Z,280nm,2.6s						
DL2				LR	LR		
	comp=E,2μm,20.0s						
DL2				LR	LR		
	comp=Z,2μm,14.7s						
KMI	Kunming	16.70	279	P	Pn	01 04 05.3	-1.0
KMI				pP	pP	01 04 11.5	-2.4
KMI				sP	sP	01 04 15.3	-1.1
KMI				PP	PnPn	01 04 20.0	+4.3
KMI				S	Sn	01 07 06.5	-5.0
KMI				SS	SnSn	01 07 26.5	+1.8
KMI				pmax	pmax		
	comp=Z,7.0nm,1.5s						
KMI				pmax	pmax		
	comp=Z,160nm,4.0s						
KMI				LR	LR		
	comp=N,3μm,11.8s						
KMI				LR	LR		
	comp=E,8μm,10.1s						
KMI				LR	LR		
	comp=Z,9μm,11.8s						
BJI	Beijing	16.82	347	P	P	01 04 09.5	+0.1
BJI				sP	sP	01 04 14.8	-2.4
BJI				S	Sn	01 07 17.5	+3.8
BJI				pmax	pmax		
	comp=Z,18nm,1.1s						
BJI				pmax	pmax		
	comp=Z,440nm,7.6s						
BJI				LR	LR		
	comp=N,4μm,13.4s						
BJI				LR	LR		
	comp=E,1μm,13.8s						
BJI				LR	LR		
	comp=Z,1μm,14.7s						
UBPT	Khong Chiam	16.85	243	P	P	01 04 11.2	+1.2
	comp=Z,39nm,2.1s,comp=Z,948nm						
UBPT	Khong Chiam	16.85	243	P	P	01 04 13.5	+3.5
	comp=Z,39nm,2.1s,comp=Z,926nm						
CD2	Chengdu	16.93	299	eP	Pn	01 04 09.5	+0.6
CD2				pP	P	01 04 13.0	+2.2
CD2				sP	sP	01 04 16.5	-2.1
CD2				PP	PnPn	01 04 23.5	+4.9
CD2				S	Sn	01 07 16.0	-0.7
CD2				sS	S	01 07 21.5	-5.2
CD2				SS	SnSn	01 07 36.5	+6.5
CD2				pmax	pmax		
	comp=Z,100nm,1.2s						
CD2				pmax	pmax		
	comp=Z,270nm,4.2s						
CD2				LR	LR		
	comp=E,6μm,12.6s						
CD2				LR	LR		

comp=Z,11μm,10.8s
DAV Davao City (W) 17.09 164 LR LR 01 10 38.6
comp=Z,2μm,19.3s,baz=353,slow=37
KDM Kudat 17.14 194 P P 01 04 22.7 +9.5
SKNT Sakolnakorn 17.30 250 P P 01 04 20.6 +5.7
comp=Z,33nm,1.8s,comp=Z,3μm
KKM Kota Kinabalu 18.13 195 *eP* **P 01 04 25.8 +1.6**
comp=Z,158nm,1.6s
KKM Kota Kinabalu 18.13 195 P P **01 04 27.6 +3.3**
KKM Kota Kinabalu 18.13 195 P P **01 04 27.5 +3.3**
comp=Z,55nm,1.4s,comp=Z,1μm
SNY Shenyang 18.23 6 ⇓P **P 01 04 27.5 +2.5**
SNY S **S 01 07 54.0 +1.2**
SNY pmax pmax
comp=Z,23nm,0.9s
SNY pmax pmax
comp=Z,380nm,5.8s
SNY LR LR
comp=N,2μm,10.9s
SNY LR LR
comp=E,1μm,12.2s
SNY LR LR
comp=Z,2μm,12.2s
SDKM Sandakan 18.31 192 P P 01 04 31.8 +5.7
MYLDM Lahad Datu 18.55 188 P Pn 01 04 35.0 +6.0
HHC Hu-ho-hao-te 18.87 337 *eP* **P 01 04 32.0 -0.2**
HHC PP **PnPn 01 04 48.3 +3.0**
HHC S **Sn 01 07 58.5 -5.1**
HHC sS **S 01 08 03.8 -2.3**
HHC SS **SnSn 01 08 23.8 +6.0**
HHC PcP **PcP 01 08 59.0 +0.6**
HHC ScP **ScP 01 12 33.3 0.0**
HHC pmax pmax
comp=Z,28nm,0.6s
HHC pmax pmax
comp=Z,730nm,5.8s
HHC LR LR
comp=N,7μm,10.2s
HHC LR LR
comp=E,3μm,9.0s
HHC LR LR
comp=Z,3μm,12.7s
BTO Baotou 19.24 334 *eP* P 01 04 24.8 -12
LZH Lanzhou 19.31 314 ⇓P **Pn 01 04 39.5 +1.2**
LZH pP **pP 01 04 44.0 +1.4**
LZH sP **sP 01 04 47.3 +2.3**
LZH PP **PnPn 01 04 57.5 +6.1**
LZH S **Sn 01 08 12.8 -1.6**
LZH sS **S 01 08 18.8 +3.6**
LZH SS **SnSn 01 08 38.5 +10**
LZH pmax pmax
comp=Z,240nm,1.4s
LZH pmax pmax
comp=Z,560nm,4.5s
LZH LR LR
comp=N,4μm,8.7s
LZH LR LR
comp=E,7μm,10.3s
LZH LR LR
comp=Z,10μm,12.1s
TSM Tawau 19.51 189 P **Pn 01 04 41.6 +1.1**
MAJO Matsushiro 19.60 45 *eP* **P 01 04 40.5 +0.3**
MAJO pmax pmax
comp=Z,18nm,0.9s
MAJO Matsushiro 19.60 45 *eP* **P 01 04 40.5 +0.3**
comp=Z,18nm,0.9s
MAT Matsushiro 19.60 45 P **P 01 04 39.4 -0.8**
MAT S **S 01 08 20.4 -0.3**
MJAR Matsushiro Arr 19.60 45 P **P 01 04 38.8 -1.4**
MJAR Matsushiro Arr 19.60 45 P **P 01 04 38.8 -1.4**
comp=Z,0.4nm,0.3s,baz=236,slow=9.8,SNR=19
MJAR LR LR 01 12 40.8
comp=Z,1μm,21.8s,baz=215,slow=38
PBKT Sadao Pong 20.09 253 P Pn 01 04 50.1 +2.7
comp=Z,37nm,1.2s
PBKT Sadao Pong 20.09 253 P Pn 01 04 49.5 +2.1
comp=Z,37nm,1.2s
CN2 Changchun 20.40 9 *eP* **P 01 04 49.5 +0.7**
CN2 *ep*P pP 01 04 59.5 +5.3
CN2 *eS* **S 01 08 29.5 -7.0**
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,2μm,14.0s
CN2 LR LR
comp=E,2μm,14.0s
CN2 LR LR
comp=Z,2μm,17.0s
CMMT Chiang Mai 21.11 261 P **P 01 05 00.6 +3.8**
comp=Z,42nm,1.3s,comp=Z,630nm
CMMT Chiang Mai 21.11 261 P **P 01 05 01.0 +4.2**
comp=Z,42nm,1.3s,comp=Z,632nm
CHTO Chiang Mai 21.12 261 *eP* **P 01 04 57.9 +1.1**
CHTO pmax pmax
comp=Z,43nm,1.1s
CHTO Chiang Mai 21.12 261 *eP* **P 01 04 57.9 +1.1**
comp=Z,43nm,1.1s
CHTO Chiang Mai 21.12 261 P **P 01 05 01.0 +4.2**
comp=Z,46nm,1.3s
CHTO Chiang Mai 21.12 261 P **P 01 05 01.2 +4.4**
comp=Z,28nm,2.0s
CMAR Chiang Mai Arr 21.23 260 P **P 01 04 58.8 +0.8**
CMAR PcP **PcP 01 09 03.5 +0.5**
CMAR Chiang Mai Arr 21.23 260 P **P 01 04 58.8 +0.8**
comp=Z,5.1nm,0.6s,baz=63,slow=8.0,SNR=19
CMAR PcP **PcP 01 09 03.5 +0.5**
comp=Z,2.1nm,0.6s,baz=34,slow=0.5,SNR=5.7
CMAR LR LR 01 13 37.4
comp=Z,906nm,18.4s,baz=79,slow=38
VLA Vladivostok 21.37 22 ⇓*i*P **P 01 04 59.0 -0.3**
VLA S **S 01 08 55.7 -0.1**
VLA pmax pmax
comp=Z,52nm,1.6s
MDJ Mudanjiang 22.04 17 P **P 01 05 06.8 +0.4**
MDJ pP **pP 01 05 09.5 -2.3**
MDJ sP **sP 01 05 11.3 -3.0**
MDJ PcP **PcP 01 09 04.3 +0.2**
MDJ S **S 01 09 11.8 +3.2**
MDJ pmax pmax
comp=Z,11nm,1.5s
MDJ pmax pmax
comp=Z,160nm,8.2s
MDJ LR LR
comp=N,810nm,23.0s
MDJ LR LR
comp=E,2μm,23.0s
MDJ LR LR
comp=Z,850nm,18.9s
MDJ Mudanjiang 22.04 17 *eP* **P 01 05 07.7 +1.3**
comp=Z,39nm,1.1s
USRK Ussuriysk Arra 22.36 21 P **P 01 05 09.3 -0.7**
comp=Z,4.3nm,0.6s,baz=205,slow=9.5,SNR=18
USRK LR LR 01 14 27.4
comp=Z,1μm,18.4s,baz=184,slow=38
SBUM Sibu 22.75 203 P **P 01 05 14.6 +0.3**
GTOI Gorontalo 22.99 175 P **P 01 05 14.9 -1.8**
comp=Z,126nm,1.0s,comp=Z,2μm
MRSI Marisa 23.08 178 P **P 01 05 19.2 +1.5**
comp=Z,52nm,1.6s,comp=Z,901nmcomp=Z,14μm
GTA Gaotai 23.83 316 ⇑P **P 01 05 26.8 +1.7**
GTA pP **pP 01 05 31.0 +0.2**
GTA sP **sP 01 05 33.8 +0.6**
GTA PcP PcP 01 09 14.8 +6.7
GTA S **S 01 09 42.8 +2.6**
GTA sS **sS 01 09 50.0 +0.3**
GTA pmax pmax
comp=Z,13nm,1.9s
GTA pmax pmax
comp=Z,220nm,4.8s
GTA LR LR
comp=N,4μm,13.3s
GTA LR LR
comp=E,4μm,15.4s
GTA LR LR
comp=Z,5μm,14.5s
KSM Kuching 24.39 207 *eP* **P 01 05 31.1 +0.8**
comp=Z,34nm,1.2s
KSM Kuching 24.39 207 P **P 01 05 31.1 +0.8**
LUWI Luwuk 24.63 176 P **P 01 05 33.7 +1.2**
comp=Z,172nm,1.1s,comp=Z,2μm
GUMO Guam 24.70 110 *eP* **P 01 05 33.5 +0.3**
comp=Z,1μm,1.8s
HIA Hailar 25.56 358 *eP* **P 01 05 40.0 -0.6**
comp=Z,22nm,1.0s

ERM Erimo 25.96 40 ⇓*eP* **P 01 05 44.7 +0.4**
ULN Ulaanbaatar 26.57 339 *eP* **P 01 05 49.8 -0.2**
comp=Z,23nm,1.1s
ULN Ulaanbaatar 26.57 339 P **P 01 05 51.0 +1.0**
SONM Songino Array 26.77 338 P **P 01 05 52.1 +0.3**
SONM ScP **ScP 01 12 52.0 -1.8**
SONM Songino Array 26.77 338 P **P 01 05 52.1 +0.3**
comp=Z,3.3nm,0.7s,baz=159,slow=9.8,SNR=20
SONM ScP **ScP 01 12 52.0 -1.8**
comp=Z,1.0nm,0.7s,baz=156,slow=4.4,SNR=5.5
SONM LR LR 01 17 30.9
comp=Z,3μm,18.2s,baz=150,slow=39
KULM Kulim 26.81 230 *eP* **P 01 05 51.9 -0.4**
comp=Z,69nm,1.7s
KULM Kulim 26.81 230 P **P 01 05 54.3 +2.0**
KLR Kul'dur 26.87 16 *eP* **P 01 05 49.7 -2.8**
KLR *eS* **S 01 10 26.0 -2.1**
KLR MLR MLR
comp=E,2μm,12.0s
KLR MLR MLR
comp=Z,4μm,12.0s
ASAJ Asahikawa 27.00 36 *eP* **P 01 05 53.1 -0.5**
comp=Z,6.8nm,0.9s
ASAJ Asahikawa 27.00 36 P **P 01 05 52.6 -1.0**
comp=Z,2.7nm,0.3s,baz=237,slow=17,SNR=5.8
ASAJ LR LR 01 17 05.2
comp=Z,1μm,18.9s,baz=349,slow=38
IPM Ipoh 27.13 228 *eP* **P 01 05 54.8 -0.3**
comp=Z,11nm,0.7s
IPM Ipoh 27.13 228 P **P 01 05 55.7 +0.5**
HABR Khabarovsk 27.13 21 *eP* **P 01 05 53.0 -1.8**
HABR *e**PP **pP 01 06 02.6 +2.0**
HABR *e**SP **sP 01 06 07.0 +4.0**
HABR *e* 01 06 37.6
HABR PPP PPP 01 06 46.1
HABR *e* 01 09 12.0
HABR *eS* **S 01 10 31.3 -0.9**
HABR *e**SS sS 01 10 47.4 +5.7
HABR *eSS* **SnSn 01 11 42.1 +2.4**
HABR *eSSS* SSS 01 11 57.3
HABR *e* 01 16 41.1
HABR pmax pmax
comp=E,15nm,1.5s
HABR pmax pmax
comp=N,19nm,2.1s
HABR pmax pmax
comp=Z,25nm,2.1s
HABR MLR MLR
comp=Z,1μm,18.0s
LSA Lhasa 27.30 289 P **P 01 05 58.0 +0.9**
LSA S S 01 10 27.0 -9.1
LSA LR LR
comp=E,2μm,17.4s
LSA LR LR
comp=Z,3μm,14.9s
LSA Lhasa 27.30 289 *eP* **P 01 05 58.3 +1.2**
LSA pmax pmax
comp=Z,14nm,0.8s
LSA Lhasa 27.30 289 *eP* **P 01 05 58.3 +1.2**
comp=Z,14nm,0.8s
KAPI Kappang 28.55 183 *eP* **P 01 06 10.2 +2.5**
YUK Yuzh-Kuril'sk 28.76 39 *d*⇓P **P 01 06 11.1 +1.7**
YUK *i* PPP PPP 01 07 08.2
YUK *i* S **S 01 10 58.1 +0.1**
YUK *i* SS **SnSn 01 12 17.6 -1.9**
YUK *i* SSS SSS 01 12 37.4
YUK pmax pmax
comp=N,57nm,1.3s
YUK pmax pmax
comp=Z,94nm,1.3s
YUK pmax pmax
comp=E,173nm,1.3s
YUK MLR MLR
comp=N,116nm,19.0s
YUK MLR MLR
comp=E,1μm,19.0s
YUK MLR MLR
comp=Z,1μm,19.0s
YSS Yuzh-Sakhalins 29.04 32 *eP* **P 01 06 09.4 -2.5**
YSS *e* 01 06 15.0
YSS *e* 01 06 25.0
YSS *eS* S 01 10 54.0 -8.3
YSS MLR MLR
comp=Z,1μm,15.0s
YSS MLR MLR
comp=N,500nm,14.0s
YSS MLR MLR
comp=E,900nm,14.0s
PSI Prapat 29.78 229 P **P 01 06 19.4 +0.5**
PSI Prapat 29.78 229 P **P 01 06 19.4 +0.5**
comp=E,5.3nm,0.7s,baz=54,slow=3.6,SNR=3.5
PSI LR LR 01 17 39.1
comp=E,898nm,21.2s,baz=44,slow=35
ZAK Zakamensk 30.02 337 *eP* **P 01 06 19.6 -1.1**
ZAK *e* 01 09 29.2
ZAK pmax pmax
comp=Z,4.0nm,1.1s
IRK Irkutsk 31.26 340 *eP* **P 01 06 31.8 +0.3**
IRK pmax pmax
comp=Z,27nm,1.6s
WMQ Urumqi 33.89 315 P **P 01 06 57.0 +2.3**
WMQ pP **pP 01 07 01.5 +1.0**
WMQ sP **sP 01 07 04.0 +1.1**
WMQ PP **PP 01 08 10.3 -1.2**
WMQ PcP **PcP 01 09 36.3 +3.2**
WMQ S **S 01 12 20.3 +2.0**
WMQ sS **sS 01 12 26.8 -1.1**
WMQ ScP **ScP 01 13 19.3 +2.3**
WMQ SS **SnSn 01 14 27.0 +2.7**
WMQ ScS **ScS 01 17 19.0 +0.3**
WMQ pmax pmax
comp=Z,24nm,1.4s
WMQ pmax pmax
comp=Z,200nm,5.2s
WMQ LR LR
comp=N,280nm,10.2s
WMQ LR LR
comp=E,400nm,11.4s
MK31 Makanchi Array 38.59 316 *ceP* **P 01 07 35.1 +0.3**
MK31 pmax pmax
comp=Z,9.0nm,0.6s
MKAR Makanchi Array 38.59 316 P **P 01 07 35.3 +0.5**
MKAR 01 09 46.5
MKAR 01 13 34.5
MKAR Makanchi Array 38.59 316 P **P 01 07 35.3 +0.5**
MKAR PcP **PcP 01 09 46.5 -0.6**
MKAR ScP **ScP 01 13 34.5 +0.3**
MKAR Makanchi Array 38.59 316 P **P 01 07 35.3 +0.5**
comp=Z,4.7nm,0.6s,baz=111,slow=10.0,SNR=64
MKAR PcP **PcP 01 09 46.5 -0.6**
comp=Z,1.3nm,0.9s,baz=90,slow=3.6,SNR=2.4
MKAR ScP **ScP 01 13 34.5 +0.3**
comp=Z,3.3nm,1.2s,baz=111,slow=1.6,SNR=7.0
MKAR LR LR 01 23 53.8
comp=Z,240nm,21.0s,baz=108,slow=37
YAK Yakutsk 38.79 7 *eP* **P 01 07 34.4 -1.8**
YAK *e**PP **pP 01 07 39.7 -2.3**
YAK *e* 01 09 03.3
YAK *e* 01 09 45.0
YAK *eS* **S 01 13 32.5 0.0**
YAK *eSSS* SSS 01 16 48.8
YAK *e* 01 17 37.8
YAK pmax pmax
comp=Z,13nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,4.0nm,0.6s
YAK smax smax
comp=N,26nm,1.3s
YAK smax smax
comp=E,18nm,1.5s
YAK MLR MLR
comp=N,866nm,13.0s
YAK MLR MLR
comp=Z,1μm,14.0s
YAK MLR MLR
comp=E,396nm,12.0s
PETK Petropavlovsk- 40.38 34 P **P 01 07 50.0 +0.5**
PETK Petropavlovsk- 40.38 34 P **P 01 07 50.0 +0.5**
PETK Petropavlovsk- 40.38 34 P **P 01 07 50.0 +0.5**
comp=E,1.5nm,0.5s,baz=195,slow=2.2,SNR=7.7
PETK LR LR 01 25 04.7
comp=E,279nm,18.9s,baz=230,slow=37
ZAA0 Zalesovo Array 40.58 328 *eP* **P 01 07 50.3 -0.9**
ZALV Zalesovo Beam 40.58 328 P **P 01 07 51.0 -0.2**
ZALV Zalesovo Beam 40.58 328 P **P 01 07 51.0 -0.2**
ZALV ScP **ScP 01 13 39.8 -2.0**
ZALV Zalesovo Beam 40.58 328 P **P 01 07 51.0 -0.2**
comp=E,4.9nm,0.5s,baz=116,slow=8.3,SNR=28
ZALV ScP **ScP 01 13 39.8 -2.0**
comp=E,1.2nm,0.9s,baz=116,slow=3.4,SNR=6.4
ZALV LR LR 01 25 29.5
comp=E,402nm,21.7s,baz=250,slow=37
PET Petropavlovsk 40.82 34 *eP* **P 01 07 52.3 -0.9**
PET pmax pmax
comp=Z,29nm,1.2s
PET MLR MLR
comp=Z,600nm,20.0s
KSH Kashi 41.04 304 *eP* **P 01 07 55.8 +0.4**
KSH PcP **PcP 01 09 56.0 +0.9**
KSH S **S 01 14 07.3 +0.2**
KSH pmax pmax
comp=Z,7.0nm,1.1s
KSH pmax pmax
comp=Z,85nm,6.6s
KSH LR LR
comp=N,1μm,13.7s
KSH LR LR
comp=E,790nm,12.4s
KSH LR LR
comp=Z,2μm,14.4s
PMG Port Moresby 41.65 139 *eP* **P 01 08 00.1 -0.3**
comp=Z,23nm,1.0s
PMG Port Moresby 41.65 139 LR LR 01 24 51.1
comp=Z,570nm,18.9s,baz=260,slow=36
NVS Novosibirsk 41.84 328 ⇑*i*P **P 01 08 00.2 -1.4**
NVS *e* 01 09 38.6
NVS *eS* **S 01 14 18.6 +0.3**
NVS pmax pmax
comp=Z,51nm,2.0s
NVS pmax pmax
comp=N,24nm,1.9s
NVS pmax pmax
comp=E,35nm,1.9s
NVS pmax pmax
comp=Z,17nm,1.8s
NVS pmax pmax
comp=N,5.0nm,1.5s
NVS pmax pmax
comp=E,12nm,1.9s
NVS smax smax
comp=N,14nm,2.5s
NVS smax smax
comp=E,26nm,2.7s
TKM2 Tokmak 2 41.95 309 *eP* **P 01 08 03.8 +0.9**
TKM2 pmax pmax
comp=Z,13nm,0.8s
TKM2 Tokmak 2 41.95 309 *eP* **P 01 08 03.8 +0.9**
comp=Z,13nm,0.8s
KURK Kurchatov 42.37 321 P **P 01 08 06.7 +0.7**
KURK Kurchatov 42.37 321 P **P 01 08 06.7 +0.7**
KURBB Kurchatov Arra 42.39 320 P **P 01 08 06.7 +0.6**
comp=Z,3.6nm,0.5s,baz=119,slow=7.5,SNR=21
AAK Ala-Archa 42.68 308 *ceP* **P 01 08 10.3 +1.4**
AAK pmax pmax
comp=Z,20nm,1.7s
AAK Ala-Archa 42.68 308 *eP* **P 01 08 09.7 +0.8**
comp=Z,8.4nm,0.9s
AAK Ala-Archa 42.68 308 P **P 01 08 10.3 +1.4**
comp=Z,2.0nm,0.3s,baz=172,slow=14,SNR=4.7
AAK LR LR 01 27 09.2
comp=Z,626nm,19.0s,baz=83,slow=38
EKS2 Erkin-Say 43.21 308 *eP* **P 01 08 13.3 +0.2**
EKS2 pmax pmax
comp=Z,4.0nm,0.8s
EKS2 Erkin-Say 43.21 308 *eP* **P 01 08 13.3 +0.2**
comp=Z,4.1nm,0.8s
COEN Coen 43.23 148 *eP* **P 01 08 11.6 -1.7**
MBWA Marble Bar 44.59 182 *eP* **P 01 08 21.6 -2.4**
comp=Z,16nm,0.7s
WRAB Tennant Creek 45.26 162 *eP* **P 01 08 26.5 -3.0**
WRAB pmax pmax
comp=Z,18nm,0.9s
WRAB Tennant Creek 45.26 162 *eP* **P 01 08 26.5 -3.0**
comp=Z,18nm,0.9s
WRA Warramunga Arr 45.26 162 P **P 01 08 26.9 -2.7**
WRA PcP **PcP 01 10 07.2 -2.1**
WRA ScP **ScP 01 13 58.9 -2.2**
WRA Warramunga Arr 45.26 162 P **P 01 08 26.9 -2.7**
comp=Z,7.6nm,0.6s,baz=345,slow=8.6,SNR=49
WRA PcP **PcP 01 10 07.2 -2.1**
comp=Z,3.1nm,0.9s,baz=335,slow=3.4,SNR=3.7
WRA ScP **ScP 01 13 58.9 -2.2**
comp=Z,2.3nm,1.1s,baz=351,slow=4.3,SNR=3.2
KK31 Karatay Array 45.65 308 *ceP* **P 01 08 33.2 +0.8**
KK31 pmax pmax
comp=Z,3.0nm,0.4s
KKAR Karatay Array 45.65 308 *eP* **P 01 08 33.7 +1.3**
KKAR pmax pmax
comp=Z,10.0nm,0.9s
KKAR Karatay Array 45.65 308 *eP* **P 01 08 33.7 +1.3**
comp=Z,10nm,0.9s
BVA0 Borovoye Array 47.96 321 *i* P **P 01 08 50.7 +0.4**
BVA0 pmax pmax
comp=Z,60nm,1.8s
BVAR Borovoye Array 47.96 321 P **P 01 08 50.5 +0.1**
BVAR 01 10 17.2
BVAR Borovoye Array 47.96 321 P **P 01 08 50.5 +0.1**
BVAR PcP **PcP 01 10 17.2 -1.2**
BVAR ScP **ScP 01 14 11.6 -0.4**
BVAR Borovoye Array 47.96 321 P **P 01 08 50.5 +0.1**
comp=Z,3.4nm,0.6s,baz=126,slow=7.3,SNR=18
BVAR PcP **PcP 01 10 17.2 -1.2**
comp=Z,1.7nm,0.6s,baz=127,slow=4.5,SNR=2.1
BVAR ScP **ScP 01 14 11.6 -0.4**
comp=Z,1.1nm,0.6s,baz=101,slow=4.6,SNR=6.0
BVAR LR LR 01 30 18.2
comp=Z,269nm,20.4s,baz=105,slow=38
BRVK Borovoye 48.03 321 ⇓*i*P **P 01 08 51.4 +0.5**
BRVK pmax pmax
comp=Z,10.0nm,1.2s
BRVK Borovoye 48.03 321 *eP* **P 01 08 51.1 +0.3**
comp=Z,16nm,1.0s
ASAR Alice Springs 48.70 164 P **P 01 08 54.5 -1.9**
ASAR PcP **PcP 01 10 19.9 -1.5**
ASAR ScP **ScP 01 14 13.7 -1.8**
ASAR Alice Springs 48.70 164 P **P 01 08 54.5 -1.9**
comp=Z,4.0nm,0.8s,baz=339,slow=7.0,SNR=47
ASAR PcP **PcP 01 10 19.9 -1.5**
comp=Z,2.8nm,0.6s,baz=340,slow=3.8,SNR=4.8
ASAR ScP **ScP 01 14 13.7 -1.8**
comp=Z,2.5nm,1.0s,baz=344,slow=5.9,SNR=4.1
ASAR LR LR 01 30 55.0
comp=Z,155nm,18.6s,baz=310,slow=38
FX1 Attu Island--F 48.81 39 *eP* **P 01 08 56.8 -0.1**
FX1 Attu Island--F 48.81 39 LR LR 01 28 29.5
comp=Z,210nm,20.8s,baz=142,slow=35
CTA Charters Tower 49.98 148 P **P 01 09 05.0 -1.2**
CTA Charters Tower 49.98 148 P **P 01 09 05.0 -1.2**
comp=Z,9.4nm,0.9s,baz=0.1,slow=7.7,SNR=4.3
CTAO Charters Tower 49.98 148 *eP* **P 01 09 05.0 -1.2**
CTAO pmax pmax
comp=Z,48nm,1.4s
CTAO Charters Tower 49.98 148 *eP* **P 01 09 05.0 -1.2**
comp=Z,48nm,1.4s
HNR Honiara 50.32 126 LR LR 01 28 16.2
comp=Z,304nm,18.9s,baz=304,slow=34
AB31 Akbulak array 53.68 315 *ceP* **P 01 09 33.9 +0.4**
AB31 pmax pmax
comp=Z,25nm,1.0s
ABKAR Akbulak array 53.68 315 *eP* **P 01 09 34.2 +0.7**
comp=Z,11nm,0.8s
SVE Sverdlovsk 54.35 324 ⇓*eP* **P 01 09 38.7 +0.4**
SVE pmax pmax
comp=Z,30nm,1.5s
SVE MLR MLR
comp=Z,628nm,12.0s
FORT Forrest 54.57 173 *eP* **P 01 09 38.1 -1.9**
comp=Z,24nm,0.7s
ADK Adak 54.73 42 *eP* **P 01 09 39.8 -1.3**
ADK pmax pmax
comp=Z,650nm,1.4s
ADK Adak 54.73 42 *eP* **P 01 09 39.8 -1.3**
comp=Z,650nm,1.4s
AKTO Aktyubinsk 55.02 316 P **P 01 09 43.5 +0.3**
AKTO Aktyubinsk 55.02 316 P **P 01 09 43.5 +0.3**
AKTO Aktyubinsk 55.02 316 P **P 01 09 43.5 +0.3**
comp=Z,6.8nm,1.1s,baz=70,slow=7.9,SNR=10

ARU Arti 55.41 323 *d* iP P **01 09 46.3 +0.4**
ARU 01 10 43.6
ARU 01 11 53.4
ARU PPP PPP 01 13 07.2
ARU S **S** **01 17 32.1 +2.6**
ARU pmax pmax
comp=Z,24nm,1.7s
ARU MLR MLR
comp=Z,590nm,15.0s
STKA Stephens Creek 58.65 159 *e*P P **01 10 07.4 -1.7**
comp=Z,4.6nm,1.1s
STKA Stephens Creek 58.65 159 P P **01 10 07.5 -1.5**
comp=Z,6.5nm,0.6s,baz=339,slow=6.4,SNR=22
STKA LR LR 01 38 04.8
comp=Z,253nm,18.9s,baz=23,slow=39
MAK Makhachkala 62.46 307 *e*P P **01 10 35.4 +0.3**
MAK *e* 01 11 19.1
MAK *e* 01 12 51.5
MAK *e*PPP PPP 01 14 22.7
MAK *e*S **S** **01 19 01.2 -0.2**
MAK pmax pmax
comp=Z,37nm,1.0s
MAK MLR MLR
comp=Z,767nm,15.0s
DZM Mont Dzumac 63.41 132 *e*LR LR 01 29 30.2
comp=Z,976nm,24.6s
DGRG David-gareji 64.25 306 P P 01 10 50.8 +3.7
DUS Dusheti 64.64 307 P P 01 10 55.3 +5.6
TBLG Delisi 64.68 306 *e*P P 01 10 54.5 +4.6
TBLG Delisi 64.68 306 P P 01 10 54.5 +4.6
GNI Garni 64.95 305 *e*P **P** **01 10 51.7 -0.1**
comp=Z,7.4nm,0.9s
ZEI Tsey 65.11 308 *e*P P **01 10 55.2 +2.3**
ZEI pmax pmax
comp=Z,22nm,1.0s
ONI Oni 65.47 308 P **P** **01 10 56.2 +1.2**
KBZ Khabaz 65.67 309 P **P** **01 10 57.1 +0.9**
KBZ Khabaz 65.67 309 P **P** **01 10 57.0 +0.9**
KBZ Khabaz 65.67 309 P **P** **01 10 57.0 +0.9**
comp=Z,4.8nm,0.9s,baz=115,slow=4.7,SNR=8.6
KIV Kislovodsk 65.78 309 *e*P **P** **01 10 57.7 +0.7**
KIV *e* 01 11 26.8
KIV *e*S **S** **01 19 44.1 +1.4**
KIV *e*SS **SS** **01 23 58.8 +1.8**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,444nm,18.0s
TMCR Tamitsa 65.91 332 *e*P P 01 11 03.1 +5.8
TMCR pmax pmax
comp=Z,47nm,1.4s
VORD Divnogorie 66.86 317 *e*P **P** **01 11 03.3 -0.4**
VORD *e**SP **sP** **01 11 14.5 +2.4**
VORD pmax pmax
comp=Z,5.0nm,0.6s
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,9.0nm,0.6s
VORD MLR MLR
comp=Z,300nm,12.0s
VORD MLR MLR
comp=N,310nm,22.0s
VORD MLR MLR
comp=E,270nm,14.0s
VSR Storozhevoye 66.90 317 *e*P **P** **01 11 03.8 -0.1**
VSR *e**SP **sP** **01 11 15.0 +2.6**
VSR pmax pmax
comp=Z,7.0nm,0.6s
VSR pmax pmax
comp=N,5.0nm,0.5s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR MLR MLR
comp=Z,510nm,15.0s
VSR MLR MLR
comp=N,120nm,12.0s
VSR MLR MLR
comp=E,330nm,14.0s
MOS Moscow 67.10 322 *e*P **P** **01 11 03.5 -1.6**
MOS *e* 01 11 17.3
MOS MLR MLR
comp=Z,700nm,21.0s
APA Apatity 67.45 335⇑ *e*P **P** **01 11 07.4 +0.3**
APA MLR MLR
comp=Z,500nm,13.0s
OBN Obninsk 67.80 322⇑ *e*P **P** **01 11 07.3 -2.2**
OBN *e* 01 13 36.1
OBN *i*S **S** **01 20 06.3 -0.2**
OBN *e*SS SS 01 24 35.1 +7.6
OBN pmax pmax
comp=Z,25nm,1.3s
OBN MLR MLR
comp=Z,300nm,16.0s
COLD Coldfoot 67.95 25 *e*P **P** **01 11 09.2 -1.1**
comp=Z,28nm,1.5s
SOC Sochi 67.96 309 *e*P P 01 11 04.4 -6.4
SOC *e* 01 13 40.7
SOC *e*PPP PPP 01 15 19.1
SOC *e*S S 01 20 01.2 -7.7
SOC *e* 01 21 05.0
SOC *e*SSS SSS 01 27 31.5
SOC MLR MLR
comp=Z,537nm,18.0s
KDAK Kodiak Island 68.41 35 *e*P **P** **01 11 12.8 -0.5**
comp=Z,124nm,1.4s
KDAK Kodiak Island 68.41 35 P **P** **01 11 12.0 -1.4**
comp=Z,11nm,0.6s,baz=344,slow=14,SNR=5.3
JOF Joensuu 69.06 331 *e*p **P** **01 11 17.7 +0.4**
comp=Z,6.7nm,0.7s
JOF Joensuu 69.06 331 *e*P **P** **01 11 17.7 +0.4**
JOF pmax pmax
comp=Z,7.0nm,0.7s
MCK McKinley 69.07 28 *e*P **P** **01 11 17.1 -0.3**
MCK pmax pmax
comp=Z,36nm,1.1s
MCK McKinley 69.07 28 *e*P **P** **01 11 17.1 -0.3**
comp=Z,36nm,1.1s
ANN Anapa 69.30 311 *e*P **P** **01 11 16.9 -2.2**
ANN *e*S **S** **01 20 23.6 -1.1**
ANN pmax pmax
comp=Z,128nm,7.1s
ANN MLR MLR
comp=Z,464nm,17.0s
COLA College 69.31 27 *e*P **P** **01 11 19.3 +0.5**
COLA pmax pmax
comp=Z,36nm,0.8s
COLA College 69.31 27 *e*P **P** **01 11 19.3 +0.5**
comp=Z,36nm,0.8s
KEV Kevo 69.38 338 *e*p **P** **01 11 19.6 +0.4**
comp=Z,5.5nm,0.6s
KEV Kevo 69.38 338 *e*P **P** **01 11 19.6 +0.4**
KEV pmax pmax
comp=Z,6.0nm,0.6s
PMR Palmer 69.40 31 *e*P **P** **01 11 20.0 +0.6**
PMR pmax pmax
comp=Z,11nm,0.7s
PMR Palmer 69.40 31 *e*P **P** **01 11 20.0 +0.6**
comp=Z,11nm,0.7s
SML Sawmill 69.73 30 *e*P **P** **01 11 20.4 -1.2**
SML pmax pmax
comp=Z,10.0nm,1.2s
SML Sawmill 69.73 30 *e*P **P** **01 11 20.4 -1.2**
comp=Z,9.6nm,1.2s
ILAR Eielson Array 69.73 27 P **P** **01 11 19.7 -1.8**
ILAR Eielson Array 69.73 27 P **P** **01 11 19.7 -1.8**
comp=Z,1.4nm,0.6s,baz=277,slow=5.0,SNR=20
ILAR LR LR 01 45 43.3
comp=Z,110nm,18.4s,baz=287,slow=39
ARCES ARCESS Array B 69.94 338 P **P** **01 11 22.8 +0.1**
ARCES ARCESS Array B 69.94 338 P **P** **01 11 22.8 +0.1**
comp=Z,9.9nm,1.0s,baz=67,slow=9.4,SNR=14
ARCES LR LR 01 48 54.0
comp=Z,397nm,18.1s,baz=69,slow=42
MALT Malatya 70.14 304⇓ *i*P P 01 11 45.3 +21
PAX Paxson 70.76 29 *e*P **P** **01 11 27.5 -0.4**
PAX pmax pmax
comp=Z,42nm,1.4s
PAX Paxson 70.76 29 *e*P **P** **01 11 27.5 -0.4**
comp=Z,42nm,1.4s
DIV Divide 71.08 31 *e*P **P** **01 11 29.6 -0.3**
comp=Z,40nm,1.2s
KAF Kangasniemi 71.51 330 *e*p **P** **01 11 32.4 +0.1**
comp=Z,2.1nm,0.5s
KAF Kangasniemi 71.51 330 *e*P **P** **01 11 32.4 +0.1**
KAF pmax pmax
comp=Z,2.0nm,0.5s
MENT Mentasta 71.54 29 *e*P **P** **01 11 32.6 0.0**
BMRM Bremner River 71.68 31 *e*P **P** **01 11 33.0 -0.4**
comp=Z,21nm,0.9s
FINES FINESS Array B 71.80 330 P **P** **01 11 32.8 -1.3**
FINES FINESS Array B 71.80 330 P **P** **01 11 32.8 -1.3**
comp=Z,1.9nm,0.4s,baz=64,slow=5.8,SNR=18
FINES LR LR 01 45 49.0
comp=Z,620nm,18.0s,baz=75,slow=38
EGAK Eagle 72.10 26 *e*P **P** **01 11 35.1 -0.7**
comp=Z,13nm,0.8s
MICGM Minsk 72.83 322 *e* **P** **01 11 40.0 -0.3**
MNK Minsk 72.86 322 *e*P **P** **01 11 40.0 -0.5**
KIEV Kiev 73.15 318 *e*P **P** **01 11 42.1 -0.2**
KIEV pmax pmax
comp=Z,9.0nm,1.1s
KIEV Kiev 73.15 318 *e*P **P** **01 11 42.1 -0.2**
comp=Z,8.6nm,1.1s
NACGM Naroch 73.32 323 *e* P 01 11 40.0 -3.3
BR131 Keskin Array S 73.34 306 *e*P **P** **01 11 43.8 -0.1**
comp=Z,1.4nm,0.5s
BRTR Keskin Array B 73.34 306 P **P** **01 11 43.4 -0.4**
BRTR Keskin Array B 73.34 306 P **P** **01 11 43.4 -0.4**
comp=Z,3.0nm,0.9s,baz=91,slow=4.1,SNR=16
BRTR LR LR 01 51 50.7
comp=Z,151nm,18.6s,baz=66,slow=42
INK Inuvik 73.75 22 P **P** **01 11 44.9 -0.6**
INK Inuvik 73.75 22 P **P** **01 11 44.9 -0.6**
comp=Z,5.9nm,0.8s,baz=315,slow=8.2,SNR=9.4
ANTO Ankara 73.92 307⇑ P P 01 11 52.0 +4.8
ANTO Ankara 73.92 307 *e*P **P** **01 11 46.4 -0.8**
comp=Z,7.0nm,0.8s
ANTO Ankara 73.92 307⇑ *i*P P 01 11 52.0 +4.8
CSS Prodhromos 75.03 302 *e*P **P** **01 11 53.9 +0.2**
comp=Z,9.2nm,0.7s
SUW Suwalki 75.60 323 *e*P **P** **01 11 56.2 -0.3**
SUW pmax pmax
comp=Z,55nm,1.0s
SUW Suwalki 75.60 323 *e*P **P** **01 11 56.2 -0.3**
comp=Z,55nm,1.0s
SUW Suwalki 75.60 323 *e*P **P** **01 11 56.2 -0.3**
TESR Tescani 76.07 315⇓ *i*P P **01 12 02.2 +2.8**
VRI Vrincioaia 76.24 314⇓ P P 01 12 04.4 +4.0
VRI Vrincioaia 76.24 314⇓ *i*P P 01 12 04.3 +3.9
PLOR Plostina 76.29 314⇓ P P 01 12 04.0 +3.3
PLOR Plostina 76.29 314⇓ *i*P P 01 12 04.0 +3.3
SKAG Skagway 76.54 31 *e*P **P** **01 12 01.9 +0.2**
comp=Z,28nm,1.1s
BURAR Bucovina Array 76.61 316⇓ P **P** **01 12 05.3 +2.7**
BURAR Bucovina Array 76.61 316⇓ *i*P **P** **01 12 05.3 +2.7**
MLR Muntele Rosu 76.88 314⇑ *i*P P 01 12 07.6 +3.4
KWP Kalwaria Pacla 77.44 319⇓ P **P** **01 12 07.1 0.0**
KWP Kalwaria Pacla 77.44 319⇓ *i*P **P** **01 12 07.1 0.0**
KWP Kalwaria Pacla 77.44 319 *e*P **P** **01 12 07.3 +0.2**
VOIR 77.49 314⇑ P P 01 12 11.2 +3.7
VOIR 77.49 314⇑ *i*P P 01 12 11.1 +3.6
ARR Arges 77.79 314⇓ *i*P **P** **01 12 09.8 +0.6**
UZH Uzhgorod 78.07 318 *e*P **P** **01 12 12.6 +2.0**
UZH *e* 01 12 28.8
UZH *e*S **S** **01 22 02.2 -1.5**
UZH *e* 01 30 22.8
LOT Lotru 78.33 315⇑ *i*P **P** **01 12 15.1 +2.9**
STHS Stebnicka Huta 78.41 319 *e*P **P** **01 12 14.8 +2.3**
STHS pmax pmax
comp=Z,3.0nm,1.3s
STHS Stebnicka Huta 78.41 319 *e*P **P** **01 12 14.8 +2.3**
DRGR 78.50 316⇑ P **P** **01 12 12.8 -0.3**
DRGR 78.50 316⇑ *i*P **P** **01 12 12.8 -0.3**
NB2 NORSAR Subarra 78.59 332 P **P** **01 12 12.5 -0.8**
comp=Z,6.6nm,0.9s,baz=60,slow=5.6
NOA NORSAR Array B 78.59 332 P **P** **01 12 12.9 -0.4**
NOA NORSAR Array B 78.59 332 P **P** **01 12 12.9 -0.4**
comp=Z,2.9nm,0.7s,baz=58,slow=5.7,SNR=12
NOA LR LR 01 50 59.7
comp=Z,742nm,19.3s,baz=55,slow=39
OJC Ojcow 78.95 320 *e*P **P** **01 12 15.7 +0.3**
OJC Ojcow 78.95 320 *e*P **P** **01 12 15.7 +0.3**
NIE Niedzica 78.97 319 *e*P **P** **01 12 18.1 +2.5**
NIE Niedzica 78.97 319 *e*P **P** **01 12 18.1 +2.5**
GZR Gura Zlata 78.99 315⇑ P **P** **01 12 16.9 +1.1**
GZR Gura Zlata 78.99 315⇑ *i*P **P** **01 12 16.9 +1.1**
KECS Kecovo 79.24 318 *e*P **P** **01 12 17.4 +0.4**
KECS pmax pmax
comp=Z,2.0nm,1.2s
KECS Kecovo 79.24 318 *e*P **P** **01 12 17.4 +0.4**
CRAG Craig 79.31 34 *e*P **P** **01 12 17.2 0.0**
comp=Z,10nm,0.9s
DLBC Dease Lake 79.46 30 P **P** **01 12 18.1 -0.1**
DLBC Dease Lake 79.46 30 P **P** **01 12 18.1 -0.1**
comp=Z,1.8nm,0.6s,baz=322,slow=3.5,SNR=6.9
VTS Vitosha 79.78 312⇑ P **P** **01 12 20.7 +0.4**
VTS Vitosha 79.78 312⇑ *i*P **P** **01 12 20.7 +0.4**
PSZ Piszkesteto 79.83 318 *e*P **P** **01 12 20.2 -0.1**
PSZ pmax pmax
comp=Z,37nm,1.8s
PSZ Piszkesteto 79.83 318 *e*P **P** **01 12 20.2 -0.1**
comp=Z,37nm,1.8s
OKC Ostrava-Krasne 80.08 320 *i*P **P** **01 12 22.4 +0.8**
OKC *e* 01 12 33.8
OKC *e* 01 22 28.4
OKC MLR MLR
comp=Z,300nm,13.6s
OKC Ostrava-Krasne 80.08 320 *i*P **P** **01 12 22.4 +0.8**
OKC *ex* x 01 12 33.8
OKC *e*S **S** **01 22 28.4 +3.3**
OKC AMS AMS 01 51 10.0
comp=Z,300nm,13.6s
VYHS Vyhne 80.23 319 *e*P **P** **01 12 22.9 +0.5**
VYHS pmax pmax
comp=Z,6.0nm,1.3s
VYHS Vyhne 80.23 319 *e*P **P** **01 12 22.9 +0.5**
MORC Moravsky Berou 80.46 320 *e*P **P** **01 12 23.6 -0.1**
MORC pmax pmax
comp=Z,9.0nm,1.3s
MORC Moravsky Berou 80.46 320 *e*P **P** **01 12 23.6 -0.1**
comp=Z,8.7nm,1.3s
KSP Ksiaz 80.72 322⇑ *e*P **P** **01 12 25.2 +0.2**
KSP Ksiaz 80.72 322 *e*P **P** **01 12 25.4 +0.4**
DPC Dobruska-Polom 80.92 321 *i*P **P** **01 12 26.7 +0.6**
DPC *e* 01 12 35.1
DPC *e* 01 22 35.0
DPC Dobruska-Polom 80.92 321 *i*P **P** **01 12 26.7 +0.6**
DPC *e*p **PcP** **01 12 35.1 +2.4**
DPC *e*S **S** **01 22 35.0 +1.0**
DPC AMS AMS 01 51 10.0
PVCC Panska Ves 81.84 322 *i*P **P** **01 12 31.4 +0.4**
PVCC MLR MLR
comp=Z,500nm,13.5s
PVCC Panska Ves 81.84 322 *i*P **P** **01 12 31.4 +0.4**
PVCC AMS AMS 01 53 30.0
comp=Z,500nm,13.5s
TREC Trest 81.88 320 *i*P **P** **01 12 31.5 +0.3**
TREC *e* 01 22 44.2
TREC MLR MLR
comp=Z,400nm,15.2s
TREC Trest 81.88 320 *i*P **P** **01 12 31.5 +0.3**
TREC *ex* x 01 12 43.4
TREC *e*S **S** **01 22 44.2 +0.3**
TREC AMS AMS 01 52 10.0
comp=Z,400nm,15.2s
PRU Pruhonice 82.11 321 *i*P **P** **01 12 32.6 +0.2**
PRU *e* 01 12 44.7
PRU *e* 01 22 47.3
PRU MLR MLR
comp=Z,500nm,12.4s
PRU Pruhonice 82.11 321 *i*P **P** **01 12 32.6 +0.2**
PRU *ex* x 01 12 44.7
PRU *e*S **S** **01 22 47.3 +1.2**
PRU AMS AMS 01 53 50.0
comp=Z,500nm,12.4s
CONA Conrad Observa 82.27 319⇑ *i*P **P** **01 12 33.9 +0.5**
comp=Z,9.1nm,1.5s
FBE Freiberg 82.34 323 *e*pP pP 01 12 45.4 +5.6
CLL Collm 82.36 323 *e*P **P** **01 12 33.2 -0.4**
comp=Z,9.0nm,1.3s
CLL *e*pP pP 01 12 45.4 +5.5
CLL Collm 82.36 323 *i*P **P** **01 12 33.4 -0.2**
CLL *e* 01 12 45.4
CLL *e*S **SKSac** **01 22 53.0 -0.5**
CLL pmax pmax
comp=Z,9.0nm,1.3s
CLL Collm 82.36 323 *i*P **P** **01 12 33.4 -0.2**
comp=Z,9.0nm,1.3s
CLL *i* sP **sP** **01 12 41.7 -0.5**
CLL *i* 01 12 45.4
CLL *e*PP **PP** **01 15 37.0 -5.0**
CLL *e*S **SKSac** **01 22 53.0 -0.5**
CLL *e*PS **PnS** **01 23 36.0 -2.7**
CLL *e*(SS) 01 28 48.0
CLL *e* 01 32 54.0
CLL *e*SSSS 01 34 18.0
CLL Lm MLR 01 54 00.0
comp=N,300nm,19.2s
CLL Lm MLR 01 54 00.0
comp=E,400nm,22.0s
BSEG Bad Segeberg 82.50 326 *e*P **P** **01 12 35.0 +0.7**
comp=Z,32nm,1.3s
BSEG *e*pP **pP** **01 12 45.6 +5.0**
BSEG Bad Segeberg 82.50 326 *e*P **P** **01 12 35.0 +0.7**
BSEG *e**PP **pP** **01 12 45.6 +5.0**
BSEG pmax pmax
comp=Z,36nm,1.3s
KHC Kasperske Hory 83.06 321 *i*P **P** **01 12 37.3 -0.1**
KHC *e* 01 12 46.2
KHC MLR MLR
comp=Z,500nm,13.3s
KHC Kasperske Hory 83.06 321 *i*P **P** **01 12 37.3 -0.1**
KHC *e*pP **pP** **01 12 46.2 +2.5**
KHC AMS AMS 01 53 40.0
comp=Z,500nm,13.3s
KHC Kasperske Hory 83.06 321 *e*P **P** **01 12 37.2 -0.1**
comp=Z,14nm,1.4s
NEUB Neuenburg 83.08 323 *e*P **P** **01 12 37.2 -0.2**
comp=Z,34nm,1.8s
TANN Tannenbergstha 83.08 322 *e*P **P** **01 12 37.5 0.0**
comp=Z,9.0nm,1.5s
GEC2 GERESS Array S 83.13 321 *e*P **P** **01 12 37.8 0.0**
comp=Z,9.0nm,1.3s
GEC2 *e*pP pP 01 12 49.6 +5.5
GEC2 GERESS Array S 83.13 321 *e*P **P** **01 12 37.8 0.0**
GEC2 *e**PP pP 01 12 49.6 +5.5
GEC2 pmax pmax
comp=Z,19nm,1.3s
GERES GERESS Array B 83.13 321 P **P** **01 12 37.8 0.0**
GERES GERESS Array B 83.13 321 P **P** **01 12 37.8 0.0**
comp=Z,2.4nm,0.7s,baz=51,slow=4.3,SNR=18
GERES LR LR 01 52 54.0
comp=Z,290nm,18.9s,baz=164,slow=38
WERD Werda 83.16 322 *e*P **P** **01 12 37.5 -0.3**
comp=Z,11nm,1.6s
NKC Novy Kostel 83.18 322 *i*P **P** **01 12 37.5 -0.5**
NKC MLR MLR
comp=Z,400nm,13.1s
NKC Novy Kostel 83.18 322 *i*P **P** **01 12 37.5 -0.5**
NKC AMS AMS 01 54 30.0
comp=Z,400nm,13.1s
WERN Wernitzgruen 83.19 322 *e*P **P** **01 12 38.1 0.0**
comp=Z,11nm,1.3s
PLN Plauen 83.22 322 *e*P **P** **01 12 38.1 -0.1**
comp=Z,25nm,1.2s
MOA Molln 83.26 319⇑ *i*P **P** **01 12 38.0 -0.4**
comp=Z,12nm,1.0s
MOX Moxa 83.44 323 *e*P **P** **01 12 39.3 0.0**
comp=Z,10.0nm,1.4s
MOX *e*L L 01 55 07.0
comp=Z,639nm,18.5s
MOX Moxa 83.44 323 *e*P **P** **01 12 39.3 0.0**
MOX pmax pmax
comp=Z,6.0nm,1.4s
YKW3 Yellowknife Ar 83.45 23 *e*P **P** **01 12 37.8 -1.3**
WET Wettzell 83.46 321 *e*P **P** **01 12 39.7 +0.2**
comp=Z,8.0nm,1.5s
WET Wettzell 83.46 321 *e*P **P** **01 12 39.7 +0.2**
WET pmax pmax
comp=Z,12nm,1.5s
MANZ Manzenberg 83.49 322 *e*P **P** **01 12 39.5 -0.1**
comp=Z,18nm,1.8s
MANZ *e*pP pP 01 12 51.6 +5.7
YKA Yellowknife Ar 83.50 23 P **P** **01 12 38.2 -1.1**
YKA Yellowknife Ar 83.50 23 P **P** **01 12 38.2 -1.1**
comp=Z,2.5nm,0.4s,baz=309,slow=4.8,SNR=36
ROTZ Rotzenmuhle 83.54 322 *e*P **P** **01 12 40.3 +0.5**
comp=Z,15nm,1.4s
GRF Grafenberg Arr 84.14 322 *e*P **P** **01 12 43.4 +0.5**
comp=Z,21nm,1.5s
GRF *e*L L 01 52 33.1
comp=Z,401nm,18.2s
GRF Grafenberg Arr 84.14 322 *e*P **P** **01 12 43.4 +0.5**
GRF pmax pmax
comp=Z,20nm,1.5s
GRF MLR MLR
comp=Z,21µm,18.2s
RJOB Jochberg 84.19 320 *e*P **P** **01 12 43.5 +0.3**
comp=Z,9.0nm,1.3s
IBBN Ibbenburen 84.66 325 *e*P **P** **01 12 46.1 +0.7**
comp=Z,35nm,1.6s
KMBO Kilima Mbogo 84.73 266 *e*P **P** **01 12 48.3 +1.5**
comp=Z,5.4nm,1.0s
KMBO Kilima Mbogo 84.73 266 P **P** **01 12 48.1 +1.4**
comp=Z,0.8nm,0.3s,baz=37,slow=20,SNR=2.6
ABTA Abfaltersbach 84.84 319⇑ *i*P **P** **01 12 45.5 -1.1**
comp=Z,10nm,1.2s
FUR Furstenfeldbru 84.87 321 *e*P **P** **01 12 47.4 +0.8**
comp=Z,37nm,1.3s
FUR Furstenfeldbru 84.87 321 *e*P **P** **01 12 47.4 +0.8**
FUR pmax pmax
comp=Z,13nm,1.3s
TNS Taunus Mts 85.40 323 *e*pP pP 01 13 01.1 +5.5
TIP Timpagrande 85.65 311 *e*P **P** **01 12 51.5 +0.7**
comp=Z,52nm,1.7s
STU Stuttgart 85.75 322 *e*P **P** **01 12 51.7 +0.7**
comp=Z,9.0nm,1.2s
FETA Feichten 85.76 320⇑ *i*P **P** **01 12 51.0 -0.3**
comp=Z,9.9nm,1.1s
AQU L'Aquila 86.42 315 *e*P **P** **01 12 54.2 -0.3**
comp=Z,37nm,1.2s
WLF Walferdange 86.95 324 P **P** **01 12 57.5 +0.6**
comp=Z,9.9nm,1.2s
WLF Walferdange 86.95 324 *e*P **P** **01 12 59.2 +2.3**
comp=Z,20nm,1.1s
WLF Walferdange 86.95 324 *e*P **P** **01 12 57.4 +0.6**
WLF pmax pmax
comp=Z,22nm,1.2s
WLF Walferdange 86.95 324 *e*P **P** **01 12 57.4 +0.6**
comp=Z,22nm,1.2s
CDF Champ du Feu 87.02 322 *e*P **P** **01 12 57.0 -0.4**
GIVF Givet 87.42 325 *e*P **P** **01 12 58.6 -0.5**
MEZF Maizieres J'vi 88.20 323 *e*P **P** **01 13 02.6 -0.3**
comp=Z,76nm,1.7s
SFTF Sexfontaines 88.38 323 *e*P **P** **01 13 03.1 -0.7**
comp=Z,49nm,1.4s
LPG La Plagne 88.91 320 *e*P **P** **01 13 06.4 -0.3**
comp=Z,8.0nm,0.6s
LPL La Plagne 88.91 320 *e*P **P** **01 13 06.3 -0.3**
comp=Z,8.3nm,0.6s
PGF Pioggiola 89.13 317 *e*P **P** **01 13 07.2 -0.3**
comp=Z,175nm,1.7s
BNI Bardonecchia 89.20 320 *e*P **P** **01 13 07.1 -0.8**
BNI pmax pmax
comp=Z,6.0nm,1.0s
BNI Bardonecchia 89.20 320 *e*P **P** **01 13 07.1 -0.8**
comp=Z,5.6nm,1.0s
MBDF Montbardon 89.32 319 *e*P **P** **01 13 07.8 -0.7**
comp=Z,17nm,1.2s
SBF Sospel 89.39 318 *e*P **P** **01 13 07.9 -0.8**
comp=Z,43nm,1.1s
LOR Lormes 89.57 323 *e*P **P** **01 13 08.5 -0.9**
comp=Z,17nm,1.2s
LOR *e*R
comp=Z,368nm,20.8s
ORIF Oris-en-Rattie 89.75 320 *e*P **P** **01 13 10.0 -0.4**
comp=Z,30nm,1.5s
ORIF *e*R
comp=Z,373nm,21.0s
SSF Saint Saulge 89.88 323 *e*P **P** **01 13 10.1 -0.7**
comp=Z,11nm,1.0s
SMF Signal de Mont 89.94 322 *e*P **P** **01 13 10.5 -0.6**
comp=Z,19nm,0.9s
AVF Avril sur Loir 90.13 323 *e*P **P** **01 13 11.2 -0.8**
comp=Z,27nm,1.2s
HYF Humbligny 90.24 323 *e*P **P** **01 13 12.3 -0.2**
LMR La Mourre 90.25 318 *e*P **P** **01 13 12.2 -0.4**
comp=Z,38nm,1.4s
SMRF Simiane la Rot 90.45 319 *e*P **P** **01 13 13.3 -0.3**
comp=Z,20nm,1.1s
VIVF Saint-Julien-l 90.49 320 *e*P **P** **01 13 13.1 -0.7**
comp=Z,20nm,1.3s

BGF	**Bois d'Agland**	**90.55**	**323**	*e*P		**P**	01 13 13.3	-0.6
TCF	**Toulx Ste Croi**	**91.06**	**323**	*e*P		**P**	01 13 16.0	-0.4
	comp=Z,16nm,1.2s							
NEW	**Newport**	**91.51**	**35**	*e*P		**P**	01 13 17.8	-0.6
	comp=Z,8.7nm,1.2s							
NEW	**Newport**	**91.51**	**35**	P		**P**	01 13 18.0	-0.5
	baz=91							
CAF	**Calviac**	**91.95**	**322**	*e*P		**P**	01 13 20.5	-0.1
	comp=Z,19nm,1.1s							
RJF	**Les Rejaudoux**	**92.04**	**322**	*e*P		**P**	01 13 21.0	+0.1
	comp=Z,38nm,1.2s							
MFF	**Saint Martin d**	**92.16**	**324**	*e*P		**P**	01 13 20.8	-0.6
	comp=Z,25nm,1.4s							
A13A	**Flathead Natio**	**92.46**	**33**	P		**P**	01 13 21.8	-1.1
	baz=92							
WALA	**Waterton Lakes**	**92.63**	**33**	*e*P		**P**	01 13 22.1	-1.6
	comp=Z,0.2nm,1.2s							
LFF	**La Frestale**	**92.70**	**322**	*e*P		**P**	01 13 23.8	-0.1
A14A	**Double T Ranch**	**92.92**	**32**	P		**P**	01 13 24.7	-0.4
	baz=93							
C13A	**Hot Springs**	**93.20**	**34**	P		**P**	01 13 25.6	-0.8
	baz=93							
C14A	**Swan Lake**	**93.56**	**34**	P		**P**	01 13 27.1	-0.9
	baz=93							
FFC	**Flin Flon**	**93.66**	**23**	*e*P		**P**	01 13 27.2	-1.0
FFC				pmax	pmax			
	comp=Z,5.0nm,0.9s							
FFC	**Flin Flon**	**93.66**	**23**	*e*P		**P**	01 13 27.2	-1.0
	comp=Z,5.0nm,0.9s							
A16A	**West Butte Ran**	**93.83**	**32**	P		**P**	01 13 28.7	-0.6
	baz=94							
SLMT	**Seeley Lake**	**94.04**	**34**	*e*P		**P**	01 13 29.2	-1.1
	comp=Z,6.2nm,1.0s							
A17A	**Triple J Farms**	**94.26**	**31**	P		**P**	01 13 30.2	-0.9
	baz=94							
WVOR	**Wild Horse Val**	**94.27**	**40**	*e*P		P	01 13 27.8	-3.6
WVOR				pmax	pmax			
	comp=Z,8.0nm,1.4s							
WVOR	**Wild Horse Val**	**94.27**	**40**	*e*P		P	01 13 27.8	-3.6
	comp=Z,8.5nm,1.4s							
A18A	**Metzger Ranch,**	**94.68**	**31**	P		**P**	01 13 31.4	-1.7
	baz=94							
SJPF	**Ste Jean**	**94.94**	**322**	*e*P		**P**	01 13 33.7	-0.6
	comp=Z,59nm,1.5s							
H12A	**Diamond D Ranc**	**95.09**	**36**	P		**P**	01 13 34.4	-0.8
	baz=95							
A19A	**Klindworth Far**	**95.19**	**30**	P		**P**	01 13 34.2	-1.2
	baz=95							
D17A	**Six Diamond Ra**	**95.51**	**33**	P		**P**	01 13 35.8	-1.2
	baz=95							
DLMT	**Dillon**	**95.76**	**35**	*e*P		**P**	01 13 38.0	-0.2
	comp=Z,4.4nm,1.0s							
CMB	**Columbia Colle**	**95.83**	**44**	*e*P		**P**	01 13 37.6	-0.9
CMB				pmax	pmax			
	comp=Z,7.0nm,1.1s							
CMB	**Columbia Colle**	**95.83**	**44**	*e*P		**P**	01 13 37.6	-0.9
	comp=Z,6.9nm,1.1s							
E17A	**Martinsdale**	**95.90**	**33**	P		**P**	01 13 38.2	-0.7
	baz=96							
HLID	**Hailey**	**95.97**	**37**	*e*P		**P**	01 13 39.0	-0.2
	comp=Z,2.4nm,1.0s							
HLID	**Hailey**	**95.97**	**37**	P		**P**	01 13 38.4	-0.9
	baz=96							
PPT	**Papeete**	**96.37**	**106**	LR		LR	01 53 28.3	
	comp=Z,207nm,18.4s,baz=351,slow=33							
PPT2	**Papeete2**	**96.38**	**106**	*e*S		S	01 24 54.5	-6.6
	comp=Z,123nm,27.0s							
PPT2	**Papeete2**	**96.38**	**106**	*e*LR		LR	01 44 47.9	
	comp=Z,360nm,23.5s							
D19A	**Cripps Ranch,**	**96.38**	**32**	P		**P**	01 13 40.1	-0.8
	baz=96							
NVAR	**Mina Array Bea**	**96.91**	**43**	P		**P**	01 13 43.8	+0.2
NVAR	**Mina Array Bea**	**96.91**	**43**	P		**P**	01 13 43.8	+0.2
	comp=Z,0.3nm,0.6s,baz=298,slow=3.9,SNR=4.9							
LSZ	**Lusaka**	**98.52**	**257**	*e*P		Pdif	01 13 51.1	+0.1
	comp=Z,6.9nm,1.3s							
TBI	**Tubuai**	**98.66**	**112**	*e*LR		LR	01 45 37.1	
	comp=Z,164nm,36.0s							
ESDC	**Sonseca Array**	**98.72**	**320**	PP		PP	01 17 52.2	+0.2
ESDC	**Sonseca Array**	**98.72**	**320**	PP		PP	01 17 52.2	+0.2
	comp=Z,0.4nm,0.7s,baz=46,slow=7.3,SNR=2.9							
PDAR	**Pinedale Array**	**99.13**	**35**	PP		PP	01 17 48.9	-6.3
PDAR	**Pinedale Array**	**99.13**	**35**	PP		PP	01 17 48.9	-6.4
	comp=Z,0.7nm,1.0s,baz=319,slow=4.0,SNR=4.0							
PDAR				LR		LR	02 03 26.1	
	comp=Z,111nm,19.5s,baz=203,slow=38							
ULM	**Lac du Bonnet**	**99.47**	**23**	LR		LR	01 59 17.4	
	comp=Z,133nm,19.9s,baz=336,slow=36							
VNDA	**Vanda**	**103.82**	**172**	Pdif		**Pdif**	**01 14 13.2**	**0.0**
VNDA	**Vanda**	**103.82**	**172**	Pdiff		**Pdif**	**01 14 13.2**	**0.0**
	comp=Z,0.8nm,1.0s,baz=316,slow=4.8,SNR=3.8							
TORD	**Torodi Ar. Bea**	**110.30**	**295**	PKiKP		**PKiKP**	**01 18 43.0**	**-1.6**
TORD	**Torodi Ar. Bea**	**110.30**	**295**	PKiKP		**PKiKP**	**01 18 43.0**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=18,slow=2.6,SNR=6.0							
TXAR	**Lajitas Array**	**112.00**	**41**	PKiKP		**PKiKP**	**01 18 46.1**	**-1.6**
TXAR				PP		**PP**	**01 19 26.4**	**-4.1**
TXAR	**Lajitas Array**	**112.00**	**41**	PKiKP		**PKiKP**	**01 18 46.2**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=190,slow=2.6,SNR=6.2							
TXAR				PP		**PP**	**01 19 26.4**	**-4.1**
	comp=Z,1.2nm,1.1s,baz=307,slow=3.3,SNR=3.4							
DBIC	**Dimbokro**	**119.17**	**293**	PKP		**PKPdf**	**01 19 01.4**	**-0.2**
DBIC	**Dimbokro**	**119.17**	**293**	PKP		**PKPdf**	**01 19 01.4**	**-0.2**
	comp=Z,2.6nm,0.9s,baz=243,slow=11,SNR=2.8							
PMSA	**Palmer Station**	**138.78**	**177**	*e*PKPdf		**PKPdf**	**01 19 36.1**	**-1.1**
SDV	**Santo Domingo**	**145.69**	**21**	*e*PKPbc		**PKPdf**	**01 19 50.7**	**-0.7**
ROSC	**El Rosal**	**147.93**	**30**	PKPbc		**PKPbc**	**01 19 58.4**	**-0.1**
ROSC	**El Rosal**	**147.93**	**30**	PKPbc		**PKPbc**	**01 19 58.4**	**-0.1**
	comp=Z,7.4nm,0.4s,baz=96,slow=18,SNR=12							
BDFB	**Brasilia**	**166.93**	**306**	PKPab		**PKPab**	**01 21 21.6**	**-0.3**
BDFB	**Brasilia**	**166.93**	**306**	PKPab		**PKPab**	**01 21 21.6**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=74,slow=7.4,SNR=3.5							
LPAZ	**La Paz**	**168.70**	**51**	PKP		**PKPdf**	**01 20 19.6**	**-0.7**
LPAZ	**La Paz**	**168.70**	**51**	PKP		**PKPdf**	**01 20 19.6**	**-0.7**
	comp=Z,5.8nm,1.2s,baz=24,slow=3.8,SNR=9.9							
SIV	**San Ignacio**	**172.11**	**15**	PKP		**PKPdf**	**01 20 19.6**	**-1.8**
SIV				PKPab		**PKPab**	**01 21 43.5**	**-0.9**
SIV	**San Ignacio**	**172.11**	**15**	PKP		**PKPdf**	**01 20 19.6**	**-1.8**
	comp=Z,1.8nm,1.0s,baz=16,slow=5.9,SNR=5.3							
SIV				PKPab		**PKPab**	**01 21 43.6**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=303,slow=6.4,SNR=3.0							
CPUP	**Villa Florida**	**176.96**	**209**	PKPab		**PKPab**	**01 22 04.7**	**-1.1**
CPUP	**Villa Florida**	**176.96**	**209**	PKPab		**PKPab**	**01 22 04.7**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=93,slow=4.7,SNR=3.9							

*DDA **26** 01:00:57.7,39.°96N×39.°93E,h7km,ML3.5*
*ISK **26** 01:00:57.6,39.°92N×39.°99E,h3km,MD3.6*
*CSEM **26** 01:00:58.7±0.2,39.°93N×39.°97E,h2km,ML3.5,Error ellipse: s-maj=4.6km s-min=3.3km az=166.0*

ISC 26 01:00:57.9±1.0,39.°93N±0.°02×39.°97E±0.°02,h6km±10km, n79,σ1§51/100,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EUZM	**Uzumlu**	**0.30**	**224**	*i* P	**Pg**	**01 01 04.3**	**+0.4**
EUZM				*i* S	**Sg**	**01 01 09.0**	**+1.0**
EUZM	**Uzumlu**	**0.30**	**224**	*i* P	**Pg**	**01 01 04.3**	**+0.4**
EUZM				*i* S	**Sg**	**01 01 09.0**	**+1.0**
ERZN	**Erzincan**	**0.39**	**210**	PG	**Pb**	**01 01 05.9**	**-1.4**
ERZN				*e*SG	**Sg**	**01 01 11.6**	**+1.0**
KOPT	**Kop Dagi**	**0.41**	**77**	*i* P	**Pb**	**01 01 06.5**	**-1.3**
KOPT				*i* S	**Sb**	**01 01 14.1**	**-0.3**
KOPT	**Kop Dagi**	**0.41**	**77**	*i* P	**Pb**	**01 01 06.5**	**-1.3**
KOPT				*i* S	**Sb**	**01 01 14.1**	**-0.3**
BAYT	**Ayd¯–ntepe-Bay**	**0.48**	**15**	PG	**Pb**	**01 01 07.9**	**-1.0**
BAYT				*e*SG	**Sb**	**01 01 14.8**	**-1.6**
BAYT	**Ayd¯–ntepe-Bay**	**0.48**	**15**	*i* Pg	**Pb**	**01 01 07.9**	**-1.0**
BAYT				*e*Sg	**Sb**	**01 01 14.8**	**-1.6**
EZC	**Erzincan**	**0.51**	**250**	*e*PG	**Pb**	**01 01 08.3**	**-1.0**
EZC	**Erzincan**	**0.51**	**250**	*e*Pg	**Pb**	**01 01 08.3**	**-1.0**
EZC				*e*Sg	**Sg**	**01 01 11.6**	**-2.8**
KELT	**Kelkit**	**0.59**	**292**	*i* P	**Pb**	**01 01 09.9**	**-0.9**
KELT				*i* S	**Sg**	**01 01 18.4**	**+1.3**
KELT	**Kelkit**	**0.59**	**292**	*i* P	**Pb**	**01 01 09.9**	**-0.9**
KELT				*i* S	**Sg**	**01 01 18.4**	**+1.3**
GUMT	**Gumushane**	**0.65**	**325**	*e*PG	**Pb**	**01 01 11.1**	**-0.7**
GUMT	**Gumushane**	**0.65**	**325**	*e*Pg	**Pb**	**01 01 11.1**	**-0.7**
EZM	**Erzurum**	**1.07**	**91**	*e*PG	**Pb**	**01 01 18.2**	**-0.7**
ERZM	**Erzurum**	**1.07**	**91**	*i* P	**Pb**	**01 01 18.2**	**-0.8**
ERZM	**Erzurum**	**1.07**	**91**	*i* P	**Pb**	**01 01 18.2**	**-0.8**
BNGB	**Bing¶ll**	**1.08**	**149**	*e*PG	**Pb**	**01 01 18.3**	**-0.8**
BINT	**Bingol**	**1.12**	**159**	*e*Pg	**Pg**	**01 01 18.3**	**-1.2**
PTK	**Pertek**	**1.13**	**204**	*e*PN	**Pn**	**01 01 19.8**	**-0.6**
PTK	**Pertek**	**1.13**	**204**	*e*Pn	**Pn**	**01 01 19.8**	**-0.6**
ILIC	**ilic-Erzincan**	**1.18**	**247**	*e*PN	**Pn**	**01 01 21.0**	**-0.1**
ILIC	**ilic-Erzincan**	**1.18**	**247**	*e*Pn	**Pn**	**01 01 21.0**	**-0.1**
KEMA	**Kemaliye**	**1.32**	**241**	*i* P	**Pn**	**01 01 22.1**	**-0.8**
KEMA				*i* S	**Sn**	**01 01 41.1**	**+0.3**
KEMA	**Kemaliye**	**1.32**	**241**	*i* P	**Pn**	**01 01 22.1**	**-0.8**
KEMA				*i* S	**Sn**	**01 01 41.1**	**+0.3**
BNGL	**BINGOL**	**1.33**	**137**	*i* P	**Pb**	**01 01 24.4**	**+0.9**
BNGL				*i* S	Sn	01 01 48.3	+6.9
ESPY	**Espiye-Giresun**	**1.37**	**317**	*e*PN	**Pg**	**01 01 23.7**	**-0.5**
ESPY	**Espiye-Giresun**	**1.37**	**317**	*e*Pn	**Pg**	**01 01 23.7**	**-0.5**
SUSE	**Susehri**	**1.39**	**282**	*i* P	**Pn**	**01 01 23.8**	**-0.1**
SUSE				*i* S	**Sg**	**01 01 42.4**	**-0.1**
SUSE	**Susehri**	**1.39**	**282**	*i* P	**Pn**	**01 01 23.8**	**-0.1**
SUSE				*i* S	**Sg**	**01 01 42.4**	**-0.1**
PZAR	**Pazar-Rize**	**1.44**	**29**	*e*PN	**Pg**	**01 01 25.2**	**-0.2**
PZAR	**Pazar-Rize**	**1.44**	**29**	*e*Pn	**Pg**	**01 01 25.2**	**-0.2**
HOMI	**Horasan**	**1.49**	**85**	*i* P	**Pg**	**01 01 25.9**	**-0.6**
HOMI				*i* S	**Sg**	**01 01 49.4**	**+3.6**
ELZG	**Elazig**	**1.62**	**209**	*i* P	**Pb**	**01 01 27.9**	**-0.4**
ELZG				*i* S	**Sg**	**01 01 51.4**	**+1.4**
ELZG	**Elazig**	**1.62**	**209**	*i* P	**Pb**	**01 01 27.9**	**-0.4**
ELZG				*i* S	**Sg**	**01 01 51.4**	**+1.4**
SVRC	**Sivrice-ELAZID**	**1.63**	**199**	*e*PN	**Pb**	**01 01 28.2**	**-0.3**
SVRC	**Sivrice-ELAZID**	**1.63**	**199**	*e*Pn	**Pb**	**01 01 28.2**	**-0.3**
GRSN	**GIRESUNGRSN**	**1.64**	**308**	*i* P	**Pb**	**01 01 28.0**	**-0.5**
GRSN				*i* S	**Sn**	**01 01 48.8**	**+0.1**
GRSN	**GIRESUNGRSN**	**1.64**	**308**	*i* P	**Pb**	**01 01 28.0**	**-0.5**
GRSN				*i* S	**Sn**	**01 01 48.8**	**+0.1**
DDEM	**Demirkent**	**1.67**	**54**	*i* P	**Pb**	**01 01 28.5**	**-0.5**
DDEM				*i* S	**Sg**	**01 01 51.7**	**+0.2**
DDEM	**Demirkent**	**1.67**	**54**	*i* P	**Pb**	**01 01 28.5**	**-0.5**
DDEM				*i* S	**Sg**	**01 01 51.7**	**+0.2**
BCA	**Borcka**	**1.97**	**39**	*e*PN	**Pb**	**01 01 33.3**	**-0.8**
BCA	**Borcka**	**1.97**	**39**	*e*Pn	**Pb**	**01 01 33.3**	**-0.8**
MYA	**Malataya**	**2.00**	**217**	*e*PN	**Pb**	**01 01 33.9**	**-0.8**
MYA	**Malataya**	**2.00**	**217**	*e*Pn	**Pb**	**01 01 33.9**	**-0.8**
RSDY	**Resadiye-TOKAT**	**2.08**	**284**	*e*PN	**Pb**	**01 01 35.2**	**-0.9**
RSDY	**Resadiye-TOKAT**	**2.08**	**284**	*e*Pn	**Pb**	**01 01 35.2**	**-0.9**
TUTA	**Tutak**	**2.25**	**103**	*i* P	**Pb**	**01 01 39.0**	**-0.2**
TUTA				*i* S	**Sg**	**01 02 11.9**	**+1.5**
TUTA	**Tutak**	**2.25**	**103**	*i* P	**Pb**	**01 01 39.0**	**-0.2**
SVSK	**Karacayir**	**2.29**	**271**	*e*PN	**Pb**	**01 01 38.3**	**-1.2**
SVSK	**Karacayir**	**2.29**	**271**	*e*Pn	**Pb**	**01 01 38.3**	**-1.2**
AGRB	**Hanur-Agry**	**2.35**	**98**	*e*PN	**Pb**	**01 01 38.7**	**-2.1**
AGRB	**Hanur-Agry**	**2.35**	**98**	*e*Pn	**Pb**	**01 01 38.7**	**-2.1**
DARE	**Darende-Malaty**	**2.36**	**236**	*e*PN	**Pb**	**01 01 39.2**	**-1.6**
MAZI	**Mazidag**	**2.49**	**171**	*e*PN	**Pb**	**01 01 40.9**	**-2.2**
MAZI	**Mazidag**	**2.49**	**171**	*e*Pn	**Pb**	**01 01 40.9**	**-2.2**
URFA	**Urfa**	**2.64**	**200**	*e*PN	**Pb**	**01 01 42.9**	**-2.8**
URFA	**Urfa**	**2.64**	**200**	*e*Pn	**Pb**	**01 01 42.9**	**-2.8**
TOKT	**Tokat**	**2.66**	**280**	*e*PN	**Pn**	**01 01 43.2**	**+1.9**
TOKT	**Tokat**	**2.66**	**280**	*e*Pn	**Pn**	**01 01 43.2**	**+1.9**
AKH	**Akhalkalaki**	**3.06**	**60**	P	**Pg**	**01 01 55.3**	**-1.3**
CLDR	**Caldiran**	**3.15**	**103**	*e*PN	**Pn**	**01 01 50.2**	**+2.0**
CLDR	**Caldiran**	**3.15**	**103**	*e*Pn	**Pn**	**01 01 50.2**	**+2.0**
SARI	**SarD1z-Kayseri**	**3.15**	**242**	*e*PN	**Pn**	**01 01 50.2**	**+2.0**
KVT	**Kavak**	**3.21**	**292**	*e*PN	**Pn**	**01 01 51.2**	**+2.4**
KVT	**Kavak**	**3.21**	**292**	*e*Pn	**Pn**	**01 01 51.2**	**+2.4**
CHVG	**Ch'k'valeri**	**3.21**	**29**	P	Pb	01 01 51.6	-3.7
BNN	**Bunyan**	**3.37**	**253**	*e*PN	**Pn**	**01 01 53.5**	**+2.3**
BNN	**Bunyan**	**3.37**	**253**	*e*Pn	**Pn**	**01 01 53.5**	**+2.3**
KMRS	**Kahramanmaras**	**3.41**	**226**	*e*PN	**Pn**	**01 01 54.2**	**+2.6**
KMRS	**Kahramanmaras**	**3.41**	**226**	*e*Pn	**Pn**	**01 01 54.2**	**+2.6**
YOZ	**Yozgat**	**3.60**	**267**	*e*PN	**Pn**	**01 01 56.9**	**+2.6**
YOZ	**Yozgat**	**3.60**	**267**	*e*Pn	**Pn**	**01 01 56.9**	**+2.6**
ONI	**Oni**	**3.74**	**43**	P	**Pb**	**01 02 02.0**	**-2.3**
ONI	**Oni**	**3.74**	**43**	P	**Pb**	**01 02 02.0**	**-2.3**
DIKM	**Dikmen**	**3.97**	**297**	*e*PN	**Pn**	**01 02 01.9**	**+2.6**
DIKM	**Dikmen**	**3.97**	**297**	*e*Pn	**Pn**	**01 02 01.9**	**+2.6**
CORM	**Corum**	**4.11**	**275**	*e*PN	**Pn**	**01 02 04.2**	**+2.9**
CORM	**Corum**	**4.11**	**275**	*e*Pn	**Pn**	**01 02 04.2**	**+2.9**
DUS	**Dusheti**	**4.18**	**57**	P	**Pg**	**01 02 16.1**	**-1.9**

IDC 26 01:04:09.8±12.0,26.°98N×140.°12E,h476km±137km, mb3.2/8,mb1 3.3/8,mb1mx3.0/24,mbtmp3.2/8,Error ellipse: s-maj=117.4km s-min=19.2km az=73.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.98**	**187**	P	P	01 11 56.8	-0.1
	0.8nm,1.0s,baz=5.9,slow=7.6,SNR=2.5						
ZALV	**Zalesovo Beam**	**48.37**	**319**	P	P	01 12 06.9	-0.2
	0.8nm,0.3s,baz=107,slow=9.2,SNR=5.2						
MKAR	**Makanchi Array**	**49.13**	**310**	P	P	01 12 11.7	-1.2
	0.2nm,0.3s,baz=93,slow=9.3,SNR=3.8						
KURBB	**Kurchatov Arra**	**51.81**	**315**	P	P	01 12 32.6	+0.3
	1.5nm,0.5s,baz=91,slow=8.1,SNR=9.0						
BVAR	**Borovoye Array**	**56.83**	**317**	P	P	01 13 08.7	+0.5
	1.5nm,0.4s,baz=86,slow=6.6,SNR=7.8						
ARCES	**ARCESS Array B**	**73.04**	**340**	P	P	01 14 50.4	+0.3
	4.0nm,1.1s,baz=66,slow=7.3,SNR=4.4						
JOF	**Joensuu**	**74.36**	**333**	*ep*	P	01 14 57.7	0.0
	0.9nm,0.4s						
KAF	**Kangasniemi**	**76.77**	**334**	*ep*	P	01 15 10.9	-0.3
	2.2nm,0.5s						
FINES	**FINESS Array B**	**77.23**	**333**	P	P	01 15 13.6	-0.1
	2.2nm,0.4s,baz=69,slow=4.6,SNR=25						
NOA	**NORSAR Array B**	**83.03**	**338**	P	P	01 15 43.3	-0.9
	0.5nm,0.5s,baz=45,slow=5.0,SNR=2.9						
TORD	**Torodi Ar. Bea**	**123.25**	**309**	PKP	PKPdf	01 22 12.7	0.0
	0.2nm,0.6s,baz=63,slow=1.3,SNR=4.2						

IDC 26 01:09:08.0±1.9,27.°09S×178.°56W,h271km±12km, mb3.5/4,mb1 3.8/6,mb1mx3.4/20,mbtmp3.6/6,Error ellipse: s-maj=37.4km s-min=19.5km az=44.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.23**	**165**	P	Pn	01 09 55.7	+1.6
	67nm,0.3s,baz=143,slow=20,SNR=3.7						
RAO				S	S	01 10 30.9	0.0
	214nm,0.3s,baz=98,slow=22,SNR=6.6						
URZ	**Urewera**	**11.72**	**197**	P	Pn	01 11 45.6	-1.9
	2.5nm,0.3s,baz=272,slow=3.5,SNR=25						
URZ				S	S	01 13 47.8	-10
	4.8nm,0.3s,baz=70,slow=22,SNR=15						
CTA	**Charters Tower**	**32.91**	**275**	P	P	01 15 18.5	+1.1
	3.5nm,0.6s,baz=92,slow=10,SNR=5.6						
ASAR	**Alice Springs**	**42.89**	**264**	P	P	01 16 40.3	-0.1
	1.3nm,0.7s,baz=104,slow=7.9,SNR=22						
WRA	**Warramunga Arr**	**43.58**	**269**	P	P	01 16 45.3	-0.6
	2.7nm,0.6s,baz=107,slow=7.8,SNR=39						
VNDA	**Vanda**	**51.33**	**185**	P	P	01 17 45.1	+0.7
	0.8nm,0.5s,baz=8.1,slow=7.1,SNR=14						
BRTR	**Keskin Array B**	**150.48**	**303**	PKPbc	PKPbc	01 28 27.6	-0.2
	0.1nm,0.3s,baz=136,slow=4.1,SNR=2.2						
BRTR				PKPab	PKPab	01 28 34.2	-1.2
	0.3nm,0.6s,baz=82,slow=4.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**166.13**	**181**	PKPab	PKPab	01 29 41.6	-1.6
	0.6nm,1.0s,baz=186,slow=6.0,SNR=5.8						

*CSEM **26** 01:13:29.9,38.°09N×22.°04E,h16km,ML2.0/3,After THE*
THE 26 01:13:29.9,38.°09N×22.°04E,h16km,ML2.0/3,Error ellipse: s-maj=0.6km s-min=0.4km az=186.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLV	**Kalavryta, Ach**	**0.10**	**118**	P	Pg	01 13 33.3	0.0
KLV	**Kalavryta, Ach**	**0.10**	**118**	P	Pg	01 13 33.3	0.0
LAKA	**Lakka**	**0.16**	**341**	P	Pg	01 13 34.3	+0.2
LAKA	**Lakka**	**0.16**	**341**	P	Pg	01 13 34.3	+0.2
TRIZ	**Trizonia**	**0.28**	**5**	P	Pg	01 13 35.8	-0.1
TRIZ	**Trizonia**	**0.28**	**5**	P	Pg	01 13 35.8	-0.1
GUR	**Goura**	**0.28**	**123**	P	Pg	01 13 35.6	-0.5
GUR				S	Sg	01 13 40.4	+0.1
GUR	**Goura**	**0.28**	**123**	P	Pg	01 13 35.6	-0.5
GUR				S	Sg	01 13 40.4	+0.1
KALE	**Kalithea**	**0.31**	**14**	P	Pg	01 13 36.5	-0.1
KALE	**Kalithea**	**0.31**	**14**	P	Pg	01 13 36.5	-0.1
EFP	**Efpalio**	**0.35**	**342**	P	Pg	01 13 37.4	+0.2
EFP	**Efpalio**	**0.35**	**342**	P	Pg	01 13 37.4	+0.2
RLS	**Riolos of Patr**	**0.46**	**266**	P	Pg	01 13 38.7	-0.4
RLS	**Riolos of Patr**	**0.46**	**266**	P	Pg	01 13 38.7	-0.4
THAL	**Thalero**	**0.49**	**96**	P	Pg	01 13 39.6	-0.1
THAL	**Thalero**	**0.49**	**96**	P	Pg	01 13 39.6	-0.1
DSF	**Desfina**	**0.50**	**50**	P	Pg	01 13 39.6	-0.3
DSF				S	Sg	01 13 46.7	0.0
DSF	**Desfina**	**0.50**	**50**	P	Pg	01 13 39.6	-0.3
DSF				S	Sg	01 13 46.7	0.0
AXS	**Araxos**	**0.54**	**282**	P	Pg	01 13 40.4	-0.2
AXS	**Araxos**	**0.54**	**282**	P	Pg	01 13 40.4	-0.2
AMT	**Artemida-Makis**	**0.62**	**206**	P	Pg	01 13 41.6	-0.5
AMT				S	Sb	01 13 50.9	+0.1
AMT	**Artemida-Makis**	**0.62**	**206**	P	Pg	01 13 41.6	-0.5
AMT				S	Sb	01 13 50.9	+0.1
LTK	**Loutraki**	**0.73**	**95**	P	Pg	01 13 44.1	-0.2
LTK	**Loutraki**	**0.73**	**95**	P	Pg	01 13 44.1	-0.2
AXAR	**Agios Charalam**	**0.83**	**35**	P	Pb	01 13 45.6	-0.4
AXAR				S	Sg	01 13 57.7	+0.5
AXAR	**Agios Charalam**	**0.83**	**35**	P	Pb	01 13 45.6	-0.4
AXAR				S	Sg	01 13 57.7	+0.5
EVR	**Evrytania**	**0.85**	**348**	P	Pb	01 13 45.9	-0.5
EVR	**Evrytania**	**0.85**	**348**	P	Pb	01 13 45.9	-0.5
AGG	**Agios Georgios**	**0.96**	**13**	P	Pb	01 13 47.4	-0.8
AGG				S	Sg	01 14 01.2	0.0
AGG	**Agios Georgios**	**0.96**	**13**	P	Pb	01 13 47.4	-0.8
AGG				S	Sg	01 14 01.2	0.0
DID	**Didima**	**1.11**	**121**	P	Pb	01 13 50.2	-0.6
DID				S	Sn	01 14 05.7	-0.2
DID	**Didima**	**1.11**	**121**	P	Pb	01 13 50.2	-0.6
DID				S	Sn	01 14 05.7	-0.2
VLS	**Valsamata**	**1.15**	**275**	P	Pn	01 13 50.4	-1.0
VLS	**Valsamata**	**1.15**	**275**	P	Pn	01 13 50.4	-1.0
PYL	**PYLOS**	**1.22**	**191**	P	Pn	01 13 51.6	-0.7
PYL	**PYLOS**	**1.22**	**191**	P	Pn	01 13 51.6	-0.7
LKD2	**Lefkada island**	**1.29**	**303**	P	Pn	01 13 52.4	-1.0
LKD2	**Lefkada island**	**1.29**	**303**	P	Pn	01 13 52.4	-1.0

*ISCJB **26** 01:13:58.7±0.5,38.°08N±0.°03×22.°02E±0.°04,h20km±6km, Error ellipse: s-maj=5.2km s-min=4.3km az=149.9*
*CSEM **26** 01:13:58.7±0.1,38.°07N×22.°04E,h12km,ML2.3/3,Error ellipse: s-maj=2.1km s-min=1.9km az=59.0*
*ATH **26** 01:13:58.1,38.°08N×22.°08E,h24km±3km,MD2.5/7*
*THE **26** 01:13:59.1,38.°08N×22.°04E,h9km±1km,ML2.3/3,Error ellipse: s-maj=1.3km s-min=0.4km az=230.0*

ISC 26 01:13:59.1±0.9,38.°09N±0.°02×22.°05E±0.°02,h16km±5km, n43,σ0§61/64,Greece

| Code | Station Name | Δ° | AZ° | Phase ID | | Time | Res |

MSZ	**Milford Sound**	**1.67**	**45**	PN	Pb	01 45 39.0	-1.0
MSZ				AML	AML	01 46 10.8	
MSZ				AML	AML	01 46 10.9	
MSZ				AML	AML	01 46 15.7	
SYZ	**Scrubby Hill**	**2.10**	**110**	PN	Pn	01 45 43.9	+0.2
WKZ	**Wanaka**	**2.19**	**63**	AML	AML	01 46 23.4	
WKZ				AML	AML	01 46 25.5	
EAZ	**Earnscleugh**	**2.22**	**74**	AML	AML	01 46 21.5	
EAZ				AML	AML	01 46 21.5	
EAZ				AML	AML	01 46 23.1	
TUZ	**Tuapeka**	**2.34**	**93**	AML	AML	01 46 21.0	
TUZ				AML	AML	01 46 24.3	
JCZ	**Jackson Bay**	**2.51**	**45**	AML	AML	01 46 38.5	
JCZ				AML	AML	01 46 38.7	
ODZ	**Otahua Downs**	**3.18**	**77**	PN	Pn	01 45 59.3	+0.6

IDC 26 01:48:19.0±59.0, 28°60S×177°38E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.8/3, MS4.0/1, Ms1 4.0/1, ms1mx2.8/25, Error ellipse: s-maj=1029.0km s-min=152.4km az=94.0, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**31.00**	**255**	P	P	01 54 38.4	+0.1
	2.1nm,0.8s,baz=100,slow=11,SNR=4.0						
PMG	**Port Moresby**	**34.20**	**298**	LR	LR	02 05 44.0	
	comp=Z,277nm,21.0s,baz=37,slow=31						
ASAR	**Alice Springs**	**39.18**	**267**	P	P	01 55 48.0	-0.9
	0.3nm,0.8s,baz=98,slow=7.5,SNR=5.2						
WRA	**Warramunga Arr**	**40.00**	**273**	P	P	01 55 56.1	+0.4
	0.6nm,0.4s,baz=110,slow=8.0,SNR=13						

IDC 26 02:08:47.7±1.6, 0°44N×126°87E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=56.0km s-min=24.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.94**	**233**	Pn	Pn	02 10 58.7	+0.5
	0.6nm,0.3s,baz=72,slow=3.2,SNR=4.3						
WRA	**Warramunga Arr**	**21.54**	**161**	P	P	02 13 39.4	+0.7
	0.7nm,0.4s,baz=338,slow=11,SNR=19						
ASAR	**Alice Springs**	**24.92**	**165**	P	P	02 14 12.2	-0.5
	0.8nm,0.3s,baz=346,slow=12,SNR=15						
MKAR	**Makanchi Array**	**60.33**	**326**	P	P	02 18 58.4	0.0
	0.1nm,0.4s,baz=122,slow=5.2,SNR=3.2						

MEX 26 02:43:41.1±1.0, 15°93N×99°31W, h16km±27km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.23**	**68**	*e*P	Pn	02 43 59.2	-4.5
PNIG				*i* S	Sb	02 44 15.1	-4.6
CAIG	**El Cayaco**	**1.44**	**321**	*e*P	Pn	02 44 03.7	-2.9
CAIG				*i* S	Sn	02 44 19.4	-5.9
PLIG	**Platanillo**	**2.46**	**356**	*i* P	Pn	02 44 17.5	-3.2
PLIG				*i* S	Sn	02 44 45.2	-5.4
ARIG	**Puente Sto Nin**	**2.54**	**337**	*i* P	Pn	02 44 18.1	-3.7
ARIG				*i* S	Sn	02 44 48.9	-3.6
YAIG	**Yautepec**	**2.93**	**5**	*i* P	Pn	02 44 25.2	-2.1
YAIG				*i* S	Sn	02 44 58.2	-4.1

IDC 26 02:59:09.6±0.9, 10°35N×126°56E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.7/24, mbtmp3.7/10, ML4.3/1, MS3.5/6, Ms1 3.5/6, ms1mx3.1/38, Error ellipse: s-maj=52.1km s-min=16.3km az=79.0
MAN 26 02:59:14, 9°66N×125°21E, h1km, mb4.9, ML3.8, MS3.9
MAN INTENSITY IV -SURIGAO CITY; INTENSITY III - PLACER SURIGAO DLE NORTE; INTENSITY II - DINAGAT ISLAND PROVINCE.
NEIC 26 02:59:16.5±2.5, 10°27N×126°46E, h49km±21km, mb4.1/3, Error ellipse: s-maj=30.5km s-min=10.4km az=64.0
NEIC Felt [IV PIVS] at Surigao, [III PIVS] at Placer and [II PIVS] on Dinagat Island, Mindanao.

ISC 26 02:59:14.3±1.6, 9°69N±0°04×125°23E±0°06, h10km±10km, n37, σ1°73/30, mb3.9/12, MS3.5/5, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.57**	**321**	*e*P	**Pg**	**02 59 25.5**	**+0.1**
MSLP				*e*S	**Sn**	**02 59 38.0**	**+0.1**
BUTP	**Butuan**	**0.82**	**151**	*e*P	**Pb**	**02 59 31.0**	**+0.4**
BUTP				*e*S	**Sb**	**02 59 42.9**	**+1.2**
CGP	**Cagayan de Oro**	**1.34**	**203**	*e*P	**Pg**	**02 59 39.0**	**-1.0**
CGP				*i* S	**Sn**	**03 00 01.6**	**+4.8**
TBP	**Tagbilaran**	**1.34**	**270**	*e*P	**Pn**	**02 59 39.8**	**+0.7**
TBP				*e*S	**Sn**	**03 00 00.0**	**+3.0**
LLP	**Lapu-Lapu**	**1.39**	**297**	*e*P	**Pb**	**02 59 42.3**	**+2.0**
LLP				*e*S	**Sn**	**03 00 01.5**	**+3.4**
BUKP	**Musuan**	**1.81**	**185**	*e*P	**Pb**	**02 59 46.7**	**-0.8**
DCPH	**Dipolog City**	**2.15**	**239**	*e*P	**Pn**	**02 59 51.6**	**+1.4**
DCPH				*e*S	**Sb**	**03 00 19.7**	**-0.5**
PAGZ	**Pagadian**	**2.58**	**225**	*e*P	**Pb**	**03 00 00.0**	**-0.7**
DAV	**Davao City (W)**	**2.63**	**172**	Pn	**Pg**	**03 00 05.7**	**+1.0**
DAV				Sn	Sg	03 00 44.8	+6.0
DAV	**Davao City (W)**	**2.63**	**172**	Pn	**Pg**	**03 00 05.7**	**+1.0**
	27nm,0.3s,baz=248,slow=17,SNR=8.4						
DAV				Sn	Sg	03 00 44.8	+6.0
	48nm,0.3s,baz=258,slow=20,SNR=4.4						
DAV				LR	LR	03 01 19.9	
	comp=Z,600nm,20.3s,baz=89,slow=38						
RCP	**Roxas**	**3.06**	**308**	*e*P	**Pn**	**03 00 04.3**	**+1.5**
IPIL	**Ipil**	**3.23**	**234**	*e*P	**Pb**	**03 00 09.1**	**-2.7**
JNU	**Nakatsue**	**22.89**	**12**	LR	LR	03 12 24.2	
	comp=Z,77nm,19.4s,baz=186,slow=34						
IPM	**Ipoh**	**24.56**	**260**	*e*P	P	03 04 43.4	+8.8
	12nm,1.1s						
KSRS	**Korea Array**	**27.75**	**5**	LR	LR	03 14 31.8	
	comp=Z,74nm,19.8s,baz=72,slow=34						
WRA	**Warramunga Arr**	**30.79**	**163**	P	**P**	**03 05 29.5**	**-0.8**
WRA	**Warramunga Arr**	**30.79**	**163**	P	**P**	**03 05 29.5**	**-0.8**
	0.4nm,0.7s,baz=346,slow=9.3,SNR=4.3						
ASAR	**Alice Springs**	**34.22**	**166**	P	**P**	**03 06 00.8**	**+0.4**
ASAR	**Alice Springs**	**34.22**	**166**	P	**P**	**03 06 00.8**	**+0.4**
	0.4nm,0.5s,baz=351,slow=6.8,SNR=5.5						
USRK	**Ussuriysk Arra**	**34.88**	**9**	P	P	03 05 55.9	-10
	0.3nm,0.5s,baz=187,slow=7.3,SNR=2.3						
SONM	**Songino Array**	**41.21**	**341**	P	P	03 06 55.7	-3.6
SONM	**Songino Array**	**41.21**	**341**	P	P	03 06 55.7	-3.6
	0.2nm,0.3s,baz=164,slow=5.8,SNR=2.7						
STKA	**Stephens Creek**	**44.20**	**160**	P	P	03 07 21.0	-2.6
STKA	**Stephens Creek**	**44.20**	**160**	P	P	03 07 21.0	-2.6
	1.7nm,0.7s,baz=319,slow=9.3,SNR=2.4						
MKAR	**Makanchi Array**	**51.87**	**323**	P	**P**	**03 08 21.1**	**-1.8**
MKAR	**Makanchi Array**	**51.87**	**323**	P	**P**	**03 08 21.1**	**-1.8**
	0.5nm,0.6s,baz=123,slow=8.1,SNR=4.6						
AAK	**Ala-Archa**	**55.01**	**316**	LR	LR	03 31 29.0	
	comp=Z,75nm,21.9s,baz=98,slow=35						
BVAR	**Borovoye Array**	**61.56**	**326**	LR	LR	03 37 13.9	
	comp=Z,35nm,18.2s,baz=114,slow=37						
BRVK	**Borovoye**	**61.63**	**326**	*e*P	**P**	**03 09 30.5**	**-1.6**
	1.1nm,0.6s						
ABKAR	**Akbulak array**	**66.64**	**320**	*e*P	**P**	**03 10 05.2**	**+0.2**
	0.5nm,0.6s						
AKTO	**Aktyubinsk**	**68.11**	**321**	LR	LR	03 39 59.5	
	comp=Z,41nm,21.2s,baz=289,slow=36						
BRTR	**Keskin Array B**	**85.10**	**309**	P	**P**	**03 11 50.7**	**-0.3**
BRTR	**Keskin Array B**	**85.10**	**309**	P	**P**	**03 11 50.7**	**-0.3**
	0.6nm,0.8s,baz=98,slow=4.4,SNR=5.0						
FINES	**FINESS Array B**	**85.91**	**332**	P	P	03 11 51.5	-2.8
FINES	**FINESS Array B**	**85.91**	**332**	P	P	03 11 51.4	-2.8
	1.1nm,0.7s,baz=86,slow=7.5,SNR=5.7						
VNDA	**Vanda**	**89.49**	**173**	P	**P**	**03 12 10.0**	**-1.1**
VNDA	**Vanda**	**89.49**	**173**	P	**P**	**03 12 10.0**	**-1.1**
	0.6nm,0.8s,baz=300,slow=8.5,SNR=3.9						

IDC 26 03:01:42.0±1.3, 34°70N×26°57E, h0km, mb3.6/5, mb1 3.6/8, mb1mx3.4/28, mbtmp3.5/8, ML3.4/3, Error ellipse: s-maj=27.1km s-min=24.2km az=32.0
ATH 26 03:01:43.5, 34°25N×26°68E, h33km±5km, MD3.8/13
THE 26 03:01:45.4, 34°43N×26°63E, h0km±2km, mb3.1/4, Error ellipse: s-maj=3.6km s-min=0.9km az=168.0
CSEM 26 03:01:46.4±0.2, 34°50N×26°67E, h30km, ML3.1/4, Error ellipse: s-maj=6.7km s-min=3.6km az=40.0

HLW 26 03:01:48.8, 34°32N×26°88E, h32km±18km, Md3.8, Ml3.5

ISC 26 03:01:44.8±1.5, 34°41N±0°03×26°62E±0°04, h13km±11km, n106, σ1°28/101, mb3.4/5, 3C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.78**	**335**	P	**Pb**	**03 02 00.5**	**+0.3**
ZKR				S	**Sb**	**03 02 13.4**	**+2.8**
ZKR	**Zakros**	**0.78**	**335**	*e*PB	**Pb**	**03 02 01.0**	**+0.8**
ZKR				*e*SN	**Sn**	**03 02 15.0**	**+2.0**
ZKR	**Zakros**	**0.78**	**335**	P	**Pb**	**03 02 00.5**	**+0.3**
ZKR	**Zakros**	**0.78**	**335**	*e*Pb	**Pb**	**03 02 01.0**	**+0.8**
ZKR				S	**Sb**	**03 02 13.4**	**+2.8**
ZKR				*e*Sn	**Sn**	**03 02 15.0**	**+2.0**
NPS	**Neapolis**	**1.19**	**316**	P	**Pg**	**03 02 07.2**	**-0.5**
NPS				S	**Sb**	**03 02 24.2**	**+1.7**
NPS	**Neapolis**	**1.19**	**316**	*e*PN	**Pg**	**03 02 07.5**	**-0.2**
NPS				*e*SN	**Sn**	**03 02 25.3**	**+2.2**
NPS	**Neapolis**	**1.19**	**316**	P	**Pg**	**03 02 07.2**	**-0.5**
NPS	**Neapolis**	**1.19**	**316**	*e*Pn	**Pg**	**03 02 07.5**	**-0.2**
NPS				S	**Sb**	**03 02 24.2**	**+1.7**
NPS				*e*Sn	**Sn**	**03 02 25.3**	**+2.2**
LAST	**Lasithi**	**1.20**	**309**	P	**Pg**	**03 02 07.6**	**-0.4**
LAST	**Lasithi**	**1.20**	**309**	*e*PN	**Pg**	**03 02 07.7**	**-0.3**
LAST	**Lasithi**	**1.20**	**309**	*e*Pn	**Pg**	**03 02 07.7**	**-0.3**
KARP	**Karpathos**	**1.22**	**21**	P	**Pg**	**03 02 07.5**	**-0.7**
KARP				S	**Sb**	**03 02 25.4**	**+2.1**
KARP	**Karpathos**	**1.22**	**21**	*e*PN	**Pg**	**03 02 07.7**	**-0.5**
KARP	**Karpathos**	**1.22**	**21**	P	**Pg**	**03 02 07.5**	**-0.7**
SIVA	**Sivas**	**1.61**	**293**	P	**Pn**	**03 02 13.7**	**+0.9**
SIVA	**Sivas**	**1.61**	**293**	*e*PB	**Pn**	**03 02 13.8**	**+0.9**
SIVA	**Sivas**	**1.61**	**293**	*e*Pb	**Pn**	**03 02 13.8**	**+0.9**
IDI	**Anoyia**	**1.67**	**302**	P	**Pn**	**03 02 14.6**	**+0.8**
IDI	**Anoyia**	**1.67**	**302**	*i*PB	**Pn**	**03 02 14.6**	**+0.8**
IDI	**Anoyia**	**1.67**	**302**	P	**Pn**	**03 02 14.6**	**+0.8**
GVD	**Gavdhos**	**2.13**	**282**	*e*PN	**Pn**	**03 02 20.2**	**+0.1**
GVD	**Gavdhos**	**2.13**	**282**	*e*Pn	**Pn**	**03 02 20.2**	**+0.1**
THR1	**Thera Island**	**2.17**	**334**	P	Pn	03 02 19.0	-1.7
THR1	**Thera Island**	**2.17**	**334**	P	Pn	03 02 19.0	-1.7
SANT	**Santorini**	**2.17**	**334**	P	Pn	03 02 18.8	-1.9
SANT	**Santorini**	**2.17**	**334**	P	Pn	03 02 18.8	-1.9
ARG	**Arkhangelos**	**2.18**	**34**	P	**Pn**	**03 02 21.4**	**+0.7**
ARG	**Arkhangelos**	**2.18**	**34**	*e*PN	**Pn**	**03 02 21.3**	**+0.6**
ARG	**Arkhangelos**	**2.18**	**34**	*e*Pn	**Pn**	**03 02 21.3**	**+0.6**
THR6	**Thira Island,**	**2.18**	**333**	P	Pn	03 02 18.9	-1.9
THR6	**Thira Island,**	**2.18**	**333**	P	Pn	03 02 18.9	-1.9
VAM	**Vamos**	**2.23**	**297**	P	**Pn**	**03 02 22.4**	**+1.0**
VAM	**Vamos**	**2.23**	**297**	*i*PN	**Pn**	**03 02 22.4**	**+1.0**
VAM	**Vamos**	**2.23**	**297**	P	**Pn**	**03 02 22.4**	**+1.0**
THR3	**Thira Island,**	**2.23**	**334**	P	**Pn**	**03 02 19.9**	**-1.5**
THR3	**Thira Island,**	**2.23**	**334**	P	**Pn**	**03 02 19.9**	**-1.5**
THR2	**Thira island,**	**2.25**	**335**	P	**Pn**	**03 02 20.8**	**-0.9**
THR2	**Thira island,**	**2.25**	**335**	P	**Pn**	**03 02 20.8**	**-0.9**
KARN	**Karanos**	**2.43**	**295**	P	**Pn**	**03 02 25.3**	**+1.1**
KARN	**Karanos**	**2.43**	**295**	*i*PN	**Pn**	**03 02 25.4**	**+1.2**
KARN				*e*SN	**Sn**	**03 02 53.8**	**-0.1**
KARN	**Karanos**	**2.43**	**295**	P	**Pn**	**03 02 25.3**	**+1.1**
KARN				*e*Sn	**Sn**	**03 02 53.8**	**-0.1**
DAT	**Datca**	**2.44**	**18**	*e*PN	**Pn**	**03 02 23.0**	**-1.4**
BODT	**Bodrum**	**2.70**	**12**	*e*PN	**Pn**	**03 02 26.8**	**-1.2**
APE	**Apeiranthos**	**2.80**	**342**	*e*PN	**Pn**	**03 02 31.7**	**+2.5**
APE	**Apeiranthos**	**2.80**	**342**	P	Pn	03 02 27.1	-2.2
APE				S	Sn	03 02 58.9	-4.0
APE	**Apeiranthos**	**2.80**	**342**	P	Pn	03 02 27.1	-2.2
APE				S	Sn	03 02 58.9	-4.0
DALY	**Dalyan (Mu˘la**	**2.92**	**34**	*e*PN	**Pn**	**03 02 31.0**	**+0.2**
MLSB	**Milas**	**3.03**	**18**	*e*PN	**Pn**	**03 02 31.3**	**-1.1**
YER	**Yerkesik**	**3.03**	**26**	*e*PN	**Pn**	**03 02 31.7**	**-0.8**
ANKY	**Antikythira Is**	**3.08**	**299**	*e*PN	**Pn**	**03 02 33.5**	**+0.3**
ANKY				*e*SN	**Sn**	**03 03 10.2**	**+0.3**
ANKY	**Antikythira Is**	**3.08**	**299**	*e*Pn	**Pn**	**03 02 33.5**	**+0.3**
ANKY				*e*Sn	**Sn**	**03 03 10.2**	**+0.3**
SLUM		**3.14**	**203**	S	**Sn**	**03 03 11.9**	**+0.5**
	baz=207						
SLUM				AMP		03 03 00.0	
	comp=N,220μm,0.9s,logA/T=5.4,baz=207						
SLUM		**3.14**	**203**	P	**Pn**	**03 02 35.7**	**+1.7**
SLUM				S	**Sn**	**03 03 11.9**	**+0.5**
KYTH	**Kithira**	**3.47**	**303**	P	Pn	03 02 36.9	-1.7
KYTH	**Kithira**	**3.47**	**303**	*e*PN	**Pn**	**03 02 37.3**	**-1.3**
KYTH	**Kithira**	**3.47**	**303**	P	Pn	03 02 36.9	-1.7
KYTH	**Kithira**	**3.47**	**303**	*e*Pn	**Pn**	**03 02 37.3**	**-1.3**
VLI	**Veliai**	**3.78**	**309**	P	Pn	03 02 41.0	-1.8
VLI				S	**Sn**	**03 03 24.2**	**-3.0**
VLI	**Veliai**	**3.78**	**309**	*e*PN	**Pn**	**03 02 41.3**	**-1.5**
VLI	**Veliai**	**3.78**	**309**	P	Pn	03 02 41.0	-1.8
VLI	**Veliai**	**3.78**	**309**	*e*Pn	**Pn**	**03 02 41.3**	**-1.5**
VLI				S	**Sn**	**03 03 24.2**	**-3.0**
DID	**Didima**	**4.13**	**319**	P	**Pn**	**03 02 46.1**	**-1.5**
DID				S	**Sn**	**03 03 33.8**	**-2.0**
DID	**Didima**	**4.13**	**319**	*e*PN	**Pn**	**03 02 46.3**	**-1.3**
DID	**Didima**	**4.13**	**319**	*e*Pn	**Pn**	**03 02 46.3**	**-1.3**
DID				S	**Sn**	**03 03 33.8**	**-2.0**
DYR	**Agios Nikonas**	**4.21**	**305**	P	**Pn**	**03 02 48.8**	**+0.1**
DYR	**Agios Nikonas**	**4.21**	**305**	*e*PN	**Pn**	**03 02 49.3**	**+0.6**
DYR	**Agios Nikonas**	**4.21**	**305**	P	**Pn**	**03 02 48.8**	**+0.1**
DYR	**Agios Nikonas**	**4.21**	**305**	*e*Pn	**Pn**	**03 02 49.3**	**+0.6**
BCK	**Bucak**	**4.43**	**45**	*e*P	**Pn**	**03 02 53.3**	**+1.6**
VLX	**Vlachokerasia**	**4.54**	**312**	P	Pn	03 02 51.7	-1.5
VLX				S	**Sn**	**03 02 42.9**	**-3.0**
VLX	**Vlachokerasia**	**4.54**	**312**	*e*PN	**Pn**	**03 02 52.3**	**-0.9**
VLX	**Vlachokerasia**	**4.54**	**312**	P	Pn	03 02 51.7	-1.5
VLX	**Vlachokerasia**	**4.54**	**312**	*e*Pn	**Pn**	**03 02 52.3**	**-0.9**
VLX				S	**Sn**	**03 02 42.9**	**-3.0**
ITM	**Ithomi**	**4.71**	**307**	*e*PN	**Pn**	**03 02 55.6**	**+0.1**
ITM	**Ithomi**	**4.71**	**307**	*e*Pn	**Pn**	**03 02 55.6**	**+0.1**
GUR	**Goura**	**4.94**	**317**	*e*PN	Pn	03 02 57.1	-1.6
GUR	**Goura**	**4.94**	**317**	*e*Pn	Pn	03 02 57.1	-1.6
SWA2		**5.25**	**191**	P	**Pn**	**03 03 04.7**	**+1.8**
	baz=194						
SWA2				S	**Sn**	**03 04 01.8**	**-1.5**
	baz=194						
SWA2		**5.25**	**191**	P	**Pn**	**03 03 04.7**	**+1.8**
CSS	**Prodhromos**	**5.55**	**82**	Sn	Sn	03 04 05.6	-5.2
GLL	**Jalalah**	**6.47**	**137**	P	**Pn**	**03 03 19.4**	**-0.4**
	baz=137						
GLL	**Jalalah**	**6.47**	**137**	P	**Pn**	**03 03 19.4**	**-0.4**
AMAG	**Maghara**	**6.71**	**122**	P	**Pn**	**03 03 22.4**	**-0.7**
	baz=122						
AMAG	**Maghara**	**6.71**	**122**	P	**Pn**	**03 03 22.4**	**-0.7**
RSH		**6.90**	**118**	P	**Pn**	**03 03 24.9**	**-0.8**
	baz=118						
RSH		**6.90**	**118**	P	**Pn**	**03 03 24.9**	**-0.8**
HFRF	**Wahat Farafira**	**7.38**	**168**	P	**Pn**	**03 03 33.2**	**+0.9**
	baz=169						
HFRF				S	Sn	03 04 52.2	-3.7
	baz=169						
HFRF	**Wahat Farafira**	**7.38**	**168**	P	**Pn**	**03 03 33.2**	**+0.9**
MMAI	**Mount Meron Ar**	**7.45**	**98**	Pn	**Pn**	**03 03 33.5**	**+0.3**
	comp=N,1.3nm,0.3s,baz=321,slow=11,SNR=4.2						
MMAI				Sn	Sn	03 04 52.9	-4.7
	comp=N,1.8nm,0.3s,baz=304,slow=15,SNR=3.7						
MMLI	**Mount Malkishu**	**7.62**	**103**	Sn	Sn	03 04 54.7	-6.9
KSDI	**Kefar Szold**	**7.62**	**97**	Sn	Sn	03 04 56.0	-5.7
BRTR	**Keskin Array B**	**7.72**	**45**	Pn	**Pn**	**03 03 38.2**	**+1.2**
	comp=N,0.1nm,0.3s,baz=242,slow=11,SNR=2.7						
HMDT	**Nahal Hemdat**	**7.76**	**104**	Sn	Sn	03 04 59.0	-6.0
DSI	**Dead Sea**	**7.88**	**109**	Pn	**Pn**	**03 03 38.9**	**-0.2**
DSI				Sn	Sn	03 05 01.9	-6.3
MZDA	**Masada**	**7.98**	**110**	Pn	**Pn**	**03 03 40.8**	**+0.5**
MZDA				Sn	Sn	03 05 04.6	-5.8
KRMI	**Paran Flat**	**8.09**	**120**	Pn	**Pn**	**03 03 42.2**	**+0.3**
PRNI	**Paran**	**8.16**	**117**	Pn	**Pn**	**03 03 43.2**	**+0.2**
MBRI	**Mt Berech**	**8.40**	**121**	Sn	Sn	03 05 15.7	-5.4
EIL	**Elat**	**8.50**	**122**	Pn	**Pn**	**03 03 48.9**	**+1.3**
	comp=N,0.2nm,0.3s,baz=333,slow=2.3,SNR=7.6						
EIL				Sn	Sn	03 05 18.6	-4.8
	comp=N,1.4nm,0.3s,baz=4.8,slow=12,SNR=6.6						
EIL	**Elat**	**8.50**	**122**	Sn	Sn	03 05 18.6	-4.8
GERES	**GERESS Array B**	**17.32**	**330**	P	Pn	03 05 41.3	-5.0
	comp=N,0.1nm,0.3s,baz=148,slow=9.3,SNR=2.3						
FINES	**FINESS Array B**	**27.05**	**359**	P	P	03 07 21.9	-4.6
	comp=N,1.6nm,0.8s,baz=172,slow=13,SNR=3.6						
EKA	**Eskdalemuir Ar**	**29.34**	**325**	P	**P**	**03 07 46.1**	**-1.0**
	comp=N,0.2nm,0.5s,baz=121,slow=8.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**30.96**	**233**	P	**P**	**03 08 01.8**	**0.0**
	comp=N,0.3nm,0.7s,baz=31,slow=8.9,SNR=6.3						
ARCES	**ARCESS Array B**	**35.18**	**359**	P	P	03 08 34.0	-4.1
	comp=N,1.9nm,0.8s,baz=175,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**43.19**	**56**	P	P	03 09 43.8	-1.5
	comp=N,0.6nm,0.8s,baz=261,slow=9.5,SNR=4.9						

BJI 26 03:07:45.7, 1°34N×124°87E, h208km, mB4.7/24, mb4.9/45
ISCJB 26 03:07:48.3±0.2, 1°54N±0°02×124°80E±0°02, h213km±2km, mb4.8/85, Error ellipse: s-maj=3.4km s-min=2.8km az=167.7
NEIC 26 03:07:49.5±0.6, 1°58N×124°75E, h211km±6km, mb4.8/38, Error ellipse: s-maj=7.2km s-min=4.2km az=79.0
DJA 26 03:07:49.8±0.2, 2°N±2°×12°5E±°, h198km±2km, M4.9/67, mb5.2/67, mB5.4/34, MLv5.5/16, Mw(mB)4.8/34, Mwp5.7/1
AUST 26 03:07:49.2±0.1, 1°44N×124°76E, h199km, Error ellipse: s-maj=0.7km s-min=0.6km az=24.0
IDC 26 03:07:50.5±0.6, 1°55N×124°66E, h221km±5km, mb4.5/26, mb1 4.6/31, mb1mx4.5/36, mbtmp4.6/31, Error ellipse: s-maj=11.6km s-min=5.8km az=77.0
BKK 26 03:07:50.1±0.3, 2°N±4°×12°5E±°, h196km±4km, M5.0/20, mB5.4/9, mb5.0/20, MLv5.3/6, Mw(mB)4.8/9

ISC 26 03:07:49.2±0.3, 1°55N±0°03×124°79E±0°04, h208km±2km, h208km:pP-P, n280, σ1°53/375, mb4.8/84, 2C-3D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**0.12**	**154**	P	**Pn**	**03 08 14.5**	**-2.0**
MNI				S	**Sn**	**03 08 35.9**	**-1.8**
KMSI	**Cibinong**	**1.26**	**220**	P	**Pn**	**03 08 21.1**	**-0.6**
KMSI				S	**Sn**	**03 08 42.6**	**-4.4**
GTOI	**Gorontalo**	**2.00**	**243**	P	**Pn**	**03 08 28.5**	**+0.2**
TNTI	**Ternate**	**2.69**	**107**	P	**Pn**	**03 08 34.6**	**-1.2**
TNTI				S	**Sn**	**03 09 10.3**	**-1.9**
GAMI	**Galela, Maluku**	**3.01**	**85**	P	Pn	03 08 41.4	+1.9
MRSI	**Marisa**	**3.04**	**249**	P	**Pn**	**03 08 39.5**	**-0.3**
LUWI	**Luwuk**	**3.27**	**218**	P	**Pn**	**03 08 41.1**	**-1.5**
LUWI	**Luwuk**	**3.27**	**218**	P	**Pn**	**03 08 41.0**	**-1.5**
	baz=3.2,SNR=38						
LBMI	**Labuha**	**3.48**	**129**	P	**Pn**	**03 08 43.7**	**-1.3**
SKSI	**Soroako, Sulaw**	**5.33**	**220**	P	**Pn**	**03 09 07.0**	**-1.1**
	542nm,0.7s,6μm2.6nm						
KCP	**Kidapawan**	**5.43**	**3**	*e*P	Pn	03 09 17.4	+8.0
DAV	**Davao City (W)**	**5.54**	**8**	*e*Pn	**Pn**	**03 09 11.5**	**+0.8**
DAV	**Davao City (W)**	**5.54**	**8**	P	**Pn**	**03 09 11.1**	**+0.3**
	885nm,0.7s,9μm3.3nm						
DAV	**Davao City (W)**	**5.54**	**8**	P	**Pn**	**03 09 11.0**	**+0.3**
	70nm,0.3s,baz=185,slow=4.0,SNR=21						
CTBH	**Cotabato--PC H**	**5.66**	**355**	*e*P	**Pn**	**03 09 12.8**	**+0.6**
AAI	**Ambon**	**6.22**	**147**	P	**Pn**	**03 09 18.4**	**-1.1**
	460nm,0.7s,15μm6.0nm						
AAI	**Ambon**	**6.22**	**147**	P	**Pn**	**03 09 18.7**	**-0.8**
	baz=6.2,SNR=14						
BUKP	**Musuan**	**6.29**	**2**	*e*P	**Pn**	**03 09 20.6**	**+0.2**
PAGZ	**Pagadian**	**6.41**	**347**	*e*P	**Pn**	**03 09 23.4**	**+1.5**
TTSI	**Tana Toraja**	**6.75**	**227**	P	**Pn**	**03 09 26.0**	**-0.3**
	340nm,0.8s,3μm1.1nm						
SWI	**Sorong**	**6.90**	**110**	P	**Pn**	**03 09 27.5**	**-0.8**
	265nm,0.6s,3μm0.9nm						
SWI	**Sorong**	**6.90**	**110**	P	**Pn**	**03 09 27.8**	**-0.5**
	baz=6.9,SNR=16						
MYLDM	**Lahad Datu**	**7.24**	**300**	P	**Pn**	**03 09 34.8**	**+2.2**
MYLDM	**Lahad Datu**	**7.24**	**300**	P	**Pn**	**03 09 34.0**	**+1.4**
	252nm,1.1s,3μm0.9nm						
BBSI	**Bau Bau**	**7.34**	**198**	P	**Pn**	**03 09 31.7**	**-2.2**
	325nm,0.9s,3μm28μm1.6nm						
BUTP	**Butuan**	**7.41**	**6**	*e*P	**Pn**	**03 09 35.6**	**+0.7**
TSM	**Tawau**	**7.42**	**292**

SJI	**Sawahan**	**15.93**	**234**	P	**P**	**03**	**11**	**22.5**	**+0.4**
	109nm,0.7s,4µm								
PWJI	**Pagerwojo**	**16.07**	**234**	P	**P**	**03**	**11**	**23.7**	**+0.2**
	114nm,1.2s,2µm								
KDU	**Kakadu**	**16.07**	**152**	P	**P**	**03**	**11**	**22.4**	**-1.2**
	baz=16,SNR=67								
JAY	**Jayapura**	**16.42**	**104**	P	**Pn**	**03**	**11**	**28.0**	**-0.4**
	157nm,0.9s,9µm								
JAY	**Jayapura**	**16.42**	**104**	P	**P**	**03**	**11**	**27.6**	**+0.1**
	baz=16,SNR=11								
JAY				S	**Sn**	**03**	**14**	**31.2**	**+2.2**
	baz=16,SNR=6.6								
PCJI	**Pacitan**	**16.67**	**234**	P	**P**	**03**	**11**	**31.0**	**+0.8**
	142nm,0.8s								
WOJI	**Wonogiri, Jawa**	**16.68**	**236**	P	**P**	**03**	**11**	**30.1**	**-0.1**
	198nm,0.8s								
UGM	**Wanagama**	**17.05**	**236**	P	**P**	**03**	**11**	**34.4**	**0.0**
	baz=17,SNR=5.9								
KNRA	**Kununurra**	**17.57**	**167**	P	**P**	**03**	**11**	**40.1**	**+0.3**
	baz=18,SNR=276								
KNRA				S	**S**	**03**	**14**	**48.2**	**-3.4**
	baz=18,SNR=6.7								
TPI	**Tanjungpandan**	**17.66**	**256**	P	**P**	**03**	**11**	**40.7**	**-0.2**
	37nm,0.9s,375nm								
PPBI	**Pangkal Pinang**	**19.01**	**259**	P	**P**	**03**	**11**	**56.2**	**+0.6**
	101nm,0.9s,3µm								
LEM	**Lembang**	**19.05**	**244**	P	**P**	**03**	**11**	**55.0**	**-1.2**
	100nm,0.9s								
CISI	**Cisompet, Garu**	**19.20**	**242**	P	**P**	**03**	**11**	**53.6**	**-4.1**
CISI	**Cisompet, Garu**	**19.20**	**242**	P	**P**	**03**	**11**	**56.7**	**-1.0**
	baz=19,SNR=3.9								
FITZ	**Fitzroy Crossi**	**19.55**	**178**	P	**P**	**03**	**12**	**00.6**	**-0.8**
FITZ				S	**S**	**03**	**15**	**26.2**	**-4.6**
FITZ	**Fitzroy Crossi**	**19.55**	**178**	P	**P**	**03**	**12**	**00.6**	**-0.8**
	20nm,0.3s,baz=11,slow=8.7,SNR=155								
FITZ				S	**S**	**03**	**15**	**26.2**	**-4.6**
	1.0nm,0.3s,baz=188,slow=18,SNR=6.0								
FITZ	**Fitzroy Crossi**	**19.55**	**178**	P	**P**	**03**	**12**	**00.6**	**-0.8**
	baz=20,SNR=129								
FITZ				S	**S**	**03**	**15**	**27.5**	**-3.3**
	baz=20,SNR=6.7								
MYKOM	**Kota Tinggi**	**20.93**	**271**	P	**P**	**03**	**12**	**17.3**	**+1.2**
MYKOM	**Kota Tinggi**	**20.93**	**271**	P	**P**	**03**	**12**	**16.2**	**+0.1**
	106nm,1.1s,1µm								
KLSI		**20.98**	**253**	P	**P**	**03**	**12**	**15.7**	**-1.0**
	72nm,0.8s,604nm								
BTDF	**Bukit Timah Da**	**21.01**	**270**	P	**P**	**03**	**12**	**18.8**	**+1.8**
	baz=21,SNR=3.8								
BTDF				P	**P**	**03**	**12**	**18.8**	**+1.8**
	baz=21,SNR=3.8								
TWG	**Pinlang**	**21.45**	**351**	*e*P	**P**	**03**	**12**	**19.0**	**-2.4**
KGM	**Kluang**	**21.46**	**272**	P	**P**	**03**	**12**	**23.0**	**+1.3**
LWLI	**Liwa**	**21.71**	**252**	P	**P**	**03**	**12**	**24.2**	**-0.1**
	479nm,0.6s								
KTGM	**Kuala Trenggan**	**21.93**	**280**	P	**P**	**03**	**12**	**27.8**	**+1.5**
YULB	**Yu-li**	**21.97**	**351**	*e*P	**P**	**03**	**12**	**24.7**	**-1.9**
	85nm,0.8s								
TPUB	**Ta-pu**	**21.99**	**350**	*e*P	**P**	**03**	**12**	**24.7**	**-2.1**
	393nm,0.9s								
SSLB	**Suanglung**	**22.41**	**351**	*e*P	**P**	**03**	**12**	**30.7**	**0.0**
	114nm,0.8s								
RGRI	**Rengat**	**22.53**	**265**	P	P	03	12	40.6	+8.7
MNAI	**Manna**	**22.59**	**255**	P	**P**	**03**	**12**	**32.5**	**+0.1**
	baz=22,SNR=14								
NACB	**Ninganchiao**	**22.70**	**352**	*e*P	**P**	**03**	**12**	**32.7**	**-0.5**
	40nm,0.7s								
QIZ	**Qiongzhong**	**22.72**	**321**	P	**P**	**03**	**12**	**34.0**	**+0.5**
QIZ				sP	**sP**	**03**	**13**	**35.5**	**-1.1**
QIZ				S	**S**	**03**	**16**	**28.3**	**+2.1**
QIZ				pmax	pmax				
	comp=Z,5.0nm,1.2s								
KSI	**Kapahiang**	**22.78**	**257**	P	**P**	**03**	**12**	**35.1**	**+0.9**
	comp=Z,176nm,0.8s								
MBWA	**Marble Bar**	**23.11**	**192**	*e*P	**P**	**03**	**12**	**36.7**	**-0.3**
FRIM	**Kepong**	**23.20**	**275**	P	**P**	**03**	**12**	**39.4**	**+1.4**
YHNB	**Yeheng**	**23.22**	**352**	*e*P	**P**	**03**	**12**	**36.5**	**-1.5**
	comp=Z,106nm,0.6s								
WRAB	**Tennant Creek**	**23.32**	**157**	*e*P	**P**	**03**	**12**	**38.6**	**-0.3**
	comp=Z,278nm,0.6s								
WRA	**Warramunga Arr**	**23.33**	**157**	P	**P**	**03**	**12**	**38.6**	**-0.3**
WRA				S	**S**	**03**	**16**	**32.3**	**-3.8**
WRA	**Warramunga Arr**	**23.33**	**157**	P	**P**	**03**	**12**	**38.6**	**-0.3**
	comp=Z,212nm,0.6s,baz=336,slow=10,SNR=408								
WRA				S	**S**	**03**	**16**	**32.3**	**-3.8**
	comp=Z,17nm,0.8s,baz=339,slow=15,SNR=9.4								
TATO	**Taipei**	**23.50**	**352**	*e*P	**P**	**03**	**12**	**41.1**	**+0.6**
	comp=Z,91nm,0.9s								
COEN	**Coen**	**23.86**	**131**	*e*P	**P**	**03**	**12**	**45.0**	**+1.1**
COEN	**Coen**	**23.86**	**131**	P	**P**	**03**	**12**	**45.1**	**+1.1**
	baz=24,SNR=13								
IPM	**Ipoh**	**23.90**	**278**	*e*P	**P**	**03**	**12**	**44.5**	**+0.1**
	comp=Z,46nm,0.6s								
IPM	**Ipoh**	**23.90**	**278**	P	**P**	**03**	**12**	**45.3**	**+0.9**
IPM	**Ipoh**	**23.90**	**278**	P	**P**	**03**	**12**	**44.9**	**+0.5**
	comp=Z,74nm,0.6s								
KULM	**Kulim**	**24.38**	**279**	*e*P	**P**	**03**	**12**	**48.6**	**0.0**
	comp=Z,33nm,1.0s								
KULM	**Kulim**	**24.38**	**279**	P	**P**	**03**	**12**	**49.1**	**+0.5**
KULM	**Kulim**	**24.38**	**279**	P	**P**	**03**	**12**	**51.8**	**+3.2**
	comp=Z,40nm,0.8s								
PPI	**Padang Panjang**	**24.47**	**266**	P	**P**	**03**	**12**	**52.1**	**+2.6**
	comp=Z,30nm,1.0s								
PMG	**Port Moresby**	**24.80**	**116**	*e*P	**P**	**03**	**12**	**53.0**	**+0.6**
	comp=Z,40nm,0.8s								
PMG	**Port Moresby**	**24.80**	**116**	P	**P**	**03**	**12**	**52.8**	**+0.3**
	comp=Z,51nm,0.9s								
PMG	**Port Moresby**	**24.80**	**116**	P	**P**	**03**	**12**	**52.5**	**0.0**
	comp=Z,45nm,0.9s,baz=173,slow=6.0,SNR=6.8								
JOW	**Kunigami**	**25.36**	**7**	*e*P	**P**	**03**	**12**	**58.3**	**+1.0**
	comp=Z,22nm,0.7s								
PSI	**Prapat**	**25.87**	**273**	P	**P**	**03**	**13**	**01.6**	**-0.7**
PSI	**Prapat**	**25.87**	**273**	P	**P**	**03**	**13**	**01.6**	**-0.7**
	comp=Z,25nm,0.8s,baz=113,slow=6.7,SNR=15								
PSI	**Prapat**	**25.87**	**273**	P	**P**	**03**	**13**	**02.1**	**-0.2**
	baz=26,SNR=13								
AS31	**Alice Springs**	**26.59**	**161**	*e*P	**P**	**03**	**13**	**08.5**	**+0.1**
ASAR	**Alice Springs**	**26.59**	**161**	P	**P**	**03**	**13**	**08.7**	**+0.2**
ASAR				pP	**pP**	**03**	**13**	**53.1**	**+2.8**
ASAR				S	**S**	**03**	**17**	**26.6**	**-1.1**
ASAR				ScP	**ScP**	**03**	**19**	**47.9**	**+0.3**
ASAR	**Alice Springs**	**26.59**	**161**	P	**P**	**03**	**13**	**08.7**	**+0.2**
	comp=Z,42nm,0.4s,baz=342,slow=7.6,SNR=1024								
ASAR				pP	**pP**	**03**	**13**	**53.1**	**+2.8**
	comp=Z,22nm,0.8s,baz=341,slow=8.9,SNR=2.5								
ASAR				S	**S**	**03**	**17**	**26.6**	**-1.1**
	comp=Z,12nm,0.8s,baz=348,slow=22,SNR=10.0								
ASAR				ScP	**ScP**	**03**	**19**	**47.9**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=340,slow=2.9,SNR=2.2								
KCSI	**Kotacane, Aceh**	**27.06**	**275**	P	**P**	**03**	**13**	**12.4**	**-0.4**
	comp=Z,37nm,0.9s								
MTSU	**Mount Surprise**	**27.43**	**136**	P	**P**	**03**	**13**	**17.1**	**+1.1**
	baz=28,SNR=7.4								
RABL	**Rabaul**	**27.95**	**102**	P	**P**	**03**	**13**	**24.3**	**+3.7**
	baz=28,SNR=3.9								
MEEK	**Meekatharra**	**28.65**	**192**	P	**P**	**03**	**13**	**26.6**	**-0.2**
	baz=29,SNR=123								
CTAO	**Charters Tower**	**30.09**	**137**	*e*P	P	03	13	33.7	-5.9
	comp=Z,43nm,1.6s								
GYA	**Guiyang**	**30.28**	**326**	P	**P**	**03**	**13**	**41.8**	**+0.6**
GYA				pP	**pP**	**03**	**14**	**23.5**	**0.0**
GYA				PP	**PnPn**	**03**	**14**	**48.8**	**-0.7**
GYA				sP	**sP**	**03**	**14**	**49.8**	**+2.2**
GYA				PcP	**PcP**	**03**	**16**	**38.8**	**+2.3**
GYA				S	**S**	**03**	**18**	**23.5**	**-2.2**
GYA				sS	**sS**	**03**	**19**	**37.3**	**-3.9**
GYA				ScP	**ScP**	**03**	**19**	**58.5**	**-0.7**
GYA				PcS	**PcS**	**03**	**20**	**19.5**	**-1.1**
GYA				ScS	**ScS**	**03**	**23**	**54.5**	**-1.2**
GYA				pmax	pmax				
	comp=Z,10.0nm,0.7s								
GYA				pmax	pmax				
	comp=Z,80nm,3.5s								
CMAR	**Chiang Mai Arr**	**30.41**	**305**	ScP	**ScP**	**03**	**20**	**00.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**30.41**	**305**	ScP	**ScP**	**03**	**20**	**00.8**	**+1.1**
	comp=Z,0.7nm,0.4s,baz=162,slow=2.1,SNR=6.3								
CMMT	**Chiang Mai**	**30.59**	**306**	P	**P**	**03**	**13**	**42.3**	**-1.6**
CMMT	**Chiang Mai**	**30.59**	**306**	P	**P**	**03**	**13**	**42.3**	**-1.6**
	comp=Z,7.6nm,1.6s								
CHTO	**Chiang Mai**	**30.59**	**306**	*e*P	P	03	13	36.8	-7.1
	comp=Z,8.1nm,1.1s								
NJ2	**Nanjing**	**30.85**	**350**	*e*P	**P**	**03**	**13**	**48.0**	**+2.0**
NJ2				pmax	pmax				
	comp=Z,20nm,0.5s								
MORW	**Morawa**	**31.58**	**195**	P	**P**	**03**	**13**	**52.3**	**-0.1**
	baz=32,SNR=34								
KMI	**Kunming**	**31.65**	**320**	P	**P**	**03**	**13**	**52.5**	**-0.9**
KMI				pmax	pmax				
	comp=Z,5.0nm,0.9s								
KMI				LR	LR				
	comp=N,200nm,15.6s								
KMI				LR	LR				
	comp=E,110nm,14.4s								
KMI				LR	LR				
	comp=Z,140nm,16.8s								
JNU	**Nakatsue**	**31.92**	**10**	*e*P	**P**	**03**	**13**	**55.2**	**-0.2**
	comp=Z,35nm,0.9s								
JNU	**Nakatsue**	**31.92**	**10**	P	**P**	**03**	**13**	**55.4**	**0.0**
	comp=Z,71nm,0.9s,baz=218,slow=1.8,SNR=20								
ENH	**Enshi**	**32.04**	**335**	*e*P	**P**	**03**	**13**	**56.6**	**+0.1**
	comp=Z,27nm,0.8s								
FORT	**Forrest**	**32.30**	**175**	*e*P	**P**	**03**	**13**	**58.4**	**-0.3**
	comp=Z,156nm,0.6s								
FORT	**Forrest**	**32.30**	**175**	P	**P**	**03**	**13**	**59.0**	**+0.2**
	baz=32,SNR=69								
BLDU	**Ballidu**	**32.90**	**193**	P	**P**	**03**	**14**	**03.8**	**-0.1**
	baz=33,SNR=118								
KLBR	**Kellerberrin**	**33.63**	**191**	P	**P**	**03**	**14**	**10.2**	**0.0**
	baz=34,SNR=37								
NWAO	**Narrogin (SRO)**	**35.03**	**191**	P	**P**	**03**	**14**	**22.4**	**+0.2**
NWAO	**Narrogin (SRO)**	**35.03**	**191**	P	**P**	**03**	**14**	**22.4**	**+0.2**
	comp=Z,22nm,0.3s,baz=21,slow=7.9,SNR=65								
CD2	**Chengdu**	**35.34**	**328**	*e*P	**P**	**03**	**14**	**25.3**	**+0.3**
CD2				pP	**pP**	**03**	**15**	**09.5**	**+1.5**
CD2				sP	**sP**	**03**	**15**	**34.0**	**+2.1**
CD2				PP	**PnPn**	**03**	**15**	**53.5**	**+2.1**
CD2				S	**S**	**03**	**19**	**43.8**	**0.0**
CD2				sS	**sS**	**03**	**21**	**01.3**	**+1.1**
CD2				SS	SS	03	22	18.0	-9.0
CD2				pmax	pmax				
	comp=Z,30nm,1.2s								
CD2				pmax	pmax				
	comp=Z,100nm,5.2s								
XAN	**Xi'an**	**35.56**	**337**	P	**P**	**03**	**14**	**26.0**	**-0.8**
XAN				pmax	pmax				
	comp=Z,5.0nm,0.7s								
BBOO	**Buckleboo**	**35.80**	**164**	*e*P	**P**	**03**	**14**	**28.6**	**-0.2**
	comp=Z,1µm,1.0s								
BBOO	**Buckleboo**	**35.80**	**164**	P	**P**	**03**	**14**	**29.0**	**+0.2**
	baz=36,SNR=72								
KSAR	**Wonju Array Be**	**35.83**	**4**	P	**P**	**03**	**14**	**29.6**	**+0.6**
KSAR				ScP	**ScP**	**03**	**20**	**19.2**	**+1.1**
KSRS	**Korea Array**	**35.84**	**4**	P	**P**	**03**	**14**	**29.5**	**+0.5**
	comp=Z,18nm,0.7s,baz=178,slow=10,SNR=75								
KSRS				ScP	**ScP**	**03**	**20**	**19.2**	**+1.0**
	comp=Z,2.9nm,0.8s,baz=181,slow=3.5,SNR=10.0								
RKGY	**Rocky Gully**	**36.71**	**191**	P	**P**	**03**	**14**	**38.0**	**+1.5**
	baz=37,SNR=20								
STKA	**Stephens Creek**	**36.87**	**156**	P	**P**	**03**	**14**	**38.2**	**+0.3**
STKA				S	**S**	**03**	**20**	**06.3**	**-0.5**
STKA	**Stephens Creek**	**36.87**	**156**	P	**P**	**03**	**14**	**38.2**	**+0.3**
	comp=Z,52nm,0.5s,baz=328,slow=8.6,SNR=72								
STKA				S	**S**	**03**	**20**	**06.3**	**-0.5**
	comp=Z,3.6nm,0.5s,baz=126,slow=22,SNR=4.1								
STKA	**Stephens Creek**	**36.87**	**156**	P	**P**	**03**	**14**	**38.6**	**+0.8**
	baz=37,SNR=59								
MAJO	**Matsushiro**	**36.96**	**18**	*e*P	**P**	**03**	**14**	**37.9**	**-0.7**
	comp=Z,40nm,0.8s								
MAT	**Matsushiro**	**36.96**	**18**	P	**P**	**03**	**14**	**38.1**	**-0.5**
MJAR	**Matsushiro Arr**	**36.96**	**18**	P	**P**	**03**	**14**	**38.2**	**-0.4**
MJAR				S	**S**	**03**	**20**	**05.5**	**-2.7**
MJAR				ScP	**ScP**	**03**	**20**	**19.9**	**-2.5**
MJAR	**Matsushiro Arr**	**36.96**	**18**	P	**P**	**03**	**14**	**38.2**	**-0.4**
	comp=Z,33nm,0.7s,baz=198,slow=9.5,SNR=146								
MJAR				S	**S**	**03**	**20**	**05.5**	**-2.7**
	comp=Z,0.6nm,0.6s,baz=222,slow=19,SNR=4.1								
MJAR				ScP	**ScP**	**03**	**20**	**19.9**	**-2.5**
	comp=Z,2.1nm,0.9s,baz=189,slow=4.6,SNR=4.8								
CMSA	**Cobar Meteorol**	**38.43**	**151**	P	**P**	**03**	**14**	**52.1**	**+1.2**
	baz=38,SNR=44								
BJT	**Baijiatuan**	**39.08**	**349**	*e*P	**P**	**03**	**14**	**55.7**	**-0.5**
	comp=Z,42nm,0.5s								
BJI	**Beijing**	**39.10**	**349**	P	**P**	**03**	**14**	**55.8**	**-0.5**
BJI				pP	**pP**	**03**	**15**	**39.3**	**-0.8**
BJI				sP	**sP**	**03**	**16**	**00.5**	**-3.3**
BJI				PcP	**PcP**	**03**	**16**	**59.0**	**-2.7**
BJI				S	**S**	**03**	**20**	**38.3**	**-1.8**
BJI				pmax	pmax				
	comp=Z,54nm,0.6s								
BJI				LR	LR				
	comp=N,58nm,11.7s								
BJI				LR	LR				
	comp=E,64nm,14.2s								
BJI				LR	LR				
	comp=Z,65nm,29.8s								
LZH	**Lanzhou**	**39.47**	**333**	⇓P	**P**	**03**	**15**	**01.0**	**+1.3**
LZH				pP	**pP**	**03**	**15**	**45.0**	**+1.5**
LZH				sP	**sP**	**03**	**16**	**08.5**	**+1.3**
LZH				PP	**PnPn**	**03**	**16**	**39.8**	**-0.3**
LZH				PcP	**PcP**	**03**	**17**	**04.3**	**+1.1**
LZH				ScP	**ScP**	**03**	**20**	**32.0**	**-0.2**
LZH				S	**S**	**03**	**20**	**43.0**	**-3.1**
LZH				sS	**sS**	**03**	**22**	**06.5**	**+3.0**
LZH				SS	**SS**	**03**	**23**	**47.0**	**-2.7**
LZH				pmax	pmax				
	comp=Z,43nm,1.0s								
LZH				pmax	pmax				
	comp=Z,140nm,4.6s								
SHL	**Shillong**	**39.68**	**310**	*e*P	**P**	**03**	**15**	**02.0**	**+0.4**
SNY	**Shenyang**	**40.11**	**359**	⇓P	**P**	**03**	**15**	**06.8**	**+2.2**
SNY				pmax	pmax				
	comp=Z,49nm,0.5s								
ARMA	**Armidale**	**40.81**	**143**	P	**P**	**03**	**15**	**12.5**	**+1.8**
	baz=41,SNR=20								
HHC	**Hu-ho-hao-te**	**40.91**	**345**	*e*P	**P**	**03**	**15**	**11.8**	**+0.5**
HHC				pP	**pP**	**03**	**15**	**55.5**	**+0.1**
HHC				sP	**sP**	**03**	**16**	**18.8**	**-0.3**
HHC				PP	**PP**	**03**	**16**	**52.0**	**+1.6**
HHC				PcP	**PcP**	**03**	**17**	**08.8**	**+1.1**
HHC				ScP	**ScP**	**03**	**20**	**37.5**	**-0.2**
HHC				PcS	**PcS**	**03**	**20**	**58.3**	**-0.7**
HHC				S	**S**	**03**	**21**	**08.0**	**+0.8**
HHC				sS	**sS**	**03**	**22**	**25.3**	**+0.3**
HHC				SS	**SS**	**03**	**24**	**13.5**	**-4.4**
HHC				ScS	**ScS**	**03**	**24**	**51.3**	**-2.1**
HHC				pmax	pmax				
	comp=Z,42nm,0.6s								
HHC				pmax	pmax				
	comp=Z,130nm,5.7s								
ARPS	**Mount Arapiles**	**41.29**	**159**	P	**P**	**03**	**15**	**15.4**	**+1.0**
	baz=41,SNR=74								
YNG	**Young**	**41.99**	**150**	P	**P**	**03**	**15**	**22.0**	**+1.8**
	baz=42,SNR=20								
CN2	**Changchun**	**42.07**	**1**	*e*P	**P**	**03**	**15**	**22.5**	**+1.9**
CN2				*e*S	**S**	**03**	**21**	**26.8**	**+2.8**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.8s								
CN2				LR	LR				
	comp=N,200nm,20.0s								
CN2				LR	LR				
	comp=E,200nm,20.0s								
CN2				LR	LR				
	comp=Z,300nm,20.0s								
LSA	**Lhasa**	**42.49**	**314**	P	**P**	**03**	**15**	**24.8**	**0.0**
LSA	**Lhasa**	**42.49**	**314**	*e*P	**P**	**03**	**15**	**26.8**	**+2.0**
	comp=Z,7.2nm,0.6s								
MGCD	**Mangrove Creek**	**42.57**	**147**	P	**P**	**03**	**15**	**27.2**	**+2.4**
	baz=43,SNR=5.6								
USRK	**Ussuriysk Arra**	**42.95**	**8**	P	**P**	**03**	**15**	**28.4**	**+0.8**
	comp=Z,34nm,0.4s,baz=192,slow=7.5,SNR=205								
MDJ	**Mudanjiang**	**43.09**	**5**	P	**P**	**03**	**15**	**29.8**	**+1.0**
MDJ				pP	**pP**	**03**	**16**	**12.5**	**-0.8**
MDJ				sP	**sP**	**03**	**16**	**35.3**	**-1.5**
MDJ				PP	**PP**	**03**	**17**	**14.5**	**+1.0**
MDJ				ScP	**ScP**	**03**	**20**	**46.8**	**+0.6**
MDJ				PcS	**PcS**	**03**	**21**	**08.0**	**+0.7**
MDJ				S	S	03	21	32.3	-6.6
MDJ				sS	**sS**	**03**	**22**	**56.8**	**-0.5**
MDJ				pmax	pmax				
	comp=Z,120nm,0.7s								
MDJ				pmax	pmax				
	comp=Z,48nm,4.1s								
MDJ				LR	LR				
	comp=N,110nm,28.6s								
MDJ				LR	LR				
	comp=E,120nm,30.8s								
MDJ				LR	LR				
	comp=Z,200nm,24.2s								
MDJ	**Mudanjiang**	**43.09**	**5**	*e*P	**P**	**03**	**15**	**29.4**	**+0.6**
	comp=Z,76nm,0.6s								
CAN	**Canberra**	**43.11**	**151**	*e*P	**P**	**03**	**15**	**30.8**	**+1.6**
	comp=Z,19nm,0.5s								
CNB	**Canberra Magne**	**43.28**	**150**	P	**P**	**03**	**15**	**32.5**	**+1.9**
	baz=43,SNR=23								
TOO	**Toolangi**	**43.39**	**156**	P	**P**	**03**	**15**	**33.5**	**+2.1**
	baz=44,SNR=31								
ERM	**Erimo**	**43.54**	**20**	*e*P	**P**	**03**	**15**	**33.7**	**+1.3**
	comp=Z,12nm,0.7s								
TAPN	**Taplejung**	**43.81**	**309**	*e*P	**P**	**03**	**15**	**35.4**	**+0.2**
	comp=Z,19nm,0.4s								
ODAN	**Odare**	**43.82**	**308**	*e*P	**P**	**03**	**15**	**35.1**	**-0.1**
	comp=Z,16nm,0.6s								
GTA	**Gaotai**	**44.02**	**332**	P	**P**	**03**	**15**	**36.8**	**+0.3**
GTA				pP	**pP**	**03**	**16**	**21.0**	**-0.2**
GTA				sP	**sP**	**03**	**16**	**44.3**	**-0.3**
GTA				ScP	**ScP**	**03**	**20**	**50.0**	**-0.3**
GTA				S	**S**	**03**	**21**	**54.5**	**+1.6**
GTA				sS	**sS**	**03**	**23**	**11.3**	**-0.2**
GTA				SS	**ScS**	**03**	**25**	**10.0**	**-2.9**
GTA				pmax	pmax				
	comp=Z,44nm,1.3s								
GTA				pmax	pmax				
	comp=Z,59nm,5.5s								
GTA				LR	LR				
	comp=N,150nm,18.5s								
GTA				LR	LR				
	comp=E,130nm,18.1s								
GTA				LR	LR				
	comp=Z,99nm,16.4s								
PALK	**Pallekele**	**44.30**	**279**	*e*P	**P**	**03**	**15**	**39.1**	**+0.1**
	comp=Z,15nm,0.9s								
RAMN	**Ramite**	**44.48**	**308**	*e*P	**P**	**03**	**15**	**40.8**	**+0.3**
	comp=Z,28nm,0.6s								
MILA	**Mila**	**44.58**	**152**	P	**P**	**03**	**15**	**42.7**	**+1.9**
	baz=45,SNR=11								
JIRN	**Jiri**	**45.14**	**309**	*e*P	**P**	**03**	**15**	**45.8**	**0.0**
	comp=Z,19nm,0.4s								
ASAJ	**Asahikawa**	**45.24**	**18**	*e*P	**P**	**03**	**15**	**46.5**	**+0.7**
	comp=Z,12nm,0.7s								
ASAJ	**Asahikawa**	**45.24**	**18**	P	**P**	**03**	**15**	**47.0**	**+1.2**
	comp=Z,22nm,0.4s,baz=230,slow=10.0,SNR=79								
GUN	**Gumba**	**45.50**	**309**	*e*P	**P**	**03**	**15**	**47.9**	**-0.7**
	comp=Z,53nm,0.7s								
PKI	**Pulchoki**	**45.71**	**308**	*e*P	**P**	**03**	**15**	**50.0**	**-0.2**
PKIN	**Phulchoki**	**45.72**	**308**	*e*P	**P**	**03**	**15**	**49.9**	**-0.3**
KKN	**Kakani**	**45.91**	**308**	*e*P	**P**	**03**	**15**	**50.9**	**-0.8**
DMN	**Daman**	**45.96**	**308**	*e*P	**P**	**03**	**15**	**51.9**	**-0.2**
KOLN	**Koldanda**	**47.23**	**307**	*e*P	**P**	**03**	**16**	**02.0**	**+0.1**
	comp=Z,37nm,0.6s								
DANN	**Dangsing**	**47.36**	**308**	*e*P	**P**	**03**	**16**	**03.2**	**+0.2**
	comp=Z,61nm,0.6s								
HIA	**Hailar**	**47.73**	**356**	*e*P	**P**	**03**	**16**	**05.0**	**-0.1**
	comp=Z,15nm,0.6s								
HYB	**Hyderabad**	**48.08**	**292**	*i* P	**P**	**03**	**16**	**07.5**	**-0.8**
HYB				*e*		03	16	55.0	
ULN	**Ulaanbaatar**	**48.62**	**344**	*e*P	**P**	**03**	**16**	**10.5**	**-1.7**
	comp=Z,15nm,0.9s								
ULN	**Ulaanbaatar**	**48.62**	**344**	P	**P**	**03**	**16**	**11.6**	**-0.5**
	comp=Z,17nm,1.0s								
SONM	**Songino Array**	**48.78**	**344**	P	**P**	**03**	**16**	**12.8**	**-0.5**
SONM				sP	sP	03	17	26.8	+4.7
SONM				ScP	**ScP**	**03**	**21**	**08.2**	**-1.8**
SONM	**Songino Array**	**48.78**	**344**	P	**P**	**03**	**16**	**12.8**	**-0.5**
	comp=Z,12nm,0.8s,baz=160,slow=9.3,SNR=38								
SONM				sP	sP	03	17	26.8	+4.7
	comp=Z,4.4nm,1.0s,baz=163,slow=7.7,SNR=2.3								
SONM				ScP	**ScP**	**03**	**21**	**08.2**	**-1.8**
	comp=Z,1.0nm,0.8s,baz=171,slow=4.8,SNR=3.3								
WMQ	**Urumqi**	**53.44**	**327**	P	**P**	**03**	**16**	**49.5**	**+1.6**
WMQ				pP	**pP**	**03**	**17**	**35.5**	**+1.2**
WMQ				sP	**sP**	**03**	**17**	**58.0**	**+0.7**
WMQ				LR	LR				
	comp=Z,37nm,27.8s								
PETK	**Petropavlovsk-**	**58.17**	**23**	P	**P**	**03**	**17**	**22.4**	**+1.2**
PETK	**Petropavlovsk-**	**58.17**	**23**	P	**P**	**03**	**17**	**22.4**	**+1.2**
	comp=Z,16nm,0.6s,baz=192,slow=5.9,SNR=58

MCK	**McKinley**	**86.96**	**26**	*e*P	**P**	**03 20 10.7**	**+0.1**
	comp=Z,5.7nm,0.9s							
KMBO	**Kilima Mbogo**	**87.57**	**269**	*e*P	**P**	**03 20 15.6**	**+0.7**
	comp=Z,8.5nm,0.8s							
KMBO	**Kilima Mbogo**	**87.57**	**269**	P	**P**	**03 20 15.7**	**+0.9**
	comp=Z,8.9nm,0.8s,baz=51,slow=7.6,SNR=21							
KMBO	**Kilima Mbogo**	**87.57**	**269**	P	**P**	**03 20 15.7**	**+0.9**
	baz=88,SNR=6.4							
ILAR	**Eielson Array**	**87.89**	**25**	P	**P**	**03 20 13.7**	**-1.2**
ILAR	**Eielson Array**	**87.89**	**25**	P	**P**	**03 20 13.7**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=242,slow=4.9,SNR=12							
BRTR	**Keskin Array B**	**89.90**	**310**	P	**P**	**03 20 24.0**	**-1.2**
BRTR	**Keskin Array B**	**89.90**	**310**	P	**P**	**03 20 24.0**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=145,slow=4.5,SNR=6.3							
JOF	**Joensuu**	**90.22**	**333**	*e*p	**P**	**03 20 24.7**	**-1.2**
	comp=Z,4.4nm,0.6s							
ARCES	**ARCESS Array B**	**91.81**	**340**	P	**P**	**03 20 31.5**	**-1.6**
ARCES	**ARCESS Array B**	**91.81**	**340**	P	**P**	**03 20 31.5**	**-1.6**
	comp=Z,2.9nm,0.8s,baz=84,slow=5.6,SNR=13							
SPITS	**Spitsbergen Ar**	**92.22**	**349**	P	**P**	**03 20 34.5**	**-0.4**
SPITS	**Spitsbergen Ar**	**92.22**	**349**	P	**P**	**03 20 34.5**	**-0.4**
	comp=Z,4.4nm,0.7s,baz=101,slow=8.8,SNR=7.1							
KAF	**Kangasniemi**	**92.61**	**332**	*e*p	**P**	**03 20 35.7**	**-1.3**
	comp=Z,2.5nm,0.6s							
FINES	**FINESS Array B**	**92.82**	**332**	P	**P**	**03 20 36.5**	**-1.4**
FINES	**FINESS Array B**	**92.82**	**332**	P	**P**	**03 20 36.5**	**-1.4**
	comp=Z,3.3nm,1.1s,baz=95,slow=4.6,SNR=13							
LSZ	**Lusaka**	**96.77**	**255**	*e*P	**P**	**03 20 56.6**	**-0.5**
	comp=Z,3.6nm,0.8s							
HFS	**Hagfors**	**99.02**	**332**	P	**Pdif**	**03 21 04.3**	**-1.7**
HFS	**Hagfors**	**99.02**	**332**	P	**Pdif**	**03 21 04.3**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=72,slow=4.7,SNR=4.8							
CLL	**Collm**	**102.23**	**323**	*e*Pdif	**Pdif**	**03 21 19.0**	**-1.6**
CLL				*e*PP	**PP**	**03 25 38.0**	**+2.9**
BW06	**Boulder Array**	**114.26**	**41**	*e*PKP	PKPdf	03 26 04.6	0.0
TAM	**Tamanrasset**	**116.14**	**296**	*e*PKPdf	**PKPdf**	**03 26 08.4**	**-0.2**
RSSD	**Black Hills**	**117.08**	**38**	*e*PKPdf	**PKPdf**	**03 26 10.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**121.71**	**286**	PKP	**PKPdf**	**03 26 19.0**	**-0.4**
TORD				sPKP		03 27 37.2		
TORD				PP	**PP**	**03 27 56.4**	**+1.3**
TORD	**Torodi Ar. Bea**	**121.71**	**286**	PKP	**PKPdf**	**03 26 19.0**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=44,slow=1.5,SNR=5.7							
TORD				sPKP		03 27 37.2		
	comp=Z,0.9nm,0.7s,baz=64,slow=2.1,SNR=4.2							
TORD				PP	**PP**	**03 27 56.4**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=81,slow=5.4,SNR=3.9							
CPUP	**Villa Florida**	**155.28**	**175**	PKPab	**PKPab**	**03 27 44.3**	**0.0**
CPUP	**Villa Florida**	**155.28**	**175**	PKPab	**PKPab**	**03 27 44.3**	**0.0**
	comp=Z,0.9nm,0.6s,baz=180,slow=4.4,SNR=4.0							

*ISCJB **26** 03:24:04.1±1.0,20.02N±0.04×145.85E±0.04,h44km±9km, mb4.5/66,MS3.9/22,Error ellipse: s-maj=7.1km s-min=6.2km az=152.9*

*IDC **26** 03:24:05.7±0.7,20.06N×145.95E,h48km±5km,mb4.1/26, mb1 4.3/28,mb1mx4.2/33,mbtmp4.1/28,MS3.8/17, Ms1 3.8/17,ms1mx3.5/38,Error ellipse: s-maj=15.0km s-min=11.7km az=86.0*

*BJI **26** 03:24:05.0,19.99N×145.94E,h61km,mB4.8/18,mb4.8/33, Ms4.5/14,Ms7 4.2/15*

*NEIC **26** 03:24:06.4±1.1,20.06N×145.86E,h53km±10km,mb4.6/32, Error ellipse: s-maj=6.4km s-min=5.2km az=73.0*

ISC 26 03:24:07.0±0.5,20.08N±0.05×145.87E±0.06,h59km±2km, **h59**km**:pP-P,n132,**σ1s**33**/182,**mb4.5**/66,**MS3.8**/22, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**6.52**	**189**	*e*Pn		**Pn**	**03 25 40.3**	**-0.1**
GUMO				*e*Sn		**Sn**	**03 26 51.5**	**-1.9**
MJAR	**Matsushiro Arr**	**17.72**	**339**	P		**Pn**	**03 28 08.4**	**-1.3**
MJAR	**Matsushiro Arr**	**17.72**	**339**	P		**Pn**	**03 28 08.4**	**-1.3**
	0.3nm,0.3s,baz=172,slow=11,SNR=18							
MAJO	**Matsushiro**	**17.73**	**339**	*e*Pn		**Pn**	**03 28 09.0**	**-0.8**
	20nm,1.0s							
MAT	**Matsushiro**	**17.73**	**339**	P		**Pn**	**03 28 08.6**	**-1.1**
MAT				*e*S		**Sn**	**03 31 25.4**	**-1.1**
JNU	**Nakatsue**	**18.64**	**317**	*e*P		**Pn**	**03 28 21.1**	**+0.2**
	26nm,1.0s							
JNU	**Nakatsue**	**18.64**	**317**	P		**Pn**	**03 28 21.4**	**+0.5**
	0.9nm,0.3s,baz=76,slow=7.5,SNR=7.1							
KSRS	**Korea Array**	**23.32**	**322**	P		**P**	**03 29 09.2**	**-0.7**
	28nm,0.8s,baz=151,slow=8.8,SNR=93							
KSRS				ScP		**ScP**	**03 36 30.4**	**+1.8**
	1.4nm,0.9s,baz=131,slow=3.0,SNR=5.4							
KSAR	**Wonju Array Be**	**23.34**	**322**	P		**P**	**03 29 09.2**	**-0.9**
KSAR				ScP		**ScP**	**03 36 30.4**	**+1.7**
INCN	**Inchon**	**24.11**	**320**	*e*P		**P**	**03 29 16.0**	**-1.2**
	50nm,1.2s							
ASAJ	**Asahikawa**	**24.13**	**354**	*e*P		**P**	**03 29 19.1**	**+1.8**
	10nm,1.3s							
ASAJ	**Asahikawa**	**24.13**	**354**	P		**P**	**03 29 18.5**	**+1.3**
	10nm,1.0s,baz=237,slow=23,SNR=7.2							
ASAJ				LR		LR	03 38 37.6	
	comp=Z,169nm,22.0s,baz=158,slow=36							
USRK	**Ussuriysk Arra**	**26.69**	**337**	P		**P**	**03 29 41.5**	**+1.0**
	5.9nm,0.9s,baz=154,slow=8.3,SNR=13							
USRK				LR		LR	03 39 52.6	
	comp=Z,73nm,21.4s,baz=22,slow=35							
NJ2	**Nanjing**	**26.96**	**302**	*e*P		**P**	**03 29 45.0**	**+1.9**
NJ2				pmax		pmax		
	comp=Z,20nm,0.5s							
MDJ	**Mudanjiang**	**27.96**	**335**	P		**P**	**03 29 52.8**	**+0.9**
MDJ				pP		**pP**	**03 30 05.8**	**-0.7**
MDJ				sP		**sP**	**03 30 12.0**	**-1.4**
MDJ				PcP		**PcP**	**03 33 06.8**	**+0.9**
MDJ				S		**S**	**03 34 30.8**	**-1.0**
MDJ				sS		**sS**	**03 34 53.3**	**-3.2**
MDJ				pmax		pmax		
	comp=Z,5.0nm,0.7s							
MDJ				pmax		pmax		
	comp=Z,69nm,4.1s							
MDJ				LR		LR		
	comp=Z,170nm,23.4s							
CN2	**Changchun**	**29.17**	**329**	*e*P		**P**	**03 30 05.0**	**+2.3**
PMG	**Port Moresby**	**29.32**	**177**	LR		LR	03 40 58.3	
	comp=Z,100nm,19.1s,baz=28,slow=35							
QIZ	**Qiongzhong**	**33.92**	**274**	P		**P**	**03 30 44.5**	**-0.3**
QIZ				S		**S**	**03 36 06.5**	**+0.9**
QIZ				pmax		pmax		
	comp=Z,14nm,2.1s							
PETK	**Petropavlovsk-**	**34.22**	**13**	P		**P**	**03 30 47.6**	**+0.7**
PETK	**Petropavlovsk-**	**34.22**	**13**	P		**P**	**03 30 47.6**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=180,slow=5.8,SNR=3.1							
PETK				LR		LR	03 42 42.1	
	comp=Z,90nm,21.0s,baz=197,slow=33							
HHC	**Hu-ho-hao-te**	**35.77**	**313**	*e*P		**P**	**03 31 00.3**	**-0.3**
HHC				sP		**sP**	**03 31 22.8**	**+0.6**
HHC				PP		**PP**	**03 32 23.0**	**+0.3**
HHC				PcP		**PcP**	**03 33 26.3**	**-1.1**
HHC				S		**S**	**03 36 32.5**	**-1.2**
HHC				sS		**sS**	**03 36 58.5**	**-0.3**
HHC				ScP		**ScP**	**03 37 06.5**	**-2.1**
HHC				PcS		**PcS**	**03 37 13.8**	**-1.0**
HHC				SS		**SnSn**	**03 38 57.0**	**-3.8**
HHC				ScS		**ScS**	**03 41 10.5**	**-3.3**
HHC				pmax		pmax		
	comp=Z,35nm,0.7s							
HHC				pmax		pmax		
	comp=Z,340nm,6.2s							
HHC				LR		LR		
	comp=N,340nm,13.6s							
HHC				LR		LR		
	comp=E,250nm,13.5s							
HHC				LR		LR		
	comp=Z,540nm,13.1s							
GYA	**Guiyang**	**36.47**	**288**	*e*P		**P**	**03 31 06.8**	**+0.1**
GYA				pP		**pP**	**03 31 22.5**	**+1.0**
GYA				sP		**sP**	**03 31 29.3**	**+0.9**
GYA				PP		**PnPn**	**03 32 32.0**	**+1.2**
GYA				PcP		**PcP**	**03 33 30.5**	**+0.8**
GYA				S		**S**	**03 36 44.8**	**0.0**
GYA				sS		**sS**	**03 37 09.5**	**-0.4**
GYA				ScS		**ScS**	**03 41 16.3**	**-1.9**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
CD2	**Chengdu**	**39.31**	**295**	*e*P		**P**	**03 31 30.5**	**0.0**
CD2				pP		**pP**	**03 31 45.5**	**0.0**
CD2				sP		**sP**	**03 31 52.3**	**0.0**
CD2				PP		**PnPn**	**03 33 05.8**	**+1.0**
CD2				S		**S**	**03 37 26.8**	**-0.7**
CD2				sS		**sS**	**03 37 52.0**	**-0.8**
CD2				SS		**SS**	**03 40 14.8**	**-8.1**
CD2				pmax		pmax		
	comp=Z,10.0nm,1.2s							
CD2				pmax		pmax		
	comp=Z,30nm,4.2s							
CD2				LR		LR		
	comp=E,120nm,14.2s							
CD2				LR		LR		
	comp=Z,150nm,16.2s							
KMI	**Kunming**	**40.01**	**285**	P		**P**	**03 31 37.0**	**+0.4**
KMI				pP		**pP**	**03 31 49.0**	**-2.6**
KMI				pmax		pmax		
	comp=Z,5.0nm,0.9s							
LZH	**Lanzhou**	**40.03**	**303**	*e*P		**P**	**03 31 37.8**	**+1.2**
LZH				pP		**pP**	**03 31 53.3**	**+1.7**
LZH				sP		**sP**	**03 32 00.5**	**+2.1**
LZH				PP		**PnPn**	**03 33 14.5**	**+1.1**
LZH				pmax		pmax		
	comp=Z,21nm,1.3s							
LZH				pmax		pmax		
	comp=Z,57nm,6.0s							
LZH				LR		LR		
	comp=N,410nm,14.0s							
LZH				LR		LR		
	comp=E,400nm,13.8s							
LZH				LR		LR		
	comp=Z,520nm,17.8s							
WRAB	**Tennant Creek**	**41.33**	**197**	*e*P		**P**	**03 31 47.1**	**-0.1**
	comp=Z,9.1nm,0.8s							
WRA	**Warramunga Arr**	**41.34**	**197**	P		**P**	**03 31 46.3**	**-1.0**
WRA	**Warramunga Arr**	**41.34**	**197**	P		**P**	**03 31 46.3**	**-1.0**
	comp=Z,4.5nm,0.9s,baz=22,slow=9.2,SNR=23							
WRA				LR		LR	03 48 17.2	
	comp=Z,82nm,19.2s,baz=15,slow=35							
ULN	**Ulaanbaatar**	**41.80**	**321**	*e*P		**P**	**03 31 51.0**	**0.0**
	comp=Z,3.4nm,1.0s							
SONM	**Songino Array**	**42.18**	**320**	P		**P**	**03 31 52.6**	**-1.5**
SONM	**Songino Array**	**42.18**	**320**	P		**P**	**03 31 52.6**	**-1.5**
	comp=Z,2.1nm,0.6s,baz=136,slow=9.3,SNR=15							
SONM				LR		LR	03 49 58.4	
	comp=Z,146nm,21.6s,baz=286,slow=37							
FITZ	**Fitzroy Crossi**	**42.82**	**209**	P		**P**	**03 31 59.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**42.82**	**209**	P		**P**	**03 31 59.1**	**-0.2**
	comp=Z,3.5nm,0.6s,baz=25,slow=8.7,SNR=18							
GTA	**Gaotai**	**43.85**	**306**	P		**P**	**03 32 08.3**	**+0.6**
GTA				pP		**pP**	**03 32 23.8**	**+1.0**
GTA				sP		**sP**	**03 32 31.0**	**+1.4**
GTA				PcP		**PcP**	**03 33 55.3**	**+2.1**
GTA				S		**S**	**03 38 34.0**	**-0.7**
GTA				sS		**sS**	**03 39 03.8**	**+3.5**
GTA				SS		SS	03 41 43.8	-8.8
GTA				pmax		pmax		
	comp=Z,5.0nm,1.5s							
GTA				pmax		pmax		
	comp=Z,54nm,5.7s							
GTA				LR		LR		
	comp=N,77nm,17.8s							
GTA				LR		LR		
	comp=E,100nm,17.1s							
GTA				LR		LR		
	comp=E,88nm,18.5s							
CHTO	**Chiang Mai**	**44.15**	**277**	*e*P		**P**	**03 32 11.2**	**+1.0**
	comp=Z,3.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**44.22**	**276**	P		**P**	**03 32 12.2**	**+1.5**
CMAR				pP		**pP**	**03 32 25.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**44.22**	**276**	P		**P**	**03 32 12.2**	**+1.5**
	comp=Z,1.3nm,0.5s,baz=66,slow=6.8,SNR=5.6							
CMAR				pP		**pP**	**03 32 25.9**	**+0.1**
	comp=Z,3.6nm,0.8s,baz=68,slow=5.7,SNR=4.0							
AS31	**Alice Springs**	**45.01**	**196**	*e*P		**P**	**03 32 17.0**	**+0.1**
ASAR	**Alice Springs**	**45.02**	**196**	P		**P**	**03 32 15.9**	**-1.1**
ASAR	**Alice Springs**	**45.02**	**196**	P		**P**	**03 32 15.9**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=17,slow=6.6,SNR=14							
IPM	**Ipoh**	**46.30**	**257**	*e*P		**P**	**03 32 25.6**	**-1.6**
DZM	**Mont Dzumac**	**46.46**	**153**	P		**P**	**03 32 27.4**	**-1.0**
DZM	**Mont Dzumac**	**46.46**	**153**	P		**P**	**03 32 27.4**	**-1.0**
	comp=Z,15nm,0.9s,baz=340,slow=8.1,SNR=7.0							
DZM				LR		LR	03 49 26.7	
	comp=Z,244nm,19.0s,baz=354,slow=33							
TAPN	**Taplejung**	**53.34**	**290**	*e*P		**P**	**03 33 22.1**	**+1.1**
	comp=Z,11nm,0.5s							
WMQ	**Urumqi**	**53.54**	**310**	P		**P**	**03 33 23.5**	**+1.6**
AFI	**Afiamalu**	**53.63**	**126**	LR		LR	03 53 26.8	
	comp=Z,87nm,21.2s,baz=290,slow=33							
ODAN	**Odare**	**53.67**	**289**	*e*P		**P**	**03 33 24.2**	**+0.8**
	comp=Z,5.8nm,0.3s							
RAMN	**Ramite**	**54.37**	**289**	*e*P		**P**	**03 33 29.5**	**+1.1**
	comp=Z,6.7nm,0.4s							
JIRN	**Jiri**	**54.66**	**290**	*e*P		**P**	**03 33 32.2**	**+1.5**
	comp=Z,16nm,0.5s							
GUN	**Gumba**	**54.90**	**291**	*e*P		**P**	**03 33 34.8**	**+2.4**
PKI	**Pulchoki**	**55.35**	**290**	*e*P		**P**	**03 33 36.5**	**+0.8**
	comp=Z,5.6nm,0.3s							
PKIN	**Phulchoki**	**55.36**	**290**	*e*P		**P**	**03 33 36.2**	**+0.5**
	comp=Z,9.4nm,0.6s							
KKN	**Kakani**	**55.44**	**290**	*e*P		**P**	**03 33 37.5**	**+1.3**
DMN	**Daman**	**55.62**	**290**	*e*P		**P**	**03 33 37.9**	**+0.4**
	comp=Z,13nm,0.6s							
DANN	**Dangsing**	**56.72**	**291**	*e*P		**P**	**03 33 46.9**	**+1.6**
	comp=Z,111nm,0.6s							
KOLN	**Koldanda**	**56.92**	**291**	*e*P		**P**	**03 33 47.8**	**+1.1**
	comp=Z,17nm,0.7s							
ZAAO	**Zalesovo Array**	**57.03**	**322**	*e*P		**P**	**03 33 46.2**	**-0.6**
ZALV	**Zalesovo Beam**	**57.03**	**322**	P		**P**	**03 33 46.1**	**-0.6**
ZALV				pP		**pP**	**03 33 59.4**	**-3.0**
ZALV	**Zalesovo Beam**	**57.03**	**322**	P		**P**	**03 33 46.1**	**-0.6**
	comp=Z,4.4nm,0.4s,baz=106,slow=7.3,SNR=20							
ZALV				pP		**pP**	**03 33 59.4**	**-3.0**
	comp=Z,3.8nm,0.5s,baz=111,slow=7.8,SNR=5.5							
ZALV				LR		LR	04 00 05.5	
	comp=Z,53nm,18.5s,baz=69,slow=38							
MK31	**Makanchi Array**	**57.63**	**313**	*e*P		**P**	**03 33 51.4**	**+0.2**
MKAR	**Makanchi Array**	**57.63**	**313**	*e*P		**P**	**03 33 51.9**	**+0.7**
MKAR				pP		**pP**	**03 34 05.5**	**-1.4**
MKAR	**Makanchi Array**	**57.63**	**313**	P		**P**	**03 33 51.5**	**+0.3**
	comp=Z,2.9nm,0.6s,baz=91,slow=9.2,SNR=40							
MKAR				pP		**pP**	**03 34 05.5**	**-1.4**
	comp=Z,4.0nm,0.6s,baz=91,slow=8.4,SNR=15							
MKAR				LR		LR	03 58 52.1	
	comp=Z,56nm,20.3s,baz=172,slow=36							
KURK	**Kurchatov**	**60.36**	**318**	P		**P**	**03 34 10.1**	**+0.2**
KURK				pP		**pP**	**03 34 23.8**	**-2.0**
KURBB	**Kurchatov Arra**	**60.41**	**317**	P		**P**	**03 34 10.1**	**-0.2**
	comp=Z,12nm,0.5s,baz=94,slow=7.5,SNR=198							
KURBB				pP		**pP**	**03 34 23.8**	**-2.3**
	comp=Z,9.0nm,0.6s,baz=93,slow=7.4,SNR=14							
KSH	**Kashi**	**62.21**	**305**	*e*P		P	03 34 26.5	+3.7
KSH				pP		pP	03 34 43.0	+4.3
KSH				PP		PP	03 36 46.5	+6.4
KSH				PcS		**PcS**	**03 39 06.5**	**+0.8**
KSH				S		**S**	**03 42 46.5**	**+2.1**
KSH				sS		sS	03 43 14.0	+2.8
KSH				pmax		pmax		
	comp=Z,11nm,0.9s							
KSH				pmax		pmax		
	comp=Z,130nm,4.5s							
KSH				LR		LR		
	comp=N,94nm,4.7s							
KSH				LR		LR		
	comp=E,83nm,6.1s							
KSH				LR		LR		
	comp=Z,110nm,7.0s							
TKM2	**Tokmak 2**	**62.31**	**309**	*e*P		**P**	**03 34 24.5**	**+1.0**
	comp=Z,4.0nm,0.6s							
ILAR	**Eielson Array**	**62.34**	**26**	P		**P**	**03 34 21.5**	**-1.6**
ILAR	**Eielson Array**	**62.34**	**26**	P		**P**	**03 34 21.5**	**-1.6**
	comp=Z,1.6nm,0.8s,baz=264,slow=5.6,SNR=24							
ILAR				LR		LR	03 57 25.0	
	comp=Z,60nm,20.6s,baz=280,slow=32							
URZ	**Urewera**	**65.02**	**153**	LR		LR	03 59 22.7	
	comp=Z,263nm,18.9s,baz=238,slow=33							
BVAR	**Borovoye Array**	**65.53**	**320**	P		**P**	**03 34 44.4**	**+0.2**
BVAR	**Borovoye Array**	**65.53**	**320**	P		**P**	**03 34 44.4**	**+0.2**
	comp=Z,19nm,0.7s,baz=92,slow=7.6,SNR=82							
BRVK	**Borovoye**	**65.59**	**320**	*e*P		**P**	**03 34 44.7**	**+0.1**
	comp=Z,18nm,0.9s							
KKAR	**Karatay Array**	**66.02**	**309**	*e*P		**P**	**03 34 48.4**	**+0.8**
	comp=Z,11nm,0.8s							
INK	**Inuvik**	**68.05**	**23**	P		**P**	**03 34 59.6**	**-0.3**
INK	**Inuvik**	**68.05**	**23**	P		**P**	**03 34 59.6**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=241,slow=7.0,SNR=7.4							
KBL	**Kabul**	**68.32**	**300**	*e*P		**P**	**03 35 03.2**	**+0.6**
	comp=Z,27nm,1.1s							
ABKAR	**Akbulak array**	**72.45**	**317**	*e*P		**P**	**03 35 27.3**	**0.0**
	comp=Z,7.0nm,0.7s							
AKTO	**Aktyubinsk**	**73.45**	**318**	P		**P**	**03 35 33.2**	**0.0**
AKTO	**Aktyubinsk**	**73.45**	**318**	P		**P**	**03 35 33.2**	**0.0**
	comp=Z,2.1nm,0.6s,baz=103,slow=8.5,SNR=10							
PPT	**Papeete**	**73.57**	**116**	LR		LR	04 01 34.4	
	comp=Z,153nm,19.7s,baz=184,slow=31							
YKA	**Yellowknife Ar**	**76.70**	**28**	P		**P**	**03 35 50.9**	**-0.7**
YKA				pP		**PcP**	**03 36 05.0**	**+2.2**
YKA	**Yellowknife Ar**	**76.70**	**28**	P		**P**	**03 35 50.9**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=288,slow=5.7,SNR=7.1							
YKA				pP		**PcP**	**03 36 05.0**	**+2.2**
	comp=Z,2.2nm,0.6s,baz=289,slow=5.7,SNR=6.2							
NEW	**Newport**	**79.79**	**42**	*e*P		**P**	**03 36 09.8**	**+0.7**
	comp=Z,4.3nm,0.9s							
WVOR	**Wild Horse Val**	**80.63**	**48**	*e*P		**P**	**03 36 13.7**	**-0.1**
	comp=Z,3.5nm,1.0s							
KEV	**Kevo**	**80.68**	**342**	*e*p		**P**	**03 36 14.5**	**+1.2**
	comp=Z,2.5nm,0.6s							
CMB	**Columbia Colle**	**80.74**	**53**	*e*P		**P**	**03 36 14.6**	**+0.2**
	comp=Z,9.0nm,1.1s							
BMO	**Blue Mountains**	**80.77**	**46**	*e*P		**P**	**03 36 14.2**	**-0.3**
	comp=Z,8.2nm,1.2s							
PAHR	**Pah Rah Range**	**80.96**	**51**	*e*P		**P**	**03 36 15.9**	**+0.3**
	comp=Z,50nm,2.4s							
ARCES	**ARCESS Array B**	**81.24**	**342**	P		**P**	**03 36 17.6**	**+1.3**
ARCES	**ARCESS Array B**	**81.24**	**342**	P		**P**	**03 36 17.6**	**+1.3**
	comp=Z,2.7nm,0.8s,baz=68,slow=7.4,SNR=20							
ARCES				LR		LR	04 16 02.1	
	comp=Z,51nm,18.6s,baz=206,slow=38							
BSMT	**Bassoo Peak**	**81.41**	**42**	*e*P		**P**	**03 36 18.5**	**+0.6**
NVAR	**Mina Array Bea**	**82.17**	**52**	P		**P**	**03 36 22.5**	**+0.4**
NVAR	**Mina Array Bea**	**82.17**	**52**	P		**P**	**03 36 22.5**	**+0.4**
	comp=Z,4.7nm,0.8s,baz=268,slow=6.0,SNR=26							
MFID	**Camas Ranch**	**82.25**	**47**	*e*P		**P**	**03 36 22.7**	**+0.4**
	comp=Z,8.2nm,1.3s							
JOF	**Joensuu**	**82.84**	**335**	*e*p		**P**	**03 36 25.1**	**+0.3**
	comp=Z,1.8nm,0.4s							
HLID	**Hailey**	**83.17**	**46**	*e*P		**P**	**03 36 27.5**	**+0.3**
	comp=Z,19nm,2.3s							
HRY	**Holter Researc**	**83.69**	**43**	*e*P		**P**	**03 36 30.1**	**+0.4**
BOZ	**Bozeman (W)**	**84.23**	**43**	*e*P		**P**	**03 36 32.2**	**-0.3**
	comp=Z,2.5nm,1.1s							
QLMT	**Earthquake Lak**	**84.68**	**44**	*e*P		**P**	**03 36 35.8**	**+0.9**
KBZ	**Khabaz**	**85.29**	**315**	P		**P**	**03 36 38.3**	**+0.6**
KBZ	**Khabaz**	**85.29**	**315**	P		**P**	**03 36 38.3**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=86,slow=7.4,SNR=8.4							
KBZ				LR		LR	04 18 04.9	
	comp=Z,83nm,21.8s,baz=302,slow=38							
IMW	**Indian Meadow**	**85.37**	**45**	*e*P		**P**	**03 36 39.4**	**+0.9**
	comp=Z,5.1nm,1.0s							
DUG	**Dugway**	**85.52**	**49**	*e*P		**P**	**03 36 39.1**	**0.0**
	comp=Z,4.2nm,1.0s							
MOOW	**Moose Ponds**	**85.56**	**45**	*e*P		**P**	**03 36 39.9**	**+0.6**
	comp=Z,2.2nm,0.9s							
FINES	**FINESS Array B**	**85.71**	**335**	P		**P**	**03 36 38.5**	**-0.8**
FINES	**FINESS Array B**	**85.71**	**335**	P		**P**	**03 36 38.5**	**-0.8**
	comp=Z,1.5nm,0.4s,baz=74,slow=4.5,SNR=50							
HWUT	**Hardware Ranch**	**85.85**	**47**	*e*P		**P**	**03 36 40.5**	**-0.3**
	comp=Z,7.1nm,1.0s							
FFC	**Flin Flon**	**85.85**	**33**	*e*P		**P**	**03 36 40.5**	**+0.3**
	comp=Z,4.2nm,0.9s							
RLMT	**Red Lodge**	**85.97**	**43**	*e*P		**P**	**03 36 41.9**	**+0.6**
	comp=Z,1.7nm,0.6s							
CCUT	**Cedar City**	**86.13**	**51**	*e*P		**P**	**03 36 43.0**	**+0.8**
	comp=Z,45nm,2.8s							
JLU	**Jordanelle**	**86.32**	**48**	*e*P		**P**	**03 36 43.6**	**+0.4**
	comp=Z,6.2nm,0.9s							
DAU	**Daniels Canyon**	**86.53**	**48**	*e*P		**P**	**03 36 44.6**	**+0.3**
BW06	**Boulder Array**	**86.75**	**46**	*e*P		**P**	**03 36 44.6**	**-0.7**
	comp=Z,1.4nm,0.8s							
PDAR	**Pinedale Array**	**86.75**	**46**	P		**P**	**03 36 44.6**	**-0.6**
PDAR	**Pinedale Array**	**86.75**	**46**	P		**P**	**03 36 44.6**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=232,slow=2.3,SNR=9.0							
SRU	**San Rafael**	**87.57**	**49**	*e*P		**P**	**03 36 48.6**	**-0.6**
	comp=Z,4.9nm,0.8s							
TUC	**Tucson**	**90.13**	**55**	*e*P		**P**	**03 37 02.0**	**+0.8**
	comp=Z,15nm,1.1s							
NOA	**NORSAR Array B**	**91.34**	**340**	P		**P**	**03 37 06.3**	**+0.1**
NOA	**NORSAR Array B**	**

YER	**Yerkesik**	**1.76**	**321**	*e*Pn	**Pn**	**03 38 00.3**	**-0.3**
YER				*e*Sn	**Sn**	**03 38 23.1**	**-0.4**
BCK	**Bucak**	**1.85**	**23**	*e*PN	**Pn**	**03 38 01.6**	**-0.1**
BCK	**Bucak**	**1.85**	**23**	*e*PN	**Pn**	**03 38 01.6**	**-0.1**
DAT	**Datca**	**1.94**	**300**	*e*PN	**Pn**	**03 38 03.1**	**0.0**
DAT	**Datca**	**1.94**	**300**	*e*Pn	**Pn**	**03 38 03.1**	**0.0**
DNZL	**Cakiroluk**	**1.98**	**346**	*i* P	**Pb**	**03 38 05.4**	**-0.6**
DNZL				*i* S	**Sb**	**03 38 30.4**	**-0.8**
DNZL	**Cakiroluk**	**1.98**	**346**	*i* P	**Pb**	**03 38 05.4**	**-0.6**
DNZL				*i* S	**Sb**	**03 38 30.4**	**-0.8**
SUTC	**Sutluce-Ispart**	**2.02**	**32**	*e*PN	**Pn**	**03 38 04.4**	**+0.3**
SUTC	**Sutluce-Ispart**	**2.02**	**32**	*e*Pn	**Pn**	**03 38 04.4**	**+0.3**
MLSB	**Milas**	**2.16**	**316**	*e*PN	**Pn**	**03 38 05.1**	**-0.8**
MLSB	**Milas**	**2.16**	**316**	*e*Pn	**Pn**	**03 38 05.1**	**-0.8**
ISP	**Isparta**	**2.17**	**18**	*e*PN	**Pn**	**03 38 06.8**	**+0.7**
ISP	**Isparta**	**2.17**	**18**	*e*Pn	**Pn**	**03 38 06.8**	**+0.7**
BODT	**Bodrum**	**2.30**	**305**	*e*PN	**Pn**	**03 38 07.3**	**-0.6**
BODT	**Bodrum**	**2.30**	**305**	*e*Pn	**Pn**	**03 38 07.3**	**-0.6**
AYDN	**Tasoluk**	**2.38**	**323**	*i* P	**Pb**	**03 38 12.8**	**+0.3**
AYDN				*i* S	**Sb**	**03 38 41.2**	**-1.0**
KHL	**Karahalli**	**2.56**	**357**	*e*PN	**Pn**	**03 38 11.6**	**+0.1**
KHL	**Karahalli**	**2.56**	**357**	*e*Pn	**Pn**	**03 38 11.6**	**+0.1**
KHAL	**Karahalli**	**2.60**	**357**	*i* P	**Pb**	**03 38 14.4**	**-2.1**
KHAL				*i* S	**Sn**	**03 38 45.7**	**+1.3**
KHAL	**Karahalli**	**2.60**	**357**	*i* P	**Pb**	**03 38 14.4**	**-2.1**
KHAL				*i* S	**Sn**	**03 38 45.7**	**+1.3**
LEF	**Lefka**	**2.71**	**103**	*e*PN	**Pn**	**03 38 13.3**	**-0.2**
LEF	**Lefka**	**2.71**	**103**	*e*Pn	**Pn**	**03 38 13.3**	**-0.2**
KULA	**Kula-Manisa**	**2.86**	**344**	*e*PN	**Pn**	**03 38 16.2**	**+0.6**
KULA	**Kula-Manisa**	**2.86**	**344**	*e*Pn	**Pn**	**03 38 16.2**	**+0.6**
SHUT	**Suhut-Afyon**	**2.87**	**14**	*e*PN	**Pn**	**03 38 16.8**	**+1.0**
SHUT	**Suhut-Afyon**	**2.87**	**14**	*e*Pn	**Pn**	**03 38 16.8**	**+1.0**
KONT	**Konya--Tatoy**	**3.07**	**44**	*e*PN	**Pn**	**03 38 19.0**	**+0.6**
KONT	**Konya--Tatoy**	**3.07**	**44**	*e*Pn	**Pn**	**03 38 19.0**	**+0.6**
LFK	**Lefkose**	**3.19**	**98**	*e*PN	**Pn**	**03 38 20.7**	**+0.5**
LFK	**Lefkose**	**3.19**	**98**	*e*Pn	**Pn**	**03 38 20.7**	**+0.5**
LADK	**Ladik-KONYA**	**3.25**	**41**	*e*PN	**Pn**	**03 38 21.5**	**+0.4**
LADK	**Ladik-KONYA**	**3.25**	**41**	*e*Pn	**Pn**	**03 38 21.5**	**+0.4**
IZM	**Izmir**	**3.26**	**325**	*e*PN	**Pn**	**03 38 21.0**	**-0.1**
IZM	**Izmir**	**3.26**	**325**	*e*Pn	**Pn**	**03 38 21.0**	**-0.1**
IKL	**Isikli**	**3.29**	**81**	*e*PN	**Pn**	**03 38 22.0**	**+0.5**
IKL	**Isikli**	**3.29**	**81**	*e*Pn	**Pn**	**03 38 22.0**	**+0.5**
ALT	**Altintas**	**3.30**	**6**	*e*PN	**Pn**	**03 38 21.9**	**+0.1**
ALT	**Altintas**	**3.30**	**6**	*e*Pn	**Pn**	**03 38 21.9**	**+0.1**
KDHN	**Kadinhani**	**3.38**	**35**	*i* P	**Pn**	**03 38 23.3**	**+0.5**
KDHN				*i* S	**Sn**	**03 39 01.9**	**-1.5**
KDHN	**Kadinhani**	**3.38**	**35**	*i* P	**Pn**	**03 38 23.3**	**+0.5**
KIZT	**Kizilcal**	**3.58**	**29**	*e*PN	**Pn**	**03 38 26.6**	**+1.1**
KIZT	**Kizilcal**	**3.58**	**29**	*e*Pn	**Pn**	**03 38 26.6**	**+1.1**
TVSB	**Tavsanli**	**3.68**	**358**	*e*PN	**Pn**	**03 38 27.5**	**+0.5**
TVSB	**Tavsanli**	**3.68**	**358**	*e*Pn	**Pn**	**03 38 27.5**	**+0.5**

*AUST **26** 03:51:07.0±1.8,46˚29S×165˚84E, h0km, Error ellipse: s-maj=2.1km s-min=0.9km az=12.0*
*ISCJB **26** 03:51:08.9±0.5,46˚08S±0˚06×165˚91E±0˚05, h12km, mb4.0/5, MS3.5/2, Error ellipse: s-maj=8.1km s-min=5.0km az=175.9*
*IDC **26** 03:51:08.3±0.9,46˚00S×165˚97E, h0km, mb4.0/5, mb1 4.2/7, mb1mx4.0/18, mbtmp4.1/7, ML3.9/2, MS3.3/3, Ms1 3.3/3, ms1mx3.0/23, Error ellipse: s-maj=26.3km s-min=22.5km az=6.0*
*WEL **26** 03:51:09.3±0.5,46˚13S×165˚80E, h12km, ML4.5/21, Error ellipse: s-maj=4.4km s-min=3.1km az=90.0*
*NEIC **26** 03:51:11.1, 46˚27S×165˚96E, h12km, ML4.5(WEL), After WEL.*

ISC 26 03:51:09.8±0.6, 46˚11S±0˚05×166˚02E±0˚05, h12km, n67, σ1§41/72, mb4.0/5, 4C-3D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.01**	**52**	P*	**Pb**	**03 51 29.0**	**-0.2**
DCZ	**Deep Cove**	**1.01**	**52**	P*	**Pb**	**03 51 29.0**	**-0.2**
DCZ				S*	**Sg**	**03 51 43.5**	**+1.1**
DCZ				AML	AML	03 51 51.5	
WHZ	**Wether Hill Ro**	**1.36**	**82**	Pn	**Pb**	**03 51 35.5**	**+0.4**
WHZ				Sn	**Sg**	**03 51 54.9**	**+1.4**
WHZ	**Wether Hill Ro**	**1.36**	**82**	PN	**Pb**	**03 51 35.5**	**+0.4**
WHZ				SN	**Sg**	**03 51 54.9**	**+1.4**
WHZ				AML	AML	03 51 59.0	
APZ	**The Paps**	**1.54**	**119**	Pn	**Pn**	**03 51 37.1**	**+0.1**
APZ	**The Paps**	**1.54**	**119**	⇑PN	**Pn**	**03 51 37.1**	**+0.1**
APZ				SN	**Sn**	**03 51 56.9**	**-0.2**
MLZ	**Mavora Lakes**	**1.69**	**64**	Pn	**Pb**	**03 51 40.6**	**-0.2**
MLZ	**Mavora Lakes**	**1.69**	**64**	⇑PN	**Pb**	**03 51 40.6**	**-0.2**
MLZ				AML	AML	03 52 08.4	
MLZ				AML	AML	03 52 12.5	
MSZ	**Milford Sound**	**1.97**	**44**	Pn	**Pn**	**03 51 43.8**	**+0.9**
MSZ	**Milford Sound**	**1.97**	**44**	PN	**Pn**	**03 51 43.8**	**+0.9**
MSZ				AML	AML	03 52 22.6	
MSZ				AML	AML	03 52 22.6	
MSZ				AML	AML	03 52 27.1	
MSZ				AML	AML	03 52 27.1	
SYZ	**Scrubby Hill**	**2.20**	**102**	Pn	**Pn**	**03 51 47.4**	**+1.2**
SYZ	**Scrubby Hill**	**2.20**	**102**	⇑PN	**Pn**	**03 51 47.3**	**+1.2**
EAZ	**Earnscleugh**	**2.47**	**70**	Pn	**Pn**	**03 51 52.0**	**+2.3**
EAZ	**Earnscleugh**	**2.47**	**70**	PN	**Pn**	**03 51 52.0**	**+2.3**
EAZ				AML	AML	03 52 27.1	
EAZ				AML	AML	03 52 27.1	
EAZ				AML	AML	03 52 35.3	
EAZ				AML	AML	03 52 35.3	
WKZ	**Wanaka**	**2.47**	**60**	Pn	**Pb**	**03 51 52.5**	**-1.5**
WKZ	**Wanaka**	**2.47**	**60**	PN	**Pb**	**03 51 52.5**	**-1.5**
WKZ				AML	AML	03 52 24.9	
WKZ				AML	AML	03 52 24.9	
WKZ				AML	AML	03 52 33.2	
TUZ	**Tuapeka**	**2.52**	**88**	Pn	**Pn**	**03 51 52.0**	**+1.5**
TUZ	**Tuapeka**	**2.52**	**88**	PN	**Pn**	**03 51 52.0**	**+1.5**
TUZ				AML	AML	03 52 26.3	
TUZ				AML	AML	03 52 27.0	
JCZ	**Jackson Bay**	**2.81**	**45**	Pn	**Pn**	**03 51 56.5**	**+1.9**
JCZ	**Jackson Bay**	**2.81**	**45**	⇑PN	**Pn**	**03 51 56.5**	**+1.9**
JCZ				AML	AML	03 52 50.8	
JCZ				AML	AML	03 52 59.9	
HHSZ	**Highcliff Hill**	**3.20**	**88**	PN	**Pn**	**03 52 01.5**	**+1.7**
LBZ	**Lake Benmore**	**3.41**	**61**	AML	AML	03 53 06.1	
LBZ				AML	AML	03 53 06.2	
ODZ	**Otahua Downs**	**3.42**	**74**	Pn	**Pn**	**03 52 03.4**	**+0.6**
ODZ	**Otahua Downs**	**3.42**	**74**	⇓PN	**Pn**	**03 52 03.4**	**+0.6**
ODZ				AML	AML	03 53 07.4	
ODZ				AML	AML	03 53 07.5	
ODZ				AML	AML	03 53 18.4	
ODZ				AML	AML	03 53 18.4	
FOZ	**Fox Glacier**	**3.64**	**47**	Pn	**Pn**	**03 52 08.2**	**+2.2**
FOZ	**Fox Glacier**	**3.64**	**47**	PN	**Pn**	**03 52 08.1**	**+2.2**
FOZ				AML	AML	03 53 20.4	
FOZ				AML	AML	03 53 25.8	
RPZ	**Rata Peaks**	**4.30**	**58**	Pn	**Pn**	**03 52 16.0**	**+1.0**
RPZ				Sn	**Sn**	**03 53 05.7**	**+0.6**
RPZ	**Rata Peaks**	**4.30**	**58**	Pn	**Pn**	**03 52 15.1**	**+0.1**
	14nm,0.3s,baz=235,slow=3.6,SNR=26						
RPZ				Sn	**Sn**	**03 53 05.7**	**+0.6**
	24nm,0.3s,baz=40,slow=23,SNR=6.7						
RPZ				LR	LR	03 53 11.1	
	comp=Z,152nm,20.8s,baz=190,slow=29						
RPZ	**Rata Peaks**	**4.30**	**58**	⇓PN	**Pn**	**03 52 16.0**	**+1.0**
RPZ				AML	AML	03 53 10.5	
RPZ				AML	AML	03 53 20.6	
WVZ	**Waitaha Valley**	**4.53**	**50**	Pn	**Pn**	**03 52 19.4**	**+1.3**
WVZ	**Waitaha Valley**	**4.53**	**50**	PN	**Pn**	**03 52 19.4**	**+1.3**
WVZ				AML	AML	03 53 21.4	
WVZ				AML	AML	03 53 50.9	
OXZ	**Oxford**	**5.11**	**59**	⇓PN	**Pn**	**03 52 25.9**	**-0.3**
MQZ	**McQueen's Vall**	**5.29**	**65**	Pn	**Pn**	**03 52 27.1**	**-1.3**
MQZ	**McQueen's Vall**	**5.29**	**65**	PN	**Pn**	**03 52 27.1**	**-1.3**
LTZ	**Lake Taylor**	**5.57**	**56**	Pn	**Pn**	**03 52 32.3**	**-0.2**
LTZ	**Lake Taylor**	**5.57**	**56**	AML	AML	03 53 44.4	
LTZ				AML	AML	03 53 59.2	
DSZ	**Denniston Nort**	**6.04**	**46**	Pn	**Pn**	**03 52 39.0**	**+0.2**
DSZ	**Denniston Nort**	**6.04**	**46**	PN	**Pn**	**03 52 39.0**	**+0.2**
THZ	**Tophouse**	**6.60**	**51**	Pn	**Pn**	**03 52 47.5**	**+0.9**
THZ	**Tophouse**	**6.60**	**51**	AML	AML	03 54 19.5	
THZ				AML	AML	03 54 21.7	
NNZ	**Nelson**	**7.23**	**50**	Pn	**Pn**	**03 52 57.9**	**+2.6**
NNZ	**Nelson**	**7.23**	**50**	PN	**Pn**	**03 52 57.9**	**+2.6**
TUWZ	**Tuamarina**	**7.40**	**54**	Pn	Pn	03 53 01.8	+4.3
TUWZ	**Tuamarina**	**7.40**	**54**	PN	Pn	03 53 01.8	+4.3
PKE	**Pukeiti**	**9.06**	**43**	Pn	**Pn**	**03 53 21.5**	**+1.2**
URZ	**Urewera**	**11.36**	**50**	Pn	**Pn**	**03 53 51.5**	**-0.3**
URZ				Sn	**Sn**	**03 55 53.7**	**-4.8**
URZ	**Urewera**	**11.36**	**50**	Pn	**Pn**	**03 53 51.5**	**-0.3**
	0.4nm,0.3s,baz=239,slow=12,SNR=2.1						
URZ				Sn	**Sn**	**03 55 53.7**	**-4.8**
	0.2nm,0.3s,baz=315,slow=20,SNR=2.7						
MILA	**Mila**		**15.50 300**	P	**Pn**	**03 54 47.0**	**-1.2**
	baz=16,SNR=6.2						
TOO	**Toolangi**		**17.48 292**	P	**P**	**03 55 14.3**	**-0.1**
	baz=17,SNR=9.4						
ASAR	**Alice Springs**		**34.21 300**	P	**P**	**03 57 55.2**	**0.0**
ASAR				PcP	**PcP**	**04 00 31.8**	**0.0**
ASAR	**Alice Springs**		**34.21 300**	P	**P**	**03 57 55.2**	**0.0**
	1.1nm,0.7s,baz=135,slow=7.9,SNR=13						
ASAR				PcP	**PcP**	**04 00 31.8**	**0.0**
	0.3nm,1.0s,baz=134,slow=4.0,SNR=5.0						
WRA	**Warramunga Arr**		**36.82 304**	P	**P**	**03 58 16.1**	**-1.5**
WRA	**Warramunga Arr**		**36.82 304**	P	**P**	**03 58 16.1**	**-1.5**
	1.6nm,0.9s,baz=147,slow=8.4,SNR=8.2						
WRA				LR	LR	04 13 44.7	
	comp=Z,83nm,19.5s,baz=210,slow=37						
FITZ	**Fitzroy Crossi**		**43.46 296**	P	**P**	**03 59 12.8**	**+0.1**
FITZ	**Fitzroy Crossi**		**43.46 296**	P	**P**	**03 59 12.8**	**+0.1**
	1.8nm,0.7s,baz=175,slow=11,SNR=4.8						
FITZ				LR	LR	04 15 11.2	
	comp=Z,64nm,20.4s,baz=346,slow=33						
QSPA	**South Pole Qui**		**44.02 180**	P	**P**	**03 59 18.3**	**+1.4**
QSPA	**South Pole Qui**		**44.02 180**	P	**P**	**03 59 18.3**	**+1.4**
	6.3nm,1.0s,baz=18,slow=3.5,SNR=16						
CMAR	**Chiang Mai Arr**		**88.21 299**	P	**P**	**04 04 02.0**	**+1.2**
CMAR	**Chiang Mai Arr**		**88.21 299**	P	**P**	**04 04 02.0**	**+1.2**
	0.6nm,0.5s,baz=118,slow=7.3,SNR=5.0						
TORD	**Torodi Ar. Bea**		**144.57 207**	PKP	**PKPab**	**04 10 45.0**	**+0.1**
TORD	**Torodi Ar. Bea**		**144.57 207**	PKP	**PKPab**	**04 10 45.0**	**+0.1**
	2.1nm,0.7s,baz=152,slow=2.0,SNR=24						
BRTR	**Keskin Array B**		**144.98 277**	PKP	**PKPdf**	**04 10 46.4**	**-0.2**
BRTR	**Keskin Array B**		**144.98 277**	PKP	**PKPdf**	**04 10 46.4**	**-0.2**
	3.5nm,0.8s,baz=139,slow=4.5,SNR=22						
ARCES	**ARCESS Array B**		**149.46 334**	PKPbc	**PKPbc**	**04 10 56.9**	**-0.6**
ARCES	**ARCESS Array B**		**149.46 334**	PKPbc	**PKPbc**	**04 10 56.9**	**-0.6**
	2.8nm,0.9s,baz=340,slow=1.3,SNR=6.3						
FINES	**FINESS Array B**		**152.35 318**	PKPbc	**PKPbc**	**04 11 04.6**	**+0.2**
FINES	**FINESS Array B**		**152.35 318**	PKPbc	**PKPbc**	**04 11 04.6**	**+0.2**
	2.1nm,0.9s,baz=79,slow=7.2,SNR=4.3						

AUST 26 04:07:22.4±31.0, 1˚96S×137˚43E, h0km, Error ellipse: s-maj=2.1km s-min=1.0km az=18.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.32**	**100**	P	Pn	04 08 15.5	-0.2
	baz=3.3,SNR=8.8						
SWI	**Sorong**	**6.26**	**280**	P	Pn	04 08 55.7	-0.4
	baz=6.3,SNR=3.5						
SWI				S	Sn	04 09 45.8	-23
	baz=6.3,SNR=3.7						
KDU	**Kakadu**	**11.73**	**204**	P	Pn	04 10 11.1	-0.1
	baz=12,SNR=6.2						
COEN	**Coen**	**13.21**	**155**	P	Pn	04 10 33.5	+2.1
	baz=13,SNR=4.8						

IDC 26 04:09:28.6±1.7, 7˚86S×125˚77E, h0km, mb3.4/1, mb1 3.6/5, mb1mx3.4/21, mbtmp3.4/5, ML3.4/4, Error ellipse: s-maj=52.4km s-min=25.4km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.12**	**222**	Pn	Pn	04 10 19.9	+0.6
	3.6nm,0.3s,baz=40,slow=7.9,SNR=3.2						
BATI				Sn	Sn	04 10 50.7	-6.7
	12nm,0.3s,baz=139,slow=24,SNR=7.3						
MTN	**Manton Dam**	**7.24**	**134**	S	Sn	04 12 42.7	+4.0
	baz=12,SNR=3.3						
LUWI	**Luwuk**	**7.40**	**336**	P	Pn	04 10 52.6	-25
	baz=15,SNR=3.4						
FITZ	**Fitzroy Crossi**	**10.18**	**181**	Pn	Pn	04 11 54.7	-1.4
	0.2nm,0.3s,baz=3.6,slow=13,SNR=6.6						
FITZ				Sn	Sn	04 13 40.4	-11
	0.6nm,0.3s,baz=117,slow=6.1,SNR=7.1						
FITZ	**Fitzroy Crossi**	**10.18**	**181**	P	Pn	04 11 55.4	-0.7
	baz=20,SNR=4.3						
WRA	**Warramunga Arr**	**14.60**	**146**	Pn	Pn	04 12 56.1	-0.6
	0.2nm,0.3s,baz=322,slow=15,SNR=9.8						
WRA				Sn	Sn	04 15 33.2	-6.3
	0.1nm,0.3s,baz=321,slow=24,SNR=4.2						
ASAR	**Alice Springs**	**17.55**	**155**	P	P	04 13 35.9	-0.1
	0.1nm,0.3s,baz=328,slow=11,SNR=4.7						
MKAR	**Makanchi Array**	**66.72**	**329**	P	P	04 20 21.6	0.0
	0.4nm,0.3s,baz=124,slow=7.8,SNR=10.0						

IDC 26 04:14:35.6±0.9, 38˚10S×73˚81W, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.8/16, mbtmp3.7/8, ML3.8/2, MS3.6/4, Ms1 3.6/4, ms1mx3.1/30, Error ellipse: s-maj=27.0km s-min=15.9km az=67.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.64**	**137**	Pn	Pn	04 15 34.3	+0.9
	1.0nm,0.3s,baz=301,slow=12,SNR=11						
PLCA				Pg	Pb	04 15 41.9	+0.8
	2.7nm,0.3s,baz=311,slow=16,SNR=25						
PLCA				Lg	Lg	04 16 32.0	
	7.0nm,0.3s,baz=219,slow=22,SNR=7.3						
PLCA				LR	LR	04 17 18.7	
	comp=Z,339nm,19.4s,baz=164,slow=45						
CFAA	**Coronel Fontan**	**7.93**	**37**	Pn	Pn	04 16 31.5	-0.8
	0.0nm,0.3s,baz=227,slow=13,SNR=10						
CFAA				Sn	Sn	04 18 02.6	-0.2
	0.0nm,0.3s,baz=284,slow=19,SNR=2.2						
CFAA				Lg	Lg	04 18 49.2	
	0.0nm,0.3s,baz=97,slow=23,SNR=3.2						
CPUP	**Villa Florida**	**18.19**	**55**	P	P	04 18 51.0	+1.1
	0.1nm,0.3s,baz=225,slow=5.4,SNR=7.5						
LPAZ	**La Paz**	**22.30**	**14**	P	P	04 19 38.5	+3.0
	1.2nm,0.7s,baz=179,slow=11,SNR=5.2						
SIV	**San Ignacio**	**24.72**	**30**	P	P	04 19 58.8	+0.1
	0.4nm,0.5s,baz=227,slow=13,SNR=2.2						
SIV				LR	LR	04 30 30.9	
	comp=Z,93nm,19.4s,slow=39						
BDFB	**Brasilia**	**31.90**	**52**	P	P	04 21 07.7	+4.7
	3.4nm,1.0s,baz=211,slow=12,SNR=3.6						
BDFB				LR	LR	04 35 28.0	
	comp=Z,155nm,18.4s,baz=3.3,slow=39						
QSPA	**South Pole Qui**	**52.14**	**180**	P	P	04 23 47.6	0.0
	1.4nm,1.0s,baz=315,slow=1.7,SNR=5.4						
TXAR	**Lajitas Array**	**72.67**	**333**	P	P	04 26 06.7	+1.5
	0.5nm,0.9s,baz=156,slow=6.6,SNR=4.2						
BOSA	**Boshof**	**79.43**	**118**	P	P	04 26 43.4	-0.7
	3.2nm,0.9s,baz=186,slow=9.2,SNR=3.6						
PFO	**Pinyon Flat Ob**	**81.62**	**325**	LR	LR	04 57 29.0	
	comp=Z,68nm,18.6s,baz=31,slow=32						
PDAR	**Pinedale Array**	**86.80**	**334**	P	P	04 27 20.9	-1.0
	0.1nm,0.6s,baz=139,slow=7.0,SNR=2.4						
TORD	**Torodi Ar. Bea**	**86.93**	**71**	P	P	04 27 22.4	-0.4
	0.7nm,0.8s,baz=204,slow=3.8,SNR=3.8						
AKTO	**Aktyubinsk**	**143.98**	**54**	PKP	PKPab	04 34 09.7	-0.1
	0.5nm,0.3s,baz=258,slow=3.3,SNR=5.3						
BVAR	**Borovoye Array**	**151.19**	**47**	PKPbc	PKPbc	04 34 30.2	-0.1
	0.5nm,0.6s,baz=247,slow=3.0,SNR=2.9						
BVAR				PKPab	PKPab	04 34 37.8	-0.4
	0.9nm,0.7s,baz=270,slow=3.7,SNR=4.8						
KURBB	**Kurchatov Arra**	**156.75**	**49**	PKPab	PKPab	04 35 02.0	+0.2
	0.3nm,0.8s,baz=287,slow=5.5,SNR=4.0						
MKAR	**Makanchi Array**	**160.40**	**56**	PKPab	PKPab	04 35 17.2	-0.6
	0.5nm,0.7s,baz=286,slow=4.5,SNR=5.9						

*IDC **26** 04:23:45.1±6.1, 37˚22N×72˚35E, h188km±54km, mb3.4/1, mb1 3.1/7, mb1mx2.8/31, mbtmp3.1/7, Error ellipse: s-maj=71.6km s-min=38.2km az=146.0*
*NNC **26** 04:23:55.9±7.4, 38˚21N×72˚33E, h230km±70km, mb2.6, mpv3.6, Error ellipse: s-maj=74.7km s-min=36.7km az=5.0*

ISC 26 04:23:47.7±2.8, 37˚7N±0˚2×71˚9E±0˚1, h130km, n12, σ2§01/13, 6C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.35**	**21**	P	**Pn**	**04 25 07.1**	**+1.6**
	2.0nm,0.3s,baz=179,slow=6.5,SNR=9.7						
AAK				S	**Sn**	**04 26 07.9**	**+1.7**
	3.0nm,0.3s,baz=99,slow=23,SNR=13						
KK31	**Karatay Array**	**5.52**	**350**	⇑P	Pn	04 25 11.2	+3.5
	5.1nm,0.5s,baz=153,slow=11,SNR=106						
KK31				S	**Sn**	**04 26 13.3**	**+3.2**
	3.5nm,0.3s,baz=163,slow=22,SNR=12						
TKM2	**Tokmak 2**	**5.97**	**27**	⇑P	**Pn**	**04 25 14.4**	**+0.5**
	5.1nm,0.8s						
TKM2				⇓S	**Sn**	**04 26 19.2**	**-2.0**
	2.4nm,0.5s						
MKAR	**Makanchi Array**	**11.94**	**37**	P	**Pn**	**04 26 32.3**	**-1.4**
	0.0nm,0.3s,baz=217,slow=11,SNR=2.4						
KURBB	**Kurchatov Arra**	**13.79**	**18**	⇑P	**Pn**	**04 26 57.7**	**+0.1**
	1.6nm,0.6s						
KURBB	**Kurchatov Arra**	**13.79**	**18**	P	**Pn**	**04 26 57.9**	**+0.4**
	0.1nm,0.3s,baz=204,slow=11,SNR=12						
AB31	**Akbulak array**	**14.43**	**327**	⇑P	**Pn**	**04 27 06.2**	**+0.5**
	0.8nm,0.5s,baz=140,slow=8.6,SNR=17						
AB31				⇑S	**Sn**	**04 29 41.0**	**-4.1**
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**15.39**	**357**	P	**Pn**	**04 27 16.8**	**-0.8**
	0.3nm,0.3s,baz=156,slow=11,SNR=5.2						
AKTO	**Aktyubinsk**	**16.14**	**327**	⇑P	**P**	**04 27 28.3**	**+0.5**
	1.5nm,0.5s						
AKTO	**Aktyubinsk**	**16.14**	**327**	P	**P**	**04 27 28.4**	**+0.7**
	0.5nm,0.3s,baz=124,slow=14,SNR=9.2						
ZALV	**Zalesovo Beam**	**18.56**	**25**	P	P	04 27 49.8	-4.4
	0.5nm,0.3s,baz=219,slow=10,SNR=12						
TORD	**Torodi Ar. Bea**	**66.43**	**269**	P	P	04 34 16.9	-6.3
	0.6nm,0.4s,baz=48,slow=5.6,SNR=30						

*IDC **26** 04:35:50.1±3.0, 37˚10S×177˚74E, h125km±24km, mb3.2/3, mb1 3.5/3, mb1mx3.3/17, mbtmp3.2/3, Error ellipse: s-maj=49.1km s-min=31.0km az=25.0*
*WEL **26** 04:35:52.9±0.2, 37˚18S×177˚42E, h124km±2km, ML4.4/21, Error ellipse: s-maj=2.1km s-min=2.1km az=90.0*

ISC 26 04:35:52.5±0.9, 37˚29S±0˚07×177˚45E±0˚07, h138km±6km, n100, σ1§20/81, mb3.5/3, 11C-12D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.32**	**222**	PN	**Pn**	**04 36 10.5**	**-1.1**
MXZ	**Matakaoa Point**	**0.73**	**112**	AML	AML	04 36 35.9	
MXZ				AML	AML	04 36 36.5	
OPRZ	**Ohinepanea**	**0.90**	**232**	PN	**Pn**	**04 36 14.7**	**-0.5**
OPRZ				SN	**Sn**	**04 36 31.5**	**-1.1**
MARZ	**Manawahe**	**0.93**	**222**	⇑PN	**Pn**	**04 36 15.5**	**-0.2**
MARZ				SN	**Sn**	**04 36 32.7**	**-0.4**
MYRZ	**Mayor Island**	**0.97**	**270**	⇑PN	**Pn**	**04 36 14.9**	**-1.0**
EDRZ	**Edgecumbe**	**0.99**	**215**	⇑PN	**Pn**	**04 36 16.3**	**+0.2**
URZ	**Urewera**	**1.00**	**196**	P	**Pn**	**04 36 16.2**	**0.0**
	32nm,0.3s,baz=268,slow=4.5,SNR=198						
URZ				S	**Sn**	**04 36 33.9**	**-0.3**
	126nm,0.3s,baz=210,slow=20,SNR=64						
URZ	**Urewera**	**1.00**	**196**	⇑PN	**Pn**	**04 36 16.2**	**0.0**
URZ				SN	**Sn**	**04 36 34.0**	**-0.3**
URZ				AML	AML	04 36 34.5	
PUZ	**Puketiti**	**1.01**	**141**	⇑PN	**Pn**	**04 36 16.7**	**+0.5**
PUZ				SN	**Sn**	**04 36 34.4**	**+0.1**
PUZ				AML	AML	04 36 42.1	
MWZ	**Matawai**	**1.04**	**177**	⇑PN	**Pn**	**04 36 16.7**	**+0.2**
MWZ				SN	**Sn**	**04 36 35.3**	**+0.4**
MWZ				AML	AML	04 36 37.1	
MWZ				AML	AML	04 36 37.2	
MWZ				AML	AML	04 36 42.4	
TARZ	**Mount Tarawera**	**1.21**	**218**	PN	**Pn**	**04 36 18.9**	**+0.7**
RRRZ	**Republican Roa**	**1.28**	**215**	PN	**Pn**	**04 36 19.7**	**+0.8**
CNGZ

PLWZ	**Palliser**	**4.60**	**201**	PN	Pn	04 36 56.8	-3.6	
TCW	**Tory Channel**	**4.63**	**211**	AML	AML	04 37 52.9		
TCW				AML	AML	04 37 53.3		
TUWZ	**Tuamarina**	**4.95**	**212**	AML	AML	04 38 00.7		
TUWZ				AML	AML	04 38 04.0		
NNZ	**Nelson**	**5.04**	**218**	PN	Pn	04 37 02.9	-3.2	
THZ	**Tophouse**	**5.69**	**217**	PN	Pn	04 37 11.4	-3.4	
KHZ	**Kahutara**	**5.94**	**209**	PN	Pn	04 37 14.3	-3.8	
KHZ				AML	AML	04 38 23.5		
LTZ	**Lake Taylor**	**6.77**	**214**	PN	Pn	04 37 24.9	-4.5	
OXZ	**Oxford**	**7.31**	**213**	PN	Pn	04 37 31.0	-5.6	
MQZ	**McQueen's Vall**	**7.38**	**208**	PN	Pn	04 37 31.9	-5.6	
WVZ	**Waitaha Valley**	**7.73**	**220**	PN	Pn	04 37 39.4	-2.8	
CTZ	**Chatham Island**	**7.81**	**147**	PN	Pn	04 37 47.7	+3.8	
RPZ	**Rata Peaks**	**8.06**	**215**	P	Pn	04 37 42.6	-4.0	
	5.0nm,0.3s,baz=41,slow=1.8,SNR=14							
RPZ				S	Sn	04 39 08.1	-8.1	
	5.7nm,0.3s,baz=47,slow=15,SNR=9.4							
RPZ	**Rata Peaks**	**8.06**	**215**	PN	Pn	04 37 42.6	-4.0	
FOZ	**Fox Glacier**	**8.62**	**221**	PN	Pn	04 37 49.0	-5.0	
LBZ	**Lake Benmore**	**8.97**	**216**	PN	Pn	04 37 54.3	-4.6	
ODZ	**Otahua Downs**	**9.29**	**211**	PN	Pn	04 37 57.9	-5.1	
JCZ	**Jackson Bay**	**9.46**	**222**	PN	Pn	04 37 59.7	-5.7	
ASAR	**Alice Springs**	**39.58**	**277**	P	**P**	**04 43 11.1**	**+0.7**	
	0.5nm,0.6s,baz=122,slow=8.6,SNR=8.0							
WRA	**Warramunga Arr**	**41.22**	**283**	P	**P**	**04 43 23.9**	**+0.1**	
	0.2nm,0.4s,baz=120,slow=7.9,SNR=8.1							
FITZ	**Fitzroy Crossi**	**49.06**	**278**	P	**P**	**04 44 26.3**	**+0.6**	
	2.9nm,1.1s,baz=144,slow=8.7,SNR=2.6							
ARCES	**ARCESS Array B**	**144.32**	**344**	PKP	**PKPab**	**04 55 08.2**	**-1.2**	
	2.0nm,0.6s,baz=27,slow=3.0,SNR=13							
FINES	**FINESS Array B**	**149.94**	**333**	PKPbc	**PKPbc**	**04 55 24.2**	**-1.3**	
	0.7nm,0.4s,baz=47,slow=4.1,SNR=7.0							
FINES				PKPab	**PKiKP**	**04 55 29.7**	**+3.3**	
	0.7nm,0.4s,baz=46,slow=4.0,SNR=11							
BRTR	**Keskin Array B**	**151.70**	**286**	PKPbc	**PKPbc**	**04 55 29.2**	**-1.4**	
	0.3nm,0.4s,baz=101,slow=4.1,SNR=2.6							
TORD	**Torodi Ar. Bea**	**155.66**	**190**	PKPbc	PKPdf	04 55 40.5	+10	
	0.2nm,0.4s,baz=164,slow=2.5,SNR=10.0							
TORD				PKPab	**PKPab**	**04 55 57.5**	**+0.5**	
	0.1nm,0.4s,baz=169,slow=3.5,SNR=3.8							

*ISCJB **26** 04:40:56.7±0.9, 6.95N±0.07×72.94W±0.07, h181km±9km, mb2.6/1, Error ellipse: s-maj=13.1km s-min=9.6km az=137.7*

*FUNV **26** 04:40:56.2, 6.76N×73.15W, h174km, MW3.7*

*IDC **26** 04:41:02.1±6.7, 4.92N×76.51W, h116km±74km, mb2.6/1, mb1 3.1/2, mb1mx2.8/21, mbtmp2.8/2, Error ellipse: s-maj=107.6km s-min=33.7km az=46.0*

ISC 26 04:40:56.3±1.0, 6.84N±0.07×73.01W±0.07, h170km±9km, n17, σ1°47/26, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.23**	**34**	↓*i*P	**Pn**	**04 41 25.9**	**+0.8**
CAPV				*e*S	**Sn**	**04 41 48.2**	**+0.8**
ROSC	**El Rosal**	**2.37**	**214**	P	**Pn**	**04 41 37.7**	**+0.3**
	7.9nm,0.3s,baz=274,slow=19,SNR=25						
ROSC				S	**Sn**	**04 42 06.3**	**-2.9**
	7.2nm,0.3s,baz=105,slow=16,SNR=9.7						
VIGV	**El Vigia**	**2.56**	**39**	*e*P	**Pn**	**04 41 40.4**	**+1.1**
VIGV				*e*S	**Sn**	**04 42 13.1**	**+0.5**
SOCV	**Socops**	**2.57**	**56**	*e*P	**Pn**	**04 41 40.0**	**+0.7**
SOCV				*e*S	**Sn**	**04 42 12.2**	**-0.5**
ELOV	**Elorza**	**3.50**	**87**	*e*P	**Pn**	**04 41 51.7**	**+1.0**
VIRV	**Villa del Rosa**	**3.69**	**9**	*e*P	**Pn**	**04 41 52.7**	**-0.4**
VIRV				*e*S	**Sn**	**04 42 35.7**	**-1.8**
QARV	**Quebrada Arrib**	**4.15**	**36**	*e*S	**Sn**	**04 42 45.8**	**-2.3**
CURV	**Curarigua**	**4.36**	**44**	*e*P	**Pn**	**04 42 02.5**	**+0.7**
CURV				*e*S	**Sn**	**04 42 51.7**	**-1.4**
DABV	**Dabajuro**	**4.68**	**30**	*e*P	**Pn**	**04 42 06.7**	**+0.8**
DABV				*e*S	**Sn**	**04 42 57.8**	**-2.7**
TEPV	**Terepaima**	**4.88**	**50**	*e*P	**Pn**	**04 42 09.3**	**+0.7**
SIQV	**Siquisique**	**4.93**	**40**	*e*P	**Pn**	**04 42 09.6**	**+0.4**
BAUV	**El Baul**	**5.34**	**67**	*e*P	**Pn**	**04 42 14.0**	**-0.5**
BAUV				*e*S	**Sn**	**04 43 13.6**	**-2.3**
MAPV	**Macapo**	**5.39**	**56**	*e*P	**Pn**	**04 42 16.1**	**+0.8**
MAPV				*e*S	**Sn**	**04 43 14.7**	**-2.5**
MONV	**Montecano**	**5.90**	**30**	*e*P	**Pn**	**04 42 21.6**	**-0.2**
TXAR	**Lajitas Array**	**36.53**	**312**	P	**P**	**04 47 46.7**	**+0.9**
	0.1nm,0.7s,baz=121,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**149.22**	**234**	PKPbc	**PKPbc**	**05 00 26.7**	**+1.0**
	0.3nm,0.8s,baz=140,slow=3.3,SNR=3.2						
WRA	**Warramunga Arr**	**150.45**	**241**	PKPbc	**PKPbc**	**05 00 29.2**	**+0.5**
	0.5nm,0.9s,baz=107,slow=2.8,SNR=5.3						

IDC 26 04:46:37.9±2.2, 6.64S×129.31E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, ML3.7/2, Error ellipse: s-maj=90.4km s-min=28.4km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.94**	**197**	Pn	Pn	04 49 30.6	+1.1
	0.2nm,0.3s,baz=20,slow=12,SNR=4.3						
FITZ				Sn	Sn	04 51 28.2	-15
	0.8nm,0.3s,baz=79,slow=21,SNR=7.7						
WRA	**Warramunga Arr**	**14.09**	**160**	Pn	Pn	04 49 59.0	0.0
	0.5nm,0.3s,baz=337,slow=13,SNR=21						
WRA				Sn	Sn	04 52 20.8	-16
	0.6nm,0.3s,baz=333,slow=24,SNR=8.5						
ASAR	**Alice Springs**	**17.49**	**166**	P	Pn	04 50 42.5	-1.0
	0.1nm,0.3s,baz=346,slow=13,SNR=6.5						
MKAR	**Makanchi Array**	**67.56**	**327**	P	P	04 57 36.2	0.0
	0.3nm,0.5s,baz=115,slow=6.7,SNR=5.5						

NEIC 26 04:54:03.6, 33.63N×116.72W, h14km, ML3.5(PAS), After PAS., Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFO	**Pinyon Flat Ob**	**0.22**	**96**	*e*Pg	Pg	04 54 08.1	-0.6
PFO				*e*Sg	Sg	04 54 11.0	-1.1
PFO	**Pinyon Flat Ob**	**0.22**	**96**	P	Pg	04 54 07.6	-1.1
	baz=0.2						
PFO				S	Sg	04 54 11.2	-1.0
	baz=0.2						
MURC	**Murrieta**	**0.40**	**265**	P	Pg	04 54 11.2	-0.6
	baz=0.4						
MURC				S	Sg	04 54 16.7	-0.6
	baz=0.4						
BBRC	**Big Bear Solar**	**0.65**	**345**	P	Pg	04 54 15.7	-1.0
	baz=0.7						
BBRC				S	Sg	04 54 24.6	-0.9
	baz=0.7						
BELC	**Belle Mtn. Jos**	**0.70**	**58**	P	Pg	04 54 16.5	-1.0
	baz=0.7						
BELC				S	Sg	04 54 25.7	-1.3
	baz=0.7						
MONP	**Monument Peak**	**0.78**	**161**	P	Pg	04 54 18.0	-1.1
	baz=0.8						
MONP				S	Sg	04 54 28.3	-1.4
	baz=0.8						
109C	**Camp Elliot, M**	**0.81**	**204**	P	Pg	04 54 17.9	-1.4
	baz=0.8						
109C				S	Sg	04 54 28.6	-1.4
	baz=0.8						
BAR	**Barrett**	**0.95**	**178**	*e*Pg	Pb	04 54 20.3	-1.6
BAR				*e*Sg	Sb	04 54 32.5	-1.9
BFSC	**Mount Baldy Ra**	**0.99**	**308**	P	Pb	04 54 20.9	-1.8
	baz=1.0						
BFSC				S	Sb	04 54 33.8	-1.9
	baz=1.0						
SWSC	**Sam W. Stewart**	**1.04**	**132**	P	Pb	04 54 21.0	-2.3
	baz=1.0						
SWSC				S	Sb	04 54 36.4	-0.4
	baz=1.0						
BC3	**Big Chuckawall**	**1.06**	**88**	P	Pb	04 54 22.2	-1.6
	baz=1.1						
BC3				S	Sb	04 54 37.0	-0.6
	baz=1.1						
DVTC	**Desert V Tower**	**1.10**	**152**	P	Pb	04 54 22.9	-1.7
	baz=1.1						
DVTC				S	Sb	04 54 38.3	-0.6
	baz=1.1						
HEC	**Hector,Ludlow**	**1.24**	**15**	Pb	Pn	04 54 25.5	-1.1
	baz=1.2						
HEC				S	Sb	04 54 42.3	-0.5
	baz=1.2						
MWC	**Mount Wilson**	**1.26**	**298**	*e*Pn	Pn	04 54 25.9	-1.2
MWC				*e*Sn	Sb	04 54 42.0	-1.6
RRX	**Edison Barstow**	**1.27**	**349**	Sb	Sb	04 54 43.4	-0.1
	baz=1.3						
FMP	**Fort Macarthur**	**1.32**	**274**	Pb	Pn	04 54 26.7	-0.8
	baz=1.3						
FMP				Sb	Sb	04 54 44.6	-0.2
	baz=1.3						
PASC	**Pasadena Art C**	**1.33**	**294**	*e*Pn	Pn	04 54 26.2	-1.6
PASC				*e*Sn	Sb	04 54 44.3	-1.1
IRM	**Iron Mountain**	**1.41**	**68**	P	Pn	04 54 27.2	-1.7
	baz=1.4						
CIS	**Catalina Islan**	**1.43**	**261**	P	Pn	04 54 27.6	-1.5
	baz=1.4						
CIS				S	Sn	04 54 46.9	-0.8
	baz=1.4						
GMRC	**Granite Mounta**	**1.44**	**37**	P	Pn	04 54 28.0	-1.5
	baz=1.4						
GMRC				S	Sn	04 54 48.5	+0.1
	baz=1.4						
DECC	**Green Verdugo**	**1.47**	**295**	Pb	Pn	04 54 29.2	-0.6
	baz=1.5						
DECC				S	Sn	04 54 48.8	-0.2
	baz=1.5						
EDW2	**Edwards Air Fo**	**1.63**	**320**	Pb	Pn	04 54 31.4	-0.6
	baz=1.6						
EDW2				S	Sb	04 54 53.9	-0.2
	baz=1.6						
SCI	**San Clemente I**	**1.66**	**247**	P	Pn	04 54 31.4	-1.0
	baz=1.7						
SCI				S	Sn	04 54 52.4	-1.1
	baz=1.7						
GSC	**Goldstone**	**1.67**	**358**	*e*Pn	Pn	04 54 31.5	-1.0
GSC				*e*Pg	Pb	04 54 34.4	+0.1
GSC				*e*Sn	Sn	04 54 52.3	-1.5
GSC				*e*Sg	Sb	04 54 55.8	+0.6
GSC	**Goldstone**	**1.67**	**358**	P	Pn	04 54 31.9	-0.6
	baz=1.7						
GSC				S	Sn	04 54 52.4	-1.4
	baz=1.7						
GLA	**Glamis**	**1.69**	**110**	*e*Pn	Pn	04 54 32.4	-0.3
GLA				*e*Sg	Sb	04 54 56.6	+1.0
Y12C	**Blythe**	**1.83**	**86**	P	Pn	04 54 33.0	-1.6
	baz=1.8						
Y12C				Sb	Sb	04 55 00.4	+0.7
	baz=1.8						
TUQ	**Turquoise Moun**	**1.91**	**20**	P	Pn	04 54 34.9	-1.1
	baz=1.9						
OSI	**Osito Adit**	**1.93**	**301**	*e*Pn	Pn	04 54 36.0	-0.1
OSI				*e*Sn	Sn	04 54 59.0	-1.2
OSI				*e*Sg	Sb	04 55 02.9	+0.2
OSI	**Osito Adit**	**1.93**	**301**	P	Pn	04 54 36.0	-0.1
	baz=1.9						
OSI				Sb	Sb	04 55 02.9	+0.3
	baz=1.9						
LDFC	**Landfair**	**1.96**	**42**	*e*Pn	Pn	04 54 35.6	-1.0
LDFC				*e*Pg	Pb	04 54 39.5	+0.2
LDFC				*e*Sn	Sn	04 55 00.4	-0.8
LDFC				*e*Sg	Sb	04 55 04.8	+1.0
LRMC	**Laurel Mountai**	**2.01**	**337**	P	Pn	04 54 36.6	-0.7
	baz=2.0						
BLG	**Laguna Peak**	**2.01**	**284**	Sn	Sn	04 55 01.2	-0.9
	baz=2.0						
NEE2	**Needles Airpor**	**2.08**	**56**	Sb	Sb	04 55 07.4	+0.6
	baz=2.1						
ARVC	**Arvin**	**2.29**	**311**	P	Pn	04 54 40.6	-0.5
	baz=2.3						
ARVC				Sb	Sb	04 55 13.8	+0.8
	baz=2.3						
ISA	**Isabella**	**2.49**	**325**	*e*Pn	Pn	04 54 43.2	-0.6
ISA				*e*Pg	Pb	04 54 48.6	+0.4
ISA				*e*Sg	Sb	04 55 20.9	+2.1
ISA	**Isabella**	**2.49**	**325**	P	Pn	04 54 43.2	-0.6
	baz=2.5						
MPMC	**Manual Prospec**	**2.50**	**346**	P	Pn	04 54 43.3	-0.8
	baz=2.5						
W13A	**Hualapai Mount**	**2.76**	**57**	P	Pn	04 54 46.5	-1.2
	baz=2.8						
PTRM	**Twissleman Ran**	**3.52**	**306**	*e*Pn	Pn	04 54 57.1	-0.8
CCUT	**Cedar City**	**4.77**	**34**	*e*Pn	Pn	04 55 16.0	+0.6
CCUT				*e*Pg	Pb	04 55 28.8	+1.5
CCUT				*e*Sg	Sb	04 56 30.8	+5.9
WUAZ	**Wupatki**	**4.79**	**65**	*e*Pn	Pn	04 55 15.3	-0.3
WUAZ				*e*Pg	Pg	04 55 32.2	-3.5
WUAZ				*e*Sn	Sn	04 56 10.8	-0.4
WUAZ				*e*Sg	Sg	04 56 33.0	-4.9
ARUT	**Antelope Range**	**4.93**	**32**	*e*Pn	Pn	04 55 16.8	-0.7
ARUT				*e*Pg	Pg	04 55 34.4	-3.9
ARUT				*e*Sg	Sg	04 56 37.2	-5.1
SAO	**San Andreas Ge**	**4.97**	**310**	*e*Pn	Pn	04 55 18.4	+0.5
TUC	**Tucson**	**5.16**	**103**	*e*Pn	Pn	04 55 20.3	-0.2
TUC				*e*Pg	Pb	04 55 37.1	+3.4
TUC				*e*Sg	Sg	04 56 44.5	-5.0
CMB	**Columbia Colle**	**5.31**	**327**	*e*Pn	Pn	04 55 22.9	+0.4
CMB				*e*Pg	Pb	04 55 38.9	+2.7
CMB				*e*Sg	Sg	04 56 48.3	-5.8
WAKR	**Walker**	**5.34**	**336**	*e*Pn	Pn	04 55 24.0	+0.9
WAKR				*e*Pg	Pg	04 55 42.6	-3.4
MVU	**Marysvale**	**6.08**	**36**	*e*Pn	Pn	04 55 34.5	+1.1
MVU				*e*Pg	Pb	04 55 54.8	+5.2
MVU				*e*Sg	Sg	04 57 12.3	-6.9
MSU	**Marysvale**	**6.10**	**36**	*e*Pn	Pn	04 55 40.9	+7.3
MSU				*e*Pg	Pg	04 55 55.8	-4.9
MSU				*e*Sg	Sg	04 57 11.8	-8.2
PAHR	**Pah Rah Range**	**6.43**	**341**	*e*Pn	Pn	04 55 37.8	-0.2
PAHR				*e*Sg	Sg	04 57 26.9	-3.3
DUG	**Dugway**	**7.26**	**24**	*e*Pn	Pn	04 55 48.0	-1.5
SRU	**San Rafael**	**7.40**	**41**	*e*Pn	Pn	04 55 52.0	+0.4

*NOU **26** 05:03:12.5±0.4, 18.98S×169.54E, h30km, MD3.6, MS1.1*

*ISCJB **26** 05:03:14.8±0.6, 20.13S±0.04×169.81E±0.05, h235km±5km, mb4.6/50, Error ellipse: s-maj=7.8km s-min=6.2km az=139.6*

*IDC **26** 05:03:15.3±1.2, 20.12S×169.82E, h227km±10km, mb4.2/18, mb1 4.4/22, mb1mx4.3/25, mbtmp4.2/22, Error ellipse: s-maj=11.8km s-min=10.5km az=140.0*

*NEIC **26** 05:03:15.8±0.6, 20.11S×169.84E, h233km±5km, mb5.0/19, Error ellipse: s-maj=6.1km s-min=5.3km az=140.0*

*BJI **26** 05:03:16.1, 19.64S×170.02E, h237km, mB4.7/19, mb4.6/29*

*AUST **26** 05:03:20.5±1.1, 20.15S×170.07E, h296km, Error ellipse: s-maj=1.4km s-min=1.2km az=291.0*

*DJA **26** 05:03:20.7±2.2, 20.5S±10×17.0E±1.5, h291km±33km, M5.0/10, mB5.5/2, mb5.0/10, Mw(mB)5.0/2*

ISC 26 05:03:16.1±0.3, 20.15S±0.04×169.82E±0.05, h233km±2km, h233km:pP-P, n197, σ1°41/265, mb4.5/50, 7C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.38**	**233**	*e*P	**Pn**	**05 04 11.1**	**-0.9**
BAYA				*e*S	**S**	**05 04 53.9**	**-2.0**
BAYA				AMP		05 05 05.9	
	comp=Z,20nm,32.4s						
DZM	**Mont Dzumac**	**3.68**	**238**	P	**Pn**	**05 04 15.3**	**-0.2**
DZM				S	**S**	**05 05 01.3**	**-1.1**
DZM	**Mont Dzumac**	**3.68**	**238**	P	**Pn**	**05 04 15.3**	**-0.2**
	comp=Z,30nm,0.3s,baz=90,slow=24,SNR=140						
DZM				S	**S**	**05 05 01.3**	**-1.1**
	comp=Z,21nm,0.3s,baz=349,slow=19,SNR=5.3						
NORM	**Noumea**	**3.73**	**236**	*e*P	**Pn**	**05 04 14.6**	**-1.4**
NOUC	**Port Laguerre**	**3.81**	**239**	*e*P	**Pn**	**05 04 15.9**	**-1.0**
NOUC				*e*S	**S**	**05 05 03.0**	**-2.0**
NOUC				AMP		05 05 23.7	
	comp=Z,94nm,6.6s						
MSVF	**Nonsavu**	**8.15**	**74**	Pn	**Pn**	**05 05 11.0**	**-0.5**
	comp=Z,1μm,1.0s,SNR=21						
MSVF	**Nonsavu**	**8.15**	**74**	*e*Pn	**Pn**	**05 05 10.7**	**-0.8**
NFK	**Norfolk Island**	**9.02**	**191**	P	**P**	**05 05 29.7**	**-0.7**
	baz=9.1,SNR=12						
HNR	**Honiara**	**14.30**	**317**	P	**Pn**	**05 06 28.5**	**-0.1**
HNR	**Honiara**	**14.30**	**317**	P	**Pn**	**05 06 28.5**	**-0.1**
	comp=Z,16nm,0.3s,baz=255,slow=5.7,SNR=5.1						
LHI	**Lord Howe Isla**	**14.88**	**218**	P	**P**	**05 06 37.5**	**+1.9**
	baz=15,SNR=6.6						
OUZ	**Omahuta**	**15.38**	**168**	*e*Pn	**Pn**	**05 06 41.8**	**+0.4**
	comp=Z,76nm,0.8s						
EIDS	**Eidsvold**	**18.04**	**250**	*e*P	**P**	**05 07 11.1**	**+0.8**
	comp=Z,51nm,0.9s						
EIDS	**Eidsvold**	**18.04**	**250**	P	**P**	**05 07 12.0**	**+1.7**
	baz=18,SNR=19						
AFI	**Afiamalu**	**18.66**	**73**	P	**P**	**05 07 17.4**	**+0.3**
AFI	**Afiamalu**	**18.66**	**73**	P	**P**	**05 07 17.4**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=214,slow=18,SNR=3.4						
URZ	**Urewera**	**19.12**	**162**	P	**P**	**05 07 22.3**	**+0.5**
URZ				S	**S**	**05 10 50.9**	**+5.0**
URZ	**Urewera**	**19.12**	**162**	P	**P**	**05 07 22.3**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=328,slow=11,SNR=6.6						
URZ				S	**S**	**05 10 50.9**	**+5.0**
	comp=Z,0.2nm,0.3s,baz=24,slow=20,SNR=3.1						
ARMA	**Armidale**	**19.34**	**235**	*e*P	**P**	**05 07 25.9**	**+1.5**
	comp=Z,71nm,0.8s						
ARMA	**Armidale**	**19.34**	**235**	P	**P**	**05 07 26.1**	**+1.7**
	baz=20,SNR=50						
RMQ	**Roma**	**20.33**	**248**	P	**P**	**05 07 36.4**	**+1.5**
	baz=21,SNR=78						
MGCD	**Mangrove Creek**	**21.14**	**228**	P	**P**	**05 07 44.4**	**+1.1**
	baz=21,SNR=27						
SNZO	**South Karori**	**21.50**	**170**	*e*P	**P**	**05 07 45.7**	**-1.0**
	comp=Z,52nm,1.0s						
TARA	**Tarawa**	**21.59**	**8**	*e*P	**P**	**05 07 46.1**	**-1.8**
	comp=Z,175nm,0.9s						
CTA	**Charters Tower**	**22.12**	**266**	P	**P**	**05 07 52.8**	**-0.1**
CTA	**Charters Tower**	**22.12**	**266**	P	**P**	**05 07 52.8**	**-0.1**
	comp=Z,39nm,0.9s,baz=87,slow=13,SNR=24						
CTAO	**Charters Tower**	**22.12**	**266**	*e*P	**P**	**05 07 53.1**	**+0.3**
	comp=Z,57nm,0.9s						
KHZ	**Kahutara**	**22.42**	**173**	*e*P	**P**	**05 07 54.9**	**-0.3**
	comp=Z,314nm,2.9s						
CNB	**Canberra Magne**	**23.51**	**226**	P	**P**	**05 08 06.3**	**+1.0**
	baz=24,SNR=73						
RPZ	**Rata Peaks**	**23.52**	**178**	P	**P**	**05 08 08.1**	**+2.9**
RPZ				pP	**pP**	**05 08 49.7**	**+2.3**
RPZ	**Rata Peaks**	**23.52**	**178**	P	**P**	**05 08 08.1**	**+2.9**
	comp=Z,5.6nm,0.6s,baz=290,slow=11,SNR=3.7						
RPZ				pP	**pP**	**05 08 49.7**	**+2.3**
	comp=Z,8.7nm,0.8s,baz=24,slow=8.0,SNR=2.6						
YNG	**Young**	**23.63**	**229**	P	**P**	**05 08 07.5**	**+1.1**
	baz=24,SNR=36						
CAN	**Canberra**	**23.76**	**226**	*e*P	**P**	**05 08 08.1**	**+0.5**
	comp=Z,40nm,1.0s						
MTSU	**Mount Surprise**	**24.17**	**270**	P	**P**	**05 08 12.6**	**+1.1**
	baz=24,SNR=78						
PMG	**Port Moresby**	**24.34**	**293**	*e*P	**P**	**05 08 13.0**	**0.0**
	comp=Z,14nm,0.7s						
PMG	**Port Moresby**	**24.34**	**293**	P	**P**	**05 08 13.1**	**0.0**
	comp=Z,15nm,0.6s,baz=111,slow=11,SNR=5.5						
CMSA	**Cobar Meteorol**	**24.44**	**238**	P	**P**	**05 08 14.1**	**+0.4**
	baz=25,SNR=34						
MILA	**Mila**	**24.67**	**223**	P	**P**	**05 08 16.7**	**+0.9**
	baz=25,SNR=13						
COEN	**Coen**	**26.18**	**279**	P	P	05 08 35.5	+5.8
	baz=26,SNR=4.3						
TOO	**Toolangi**	**27.36**	**225**	P	**P**	**05 08 40.4**	**+0.6**
	baz=28,SNR=20						
STKA	**Stephens Creek**	**27.84**	**239**	P	**P**	**05 08 44.3**	**+0.2**
STKA				ScP	**ScP**	**05 15 14.7**	**+2.2**
STKA	**Stephens Creek**	**27.84**	**239**	P	**P**	**05 08 44.3**	**+0.2**
	comp=Z,34nm,0.7s,baz=81,slow=9.6,SNR=74						
STKA				ScP	**ScP**	**05 15 14.7**	**+2.2**
	comp=Z,2.9nm,0.7s,baz=26,slow=4.5,SNR=4.8						
STKA	**Stephens Creek**	**27.84**	**239**	P	**P**	**05 08 44.6**	**+0.5**
	baz=28,SNR=43						
MOO	**Moorlands**	**29.29**	**216**	P	**P**	**05 08 57.6**	**+0.8**
	baz=30,SNR=13						
ARPS	**Mount Arapiles**	**29.50**	**230**	P	**P**	**05 08 59.2**	**+0.4**
	baz=30,SNR=16						
TAU	**Tasmania Unive**	**29.53**	**215**	*e*P	**P**	**05 08 58.0**	**-0.9**
	comp=Z,20nm,1.2s						
BBOO	**Buckleboo**	**32.60**	**240**	P	**P**	**05 09 25.8**	**-0.1**
	baz=33,SNR=14						
WRAB	**Tennant Creek**	**33.28**	**264**	P	**P**	**05 09 30.0**	**-2.1**
	comp=Z,216nm,0.9s,SNR=44						
WRAB	**Tennant Creek**	**33.28**	**264**	*e*P	**P**	**05 09 30.8**	**-1.3**
	comp=Z,31nm,0.9s						
WRAB				*e*ScP	**ScP**	**05 15 31.9**	**+1.2**
WRA	**Warramunga Arr**	**33.29**	**264**	P	**P**	**05 09 30.8**	**-1.4**
WRA				S	**S**	**05 14 31.6**	**-3.5**
WRA				ScP	**ScP**	**05 15 31.7**	**+1.0**
WRA	**Warramunga Arr**	**33.29**	**264**	P	**P**	**05 09 30.8**	**-1.4**
	comp=Z,25nm,0.7s,baz=97,slow=8.8,SNR=115						
WRA				S	**S**	**05 14 31.6**	**-3.5**
	comp=Z,1.4nm,0.8s,baz=97,slow=12,SNR=5.0						
WRA				ScP	**ScP**	**05 15 31.7**	**+1.0**
	comp=Z,8.5nm,0.8s,baz=92,slow=3.5,SNR=28						
ASAR	**Alice Springs**	**33.45**	**257**	P	**P**	**05 09 33.0**	**-0.5**
ASAR				S	**S**	**05 14 35.7**	**-1.9**
ASAR				ScP	**ScP**	**05 15 32.1**	**+0.8**
ASAR	**Alice Springs**	**33.45**	**257**	P	**P**	**05 09 33.0**	**-0.5**
	comp=Z,87nm,0.7s,baz=87,slow=9.3,SNR=1312						
ASAR				S	**S**	**05 14 35.7**	**-1.9**
	comp=Z,2.9nm,1.0s,baz=85,slow=18,SNR=9.7						
ASAR				ScP	**ScP**	**05 15 32.1**	**+0.8**
	comp=Z,7.6nm,0.7s,baz=102,slow=3.8,SNR=31						
MTN	**Manton Dam**	**37.73**	**275**	P	**P**	**05 10 10.0**	**+0.2**
	baz=38,SNR=6.7						
FORT	**Forrest**	**38.96**	**246**	*e*P	**P**	**05 10 19.4**	**-0.5**
	comp=Z,72nm,0.6s						
FORT	**Forrest**	**38.96**	**246**	P	**P**	**05 10 19.4**	**-0.5**
	baz=39,SNR=18						

MDJ				sS	**sS**	05 25 20.5	+3.5	
MDJ				pmax	pmax			
	comp=Z,8.0nm,0.9s							
MDJ				pmax	pmax			
	comp=Z,53nm,4.1s							
MDJ				LR	LR			
	comp=N,26nm,14.4s							
MDJ				LR	LR			
	comp=E,41nm,17.4s							
MDJ				LR	LR			
	comp=Z,41nm,20.5s							
CN2	**Changchun**	**75.52**	**328**⇑	*i*P	**P**	05 14 35.0	+0.2	
CN2				*e*pP	**pP**	05 15 29.0	-0.8	
CN2				*e*S	**S**	05 23 56.5	+0.8	
CN2				pmax	pmax			
	comp=Z,40nm,0.8s							
UNV	**Unalaska Valle**	**76.47**	**14**	*e*P	**P**	05 14 38.8	-1.1	
GYA	**Guiyang**	**76.78**	**305**	*e*P	**P**	05 14 42.8	+0.3	
GYA				pP	**pP**	05 15 40.3	+2.6	
GYA				sP	**sP**	05 16 05.8	+3.3	
GYA				PP	**PP**	05 17 41.0	+2.1	
GYA				S	**S**	05 24 10.8	+0.3	
GYA				SKS	**SKSac**	05 24 28.5	-4.0	
GYA				sS	**sS**	05 25 48.8	+1.6	
GYA				pmax	pmax			
	comp=Z,20nm,1.0s							
GYA				pmax	pmax			
	comp=Z,120nm,5.0s							
BJI	**Beijing**	**77.99**	**321**	P	**P**	05 14 48.8	+0.2	
BJI				PP	**PP**	05 17 49.5	+1.0	
BJI				S	**S**	05 24 24.3	+1.8	
BJI				SS	**SS**	05 29 31.5	+1.8	
BJI				pmax	pmax			
	comp=Z,13nm,1.1s							
BJI				pmax	pmax			
	comp=Z,78nm,3.9s							
BJI				LR	LR			
	comp=N,150nm,9.8s							
BJI				LR	LR			
	comp=E,340nm,7.4s							
BJI				LR	LR			
	comp=Z,47nm,18.9s							
KMI	**Kunming**	**79.22**	**302**	P	**P**	05 14 55.5	-0.5	
KMI				pP	**pP**	05 15 53.0	+1.5	
KMI				sP	**sP**	05 16 18.5	+2.3	
KMI				pmax	pmax			
	comp=Z,6.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**79.37**	**294**	P	**P**	05 14 57.4	+0.6	
CMAR	**Chiang Mai Arr**	**79.37**	**294**	P	**P**	05 14 57.4	+0.6	
	comp=Z,0.9nm,0.3s,baz=132,slow=4.0,SNR=4.2							
CD2	**Chengdu**	**81.22**	**307**	*e*P	**P**	05 15 07.3	+0.9	
CD2				pP	**pP**	05 16 04.0	+1.8	
CD2				sP	**sP**	05 16 28.0	+1.2	
CD2				PP	**PP**	05 18 18.5	+2.9	
CD2				S	**S**	05 24 56.5	-0.5	
CD2				sS	**sS**	05 26 35.8	+1.0	
CD2				SS	**SS**	05 30 21.8	+3.3	
CD2				pmax	pmax			
	comp=Z,10.0nm,1.4s							
CD2				pmax	pmax			
	comp=Z,100nm,5.8s							
HHC	**Hu-ho-hao-te**	**81.26**	**319**	*e*P	**P**	05 15 05.5	-0.9	
HHC				pP	**pP**	05 16 01.0	-1.3	
HHC				sP	**sP**	05 16 24.3	-2.6	
HHC				PP	**PP**	05 18 16.5	+0.7	
HHC				S	**S**	05 24 55.8	-1.3	
HHC				SKS	**SKSac**	05 24 59.3	-4.0	
HHC				sS	**sS**	05 26 29.8	-5.2	
HHC				SS	**SS**	05 30 21.3	+2.4	
HHC				pmax	pmax			
	comp=Z,24nm,0.6s							
HHC				pmax	pmax			
	comp=Z,110nm,6.9s							
LZH	**Lanzhou**	**83.74**	**312**	⇓P	**P**	05 15 20.5	+1.1	
LZH				pP	**pP**	05 16 17.8	+2.3	
LZH				sP	**sP**	05 16 42.3	+2.2	
LZH				PP	**PP**	05 18 39.0	+2.8	
LZH				SKS	**SKSac**	05 25 16.3	-3.7	
LZH				S	**S**	05 25 22.0	-0.5	
LZH				sS	**sS**	05 27 02.8	+1.8	
LZH				SS	**SS**	05 30 59.3	+3.5	
LZH				pmax	pmax			
	comp=Z,51nm,1.5s							
LZH				pmax	pmax			
	comp=Z,130nm,5.2s							
SYO	**Syowa Base**	**84.21**	**196**⇑	*e*P	**P**	05 15 19.0	-2.0	
CMB	**Columbia Colle**	**87.36**	**48**	*e*P	**P**	05 15 37.2	+0.2	
	comp=Z,3.8nm,0.8s							
BFSC	**Mount Baldy Ra**	**87.60**	**52**	P	**P**	05 15 37.7	-0.6	
	baz=88							
ISA	**Isabella**	**87.63**	**51**	*e*P	**P**	05 15 36.6	-1.8	
	comp=Z,1.5nm,0.6s							
ISA	**Isabella**	**87.63**	**51**	P	**P**	05 15 38.7	+0.4	
	baz=88							
ULN	**Ulaanbaatar**	**87.92**	**323**	*e*P	**P**	05 15 39.6	0.0	
MONP	**Monument Peak**	**87.94**	**54**	P	**P**	05 15 40.0	-0.1	
	baz=88							
GTA	**Gaotai**	**88.14**	**313**	*e*P	**P**	05 15 41.5	+0.7	
GTA				pP	**pP**	05 16 35.8	-1.7	
GTA				sP	**sP**	05 16 58.5	-3.4	
GTA				S	**S**	05 26 05.3	+0.3	
GTA				sS	**sS**	05 27 41.3	-3.2	
GTA				pmax	pmax			
	comp=Z,5.0nm,1.2s							
GTA				pmax	pmax			
	comp=Z,25nm,4.8s							
GTA				LR	LR			
	comp=N,59nm,16.1s							
GTA				LR	LR			
	comp=E,69nm,16.2s							
GTA				LR	LR			
	comp=Z,64nm,16.6s							
SONM	**Songino Array**	**88.27**	**323**	P	**P**	05 15 40.7	-0.5	
SONM	**Songino Array**	**88.27**	**323**	P	**P**	05 15 40.7	-0.5	
	comp=Z,4.3nm,0.9s,baz=163,slow=4.6,SNR=25							
SNAA	**Sanae**	**88.28**	**182**	*e*P	**P**	05 15 39.4	-1.4	
SNAA	**Sanae**	**88.28**	**182**	*e*pP	pP	05 16 38.2	+0.6	
SNAA	**Sanae**	**88.28**	**182**	*e*P	**P**	05 15 39.1	-1.7	
SWSC	**Sam W. Stewart**	**88.44**	**54**	P	**P**	05 15 42.5	+0.3	
	baz=88							
MPMC	**Manual Prospec**	**88.52**	**51**	P	**P**	05 15 43.1	+0.4	
	baz=89							
BELC	**Belle Mtn. Jos**	**88.73**	**53**	P	**P**	05 15 44.1	+0.4	
	baz=89							
NVAR	**Mina Array Bea**	**89.00**	**48**	P	**P**	05 15 44.9	0.0	
NVAR	**Mina Array Bea**	**89.00**	**48**	P	**P**	05 15 44.9	0.0	
	comp=Z,3.0nm,0.8s,baz=227,slow=8.4,SNR=17							
BC3	**Big Chuckawall**	**89.00**	**54**	P	**P**	05 15 45.0	+0.1	
	baz=89							
GRAC	**Grapevine Rang**	**89.02**	**50**	P	**P**	05 15 45.3	+0.4	
	baz=89							
FURC	**Furnace Creek,**	**89.16**	**51**	P	**P**	05 15 45.9	+0.5	
	baz=89							
GLA	**Glamis**	**89.22**	**54**	P	**P**	05 15 46.6	+0.8	
	baz=89							
GMRC	**Granite Mounta**	**89.32**	**52**	P	**P**	05 15 47.2	+0.8	
	baz=89							
113A	**Mohawk Valley,**	**89.92**	**55**	P	**P**	05 15 49.4	+0.4	
	baz=90							
PDMCI	**Parker Dam,Lak**	**90.26**	**53**	P	**P**	05 15 51.1	+0.5	
	baz=90							
214A	**Organ Pipe Nat**	**90.33**	**56**	P	**P**	05 15 51.6	+0.6	
	baz=90							
WRAK	**Wrangell Islan**	**90.39**	**28**	*e*P	**P**	05 15 50.7	+0.1	
	comp=Z,5.2nm,0.9s							
WVOR	**Wild Horse Val**	**90.58**	**45**	*e*P	**P**	05 15 52.3	+0.2	
	comp=Z,5.5nm,1.3s							
R11A	**Troy Canyon, C**	**90.88**	**49**	P	**P**	05 15 53.5	-0.2	
	baz=91							
ILAR	**Eielson Array**	**90.94**	**17**	P	**P**	05 15 50.8	-2.3	
ILAR	**Eielson Array**	**90.94**	**17**	P	**P**	05 15 50.8	-2.3	
	comp=Z,1.1nm,0.7s,baz=239,slow=4.8,SNR=23							
TUC	**Tucson**	**92.05**	**56**	*e*P	**P**	05 15 59.4	+0.3	
X16A	**Lo Mia Camp, P**	**92.35**	**54**	P	**P**	05 16 01.0	+0.4	
	baz=92							
U15A	**North Rim**	**92.50**	**52**	P	**P**	05 16 01.6	+0.3	
	baz=93							
EGAK	**Eagle**	**92.61**	**19**	*e*P	**P**	05 15 59.8	-1.0	
WUAZ	**Wupatki**	**92.83**	**53**	P	**P**	05 16 03.1	+0.4	
	baz=93							
319A	**Douglas**	**92.89**	**58**	P	**P**	05 16 03.6	+0.6	
	baz=93							
H12A	**Diamond D Ranc**	**93.97**	**44**	P	**P**	05 16 07.2	-0.6	
	baz=94							
TXAR	**Lajitas Array**	**96.72**	**61**	P	**P**	05 16 20.3	-0.2	
	comp=Z,0.5nm,0.9s,baz=225,slow=3.4,SNR=6.0							
PDAR	**Pinedale Array**	**96.83**	**47**	P	**P**	05 16 20.4	-0.4	
PDAR	**Pinedale Array**	**96.83**	**47**	P	**P**	05 16 20.4	-0.4	
	comp=Z,0.3nm,0.7s,baz=283,slow=8.0,SNR=2.7							
WMQ	**Urumqi**	**98.23**	**314**	P	**P**	05 16 27.3	+0.4	
MKAR	**Makanchi Array**	**102.77**	**315**	P	**Pdif**	05 16 46.2	-0.7	
MKAR	**Makanchi Array**	**102.77**	**315**	P	**Pdif**	05 16 46.2	-0.7	
	comp=Z,0.5nm,0.7s,baz=91,slow=6.8,SNR=5.7							
ZALV	**Zalesovo Beam**	**103.17**	**323**	Pdif	**Pdif**	05 16 47.5	-1.0	
ZALV	**Zalesovo Beam**	**103.17**	**323**	Pdiff	**Pdif**	05 16 47.5	-1.0	
	comp=Z,0.7nm,0.5s,baz=134,slow=8.2,SNR=3.1							
KSH	**Kashi**	**105.41**	**307**	*e*Pdif	**Pdif**	05 17 01.5	+2.5	
KSH				PP	PP	05 21 31.0	+7.0	
KSH				S	**Sdif**	05 28 36.3	+2.2	
KSH				AMB	AMB			
	comp=Z,29nm,5.1s							
KSH				LR	LR			
	comp=N,110nm,5.1s							
KSH				LR	LR			
	comp=E,85nm,8.7s							
KSH				LR	LR			
	comp=Z,150nm,5.3s							
KBZ	**Khabaz**	**130.17**	**311**	SKPbc	**SKPab**	05 25 00.6	+1.3	
KBZ	**Khabaz**	**130.17**	**311**	SKPbc	**SKPab**	05 25 00.6	+1.3	
	comp=Z,1.8nm,0.8s,baz=131,slow=5.0,SNR=5.5							
FINES	**FINESS Array B**	**131.63**	**338**	SKPbc	**SKPbc**	05 25 03.1	-1.0	
FINES	**FINESS Array B**	**131.63**	**338**	SKPbc	**SKPbc**	05 25 03.1	-1.0	
	comp=Z,1.6nm,0.8s,baz=77,slow=6.0,SNR=5.1							
BRTR	**Keskin Array B**	**137.80**	**307**	PKP	**PKPdf**	05 22 12.3	-0.7	
BRTR				SKPbc	**SKPbc**	05 25 23.9	-0.8	
BRTR				SKPab	**SKPab**	05 25 33.3	+0.4	
BRTR	**Keskin Array B**	**137.80**	**307**	PKP	**PKPdf**	05 22 12.3	-0.7	
	comp=Z,0.3nm,0.7s,baz=4.6,slow=2.6,SNR=2.3							
BRTR				SKPbc	**SKPbc**	05 25 23.9	-0.8	
	comp=Z,1.0nm,0.8s,baz=108,slow=2.7,SNR=5.7							
BRTR				SKPab	**SKPab**	05 25 33.3	+0.4	
	comp=Z,1.3nm,0.9s,baz=95,slow=4.2,SNR=4.2							
STHS	**Stebnicka Huta**	**141.53**	**327**	*e*PKP	**PKPdf**	05 22 19.1	-0.3	
DPC	**Dobruska-Polom**	**143.28**	**331**	*e*PKP	PKPab	05 22 19.0	+0.1	
DPC				*ex*	x	05 22 25.4		
PVCC	**Panska Ves**	**143.92**	**333**	*e*PKP	PKPab	05 22 21.3	-0.1	
CLL	**Collm**	**143.97**	**335**	*e*PKP	PKPab	05 22 21.0	-0.5	
NRDL	**Niedersach Rie**	**144.08**	**339**	*e*PKP	**PKPab**	05 22 21.4	-0.4	
PRA	**Prague**	**144.32**	**333**	PKP	**PKPab**	05 22 23.0	+0.1	
PRU	**Pruhonice**	**144.33**	**332**	*e*PKP	**PKPab**	05 22 22.7	-0.3	
TREC	**Trest**	**144.41**	**331**	*e*PKP	**PKPab**	05 22 23.1	-0.2	
TANN	**Tannenbergstha**	**144.88**	**335**	*e*PKP	PKPbc	05 22 24.7	-0.3	
IBBN	**Ibbenburen**	**145.00**	**341**	*e*PKP	PKPbc	05 22 24.9	-0.3	
NKC	**Novy Kostel**	**145.03**	**334**	*e*PKP	**PKPbc**	05 22 25.0	-0.4	
MOX	**Moxa**	**145.03**	**336**	*e*PKP	**PKPbc**	05 22 25.2	-0.2	
CONA	**Conrad Observa**	**145.20**	**329**⇑	*i*PKPab	**PKPdf**	05 22 26.5	+0.5	
	comp=Z,17nm,0.8s							
KHC	**Kasperske Hory**	**145.39**	**332**	*e*PKP	**PKPdf**	05 22 26.1	0.0	
KHC				*ex*	x	05 22 33.2		
KHC	**Kasperske Hory**	**145.39**	**332**	*e*PKPdf	**PKPdf**	05 22 26.2	0.0	
ROTZ	**Rotzenmuhle**	**145.49**	**334**	*e*PKP	**PKPdf**	05 22 26.5	+0.2	
UBBA	**Unterbreizbach**	**145.50**	**337**	*e*PKP	**PKPdf**	05 22 25.8	-0.3	
GEC2	**GERESS Array S**	**145.55**	**332**	*e*PKP	**PKPdf**	05 22 26.6	0.0	
GERES	**GERESS Array B**	**145.55**	**332**	PKPbc	**PKPdf**	05 22 26.5	0.0	
GERES				SKPbc	**SKPbc**	05 25 43.9	-0.1	
GERES	**GERESS Array B**	**145.55**	**332**	PKPbc	**PKPdf**	05 22 26.5	0.0	
	comp=Z,4.4nm,0.5s,baz=35,slow=4.4,SNR=72							
GERES				SKPbc	**SKPbc**	05 25 43.9	-0.1	
	comp=Z,0.7nm,0.8s,baz=40,slow=2.3,SNR=4.3							
GRF	**Grafenberg Arr**	**145.94**	**335**	*e*PKP	**PKPbc**	05 22 28.9	+0.7	
GRFO	**Grafenberg**	**145.94**	**335**	*e*PKPbc	**PKPbc**	05 22 28.4	+0.2	
MOA	**Molln**	**146.02**	**330**⇑	*i*PKPab	**PKPbc**	05 22 28.7	+0.2	
	comp=Z,7.7nm,0.7s							
TNS	**Taunus Mts**	**146.55**	**338**	*e*PKP	**PKPbc**	05 22 30.1	+0.1	
PJOB	**Jochberg**	**146.78**	**331**	*e*PKP	**PKPbc**	05 22 31.8	+1.1	
PDKS	**Podkm**	**146.91**	**327**	*i* PKPab	**PKPbc**	05 22 32.5	+1.4	
FUR	**Furstenfeldbru**	**147.12**	**333**	*e*PKP	**PKPab**	05 22 33.6	-0.2	
CRNS	**Crni Vrh**	**147.27**	**328**	*i* PKPbc	**PKPdf**	05 22 31.0	+1.6	
CRNS				*i* PKPab	**PKPbc**	05 22 33.5	+1.4	
STU	**Stuttgart**	**147.47**	**336**	*e*PKP	**PKPbc**	05 22 34.3	+1.8	
MOTA	**Moosalm**	**147.82**	**332**⇑	*i*PKPbc	**PKPbc**	05 22 32.7	-1.0	
	comp=Z,8.9nm,0.9s							
BFO	**Black Forest**	**148.17**	**336**	*e*PKP	**PKPab**	05 22 37.3	-0.7	
BFO	**Black Forest**	**148.17**	**336**	*e*PKPbc	**PKPbc**	05 22 33.4	-1.0	
BFO				*e*PKPab	**PKiKP**	05 22 37.5	+1.5	
FETA	**Feichten**	**148.24**	**332**⇑	*i*PKPbc	**PKPbc**	05 22 34.2	-0.6	
	comp=Z,3.8nm,0.9s							
FETA				⇑*i*PKPab	**PKPab**	05 22 38.3	-0.2	
	comp=Z,12nm,0.9s							
DAVA	**Damuels**	**148.39**	**334**⇓	*i*PKPab	**PKPab**	05 22 38.7	-0.4	
	comp=Z,13nm,0.7s							
TUE	**Stuetta**	**149.26**	**333**	*e*PKPbc	**PKPbc**	05 22 36.6	-0.8	
TUE				*e*PKPab	**PKPab**	05 22 42.4	-0.3	
ESDC	**Sonseca Array**	**159.82**	**346**	PKPab	**PKPab**	05 23 26.6	-1.0	
ESDC	**Sonseca Array**	**159.82**	**346**	PKPab	**PKPab**	05 23 26.6	-1.0	
	comp=Z,0.2nm,0.5s,baz=20,slow=3.3,SNR=5.5							
DBIC	**Dimbokro**	**165.64**	**202**	PKPab	**PKPab**	05 23 52.3	-1.3	
DBIC	**Dimbokro**	**165.64**	**202**	PKPab	**PKPab**	05 23 52.3	-1.3	
	comp=Z,1.5nm,0.6s,baz=164,slow=7.5,SNR=4.1							
TORD	**Torodi Ar. Bea**	**166.66**	**240**	PKP	**PKPdf**	05 22 54.1	-0.4	
TORD				PKPab	**PKPab**	05 23 57.4	-1.0	
TORD	**Torodi Ar. Bea**	**166.66**	**240**	PKP	**PKPdf**	05 22 54.1	-0.4	
	comp=Z,0.6nm,1.0s,baz=172,slow=4.4,SNR=2.7							
TORD				PKPab	**PKPab**	05 23 57.4	-1.0	
	comp=Z,0.6nm,0.7s,baz=116,slow=3.6,SNR=6.4							

*ISCJB **26** 05:15:00.1±0.6,23.°81S±0.°06×68.°41W±0.°07,h117km, mb4.1/3, Error ellipse: s-maj=9.6km s-min=7.0km az=137.9*
*IDC **26** 05:15:00.7±1.6,23.°81S×68.°15W,h94km±20km, mb4.0/4, mb1 3.8/6, mb1mx3.4/18, mbtmp3.8/6, Error ellipse: s-maj=32.5km s-min=21.2km az=80.0*
*GUC **26** 05:15:01.8±0.6,23.°65S×68.°57W,h122km±14km, ML4.0*

ISC 26 05:15:00.8±0.8,23.°83S±0.°06×68.°43W±0.°08,h117km,n14,
σ1§47/19,mb4.1/3,4C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
						h m s	ISC
LVC	**Limon Verde**	**1.29**	**340**	*i*P	**Pn**	**05 15 26.0**	**0.0**
LVC				*i* S	**Sn**	05 15 43.8	-1.2
LVC	**Limon Verde**	**1.29**	**340**	P	**Pn**	05 15 26.1	+0.2
	baz=172,slow=6.9						
LVC				S	**Sn**	05 15 43.9	-1.0
	487nm,0.3s,baz=47,slow=19,SNR=125						
ANCH	**Antofagasta**	**1.82**	**274**⇑	*i*P	**Pn**	**05 15 32.2**	**+0.4**
ANCH				*i* S	**Sn**	**05 15 55.1**	**-0.4**
ANCH				AML	AML	05 15 58.4	
	comp=E,2μm,0.1s						
PB09	**Plate Boundary**	**2.16**	**340**⇑	*i*P	**Pn**	**05 15 36.8**	**+0.5**
PB09				*e*S	**Sn**	**05 16 03.1**	**-0.4**
PB09				AML	AML	05 16 09.5	
	comp=E,2μm,0.6s						
PB01	**Plate Boundary**	**2.94**	**340**⇑	*i*P	**Pn**	**05 15 45.6**	**-0.7**
PB01				AML	AML	05 16 27.0	
	comp=E,279nm,0.3s						
LPAZ	**La Paz**	**7.51**	**2**	P	**Pn**	**05 16 48.0**	**-0.3**
	comp=E,0.3nm,0.3s,baz=196,slow=3.6,SNR=11						
CFAA	**Coronel Fontan**	**7.74**	**179**	P	**Pn**	**05 16 50.9**	**+0.1**
	comp=E,0.1nm,0.3s,baz=351,slow=13,SNR=14						
CFAA				S	**Sn**	**05 18 13.1**	**-3.8**
	comp=E,0.1nm,0.3s,baz=251,slow=20,SNR=6.3						
CPUP	**Villa Florida**	**10.37**	**106**	P	**Pn**	**05 17 27.9**	**+1.7**
	comp=E,0.1nm,0.3s,baz=255,slow=19,SNR=3.6						
SIV	**San Ignacio**	**10.43**	**43**	P	**Pn**	**05 17 24.5**	**-2.6**
	comp=E,1.5nm,0.3s,baz=256,slow=9.6,SNR=29						
SIV				S	Sn	05 19 15.2	-6.9
	comp=E,0.1nm,0.3s,baz=163,slow=19,SNR=2.3						
BDFB	**Brasilia**	**20.86**	**71**	P	**P**	**05 19 32.7**	**-0.9**
	comp=E,3.2nm,0.4s,baz=232,slow=13,SNR=10						
DBIC	**Dimbokro**	**69.00**	**72**	P	**P**	**05 25 55.2**	**+1.2**
	comp=E,1.5nm,0.5s,baz=238,slow=9.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**77.73**	**70**	P	**P**	**05 26 46.7**	**+1.4**
	comp=E,2.1nm,0.6s,baz=255,slow=5.5,SNR=26						
BOSA	**Boshof**	**81.97**	**118**	P	**P**	**05 27 09.4**	**+1.3**
	comp=E,3.9nm,1.0s,baz=236,slow=3.5,SNR=3.8						
MKAR	**Makanchi Array**	**147.22**	**38**	PKPbc	**PKPab**	**05 34 31.9**	**-0.4**
	comp=E,0.3nm,0.6s,baz=351,slow=3.7,SNR=3.7						

*ISCJB **26** 05:27:55.7±0.3,52.°58N±0.°02×106.°87E±0.°03,h10km, mb3.9/9,MS3.0/5, Error ellipse: s-maj=3.1km s-min=2.4km az=156.6*
*IDC **26** 05:27:56.1±0.9,52.°65N×106.°95E,h0km,mb3.7/6, mb1 3.8/10,mb1mx3.6/30,mbtmp3.6/10,ML3.5/3,MS2.9/5, Ms1 2.9/5,ms1mx2.6/43, Error ellipse: s-maj=23.0km s-min=18.0km az=39.0*
*MOS **26** 05:27:56.7±1.1,52.°60N×106.°90E,h15km,mb4.5/4, Error ellipse: s-maj=9.1km s-min=8.1km az=68.4*
MOS Felt (II) at Elantsy.
*BYKL **26** 05:27:57.2±0.2,52.°59N×106.°84E,h8km±3km, FELT I=II MSK at Yelantsy*

ISC 26 05:27:57.7±0.5,52.°60N±0.°02×106.°87E±0.°02,h10km,n61,
σ1§66/104,mb3.9/9,MS3.0/5,8C-6D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
						h m s	ISC
ZRHB	**Zarechye**	**0.18**	**105**⇑	*i*Pg	**Pg**	**05 28 01.1**	**-0.5**
ZRHB				Pmax		05 28 01.3	
	13μm,0.5s						
ZRHB				*e*Sg	**Sg**	**05 28 04.3**	**+0.1**
ZRHB				Smax		05 28 26.1	
	42μm,0.8s						
TRG	**Tyrgan**	**0.35**	**297**⇑	*i*Pg	**Pg**	**05 28 03.8**	**-0.9**
TRG				Pmax		05 28 04.4	
	752nm,0.1s						
TRG				*e*Sg	**Sg**	**05 28 08.3**	**-1.1**
TRG				Smax		05 28 12.3	
	5μm,0.2s						
TRG	**Tyrgan**	**0.35**	**297**⇑	*i*PG	**Pg**	**05 28 03.8**	**-0.9**
TRG				*e*		05 28 07.5	
TRG				pmax	pmax		
	comp=Z,757nm,0.1s						
TRG				smax	smax		
	comp=E,7μm,0.3s						
UUDB	**Ulan-Yde**	**0.88**	**146**⇓	*i*Pg	**Pg**	**05 28 13.4**	**-1.3**
	comp=E,1μm,0.5s						
UUDB				⇑*i*Pg	**Pg**	**05 28 13.4**	**-1.3**
UUDB				⇑*i*Pg	**Pg**	**05 28 13.4**	**-1.3**
	comp=E,1μm,0.5s						
UUDB				Pmax		05 28 13.6	
	comp=E,1μm,0.4s						
UUDB				*e*Sg	**Sg**	**05 28 25.0**	**-1.2**
UUDB				Smax		05 28 25.8	
	comp=E,3μm,0.4s						
UUDB				*e*Sb	**Sn**	**05 28 30.1**	**+1.0**
HRMR	**Khuramsha**	**0.98**	**177**⇑	*i*Pg	**Pg**	**05 28 14.9**	**-1.5**
HRMR				*e*Pb	**Pn**	**05 28 17.4**	**-0.1**
HRMR				max		05 28 17.5	
	comp=E,1μm,0.2s						
HRMR				*e*Sg	**Sg**	**05 28 27.8**	**-1.3**
HRMR				*e*Sb	**Sn**	**05 28 32.4**	**+1.0**
HRMR				max		05 28 33.4	
	comp=E,16μm,0.4s						
OGRR	**Ongureny**	**1.13**	**23**	*e*Pg	**Pb**	**05 28 17.9**	**-1.4**
OGRR				*e*Pb	**Pn**	**05 28 19.9**	**+0.3**
OGRR				max		05 28 20.2	
	comp=E,524nm,0.3s						
OGRR				*e*		05 28 23.1	
OGRR				*e*Sg	**Sb**	**05 28 33.7**	**-0.5**
OGRR				*e*Sb	**Sn**	**05 28 36.8**	**+1.5**
OGRR				max		05 28 37.6	
	comp=E,3μm,0.2s						
OGRR	**Ongureny**	**1.13**	**23**	*e*PG	**Pb**	**05 28 18.0**	**-1.4**
OGRR				*e*		05 28 33.7	
OGRR				pmax	pmax		
	comp=Z,741nm,0.4s						
OGRR				smax	smax		
	comp=E,3μm,0.5s						
MXMB	**Maximikha**	**1.32**	**59**	*e*Pg	**Pn**	**05 28 21.0**	**-1.2**
MXMB				Pmax		05 28 22.3	
	comp=E,439nm,0.1s						
MXMB				*e*Sg	**Sb**	**05 28 39.1**	**-0.4**
MXMB				Smax		05 28 42.0	
	comp=E,3μm,0.2s						
LSTR	**Listvyanka**	**1.45**	**240**⇓	*i*Pg	**Pn**	**05 28 23.3**	**-0.7**
LSTR				Pmax		05 28 24.3	
	comp=E,235nm,0.2s						
LSTR				*e*Sg	**Sb**	**05 28 42.2**	**-1.0**
LSTR				*e*		05 28 45.9	
LSTR				max		05 28 46.1	
	comp=E,2μm,0.5s						
LSTR	**Listvyanka**	**1.45**	**240**	*e*PN	**Pn**	**05 28 23.2**	**-0.7**
LSTR				*e*		05 28 42.2	
LSTR				pmax	pmax		
	comp=Z,395nm,1.0s						
LSTR				smax	smax		
	comp=N,2μm,0.5s						
IRK	**Irkutsk**	**1.63**	**258**	*e*Pg	**Pb**	**05 28 26.4**	**-1.4**
IRK				Pmax		05 28 28.0	
	comp=N,655nm,0.3s						
IRK				*e*Sg	**Sb**	**05 28 48.0**	**-0.4**
IRK				Smax		05 28 49.0	
	comp=N,9μm,0.5s						
IRK	**Irkutsk**	**1.63**	**258**	*e*PN	**Pn**	**05 28 25.3**	**-1.1**
IRK				*e*		05 28 46.0	
IRK				pmax	pmax		
	comp=Z,658nm,0.2s						
IRK				smax	smax		
	comp=N,9μm,0.5s						
TLY	**Talaya**	**2.19**	**246**⇓	*i*Pn	**Pn**	**05 28 33.9**	**-0.2**
TLY				*e*Pg	**Pb**	**05 28 36.0**	**-1.3**
TLY				Pmax		05 28 36.4	
	comp=N,105nm,0.3s						
TLY				*e*		05 29 02.7	
TLY				*e*Sg	**Sb**	**05 29

MOY					*e*Pg	**Pb**	05 29 03.1	-0.7	
MOY					Pmax		05 29 05.9		
	comp=N,187nm,0.5s								
MOY					*e*		05 29 08.9		
MOY					*e*		05 29 42.7		
MOY					*e*Sg	**Sb**	**05 29 50.9**	**+1.8**	
MOY					Smax		05 29 59.3		
	comp=N,1μm,1.2s								
MOY	**Mondy**	**3.74**	**258**		*e*PN	Pn	05 28 58.0	+2.5	
MOY					*e*		05 29 06.7		
MOY					*e*S	**Sn**	**05 29 41.2**	**+1.6**	
MOY					*e*		05 29 53.5		
MOY					pmax	pmax			
	comp=Z,216nm,0.5s								
MOY					pmax	pmax			
	comp=N,1μm,1.4s								
CIT	**Chita**	**4.14**	**95**		*e*Pg	**Pb**	**05 29 11.5**	**+0.8**	
CIT					Pmax		05 29 13.3		
	comp=N,196nm,0.1s								
CIT					*e*Sn	**Sn**	**05 29 47.9**	**-1.6**	
CIT					*e*Sg	**Sg**	**05 30 05.8**	**-4.9**	
CIT					Smax		05 30 13.5		
	comp=N,687nm,0.4s								
CIT	**Chita**	**4.14**	**95**		*e*PN	**Pn**	**05 29 00.1**	**-0.9**	
CIT					*e*		05 29 11.2		
CIT					*e*		05 30 05.8		
CIT					pmax	pmax			
	comp=Z,113nm,1.6s								
CIT					smax	smax			
	comp=N,490nm,1.7s								
ORL	**Orlik**	**4.30**	**272**	⇓	*i*Pn	**Pn**	**05 29 04.0**	**+0.7**	
ORL					max		05 29 16.7		
	comp=N,52nm,0.7s								
ORL					*e*		05 29 55.3		
ORL					*e*Sg	**Sb**	**05 30 08.0**	**+2.5**	
ORL					Smax		05 30 12.8		
	comp=N,293nm,0.8s								
ORL	**Orlik**	**4.30**	**272**		*e*PN	**Pn**	**05 29 03.8**	**+0.5**	
ORL					*e*S	**Sn**	**05 29 53.4**	**-0.2**	
ORL					*e*S	**Sb**	**05 30 06.5**	**+1.0**	
ORL					smax	smax			
	comp=N,375nm,0.7s								
KPC	**Khapcheranga**	**4.52**	**128**		*e*Pn	**Pn**	**05 29 05.3**	**-0.9**	
KPC					*e*Pg	**Pb**	**05 29 18.1**	**+0.9**	
KPC					*e*		05 29 19.8		
KPC					max		05 29 20.7		
	comp=N,116nm,0.3s								
KPC					*e*Sn	**Sn**	**05 29 55.7**	**-3.2**	
KPC					*e*Sg	**Sb**	**05 30 16.5**	**+4.8**	
KPC					Smax		05 30 20.4		
	comp=N,369nm,0.4s								
KPC	**Khapcheranga**	**4.52**	**128**		*e*PN	**Pn**	**05 29 05.9**	**-0.3**	
KPC					*e*		05 29 18.1		
KPC					*e*		05 30 16.6		
KPC					pmax	pmax			
	comp=Z,119nm,0.5s								
KPC					smax	smax			
	comp=N,397nm,0.9s								
YOA	**Uoyan**	**4.54**	**37**		*e*Pg	**Pb**	**05 29 19.4**	**+2.0**	
YOA					Pmax		05 29 25.1		
	comp=N,78nm,0.3s								
YOA					*e*Sn	**Sn**	**05 29 57.3**	**-1.9**	
YOA					*e*Sg	**Sg**	**05 30 19.4**	**-3.9**	
YOA					Smax		05 30 59.0		
	comp=N,1μm,1.5s								
ULN	**Ulaanbaatar**	**4.74**	**178**	⇑	*i*Pn	**Pn**	**05 29 10.0**	**+0.6**	
ULN					*e*Pg	**Pb**	**05 29 22.4**	**+1.4**	
ULN					*e*Sg	Sg	05 30 23.6	-6.3	
SONM	**Songino Array**	**4.78**	**184**		Pn	**Pn**	**05 29 10.1**	**+0.2**	
	comp=N,3.6nm,0.3s,baz=360,slow=16,SNR=96								
SONM					Pg	Pb	05 29 24.5	+2.9	
	comp=N,8.8nm,0.3s,baz=359,slow=17,SNR=42								
SONM					Sn	**Sn**	**05 30 04.1**	**-1.3**	
	comp=N,11nm,0.3s,baz=1.7,slow=19,SNR=5.6								
SONM					Lg	Lg	05 30 25.2		
	comp=N,58nm,0.3s,baz=0.8,slow=30,SNR=23								
NLYR	**Nelyaty**	**6.45**	**49**		*e*Sg	Sg	05 31 18.1	-6.5	
NLYR					Smax		05 31 50.0		
	comp=N,352nm,1.6s								
NLYR	**Nelyaty**	**6.45**	**49**		*e*PG	Pg	05 29 55.9	-5.2	
NLYR					*e*		05 31 18.0		
NLYR					pmax	pmax			
	comp=Z,40nm,1.7s								
NLYR					smax	smax			
	comp=N,350nm,1.4s								
CRS	**Chara**	**7.88**	**52**		*e*Pg	Pb	05 30 19.9	+5.7	
CRS					Pmax		05 30 24.0		
	comp=N,24nm,0.9s								
CRS					*e*Sg	Sg	05 32 02.0	-8.2	
CRS					Smax		05 32 37.1		
	comp=N,237nm,1.6s								
CRS	**Chara**	**7.88**	**52**		*e*PG	Pb	05 30 20.5	+6.3	
CRS					*e*		05 32 01.2		
CRS					pmax	pmax			
	comp=Z,49nm,1.6s								
CRS					smax	smax			
	comp=E,156nm,1.5s								
TUP	**Tupik**	**8.02**	**72**		*e*Pn	**Pn**	**05 29 54.0**	**-0.1**	
TUP					max		05 30 39.1		
	comp=E,5.0nm,0.7s								
TUP					*e*Sg	Sg	05 32 05.1	-10	
TUP					Smax		05 32 35.7		
	comp=E,269nm,1.4s								
TUP	**Tupik**	**8.02**	**72**		*e*PG	**Pb**	**05 30 19.0**	**+2.4**	
TUP					*e*S	**Sn**	**05 31 21.5**	**-3.3**	
TUP					*e*		05 32 03.5		
TUP					pmax	pmax			
	comp=Z,4.0nm,0.3s								
TUP					smax	smax			
	comp=N,156nm,1.0s								
HVS	**Khovu-Aksy**	**8.28**	**265**		*e*PN	**Pn**	**05 29 58.7**	**+0.9**	
ZALV	**Zalesovo Beam**	**13.25**	**285**		P	**Pn**	**05 31 07.0**	**+1.3**	
ZALV					MLR	MLR			
	comp=Z,83nm,19.7s								
ZALV	**Zalesovo Beam**	**13.25**	**285**		Pn	**Pn**	**05 31 07.0**	**+1.3**	
	baz=83,slow=12,SNR=2.8								
ZALV					Lg	Lg	05 34 52.4		
	comp=Z,0.4nm,0.3s,baz=78,slow=27,SNR=4.0								
ZALV					LR	LR	05 36 22.0		
	comp=Z,82nm,19.6s,baz=69,slow=38								
YAK	**Yakutsk**	**15.44**	**43**		*i*P	**Pn**	**05 31 36.2**	**+0.9**	
MKAR	**Makanchi Array**	**16.88**	**260**		*e*P	**P**	**05 31 56.2**	**+0.2**	
MKAR	**Makanchi Array**	**16.88**	**260**		Pn	**P**	**05 31 55.2**	**-0.8**	
	comp=Z,0.1nm,0.3s,baz=72,slow=16,SNR=6.8								
MKAR					Lg	Lg	05 36 54.0		
	baz=84,slow=28,SNR=5.5								
KURK	**Kurchatov**	**17.58**	**275**		P	**Pn**	**05 32 01.2**	**-1.4**	
KURBB	**Kurchatov Arra**	**17.66**	**275**		Pn	**Pn**	**05 32 01.2**	**-2.3**	
	comp=Z,0.1nm,0.3s,baz=81,slow=13,SNR=3.4								
KURBB					Lg	Lg	05 37 14.1		
	comp=Z,0.0nm,0.3s,baz=80,slow=32,SNR=4.8								
VLA	**Vladivostok**	**19.20**	**110**	⇓	*e*P	**P**	**05 32 21.2**	**-0.2**	
VLA					S	**S**	**05 35 59.4**	**+0.6**	
VLA					pmax	pmax			
	comp=Z,16nm,1.0s								
KSRS	**Korea Array**	**21.12**	**127**		LR	LR	05 39 43.5		
	comp=Z,9.2nm,21.2s,baz=260,slow=34								
BVAR	**Borovoye Array**	**21.91**	**286**		P	**P**	**05 32 50.6**	**-0.1**	
BVAR	**Borovoye Array**	**21.91**	**286**		P	**P**	**05 32 50.6**	**-0.1**	
	comp=Z,0.7nm,0.5s,baz=81,slow=11,SNR=3.2								
SVE	**Sverdlovsk**	**26.63**	**298**		*e*P	**P**	**05 33 38.4**	**+2.4**	
SVE					pmax	pmax			
	comp=Z,11nm,0.9s								
MJAR	**Matsushiro Arr**	**27.21**	**114**		LR	LR	05 45 27.5		
	comp=Z,23nm,18.3s,baz=170,slow=39								
ARU	**Arti**	**27.83**	**297**	*d*	*i*P	**P**	**05 33 49.6**	**+2.8**	
ARU							05 34 33.1		
ARU					S	**S**	**05 38 34.4**	**+4.8**	
ARU					SS	**SnSn**	**05 39 42.9**	**+0.7**	
ARU					pmax	pmax			
	comp=Z,3.0nm,1.2s								
AKTO	**Aktyubinsk**	**30.01**	**286**		LR	LR	05 46 59.6		
	comp=Z,36nm,20.8s,baz=261,slow=38								
OBN	**Obninsk**	**39.94**	**303**	⇑	*i*P	**P**	**05 35 30.1**	**-1.5**	
OBN					*i*S	**S**	**05 41 39.8**	**+3.5**	
OBN					*e*SS	ScS	05 45 08.9	-29	
OBN					pmax	pmax			
	comp=Z,20nm,1.8s								
OBN					MLR	MLR			
	comp=Z,100nm,16.0s								
FINES	**FINESS Array B**	**42.11**	**315**		P	**P**	**05 35 48.8**	**-0.6**	
	comp=Z,0.6nm,0.6s,baz=69,slow=7.6,SNR=3.4								
HFS	**Hagfors**	**48.00**	**318**		LR	LR	05 56 41.2		
	comp=Z,26nm,21.7s,baz=148,slow=36								
ILAR	**Eielson Array**	**50.00**	**32**		P	**P**	**05 36 51.8**	**+0.3**	
	comp=Z,0.4nm,0.6s,baz=302,slow=5.8,SNR=8.7								
WRA	**Warramunga Arr**	**76.09**	**153**		P	**P**	**05 39 45.5**	**+0.2**	
	comp=Z,0.9nm,0.7s,baz=349,slow=6.4,SNR=4.4								
ASAR	**Alice Springs**	**79.53**	**155**		P	**P**	**05 40 04.7**	**+0.2**	
	comp=Z,0.6nm,0.7s,baz=348,slow=6.2,SNR=8.2								
TORD	**Torodi Ar. Bea**	**88.65**	**290**		P	**P**	**05 40 49.9**	**-1.3**	
	comp=Z,0.6nm,0.5s,baz=3.8,slow=5.2,SNR=4.9								

*ISCJB **26** 05:29:11.0±1.8, 77.4N±0.1×25.7E±0.6, h10km, Error ellipse: s-maj=20.7km s-min=12.1km az=138.4*
*CSEM **26** 05:29:16.1±1.0, 77.22N×23.96E, h15km, ML1.9, Error ellipse: s-maj=53.1km s-min=6.0km az=57.0*
*BER **26** 05:29:18.3±2.2, 77.19N×23.96E, h21km±15km, MD2.3, ML1.9, ML2.3(NAO)*
*NAO **26** 05:29:18.2±3.0, 77.21N×23.64E, h26km±19km, ML2.3*

ISC 26 05:29:10.8±2.1, 77.20N±0.08×25.3E±0.1, h10km, n11, σ1§88/16, Svalbard region

Code	Station Name	Δ°	AZ°		Phase	ID		Time			Res
						Op	ISC	h	m	s	ISC
SPA0	**Spitsbergen Ar**	**2.14**	**302**		Pn	**Pn**		**05 29 47.6**			**+1.1**
	baz=114,slow=18										
SPA0					Pg	**Pg**		**05 29 52.7**			**+0.9**
SPA0					Lg	Lg		05 30 16.0			
	baz=112,slow=37										
SPA0	**Spitsbergen Ar**	**2.14**	**302**		*e*Pn	**Pn**		**05 29 48.2**			**+1.7**
SPA0					Pg	**Pg**		**05 29 52.7**			**+0.9**
SPA0					Lg	Lg		05 30 16.0			
	baz=112,slow=37										
SPA0	**Spitsbergen Ar**	**2.14**	**302**		*e*Pn	**Pn**		**05 29 48.2**			**+1.7**
	SNR=55										
SPA0	**Spitsbergen Ar**	**2.14**	**302**		Pg	**Pg**		**05 29 52.7**			**+0.9**
	SNR=93										
SPA0					Lg	Lg		05 30 16.0			
HSP	**Hornsund**	**2.19**	**270**		*e*P	**Pg**		**05 29 53.6**			**+1.0**
HSP					*e*S	**Sb**		**05 30 17.9**			**+0.5**
KBS	**Kingsbay**	**3.26**	**308**		Pn	**Pn**		**05 30 03.2**			**+1.3**
KBS					Sn	**Sn**		**05 30 36.8**			**-3.8**
KBS					Lg	Lg		05 30 51.5			
KBS	**Kingsbay**	**3.26**	**308**		Pn	**Pn**		**05 30 03.2**			**+1.3**
KBS					Sn	**Sn**		**05 30 38.0**			**-2.6**
KBS					Lg	Lg		05 30 51.5			
KBS					AML	AML		05 30 55.3			
	comp=Z,10nm,0.3s										
KBS	**Kingsbay**	**3.26**	**308**		Pn	**Pn**		**05 30 03.2**			**+1.3**
	SNR=55										
KBS					Sn	**Sn**		**05 30 38.0**			**-2.6**
	SNR=55										
KBS					Lg	Lg		05 30 51.5			
	comp=Z,10nm,0.3s,SNR=97										
ARA0	**ARCESS Array S**	**7.71**	**179**		Pn	Pn		05 31 08.2			+5.3
	baz=358,slow=10										
ARA0					Sn	**Sn**		**05 32 29.0**			**-1.1**
	baz=3.2,slow=22										
ARA0	**ARCESS Array S**	**7.71**	**179**		Pn	Pn		05 31 08.2			+5.3
	baz=358,slow=10										
ARA0					Sn	**Sn**		**05 32 29.0**			**-1.1**
	baz=3.2,slow=22										
ARA0	**ARCESS Array S**	**7.71**	**179**		Pn	Pn		05 31 08.2			+5.3
	SNR=55										

NNC 26 05:46:26.9±5.2, 54.12N×86.74E, h0km, mb4.0, mpv3.8, 7C-2D, Error ellipse: s-maj=42.2km s-min=22.8km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°		Phase	ID		Time			Res
						Op	ISC	h	m	s	ISC
KURBB	**Kurchatov Arra**	**6.12**	**239**	⇓	Pn	Pn		05 48 00.9			+2.3
	9.4nm,0.6s,baz=54,slow=14										
KURBB				⇑	Sn	Sn		05 49 13.8			+4.5
	16nm,0.7s,baz=44,slow=21										
KURBB				⇑	Lg	Lg		05 49 43.6			
	37nm,0.8s,baz=53,slow=31										
MK31	**Makanchi Array**	**7.86**	**203**	⇑	Pn	Pn		05 48 25.1			+2.6
	1.5nm,0.7s,baz=26,slow=12,SNR=24										
MK31				⇑	Sn	Sn		05 49 57.5			+5.4
	7.0nm,1.0s,baz=27,slow=27,SNR=4.1										
MK31				⇑	Lg	Lg		05 50 36.4			
	18nm,0.9s,baz=29,slow=30,SNR=9.0										
VOSK	**Vostochnaya**	**9.52**	**268**	⇑	Pn	Pn		05 48 45.7			+0.6
	1.7nm,0.5s										
VOSK				⇑	Sn	Sn		05 50 29.2			-3.5
	13nm,0.9s										
BVA0	**Borovoye Array**	**9.79**	**270**	⇓	Pn	Pn		05 48 48.9			+0.1
	1.6nm,0.6s,baz=63,slow=14,SNR=7.7										
BVA0					Sn	Sn		05 50 37.6			-1.9
	5.5nm,0.8s,baz=329,slow=41,SNR=4.3										

*BYKL **26** 05:48:35.5±0.2, 52.59N×106.82E, h5km±4km*

MOS 26 05:48:35.1±2.4, 52.50N×107.11E, h23km, mb4.2/1, 4C, Error ellipse: s-maj=50.5km s-min=27.2km az=136.8, Lake Baykal region

Code	Station Name	Δ°	AZ°		Phase	ID		Time			Res
						Op	ISC	h	m	s	ISC
ZRHB	**Zarechye**	**0.06**	**24**	⇑	*i*Pg	Pb		05 48 39.3			0.0
ZRHB					*e*Sg	Sb		05 48 42.5			+0.4
ZRHB					Pmax						
	1μm,0.5s										
ZRHB					Smax						
	2μm,0.4s										
TRG	**Tyrgan**	**0.53**	**300**	⇑	*i*Pg	Pb		05 48 42.0			-3.9
TRG					*e*Sg	Sb		05 48 47.1			-6.2
TRG					Pmax						
	144nm,0.1s										
TRG					Smax						
	1μm,0.1s										
UUDB	**Ulan-Yde**	**0.72**	**151**	⇑	*i*Pg	Pn		05 48 51.6			+1.7
UUDB					*e*Sg	Sn		05 49 03.2			+3.0
UUDB					*e*Sb	Sb		05 49 08.9			+10
UUDB					Pmax						
	116nm,0.4s										
UUDB					Smax						
	323nm,0.4s										
HRMR	**Khuramsha**	**0.88**	**186**	⇑	*i*Pg	Pn		05 48 53.1			+1.0
HRMR					*e*Sg	Sn		05 49 05.8			+1.7
HRMR					*e*Sb	Sb		05 49 10.8			+7.8
HRMR					Pmax						
	185nm,0.2s										
HRMR					max						
	2μm,0.2s										
OGRR	**Ongureny**	**1.19**	**14**		*e*Pg	Pn		05 48 56.2			-0.1
OGRR					*e*Pb	Pb		05 48 58.2			+1.3
OGRR					*e*Sg	Sn		05 49 11.6			-0.2
OGRR					*e*Sb	Sb		05 49 15.0			+3.1
OGRR					max						
	41nm,0.1s										
OGRR					max						
	192nm,0.2s										
OGRR	**Ongureny**	**1.19**	**14**		*e*PG	Pn		05 48 56.2			-0.1
OGRR					*e*			05 49 11.6			
OGRR					pmax	pmax					
	comp=Z,51nm,0.4s										
OGRR					smax	smax					
	comp=E,197nm,0.4s										
MXMB	**Maximikha**	**1.25**	**52**		*e*Sg	Sb		05 49 17.9			+4.1
MXMB					Smax						
	comp=E,222nm,0.3s										
LSTR	**Listvyanka**	**1.54**	**247**		*e*Pg	Pn		05 49 01.3			+0.2
LSTR					*e*Sg	Sn		05 49 20.5			+0.1
LSTR					Pmax						
	comp=E,52nm,0.1s										
LSTR					Smax						
	comp=E,402nm,0.2s										
LSTR	**Listvyanka**	**1.54**	**247**		*e*PN	Pn		05 49 00.9			-0.2
LSTR					*e*			05 49 20.2			
LSTR					pmax	pmax					
	comp=Z,58nm,0.1s										
LSTR					smax	smax					
	comp=N,401nm,0.2s										
IRK	**Irkutsk**	**1.76**	**263**		*e*Sg	Sn		05 49 25.8			-0.1
IRK					Smax						
	comp=N,869nm,0.2s										
IRK	**Irkutsk**	**1.76**	**263**		*e*PN	Pn		05 49 02.9			-1.3
IRK					*e*			05 49 24.2			
IRK					pmax	pmax					
	comp=Z,111nm,0.1s										
IRK					smax	smax					
	comp=N,1μm,0.6s										
TLY	**Talaya**	**2.29**	**250**		*e*Pn	Pn		05 49 12.3			+0.8
TLY					*e*Sg	Sb		05 49 41.6			-2.0
TLY					Smax						
	comp=N,177nm,0.1s										
TLY	**Talaya**	**2.29**	**250**		*e*PN	Pn		05 49 12.6			+1.1
TLY					*e*			05 49 40.9			
TLY					pmax	pmax					
	comp=Z,17nm,0.2s										
TLY					smax	smax					
	comp=E,182nm,0.1s										
ARS	**Arshan**	**2.94**	**261**		*e*Pg	Pb		05 49 24.6			-2.3
ARS					*e*PgPg	PnPn		05 49 29.5			+1.9
ARS					*e*Sg	Sb		05 50 00.6			-1.9
ARS					*e*SgSg	SnSn		05 50 04.0			-1.8
ARS					max						
	comp=E,36nm,0.3s										
ARS					max						
	comp=E,230nm,0.3s										
ARS	**Arshan**	**2.94**	**261**		*e*PN	Pb		05 49 24.6			-2.3
ARS					*e*			05 50 00.2			
ARS					pmax	pmax					
	comp=Z,36nm,0.2s										
ARS					smax	smax					
	comp=E,231nm,0.2s										
ZAK	**Zakamensk**	**3.20**	**230**		*e*Pn	Pn		05 49 26.0			+1.9
ZAK					*e*Pg	Pb		05 49 31.1			-0.2
ZAK					*e*Sg	Sb		05 50 12.2			+2.2
ZAK					Pmax						
	comp=E,5.0nm,0.1s										
ZAK					Smax						
	comp=E,28nm,0.2s										
YLYR	**Ulyunkhan**	**3.39**	**44**		*e*Pn	Pn		05 49 29.1			+2.5
YLYR					*e*Pg	Pb		05 49 37.2			+2.7
YLYR					*e*Sg	Sb		05 50 22.2			+7.0
YLYR					Pmax						
	comp=E,5.0nm,0.3s										
YLYR					Smax						
	comp=E,21nm,0.7s										
NIZ	**Nizh Angarsk**	**3.58**	**23**		*e*Pn	Pn		05 49 31.3			+2.1
NIZ					*e*			05 49 44.2			
NIZ					*e*Sg	Sb		05 50 25.8			+5.0
NIZ					Smax						
	comp=E,60nm,0.4s										
MOY	**Mondy**	**3.86**	**260**		*e*Pn	Pn		05 49 36.0			+2.8
MOY					*e*			05 50 20.8			
MOY					*e*Sg	Sb		05 50 29.0			-0.1
MOY					Smax						
	comp=E,112nm,0.8s										
KMO	**Kumora**	**4.16**	**34**		*e*Pg	Pb		05 49 49.4			+1.8
KMO					*e*Sg	Sb		05 50 44.5			+7.1
KMO					Pmax						
	comp=E,6.0nm,0.4s										
KMO					Smax						
	comp=E,44nm,1.2s										
KPC	**Khapcheranga**	**4.34**	**128**		*e*	Pb		05 49 53.6			+2.8
KPC					*e*Sg	Sb		05 50 54.7			+12
KPC					Smax						
	comp=E,42nm,0.6s										
ORL	**Orlik**	**4.46**	**273**		*e*Pn	Pn		05 49 42.2			+0.8
ORL					*e*			05 50 32.3			
ORL					*e*Sg	Sb		05 50 47.0			+0.7
ORL					Smax						
	comp=E,51nm,1.4s										
ULN	**Ulaanbaatar**	**4.64**	**180**		*e*Pn	Pn		05 49 48.1			+4.2
ULN					*e*Pg	Pb		05 50 00.9			+5.0
ULN					*e*Sg	Sb		05 51 01.8			+10

*DJA **26** 06:05:55.7±7.1, 2.7S±40.4°×13.7E±9.1, h10km, M5.5/6, mB6.0/4, mb5.4/6, Mw(mB)5.6/4*
*BJI **26** 06:06:39.8, 0.69S×132.67E, h32km, mB5.3/25, mb5.1/43, Ms5.5/38, Ms7 5.3/34*
*ISCJB **26** 06:06:39.9±1.0, 0.30S±0.02×132.35E±0.03, h6km±6km, mb5.3/125, MS5.0/26, Error ellipse: s-maj=5.2km s-min=4.0km az=156.4*
*IDC **26** 06:06:40.4±0.4, 0.30S×132.34E, h0km, mb5.0/28, mb1 5.0/32, mb1mx5.0/33, mbtmp5.0/32, ML4.7/5, MS4.7/13, Ms1 4.7/13, ms1mx4.4/34, Error ellipse: s-maj=15.5km s-min=9.8km az=73.0*
*GCMT **26** 06:06:43.5±0.1, 0.30S×132.24E, h16km, MW5.4, Moment Tensor Solution. s65,c91; s90,c165; Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{r\phi}$0.00; $M_{\theta\phi}$0.00; Best double couple: M_o1.40000×10^{17} NP1:ϕ_s69.00000°, δ30.00000°, λ31.00000°. NP2: ϕ_s312.00000°, δ75.00000°, λ117.00000°. Principal axes: T 1.3900, Plg52.0000°, Azm253.0000°; N -0.0700, Plg26.0000°, Azm124.0000°; P -1.3300, Plg25.0000°, Azm21.0000°; Data Used: II IU IC G CN.*
*MOS **26** 06:06:44.0±1.0, 0.28S×132.35E, h33km, mb5.5/41 Error ellipse: s-maj=9.6km s-min=5.4km az=110.8*
*BKK **26** 06:06:44.2±0.2, 0.1S±4°×13°2E±°, h10km, M5.4/37, mB5.8/26, mb5.4/37, MLv5.6/3, Mw(mB)5.4/26, Mwp4.9/1*
*NEIC **26** 06:06:44.7±1.8, 0.32S×132.34E, h28km±12km, mb5.4/49, Error ellipse: s-maj=5.6km s-min=3.9km az=69.0*
*TEH **26** 06:06:46.0, 0.36S×132.27E, h35km, ML5.4*
*AUST **26** 06:06:52.2, 0.99S×132.00E, h60km*

ISC 26 06:06:45.7±0.3, 0.32S±0.03×132.36E±0.04, h35km±1km, h35km; pP-P, n412, σ1§36/462, mb5.3/132, MS5.0/27, 11C-9D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
PALU	**Palau**	**7.90**	**15**	P	P	**Pn**	**06 08 36.3**			**-1.8**
	baz=8.7,SNR=9.3									
JAY	**Jayapura**	**8.62**	**105**	P	Pn		06 08 59.0			+11
	baz=8.8,SNR=7.5									
LUWI	**Luwuk**	**9.62**	**266**	P	P	**Pn**	**06 09 01.3**			**-0.5**
	baz=9.2,SNR=6.4									
DAV	**Davao City (W)**	**9.98**	**317**	Pn	P	**Pn**	**06 09 04.8**			**-2.0**
DAV				*e*Sn	P	**Sn**	**06 10 54.5**			**-3.2**
DAV				Sn	P	Sn	06 10 57.4			-0.3
DAV	**Davao City (W)**	**9.98**	**317**	Pn	P	**Pn**	**06 09 04.8**			**-2.0**
	39nm,0.3s,baz=165,slow=11,SNR=2.7									
DAV				Sn	P	**Sn**	**06 10 57.4**			**-0.3**
	71nm,0.3s,baz=260,slow=19,SNR=4.4									
KDU	**Kakadu**	**12.29**	**180**	P	Pn		06 09 35.1			-3.3
	baz=12,SNR=123									
KDU				S	Sn		06 11 46.4			-7.8
	baz=12,SNR=4.3									
SOEI	**Soe**	**12.36**	**220**	P	P	**Pn**	**06 09 40.1**			**+0.6**
	baz=12,SNR=20									
MTN	**Manton Dam**	**12.51**	**186**	P	P	Pn	06 09 37.7			-3.6
	baz=12,SNR=163									
MTN		

FITZ **Fitzroy Crossi** 18.87 200 P **P** 06 10 59.5 -3.6
1.4nm,0.3s,baz=33,slow=11,SNR=40
FITZ S Sn 06 14 19.0 -15
0.6nm,0.3s,baz=191,slow=16,SNR=3.7
FITZ LR LR 06 18 27.9
comp=Z,1µm,20.0s,baz=29,slow=38
FITZ Fitzroy Crossi 18.87 200 P **P** **06 10 59.4 -3.7**
baz=18,SNR=17
FITZ S Sn 06 14 25.3 -8.9
baz=18,SNR=4.5
BTM Bintulu 19.59 280 P **Pn** **06 11 13.3 +0.7**
WRAB Tennant Creek 19.59 174 P **P** **06 11 10.0 -1.0**
419nm,0.8s,SNR=47
WRAB Tennant Creek 19.59 174 *e*P **P** **06 11 10.4 -0.6**
WRAB *e*S S 06 14 38.0 -12
WRAB pmax pmax
comp=Z,110nm,0.9s
WRAB Tennant Creek 19.59 174 *e*P **P** **06 11 10.4 -0.6**
comp=Z,110nm,0.9s
WRAB *e*S S 06 14 38.0 -12
WRA Warramunga Arr 19.60 174 P **P** **06 11 09.7 -1.5**
WRA S S 06 14 35.9 -15
WRA Warramunga Arr 19.60 174 P **P** **06 11 09.7 -1.5**
comp=Z,2.4nm,0.3s,baz=351,slow=11,SNR=64
WRA S S 06 14 35.9 -15
comp=Z,0.8nm,0.3s,baz=348,slow=23,SNR=6.9
BCPH Baguio City Da 20.26 326 ⇓*i*P Pn 06 11 22.0 +1.4
SBUM Sibu 20.32 278 P Pn 06 11 20.9 -0.3
MTSU Mount Surprise 21.25 147 P **P** **06 11 29.9 +0.8**
baz=21,SNR=15
KSM Kuching 22.12 275 *e*P **P** **06 11 38.8 +0.3**
comp=Z,212nm,1.2s
KSM Kuching 22.12 275 P **P** **06 11 39.1 +0.5**
KSM Kuching 22.12 275 P **P** **06 11 39.0 +0.5**
baz=22,SNR=19
UGM Wanagama 23.04 250 *e*P **P** **06 11 48.4 +0.2**
comp=Z,607nm,1.4s
UGM Wanagama 23.04 250 P **P** **06 11 48.4 +0.2**
baz=22,SNR=4.8
AS31 Alice Springs 23.26 176 *e*P **P** **06 11 49.9 -0.3**
AS31 *e*S **S** **06 16 03.2 +2.9**
ASAR Alice Springs 23.26 176 P **P** **06 11 49.5 -0.8**
ASAR S **S** **06 16 01.0 +0.7**
ASAR Alice Springs 23.26 176 P **P** **06 11 49.5 -0.8**
comp=Z,71nm,0.9s,baz=355,slow=9.9,SNR=269
ASAR S **S** **06 16 01.0 +0.7**
comp=Z,3.0nm,0.7s,baz=358,slow=28,SNR=2.6
CTA Charters Tower 23.90 146 P **P** **06 11 56.7 +0.3**
CTA Charters Tower 23.90 146 P **P** **06 11 56.7 +0.3**
comp=Z,48nm,0.9s,baz=325,slow=12,SNR=22
CTA LR LR 06 22 22.1
comp=Z,2µm,18.6s,baz=324,slow=39
CTAO Charters Tower 23.90 146 *e*P **P** **06 11 56.8 +0.3**
CTAO Charters Tower 23.90 146 *e*P **P** **06 11 56.8 +0.3**
MBWA Marble Bar 24.11 210 *e*P **P** **06 11 58.6 +0.2**
CISI Cisompet, Garu 25.51 253 P **P** **06 12 09.8 -1.5**
baz=25,SNR=6.6
JOW Kunigami 27.28 352 *e*P **P** **06 12 26.9 -0.1**
comp=Z,63nm,0.4s
MYKOM **Kota Tinggi 28.59 274** P **P** **06 12 40.0 +1.1**
HKC Hong Kong Obse 28.63 323 *i*P **P** **06 12 38.0 -1.1**
HNR Honiara 28.91 109 P **P** **06 12 41.5 -0.2**
HNR Honiara 28.91 109 P **P** **06 12 41.5 -0.2**
comp=Z,170nm,0.7s,baz=250,slow=2.0,SNR=3.7
KGM Kluang 29.13 275 P **P** **06 12 44.7 +0.9**
QIZ Qiongzhong 29.30 312 P **P** **06 12 46.3 +1.2**
QIZ pP **pP** **06 12 54.5 -0.6**
QIZ sP **sP** **06 12 58.5 -0.8**
QIZ S **S** **06 17 38.3 +2.1**
QIZ pmax pmax
comp=Z,25nm,1.7s
QIZ LR LR
comp=N,2µm,11.0s
QIZ LR LR
comp=Z,2µm,14.1s
QIZ Qiongzhong 29.30 312 *e*P **P** **06 12 44.9 -0.3**
comp=Z,54nm,1.4s
MEEK Meekatharra 29.33 206 P **P** **06 12 44.8 -0.6**
baz=29,SNR=7.4
MNAI Manna 29.65 262 S S 06 18 02.3 +20
baz=29,SNR=5.8
KTGM Kuala Trenggan 29.72 281 P **P** **06 12 49.6 +0.6**
RMQ Roma 30.43 150 P **P** **06 12 55.1 0.0**
baz=30,SNR=9.5
FORT Forrest 30.57 187 *e*P **P** **06 12 56.3 +0.1**
comp=Z,191nm,0.8s
FORT Forrest 30.57 187 P **P** **06 12 56.5 +0.3**
baz=30,SNR=31
EIDS Eidsvold 30.78 145 *e*P **P** **06 12 58.5 +0.4**
comp=Z,80nm,1.6s
EIDS Eidsvold 30.78 145 P P 06 13 01.4 +3.2
baz=31,SNR=4.4
FRIM Kepong 30.93 277 P **P** **06 13 00.5 +0.8**
IPM Ipoh 31.67 279 *e*P **P** **06 13 06.3 +0.1**
comp=Z,264nm,1.1s
IPM Ipoh 31.67 279 P **P** **06 13 06.6 +0.4**
PPI Padang Panjang 31.97 270 P **P** **06 13 08.7 -0.1**
baz=32,SNR=6.9
KULM Kulim 32.16 280 *e*P **P** **06 13 10.4 0.0**
comp=Z,119nm,0.8s
KULM Kulim 32.16 280 P **P** **06 13 10.8 +0.3**
KULM Kulim 32.16 280 P **P** **06 13 07.5 -3.0**
comp=Z,177nm,1.2s,comp=Z,1µm
CHBT CHBT 32.50 295 P **P** **06 13 12.7 -0.7**
CHBT CHBT 32.50 295 P **P** **06 13 13.9 +0.5**
comp=Z,62nm,0.9s
BBOO Buckleboo 32.51 174 *e*P **P** **06 13 12.6 -0.6**
comp=Z,788nm,1.2s
SKLT Songkhla 32.53 284 P **P** **06 13 11.1 -2.6**
SKLT Songkhla 32.53 284 P **P** **06 13 13.8 +0.1**
comp=Z,138nm,1.0s,comp=Z,1µm
MORW Morawa 32.56 207 P **P** **06 13 13.6 -0.2**
baz=32,SNR=6.8
STKA Stephens Creek 32.58 165 P **P** **06 13 13.7 -0.3**
STKA Stephens Creek 32.58 165 P **P** **06 13 13.7 -0.3**
comp=Z,24nm,0.8s,baz=346,slow=9.0,SNR=19
STKA LR LR 06 27 43.5
comp=Z,2µm,20.5s,baz=340,slow=39
STKA Stephens Creek 32.58 165 P **P** **06 13 13.4 -0.5**
baz=32,SNR=10
SKNT Sakolnakorn 32.82 303 P **P** **06 13 16.4 +0.1**
comp=Z,41nm,1.2s,comp=Z,4µm
JNU Nakatsue 33.29 358 *e*P **P** **06 13 20.1 -0.1**
JNU Nakatsue 33.29 358 P **P** **06 13 19.8 -0.3**
comp=Z,44nm,0.9s,baz=147,slow=5.8,SNR=12
CMSA Cobar Meteorol 33.52 159 P **P** **06 13 21.8 -0.3**
baz=33,SNR=42
PSI Prapat 33.57 276 P **P** **06 13 22.3 -0.7**
PSI Prapat 33.57 276 P **P** **06 13 22.3 -0.7**
comp=Z,121nm,0.8s,baz=100,slow=5.2,SNR=90
PSI Prapat 33.57 276 P **P** **06 13 22.4 -0.6**
baz=33,SNR=58
BLDU Ballidu 33.60 205 P **P** **06 13 22.5 -0.3**
baz=33,SNR=23
TSI Tutungan 33.99 277 P **P** **06 13 25.3 -1.2**
comp=Z,257nm,1.0s,comp=Z,4µm
KLBR Kellerberrin 34.04 203 P **P** **06 13 26.6 -0.1**
baz=33,SNR=21
KLBR S S 06 18 43.8 -6.3
baz=33,SNR=6.8
PBSI Pulau Batu 34.09 270 P P 06 13 22.4 -4.9
comp=Z,0.2nm,1.1s
NJ2 Nanjing 34.64 340 *e*P **P** **06 13 34.0 +2.2**
NJ2 pmax pmax
comp=Z,80nm,0.6s
KCSI Kotacane, Aceh 34.78 277 P **P** **06 13 30.5 -2.9**
comp=Z,174nm,1.4s,comp=Z,2µm
ARMA Armidale 35.09 150 *e*P **P** **06 13 36.1 +0.2**
comp=Z,39nm,0.8s
ARMA Armidale 35.09 150 P **P** **06 13 35.8 -0.1**
baz=35,SNR=6.9
PBKT Sadao Pong 35.21 300 P P 06 13 33.7 -3.3
NWAO Narrogin (SRO) 35.43 202 *e*P **P** **06 13 38.4 -0.3**
comp=Z,24nm,0.7s
LHMI Lhok Sumawe 35.80 279 P P 06 13 37.0 -5.1
LHMI Lhok Sumawe 35.80 279 P **P** **06 13 42.5 +0.4**
baz=36,SNR=4.2
SNSI Sinabang, Aceh 36.13 274 P P 06 13 39.9 -5.0
GYA Guiyang 36.36 319 P **P** **06 13 48.5 +1.6**
GYA pP **pP** **06 13 58.8 +1.8**
GYA sP **sP** **06 14 02.5 +1.4**
GYA PP **PP** **06 15 13.0 +3.0**
GYA PcP **PcP** **06 16 13.8 +2.7**
GYA sS **sS** **06 19 44.3 +1.6**
GYA ScP **ScP** **06 19 55.0 -0.2**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,4.8s
GYA LR LR
comp=N,2µm,17.6s
GYA LR LR
comp=E,1µm,18.6s
GYA LR LR
comp=Z,3µm,17.9s
YNG Young 36.99 158 P **P** **06 13 52.5 +0.4**
baz=37,SNR=5.7
MAJO Matsushiro 37.07 8 *e*P **P** **06 13 50.3 -2.4**
MAJO pmax pmax
comp=Z,12nm,0.8s
MAJO Matsushiro 37.07 8 *e*P **P** **06 13 50.3 -2.4**
comp=Z,12nm,0.8s
MAT Matsushiro 37.07 8 P **P** **06 13 50.3 -2.4**
MJAR Matsushiro Arr 37.07 8 P **P** **06 13 50.4 -2.3**
MJAR Matsushiro Arr 37.07 8 P **P** **06 13 50.4 -2.3**
comp=Z,3.7nm,0.8s,baz=190,slow=9.1,SNR=14
MJAR LR LR 06 25 57.2
comp=Z,2µm,21.9s,baz=205,slow=31
ARPS Mount Arapiles 37.32 167 P **P** **06 13 57.6 +2.9**
baz=37,SNR=6.2
ENH Enshi 37.41 326 *e*P **P** **06 13 56.6 +1.0**
comp=Z,76nm,1.1s
BSI Banda Aceh 37.46 279 P **P** **06 13 53.2 -3.1**
comp=Z,113nm,1.4s,comp=Z,1µm
CMAR Chiang Mai Arr 37.77 301 P **P** **06 13 58.8 -0.1**
CMAR Chiang Mai Arr 37.77 301 P **P** **06 13 58.8 -0.1**
comp=Z,4.9nm,0.8s,baz=119,slow=6.6,SNR=24
KSAR Wonju Array Be 37.80 354 P **P** **06 13 58.6 -0.2**
KSRS Korea Array 37.81 354 P **P** **06 13 58.6 -0.2**
comp=Z,4.8nm,0.9s,baz=169,slow=9.6,SNR=16
CMMT Chiang Mai 37.92 302 P P 06 13 56.1 -4.0
CMMT Chiang Mai 37.92 302 P **P** **06 14 00.0 -0.1**
comp=Z,15nm,1.0s
CHTO Chiang Mai 37.92 302 *e*P **P** **06 13 59.9 -0.2**
CHTO pmax pmax
comp=Z,15nm,1.1s
CHTO Chiang Mai 37.92 302 *e*P **P** **06 13 59.9 -0.2**
comp=Z,15nm,1.1s
CHTO Chiang Mai 37.92 302 P P 06 13 54.1 -6.0
CHTO Chiang Mai 37.92 302 P **P** **06 14 00.2 +0.1**
comp=Z,17nm,2.0s
CAN Canberra 38.12 158 *e*P **P** **06 14 01.4 -0.2**
CAN pmax pmax
comp=Z,58nm,1.1s
CAN Canberra 38.12 158 *e*P **P** **06 14 01.4 -0.2**
comp=Z,58nm,1.1s
KMI Kunming 38.22 314 P **P** **06 14 02.3 -0.5**
KMI pP **pP** **06 14 11.8 -1.1**
KMI sP **sP** **06 14 16.8 -0.3**
KMI pmax pmax
comp=Z,16nm,1.5s
CNB Canberra Magne 38.26 157 P **P** **06 14 03.9 +1.1**
baz=38,SNR=6.5
TOO Toolangi 39.00 163 P **P** **06 14 12.0 +3.0**
baz=39,SNR=4.0
DZM Mont Dzumac 39.62 125 *e*LR LR 06 25 10.6
comp=Z,1µm,24.0s
LHI Lord Howe Isla 40.02 143 S **S** **06 20 23.8 +2.8**
baz=40,SNR=3.7
DL2 Dalian 40.26 347 P **P** **06 14 19.5 +0.2**
DL2 S **S** **06 20 24.5 +0.1**
DL2 pmax pmax
comp=Z,51nm,0.8s
DL2 pmax pmax
comp=Z,140nm,6.3s
DL2 LR LR
comp=E,1µm,17.7s
DL2 LR LR
comp=Z,610nm,18.0s
XAN Xi'an 40.64 330 P **P** **06 14 21.3 -1.4**
XAN pP **pP** **06 14 29.5 -3.4**
XAN sP **sP** **06 14 32.5 -4.5**
XAN pmax pmax
comp=Z,9.0nm,1.2s
XAN LR LR
comp=N,4µm,10.6s
XAN LR LR
comp=E,2µm,13.4s
XAN LR LR
comp=Z,3µm,13.8s
SNY Shenyang 42.70 350 ⇓P **P** **06 14 39.5 +0.2**
SNY pmax pmax
comp=Z,18nm,1.1s
BJT Baijiatuau 42.78 342 *e*P **P** **06 14 40.3 +0.3**
comp=Z,117nm,1.1s
BJI Beijing 42.80 342 P **P** **06 14 39.5 -0.6**
BJI S **S** **06 21 06.8 +4.8**
BJI pmax pmax
comp=Z,41nm,1.4s
BJI LR LR
comp=N,970nm,14.9s
BJI LR LR
comp=E,950nm,20.3s
BJI LR LR
comp=Z,680nm,24.5s
VLA Vladivostok 43.24 359⇑*e*P **P** **06 14 43.3 -0.4**
VLA 06 16 23.6
VLA S **S** **06 21 08.8 +0.4**
VLA pmax pmax
comp=Z,29nm,1.4s
ERM Erimo 43.25 12 *e*P P 06 14 48.9 +5.1
ERM pmax pmax
comp=Z,17nm,0.9s
ERM Erimo 43.25 12 *e*P P 06 14 48.9 +5.1
comp=Z,17nm,0.9s
USRK Ussuriysk Arra 44.32 360 P **P** **06 14 52.7 +0.4**
comp=Z,15nm,0.8s,baz=183,slow=7.7,SNR=46
USRK LR LR 06 31 02.5
comp=Z,936nm,20.8s,baz=164,slow=33
MDJ Mudanjiang 44.81 357 P **P** **06 14 56.5 +0.3**
MDJ pP **pP** **06 15 05.8 -0.7**
MDJ sP **sP** **06 15 09.5 -1.1**
MDJ PcP **PcP** **06 16 35.8 -2.0**
MDJ PP **PP** **06 16 43.0 +1.7**
MDJ ScP **ScP** **06 20 27.8 +0.1**
MDJ PcS **PcS** **06 20 29.8 -1.4**
MDJ S **S** **06 21 36.0 +4.8**
MDJ sS **sS** **06 21 51.5 +3.4**
MDJ ScS **ScS** **06 24 49.5 -1.6**
MDJ pmax pmax
comp=Z,28nm,1.4s
MDJ pmax pmax
comp=Z,150nm,5.0s
MDJ LR LR
comp=N,650nm,13.9s
MDJ LR LR
comp=E,400nm,11.5s
MDJ LR LR
comp=Z,890nm,16.9s
MDJ Mudanjiang 44.81 357 *e*P **P** **06 14 56.5 +0.3**
comp=Z,44nm,0.9s
LZH Lanzhou 44.89 327 ⇓P **P** **06 14 58.0 +0.8**
LZH pP **pP** **06 15 08.5 +1.0**
LZH sP **sP** **06 15 12.5 +0.9**
LZH PP **PP** **06 16 44.0 +1.4**
LZH sS **sS** **06 21 50.5 +0.6**
LZH SS **ScS** **06 24 46.3 -6.1**
LZH pmax pmax
comp=Z,71nm,1.5s
LZH pmax pmax
comp=Z,260nm,5.0s
LZH LR LR
comp=N,2µm,13.2s
LZH LR LR
comp=E,1µm,14.0s
LZH LR LR
comp=Z,3µm,17.6s
ASAJ Asahikawa 45.17 10 *e*P **P** **06 14 59.1 0.0**
comp=Z,12nm,1.2s
ASAJ Asahikawa 45.17 10 P **P** **06 14 59.1 0.0**
comp=Z,9.5nm,1.1s,baz=226,slow=16,SNR=4.6
ASAJ LR LR 06 30 38.4
comp=Z,2µm,21.8s,baz=194,slow=32
YUK Yuzh-Kuril'sk 45.77 14*c* *i*P **P** **06 15 02.6 -1.2**
YUK *i* 06 16 38.5
YUK *e*S **S** **06 21 48.8 +3.7**
YUK *e*SS **SS** **06 25 06.0 -4.0**
YUK *e*SSS SSS 06 25 58.0
SHL Shillong 46.79 306 *e*P **P** **06 15 12.0 -0.5**
SHL *e*P **PcP** **06 16 41.0 -4.4**
YSS Yuzh-Sakhalins 47.95 10 *e*P **P** **06 15 20.2 -0.6**
YSS *e**PP **pP** **06 15 31.0 -0.2**
YSS *e*S **S** **06 22 12.0 -4.1**
YSS pmax pmax
comp=Z,40nm,0.8s
MSVF Nonsavu 48.13 114 P **P** **06 15 24.3 +1.5**
MSVF pmax pmax
comp=Z,16nm,1.0s
MSVF Nonsavu 48.13 114 P **P** **06 15 24.3 +1.5**
comp=Z,16nm,1.0s
LSA Lhasa 49.32 311 P **P** **06 15 32.0 -0.3**
LSA Lhasa 49.32 311 *e*P **P** **06 15 32.7 +0.4**
LSA pmax pmax
comp=Z,38nm,1.3s
LSA Lhasa 49.32 311 *e*P **P** **06 15 32.7 +0.4**
comp=Z,38nm,1.3s
KLR Kul'dur 49.36 359 *e*P P 06 15 28.4 -3.2
KLR *e* 06 22 33.5
KLR pmax pmax
comp=Z,220nm,2.0s
GTA Gaotai 49.49 327 ⇑P **P** **06 15 34.0 +1.0**
GTA pP **pP** **06 15 44.3 +0.9**
GTA sP **sP** **06 15 48.3 +0.8**
GTA S **S** **06 22 40.0 +1.5**
GTA sS **sS** **06 22 56.8 +1.2**
GTA SS **SS** **06 26 09.5 -1.4**
GTA pmax pmax
comp=Z,9.0nm,1.6s
GTA pmax pmax
comp=Z,130nm,6.4s
GTA LR LR
comp=N,180nm,16.4s
GTA LR LR
comp=E,320nm,20.9s
GTA LR LR
comp=Z,370nm,18.5s
HIA Hailar 50.58 349 P **P** **06 15 43.6 +2.7**
TAPN Taplejung 50.93 306 *e*P **P** **06 15 43.6 -0.8**
comp=Z,222nm,1.8s
ODAN Odare 50.99 306 *e*P **P** **06 15 44.1 -0.6**
RAMN Ramite 51.67 305 *e*P **P** **06 15 49.3 -0.5**
comp=Z,174nm,1.3s
PALK Pallekele 52.07 279 *e*P **P** **06 15 52.0 -0.8**
comp=Z,30nm,1.0s
JIRN Jiri 52.29 306 *e*P **P** **06 15 53.9 -0.7**
GUN Gumba 52.64 306 *e*P **P** **06 15 56.4 -0.8**
ULN Ulaanbaatar 52.80 339 *e*P **P** **06 15 58.6 +0.9**
comp=Z,37nm,0.9s
PKI Pulchoki 52.89 306 *e*P **P** **06 15 57.8 -1.2**
PKIN Phulchoki 52.90 306 *e*P **P** **06 15 57.6 -1.4**
comp=Z,39nm,1.3s
SONM Songino Array 53.01 338 P **P** **06 15 59.7 +0.4**
SONM Songino Array 53.01 338 P **P** **06 15 59.7 +0.4**
comp=Z,18nm,1.0s,baz=161,slow=7.8,SNR=38
KKN Kakani 53.08 306 *e*P **P** **06 15 59.3 -0.9**
comp=Z,72nm,1.3s
DMN Daman 53.15 305 *e*P **P** **06 16 00.0 -0.8**
comp=Z,106nm,1.3s
KOLN Koldanda 54.44 305 *e*P **P** **06 16 09.8 -0.4**
comp=Z,112nm,0.9s
CIT Chita 54.51 346 *e*P **P** **06 16 11.2 +1.2**
CIT *e* 06 16 21.4
CIT *e* 06 16 25.3
CIT pmax pmax
comp=Z,207nm,1.7s
DANN Dangsing 54.53 306 *e*P **P** **06 16 10.4 -0.6**
comp=Z,169nm,1.1s
RPZ Rata Peaks 55.27 147 *e*P **P** **06 16 16.7 +1.0**
comp=Z,73nm,1.3s
HYB Hyderabad 55.80 291 *i*P **P** **06 16 18.0 -2.0**
HYB *e*S **S** **06 24 04.0 -1.1**
ZAK Zakamensk 56.27 338 *e*P **P** **06 16 23.9 +1.1**
ZAK pmax pmax
comp=Z,16nm,1.6s
PETK Petropavlovsk- 57.28 18 P **P** **06 16 30.1 +0.3**
PETK Petropavlovsk- 57.28 18 P **P** **06 16 30.1 +0.3**
PETK Petropavlovsk- 57.28 18 P **P** **06 16 30.1 +0.3**
comp=Z,11nm,0.8s,baz=194,slow=5.6,SNR=26
PETK LR LR 06 36 15.7
comp=Z,772nm,21.6s,baz=238,slow=31
CLNS Chul'man 57.29 355 *e*P **P** **06 16 30.3 +0.4**
CLNS *e**PP pP 06 16 46.3 +5.9
CLNS pmax pmax
comp=N,7.0nm,1.1s
CLNS pmax pmax
comp=E,5.0nm,1.0s
CLNS pmax pmax
comp=Z,13nm,0.9s
CLNS pmax pmax
comp=Z,8.0nm,1.0s
CLNS pmax pmax
comp=N,6.0nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,0.9s
IRK Irkutsk 57.45 340 *e*P **P** **06 16 32.4 +1.4**
IRK *e* 06 17 22.5
IRK pmax pmax
comp=Z,97nm,1.6s
PET Petropavlovsk 57.51 18 *e*P **P** **06 16 31.8 +0.4**
PET *e*S **S** **06 24 29.6 +3.2**
PET pmax pmax
comp=Z,36nm,1.4s
MOY Mondy 58.17 338 *e*P **P** **06 16 38.9 +2.7**
MOY pmax pmax
comp=Z,112nm,2.1s
WMQ Urumqi 59.27 324 P **P** **06 16 45.5 +1.5**
WMQ pP **pP** **06 16 55.5 +0.9**
WMQ sP **sP** **06 16 59.5 +0.8**
WMQ PcP **PcP** **06 17 33.5 +1.5**
WMQ PP **PP** **06 18 58.0 +2.7**
WMQ ScP **ScP** **06 21 30.0 -0.3**
WMQ S **S** **06 24 49.3 -0.7**
WMQ sS **sS** **06 25 06.0 -1.4**
WMQ ScS **ScS** **06 26 29.3 -2.4**
WMQ SS **SS** **06 28 45.3 +0.2**
WMQ pmax pmax
comp=Z,39nm,1.3s
WMQ pmax pmax
comp=Z,270nm,4.4s
WMQ LR LR
comp=N,2µm,12.6s
WMQ LR LR
comp=E,2µm,14.4s
WMQ LR LR
comp=Z,1µm,15.4s
HVS Khovu-Aksy 60.81 333*c* *i*P **P** **06 16 55.5 +1.0**
HVS pmax pmax
comp=Z,207nm,1.3s
YAK Yakutsk 62.22 359*de*P **P** **06 17 03.6 0.0**
YAK *e**PP **pP** **06 17 11.8 -2.4**
YAK *e* 06 19 21.0
YAK *e*S **S** **06 25 26.2 -0.5**
YAK *e* 06 26 55.3
YAK pmax pmax
comp=Z,59nm,0.9s
YAK pmax pmax
comp=Z,7.0nm,0.6s
YAK smax smax
comp=E,155nm,4.1s
YAK smax smax
comp=N,149nm,4.7s
FX1 Attu Island--F 62.98 26 P **P** **06 17 09.0 +0.1**
FX1 Attu Island--F 62.98 26 P **P** **06 17 09.0 +0.1**
comp=N,26nm,0.8s,baz=247,slow=1.3,SNR=8.9
MK31 Makanchi Array 64.09 324 *i*P **P** **06 17 16.3 -0.1**
MK31 pmax pmax
comp=Z,29nm,0.8s
MKAR Makanchi Array 64.09 324 P **P** **06 17 16.4 0.0**
MKAR Makanchi Array 64.09 324 P **P** **06 17 16.4 0.0**
MKAR ⇑*e* 06 46 11.6
MKAR Makanchi Array 64.09 324 P **P** **06 17 16.4 0.0**
comp=Z,13nm,0.7s,baz=114,slow=8.2,SNR=63
MKAR PKP2bc 06 46 11.6
comp=Z,0.4nm,0.9s,baz=305,slow=4.3,SNR=4.2
KRAR Krasnoyarsk 64.61 337 *e*P **P** **06 17 21.8 +2.3**
KRAR pmax pmax
comp=Z,23nm,1.2s
KSH Kashi 64.87 315 P **P** **06 17 23.5 +1.7**
KSH sP **sP** **06 17 38.0 +1.5**
KSH PP **PP** **06 19 47.5 +2.7**
KSH PcS 06 21 58.0
KSH S **S** **06 26 00.8 -0.1**
KSH sS **sS** **06 26 18.0 -0.5**
KSH ScS **SKSac** **06 27 12.0 -2.2**
KSH SS **SS** **06 30 14.0 +1.0**
KSH pmax pmax
comp=Z,51nm,1.2s

KSH pmax pmax
comp=Z,160nm,3.3s
KSH LR LR
comp=N,1μm,15.7s
KSH LR LR
comp=E,860nm,14.2s
KSH LR LR
comp=Z,1μm,15.0s
ULHL Ulahol 65.78 317 P **P** **06 17 28.6 +0.9**
SNR=8.7
KZA Kyzart 66.39 317 P **P** **06 17 33.1 +1.3**
SNR=26
DRV Dumont d'Urvil 66.43 177 P P 06 17 35.0 +3.9
DRV Dumont d'Urvil 66.43 177 PP PP 06 20 07.0 +9.3
DRV S **S** **06 26 15.0 -3.7**
DRV L L 06 33 00.0
DRV R 06 38 00.0
TKM2 Tokmak 2 66.50 318 *eP* **P** **06 17 32.6 +0.3**
TKM2 pmax pmax
comp=Z,20nm,0.9s
TKM2 Tokmak 2 66.50 318 P **P** **06 17 32.9 +0.6**
SNR=18
TKM2 Tokmak 2 66.50 318 *eP* **P** **06 17 32.6 +0.3**
comp=Z,20nm,0.9s
ZAA0 Zalesovo Array 66.76 332 *eP* **P** **06 17 33.2 -0.2**
ZALV Zalesovo Beam 66.76 332 *i* P **P** **06 17 33.2 -0.2**
ZALV pmax pmax
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 66.76 332 P **P** **06 17 33.3 -0.2**
ZALV Zalesovo Beam 66.76 332 P **P** **06 17 33.3 -0.2**
comp=Z,12nm,0.8s,baz=115,slow=6.7,SNR=25
UCH Uchtor 66.95 317 P **P** **06 17 37.1 +1.6**
SNR=6.8
CHMS Chumysh 67.09 318 P **P** **06 17 37.0 +1.1**
SNR=5.5
FRU Bishkek 67.12 318 *eP* **P** **06 17 35.0 -1.0**
FRU *e* 06 18 08.0
FRU pmax pmax
comp=Z,70nm,2.0s
AAK Ala-Archa 67.12 317 P **P** **06 17 37.3 +1.1**
comp=Z,107nm,1.0s,SNR=6.5
AAK Ala-Archa 67.12 317⇓ *i* P **P** **06 17 37.1 +0.9**
AAK pmax pmax
comp=Z,97nm,1.7s
AAK Ala-Archa 67.12 317 P **P** **06 17 36.5 +0.2**
AAK Ala-Archa 67.12 317 P **P** **06 17 36.5 +0.2**
comp=Z,12nm,0.9s,baz=145,slow=2.7,SNR=16
ADK Adak 67.28 31 *eP* **P** **06 17 36.0 -0.8**
ADK pmax pmax
comp=Z,128nm,0.9s
ADK Adak 67.28 31 *eP* **P** **06 17 36.0 -0.8**
comp=Z,128nm,0.9s
USP Ospenovka 67.37 318 P **P** **06 17 38.4 +0.8**
SNR=28
AML Almayashu 67.47 317 P **P** **06 17 40.0 +1.3**
SNR=14
EKS2 Erkin-Say 67.62 317 *eP* **P** **06 17 40.5 +1.2**
EKS2 pmax pmax
comp=Z,29nm,1.0s
EKS2 Erkin-Say 67.62 317 P **P** **06 17 40.6 +1.2**
SNR=17
EKS2 Erkin-Say 67.62 317 *eP* **P** **06 17 40.5 +1.2**
comp=Z,29nm,1.0s
CASY Casey 67.63 189 *eP* **P** **06 17 39.1 +0.4**
comp=Z,56nm,1.4s
NVS Novosibirsk 68.04 332⇑ *i* P P 06 17 50.8 +9.3
NVS pmax pmax
comp=N,31nm,1.5s
NVS pmax pmax
comp=E,40nm,1.5s
NVS pmax pmax
comp=Z,67nm,1.5s
KURK Kurchatov 68.18 326 P **P** **06 17 42.6 +0.1**
KURK S **S** **06 26 42.8 +2.5**
KURK Kurchatov 68.18 326 P **P** **06 17 42.6 +0.1**
KURK S **S** **06 26 42.8 +2.5**
KURK ⇑ *e* 06 46 00.8
KURBB Kurchatov Arra 68.18 326 P **P** **06 17 42.6 +0.1**
comp=Z,17nm,0.8s,baz=122,slow=5.7,SNR=66
KURBB S **S** **06 26 42.8 +2.4**
comp=Z,0.3nm,0.6s,baz=133,slow=9.2,SNR=4.5
KURBB PKP2bc 06 46 00.8
comp=Z,1.0nm,0.9s,baz=304,slow=3.7,SNR=4.6
KBL Kabul 68.44 308 *eP* **P** **06 17 44.5 -0.3**
KBL pmax pmax
comp=Z,26nm,1.0s
KBL Kabul 68.44 308 *eP* **P** **06 17 44.5 -0.3**
comp=Z,26nm,1.0s
KK31 Karatay Array 70.02 317 *i* P **P** **06 17 53.9 -0.2**
KK31 pmax pmax
comp=Z,12nm,0.7s
KKAR Karatay Array 70.02 317 *eP* **P** **06 17 54.1 0.0**
KKAR pmax pmax
comp=Z,40nm,1.1s
KKAR Karatay Array 70.02 317 *eP* **P** **06 17 54.0 0.0**
comp=Z,40nm,1.1s
MIR Mirnyy 71.67 196 *eP* **P** **06 18 05.5 +1.9**
MIR *i* 06 18 13.0
MIR pmax pmax
comp=Z,94nm,1.5s
VOSK Vostochnaya 73.33 326 P **P** **06 18 13.1 -0.7**
VOSK pmax pmax
comp=Z,31nm,1.2s
UNV Unalaska Valle 73.64 33 *eP* **P** **06 18 15.5 -0.1**
comp=Z,28nm,1.1s
BVA0 Borovoye Array 73.77 326 P **P** **06 18 15.7 -0.7**
BVA0 pmax pmax
comp=Z,40nm,1.0s
BRVK Borovoye 73.85 326 P **P** **06 18 17.9 +1.1**
comp=Z,213nm,0.9s,SNR=17
BRVK Borovoye 73.85 326 *d i* P **P** **06 18 17.5 +0.7**
BRVK pmax pmax
comp=Z,45nm,1.2s
BRVK Borovoye 73.85 326 *eP* **P** **06 18 16.9 0.0**
comp=Z,83nm,1.4s
AKUT Akutan 74.16 33 *eP* **P** **06 18 16.1 -2.5**
comp=Z,66nm,1.3s
IDAH Dahanechah 75.49 304 *eP* **P** **06 18 27.9 +0.7**
IMYA Miami 75.95 308 *eP* **P** **06 18 30.0 +0.4**
IKOO Kooshah 76.16 303 *eP* **P** **06 18 31.3 +0.3**
ISRO Mashad 76.45 307 *eP* **P** **06 18 32.3 0.0**
ITEG Tejag 76.45 304 *eP* **P** **06 18 32.4 -0.1**
IMOG Moghan 76.52 307 *eP* **P** **06 18 33.6 +0.6**
IKRD Kardeh 77.29 308 *eP* P 06 18 33.2 -4.1
ISFR Sfrayin 77.74 308 *eP* **P** **06 18 40.3 +0.5**
ISHV Shirvan 78.06 308 *eP* **P** **06 18 41.9 +0.4**
PPT Papeete 78.52 108 LR LR 06 48 30.2
comp=Z,198nm,19.2s,baz=188,slow=32
PPT2 Papeete2 78.52 108 *eS* **S** **06 28 35.9 -2.9**
comp=Z,406nm,26.2s
PPT2 eSS **SS** **06 33 43.0 +0.1**
comp=Z,95nm,25.8s
PPT2 eLR LR 06 43 11.1
comp=Z,296nm,23.8s
VNDA Vanda 78.77 174 P **P** **06 18 44.8 +0.5**
VNDA Vanda 78.77 174 P **P** **06 18 44.8 +0.5**
comp=Z,16nm,0.8s,baz=321,slow=6.0,SNR=94
VNDA LR LR 06 53 07.3
comp=Z,533nm,19.5s,baz=346,slow=35
AB31 Akbulak array 78.83 320 *i* P **P** **06 18 44.8 -0.4**
AB31 pmax pmax
comp=Z,17nm,0.6s
ABKAR Akbulak array 78.83 320 *eP* **P** **06 18 44.9 -0.3**
comp=Z,17nm,0.7s
IBAF Bafgh 78.93 302 *eP* **P** **06 18 45.5 -0.8**
TBI Tubuai 79.02 114 eLR LR 06 43 18.6
comp=Z,428nm,33.0s
SBA Scott Base 79.62 173 *eP* **P** **06 18 48.8 -0.2**
SBA pmax pmax
comp=Z,32nm,1.2s
SBA Scott Base 79.62 173 *eP* **P** **06 18 48.8 -0.2**
comp=Z,32nm,1.2s
IMEH Mehriz 79.71 302 *eP* **P** **06 18 49.3 -1.4**
ICHK Chekchek 79.99 303 *eP* **P** **06 18 51.3 -0.9**
AKTO Aktyubinsk 80.31 321 P **P** **06 18 53.3 +0.1**
AKTO Aktyubinsk 80.31 321 P **P** **06 18 53.3 +0.1**
AKTO Aktyubinsk 80.31 321 P **P** **06 18 53.3 +0.1**
comp=Z,32nm,1.1s,baz=99,slow=6.8,SNR=40
SVE Sverdlovsk 80.34 328⇑ *i* P **P** **06 18 53.8 +0.6**
SVE pmax pmax
comp=Z,82nm,1.6s
ISAD Sadrabad 80.56 302 *eP* **P** **06 18 54.2 -1.1**
IANJ Anjilo 80.78 306 *eP* **P** **06 18 56.6 +0.2**
IKIA Kiasar 81.05 307 *eP* **P** **06 18 58.1 +0.3**
ISHM Shahmirzad 81.32 306 *eP* **P** **06 18 59.5 +0.2**

ARU Arti 81.35 327 *c i* P **P** **06 18 58.3 -0.3**
ARU 06 21 59.4
ARU S **S** **06 29 06.6 -0.4**
ARU pmax pmax
comp=Z,61nm,1.2s
ARU Arti 81.35 327 P **P** **06 18 58.4 -0.2**
comp=Z,245nm,0.8s,SNR=14
ILAS Lasjerd 81.54 306 *eP* **P** **06 19 00.0 -0.5**
IFIR Firoozkooh 81.74 306 *eP* **P** **06 19 01.8 +0.3**
IZEF Zefreh 81.80 303 *eP* **P** **06 19 00.5 -1.4**
MAW Mawson 81.99 201 P **P** **06 19 02.2 +0.4**
MAW Mawson 81.99 201 P **P** **06 19 02.2 +0.4**
comp=Z,16nm,0.8s,baz=57,slow=6.7,SNR=23
ISFB Sefidab 82.02 305 *eP* **P** **06 19 02.9 +0.1**
IPRN Peran 82.14 307 *eP* **P** **06 19 03.6 +0.2**
IDMV Damavand 82.32 306 *eP* **P** **06 19 04.3 -0.3**
KDAK Kodiak Island 82.33 31 P **P** **06 19 03.7 0.0**
KDAK Kodiak Island 82.33 31 P **P** **06 19 03.7 0.0**
comp=Z,23nm,0.9s,baz=191,slow=10,SNR=3.4
IKLH Kolahrood 82.47 304 *eP* **P** **06 19 05.8 +0.4**
IVRN Varamin 82.51 305 *eP* **P** **06 19 05.5 +0.2**
IPIR Pirpir 82.99 303 *eP* **P** **06 19 08.4 +0.2**
SOKR Solikamsk 82.99 330 *d i* P **P** **06 19 07.6 +0.5**
SOKR pmax pmax
comp=Z,40nm,1.4s
IR3 Iran Long-Peri 83.12 306 *eP* **P** **06 19 08.6 +0.1**
IMHD Mahdasht 83.43 306 *eP* **P** **06 19 10.5 +0.3**
IR5 Iran Long-Peri 83.46 305 *eP* **P** **06 19 10.9 +0.6**
PPLA Purkeypile 83.67 26 *eP* **P** **06 19 11.3 +0.5**
comp=Z,134nm,1.7s
IRAZ Razeghan 84.01 305 *eP* **P** **06 19 13.7 +0.5**
TRF Thorofare Moun 84.64 26 *eP* **P** **06 19 14.3 -1.5**
comp=Z,19nm,0.4s
PMR Palmer 84.81 28 *eP* **P** **06 19 16.3 -0.1**
PMR pmax pmax
comp=Z,26nm,1.1s
PMR Palmer 84.81 28 *eP* **P** **06 19 16.3 -0.1**
comp=Z,26nm,1.1s
SML Sawmill 85.22 28 *eP* **P** **06 19 18.8 +0.3**
SML pmax pmax
comp=Z,33nm,1.5s
SML Sawmill 85.22 28 *eP* **P** **06 19 18.8 +0.3**
comp=Z,33nm,1.5s
MCK McKinley 85.28 26 *eP* **P** **06 19 18.6 -0.2**
MCK McKinley 85.28 26 *eP* **P** **06 19 18.6 -0.2**
COLD Coldfoot 85.43 22 *eP* **P** **06 19 20.0 +0.5**
comp=Z,24nm,1.1s
KBD Kabd 85.49 299 *eP* **P** **06 19 19.8 -0.8**
KBD AMb AMB 06 19 24.9
comp=Z,49nm,1.2s
RDF Al-Radifah 85.61 299 *eP* **P** **06 19 21.0 -0.1**
RDF AMb AMB 06 19 26.6
comp=Z,100nm,1.3s
MIB Mutribah 85.83 300 *eP* **P** **06 19 21.5 -0.8**
MIB AMb AMB 06 19 23.5
comp=Z,133nm,1.1s
NAY Al-Naaiem 85.89 299 *eP* **P** **06 19 21.9 -0.6**
NAY AMb AMB 06 19 23.0
comp=Z,73nm,1.0s
IKOM Komasi 85.91 304 *eP* **P** **06 19 21.1 -1.7**
COLA College 85.94 25 *eP* **P** **06 19 20.4 -1.6**
COLA pmax pmax
comp=Z,55nm,0.8s
COLA College 85.94 25 *eP* **P** **06 19 20.4 -1.6**
comp=Z,55nm,0.8s
ISRB Sarab 86.00 308 *eP* **P** **06 19 24.0 +0.8**
ILAR Eielson Array 86.33 25 P **P** **06 19 23.2 -0.7**
ILAR PKKPbc **PKKPbc** **06 37 22.2 -2.2**
ILAR Eielson Array 86.33 25 P **P** **06 19 23.2 -0.7**
comp=Z,12nm,0.9s,baz=259,slow=4.6,SNR=54
ILAR PKKPbc **PKKPbc** **06 37 22.2 -2.2**
comp=Z,1.0nm,1.1s,baz=111,slow=0.2,SNR=5.6
DIV Divide 86.34 29 *eP* **P** **06 19 24.6 +0.5**
comp=Z,59nm,0.8s
IVIS Veis 86.48 304 *eP* **P** **06 19 25.3 -0.2**
PAX Paxson 86.71 27 *eP* **P** **06 19 26.7 +0.7**
PAX pmax pmax
comp=Z,94nm,1.6s
PAX Paxson 86.71 27 *eP* **P** **06 19 26.7 +0.7**
comp=Z,94nm,1.6s
BMRM Bremner River 86.88 29 *eP* **P** **06 19 27.1 +0.3**
comp=Z,87nm,1.3s
RAYN Ar Rayn 87.24 293 P **P** **06 19 28.3 -1.1**
comp=Z,192nm,1.2s,SNR=11
MENT Mentasta 87.50 27 *eP* **P** **06 19 30.3 +0.6**
ISHB Shabestar 87.64 308 *eP* **P** **06 19 31.5 +0.3**
DGRG David-gareji 87.95 311 P **P** **06 19 33.6 +1.2**
GNI Garni 88.38 310 *eP* **P** **06 19 34.7 +0.1**
comp=Z,19nm,0.9s
TBLG Delisi 88.43 312 *eP* **P** **06 19 35.9 +1.3**
TBLG Delisi 88.43 312 P **P** **06 19 35.9 +1.3**
EGAK Eagle 88.78 25 *eP* **P** **06 19 35.3 -0.3**
comp=Z,4.2nm,0.8s
ZEI Tsey 89.08 313 *eP* **P** **06 19 38.6 +0.7**
ZEI pmax pmax
comp=Z,18nm,1.0s
AKH Akhalkalaki 89.36 311 P **P** **06 19 39.3 +0.2**
ONI Oni 89.41 312 P P 06 19 35.5 -3.7
QSPA South Pole Qui 89.61 180 *eP* **P** **06 19 39.8 +0.1**
comp=Z,43nm,0.9s
QSPA South Pole Qui 89.61 180 LR LR 06 59 56.1
comp=Z,592nm,19.2s,baz=183,slow=36
KBZ Khabaz 89.83 314 P **P** **06 19 41.8 +0.7**
KBZ Khabaz 89.83 314 P **P** **06 19 41.8 +0.7**
KBZ Khabaz 89.83 314 P **P** **06 19 41.8 +0.7**
comp=Z,4.4nm,1.0s,baz=102,slow=1.7,SNR=5.6
KIV Kislovodsk 89.98 314 *eP* **P** **06 19 41.7 -0.2**
KIV pmax pmax
comp=Z,5.0nm,1.0s
SYO Syowa Base 90.70 201⇑ *eP* **P** **06 19 43.8 -0.8**
INK Inuvik 91.82 22 P **P** **06 19 50.5 +0.7**
INK PKKP **PKKPdf** **06 37 07.2 -0.5**
INK Inuvik 91.82 22 P **P** **06 19 50.5 +0.7**
comp=Z,4.2nm,0.9s,baz=257,slow=8.3,SNR=8.0
INK PKKP **PKKPdf** **06 37 07.2 -0.5**
comp=Z,1.2nm,0.7s,baz=48,slow=3.1,SNR=5.7
OBN Obninsk 93.58 325⇑ *eP* **P** **06 19 56.7 -1.5**
OBN *i* S **SKSac** **06 30 32.5 +2.5**
OBN *eP* S **PS** **06 32 19.7 -2.4**
OBN pmax pmax
comp=Z,35nm,2.5s
OBN MLR MLR
comp=Z,300nm,18.0s
APA Apatity 93.72 338⇓ *eP* P 06 20 08.2 +10
APA MLR MLR
comp=Z,400nm,13.0s
KMBO Kilima Mbogo 95.10 269 P **P** **06 20 06.0 -0.4**
KMBO Kilima Mbogo 95.10 269 P **P** **06 20 06.0 -0.4**
comp=Z,0.6nm,0.3s,baz=66,slow=17,SNR=3.8
ARCES ARCESS Array B 96.15 340 P **P** **06 20 08.5 -1.2**
ARCES ARCESS Array B 96.15 340 P **P** **06 20 08.5 -1.2**
comp=Z,18nm,1.1s,baz=79,slow=6.3,SNR=12
ARCES LR LR 07 05 17.2
comp=Z,529nm,20.8s,baz=70,slow=37
BRTR Keskin Array B 96.92 310 P **P** **06 20 12.3 -1.7**
BRTR Keskin Array B 96.92 310 P **P** **06 20 12.3 -1.7**
comp=Z,0.5nm,0.7s,baz=134,slow=7.0,SNR=3.9
FINES FINESS Array B 98.02 332 P **P** **06 20 16.8 -1.5**
FINES FINESS Array B 98.02 332 P **P** **06 20 16.8 -1.5**
comp=Z,3.4nm,1.0s,baz=345,slow=6.7,SNR=4.9
YKA Yellowknife Ar 100.75 26 P **Pdif** **06 20 28.7 -1.7**
YKA Yellowknife Ar 100.75 26 P **Pdif** **06 20 28.7 -1.7**
comp=Z,1.3nm,0.8s,baz=290,slow=5.2,SNR=3.9
STHS Stebnicka Huta 103.86 321 *eP* **Pdif** **06 20 44.1 -0.5**
STHS Stebnicka Huta 103.86 321 PDIF **Pdif** **06 20 44.1 -0.5**
KECS Kecovo 104.60 320 *eP* **Pdif** **06 20 47.8 -0.1**
KECS Kecovo 104.60 320 PDIF **Pdif** **06 20 47.8 -0.1**
BOSA Boshof 104.83 240 *ePdif* **Pdif** **06 20 49.4 -0.1**
BOSA Boshof 104.83 240 Pdiff **Pdif** **06 20 48.6 -0.9**
comp=Z,1.7nm,0.8s,baz=110,slow=12,SNR=4.0
NOA NORSAR Array B 104.87 334 Pdif **Pdif** **06 20 49.2 +0.3**
NOA NORSAR Array B 104.87 334 Pdiff **Pdif** **06 20 49.2 +0.3**
comp=Z,1.1nm,0.9s,baz=64,slow=4.1,SNR=3.1
NVAR Mina Array Bea 105.27 50 Pdif **Pdif** **06 20 53.9 +2.5**
NVAR PKKPab **PKKPab** **06 36 48.3 -1.0**
NVAR Mina Array Bea 105.27 50 Pdiff **Pdif** **06 20 53.9 +2.5**
comp=Z,0.5nm,0.9s,baz=256,slow=7.3,SNR=2.6
NVAR PKKPab **PKKPab** **06 36 48.3 -1.0**
comp=Z,0.5nm,0.8s,baz=123,slow=4.6,SNR=4.0
OKC Ostrava-Krasne 105.65 322 *e*SKS **SKSac** **06 31 26.0 -4.1**
OKC AMS AMS 07 04 10.0
comp=Z,300nm,14.2s
DPC Dobruska-Polom 106.59 323 *e*PP PP 06 25 26.3 +4.5
TREC Trest 107.47 322 AMS AMS 07 04 10.0
comp=Z,300nm,11.7s

PRU Pruhonice 107.79 323 AMS AMS 07 04 50.0
comp=Z,400nm,12.6s
CLL Collm 108.18 325 *e*Sdif Sdif 06 33 08.0 +0.1
CLL *e*SS SS 06 40 55.0 +10
KHC Kasperske Hory 108.69 323 AMS AMS 07 05 30.0
comp=Z,500nm,12.2s
NKC Novy Kostel 108.94 324 AMS AMS 07 05 30.0
comp=Z,400nm,13.7s
PDAR Pinedale Array 110.51 44 PKKPbc PKKPbc 06 36 13.9 -2.3
PDAR PKKPab **PKKPab** **06 36 24.9 -1.2**
PDAR Pinedale Array 110.51 44 PKKPbc PKKPbc 06 36 13.9 -2.3
comp=Z,0.7nm,0.8s,baz=116,slow=3.4,SNR=5.7
PDAR PKKPab **PKKPab** **06 36 24.9 -1.2**
comp=Z,0.9nm,0.9s,baz=119,slow=5.2,SNR=5.1
TSUM Tsumeb 113.22 249 *e*PKPdf PKiKP 06 25 14.8 -6.0
ULM Lac du Bonnet 115.58 32 PKKPab PKKPab 06 36 01.7 -1.5
ULM Lac du Bonnet 115.58 32 PKKPab PKKPab 06 36 01.7 -1.5
comp=Z,5.0nm,1.0s,baz=113,slow=2.6,SNR=5.2
V25A Rancho No Teng 116.48 50 P **PKPdf** **06 25 27.0 +0.2**
baz=116
Y24A Capitan 116.50 52 P **PKPdf** **06 25 27.0 +0.2**
baz=116
S26A Kim 116.70 47 P **PKPdf** **06 25 27.4 +0.4**
baz=117
T26A Comanche Natio 116.77 48 P **PKPdf** **06 25 27.7 +0.5**
baz=117
Y25A Mesa, Roswell 117.08 52 P **PKPdf** **06 25 28.2 +0.3**
baz=117
V26A Tequesquite Ra 117.13 49 P **PKPdf** **06 25 28.4 +0.5**
baz=117
324A Moseley Ranch, 117.24 54 P **PKPdf** **06 25 28.5 +0.2**
baz=117
226B Tecolote Peak, 118.11 53 P **PKPdf** **06 25 30.4 +0.6**
baz=118
526A Mary Lane Ranc 118.80 56 P **PKPdf** **06 25 31.5 +0.2**
baz=119
TXAR Lajitas Array 119.38 56 PKP **PKPdf** **06 25 32.5 +0.2**
TXAR PKKPbc **PKKPbc** **06 35 44.7 -0.3**
TXAR Lajitas Array 119.38 56 PKP **PKPdf** **06 25 32.5 +0.2**
comp=Z,0.5nm,0.7s,baz=177,slow=1.0,SNR=6.9
TXAR PKKPbc **PKKPbc** **06 35 44.7 -0.3**
comp=Z,0.9nm,0.8s,baz=121,slow=5.9,SNR=11
328A Wristen Ranch, 119.42 54 P **PKPdf** **06 25 32.5 +0.2**
baz=119
627A Terlingua Ranc 119.57 56 P **PKPdf** **06 25 32.9 +0.2**
baz=120
529A Stev Forest Ra 120.32 55 P **PKPdf** **06 25 33.6 -0.5**
baz=120
429A Davenport Ranc 120.42 54 P **PKPdf** **06 25 34.1 -0.2**
baz=120
X31A McDonald Ranch 120.46 49 P **PKPdf** **06 25 33.6 -0.6**
baz=120
Z31A Sharp Cattle R 120.84 51 P **PKPdf** **06 25 35.1 +0.1**
baz=121
430A Baggett Ranch, 120.90 54 P **PKPdf** **06 25 35.4 +0.2**
baz=121
530A J-C Ranch, Com 121.03 55 P **PKPdf** **06 25 35.5 0.0**
baz=121
231A Bronte 121.22 52 P **PKPdf** **06 25 35.9 +0.1**
baz=121
WMOK Wichita Mounta 121.32 49 *e*PKPdf **PKPdf** **06 25 34.3 -1.6**
Z32A Haskell 121.36 50 P **PKPdf** **06 25 36.6 +0.7**
baz=121
331A San Angelo 121.36 53 P **PKPdf** **06 25 36.2 +0.1**
baz=121
431A Sonora 121.44 54 P **PKPdf** **06 25 36.4 +0.1**
baz=121
531A Rocksprings 121.67 54 P **PKPdf** **06 25 36.6 -0.1**
baz=122
332A Millersview 121.88 53 P **PKPdf** **06 25 36.9 -0.1**
baz=122
631A Perdido Creek 121.90 55 P **PKPdf** **06 25 37.1 -0.1**
baz=122
432A Menard 122.02 53 P **PKPdf** **06 25 37.5 +0.1**
baz=122
JCT Junction City 122.16 54 P **PKPdf** **06 25 38.1 +0.4**
baz=122
732A Laxson Ranch, 122.64 56 P **PKPdf** **06 25 38.6 +0.1**
baz=123
SCHQ Schefferville 123.43 13 PKKPbc PKKPbc 06 35 30.9 +0.6
SCHQ Schefferville 123.43 13 PKKPbc PKKPbc 06 35 30.9 +0.6
comp=Z,3.1nm,1.1s,baz=92,slow=2.2,SNR=3.9
TORD Torodi Ar. Bea 129.50 287 PKP **PKPdf** **06 25 51.1 -0.8**
TORD PP PP 06 27 47.9 -14
TORD SKPbc SKPbc 06 29 12.9 +1.5
TORD Torodi Ar. Bea 129.50 287 PKhKP PKPpre 06 25 39.9
comp=Z,0.1nm,0.3s,baz=85,slow=0.4,SNR=3.0
TORD PKP **PKPdf** **06 25 51.1 -0.8**
comp=Z,0.9nm,0.8s,baz=46,slow=1.5,SNR=5.3
TORD PP PP 06 27 47.9 -14
comp=Z,1.3nm,0.9s,baz=74,slow=6.2,SNR=3.8
TORD SKPbc SKPbc 06 29 12.9 +1.5
comp=Z,2.5nm,1.1s,baz=68,slow=3.1,SNR=3.7
PLCA Paso Flores 134.14 156 PKP **PKPdf** **06 26 01.3 +1.1**
PLCA Paso Flores 134.14 156 PKP **PKPdf** **06 26 01.3 +1.1**
comp=Z,4.4nm,0.8s,baz=188,slow=7.0,SNR=9.2
DBIC Dimbokro 136.86 279 PKP **PKPdf** **06 26 05.4 -0.5**
DBIC Dimbokro 136.86 279 PKP **PKPdf** **06 26 05.4 -0.5**
comp=Z,1.4nm,0.8s,baz=120,slow=2.0,SNR=3.1
LCO Las Campanas 143.44 145 *e*PKPdf PKPbc 06 26 15.7 +0.7
LVC Limon Verde 149.20 139 *e*PKPbc **PKPbc** **06 26 34.0 +2.1**
CPUP Villa Florida 151.91 161 PKP **PKPdf** **06 26 30.9 -0.4**
CPUP PKPbc **PKPbc** **06 26 38.0 +0.1**
CPUP Villa Florida 151.91 161 PKP **PKPdf** **06 26 30.9 -0.4**
comp=Z,2.2nm,0.8s,baz=101,slow=3.7,SNR=4.3
CPUP PKPbc **PKPbc** **06 26 38.0 +0.1**
comp=Z,14nm,0.8s,baz=194,slow=1.4,SNR=33
ROSC El Rosal 152.96 80 PKPbc **PKPbc** **06 26 40.7 -0.4**
ROSC El Rosal 152.96 80 PKPbc **PKPbc** **06 26 40.7 -0.4**
comp=Z,5.0nm,0.6s,baz=304,slow=11,SNR=8.1
LPAZ La Paz 153.90 130 PKP **PKPdf** **06 26 36.0 +0.7**
LPAZ *e*PKPdf PKPbc 06 26 36.4 -6.9
LPAZ PKPbc **PKiKP** **06 26 44.5 +1.1**
LPAZ *e*PKPbc **PKiKP** **06 26 45.0 +1.6**
LPAZ PKPab **PKPab** **06 26 58.1 +1.7**
LPAZ *e*PKPab PKPab 06 26 59.0 +2.5
LPAZ La Paz 153.90 130 PKP **PKPdf** **06 26 36.0 +0.7**
comp=Z,3.5nm,1.1s,baz=22,slow=1.8,SNR=7.2
LPAZ PKPbc **PKiKP** **06 26 44.5 +1.1**
comp=Z,4.1nm,1.0s,baz=154,slow=2.6,SNR=8.5
LPAZ PKPab **PKPab** **06 26 58.1 +1.7**
comp=Z,14nm,0.9s,baz=240,slow=1.6,SNR=18
SAML Samuel 161.98 121 *e*PKPdf **PKPdf** **06 26 45.2 +0.6**
RCBR Riachuelo 166.79 242 *e*PKPab **PKPab** **06 27 52.7 +0.8**

NIED ***26*** *06:10:00,23˚.40N×121˚.30E,h32km,Mw4.9 Best double couple: M₀2.73000×10¹⁶ NP1:φ₀82.00000°,δ65.00000°, λ143.00000°. NP2:φ₀190.00000°,δ57.00000°,λ31.00000°.*
IDC ***26*** *06:10:56.8±0.5,23˚.48N×121˚.56E,h0km,mb4.7/29, mb1 4.8/30,mb1mx4.7/33,mbtmp4.7/30,ML4.0/1,MS4.4/11, Ms1 4.4/11,ms1mx4.0/45,Error ellipse: s-maj=14.3km s-min=12.1km az=75.0*
BJI ***26*** *06:10:56.1,23˚.43N×121˚.39E,h9km,mB5.1/32,mb4.9/44, ML5.1/10,Ms5.2/50,Ms7 5.0/46*
NEIC ***26*** *06:10:58.2±0.6,23˚.43N×121˚.51E,h8km±3km,mb5.0/49, ML5.5(TAP),Error ellipse: s-maj=5.3km s-min=3.6km az=122.0*
NEIC Felt [III] at Taipei and [II] at T'ai-chung. Also felt at Chu-pei, Hsin-chu, Hsin-chuang, I-lan, Kao-hsiung, Pu-li, T'ai-nan, Tan-shui, Tou-liu and Yung-k'ang. Felt at Daipo, China. Recorded [5 TAP] in Hua-lien; [3 TAP] in Chang-hua, Nan-t'ou, T'ai-tung and Yun-lin; [2 TAP] in Chia-i, I-lan, Kao-hsiung, Miao-li, T'ai-chung and T'ai-nan; [1 TAP] in Hsin-chu, P'eng-hu, P'ing-tung and T'ao-yuan.
TAP ***26*** *06:10:59.8,23˚.43N×121˚.32E,h13km,ML5.4,B*
ISCJB ***26*** *06:10:59.1±0.2,23˚.37N±0˚.01×121˚.45E±0˚.01,h25km±1km, mb4.9/154,MS4.7/28,Error ellipse: s-maj=2.7km s-min=1.8km az=137.0*
JMA ***26*** *06:10:59.3±0.3,23˚.37N×121˚.29E,h82km,M5.0*
MOS ***26*** *06:11:00.3±0.9,23˚.48N×121˚.52E,h33km,mb5.3/50, MS4.8/9,Error ellipse: s-maj=8.1km s-min=4.9km az=116.6*
SZGRF ***26*** *06:11:03.1,23˚.58N×121˚.05E,h33km,mb5.2,MS4.8, Taiwan*
DJA ***26*** *06:11:08.4±0.6,24˚N±6˚×12˚2E±˚,h74km±8km,M5.1/14, mB5.2/4,mb5.0/14,MLv5.3/1,Mw(mB)4.6/4*
ISC 26 06:10:59.9±0.4,23˚.41N±0˚.02×121˚.42E±0˚.02,h16km±2km, n476,σ1§59/571,mb5.0/165,MS4.7/28,43C-26D,Taiwan

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

YULB **Yu-li** 0.11 260 *e*Pg **Pg** 06 11 02.0 -1.5
TWF1 **Yuli** 0.13 242⇓*i*P **Pb** 06 11 02.6 -1.3
baz=187
EHY **Hungye** 0.13 316⇓*i*P **Pg** 06 11 02.7 -1.0
baz=8.0
TEGC **Jichi Village** 0.32 21 *e*P **Pb** 06 11 07.8 +0.6
baz=28
TEGC *e*S **Sb** 06 11 13.6 +1.5
baz=28
CHKT **Chengkung** 0.32 189 ⇑P **Pb** 06 11 07.6 +0.4
baz=160
CHKT *e*S **Sb** 06 11 13.9 +1.9
baz=160
ESL **Shilin** 0.40 2⇓*i*P **Pg** 06 11 07.6 -0.5
baz=25
ELDTW **Lidau** 0.43 239⇓*i*P **Pg** 06 11 07.0 -1.7
baz=227
ELDTW *e*S **Sg** 06 11 12.0 -2.6
baz=227
YUS **Yu-Shan** 0.44 280⇓*i*P **Pg** 06 11 07.5 -1.4
baz=279
ESF **Shoufeng Towns** 0.46 10 *e*P **Pg** 06 11 09.1 -0.1
baz=23
ESF S **Sg** 06 11 15.4 -0.2
baz=23
SSLB **Suanglung** 0.57 311 *e*Pg **Pg** 06 11 08.5 -2.7
ALS **Alishan** 0.57 280⇑*i*P **Pg** 06 11 10.0 -1.4
baz=279
ALS S **Sg** 06 11 17.0 -2.1
baz=279
HWA **Hwalien** 0.59 17 ⇓P **Pg** 06 11 11.1 -0.4
baz=21
STYT **Tauyuan** 0.66 248⇓*i*P **Pg** 06 11 11.4 -1.4
baz=238
SMLT **Sun Moon Lake** 0.67 315⇑*i*P **Pg** 06 11 11.7 -1.3
baz=320
SMLT *i*S **Sg** 06 11 19.8 -2.2
baz=320
TWG **Pinlang** 0.67 209 *e*P **Pg** 06 11 11.3 -1.8
baz=205
TWG *e*S **Sg** 06 11 21.7 -0.3
baz=205
TWG **Pinlang** 0.67 209 *e*Pg **Pg** 06 11 11.3 -1.8
TWD **Chiawan** 0.68 14⇓*e*P **Pg** 06 11 12.2 -1.2
baz=24
TWD *e*S **Sb** 06 11 22.7 0.0
baz=24
TTN **Taitung** 0.70 201 *e*P **Pg** 06 11 13.2 -0.5
baz=179
CHN5 **Tsauling** 0.70 285⇑*i*P **Pg** 06 11 12.8 -1.0
baz=295
TYC **Yuchr** 0.71 314⇑*i*P **Pg** 06 11 12.4 -1.4
baz=319
TPUB **Ta-pu** 0.73 261 *e*Pg **Pg** 06 11 13.0 -1.3
TPUB *e*Sg **Sg** 06 11 21.9 -2.2
WHF **Hehuan Shan** 0.74 349⇓*i*P **Pg** 06 11 13.6 -1.0
baz=358
WTP **Ta-pu** 0.76 258⇓*i*P **Pb** 06 11 13.5 -1.2
baz=252
CHN4 **Tsaushan** 0.76 266 ⇓P **Pb** 06 11 13.9 -0.8
baz=262
NACB **Ninganchiao** 0.78 12 *e*Pg **Pb** 06 11 13.0 -2.0
NACB *e*Sg **Sb** 06 11 23.7 -1.6
WNT **Mingjian** 0.82 305⇑*i*P **Pg** 06 11 15.7 -0.2
baz=308
WNT *e*S **Sg** 06 11 26.9 +0.2
baz=308
SGST **Jiashian** 0.84 247⇓*i*P **Pb** 06 11 15.3 -0.7
baz=242
SGST *e*S **Sb** 06 11 25.9 -1.2
baz=242
CHN1 **Nanshi** 0.85 255 ⇓P **Pb** 06 11 15.8 -0.5
baz=249
TWT **Tachien** 0.87 345⇑*i*P **Pb** 06 11 15.9 -0.8
baz=341
TWK **Hsinying** 0.87 261 *e*P **Pb** 06 11 15.7 -0.9
baz=256
TWK S **Sb** 06 11 27.0 -1.0
baz=256
CHY **Chiayi** 0.92 276⇑*i*P **Pb** 06 11 17.1 -0.3
baz=288
ECL **Taimali** 0.92 208 *e*P **Pb** 06 11 16.2 -1.2
baz=184
EHP **Heping Village** 0.94 18 *e*P **Pb** 06 11 17.8 0.0
baz=27
EHP *e*S **Sg** 06 11 31.1 +0.5
baz=27
TCU **Taichung** 1.00 317⇑*i*P **Pg** 06 11 19.1 -0.2
baz=322
NNS **Nan Shan** 1.02 358⇓*i*P **Pb** 06 11 18.1 -1.3
baz=20
NNS S **Sb** 06 11 32.2 -0.4
baz=20
CHN3 **Shinhua** 1.03 251⇓*e*P **Pg** 06 11 20.3 +0.5
baz=246
CHN3 *e*S **Sn** 06 11 34.5 +0.9
baz=246
ENA **Nanau** 1.05 16 *e*P **Pb** 06 11 17.8 -2.0
baz=24
TWM1 **Shoushan** 1.09 238 *e*P **Pg** 06 11 21.0 0.0
baz=219
SGLT **Jiouru** 1.09 232 *e*P **Pn** 06 11 20.8 +0.2
baz=225
SGLT *e*S **Sg** 06 11 37.4 +1.9
baz=225
TWQ1 **Liyutan** 1.10 328⇑*i*P **Pg** 06 11 20.9 -0.4
baz=334
TWQ1 S **Sg** 06 11 35.7 0.0
baz=334
CHN8 **Yiju** 1.11 267 *e*P **Pb** 06 11 19.9 -0.9
baz=263
CHN8 *e*S **Sb** 06 11 35.0 0.0
baz=263
WSF **Szhu** 1.12 282 *e*P **Pb** 06 11 20.1 -0.8
baz=293
WSF S **Sb** 06 11 34.9 -0.4
baz=293
WTCT **Ta-ch'eng** 1.14 294 *e*P **Pb** 06 11 20.0 -1.2
baz=294
WTCT *e*S **Sb** 06 11 35.1 -0.6
baz=294
SCLT **Jiali** 1.15 258 *e*P **Pb** 06 11 21.3 -0.1
baz=253
SCLT *e*S **Sg** 06 11 37.1 -0.1
baz=253
TAW **Tawu** 1.16 205 *e*P **Pn** 06 11 21.0 -0.4
baz=185
TAI1 **Yung-k'ang** 1.16 252 *e*P **Pg** 06 11 22.0 -0.3
baz=247
TAI1 *e*S **Sg** 06 11 37.7 +0.3
baz=247
NSY **Sanyi** 1.17 329 ⇑P **Pg** 06 11 22.5 0.0
baz=335
NSY S **Sg** 06 11 37.6 -0.1
baz=335
ENTT **Nioudou** 1.23 6 *e*P **Pn** 06 11 20.7 -1.8
baz=28
YHNB **Yeheng** 1.25 358 *e*Pg **Pb** 06 11 23.2 0.0
YHNB *e*Sg **Sb** 06 11 38.1 -1.1
TWC **Suao** 1.25 18 *e*P **Pn** 06 11 21.2 -1.5
baz=27
TWC *e*S **Sn** 06 11 39.9 +0.6
baz=27
NSK **Sanguang** 1.26 357⇓*e*P **Pn** 06 11 21.9 -1.0
baz=21
NSK *e*S **Sb** 06 11 38.0 -1.3
baz=21
SCZT **Fangliau** 1.27 216 *e*P **Pn** 06 11 21.5 -1.5
baz=207
NSTT **Nanjuang** 1.27 343⇓*i*P **Pb** 06 11 23.6 +0.1
baz=349
TWE **Neicheng** 1.32 10 *e*P **Pn** 06 11 22.8 -0.9
baz=32
TWE *e*S **Sb** 06 11 41.6 +0.5
baz=32
LAY **Lan-yu** 1.37 175 *e*P **Pn** 06 11 23.6 -0.8
baz=161
ILA **Ilan** 1.38 13 *e*P **Pg** 06 11 26.2 -0.3
baz=21
ILA *e*S **Sg** 06 11 44.5 -0.1
baz=21
TWP **Hsiaoliuchiu** 1.44 223 *e*P **Pg** 06 11 27.7 +0.1
baz=213
TWP *e*S **Sg** 06 11 48.7 +2.2
baz=213
HSN **Hsinchu** 1.44 344 *e*P **Pb** 06 11 26.6 +0.2
baz=354
HSN *e*S **Sg** 06 11 45.6 -0.9
baz=354
HEN **Hengchun** 1.54 204⇓*e*P **Pb** 06 11 28.7 +0.8
baz=187
TATO **Taipei** 1.56 2 *e*Pg **Pn** 06 11 26.5 -0.4
NCU **National Centr** 1.56 352 *e*P **Pb** 06 11 27.9 -0.6
baz=2.0
NCU *e*S **Sg** 06 11 49.9 -0.5
baz=2.0
TWA **Mucha** 1.57 5⇓*e*P **Pn** 06 11 26.8 -0.4
baz=31
TWA *e*S **Sb** 06 11 49.1 +0.9
baz=31
TWK1 **Hengchun** 1.57 201 *e*P **Pn** 06 11 27.3 +0.2
baz=185
TSEB **Hengchuen, Pin** 1.58 198 *e*P **Pb** 06 11 28.2 -0.6
baz=184
TAP **Taipei** 1.62 3 *e*P **Pb** 06 11 29.4 -0.1
baz=31
TAP *e*S **Sb** 06 11 50.4 +0.7
baz=31
TAP1 **Taipei** 1.62 3 *e*P **Pn** 06 11 28.6 +0.8
baz=31
TAP1 *e*S **Sb** 06 11 50.0 +0.3
baz=31
TWB1 **Santiao Chiao** 1.67 18 *e*P **Pn** 06 11 28.2 -0.2
baz=28
TWB1 *e*S **Sb** 06 11 51.5 +0.4
baz=28
TWS1 **Kuangyinshan** 1.68 360 *e*P **Pn** 06 11 29.1 +0.4
baz=32
TWS1 *e*S **Sg** 06 11 53.1 -1.0
baz=32
NWF **Wu-fen Shan** 1.68 11 *e*P **Pn** 06 11 28.3 -0.5
baz=30
PNG **Penghu** 1.72 276⇑*i*P **Pn** 06 11 28.7 -0.4
baz=273
PNG *e*S **Sn** 06 11 49.9 -0.8
baz=273
YOJ **Yonaguni jima** 1.79 54⇑*i*P **Pn** 06 11 30.7 +0.6
baz=51
YOJ *e*S **Sb** 06 11 54.2 -0.4
baz=51
YOJ **Yonaguni jima** 1.79 54 P **Pn** 06 11 30.6 +0.5
YOJ *e*S **Sb** 06 11 54.4 -0.2
TWY **Chenhua** 1.86 5 *e*P **Pn** 06 11 31.3 +0.2
baz=31
HATJ **Hateruma jima** 2.28 73 P **Pn** 06 11 37.3 +0.5
HATJ *e*S **Sn** 06 12 05.4 +0.8
PCYT **Pengchaiyu** 2.29 15 *e*P **Pn** 06 11 37.6 +0.7
baz=22
IRIF **Iriomote-Funau** 2.31 66 P **Pn** 06 11 37.9 +0.7
IRIF *e*S **Sn** 06 12 06.7 +1.5
JKRS **Kuro-shima** 2.51 70 P **Pn** 06 11 40.8 +0.8
JKRS *e*S **Sb** 06 12 13.3 -1.9
JIJ **Ishigaki jima** 2.67 69 P **Pn** 06 11 42.4 +0.2
JIJ *e*S **Sn** 06 12 14.4 +0.2
KNM **Kinmen** 2.91 291 *e*P **Pn** 06 11 46.3 +0.8
baz=290
QZH **Quanzhou** 3.00 301⇓*i*Pn **Pn** 06 11 45.0 -1.7
QZH Sn **Sn** 06 12 19.0 -3.3
QZH smax smax
comp=N,9μm,0.8s
QZH smax smax
comp=E,13μm,0.8s
JTJ **Tarama** 3.24 67 P **Pn** 06 11 50.6 +0.5
JTJ *e*S **Sn** 06 12 32.6 +4.3
JMJ **Miyako jima 2** 3.81 68 *e*P **Pn** 06 11 59.1 +1.3
baz=57
JMJ **Miyako jima 2** 3.81 68 P **Pn** 06 11 59.0 +1.2
JMJ *e*S **Sn** 06 12 42.9 +0.6
JOGS **Gusukube** 3.88 69 P **Pn** 06 11 59.8 +0.9
JOGS *e*S **Sn** 06 12 45.6 +1.4
JKE **Kume jima 2** 5.67 58 P **Pn** 06 12 23.6 +0.1
JKE *e*S **Sn** 06 13 30.0 +1.7
JAGN **Aguni-jima** 6.16 58 P **Pn** 06 12 29.7 -0.5
JJT2 **Tamagusuku 2** 6.36 63 P **Pn** 06 12 33.5 +0.5
JIH **Iheya** 6.94 57 P **Pn** 06 12 40.4 -0.5
JOW **Kunigami** 7.08 60 *e*P **Pn** 06 12 41.8 -1.1
baz=60
JOW **Kunigami** 7.08 60 *e*Pn **Pn** 06 12 41.7 -1.3
JOW **Kunigami** 7.08 60 P **Pn** 06 12 41.7 -1.3
GZH **Guangzhou** 7.43 269 P Pn 06 12 43.5 -4.2
GZH smax smax
comp=N,2μm,1.4s
GZH smax smax
comp=E,1μm,1.0s
SSE **Sheshan** 7.66 359 P **Pn** 06 12 51.3 +0.6
SSE S **Sn** 06 14 20.5 +3.4
SSE pmax pmax
comp=Z,130nm,0.8s
SSE pmax pmax
comp=Z,170nm,4.2s
SSE smax smax
comp=N,340nm,1.0s
SSE smax smax
comp=E,540nm,1.0s
SSE LR LR
comp=N,4μm,9.9s
SSE LR LR
comp=E,4μm,9.9s
SSE LR LR
comp=Z,5μm,9.5s
JTK **Tokunoshima** 8.07 56 P **Pn** 06 12 54.8 -1.7
JAMN **Amaminishikomi** 8.48 54 P **Pn** 06 13 00.0 -2.1
JAMN *e*S **Sn** 06 14 36.8 -0.7
JAM **Amami Oshima** 8.89 54 P **Pn** 06 13 05.6 -2.1
NJ2 **Nanjing** 8.90 346 *e*P **Pn** 06 13 06.8 -1.0
NJ2 pP 06 13 10.0
NJ2 sP 06 13 12.8
NJ2 S **Sn** 06 14 42.8 -5.0
NJ2 pmax pmax
comp=Z,60nm,0.6s
NJ2 smax smax
comp=N,560nm,0.8s
NJ2 smax smax
comp=E,690nm,0.6s
NJ2 LR LR
comp=N,6μm,6.8s
NJ2 LR LR
comp=E,7μm,5.0s
NJ2 LR LR
comp=Z,9μm,7.4s
JZK **Kikaishima** 9.12 56 P **Pn** 06 13 09.6 -1.2
JMZ **Minamidaito 2** 9.23 73 P Pn 06 13 08.6 -3.8
WHN **Wuhan** 9.49 320 P **Pn** 06 13 15.8 -0.2
WHN S Sn 06 14 56.3 -6.1
WHN LR LR
comp=N,30μm,12.6s
WHN LR LR
comp=E,22μm,8.6s
WHN LR LR
comp=Z,32μm,11.7s
QIZ **Qiongzhong** 11.64 250 P **Pn** 06 13 45.8 +0.3
QIZ S **Sn** 06 15 58.0 +2.8
QIZ pmax pmax
comp=Z,23nm,1.3s
QIZ pmax pmax
comp=Z,130nm,3.4s
QIZ LR LR
comp=N,3μm,20.2s
QIZ LR LR
comp=E,1μm,22.2s
QIZ LR LR
comp=Z,4μm,17.6s
QIZ **Qiongzhong** 11.64 250 *e*Pn **Pn** 06 13 47.5 +2.0
QIZ *e*Sn **Sn** 06 15 51.8 -3.4
JNU **Nakatsue** 12.76 39 *e*Pn **Pn** 06 14 00.9 +0.2
JNU **Nakatsue** 12.76 39 Pn **Pn** 06 14 01.9 +1.2
comp=Z,0.7nm,0.3s,baz=192,slow=11,SNR=2.5
TIA **Tai'an** 13.29 345 ⇑P Pn 06 14 11.8 +3.9
TIA LR LR
comp=N,3μm,12.8s
TIA LR LR
comp=E,8μm,13.7s
TIA LR LR
comp=Z,7μm,11.7s
GYA **Guiyang** 13.73 286 P **Pn** 06 14 11.5 -2.5
GYA PP P 06 14 26.0 +3.4
GYA S **Sn** 06 16 49.3 +3.0
GYA SS **S** 06 17 04.3 -4.6
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=N,12μm,15.6s
GYA LR LR
comp=E,10μm,16.6s
GYA LR LR
comp=Z,12μm,15.9s
INCN **Inchon** 14.72 17 *e*Pn **Pn** 06 14 27.2 -0.3
KSAR **Wonju Array Be** 15.05 20 Pn **Pn** 06 14 33.2 +1.4
KSAR Lg Lg 06 18 60.0
KSRS **Korea Array** 15.07 20 Pn **Pn** 06 14 33.2 +1.1
comp=Z,1.0nm,0.3s,baz=197,slow=9.5,SNR=15
KSRS Lg Lg 06 18 60.0
comp=Z,0.2nm,0.3s,baz=204,slow=28,SNR=3.0
DL2 **Dalian** 15.45 1 P **P** 06 14 40.8 -0.7
DL2 pmax pmax
comp=Z,70nm,1.5s
DL2 pmax pmax
comp=Z,950nm,6.9s
DL2 LR LR
comp=E,2μm,17.2s
DL2 LR LR
comp=Z,2μm,10.6s
TIY **Taiyuan** 16.20 334 *e*P **Pn** 06 14 46.8 -0.2
TIY pP **P** 06 14 50.5 +0.4
TIY PP **PnPn** 06 15 01.5 +5.5
TIY S **Sn** 06 17 47.5 +1.1
TIY LR LR
comp=N,8μm,9.5s
TIY LR LR
comp=E,3μm,10.1s
TIY LR LR
comp=Z,8μm,13.1s
UBPT **Khong Chiam** 17.07 245 P P 06 15 05.6 +5.8
comp=Z,42nm,1.9s,comp=Z,1μm
KMI **Kunming** 17.12 280 P **Pn** 06 14 59.5 +0.7
KMI pP **pP** 06 15 04.0 -1.1
KMI sP **sP** 06 15 06.5 -0.7
KMI PP **PnPn** 06 15 12.8 +4.2
KMI S **Sn** 06 18 09.0 0.0
KMI SS **SnSn** 06 18 27.8 +5.5
KMI pmax pmax
comp=Z,120nm,3.6s
KMI LR LR
comp=N,1μm,10.0s
KMI LR LR
comp=E,5μm,13.9s
KMI LR LR
comp=Z,6μm,13.5s
BJI **Beijing** 17.16 346 P **P** 06 15 02.3 +1.8
BJI S **Sn** 06 18 12.0 +2.5
BJI pmax pmax
comp=Z,37nm,1.7s
BJI pmax pmax
comp=Z,1μm,9.2s
BJI LR LR
comp=N,1μm,12.2s
BJI LR LR
comp=E,4μm,16.2s
BJI LR LR
comp=Z,1μm,16.2s
CD2 **Chengdu** 17.39 299 *e*P **P** 06 15 03.3 +0.1
CD2 pP **pP** 06 15 06.3 -1.5
CD2 sP **sP** 06 15 09.5 -0.4
CD2 PP **PnPn** 06 15 17.3 +5.1
CD2 S **Sn** 06 18 16.8 +1.6
CD2 sS **S** 06 18 20.0 -3.6
CD2 SS **SnSn** 06 18 36.3 +7.6
CD2 pmax pmax
comp=Z,90nm,1.2s
CD2 pmax pmax
comp=Z,310nm,4.8s
CD2 LR LR
comp=E,5μm,8.3s
CD2 LR LR
comp=Z,7μm,11.3s
KKM **Kota Kinabalu** 17.98 197 *e*P **P** 06 15 09.8 0.0
comp=Z,82nm,1.1s
KKM **Kota Kinabalu** 17.98 197 P P 06 15 15.5 +5.6
comp=Z,72nm,1.2s
SNY **Shenyang** 18.45 5 ⇓P **P** 06 15 14.0 -0.8
SNY S **S** 06 18 44.0 -0.9
SNY pmax pmax
comp=Z,12nm,0.4s
SNY pmax pmax
comp=Z,630nm,4.7s
SNY LR LR
comp=N,3μm,13.1s
SNY LR LR
comp=E,1μm,11.2s
SNY LR LR
comp=Z,3μm,13.3s
HHC **Hu-ho-hao-te** 19.26 337 *e*P **Pn** 06 15 25.8 +1.0
HHC PP **PnPn** 06 15 43.0 +5.1
HHC S **Sn** 06 18 58.5 -2.0
HHC SS **SnSn** 06 19 24.0 +9.2
HHC PcP **PcP** 06 19 48.0 +1.5
HHC PcS **PcS** 06 23 24.5 +0.9
HHC pmax pmax
comp=Z,99nm,1.1s
HHC pmax pmax
comp=Z,1μm,5.4s
HHC LR LR
comp=N,4μm,10.0s
HHC LR LR
comp=E,2μm,9.8s
HHC LR LR
comp=Z,1μm,9.3s
MAJO **Matsushiro** 19.52 44 *e*P **P** 06 15 25.5 -1.1
MAJO pmax pmax
comp=Z,73nm,1.7s
MAJO **Matsushiro** 19.52 44 *e*Pn **P** 06 15 25.5 -1.1
comp=Z,73nm,1.7s
MAT **Matsushiro** 19.52 44 P **P** 06 15 25.0 -1.6
MAT S **S** 06 19 06.0 -0.7
MJAR **Matsushiro Arr** 19.52 44 P **P** 06 15 24.7 -1.9
MJAR **Matsushiro Arr** 19.52 44 P **P** 06 15 24.7 -1.9
comp=Z,0.4nm,0.3s,baz=231,slow=9.1,SNR=7.5
BTO **Baotou** 19.65 333 *e*P **Pn** 06 15 29.3 -0.2
BTO pmax pmax
comp=Z,25nm,0.9s
LZH **Lanzhou** 19.77 314 ⇑P **Pn** 06 15 31.5 +0.5
LZH pP **pP** 06 15 34.0 -0.1
LZH sP **sP** 06 15 36.0 -0.2
LZH PP **PnPn** 06 15 50.3 +5.4
LZH S **S** 06 19 08.5 -3.4
LZH sS **Sn** 06 19 14.0 +1.1
LZH SS **SnSn** 06 19 36.5 +9.2
LZH pmax pmax
comp=Z,170nm,1.5s
LZH pmax pmax
comp=Z,690nm,6.0s
LZH LR LR
comp=N,4μm,9.8s
LZH LR LR
comp=E,10μm,9.2s
LZH LR LR
comp=Z,13μm,10.2s
PBKT **Sadao Pong** 20.38 254 P Pn 06 15 43.0 +4.9
comp=Z,38nm,1.0s
CN2 **Changchun** 20.61 8 *e*P **P** 06 15 36.0 -2.3
CN2 *e*sP **sP** 06 15 44.0 -1.1
CN2 *e*S S 06 19 20.0 -8.1
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,2μm,14.0s
CN2 LR LR
comp=E,2μm,14.0s
CN2 LR LR
comp=Z,3μm,14.0s
CMMT **Chiang Mai** 21.45 262 P **P** 06 15 51.4 +3.7
comp=Z,98nm,1.0s,comp=Z,1μm
CHTO **Chiang Mai** 21.45 262 *e*P **P** 06 15 50.4 +2.8
CHTO pmax pmax
comp=Z,72nm,0.9s
CHTO **Chiang Mai** 21.45 262 *e*P **P** 06 15 50.4 +2.8
comp=Z,72nm,0.9s
CHTO **Chiang Mai** 21.45 262 P **P** 06 15 50.5 +2.8
comp=Z,109nm,1.0s,comp=Z,942nm
CM31 **Chiang Mai Arr** 21.55 261 *e*P **P** 06 15 53.3 +4.5
comp=Z,24nm,0.8s
CMAR **Chiang Mai Arr** 21.55 261 P **P** 06 15 51.2 +2.5
CMAR PcP **PcP** 06 19 51.2 +0.3
CMAR **Chiang Mai Arr** 21.55 261 P **P** 06 15 51.2 +2.5
comp=Z,41nm,1.0s,baz=62,slow=7.5,SNR=40
CMAR PcP **PcP** 06 19 51.2 +0.3

comp=Z,1.8nm,0.6s,baz=31,slow=1.1,SNR=6.2
CMAR LR LR 06 24 54.3
comp=Z,1µm,19.2s,baz=82,slow=39
MDJ Mudanjiang 22.19 16 P **P** **06 15 55.3 0.0**
MDJ S **S** **06 19 53.8 -5.2**
MDJ PcS **PcS** **06 23 32.0 +1.8**
MDJ pmax pmax
comp=Z,26nm,0.9s
MDJ pmax pmax
comp=Z,120nm,5.3s
MDJ LR LR
comp=N,2µm,16.8s
MDJ LR LR
comp=E,3µm,16.8s
MDJ LR LR
comp=Z,2µm,14.6s
MDJ Mudanjiang 22.19 16 *e*P **P** **06 15 55.6 +0.3**
comp=Z,15nm,0.8s
USRK Ussuriysk Arra 22.48 20 P **P** **06 15 57.4 -1.0**
comp=Z,11nm,0.8s,baz=200,slow=6.7,SNR=6.9
SBUM Sibu 22.66 204 P **P** **06 16 02.2 +1.6**
comp=Z,44nm,1.1s
MRSI Marisa 22.80 179 P P 06 16 12.2 +10
comp=Z,77nm,1.2s
GUMO Guam 24.25 110 *e*P **P** **06 16 16.3 -0.1**
comp=Z,247nm,1.1s
GTA Gaotai 24.29 316 ⇑P **P** **06 16 17.5 +0.8**
GTA pP **pP** **06 16 21.8 +0.2**
GTA sP **sP** **06 16 24.5 +0.8**
GTA S **S** **06 20 37.5 +2.5**
GTA sS **sS** **06 20 45.3 +2.2**
GTA pmax pmax
comp=Z,56nm,1.7s
GTA pmax pmax
comp=Z,370nm,6.2s
GTA LR LR
comp=N,4µm,12.6s
GTA LR LR
comp=E,4µm,14.0s
GTA LR LR
comp=Z,5µm,12.1s
KSM Kuching 24.33 208 *e*P **P** **06 16 17.1 +0.1**
comp=Z,49nm,1.0s
KSM Kuching 24.33 208 P P 06 16 23.5 +6.5
comp=Z,51nm,1.1s
SKSI Soroako, Sulaw 25.78 180 P P 06 16 36.6 +6.3
comp=Z,51nm,0.9s
HIA Hailar 25.84 357 *e*P **P** **06 16 29.4 -1.1**
comp=Z,12nm,0.6s
ERM Erimo 25.93 39 *e*P **P** **06 16 30.0 -1.3**
KULM Kulim 26.94 231 P **P** **06 16 40.4 -0.3**
comp=Z,33nm,1.3s
ULN Ulaanbaatar 26.96 338 *e*P **P** **06 16 41.2 +0.4**
comp=Z,34nm,0.9s
ULN *e*PcP **PcP** **06 20 03.8 +1.4**
ASAJ Asahikawa 26.99 35 P **P** **06 16 40.1 -0.8**
ASAJ Asahikawa 26.99 35 P **P** **06 16 40.1 -0.8**
comp=Z,10nm,1.1s,baz=185,slow=6.2,SNR=8.8
SONM Songino Array 27.16 338 P **P** **06 16 43.1 +0.6**
SONM PcP **PcP** **06 20 02.4 -0.4**
SONM Songino Array 27.16 338 P **P** **06 16 43.1 +0.6**
comp=Z,20nm,0.7s,baz=160,slow=7.6,SNR=9.6
SONM PcP **PcP** **06 20 02.4 -0.4**
comp=Z,1.8nm,0.8s,baz=159,slow=4.3,SNR=3.7
IPM Ipoh 27.24 229 *e*P **P** **06 16 44.7 +1.3**
comp=Z,26nm,0.8s
LSA Lhasa 27.74 290 P **P** **06 16 50.0 +1.6**
LSA LR LR
comp=E,2µm,14.5s
LSA LR LR
comp=Z,3µm,13.9s
LSA Lhasa 27.74 290 *e*P **P** **06 16 50.4 +2.0**
LSA pmax pmax
comp=Z,16nm,0.6s
LSA Lhasa 27.74 290 *e*P **P** **06 16 50.4 +2.0**
comp=Z,16nm,0.6s
KAPI Kappang 28.30 184 P P 06 16 56.7 +3.8
KAPI Kappang 28.30 184 P P 06 16 56.7 +3.8
comp=Z,9.1nm,0.8s,baz=36,slow=8.7,SNR=3.1
KAPI LR LR 06 29 19.6
comp=Z,434nm,19.3s,baz=228,slow=39
YSS Yuzh-Sakhalins 29.07 31 *e*P **P** **06 17 00.0 +0.5**
YSS *e* 06 17 08.0
PSI Prapat 29.90 230 P **P** **06 17 08.9 +1.7**
PSI Prapat 29.90 230 P **P** **06 17 08.9 +1.7**
comp=Z,18nm,0.9s,baz=5.8,slow=6.3,SNR=7.0
TAPN Taplejung 30.65 284 *e*P **P** **06 17 15.6 +1.5**
comp=Z,151nm,1.2s
ODAN Odare 30.94 284 *e*P **P** **06 17 17.8 +1.2**
comp=Z,66nm,0.8s
PPI Padang Panjang 31.31 224 P **P** **06 17 22.2 +2.6**
comp=Z,34nm,1.1s
RAMN Ramite 31.65 284 *e*P **P** **06 17 24.0 +1.2**
comp=Z,192nm,1.1s
JIRN Jiri 32.00 285 *e*P **P** **06 17 27.3 +1.3**
comp=Z,147nm,1.0s
GUN Gumba 32.27 286 *e*P **P** **06 17 29.7 +1.3**
comp=Z,126nm,1.0s
PKI Pulchoki 32.70 285 *e*P **P** **06 17 32.7 +0.6**
comp=Z,65nm,1.1s
PKIN Phulchoki 32.71 285 *e*P **P** **06 17 32.7 +0.6**
comp=Z,57nm,1.0s
KKN Kakani 32.81 285 *e*P **P** **06 17 33.7 +0.8**
comp=Z,105nm,1.0s
DMN Daman 32.96 285 *e*P **P** **06 17 35.1 +0.8**
comp=Z,149nm,1.1s
DANN Dangsing 34.14 286 *e*P **P** **06 17 45.5 +0.8**
comp=Z,127nm,0.9s
KOLN Koldanda 34.30 285 *e*P **P** **06 17 46.6 +0.7**
comp=Z,103nm,0.9s
WMQ Urumqi 34.34 315 P **P** **06 17 47.0 +1.0**
WMQ pP **pP** **06 17 51.5 +0.5**
WMQ sP **sP** **06 17 54.0 +1.0**
WMQ PP **PP** **06 19 02.3 -1.5**
WMQ PcP **PcP** **06 20 23.3 +1.5**
WMQ S **S** **06 23 13.0 +0.1**
WMQ sS **sS** **06 23 20.3 -0.9**
WMQ ScP **ScP** **06 24 06.8 +0.5**
WMQ ScS **ScS** **06 28 10.5 +1.7**
WMQ pmax pmax
comp=Z,14nm,0.8s
WMQ pmax pmax
comp=Z,270nm,4.0s
WMQ LR LR
comp=N,2µm,11.3s
WMQ LR LR
comp=E,2µm,14.3s
WMQ LR LR
comp=Z,1µm,14.8s
HVS Khovu-Aksy 35.00 329 *e*P **P** **06 17 51.7 +0.2**
HVS pmax pmax
comp=Z,241nm,1.7s
SKR Severo-Kuril's 38.25 36 *e*P P 06 18 11.5 -7.6
SKR pmax pmax
comp=Z,60nm,1.0s
KRAR Krasnoyarsk 38.73 335 *e*P **P** **06 18 22.3 -0.8**
KRAR pmax pmax
comp=Z,34nm,1.2s
MKAR Makanchi Array 39.04 316 P **P** **06 18 26.2 +0.3**
MKAR 06 20 34.4
MKAR Makanchi Array 39.04 316 P **P** **06 18 26.2 +0.3**
MKAR PcP **PcP** **06 20 34.4 -1.4**
MKAR Makanchi Array 39.04 316 P **P** **06 18 26.2 +0.3**
comp=Z,27nm,0.9s,baz=106,slow=10,SNR=12
MKAR PcP **PcP** **06 20 34.4 -1.4**
comp=Z,3.5nm,0.9s,baz=90,slow=4.5,SNR=5.0
PETK Petropavlovsk- 40.39 33 P **P** **06 18 36.6 -0.4**
PETK Petropavlovsk- 40.39 33 P **P** **06 18 36.6 -0.4**
PETK Petropavlovsk- 40.39 33 P **P** **06 18 36.6 -0.4**
comp=Z,3.0nm,0.6s,baz=193,slow=4.6,SNR=4.3
HYB Hyderabad 40.50 270 *i* P **P** **06 18 39.0 +0.6**
PET Petropavlovsk 40.83 34 *e*P **P** **06 18 39.4 -1.2**
PET pmax pmax
comp=Z,43nm,1.0s
ZALV Zalesovo Beam 41.01 328 P **P** **06 18 41.7 -0.4**
ZALV 06 20 40.3
ZALV Zalesovo Beam 41.01 328 P **P** **06 18 41.7 -0.4**
ZALV PcP **PcP** **06 20 40.3 -1.6**
ZALV Zalesovo Beam 41.01 328 P **P** **06 18 41.7 -0.4**
comp=Z,58nm,0.8s,baz=114,slow=8.2,SNR=34
ZALV PcP **PcP** **06 20 40.3 -1.6**
comp=Z,3.3nm,0.6s,baz=109,slow=4.6,SNR=3.5
KSH Kashi 41.50 304 P P 06 18 50.3 +3.8
KSH PP **PnPn** **06 20 31.0 +3.8**
KSH PcS **PcS** **06 24 38.5 +3.1**
KSH S S 06 25 08.8 +7.2
KSH SS **SS** **06 28 09.0 +2.9**
KSH pmax pmax
comp=Z,26nm,1.1s
KSH pmax pmax
comp=Z,150nm,4.6s
KSH LR LR
comp=N,1µm,16.0s
KSH LR LR
comp=E,860nm,14.2s
KSH LR LR
comp=Z,1µm,15.0s
TKM2 Tokmak 2 42.41 309 *e*P **P** **06 18 55.0 +1.0**
TKM2 pmax pmax
comp=Z,19nm,0.8s
TKM2 Tokmak 2 42.41 309 *e*P **P** **06 18 55.0 +1.0**
comp=Z,19nm,0.8s
KURK Kurchatov 42.82 321 P **P** **06 18 56.8 -0.1**
KURK Kurchatov 42.82 321 P **P** **06 18 56.8 -0.1**
KURBB Kurchatov Arra 42.84 320 P **P** **06 18 56.8 -0.2**
comp=Z,15nm,0.9s,baz=118,slow=7.4,SNR=14
AAK Ala-Archa 43.15 308 P **P** **06 18 59.9 0.0**
AAK Ala-Archa 43.15 308 P **P** **06 18 59.9 0.0**
AAK Ala-Archa 43.15 308 P **P** **06 18 59.9 0.0**
comp=Z,3.8nm,0.6s,baz=34,slow=11,SNR=1.6
AAK LR LR 06 38 10.7
comp=Z,486nm,18.4s,baz=352,slow=38
EKS2 Erkin-Say 43.67 308 *e*P **P** **06 19 04.5 +0.4**
EKS2 pmax pmax
comp=Z,6.0nm,0.7s
EKS2 Erkin-Say 43.67 308 *e*P **P** **06 19 04.5 +0.4**
comp=Z,6.1nm,0.7s
MBWA Marble Bar 44.33 182 *e*P **P** **06 19 08.3 -1.0**
comp=Z,16nm,0.8s
WRAB Tennant Creek 44.89 163 P **P** **06 19 12.8 -1.1**
WRAB pmax pmax
comp=Z,17nm,0.9s
WRAB Tennant Creek 44.89 163 P **P** **06 19 12.8 -1.1**
comp=Z,17nm,0.9s
WRA Warramunga Arr 44.90 163 P **P** **06 19 12.1 -1.9**
WRA Warramunga Arr 44.90 163 P **P** **06 19 12.1 -1.9**
comp=Z,5.3nm,0.7s,baz=344,slow=8.7,SNR=7.7
KBL Kabul 46.69 296 *e*P **P** **06 19 29.7 +1.4**
KBL pmax pmax
comp=Z,92nm,1.3s
KBL Kabul 46.69 296 *e*P **P** **06 19 29.7 +1.4**
comp=Z,92nm,1.3s
ASAR Alice Springs 48.34 165 P **P** **06 19 40.2 -0.7**
ASAR Alice Springs 48.34 165 P **P** **06 19 40.2 -0.7**
comp=Z,1.4nm,0.6s,baz=350,slow=7.6,SNR=5.4
BRVK Borovoye 48.48 321*c i*P **P** **06 19 41.6 0.0**
BRVK pmax pmax
comp=Z,29nm,0.8s
BRVK Borovoye 48.48 321 *e*P **P** **06 19 41.9 +0.2**
comp=Z,38nm,1.1s
FX1 Attu Island--F 48.78 39 P **P** **06 19 44.6 +0.6**
FX1 Attu Island--F 48.78 39 P **P** **06 19 44.6 +0.6**
comp=Z,11nm,0.6s,baz=303,slow=8.6,SNR=6.4
CTA Charters Tower 49.56 149 P **P** **06 19 50.8 +0.6**
CTA Charters Tower 49.56 149 P **P** **06 19 50.8 +0.6**
comp=Z,7.5nm,0.7s,baz=338,slow=5.4,SNR=2.2
CTAO Charters Tower 49.56 149 *e*P **P** **06 19 51.1 +0.8**
CTAO pmax pmax
comp=Z,19nm,0.9s
CTAO Charters Tower 49.56 149 *e*P **P** **06 19 51.1 +0.8**
comp=Z,19nm,0.9s
HNR Honiara 49.85 126 LR LR 06 37 49.4
comp=Z,170nm,20.3s,baz=198,slow=32
ABKAR Akbulak array 54.13 315 *e*P **P** **06 20 24.4 +0.3**
comp=Z,30nm,1.0s
ABKAR *e*PcP **PcP** **06 21 26.7 -2.0**
ADK Adak 54.67 42 *e*P **P** **06 20 26.8 -1.2**
ADK pmax pmax
comp=Z,237nm,1.3s
ADK Adak 54.67 42 *e*P **P** **06 20 26.8 -1.2**
comp=Z,237nm,1.3s
SVE Sverdlovsk 54.79 324⇑*i*P **P** **06 20 28.9 +0.1**
SVE pmax pmax
comp=Z,97nm,1.4s
SVE MLR MLR
comp=Z,566nm,12.0s
AKTO Aktyubinsk 55.48 316 P **P** **06 20 34.4 +0.6**
AKTO Aktyubinsk 55.48 316 P **P** **06 20 34.4 +0.6**
AKTO Aktyubinsk 55.48 316 P **P** **06 20 34.4 +0.6**
comp=Z,11nm,0.9s,baz=118,slow=12,SNR=6.0
ARU Arti 55.85 323*c i*P **P** **06 20 35.8 -0.6**
ARU 06 21 32.6
ARU 06 22 38.8
ARU S **S** **06 28 21.1 -1.9**
ARU pmax pmax
comp=Z,118nm,1.7s
ARU MLR MLR
comp=Z,542nm,15.0s
ARU Arti 55.85 323 P **P** **06 20 35.0 -1.4**
comp=Z,390nm,1.1s,SNR=5.9
NWAO Narrogin (SRO) 56.17 184 LR LR 06 47 23.8
comp=Z,281nm,18.8s,baz=36,slow=39
ATKA Atka Island 56.23 42 *e*P **P** **06 20 39.5 +0.3**
comp=Z,42nm,1.0s
SOKR Solikamsk 57.29 327*c i*P **P** **06 20 45.8 -0.7**
SOKR pmax pmax
comp=Z,60nm,1.6s
SOKR MLR MLR
comp=Z,930nm,18.0s
STKA Stephens Creek 58.27 160 P **P** **06 20 53.8 0.0**
STKA Stephens Creek 58.27 160 P **P** **06 20 53.8 0.0**
comp=Z,8.7nm,0.6s,baz=26,slow=11,SNR=9.4
UNV Unalaska Valle 60.94 40 *e*P **P** **06 21 10.4 -1.6**
comp=Z,17nm,1.1s
MAK Makhachkala 62.93 308 *e*P **P** **06 21 23.3 -2.2**
MAK *e* 06 21 59.3
MAK *e* 06 23 38.8
MAK *e*S **S** **06 29 52.3 -2.5**
MAK *e* 06 31 13.4
MAK pmax pmax
comp=Z,31nm,0.3s
MAK MLR MLR
comp=Z,851nm,15.0s
DGRG David-gareji 64.72 306 P P 06 21 42.8 +5.3
TBLG Delisi 65.14 307 *e*P **P** **06 21 40.4 +0.2**
TBLG Delisi 65.14 307 P **P** **06 21 40.4 +0.2**
GNI Garni 65.42 305 LR LR 06 54 52.4
comp=Z,291nm,19.5s,baz=339,slow=40
MIB Mutribah 65.52 293 *e*P **P** **06 21 42.1 -0.6**
MIB AMb AMB 06 21 44.4
comp=Z,55nm,1.1s
RDF Al-Radifah 65.55 292 *e*P **P** **06 21 43.0 -0.1**
RDF AMb AMB 06 21 46.2
comp=Z,64nm,0.8s
ZEI Tsey 65.57 308 *e*P **P** **06 21 42.9 -0.3**
ZEI pmax pmax
comp=Z,33nm,1.4s
NAY Al-Naaiem 65.73 293 *e*P **P** **06 21 43.6 -0.6**
NAY AMb AMB 06 21 45.5
comp=Z,24nm,0.7s
ONI Oni 65.93 308 P **P** **06 21 46.8 +1.5**
AKH Akhalkalaki 66.12 306 P **P** **06 21 47.7 +1.0**
KBZ Khabaz 66.13 309 P **P** **06 21 46.3 -0.2**
KBZ Khabaz 66.13 309 P **P** **06 21 46.3 -0.2**
KBZ Khabaz 66.13 309 P **P** **06 21 46.3 -0.2**
comp=Z,10nm,0.9s,baz=101,slow=5.2,SNR=13
KBZ LR LR 06 54 44.8
comp=Z,323nm,20.8s,baz=277,slow=40
KIV Kislovodsk 66.24 309 *e*P **P** **06 21 47.3 0.0**
KIV *e*S **S** **06 30 33.1 -2.9**
KIV pmax pmax
comp=Z,30nm,1.0s
KIV MLR MLR
comp=Z,296nm,17.0s
TMCR Tamitsa 66.33 332 *e*P **P** **06 21 46.3 -1.0**
TMCR pmax pmax
comp=Z,67nm,1.3s
VORD Divnogorie 67.31 317 *e*P **P** **06 21 52.3 -1.6**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,20nm,0.6s
VSR Storozhevoye 67.35 318 *e*P **P** **06 21 53.1 -1.0**
VSR pmax pmax
comp=Z,40nm,1.2s
VSR pmax pmax
comp=N,4.0nm,0.4s
VSR pmax pmax
comp=E,30nm,1.2s
MOS Moscow 67.54 323 *e*P **P** **06 21 53.2 -2.0**
MOS pmax pmax
comp=Z,41nm,0.9s
APA Apatity 67.85 336⇓*i*P **P** **06 21 57.0 0.0**
APA MLR MLR
comp=Z,700nm,15.0s
COLD Coldfoot 68.03 25 *e*P **P** **06 21 58.2 0.0**
comp=Z,25nm,1.6s
OBN Obninsk 68.24 322⇑*i*P **P** **06 21 58.1 -1.5**
OBN *i* 06 24 30.7
OBN *i*S **S** **06 31 00.3 +0.9**
OBN pmax pmax
comp=Z,29nm,1.7s
OBN MLR MLR
comp=Z,300nm,16.0s
KDAK Kodiak Island 68.41 35 P **P** **06 21 58.9 -1.7**
KDAK Kodiak Island 68.41 35 P **P** **06 21 58.9 -1.7**
comp=Z,15nm,0.9s,baz=229,slow=4.8,SNR=2.9
MCK McKinley 69.12 28 *e*P **P** **06 22 04.9 -0.2**
MCK pmax pmax
comp=Z,28nm,1.2s
MCK McKinley 69.12 28 *e*P **P** **06 22 04.9 -0.2**
comp=Z,28nm,1.2s
COLA College 69.37 27 *e*P **P** **06 22 05.8 -0.7**
COLA *e* 06 22 27.4
COLA pmax pmax
comp=Z,28nm,0.7s
COLA College 69.37 27 *e*P **P** **06 22 05.8 -0.7**
comp=Z,28nm,0.7s
COLA *e*PcP **PcP** **06 22 27.4 -2.5**
PMR Palmer 69.44 31 *e*P **P** **06 22 06.0 -1.0**
PMR pmax pmax
comp=Z,6.0nm,0.8s
PMR Palmer 69.44 31 *e*P **P** **06 22 06.0 -1.0**
comp=Z,6.4nm,0.8s
JOF Joensuu 69.48 331 *e*p **P** **06 22 06.5 -0.7**
comp=Z,13nm,0.7s
JOF Joensuu 69.48 331 *e*P **P** **06 22 06.5 -0.7**
JOF pmax pmax
comp=Z,13nm,0.7s
ANN Anapa 69.76 311 *e*P **P** **06 22 07.2 -2.1**
ANN *e*S **S** **06 31 14.5 -3.3**
ANN pmax pmax
comp=Z,66nm,1.5s
ANN MLR MLR
comp=Z,341nm,17.0s
SML Sawmill 69.77 30 P **P** **06 22 08.0 -1.1**
SML pmax pmax
comp=Z,4.0nm,0.8s
SML Sawmill 69.77 30 P **P** **06 22 08.0 -1.1**
comp=Z,3.6nm,0.8s
KEV Kevo 69.77 338 *e*p **P** **06 22 08.5 -0.4**
comp=Z,4.4nm,0.6s
KEV Kevo 69.77 338 *e*P **P** **06 22 08.5 -0.4**
KEV pmax pmax
comp=Z,4.0nm,0.6s
ILAR Eielson Array 69.80 27 P **P** **06 22 07.5 -1.7**
ILAR Eielson Array 69.80 27 P **P** **06 22 07.5 -1.7**
comp=Z,1.4nm,0.5s,baz=278,slow=5.1,SNR=13
TAU Tasmania Unive 70.18 160 *e*P **P** **06 22 12.0 +0.4**
TAU pmax pmax
comp=Z,28nm,1.1s
TAU Tasmania Unive 70.18 160 *e*P **P** **06 22 12.0 +0.4**
comp=Z,28nm,1.1s
ARCES ARCESS Array B 70.33 338 P **P** **06 22 11.7 -0.7**
ARCES ARCESS Array B 70.33 338 P **P** **06 22 11.7 -0.7**
comp=Z,3.7nm,0.6s,baz=70,slow=7.9,SNR=15
ARE0 ARCESS Array S 70.33 338 *e*P **P** **06 22 11.9 -0.5**
MALT Malatya 70.60 304⇑*i*P P 06 22 34.8 +20
MENT Mentasta 71.59 29 *e*P **P** **06 22 20.0 -0.2**
KAF Kangasniemi 71.93 330 *e*p **P** **06 22 21.2 -1.0**
comp=Z,3.8nm,0.5s
KAF Kangasniemi 71.93 330 *e*P **P** **06 22 21.2 -1.0**
KAF pmax pmax
comp=Z,4.0nm,0.5s
SIM Simferopol' 72.01 312*de*P **P** **06 22 22.8 -0.2**
SIM pmax pmax
comp=Z,25nm,0.8s
SIM MLR MLR
comp=Z,90nm,16.7s
EGAK Eagle 72.17 27 *e*P **P** **06 22 22.7 -0.9**
comp=Z,7.9nm,0.8s
FINES FINESS Array B 72.22 330 P **P** **06 22 23.1 -0.8**
FINES FINESS Array B 72.22 330 P **P** **06 22 23.1 -0.8**
comp=Z,13nm,0.7s,baz=59,slow=5.6,SNR=42
VSU Vasula 72.74 327 *e*P **P** **06 22 26.6 -0.5**
VSU pmax pmax
comp=Z,84nm,1.0s
MICGM Minsk 73.27 323 *e* **P** **06 22 29.0 -1.3**
MNK Minsk 73.30 323 *e*P **P** **06 22 29.0 -1.4**
KIEV Kiev 73.60 319 *e*P **P** **06 22 31.2 -1.1**
KIEV pmax pmax
comp=Z,4.0nm,0.7s
KIEV Kiev 73.60 319 *e*P **P** **06 22 31.2 -1.1**
comp=Z,3.7nm,0.7s
NACGM Naroch 73.76 323 *e* P 06 22 30.0 -3.2
BRTR Keskin Array B 73.80 307 P **P** **06 22 33.4 -0.6**
BRTR Keskin Array B 73.80 307 P **P** **06 22 33.4 -0.6**
comp=Z,8.9nm,1.0s,baz=108,slow=6.6,SNR=24
INK Inuvik 73.86 22 P **P** **06 22 31.9 -1.5**
INK Inuvik 73.86 22 P **P** **06 22 31.9 -1.5**
comp=Z,5.8nm,0.9s,baz=302,slow=6.8,SNR=5.4
ANTO Ankara 74.38 307 *e*P **P** **06 22 37.2 0.0**
ANTO pmax pmax
comp=Z,11nm,0.9s
ANTO Ankara 74.38 307 *e*P **P** **06 22 37.2 0.0**
comp=Z,11nm,0.9s
AFI Afiamalu 75.11 113 LR LR 06 52 29.4
comp=Z,167nm,20.0s,baz=279,slow=33
CFR Carcaliu 75.99 313 ⇓P **P** **06 22 45.8 -0.4**
CFR Carcaliu 75.99 313⇓*i*P **P** **06 22 45.8 -0.4**
SUW Suwalki 76.04 323 *e*P **P** **06 22 45.7 -0.7**
SUW pmax pmax
comp=Z,74nm,1.0s
SUW Suwalki 76.04 323 *e*P **P** **06 22 45.7 -0.7**
comp=Z,74nm,1.0s
SUW Suwalki 76.04 323 *e*P **P** **06 22 45.0 -1.4**
TESR Tescani 76.53 315⇑*i*P **P** **06 22 48.5 -0.8**
SKAG Skagway 76.58 31 *e*P **P** **06 22 48.6 -0.7**
VRI Vrincioaia 76.69 314⇑P **P** **06 22 50.3 0.0**
VRI Vrincioaia 76.69 314⇑*i*P **P** **06 22 50.3 0.0**
BURAR Bucovina Array 77.07 316⇑P **P** **06 22 51.3 -1.2**
BURAR Bucovina Array 77.07 316⇑*i*P **P** **06 22 51.3 -1.2**
BUR08 Bucovina Ar. S 77.07 316 *e*P **P** **06 22 52.1 -0.3**
MLR Muntele Rosu 77.34 314⇑*i*P **P** **06 22 54.1 0.0**
KWP Kalwaria Pacla 77.89 319 *e*P **P** **06 22 56.5 -0.4**
VOIR 77.95 314⇑P **P** **06 22 56.3 -1.1**
VOIR 77.95 314⇑*i*P **P** **06 22 56.3 -1.1**
ARR Arges 78.25 314⇑*i*P **P** **06 22 57.7 -1.4**
UZH Uzhgorod 78.52 318 *e* P 06 23 06.8 +6.4
STHS Stebnicka Huta 78.86 319 *e*P **P** **06 23 01.2 -1.1**
STHS pmax pmax
comp=Z,4.0nm,1.1s
STHS Stebnicka Huta 78.86 319 *e*P **P** **06 23 01.2 -1.1**
DRGR 78.96 316⇑*i*P P 06 22 58.8 -4.2
NB2 NORSAR Subarra 79.00 332 P **P** **06 23 01.2 -1.7**
comp=Z,15nm,1.0s,baz=58,slow=5.6
NB2 NORSAR Subarra 79.00 332 P **P** **06 23 01.2 -1.7**
baz=58,slow=5.6
NOA NORSAR Array B 79.00 332 P **P** **06 23 01.1 -1.8**
NOA PP **PP** **06 26 02.8 +1.4**
NOA NORSAR Array B 79.00 332 P **P** **06 23 01.1 -1.8**
comp=Z,8.4nm,0.8s,baz=58,slow=5.4,SNR=19
NOA PP **PP** **06 26 02.8 +1.4**
comp=Z,0.9nm,0.8s,baz=74,slow=7.9,SNR=3.5
OJC Ojcow 79.40 320 *e*P **P** **06 23 04.8 -0.4**
OJC Ojcow 79.40 320 *e*P **P** **06 23 04.8 -0.4**
comp=Z,12nm,0.8s
OJC Ojcow 79.40 320 *e*P **P** **06 23 04.8 -0.4**
NIE Niedzica 79.42 319 *e*P **P** **06 23 07.0 +1.6**
NIE Niedzica 79.42 319 *e*P **P** **06 23 07.0 +1.6**
DLBC Dease Lake 79.50 30 P **P** **06 23 05.3 -0.3**
DLBC Dease Lake 79.50 30 P **P** **06 23 05.3 -0.3**
comp=Z,4.2nm,0.9s,baz=285,slow=7.1,SNR=8.3
KECS Kecovo 79.69 318 *e*P **P** **06 23 06.9 +0.1**
KECS pmax pmax
comp=Z,4.0nm,1.1s
KECS Kecovo 79.69 318 *e*P **P** **06 23 06.9 +0.1**
VTS Vitosha 80.24 312⇑P **P** **06 23 10.0 -0.1**
VTS Vitosha 80.24 312⇑*i*P **P** **06 23 10.0 -0.1**
PSZ Piszkesteto 80.28 318 *e*P **P** **06 23 09.4 -0.7**
PSZ pmax pmax
comp=Z,7.0nm,1.1s
PSZ Piszkesteto 80.28 318 *e*P **P** **06 23 09.4 -0.7**
comp=Z,6.5nm,1.1s
OKC Ostrava-Krasne 80.53 320 *e*P **P** **06 23 10.6 -0.7**

OKC MLR MLR
comp=Z,300nm,14.2s
OKC Ostrava-Krasne 80.53 320 eP P 06 23 10.6 -0.7
VYHS Vyhne 80.68 319 eP P 06 23 11.8 -0.4
VYHS pmax pmax
comp=Z,8.0nm,1.1s
VYHS Vyhne 80.68 319 eP P 06 23 11.8 -0.4
MORC Moravsky Berou 80.91 320 eP P 06 23 12.8 -0.6
MORC pmax pmax
comp=Z,94nm,2.9s
MORC Moravsky Berou 80.91 320 eP P 06 23 12.8 -0.6
comp=Z,94nm,2.9s
KSP Ksiaz 81.17 322⇑ eP P 06 23 14.1 -0.6
KSP Ksiaz 81.17 322 eP P 06 23 14.3 -0.4
DPC Dobruska-Polom 81.37 321 eP P 06 23 15.5 -0.4
DPC e 06 23 25.8
DPC Dobruska-Polom 81.37 321 eP P 06 23 15.6 -0.4
DPC ex x 06 23 25.8
DPC Dobruska-Polom 81.37 321 eP P 06 23 15.6 -0.2
comp=Z,36nm,0.8s
IDI Anoyia 81.85 305 eP P 06 23 17.8 -0.9
comp=Z,21nm,1.3s
PVCC Panska Ves 82.29 322 eP P 06 23 20.2 -0.4
PVCC Panska Ves 82.29 322 eP P 06 23 20.2 -0.4
PRU Pruhonice 82.55 321 eP P 06 23 21.2 -0.8
PRU e 06 23 30.9
PRU Pruhonice 82.55 321 eP P 06 23 21.2 -0.8
PRU ex x 06 23 30.9
PRA Prague 82.58 322 P P 06 23 21.0 -1.1
CONA Conrad Observa 82.72 319⇑ iP P 06 23 22.7 -0.4
comp=Z,6.8nm,1.1s
CLL Collm 82.80 323 eP P 06 23 22.1 -1.1
comp=Z,13nm,0.9s
CLL Collm 82.80 323⇑ iP P 06 23 22.2 -1.0
CLL pmax pmax
comp=Z,13nm,0.9s
CLL Collm 82.80 323⇑ iP P 06 23 22.2 -1.0
comp=Z,13nm,0.9s
CLL ePcP **PcP 06 23 28.0 -0.1**
CLL ePP **PP 06 26 38.0 +5.1**
BSEG Bad Segeberg 82.93 326 eP P 06 23 23.8 -0.1
comp=Z,29nm,1.3s
BSEG Bad Segeberg 82.93 326 eP P 06 23 23.8 -0.1
BSEG pmax pmax
comp=Z,32nm,1.3s
SUMG Summit 83.29 354 i P P 06 23 25.4 -0.5
SUMG pmax pmax
comp=Z,6.0nm,1.0s
SUMG Summit 83.29 354 eP P 06 23 25.8 -0.1
comp=Z,7.2nm,0.9s
SUMG Summit 83.29 354 i P P 06 23 25.4 -0.5
comp=Z,5.7nm,1.0s
KHC Kasperske Hory 83.51 321 eP P 06 23 26.1 -1.0
KHC e 06 23 34.3
KHC Kasperske Hory 83.51 321 eP P 06 23 26.1 -1.0
KHC epP **PcP 06 23 31.3 -0.1**
KHC ex x 06 23 34.3
KHC Kasperske Hory 83.51 321 eP P 06 23 26.2 -0.8
TANN Tannenbergstha 83.53 322 eP P 06 23 25.7 -1.4
comp=Z,11nm,1.2s
YKW3 Yellowknife Ar 83.55 23 eP P 06 23 25.4 -1.5
comp=Z,0.1nm,0.8s
GEC2 GERESS Array S 83.57 321 eP P 06 23 26.4 -1.0
comp=Z,10.0nm,0.8s
GEC2 GERESS Array S 83.57 321 eP P 06 23 26.4 -1.0
GEC2 pmax pmax
comp=Z,9.0nm,0.8s
GERES GERESS Array B 83.57 321 P P 06 23 26.4 -1.0
GERES GERESS Array B 83.57 321 P P 06 23 26.4 -1.0
comp=Z,8.1nm,0.8s,baz=57,slow=4.9,SNR=74
OPO Ambohidratompo 83.58 247 LR LR 06 55 36.0
comp=Z,309nm,21.5s,baz=123,slow=32
YKA Yellowknife Ar 83.59 23 P P 06 23 25.9 -1.2
YKA Yellowknife Ar 83.59 23 P P 06 23 25.9 -1.2
comp=Z,1.0nm,0.5s,baz=308,slow=4.8,SNR=12
NKC Novy Kostel 83.62 322 eP P 06 23 27.3 -0.3
NKC e 06 23 36.3
NKC Novy Kostel 83.62 322 eP P 06 23 27.3 -0.3
NKC ex x 06 23 36.3
MOA Molln 83.71 320⇑ iP P 06 23 27.6 -0.5
comp=Z,10.0nm,0.7s
SOKA Soboth 83.80 318⇑ iP P 06 23 27.9 -0.8
comp=Z,7.7nm,0.8s
MOX Moxa 83.89 323 eP P 06 23 28.0 -0.9
comp=Z,10.0nm,1.0s
MOX eL L 07 06 08.1
comp=Z,543nm,19.2s
MOX Moxa 83.89 323 eP P 06 23 28.0 -0.9
MOX pmax pmax
comp=Z,1.0nm,1.0s
WET Wettzell 83.91 321 eP P 06 23 27.9 -1.2
comp=Z,5.0nm,0.9s
WET Wettzell 83.91 321 eP P 06 23 27.9 -1.2
WET pmax pmax
comp=Z,8.0nm,0.9s
ROTZ Rotzenmuhle 83.99 322 eP P 06 23 28.9 -0.5
comp=Z,11nm,0.9s
PDKS Podkum 84.10 318 i P P 06 23 29.4 -0.8
LJU Ljubljana 84.40 318 i P P 06 23 30.8 -0.8
GRF Grafenberg Arr 84.58 322 eP P 06 23 31.7 -0.8
comp=Z,32nm,1.7s
GRF eL L 07 05 13.3
comp=Z,302nm,21.3s
GRF Grafenberg Arr 84.58 322 eP P 06 23 31.7 -0.8
GRF MLR MLR
comp=Z,32μm,21.3s
GRFO Grafenberg 84.58 322 eP P 06 23 31.3 -1.2
GRFO pmax pmax
comp=Z,42nm,1.7s
GRFO Grafenberg 84.58 322 eP P 06 23 31.3 -1.2
comp=Z,42nm,1.7s
RJOB Jochberg 84.64 320 eP P 06 23 32.1 -0.8
comp=Z,12nm,0.8s
KMBO Kilima Mbogo 85.09 267 P P 06 23 36.7 +0.8
KMBO Kilima Mbogo 85.09 267 P P 06 23 36.7 +0.8
comp=Z,5.1nm,0.8s,baz=53,slow=11,SNR=9.3
IBBN Ibbenburen 85.10 326 eP P 06 23 34.2 -0.8
comp=Z,24nm,1.0s
FUR Furstenfeldbru 85.31 321 eP P 06 23 35.8 -0.4
comp=Z,20nm,0.9s
FUR Furstenfeldbru 85.31 321 eP P 06 23 35.8 -0.4
FUR pmax pmax
comp=Z,37nm,0.9s
BUG Bochum--Univer 85.82 325 eP P 06 23 37.4 -1.2
comp=Z,19nm,1.1s
MOTA Moosalm 85.83 320⇓ iP P 06 23 37.4 -1.5
comp=Z,8.5nm,1.1s
STU Stuttgart 86.19 322 eP P 06 23 39.8 -0.7
STU pmax pmax
comp=Z,5.0nm,0.4s
STU Stuttgart 86.19 322 eP P 06 23 39.8 -0.7
comp=Z,5.0nm,0.4s
DAVA Damuels 86.57 321⇑ iP P 06 23 38.1 -4.5
comp=Z,5.0nm,1.0s
MEM Membach 86.94 325 P P 06 23 45.9 +1.7
comp=Z,4.4nm,1.2s
WLF Walferdange 87.39 324 P P 06 23 46.1 -0.2
comp=Z,17nm,1.6s
WLF Walferdange 87.39 324 eP P 06 23 45.5 -0.9
comp=Z,23nm,1.2s
WLF Walferdange 87.39 324 eP P 06 23 45.4 -0.9
WLF pmax pmax
comp=Z,18nm,1.1s
WLF Walferdange 87.39 324 eP P 06 23 45.4 -0.9
comp=Z,18nm,1.1s
CDF Champ du Feu 87.46 323 eP P 06 23 45.5 -1.3
comp=Z,3.2nm,0.5s
GIVF Givet 87.85 325 eP P 06 23 47.3 -1.3
DOU Dourbes 87.98 325 P P 06 23 47.9 -1.2
comp=Z,5.8nm,1.0s
HINF Hinteralfeld 88.02 322 eP P 06 23 47.6 -1.9
HAU Haudompre 88.20 323 eP P 06 23 48.6 -1.7
comp=Z,6.0nm,0.7s
HAU eR
comp=Z,339nm,21.0s
BAIF Baives 88.20 325 eP P 06 23 49.0 -1.2
MEZF Maizieres J'vi 88.64 323 eP P 06 23 51.3 -1.0
SFTF Sexfontaines 88.82 323 eP P 06 23 51.7 -1.5
comp=Z,19nm,0.9s
CABF La Chapelle 89.13 321 eP P 06 23 53.8 -1.0
comp=Z,10nm,0.9s
LPG La Plagne 89.36 320⇑ iP P 06 23 55.1 -1.0
comp=Z,18nm,0.6s
LPL La Plagne 89.36 320 eP P 06 23 55.0 -1.1
comp=Z,16nm,0.6s
PGF Pioggiola 89.58 317 eP P 06 23 56.0 -1.0
comp=Z,46nm,0.9s
MBDF Montbardon 89.77 320 eP P 06 23 56.2 -1.7
comp=Z,5.9nm,0.7s
CASY Casey 89.79 184 eP P 06 23 56.3 -0.7
comp=Z,11nm,1.3s
SBF Sospel 89.84 319 eP P 06 23 56.5 -1.7
comp=Z,25nm,0.8s
LOR Lormes 90.01 323 eP P 06 23 57.1 -1.7
comp=Z,9.2nm,0.8s
LOR eR
comp=Z,292nm,18.8s
ORIF Oris-en-Rattie 90.19 320 eP P 06 23 58.6 -1.2
comp=Z,7.6nm,0.7s
ORIF eR
comp=Z,676nm,17.2s
SSF Saint Saulge 90.32 323 eP P 06 23 58.8 -1.4
comp=Z,19nm,1.1s
SMF Signal de Mont 90.38 322⇑ iP P 06 23 59.1 -1.4
comp=Z,26nm,0.7s
FRF La Foret Royal 90.49 319 eP P 06 24 00.3 -0.8
comp=Z,10nm,0.9s
AVF Avril sur Loir 90.57 323 eP P 06 23 59.9 -1.5
comp=Z,29nm,0.8s
HYF Humbligny 90.68 323 eP P 06 24 01.1 -0.8
LMR La Mourre 90.70 319 eP P 06 24 00.8 -1.2
comp=Z,23nm,1.1s
VIVF Saint-Julien-l 90.94 321 eP P 06 24 01.8 -1.4
comp=Z,5.2nm,0.7s
BGF Bois d'Agland 90.99 323 eP P 06 24 01.8 -1.5
comp=Z,13nm,0.8s
TCF Toulx Ste Croi 91.50 323 eP P 06 24 04.6 -1.2
comp=Z,5.8nm,0.7s
NEW Newport 91.51 35 eP P 06 24 05.0 -0.8
comp=Z,6.7nm,1.1s
NEW Newport 91.51 35 P P 06 24 05.3 -0.5
baz=91
GRR Gorron 91.86 326 eP P 06 24 06.5 -0.8
CAF Calviac 92.40 322 eP P 06 24 09.3 -0.7
comp=Z,9.9nm,0.9s
RJF Les Rejaudoux 92.48 322 eP P 06 24 09.6 -0.7
comp=Z,31nm,0.8s
MFF Saint Martin d 92.60 324 eP P 06 24 09.4 -1.4
B13A Whitefish 92.81 34 P P 06 24 11.7 -0.2
baz=92
KEST Kesra 92.93 311 P P 06 24 12.1 -0.6
KEST Kesra 92.93 311 P P 06 24 12.1 -0.6
comp=Z,1.6nm,0.8s,baz=0.0,slow=5.1,SNR=3.5
A14A Double T Ranch 92.94 33 P P 06 24 12.2 -0.3
baz=93
BSMT Bassoo Peak 92.99 34 P P 06 24 13.7 +0.8
comp=Z,2.4nm,0.9s
LFF La Frestale 93.14 322 eP P 06 24 12.5 -0.8
comp=Z,30nm,1.2s
B14A Marquette Ranc 93.42 33 P P 06 24 14.9 +0.1
baz=93
BMO Blue Mountains 93.53 38 eP P 06 24 13.3 -2.0
BMO pmax pmax
comp=Z,2.0nm,0.9s
BMO Blue Mountains 93.53 38 eP P 06 24 13.3 -2.0
comp=Z,1.7nm,0.9s
SWMT Swartz Lake 93.61 34 P P 06 24 14.6 -1.0
comp=Z,1.6nm,0.7s
FFC Flin Flon 93.75 24 eP P 06 24 14.9 -1.0
FFC pmax pmax
comp=Z,4.0nm,1.0s
FFC Flin Flon 93.75 24 eP P 06 24 14.9 -1.0
comp=Z,4.1nm,1.0s
SLMT Seeley Lake 94.05 34 eP P 06 24 16.1 -1.6
comp=Z,5.9nm,1.1s
C15A Salmond Ranch, 94.15 33 P P 06 24 17.2 -0.9
baz=94
LRM Limekiln Ridge 95.53 35 P P 06 24 23.0 -1.6
comp=Z,28nm,1.1s
C19A Slack Wire Ran 95.92 32 P P 06 24 28.3 +2.1
baz=96
D19A Cripps Ranch, 96.41 32 P P 06 24 29.5 +1.1
baz=96
NVAR Mina Array Bea 96.85 43 P P 06 24 30.6 -0.1
NVAR Mina Array Bea 96.85 43 P P 06 24 30.6 -0.1
comp=Z,0.7nm,0.8s,baz=305,slow=4.6,SNR=5.1
PDAR Pinedale Array 99.13 35 PP PP 06 28 46.8 +4.2
PDAR Pinedale Array 99.13 35 PP PP 06 28 46.8 +4.2
comp=Z,0.8nm,1.0s,baz=297,slow=8.2,SNR=4.8
PDAR LR LR 07 12 20.1
comp=Z,166nm,20.2s,baz=326,slow=37
ULM Lac du Bonnet 99.57 23 LR LR 07 20 08.4
comp=Z,254nm,18.5s,baz=337,slow=42
MNTX Cornudas Mount 109.23 41 ePdif Pdif 06 25 29.0 +3.2
GDL2 Guadalupe Moun 109.49 40 ePKPdf PKiKP 06 29 20.6 -10
TORD Torodi Ar. Bea 110.76 295 PKiKP PKiKP 06 29 31.5 -1.4
TORD Torodi Ar. Bea 110.76 295 PKiKP PKiKP 06 29 31.5 -1.4
comp=Z,0.8nm,0.9s,baz=46,slow=3.0,SNR=2.8
TXAR Lajitas Array 111.95 42 PKiKP PKiKP 06 29 33.4 -1.6
TXAR PP PP 06 30 22.7 +5.3
TXAR Lajitas Array 111.95 42 PKiKP PKiKP 06 29 33.4 -1.6
comp=Z,0.1nm,0.5s,baz=291,slow=0.8,SNR=3.5
TXAR PP PP 06 30 22.7 +5.3
comp=Z,0.7nm,0.9s,baz=294,slow=4.8,SNR=5.4
QSPA South Pole Qui 113.21 180 ePKPdf PKiKP 06 29 34.4 -1.6
JCT Junction City 113.40 38 ePdif Pdif 06 25 37.9 -6.5
LRAL Lakeview Retre 117.67 27 ePdif Pdif 06 25 54.5 -8.7
SDV Santo Domingo 145.80 22 ePKPdf PKPdf 06 30 37.9 -1.1
ROSC El Rosal 147.97 31 PKPbc PKPdf 06 30 44.1 +1.2
ROSC El Rosal 147.97 31 PKPbc PKPdf 06 30 44.1 +1.2
comp=Z,1.9nm,0.3s,baz=304,slow=14,SNR=4.1
RCBR Riachuelo 152.02 305 ePKPbc PKPbc 06 30 55.3 0.0
PLCA Paso Flores 160.01 153 PKPab PKPab 06 31 37.5 -0.6
PLCA Paso Flores 160.01 153 PKPab PKPab 06 31 37.5 -0.6
comp=Z,0.7nm,0.5s,baz=191,slow=9.0,SNR=2.9
LPAZ La Paz 168.56 53 PKPab PKPab 06 32 18.6 +1.5
LPAZ La Paz 168.56 53 PKPab PKPab 06 32 18.6 +1.5
comp=Z,1.2nm,0.9s,baz=0.0,slow=4.0,SNR=2.3

KRSC 26 06:20:28.5±1.3, 49.17N×155.73E, h5km±5km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.54**	**9**	*eP*	Pn	06 20 55.0	-1.5
SKR				*i* S	Sn	06 21 14.4	-2.4
PAU	**Pauzhetka**	**2.40**	**16**	*eP*	Pn	06 21 09.2	+0.8
PAU				*i* S	Sn	06 21 38.7	+0.5
MIPR	**Malaya Ipel'ka**	**3.18**	**11**	*eP*	Pn	06 21 18.5	-0.6
ASAK	**Asacha**	**3.50**	**22**	*eP*	Pn	06 21 24.7	+1.0
ASAK				*i* S	Sn	06 22 05.4	-0.1
MTVR	**Mutnovka**	**3.66**	**24**	*eP*	Pn	06 21 26.6	+0.6
MTVR				*i* S	Sn	06 22 09.3	-0.4
RUS	**Russkaya**	**3.71**	**27**	*eP*	Pn	06 21 26.2	-0.2
RUS				*i* S	Sn	06 22 09.0	-1.5
PET	**Petropavlovsk**	**4.28**	**24**	*eP*	Pn	06 21 35.4	+1.2
PET				*i* S	Sn	06 22 24.3	-0.1
UGLR	**Uglovaya**	**4.49**	**25**	*eP*	Pn	06 21 38.5	+1.2
KOK	**Koryaka**	**4.51**	**23**	*eP*	Pn	06 21 40.0	+2.4
AVH	**Avacha**	**4.51**	**24**	*eP*	Pn	06 21 39.8	+2.2
SMAR	**Somma**	**4.53**	**24**	*eP*	Pn	06 21 39.2	+1.2
KRER	**Koryakskii**	**4.55**	**23**	*eP*	Pn	06 21 39.9	+1.6
GNL	**Ganaly**	**4.74**	**16**	*eP*	Pn	06 21 42.1	+1.4

IDC 26 06:20:46.4±1.2, 0.32S×132.56E, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.6/21, mbtmp3.6/6, ML3.7/2, MS4.3/1, Ms1 4.3/1, ms1mx3.1/35, Error ellipse: s-maj=64.0km s-min=20.4km az=83.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.94**	**201**	P	P	06 25 07.5	-1.6
	0.1nm,0.3s,baz=27,slow=9.0,SNR=4.5						
FITZ				S	Sn	06 28 24.8	-18
	0.1nm,0.3s,baz=107,slow=20,SNR=2.6						
WRA	**Warramunga Arr**	**19.58**	**175**	P	P	06 25 16.6	+0.3
	0.3nm,0.3s,baz=353,slow=12,SNR=10						
WRA				S	Sn	06 28 43.2	-15
	0.0nm,0.3s,baz=346,slow=23,SNR=2.9						
ASAR	**Alice Springs**	**23.25**	**177**	P	P	06 25 56.5	+0.9
	0.8nm,0.4s,baz=355,slow=10,SNR=8.9						
DZM	**Mont Dzumac**	**39.45**	**126**	LR	LR	06 44 33.7	
	comp=Z,371nm,18.5s,baz=180,slow=36						
MKAR	**Makanchi Array**	**64.21**	**324**	P	P	06 31 22.3	-0.9
	0.3nm,0.6s,baz=128,slow=8.2,SNR=3.4						
ZALV	**Zalesovo Beam**	**66.86**	**332**	P	P	06 31 41.7	+1.6
	0.4nm,0.4s,baz=133,slow=6.3,SNR=2.9						
ILAR	**Eielson Array**	**86.25**	**25**	P	P	06 33 28.6	-1.2
	0.3nm,0.8s,baz=247,slow=4.7,SNR=4.9						

*ISCJB **26** 06:24:41.6±0.6, 39.30N±0.01×24.72E±0.02, h10km±4km, Error ellipse: s-maj=2.6km s-min=2.0km az=155.5*
*ATH **26** 06:24:41.4, 39.27N×24.72E, h20km±2km, MD3.4/15*
*THE **26** 06:24:42.3, 39.30N×24.74E, h12km, ML3.3/18, Error ellipse: s-maj=0.6km s-min=0.2km az=11.0*
*CSEM **26** 06:24:42.2±0.1, 39.27N×24.69E, h10km, ML3.3/18, Error ellipse: s-maj=2.4km s-min=1.8km az=156.0*
*ISK **26** 06:24:43.2, 39.22N×24.72E, h26km, ML3.7*
*DDA **26** 06:24:50, 39.35N×25.70E, h7km, MD3.3*

ISC 26 06:24:41.9±1.1, 39.29N±0.02×24.72E±0.01, h9km±9km, n183, σ0.82/252, 13C-8D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOS	**Alonnisos**	**0.66**	**260**	P	Pb	06 24 55.5	-0.2
AOS				S	Sb	06 25 05.3	+0.3
AOS	**Alonnisos**	**0.66**	**260**	P	Pb	06 24 55.5	-0.2
AOS				S	Sb	06 25 05.3	+0.3
LIA	**Limnos Island**	**0.71**	**30**	P	Pg	06 24 55.5	-0.1
LIA				S	Sg	06 25 05.5	+0.7
LIA	**Limnos Island**	**0.71**	**30**	*e*PN	Pg	06 24 55.4	-0.1
LIA				*e*SN	Sg	06 25 05.3	+0.5
LIA	**Limnos Island**	**0.71**	**30**	P	Pg	06 24 55.5	-0.1
LIA				S	Sg	06 25 05.5	+0.7
SKIA	**Skiathos**	**0.98**	**263**	P	Pg	06 25 00.9	+0.1
SKIA				S	Sn	06 25 15.2	-0.8
SKIA	**Skiathos**	**0.98**	**263**	P	Pg	06 25 00.9	+0.1
SKIA				S	Sn	06 25 15.2	-0.8
PAIG	**Paliouri**	**1.03**	**309**	P	Pg	06 25 01.6	-0.1
PAIG				S	Sn	06 25 16.6	-0.5
PAIG	**Paliouri**	**1.03**	**309**	P	Pg	06 25 01.6	-0.1
PAIG				S	Sn	06 25 16.6	-0.5
MRKA	**Markates**	**1.06**	**237**	P	Pg	06 25 02.2	0.0
MRKA				S	Sn	06 25 17.9	+0.1
MRKA	**Markates**	**1.06**	**237**	P	Pg	06 25 02.2	0.0
XOR	**Xorichti**	**1.19**	**274**	P	Pb	06 25 04.0	-0.7
XOR				S	Sn	06 25 21.2	+0.1
XOR	**Xorichti**	**1.19**	**274**	P	Pb	06 25 04.0	-0.7
XOR				S	Sn	06 25 21.2	+0.1
OUR	**Ouranopolis**	**1.19**	**332**	P	Pb	06 25 03.8	-0.9
OUR				S	Sg	06 25 20.4	+0.1
OUR	**Ouranopolis**	**1.19**	**332**	P	Pb	06 25 03.8	-0.9
OUR				S	Sg	06 25 20.4	+0.1
PRK	**Paraskevi**	**1.20**	**91**	P	Pb	06 25 03.8	-1.1
PRK				S	Sb	06 25 20.6	+0.1
PRK	**Paraskevi**	**1.20**	**91**	*e*PN	Pb	06 25 04.1	-0.8
PRK				*e*SN	Sn	06 25 21.2	-0.2
PRK	**Paraskevi**	**1.20**	**91**	P	Pb	06 25 03.8	-1.1
PRK	**Paraskevi**	**1.20**	**91**	*e*Pn	Pb	06 25 04.1	-0.8
PRK				S	Sb	06 25 20.6	+0.1
PRK				*e*Sn	Sn	06 25 21.2	-0.2
SMIA	**Simia**	**1.25**	**251**	P	Pn	06 25 04.9	-0.6
SMIA				S	Sn	06 25 22.8	+0.3
SMIA	**Simia**	**1.25**	**251**	P	Pn	06 25 04.9	-0.6
SMIA				S	Sn	06 25 22.8	+0.3
MRMA	**Marmari**	**1.26**	**192**	P	Pn	06 25 05.1	-0.6
MRMA	**Marmari**	**1.26**	**192**	P	Pn	06 25 05.1	-0.6
SMTH	**Samothraki Isl**	**1.34**	**27**	P	Pn	06 25 05.0	-1.8
SMTH				S	Sb	06 25 24.2	-0.2
SMTH	**Samothraki Isl**	**1.34**	**27**	*e*PN	Pn	06 25 06.9	+0.1
SMTH	**Samothraki Isl**	**1.34**	**27**	P	Pn	06 25 05.0	-1.8
SMTH	**Samothraki Isl**	**1.34**	**27**	*e*Pn	Pn	06 25 06.9	+0.1
SMTH				S	Sb	06 25 24.2	-0.2
EZN	**Ezine**	**1.35**	**66**	*e*PN	Pn	06 25 06.9	-0.1
EZN				*e*SN	Sb	06 25 24.7	-0.1
EZN	**Ezine**	**1.35**	**66**	*e*Pn	Pn	06 25 06.9	-0.1
EZN				*e*Sn	Sb	06 25 24.7	-0.1
CHOS	**Chios island**	**1.38**	**130**	P	Pn	06 25 06.7	-0.6
CHOS				S	Sb	06 25 25.6	0.0
CHOS	**Chios island**	**1.38**	**130**	*e*PN	Pn	06 25 06.8	-0.6
CHOS				*e*SN	Sg	06 25 26.6	+0.5
CHOS	**Chios island**	**1.38**	**130**	*e*Pn	Pn	06 25 06.8	-0.6
CHOS				S	Sb	06 25 25.6	0.0
CHOS				*e*Sn	Sg	06 25 26.6	+0.5
PTL	**Penteli**	**1.41**	**209**	P	Pn	06 25 07.0	-0.8
PTL				S	Sb	06 25 26.5	+0.1
PTL	**Penteli**	**1.41**	**209**	P	Pn	06 25 07.0	-0.8
PTL				S	Sb	06 25 26.5	+0.1
PLG	**Polygyros**	**1.47**	**318**	P	Pn	06 25 07.8	-0.8
PLG	**Polygyros**	**1.47**	**318**	*e*PN	Pn	06 25 08.8	+0.2
PLG	**Polygyros**	**1.47**	**318**	P	Pn	06 25 07.8	-0.8
LKR	**Lokris**	**1.48**	**245**	*e*PN	Pn	06 25 08.6	-0.2
LKR	**Lokris**	**1.48**	**245**	*e*Pn	Pn	06 25 08.6	-0.2
ATHU	**Athens Univers**	**1.51**	**209**	P	Pn	06 25 08.4	-0.7
ATHU	**Athens Univers**	**1.51**	**209**	P	Pn	06 25 08.4	-0.7
AYVA	**Ayvalik**	**1.53**	**89**	*i* P	Pn	06 25 09.0	-0.4
AYVA				*i* S	Sg	06 25 30.9	-0.1
AYVA	**Ayvalik**	**1.53**	**89**	*i* P	Pn	06 25 09.0	-0.4
AYVA				*i* S	Sg	06 25 30.9	-0.1
ATH	**Athens Observa**	**1.53**	**211**	P	Pn	06 25 08.8	-0.6
ATH	**Athens Observa**	**1.53**	**211**	P	Pn	06 25 08.8	-0.6
KAVA	**Kavala**	**1.72**	**355**	P	Pn	06 25 11.0	-1.0
KAVA				S	Sn	06 25 33.5	-0.6
KAVA	**Kavala**	**1.72**	**355**	P	Pn	06 25 11.0	-1.0
KAVA				S	Sn	06 25 33.5	-0.6
GELI	**Tayfur-Gelibol**	**1.75**	**50**	*e*PN	Pn	06 25 12.8	+0.5
GELI				*e*SN	Sn	06 25 34.9	+0.1
GELI	**Tayfur-Gelibol**	**1.75**	**50**	*e*Pn	Pn	06 25 12.9	+0.5
GELI				*e*Sn	Sn	06 25 34.9	+0.1
HORT	**Hortiatis**	**1.81**	**317**	P	Pn	06 25 12.5	-0.9
HORT				S	Sn	06 25 35.9	-0.6
HORT	**Hortiatis**	**1.81**	**317**	P	Pn	06 25 12.5	-0.9
HORT				S	Sn	06 25 35.9	-0.6
ENEZ	**Enez**	**1.82**	**37**	*e*PN	Pb	06 25 14.6	-0.8
ENEZ	**Enez**	**1.82**	**37**	*e*Pn	Pb	06 25 14.6	-0.8
LTK	**Loutraki**	**1.86**	**228**	P	Pn	06 25 13.7	-0.4
LTK				S	Sn	06 25 38.2	+0.4
LTK	**Loutraki**	**1.86**	**228**	P	Pn	06 25 13.7	-0.4
LTK				S	Sn	06 25 38.2	+0.4
AGG	**Agios Georgios**	**1.88**	**263**	P	Pn	06 25 13.9	-0.4
AGG				S	Sn	06 25 38.0	-0.1
AGG	**Agios Georgios**	**1.88**	**263**	*e*PN	Pn	06 25 14.7	+0.4
AGG	**Agios Georgios**	**1.88**	**263**	P	Pn	06 25 13.9	-0.4
AGG	**Agios Georgios**	**1.88**	**263**	*e*Pn	Pn	06 25 14.7	+0.4
AGG				S	Sn	06 25 38.0	-0.1
ALN	**Alexandroupoli**	**1.90**	**32**	P	Pn	06 25 13.4	-1.1
ALN				S	Sn	06 25 37.6	-1.0
ALN	**Alexandroupoli**	**1.90**	**32**	*e*PN	Pn	06 25 14.9	+0.4
ALN	**Alexandroupoli**	**1.90**	**32**	P	Pn	06 25 13.4	-1.1
ALN	**Alexandroupoli**	**1.90**	**32**	*e*Pn	Pn	06 25 14.9	+0.4
ALN				S	Sn	06 25 37.6	-1.0
LIT	**Litokhoron**	**1.91**	**296**	P	Pn	06 25 14.2	-0.4
LIT	**Litokhoron**	**1.91**	**296**	P	Pn	06 25 14.2	-0.4
LPK	**Lapseki**	**1.91**	**55**	*e*PN	Pn	06 25 15.1	+0.5
LPK	**Lapseki**	**1.91**	**55**	*e*Pn	Pn	06 25 15.1	+0.5
DSF	**Desfina**	**1.92**	**244**	P	Pn	06 25 14.7	-0.2
DSF	**Desfina**	**1.92**	**244**	P	Pn	06 25 14.7	-0.2
SRS	**Serrai**	**2.02**	**335**	P	Pn	06 25 15.2	-1.0
SRS				S	Sn	06 25 41.0	-0.7
SRS	**Serrai**	**2.02**	**335**	P	Pn	06 25 15.2	-1.0
SRS				S	Sn	06 25 41.0	-0.7
THL	**Klokotos Trika**	**2.12**	**278**	P	Pn	06 25 16.9	-0.6
THL				S	Sn	06 25 44.0	+0.1
THL	**Klokotos Trika**	**2.12**	**278**	*e*PN	Pn	06 25 18.1	+0.6
THL	**Klokotos Trika**	**2.12**	**278**	P	Pn	06 25 16.9	-0.6
THL	**Klokotos Trika**	**2.12**	**278**	*e*Pn	Pn	06 25 18.1	+0.6
THL				S	Sn	06 25 44.0	+0.1
DID	**Didima**	**2.13**	**214**	P	Pn	06 25 17.1	-0.6
DID	**Didima**	**2.13**	**214**	P	Pn	06 25 17.1	-0.6
DIDY	**Didyma**	**2.16**	**214**	P	Pn	06 25 17.4	-0.8
DIDY	**Didyma**	**2.16**	**214**	P	Pn	06 25 17.4	-0.8
NVR	**Nevrokopi**	**2.16**	**343**	P	Pn	06 25 17.4	-0.8
NVR				S	Sn	06 25 44.8	-0.4
NVR	**Nevrokopi**	**2.16**	**343**	*e*PB	Pn	06 25 18.4	+0.2
NVR	**Nevrokopi**	**2.16**	**343**	P	Pn	06 25 17.4	-0.8
NVR	**Nevrokopi**	**2.16**	**343**	*e*Pb	Pn	06 25 18.4	+0.2
NVR				S	Sn	06 25 44.8	-0.4
IZM	**Izmir**	**2.17**	**113**	*e*PN	Pn	06 25 18.2	-0.1
IZM	**Izmir**	**2.17**	**113**	*e*Pn	Pn	06 25 18.2	-0.1
TRIZ	**Trizonia**	**2.26**	**247**	P	Pn	06 25 19.0	-0.5
TRIZ				S	Sn	06 25 48.3	+0.8
TRIZ	**Trizonia**	**2.26**	**247**	P	Pn	06 25 19.0	-0.5
TRIZ				S	Sn	06 25 48.3	+0.8
KRBG	**Kar

BALY				*i* S		**Sb**	**06 25 51.6**	**-0.2**
SMG	**Samos**	**2.29**	**133**	P		**Pn**	**06 25 19.4**	**-0.5**
SMG				S		**Sn**	**06 25 47.9**	**-0.3**
SMG	**Samos**	**2.29**	**133**	*e*PN		**Pn**	**06 25 20.1**	**+0.2**
SMG	**Samos**	**2.29**	**133**	P		**Pn**	**06 25 19.4**	**-0.5**
SMG	**Samos**	**2.29**	**133**	*e*Pn		**Pn**	**06 25 20.1**	**+0.2**
SMG				S		**Sn**	**06 25 47.9**	**-0.3**
EVR	**Evrytania**	**2.30**	**262**	P		**Pn**	**06 25 19.6**	**-0.5**
EVR				S		**Sn**	**06 25 48.4**	**-0.1**
EVR	**Evrytania**	**2.30**	**262**	*e*PB		**Pn**	**06 25 21.2**	**+1.1**
EVR	**Evrytania**	**2.30**	**262**	P		**Pn**	**06 25 19.6**	**-0.5**
EVR	**Evrytania**	**2.30**	**262**	*e*Pb		**Pn**	**06 25 21.2**	**+1.1**
EVR				S		**Sn**	**06 25 48.4**	**-0.1**
GUR	**Goura**	**2.30**	**235**	P		**Pn**	**06 25 19.6**	**-0.5**
GUR				S		**Sn**	**06 25 48.7**	**+0.1**
GUR	**Goura**	**2.30**	**235**	P		**Pn**	**06 25 19.6**	**-0.5**
GUR				S		**Sn**	**06 25 48.7**	**+0.1**
APE	**Apeiranthos**	**2.30**	**164**	*e*PN		**Pn**	**06 25 19.4**	**-0.6**
APE	**Apeiranthos**	**2.30**	**164**	P		**Pn**	**06 25 19.2**	**-0.9**
APE				S		**Sn**	**06 25 48.3**	**-0.3**
APE	**Apeiranthos**	**2.30**	**164**	*e*PB		**Pn**	**06 25 19.5**	**-0.6**
APE	**Apeiranthos**	**2.30**	**164**	⇑*i*P		**Pn**	**06 25 19.2**	**-0.9**
APE	**Apeiranthos**	**2.30**	**164**	*e*Pb		**Pn**	**06 25 19.5**	**-0.6**
APE				S		**Sn**	**06 25 48.3**	**-0.3**
RKY	**Sarkoy-Tekirda**	**2.35**	**53**	*e*PN		**Pn**	**06 25 21.6**	**+0.8**
RKY	**Sarkoy-Tekirda**	**2.35**	**53**	*e*Pn		**Pn**	**06 25 21.6**	**+0.8**
KLV	**Kalavryta, Ach**	**2.37**	**239**	P		**Pn**	**06 25 20.9**	**-0.1**
KLV	**Kalavryta, Ach**	**2.37**	**239**	*e*PN		**Pn**	**06 25 21.2**	**+0.2**
KLV	**Kalavryta, Ach**	**2.37**	**239**	P		**Pn**	**06 25 20.9**	**-0.1**
LAKA	**Lakka**	**2.39**	**245**	P		**Pn**	**06 25 21.3**	**+0.1**
LAKA	**Lakka**	**2.39**	**245**	P		**Pn**	**06 25 21.3**	**+0.1**
GONE	**Gonen-Balikesi**	**2.41**	**71**	*e*PN		**Pn**	**06 25 21.7**	**+0.2**
GONE	**Gonen-Balikesi**	**2.41**	**71**	*e*Pn		**Pn**	**06 25 21.7**	**+0.2**
GRG	**Griva**	**2.44**	**314**	P		**Pn**	**06 25 21.5**	**-0.5**
GRG	**Griva**	**2.44**	**314**	*e*PN		**Pn**	**06 25 22.7**	**+0.7**
GRG	**Griva**	**2.44**	**314**	P		**Pn**	**06 25 21.5**	**-0.5**
AKHS	**Akhisar**	**2.44**	**99**	*i* P		**Pn**	**06 25 22.0**	**0.0**
AKHS	**Akhisar**	**2.44**	**99**	*i* P		**Pn**	**06 25 22.0**	**0.0**
BALB	**Balikesir**	**2.47**	**81**	*e*PN		**Pn**	**06 25 23.5**	**+1.1**
BALB	**Balikesir**	**2.47**	**81**	*e*Pn		**Pn**	**06 25 23.5**	**+1.1**
MFT	**Murefte**	**2.47**	**52**	*e*PN		**Pn**	**06 25 23.6**	**+1.1**
MFT	**Murefte**	**2.47**	**52**	*e*Pn		**Pn**	**06 25 23.6**	**+1.1**
KZN	**Kozani**	**2.49**	**295**	*e*PN		**Pn**	**06 25 23.4**	**+0.7**
VLX	**Vlachokerasia**	**2.66**	**225**	P		**Pn**	**06 25 24.6**	**-0.4**
VLX				S		**Sn**	**06 25 57.4**	**0.0**
VLX	**Vlachokerasia**	**2.66**	**225**	P		**Pn**	**06 25 24.6**	**-0.4**
VLX				S		**Sn**	**06 25 57.4**	**0.0**
VLI	**Veliai**	**2.93**	**209**	P		**Pn**	**06 25 28.0**	**-0.6**
VLI				S		**Sn**	**06 26 04.4**	**+0.5**
VLI	**Veliai**	**2.93**	**209**	P		**Pn**	**06 25 28.0**	**-0.6**
VLI				S		**Sn**	**06 26 04.4**	**+0.5**
KCTX	**Karacabey (Bur**	**2.97**	**70**	*e*PN		**Pn**	**06 25 30.5**	**+1.3**
KCTX	**Karacabey (Bur**	**2.97**	**70**	*e*Pn		**Pn**	**06 25 30.5**	**+1.3**
FNA	**Florina**	**2.97**	**301**	*e*PN		**Pn**	**06 25 30.1**	**+0.8**
EDRB	**Edirne**	**2.99**	**30**	*e*PN		**Pn**	**06 25 30.9**	**+1.5**
EDRB	**Edirne**	**2.99**	**30**	*e*Pn		**Pn**	**06 25 30.9**	**+1.5**
BODT	**Bodrum**	**3.02**	**137**	*e*PN		**Pn**	**06 25 30.2**	**+0.3**
BODT	**Bodrum**	**3.02**	**137**	*e*Pn		**Pn**	**06 25 30.2**	**+0.3**
DST	**Dursunbey**	**3.03**	**83**	*e*PN		**Pn**	**06 25 30.9**	**+0.7**
DST	**Dursunbey**	**3.03**	**83**	*e*Pn		**Pn**	**06 25 30.9**	**+0.7**
DYR	**Agios Nikonas**	**3.15**	**218**	P		**Pn**	**06 25 32.0**	**+0.3**
DYR				S		**Sn**	**06 26 10.1**	**+0.7**
DYR	**Agios Nikonas**	**3.15**	**218**	P		**Pn**	**06 25 32.0**	**+0.3**
DYR				S		**Sn**	**06 26 10.1**	**+0.7**
KULA	**Kula-Manisa**	**3.17**	**103**	*e*PN		**Pn**	**06 25 32.6**	**+0.5**
KULA	**Kula-Manisa**	**3.17**	**103**	*e*Pn		**Pn**	**06 25 32.6**	**+0.5**
SLVT	**Silivri**	**3.30**	**53**	*e*PN		**Pn**	**06 25 35.5**	**+1.8**
SLVT	**Silivri**	**3.30**	**53**	*e*Pn		**Pn**	**06 25 35.6**	**+1.8**
ARMT	**Armutlu**	**3.43**	**67**	*e*PN		**Pn**	**06 25 37.0**	**+1.4**
ARMT	**Armutlu**	**3.43**	**67**	*e*Pn		**Pn**	**06 25 37.0**	**+1.4**
VTS	**Vitosha**	**3.50**	**341**	⇓*i*P		**Pn**	**06 25 37.9**	**+1.3**
VTS	**Vitosha**	**3.50**	**341**	⇓*i*P		**Pn**	**06 25 37.9**	**+1.3**
YER	**Yerkesik**	**3.53**	**126**	*e*PN		**Pn**	**06 25 37.4**	**+0.4**
YER	**Yerkesik**	**3.53**	**126**	*e*Pn		**Pn**	**06 25 37.4**	**+0.4**
GEMT	**Gemlik**	**3.62**	**70**	*e*PN		**Pn**	**06 25 39.9**	**+1.7**
GEMT	**Gemlik**	**3.62**	**70**	*e*Pn		**Pn**	**06 25 39.9**	**+1.7**
BGKT	**Bogazkoy**	**3.63**	**57**	*e*PN		**Pn**	**06 25 39.9**	**+1.6**
BGKT	**Bogazkoy**	**3.63**	**57**	*e*Pn		**Pn**	**06 25 39.9**	**+1.6**
TVSB	**Tavsanli**	**3.68**	**86**	*e*PN		**Pn**	**06 25 40.5**	**+1.4**
TVSB	**Tavsanli**	**3.68**	**86**	*e*Pn		**Pn**	**06 25 40.5**	**+1.4**
KHAL	**Karahalli**	**3.84**	**102**	*i* P		**Pn**	**06 25 42.2**	**+0.9**
KHAL				*i* S		**Sg**	**06 26 42.5**	**-2.6**
KHAL	**Karahalli**	**3.84**	**102**	*i* P		**Pn**	**06 25 42.2**	**+0.9**
ADVT	**Abdulvahap**	**4.03**	**72**	*e*PN		**Pn**	**06 25 46.3**	**+2.6**
ADVT	**Abdulvahap**	**4.03**	**72**	*e*Pn		**Pn**	**06 25 46.3**	**+2.6**
GULT	**Gulveren**	**4.60**	**74**	*e*PN		**Pn**	**06 25 54.0**	**+2.3**
GULT	**Gulveren**	**4.60**	**74**	*e*Pn		**Pn**	**06 25 54.1**	**+2.3**
MDUB	**Mudurnu**	**5.12**	**75**	*e*PN		**Pn**	**06 26 01.4**	**+2.5**
MDUB	**Mudurnu**	**5.12**	**75**	*e*Pn		**Pn**	**06 26 01.4**	**+2.5**
DIVS	**Divibare**	**5.97**	**325**	*e*Pn		**Pn**	**06 26 10.7**	**+0.2**
ARR	**Arges**	**6.08**	**359**	⇑*i*P		**Pn**	**06 26 12.1**	**+0.1**
ARR	**Arges**	**6.08**	**359**	⇑*i*P		**Pn**	**06 26 12.1**	**+0.1**
VOIR		**6.15**	**2**	⇓*i*P		**Pn**	**06 26 13.4**	**+0.4**
VOIR		**6.15**	**2**	⇓*i*P		**Pn**	**06 26 13.4**	**+0.4**
LOT	**Lotru**	**6.20**	**354**	⇑*i*P		**Pn**	**06 26 13.9**	**+0.2**
LOT	**Lotru**	**6.20**	**354**	⇑*i*P		**Pn**	**06 26 13.9**	**+0.2**
MLR	**Muntele Rosu**	**6.27**	**8**	⇑*i*P		**Pn**	**06 26 15.7**	**+1.1**
MLR	**Muntele Rosu**	**6.27**	**8**	⇑*i*P		**Pn**	**06 26 15.7**	**+1.1**
GZR	**Gura Zlata**	**6.27**	**347**	⇑*i*P		**Pn**	**06 26 14.8**	**+0.2**
GZR	**Gura Zlata**	**6.27**	**347**	⇑*i*P		**Pn**	**06 26 14.8**	**+0.2**
CFR	**Carcaliu**	**6.41**	**22**	⇓*i*P		**Pn**	**06 26 17.7**	**+1.3**
CFR	**Carcaliu**	**6.41**	**22**	⇓*i*P		**Pn**	**06 26 17.7**	**+1.3**
PLOR	**Plostina**	**6.71**	**12**	⇑*i*P		**Pn**	**06 26 22.1**	**+1.4**
PLOR	**Plostina**	**6.71**	**12**	⇑*i*P		**Pn**	**06 26 22.1**	**+1.4**
VRI	**Vrincioaia**	**6.74**	**12**	⇑*i*P		**Pn**	**06 26 22.4**	**+1.4**
VRI	**Vrincioaia**	**6.74**	**12**	⇑*i*P		**Pn**	**06 26 22.4**	**+1.4**
TESR	**Tescani**	**7.36**	**10**	⇓*i*P		**Pn**	**06 26 30.8**	**+1.3**
TESR	**Tescani**	**7.36**	**10**	⇓*i*P		**Pn**	**06 26 30.8**	**+1.3**

CASC 26 06:27:52.5±1.8, 13°.77N×91°.26W, h26km±10km, MD3.5, 1C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.66**	**326**	⇑*e*P	Pn	06 28 06.3	+0.2
JAT				*e*S	Sb	06 28 13.1	-1.0
FUG	**Fuego 3**	**0.79**	**31**	*e*P	Pb	06 28 07.8	-0.1
PCG	**Pacaya**	**0.89**	**46**	⇓*e*P	Pn	06 28 09.8	+0.2
PCG				*e*S	Sn	06 28 21.9	0.0
NBG	**Las Nubes**	**1.20**	**47**	*e*P	Pb	06 28 15.0	0.0
NBG				*e*S	Sb	06 28 31.5	+1.1
RBDL	**Robledal**	**1.57**	**77**	⇓*e*P	Pn	06 28 19.1	+0.2
RBDL				*e*S	Sn	06 28 39.3	+0.8
RTR	**El Retiro**	**1.57**	**85**	*e*P	Pn	06 28 19.1	+0.1
RTR				*e*S	Sn	06 28 39.5	+0.8
SBLS	**San Blas**	**1.59**	**87**	*e*P	Pn	06 28 19.1	-0.2
SNJE	**San Jose**	**1.61**	**86**	*e*P	Pn	06 28 19.2	-0.3
MRL	**Marmol**	**1.99**	**50**	*e*P	Pn	06 28 25.8	+1.1
LFRS	**El Faro**	**2.14**	**94**	*e*P	Pn	06 28 26.9	+0.2

DJA 26 06:31:00.0±2.8, 0°.5S±12°.1×12°.3E±1°.5, h112km±24km, M3.1/3, MLv3.1/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.84**	**18**	P	Pn	06 31 20.4	+0.6
LUWI	**Luwuk**	**0.87**	**179**	P	Pn	06 31 20.6	+0.5
LUWI				S	Sn	06 31 36.9	+1.7
MRSI	**Marisa**	**1.03**	**308**	P	Pn	06 31 21.8	+0.1

IDC 26 06:33:11.7±3.8, 0°.59S×131°.25E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/20, mbtmp3.3/3, Error ellipse: s-maj=254.3km s-min=25.7km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.27**	**178**	P	Pn	06 33 31.5	+8.6
WRA	**Warramunga Arr**	**19.47**	**171**	P	P	06 37 39.3	-1.0
	0.1nm,0.3s,baz=352,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**23.08**	**174**	P	P	06 38 19.8	+0.6
	1.1nm,0.9s,baz=359,slow=9.9,SNR=13						
MKAR	**Makanchi Array**	**63.66**	**325**	P	P	06 43 44.9	0.0
	0.3nm,0.6s,baz=116,slow=6.6,SNR=3.1						

WEL 26 06:35:43.6±0.3, 41°.29S×172°.70E, h159km±2km, ML3.6/11, 9C-7D, Error ellipse: s-maj=2.6km s-min=2.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.49**	**162**	⇑PN	Pn	06 36 06.0	-0.1
THZ				SN	Sn	06 36 21.8	-1.5
NNZ	**Nelson**	**0.51**	**82**	⇑PN	Pn	06 36 05.9	-0.1
NNZ				SN	Sn	06 36 22.2	-0.8
DSZ	**Denniston Nort**	**0.81**	**236**	⇓PN	Pn	06 36 07.3	-0.5
DSZ				SN	Sn	06 36 23.1	-3.4
TUWZ	**Tuamarina**	**0.94**	**99**	PN	Pn	06 36 08.8	+0.1
TUWZ				AML	AML	06 36 27.7	
TUWZ				AML	AML	06 36 27.9	
BSWZ	**Blackbirch Sta**	**0.98**	**116**	PN	Pn	06 36 09.0	0.0
BSWZ				SN	Sn	06 36 28.4	-0.1
DUWZ	**D'Urville Isla**	**1.04**	**62**	PN	Pn	06 36 09.9	+0.3
TCW	**Tory Channel**	**1.19**	**87**	PN	Pn	06 36 11.1	+0.3
TCW				AML	AML	06 36 32.5	
TCW				AML	AML	06 36 33.0	
CMWZ	**Cape Campbell**	**1.22**	**112**	PN	Pn	06 36 11.4	+0.3
KHZ	**Kahutara**	**1.29**	**151**	⇑PN	Pn	06 36 11.9	+0.2
SNZO	**South Karori**	**1.51**	**91**	⇑PN	Pn	06 36 13.6	-0.2
SNZO				AML	AML	06 36 37.7	
SNZO				AML	AML	06 36 37.7	
LTZ	**Lake Taylor**	**1.52**	**192**	⇓PN	Pn	06 36 14.0	-0.2
WEL	**Wellington**	**1.56**	**90**	PN	Pn	06 36 14.2	-0.1
BHW	**Baring Head**	**1.64**	**95**	PN	Pn	06 36 14.9	-0.3
BHW				AML	AML	06 36 38.9	
BHW				AML	AML	06 36 39.6	
KIW	**Kapiti Island**	**1.72**	**76**	⇑PN	Pn	06 36 16.1	-0.1
KIW				AML	AML	06 36 41.4	
KIW				AML	AML	06 36 41.5	
CAW	**Cannon Point**	**1.79**	**85**	PN	Pn	06 36 16.6	-0.4
CAW				AML	AML	06 36 42.7	
CAW				AML	AML	06 36 42.8	
MSWZ	**Moikau Station**	**1.92**	**95**	PN	Pn	06 36 17.9	-0.4
MSWZ				AML	AML	06 36 43.8	
MSWZ				AML	AML	06 36 44.0	
OGWZ	**Otaki Gorge**	**1.92**	**77**	PN	Pn	06 36 18.2	-0.2
PLWZ	**Palliser**	**1.94**	**99**	⇑PN	Pn	06 36 18.2	-0.4
PAWZ	**Paruwai Farm**	**2.05**	**93**	⇑PN	Pn	06 36 19.4	-0.5
PAWZ				AML	AML	06 36 47.5	
PAWZ				AML	AML	06 36 47.8	
NMEZ	**Namu Road**	**2.08**	**26**	PN	Pn	06 36 20.9	+0.7
OXZ	**Oxford**	**2.09**	**193**	⇓PN	Pn	06 36 19.4	-0.9
MTW	**Mount Morrison**	**2.11**	**87**	PN	Pn	06 36 20.0	-0.6
MTW				AML	AML	06 36 48.0	
MTW				AML	AML	06 36 48.5	
HOWZ	**Holdsworth Sta**	**2.16**	**80**	PN	Pn	06 36 20.7	-0.5
NWEZ	**Newall Road**	**2.20**	**24**	PN	Pn	06 36 22.6	+0.9
KHEZ	**Kahui Hut**	**2.23**	**27**	PN	Pn	06 36 22.9	+0.7
DFE	**Dawson Falls**	**2.23**	**29**	PN	Pn	06 36 23.1	+1.0
TRWZ	**Traveller**	**2.25**	**94**	AML	AML	06 36 51.7	
MRZ	**Mangatainoka R**	**2.27**	**75**	⇑PN	Pn	06 36 21.7	-0.6
MRZ				AML	AML	06 36 52.3	
MRZ				AML	AML	06 36 53.1	
NEZ	**North Egmont**	**2.28**	**28**	PN	Pn	06 36 23.8	+1.1
CRLZ	**Canterbury Las**	**2.28**	**182**	PN	Pn	06 36 21.9	-0.6
WVZ	**Waitaha Valley**	**2.31**	**219**	⇓PN	Pn	06 36 21.8	-1.0
PKE	**Pukeiti**	**2.31**	**26**	PN	Pn	06 36 23.6	+0.6
WAZ	**Wanganui**	**2.32**	**49**	PN	Pn	06 36 23.9	+0.9
TMWZ	**Te Maipa**	**2.41**	**87**	PN	Pn	06 36 23.8	-0.4
MQZ	**McQueen's Vall**	**2.41**	**181**	⇓PN	Pn	06 36 23.2	-0.8
TIWZ	**Tintock**	**2.46**	**79**	PN	Pn	06 36 24.2	-0.6
POWZ	**Post Office Ro**	**2.49**	**70**	PN	Pn	06 36 24.4	-0.7
PRWZ	**Pori Road**	**2.58**	**75**	PN	Pn	06 36 25.8	-0.4
RPZ	**Rata Peaks**	**2.71**	**206**	PN	Pn	06 36 26.6	-1.1
BFZ	**Birch Farm**	**2.75**	**78**	⇓PN	Pn	06 36 27.6	-0.6
TSZ	**Takapari Road**	**2.77**	**65**	PN	Pn	06 36 27.8	-0.7
DVHZ	**Dannevirke**	**2.81**	**70**	PN	Pn	06 36 28.1	-0.9
ANWZ	**Angora Road**	**2.98**	**29**	PN	Pn	06 36 30.5	-0.3
FOZ	**Fox Glacier**	**3.18**	**224**	⇓PN	Pn	06 36 31.1	-2.5
KAHZ	**Kahuranaki**	**3.51**	**66**	PN	Pn	06 36 37.3	-0.6
LBZ	**Lake Benmore**	**3.61**	**210**	PN	Pn	06 36 37.2	-1.8
JCZ	**Jackson Bay**	**4.02**	**225**	PN	Pn	06 36 42.5	-2.0
ODZ	**Otahua Downs**	**4.04**	**201**	⇑PN	Pn	06 36 43.6	-1.0
WKZ	**Wanaka**	**4.45**	**216**	PN	Pn	06 36 47.2	-2.7
EAZ	**Earnscleugh**	**4.65**	**211**	PN	Pn	06 36 50.3	-2.3
MWZ	**Matawai**	**4.74**	**53**	PN	Pn	06 36 53.9	0.0

IDC 26 06:40:53.3±1.3, 10°.68N×94°.43E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/26, mbtmp4.0/9, ML4.0/1, Error ellipse: s-maj=48.6km s-min=17.2km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.88**	**29**	Pn	Pn	06 43 04.3	+1.3
	0.5nm,0.3s,baz=219,slow=15,SNR=5.9						
MKAR	**Makanchi Array**	**37.43**	**346**	P	P	06 48 08.2	-0.2
	1.9nm,0.9s,baz=163,slow=8.9,SNR=9.1						
SONM	**Songino Array**	**38.38**	**13**	P	P	06 48 16.5	0.0
	1.7nm,1.0s,baz=194,slow=10,SNR=8.5						
KSRS	**Korea Array**	**40.20**	**43**	P	P	06 48 30.6	-1.0
	0.3nm,0.3s,baz=249,slow=9.3,SNR=4.5						
KURBB	**Kurchatov Arra**	**41.92**	**345**	P	P	06 48 45.2	-0.3
	2.0nm,0.9s,baz=162,slow=7.8,SNR=10.0						
ZALV	**Zalesovo Beam**	**43.83**	**352**	P	P	06 49 00.9	-0.2
	1.2nm,0.3s,baz=157,slow=9.0,SNR=5.3						
MJAR	**Matsushiro Arr**	**47.10**	**50**	PcP	PcP	06 50 57.5	-1.9
	0.2nm,0.3s,baz=252,slow=5.2,SNR=4.2						
WRA	**Warramunga Arr**	**49.70**	**128**	P	P	06 49 47.0	-0.6
	2.9nm,1.0s,baz=308,slow=8.3,SNR=11						
ASAR	**Alice Springs**	**51.53**	**132**	P	P	06 50 01.7	+0.4
	3.4nm,0.9s,baz=310,slow=7.5,SNR=18						
STKA	**Stephens Creek**	**61.86**	**135**	P	P	06 51 14.6	-0.1
	4.1nm,0.9s,baz=310,slow=7.9,SNR=3.6						
NVAR	**Mina Array Bea**	**122.37**	**30**	PKP	PKPdf	06 59 52.1	+0.8
	0.7nm,0.8s,baz=304,slow=1.1,SNR=3.7						
PDAR	**Pinedale Array**	**122.46**	**21**	PKP	PKPdf	06 59 50.7	-0.7
	0.6nm,0.8s,baz=75,slow=2.3,SNR=4.1						

IDC 26 06:42:06.6±1.9, 10°.48N×94°.48E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/27, mbtmp3.8/6, MS3.7/1, Ms1 3.7/1, ms1mx2.7/57, Error ellipse: s-maj=69.3km s-min=21.2km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.03**	**28**	Pn	Pn	06 44 18.2	-0.3
	baz=232,slow=15,SNR=2.9						
MKAR	**Makanchi Array**	**37.64**	**346**	P	P	06 49 23.5	+0.1
	2.8nm,1.3s,baz=159,slow=6.9,SNR=4.2						
SONM	**Songino Array**	**38.57**	**13**	P	P	06 49 31.3	0.0
	1.2nm,0.9s,baz=189,slow=8.2,SNR=5.8						
JNU	**Nakatsue**	**40.31**	**50**	LR	LR	07 08 59.9	
	comp=Z,101nm,19.5s,baz=131,slow=40						
KURBB	**Kurchatov Arra**	**42.13**	**345**	P	P	06 50 00.3	-0.3
	2.0nm,1.1s,baz=160,slow=8.1,SNR=4.9						
WRA	**Warramunga Arr**	**49.54**	**128**	P	P	06 50 59.6	0.0
	1.8nm,1.1s,baz=307,slow=8.1,SNR=2.7						
ASAR	**Alice Springs**	**51.36**	**132**	P	P	06 51 13.1	-0.3
	0.6nm,0.7s,baz=314,slow=6.0,SNR=2.7						

IDC 26 06:43:21.6±0.7, 10°.72N×94°.38E, h0km, mb4.2/17, mb1 4.2/18, mb1mx4.1/31, mbtmp4.1/18, ML3.9/1, Error ellipse: s-maj=25.0km s-min=14.4km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.87**	**29**	Pn	Pn	06 45 31.6	+0.4
	0.4nm,0.3s,baz=221,slow=15,SNR=6.8						
AAK	**Ala-Archa**	**36.23**	**335**	P	P	06 50 27.5	+0.9
	1.1nm,0.3s,baz=228,slow=5.8,SNR=4.5						
MKAR	**Makanchi Array**	**37.39**	**346**	P	P	06 50 36.5	+0.3
	3.1nm,0.8s,baz=163,slow=8.9,SNR=7.0						
SONM	**Songino Array**	**38.36**	**13**	P	P	06 50 44.8	+0.3
	4.9nm,1.1s,baz=192,slow=9.4,SNR=11						
KSRS	**Korea Array**	**40.20**	**43**	P	P	06 50 59.0	-0.9
	2.1nm,1.1s,baz=264,slow=7.4,SNR=5.0						
KURBB	**Kurchatov Arra**	**41.87**	**345**	P	P	06 51 13.8	+0.3
	3.0nm,1.0s,baz=162,slow=8.0,SNR=6.8						
ZALV	**Zalesovo Beam**	**43.79**	**352**	P	P	06 51 28.6	-0.3
	6.3nm,0.9s,baz=176,slow=8.9,SNR=7.8						
BVAR	**Borovoye Array**	**46.40**	**340**	P	P	06 51 49.8	-0.1
	0.6nm,0.4s,baz=143,slow=11,SNR=4.1						
USRK	**Ussuriysk Arra**	**46.51**	**37**	P	P	06 51 50.5	-0.3
	1.7nm,0.9s,baz=241,slow=8.0,SNR=4.6						
NWAO	**Narrogin (SRO)**	**48.57**	**154**	P	P	06 52 06.9	0.0
	20nm,1.1s,baz=314,slow=8.2,SNR=3.5						
WRA	**Warramunga Arr**	**49.75**	**128**	P	P	06 52 15.4	-0.9
	3.6nm,1.0s,baz=305,slow=8.5,SNR=8.1						
ASAR	**Alice Springs**	**51.59**	**132**	P	P	06 52 30.4	+0.4
	4.7nm,0.8s,baz=304,slow=7.1,SNR=14						
BRTR	**Keskin Array B**	**60.79**	**310**	P	P	06 53 34.9	-0.9
	0.7nm,0.7s,baz=116,slow=5.4,SNR=3.3						
STKA	**Stephens Creek**	**61.91**	**135**	P	P	06 53 43.2	0.0
	4.4nm,0.9s,baz=322,slow=4.1,SNR=3.6						
GERES	**GERESS Array B**	**75.89**	**318**	P	P	06 55 08.8	-1.5
	0.6nm,0.8s,baz=56,slow=3.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**90.18**	**283**	P	P	06 56 24.9	+0.2
	0.7nm,0.8s,baz=91,slow=2.5,SNR=4.3						
ILAR	**Eielson Array**	**92.04**	**22**	P	P	06 56 31.4	-0.9
	0.5nm,0.7s,baz=313,slow=4.5,SNR=5.5						
INK	**Inuvik**	**94.21**	**16**	P	P	06 56 41.9	-0.3
	1.0nm,0.7s,baz=331,slow=2.0,SNR=3.7						
NVAR	**Mina Array Bea**	**122.36**	**30**	PKP	PKPdf	07 02 20.1	+0.5
	1.0nm,0.7s,baz=322,slow=1.8,SNR=8.3						
PDAR	**Pinedale Array**	**122.44**	**21**	PKP	PKPdf	07 02 19.3	-0.3
	0.9nm,0.8s,baz=294,slow=1.5,SNR=6.7						
TXAR	**Lajitas Array**	**136.54**	**23**	PKP	PKPdf	07 02 47.5	+1.0
	0.8nm,0.9s,baz=22,slow=1.3,SNR=4.6						
CPUP	**Villa Florida**	**149.11**	**236**	PKPbc	PKPbc	07 03 12.9	+0.2
	3.2nm,0.8s,baz=8.4,slow=4.1,SNR=6.3						

*BJI **26** 06:45:30.0, 10°.31N×94°.33E, h10km, mB4.8/16, mb4.6/30, Ms4.6/19, Ms7 4.3/16*
*IDC **26** 06:45:33.8±0.5, 10°.75N×94°.40E, h0km, mb4.2/23, mb1 4.3/24, mb1mx4.2/32, mbtmp4.1/24, ML4.0/1, Error ellipse: s-maj=20.5km s-min=12.1km az=56.0*
*ISCJB **26** 06:45:34.1±1.4, 10°.75N±0°.04×94°.42E±0°.04, h11km±9km, mb4.5/43, MS4.2/6, Error ellipse: s-maj=7.7km s-min=6.4km az=43.5*
*NEIC **26** 06:45:36.0±0.2, 10°.84N×94°.44E, h10km, mb4.8/11, Error ellipse: s-maj=7.4km s-min=5.6km az=55.0*
ISC 26 06:45:37.3±0.5, 10°.80N±0°.05×94°.42E±0°.06, h18km±1km, n119, σ1°55/156, mb4.4/43, MS4.3/7, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.78**	**29**	Pn	Pn	**06 47 44.0**	**+0.7**
CMAR				Lg	Lg	06 50 06.5	
CMAR	**Chiang Mai Arr**	**8.78**	**29**	Pn	Pn	**06 47 44.0**	**+0.7**
	0.4nm

WMQ					pP	**pP**	06 52 20.3	-0.3
WMQ					sP	**sP**	06 52 23.0	+0.1
WMQ					PP	**PnPn**	06 53 27.5	+1.5
WMQ					PcP	**PcP**	06 54 58.0	+1.8
WMQ					S	**S**	06 57 35.3	0.0
WMQ					ScP	**ScP**	06 58 40.8	+0.9
WMQ					ScS	**ScS**	07 02 40.0	-0.8
WMQ					pmax	pmax		
	comp=Z,27nm,1.1s							
WMQ					pmax	pmax		
	comp=Z,190nm,6.8s							
WMQ					LR	LR		
	comp=N,160nm,11.0s							
WMQ					LR	LR		
	comp=E,110nm,5.5s							
HHC	**Hu-ho-hao-te**	**33.54**	**24**	*e*P	**P**		06 52 16.3	+0.2
HHC					PP	**PnPn**	06 53 29.0	+1.4
HHC					PcP	**PcP**	06 54 56.8	+0.1
HHC					S	**S**	06 57 36.8	-0.7
HHC					ScP	**ScP**	06 58 40.0	-0.5
HHC					PcS	**PcS**	06 58 42.0	-0.4
HHC					ScS	**ScS**	07 02 39.5	-2.1
HHC					pmax	pmax		
	comp=Z,36nm,0.6s							
HHC					pmax	pmax		
	comp=Z,200nm,6.3s							
HHC					LR	LR		
	comp=N,910nm,13.6s							
HHC					LR	LR		
	comp=E,800nm,13.0s							
HHC					LR	LR		
	comp=Z,610nm,13.6s							
AAK	**Ala-Archa**	**36.17**	**335**		P	**P**	06 52 39.4	+0.5
AAK	**Ala-Archa**	**36.17**	**335**		P	**P**	06 52 39.4	+0.5
	comp=Z,1.8nm,0.4s,baz=288,slow=9.3,SNR=7.2							
MKAR	**Makanchi Array**	**37.32**	**346**	*e*P		**P**	06 52 48.5	+0.1
MKAR	**Makanchi Array**	**37.32**	**346**	P		**P**	06 52 48.6	+0.1
	comp=Z,4.0nm,0.8s,baz=159,slow=7.8,SNR=11							
SONM	**Songino Array**	**38.27**	**13**	P		**P**	06 52 56.2	-0.3
SONM	**Songino Array**	**38.27**	**13**	P		**P**	06 52 56.2	-0.3
	comp=Z,8.7nm,1.2s,baz=198,slow=8.0,SNR=15							
KKAR	**Karatay Array**	**38.32**	**331**	*e*P		**P**	06 52 57.3	+0.4
	comp=Z,3.5nm,0.9s							
ULN	**Ulaanbaatar**	**38.45**	**14**	*e*P		**P**	06 52 58.1	0.0
	comp=Z,19nm,1.7s							
KSAR	**Wonju Array Be**	**40.09**	**43**	P		**P**	06 53 11.3	-0.4
KSRS	**Korea Array**	**40.12**	**43**	P		**P**	06 53 11.3	-0.7
	comp=Z,1.4nm,0.8s,baz=249,slow=8.7,SNR=7.7							
MBWA	**Marble Bar**	**40.34**	**142**	*e*P		**P**	06 53 14.3	+0.3
	comp=Z,49nm,1.6s							
KURBB	**Kurchatov Arra**	**41.80**	**345**	P		**P**	06 53 25.6	-0.1
	comp=Z,10nm,1.2s,baz=162,slow=8.1,SNR=14							
KURK	**Kurchatov**	**41.87**	**345**	P		**P**	06 53 25.6	-0.6
FITZ	**Fitzroy Crossi**	**42.12**	**133**	P		**P**	06 53 27.9	-0.8
FITZ	**Fitzroy Crossi**	**42.12**	**133**	P		**P**	06 53 27.9	-0.8
	comp=Z,3.3nm,0.9s,baz=315,slow=8.6,SNR=3.2							
CN2	**Changchun**	**42.44**	**34**	*e*P		**P**	06 53 32.3	+1.3
CN2				*ep*P		**pP**	06 53 36.5	-0.2
CN2				*e*S		S	07 00 02.3	+10
CN2				pmax		pmax		
	comp=Z,20nm,1.0s							
CN2				LR		LR		
	comp=N,400nm,16.0s							
CN2				LR		LR		
	comp=E,300nm,16.0s							
CN2				LR		LR		
	comp=Z,200nm,16.0s							
ZAA0	**Zalesovo Array**	**43.72**	**352**	*e*P		**P**	06 53 41.2	0.0
ZALV	**Zalesovo Beam**	**43.72**	**352**	P		**P**	06 53 41.2	+0.1
ZALV	**Zalesovo Beam**	**43.72**	**352**	P		**P**	06 53 41.2	+0.1
	comp=Z,3.8nm,0.6s,baz=172,slow=8.0,SNR=9.7							
MDJ	**Mudanjiang**	**45.26**	**35**	P		**P**	06 53 54.5	+0.8
MDJ				pmax		pmax		
	comp=Z,7.0nm,1.4s							
MDJ				pmax		pmax		
	comp=Z,110nm,7.3s							
MDJ				LR		LR		
	comp=N,200nm,18.4s							
MDJ				LR		LR		
	comp=E,190nm,17.0s							
MDJ				LR		LR		
	comp=Z,270nm,15.6s							
BVAR	**Borovoye Array**	**46.34**	**340**	P		**P**	06 54 01.4	-0.7
BVAR	**Borovoye Array**	**46.34**	**340**	P		**P**	06 54 01.4	-0.7
	comp=Z,0.9nm,0.7s,baz=127,slow=6.3,SNR=4.3							
USRK	**Ussuriysk Arra**	**75.42**	**37**	P		**P**	06 54 02.5	-0.2
	comp=Z,1.5nm,0.8s,baz=262,slow=4.4,SNR=3.8							
MJAR	**Matsushiro Arr**	**47.03**	**50**	PcP		**PcP**	06 55 40.0	+0.1
MJAR	**Matsushiro Arr**	**47.03**	**50**	PcP		**PcP**	06 55 40.0	+0.1
	comp=Z,0.9nm,0.7s,baz=235,slow=4.3,SNR=4.0							
ABKAR	**Akbulak array**	**47.83**	**330**	*e*P		**P**	06 54 13.8	0.0
RAYN	**Ar Rayn**	**48.20**	**292**	*e*P		**P**	06 54 17.9	+0.8
	comp=Z,8.1nm,1.0s							
NWAO	**Narrogin (SRO)**	**48.63**	**154**	P		**P**	06 54 22.4	+2.3
	comp=Z,48nm,1.3s							
AKTO	**Aktyubinsk**	**49.55**	**330**	P		**P**	06 54 25.9	-1.1
AKTO	**Aktyubinsk**	**49.55**	**330**	P		**P**	06 54 25.9	-1.1
	comp=Z,0.6nm,0.3s,baz=221,slow=8.1,SNR=5.1							
WRA	**Warramunga Arr**	**49.77**	**128**	P		**P**	06 54 28.4	-0.8
WRA	**Warramunga Arr**	**49.77**	**128**	P		**P**	06 54 28.4	-0.8
	comp=Z,4.0nm,0.8s,baz=304,slow=8.6,SNR=11							
WRAB	**Tennant Creek**	**49.78**	**128**	*e*P		**P**	06 54 28.7	-0.4
	comp=Z,9.5nm,1.0s							
ASAR	**Alice Springs**	**51.61**	**132**	P		**P**	06 54 42.4	-0.6
ASAR				PcP		**PcP**	06 55 56.1	-0.6
ASAR	**Alice Springs**	**51.61**	**132**	P		**P**	06 54 42.4	-0.6
	comp=Z,4.2nm,0.8s,baz=310,slow=6.9,SNR=20							
ASAR				PcP		**PcP**	06 55 56.1	-0.6
	comp=Z,2.2nm,0.9s,baz=332,slow=4.6,SNR=2.7							
GNI	**Garni**	**52.64**	**313**	P		**P**	06 54 51.5	+0.9
GNI	**Garni**	**52.64**	**313**	P		**P**	06 54 51.5	+0.9
	comp=Z,3.0nm,0.4s,baz=120,slow=8.1,SNR=4.1							
KBZ	**Khabaz**	**55.15**	**316**	P		**P**	06 55 08.8	+0.1
KBZ	**Khabaz**	**55.15**	**316**	P		**P**	06 55 08.8	+0.1
	comp=Z,2.1nm,0.9s,baz=101,slow=5.1,SNR=4.7							
BRTR	**Keskin Array B**	**60.77**	**310**	P		**P**	06 55 46.6	-1.8
BRTR	**Keskin Array B**	**60.77**	**310**	P		**P**	06 55 46.6	-1.8
	comp=Z,0.7nm,0.6s,baz=103,slow=6.5,SNR=5.0							
STKA	**Stephens Creek**	**61.94**	**135**	*e*P		**P**	06 55 56.2	+0.1
STKA	**Stephens Creek**	**61.94**	**135**	P		**P**	06 55 55.6	-0.6
	comp=Z,16nm,1.1s,baz=304,slow=6.5,SNR=5.8							
FINES	**FINESS Array B**	**70.28**	**332**	P		**P**	06 56 48.3	-0.9
FINES	**FINESS Array B**	**70.28**	**332**	P		**P**	06 56 48.3	-0.9
	comp=Z,1.0nm,0.7s,baz=134,slow=9.9,SNR=4.1							
ARCES	**ARCESS Array B**	**72.63**	**340**	P		**P**	06 57 03.2	-0.1
ARCES	**ARCESS Array B**	**72.63**	**340**	P		**P**	06 57 03.2	-0.1
	comp=Z,1.7nm,0.6s,baz=71,slow=7.8,SNR=6.3							
GERES	**GERESS Array B**	**75.85**	**318**	P		**P**	06 57 21.8	-0.8
GERES	**GERESS Array B**	**75.85**	**318**	P		**P**	06 57 21.8	-0.8
	comp=Z,0.5nm,0.7s,baz=76,slow=5.6,SNR=4.1							
LPL	**La Plagne**	**80.78**	**315**	*e*P		**P**	06 57 48.9	-1.2
	comp=Z,17nm,1.2s							
ESDC	**Sonseca Array**	**89.55**	**310**	P		**P**	06 58 34.6	+0.6
ESDC	**Sonseca Array**	**89.55**	**310**	P		**P**	06 58 34.6	+0.6
	comp=Z,0.2nm,0.5s,baz=14,slow=6.6,SNR=4.7							
TORD	**Torodi Ar. Bea**	**90.20**	**283**	P		**P**	06 58 36.8	-0.6
TORD	**Torodi Ar. Bea**	**90.20**	**283**	P		**P**	06 58 36.8	-0.6
	comp=Z,2.0nm,1.0s,baz=79,slow=4.1,SNR=4.3							
MCK	**McKinley**	**91.68**	**23**	*e*P		**P**	06 58 42.5	-0.8
	comp=Z,23nm,1.4s							
ILAR	**Eielson Array**	**91.95**	**22**	P		**P**	06 58 42.9	-1.7
ILAR	**Eielson Array**	**91.95**	**22**	P		**P**	06 58 42.9	-1.7
	comp=Z,0.4nm,0.7s,baz=287,slow=4.5,SNR=4.6							
INK	**Inuvik**	**94.12**	**16**	P		**P**	06 58 53.9	-0.5
INK	**Inuvik**	**94.12**	**16**	P		**P**	06 58 53.9	-0.5
	comp=Z,1.4nm,0.7s,baz=287,slow=11,SNR=5.3							
ULM	**Lac du Bonnet**	**118.55**	**8**	PKP		**PKPdf**	07 04 23.1	-1.0
ULM	**Lac du Bonnet**	**118.55**	**8**	PKP		**PKPdf**	07 04 23.1	-1.0
	comp=Z,0.8nm,0.4s,baz=45,slow=1.8,SNR=3.0							
HLID	**Hailey**	**119.86**	**24**	*e*PKPdf		**PKPdf**	07 04 27.5	+0.5
HLID				*e*PKPdf		**PKiKP**	07 04 27.9	+0.8
SNOW	**Snow King Moun**	**121.32**	**21**	*e*PKPdf		**PKPdf**	07 04 30.3	+0.3
SNOW				*e*PKPdf		**PKiKP**	07 04 30.6	+0.5
REDW	**Red Top Meadow**	**121.37**	**21**	*e*PKPdf		**PKPdf**	07 04 30.4	+0.3
NVAR	**Mina Array Bea**	**122.27**	**30**	PKP		**PKPdf**	07 04 32.6	+0.7
NVAR	**Mina Array Bea**	**122.27**	**30**	PKP		**PKPdf**	07 04 32.6	+0.7
	comp=Z,0.9nm,0.7s,baz=305,slow=2.4,SNR=9.3							
PDAR	**Pinedale Array**	**122.35**	**21**	PKP		**PKPdf**	07 04 31.1	-0.8
PDAR	**Pinedale Array**	**122.35**	**21**	PKP		**PKPdf**	07 04 31.1	-0.8
	comp=Z,0.9nm,0.7s,baz=292,slow=0.3,SNR=8.5							
ECSD	**EROS Data Cent**	**124.81**	**10**	*e*PKPdf		**PKPdf**	07 04 36.1	-0.2
MVU	**Marysvale**	**125.01**	**25**	*e*PKPdf		**PKPdf**	07 04 38.5	+1.4
MSU	**Marysvale**	**125.01**	**25**	*e*PKPdf		**PKPdf**	07 04 37.4	+0.2
CCUT	**Cedar City**	**125.30**	**27**	*e*PKPdf		**PKPdf**	07 04 38.9	+1.1
CCUT				*e*PKPdf		PKiKP	07 04 45.2	+7.0
ANMO	**Albuquerque**	**130.39**	**23**	*e*PKPdf		**PKPdf**	07 04 47.6	+0.1
ANMO				*e*PKPdf		**PKiKP**	07 04 48.2	-0.1
TXAR	**Lajitas Array**	**136.45**	**23**	PKP		**PKPdf**	07 04 58.2	-0.7
TXAR	**Lajitas Array**	**136.45**	**23**	PKP		**PKPdf**	07 04 58.2	-0.7
	comp=Z,0.4nm,0.6s,baz=69,slow=1.3,SNR=6.6							
JCT	**Junction City**	**136.74**	**18**	*e*PKPdf		**PKPdf**	07 04 59.3	-0.1
JCT				*e*PKPdf		**PKiKP**	07 05 00.2	-0.9
BDFB	**Brasilia**	**143.15**	**258**	PKP		**PKPdf**	07 05 14.1	+2.7
BDFB	**Brasilia**	**143.15**	**258**	PKP		**PKPdf**	07 05 14.1	+2.7
	comp=Z,2.4nm,0.9s,baz=108,slow=3.2,SNR=3.7							
PLCA	**Paso Flores**	**147.36**	**201**	PKPbc		**PKPbc**	07 05 19.8	-0.5
PLCA	**Paso Flores**	**147.36**	**201**	PKPbc		**PKPbc**	07 05 19.8	-0.5
	comp=Z,8.3nm,1.2s,baz=90,slow=4.0,SNR=3.4							
CPUP	**Villa Florida**	**149.19**	**236**	PKPbc		**PKPbc**	07 05 24.9	-0.5
CPUP	**Villa Florida**	**149.19**	**236**	PKPbc		**PKPbc**	07 05 24.9	-0.5
	comp=Z,8.7nm,1.0s,baz=73,slow=6.7,SNR=5.5							
ROSC	**El Rosal**	**160.84**	**324**	PKPab		**PKPab**	07 06 19.9	-0.1
ROSC	**El Rosal**	**160.84**	**324**	PKPab		**PKPab**	07 06 19.9	-0.1
	comp=Z,1.2nm,0.3s,baz=27,slow=9.0,SNR=3.6							
LPAZ	**La Paz**	**162.19**	**250**	PKPab		**PKPab**	07 06 24.7	-1.6
LPAZ	**La Paz**	**162.19**	**250**	PKPab		**PKPab**	07 06 24.7	-1.6
	comp=Z,1.0nm,0.8s,baz=113,slow=7.7,SNR=2.7							

IDC 26 06:46:22.0±0.9, 10.66N×94.22E, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.0/27, mbtmp4.1/11, ML3.6/1, Error ellipse: s-maj=35.9km s-min=17.9km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.00**	**30**	Pn	Pn	06 48 34.1	+0.8
	0.2nm,0.3s,baz=217,slow=18,SNR=3.1						
MKAR	**Makanchi Array**	**37.41**	**346**	P	P	06 53 36.6	-0.2
	1.5nm,0.7s,baz=160,slow=7.6,SNR=3.0						
SONM	**Songino Array**	**38.45**	**13**	P	P	06 53 46.3	+0.6
	2.2nm,0.9s,baz=197,slow=4.6,SNR=3.9						
KURBB	**Kurchatov Arra**	**41.89**	**345**	P	P	06 54 13.2	-0.8
	5.2nm,0.9s,baz=160,slow=7.6,SNR=4.5						
ZALV	**Zalesovo Beam**	**43.83**	**352**	P	P	06 54 29.8	+0.1
	12nm,0.9s,baz=169,slow=8.8,SNR=6.7						
USRK	**Ussuriysk Arra**	**46.65**	**37**	P	P	06 54 51.8	-0.4
	1.8nm,0.8s,baz=234,slow=6.9,SNR=3.3						
WRA	**Warramunga Arr**	**49.84**	**128**	P	P	06 55 15.9	-1.4
	2.7nm,0.8s,baz=302,slow=8.4,SNR=4.6						
ASAR	**Alice Springs**	**51.66**	**132**	P	P	06 55 30.9	-0.1
	3.4nm,0.9s,baz=308,slow=7.4,SNR=2.9						
STKA	**Stephens Creek**	**61.98**	**135**	P	P	06 56 44.6	+0.5
	2.9nm,0.9s,baz=318,slow=11,SNR=3.2						
GERES	**GERESS Array B**	**75.83**	**318**	P	P	06 58 09.6	-0.6
	0.9nm,0.8s,baz=91,slow=6.0,SNR=4.4						
ILAR	**Eielson Array**	**92.15**	**22**	P	P	06 59 32.0	-1.3
	0.4nm,0.8s,baz=316,slow=5.0,SNR=3.2						
NVAR	**Mina Array Bea**	**122.50**	**30**	PKP	PKPdf	07 05 21.4	+1.1
	0.7nm,0.8s,baz=298,slow=2.9,SNR=3.7						
PDAR	**Pinedale Array**	**122.56**	**21**	PKP	PKPdf	07 05 20.3	+0.1
	0.7nm,0.8s,baz=198,slow=0.9,SNR=3.8						
TXAR	**Lajitas Array**	**136.66**	**23**	PKP	PKPdf	07 05 47.9	+0.7
	0.7nm,1.0s,baz=174,slow=2.5,SNR=3.5						
CPUP	**Villa Florida**	**148.94**	**236**	PKPbc	PKPbc	07 06 12.5	-0.2
	2.8nm,0.9s,baz=216,slow=1.9,SNR=3.5						

*KRSC **26** 06:47:20.7±0.7, 55.34N×166.69E, h22km±22km, ML4.6*
*IDC **26** 06:47:21.0±0.5, 55.32N×166.64E, h0km, mb4.1/20, mb1 4.3/23, mb1mx4.2/35, mbtmp4.1/23, ML3.7/3, MS4.0/7, Ms1 4.1/7, ms1mx3.6/61, Error ellipse: s-maj=14.6km s-min=9.0km az=8.0*
*ISCJB **26** 06:47:22.7±0.6, 55.32N±0.03×166.52E±0.02, h23km±4km, mb4.5/91, MS4.3/13, Error ellipse: s-maj=5.2km s-min=2.1km az=174.1*
*MOS **26** 06:47:22.0±1.0, 55.31N×166.56E, h20km, mb4.6/34, Error ellipse: s-maj=10.1km s-min=7.7km az=146.2*
*BJI **26** 06:47:25.6, 55.08N×166.26E, h18km, mB4.9/16, mb4.6/25, Ms4.7/15, Ms7 4.3/15*
*NEIC **26** 06:47:25.1±0.2, 55.31N×166.62E, h25km, mb4.6/61, Error ellipse: s-maj=8.6km s-min=4.2km az=169.0*
*TEH **26** 06:47:27.0, 55.25N×166.73E, h35km, ML4.7*
ISC 26 06:47:23.7±1.0, 55.34N±0.05×166.60E±0.03, h20km±4km, n218, σ1$40/226, mb4.6/91, MS4.4/13, 1D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.38**	**249**	PN	**Pg**	06 47 30.1	-1.7
BKI				S	**Sg**	06 47 36.6	-0.6
BKI	**Bering**	**0.38**	**249**	*e*P	**Pg**	06 47 30.1	-1.7
BKI				*i* S	**Sg**	06 47 36.6	-0.6
KBG	**Krutoberegovo**	**2.38**	**294**	PN	**Pn**	06 47 58.9	-2.7
KBG				S	**Sn**	06 48 27.5	-2.7
KBG	**Krutoberegovo**	**2.38**	**294**	*e*P	**Pn**	06 47 58.9	-2.7
KBG				*i* S	**Sn**	06 48 27.5	-2.7
SMKR	**Semkarok**	**3.14**	**295**	*e*P	**Pn**	06 48 10.9	-1.2
SMKR				*i* S	**Sn**	06 48 47.5	-1.6
BDR	**Baidarnaya**	**3.27**	**294**	*e*P	**Pn**	06 48 13.2	-0.7
BDR				*i* S	**Sn**	06 48 51.2	-1.1
SRKR	**Sorokina**	**3.32**	**296**	*e*P	**Pn**	06 48 13.4	-1.2
SRKR				*i* S	**Sn**	06 48 52.0	-1.5
ZLN	**Zelenaya**	**3.35**	**284**	*e*P	**Pn**	06 48 15.1	+0.1
ZLN				*i* S	**Sn**	06 48 54.0	-0.3
CIRR	**Tsirk**	**3.40**	**286**	*e*P	**Pn**	06 48 15.3	-0.4
CIRR				*i* S	**Sn**	06 48 55.2	-0.3
BZGR	**Bezymyannyi-Gr**	**3.40**	**283**	*e*P	**Pn**	06 48 15.1	-0.6
BZGR				*i* S	**Sn**	06 48 54.3	-1.2
LGNR	**Loginova**	**3.42**	**285**	*e*P	**Pn**	06 48 16.1	-0.1
LGNR				*i* S	**Sn**	06 48 57.0	+0.6
KLY	**Klyuchi**	**3.49**	**289**	PN	**Pn**	06 48 14.6	-2.3
KLY				S	**Sn**	06 48 55.1	-2.5
KLY	**Klyuchi**	**3.49**	**289**	*e*P	**Pn**	06 48 14.6	-2.3
KLY				*i* S	**Sn**	06 48 55.1	-2.5
BZMR	**Bezymyannaya**	**3.51**	**282**	*e*P	**Pn**	06 48 17.0	-0.3
BZMR				*i* S	**Sn**	06 48 57.8	-0.6
BZWR	**Bezymyannyi-We**	**3.51**	**283**	*e*P	**Pn**	06 48 17.4	+0.1
BZWR				*i* S	**Sn**	06 48 58.9	+0.5
KRSR	**Krestovskiy**	**3.52**	**287**	*e*P	**Pn**	06 48 16.8	-0.6
KRSR				*i* S	**Sn**	06 48 56.7	-1.7
KIRR	**Kirishev**	**3.60**	**282**	*e*P	**Pn**	06 48 19.0	+0.5
KIRR				*i* S	**Sn**	06 49 02.3	+1.8
KMNR	**Kamenistaya**	**3.64**	**279**	*e*P	**Pn**	06 48 19.6	+0.6
KMNR				*i* S	**Sn**	06 49 03.0	+1.6
KPT	**Kopyto**	**3.67**	**282**	*e*P	**Pn**	06 48 19.8	+0.4
KPT				*i* S	**Sn**	06 49 02.6	+0.5
KOZR	**Kozyr**	**3.86**	**284**	PN	**Pn**	06 48 23.0	+1.0
KOZR				S	**Sn**	06 49 07.0	+0.2
KOZ	**Kozyrevsk**	**3.87**	**283**	*e*P	**Pn**	06 48 23.0	+0.9
KOZ				*i* S	**Sn**	06 49 07.0	0.0
SRDR	**Sredinnyy**	**4.00**	**287**	*e*P	**Pn**	06 48 24.2	+0.2
SRDR				*i* S	**Sn**	06 49 10.1	-0.2
ESO	**Esso**	**4.51**	**281**	PN	**Pn**	06 48 31.3	+0.3
ESO	**Esso**	**4.51**	**281**	*e*P	**Pn**	06 48 31.3	+0.3
FX1	**Attu Island--F**	**4.58**	**120**	*e*Pn	**Pn**	06 49 29.0	-2.9
FX1				Sn	**Sn**	06 49 19.4	-5.1
FX1				*e*Sn	**Sn**	06 49 19.5	-5.0
FX1	**Attu Island--F**	**4.58**	**120**	Pn	Pn	06 48 28.6	-3.3
	14nm,0.3s,baz=332,slow=5.7,SNR=90						
FX1				Sn	**Sn**	06 49 19.4	-5.1
	39nm,0.3s,baz=85,slow=19,SNR=16						
NLC	**Nalytchevo**	**4.78**	**246**	PN	**Pn**	06 48 33.4	-1.1
NLC	**Nalytchevo**	**4.78**	**246**	*e*P	**Pn**	06 48 33.4	-1.1
NLC				*i* S	**Sn**	06 49 27.2	-2.0
SMAR	**Somma**	**5.02**	**249**	*e*P	**Pn**	06 48 38.0	-0.1
SMAR				*i* S	**Sn**	06 49 34.7	-0.8
KRER	**Koryakskii**	**5.03**	**249**	*e*P	**Pn**	06 48 38.4	+0.2
KRER				*i* S	**Sn**	06 49 35.3	-0.4
UGLR	**Uglovaya**	**5.03**	**248**	*e*P	**Pn**	06 48 38.3	+0.2
UGLR				*i* S	**Sn**	06 49 35.0	-0.7
AVH	**Avacha**	**5.05**	**249**	*e*P	**Pn**	06 48 38.9	+0.5
AVH				*i* S	**Sn**	06 49 35.2	-0.9
KOK	**Koryaka**	**5.09**	**250**	*e*P	**Pn**	06 48 39.4	+0.4
KOK				*i* S	**Sn**	06 49 37.0	-0.2
TILK	**Tilichiki**	**5.13**	**357**	*e*P	**Pn**	06 48 37.9	-1.4
SMY	**Shemya**	**5.14**	**118**	*e*PN	**Pn**	06 48 39.1	-0.3
SMY	**Shemya**	**5.14**	**118**	*e*Pn	**Pn**	06 48 39.1	-0.3
PET	**Petropavlovsk**	**5.21**	**247**	*e*PN	**Pn**	06 48 40.1	-0.4
PET				pmax	pmax		
	comp=Z,30nm,0.8s						
PET				MLR	MLR		
	comp=Z,2μm,19.0s						
PET	**Petropavlovsk**	**5.21**	**247**	*e*P	**Pn**	06 48 40.4	-0.1
PET				*i* S	**Sn**	06 49 38.6	-1.3
GNL	**Ganaly**	**5.31**	**255**	*e*P	**Pn**	06 48 42.8	+0.9
RUS	**Russkaya**	**5.60**	**242**	PN	**Pn**	06 48 46.4	+0.6
RUS	**Russkaya**	**5.60**	**242**	*e*P	**Pn**	06 48 46.4	+0.6
RUS				*i* S	**Sn**	06 49 47.9	-1.6
PEA0B	**Petropavlovsk-**	**5.68**	**250**	*e*Pn	**Pn**	06 48 47.4	+0.4
PEA0B				*e*Sn	**Sn**	06 49 52.0	+0.4
PETK	**Petropavlovsk-**	**5.68**	**250**	PN	**Pn**	06 48 47.0	0.0
PETK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
PETK	**Petropavlovsk-**	**5.68**	**250**	Pn	**Pn**	06 48 47.0	0.0
PETK				Sn	**Sn**	06 49 51.5	0.0
PETK	**Petropavlovsk-**	**5.68**	**250**	Pn	**Pn**	06 48 47.0	0.0
	comp=Z,4.0nm,0.3s,baz=76,slow=18,SNR=27						
PETK				Sn	**Sn**	06 49 51.5	0.0
	comp=Z,1.0nm,0.3s,baz=43,slow=38,SNR=2.7						
MTVR	**Mutnovka**	**5.74**	**244**	*e*P	**Pn**	06 48 47.7	-0.2
MTVR				*i* S	**Sn**	06 49 51.1	-2.1
GRL	**Gorelyy**	**5.76**	**244**	*e*P	Pn	06 48 49.7	+1.6
ASAK	**Asacha**	**5.94**	**244**	*e*P	**Pn**	06 48 51.2	+0.7
ASAK				*i* S	**Sn**	06 49 55.9	-2.1
APC	**Apacha**	**6.05**	**250**	*e*P	**Pn**	06 48 53.0	+1.0
APC				*i* S	**Sn**	06 50 00.7	0.0
MIPR	**Malaya Ipel'ka**	**6.59**	**246**	*e*P	**Pn**	06 48 59.8	+0.4
SKR	**Severo-Kuril's**	**7.85**	**238**	*e*PN	**Pn**	06 49 14.5	-2.2
SKR				pmax	pmax		
	comp=N,40nm,0.7s						
SKR				pmax	pmax		
	comp=Z,40nm,0.7s						
SKR				MLR	MLR		
	comp=N,2μm,18.0s						
SKR				MLR	MLR		
	comp=E,2μm,18.0s						
SKR				MLR	MLR		
	comp=Z,1μm,18.0s						
SKR	**Severo-Kuril's**	**7.85**	**238**	*e*P	**Pn**	06 49 17.5	+0.8
ADK	**Adak**	**10.51**	**102**	*e*PN	**Pn**	06 49 53.4	+0.3
ADK	**Adak**	**10.51**	**102**	*e*Pn	**Pn**	06 49 53.4	+0.3
ATKA	**Atka Island**	**11.78**	**98**	*e*Pn	**Pn**	06 50 09.2	-1.3
UNV	**Unalaska Valle**	**15.63**	**84**	*e*Pn	**Pn**	06 51 02.1	-0.5
AKUT	**Akutan**	**15.96**	**83**	*e*P	**P**	06 51 09.3	-1.0
YSS	**Yuzh-Sakhalins**	**17.08**	**251**	*e*P	P	06 51 26.2	+3.4
ASAJ	**Asahikawa**	**19.05**	**244**	*e*P	**Pn**	06 51 45.3	+0.1
	comp=Z,33nm,1.4s						
ASAJ	**Asahikawa**	**19.05**	**244**	P	**Pn**	06 51 45.6	+0.3
	comp=Z,0.3nm,0.3s,baz=32,slow=4.9,SNR=9.9						
ASAJ				LR	LR	06 58 36.7	
	comp=Z,420nm,18.8s,baz=158,slow=36						
YAK	**Yakutsk**	**20.09**	**304**	*e*P	**P**	06 51 54.6	-1.1
YAK				pmax	pmax		
	comp=Z,13nm,1.2s						
YAK				pmax	pmax		
	comp=E,22nm,1.8s						

comp=Z,20nm,0.8s
NLWA Neilton Lookou 42.44 71 *e*P P 06 55 19.7 +2.8
comp=Z,38nm,1.5s
NVS Novosibirsk 44.95 306 *e*P P 06 55 32.3 -4.6
HAWA Hanford 45.39 69 *e*P **P** **06 55 40.7 +0.1**
comp=Z,12nm,1.3s
NEW Newport 45.48 66 *e*P **P** **06 55 41.5 +0.2**
comp=Z,8.7nm,1.1s
SPITS Spitsbergen Ar 45.50 352 P **P** **06 55 40.6 -0.4**
SPITS Spitsbergen Ar 45.50 352 P **P** **06 55 40.6 -0.4**
comp=Z,16nm,1.1s,baz=62,slow=13,SNR=2.7
GTA Gaotai 46.10 279 *e*P P 06 55 48.8 +2.4
GTA pP pP 06 55 58.8 +6.3
GTA sP sP 06 56 02.5 +7.6
GTA S **S** **07 02 31.0 +0.1**
GTA sS sS 07 02 47.0 +6.0
GTA SS **SS** **07 05 49.0 -6.7**
GTA pmax pmax
comp=Z,5.0nm,1.6s
GTA pmax pmax
comp=Z,99nm,4.5s
GTA LR LR
comp=N,290nm,16.1s
GTA LR LR
comp=E,380nm,16.1s
GTA LR LR
comp=Z,420nm,17.3s
LZH Lanzhou 46.12 272 *e*P **P** **06 55 47.8 +1.2**
LZH pP pP 06 55 58.3 +5.5
LZH sP sP 06 56 02.5 +7.3
LZH PP **PP** **06 57 36.0 +1.3**
LZH pmax pmax
comp=Z,22nm,1.5s
LZH pmax pmax
comp=Z,75nm,5.2s
LZH LR LR
comp=N,410nm,14.1s
LZH LR LR
comp=E,440nm,14.5s
LZH LR LR
comp=Z,560nm,18.2s
WALA Waterton Lakes 46.63 63 *e*P **P** **06 55 50.7 +0.3**
comp=Z,1.0nm,1.3s
YBH Yreka Blue Hor 46.71 76 P **P** **06 55 52.3 +1.2**
YBH Yreka Blue Hor 46.71 76 P **P** **06 55 52.3 +1.2**
comp=Z,3.5nm,0.9s,baz=338,slow=5.4,SNR=5.3
BSMT Bassoo Peak 46.95 65 *e*P **P** **06 55 53.5 +0.5**
BLMT Blacktail Moun 47.07 64 *e*P **P** **06 55 55.0 +1.0**
comp=Z,9.0nm,0.9s
JTMT Jette 47.28 64 *e*P **P** **06 55 56.1 +0.6**
YBMT Yellow Bay 47.34 64 *e*P **P** **06 55 56.6 +0.6**
comp=Z,6.1nm,1.0s
SWMT Swartz Lake 47.58 65 *e*P **P** **06 55 58.4 +0.5**
BMO Blue Mountains 47.58 69 *e*P **P** **06 55 58.0 +0.1**
comp=Z,9.5nm,1.3s
SLMT Seeley Lake 48.01 64 *e*P **P** **06 56 02.1 +0.8**
CHMT Chamberlain Mo 48.35 65 *e*P **P** **06 56 03.8 -0.1**
comp=Z,3.0nm,1.1s
WVOR Wild Horse Val 48.48 73 *e*P **P** **06 56 05.3 +0.4**
WVOR pmax pmax
comp=Z,7.0nm,1.0s
WVOR Wild Horse Val 48.48 73 *e*P **P** **06 56 05.3 +0.4**
comp=Z,7.2nm,1.0s
FFC Flin Flon 48.68 51 *e*P P 06 56 11.2 +5.1
FFC pmax pmax
comp=Z,4.0nm,1.0s
FFC Flin Flon 48.68 51 *e*P P 06 56 11.2 +5.1
comp=Z,4.2nm,1.0s
HRY Holter Researc 49.22 64 *e*P P 06 56 12.5 +2.0
DLMT Dillon 49.73 66 *e*P **P** **06 56 14.6 +0.1**
comp=Z,7.4nm,1.2s
DLMT *e*pP pP 06 56 30.9 +10
KURK Kurchatov 49.73 304 P **P** **06 56 14.4 +0.2**
KURK pmax pmax
comp=Z,3.0nm,0.9s
KURK Kurchatov 49.73 304 P **P** **06 56 14.4 +0.2**
WMQ Urumqi 49.77 292 P P 06 56 19.3 +4.6
WMQ pP pP 06 56 29.3 +8.5
WMQ sP sP 06 56 33.0 +10
WMQ PcP PcP 06 57 39.5 +4.2
WMQ PP PP 06 58 15.0 +6.0
WMQ S **S** **07 03 26.0 +3.3**
WMQ sS sS 07 03 42.5 +10
WMQ ScS **ScS** **07 06 05.0 +0.2**
WMQ SS **SS** **07 06 55.3 +0.6**
WMQ pmax pmax
comp=Z,9.0nm,1.0s
WMQ pmax pmax
comp=Z,140nm,3.8s
WMQ LR LR
comp=N,1μm,17.2s
WMQ LR LR
comp=E,460nm,21.4s
WMQ LR LR
comp=Z,170nm,22.0s
KURBB Kurchatov Arra 49.84 304 P **P** **06 56 14.4 -0.6**
comp=Z,3.3nm,0.9s,baz=50,slow=7.2,SNR=8.1
CD2 Chengdu 49.94 268 *e*P P 06 56 18.8 +2.8
CD2 pP pP 06 56 29.0 +6.8
CD2 sP sP 06 56 33.3 +8.7
CD2 pmax pmax
comp=Z,10.0nm,1.0s
MCMT McKenzie Canyo 49.95 66 *e*P **P** **06 56 13.3 -3.0**
comp=Z,1.6nm,0.8s
HLID Hailey 49.99 69 *e*P **P** **06 56 17.0 +0.6**
comp=Z,5.4nm,1.3s
BOZ Bozeman (W) 50.04 65 *e*P **P** **06 56 16.9 +0.1**
BOZ pmax pmax
comp=Z,5.0nm,1.2s
BOZ Bozeman (W) 50.04 65 *e*P **P** **06 56 16.9 +0.1**
comp=Z,4.8nm,1.2s
CMB Columbia Colle 50.55 78 *e*P **P** **06 56 20.6 0.0**
CMB pmax pmax
comp=Z,3.0nm,0.9s
CMB Columbia Colle 50.55 78 *e*P **P** **06 56 20.6 0.0**
comp=Z,2.8nm,0.9s
MKAR Makanchi Array 50.56 298 P **P** **06 56 19.5 -1.1**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 50.56 298 P **P** **06 56 19.5 -1.1**
MKAR Makanchi Array 50.56 298 P **P** **06 56 19.5 -1.1**
comp=Z,0.9nm,0.6s,baz=54,slow=5.0,SNR=9.5
QLMT Earthquake Lak 50.69 66 *e*P **P** **06 56 23.0 +1.2**
WAKR Walker 50.75 77 *e*P P 06 56 24.1 +1.8
SUMG Summit 51.19 9 *e*P P 06 56 35.8 +10
comp=Z,12nm,1.1s
NVAR Mina Array Bea 51.43 76 P **P** **06 56 27.3 -0.2**
NVAR Mina Array Bea 51.43 76 P **P** **06 56 27.3 -0.2**
comp=Z,3.1nm,0.9s,baz=303,slow=7.2,SNR=13
ELK Elko 51.49 72 P **P** **06 56 28.7 +0.8**
ELK Elko 51.49 72 P **P** **06 56 28.7 +0.8**
comp=Z,1.0nm,0.7s,baz=346,slow=8.3,SNR=5.7
ELK LR LR 07 17 21.3
comp=Z,247nm,18.0s,baz=108,slow=35
IMW Indian Meadow 51.59 66 *e*P **P** **06 56 29.5 +0.8**
comp=Z,6.8nm,0.9s
RLMT Red Lodge 51.61 64 *e*P **P** **06 56 29.1 +0.4**
comp=Z,9.4nm,0.9s
GYA Guiyang 51.66 262 *e*P P 06 56 32.0 +2.8
GYA pmax pmax
comp=Z,10.0nm,1.0s
MOOW Moose Ponds 51.80 66 *e*P **P** **06 56 30.9 +0.8**
comp=Z,3.5nm,1.0s
BVAR Borovoye Array 51.92 310 P **P** **06 56 30.3 -0.3**
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 51.92 310 P **P** **06 56 30.3 -0.3**
BVAR Borovoye Array 51.92 310 P **P** **06 56 30.3 -0.3**
comp=Z,1.4nm,0.7s,baz=37,slow=13,SNR=4.4
BRVK Borovoye 51.94 310 *e*P **P** **06 56 30.9 +0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
BRVK Borovoye 51.94 310 *e*P **P** **06 56 30.9 +0.1**
comp=Z,5.2nm,0.9s
LOHW Long Hollow 51.96 66 *e*P **P** **06 56 32.2 +0.8**
comp=Z,5.0nm,0.9s
REDW Red Top Meadow 52.01 67 *e*P P 06 56 34.8 +3.1
comp=Z,10nm,1.3s
APA Apatity 52.57 339 ||/P P 06 56 42.0 +6.8
HWUT Hardware Ranch 52.86 69 P **P** **06 56 38.6 +0.6**
comp=Z,9.7nm,1.2s
BW06 Boulder Array 53.10 66 *e*P **P** **06 56 40.1 +0.3**
comp=Z,7.9nm,1.1s
PDAR Pinedale Array 53.10 66 P **P** **06 56 40.6 +0.8**
PDAR Pinedale Array 53.10 66 P **P** **06 56 40.6 +0.8**
comp=Z,2.6nm,1.0s,baz=299,slow=6.1,SNR=9.1

DUG Dugway 53.19 71 P P 06 56 31.9 -8.5
DUG pmax pmax
comp=Z,2.0nm,0.9s
DUG Dugway 53.19 71 P P 06 56 31.9 -8.5
comp=Z,2.5nm,0.9s
ISA Isabella 53.32 79 *e*P **P** **06 56 41.4 +0.1**
ISA pmax pmax
comp=Z,2.0nm,0.9s
ISA Isabella 53.32 79 *e*P **P** **06 56 41.4 +0.1**
comp=Z,2.3nm,0.9s
ULM Lac du Bonnet 54.46 51 P P 06 56 51.1 +1.7
ULM Lac du Bonnet 54.46 51 P P 06 56 51.1 +1.7
comp=Z,4.0nm,0.9s,baz=315,slow=7.8,SNR=3.5
GSC Goldstone 54.51 78 *e*P **P** **06 56 50.3 +0.2**
GSC pmax pmax
comp=Z,11nm,1.0s
GSC Goldstone 54.51 78 *e*P **P** **06 56 50.3 +0.2**
comp=Z,11nm,1.0s
ARUT Antelope Range 54.57 73 *e*P **P** **06 56 50.7 +0.1**
ARUT pmax pmax
comp=Z,6.0nm,1.1s
ARUT Antelope Range 54.57 73 *e*P **P** **06 56 50.7 +0.1**
comp=Z,6.0nm,1.1s
MWC Mount Wilson 54.60 80 *e*P **P** **06 56 52.0 +1.2**
MWC pmax pmax
comp=Z,29nm,1.4s
MWC Mount Wilson 54.60 80 *e*P **P** **06 56 52.0 +1.2**
comp=Z,29nm,1.4s
TMUT Trail Mountain 54.70 70 *e*P **P** **06 56 53.2 +1.6**
comp=Z,8.3nm,1.0s
MVU Marysvale 54.72 72 *e*P P 06 56 53.7 +2.0
CCUT Cedar City 54.78 73 *e*P P 06 56 54.1 +2.0
comp=Z,4.2nm,1.0s
KMI Kunming 54.92 264 P P 06 56 57.3 +4.0
KMI pP pP 06 57 07.5 +8.0
KMI sP sP 06 57 11.5 +10
KMI pmax pmax
comp=Z,7.0nm,0.9s
KMI LR LR
comp=N,730nm,14.2s
KMI LR LR
comp=E,1μm,16.0s
KMI LR LR
comp=Z,690nm,17.6s
RSSD Black Hills 54.97 62 *e*P **P** **06 56 54.3 +0.9**
RSSD pmax pmax
comp=Z,9.0nm,1.3s
RSSD Black Hills 54.97 62 *e*P **P** **06 56 54.3 +0.9**
comp=Z,8.5nm,1.3s
SRU San Rafael 55.20 70 *e*P **P** **06 56 56.2 +1.1**
SRU pmax pmax
comp=Z,9.0nm,0.8s
SRU San Rafael 55.20 70 *e*P **P** **06 56 56.2 +1.1**
comp=Z,9.3nm,0.8s
LDFC Landfair 55.62 77 *e*P **P** **06 56 59.4 +1.3**
comp=Z,17nm,1.0s
AGMN Agassiz Nation 55.88 53 *e*P **P** **06 57 00.7 +1.1**
comp=Z,8.9nm,0.9s
SMCO Snowmass 57.04 68 *e*P **P** **06 57 08.0 -0.6**
comp=Z,41nm,2.1s
ISCO Idaho Springs 57.30 66 *e*P P 06 57 12.3 +2.1
ISCO pmax pmax
comp=Z,12nm,1.2s
ISCO Idaho Springs 57.30 66 *e*P P 06 57 12.3 +2.1
comp=Z,12nm,1.2s
WUAZ Wupatki 57.36 74 *e*P **P** **06 57 11.7 +1.1**
comp=Z,12nm,1.4s
LSA Lhasa 58.03 277 *e*P P 06 57 17.8 +2.1
LSA pmax pmax
comp=Z,9.0nm,1.3s
LSA Lhasa 58.03 277 *e*P P 06 57 17.8 +2.1
comp=Z,9.3nm,1.3s
SDCO Great Sand Dun 58.88 68 *e*P **P** **06 57 22.2 +0.9**
ECSD EROS Data Cent 58.91 57 *e*P P 06 57 22.8 +1.7
comp=Z,5.7nm,0.9s
KSH Kashi 58.98 296 P P 06 57 29.8 +8.0
KSH sP sP 06 57 42.8 +12
KSH PP PP 06 59 41.5 +10
KSH PcS PcS 07 02 17.5 +4.9
KSH S S 07 05 33.5 +6.5
KSH sS sS 07 05 49.8 +12
KSH SS SS 07 09 30.8 +11
KSH pmax pmax
comp=Z,7.0nm,1.3s
KSH pmax pmax
comp=Z,120nm,5.4s
KSH LR LR
comp=N,360nm,15.6s
KSH LR LR
comp=E,250nm,6.4s
KSH LR LR
comp=Z,320nm,15.6s
TUC Tucson 60.08 76 *e*P P 06 57 31.9 +2.5
TUC pmax pmax
comp=Z,36nm,1.5s
TUC Tucson 60.08 76 *e*P P 06 57 31.9 +2.5
comp=Z,36nm,1.5s
BORG Borgarnes 60.09 4 *e*P **P** **06 57 28.1 -0.8**
comp=Z,72nm,1.5s
ANMO Albuquerque 60.46 71 *e*P **P** **06 57 33.7 +1.6**
LAZ Ladron 60.50 71 *e*P **P** **06 57 33.9 +1.5**
comp=Z,3.0nm,1.2s
BNM Barren Site 60.97 71 *e*P **P** **06 57 36.7 +1.1**
SCHQ Schefferville 61.80 32 P P **06 57 41.6 +0.9**
SCHQ Schefferville 61.80 32 P P **06 57 41.6 +0.9**
comp=Z,2.7nm,0.7s,baz=320,slow=7.9,SNR=3.1
SCIA State Center 61.92 56 *e*P **P** **06 57 42.9 +1.2**
comp=Z,9.9nm,0.4s
MNTX Cornudas Mount 63.51 72 *e*P **P** **06 57 52.7 +0.2**
comp=Z,6.9nm,1.1s
WMOK Wichita Mounta 64.68 65 *e*P **P** **06 58 00.0 -0.1**
WMOK pmax pmax
comp=Z,9.0nm,1.0s
WMOK Wichita Mounta 64.68 65 *e*P **P** **06 58 00.0 -0.1**
comp=Z,8.7nm,1.0s
TXAR Lajitas Array 66.28 73 P P **06 58 10.8 +0.2**
TXAR Lajitas Array 66.28 73 P P **06 58 10.8 +0.2**
comp=Z,2.0nm,0.7s,baz=303,slow=4.9,SNR=28
MIAR Mount Ida 67.49 62 *e*P **P** **06 58 18.4 +0.3**
MIAR pmax pmax
comp=Z,6.0nm,0.9s
MIAR Mount Ida 67.49 62 *e*P **P** **06 58 18.4 +0.3**
comp=Z,6.5nm,0.9s
PSZ Piszkesteto 73.38 337 *e*P P 06 58 55.7 +1.8
PSZ pmax pmax
comp=Z,11nm,1.5s
PSZ Piszkesteto 73.38 337 *e*P P 06 58 55.7 +1.8
comp=Z,11nm,1.5s
PPT Papeete 81.55 138 LR LR 07 27 50.1
comp=Z,168nm,21.1s,baz=353,slow=30
ASAR Alice Springs 83.50 210 P P 06 59 51.3 +1.5
ASAR Alice Springs 83.50 210 P P 06 59 51.3 +1.5
comp=Z,2.1nm,1.0s,baz=22,slow=6.6,SNR=6.0
ESDC Sonseca Array 85.01 353 P **P** **06 59 58.7 +1.1**
ESDC Sonseca Array 85.01 353 P **P** **06 59 58.7 +1.1**
comp=Z,0.2nm,0.4s,baz=349,slow=5.8,SNR=2.6
QSPA South Pole Qui 145.09 180 *e*PKPbc **PKPbc** **07 06 57.5 -0.2**

IDC 26 06:47:53.2±6.7, 11°.39N×94°.79E, h0km, mb4.3/4, mb1 4.4/4, mb1mx3.8/25, mbtmp4.3/4, Error ellipse: s-maj=365.3km s-min=30.1km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**43.18**	**351**	P	P	06 55 55.5	-0.1
	2.2nm,0.7s,baz=168,slow=7.4,SNR=3.6						
WRA	**Warramunga Arr**	**49.86**	**128**	P	P	06 56 48.6	+0.1
	2.0nm,0.9s,baz=309,slow=8.2,SNR=3.0						
ASAR	**Alice Springs**	**51.74**	**133**	P	P	06 57 02.2	-0.5
	3.6nm,0.8s,baz=309,slow=6.6,SNR=5.8						
STKA	**Stephens Creek**	**62.11**	**135**	P	P	06 58 16.4	+0.2
	4.0nm,0.8s,baz=304,slow=11,SNR=3.5						

*BJI **26** 06:49:19.7, 10°.62N×94°.50E, h9km, mB4.9/4, mb4.3/9, Ms4.6/4, Ms7.4 1/3*
*IDC **26** 06:49:20.8±0.5, 10°.76N×94°.31E, h0km, mb4.2/24, mb1 4.3/25, mb1mx4.2/33, mbtmp4.2/25, ML4.2/1, MS3.8/5, Ms1 3.8/5, ms1mx3.3/63, Error ellipse: s-maj=19.1km s-min=11.6km az=57.0*
*ISCJB **26** 06:49:22.8±0.4, 10°.75N±0°.06×94°.43E±0°.07, h24km, mb4.3/32, MS4.0/5, Error ellipse: s-maj=11.3km s-min=6.6km az=140.9*
*NEIC **26** 06:49:22.5±0.3, 10°.75N×94°.29E, h10km, mb4.5/5, Error ellipse: s-maj=9.4km s-min=6.3km az=61.0*

ISC 26 06:49:24.7±0.4, 10°.69N±0°.07×94°.31E±0°.08, h24km, n102, σ1°.09/108, mb4.3/32, MS4.0/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.93**	**30**	Pn	**Pn**	**06 51 31.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**8.93**	**30**	Pn	**Pn**	**06 51 31.1**	**-1.3**
	0.7nm,0.3s,baz=218,slow=16,SNR=2.9						
CMAR				LR	LR	06 55 16.6	
	comp=Z,276nm,19.3s,baz=225,slow=40						
PSI	**Prapat**	**9.08**	**149**	LR	LR	06 55 16.2	
	comp=Z,1μm,21.7s,baz=322,slow=38						
KMI	**Kunming**	**16.44**	**28**	P	**Pn**	**06 53 10.3**	**-3.8**
KMI				pP	**P**	**06 53 18.3**	**+1.6**
KMI				pmax	pmax		
	comp=Z,11nm,1.3s						
ODAN	**Odare**	**17.36**	**339**	*e*P	**P**	**06 53 26.3**	**-0.7**
TAPN	**Taplejung**	**17.70**	**340**	*e*P	**P**	**06 53 30.8**	**0.0**
	comp=Z,154nm,1.2s						
RAMN	**Ramite**	**17.73**	**337**	*e*P	**Pn**	**06 53 30.5**	**+0.1**
	comp=Z,364nm,1.7s						
JIRN	**Jiri**	**18.53**	**337**	*e*P	**Pn**	**06 53 40.0**	**-0.3**
PKI	**Pulchoki**	**18.77**	**335**	*e*P	**P**	**06 53 42.5**	**-0.1**
	comp=Z,198nm,1.3s						
PKIN	**Phulchoki**	**18.78**	**335**	*e*P	**Pn**	**06 53 42.9**	**-0.3**
	comp=Z,210nm,1.5s						
GUN	**Gumba**	**18.88**	**336**	*e*P	**P**	**06 53 43.9**	**+0.1**
	comp=Z,412nm,1.7s						
DMN	**Daman**	**18.93**	**334**	*e*P	**P**	**06 53 44.2**	**-0.1**
	comp=Z,91nm,1.0s						
KKN	**Kakani**	**19.01**	**335**	*e*P	**P**	**06 53 45.3**	**+0.2**
	comp=Z,102nm,1.2s						
LSA	**Lhasa**	**19.15**	**352**	P	S	06 57 31.8	+9.1
LSA	**Lhasa**	**19.15**	**352**	P	P	06 53 38.0	-8.8
KOLN	**Koldanda**	**19.75**	**331**	*e*P	**Pn**	**06 53 53.9**	**-0.9**
	comp=Z,63nm,0.8s						
DANN	**Dangsing**	**20.17**	**332**	*e*P	**P**	**06 53 58.4**	**+0.6**
	comp=Z,336nm,1.1s						
PYUN	**Piuthan**	**20.32**	**330**	*e*P	**P**	**06 54 00.0**	**+0.6**
	comp=Z,138nm,1.0s						
GTA	**Gaotai**	**29.02**	**9**	*e*P	**P**	**06 55 22.8**	**-0.2**
GTA				pP	**pP**	**06 55 32.8**	**+2.6**
GTA				sP	**sP**	**06 55 36.5**	**+3.3**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,100nm,5.9s						
GTA				LR	LR		
	comp=N,290nm,18.3s						
GTA				LR	LR		
	comp=E,380nm,18.5s						
GTA				LR	LR		
	comp=Z,440nm,18.5s						
YHNB	**Yeheng**	**29.22**	**58**	*e*P	**P**	**06 55 25.9**	**+1.0**
	comp=Z,15nm,1.0s						
WMQ	**Urumqi**	**33.51**	**351**	P	**P**	**06 56 04.3**	**+1.9**
WMQ				pP	**pP**	**06 56 14.0**	**+4.4**
WMQ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,140nm,3.8s						
WMQ				LR	LR		
	comp=N,1μm,17.2s						
WMQ				LR	LR		
	comp=E,460nm,21.4s						
WMQ				LR	LR		
	comp=Z,170nm,22.0s						
TKM2	**Tokmak 2**	**36.02**	**336**	*e*P	**P**	**06 56 23.8**	**-0.5**
	comp=Z,10.0nm,1.3s						
AAK	**Ala-Archa**	**36.22**	**335**	P	**P**	**06 56 25.8**	**-0.2**
AAK	**Ala-Archa**	**36.22**	**335**	P	**P**	**06 56 25.8**	**-0.2**
	comp=Z,2.0nm,0.4s,baz=144,slow=6.3,SNR=5.4						
EKS2	**Erkin-Say**	**36.55**	**334**	*e*P	**P**	**06 56 28.8**	**0.0**
	comp=Z,6.3nm,0.8s						
MKAR	**Makanchi Array**	**37.40**	**346**	*e*P	**P**	**06 56 35.1**	**-0.7**
MKAR	**Makanchi Array**	**37.40**	**346**	P	**P**	**06 56 35.0**	**-0.8**
	comp=Z,5.9nm,1.0s,baz=166,slow=7.3,SNR=9.0						
KKAR	**Karatay Array**	**38.36**	**332**	*e*P	**P**	**06 56 43.3**	**-0.7**
	comp=Z,5.8nm,1.0s						
SONM	**Songino Array**	**38.40**	**13**	P	**P**	**06 56 43.7**	**-0.6**
SONM				PcP	**PcP**	**06 58 57.5**	**-0.1**
SONM	**Songino Array**	**38.40**	**13**	P	**P**	**06 56 43.7**	**-0.6**
	comp=Z,5.6nm,1.1s,baz=199,slow=6.9,SNR=9.3						
SONM				PcP	**PcP**	**06 58 57.5**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=197,slow=1.5,SNR=3.0						
IDAH	**Dahanechah**	**38.52**	**310**	*e*Pn	**PP**	**06 58 13.5**	**-0.6**
ULN	**Ulaanbaatar**	**38.58**	**14**	*e*P	**P**	**06 56 45.0**	**-0.8**
	comp=Z,20nm,1.5s						
KSAR	**Wonju Array Be**	**40.24**	**43**	P	**P**	**06 56 58.5**	**-1.3**
KSRS	**Korea Array**	**40.28**	**43**	P	**P**	**06 56 58.5**	**-1.5**
	comp=Z,1.3nm,0.8s,baz=242,slow=9.4,SNR=5.4						
KURBB	**Kurchatov Arra**	**41.88**	**345**	P	**P**	**06 57 12.3**	**-0.6**
	comp=Z,6.4nm,1.0s,baz=162,slow=8.0,SNR=10						
ISFR	**Sfrayin**	**41.91**	**315**	*e*P	**P**	**06 57 14.9**	**+1.1**
KURK	**Kurchatov**	**41.95**	**345**	P	**P**	**06 57 12.3**	**-1.1**
FITZ	**Fitzroy Crossi**	**42.13**	**133**	P	**P**	**06 57 16.0**	**+0.5**
FITZ	**Fitzroy Crossi**	**42.13**	**133**	P	**P**	**06 57 16.0**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=46,slow=10,SNR=3.3						
FITZ				LR	LR	07 15 15.8	
	comp=Z,149nm,21.5s,baz=336,slow=37						
ISHV	**Shirvan**	**42.35**	**315**	*e*P	**P**	**06 57 18.7**	**+1.4**
ZAA0	**Zalesovo Array**	**43.81**	**352**	*e*P	**P**	**06 57 28.5**	**0.0**
ZALV	**Zalesovo Beam**	**43.81**	**352**	P	**P**	**06 57 27.9**	**-0.7**
ZALV	**Zalesovo Beam**	**43.81**	**352**	P	**P**	**06 57 27.9**	**-0.7**
	comp=Z,3.6nm,0.7s,baz=176,slow=7.1,SNR=7.2						
BVAR	**Borovoye Array**	**46.41**	**340**	P	**P**	**06 57 48.3**	**-0.9**
BVAR	**Borovoye Array**	**46.41**	**340**	P	**P**	**06 57 48.3**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=129,slow=5.7,SNR=2.7						
USRK	**Ussuriysk Arra**	**46.58**	**37**	P	**P**	**06 57 49.1**	**-1.5**
	comp=Z,2.1nm,0.9s,baz=231,slow=9.1,SNR=5.5						
USRK				LR	LR	07 17 21.3	
	comp=Z,77nm,20.0s,baz=206,slow=36						
MJAR	**Matsushiro Arr**	**47.19**	**50**	P	**P**	**06 57 55.3**	**-0.4**
MJAR				PcP	**PcP**	**06 59 27.5**	**+0.5**
MJAR	**Matsushiro Arr**	**47.19**	**50**	P	**P**	**06 57 55.3**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=269,slow=6.1,SNR=4.6						
MJAR				PcP	**PcP**	**06 59 27.5**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=270,slow=2.4,SNR=3.8						
NWAO	**Narrogin (SRO)**	**48.57**	**154**	P	**P**	**06 58 06.2**	**-0.1**
NWAO	**Narrogin (SRO)**	**48.57**	**154**	P	**P**	**06 58 06.2**	**-0.1**
	comp=Z,11nm,0.9s,baz=334,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**49.79**	**128**	P	**P**	**06 58 15.4**	**-0.5**
WRA	**Warramunga Arr**	**49.79**	**128**	P	**P**	**06 58 15.4**	**-0.5**
	comp=Z,4.2nm,0.8s,baz=304,slow=8.6,SNR=8.9						
ASAR	**Alice Springs**	**51.62**	**132**	P	**P**	**06 58 29.2**	**-0.4**
ASAR	**Alice Springs**	**51.62**	**132**	P	**P**	**06 58 29.2**	**-0.4**
	comp=Z,4.9nm,0.8s,baz=310,slow=6.8,SNR=16						
KBZ	**Khabaz**	**55.16**	**316**	P	**P**	**06 58 55.8**	**+0.5**
KBZ	**Khabaz**	**55.16**	**316**	P	**P**	**06 58 55.8**	**+0.5**
	comp=Z,4.1nm,1.0s,baz=53,slow=5.1,SNR=4.9						
MMAI	**Mount Meron Ar**	**58.24**	**302**	LR	LR	07 24 26.4	
	comp=Z,134nm,20.1s,baz=150,slow=36						
CTA	**Charters Tower**	**59.57**	**121**	P	**P**	**06 59 28.1**	**+1.3**
CTA	**Charters Tower**	**59.57**	**121**	P	**P**	**06 59 28.1**	**+1.3**
	comp=Z,9.8nm,1.0s,baz=297,slow=6.8,SNR=2.7						
BRTR	**Keskin Array B**	**60.75**	**310**	P	**P**	**06 59 33.5**	**-1.4**
BRTR	**Keskin Array B**	**60.75**	**310**	P	**P**	**06 59 33.5**	**-1.4**
	comp=Z,1.2nm,0.8s,baz=64,slow=3.4,SNR=3.9						
STKA	**Stephens Creek**	**61.94**	**135**	P	**P**	**06 59 42.8**	**0.0**
STKA	**Stephens Creek**	**61.94**	**135**	P	**P**	**06 59 42.8**	**0.0**
	comp=Z,5.0nm,0.8s,baz=328,slow=9.7,SNR=5.7						
FINES	**FINESS Array B**	**70.32**	**332**	P	**P**	**07 00 34.9**	**-1.2**
FINES	**FINESS Array B**	**70.32**	**332**	P	**P**	**07 00 34.9**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=87,slow=2.9,SNR=3.5						
ARCES	**ARCESS Array B**	**72.69**	**340**	P	**P**	**07 00 49.8**	**-0.5**
ARCES	**ARCESS Array B**	**72.69**	**340**	P	**P**	**07 00 49.8**	**-0.5**
	comp=Z,4.1nm,0.9s,baz=121,slow=8.5,SNR=5.6						
GERES	**GERESS Array B**	**75.86**	**318**	P	**P**	**07 01 08.4**	**-0.8**
GERES	**GERESS Array B**	**75.86**	**318**	P	**P**	**07 01 08.4**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=86,slow=6.0,SNR=4.1						
LPG	**La Plagne**	**80.77**	**315**	*e*P	**P**	**07 01 36.1**	**-0.7**
LPL	**La Plagne**	**80.78**	**315**	*e*P	**P**	**07 01 36.1**	**-0.6**
	comp=Z,24nm,1.3s						
MBDF	**Montbardon**	**80.83**	**314**	*e*P	**P**	**07 01 36.7**	**-0.2**
ORIF	**Oris-en-Rattie**	**81.44**	**314**	*e*P	**P**	**07 01 39.5**	**-0.6**
ESDC	**Sonseca Array**	**89.54**	**310**	P	**P**	**07 02 20.3**	**-0.2**
ESDC	**Sonseca Array**	**89.54**	**310**	P	**P**	**07 02 20.3**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=66,slow=5.0,SNR=2.8						
TORD	**Torodi Ar. Bea**	**90.11**	**283**	P	**P**	**07 02 23.5**	**-0.1**
TORD				PP	**PP**	**07 05 57.2**	**0.0**
TORD	**Torodi Ar. Bea**	**90.11**	**283**	P	**P**	**07 02 23.5**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=81,slow=5.1,SNR=3.0						
TORD				PP	**PP**	**07 05 57.2**	**0.0**

comp=Z,1.3nm,0.8s,baz=72,slow=9.5,SNR=4.2

ILAR	**Eielson Array**	**92.09**	**22**	P	**P**	**07 02 29.9**	**-1.9**
ILAR	**Eielson Array**	**92.09**	**22**	P	**P**	**07 02 29.9**	**-1.9**
	comp=Z,0.5nm,0.7s,baz=300,slow=3.9,SNR=5.8						
INK	**Inuvik**	**94.26**	**16**	P	**P**	**07 02 40.2**	**-1.4**
INK	**Inuvik**	**94.26**	**16**	P	**P**	**07 02 40.2**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=326,slow=9.5,SNR=5.9						
REDW	**Red Top Meadow**	**121.52**	**21**	*e*PKPdf	**PKPdf**	**07 08 17.1**	**+0.2**
NVAR	**Mina Array Bea**	**122.43**	**30**	PKP	**PKPdf**	**07 08 19.2**	**+0.4**
NVAR	**Mina Array Bea**	**122.43**	**30**	PKP	**PKPdf**	**07 08 19.2**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=303,slow=1.9,SNR=10						
PDAR	**Pinedale Array**	**122.50**	**21**	PKP	**PKPdf**	**07 08 18.2**	**-0.5**
PDAR	**Pinedale Array**	**122.50**	**21**	PKP	**PKPdf**	**07 08 18.2**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=92,slow=0.1,SNR=8.9						
ECSD	**EROS Data Cent**	**124.94**	**10**	*e*PKPdf	**PKPdf**	**07 08 22.9**	**-0.2**
MVU	**Marysvale**	**125.16**	**25**	*e*PKPdf	**PKPdf**	**07 08 23.8**	**-0.2**
MSU	**Marysvale**	**125.16**	**25**	*e*PKPdf	**PKPdf**	**07 08 25.3**	**+1.3**
TXAR	**Lajitas Array**	**136.60**	**23**	PKP	**PKPdf**	**07 08 45.9**	**+0.2**
TXAR	**Lajitas Array**	**136.60**	**23**	PKP	**PKPdf**	**07 08 45.9**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=65,slow=0.5,SNR=6.9						
JCT	**Junction City**	**136.88**	**18**	*e*PKPdf	**PKPdf**	**07 08 47.1**	**+0.9**
BDFB	**Brasilia**	**143.02**	**258**	PKP	**PKPdf**	**07 08 59.6**	**+1.9**
BDFB	**Brasilia**	**143.02**	**258**	PKP	**PKPdf**	**07 08 59.6**	**+1.9**
	comp=Z,3.0nm,0.9s,baz=170,slow=14,SNR=3.6						
PLCA	**Paso Flores**	**147.22**	**202**	PKPbc	**PKPab**	**07 09 07.8**	**-0.3**
PLCA	**Paso Flores**	**147.22**	**202**	PKPbc	**PKPab**	**07 09 07.8**	**-0.3**
	comp=Z,8.6nm,1.1s,baz=169,slow=5.6,SNR=2.9						
CPUP	**Villa Florida**	**149.03**	**236**	PKPbc	**PKPbc**	**07 09 11.0**	**-0.5**
CPUP	**Villa Florida**	**149.03**	**236**	PKPbc	**PKPbc**	**07 09 11.0**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=159,slow=3.0,SNR=6.8						
ROSC	**El Rosal**	**160.86**	**323**	PKPab	**PKPab**	**07 10 07.3**	**+0.6**
ROSC	**El Rosal**	**160.86**	**323**	PKPab	**PKPab**	**07 10 07.3**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=86,slow=19,SNR=3.0						
LPAZ	**La Paz**	**162.04**	**250**	PKPab	**PKPab**	**07 10 11.2**	**-1.0**
LPAZ	**La Paz**	**162.04**	**250**	PKPab	**PKPab**	**07 10 11.2**	**-1.0**
	comp=Z,0.9nm,0.9s,baz=207,slow=2.3,SNR=3.3						

IDC 26 06:53:20.6±1.8, 10°53.N×94°12.E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/26, mbtmp3.8/6, Error ellipse: s-maj=67.0km s-min=21.4km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.16**	**30**	Pn	Pn	06 55 33.3	-0.9
	baz=202,slow=16,SNR=3.0						
MKAR	**Makanchi Array**	**37.51**	**347**	P	P	07 00 36.2	-0.1
	0.9nm,0.8s,baz=163,slow=8.9,SNR=4.0						
SONM	**Songino Array**	**38.60**	**13**	P	P	07 00 45.5	0.0
	1.5nm,1.0s,baz=201,slow=7.9,SNR=4.1						
ZALV	**Zalesovo Beam**	**43.94**	**352**	P	P	07 01 29.8	+0.6
	1.0nm,0.3s,baz=168,slow=7.4,SNR=3.0						
WRA	**Warramunga Arr**	**49.85**	**127**	P	P	07 02 16.4	+0.4
	0.7nm,0.9s,baz=308,slow=8.6,SNR=2.7						
ASAR	**Alice Springs**	**51.66**	**132**	P	P	07 02 29.4	-0.2
	0.8nm,0.8s,baz=309,slow=6.3,SNR=3.7						
PDAR	**Pinedale Array**	**122.71**	**21**	PKP	PKPdf	07 12 17.8	-1.3
	0.1nm,0.3s,baz=33,slow=3.5,SNR=2.6						

IDC 26 06:53:30.2±1.8, 10°66N×94°23E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/27, mbtmp3.8/7, Error ellipse: s-maj=66.2km s-min=19.2km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.99**	**30**	Pn	Pn	06 55 41.3	-0.1
	baz=216,slow=16,SNR=2.9						
MKAR	**Makanchi Array**	**37.41**	**346**	P	P	07 00 44.8	-0.2
	0.9nm,0.6s,baz=153,slow=8.2,SNR=4.5						
SONM	**Songino Array**	**38.45**	**13**	P	P	07 00 53.9	+0.1
	1.1nm,0.8s,baz=198,slow=8.8,SNR=3.6						
KURBB	**Kurchatov Arra**	**41.89**	**345**	P	P	07 01 21.9	-0.3
	0.7nm,0.7s,baz=161,slow=7.6,SNR=3.2						
WRA	**Warramunga Arr**	**49.83**	**128**	P	P	07 02 25.1	-0.3
	0.7nm,0.7s,baz=301,slow=8.7,SNR=4.4						
ASAR	**Alice Springs**	**51.66**	**132**	P	P	07 02 38.5	-0.7
	1.9nm,0.8s,baz=310,slow=6.7,SNR=8.6						
STKA	**Stephens Creek**	**61.97**	**135**	P	P	07 03 53.2	+1.0
	3.0nm,0.9s,baz=304,slow=13,SNR=3.0						

*BJI **26** 06:54:41.0, 10°.28N×94°.38E, h10km, mB4.9/18, mb4.5/25, Ms4.6/16, Ms7 4.3/17*
*ISCJB **26** 06:54:45.2±1.7, 10°.73N±0°.05×94°.40E±0°.04, h12km±11km, mb4.4/36, MS4.3/4, Error ellipse: s-maj=7.9km s-min=6.9km az=25.7*
*IDC **26** 06:54:45.1±0.5, 10°.77N×94°.46E, h0km, mb4.2/23, mb1 4.3/24, mb1mx4.2/33, mbtmp4.2/24, Error ellipse: s-maj=19.2km s-min=12.6km az=61.0*
*NEIC **26** 06:54:47.2±0.2, 10°.84N×94°.45E, h10km, mb4.8/7, Error ellipse: s-maj=8.2km s-min=5.5km az=52.0*
ISC 26 06:54:48.0±0.6, 10°.80N±0°.05×94°.46E±0°.06, h16km±2km, n107, σ1°$41/136, mb4.3/36, MS4.2/4, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.22**	**131**	*e*Pn	**Pn**	**06 56 48.0**	**+1.3**
	68nm,1.3s						
CMAR	**Chiang Mai Arr**	**8.77**	**29**	Pn	**Pn**	**06 56 55.5**	**+1.3**
CMAR	**Chiang Mai Arr**	**8.77**	**29**	Pn	**Pn**	**06 56 55.5**	**+1.3**
	baz=214,slow=16,SNR=4.1						
IPM	**Ipoh**	**9.04**	**133**	*e*Pn	**Pn**	**06 56 57.5**	**-0.5**
CHTO	**Chiang Mai**	**9.08**	**28**	Pn	Pn	06 56 55.2	-3.3
PALK	**Pallekele**	**14.03**	**257**	Pn	**Pn**	**06 58 06.9**	**+0.6**
SHL	**Shillong**	**14.89**	**351**	*e*P	Pn	06 58 14.0	-4.2
KMI	**Kunming**	**16.27**	**28**	P	**P**	**06 58 38.5**	**+2.2**
KMI				sP	**sP**	**06 58 42.5**	**-3.2**
KMI				PP	**PnPn**	**06 58 50.5**	**+5.1**
KMI				S	**Sn**	**07 01 38.5**	**+1.7**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KMI				pmax	pmax		
	comp=Z,300nm,4.0s						
KMI				LR	LR		
	comp=N,320nm,15.0s						
KMI				LR	LR		
	comp=E,700nm,9.4s						
KMI				LR	LR		
	comp=Z,620nm,9.4s						
QIZ	**Qiongzhong**	**16.96**	**59**	P	**Pn**	**06 58 43.5**	**-1.4**
QIZ				S	**Sn**	**07 01 53.5**	**+0.2**
QIZ				LR	LR		
	comp=Z,820nm,9.2s						
KSM	**Kuching**	**18.27**	**119**	*e*Pn	**P**	**06 59 01.9**	**+0.8**
	comp=Z,10nm,1.0s						
LSA	**Lhasa**	**19.06**	**351**	P	**P**	**06 59 10.1**	**-0.2**
	comp=Z,27nm,1.1s						
GYA	**Guiyang**	**19.38**	**35**	*e*P	**Pn**	**06 59 15.5**	**+0.9**
GYA				PP	**PnPn**	**06 59 33.3**	**+5.4**
GYA				S	**Sn**	**07 02 47.8**	**-4.1**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.6s						
GYA				LR	LR		
	comp=N,550nm,15.4s						
GYA				LR	LR		
	comp=E,490nm,16.0s						
GYA				LR	LR		
	comp=Z,520nm,15.5s						
KKM	**Kota Kinabalu**	**22.03**	**101**	P	**P**	**06 59 44.0**	**+1.7**
	comp=Z,54nm,1.3s						
NDI	**New Delhi**	**24.03**	**320**	*e*P	**P**	**07 00 02.0**	**-0.4**
NDI				*e*S	S	07 04 44.0	+25
LZH	**Lanzhou**	**26.58**	**17**	*e*P	**P**	**07 00 28.5**	**+0.1**
LZH				pP	**pP**	**07 00 28.5**	**-2.0**
LZH				sP	**sP**	**07 00 30.5**	**-1.9**
LZH				*e*S	**S**	**07 04 59.0**	**-1.0**
LZH				pmax	pmax		
	comp=Z,37nm,1.4s						
LZH				pmax	pmax		
	comp=Z,150nm,5.5s						
LZH				LR	LR		
	comp=N,560nm,11.5s						
LZH				LR	LR		
	comp=E,530nm,10.6s						
LZH				LR	LR		
	comp=Z,800nm,15.0s						
GTA	**Gaotai**	**28.89**	**9**	⇑P	**P**	**07 00 47.5**	**+1.1**
GTA				pP	**pP**	**07 00 51.8**	**+0.7**
GTA				sP	**sP**	**07 00 54.5**	**+1.4**
GTA				PcP	**PcP**	**07 03 55.5**	**0.0**
GTA				S	**S**	**07 05 36.8**	**+0.5**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,200nm,6.2s						
GTA				LR	LR		
	comp=N,360nm,16.4s						
GTA				LR	LR		
	comp=E,380nm,16.9s						
GTA				LR	LR		
	comp=Z,440nm,18.0s						
NJ2	**Nanjing**	**30.90**	**43**	*e*P	**P**	**07 01 05.3**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,30nm,0.6s						
KSH	**Kashi**	**32.99**	**333**	P	**P**	**07 01 20.5**	**-2.0**
KSH				PP	**PnPn**	**07 02 29.8**	**-2.0**
KSH				S	**S**	**07 06 35.3**	**-5.2**
KSH				PcS	**PcS**	**07 07 51.0**	**-0.8**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,79nm,6.1s						
KSH				LR	LR		
	comp=N,410nm,13.8s						
KSH				LR	LR		
	comp=E,260nm,12.3s						
KSH				LR	LR		
	comp=Z,340nm,15.5s						
WMQ	**Urumqi**	**33.42**	**351**	P	**P**	**07 01 27.3**	**+1.2**
WMQ				pP	**pP**	**07 01 31.8**	**+0.9**
WMQ				sP	**sP**	**07 01 34.3**	**+1.4**
WMQ				PP	**PnPn**	**07 02 39.0**	**+1.8**
WMQ				PcP	**PcP**	**07 04 09.5**	**+2.1**
WMQ				S	**S**	**07 06 46.8**	**-0.1**
WMQ				ScP	**ScP**	**07 07 52.0**	**+0.5**
WMQ				ScS	**ScS**	**07 11 51.3**	**-1.1**
WMQ				pmax	pmax		
	comp=Z,17nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,72nm,5.0s						
WMQ				LR	LR		
	comp=N,980nm,20.5s						
WMQ				LR	LR		
	comp=E,460nm,21.0s						
WMQ				LR	LR		
	comp=Z,200nm,24.4s						
BJI	**Beijing**	**34.92**	**30**	P	**P**	**07 01 39.5**	**+0.5**
BJI				pmax	pmax		
	comp=Z,21nm,0.4s						
BJI				pmax	pmax		
	comp=Z,100nm,4.0s						
AAK	**Ala-Archa**	**36.19**	**335**	P	**P**	**07 01 50.8**	**+0.7**
AAK	**Ala-Archa**	**36.19**	**335**	P	**P**	**07 01 50.8**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=186,slow=8.1,SNR=7.0						
MKAR	**Makanchi Array**	**37.33**	**346**	P	**P**	**07 01 59.7**	**0.0**
MKAR	**Makanchi Array**	**37.33**	**346**	P	**P**	**07 01 59.7**	**0.0**
	comp=Z,5.5nm,1.0s,baz=160,slow=7.5,SNR=12						
SONM	**Songino Array**	**38.26**	**13**	P	**P**	**07 02 08.1**	**+0.4**
SONM				PcP	**PcP**	**07 04 21.9**	**+0.2**
SONM	**Songino Array**	**38.26**	**13**	P	**P**	**07 02 08.1**	**+0.4**
	comp=Z,6.6nm,1.2s,baz=196,slow=8.0,SNR=11						
SONM				PcP	**PcP**	**07 04 21.9**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=202,slow=2.2,SNR=3.2						
KKAR	**Karatay Array**	**38.34**	**331**	*e*P	**P**	**07 02 07.3**	**-0.9**
ULN	**Ulaanbaatar**	**38.44**	**14**	*e*P	**P**	**07 02 09.5**	**+0.3**
	comp=Z,10nm,1.3s						
KSAR	**Wonju Array Be**	**40.06**	**43**	P	**P**	**07 02 22.6**	**-0.1**
KSRS	**Korea Array**	**40.10**	**43**	P	**P**	**07 02 22.6**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=226,slow=10,SNR=5.7						
KURBB	**Kurchatov Arra**	**41.82**	**345**	P	**P**	**07 02 36.6**	**-0.4**
	comp=Z,10nm,1.1s,baz=162,slow=7.9,SNR=16						
KURK	**Kurchatov**	**41.88**	**345**	P	**P**	**07 02 36.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**42.10**	**133**	PcP	**PcP**	**07 04 34.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**42.10**	**133**	PcP	**PcP**	**07 04 34.4**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=253,slow=3.8,SNR=2.6						
ZALV	**Zalesovo Beam**	**43.72**	**352**	P	**P**	**07 02 51.8**	**-0.6**
ZALV	**Zalesovo Beam**	**43.72**	**352**	P	**P**	**07 02 51.8**	**-0.6**
	comp=Z,1.7nm,0.3s,baz=174,slow=7.9,SNR=6.3						
BVAR	**Borovoye Array**	**46.35**	**340**	P	**P**	**07 03 12.7**	**-0.7**
BVAR	**Borovoye Array**	**46.35**	**340**	P	**P**	**07 03 12.7**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=128,slow=12,SNR=2.3						
USRK	**Ussuriysk Arra**	**46.40**	**37**	P	**P**	**07 03 12.8**	**-1.0**
	comp=Z,1.9nm,1.0s,baz=234,slow=6.4,SNR=5.7						
MJAR	**Matsushiro Arr**	**47.01**	**50**	P	**P**	**07 03 18.0**	**-0.8**
MJAR				PcP	**PcP**	**07 04 50.8**	**-0.2**
MJAR	**Matsushiro Arr**	**47.01**	**50**	P	**P**	**07 03 18.0**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=258,slow=6.0,SNR=4.2						
MJAR				PcP	**PcP**	**07 04 50.8**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=181,slow=2.8,SNR=2.8						
ABKAR	**Akbulak array**	**47.85**	**330**	*e*P	**P**	**07 03 25.0**	**-0.1**
RAYN	**Ar Rayn**	**48.23**	**292**	*e*P	**P**	**07 03 28.9**	**+0.4**
	comp=Z,9.8nm,1.0s						
NWAO	**Narrogin (SRO)**	**48.61**	**154**	P	**P**	**07 03 28.9**	**-2.1**
NWAO	**Narrogin (SRO)**	**48.61**	**154**	P	**P**	**07 03 28.9**	**-2.1**
	comp=Z,9.9nm,0.8s,baz=315,slow=7.4,SNR=4.6						
AKTO	**Aktyubinsk**	**49.57**	**330**	P	**P**	**07 03 38.2**	**0.0**
AKTO	**Aktyubinsk**	**49.57**	**330**	P	**P**	**07 03 38.2**	**0.0**
	comp=Z,0.6nm,0.4s,baz=127,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**49.74**	**128**	P	**P**	**07 03 39.8**	**-0.3**
WRA				PcP	**PcP**	**07 05 00.4**	**-0.6**
WRA	**Warramunga Arr**	**49.74**	**128**	P	**P**	**07 03 39.8**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=304,slow=8.5,SNR=8.5						
WRA				PcP	**PcP**	**07 05 00.4**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=318,slow=2.7,SNR=2.9						
WRAB	**Tennant Creek**	**49.75**	**128**	*e*P	**P**	**07 03 40.1**	**0.0**
	comp=Z,18nm,1.3s						
ASAR	**Alice Springs**	**51.58**	**132**	P	**P**	**07 03 53.8**	**-0.2**
ASAR	**Alice Springs**	**51.58**	**132**	P	**P**	**07 03 53.8**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=311,slow=6.8,SNR=17						
GNI	**Garni**	**52.66**	**313**	P	**P**	**07 04 03.2**	**+1.3**
GNI	**Garni**	**52.66**	**313**	P	**P**	**07 04 03.2**	**+1.3**
	comp=Z,3.3nm,0.4s,baz=112,slow=5.4,SNR=3.1						
BRTR	**Keskin Array B**	**60.80**	**310**	P	**P**	**07 04 57.8**	**-2.0**
BRTR	**Keskin Array B**	**60.80**	**310**	P	**P**	**07 04 57.8**	**-2.0**
	comp=Z,0.8nm,0.7s,baz=126,slow=6.6,SNR=4.1						
STKA	**Stephens Creek**	**61.91**	**135**	P	**P**	**07 05 06.8**	**-0.4**
STKA	**Stephens Creek**	**61.91**	**135**	P	**P**	**07 05 06.8**	**-0.4**
	comp=Z,7.0nm,0.8s,baz=310,slow=9.3,SNR=6.6						
PETK	**Petropavlovsk-**	**65.47**	**36**	P	**P**	**07 05 29.3**	**-1.1**
PETK	**Petropavlovsk-**	**65.47**	**36**	P	**P**	**07 05 29.3**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=222,slow=3.9,SNR=2.8						
ARMA	**Armidale**	**68.51**	**129**	*e*P	**P**	**07 05 50.0**	**-0.2**
	comp=Z,17nm,1.1s						
CAN	**Canberra**	**68.96**	**134**	*e*P	**P**	**07 05 53.5**	**+0.7**
	comp=Z,7.8nm,1.2s						
FINES	**FINESS Array B**	**70.30**	**332**	P	**P**	**07 05 59.6**	**-0.9**
FINES	**FINESS Array B**	**70.30**	**332**	P	**P**	**07 05 59.6**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=115,slow=13,SNR=3.8						
KECS	**Kecovo**	**71.37**	**318**	*e*P	**P**	**07 06 07.8**	**+0.4**
ARCES	**ARCESS Array B**	**72.64**	**340**	P	**P**	**07 06 14.3**	**-0.3**
ARCES	**ARCESS Array B**	**72.64**	**340**	P	**P**	**07 06 14.3**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=104,slow=3.8,SNR=5.3						
GERES	**GERESS Array B**	**75.88**	**318**	P	**P**	**07 06 33.1**	**-0.9**
GERES	**GERESS Array B**	**75.88**	**318**	P	**P**	**07 06 33.1**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=76,slow=5.6,SNR=4.3						
LPG	**La Plagne**	**80.80**	**315**	*e*P	**P**	**07 07 00.1**	**-1.4**
LPL	**La Plagne**	**80.81**	**315**	*e*P	**P**	**07 06 59.9**	**-1.6**
	comp=Z,9.2nm,0.9s						
MBDF	**Montbardon**	**80.86**	**314**	*e*P	**P**	**07 07 00.7**	**-1.0**
VIVF	**Saint-Julien-l**	**82.33**	**314**	*e*P	**P**	**07 07 07.9**	**-1.4**
TORD	**Torodi Ar. Bea**	**90.23**	**283**	P	**P**	**07 07 48.3**	**-0.4**
TORD				PP	**PP**	**07 11 26.6**	**+4.0**
TORD	**Torodi Ar. Bea**	**90.23**	**283**	P	**P**	**07 07 48.3**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=69,slow=5.2,SNR=3.9						
TORD				PP	**PP**	**07 11 26.6**	**+4.0**
	comp=Z,1.7nm,1.1s,baz=65,slow=9.9,SNR=5.1						
ILAR	**Eielson Array**	**91.94**	**22**	P	**P**	**07 07 54.8**	**-0.9**
ILAR	**Eielson Array**	**91.94**	**22**	P	**P**	**07 07 54.8**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=302,slow=4.4,SNR=6.7						
INK	**Inuvik**	**94.12**	**16**	P	**P**	**07 08 04.7**	**-0.9**
INK	**Inuvik**	**94.12**	**16**	P	**P**	**07 08 04.7**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=301,slow=10,SNR=3.9						
PPT2	**Papeete2**	**117.79**	**104**	*e*LR	LR	07 23 46.7	
	comp=Z,246nm,27.0s						
HLID	**Hailey**	**119.85**	**24**	*e*PKPdf	PKPdf	07 13 44.5	+6.3
SNOW	**Snow King Moun**	**121.31**	**21**	*e*PKPdf	**PKPdf**	**07 13 41.7**	**+0.5**
SNOW				*e*PKPdf	**PKiKP**	**07 13 41.8**	**+0.5**
REDW	**Red Top Meadow**	**121.37**	**21**	*e*PKPdf	**PKPdf**	**07 13 41.7**	**+0.5**
ELK	**Elko**	**121.84**	**26**	PKP	**PKPdf**	**07 13 42.1**	**-0.1**
ELK	**Elko**	**121.84**	**26**	PKP	**PKPdf**	**07 13 42.1**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=317,slow=1.2,SNR=3.0						
NVAR	**Mina Array Bea**	**122.26**	**30**	PKP	**PKPdf**	**07 13 43.5**	**+0.5**
NVAR	**Mina Array Bea**	**122.26**	**30**	PKP	**PKPdf**	**07 13 43.5**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=293,slow=1.9,SNR=10						
PDAR	**Pinedale Array**	**122.34**	**21**	PKP	**PKPdf**	**07 13 42.5**	**-0.7**
PDAR	**Pinedale Array**	**122.34**	**21**	PKP	**PKPdf**	**07 13 42.5**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=298,slow=0.2,SNR=8.7						
MSU	**Marysvale**	**125.00**	**25**	*e*PKPdf	**PKPdf**	**07 13 49.9**	**+1.5**
CCUT	**Cedar City**	**125.29**	**27**	*e*PKPdf	**PKPdf**	**07 13 49.9**	**+1.0**
CCUT				*e*PKPdf	**PKiKP**	**07 13 50.2**	**+0.9**
GSC	**Goldstone**	**125.44**	**31**	*e*PKPdf	PKPdf	07 13 56.4	+7.3
ANMO	**Albuquerque**	**130.38**	**23**	*e*PKPdf	**PKPdf**	**07 13 59.0**	**+0.3**
ANMO				*e*PKPdf	PKiKP	07 14 05.3	+5.8
TUC	**Tucson**	**130.81**	**28**	*e*PKPdf	**PKPdf**	**07 14 00.3**	**+0.9**
TUC				*e*PKPdf	PKiKP	07 14 07.4	+7.1
TXAR	**Lajitas Array**	**136.44**	**23**	PKP	**PKPdf**	**07 14 10.1**	**0.0**
TXAR	**Lajitas Array**	**136.44**	**23**	PKP	**PKPdf**	**07 14 10.1**	**0.0**
	comp=Z,0.5nm,0.7s,baz=120,slow=1.0,SNR=6.3						
JCT	**Junction City**	**136.73**	**18**	*e*PKPdf	**PKPdf**	**07 14 11.6**	**+1.1**
JCT				*e*PKPdf	**PKiKP**	**07 14 12.0**	**-0.3**
BDFB	**Brasilia**	**143.18**	**258**	PKP	**PKPdf**	**07 14 24.8**	**+2.2**
BDFB	**Brasilia**	**143.18**	**258**	PKP	**PKPdf**	**07 14 24.8**	**+2.2**
	comp=Z,1.1nm,0.5s,baz=125,slow=12,SNR=2.5						
PLCA	**Paso Flores**	**147.37**	**201**	PKPbc	**PKPbc**	**07 14 31.1**	**-0.4**
PLCA	**Paso Flores**	**147.37**	**201**	PKPbc	**PKPbc**	**07 14 31.1**	**-0.4**
	comp=Z,5.7nm,1.1s,baz=195,slow=6.6,SNR=3.8						
CPUP	**Villa Florida**	**149.21**	**236**	PKPbc	**PKPbc**	**07 14 36.1**	**-0.5**
CPUP	**Villa Florida**	**149.21**	**236**	PKPbc	**PKPbc**	**07 14 36.1**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=92,slow=5.0,SNR=6.0						
ROSC	**El Rosal**	**160.86**	**324**	PKPab	**PKPab**	**07 15 31.9**	**+0.7**
ROSC	**El Rosal**	**160.86**	**324**	PKPab	**PKPab**	**07 15 31.9**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=271,slow=18,SNR=3.1						
LPAZ	**La Paz**	**162.22**	**250**	PKPab	**PKPab**	**07 15 37.2**	**-0.4**
LPAZ	**La Paz**	**162.22**	**250**	PKPab	**PKPab**	**07 15 37.2**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=356,slow=4.6,SNR=1.9						

*IDC **26** 06:55:24.0±1.3, 55°.33N×166°.76E, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.5/28, mbtmp3.6/5, ML3.4/2, Error ellipse: s-maj=27.3km s-min=15.6km az=19.0*
*KRSC **26** 06:55:24.4±1.0, 55°.28N×166°.73E, h19km±21km, ML3.9*
*ISCJB **26** 06:55:26.1±0.8, 55°.25N±0°.04×166°.62E±0°.06, h26km±6km, mb3.4/3, Error ellipse: s-maj=6.8km s-min=5.7km az=174.1*
ISC 26 06:55:24.4±1.8, 55°.32N±0°.07×166°.78E±0°.06, h9km±11km, n34, σ1°$32/57, mb3.5/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.47**	**256**	*e*P	**Pg**	**06 55 33.2**	**-0.4**
BKI				*i* S	**Sg**	**06 55 39.6**	**-0.2**
SMKR	**Semkarok**	**3.24**	**295**	*e*P	**Pn**	**06 56 15.3**	**-0.2**
SMKR				*i* S	**Sn**	**06 56 52.4**	**-1.8**
BDR	**Baidarnaya**	**3.37**	**294**	*e*P	**Pn**	**06 56 17.1**	**-0.2**
BDR				*i* S	**Sn**	**06 56 54.7**	**-2.7**
SRKR	**Sorokina**	**3.42**	**295**	*e*P	**Pn**	**06 56 17.9**	**-0.1**
ZLN	**Zelenaya**	**3.45**	**284**	*e*P	**Pn**	**06 56 19.4**	**+1.0**
ZLN				*i* S	**Sn**	**06 56 58.7**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**3.50**	**283**	*e*P	**Pn**	**06 56 19.6**	**+0.5**
BZGR				*i* S	**Sn**	**06 57 00.0**	**-0.7**
CIRR	**Tsirk**	**3.50**	**286**	*e*P	**Pn**	**06 56 19.7**	**+0.6**
LGNR	**Loginova**	**3.53**	**285**	*e*P	**Pn**	**06 56 20.3**	**+0.7**
LGNR				*i* S	**Sn**	**06 57 01.8**	**+0.2**
KLY	**Klyuchi**	**3.60**	**289**	*e*P	**Pn**	**06 56 19.3**	**-1.0**
KLY				*i* S	**Sn**	**06 57 00.3**	**-2.5**
BZMR	**Bezymyannaya**	**3.62**	**282**	*e*P	**Pn**	**06 56 21.1**	**+0.4**
BZMR				*i* S	**Sn**	**06 57 02.3**	**-1.3**
BZWR	**Bezymyannyi-We**	**3.62**	**283**	*e*P	**Pn**	**06 56 21.4**	**+0.7**
BZWR				*i* S	**Sn**	**06 57 03.2**	**-0.4**
**

MJAR				PcP	PcP	07 09 34.9	-0.4	
	2.7nm,1.2s,baz=221,slow=3.5,SNR=4.2							
AKTO	Aktyubinsk	49.54	330	P	P	07 08 26.9	+5.0	
AKTO	Aktyubinsk	49.54	330	P	P	07 08 26.9	+5.0	
	0.5nm,0.3s,baz=108,slow=11,SNR=3.7							
WRA	Warramunga Arr	49.82	128	P	P	07 08 23.8	-0.7	
WRA	Warramunga Arr	49.82	128	P	P	07 08 23.8	-0.7	
	1.6nm,0.9s,baz=304,slow=8.5,SNR=7.8							
WRAB	Tennant Creek	49.82	128	eP	P	07 08 23.9	-0.5	
	15nm,1.5s							
ASAR	Alice Springs	51.65	132	P	P	07 08 37.8	-0.5	
ASAR	Alice Springs	51.65	132	P	P	07 08 37.8	-0.5	
	1.5nm,0.6s,baz=307,slow=6.6,SNR=22							
BRTR	Keskin Array B	60.73	310	P	P	07 09 42.3	-0.8	
BRTR	Keskin Array B	60.73	310	P	P	07 09 42.3	-0.8	
	0.5nm,0.6s,baz=130,slow=6.3,SNR=3.3							
STKA	Stephens Creek	61.97	135	P	P	07 09 51.5	+0.1	
STKA	Stephens Creek	61.97	135	P	P	07 09 51.5	+0.1	
	4.0nm,1.0s,baz=302,slow=9.5,SNR=3.4							
FINES	FINESS Array B	70.27	332	P	P	07 10 44.2	0.0	
FINES	FINESS Array B	70.27	332	P	P	07 10 44.2	0.0	
	2.0nm,0.9s,baz=140,slow=6.7,SNR=3.7							
ARCES	ARCESS Array B	72.64	340	P	P	07 10 59.1	+0.7	
ARCES	ARCESS Array B	72.64	340	P	P	07 10 59.1	+0.7	
	2.5nm,0.9s,baz=140,slow=2.1,SNR=4.5							
TORD	Torodi Ar. Bea	90.12	283	P	P	07 12 32.1	0.0	
TORD	Torodi Ar. Bea	90.12	283	P	P	07 12 32.1	0.0	
	0.6nm,0.8s,baz=67,slow=3.7,SNR=3.0							
INK	Inuvik	94.19	16	P	P	07 12 50.9	+1.1	
INK	Inuvik	94.19	16	P	P	07 12 50.9	+1.1	
	1.3nm,1.0s,baz=320,slow=6.1,SNR=4.1							
NVAR	Mina Array Bea	122.35	30	PKP	PKPdf	07 18 28.3	+1.2	
NVAR	Mina Array Bea	122.35	30	PKP	PKPdf	07 18 28.3	+1.2	
	0.7nm,0.7s,baz=241,slow=1.5,SNR=4.4							
PDAR	Pinedale Array	122.42	21	PKP	PKPdf	07 18 27.1	-0.1	
PDAR	Pinedale Array	122.42	21	PKP	PKPdf	07 18 27.1	-0.1	
	0.4nm,0.6s,baz=131,slow=4.5,SNR=4.2							
TXAR	Lajitas Array	136.52	23	PKP	PKPdf	07 18 54.9	+0.8	
TXAR	Lajitas Array	136.52	23	PKP	PKPdf	07 18 54.9	+0.8	
	0.7nm,1.1s,baz=49,slow=0.4,SNR=3.7							
CPUP	Villa Florida	149.09	236	PKPbc	PKPbc	07 19 19.9	-0.4	
CPUP	Villa Florida	149.09	236	PKPbc	PKPbc	07 19 19.9	-0.4	
	1.1nm,0.8s,baz=78,slow=19,SNR=2.9							

IDC 26 07:00:49.5±3.3, 10°57N×94°17E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/25, mbtmp4.0/4, Error ellipse: s-maj=136.5km s-min=24.3km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	37.49	347	P	P		07 08 05.1	+0.1
	1.4nm,0.8s,baz=160,slow=6.8,SNR=2.3							
SONM	Songino Array	38.55	13	P	P		07 08 13.5	-0.5
	2.1nm,1.1s,baz=189,slow=7.5,SNR=3.8							
WRA	Warramunga Arr	49.83	127	P	P		07 09 44.4	-0.3
	3.8nm,1.2s,baz=304,slow=8.6,SNR=3.9							
ASAR	Alice Springs	51.64	132	P	P		07 09 58.6	+0.2
	1.7nm,0.8s,baz=308,slow=6.7,SNR=5.4							

IDC 26 07:01:51.5±1.4, 10°86N×94°52E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.7/27, mbtmp3.9/7, ML2.6/1, Error ellipse: s-maj=61.5km s-min=20.1km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.68	29	Pn		Pn	07 03 58.3	-0.1
	0.0nm,0.3s,baz=217,slow=14,SNR=2.3							
CMAR				Lg		Lg	07 06 16.7	
	0.1nm,0.3s,baz=210,slow=30,SNR=3.2							
MKAR	Makanchi Array	37.29	346	P	P		07 09 04.2	-1.0
	0.9nm,0.7s,baz=161,slow=7.8,SNR=2.9							
SONM	Songino Array	38.19	13	P	P		07 09 13.4	+0.4
	4.3nm,1.0s,baz=197,slow=8.0,SNR=4.0							
KURBB	Kurchatov Arra	41.77	345	P	P		07 09 42.0	-0.5
	3.3nm,1.1s,baz=163,slow=8.1,SNR=4.3							
ZALV	Zalesovo Beam	43.67	352	P	P		07 09 58.0	0.0
	0.7nm,0.5s,baz=143,slow=8.4,SNR=2.3							
WRA	Warramunga Arr	49.73	128	P	P		07 10 45.4	-0.5
	3.7nm,1.1s,baz=303,slow=8.1,SNR=3.6							
ASAR	Alice Springs	51.58	132	P	P		07 10 59.4	-0.5
	1.1nm,0.6s,baz=308,slow=6.8,SNR=5.4							
NVAR	Mina Array Bea	122.17	30	PKP	PKPdf		07 20 49.4	+0.3
	0.2nm,0.4s,baz=257,slow=3.2,SNR=2.8							
PDAR	Pinedale Array	122.26	21	PKP	PKPdf		07 20 49.6	+0.4
	0.6nm,0.9s,baz=127,slow=5.8,SNR=2.6							
TXAR	Lajitas Array	136.36	23	PKP	PKPdf		07 21 16.3	+0.2
	0.2nm,0.8s,baz=52,slow=1.5,SNR=3.4							

IDC 26 07:03:11.4±0.7, 10°74N×94°44E, h0km, mb4.2/15, mb1 4.3/16, mb1mx4.1/28, mbtmp4.1/16, ML3.6/1, Error ellipse: s-maj=26.5km s-min=14.4km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.82	29	Pn		Pn	07 05 20.6	+0.3
	0.2nm,0.3s,baz=205,slow=15,SNR=3.3							
MKAR	Makanchi Array	37.38	346	P	P		07 10 25.9	0.0
	4.2nm,0.9s,baz=160,slow=8.4,SNR=5.4							
SONM	Songino Array	38.32	13	P	P		07 10 34.4	+0.4
	3.8nm,1.0s,baz=193,slow=9.1,SNR=7.4							
KSRS	Korea Array	40.15	43	P	P		07 10 48.1	-1.1
	1.3nm,0.9s,baz=248,slow=6.6,SNR=4.3							
KURBB	Kurchatov Arra	41.87	345	P	P		07 11 03.4	+0.2
	5.4nm,1.2s,baz=164,slow=8.2,SNR=4.1							
ZALV	Zalesovo Beam	43.77	352	P	P		07 11 17.8	-0.8
	4.7nm,0.9s,baz=169,slow=8.3,SNR=5.3							
BVAR	Borovoye Array	46.40	340	P	P		07 11 39.5	0.0
	1.3nm,0.9s,baz=133,slow=6.1,SNR=2.9							
USRK	Ussuriysk Arra	46.46	37	P	P		07 11 39.9	-0.2
	1.2nm,0.7s,baz=249,slow=3.6,SNR=4.6							
MJAR	Matsushiro Arr	47.06	50	PcP	PcP		07 13 17.2	0.0
	1.0nm,0.8s,baz=324,slow=1.8,SNR=4.8							
NWAO	Narrogin (SRO)	48.57	154	P	P		07 11 56.6	0.0
	17nm,1.0s,baz=296,slow=8.5,SNR=3.5							
WRA	Warramunga Arr	49.73	128	P	P		07 12 04.5	-1.3
	4.2nm,1.1s,baz=308,slow=7.9,SNR=4.9							
ASAR	Alice Springs	51.56	132	P	P		07 12 19.8	+0.2
	4.5nm,0.9s,baz=309,slow=7.0,SNR=9.3							
BRTR	Keskin Array B	60.81	310	P	P		07 13 24.4	-1.4
	0.9nm,0.8s,baz=142,slow=7.6,SNR=3.5							
STKA	Stephens Creek	61.89	135	P	P		07 13 32.0	-0.9
	7.0nm,1.0s,baz=320,slow=8.5,SNR=5.5							
GERES	GERESS Array B	75.91	318	P	P		07 14 59.8	-0.3
	0.7nm,0.8s,baz=95,slow=3.2,SNR=3.6							
TORD	Torodi Ar. Bea	90.23	283	PP	PP		07 19 46.4	-2.0
	0.9nm,1.0s,baz=61,slow=6.8,SNR=3.8							
ILAR	Eielson Array	92.00	22	P	P		07 16 21.2	-0.7
	0.3nm,0.8s,baz=288,slow=6.2,SNR=3.8							
INK	Inuvik	94.17	16	P	P		07 16 31.6	-0.2
	1.0nm,0.9s,baz=348,slow=1.6,SNR=3.2							
ELK	Elko	121.89	26	PKP	PKPdf		07 22 10.0	+1.6
	0.4nm,0.3s,baz=162,slow=2.2							
NVAR	Mina Array Bea	122.32	30	PKP	PKPdf		07 22 10.5	+1.2
	1.2nm,1.0s,baz=276,slow=2.8,SNR=6.2							
PDAR	Pinedale Array	122.40	21	PKP	PKPdf		07 22 09.2	-0.1
	0.8nm,0.9s,baz=62,slow=3.8,SNR=6.0							
TXAR	Lajitas Array	136.50	23	PKP	PKPdf		07 22 36.1	-0.1
	0.7nm,1.0s,baz=329,slow=0.7,SNR=5.4							
PLCA	Paso Flores	147.31	201	PKPbc	PKPbc		07 22 57.7	+0.3
	1.7nm,0.9s,baz=162,slow=7.7,SNR=2.8							
CPUP	Villa Florida	149.17	236	PKPbc	PKPbc		07 23 02.1	-0.5
	2.4nm,0.9s,baz=228,slow=5.5,SNR=5.1							

IDC 26 07:04:30.2±0.8, 10°80N×94°50E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.8/27, mbtmp3.9/10, Error ellipse: s-maj=38.2km s-min=18.1km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	37.34	346	P	P		07 11 44.1	-0.3
	2.1nm,0.8s,baz=158,slow=7.8,SNR=3.7							
KURBB	Kurchatov Arra	41.83	345	P	P		07 12 20.9	-0.7
	1.1nm,0.7s,baz=163,slow=7.8,SNR=4.1							
ZALV	Zalesovo Beam	43.73	352	P	P		07 12 37.0	-0.1
	3.2nm,0.8s,baz=179,slow=8.6,SNR=3.2							
BVAR	Borovoye Array	46.37	340	P	P		07 12 58.3	+0.2
	0.9nm,0.7s,baz=128,slow=8.1,SNR=2.9							
USRK	Ussuriysk Arra	46.37	37	P	P		07 12 58.8	+0.6
	0.8nm,0.7s,baz=224,slow=3.8,SNR=2.7							
WRA	Warramunga Arr	49.71	128	P	P		07 13 24.3	-0.2
	1.3nm,0.8s,baz=304,slow=8.8,SNR=3.5							
ASAR	Alice Springs	51.55	132	P	P		07 13 38.1	-0.2
	1.6nm,0.7s,baz=313,slow=7.0,SNR=5.8							
STKA	Stephens Creek	61.88	135	P	P		07 14 51.5	-0.2
	3.1nm,0.8s,baz=353,slow=10,SNR=3.0							
TORD	Torodi Ar. Bea	90.28	283	P	P		07 17 33.7	0.0
	0.4nm,0.7s,baz=58,slow=4.0,SNR=2.7							
ILAR	Eielson Array	91.92	22	P	P		07 17 39.2	-1.1
	0.5nm,0.9s,baz=303,slow=5.0,SNR=3.1							
NVAR	Mina Array Bea	122.24	30	PKP	PKPdf		07 23 28.0	+0.1
	0.6nm,0.8s,baz=252,slow=0.5,SNR=4.3							
PDAR	Pinedale Array	122.33	21	PKP	PKPdf		07 23 27.8	-0.2
	0.4nm,0.7s,baz=228,slow=1.1,SNR=3.3							
TXAR	Lajitas Array	136.42	23	PKP	PKPdf		07 23 54.8	-0.1
	0.2nm,0.7s,baz=45,slow=1.4,SNR=2.8							
PLCA	Paso Flores	147.39	201	PKPbc	PKPab		07 24 19.3	+1.0
	2.3nm,0.9s,baz=169,slow=10,SNR=2.9							
CPUP	Villa Florida	149.25	236	PKPbc	PKPbc		07 24 21.6	0.0
	0.6nm,0.6s,baz=162,slow=16,SNR=2.9							

IDC 26 07:06:52.6±1.6, 10°65N×94°36E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/27, mbtmp3.8/8, Error ellipse: s-maj=65.6km s-min=19.8km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	37.45	346	P	P		07 14 07.4	-0.3
	1.8nm,0.9s,baz=171,slow=8.6,SNR=4.8							
SONM	Songino Array	38.43	13	P	P		07 14 15.9	-0.2
	1.2nm,0.7s,baz=196,slow=9.8,SNR=4.6							
KURBB	Kurchatov Arra	41.93	345	P	P		07 14 44.7	-0.2
	1.6nm,1.0s,baz=164,slow=7.8,SNR=5.9							
ZALV	Zalesovo Beam	43.85	352	P	P		07 15 00.1	-0.3
	2.4nm,0.8s,baz=169,slow=8.4,SNR=3.7							
BVAR	Borovoye Array	46.46	340	P	P		07 15 21.2	0.0
	1.0nm,0.8s,baz=134,slow=6.2,SNR=3.1							
USRK	Ussuriysk Arra	46.58	37	P	P		07 15 22.3	+0.1
	0.9nm,0.7s,baz=163,slow=3.2,SNR=4.2							
WRA	Warramunga Arr	49.73	128	P	P		07 15 46.5	-0.5
	1.0nm,1.1s,baz=300,slow=8.7,SNR=2.8							
ASAR	Alice Springs	51.56	132	P	P		07 16 00.9	+0.1
	0.8nm,0.6s,baz=309,slow=6.6,SNR=5.2							
NVAR	Mina Array Bea	122.43	30	PKP	PKPdf		07 25 50.8	+0.1
	0.5nm,0.9s,baz=251,slow=5.6,SNR=2.9							

IDC 26 07:08:10.1±2.1, 10°77N×94°46E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/26, mbtmp4.0/8, Error ellipse: s-maj=103.0km s-min=18.5km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	37.36	346	P	P		07 15 24.6	+0.1
	2.3nm,0.9s,baz=170,slow=7.4,SNR=5.0							
SONM	Songino Array	38.29	13	P	P		07 15 32.8	+0.3
	1.8nm,1.0s,baz=190,slow=7.9,SNR=4.6							
KURBB	Kurchatov Arra	41.84	345	P	P		07 16 01.8	+0.1
	3.0nm,1.1s,baz=162,slow=8.1,SNR=7.0							
ZALV	Zalesovo Beam	43.75	352	P	P		07 16 16.7	-0.5
	2.4nm,0.7s,baz=178,slow=9.5,SNR=4.1							
WRA	Warramunga Arr	49.72	128	P	P		07 17 03.5	-1.0
	1.2nm,0.8s,baz=306,slow=8.2,SNR=4.2							
ASAR	Alice Springs	51.56	132	P	P		07 17 19.1	+0.7
	2.4nm,0.8s,baz=308,slow=6.4,SNR=7.8							
STKA	Stephens Creek	61.89	135	P	P		07 18 32.0	+0.3
	2.7nm,0.8s,baz=306,slow=15,SNR=3.3							
ILAR	Eielson Array	91.96	22	P	P		07 21 20.0	-0.6
	0.3nm,0.7s,baz=291,slow=4.7,SNR=3.9							
NVAR	Mina Array Bea	122.28	30	PKP	PKPdf		07 27 07.0	-0.9
	0.5nm,0.8s,baz=48,slow=1.3,SNR=2.8							
TXAR	Lajitas Array	136.46	23	PKP	PKPdf		07 27 35.6	+0.6
	0.2nm,0.7s,baz=52,slow=4.7,SNR=3.5							

IDC 26 07:08:49.2±2.8, 10°66N×94°27E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.5/25, mbtmp3.9/3, Error ellipse: s-maj=125.1km s-min=31.6km az=70.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SONM	Songino Array	38.44	13	P	P		07 16 12.2	-0.6
	0.3nm,0.4s,baz=208,slow=12,SNR=3.0							
ZALV	Zalesovo Beam	43.84	352	P	P		07 16 57.9	+0.9
	1.2nm,0.3s,baz=170,slow=8.8,SNR=4.3							
ASAR	Alice Springs	51.62	132	P	P		07 17 58.3	+0.4
	1.7nm,0.8s,baz=304,slow=7.1,SNR=4.2							
PDAR	Pinedale Array	122.54	21	PKP	PKPdf		07 27 46.4	-1.0
	0.4nm,0.9s,baz=328,slow=3.2,SNR=2.6							

IDC 26 07:09:44.5±0.6, 10°78N×94°39E, h0km, mb4.2/20, mb1 4.3/21, mb1mx4.1/32, mbtmp4.1/21, ML4.2/1, MS4.3/3, Ms1 4.3/3, ms1mx3.5/52, Error ellipse: s-maj=21.4km s-min=13.6km az=56.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.81	29	Pn		Pn	07 11 54.8	+1.5
	0.7nm,0.3s,baz=216,slow=15,SNR=5.0							
SHL	Shillong	14.89	351	eP		Pn	07 13 13.0	-3.7
AAK	Ala-Archa	36.17	335	P	P		07 16 48.9	-0.1
	1.6nm,0.3s,baz=183,slow=8.9,SNR=4.7							
MKAR	Makanchi Array	37.33	346	P	P		07 16 58.8	+0.1
	5.2nm,0.9s,baz=163,slow=7.7,SNR=7.3							
SONM	Songino Array	38.29	13	P	P		07 17 07.4	+0.6
	7.1nm,1.0s,baz=188,slow=8.1,SNR=8.3							
KSRS	Korea Array	40.15	43	P	P		07 17 21.9	-0.5
	1.1nm,0.8s,baz=237,slow=10,SNR=3.4							
KURBB	Kurchatov Arra	41.81	345	P	P		07 17 35.2	-0.6
	6.1nm,1.1s,baz=161,slow=8.0,SNR=10							
ZALV	Zalesovo Beam	43.73	352	P	P		07 17 51.8	+0.5
	7.5nm,0.9s,baz=172,slow=8.4,SNR=7.2							
BVAR	Borovoye Array	46.34	340	P	P		07 18 12.1	-0.1
	2.0nm,0.9s,baz=140,slow=7.8,SNR=4.6							
USRK	Ussuriysk Arra	46.45	37	P	P		07 18 12.2	-1.1
	2.5nm,0.8s,baz=240,slow=8.1,SNR=7.3							
MJAR	Matsushiro Arr	47.07	50	P	P		07 18 18.8	+0.5
	0.2nm,0.3s,baz=224,slow=6.8,SNR=3.6							
MJAR				PcP	PcP		07 19 50.3	-0.1
	1.9nm,0.9s,baz=248,slow=4.0,SNR=5.0							
NWAO	Narrogin (SRO)	48.63	154	P	P		07 18 30.2	0.0
	12nm,0.9s,baz=348,slow=9.3,SNR=2.9							
AKTO	Aktyubinsk	49.55	330	P	P		07 18 36.6	-0.5
	0.5nm,0.3s,baz=107,slow=15,SNR=3.0							
WRA	Warramunga Arr	49.79	128	P	P		07 18 39.4	-0.1
	3.5nm,1.1s,baz=307,slow=7.7,SNR=5.6							
ASAR	Alice Springs	51.63	132	P	P		07 18 53.0	-0.3
	3.0nm,0.8s,baz=309,slow=7.2,SNR=8.8							
GNI	Garni	52.62	313	P	P		07 19 00.6	-0.1
	3.4nm,0.3s,baz=117,slow=4.5,SNR=2.9							
BRTR	Keskin Array B	60.75	310	P	P		07 19 56.9	-1.6
	0.4nm,0.4s,baz=120,slow=8.5,SNR=3.2							
STKA	Stephens Creek	61.95	135	P	P		07 20 06.7	+0.2
	2.7nm,0.8s,baz=274,slow=9.3,SNR=3.4							
PETK	Petropavlovsk-	65.52	36	P	P		07 20 29.3	-0.4
	1.2nm,0.8s,baz=250,slow=2.9,SNR=3.5							
GERES	GERESS Array B	75.84	318	P	P		07 21 33.7	+0.8
	1.3nm,1.0s,baz=116,slow=6.7,SNR=3.5							
SPITS	Spitsbergen Ar	77.06	348	LR	LR		08 04 15.4	
	comp=Z,178nm,18.5s,baz=130,slow=42							
NOA	NORSAR Array B	77.34	330	LR	LR		08 01 15.0	
	comp=Z,136nm,19.6s,baz=100,slow=40							
TORD	Torodi Ar. Bea	90.17	283	PP	PP		07 26 19.2	-1.8
	1.9nm,1.2s,baz=60,slow=6.8,SNR=4.4							
URZ	Urewera	90.95	129	LR	LR		08 04 02.5	
	comp=Z,185nm,18.9s,baz=99,slow=36							
ILAR	Eielson Array	91.98	22	P	P		07 22 53.8	-1.2
	0.7nm,0.8s,baz=299,slow=4.3,SNR=9.0							
INK	Inuvik	94.15	16	P	P		07 23 04.1	-0.8
	3.0nm,1.1s,baz=90,slow=6.7,SNR=3.8							
ELK	Elko	121.88	26	PKP	PKPdf		07 28 42.0	+0.5
	1.2nm,0.7s,baz=239,slow=10,SNR=3.6							
NVAR	Mina Array Bea	122.31	30	PKP	PKPdf		07 28 42.1	-0.3
	0.9nm,0.8s,baz=350,slow=2.4,SNR=6.0							
PDAR	Pinedale Array	122.38	21	PKP	PKPdf		07 28 41.6	-0.8
	0.9nm,0.8s,baz=333,slow=0.3,SNR=7.1							
TXAR	Lajitas Array	136.48	23	PKP	PKPdf		07 29 10.2	+0.8
	0.9nm,1.0s,baz=188,slow=1.2,SNR=5.4							
CPUP	Villa Florida	149.15	236	PKPbc	PKPbc		07 29 35.1	-0.5
	1.5nm,0.7s,baz=114,slow=10.0,SNR=4.2							
ROSC	El Rosal	160.83	324	PKPab	PKPab		07 30 31.9	+1.7
	1.4nm,0.5s,baz=90,slow=20,SNR=2.9							

IDC ***26*** *07:12:02.6±0.6, 10°.73N×94°.34E, h0km, mb4.2/22, mb1 4.2/23, mb1mx4.2/32, mbtmp4.1/23, ML4.3/1, MS4.1/18, Ms1 4.1/18, ms1mx3.8/53, Error ellipse: s-maj=20.0km s-min=13.1km az=59.0*

ISCJB ***26*** *07:12:04.4±0.5, 10°.75N±0°.07×94°.40E±0°.08, h24km, mb4.2/25, MS4.1/16, Error ellipse: s-maj=12.2km s-min=9.0km az=153.5*

NEIC ***26*** *07:12:04.1±0.3, 10°.70N×94°.32E, h10km, mb4.7/3, Error ellipse: s-maj=8.9km s-min=6.6km az=71.0*

GCMT ***26*** *07:12:08.5±0.4, 10°.82N×94°.57E, h12km, MW5.0, Moment Tensor Solution. s22,c23; s63,c98; Moment tensor: Scale 10¹⁶Nm; Mrr-3.17±.13; Mθθ3.03±.11; Mϕϕ0.14±.14; Mrθ0.65±.40; Mϕθ1.05±.10; Mϕr1.03±.52; Best double couple: M₀3.50000×10¹⁶ NP1:ϕ₈85.00000°, δ38.00000°, λ-69.00000°. NP2:ϕ₈239.00000°, δ54.00000°, λ-106.00000°. Principal axes: T 3.5100, Plg8.0000°, Azm340.0000°; N -0.0200, Plg13.0000°, Azm248.0000°; P -3.4800, Plg75.0000°, Azm102.0000°; Data Used: IU II CN IC G.*

ISC 26 07:12:06.4±0.5, 10°75N±0°.09×94°3E±0°.1, h24km, n72, σ0°75/66, mb4.2/25, MS4.1/16, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	8.87	30	ePn		Pn	07 14 13.2	0.0
CMAR	Chiang Mai Arr	8.87	30	Pn		Pn	07 14 12.3	-0.9
CMAR	Chiang Mai Arr	8.87	30	Pn		Pn	07 14 12.3	-0.9
	0.8nm,0.3s,baz=224,slow=15,SNR=5.3							
CMAR				LR		LR	07 17 39.2	
	comp=Z,847nm,18.1s,baz=199,slow=38							
PSI	Prapat	9.12	150	LR		LR	07 18 29.4	
	comp=Z,2nm,18.1s,baz=317,slow=42							
CHTO	Chiang Mai	9.18	29	ePn		Pn	07 14 19.0	+1.6
KKM	Kota Kinabalu	22.14	100	eP		P	07 17 00.7	-0.1
	61nm,1.3s							
KAPI	Kappang	29.76	121	LR		LR	07 29 03.6	
	comp=Z,524nm,21.0s,baz=267,slow=34							
AAK	Ala-Archa	36.18	335	P		P	07 19 08.3	+1.0
AAK	Ala-Archa	36.18	335	P		P	07 19 08.3	+1.0
	1.2nm,0.3s,baz=250,slow=10,SNR=3.6							
AAK				LR		LR	07 35 29.8	
	comp=Z,582nm,20.7s,baz=144,slow=39							
MKAR	Makanchi Array	37.35	346	P		P	07 19 16.4	-0.7
MKAR	Makanchi Array	37.35	346	P		P	07 19 16.4	-0.7
	3.9nm,0.8s,baz=166,slow=8.2,SNR=6.2							
MKAR				LR		LR	07 36 10.8	
	comp=Z,288nm,20.8s,baz=170,slow=39							
SONM	Songino Array	38.34	13	P		P	07 19 25.2	-0.3
SONM	Songino Array	38.34	13	P		P	07 19 25.2	-0.3
	4.2nm,1.0s,baz=197,slow=6.0,SNR=4.6							
SONM				LR		LR	07 36 49.9	
	comp=Z,633nm,18.5s,baz=197,slow=39							
ULN	Ulaanbaatar	38.52	14	P		P	07 19 26.5	-0.6
	1.8nm,0.7s							
KSAR	Wonju Array Be	40.19	43	P		P	07 19 40.0	-0.9
KSRS	Korea Array	40.22	43	P		P	07 19 40.0	-1.1
	2.2nm,1.0s,baz=252,slow=9.1,SNR=7.1							
KSRS				LR		LR	07 37 31.6	
	comp=Z,208nm,18.9s,baz=237,slow=38							
KURBB	Kurchatov Arra	41.83	345	P		P	07 19 54.5	+0.3
	2.6nm,0.8s,baz=160,slow=7.6,SNR=5.5							
KURK	Kurchatov	41.89	345	P		P	07 19 54.5	-0.2
FITZ	Fitzroy Crossi	42.16	133	LR		LR	07 39 24.5	
	comp=Z,306nm,19.1s,baz=332,slow=39							
ZAA0	Zalesovo Array	43.75	352	eP		P	07 20 09.6	-0.2
ZALV	Zalesovo Beam	43.75	352	P		P	07 20 10.5	+0.7
ZALV	Zalesovo Beam	43.75	352	P		P	07 20 10.5	+0.7
	5.9nm,0.8s,baz=172,slow=8.2,SNR=7.8							
ZALV				LR		LR	07 40 33.3	
	comp=Z,198nm,21.7s,baz=70,slow=39							
BVAR	Borovoye

couple: M$_{w}$3.60000×10^{14} NP1:ϕ=350.00000°, δ77.00000°, λ19.00000°. NP2:ϕ=255.00000°, δ71.00000°, λ167.00000°.
*ISCJB **26** 07:12:33.4±1.1, 32°.50N±0°.06×140°.84E±0°.09, h62km±11km, mb3.6/4, Error ellipse: s-maj=13.4km s-min=9.4km az=6.4*
*JMA **26** 07:12:33.5±0.2, 32°.51N×140°.82E, h42km, M3.8*
*IDC **26** 07:12:34.9±4.6, 32°.34N×140°.61E, h76km±42km, mb3.3/4, mb1 3.6/5, mb1mx3.3/24, mbtmp3.3/5, ML3.6/1, Error ellipse: s-maj=49.5km s-min=24.3km az=91.0*

IDC 26 07:12:33.0±1.2, 32°.41N±0°.06×140°.85E±0°.09, h55km±11km, n23, σ1°.22/36, mb3.7/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**1.11**	**307**	P	**Pn**	**07 12 51.8**	**-0.5**
JHCJ				S	**Sn**	**07 13 04.6**	**-2.1**
JHJ2	**Mitsune**	**1.12**	**309**	P	**Pn**	**07 12 52.2**	**-0.3**
JHJ2				S	**Sn**	**07 13 05.8**	**-1.1**
JMY	**Miyakejima3**	**2.00**	**326**	P	**Pn**	**07 13 04.8**	**+0.3**
JMY				S	**Sn**	**07 13 27.0**	**-1.5**
BSO1	**Boso 1**	**2.25**	**3**	P	**Pn**	**07 13 06.9**	**-0.4**
BSO1				S	**Sn**	**07 13 32.8**	**-0.7**
JKO	**Kozu shima**	**2.28**	**322**	P	**Pn**	**07 13 08.8**	**+0.5**
JKO				*e*S	**Sn**	**07 13 35.2**	**-0.1**
BSO2	**Boso 2**	**2.34**	**358**	*e*S	**Sn**	**07 13 35.3**	**-0.9**
BSO3	**Boso 3**	**2.41**	**353**	P	**Pn**	**07 13 09.6**	**-0.1**
BSO3				S	**Sn**	**07 13 36.9**	**-1.0**
JIM2	**Oshima 3**	**2.59**	**333**	P	**Pn**	**07 13 12.7**	**+0.1**
JIM2				S	**Sn**	**07 13 42.0**	**-0.9**
TATJ	**Tateyama 2**	**2.74**	**343**	P	**Pn**	**07 13 15.3**	**+0.8**
TATJ				*e*S	**Sn**	**07 13 45.9**	**-0.5**
JIZS	**Izushimoda**	**2.83**	**325**	P	**Pn**	**07 13 16.6**	**+0.8**
JYO	**Yokosk**	**2.98**	**341**	*e*S	**Sn**	**07 13 52.5**	**+0.2**
JOD2	**Odawara 2**	**3.21**	**333**	P	**Pn**	**07 13 21.2**	**+0.3**
SHZ3	**Shizuoka 3**	**3.45**	**321**	P	**Pn**	**07 13 26.0**	**+1.7**
JYN	**Shimob**	**3.63**	**329**	P	**Pn**	**07 13 28.5**	**+1.7**
JHU	**Hanno**	**3.68**	**340**	P	**Pn**	**07 13 27.9**	**+0.5**
JHU				*e*S	**Sn**	**07 14 06.2**	**-3.2**
JNY	**Yasuok**	**3.85**	**321**	P	**Pn**	**07 13 31.8**	**+1.9**
JRY	**Ryogami san**	**3.95**	**336**	P	**Pn**	**07 13 32.6**	**+1.5**
JRY				*e*S	**Sn**	**07 14 15.9**	**-0.3**
MJAR	**Matsushiro Arr**	**4.67**	**333**	P	**Pn**	**07 13 42.7**	**+1.7**
	2.9nm,0.3s,baz=148,slow=12,SNR=21						
MJAR				S	**Sn**	**07 14 34.7**	**+0.8**
	1.5nm,0.3s,baz=176,slow=38,SNR=4.6						
MAT	**Matsushiro**	**4.67**	**333**	P	**Pn**	**07 13 42.9**	**+1.9**
MAT				S	**Sn**	**07 14 34.2**	**+0.3**
WRA	**Warramunga Arr**	**52.42**	**188**	P	**P**	**07 21 38.8**	**-1.3**
	0.3nm,0.4s,baz=5.1,slow=7.5,SNR=7.1						
WRA				*p*P	**pP**	**07 21 56.1**	**+1.4**
	0.2nm,0.3s,baz=6.1,slow=7.6,SNR=1.4						
ILAR	**Eielson Array**	**53.68**	**30**	P	**P**	**07 21 49.1**	**+0.2**
	0.2nm,0.7s,baz=278,slow=6.5,SNR=4.1						
FINES	**FINESS Array B**	**72.70**	**333**	P	**P**	**07 23 54.2**	**-0.6**
	2.0nm,0.9s,baz=57,slow=5.1,SNR=3.5						
TXAR	**Lajitas Array**	**93.31**	**52**	P	**P**	**07 25 43.2**	**+0.8**
	0.2nm,0.7s,baz=298,slow=4.0,SNR=2.6						

IDC 26 07:14:48.1±0.7, 10°.71N×94°.32E, h0km, mb4.1/13, mb1 4.2/14, mb1mx4.0/28, mbtmp4.0/14, ML4.2/1, Error ellipse: s-maj=28.8km s-min=15.0km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.90**	**30**	Pn	Pn	07 16 59.2	+1.0
	0.7nm,0.3s,baz=204,slow=17,SNR=5.8						
CMAR				Lg	Lg	07 19 15.2	
	0.3nm,0.3s,baz=203,slow=27,SNR=4.5						
SHL	**Shillong**	**14.96**	**351**	*e*P	P	07 18 28.0	+1.0
MKAR	**Makanchi Array**	**37.38**	**346**	P	P	07 22 02.5	-0.2
	1.2nm,0.8s,baz=165,slow=6.0,SNR=5.6						
SONM	**Songino Array**	**38.38**	**13**	P	P	07 22 11.3	+0.1
	3.3nm,1.1s,baz=195,slow=9.2,SNR=4.4						
KURBB	**Kurchatov Arra**	**41.86**	**345**	P	P	07 22 40.0	+0.1
	2.4nm,0.9s,baz=159,slow=7.9,SNR=5.9						
ZALV	**Zalesovo Beam**	**43.79**	**352**	P	P	07 22 55.5	+0.1
	2.4nm,0.8s,baz=172,slow=7.3,SNR=3.6						
BVAR	**Borovoye Array**	**46.39**	**340**	P	P	07 23 16.5	+0.3
	0.4nm,0.4s,baz=157,slow=7.8,SNR=2.6						
USRK	**Ussuriysk Arra**	**46.55**	**37**	P	P	07 23 16.9	-0.7
	1.2nm,0.8s,baz=190,slow=5.6,SNR=3.5						
MJAR	**Matsushiro Arr**	**47.16**	**50**	PcP	PcP	07 24 52.5	-1.8
	1.0nm,0.9s,baz=298,slow=3.2,SNR=4.5						
NWAO	**Narrogin (SRO)**	**48.59**	**154**	P	P	07 23 33.7	+0.1
	14nm,0.9s,baz=304,slow=3.6,SNR=3.5						
WRA	**Warramunga Arr**	**49.80**	**128**	P	P	07 23 43.3	+0.2
	2.9nm,1.0s,baz=305,slow=8.2,SNR=4.8						
ASAR	**Alice Springs**	**51.63**	**132**	P	P	07 23 57.0	+0.2
	4.3nm,1.0s,baz=310,slow=6.5,SNR=8.0						
BRTR	**Keskin Array B**	**60.75**	**310**	P	P	07 25 02.5	+0.4
	0.3nm,0.4s,baz=86,slow=4.5,SNR=2.6						
STKA	**Stephens Creek**	**61.95**	**135**	P	P	07 25 10.2	+0.1
	4.1nm,1.0s,baz=17,slow=3.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**90.12**	**283**	P	P	07 27 50.7	-0.3
	1.5nm,1.1s,baz=91,slow=5.1,SNR=4.7						
ILAR	**Eielson Array**	**92.06**	**22**	P	P	07 27 58.0	-1.1
	0.3nm,0.9s,baz=328,slow=3.2,SNR=3.2						
PDAR	**Pinedale Array**	**122.47**	**21**	PKP	PKPdf	07 33 45.5	-0.8
	1.0nm,0.9s,baz=38,slow=2.6,SNR=4.4						
TXAR	**Lajitas Array**	**136.57**	**23**	PKP	PKPdf	07 34 12.7	-0.5
	0.6nm,0.9s,baz=11,slow=1.3,SNR=3.4						
CPUP	**Villa Florida**	**149.06**	**236**	PKPbc	PKPbc	07 34 37.9	-1.2
	1.9nm,0.8s,baz=273,slow=20,SNR=3.8						

IDC 26 07:15:52.5±0.8, 10°.72N×94°.41E, h0km, mb4.0/11, mb1 4.1/12, mb1mx3.9/28, mbtmp3.9/12, Error ellipse: s-maj=27.4km s-min=17.2km az=71.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.86**	**29**	Pn	Pn	07 18 02.7	+0.8
	baz=221,slow=16,SNR=2.9						
MKAR	**Makanchi Array**	**37.40**	**346**	P	P	07 23 07.4	+0.2
	1.5nm,0.8s,baz=166,slow=8.7,SNR=2.4						
SONM	**Songino Array**	**38.35**	**13**	P	P	07 23 15.2	-0.1
	1.5nm,0.9s,baz=198,slow=9.1,SNR=3.1						
KSRS	**Korea Array**	**40.19**	**43**	P	P	07 23 30.0	-0.6
	1.0nm,0.8s,baz=219,slow=9.4,SNR=3.8						
KURBB	**Kurchatov Arra**	**41.88**	**345**	P	P	07 23 44.1	-0.3
	1.1nm,0.8s,baz=163,slow=6.9,SNR=2.9						
BVAR	**Borovoye Array**	**46.41**	**340**	P	P	07 24 20.0	-0.8
	0.6nm,0.4s,baz=123,slow=10,SNR=3.6						
USRK	**Ussuriysk Arra**	**46.49**	**37**	P	P	07 24 21.3	-0.2
	1.1nm,0.8s,baz=226,slow=5.4,SNR=3.6						
WRA	**Warramunga Arr**	**49.73**	**128**	P	P	07 24 46.9	-0.1
	1.9nm,0.7s,baz=303,slow=8.9,SNR=7.7						
ASAR	**Alice Springs**	**51.56**	**132**	P	P	07 25 00.7	-0.1
	3.2nm,0.7s,baz=312,slow=6.8,SNR=9.9						
STKA	**Stephens Creek**	**61.89**	**135**	P	P	07 26 13.5	-0.5
	2.6nm,0.7s,baz=333,slow=6.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**90.21**	**283**	P	P	07 28 55.7	0.0
	0.5nm,0.7s,baz=72,slow=4.6,SNR=2.4						
ILAR	**Eielson Array**	**92.03**	**22**	P	P	07 29 03.0	-0.2
	0.7nm,0.8s,baz=308,slow=4.9,SNR=4.7						
NVAR	**Mina Array Bea**	**122.35**	**30**	PKP	PKPdf	07 34 51.2	+0.8
	0.5nm,0.8s,baz=350,slow=2.7,SNR=1.6						
PDAR	**Pinedale Array**	**122.43**	**21**	PKP	PKPdf	07 34 49.7	-0.8
	0.5nm,0.8s,baz=46,slow=4.3,SNR=4.9						
TXAR	**Lajitas Array**	**136.53**	**23**	PKP	PKPdf	07 35 17.2	-0.2
	0.5nm,0.8s,baz=183,slow=1.0,SNR=4.6						
PLCA	**Paso Flores**	**147.28**	**201**	PKPbc	PKPbc	07 35 38.2	-0.2
	4.0nm,1.0s,baz=159,slow=8.5,SNR=3.5						
CPUP	**Villa Florida**	**149.13**	**236**	PKPbc	PKPbc	07 35 42.7	-0.9
	1.8nm,0.9s,baz=50,slow=18,SNR=3.3						

*IDC **26** 07:16:16.5±1.1, 34°.12N×25°.57E, h0km, mb3.7/8, mb1 3.8/11, mb1mx3.7/28, mbtmp3.7/11, ML4.0/3, MS4.0/2, Ms1 4.0/2, ms1mx2.9/52, Error ellipse: s-maj=27.3km s-min=18.8km az=175.0*
*ISCJB **26** 07:16:17.5±1.1, 33°.91N±0°.02×25°.73E±0°.04, h20km±10km, mb3.6/8, MS4.1/2, Error ellipse: s-maj=5.1km s-min=4.1km az=174.7*
*CSEM **26** 07:16:18.1±0.2, 33°.95N×25°.68E, h10km, MD3.4, Error ellipse: s-maj=5.5km s-min=3.9km az=60.0*
*HLW **26** 07:16:18.2, 34°.10N×25°.70E, h31km±27km, Md3.6, Ml3.4*
*ATH **26** 07:16:19.9, 34°.11N×25°.61E, h22km±2km, MD3.4/11*
*THE **26** 07:16:24.6, 34°.38N×25°.55E, h7km±1km, ML2.9/1, Error ellipse: s-maj=1.9km s-min=0.7km az=175.0*

ISC 26 07:16:18.2±1.5, 33°.99N±0°.03×25°.63E±0°.03, h16km±10km, n81, σ1°19/98, mb3.6/8, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.88**	**4**	*e*PN	**Pb**	**07 16 34.6**	**-0.6**
LAST	**Lasithi**	**1.17**	**354**	P	**Pn**	**07 16 39.9**	**-0.2**
LAST	**Lasithi**	**1.17**	**354**	*e*PN	**Pn**	**07 16 39.8**	**-0.3**
LAST	**Lasithi**	**1.17**	**354**	P	**Pn**	**07 16 39.9**	**-0.2**
ZKR	**Zakros**	**1.22**	**23**	P	**Pg**	**07 16 41.5**	**-0.3**
ZKR				S	**Sb**	**07 16 55.6**	**-0.9**
ZKR	**Zakros**	**1.22**	**23**	*e*PN	**Pb**	**07 16 40.9**	**0.0**
ZKR				*e*SN	**Sn**	**07 16 56.7**	**-0.2**
ZKR	**Zakros**	**1.22**	**23**	*e*Pn	**Pb**	**07 16 40.9**	**0.0**
ZKR	**Zakros**	**1.22**	**23**	P	**Pg**	**07 16 41.5**	**-0.3**
ZKR				S	**Sb**	**07 16 55.6**	**-0.9**
ZKR				*e*Sn	**Sn**	**07 16 56.7**	**-0.2**
SIVA	**Sivas**	**1.23**	**327**	P	**Pg**	**07 16 41.6**	**-0.3**
SIVA				S	**Sb**	**07 16 54.1**	**-2.5**
SIVA	**Sivas**	**1.23**	**327**	*e*PN	**Pg**	**07 16 41.6**	**-0.3**
SIVA	**Sivas**	**1.23**	**327**	P	**Pg**	**07 16 41.6**	**-0.3**
SIVA				S	**Sb**	**07 16 54.1**	**-2.5**
NPS	**Neapolis**	**1.27**	**359**	P	**Pn**	**07 16 41.2**	**-0.1**
NPS	**Neapolis**	**1.27**	**359**	*e*PN	**Pn**	**07 16 41.0**	**-0.3**
NPS	**Neapolis**	**1.27**	**359**	P	**Pn**	**07 16 41.2**	**-0.1**
IDI	**Anoyia**	**1.43**	**335**	P	**Pb**	**07 16 44.2**	**-0.3**
IDI	**Anoyia**	**1.43**	**335**	*e*PN	**Pb**	**07 16 45.1**	**+0.6**
IDI	**Anoyia**	**1.43**	**335**	P	**Pb**	**07 16 44.2**	**-0.3**
IDI	**Anoyia**	**1.43**	**335**	*e*Pn	**Pb**	**07 16 45.1**	**+0.6**
GVD	**Gavdhos**	**1.53**	**304**	*e*PN	**Pb**	**07 16 46.5**	**+0.3**
GVD	**Gavdhos**	**1.53**	**304**	*e*Pn	**Pb**	**07 16 46.5**	**+0.3**
VAM	**Vamos**	**1.84**	**321**	P	**Pb**	**07 16 50.6**	**-0.9**
VAM	**Vamos**	**1.84**	**321**	*e*PN	**Pb**	**07 16 51.1**	**-0.4**
VAM	**Vamos**	**1.84**	**321**	P	**Pb**	**07 16 50.6**	**-0.9**
VAM	**Vamos**	**1.84**	**321**	*e*Pn	**Pb**	**07 16 51.1**	**-0.4**
KARN	**Karanos**	**1.99**	**315**	P	**Pb**	**07 16 53.0**	**-1.1**
KARN	**Karanos**	**1.99**	**315**	*e*PN	**Pb**	**07 16 53.1**	**-1.1**
KARN	**Karanos**	**1.99**	**315**	P	**Pb**	**07 16 53.0**	**-1.1**
KARP	**Karpathos**	**2.00**	**39**	P	**Pb**	**07 16 54.3**	**+0.1**
KARP				S	**Sn**	**07 17 16.9**	**+0.8**
KARP	**Karpathos**	**2.00**	**39**	*e*PN	**Pb**	**07 16 53.6**	**-0.6**
KARP	**Karpathos**	**2.00**	**39**	*e*Pn	**Pb**	**07 16 53.6**	**-0.6**
KARP	**Karpathos**	**2.00**	**39**	P	**Pb**	**07 16 54.3**	**+0.1**
KARP				S	**Sn**	**07 17 16.9**	**+0.8**
SLUM	**2.52**	**188**	S	**Sn**	**07 17 28.6**	**-0.3**	
	baz=190						
SLUM	**2.52**	**188**	P	**Pn**	**07 16 58.3**	**-0.2**	
SLUM				S	**Sn**	**07 17 28.6**	**-0.3**
ANKY	**Antikythira Is**	**2.67**	**315**	P	**Pn**	**07 17 02.8**	**+2.1**
ANKY	**Antikythira Is**	**2.67**	**315**	*e*PN	**Pn**	**07 17 02.5**	**+1.9**
ANKY	**Antikythira Is**	**2.67**	**315**	*e*Pn	**Pn**	**07 17 02.5**	**+1.9**
ANKY	**Antikythira Is**	**2.67**	**315**	P	**Pn**	**07 17 02.8**	**+2.1**
ARG	**Arkhangelos**	**3.02**	**42**	*e*PN	**Pn**	**07 17 08.1**	**+2.7**
ARG	**Arkhangelos**	**3.02**	**42**	*e*Pn	**Pn**	**07 17 08.1**	**+2.7**
VLI	**Veliai**	**3.50**	**322**	P	**Pn**	**07 17 13.4**	**+1.4**
VLI				S	**Sn**	**07 17 52.0**	**-1.0**
VLI	**Veliai**	**3.50**	**322**	P	**Pn**	**07 17 13.4**	**+1.4**
VLI				S	**Sn**	**07 17 52.0**	**-1.0**
TURN	**Turunc**	**3.76**	**39**	*i* P	**Pn**	**07 17 14.7**	**-0.9**
TURN	**Turunc**	**3.76**	**39**	*i* P	**Pn**	**07 17 14.7**	**-0.9**
AKAS	**Kas**	**3.95**	**54**	*i* P	**Pn**	**07 17 18.7**	**+0.3**
AKAS				*i* S	**Sn**	**07 18 05.7**	**+1.2**
AKAS	**Kas**	**3.95**	**54**	*i* P	**Pn**	**07 17 18.7**	**+0.3**
AKAS				*i* S	**Sn**	**07 18 05.7**	**+1.2**
GOLH	**Golhisar**	**4.55**	**44**	*i* P	**Pn**	**07 17 27.0**	**+0.4**
GOLH				*i* S	**Sn**	**07 18 17.8**	**-1.5**
GOLH	**Golhisar**	**4.55**	**44**	*i* P	**Pn**	**07 17 27.0**	**+0.4**
GOLH				*i* S	**Sn**	**07 18 17.7**	**-1.5**
DNZL	**Cakiroluk**	**4.62**	**36**	*i* P	Pn	07 17 31.7	+4.2
DNZL	**Cakiroluk**	**4.62**	**36**	*i* P	**Pn**	07 17 31.7	+4.2
SWA2	**4.74**	**182**	P	**Pn**	**07 17 28.7**	**-0.3**	
	baz=183						
SWA2				AMP		07 18 00.0	
	comp=N,80μm,0.5s,logA/T=5.2,baz=183						
SWA2				S	**Sn**	**07 18 22.4**	**-1.2**
	baz=183						
SWA2	**4.74**	**182**	P	**Pn**	**07 17 28.7**	**-0.3**	
SWA2				S	**Sn**	**07 18 22.4**	**-1.2**
GAZI	**Gazipasa**	**5.92**	**66**	*i* P	**Pn**	**07 17 45.9**	**+0.6**
GAZI				*i* S	**Sn**	**07 18 49.3**	**-3.5**
GAZI	**Gazipasa**	**5.92**	**66**	*i* P	**Pn**	**07 17 45.9**	**+0.6**
GAZI				*i* S	**Sn**	**07 18 49.3**	**-3.5**
GLL	**Jalalah**	**6.79**	**129**	P	**Pn**	**07 17 57.0**	**-0.3**
	baz=129						
GLL	**Jalalah**	**6.79**	**129**	P	**Pn**	**07 17 57.0**	**-0.3**
HFRF	**Wahat Farafira**	**7.20**	**161**	P	**Pn**	**07 18 02.5**	**-0.4**
	baz=161						
HFRF	**Wahat Farafira**	**7.20**	**161**	P	**Pn**	**07 18 02.5**	**-0.4**
AMAG	**Maghara**	**7.23**	**115**	P	**Pn**	**07 18 01.9**	**-1.5**
	baz=116						
AMAG	**Maghara**	**7.23**	**115**	P	**Pn**	**07 18 01.9**	**-1.5**
HNKL	**Nakhl**	**8.17**	**117**	P	**Pn**	**07 18 15.1**	**-1.1**
	baz=118						
HNKL	**Nakhl**	**8.17**	**117**	P	**Pn**	**07 18 15.1**	**-1.1**
MMAI	**Mount Meron Ar**	**8.22**	**94**	Pn	**Pn**	**07 18 17.3**	**+0.3**
	comp=N,3.1nm,0.3s,baz=282,slow=15,SNR=3.6						
MMAI				Sn	**Sn**	**07 19 50.4**	**+0.9**
	comp=N,2.3nm,0.3s,baz=276,slow=39,SNR=3.2						
GRB	**Gharib**	**8.38**	**131**	P	**Pn**	**07 18 18.7**	**-0.3**
	baz=131						
GRB	**Gharib**	**8.38**	**131**	P	**Pn**	**07 18 18.7**	**-0.3**
DSI	**Dead Sea**	**8.56**	**104**	Pn	**Pn**	**07 18 21.8**	**+0.3**
BRTR	**Keskin Array B**	**8.60**	**46**	Pn	**Pn**	**07 18 24.8**	**+2.6**
	comp=N,0.2nm,0.3s,baz=217,slow=12,SNR=4.0						
PRNI	**Paran**	**8.74**	**112**	Pn	**Pn**	**07 18 23.8**	**-0.2**
HRFI	**Mount Harif**	**8.91**	**114**	Pn	**Pn**	**07 18 27.3**	**+1.0**
MBRI	**Mt Berech**	**8.93**	**115**	Pn	**Pn**	**07 18 26.7**	**0.0**
EIL	**Elat**	**9.03**	**116**	Pn	**Pn**	**07 18 28.3**	**+0.4**
	comp=N,0.9nm,0.3s,baz=315,slow=12,SNR=8.6						
EIL				Sn	**Sn**	**07 20 05.8**	**-3.4**
	comp=N,0.8nm,0.3s,baz=73,slow=18,SNR=2.8						
GERES	**GERESS Array B**	**17.29**	**333**	P	**Pn**	**07 20 18.0**	**-1.0**
	comp=N,0.2nm,0.3s,baz=150,slow=12,SNR=12						
ESDC	**Sonseca Array**	**24.29**	**292**	P	**P**	**07 21 34.4**	**-0.5**
	comp=N,0.3nm,0.5s,baz=80,slow=9.2,SNR=4.3						
FINES	**FINESS Array B**	**27.47**	**0**	P	**P**	**07 22 01.8**	**-1.5**
	comp=N,1.4nm,0.7s,baz=165,slow=12,SNR=3.8						
TORD	**Torodi Ar. Bea**	**30.06**	**232**	P	**P**	**07 22 28.0**	**+1.2**
	comp=N,0.5nm,0.6s,baz=38,slow=8.9,SNR=3.0						
KURBB	**Kurchatov Arra**	**41.56**	**50**	P	**P**	**07 24 05.9**	**+0.9**
	comp=N,0.5nm,0.4s,baz=289,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**44.10**	**56**	P	**P**	**07 24 26.3**	**+0.6**
	comp=N,0.5nm,0.6s,baz=272,slow=6.5,SNR=3.3						
ZALV	**Zalesovo Beam**	**45.54**	**45**	P	**P**	**07 24 37.1**	**+0.1**
	comp=N,1.0nm,0.5s,baz=274,slow=8.0,SNR=2.3						
LBTB	**Lobatse**	**58.68**	**180**	LR	LR	07 52 08.9	
	comp=N,160nm,19.0s,baz=258,slow=38						
BOSA	**Boshof**	**62.27**	**180**	LR	LR	07 56 19.0	
	comp=N,160nm,19.0s,baz=258,slow=38						
SCHQ	**Schefferville**	**64.33**	**320**	P	**P**	**07 26 52.9**	**0.0**
	comp=N,3.2nm,0.8s,baz=31,slow=4.3,SNR=8.3						
ILAR	**Eielson Array**	**81.39**	**357**	P	**P**	**07 28 34.6**	**+0.8**
	comp=N,0.3nm,0.9s,baz=342,slow=4.9,SNR=3.5						

IDC 26 07:17:28.5±1.2, 10°.78N×94°.54E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.7/26, mbtmp3.9/7, Error ellipse: s-maj=49.6km s-min=19.7km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.37**	**346**	P	P	07 25 39.7	-0.2
	1.3nm,0.7s,baz=179,slow=8.8,SNR=5.4						
SONM	**Songino Array**	**38.26**	**13**	P	P	07 25 48.0	+0.5
	1.1nm,0.8s,baz=187,slow=8.1,SNR=4.0						
KURBB	**Kurchatov Arra**	**41.86**	**345**	P	P	07 26 16.8	-0.3
	1.1nm,0.9s,baz=160,slow=7.5,SNR=4.6						
ZALV	**Zalesovo Beam**	**43.75**	**352**	P	P	07 26 32.5	0.0
	2.0nm,0.8s,baz=176,slow=8.4,SNR=4.7						
USRK	**Ussuriysk Arra**	**46.37**	**37**	P	P	07 26 53.2	-0.3
	1.0nm,0.8s,baz=235,slow=5.1,SNR=3.1						
WRA	**Warramunga Arr**	**49.67**	**128**	P	P	07 27 19.3	-0.1
	1.5nm,0.9s,baz=303,slow=6.6,SNR=3.3						
ASAR	**Alice Springs**	**51.51**	**132**	P	P	07 27 33.2	-0.1
	1.5nm,0.7s,baz=307,slow=6.5,SNR=5.8						
PDAR	**Pinedale Array**	**122.33**	**21**	PKP	PKPdf	07 37 22.4	-0.8
	0.3nm,0.6s,baz=64,slow=2.1,SNR=3.7						
TXAR	**Lajitas Array**	**136.43**	**23**	PKP	PKPdf	07 37 49.0	-1.2
	0.4nm,1.0s,baz=207,slow=1.6,SNR=3.2						
PLCA	**Paso Flores**	**147.38**	**201**	PKPbc	PKPbc	07 38 11.6	-0.1
	4.4nm,1.1s,baz=322,slow=4.6,SNR=3.3						

IDC 26 07:19:23.3±3.8, 11°.03N×94°.85E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/26, mbtmp3.7/6, Error ellipse: s-maj=209.5km s-min=21.0km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.21**	**346**	P	P	07 26 36.4	0.0
	0.5nm,0.4s,baz=138,slow=8.8,SNR=7.8						
KURBB	**Kurchatov Arra**	**41.70**	**344**	P	P	07 27 13.4	-0.4
	1.0nm,1.0s,baz=164,slow=7.3,SNR=4.0						
ZALV	**Zalesovo Beam**	**43.55**	**351**	P	P	07 27 28.8	-0.1
	1.5nm,0.8s,baz=157,slow=7.8,SNR=3.7						
WRA	**Warramunga Arr**	**49.58**	**128**	P	P	07 28 16.6	0.0
	1.6nm,1.1s,baz=303,slow=8.6,SNR=4.0						
ASAR	**Alice Springs**	**51.45**	**132**	P	P	07 28 30.4	-0.3
	1.6nm,1.0s,baz=301,slow=7.2,SNR=4.1						
ILAR	**Eielson Array**	**91.58**	**22**	P	P	07 32 31.8	-0.1
	0.3nm,0.9s,baz=283,slow=5.5,SNR=2.8						
NVAR	**Mina Array Bea**	**121.87**	**30**	PKP	PKPdf	07 38 20.3	-0.1
	0.3nm,0.7s,baz=224,slow=3.8,SNR=2.7						

IDC 26 07:22:06.3±2.7, 10°.78N×94°.44E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/26, mbtmp3.4/4, MS3.8/1, Ms1 4.0/1, ms1mx3.2/38, Error ellipse: s-maj=113.0km s-min=26.1km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.79**	**29**	LR	LR	07 28 19.4	
	comp=Z,577nm,18.2s,baz=39,slow=42						
MKAR	**Makanchi Array**	**37.35**	**346**	P	P	07 29 21.0	+0.4
	0.7nm,0.9s,baz=141,slow=7.4,SNR=3.4						
SONM	**Songino Array**	**38.28**	**13**	P	P	07 29 28.6	-0.1
	0.4nm,0.5s,baz=181,slow=12,SNR=2.9						
KURBB	**Kurchatov Arra**	**41.83**	**345**	P	P	07 29 57.2	-0.7
	0.4nm,0.8s,baz=161,slow=8.5,SNR=2.7						
ASAR	**Alice Springs**	**51.58**	**132**	P	P	07 31 14.7	-0.1
	0.3nm,0.6s,baz=309,slow=7.5,SNR=3.7						

IDC 26 07:22:33.3±0.6, 10°.73N×94°.32E, h0km, mb4.2/19, mb1 4.3/20, mb1mx4.1/30, mbtmp4.1/20, ML4.0/1, MS4.2/1, Ms1 4.2/1, ms1mx3.0/50, Error ellipse: s-maj=21.4km s-min=13.0km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.89**	**30**	Pn	Pn	07 24 43.6	+0.5
	0.5nm,0.3s,baz=218,slow=14,SNR=6.3						
MKAR	**Makanchi Array**	**37.37**	**346**	P	P	07 29 47.5	-0.3
	3.8nm,1.0s,baz=160,slow=7.4,SNR=12						
SONM	**Songino Array**	**38.36**	**13**	P	P	07 29 56.7	+0.4
	5.3nm,1.1s,baz=194,slow=8.3,SNR=19						
SONM				PcP	PcP	07 32 09.4	-0.6
	0.7nm,0.8s,baz=185,slow=5.4,SNR=2.8	

0.9nm,0.7s,baz=232,slow=7.1,SNR=3.6
WRA Warramunga Arr 49.74 128 P P 07 37 55.0 -0.9
2.0nm,0.9s,baz=304,slow=8.4,SNR=7.2
ASAR Alice Springs 51.57 132 P P 07 38 09.6 -0.1
2.2nm,0.8s,baz=309,slow=6.9,SNR=12
STKA Stephens Creek 61.90 135 P P 07 39 23.4 +0.5
3.6nm,1.0s,baz=328,slow=13,SNR=2.4
ILAR Eielson Array 91.97 22 P P 07 42 11.3 -0.4
0.2nm,0.6s,baz=304,slow=4.6,SNR=3.8
NVAR Mina Array Bea 122.29 30 PKP PKPdf 07 47 59.4 +0.2
0.1nm,0.3s,baz=351,slow=3.9,SNR=3.0
PDAR Pinedale Array 122.37 21 PKP PKPdf 07 47 58.5 -0.7
0.6nm,0.9s,baz=266,slow=3.9,SNR=4.8
TXAR Lajitas Array 136.47 23 PKP PKPdf 07 48 26.9 +0.7
0.3nm,0.9s,baz=270,slow=0.4,SNR=3.5

IDC 26 07:29:22.6±2.0, 10°.52N×94°.08E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.5/26, mbtmp3.7/5, ML4.0/1, Error ellipse: s-maj=73.3km s-min=22.3km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.19**	**30**	Pn	Pn	07 31 37.0	+0.5
	0.4nm,0.3s,baz=211,slow=19,SNR=2.7						
MKAR	**Makanchi Array**	**37.51**	**347**	P	P	07 36 38.5	+0.3
	1.3nm,1.0s,baz=160,slow=9.7,SNR=3.2						
ZALV	**Zalesovo Beam**	**43.94**	**352**	P	P	07 37 30.3	-0.9
	1.1nm,0.7s,baz=178,slow=7.2,SNR=2.5						
WRA	**Warramunga Arr**	**49.87**	**127**	P	P	07 38 18.1	0.0
	0.9nm,0.9s,baz=305,slow=9.0,SNR=3.0						
ASAR	**Alice Springs**	**51.68**	**132**	P	P	07 38 31.8	+0.1
	0.9nm,0.7s,baz=307,slow=6.2,SNR=5.0						

IDC 26 07:33:06.1±1.1, 10°.63N×94°.42E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.8/28, mbtmp4.0/10, ML3.9/1, Error ellipse: s-maj=40.9km s-min=18.4km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.93**	**29**	Pn	Pn	07 35 17.7	+1.2
	0.3nm,0.3s,baz=217,slow=13,SNR=7.3						
AAK	**Ala-Archa**	**36.32**	**335**	P	P	07 40 12.5	+0.7
	1.4nm,0.3s,baz=240,slow=18,SNR=3.6						
MKAR	**Makanchi Array**	**37.48**	**346**	P	P	07 40 20.8	-0.7
	1.9nm,0.9s,baz=161,slow=9.0,SNR=9.8						
SONM	**Songino Array**	**38.43**	**13**	P	P	07 40 30.0	+0.3
	1.7nm,0.9s,baz=191,slow=9.6,SNR=9.6						
KURBB	**Kurchatov Arra**	**41.96**	**345**	P	P	07 40 58.3	-0.4
	1.8nm,0.9s,baz=163,slow=7.7,SNR=7.8						
ZALV	**Zalesovo Beam**	**43.88**	**352**	P	P	07 41 14.1	-0.1
	2.7nm,0.8s,baz=170,slow=9.9,SNR=7.6						
USRK	**Ussuriysk Arra**	**46.55**	**37**	P	P	07 41 35.5	-0.1
	1.1nm,0.8s,baz=273,slow=3.6,SNR=4.8						
WRA	**Warramunga Arr**	**49.68**	**128**	P	P	07 41 59.2	-1.0
	1.8nm,0.9s,baz=305,slow=8.9,SNR=5.6						
ASAR	**Alice Springs**	**51.51**	**132**	P	P	07 42 14.5	+0.5
	2.2nm,0.9s,baz=311,slow=7.2,SNR=9.9						
ILAR	**Eielson Array**	**92.10**	**22**	P	P	07 46 15.3	-1.9
	0.3nm,0.9s,baz=300,slow=3.6,SNR=4.0						
NVAR	**Mina Array Bea**	**122.42**	**30**	PKP	PKPdf	07 52 04.8	+0.5
	0.9nm,1.0s,baz=49,slow=2.2,SNR=4.0						
PDAR	**Pinedale Array**	**122.51**	**21**	PKP	PKPdf	07 52 04.2	-0.1
	0.4nm,0.8s,baz=318,slow=6.0,SNR=3.7						
TXAR	**Lajitas Array**	**136.60**	**23**	PKP	PKPdf	07 52 32.3	+1.0
	0.2nm,0.6s,baz=132,slow=1.9,SNR=3.4						
CFAA	**Coronel Fontan**	**153.67**	**215**	PKPbc	PKPbc	07 53 07.8	+0.1
	0.2nm,0.8s,baz=142,slow=12,SNR=3.6						

IDC 26 07:35:18.7±3.3, 13°.87S×166°.73E, h87km±27km, mb3.6/12, mb1 3.8/14, mb1mx3.7/23, mbtmp3.7/14, Error ellipse: s-maj=27.6km s-min=14.9km az=86.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.97**	**303**	P	Pn	07 37 10.8	-1.0
	14nm,0.3s,baz=209,slow=10,SNR=3.0						
HNR				S	Sn	07 38 32.5	-8.0
	2.4nm,0.3s,baz=187,slow=19,SNR=2.1						
DZM	**Mont Dzumac**	**8.16**	**182**	P	Pn	07 37 14.7	+0.1
	2.0nm,0.3s,baz=336,slow=11,SNR=12						
DZM				S	Sn	07 38 43.4	-2.0
	baz=270,slow=20,SNR=1.7						
CTA	**Charters Tower**	**20.53**	**250**	P	Pn	07 39 54.3	+1.1
	3.8nm,0.9s,baz=59,slow=5.9,SNR=3.3						
STKA	**Stephens Creek**	**29.16**	**228**	P	P	07 41 13.3	+1.5
	2.2nm,0.5s,baz=69,slow=3.9,SNR=6.7						
WRA	**Warramunga Arr**	**31.54**	**254**	P	P	07 41 32.3	-0.6
	0.6nm,0.8s,baz=83,slow=8.7,SNR=5.0						
ASAR	**Alice Springs**	**32.50**	**248**	P	P	07 41 40.7	-0.7
	1.4nm,0.5s,baz=74,slow=9.5,SNR=33						
ASAR				PcP	PcP	07 44 26.6	0.0
	0.4nm,0.7s,baz=77,slow=2.1,SNR=4.1						
MJAR	**Matsushiro Arr**	**56.90**	**333**	P	P	07 44 54.0	-0.8
	1.6nm,0.6s,baz=171,slow=8.6,SNR=7.2						
KSRS	**Korea Array**	**62.74**	**326**	P	P	07 45 35.3	+0.6
	1.0nm,0.7s,baz=138,slow=7.2,SNR=3.8						
VNDA	**Vanda**	**63.71**	**161**	P	P	07 45 41.6	+1.0
	0.6nm,0.8s,baz=22,slow=6.3,SNR=5.0						
USRK	**Ussuriysk Arra**	**65.88**	**333**	P	P	07 45 55.5	+0.4
	0.9nm,0.6s,baz=104,slow=4.5,SNR=5.2						
PETK	**Petropavlovsk-**	**67.15**	**354**	P	P	07 46 04.0	+1.0
	1.0nm,0.7s,baz=145,slow=5.7,SNR=4.7						
QSPA	**South Pole Qui**	**76.15**	**180**	P	P	07 46 56.7	-0.4
	1.4nm,1.0s,baz=314,slow=1.2,SNR=6.8						
SONM	**Songino Array**	**81.50**	**324**	P	P	07 47 27.6	+0.9
	0.4nm,0.4s,baz=119,slow=5.1,SNR=3.3						
ILAR	**Eielson Array**	**85.87**	**18**	P	P	07 47 48.0	-0.4
	0.6nm,0.5s,baz=242,slow=5.0,SNR=26						
ILAR				pP	pP	07 48 13.2	+1.6
	0.5nm,0.7s,baz=243,slow=5.7,SNR=3.1						
SNAA	**Sanae**	**94.37**	**183**	P	P	07 48 27.2	-1.2
	0.3nm,0.8s,baz=228,slow=9.4,SNR=5.1						
ARCES	**ARCESS Array B**	**119.29**	**345**	PKP	PKPdf	07 53 56.7	-0.6
	1.7nm,0.8s,baz=48,slow=1.8,SNR=3.9						
FINES	**FINESS Array B**	**124.73**	**338**	PKP	PKPdf	07 54 07.8	-0.1
	3.0nm,0.9s,baz=146,slow=2.7,SNR=3.6						
KEST	**Kesra**	**150.22**	**321**	PKPbc	PKPbc	07 54 58.1	-2.1
	1.2nm,0.7s,baz=90,slow=6.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**165.43**	**269**	PKP	PKPdf	07 55 13.7	-0.3
	0.3nm,0.8s,baz=0.6,slow=2.1,SNR=2.3						

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*BJI **26** 07:40:07.5, 10°.39N×94°.28E, h5km, mB5.1/31, mb4.5/38, Ms4.7/39, Ms7 4.4/38*

*IDC **26** 07:40:11.7±0.4, 10°.77N×94°.30E, h0km, mb4.2/28, mb1 4.3/30, mb1mx4.2/37, mbtmp4.2/30, ML3.8/2, MS4.3/33, Ms1 4.3/33, ms1mx4.2/49, Error ellipse: s-maj=16.8km s-min=10.9km az=62.0*

*ISCJB **26** 07:40:12.7±0.9, 10°.69N±0°.03×94°.31E±0°.03, h20km±7km, mb4.5/59, MS4.4/48, Error ellipse: s-maj=6.4km s-min=4.9km az=41.9*

*NEIC **26** 07:40:13.2±0.2, 10°.75N×94°.29E, h10km, mb4.9/9, Error ellipse: s-maj=6.8km s-min=3.9km az=58.0*

*MOS **26** 07:40:14.7±1.0, 10°.80N×94°.38E, h33km, mb5.1/12, MS4.7/5, Error ellipse: s-maj=11.9km s-min=6.3km az=101.8*

*DJA **26** 07:40:16.1±0.6, 11°N±4°×9°4E±°, h10km, M4.6/8, mB5.4/7, mb4.5/8, MLv4.6/1, Mw(mB)4.8/7*

*GCMT **26** 07:40:18.6±0.2, 10°.80N×94°.53E, h12km, MW5.1, Moment Tensor Solution. s35,c49; s80,c137; Moment tensor: Scale 10^16 Nm; Mrr=5.13±.13; Mθθ=4.48±.11; Mϕϕ=0.65±.13; Mrθ=2.64±.41; Mθϕ=1.77±.11; Mϕr=0.49±.46; Best double couple: M0=5.80000×10^16 NP1:ϕs=64.00000°, δ=32.00000°, λ=-99.00000°. NP2:ϕs=254.00000°, δ=59.00000°, λ=-85.00000°. Principal axes: T 5.8100, Plg=14.0000°, Azm=340.0000°; N -0.0100, Plg=4.0000°, Azm=71.0000°; P -5.8100, Plg=76.0000°, Azm=179.0000°; Data Used: IU II IC G CN.*

*BKK **26** 07:40:18.4±0.4, 11°N±4°×9°4E±°, h10km, M4.6/10, mB5.1/5, mb4.6/10, MLv4.7/2, Mw(mB)4.5/5*

*SZGRF **26** 07:40:20.2, 10°.10N×92°.90E, h33km, mb5.0, Andaman Islands, India, region*

ISC 26 07:40:14.2±0.4, 10°.71N±0°.04×94°.24E±0°.04, h16km±1km, n191, σ1s77/236, mb4.6/59, MS4.3/48, 5C-5D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.75**	**303**	*e*P	Pn	07 40 44.9	+1.0
PBA				*ex*	Sg	07 41 13.6	+3.1
DGPR	**DIGLIPUR**	**2.77**	**332**	*e*P	**Pn**	**07 40 59.2**	**+1.2**
DGPR				*e*S	**Sb**	**07 41 34.9**	**-2.2**
CMBY	**CAMPBELL BAY**	**3.69**	**185**	*e*P	**Pn**	**07 41 10.8**	**+0.2**
CMBY				AMB	AMB	07 41 17.5	
	comp=Z,310nm,0.6s						
CMBY				*ex*	x	07 42 49.4	
BSI	**Banda Aceh**	**5.28**	**169**	P	Pn	07 41 38.2	+5.7
	comp=Z,91nm,1.2s,comp=Z,3μmcomp=Z,0.4nm						
KULM	**Kulim**	**8.32**	**130**	*e*Pn	**Pn**	**07 42 12.3**	**-2.0**
KULM				*e*Sn	Sn	07 43 41.0	-7.0
PBKT	**Sadao Pong**	**8.76**	**48**	P	**Pn**	**07 42 18.5**	**-1.7**
	comp=Z,39nm,0.6s						
PBKT	**Sadao Pong**	**8.76**	**48**	P	**Pn**	**07 42 20.3**	**+0.1**
	comp=Z,39nm,0.6s,comp=Z,0.2nm						
CMAR	**Chiang Mai Arr**	**8.95**	**30**	Pn	**Pn**	**07 42 22.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**8.95**	**30**	Pn	**Pn**	**07 42 22.7**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=218,slow=15,SNR=25						
CMAR				LR	LR	07 45 40.1	
	comp=Z,974nm,19.1s,baz=210,slow=37						
PSI	**Prapat**	**9.13**	**149**	Pn	**Pn**	**07 42 27.5**	**+2.1**
PSI	**Prapat**	**9.13**	**149**	Pn	**Pn**	**07 42 27.5**	**+2.1**
	comp=Z,0.8nm,0.3s,baz=336,slow=20,SNR=3.3						
PSI				LR	LR	07 46 18.9	
	comp=Z,4μm,21.5s,baz=312,slow=40						
IPM	**Ipoh**	**9.13**	**132**	*e*Pn	**Pn**	**07 42 23.3**	**-2.2**
	comp=Z,9.3nm,0.6s						
CHTO	**Chiang Mai**	**9.25**	**29**	*e*P	**Pn**	**07 42 26.1**	**-0.9**
CHTO	**Chiang Mai**	**9.25**	**29**	*e*Pn	**Pn**	**07 42 26.1**	**-0.9**
CHTO	**Chiang Mai**	**9.25**	**29**	P	**Pn**	**07 42 25.7**	**-1.3**
	comp=Z,15nm,1.6s,comp=Z,669nm						
CHTO	**Chiang Mai**	**9.25**	**29**	P	**Pn**	**07 42 30.0**	**+3.0**
	comp=Z,24nm,1.8s,comp=Z,685nm						
CMMT	**Chiang Mai**	**9.25**	**29**	P	**Pn**	**07 42 26.5**	**-0.6**
	comp=Z,14nm,1.6s,comp=Z,809nm						
CMMT	**Chiang Mai**	**9.25**	**29**	P	**Pn**	**07 42 29.8**	**+2.7**
	comp=Z,18nm,1.2s,comp=Z,822nm						
VIS	**Vishakhapatnam**	**12.67**	**305**	*e*P	**Pn**	**07 43 14.5**	**+0.7**
VIS				AMB	AMB	07 43 27.7	
	comp=Z,50nm,0.6s						
IMP	**Imphal**	**14.00**	**359**	*e*4	Pn	07 43 39.0	+6.9
SHL	**Shillong**	**14.95**	**352**	*e*P	**Pn**	**07 43 43.9**	**-1.2**
SHL				AMB	AMB	07 43 52.1	
	comp=Z,24nm,0.8s						
SHL				*ex*	x	07 47 39.0	
BOK	**Bokaro**	**15.26**	**330**	*e*P	**Pn**	**07 43 50.2**	**+1.1**
BOK				AMB	AMB	07 43 57.2	
	comp=Z,43nm,1.4s						
KMI	**Kunming**	**16.45**	**28**	P	**Pn**	**07 44 06.0**	**+1.3**
KMI				pP	**P**	**07 44 09.0**	**+1.6**
KMI				sP	**sP**	**07 44 10.3**	**-3.5**
KMI				PP	**PnPn**	**07 44 19.5**	**+5.5**
KMI				S	**Sn**	**07 47 08.8**	**+1.7**
KMI				SS	**SnSn**	**07 47 28.5**	**+7.9**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KMI				pmax	pmax		
	comp=Z,150nm,3.1s						
KMI				LR	LR		
	comp=N,1μm,12.3s						
KMI				LR	LR		
	comp=E,1μm,10.3s						
KMI				LR	LR		
	comp=Z,960nm,11.6s						
HYB	**Hyderabad**	**16.61**	**295**	*i* P	**P**	**07 44 11.5**	**+2.5**
HYB				*e*S	**Sn**	**07 47 10.0**	**-0.9**
QIZ	**Qiongzhong**	**17.19**	**59**	P	**Pn**	**07 44 12.5**	**-1.3**
QIZ				S	**Sn**	**07 47 24.5**	**-0.3**
QIZ				LR	LR		
	comp=E,640nm,9.9s						
QIZ				LR	LR		
	comp=Z,2μm,9.4s						
ODAN	**Odare**	**17.32**	**339**	*e*P	**P**	**07 44 17.3**	**+0.3**
	comp=Z,142nm,1.3s						
PPBI	**Pangkal Pinang**	**17.42**	**137**	P	P	07 44 26.6	+8.6
TAPN	**Taplejung**	**17.66**	**341**	*e*P	**P**	**07 44 21.5**	**+0.6**
	comp=Z,771nm,1.8s						
RAMN	**Ramite**	**17.69**	**337**	*e*P	**P**	**07 44 22.3**	**+1.2**
	comp=Z,656nm,1.8s						
KSM	**Kuching**	**18.41**	**119**	*e*Pn	**Pn**	**07 44 29.8**	**+0.9**
	comp=Z,171nm,2.1s						
KSM	**Kuching**	**18.41**	**119**	P	Pn	07 44 45.4	+16
JIRN	**Jiri**	**18.49**	**337**	*e*P	**Pn**	**07 44 30.8**	**+0.6**
PKI	**Pulchoki**	**18.72**	**335**	*e*P	**Pn**	**07 44 33.3**	**+0.3**
	comp=Z,601nm,1.8s						
PKIN	**Phulchoki**	**18.73**	**335**	*e*P	**Pn**	**07 44 33.2**	**+0.1**
	comp=Z,347nm,1.6s						
GUN	**Gumba**	**18.83**	**336**	*e*P	**Pn**	**07 44 34.5**	**+0.2**
	comp=Z,1μm,2.0s						
DMN	**Daman**	**18.88**	**334**	*e*P	**Pn**	**07 44 35.4**	**+0.5**
	comp=Z,316nm,1.6s						
KKN	**Kakani**	**18.97**	**335**	*e*P	**Pn**	**07 44 36.0**	**+0.1**
	comp=Z,184nm,1.4s						
LSA	**Lhasa**	**19.12**	**352**	P	**P**	**07 44 36.0**	**-1.0**
LSA				LR	LR		
	comp=Z,1μm,28.6s						
LSA	**Lhasa**	**19.12**	**352**	*e*P	**P**	**07 44 36.7**	**-0.3**
LSA				pmax	pmax		
	comp=Z,25nm,0.9s						
LSA	**Lhasa**	**19.12**	**352**	*e*P	**P**	**07 44 36.7**	**-0.3**
	comp=Z,25nm,0.9s						
GYA	**Guiyang**	**19.57**	**35**	*e*P	**Pn**	**07 44 42.5**	**-0.5**
GYA				PP	**PnPn**	**07 45 01.5**	**+4.8**
GYA				S	**Sn**	**07 48 23.0**	**+0.4**
GYA				SS	**SnSn**	**07 48 45.0**	**+7.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,80nm,4.8s						
GYA				LR	LR		
	comp=N,770nm,14.3s						
GYA				LR	LR		
	comp=E,1μm,15.8s						
GYA				LR	LR		
	comp=Z,2μm,16.4s						
SBUM	**Sibu**	**19.64**	**113**	P	Pn	07 44 50.0	+6.2
	comp=Z,17nm,2.5s,comp=Z,697nmcomp=Z,0.1nm						
SBUM	**Sibu**	**19.64**	**113**	P	Pn	07 44 49.4	+5.6
	comp=Z,17nm,2.5s,comp=Z,701nm						
KOLN	**Koldanda**	**19.70**	**331**	*e*P	**Pn**	**07 44 44.7**	**0.0**
	comp=Z,94nm,0.7s						
DANN	**Dangsing**	**20.12**	**332**	*e*P	**P**	**07 44 48.8**	**+1.0**
	comp=Z,406nm,1.1s						
BHPL	**Bhopal**	**20.32**	**310**	*e*P	**P**	**07 44 50.5**	**+0.7**
BHPL				AMB	AMB	07 44 53.6	
	comp=Z,33nm,2.1s						
POO	**Poona**	**21.20**	**294**	*ex*	P	07 45 07.9	+8.6
CD2	**Chengdu**	**21.96**	**22**	*e*P	**P**	**07 45 06.8**	**-0.6**
CD2				pP	**pP**	**07 45 11.5**	**-0.4**
CD2				sP	**sP**	**07 45 14.5**	**+0.6**
CD2				PP	**PnPn**	**07 45 32.5**	**+3.2**
CD2				S	**S**	**07 49 04.5**	**-5.0**
CD2				sS	sS	07 49 10.5	-6.2
CD2				SS	**SnSn**	**07 49 43.0**	**+7.4**
CD2				pmax	pmax		
	comp=Z,50nm,1.2s						
CD2				pmax	pmax		
	comp=Z,310nm,4.8s						
CD2				LR	LR		
	comp=E,980nm,15.5s						
CD2				LR	LR		
	comp=Z,990nm,11.9s						
KKM	**Kota Kinabalu**	**22.22**	**100**	*e*P	**P**	**07 45 11.3**	**+0.8**
	comp=Z,34nm,1.2s						
NDI	**New Delhi**	**23.96**	**321**	*e*P	**P**	**07 45 28.0**	**+0.1**
ENH	**Enshi**	**24.09**	**34**	*e*P	**P**	**07 45 27.4**	**-1.7**
	comp=Z,224nm,1.8s						
MYLDM	**Lahad Datu**	**24.63**	**101**	P	P	07 45 40.1	+5.8
	comp=Z,69nm,1.7s,comp=Z,2μm						
DDI	**Dehra Dun**	**24.65**	**325**	*e*P	**P**	**07 45 35.2**	**+0.9**
SMLA	**Simla**	**25.76**	**325**	*e*P	**P**	**07 45 46.2**	**+1.9**
SMLA				AMB	AMB	07 45 54.2	
	comp=Z,48nm,0.7s						
LZH	**Lanzhou**	**26.72**	**17**	⇑P	**P**	**07 45 53.5**	**+0.3**
LZH				pP	**pP**	**07 45 56.3**	**-1.7**
LZH				sP	**sP**	**07 45 58.0**	**-1.9**
LZH				PP	**PnPn**	**07 46 38.5**	**+4.0**
LZH				*e*S	**S**	**07 50 27.5**	**-0.9**
LZH				sS	**sS**	**07 50 34.0**	**-2.3**
LZH				SS	**SnSn**	**07 51 39.5**	**+7.3**
LZH				pmax	pmax		
	comp=Z,35nm,1.5s						
LZH				pmax	pmax		
	comp=Z,310nm,7.4s						
LZH				LR	LR		
	comp=N,1μm,15.2s						
LZH				LR	LR		
	comp=E,860nm,15.0s						
LZH				LR	LR		
	comp=Z,2μm,17.0s						
XAN	**Xi'an**	**26.83**	**28**	P	**P**	**07 45 50.3**	**-3.7**
XAN				pP	**pP**	**07 45 59.0**	**+0.2**
XAN				sP	**sP**	**07 46 04.8**	**+4.0**
XAN				S	**S**	**07 50 33.0**	**+3.1**
XAN				pmax	pmax		
	comp=Z,2.0nm,1.3s						
XAN				LR	LR		
	comp=N,470nm,16.5s						
XAN				LR	LR		
	comp=E,360nm,17.4s						
XAN				LR	LR		
	comp=Z,220nm,14.1s						
DHRM	**DHARAMSHALA**	**27.09**	**325**	*e*P	**P**	**07 45 56.5**	**0.0**
DHRM				AMB	AMB	07 45 59.9	
	comp=Z,22nm,1.1s						
GTA	**Gaotai**	**29.01**	**9**	*e*P	**P**	**07 46 14.3**	**+0.7**
GTA				pP	**pP**	**07 46 18.5**	**+0.1**
GTA				sP	**sP**	**07 46 21.3**	**+1.0**
GTA				S	**S**	**07 51 03.3**	**-1.0**
GTA				sS	**sS**	**07 51 10.8**	**-1.4**
GTA				SS	**SnSn**	**07 52 31.5**	**+3.6**
GTA				pmax	pmax		
	comp=Z,13nm,1.5s						
GTA				pmax	pmax		
	comp=Z,140nm,5.5s						
GTA				LR	LR		
	comp=N,580nm,19.0s						
GTA				LR	LR		
	comp=E,430nm,20.0s						
GTA				LR	LR		
	comp=Z,890nm,20.4s						
NJ2	**Nanjing**	**31.10**	**43**	*e*P	**P**	**07 46 31.0**	**-1.0**
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
DAV	**Davao City (W)**	**31.16**	**94**	LR	LR	08 00 04.0	
	comp=Z,389nm,21.6s,baz=210,slow=38						
KSH	**Kashi**	**32.98**	**334**	P	**P**	**07 46 47.0**	**-1.5**
KSH				PP	**PnPn**	**07 47 58.0**	**+0.2**
KSH				PcP	**PcP**	**07 49 33.0**	**+0.5**
KSH				S	**S**	**07 52 03.3**	**-3.1**
KSH				sS	**sS**	**07 52 10.5**	**-3.8**
KSH				PcS	**PcS**	**07 53 16.5**	**-1.4**
KSH				SS	**SnSn**	**07 54 02.0**	**-2.3**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,85nm,7.8s						
KSH				LR	LR		
	comp=N,140nm,6.4s						
KSH				LR	LR		
	comp=E,140nm,6.7s						
KSH				LR	LR		
	comp=Z,430nm,17.4s						
WMQ	**Urumqi**	**33.48**	**351**	P	**P**	**07 46 53.8**	**+1.0**
WMQ				pP	**pP**	**07 46 58.3**	**+0.7**
WMQ				sP	**sP**	**07 47 00.8**	**+1.3**
WMQ				PP	**PnPn**	**07 48 05.8**	**+1.8**
WMQ				PcP	**PcP**	**07 49 35.3**	**+1.6**
WMQ				S	**S**	**07 52 13.5**	**-0.4**
WMQ				sS	**sS**	**07 52 20.8**	**-1.1**
WMQ				ScP	**ScP**	**07 53 18.0**	**+0.2**
WMQ				SS	**SnSn**	**07 54 16.0**	**-0.3**
WMQ				ScS	**ScS**	**07 57 17.5**	**-1.3**
WMQ				pmax	pmax		
	comp=Z,29nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,350nm,5.2s						
WMQ				LR	LR		
	comp=N,390nm,21.8s						
WMQ				LR	LR		
	comp=E,310nm,20.0s						
WMQ				LR	LR		
	comp=Z,620nm,26.1s						
HHC	**Hu-ho-hao-te**	**33.69**	**24**	*e*P	**P**	**07 46 55.5**	**+0.8**
HHC				pP	**pP**	**07 46 59.5**	**-0.1**
HHC				sP	**sP**	**07 47 03.0**	**+1.5**
HHC				PP	**PnPn**	**07 48 08.0**	**+1.2**
HHC				S	**S**	**07 52 17.8**	**+0.4**
HHC				sS	**sS**	**07 52 25.5**	**+0.1**
HHC				SS	**SnSn**	**07 54 24.5**	**+2.9**
HHC				ScS	**ScS**	**07 57 17.5**	**-2.6**
HHC				pmax	pmax		
	comp=Z,34nm,0.7s						
HHC				pmax	pmax		
	comp=Z,210nm,4.6s						
HHC				LR	LR		
	comp=N,1μm,14.0s						
HHC				LR	LR		
	comp=E,1μm,13.0s						
HHC				LR	LR		
	comp=Z,860nm,12.3s						
BJI	**Beijing**	**35.09**	**30**	P	**P**	**07 47 06.3**	**-0.4**
BJI				S	**S**	**07 52 41.3**	**+2.5**
BJI				pmax	pmax		
	comp=Z,11nm,0.5s						
BJI				pmax	pmax		
	comp=Z,180nm,5.0s						
BJI				LR	LR		
	comp=N,400nm,16.1s						
BJI				LR	LR		
	comp=E,440nm,19.3s						
BJI				LR	LR		
	comp=Z,240nm,31.0s						
AAK	**Ala-Archa**	**36.18**	**335**	⇑*i*P	**P**	**07 47 17.2**	**+1.0**
AAK				pmax	pmax		
	comp=Z,39nm,1.7s						
AAK	**Ala-Archa**	**36.18**	**335**	P	**P**	**07 47 16.2**	**0.0**
AAK	**Ala-Archa**	**36.18**	**335**	P	**P**	**07 47 16.2**	**0.0**
	comp=Z,4.4nm,0.6s,baz=229,slow=12,SNR=11						
AAK				LR	LR	08 03 40.6	
	comp=Z,1μm,21.8s,baz=135,slow=39						
FRU	**Bishkek**	**36.29**	**335**	*e*P	**P**	**07 47 16.0**	**-1.1**
FRU				pmax	pmax		
	comp=Z,40nm,1.9s						
FRU				MLR	MLR		
	comp=Z,1μm,22.0s						
EKS2	**Erkin-Say**	**36.50**	**334**	*e*P	**P**	**07 47 20.2**	**+1.2**
EKS2				pmax	pmax		
	comp=Z,9.0nm,0.8s						
EKS2	**Erkin-Say**	**36.50**	**334**	*e*P	**P**	**07 47 20.2**	**+1.2**
	comp=Z,8.9nm,0.8s						
MKAR	**Makanchi Array**	**37.37**	**346**	*c*e*P*	**P**	**07 47 26.2**	**0.0**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**37.37**	**346**	*e*P	**P**	**07 47 25.7**	**-0.4**
MKAR	**Makanchi Array**	**37.37**	**346**	P	**P**	**07 47 25.9**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=165,slow=7.8,SNR=26						
MKAR				LR	LR	08 06 36.0	
	comp=

comp=Z,5.4nm,1.1s,baz=288,slow=8.0,SNR=4.1
FITZ LR LR 08 07 06.2
comp=Z,388nm,20.8s,baz=319,slow=38
CN2 Changchun 42.61 34 *eP* **P 07 48 09.3 -0.4**
CN2 *epP* **pP 07 48 15.0 +0.4**
CN2 *eS* **S 07 54 31.0 -1.0**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 LR LR
comp=N,500nm,16.0s
CN2 LR LR
comp=E,400nm,16.0s
CN2 LR LR
comp=Z,400nm,16.0s
ZAA0 Zalesovo Array 43.78 352 *eP* **P 07 48 18.9 0.0**
ZALV Zalesovo Beam 43.78 352 P **P 07 48 18.7 -0.3**
ZALV Zalesovo Beam 43.78 352 P **P 07 48 18.7 -0.3**
ZALV Zalesovo Beam 43.78 352 P **P 07 48 18.7 -0.3**
comp=Z,3.1nm,0.5s,baz=179,slow=7.4,SNR=12
ZALV LR LR 08 09 57.5
comp=Z,116nm,19.5s,baz=250,slow=41
NVS Novosibirsk 44.88 351 *iP* **P 07 48 26.4 -1.3**
NVS *eS* **S 07 55 03.0 -1.8**
NVS pmax pmax
comp=N,25nm,2.0s
NVS pmax pmax
comp=E,15nm,2.0s
NVS pmax pmax
comp=Z,38nm,2.0s
NVS smax smax
comp=E,26nm,2.3s
MDJ Mudanjiang 45.44 35 P **P 07 48 32.0 -0.4**
MDJ PcP **PcP 07 50 07.0 -4.4**
MDJ PP **PP 07 50 20.5 +1.7**
MDJ ScP **ScP 07 54 00.5 -3.3**
MDJ S S 07 55 19.8 +6.6
MDJ ScS **ScS 07 58 27.0 -1.6**
MDJ pmax pmax
comp=Z,6.0nm,0.8s
MDJ pmax pmax
comp=Z,94nm,3.8s
MDJ LR LR
comp=N,170nm,18.4s
MDJ LR LR
comp=E,150nm,21.3s
MDJ LR LR
comp=Z,190nm,19.8s
BVAR Borovoye Array 46.37 340 P **P 07 48 39.2 -0.4**
BVAR Borovoye Array 46.37 340 P **P 07 48 39.2 -0.4**
BVAR Borovoye Array 46.37 340 P **P 07 48 39.2 -0.4**
comp=Z,1.2nm,0.7s,baz=134,slow=8.5,SNR=7.4
BVAR LR LR 08 12 32.6
comp=Z,223nm,21.4s,baz=0.1,slow=42
BRVK Borovoye 46.43 340 *ceP* **P 07 48 37.8 -2.3**
BRVK pmax pmax
comp=Z,17nm,2.5s
BRVK Borovoye 46.43 340 *eP* **P 07 48 39.8 -0.3**
comp=Z,9.9nm,1.3s
USRK Ussuriysk Arra 46.60 37 P **P 07 48 40.4 -1.2**
comp=Z,2.1nm,0.8s,baz=255,slow=8.1,SNR=8.9
USRK LR LR 08 10 07.4
comp=Z,209nm,19.0s,baz=28,slow=38
MAT Matsushiro 47.22 50 P **P 07 48 46.3 -0.3**
MAT *eS* **S 07 55 35.2 -4.0**
MJAR Matsushiro Arr 47.23 50 P **P 07 48 46.4 -0.2**
MJAR PcP **PcP 07 50 17.4 -0.6**
MJAR Matsushiro Arr 47.23 50 P **P 07 48 46.4 -0.2**
comp=Z,0.7nm,0.5s,baz=243,slow=9.4,SNR=4.6
MJAR PcP **PcP 07 50 17.4 -0.6**
comp=Z,2.0nm,0.9s,baz=238,slow=3.0,SNR=4.1
ABKAR Akbulak array 47.82 330 *eP* **P 07 48 50.5 -0.5**
NWAO Narrogin (SRO) 48.62 154 P **P 07 48 57.3 -0.1**
NWAO Narrogin (SRO) 48.62 154 P **P 07 48 57.3 -0.1**
comp=Z,22nm,1.1s,baz=289,slow=14,SNR=3.5
NWAO LR LR 08 10 25.1
comp=Z,412nm,19.8s,baz=140,slow=37
KLR Kul'dur 49.42 32 *eP* P 07 49 00.0 -3.3
AKTO Aktyubinsk 49.54 330 P **P 07 49 03.7 -0.6**
AKTO Aktyubinsk 49.54 330 P **P 07 49 03.6 -0.6**
AKTO Aktyubinsk 49.54 330 P **P 07 49 03.6 -0.6**
comp=Z,0.8nm,0.4s,baz=126,slow=8.7,SNR=5.5
AKTO LR LR 08 13 27.5
comp=Z,210nm,18.6s,baz=141,slow=40
WRA Warramunga Arr 49.86 128 P **P 07 49 06.1 -1.0**
WRA Warramunga Arr 49.86 128 P **P 07 49 06.1 -1.0**
comp=Z,3.7nm,0.8s,baz=301,slow=8.8,SNR=22
WRA LR LR 08 13 57.2
comp=Z,293nm,20.2s,baz=300,slow=41
WRAB Tennant Creek 49.86 128 *eP* **P 07 49 06.8 -0.3**
WRAB pmax pmax
comp=Z,50nm,1.8s
WRAB Tennant Creek 49.86 128 *eP* **P 07 49 06.8 -0.3**
comp=Z,50nm,1.8s
ATD Arta Tunnel 50.38 276 LR LR 08 07 30.1
comp=Z,157nm,19.5s,baz=330,slow=32
ASAR Alice Springs 51.68 132 P **P 07 49 20.3 -0.5**
ASAR Alice Springs 51.68 132 P **P 07 49 20.3 -0.5**
comp=Z,7.6nm,0.7s,baz=310,slow=6.6,SNR=62
ASAR LR LR 08 14 42.7
comp=Z,299nm,18.8s,baz=302,slow=40
GNI Garni 52.57 313 *eP* **P 07 49 27.7 +0.3**
comp=Z,50nm,1.4s
GNI Garni 52.57 313 P **P 07 49 27.7 +0.3**
comp=Z,3.0nm,0.4s,baz=338,slow=17,SNR=4.6
GNI LR LR 08 15 16.8
comp=Z,367nm,21.9s,baz=119,slow=40
SVE Sverdlovsk 52.83 338 *eP* **P 07 49 29.0 +0.2**
SVE pmax pmax
comp=Z,18nm,1.8s
SVE MLR MLR
comp=Z,691nm,24.0s
ASAJ Asahikawa 53.24 42 P **P 07 49 32.1 0.0**
ASAJ Asahikawa 53.24 42 P **P 07 49 32.1 0.0**
comp=Z,4.1nm,0.9s,baz=247,slow=18,SNR=2.1
ASAJ LR LR 08 13 14.6
comp=Z,174nm,18.1s,baz=261,slow=37
ARU Arti 53.35 336 *diP* **P 07 49 31.7 -0.9**
ARU 07 51 28.8
ARU S **S 07 57 03.0 -0.8**
ARU pmax pmax
comp=Z,12nm,1.7s
ARU MLR MLR
comp=Z,919nm,23.0s
YSS Yuzh-Sakhalins 54.51 39 P **P 07 49 41.0 -0.3**
KBZ Khabaz 55.10 316 P **P 07 49 44.9 -0.7**
KBZ Khabaz 55.10 316 P **P 07 49 44.9 -0.7**
KBZ Khabaz 55.10 316 P **P 07 49 44.9 -0.7**
comp=Z,1.2nm,0.6s,baz=93,slow=8.9,SNR=5.4
KBZ LR LR 08 16 43.1
comp=Z,276nm,21.2s,baz=126,slow=40
KIV Kislovodsk 55.32 317 *eP* **P 07 49 47.9 +0.5**
KIV pmax pmax
comp=Z,12nm,1.1s
ASF Jabal al Asfar 56.80 301 LR LR 08 17 57.7
comp=Z,201nm,18.9s,baz=328,slow=40
YAK Yakutsk 57.30 19 *eP* **P 07 49 58.8 -2.2**
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.4s
BRTR Keskin Array B 60.69 310 P **P 07 50 24.0 -1.2**
BRTR Keskin Array B 60.69 310 P **P 07 50 24.0 -1.2**
comp=E,0.8nm,0.6s,baz=110,slow=7.0,SNR=4.3
BRTR LR LR 08 20 13.9
comp=E,160nm,21.1s,baz=100,slow=40
STKA Stephens Creek 62.00 135 P **P 07 50 34.0 0.0**
STKA Stephens Creek 62.00 135 P **P 07 50 34.0 0.0**
comp=E,5.9nm,0.8s,baz=317,slow=9.9,SNR=8.1
STKA LR LR 08 17 43.2
comp=E,495nm,21.5s,baz=303,slow=36
MOS Moscow 62.74 328 *eP* **P 07 50 37.1 -1.3**
OBN Obninsk 63.06 327 *eP* **P 07 50 40.7 +0.1**
OBN *e* 07 53 00.0
OBN *eS* **S 07 59 14.3 +3.7**
OBN pmax pmax
comp=Z,8.0nm,1.7s
OBN MLR MLR
comp=Z,500nm,18.0s
PETK Petropavlovsk- **65.67 36** LR LR 08 19 29.6
comp=Z,139nm,21.4s,baz=125,slow=36
APA Apatity 69.25 339 *iP* **P 07 51 21.0 +0.9**
APA MLR MLR
comp=Z,700nm,20.0s
FINES FINESS Array B 70.27 332 LR LR 08 28 58.6
comp=Z,295nm,18.2s,baz=292,slow=42
ARCES ARCESS Array B 72.65 340 P **P 07 51 41.0 +0.2**
ARCES ARCESS Array B 72.65 340 P **P 07 51 41.0 +0.2**
comp=Z,2.4nm,0.7s,baz=92,slow=6.5,SNR=4.6
ARCES LR LR 08 26 53.7
comp=Z,586nm,21.0s,baz=111,slow=39
VRAC Vranov 73.91 318 LR LR 08 28 51.9
comp=Z,161nm,20.3s,baz=168,slow=40
TREC Trest 74.63 318 AMS AMS 08 27 20.0
comp=Z,200nm,19.3s
PRU Pruhonice 75.26 319 AMS AMS 08 28 20.0
comp=Z,100nm,14.2s
LBTB Lobatse 75.70 241 LR LR 08 19 57.2
comp=Z,137nm,19.4s,baz=104,slow=32
GERES GERESS Array B 75.80 318 P **P 07 51 59.4 -0.3**
GERES GERESS Array B 75.80 318 P **P 07 51 59.4 -0.3**
comp=Z,0.8nm,0.6s,baz=91,slow=6.7,SNR=6.3
GERES LR LR 08 30 47.8
comp=Z,135nm,19.2s,baz=228,slow=40
HFS Hagfors 76.08 329 P **P 07 52 00.4 -0.5**
HFS Hagfors 76.08 329 P **P 07 52 00.4 -0.5**
comp=Z,2.2nm,0.7s,baz=46,slow=10,SNR=4.3
HFS LR LR 08 29 37.0
comp=Z,408nm,21.5s,baz=101,slow=39
BOSA Boshof 77.18 237 P **P 07 52 09.1 +1.2**
BOSA Boshof 77.18 237 P **P 07 52 09.1 +1.2**
comp=Z,5.7nm,1.1s,baz=45,slow=7.1,SNR=3.1
NOA NORSAR Array B 77.33 330 LR LR 08 29 26.8
comp=Z,245nm,22.0s,baz=100,slow=38
GRF Grafenberg Arr 77.41 319 *eP* **P 07 52 09.8 +1.1**
comp=Z,26nm,2.2s
GRF Grafenberg Arr 77.41 319 *eP* **P 07 52 09.8 +1.1**
DAVOX Davos/Dischmat 78.44 316 LR LR 08 32 22.1
comp=Z,145nm,19.5s,baz=348,slow=40
KEST Kesra 79.72 305 LR LR 08 32 49.8
comp=Z,54nm,18.4s,baz=315,slow=40
LPG La Plagne 80.71 315 *eP* **P 07 52 26.4 -0.8**
LPL La Plagne 80.72 315 *eP* **P 07 52 26.4 -0.8**
comp=Z,11nm,0.8s
ESDC Sonseca Array 89.48 310 P **P 07 53 11.4 +0.4**
ESDC Sonseca Array 89.48 310 P **P 07 53 11.4 +0.4**
comp=Z,0.1nm,0.3s,baz=50,slow=2.0,SNR=3.1
TORD Torodi Ar. Bea 90.05 283 P **P 07 53 14.3 +0.3**
TORD PP **PP 07 56 50.1 +2.8**
TORD Torodi Ar. Bea 90.05 283 P **P 07 53 14.3 +0.3**
comp=Z,1.0nm,0.7s,baz=78,slow=4.2,SNR=6.0
TORD PP **PP 07 56 50.1 +2.8**
comp=Z,1.5nm,1.0s,baz=62,slow=3.8,SNR=4.6
ILAR Eielson Array 92.10 22 P **P 07 53 21.5 -1.1**
ILAR Eielson Array 92.10 22 P **P 07 53 21.5 -1.1**
comp=Z,0.7nm,0.8s,baz=288,slow=3.5,SNR=7.7
ILAR LR LR 08 39 18.8
comp=Z,203nm,19.0s,baz=306,slow=38
INK Inuvik 94.26 16 P **P 07 53 31.6 -0.7**
INK Inuvik 94.26 16 P **P 07 53 31.6 -0.7**
comp=Z,0.5nm,0.5s,baz=336,slow=3.3,SNR=6.5
VNDA Vanda 95.67 168 P **P 07 53 39.5 +1.0**
VNDA Vanda 95.67 168 P **P 07 53 39.5 +1.0**
comp=Z,0.5nm,0.9s,baz=298,slow=8.9,SNR=2.4
SNOW Snow King Moun 121.47 21 *e*PKPdf **PKPdf 07 59 08.1 +0.5**
NVAR Mina Array Bea 122.44 30 PKP **PKPdf 07 59 10.3 +0.7**
NVAR Mina Array Bea 122.44 30 PKP **PKPdf 07 59 10.3 +0.7**
comp=Z,0.7nm,0.6s,baz=311,slow=2.1,SNR=8.3
PDAR Pinedale Array 122.50 21 PKP **PKPdf 07 59 09.1 -0.5**
PDAR Pinedale Array 122.50 21 PKP **PKPdf 07 59 09.1 -0.5**
comp=Z,0.9nm,0.7s,baz=90,slow=1.5,SNR=9.2
ECSD EROS Data Cent 124.92 10 *e*PKPdf **PKPdf 07 59 13.8 -0.1**
MSU Marysvale 125.17 25 *e*PKIKP **PKPdf 07 59 15.3 +0.5**
MSU Marysvale 125.17 25 *e*PKPdf **PKPdf 07 59 15.3 +0.5**
TXAR Lajitas Array 136.60 23 PKP **PKPdf 07 59 37.3 +0.8**
TXAR Lajitas Array 136.60 23 PKP **PKPdf 07 59 37.3 +0.8**
comp=Z,0.5nm,0.6s,baz=137,slow=0.5,SNR=9.3
JCT Junction City 136.88 18 *e*PKIKP **PKPdf 07 59 37.2 +0.2**
JCT Junction City 136.88 18 *e*PKPdf **PKPdf 07 59 37.2 +0.2**
BDFB Brasilia 142.96 258 PKP **PKPdf 07 59 47.1 -1.3**
BDFB Brasilia 142.96 258 PKP **PKPdf 07 59 47.1 -1.3**
comp=Z,1.8nm,0.9s,baz=141,slow=6.5,SNR=2.8
MTP Monte Pirata 145.11 325 *e*PKPbc **PKPdf 07 59 52.3 +0.4**
PLCA Paso Flores 147.22 202 PKPbc **PKPbc 07 59 57.5 +0.2**
PLCA Paso Flores 147.22 202 PKPbc **PKPbc 07 59 57.5 +0.2**
comp=Z,5.3nm,0.8s,baz=177,slow=7.8,SNR=7.3
CPUP Villa Florida 148.99 236 PKPbc **PKPbc 08 00 01.9 -0.4**
CPUP Villa Florida 148.99 236 PKPbc **PKPbc 08 00 01.9 -0.4**
comp=Z,2.0nm,0.7s,baz=27,slow=3.7,SNR=8.7
LPAZ La Paz 161.99 250 PKPab **PKPab 08 01 03.5 +0.7**
LPAZ La Paz 161.99 250 PKPab **PKPab 08 01 03.5 +0.7**
comp=Z,1.1nm,0.9s,baz=225,slow=8.6,SNR=2.2

ISCJB ***26*** *07:43:49.9±0.6, 11°.66N×0°.09×86°.28W×0°.10, h142km±7km, mb3.9/1, Error ellipse: s-maj=21.2km s-min=4.1km az=136.7*
IDC ***26*** *07:43:49.7±2.5, 11°.48N×86°.32W, h153km±52km, mb3.6/1, mb1 4.1/1, mb1mx3.0/21, mbtmp3.6/1, Error ellipse: s-maj=140.1km s-min=49.3km az=56.0*
CASC ***26*** *07:43:50.9±4.2, 11°.18N×86°.79W, h18km±16km, MD3.9*
ISC 26 07:43:49.8±1.0, 11°.67N±0°.09×86°.27W±0°.10, h143km±8km, n29, σ1s05/42, 1C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
COPN	**Copaltepe**	**0.60**	**328**	*eP*		**07 44 10.8**	**-0.2**
HUEN		**0.67**	**8**	*eP*		**07 44 11.0**	**-0.4**
CNGN	**Cerro Negro**	**0.93**	**333**	*eP*		**07 44 13.0**	**-0.4**
CNGN				*eS*		**07 44 32.9**	**+1.5**
GBS2	**Las Lilas**	**1.15**	**136**	*iP*		**07 44 14.8**	**-0.5**
GBS3	**Finca Las Im˜¡**	**1.19**	**138**	*iP*		**07 44 15.6**	**-0.1**
GBS3				*iS*		**07 44 35.7**	**+0.2**
GB1A	**Borinquen Arri**	**1.20**	**135**	*iS*		**07 44 36.3**	**+0.5**
LAPC	**Finca la Perla**	**1.21**	**137**	*iP*		**07 44 15.4**	**-0.5**
NY14	**Universidad de**	**1.24**	**144**	*iP*		**07 44 16.6**	**+0.4**
GPS1	**Guardaparques**	**1.26**	**134**	*iS*		**07 44 37.0**	**+0.1**
LIM1	**Limonal**	**1.39**	**134**	*iP*		**07 44 17.6**	**-0.1**
LIM1				*iS*		**07 44 39.3**	**+0.3**
COLC	**Colonia**	**1.44**	**134**	*iP*		**07 44 18.2**	**-0.1**
CUI	**Cuipilapa**	**1.48**	**133**	*iP*		**07 44 18.8**	**+0.1**
PTEN	**Parque Tenorio**	**1.57**	**127**	*iP*		**07 44 20.3**	**+0.5**
PTEN				*iS*		**07 44 42.9**	**+0.3**
VCR	**Vista de Mar**	**1.65**	**158**	*eP*		**07 44 21.2**	**+0.5**
VCR				*eS*		**07 44 44.4**	**+0.1**
CHPA	**Chiripa**	**1.81**	**132**	*iP*		**07 44 22.6**	**+0.1**
CHPA				*iS*		**07 44 47.4**	**0.0**
JTS	**JuntasAbangare**	**1.88**	**137**	P		**07 44 22.6**	**-0.6**
	19nm,0.3s,baz=312,slow=13,SNR=114						
JTS				S		**07 44 48.3**	**-0.4**
	75nm,0.3s,baz=270,slow=20,SNR=26						
JCR	**Jicaral**	**2.13**	**148**	*eP*		**07 44 26.8**	**+0.6**
JCR				*eS*		**07 44 55.8**	**+1.6**
CNCH	**Conchagua**	**2.21**	**316**	*eP*		**07 44 27.5**	**+0.2**
CNCH				*eS*		**07 44 58.1**	**+2.1**
CGA2	**Cerro Gallo 2**	**2.41**	**133**	*iP*		**07 44 30.5**	**+0.8**
CGA2				*eS*		**07 45 01.6**	**+1.2**
TGUH	**Tegucigalpa,Un**	**2.57**	**338**	*eP*		**07 44 31.7**	**+0.2**
SJS	**Escuela Geolog**	**2.77**	**128**	*eS*		**07 45 08.8**	**+0.5**
QCR	**Quepos**	**3.04**	**137**	*eP*		**07 44 38.6**	**+1.1**
QCR				*eS*		**07 45 15.0**	**+0.7**
URSC	**Urasca**	**3.05**	**126**	*eP*		**07 44 39.5**	**+1.8**
URSC				*eS*		**07 45 17.3**	**+2.6**
SNVI	**San Vicente**	**3.17**	**308**	*eS*		**07 45 18.3**	**+0.9**
BUS	**Buena Vista**	**3.24**	**130**	*eP*		**07 44 41.0**	**+0.6**
BUS				*eS*		**07 45 21.3**	**+1.8**
SBLS	**San Blas**	**3.92**	**304**	*eP*		**07 44 50.3**	**+1.1**
TXAR	**Lajitas Array**	**23.91**	**320**	P		**07 48 50.7**	**-0.1**
	2.3nm,0.6s,baz=142,slow=10,SNR=33						
ASAR	**Alice Springs**	**140.04**	**247**	PKP	**PKPdf**	**08 03 00.0**	**-2.2**
	0.2nm,0.4s,baz=97,slow=1.9,SNR=3.5						
WRA	**Warramunga Arr**	**140.16**	**253**	PKP	**PKPdf**	**08 03 00.2**	**-2.3**
	0.3nm,0.9s,baz=89,slow=2.4,SNR=4.7						

ISCJB ***26*** *07:44:00.9±1.0, 10°.7N×0°.1×94°.3E±0°.2, h10km, mb3.9/11, Error ellipse: s-maj=27.9km s-min=15.5km az=155.6*
IDC ***26*** *07:44:01.2±0.9, 10°.74N×94°.27E, h0km, mb4.0/11, mb1 4.1/12, mb1mx3.9/29, mbtmp4.0/12, ML3.8/1, Error ellipse: s-maj=36.6km s-min=18.0km az=66.0*
ISC 26 07:44:02.7±1.0, 10°.7N±0°.1×94°.3E±0°.2, h10km, n20, σ0s63/16, mb4.0/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
KULM	**Kulim**	**8.31**	**130**	P		Pg 07 46 44.1	+2.3
	208nm,1.0s						
PBKT	**Sadao Pong**	**8.74**	**47**	P		Pg 07 46 57.0	+6.8
	135nm,1.6s						
CMAR	**Chiang Mai Arr**	**8.94**	**30**	Pn	**Pn**	**07 46 12.3**	**+0.4**
	0.3nm,0.3s,baz=210,slow=20,SNR=4.9						
CHTO	**Chiang Mai**	**9.24**	**29**	P	Sn	07 47 27.1	-33
CMMT	**Chiang Mai**	**9.24**	**29**	P	Sn	07 47 27.0	-33
	40nm,1.1s						
MKAR	**Makanchi Array**	**37.37**	**346**	P	**P**	**07 51 14.9**	**-0.6**
	2.8nm,0.9s,baz=168,slow=9.1,SNR=6.8						
SONM	**Songino Array**	**38.39**	**13**	P	**P**	**07 51 25.1**	**+0.8**
	0.4nm,0.3s,baz=193,slow=8.4,SNR=4.9						
KURBB	**Kurchatov Arra**	**41.85**	**345**	P	**P**	**07 51 53.1**	**+0.3**
	3.9nm,1.1s,baz=160,slow=8.1,SNR=7.4						
ZALV	**Zalesovo Beam**	**43.78**	**352**	P	**P**	**07 52 07.9**	**-0.5**
	1.9nm,0.6s,baz=181,slow=7.2,SNR=4.2						
BVAR	**Borovoye Array**	**46.37**	**340**	P	**P**	**07 52 28.2**	**-0.8**
	0.7nm,0.8s,baz=145,slow=10,SNR=3.0						
USRK	**Ussuriysk Arra**	**46.59**	**37**	P	**P**	**07 52 30.2**	**-0.6**
	0.9nm,0.7s,baz=218,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**49.84**	**128**	P	**P**	**07 52 56.4**	**0.0**
	1.6nm,0.9s,baz=311,slow=7.4,SNR=5.2						
ASAR	**Alice Springs**	**51.67**	**132**	P	**P**	**07 53 10.2**	**+0.1**
	2.3nm,0.6s,baz=308,slow=6.4,SNR=13						
ARCES	**ARCESS Array B**	**72.66**	**340**	P	**P**	**07 55 30.5**	**+0.2**
	1.8nm,0.9s,baz=92,slow=5.4,SNR=4.1						
ILAR	**Eielson Array**	**92.09**	**22**	P	**P**	**07 57 10.7**	**-1.3**
	0.3nm,0.7s,baz=295,slow=5.3,SNR=4.3						
INK	**Inuvik**	**94.25**	**16**	P	**P**	**07 57 21.9**	**+0.1**
	0.6nm,0.6s,baz=317,slow=6.1,SNR=3.6						
NVAR	**Mina Array Bea**	**122.43**	**30**	PKP	**PKPdf**	**08 02 59.7**	**+0.6**
	0.8nm,0.9s,baz=243,slow=1.3,SNR=3.7						
PDAR	**Pinedale Array**	**122.50**	**21**	PKP	**PKPdf**	**08 02 58.9**	**-0.2**
	0.5nm,0.8s,baz=323,slow=1.4,SNR=4.1						
TXAR	**Lajitas Array**	**136.60**	**23**	PKP	**PKPdf**	**08 03 26.5**	**+0.5**
	0.1nm,0.4s,baz=72,slow=1.1,SNR=3.3						
CPUP	**Villa Florida**	**149.00**	**236**	PKPbc	**PKPbc**	**08 03 52.0**	**+0.3**
	1.8nm,0.9s,baz=198,slow=3.2,SNR=3.2						

IDC 26 07:51:29.0±0.9, 10°.58N×94°.30E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.8/27, mbtmp3.9/11, MS3.8/2, Ms1 3.9/2, ms1mx3.1/51, Error ellipse: s-maj=35.1km s-min=15.8km az=68.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
PSI	**Prapat**	**8.99**	**149**	LR	LR	07 57 25.8	
	comp=Z,864nm,19.1s,baz=316,slow=39						
CMAR	**Chiang Mai Arr**	**9.03**	**29**	Pn	Pn	07 53 41.2	+0.4
	baz=211,slow=19,SNR=4.9						
CMAR				LR	LR	07 57 07.2	
	comp=Z,314nm,18.4s,baz=352,slow=38						
MKAR	**Makanchi Array**	**37.50**	**346**	P	P	07 58 44.6	0.0
	1.5nm,0.7s,baz=160,slow=7.6,SNR=13						
SONM	**Songino Array**	**38.50**	**13**	P	P	07 58 52.9	-0.2
	2.1nm,1.1s,baz=197,slow=9.6,SNR=11						
KSRS	**Korea Array**	**40.36**	**43**	P	P	07 59 08.6	-0.1
	0.3nm,0.3s,baz=244,slow=10,SNR=5.0						
KURBB	**Kurchatov Arra**	**41.98**	**345**	P	P	07 59 20.9	-0.8
	1.3nm,0.8s,baz=163,slow=7.9,SNR=16						
ZALV	**Zalesovo Beam**	**43.91**	**352**	P	P	07 59 36.8	-0.6
	1.0nm,0.4s,baz=176,slow=5.9,SNR=5.2						
BVAR	**Borovoye Array**	**46.50**	**340**	P	P	07 59 58.2	+0.2
	0.6nm,0.8s,baz=120,slow=8.5,SNR=3.7						
USRK	**Ussuriysk Arra**	**46.66**	**37**	P	P	07 59 59.4	0.0
	3.3nm,1.2s,baz=321,slow=4.9,SNR=4.1						
WRA	**Warramunga Arr**	**49.74**	**128**	P	P	08 00 23.1	-0.4
	2.4nm,1.0s,baz=306,slow=8.4,SNR=6.4						
ASAR	**Alice Springs**	**51.56**	**132**	P	P	08 00 37.1	-0.2
	2.0nm,0.8s,baz=308,slow=7.1,SNR=12						
BRTR	**Keskin Array B**	**60.81**	**310**	P	P	08 01 47.0	+3.6
	0.6nm,0.8s,baz=97,slow=10,SNR=4.7						
STKA	**Stephens Creek**	**61.88**	**135**	P	P	08 01 50.3	-0.2
	0.8nm,0.4s,baz=284,slow=8.3,SNR=2.5						
CLL	**Colln**	**76.38**	**320**	LmV		08 03 00.0	
	comp=Z,200nm,21.1s						
NVAR	**Mina Array Bea**	**122.52**	**30**	PKP	PKPdf	08 10 27.8	+0.4
	comp=Z,0.2nm,0.5s,baz=252,slow=5.6,SNR=4.2						
PDAR	**Pinedale Array**	**122.60**	**21**	PKP	PKPdf	08 10 27.1	-0.3
	comp=Z,0.5nm,0.8s,baz=64,slow=2.1,SNR=3.3						
TXAR	**Lajitas Array**	**136.70**	**23**	PKP	PKPdf	08 10 54.0	-0.3
	comp=Z,0.2nm,0.6s,baz=180,slow=2.3,SNR=2.8						
PLCA	**Paso Flores**	**147.12**	**201**	PKPbc	PKPbc	08 11 14.2	-0.4
	comp=Z,2.9nm,1.0s,baz=243,slow=2.3,SNR=2.3						

IDC 26 07:57:15.9±1.7, 10°.73N×94°.25E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/27, mbtmp3.8/8, Error ellipse: s-maj=88.6km s-min=17.0km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
MKAR	**Makanchi Array**	**37.35**	**346**	P	P	08 04 30.0	-0.2
	0.3nm,0.3s,baz=166,slow=8.3,SNR=8.2						
SONM	**Songino Array**	**38.38**	**13**	P	P	08 04 38.9	-0.1
	0.4nm,0.8s,baz=204,slow=10,SNR=3.7						
KURBB	**Kurchatov Arra**	**41.83**	**345**	P	P	08 05 07.3	-0.1
	0.9nm,0.7s,baz=157,slow=8.6,SNR=6.6						
ZALV	**Zalesovo Beam**	**43.76**	**352**	P	P	08 05 23.3	+0.2
	1.3nm,0.5s,baz=174,slow=8.2,SNR=5.7						
BVAR	**Borovoye Array**	**46.35**	**340**	P	P	08 05 43.1	-0.6
	0.3nm,0.4s,baz=147,slow=8.4,SNR=3.3						
WRA	**Warramunga Arr**	**49.87**	**128**	P	P	08 06 10.8	-0.6
	1.2nm,0.8s,baz=303,slow=8.9,SNR=7.1						
ASAR	**Alice Springs**	**51.69**	**132**	P	P	08 06 24.7	-0.4
	1.5nm,0.7s,baz=310,slow=6.9,SNR=25						
STKA	**Stephens Creek**	**62.01**	**135**	P	P	08 07 39.1	+0.9
	1.8nm,0.7s,baz=320,slow=16,SNR=3.0						
NVAR	**Mina Array Bea**	**122.42**	**30**	PKP	PKPdf	08 16 14.2	+0.3
	0.3nm,0.6s,baz=12,slow=4.1,SNR=3.7						
PDAR	**Pinedale Array**	**122.48**	**21**	PKP	PKPdf	08 16 13.2	-0.8
	0.2nm,0.6s,baz=350,slow=1.1,SNR=2.6						
TXAR	**Lajitas Array**	**136.59**	**23**	PKP	PKPdf	08 16 41.3	+0.4
	0.2nm,0.7s,baz=269,slow=3.6,SNR=3.2						

IDC 26 07:57:39.2±3.1, 10°.96N×94°.67E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.6/26, mbtmp3.8/6, Error ellipse: s-maj=185.2km s-min=21.0km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
MKAR	**Makanchi Array**	**37.23**	**346**	P	P	08 04 52.2	-0.2
	1.1nm,0.7s,baz=158,slow=7.7,SNR=6.1						
KURBB	**Kurchatov Arra**	**41.72**	**345**	P	P	08 05 29.6	-0.2
	0.9nm,0.8s,baz=165,slow=7.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**43.59**	**352**	P	P	08 05 45.2	+0.2
	1.6nm,0.6s,baz=169,slow=8.9,SNR=3.7						
WRA	**Warramunga Arr**	**49.67**	**128**	P	P	08 06 33.6	+0.4
	0.7nm,0.6s,baz=305,slow=8.3,SNR=3.6						
ASAR	**Alice Springs**	**51.53**	**132**	P	P	08 06 46.6	-0.6
	0.8nm,0.8s,baz=309,slow=7.5,SNR=3.1						
ILAR	**Eielson Array**	**91.71**	**22**	P	P	08 10 48.0	-0.4
	0.3nm,0.7s,baz=308,slow=4.4,SNR=4.5						
NVAR	**Mina Array Bea**	**122.01**	**30**	PKP	PKPdf	08 16 36.8	+0.3
	0.3nm,0.7s,baz=323,slow=2.3,SNR=2.8						
PDAR	**Pinedale Array**	**122.12**	**21**	PKP	PKPdf	08 16 35.7	-0.9
	0.3nm,0.6s,baz=188,slow=1.0,SNR=3.7						
TXAR	**Lajitas Array**	**136.21**	**23**	PKP	PKPdf	08 17 03.4	-0.2
	0.2nm,0.7s,baz=293,slow=0.7,SNR=2.8						

**IDC 26 08:02:44.9±1.0, 10°.67N×94°.25E, h0km, mb4.1/14, mb1 4.2/15, mb1mx4.0/30, mbtmp4.1/15, ML3.6/1, Error ellipse: s-ma

WRA	**Warramunga Arr**	**49.83**	**128**	P	P	08 11 39.8	-0.3	
	2.8nm,1.0s,baz=301,slow=8.8,SNR=6.6							
ASAR	**Alice Springs**	**51.65**	**132**	P	P	08 11 54.0	+0.1	
	2.8nm,0.9s,baz=310,slow=6.2,SNR=13							
ARCES	**ARCESS Array B**	**72.69**	**340**	P	P	08 14 14.1	-0.2	
	2.4nm,0.8s,baz=56,slow=6.7,SNR=3.6							
GERES	**GERESS Array B**	**75.83**	**318**	P	P	08 14 33.2	0.0	
	0.4nm,0.7s,baz=116,slow=6.1,SNR=3.4							
EKA	**Eskdalemuir Ar**	**85.49**	**325**	P	P	08 15 24.1	-0.6	
	1.7nm,0.9s,baz=68,slow=9.1,SNR=3.6							
ILAR	**Eielson Array**	**92.13**	**22**	P	P	08 15 54.9	-1.2	
	0.5nm,0.9s,baz=306,slow=3.3,SNR=5.7							
NVAR	**Mina Array Bea**	**122.47**	**30**	PKP	PKPdf	08 21 43.8	+0.7	
	0.5nm,0.7s,baz=257,slow=1.7,SNR=4.6							
PDAR	**Pinedale Array**	**122.53**	**21**	PKP	PKPdf	08 21 42.6	-0.5	
	0.3nm,0.7s,baz=288,slow=1.4,SNR=3.6							
TXAR	**Lajitas Array**	**136.63**	**23**	PKP	PKPdf	08 22 10.4	+0.4	
	0.3nm,0.7s,baz=173,slow=1.3,SNR=5.3							

ISCJB ***26*** *08:04:54.5±2.3,9.3°N±0.1°×58.1°E±0.4,h11km,mb4.2/15, MS3.8/2,Error ellipse: s-maj=60.4km s-min=13.0km az=11.2*

IDC ***26*** *08:04:54.5±1.8,9.13°N×58.16°E,h0km,mb4.0/12, mb1 4.2/12,mb1mx3.9/27,mbtmp4.1/12,MS3.9/2, Ms1 3.8/2,ms1mx3.1/47,Error ellipse: s-maj=49.7km s-min=19.3km az=106.0*

ISC 26 08:04:56.5±1.9,9.2N±0.1°×58.1E±0.3,h11km,n18, σ1§23/17,mb4.2/15,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RDF	**Al-Radifah**	**21.99**	**335**	*eP*		**P**		**08 09 49.2**	**-1.6**
RDF						AMb	AMB	08 09 53.6	
	comp=Z,47nm,1.1s								
KBD	**Kabd**	**22.15**	**335**	*eP*		**P**		**08 09 51.5**	**-0.9**
KBD						AMb	AMB	08 09 54.6	
	comp=Z,34nm,1.0s								
NAY	**Al-Naaiem**	**22.40**	**334**	*eP*		**P**		**08 09 53.0**	**-2.2**
NAY						AMb	AMB	08 10 00.2	
	comp=Z,16nm,1.0s								
KMBO	**Kilima Mbogo**	**23.13**	**245**	P		**P**		**08 10 04.4**	**+1.1**
	comp=Z,6.0nm,1.0s,baz=52,slow=15,SNR=6.0								
MBAR	**Mbarara**	**28.91**	**252**	LR		LR		08 22 38.0	
	comp=Z,270nm,19.8s,baz=88,slow=37								
KBZ	**Khabaz**	**36.87**	**342**	P		**P**		**08 12 07.3**	**+2.3**
KBZ	comp=Z,2.4nm,0.9s,baz=178,slow=7.8,SNR=3.7					LR	LR	08 29 40.1	
	comp=Z,142nm,18.9s,baz=155,slow=40								
BRTR	**Keskin Array B**	**37.42**	**328**	P		**P**		**08 12 11.7**	**+1.7**
	comp=Z,1.0nm,1.1s,baz=163,slow=9.0,SNR=3.6								
LSZ	**Lusaka**	**38.31**	**231**	P		**P**		**08 12 16.6**	**-1.1**
	comp=Z,2.0nm,0.7s,baz=1.9,slow=11,SNR=3.5								
LBTB	**Lobatse**	**46.45**	**222**	P		**P**		**08 13 24.5**	**+0.6**
	comp=Z,9.0nm,1.1s,baz=69,slow=11,SNR=6.1								
BOSA	**Boshof**	**49.16**	**219**	P		**P**		**08 13 45.0**	**+0.1**
	comp=Z,4.2nm,0.9s,baz=64,slow=7.1,SNR=4.1								
GERES	**GERESS Array B**	**54.18**	**325**	P		**P**		**08 14 21.4**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=126,slow=9.8,SNR=3.6								
TORD	**Torodi Ar. Bea**	**55.36**	**280**	P		**P**		**08 14 31.5**	**+0.4**
	comp=Z,2.5nm,1.0s,baz=109,slow=5.5,SNR=9.3								
FINES	**FINESS Array B**	**57.22**	**342**	P		**P**		**08 14 43.9**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=100,slow=7.5,SNR=3.5								
DBIC	**Dimbokro**	**62.32**	**273**	P		**P**		**08 15 19.1**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=69,slow=12,SNR=3.8								
ESDC	**Sonseca Array**	**62.73**	**310**	P		**P**		**08 15 22.1**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=90,slow=5.7,SNR=10								
EKA	**Eskdalemuir Ar**	**66.32**	**327**	P		**P**		**08 15 44.8**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=101,slow=8.6,SNR=3.7								
PDAR	**Pinedale Array**	**127.08**	**349**	PKP		**PKPdf**		**08 24 00.8**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=106,slow=3.2,SNR=3.5								
NVAR	**Mina Array Bea**	**132.51**	**356**	PKP		**PKPdf**		**08 24 11.7**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=318,slow=1.4,SNR=6.2								

IDC 26 08:05:14.4±2.2,10.76N×94.34E,h0km,mb4.0/10, mb1 4.1/11,mb1mx3.8/28,mbtmp4.0/11,ML3.7/1,Error ellipse: s-maj=52.1km s-min=17.4km az=62.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.85**	**30**	Pn		Pn	Pn	08 07 24.9	+1.1
	0.2nm,0.3s,baz=216,slow=15,SNR=5.8								
MKAR	**Makanchi Array**	**37.34**	**346**	P		P		08 12 28.2	-0.5
	3.8nm,0.9s,baz=170,slow=8.6,SNR=6.7								
SONM	**Songino Array**	**38.32**	**13**	P		P		08 12 36.7	-0.4
	2.1nm,0.9s,baz=192,slow=8.7,SNR=5.6								
KURBB	**Kurchatov Arra**	**41.82**	**345**	P		P		08 13 06.1	+0.2
	2.6nm,0.9s,baz=160,slow=7.3,SNR=5.5								
ZALV	**Zalesovo Beam**	**43.74**	**352**	P		P		08 13 21.8	+0.4
	2.8nm,0.6s,baz=168,slow=7.6,SNR=4.3								
BVAR	**Borovoye Array**	**46.35**	**340**	P		P		08 13 42.4	+0.2
	1.0nm,0.7s,baz=126,slow=7.5,SNR=3.5								
WRA	**Warramunga Arr**	**49.81**	**128**	P		P		08 14 09.6	+0.1
	3.5nm,1.2s,baz=305,slow=8.7,SNR=4.0								
ASAR	**Alice Springs**	**51.64**	**132**	P		P		08 14 23.4	0.0
	3.0nm,0.9s,baz=312,slow=7.3,SNR=5.1								
STKA	**Stephens Creek**	**61.97**	**135**	P		P		08 15 36.6	+0.1
	5.0nm,1.0s,baz=17,slow=20,SNR=3.0								
FINES	**FINESS Array B**	**70.27**	**332**	P		P		08 16 29.5	+0.2
	0.5nm,0.6s,baz=83,slow=12,SNR=2.3								
ILAR	**Eielson Array**	**92.01**	**22**	P		P		08 18 23.6	-1.4
	0.3nm,0.4s,baz=297,slow=4.0,SNR=7.5								
PDAR	**Pinedale Array**	**122.42**	**21**	PKP		PKPdf		08 24 12.1	-0.3
	0.8nm,0.9s,baz=350,slow=1.8,SNR=5.8								

IDC 26 08:07:01.4±2.2,10.66N×94.39E,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.4/26,mbtmp3.6/4,ML3.6/1,Error ellipse: s-maj=76.6km s-min=25.7km az=66.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.91**	**29**	Pn		Pn	Pn	08 09 12.2	+0.7
	0.2nm,0.3s,baz=212,slow=15,SNR=3.2								
MKAR	**Makanchi Array**	**37.45**	**346**	P		P		08 14 16.1	-0.4
	0.4nm,0.8s,baz=155,slow=7.8,SNR=2.1								
WRA	**Warramunga Arr**	**49.72**	**128**	P		P		08 15 56.0	+0.2
	0.8nm,0.8s,baz=313,slow=7.9,SNR=3.1								
ASAR	**Alice Springs**	**51.55**	**132**	P		P		08 16 09.2	-0.3
	0.9nm,0.7s,baz=310,slow=6.2,SNR=4.3								

BJI ***26*** *08:11:10.0,10.35°N×94.32E,h5km,mB4.9/32,mb4.6/43, Ms4.7/42,Ms7 4.4/40*

ISCJB ***26*** *08:11:14.5±1.0,10.71°N±0.03°×94.40E±0.03,h13km±6km, mb4.5/64,MS4.4/54,Error ellipse: s-maj=6.3km s-min=4.4km az=35.2*

IDC ***26*** *08:11:14.1±0.5,10.80°N×94.46E,h0km,mb4.2/25, mb1 4.3/26,mb1mx4.2/34,mbtmp4.2/26,ML3.7/1,MS4.3/38, Ms1 4.3/38,ms1mx4.2/53,Error ellipse: s-maj=19.0km s-min=12.1km az=54.0*

NEIC ***26*** *08:11:15.9±0.2,10.77N×94.37E,h10km,mb4.7/18,Error ellipse: s-maj=7.9km s-min=4.7km az=51.0*

TEH ***26*** *08:11:16.0,10.73N×94.35E,h10km,ML4.7*

MOS ***26*** *08:11:17.4±0.7,10.82N×94.48E,h33km,mb4.8/16, MS4.5/6,Error ellipse: s-maj=12.7km s-min=6.4km az=102.8*

GCMT ***26*** *08:11:21.7±0.2,10.82N×94.53E,h12km,MW5.2,Moment Tensor Solution. s36,c41; s75,c129; Moment tensor: Scale 10¹⁶Nm; Mrr=6.11±.14; Mθθ=4.95±.12; Mφφ=1.16±.15; Mrθ=3.67±.44; Mθφ=1.85±.11; Mφr=0.95±.56; Best double couple: Ms=7.00000×10¹⁶ NP1:ϕ=64.00000°, δ=29.00000°, λ=-96.00000°. NP2:ϕ=252.00000°, δ=61.00000°, λ=-86.00000°. Principal axes: T 6.8000, Plg16.0000°, Azm339.0000°; N 0.4300, Plg3.0000°, Azm70.0000°; P -7.2400, Plg73.0000°, Azm171.0000°; Data Used: II IU IC G CN.*

AUST ***26*** *08:12:15.5,7.30N×96.37E,h300km*

ISC 26 08:11:16.3±0.4,10.67N±0.04×94.36E±0.04,h14km±1km, h13km:pP-P,n206,σ1§79/234,mb4.5/64,MS4.4/55,3C-7D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.86**	**302**	*eP*		Pn		08 11 47.0	-0.8
PBA				*eS*		Sn		08 12 09.8	-1.3
DGPR	**DIGLIPUR**	**2.86**	**331**	*eP*		**Pn**		**08 12 01.3**	**-0.2**
DGPR				*ex*		x		08 12 25.8	
DGPR					AMB	AMB		08 12 35.1	
	comp=Z,524nm,1.9s								
CMBY	**CAMPBELL BAY**	**3.66**	**187**	*e*P		**Pn**		**08 12 14.7**	**+2.1**
CMBY					AMB	AMB		08 12 20.2	
	comp=Z,363nm,0.7s								
KULM	**Kulim**	**8.21**	**130**	*e*Pn		**Pn**		**08 13 14.1**	**-1.0**
KULM				*e*Sn		**Sn**		**08 14 46.6**	**-1.1**
CMAR	**Chiang Mai Arr**	**8.93**	**29**	Pn		**Pn**		**08 13 23.7**	**-1.2**
CMAR	**Chiang Mai Arr**	**8.93**	**29**	Pn		**Pn**		**08 13 23.7**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=217,slow=14,SNR=7.3								
CMAR					LR	LR		08 16 44.2	
	comp=Z,1μm,20.1s,baz=210,slow=38								
IPM	**Ipoh**	**9.03**	**132**	*e*Pn		**Pn**		**08 13 25.1**	**-1.3**
IPM				*e*Sn		**Sn**		**08 15 03.6**	**-4.3**
PSI	**Prapat**	**9.04**	**150**	LR		LR		08 17 42.4	
	comp=Z,4μm,18.9s,baz=309,slow=42								
PSI	**Prapat**	**9.04**	**150**	P		P		08 13 34.8	+8.3
	baz=5.3,SNR=3.3								
CHTO	**Chiang Mai**	**9.23**	**28**	P		**Pn**		**08 13 28.9**	**-0.2**
CHTO	**Chiang Mai**	**9.23**	**28**	Pn		**Pn**		**08 13 28.9**	**-0.2**
VIS	**Vishakhapatnam**	**12.78**	**304**	*e*P		**Pn**		**08 14 17.6**	**-0.1**
VIS					AMB	AMB		08 14 24.4	
	comp=Z,46nm,2.5s								
PALK	**Pallekele**	**13.90**	**257**	Pn		**Pn**		**08 14 33.4**	**+0.3**
	comp=Z,74nm,1.6s								
PALK				*e*Sn		**Sn**		**08 17 05.8**	**-1.7**
IMP	**Imphal**	**14.04**	**358**	*ex*		**Pn**		**08 14 38.0**	**+3.0**
SHL	**Shillong**	**15.00**	**351**	*e*P		**Pn**		**08 14 46.6**	**-1.6**
SHL					AMB	AMB		08 14 58.3	
	comp=Z,27nm,2.8s								
KMI	**Kunming**	**16.43**	**28**	P		**P**		**08 15 09.0**	**-0.6**
KMI				pP		**pP**		**08 15 12.0**	**-1.4**
KMI				sP		**sP**		**08 15 13.5**	**-1.7**
KMI				PP		**PnPn**		**08 15 21.8**	**+5.7**
KMI				S		**Sn**		**08 18 13.0**	**+3.8**
KMI				pmax		pmax			
	comp=Z,9.0nm,1.0s								
KMI				pmax		pmax			
	comp=Z,430nm,5.7s								
KMI				LR		LR			
	comp=N,1μm,11.9s								
KMI				LR		LR			
	comp=E,1μm,11.5s								
KMI				LR		LR			
	comp=Z,810nm,13.2s								
HYB	**Hyderabad**	**16.73**	**295**	*i* P		**P**		**08 15 12.0**	**-0.7**
HYB				*e*S		**Sn**		**08 18 16.0**	**-0.3**
HYB	**Hyderabad**	**16.73**	**295**	*e*P		**Pn**		**08 15 10.5**	**+0.1**
HYB					AMB	AMB		08 15 26.5	
	comp=Z,47nm,1.8s								
QIZ	**Qiongzhong**	**17.11**	**59**	P		**Pn**		**08 15 13.8**	**-1.4**
QIZ				S		**Sn**		**08 18 26.5**	**+1.0**
QIZ				LR		LR			
	comp=N,1μm,15.4s								
QIZ				LR		LR			
	comp=E,320nm,19.3s								
QIZ				LR		LR			
	comp=Z,2μm,9.5s								
MNAI	**Manna**	**17.21**	**150**	S		Sn		08 17 40.5	-47
	baz=13,SNR=4.4								
ODAN	**Odare**	**17.40**	**339**	*e*P		**P**		**08 15 20.3**	**0.0**
TAPN	**Taplejung**	**17.74**	**340**	*e*P		**P**		**08 15 24.1**	**0.0**
	comp=Z,481nm,1.6s								
RAMN	**Ramite**	**17.77**	**337**	*e*P		**P**		**08 15 24.4**	**0.0**
	comp=Z,512nm,1.8s								
KSM	**Kuching**	**18.29**	**119**	*e*Pn		**P**		**08 15 31.4**	**+1.4**
	comp=Z,51nm,1.5s								
KSM	**Kuching**	**18.29**	**119**	P		**P**		**08 15 33.7**	**+3.8**
	baz=15,SNR=5.2								
JIRN	**Jiri**	**18.57**	**337**	*e*P		**Pn**		**08 15 33.8**	**+0.3**
	comp=Z,340nm,1.4s								
PKI	**Pulchoki**	**18.80**	**335**	*e*P		**Pn**		**08 15 36.4**	**0.0**
	comp=Z,298nm,1.3s								
PKIN	**Phulchoki**	**18.82**	**335**	*e*P		**Pn**		**08 15 36.4**	**0.0**
	comp=Z,340nm,1.5s								
LATR	**Latur**	**18.86**	**296**	*e*P		**P**		**08 15 35.8**	**-0.4**
GUN	**Gumba**	**18.91**	**336**	*e*P		**P**		**08 15 37.3**	**+0.2**
	comp=Z,147nm,1.1s								
DMN	**Daman**	**18.97**	**334**	*e*P		**P**		**08 15 37.9**	**+0.3**
	comp=Z,268nm,1.6s								
KKN	**Kakani**	**19.05**	**335**	*e*P		**P**		**08 15 38.7**	**+0.2**
	comp=Z,151nm,1.2s								
LSA	**Lhasa**	**19.17**	**351**	P		**P**		**08 15 39.0**	**-1.0**
LSA				S		**S**		**08 19 21.0**	**+3.6**
LSA	**Lhasa**	**19.17**	**351**	*e*P		**P**		**08 15 39.9**	**-0.1**
LSA				pmax		pmax			
	comp=Z,27nm,1.0s								
LSA	**Lhasa**	**19.17**	**351**	*e*P		**P**		**08 15 39.9**	**-0.1**
	comp=Z,27nm,1.0s								
GYA	**Guiyang**	**19.54**	**35**	*e*P		**Pn**		**08 15 44.8**	**-0.2**
GYA				PP		**PnPn**		**08 16 03.5**	**+4.9**
GYA				S		**S**		**08 19 24.3**	**0.0**
GYA				SS		**SnSn**		**08 19 46.0**	**+7.1**
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
GYA				pmax		pmax			
	comp=Z,80nm,4.5s								
GYA				LR		LR			
	comp=N,820nm,15.8s								
GYA				LR		LR			
	comp=E,1μm,15.8s								
GYA				LR		LR			
	comp=Z,1μm,18.0s								
KOLN	**Koldanda**	**19.79**	**331**	*e*P		**P**		**08 15 47.3**	**+0.7**
	comp=Z,56nm,0.6s								
DANN	**Dangsing**	**20.20**	**332**	*e*P		**P**		**08 15 51.8**	**+0.6**
	comp=Z,598nm,1.3s								
BHPL	**Bhopal**	**20.43**	**310**	*e*P		Pn		08 15 55.0	-0.5
BHPL					AMB	AMB		08 16 06.9	
	comp=Z,40nm,1.3s								
POO	**Poona**	**21.31**	**294**	*e*P		**P**		**08 16 00.9**	**-2.1**
POO				*e*P		**pP**		**08 16 03.0**	**-3.9**
POO					AMB	AMB		08 16 04.8	
	comp=Z,36nm,2.2s								
CD2	**Chengdu**	**21.95**	**22**	*e*P		**P**		**08 16 09.5**	**-0.2**
CD2				pP		**pP**		**08 16 14.3**	**+0.6**
CD2				sP		**sP**		**08 16 16.8**	**+1.3**
CD2				PP		**PnPn**		**08 16 35.3**	**+3.8**
CD2				S		**S**		**08 20 07.5**	**-4.4**
CD2				sS		**sS**		**08 20 13.8**	**-4.4**
CD2				SS		**SnSn**		**08 20 45.8**	**+7.9**
CD2				pmax		pmax			
	comp=Z,30nm,1.6s								
CD2				pmax		pmax			
	comp=Z,120nm,5.2s								
CD2				LR		LR			
	comp=E,1μm,15.5s								
CD2				LR		LR			
	comp=Z,710nm,16.7s								
KKM	**Kota Kinabalu**	**22.10**	**100**	*e*P		**P**		**08 16 12.6**	**+1.0**
	comp=Z,71nm,1.3s								
KKM	**Kota Kinabalu**	**22.10**	**100**	P		P		08 16 22.5	+11
	baz=20,SNR=3.8								
ENH	**Enshi**	**24.06**	**34**	*e*P		**P**		**08 16 30.3**	**-1.0**
	comp=Z,64nm,1.2s								
DDI	**Dehra Dun**	**24.75**	**325**	*ex*		x		08 16 24.0	
DDI					AMB	AMB		08 16 43.8	
	comp=Z,241nm,1.7s								
SMLA	**Simla**	**25.86**	**324**	*e*P		**P**		**08 16 47.1**	**-0.5**
SMLA					AMB	AMB		08 16 50.5	
	comp=Z,29nm,2.6s								
LZH	**Lanzhou**	**26.73**	**17**	*e*P		**P**		**08 16 55.8**	**+0.2**
LZH				pP		**pP**		**08 16 58.5**	**-1.3**
LZH				sP		**sP**		**08 17 00.5**	**-1.0**
LZH				PP		**PnPn**		**08 17 40.8**	**+3.9**
LZH				*e*S		**S**		**08 21 28.5**	**-2.6**
LZH				sS		**sS**		**08 21 36.3**	**-1.7**
LZH				SS		**SnSn**		**08 22 41.5**	**+6.7**
LZH				pmax		pmax			
	comp=Z,46nm,1.3s								
LZH				pmax		pmax			
	comp=Z,190nm,7.8s								
LZH				LR		LR			
	comp=N,1μm,12.8s								
LZH				LR		LR			
	comp=E,1μm,13.0s								
LZH				LR		LR			
	comp=Z,2μm,17.2s								
WHN	**Wuhan**	**27.14**	**40**	⇓P		**P**		**08 16 59.5**	**+0.3**
WHN					LR	LR			
	comp=N,2μm,11.9s								
WHN				LR		LR			
	comp=E,940nm,10.5s								
WHN				LR		LR			
	comp=Z,2μm,12.0s								
DHRM	**DHARAMSHALA**	**27.18**	**325**	*e*P		**P**		**08 16 57.6**	**-2.3**
DHRM					AMB	AMB		08 17 27.1	
	comp=Z,46nm,4.2s								
GTA	**Gaotai**	**29.03**	**9**	⇑P		**P**		**08 17 16.8**	**+0.6**
GTA				pP		**pP**		**08 17 21.3**	**+0.9**
GTA				sP		**sP**		**08 17 23.8**	**+1.7**
GTA				S		**S**		**08 22 09.8**	**+2.5**
GTA				sS		**sS**		**08 22 17.3**	**+3.1**
GTA				SS		SnSn		08 23 42.8	+12
GTA				pmax		pmax			
	comp=Z,8.0nm,1.9s								
GTA				pmax		pmax			
	comp=Z,91nm,5.5s								
GTA				LR		LR			
	comp=N,630nm,19.5s								
GTA				LR		LR			
	comp=E,470nm,17.6s								
GTA				LR		LR			
	comp=Z,940nm,22.6s								
KAPI	**Kappang**	**29.70**	**120**	LR		LR		08 29 35.3	
	comp=Z,736nm,18.9s,baz=286,slow=37								
NJ2	**Nanjing**	**31.05**	**43**	*e*P		**P**		**08 17 33.8**	**-0.2**
NJ2				S		**S**		**08 22 41.8**	**+2.9**
NJ2				pmax		pmax			
	comp=Z,30nm,0.6s								
NJ2				LR		LR			
	comp=N,560nm,8.4s								
NJ2				LR		LR			
	comp=E,510nm,7.8s								
NJ2				LR		LR			
	comp=Z,400nm,9.7s								
SSE	**Sheshan**	**32.12**	**47**	P		**P**		**08 17 40.8**	**-2.5**
SSE				S		**S**		**08 22 53.3**	**-2.2**
SSE				pmax		pmax			
	comp=Z,29nm,0.6s								
SSE				pmax		pmax			
	comp=Z,86nm,3.5s								
SSE				LR		LR			
	comp=N,370nm,19.4s								
SSE				LR		LR			
	comp=E,160nm,19.4s								
SSE				LR		LR			
	comp=Z,150nm,23.1s								
KSH	**Kashi**	**33.06**	**333**	*e*P		**P**		**08 17 49.5**	**-2.2**
KSH				S		S		08 23 03.0	-7.3
KSH				PcS		**PcS**		**08 24 18.8**	**-1.9**
KSH				pmax		pmax			
	comp=Z,6.0nm,0.5s								
KSH				pmax		pmax			
	comp=Z,89nm,5.4s								
KSH				LR		LR			
	comp=N,280nm,12.6s								
KSH				LR		LR			
	comp=E,320nm,12.7s								
KSH				LR		LR			
	comp=Z,560nm,19.7s								
WMQ	**Urumqi**	**33.53**	**351**	P		**P**		**08 17 57.3**	**+1.6**
WMQ				pP		**pP**		**08 18 01.5**	**+1.6**
WMQ				sP		**sP**		**08 18 04.3**	**+2.7**
WMQ				PP		**PP**		**08 19 09.5**	**-2.1**
WMQ				PcP		**PcP**		**08 20 38.0**	**+1.7**
WMQ				S		**S**		**08 23 17.5**	**+0.1**
WMQ				sS		**sS**		**08 23 24.8**	**+0.5**
WMQ				ScP		**ScP**		**08 24 21.0**	**+0.3**
WMQ				SS		**SnSn**		**08 25 21.0**	**+0.9**
WMQ				ScS		**ScS**		**08 28 20.5**	**-1.2**
WMQ				pmax		pmax			
	comp=Z,26nm,1.2s								
WMQ				pmax		pmax			
	comp=Z,250nm,4.5s								
WMQ				LR		LR			
	comp=N,380nm,11.6s								
WMQ				LR		LR			
	comp=E,390nm,18.0s								
WMQ				LR		LR			
	comp=Z,690nm,27.6s								
HHC	**Hu-ho-hao-te**	**33.68**	**24**	*e*P		**P**		**08 17 56.3**	**-0.8**
HHC				PP		**PnPn**		**08 19 08.8**	**-0.3**
HHC				PcP		**PcP**		**08 20 36.0**	**-0.9**
HHC				S		**S**		**08 23 18.0**	**-1.9**
HHC				ScP		**ScP**		**08 24 18.8**	**-2.6**
HHC				PcS		**PcS**		**08 24 20.8**	**-1.9**
HHC				SS		**SnSn**		**08 25 23.0**	**-0.9**
HHC				ScS		**ScS**		**08 28 19.3**	**-3.4**
HHC				pmax		pmax			
	comp=Z,35nm,0.7s								
HHC				pmax		pmax			
	comp=Z,240nm,6.3s								
HHC				LR		LR			
	comp=N,1μm,14.2s								
HHC				LR		LR			
	comp=E,810nm,13.6s								
HHC				LR		LR			
	comp=Z,710nm,12.8s								
BJI	**Beijing**	**35.07**	**30**	P		**P**		**08 18 09.5**	**+0.5**
BJI				S		**S**		**08 23 44.5**	**+3.4**
BJI				pmax		pmax			
	comp=Z,10.0nm,0.7s								
BJI				LR		LR			
	comp=N,410nm,19.1s								
BJI				LR		LR			
	comp=E,480nm,20.8s								
BJI				LR		LR			
	comp=Z,300nm,21.4s								
TKM2	**Tokmak 2**	**36.05**	**336**	*e*P		**P**		**08 18 18.5**	**+0.9**
TKM2				pmax		pmax			
	comp=Z,6.0nm,1.1s								
TKM2	**Tokmak 2**	**36.05**	**336**	*e*P		**P**		**08 18 18.5**	**+0.9**
	comp=Z,6.4nm,1.1s								
AAK	**Ala-Archa**	**36.26**	**335**	*e*P		**P**		**08 18 19.4**	**0.0**
AAK				pmax		pmax			
	comp=Z,11nm,1.0s								
AAK	**Ala-Archa**	**36.26**	**335**	*e*P		**P**		**08 18 19.4**	**0.0**
	comp=Z,11nm,1.0s								
AAK	**Ala-Archa**	**36.26**	**335**	P		**P**		**08 18 19.9**	**+0.5**
	comp=Z,6.9nm,0.8s,baz=226,slow=5.6,SNR=7.5								
AAK					LR	LR		08 34 55.2	
	comp=Z,992nm,21.9s,baz=136,slow=39								
FRU	**Bishkek**	**36.38**	**335**	*e*P		**P**		**08 18 20.0**	**-0.2**
EKS2	**Erkin-Say**	**36.59**	**334**	*e*P		**P**		**08 18 21.6**	**-0.5**
EKS2				pmax		pmax			
	comp=Z,7.0nm,0.9s								
EKS2	**Erkin-Say**	**36.59**	**334**	*e*P		**P**		**08 18 21.6**	**-0.5**
	comp=Z,6.9nm,0

FITZ	**Fitzroy Crossi**	**42.08**	**133**	*e*P		**P**	**08 19 09.7**	**+1.5**
	comp=Z,19nm,1.4s							
FITZ	**Fitzroy Crossi**	**42.08**	**133**	P		P	08 19 11.4	+3.3
	baz=38,SNR=5.0							
ISHV	**Shirvan**	**42.40**	**315**	*e*P		**P**	**08 19 12.6**	**+1.8**
CN2	**Changchun**	**42.58**	**34**	*e*P		**P**	**08 19 12.0**	**+0.1**
CN2				*e*pP		**pP**	**08 19 17.5**	**+1.3**
CN2				*e*S		**S**	**08 25 33.8**	**-0.4**
CN2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
CN2				LR	LR			
	comp=N,600nm,14.0s							
CN2				LR	LR			
	comp=E,400nm,14.0s							
CN2				LR	LR			
	comp=Z,500nm,16.0s							
ISRV	**Sarvestan**	**42.71**	**302**	*e*P		**P**	**08 19 15.1**	**+1.6**
IPAR	**Pars**	**42.90**	**303**	*e*P		P	08 19 20.6	+5.5
ZALV	**Zalesovo Beam**	**43.84**	**352**	P		**P**	**08 19 20.6**	**-1.2**
ZALV	**Zalesovo Beam**	**43.84**	**352**	P		**P**	**08 19 20.6**	**-1.2**
ZALV	**Zalesovo Beam**	**43.84**	**352**	P		**P**	**08 19 20.6**	**-1.2**
	comp=Z,7.1nm,0.9s,baz=174,slow=8.9,SNR=13							
ZALV				LR		LR	08 41 11.3	
	comp=Z,166nm,18.3s,baz=69,slow=41							
MEEK	**Meekatharra**	**43.94**	**148**	P		**P**	**08 19 25.3**	**+2.2**
	baz=40,SNR=3.6							
MORW	**Morawa**	**44.71**	**153**	P		P	08 19 32.5	+3.3
	baz=41,SNR=3.3							
NVS	**Novosibirsk**	**44.93**	**351**	⇓ *i*P		**P**	**08 19 28.7**	**-1.9**
NVS				*e*S		**S**	**08 26 06.8**	**-1.4**
NVS				pmax	pmax			
	comp=N,13nm,1.7s							
NVS				pmax	pmax			
	comp=E,12nm,1.7s							
NVS				pmax	pmax			
	comp=Z,17nm,1.7s							
NVS				smax	smax			
	comp=N,14nm,2.5s							
NVS				smax	smax			
	comp=E,23nm,2.3s							
MDJ	**Mudanjiang**	**45.40**	**35**	P		**P**	**08 19 34.5**	**0.0**
MDJ				pP		**pP**	**08 19 37.5**	**-1.4**
MDJ				sP		**sP**	**08 19 39.0**	**-1.5**
MDJ				PcP		**PcP**	**08 21 13.5**	**-0.2**
MDJ				PP		**PP**	**08 21 19.5**	**-1.3**
MDJ				S		**S**	**08 26 19.5**	**+4.1**
MDJ				ScS		**ScS**	**08 29 31.0**	**0.0**
MDJ				pmax	pmax			
	comp=Z,6.0nm,0.4s							
MDJ				pmax	pmax			
	comp=Z,54nm,3.8s							
MDJ				LR	LR			
	comp=N,310nm,16.9s							
MDJ				LR	LR			
	comp=E,230nm,15.0s							
MDJ				LR	LR			
	comp=Z,450nm,16.9s							
BVAR	**Borovoye Array**	**46.44**	**340**	P		**P**	**08 19 41.5**	**-1.1**
BVAR	**Borovoye Array**	**46.44**	**340**	P		**P**	**08 19 41.5**	**-1.1**
BVAR	**Borovoye Array**	**46.44**	**340**	P		**P**	**08 19 41.5**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=148,slow=8.5,SNR=8.4							
BVAR				LR		LR	08 42 31.6	
	comp=Z,243nm,21.3s,baz=359,slow=40							
BRVK	**Borovoye**	**46.50**	**340**	*e*P		**P**	**08 19 42.6**	**-0.5**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.6s							
BRVK	**Borovoye**	**46.50**	**340**	*e*P		**P**	**08 19 42.6**	**-0.5**
	comp=Z,2.8nm,0.6s							
USRK	**Ussuriysk Arra**	**46.56**	**37**	P		**P**	**08 19 42.2**	**-1.4**
	comp=Z,3.2nm,0.8s,baz=236,slow=8.9,SNR=6.6							
USRK				LR		LR	08 41 11.6	
	comp=Z,202nm,20.0s,baz=28,slow=39							
MJAR	**Matsushiro Arr**	**47.17**	**50**	P		**P**	**08 19 46.9**	**-1.7**
MJAR				PcP		**PcP**	**08 21 20.9**	**+0.8**
MJAR	**Matsushiro Arr**	**47.17**	**50**	P		**P**	**08 19 46.9**	**-1.7**
	comp=Z,2.1nm,1.1s,baz=252,slow=11,SNR=6.0							
MJAR				PcP		**PcP**	**08 21 20.9**	**+0.8**
	comp=Z,2.1nm,1.0s,baz=246,slow=4.0,SNR=5.8							
MJAR				LR		LR	08 43 10.8	
	comp=Z,193nm,18.5s,baz=260,slow=41							
ABKAR	**Akbulak array**	**47.91**	**330**	*e*P		**P**	**08 19 54.1**	**-0.1**
	comp=Z,1.4nm,0.6s							
JAY	**Jayapura**	**47.95**	**103**	S		S	08 26 09.1	-44
	baz=45,SNR=3.7							
NWAO	**Narrogin (SRO)**	**48.54**	**154**	P		**P**	**08 20 00.2**	**+1.1**
NWAO	**Narrogin (SRO)**	**48.54**	**154**	P		**P**	**08 20 00.2**	**+1.1**
	comp=Z,26nm,1.0s,baz=320,slow=11,SNR=4.8							
NWAO				LR		LR	08 41 27.5	
	comp=Z,435nm,18.6s,baz=141,slow=37							
KLR	**Kul'dur**	**49.40**	**32**	*e*P		P	08 20 00.0	-5.6
AKTO	**Aktyubinsk**	**49.63**	**330**	P		**P**	**08 20 07.5**	**+0.2**
AKTO	**Aktyubinsk**	**49.63**	**330**	P		**P**	**08 20 07.5**	**+0.2**
AKTO	**Aktyubinsk**	**49.63**	**330**	P		**P**	**08 20 07.5**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=126,slow=14,SNR=4.6							
AKTO				LR		LR	08 44 31.6	
	comp=Z,256nm,20.7s,baz=142,slow=40							
WRA	**Warramunga Arr**	**49.74**	**128**	P		**P**	**08 20 09.1**	**+0.4**
WRA	**Warramunga Arr**	**49.74**	**128**	P		**P**	**08 20 09.1**	**+0.4**
	comp=Z,9.8nm,1.1s,baz=303,slow=8.7,SNR=20							
WRAB	**Tennant Creek**	**49.75**	**128**	*e*P		**P**	**08 20 09.5**	**+0.9**
WRAB				pmax	pmax			
	comp=Z,56nm,1.8s							
WRAB	**Tennant Creek**	**49.75**	**128**	*e*P		**P**	**08 20 09.5**	**+0.9**
	comp=Z,56nm,1.8s							
ATD	**Arta Tunnel**	**50.50**	**276**	LR		LR	08 37 27.1	
	comp=Z,164nm,20.9s,baz=195,slow=31							
ASAR	**Alice Springs**	**51.57**	**132**	P		**P**	**08 20 23.1**	**+0.6**
ASAR	**Alice Springs**	**51.57**	**132**	P		**P**	**08 20 23.1**	**+0.6**
	comp=Z,9.6nm,0.9s,baz=309,slow=6.7,SNR=41							
ASAR				LR		LR	08 41 03.3	
	comp=Z,402nm,21.9s,baz=302,slow=35							
AS31	**Alice Springs**	**51.57**	**132**	*e*P		**P**	**08 20 24.0**	**+1.6**
CLNS	**Chul'man**	**51.76**	**21**	*e*P		**P**	**08 20 23.2**	**-0.1**
CLNS				pmax	pmax			
	comp=Z,7.0nm,1.4s							
CLNS				pmax	pmax			
	comp=Z,10.0nm,1.3s							
CLNS				pmax	pmax			
	comp=E,7.0nm,1.2s							
CLNS				MLR	MLR			
	comp=N,192nm,14.0s							
CLNS				MLR	MLR			
	comp=E,310nm,17.0s							
CLNS				MLR	MLR			
	comp=Z,328nm,14.0s							
FORT	**Forrest**	**52.40**	**143**	*e*P		**P**	**08 20 28.9**	**+0.5**
	comp=Z,30nm,1.0s							
GNI	**Garni**	**52.68**	**313**	*e*P		**P**	**08 20 31.6**	**+1.0**
	comp=Z,79nm,1.3s							
GNI	**Garni**	**52.68**	**313**	P		**P**	**08 20 31.6**	**+1.0**
	comp=Z,2.5nm,0.3s,baz=346,slow=18,SNR=4.0							
GNI				LR		LR	08 46 19.9	
	comp=Z,387nm,21.4s,baz=118,slow=40							
SVE	**Sverdlovsk**	**52.91**	**338**	⇓ *e*P		**P**	**08 20 30.4**	**-1.4**
SVE				pmax	pmax			
	comp=Z,18nm,1.4s							
ARU	**Arti**	**53.43**	**336**	*d i*P		**P**	**08 20 35.0**	**-0.6**
ARU							08 22 30.0	
ARU				S		**S**	**08 28 05.8**	**-1.7**
ARU				SS		SS	08 31 35.4	-12
ARU				pmax	pmax			
	comp=Z,9.0nm,1.7s							
ARU				MLR	MLR			
	comp=Z,965nm,21.0s							
ZEI	**Tsey**	**54.18**	**316**	*e*P		P	08 20 45.8	+4.1
ZEI				pmax	pmax			
	comp=Z,25nm,1.5s							
YSS	**Yuzh-Sakhalins**	**54.48**	**39**	*e*P		**P**	**08 20 43.2**	**-0.2**
YSS				*e*			08 21 46.0	
OPO	**Ambohidratompo**	**54.85**	**238**	LR		LR	08 42 03.7	
	comp=Z,169nm,18.6s,baz=340,slow=34							
KBZ	**Khabaz**	**55.20**	**316**	P		**P**	**08 20 49.2**	**+0.4**
KBZ	**Khabaz**	**55.20**	**316**	P		**P**	**08 20 49.2**	**+0.4**
KBZ	**Khabaz**	**55.20**	**316**	P		**P**	**08 20 49.2**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=220,slow=5.0,SNR=5.4							
KBZ				LR		LR	08 47 47.1	
	comp=Z,271nm,21.2s,baz=112,slow=40							
YUK	**Yuzh-Kuril'sk**	**55.34**	**43**	*d i*P		P	08 20 55.8	+6.0
YUK				*i*			08 22 58.3	
YUK				*e*S		**S**	**08 28 29.2**	**-4.5**
YUK				MLR	MLR			
	comp=E,303nm,19.0s							
YUK				MLR	MLR			
	comp=Z,199nm,19.0s							
KIV	**Kislovodsk**	**55.43**	**317**	*e*P		**P**	**08 20 51.1**	**+0.6**
KIV				pmax	pmax			
	comp=Z,20nm,1.1s							
KIV				MLR	MLR			
	comp=Z,136nm,16.0s							
ASF	**Jabal al Asfar**	**56.92**	**301**	LR		LR	08 47 45.2	
	comp=Z,250nm,20.8s,baz=321,slow=38							
KMBO	**Kilima Mbogo**	**57.98**	**262**	LR		LR	08 43 07.7	
	comp=Z,150nm,20.3s,baz=91,slow=33							
EIL	**Elat**	**58.27**	**298**	P		**P**	**08 21 10.4**	**-0.4**
EIL	**Elat**	**58.27**	**298**	P		**P**	**08 21 10.4**	**-0.4**
	comp=Z,4.4nm,0.7s,baz=28,slow=17,SNR=4.0							
MMAI	**Mount Meron Ar**	**58.29**	**302**	LR		LR	08 49 21.8	
	comp=Z,255nm,20.6s,baz=120,slow=39							
CTAO	**Charters Tower**	**59.52**	**121**	*e*P		**P**	**08 21 21.5**	**+1.9**
CTAO				pmax	pmax			
	comp=Z,20nm,1.2s							
CTAO	**Charters Tower**	**59.52**	**121**	*e*P		**P**	**08 21 21.5**	**+1.9**
	comp=Z,20nm,1.2s							
VORD	**Divnogorie**	**60.10**	**323**	*e*P		**P**	**08 21 22.9**	**-0.2**
VORD				pmax	pmax			
	comp=Z,20nm,1.0s							
VORD				pmax	pmax			
	comp=N,20nm,0.9s							
VORD				pmax	pmax			
	comp=E,10.0nm,0.6s							
VSR	**Storozhevoye**	**60.27**	**324**	*e*P		**P**	**08 21 24.8**	**+0.5**
VSR				pmax	pmax			
	comp=N,6.0nm,0.4s							
VSR				pmax	pmax			
	comp=Z,5.0nm,0.4s							
VSR				pmax	pmax			
	comp=E,10.0nm,0.5s							
BR131	**Keskin Array S**	**60.80**	**310**	*e*P		**P**	**08 21 27.5**	**-0.8**
	comp=E,0.4nm,0.3s							
BRTR	**Keskin Array B**	**60.80**	**310**	P		**P**	**08 21 27.4**	**-0.9**
BRTR	**Keskin Array B**	**60.80**	**310**	P		**P**	**08 21 27.4**	**-0.9**
	comp=E,2.1nm,1.1s,baz=123,slow=5.3,SNR=6.5							
BRTR				LR		LR	08 51 18.1	
	comp=E,165nm,21.3s,baz=98,slow=40							
STKA	**Stephens Creek**	**61.89**	**135**	P		**P**	**08 21 34.6**	**-1.0**
STKA	**Stephens Creek**	**61.89**	**135**	P		**P**	**08 21 34.6**	**-1.0**
	comp=E,8.7nm,0.9s,baz=295,slow=4.8,SNR=8.2							
STKA				LR		LR	08 47 35.6	
	comp=E,494nm,22.0s,baz=281,slow=35							
STKA	**Stephens Creek**	**61.89**	**135**	P		**P**	**08 21 38.7**	**+3.1**
	baz=58,SNR=6.4							
OBN	**Obninsk**	**63.16**	**327**	⇓ *e*P		**P**	**08 21 43.6**	**0.0**
OBN				*e*			08 24 05.6	
OBN				*i* S		S	08 30 04.6	-10
OBN				pmax	pmax			
	comp=Z,9.0nm,1.7s							
OBN				MLR	MLR			
	comp=Z,500nm,18.0s							
RMQ	**Roma**	**64.45**	**126**	P		P	08 21 57.1	+4.4
	baz=61,SNR=8.5							
CMSA	**Cobar Meteorol**	**64.62**	**132**	P		**P**	**08 21 56.4**	**+2.7**
	baz=61,SNR=13							
PETK	**Petropavlovsk-**	**65.63**	**36**	LR		LR	08 55 31.8	
	comp=Z,147nm,18.1s,baz=261,slow=41							
ARMA	**Armidale**	**68.51**	**129**	*e*P		P	08 22 22.0	+3.3
	comp=Z,24nm,1.2s							
ARMA	**Armidale**	**68.51**	**129**	P		P	08 22 23.3	+4.6
	baz=65,SNR=5.7							
APA	**Apatity**	**69.33**	**339**	⇓ *e*P		P	08 22 27.0	+3.9
APA				MLR	MLR			
	comp=Z,800nm,17.0s							
FINES	**FINESS Array B**	**70.36**	**332**	P		**P**	**08 22 28.8**	**-0.7**
FINES	**FINESS Array B**	**70.36**	**332**	P		**P**	**08 22 28.8**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=122,slow=18,SNR=3.5							
FINES				LR		LR	09 00 02.1	
	comp=Z,387nm,18.8s,baz=119,slow=42							
ARCES	**ARCESS Array B**	**72.73**	**340**	P		**P**	**08 22 42.8**	**-0.9**
ARCES	**ARCESS Array B**	**72.73**	**340**	P		**P**	**08 22 42.8**	**-0.9**
	comp=Z,3.6nm,0.9s,baz=30,slow=5.5,SNR=6.4							
ARCES				LR		LR	08 57 57.1	
	comp=Z,588nm,20.6s,baz=117,slow=39							
TREC	**Trest**	**74.74**	**318**	AMS		AMS	08 58 10.0	
	comp=Z,200nm,20.1s							
PRU	**Pruhonice**	**75.36**	**319**	AMS		AMS	08 59 20.0	
	comp=Z,200nm,22.2s							
GERES	**GERESS Array B**	**75.91**	**318**	P		**P**	**08 23 01.9**	**-0.9**
GERES	**GERESS Array B**	**75.91**	**318**	P		**P**	**08 23 01.9**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=92,slow=5.9,SNR=5.8							
GERES				LR		LR	09 01 51.9	
	comp=Z,171nm,20.4s,baz=228,slow=40							
HFS	**Hagfors**	**76.17**	**329**	P		**P**	**08 23 02.8**	**-1.1**
HFS	**Hagfors**	**76.17**	**329**	P		**P**	**08 23 02.8**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=190,slow=7.3,SNR=3.2							
HFS				LR		LR	09 00 40.6	
	comp=Z,430nm,21.2s,baz=95,slow=39							
BOSA	**Boshof**	**77.25**	**237**	LR		LR	08 54 20.4	
	comp=Z,132nm,18.2s,baz=257,slow=33							
NOA	**NORSAR Array B**	**77.42**	**330**	LR		LR	09 00 31.0	
	comp=Z,275nm,22.0s,baz=105,slow=38							
KEST	**Kesra**	**79.83**	**305**	LR		LR	09 06 27.2	
	comp=Z,58nm,19.9s,baz=287,slow=42							
LPG	**La Plagne**	**80.81**	**315**	*e*P		**P**	**08 23 29.1**	**-1.1**
LPL	**La Plagne**	**80.83**	**315**	*e*P		**P**	**08 23 28.9**	**-1.3**
	comp=E,6.6nm,0.9s							
MBDF	**Montbardon**	**80.88**	**314**	*e*P		**P**	**08 23 29.9**	**-0.5**
RPZ	**Rata Peaks**	**87.86**	**135**	LR		LR	09 04 15.3	
	comp=Z,334nm,19.4s,baz=241,slow=36							
ESDC	**Sonseca Array**	**89.59**	**310**	P		**P**	**08 24 15.1**	**+1.2**
ESDC	**Sonseca Array**	**89.59**	**310**	P		**P**	**08 24 15.1**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=104,slow=5.4,SNR=3.9							
TORD	**Torodi Ar. Bea**	**90.17**	**283**	P		**P**	**08 24 17.7**	**+0.7**
TORD				PP		**PP**	**08 27 53.8**	**+3.1**
TORD	**Torodi Ar. Bea**	**90.17**	**283**	P		**P**	**08 24 17.7**	**+0.7**
	comp=Z,1.9nm,1.0s,baz=136,slow=2.1,SNR=7.2							
TORD				PP		**PP**	**08 27 53.8**	**+3.1**
	comp=Z,2.0nm,1.0s,baz=79,slow=6.9,SNR=7.3							
TORD				LR		LR	09 06 01.9	
	comp=Z,135nm,19.1s,baz=70,slow=36							
URZ	**Urewera**	**90.91**	**129**	LR		LR	09 02 47.9	
	comp=Z,372nm,21.2s,baz=102,slow=34							
BORG	**Borgarnes**	**90.95**	**337**	LR		LR	09 06 00.3	
	comp=Z,164nm,20.8s,baz=72,slow=36							
ILAR	**Eielson Array**	**92.09**	**22**	P		**P**	**08 24 22.9**	**-2.1**
ILAR	**Eielson Array**	**92.09**	**22**	P		**P**	**08 24 22.9**	**-2.1**
	comp=Z,0.6nm,0.8s,baz=299,slow=3.3,SNR=5.6							
KDAK	**Kodiak Island**	**92.92**	**30**	LR		LR	09 09 48.7	
	comp=Z,140nm,21.0s,baz=298,slow=38							
VNDA	**Vanda**	**95.61**	**168**	LR		LR	09 02 04.9	
	comp=Z,146nm,21.5s,baz=281,slow=32							
SNOW	**Snow King Moun**	**121.47**	**21**	*e*PKPdf		**PKPdf**	**08 30 10.3**	**+0.2**
NVAR	**Mina Array Bea**	**122.42**	**30**	PKP		**PKPdf**	**08 30 12.2**	**+0.2**
NVAR	**Mina Array Bea**	**122.42**	**30**	PKP		**PKPdf**	**08 30 12.2**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=285,slow=1.5,SNR=7.0							
PDAR	**Pinedale Array**	**122.50**	**21**	PKP		**PKPdf**	**08 30 11.6**	**-0.4**
PDAR	**Pinedale Array**	**122.50**	**21**	PKP		**PKPdf**	**08 30 11.6**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=98,slow=3.0,SNR=8.9							
ECSD	**EROS Data Cent**	**124.94**	**10**	*e*PKPdf		**PKPdf**	**08 30 15.4**	**-1.0**
MVU	**Marysvale**	**125.15**	**25**	*e*PKPdf		**PKPdf**	**08 30 18.1**	**+0.9**
MSU	**Marysvale**	**125.16**	**25**	*e*PKIKP		**PKPdf**	**08 30 18.3**	**+1.1**
MSU	**Marysvale**	**125.16**	**25**	*e*PKPdf		**PKPdf**	**08 30 18.3**	**+1.1**
TXAR	**Lajitas Array**	**136.60**	**23**	PKP		**PKPdf**	**08 30 38.2**	**-0.8**
TXAR	**Lajitas Array**	**136.60**	**23**	PKP		**PKPdf**	**08 30 38.2**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=245,slow=1.0,SNR=6.6							
JCT	**Junction City**	**136.88**	**18**	*e*PKIKP		**PKPdf**	**08 30 40.6**	**+1.2**
JCT	**Junction City**	**136.88**	**18**	*e*PKPdf		**PKPdf**	**08 30 40.6**	**+1.2**
OBIP	**Obispado Ponce**	**145.84**	**326**	*e*PKPbc		**PKPbc**	**08 30 56.0**	**-0.1**
PLCA	**Paso Flores**	**147.22**	**201**	PKPbc		**PKPbc**	**08 31 00.4**	**+0.7**
PLCA	**Paso Flores**	**147.22**	**201**	PKPbc		**PKPbc**	**08 31 00.4**	**+0.7**
	comp=Z,13nm,1.2s,baz=156,slow=6.7,SNR=7.3							
CPUP	**Villa Florida**	**149.06**	**236**	PKPbc		**PKPbc**	**08 31 04.6**	**-0.3**
CPUP	**Villa Florida**	**149.06**	**236**	PKPbc		**PKPbc**	**08 31 04.6**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=62,slow=4.1,SNR=6.3							
ROSC	**El Rosal**	**160.90**	**323**	PKPab		**PKPab**	**08 31 59.2**	**-0.8**
ROSC	**El Rosal**	**160.90**	**323**	PKPab		**PKPab**	**08 31 59.2**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=273,slow=23,SNR=3.6							

IDC 26 08:19:23.0±1.0, 10°62N×94°16E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.7/28, mbtmp3.7/11, ML3.6/1, Error ellipse: s-maj=38.0km s-min=18.1km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.06**	**30**	P		Pn	Pn	08 21 35.4	+0.2
	0.2nm,0.3s,baz=215,slow=15,SNR=5.3								
MKAR	**Makanchi Array**	**37.43**	**347**	P		P	P	08 26 37.9	-0.1
	1.5nm,0.8s,baz=168,slow=8.4,SNR=12								
SONM	**Songino Array**	**38.50**	**13**	P		P	P	08 26 47.2	+0.1
	1.2nm,0.8s,baz=184,slow=8.8,SNR=7.8								
KURBB	**Kurchatov Arra**	**41.91**	**345**	P		P	P	08 27 15.7	+0.5
	1.4nm,0.9s,baz=164,slow=7.8,SNR=9.5								
ZALV	**Zalesovo Beam**	**43.85**	**352**	P		P	P	08 27 30.7	-0.1
	1.6nm,0.6s,baz=169,slow=8.8,SNR=7.3								
BVAR	**Borovoye Array**	**46.42**	**340**	P		P	P	08 27 51.7	+0.4
	0.4nm,0.5s,baz=120,slow=8.5,SNR=2.9								
USRK	**Ussuriysk Arra**	**46.72**	**37**	P		P	P	08 27 52.7	-1.0
	1.1nm,0.9s,baz=231,slow=5.7,SNR=4.9								
WRA	**Warramunga Arr**	**49.87**	**127**	P		P	P	08 28 18.6	0.0
	0.6nm,0.9s,baz=305,slow=8.8,SNR=3.3								
ASAR	**Alice Springs**	**51.69**	**132**	P		P	P	08 28 32.2	0.0
	0.7nm,0.6s,baz=308,slow=6.6,SNR=12								
GERES	**GERESS Array B**	**75.81**	**318**	P		P	P	08 31 11.1	-0.1
	0.5nm,0.8s,baz=141,slow=0.6,SNR=3.1								
NOA	**NORSAR Array B**	**77.36**	**330**	P		P	P	08 31 18.5	-1.2
	1.0nm,0.8s,baz=93,slow=6.1,SNR=3.2								
PDAR	**Pinedale Array**	**122.61**	**21**	PKP		PKPdf	PKPdf	08 38 21.1	-0.3
	0.4nm,0.8s,baz=122,slow=1.2,SNR=3.4								
TXAR	**Lajitas Array**	**136.72**	**23**	PKP		PKPdf	PKPdf	08 38 48.7	+0.4
	0.1nm,0.6s,baz=354,slow=2.7,SNR=3.0								

*ISCJB **26** 08:20:01.8±0.6, 37°15N±0°04×71°32E±0°09, h109km, mb3.6/6, Error ellipse: s-maj=10.5km s-min=4.7km az=153.5*

*IDC **26** 08:20:08.6±4.3, 37°40N×72°27E, h193km±35km, mb3.2/6, mb1 3.2/11, mb1mx3.0/31, mbtmp3.2/11, MS3.1/1, Ms1 3.1/1, ms1mx2.6/27, Error ellipse: s-maj=48.1km s-min=30.4km az=140.0*

*NNC **26** 08:20:14.7±8.4, 37°90N×72°00E, h203km±80km, mb2.9, mpv4.0, Error ellipse: s-maj=94.1km s-min=49.0km az=30.0*

ISC 26 08:20:03.2±0.8, 37°23N±0°07×71°5E±0°1, h109km, n29, σ1§99/29, mb3.6/6, 6C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.19**	**19**	P		**Pn**	**Pn**	**08 21 21.7**	**+2.8**
	SNR=31								
KZA	**Kyzart**	**5.66**	**30**	P		**Pn**	**Pn**	**08 21 25.9**	**+0.8**
	SNR=42								
EKS2	**Erkin-Say**	**5.71**	**17**	P		**Pn**	**Pn**	**08 21 28.4**	**+2.8**
	SNR=24								
AAK	**Ala-Archa**	**5.88**	**22**	P		**Pn**	**Pn**	**08 21 30.2**	**+2.2**
	SNR=7.1								
AAK	**Ala-Archa**	**5.88**	**22**	P		**Pn**	**Pn**	**08 21 30.3**	**+2.4**
	11nm,0.3s,baz=173,slow=6.3,SNR=26								
AAK				S		**Sn**	**Sn**	**08 22 31.4**	**-2.7**
	2.4nm,0.3s,baz=330,slow=20,SNR=3.6								
KK31	**Karatay Array**	**5.91**	**353**	⇑P		Pn	Pn	08 21 33.6	+5.3
	7.1nm,0.5s,baz=160,slow=12,SNR=54								
KK31				S		**Sn**	**Sn**	**08 22 36.2**	**+1.5**
	9.9nm,0.3s,baz=171,slow=22,SNR=14								
THN	**Thein Dam**	**5.92**	**143**	*e*P		**Pn**	**Pn**	**08 21 30.0**	**+1.5**
THN				*e*S		**Sn**	**Sn**	**08 22 34.5**	**-0.5**
DLH	**Dalhousie**	**5.96**	**140**	*e*P		Pn	Pn	08 21 33.0	+3.8
DLH				*e*S		**Sn**	**Sn**	**08 22 37.0**	**+0.7**
KBK	**Karagaybulak**	**6.05**	**25**	P		**Pn**	**Pn**	**08 21 32.6**	**+2.3**
	SNR=6.8								
ULHL	**Ulahol**	**6.22**	**35**	P		**Pn**	**Pn**	**08 21 32.7**	**+0.1**
	SNR=12								
CHMS	**Chirnysh**	**6.29**	**23**	P		**Pn**	**Pn**	**08 21 35.1**	**+1.7**
	SNR=17								
TKM2	**Tokmak 2**	**6.51**	**28**	⇑P		**Pn**	**Pn**	**08 21 37.3**	**+0.8**
	11nm,0.5s								
TKM2	**Tokmak 2**	**6.51**	**28**	P		**Pn**	**Pn**	**08 21 37.9**	**+1.3**
	SNR=15								
SDNR	**Sundarnagar**	**7.30**	**140**	*e*P		**Pn**	**Pn**	**08 21 49.0**	**+1.8**
SDNR				*e*S		**Sn**	**Sn**	**08 23 05.0**	**-3.6**
AYAN	**Aya Nagar**	**9.93**	**150**	*ex*		x	Pn	08 23 59.7	
KUDL	**Kundal**	**10.00**	**154**	*e*S		Sn	Sn	08 24 06.8	-7.2
KUDL				AML		AML	AML	08 24 09.9	
	comp=E,8.5nm,0.5s								
KUDL				AML		AML	AML	08 24 13.0	
	comp=N,8.2nm,0.4s								
SONA	**Sohna**	**10.12**	**151**	*e*S		Sn	Sn	08 24 10.4	-6.7
SONA				AML		AML	AML	08 24 15.1	
	comp=E,25nm,0.3s								
SONA				AML		AML	AML	08 24

1.7nm,1.0s,baz=307,slow=8.7,SNR=5.8

WEL 26 08:27:14.9±0.4, 46°.13S×165°.65E, h33km, ML3.5/13, Error ellipse: s-maj=4.0km s-min=2.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.24**	**59**	PN	Pn	08 27 35.8	-0.1
DCZ				AML	AML	08 27 36.9	
DCZ				AML	AML	08 27 51.3	
DCZ				AML	AML	08 27 51.3	
DCZ				AML	AML	08 28 00.9	
WHZ	**Wether Hill Ro**	**1.62**	**83**	PN	Pn	08 27 41.9	+0.7
WHZ				SN	Sn	08 28 02.1	+1.2
WHZ				AML	AML	08 28 04.3	
APZ	**The Paps**	**1.77**	**114**	PN	Pn	08 27 43.3	+0.1
APZ				SN	Sn	08 28 03.9	-0.7
MLZ	**Mavora Lakes**	**1.93**	**67**	PN	Pn	08 27 46.6	+1.1
MLZ				AML	AML	08 28 13.8	
MLZ				AML	AML	08 28 16.6	
MSZ	**Milford Sound**	**2.17**	**49**	AML	AML	08 28 28.6	
MSZ				AML	AML	08 28 34.0	
SYZ	**Scrubby Hill**	**2.45**	**101**	PN	Pn	08 27 53.7	+1.1
SYZ				SN	Sn	08 28 19.8	-1.6
WKZ	**Wanaka**	**2.70**	**62**	PN	Pn	08 27 59.0	+2.9
EAZ	**Earnscleugh**	**2.72**	**72**	PN	Pn	08 27 58.5	+2.3
EAZ				AML	AML	08 28 39.8	
EAZ				AML	AML	08 28 41.8	
TUZ	**Tuapeka**	**2.78**	**88**	PN	Pn	08 27 58.5	+1.4
TUZ				AML	AML	08 28 33.1	
TUZ				AML	AML	08 28 42.4	
JCZ	**Jackson Bay**	**3.01**	**48**	PN	Pn	08 28 02.3	+1.9
JCZ				AML	AML	08 29 06.5	
ODZ	**Otahua Downs**	**3.67**	**75**	PN	Pn	08 28 09.5	+0.1
WVZ	**Waitaha Valley**	**4.75**	**52**	PN	Pn	08 28 25.1	+1.0

IDC 26 08:29:20.8±1.6, 10°.60N×94°.19E, h0km, mb3.4/6, mb1 3.5/7, mb1mx3.4/27, mbtmp3.4/7, ML3.7/1, Error ellipse: s-maj=63.1km s-min=19.9km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.06**	**30**	Pn	Pn	08 31 31.9	-1.1
	0.2nm,0.3s,baz=215,slow=15,SNR=4.4						
MKAR	**Makanchi Array**	**37.46**	**347**	P	P	08 36 36.3	+0.3
	0.4nm,0.7s,baz=175,slow=9.4,SNR=3.4						
SONM	**Songino Array**	**38.51**	**13**	P	P	08 36 45.1	+0.1
	0.1nm,0.3s,baz=229,slow=13,SNR=2.5						
KURBB	**Kurchatov Arra**	**41.94**	**345**	P	P	08 37 13.3	+0.1
	0.2nm,0.4s,baz=166,slow=7.4,SNR=2.9						
ZALV	**Zalesovo Beam**	**43.88**	**352**	P	P	08 37 29.0	+0.1
	0.5nm,0.4s,baz=167,slow=13,SNR=2.5						
WRA	**Warramunga Arr**	**49.83**	**127**	P	P	08 38 16.2	+0.2
	0.2nm,0.5s,baz=306,slow=8.8,SNR=3.2						
ASAR	**Alice Springs**	**51.65**	**132**	P	P	08 38 29.9	+0.2
	0.5nm,0.3s,baz=313,slow=6.2,SNR=6.0						
PDAR	**Pinedale Array**	**122.62**	**21**	PKP	PKPdf	08 48 17.4	-1.8
	0.2nm,0.6s,baz=132,slow=1.3,SNR=2.3						

*IDC **26** 08:32:34.2±0.7, 10°.65N×94°.25E, h0km, mb3.9/19, mb1 4.0/20, mb1mx3.9/31, mbtmp3.9/20, ML3.1/1, MS3.3/1, Ms1 3.5/1, ms1mx2.8/39, Error ellipse: s-maj=23.8km s-min=14.6km az=56.0*

*ISCJB **26** 08:32:35.3±0.6, 10°.65N±0°.08×94°.29E±0°.10, h19km, mb4.0/23, Error ellipse: s-maj=15.8km s-min=8.8km az=143.4*

*NEIC **26** 08:32:36.0±0.3, 10°.68N×94°.25E, h10km, mb4.4/4, Error ellipse: s-maj=11.2km s-min=6.4km az=58.0*

ISC 26 08:32:36.9±0.6, 10°.58N±0°.09×94°.3E±0°.1, h19km, n57, σ1s22/57, mb4.0/23, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulm**	**8.17**	**130**	Pn	**Pn**	**08 34 37.0**	**+2.4**
IPM	**Ipoh**	**8.99**	**132**	*e*Pn	Pn	08 34 40.5	-5.3
IPM				*e*Sn	**Sn**	**08 36 20.6**	**-5.9**
CMAR	**Chiang Mai Arr**	**9.01**	**29**	Pn	**Pn**	**08 34 46.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**9.01**	**29**	Pn	**Pn**	**08 34 46.0**	**-0.1**
	0.1nm,0.3s,baz=215,slow=15,SNR=5.6						
CMAR				LR	LR	08 38 20.7	
	comp=Z,184nm,18.4s,baz=190,slow=38						
ENH	**Enshi**	**24.14**	**34**	*e*P	**P**	**08 37 51.2**	**-0.8**
	35nm,1.1s						
AAK	**Ala-Archa**	**36.33**	**335**	P	**P**	**08 39 39.8**	**+0.1**
AAK	**Ala-Archa**	**36.33**	**335**	P	**P**	**08 39 39.8**	**+0.1**
	1.3nm,0.3s,baz=255,slow=14,SNR=4.4						
EKS2	**Erkin-Say**	**36.65**	**334**	*e*P	**P**	**08 39 43.0**	**+0.5**
	5.4nm,0.9s						
MKAR	**Makanchi Array**	**37.51**	**346**	P	**P**	**08 39 49.5**	**-0.1**
MKAR	**Makanchi Array**	**37.51**	**346**	P	**P**	**08 39 49.5**	**-0.1**
	2.5nm,0.9s,baz=163,slow=8.5,SNR=12						
SONM	**Songino Array**	**38.50**	**13**	P	**P**	**08 39 58.3**	**+0.3**
SONM	**Songino Array**	**38.50**	**13**	P	**P**	**08 39 58.3**	**+0.3**
	2.3nm,0.9s,baz=196,slow=8.5,SNR=11						
ULN	**Ulaanbaatar**	**38.68**	**14**	*e*P	**P**	**08 39 59.6**	**+0.1**
	2.0nm,0.7s						
KSAR	**Wonju Array Be**	**40.30**	**43**	P	**P**	**08 40 12.0**	**-1.1**
KSRS	**Korea Array**	**40.34**	**43**	P	**P**	**08 40 12.0**	**-1.3**
	0.4nm,0.3s,baz=263,slow=10.0,SNR=5.7						
KURBB	**Kurchatov Arra**	**41.99**	**345**	P	**P**	**08 40 26.9**	**+0.2**
	2.3nm,1.0s,baz=161,slow=8.0,SNR=12						
KURK	**Kurchatov**	**42.05**	**345**	P	**P**	**08 40 26.9**	**-0.4**
ZAA0	**Zalesovo Array**	**43.92**	**352**	*e*P	**P**	**08 40 41.2**	**-1.1**
ZALV	**Zalesovo Beam**	**43.92**	**352**	P	**P**	**08 40 42.5**	**+0.2**
ZALV	**Zalesovo Beam**	**43.92**	**352**	P	**P**	**08 40 42.5**	**+0.2**
	1.9nm,0.5s,baz=181,slow=8.3,SNR=9.7						
BVAR	**Borovoye Array**	**46.51**	**340**	P	**P**	**08 41 02.6**	**-0.4**
BVAR	**Borovoye Array**	**46.51**	**340**	P	**P**	**08 41 02.6**	**-0.4**
	0.6nm,0.6s,baz=142,slow=7.5,SNR=4.3						
USRK	**Ussuriysk Arra**	**46.64**	**37**	P	**P**	**08 41 03.9**	**-0.2**
	1.1nm,0.9s,baz=242,slow=7.0,SNR=4.7						
MJAR	**Matsushiro Arr**	**47.24**	**49**	P	**P**	**08 41 09.9**	**+0.9**
MJAR	**Matsushiro Arr**	**47.24**	**49**	P	**P**	**08 41 09.9**	**+0.9**
	0.2nm,0.3s,baz=168,slow=18,SNR=4.2						
AKTO	**Aktyubinsk**	**49.69**	**330**	P	**P**	**08 41 26.8**	**-0.8**
AKTO	**Aktyubinsk**	**49.69**	**330**	P	**P**	**08 41 26.8**	**-0.8**
	0.5nm,0.5s,baz=225,slow=5.7,SNR=2.7						
WRA	**Warramunga Arr**	**49.71**	**128**	P	**P**	**08 41 29.0**	**+0.8**
WRA	**Warramunga Arr**	**49.71**	**128**	P	**P**	**08 41 29.0**	**+0.8**
	2.5nm,1.0s,baz=304,slow=8.5,SNR=6.5						
WRAB	**Tennant Creek**	**49.72**	**128**	*e*P	**P**	**08 41 30.6**	**+2.4**
	4.0nm,0.9s						
ASAR	**Alice Springs**	**51.53**	**132**	P	**P**	**08 41 43.5**	**+1.6**
ASAR	**Alice Springs**	**51.53**	**132**	P	**P**	**08 41 43.5**	**+1.6**
	3.7nm,0.8s,baz=308,slow=7.1,SNR=20						
BRTR	**Keskin Array B**	**60.84**	**310**	P	**P**	**08 42 46.6**	**-1.8**
BRTR	**Keskin Array B**	**60.84**	**310**	P	**P**	**08 42 46.6**	**-1.8**
	0.5nm,0.6s,baz=112,slow=9.5,SNR=4.4						
STKA	**Stephens Creek**	**61.85**	**135**	P	**P**	**08 42 54.9**	**-0.2**
STKA	**Stephens Creek**	**61.85**	**135**	P	**P**	**08 42 54.9**	**-0.2**
	3.6nm,0.9s,baz=346,slow=4.5,SNR=3.4						
FINES	**FINESS Array B**	**70.43**	**332**	P	**P**	**08 43 49.0**	**-0.7**
FINES	**FINESS Array B**	**70.43**	**332**	P	**P**	**08 43 49.0**	**-0.7**
	1.0nm,0.7s,baz=127,slow=5.0,SNR=3.5						
ARCES	**ARCESS Array B**	**72.80**	**340**	P	**P**	**08 44 04.3**	**+0.4**
ARCES	**ARCESS Array B**	**72.80**	**340**	P	**P**	**08 44 04.3**	**+0.4**
	2.3nm,0.8s,baz=87,slow=5.0,SNR=4.5						
GERES	**GERESS Array B**	**75.95**	**318**	P	**P**	**08 44 22.1**	**-0.7**
GERES	**GERESS Array B**	**75.95**	**318**	P	**P**	**08 44 22.1**	**-0.7**
	0.1nm,0.3s,baz=129,slow=16,SNR=3.2						
HFS	**Hagfors**	**76.23**	**329**	P	**P**	**08 44 23.3**	**-0.7**
HFS	**Hagfors**	**76.23**	**329**	P	**P**	**08 44 23.3**	**-0.7**
	1.3nm,0.8s,baz=162,slow=20,SNR=1.9						
ILAR	**Eielson Array**	**92.18**	**22**	P	**P**	**08 45 44.7**	**-0.4**
ILAR	**Eielson Array**	**92.18**	**22**	P	**P**	**08 45 44.7**	**-0.4**
	0.4nm,0.9s,baz=271,slow=5.1,SNR=3.4						
SNOW	**Snow King Moun**	**121.56**	**21**	*e*PKPdf	**PKPdf**	**08 51 30.6**	**+0.6**
NVAR	**Mina Array Bea**	**122.50**	**30**	PKP	**PKPdf**	**08 51 33.2**	**+1.3**
NVAR	**Mina Array Bea**	**122.50**	**30**	PKP	**PKPdf**	**08 51 33.2**	**+1.3**
	0.9nm,0.8s,baz=153,slow=0.3,SNR=4.6						
PDAR	**Pinedale Array**	**122.59**	**21**	PKP	**PKPdf**	**08 51 32.2**	**+0.3**
PDAR	**Pinedale Array**	**122.59**	**21**	PKP	**PKPdf**	**08 51 32.2**	**+0.3**
	0.3nm,0.6s,baz=202,slow=1.6,SNR=3.6						
TXAR	**Lajitas Array**	**136.69**	**23**	PKP	**PKPdf**	**08 52 00.1**	**+1.2**
TXAR	**Lajitas Array**	**136.69**	**23**	PKP	**PKPdf**	**08 52 00.1**	**+1.2**
	0.5nm,0.8s,baz=126,slow=2.2,SNR=3.6						
PLCA	**Paso Flores**	**147.13**	**201**	PKPbc	**PKPab**	**08 52 20.6**	**-0.1**
PLCA	**Paso Flores**	**147.13**	**201**	PKPbc	**PKPab**	**08 52 20.6**	**-0.1**
	1.7nm,0.9s,baz=55,slow=6.2,SNR=2.9						
CPUP	**Villa Florida**	**148.99**	**236**	PKPbc	**PKPbc**	**08 52 25.3**	**+0.9**
CPUP	**Villa Florida**	**148.99**	**236**	PKPbc	**PKPbc**	**08 52 25.3**	**+0.9**
	0.7nm,0.6s,baz=54,slow=4.4,SNR=3.9						

IDC 26 08:36:02.6±7.3, 10°.65N×94°.19E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/26, mbtmp3.4/4, Error ellipse: s-maj=421.3km s-min=22.8km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.41**	**347**	P	P	08 43 17.0	-0.5
	0.3nm,0.6s,baz=173,slow=8.4,SNR=2.8						
KURBB	**Kurchatov Arra**	**41.89**	**345**	P	P	08 43 55.0	+0.4
	0.2nm,0.5s,baz=163,slow=8.0,SNR=4.1						
WRA	**Warramunga Arr**	**49.86**	**127**	P	P	08 44 57.5	-0.6
	0.3nm,0.7s,baz=306,slow=8.4,SNR=3.6						
ASAR	**Alice Springs**	**51.68**	**132**	P	P	08 45 12.2	+0.4
	0.4nm,0.9s,baz=310,slow=6.6,SNR=7.4						

*BJI **26** 08:40:50.1, 10°.33N×94°.25E, h5km, mB4.8/23, mb4.5/36, Ms4.5/29, Ms7 4.3/30*

*IDC **26** 08:40:53.6±0.5, 10°.71N×94°.37E, h0km, mb4.2/25, mb1 4.3/27, mb1mx4.2/34, mbtmp4.2/27, ML3.6/2, MS4.3/27, Ms1 4.3/27, ms1mx4.1/40, Error ellipse: s-maj=19.5km s-min=11.9km az=55.0*

*NEIC **26** 08:40:55.4±0.2, 10°.71N×94°.40E, h10km, mb4.6/10, Error ellipse: s-maj=8.1km s-min=4.6km az=55.0*

*ISCJB **26** 08:40:55.3±0.3, 10°.62N±0°.03×94°.40E±0°.03, h24km, mb4.4/46, MS4.3/34, Error ellipse: s-maj=5.4km s-min=3.8km az=39.0*

*GCMT **26** 08:41:01.4±0.2, 10°.81N×94°.54E, h12km, MW5.1, Moment Tensor Solution. s45,c54; s75,c138; Moment tensor: Scale 10^{16}Nm; M_{rr}=4.98±.11; $M_{\theta\theta}$=4.62±.10; $M_{\phi\phi}$=0.36±.12; $M_{r\theta}$=1.93±.34; $M_{r\phi}$=1.49±.10; $M_{\theta\phi}$=0.46±.41; Best double couple: M_o=5.40000×10^{16} NP1:ϕ_s71.00000°, δ34.00000°, λ-93.00000°. NP2:ϕ_s254.00000°, δ56.00000°, λ-88.00000°. Principal axes: T 5.4600, Plg11.0000°, Azm343.0000°; N -0.1100, Plg1.0000°, Azm73.0000°; P -5.3600, Plg79.0000°, Azm171.0000°; Data Used: II IU G IC CN.*

*DJA **26** 08:41:03.1±2.4, 11°.N±5°.×9°.5E±°, h35km±20km, M4.6/9, mB5.2/3, mb4.7/9, MLv4.5/1, Mw(mB)4.6/3*

ISC 26 08:40:57.4±0.4, 10°.62N±0°.04×94°.35E±0°.05, h24km, n142, σ2s13/178, mb4.4/46, MS4.3/34, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.89**	**303**	*e*P	Pn	08 41 27.8	-0.3
PBA				*e*S	Sn	08 41 51.8	+0.6
DGPR	**DIGLIPUR**	**2.90**	**331**	*e*P	**Pn**	**08 41 42.8**	**+0.7**
CMBY	**CAMPBELL BAY**	**3.61**	**187**	*e*P	**Pn**	**08 41 52.2**	**+0.3**
CMBY				AMB	AMB	08 42 04.4	
	comp=Z,423nm,1.6s						
CMBY				*ex*	x	08 42 43.0	
BSI	**Banda Aceh**	**5.17**	**170**	P	Pb	08 42 21.6	-5.7
	comp=Z,97nm,1.6s,comp=Z,3μmcomp=Z,0.4nm						
KCSI	**Kotacane, Aceh**	**7.82**	**154**	P	Pb	08 43 04.3	-8.1
KULM	**Kulim**	**8.18**	**130**	*e*Pn	**Pn**	**08 42 54.2**	**-0.5**
KULM				*e*Sn	**Sn**	**08 44 25.3**	**-1.1**
PBKT	**Sadao Pong**	**8.74**	**47**	P	**Pn**	**08 43 01.1**	**-1.3**
	comp=Z,27nm,0.5s						
CMAR	**Chiang Mai Arr**	**8.97**	**29**	Pn	**Pn**	**08 43 04.5**	**-1.0**
CMAR	**Chiang Mai Arr**	**8.97**	**29**	Pn	**Pn**	**08 43 04.5**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=217,slow=15,SNR=10						
CMAR				LR	LR	08 46 42.5	
	comp=Z,1μm,19.3s,baz=209,slow=39						
PSI	**Prapat**	**8.99**	**149**	Pn	**Pn**	**08 43 08.8**	**+2.8**
PSI	**Prapat**	**8.99**	**149**	Pn	**Pn**	**08 43 08.8**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=288,slow=20,SNR=4.2						
PSI				LR	LR	08 47 01.2	
	comp=Z,4μm,21.4s,baz=308,slow=40						
IPM	**Ipoh**	**9.00**	**132**	*e*Pn	**Pn**	**08 43 03.7**	**-2.2**
IPM				*e*Sn	Sn	08 44 40.5	-6.1
CHTO	**Chiang Mai**	**9.28**	**28**	Pn	**Pn**	**08 43 08.0**	**-1.8**
VIS	**Vishakhapatnam**	**12.80**	**305**	*e*P	**Pn**	**08 43 56.4**	**-1.7**
VIS				AMB	AMB	08 44 04.4	
	comp=Z,42nm,0.5s						
SHL	**Shillong**	**15.05**	**351**	*ex*	**Pn**	**08 44 24.1**	**-4.7**
SHL				AMB	AMB	08 44 30.3	
	comp=Z,25nm,1.6s						
BOK	**Bokaro**	**15.39**	**329**	*e*P	**Pn**	**08 44 32.4**	**-0.7**
BOK				*ex*	x	08 47 12.7	
KMI	**Kunming**	**16.48**	**28**	P	**P**	**08 44 50.3**	**+0.4**
KMI				pP	**pP**	**08 44 53.0**	**-3.4**
KMI				sP	**sP**	**08 44 54.8**	**-4.7**
KMI				PP	**PnPn**	**08 45 02.8**	**+6.1**
KMI				S	**Sn**	**08 47 50.3**	**+0.6**
KMI				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KMI				pmax	pmax		
	comp=Z,160nm,3.4s						
KMI				LR	LR		
	comp=N,1μm,12.5s						
KMI				LR	LR		
	comp=E,1μm,11.3s						
KMI				LR	LR		
	comp=Z,900nm,12.5s						
HYB	**Hyderabad**	**16.75**	**296**	*i* P	**P**	**08 44 53.0**	**+0.3**
HYB				*e*S	**Sn**	**08 47 58.0**	**+2.0**
QIZ	**Qiongzhong**	**17.14**	**59**	P	**Pn**	**08 44 54.5**	**-1.0**
QIZ				S	**Sn**	**08 48 04.8**	**-0.8**
QIZ				LR	LR		
	comp=N,780nm,8.8s						
QIZ				LR	LR		
	comp=E,770nm,9.9s						
QIZ				LR	LR		
	comp=Z,2μm,9.6s						
PPBI	**Pangkal Pinang**	**17.28**	**137**	P	P	08 45 10.2	+12
ODAN	**Odare**	**17.44**	**339**	*e*P	**Pn**	**08 44 59.4**	**0.0**
TAPN	**Taplejung**	**17.78**	**340**	*e*P	**Pn**	**08 45 03.6**	**-0.1**
	comp=Z,244nm,1.4s						
RAMN	**Ramite**	**17.82**	**337**	*e*P	**P**	**08 45 04.8**	**+0.1**
KSM	**Kuching**	**18.27**	**119**	*e*Pn	**P**	**08 45 09.9**	**+0.3**
	comp=Z,2.3nm,0.6s						
JIRN	**Jiri**	**18.61**	**337**	*e*P	**P**	**08 45 13.7**	**+0.1**
	comp=Z,194nm,1.2s						
PKI	**Pulchoki**	**18.85**	**335**	*e*P	**P**	**08 45 15.9**	**-0.2**
	comp=Z,342nm,1.4s						
PKIN	**Phulchoki**	**18.86**	**335**	*e*P	**P**	**08 45 15.7**	**-0.5**
	comp=Z,606nm,2.0s						
GUN	**Gumba**	**18.96**	**336**	*e*P	**P**	**08 45 17.2**	**-0.1**
DMN	**Daman**	**19.01**	**334**	*e*P	**P**	**08 45 18.1**	**+0.3**
	comp=Z,147nm,1.1s						
KKN	**Kakani**	**19.09**	**335**	*e*P	**P**	**08 45 18.8**	**+0.1**
	comp=Z,170nm,1.1s						
LSA	**Lhasa**	**19.22**	**352**	P	**P**	**08 45 20.0**	**-0.3**
LSA				LR	LR		
	comp=Z,1μm,25.5s						
LSA	**Lhasa**	**19.22**	**352**	*e*Pn	**P**	**08 45 19.3**	**-1.1**
	comp=Z,45nm,1.2s						
SBUM	**Sibu**	**19.51**	**113**	P	**Pn**	**08 45 25.7**	**+1.3**
	comp=Z,19nm,1.8s,comp=Z,555nm						
GYA	**Guiyang**	**19.58**	**35**	*e*P	**P**	**08 45 24.5**	**+0.5**
GYA				PP	**PnPn**	**08 45 44.0**	**+4.8**
GYA				S	**Sn**	**08 49 04.5**	**-0.3**
GYA				SS	**SnSn**	**08 49 26.3**	**+6.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,80nm,4.8s						
GYA				LR	LR		
	comp=N,640nm,15.8s						
GYA				LR	LR		
	comp=E,1μm,16.1s						
GYA				LR	LR		
	comp=Z,1μm,16.4s						
KOLN	**Koldanda**	**19.83**	**331**	*e*P	**P**	**08 45 27.2**	**+0.4**
	comp=Z,93nm,0.6s						
DANN	**Dangsing**	**20.25**	**332**	*e*P	**P**	**08 45 31.1**	**-0.3**
	comp=Z,190nm,0.8s						
BHPL	**Bhopal**	**20.46**	**310**	*e*P	**P**	**08 45 33.7**	**+0.3**
BHPL				AMB	AMB	08 45 39.1	
	comp=Z,40nm,0.5s						
POO	**Poona**	**21.33**	**294**	*ex*	P	08 45 49.5	+6.6
POO				AMB	AMB	08 45 51.4	
	comp=Z,57nm,3.5s						
CD2	**Chengdu**	**22.00**	**22**	*e*P	**P**	**08 45 51.0**	**+1.0**
CD2				pP	**pP**	**08 45 55.0**	**-1.7**
CD2				sP	**sP**	**08 45 57.8**	**-2.0**
CD2				PP	**PnPn**	**08 46 16.5**	**+4.3**
CD2				S	**S**	**08 49 48.5**	**-3.3**
CD2				sS	sS	08 49 54.5	-8.0
CD2				SS	**SnSn**	**08 50 26.5**	**+8.0**
CD2				pmax	pmax		
	comp=Z,30nm,1.4s						
CD2				LR	LR		
	comp=E,640nm,14.2s						
CD2				LR	LR		
	comp=Z,1μm,16.2s						
KKM	**Kota Kinabalu**	**22.10**	**100**	*e*P	**P**	**08 45 50.3**	**-1.0**
	comp=Z,23nm,0.9s						
ENH	**Enshi**	**24.10**	**34**	*e*P	**P**	**08 46 10.9**	**-0.5**
	comp=Z,29nm,1.0s						
MYLDM	**Lahad Datu**	**24.51**	**101**	P	**P**	**08 46 19.6**	**+4.4**
	comp=Z,44nm,1.7s,comp=Z,1μm						
DDI	**Dehra Dun**	**24.79**	**325**	*e*P	**P**	**08 46 17.2**	**-0.4**
SMLA	**Simla**	**25.90**	**325**	*e*P	**P**	**08 46 28.0**	**+0.5**
LZH	**Lanzhou**	**26.78**	**17**	*e*P	**P**	**08 46 36.0**	**+0.3**
LZH				pP	**pP**	**08 46 39.0**	**-3.9**
LZH				sP	**sP**	**08 46 40.8**	**-5.0**
LZH				PP	**PnPn**	**08 47 21.0**	**+3.4**
LZH				*e*S	**S**	**08 51 07.0**	**-3.5**
LZH				sS	sS	08 51 16.5	-5.8
LZH				SS	**SnSn**	**08 52 21.8**	**+6.4**
LZH				pmax	pmax		
	comp=Z,42nm,1.5s						
LZH				pmax	pmax		
	comp=Z,260nm,8.6s						
LZH				LR	LR		
	comp=N,1μm,13.4s						
LZH				LR	LR		
	comp=E,490nm,12.0s						
LZH				LR	LR		
	comp=Z,2μm,17.0s						
XAN	**Xi'an**	**26.86**	**28**	P	**P**	**08 46 35.8**	**-0.6**
XAN				pP	**pP**	**08 46 43.5**	**0.0**
XAN				sP	**sP**	**08 46 45.3**	**-1.2**
XAN				S	**S**	**08 51 09.8**	**-1.9**
XAN				pmax	pmax		
	comp=Z,1.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,72nm,11.2s						
XAN				LR	LR		
	comp=N,470nm,16.8s						
XAN				LR	LR		
	comp=E,340nm,16.8s						
XAN				LR	LR		
	comp=Z,260nm,14.4s						
DHRM	**DHARAMSHALA**	**27.22**	**325**	*e*P	**P**	**08 46 36.8**	**-3.1**
DHRM				AMB	AMB	08 46 49.0	
	comp=Z,24nm,0.0s						
GTA	**Gaotai**	**29.08**	**9**	*e*P	**P**	**08 46 58.5**	**+2.2**
GTA				pP	**pP**	**08 47 03.0**	**-0.4**
GTA				sP	**sP**	**08 47 05.5**	**-0.9**
GTA				S	**S**	**08 51 50.0**	**+3.3**
GTA				sS	**sS**	**08 51 57.0**	**-1.6**
GTA				SS	**SnSn**	**08 53 20.5**	**+8.9**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.9s						
GTA				pmax	pmax		
	comp=Z,110nm,4.3s						
GTA				LR	LR		
	comp=N,590nm,19.0s						
GTA				LR	LR		
	comp=E,420nm,20.0s						
GTA				LR	LR		
	comp=Z,910nm,21.9s						
KAPI	**Kappang**	**29.68**	**120**	LR	LR	08 59 14.2	
	comp=Z,670nm,18.8s,baz=170,slow=37						
NJ2	**Nanjing**	**31.09**	**43**	*e*P	**P**	**08 47 13.8**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,30nm,0.8s						
KSH	**Kashi**	**33.10**	**333**	*e*P	P	08 47 28.0	-3.7
KSH				PP	**PnPn**	**08 48 35.5**	**-6.2**
KSH				S	S	08 52 40.5	-9.1
KSH				PcS	**PcS**	**08 53 59.0**	**-1.3**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.4s						
KSH				pmax	pmax		
	comp=Z,110nm,8.9s						
KSH				LR	LR		
	comp=N,180nm,9.5s						
KSH				LR	LR		
	comp=E,200nm,12.0s						
KSH				LR	LR		
	comp=Z,410nm,16.3s						
WMQ	**Urumqi**	**33.58**	**351**	P	**P**	**08 47 37.3**	**+1.6**
WMQ				pP	**pP**	**08 47 41.5**	**-1.4**
WMQ				sP	**sP**	**08 47 44.3**	**-1.6**
WMQ				PP	**PnPn**	**08 48 49.5**	**+1.9**
WMQ				PcP	**PcP**	**08 50 18.0**	**+2.1**
WMQ				S	**S**	**08 52 57.5**	**+0.7**
WMQ				sS	**sS**	**08 53 04.8**	**-3.9**
WMQ				ScP	**ScP**	**08 54 01.0**	**+1.8**
WMQ				SS	**SnSn**	**08 55 01.0**	**+0.3**
WMQ				ScS	**ScS**	**08 58 00.5**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,13nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,76nm,4.9s						
WMQ				LR	LR		
	comp=N,280nm,18.2s						
WMQ				LR	LR		
	comp=E,220nm,18.2s						
WMQ				LR	LR		
	comp=Z,370nm,26.8s						
BJI	**Beijing**	**35.12**	**30**	P	**P**	**08 47 49.3**	**+0.3**
BJI				S	**S**	**08 53 25.8**	**+5.3**
BJI				pmax	pmax		
	comp=Z,11nm,0.6s						
BJI				LR	LR		
	comp=N,620nm,15.8s						
BJI				LR	LR		
	comp=E,330nm,16.9s						
BJI				LR	LR		
	comp=Z,260nm,19.7s						
AAK	**Ala-Archa**	**36.30**	**335**	P	**P**	**08 47 59.1**	**-0.2**
AAK	**Ala-Archa**	**36.30**	**335**	P	**P**	**08 47 59.1**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=191,slow=8.0,SNR=8.2						
AAK		

ZALV Zalesovo Beam 43.88 352 P P 08 49 01.5 -0.4
comp=Z,4.1nm,0.6s,baz=172,slow=7.7,SNR=10
ZALV LR LR 09 10 50.9
comp=Z,162nm,19.0s,baz=69,slow=41
MDJ Mudanjiang 45.45 35 P P 08 49 14.3 -0.2
MDJ pP pP 08 49 17.3 -4.6
MDJ sP sP 08 49 18.5 -6.3
MDJ PP PP 08 51 00.5 -0.5
MDJ ScP ScP 08 54 46.3 +1.5
MDJ PcS PcS 08 54 47.5 +0.3
MDJ S S 08 55 58.0 +3.4
MDJ pmax pmax
comp=Z,2.0nm,0.7s
MDJ pmax pmax
comp=Z,170nm,9.7s
MDJ LR LR
comp=N,350nm,18.2s
MDJ LR LR
comp=E,140nm,18.2s
MDJ LR LR
comp=Z,240nm,22.3s
BVAR Borovoye Array 46.48 340 P P 08 49 21.8 -0.8
BVAR Borovoye Array 46.48 340 P P 08 49 21.8 -0.8
comp=Z,1.7nm,0.7s,baz=148,slow=8.7,SNR=8.2
BVAR LR LR 09 12 21.0
comp=Z,214nm,20.3s,baz=358,slow=41
BRVK Borovoye 46.55 340 *eP* P 08 49 22.6 -0.4
comp=Z,6.3nm,1.0s
USRK Ussuriysk Arra 46.60 37 P P 08 49 22.5 -1.1
comp=Z,2.2nm,0.8s,baz=232,slow=8.5,SNR=10
USRK LR LR 09 11 26.4
comp=Z,238nm,18.5s,baz=218,slow=39
MJAR Matsushiro Arr 47.20 50 P P 08 49 28.2 -0.3
MJAR PcP PcP 08 50 59.6 -0.1
MJAR Matsushiro Arr 47.20 50 P P 08 49 28.2 -0.3
comp=Z,0.6nm,0.4s,baz=258,slow=5.8,SNR=6.1
MJAR PcP PcP 08 50 59.6 -0.1
comp=Z,1.4nm,0.8s,baz=240,slow=2.7,SNR=4.7
MJAR LR LR 09 08 16.3
comp=Z,230nm,21.0s,baz=235,slow=35
ABKAR Akbulak array 47.95 330 *eP* P 08 49 33.5 -0.5
RAYN Ar Rayn 48.20 292 *eP* P 08 49 36.9 +0.4
comp=Z,17nm,1.2s
NWAO Narrogin (SRO) 48.49 154 P P 08 49 38.1 -0.3
NWAO Narrogin (SRO) 48.49 154 P P 08 49 38.1 -0.3
comp=Z,18nm,1.1s,baz=333,slow=7.3,SNR=4.2
NWAO LR LR 09 10 56.0
comp=Z,392nm,20.0s,baz=141,slow=37
AKTO Aktyubinsk 49.67 330 P P 08 49 45.9 -1.4
AKTO Aktyubinsk 49.67 330 P P 08 49 45.9 -1.4
comp=Z,1.6nm,0.6s,baz=98,slow=4.5,SNR=7.0
WRA Warramunga Arr 49.72 128 P P 08 49 48.1 +0.1
WRA Warramunga Arr 49.72 128 P P 08 49 48.1 +0.1
comp=Z,4.3nm,0.8s,baz=304,slow=8.5,SNR=22
WRAB Tennant Creek 49.72 128 *eP* P 08 49 48.3 +0.3
comp=Z,7.7nm,0.8s
ATD Arta Tunnel 50.50 276 LR LR 09 08 32.1
comp=Z,173nm,19.3s,baz=255,slow=33
ASAR Alice Springs 51.54 132 P P 08 50 02.1 +0.3
ASAR Alice Springs 51.54 132 P P 08 50 02.1 +0.3
comp=Z,7.4nm,0.8s,baz=310,slow=7.5,SNR=52
ASAR LR LR 09 15 27.0
comp=Z,355nm,18.1s,baz=304,slow=40
GNI Garni 52.71 313 P P 08 50 11.2 +0.7
GNI Garni 52.71 313 P P 08 50 11.2 +0.7
comp=Z,4.6nm,0.5s,baz=161,slow=11,SNR=4.5
KBZ Khabaz 55.23 316 P P 08 50 29.1 +0.6
KBZ Khabaz 55.23 316 P P 08 50 29.1 +0.6
comp=Z,2.0nm,0.9s,baz=49,slow=1.9,SNR=6.6
KBZ LR LR 09 17 26.0
comp=Z,270nm,21.6s,baz=129,slow=40
BRTR Keskin Array B 60.83 310 P P 08 51 07.0 -1.1
BRTR Keskin Array B 60.83 310 P P 08 51 07.0 -1.1
comp=Z,1.4nm,0.9s,baz=123,slow=4.6,SNR=7.6
BRTR LR LR 09 20 56.4
comp=Z,152nm,21.5s,baz=96,slow=40
STKA Stephens Creek 61.86 135 P P 08 51 14.7 -0.3
STKA Stephens Creek 61.86 135 P P 08 51 14.7 -0.3
comp=Z,6.2nm,0.8s,baz=318,slow=9.2,SNR=7.7
PETK Petropavlovsk- 65.67 36 P P 08 51 39.2 -0.6
PETK Petropavlovsk- 65.67 36 P P 08 51 39.2 -0.6
comp=Z,1.2nm,0.9s,baz=200,slow=12,SNR=3.1
LSZ Lusaka 70.40 250 *eP* P 08 52 11.3 +1.0
comp=Z,38nm,1.9s
FINES FINESS Array B 70.40 332 P P 08 52 07.8 -1.5
FINES FINESS Array B 70.40 332 P P 08 52 07.8 -1.5
comp=Z,1.6nm,0.7s,baz=90,slow=4.8,SNR=6.1
FINES LR LR 09 29 41.1
comp=Z,324nm,18.6s,baz=301,slow=42
ARCES ARCESS Array B 72.77 340 P P 08 52 22.5 -1.0
ARCES ARCESS Array B 72.77 340 P P 08 52 22.5 -1.0
comp=Z,5.2nm,0.9s,baz=87,slow=6.2,SNR=12
ARCES LR LR 09 27 45.7
comp=Z,555nm,19.6s,baz=105,slow=39
GERES GERESS Array B 75.94 318 P P 08 52 41.4 -1.1
GERES GERESS Array B 75.94 318 P P 08 52 41.4 -1.1
comp=Z,0.7nm,0.7s,baz=76,slow=5.6,SNR=5.3
GERES LR LR 09 31 31.1
comp=Z,118nm,20.7s,baz=218,slow=40
HFS Hagfors 76.21 329 P P 08 52 42.7 -0.9
HFS Hagfors 76.21 329 P P 08 52 42.7 -0.9
comp=Z,2.5nm,0.8s,baz=134,slow=11,SNR=4.8
BOSA Boshof 77.22 237 LR LR 09 21 31.5
comp=Z,205nm,21.1s,baz=255,slow=32
NOA NORSAR Array B 77.46 330 LR LR 09 30 09.4
comp=Z,246nm,21.9s,baz=100,slow=38
LPG La Plagne 80.85 315 *eP* P 08 53 10.1 +0.2
LPL La Plagne 80.86 315 *eP* P 08 53 10.5 +0.7
comp=Z,7.5nm,0.8s
MAW Mawson 81.25 192 LR LR 09 21 21.1
comp=Z,55nm,20.1s,baz=195,slow=30
ESDC Sonseca Array 89.62 310 P P 08 53 54.6 +1.0
ESDC Sonseca Array 89.62 310 P P 08 53 54.6 +1.0
comp=Z,0.1nm,0.4s,baz=9.5,slow=3.9,SNR=3.2
TORD Torodi Ar. Bea 90.17 283 P P 08 53 56.5 0.0
TORD PP PP 08 57 34.5 +4.1
TORD Torodi Ar. Bea 90.17 283 P P 08 53 56.5 0.0
comp=Z,1.9nm,1.0s,baz=78,slow=4.9,SNR=7.5
TORD PP PP 08 57 34.5 +4.1
comp=Z,1.9nm,1.2s,baz=82,slow=6.6,SNR=4.4
TORD LR LR 09 37 20.7
comp=Z,130nm,18.9s,baz=65,slow=38
ILAR Eielson Array 92.14 22 P P 08 54 03.0 -1.6
ILAR Eielson Array 92.14 22 P P 08 54 03.0 -1.6
comp=Z,0.5nm,0.7s,baz=290,slow=4.4,SNR=7.2
VNDA Vanda 95.56 168 LR LR 09 33 16.7
comp=Z,193nm,18.8s,baz=276,slow=33
SFJD Kangerlussuaq 98.52 347 LR LR 09 46 25.9
comp=Z,151nm,21.7s,baz=351,slow=40
SNOW Snow King Moun 121.51 21 *e*PKPdf **PKPdf** 08 59 50.8 +1.2
REDW Red Top Meadow 121.57 21 *e*PKPdf **PKPdf** 08 59 50.8 +1.1
NVAR Mina Array Bea 122.46 30 PKP **PKPdf** 08 59 52.6 +1.1
NVAR Mina Array Bea 122.46 30 PKP **PKPdf** 08 59 52.6 +1.1
comp=Z,1.0nm,0.6s,baz=319,slow=1.3,SNR=12
PDAR Pinedale Array 122.55 21 PKP **PKPdf** 08 59 51.4 -0.2
PDAR Pinedale Array 122.55 21 PKP **PKPdf** 08 59 51.4 -0.2
comp=Z,1.0nm,0.7s,baz=258,slow=2.0,SNR=8.7
DUG Dugway 123.52 25 *e*PKPdf **PKPdf** 08 59 52.2 -1.2
DAU Daniels Canyon 123.97 23 *e*PKPdf **PKPdf** 08 59 56.8 +2.3
ECSD EROS Data Cent 125.00 10 *e*PKPdf **PKPdf** 08 59 56.0 +0.1
MVU Marysvale 125.20 25 *e*PKPdf **PKPdf** 08 59 58.5 +1.7
MSU Marysvale 125.21 25 *e*PKPdf **PKPdf** 08 59 58.5 +1.7
ANMO Albuquerque 130.58 23 *e*PKPdf **PKPdf** 09 00 08.7 +1.5
TXAR Lajitas Array 136.64 23 PKP **PKPdf** 09 00 19.0 +0.5
TXAR Lajitas Array 136.64 23 PKP **PKPdf** 09 00 19.0 +0.5
comp=Z,0.4nm,0.6s,baz=74,slow=0.6,SNR=7.7
JCT Junction City 136.93 18 *e*PKPdf **PKPdf** 09 00 19.4 +0.5
HUMP Col San Antoni 145.38 325 *e*PKPdf **PKPdf** 09 00 35.3 +1.0
CPUP Villa Florida 149.03 236 PKPbc **PKPbc** 09 00 44.6 +0.4
CPUP Villa Florida 149.03 236 PKPbc **PKPbc** 09 00 44.6 +0.4
comp=Z,3.9nm,0.9s,baz=137,slow=3.3,SNR=6.9

IDC 26 08:50:19.6±0.9, 10°.75N×94°.34E, h0km, mb4.0/12, mb1 4.1/13, mb1mx3.9/28, mbtmp4.0/13, ML3.8/1, MS4.0/1, Ms1 4.0/1, ms1mx3.2/41, Error ellipse: s-maj=32.5km s-min=17.6km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.87**	**30**	Pn	Pn	08 52 29.4	+0.3
	0.3nm,0.3s,baz=220,slow=14,SNR=6.9						
PSI	**Prapat**	**9.11**	**150**	LR	LR	08 56 25.6	
	comp=Z,916nm,19.2s,baz=310,slow=40						
AAK	**Ala-Archa**	**36.18**	**335**	P	P	08 57 24.7	+0.5
	1.7nm,0.3s,baz=169,slow=5.5,SNR=4.8						
MKAR	**Makanchi Array**	**37.35**	**346**	P	P	08 57 34.1	+0.2
	2.1nm,0.8s,baz=164,slow=8.3,SNR=22						
SONM	**Songino Array**	**38.34**	**13**	P	P	08 57 42.7	+0.3
	1.5nm,0.9s,baz=198,slow=10,SNR=13						
KSRS	**Korea Array**	**40.21**	**43**	P	P	08 57 56.4	-1.6
	1.0nm,0.9s,baz=242,slow=11,SNR=4.5						
KURBB	**Kurchatov Arra**	**41.83**	**345**	P	P	08 58 11.2	0.0
	1.6nm,0.8s,baz=163,slow=7.4,SNR=15						
ZALV	**Zalesovo Beam**	**43.76**	**352**	P	P	08 58 27.0	+0.3
	2.4nm,0.6s,baz=177,slow=9.1,SNR=8.0						
BVAR	**Borovoye Array**	**46.36**	**340**	P	P	08 58 47.4	-0.1
	0.4nm,0.5s,baz=154,slow=11,SNR=5.2						
MJAR	**Matsushiro Arr**	**47.13**	**50**	PcP	PcP	09 00 25.1	-0.6
	1.3nm,1.0s,baz=255,slow=2.9,SNR=4.1						
WRA	**Warramunga Arr**	**49.81**	**128**	P	P	08 59 14.7	0.0
	1.6nm,0.8s,baz=312,slow=8.0,SNR=5.7						
ASAR	**Alice Springs**	**51.64**	**132**	P	P	08 59 28.4	0.0
	2.6nm,0.6s,baz=311,slow=6.7,SNR=11						
FINES	**FINESS Array B**	**70.28**	**332**	P	P	09 01 33.6	-1.0
	1.0nm,0.8s,baz=131,slow=21,SNR=3.0						
ARCES	**ARCESS Array B**	**72.65**	**340**	P	P	09 01 48.2	-0.6
	1.3nm,0.7s,baz=111,slow=9.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**90.13**	**283**	P	P	09 03 22.3	-0.1
	0.4nm,0.8s,baz=92,slow=4.3,SNR=2.6						
NVAR	**Mina Array Bea**	**122.36**	**30**	PKP	PKPdf	09 09 17.9	+0.3
	0.3nm,0.5s,baz=291,slow=1.9,SNR=4.7						
PDAR	**Pinedale Array**	**122.43**	**21**	PKP	PKPdf	09 09 17.2	-0.3
	0.3nm,0.6s,baz=189,slow=4.5,SNR=3.8						
TXAR	**Lajitas Array**	**136.53**	**23**	PKP	PKPdf	09 09 44.9	+0.3
	0.3nm,0.6s,baz=114,slow=2.4,SNR=5.0						

*IDC **26** 08:51:15.9±0.5, 11°.13N×124°.20E, h0km, mb4.4/19, mb1 4.5/20, mb1mx4.3/29, mbtmp4.4/20, MS3.9/2, Ms1 3.9/2, ms1mx3.1/36, Error ellipse: s-maj=23.3km s-min=11.6km az=81.0*

*MAN **26** 08:51:18, 11°.15N×124°.13E, h29km, mb4.9, ML3.8, MS3.8*

*ISCJB **26** 08:51:20.2±0.4, 11°.09N±0°.03×124°.07E±0°.03, h38km±4km, mb4.5/41, MS4.1/4, Error ellipse: s-maj=5.3km s-min=4.4km az=167.6*

*NEIC **26** 08:51:28.3±1.2, 11°.01N×124°.02E, h103km±12km, mb4.6/12, Error ellipse: s-maj=10.2km s-min=5.5km az=91.0*

NEIC Felt [VI] at Medellin, [V] at Bogo and [III] at Cebu City, Cebu.

*BJI **26** 08:51:30.2, 11°.16N×124°.04E, h128km, mB4.9/15, mb4.6/27*

ISC 26 08:51:22.4±0.6, 11°.05N±0°.03×124°.05E±0°.04, h49km±6km, n95, σ2s07/108, mb4.6/41, MS4.0/5, 5C-3D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.55**	**90**	*e*P	Pn	08 51 29.2	-5.0
OCLP				*e*S	**Sn**	**08 51 38.9**	**-3.8**
LLP	**Lapu-Lapu**	**0.73**	**186**↑	*e*P	**Pn**	**08 51 35.4**	**-1.2**
LLP				*e*S	**Sn**	**08 51 45.7**	**-1.2**
PLP	**Palo**	**0.92**	**83**↑	*e*P	Pn	08 51 35.9	-3.1
PLP				*i* S	**Sn**	**08 51 50.5**	**-0.7**
MSLP	**Maasin**	**1.21**	**139**	*e*P	**Pn**	**08 51 41.1**	**-1.9**
MMPH	**Masbate**	**1.36**	**342**	*e*P	**Pn**	**08 51 42.9**	**-2.2**
MMPH				*e*S	Sn	08 52 14.4	+12
TBP	**Tagbilaran**	**1.36**	**188**	*e*P	**Pn**	**08 51 43.1**	**-1.9**
TBP				*e*S	**Sn**	**08 52 02.1**	**+0.1**
RCP	**Roxas**	**1.38**	**292**↓	*e*P	Pn	08 51 41.9	-3.3
RCP				*e*S	**Sn**	**08 52 00.6**	**-1.7**
GUIM	**Jordan**	**1.50**	**254**	*e*P	Pn	08 51 43.8	-3.0
KALP	**Kalibo**	**1.79**	**291**	*e*P	**Pn**	**08 51 48.4**	**-2.5**
SNPH	**Sibulan**	**1.88**	**205**↓	*i*P	Pn	08 51 35.5	-17
SNPH				*i* S	Sn	08 52 03.2	-11
DCPH	**Dipolog City**	**2.55**	**196**↑	*e*P	Pn	08 51 58.7	-2.6
DCPH				*e*S	**Sn**	**08 52 30.1**	**-1.0**
CGP	**Cagayan de Oro**	**2.66**	**166**↑	*e*P	**Pn**	**08 52 02.1**	**-0.7**
CGP				*i* S	**Sn**	**08 52 35.4**	**+1.6**
GQP	**Guinayangan**	**3.24**	**331**↓	*e*P	**Pn**	**08 52 08.9**	**-1.8**
PAGZ	**Pagadian**	**3.25**	**192**	*e*P	**Pn**	**08 52 09.6**	**-1.3**
BUKP	**Musuan**	**3.31**	**162**	*e*P	**Pn**	**08 52 14.1**	**+2.4**
IPIL	**Ipil**	**3.56**	**204**	*e*P	**Pn**	**08 52 16.1**	**+1.0**
DAV	**Davao City (W)**	**4.24**	**159**	Pn	Pn	08 52 37.3	+13
DAV	**Davao City (W)**	**4.24**	**159**	LR	LR	08 54 46.2	
	comp=Z,884nm,18.4s,baz=345,slow=49						
TGY	**Tagaytay City**	**4.29**	**315**	Pn	**Pn**	**08 52 26.4**	**+1.1**
TGY	**Tagaytay City**	**4.29**	**315**	Pn	**Pn**	**08 52 26.4**	**+1.1**
	6.5nm,0.3s,baz=106,slow=18,SNR=2.2						
SSLB	**Suanglung**	**13.01**	**347**	Pn	P	08 54 30.4	-3.3
NACB	**Ninganchiao**	**13.26**	**350**	Pn	**P**	**08 54 33.5**	**-3.0**
QIZ	**Qiongzhong**	**15.84**	**302**	P	**P**	**08 55 05.3**	**+0.1**
QIZ				S	**S**	**08 58 02.5**	**-6.7**
QIZ				pmax	pmax		
	comp=Z,19nm,2.0s						
QIZ				LR	LR		
	comp=Z,1μm,9.5s						
JOW	**Kunigami**	**16.20**	**14**	*e*P	**P**	**08 55 11.8**	**+2.7**
	comp=Z,22nm,0.9s						
KAPI	**Kappang**	**16.52**	**195**	Pn	**Pn**	**08 55 11.7**	**+0.9**
KAPI	**Kappang**	**16.52**	**195**	Pn	**Pn**	**08 55 11.7**	**+0.9**
	baz=243,slow=2.3,SNR=2.7						
KSM	**Kuching**	**16.63**	**236**	*e*Pn	**P**	**08 55 15.1**	**+1.0**
	comp=Z,6.5nm,0.8s						
BATI	**Baumata**	**21.12**	**181**	P	**P**	**08 56 04.8**	**+1.6**
BATI	**Baumata**	**21.12**	**181**	P	**P**	**08 56 04.8**	**+1.6**
	comp=Z,79nm,0.9s,baz=88,slow=2.6,SNR=8.3						
NJ2	**Nanjing**	**21.44**	**348**	*e*P	**P**	**08 56 10.3**	**+3.8**
NJ2				pmax	pmax		
	comp=Z,30nm,0.6s						
GYA	**Guiyang**	**22.45**	**315**	*e*P	**P**	**08 56 19.0**	**+1.5**
GYA				pP	pP	08 56 46.5	+18
GYA				sP	sP	08 57 02.8	+28
GYA				PcP	**PcP**	**09 00 11.3**	**+0.6**
GYA				S	S	09 00 12.5	-8.5
GYA				sS	sS	09 00 57.0	+16
GYA				ScP	ScP	09 03 35.3	-9.1
GYA				PcS	**PcS**	**09 03 49.8**	**+0.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
JNU	**Nakatsue**	**22.84**	**15**	P	**P**	**08 56 22.5**	**+1.0**
	comp=Z,8.9nm,1.0s						
IPM	**Ipoh**	**23.72**	**256**	*e*P	**P**	**08 56 30.4**	**+0.3**
	comp=Z,11nm,0.8s						
KULM	**Kulim**	**23.85**	**258**	*e*P	**P**	**08 56 30.4**	**-1.0**
	comp=Z,64nm,1.2s						
KMI	**Kunming**	**24.57**	**308**	P	**P**	**08 56 40.0**	**+1.9**
KMI				pP	pP	08 57 08.8	+18
KMI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
PSI	**Prapat**	**26.23**	**254**	P	**P**	**08 56 54.1**	**+0.9**
PSI	**Prapat**	**26.23**	**254**	P	**P**	**08 56 54.1**	**+0.9**
	comp=Z,6.2nm,0.6s,baz=82,slow=3.8,SNR=4.8						
KSAR	**Wonju Array Be**	**26.50**	**7**	P	**P**	**08 56 53.9**	**-1.4**
KSRS	**Korea Array**	**26.52**	**7**	P	**P**	**08 56 53.9**	**-1.5**
	comp=Z,2.9nm,0.8s,baz=181,slow=10,SNR=15						
CD2	**Chengdu**	**27.28**	**319**	*e*P	**P**	**08 57 04.3**	**+1.9**
CD2				pP	pP	08 57 33.3	+18
CD2				sP	sP	08 57 49.3	+28
CD2				PP	PP	08 57 57.3	-7.5
CD2				S	**S**	**09 01 32.3**	**-6.3**
CD2				sS	sS	09 02 22.0	+22
CD2				SS	**SnSn**	**09 02 59.0**	**+8.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
CD2				pmax	pmax		
	comp=Z,100nm,6.2s						
MJAR	**Matsushiro Arr**	**28.42**	**24**	P	**P**	**08 57 10.2**	**-2.3**
MJAR	**Matsushiro Arr**	**28.42**	**24**	P	**P**	**08 57 10.2**	**-2.3**
	comp=Z,2.0nm,0.9s,baz=203,slow=8.4,SNR=8.1						
FITZ	**Fitzroy Crossi**	**29.01**	**177**	P	**P**	**08 57 19.9**	**+2.1**
	comp=Z,6.2nm,1.1s						
BJT	**Baijiatuao**	**29.68**	**348**	*e*P	**P**	**08 57 24.4**	**+0.8**
	comp=Z,12nm,0.5s						
BJI	**Beijing**	**29.70**	**348**	P	**P**	**08 57 24.3**	**+0.6**
BJI				pmax	pmax		
	comp=Z,21nm,1.0s						
BJI				LR	LR		
	comp=N,260nm,15.1s						
BJI				LR	LR		
	comp=E,310nm,17.0s						
BJI				LR	LR		
	comp=Z,170nm,23.9s						
LZH	**Lanzhou**	**30.91**	**327**	⇑P	P	08 57 38.0	+3.3
LZH				pP	pP	08 58 07.0	+19
LZH				sP	sP	08 58 21.8	+28
LZH				PP	**PP**	**08 58 45.5**	**+0.3**
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,73nm,5.6s						
HHC	**Hu-ho-hao-te**	**31.66**	**342**	*e*P	**P**	**08 57 43.0**	**+1.9**
HHC				pP	pP	08 58 11.5	+18
HHC				sP	sP	08 58 30.0	+30
HHC				PP	**PP**	**08 58 53.5**	**+0.1**
HHC				PcP	**PcP**	**09 00 31.5**	**-0.8**
HHC				S	S	09 02 40.8	-6.3
HHC				sS	sS	09 03 34.5	+26
HHC				ScP	ScP	09 04 00.3	-11
HHC				PcS	**PcS**	**09 04 14.8**	**-2.0**
HHC				SS	**SnSn**	**09 04 42.3**	**+5.2**
HHC				ScS	ScS	09 07 57.5	-12
HHC				pmax	pmax		
	comp=Z,33nm,0.6s						
HHC				pmax	pmax		
	comp=Z,240nm,6.1s						
WRAB	**Tennant Creek**	**32.42**	**162**	*e*P	**P**	**08 57 49.3**	**+1.4**
	comp=Z,4.5nm,0.9s						
WRA	**Warramunga Arr**	**32.42**	**162**	P	**P**	**08 57 49.4**	**+1.5**
WRA	**Warramunga Arr**	**32.42**	**162**	P	**P**	**08 57 49.4**	**+1.5**
	comp=Z,1.2nm,0.8s,baz=338,slow=10,SNR=5.6						
WRA				LR	LR	09 12 22.6	
	comp=Z,262nm,19.9s,baz=285,slow=39						
CN2	**Changchun**	**32.65**	**2**	*e*P	P	08 57 53.0	+3.3
USRK	**Ussuriysk Arra**	**33.73**	**10**	P	**P**	**08 57 59.8**	**+0.7**
	comp=Z,9.6nm,0.8s,baz=191,slow=8.1,SNR=33						
MDJ	**Mudanjiang**	**33.78**	**7**	P	**P**	**08 58 00.3**	**+0.7**
MDJ				pP	pP	08 58 28.5	+16
MDJ				sP	sP	08 58 43.8	+26
MDJ				PP	**PP**	**08 59 18.8**	**+2.1**
MDJ				PcP	**PcP**	**09 00 37.0**	**-0.9**
MDJ				S	S	09 03 10.8	-9.1
MDJ				ScS	ScS	09 08 11.0	-9.2
MDJ				pmax	pmax		
	comp=Z,11nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,70nm,9.6s						
MDJ				LR	LR		
	comp=N,310nm,14.8s						
MDJ				LR	LR		
	comp=E,250nm,18.5s						
MDJ				LR	LR		
	comp=Z,430nm,16.1s						
MDJ	**Mudanjiang**	**33.78**	**7**	*e*P	**P**	**08 58 00.2**	**+0.7**
	comp=Z,3.8nm,0.5s						
GTA	**Gaotai**	**35.52**	**327**	P	**P**	**08 58 16.5**	**+1.7**
GTA				pP	pP	08 58 46.0	+18
GTA				sP	sP	08 59 01.3	+28
GTA				S	**S**	**09 03 44.8**	**-2.2**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,220nm,5.2s						
GTA				LR	LR		
	comp=N,260nm,19.0s						
GTA				LR	LR		
	comp=E,200nm,18.0s						
GTA				LR	LR		
	comp=Z,160nm,20.0s						
ASAR	**Alice Springs**	**35.83**	**164**	P	**P**	**08 58 16.4**	**-1.0**
ASAR				PcP	**PcP**	**09 00 46.6**	**+2.4**
ASAR	**Alice Springs**	**35.83**	**164**	P	**P**	**08 58 16.4**	**-1.0**
	comp=Z,3.9nm,0.8s,baz=338,slow=6.5,SNR=14						
ASAR				PcP	**PcP**	**09 00 46.6**	**+2.4**
	comp=Z,1.1nm,0.6s,baz=347,slow=2.9,SNR=8.5						
ULN	**Ulaanbaatar**	**39.38**	**342**	*e*P	**P**	**08 58 48.6**	**+1.2**
	comp=Z,20nm,0.8s						
SONM	**Songino Array**	**39.56**	**341**	P	**P**	**08 58 48.8**	**0.0**
SONM	**Songino Array**	**39.56**	**341**	P	**P**	**08 58 48.8**	**0.0**
	comp=Z,7.4nm,0.9s,baz=162,slow=9.5,SNR=20						
WMQ	**Urumqi**	**45.28**	**323**	P	**P**	**08 59 36.5**	**+1.2**
STKA	**Stephens Creek**	**45.87**	**159**	P	**P**	**08 59 40.1**	**+0.2**
STKA	**Stephens Creek**	**45.87**	**159**	P	**P**	**08 59 40.1**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=96,slow=21,SNR=5.8						
PETK	**Petropavlovsk-**	**49.86**	**26**	P	**P**	**09 00 11.4**	**+0.8**
PETK	**Petropavlovsk-**	**49.86**	**26**	P	**P**	**09 00 11.4**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=206,slow=3.1,SNR=11						
MKAR	**Makanchi Array**	**50.09**	**323**	P	**P**	**09 00 13.8**	**+1.2**
MKAR	**Makanchi Array**	**50.09**	**323**	P	**P**	**09 00 13.8**	**+1.2**
	comp=Z,5.1nm,0.8s,baz=122,slow=8.3,SNR=21						
KSH	**Kashi**	**51.09**	**312**	P	P	09 00 23.5	+3.2
KSH				pP	pP	09 00 55.5	+22
KSH				sP	sP	09 01 11.5	+32
KSH				PcS	**PcS**	**09 05 33.3**	**0.0**
KSH				S	**S**	**09 07 29.5**	**-5.2**
KSH				sS	sS	09 08 26.5	+29
KSH				SS	**SS**	**09 11 03.8**	**-6.6**
KSH				pmax	pmax		
	comp=Z,15nm,1.3s						
KSH				pmax	pmax		
	comp=Z,69nm,3.2s						
KSH				LR	LR		
	comp=N,250nm,10.4s						
KSH				LR	LR		
	comp=E,120nm,9.7s						
KSH				LR	LR		
	comp=Z,180nm,8.1s						
ZALV	**Zalesovo Beam**	**52.91**	**332**	P	**P**	**09 00 33.6**	**+0.2**
ZALV	**Zalesovo Beam**	**52.91**	**332**	P	**P**	**09 00 33.6**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=122,slow=6.2,SNR=4.7						
KURK	**Kurchatov**	**54.20**	**326**	P	**P**	**09 00 44.0**	**+1.1**
KURBB	**Kurchatov Arra**	**54.20**	**326**	P	**P**	**09 00 44.0**	**+1.1**
	comp=Z,13nm,0.8s,baz=127,slow=6.8,SNR=28						
KBL	**Kabul**	**55.09**	**304**	*e*P	**P**	**09 00 51.1**	**+1.1**
	comp=Z,5.0nm,0.5s						
KKAR	**Karatay Array**	**56.15**	**315**	*e*P	**P**	**09 00 58.0**	**+0.8**
BVAR	**Borovoye Array**	**59.79**	**326**	P	**P**	**09 01 23.1**	**+0.6**
BVAR	**Borovoye Array**	**59.79**	**326**	P	**P**	**09 01 23.1**	**+0.6**
	comp=Z,7.0nm,1.0s,baz=117,slow=9.0,SNR=10						
BRVK	**Borovoye**	**59.86**	**326**	*e*P	**P**	**09 01 23.6**	**+0.7**
	comp=Z,11nm,0.9s						
ABKAR	**Akbulak array**	**64.86**	**319**	*e*P	**P**	**09 01 56.9**	**+0.4**
AKTO	**Aktyubinsk**	**66.33**	**320**	P	**P**	**09 02 06.0**	**+0.1**
AKTO	**Aktyubinsk**	**66.33**	**320**	P	**P**	**09 02 06.0**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=83,slow=4.3,SNR=9.1						
UNV	**Unalaska Valle**	**69.05**	**36**	*e*P	**P**	**09 02 22.6**	**-0.3**
	comp=Z,12nm,0.9s						
COLD	**Coldfoot**	**78.24**	**23**	*e*P	**P**	**09 03 17.6**	**+1.0**
	comp=Z,5.0nm,1.0s						
MCK	**McKinley**	**78.86**	**27**	*e*P	**P**	**09 03 20.2**	**+0.1**
	comp=Z,9.2nm,0.9s						
ILAR	**Eielson Array**	**79.69**	**26**	P	**P**	**09 03 22.9**	**-1.7**
ILAR	**Eielson Array**	**79.69**	**26**	P	**P**	**09 03 22.9**	**-1.7**
	comp=Z,0.9nm,0.8s,baz=233,slow=5.4,SNR=11						
ARCES	**ARCESS Array B**	**82.70**	**339**

4.0nm,0.9s,baz=301,slow=12,SNR=2.3

GUC 26 08:58:47.1±0.8, 32°29S×71°39W, h38km±3km, MD3.5, ML2.6, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.75**	**155**	⇑*i*	P	08 59 01.9	+0.4
ROCH				*i*	S	08 59 13.3	+1.4
ROCH					AML	08 59 14.5	
	comp=N,270nm,0.3s						
PEL	**Peldehue**	**1.04**	**145**	⇓*i*	P	08 59 06.4	+1.1
PEL				*i*	S	08 59 20.3	+1.7
PEL					AML	08 59 20.9	
	comp=N,445nm,0.3s						
CMCH	**Combarbala**	**1.16**	**17**	⇑*i*	P	08 59 07.5	+0.5
CMCH				*i*	S	08 59 23.7	+2.0
CMCH					AML	08 59 24.0	
	comp=N,394nm,0.5s						
CLCH	**Cerro Calan**	**1.32**	**147**	⇑*i*	P	08 59 10.2	+1.1
CLCH				*i*	S	08 59 27.4	+1.9
CLCH					AML	08 59 28.2	
	comp=E,110nm,0.3s						
TACH	**Talagante**	**1.41**	**164**	⇑*i*	P	08 59 11.1	+0.8
TACH				*i*	S	08 59 28.9	+1.1
ANTU	**Antumapu**	**1.43**	**154**	*eP*	P	08 59 12.4	+1.8
ANTU				*i*	S	08 59 30.2	+2.1
ANTU					AML	08 59 30.9	
	comp=N,122nm,0.1s						
PCH	**Pirque**	**1.52**	**151**	*i*	S	08 59 32.8	+2.2
LMEL	**Las Melosas**	**1.85**	**148**	⇑*i*	P	08 59 18.1	+1.6
LMEL				*i*	S	08 59 41.4	+2.6
LMEL					AML	08 59 43.8	
	comp=N,128nm,0.1s						

IDC 26 09:05:25.1±2.7, 10°59N×94°17E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/26, mbtmp3.4/4, Error ellipse: s-maj=114.0km s-min=27.4km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.46**	**347**	P	P	09 12 41.0	+0.6
	0.5nm,0.9s,baz=162,slow=5.5,SNR=3.0						
SONM	**Songino Array**	**38.52**	**13**	P	P	09 12 49.2	-0.2
	0.2nm,0.4s,baz=210,slow=8.3,SNR=2.9						
KURBB	**Kurchatov Arra**	**41.94**	**345**	P	P	09 13 16.7	-0.8
	0.2nm,0.3s,baz=163,slow=7.7,SNR=4.1						
ASAR	**Alice Springs**	**51.66**	**132**	P	P	09 14 34.0	-0.1
	0.6nm,0.8s,baz=307,slow=7.3,SNR=5.6						

IDC 26 09:06:40.0±0.6, 10°86N×94°36E, h0km, mb3.8/20, mb1 3.9/22, mb1mx3.9/32, mbtmp3.8/22, ML3.7/2, 1C, Error ellipse: s-maj=20.2km s-min=13.3km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.76**	**30**	Pn	Pn	09 08 49.9	+1.9
CMAR	**Chiang Mai Arr**	**8.76**	**30**	Pn	Pn	09 08 49.9	+1.9
	0.4nm,0.3s,baz=219,slow=15,SNR=7.1						
CHTO	**Chiang Mai**	**9.06**	**29**	*e*P	Pn	09 08 48.7	-3.5
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CHTO	**Chiang Mai**	**9.06**	**29**	*e*Pn	Pn	09 08 48.7	-3.5
	comp=Z,6.6nm,0.9s						
IPM	**Ipoh**	**9.15**	**133**	*e*Pn	Pn	09 08 50.5	-2.9
PSI	**Prapat**	**9.20**	**150**	Pn	Pn	09 08 56.6	+2.5
PSI	**Prapat**	**9.20**	**150**	Pn	Pn	09 08 56.6	+2.5
	comp=Z,0.4nm,0.3s,baz=321,slow=18,SNR=2.8						
QIZ	**Qiongzhong**	**17.01**	**60**	P	Pn	09 10 37.8	-1.7
QIZ				S	Sn	09 13 41.3	-8.0
QIZ				LR	LR		
	comp=N,900nm,8.3s						
QIZ				LR	LR		
	comp=E,510nm,8.9s						
QIZ				LR	LR		
	comp=Z,1μm,8.6s						
AAK	**Ala-Archa**	**36.09**	**335**	P	P	09 13 43.6	-0.2
	comp=Z,1.4nm,0.3s,baz=318,slow=5.4,SNR=4.4						
FRU	**Bishkek**	**36.21**	**335**	*e*P	P	09 13 45.0	+0.4
MKAR	**Makanchi Array**	**37.25**	**346**	P	P	09 13 53.3	-0.1
MKAR	**Makanchi Array**	**37.25**	**346**	P	P	09 13 53.2	-0.2
MKAR	**Makanchi Array**	**37.25**	**346**	P	P	09 13 53.2	-0.2
	comp=Z,1.5nm,0.9s,baz=163,slow=8.6,SNR=9.7						
SONM	**Songino Array**	**38.22**	**13**	P	P	09 14 02.5	+0.7
SONM	**Songino Array**	**38.22**	**13**	P	P	09 14 02.5	+0.7
	comp=Z,1.9nm,1.1s,baz=190,slow=7.5,SNR=11						
ULN	**Ulaanbaatar**	**38.40**	**14**	*e*P	P	09 14 03.6	+0.3
	comp=Z,7.1nm,1.1s						
KSAR	**Wonju Array Be**	**40.08**	**43**	P	P	09 14 17.2	0.0
KSRS	**Korea Array**	**40.11**	**43**	P	P	09 14 17.2	-0.3
	comp=Z,2.1nm,1.0s,baz=252,slow=7.8,SNR=5.3						
KURBB	**Kurchatov Arra**	**41.73**	**345**	P	P	09 14 30.2	-0.5
	comp=Z,1.1nm,0.8s,baz=161,slow=7.5,SNR=16						
KURK	**Kurchatov**	**41.80**	**345**	P	P	09 14 30.2	-1.0
KURK	**Kurchatov**	**41.80**	**345**	P	P	09 14 30.1	-1.0
ZALV	**Zalesovo Beam**	**43.65**	**352**	P	P	09 14 46.4	+0.2
ZALV	**Zalesovo Beam**	**43.65**	**352**	P	P	09 14 46.4	+0.2
ZALV	**Zalesovo Beam**	**43.65**	**352**	P	P	09 14 46.4	+0.2
	comp=Z,1.0nm,0.4s,baz=171,slow=10,SNR=5.8						
NVS	**Novosibirsk**	**44.75**	**351**	⇑*i*	P	09 14 54.6	-0.4
NVS				pmax	pmax		
	comp=Z,23nm,2.4s						
NVS				pmax	pmax		
	comp=N,22nm,2.5s						
NVS				pmax	pmax		
	comp=E,14nm,2.5s						
BVAR	**Borovoye Array**	**46.26**	**340**	P	P	09 15 07.2	+0.1
BVAR	**Borovoye Array**	**46.26**	**340**	P	P	09 15 07.2	+0.1
BVAR	**Borovoye Array**	**46.26**	**340**	P	P	09 15 07.2	+0.1
	comp=E,0.4nm,0.5s,baz=126,slow=3.7,SNR=3.2						
USRK	**Ussuriysk Arra**	**46.41**	**37**	P	P	09 15 08.2	0.0
	comp=Z,2nm,1.0s,baz=240,slow=6.4,SNR=6.7						
MJAR	**Matsushiro Arr**	**47.04**	**50**	P	P	09 15 13.6	+0.1
MJAR	**Matsushiro Arr**	**47.04**	**50**	P	P	09 15 13.6	+0.1
	comp=E,0.3nm,0.6s,baz=272,slow=9.6,SNR=3.3						
NWAO	**Narrogin (SRO)**	**48.70**	**154**	P	P	09 15 25.9	-0.4
NWAO	**Narrogin (SRO)**	**48.70**	**154**	P	P	09 15 25.9	-0.4
	comp=E,10.0nm,1.0s,baz=96,slow=19,SNR=2.2						
KLR	**Kul'dur**	**49.23**	**32**	*eP*	P	09 15 27.7	-2.5
AKTO	**Aktyubinsk**	**49.47**	**330**	P	P	09 15 32.7	+0.7
AKTO	**Aktyubinsk**	**49.47**	**330**	P	P	09 15 32.7	+0.7
AKTO	**Aktyubinsk**	**49.47**	**330**	P	P	09 15 32.7	+0.7
	comp=E,0.7nm,0.3s,baz=151,slow=10,SNR=3.2						
WRA	**Warramunga Arr**	**49.85**	**128**	P	P	09 15 34.6	-0.7
WRA	**Warramunga Arr**	**49.85**	**128**	P	P	09 15 34.6	-0.7
	comp=E,7.3nm,0.9s,baz=304,slow=8.5,SNR=6.8						
ASAR	**Alice Springs**	**51.69**	**132**	P	P	09 15 48.4	-0.8
ASAR	**Alice Springs**	**51.69**	**132**	P	P	09 15 48.4	-0.8
	comp=E,2.3nm,0.9s,baz=308,slow=6.5,SNR=11						
GNI	**Garni**	**52.56**	**313**	*eP*	P	09 15 57.0	+1.4
	comp=E,33nm,1.4s						
YSS	**Yuzh-Sakhalins**	**54.32**	**39**	*eP*	P	09 16 08.0	-0.2
BRTR	**Keskin Array B**	**60.69**	**310**	P	P	09 16 51.9	-1.6
BRTR	**Keskin Array B**	**60.69**	**310**	P	P	09 16 51.9	-1.6
	comp=E,0.2nm,0.3s,baz=132,slow=4.3,SNR=2.2						
PETK	**Petropavlovsk-**	**65.47**	**36**	P	P	09 17 23.8	-1.1
PETK	**Petropavlovsk-**	**65.47**	**36**	P	P	09 17 23.8	-1.1
PETK	**Petropavlovsk-**	**65.47**	**36**	P	P	09 17 23.8	-1.1
	comp=E,0.7nm,0.7s,baz=176,slow=4.3,SNR=2.7						
FINES	**FINESS Array B**	**70.20**	**332**	P	P	09 17 54.7	+0.2
FINES	**FINESS Array B**	**70.20**	**332**	P	P	09 17 54.7	+0.2
	comp=E,0.7nm,0.7s,baz=4.7,slow=18,SNR=2.7						
ARCES	**ARCESS Array B**	**72.55**	**340**	P	P	09 18 08.9	+0.3
ARCES	**ARCESS Array B**	**72.55**	**340**	P	P	09 18 08.9	+0.3
	comp=E,2.7nm,0.9s,baz=30,slow=23,SNR=3.5						
GERES	**GERESS Array B**	**75.77**	**318**	P	P	09 18 27.1	-0.8
GERES	**GERESS Array B**	**75.77**	**318**	P	P	09 18 27.1	-0.8
	comp=E,0.3nm,0.6s,baz=95,slow=7.2,SNR=3.2						
LPL	**La Plagne**	**80.70**	**315**	*eP*	P	09 18 53.5	-2.0
	comp=E,8.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**90.13**	**283**	P	P	09 19 42.9	+0.1
	comp=E,0.4nm,0.8s,baz=83,slow=2.8,SNR=2.9						
TORD	**Torodi Ar. Bea**	**90.13**	**283**	P	P	09 19 42.9	+0.1
ILAR	**Eielson Array**	**91.91**	**22**	P	P	09 19 50.0	-0.1
ILAR	**Eielson Array**	**91.91**	**22**	P	P	09 19 50.0	-0.1
	comp=E,0.3nm,0.8s,baz=292,slow=4.8,SNR=3.5						
NVAR	**Mina Array Bea**	**122.25**	**30**	PKP	PKPdf	09 25 38.0	+0.3
NVAR	**Mina Array Bea**	**122.25**	**30**	PKP	PKPdf	09 25 38.0	+0.3
	comp=E,0.3nm,0.6s,baz=17,slow=1.5,SNR=3.7						
PDAR	**Pinedale Array**	**122.32**	**21**	PKP	PKPdf	09 25 36.9	-0.8
	comp=E,0.3nm,0.8s,baz=190,slow=0.5,SNR=3.1						
TXAR	**Lajitas Array**	**136.42**	**23**	PKP	PKPdf	09 26 05.0	+0.3
TXAR	**Lajitas Array**	**136.42**	**23**	PKP	PKPdf	09 26 05.0	+0.3
	comp=E,0.2nm,0.7s,baz=48,slow=1.3,SNR=2.8						
PLCA	**Paso Flores**	**147.40**	**202**	PKPbc	PKPab	09 26 27.3	-0.8
PLCA	**Paso Flores**	**147.40**	**202**	PKPbc	PKPab	09 26 27.3	-0.8
	comp=E,2.9nm,1.0s,baz=170,slow=11,SNR=1.7						
CPUP	**Villa Florida**	**149.17**	**236**	PKPbc	PKPbc	09 26 31.7	+0.5
CPUP	**Villa Florida**	**149.17**	**236**	PKPbc	PKPbc	09 26 31.7	+0.5
	comp=E,0.3nm,0.3s,baz=9.6,slow=3.3,SNR=3.0						

*BJI **26** 09:06:42.1, 10°87N×94°54E, h10km, mB4.9/24, mb4.3/34, Ms4.4/28, Ms7 4.0/26*

*IDC **26** 09:06:45.9±0.5, 10°74N×94°31E, h0km, mb4.4/24, mb1 4.5/25, mb1mx4.4/31, mbtmp4.3/25, ML3.9/1, Error ellipse: s-maj=18.9km s-min=12.1km az=60.0*

*NEIC **26** 09:06:45.2±0.5, 11°28N×94°65E, h10km, mb4.7/12, Error ellipse: s-maj=18.1km s-min=9.4km az=59.0*

*MOS **26** 09:06:46.4±2.5, 11°13N×94°89E, h33km, mb4.9/11, Error ellipse: s-maj=12.7km s-min=6.5km az=100.1*

*GCMT **26** 09:06:50.2±0.4, 10°83N×94°68E, h12km, MW5.0, Moment Tensor Solution. s25,c28; s66,c109; Moment tensor: Scale 10^16Nm; Mrr-3.10±.11; Mθθ2.69±.08; Mϕϕ0.41±.11; Mrθ 1.27±.32; Mθϕ0.93±.09; Mϕr-1.35±.49; Best double couple: M☉3.50000×10^16 NP1:ϕs51.00000°, δ42.00000°, λ-125.00000°. NP2:ϕs274.00000°, δ57.00000°, λ-63.00000°. Principal axes: T 3.1300, Plg8.0000°, Azm345.0000°; N 0.7800, Plg22.0000°, Azm78.0000°; P -3.9000, Plg66.0000°, Azm236.0000°; Data Used: II IU G IC CN.*

*BKK **26** 09:06:54.7±0.4, 11°N±4°×9°5E±°, h51km, M4.5/11, mB4.9/1, mb4.5/11, MLv4.5/4, Mw(mB)4.2/1*

*DJA **26** 09:06:54.9±0.7, 11°N±4°×9°5E±°, h55km±8km, M4.5/11, mB5.0/2, mb4.6/11, MLv4.4/1, Mw(mB)4.3/2*

ISC 26 09:06:47.1±0.5, 10°98N±0.004×94°61E±0.06, h13km±2km, n117, σ25°28/151, mb4.5/49, MS4.3/7, 1C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**5.49**	**173**	P	Pn	09 08 12.7	+4.1
	71nm,1.5s,2μm0.3nm						
KULM	**Kulim**	**8.22**	**133**	*e*Pn	**Pn**	**09 08 45.3**	**-0.9**
KULM				*e*Sn	**Sn**	**09 10 13.6**	**-5.4**
PBKT	**Sadao Pong**	**8.31**	**47**	P	**Pn**	**09 08 47.0**	**-0.3**
PBKT	**Sadao Pong**	**8.31**	**47**	P	**Pn**	**09 08 49.5**	**+2.2**
	34nm,0.9s,0.1nm						
CMAR	**Chiang Mai Arr**	**8.54**	**29**	Pn	Pn	09 08 55.5	+5.0
	0.4nm,0.3s,baz=218,slow=15,SNR=17						
CHTO	**Chiang Mai**	**8.85**	**28**	P	Pn	09 09 01.3	+6.6
	15nm,1.0s						
CHTO	**Chiang Mai**	**8.85**	**28**	P	Pn	09 09 02.8	+8.1
	15nm,1.0s,0.1nm						
CMMT	**Chiang Mai**	**8.85**	**28**	P	Pn	09 09 01.2	+6.5
	13nm,1.0s						
CMMT	**Chiang Mai**	**8.85**	**28**	P	Pn	09 09 02.6	+7.9
	19nm,1.1s,0.1nm						
PSI	**Prapat**	**9.18**	**152**	Pn	Pn	09 09 04.3	+4.9
	0.7nm,0.3s,baz=295,slow=9.4,SNR=4.6						
SKNT	**Sakolnakorn**	**10.87**	**56**	P	Pn	09 09 29.5	+7.0
	17nm,2.2s						
KMI	**Kunming**	**16.04**	**28**	P	**Pn**	**09 10 33.3**	**+0.5**
KMI				pP	**P**	**09 10 37.5**	**+1.3**
KMI				sP	**sP**	**09 10 39.5**	**-2.1**
KMI				PP	**PnPn**	**09 10 45.5**	**+3.8**
KMI				S	**Sn**	**09 13 30.8**	**+0.1**
KMI				sS	S	09 13 37.3	-7.1
KMI				SS	**SnSn**	**09 13 50.3**	**+6.2**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KMI				pmax	pmax		
	comp=Z,110nm,3.1s						
KMI				LR	LR		
	comp=N,380nm,17.1s						
KMI				LR	LR		
	comp=E,380nm,18.4s						
KMI				LR	LR		
	comp=Z,380nm,25.9s						
HYB	**Hyderabad**	**16.83**	**294**	*i* P	**P**	**09 10 46.0**	**+1.3**
HYB				*e*S	**Sn**	**09 13 50.0**	**+0.4**
ODAN	**Odare**	**17.20**	**338**	*eP*	**Pn**	**09 10 45.5**	**-2.0**
	comp=Z,204nm,1.6s						
PPBI	**Pangkal Pinang**	**17.37**	**138**	P	**P**	**09 10 54.2**	**+3.5**
	comp=Z,42nm,1.5s						
TAPN	**Taplejung**	**17.54**	**339**	*eP*	**Pn**	**09 10 48.3**	**-3.4**
	comp=Z,419nm,1.7s						
RAMN	**Ramite**	**17.59**	**336**	*eP*	**Pn**	**09 10 49.8**	**-2.5**
	comp=Z,480nm,1.9s						
KSM	**Kuching**	**18.22**	**120**	*eP*	**Pn**	**09 10 59.2**	**-0.8**
	comp=Z,49nm,1.6s						
JIRN	**Jiri**	**18.39**	**336**	*eP*	**P**	**09 10 59.3**	**-3.0**
	comp=Z,268nm,1.7s						
PKI	**Pulchoki**	**18.64**	**334**	*eP*	**P**	**09 11 01.6**	**-3.4**
	comp=Z,208nm,1.3s						
PKIN	**Phulchoki**	**18.65**	**334**	*eP*	**P**	**09 11 01.6**	**-3.4**
	comp=Z,185nm,1.4s						
GUN	**Gumba**	**18.74**	**335**	*eP*	**P**	**09 11 02.6**	**-3.5**
	comp=Z,350nm,1.7s						
DMN	**Daman**	**18.80**	**333**	*eP*	**P**	**09 11 03.9**	**-2.8**
	comp=Z,91nm,1.0s						
KKN	**Kakani**	**18.88**	**334**	*eP*	**P**	**09 11 04.3**	**-3.3**
	comp=Z,97nm,1.2s						
LSA	**Lhasa**	**18.91**	**351**	P	**P**	**09 11 04.8**	**-3.3**
LSA				LR	LR		
	comp=E,1μm,49.7s						
LSA	**Lhasa**	**18.91**	**351**	*eP*	**P**	**09 11 06.1**	**-1.9**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
LSA	**Lhasa**	**18.91**	**351**	*eP*	**P**	**09 11 06.1**	**-1.9**
	comp=Z,4.7nm,0.5s						
GYA	**Guiyang**	**19.15**	**35**	*eP*	**P**	**09 11 09.0**	**-1.3**
GYA				PP	**PnPn**	**09 11 26.5**	**+2.4**
GYA				SS	S	09 15 03.0	+16
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				LR	LR		
	comp=N,720nm,15.6s						
GYA				LR	LR		
	comp=E,1μm,15.5s						
GYA				LR	LR		
	comp=Z,1μm,15.0s						
SBUM	**Sibu**	**19.42**	**115**	P	**P**	**09 11 13.6**	**+0.3**
	comp=Z,22nm,1.4s,comp=Z,515nm						
KOLN	**Koldanda**	**19.65**	**330**	*eP*	**P**	**09 11 12.6**	**-3.3**
	comp=Z,82nm,0.8s						
DANN	**Dangsing**	**20.05**	**331**	*eP*	**P**	**09 11 16.8**	**-3.6**
	comp=Z,312nm,1.0s						
CD2	**Chengdu**	**21.57**	**22**	*eP*	**P**	**09 11 34.8**	**-1.8**
CD2				pP	**pP**	**09 11 40.0**	**-0.3**
CD2				sP	**sP**	**09 11 43.0**	**+1.0**
CD2				PP	**PnPn**	**09 12 00.0**	**+2.7**
CD2				S	S	09 15 28.0	-7.5
CD2				sS	**sS**	**09 15 39.0**	**-2.5**
CD2				SS	**SnSn**	**09 16 02.5**	**+2.9**
CD2				pmax	pmax		
	comp=Z,40nm,1.5s						
CD2				LR	LR		
	comp=E,840nm,11.6s						
CD2				LR	LR		
	comp=Z,730nm,12.5s						
ENH	**Enshi**	**23.66**	**34**	*eP*	**P**	**09 11 56.0**	**-2.5**
	comp=Z,57nm,1.3s						
MYLDM	**Lahad Datu**	**24.33**	**102**	P	P	09 12 10.6	+5.7
	comp=Z,52nm,1.5s						
BBKI	**Banjar Baru**	**24.72**	**124**	P	**P**	**09 12 12.6**	**+4.2**
	comp=Z,71nm,1.5s						
LZH	**Lanzhou**	**26.36**	**17**	*eP*	**P**	**09 12 21.0**	**-2.2**
LZH				pP	**pP**	**09 12 23.0**	**-4.2**
LZH				sP	**sP**	**09 12 25.8**	**-3.0**
LZH				*e*S	**S**	**09 16 50.5**	**-5.8**
LZH				*e*SS	**SnSn**	**09 18 01.3**	**+4.5**
LZH				pmax	pmax		
	comp=Z,25nm,1.0s						
LZH				pmax	pmax		
	comp=Z,140nm,6.1s						
LZH				LR	LR		
	comp=N,360nm,15.0s						
LZH				LR	LR		
	comp=E,450nm,11.0s						
LZH				LR	LR		
	comp=Z,660nm,15.0s						
XAN	**Xi'an**	**26.43**	**27**	P	**P**	**09 12 20.5**	**-3.2**
XAN				pP	**pP**	**09 12 29.5**	**+1.8**
XAN				sP	**sP**	**09 12 33.0**	**+3.7**
XAN				pmax	pmax		
	comp=Z,2.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,33nm,11.6s						
GTA	**Gaotai**	**28.69**	**8**	⇑P	**P**	**09 12 42.3**	**-1.8**
GTA				pP	**pP**	**09 12 46.8**	**-1.3**
GTA				sP	**sP**	**09 12 49.3**	**-0.4**
GTA				S	**S**	**09 17 31.5**	**-1.4**
GTA				sS	**sS**	**09 17 38.8**	**-0.7**
GTA				SS	**SnSn**	**09 18 59.8**	**+6.2**
GTA				pmax	pmax		
	comp=Z,7.0nm,2.1s						
GTA				pmax	pmax		
	comp=Z,160nm,4.5s						
GTA				LR	LR		
	comp=N,210nm,18.0s						
GTA				LR	LR		
	comp=E,170nm,18.3s						
GTA				LR	LR		
	comp=Z,380nm,20.9s						
NJ2	**Nanjing**	**30.66**	**43**	*e*P	**P**	**09 12 59.0**	**-2.4**
KSH	**Kashi**	**32.90**	**333**	P	**P**	**09 13 21.5**	**+0.3**
KSH				S	**S**	**09 18 37.5**	**-1.3**
KSH				sS	**sS**	**09 18 45.3**	**-0.1**
KSH				PcS	**PcS**	**09 19 51.5**	**+0.5**
KSH				pmax	pmax		
	comp=Z,15nm,0.8s						
KSH				pmax	pmax		
	comp=Z,130nm,10.0s						
KSH				LR	LR		
	comp=N,170nm,5.3s						
KSH				LR	LR		
	comp=E,120nm,7.5s						
KSH				LR	LR		
	comp=Z,130nm,7.7s						
WMQ	**Urumqi**	**33.27**	**351**	P	**P**	**09 13 26.0**	**+1.7**
WMQ				pP	**pP**	**09 13 30.5**	**+2.2**
WMQ				sP	**sP**	**09 13 33.0**	**+3.1**
WMQ				PP	**PP**	**09 14 37.3**	**-2.3**
WMQ				PcP	**PcP**	**09 16 08.8**	**+2.3**
WMQ				S	S	**09 18 44.5**	**+0.2**
WMQ				sS	**sS**	**09 18 51.8**	**+0.9**
WMQ				ScP	**ScP**	**09 19 51.5**	**+0.7**
WMQ				SS	**SnSn**	**09 20 45.5**	**+0.8**
WMQ				ScS	**ScS**	**09 23 50.3**	**-1.1**
WMQ				pmax	pmax		
	comp=Z,27nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,190nm,6.8s						
WMQ				LR	LR		
	comp=N,160nm,11.0s						
WMQ				LR	LR		
	comp=E,110nm,5.5s						
WMQ				LR	LR		
	comp=Z,270nm,26.3s						
HHC	**Hu-ho-hao-te**	**33.30**	**24**	*e*P	**P**	**09 13 23.8**	**-0.9**
HHC				PP	**PnPn**	**09 14 34.3**	**-0.9**
HHC				PcP	**PcP**	**09 16 07.3**	**+0.6**
HHC				S	S	**09 18 41.5**	**-3.5**
HHC				sS	**sS**	**09 18 49.0**	**-2.6**
HHC				ScP	**ScP**	**09 19 49.0**	**-2.0**
HHC				PcS	**PcS**	**09 19 51.0**	**-1.3**
HHC				SS	**SnSn**	**09 20 41.0**	**-4.6**
HHC				ScS	**ScS**	**09 23 48.5**	**-3.3**
HHC				pmax	pmax		
	comp=Z,26nm,0.6s						
HHC				pmax	pmax		
	comp=Z,260nm,6.1s						
HHC				LR	LR		
	comp=N,430nm,12.7s						
HHC				LR	LR		
	comp=E,310nm,11.9s						
HHC				LR	LR		
	comp=Z,300nm,12.8s						
BJI	**Beijing**	**34.68**	**30**	P	**P**	**09 13 35.3**	**-1.2**
BJI				S	**S**	**09 19 10.3**	**+4.2**
BJI				pmax	pmax		
	comp=Z,12nm,0.8s						
BJI				LR	LR		
	comp=N,190nm,17.7s						
BJI				LR	LR		
	comp=E,220nm,14.3s						
BJI				LR	LR		
	comp=Z,130nm,22.1s						
AAK	**Ala-Archa**	**36.09**	**334**	*e*P	**P**	**09 13 46.7**	**-2.1**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AAK	**Ala-Archa**	**36.09**	**334**	*e*P	**P**	**09 13 46.7**	**-2.1**
	comp=Z,6.3nm,0.9s						
AAK	**Ala-Archa**	**36.09**	**334**	P	**P**	**09 13 50.2**	**+1.4**
	comp=Z,4.0nm,0.7s,baz=206,slow=3.7,SNR=8.9						
FRU	**Bishkek**	**36.20**	**335**	*e*	**PP**	**09 15 14.0**	**+2.0**
MKAR	**Makanchi Array**	**37.20**	**346**	P	**P**	**09 14 00.7**	**+2.6**
	comp=Z,7.6nm,0.8s,baz=162,slow=8.8,SNR=36						
SONM	**Songino Array**	**38.05**	**13**	P	P	09 14 09.0	+3.6
	comp=Z,5.1nm,1.0s,baz=200,slow=5.1,SNR=19						
SONM				PcP	**PcP**	**09 16 22.9**	**+2.3**
	comp=Z,1.3nm,0.8s,baz=180,slow=3.3,SNR=4.2						
SONM	**Songino Array**	**38.05**	**13**	PcP	**PcP**	**09 16 22.9**	**+2.3**
ULN	**Ulaanbaatar**	**38.23**	**14**	P	**P**	**09 14 06.9**	**0.0**
	comp=Z,8.6nm,1.5s						
KKAR	**Karatay Array**	**38.25**	**331**	*eP*	**P**	**09 14 04.0**	**-3.0**
KKAR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KKAR	**Karatay Array**	**38.25**	**331**	*eP*	**P**	**09 14 04.0**	**-3.0**
	comp=Z,9.0nm,1.0s						
KSRS	**Korea Array**	**39.86**	**43**	P	P	09 14 23.9	+3.3
	comp=Z,1.0nm,0.8s,baz=192,slow=11,SNR=14						
ZAK	**Zakamensk**	**39.93**	**9**	*eP*	**P**	**09 14 18.0**	**-3.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.6s						
HVS	**Khovu-Aksy**	**40.05**	**359**	*eP*	**P**	**09 14 19.3**	**-2.7**
HVS				pmax	pmax		
	comp=Z,67nm,1.7s						
KURBB	**Kurchatov Arra**	**41.68**	**345**	P	**P**	**09 14 37.5**	**+2.1**
	comp=Z,6.4nm,0.9s,baz=163,slow=7.6,SNR=28						
FITZ	**Fitzroy Crossi**	**42.11**	**133**	*eP*	**P**	**09 14 39.4**	**+0.2**
	comp=Z,38nm,2.0s						
ZALV	**Zalesovo Beam**	**43.57**	**352**	P	P	09 14 53.9	+3.3
	comp=Z,10nm,0.8s,baz=170,slow=9.0,SNR=22						
MDJ	**Mudanjiang**	**45.01**	**35**	P	**P**	**09 15 00.5**	**-1.8**
MDJ				pmax	p

KBZ	Khabaz	55.16	316	P		P	09 16 20.1	+0.8
KBZ	Khabaz	55.16	316	P		P	09 16 20.1	+0.8
KBZ	Khabaz	55.16	316	P		P	09 16 20.1	+0.8
	comp=Z,1.2nm,0.6s,baz=306,slow=1.0,SNR=5.0							
KIV	Kislovodsk	55.38	316	*eP*		P	09 16 22.8	+1.7
KIV				pmax	pmax			
	comp=Z,6.0nm,0.9s							
YAK	Yakutsk	56.93	19	*eP*		P	09 16 34.5	+2.8
BRTR	Keskin Array B	60.80	309	P		P	09 16 58.9	-0.4
	comp=Z,2.0nm,0.9s,baz=100,slow=6.9,SNR=9.2							
STKA	Stephens Creek	61.93	135	P		P	09 17 08.4	+1.6
STKA	Stephens Creek	61.93	135	P		P	09 17 08.4	+1.6
	comp=Z,10nm,0.9s,baz=300,slow=3.9,SNR=11							
PETK	Petropavlovsk-	65.24	36	P		P	09 17 30.8	+2.4
	comp=Z,1.5nm,0.9s,baz=152,slow=6.7,SNR=4.0							
ARMA	Armidale	68.50	129	*eP*		P	09 17 48.6	-1.0
	comp=Z,12nm,1.0s							
FINES	FINESS Array B	70.21	332	P		P	09 18 00.0	+0.5
	comp=Z,1.3nm,0.7s,baz=46,slow=11,SNR=4.3							
ARCES	ARCESS Array B	72.53	340	P		P	09 18 15.3	+1.9
	comp=Z,4.6nm,0.9s,baz=46,slow=5.9,SNR=7.4							
GERES	GERESS Array B	75.85	318	P		P	09 18 34.0	+0.6
	comp=Z,1.0nm,0.9s,baz=64,slow=6.1,SNR=6.1							
KEST	Kesra	79.87	305	P		P	09 18 55.9	-0.1
KEST	Kesra	79.87	305	P		P	09 18 55.9	-0.1
	comp=Z,1.6nm,0.8s,baz=13,slow=6.9,SNR=3.8							
TORD	Torodi Ar. Bea	90.34	283	PP		PP	09 23 21.8	-1.2
TORD	Torodi Ar. Bea	90.34	283	P		P	09 19 48.3	-0.4
	comp=Z,1.1nm,0.8s,baz=95,slow=3.1,SNR=6.4							
TORD				PP		PP	09 23 21.8	-1.2
	comp=Z,1.6nm,1.1s,baz=73,slow=8.1,SNR=6.8							
MCK	McKinley	91.44	23	*eP*		P	09 19 54.0	+1.0
MCK				pmax	pmax			
	comp=Z,4.0nm,0.8s							
MCK	McKinley	91.44	23	*eP*		P	09 19 54.0	+1.0
	comp=Z,4.0nm,0.8s							
ILAR	Eielson Array	91.71	22	P		P	09 19 55.8	+1.6
	comp=Z,1.1nm,0.8s,baz=297,slow=4.2,SNR=12							
VNDA	Vanda	95.86	168	P		P	09 20 13.0	+0.2
VNDA	Vanda	95.86	168	P		P	09 20 13.0	+0.2
	comp=Z,1.7nm,1.1s,baz=285,slow=7.2,SNR=4.3							
HLID	Hailey	119.62	24	*e*PKPdf		PKPdf	09 25 34.2	-3.1
SNOW	Snow King Moun	121.09	21	*e*PKPdf		PKPdf	09 25 40.0	-0.3
REDW	Red Top Meadow	121.14	21	*e*PKPdf		PKPdf	09 25 38.6	-1.8
NVAR	Mina Array Bea	122.03	30	PKP		PKPdf	09 25 43.6	+1.4
	comp=Z,1.4nm,0.8s,baz=258,slow=2.1,SNR=11							
PDAR	Pinedale Array	122.12	21	PKP		PKPdf	09 25 43.4	+1.2
	comp=Z,1.2nm,0.8s,baz=56,slow=0.4,SNR=10							
HWUT	Hardware Ranch	122.39	23	*e*PKPdf		PKPdf	09 25 42.1	-0.6
DUG	Dugway	123.09	25	*e*PKIKP		PKPdf	09 25 43.9	-0.2
DUG	Dugway	123.09	25	*e*PKPdf		PKPdf	09 25 43.9	-0.2
ECSD	EROS Data Cent	124.60	10	*e*PKPdf		PKPdf	09 25 44.6	-2.1
MSU	Marysvale	124.78	25	*e*PKIKP		PKPdf	09 25 44.8	-2.7
MSU	Marysvale	124.78	25	*e*PKPdf		PKPdf	09 25 44.8	-2.7
ANMO	Albuquerque	130.16	23	*e*PKPdf		PKPdf	09 25 55.4	-2.4
TXAR	Lajitas Array	136.22	23	PKP		PKPdf	09 26 11.4	+2.2
	comp=Z,0.6nm,0.8s,baz=158,slow=0.6,SNR=7.5							
JCT	Junction City	136.51	18	*e*PKIKP		PKPdf	09 26 08.5	-1.2
JCT	Junction City	136.51	18	*e*PKPdf		PKPdf	09 26 08.5	-1.2
MTP	Monte Pirata	145.10	326	*e*PKPdf		PKPdf	09 26 25.9	+0.6
CELP	Cerrillos	145.68	327	*e*PKPdf		PKPab	09 26 27.5	+0.6
OBIP	Obispado Ponce	145.72	327	*e*PKPdf		PKPab	09 26 26.9	-0.1
PLCA	Paso Flores	147.59	201	PKPbc		PKPab	09 26 32.1	-1.6
	comp=Z,6.1nm,1.0s,baz=176,slow=5.1,SNR=6.7							
CPUP	Villa Florida	149.44	236	PKPbc		PKPbc	09 26 36.4	-0.3
	comp=Z,4.9nm,0.9s,baz=79,slow=3.0,SNR=10							

MAN 26 09:09:28,8.42N×122.48E,h32km,mb4.5,ML3.3,MS3.2, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPIL	Ipil	0.63	172	*e*P		Pn	09 09 41.9	+1.1
IPIL				*e*S		Sb	09 09 48.6	-0.8
DCPH	Dipolog City	0.88	79⇑	*e*P		Pn	09 09 42.9	-1.3
DCPH				*e*S		Sb	09 09 56.7	+0.3
PAGZ	Pagadian	1.06	122	*e*P		Pb	09 09 47.5	-0.4
PAGZ				*e*S		Sn	09 09 56.8	-3.5

*IDC **26** 09:15:31.2±1.0, 10.68N×94.20E, h0km, mb4.0/11, mb1 4.0/12, mb1mx3.9/28, mbtmp4.0/12, MS3.8/3, Ms1 3.8/3, ms1mx3.1/52, Error ellipse: s-maj=33.3km s-min=16.3km az=62.0*

*ISCJB **26** 09:15:33.4±0.7, 10.71N±0.0°08×94.3E±0.1, h24km, mb4.1/16, MS3.6/2, Error ellipse: s-maj=18.3km s-min=8.8km az=148.4*

*NEIC **26** 09:15:35.3±4.1, 10.75N×94.30E, h22km±28km, mb4.2/5, Error ellipse: s-maj=20.8km s-min=8.1km az=60.0*

ISC 26 09:15:35.4±0.8, 10.7N±0.1×94.3E±0.1, h24km, n40, σ1°87/37, mb4.1/16, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	Kulim	8.29	130	*e*Pn		Pn	09 17 34.8	+0.6
CMAR	Chiang Mai Arr	8.92	30	Pn		Pn	09 17 42.5	-0.4
CMAR	Chiang Mai Arr	8.92	30	Pn		Pn	09 17 42.5	-0.4
	baz=220,slow=15,SNR=4.4							
PSI	Prapat	9.11	149	LR		LR	09 21 38.4	
	comp=Z,897nm,21.3s,baz=315,slow=40							
SHL	Shillong	14.95	352	*e*P		Pn	09 19 07.0	+1.5
ENH	Enshi	24.06	34	*e*P		P	09 20 47.9	-1.0
	78nm,1.5s							
KAPI	Kappang	29.78	120	LR		LR	09 33 51.0	
	comp=Z,210nm,18.1s,baz=95,slow=37							
EKS2	Erkin-Say	36.52	334	*e*P		P	09 22 39.9	+0.8
	2.6nm,0.8s							
MKAR	Makanchi Array	37.38	346	P		P	09 22 46.6	+0.4
MKAR	Makanchi Array	37.38	346	P		P	09 22 46.6	+0.4
	2.9nm,1.0s,baz=160,slow=7.8,SNR=15							
KKAR	Karatay Array	38.33	332	*e*P		P	09 22 55.3	+0.9
	1.1nm,0.7s							
SONM	Songino Array	38.38	13	P		P	09 22 55.0	+0.1
SONM	Songino Array	38.38	13	P		P	09 22 55.0	+0.1
	2.9nm,1.1s,baz=191,slow=7.5,SNR=11							
KSAR	Wonju Array Be	40.23	43	P		P	09 23 09.7	-0.6
KSRS	Korea Array	40.27	43	P		P	09 23 09.7	-0.9
	1.8nm,1.0s,baz=246,slow=9.6,SNR=7.2							
JNU	Nakatsue	40.30	51	LR		LR	09 39 09.6	
	comp=Z,60nm,20.1s,baz=290,slow=35							
KURBB	Kurchatov Arra	41.85	345	P		P	09 23 22.8	-0.6
	2.0nm,0.8s,baz=166,slow=8.0,SNR=13							
KURK	Kurchatov	41.92	345	P		P	09 23 22.8	-1.1
ZALV	Zalesovo Beam	43.78	352	P		P	09 23 38.4	-0.7
ZALV	Zalesovo Beam	43.78	352	P		P	09 23 38.4	-0.7
	3.4nm,0.9s,baz=177,slow=8.0,SNR=7.3							
BVAR	Borovoye Array	46.38	340	P		P	09 23 59.7	0.0
BVAR	Borovoye Array	46.38	340	P		P	09 23 59.7	0.0
	0.4nm,0.4s,baz=138,slow=12,SNR=4.3							
USRK	Ussuriysk Arra	46.56	37	P		P	09 24 00.8	-0.4
	3.3nm,1.1s,baz=216,slow=4.9,SNR=5.8							
ABKAR	Akbulak array	47.84	330	*e*P		P	09 24 11.4	+0.2
	2.2nm,1.0s							
WRA	Warramunga Arr	49.82	128	P		P	09 24 26.9	+0.1
WRA	Warramunga Arr	49.82	128	P		P	09 24 26.9	+0.1
	2.1nm,0.8s,baz=306,slow=8.5,SNR=6.1							
WRAB	Tennant Creek	49.83	128	*e*P		P	09 24 27.4	+0.6
	3.8nm,0.9s							
ASAR	Alice Springs	51.65	132	P		P	09 24 40.6	+0.1
ASAR	Alice Springs	51.65	132	P		P	09 24 40.6	+0.1
	3.8nm,1.2s,baz=310,slow=6.4,SNR=19							
BRTR	Keskin Array B	60.72	310	P		P	09 25 43.3	-2.1
BRTR	Keskin Array B	60.72	310	P		P	09 25 43.3	-2.1
	0.5nm,0.7s,baz=52,slow=4.8,SNR=3.7							
STKA	Stephens Creek	61.97	135	P		P	09 25 53.2	-0.4
STKA	Stephens Creek	61.97	135	P		P	09 25 53.2	-0.4
	0.6nm,0.4s,baz=292,slow=24,SNR=4.2							
NVAR	Mina Array Bea	122.41	30	PKP		PKPdf	09 34 28.8	-0.6
NVAR	Mina Array Bea	122.41	30	PKP		PKPdf	09 34 28.8	-0.6
	0.3nm,0.6s,baz=346,slow=0.4,SNR=3.9							
PDAR	Pinedale Array	122.48	21	PKP		PKPdf	09 34 29.6	+0.2
PDAR	Pinedale Array	122.48	21	PKP		PKPdf	09 34 29.6	+0.2
	0.4nm,0.7s,baz=90,slow=0.3,SNR=3.5							
DUG	Dugway	123.46	25	*e*PKPdf		PKPdf	09 34 33.1	+1.8
TXAR	Lajitas Array	136.58	23	PKP		PKPdf	09 34 57.5	+1.1
TXAR	Lajitas Array	136.58	23	PKP		PKPdf	09 34 57.5	+1.1
	0.1nm,0.5s,baz=299,slow=0.9,SNR=3.6							

*ATH **26** 09:25:02.7, 35.35N×22.36E, h28km±1km, MD3.5/16*

*ISCJB **26** 09:25:03.1±1.2, 35.34N±0.05×22.33E±0.06, h20km±8km, Error ellipse: s-maj=10.5km s-min=5.5km az=135.2*

*CSEM **26** 09:25:03.2±0.2, 35.37N×22.39E, h10km, ML3.0/5, Error ellipse: s-maj=4.1km s-min=1.7km az=40.0*

*THE **26** 09:25:04.2, 35.39N×22.39E, h11km±1km, ML3.0/5, Error ellipse: s-maj=1.8km s-min=0.6km az=224.0*

ISC 26 09:25:03.5±2.1, 35.37N±0.07×22.40E±0.06, h12km±11km, n69, σ0s34/83, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANKY	Antikythira Is	0.89	56	P		Pb	09 25 20.6	-0.2
ANKY	Antikythira Is	0.89	56	*e*PN		Pb	09 25 20.6	-0.2
ANKY				*e*SN		Sn	09 25 34.0	-0.5
ANKY	Antikythira Is	0.89	56	P		Pb	09 25 20.6	-0.2
ANKY				*e*Sn		Sn	09 25 34.0	-0.5
KYTH	Kithira	1.05	30	P		Pg	09 25 23.5	-0.1
KYTH	Kithira	1.05	30	*e*PN		Pb	09 25 23.2	-0.3
KYTH	Kithira	1.05	30	P		Pg	09 25 23.5	-0.1
KARN	Karanos	1.24	88	P		Pn	09 25 26.6	-0.1
KARN				S		Sg	09 25 44.0	+0.4
KARN	Karanos	1.24	88	*e*PN		Pn	09 25 26.5	-0.1
KARN	Karanos	1.24	88	P		Pn	09 25 26.6	-0.1
KARN				S		Sg	09 25 44.0	+0.4
DYR	Agios Nikonas	1.39	358	P		Pn	09 25 28.3	-0.4
DYR				S		Sb	09 25 47.0	-0.1
DYR	Agios Nikonas	1.39	358	*e*PN		Pn	09 25 28.7	0.0
DYR	Agios Nikonas	1.39	358	P		Pn	09 25 28.3	-0.4
DYR				S		Sb	09 25 47.0	-0.1
VLI	Veliai	1.41	18	P		Pn	09 25 29.1	+0.1
VLI				S		Sb	09 25 47.7	0.0
VLI	Veliai	1.41	18	*e*PN		Pb	09 25 29.3	-0.5
VLI	Veliai	1.41	18	P		Pn	09 25 29.1	+0.1
VLI				S		Sb	09 25 47.7	0.0
VAM	Vamos	1.47	88	P		Pn	09 25 29.9	+0.1
VAM	Vamos	1.47	88	*e*PN		Pn	09 25 30.1	+0.3
VAM	Vamos	1.47	88	P		Pn	09 25 29.9	+0.1
GVD	Gavdhos	1.48	110	*e*PN		Pn	09 25 29.8	-0.2
GVD	Gavdhos	1.48	110	*e*Pn		Pn	09 25 29.8	-0.2
PYL	PYLOS	1.61	341	P		Pn	09 25 31.3	-0.4
PYL	PYLOS	1.61	341	*e*PN		Pn	09 25 31.4	-0.3
PYL	PYLOS	1.61	341	P		Pn	09 25 31.3	-0.4
ITM	Ithomi	1.84	348	*e*PN		Pn	09 25 35.1	+0.2
ITM	Ithomi	1.84	348	*e*Pn		Pn	09 25 35.1	+0.2
VLX	Vlachokerasia	2.00	360	P		Pn	09 25 36.8	-0.3
VLX				S		Sn	09 26 01.9	-0.1
VLX	Vlachokerasia	2.00	360	*e*PB		Pn	09 25 37.4	+0.3
VLX	Vlachokerasia	2.00	360	P		Pn	09 25 36.8	-0.3
VLX	Vlachokerasia	2.00	360	*e*Pb		Pn	09 25 37.4	+0.3
VLX				S		Sn	09 26 01.9	-0.1
IDI	Anoyia	2.04	92	P		Pn	09 25 37.7	0.0
IDI	Anoyia	2.04	92	*e*PN		Pn	09 25 37.7	0.0
IDI	Anoyia	2.04	92	P		Pn	09 25 37.7	0.0
DIDY	Didyma	2.20	17	P		Pn	09 25 39.7	-0.2
DIDY	Didyma	2.20	17	P		Pn	09 25 39.7	-0.2
AMT	Artemida-Makis	2.23	346	*e*PN		Pn	09 25 40.5	+0.3
AMT	Artemida-Makis	2.23	346	*e*Pn		Pn	09 25 40.5	+0.3
DID	Didima	2.24	17	P		Pn	09 25 39.8	-0.5
DID				S		Sn	09 26 08.5	+0.6
DID	Didima	2.24	17	*e*PN		Pn	09 25 40.0	-0.3
DID	Didima	2.24	17	*e*Pn		Pn	09 25 40.0	-0.3
DID				S		Sn	09 26 08.5	+0.6
LAST	Lasithi	2.53	94	P		Pn	09 25 45.0	+0.6
LAST	Lasithi	2.53	94	*e*PN		Pn	09 25 44.7	+0.3
LAST	Lasithi	2.53	94	*e*Pn		Pn	09 25 44.7	+0.3
LAST	Lasithi	2.53	94	P		Pn	09 25 45.0	+0.6
GUR	Goura	2.56	359	P		Pn	09 25 44.9	0.0
GUR				S		Sn	09 26 16.4	+0.4
GUR	Goura	2.56	359	*e*PN		Pn	09 25 45.6	+0.7
GUR	Goura	2.56	359	P		Pn	09 25 44.9	0.0
GUR	Goura	2.56	359	*e*Pn		Pn	09 25 45.6	+0.7
GUR				S		Sn	09 26 16.4	+0.4
NPS	Neapolis	2.63	91	*e*PN		Pn	09 25 45.6	-0.2
NPS	Neapolis	2.63	91	*e*Pn		Pn	09 25 45.6	-0.2
KLV	Kalavryta, Ach	2.67	356	*e*PN		Pn	09 25 46.5	+0.1
KLV	Kalavryta, Ach	2.67	356	*e*Pn		Pn	09 25 46.5	+0.1
LTK	Loutraki	2.69	10	*e*PN		Pn	09 25 46.8	+0.3
LTK	Loutraki	2.69	10	*e*Pn		Pn	09 25 46.8	+0.3
RLS	Riolos of Patr	2.78	345	*e*PN		Pn	09 25 48.6	+0.8
RLS	Riolos of Patr	2.78	345	*e*Pn		Pn	09 25 48.6	+0.8
LAKA	Lakka	2.88	353	*e*PN		Pn	09 25 49.4	+0.2
LAKA	Lakka	2.88	353	*e*Pn		Pn	09 25 49.4	+0.2
TRIZ	Trizonia	3.00	355	*e*PN		Pn	09 25 51.0	+0.2
TRIZ	Trizonia	3.00	355	*e*Pn		Pn	09 25 51.0	+0.2
KALE	Kalithea	3.02	356	*e*PN		Pn	09 25 51.3	+0.2
KALE	Kalithea	3.02	356	*e*Pn		Pn	09 25 51.3	+0.2
DSF	Desfina	3.04	2	P		Pn	09 25 51.1	-0.2
DSF	Desfina	3.04	2	P		Pn	09 25 51.1	-0.2
APE	Apeiranthos	3.05	55	*e*PN		Pn	09 25 52.0	+0.5
APE	Apeiranthos	3.05	55	*e*Pn		Pn	09 25 52.0	+0.5
VLS	Valsamata	3.15	333	*e*PN		Pn	09 25 53.1	+0.2
VLS	Valsamata	3.15	333	*e*Pn		Pn	09 25 53.1	+0.2
LKD2	Lefkada island	3.68	338	*e*PN		Pn	09 26 00.3	+0.1
LKD2	Lefkada island	3.68	338	*e*Pn		Pn	09 26 00.3	+0.1

*IDC **26** 09:33:14.7±0.7, 10.60N×94.18E, h0km, mb4.0/19, mb1 4.1/20, mb1mx4.0/29, mbtmp3.9/20, ML3.7/1, Error ellipse: s-maj=25.3km s-min=14.3km az=54.0*

*ISCJB **26** 09:33:16.6±0.5, 10.52N±0.08×94.37E±0.08, h24km, mb4.1/25, Error ellipse: s-maj=14.9km s-min=6.0km az=138.6*

*NEIC **26** 09:33:16.6±0.4, 10.61N×94.16E, h10km, mb4.4/6, Error ellipse: s-maj=14.2km s-min=7.5km az=54.0*

ISC 26 09:33:18.4±0.6, 10.53N±0.10×94.3E±0.1, h24km, n68, σ1°08/67, mb4.1/25, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	Kulim	8.18	129	*e*Pn		Pn	09 35 18.7	+3.1
KULM				*e*Sn		Sn	09 36 45.6	-1.7
CMAR	Chiang Mai Arr	9.08	29	Pn		Pn	09 35 27.5	-0.5
CMAR	Chiang Mai Arr	9.08	29	Pn		Pn	09 35 27.5	-0.5
	0.2nm,0.3s,baz=218,slow=15,SNR=9.3							
ODAN	Odare	17.50	339	*e*P		P	09 37 23.5	+1.4
TAPN	Taplejung	17.84	341	*e*P		P	09 37 27.8	+1.8
	219nm,1.5s							
RAMN	Ramite	17.87	337	*e*P		P	09 37 28.0	+1.7
JIRN	Jiri	18.66	337	*e*P		Pn	09 37 36.0	+0.4
	70nm,1.1s							
PKI	Pulchoki	18.90	335	*e*P		Pn	09 37 38.5	+0.1
	88nm,0.9s							
PKIN	Phulchoki	18.91	335	*e*P		Pn	09 37 38.4	0.0
	68nm,1.0s							
GUN	Gumba	19.01	337	*e*P		Pn	09 37 40.4	+0.7
	126nm,1.2s							
DMN	Daman	19.06	334	*e*P		Pn	09 37 40.9	+0.7
	61nm,1.0s							
KKN	Kakani	19.14	335	*e*P		Pn	09 37 42.7	+1.5
KOLN	Koldanda	19.88	331	*e*P		Pn	09 37 49.2	-0.8
	91nm,0.7s							
DANN	Dangsing	20.29	332	*e*P		Pn	09 37 53.9	-1.1
	220nm,0.9s							
NDI	New Delhi	24.12	321	*e*P		P	09 38 33.0	+0.5
ENH	Enshi	24.21	34	*e*P		P	09 38 34.5	+1.1
	8.9nm,0.6s							
AAK	Ala-Archa	36.35	335	P		P	09 40 21.6	+0.8
AAK	Ala-Archa	36.35	335	P		P	09 40 21.6	+0.8
	1.4nm,0.3s,baz=241,slow=5.9,SNR=3.6							
EKS2	Erkin-Say	36.68	334	*e*P		P	09 40 24.3	+0.8
	6.9nm,0.8s							
MK31	Makanchi Array	37.55	346	*e*P		P	09 40 30.6	-0.1
MKAR	Makanchi Array	37.55	346	P		P	09 40 30.7	0.0
MKAR	Makanchi Array	37.55	346	P		P	09 40 30.7	0.0
	3.8nm,0.9s,baz=163,slow=8.7,SNR=13							
KKAR	Karatay Array	38.49	332	*e*P		P	09 40 39.4	+0.7
	3.1nm,0.9s							
SONM	Songino Array	38.56	13	P		P	09 40 38.8	-0.5
SONM	Songino Array	38.56	13	P		P	09 40 38.8	-0.5
	3.0nm,1.0s,baz=196,slow=9.4,SNR=11							
ULN	Ulaanbaatar	38.73	14	*e*P		P	09 40 40.4	-0.4
	2.5nm,0.8s							
KSAR	Wonju Array Be	40.37	43	P		P	09 40 53.2	-1.2
KSRS	Korea Array	40.40	43	P		P	09 40 53.2	-1.4
	1.1nm,0.9s,baz=256,slow=9.9,SNR=6.7							
KURBB	Kurchatov Arra	42.03	345	P		P	09 41 07.5	-0.4
	2.2nm,0.8s,baz=158,slow=7.4,SNR=5.9							
KURK	Kurchatov	42.09	345	P		P	09 41 07.5	-0.9
ZAAO	Zalesovo Array	43.96	352	*e*P		P	09 41 23.6	+0.1
ZALV	Zalesovo Beam	43.96	352	P		P	09 41 23.2	-0.3
ZALV	Zalesovo Beam	43.96	352	P		P	09 41 23.2	-0.3
	2.4nm,0.7s,baz=161,slow=9.4,SNR=8.2							
BVAR	Borovoye Array	46.54	340	P		P	09 41 42.7	-1.3
BVAR	Borovoye Array	46.54	340	P		P	09 41 42.7	-1.3
	0.7nm,0.6s,baz=139,slow=9.0,SNR=3.3							
USRK	Ussuriysk Arra	46.71	37	P		P	09 41 44.8	-0.7
	1.1nm,0.8s,baz=236,slow=10,SNR=3.6							
MJAR	Matsushiro Arr	47.31	49	PcP		PcP	09 43 22.4	+1.3
MJAR	Matsushiro Arr	47.31	49	PcP		PcP	09 43 22.4	+1.3
	1.0nm,0.9s,baz=242,slow=3.8,SNR=3.9							
ABKAR	Akbulak array	48.00	330	*e*P		P	09 41 55.0	-0.4
	1.9nm,0.6s							
AKTO	Aktyubinsk	49.71	330	P		P	09 42 08.7	+0.2
AKTO	Aktyubinsk	49.71	330	P		P	09 42 08.7	+0.2
	0.7nm,0.3s,baz=153,slow=2.3,SNR=3.3							
WRA	Warramunga Arr	49.72	127	P		P	09 42 10.1	+1.0
WRA	Warramunga Arr	49.72	127	P		P	09 42 10.1	+1.0
	1.6nm,0.8s,baz=304,slow=8.5,SNR=9.7							
WRAB	Tennant Creek	49.72	127	*e*P		P	09 42 10.8	+1.7
	14nm,1.3s							
ASAR	Alice Springs	51.53	132	P		P	09 42 24.9	+2.2
ASAR	Alice Springs	51.53	132	P		P	09 42 24.9	+2.2
	2.0nm,0.6s,baz=306,slow=6.8,SNR=34							
BRTR	Keskin Array B	60.83	310	P		P	09 43 27.6	-1.6
BRTR	Keskin Array B	60.83	310	P		P	09 43 27.6	-1.6
	0.3nm,0.3s,baz=128,slow=2.0,SNR=3.9							
STKA	Stephens Creek	61.85	135	P		P	09 43 35.5	-0.3
STKA	Stephens Creek	61.85	135	P		P	09 43 35.5	-0.3
	1.1nm,0.3s,baz=90,slow=20,SNR=2.4							
FINES	FINESS Array B	70.45	332	P		P	09 44 28.6	-1.9
FINES	FINESS Array B	70.45	332	P		P	09 44 28.6	-1.9
	2.1nm,1.0s,baz=21,slow=12,SNR=3.0							
ARCES	ARCESS Array B	72.83	340	P		P	09 44 44.3	-0.5
ARCES	ARCESS Array B	72.83	340	P		P	09 44 44.3	-0.5
	2.6nm,0.8s,baz=79,slow=6.5,SNR=4.5							
GERES	GERESS Array B	75.96	318	P		P	09 45 01.9	-1.6
GERES	GERESS Array B	75.96	318	P		P	09 45 01.9	-1.6
	0.1nm,0.3s,baz=94,slow=14,SNR=2.5							
NOA	NORSAR Array B	77.50	330	P		P	09 45 11.1	-0.9
NOA	NORSAR Array B	77.50	330	P		P	09 45 11.1	-0.9
	1.1nm,0.9s,baz=130,slow=16,SNR=2.8							
TORD	Torodi Ar. Bea	90.13	283	P		P	09 46 17.4	+0.1
TORD	Torodi Ar. Bea	90.13	283	P		P	09 46 17.4	+0.1
	0.5nm,0.8s,baz=108,slow=7.7,SNR=2.7							
ILAR	Eielson Array	92.24	22	P		P	09 46 26.6	+0.5
ILAR	Eielson Array	92.24	22	P		P	09 46 26.6	+0.5
	0.4nm,0.9s,baz=270,slow=3.6,SNR=3.5							
NVAR	Mina Array Bea	122.57	30	PKP		PKPdf	09 52 14.5	+1.8
NVAR	Mina Array Bea	122.57	30	PKP		PKPdf	09 52 14.5	+1.8
	0.5nm,0.6s,baz=313,slow=2.9,SNR=4.9							
PDAR	Pinedale Array	122.65	21	PKP		PKPdf	09 52 13.3	+0.5
PDAR	Pinedale Array	122.65	21	PKP		PKPdf	09 52 13.3	+0.5
	0.5nm,0.8s,baz=171,slow=1.3,SNR=4.7							
TXAR	Lajitas Array	136.75	23	PKP		PKPdf	09 52 39.2	-0.4
TXAR	Lajitas Array	136.75	23	PKP		PKPdf	09 52 39.2	-0.4
	0.2nm,0.6s,baz=258,slow=3.7,SNR=3.6							

*ISCJB **26** 09:34:39.4±0.3, 11.18N±0.09×85.58W±0.08, h190km±3km, mb3.8/9, Error ellipse: s-maj=18.0km s-min=4.4km az=40.8*

*CASC **26** 09:34:39.9±2

ZALV	**Zalesovo Beam**	**43.90**	**352**	P		P	09 47 10.2	-0.1
	0.5nm,0.4s,baz=185,slow=8.7,SNR=2.4							
BVAR	**Borovoye Array**	**46.43**	**340**	P		P	09 47 30.5	+0.1
	0.1nm,0.3s,baz=147,slow=8.1,SNR=2.1							
ASAR	**Alice Springs**	**51.75**	**132**	P		P	09 48 11.6	-0.1
	0.6nm,0.7s,baz=307,slow=6.9,SNR=4.7							

BJI ***26*** *09:40:21.1, 10˚.32N×94˚.24E, h10km, mB5.0/31, mb4.6/38, Ms4.8/39, Ms7 4.5/37*

ISCJB ***26*** *09:40:23.7±0.3, 10˚.58N±0˚.03×94˚.30E±0˚.03, h10km, mb4.6/75, MS4.5/34, Error ellipse: s-maj=5.2km s-min=4.1km az=38.0*

IDC ***26*** *09:40:24.3±0.5, 10˚.65N×94˚.26E, h0km, mb4.2/28, mb1 4.3/30, mb1mx4.3/35, mbtmp4.2/30, ML3.8/2, MS4.3/15, Ms1 4.4/15, ms1mx4.2/24, Error ellipse: s-maj=17.8km s-min=11.0km az=55.0*

NEIC ***26*** *09:40:26.0±0.2, 10˚.64N×94˚.33E, h10km, mb4.8/18, Error ellipse: s-maj=9.3km s-min=5.1km az=57.0*

MOS ***26*** *09:40:27.4±1.1, 10˚.68N×94˚.35E, h33km, mb5.0/26, MS4.4/7, Error ellipse: s-maj=11.5km s-min=5.7km az=105.8*

GCMT ***26*** *09:40:30.5±0.2, 10˚.79N×94˚.47E, h12km, MW5.1, Moment Tensor Solution. s38,c47; s79,c135; Moment tensor: Scale 10^{16}Nm; M_{rr}=4.53±.11; $M_{\theta\theta}$3.96±.10; $M_{\phi\phi}$0.57±.12; $M_{r\theta}$2.41±.33; $M_{\theta\phi}$1.22±.09; $M_{r\phi}$0.54±.43; Best double couple: $M_0$5.10000×10^{16} NP1:ϕ_s70.00000°,δ31.00000°, λ-94.00000°. NP2:ϕ_s255.00000°,δ60.00000°, λ-88.00000°. Principal axes: T 4.9900, Plg14.0000°, Azm343.0000°; N 0.1900, Plg2.0000°, Azm73.0000°; P -5.1700, Plg75.0000°, Azm172.0000°; Data Used: II IU IC G CN.*

ISC 26 09:40:27.1±0.4, 10˚.57N±0˚.04×94˚.33E±0˚.04, h17km±1km, h16km:pP-P,n203,σ1$79/252,mb4.7/75,MS4.5/35,6C-5D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
PBA	**Port Blair**	**1.89**	**305**	*e*P			Pn	09 40 54.5	-4.1
PBA				*e*S			Sn	09 41 18.3	-3.8
DGPR	**DIGLIPUR**	**2.93**	**332**	*e*P			Pn	09 41 08.3	-4.6
DGPR				*ex*			x	09 41 34.1	
CMBY	**CAMPBELL BAY**	**3.56**	**186**	*e*P			Pn	09 41 17.3	-4.3
KULM	**Kulim**	**8.17**	**129**	*e*Pn			**Pn**	**09 42 23.9**	**-1.1**
KULM				*e*Sn			**Sn**	**09 43 54.2**	**-2.8**
PSI	**Prapat**	**8.97**	**149**	Pn			**Pn**	**09 42 38.0**	**+1.9**
PSI	**Prapat**	**8.97**	**149**	Pn			**Pn**	**09 42 38.0**	**+1.9**
	0.4nm,0.3s,baz=346,slow=16,SNR=2.2								
PSI					LR		LR	09 46 51.1	
	comp=Z,3μm,18.9s,baz=307,slow=42								
IPM	**Ipoh**	**8.99**	**132**	*e*Pn			**Pn**	**09 42 34.5**	**-1.7**
IPM				*e*Sn			Sn	09 44 09.1	-8.0
CMAR	**Chiang Mai Arr**	**9.02**	**29**	Pn			**Pn**	**09 42 36.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**9.02**	**29**	Pn			**Pn**	**09 42 36.0**	**-0.6**
	0.5nm,0.3s,baz=216,slow=14,SNR=6.9								
CMAR					LR		LR	09 46 12.4	
	comp=Z,1μm,18.3s,baz=62,slow=39								
CHTO	**Chiang Mai**	**9.33**	**28**	*e*P			**Pn**	**09 42 41.9**	**+1.0**
CHTO					pmax		pmax		
	comp=Z,12nm,1.1s								
CHTO	**Chiang Mai**	**9.33**	**28**	*e*Pn			**Pn**	**09 42 41.9**	**+1.0**
	comp=Z,12nm,1.1s								
VIS	**Vishakhapatnam**	**12.81**	**305**	*e*P			Pn	09 43 22.0	-6.6
VIS					AMB		AMB	09 43 46.3	
	comp=Z,54nm,0.9s								
IMP	**Imphal**	**14.14**	**359**	*e*4			**Pn**	**09 43 49.0**	**+2.2**
SHL	**Shillong**	**15.09**	**351**	*e*P			Pn	09 43 52.6	-7.3
SHL					AMB		AMB	09 44 02.6	
	comp=Z,31nm,2.4s								
BOK	**Bokaro**	**15.41**	**330**	*e*P			**Pn**	**09 44 00.2**	**-3.7**
BOK					AMB		AMB	09 44 12.6	
	comp=Z,37nm,0.8s								
KMI	**Kunming**	**16.53**	**28**	P			**P**	**09 44 23.0**	**+2.0**
KMI				pP			**pP**	**09 44 26.5**	**+0.8**
KMI				sP			**sP**	**09 44 29.3**	**+1.4**
KMI				PP			**PnPn**	**09 44 33.3**	**+5.4**
KMI				S			**Sn**	**09 47 24.5**	**+2.7**
KMI				sS			**S**	**09 47 30.8**	**-2.7**
KMI					pmax		pmax		
	comp=Z,13nm,1.6s								
KMI					pmax		pmax		
	comp=Z,210nm,3.2s								
KMI					LR		LR		
	comp=N,1μm,12.2s								
KMI					LR		LR		
	comp=E,1μm,10.1s								
KMI					LR		LR		
	comp=Z,1μm,11.9s								
HYB	**Hyderabad**	**16.74**	**296**	*i* P			**P**	**09 44 27.0**	**+3.8**
HYB				*e*S			**Sn**	**09 47 30.0**	**+3.2**
HYB	**Hyderabad**	**16.74**	**296**	*e*P			**Pn**	**09 44 17.8**	**-3.3**
QIZ	**Qiongzhong**	**17.19**	**59**	P			**Pn**	**09 44 24.5**	**-2.1**
QIZ				S			**Sn**	**09 47 35.5**	**-2.0**
QIZ					LR		LR		
	comp=N,1μm,9.3s								
QIZ					LR		LR		
	comp=E,1μm,9.7s								
QIZ					LR		LR		
	comp=Z,3μm,8.6s								
ODAN	**Odare**	**17.47**	**339**	*e*P			**Pn**	**09 44 30.1**	**-0.2**
TAPN	**Taplejung**	**17.81**	**340**	*e*P			**Pn**	**09 44 34.1**	**-0.5**
	comp=Z,290nm,1.3s								
RAMN	**Ramite**	**17.84**	**337**	*e*P			**Pn**	**09 44 34.8**	**-0.2**
	comp=Z,442nm,1.8s								
KSM	**Kuching**	**18.27**	**119**	*e*P			**Pn**	**09 44 38.2**	**-1.9**
	comp=Z,88nm,2.0s								
JIRN	**Jiri**	**18.64**	**337**	*e*P			**Pn**	**09 44 44.7**	**-0.1**
	comp=Z,194nm,1.2s								
PKI	**Pulchoki**	**18.88**	**335**	*e*P			**P**	**09 44 46.9**	**-0.2**
	comp=Z,334nm,1.2s								
PKIN	**Phulchoki**	**18.89**	**335**	*e*P			**P**	**09 44 46.9**	**-0.2**
	comp=Z,282nm,1.4s								
GUN	**Gumba**	**18.99**	**336**	*e*P			**P**	**09 44 48.4**	**+0.1**
	comp=Z,220nm,1.2s								
DMN	**Daman**	**19.04**	**334**	*e*P			**Pn**	**09 44 49.4**	**-0.1**
	comp=Z,150nm,1.0s								
KKN	**Kakani**	**19.12**	**335**	*e*P			**P**	**09 44 49.8**	**+0.2**
	comp=Z,206nm,1.2s								
LSA	**Lhasa**	**19.26**	**352**	P			**P**	**09 44 49.0**	**-2.4**
LSA				S			**Sn**	**09 48 27.3**	**-0.9**
LSA					LR		LR		
	comp=Z,3μm,9.2s								
LSA	**Lhasa**	**19.26**	**352**	*e*P			**P**	**09 44 50.8**	**-0.6**
LSA					pmax		pmax		
	comp=Z,47nm,1.4s								
LSA	**Lhasa**	**19.26**	**352**	*e*P			**P**	**09 44 50.8**	**-0.6**
	comp=Z,47nm,1.4s								
GYA	**Guiyang**	**19.63**	**35**	*e*P			**Pn**	**09 44 56.8**	**+0.2**
GYA				PP			**PnPn**	**09 45 14.3**	**+4.0**
GYA				S			**S**	**09 48 32.0**	**-4.3**
GYA				SS			**SnSn**	**09 48 57.3**	**+5.9**
GYA					pmax		pmax		
	comp=Z,10.0nm,0.8s								
GYA					pmax		pmax		
	comp=Z,90nm,4.6s								
GYA					LR		LR		
	comp=N,2μm,15.2s								
GYA					LR		LR		
	comp=E,1μm,15.8s								
GYA					LR		LR		
	comp=Z,2μm,15.4s								
KOLN	**Koldanda**	**19.86**	**331**	*e*P			**P**	**09 44 57.7**	**0.0**
	comp=Z,150nm,1.0s								
DANN	**Dangsing**	**20.27**	**332**	*e*P			**P**	**09 45 02.3**	**0.0**
	comp=Z,564nm,1.1s								
BHPL	**Bhopal**	**20.47**	**310**	*e*P			**P**	**09 45 00.2**	**-4.0**
POO	**Poona**	**21.32**	**294**	*e*P			**P**	**09 45 09.7**	**-3.7**
POO					AMB		AMB	09 45 44.9	
	comp=Z,62nm,2.6s								
CD2	**Chengdu**	**22.05**	**22**	*e*P			**P**	**09 45 20.0**	**-1.2**
CD2				pP			**pP**	**09 45 24.8**	**-1.2**
CD2				sP			**sP**	**09 45 27.0**	**-1.2**
CD2				PP			**PnPn**	**09 45 46.5**	**+3.2**
CD2				S			**S**	**09 49 19.3**	**-4.6**
CD2				SS			**SnSn**	**09 49 58.3**	**+7.7**
CD2					pmax		pmax		
	comp=Z,20nm,1.4s								
CD2					pmax		pmax		
	comp=Z,130nm,5.2s								
CD2					LR		LR		
	comp=E,2μm,12.0s								
CD2					LR		LR		
	comp=Z,1μm,12.4s								
ENH	**Enshi**	**24.15**	**34**	*e*P			**P**	**09 45 41.5**	**-1.0**
	comp=Z,74nm,1.1s								
DDI	**Dehra Dun**	**24.81**	**325**	*e*P			P	09 45 42.6	-6.0
SMLA	**Simla**	**25.92**	**325**	*e*P			**P**	**09 45 55.5**	**-3.0**
LZH	**Lanzhou**	**26.83**	**17**	*e*P			P	09 46 12.8	+5.9
LZH					pP		pP	09 46 15.8	+3.8
LZH					sP		sP	09 46 17.5	+3.4
LZH					PP		PnPn	09 46 58.0	+9.3
LZH				*e*S			**S**	**09 50 45.5**	**+2.8**
LZH					sS		sS	09 50 53.3	+2.2
LZH					SS		SnSn	09 51 58.5	+11
LZH					pmax		pmax		
	comp=Z,42nm,1.5s								
LZH					pmax		pmax		
	comp=Z,180nm,7.8s								
LZH					LR		LR		
	comp=N,590nm,12.0s								
LZH					LR		LR		
	comp=E,1μm,13.2s								
LZH					LR		LR		
	comp=Z,2μm,16.5s								
XAN	**Xi'an**	**26.91**	**28**	P			**P**	**09 46 05.3**	**-2.2**
XAN				pP			**pP**	**09 46 16.0**	**+3.4**
XAN				sP			sP	09 46 20.5	+5.8
XAN					pmax		pmax		
	comp=Z,40nm,7.5s								
WHN	**Wuhan**	**27.23**	**40**	||P		P	09 46 17.0	+6.7
WHN				S			**S**	**09 50 44.5**	**-4.3**
WHN					LR		LR		
	comp=N,1μm,8.2s								
WHN					LR		LR		
	comp=E,1μm,6.0s								
WHN					LR		LR		
	comp=Z,2μm,13.0s								
DHRM	**DHARAMSHALA**	**27.24**	**325**	*e*P			P	09 46 04.4	-6.4
DHRM					AMB		AMB	09 46 18.4	
	comp=Z,35nm,1.9s								
GTA	**Gaotai**	**29.13**	**9**	*e*P			**P**	**09 46 28.3**	**+0.9**
GTA				pP			**pP**	**09 46 33.0**	**+0.5**
GTA				sP			**sP**	**09 46 35.5**	**+0.9**
GTA				S			**S**	**09 51 20.5**	**+1.7**
GTA				sS			**sS**	**09 51 27.5**	**+0.2**
GTA				SS			**SnSn**	**09 52 51.8**	**+8.2**
GTA					pmax		pmax		
	comp=Z,6.0nm,2.1s								
GTA					pmax		pmax		
	comp=Z,160nm,5.7s								
GTA					LR		LR		
	comp=N,570nm,19.2s								
GTA					LR		LR		
	comp=E,360nm,19.2s								
GTA					LR		LR		
	comp=Z,890nm,19.5s								
KAPI	**Kappang**	**29.68**	**120**		LR		LR	09 58 44.0	
	comp=Z,732nm,18.4s,baz=285,slow=37								
DAV	**Davao City (W)**	**31.07**	**94**		LR		LR	10 00 16.8	
	comp=Z,370nm,20.3s,baz=241,slow=38								
NJ2	**Nanjing**	**31.14**	**43**	*e*P			**P**	**09 46 44.3**	**-0.8**
NJ2				S			**S**	**09 51 50.0**	**-0.3**
NJ2					pmax		pmax		
	comp=Z,60nm,0.6s								
NJ2					LR		LR		
	comp=N,1μm,12.1s								
NJ2					LR		LR		
	comp=E,450nm,9.9s								
NJ2					LR		LR		
	comp=Z,1μm,11.2s								
SSE	**Sheshan**	**32.20**	**47**	P			**P**	**09 46 54.0**	**-0.5**
SSE					pmax		pmax		
	comp=Z,23nm,0.6s								
SSE					pmax		pmax		
	comp=Z,170nm,4.2s								
SSE					LR		LR		
	comp=N,660nm,12.4s								
SSE					LR		LR		
	comp=E,250nm,12.4s								
SSE					LR		LR		
	comp=Z,500nm,10.3s								
KSH	**Kashi**	**33.13**	**334**	P			**P**	**09 47 00.3**	**-2.3**
KSH				PP			**PnPn**	**09 48 11.5**	**-1.1**
KSH				PcP			**PcP**	**09 49 46.0**	**+0.3**
KSH				S			**S**	**09 52 16.3**	**-5.1**
KSH				sS			sS	09 52 24.3	-5.6
KSH				SS			**SnSn**	**09 54 15.3**	**-5.5**
KSH					pmax		pmax		
	comp=Z,8.0nm,0.8s								
KSH					pmax		pmax		
	comp=Z,99nm,4.2s								
KSH					LR		LR		
	comp=N,700nm,11.8s								
KSH					LR		LR		
	comp=E,640nm,8.1s								
KSH					LR		LR		
	comp=Z,1μm,13.5s								
WMQ	**Urumqi**	**33.62**	**351**	P			**P**	**09 47 08.5**	**+1.7**
WMQ				pP			**pP**	**09 47 13.0**	**+1.1**
WMQ				sP			**sP**	**09 47 15.5**	**+1.5**
WMQ				PP			**PP**	**09 48 21.0**	**-2.0**
WMQ				PcP			**PcP**	**09 49 49.0**	**+2.1**
WMQ				S			**S**	**09 52 29.5**	**+0.7**
WMQ				sS			**sS**	**09 52 37.0**	**-0.3**
WMQ				ScP			**ScP**	**09 53 32.0**	**+1.0**
WMQ				SS			**SnSn**	**09 54 33.8**	**+1.3**
WMQ				ScS			**ScS**	**09 57 31.5**	**-0.6**
WMQ					pmax		pmax		
	comp=Z,24nm,1.7s								
WMQ					pmax		pmax		
	comp=Z,160nm,4.1s								
WMQ					LR		LR		
	comp=N,160nm,13.5s								
WMQ					LR		LR		
	comp=E,150nm,20.3s								
WMQ					LR		LR		
	comp=Z,290nm,27.4s								
HHC	**Hu-ho-hao-te**	**33.78**	**24**	*e*P			**P**	**09 47 08.0**	**-0.3**
HHC					PP		**PnPn**	**09 48 21.5**	**+0.8**
HHC					PcP		**PcP**	**09 49 47.3**	**-0.1**
HHC					S		**S**	**09 52 30.3**	**-1.1**
HHC					sS		**sS**	**09 52 37.3**	**-2.6**
HHC					ScP		**ScP**	**09 53 30.5**	**-1.1**
HHC					PcS		**PcS**	**09 53 32.5**	**-0.9**
HHC					SS		**SnSn**	**09 54 36.3**	**-0.2**
HHC					ScS		**ScS**	**09 57 30.5**	**-2.7**
HHC					pmax		pmax		
	comp=Z,28nm,0.6s								
HHC					pmax		pmax		
	comp=Z,210nm,6.1s								
HHC					LR		LR		
	comp=N,1μm,12.7s								
HHC					LR		LR		
	comp=E,870nm,13.3s								
HHC					LR		LR		
	comp=Z,560nm,12.1s								
BJI	**Beijing**	**35.17**	**30**	P			**P**	**09 47 18.5**	**-1.6**
BJI				PP			**PP**	**09 48 39.0**	**-1.1**
BJI				S			**S**	**09 52 53.3**	**+0.7**
BJI					pmax		pmax		
	comp=Z,14nm,0.5s								
BJI					pmax		pmax		
	comp=Z,220nm,4.7s								
BJI					LR		LR		
	comp=N,270nm,18.8s								
BJI					LR		LR		
	comp=E,490nm,16.4s								
BJI					LR		LR		
	comp=Z,240nm,36.3s								
AAK	**Ala-Archa**	**36.33**	**335**	*e*P			**P**	**09 47 28.7**	**-1.6**
AAK					pmax		pmax		
	comp=Z,15nm,1.1s								
AAK	**Ala-Archa**	**36.33**	**335**	*e*P			**P**	**09 47 28.7**	**-1.6**
	comp=Z,15nm,1.1s								
AAK	**Ala-Archa**	**36.33**	**335**	P			**P**	**09 47 29.7**	**-0.7**
	comp=Z,2.4nm,0.4s,baz=131,slow=2.0,SNR=7.3								
FRU	**Bishkek**	**36.45**	**335**	*e*P			**P**	**09 47 30.5**	**-0.6**
MK31	**Makanchi Array**	**37.52**	**346**	*e*P			**P**	**09 47 39.0**	**-1.2**
MK31	**Makanchi Array**	**37.52**	**346**	*e*P			**P**	**09 47 39.0**	**-1.2**
MKAR	**Makanchi Array**	**37.52**	**346**	*ce*P			**P**	**09 47 39.2**	**-1.0**
MKAR					pmax		pmax		
	comp=Z,3.0nm,0.7s								
MKAR	**Makanchi Array**	**37.52**	**346**	*e*P			**P**	**09 47 39.4**	**-0.8**
MKAR	**Makanchi Array**	**37.52**	**346**	P			**P**	**09 47 39.2**	**-1.0**
	comp=Z,3.3nm,0.7s,baz=161,slow=7.7,SNR=16								
KK31	**Karatay Array**	**38.47**	**332**	*ce*P			**P**	**09 47 47.8**	**-0.5**
KK31					pmax		pmax		
	comp=Z,17nm,1.0s								
KKAR	**Karatay Array**	**38.47**	**332**	*e*P			**P**	**09 47 47.8**	**-0.5**
KKAR					pmax		pmax		
	comp=Z,24nm,1.2s								
KKAR	**Karatay Array**	**38.47**	**332**	*e*P			**P**	**09 47 47.8**	**-0.5**
	comp=Z,24nm,1.2s								
SONM	**Songino Array**	**38.51**	**13**	P			**P**	**09 47 48.0**	**-0.7**
SONM					PcP		**PcP**	**09 50 02.6**	**+1.2**
SONM	**Songino Array**	**38.51**	**13**	P			**P**	**09 47 48.0**	**-0.7**
	comp=Z,5.5nm,1.1s,baz=196,slow=7.9,SNR=17								
SONM					PcP		**PcP**	**09 50 02.6**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=183,slow=4.1,SNR=3.6								
SONM					LR		LR	10 05 22.5	
	comp=Z,890nm,18.4s,baz=195,slow=39								
ULN	**Ulaanbaatar**	**38.69**	**14**	*e*P			**P**	**09 47 50.3**	**+0.1**
	comp=Z,14nm,1.2s								
KSAR	**Wonju Array Be**	**40.31**	**43**	P			**P**	**09 48 03.0**	**-0.6**
KSRS	**Korea Array**	**40.34**	**43**	P			**P**	**09 48 03.0**	**-0.9**
	comp=Z,4.3nm,1.1s,baz=253,slow=8.7,SNR=13								
ZAK	**Zakamensk**	**40.37**	**9**	*e*P			P	09 47 56.3	-7.8
ZAK				*e*				09 49 38.0	
ZAK					pmax		pmax		
	comp=Z,4.0nm,1.6s								
HVS	**Khovu-Aksy**	**40.45**	**359**	*e*P			**P**	**09 48 04.0**	**-0.7**
HVS					pmax		pmax		
	comp=Z,60nm,1.2s								
KURBB	**Kurchatov Arra**	**42.00**	**345**	P			**P**	**09 48 16.4**	**-0.9**
	comp=Z,5.4nm,1.0s,baz=162,slow=7.9,SNR=17								
FITZ	**Fitzroy Crossi**	**42.04**	**132**	*e*P			**P**	**09 48 19.1**	**+0.9**
	comp=Z,16nm,1.4s								
FITZ	**Fitzroy Crossi**	**42.04**	**132**	P			**P**	**09 48 18.9**	**+0.8**
	comp=Z,6.7nm,1.1s,baz=330,slow=11,SNR=3.8								
KURK	**Kurchatov**	**42.06**	**345**	P			P	09 48 14.5	-3.3
KURK					pmax		pmax		
	comp=Z,39nm,1.4s								
KURK	**Kurchatov**	**42.06**	**345**	P			**P**	**09 48 16.4**	**-1.4**
CN2	**Changchun**	**42.67**	**34**	*e*P			**P**	**09 48 23.0**	**0.0**
CN2				*e*S			**S**	**09 54 44.5**	**-1.2**
CN2					pmax		pmax		
	comp=Z,20nm,1.2s								
CN2					LR		LR		
	comp=N,300nm,18.0s								
CN2					LR		LR		
	comp=E,300nm,18.0s								
CN2					LR		LR		
	comp=Z,300nm,18.0s								
ZALV	**Zalesovo Beam**	**43.92**	**352**	P			**P**	**09 48 32.1**	**-0.8**
ZALV	**Zalesovo Beam**	**43.92**	**352**	P			**P**	**09 48 32.1**	**-0.8**
ZALV	**Zalesovo Beam**	**43.92**	**352**	P			**P**	**09 48 32.1**	**-0.8**
	comp=Z,8.3nm,1.0s,baz=175,slow=8.7,SNR=12								
ZALV					LR		LR	10 10 20.4	
	comp=Z,126nm,18.7s,baz=70,slow=41								
NVS	**Novosibirsk**	**45.02**	**351**	||*i*P		**P**	**09 48 39.2**	**-2.5**
NVS				*e*				09 50 27.0	
NVS				*e*S			S	09 55 10.8	-8.7
NVS					pmax		pmax		
	comp=Z,32nm,1.9s								
NVS					pmax		pmax		
	comp=N,23nm,2.0s								
NVS					pmax		pmax		
	comp=E,15nm,2.0s								
NVS					smax		smax		
	comp=N,9.0nm,2.5s								
NVS					smax		smax		
	comp=E,17nm,2.5s								
KRAR	**Krasnoyarsk**	**45.34**	**359**	*e*P			**P**	**09 48 43.2**	**-1.0**
KRAR					pmax		pmax		
	comp=Z,17nm,1.2s								
MDJ	**Mudanjiang**	**45.50**	**35**	P			**P**	**09 48 46.0**	**+0.4**
MDJ				pP			**pP**	**09 48 48.5**	**-2.4**
MDJ				sP			**sP**	**09 48 50.5**	**-2.5**
MDJ				PcP			**PcP**	**09 50 24.5**	**+0.1**
MDJ				PP			**PP**	**09 50 33.0**	**+0.8**
MDJ				ScP			**ScP**	**09 54 17.5**	**+0.8**
MDJ				S			**S**	**09 55 30.0**	**+3.2**
MDJ				ScS			**ScS**	**09 58 39.0**	**-2.6**
MDJ					pmax		pmax		
	comp=Z,6.0nm,1.0s								
MDJ					pmax		pmax		
	comp=Z,86nm,4.3s								
MDJ					LR		LR		
	comp=N,220nm,19.2s								
MDJ					LR		LR		
	comp=Z,220nm,16.4s								
VOSK	**Vostochnaya**	**46.07**	**340**	P			**P**	**09 48 48.3**	**-1.7**
VOSK					pmax		pmax		
	comp=Z,19nm,1.0s								
BVA0	**Borovoye Array**	**46.52**	**340**	*i* P			**P**	**09 48 53.4**	**-0.1**
BVA0					pmax		pmax		
	comp=Z,12nm,0.8s								
BVAR	**Borovoye Array**	**46.52**	**340**	P			**P**	**09 48 52.0**	**-1.6**
BVAR	**Borovoye Array**	**46.52**	**340**	P			**P**	**09 48 52.0**	**-1.6**
BVAR	**Borovoye Array**	**46.52**	**340**	P			**P**	**09 48 52.0**	**-1.6**
	comp=Z,5.2nm,1.2s,baz=139,slow=14,SNR=7.0								
BVAR					LR		LR	10 11 50.9	
	comp=Z,205nm,20.2s,baz=358,slow=41								
BRVK	**Borovoye**	**46.58**	**340**	*e*P			**P**	**09 48 51.9**	**-2.1**
BRVK					pmax		pmax		
	comp=Z,14nm,1.2s								
BRVK	**Borovoye**	**46.58**	**340**	*e*P			**P**	**09 48 51.9**	**-2.1**
	comp=Z,14nm,1.2s								
USRK	**Ussuriysk Arra**	**46.65**	**37**	P			**P**	**09 48 53.9**	**-0.8**
	comp=Z,3.1nm,0.9s,baz=239,slow=6.7,SNR=8.8								
USRK					LR		LR	10 09 51.6	
	comp=Z,226nm,18.2s,baz=124,slow=38								
MAT	**Matsushiro**	**47.25**	**49**	P			**P**	**09 48 59.9**	**+0.3**
MAT				*e*S			**S**	**09 55 50.2**	**-2.0**
MJAR	**Matsushiro Arr**	**47.25**	**49**	P			**P**	**09 48 59.8**	**+0.2**
MJAR					PcP		**PcP**	**09 50 31.3**	**+0.6**
MJAR	**Matsushiro Arr**	**47.25**	**49**	P			**P**	**09 48 59.8**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=271,slow=4.6,SNR=3.9								
MJAR					PcP		**PcP**	**09 50 31.3**	**+0.6**
	comp=Z,4.3nm,1.1s,baz=249,slow=4.3,SNR=7.6								
AB31	**Akbulak array**	**47.98**	**330**	*ce*P			**P**	**09 49 04.1**	**-0.9**
AB31					pmax		pmax		
	comp=Z,2.0nm,0.4s								
ABKAR	**Akbulak array**	**47.98**	**330**	*e*P			**P**	**09 49 04.1**	**-0.9**
	comp=Z,3.1nm,0.5s								
RAYN	**Ar Rayn**	**48.20**	**292**	*e*P			**P**	**09 49 08.6**	**+1.4**
NWAO	**Narrogin (SRO)**	**48.47**	**154**	*e*P			**P**	**09 49 10.3**	**+1.4**
	comp=Z,36nm,1.2s								
KLR	**Kul'dur**	**49.49**	**32**	*e*P			P	09 49 08.5	-8.1
AKTO	**Aktyubinsk**	**49.70**	**330**	P			**P**	**09 49 16.4**	**-1.8**
AKTO	**Aktyubinsk**	**49.70**	**330**	P			**P**	**09 49 16.4**	**-1.8**
AKTO	**Aktyubinsk**	**49.70**	**330**	P			**P**	**09 49 16.4**	**-1.8**
	comp=Z,3.5nm,0.9s,baz=134,slow=10,SNR=3.8								
WRA	**Warramunga Arr**	**49.71**	**128**	P			**P**	**09 49 19.1**	**+0.4**
WRA

	comp=Z,15nm,2.5s							
ARU					MLR	MLR		
	comp=Z,840nm,22.0s							
ZEI	**Tsey**	**54.23**	**316**	*e*P		P	09 49 55.8	+3.4
ZEI					pmax	pmax		
	comp=Z,15nm,1.0s							
YSS	**Yuzh-Sakhalins**	**54.57**	**39**	*e*P		**P**	**09 49 55.2**	**+0.8**
KBZ	**Khabaz**	**55.25**	**316**	P		**P**	**09 49 58.9**	**-0.6**
KBZ	**Khabaz**	**55.25**	**316**	P		**P**	**09 49 58.9**	**-0.6**
KBZ	**Khabaz**	**55.25**	**316**	P		**P**	**09 49 58.9**	**-0.6**
	comp=Z,2.2nm,1.0s,baz=153,slow=6.6,SNR=4.3							
KBZ					LR	LR	10 17 07.0	
	comp=Z,218nm,20.5s,baz=114,slow=40							
YUK	**Yuzh-Kuril'sk**	**55.43**	**43***d*	*i*P		P	09 50 05.8	+5.1
YUK				*i* S		**S**	**09 57 47.7**	**+2.8**
YUK					MLR	MLR		
	comp=Z,266nm,21.0s							
KIV	**Kislovodsk**	**55.47**	**317**	*e*P		**P**	**09 50 01.6**	**+0.4**
KIV					pmax	pmax		
	comp=Z,23nm,1.1s							
KIV					MLR	MLR		
	comp=Z,106nm,16.0s							
YAK	**Yakutsk**	**57.40**	**19**	*e*P		**P**	**09 50 12.0**	**-2.4**
YAK				*e*			09 50 17.9	
YAK					pmax	pmax		
	comp=Z,16nm,0.9s							
YAK					pmax	pmax		
	comp=N,8.0nm,1.3s							
YAK					pmax	pmax		
	comp=E,8.0nm,1.6s							
YAK					MLR	MLR		
	comp=E,399nm,20.0s							
YAK					MLR	MLR		
	comp=Z,508nm,18.0s							
YAK					MLR	MLR		
	comp=N,311nm,22.0s							
CTA	**Charters Tower**	**59.49**	**121**	P		**P**	**09 50 28.9**	**-0.9**
CTA	**Charters Tower**	**59.49**	**121**	P		**P**	**09 50 28.9**	**-0.9**
	comp=N,5.8nm,0.9s,baz=285,slow=12,SNR=3.2							
VORD	**Divnogorie**	**60.16**	**323**	*e*P		**P**	**09 50 34.6**	**+0.7**
VORD					pmax	pmax		
	comp=N,10.0nm,0.4s							
VORD					pmax	pmax		
	comp=Z,10.0nm,0.4s							
VORD					pmax	pmax		
	comp=E,20nm,0.6s							
VSR	**Storozhevoye**	**60.33**	**324**	*e*P		**P**	**09 50 34.1**	**-0.9**
VSR					pmax	pmax		
	comp=Z,10.0nm,1.2s							
VSR					pmax	pmax		
	comp=N,4.0nm,0.3s							
VSR					pmax	pmax		
	comp=E,9.0nm,0.6s							
BRTR	**Keskin Array B**	**60.84**	**310**	P		**P**	**09 50 37.6**	**-1.3**
BRTR	**Keskin Array B**	**60.84**	**310**	P		**P**	**09 50 37.6**	**-1.3**
	comp=E,1.3nm,0.7s,baz=113,slow=5.6,SNR=8.0							
STKA	**Stephens Creek**	**61.85**	**135**	*e*P		**P**	**09 50 46.6**	**+1.0**
	comp=E,4.5nm,1.1s							
STKA	**Stephens Creek**	**61.85**	**135**	P		**P**	**09 50 46.0**	**+0.4**
	comp=E,4.1nm,0.5s,baz=295,slow=8.5,SNR=7.6							
STKA					LR	LR	10 16 07.7	
	comp=E,604nm,21.7s,baz=108,slow=35							
OBN	**Obninsk**	**63.22**	**327**⇑	*e*P		**P**	**09 50 53.1**	**-1.3**
OBN				*e*			09 53 12.0	
OBN				*e*S		S	09 59 16.4	-8.8
OBN					pmax	pmax		
	comp=Z,3.0nm,0.7s							
OBN					MLR	MLR		
	comp=Z,400nm,18.0s							
PETK	**Petropavlovsk-**	**65.72**	**36**	P		**P**	**09 51 10.9**	**0.0**
PETK	**Petropavlovsk-**	**65.72**	**36**	P		**P**	**09 51 10.9**	**0.0**
PETK	**Petropavlovsk-**	**65.72**	**36**	P		**P**	**09 51 10.9**	**0.0**
	comp=Z,2.3nm,1.1s,baz=273,slow=13,SNR=2.9							
ARMA	**Armidale**	**68.47**	**129**	*e*P		**P**	**09 51 30.4**	**+1.5**
	comp=Z,22nm,1.1s							
APA	**Apatity**	**69.41**	**339**‖	*e*P		P	09 51 38.4	+4.5
APA					MLR	MLR		
	comp=Z,700nm,17.0s							
FINES	**FINESS Array B**	**70.43**	**332**	P		**P**	**09 51 39.0**	**-1.2**
FINES	**FINESS Array B**	**70.43**	**332**	P		**P**	**09 51 39.0**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=100,slow=9.9,SNR=3.4							
FINES					LR	LR	10 29 10.8	
	comp=Z,354nm,18.0s,baz=127,slow=42							
STHS	**Stebnicka Huta**	**71.04**	**319**	*e*P		**P**	**09 51 45.2**	**+0.9**
STHS					pmax	pmax		
	comp=Z,1.0nm,1.4s							
STHS	**Stebnicka Huta**	**71.04**	**319**	*e*P		**P**	**09 51 45.2**	**+0.9**
KECS	**Kecovo**	**71.45**	**318**	*e*P		**P**	**09 51 46.9**	**+0.2**
KECS					pmax	pmax		
	comp=Z,1.0nm,0.7s							
KECS	**Kecovo**	**71.45**	**318**	*e*P		**P**	**09 51 46.9**	**+0.2**
ARCES	**ARCESS Array B**	**72.81**	**340**	P		**P**	**09 51 53.2**	**-1.3**
ARCES	**ARCESS Array B**	**72.81**	**340**	P		**P**	**09 51 53.2**	**-1.3**
	comp=Z,3.3nm,0.8s,baz=86,slow=7.4,SNR=6.4							
ARCES					LR	LR	10 27 05.8	
	comp=Z,525nm,20.2s,baz=104,slow=38							
MORC	**Moravsky Berou**	**73.47**	**319**	*e*P		**P**	**09 51 59.5**	**+0.7**
MORC					pmax	pmax		
	comp=Z,11nm,1.4s							
MORC	**Moravsky Berou**	**73.47**	**319**	*e*P		**P**	**09 51 59.5**	**+0.7**
	comp=Z,11nm,1.4s							
DPC	**Dobruska-Polom**	**74.28**	**319**	*e*P		**P**	**09 52 04.8**	**+1.2**
DPC				*e*			09 52 16.2	
DPC	**Dobruska-Polom**	**74.28**	**319**	*e*P		**P**	**09 52 04.8**	**+1.2**
DPC				*e*PCP		**PcP**	**09 52 16.2**	**-2.2**
TREC	**Trest**	**74.79**	**318**	AMS		AMS	10 29 10.0	
	comp=Z,200nm,13.0s							
PRU	**Pruhonice**	**75.42**	**319**	AMS		AMS	10 28 50.0	
	comp=Z,200nm,20.5s							
GERES	**GERESS Array B**	**75.95**	**318**	P		**P**	**09 52 12.9**	**-0.4**
GERES	**GERESS Array B**	**75.95**	**318**	P		**P**	**09 52 12.9**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=90,slow=2.8,SNR=7.3							
KHC	**Kasperske Hory**	**76.04**	**318**	*e*P		**P**	**09 52 14.8**	**+1.1**
KHC				*e*			09 52 28.6	
KHC					MLR	MLR		
	comp=Z,200nm,22.5s							
KHC	**Kasperske Hory**	**76.04**	**318**	*e*P		**P**	**09 52 14.8**	**+1.1**
KHC				*e*pP		**pP**	**09 52 19.3**	**+0.1**
KHC				*e*PCP		**PcP**	**09 52 28.6**	**+2.6**
KHC					AMS	AMS	10 28 30.0	
	comp=Z,200nm,22.5s							
NB2	**NORSAR Subarra**	**77.49**	**330**	P		**P**	**09 52 21.3**	**-0.4**
	comp=Z,3.3nm,1.1s,baz=92,slow=5.1							
NOA	**NORSAR Array B**	**77.49**	**330**	P		**P**	**09 52 19.9**	**-1.7**
NOA	**NORSAR Array B**	**77.49**	**330**	P		**P**	**09 52 19.9**	**-1.7**
	comp=Z,1.0nm,0.8s,baz=89,slow=11,SNR=3.3							
NOA					LR	LR	10 29 39.1	
	comp=Z,237nm,20.9s,baz=105,slow=38							
MEM	**Membach**	**80.86**	**320**	P		**P**	**09 52 42.2**	**+2.0**
LPG	**La Plagne**	**80.86**	**315**	*e*P		**P**	**09 52 40.8**	**+0.1**
	comp=Z,19nm,1.0s							
LPL	**La Plagne**	**80.87**	**315**	*e*P		**P**	**09 52 40.7**	**0.0**
	comp=Z,43nm,1.4s							
MBDF	**Montbardon**	**80.92**	**314**	*e*P		**P**	**09 52 41.3**	**+0.4**
ORIF	**Oris-en-Rattie**	**81.53**	**314**	*e*P		**P**	**09 52 44.0**	**-0.1**
	comp=Z,18nm,1.2s							
SYO	**Syowa Base**	**88.02**	**197**⇑	*e*PcP		**PcP**	**09 53 21.0**	**+3.3**
ESDC	**Sonseca Array**	**89.63**	**310**	P		**P**	**09 53 23.3**	**-1.1**
ESDC	**Sonseca Array**	**89.63**	**310**	P		**P**	**09 53 23.3**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=79,slow=7.7,SNR=4.1							
TORD	**Torodi Ar. Bea**	**90.16**	**283**	P		**P**	**09 53 26.5**	**-0.8**
TORD					PP	**PP**	**09 57 02.1**	**+1.2**
TORD	**Torodi Ar. Bea**	**90.16**	**283**	P		**P**	**09 53 26.5**	**-0.8**
	comp=Z,1.6nm,0.9s,baz=87,slow=4.4,SNR=6.1							
TORD					PP	**PP**	**09 57 02.1**	**+1.2**
	comp=Z,3.2nm,1.1s,baz=59,slow=5.8,SNR=7.4							
MCK	**McKinley**	**91.92**	**23**	*e*P		**P**	**09 53 34.2**	**-0.4**
MCK					pmax	pmax		
	comp=Z,11nm,1.1s							
MCK	**McKinley**	**91.92**	**23**	*e*P		**P**	**09 53 34.2**	**-0.4**
	comp=Z,12nm,1.1s							
ILAR	**Eielson Array**	**92.19**	**22**	P		**P**	**09 53 34.4**	**-1.3**
ILAR	**Eielson Array**	**92.19**	**22**	P		**P**	**09 53 34.4**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=286,slow=3.7,SNR=9.9							
PMR	**Palmer**	**92.87**	**25**	*e*P		**P**	**09 53 39.2**	**+0.3**
PMR					pmax	pmax		
	comp=Z,16nm,1.1s							
PMR	**Palmer**	**92.87**	**25**	*e*P		**P**	**09 53 39.2**	**+0.3**
	comp=Z,16nm,1.1s							
KDAK	**Kodiak Island**	**93.02**	**30**	LR		LR	10 35 54.5	
	comp=Z,126nm,18.9s,baz=98,slow=36							
VNDA	**Vanda**	**95.52**	**168**	P		**P**	**09 53 50.7**	**0.0**
VNDA	**Vanda**	**95.52**	**168**	P		**P**	**09 53 50.7**	**0.0**
	comp=Z,0.4nm,0.9s,baz=248,slow=5.2,SNR=2.2							
VNDA					LR	LR	10 32 36.3	
	comp=Z,163nm,21.8s,baz=266,slow=33							
HLID	**Hailey**	**120.10**	**24**	*e*PKPdf		**PKPdf**	**09 59 17.5**	**-0.2**
SNOW	**Snow King Moun**	**121.56**	**21**	*e*PKPdf		**PKPdf**	**09 59 21.0**	**+0.4**
REDW	**Red Top Meadow**	**121.62**	**21**	*e*PKPdf		**PKPdf**	**09 59 20.5**	**-0.1**
NVAR	**Mina Array Bea**	**122.51**	**30**	PKP		**PKPdf**	**09 59 23.2**	**+0.8**
NVAR	**Mina Array Bea**	**122.51**	**30**	PKP		**PKPdf**	**09 59 23.2**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=327,slow=1.6,SNR=13							
PDAR	**Pinedale Array**	**122.59**	**21**	PKP		**PKPdf**	**09 59 21.6**	**-0.9**
PDAR	**Pinedale Array**	**122.59**	**21**	PKP		**PKPdf**	**09 59 21.6**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=74,slow=2.2,SNR=11							
HWUT	**Hardware Ranch**	**122.87**	**23**	*e*PKPdf		**PKPdf**	**09 59 24.0**	**+0.9**
DUG	**Dugway**	**123.58**	**25**	*e*PKIKP		**PKPdf**	**09 59 24.2**	**-0.1**
DUG	**Dugway**	**123.58**	**25**	*e*PKPdf		**PKPdf**	**09 59 24.2**	**-0.1**
ANMO	**Albuquerque**	**130.63**	**23**	*e*PKPdf		**PKPdf**	**09 59 38.8**	**+0.8**
MIAR	**Mount Ida**	**134.51**	**9**	*e*PKIKP		**PKPdf**	**09 59 47.0**	**+1.9**
MIAR	**Mount Ida**	**134.51**	**9**	*e*PKPdf		**PKPdf**	**09 59 47.0**	**+1.9**
TXAR	**Lajitas Array**	**136.69**	**23**	PKP		**PKPdf**	**09 59 51.0**	**+1.6**
TXAR				PP		PP	10 02 35.6	+5.3
TXAR	**Lajitas Array**	**136.69**	**23**	PKP		**PKPdf**	**09 59 51.0**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=16,slow=0.5,SNR=8.4							
TXAR				PP		PP	10 02 35.6	+5.3
	comp=Z,0.7nm,1.1s,baz=352,slow=6.3,SNR=4.5							
JCT	**Junction City**	**136.98**	**18**	*e*PKIKP		**PKPdf**	**09 59 51.2**	**+1.3**
JCT	**Junction City**	**136.98**	**18**	*e*PKPdf		**PKPdf**	**09 59 51.2**	**+1.3**
MTP	**Monte Pirata**	**145.27**	**325**	*e*PKPdf		**PKPdf**	**10 00 06.1**	**+1.1**
CELP	**Cerrillos**	**145.86**	**326**	*e*PKPdf		**PKPab**	**10 00 07.0**	**+0.1**
OBIP	**Obispado Ponce**	**145.90**	**326**	*e*PKPdf		**PKPab**	**10 00 07.8**	**+0.7**
PLCA	**Paso Flores**	**147.12**	**201**	PKPbc		**PKPbc**	**10 00 10.2**	**+0.5**
PLCA	**Paso Flores**	**147.12**	**201**	PKPbc		**PKPbc**	**10 00 10.2**	**+0.5**
	comp=Z,7.0nm,1.0s,baz=165,slow=8.2,SNR=7.6							
CPUP	**Villa Florida**	**148.98**	**236**	PKPbc		**PKPbc**	**10 00 15.4**	**+0.5**
CPUP	**Villa Florida**	**148.98**	**236**	PKPbc		**PKPbc**	**10 00 15.4**	**+0.5**
	comp=Z,7.8nm,1.1s,baz=68,slow=6.9,SNR=6.8							

IDC 26 09:47:01.7±6.1, 10°58N×94°24E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/26, mbtmp3.6/5, Error ellipse: s-maj=335.2km s-min=20.7km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.49**	**346**	P		P	09 54 16.4	-0.8
	1.1nm,0.9s,baz=160,slow=8.1,SNR=5.0							
KURBB	**Kurchatov Arra**	**41.97**	**345**	P		P	09 54 54.2	-0.2
	0.4nm,0.5s,baz=163,slow=6.8,SNR=4.1							
ZALV	**Zalesovo Beam**	**43.91**	**352**	P		P	09 55 10.5	+0.5
	0.5nm,0.4s,baz=152,slow=6.5,SNR=2.8							
WRA	**Warramunga Arr**	**49.78**	**127**	P		P	09 55 55.2	-1.3
	0.5nm,0.8s,baz=306,slow=8.2,SNR=2.6							
ASAR	**Alice Springs**	**51.60**	**132**	P		P	09 56 11.2	+1.0
	0.4nm,0.6s,baz=309,slow=6.7,SNR=7.9							

IDC ***26*** *09:51:33.8±0.6, 33°39N×86°94E, h0km, mb3.9/16, mb1 4.1/20, mb1mx4.0/32, mbtmp4.0/20, ML3.9/3, MS3.9/1, Ms1 4.0/1, ms1mx3.2/33, Error ellipse: s-maj=20.4km s-min=12.5km az=45.0*
ISCJB ***26*** *09:51:37.2±0.3, 33°51N±0°03×87°01E±0°06, h33km, mb4.0/18, MS4.0/1, Error ellipse: s-maj=7.7km s-min=4.3km az=171.2*
NEIC ***26*** *09:51:40.0±1.1, 33°49N×86°92E, h42km±10km, mb4.1/7, Error ellipse: s-maj=13.3km s-min=7.1km az=222.0*
ISC 26 09:51:39.2±0.5, 33°49N±0°07×87°02E±0°07, h35km, n70, σ1§04/67, mb4.0/18, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSA	**Lhasa**	**5.16**	**136**	*e*Pn		Pn	09 52 59.2	+4.7
	109nm,0.8s							
GUN	**Gumba**	**5.64**	**190**	*e*P		**Pn**	**09 53 02.0**	**+1.1**
	124nm,0.5s							
DANN	**Dangsing**	**5.83**	**210**	*e*P		**Pn**	**09 53 04.2**	**+0.7**
	31nm,0.4s							
JIRN	**Jiri**	**5.85**	**187**	*e*P		**Pn**	**09 53 05.1**	**+1.3**
	115nm,0.6s							
KKN	**Kakani**	**5.87**	**195**	*e*P		**Pn**	**09 53 04.2**	**+0.2**
	58nm,0.6s							
PKIN	**Phulchoki**	**6.05**	**194**	*e*P		**Pn**	**09 53 06.9**	**+0.4**
	68nm,0.6s							
PKI	**Pulchoki**	**6.06**	**194**	*e*P		**Pn**	**09 53 07.0**	**+0.4**
	95nm,0.6s							
DMN	**Daman**	**6.08**	**196**	*e*P		**Pn**	**09 53 07.6**	**+0.7**
	89nm,0.4s							
TAPN	**Taplejung**	**6.14**	**174**	*e*P		**Pn**	**09 53 09.4**	**+1.6**
	94nm,0.6s							
KOLN	**Koldanda**	**6.41**	**208**	*e*P		**Pn**	**09 53 11.3**	**-0.1**
	27nm,0.4s							
RAMN	**Ramite**	**6.52**	**183**	*e*P		**Pn**	**09 53 13.2**	**+0.2**
	54nm,0.4s							
ODAN	**Odare**	**6.61**	**177**	*e*P		**Pn**	**09 53 15.1**	**+1.0**
	162nm,0.7s							
SHL	**Shillong**	**8.95**	**151**	*e*P		**Pn**	**09 53 45.0**	**-1.3**
TKM2	**Tokmak 2**	**13.00**	**320**	*e*Pn		**Pn**	**09 54 40.6**	**-1.0**
	6.0nm,1.3s							
AAK	**Ala-Archa**	**13.43**	**316**	*e*Pn		**Pn**	**09 54 47.3**	**-0.1**
AAK	**Ala-Archa**	**13.43**	**316**	Pn		**Pn**	**09 54 47.8**	**+0.4**
	0.5nm,0.3s,baz=146,slow=15,SNR=3.8							
MK31	**Makanchi Array**	**13.77**	**346**	*e*Pn		**Pn**	**09 54 51.1**	**-0.8**
MKAR	**Makanchi Array**	**13.77**	**346**	Pn		**Pn**	**09 54 51.5**	**-0.4**
MKAR	**Makanchi Array**	**13.77**	**346**	Pn		**Pn**	**09 54 51.5**	**-0.4**
	0.0nm,0.3s,baz=163,slow=14,SNR=7.3							
EKS2	**Erkin-Say**	**13.87**	**315**	*e*Pn		**Pn**	**09 54 52.8**	**-0.6**
	2.7nm,0.8s							
KBL	**Kabul**	**14.95**	**279**	*e*Pn		Pn	09 55 03.3	-4.9
	19nm,0.8s							
KKAR	**Karatay Array**	**16.11**	**311**	*e*P		**Pn**	**09 55 22.8**	**-0.1**
	3.0nm,0.9s							
KURBB	**Kurchatov Arra**	**18.23**	**343**	P		**Pn**	**09 55 47.7**	**-1.5**
	0.1nm,0.3s,baz=162,slow=10.0,SNR=14							
KURK	**Kurchatov**	**18.29**	**343**	P		**P**	**09 55 47.7**	**-2.2**
CMAR	**Chiang Mai Arr**	**18.38**	**142**	P		**P**	**09 55 49.4**	**-1.8**
CMAR	**Chiang Mai Arr**	**18.38**	**142**	P		**P**	**09 55 49.4**	**-1.8**
	0.4nm,0.3s,baz=323,slow=12,SNR=23							
ENH	**Enshi**	**19.34**	**93**	*e*P		**P**	**09 56 02.9**	**+1.3**
	32nm,1.1s							
SONM	**Songino Array**	**20.45**	**40**	P		**P**	**09 56 14.5**	**+0.8**
SONM	**Songino Array**	**20.45**	**40**	P		**P**	**09 56 14.5**	**+0.8**
	2.5nm,1.0s,baz=234,slow=11,SNR=6.2							
ZALV	**Zalesovo Beam**	**20.52**	**356**	P		**P**	**09 56 14.7**	**+0.5**
ZALV	**Zalesovo Beam**	**20.52**	**356**	P		**P**	**09 56 14.7**	**+0.5**
	4.8nm,0.8s,baz=178,slow=13,SNR=14							
ULN	**Ulaanbaatar**	**20.82**	**40**	*e*P		**P**	**09 56 19.8**	**+2.0**
	3.7nm,0.8s							
BVAR	**Borovoye Array**	**22.88**	**334**	P		**P**	**09 56 40.0**	**+0.5**
BVAR	**Borovoye Array**	**22.88**	**334**	P		**P**	**09 56 40.0**	**+0.5**
	0.9nm,0.6s,baz=144,slow=10,SNR=5.4							
BRVK	**Borovoye**	**22.94**	**334**	*e*P		**P**	**09 56 41.6**	**+1.4**
	9.5nm,1.1s							
ABKAR	**Akbulak array**	**25.52**	**316**	*e*P		**P**	**09 57 04.5**	**+0.2**
	9.0nm,0.9s							
AKTO	**Aktyubinsk**	**27.18**	**317**	P		**P**	**09 57 18.9**	**-0.3**
AKTO	**Aktyubinsk**	**27.18**	**317**	P		**P**	**09 57 18.9**	**-0.3**
	0.5nm,0.3s,baz=111,slow=14,SNR=3.1							
PSI	**Prapat**	**32.49**	**157**	P		**P**	**09 58 06.2**	**-0.6**
PSI	**Prapat**	**32.49**	**157**	P		**P**	**09 58 06.2**	**-0.6**
	5.3nm,0.6s,baz=302,slow=6.1,SNR=5.5							
KSAR	**Wonju Array Be**	**33.33**	**71**	P		**P**	**09 58 15.2**	**+1.4**
KSRS	**Korea Array**	**33.36**	**71**	P		**P**	**09 58 15.2**	**+1.2**
	0.7nm,0.7s,baz=279,slow=8.7,SNR=4.7							
MJAR	**Matsushiro Arr**	**41.64**	**71**	P		**P**	**09 59 23.8**	**-0.4**
MJAR	**Matsushiro Arr**	**41.64**	**71**	P		**P**	**09 59 23.8**	**-0.4**
	1.6nm,0.9s,baz=279,slow=7.6,SNR=6.5							
BR131	**Keskin Array S**	**42.77**	**294**	*e*P		**P**	**09 59 34.1**	**+0.6**
	0.6nm,0.5s							
BRTR	**Keskin Array B**	**42.77**	**294**	P		**P**	**09 59 33.4**	**-0.2**
BRTR	**Keskin Array B**	**42.77**	**294**	P		**P**	**09 59 33.4**	**-0.2**
	1.4nm,0.7s,baz=91,slow=8.6,SNR=7.6							
FINES	**FINESS Array B**	**47.42**	**325**	P		**P**	**10 00 10.5**	**+0.7**
FINES	**FINESS Array B**	**47.42**	**325**	P		**P**	**10 00 10.5**	**+0.7**
	0.9nm,0.6s,baz=74,slow=6.8,SNR=6.5							
NOA	**NORSAR Array B**	**54.59**	**325**	P		**P**	**10 01 02.7**	**-1.2**
NOA	**NORSAR Array B**	**54.59**	**325**	P		**P**	**10 01 02.7**	**-1.2**
	0.9nm,0.9s,baz=84,slow=7.2,SNR=2.5							
GERES	**GERESS Array B**	**55.20**	**310**	P		**P**	**10 01 08.6**	**0.0**
GERES	**GERESS Array B**	**55.20**	**310**	P		**P**	**10 01 08.6**	**0.0**
	1.2nm,0.8s,baz=74,slow=4.7,SNR=11							
LPL	**La Plagne**	**60.68**	**307**	*e*P		**P**	**10 01 49.9**	**+2.7**
	6.5nm,0.7s							
WRA	**Warramunga Arr**	**69.71**	**132**	P		**P**	**10 02 45.9**	**+0.2**
WRA	**Warramunga Arr**	**69.71**	**132**	P		**P**	**10 02 45.9**	**+0.2**
	2.6nm,0.5s,baz=326,slow=6.7,SNR=43							
WRAB	**Tennant Creek**	**69.71**	**132**	*e*P		**P**	**10 02 45.4**	**-0.2**
	5.9nm,0.7s							
ESDC	**Sonseca Array**	**70.24**	**305**	LR		LR	10 38 49.0	
	comp=Z,83nm,19.9s,baz=335,slow=40							
ASAR	**Alice Springs**	**72.27**	**135**	P		**P**	**10 03 01.4**	**+0.3**
ASAR	**Alice Springs**	**72.27**	**135**	P		**P**	**10 03 01.4**	**+0.3**
	2.1nm,0.7s,baz=320,slow=6.4,SNR=20							
ILAR	**Eielson Array**	**73.43**	**21**	P		**P**	**10 03 07.1**	**-0.4**
ILAR	**Eielson Array**	**73.43**	**21**	P		**P**	**10 03 07.1**	**-0.4**
	0.5nm,0.9s,baz=302,slow=5.2,SNR=3.5							
TORD	**Torodi Ar. Bea**	**79.02**	**279**	P		**P**	**10 03 38.5**	**-1.6**
TORD	**Torodi Ar. Bea**	**79.02**	**279**	P		**P**	**10 03 38.5**	**-1.6**
	1.3nm,0.8s,baz=46,slow=4.5,SNR=8.6							
DBIC	**Dimbokro**	**87.93**	**277**	P		**P**	**10 04 26.6**	**+0.8**
DBIC	**Dimbokro**	**87.93**	**277**	P		**P**	**10 04 26.6**	**+0.8**
	3.1nm,0.9s,baz=115,slow=2.0,SNR=3.5							
CPUP	**Villa Florida**	**148.40**	**273**	PKPbc		**PKPbc**	**10 11 21.1**	**-1.2**
CPUP	**Villa Florida**	**148.40**	**273**	PKPbc		**PKPbc**	**10 11 21.1**	**-1.2**
	2.1nm,0.8s,baz=20,slow=1.2,SNR=5.2							
LPAZ	**La Paz**	**151.81**	**301**	PKPbc		**PKPbc**	**10 11 33.5**	**+2.0**
LPAZ	**La Paz**	**151.81**	**301**	PKPbc		**PKPbc**	**10 11 33.5**	**+2.0**
	1.4nm,0.9s,baz=349,slow=2.8,SNR=4.5							

IDC 26 09:53:04.5±3.3, 4°60S×152°95E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/19, mbtmp4.1/3, Error ellipse: s-maj=122.7km s-min=46.3km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**7.47**	**230**	Sn		Sn	09 56 19.8	-0.6
	3.0nm,0.3s,baz=170,slow=15,SNR=5.6							
WRA	**Warramunga Arr**	**23.69**	**228**	P		P	09 58 18.1	-0.1
	3.2nm,0.4s,baz=54,slow=10.0,SNR=42							
ASAR	**Alice Springs**	**26.40**	**222**	P		P	09 58 43.4	+0.3
	0.6nm,0.4s,baz=57,slow=8.8,SNR=13							
FITZ	**Fitzroy Crossi**	**29.89**	**241**	P		P	09 59 13.9	-0.3
	1.2nm,0.3s,baz=65,slow=8.4,SNR=31							
TORD	**Torodi Ar. Bea**	**150.38**	**289**	PKPbc		PKPbc	10 12 58.6	-0.4
	0.4nm,0.6s,baz=80,slow=2.0,SNR=5.9							

IDC ***26*** *09:54:57.7±1.3, 17°67S×168°08E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.1/21, mbtmp4.1/11, ML3.8/1, Error ellipse: s-maj=39.7km s-min=19.2km az=126.0*
NEIC ***26*** *09:54:59.2±0.7, 17°61S×168°08E, h10km, mb4.4/4, Error ellipse: s-maj=22.4km s-min=13.5km az=115.0*
ISCJB ***26*** *09:55:00.4±0.9, 17°71S±0°05×167°9E±0°2, h27km, mb4.1/11, Error ellipse: s-maj=23.0km s-min=6.4km az=8.4*
ISC 26 09:55:02.2±0.8, 17°68S±0°08×168°0E±0°2, h27km, n37, σ1§05/38, mb4.2/11, 4C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BAYA	**Yate Dam**	**4.56**	**193**	*e*S		**Sn**	**09 57 02.3**	**+0.6**
DZM	**Mont Dzumac**	**4.59**	**198**	*e*Pn		**Pn**	**09 56 09.9**	**-0.1**
DZM				*e*Sn		**Sn**	**09 57 01.5**	**-1.0**
DZM	**Mont Dzumac**	**4.59**	**198**	Pn		**Pn**	**09 56 10.2**	**+0.2**
	3.9nm,0.3s,baz=44,slow=18,SNR=31							
DZM				Sn		**Sn**	**09 57 01.6**	**-1.0**
	6.5nm,0.3s,baz=113,slow=22,SNR=10							
NOUC	**Port Laguerre**	**4.66

mb1 4.1/27,mb1mx4.1/33,mbtmp4.0/27,ML3.7/2,MS4.2/35, Ms1 4.2/35,ms1mx4.1/43,Error ellipse: s-maj=18.5km s-min=11.7km az=62.0

BJI ***26*** *10:14:12.5, 10°.59N×94°.39E,h10km, mB5.0/29,mb4.5/38, Ms4.6/48,Ms7 4.3/45*

NEIC ***26*** *10:14:15.6±2.3, 10°.75N×94°.39E,h17km±14km,mb4.9/21, Error ellipse: s-maj=7.7km s-min=4.9km az=58.0*

MOS ***26*** *10:14:17.4±2.5, 10°.83N×94°.73E,h33km,mb5.2/29, MS4.5/6,Error ellipse: s-maj=10.3km s-min=5.6km az=103.1*

GCMT ***26*** *10:14:17.8±0.3,10°.78N×94°.51E,h12km,MW5.0,Moment Tensor Solution. s35,c42; s75,c122; Moment tenso: Scale 10^{16}Nm; M_{rr}-3.41±.09; $M_{\theta\theta}$3.10±.09; $M_{\phi\phi}$0.32±.10; $M_{r\theta}$2.11±.29; $M_{\theta\phi}$0.99±.08; $M_{\phi r}$0.13±.31; Best double couple: M=4.00000×10¹⁶ NP1:ϕ_s65.00000°,δ30.00000°, λ-103.00000°. NP2:ϕ_s260.00000°,δ61.00000°, λ-83.00000°. Principal axes: T 3.9900, Plg16.0000°, Azm344.0000°; N 0.0600, Plg6.0000°, Azm76.0000°; P -4.0400, Plg73.0000°, Azm187.0000°; Data Used: IU II IC CN G.*

DJA ***26*** *10:14:24.8±0.9,10°.N±4°×9°.4E±1°.3,h57km±12km,M4.8/10, mB5.3/3,mb4.5/10,MLv5.0/2,Mw(mB)4.7/3*

BKK ***26*** *10:14:26.2±0.7,11°.N±4°×9°.5E±°,h79km±8km,M4.8/14, mB5.3/4,mb4.7/14,MLv4.8/3,Mw(mB)4.8/4*

AUST ***26*** *10:15:16.4±4.0,6°.27N×96°.17E,h314km±1km,Error ellipse: s-maj=4.3km s-min=2.2km az=286.0*

ISC 26 10:14:15.5±0.4,**10°.67N**±0°.04×**94°.35E**±0°.04,**h15**km±1km, **n247**,σ1§**80**/254,**mb4.8**/81,**MS4.2**/52,**8C-1D**,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.86**	**302**	*e*P	Pn	10 14 47.2	+0.4
PBA				*ex*	x	10 14 54.4	
DGPR	**DIGLIPUR**	**2.85**	**331**	*e*P	**Pn**	**10 15 01.3**	**+0.8**
DGPR				*ex*	Sn	10 15 23.3	-11
PKDT	**Phuket**	**4.81**	**125**	P	Pn	10 15 32.4	+5.0
BSI	**Banda Aceh** 115nm,1.4s,4μm0.6nm	**5.23**	**170**	P	Pn	10 15 39.3	+6.1
SKLT	**Songkhla** 40nm,0.7s,1.0nm	**7.10**	**119**	P	Pn	10 16 03.9	+4.9
SKLT	**Songkhla** 40nm,0.7s,0.5nm	**7.10**	**119**	P	Pn	10 16 04.2	+5.2
KCSI	**Kotacane, Aceh** 34nm,0.8s	**7.87**	**154**	P	**Pn**	**10 16 10.7**	**+1.1**
KULM	**Kulim**	**8.22**	**130**	*e*Pn	**Pn**	**10 16 13.0**	**-1.2**
KULM				*e*Sn	Sn	10 17 40.1	-6.8
PBKT	**Sadao Pong**	**8.70**	**47**	P	**Pn**	**10 16 19.5**	**-1.4**
PBKT	**Sadao Pong**	**8.70**	**47**	P	**Pn**	**10 16 20.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**8.92**	**29**	Pn	**Pn**	**10 16 22.4**	**-1.5**
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=218,slow=15,SNR=22	**8.92**	**29**	Pn	**Pn**	**10 16 22.4**	**-1.5**
CMAR					LR	LR	10 19 40.6	
	comp=Z,880nm,18.8s,baz=213,slow=37							
IPM	**Ipoh**	**9.03**	**132**	*e*Pn	**Pn**	**10 16 26.4**	**+0.9**
PSI	**Prapat**	**9.04**	**150**	Pn	**Pn**	**10 16 26.9**	**+1.1**
PSI	**Prapat** 0.8nm,0.3s,baz=336,slow=17,SNR=2.5	**9.04**	**150**	Pn	**Pn**	**10 16 26.9**	**+1.1**
PSI					LR	LR	10 20 38.6	
	comp=Z,2μm,18.9s,baz=308,slow=42							
PSI	**Prapat** baz=4.5,SNR=3.3	**9.04**	**150**	P	**Pn**	**10 16 28.3**	**+2.6**
CHTO	**Chiang Mai**	**9.23**	**28**	*e*P	**Pn**	**10 16 28.4**	**+0.2**
CHTO	**Chiang Mai**	**9.23**	**28**	*e*Pn	**Pn**	**10 16 28.4**	**+0.2**
CHTO	**Chiang Mai** 20nm,1.9s	**9.23**	**28**	P	Pn	10 16 35.3	+7.1
CHTO	**Chiang Mai** 11nm,1.1s	**9.23**	**28**	P	Pn	10 16 36.7	+8.5
CMMT	**Chiang Mai** 17nm,1.8s	**9.23**	**28**	P	Pn	10 16 36.9	+8.7
CMMT	**Chiang Mai** 17nm,1.8s	**9.23**	**28**	P	Pn	10 16 36.5	+8.3
SKNT	**Sakolnakorn** 32nm,1.4s	**11.25**	**55**	P	**Pn**	**10 16 57.7**	**+1.8**
UBPT	**Khong Chiam** 33nm,0.9s	**11.76**	**66**	P	Pn	10 17 10.0	+7.1
UBPT	**Khong Chiam** 33nm,0.9s	**11.76**	**66**	P	Pn	10 17 10.7	+7.8
VIS	**Vishakhapatnam**	**12.77**	**304**	*e*P	**Pn**	**10 17 15.6**	**-1.1**
PALK	**Pallekele**	**13.90**	**257**	Pn	**Pn**	**10 17 33.1**	**+1.0**
SHL	**Shillong**	**15.00**	**351**	*e*P	**Pn**	**10 17 46.0**	**-1.2**
SHL					AMB	AMB	10 17 50.8	
	comp=Z,37nm,1.5s							
BOK	**Bokaro**	**15.34**	**329**	*e*P	**Pn**	**10 17 50.5**	**-1.1**
BOK					AMB	AMB	10 18 05.2	
	comp=Z,70nm,1.6s							
KMI	**Kunming**	**16.43**	**28**	P	**P**	**10 18 07.5**	**-1.1**
KMI				pP	**pP**	**10 18 11.5**	**-1.4**
KMI				sP	**sP**	**10 18 13.8**	**-1.1**
KMI				PP	**PnPn**	**10 18 21.0**	**+5.9**
KMI				S	**Sn**	**10 21 10.3**	**+2.2**
KMI				sS	**S**	**10 21 15.8**	**-4.5**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.7s							
KMI				pmax	pmax		
	comp=Z,140nm,3.1s							
KMI				LR	LR		
	comp=N,1μm,12.0s							
KMI				LR	LR		
	comp=E,1μm,10.6s							
KMI				LR	LR		
	comp=Z,840nm,11.6s							
HYB	**Hyderabad**	**16.72**	**295**	*i* P	P	10 18 18.0	+6.3
HYB				*e*S	**Sn**	**10 21 18.0**	**+3.0**
HYB	**Hyderabad**	**16.72**	**295**	*e*P	**Pn**	**10 18 09.2**	**-0.2**
HYB					AMB	AMB	10 18 20.9	
	comp=Z,71nm,1.9s							
QIZ	**Qiongzhong**	**17.11**	**59**	P	**P**	**10 18 15.5**	**-0.5**
QIZ				S	**Sn**	**10 21 25.8**	**+1.3**
QIZ				LR	LR		
	comp=N,1μm,8.6s							
QIZ				LR	LR		
	comp=E,930nm,9.6s							
QIZ				LR	LR		
	comp=Z,2μm,8.8s							
PPBI	**Pangkal Pinang** comp=Z,37nm,1.7s,comp=Z,2μm	**17.32**	**137**	P	**P**	**10 18 21.3**	**+3.0**
ODAN	**Odare** comp=Z,412nm,1.7s	**17.39**	**339**	*e*P	**Pn**	**10 18 18.5**	**+0.6**
TAPN	**Taplejung** comp=Z,1μm,1.7s	**17.73**	**340**	*e*P	**P**	**10 18 22.9**	**-0.1**
RAMN	**Ramite** comp=Z,810nm,1.7s	**17.76**	**337**	*e*P	**P**	**10 18 23.9**	**+0.5**
KSM	**Kuching** comp=Z,92nm,1.8s	**18.30**	**119**	*e*P	**P**	**10 18 29.1**	**0.0**
KSM	**Kuching**	**18.30**	**119**	P	P	10 18 41.9	+13
KSM	**Kuching** baz=15,SNR=12	**18.30**	**119**	P	**P**	**10 18 30.2**	**+1.1**
KSM					S	Sn	10 21 24.6	-29
	baz=15,SNR=4.9							
JIRN	**Jiri** comp=Z,416nm,1.4s	**18.56**	**337**	*e*P	**P**	**10 18 31.8**	**-0.5**
PKI	**Pulchoki** comp=Z,545nm,1.2s	**18.80**	**335**	*e*P	**P**	**10 18 35.0**	**+0.2**
PKIN	**Phulchoki** comp=Z,564nm,1.5s	**18.81**	**335**	*e*P	**P**	**10 18 34.8**	**-0.1**
GUN	**Gumba** comp=Z,353nm,1.3s	**18.91**	**336**	*e*P	**P**	**10 18 35.8**	**-0.3**
DMN	**Daman** comp=Z,192nm,1.0s	**18.96**	**334**	*e*P	**P**	**10 18 36.6**	**0.0**
KKN	**Kakani** comp=Z,278nm,1.3s	**19.04**	**335**	*e*P	**P**	**10 18 37.1**	**-0.3**
LSA	**Lhasa**	**19.16**	**351**	P	**P**	**10 18 38.3**	**-0.7**
LSA				sP	**sP**	**10 18 44.8**	**-0.6**
LSA				S	**Sn**	**10 22 12.3**	**-2.4**
LSA				LR	LR		
	comp=Z,810nm,26.2s							
LSA	**Lhasa**	**19.16**	**351**	*e*P	**P**	**10 18 38.6**	**-0.4**
LSA				pmax	pmax		
	comp=Z,118nm,1.5s							
LSA	**Lhasa** comp=Z,118nm,1.5s	**19.16**	**351**	*e*P	**P**	**10 18 38.6**	**-0.4**
SBUM	**Sibu** comp=Z,21nm,2.0s,comp=Z,983nm	**19.53**	**113**	P	**Pn**	**10 18 44.4**	**+0.5**
GYA	**Guiyang**	**19.54**	**35**	P	**Pn**	**10 18 43.5**	**-0.6**
GYA				PP	**PnPn**	**10 19 03.5**	**+5.9**
GYA				S	**S**	**10 22 22.8**	**-0.4**
GYA				SS	**SnSn**	**10 22 46.5**	**+8.7**
GYA				pmax	pmax		
	comp=Z,30nm,1.0s							
GYA				pmax	pmax		
	comp=Z,150nm,4.6s							
GYA					LR	LR		
	comp=N,2μm,15.8s							
GYA					LR	LR		
	comp=E,1μm,15.5s							
GYA					LR	LR		
	comp=Z,2μm,16.1s							
KOLN	**Koldanda** comp=Z,190nm,0.8s	**19.78**	**331**	*e*P	**P**	**10 18 45.7**	**+0.2**
DANN	**Dangsing**	**20.20**	**332**	*e*P	**P**	**10 18 50.2**	**+0.1**
BHPL	**Bhopal**	**20.42**	**310**	*e*P	Pn	10 18 54.5	0.0
BHPL					AMB	AMB	10 19 01.9	
	comp=Z,61nm,0.9s							
POO	**Poona**	**21.31**	**294**	*e*P	**P**	**10 19 03.0**	**+1.1**
CD2	**Chengdu**	**21.95**	**22**	*e*P	**P**	**10 19 08.3**	**-0.4**
CD2				pP	**pP**	**10 19 12.5**	**-0.6**
CD2				sP	**sP**	**10 19 15.5**	**+0.4**
CD2				PP	**PnPn**	**10 19 34.0**	**+3.4**
CD2				S	**S**	**10 23 05.3**	**-5.5**
CD2				sS	sS	10 23 12.5	-5.3
CD2				SS	**SnSn**	**10 23 43.8**	**+7.0**
CD2				pmax	pmax		
	comp=Z,30nm,1.6s							
CD2				pmax	pmax		
	comp=Z,120nm,5.2s							
CD2				LR	LR		
	comp=E,1μm,10.8s							
CD2				LR	LR		
	comp=Z,810nm,10.8s							
KKM	**Kota Kinabalu** comp=Z,40nm,1.1s	**22.11**	**100**	*e*P	**P**	**10 19 11.7**	**+1.0**
XMI	**Christmas Isla** baz=19,SNR=3.9	**23.82**	**151**	P	P	10 19 18.3	-10
NDI	**New Delhi**	**24.05**	**321**	*ex*	**P**	**10 19 28.0**	**-2.3**
ENH	**Enshi** comp=Z,149nm,1.4s	**24.06**	**34**	*e*P	**P**	**10 19 29.5**	**-0.8**
MYLDM	**Lahad Datu**	**24.52**	**101**	P	**P**	**10 19 37.1**	**+2.4**
DDI	**Dehra Dun**	**24.74**	**325**	*ex*	x	10 19 17.9	
SMLA	**Simla**	**25.85**	**324**	*e*P	**P**	**10 19 44.4**	**-2.2**
SMLA					AMB	AMB	10 19 54.0	
	comp=Z,60nm,2.2s							
LZH	**Lanzhou**	**26.72**	**17**	*e*P	**P**	**10 19 54.8**	**+0.2**
LZH				pP	**pP**	**10 19 58.0**	**-1.3**
LZH				sP	**sP**	**10 20 02.0**	**+0.8**
LZH				PP	**PnPn**	**10 20 39.8**	**+3.9**
LZH				*e*S	**S**	**10 24 28.0**	**-1.9**
LZH				sS	**sS**	**10 24 36.0**	**-1.6**
LZH				SS	**SnSn**	**10 25 40.5**	**+6.8**
LZH				pmax	pmax		
	comp=Z,75nm,1.5s							
LZH				pmax	pmax		
	comp=Z,340nm,7.9s							
LZH				LR	LR		
	comp=N,540nm,15.0s							
LZH				LR	LR		
	comp=E,490nm,11.5s							
LZH				LR	LR		
	comp=Z,2μm,16.1s							
WHN	**Wuhan**	**27.14**	**40**	⇑P	P	10 20 03.5	+5.3
WHN				S	**S**	**10 24 38.0**	**+1.9**
WHN				LR	LR		
	comp=N,810nm,5.5s							
WHN				LR	LR		
	comp=E,1μm,6.0s							
WHN				LR	LR		
	comp=Z,1μm,16.7s							
DHRM	**DHARAMSHALA**	**27.18**	**325**	*e*P	**P**	**10 19 57.9**	**-0.9**
DHRM					AMB	AMB	10 20 10.7	
	comp=Z,28nm,1.2s							
GTA	**Gaotai**	**29.03**	**9**	⇑P	**P**	**10 20 15.3**	**+0.2**
GTA				pP	**pP**	**10 20 20.0**	**+0.2**
GTA				sP	**sP**	**10 20 22.5**	**+0.7**
GTA				S	**S**	**10 25 06.0**	**0.0**
GTA				sS	**sS**	**10 25 13.0**	**-0.8**
GTA				SS	**SnSn**	**10 26 35.5**	**+5.7**
GTA				pmax	pmax		
	comp=Z,10.0nm,2.2s							
GTA				pmax	pmax		
	comp=Z,130nm,4.7s							
GTA				LR	LR		
	comp=N,460nm,18.8s							
GTA				LR	LR		
	comp=E,320nm,18.3s							
GTA				LR	LR		
	comp=Z,680nm,19.5s							
KAPI	**Kappang** comp=Z,525nm,18.1s,baz=286,slow=37	**29.71**	**120**	LR	LR	10 32 31.7	
LUWI	**Luwuk** baz=28,SNR=3.1	**30.57**	**111**	S	S	10 25 01.4	-29
NJ2	**Nanjing**	**31.05**	**43**	*e*P	**P**	**10 20 34.8**	**+1.8**
NJ2				S	**S**	**10 25 41.0**	**+3.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s							
NJ2				LR	LR		
	comp=N,1μm,11.0s							
NJ2				LR	LR		
	comp=E,590nm,9.8s							
NJ2				LR	LR		
	comp=Z,5μm,16.8s							
SSE	**Sheshan**	**32.12**	**47**	P	P	10 20 38.8	-3.6
SSE				pmax	pmax		
	comp=Z,14nm,0.5s							
SSE				pmax	pmax		
	comp=Z,190nm,3.8s							
SSE				LR	LR		
	comp=N,470nm,13.1s							
SSE				LR	LR		
	comp=E,220nm,13.1s							
SSE				LR	LR		
	comp=Z,560nm,7.9s							
KSH	**Kashi**	**33.05**	**333**	P	P	10 20 54.8	+4.2
KSH				S	**S**	**10 26 13.3**	**+4.3**
KSH				sS	sS	10 26 20.5	+3.7
KSH				PcS	**PcS**	**10 27 22.5**	**+2.9**
KSH				pmax	pmax		
	comp=Z,27nm,1.0s							
KSH				pmax	pmax		
	comp=Z,99nm,6.7s							
KSH				LR	LR		
	comp=N,200nm,10.1s							
KSH				LR	LR		
	comp=E,490nm,17.3s							
KSH				LR	LR		
	comp=Z,450nm,20.1s							
WMQ	**Urumqi**	**33.53**	**351**	P	**P**	**10 20 56.0**	**+1.4**
WMQ				pP	**pP**	**10 21 00.3**	**+1.0**
WMQ				sP	**sP**	**10 21 03.0**	**+1.7**
WMQ				PP	**PnPn**	**10 22 08.0**	**+1.9**
WMQ				PcP	**PcP**	**10 23 36.8**	**+1.5**
WMQ				S	**S**	**10 26 16.3**	**+0.2**
WMQ				sS	**sS**	**10 26 23.5**	**-0.4**
WMQ				ScP	**ScP**	**10 27 19.8**	**+0.3**
WMQ				SS	**SnSn**	**10 28 19.8**	**+0.9**
WMQ				ScS	**ScS**	**10 31 19.3**	**-1.2**
WMQ				pmax	pmax		
	comp=Z,22nm,1.2s							
WMQ				pmax	pmax		
	comp=Z,230nm,4.2s							
WMQ				LR	LR		
	comp=N,260nm,13.4s							
WMQ				LR	LR		
	comp=E,330nm,14.6s							
WMQ				LR	LR		
	comp=Z,430nm,27.6s							
HHC	**Hu-ho-hao-te**	**33.68**	**24**	*e*P	**P**	**10 20 55.5**	**-0.6**
HHC				PP	**PnPn**	**10 22 08.0**	**-0.1**
HHC				PcP	**PcP**	**10 23 35.5**	**-0.3**
HHC				S	**S**	**10 26 17.5**	**-1.2**
HHC				ScP	**ScP**	**10 27 18.0**	**-2.1**
HHC				PcS	**PcS**	**10 27 19.8**	**-1.9**
HHC				SS	**SnSn**	**10 28 22.8**	**0.0**
HHC				ScS	**ScS**	**10 31 18.5**	**-3.0**
HHC				pmax	pmax		
	comp=Z,26nm,0.7s							
HHC				pmax	pmax		
	comp=Z,200nm,6.3s							
HHC				LR	LR		
	comp=N,1μm,13.3s							
HHC				LR	LR		
	comp=E,930nm,12.8s							
HHC				LR	LR		
	comp=Z,600nm,12.7s							
BJI	**Beijing**	**35.07**	**30**	P	**P**	**10 21 10.5**	**+2.5**
BJI				sP	**sP**	**10 21 14.5**	**-0.1**
BJI				S	**S**	**10 26 42.8**	**+2.9**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s							
BJI					LR	LR		
	comp=N,590nm,21.6s							
BJI					LR	LR		
	comp=E,280nm,13.8s							
BJI					LR	LR		
	comp=Z,200nm,21.0s							
KZA	**Kyzart** SNR=7.3	**35.48**	**335**	P	P	10 21 18.0	+6.0
TKM2	**Tokmak 2** SNR=5.5	**36.05**	**336**	P	P	10 21 21.9	+5.4
AML	**Almayashu** SNR=7.8	**36.18**	**334**	P	P	10 21 24.1	+6.1
AAK	**Ala-Archa**	**36.25**	**335**	*e*P	**P**	**10 21 18.1**	**-0.2**
AAK				pmax	pmax		
	comp=Z,20nm,1.0s							
AAK	**Ala-Archa** SNR=5.9	**36.25**	**335**	P	P	10 21 24.8	+6.5
AAK	**Ala-Archa** comp=Z,20nm,1.0s	**36.25**	**335**	*e*P	**P**	**10 21 18.1**	**-0.2**
AAK	**Ala-Archa** comp=Z,1.2nm,0.3s,baz=139,slow=8.0,SNR=6.9	**36.25**	**335**	P	**P**	**10 21 18.6**	**+0.3**
AAK					LR	LR	10 37 51.5	
	comp=Z,671nm,21.7s,baz=134,slow=39							
FRU	**Bishkek**	**36.37**	**335**	*e*P	**P**	**10 21 18.0**	**-1.1**
FRU				pmax	pmax		
	comp=Z,60nm,2.0s							
CHMS	**Chumysh** SNR=6.7	**36.45**	**336**	P	P	10 21 25.9	+6.0
USP	**Ospenovka** SNR=7.2	**36.77**	**336**	P	P	10 21 28.5	+5.9
MK31	**Makanchi Array**	**37.43**	**346**	P	**P**	**10 21 26.5**	**-1.6**
MK31				pmax	pmax		
	comp=Z,56nm,1.2s							
MK31	**Makanchi Array**	**37.43**	**346**	*e*P	**P**	**10 21 27.1**	**-1.0**
MKAR	**Makanchi Array**	**37.43**	**346**	*e*P	**P**	**10 21 27.2**	**-0.9**
MKAR	**Makanchi Array**	**37.43**	**346**	*e*P	**P**	**10 21 27.2**	**-0.9**
MKAR	**Makanchi Array** comp=Z,2.3nm,0.7s,baz=166,slow=7.6,SNR=23	**37.43**	**346**	P	**P**	**10 21 27.1**	**-1.0**
MKAR					LR	LR	10 40 55.3	
	comp=Z,285nm,19.8s,baz=159,slow=43							
KK31	**Karatay Array**	**38.39**	**332**	*ce*P	P	10 21 41.4	+5.1
KK31				pmax	pmax		
	comp=Z,27nm,1.2s							
KKAR	**Karatay Array**	**38.39**	**332**	*e*P	**P**	**10 21 35.3**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,10.0nm,0.9s							
KKAR	**Karatay Array** comp=Z,10.0nm,0.9s	**38.39**	**332**	*e*P	**P**	**10 21 35.3**	**-1.0**
SONM	**Songino Array**	**38.40**	**13**	P	**P**	**10 21 35.2**	**-1.2**
SONM	**Songino Array** comp=Z,1.1nm,0.8s,baz=190,slow=8.4,SNR=13	**38.40**	**13**	P	**P**	**10 21 35.2**	**-1.2**
SONM					LR	LR	10 39 09.7	
	comp=Z,747nm,18.2s,baz=192,slow=39							
ULN	**Ulaanbaatar** comp=Z,13nm,1.1s	**38.58**	**14**	*e*P	**P**	**10 21 37.2**	**-0.8**
KSAR	**Wonju Array Be**	**40.22**	**43**	P	**P**	**10 21 49.5**	**-2.1**
KSRS	**Korea Array** comp=Z,0.9nm,0.6s,baz=250,slow=8.8,SNR=8.2	**40.26**	**43**	P	**P**	**10 21 49.5**	**-2.3**
KSRS					LR	LR	10 38 02.4	
	comp=Z,128nm,20.6s,baz=239,slow=36							
ZAK	**Zakamensk**	**40.27**	**9**	*e*P	**P**	**10 21 50.7**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.8s							
JNU	**Nakatsue** comp=Z,196nm,20.8s,baz=128,slow=39	**40.28**	**51**	LR	LR	10 40 05.1	
HVS	**Khovu-Aksy**	**40.35**	**359**	*e*P	**P**	**10 21 52.5**	**-0.1**
HVS				pmax	pmax		
	comp=Z,104nm,1.7s							
KURBB	**Kurchatov Arra** comp=Z,3.7nm,0.8s,baz=161,slow=8.0,SNR=24	**41.91**	**345**	P	**P**	**10 22 04.2**	**-1.0**
KURK	**Kurchatov**	**41.97**	**345**	P	**P**	**10 22 03.7**	**-2.1**
KURK				pmax	pmax		
	comp=Z,55nm,1.4s							
KURK	**Kurchatov**	**41.97**	**345**	P	**P**	**10 22 04.2**	**-1.5**
FITZ	**Fitzroy Crossi** comp=Z,4.6nm,0.5s	**42.09**	**133**	*e*P	**P**	**10 22 07.3**	**+0.2**
FITZ	**Fitzroy Crossi** comp=Z,2.8nm,0.8s,baz=306,slow=11,SNR=3.2	**42.09**	**133**	P	**P**	**10 22 07.0**	**-0.2**
FITZ					LR	LR	10 43 52.5	
	comp=Z,264nm,18.4s,baz=317,slow=42							
CN2	**Changchun**	**42.58**	**34**	*e*P	**P**	**10 22 10.8**	**-0.1**
CN2				*es*P	**sP**	**10 22 16.5**	**-1.1**
CN2				*e*S	**S**	**10 28 32.3**	**-0.7**
CN2				pmax	pmax		
	comp=Z,20nm,1.2s							
CN2				LR	LR		
	comp=N,300nm,16.0s							
CN2				LR	LR		
	comp=E,300nm,16.0s							
CN2				LR	LR		
	comp=Z,200nm,16.0s							
ZALV	**Zalesovo Beam**	**43.83**	**352**	P	**P**	**10 22 19.6**	**-1.2**
ZALV	**Zalesovo Beam**	**43.83**	**352**	P	**P**	**10 22 19.6**	**-1.2**
ZALV	**Zalesovo Beam** comp=Z,2.9nm,0.7s,baz=179,slow=9.0,SNR=9.8	**43.83**	**352**	P	**P**	**10 22 19.6**	**-1.2**
ZALV					LR	LR	10 43 58.2	
	comp=Z,130nm,18.6s,baz=249,slow=41							
MORW	**Morawa** baz=40,SNR=3.1	**44.72**	**153**	P	**P**	**10 22 28.7**	**+0.5**
NVS	**Novosibirsk**	**44.93**	**351**	*e*P	**P**	**10 22 27.0**	**-2.6**
NVS				pmax	pmax		
	comp=Z,58nm,1.8s							
NVS				pmax	pmax		
	comp=N,50nm,2.0s							
KRAR	**Krasnoyarsk**	**45.24**	**359**	*e*P	P	10 22 36.6	+4.5
KRAR				pmax	pmax		
	comp=Z,35nm,1.2s							
MDJ	**Mudanjiang**	**45.40**	**35**	P	**P**	**10 22 34.5**	**+1.0**
MDJ				sP	**sP**	**10 22 39.8**	**-0.5**
MDJ				ScP	**ScP**	**10 27 59.8**	**-5.3**
MDJ				PcS	PcS	10 28 01.3	-5.3
MDJ				pmax	pmax		
	comp=Z,10.0nm,2.2s							
MDJ				pmax	pmax		
	comp=Z,58nm,3.2s							
MDJ				LR	LR		
	comp=N,160nm,21.0s							
MDJ				LR	LR		
	comp=Z,190nm,16.6s							
VLA	**Vladivostok**	**45.89**	**38**	⇓*i*P	**P**	**10 22 35.9**	**-1.5**
VLA				*e*		10 24 21.0	
VLA				S	S	10 29 13.6	-7.7
VLA				pmax	pmax		
	comp=Z,25nm,1.2s							
BVA0	**Borovoye Array**	**46.43**	**340**	P	**P**	**10 22 38.9**	**-2.7**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.4s							
BVAR	**Borovoye Array**	**46.43**	**340**	P	**P**	**10 22 40.7**	**-0.9**
BVAR	**Borovoye Array**	**46.43**	**340**	P	**P**	**10 22 40.7**	**-0.9**
BVAR	**Borovoye Array** comp=Z,0.5nm,0.4s,baz=163,slow=5.6,SNR=3.9	**46.43**	**340**	P	**P**	**10 22 40.7**	**-0.9**
BVAR					LR	LR	10 45 37.8	
	comp=Z,159nm,19.8s,baz=0.2,slow=41							
BRVK	**Borovoye**	**46.50**	**340**	*e*P	**P**	**10 22 41.0**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,15nm,1.1s							
BRVK	**Borovoye** comp=Z,15nm,1.1s	**46.50**	**340**	*e*P	**P**	**10 22 41.0**	**-1.0**
USRK	**Ussuriysk Arra** comp=Z,1.6nm,0.8s,baz=248,slow=7.1,SNR=7.2	**46.56**	**37**	P	**P**	**10 22 40.4**	**-2.2**
USRK					LR	LR	10 43 47.5	
	comp=Z,138nm,18.0s,baz=214,slow=38							
MAJO	**Matsushiro**	**47.16**	**50**	*e*P	**P**	**10 22 48.3**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,7.0nm,1.0s							
MAJO	**Matsushiro** comp=Z,7.3nm,1.0s	**47.16**	**50**	*e*P	**P**	**10 22 48.3**	**+0.7**
MAT	**Matsushiro**	**47.16**	**50**	P	**P**	**10 22 46.7**	**-0.9**
MAT				*e*S	**S**	**10 29 36.8**	**-3.0**
MJAR	**Matsushiro Arr**	**47.17**	**50**	P	**P**	**10 22 45.1**	**-2.5**
MJAR				PcP	**PcP**	**10 24 18.8**	**-0.4**
MJAR	**Matsushiro Arr** comp=Z,1.2nm,0.8s,baz=247,slow=8.7,SNR=5.5	**47.17**	**50**	P	**P**	**10 22 45.1**	**-2.5**
MJAR				PcP	**PcP**	**10 24 18.8**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=244,slow=2.9,SNR=4.6							
MJAR					LR	LR	10 45 25.4	
	comp=Z,126nm,18.4s,baz=275,slow=40							
KBD	**Kabd**	**47.22**	**300**	*e*P	**P**	**10 22 46.7**	**-1.4**
RDF	**Al-Radifah**	**47.28**	**300**	*e*P	**P**	**10 22 47.8**	**-0.8**
RDF					AMb	AMB	10 22 51.5	
	comp=Z,36nm,1.5s							
NAY	**Al-Naaiem**	**47

MIB					AMb	AMB	10 22 58.1	
	comp=Z,39nm,1.0s							
AB31	**Akbulak array**	**47.91**	**330**	*ce*P	P		10 22 57.8	+4.7
AB31					pmax	pmax		
	comp=Z,6.0nm,0.5s							
ABKAR	**Akbulak array**	**47.91**	**330**	*e*P	**P**		**10 22 52.0**	**-1.1**
	comp=Z,13nm,0.9s							
RAYN	**Ar Rayn**	**48.19**	**292**	*e*P	**P**		**10 22 55.9**	**+0.1**
	comp=Z,38nm,1.3s							
NWAO	**Narrogin (SRO)**	**48.54**	**154**	LR	LR		10 44 35.2	
	comp=Z,293nm,20.8s,baz=148,slow=38							
KLR	**Kul'dur**	**49.39**	**32**	*e*P	P		10 23 00.0	-4.6
AKTO	**Aktyubinsk**	**49.62**	**330**	P	P		10 23 00.7	-5.6
AKTO					pmax	pmax		
	comp=Z,6.0nm,0.8s							
AKTO	**Aktyubinsk**	**49.62**	**330**	P	**P**		**10 23 06.3**	**0.0**
AKTO	**Aktyubinsk**	**49.62**	**330**	P	**P**		**10 23 06.3**	**0.0**
	comp=Z,1.9nm,0.5s,baz=127,slow=11,SNR=4.0							
AKTO					LR	LR	10 49 42.9	
	comp=Z,153nm,18.2s,baz=143,slow=43							
WRA	**Warramunga Arr**	**49.75**	**128**	P	**P**		**10 23 07.2**	**-0.5**
WRA	**Warramunga Arr**	**49.75**	**128**	P	**P**		**10 23 07.2**	**-0.5**
	comp=Z,4.9nm,0.8s,baz=304,slow=8.6,SNR=23							
WRA					LR	LR	10 47 47.9	
	comp=Z,203nm,18.8s,baz=290,slow=40							
WRAB	**Tennant Creek**	**49.76**	**128**	*e*P	**P**		**10 23 06.8**	**-0.9**
WRAB					pmax	pmax		
	comp=Z,36nm,1.4s							
WRAB	**Tennant Creek**	**49.76**	**128**	*e*P	**P**		**10 23 06.8**	**-0.9**
	comp=Z,36nm,1.4s							
AS31	**Alice Springs**	**51.58**	**132**	*e*P	**P**		**10 23 21.1**	**-0.4**
ASAR	**Alice Springs**	**51.58**	**132**	P	**P**		**10 23 20.8**	**-0.7**
ASAR	**Alice Springs**	**51.58**	**132**	P	**P**		**10 23 20.8**	**-0.7**
	comp=Z,7.9nm,0.6s,baz=308,slow=6.5,SNR=108							
ASAR					LR	LR	10 48 44.5	
	comp=Z,224nm,20.5s,baz=299,slow=40							
CLNS	**Chul'man**	**51.76**	**21**	*e*P	P		10 23 27.6	+5.3
CLNS					pmax	pmax		
	comp=N,12nm,1.2s							
CLNS					pmax	pmax		
	comp=Z,21nm,1.2s							
CLNS					pmax	pmax		
	comp=E,15nm,1.2s							
CLNS					MLR	MLR		
	comp=Z,282nm,17.0s							
CLNS					MLR	MLR		
	comp=E,129nm,10.0s							
CLNS					MLR	MLR		
	comp=N,129nm,10.0s							
GNI	**Garni**	**52.67**	**313**	*e*P	**P**		**10 23 30.6**	**+1.0**
	comp=N,102nm,1.3s							
GNI	**Garni**	**52.67**	**313**	LR	LR		10 49 16.1	
	comp=N,260nm,21.3s,baz=110,slow=40							
DGRG	**David-gareji**	**52.68**	**315**	P	**P**		**10 23 30.7**	**+1.2**
SVE	**Sverdlovsk**	**52.90**	**338**	*e*P	P		10 23 36.4	+5.6
TBLG	**Delisi**	**53.22**	**315**	*e*P	**P**		**10 23 34.0**	**+0.5**
TBLG	**Delisi**	**53.22**	**315**	P	**P**		**10 23 34.0**	**+0.5**
ARU	**Arti**	**53.42**	**336**	*c i*P	P		10 23 39.6	+5.0
ARU							10 25 36.1	
ARU					S	S	10 31 13.6	+7.4
ARU					SS	SS	10 34 38.8	-7.5
ARU					pmax	pmax		
	comp=Z,21nm,1.7s							
ARU					MLR	MLR		
	comp=Z,596nm,21.0s							
AKH	**Akhalkalaki**	**53.99**	**314**	P	**P**		**10 23 39.7**	**+0.4**
ZEI	**Tsey**	**54.17**	**316**	*e*P	P		10 23 46.9	+6.2
ZEI					pmax	pmax		
	comp=Z,16nm,1.0s							
ONI	**Oni**	**54.42**	**315**	P	P		10 23 48.6	+6.4
YSS	**Yuzh-Sakhalins**	**54.47**	**39**	*e*P	**P**		**10 23 41.8**	**-0.6**
YSS				*e*			10 23 48.2	
OPO	**Ambohidratompo**	**54.85**	**238**	LR	LR		10 42 20.6	
	comp=Z,180nm,18.1s,baz=160,slow=31							
KBZ	**Khabaz**	**55.20**	**316**	P	**P**		**10 23 47.2**	**-0.6**
KBZ	**Khabaz**	**55.20**	**316**	P	**P**		**10 23 47.1**	**-0.6**
KBZ	**Khabaz**	**55.20**	**316**	P	**P**		**10 23 47.1**	**-0.6**
	comp=Z,8.1nm,1.2s,baz=327,slow=1.2,SNR=4.8							
KBZ					LR	LR	10 50 54.2	
	comp=Z,176nm,20.4s,baz=112,slow=40							
YUK	**Yuzh-Kuril'sk**	**55.34**	**43**	*c i*P	**P**		**10 23 49.6**	**+0.8**
YUK				*i* PPP	PPP		10 27 05.3	
YUK				*i* S	**S**		**10 31 30.3**	**-2.2**
YUK				*i* SS	**SS**		**10 35 15.8**	**-1.2**
YUK					MLR	MLR		
	comp=Z,251nm,21.0s							
KIV	**Kislovodsk**	**55.42**	**317**	*e*P	P		10 23 55.5	+6.0
KIV					pmax	pmax		
	comp=Z,28nm,1.0s							
KIV					MLR	MLR		
	comp=Z,72nm,16.0s							
ASF	**Jabal al Asfar**	**56.91**	**301**	LR	LR		10 51 57.0	
	comp=Z,151nm,18.5s,baz=322,slow=40							
YAK	**Yakutsk**	**57.29**	**19**	*e*P	**P**		**10 23 59.3**	**-3.1**
YAK					pmax	pmax		
	comp=Z,23nm,0.9s							
YAK					pmax	pmax		
	comp=E,15nm,1.4s							
YAK					pmax	pmax		
	comp=N,13nm,1.4s							
YAK					MLR	MLR		
	comp=E,302nm,18.0s							
YAK					MLR	MLR		
	comp=N,223nm,21.0s							
YAK					MLR	MLR		
	comp=Z,432nm,20.0s							
KMBO	**Kilima Mbogo**	**57.98**	**262**	LR	LR		10 48 25.3	
	comp=Z,100nm,18.7s,baz=91,slow=35							
EIL	**Elat**	**58.26**	**298**	LR	LR		10 52 57.1	
	comp=Z,149nm,19.8s,baz=279,slow=40							
CTAO	**Charters Tower**	**59.52**	**121**	*e*P	**P**		**10 24 18.4**	**-0.3**
CTAO					pmax	pmax		
	comp=Z,20nm,1.1s							
CTAO	**Charters Tower**	**59.52**	**121**	*e*P	**P**		**10 24 18.4**	**-0.3**
	comp=Z,20nm,1.1s							
VORD	**Divnogorie**	**60.10**	**323**	*e*P	P		10 24 30.4	+8.3
VORD					pmax	pmax		
	comp=N,50nm,0.6s							
VORD					pmax	pmax		
	comp=Z,30nm,0.6s							
VORD					pmax	pmax		
	comp=E,90nm,0.7s							
VSR	**Storozhevoye**	**60.26**	**324**	*e*P	**P**		**10 24 26.3**	**+3.0**
VSR					pmax	pmax		
	comp=Z,20nm,1.6s							
VSR					pmax	pmax		
	comp=N,10.0nm,0.7s							
VSR					pmax	pmax		
	comp=E,20nm,1.6s							
BRTR	**Keskin Array B**	**60.79**	**310**	P	**P**		**10 24 25.6**	**-1.7**
BRTR	**Keskin Array B**	**60.79**	**310**	P	**P**		**10 24 25.6**	**-1.7**
	comp=E,3.8nm,0.9s,baz=134,slow=8.8,SNR=4.0							
BRTR					LR	LR	10 54 24.5	
	comp=E,92nm,19.6s,baz=94,slow=40							
SIM	**Simferopol'**	**61.57**	**315**	*i* P	P		10 24 36.9	+4.6
SIM					pmax	pmax		
	comp=Z,10.0nm,1.6s							
STKA	**Stephens Creek**	**61.90**	**135**	P	**P**		**10 24 32.8**	**-1.9**
STKA	**Stephens Creek**	**61.90**	**135**	P	**P**		**10 24 32.8**	**-1.9**
	comp=Z,5.7nm,0.7s,baz=304,slow=8.8,SNR=7.9							
STKA					LR	LR	10 51 19.9	
	comp=Z,412nm,21.0s,baz=107,slow=36							
STKA	**Stephens Creek**	**61.90**	**135**	P	**P**		**10 24 35.0**	**+0.3**
	baz=58,SNR=6.7							
MOS	**Moscow**	**62.82**	**328**	*e*P	**P**		**10 24 43.2**	**+2.8**
OBN	**Obninsk**	**63.15**	**327**	⇑ *i*P	P		10 24 47.9	+5.3
OBN				*e*S	**S**		**10 33 16.2**	**+3.0**
OBN					pmax	pmax		
	comp=Z,7.0nm,0.6s							
OBN					MLR	MLR		
	comp=Z,300nm,18.0s							
RMQ	**Roma**	**64.46**	**126**	P	**P**		**10 24 53.5**	**+1.6**
	baz=60,SNR=5.5							
CMSA	**Cobar Meteorol**	**64.63**	**132**	P	**P**		**10 24 53.7**	**+0.9**
	baz=60,SNR=14							
PETK	**Petropavlovsk-**	**65.63**	**36**	LR	LR		10 53 30.5	
	comp=Z,114nm,21.8s,baz=253,slow=36							
ARMA	**Armidale**	**68.51**	**129**	*e*P	**P**		**10 25 18.1**	**+0.3**
	comp=Z,12nm,1.0s							
LVZ	**Lovozero**	**69.02**	**340**	*e*P	P		10 25 25.4	+5.2
LVZ					pmax	pmax		
	comp=Z,19nm,1.7s							
APA	**Apatity**	**69.32**	**339**	⇑ *i*P	P		10 25 27.2	+5.2
APA					MLR	MLR		
	comp=Z,600nm,17.0s							
FINES	**FINESS Array B**	**70.35**	**332**	P	**P**		**10 25 26.7**	**-1.8**
FINES	**FINESS Array B**	**70.35**	**332**	P	**P**		**10 25 26.7**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=101,slow=10,SNR=3.8							
FINES					LR	LR	11 02 58.5	
	comp=Z,243nm,18.2s,baz=110,slow=42							
ARCES	**ARCESS Array B**	**72.72**	**340**	P	**P**		**10 25 40.7**	**-2.0**
ARCES	**ARCESS Array B**	**72.72**	**340**	P	**P**		**10 25 40.7**	**-2.0**
	comp=Z,2.0nm,0.8s,baz=100,slow=5.5,SNR=5.9							
ARCES					LR	LR	11 00 43.1	
	comp=Z,417nm,20.9s,baz=105,slow=38							
MORC	**Moravsky Berou**	**73.41**	**319**	*e*P	**P**		**10 25 47.5**	**+0.3**
MORC					pmax	pmax		
	comp=Z,14nm,1.6s							
MORC	**Moravsky Berou**	**73.41**	**319**	*e*P	**P**		**10 25 47.5**	**+0.3**
	comp=Z,14nm,1.6s							
DPC	**Dobruska-Polom**	**74.22**	**319**	*e*P	P		10 25 57.7	+5.8
DPC				*e*			10 26 06.9	
DPC	**Dobruska-Polom**	**74.22**	**319**	*e*pP	P		10 25 57.7	+5.8
DPC				*e*PCP	**PcP**		**10 26 06.9**	**+0.1**
GERES	**GERESS Array B**	**75.90**	**318**	P	**P**		**10 25 59.3**	**-2.4**
GERES	**GERESS Array B**	**75.90**	**318**	P	**P**		**10 25 59.3**	**-2.4**
	comp=Z,0.2nm,0.4s,baz=83,slow=3.1,SNR=4.3							
GERES					LR	LR	11 04 57.1	
	comp=Z,100nm,18.5s,baz=282,slow=40							
HFS	**Hagfors**	**76.16**	**329**	LR	LR		11 03 37.0	
	comp=Z,258nm,21.9s,baz=296,slow=39							
SPITS	**Spitsbergen Ar**	**77.16**	**348**	P	**P**		**10 26 07.2**	**-1.0**
SPITS	**Spitsbergen Ar**	**77.16**	**348**	P	**P**		**10 26 07.2**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=149,slow=29,SNR=3.9							
BOSA	**Boshof**	**77.25**	**237**	P	**P**		**10 26 10.5**	**+0.8**
BOSA	**Boshof**	**77.25**	**237**	P	**P**		**10 26 10.5**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=97,slow=14,SNR=2.9							
BOSA					LR	LR	10 54 49.9	
	comp=Z,148nm,21.2s,baz=254,slow=32							
NOA	**NORSAR Array B**	**77.41**	**330**	P	**P**		**10 26 09.7**	**-0.2**
NOA	**NORSAR Array B**	**77.41**	**330**	P	**P**		**10 26 09.7**	**-0.2**
	comp=Z,2.8nm,1.0s,baz=93,slow=5.1,SNR=2.7							
NOA					LR	LR	11 06 17.7	
	comp=Z,127nm,19.4s,baz=100,slow=40							
CASY	**Casey**	**77.67**	**173**	*e*P	**P**		**10 26 10.8**	**-0.2**
	comp=Z,3.0nm,0.6s							
LPG	**La Plagne**	**80.81**	**315**	*e*P	**P**		**10 26 28.3**	**-0.8**
	comp=Z,22nm,1.0s							
LPL	**La Plagne**	**80.82**	**315**	*e*P	**P**		**10 26 28.4**	**-0.7**
	comp=Z,32nm,1.2s							
MAW	**Mawson**	**81.30**	**192**	LR	LR		10 55 50.9	
	comp=Z,149nm,19.4s,baz=250,slow=31							
TAM	**Tamanrasset**	**84.87**	**292**	*e*P	**P**		**10 26 52.5**	**+2.0**
TAM					pmax	pmax		
	comp=Z,18nm,1.4s							
TAM	**Tamanrasset**	**84.87**	**292**	*e*P	**P**		**10 26 52.5**	**+2.0**
	comp=Z,18nm,1.4s							
TORD	**Torodi Ar. Bea**	**90.16**	**283**	P	**P**		**10 27 14.7**	**-1.3**
TORD				PP	**PP**		**10 30 51.4**	**+1.8**
TORD	**Torodi Ar. Bea**	**90.16**	**283**	P	**P**		**10 27 14.7**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=67,slow=4.4,SNR=2.8							
TORD				PP	**PP**		**10 30 51.4**	**+1.8**
	comp=Z,1.0nm,1.0s,baz=53,slow=5.7,SNR=4.1							
MCK	**McKinley**	**91.82**	**23**	*e*P	**P**		**10 27 22.8**	**0.0**
MCK					pmax	pmax		
	comp=Z,34nm,1.5s							
MCK	**McKinley**	**91.82**	**23**	*e*P	**P**		**10 27 22.8**	**0.0**
	comp=Z,34nm,1.5s							
ILAR	**Eielson Array**	**92.09**	**22**	P	**P**		**10 27 21.4**	**-2.5**
ILAR	**Eielson Array**	**92.09**	**22**	P	**P**		**10 27 21.4**	**-2.5**
	comp=Z,0.5nm,0.9s,baz=251,slow=3.5,SNR=4.7							
ILAR					LR	LR	11 16 17.6	
	comp=Z,127nm,18.7s,baz=313,slow=40							
PMR	**Palmer**	**92.77**	**25**	*e*P	**P**		**10 27 27.0**	**-0.1**
PMR					pmax	pmax		
	comp=Z,31nm,1.4s							
PMR	**Palmer**	**92.77**	**25**	*e*P	**P**		**10 27 26.9**	**-0.1**
	comp=Z,31nm,1.4s							
VNDA	**Vanda**	**95.61**	**168**	P	**P**		**10 27 41.2**	**+1.5**
VNDA	**Vanda**	**95.61**	**168**	P	**P**		**10 27 41.2**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=302,slow=6.6,SNR=2.8							
DBIC	**Dimbokro**	**97.76**	**278**	LR	LR		11 14 25.9	
	comp=Z,63nm,18.8s,baz=209,slow=37							
HLID	**Hailey**	**120.00**	**24**	*e*PKPdf	**PKPdf**		**10 33 06.1**	**0.0**
SNOW	**Snow King Moun**	**121.46**	**21**	*e*PKPdf	**PKPdf**		**10 33 08.8**	**-0.3**
REDW	**Red Top Meadow**	**121.52**	**21**	*e*PKPdf	**PKPdf**		**10 33 09.0**	**-0.1**
NVAR	**Mina Array Bea**	**122.42**	**30**	PKP	**PKPdf**		**10 33 11.3**	**+0.4**
NVAR	**Mina Array Bea**	**122.42**	**30**	PKP	**PKPdf**		**10 33 11.3**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=302,slow=2.4,SNR=8.5							
PDAR	**Pinedale Array**	**122.49**	**21**	PKP	**PKPdf**		**10 33 10.2**	**-0.9**
PDAR	**Pinedale Array**	**122.49**	**21**	PKP	**PKPdf**		**10 33 10.2**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=200,slow=0.4,SNR=6.6							
HWUT	**Hardware Ranch**	**122.77**	**23**	*e*PKPdf	**PKPdf**		**10 33 10.9**	**-0.6**
DUG	**Dugway**	**123.47**	**25**	*e*PKIKP	**PKPdf**		**10 33 13.2**	**+0.4**
DUG	**Dugway**	**123.47**	**25**	*e*PKPdf	**PKPdf**		**10 33 13.2**	**+0.4**
MSU	**Marysvale**	**125.16**	**25**	*e*PKIKP	**PKPdf**		**10 33 17.3**	**+1.0**
MSU	**Marysvale**	**125.16**	**25**	*e*PKPdf	**PKPdf**		**10 33 17.3**	**+1.0**
ANMO	**Albuquerque**	**130.53**	**23**	*e*PKPdf	**PKPdf**		**10 33 27.0**	**+0.5**
MIAR	**Mount Ida**	**134.41**	**9**	*e*PKIKP	**PKPdf**		**10 33 34.3**	**+0.7**
MIAR	**Mount Ida**	**134.41**	**9**	*e*PKPdf	**PKPdf**		**10 33 34.3**	**+0.7**
TXAR	**Lajitas Array**	**136.59**	**23**	PKP	**PKPdf**		**10 33 38.2**	**+0.3**
TXAR	**Lajitas Array**	**136.59**	**23**	PKP	**PKPdf**		**10 33 38.2**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=97,slow=0.5,SNR=10							
JCT	**Junction City**	**136.88**	**18**	*e*PKIKP	**PKPdf**		**10 33 38.5**	**+0.1**
JCT	**Junction City**	**136.88**	**18**	*e*PKPdf	**PKPdf**		**10 33 38.5**	**+0.1**
MTP	**Monte Pirata**	**145.20**	**325**	*e*PKPdf	**PKPab**		**10 33 53.2**	**+0.1**
CELP	**Cerrillos**	**145.79**	**326**	*e*PKPdf	**PKPbc**		**10 33 55.0**	**0.0**
OBIP	**Obispado Ponce**	**145.83**	**326**	*e*PKPdf	**PKPdf**		**10 33 54.4**	**-0.2**
PLCA	**Paso Flores**	**147.22**	**201**	PKPbc	**PKPbc**		**10 33 59.1**	**+0.4**
PLCA	**Paso Flores**	**147.22**	**201**	PKPbc	**PKPbc**		**10 33 59.1**	**+0.4**
	comp=Z,2.8nm,0.7s,baz=182,slow=6.4,SNR=3.4							
SDDR	**Presa de Saban**	**147.31**	**334**	*e*PKPbc	**PKPab**		**10 34 00.4**	**-0.8**
CPUP	**Villa Florida**	**149.06**	**236**	PKPbc	**PKPbc**		**10 34 02.5**	**-1.4**
CPUP	**Villa Florida**	**149.06**	**236**	PKPbc	**PKPbc**		**10 34 02.5**	**-1.4**
	comp=Z,2.2nm,0.9s,baz=30,slow=7.0,SNR=3.4							

*IDC **26** 10:24:24.0±0.9, 10°.74N×94°.29E, h0km, mb4.0/12, mb1 4.1/13, mb1mx3.8/27, mbtmp3.9/13, ML3.6/1, Error ellipse: s-maj=33.2km s-min=16.7km az=62.0*
*ISCJB **26** 10:24:25.8±0.7, 10°.73N±0°.09×94°.4E±0°.1, h24km, mb4.0/13, Error ellipse: s-maj=21.4km s-min=9.8km az=150.8*
*NEIC **26** 10:24:25.5±0.5, 10°.70N×94°.29E, h10km, mb4.4/2, Error ellipse: s-maj=17.7km s-min=8.1km az=61.0*

ISC 26 10:24:27.7±0.8, 10°.7N±0°.1×94°.4E±0°.1, h24km, n33, σ0s91/34, mb4.0/13, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KULM	**Kulim**	**8.19**	**130**		Pn	**Pn**	**10 26 24.4**	**-0.7**
KULM					*e*Sn	**Sn**	**10 27 55.0**	**-1.9**
CMAR	**Chiang Mai Arr**	**8.89**	**29**		Pn	**Pn**	**10 26 35.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**8.89**	**29**		Pn	**Pn**	**10 26 35.5**	**+0.8**
	0.2nm,0.3s,baz=222,slow=14,SNR=7.1							
MKAR	**Makanchi Array**	**37.43**	**346**		P	**P**	**10 31 38.0**	**-0.9**
MKAR	**Makanchi Array**	**37.43**	**346**		P	**P**	**10 31 38.0**	**-0.9**
	1.4nm,0.7s,baz=169,slow=9.7,SNR=11							
SONM	**Songino Array**	**38.38**	**13**		P	**P**	**10 31 46.5**	**-0.6**
SONM	**Songino Array**	**38.38**	**13**		P	**P**	**10 31 46.5**	**-0.6**
	1.6nm,1.0s,baz=193,slow=8.9,SNR=8.1							
KURBB	**Kurchatov Arra**	**41.91**	**345**		P	**P**	**10 32 15.4**	**-0.7**
	1.2nm,0.7s,baz=164,slow=8.0,SNR=9.6							
KURK	**Kurchatov**	**41.97**	**345**		P	**P**	**10 32 15.4**	**-1.2**
ZALV	**Zalesovo Beam**	**43.82**	**352**		P	**P**	**10 32 31.4**	**-0.3**
ZALV	**Zalesovo Beam**	**43.82**	**352**		P	**P**	**10 32 31.4**	**-0.3**
	2.0nm,0.6s,baz=171,slow=10,SNR=7.5							
USRK	**Ussuriysk Arra**	**46.52**	**37**		P	**P**	**10 32 52.8**	**-0.4**
	1.1nm,0.7s,baz=204,slow=3.2,SNR=3.9							
WRA	**Warramunga Arr**	**49.72**	**128**		P	**P**	**10 33 19.3**	**+1.0**
WRA	**Warramunga Arr**	**49.72**	**128**		P	**P**	**10 33 19.3**	**+1.0**
	1.2nm,0.7s,baz=303,slow=8.8,SNR=5.6							
WRAB	**Tennant Creek**	**49.72**	**128**	*e*P		**P**	**10 33 19.3**	**+1.0**
	5.4nm,1.1s							
ASAR	**Alice Springs**	**51.55**	**132**		P	**P**	**10 33 33.2**	**+1.1**
ASAR	**Alice Springs**	**51.55**	**132**		P	**P**	**10 33 33.2**	**+1.1**
	2.5nm,0.7s,baz=311,slow=6.8,SNR=35							
STKA	**Stephens Creek**	**61.88**	**135**	*e*P		**P**	**10 34 46.6**	**+1.3**
	2.9nm,1.4s							
STKA	**Stephens Creek**	**61.88**	**135**	P		**P**	**10 34 46.1**	**+0.8**
	2.9nm,0.9s,baz=131,slow=4.4,SNR=3.4							
FINES	**FINESS Array B**	**70.37**	**332**	P		**P**	**10 35 38.8**	**-0.5**
FINES	**FINESS Array B**	**70.37**	**332**	P		**P**	**10 35 38.8**	**-0.5**
	1.5nm,0.8s,baz=77,slow=6.1,SNR=2.7							
ARCES	**ARCESS Array B**	**72.73**	**340**	P		**P**	**10 35 54.0**	**+0.5**
ARCES	**ARCESS Array B**	**72.73**	**340**	P		**P**	**10 35 54.0**	**+0.5**
	3.3nm,1.0s,baz=89,slow=7.4,SNR=3.8							
TORD	**Torodi Ar. Bea**	**90.20**	**283**	P		**P**	**10 37 26.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**90.20**	**283**	P		**P**	**10 37 26.5**	**-0.5**
	0.3nm,0.7s,baz=69,slow=5.2,SNR=3.2							
ILAR	**Eielson Array**	**92.06**	**22**	P		**P**	**10 37 33.9**	**-0.7**
ILAR	**Eielson Array**	**92.06**	**22**	P		**P**	**10 37 33.9**	**-0.7**
	0.2nm,0.7s,baz=290,slow=4.0,SNR=4.7							
NVAR	**Mina Array Bea**	**122.38**	**30**	PKP		**PKPdf**	**10 43 22.1**	**+0.5**
NVAR	**Mina Array Bea**	**122.38**	**30**	PKP		**PKPdf**	**10 43 22.1**	**+0.5**
	0.5nm,0.7s,baz=330,slow=1.2,SNR=5.1							
PDAR	**Pinedale Array**	**122.46**	**21**	PKP		**PKPdf**	**10 43 21.4**	**-0.2**
PDAR	**Pinedale Array**	**122.46**	**21**	PKP		**PKPdf**	**10 43 21.4**	**-0.2**
	0.3nm,0.7s,baz=333,slow=0.7,SNR=3.7							
TXAR	**Lajitas Array**	**136.56**	**23**	PKP		**PKPdf**	**10 43 50.1**	**+1.5**
TXAR	**Lajitas Array**	**136.56**	**23**	PKP		**PKPdf**	**10 43 50.1**	**+1.5**
	0.1nm,0.7s,baz=108,slow=1.7,SNR=3.9							

IDC 26 10:26:24.5±1.8, 10°.48N×94°.14E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.5/27, mbtmp3.6/7, ML3.6/1, Error ellipse: s-maj=65.7km s-min=19.5km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.19**	**30**	Pn	Pn		10 28 38.7	+0.2
	0.2nm,0.3s,baz=213,slow=15,SNR=3.3							
MKAR	**Makanchi Array**	**37.57**	**347**	P	P		10 33 40.7	+0.1
	0.9nm,0.8s,baz=158,slow=11,SNR=2.0							
SONM	**Songino Array**	**38.64**	**13**	P	P		10 33 49.4	-0.4
	0.2nm,0.3s,baz=192,slow=13,SNR=3.0							
KURBB	**Kurchatov Arra**	**42.04**	**345**	P	P		10 34 17.1	-0.6
	0.2nm,0.2s,baz=167,slow=7.2,SNR=2.8							
ZALV	**Zalesovo Beam**	**43.99**	**352**	P	P		10 34 33.8	+0.3
	0.6nm,0.5s,baz=159,slow=12,SNR=1.8							
WRA	**Warramunga Arr**	**49.80**	**127**	P	P		10 35 19.1	-0.3
	0.9nm,0.8s,baz=304,slow=9.0,SNR=3.4							
ASAR	**Alice Springs**	**51.60**	**132**	P	P		10 35 33.1	+0.1
	1.3nm,0.7s,baz=309,slow=6.4,SNR=9.5							

*CSEM **26** 10:27:23.9±1.4, 34°.57N×36°.86E, h2km, ML2.2, Error ellipse: s-maj=28.3km s-min=16.5km az=92.0*
*NSSC **26** 10:27:23.0±2.2, 34°.47N×36°.08E, h0km±9km, MD0.9, ML2.2*
*GRAL **26** 10:27:31.8±0.3, 34°.26N×36°.72E, h0km±54km, MD2.9*

ISC 26 10:27:23.5±1.5, 34°.51N±0°.03×36°.79E±0°.06, h1km±11km, n14, σ0s91/24, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HAWK	**Haweek**	**0.31**	**273**	*e*P		**Pg**	**10 27 28.6**	**-0.9**
HAWK				*e*S		**Sg**	**10 27 34.0**	**+0.4**
HAWK					AML	AML	10 27 35.8	
	comp=N,913nm,0.3s							
HAWK					AML	AML	10 27 36.0	
	comp=E,513nm,0.4s							
HAWK					AML	AML	10 27 37.1	
	comp=Z,265nm,0.3s							
HAWK	**Haweek**	**0.31**	**273**	*e*P		**Pg**	**10 27 28.6**	**-0.9**
	SNR=93							
HAWK				*e*S		**Sg**	**10 27 34.0**	**+0.4**
	comp=Z,265nm,0.3s,SNR=93							
FKH	**Fakeheh**	**0.40**	**230**	*e*P		**Pn**	**10 27 36.5**	**0.0**
FKH				*e*S		**Sb**	**10 27 39.9**	**-0.2**
FKH	**Fakeheh**	**0.40**	**230**	*e*P		**Pn**	**10 27 36.5**	**0.0**
FKH				*e*S		**Sb**	**10 27 39.9**	**-0.2**
MARH	**Ras Al Marh**	**0.54**	**208**	*e*P		**Pg**	**10 27 33.7**	**-0.1**
MARH				*e*S		**Sg**	**10 27 41.0**	**+0.2**
MARH					AML	AML	10 27 43.8	
	comp=N,117nm,0.3s							
MARH					AML	AML	10 27 44.7	
	comp=E,250nm,0.3s							
MARH	**Ras Al Marh**	**0.54**	**208**	*e*P		**Pg**	**10 27 33.7**	**

TXAR Lajitas Array 136.77 23 PKP **PKPdf 10 48 27.6 -0.1**
0.1nm,0.6s,baz=294,slow=0.6,SNR=5.4

*ISCJB **26** 10:29:26.2±0.6, 10°.78N×94°.3E±0°.1, h11km, mb4.1/19, MS3.8/1, Error ellipse: s-maj=17.0km s-min=11.3km az=145.5*
*IDC **26** 10:29:26.2±0.7, 10°.74N×94°.30E, h0km, mb4.1/18, mb1 4.1/19, mb1mx4.0/31, mbtmp4.1/19, ML4.2/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/36, Error ellipse: s-maj=24.1km s-min=14.8km az=60.0*
*NEIC **26** 10:29:27.9±0.4, 10°.76N×94°.26E, h10km, mb4.4/3, Error ellipse: s-maj=15.3km s-min=9.8km az=64.0*

ISC 26 10:29:27.9±0.6, 10°.8N±0°.1×94°.3E±0°.1, h11km, n49, σ0§88/48, mb4.1/19, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.88	30	Pn	Pn	10 31 36.5	+0.1
CMAR	Chiang Mai Arr	8.88	30	Pn	Pn	10 31 36.5	+0.1
	0.7nm,0.3s,baz=215,slow=14,SNR=8.1						
AAK	Ala-Archa	36.13	335	*e*P	P	10 36 32.2	+1.9
	4.0nm,0.7s						
AAK	Ala-Archa	36.13	335	P	P	10 36 31.4	+1.0
	1.1nm,0.3s,baz=134,slow=9.8,SNR=3.1						
MKAR	Makanchi Array	37.32	346	P	P	10 36 41.6	+1.4
MKAR	Makanchi Array	37.32	346	P	P	10 36 41.6	+1.4
	2.5nm,0.7s,baz=167,slow=9.3,SNR=8.7						
SONM	Songino Array	38.33	13	P	P	10 36 49.8	+0.9
SONM	Songino Array	38.33	13	P	P	10 36 49.8	+0.9
	2.7nm,0.9s,baz=194,slow=9.1,SNR=11						
KSAR	Wonju Array Be	40.21	43	P	P	10 37 03.7	-0.9
KSRS	Korea Array	40.25	43	P	P	10 37 03.7	-1.1
	0.5nm,0.5s,baz=270,slow=9.4,SNR=4.2						
KURBB	Kurchatov Arra	41.80	345	P	P	10 37 17.7	+0.3
	2.2nm,0.7s,baz=163,slow=7.3,SNR=7.7						
KURK	Kurchatov	41.86	345	P	P	10 37 17.7	-0.3
ZALV	Zalesovo Beam	43.73	352	P	P	10 37 34.4	+1.4
ZALV	Zalesovo Beam	43.73	352	P	P	10 37 34.4	+1.4
	5.8nm,0.9s,baz=174,slow=8.7,SNR=6.7						
BVAR	Borovoye Array	46.32	340	P	P	10 37 53.4	-0.3
BVAR	Borovoye Array	46.32	340	P	P	10 37 53.4	-0.3
	0.6nm,0.5s,baz=115,slow=8.8,SNR=2.8						
USRK	Ussuriysk Arra	46.54	37	P	P	10 37 54.9	-0.6
	1.5nm,0.8s,baz=247,slow=3.0,SNR=4.1						
AKTO	Aktyubinsk	49.50	330	P	P	10 38 17.9	-0.5
AKTO	Aktyubinsk	49.50	330	P	P	10 38 17.9	-0.5
	0.9nm,0.4s,baz=120,slow=7.4,SNR=4.6						
WRA	Warramunga Arr	49.88	128	P	P	10 38 20.6	-1.1
WRA	Warramunga Arr	49.88	128	P	P	10 38 20.6	-1.1
	3.7nm,0.8s,baz=305,slow=8.5,SNR=5.0						
WRAB	Tennant Creek	49.88	128	*e*P	P	10 38 24.2	+2.5
	7.3nm,0.9s						
ASAR	Alice Springs	51.70	132	P	P	10 38 35.4	-0.1
ASAR	Alice Springs	51.70	132	P	P	10 38 35.4	-0.1
	2.7nm,0.6s,baz=308,slow=6.5,SNR=14						
GNI	Garni	52.55	313	P	P	10 38 41.1	-0.6
GNI	Garni	52.55	313	P	P	10 38 41.1	-0.6
	3.0nm,0.3s,baz=7.2,slow=18,SNR=3.5						
MMAI	Mount Meron Ar	58.16	302	LR	LR	11 06 46.9	
	comp=Z,84nm,20.6s,baz=195,slow=38						
STKA	Stephens Creek	62.03	135	*e*P	P	10 39 49.1	+0.5
	1.4nm,1.0s						
STKA	Stephens Creek	62.03	135	P	P	10 39 49.1	+0.5
	3.8nm,0.9s,baz=248,slow=6.1,SNR=3.9						
PETK	Petropavlovsk-	65.61	36	P	P	10 40 11.6	-0.3
PETK	Petropavlovsk-	65.61	36	P	P	10 40 11.6	-0.3
	0.6nm,0.3s,baz=288,slow=6.7,SNR=7.2						
FINES	FINESS Array B	70.23	332	P	P	10 40 39.9	-1.0
FINES	FINESS Array B	70.23	332	P	P	10 40 39.9	-1.0
	0.9nm,0.6s,baz=103,slow=4.1,SNR=5.5						
ARCES	ARCESS Array B	72.61	340	P	P	10 40 55.2	+0.1
ARCES	ARCESS Array B	72.61	340	P	P	10 40 55.2	+0.1
	1.2nm,0.5s,baz=96,slow=6.1,SNR=6.9						
TORD	Torodi Ar. Bea	90.06	283	P	P	10 42 28.8	+0.2
TORD	Torodi Ar. Bea	90.06	283	P	P	10 42 28.8	+0.2
	0.6nm,0.9s,baz=88,slow=3.9,SNR=3.6						
ILAR	Eielson Array	92.03	22	P	P	10 42 35.6	-1.2
ILAR	Eielson Array	92.03	22	P	P	10 42 35.6	-1.2
	0.5nm,0.9s,baz=294,slow=4.6,SNR=5.3						
NVAR	Mina Array Bea	122.38	30	PKP	PKPdf	10 48 24.9	+0.8
NVAR	Mina Array Bea	122.38	30	PKP	PKPdf	10 48 24.9	+0.8
	0.5nm,0.6s,baz=315,slow=2.8,SNR=8.0						
PDAR	Pinedale Array	122.44	21	PKP	PKPdf	10 48 24.0	0.0
PDAR	Pinedale Array	122.44	21	PKP	PKPdf	10 48 24.0	0.0
	0.6nm,0.6s,baz=135,slow=1.3,SNR=5.9						
TXAR	Lajitas Array	136.54	23	PKP	PKPdf	10 48 51.5	+0.6
TXAR	Lajitas Array	136.54	23	PKP	PKPdf	10 48 51.5	+0.6
	0.4nm,0.6s,baz=88,slow=0.3,SNR=8.0						
PLCA	Paso Flores	147.28	202	PKPbc	PKPbc	10 49 12.3	+0.4
PLCA	Paso Flores	147.28	202	PKPbc	PKPbc	10 49 12.3	+0.4
	1.4nm,0.8s,baz=162,slow=10,SNR=2.9						
CPUP	Villa Florida	149.04	236	PKPbc	PKPbc	10 49 16.3	-0.6
CPUP	Villa Florida	149.04	236	PKPbc	PKPbc	10 49 16.3	-0.6
	1.8nm,0.8s,baz=96,slow=9.2,SNR=3.9						

IDC 26 10:31:51.8±1.8, 10°.68N×94°.23E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/27, mbtmp3.7/6, Error ellipse: s-maj=71.5km s-min=20.8km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.98	30	Pn	Pn	10 34 02.4	-0.4
	baz=218,slow=17,SNR=2.6						
MKAR	Makanchi Array	37.40	346	P	P	10 39 06.4	0.0
	0.8nm,0.7s,baz=157,slow=7.8,SNR=4.1						
KURBB	Kurchatov Arra	41.87	345	P	P	10 39 43.4	-0.2
	0.7nm,0.7s,baz=153,slow=8.3,SNR=3.1						
ZALV	Zalesovo Beam	43.81	352	P	P	10 39 59.4	+0.1
	1.1nm,0.5s,baz=186,slow=10,SNR=2.9						
WRA	Warramunga Arr	49.85	128	P	P	10 40 46.8	-0.4
	1.0nm,0.9s,baz=312,slow=8.7,SNR=3.4						
ASAR	Alice Springs	51.67	132	P	P	10 41 00.9	+0.1
	1.0nm,0.7s,baz=303,slow=6.5,SNR=4.3						

*IDC **26** 10:38:39.2±1.2, 35°.48N×27°.34E, h0km, mb3.8/10, mb1 3.8/14, mb1mx3.7/31, mbtmp3.7/14, ML3.4/4, Error ellipse: s-maj=26.6km s-min=16.4km az=172.0*
*ISK **26** 10:38:39.0, 35°.01N×27°.49E, h32km, ML3.4*
*ATH **26** 10:38:39.1, 35°.17N×27°.70E, h19km±1km, MD3.6/18*
*CSEM **26** 10:38:40.6±0.2, 35°.24N×27°.70E, h10km, MD3.6, Error ellipse: s-maj=6.6km s-min=3.3km az=162.0*
*THE **26** 10:38:40.2, 35°.24N×27°.72E, h1km, ML3.4/5, Error ellipse: s-maj=1.4km s-min=0.5km az=144.0*
*DDA **26** 10:38:42.0, 35°.44N×27°.81E, h21km, MD3.5*

ISC 26 10:38:39.3±1.1, 35°.20N±0°.03×27°.72E±0°.02, h15km±8km, n149, σ1§57/157, mb3.7/12, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.58	307	*e*PN	Pb	10 38 50.0	-1.2
KARP				*e*SN	Sg	10 38 59.0	+0.7
ARG	Arkhangelos	1.07	18	P	Pb	10 38 59.6	+0.1
ARG				S	Sg	10 39 15.1	+1.2
ARG	Arkhangelos	1.07	18	*e*Pn	Pb	10 38 59.5	+0.1
ARG				*e*SN	Sg	10 39 15.7	+1.8
ARG	Arkhangelos	1.07	18	P	Pb	10 38 59.6	+0.1
ARG				S	Sg	10 39 15.1	+1.2
ZKR	Zakros	1.24	267	P	Pg	10 39 02.5	-0.6
ZKR				S	Sg	10 39 20.5	+1.2
ZKR	Zakros	1.24	267	*e*PN	Pg	10 39 02.6	-0.6
ZKR	Zakros	1.24	267	*e*Pn	Pg	10 39 02.6	-0.6
ZKR				S	Sg	10 39 20.5	+1.2
NIS1	Nisyros Isl.	1.47	343	P	Pn	10 39 05.4	+0.1
NIS1				S	Sb	10 39 25.4	+0.5
NIS1	Nisyros Isl.	1.47	343	P	Pn	10 39 05.4	+0.1
NIS1				S	Sb	10 39 25.4	+0.5
DAT	Datca	1.53	356	*e*PN	Pb	10 39 06.9	-0.6
DAT				*e*SN	Sb	10 39 27.6	+0.8
DAT	Datca	1.53	356	*e*Pn	Pb	10 39 06.9	-0.6
DAT				*e*Sn	Sb	10 39 27.6	+0.8
NPS	Neapolis	1.73	273	*e*PN	Pb	10 39 10.0	-0.8
NPS	Neapolis	1.73	273	*e*Pn	Pb	10 39 10.0	-0.8
DALY	Dalyan (Mu˘la	1.78	25	*e*PN	Pb	10 39 11.5	-0.2
DALY				*e*SN	Sg	10 39 36.5	-0.2
DALY	Dalyan (Mu˘la	1.78	25	*e*Pn	Pb	10 39 11.5	-0.2
DALY				*e*Sn	Sg	10 39 36.5	-0.2
KSL	Kastellorizon	1.79	57	*e*PN	Pb	10 39 11.7	-0.1
TURN	Turunc	1.82	23	*i* P	Pn	10 39 08.1	-1.9
TURN				*i* S	Sn	10 39 33.0	+0.2
TURN	Turunc	1.82	23	*i* P	Pn	10 39 08.1	-1.9
TURN				*i* S	Sn	10 39 33.0	+0.2
LAST	Lasithi	1.84	269	*e*PN	Pb	10 39 12.4	-0.3
LAST	Lasithi	1.84	269	*e*Pn	Pb	10 39 12.4	-0.3
AKAS	Kas	1.85	55	*i* P	Pb	10 39 12.4	-0.5
AKAS				*i* S	Sg	10 39 39.3	+0.5
AKAS	Kas	1.85	55	*i* P	Pb	10 39 12.4	-0.5
AKAS				*i* S	Sg	10 39 39.3	+0.5
BODT	Bodrum	1.89	350	*e*PN	Pb	10 39 12.1	-1.4
BODT	Bodrum	1.89	350	*e*Pn	Pb	10 39 12.1	-1.4
YER	Yerkesik	1.98	13	*e*PN	Pb	10 39 14.5	-0.7
YER	Yerkesik	1.98	13	*e*Pn	Pb	10 39 14.5	-0.7
MLSB	Milas	2.09	1	*e*PN	Pb	10 39 15.3	-1.7
MLSB	Milas	2.09	1	*e*Pn	Pb	10 39 15.3	-1.7
THR1	Thera Island	2.18	303	P	Pn	10 39 15.8	+0.7
THR1	Thera Island	2.18	303	P	Pn	10 39 15.8	+0.7
SANT	Santorini	2.18	303	P	Pn	10 39 15.5	+0.4
SANT	Santorini	2.18	303	*e*PN	Pb	10 39 16.9	-1.6
SANT	Santorini	2.18	303	P	Pn	10 39 15.5	+0.4
SANT	Santorini	2.18	303	*e*Pn	Pb	10 39 16.9	-1.6
THR6	Thira Island,	2.21	302	P	Pn	10 39 16.0	+0.4
THR6	Thira Island,	2.21	302	P	Pn	10 39 16.0	+0.4
THR3	Thira Island,	2.24	303	P	Pn	10 39 16.6	+0.7
THR3	Thira Island,	2.24	303	P	Pn	10 39 16.6	+0.7
IDI	Anoyia	2.32	273	*e*PN	Pb	10 39 18.9	-2.0
IDI	Anoyia	2.32	273	*e*Pn	Pb	10 39 18.9	-2.0
SIVA	Sivas	2.40	267	*e*PN	Pb	10 39 19.4	-2.7
SIVA	Sivas	2.40	267	*e*Pn	Pb	10 39 19.4	-2.7
AYDN	Tasoluk	2.46	3	*i* P	Pn	10 39 20.0	+1.0
AYDN				*i* S	Sn	10 39 41.7	-7.1
AYDN	Tasoluk	2.46	3	*i* P	Pn	10 39 20.0	+1.0
GOLH	Golhisar	2.52	36	*i* P	Pb	10 39 22.5	-1.9
GOLH	Golhisar	2.52	36	*i* P	Pb	10 39 22.5	-1.9
APE	Apeiranthos	2.58	317	*e*PN	Pn	10 39 20.7	+0.1
APE	Apeiranthos	2.58	317	P	Pn	10 39 20.9	+0.3
APE				S	Sn	10 39 53.0	+1.3
APE	Apeiranthos	2.58	317	*e*PN	Pn	10 39 21.9	+1.3
APE	Apeiranthos	2.58	317	P	Pn	10 39 20.9	+0.3
APE	Apeiranthos	2.58	317	*e*Pn	Pn	10 39 21.9	+1.3
APE				S	Sn	10 39 53.0	+1.3
SMG	Samos	2.60	344	P	Pn	10 39 21.3	+0.4
SMG				S	Sn	10 39 52.9	+0.6
SMG	Samos	2.60	344	*e*PN	Pn	10 39 22.5	+1.6
SMG	Samos	2.60	344	P	Pn	10 39 21.3	+0.4
SMG	Samos	2.60	344	*e*Pn	Pn	10 39 22.5	+1.6
SMG				S	Sn	10 39 52.9	+0.6
DNZL	Cakiroluk	2.71	23	*i* P	Pn	10 39 24.0	+1.5
DNZL				*i* S	Sb	10 40 00.6	0.0
DNZL	Cakiroluk	2.71	23	*i* P	Pn	10 39 24.0	+1.5
VAM	Vamos	2.89	275	*e*PN	Pn	10 39 26.6	+1.8
VAM	Vamos	2.89	275	*e*Pn	Pn	10 39 26.6	+1.8
GVD	Gavdhos	3.00	264	*e*PN	Pn	10 39 28.0	+1.6
GVD	Gavdhos	3.00	264	*e*Pn	Pn	10 39 28.0	+1.6
KARN	Karanos	3.12	275	*e*PN	Pn	10 39 29.7	+1.7
KARN	Karanos	3.12	275	*e*Pn	Pn	10 39 29.7	+1.7
IZM	Izmir	3.21	354	*e*PN	Pn	10 39 31.0	+1.7
IZM	Izmir	3.21	354	*e*Pn	Pn	10 39 31.0	+1.7
KULA	Kula-Manisa	3.39	13	*e*PN	Pn	10 39 34.2	+2.4
KULA	Kula-Manisa	3.39	13	*e*Pn	Pn	10 39 34.2	+2.4
CHOS	Chios island	3.45	338	P	Pn	10 39 33.1	+0.5
CHOS				S	Sn	10 40 14.3	+1.0
CHOS	Chios island	3.45	338	*e*PN	Pn	10 39 34.4	+1.8
CHOS	Chios island	3.45	338	P	Pn	10 39 33.1	+0.5
CHOS	Chios island	3.45	338	*e*Pn	Pn	10 39 34.4	+1.8
CHOS				S	Sn	10 40 14.3	+1.0
KHAL	Karahalli	3.47	24	*i* P	Pn	10 39 35.8	-0.1
KHAL	Karahalli	3.47	24	*i* P	Pn	10 39 32.8	+0.1
SUTC	Sutluce-Ispart	3.49	48	*e*PN	Pn	10 39 36.7	+3.5
SUTC	Sutluce-Ispart	3.49	48	*e*Pn	Pn	10 39 36.7	+3.5
ANKY	Antikythira Is	3.67	282	P	Pn	10 39 36.4	+0.9
ANKY				S	Sn	10 40 20.4	+1.9
ANKY	Antikythira Is	3.67	282	*e*PN	Pn	10 39 37.4	+1.9
ANKY	Antikythira Is	3.67	282	P	Pn	10 39 36.4	+0.9
ANKY	Antikythira Is	3.67	282	*e*Pn	Pn	10 39 37.4	+1.9
ANKY				S	Sn	10 40 20.4	+1.9
AKHS	Akhisar	3.67	1	*i* P	Pn	10 39 36.6	+1.0
AKHS				*i* S	Sn	10 40 19.8	+1.1
AKHS	Akhisar	3.67	1	*i* P	Pn	10 39 36.6	+1.0
AKHS				*i* S	Sn	10 40 19.8	+1.1
GAZI	Gazipasa	3.88	73	*i* P	Pn	10 39 39.9	+1.5
GAZI				*i* S	Sn	10 40 24.7	+0.9
GAZI	Gazipasa	3.88	73	*i* P	Pn	10 39 39.9	+1.5
GAZI				*i* S	Sn	10 40 24.7	+0.9
KYTH	Kithira	3.96	287	P	Pn	10 39 40.4	+0.8
KYTH	Kithira	3.96	287	P	Pn	10 39 40.4	+0.8
VLI	Veliai	4.17	293	P	Pn	10 39 43.5	+1.1
VLI				S	Sn	10 40 32.5	+1.6
VLI	Veliai	4.17	293	*e*PN	Pn	10 39 44.6	+2.2
VLI	Veliai	4.17	293	P	Pn	10 39 43.5	+1.1
VLI	Veliai	4.17	293	*e*Pn	Pn	10 39 44.6	+2.2
VLI				S	Sn	10 40 32.5	+1.6
DID	Didima	4.29	304	P	Pn	10 39 45.2	+1.1
DID	Didima	4.29	304	*e*PN	Pn	10 39 46.4	+2.3
DID	Didima	4.29	304	P	Pn	10 39 45.2	+1.1
DID	Didima	4.29	304	*e*Pn	Pn	10 39 46.4	+2.3
ERMK	Ermenek	4.45	70	*i* P	Pn	10 39 49.6	+3.1
ERMK				*i* S	Sb	10 40 45.3	-5.6
ERMK	Ermenek	4.45	70	*i* P	Pn	10 39 49.6	+3.1
CSS	Prodhromos	4.61	91	P	Pn	10 39 49.6	+1.2
CSS	Prodhromos	4.61	91	P	Pn	10 39 49.6	+1.2
DYR	Agios Nikonas	4.64	291	P	Pn	10 39 49.6	+0.7
DYR				S	Sn	10 40 49.8	+1.2
DYR	Agios Nikonas	4.64	291	*e*PN	Pn	10 39 51.6	+2.7
DYR	Agios Nikonas	4.64	291	P	Pn	10 39 49.6	+0.7
DYR	Agios Nikonas	4.64	291	*e*Pn	Pn	10 39 51.6	+2.7
DYR				S	Sn	10 40 43.8	+1.2
GUR	Goura	5.12	304	*e*PN	Pn	10 39 58.6	+3.0
GUR	Goura	5.12	304	*e*Pn	Pn	10 39 58.6	+3.0
PYL	PYLOS	5.13	291	*e*PN	Pn	10 39 58.3	+2.6
PYL	PYLOS	5.13	291	*e*Pn	Pn	10 39 58.3	+2.6
KLV	Kalavryta, Ach	5.30	304	*e*PN	Pn	10 40 01.1	+3.0
KLV	Kalavryta, Ach	5.30	304	*e*Pn	Pn	10 40 01.1	+3.0
AMT	Artemida-Makis	5.38	297	*e*PN	Pn	10 40 01.8	+2.7
AMT	Artemida-Makis	5.38	297	*e*Pn	Pn	10 40 01.8	+2.7
KALE	Kalithea	5.50	307	*e*PN	Pn	10 40 03.3	+2.6
KALE	Kalithea	5.50	307	*e*Pn	Pn	10 40 03.3	+2.6
LAKA	Lakka	5.52	305	*e*PN	Pn	10 40 03.5	+2.5
LAKA	Lakka	5.52	305	*e*Pn	Pn	10 40 03.5	+2.5
TRIZ	Trizonia	5.53	307	*e*PN	Pn	10 40 04.2	+3.1
TRIZ	Trizonia	5.53	307	*e*Pn	Pn	10 40 04.2	+3.1
GULE	Gulek	6.07	68	*i* P	Pn	10 40 10.7	+2.0
GULE				*i* S	Sn	10 41 23.5	+5.5
GULE	Gulek	6.07	68	*i* P	Pn	10 40 10.7	+2.0
BRTR	Keskin Array B	6.52	44	Pn	Pn	10 40 17.5	+2.6
	0.3nm,0.3s,baz=237,slow=13,SNR=5.4						
MMAI	Mount Meron Ar	6.73	107	Pn	Pn	10 40 23.7	+6.0
	2.1nm,0.3s,baz=285,slow=11,SNR=2.9						
KBZ	Khabaz	14.47	49	Pn	P	10 42 11.9	+1.6
	0.1nm,0.3s,baz=261,slow=6.7,SNR=5.5						
KEST	Kesra	14.99	277	Pn	Pn	10 42 11.4	+0.7
	0.0nm,0.3s,baz=311,slow=19,SNR=2.1						
GERES	GERESS Array B	17.12	327	Pn	Pn	10 42 37.0	-1.1
	0.1nm,0.3s,baz=135,slow=11,SNR=2.4						
LPL	La Plagne	18.98	309	*e*P	Pn	10 43 00.5	-0.5
LPL	La Plagne	18.98	309	*e*P	Pn	10 43 00.5	-0.5
CABF	La Chapelle	19.87	312	*e*P	P	10 43 06.8	-3.1
CABF	La Chapelle	19.87	312	*e*P	P	10 43 06.8	-3.1
HINF	Hinteralfeld	20.00	315	*e*P	P	10 43 06.4	-5.0
VIVF	Saint-Julien-l	20.06	306	*e*P	P	10 43 11.3	-0.7
VIVF	Saint-Julien-l	20.06	306	*e*P	P	10 43 11.3	-0.7
CDF	Champ du Feu	20.08	317	*e*P	P	10 43 06.2	-6.1
	2.5nm,0.5s						
SMF	Signal de Mont	21.28	310	*e*P	P	10 43 24.0	-1.1
SMF	Signal de Mont	21.28	310	*e*P	P	10 43 24.0	-1.1
SSF	Saint Saulge	21.66	311	*e*P	P	10 43 26.7	-2.5
	5.7nm,0.6s						
SSF	Saint Saulge	21.66	311	*e*P	P	10 43 26.7	-2.5
	5.0nm,0.6s						
RJF	Les Rejaudoux	22.32	305	*e*P	P	10 43 29.8	-6.5
FLN	La Foliniere	24.80	312	*e*P	P	10 43 57.0	-3.6
FLN	La Foliniere	24.80	312	*e*P	P	10 43 57.0	-3.6
GRR	Gorron	24.89	311	*e*P	P	10 43 57.9	-3.5
	6.3nm,0.5s						
GRR	Gorron	24.89	311	*e*P	P	10 43 57.9	-3.5
	6.0nm,0.5s						
ESDC	Sonseca Array	25.48	290	P	P	10 44 07.1	+0.2
	1.2nm,0.6s,baz=82,slow=9.8,SNR=12						
FINES	FINESS Array B	26.29	358	P	P	10 44 12.9	-1.0
	0.4nm,0.4s,baz=172,slow=10.0,SNR=5.3						
HFS	Hagfors	26.56	344	P	P	10 44 14.9	-1.6
	1.4nm,0.3s,baz=156,slow=9.9,SNR=14						
AKTO	Aktyubinsk	26.70	46	P	P	10 44 19.0	+1.1
	0.5nm,0.3s,baz=235,slow=13,SNR=3.7						
TORD	Torodi Ar. Bea	32.16	233	P	P	10 45 07.5	+0.9
	0.5nm,0.8s,baz=35,slow=8.3,SNR=4.4						
ARCES	ARCESS Array B	34.41	359	P	P	10 45 24.3	-1.4
	0.6nm,0.3s,baz=174,slow=8.3,SNR=8.0						
KURBB	Kurchatov Arra	39.47	51	P	P	10 46 12.5	+3.6
	0.3nm,0.3s,baz=276,slow=8.7,SNR=4.2						
MKAR	Makanchi Array	42.00	57	P	P	10 46 32.8	+2.9
	0.4nm,0.6s,baz=277,slow=7.6,SNR=6.6						
SONM	Songino Array	57.83	51	P	P	10 48 33.7	+3.4
	0.2nm,0.4s,baz=302,slow=8.7,SNR=2.2						
SCHQ	Schefferville	64.51	320	P	P	10 49 14.5	-0.8
	1.7nm,0.5s,baz=55,slow=3.4,SNR=12						

*BJI **26** 10:42:24.5, 10°.57N×94°.28E, h18km, mB4.9/20, mb4.6/31, Ms4.4/19, Ms7 4.2/18*
*IDC **26** 10:42:24.8±0.6, 10°.76N×94°.27E, h0km, mb4.1/20, mb1 4.2/21, mb1mx4.1/31, mbtmp4.1/21, ML3.5/1, MS3.6/4, Ms1 3.7/4, ms1mx3.0/45, Error ellipse: s-maj=21.7km s-min=13.0km az=58.0*
*ISCJB **26** 10:42:25.0±1.2, 10°.71N±0°.04×94°.34E±0°.04, h12km±7km, mb4.4/49, MS4.1/8, Error ellipse: s-maj=7.1km s-min=5.2km az=36.9*
*MOS **26** 10:42:28.1±0.9, 10°.80N×94°.40E, h33km, mb4.8/10, Error ellipse: s-maj=14.7km s-min=7.7km az=101.2*
*NEIC **26** 10:42:29.0±2.4, 10°.80N×94°.33E, h24km±16km, mb4.7/10, Error ellipse: s-maj=11.7km s-min=5.3km az=61.0*

ISC 26 10:42:28.3±0.5, 10°.71N±0°.05×94°.34E±0°.05, h22km±3km, n131, σ1§80/176, mb4.4/49, MS4.1/9, 1C-2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.82	301	*e*P	Pn	10 42 58.4	0.0
PBA				*e*S	Sn	10 43 20.4	-0.5
DGPR	DIGLIPUR	2.81	331	*e*P	Pn	10 43 11.5	-0.5
DGPR				*ex*	Sn	10 43 38.5	-6.7
CMBY	CAMPBELL BAY	3.70	186	*e*P	Pn	10 43 22.5	-1.8
CMBY				*e*4		10 43 32.5	
KULM	Kulim	8.25	130	*e*Pn	Pn	10 44 27.0	+0.1
KULM				*e*Sn	Sn	10 45 53.9	-5.6
CMAR	Chiang Mai Arr	8.90	30	Pn	Pn	10 44 35.7	0.0
CMAR	Chiang Mai Arr	8.90	30	Pn	Pn	10 44 35.7	0.0
	0.2nm,0.3s,baz=218,slow=15,SNR=20						
CMAR				LR	LR	10 48 12.1	
	comp=Z,145nm,18.8s,baz=332,slow=39						
IPM	Ipoh	9.07	133	*e*Pn	Pn	10 44 39.9	+1.8
PSI	Prapat	9.09	150	LR	LR	10 48 51.2	
	comp=Z,390nm,19.1s,baz=316,slow=42						
CHTO	Chiang Mai	9.20	28	*e*P	Pn	10 44 39.1	-0.8
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CHTO	Chiang Mai	9.20	28	*e*Pn	Pn	10 44 39.1	-0.8
	comp=Z,6.4nm,0.9s						
VIS	Vishakhapatnam	12.74	304	*e*P	Pn	10 45 26.9	-1.4
VIS				AMB	AMB	10 45 45.2	
	comp=Z,31nm,0.0s						
SHL	Shillong	14.96	351	*e*P	Pn	10 45 57.6	-1.1
SHL				AMB	AMB	10 46 33.1	
	comp=Z,12nm,1.8s						
BOK	Bokaro	15.30	329	*e*P	Pn	10 46 01.8	-1.3
BOK				AMB	AMB	10 46 10.2	
	comp=Z,19nm,1.7s						
KMI	Kunming	16.40	28	P	P	10 46 20.0	-0.2
KMI				pP	pP	10 46 25.8	-0.4

comp=N,560nm,13.2s
LZH LR LR
comp=E,350nm,12.7s
LZH LR LR
comp=Z,950nm,15.0s
DHRM DHARAMSHALA 27.14 325 *eP* **P 10 48 11.3 +1.0**
DHRM AMB AMB 10 48 15.2
comp=Z,14nm,2.4s
GTA Gaotai 28.99 9 *eP* **P 10 48 27.8 +1.1**
GTA pP **pP 10 48 32.0 -1.3**
GTA sP **sP 10 48 34.8 -1.2**
GTA S **S 10 53 17.3 +0.6**
GTA SS **SnSn 10 54 45.3 +4.7**
GTA pmax pmax
comp=Z,6.0nm,1.7s
GTA pmax pmax
comp=Z,120nm,5.5s
GTA LR LR
comp=N,93nm,17.1s
GTA LR LR
comp=E,85nm,15.2s
GTA LR LR
comp=Z,160nm,19.5s
NJ2 Nanjing 31.04 43 *eP* **P 10 48 45.0 +0.3**
NJ2 pmax pmax
comp=Z,30nm,0.6s
KSH Kashi 33.01 333 P **P 10 49 00.8 -1.3**
KSH S **S 10 54 14.5 -5.1**
KSH sS **sS 10 54 26.8 -3.7**
KSH PcS **PcS 10 55 31.5 +0.3**
KSH pmax pmax
comp=Z,13nm,1.1s
KSH pmax pmax
comp=Z,100nm,5.3s
KSH LR LR
comp=N,150nm,9.9s
KSH LR LR
comp=E,170nm,12.7s
KSH LR LR
comp=Z,190nm,8.1s
WMQ Urumqi 33.48 351 P **P 10 49 08.5 +2.4**
WMQ pP **pP 10 49 14.3 +1.6**
WMQ sP **sP 10 49 17.3 +1.9**
WMQ PP **PP 10 50 20.5 -1.6**
WMQ PcP **PcP 10 51 49.8 +2.9**
WMQ S **S 10 54 27.5 +0.8**
WMQ sS **sS 10 54 37.3 -0.3**
WMQ ScP **ScP 10 55 32.0 +1.6**
WMQ SS **SnSn 10 56 30.8 +1.2**
WMQ ScS **ScS 10 59 31.5 +0.2**
WMQ pmax pmax
comp=Z,29nm,1.0s
WMQ pmax pmax
comp=Z,350nm,5.2s
WMQ LR LR
comp=N,390nm,21.8s
WMQ LR LR
comp=E,310nm,20.0s
WMQ LR LR
comp=Z,620nm,26.1s
HHC Hu-ho-hao-te 33.65 24 *eP* **P 10 49 07.5 -0.2**
HHC PP **PnPn 10 50 19.8 +0.1**
HHC PcP **PcP 10 51 48.0 +0.5**
HHC S **S 10 54 28.0 -1.5**
HHC sS **sS 10 54 39.8 -0.6**
HHC ScP **ScP 10 55 28.8 -2.3**
HHC PcS **PcS 10 55 31.8 -1.6**
HHC SS **SnSn 10 56 32.3 -1.5**
HHC ScS **ScS 10 59 29.0 -3.4**
HHC pmax pmax
comp=Z,47nm,0.6s
HHC pmax pmax
comp=Z,140nm,5.8s
HHC LR LR
comp=N,390nm,12.2s
HHC LR LR
comp=E,450nm,12.2s
HHC LR LR
comp=Z,200nm,12.5s
AAK Ala-Archa 36.21 335 *eP* **P 10 49 29.4 -0.4**
AAK pmax pmax
comp=Z,6.0nm,0.9s
AAK Ala-Archa 36.21 335 *eP* **P 10 49 29.4 -0.4**
comp=Z,6.1nm,0.9s
AAK Ala-Archa 36.21 335 P **P 10 49 29.2 -0.6**
comp=Z,1.9nm,0.4s,baz=266,slow=6.3,SNR=4.9
AAK LR LR 11 05 17.0
comp=Z,174nm,20.5s,baz=336,slow=38
MKAR Makanchi Array 37.38 346 *eP* **P 10 49 39.5 -0.1**
MKAR Makanchi Array 37.38 346 *eP* **P 10 49 39.5 -0.1**
MKAR Makanchi Array 37.38 346 P **P 10 49 39.5 -0.1**
comp=Z,4.5nm,0.8s,baz=166,slow=8.6,SNR=36
KKAR Karatay Array 38.35 332 *eP* **P 10 49 47.7 -0.1**
KKAR pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 38.35 332 *eP* **P 10 49 47.6 -0.1**
comp=Z,2.1nm,0.8s
SONM Songino Array 38.37 13 P **P 10 49 47.9 -0.1**
SONM Songino Array 38.37 13 P **P 10 49 47.9 -0.1**
comp=Z,3.7nm,0.9s,baz=194,slow=9.2,SNR=18
SONM LR LR 11 07 01.9
comp=Z,148nm,19.5s,baz=355,slow=38
KSAR Wonju Array Be 40.20 43 P **P 10 50 02.7 -0.6**
KSRS Korea Array 40.24 43 P **P 10 50 02.7 -0.9**
comp=Z,1.7nm,1.0s,baz=252,slow=10,SNR=9.3
HVS Khovu-Aksy 40.31 359 *eP* **P 10 50 03.5 -0.6**
HVS pmax pmax
comp=Z,83nm,1.7s
KURBB Kurchatov Arra 41.86 345 P **P 10 50 16.7 -0.1**
comp=Z,3.9nm,0.9s,baz=163,slow=7.5,SNR=21
KURK Kurchatov 41.93 345 P **P 10 50 16.7 -0.6**
KURK Kurchatov 41.93 345 P **P 10 50 16.7 -0.6**
FITZ Fitzroy Crossi 42.13 133 P **P 10 50 20.1 +0.8**
FITZ Fitzroy Crossi 42.13 133 P **P 10 50 20.1 +0.8**
comp=Z,1.8nm,1.0s,baz=138,slow=12,SNR=2.0
CN2 Changchun 42.55 34 *eP* **P 10 50 23.0 +0.5**
CN2 *es*P **sP 10 50 28.8 -3.1**
CN2 pmax pmax
comp=Z,20nm,0.8s
ZALV Zalesovo Beam 43.79 352 P **P 10 50 32.0 -0.3**
ZALV Zalesovo Beam 43.79 352 P **P 10 50 32.0 -0.3**
ZALV Zalesovo Beam 43.79 352 P **P 10 50 32.0 -0.3**
comp=Z,8.5nm,0.9s,baz=169,slow=8.9,SNR=20
NVS Novosibirsk 44.89 351 *eP* **P 10 50 39.9 -1.2**
NVS pmax pmax
comp=Z,23nm,2.2s
NVS pmax pmax
comp=N,17nm,1.8s
KRAR Krasnoyarsk 45.20 359 *eP* **P 10 50 43.3 -0.3**
KRAR pmax pmax
comp=Z,11nm,1.2s
MDJ Mudanjiang 45.38 35 P **P 10 50 46.0 +0.8**
MDJ pmax pmax
comp=Z,6.0nm,2.3s
MDJ pmax pmax
comp=Z,38nm,3.1s
BVAR Borovoye Array 46.39 340 P **P 10 50 52.8 -0.3**
BVAR Borovoye Array 46.39 340 P **P 10 50 52.8 -0.3**
BVAR Borovoye Array 46.39 340 P **P 10 50 52.8 -0.3**
comp=Z,1.8nm,0.7s,baz=142,slow=7.5,SNR=7.4
BRVK Borovoye 46.45 340 *eP* **P 10 50 53.6 +0.1**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
USRK Ussuriysk Arra 46.54 37 P **P 10 50 53.0 -1.3**
comp=Z,2.1nm,0.8s,baz=241,slow=7.8,SNR=7.5
MJAR Matsushiro Arr 47.15 50 P **P 10 50 59.7 +0.4**
MJAR PcP **PcP 10 52 30.9 0.0**
MJAR Matsushiro Arr 47.15 50 P **P 10 50 59.7 +0.4**
comp=Z,0.9nm,0.8s,baz=253,slow=8.6,SNR=5.4
MJAR PcP **PcP 10 52 30.9 0.0**
comp=Z,1.3nm,0.9s,baz=250,slow=4.5,SNR=5.4
ABKAR Akbulak array 47.86 330 *eP* **P 10 51 04.8 +0.1**
comp=Z,2.2nm,0.6s
RAYN Ar Rayn 48.16 292 *eP* **P 10 51 08.4 +1.0**
comp=Z,8.0nm,1.0s
AKTO Aktyubinsk 49.58 330 P **P 10 51 17.3 -0.5**
AKTO Aktyubinsk 49.58 330 P **P 10 51 17.3 -0.5**
AKTO Aktyubinsk 49.58 330 P **P 10 51 17.3 -0.5**
comp=Z,0.6nm,0.3s,baz=122,slow=20,SNR=5.7
WRA Warramunga Arr 49.79 128 P **P 10 51 19.7 -0.2**
WRA Warramunga Arr 49.79 128 P **P 10 51 19.7 -0.2**
comp=Z,1.9nm,0.9s,baz=304,slow=8.6,SNR=4.3
WRAB Tennant Creek 49.79 128 *eP* **P 10 51 20.0 +0.1**
WRAB pmax pmax
comp=Z,30nm,1.8s
WRAB Tennant Creek 49.79 128 *eP* **P 10 51 20.0 +0.1**
comp=Z,30nm,1.8s
ASAR Alice Springs 51.62 132 P **P 10 51 33.8 +0.2**
ASAR Alice Springs 51.62 132 P **P 10 51 33.8 +0.2**
comp=Z,2.3nm,0.7s,baz=307,slow=6.6,SNR=26
FORT Forrest 52.45 143 *eP* **P 10 51 40.7 +1.1**
comp=Z,12nm,0.6s
GNI Garni 52.63 313 *eP* **P 10 51 42.3 +1.2**
comp=Z,8.3nm,0.7s
SVE Sverdlovsk 52.86 338⇓ *eP* **P 10 51 42.5 +0.2**
SVE pmax pmax
comp=Z,10.0nm,1.1s
ARU Arti 53.38 336*d i*P **P 10 51 44.4 -1.7**
ARU 10 53 40.6
ARU S **S 10 59 12.2 -4.6**
ARU pmax pmax
comp=Z,10.0nm,2.5s
YSS Yuzh-Sakhalins 54.45 39 *eP* P 10 51 49.2 -4.9
KIV Kislovodsk 55.38 317 *eP* **P 10 52 02.2 +1.2**
KIV pmax pmax
comp=Z,12nm,1.1s
BRTR Keskin Array B 60.76 310 P **P 10 52 36.9 -2.0**
BRTR Keskin Array B 60.76 310 P **P 10 52 36.9 -2.0**
comp=Z,0.7nm,0.6s,baz=132,slow=6.8,SNR=6.2
STKA Stephens Creek 61.94 135 P **P 10 52 47.1 +0.4**
STKA Stephens Creek 61.94 135 P **P 10 52 47.1 +0.4**
comp=Z,3.8nm,0.8s,baz=40,slow=8.2,SNR=3.1
OBN Obninsk 63.11 327⇓ *eP* **P 10 52 56.4 +2.3**
OBN *eS* **S 11 01 24.6 +0.8**
OBN pmax pmax
comp=Z,7.0nm,1.2s
OBN MLR MLR
comp=Z,100nm,17.0s
ARMA Armidale 68.55 129 *eP* **P 10 53 31.6 +1.8**
comp=Z,13nm,1.1s
FINES FINESS Array B 70.31 332 P **P 10 53 39.1 -0.9**
FINES FINESS Array B 70.31 332 P **P 10 53 39.1 -0.9**
comp=Z,1.3nm,0.8s,baz=90,slow=5.7,SNR=3.7
ARCES ARCESS Array B 72.68 340 P **P 10 53 52.7 -1.5**
ARCES ARCESS Array B 72.68 340 P **P 10 53 52.7 -1.5**
comp=Z,3.5nm,0.9s,baz=64,slow=3.4,SNR=7.3
GERES GERESS Array B 75.86 318 P **P 10 54 12.2 -1.0**
GERES GERESS Array B 75.86 318 P **P 10 54 12.2 -1.0**
comp=Z,0.4nm,0.7s,baz=92,slow=6.7,SNR=4.3
LPG La Plagne 80.77 315 *eP* **P 10 54 40.4 -0.3**
LPL La Plagne 80.78 315 *eP* **P 10 54 40.6 -0.1**
comp=Z,14nm,1.2s
MBDF Montbardon 80.83 314 *eP* **P 10 54 40.9 0.0**
comp=Z,8.4nm,1.1s
TORD Torodi Ar. Bea 90.14 283 P **P 10 55 27.5 -0.1**
TORD PP **PP 10 59 05.7 +4.4**
TORD Torodi Ar. Bea 90.14 283 P **P 10 55 27.5 -0.1**
comp=Z,0.7nm,0.9s,baz=86,slow=7.1,SNR=4.4
TORD PP **PP 10 59 05.7 +4.4**
comp=Z,1.1nm,1.1s,baz=51,slow=5.4,SNR=4.0
ILAR Eielson Array 92.06 22 P **P 10 55 34.0 -1.5**
ILAR Eielson Array 92.06 22 P **P 10 55 34.0 -1.5**
comp=Z,0.8nm,0.9s,baz=291,slow=4.0,SNR=6.7
SNOW Snow King Moun 121.43 21 *e*PKPdf **PKPdf 11 01 21.5 +0.7**
REDW Red Top Meadow 121.48 21 *e*PKPdf **PKPdf 11 01 21.2 +0.4**
NVAR Mina Array Bea 122.39 30 PKP **PKPdf 11 01 23.3 +0.6**
NVAR Mina Array Bea 122.39 30 PKP **PKPdf 11 01 23.3 +0.6**
comp=Z,0.9nm,0.8s,baz=288,slow=1.6,SNR=8.4
PDAR Pinedale Array 122.46 21 PKP **PKPdf 11 01 22.6 -0.1**
PDAR Pinedale Array 122.46 21 PKP **PKPdf 11 01 22.6 -0.1**
comp=Z,0.7nm,0.7s,baz=85,slow=1.8,SNR=7.9
HWUT Hardware Ranch 122.74 23 *e*PKPdf **PKPdf 11 01 23.3 +0.1**
DUG Dugway 123.44 25 *e*PKIKP **PKPdf 11 01 24.5 0.0**
DUG Dugway 123.44 25 *e*PKPdf **PKPdf 11 01 24.5 0.0**
ECSD EROS Data Cent 124.90 10 *e*PKPdf **PKPdf 11 01 27.2 +0.1**
ANMO Albuquerque 130.50 23 *e*PKPdf **PKPdf 11 01 39.7 +1.5**
TXAR Lajitas Array 136.56 23 PKP **PKPdf 11 01 50.6 +1.0**
TXAR Lajitas Array 136.56 23 PKP **PKPdf 11 01 50.6 +1.0**
comp=Z,0.4nm,0.7s,baz=309,slow=0.1,SNR=5.7
JCT Junction City 136.85 18 *e*PKIKP **PKPdf 11 01 52.4 +2.3**
JCT Junction City 136.85 18 *e*PKPdf **PKPdf 11 01 52.4 +2.3**
CEL Cerrillos 145.75 326 *e*PKPdf **PKPdf 11 02 06.2 0.0**
PLCA Paso Flores 147.25 201 PKPbc **PKPbc 11 02 10.9 +0.4**
PLCA Paso Flores 147.25 201 PKPbc **PKPbc 11 02 10.9 +0.4**
comp=Z,2.0nm,1.0s,baz=190,slow=14,SNR=2.1
CPUP Villa Florida 149.07 236 PKPbc **PKPbc 11 02 15.8 +0.2**
CPUP Villa Florida 149.07 236 PKPbc **PKPbc 11 02 15.8 +0.2**
comp=Z,2.2nm,0.8s,baz=18,slow=4.2,SNR=4.4

*NNC **26** 10:55:08.2±13.0, 40˚.37N×76˚.78E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=120.0km s-min=81.4km az=156.0*
ISC 26 10:55:02.6±7.1, 39˚.9N±0˚.5×77˚.3E±0˚.2, h28km, n12, σ1§45/8, 5C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.49**	**341**	P		**Pn**	**10 55 41.3**	**-0.2**
	SNR=21							
KZA	**Kyzart**	**2.70**	**325**	P		**Pn**	**10 55 44.4**	**0.0**
	SNR=20							
KBK	**Karagaybulak**	**3.30**	**328**	P		Pn	10 55 56.3	+3.8
	SNR=9.9							
TKM2	**Tokmak 2**	**3.30**	**337**	⇑Pn		**Pn**	**10 55 51.9**	**-0.6**
	8.1nm,0.6s							
TKM2				⇑Lg		Lg	10 56 35.6	
	29nm,0.6s							
TKM2	**Tokmak 2**	**3.30**	**337**	P		**Pn**	**10 55 55.6**	**+3.1**
	SNR=9.9							
KNDC	**Almaty**	**3.33**	**355**	⇑Pn		**Pn**	**10 55 52.3**	**-0.6**
	16nm,0.5s							
KNDC				⇑Lg		Lg	10 56 37.6	
	219nm,0.6s							
AAK	**Ala-Archa**	**3.48**	**323**	P		Pn	10 55 59.3	+4.3
	SNR=6.0							
AML	**Almayashu**	**3.55**	**310**	P		**Pn**	**10 55 56.2**	**0.0**
	SNR=7.8							
CHMS	**Chumysh**	**3.66**	**329**	P		**Pn**	**10 55 57.5**	**+0.1**
	SNR=9.4							
EKS2	**Erkin-Say**	**3.85**	**317**	P		Pn	10 56 04.8	+4.7
	SNR=5.4							
USP	**Ospenovka**	**3.99**	**329**	P		Sn	10 56 56.6	+8.9
	SNR=13							
KK31	**Karatay Array**	**6.05**	**304**	⇓Pn		Pn	10 56 37.9	+7.8
	1.0nm,0.9s,baz=133,slow=16,SNR=5.6							
KK31				⇑Sn		**Sn**	**10 57 37.9**	**-0.5**
	0.2nm,0.3s,baz=226,slow=16,SNR=3.4							
KK31				⇓Lg		Lg	10 57 59.7	
	3.9nm,0.9s,baz=133,slow=26,SNR=4.0							

*ISCJB **26** 10:57:57.7±1.1, 10˚.57N±0˚.04×94˚.33E±0˚.04, h1km±7km, mb4.5/47, MS4.3/51, Error ellipse: s-maj=7.6km s-min=5.2km az=35.6*
*IDC **26** 10:57:58.9±0.6, 10˚.64N×94˚.25E, h0km, mb4.1/20, mb1 4.2/22, mb1mx4.1/31, mbtmp4.1/22, ML3.7/2, MS4.3/37, Ms1 4.3/37, ms1mx4.2/47, Error ellipse: s-maj=20.8km s-min=12.8km az=57.0*
*BJI **26** 10:57:59.8, 10˚.52N×94˚.18E, h15km, mB4.9/27, mb4.6/36, Ms4.7/36, Ms7 4.4/34*
*NEIC **26** 10:58:02.0±3.4, 10˚.67N×94˚.32E, h16km±21km, mb4.6/13, Error ellipse: s-maj=12.9km s-min=6.2km az=65.0*
*GCMT **26** 10:58:05.7±0.2, 10˚.78N×94˚.52E, h12km, MW5.1, Moment Tensor Solution. s42,c58; s77,c139; Moment tensor: Scale 10^16 Nm; Mrr=4.84±.11; Mθθ=4.37±.09; Mφφ=0.47±.11; Mrθ=2.27±.32; Mrφ=1.37±.09; Mθφ=-0.09±.40; Best double couple: Mo=5.30000×10^16 NP1=φ=65.00000°, δ=34.00000°, λ=-103.00000°. NP2=φ=261.00000°, δ=57.00000°, λ=-81.00000°. Principal axes: T 5.2600, Plg12.0000°, Azm344.0000°; N 0.1300, Plg7.0000°, Azm76.0000°; P -5.4000, Plg76.0000°, Azm197.0000°; Data Used: II IU IC G CN.*
ISC 26 10:58:02.1±0.5, 10˚.57N±0˚.04×94˚.29E±0˚.04, h17km±2km, n147, σ2§05/177, mb4.6/47, MS4.3/51, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.86**	**306**	*e*P		Pn	10 58 34.2	+1.0
PBA				*e*S		Sn	10 58 56.8	+0.3
DGPR	**DIGLIPUR**	**2.91**	**333**	*e*P		**Pn**	**10 58 48.0**	**+0.2**
DGPR				*e*S		**Sn**	**10 59 22.7**	**+0.3**
CMBY	**CAMPBELL BAY**	**3.56**	**186**	*e*P		Pn	10 58 60.0	+3.4
CMBY				*e*S		**Sb**	**10 59 44.7**	**-2.8**
KULM	**Kulim**	**8.20**	**129**	*e*Pn		**Pn**	**10 59 58.4**	**-2.0**
KULM				*e*Sn		**Sn**	**11 01 28.5**	**-4.1**
PSI	**Prapat**	**8.98**	**149**	Pn		**Pn**	**11 00 14.0**	**+2.7**
PSI	**Prapat**	**8.98**	**149**	Pn		**Pn**	**11 00 14.0**	**+2.7**
	0.4nm,0.3s,baz=335,slow=19,SNR=3.4							
PSI				LR		LR	11 04 25.9	
	comp=Z,4μm,18.8s,baz=308,slow=42							
IPM	**Ipoh**	**9.01**	**132**	*e*Pn		**Pn**	**11 00 09.2**	**-2.3**
	7.9nm,0.6s							
CMAR	**Chiang Mai Arr**	**9.04**	**29**	Pn		**Pn**	**11 00 10.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**9.04**	**29**	Pn		**Pn**	**11 00 10.9**	**-1.0**
	0.4nm,0.3s,baz=217,slow=15,SNR=12							
CMAR				LR		LR	11 03 47.6	
	comp=Z,1μm,18.8s,baz=204,slow=39							
CHTO	**Chiang Mai**	**9.35**	**28**	*e*Pn		**Pn**	**11 00 16.3**	**+0.1**
	12nm,1.1s							
VIS	**Vishakhapatnam**	**12.78**	**305**	*e*P		**Pn**	**11 01 03.7**	**+0.5**
SHL	**Shillong**	**15.09**	**352**	*e*P		**Pn**	**11 01 31.6**	**-3.3**
BOK	**Bokaro**	**15.40**	**330**	*e*P		**Pn**	**11 01 39.3**	**+0.5**
KMI	**Kunming**	**16.55**	**28**	P		**Pn**	**11 01 54.8**	**+1.1**
KMI				pP		**P**	**11 01 58.5**	**+2.2**
KMI				sP		**sP**	**11 02 00.5**	**-2.8**
KMI				PP		**PnPn**	**11 02 07.5**	**+4.4**
KMI				S		**Sn**	**11 04 57.3**	**0.0**
KMI				SS		**SnSn**	**11 05 17.0**	**+6.2**
KMI				pmax		pmax		
	comp=Z,6.0nm,0.8s							
KMI				pmax		pmax		
	comp=Z,200nm,5.0s							
KMI				LR		LR		
	comp=N,1μm,12.1s							
KMI				LR		LR		
	comp=E,1μm,10.2s							
KMI				LR		LR		
	comp=Z,1μm,11.6s							
HYB	**Hyderabad**	**16.71**	**296**	*i*P		**P**	**11 02 00.0**	**+2.1**
HYB	**Hyderabad**	**16.71**	**296**	*ex*		x	11 02 06.5	
HYB				AMB		AMB	11 03 04.3	
	comp=Z,37nm,2.1s							
QIZ	**Qiongzhong**	**17.22**	**59**	P		**Pn**	**11 01 58.3**	**-3.7**
QIZ				S		**Sn**	**11 05 13.5**	**+0.2**
QIZ				pmax		pmax		
	comp=Z,28nm,2.1s							
QIZ				LR		LR		
	comp=N,1μm,8.9s							
QIZ				LR		LR		
	comp=E,940nm,9.5s							
QIZ				LR		LR		
	comp=Z,2μm,9.5s							
TAPN	**Taplejung**	**17.81**	**341**	*e*P		**Pn**	**11 02 08.7**	**-0.9**
	comp=Z,109nm,0.9s							
RAMN	**Ramite**	**17.84**	**337**	*e*P		**P**	**11 02 10.5**	**0.0**
	comp=Z,52nm,0.7s							
KSM	**Kuching**	**18.30**	**119**	*e*P		**P**	**11 02 17.7**	**+2.3**
	comp=Z,30nm,1.4s							
JIRN	**Jiri**	**18.63**	**337**	*e*P		**P**	**11 02 19.6**	**+0.2**
	comp=Z,128nm,1.0s							
PKI	**Pulchoki**	**18.86**	**335**	*e*P		**P**	**11 02 21.7**	**-0.3**
	comp=Z,176nm,1.1s							
PKIN	**Phulchoki**	**18.88**	**335**	*e*P		**P**	**11 02 21.8**	**-0.2**
	comp=Z,171nm,1.3s							
GUN	**Gumba**	**18.98**	**337**	*e*P		**P**	**11 02 22.9**	**-0.3**
	comp=Z,158nm,1.2s							
DMN	**Daman**	**19.03**	**334**	*e*P		**P**	**11 02 24.1**	**+0.5**
	comp=Z,116nm,1.0s							
KKN	**Kakani**	**19.11**	**335**	*e*P		**P**	**11 02 25.0**	**+0.5**
	comp=Z,114nm,1.0s							
LSA	**Lhasa**	**19.26**	**352**	P		**P**	**11 02 25.5**	**-0.9**
LSA				S		**Sn**	**11 06 03.0**	**-0.2**
LSA				LR		LR		
	comp=Z,1μm,25.1s							
LSA	**Lhasa**	**19.26**	**352**	*e*P		**P**	**11 02 25.9**	**-0.5**
	comp=Z,43nm,1.3s							
GYA	**Guiyang**	**19.66**	**35**	*e*P		**Pn**	**11 02 35.0**	**+3.2**
GYA				PP		**PnPn**	**11 02 49.8**	**+4.2**
GYA				S		**S**	**11 06 09.3**	**-2.5**
GYA				SS		**SnSn**	**11 06 33.8**	**+6.8**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
GYA				pmax		pmax		
	comp=Z,80nm,4.8s							
GYA				LR		LR		
	comp=N,730nm,14.6s							
GYA				LR		LR		
	comp=E,340nm,16.0s							
GYA				LR		LR		
	comp=Z,450nm,16.3s							
KOLN	**Koldanda**	**19.84**	**331**	*e*P		**P**	**11 02 32.3**	**-0.3**
	comp=Z,125nm,0.7s							
DANN	**Dangsing**	**20.26**	**332**	*e*P		**P**	**11 02 37.6**	**+0.4**
	comp=Z,338nm,0.9s							
BHPL	**Bhopal**	**20.45**	**310**	*e*P		Pn	11 02 40.5	-0.6
POO	**Poona**	**21.29**	**294**	*e*P		**P**	**11 02 49.0**	**+0.8**
POO				AMB		AMB	11 03 23.3	
	comp=Z,44nm,1.8s							
CD2	**Chengdu**	**22.07**	**22**	P		**P**	**11 02 57.0**	**+0.6**
CD2				pP		**pP**	**11 03 01.3**	**+0.1**
CD2				sP		**sP**	**11 03 04.0**	**+0.6**
CD2				PP		**PnPn**	**11 03 22.8**	**+4.2**
CD2				S		**S**	**11 06 55.0**	**-4.2**
CD2				sS		sS	11 07 01.3	-5.8
CD2				SS		**SnSn**	**11 07 33.5**	**+7.5**
CD2				pmax		pmax		
	comp=Z,40nm,1.6s							
CD2				pmax		pmax		
	comp=Z,120nm,5.0s							
CD2				LR		LR		
	comp=E,1μm,13.0s							
CD2				LR		LR		
	comp=Z,1μm,11.8s							
COCO	**West Island**	**22.75**	**174**	*e*P		**P**	**11 03 07.1**	**+3.4**
	comp=Z,112nm,0.4s							
NDI	**New Delhi**	**24.10**	**321**	*e*P		**P**	**11 03 16.0**	**-1.0**
ENH	**Enshi**	**24.10**	**34**	*e*P		**P**	**11 03 17.6**	**-0.1**
	comp=Z,66nm,1.1s							
SMLA	**Simla**	**25.90**	**325**	*e*P		**P**	**11 03 33.4**	**+0.1**
LZH	**Lanzhou**	**26.84**	**17**	*e*P		P	11 03 47.5	+5.5
LZH				pP		pP	11 03 50.3	+3.1
LZH				sP		sP	11 03 52.0	+2.7
LZH				PP		PnPn	11 04 32.5	+8.6
LZH				*e*S		**S**	**11 08 20.5**	**+2.6**
LZH				sS		sS	11 08 28.0	+1.6
LZH				SS		SnSn	11 09 33.5	+11
LZH				pmax		pmax		
	comp=Z,99nm,1.5s							
LZH				pmax		pmax		
	comp=Z,280nm,8.0s							
LZH				LR		LR		
	comp=N,1μm,12.3s							
LZH				LR		LR		
	comp=E,650nm,11.2s							
LZH				LR		LR		
	comp=Z,2μm,17.0s							
XAN	**Xi'an**	**26.93**	**28**	P		**P**	**11 03 40.3**	**-2.4**
XAN				pP		**pP**	**11 03 49.0**	**+1.1**
XAN				sP		**sP**	**11 03 52.0**	**+2.0**
XAN				S		**S**	**11 08 14.0**	**-5.1**
XAN				pmax		pmax		
	comp=Z,2.0nm,1.3s							
XAN				pmax		pmax		
	comp=Z,33nm,8.4s							
XAN				LR		LR		
	comp=N,470nm,15.8s							
XAN				LR		LR		
	comp=E,340nm,17.9s							
XAN				LR		LR		
	comp=Z,290nm,15.7s							
DHRM	**DHARAMSHALA**	**27.23**	**325**	*e*P		**P**	**11 03 45.6**	**0.0**
DHRM				AMB		AMB	11 04 24.3	
	comp=Z,25nm,1.6s							
WHN	**Wuhan**	**27.25**	**40**	⇓P		P	11 03 51.5	+5.9
WHN				S		**S**	**11 08 19.3**	**-4.9**
WHN				LR		LR		
	comp=N,2μm,9.5s							
WHN				LR		LR		
	comp=E,290nm,5.4s							
WHN				LR		LR		
	comp=Z,1μm,18.1s							
GTA	**Gaotai**	**29.14**	**9**	*e*P		**P**	**11 04 00.5**	**-2.0**
GTA				pP		**pP**	**11 04 04.8**	**-2.9**
GTA				S		**S**	**11 08 52.8**	**-1.2**
GTA				SS		**SnSn**	**11 10 24.0**	**+5.2**
GTA				pmax		pmax		
	comp=Z,3.0nm,1.4s							
GTA				pmax		pmax		
	comp=Z,120nm,5.2s							
GTA				LR		LR		
	comp=N,630nm,19.7s							
GTA				LR		LR		

comp=E,400nm,19.0s
GTA LR LR
comp=Z,950nm,21.4s
KAPI Kappang 29.70 120 LR LR 11 16 19.2
comp=Z,695nm,18.6s,baz=284,slow=37
DAV Davao City (W) 31.10 94 LR LR 11 17 51.8
comp=Z,364nm,19.7s,baz=248,slow=38
NJ2 Nanjing 31.17 43 *e*P **P** **11 04 21.3 +1.0**
NJ2 S **S** **11 09 26.0 +0.3**
NJ2 pmax pmax
comp=Z,30nm,0.6s
NJ2 LR LR
comp=N,1μm,10.2s
NJ2 LR LR
comp=E,1μm,12.2s
NJ2 LR LR
comp=Z,2μm,11.5s
SSE Sheshan 32.23 47 P P 11 04 23.0 -6.7
SSE S **S** **11 09 37.0 -5.3**
SSE pmax pmax
comp=Z,15nm,0.5s
SSE pmax pmax
comp=Z,67nm,3.8s
SSE LR LR
comp=N,610nm,12.9s
SSE LR LR
comp=E,290nm,12.9s
SSE LR LR
comp=Z,550nm,10.6s
KSH Kashi 33.12 334 P **P** **11 04 35.0 -2.6**
KSH PP **PnPn** **11 05 46.3 -1.1**
KSH S **S** **11 09 51.0 -5.2**
KSH PcS **PcS** **11 11 05.3 -0.9**
KSH SS **SnSn** **11 11 50.0 -5.5**
KSH pmax pmax
comp=Z,9.0nm,0.7s
KSH pmax pmax
comp=Z,140nm,5.3s
KSH LR LR
comp=N,270nm,11.8s
KSH LR LR
comp=E,320nm,11.8s
KSH LR LR
comp=Z,520nm,18.6s
WMQ Urumqi 33.62 351 P **P** **11 04 44.0 +2.2**
WMQ pP **pP** **11 04 48.5 +1.5**
WMQ sP **sP** **11 04 51.0 +1.9**
WMQ PP **PP** **11 05 56.3 -1.7**
WMQ PcP **PcP** **11 07 25.0 +3.1**
WMQ S **S** **11 10 04.5 +0.7**
WMQ sS **sS** **11 10 11.8 -0.6**
WMQ ScP **ScP** **11 11 08.0 +2.1**
WMQ SS **SnSn** **11 12 08.0 +0.5**
WMQ ScS **ScS** **11 15 07.5 +0.4**
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ pmax pmax
comp=Z,200nm,4.0s
WMQ LR LR
comp=N,360nm,28.7s
WMQ LR LR
comp=E,410nm,20.0s
WMQ LR LR
comp=Z,620nm,27.0s
HHC Hu-ho-hao-te 33.80 24 *e*P **P** **11 04 43.5 +0.1**
HHC PP **PnPn** **11 05 56.8 +0.8**
HHC PcP **PcP** **11 07 22.5 0.0**
HHC S **S** **11 10 05.8 -0.9**
HHC ScP **ScP** **11 11 06.5 -0.2**
HHC PcS **PcS** **11 11 08.5 0.0**
HHC SS **SnSn** **11 12 12.0 +0.1**
HHC ScS **ScS** **11 15 05.8 -2.5**
HHC pmax pmax
comp=Z,43nm,0.6s
HHC pmax pmax
comp=Z,180nm,5.9s
HHC LR LR
comp=N,870nm,12.4s
HHC LR LR
comp=E,800nm,13.5s
HHC LR LR
comp=Z,720nm,12.4s
BJI Beijing 35.19 30 P **P** **11 04 56.3 +1.0**
BJI S **S** **11 10 26.3 -1.6**
BJI pmax pmax
comp=Z,9.0nm,0.5s
BJI pmax pmax
comp=Z,110nm,3.1s
BJI LR LR
comp=N,700nm,14.2s
BJI LR LR
comp=E,340nm,14.6s
BJI LR LR
comp=Z,270nm,19.9s
AAK Ala-Archa 36.32 335 *e*P **P** **11 05 06.6 +1.4**
comp=Z,8.4nm,0.9s
AAK Ala-Archa 36.32 335 P **P** **11 05 05.0 -0.2**
comp=Z,1.5nm,0.3s,baz=264,slow=8.5,SNR=5.7
AAK LR LR 11 21 38.9
comp=Z,954nm,21.7s,baz=131,slow=39
MK31 Makanchi Array 37.51 346 *e*P **P** **11 05 13.4 -1.7**
MKAR Makanchi Array 37.51 346 *e*P **P** **11 05 13.9 -1.3**
MKAR Makanchi Array 37.51 346 P **P** **11 05 13.8 -1.3**
comp=Z,4.6nm,0.7s,baz=165,slow=7.4,SNR=33
MKAR LR LR 11 24 42.7
comp=Z,389nm,19.6s,baz=167,slow=43
KKAR Karatay Array 38.46 332 *e*P **P** **11 05 22.1 -1.1**
comp=Z,11nm,1.0s
SONM Songino Array 38.52 13 P **P** **11 05 23.1 -0.6**
SONM Songino Array 38.52 13 P **P** **11 05 23.1 -0.6**
comp=Z,1.8nm,0.9s,baz=198,slow=9.4,SNR=9.5
SONM LR LR 11 22 48.4
comp=Z,969nm,19.1s,baz=192,slow=39
ULN Ulaanbaatar 38.70 14 *e*P **P** **11 05 24.4 -0.9**
comp=Z,6.6nm,1.0s
KSAR Wonju Array Be 40.34 43 P **P** **11 05 37.6 -1.3**
KSRS Korea Array 40.37 43 P **P** **11 05 37.6 -1.5**
comp=Z,1.2nm,0.7s,baz=243,slow=9.1,SNR=8.7
KSRS LR LR 11 25 30.3
comp=Z,212nm,18.5s,baz=238,slow=41
JNU Nakatsue 40.39 51 LR LR 11 24 01.5
comp=Z,285nm,18.1s,baz=121,slow=39
KURBB Kurchatov Arra 41.99 345 P **P** **11 05 51.3 -1.0**
comp=Z,4.1nm,0.8s,baz=162,slow=7.6,SNR=17
KURK Kurchatov 42.05 345 P **P** **11 05 51.3 -1.5**
FITZ Fitzroy Crossi 42.06 132 *e*P **P** **11 05 54.5 +1.2**
comp=Z,6.9nm,1.1s
FITZ Fitzroy Crossi 42.06 132 LR LR 11 27 21.4
comp=Z,346nm,18.0s,baz=313,slow=42
CN2 Changchun 42.70 34 *e*P **P** **11 05 59.3 +1.1**
CN2 *es*P **sP** **11 06 04.0 -1.6**
CN2 *e*S **S** **11 12 20.8 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=N,300nm,14.0s
CN2 LR LR
comp=E,200nm,14.0s
CN2 LR LR
comp=Z,300nm,15.0s
ZALV Zalesovo Beam 43.92 352 P **P** **11 06 06.7 -1.2**
ZALV Zalesovo Beam 43.92 352 P **P** **11 06 06.7 -1.2**
comp=Z,4.4nm,0.6s,baz=176,slow=8.4,SNR=18
ZALV LR LR 11 27 46.0
comp=Z,176nm,20.0s,baz=70,slow=41
MDJ Mudanjiang 45.52 35 P **P** **11 06 23.0 +2.2**
MDJ PcP **PcP** **11 08 01.0 +1.6**
MDJ PP **PP** **11 08 09.5 +2.1**
MDJ ScP **ScP** **11 11 55.3 +3.5**
MDJ S **S** **11 13 04.8 +2.7**
MDJ pmax pmax
comp=Z,6.0nm,0.8s
MDJ pmax pmax
comp=Z,120nm,13.6s
MDJ LR LR
comp=N,300nm,12.2s
MDJ LR LR
comp=E,170nm,10.9s
MDJ LR LR
comp=Z,500nm,14.1s
BVAR Borovoye Array 46.51 340 P **P** **11 06 27.5 -1.0**
BVAR Borovoye Array 46.51 340 P **P** **11 06 27.5 -1.0**
comp=Z,1.3nm,0.6s,baz=140,slow=7.7,SNR=9.1
BVAR LR LR 11 29 15.3
comp=Z,246nm,20.7s,baz=360,slow=40
BRVK Borovoye 46.57 340 *e*P **P** **11 06 28.3 -0.7**
comp=Z,2.1nm,0.8s
USRK Ussuriysk Arra 46.68 37 P **P** **11 06 29.5 -0.4**
comp=Z,1.5nm,0.8s,baz=212,slow=6.8,SNR=4.5
USRK LR LR 11 26 10.1
comp=Z,206nm,20.9s,baz=350,slow=36
MJAR Matsushiro Arr 47.28 49 P **P** **11 06 34.5 -0.4**
MJAR PcP **PcP** **11 08 05.6 -0.2**
MJAR Matsushiro Arr 47.28 49 P **P** **11 06 34.5 -0.4**
comp=Z,0.7nm,0.9s,baz=271,slow=8.0,SNR=3.6
MJAR PcP **PcP** **11 08 05.6 -0.2**
comp=Z,2.3nm,1.0s,baz=250,slow=5.3,SNR=6.4
MJAR LR LR 11 29 34.8
comp=Z,193nm,20.2s,baz=255,slow=40
ABKAR Akbulak array 47.97 330 *e*P **P** **11 06 39.2 -0.7**
comp=Z,4.6nm,0.7s
RAYN Ar Rayn 48.17 292 *e*P **P** **11 06 43.7 +1.7**
comp=Z,11nm,0.9s
NWAO Narrogin (SRO) 48.48 154 LR LR 11 27 52.4
comp=Z,381nm,19.2s,baz=342,slow=37
AKTO Aktyubinsk 49.68 330 P **P** **11 06 52.0 -1.1**
AKTO Aktyubinsk 49.68 330 P **P** **11 06 52.0 -1.1**
comp=Z,0.7nm,0.3s,baz=141,slow=12,SNR=4.3
WRA Warramunga Arr 49.74 128 P **P** **11 06 53.1 -0.8**
WRA Warramunga Arr 49.74 128 P **P** **11 06 53.1 -0.8**
comp=Z,7.3nm,1.0s,baz=304,slow=8.5,SNR=19
WRA LR LR 11 31 44.7
comp=Z,281nm,18.8s,baz=335,slow=41
WRAB Tennant Creek 49.74 127 *e*P **P** **11 06 53.6 -0.3**
comp=Z,7.5nm,0.8s
ATD Arta Tunnel 50.45 276 LR LR 11 25 06.6
comp=Z,153nm,18.6s,baz=191,slow=32
ASAR Alice Springs 51.55 132 P **P** **11 07 07.5 -0.1**
ASAR Alice Springs 51.55 132 P **P** **11 07 07.5 -0.1**
comp=Z,5.7nm,0.6s,baz=309,slow=6.8,SNR=89
ASAR LR LR 11 29 10.3
comp=Z,360nm,20.5s,baz=299,slow=36
GNI Garni 52.70 313 *e*P **P** **11 07 16.9 +0.8**
comp=Z,35nm,1.0s
GNI Garni 52.70 313 LR LR 11 33 03.2
comp=Z,383nm,21.2s,baz=104,slow=40
DGRG David-gareji 52.71 315 P **P** **11 07 18.9 +2.9**
ASAJ Asahikawa 53.31 42 LR LR 11 30 27.4
comp=Z,209nm,20.4s,baz=5.8,slow=37
DUS Dusheti 53.41 315 P P 11 07 25.0 +3.8
KBZ Khabaz 55.23 316 P **P** **11 07 34.5 +0.2**
KBZ Khabaz 55.23 316 P **P** **11 07 34.5 +0.2**
comp=Z,2.4nm,1.0s,baz=139,slow=19,SNR=3.2
KBZ LR LR 11 34 30.4
comp=Z,274nm,21.5s,baz=125,slow=40
ASF Jabal al Asfar 56.91 301 LR LR 11 34 39.4
comp=Z,198nm,20.2s,baz=324,slow=39
KMBO Kilima Mbogo 57.91 262 LR LR 11 32 12.6
comp=Z,139nm,18.9s,baz=96,slow=36
MMAI Mount Meron Ar 58.28 302 LR LR 11 37 21.9
comp=Z,277nm,18.1s,baz=95,slow=41
BRTR Keskin Array B 60.81 310 P **P** **11 08 12.2 -1.5**
BRTR Keskin Array B 60.81 310 P **P** **11 08 12.2 -1.5**
comp=Z,1.4nm,1.0s,baz=131,slow=5.6,SNR=6.0
BRTR LR LR 11 38 01.3
comp=Z,150nm,21.6s,baz=100,slow=40
STKA Stephens Creek 61.87 135 P **P** **11 08 20.7 -0.1**
STKA Stephens Creek 61.87 135 P **P** **11 08 20.7 -0.1**
comp=Z,5.7nm,0.9s,baz=294,slow=8.1,SNR=5.8
STKA LR LR 11 36 29.0
comp=Z,284nm,19.5s,baz=305,slow=37
PETK Petropavlovsk- 65.75 36 LR LR 11 42 07.2
comp=Z,128nm,19.7s,baz=258,slow=40
ARMA Armidale 68.50 129 *e*P **P** **11 09 06.8 +2.8**
comp=Z,15nm,1.2s
FINES FINESS Array B 70.42 332 P **P** **11 09 12.9 -2.2**
FINES FINESS Array B 70.42 332 P **P** **11 09 12.9 -2.2**
comp=Z,1.5nm,0.7s,baz=101,slow=9.9,SNR=4.8
FINES LR LR 11 46 45.9
comp=Z,329nm,19.2s,baz=121,slow=42
ARCES ARCESS Array B 72.80 340 P **P** **11 09 27.0 -2.4**
ARCES ARCESS Array B 72.80 340 P **P** **11 09 27.0 -2.4**
comp=Z,2.6nm,0.7s,baz=87,slow=5.0,SNR=7.4
ARCES LR LR 11 44 30.2
comp=Z,574nm,20.8s,baz=103,slow=38
TREC Trest 74.77 318 AMS AMS 11 45 10.0
comp=Z,200nm,14.4s
PRU Pruhonice 75.40 319 AMS AMS 11 46 00.0
comp=Z,100nm,14.9s
GERES GERESS Array B 75.94 318 P **P** **11 09 47.1 -1.1**
GERES GERESS Array B 75.94 318 P **P** **11 09 47.1 -1.1**
comp=Z,0.7nm,0.7s,baz=86,slow=5.9,SNR=6.8
GERES LR LR 11 48 24.7
comp=Z,120nm,19.1s,baz=90,slow=40
NKC Novy Kostel 76.75 319 AMS AMS 11 46 50.0
comp=Z,100nm,19.7s
BOSA Boshof 77.15 237 LR LR 11 38 36.7
comp=Z,220nm,19.1s,baz=165,slow=32
NOA NORSAR Array B 77.47 330 LR LR 11 49 55.4
comp=Z,184nm,19.5s,baz=105,slow=40
KEST Kesra 79.84 305 LR LR 11 50 46.2
comp=Z,42nm,19.8s,baz=251,slow=40
LPG La Plagne 80.84 315 *e*P **P** **11 10 16.7 +1.1**
comp=Z,8.5nm,0.9s
LPL La Plagne 80.85 315 *e*P **P** **11 10 16.2 +0.6**
comp=Z,13nm,1.1s
MAW Mawson 81.19 192 LR LR 11 40 31.9
comp=Z,263nm,21.7s,baz=186,slow=31
TORD Torodi Ar. Bea 90.13 283 P **P** **11 11 01.9 -0.3**
TORD PP **PP** **11 14 37.8 +2.1**
TORD Torodi Ar. Bea 90.13 283 P **P** **11 11 01.9 -0.3**
comp=Z,0.9nm,0.8s,baz=83,slow=4.3,SNR=4.9
TORD PP **PP** **11 14 37.8 +2.1**
comp=Z,1.4nm,1.0s,baz=91,slow=5.4,SNR=4.7
ILAR Eielson Array 92.20 22 P **P** **11 11 09.9 -0.9**
ILAR Eielson Array 92.20 22 P **P** **11 11 09.9 -0.9**
comp=Z,0.5nm,0.7s,baz=301,slow=3.5,SNR=6.2
ILAR LR LR 11 57 17.9
comp=Z,186nm,19.5s,baz=309,slow=39
VNDA Vanda 95.52 168 LR LR 11 48 58.9
comp=Z,207nm,21.7s,baz=275,slow=32
DBIC Dimbokro 97.72 278 LR LR 11 58 30.7
comp=Z,96nm,18.8s,baz=49,slow=37
HLID Hailey 120.12 24 *e*PKPdf **PKPdf** **11 16 52.7 +0.1**
SNOW Snow King Moun 121.58 21 *e*PKPdf **PKPdf** **11 16 55.5 -0.1**
REDW Red Top Meadow 121.63 21 *e*PKPdf **PKPdf** **11 16 55.5 -0.1**
NVAR Mina Array Bea 122.53 30 PKP **PKPdf** **11 16 57.2 -0.3**
NVAR Mina Array Bea 122.53 30 PKP **PKPdf** **11 16 57.2 -0.3**
comp=Z,1.3nm,0.7s,baz=323,slow=2.2,SNR=15
PDAR Pinedale Array 122.61 21 PKP **PKPdf** **11 16 56.6 -1.0**
PDAR Pinedale Array 122.61 21 PKP **PKPdf** **11 16 56.6 -1.0**
comp=Z,1.0nm,0.7s,baz=106,slow=0.3,SNR=11
HWUT Hardware Ranch 122.89 23 *e*PKPdf **PKPdf** **11 16 57.5 -0.6**
DUG Dugway 123.59 25 *e*PKPdf **PKPdf** **11 16 59.1 -0.3**
ECSD EROS Data Cent 125.05 10 *e*PKPdf **PKPdf** **11 17 01.5 -0.4**
MVU Marysvale 125.27 25 *e*PKPdf **PKPdf** **11 17 03.2 +0.4**
MSU Marysvale 125.27 25 *e*PKPdf **PKPdf** **11 17 03.3 +0.5**
ANMO Albuquerque 130.65 23 *e*PKPdf **PKPdf** **11 17 13.8 +0.7**
TXAR Lajitas Array 136.71 23 PKP **PKPdf** **11 17 25.3 +0.8**
TXAR Lajitas Array 136.71 23 PKP **PKPdf** **11 17 25.3 +0.8**
comp=Z,0.5nm,0.6s,baz=155,slow=0.7,SNR=9.4
JCT Junction City 137.00 18 *e*PKPdf **PKPdf** **11 17 26.9 +2.0**
BDFB Brasilia 142.98 258 PKP **PKPdf** **11 17 36.9 +0.7**
BDFB Brasilia 142.98 258 PKP **PKPdf** **11 17 36.9 +0.7**
comp=Z,1.2nm,0.4s,baz=56,slow=4.8,SNR=3.6
PLCA Paso Flores 147.10 201 PKPbc **PKPbc** **11 17 45.0 +0.4**
PLCA Paso Flores 147.10 201 PKPbc **PKPbc** **11 17 45.0 +0.4**
comp=Z,5.4nm,1.0s,baz=190,slow=4.5,SNR=8.6
CPUP Villa Florida 148.96 236 PKPbc **PKPbc** **11 17 48.5 -1.4**
CPUP Villa Florida 148.96 236 PKPbc **PKPbc** **11 17 48.5 -1.4**
comp=Z,4.4nm,0.9s,baz=80,slow=4.1,SNR=6.7

*IGIL **26** 11:01:00.6,36˚.75N×12˚.74W,h30km,ML1.9*
*MDD **26** 11:01:02.4±2.0,36˚.94N×12˚.30W,h0km,mb3.9/2,Error ellipse: s-maj=19.0km s-min=16.0km az=138.0,PRXIMO*
*INMG **26** 11:01:03.6±1.1,36˚.78N×12˚.72W,h10km,ML2.0, Error ellipse: s-maj=6.8km s-min=5.4km az=116.0*
*CSEM **26** 11:01:04.1±0.4,37˚.07N×12˚.18W,h10km,ML2.8/23, Error ellipse: s-maj=8.6km s-min=6.9km az=132.0*
ISC 26 11:01:01.9±3.9,37.0N±0.1×12.3W±0.2,h10km,n65,
σ1§11/110,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
PFVI	**Vila Bisbo**	**2.78**	**86**	*e*Pn	**Pn**	**11**	**01**	**46.9**	**+0.5**
PFVI				*e*Sn	**Sn**	**11**	**02**	**19.4**	**-0.6**
PFVI				A	A	11	02	21.5	
	4.0nm,0.2s								
PFVI	**Vila Bisbo**	**2.78**	**86**	Pn	**Pn**	**11**	**01**	**46.9**	**+0.5**
	2.6nm,0.1s,SNR=29								
PFVI				Sn	**Sn**	**11**	**02**	**19.5**	**-0.6**
	8.2nm,0.1s,SNR=7.5								
PTEO	**Sao Teotonio**	**2.90**	**78**	*e*Pn	**Pn**	**11**	**01**	**49.0**	**+0.9**
PTEO				*e*Sn	**Sn**	**11**	**02**	**23.0**	**0.0**
PTEO				A	A	11	02	26.6	
	2.9nm,0.3s								
PTEO	**Sao Teotonio**	**2.90**	**78**	Pn	**Pn**	**11**	**01**	**49.0**	**+0.9**
PTEO				Sn	**Sn**	**11**	**02**	**23.0**	**0.0**
	1.4nm,0.3s								
PTEO	**Sao Teotonio**	**2.90**	**78**	Pn	**Pn**	**11**	**01**	**49.0**	**+0.9**
PTEO				*e*Sn	**Sn**	**11**	**02**	**23.0**	**0.0**
	2.9nm,0.3s								
MORF	**Marmelete**	**2.93**	**83**	*e*Pn	**Pn**	**11**	**01**	**49.2**	**+0.6**
MORF				*e*Sn	**Sn**	**11**	**02**	**22.1**	**-1.7**
MORF				A	A	11	02	27.4	
	2.8nm,0.1s								
MORF	**Marmelete**	**2.93**	**83**	Pn	**Pn**	**11**	**01**	**49.2**	**+0.6**
MORF				Sn	**Sn**	**11**	**02**	**22.1**	**-1.7**
	2.8nm,0.1s								
MORF	**Marmelete**	**2.93**	**83**	Pn	**Pn**	**11**	**01**	**49.2**	**+0.6**
MORF				*e*Sn	**Sn**	**11**	**02**	**22.1**	**-1.7**
	2.8nm,0.1s								
PMAFR	**Mafra**	**3.08**	**50**	*e*Pn	**Pn**	**11**	**01**	**51.7**	**+1.1**
PMAFR				*e*Sn	**Sn**	**11**	**02**	**28.5**	**+1.1**
PMAFR				A	A	11	02	29.2	
	12nm,0.2s								
PMAFR	**Mafra**	**3.08**	**50**	Pn	**Pn**	**11**	**01**	**51.7**	**+1.1**
	1.9nm,0.1s,SNR=7.9								
PMAFR				Sn	**Sn**	**11**	**02**	**28.5**	**+1.1**
	22nm,0.2s,SNR=12								
PMAFR	**Mafra**	**3.08**	**50**	Pn	**Pn**	**11**	**01**	**51.7**	**+1.1**
	1.9nm,0.1s,SNR=7.9								
PMAFR				*e*Sn	**Sn**	**11**	**02**	**28.5**	**+1.1**
	12nm,0.2s								
PNCL	**Nicolau / Gran**	**3.19**	**69**	*e*Pn	**Pn**	**11**	**01**	**52.9**	**+0.8**
PNCL				*e*Sn	**Sn**	**11**	**02**	**30.3**	**+0.1**
PNCL				A	A	11	02	34.4	
	1.2nm,0.1s								
PNCL	**Nicolau / Gran**	**3.19**	**69**	*e*Pn	**Pn**	**11**	**01**	**52.9**	**+0.8**
PNCL				*e*Sn	**Sn**	**11**	**02**	**30.3**	**+0.1**
	1.2nm,0.1s								
PACT	**Alcochete**	**3.26**	**56**	*i* Pn	**Pn**	**11**	**01**	**54.7**	**+1.7**
PACT				*e*Sn	**Sn**	**11**	**02**	**33.9**	**+2.1**
PACT				A	A	11	02	35.5	
	9.1nm,0.3s								
MESJ	**Messejana**	**3.35**	**74**	*e*P	**Pn**	**11**	**01**	**55.2**	**+0.9**
MESJ				*e*S	**Sn**	**11**	**02**	**35.3**	**+1.2**
MESJ				AML	AML	11	02	37.4	
	comp=N,1.9nm,0.7s								
MESJ	**Messejana**	**3.35**	**74**	*e*P	**Pn**	**11**	**01**	**55.2**	**+0.9**
MESJ				*e*S	**Sn**	**11**	**02**	**35.3**	**+1.2**
MESJ	**Messejana**	**3.35**	**74**	Pn	**Pn**	**11**	**01**	**55.2**	**+0.9**
MESJ				Sn	**Sn**	**11**	**02**	**35.3**	**+1.2**
MESJ	**Messejana**	**3.35**	**74**	*e*P	**Pn**	**11**	**01**	**55.2**	**+0.9**
MESJ				*e*S	**Sn**	**11**	**02**	**35.3**	**+1.2**
PCVE	**Castro Verde**	**3.45**	**78**	*e*Pn	**Pn**	**11**	**01**	**57.1**	**+1.4**
PCVE				*e*Sn	**Sn**	**11**	**02**	**36.3**	**-0.3**
PCVE				A	A	11	02	39.1	
	comp=N,1.1nm,0.4s								
PCVE	**Castro Verde**	**3.45**	**78**	Pn	**Pn**	**11**	**01**	**57.1**	**+1.4**
PCVE				Sn	**Sn**	**11**	**02**	**36.3**	**-0.3**
	comp=N,1.1nm,0.4s								
PCVE	**Castro Verde**	**3.45**	**78**	Pn	**Pn**	**11**	**01**	**57.1**	**+1.4**
PCVE				*e*Sn	**Sn**	**11**	**02**	**36.3**	**-0.3**
	comp=N,1.1nm,0.4s								
MOE	**Montemor**	**3.48**	**63**	*e*Sn	**Sn**	**11**	**02**	**37.3**	**+0.1**
MOE	**Montemor**	**3.48**	**63**	Sn	**Sn**	**11**	**02**	**37.3**	**+0.1**
MOE	**Montemor**	**3.48**	**63**	Sn	**Sn**	**11**	**02**	**37.3**	**+0.1**
PBDV	**Barranco-do-Ve**	**3.50**	**85**	*e*Pn	**Pn**	**11**	**01**	**57.4**	**+1.0**
PBDV				*e*Sn	**Sn**	**11**	**02**	**37.8**	**0.0**
PBDV				A	A	11	02	39.2	
	comp=N,1.6nm,0.3s								
PBDV	**Barranco-do-Ve**	**3.50**	**85**	Pn	**Pn**	**11**	**01**	**57.4**	**+1.0**
PBDV				Sn	**Sn**	**11**	**02**	**37.8**	**0.0**
	comp=N,1.6nm,0.3s								
PBDV	**Barranco-do-Ve**	**3.50**	**85**	Pn	**Pn**	**11**	**01**	**57.4**	**+1.0**
PBDV				*e*Sn	**Sn**	**11**	**02**	**37.8**	**0.0**
	comp=N,1.6nm,0.3s								
PVAQ	**Vaqueiros**	**3.68**	**82**	*e*Pn	**Pn**	**11**	**02**	**00.0**	**+1.2**
PVAQ				*e*Sn	**Sn**	**11**	**02**	**41.3**	**-0.9**
PVAQ				A	A	11	02	44.3	
	comp=N,1.5nm,0.1s								
PVAQ	**Vaqueiros**	**3.68**	**82**	Pn	**Pn**	**11**	**02**	**00.0**	**+1.2**
PVAQ				Sn	**Sn**	**11**	**02**	**41.3**	**-0.9**
	comp=N,1.5nm,0.1s								
PVAQ	**Vaqueiros**	**3.68**	**82**	Pn	**Pn**	**11**	**02**	**00.0**	**+1.2**
PVAQ				*e*Sn	**Sn**	**11**	**02**	**41.3**	**-0.9**
	comp=N,1.5nm,0.1s								
EVO	**Evora**	**3.72**	**64**	*e*Sn	**Sn**	**11**	**02**	**42.7**	**-0.6**
EVO				A	A	11	02	51.3	
	comp=N,2.6nm,0.4s								
EVO	**Evora**	**3.72**	**64**	Sn	**Sn**	**11**	**02**	**42.7**	**-0.6**
	comp=N,2.6nm,0.4s								
EVO	**Evora**	**3.72**	**64**	*e*Sn	**Sn**	**11**	**02**	**42.7**	**-0.6**
	comp=N,2.6nm,0.4s								
PMTG	**Montargil**	**3.82**	**56**	*e*Pn	**Pn**	**11**	**02**	**01.5**	**+0.7**
PMTG				*e*Sn	**Sn**	**11**	**02**	**45.6**	**-0.1**
PMTG				A	A	11	02	49.5	
	comp=N,1.6nm,0.1s								
PMTG	**Montargil**	**3.82**	**56**	*e*Pn	**Pn**	**11**	**02**	**01.5**	**+0.7**
PMTG				*e*Sn	**Sn**	**11**	**02**	**45.6**	**-0.1**
	comp=N,1.6nm,0.1s								
EGRO	**El Granado**	**3.88**	**81**	Pn	**Pn**	**11**	**02**	**02.1**	**+0.6**
	comp=N,0.2nm,0.1s,SNR=13								
EGRO				Sn	**Sn**	**11**	**02**	**46.2**	**-0.9**
	comp=N,0.8nm,0.1s,SNR=7.9								
EGRO	**El Granado**	**3.88**	**81**	Pn	**Pn**	**11**	**02**	**02.1**	**+0.6**
	comp=N,0.2nm,0.1s,SNR=13								
EGRO				Sn	**Sn**	**11**	**02**	**46.2**	**-0.9**
	comp=N,0.8nm,0.1s,SNR=7.9								
PTOM	**Tomar**	**4.02**	**48**	*e*Sn	**Sn**	**11**	**02**	**52.2**	**+1.5**
PTOM				A	A	11	02	54.1	
	comp=N,5.6nm,0.2s								
PTOM	**Tomar**	**4.02**	**48**	Sn	**Sn**	**11**	**02**	**52.2**	**+1.5**
	comp=N,2.8nm,0.2s								
PTOM	**Tomar**	**4.02**	**48**	*e*Sn	**Sn**	**11**	**02**	**52.2**	**+1.5**
	comp=N,5.6nm,0.2s								
PESTR	**Estremoz**	**4.16**	**62**	*e*Pn	**Pn**	**11**	**02**	**05.9**	**+0.4**
PESTR				*e*Sn	**Sn**	**11**	**02**	**53.9**	**-0.2**
PESTR				A	A	11	02	59.9	
	comp=N,0.9nm,0.3s								
PESTR	**Estremoz**	**4.16**	**62**	Pn	**Pn**	**11**	**02**	**05.9**	**+0.4**
PESTR				Sn	**Sn**	**11**	**02**	**53.9**	**-0.2**
	comp=N,0.4nm,0.3s								
PESTR	**Estremoz**	**4.16**	**62**	Pn	**Pn**	**11**	**02**	**05.9**	**+0.4**
PESTR				*e*Sn	**Sn**	**11**	**02**	**53.9**	**-0.2**
	comp=N,0.9nm,0.3s								
PBAR	**Barrancos**	**4.34**	**73**	*e*Pn	**Pn**	**11**	**02**	**09.0**	**+1.1**
PBAR				*e*Sn	**Sn**	**11**	**02**	**58.4**	**-0.1**
PBAR				A	A	11	03	07.8	
	comp=N,0.6nm,0.3s								
PBAR	**Barrancos**	**4.34**	**73**	Pn	**Pn**	**11**	**02**	**09.0**	**+1.1**
PBAR				Sn	**Sn**	**11**	**02**	**58.4**	**-0.1**
	comp=N,0.6nm,0.3s								
PBAR	**Barrancos**	**4.34**	**73**	Pn	**Pn**	**11**	**02**	**09.0**	**+1.1**
PBAR				*e*Sn	**Sn**	**11**	**02**	**58.4**	**-0.1**
	comp=N,0.6nm,0.3s								
EBAD	**Badajoz**	**4.53**	**66**	Pn	**Pn**	**11**	**02**	**10.8**	**+0.3**
	comp=N,0.4nm,0.1s,SNR=6.8								
EBAD				Sn	**Sn**	**11**	**03**	**02.0**	**-1.3**
	comp=N,0.3nm,0.1s,SNR=7.9								
EBAD	**Badajoz**	**4.53**	**66**	Pn	**Pn**	**11**	**02**	**10.8**	**+0.3**
	comp=N,0.4nm,0.1s,SNR=6.8								
EBAD				Sn	**Sn**	**11**	**03**	**02.0**	**-1.3**
	comp=N,0.3nm,0.1s,SNR=7.9								
EMIN	**Mina Concepcio**	**4.54**	**79**	Pn	**Pn**	**11**	**02**	**10.8**	**+0.1**
	comp=N,0.1nm,0.0s,SNR=13								
EMIN				Sn	**Sn**	**11**	**03**	**02.5**	**-1.1**
	comp=N,0.2nm,0.1s,SNR=4.0								
EMIN	**Mina Concepcio**	**4.54**	**79**	Pn	**Pn**	**11**	**02**	**10.8**	**+0.1**
	comp=N,0.1nm,0.0s,SNR=13								
EMIN				Sn	**Sn**	**11**	**03**	**02.5**	**-1.1**
	comp=N,0.2nm,0.1s,SNR=4.0								
PMRV	**Marv??o**	**4.56**	**56**	*e*Sn	**Sn**	**11**	**03**	**03.2**	**-0.8**
PMRV				A	A	11	03	04.7	
	comp=N,0.8nm,0.1s								
PMRV	**Marv??o**	**4.56**	**56**	Sn	**Sn**	**11**	**03**	**03.2**	**-0.8**
	comp=N,0.8nm,0.1s								
PMRV	**Marv??o**	**4.56**	**56**	*e*Sn	**Sn**	**11**	**03**	**03.2**	**-0.8**
	comp=N,0.8nm,0.1s								
ECAB	**El Cabril**	**5.57**	**77**	Pn	**Pn**	**11**	**02**	**25.7**	**+0.8**

comp=N,0.5nm,0.1s,SNR=6.9
ECAB Sn **Sn** **11 03 27.6 -1.3**
comp=N,0.2nm,0.1s,SNR=4.0
ECAB El Cabril 5.57 77 Pn **Pn** **11 02 25.7 +0.8**
comp=N,0.5nm,0.1s,SNR=6.9
ECAB Sn **Sn** **11 03 27.6 -1.3**
comp=N,0.2nm,0.1s,SNR=4.0
MVO Moncorvo 5.83 43 Sn **Sn** **11 03 32.3 -3.2**
comp=N,0.3nm,0.1s,SNR=7.9
MVO Moncorvo 5.83 43 Sn **Sn** **11 03 32.3 -3.2**
comp=N,0.3nm,0.1s,SNR=7.9
ELOB Lobios 5.86 33 Sn **Sn** **11 03 33.7 -2.4**
comp=N,1.2nm,0.1s,SNR=7.1
ELOB Lobios 5.86 33 Sn **Sn** **11 03 33.7 -2.4**
comp=N,1.2nm,0.1s,SNR=7.1
EADA Adamuz 6.24 77 Pn **Pn** **11 02 34.5 +0.4**
comp=N,0.6nm,0.2s,SNR=7.9
EADA Sn **Sn** **11 03 43.5 -1.9**
comp=N,0.1nm,0.1s,SNR=7.9
EADA Adamuz 6.24 77 Pn **Pn** **11 02 34.5 +0.4**
comp=N,0.6nm,0.2s,SNR=7.9
EADA Sn **Sn** **11 03 43.5 -1.9**
comp=N,0.1nm,0.1s,SNR=7.9
EMAZ Mazaricos 6.46 22 Sn Sn 11 03 44.6 -6.3
comp=N,1.9nm,0.1s,SNR=7.9
ECAL Calabor 6.54 39 Sn **Sn** **11 03 50.8 -2.2**
comp=N,0.3nm,0.1s,SNR=7.9
ECAL Calabor 6.54 39 Sn **Sn** **11 03 50.8 -2.2**
comp=N,0.3nm,0.1s,SNR=7.9

IDC 26 11:08:30.6±2.0, 3°87N×126°13E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/23, mbtmp3.4/4, Error ellipse: s-maj=118.4km s-min=25.2km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.84**	**181**	P	P	11 13 25.8	+1.0
	0.8nm,0.7s,baz=354,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**25.00**	**161**	P	P	11 13 55.1	-1.3
	0.9nm,0.6s,baz=338,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**28.40**	**165**	P	P	11 14 27.4	+0.4
	0.2nm,0.4s,baz=337,slow=7.7,SNR=5.0						
MKAR	**Makanchi Array**	**57.10**	**325**	P	P	11 18 19.0	+0.1
	0.1nm,0.3s,baz=122,slow=7.1,SNR=5.2						

IDC 26 11:10:32.1±1.5, 4°18N×127°12E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/24, mbtmp3.8/6, Error ellipse: s-maj=105.6km s-min=18.7km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.19**	**184**	P	P	11 15 28.7	-1.4
	0.7nm,0.4s,baz=5.8,slow=8.5,SNR=5.5						
WRA	**Warramunga Arr**	**25.00**	**164**	P	P	11 15 58.0	+0.2
	1.7nm,0.7s,baz=348,slow=9.4,SNR=5.3						
ASAR	**Alice Springs**	**28.46**	**167**	P	P	11 16 29.6	+0.6
	0.3nm,0.4s,baz=338,slow=7.3,SNR=5.1						
STKA	**Stephens Creek**	**38.42**	**160**	P	P	11 17 55.6	+0.1
	2.1nm,0.7s,baz=343,slow=14,SNR=4.4						
MKAR	**Makanchi Array**	**57.41**	**325**	P	P	11 20 22.4	-0.2
	0.2nm,0.4s,baz=122,slow=7.0,SNR=7.4						
KURBB	**Kurchatov Arra**	**61.57**	**327**	P	P	11 20 51.2	0.0
	0.4nm,0.3s,baz=121,slow=7.5,SNR=6.8						

IDC 26 11:13:47.8±1.9, 10°37N×93°77E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.5/27, mbtmp3.7/5, Error ellipse: s-maj=71.3km s-min=21.6km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.47**	**31**	Pn	Pn	11 16 05.6	-0.1
	baz=220,slow=15,SNR=4.4						
MKAR	**Makanchi Array**	**37.59**	**347**	P	P	11 21 03.9	-0.2
	0.7nm,0.7s,baz=162,slow=8.3,SNR=6.1						
KURBB	**Kurchatov Arra**	**42.06**	**346**	P	P	11 21 41.3	+0.1
	0.3nm,0.3s,baz=161,slow=8.9,SNR=3.3						
WRA	**Warramunga Arr**	**50.02**	**127**	P	P	11 22 44.0	-0.5
	0.7nm,0.8s,baz=306,slow=8.4,SNR=2.3						
ASAR	**Alice Springs**	**51.80**	**131**	P	P	11 22 58.1	+0.2
	0.9nm,0.7s,baz=309,slow=6.7,SNR=12						

*BJI **26** 11:18:46.7, 10°.40N×94°.44E, h10km, mB4.9/19, mb4.5/28, Ms4.3/21, Ms7 4.0/21*
*ISCJB **26** 11:18:48.5±1.3, 10°.65N±0°.05×94°.41E±0°.04, h8km±9km, mb4.2/34, MS4.0/12, Error ellipse: s-maj=8.2km s-min=6.3km az=33.6*
*IDC **26** 11:18:48.6±0.6, 10°.64N×94°.45E, h0km, mb3.9/19, mb1 4.0/20, mb1mx3.9/30, mbtmp3.9/20, MS3.9/8, Ms1 3.9/8, ms1mx3.4/42, Error ellipse: s-maj=21.8km s-min=13.9km az=56.0*
*NEIC **26** 11:18:50.9±0.4, 10°.74N×94°.45E, h10km, mb4.5/8, Error ellipse: s-maj=12.8km s-min=7.4km az=60.0*

ISC 26 11:18:51.6±0.5, 10°.62N±0°.04×94°.48E±0°.05, h17km±2km, n93, σ1°90/141, mb4.4/34, MS4.0/13, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.99**	**301**	*e*P	Pn	11 19 23.0	-1.5
PBA				*ex*	x	11 19 38.6	
DGPR	**DIGLIPUR**	**2.96**	**329**	*e*P	**Pn**	**11 19 37.2**	**-0.7**
DGPR				*e*S	**Sn**	**11 20 11.8**	**-1.3**
CMBY	**CAMPBELL BAY**	**3.63**	**189**	*e*P	**Pn**	**11 19 48.5**	**+1.4**
KULM	**Kulim**	**8.09**	**130**	*e*Pn	**Pn**	**11 20 50.5**	**+2.1**
IPM	**Ipoh**	**8.90**	**133**	*e*Pn	**Pn**	**11 21 01.5**	**+1.9**
IPM				*e*Sn	**Sn**	**11 22 37.1**	**-2.6**
CMAR	**Chiang Mai Arr**	**8.91**	**28**	Pn	**Pn**	**11 20 58.1**	**-1.5**
CMAR	**Chiang Mai Arr**	**8.91**	**28**	Pn	**Pn**	**11 20 58.1**	**-1.5**
	baz=217,slow=14,SNR=10						
CMAR				LR	LR	11 24 26.0	
	comp=Z,279nm,18.6s,baz=329,slow=38						
PSI	**Prapat**	**8.93**	**150**	LR	LR	11 25 14.6	
	comp=Z,820nm,18.2s,baz=315,slow=43						
CHTO	**Chiang Mai**	**9.22**	**27**	*e*Pn	**Pn**	**11 21 02.4**	**-1.5**
VIS	**Vishakhapatnam**	**12.91**	**304**	*e*P	**Pn**	**11 21 53.2**	**-1.2**
VIS				AMB	AMB	11 22 05.9	
	comp=Z,41nm,0.5s						
SHL	**Shillong**	**15.07**	**351**	*e*P	**Pn**	**11 22 22.4**	**-1.6**
SHL				AMB	AMB	11 22 31.6	
	comp=Z,13nm,1.4s						
BOK	**Bokaro**	**15.45**	**329**	*e*P	**Pn**	**11 22 27.4**	**-1.5**
BOK				AMB	AMB	11 22 45.2	
	comp=Z,14nm,2.4s						
KMI	**Kunming**	**16.42**	**27**	P	**P**	**11 22 44.3**	**0.0**
KMI				pP	**pP**	**11 22 47.0**	**-2.0**
KMI				sP	**sP**	**11 22 48.8**	**-2.3**
KMI				PP	**PnPn**	**11 22 56.5**	**+5.6**
KMI				S	**Sn**	**11 25 44.5**	**+0.9**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KMI				pmax	pmax		
	comp=Z,180nm,3.5s						
KMI				LR	LR		
	comp=N,330nm,15.3s						
KMI				LR	LR		
	comp=E,380nm,10.0s						
KMI				LR	LR		
	comp=Z,310nm,11.9s						
HYB	**Hyderabad**	**16.86**	**295**	*i* P	P	11 22 55.0	+5.9
HYB	**Hyderabad**	**16.86**	**295**	*e*P	**Pn**	**11 22 47.3**	**+0.3**
QIZ	**Qiongzhong**	**17.03**	**59**	P	**Pn**	**11 22 49.3**	**+0.1**
QIZ				S	**Sn**	**11 25 59.8**	**+1.5**
QIZ				LR	LR		
	comp=E,260nm,8.7s						
QIZ				LR	LR		
	comp=Z,830nm,9.2s						
LSA	**Lhasa**	**19.24**	**351**	P	**P**	**11 23 14.5**	**-1.2**
LSA	**Lhasa**	**19.24**	**351**	*e*P	**P**	**11 23 14.2**	**-1.5**
	comp=Z,11nm,0.8s						
GYA	**Guiyang**	**19.51**	**35**	*e*P	**Pn**	**11 23 19.5**	**-0.1**
GYA				PP	**PnPn**	**11 23 38.5**	**+5.4**
GYA				S	**Sn**	**11 26 53.3**	**-5.1**
GYA				SS	**SnSn**	**11 27 19.0**	**+6.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,80nm,4.8s						
GYA				LR	LR		
	comp=N,650nm,14.0s						
GYA				LR	LR		
	comp=E,340nm,16.8s						
GYA				LR	LR		
	comp=Z,450nm,16.4s						
BHPL	**Bhopal**	**20.56**	**310**	*e*P	**P**	**11 23 28.5**	**-1.1**
BHPL				AMB	AMB	11 23 41.4	
	comp=Z,29nm,0.9s						
CD2	**Chengdu**	**21.95**	**22**	P	**P**	**11 23 45.0**	**+0.4**
CD2				pP	**pP**	**11 23 49.0**	**-0.4**
CD2				sP	**sP**	**11 23 52.0**	**+0.5**
CD2				PP	**PnPn**	**11 24 10.3**	**+3.8**
CD2				S	**S**	**11 27 41.3**	**-5.3**
CD2				SS	**SnSn**	**11 28 18.5**	**+5.8**
CD2				pmax	pmax		
	comp=Z,40nm,1.6s						
CD2				pmax	pmax		
	comp=Z,120nm,4.8s						
CD2				LR	LR		
	comp=N,500nm,14.2s						
CD2				LR	LR		
	comp=Z,360nm,9.5s						
ENH	**Enshi**	**24.03**	**33**	*e*P	**P**	**11 24 05.4**	**-0.5**
	comp=Z,36nm,1.2s						
NDI	**New Delhi**	**24.18**	**320**	*e*P	**P**	**11 24 05.0**	**-2.2**
SMLA	**Simla**	**25.97**	**324**	*e*P	**P**	**11 24 23.9**	**+0.5**
LZH	**Lanzhou**	**26.74**	**17**	*e*P	**P**	**11 24 30.5**	**-0.1**
LZH				pP	**pP**	**11 24 33.5**	**-2.1**
LZH				sP	**sP**	**11 24 35.3**	**-2.4**
LZH				PP	**PnPn**	**11 25 14.5**	**+2.5**
LZH				*e*S	**S**	**11 29 03.0**	**-2.8**
LZH				*e*SS	**SnSn**	**11 30 15.8**	**+6.0**
LZH				pmax	pmax		
	comp=Z,32nm,1.3s						
LZH				pmax	pmax		
	comp=Z,150nm,6.7s						
LZH				LR	LR		
	comp=N,400nm,11.2s						
LZH				LR	LR		
	comp=E,210nm,10.5s						
LZH				LR	LR		
	comp=Z,610nm,14.0s						
DHRM	**DHARAMSHALA**	**27.29**	**325**	*e*P	**P**	**11 24 32.6**	**-3.1**
GTA	**Gaotai**	**29.06**	**9**	P	**P**	**11 24 51.5**	**+0.2**
GTA				pP	**pP**	**11 24 56.0**	**-0.4**
GTA				sP	**sP**	**11 24 58.5**	**+0.1**
GTA				S	**S**	**11 29 43.3**	**+1.0**
GTA				sS	**sS**	**11 29 50.5**	**-0.1**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.8s						
GTA				pmax	pmax		
	comp=Z,290nm,5.0s						
GTA				LR	LR		
	comp=N,180nm,19.0s						
GTA				LR	LR		
	comp=E,140nm,19.5s						
GTA				LR	LR		
	comp=Z,220nm,20.4s						
KAPI	**Kappang**	**29.57**	**120**	LR	LR	11 37 08.6	
	comp=Z,180nm,18.2s,baz=269,slow=37						
NJ2	**Nanjing**	**31.01**	**43**	*e*P	**P**	**11 25 08.5**	**+0.1**
KSH	**Kashi**	**33.16**	**333**	P	**P**	**11 25 30.3**	**+2.9**
KSH				sP	**sP**	**11 25 36.8**	**+2.3**
KSH				PP	**PP**	**11 26 42.3**	**-0.2**
KSH				S	**S**	**11 30 49.3**	**+2.9**
KSH				sS	**sS**	**11 30 56.5**	**+1.7**
KSH				PcS	**PcS**	**11 31 56.5**	**+0.7**
KSH				SS	**SnSn**	**11 32 50.3**	**+4.3**
KSH				pmax	pmax		
	comp=Z,15nm,1.0s						
KSH				pmax	pmax		
	comp=Z,120nm,4.9s						
KSH				LR	LR		
	comp=N,130nm,7.4s						
KSH				LR	LR		
	comp=E,120nm,7.6s						
KSH				LR	LR		
	comp=Z,140nm,12.0s						
WMQ	**Urumqi**	**33.60**	**351**	P	**P**	**11 25 31.8**	**+0.7**
WMQ				pP	**pP**	**11 25 36.3**	**+0.1**
WMQ				sP	**sP**	**11 25 38.8**	**+0.6**
WMQ				PP	**PnPn**	**11 26 43.8**	**+0.9**
WMQ				PcP	**PcP**	**11 28 13.3**	**+2.0**
WMQ				S	**S**	**11 30 51.5**	**-1.5**
WMQ				ScP	**ScP**	**11 31 56.0**	**+0.6**
WMQ				SS	**SnSn**	**11 32 54.0**	**-2.5**
WMQ				ScS	**ScS**	**11 35 55.5**	**-1.1**
WMQ				pmax	pmax		
	comp=Z,14nm,1.2s						
WMQ				LR	LR		
	comp=N,170nm,24.5s						
WMQ				LR	LR		
	comp=E,180nm,29.4s						
WMQ				LR	LR		
	comp=Z,140nm,30.6s						
HHC	**Hu-ho-hao-te**	**33.68**	**24**	*e*P	**P**	**11 25 31.5**	**-0.4**
HHC				PP	**PnPn**	**11 26 43.5**	**-0.5**
HHC				PcP	**PcP**	**11 28 11.8**	**+0.1**
HHC				S	**S**	**11 30 52.8**	**-1.6**
HHC				ScP	**ScP**	**11 31 55.0**	**-0.8**
HHC				PcS	**PcS**	**11 31 57.0**	**-0.6**
HHC				SS	**SnSn**	**11 32 57.3**	**-1.3**
HHC				ScS	**ScS**	**11 35 55.0**	**-2.2**
HHC				pmax	pmax		
	comp=Z,21nm,0.6s						
HHC				pmax	pmax		
	comp=Z,340nm,6.1s						
HHC				LR	LR		
	comp=N,500nm,13.5s						
HHC				LR	LR		
	comp=E,500nm,12.7s						
HHC				LR	LR		
	comp=Z,330nm,12.7s						
AAK	**Ala-Archa**	**36.35**	**335**	*e*P	**P**	**11 25 54.2**	**-0.8**
	comp=Z,5.3nm,0.8s						
AAK	**Ala-Archa**	**36.35**	**335**	P	**P**	**11 25 53.2**	**-1.8**
	comp=Z,1.7nm,0.4s,baz=165,slow=11,SNR=5.7						
AAK				LR	LR	11 42 38.3	
	comp=Z,169nm,21.1s,baz=134,slow=39						
MK31	**Makanchi Array**	**37.51**	**346**	*e*P	**P**	**11 26 03.4**	**-1.2**
MKAR	**Makanchi Array**	**37.51**	**346**	*e*P	**P**	**11 26 03.8**	**-0.8**
MKAR	**Makanchi Array**	**37.51**	**346**	P	**P**	**11 26 02.7**	**-1.9**
	comp=Z,8.2nm,0.8s,baz=162,slow=8.3,SNR=11						
MKAR				LR	LR	11 45 30.6	
	comp=Z,91nm,18.9s,baz=140,slow=43						
SONM	**Songino Array**	**38.43**	**13**	P	**P**	**11 26 12.1**	**-0.4**
SONM				PcP	**PcP**	**11 28 27.6**	**+1.9**
SONM	**Songino Array**	**38.43**	**13**	P	**P**	**11 26 12.1**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=212,slow=5.3,SNR=8.3						
SONM				PcP	**PcP**	**11 28 27.6**	**+1.9**
	comp=Z,0.9nm,0.8s,baz=206,slow=2.2,SNR=3.7						
SONM				LR	LR	11 43 26.6	
	comp=Z,302nm,19.6s,baz=187,slow=38						
KKAR	**Karatay Array**	**38.50**	**331**	*e*P	**P**	**11 26 12.9**	**-0.1**
	comp=Z,10.0nm,1.1s						
KSAR	**Wonju Array Be**	**40.18**	**43**	P	**P**	**11 26 26.8**	**-0.3**
KSRS	**Korea Array**	**40.21**	**43**	P	**P**	**11 26 26.8**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=250,slow=9.2,SNR=5.0						
KURBB	**Kurchatov Arra**	**41.99**	**345**	P	**P**	**11 26 41.0**	**-0.9**
	comp=Z,7.0nm,0.9s,baz=162,slow=8.2,SNR=14						
KURK	**Kurchatov**	**42.05**	**345**	P	**P**	**11 26 41.0**	**-1.4**
CN2	**Changchun**	**42.55**	**33**	*e*P	**P**	**11 26 47.5**	**+1.0**
CN2				*e*sP	**sP**	**11 26 53.0**	**-0.7**
CN2				*e*S	**S**	**11 33 07.5**	**-0.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=N,100nm,15.0s						
CN2				LR	LR		
	comp=E,300nm,15.0s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
HIA	**Hailar**	**43.88**	**24**	*e*P	**P**	**11 26 57.2**	**0.0**
	comp=Z,6.3nm,0.5s						
ZALV	**Zalesovo Beam**	**43.90**	**352**	P	**P**	**11 26 56.2**	**-1.0**
ZALV	**Zalesovo Beam**	**43.90**	**352**	P	**P**	**11 26 56.2**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=178,slow=7.4,SNR=6.0						
ZALV				LR	LR	11 47 43.5	
	comp=Z,87nm,20.6s,baz=250,slow=40						
MDJ	**Mudanjiang**	**45.37**	**35**	P	**P**	**11 27 09.5**	**+0.4**
MDJ				pmax	pmax		
	comp=Z,6.0nm,2.1s						
BVAR	**Borovoye Array**	**46.53**	**340**	P	**P**	**11 27 17.6**	**-0.5**
BVAR	**Borovoye Array**	**46.53**	**340**	P	**P**	**11 27 17.6**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=222,slow=37,SNR=2.9						
USRK	**Ussuriysk Arra**	**46.53**	**37**	P	**P**	**11 27 17.9**	**-0.3**
	comp=Z,3.5nm,0.9s,baz=210,slow=6.4,SNR=5.2						
BRVK	**Borovoye**	**46.59**	**340**	*e*P	**P**	**11 27 20.6**	**+1.9**
	comp=Z,4.6nm,0.8s						
MJAR	**Matsushiro Arr**	**47.10**	**49**	P	**P**	**11 27 23.9**	**+0.9**
MJAR				PcP	**PcP**	**11 28 55.2**	**+0.5**
MJAR	**Matsushiro Arr**	**47.10**	**49**	P	**P**	**11 27 23.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=220,slow=2.8,SNR=4.8						
MJAR				PcP	**PcP**	**11 28 55.2**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=257,slow=4.5,SNR=4.0						
ABKAR	**Akbulak array**	**48.02**	**330**	*e*P	**P**	**11 27 29.1**	**-0.7**
	comp=Z,5.9nm,0.9s						
WRA	**Warramunga Arr**	**49.62**	**128**	P	**P**	**11 27 41.2**	**-1.4**
WRA	**Warramunga Arr**	**49.62**	**128**	P	**P**	**11 27 41.2**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=306,slow=8.4,SNR=2.8						
WRAB	**Tennant Creek**	**49.62**	**128**	*e*P	**P**	**11 27 45.4**	**+2.9**
	comp=Z,4.7nm,0.8s						
AKTO	**Aktyubinsk**	**49.73**	**330**	P	**P**	**11 27 41.7**	**-1.2**
AKTO	**Aktyubinsk**	**49.73**	**330**	P	**P**	**11 27 41.7**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=261,slow=13,SNR=2.7						
ASAR	**Alice Springs**	**51.45**	**132**	P	**P**	**11 27 54.9**	**-1.5**
ASAR	**Alice Springs**	**51.45**	**132**	P	**P**	**11 27 54.9**	**-1.5**
	comp=Z,1.3nm,0.6s,baz=308,slow=6.8,SNR=16						
BRTR	**Keskin Array B**	**60.92**	**310**	P	**P**	**11 29 02.3**	**-1.7**
BRTR	**Keskin Array B**	**60.92**	**310**	P	**P**	**11 29 02.3**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=132,slow=7.6,SNR=3.0						
STKA	**Stephens Creek**	**61.77**	**135**	P	**P**	**11 29 07.8**	**-1.8**
STKA	**Stephens Creek**	**61.77**	**135**	P	**P**	**11 29 07.8**	**-1.8**
	comp=Z,1.7nm,0.9s,baz=318,slow=12,SNR=2.4						
FINES	**FINESS Array B**	**70.46**	**332**	P	**P**	**11 30 04.3**	**-0.7**
FINES	**FINESS Array B**	**70.46**	**332**	P	**P**	**11 30 04.3**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=89,slow=7.6,SNR=2.8						
ARCES	**ARCESS Array B**	**72.81**	**340**	P	**P**	**11 30 18.4**	**-0.6**
ARCES	**ARCESS Array B**	**72.81**	**340**	P	**P**	**11 30 18.4**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=106,slow=7.7,SNR=4.4						
GERES	**GERESS Array B**	**76.02**	**318**	P	**P**	**11 30 37.4**	**-0.8**
GERES	**GERESS Array B**	**76.02**	**318**	P	**P**	**11 30 37.4**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=79,slow=5.1,SNR=2.1						
LPG	**La Plagne**	**80.94**	**315**	*e*P	**P**	**11 31 05.4**	**-0.3**
	comp=Z,5.8nm,0.6s						
LPL	**La Plagne**	**80.95**	**315**	*e*P	**P**	**11 31 05.8**	**+0.2**
MAW	**Mawson**	**81.27**	**192**	LR	LR	12 00 07.4	
	comp=Z,217nm,19.9s,baz=80,slow=30						
TORD	**Torodi Ar. Bea**	**90.30**	**283**	P	**P**	**11 31 52.6**	**+0.1**
TORD				PP	**PP**	**11 35 29.2**	**+2.7**
TORD	**Torodi Ar. Bea**	**90.30**	**283**	P	**P**	**11 31 52.6**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=67,slow=4.2,SNR=3.5						
TORD				PP	**PP**	**11 35 29.2**	**+2.7**
	comp=Z,1.2nm,1.0s,baz=63,slow=6.5,SNR=5.3						
ILAR	**Eielson Array**	**92.09**	**22**	P	**P**	**11 32 00.4**	**+0.6**
ILAR	**Eielson Array**	**92.09**	**22**	P	**P**	**11 32 00.4**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=322,slow=34,SNR=2.6						
SNOW	**Snow King Moun**	**121.47**	**21**	*e*PKPdf	**PKPdf**	**11 37 45.6**	**+0.7**
REDW	**Red Top Meadow**	**121.52**	**21**	*e*PKPdf	**PKPdf**	**11 37 46.2**	**+1.2**
NVAR	**Mina Array Bea**	**122.40**	**30**	PKP	**PKPdf**	**11 37 48.4**	**+1.6**
NVAR	**Mina Array Bea**	**122.40**	**30**	PKP	**PKPdf**	**11 37 48.4**	**+1.6**
	comp=Z,1.0nm,0.7s,baz=304,slow=1.0,SNR=3.6						
PDAR	**Pinedale Array**	**122.50**	**21**	PKP	**PKPdf**	**11 37 47.7**	**+0.8**
PDAR	**Pinedale Array**	**122.50**	**21**	PKP	**PKPdf**	**11 37 47.7**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=202,slow=0.8,SNR=3.8						
ANMO	**Albuquerque**	**130.53**	**23**	*e*PKPdf	**PKPdf**	**11 38 03.4**	**+1.0**
TXAR	**Lajitas Array**	**136.59**	**23**	PKP	**PKPdf**	**11 38 15.1**	**+1.3**
TXAR	**Lajitas Array**	**136.59**	**23**	PKP	**PKPdf**	**11 38 15.1**	**+1.3**
	comp=Z,3.0nm,0.7s,baz=48,slow=1.3,SNR=3.2						
PLCA	**Paso Flores**	**147.22**	**201**	PKPbc	**PKPab**	**11 38 35.7**	**-0.5**
PLCA	**Paso Flores**	**147.22**	**201**	PKPbc	**PKPab**	**11 38 35.7**	**-0.5**
	comp=Z,4.4nm,1.1s,baz=224,slow=6.9,SNR=3.6						
CPUP	**Villa Florida**	**149.13**	**236**	PKPbc	**PKPbc**	**11 38 41.3**	**+1.4**
CPUP	**Villa Florida**	**149.13**	**236**	PKPbc	**PKPbc**	**11 38 41.3**	**+1.4**
	comp=Z,2.9nm,0.8s,baz=250,slow=16,SNR=5.2						

IDC 26 11:25:43.4±12.0, 10°17N×94°23E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.3/25, mbtmp3.6/3, Error ellipse: s-maj=690.4km s-min=29.8km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.88**	**347**	P	P	11 33 02.0	-0.1
	0.5nm,0.7s,baz=159,slow=7.3,SNR=5.2						
ZALV	**Zalesovo Beam**	**44.31**	**352**	P	P	11 33 54.8	-0.1
	0.5nm,0.5s,baz=134,slow=4.2,SNR=2.1						
ASAR	**Alice Springs**	**51.33**	**131**	P	P	11 34 49.8	-0.1
	0.7nm,1.1s,baz=308,slow=6.6,SNR=4.2						

IDC 26 11:29:58.9±1.9, 10°71N×93°50E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.4/27, mbtmp3.6/5, ML4.0/1, Error ellipse: s-maj=70.1km s-min=21.6km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.33**	**34**	Pn	Pn	11 32 14.2	-0.5
	0.4nm,0.3s,baz=221,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**37.20**	**347**	P	P	11 37 11.5	-0.3
	0.2nm,0.5s,baz=152,slow=4.8,SNR=7.3						
KURBB	**Kurchatov Arra**	**41.66**	**346**	P	P	11 37 49.1	+0.2
	0.4nm,0.2s,baz=173,slow=6.9,SNR=2.8						
WRA	**Warramunga Arr**	**50.44**	**127**	P	P	11 38 58.2	-0.5
	0.4nm,0.7s,baz=297,slow=8.6,SNR=3.2						
ASAR	**Alice Springs**	**52.23**	**131**	P	P	11 39 12.4	+0.3
	0.5nm,0.6s,baz=309,slow=6.8,SNR=10						

IDC 26 11:33:26.1±2.0, 10°64N×93°91E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/26, mbtmp3.6/6, Error ellipse: s-maj=71.1km s-min=20.7km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.17**	**32**	Pn	Pn	11 35 38.8	-1.0
	baz=216,slow=14,SNR=4.4						
MKAR	**Makanchi Array**	**37.36**	**347**	P	P	11 40 41.3	+0.9
	0.5nm,0.6s,baz=166,slow=8.2,SNR=7.3						
SONM	**Songino Array**	**38.54**	**14**	P	P	11 40 51.3	+0.8
	0.3nm,0.3s,baz=200,slow=12,SNR=2.7						
ZALV	**Zalesovo Beam**	**43.80**	**352**	P	P	11 41 31.7	-1.8
	0.7nm,0.4s,baz=169,slow=8.7,SNR=3.0						
WRA	**Warramunga Arr**	**50.08**	**127**	P	P	11 42 23.1	0.0
	0.6nm,0.7s,baz=304,slow=8.5,SNR=3.5						
ASAR	**Alice Springs**	**51.88**	**131**	P	P	11 42 36.5	-0.2
	0.5nm,0.6s,baz=305,slow=6.1,SNR=

ZALV	**Zalesovo Beam**	**43.90**	**352**	P	**P**	**11 42 18.2**	**-0.8**	
ZALV	**Zalesovo Beam**	**43.90**	**352**	P	**P**	**11 42 18.2**	**-0.8**	
	3.5nm,0.9s,baz=168,slow=7.6,SNR=5.4							
BVAR	**Borovoye Array**	**46.51**	**340**	P	**P**	**11 42 38.5**	**-1.3**	
BVAR	**Borovoye Array**	**46.51**	**340**	P	**P**	**11 42 38.5**	**-1.3**	
	1.0nm,0.8s,baz=133,slow=6.5,SNR=4.0							
MJAR	**Matsushiro Arr**	**47.17**	**49**	P	**P**	**11 42 46.4**	**+1.2**	
MJAR	**Matsushiro Arr**	**47.17**	**49**	P	**P**	**11 42 46.4**	**+1.2**	
	0.8nm,1.0s,baz=244,slow=14,SNR=4.4							
ABKAR	**Akbulak array**	**47.99**	**330**	*e*P	**P**	**11 42 50.3**	**-0.9**	
	0.8nm,0.6s							
WRA	**Warramunga Arr**	**49.67**	**128**	P	**P**	**11 43 04.8**	**+0.2**	
WRA	**Warramunga Arr**	**49.67**	**128**	P	**P**	**11 43 04.8**	**+0.2**	
	3.9nm,1.0s,baz=305,slow=8.4,SNR=9.4							
WRAB	**Tennant Creek**	**49.68**	**128**	*e*P	**P**	**11 43 05.5**	**+0.8**	
	8.8nm,1.2s							
ASAR	**Alice Springs**	**51.50**	**132**	P	**P**	**11 43 18.9**	**+0.5**	
ASAR	**Alice Springs**	**51.50**	**132**	P	**P**	**11 43 18.9**	**+0.5**	
	4.5nm,0.9s,baz=308,slow=6.2,SNR=17							
GNI	**Garni**	**52.75**	**313**	*e*P	**P**	**11 43 27.9**	**+0.2**	
	21nm,1.2s							
ASF	**Jabal al Asfar**	**56.99**	**301**	LR	LR	12 11 43.6		
	comp=Z,57nm,18.9s,baz=246,slow=40							
BRTR	**Keskin Array B**	**60.87**	**310**	P	**P**	**11 44 23.8**	**-1.6**	
BRTR	**Keskin Array B**	**60.87**	**310**	P	**P**	**11 44 23.8**	**-1.6**	
	1.1nm,0.9s,baz=138,slow=10.0,SNR=3.6							
GERES	**GERESS Array B**	**75.98**	**318**	P	**P**	**11 46 01.5**	**+1.9**	
GERES	**GERESS Array B**	**75.98**	**318**	P	**P**	**11 46 01.5**	**+1.9**	
	0.2nm,0.5s,baz=81,slow=4.2,SNR=3.6							
NVAR	**Mina Array Bea**	**122.45**	**30**	PKP	**PKPdf**	**11 53 09.2**	**+0.8**	
NVAR	**Mina Array Bea**	**122.45**	**30**	PKP	**PKPdf**	**11 53 09.2**	**+0.8**	
	0.4nm,0.5s,baz=316,slow=1.5,SNR=5.5							
PDAR	**Pinedale Array**	**122.54**	**21**	PKP	**PKPdf**	**11 53 08.2**	**-0.4**	
PDAR	**Pinedale Array**	**122.54**	**21**	PKP	**PKPdf**	**11 53 08.2**	**-0.4**	
	0.4nm,0.7s,baz=352,slow=3.0,SNR=4.1							
TXAR	**Lajitas Array**	**136.63**	**23**	PKP	**PKPdf**	**11 53 36.7**	**+1.3**	
TXAR	**Lajitas Array**	**136.63**	**23**	PKP	**PKPdf**	**11 53 36.7**	**+1.3**	
	0.3nm,0.6s,baz=182,slow=1.4,SNR=6.3							

IDC 26 11:41:08.2±7.1, 11°30N×95°25E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/26, mbtmp3.6/4, Error ellipse: s-maj=441.0km s-min=25.8km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.04**	**345**	P	P	11 48 20.2	+0.3
	0.2nm,0.6s,baz=159,slow=7.8,SNR=5.0						
KURBB	**Kurchatov Arra**	**41.55**	**344**	P	P	11 48 56.9	-0.5
	0.3nm,0.2s,baz=172,slow=7.5,SNR=4.5						
ZALV	**Zalesovo Beam**	**43.35**	**351**	P	P	11 49 12.0	-0.1
	0.4nm,0.3s,baz=174,slow=4.5,SNR=3.8						
ASAR	**Alice Springs**	**51.35**	**133**	P	P	11 50 14.8	-0.2
	0.5nm,0.7s,baz=311,slow=6.5,SNR=8.8						

IDC 26 11:42:51.4±3.3, 10°44N×93°92E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/25, mbtmp3.6/4, Error ellipse: s-maj=131.8km s-min=23.8km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.55**	**347**	P	P	11 50 07.3	-0.1
	0.9nm,0.7s,baz=160,slow=8.3,SNR=7.3						
SONM	**Songino Array**	**38.73**	**13**	P	P	11 50 17.2	-0.2
	0.3nm,0.3s,baz=206,slow=6.3,SNR=3.1						
WRA	**Warramunga Arr**	**49.95**	**127**	P	P	11 51 46.6	-0.9
	0.9nm,1.1s,baz=304,slow=8.4,SNR=2.3						
ASAR	**Alice Springs**	**51.74**	**131**	P	P	11 52 01.7	+0.7
	0.4nm,0.6s,baz=309,slow=6.6,SNR=6.0						

ISCJB ***26*** *11:55:41.6±0.9, 10°66N±0°03×94°21E±0°03, h3km±6km, mb4.6/61, MS4.3/55, Error ellipse: s-maj=6.2km s-min=4.6km az=29.4*

IDC ***26*** *11:55:42.1±0.6, 10°60N×94°14E, h0km, mb4.2/22, mb1 4.3/24, mb1mx4.2/32, mbtmp4.2/24, ML3.9/2, MS4.2/38, Ms1 4.2/38, ms1mx4.1/46, Error ellipse: s-maj=20.9km s-min=12.3km az=55.0*

BJI ***26*** *11:55:43.9, 10°82N×94°19E, h10km, mB5.0/31, mb4.6/42, Ms4.7/42, Ms7 4.5/39*

NEIC ***26*** *11:55:44.0±0.3, 10°61N×94°19E, h10km, mb4.8/13, Error ellipse: s-maj=10.6km s-min=5.6km az=55.0*

MOS ***26*** *11:55:46.5±1.7, 10°81N×94°39E, h33km, mb5.1/17, MS4.5/5, Error ellipse: s-maj=11.8km s-min=6.1km az=105.2*

BKK ***26*** *11:55:48.8±0.4, 11°N±4°×9°4E±°, h10km, M4.8/12, mB5.2/6, mb4.8/12, MLv4.9/4, Mw(mB)4.6/6*

GCMT ***26*** *11:55:51.1±0.2, 10°77N×94°53E, h12km, MW5.1, Moment Tensor Solution. s34,c43; s79,c138; Moment tensor: Scale 10¹⁶Nm; Mrr-4.90±.11; Mθθ4.21±.10; Mφφ0.70±.11; Mrθ1.68±.34; Mrφ1.68±.09; Mθφ-0.16±.40; Best double couple: M₀5.20000×10¹⁶ NP1:φ=60.00000°, δ37.00000°, λ-103.00000°. NP2:φ=257.00000°, δ54.00000°, λ-80.00000°. Principal axes: T 5.1100, Plg9.0000°, Azm339.0000°; N 0.1300, Plg8.0000°, Azm71.0000°; P -5.2400, Plg78.0000°, Azm203.0000°; Data Used: II IU IC G CN.*

DJA ***26*** *11:55:54.7±0.8, 11°N±4°×9°4E±°, h92km±9km, M4.7/12, mB5.3/9, mb4.5/12, MLv4.7/1, Mw(mB)4.7/9*

ISC 26 11:55:44.8±0.4, 10°64N±0°04×94°19E±0°04, h14km±1km, n208, σ1°74/238, mb4.6/61, MS4.2/56, 7C-2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.74**	**305**	*e*P	Pn	11 56 13.6	-1.1
PBA				*e*S	Sn	11 56 37.3	+0.6
DGPR	**DIGLIPUR**	**2.81**	**334**	*e*P	**Pn**	**11 56 30.2**	**+0.8**
DGPR				AMB	AMB	11 56 56.2	
	comp=Z,595nm,2.0s						
DGPR				*ex*	**Sn**	**11 56 57.4**	**-5.6**
CMBY	**CAMPBELL BAY**	**3.62**	**184**	*e*P	**Pn**	**11 56 41.5**	**+1.0**
CMBY				*ex*	**Sb**	**11 57 30.1**	**-2.3**
PKDT	**Phuket**	**4.92**	**123**	P	Pn	11 57 02.7	+4.3
BSI	**Banda Aceh**	**5.23**	**168**	P	Pn	11 57 08.4	+5.7
	comp=Z,144nm,1.2s,comp=Z,3μmcomp=Z,0.6nm						
SKLT	**Songkhla**	**7.23**	**118**	P	**Pn**	**11 57 30.2**	**+0.1**
	comp=Z,37nm,0.7s,comp=Z,0.6nm						
KCSI	**Kotacane, Aceh**	**7.92**	**153**	P	Pn	11 57 43.2	+3.6
	comp=Z,50nm,1.5s,comp=Z,1μm						
KULM	**Kulim**	**8.32**	**129**	*e*Pn	**Pn**	**11 57 43.3**	**-1.8**
KULM				*e*Sn	Sn	11 59 11.5	-7.4
KULM	**Kulim**	**8.32**	**129**	P	**Pn**	**11 57 45.8**	**+0.7**
	comp=Z,21nm,0.8s,comp=Z,555nm						
PBKT	**Sadao Pong**	**8.84**	**47**	P	**Pn**	**11 57 50.7**	**-1.5**
	comp=Z,62nm,0.9s,comp=Z,3μmcomp=Z,0.2nm						
CMAR	**Chiang Mai Arr**	**9.03**	**30**	Pn	**Pn**	**11 57 55.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**9.03**	**30**	Pn	**Pn**	**11 57 55.0**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=220,slow=15,SNR=20						
CMAR				LR	LR	12 01 11.5	
	comp=Z,658nm,18.2s,baz=206,slow=36						
PSI	**Prapat**	**9.10**	**149**	Pn	**Pn**	**11 57 57.8**	**+1.8**
PSI	**Prapat**	**9.10**	**149**	Pn	**Pn**	**11 57 57.8**	**+1.8**
	comp=Z,1.0nm,0.3s,baz=337,slow=18,SNR=5.2						
PSI				LR	LR	12 02 08.6	
	comp=Z,3μm,18.7s,baz=308,slow=42						
IPM	**Ipoh**	**9.13**	**132**	*e*Pn	Pn	11 57 52.8	-3.5
CHTO	**Chiang Mai**	**9.33**	**29**	*e*P	**Pn**	**11 57 58.6**	**-0.4**
CHTO	**Chiang Mai**	**9.33**	**29**	*e*Pn	**Pn**	**11 57 58.6**	**-0.4**
CHTO	**Chiang Mai**	**9.33**	**29**	P	**Pn**	**11 58 01.6**	**+2.6**
	comp=Z,21nm,1.5s						
CMMT	**Chiang Mai**	**9.33**	**29**	P	**Pn**	**11 58 01.4**	**+2.3**
	comp=Z,15nm,1.0s,comp=Z,534nm						
SKNT	**Sakolnakorn**	**11.40**	**55**	P	Pn	11 58 33.1	+5.7
UBPT	**Khong Chiam**	**11.92**	**66**	P	Pn	11 58 40.4	+5.9
	comp=Z,25nm,1.3s						
UBPT	**Khong Chiam**	**11.92**	**66**	P	Pn	11 58 40.4	+5.9
PPI	**Padang Panjang**	**12.63**	**150**	P	**Pn**	**11 58 46.4**	**+2.1**
	comp=Z,21nm,1.8s						
VIS	**Vishakhapatnam**	**12.66**	**305**	*i* P	**Pn**	**11 58 44.4**	**-0.2**
VIS				*i* x	x	12 01 05.0	
VIS				*i* x	x	12 01 05.8	
RGRI	**Rengat**	**13.59**	**143**	P	P	11 59 10.8	+4.5
SHL	**Shillong**	**15.01**	**352**	*e*P	**Pn**	**11 59 16.9**	**+0.1**
SHL				AMB	AMB	11 59 24.7	
	comp=Z,42nm,7.1s						
BOK	**Bokaro**	**15.29**	**330**	*e*P	**Pn**	**11 59 21.4**	**+1.0**
BOK				AMB	AMB	11 59 35.3	
	comp=Z,56nm,1.4s						
KSI	**Kapahiang**	**16.48**	**149**	P	P	11 59 48.6	+10
KMI	**Kunming**	**16.53**	**28**	P	**Pn**	**11 59 37.3**	**+0.7**
KMI				*p*P	**pP**	**11 59 41.5**	**-1.6**
KMI				*s*P	**sP**	**11 59 43.5**	**-1.4**
KMI				PP	**PnPn**	**11 59 51.5**	**+5.5**
KMI				S	**Sn**	**12 02 44.5**	**+4.3**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.4s						
KMI				pmax	pmax		
	comp=Z,100nm,3.3s						
KMI				LR	LR		
	comp=N,1μm,12.3s						
KMI				LR	LR		
	comp=E,1μm,9.8s						
KMI				LR	LR		
	comp=Z,1μm,11.1s						
HYB	**Hyderabad**	**16.59**	**296**	*i* P	**P**	**11 59 43.0**	**+3.3**
HYB				*e*S	**Sn**	**12 02 40.0**	**-1.5**
HYB	**Hyderabad**	**16.59**	**296**	*e*P	**Pn**	**11 59 35.6**	**-1.7**
HYB				AMB	AMB	11 59 51.4	
	comp=Z,50nm,2.9s						
QIZ	**Qiongzhong**	**17.27**	**59**	P	**Pn**	**11 59 45.3**	**-0.4**
QIZ				S	**Sn**	**12 02 57.8**	**+0.1**
QIZ				LR	LR		
	comp=N,1μm,10.0s						
QIZ				LR	LR		
	comp=E,810nm,9.8s						
QIZ				LR	LR		
	comp=Z,2μm,9.4s						
PPBI	**Pangkal Pinang**	**17.41**	**136**	P	**P**	**11 59 50.3**	**+1.6**
	comp=Z,36nm,1.4s,comp=Z,3μm						
KSM	**Kuching**	**18.42**	**119**	*e*P	**Pn**	**12 00 00.5**	**+0.5**
	comp=Z,23nm,1.1s						
KSM	**Kuching**	**18.42**	**119**	P	**P**	**11 59 57.4**	**-2.5**
	comp=Z,30nm,2.6s,comp=Z,1μm						
LSA	**Lhasa**	**19.17**	**352**	P	**P**	**12 00 09.0**	**+0.4**
LSA				S	**Sn**	**12 03 45.3**	**+0.8**
LSA				LR	LR		
	comp=Z,880nm,29.9s						
GYA	**Guiyang**	**19.66**	**35**	P	**P**	**12 00 13.8**	**+0.3**
GYA				PP	**PnPn**	**12 00 33.5**	**+4.8**
GYA				S	**S**	**12 03 51.8**	**-3.3**
GYA				SS	**SnSn**	**12 04 18.0**	**+7.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.5s						
GYA				LR	LR		
	comp=N,820nm,14.9s						
GYA				LR	LR		
	comp=E,1μm,17.1s						
GYA				LR	LR		
	comp=Z,2μm,15.2s						
SBUM	**Sibu**	**19.66**	**113**	P	**P**	**12 00 12.0**	**-1.5**
	comp=Z,22nm,1.8s,comp=Z,922nm						
BHPL	**Bhopal**	**20.32**	**310**	*ex*	**P**	**12 00 24.7**	**+4.0**
BHPL				AMB	AMB	12 00 35.6	
	comp=Z,63nm,1.3s						
POO	**Poona**	**21.18**	**294**	*e*P	**P**	**12 00 27.7**	**-2.3**
CD2	**Chengdu**	**22.04**	**22**	*e*P	**P**	**12 00 38.8**	**-0.4**
CD2				*p*P	**pP**	**12 00 42.3**	**-0.8**
CD2				*s*P	**sP**	**12 00 46.3**	**+1.4**
CD2				PP	**PnPn**	**12 01 05.3**	**+4.1**
CD2				S	**S**	**12 04 38.0**	**-4.1**
CD2				sS	**sS**	**12 04 44.3**	**-4.1**
CD2				SS	**SnSn**	**12 05 16.8**	**+8.3**
CD2				pmax	pmax		
	comp=Z,20nm,1.8s						
CD2				pmax	pmax		
	comp=Z,180nm,5.2s						
CD2				LR	LR		
	comp=E,1μm,9.5s						
CD2				LR	LR		
	comp=Z,1μm,11.0s						
MYLDM	**Lahad Datu**	**24.67**	**101**	P	**P**	**12 01 04.9**	**-0.6**
	comp=Z,95nm,1.4s,comp=Z,1μm						
DDI	**Dehra Dun**	**24.68**	**325**	*ex*	x	12 00 55.0	
BBKI	**Banjar Baru**	**24.88**	**123**	P	P	12 01 16.1	+8.7
SMLA	**Simla**	**25.79**	**325**	*e*P	**P**	**12 01 15.1**	**-0.3**
LZH	**Lanzhou**	**26.80**	**18**	*e*P	**P**	**12 01 25.0**	**+0.2**
LZH				*p*P	**pP**	**12 01 28.0**	**-1.0**
LZH				*s*P	**sP**	**12 01 29.8**	**-0.9**
LZH				PP	**PnPn**	**12 02 08.3**	**+1.9**
LZH				S	**S**	**12 05 58.5**	**-2.2**
LZH				sS	**sS**	**12 06 06.0**	**-1.7**
LZH				SS	**SnSn**	**12 07 11.3**	**+6.2**
LZH				pmax	pmax		
	comp=Z,82nm,1.4s						
LZH				pmax	pmax		
	comp=Z,290nm,6.0s						
LZH				LR	LR		
	comp=N,540nm,16.0s						
LZH				LR	LR		
	comp=E,1μm,12.5s						
LZH				LR	LR		
	comp=Z,2μm,17.2s						
XAN	**Xi'an**	**26.91**	**28**	P	**P**	**12 01 25.8**	**+0.1**
XAN				*p*P	pP	12 01 36.3	+6.4
XAN				S	**S**	**12 06 00.0**	**-2.3**
XAN				pmax	pmax		
	comp=Z,3.0nm,1.4s						
XAN				pmax	pmax		
	comp=Z,37nm,5.9s						
XAN				LR	LR		
	comp=N,530nm,15.4s						
XAN				LR	LR		
	comp=E,300nm,16.2s						
XAN				LR	LR		
	comp=Z,230nm,13.1s						
DHRM	**DHARAMSHALA**	**27.11**	**325**	*e*P	**P**	**12 01 27.5**	**-0.2**
DHRM				AMB	AMB	12 01 34.8	
	comp=Z,35nm,1.0s						
QZH	**Quanzhou**	**27.17**	**55**	P	P	12 01 23.0	-5.1
QZH				S	**S**	**12 06 02.0**	**-4.5**
QZH				LR	LR		
	comp=N,1μm,11.1s						
QZH				LR	LR		
	comp=E,780nm,7.6s						
QZH				LR	LR		
	comp=Z,1μm,10.7s						
WHN	**Wuhan**	**27.26**	**40**	⇑P	P	12 01 35.0	+6.2
WHN				S	**S**	**12 06 07.8**	**0.0**
WHN				LR	LR		
	comp=N,2μm,7.0s						
WHN				LR	LR		
	comp=E,1μm,9.9s						
WHN				LR	LR		
	comp=Z,1μm,11.3s						
GTA	**Gaotai**	**29.09**	**9**	⇑P	**P**	**12 01 45.5**	**+0.4**
GTA				*p*P	**pP**	**12 01 50.0**	**+0.6**
GTA				*s*P	**sP**	**12 01 52.5**	**+1.4**
GTA				S	**S**	**12 06 34.8**	**-1.8**
GTA				sS	**sS**	**12 06 42.0**	**-1.5**
GTA				SS	**SnSn**	**12 08 02.8**	**+2.1**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,210nm,5.9s						
GTA				LR	LR		
	comp=N,500nm,20.2s						
GTA				LR	LR		
	comp=E,340nm,19.7s						
GTA				LR	LR		
	comp=Z,710nm,20.4s						
KAPI	**Kappang**	**29.83**	**120**	LR	LR	12 14 01.8	
	comp=Z,662nm,18.1s,baz=284,slow=37						
NJ2	**Nanjing**	**31.18**	**43**	*e*P	**P**	**12 02 03.0**	**-0.6**
NJ2				S	**S**	**12 07 10.0**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
NJ2				LR	LR		
	comp=N,2μm,11.6s						
NJ2				LR	LR		
	comp=E,1μm,10.2s						
NJ2				LR	LR		
	comp=Z,3μm,13.2s						
DAV	**Davao City (W)**	**31.21**	**94**	LR	LR	12 15 34.8	
	comp=Z,340nm,18.4s,baz=258,slow=38						
KSH	**Kashi**	**33.01**	**334**	P	**P**	**12 02 18.3**	**-1.5**
KSH				*s*P	**sP**	**12 02 26.0**	**+0.3**
KSH				PP	**PnPn**	**12 03 28.5**	**-0.6**
KSH				PcP	**PcP**	**12 05 04.3**	**+0.7**
KSH				S	**S**	**12 07 34.3**	**-3.8**
KSH				sS	**sS**	**12 07 42.0**	**-3.0**
KSH				SS	**SnSn**	**12 09 33.5**	**-2.7**
KSH				pmax	pmax		
	comp=Z,11nm,1.0s						
KSH				pmax	pmax		
	comp=Z,59nm,4.0s						
KSH				LR	LR		
	comp=N,180nm,12.4s						
KSH				LR	LR		
	comp=E,150nm,6.8s						
KSH				LR	LR		
	comp=Z,350nm,13.0s						
WMQ	**Urumqi**	**33.53**	**351**	P	**P**	**12 02 26.0**	**+1.8**
WMQ				*p*P	**pP**	**12 02 30.5**	**+2.1**
WMQ				*s*P	**sP**	**12 02 33.0**	**+2.9**
WMQ				PP	**PP**	**12 03 38.5**	**-1.7**
WMQ				PcP	**PcP**	**12 05 06.5**	**+1.7**
WMQ				S	**S**	**12 07 47.0**	**+1.1**
WMQ				sS	**sS**	**12 07 54.5**	**+1.6**
WMQ				ScP	**ScP**	**12 08 49.5**	**+0.3**
WMQ				SS	**SnSn**	**12 09 51.3**	**+2.6**
WMQ				ScS	**ScS**	**12 12 49.0**	**-1.3**
WMQ				pmax	pmax		
	comp=Z,23nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,220nm,6.5s						
WMQ				LR	LR		
	comp=N,260nm,12.2s						
WMQ				LR	LR		
	comp=E,310nm,20.1s						
WMQ				LR	LR		
	comp=Z,450nm,28.6s						
HHC	**Hu-ho-hao-te**	**33.77**	**24**	*e*P	**P**	**12 02 28.0**	**+1.6**
HHC				PP	**PP**	**12 03 41.3**	**-1.6**
HHC				PcP	**PcP**	**12 05 07.3**	**+1.7**
HHC				S	**S**	**12 07 50.8**	**+1.0**
HHC				sS	**sS**	**12 07 58.5**	**+1.7**
HHC				ScP	**ScP**	**12 08 49.0**	**-1.2**
HHC				PcS	**PcS**	**12 08 52.0**	**+0.4**
HHC				ScS	**ScS**	**12 12 50.0**	**-1.7**
HHC				pmax	pmax		
	comp=Z,21nm,0.7s						
HHC				pmax	pmax		
	comp=Z,220nm,6.1s						
HHC				LR	LR		
	comp=N,890nm,13.5s						
HHC				LR	LR		
	comp=E,580nm,13.7s						
HHC				LR	LR		
	comp=Z,530nm,12.8s						
GAMI	**Galela, Maluku**	**34.49**	**102**	P	P	12 02 45.7	+13
BJI	**Beijing**	**35.18**	**30**	P	**P**	**12 02 38.3**	**-0.1**
BJI				S	**S**	**12 08 13.0**	**+1.8**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BJI				LR	LR		
	comp=N,690nm,13.9s						
BJI				LR	LR		
	comp=E,340nm,13.2s						
BJI				LR	LR		
	comp=Z,200nm,24.1s						
AAK	**Ala-Archa**	**36.22**	**335**	*e*P	**P**	**12 02 48.6**	**+1.1**
AAK				pmax	pmax		
	comp=Z,14nm,0.9s						
AAK	**Ala-Archa**	**36.22**	**335**	*e*P	**P**	**12 02 48.6**	**+1.1**
	comp=Z,14nm,0.9s						
AAK	**Ala-Archa**	**36.22**	**335**	P	**P**	**12 02 47.7**	**+0.2**
	comp=Z,3.6nm,0.5s,baz=221,slow=7.2,SNR=10						
AAK				LR	LR	12 19 11.1	
	comp=Z,806nm,21.8s,baz=128,slow=39						
FRU	**Bishkek**	**36.33**	**335**	*e*P	**P**	**12 02 49.0**	**+0.7**
MK31	**Makanchi Array**	**37.42**	**347**	*ce*P	P	12 02 53.9	-3.6
MK31				pmax	pmax		
	comp=Z,32nm,0.9s						
MK31	**Makanchi Array**	**37.42**	**347**	*e*P	**P**	**12 02 57.7**	**+0.1**
MKAR	**Makanchi Array**	**37.42**	**347**	*e*P	**P**	**12 02 56.6**	**-1.0**
MKAR	**Makanchi Array**	**37.42**	**347**	*e*P	**P**	**12 02 56.6**	**-1.0**
MKAR	**Makanchi Array**	**37.42**	**347**	P	**P**	**12 02 57.7**	**+0.2**
	comp=Z,4.8nm,0.8s,baz=165,slow=9.0,SNR=33						
MKAR				LR	LR	12 22 25.4	
	comp=Z,282nm,19.1s,baz=171,slow=43						
KK31	**Karatay Array**	**38.35**	**332**	*ce*P	**P**	**12 03 07.4**	**+2.0**
KK31				pmax	pmax		
	comp=Z,14nm,1.1s						
KKAR	**Karatay Array**	**38.35**	**332**	*e*P	**P**	**12 03 06.3**	**+0.9**
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KKAR	**Karatay Array**	**38.35**	**332**	*e*P	**P**	**12 03 06.3**	**+0.9**
	comp=Z,7.5nm,0.8s						
SONM	**Songino Array**	**38.47**	**13**	P	**P**	**12 03 06.4**	**-0.1**
SONM				PcP	**PcP**	**12 05 19.8**	**+0.2**
SONM	**Songino Array**	**38.47**	**13**	P	**P**	**12 03 06.4**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=193,slow=7.5,SNR=18						
SONM				PcP	**PcP**	**12 05 19.8**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=200,slow=5.0,SNR=3.8						
SONM				LR	LR	12 20 21.9	
	comp=Z,698nm,19.7s,baz=192,slow=38						
ULN	**Ulaanbaatar**	**38.65**	**14**	*e*P	**P**	**12 03 07.9**	**-0.2**
	comp=Z,13nm,1.2s						
ULN	**Ulaanbaatar**	**38.65**	**14**	P	**P**	**12 03 08.6**	**+0.5**
ZAK	**Zakamensk**	**40.33**	**9**	*e*P	**P**	**12 03 21.3**	**-0.6**
ZAK				*e*		12 05 31.5	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
KSAR	**Wonju Array Be**	**40.35**	**43**	P	**P**	**12 03 21.4**	**-0.8**
HVS	**Khovu-Aksy**	**40.38**	**360**	*e*P	P	12 03 18.9	-3.4
HVS				pmax	pmax		
	comp=Z,31nm,1.0s						
KSRS	**Korea Array**	**40.39**	**43**	P	**P**	**12 03 21.4**	**-1.1**
	comp=Z,1.9nm,0.8s,baz=255,slow=8.8,SNR=10						
KSRS				LR	LR	12 23 13.0	
	comp=Z,194nm,18.3s,baz=238,slow=41						
JNU	**Nakatsue**	**40.42**	**51**	LR	LR	12 21 35.4	
	comp=Z,244nm,19.2s,baz=129,slow=38						
KURBB	**Kurchatov Arra**	**41.90**	**345**	P	**P**	**12 03 35.1**	**+0.4**
	comp=Z,6.7nm,1.1s,baz=163,slow=7.5,SNR=21						
KURK	**Kurchatov**	**41.96**	**345**	P	**P**	**12 03 35.1**	**-0.1**
KURK	**Kurchatov**	**41.96**	**345**	P	**P**	**12 03 35.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**42.19**	**132**	*e*P	**P**	**12 03 36.7**	**-0.8**
	comp=Z,18nm,1.2s						
FITZ	**Fitzroy Crossi**	**42.19**	**132**	P	**P**	**12 03 37.1**	**-0.4**
	comp=Z,3.3nm,1.0s,baz=331,slow=12,SNR=3.4						
FITZ				LR	LR	12 25 13.5	
	comp=Z,309nm,18.2s,baz=314,slow=42						
CN2	**Changchun**	**42.69**	**34**	*e*P	**P**	**12 03 41.5**	**+0.2**
CN2				*es*P	**sP**	**12 03 46.8**	**-0.5**
CN2				*e*S	**S**	**12 10 03.8**	**-0.6**
CN2				*e*SS	**SS**	**12 13 12.0**	**-3.0**
CN2				pmax	pmax		
	comp=Z,30nm,1.0s						
CN2				LR	LR		
	comp=N,500nm,16.0s						
CN2				LR	LR		
	comp=E,300nm,16.0s						
CN2				LR	LR		
	comp=Z,400nm,19.0s						
ZALV	**Zalesovo Beam**	**43.84**	**352**	P	**P**	**12 03 51.0**	**+0.6**
ZALV	**Zalesovo Beam**	**43.84**	**352**	P	**P**	**12 03 51.0**	**+0.6**
ZALV	**Zalesovo Beam**	**43.84**	**352**	P	**P**	**12 03 51.0**	**+0.6**
	comp=Z,7.6nm,0.8s,baz=173,slow=8.2,SNR=24						
ZALV				LR	LR	12 25 28.9	
	comp=Z,116nm,20.3s,baz=70,slow=41						
NVS	**Novosibirsk**	**44.93**	**351**	*e*P	**P**	**12 03 57.3**	**-1.8**
NVS				pmax	pmax		
	comp=Z,57nm,2.1s						
NVS				pmax	pmax		
	comp=N,28nm,1.7s						

BVAR	**Borovoye Array**	**46.41**	**340**	P		**P**	**12 04 10.8**	**-0.1**
BVAR	**Borovoye Array**	**46.41**	**340**	P		**P**	**12 04 10.8**	**-0.1**
BVAR	**Borovoye Array**	**46.41**	**340**	P		**P**	**12 04 10.8**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=140,slow=7.7,SNR=11							
BVAR				LR	LR		12 28 01.9	
	comp=Z,176nm,18.1s,baz=356,slow=42							
BRVK	**Borovoye**	**46.47**	**340**	*e*P		**P**	**12 04 11.0**	**-0.4**
BRVK				pmax	pmax			
	comp=Z,7.0nm,1.7s							
BRVK	**Borovoye**	**46.47**	**340**	*e*P		**P**	**12 04 11.7**	**+0.3**
	comp=Z,12nm,0.9s							
USRK	**Ussuriysk Arra**	**46.68**	**37**	P		**P**	**12 04 11.9**	**-1.2**
	comp=Z,2.5nm,0.9s,baz=246,slow=7.1,SNR=7.9							
USRK				LR	LR		12 26 30.7	
	comp=Z,200nm,18.6s,baz=102,slow=40							
MAT	**Matsushiro**	**47.31**	**50**	P		**P**	**12 04 18.0**	**-0.2**
MAT				*e*S		**S**	**12 11 08.2**	**-3.3**
MJAR	**Matsushiro Arr**	**47.31**	**50**	P		**P**	**12 04 17.9**	**-0.3**
MJAR				PcP		**PcP**	**12 05 49.0**	**-0.2**
MJAR	**Matsushiro Arr**	**47.31**	**50**	P		**P**	**12 04 17.9**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=227,slow=8.2,SNR=5.3							
MJAR				PcP		**PcP**	**12 05 49.0**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=233,slow=1.9,SNR=5.4							
MJAR				LR	LR		12 26 55.9	
	comp=Z,118nm,19.8s,baz=255,slow=40							
AB31	**Akbulak array**	**47.86**	**330**	*ce*P		**P**	**12 04 22.2**	**0.0**
ABKAR	**Akbulak array**	**47.86**	**330**	*e*P		**P**	**12 04 23.1**	**+0.9**
	comp=Z,9.1nm,0.9s							
RAYN	**Ar Rayn**	**48.05**	**292**	*e*P		**P**	**12 04 22.7**	**-1.5**
	comp=Z,35nm,1.1s							
NWAO	**Narrogin (SRO)**	**48.58**	**154**	LR	LR		12 25 35.6	
	comp=Z,344nm,20.9s,baz=288,slow=37							
KLR	**Kul'dur**	**49.50**	**32**	*e*P		P	12 04 31.7	-3.2
AKTO	**Aktyubinsk**	**49.57**	**330**	P		**P**	**12 04 35.0**	**-0.4**
AKTO	**Aktyubinsk**	**49.57**	**330**	P		**P**	**12 04 35.0**	**-0.4**
AKTO	**Aktyubinsk**	**49.57**	**330**	P		**P**	**12 04 35.0**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=124,slow=13							
AKTO				LR	LR		12 31 04.6	
	comp=Z,195nm,19.8s,baz=142,slow=43							
WRA	**Warramunga Arr**	**49.86**	**127**	P		**P**	**12 04 38.0**	**-0.1**
WRA	**Warramunga Arr**	**49.86**	**127**	P		**P**	**12 04 38.0**	**-0.1**
	comp=Z,6.3nm,1.0s,baz=303,slow=8.6,SNR=15							
WRA				LR	LR		12 29 18.3	
	comp=Z,240nm,20.6s,baz=275,slow=40							
WRAB	**Tennant Creek**	**49.86**	**127**	*e*P		**P**	**12 04 37.8**	**-0.2**
WRAB				pmax	pmax			
	comp=Z,25nm,1.1s							
WRAB	**Tennant Creek**	**49.86**	**127**	*e*P		**P**	**12 04 37.8**	**-0.2**
	comp=Z,25nm,1.1s							
ATD	**Arta Tunnel**	**50.34**	**276**	LR	LR		12 22 49.4	
	comp=Z,115nm,19.2s,baz=248,slow=32							
ASAR	**Alice Springs**	**51.67**	**132**	P		**P**	**12 04 51.3**	**-0.4**
ASAR	**Alice Springs**	**51.67**	**132**	P		**P**	**12 04 51.3**	**-0.4**
	comp=Z,5.1nm,0.8s,baz=310,slow=7.4,SNR=52							
ASAR				LR	LR		12 30 15.2	
	comp=Z,358nm,21.1s,baz=295,slow=40							
CLNS	**Chul'man**	**51.84**	**21**	*e*P		P	12 04 56.9	+4.4
CLNS				pmax	pmax			
	comp=Z,19nm,1.2s							
CLNS				pmax	pmax			
	comp=E,15nm,1.2s							
CLNS				pmax	pmax			
	comp=N,11nm,0.9s							
GNI	**Garni**	**52.58**	**313**	*e*P		**P**	**12 04 59.3**	**+0.9**
	comp=N,65nm,1.3s							
GNI	**Garni**	**52.58**	**313**	LR	LR		12 30 35.5	
	comp=N,278nm,21.4s,baz=112,slow=40							
DGRG	**David-gareji**	**52.59**	**315**	P		P	12 05 05.7	+7.4
SVE	**Sverdlovsk**	**52.87**	**338**	*e*P		**P**	**12 05 00.7**	**+0.7**
SVE				pmax	pmax			
	comp=Z,25nm,1.1s							
TBLG	**Delisi**	**53.13**	**315**	*e*P		P	12 05 07.8	+5.5
TBLG	**Delisi**	**53.13**	**315**	P		P	12 05 07.8	+5.5
ARU	**Arti**	**53.38**	**336**	*c i*P		**P**	**12 05 03.8**	**0.0**
ARU							12 07 01.5	
ARU				S		**S**	**12 12 36.4**	**+1.0**
ARU				pmax	pmax			
	comp=Z,11nm,1.7s							
ARU				MLR	MLR			
	comp=Z,672nm,22.0s							
ZEI	**Tsey**	**54.09**	**316**	*e*P		P	12 05 14.1	+4.6
ZEI				pmax	pmax			
	comp=Z,18nm,1.0s							
ONI	**Oni**	**54.33**	**315**	P		**P**	**12 05 12.7**	**+1.6**
YSS	**Yuzh-Sakhalins**	**54.60**	**39**	*e*P		**P**	**12 05 13.0**	**+0.1**
YSS				*e*			12 05 18.8	
YSS				*e*			12 06 17.0	
YSS				MLR	MLR			
	comp=Z,300nm,15.0s							
KBZ	**Khabaz**	**55.11**	**316**	P		**P**	**12 05 17.3**	**+0.7**
KBZ	**Khabaz**	**55.11**	**316**	P		**P**	**12 05 17.3**	**+0.7**
KBZ	**Khabaz**	**55.11**	**316**	P		**P**	**12 05 17.3**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=95,slow=2.9,SNR=5.7							
KBZ				LR	LR		12 32 14.2	
	comp=Z,225nm,21.4s,baz=257,slow=40							
KIV	**Kislovodsk**	**55.33**	**317**	*e*P		**P**	**12 05 18.2**	**-0.2**
KIV				pmax	pmax			
	comp=Z,25nm,1.1s							
KIV				MLR	MLR			
	comp=Z,90nm,16.0s							
YAK	**Yakutsk**	**57.37**	**19**	*i* P		**P**	**12 05 29.8**	**-2.7**
YAK				pmax	pmax			
	comp=E,3.0nm,1.1s							
YAK				pmax	pmax			
	comp=N,3.0nm,1.1s							
YAK				pmax	pmax			
	comp=Z,11nm,0.8s							
YAK				MLR	MLR			
	comp=E,272nm,16.0s							
YAK				MLR	MLR			
	comp=Z,367nm,17.0s							
YAK				MLR	MLR			
	comp=N,185nm,15.0s							
KMBO	**Kilima Mbogo**	**57.82**	**262**	LR	LR		12 29 46.2	
	comp=N,114nm,18.6s,baz=94,slow=35							
CTAO	**Charters Tower**	**59.64**	**121**	*e*P		**P**	**12 05 49.4**	**+0.4**
CTAO				pmax	pmax			
	comp=Z,32nm,1.5s							
CTAO	**Charters Tower**	**59.64**	**121**	*e*P		**P**	**12 05 49.4**	**+0.4**
	comp=Z,32nm,1.5s							
BRTR	**Keskin Array B**	**60.69**	**310**	P		**P**	**12 05 55.4**	**-0.7**
BRTR	**Keskin Array B**	**60.69**	**310**	P		**P**	**12 05 55.4**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=114,slow=8.2,SNR=8.1							
BRTR				LR	LR		12 35 44.3	
	comp=Z,124nm,21.4s,baz=97,slow=40							
STKA	**Stephens Creek**	**61.99**	**135**	P		**P**	**12 06 04.5**	**-0.3**
STKA	**Stephens Creek**	**61.99**	**135**	P		**P**	**12 06 04.5**	**-0.3**
	comp=Z,11nm,1.2s,baz=310,slow=8.3,SNR=5.1							
STKA				LR	LR		12 33 01.9	
	comp=Z,382nm,21.5s,baz=107,slow=36							
OBN	**Obninsk**	**63.09**	**327**	*j e*P		**P**	**12 06 11.9**	**+0.2**
OBN				*e*			12 08 30.8	
OBN				*e*S		S	12 14 48.6	+6.5
OBN				pmax	pmax			
	comp=Z,4.0nm,1.2s							
OBN				MLR	MLR			
	comp=Z,300nm,18.0s							
MBAR	**Mbarara**	**64.06**	**264**	LR	LR		12 33 01.6	
	comp=Z,112nm,18.1s,baz=113,slow=35							
PETK	**Petropavlovsk-**	**65.75**	**36**	LR	LR		12 39 57.9	
	comp=Z,115nm,18.2s,baz=256,slow=40							
MLR	**Muntele Rosu**	**67.25**	**315**	LR	LR		12 40 37.6	
	comp=Z,83nm,20.4s,baz=216,slow=40							
APA	**Apatity**	**69.30**	**339**	*j e*P		**P**	**12 06 52.6**	**+1.2**
APA				MLR	MLR			
	comp=Z,500nm,20.0s							
FINES	**FINESS Array B**	**70.31**	**332**	P		**P**	**12 06 55.6**	**-2.1**
FINES	**FINESS Array B**	**70.31**	**332**	P		**P**	**12 06 55.6**	**-2.1**
	comp=Z,1.7nm,0.7s,baz=99,slow=7.3,SNR=5.9							
FINES				LR	LR		12 44 28.3	
	comp=Z,273nm,18.7s,baz=306,slow=42							
ARCES	**ARCESS Array B**	**72.70**	**340**	P		**P**	**12 07 12.2**	**+0.2**
ARCES	**ARCESS Array B**	**72.70**	**340**	P		**P**	**12 07 12.2**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=52,slow=2.0,SNR=6.4							
ARCES				LR	LR		12 42 13.3	
	comp=Z,411nm,20.7s,baz=102,slow=38							
MORC	**Moravsky Berou**	**73.33**	**319**	*e*P		**P**	**12 07 16.3**	**+0.1**
MORC				pmax	pmax			
	comp=Z,3.0nm,1.0s							
MORC	**Moravsky Berou**	**73.33**	**319**	*e*P		**P**	**12 07 16.3**	**+0.1**
	comp=Z,3.5nm,1.0s							
DPC	**Dobruska-Polom**	**74.14**	**319**	*e*P		**P**	**12 07 22.5**	**+1.5**
DPC	**Dobruska-Polom**	**74.14**	**319**	*e*P		**P**	**12 07 22.5**	**+1.5**
TREC	**Trest**	**74.65**	**318**	AMS		AMS	12 42 20.0	
	comp=Z,200nm,23.3s							
GERES	**GERESS Array B**	**75.82**	**318**	P		**P**	**12 07 30.6**	**-0.2**
GERES	**GERESS Array B**	**75.82**	**318**	P		**P**	**12 07 30.6**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=88,slow=6.8,SNR=4.6							
GERES				LR	LR		12 43 51.1	
	comp=Z,102nm,19.4s,baz=85,slow=38							
KHC	**Kasperske Hory**	**75.90**	**318**	*e*P		**P**	**12 07 33.6**	**+2.5**
KHC	**Kasperske Hory**	**75.90**	**318**	*e*P		**P**	**12 07 33.6**	**+2.5**
BOSA	**Boshof**	**77.10**	**237**	LR	LR		12 38 47.0	
	comp=Z,115nm,19.0s,baz=94,slow=34							
NB2	**NORSAR Subarra**	**77.36**	**330**	P		**P**	**12 07 40.5**	**+1.3**
	comp=Z,8.7nm,1.2s,baz=91,slow=5.9							
NOA	**NORSAR Array B**	**77.36**	**330**	P		**P**	**12 07 37.0**	**-2.2**
NOA	**NORSAR Array B**	**77.36**	**330**	P		**P**	**12 07 37.0**	**-2.2**
	comp=Z,0.7nm,0.8s,baz=96,slow=8.1,SNR=3.1							
NOA				LR	LR		12 47 38.1	
	comp=Z,150nm,18.3s,baz=90,slow=40							
GRF	**Grafenberg Arr**	**77.43**	**319**	*e*P		P	12 07 45.8	+6.1
	comp=Z,87nm,3.5s							
GRF	**Grafenberg Arr**	**77.43**	**319**	*e*P		P	12 07 45.8	+6.1
GRF				pmax	pmax			
	comp=Z,26nm,3.5s							
KEST	**Kesra**	**79.72**	**305**	LR	LR		12 48 08.8	
	comp=Z,45nm,19.2s,baz=343,slow=40							
LPG	**La Plagne**	**80.72**	**315**	*e*P		**P**	**12 07 59.3**	**+1.1**
	comp=Z,22nm,0.9s							
LPL	**La Plagne**	**80.73**	**315**	*e*P		**P**	**12 07 59.5**	**+1.3**
	comp=Z,8.9nm,0.8s							
MBDF	**Montbardon**	**80.78**	**314**	*e*P		**P**	**12 07 59.9**	**+1.5**
	comp=Z,21nm,1.2s							
VIVF	**Saint-Julien-**	**82.25**	**314**	*e*P		**P**	**12 08 07.4**	**+1.4**
	comp=Z,27nm,1.3s							
LOR	**Lormes**	**82.50**	**317**	*e*P		**P**	**12 08 08.2**	**+0.9**
TORD	**Torodi Ar. Bea**	**90.01**	**283**	P		**P**	**12 08 44.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**90.01**	**283**	P		**P**	**12 08 44.6**	**-0.2**
	comp=Z,5.2nm,1.1s,baz=87,slow=4.0,SNR=6.9							
TORD				LR	LR		12 48 21.5	
	comp=Z,105nm,19.1s,baz=135,slow=35							
MDT	**Midelt**	**91.59**	**304**	LR	LR		12 51 04.4	
	comp=Z,54nm,20.4s,baz=76,slow=36							
ILAR	**Eielson Array**	**92.18**	**22**	P		**P**	**12 08 53.5**	**-0.3**
ILAR	**Eielson Array**	**92.18**	**22**	P		**P**	**12 08 53.5**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=304,slow=4.3,SNR=9.3							
ILAR				LR	LR		12 57 47.7	
	comp=Z,109nm,18.6s,baz=299,slow=40							
VNDA	**Vanda**	**95.61**	**168**	LR	LR		12 48 02.4	
	comp=Z,201nm,18.2s,baz=257,slow=33							
SBA	**Scott Base**	**96.71**	**168**	*e*P		**P**	**12 09 15.4**	**+1.1**
SBA				pmax	pmax			
	comp=Z,4.0nm,1.4s							
SBA	**Scott Base**	**96.71**	**168**	*e*P		**P**	**12 09 15.4**	**+1.1**
	comp=Z,3.7nm,1.4s							
DBIC	**Dimbokro**	**97.61**	**278**	LR	LR		12 56 15.9	
	comp=Z,71nm,19.3s,baz=54,slow=37							
HLID	**Hailey**	**120.09**	**24**	*e*PKPdf		**PKPdf**	**12 14 37.5**	**+1.7**
SNOW	**Snow King Moun**	**121.55**	**21**	*e*PKPdf		**PKPdf**	**12 14 39.4**	**+0.6**
REDW	**Red Top Meadow**	**121.60**	**21**	*e*PKPdf		**PKPdf**	**12 14 39.3**	**+0.5**
NVAR	**Mina Array Bea**	**122.52**	**30**	PKP		**PKPdf**	**12 14 41.3**	**+0.6**
NVAR	**Mina Array Bea**	**122.52**	**30**	PKP		**PKPdf**	**12 14 41.3**	**+0.6**
	comp=Z,1.5nm,0.9s,baz=289,slow=1.5,SNR=9.4							
BW06	**Boulder Array**	**122.58**	**21**	*e*PKPdf		**PKPdf**	**12 14 40.4**	**-0.3**
PDAR	**Pinedale Array**	**122.58**	**21**	PKP		**PKPdf**	**12 14 40.5**	**-0.3**
PDAR	**Pinedale Array**	**122.58**	**21**	PKP		**PKPdf**	**12 14 40.5**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=223,slow=2.0,SNR=9.5							
DUG	**Dugway**	**123.57**	**25**	*e*PKIKP		**PKPdf**	**12 14 43.4**	**+0.8**
DUG	**Dugway**	**123.57**	**25**	*e*PKPdf		**PKPdf**	**12 14 43.4**	**+0.8**
ECSD	**EROS Data Cent**	**125.00**	**10**	*e*PKPdf		**PKPdf**	**12 14 45.4**	**+0.4**
MVU	**Marysvale**	**125.25**	**25**	*e*PKPdf		**PKPdf**	**12 14 46.9**	**+0.9**
MSU	**Marysvale**	**125.25**	**25**	*e*PKIKP		**PKPdf**	**12 14 47.3**	**+1.3**
MSU	**Marysvale**	**125.25**	**25**	*e*PKPdf		**PKPdf**	**12 14 47.3**	**+1.3**
ANMO	**Albuquerque**	**130.62**	**22**	*e*PKPdf		**PKPdf**	**12 14 57.9**	**+1.6**
TUC	**Tucson**	**131.07**	**28**	*e*PKIKP		**PKPdf**	**12 14 57.8**	**+0.7**
TUC	**Tucson**	**131.07**	**28**	*e*PKPdf		**PKPdf**	**12 14 57.8**	**+0.7**
BNM	**Barren Site**	**131.26**	**23**	*e*PKPdf		**PKPdf**	**12 14 59.0**	**+1.4**
MIAR	**Mount Ida**	**134.46**	**9**	*e*PKIKP		**PKPdf**	**12 15 03.0**	**-0.2**
MIAR	**Mount Ida**	**134.46**	**9**	*e*PKPdf		**PKPdf**	**12 15 03.0**	**-0.2**
TXAR	**Lajitas Array**	**136.68**	**23**	PKP		**PKPdf**	**12 15 06.1**	**-1.6**
TXAR	**Lajitas Array**	**136.68**	**23**	PKP		**PKPdf**	**12 15 06.1**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=100,slow=0.4,SNR=7.0							
JCT	**Junction City**	**136.96**	**18**	*e*PKIKP		**PKPdf**	**12 15 09.7**	**+1.6**
JCT	**Junction City**	**136.96**	**18**	*e*PKPdf		**PKPdf**	**12 15 09.7**	**+1.6**
MTP	**Monte Pirata**	**145.14**	**325**	*e*PKPdf		**PKPab**	**12 15 22.8**	**+0.3**
CELP	**Cerrillos**	**145.73**	**326**	*e*PKPdf		**PKPbc**	**12 15 24.4**	**+0.1**
OBIP	**Obispado Ponce**	**145.77**	**326**	*e*PKPdf		**PKPdf**	**12 15 23.7**	**-0.3**
PLCA	**Paso Flores**	**147.13**	**202**	PKPbc		**PKPdf**	**12 15 25.5**	**-0.3**
PLCA	**Paso Flores**	**147.13**	**202**	PKPbc		**PKPdf**	**12 15 25.5**	**-0.3**
	comp=Z,3.2nm,0.8s,baz=55,slow=12,SNR=3.8							
CPUP	**Villa Florida**	**148.91**	**236**	PKPbc		**PKPdf**	**12 15 30.6**	**+1.5**
CPUP	**Villa Florida**	**148.91**	**236**	PKPbc		**PKPdf**	**12 15 30.6**	**+1.5**
	comp=Z,2.7nm,0.8s,baz=158,slow=3.2,SNR=5.4							

IDC 26 11:59:35.0±9.2, 10°89N×94°61E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/25, mbtmp3.8/3, Error ellipse: s-maj=536.2km s-min=27.1km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.28**	**346**	P		P	12 06 48.6	-0.1
	0.6nm,0.7s,baz=176,slow=8.2,SNR=2.5							
WRA	**Warramunga Arr**	**49.68**	**128**	P		P	12 08 28.9	-0.2
	0.7nm,0.7s,baz=310,slow=9.1,SNR=3.4							
ASAR	**Alice Springs**	**51.53**	**132**	P		P	12 08 42.9	-0.1
	1.3nm,0.7s,baz=308,slow=6.6,SNR=6.3							

IDC 26 12:00:54.2±3.0, 10°49N×93°81E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/25, mbtmp3.6/5, Error ellipse: s-maj=123.7km s-min=21.9km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.48**	**347**	P		P	12 08 09.3	-0.3
	0.6nm,0.9s,baz=168,slow=10.0,SNR=3.5							
SONM	**Songino Array**	**38.71**	**14**	P		P	12 08 19.7	-0.4
	0.7nm,1.0s,baz=206,slow=6.3,SNR=3.7							
ZALV	**Zalesovo Beam**	**43.94**	**352**	P		P	12 09 03.1	+0.3
	0.4nm,0.4s,baz=177,slow=8.7,SNR=2.4							
WRA	**Warramunga Arr**	**50.06**	**127**	P		P	12 09 51.0	-0.2
	0.3nm,0.4s,baz=305,slow=8.9,SNR=3.3							
ASAR	**Alice Springs**	**51.85**	**131**	P		P	12 10 04.6	0.0
	0.6nm,0.9s,baz=309,slow=6.2,SNR=4.5							

IDC 26 12:04:50.7±2.9, 9°52N×92°06E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/26, mbtmp3.5/5, Error ellipse: s-maj=119.3km s-min=26.2km az=63.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**38.07**	**349**	P		P	12 12 11.1	0.0
	0.8nm,0.9s,baz=156,slow=7.4,SNR=4.9							
SONM	**Songino Array**	**40.07**	**15**	P		P	12 12 27.8	-0.1
	0.2nm,0.3s,baz=168,slow=8.8,SNR=2.5							
KURBB	**Kurchatov Arra**	**42.48**	**347**	P		P	12 12 47.5	0.0
	0.4nm,0.3s,baz=161,slow=7.8,SNR=4.0							
ZALV	**Zalesovo Beam**	**44.69**	**354**	P		P	12 13 04.9	-0.4
	1.2nm,0.9s,baz=180,slow=10.3,SNR=3.5							
ASAR	**Alice Springs**	**52.54**	**130**	P		P	12 14 06.2	-0.1
	0.7nm,0.8s,baz=305,slow=6.6,SNR=7.2							

IDC 26 12:07:58.1±8.7, 12°76N×89°66E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/25, mbtmp3.4/3, Error ellipse: s-maj=432.9km s-min=28.1km az=62.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**34.49**	**351**	P		P	12 14 47.7	-0.1
	0.2nm,0.4s,baz=169,slow=9.6,SNR=2.8							
WRA	**Warramunga Arr**	**54.68**	**126**	P		P	12 17 28.5	-0.8
	0.5nm,0.7s,baz=302,slow=8.9,SNR=2.2							
ASAR	**Alice Springs**	**56.42**	**130**	P		P	12 17 42.5	+0.6
	0.7nm,0.7s,baz=309,slow=6.7,SNR=10							

IDC ***26*** *12:14:23.2±0.5, 10°72N×94°23E, h0km, mb4.2/23, mb1 4.2/25, mb1mx4.1/34, mbtmp4.1/25, ML3.8/2, MS3.9/5, Ms1 3.9/5, ms1mx3.4/39, Error ellipse: s-maj=18.0km s-min=12.8km az=64.0*

ISCJB ***26*** *12:14:25.1±0.4, 10°69N±0°06×94°36E±0°07, h24km, mb4.2/32, MS3.9/3, Error ellipse: s-maj=11.7km s-min=5.6km az=143.2*

NEIC ***26*** *12:14:26.2±2.7, 10°70N×94°26E, h19km±16km, mb4.5/8, Error ellipse: s-maj=9.6km s-min=4.7km az=67.0*

ISC 26 12:14:27.1±0.4, 10°79N±0°07×94°31E±0°08, h24km, n83, σ0s81/85, mb4.3/32, MS3.9/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**8.32**	**131**	*e*Pn		**Pn**	**12 16 24.7**	**-1.7**
KULM				*e*Sn		**Sn**	**12 17 58.0**	**-1.7**
CMAR	**Chiang Mai Arr**	**8.85**	**30**	Pn		**Pn**	**12 16 35.3**	**+1.7**
CMAR	**Chiang Mai Arr**	**8.85**	**30**	Pn		**Pn**	**12 16 35.3**	**+1.7**
	0.4nm,0.3s,baz=219,slow=15,SNR=15							
CMAR				LR	LR		12 19 52.3	
	comp=Z,482nm,20.4s,baz=206,slow=37							
IPM	**Ipoh**	**9.14**	**133**	*e*Pn		Pn	12 16 35.0	-2.7
PSI	**Prapat**	**9.16**	**150**	Pn		**Pn**	**12 16 38.8**	**+0.7**
PSI	**Prapat**	**9.16**	**150**	Pn		**Pn**	**12 16 38.8**	**+0.7**
	0.6nm,0.3s,baz=324,slow=19,SNR=3.5							
PSI				LR	LR		12 20 20.0	
	comp=Z,2μm,21.8s,baz=304,slow=39							
IMP	**Imphal**	**13.92**	**359**	*e*P		**P**	**12 17 48.0**	**-3.1**
SHL	**Shillong**	**14.88**	**351**	*ex*		**Pn**	**12 17 55.0**	**-1.2**
LSA	**Lhasa**	**19.05**	**352**	*e*P		**Pn**	**12 18 49.2**	**+0.2**
	6.2nm,0.5s							
NDI	**New Delhi**	**23.94**	**320**	*ex*		P	**12 19 38.0**	**-1.5**
ENH	**Enshi**	**23.99**	**34**	*e*P		P	**12 19 39.7**	**-0.3**
	46nm,1.4s							
AAK	**Ala-Archa**	**36.13**	**335**	P		**P**	**12 21 27.9**	**+0.2**
AAK	**Ala-Archa**	**36.13**	**335**	P		**P**	**12 21 27.9**	**+0.2**
	2.0nm,0.3s,baz=206,slow=13,SNR=4.7							
EKS2	**Erkin-Say**	**36.46**	**334**	*e*P		P	**12 21 31.2**	**+0.8**
	5.9nm,0.8s							
MK31	**Makanchi Array**	**37.31**	**346**	*e*P		**P**	**12 21 38.0**	**+0.6**
MKAR	**Makanchi Array**	**37.31**	**346**	P		**P**	**12 21 38.1**	**+0.7**
MKAR	**Makanchi Array**	**37.31**	**346**	P		**P**	**12 21 38.1**	**+0.7**
	4.6nm,0.8s,baz=164,slow=8.3,SNR=39							
MKAR				LR	LR		12 40 46.2	
	comp=Z,192nm,18.1s,baz=149,slow=42							
KKAR	**Karatay Array**	**38.27**	**332**	*e*P		**P**	**12 21 46.2**	**+0.6**
	11nm,1.0s							
SONM	**Songino Array**	**38.30**	**13**	P		**P**	**12 21 46.7**	**+0.7**
SONM	**Songino Array**	**38.30**	**13**	P		**P**	**12 21 46.7**	**+0.7**
	1.7nm,0.8s,baz=195,slow=8.2,SNR=14							
ULN	**Ulaanbaatar**	**38.48**	**14**	*e*P		**P**	**12 21 48.3**	**+0.8**
	13nm,1.5s							
KSAR	**Wonju Array Be**	**40.17**	**43**	P		**P**	**12 22 01.9**	**+0.3**
KSRS	**Korea Array**	**40.20**	**43**	P		**P**	**12 22 01.9**	**+0.1**
	1.6nm,0.9s,baz=245,slow=9.7,SNR=10							
KSRS				LR	LR		12 39 54.6	
	comp=Z,91nm,18.4s,baz=234,slow=38							
KURBB	**Kurchatov Arra**	**41.78**	**345**	P		**P**	**12 22 15.3**	**+0.7**
	3.4nm,0.8s,baz=162,slow=7.4,SNR=25							
KURK	**Kurchatov**	**41.85**	**345**	P		**P**	**12 22 15.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**42.20**	**133**	P		P	12 22 23.3	+4.9
FITZ	**Fitzroy Crossi**	**42.20**	**133**	P		P	12 22 23.3	+4.9
	4.7nm,1.1s,baz=278,slow=5.3,SNR=3.4							
ZALV	**Zalesovo Beam**	**43.71**	**352**	P		**P**	**12 22 30.9**	**+0.8**
ZALV	**Zalesovo Beam**	**43.71**	**352**	P		**P**	**12 22 30.9**	**+0.8**
	6.4nm,0.8s,baz=175,slow=8.7,SNR=24							
BVAR	**Borovoye Array**	**46.31**	**340**	P		**P**	**12 22 51.0**	**+0.1**
BVAR	**Borovoye Array**	**46.31**	**340**	P		**P**	**12 22 51.0**	**+0.1**
	2.0nm,0.7s,baz=144,slow=8.4,SNR=10							
USRK	**Ussuriysk Arra**	**46.49**	**37**	P		**P**	**12 22 52.5**	**0.0**
	2.1nm,0.9s,baz=236,slow=6.5,SNR=6.8							
MJAR	**Matsushiro Arr**	**47.13**	**50**	P		**P**	**12 22 58.4**	**+0.7**
MJAR		

IDC ***26*** *12:18:37.0±2.2,6˚.54S×130˚.37E,h0^{km},mb3.3/1, mb1 3.5/4,mb1mx3.3/19,mbtmp3.3/4,ML3.1/3,Error ellipse: s-maj=89.5km s-min=28.0km az=78.0*

ISC 26 12:18:46.7±1.5,7˚.05S±0˚.09×131˚.0E±0˚.2,h47^{km},n9, σ2^{s}01/8,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.30**	**18**	**P**		**Sn**	**12 20 38.0**	**-0.6**
	baz=14,SNR=7.1							
MTN	**Manton Dam**	**5.76**	**178**	P		Pn	12 20 16.8	+7.1
	baz=13,SNR=7.9							
KDU	**Kakadu**	**5.80**	**165**	**P**		**Pn**	**12 20 09.9**	**-0.3**
	baz=12,SNR=24							
KNRA	**Kununurra**	**8.84**	**194**	**P**		**Pn**	**12 20 54.6**	**+2.7**
	baz=16,SNR=10							
FITZ	**Fitzroy Crossi**	**12.15**	**205**	Pn		**Pn**	**12 21 35.8**	**-1.4**
	0.1nm,0.3s,baz=38,slow=22,SNR=12							
FITZ				Sn		Sn	12 23 40.9	-10
	0.3nm,0.3s,baz=129,slow=20,SNR=8.5							
FITZ	**Fitzroy Crossi**	**12.15**	**205**	P		**Pn**	**12 21 36.9**	**-0.3**
	baz=20,SNR=3.2							
WRA	**Warramunga Arr**	**13.23**	**166**	Pn		**Pn**	**12 21 53.8**	**+1.7**
	0.1nm,0.3s,baz=346,slow=13,SNR=2.8							
WRA				Sn		**Sn**	**12 24 15.3**	**-2.6**
	0.2nm,0.3s,baz=334,slow=22,SNR=3.8							
ASAR	**Alice Springs**	**16.77**	**171**	P		**P**	**12 22 40.9**	**+0.9**
	0.1nm,0.3s,baz=344,slow=8.8,SNR=12							
MKAR	**Makanchi Array**	**68.78**	**326**	P		P	12 29 38.4	-7.5
	0.2nm,0.5s,baz=125,slow=6.5,SNR=1.9							

BJI ***26*** *12:25:47.9,10˚.50N×93˚.98E,h5^{km},mB5.0/30,mb4.5/38, Ms4.5/30,Ms7 4.2/29*

ISCJB ***26*** *12:25:49.4±1.4,10˚.71N±0˚.05×93˚.97E±0˚.04,h5^{km}±9^{km}, mb4.6/56,MS4.2/12,Error ellipse: s-maj=8.3km s-min=6.8km az=22.9*

IDC ***26*** *12:25:49.7±0.5,10˚.78N×94˚.30E,h0^{km},mb4.1/23, mb1 4.2/25,mb1mx4.1/32,mbtmp4.1/25,ML4.0/2,MS3.9/6, Ms1 3.9/6,ms1mx3.5/42,Error ellipse: s-maj=20.6km s-min=12.0km az=60.0*

NEIC ***26*** *12:25:51.3±0.3,10.66N×94˚.21E,h10^{km},mb4.8/15,Error ellipse: s-maj=10.9km s-min=6.1km az=55.0*

MOS ***26*** *12:25:53.2±1.5,10˚.73N×94˚.39E,h33^{km},mb5.0/15,Error ellipse: s-maj=11.5km s-min=6.7km az=101.1*

GCMT ***26*** *12:25:55.3±0.4,10˚.74N×94˚.39E,h12^{km},MW4.9,Moment Tensor Solution. s16,c17; s60,c86; Moment tensor: Scale 10^{16}Nm; M_{rr}-2.36±.09; $M_{\theta\theta}$ 1.75±.07; $M_{\phi\phi}$0.61±.10; $M_{r\theta}$0.77±.33; $M_{\theta\phi}$0.67±.07; $M_{\phi r}$1.43±.49; Best double couple: M○2.70000×10^{16} NP1:$\phi_8$77.00000°,δ31.00000°, λ-63.00000°. NP2:$\phi_8$226.00000°,δ63.00000°, λ-105.00000°. Principal axes: T 2.4400, Plg16.0000°, Azm328.0000°; N 0.5400, Plg13.0000°, Azm233.0000°; P -2.9800, Plg69.0000°, Azm106.0000°; Data Used: II IC G IU CN.*

BKK ***26*** *12:26:05.2±0.7,11˚N±3˚×9˚4E±˚,h80^{km}±9^{km},M4.8/15, mB5.4/4,mb4.7/15,MLv4.8/4,Mw(mB)4.9/4*

DJA ***26*** *12:26:05.7±1.0,11˚N±4˚×9˚5E±1˚3,h10^{km},M4.8/11, mB5.9/2,mb4.7/11,MLv4.9/5,Mw(mB)5.5/2*

AUST ***26*** *12:26:35.8±14.0,9.16N×96.67E,h204^{km}±1^{km},Error ellipse: s-maj=7.9km s-min=2.8km az=310.0*

ISC 26 12:25:53.1±0.5,10˚.69N±0˚.04×94.11E±0˚.05,h18^{km}±1^{km}, n195,σ1^{s}90/199,mb4.5/56,MS4.1/13,4C-3D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PKDT	**Phuket**	**5.01**	**123**	P		**Pb**	**12 27 19.9**	**-0.5**
	89nm,0.9s,4µm,0.8nm							
BSI	**Banda Aceh**	**5.29**	**167**	P		**Pn**	**12 27 14.5**	**+3.2**
SKLT	**Songkhla**	**7.32**	**118**	P		**Pn**	**12 27 39.1**	**-0.1**
	32nm,0.8s,0.6nm							
SKLT	**Songkhla**	**7.32**	**118**	P		**Pn**	**12 27 41.3**	**+2.1**
KCSI	**Kotacane, Aceh**	**8.00**	**153**	P		Pn	12 27 59.0	+11
	37nm,0.9s,0.1nm							
KULM	**Kulim**	**8.41**	**129**	*e*Pn		Pn	12 27 50.7	-3.4
KULM	**Kulim**	**8.41**	**129**	P		**Pn**	**12 27 52.7**	**-1.4**
PBKT	**Sadao Pong**	**8.87**	**48**	P		Pn	12 27 57.2	-3.2
PBKT	**Sadao Pong**	**8.87**	**48**	P		**Pn**	**12 27 58.9**	**-1.5**
CMAR	**Chiang Mai Arr**	**9.03**	**31**	Pn		**Pn**	**12 28 01.0**	**-1.6**
CMAR	**Chiang Mai Arr**	**9.03**	**31**	Pn		**Pn**	**12 28 01.0**	**-1.6**
	1.0nm,0.3s,baz=224,slow=14,SNR=16							
CMAR				LR		LR	12 31 38.1	
	comp=Z,370nm,19.8s,baz=17,slow=39							
PSI	**Prapat**	**9.18**	**148**	Pn		**Pn**	**12 28 02.7**	**-2.1**
PSI	**Prapat**	**9.18**	**148**	Pn		**Pn**	**12 28 02.7**	**-2.1**
	0.5nm,0.3s,baz=340,slow=15,SNR=2.4							
PSI				LR		LR	12 32 15.2	
	comp=Z,2µm,18.4s,baz=310,slow=42							
PSI	**Prapat**	**9.18**	**148**	P		Pn	12 28 11.7	+6.8
	baz=6.8,SNR=3.8							
IPM	**Ipoh**	**9.22**	**131**	*e*Pn		Pn	12 28 01.1	-4.3
CHTO	**Chiang Mai**	**9.33**	**30**	*e*P		**Pn**	**12 28 07.9**	**+1.1**
CHTO				pmax		pmax		
	comp=Z,13nm,1.1s							
CHTO	**Chiang Mai**	**9.33**	**30**	*e*Pn		**Pn**	**12 28 07.9**	**+1.1**
	comp=Z,13nm,1.1s							
CHTO	**Chiang Mai**	**9.33**	**30**	P		Pn	12 28 13.2	+6.4
	comp=Z,32nm,1.8s,comp=Z,0.1nm							
CHTO	**Chiang Mai**	**9.33**	**30**	P		Pn	12 28 13.2	+6.4
	comp=Z,32nm,1.8s							
CMMT	**Chiang Mai**	**9.33**	**30**	P		Pn	12 28 13.0	+6.2
	comp=Z,48nm,1.3s,comp=Z,0.2nm							
CMMT	**Chiang Mai**	**9.33**	**30**	P		Pn	12 28 13.0	+6.2
	comp=Z,48nm,1.3s							
SKNT	**Sakolnakorn**	**11.44**	**56**	P		Pn	12 28 40.1	+4.4
	comp=Z,50nm,1.3s							
UBPT	**Khong Chiam**	**11.97**	**66**	P		Pn	12 28 46.9	+3.9
	comp=Z,61nm,0.9s							
UBPT	**Khong Chiam**	**11.97**	**66**	P		Pn	12 28 46.9	+3.9
	comp=Z,61nm,0.9s							
BKNI	**Bangkinang**	**12.39**	**146**	P		P	12 28 56.5	-4.1
	comp=Z,79nm,1.2s							
IMP	**Imphal**	**14.02**	**359**	*e*P		**Pn**	**12 29 14.0**	**+3.0**
SHL	**Shillong**	**14.95**	**352**	*ex*		**Pn**	**12 29 25.0**	**+1.3**
HYB	**Hyderabad**	**16.50**	**296**	*i* P		P	12 29 55.0	+8.7
KMI	**Kunming**	**16.53**	**29**	P		**P**	**12 29 46.3**	**-0.5**
KMI				pP		**pP**	**12 29 50.5**	**-1.5**
KMI				sP		**sP**	**12 29 53.5**	**-0.9**
KMI				S		**S**	**12 32 53.5**	**-5.7**
KMI				pmax		pmax		
	comp=Z,8.0nm,1.7s							
KMI				pmax		pmax		
	comp=Z,210nm,3.7s							
KMI				LR		LR		
	comp=N,600nm,11.9s							
KMI				LR		LR		
	comp=E,670nm,9.8s							
KMI				LR		LR		
	comp=Z,480nm,11.2s							
QIZ	**Qiongzhong**	**17.31**	**60**	P		**Pn**	**12 29 54.3**	**+0.3**
QIZ				S		**Sn**	**12 33 09.0**	**+2.7**
QIZ				LR		LR		
	comp=N,770nm,9.8s							
QIZ				LR		LR		
	comp=E,490nm,9.7s							
QIZ				LR		LR		
	comp=Z,1µm,9.4s							
PPBI	**Pangkal Pinang**	**17.50**	**136**	P		P	12 30 03.7	+6.3
	comp=Z,49nm,1.5s,comp=Z,5µm							
KSM	**Kuching**	**18.52**	**119**	*e*P		**P**	**12 30 08.1**	**-0.5**
	comp=Z,40nm,1.3s							
KSM	**Kuching**	**18.52**	**119**	P		Pn	12 30 24.7	+16
KSM	**Kuching**	**18.52**	**119**	P		**P**	**12 30 08.5**	**-0.1**
	baz=16,SNR=5.7							
LSA	**Lhasa**	**19.11**	**352**	P		**P**	**12 30 14.5**	**-1.1**
GYA	**Guiyang**	**19.66**	**35**	P		**Pn**	**12 30 23.3**	**+0.6**
GYA				PP		**PnPn**	**12 30 42.5**	**+5.9**
GYA				SS		Sn	12 34 29.0	+26
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA				pmax		pmax		
	comp=Z,90nm,5.4s							
GYA				LR		LR		
	comp=N,640nm,14.3s							
GYA				LR		LR		
	comp=E,2µm,14.9s							
GYA				LR		LR		
	comp=Z,2µm,15.0s							
SBUM	**Sibu**	**19.75**	**113**	P		**Pn**	**12 30 26.7**	**+2.9**
	comp=Z,27nm,1.2s							
CD2	**Chengdu**	**22.03**	**23**	*e*P		**P**	**12 30 46.8**	**+0.1**
CD2				pP		**pP**	**12 30 51.8**	**-0.2**
CD2				sP		**sP**	**12 30 54.3**	**-0.1**
CD2				PP		**PnPn**	**12 31 13.3**	**+4.5**
CD2				S		**S**	**12 34 46.3**	**-2.8**
CD2				sS		**sS**	**12 34 53.5**	**-4.1**
CD2				SS		SnSn	12 35 26.0	+10
CD2				pmax		pmax		
	comp=Z,30nm,1.6s							
CD2				pmax		pmax		
	comp=Z,190nm,6.0s							
CD2				LR		LR		
	comp=E,640nm,10.8s							
CD2				LR		LR		
	comp=Z,760nm,15.5s							
KKM	**Kota Kinabalu**	**22.35**	**100**	*e*P		**P**	**12 30 52.2**	**+1.8**
	comp=Z,140nm,1.6s							
NDI	**New Delhi**	**23.89**	**321**	*ex*		**P**	**12 31 04.0**	**-1.8**
MYLDM	**Lahad Datu**	**24.76**	**101**	P		P	12 31 20.6	+6.6
	comp=Z,92nm,1.1s							
BBKI	**Banjar Baru**	**24.97**	**123**	P		P	12 31 21.9	+6.0
LZH	**Lanzhou**	**26.78**	**18**	*e*P		**P**	**12 31 36.8**	**+4.6**
LZH				pP		**pP**	**12 31 39.8**	**+2.0**
LZH				sP		**sP**	**12 31 41.5**	**+1.4**
LZH				PP		PnPn	12 32 23.0	+9.1
LZH				*e*S		**S**	**12 36 07.5**	**-0.1**
LZH				sS		**sS**	**12 36 19.0**	**+2.2**
LZH				*e*SS		SnSn	12 37 25.8	+14
LZH				pmax		pmax		
	comp=Z,55nm,1.3s							
LZH				pmax		pmax		
	comp=Z,170nm,5.4s							
LZH				LR		LR		
	comp=N,580nm,14.0s							
LZH				LR		LR		
	comp=E,440nm,10.3s							
LZH				LR		LR		
	comp=Z,940nm,17.0s							
WHN	**Wuhan**	**27.28**	**41**	⇓P		**P**	**12 31 40.8**	**+4.2**
GTA	**Gaotai**	**29.05**	**9**	⇑P		**P**	**12 31 54.3**	**+1.9**
GTA				pP		**pP**	**12 31 58.5**	**+0.4**
GTA				sP		**sP**	**12 32 01.3**	**+0.9**
GTA				S		**S**	**12 36 48.5**	**+5.3**
GTA				sS		**sS**	**12 36 57.0**	**+4.5**
GTA				pmax		pmax		
	comp=Z,7.0nm,1.8s							
GTA				pmax		pmax		
	comp=Z,190nm,5.7s							
GTA				LR		LR		
	comp=N,270nm,19.2s							
GTA				LR		LR		
	comp=E,160nm,18.8s							
GTA				LR		LR		
	comp=Z,400nm,21.6s							
KAPI	**Kappang**	**29.92**	**120**	LR		LR	12 43 59.3	
	comp=Z,249nm,19.2s,baz=273,slow=37							
NJ2	**Nanjing**	**31.21**	**43**	*e*P		**P**	**12 32 12.3**	**+0.9**
NJ2				pmax		pmax		
	comp=Z,50nm,0.6s							
KSH	**Kashi**	**32.93**	**334**	P		**P**	**12 32 25.0**	**-1.7**
KSH				sP		**sP**	**12 32 33.3**	**-1.3**
KSH				PP		**PnPn**	**12 33 36.5**	**+0.7**
KSH				S		**S**	**12 37 40.8**	**-3.2**
KSH				sS		**sS**	**12 37 49.0**	**-4.3**
KSH				SS		**SnSn**	**12 39 39.8**	**-1.9**
KSH				pmax		pmax		
	comp=Z,11nm,1.1s							
KSH				pmax		pmax		
	comp=Z,120nm,4.0s							
KSH				LR		LR		
	comp=N,180nm,8.4s							
KSH				LR		LR		
	comp=E,180nm,6.8s							
KSH				LR		LR		
	comp=Z,220nm,13.8s							
WMQ	**Urumqi**	**33.47**	**352**	P		**P**	**12 32 33.0**	**+1.7**
WMQ				pP		**pP**	**12 32 37.5**	**+0.6**
WMQ				sP		**sP**	**12 32 40.0**	**+0.8**
WMQ				PP		**PP**	**12 33 45.5**	**-1.7**
WMQ				PcP		**PcP**	**12 35 13.3**	**+1.1**
WMQ				S		**S**	**12 37 54.0**	**+1.9**
WMQ				sS		**sS**	**12 38 01.3**	**-0.2**
WMQ				ScP		**ScP**	**12 38 56.3**	**+0.3**
WMQ				SS		**SnSn**	**12 39 58.3**	**+3.6**
WMQ				ScS		**ScS**	**12 42 56.0**	**-0.9**
WMQ				pmax		pmax		
	comp=Z,23nm,1.0s							
WMQ				pmax		pmax		
	comp=Z,220nm,6.5s							
WMQ				LR		LR		
	comp=N,260nm,12.2s							
WMQ				LR		LR		
	comp=E,310nm,20.1s							
WMQ				LR		LR		
	comp=Z,450nm,28.6s							
HHC	**Hu-ho-hao-te**	**33.76**	**24**	*e*P		**P**	**12 32 35.0**	**+1.1**
HHC				PP		**PP**	**12 33 48.5**	**-2.0**
HHC				PcP		**PcP**	**12 35 14.0**	**+0.9**
HHC				S		**S**	**12 37 57.8**	**+1.0**
HHC				sS		**sS**	**12 38 05.3**	**-0.8**
HHC				ScP		**ScP**	**12 38 56.3**	**-0.8**
HHC				PcS		**PcS**	**12 38 58.8**	**-0.3**
HHC				SS		**SnSn**	**12 40 04.5**	**+2.7**
HHC				ScS		**ScS**	**12 42 56.0**	**-2.7**
HHC				pmax		pmax		
	comp=Z,20nm,0.6s							
HHC				pmax		pmax		
	comp=Z,260nm,6.3s							
HHC				LR		LR		
	comp=N,680nm,13.2s							
HHC				LR		LR		
	comp=E,550nm,14.0s							
HHC				LR		LR		
	comp=Z,630nm,13.3s							
AAK	**Ala-Archa**	**36.14**	**335**	*e*P		**P**	**12 32 55.1**	**+0.7**
AAK				pmax		pmax		
	comp=Z,8.0nm,0.8s							
AAK	**Ala-Archa**	**36.14**	**335**	*e*P		**P**	**12 32 55.1**	**+0.7**
	comp=Z,7.7nm,0.8s							
AAK	**Ala-Archa**	**36.14**	**335**	P		**P**	**12 32 53.1**	**-1.4**
	comp=Z,2.0nm,0.3s,baz=175,slow=3.9,SNR=5.1							
MKAR	**Makanchi Array**	**37.35**	**347**	*ce*P		**P**	**12 33 04.0**	**-0.5**
MKAR				pmax		pmax		
	comp=Z,3.0nm,0.7s							
MKAR	**Makanchi Array**	**37.35**	**347**	*e*P		**P**	**12 33 04.3**	**-0.3**
MKAR	**Makanchi Array**	**37.35**	**347**	P		**P**	**12 33 04.1**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=170,slow=7.9,SNR=24							
KKAR	**Karatay Array**	**38.27**	**332**	*e*P		**P**	**12 33 13.2**	**+0.8**
KKAR				pmax		pmax		
	comp=Z,8.0nm,0.9s							
KKAR	**Karatay Array**	**38.27**	**332**	*e*P		**P**	**12 33 13.2**	**+0.8**
	comp=Z,7.7nm,0.9s							
SONM	**Songino Array**	**38.44**	**13**	P		**P**	**12 33 12.3**	**-1.6**
SONM				PcP		**PcP**	**12 35 27.4**	**+0.4**
SONM	**Songino Array**	**38.44**	**13**	P		**P**	**12 33 12.3**	**-1.6**
	comp=Z,4.9nm,1.1s,baz=202,slow=7.4,SNR=16							
SONM				PcP		**PcP**	**12 35 27.4**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=220,slow=3.8,SNR=3.7							
ULN	**Ulaanbaatar**	**38.62**	**14**	*e*P		**P**	**12 33 13.7**	**-1.7**
	comp=Z,8.3nm,1.1s							
ZAK	**Zakamensk**	**40.29**	**9**	*e*P		**P**	**12 33 28.7**	**-0.5**
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.8s							
HVS	**Khovu-Aksy**	**40.33**	**360**	*e*P		**P**	**12 33 29.1**	**-0.4**
HVS				pmax		pmax		
	comp=Z,44nm,1.2s							
KSAR	**Wonju Array Be**	**40.38**	**43**	P		**P**	**12 33 27.8**	**-2.2**
KSRS	**Korea Array**	**40.41**	**43**	P		**P**	**12 33 27.8**	**-2.4**
	comp=Z,2.1nm,0.9s,baz=253,slow=7.8,SNR=10.0							
KURBB	**Kurchatov Arra**	**41.83**	**345**	P		**P**	**12 33 40.8**	**-0.9**
	comp=Z,3.2nm,0.9s,baz=162,slow=7.6,SNR=18							
KURK	**Kurchatov**	**41.89**	**345**	P		**P**	**12 33 40.8**	**-1.4**
KURK	**Kurchatov**	**41.89**	**345**	P		**P**	**12 33 40.8**	**-1.4**
FITZ	**Fitzroy Crossi**	**42.28**	**132**	*e*P		**P**	**12 33 46.2**	**+0.4**
	comp=Z,23nm,1.6s							
FITZ	**Fitzroy Crossi**	**42.28**	**132**	P		**P**	**12 33 46.2**	**+0.4**
	comp=Z,8.1nm,1.2s,baz=331,slow=9.3,SNR=3.7							
FITZ				LR		LR	12 51 01.3	
	comp=Z,143nm,18.8s,baz=320,slow=36							
FITZ	**Fitzroy Crossi**	**42.28**	**132**	P		P	12 33 50.4	+4.5
	baz=40,SNR=3.9							
CN2	**Changchun**	**42.70**	**34**	*e*P		P	12 33 54.0	+5.0
CN2				*e*pP		pP	12 33 58.0	+3.3
CN2				*e*S		S	12 40 17.5	+5.9
CN2				pmax		pmax		
	comp=Z,20nm,1.2s							
CN2				LR		LR		
	comp=N,300nm,14.0s							
CN2				LR		LR		
	comp=E,200nm,14.0s							
CN2				LR		LR		
	comp=Z,200nm,14.0s							
MTN	**Manton Dam**	**43.56**	**122**	P		P	12 34 08.7	+12
	baz=41,SNR=12							
ZALV	**Zalesovo Beam**	**43.78**	**352**	P		**P**	**12 33 57.0**	**-0.5**
ZALV	**Zalesovo Beam**	**43.78**	**352**	P		**P**	**12 33 57.0**	**-0.5**
ZALV	**Zalesovo Beam**	**43.78**	**352**	P		**P**	**12 33 57.0**	**-0.5**
	comp=Z,5.3nm,0.9s,baz=176,slow=7.1,SNR=16							
KDU	**Kakadu**	**44.62**	**120**	P		P	12 34 17.1	+12
	baz=42,SNR=8.9							
MORW	**Morawa**	**44.84**	**152**	P		P	12 34 12.0	+5.7
	baz=42,SNR=5.2							
NVS	**Novosibirsk**	**44.87**	**351**	*e*P		**P**	**12 34 04.3**	**-1.9**
NVS				pmax		pmax		
	comp=Z,44nm,1.9s							
NVS				pmax		pmax		
	comp=N,24nm,1.8s							
MDJ	**Mudanjiang**	**45.53**	**36**	P		**P**	**12 34 11.8**	**+0.2**
MDJ				pmax		pmax		
	comp=Z,90nm,6.9s							
BVAR	**Borovoye Array**	**46.34**	**340**	P		**P**	**12 34 18.0**	**+0.1**
BVAR	**Borovoye Array**	**46.34**	**340**	P		**P**	**12 34 18.0**	**+0.1**
BVAR	**Borovoye Array**	**46.34**	**340**	P		**P**	**12 34 18.0**	**+0.1**
	comp=Z,4.1nm,0.9s,baz=148,slow=7.0,SNR=6.4							
BRVK	**Borovoye**	**46.40**	**340**	*e*P		**P**	**12 34 19.1**	**+0.7**
BRVK				pmax		pmax		
	comp=Z,4.0nm,0.8s							
BRVK	**Borovoye**	**46.40**	**340**	*e*P		**P**	**12 34 19.1**	**+0.7**
	comp=Z,4.4nm,0.8s							
USRK	**Ussuriysk Arra**	**46.69**	**37**	P		**P**	**12 34 18.3**	**-2.5**
	comp=Z,2.8nm,0.9s,baz=226,slow=7.8,SNR=5.6							
MAT	**Matsushiro**	**47.34**	**50**	P		P	12 34 29.9	+3.9
MJAR	**Matsushiro Arr**	**47.34**	**50**	P		**P**	**12 34 23.4**	**-2.7**
MJAR				PcP		**PcP**	**12 35 54.9**	**-1.9**
MJAR	**Matsushiro Arr**	**47.34**	**50**	P		**P**	**12 34 23.4**	**-2.7**
	comp=Z,0.7nm,0.9s,baz=252,slow=8.4,SNR=3.2							
MJAR				PcP		**PcP**	**12 35 54.9**	**-1.9**
	comp=Z,4.3nm,0.9s,baz=243,slow=5.6,SNR=4.8							
KLBR	**Kellerberrin**	**47.76**	**152**	P		P	12 34 35.0	+5.7
	baz=46,SNR=4.8							
ABKAR	**Akbulak array**	**47.77**	**330**	*e*P		**P**	**12 34 29.0**	**-0.1**
	comp=Z,3.3nm,0.7s							
RAYN	**Ar Rayn**	**47.96**	**292**	*e*P		**P**	**12 34 30.5**	**-0.6**
	comp=Z,17nm,1.0s							
JAY	**Jayapura**	**48.19**	**103**	P		P	12 34 29.2	-3.8
	baz=45,SNR=3.3							
NWAO	**Narrogin (SRO)**	**48.66**	**154**	LR		LR	12 56 01.6	
	comp=Z,213nm,19.9s,baz=268,slow=37							
GALA	**Gala**	**48.75**	**315**	P		P	12 34 31.6	-5.3
	SNR=3.0							
GALA	**Gala**	**48.75**	**315**	P		P	12 34 31.6	-5.3
	SNR=3.0							
AKTO	**Aktyubinsk**	**49.49**	**330**	P		**P**	**12 34 43.0**	**+0.6**
AKTO	**Aktyubinsk**	**49.49**	**330**	P		**P**	**12 34 43.0**	**+0.6**
AKTO	**Aktyubinsk**	**49.49**	**330**	P		**P**	**12 34 43.0**	**+0.6**
	comp=Z,2.5nm,0.7s,baz=118,slow=8.4,SNR=8.0							
KLR	**Kul'dur**	**49.51**	**32**	*e*P		**P**	**12 34 39.8**	**-2.7**
GUMO	**Guam**	**49.64**	**81**	*e*P		**P**	**12 34 43.8**	**-0.2**
	comp=Z,105nm,1.2s							
WRA	**Warramunga Arr**	**49.95**	**127**	P		**P**	**12 34 44.3**	**-2.0**
WRA	**Warramunga Arr**	**49.95**	**127**	P		**P**	**12 34 44.3**	**-2.0**
	comp=Z,3.3nm,0.8s,baz=303,slow=8.8,SNR=12							
WRAB	**Tennant Creek**	**49.96**	**127**	*e*P		**P**	**12 34 43.9**	**-2.5**
WRAB				pmax		pmax		
	comp=Z,24nm,1.2s							
WRAB	**Tennant Creek**	**49.96**	**127**	*e*P		**P**	**12 34 43.9**	**-2.5**
	comp=Z,24nm,1.2s							
ATD	**Arta Tunnel**	**50.25**	**276**	LR		LR	12 52 21.7	
	comp=Z,58nm,20.3s,baz=215,slow=32							
SEKA	**Sheki**	**51.13**	**315**	P		P	12 35 02.3	+7.3
	SNR=3.4							
SEKA	**Sheki**	**51.13**	**315**	P		P	12 35 02.3	+7.3
	SNR=3.4							
GANJ	**Ganja**	**51.53**	**314**	P		P	12 35 05.5	+7.5
	SNR=5.1							
GANJ	**Ganja**	**51.53**	**314**	P		P	12 35 05.5	+7.5
	SNR=5.1							
NAX	**Nakhchivan**	**51.61**	**312**	P		P	12 35 06.3	+7.7
	SNR=3.9							
NAX	**Nakhchivan**	**51.61**	**312**	P		P	12 35 06.3	+7.7
	SNR=3.9							
ASAR	**Alice Springs**	**51.77**	**132**	P		**P**	**12 34 58.0**	**-2.1**
ASAR	**Alice Springs**	**51.77**	**132**	P		**P**	**12 34 58.0**	**-2.1**
	comp=Z,4.0nm,0.7s,baz=310,slow=6.7,SNR=42							
CLNS	**Chul'man**	**51.83**	**21**	*e*P		**P**	**12 35 01.0**	**+1.0**
CLNS				pmax		pmax		
	comp=Z,15nm,1.2s							
CLNS				pmax		pmax		
	comp=E,9.0nm,1.1s							
CLNS				pmax		pmax		
	comp=N,10.0nm,1.3s							
GNI	**Garni**	**52.48**	**313**	*e*P		**P**	**12 35 06.3**	**+1.0**
	comp=N,19nm,0.9s							
DGRG	**David-gareji**	**52.49**	**315**	P		P	**12 35 04.2**	**-1.0**
SVE	**Sverdlovsk**	**52.80**	**338**	⇑*e*P		P	12 35 13.3	+6.2
SVE				pmax		pmax		
	comp=Z,15nm,1.2s							
TBLG	**Delisi**	**53.04**	**315**	*e*P		**P**	**12 35 06.6**	**-2.6**
TBLG	**Delisi**	**53.04**	**315**	P		**P**	**12 35 06.6**	**-2.6**
ARU	**Arti**	**53.31**	**336**	*c i*P		**P**	**12 35 10.1**	**-0.8**
ARU							12 37 08.5	
ARU				S		**S**	**12 42 41.4**	**-0.1**
ARU				SS		**SS**	**12 46 14.3**	**-7.1**
ARU				pmax		pmax		
	comp=Z,11nm,2.5s							
ASAJ	**Asahikawa**	**53.34**	**42**	*e*P		**P**	**12 35 11.9**	**+0.6**
	comp=Z,20nm,1.5s							
ONI	**Oni**	**54.24**	**315**	P		P	12 35 12.1	-5.9
YSS	**Yuzh-Sakhalins**	**54.61**	**39**	*e*P		**P**	**12 35 20.4**	**-0.2**
KBZ	**Khabaz**	**55.02**

FINES	FINES Array B	70.23	332	P		P		12 37 04.0	-0.7	
	comp=Z,1.4nm,0.7s,baz=99,slow=12,SNR=3.8									
ARCES	ARCESS Array B	72.62	340	P		P		12 37 18.1	-1.1	
ARCES	ARCESS Array B	72.62	340	P		P		12 37 18.1	-1.1	
	comp=Z,0.8nm,0.6s,baz=95,slow=7.4,SNR=6.8									
DPC	Dobruska-Polom	74.05	319	*e*P		P		12 37 31.1	+3.1	
DPC	Dobruska-Polom	74.05	319	*e*P		P		12 37 31.1	+3.1	
GERES	GERESS Array B	75.72	318	P		P		12 37 37.1	-0.7	
GERES	GERESS Array B	75.72	318	P		P		12 37 37.1	-0.7	
	comp=Z,0.2nm,0.4s,baz=66,slow=12,SNR=2.9									
SPITS	Spitsbergen Ar	77.09	348	P		P		12 37 44.0	-0.9	
SPITS	Spitsbergen Ar	77.09	348	P		P		12 37 44.0	-0.9	
	comp=Z,9.3nm,1.0s,baz=169,slow=8.5,SNR=3.1									
NB2	NORSAR Subarra	77.28	330	P		P		12 37 50.9	+4.6	
	comp=Z,0.8nm,0.8s,baz=90,slow=5.9									
NOA	NORSAR Array B	77.28	330	P		P		12 37 44.5	-1.7	
NOA	NORSAR Array B	77.28	330	P		P		12 37 44.6	-1.7	
	comp=Z,0.9nm,0.9s,baz=90,slow=5.4,SNR=2.7									
LPG	La Plagne	80.62	315	*e*P		P		12 38 05.1	-0.1	
LPL	La Plagne	80.64	315	*e*P		P		12 38 05.4	+0.2	
ORIF	Oris-en-Rattie	81.30	314	*e*P		P		12 38 09.0	+0.4	
	comp=Z,23nm,1.4s									
KOWE	Korovin West	82.63	38	P		P		12 38 17.9	+2.6	
KOKL	Mount Kliuchef	82.67	38	P		P		12 38 16.9	+1.4	
ATKA	Atka Island	82.68	38	P		P		12 38 15.8	+0.2	
KOFP	Korovin Flat P	82.73	38	P		P		12 38 15.7	-0.2	
KOSE	Korovin Southe	82.75	38	P		P		12 38 16.6	+0.6	
TORD	Torodi Ar. Bea	89.92	283	P		P		12 38 52.5	+0.6	
TORD				PP		PP		12 42 29.2	+4.4	
TORD	Torodi Ar. Bea	89.92	283	P		P		12 38 52.5	+0.6	
	comp=Z,1.0nm,0.8s,baz=72,slow=3.8,SNR=5.3									
TORD				PP		PP		12 42 29.2	+4.4	
	comp=Z,1.8nm,1.1s,baz=77,slow=9.4,SNR=5.8									
ILAR	Eielson Array	92.16	22	P		P		12 38 59.6	-1.7	
ILAR				PP		PP		12 42 44.0	+2.9	
ILAR	Eielson Array	92.16	22	P		P		12 38 59.6	-1.7	
	comp=Z,1.0nm,0.9s,baz=286,slow=2.8,SNR=5.6									
ILAR				PP		PP		12 42 44.0	+2.9	
	comp=Z,0.5nm,0.9s,baz=322,slow=9.0,SNR=4.7									
VNDA	Vanda	95.68	168	P		P		12 39 17.6	+0.5	
VNDA	Vanda	95.68	168	P		P		12 39 17.6	+0.5	
	comp=Z,0.2nm,0.4s,baz=266,slow=12,SNR=2.3									
HLID	Hailey	120.08	24	*e*PKPdf		PKPdf		12 44 43.0	-0.4	
REDW	Red Top Meadow	121.59	21	*e*PKPdf		PKPdf		12 44 45.2	-1.1	
NVAR	Mina Array Bea	122.52	30	PKP		PKPdf		12 44 47.3	-1.0	
NVAR	Mina Array Bea	122.52	30	PKP		PKPdf		12 44 47.3	-1.0	
	comp=Z,0.6nm,0.5s,baz=311,slow=2.6,SNR=7.2									
PDAR	Pinedale Array	122.56	21	PKP		PKPdf		12 44 46.9	-1.3	
PDAR	Pinedale Array	122.56	21	PKP		PKPdf		12 44 46.9	-1.3	
	comp=Z,0.6nm,0.8s,baz=238,slow=1.0,SNR=6.3									
ECSD	EROS Data Cent	124.97	9	*e*PKPdf		PKPdf		12 44 51.5	-1.0	
MSU	Marysvale	125.24	25	*e*PKIKP		PKPdf		12 44 53.2	-0.3	
MSU	Marysvale	125.24	25	*e*PKPdf		PKPdf		12 44 53.2	-0.3	
ANMO	Albuquerque	130.61	22	*e*PKPdf		PKPdf		12 45 04.9	+1.1	
TXAR	Lajitas Array	136.67	23	PKP		PKPdf		12 45 14.8	-0.4	
TXAR	Lajitas Array	136.67	23	PKP		PKPdf		12 45 14.8	-0.4	
	comp=Z,0.3nm,0.5s,baz=155,slow=0.2,SNR=8.5									
JCT	Junction City	136.94	18	*e*PKIKP		PKPdf		12 45 16.4	+0.9	
JCT	Junction City	136.94	18	*e*PKPdf		PKPdf		12 45 16.4	+0.9	
BDFB	Brasilia	142.83	258	PKP		PKPdf		12 45 27.6	+1.0	
BDFB	Brasilia	142.83	258	PKP		PKPdf		12 45 27.6	+1.0	
	comp=Z,2.8nm,0.8s,baz=47,slow=3.2,SNR=4.1									
MTP	Monte Pirata	145.05	325	*e*PKPdf		PKPbc		12 45 29.7	0.0	
CELP	Cerrillos	145.64	326	*e*PKPdf		PKPdf		12 45 30.8	-0.5	
OBIP	Obispado Ponce	145.68	326	*e*PKPdf		PKPdf		12 45 30.9	-0.6	
PLCA	Paso Flores	147.15	202	PKPbc		PKPbc		12 45 35.9	+0.3	
PLCA	Paso Flores	147.15	202	PKPbc		PKPbc		12 45 35.9	+0.3	
	comp=Z,2.6nm,0.9s,baz=28,slow=6.9,SNR=4.6									
CPUP	Villa Florida	148.87	236	PKPbc		PKPbc		12 45 41.7	+1.2	
CPUP	Villa Florida	148.87	236	PKPbc		PKPbc		12 45 41.7	+1.2	
	comp=Z,3.7nm,0.8s,baz=114,slow=7.1,SNR=5.1									

BJI ***26*** *12:34:26.4, 10˚.32N×94˚.22E, h10km, mB5.0/26, mb4.7/42, Ms4.5/31, Ms7 4.2/30*

ISCJB ***26*** *12:34:29.4±1.2, 10˚.66N±0˚.04×94˚.32E±0˚.04, h7km±7km, mb4.6/60, MS4.2/15, Error ellipse: s-maj=6.9km s-min=5.9km az=35.7*

IDC ***26*** *12:34:29.9±0.5, 10˚.72N×94˚.31E, h0km, mb4.3/24, mb1 4.4/26, mb1mx4.3/32, mbtmp4.2/26, ML3.8/2, MS4.1/7, Ms1 4.1/7, ms1mx3.5/43, Error ellipse: s-maj=18.6km s-min=12.7km az=52.0*

NEIC ***26*** *12:34:33.0±2.6, 10˚.71N×94˚.34E, h18km±15km, mb4.8/15, Error ellipse: s-maj=9.1km s-min=4.9km az=65.0*

MOS ***26*** *12:34:33.4±1.1, 10˚.76N×94˚.39E, h33km, mb5.1/15, Error ellipse: s-maj=11.8km s-min=6.3km az=100.6*

GCMT ***26*** *12:34:37.5±0.5, 10˚.80N×94˚.58E, h14km±1km, MW4.8, Moment Tensor Solution. s11,c13; s58,c87; Moment tensor: Scale 10^16Nm; Mrr-2.00±.23; Mθθ2.08±.16; Mφφ-0.08±.13; Mrθ0.24±.27; Mrφ0.55±.08; Mθφ0.20±.40; Best double couple: M0 2.10000×10^16 NP1:θ81.00000°, δ41.00000°, λ-83.00000°. NP2:θ252.00000°, δ49.00000°, λ-96.00000°. Principal axes: T 2.2300, Plg4.0000°, Azm346.0000°; N -0.2000, Plg4.0000°, Azm256.0000°; P -2.0300, Plg84.0000°, Azm117.0000°; Data Used: II G IU IC CN.*

DJA ***26*** *12:34:39.6±1.7, 11˚.8˚×9˚.5E±1˚.0, h50km±17km, M4.7/8, mB5.6/2, mb4.7/8, Mw(mB)5.0/2*

ISC 26 12:34:32.4±0.5, 10°.63N±0°.04×94°.32E±0°.05, h14km±2km, n169, σ1°65°/218, mb4.6/60, MS4.1/16, 1C-5D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PBA	Port Blair	1.85	304	*e*P		Pn	12 35 04.4	+0.7
PBA				*ex*		Sn	12 35 21.6	-5.4
DGPR	DIGLIPUR	2.88	332	*e*P		Pn	12 35 19.3	+1.4
DGPR				*ex*		Sn	12 35 50.7	-1.6
CMBY	CAMPBELL BAY	3.62	186	*e*P		Pn	12 35 30.3	+2.3
CMBY				*ex*		Sn	12 36 19.1	+8.6
KCSI	Kotacane, Aceh	7.85	154	P		Pb	12 36 53.6	+5.3
KULM	Kulim	8.21	130	*e*Pn		Pn	12 36 29.6	-1.7
KULM				*e*Sn		Sn	12 37 59.5	-4.4
PBKT	Sadao Pong	8.76	47	P		Pn	12 36 37.0	-1.7
	39nm,0.9s							
CMAR	Chiang Mai Arr	8.98	29	Pn		Pn	12 36 41.3	-0.4
CMAR	Chiang Mai Arr	8.98	29	Pn		Pn	12 36 41.3	-0.4
	0.4nm,0.3s,baz=219,slow=14,SNR=16							
CMAR				LR		LR	12 40 15.7	
	comp=Z,586nm,18.3s,baz=196,slow=39							
PSI	Prapat	9.02	149	Pn		Pn	12 36 44.5	+2.1
PSI	Prapat	9.02	149	Pn		Pn	12 36 44.5	+2.1
	0.5nm,0.3s,baz=4.7,slow=13,SNR=1.9							
PSI				LR		LR	12 40 36.3	
	comp=Z,1μm,21.1s,baz=312,slow=40							
IPM	Ipoh	9.03	132	*e*Pn		Pn	12 36 43.4	+1.0
CHTO	Chiang Mai	9.29	28	*e*P		Pn	12 36 45.8	-0.2
CHTO				pmax		pmax		
	comp=Z,11nm,1.1s							
CHTO	Chiang Mai	9.29	28	*e*Pn		Pn	12 36 45.8	-0.2
	comp=Z,11nm,1.1s							
SHL	Shillong	15.04	351	*e*P		Pn	12 38 03.0	-1.8
SHL				AMB		AMB	12 38 08.4	
	comp=Z,20nm,1.6s							
BOK	Bokaro	15.37	330	*e*P		Pn	12 38 10.4	+1.4
BOK				AMB		AMB	12 38 15.6	
	comp=Z,38nm,1.9s							
KMI	Kunming	16.48	28	P		Pn	12 38 24.8	+1.2
KMI				pP		pP	12 38 28.3	-1.8
KMI				sP		sP	12 38 30.5	-1.5
KMI				PP		PnPn	12 38 39.0	+6.1
KMI				S		Sn	12 41 27.8	+1.2
KMI				pmax		pmax		
	comp=Z,12nm,1.5s							
KMI				pmax		pmax		
	comp=Z,150nm,3.4s							
KMI				LR		LR		
	comp=N,610nm,12.5s							
KMI				LR		LR		
	comp=E,840nm,8.7s							
KMI				LR		LR		
	comp=Z,600nm,11.8s							
HYB	Hyderabad	16.71	296	*i* P		P	12 38 30.0	+1.4
HYB	Hyderabad	16.71	296	*e*P		Pn	12 38 27.1	+0.8
HYB				AMB		AMB	12 38 53.1	
	comp=Z,41nm,2.4s							
QIZ	Qiongzhong	17.16	59	P		Pn	12 38 32.0	0.0
QIZ				S		Sn	12 41 43.0	+0.2
QIZ				LR		LR		
	comp=N,710nm,8.4s							
QIZ				LR		LR		
	comp=E,430nm,10.7s							
QIZ				LR		LR		
	comp=Z,1μm,8.9s							
PPBI	Pangkal Pinang	17.31	137	P		P	12 38 39.9	+4.7
	comp=Z,25nm,1.4s							
LSA	Lhasa	19.21	352	P		P	12 38 56.0	-0.5
LSA				S		S	12 42 39.0	+4.8
LSA	Lhasa	19.21	352	*e*P		Pn	12 38 57.2	-0.2
LSA				pmax		pmax		
	comp=Z,30nm,1.2s							
LSA	Lhasa	19.21	352	*e*P		Pn	12 38 57.2	-0.2
	comp=Z,30nm,1.2s							
SBUM	Sibu	19.54	113	P		Pn	12 39 01.9	+0.8
	comp=Z,23nm,1.4s							
GYA	Guiyang	19.59	35	P		P	12 39 00.5	+0.1
GYA				PP		PnPn	12 39 21.3	+5.9
GYA				S		S	12 42 38.5	-3.0
GYA				SS		SnSn	12 43 04.8	+8.5
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
GYA				pmax		pmax		
	comp=Z,90nm,4.2s							
GYA				LR		LR		
	comp=N,520nm,11.5s							
GYA				LR		LR		
	comp=E,2μm,14.9s							
GYA				LR		LR		
	comp=Z,2μm,14.9s							
BHPL	Bhopal	20.43	310	*e*P		P	12 39 10.1	+0.6
BHPL				AMB		AMB	12 39 24.6	
	comp=Z,41nm,1.4s							
POO	Poona	21.30	294	*e*P		P	12 39 19.6	+0.7
NDI	New Delhi	24.07	321	*e*P		P	12 39 46.0	-1.5
ENH	Enshi	24.11	34	*e*P		P	12 39 46.8	-1.1
	comp=Z,14nm,0.7s							
MYLDM	Lahad Datu	24.55	101	P		P	12 39 54.4	+2.4
	comp=Z,71nm,1.6s,comp=Z,1μm							
DDI	Dehra Dun	24.76	325	*ex*		P	12 39 50.4	-3.4
SMLA	Simla	25.87	325	*e*P		P	12 40 04.7	+0.9
SMLA				AMB		AMB	12 40 11.1	
	comp=Z,42nm,2.0s							
LZH	Lanzhou	26.78	17	*e*P		P	12 40 12.0	-0.2
LZH				pP		pP	12 40 16.3	-0.1
LZH				sP		sP	12 40 19.0	+0.9
LZH				PP		PnPn	12 40 57.3	+3.7
LZH				*e*S		S	12 44 45.0	-2.9
LZH				*e*SS		SnSn	12 45 58.0	+5.9
LZH				pmax		pmax		
	comp=Z,39nm,1.3s							
LZH				pmax		pmax		
	comp=Z,180nm,6.2s							
LZH				LR		LR		
	comp=N,510nm,11.6s							
LZH				LR		LR		
	comp=E,600nm,14.0s							
LZH				LR		LR		
	comp=Z,930nm,16.5s							
WHN	Wuhan	27.19	40	⇓P		P	12 40 16.3	+0.6
DHRM	DHARAMSHALA	27.20	325	*e*P		P	12 40 17.6	+1.6
DHRM				AMB		AMB	12 41 04.2	
	comp=Z,20nm,1.1s							
GTA	Gaotai	29.08	9	⇑P		P	12 40 32.8	+0.1
GTA				pP		pP	12 40 37.0	+0.1
GTA				sP		sP	12 40 39.8	+1.2
GTA				S		S	12 45 22.8	-1.2
GTA				sS		sS	12 45 30.5	-0.5
GTA				SS		SnSn	12 46 53.5	+5.4
GTA				pmax		pmax		
	comp=Z,10.0nm,1.6s							
GTA				pmax		pmax		
	comp=Z,170nm,5.9s							
GTA				LR		LR		
	comp=N,340nm,16.9s							
GTA				LR		LR		
	comp=E,230nm,16.6s							
GTA				LR		LR		
	comp=Z,390nm,19.0s							
KAPI	Kappang	29.71	120	LR		LR	12 52 39.8	
	comp=Z,274nm,18.6s,baz=8.6,slow=37							
NJ2	Nanjing	31.11	43	*e*P		P	12 40 51.0	+0.5
NJ2				pmax		pmax		
	comp=Z,30nm,0.6s							
KSH	Kashi	33.08	334	P		P	12 41 05.8	-2.1
KSH				sP		sP	12 41 13.3	-0.6
KSH				PP		PnPn	12 42 15.0	-2.6
KSH				S		S	12 46 19.8	-6.9
KSH				PcS		PcS	12 47 36.0	-0.8
KSH				pmax		pmax		
	comp=Z,13nm,0.7s							
KSH				pmax		pmax		
	comp=Z,89nm,4.6s							
KSH				LR		LR		
	comp=N,200nm,10.9s							
KSH				LR		LR		
	comp=E,240nm,9.4s							
KSH				LR		LR		
	comp=Z,190nm,10.6s							
WMQ	Urumqi	33.57	351	P		P	12 41 13.0	+1.0
WMQ				pP		pP	12 41 17.3	+1.0
WMQ				sP		sP	12 41 20.0	+2.0
WMQ				PP		PnPn	12 42 25.0	+1.4
WMQ				PcP		PcP	12 43 53.8	+1.3
WMQ				S		S	12 46 33.3	-0.7
WMQ				sS		sS	12 46 40.5	-0.5
WMQ				ScP		ScP	12 47 36.8	-0.1
WMQ				SS		SnSn	12 48 36.8	-0.2
WMQ				ScS		ScS	12 51 36.3	-1.7
WMQ				pmax		pmax		
	comp=Z,26nm,1.2s							
WMQ				pmax		pmax		
	comp=Z,250nm,4.5s							
WMQ				LR		LR		
	comp=N,280nm,11.6s							
WMQ				LR		LR		
	comp=E,96nm,8.1s							
WMQ				LR		LR		
	comp=Z,210nm,27.6s							
HHC	Hu-ho-hao-te	33.73	24	*e*P		P	12 41 13.5	-0.1
HHC				PP		PnPn	12 42 26.0	+0.2
HHC				PcP		PcP	12 43 54.3	+1.2
HHC				S		S	12 46 35.3	-1.5
HHC				ScP		ScP	12 47 37.3	-0.3
HHC				PcS		PcS	12 47 39.3	+0.3
HHC				ScS		ScS	12 51 37.3	-1.8
HHC				pmax		pmax		
	comp=Z,29nm,0.6s							
HHC				pmax		pmax		
	comp=Z,170nm,6.0s							
HHC				LR		LR		
	comp=N,720nm,13.2s							
HHC				LR		LR		
	comp=E,550nm,13.5s							
HHC				LR		LR		
	comp=Z,330nm,13.3s							
BJI	Beijing	35.13	30	P		P	12 41 26.0	+0.5
BJI				pmax		pmax		
	comp=Z,13nm,1.3s							
BJI				LR		LR		
	comp=N,340nm,20.6s							
BJI				LR		LR		
	comp=E,260nm,11.4s							
BJI				LR		LR		
	comp=Z,140nm,18.9s							
AAK	Ala-Archa	36.28	335	*e*P		P	12 41 35.9	+0.2
AAK				pmax		pmax		
	comp=Z,17nm,1.3s							
AAK	Ala-Archa	36.28	335	*e*P		P	12 41 35.9	+0.2
	comp=Z,17nm,1.3s							
AAK	Ala-Archa	36.28	335	LR		LR	12 58 08.9	
	comp=Z,331nm,21.7s,baz=126,slow=39							
FRU	Bishkek	36.40	335	*e*P		P	12 41 35.0	-1.4
MKAR	Makanchi Array	37.46	346	*e*P		P	12 41 44.6	-0.9
MKAR	Makanchi Array	37.46	346	*e*P		P	12 41 44.6	-0.9
MKAR	Makanchi Array	37.46	346	P		P	12 41 44.6	-0.9
	comp=Z,7.2nm,0.8s,baz=161,slow=7.7,SNR=45							
KKAR	Karatay Array	38.42	332	*e*P		P	12 41 52.8	-0.8
KKAR	Karatay Array	38.42	332	*e*P		P	12 41 52.8	-0.8
SONM	Songino Array	38.46	13	P		P	12 41 53.2	-0.8
SONM				PcP		PcP	12 44 07.3	+0.3
SONM	Songino Array	38.46	13	P		P	12 41 53.2	-0.8
	comp=Z,6.6nm,1.0s,baz=195,slow=7.0,SNR=35							
SONM				PcP		PcP	12 44 07.3	+0.3
	comp=Z,1.1nm,0.7s,baz=206,slow=2.9,SNR=3.5							
SONM				LR		LR	12 59 17.5	
	comp=Z,474nm,18.9s,baz=193,slow=39							
ULN	Ulaanbaatar	38.63	14	*e*P		P	12 41 54.2	-1.3
	comp=Z,18nm,1.4s							
ULN	Ulaanbaatar	38.63	14	P		P	12 41 55.2	-0.3
	comp=Z,9.7nm,1.6s							
KSAR	Wonju Array Be	40.28	43	P		P	12 42 08.3	-0.9
KSRS	Korea Array	40.31	43	P		P	12 42 08.3	-1.1
	comp=Z,8.8nm,1.2s,baz=251,slow=9.0,SNR=22							
ZAK	Zakamensk	40.32	9	*e*P		P	12 42 08.5	-0.9
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.8s							
HVS	Khovu-Aksy	40.39	359	*e*P		P	12 42 09.5	-0.5
HVS				pmax		pmax		
	comp=Z,175nm,1.7s							
KURBB	Kurchatov Arra	41.94	345	P		P	12 42 22.1	-0.5
	comp=Z,6.8nm,0.9s,baz=161,slow=8.1,SNR=36							
KURK	Kurchatov	42.01	345	P		P	12 42 22.1	-1.0
KURK	Kurchatov	42.01	345	P		P	12 42 22.1	-1.0
FITZ	Fitzroy Crossi	42.08	132	LR		LR	13 01 24.2	
	comp=Z,187nm,20.4s,baz=323,slow=38							
CN2	Changchun	42.63	34	*e*P		P	12 42 28.0	-0.4
CN2				*ep*P		pP	12 42 33.5	+0.8
CN2				*e*S		S	12 48 49.8	-1.3
CN2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
CN2				LR		LR		
	comp=N,300nm,14.0s							
CN2				LR		LR		
	comp=E,200nm,14.0s							
CN2				LR		LR		
	comp=Z,200nm,14.0s							
ZALV	Zalesovo Beam	43.87	352	P		P	12 42 37.5	-0.7
ZALV	Zalesovo Beam	43.87	352	P		P	12 42 37.5	-0.7
ZALV	Zalesovo Beam	43.87	352	P		P	12 42 37.5	-0.7
	comp=Z,9.2nm,0.9s,baz=168,slow=7.6,SNR=35							
NVS	Novosibirsk	44.97	351	*e*P		P	12 42 44.5	-2.5
NVS				*e*S		S	12 49 16.0	-8.8
NVS				pmax		pmax		
	comp=Z,55nm,2.3s							
NVS				pmax		pmax		
	comp=N,17nm,2.0s							
NVS				smax		smax		
	comp=E,31nm,3.2s							
KRAR	Krasnoyarsk	45.29	359	*e*P		P	12 42 48.2	-1.3
KRAR				pmax		pmax		
	comp=Z,24nm,1.2s							
MDJ	Mudanjiang	45.46	35	P		P	12 42 51.8	+0.7
MDJ				pP		pP	12 42 54.0	-1.4
MDJ				sP		sP	12 42 55.3	-1.8
MDJ				PcP		PcP	12 44 30.8	+0.8
MDJ				S		S	12 49 33.8	+1.6
MDJ				ScS		ScS	12 52 48.0	+0.5
MDJ				pmax		pmax		
	comp=Z,7.0nm,1.6s							
MDJ				pmax		pmax		
	comp=Z,100nm,7.5s							
MDJ				LR		LR		
	comp=N,72nm,18.7s							
MDJ				LR		LR		
	comp=E,60nm,18.7s							
MDJ				LR		LR		
	comp=Z,62nm,25.0s							
BVAR	Borovoye Array	46.47	340	P		P	12 42 57.9	-1.0
BVAR	Borovoye Array	46.47	340	P		P	12 42 57.9	-1.0
BVAR	Borovoye Array	46.47	340	P		P	12 42 57.9	-1.0
	comp=Z,2.7nm,0.8s,baz=140,slow=7.7,SNR=15							
BRVK	Borovoye	46.53	340	*e*P		P	12 42 57.9	-1.4
BRVK				pmax		pmax		
	comp=Z,4.0nm,0.8s							
BRVK	Borovoye	46.53	340	*e*P		P	12 42 57.9	-1.4
	comp=Z,3.9nm,0.8s							
USRK	Ussuriysk Arra	46.62	37	P		P	12 42 58.9	-1.3
	comp=Z,3.6nm,1.0s,baz=235,slow=6.7,SNR=13							
USRK				PP		PP	12 44 46.5	-3.3
	comp=Z,0.6nm,0.6s,baz=231,slow=11,SNR=4.6							
MAT	Matsushiro	47.22	50	P		P	12 43 04.4	-0.7
MJAR	Matsushiro Arr	47.22	50	P		P	12 43 04.7	-0.4
MJAR				PcP		PcP	12 44 36.1	-0.3
MJAR	Matsushiro Arr	47.22	50	P		P	12 43 04.7	-0.4
	comp=Z,1.7nm,0.8s,baz=247,slow=9.7,SNR=11							
MJAR				PcP		PcP	12 44 36.1	-0.3
	comp=Z,3.8nm,1.1s,baz=243,slow=4.0,SNR=8.8							
ABKAR	Akbulak array	47.93	330	*e*P		P	12 43 09.6	-0.8
	comp=Z,3.7nm,0.7s							
RAYN	Ar Rayn	48.17	292	*e*P		P	12 43 13.7	+1.0
	comp=Z,10nm,0.9s							
KLR	Kul'dur	49.45	32	*e*P		P	12 43 15.7	-6.4
AKTO	Aktyubinsk	49.65	330	P		P	12 43 22.1	-1.5
AKTO							12 44 45.0	
AKTO	Aktyubinsk	49.65	330	P		P	12 43 22.1	-1.5
AKTO				PcP		PcP	12 44 45.0	+0.1
AKTO	Aktyubinsk	49.65	330	P		P	12 43 22.1	-1.5
	comp=Z,1.7nm,0.5s,baz=126,slow=6.2,SNR=7.0							
AKTO				PcP		PcP	12 44 45.0	+0.1
	comp=Z,0.9nm,0.3s,baz=342,slow=12,SNR=3.8							
WRA	Warramunga Arr	49.75	128	P		P	12 43 23.2	-1.5
WRA	Warramunga Arr	49.75	128	P		P	12 43 23.2	-1.5
	comp=Z,6.6nm,1.0s,baz=303,slow=8.6,SNR=17							
WRAB	Tennant Creek	49.75	128	*e*P		P	12 43 24.9	+0.1
WRAB				pmax		pmax		
	comp=Z,22nm,1.3s							
WRAB	Tennant Creek	49.75	128	*e*P		P	12 43 24.9	+0.1
	comp=Z,22nm,1.3s							
ASAR	Alice Springs	51.57	132	P		P	12 43 38.8	+0.2
ASAR	Alice Springs	51.57	132	P		P	12 43 38.8	+0.2
	comp=Z,6.0nm,0.8s,baz=308,slow=6.8,SNR=54							
CLNS	Chul'man	51.81	21	*e*P		P	12 43 39.1	-0.7
CLNS				pmax		pmax		
	comp=Z,18nm,1.3s							
CLNS				pmax		pmax		
	comp=N,11nm,1.2s							
CLNS				pmax		pmax		
	comp=E,10.0nm,1.2s							
GNI	Garni	52.68	313	*e*P		P	12 43 47.7	+1.0
	comp=E,24nm,1.1s							
GNI	Garni	52.68	313	P		P	12 43 47.1	+0.4
	comp=E,4.6nm,0.4s,baz=115,slow=4.2,SNR=5.9							
SVE	Sverdlovsk	52.93	338	⇓*e*P		P	12 43 47.6	-0.5
SVE				pmax		pmax		
	comp=Z,13nm,1.0s							
ASAJ	Asahikawa	53.25	42	*e*P		P	12 43 50.8	+0.1
	comp=Z,14nm,1.5s							

ARMA	**Armidale**	**68.51**	**129**	*e*P		**P**		**12 45 35.3**	**+0.5**
	comp=Z,28nm,1.4s								
APA	**Apatity**	**69.35**	**339**	⇓*i*P		**P**		**12 45 39.0**	**-0.3**
APA					MLR	MLR			
	comp=Z,400nm,21.0s								
LSZ	**Lusaka**	**70.37**	**250**	*e*P		**P**		**12 45 47.6**	**+1.0**
	comp=Z,2.9nm,0.6s								
FINES	**FINESS Array B**	**70.38**	**332**	P		**P**		**12 45 43.7**	**-2.0**
FINES	**FINESS Array B**	**70.38**	**332**	P		**P**		**12 45 43.7**	**-2.0**
	comp=Z,1.8nm,0.8s,baz=98,slow=9.8,SNR=6.4								
ARCES	**ARCESS Array B**	**72.75**	**340**	P		**P**		**12 45 59.1**	**-0.8**
ARCES	**ARCESS Array B**	**72.75**	**340**	P		**P**		**12 45 59.1**	**-0.8**
	comp=Z,5.3nm,0.8s,baz=69,slow=6.6,SNR=8.2								
GERES	**GERESS Array B**	**75.91**	**318**	P		**P**		**12 46 17.5**	**-1.4**
GERES	**GERESS Array B**	**75.91**	**318**	P		**P**		**12 46 17.5**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=83,slow=5.8,SNR=8.1								
CLL	**Collm**	**76.36**	**320**	LmV				12 47 00.0	
	comp=Z,100nm,19.6s								
NOA	**NORSAR Array B**	**77.44**	**330**	P		**P**		**12 46 25.8**	**-1.3**
NOA	**NORSAR Array B**	**77.44**	**330**	P		**P**		**12 46 25.8**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=90,slow=6.1,SNR=3.7								
LPG	**La Plagne**	**80.82**	**315**	*e*P		**P**		**12 46 45.6**	**-0.7**
LPL	**La Plagne**	**80.83**	**315**	*e*P		**P**		**12 46 45.7**	**-0.6**
	comp=Z,92nm,1.9s								
ESDC	**Sonseca Array**	**89.59**	**310**	P		**P**		**12 47 29.4**	**-0.6**
ESDC	**Sonseca Array**	**89.59**	**310**	P		**P**		**12 47 29.4**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=44,slow=4.5,SNR=4.4								
TORD	**Torodi Ar. Bea**	**90.14**	**283**	P		**P**		**12 47 32.5**	**-0.4**
TORD				PP		**PP**		**12 51 06.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**90.14**	**283**	P		**P**		**12 47 32.5**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=77,slow=3.8,SNR=6.6								
TORD				PP		**PP**		**12 51 06.3**	**-0.2**
	comp=Z,1.5nm,1.0s,baz=86,slow=6.7,SNR=6.0								
MCK	**McKinley**	**91.88**	**23**	*e*P		**P**		**12 47 38.9**	**-1.2**
MCK				pmax		pmax			
	comp=Z,7.0nm,0.9s								
MCK	**McKinley**	**91.88**	**23**	*e*P		**P**		**12 47 38.9**	**-1.2**
	comp=Z,7.1nm,0.9s								
ILAR	**Eielson Array**	**92.14**	**22**	P		**P**		**12 47 39.6**	**-1.6**
ILAR	**Eielson Array**	**92.14**	**22**	P		**P**		**12 47 39.6**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=292,slow=4.7,SNR=9.5								
RAO	**Raoul Island**	**93.18**	**119**	LR		LR		13 34 23.2	
	comp=Z,120nm,18.6s,baz=96,slow=38								
INK	**Inuvik**	**94.31**	**16**	P		**P**		**12 47 49.6**	**-1.6**
INK	**Inuvik**	**94.31**	**16**	P		**P**		**12 47 49.6**	**-1.6**
	comp=Z,1.6nm,0.7s,baz=286,slow=4.3,SNR=5.9								
SBA	**Scott Base**	**96.67**	**168**	*e*P		**P**		**12 48 01.5**	**-0.2**
SBA				pmax		pmax			
	comp=Z,6.0nm,1.6s								
SBA	**Scott Base**	**96.67**	**168**	*e*P		**P**		**12 48 01.5**	**-0.2**
	comp=Z,6.4nm,1.6s								
HLID	**Hailey**	**120.05**	**24**	*e*PKPdf		**PKPdf**		**12 53 24.4**	**+1.1**
ELK	**Elko**	**122.05**	**26**	PKP		**PKPdf**		**12 53 27.3**	**0.0**
ELK	**Elko**	**122.05**	**26**	PKP		**PKPdf**		**12 53 27.3**	**0.0**
	comp=Z,0.8nm,0.8s,baz=203,slow=9.5,SNR=3.6								
NVAR	**Mina Array Bea**	**122.47**	**30**	PKP		**PKPdf**		**12 53 27.6**	**-0.6**
NVAR	**Mina Array Bea**	**122.47**	**30**	PKP		**PKPdf**		**12 53 27.6**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=331,slow=2.5,SNR=11								
PDAR	**Pinedale Array**	**122.55**	**21**	PKP		**PKPdf**		**12 53 27.6**	**-0.6**
PDAR	**Pinedale Array**	**122.55**	**21**	PKP		**PKPdf**		**12 53 27.6**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=218,slow=1.4,SNR=9.3								
HWUT	**Hardware Ranch**	**122.82**	**23**	*e*PKPdf		**PKPdf**		**12 53 29.4**	**+0.7**
DUG	**Dugway**	**123.53**	**25**	*e*PKIKP		**PKPdf**		**12 53 29.9**	**-0.1**
DUG	**Dugway**	**123.53**	**25**	*e*PKPdf		**PKPdf**		**12 53 29.9**	**-0.1**
ECSD	**EROS Data Cent**	**124.99**	**10**	*e*PKPdf		**PKPdf**		**12 53 32.0**	**-0.6**
MSU	**Marysvale**	**125.21**	**25**	*e*PKIKP		**PKPdf**		**12 53 34.7**	**+1.2**
MSU	**Marysvale**	**125.21**	**25**	*e*PKPdf		**PKPdf**		**12 53 34.6**	**+1.2**
ANMO	**Albuquerque**	**130.59**	**23**	*e*PKPdf		**PKPdf**		**12 53 44.0**	**+0.3**
TXAR	**Lajitas Array**	**136.65**	**23**	PKP		**PKPdf**		**12 53 55.1**	**-0.1**
TXAR				PP		**PP**		**12 56 40.5**	**+4.7**
TXAR	**Lajitas Array**	**136.65**	**23**	PKP		**PKPdf**		**12 53 55.1**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=346,slow=2.3,SNR=8.2								
TXAR				PP		**PP**		**12 56 40.5**	**+4.7**
	comp=Z,0.4nm,1.0s,baz=270,slow=2.5,SNR=4.0								
JCT	**Junction City**	**136.93**	**18**	*e*PKIKP		**PKPdf**		**12 53 56.5**	**+0.9**
JCT	**Junction City**	**136.93**	**18**	*e*PKPdf		**PKPdf**		**12 53 56.5**	**+0.9**
BDFB	**Brasilia**	**143.02**	**258**	PKP		**PKPdf**		**12 54 07.2**	**+0.2**
BDFB	**Brasilia**	**143.02**	**258**	PKP		**PKPdf**		**12 54 07.2**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=151,slow=10,SNR=2.8								
MTP	**Monte Pirata**	**145.22**	**325**	*e*PKPdf		**PKPdf**		**12 54 10.8**	**+0.1**
CELP	**Cerrillos**	**145.81**	**326**	*e*PKPdf		**PKPdf**		**12 54 11.8**	**+0.1**
OBIP	**Obispado Ponce**	**145.85**	**326**	*e*PKPdf		**PKPbc**		**12 54 12.1**	**-0.1**
PLCA	**Paso Flores**	**147.17**	**201**	PKPbc		**PKPbc**		**12 54 15.8**	**+0.2**
PLCA	**Paso Flores**	**147.17**	**201**	PKPbc		**PKPbc**		**12 54 15.8**	**+0.2**
	comp=Z,4.5nm,0.8s,baz=159,slow=7.9,SNR=6.6								
CPUP	**Villa Florida**	**149.01**	**236**	PKPbc		**PKPbc**		**12 54 20.7**	**-0.1**
CPUP	**Villa Florida**	**149.01**	**236**	PKPbc		**PKPbc**		**12 54 20.7**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=94,slow=3.2,SNR=4.4								
LPAZ	**La Paz**	**162.03**	**250**	PKP		**PKPdf**		**12 54 34.5**	**-0.7**
LPAZ	**La Paz**	**162.03**	**250**	PKP		**PKPdf**		**12 54 34.5**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=53,slow=3.8,SNR=4.2								

IDC ***26*** *12:45:35.0±5.5, 35.09°S×179.20°W, h0km, mb3.5/2, mb1 3.7/2, mb1mx4.3/5.16, mbtmp3.5/2, Error ellipse: s-maj=265.8km s-min=56.0km az=165.0*

ISC 26 12:45:38.2±2.2, 36.5°S±0.2°×178.8°W±0.1, h10km, n16, σ1=20/17, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.80**	**235**	PN	**Pn**	**12 46 23.3**	**+0.2**
CNGZ	**Carnagh Statio**	**3.08**	**229**	PN	**Pn**	**12 46 27.4**	**+0.5**
URZ	**Urewera**	**3.68**	**240**	PN	**Pn**	**12 46 34.8**	**-0.4**
URZ				SN	**Sn**	**12 47 20.6**	**+2.1**
MHGZ	**Mahia Peninsul**	**3.70**	**223**	PN	**Pn**	**12 46 35.3**	**-0.2**
KNZ	**Kokohu**	**3.74**	**227**	PN	**Pn**	**12 46 36.0**	**0.0**
BKZ	**Black Stump Fm**	**4.56**	**233**	PN	**Pn**	**12 46 46.2**	**-1.1**
BKZ				SN	**Sn**	**12 47 42.3**	**+2.0**
KAHZ	**Kahuranaki**	**4.72**	**224**	PN	**Pn**	**12 46 48.4**	**-1.1**
BHHZ	**Black Hill Sta**	**5.01**	**232**	PN	**Pn**	**12 46 53.0**	**-0.6**
TSZ	**Takapari Road**	**5.42**	**227**	PN	**Pn**	**12 46 57.6**	**-1.6**
BFZ	**Birch Farm**	**5.68**	**221**	PN	Pn	12 46 59.3	-3.4
BFZ				SN	**Sn**	**12 48 07.2**	**-0.8**
TIWZ	**Tintock**	**5.94**	**222**	PN	**Pn**	**12 47 05.2**	**-1.1**
MRZ	**Mangatainoka R**	**6.04**	**225**	PN	**Pn**	**12 47 05.5**	**-2.0**
MRZ				SN	**Sn**	**12 48 16.5**	**-0.2**
CTZ	**Chatham Island**	**7.43**	**167**	PN	**Pn**	**12 47 27.0**	**+0.3**
CTZ				SN	Sn	12 48 44.3	-6.7
ASAR	**Alice Springs**	**42.45**	**274**	P	P	12 53 28.6	-4.9
	0.7nm,1.0s,baz=116,slow=7.6,SNR=11						
WRA	**Warramunga Arr**	**43.98**	**279**	P	P	12 53 40.2	-5.7
	0.3nm,0.3s,baz=119,slow=7.5,SNR=2.8						
FINES	**FINESS Array B**	**150.51**	**336**	PKPbc	**PKPdf**	**13 05 23.9**	**0.0**
	1.3nm,0.9s,baz=32,slow=5.6,SNR=3.4						

IDC 26 12:48:21.8±7.8, 10.47°N×93.88°E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/25, mbtmp3.5/4, Error ellipse: s-maj=411.3km s-min=23.3km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.52**	**347**	P	P	12 55 37.5	+0.1
	0.4nm,0.7s,baz=148,slow=7.1,SNR=4.4						
ZALV	**Zalesovo Beam**	**43.97**	**352**	P	P	12 56 30.3	-0.3
	0.4nm,0.4s,baz=151,slow=3.3,SNR=3.5						
WRA	**Warramunga Arr**	**50.00**	**127**	P	P	12 57 18.0	-0.3
	0.5nm,0.5s,baz=303,slow=8.9,SNR=3.9						
ASAR	**Alice Springs**	**51.79**	**131**	P	P	12 57 31.9	+0.1
	0.6nm,0.8s,baz=312,slow=6.9,SNR=6.5						

IDC 26 12:48:28.1±7.3, 10.53N×93.99E, h0km, mb4.3/4, mb1 4.4/4, mb1mx4.0/25, mbtmp4.3/4, Error ellipse: s-maj=389.6km s-min=22.5km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCSI	**Kotacane, Aceh**	**7.91**	**151**	P	Pb	12 50 42.8	-3.5
	39nm,1.5s						
MKAR	**Makanchi Array**	**37.48**	**347**	P	P	12 55 43.4	-0.1
	2.8nm,1.0s,baz=170,slow=7.5,SNR=13						
ZALV	**Zalesovo Beam**	**43.92**	**352**	P	P	12 56 36.5	-0.1
	8.9nm,0.9s,baz=191,slow=5.9,SNR=4.9						
WRA	**Warramunga Arr**	**49.95**	**127**	P	P	12 57 23.5	-0.8
	1.5nm,1.0s,baz=305,slow=8.4,SNR=3.2						
ASAR	**Alice Springs**	**51.75**	**131**	P	P	12 57 38.4	+0.5
	5.4nm,0.7s,baz=309,slow=6.6,SNR=7.4						

BJI ***26*** *12:48:31.0, 10.45°N×94.20°E, h10km, mB5.1/34, mb4.7/43, Ms4.7/39, Ms7 4.4/39*

IDC ***26*** *12:48:33.5±0.5, 10.71°N×94.21°E, h0km, mb4.4/24, mb1 4.5/26, mb1mx4.4/32, mbtmp4.4/26, ML3.9/2, Error ellipse: s-maj=17.1km s-min=11.6km az=61.0*

NEIC ***26*** *12:48:36.4±2.6, 10.73°N×94.29°E, h16km±15km, mb4.9/16, Error ellipse: s-maj=9.2km s-min=4.5km az=65.0*

ISCJB ***26*** *12:48:36.0±1.1, 10.72°N±0.04°×94.28°E±0.04, h27km±8km, mb4.7/67, MS4.4/14, Error ellipse: s-maj=6.7km s-min=5.4km az=40.7*

MOS ***26*** *12:48:37.3±1.3, 10.82°N×94.33°E, h35km, mb5.2/22, MS4.6/4, Error ellipse: s-maj=11.0km s-min=5.8km az=101.6*

GCMT ***26*** *12:48:40.5±0.3, 10.76°N×94.53°E, h12km, MW5.0, Moment Tensor Solution. s35,c44; s75,c120; Moment tensor: Scale 10^16 Nm; Mrr=-4.02±.10; Mθθ 3.51±.09; Mϕϕ 0.50±.11; Mrθ 0.67±.33; Mθϕ 1.29±.08; Mϕr-0.23±.45; Best double couple: M=4.10000×10^16 NP1:θ=64.00000°, δ41.00000°, λ=-99.00000°. NP2:θ=256.00000°, δ49.00000°, λ=-82.00000°. Principal axes: T 4.0300, Plg4.0000°, Azm340.0000°; N 0.0700, Plg6.0000°, Azm71.0000°; P -4.1100, Plg83.0000°, Azm217.0000°; Data Used: II IU IC G CN.*

BKK ***26*** *12:48:46.9±1.3, 11°N±7°×97°E±1°0, h97km±14km, M4.8/11, mb4.5/11, MLv5.0/1*

DJA ***26*** *12:48:49.5±1.0, 11°N±5°×97.5E±1°2, h110km±11km, M4.3/8, mB5.6/1, mb4.3/8, Mw(mB)5.1/1, Mwp5.8/1*

ISC 26 12:48:35.6±0.4, 10.65N±0.04°×94.16E±0.05, h15km±1km, n184, σ1=78/230, mb4.8/67, MS4.5/14, 8C-5D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.71**	**306**	*e*P	Pg	12 49 07.2	-1.4
DGPR	**DIGLIPUR**	**2.79**	**335**	*e*P	**Pb**	**12 49 21.9**	**-3.2**
CMBY	**CAMPBELL BAY**	**3.62**	**184**	*e*P	Pn	12 49 34.5	+3.4
SKLT	**Songkhla**	**7.26**	**118**	P	Pn	12 50 25.0	+3.9
SKLT	**Songkhla**	**7.26**	**118**	P	Pn	12 50 27.0	+5.9
	51nm,1.2s,0.4nm						
KULM	**Kulim**	**8.34**	**129**	*e*Pn	**Pn**	**12 50 35.1**	**-1.0**
	5.5nm,0.4s						
KULM				*e*Sn	Sn	12 52 02.9	-7.2
CMAR	**Chiang Mai Arr**	**9.04**	**30**	Pn	**Pn**	**12 50 44.4**	**-1.2**
CMAR	**Chiang Mai Arr**	**9.04**	**30**	Pn	**Pn**	**12 50 44.4**	**-1.2**
	0.6nm,0.3s,baz=216,slow=14,SNR=17						
PSI	**Prapat**	**9.12**	**148**	Pn	Pn	12 50 50.2	+3.4
PSI	**Prapat**	**9.12**	**148**	Pn	Pn	12 50 50.2	+3.4
	0.5nm,0.3s,baz=353,slow=14,SNR=5.4						
IPM	**Ipoh**	**9.16**	**132**	*e*Pn	**Pn**	**12 50 44.7**	**-2.5**
IPM				*e*Sn	**Sn**	**12 52 27.0**	**-3.1**
CHTO	**Chiang Mai**	**9.34**	**29**	*e*P	**Pn**	**12 50 49.5**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CHTO	**Chiang Mai**	**9.34**	**29**	*e*Pn	**Pn**	**12 50 49.5**	**-0.3**
	comp=Z,8.9nm,1.0s						
CHTO	**Chiang Mai**	**9.34**	**29**	P	Pn	12 50 53.1	+3.3
	comp=Z,12nm,1.1s						
CHTO	**Chiang Mai**	**9.34**	**29**	P	Pn	12 50 55.6	+5.8
	comp=Z,26nm,2.3s						
CMMT	**Chiang Mai**	**9.34**	**29**	P	**Pn**	**12 50 52.8**	**+3.0**
	comp=Z,10nm,1.1s						
CMMT	**Chiang Mai**	**9.34**	**29**	P	Pn	12 50 55.4	+5.6
	comp=Z,10nm,1.1s						
SKNT	**Sakolnakorn**	**11.42**	**56**	P	**Pn**	**12 51 19.0**	**+0.7**
	comp=Z,19nm,2.1s						
VIS	**Vishakhapatnam**	**12.63**	**305**	*e*P	**Pn**	**12 51 36.9**	**+2.1**
VIS				AMB	AMB	12 51 55.2	
	comp=Z,58nm,0.3s						
IMP	**Imphal**	**14.06**	**359**	*ex*	Pn	12 51 50.0	-4.4
SHL	**Shillong**	**14.99**	**352**	*e*P	Pn	12 52 03.7	-3.5
SHL				AMB	AMB	12 52 11.7	
	comp=Z,35nm,0.0s						
BOK	**Bokaro**	**15.27**	**330**	*e*P	**Pn**	**12 52 12.2**	**+1.5**
BOK				AMB	AMB	12 52 19.3	
	comp=Z,41nm,1.4s						
KMI	**Kunming**	**16.54**	**28**	P	**P**	**12 52 29.3**	**-0.6**
KMI				pP	**pP**	**12 52 32.0**	**-2.1**
KMI				sP	**sP**	**12 52 34.3**	**-1.8**
KMI				PP	**PnPn**	**12 52 42.5**	**+5.8**
KMI				S	**Sn**	**12 55 32.3**	**+1.5**
KMI				SS	**SnSn**	**12 55 51.8**	**+7.4**
KMI				pmax	pmax		
	comp=Z,12nm,1.3s						
KMI				pmax	pmax		
	comp=Z,130nm,3.1s						
KMI				LR	LR		
	comp=N,1μm,13.0s						
KMI				LR	LR		
	comp=E,880nm,11.9s						
KMI				LR	LR		
	comp=Z,950nm,10.8s						
HYB	**Hyderabad**	**16.56**	**296**	*i* P	**P**	**12 52 30.5**	**+0.5**
HYB	**Hyderabad**	**16.56**	**296**	*e*P	**P**	**12 52 29.8**	**-0.2**
HYB				AMB	AMB	12 52 40.6	
	comp=Z,42nm,1.9s						
QIZ	**Qiongzhong**	**17.29**	**59**	P	**Pn**	**12 52 35.5**	**-1.1**
QIZ				S	**Sn**	**12 55 47.5**	**-1.3**
QIZ				LR	LR		
	comp=N,1μm,8.7s						
QIZ				LR	LR		
	comp=E,540nm,10.6s						
QIZ				LR	LR		
	comp=Z,2μm,9.5s						
PPBI	**Pangkal Pinang**	**17.44**	**136**	P	P	12 52 44.8	+5.2
	comp=Z,58nm,1.3s,comp=Z,3μmcomp=Z,18μm						
JBP	**Jabalpur**	**18.39**	**314**	⇑*e*P	**P**	**12 52 51.4**	**+1.3**
JBP				*i* x	x	12 52 54.1	
	comp=Z,35nm,1.5s						
JBP				*ex*	x	12 56 40.0	
KSM	**Kuching**	**18.45**	**119**	*e*P	**Pn**	**12 52 52.5**	**+1.6**
	comp=Z,57nm,1.5s						
KSM	**Kuching**	**18.45**	**119**	P	Pn	12 53 10.0	+19
LSA	**Lhasa**	**19.16**	**352**	P	**P**	**12 52 58.8**	**-0.2**
LSA				LR	LR		
	comp=Z,840nm,26.8s						
LSA	**Lhasa**	**19.16**	**352**	*e*P	**P**	**12 52 59.1**	**0.0**
LSA				pmax	pmax		
	comp=Z,31nm,1.0s						
LSA	**Lhasa**	**19.16**	**352**	*e*P	**P**	**12 52 59.1**	**0.0**
	comp=Z,31nm,1.0s						
GYA	**Guiyang**	**19.67**	**35**	P	**P**	**12 53 04.5**	**+0.3**
GYA				PP	**PnPn**	**12 53 24.8**	**+5.4**
GYA				S	**S**	**12 56 45.5**	**-0.3**
GYA				SS	**SnSn**	**12 57 08.5**	**+7.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,110nm,4.4s						
GYA				LR	LR		
	comp=N,720nm,14.1s						
GYA				LR	LR		
	comp=E,1μm,16.2s						
GYA				LR	LR		
	comp=Z,2μm,15.3s						
SBUM	**Sibu**	**19.69**	**113**	P	**Pn**	**12 53 05.9**	**0.0**
	comp=Z,24nm,1.4s						
BHPL	**Bhopal**	**20.30**	**310**	*e*P	Pn	12 53 13.1	0.0
BHPL				AMB	AMB	12 53 19.8	
	comp=Z,45nm,0.7s						
POO	**Poona**	**21.14**	**294**	*e*P	**P**	**12 53 22.2**	**+1.9**
POO				AMB	AMB	12 53 42.3	
	comp=Z,63nm,2.0s						
CD2	**Chengdu**	**22.04**	**22**	P	**P**	**12 53 29.5**	**-0.3**
CD2				pP	**pP**	**12 53 33.3**	**-0.9**
CD2				sP	**sP**	**12 53 36.5**	**+0.4**
CD2				PP	**PnPn**	**12 53 55.0**	**+3.1**
CD2				S	**S**	**12 57 27.0**	**-5.6**
CD2				SS	**SnSn**	**12 58 05.3**	**+6.1**
CD2				pmax	pmax		
	comp=Z,70nm,1.8s						
CD2				pmax	pmax		
	comp=Z,720nm,5.2s						
CD2				LR	LR		
	comp=E,960nm,13.2s						
CD2				LR	LR		
	comp=Z,1μm,11.2s						
NDI	**New Delhi**	**23.95**	**321**	*ex*	x	12 53 35.0	
ENH	**Enshi**	**24.18**	**34**	*e*P	**P**	**12 53 50.5**	**-1.0**
	comp=Z,53nm,1.3s						
MYLDM	**Lahad Datu**	**24.70**	**101**	P	P	12 54 05.1	+8.7
SMLA	**Simla**	**25.76**	**325**	*e*P	**P**	**12 54 07.2**	**+1.4**
SMLA				AMB	AMB	12 54 35.0	
	comp=Z,46nm,0.0s						
BLJI	**Banyuglugur**	**26.61**	**133**	P	P	12 54 26.9	+13
LZH	**Lanzhou**	**26.80**	**18**	⇑P	**P**	**12 54 15.5**	**+0.1**
LZH				pP	**pP**	**12 54 18.8**	**-1.2**
LZH				sP	**sP**	**12 54 20.3**	**-1.6**
LZH				PP	**PnPn**	**12 55 00.8**	**+3.8**
LZH				*e*S	**S**	**12 58 48.5**	**-2.7**
LZH				SS	**SnSn**	**13 00 01.5**	**+5.8**
LZH				pmax	pmax		
	comp=Z,53nm,1.2s						
LZH				pmax	pmax		
	comp=Z,260nm,7.0s						
LZH				LR	LR		
	comp=N,930nm,11.5s						
LZH				LR	LR		
	comp=E,520nm,12.0s						
LZH				LR	LR		
	comp=Z,2μm,14.2s						
XAN	**Xi'an**	**26.92**	**28**	P	**P**	**12 54 13.3**	**-3.0**
XAN				pP	**pP**	**12 54 22.0**	**+1.0**
XAN				sP	**sP**	**12 54 27.0**	**+4.1**
XAN				pmax	pmax		
	comp=Z,40nm,9.9s						
DHRM	**DHARAMSHALA**	**27.09**	**325**	*e*P	**P**	**12 54 18.2**	**+0.1**
DHRM				AMB	AMB	12 54 20.1	
	comp=Z,30nm,1.5s						
WHN	**Wuhan**	**27.28**	**41**	⇓P	**P**	**12 54 18.5**	**-1.0**
WHN				LR	LR		
	comp=Z,1μm,17.5s						
GTA	**Gaotai**	**29.08**	**9**	⇑P	**P**	**12 54 36.5**	**+0.8**
GTA				pP	**pP**	**12 54 41.0**	**+0.7**
GTA				sP	**sP**	**12 54 43.8**	**+1.6**
GTA				S	**S**	**12 59 26.0**	**-1.0**
GTA				sS	**sS**	**12 59 33.5**	**-1.1**
GTA				SS	**SnSn**	**13 00 54.0**	**+2.8**
GTA				pmax	pmax		
	comp=Z,12nm,1.5s						
GTA				pmax	pmax		
	comp=Z,220nm,4.8s						
GTA				LR	LR		
	comp=N,450nm,18.5s						
GTA				LR	LR		
	comp=E,320nm,16.9s						
GTA				LR	LR		
	comp=Z,650nm,20.7s						
MRSI	**Marisa**	**29.40**	**108**	P	P	12 54 46.2	+7.6
NJ2	**Nanjing**	**31.20**	**43**	*e*P	**P**	**12 54 54.3**	**0.0**
NJ2				S	**S**	**13 00 02.0**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,30nm,0.9s						
NJ2				LR	LR		
	comp=N,2μm,11.2s						
NJ2				LR	LR		
	comp=E,1μm,9.2s						
NJ2				LR	LR		
	comp=Z,2μm,12.2s						
KSH	**Kashi**	**32.99**	**334**	P	**P**	**12 55 08.8**	**-1.4**
KSH				sP	**sP**	**12 55 15.8**	**-0.9**
KSH				PP	**PnPn**	**12 56 18.3**	**-1.2**
KSH				S	**S**	**13 00 22.8**	**-5.4**
KSH				sS	**sS**	**13 00 33.0**	**-2.9**
KSH				PcS	**PcS**	**13 01 39.0**	**-0.5**
KSH				pmax	pmax		
	comp=Z,15nm,0.7s						
KSH				pmax	pmax		
	comp=Z,51nm,4.9s						
KSH				LR	LR		
	comp=N,190nm,12.4s						
KSH				LR	LR		
	comp=E,360nm,15.2s						
KSH				LR	LR		
	comp=Z,250nm,15.3s						
WMQ	**Urumqi**	**33.52**	**352**	P	**P**	**12 55 16.5**	**+1.8**
WMQ				pP	**pP**	**12 55 21.0**	**+1.7**
WMQ				sP	**sP**	**12 55 23.5**	**+2.3**
WMQ				PP	**PP**	**12 56 28.8**	**-1.8**
WMQ				PcP	**PcP**	**12 57 57.5**	**+2.2**
WMQ				S	**S**	**13 00 36.8**	**+0.6**
WMQ				sS	**sS**	**13 00 44.0**	**+0.1**
WMQ				ScP	**ScP**	**13 01 40.3**	**+0.7**
WMQ				SS	**SnSn**	**13 02 40.3**	**+1.4**
WMQ				ScS	**ScS**	**13 05 39.8**	**-0.8**
WMQ				pmax	pmax		
	comp=Z,22nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,230nm,4.2s						
WMQ				LR	LR		
	comp=N,260nm,13.4s						
WMQ				LR	LR		
	comp=E,330nm,14.6s						
WMQ				LR	LR		
	comp=Z,430nm,27.6s						
HHC	**Hu-ho-hao-te**	**33.78**	**24**	*e*P	**P**	**12 55 17.0**	**0.0**
HHC				PP	**PnPn**	**12 56 30.8**	**+1.4**
HHC				PcP	**PcP**	**12 57 56.5**	**+0.3**
HHC				S	**S**	**13 00 39.3**	**-1.0**
HHC				sS	**sS**	**13 00 46.5**	**-1.5**
HHC				ScP	**ScP**	**13 01 39.8**	**-0.8**
HHC				PcS	**PcS**	**13 01 41.8**	**-0.3**
HHC				SS	**SnSn**	**13 02 45.3**	**0.0**
HHC				ScS	**ScS**	**13 05 39.0**	**-3.1**
HHC				pmax	pmax		
	comp=Z,22nm,0.7s						
HHC				pmax	pmax		
	comp=Z,410nm,6.0s						
HHC				LR	LR		
	comp=N,800nm,12.3s						
HHC				LR	LR		
	comp=E,740nm,13.6s						
HHC				LR	LR		
	comp=Z,370nm,13.7s						
AAK	**Ala-Archa**	**36.20**	**335**	*d i*P	**P**	**12 55 39.1**	**+1.2**
AAK				pmax	pmax		
	comp=Z,52

FITZ					PcP	PcP	12 58 23.5	+1.1	
	comp=Z,6.8nm,1.2s,baz=343,slow=14,SNR=3.2								
FITZ	**Fitzroy Crossi**	**42.21**	**132**		P	P	12 56 28.2	-0.1	
FITZ					PcP	PcP	12 58 23.5	+1.1	
	comp=Z,3.1nm,0.9s,baz=131,slow=2.3,SNR=3.9								
ZALV	**Zalesovo Beam**	**43.83**	**352**		P	P	12 56 41.0	+0.1	
ZALV	**Zalesovo Beam**	**43.83**	**352**		P	P	12 56 41.0	+0.1	
ZALV	**Zalesovo Beam**	**43.83**	**352**		P	P	12 56 41.0	+0.1	
	comp=Z,19nm,1.0s,baz=190,slow=5.9,SNR=4.7								
NVS	**Novosibirsk**	**44.92**	**351**	*e*P		P	12 56 48.1	-1.5	
NVS					pmax	pmax			
	comp=Z,38nm,1.8s								
NVS					pmax	pmax			
	comp=N,29nm,1.9s								
KRAR	**Krasnoyarsk**	**45.27**	**359**	*e*P		P	12 56 51.2	-1.1	
KRAR					pmax	pmax			
	comp=Z,25nm,1.2s								
MDJ	**Mudanjiang**	**45.53**	**35**	P		P	12 56 55.0	+0.4	
MDJ				pP		**pP**	12 56 58.0	-1.4	
MDJ				sP		**sP**	12 56 59.3	-2.0	
MDJ					pmax	pmax			
	comp=Z,6.0nm,1.9s								
MDJ					pmax	pmax			
	comp=Z,82nm,4.4s								
MDJ				LR	LR				
	comp=N,140nm,17.6s								
MDJ				LR	LR				
	comp=E,72nm,22.1s								
MDJ				LR	LR				
	comp=Z,160nm,22.1s								
VLA	**Vladivostok**	**46.03**	**39⇓**	*e*P		P	12 56 56.8	-1.8	
VLA				S		**S**	13 03 38.3	-5.0	
VLA					pmax	pmax			
	comp=Z,20nm,1.3s								
BVA0	**Borovoye Array**	**46.39**	**340**	*i* P		P	12 56 58.9	-2.4	
BVA0					pmax	pmax			
	comp=Z,14nm,0.9s								
BVAR	**Borovoye Array**	**46.39**	**340**	P		P	12 57 01.6	+0.3	
BVAR	**Borovoye Array**	**46.39**	**340**	P		P	12 57 01.6	+0.3	
BVAR	**Borovoye Array**	**46.39**	**340**	P		P	12 57 01.6	+0.3	
	comp=Z,4.5nm,0.9s,baz=146,slow=8.2,SNR=19								
BRVK	**Borovoye**	**46.45**	**340**	*d i* P		P	12 57 01.7	-0.1	
BRVK					pmax	pmax			
	comp=Z,13nm,1.2s								
BRVK	**Borovoye**	**46.45**	**340**	*e*P		P	12 57 02.0	+0.2	
	comp=Z,13nm,1.2s								
USRK	**Ussuriysk Arra**	**46.69**	**37**	P		P	12 57 02.6	-1.2	
	comp=Z,4.4nm,1.0s,baz=237,slow=6.2,SNR=12								
MAJO	**Matsushiro**	**47.32**	**50**	*e*P		P	12 57 08.5	-0.4	
MAJO					pmax	pmax			
	comp=Z,19nm,1.4s								
MAJO	**Matsushiro**	**47.32**	**50**	*e*P		P	12 57 08.4	-0.4	
	comp=Z,19nm,1.4s								
MAT	**Matsushiro**	**47.32**	**50**	P		P	12 57 08.1	-0.8	
MJAR	**Matsushiro Arr**	**47.33**	**50**	P		P	12 57 08.0	-0.9	
MJAR					PcP	PcP	12 58 40.3	+0.6	
MJAR	**Matsushiro Arr**	**47.33**	**50**	P		P	12 57 08.0	-0.9	
	comp=Z,2.8nm,1.1s,baz=245,slow=9.1,SNR=11								
MJAR					PcP	PcP	12 58 40.3	+0.6	
	comp=Z,5.1nm,1.0s,baz=249,slow=3.4,SNR=11								
AB31	**Akbulak array**	**47.83**	**330**	*cE*P		P	12 57 13.0	+0.4	
AB31					pmax	pmax			
	comp=Z,1.0nm,0.3s								
ABKAR	**Akbulak array**	**47.83**	**330**	*e*P		P	12 57 13.2	+0.6	
	comp=Z,3.7nm,0.7s								
RAYN	**Ar Rayn**	**48.02**	**292**	*e*P		P	12 57 17.2	+2.6	
	comp=Z,24nm,1.1s								
NWAO	**Narrogin (SRO)**	**48.60**	**154**	P		P	12 57 21.9	+3.2	
NWAO	**Narrogin (SRO)**	**48.60**	**154**	P		P	12 57 21.9	+3.2	
	comp=Z,18nm,1.0s,baz=43,slow=4.7,SNR=3.6								
KLR	**Kul'dur**	**49.51**	**32**	*e*P		P	12 57 22.4	-3.1	
KLR					pmax	pmax			
	comp=Z,100nm,2.2s								
WRA	**Warramunga Arr**	**49.89**	**127**	P		P	12 57 29.1	+0.3	
WRA	**Warramunga Arr**	**49.89**	**127**	P		P	12 57 29.1	+0.3	
	comp=Z,7.3nm,1.0s,baz=306,slow=8.3,SNR=16								
WRAB	**Tennant Creek**	**49.89**	**127**	*e*P		P	12 57 28.1	-0.7	
WRAB					pmax	pmax			
	comp=Z,25nm,1.4s								
WRAB	**Tennant Creek**	**49.89**	**127**	*e*P		P	12 57 28.1	-0.7	
	comp=Z,25nm,1.4s								
ASAR	**Alice Springs**	**51.70**	**132**	P		P	12 57 42.4	-0.1	
ASAR	**Alice Springs**	**51.70**	**132**	P		P	12 57 42.4	-0.1	
	comp=Z,5.3nm,0.7s,baz=313,slow=6.4,SNR=8.1								
CLNS	**Chul'man**	**51.85**	**21**	*e*P		P	12 57 42.6	-0.5	
CLNS					pmax	pmax			
	comp=Z,18nm,1.3s								
CLNS					pmax	pmax			
	comp=N,11nm,1.1s								
CLNS					pmax	pmax			
	comp=E,12nm,1.2s								
GNI	**Garni**	**52.55**	**313**	*e*P		P	12 57 50.9	+2.1	
	comp=E,34nm,1.0s								
DGRG	**David-gareji**	**52.56**	**315**	P		P	12 57 51.6	+2.9	
SVE	**Sverdlovsk**	**52.85**	**338⇓**	*i* P		P	12 57 51.2	+0.7	
SVE					pmax	pmax			
	comp=Z,25nm,1.5s								
TBLG	**Delisi**	**53.10**	**315**	*e*P		P	12 57 52.6	-0.1	
TBLG	**Delisi**	**53.10**	**315**	P		P	12 57 52.6	-0.1	
AKH	**Akhalkalaki**	**53.87**	**314**	P		P	12 57 59.3	+0.8	
ZEI	**Tsey**	**54.06**	**316**	*e*P		P	12 58 00.9	+1.0	
ZEI					pmax	pmax			
	comp=Z,19nm,1.0s								
KBZ	**Khabaz**	**55.08**	**316**	P		P	12 58 08.0	+1.0	
KBZ	**Khabaz**	**55.08**	**316**	P		P	12 58 08.0	+1.0	
KBZ	**Khabaz**	**55.08**	**316**	P		P	12 58 08.0	+1.0	
	comp=Z,5.6nm,1.1s,baz=107,slow=6.9,SNR=9.7								
KIV	**Kislovodsk**	**55.31**	**317**	*e*P		P	12 58 10.0	+1.2	
KIV					pmax	pmax			
	comp=Z,24nm,1.1s								
KIV					MLR	MLR			
	comp=Z,78nm,16.0s								
YAK	**Yakutsk**	**57.38**	**19**	*e*P		P	12 58 21.4	-1.6	
YAK					pmax	pmax			
	comp=Z,26nm,1.0s								
YAK					pmax	pmax			
	comp=N,11nm,1.1s								
YAK					pmax	pmax			
	comp=E,11nm,1.2s								
YAK					MLR	MLR			
	comp=E,351nm,22.0s								
YAK					MLR	MLR			
	comp=Z,445nm,20.0s								
YAK					MLR	MLR			
	comp=N,156nm,16.0s								
VORD	**Divnogorie**	**60.00**	**323**	*e*P		P	12 58 39.6	-1.9	
VORD					pmax	pmax			
	comp=Z,6.0nm,0.9s								
VORD					pmax	pmax			
	comp=N,6.0nm,0.6s								
VORD					pmax	pmax			
	comp=E,30nm,0.9s								
VSR	**Storozhevoye**	**60.17**	**324**	*e*P		P	12 58 41.9	-0.8	
VSR					pmax	pmax			
	comp=Z,10.0nm,1.4s								
VSR					pmax	pmax			
	comp=N,10.0nm,1.8s								
VSR					pmax	pmax			
	comp=E,10.0nm,1.3s								
BRTR	**Keskin Array B**	**60.66**	**310**	P		P	12 58 46.1	-0.3	
BRTR	**Keskin Array B**	**60.66**	**310**	P		P	12 58 46.1	-0.3	
	comp=E,2.9nm,0.9s,baz=120,slow=7.3,SNR=14								
STKA	**Stephens Creek**	**62.02**	**135**	P		P	12 58 55.9	+0.3	
STKA	**Stephens Creek**	**62.02**	**135**	P		P	12 58 55.9	+0.3	
	comp=E,6.0nm,0.9s,baz=324,slow=7.6,SNR=5.2								
OBN	**Obninsk**	**63.07**	**327⇑**	*i* P		P	12 59 02.5	+0.4	
OBN				*e*			13 01 17.3		
OBN				*e*S		**S**	13 07 29.2	-3.0	
OBN				*e*SS		**SS**	13 11 31.0	-7.0	
OBN					pmax	pmax			
	comp=Z,20nm,1.2s								
OBN					MLR	MLR			
	comp=Z,400nm,20.0s								
EIDS	**Eidsvold**	**65.97**	**124**	*e*P		P	12 59 22.1	+0.4	
	comp=Z,9.9nm,1.1s								
ARMA	**Armidale**	**68.64**	**129**	*e*P		P	12 59 39.8	+1.1	
	comp=Z,13nm,1.0s								
APA	**Apatity**	**69.28**	**339⇑**	*i* P		P	12 59 47.0	+5.2	
APA					MLR	MLR			
	comp=Z,700nm,17.0s								
FINES	**FINESS Array B**	**70.29**	**332**	P		P	12 59 47.5	-0.6	
FINES	**FINESS Array B**	**70.29**	**332**	P		P	12 59 47.5	-0.6	
	comp=Z,1.9nm,0.7s,baz=100,slow=5.8,SNR=6.5								
ARCES	**ARCESS Array B**	**72.68**	**340**	P		P	13 00 02.8	+0.3	
ARCES	**ARCESS Array B**	**72.68**	**340**	P		P	13 00 02.8	+0.3	
	comp=Z,5.5nm,0.9s,baz=93,slow=5.3,SNR=13								
GERES	**GERESS Array B**	**75.79**	**318**	P		P	13 00 20.8	-0.3	
GERES	**GERESS Array B**	**75.79**	**318**	P		P	13 00 20.8	-0.3	
	comp=Z,1.0nm,0.7s,baz=78,slow=6.2,SNR=8.9								
BOSA	**Boshof**	**77.08**	**237**	P		P	13 00 29.3	+0.5	
BOSA	**Boshof**	**77.08**	**237**	P		P	13 00 29.3	+0.5	
	comp=Z,1.8nm,0.9s,baz=16,slow=7.2,SNR=3.7								
NOA	**NORSAR Array B**	**77.34**	**330**	P		P	13 00 29.3	-0.3	
NOA	**NORSAR Array B**	**77.34**	**330**	P		P	13 00 29.3	-0.3	
	comp=Z,0.5nm,0.7s,baz=27,slow=22,SNR=3.4								
LPG	**La Plagne**	**80.69**	**315**	*e*P		P	13 00 49.3	+0.7	
LPL	**La Plagne**	**80.70**	**315**	*e*P		P	13 00 49.4	+0.8	
	comp=Z,6.5nm,0.7s								
MBDF	**Montbardon**	**80.75**	**314**	*e*P		P	13 00 49.6	+0.8	
ORIF	**Oris-en-Rattie**	**81.36**	**314**	*e*P		P	13 00 52.8	+0.8	
TORD	**Torodi Ar. Bea**	**89.98**	**283**	P		P	13 01 36.3	+1.1	
TORD				PP		**PP**	13 05 09.4	+1.2	
TORD	**Torodi Ar. Bea**	**89.98**	**283**	P		P	13 01 36.3	+1.1	
	comp=Z,2.1nm,0.9s,baz=77,slow=3.2,SNR=9.2								
TORD				PP		**PP**	13 05 09.4	+1.2	
	comp=Z,3.0nm,1.1s,baz=74,slow=7.6,SNR=8.2								
ILAR	**Eielson Array**	**92.18**	**22**	P		P	13 01 43.4	-1.0	
ILAR	**Eielson Array**	**92.18**	**22**	P		P	13 01 43.4	-1.0	
	comp=Z,1.1nm,0.9s,baz=300,slow=3.4,SNR=9.5								
INK	**Inuvik**	**94.34**	**16**	P		P	13 01 54.1	-0.2	
INK	**Inuvik**	**94.34**	**16**	P		P	13 01 54.1	-0.2	
	comp=Z,1.9nm,0.7s,baz=334,slow=4.2,SNR=11								
VNDA	**Vanda**	**95.63**	**168**	P		P	13 02 00.1	+0.2	
VNDA	**Vanda**	**95.63**	**168**	P		P	13 02 00.1	+0.2	
	comp=Z,1.2nm,1.1s,baz=308,slow=4.4,SNR=3.7								
SBA	**Scott Base**	**96.73**	**168**	*e*P		P	13 02 05.5	+0.6	
SBA					pmax	pmax			
	comp=Z,36nm,2.3s								
SBA	**Scott Base**	**96.73**	**168**	*e*P		P	13 02 05.5	+0.6	
	comp=Z,36nm,2.3s								
HLID	**Hailey**	**120.10**	**24**	*e*PKPdf		**PKPdf**	13 07 26.9	+0.5	
SNOW	**Snow King Mtn**	**121.55**	**21**	*e*PKPdf		**PKPdf**	13 07 30.4	+1.1	
REDW	**Red Top Meadow**	**121.61**	**21**	*e*PKPdf		**PKPdf**	13 07 30.0	+0.6	
ELK	**Elko**	**122.09**	**26**	PKP		**PKPdf**	13 07 31.3	+0.9	
ELK	**Elko**	**122.09**	**26**	PKP		**PKPdf**	13 07 31.3	+0.9	
	comp=Z,0.6nm,0.6s,baz=25,slow=3.7,SNR=4.4								
NVAR	**Mina Array Bea**	**122.53**	**30**	PKP		**PKPdf**	13 07 32.5	+1.3	
NVAR	**Mina Array Bea**	**122.53**	**30**	PKP		**PKPdf**	13 07 32.5	+1.3	
	comp=Z,1.1nm,0.6s,baz=322,slow=2.2,SNR=12								
PDAR	**Pinedale Array**	**122.58**	**21**	PKP		**PKPdf**	13 07 31.4	+0.2	
PDAR	**Pinedale Array**	**122.58**	**21**	PKP		**PKPdf**	13 07 31.4	+0.2	
	comp=Z,1.6nm,0.9s,baz=22,slow=1.6,SNR=11								
HWUT	**Hardware Ranch**	**122.86**	**23**	*e*PKPdf		**PKPdf**	13 07 32.1	+0.3	
DUG	**Dugway**	**123.57**	**25**	*e*PKIKP		**PKPdf**	13 07 33.8	+0.7	
DUG	**Dugway**	**123.57**	**25**	*e*PKPdf		**PKPdf**	13 07 33.8	+0.7	
ANMO	**Albuquerque**	**130.62**	**22**	*e*PKPdf		**PKPdf**	13 07 47.7	+0.9	
BNM	**Barren Site**	**131.26**	**23**	*e*PKPdf		**PKPdf**	13 07 49.8	+1.7	
TXAR	**Lajitas Array**	**136.69**	**23**	PKP		**PKPdf**	13 07 59.1	+0.9	
TXAR				PP		**PP**	13 10 37.0	-2.0	
TXAR	**Lajitas Array**	**136.69**	**23**	PKP		**PKPdf**	13 07 59.1	+0.9	
	comp=Z,0.5nm,0.5s,baz=16,slow=1.3,SNR=12								
TXAR				PP		**PP**	13 10 37.0	-2.0	
	comp=Z,0.4nm,1.0s,baz=245,slow=2.6,SNR=4.3								
JCT	**Junction City**	**136.96**	**18**	*e*PKIKP		**PKPdf**	13 07 59.3	+0.7	
JCT	**Junction City**	**136.96**	**18**	*e*PKPdf		**PKPdf**	13 07 59.3	+0.7	
BDFB	**Brasilia**	**142.87**	**258**	PKP		**PKPdf**	13 08 11.5	+1.8	
BDFB	**Brasilia**	**142.87**	**258**	PKP		**PKPdf**	13 08 11.5	+1.8	
	comp=Z,2.0nm,0.7s,baz=172,slow=2.6,SNR=3.0								
MTP	**Monte Pirata**	**145.11**	**325**	*e*PKPdf		**PKPdf**	13 08 13.9	+0.5	
CELP	**Cerrillos**	**145.70**	**326**	*e*PKPdf		**PKPab**	13 08 15.0	0.0	
OBIP	**Obispado Ponce**	**145.75**	**326**	*e*PKPdf		**PKPab**	13 08 15.6	+0.4	
PLCA	**Paso Flores**	**147.13**	**202**	PKPbc		**PKPab**	13 08 20.1	0.0	
PLCA	**Paso Flores**	**147.13**	**202**	PKPbc		**PKPab**	13 08 20.1	0.0	
	comp=Z,8.3nm,1.0s,baz=172,slow=4.9,SNR=7.8								
CPUP	**Villa Florida**	**148.89**	**236**	PKPbc		**PKPbc**	13 08 24.0	+0.5	
CPUP	**Villa Florida**	**148.89**	**236**	PKPbc		**PKPbc**	13 08 24.0	+0.5	
	comp=Z,4.4nm,0.9s,baz=62,slow=4.3,SNR=5.9								
LPAZ	**La Paz**	**161.90**	**250**	PKP		**PKPdf**	13 08 37.5	-0.5	
LPAZ				PKPab		**PKPab**	13 09 22.0	-1.9	
LPAZ	**La Paz**	**161.90**	**250**	PKP		**PKPdf**	13 08 37.5	-0.5	
	comp=Z,2.8nm,1.2s,baz=50,slow=3.1,SNR=6.3								
LPAZ				PKPab		**PKPab**	13 09 22.0	-1.9	
	comp=Z,1.1nm,0.9s,baz=82,slow=3.5,SNR=3.0								

IDC 26 12:54:27.4±1.7, 30.68N×83.49E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.5/28, mbtmp3.7/7, ML2.4/1, Error ellipse: s-maj=46.3km s-min=25.8km az=55.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.12**	**357**	Pn	Pn	12 58 13.4	-1.9
	0.0nm,0.3s,baz=158,slow=16,SNR=2.4						
KURBB	**Kurchatov Arra**	**20.27**	**351**	P	P	12 59 03.5	-0.8
	3.2nm,1.0s,baz=172,slow=9.7,SNR=4.1						
SONM	**Songino Array**	**24.51**	**39**	P	P	12 59 49.7	+1.1
	0.7nm,0.6s,baz=220,slow=11,SNR=4.1						
KSRS	**Korea Array**	**37.15**	**67**	P	P	13 01 39.2	-0.7
	0.7nm,0.7s,baz=273,slow=9.0,SNR=4.4						
FINES	**FINESS Array B**	**48.07**	**327**	P	P	13 03 08.7	+0.3
	1.8nm,0.9s,baz=126,slow=7.1,SNR=2.7						
WRA	**Warramunga Arr**	**70.15**	**129**	P	P	13 05 42.1	+0.1
	0.3nm,0.4s,baz=326,slow=6.1,SNR=3.4						
ILAR	**Eielson Array**	**77.10**	**20**	P	P	13 06 21.8	-0.5
	0.4nm,0.7s,baz=304,slow=5.3,SNR=2.9						

IDC 26 13:18:32.0±0.8, 10.45N×93.92E, h0km, mb3.9/9, mb1 3.9/10, mb1mx3.7/29, mbtmp3.8/10, Error ellipse: s-maj=26.0km s-min=17.9km az=76.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.33**	**31**	Pn	Pn	13 20 49.6	+1.7
	baz=217,slow=14,SNR=7.0						
MKAR	**Makanchi Array**	**37.55**	**347**	P	P	13 25 48.0	0.0
	1.4nm,0.8s,baz=155,slow=6.0,SNR=11						
SONM	**Songino Array**	**38.72**	**13**	P	P	13 25 57.6	-0.4
	0.8nm,1.0s,baz=210,slow=12,SNR=5.9						
KSRS	**Korea Array**	**40.71**	**43**	P	P	13 26 14.1	-0.5
	0.9nm,0.9s,baz=250,slow=9.1,SNR=4.8						
KURBB	**Kurchatov Arra**	**42.02**	**345**	P	P	13 26 25.6	+0.6
	1.6nm,0.8s,baz=160,slow=7.8,SNR=5.3						
ZALV	**Zalesovo Beam**	**43.99**	**352**	P	P	13 26 41.3	+0.2
	0.9nm,0.4s,baz=157,slow=8.0,SNR=7.4						
BVAR	**Borovoye Array**	**46.50**	**341**	P	P	13 27 01.5	+0.5
	0.3nm,0.4s,baz=153,slow=10.0,SNR=3.8						
WRA	**Warramunga Arr**	**49.95**	**127**	P	P	13 27 28.6	+0.4
	1.9nm,0.7s,baz=302,slow=8.6,SNR=8.2						
ASAR	**Alice Springs**	**51.75**	**131**	P	P	13 27 42.2	+0.5
	2.8nm,0.8s,baz=308,slow=6.7,SNR=20						
OPO	**Ambohidratompo**	**54.37**	**238**	P	P	13 28 01.6	+0.3
	5.7nm,0.3s,baz=105,slow=2.5,SNR=17						
NVAR	**Mina Array Bea**	**122.83**	**30**	PKP	PKPdf	13 37 28.4	-2.5
	0.1nm,0.3s,baz=195,slow=6.5,SNR=2.8						
PDAR	**Pinedale Array**	**122.86**	**20**	PKP	PKPdf	13 37 29.3	-1.5
	0.2nm,0.7s,baz=323,slow=2.4,SNR=2.3						

*BJI **26** 13:19:28.3, 9.92N×94.26E, h10km, mB4.9/9, mb4.5/15, Ms4.6/5, Ms7 4.0/5*

*IDC **26** 13:19:35.1±0.7, 10.70N×94.23E, h0km, mb4.3/16, mb1 4.4/17, mb1mx4.2/29, mbtmp4.2/17, ML4.0/1, MS3.7/4, Ms1 3.8/4, ms1mx3.2/43, Error ellipse: s-maj=23.0km s-min=16.1km az=52.0*

*ISCJB **26** 13:19:36.7±0.6, 10.73N±0.09°×94.33E±0.09, h19km, mb4.3/19, MS4.0/4, Error ellipse: s-maj=12.6km s-min=12.6km az=29.8*

ISC 26 13:19:38.3±0.8, 10.7N±0.1°×94.3E±0.1°, h19km, n37, σ1§38/40, mb4.4/19, MS3.9/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.93**	**30**	Pn	**Pn**	**13 21 45.8**	**-0.6**
	0.5nm,0.3s,baz=219,slow=15,SNR=5.8						
CMAR				LR	LR	13 25 32.1	
	comp=Z,273nm,18.6s,baz=203,slow=40						
PSI	**Prapat**	**9.13**	**149**	LR	LR	13 25 41.5	
	comp=Z,1μm,19.9s,baz=305,slow=40						
KMI	**Kunming**	**16.44**	**28**	P	**P**	**13 23 33.5**	**+2.6**
KMI				pP	**pP**	**13 23 39.0**	**+2.7**
KMI				pmax	pmax		
	comp=Z,17nm,1.1s						
NDI	**New Delhi**	**23.95**	**321**	*e*P	**P**	**13 24 49.0**	**-2.5**
LZH	**Lanzhou**	**26.71**	**17**	*e*P	**P**	**13 25 15.0**	**-1.7**
LZH				pP	**pP**	**13 25 18.0**	**-4.5**
LZH				*e*S	**S**	**13 29 49.8**	**-1.7**
LZH				pmax	pmax		
	comp=Z,42nm,1.4s						
LZH				pmax	pmax		
	comp=Z,180nm,6.5s						
LZH				LR	LR		
	comp=N,410nm,13.1s						
LZH				LR	LR		
	comp=E,630nm,13.0s						
LZH				LR	LR		
	comp=Z,880nm,15.0s						
GTA	**Gaotai**	**29.00**	**9**	*e*P	**P**	**13 25 38.0**	**+0.9**
GTA				pP	**pP**	**13 25 42.5**	**-0.4**
GTA				sP	**sP**	**13 25 45.0**	**-0.3**
GTA				S	**S**	**13 30 27.5**	**+0.1**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.6s						
GTA				pmax	pmax		
	comp=Z,84nm,5.5s						
GTA				LR	LR		
	comp=N,230nm,18.3s						
GTA				LR	LR		
	comp=E,180nm,16.9s						
GTA				LR	LR		
	comp=Z,320nm,18.8s						
WMQ	**Urumqi**	**33.47**	**351**	P	**P**	**13 26 17.5**	**+1.2**
AAK	**Ala-Archa**	**36.17**	**335**	P	**P**	**13 26 41.0**	**+1.2**
	comp=Z,5.0nm,0.7s,baz=164,slow=5.1,SNR=7.8						
MKAR	**Makanchi Array**	**37.36**	**346**	P	**P**	**13 26 50.0**	**+0.3**
	comp=Z,7.9nm,0.8s,baz=165,slow=8.4,SNR=17						
SONM	**Songino Array**	**38.38**	**13**	P	**P**	**13 26 58.9**	**+0.4**
	comp=Z,3.3nm,1.0s,baz=196,slow=8.2,SNR=12						
SONM				PcP	**PcP**	**13 29 09.6**	**-2.3**
	comp=Z,0.7nm,0.4s,baz=184,slow=4.2,SNR=4.4						
KSRS	**Korea Array**	**40.29**	**43**	P	**P**	**13 27 13.2**	**-1.2**
	comp=Z,3.3nm,1.0s,baz=251,slow=9.8,SNR=9.5						
KURBB	**Kurchatov Arra**	**41.84**	**345**	P	**P**	**13 27 27.3**	**+0.4**
	comp=Z,5.8nm,0.8s,baz=164,slow=7.5,SNR=16						
ZALV	**Zalesovo Beam**	**43.77**	**352**	P	**P**	**13 27 43.0**	**+0.5**
	comp=Z,10.0nm,0.6s,baz=169,slow=8.9,SNR=17						
BVAR	**Borovoye Array**	**46.35**	**340**	P	**P**	**13 28 03.0**	**-0.1**
	comp=Z,4.4nm,0.9s,baz=144,slow=8.4,SNR=12						
USRK	**Ussuriysk Arra**	**46.59**	**37**	P	**P**	**13 28 04.7**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=231,slow=9.4,SNR=6.8						
MJAR	**Matsushiro Arr**	**47.22**	**50**	P	**P**	**13 28 10.9**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=233,slow=10,SNR=5.3						
MJAR				PcP	**PcP**	**13 29 41.1**	**-0.4**
	comp=Z,2.9nm,0.9s,baz=252,slow=4.3,SNR=10						
WRA	**Warramunga Arr**	**49.86**	**128**	P	**P**	**13 28 30.9**	**+0.2**
	comp=Z,4.2nm,0.9s,baz=304,slow=8.5,SNR=8.7						
ASAR	**Alice Springs**	**51.69**	**132**	P	**P**	**13 28 44.5**	**0.0**
	comp=Z,4.9nm,0.8s,baz=308,slow=7.3,SNR=14						
DGRG	**David-gareji**	**52.57**	**315**	P	**P**	**13 28 52.9**	**+2.1**
TBLG	**Delisi**	**53.12**	**315**	P	**P**	**13 28 55.8**	**+1.0**
AKH	**Akhalkalaki**	**53.88**	**314**	P	P	13 28 54.9	-5.8
ONI	**Oni**	**54.31**	**315**	P	P	13 28 52.8	-11
ASF	**Jabal al Asfar**	**56.80**	**301**	LR	LR	13 56 13.3	
	comp=Z,56nm,19.4s,baz=142,slow=39						
MMAI	**Mount Meron Ar**	**58.17**	**302**	LR	LR	13 56 18.9	
	comp=Z,66nm,18.4s,baz=60,slow=38						
BRTR	**Keskin Array B**	**60.69**	**310**	P	**P**	**13 29 47.5**	**-1.2**
	comp=Z,7.7nm,0.9s,baz=107,slow=6.6,SNR=8.4						
ARCES	**ARCESS Array B**	**72.64**	**340**	P	**P**	**13 31 04.1**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=60,slow=8.5,SNR=7.5						
DPC	**Dobruska-Polom**	**74.12**	**319**	*e*P	**P**	**13 31 13.5**	**0.0**
GERES	**GERESS Array B**	**75.80**	**318**	P	**P**	**13 31 23.0**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=83,slow=4.4,SNR=4.9						
LPG	**La Plagne**	**80.70**	**315**	*e*P	**P**	**13 31 51.6**	**+0.9**
LPL	**La Plagne**	**80.71**	**315**	*e*P	**P**	**13 31 51.4**	**+0.7**
MBDF	**Montbardon**	**80.77**	**314**	*e*P	**P**	**13 31 52.1**	**+1.2**
	comp=Z,4.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**90.05**	**283**	P	**P**	**13 32 37.6**	**0.0**
	comp=Z,1.4nm,0.9s,baz

	73nm,0.7s,0.4nm								
PBKT	**Sadao Pong**	**8.77**	**47**	P		**Pn**	**13 31 23.7**	**+0.5**
	73nm,1.1s,0.3nm								
CMAR	**Chiang Mai Arr**	**8.99**	**29**	Pn		**Pn**	**13 31 26.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**8.99**	**29**	Pn		**Pn**	**13 31 26.5**	**+0.3**
	0.2nm,0.3s,baz=219,slow=14,SNR=24								
CMAR				LR		LR	13 34 43.7		
	comp=Z,801nm,19.2s,baz=324,slow=37								
PSI	**Prapat**	**9.03**	**149**	Pn		**Pn**	**13 31 28.5**	**+1.5**
PSI	**Prapat**	**9.03**	**149**	Pn		**Pn**	**13 31 28.5**	**+1.5**
	0.7nm,0.3s,baz=330,slow=11,SNR=5.1								
PSI				LR		LR	13 35 40.9		
	comp=Z,3μm,18.8s,baz=306,slow=42								
IPM	**Ipoh**	**9.05**	**132**	*e*Pn		**Pn**	**13 31 25.3**	**-1.7**
IPM	**Ipoh**	**9.05**	**132**	P		**Pn**	**13 31 25.5**	**-1.6**
CHTO	**Chiang Mai**	**9.29**	**28**	*e*P		**Pn**	**13 31 28.1**	**-2.3**
CHTO	**Chiang Mai**	**9.29**	**28**	*e*Pn		**Pn**	**13 31 28.1**	**-2.3**
CHTO	**Chiang Mai**	**9.29**	**28**	P		Pn	13 31 34.2	+3.8
	24nm,1.2s								
CHTO	**Chiang Mai**	**9.29**	**28**	P		Pn	13 31 36.9	+6.5
	53nm,0.8s								
CMMT	**Chiang Mai**	**9.29**	**28**	P		Pn	13 31 34.3	+3.9
	21nm,1.1s								
CMMT	**Chiang Mai**	**9.29**	**28**	P		Pn	13 31 36.7	+6.3
	22nm,1.8s								
KTGM	**Kuala Trenggan**	**10.21**	**120**	P		**Pn**	**13 31 42.9**	**-0.1**
FRIM	**Kepong**	**10.34**	**135**	P		**Pn**	**13 31 47.8**	**+3.1**
SKNT	**Sakolnakorn**	**11.32**	**55**	P		**Pn**	**13 32 00.1**	**+1.9**
	53nm,1.4s								
UBPT	**Khong Chiam**	**11.83**	**66**	P		**Pn**	**13 32 05.7**	**+0.5**
	51nm,1.2s								
UBPT	**Khong Chiam**	**11.83**	**66**	P		Pn	13 32 12.6	+7.4
	74nm,0.8s								
BKNI	**Bangkinang**	**12.24**	**146**	P		Pn	13 32 16.4	+5.6
	111nm,1.2s,2μm								
KGM	**Kluang**	**12.39**	**133**	P		**Pn**	**13 32 14.9**	**+2.0**
PPI	**Padang Panjang**	**12.58**	**151**	P		**P**	**13 32 25.3**	**-1.6**
	27nm,1.8s								
VIS	**Vishakhapatnam**	**12.75**	**305**	*e*P		**Pn**	**13 32 16.4**	**-1.3**
VIS				AMB		AMB	13 32 25.0		
	comp=Z,70nm,1.5s								
MYKOM	**Kota Tinggi**	**12.93**	**132**	P		**Pn**	**13 32 22.1**	**+1.8**
MYKOM	**Kota Tinggi**	**12.93**	**132**	P		P	13 32 27.8	-3.1
	comp=Z,21nm,1.4s								
BTDF	**Bukit Timah Da**	**13.17**	**134**	P		P	13 32 29.8	-3.7
	comp=Z,20nm,1.3s								
IMP	**Imphal**	**14.08**	**359**	*e*P		**Pn**	**13 32 35.0**	**-1.0**
SHL	**Shillong**	**15.03**	**352**	*e*P		**Pn**	**13 32 47.0**	**-2.0**
BOK	**Bokaro**	**15.35**	**330**	*e*P		**Pn**	**13 32 52.2**	**-0.9**
BOK				AMB		AMB	13 33 02.9		
	comp=Z,51nm,1.6s								
MASI	**Maura Aman, Be**	**15.80**	**150**	P		P	13 33 10.1	+7.2
KMI	**Kunming**	**16.49**	**28**	P		**Pn**	**13 33 09.8**	**+1.8**
KMI				pP		**pP**	**13 33 14.0**	**-1.0**
KMI				sP		**sP**	**13 33 16.3**	**-0.7**
KMI				PP		**PnPn**	**13 33 23.8**	**+6.4**
KMI				S		**Sn**	**13 36 12.5**	**+1.5**
KMI				sS		**S**	**13 36 18.0**	**-4.9**
KMI				SS		**SnSn**	**13 36 31.5**	**+7.0**
KMI				pmax		pmax			
	comp=Z,8.0nm,1.7s								
KMI				pmax		pmax			
	comp=Z,230nm,3.7s								
KMI				LR		LR			
	comp=N,1μm,12.7s								
KMI				LR		LR			
	comp=E,970nm,11.7s								
KMI				LR		LR			
	comp=Z,960nm,11.4s								
HYB	**Hyderabad**	**16.69**	**296**	*i* P		**P**	**13 33 15.0**	**+2.3**
HYB				*e*S		**Sn**	**13 36 18.0**	**+2.4**
HYB	**Hyderabad**	**16.69**	**296**	*e*P		**Pn**	**13 33 09.9**	**-0.5**
QIZ	**Qiongzhong**	**17.18**	**59**	P		**Pn**	**13 33 13.3**	**-3.3**
QIZ				S		**Sn**	**13 36 26.0**	**-1.5**
QIZ				LR		LR			
	comp=N,2μm,9.4s								
QIZ				LR		LR			
	comp=E,890nm,9.8s								
QIZ				LR		LR			
	comp=Z,3μm,9.1s								
QIZ	**Qiongzhong**	**17.18**	**59**	*e*P		**P**	**13 33 18.0**	**-0.1**
	comp=Z,88nm,1.4s								
PPBI	**Pangkal Pinang**	**17.33**	**137**	P		**P**	**13 33 20.8**	**+1.0**
	comp=Z,87nm,1.5s,comp=Z,3μm								
KSM	**Kuching**	**18.32**	**119**	*e*Pn		**Pn**	**13 33 29.0**	**-1.7**
	comp=Z,84nm,1.3s								
KSM	**Kuching**	**18.32**	**119**	P		**P**	**13 33 31.7**	**+0.9**
KSM	**Kuching**	**18.32**	**119**	P		**P**	**13 33 33.4**	**+2.6**
	comp=Z,53nm,1.6s,comp=Z,2μm								
KLSI		**18.43**	**145**	P		Pn	13 33 40.3	+8.3
	comp=Z,25nm,1.3s								
JBP	**Jabalpur**	**18.50**	**314**⇑	*e*P		**Pn**	**13 33 33.6**	**+0.9**
JBP				*ex*		x	13 37 21.0		
TPI	**Tanjungpandan**	**18.81**	**134**	P		**Pn**	**13 33 39.1**	**+2.5**
	comp=Z,36nm,1.9s,comp=Z,1μm								
LSA	**Lhasa**	**19.20**	**352**	P		**P**	**13 33 39.3**	**-1.4**
LSA				S		**Sn**	**13 37 11.3**	**-5.6**
LSA				LR		LR			
	comp=E,1μm,28.0s								
LSA				LR		LR			
	comp=Z,990nm,24.7s								
LSA	**Lhasa**	**19.20**	**352**	*e*P		**P**	**13 33 39.6**	**-1.2**
LSA				pmax		pmax			
	comp=Z,173nm,1.5s								
LSA	**Lhasa**	**19.20**	**352**	*e*P		**P**	**13 33 39.6**	**-1.2**
	comp=Z,173nm,1.5s								
LSA				*e*			13 33 47.9		
SBUM	**Sibu**	**19.56**	**113**	P		**Pn**	**13 33 46.5**	**+0.8**
SBUM	**Sibu**	**19.56**	**113**	P		**Pn**	**13 33 46.3**	**+0.6**
	comp=Z,36nm,1.3s,comp=Z,1μm								
GYA	**Guiyang**	**19.61**	**35**	P		**P**	**13 33 45.0**	**+0.1**
GYA				PP		**PnPn**	**13 34 03.3**	**+3.4**
GYA				S		**S**	**13 37 21.8**	**-4.1**
GYA				SS		**SnSn**	**13 37 47.5**	**+6.7**
GYA				pmax		pmax			
	comp=Z,20nm,1.0s								
GYA				pmax		pmax			
	comp=Z,130nm,4.4s								
GYA				LR		LR			
	comp=N,3μm,14.1s								
GYA				LR		LR			
	comp=E,1μm,16.2s								
GYA				LR		LR			
	comp=Z,3μm,15.3s								
BTM	**Bintulu**	**20.05**	**110**	P		Pn	13 33 52.8	+1.3
BHPL	**Bhopal**	**20.41**	**310**	*e*P		**P**	**13 33 54.0**	**+0.4**
POO	**Poona**	**21.27**	**294**	*e*P		**P**	**13 34 04.4**	**+1.4**
LEM	**Lembang**	**21.83**	**142**	P		P	13 34 16.7	+7.6
	comp=Z,69nm,1.3s								
CD2	**Chengdu**	**22.01**	**22**	P		**P**	**13 34 10.5**	**-0.3**
CD2				pP		**pP**	**13 34 14.8**	**-0.4**
CD2				sP		**sP**	**13 34 17.8**	**+0.7**
CD2				PP		**PnPn**	**13 34 36.5**	**+3.7**
CD2				S		**S**	**13 38 09.0**	**-4.3**
CD2				sS		sS	13 38 15.3	-5.0
CD2				SS		**SnSn**	**13 38 48.3**	**+8.6**
CD2				pmax		pmax			
	comp=Z,130nm,1.6s								
CD2				pmax		pmax			
	comp=Z,1μm,10.2s								
CD2				LR		LR			
	comp=E,1μm,8.2s								
CD2				LR		LR			
	comp=Z,860nm,7.1s								
KKM	**Kota Kinabalu**	**22.16**	**100**	P		**P**	**13 34 16.4**	**+3.8**
KKM	**Kota Kinabalu**	**22.16**	**100**	P		**P**	**13 34 16.0**	**+3.5**
	comp=Z,105nm,1.4s,comp=Z,2μm								
SDKM	**Sandakan**	**23.20**	**101**	P		**P**	**13 34 24.6**	**+1.1**
NDI	**New Delhi**	**24.05**	**321**	*e*P		**P**	**13 34 31.0**	**-0.6**
ENH	**Enshi**	**24.12**	**34**	*e*P		**P**	**13 34 31.0**	**-1.2**
	comp=Z,93nm,1.2s								
KUDL	**Kundal**	**24.14**	**319**	*ex*		x	13 34 09.2		
TSM	**Tawau**	**24.20**	**103**	P		**P**	**13 34 35.5**	**+2.4**
MYLDM	**Lahad Datu**	**24.57**	**101**	P		**P**	**13 34 39.8**	**+3.3**
MYLDM	**Lahad Datu**	**24.57**	**101**	P		**P**	**13 34 40.0**	**+3.5**
	comp=Z,142nm,1.5s,comp=Z,2μm								
DDI	**Dehra Dun**	**24.75**	**325**	*e*P		**P**	**13 34 36.6**	**-1.4**
BBKI	**Banjar Baru**	**24.79**	**123**	P		**P**	**13 34 41.9**	**+3.5**
	comp=Z,133nm,1.4s,comp=Z,3μm								
SMLA	**Simla**	**25.85**	**325**	*e*P		**P**	**13 34 47.9**	**0.0**
SMLA				AMB		AMB	13 34 58.7		
	comp=Z,83nm,1.6s								
LZH	**Lanzhou**	**26.78**	**17**	⇑P		**P**	**13 34 57.0**	**+0.5**
LZH				pP		**pP**	**13 35 00.0**	**-1.2**
LZH				sP		**sP**	**13 35 01.8**	**-1.3**
LZH				PP		**PnPn**	**13 35 42.3**	**+4.3**
LZH				sS		**sS**	**13 39 37.5**	**-2.4**
LZH				SS		**SnSn**	**13 40 43.0**	**+6.6**
LZH				pmax		pmax			
	comp=Z,75nm,1.5s								
LZH				pmax		pmax			
	comp=Z,260nm,7.2s								
LZH				LR		LR			
	comp=N,880nm,12.0s								
LZH				LR		LR			
	comp=E,520nm,10.3s								
LZH				LR		LR			
	comp=Z,2μm,16.2s								
XAN	**Xi'an**	**26.88**	**28**	P		**P**	**13 34 55.3**	**-1.9**
XAN				pP		**pP**	**13 35 05.0**	**+3.1**
XAN				sP		sP	13 35 09.5	+5.7
XAN				S		**S**	**13 39 33.5**	**+0.1**
XAN				pmax		pmax			
	comp=Z,2.0nm,1.3s								
XAN				pmax		pmax			
	comp=Z,40nm,6.3s								
XAN				LR		LR			
	comp=N,460nm,15.7s								
XAN				LR		LR			
	comp=E,280nm,16.7s								
XAN				LR		LR			
	comp=Z,250nm,12.8s								
QZH	**Quanzhou**	**27.09**	**55**	P		**P**	**13 34 57.3**	**-1.9**
QZH				S		**S**	**13 39 38.0**	**+1.0**
QZH				LR		LR			
	comp=N,1μm,8.7s								
QZH				LR		LR			
	comp=E,1μm,9.4s								
QZH				LR		LR			
	comp=Z,1μm,10.2s								
DHRM	**DHARAMSHALA**	**27.18**	**325**	*e*P		**P**	**13 35 00.8**	**+0.6**
WHN	**Wuhan**	**27.20**	**40**⇓	*i* P		**P**	**13 35 00.8**	**+0.6**
WHN				pP		**pP**	**13 35 06.5**	**+1.7**
WHN				S		**S**	**13 39 34.0**	**-4.6**
WHN				LR		LR			
	comp=N,2μm,9.0s								
WHN				LR		LR			
	comp=E,1μm,8.6s								
WHN				LR		LR			
	comp=Z,1μm,12.2s								
GTA	**Gaotai**	**29.08**	**9**	⇑P		**P**	**13 35 17.8**	**+0.8**
GTA				pP		**pP**	**13 35 22.0**	**+0.3**
GTA				sP		**sP**	**13 35 24.8**	**+1.2**
GTA				S		**S**	**13 40 10.3**	**+2.1**
GTA				sS		**sS**	**13 40 17.3**	**+1.4**
GTA				SS		**SnSn**	**13 41 41.3**	**+8.9**
GTA				pmax		pmax			
	comp=Z,10.0nm,1.8s								
GTA				pmax		pmax			
	comp=Z,190nm,5.5s								
GTA				LR		LR			
	comp=N,510nm,20.0s								
GTA				LR		LR			
	comp=E,360nm,18.5s								
GTA				LR		LR			
	comp=Z,750nm,20.2s								
MRSI	**Marisa**	**29.27**	**108**	P		P	13 35 27.1	+8.3
KAPI	**Kappang**	**29.73**	**120**	LR		LR	13 47 34.3		
	comp=Z,636nm,18.3s,baz=281,slow=37								
SKSI	**Soroako, Sulaw**	**29.92**	**114**	P		P	13 35 33.9	+9.3
NJ2	**Nanjing**	**31.12**	**43**	*e*P		**P**	**13 35 34.0**	**-1.0**
NJ2				S		**S**	**13 40 42.0**	**+1.8**
NJ2				pmax		pmax			
	comp=Z,60nm,0.9s								
NJ2				LR		LR			
	comp=N,1μm,12.6s								
NJ2				LR		LR			
	comp=E,1μm,12.2s								
NJ2				LR		LR			
	comp=Z,2μm,16.2s								
SSE	**Sheshan**	**32.19**	**47**	P		P	13 35 40.8	-3.5
SSE				sP		sP	13 35 55.0	+4.0
SSE				S		**S**	**13 40 54.3**	**-2.5**
SSE				ScS		**ScS**	**13 46 09.0**	**-6.3**
SSE				pmax		pmax			
	comp=Z,27nm,0.6s								
SSE				pmax		pmax			
	comp=Z,100nm,4.1s								
SSE				LR		LR			
	comp=N,590nm,13.1s								
SSE				LR		LR			
	comp=E,250nm,13.1s								
SSE				LR		LR			
	comp=Z,610nm,7.9s								
KSH	**Kashi**	**33.07**	**334**	P		**P**	**13 35 50.5**	**-1.6**
KSH				sP		**sP**	**13 35 58.0**	**-0.7**
KSH				PP		**PnPn**	**13 37 01.8**	**+0.1**
KSH				S		**S**	**13 41 08.5**	**-2.1**
KSH				sS		**sS**	**13 41 15.0**	**-3.4**
KSH				PcS		**PcS**	**13 42 19.0**	**-2.0**
KSH				SS		**SnSn**	**13 43 07.3**	**-2.0**
KSH				pmax		pmax			
	comp=Z,12nm,1.1s								
KSH				pmax		pmax			
	comp=Z,170nm,4.3s								
KSH				LR		LR			
	comp=N,200nm,8.8s								
KSH				LR		LR			
	comp=E,160nm,7.5s								
KSH				LR		LR			
	comp=Z,390nm,19.9s								
KBL	**Kabul**	**33.13**	**320**	*e*P		**P**	**13 35 52.8**	**-0.1**
KBL				pmax		pmax			
	comp=Z,28nm,1.4s								
KBL	**Kabul**	**33.13**	**320**	*e*P		**P**	**13 35 52.8**	**-0.1**
	comp=Z,28nm,1.4s								
WMQ	**Urumqi**	**33.56**	**351**	P		**P**	**13 35 56.5**	**+0.2**
WMQ				pP		**pP**	**13 36 01.0**	**0.0**
WMQ				sP		**sP**	**13 36 03.5**	**+0.6**
WMQ				PP		**PnPn**	**13 37 09.0**	**+1.1**
WMQ				PcP		**PcP**	**13 38 36.8**	**0.0**
WMQ				S		**S**	**13 41 17.5**	**-0.5**
WMQ				sS		**sS**	**13 41 24.8**	**-1.0**
WMQ				ScP		**ScP**	**13 42 19.8**	**-1.2**
WMQ				SS		**SnSn**	**13 43 21.8**	**+0.7**
WMQ				ScS		**ScS**	**13 46 19.5**	**-2.6**
WMQ				pmax		pmax			
	comp=Z,44nm,1.7s								
WMQ				pmax		pmax			
	comp=Z,260nm,4.1s								
WMQ				LR		LR			
	comp=N,310nm,13.5s								
WMQ				LR		LR			
	comp=E,250nm,20.3s								
WMQ				LR		LR			
	comp=Z,490nm,27.4s								
HHC	**Hu-ho-hao-te**	**33.74**	**24**	*e*P		**P**	**13 35 58.5**	**+0.5**
HHC				PP		**PnPn**	**13 37 11.8**	**+1.6**
HHC				PcP		**PcP**	**13 38 37.5**	**+0.1**
HHC				S		**S**	**13 41 21.3**	**+0.3**
HHC				ScP		**ScP**	**13 42 20.5**	**-1.2**
HHC				PcS		**PcS**	**13 42 23.0**	**-0.3**
HHC				SS		**SnSn**	**13 43 26.5**	**+0.8**
HHC				ScS		**ScS**	**13 46 21.3**	**-1.9**
HHC				pmax		pmax			
	comp=Z,14nm,0.6s								
HHC				pmax		pmax			
	comp=Z,250nm,6.1s								
HHC				LR		LR			
	comp=N,970nm,13.5s								
HHC				LR		LR			
	comp=E,770nm,14.1s								
HHC				LR		LR			
	comp=Z,740nm,12.8s								
BJI	**Beijing**	**35.13**	**30**	P		**P**	**13 36 11.3**	**+1.4**
BJI				PP		**PnPn**	**13 37 25.0**	**-2.5**
BJI				S		**S**	**13 41 42.0**	**-0.3**
BJI				pmax		pmax			
	comp=Z,24nm,0.8s								
BJI				LR		LR			
	comp=N,610nm,14.0s								
BJI				LR		LR			
	comp=E,280nm,11.2s								
BJI				LR		LR			
	comp=Z,210nm,20.2s								
SOEI	**Soe**	**36.04**	**123**	P		P	13 36 28.7	+11
AAK	**Ala-Archa**	**36.27**	**335**	*e*P		**P**	**13 36 17.7**	**-2.1**
AAK				pmax		pmax			
	comp=Z,31nm,1.3s								
AAK	**Ala-Archa**	**36.27**	**335**	*e*P		**P**	**13 36 17.7**	**-2.1**
	comp=Z,31nm,1.3s								
AAK	**Ala-Archa**	**36.27**	**335**	LR		LR	13 52 53.8		
	comp=Z,732nm,21.9s,baz=132,slow=39								
FRU	**Bishkek**	**36.38**	**335**	*i* P		**P**	**13 36 21.5**	**+0.9**
FRU				*i*			13 38 06.0		
FRU				pmax		pmax			
	comp=Z,80nm,2.1s								
FRU				MLR		MLR			
	comp=Z,700nm,22.0s								
MSAI	**Masohi**	**37.17**	**110**	P		P	13 36 37.4	+10
MKAR	**Makanchi Array**	**37.45**	**346**	P		**P**	**13 36 29.8**	**+0.1**
MKAR	**Makanchi Array**	**37.45**	**346**	P		**P**	**13 36 29.8**	**+0.1**
MKAR	**Makanchi Array**	**37.45**	**346**	P		**P**	**13 36 29.8**	**+0.1**
	comp=Z,7.8nm,1.0s,baz=159,slow=7.8,SNR=43								
MKAR				LR		LR	13 55 57.7		
	comp=Z,312nm,19.2s,baz=164,slow=43								
KK31	**Karatay Array**	**38.40**	**332**	*ce*P		**P**	**13 36 37.5**	**-0.3**
KK31				pmax		pmax			
	comp=Z,27nm,1.2s								
KKAR	**Karatay Array**	**38.40**	**332**	*e*P		**P**	**13 36 37.1**	**-0.7**
KKAR	**Karatay Array**	**38.40**	**332**	*e*P		**P**	**13 36 37.1**	**-0.7**
SONM	**Songino Array**	**38.46**	**13**	P		**P**	**13 36 38.7**	**+0.4**
SONM	**Songino Array**	**38.46**	**13**	P		**P**	**13 36 38.7**	**+0.4**
	comp=Z,9.8nm,1.1s,baz=198,slow=8.0,SNR=34								
SONM				LR		LR	13 54 03.7		
	comp=Z,793nm,18.7s,baz=193,slow=39								
ULN	**Ulaanbaatar**	**38.64**	**14**	*e*P		**P**	**13 36 37.6**	**-2.2**
	comp=Z,110nm,2.3s								
ULN	**Ulaanbaatar**	**38.64**	**14**	P		P	13 36 44.4	+4.6
	comp=Z,18nm,1.8s,comp=Z,416nm								
KSAR	**Wonju Array Be**	**40.29**	**43**	P		**P**	**13 36 53.5**	**-0.1**
KSAR				PcP		**PcP**	**13 38 58.5**	**+1.3**
SNY	**Shenyang**	**40.30**	**34**	⇑P		P	13 37 00.0	+6.4
SNY				pmax		pmax			
	comp=Z,38nm,1.6s								
ZAK	**Zakamensk**	**40.32**	**9**⇑	*i* P		**P**	**13 36 54.4**	**+0.7**
ZAK				pmax		pmax			
	comp=Z,6.0nm,1.8s								
KSRS	**Korea Array**	**40.32**	**43**	P		**P**	**13 36 53.5**	**-0.3**
	comp=Z,12nm,1.1s,baz=248,slow=9.5,SNR=26								
KSRS				PcP		**PcP**	**13 38 58.5**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=205,slow=5.4,SNR=3.5								
KSRS				LR		LR	13 56 45.2		
	comp=Z,176nm,18.2s,baz=241,slow=41								
JNU	**Nakatsue**	**40.35**	**51**	P		**P**	**13 36 54.3**	**+0.1**
JNU	**Nakatsue**	**40.35**	**51**	P		**P**	**13 36 54.3**	**+0.1**
	comp=Z,6.1nm,0.6s,baz=272,slow=15,SNR=3.6								
JNU				LR		LR	13 55 16.6		
	comp=Z,246nm,18.0s,baz=286,slow=39								
HVS	**Khovu-Aksy**	**40.39**	**359**	*ci* P		**P**	**13 36 54.9**	**+0.6**
HVS				pmax		pmax			
	comp=Z,114nm,1.2s								
KURBB	**Kurchatov Arra**	**41.93**	**345**	P		**P**	**13 37 07.1**	**+0.2**
	comp=Z,5.1nm,0.9s,baz=163,slow=7.9,SNR=24								
KURK	**Kurchatov**	**42.00**	**345**	P		**P**	**13 37 07.1**	**-0.3**
KURK	**Kurchatov**	**42.00**	**345**	P		**P**	**13 37 07.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**42.10**	**132**	P		**P**	**13 37 08.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**42.10**	**132**	P		**P**	**13 37 08.7**	**+0.1**
	comp=Z,15nm,1.2s,baz=324,slow=9.6,SNR=6.1								
FITZ				LR		LR	13 55 58.6		
	comp=Z,276nm,19.7s,baz=318,slow=38								
CN2	**Changchun**	**42.65**	**34**	*e*P		**P**	**13 37 12.8**	**0.0**
CN2				*e*sP		**sP**	**13 37 19.0**	**-0.5**
CN2				*e*S		**S**	**13 43 35.0**	**-0.4**
CN2				pmax		pmax			
	comp=Z,40nm,1.2s								
CN2				pmax		pmax			
	comp=Z,200nm,4.0s								
CN2				LR		LR			
	comp=N,400nm,17.0s								
CN2				LR		LR			
	comp=E,400nm,17.0s								
CN2				LR		LR			
	comp=Z,400nm,18.0s								
ZAA0	**Zalesovo Array**	**43.86**	**352**	*e*P		**P**	**13 37 22.4**	**-0.1**
ZALV	**Zalesovo Beam**	**43.86**	**352**	*i* P		**P**	**13 37 22.6**	**+0.1**
ZALV				pmax		pmax			
	comp=Z,12nm,1.0s								
ZALV	**Zalesovo Beam**	**43.86**	**352**	P		**P**	**13 37 22.6**	**+0.1**
ZALV	**Zalesovo Beam**	**43.86**	**352**	P		**P**	**13 37 22.6**	**+0.1**
	comp=Z,12nm,1.0s,baz=168,slow=7.6,SNR=37								
ZALV				LR		LR	13 59 00.6		
	comp=Z,148nm,18.8s,baz=250,slow=41								
HIA	**Hailar**	**43.95**	**24**	P		**P**	**13 37 22.8**	**-0.4**
	comp=Z,17nm,1.0s								
NVS	**Novosibirsk**	**44.96**	**351**⇑	*i* P		**P**	**13 37 30.0**	**-1.2**
NVS				*e*S		S	13 43 58.9	-10
NVS				pmax		pmax			
	comp=Z,60nm,1.8s								
NVS				pmax		pmax			
	comp=N,43nm,1.9s								
NVS				smax		smax			
	comp=E,21nm,2.0s								
KRAR	**Krasnoyarsk**	**45.29**	**359**	*e*P		**P**	**13 37 33.5**	**-0.3**
KRAR				pmax		pmax			
	comp=Z,30nm,1.2s								
MDJ	**Mudanjiang**	**45.47**	**35**	P		P	13 37 41.8	+6.4
MDJ				pP		pP	13 37 44.5	+4.2
MDJ				sP		sP	13 37 46.0	+3.9
MDJ				S		S	13 44 31.0	+14
MDJ				pmax		pmax			
	comp=Z,11nm,2.3s								
MDJ				pmax		pmax			
	comp=Z,75nm,6.8s								
MDJ				LR		LR			
	comp=N,180nm,20.5s								
MDJ				LR		LR			
	comp=E,65nm,20.5s								
MDJ				LR		LR			
	comp=Z,210nm,12.8s								
VLA	**Vladivostok**	**45.96**	**38**	*e*P		**P**	**13 37 39.5**	**+0.2**
VLA				pmax		pmax			
	comp=Z,26nm,1.2s								
BVA0	**Borovoye Array**	**46.45**	**340**	*i* P		**P**	**13 37 42.2**	**-0.9**
BVA0				pmax		pmax			
	comp=Z,18nm,1.3s								
BVAR	**Borovoye Array**	**46.45**	**340**	P		**P**	**13 37 43.2**	**+0.1**
BVAR	**Borovoye Array**	**46.45**	**340**	P		**P**	**13 37 43.2**	**+0.1**
BVAR	**Borovoye Array**	**46.45**	**340**	P		**P**	**13 37 43.2**	**+0.1**
	comp=Z,4.2nm,1.1s,baz=140,slow=7.7,SNR=13								
BVAR				LR		LR	14 01 34.6		
	comp=Z,196nm,19.1s,baz=356,slow=42								
BRVK	**Borovoye**	**46.52**	**340**	*e*P		**P**	**13 37 42.1**	**-1.5**
BRVK				pmax		pmax			
	comp=Z,16nm,1.2s								
BRVK	**Borovoye**	**46.52**	**340**	*e*P		**P**	**13 37 42.1**	**-1.5**
	comp=Z,16nm,1.2s								
USRK	**Ussuriysk Arra**	**46.62**	**37**	P		**P**	**13 37 44.4**	**-0.1**
	comp=Z,5.6nm,1.0s,baz=240,slow=6.3,SNR=16								
USRK				LR		LR	13 59 01.2		
	comp=Z,193nm,18

AKTO	**Aktyubinsk**	**49.63**	**330**	P		**P**	**13 38 07.3**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=170,slow=7.8,SNR=6.5							
WRA	**Warramunga Arr**	**49.77**	**128**	P		**P**	**13 38 09.6**	**+0.4**
WRA	**Warramunga Arr**	**49.77**	**128**	P		**P**	**13 38 09.6**	**+0.4**
	comp=Z,16nm,1.0s,baz=305,slow=8.6,SNR=43							
WRA				LR		LR	14 00 31.5	
	comp=Z,170nm,19.6s,baz=300,slow=38							
WRAB	**Tennant Creek**	**49.77**	**128**	P		**P**	**13 38 10.2**	**+1.0**
	comp=Z,135nm,1.3s,SNR=7.5							
WRAB	**Tennant Creek**	**49.77**	**128**	*e*P		**P**	**13 38 09.9**	**+0.6**
WRAB				*e*			13 38 16.0	
WRAB					pmax	pmax		
	comp=Z,51nm,1.4s							
WRAB	**Tennant Creek**	**49.77**	**128**	*e*P		**P**	**13 38 09.9**	**+0.6**
	comp=Z,51nm,1.4s							
WRAB				*e*			13 38 16.0	
ATD	**Arta Tunnel**	**50.44**	**276**	LR		LR	13 56 00.6	
	comp=Z,99nm,18.2s,baz=284,slow=32							
ASAR	**Alice Springs**	**51.59**	**132**	P		**P**	**13 38 23.4**	**+0.4**
ASAR	**Alice Springs**	**51.59**	**132**	P		**P**	**13 38 23.4**	**+0.4**
	comp=Z,19nm,0.8s,baz=310,slow=6.6,SNR=118							
ASAR				LR		LR	14 03 46.0	
	comp=Z,385nm,18.6s,baz=293,slow=40							
MAK	**Makhachkala**	**51.79**	**317**	*e*P		**P**	**13 38 24.8**	**+0.7**
MAK				*e*S		**S**	**13 45 50.0**	**+4.3**
MAK				*e*SS		**SS**	**13 49 17.7**	**-4.7**
MAK					pmax	pmax		
	comp=Z,14nm,0.3s							
MAK				MLR		MLR		
	comp=Z,378nm,20.0s							
CLNS	**Chul'man**	**51.82**	**21**	*e*P		**P**	**13 38 23.8**	**-0.3**
CLNS					pmax	pmax		
	comp=E,11nm,1.1s							
CLNS					pmax	pmax		
	comp=Z,17nm,1.0s							
CLNS					pmax	pmax		
	comp=N,10.0nm,1.1s							
GNI	**Garni**	**52.66**	**313**	P		**P**	**13 38 30.6**	**-0.3**
	comp=N,91nm,1.4s							
GNI	**Garni**	**52.66**	**313**	LR		LR	14 04 07.4	
	comp=N,299nm,20.6s,baz=101,slow=40							
DGRG	**David-gareji**	**52.67**	**315**	P		P	13 38 40.6	+10
SVE	**Sverdlovsk**	**52.92**	**338**[1]	*e*P		**P**	**13 38 32.8**	**+0.5**
SVE					pmax	pmax		
	comp=Z,36nm,1.5s							
TBLG	**Delisi**	**53.21**	**315**	*e*P		**P**	**13 38 36.2**	**+1.5**
TBLG	**Delisi**	**53.21**	**315**	P		**P**	**13 38 36.2**	**+1.5**
ASAJ	**Asahikawa**	**53.26**	**42**	*e*P		**P**	**13 38 32.8**	**-2.2**
	comp=Z,17nm,1.2s							
AKH	**Akhalkalaki**	**53.98**	**314**	P		**P**	**13 38 42.1**	**+1.6**
ZEI	**Tsey**	**54.17**	**316**	*e*P		**P**	**13 38 42.5**	**+0.5**
ZEI					pmax	pmax		
	comp=Z,27nm,1.4s							
ONI	**Oni**	**54.41**	**315**	P		**P**	**13 38 45.7**	**+2.1**
YSS	**Yuzh-Sakhalins**	**54.54**	**39**[1]	*e*P		**P**	**13 38 45.0**	**+0.7**
YSS				*e*			13 38 51.0	
YSS				MLR		MLR		
	comp=E,300nm,16.0s							
YSS				MLR		MLR		
	comp=Z,300nm,16.0s							
KBZ	**Khabaz**	**55.19**	**316**	P		**P**	**13 38 49.5**	**+0.4**
KBZ	**Khabaz**	**55.19**	**316**	P		**P**	**13 38 49.5**	**+0.4**
KBZ	**Khabaz**	**55.19**	**316**	P		**P**	**13 38 49.5**	**+0.4**
	comp=Z,5.0nm,1.1s,baz=108,slow=3.4,SNR=6.2							
KBZ				LR		LR	14 05 45.3	
	comp=Z,241nm,21.5s,baz=120,slow=40							
YUK	**Yuzh-Kuril'sk**	**55.41**	**43***c i*P			**P**	**13 38 51.3**	**+0.7**
YUK				*i* S		**S**	**13 46 30.8**	**-4.0**
YUK				*e*SSS		SSS	13 52 16.0	
YUK				MLR		MLR		
	comp=N,142nm,21.0s							
YUK				MLR		MLR		
	comp=E,2μm,21.0s							
YUK				MLR		MLR		
	comp=Z,242nm,21.0s							
KIV	**Kislovodsk**	**55.41**	**317**	*e*P		**P**	**13 38 51.6**	**+0.8**
KIV					pmax	pmax		
	comp=Z,33nm,1.1s							
KIV				MLR		MLR		
	comp=Z,104nm,16.0s							
YAK	**Yakutsk**	**57.35**	**19**	*e*P		**P**	**13 39 02.6**	**-1.6**
YAK				*e*			13 39 07.9	
YAK				*e*			13 39 51.8	
YAK				*e*S		S	13 46 51.1	-8.9
YAK				*e**SS		sS	13 47 20.3	+12
YAK				*e*SS		**SS**	**13 50 44.2**	**-5.2**
YAK					pmax	pmax		
	comp=Z,23nm,1.0s							
YAK					pmax	pmax		
	comp=E,14nm,1.3s							
YAK					pmax	pmax		
	comp=N,12nm,1.1s							
YAK					smax	smax		
	comp=N,33nm,3.2s							
YAK					smax	smax		
	comp=E,71nm,3.5s							
YAK				MLR		MLR		
	comp=E,257nm,18.0s							
YAK				MLR		MLR		
	comp=Z,409nm,19.0s							
YAK				MLR		MLR		
	comp=N,204nm,16.0s							
CTA	**Charters Tower**	**59.55**	**121**	P		**P**	**13 39 19.5**	**-0.7**
CTA	**Charters Tower**	**59.55**	**121**	P		**P**	**13 39 19.5**	**-0.7**
	comp=N,18nm,1.1s,baz=298,slow=7.2,SNR=6.1							
CTAO	**Charters Tower**	**59.55**	**121**	*e*P		P	13 39 15.5	-4.7
CTAO					pmax	pmax		
	comp=Z,37nm,1.2s							
CTAO	**Charters Tower**	**59.55**	**121**	*e*P		P	13 39 15.5	-4.7
	comp=Z,37nm,1.2s							
VORD	**Divnogorie**	**60.10**	**323**	*e*P		**P**	**13 39 23.9**	**+0.4**
VORD					pmax	pmax		
	comp=Z,5.0nm,0.6s							
VORD					pmax	pmax		
	comp=N,20nm,0.7s							
VORD					pmax	pmax		
	comp=E,10.0nm,0.6s							
VSR	**Storozhevoye**	**60.27**	**324**	*e*P		**P**	**13 39 24.2**	**-0.4**
VSR					pmax	pmax		
	comp=Z,10.0nm,1.4s							
VSR					pmax	pmax		
	comp=N,6.0nm,0.9s							
VSR					pmax	pmax		
	comp=E,10.0nm,1.0s							
BRTR	**Keskin Array B**	**60.78**	**310**	P		**P**	**13 39 27.4**	**-1.2**
BRTR	**Keskin Array B**	**60.78**	**310**	P		**P**	**13 39 27.4**	**-1.2**
	comp=E,3.0nm,1.0s,baz=133,slow=6.9,SNR=14							
BRTR				LR		LR	14 09 15.9	
	comp=E,118nm,21.9s,baz=98,slow=40							
STKA	**Stephens Creek**	**61.91**	**135**	*e*P		**P**	**13 39 36.9**	**+0.7**
	comp=E,8.1nm,1.3s							
STKA	**Stephens Creek**	**61.91**	**135**	P		**P**	**13 39 37.1**	**+1.0**
	comp=E,15nm,1.0s,baz=318,slow=7.2,SNR=11							
STKA				LR		LR	14 06 44.7	
	comp=E,381nm,20.6s,baz=107,slow=36							
OBN	**Obninsk**	**63.15**	**327**[1]	*e*P		**P**	**13 39 44.1**	**+0.1**
OBN				*e*			13 42 03.6	
OBN				*i* S		**S**	**13 48 13.5**	**-1.1**
OBN					pmax	pmax		
	comp=Z,20nm,1.7s							
OBN				MLR		MLR		
	comp=Z,400nm,19.0s							
MBAR	**Mbarara**	**64.16**	**264**	LR		LR	14 07 15.2	
	comp=Z,121nm,19.5s,baz=66,slow=36							
PETK	**Petropavlovsk-**	**65.70**	**36**	LR		LR	14 13 30.5	
	comp=Z,117nm,18.6s,baz=349,slow=40							
APA	**Apatity**	**69.34**	**339**[1]	*i*P		P	13 40 29.0	+5.5
APA				MLR		MLR		
	comp=Z,700nm,20.0s							
FINES	**FINESS Array B**	**70.36**	**332**	P		**P**	**13 40 30.1**	**+0.2**
FINES	**FINESS Array B**	**70.36**	**332**	P		**P**	**13 40 30.1**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=90,slow=5.6,SNR=3.2							
FINES				LR		LR	14 18 00.7	
	comp=Z,242nm,19.2s,baz=126,slow=42							
STHS	**Stebnicka Huta**	**70.98**	**319**	*e*P		**P**	**13 40 33.6**	**-0.3**
STHS					pmax	pmax		
	comp=Z,2.0nm,1.0s							
STHS	**Stebnicka Huta**	**70.98**	**319**	*e*P		**P**	**13 40 33.6**	**-0.3**
KECS	**Kecovo**	**71.39**	**318**	*e*P		**P**	**13 40 34.6**	**-1.8**
KECS					pmax	pmax		
	comp=Z,2.0nm,1.2s							
KECS	**Kecovo**	**71.39**	**318**	*e*P		**P**	**13 40 34.6**	**-1.8**
OJC	**Ojcow**	**71.98**	**319**	*e*P		**P**	**13 40 38.0**	**-2.0**
OJC					pmax	pmax		
	comp=Z,8.0nm,1.0s							
OJC	**Ojcow**	**71.98**	**319**	*e*P		**P**	**13 40 38.0**	**-2.0**
	comp=Z,7.5nm,1.0s							
VYHS	**Vyhne**	**72.48**	**318**	*e*P		P	13 40 47.4	+4.4
VYHS					pmax	pmax		
	comp=Z,4.0nm,1.5s							
VYHS	**Vyhne**	**72.48**	**318**	*e*pP		pP	13 40 47.3	-0.7
ARCES	**ARCESS Array B**	**72.74**	**340**	P		**P**	**13 40 43.3**	**-0.8**
ARCES	**ARCESS Array B**	**72.74**	**340**	P		**P**	**13 40 43.3**	**-0.8**
	comp=Z,3.6nm,0.9s,baz=72,slow=7.8,SNR=5.7							
ARCES				LR		LR	14 15 55.7	
	comp=Z,459nm,20.5s,baz=113,slow=38							
MORC	**Moravsky Berou**	**73.41**	**319**	*e*P		**P**	**13 40 46.7**	**-1.8**
MORC	**Moravsky Berou**	**73.41**	**319**	*e*P		**P**	**13 40 46.7**	**-1.8**
DPC	**Dobruska-Polom**	**74.22**	**319**	*e*P		**P**	**13 40 53.2**	**-0.1**
DPC				*e*			13 40 59.2	
DPC	**Dobruska-Polom**	**74.22**	**319**	*e*P		**P**	**13 40 53.2**	**-0.1**
DPC				*e*pP		**pP**	**13 40 59.2**	**+0.9**
DPC				*ex*		x	13 41 16.7	
KSP	**Ksiaz**	**74.26**	**320**	*e*P		**P**	**13 40 53.5**	**+0.1**
GERES	**GERESS Array B**	**75.89**	**318**	P		**P**	**13 41 04.0**	**+1.0**
GERES	**GERESS Array B**	**75.89**	**318**	P		**P**	**13 41 04.0**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=104,slow=5.6,SNR=7.3							
GERES				LR		LR	14 18 54.6	
	comp=Z,117nm,19.2s,baz=94,slow=39							
HFS	**Hagfors**	**76.17**	**329**	P		**P**	**13 41 04.0**	**-0.2**
HFS	**Hagfors**	**76.17**	**329**	P		**P**	**13 41 04.0**	**-0.2**
	comp=Z,4.5nm,1.2s,baz=48,slow=2.2,SNR=3.7							
CLL	**Collm**	**76.34**	**320**	*e*P		P	13 41 11.4	+6.0
	comp=Z,8.0nm,1.3s							
ROTZ	**Rotzenmuhle**	**76.86**	**319**	*e*P		P	13 41 15.3	+6.9
	comp=Z,19nm,1.7s							
BOSA	**Boshof**	**77.18**	**237**	P		**P**	**13 41 11.9**	**+1.2**
BOSA	**Boshof**	**77.18**	**237**	P		**P**	**13 41 11.9**	**+1.2**
	comp=Z,6.8nm,1.2s,baz=100,slow=6.1,SNR=3.0							
BOSA				LR		LR	14 09 27.9	
	comp=Z,140nm,20.1s,baz=346,slow=31							
NOA	**NORSAR Array B**	**77.42**	**330**	P		**P**	**13 41 10.3**	**-1.0**
NOA	**NORSAR Array B**	**77.42**	**330**	P		**P**	**13 41 10.3**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=94,slow=5.9,SNR=3.1							
NOA				LR		LR	14 21 19.4	
	comp=Z,148nm,18.5s,baz=105,slow=40							
GRF	**Grafenberg Arr**	**77.50**	**319**	*e*P		P	13 41 17.9	+5.9
	comp=Z,13nm,1.6s							
GRF	**Grafenberg Arr**	**77.50**	**319**	*e*P		P	13 41 17.9	+5.9
GRF					pmax	pmax		
	comp=Z,87nm,1.6s							
KBS	**Kingsbay**	**78.16**	**349***ce*P			**P**	**13 41 16.2**	**+1.1**
KBS					pmax	pmax		
	comp=Z,19nm,1.7s							
KEST	**Kesra**	**79.81**	**305**	P		**P**	**13 41 25.9**	**+0.8**
KEST	**Kesra**	**79.81**	**305**	P		**P**	**13 41 25.9**	**+0.8**
	comp=Z,1.2nm,0.9s,baz=333,slow=4.5,SNR=3.0							
KEST				LR		LR	14 21 50.6	
	comp=Z,37nm,21.1s,baz=226,slow=40							
LPG	**La Plagne**	**80.80**	**315**	*e*P		**P**	**13 41 31.5**	**+1.0**
	comp=Z,40nm,1.4s							
LPL	**La Plagne**	**80.81**	**315**	*e*P		**P**	**13 41 31.6**	**+1.2**
	comp=Z,40nm,1.5s							
BNI	**Bardonecchia**	**80.89**	**314**	*e*P		**P**	**13 41 29.1**	**-1.7**
BNI					pmax	pmax		
	comp=Z,15nm,1.4s							
BNI	**Bardonecchia**	**80.89**	**314**	*e*P		**P**	**13 41 29.1**	**-1.7**
	comp=Z,15nm,1.4s							
ORIF	**Oris-en-Rattie**	**81.47**	**314**	*e*P		**P**	**13 41 34.2**	**+0.4**
	comp=Z,33nm,1.6s							
SMF	**Signal de Mont**	**82.68**	**316**	*e*P		**P**	**13 41 41.6**	**+1.6**
TAM	**Tamanrasset**	**84.83**	**292**	*e*P		**P**	**13 41 52.5**	**+0.8**
TAM					pmax	pmax		
	comp=Z,28nm,1.6s							
TAM	**Tamanrasset**	**84.83**	**292**	*e*P		**P**	**13 41 52.5**	**+0.8**
	comp=Z,28nm,1.6s							
ESDC	**Sonseca Array**	**89.57**	**310**	P		**P**	**13 42 14.6**	**+0.4**
ESDC	**Sonseca Array**	**89.57**	**310**	P		**P**	**13 42 14.6**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=57,slow=6.0,SNR=4.7							
COLD	**Coldfoot**	**89.77**	**21**	*e*P		**P**	**13 42 14.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**90.12**	**283**	P		**P**	**13 42 17.3**	**+0.2**
TORD				PP		**PP**	**13 45 52.1**	**+1.5**
TORD	**Torodi Ar. Bea**	**90.12**	**283**	P		**P**	**13 42 17.3**	**+0.2**
	comp=Z,2.1nm,1.0s,baz=88,slow=3.1,SNR=9.1							
TORD				PP		**PP**	**13 45 52.1**	**+1.5**
	comp=Z,4.7nm,1.2s,baz=75,slow=5.9,SNR=6.8							
TORD				LR		LR	14 22 40.2	
	comp=Z,106nm,19.6s,baz=160,slow=36							
ILAR	**Eielson Array**	**92.15**	**22**	P		**P**	**13 42 24.6**	**-1.0**
ILAR	**Eielson Array**	**92.15**	**22**	P		**P**	**13 42 24.6**	**-1.0**
	comp=Z,1.2nm,1.0s,baz=288,slow=4.4,SNR=9.0							
ILAR				LR		LR	14 28 33.2	
	comp=Z,167nm,20.3s,baz=308,slow=39							
MENT	**Mentasta**	**94.31**	**23**	P		**P**	**13 42 35.7**	**+0.1**
VNDA	**Vanda**	**95.58**	**168**	P		**P**	**13 42 42.0**	**+1.0**
VNDA	**Vanda**	**95.58**	**168**	P		**P**	**13 42 42.0**	**+1.0**
	comp=Z,1.8nm,1.1s,baz=281,slow=4.8,SNR=5.4							
VNDA				LR		LR	14 20 37.9	
	comp=Z,178nm,21.6s,baz=291,slow=32							
DBIC	**Dimbokro**	**97.71**	**279**	LR		LR	14 29 34.5	
	comp=Z,82nm,18.2s,baz=47,slow=37							
B15A	**Bradely Ranch,**	**116.68**	**20**	P		**PKPdf**	**13 48 00.8**	**0.0**
	baz=116							
A17A	**Triple J Farms**	**116.72**	**18**	P		**PKPdf**	**13 48 00.7**	**-0.2**
	baz=116							
B16A	**M & M Farms, S**	**116.87**	**19**	P		**PKPdf**	**13 48 00.9**	**-0.3**
	baz=117							
C15A	**Salmond Ranch,**	**117.13**	**20**	P		**PKPdf**	**13 48 01.7**	**-0.1**
	baz=117							
EGMT	**Eagleton**	**117.83**	**18**	P		**PKPdf**	**13 48 03.5**	**+0.5**
	baz=118							
HLID	**Hailey**	**120.06**	**24**	P		**PKPdf**	**13 48 07.3**	**-0.3**
	baz=120							
REDW	**Red Top Meadow**	**121.58**	**21**	*e*PKPdf		**PKPdf**	**13 48 11.3**	**+0.7**
H24A	**Dirks Ranch, A**	**122.30**	**16**	P		**PKPdf**	**13 48 11.6**	**-0.1**
	baz=122							
G27A	**Dupree**	**122.36**	**13**	P		**PKPdf**	**13 48 11.5**	**-0.3**
	baz=122							
I21A	**Big Trails, Te**	**122.36**	**18**	P		**PKPdf**	**13 48 11.9**	**-0.1**
	baz=122							
NVAR	**Mina Array Bea**	**122.48**	**30**	PKP		**PKPdf**	**13 48 13.9**	**+1.5**
NVAR	**Mina Array Bea**	**122.48**	**30**	PKP		**PKPdf**	**13 48 13.9**	**+1.5**
	comp=Z,1.8nm,0.8s,baz=301,slow=1.8,SNR=12							
PDAR	**Pinedale Array**	**122.55**	**21**	PKP		**PKPdf**	**13 48 12.9**	**+0.4**
PDAR	**Pinedale Array**	**122.55**	**21**	PKP		**PKPdf**	**13 48 12.9**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=46,slow=0.6,SNR=14							
K19A	**Absolon Red Bu**	**122.75**	**20**	P		**PKPdf**	**13 48 12.8**	**-0.1**
	baz=122							
K20A	**Yellowstone Ra**	**123.06**	**20**	P		**PKPdf**	**13 48 13.4**	**0.0**
	baz=123							
L18A	**Fontenelle, Gr**	**123.12**	**22**	P		**PKPdf**	**13 48 13.9**	**+0.3**
	baz=123							
L19A	**Farson**	**123.21**	**21**	P		**PKPdf**	**13 48 14.0**	**+0.2**
	baz=123							
K21A	**Alcova**	**123.44**	**19**	P		**PKPdf**	**13 48 14.4**	**+0.2**
	baz=123							
DUG	**Dugway**	**123.54**	**25**	P		**PKPdf**	**13 48 14.4**	**0.0**
	baz=123							
R11A	**Troy Canyon, C**	**123.84**	**28**	P		**PKPdf**	**13 48 15.8**	**+0.8**
	baz=124							
M21A	**Separation Pea**	**124.33**	**20**	P		**PKPdf**	**13 48 16.4**	**+0.5**
	baz=124							
L23A	**Garrett**	**124.39**	**18**	P		**PKPdf**	**13 48 16.1**	**0.0**
	baz=124							
N20A	**Spence Gulch,**	**124.71**	**21**	P		**PKPdf**	**13 48 17.4**	**+0.7**
	baz=124							
MPMC	**Manual Prospec**	**124.73**	**31**	P		**PKPdf**	**13 48 17.3**	**+0.4**
	baz=124							
O19A	**Miners Draw (B**	**124.88**	**22**	P		**PKPdf**	**13 48 16.8**	**-0.2**
	baz=125							
ECSD	**EROS Data Cent**	**124.99**	**10**	*e*PKPdf		**PKPdf**	**13 48 16.7**	**-0.2**
N21A	**Black Mountain**	**125.03**	**20**	P		**PKPdf**	**13 48 17.2**	**-0.1**
	baz=125							
LRMC	**Laurel Mountai**	**125.08**	**32**	P		**PKPdf**	**13 48 17.6**	**+0.2**
	baz=125							
MSU	**Marysvale**	**125.22**	**25**	*e*PKIKP		**PKPdf**	**13 48 19.1**	**+1.4**
MSU	**Marysvale**	**125.22**	**25**	*e*PKPdf		**PKPdf**	**13 48 19.1**	**+1.4**
Q16A	**Castle Valley**	**125.29**	**24**	P		**PKPdf**	**13 48 17.3**	**-0.5**
	baz=125							
O20A	**White River Ci**	**125.34**	**21**	P		**PKPdf**	**13 48 18.1**	**+0.2**
	baz=125							
L27A	**T5 Ranch, Ells**	**125.37**	**15**	P		**PKPdf**	**13 48 18.1**	**+0.4**
	baz=125							
P19A	**Cripple Cowboy**	**125.52**	**22**	P		**PKPdf**	**13 48 17.9**	**-0.4**
	baz=125							
GSC	**Goldstone**	**125.67**	**31**	P		**PKPdf**	**13 48 18.5**	**0.0**
	baz=125							
O23A	**Lake Granby, G**	**126.06**	**19**	P		**PKPdf**	**13 48 19.1**	**-0.3**
	baz=126							
HEC	**Hector,Ludlow**	**126.28**	**31**	P		**PKPdf**	**13 48 20.4**	**+0.8**
	baz=126							
P22A	**Eagle**	**126.33**	**20**	P		**PKPdf**	**13 48 20.1**	**+0.2**
	baz=126							
GMRC	**Granite Mounta**	**126.66**	**31**	P		**PKPdf**	**13 48 21.2**	**+0.7**
	baz=126							
P23A	**Jefferson**	**126.84**	**19**	P		**PKPdf**	**13 48 21.8**	**+0.8**
	baz=126							
U15A	**North Rim**	**126.92**	**27**	P		**PKPdf**	**13 48 22.3**	**+1.2**
	baz=127							
IRM	**Iron Mountain**	**127.40**	**31**	P		**PKPdf**	**13 48 23.0**	**+1.2**
	baz=127							
R22A	**Saguache, Gunn**	**127.56**	**21**	P		**PKPdf**	**13 48 23.3**	**+1.0**
	baz=127							
BC3	**Big Chuckawall**	**127.65**	**32**	P		**PKPdf**	**13 48 23.5**	**+1.1**
	baz=127							
S21A	**Coal Bank Pass**	**127.69**	**22**	P		**PKPdf**	**13 48 23.6**	**+1.0**
	baz=127							
P31A	**Stockton**	**128.51**	**14**	P		**PKPdf**	**13 48 24.6**	**+0.8**
	baz=128							
R26A	**Arlington**	**128.57**	**18**	P		**PKPdf**	**13 48 24.2**	**+0.2**
	baz=128							
R27A	**Eads**	**128.78**	**17**	P		**PKPdf**	**13 48 24.4**	**0.0**
	baz=128							
S25A	**Robets Cordova**	**128.85**	**19**	P		**PKPdf**	**13 48 25.1**	**+0.4**
	baz=129							
X16A	**Lo Mia Camp, P**	**128.97**	**27**	P		**PKPdf**	**13 48 25.6**	**+0.6**
	baz=129							
U22A	**Llaves**	**129.17**	**22**	P		**PKPdf**	**13 48 26.4**	**+1.0**
	baz=129							
S26A	**Kim**	**129.19**	**18**	P		**PKPdf**	**13 48 25.7**	**+0.5**
	baz=129							
T25A	**Trinidad**	**129.34**	**19**	P		**PKPdf**	**13 48 26.3**	**+0.6**
	baz=129							
V22A	**San Miguel Ran**	**129.56**	**22**	P		**PKPdf**	**13 48 27.6**	**+1.5**
	baz=129							
T26A	**Comanche Natio**	**129.57**	**19**	P		**PKPdf**	**13 48 27.3**	**+1.3**
	baz=129							
W20A	**Ramah**	**129.63**	**24**	P		**PKPdf**	**13 48 27.7**	**+1.5**
	baz=129							
V23A	**Ortiz Mt. (NFS**	**129.98**	**22**	P		**PKPdf**	**13 48 28.5**	**+1.6**
	baz=130							
U25A	**Circle Dot Ran**	**130.01**	**20**	P		**PKPdf**	**13 48 27.9**	**+1.0**
	baz=130							
V24A	**Rampart Ranch,**	**130.33**	**21**	P		**PKPdf**	**13 48 28.7**	**+1.1**
	baz=130							
V25A	**Rancho No Teng**	**130.45**	**20**	P		**PKPdf**	**13 48 28.6**	**+0.8**
	baz=130							
X21A	**Alamocita Cree**	**130.51**	**24**	P		**PKPdf**	**13 48 29.1**	**+1.1**
	baz=130							
Y20A	**Horse Springs,**	**130.74**	**25**	P		**PKPdf**	**13 48 30.2**	**+1.8**
	baz=130							
W24A	**Lazy 6 Ranch,**	**130.74**	**21**	P		**PKPdf**	**13 48 30.0**	**+1.6**
	baz=130							
LAZ	**Ladron**	**130.81**	**24**	PKPdf		**PKPdf**	**13 48 29.6**	**+1.1**
BNM	**Barren Site**	**131.23**	**23**	*e*PKPdf		**PKPdf**	**13 48 27.2**	**-2.1**
Y22A	**Socorro**	**131.29**	**24**	P		**PKPdf**	**13 48 30.9**	**+1.6**
	baz=131							
Z20A	**Nine Sixteen R**	**131.33**	**26**	P		**PKPdf**	**13 48 31.3**	**+1.8**
	baz=131							
Y23A	**Lovelace Mesa,**	**131.64**	**23**	P		**PKPdf**	**13 48 31.7**	**+1.6**
	baz=131							
Y24A	**Capitan**	**131.88**	**22**	P		**PKPdf**	**13 48 31.5**	**+1.0**
	baz=132							
X26A	**CR and CF Fran**	**131.89**	**20**	P		**PKPdf**	**13 48 31.6**	**+1.2**
	baz=132							
Y25A	**Mesa, Roswell**	**132.16**	**21**	P		**PKPdf**	**13 48 31.6**	**+0.6**
	baz=132							
Z24A	**Sheeppen Canyo**	**132.44**	**22**	P		**PKPdf**	**13 48 32.9**	**+1.3**
	baz=132							
Z26A	**Caprock**	**133.00**	**21**	P		**PKPdf**	**13 48 33.6**	**+1.1**
	baz=133							
125A	**Gardner Draw,**	**133.30**	**22**	P		**PKPdf**	**13 48 34.4**	**+1.2**
	baz=133							
Z29A	**Hungry Hill Ra**	**133.77**	**19**	P		**PKPdf**	**13 48 35.3**	**+1.4**
	baz=134							
Z32A	**Haskell**	**134.38**	**16**	P		**PKPdf**	**13 48 36.5**	**+1.5**
	baz=134							
426A	**McDonald Obser**	**135.32**	**23**	P		**PKPdf**	**13 48 38.3**	**+1.2**
	baz=135							
428A	**Kincaid Ranch,**	**135.76**	**21**	P		**PKPdf**	**13 48 38.7**	**+1.0**
	baz=136							
332A	**Millersview**	**136.11**	**17**	P		**PKPdf**	**13 48 39.9**	**+1.6**
	baz=136							
528A	**Cox Ranch, San**	**136.24**	**22**	P		**PKPdf**	**13 48 40.0**	**+1.3**
	baz=136							
626A	**Big Bend Ranch**	**136.28**	**23**	P		**PKPdf**	**13 48 40.2**	**+1.5**
	baz=136							
431A	**Sonora**	**136.50**	**19**	P		**PKPdf**	**13 48 39.4**	**+0.3**
	baz=136							
627A	**Terlingua Ranc**	**136.65**	**23**	P		**PKPdf**	**13 48 39.9**	**+0.4**
	baz=136							
TXAR	**Lajitas Array**	**136.65**	**23**	PKP		**PKPdf**	**13 48 39.9**	**+0.4**
TXAR	**Lajitas Array**	**136.65**	**23**	PKP		**PKPdf**	**13 48 39.9**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=215,slow=1.5,SNR=9.7							
**530

ISC 26 13:48:55.4±0.5, 10°67'N±0'04×94°11E±0'05, h13^{km}±1^{km}, n161, σ2ˢ10/177, mb4.7/61, MS4.1/25, 7C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.67**	**306**	*eP*			Pb	13 49 26.3	+0.4
PBA				*eS*			Sb	13 49 47.0	+0.1
DGPR	**DIGLIPUR**	**2.75**	**335**	*eP*			**Pn**	**13 49 39.1**	**-0.1**
DGPR				*ex*			**Sn**	**13 50 08.2**	**-4.1**
CMBY	**CAMPBELL BAY**	**3.64**	**183**	*eP*			**Pn**	**13 49 52.6**	**+1.2**
CMBY				*ex*			x	13 50 13.8	
BSI	**Banda Aceh**	**5.27**	**167**	P			Pn	13 50 17.1	+3.2
	99nm,1.0s,0.3nm								
SKLT	**Songkhla**	**7.31**	**118**	P			Pn	13 50 46.0	+4.1
	19nm,0.8s,0.5nm								
SKLT	**Songkhla**	**7.31**	**118**	P			Pn	13 50 47.0	+5.1
CHBT	**CHBT**	**8.31**	**75**	P			**Pn**	**13 50 58.7**	**+3.0**
	36nm,0.6s,3µm								
CHBT	**CHBT**	**8.31**	**75**	P			Pn	13 51 04.9	+9.2
	36nm,1.4s,3µm								
KULM	**Kulim**	**8.39**	**129**	*e*Pn			**Pn**	**13 50 54.2**	**-2.6**
CMAR	**Chiang Mai Arr**	**9.05**	**31**	Pn			**Pn**	**13 51 04.2**	**-1.6**
CMAR	**Chiang Mai Arr**	**9.05**	**31**	Pn			**Pn**	**13 51 04.2**	**-1.6**
	0.3nm,0.3s,baz=218,slow=15,SNR=20								
CMAR					LR		LR	13 54 31.1	
	comp=Z,491nm,18.4s,baz=50,slow=38								
PSI	**Prapat**	**9.16**	**148**	Pn			**Pn**	**13 51 09.0**	**+1.6**
PSI	**Prapat**	**9.16**	**148**	Pn			**Pn**	**13 51 09.0**	**+1.6**
	0.7nm,0.3s,baz=348,slow=20,SNR=3.1								
PSI					LR		LR	13 55 20.4	
	comp=Z,2µm,18.5s,baz=314,slow=42								
IPM	**Ipoh**	**9.20**	**131**	*e*P			**Pn**	**13 51 05.8**	**-2.1**
	5.3nm,0.4s								
CHTO	**Chiang Mai**	**9.35**	**29**	*e*P			**Pn**	**13 51 09.8**	**-0.2**
CHTO					pmax		pmax		
	comp=Z,7.0nm,0.9s								
CHTO	**Chiang Mai**	**9.35**	**29**	*e*P			**Pn**	**13 51 09.8**	**-0.2**
	comp=Z,7.2nm,0.9s								
CHTO	**Chiang Mai**	**9.35**	**29**	P			Pn	13 51 15.5	+5.5
	comp=Z,11nm,0.9s								
CHTO	**Chiang Mai**	**9.35**	**29**	P			Pn	13 51 18.1	+8.1
	comp=Z,18nm,0.8s								
CMMT	**Chiang Mai**	**9.35**	**29**	P			Pn	13 51 15.0	+5.0
	comp=Z,9.8nm,0.9s								
CMMT	**Chiang Mai**	**9.35**	**29**	P			Pn	13 51 15.9	+5.9
	comp=Z,27nm,0.7s								
SKNT	**Sakolnakorn**	**11.45**	**56**	P			Pn	13 51 44.7	+5.9
	comp=Z,39nm,2.2s								
UBPT	**Khong Chiam**	**11.98**	**66**	P			Pn	13 51 51.3	+5.3
	comp=Z,31nm,1.4s								
UBPT	**Khong Chiam**	**11.98**	**66**	P			Pn	13 51 52.0	+6.0
	comp=Z,40nm,0.8s								
PALK	**Pallekele**	**13.67**	**257**	*e*Pn			Pn	13 52 00.3	-8.8
IMP	**Imphal**	**14.04**	**359**	*e*P			**Pn**	**13 52 13.0**	**-1.2**
SHL	**Shillong**	**14.97**	**352**	*e*P			**Pn**	**13 52 28.7**	**+1.7**
BOK	**Bokaro**	**15.23**	**330**	*e*P			**Pn**	**13 52 29.6**	**-0.6**
BOK					AMB		AMB	13 55 51.8	
	comp=Z,18nm,3.3s								
HYB	**Hyderabad**	**16.51**	**296**	*i* P			**P**	**13 52 54.0**	**+4.5**
KMI	**Kunming**	**16.55**	**29**	P			**Pn**	**13 52 48.8**	**+1.3**
KMI				pP			**P**	**13 52 52.0**	**+1.9**
KMI				sP			**sP**	**13 52 53.8**	**-1.7**
KMI				PP			**PnPn**	**13 53 03.0**	**+6.1**
KMI				S			**Sn**	**13 55 56.5**	**+5.2**
KMI				SS			SnSn	13 56 17.3	+12
KMI				pmax			pmax		
	comp=Z,13nm,1.7s								
KMI				pmax			pmax		
	comp=Z,160nm,3.1s								
KMI				LR			LR		
	comp=N,650nm,11.8s								
KMI				LR			LR		
	comp=E,610nm,9.0s								
KMI				LR			LR		
	comp=Z,570nm,11.1s								
QIZ	**Qiongzhong**	**17.32**	**59**	P			**Pn**	**13 52 57.3**	**+0.2**
QIZ				S			**S**	**13 56 14.8**	**-3.7**
QIZ				LR			LR		
	comp=N,810nm,9.1s								
QIZ				LR			LR		
	comp=E,380nm,10.8s								
QIZ				LR			LR		
	comp=Z,880nm,9.8s								
LSA	**Lhasa**	**19.14**	**352**	P			**P**	**13 53 17.8**	**-1.1**
LSA	**Lhasa**	**19.14**	**352**	*e*P			**P**	**13 53 18.4**	**-0.5**
LSA					pmax		pmax		
	comp=Z,17nm,0.9s								
LSA	**Lhasa**	**19.14**	**352**	*e*P			**P**	**13 53 18.4**	**-0.5**
	comp=Z,17nm,0.9s								
GYA	**Guiyang**	**19.68**	**35**	P			**Pn**	**13 53 26.8**	**+0.9**
GYA				PP			**PnPn**	**13 53 46.3**	**+6.6**
GYA				S			**S**	**13 57 06.8**	**+0.4**
GYA				SS			SnSn	13 57 34.0	+12
GYA				pmax			pmax		
	comp=Z,20nm,1.0s								
GYA				pmax			pmax		
	comp=Z,130nm,4.8s								
GYA				LR			LR		
	comp=N,780nm,14.1s								
GYA				LR			LR		
	comp=E,630nm,16.2s								
GYA				LR			LR		
	comp=Z,720nm,15.3s								
SBUM	**Sibu**	**19.74**	**113**	P			**P**	**13 53 25.1**	**0.0**
BHPL	**Bhopal**	**20.25**	**310**	*e*P			**P**	**13 53 31.1**	**+0.5**
BHPL					AMB		AMB	13 53 40.0	
	comp=Z,24nm,2.8s								
POO	**Poona**	**21.09**	**294**	*e*P			**P**	**13 53 41.3**	**+1.5**
POO					AMB		AMB	13 54 14.1	
	comp=Z,63nm,3.4s								
CD2	**Chengdu**	**22.05**	**23**	P			**P**	**13 53 49.0**	**-1.0**
CD2				pP			**pP**	**13 53 53.3**	**-0.4**
CD2				sP			**sP**	**13 53 56.0**	**+0.6**
CD2				PP			**PnPn**	**13 54 16.3**	**+4.3**
CD2				S			**S**	**13 57 50.3**	**-2.7**
CD2				sS			**sS**	**13 57 56.5**	**-2.5**
CD2				SS			SnSn	13 58 30.8	+11
CD2				pmax			pmax		
	comp=Z,60nm,1.8s								
CD2				pmax			pmax		
	comp=Z,570nm,10.2s								
CD2				LR			LR		
	comp=E,570nm,13.2s								
CD2				LR			LR		
	comp=Z,620nm,13.1s								
NDI	**New Delhi**	**23.91**	**321**	*e*P			**P**	**13 54 08.5**	**-0.6**
XMI	**Christmas Isla**	**23.93**	**151**	P			**S**	**13 58 32.3**	**+6.6**
	baz=23,SNR=3.3								
ENH	**Enshi**	**24.20**	**34**	*e*P			**P**	**13 54 10.2**	**-1.6**
	comp=Z,22nm,0.9s								
DDI	**Dehra Dun**	**24.61**	**325**	*e*P			**P**	**13 54 15.3**	**-0.3**
MYLDM	**Lahad Datu**	**24.75**	**101**	P			P	13 54 25.8	+8.8
SMLA	**Simla**	**25.72**	**325**	*e*P			**P**	**13 54 27.4**	**+1.9**
SMLA					AMB		AMB	13 54 35.9	
	comp=Z,40nm,0.5s								
LZH	**Lanzhou**	**26.80**	**18**	*e*P			**P**	**13 54 34.0**	**-1.5**
LZH				pP			**pP**	**13 54 37.0**	**-2.5**
LZH				sP			**sP**	**13 54 38.8**	**-2.4**
LZH				PP			**PnPn**	**13 55 20.3**	**+3.2**
LZH				*e*S			**S**	**13 59 09.0**	**-2.5**
LZH				sS			**sS**	**13 59 16.5**	**-1.6**
LZH				*e*SS			**SnSn**	**14 00 24.3**	**+8.4**
LZH				pmax			pmax		
	comp=Z,43nm,1.2s								
LZH				pmax			pmax		
	comp=Z,280nm,5.9s								
LZH				LR			LR		
	comp=N,630nm,12.5s								
LZH				LR			LR		
	comp=E,790nm,13.0s								
LZH				LR			LR		
	comp=Z,1µm,15.0s								
DHRM	**DHARAMSHALA**	**27.05**	**325**	*e*P			**P**	**13 54 37.9**	**0.0**
DHRM					AMB		AMB	13 55 10.3	
	comp=Z,26nm,0.3s								
DGAR	**Diego Garcia**	**28.06**	**231**	*e*P			P	13 54 39.6	-7.2
DGAR					pmax		pmax		
	comp=Z,1µm,1.9s								
DGAR	**Diego Garcia**	**28.06**	**231**	*e*P			P	13 54 39.6	-7.2
	comp=Z,1µm,1.9s								
GTA	**Gaotai**	**29.07**	**9**	⇑P			**P**	**13 54 56.3**	**+0.6**
GTA				pP			**pP**	**13 55 00.8**	**+1.0**
GTA				sP			**sP**	**13 55 03.3**	**+1.9**
GTA				S			**S**	**13 59 51.0**	**+3.8**
GTA				sS			**sS**	**13 59 58.8**	**+5.0**
GTA				pmax			pmax		
	comp=Z,5.0nm,1.8s								
GTA				pmax			pmax		
	comp=Z,200nm,7.1s								
GTA				LR			LR		
	comp=N,310nm,18.8s								
GTA				LR			LR		
	comp=E,230nm,18.5s								
GTA				LR			LR		
	comp=Z,410nm,19.5s								
KAPI	**Kappang**	**29.91**	**120**	LR			LR	14 06 42.2	
	comp=Z,283nm,18.9s,baz=283,slow=36								
NJ2	**Nanjing**	**31.22**	**43**	*e*P			**P**	**13 55 14.3**	**-0.4**
NJ2					pmax		pmax		
	comp=Z,30nm,0.8s								
KSH	**Kashi**	**32.96**	**334**	P			**P**	**13 55 29.3**	**-0.7**
KSH				sP			**sP**	**13 55 36.3**	**+0.6**
KSH				PP			**PnPn**	**13 56 41.0**	**+1.9**
KSH				S			**S**	**14 00 47.8**	**-0.1**
KSH				sS			**sS**	**14 00 54.8**	**+0.2**
KSH				PcS			**PcS**	**14 01 55.8**	**-3.7**
KSH				SS			**SnSn**	**14 02 49.5**	**+3.9**
KSH				pmax			pmax		
	comp=Z,8.0nm,0.5s								
KSH				pmax			pmax		
	comp=Z,190nm,7.2s								
KSH				LR			LR		
	comp=N,95nm,6.2s								
KSH				LR			LR		
	comp=E,140nm,7.7s								
KSH				LR			LR		
	comp=Z,230nm,13.4s								
WMQ	**Urumqi**	**33.50**	**352**	P			**P**	**13 55 32.5**	**-2.1**
WMQ				pP			**pP**	**13 55 37.0**	**-1.6**
WMQ				sP			**sP**	**13 55 39.5**	**-0.8**
WMQ				PP			**PnPn**	**13 56 45.0**	**-0.9**
WMQ				PcP			**PcP**	**13 58 13.0**	**-2.5**
WMQ				S			**S**	**14 00 53.5**	**-2.6**
WMQ				sS			**sS**	**14 01 01.0**	**-1.8**
WMQ				ScP			**ScP**	**14 01 56.0**	**-3.9**
WMQ				SS			**SnSn**	**14 02 57.8**	**-0.8**
WMQ				ScS			**ScS**	**14 05 55.5**	**-5.4**
WMQ				pmax			pmax		
	comp=Z,44nm,1.7s								
WMQ				pmax			pmax		
	comp=Z,260nm,4.1s								
WMQ				LR			LR		
	comp=N,310nm,13.5s								
WMQ				LR			LR		
	comp=E,250nm,20.3s								
WMQ				LR			LR		
	comp=Z,490nm,27.4s								
HHC	**Hu-ho-hao-te**	**33.78**	**24**	*e*P			**P**	**13 55 35.3**	**-1.9**
HHC				PP			**PnPn**	**13 56 50.3**	**+0.7**
HHC				PcP			**PcP**	**13 58 12.8**	**-3.6**
HHC				S			**S**	**14 00 59.5**	**-1.2**
HHC				ScP			**ScP**	**14 01 55.3**	**-5.7**
HHC				PcS			**PcS**	**14 01 57.5**	**-4.8**
HHC				SS			**SnSn**	**14 03 07.3**	**+1.7**
HHC				pmax			pmax		
	comp=Z,23nm,0.6s								
HHC				pmax			pmax		
	comp=Z,300nm,6.1s								
HHC				LR			LR		
	comp=N,540nm,13.3s								
HHC				LR			LR		
	comp=E,550nm,13.9s								
HHC				LR			LR		
	comp=Z,410nm,12.9s								
BJI	**Beijing**	**35.20**	**30**	P			**P**	**13 55 47.8**	**-1.4**
BJI					pmax		pmax		
	comp=Z,14nm,0.4s								
BJI					LR		LR		
	comp=N,340nm,14.0s								
BJI					LR		LR		
	comp=E,170nm,16.4s								
BJI					LR		LR		
	comp=Z,130nm,19.8s								
AAK	**Ala-Archa**	**36.16**	**335**	*e*P			P	13 55 54.4	-3.4
AAK					pmax		pmax		
	comp=Z,6.0nm,0.8s								
AAK	**Ala-Archa**	**36.16**	**335**	*e*P			P	13 55 54.4	-3.4
	comp=Z,5.9nm,0.8s								
AAK	**Ala-Archa**	**36.16**	**335**	P			**P**	**13 55 58.0**	**+0.3**
	comp=Z,2.0nm,0.3s,baz=197,slow=6.0,SNR=4.9								
AAK					LR		LR	14 12 21.0	
	comp=Z,444nm,21.9s,baz=131,slow=39								
MK31	**Makanchi Array**	**37.38**	**347**	*ce*P			**P**	**13 56 06.8**	**-1.1**
MK31					pmax		pmax		
	comp=Z,11nm,0.8s								
MK31	**Makanchi Array**	**37.38**	**347**	*e*P			**P**	**13 56 07.6**	**-0.3**
MK31				*e*				13 56 13.6	
MKAR	**Makanchi Array**	**37.38**	**347**	*ce*P			**P**	**13 56 08.1**	**+0.2**
MKAR					pmax		pmax		
	comp=Z,4.0nm,0.7s								
MKAR	**Makanchi Array**	**37.38**	**347**	*e*P			P	13 56 04.4	-3.5
MKAR	**Makanchi Array**	**37.38**	**347**	P			**P**	**13 56 08.2**	**+0.2**
	comp=Z,4.0nm,0.7s,baz=162,slow=8.3,SNR=25								
MKAR					LR		LR	14 15 16.7	
	comp=Z,164nm,18.6s,baz=157,slow=42								
KK31	**Karatay Array**	**38.29**	**332**	*ce*P			**P**	**13 56 16.6**	**+1.0**
KK31					pmax		pmax		
	comp=Z,5.0nm,0.7s								
KKAR	**Karatay Array**	**38.29**	**332**	*e*P			P	13 56 11.4	-4.2
KKAR	**Karatay Array**	**38.29**	**332**	*e*P			P	13 56 11.4	-4.2
SONM	**Songino Array**	**38.47**	**13**	P			**P**	**13 56 16.1**	**-1.1**
SONM					PcP		**PcP**	**13 58 32.2**	**+2.0**
SONM	**Songino Array**	**38.47**	**13**	P			**P**	**13 56 16.1**	**-1.1**
	comp=Z,2.4nm,1.0s,baz=195,slow=8.2,SNR=14								
SONM					PcP		**PcP**	**13 58 32.2**	**+2.0**
	comp=Z,1.0nm,0.8s,baz=190,slow=4.6,SNR=2.7								
SONM					LR		LR	14 13 42.1	
	comp=Z,440nm,18.8s,baz=193,slow=39								
ULN	**Ulaanbaatar**	**38.65**	**14**	*e*P			**P**	**13 56 17.4**	**-1.3**
	comp=Z,10nm,1.1s								
ULN	**Ulaanbaatar**	**38.65**	**14**	P			**P**	**13 56 18.4**	**-0.3**
SWI	**Sorong**	**38.68**	**105**	S			P	13 56 14.3	-4.9
	baz=5.5,SNR=6.6								
FAKI	**Fak Fak**	**40.28**	**107**	S			P	13 56 28.8	-3.9
	baz=4.5,SNR=3.2								
HVS	**Khovu-Aksy**	**40.35**	**360**	*c* i P			**P**	**13 56 32.8**	**0.0**
HVS					pmax		pmax		
	comp=Z,44nm,1.2s								
KSAR	**Wonju Array Be**	**40.39**	**43**	P			**P**	**13 56 31.9**	**-1.3**
KSRS	**Korea Array**	**40.42**	**43**	P			**P**	**13 56 31.9**	**-1.5**
	comp=Z,1.0nm,0.8s,baz=253,slow=9.0,SNR=6.5								
MSEY	**Mahe Island**	**41.37**	**250**	*e*P			P	13 56 34.5	-7.2
	comp=Z,77nm,1.2s								
KURBB	**Kurchatov Arra**	**41.85**	**345**	P			**P**	**13 56 45.5**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=162,slow=7.4,SNR=13								
KURK	**Kurchatov**	**41.92**	**345**	P			**P**	**13 56 45.5**	**-0.1**
KURK	**Kurchatov**	**41.92**	**345**	P			**P**	**13 56 45.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**42.26**	**132**	LR			LR	14 15 37.6	
	comp=Z,149nm,20.1s,baz=314,slow=38								
IRK	**Irkutsk**	**42.27**	**9**	*e*P			P	13 56 53.5	+5.0
IRK					pmax		pmax		
	comp=Z,200nm,1.8s								
CN2	**Changchun**	**42.72**	**34**	*e*P			**P**	**13 56 51.8**	**-0.4**
CN2				*es*P			**sP**	**13 56 57.5**	**-0.4**
CN2				*e*S			**S**	**14 03 16.8**	**+1.3**
CN2				pmax			pmax		
	comp=Z,10.0nm,1.2s								
CN2				LR			LR		
	comp=N,300nm,16.0s								
CN2				LR			LR		
	comp=E,200nm,16.0s								
CN2				LR			LR		
	comp=Z,200nm,17.0s								
ZAA0	**Zalesovo Array**	**43.80**	**352**	*e*P			**P**	**13 57 00.5**	**-0.3**
ZAA0				*e*				13 57 07.0	
ZALV	**Zalesovo Beam**	**43.80**	**352**	P			**P**	**13 57 01.1**	**+0.3**
ZALV	**Zalesovo Beam**	**43.80**	**352**	P			**P**	**13 57 01.1**	**+0.3**
ZALV	**Zalesovo Beam**	**43.80**	**352**	P			**P**	**13 57 01.1**	**+0.3**
	comp=Z,14nm,1.0s,baz=170,slow=9.0,SNR=28								
ZALV					LR		LR	14 17 36.8	
	comp=Z,114nm,20.8s,baz=159,slow=39								
NVS	**Novosibirsk**	**44.90**	**351**	*e*P			**P**	**13 57 07.9**	**-1.7**
NVS				*e*S			**S**	**14 03 48.5**	**+1.5**
NVS				pmax			pmax		
	comp=N,21nm,1.5s								
NVS				pmax			pmax		
	comp=Z,18nm,1.5s								
NVS				smax			smax		
	comp=E,10.0nm,1.8s								
KRAR	**Krasnoyarsk**	**45.25**	**359**	*e*P			**P**	**13 57 11.9**	**-0.4**
KRAR					pmax		pmax		
	comp=Z,11nm,1.2s								
MDJ	**Mudanjiang**	**45.54**	**36**	P			**P**	**13 57 15.5**	**+0.6**
MDJ					pmax		pmax		
	comp=Z,1.0nm,0.5s								
MDJ					pmax		pmax		
	comp=Z,130nm,15.0s								
VLA	**Vladivostok**	**46.05**	**39**	*e*P			**P**	**13 57 17.1**	**-1.8**
VLA					pmax		pmax		
	comp=Z,7.0nm,0.8s								
BVA0	**Borovoye Array**	**46.36**	**340**	*i* P			P	13 57 25.5	+4.3
BVA0					pmax		pmax		
	comp=Z,14nm,1.0s								
BVAR	**Borovoye Array**	**46.36**	**340**	P			**P**	**13 57 21.2**	**0.0**
BVAR	**Borovoye Array**	**46.36**	**340**	P			**P**	**13 57 21.2**	**0.0**
BVAR	**Borovoye Array**	**46.36**	**340**	P			**P**	**13 57 21.2**	**0.0**
	comp=Z,3.9nm,1.0s,baz=141,slow=7.3,SNR=12								
BVAR					LR		LR	14 21 04.0	
	comp=Z,107nm,19.9s,baz=0.5,slow=42								
BRVK	**Borovoye**	**46.42**	**340**	*e*P			P	13 57 16.5	-5.2
BRVK					pmax		pmax		
	comp=Z,9.0nm,1.0s								
BRVK	**Borovoye**	**46.42**	**340**	*e*P			P	13 57 16.5	-5.2
	comp=Z,9.1nm,1.0s								
USRK	**Ussuriysk Arra**	**46.71**	**37**	P			**P**	**13 57 22.9**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=234,slow=6.9,SNR=8.9								
MAT	**Matsushiro**	**47.35**	**50**	P			**P**	**13 57 27.4**	**-1.8**
MJAR	**Matsushiro Arr**	**47.35**	**50**	P			**P**	**13 57 29.1**	**-0.1**
MJAR					PcP		**PcP**	**13 59 00.0**	**0.0**
MJAR	**Matsushiro Arr**	**47.35**	**50**	P			**P**	**13 57 29.1**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=245,slow=8.3,SNR=5.0								
MJAR					PcP		**PcP**	**13 59 00.0**	**0.0**
	comp=Z,2.9nm,1.0s,baz=250,slow=5.5,SNR=7.6								
AB31	**Akbulak array**	**47.80**	**330**	*ce*P			P	**13 57 32.5**	**0.0**
AB31					pmax		pmax		
	comp=Z,1.0nm,0.4s								
ABKAR	**Akbulak array**	**47.80**	**330**	*e*P			P	13 57 28.4	-4.1
RAYN	**Ar Rayn**	**47.97**	**292**	*e*P			P	13 57 27.9	-6.4
	comp=Z,10nm,0.9s								
AKTO	**Aktyubinsk**	**49.51**	**330**	P			**P**	**13 57 45.7**	**0.0**
AKTO	**Aktyubinsk**	**49.51**	**330**	P			**P**	**13 57 45.7**	**0.0**
AKTO	**Aktyubinsk**	**49.51**	**330**	P			**P**	**13 57 45.7**	**0.0**
	comp=Z,1.1nm,0.5s,baz=135,slow=1.4,SNR=3.8								
WRA	**Warramunga Arr**	**49.93**	**127**	P			**P**	**13 57 48.4**	**-0.9**
WRA	**Warramunga Arr**	**49.93**	**127**	P			**P**	**13 57 48.4**	**-0.9**
	comp=Z,3.4nm,0.8s,baz=304,slow=8.5,SNR=11								
WRAB	**Tennant Creek**	**49.94**	**127**	*e*P			**P**	**13 57 47.5**	**-1.8**
WRAB					pmax		pmax		
	comp=Z,7.0nm,0.8s								
WRAB	**Tennant Creek**	**49.94**	**127**	*e*P			**P**	**13 57 47.5**	**-1.8**
	comp=Z,7.2nm,0.8s								
ATD	**Arta Tunnel**	**50.26**	**276**	LR			LR	14 16 30.4	
	comp=Z,100nm,20.7s,baz=234,slow=33								
ASAR	**Alice Springs**	**51.75**	**132**	P			**P**	**13 58 02.8**	**-0.2**
ASAR	**Alice Springs**	**51.75**	**132**	P			**P**	**13 58 02.8**	**-0.2**
	comp=Z,5.3nm,0.7s,baz=308,slow=7.2,SNR=31								
ASAR					LR		LR	14 23 34.0	
	comp=Z,181nm,20.5s,baz=279,slow=40								
GNI	**Garni**	**52.51**	**313**	P			**P**	**13 58 09.4**	**+0.8**
	comp=Z,17nm,0.9s								
SVE	**Sverdlovsk**	**52.82**	**338**	*e*P			**P**	**13 58 10.8**	**+0.4**
SVE					pmax		pmax		
	comp=Z,18nm,1.0s								
ZEI	**Tsey**	**54.01**	**316**	*e*P			**P**	**13 58 21.3**	**+1.6**
ZEI					pmax		pmax		
	comp=Z,18nm,1.0s								
YSS	**Yuzh-Sakhalins**	**54.63**	**39**	*e*P			**P**	**13 58 24.0**	**+0.2**
KBZ	**Khabaz**	**55.04**	**316**	P			**P**	**13 58 29.4**	**+2.6**
KBZ	**Khabaz**	**55.04**	**316**	P			**P**	**13 58 29.4**	**+2.6**
KBZ	**Khabaz**	**55.04**	**316**	P			**P**	**13 58 29.4**	**+2.6**
	comp=Z,2.3nm,1.0s,baz=185,slow=6.1,SNR=4.0								
KBZ					LR		LR	14 25 34.4	
	comp=Z,117nm,21.1s,baz=261,slow=40								
KIV	**Kislovodsk**	**55.26**	**317**	*e*P			**P**	**13 58 30.0**	**+1.4**
KIV					pmax		pmax		
	comp=Z,13nm,1.1s								
YAK	**Yakutsk**	**57.38**	**19**	*e*P			**P**	**13 58 40.5**	**-2.7**
YAK					pmax		pmax		
	comp=E,4.0nm,1.2s								
YAK					pmax		pmax		
	comp=N,4.0nm,1.1s								
YAK					pmax		pmax		
	comp=Z,15nm,0.9s								
VORD	**Divnogorie**	**59.96**	**323**	*e*P			P	13 58 58.1	-3.3
VORD					pmax		pmax		
	comp=Z,40nm,0.4s								
VORD					pmax		pmax		
	comp=N,40nm,0.6s								
VORD					pmax		pmax		
	comp=E,280nm,1.5s								
VSR	**Storozhevoye**	**60.13**	**324**	*e*P			**P**	**13 59 00.5**	**-2.1**
VSR					pmax		pmax		
	comp=Z,4.0nm,0.6s								
VSR					pmax		pmax		
	comp=N,3.0nm,0.4s								
VSR					pmax		pmax		
	comp=E,7.0nm,0.9s								
BRTR	**Keskin Array B**	**60.62**	**310**	P			**P**	**13 59 06.0**	**-0.3**
BRTR	**Keskin Array B**	**60.62**	**310**	P			**P**	**13 59 06.0**	**-0.3**
	comp=E,2.2nm,0.9s,baz=130,slow=7.3,SNR=8.4								
BRTR					LR		LR	14 29 03.8	
	comp=E,58nm,18.9s,baz=246,slow=40								
STKA	**Stephens Creek**	**62.06**	**135**	P			**P**	**13 59 16.3**	**+0.3**
STKA	**Stephens Creek**	**62.06**	**135**	P			**P**	**13 59 16.3**	**+0.3**
	comp=E,4.9nm,0.8s,baz=307,slow=5.7,SNR=5.8								
STKA					LR		LR	14 26 13.4	
	comp=E,229nm,21.1s,baz=112,slow=36								
OBN	**Obninsk**	**63.03**	**327**	⇑*e*P			**P**	**13 59 21.5**	**-0.5**
OBN					pmax		pmax		
	comp=Z,7.0nm,1.2s								
OBN					MLR		MLR		
	comp=Z,200nm,19.0s								
TIXI	**Tiksi**	**64.

PLCA	**Paso Flores**	**147.13 202**	PKPbc	**PKPab**	**14 08 39.2**	**-1.0**
	comp=Z,4.5nm,1.0s,baz=152,slow=3.4,SNR=5.9					
CPUP	**Villa Florida**	**148.86 236**	PKPbc	**PKPbc**	**14 08 44.3**	**+0.7**
CPUP	**Villa Florida**	**148.86 236**	PKPbc	**PKPbc**	**14 08 44.3**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=232,slow=4.4,SNR=4.1					

AUST 26 13:54:00.3±0.0, 5.67S×128.62E, h440km, Error ellipse: s-maj=1.5km s-min=1.2km az=251.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.54**	**53**	P	P	13 55 19.1	-0.7
	baz=4.5,SNR=19						
SWI	**Sorong**	**5.46**	**29**	P	P	13 55 25.8	-3.0
	baz=5.5,SNR=3.6						
SOEI	**Soe**	**5.92**	**226**	S	S	13 56 31.0	-19
	baz=5.9,SNR=4.6						
MTN	**Manton Dam**	**7.55**	**161**	P	P	13 55 51.1	+0.3
	baz=7.6,SNR=28						
KDU	**Kakadu**	**7.94**	**152**	P	P	13 55 57.5	+2.4
	baz=8.0,SNR=12						
WSI	**Waingapu**	**9.15**	**244**	P	P	13 56 07.3	-0.9
	baz=9.2,SNR=3.1						
KNRA	**Kununurra**	**9.95**	**179**	P	P	13 56 15.0	-1.9
	baz=10.0,SNR=8.1						

IDC 26 13:55:57.9±1.0, 10.70N×94.54E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.9/25, mbtmp3.9/11, ML3.5/1, Error ellipse: s-maj=37.8km s-min=16.3km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.81**	**28**	Pn	Pn	13 58 08.4	+1.7
	0.1nm,0.3s,baz=207,slow=18,SNR=2.6						
SHL	**Shillong**	**15.00**	**351**	*e*P	Pn	13 59 27.0	-4.6
NDI	**New Delhi**	**24.15**	**320**	*e*P	P	14 01 14.0	-1.9
MKAR	**Makanchi Array**	**37.44**	**346**	P	P	14 03 12.8	-0.2
	2.3nm,0.8s,baz=152,slow=8.1,SNR=11						
SONM	**Songino Array**	**38.34**	**13**	P	P	14 03 20.8	+0.1
	2.5nm,1.2s,baz=191,slow=8.1,SNR=7.3						
KSRS	**Korea Array**	**40.11**	**43**	P	P	14 03 35.1	-0.4
	1.6nm,1.0s,baz=255,slow=8.2,SNR=6.7						
KURBB	**Kurchatov Arra**	**41.93**	**345**	P	P	14 03 49.3	-1.0
	0.9nm,0.7s,baz=160,slow=8.1,SNR=6.1						
ZALV	**Zalesovo Beam**	**43.83**	**352**	P	P	14 04 04.6	-1.0
	6.4nm,1.1s,baz=178,slow=5.3,SNR=10						
BVAR	**Borovoye Array**	**46.47**	**340**	P	P	14 04 25.9	-0.8
	1.3nm,0.9s,baz=120,slow=8.8,SNR=3.3						
MJAR	**Matsushiro Arr**	**47.01**	**49**	PcP	PcP	14 06 04.2	+0.6
	1.9nm,1.1s,baz=17,slow=1.3,SNR=4.8						
WRA	**Warramunga Arr**	**49.62**	**128**	P	P	14 04 51.7	+0.1
	1.9nm,0.7s,baz=303,slow=8.5,SNR=7.0						
ASAR	**Alice Springs**	**51.46**	**132**	P	P	14 05 05.3	-0.2
	3.0nm,0.8s,baz=309,slow=6.5,SNR=27						
KBZ	**Khabaz**	**55.30**	**316**	P	P	14 05 34.5	+1.2
	0.7nm,0.7s,baz=152,slow=8.4,SNR=4.6						
STKA	**Stephens Creek**	**61.79**	**135**	P	P	14 06 17.6	-1.2
	3.9nm,0.9s,baz=258,slow=11,SNR=3.3						
FINES	**FINESS Array B**	**70.42**	**332**	P	P	14 07 16.8	+3.0
	2.1nm,0.9s,baz=160,slow=34,SNR=3.1						
ARCES	**ARCESS Array B**	**72.76**	**340**	P	P	14 07 31.8	+4.0
	1.8nm,0.8s,baz=91,slow=6.1,SNR=5.8						
NVAR	**Mina Array Bea**	**122.30**	**30**	PKP	PKPdf	14 14 56.0	+0.2
	0.3nm,0.5s,baz=264,slow=3.3,SNR=3.6						
PDAR	**Pinedale Array**	**122.41**	**21**	PKP	PKPdf	14 14 56.6	+0.7
	0.5nm,0.9s,baz=49,slow=9.7,SNR=2.7						
TXAR	**Lajitas Array**	**136.50**	**23**	PKP	PKPdf	14 15 23.6	+0.8
	0.3nm,0.9s,baz=306,slow=1.7,SNR=2.6						

MAN 26 13:56:09, 17.42N×120.44E, h39km, mb4.3, ML3.2, MS3.0, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.35**	**49**	*e*P	Pn	13 56 19.7	+2.0
ABRA				*e*S	Sn	13 56 26.6	+2.5
SIPP	**Brgy, Tapao**	**0.50**	**3**	*i*P	Pn	13 56 24.3	+4.5
SIPP				*i*S	Sn	13 56 38.1	+11
APYP	**Conner**	**0.89**	**60**	*e*P	Pn	13 56 25.5	+0.5
APYP				*e*S	Sn	13 56 39.3	+2.6
PIP	**Pasuquin**	**0.92**	**11**	*i*P	Pn	13 56 26.3	+0.9
PIP				*e*S	Sn	13 56 40.1	+2.7
BCPH	**Baguio City Da**	**1.04**	**172**	*i*P	Pn	13 56 27.6	+0.2
BCPH				*i*S	Sn	13 56 41.1	+0.2
CAUP	**Cauayan**	**1.41**	**109**	*e*P	Pn	13 56 34.3	+2.2
BALP	**Baler**	**2.00**	**147**	*e*P	Pn	13 56 41.5	+1.3

MEX 26 13:57:09.5±1.1, 16.69N×99.81W, h15km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.56**	**309**	*e*P	Pg	13 57 18.5	-2.2
CAIG				*i*S	Sg	13 57 27.0	-1.2
PNIG	**Pinotepa**	**1.64**	**100**	*i*P	Pn	13 57 34.3	-3.5
PNIG				*i*S	Sn	13 57 54.8	-4.0
ARIG	**Puente Sto Nin**	**1.67**	**342**	*i*P	Pn	13 57 34.6	-3.6
ARIG				*i*S	Sn	13 57 55.4	-4.0
PLIG	**Platanillo**	**1.72**	**10**	*i*P	Pn	13 57 34.7	-4.4
PLIG				*i*S	Sn	13 57 56.1	-4.8
YAIG	**Yautepec**	**2.28**	**18**	*i*P	Pn	13 57 43.1	-3.7
YAIG				*i*S	Sn	13 58 10.0	-4.8
PPM	**Popocatepetl**	**2.62**	**25**	*i*P	Pn	13 57 48.7	-3.3

IDC 26 13:59:02.1±6.5, 10.75N×94.42E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.5/25, mbtmp3.9/4, Error ellipse: s-maj=351.3km s-min=23.1km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.37**	**346**	P	P	14 06 16.6	+0.1
	0.4nm,0.4s,baz=162,slow=8.7,SNR=4.0						
ZALV	**Zalesovo Beam**	**43.77**	**352**	P	P	14 07 08.9	-0.4
	0.8nm,0.6s,baz=168,slow=7.6,SNR=3.6						
WRA	**Warramunga Arr**	**49.74**	**128**	P	P	14 07 56.5	-0.1
	1.8nm,0.7s,baz=306,slow=8.5,SNR=3.5						
ASAR	**Alice Springs**	**51.58**	**132**	P	P	14 08 10.3	-0.1
	2.6nm,0.7s,baz=312,slow=6.6,SNR=8.9						

IDC 26 14:10:23.0±12.0, 10.36N×93.52E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/25, mbtmp3.4/3, Error ellipse: s-maj=676.8km s-min=27.0km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.55**	**347**	P	P	14 17 38.8	-0.1
	0.3nm,0.8s,baz=169,slow=8.2,SNR=2.7						
WRA	**Warramunga Arr**	**50.21**	**127**	P	P	14 19 20.3	-0.9
	0.3nm,0.3s,baz=297,slow=8.4,SNR=3.1						
ASAR	**Alice Springs**	**51.98**	**131**	P	P	14 19 35.0	+0.6
	0.4nm,0.6s,baz=300,slow=6.7,SNR=9.4						

IDC 26 14:10:39.9±7.0, 9.93N×93.01E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/25, mbtmp3.6/3, Error ellipse: s-maj=368.5km s-min=27.1km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.85**	**348**	P	P	14 17 58.3	-0.1
	0.4nm,0.7s,baz=161,slow=7.6,SNR=3.7						
WRA	**Warramunga Arr**	**50.36**	**126**	P	P	14 19 38.2	-1.0
	0.7nm,0.7s,baz=303,slow=9.1,SNR=3.2						
ASAR	**Alice Springs**	**52.08**	**130**	P	P	14 19 52.8	+0.7
	1.1nm,0.7s,baz=308,slow=6.5,SNR=12						

IDC 26 14:14:11.4±2.7, 10.42N×94.08E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.4/26, mbtmp3.5/6, Error ellipse: s-maj=123.8km s-min=20.2km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.61**	**347**	P	P	14 21 26.5	-1.4
	0.6nm,0.9s,baz=175,slow=8.5,SNR=4.2						
SONM	**Songino Array**	**38.72**	**13**	P	P	14 21 37.0	-0.3
	0.5nm,0.8s,baz=180,slow=5.9,SNR=3.6						
KURBB	**Kurchatov Arra**	**42.08**	**345**	P	P	14 22 05.7	+0.7
	0.5nm,0.6s,baz=164,slow=7.6,SNR=4.2						
ZALV	**Zalesovo Beam**	**44.04**	**352**	P	P	14 22 21.0	+0.2
	0.3nm,0.3s,baz=157,slow=7.8,SNR=2.9						
WRA	**Warramunga Arr**	**49.81**	**127**	P	P	14 23 07.1	+0.6
	0.4nm,0.7s,baz=304,slow=9.3,SNR=3.3						
ASAR	**Alice Springs**	**51.61**	**131**	P	P	14 23 19.2	-0.8
	0.9nm,0.8s,baz=312,slow=6.5,SNR=8.2						

IDC 26 14:17:49.4±1.7, 10.56N×94.26E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/27, mbtmp3.6/7, ML3.1/1, Error ellipse: s-maj=64.4km s-min=19.8km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.06**	**29**	Pn	Pn	14 20 02.9	+1.2
	0.1nm,0.3s,baz=214,slow=18,SNR=2.3						
MKAR	**Makanchi Array**	**37.51**	**346**	P	P	14 25 05.4	+0.3
	0.6nm,0.9s,baz=166,slow=7.4,SNR=3.7						
SONM	**Songino Array**	**38.53**	**13**	P	P	14 25 12.9	-0.9
	0.2nm,0.3s,baz=201,slow=11,SNR=3.0						
KURBB	**Kurchatov Arra**	**41.99**	**345**	P	P	14 25 41.8	-0.4
	0.3nm,0.8s,baz=140,slow=5.8,SNR=2.9						
ZALV	**Zalesovo Beam**	**43.92**	**352**	P	P	14 25 57.8	0.0
	0.6nm,0.5s,baz=156,slow=11,SNR=3.4						
WRA	**Warramunga Arr**	**49.75**	**127**	P	P	14 26 43.5	-0.5
	1.2nm,0.7s,baz=303,slow=8.6,SNR=5.6						
ASAR	**Alice Springs**	**51.57**	**132**	P	P	14 26 58.0	+0.2
	1.6nm,0.7s,baz=310,slow=5.6,SNR=9.7						
TXAR	**Lajitas Array**	**136.73**	**23**	PKP	PKPdf	14 37 15.3	+0.6
	0.2nm,0.6s,baz=204,slow=2.7,SNR=3.9						

IDC 26 14:21:30.6±1.7, 10.42N×93.87E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.6/27, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=70.8km s-min=20.4km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.38**	**31**	Pn	Pn	14 23 47.8	+0.6
	0.3nm,0.3s,baz=224,slow=34,SNR=4.9						
MKAR	**Makanchi Array**	**37.56**	**347**	P	P	14 28 46.8	+0.1
	0.3nm,0.8s,baz=161,slow=7.7,SNR=5.7						
KURBB	**Kurchatov Arra**	**42.03**	**345**	P	P	14 29 23.4	-0.4
	0.7nm,0.7s,baz=165,slow=7.4,SNR=4.5						
ZALV	**Zalesovo Beam**	**44.01**	**352**	P	P	14 29 38.9	-0.9
	1.2nm,0.6s,baz=186,slow=7.3,SNR=4.9						
WRA	**Warramunga Arr**	**49.98**	**127**	P	P	14 30 26.2	-0.8
	1.7nm,0.7s,baz=305,slow=8.7,SNR=7.4						
ASAR	**Alice Springs**	**51.77**	**131**	P	P	14 30 40.5	+0.1
	2.9nm,0.8s,baz=309,slow=6.5,SNR=21						
NVAR	**Mina Array Bea**	**122.87**	**30**	PKP	PKPdf	14 40 30.3	+0.7
	0.2nm,0.7s,baz=217,slow=2.8,SNR=2.9						

IDC 26 14:26:46.0±1.2, 10.56N×94.21E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/27, mbtmp3.7/8, MS3.8/1, Ms1 3.9/1, ms1mx2.9/28, Error ellipse: s-maj=54.1km s-min=18.8km az=57.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.50**	**347**	P	P	14 34 02.2	+0.5
	0.8nm,0.8s,baz=167,slow=8.3,SNR=6.9						
SONM	**Songino Array**	**38.55**	**13**	P	P	14 34 10.4	-0.2
	0.2nm,0.6s,baz=153,slow=8.1,SNR=3.6						
KURBB	**Kurchatov Arra**	**41.98**	**345**	P	P	14 34 38.3	-0.5
	1.2nm,0.6s,baz=163,slow=7.5,SNR=4.3						
ZALV	**Zalesovo Beam**	**43.92**	**352**	P	P	14 34 54.1	-0.4
	1.7nm,0.6s,baz=157,slow=8.0,SNR=5.2						
BVAR	**Borovoye Array**	**46.49**	**340**	P	P	14 35 14.7	-0.2
	0.3nm,0.3s,baz=139,slow=13,SNR=4.2						
WRA	**Warramunga Arr**	**49.79**	**127**	P	P	14 35 40.5	-0.5
	1.1nm,0.6s,baz=304,slow=8.5,SNR=5.2						
ASAR	**Alice Springs**	**51.61**	**132**	P	P	14 35 54.9	+0.2
	2.5nm,0.9s,baz=308,slow=6.6,SNR=17						
BRTR	**Keskin Array B**	**60.76**	**310**	P	P	14 36 60.0	-0.1
	0.7nm,0.9s,baz=94,slow=5.8,SNR=3.4						
ESDC	**Sonseca Array**	**89.55**	**310**	LR	LR	15 22 48.1	
	comp=Z,53nm,20.5s,baz=230,slow=38						

*ISCJB **26** 14:26:58.4±0.3, 10.58N±0.05×94.59E±0.04, h10km, mb4.3/37, MS3.9/4, Error ellipse: s-maj=7.5km s-min=5.5km az=38.9*
*IDC **26** 14:26:58.3±0.6, 10.59N×94.50E, h0km, mb4.2/20, mb1 4.3/22, mb1mx4.2/29, mbtmp4.1/22, ML3.8/2, MS3.7/1, Ms1 3.7/1, ms1mx2.7/28, Error ellipse: s-maj=19.8km s-min=13.1km az=54.0*
*NEIC **26** 14:26:59.8±0.4, 10.54N×94.57E, h10km, mb4.6/9, Error ellipse: s-maj=13.9km s-min=8.8km az=64.0*
*BJI **26** 14:26:59.8, 10.80N×95.60E, h10km, mB4.8/7, mb4.4/9, Ms4.4/6, Ms7 4.2/6*
*DJA **26** 14:27:13.0±0.8, 11°N±4°×9°6E±1°0, h10km, M4.6/6, mB5.1/2, mb4.4/6, MLv4.7/2, Mw(mB)4.4/2*

ISC 26 14:26:59.9±0.4, 10.54N±0.06×94.59E±0.07, h10km, n106, σ1s24/96, mb4.5/37, MS3.8/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.12**	**302**	*e*P	Pn	14 27 34.0	-1.4
PBA				*e*S	Sn	14 28 00.9	-1.0
DGPR	**DIGLIPUR**	**3.08**	**328**	*e*P	**Pn**	**14 27 49.5**	**+0.8**
DGPR				*ex*	x	14 28 20.5	
CMBY	**CAMPBELL BAY**	**3.57**	**191**	*e*P	**Pn**	**14 27 55.6**	**+0.3**
BSI	**Banda Aceh**	**5.06**	**172**	P	**Pb**	**14 28 29.4**	**+0.9**
	178nm,1.1s,2μm0.5nm						
SKLT	**Songkhla**	**6.84**	**119**	P	Pb	14 28 50.1	-8.7
	23nm,1.1s,0.4nm						
CHBT	**CHBT**	**7.90**	**73**	P	**Pn**	**14 28 54.8**	**0.0**
	21nm,1.0s						
KULM	**Kulim**	**7.95**	**131**	*e*P	**Pn**	**14 28 52.7**	**-2.9**
PBKT	**Sadao Pong**	**8.63**	**45**	P	Pn	14 28 54.7	-10
	23nm,1.0s,914nm						
IPM	**Ipoh**	**8.77**	**133**	P	Pn	14 29 02.2	-4.7
IPM	**Ipoh**	**8.77**	**133**	P	Pn	14 29 09.9	+3.0
	13nm,0.8s						
PSI	**Prapat**	**8.81**	**150**	Pn	**Pn**	**14 29 09.2**	**+1.7**
PSI	**Prapat**	**8.81**	**150**	Pn	**Pn**	**14 29 09.2**	**+1.7**
	0.9nm,0.3s,baz=297,slow=4.5,SNR=5.3						
CMAR	**Chiang Mai Arr**	**8.93**	**28**	Pn	**Pn**	**14 29 09.0**	**0.0**
CMAR	**Chiang Mai Arr**	**8.93**	**28**	Pn	**Pn**	**14 29 09.0**	**0.0**
	0.3nm,0.3s,baz=211,slow=14,SNR=6.7						
CHTO	**Chiang Mai**	**9.24**	**27**	P	**Pn**	**14 29 14.9**	**+1.6**
VIS	**Vishakhapatnam**	**13.04**	**304**	*e*P	**Pn**	**14 30 06.2**	**+0.9**
VIS				AMB	AMB	14 30 07.0	
	comp=Z,46nm,2.0s						
RGRI	**Rengat**	**13.28**	**144**	P	**P**	**14 30 16.9**	**-1.6**
SHL	**Shillong**	**15.16**	**351**	*e*P	**Pn**	**14 30 34.5**	**+0.1**
SHL				AMB	AMB	14 30 43.1	
	comp=Z,16nm,1.2s						
BOK	**Bokaro**	**15.57**	**329**	*e*P	**Pn**	**14 30 39.6**	**0.0**
HYB	**Hyderabad**	**16.99**	**296**	*i*P	P	14 31 03.5	+3.8
HYB	**Hyderabad**	**16.99**	**296**	*e*P	**Pn**	**14 30 57.7**	**-0.1**
HYB				AMB	AMB	14 31 25.7	
	comp=Z,26nm,2.9s						
LSA	**Lhasa**	**19.33**	**351**	P	**P**	**14 31 22.0**	**-3.9**
LSA				S	S	14 35 13.5	+8.4
LSA				pmax	pmax		
	comp=Z,260nm,5.9s						
LSA	**Lhasa**	**19.33**	**351**	P	**P**	**14 31 25.3**	**-0.6**
	comp=Z,99nm,1.6s						
BHPL	**Bhopal**	**20.69**	**310**	*e*P	**P**	**14 31 39.8**	**-0.5**
BHPL				AMB	AMB	14 31 46.7	
	comp=Z,32nm,1.6s						
ENH	**Enshi**	**24.04**	**33**	*e*P	**P**	**14 32 14.2**	**-1.1**
	comp=Z,15nm,0.9s						
NDI	**New Delhi**	**24.30**	**320**	*ex*	x	14 32 13.0	
DDI	**Dehra Dun**	**24.99**	**324**	*e*P	**P**	**14 32 23.2**	**-0.7**
DDI				AMB	AMB	14 32 29.6	
	comp=Z,158nm,0.0s						
SMLA	**Simla**	**26.09**	**324**	*e*P	**P**	**14 32 34.2**	**+0.3**
SMLA				AMB	AMB	14 32 41.8	
	comp=Z,36nm,2.8s						
LZH	**Lanzhou**	**26.78**	**17**	*e*P	**P**	**14 32 41.3**	**+1.0**
LZH				pP	**pP**	**14 32 44.0**	**+0.7**
LZH				sP	**sP**	**14 32 46.0**	**+1.4**
LZH				*e*S	**S**	**14 37 14.3**	**-2.2**
LZH				pmax	pmax		
	comp=Z,35nm,1.2s						
LZH				pmax	pmax		
	comp=Z,150nm,6.4s						
LZH				LR	LR		
	comp=N,570nm,12.7s						
LZH				LR	LR		
	comp=E,320nm,13.0s						
LZH				LR	LR		
	comp=Z,950nm,15.0s						
XAN	**Xi'an**	**26.82**	**27**	P	**P**	**14 32 44.3**	**+3.8**
XAN				pP	pP	14 32 54.3	+11
XAN				sP	PcP	14 35 58.0	-5.3
XAN				S	**S**	**14 37 17.3**	**+0.4**
XAN				pmax	pmax		
	comp=Z,1.0nm,1.4s						
XAN				pmax	pmax		
	comp=Z,22nm,14.4s						
XAN				LR	LR		
	comp=N,190nm,16.2s						
XAN				LR	LR		
	comp=E,120nm,17.8s						
XAN				LR	LR		
	comp=Z,53nm,13.4s						
DHRM	**DHARAMSHALA**	**27.42**	**325**	*ex*	x	14 32 33.2	
DHRM				AMB	AMB	14 33 14.5	
	comp=Z,28nm,0.7s						
GTA	**Gaotai**	**29.13**	**8**	*e*P	P	14 33 06.5	+5.3
GTA				pP	pP	14 33 11.3	+7.1
GTA				sP	sP	14 33 13.5	+8.0
GTA				S	S	14 37 59.0	+5.7
GTA				sS	sS	14 38 06.5	+8.2
GTA				SS	SnSn	14 39 30.5	+13
GTA				pmax	pmax		
	comp=Z,6.0nm,1.7s						
GTA				pmax	pmax		
	comp=Z,100nm,5.0s						
GTA				LR	LR		
	comp=N,180nm,18.5s						
GTA				LR	LR		
	comp=E,140nm,16.2s						
GTA				LR	LR		
	comp=Z,270nm,19.5s						
AAK	**Ala-Archa**	**36.47**	**335**	*e*P	P	14 33 59.5	-5.9
	comp=Z,13nm,1.2s						
AAK	**Ala-Archa**	**36.47**	**335**	P	**P**	**14 34 04.5**	**-0.9**
	comp=Z,4.3nm,0.7s,baz=265,slow=10,SNR=4.1						
EKS2	**Erkin-Say**	**36.80**	**334**	*e*P	P	14 34 11.9	+3.8
	comp=Z,8.1nm,0.8s						
MK31	**Makanchi Array**	**37.61**	**346**	P	P	14 34 07.1	-7.7
MKAR	**Makanchi Array**	**37.61**	**346**	P	**P**	**14 34 14.7**	**-0.1**
MKAR	**Makanchi Array**	**37.61**	**346**	P	**P**	**14 34 14.7**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=166,slow=9.1,SNR=13						
SONM	**Songino Array**	**38.48**	**13**	P	**P**	**14 34 22.2**	**-0.1**
SONM				PcP	**PcP**	**14 36 36.6**	**+1.4**
SONM	**Songino Array**	**38.48**	**13**	P	**P**	**14 34 22.2**	**-0.1**
	comp=Z,3.3nm,1.0s,baz=194,slow=7.0,SNR=9.2						
SONM				PcP	**PcP**	**14 36 36.6**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=201,slow=7.1,SNR=2.8						
KKAR	**Karatay Array**	**38.62**	**331**	*e*P	P	14 34 17.1	-6.2
	comp=Z,7.1nm,0.9s						
ULN	**Ulaanbaatar**	**38.66**	**13**	P	**P**	**14 34 21.1**	**-2.6**
KSAR	**Wonju Array Be**	**40.16**	**43**	P	**P**	**14 34 36.9**	**+0.6**
KSRS	**Korea Array**	**40.20**	**43**	P	**P**	**14 34 36.9**	**+0.4**
	comp=Z,2.6nm,1.1s,baz=254,slow=8.9,SNR=5.6						
KURBB	**Kurchatov Arra**	**42.10**	**345**	P	**P**	**14 34 51.1**	**-0.9**
	comp=Z,2.6nm,0.9s,baz=163,slow=7.9,SNR=11						
KURK	**Kurchatov**	**42.16**	**345**	P	**P**	**14 34 51.1**	**-1.4**
ZAA0	**Zalesovo Array**	**43.99**	**352**	*e*P	P	14 34 59.6	-7.7
ZALV	**Zalesovo Beam**	**43.99**	**352**	P	**P**	**14 35 06.4**	**-0.9**
ZALV	**Zalesovo Beam**	**43.99**	**352**	P	**P**	**14 35 06.4**	**-0.9**
	comp=Z,8.0nm,0.8s,baz=169,slow=8.9,SNR=12						
USRK	**Ussuriysk Array**	**46.53**	**37**	P	**P**	**14 35 26.2**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=234,slow=12,SNR=3.2						
BVAR	**Borovoye Array**	**46.64**	**340**	P	**P**	**14 35 27.5**	**-0.8**
BVAR	**Borovoye Array**	**46.64**	**340**	P	**P**	**14 35 27.5**	**-0.8**
	comp=Z,5.1nm,0.9s,baz=132,slow=8.8,SNR=6.8						
BRVK	**Borovoye**	**46.70**	**340**	P	P	14 35 20.5	-8.3
	comp=Z,5.9nm,0.8s						
MJAR	**Matsushiro Arr**	**47.08**	**49**	P	**P**	**14 35 32.4**	**+0.4**
MJAR				PcP	**PcP**	**14 37 03.0**	**-1.1**
MJAR	**Matsushiro Arr**	**47.08**	**49**	P	**P**	**14 35 32.4**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=261,slow=5.7,SNR=3.7						
MJAR				PcP	**PcP**	**14 37 03.0**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=239,slow=5.5,SNR=4.4						
MJAR				LR	LR	14 58 52.7	
	comp=Z,70nm,18.4s,baz=240,slow=41						
ABKAR	**Akbulak array**	**48.14**	**330**	*e*P	P	14 35 30.9	-9.1
	comp=Z,3.4nm,0.6s						
WRA	**Warramunga Arr**	**49.49**	**128**	P	**P**	**14 35 52.1**	**+1.2**
WRA	**Warramunga Arr**	**49.49**	**128**	P	**P**	**14 35 52.1**	**+1.2**
	comp=Z,3.1nm,0.7s,baz=303,slow=8.9,SNR=9.6						
WRAB	**Tennant Creek**	**49.49**	**128**	*e*P	**P**	**14 35 52.1**	**+1.3**
	comp=Z,8.9nm,0.8s						
AKTO	**Aktyubinsk**	**49.85**	**330**	P	**P**	**14 35 55.4**	**+2.2**
AKTO	**Aktyubinsk**	**49.85**	**330**	P	**P**	**14 35 55.4**	**+2.2**
	comp=Z,2.5nm,0.8s,baz=133,slow=8.3,SNR=6.7						
ASAR	**Alice Springs**	**51.32**	**132**	P	**P**	**14 36 06.0**	**+1.3**
ASAR	**Alice Springs**	**51.32**	**132**	P	**P**	**14 36 06.0**	**+1.3**
	comp=Z,3.8nm,0.6s,baz=308,slow=6.7,SNR=37						
GNI	**Garni**	**52.93**	**313**	*e*P	**P**	**14 36 15.4**	**-1.3**
	comp=Z,14nm,0.8s						
GNI	**Garni**	**52.93**	**313**	P	**P**	**14 36 15.9**	**-0.8**
	comp=Z,5.1nm,0.5s,baz=15,slow=14,SNR=3.6						
DGRG	**David-gareji**	**52.94**	**314**	P	P	14 36 19.2	+2.7
TBLG	**Delisi**	**53.48**	**315**	P	**P**	**14 36 21.2**	**+0.6**
AKH	**Akhalkalaki**	**54.25**	**314**	P	**P**	**14 36 25.6**	**-0.7**
ONI	**Oni**	**54.68**	**315**	P	P	14 36 35.7	+6.4
KBZ	**Khabaz**	**55.45**	**316**	P	**P**	**14 36 34.3**

*ISCJB **26** 14:29:21.5±0.5, 19°.8S×0°.1×177°.99W±0°.09, h569km, mb3.8/12, Error ellipse: s-maj=17.4km s-min=7.2km az=148.8*
*IDC **26** 14:29:22.0±1.5, 20°.02S×177°.84W, h573km×17km, mb3.4/12, mb1 3.6/14, mb1mx3.4/22, mbtmp3.4/14, Error ellipse: s-maj=18.4km s-min=10.2km az=136.0*
*AUST **26** 14:29:24.1, 19°.49S×177°.82W, h600km*
ISC 26 14:29:22.0±0.6, 19°.9S±0°.1×177°.88W±0°.10, h569km, n32, σ1♀26/36, mb3.9/12, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**7.55**	**85**	P	**P**	**14 31 18.0**	**+2.0**
	baz=7.5,SNR=3.8						
AFI	**Afiamalu**	**8.34**	**45**	P	**P**	**14 31 23.8**	**-0.1**
	1.4nm,0.3s,baz=63,slow=20,SNR=4.5						
AFI				S	**S**	**14 33 00.9**	**-2.8**
	4.5nm,0.3s,baz=354,slow=21,SNR=8.5						
URZ	**Urewera**	**18.81**	**192**	P	**P**	**14 33 05.7**	**-0.5**
	1.1nm,0.3s,baz=7.3,slow=0.7,SNR=9.1						
URZ				S	**S**	**14 36 04.0**	**-4.2**
	0.2nm,0.3s,baz=13,slow=12,SNR=3.4						
CTA	**Charters Tower**	**33.66**	**263**	P	**P**	**14 35 16.7**	**-0.1**
	13nm,0.5s,baz=101,slow=11,SNR=23						
CMSA	**Cobar Meteorol**	**34.65**	**243**	P	**P**	**14 35 26.0**	**+1.2**
	baz=35,SNR=7.7						
MTSU	**Mount Surprise**	**35.73**	**266**	P	**P**	**14 35 34.5**	**+0.5**
	baz=36,SNR=21						
TOO	**Toolangi**	**36.34**	**233**	P	**P**	**14 35 40.3**	**+1.6**
	baz=37,SNR=4.4						
COEN	**Coen**	**37.66**	**273**	P	**P**	**14 35 50.6**	**+0.8**
	baz=38,SNR=14						
STKA	**Stephens Creek**	**38.15**	**243**	P	**P**	**14 35 54.5**	**+0.9**
	3.3nm,0.8s,baz=8.4,slow=16,SNR=8.1						
STKA	**Stephens Creek**	**38.15**	**243**	P	**P**	**14 35 55.0**	**+1.4**
	baz=38,SNR=6.2						
BBOO	**Buckleboo**	**42.91**	**243**	P	**P**	**14 36 32.2**	**+0.7**
	baz=43,SNR=14						
ASAR	**Alice Springs**	**44.77**	**256**	P	**P**	**14 36 46.1**	**+0.2**
	9.7nm,0.7s,baz=86,slow=8.1,SNR=102						
ASAR				PcP	**PcP**	**14 38 15.4**	**-0.3**
	2.4nm,1.0s,baz=110,slow=3.7,SNR=4.4						
ASAR				S	**S**	**14 42 40.1**	**-2.2**
	1.4nm,0.8s,baz=95,slow=15,SNR=8.5						
WRA	**Warramunga Arr**	**44.79**	**261**	P	**P**	**14 36 46.0**	**-0.2**
	4.1nm,0.5s,baz=97,slow=8.3,SNR=19						
KDU	**Kakadu**	**48.05**	**271**	P	**P**	**14 37 10.5**	**-0.3**
	baz=48,SNR=4.6						
MTN	**Manton Dam**	**49.27**	**270**	P	**P**	**14 37 19.2**	**-0.6**
	baz=49,SNR=9.2						
KNRA	**Kununurra**	**50.81**	**266**	P	**P**	**14 37 31.0**	**0.0**
	baz=51,SNR=8.4						
FITZ	**Fitzroy Crossi**	**53.22**	**262**	P	**P**	**14 37 48.2**	**-0.1**
	3.1nm,0.6s,baz=146,slow=3.9,SNR=12						
FITZ	**Fitzroy Crossi**	**53.22**	**262**	P	**P**	**14 37 48.6**	**+0.3**
	baz=53,SNR=7.6						
SOEI	**Soe**	**56.59**	**271**	P	**P**	**14 38 13.2**	**+1.1**
	baz=57,SNR=6.4						
MEEK	**Meekatharra**	**58.22**	**250**	P	**P**	**14 38 22.4**	**-0.4**
	baz=58,SNR=6.7						
MJAR	**Matsushiro Arr**	**69.79**	**323**	P	**P**	**14 39 35.2**	**-0.8**
	2.5nm,0.5s,baz=158,slow=6.3,SNR=17						
PETK	**Petropavlovsk-**	**75.72**	**345**	P	**P**	**14 40 08.9**	**-0.6**
	2.2nm,0.7s,baz=130,slow=8.1,SNR=4.2						
USRK	**Ussuriysk Arra**	**78.52**	**326**	P	**P**	**14 40 26.1**	**+1.2**
	2.3nm,0.8s,baz=138,slow=4.2,SNR=10						
NVAR	**Mina Array Bea**	**80.52**	**43**	P	**P**	**14 40 37.0**	**+1.1**
	0.4nm,0.6s,baz=261,slow=2.3,SNR=5.9						
TXAR	**Lajitas Array**	**86.64**	**57**	P	**P**	**14 41 06.8**	**+0.6**
	0.3nm,0.8s,baz=205,slow=5.5,SNR=3.7						
ILAR	**Eielson Array**	**87.71**	**13**	P	**P**	**14 41 09.2**	**-1.1**
	0.4nm,0.6s,baz=214,slow=5.4,SNR=6.2						
CMAR	**Chiang Mai Arr**	**90.02**	**290**	P	**P**	**14 41 23.1**	**+1.1**
	1.6nm,0.9s,baz=80,slow=2.6,SNR=8.9						
ARCES	**ARCESS Array B**	**128.35**	**350**	PKP	**PKPdf**	**14 47 23.5**	**-0.3**
	2.1nm,0.9s,baz=318,slow=1.6,SNR=5.3						
FINES	**FINESS Array B**	**135.23**	**344**	PKP	**PKPdf**	**14 47 37.5**	**+0.5**
	0.6nm,0.8s,baz=97,slow=4.4,SNR=5.1						
BRTR	**Keskin ATay**	**145.51**	**313**	PKPbc	**PKPbc**	**14 47 59.8**	**-0.8**
	1.4nm,0.6s,baz=134,slow=4.9,SNR=7.6						
CLL	**Collm**	**147.50**	**347**	*i*PKP	**PKPbc**	**14 48 02.3**	**-0.2**
	comp=Z,6.0nm,0.9s						
CLL				*i*		14 48 05.6	
	comp=Z,3.0nm,0.7s						
GERES	**GERESS Array B**	**149.65**	**345**	PKPbc	**PKPbc**	**14 48 07.6**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=17,slow=1.8,SNR=14						

IDC 26 14:33:30.3±6.5, 31°.20N×107°.23E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.2/26, mbtmp3.4/3, ML2.9/1, Error ellipse: s-maj=418.7km s-min=41.0km az=78.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**16.62**	**358**	Pn	Pn	**14 37 24.7**	**-0.1**
	0.1nm,0.3s,baz=179,slow=7.2,SNR=2.3						
WRA	**Warramunga Arr**	**57.13**	**149**	P	P	14 43 19.5	+0.7
	0.3nm,0.4s,baz=339,slow=7.6,SNR=3.9						
ASAR	**Alice Springs**	**60.25**	**152**	P	P	14 43 39.7	-0.9
	0.3nm,0.6s,baz=338,slow=6.9,SNR=6.8						

*TAP **26** 14:39:44.8, 25°.68N×122°.24E, h226km±1km, ML3.6, D*
*ISCJB **26** 14:39:46.9±0.9, 25°.36N±0°.09×122°.28E±0°.04, h218km±6km, Error ellipse: s-maj=14.4km s-min=6.0km az=172.8*
*JMA **26** 14:39:48.3±0.3, 25°.33N×122°.27E, h209km, M2.8*
ISC 26 14:39:46.0±3.1, 25°.5N±0°.1×122°.24E±0°.05, h221km±16km, n34, σ0♀80/50, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCYT	**Pengchaiyu**	**0.23**	**320**	*e*P	**Pn**	**14 40 13.8**	**-1.1**
	baz=268						
TWB1	**Santiao Chiao**	**0.50**	**207**	*e*P	**Pn**	**14 40 16.7**	**+1.1**
	baz=192						
NWF	**Wu-fen Shan**	**0.56**	**228**	*e*P	**Pn**	**14 40 16.0**	**+0.1**
	baz=218						
NWF				*e*S	**S**	**14 40 38.3**	**-0.8**
	baz=218						
TWE	**Neicheng**	**0.89**	**216**	*e*P	**Pn**	**14 40 18.5**	**+1.1**
	baz=210						
TWE				*e*S	**S**	**14 40 43.1**	**+1.4**
	baz=210						
TWC	**Suao**	**0.91**	**203**	*e*P	**Pn**	**14 40 18.0**	**+0.6**
	baz=189						
ENTT	**Nioudou**	**1.01**	**217**	P	**Pn**	**14 40 18.8**	**+0.7**
	baz=217						
ENTT				*e*S	**S**	**14 40 43.5**	**+0.5**
	baz=217						
NSK	**Sanguang**	**1.11**	**226**	*e*P	**Pn**	**14 40 19.1**	**+0.3**
	baz=210						
NSK				*e*S	**S**	**14 40 43.0**	**-1.2**
	baz=210						
ENA	**Nanau**	**1.11**	**204**	P	**Pn**	**14 40 19.6**	**+0.8**
	baz=194						
ENA				*e*S	**S**	**14 40 44.4**	**+0.2**
	baz=194						
YOJ	**Yonaguni jima**	**1.21**	**144**	P	**Pn**	**14 40 19.7**	**+0.3**
YOJ				*e*S	**S**	**14 40 44.4**	**-0.9**
NNS	**Nan Shan**	**1.28**	**218**	P	**Pn**	**14 40 20.6**	**+0.6**
	baz=215						
NNS				*e*S	**S**	**14 40 45.4**	**-1.1**
	baz=215						
NSTT	**Nanjuang**	**1.39**	**234**	P	**Pn**	**14 40 21.2**	**+0.5**
	baz=233						
TWD	**Chiawan**	**1.48**	**203**	*e*P	**Pn**	**14 40 21.3**	**-0.2**
	baz=208						
TWT	**Tachien**	**1.54**	**219**	*e*P	**Pn**	**14 40 23.1**	**+1.0**
	baz=208						
TWT				*e*S	**S**	**14 40 50.6**	**+0.5**
	baz=208						
WHF	**Hehuan Shan**	**1.57**	**214**	P	**Pn**	**14 40 23.4**	**+0.6**
	baz=210						
WHF				*e*S	**S**	**14 40 51.0**	**-0.2**
	baz=210						
TWQ1	**Liyutan**	**1.73**	**231**	*e*P	**Pn**	**14 40 23.8**	**+0.2**
	baz=231						
IRIF	**Iriomote-Funau**	**1.75**	**129**	P	**Pn**	**14 40 24.4**	**+0.6**
IRIF				*e*S	**S**	**14 40 52.3**	**-0.8**
SMLT	**Sun Moon Lake**	**1.98**	**218**	*e*P	**Pn**	**14 40 26.3**	**+0.2**
	baz=214						
TYC	**Yuchr**	**1.99**	**220**	*e*P	**Pn**	**14 40 26.5**	**+0.4**
	baz=215						
HATJ	**Hateruma jima**	**1.99**	**134**	*e*S	**S**	**14 40 56.2**	**-0.9**
JKRS	**Kuro-shima**	**2.01**	**127**	P	**Pn**	**14 40 27.1**	**+0.9**
JKRS				*e*S	**S**	**14 40 56.4**	**-1.0**
JIJ	**Ishigaki jima**	**2.04**	**122**	P	**Pn**	**14 40 27.0**	**+0.5**
JIJ				*e*S	**S**	**14 40 56.1**	**-1.8**
EHY	**Hungye**	**2.11**	**204**	*e*P	**Pn**	**14 40 28.0**	**+0.7**
	baz=196						
TWF1	**Yuli**	**2.26**	**203**	*e*P	**Pn**	**14 40 28.1**	**-0.7**
	baz=200						
YUS	**Yu-Shan**	**2.28**	**211**	*e*P	**Pn**	**14 40 29.8**	**+0.3**
	baz=216						
YUS				*e*S	**S**	**14 41 04.8**	**+1.6**
	baz=216						
CHN5	**Tsauling**	**2.33**	**218**	*e*P	**Pn**	**14 40 30.0**	**+0.4**
	baz=214						
CHN5				*e*S	**S**	**14 41 02.2**	**-1.2**
	baz=214						
JTJ	**Tarama**	**2.38**	**109**	P	**Pn**	**14 40 31.2**	**+1.3**
JTJ				*e*S	**S**	**14 41 04.3**	**+0.3**
ELDTW	**Lidau**	**2.51**	**207**	*e*P	**Pn**	**14 40 31.2**	**-0.3**
	baz=200						
CHN4	**Tsaushan**	**2.57**	**216**	*e*P	**Pn**	**14 40 32.1**	**0.0**
	baz=213						
CHN4				*e*S	**S**	**14 41 07.1**	**-0.8**
	baz=213						
STYT	**Tauyuan**	**2.65**	**211**	*e*P	**Pn**	**14 40 33.2**	**+0.3**
	baz=213						
WTP	**Ta-pu**	**2.65**	**214**	*e*P	**Pn**	**14 40 32.8**	**-0.2**
	baz=217						
CHN1	**Nanshi**	**2.74**	**215**	*e*P	**Pn**	**14 40 33.9**	**-0.1**
	baz=216						
SGST	**Jiashian**	**2.80**	**213**	*e*P	**Pn**	**14 40 35.0**	**+0.4**
	baz=215						
EAST	**Anshuo**	**3.31**	**203**	*e*P	**Pn**	**14 40 40.5**	**+0.1**
	baz=201						
SCZT	**Fangliau**	**3.40**	**206**	*e*P	**Pn**	**14 40 41.4**	**-0.2**
	baz=204						

IDC 26 14:47:34.3±9.1, 8°.91N×92°.27E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/25, mbtmp3.5/4, Error ellipse: s-maj=443.1km s-min=23.0km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**38.70**	**349**	P	P	14 55 00.2	+0.2
	0.3nm,0.7s,baz=166,slow=7.4,SNR=3.5						
ZALV	**Zalesovo Beam**	**45.31**	**354**	P	P	14 55 53.4	-0.5
	0.2nm,0.3s,baz=149,slow=11,SNR=2.3						
WRA	**Warramunga Arr**	**50.37**	**125**	P	P	14 56 33.0	-0.6
	0.4nm,0.6s,baz=302,slow=9.0,SNR=2.4						
ASAR	**Alice Springs**	**51.99**	**129**	P	P	14 56 46.3	+0.4
	0.6nm,0.7s,baz=300,slow=6.6,SNR=7.9						

*IDC **26** 14:49:22.2±0.7, 10°.58N×94°.23E, h0km, mb3.8/13, mb1 3.9/14, mb1mx3.8/28, mbtmp3.8/14, ML3.8/1, Error ellipse: s-maj=27.9km s-min=14.8km az=58.0*
*ISCJB **26** 14:49:24.0±0.4, 10°.63N±0°.06×94°.33E±0°.07, h24km, mb3.9/16, Error ellipse: s-maj=11.4km s-min=6.2km az=139.1*
*NEIC **26** 14:49:23.8±0.4, 10°.61N×94°.24E, h10km, mb4.6/1, Error ellipse: s-maj=13.3km s-min=6.5km az=59.0*
ISC 26 14:49:26.0±0.5, 10°.66N±0°.06×94°.28E±0°.08, h24km, n48, σ0♀78/47, mb3.9/16, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.81**	**303**	*ex*	x	14 50 28.6	
PBA				*e*S	Sb	14 50 19.4	-1.2
DGPR	**DIGLIPUR**	**2.83**	**332**	*e*P	**Pn**	**14 50 10.8**	**+1.0**
DGPR				*ex*	x	14 51 28.6	
CMBY	**CAMPBELL BAY**	**3.64**	**186**	*e*P	**Pn**	**14 50 20.0**	**-0.9**
CMBY				*ex*	**Sb**	**14 51 15.1**	**+1.6**
KULM	**Kulim**	**8.26**	**130**	*e*Pn	**Pn**	**14 51 24.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**8.97**	**30**	Pn	**Pn**	**14 51 34.0**	**0.0**
CMAR	**Chiang Mai Arr**	**8.97**	**30**	Pn	**Pn**	**14 51 34.0**	**0.0**
	0.3nm,0.3s,baz=220,slow=15,SNR=5.9						
VIS	**Vishakhapatnam**	**12.73**	**305**	*e*P	**Pn**	**14 52 24.7**	**-0.8**
VIS				AMB	AMB	14 52 56.8	
	comp=Z,28nm,1.0s						
SHL	**Shillong**	**15.00**	**352**	*e*P	**Pn**	**14 52 55.9**	**-0.8**
BOK	**Bokaro**	**15.32**	**330**	*ex*	x	14 53 50.2	
BOK				AMB	AMB	14 53 52.8	
	comp=Z,24nm,0.1s						
BHPL	**Bhopal**	**20.38**	**310**	*e*P	**P**	**14 54 00.8**	**-0.4**
SMLA	**Simla**	**25.82**	**325**	*e*P	**P**	**14 54 56.6**	**+1.1**
SMLA				AMB	AMB	14 55 16.7	
	comp=Z,11nm,1.3s						
DHRM	**DHARAMSHALA**	**27.15**	**325**	*e*P	**P**	**14 55 06.0**	**-1.7**
DHRM				AMB	AMB	14 55 14.8	
	comp=Z,12nm,1.7s						
MKAR	**Makanchi Array**	**37.42**	**346**	P	**P**	**14 56 38.0**	**+0.8**
MKAR	**Makanchi Array**	**37.42**	**346**	P	**P**	**14 56 38.0**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=167,slow=7.8,SNR=11						
SONM	**Songino Array**	**38.43**	**13**	P	**P**	**14 56 47.0**	**+1.1**
SONM	**Songino Array**	**38.43**	**13**	P	**P**	**14 56 47.0**	**+1.1**
	comp=Z,1.0nm,0.9s,baz=194,slow=9.9,SNR=6.1						
KSAR	**Wonju Array Be**	**40.28**	**43**	P	**P**	**14 57 01.2**	**-0.1**
KSRS	**Korea Array**	**40.31**	**43**	P	**P**	**14 57 01.2**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=251,slow=10,SNR=5.2						
KURBB	**Kurchatov Array**	**41.90**	**345**	P	**P**	**14 57 14.8**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=163,slow=7.7,SNR=8.5						
KURK	**Kurchatov**	**41.97**	**345**	P	**P**	**14 57 14.8**	**-0.2**
ZALV	**Zalesovo Beam**	**43.83**	**352**	P	**P**	**14 57 30.4**	**+0.4**
ZALV	**Zalesovo Beam**	**43.83**	**352**	P	**P**	**14 57 30.4**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=175,slow=7.4,SNR=7.7						
BVAR	**Borovoye Array**	**46.42**	**340**	P	**P**	**14 57 51.2**	**+0.5**
BVAR	**Borovoye Array**	**46.42**	**340**	P	**P**	**14 57 51.2**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=156,slow=11,SNR=3.1						
USRK	**Ussuriysk Arra**	**46.61**	**37**	P	**P**	**14 57 52.5**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=316,slow=5.3,SNR=4.1						
ABKAR	**Akbulak array**	**47.88**	**330**	*e*P	**P**	**14 58 02.6**	**+0.5**
WRA	**Warramunga Arr**	**49.80**	**128**	P	**P**	**14 58 17.4**	**+0.1**
WRA	**Warramunga Arr**	**49.80**	**128**	P	**P**	**14 58 17.4**	**+0.1**
	comp=Z,3.1nm,0.9s,baz=304,slow=8.6,SNR=12						
WRAB	**Tennant Creek**	**49.80**	**128**	*e*P	**P**	**14 58 17.6**	**+0.4**
	comp=Z,5.2nm,0.8s						
AS31	**Alice Springs**	**51.62**	**132**	*e*P	**P**	**14 58 31.2**	**+0.3**
ASAR	**Alice Springs**	**51.62**	**132**	P	**P**	**14 58 31.6**	**+0.6**
ASAR	**Alice Springs**	**51.62**	**132**	P	**P**	**14 58 31.6**	**+0.6**
	comp=Z,4.6nm,0.8s,baz=310,slow=7.4,SNR=37						
BRTR	**Keskin Array B**	**60.75**	**310**	P	**P**	**14 59 35.3**	**-0.9**
BRTR	**Keskin Array B**	**60.75**	**310**	P	**P**	**14 59 35.3**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=100,slow=7.5,SNR=3.0						
STKA	**Stephens Creek**	**61.94**	**135**	P	**P**	**14 59 42.9**	**-1.2**
STKA	**Stephens Creek**	**61.94**	**135**	P	**P**	**14 59 42.9**	**-1.2**
	comp=Z,2.9nm,0.9s,baz=297,slow=4.5,SNR=2.9						
FINES	**FINESS Array B**	**70.33**	**332**	P	**P**	**15 00 37.2**	**-0.2**
FINES	**FINESS Array B**	**70.33**	**332**	P	**P**	**15 00 37.2**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=156,slow=11,SNR=3.4						
GERES	**GERESS Array B**	**75.86**	**318**	P	**P**	**15 01 11.6**	**+1.0**
GERES	**GERESS Array B**	**75.86**	**318**	P	**P**	**15 01 11.6**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=127,slow=2.6,SNR=2.8						
NVAR	**Mina Array Bea**	**122.46**	**30**	PKP	**PKPdf**	**15 08 20.9**	**+0.9**
NVAR	**Mina Array Bea**	**122.46**	**30**	PKP	**PKPdf**	**15 08 20.9**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=228,slow=2.3,SNR=4.3						
PDAR	**Pinedale Array**	**122.53**	**21**	PKP	**PKPdf**	**15 08 19.2**	**-0.9**
PDAR	**Pinedale Array**	**122.53**	**21**	PKP	**PKPdf**	**15 08 19.2**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=242,slow=5.0,SNR=2.5						
TXAR	**Lajitas Array**	**136.63**	**23**	PKP	**PKPdf**	**15 08 47.5**	**+0.4**
TXAR	**Lajitas Array**	**136.63**	**23**	PKP	**PKPdf**	**15 08 47.5**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=19,slow=2.9,SNR=3.6						
PLCA	**Paso Flores**	**147.19**	**202**	PKPbc	**PKPbc**	**15 09 07.2**	**-0.4**
PLCA	**Paso Flores**	**147.19**	**202**	PKPbc	**PKPbc**	**15 09 07.2**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=143,slow=8.8,SNR=2.9						

IDC 26 14:50:06.9±0.6, 10°.73N×94°.34E, h0km, mb4.2/16, mb1 4.3/18, mb1mx4.1/29, mbtmp4.1/18, ML3.6/2, MS4.0/1, Ms1 4.0/1, ms1mx2.8/40, Error ellipse: s-maj=23.0km s-min=13.9km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.88**	**30**	Pn	Pn	14 52 18.6	+1.8
	0.3nm,0.3s,baz=219,slow=15,SNR=12						
PSI	**Prapat**	**9.09**	**150**	Pn	Pn	14 52 21.2	+1.5
	0.4nm,0.3s,baz=309,slow=19,SNR=2.4						
PSI				LR	LR	14 55 50.2	
	comp=Z,906nm,21.5s,baz=314,slow=37						
AAK	**Ala-Archa**	**36.20**	**335**	P	P	14 57 12.3	+0.6
	6.2nm,0.9s,baz=200,slow=3.8,SNR=6.1						
MKAR	**Makanchi Array**	**37.37**	**346**	P	P	14 57 20.8	-0.6
	3.0nm,0.7s,baz=167,slow=8.1,SNR=9.9						
SONM	**Songino Array**	**38.36**	**13**	P	P	14 57 29.8	-0.1
	3.5nm,1.1s,baz=194,slow=8.6,SNR=12						
SONM				PcP	PcP	14 59 43.5	-0.1
	0.6nm,0.6s,baz=196,slow=3.4,SNR=3.6						
KSRS	**Korea Array**	**40.23**	**43**	P	P	14 57 45.0	-0.4
	2.4nm,1.0s,baz=253,slow=9.5,SNR=8.2						
KURBB	**Kurchatov Array**	**41.85**	**345**	P	P	14 57 58.5	-0.2
	2.5nm,0.8s,baz=161,slow=8.0,SNR=14						
ZALV	**Zalesovo Beam**	**43.78**	**352**	P	P	14 58 14.6	+0.4
	6.0nm,0.8s,baz=173,slow=8.7,SNR=9.1						
BVAR	**Borovoye Array**	**46.38**	**340**	P	P	14 58 34.7	-0.3
	1.8nm,0.8s,baz=131,slow=8.6,SNR=5.0						
USRK	**Ussuriysk Arra**	**46.53**	**37**	P	P	14 58 36.2	0.0
	1.6nm,0.8s,baz=232,slow=7.5,SNR=5.9						
MJAR	**Matsushiro Arr**	**47.14**	**50**	PcP	PcP	15 00 12.9	-0.1
	2.1nm,1.0s,baz=250,slow=3.3,SNR=5.8						
WRA	**Warramunga Arr**	**49.79**	**128**	P	P	14 59 01.3	-0.6
	5.2nm,1.0s,baz=304,slow=8.5,SNR=8.4						
ASAR	**Alice Springs**	**51.62**	**132**	P	P	14 59 16.1	+0.4
	5.3nm,0.8s,baz=311,slow=7.4,SNR=14						
STKA	**Stephens Creek**	**61.95**	**135**	P	P	15 00 28.6	-0.3
	4.4nm,0.9s,baz=326,slow=5.6,SNR=4.0						
FINES	**FINESS Array B**	**70.30**	**332**	P	P	15 01 21.7	-0.3
	1.8nm,0.8s,baz=59,slow=9.2,SNR=4.4						
ARCES	**ARCESS Array B**	**72.67**	**340**	P	P	15 01 36.1	-0.2
	1.5nm,0.6s,baz=57,slow=4.5,SNR=5.5						
GERES	**GERESS Array B**	**75.85**	**318**	P	P	15 01 55.3	-0.1
	0.8nm,0.9s,baz=89,slow=5.7,SNR=3.9						
LPG	**La Plagne**	**80.76**	**315**	*e*P	P	15 02 21.9	-1.0
	3.6nm,0.8s						
LPL	**La Plagne**	**80.77**	**315**	*e*P	P	15 02 22.1	-0.8
	9.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**90.14**	**283**	P	P	15 03 09.6	-0.3
	1.2nm,1.0s,baz=89,slow=3.4,SNR=5.4						
ILAR	**Eielson Array**	**92.05**	**22**	P	P	15 03 16.6	-1.1
	0.6nm,0.8s,baz=286,slow=4.0,SNR=6.0						
NVAR	**Mina Array Bea**	**122.38**	**30**	PKP	PKPdf	15 09 04.1	-0.8
	0.5nm,0.6s,baz=309,slow=1.9,SNR=6.1						
PDAR	**Pinedale Array**	**122.45**	**21**	PKP	PKPdf	15 09 04.1	-0.9
	0.9nm,0.8s,baz=135,slow=0.8,SNR=6.1						
TXAR	**Lajitas Array**	**136.55**	**23**	PKP	PKPdf	15 09 32.4	+0.5
	0.4nm,0.8s,baz=58,slow=0.3,SNR=4.6						
PLCA	**Paso Flores**	**147.26**	**201**	PKPbc	PKPbc	15 09 51.9	-0.9
	6.3nm,1.0s,baz=150,slow=5.7,SNR=3.9						
CPUP	**Villa Florida**	**149.08**	**236**	PKPbc	PKPbc	15 09 57.8	-0.2
	0.9nm,0.5s,baz=101,slow=4.4,SNR=4.2						
LPAZ	**La Paz**	**162.08**	**250**	PKP	PKPdf	15 10 13.3	+1.1
	1.5nm,1.0s,baz=30,slow=5.4,SNR=3.7						
LPAZ				PKPab	PKPab	15 10 58.7	+0.1
	0.7nm,0.7s,baz=274,slow=6.5,SNR=1.9						

IDC 26 14:54:40.4±3.3, 19°.92N×143°.85E, h0km, mb3.9/8, mb1 3.9/9, mb1mx3.7/27, mbtmp3.9/9, ML3.8/1, Error ellipse: s-maj=99.3km s-min=66.6km az=50.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**17.28**	**345**	P	Pn	14 58 42.4	-0.8
	0.3nm,0.3s,baz=159,slow=11,SNR=5.2						
KSRS	**Korea Array**	**22.31**	**325**	P	P	14 59 40.4	+0.8
	2.6nm,0.8s,baz=146,slow=9.3,SNR=13						
SONM	**Songino Array**	**41.10**	**321**	P	P	15 02 25.6	-0.6
	0.5nm,0.6s,baz=116,slow=7.2,SNR=5.9						
ZALV	**Zalesovo Beam**	**55.99**	**322**	P	P	15 04 19.7	-0.9
	0.6nm,0.4s,baz=104,slow=9.3,SNR=4.7						
MKAR	**Makanchi Array**	**56.36**	**313**	P	P	15 04 23.1	-0.4
	0.2nm,0.3s,baz=92,slow=7.7,SNR=5.1						
KURBB	**Kurchatov Array**	**59.25**	**318**	P	P	15 04 43.9	+0.3
	1.4nm,0.7s,baz=94,slow=7.8,SNR=17						
BVAR	**Borovoye Array**	**64.42**	**320**	P	P	15 05 18.9	+0.4
	1.6nm,0.5s,baz=88,slow=7.4,SNR=8.8						
ARCES	**ARCESS Array B**	**64.82**	**320**	P	P	15 06 56.1	+0.4
	2.4nm,1.0s,baz=78,slow=5.7,SNR=3.3						
FINES	**FINESS Array B**	**85.05**	**335**	P	P	15 07 17.4	-0.4
	3.1nm,1.1s,baz=79,slow=4.5,SNR=10						

*BJI **26** 14:58:10.6, 10°.43N×94°.09E, h10km, mB5.0/34, mb4.6/41, Ms4.6/46, Ms7 4.4/43*
*ISCJB **

KMI pP **P** 15 02 12.0 +1.8
KMI sP **sP** 15 02 13.8 -1.9
KMI PP **PnPn** 15 02 22.8 +5.5
KMI S **Sn** 15 05 14.3 +1.7
KMI sS **S** 15 05 18.5 -5.5
KMI SS **SnSn** 15 05 34.8 +8.6
KMI pmax pmax
comp=Z,10.0nm,1.3s
KMI pmax pmax
comp=Z,300nm,6.1s
KMI LR LR
comp=N,970nm,11.9s
KMI LR LR
comp=E,850nm,11.6s
KMI LR LR
comp=Z,730nm,12.5s
QIZ Qiongzhong 17.33 59 P **Pn** 15 02 15.3 -1.1
QIZ S **Sn** 15 05 29.8 +0.5
QIZ LR LR
comp=N,1µm,9.0s
QIZ LR LR
comp=E,650nm,9.7s
QIZ LR LR
comp=Z,2µm,9.4s
LSA Lhasa 19.28 352 P **P** 15 02 38.5 -1.2
LSA LR LR
comp=E,1µm,28.6s
LSA LR LR
comp=Z,830nm,25.4s
LSA Lhasa 19.28 352 *eP* **P** 15 02 39.7 0.0
LSA pmax pmax
comp=Z,5.0nm,0.4s
LSA Lhasa 19.28 352 *eP* **P** 15 02 39.7 0.0
comp=Z,4.7nm,0.4s
SBUM Sibu 19.63 113 P **Pn** 15 02 44.6 +0.2
GYA Guiyang 19.75 35 P **Pn** 15 02 46.3 +0.3
GYA PP **PnPn** 15 03 05.5 +5.6
GYA S **S** 15 06 23.3 -3.8
GYA SS **SnSn** 15 06 50.8 +8.2
GYA ScP **ScP** 15 10 37.0 -2.0
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,4.8s
GYA LR LR
comp=N,740nm,14.8s
GYA LR LR
comp=E,680nm,16.0s
GYA LR LR
comp=Z,780nm,15.8s
BHPL Bhopal 20.39 310 *eP* **P** 15 02 52.2 +0.9
POO Poona 21.21 294 *eP* **P** 15 03 00.8 +0.6
POO AMB AMB 15 03 11.8
comp=Z,62nm,2.1s
CD2 Chengdu 22.15 22 P **P** 15 03 10.0 -0.2
CD2 pP **pP** 15 03 14.5 +0.5
CD2 sP **sP** 15 03 17.3 +1.6
CD2 PP **PnPn** 15 03 36.5 +3.9
CD2 S **S** 15 07 09.5 -4.6
CD2 sS **sS** 15 07 15.5 -4.7
CD2 SS **SnSn** 15 07 48.5 +7.4
CD2 pmax pmax
comp=Z,40nm,1.6s
CD2 pmax pmax
comp=Z,290nm,5.8s
CD2 LR LR
comp=E,1µm,11.2s
CD2 LR LR
comp=Z,870nm,20.2s
KKM Kota Kinabalu 22.25 100 P **P** 15 03 14.0 +2.5
comp=Z,76nm,1.1s
NDI New Delhi 24.06 321 *ex* **P** 15 03 27.0 -2.7
ENH Enshi 24.27 34 *eP* **P** 15 03 30.5 -1.2
comp=Z,46nm,1.3s
SMLA Simla 25.87 325 *eP* **P** 15 03 47.1 +1.0
LZH Lanzhou 26.91 17 *eP* **P** 15 03 55.0 -0.7
LZH pP **pP** 15 03 58.0 -1.7
LZH sP **sP** 15 03 59.8 -1.6
LZH PP **PnPn** 15 04 41.3 +3.5
LZH *e*S **S** 15 08 30.3 -2.1
LZH sS **sS** 15 08 37.0 -2.1
LZH *e*SS **SnSn** 15 09 44.5 +6.7
LZH pmax pmax
comp=Z,54nm,1.5s
LZH pmax pmax
comp=Z,170nm,5.8s
LZH LR LR
comp=N,1µm,14.1s
LZH LR LR
comp=E,460nm,11.2s
LZH LR LR
comp=Z,1µm,15.3s
QZH Quanzhou 27.25 55 P **P** 15 04 01.5 +2.9
QZH S **S** 15 08 36.8 -0.8
QZH LR LR
comp=N,810nm,11.4s
QZH LR LR
comp=E,640nm,10.3s
QZH LR LR
comp=Z,970nm,9.8s
WHN Wuhan 27.36 40 ⇑P P 15 04 06.0 +6.5
WHN S **S** 15 08 45.3 +6.1
WHN LR LR
comp=N,800nm,6.6s
WHN LR LR
comp=E,1µm,6.8s
WHN LR LR
comp=Z,1µm,17.3s
GTA Gaotai 29.20 9 ⇑P **P** 15 04 16.0 0.0
GTA pP **pP** 15 04 20.5 +0.4
GTA sP **sP** 15 04 23.0 +1.3
GTA S **S** 15 09 08.3 0.0
GTA sS **sS** 15 09 15.3 +0.3
GTA SS **SnSn** 15 10 39.5 +6.1
GTA pmax pmax
comp=Z,5.0nm,1.7s
GTA pmax pmax
comp=Z,130nm,5.2s
GTA LR LR
comp=N,410nm,19.7s
GTA LR LR
comp=E,250nm,18.5s
GTA LR LR
comp=Z,620nm,19.5s
KAPI Kappang 29.78 120 LR LR 15 16 33.1
comp=Z,586nm,18.1s,baz=286,slow=37
DAV Davao City (W) 31.21 94 LR LR 15 18 06.1
comp=Z,336nm,20.5s,baz=237,slow=38
NJ2 Nanjing 31.28 43 *eP* **P** 15 04 33.0 -1.3
NJ2 S **S** 15 09 40.0 -0.8
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 LR LR
comp=N,1µm,10.2s
NJ2 LR LR
comp=E,1µm,10.0s
NJ2 LR LR
comp=Z,1µm,11.2s
SSE Sheshan 32.34 47 P **P** 15 04 40.8 -2.9
SSE pmax pmax
comp=Z,12nm,0.8s
SSE pmax pmax
comp=Z,60nm,4.4s
SSE LR LR
comp=N,580nm,12.7s
SSE LR LR
comp=E,170nm,12.6s
SSE LR LR
comp=Z,500nm,7.6s
WMQ Urumqi 33.64 352 P **P** 15 04 55.3 +0.3
WMQ pP **pP** 15 04 59.8 +0.7
WMQ sP **sP** 15 05 02.3 +1.6
WMQ PP **PnPn** 15 06 07.8 +0.9
WMQ PcP **PcP** 15 07 35.5 +0.5
WMQ S **S** 15 10 16.3 -1.3
WMQ sS **sS** 15 10 23.5 -0.8
WMQ ScP **ScP** 15 11 18.5 -1.1
WMQ SS **SnSn** 15 12 20.5 -0.8
WMQ ScS **ScS** 15 15 18.3 -2.5
WMQ pmax pmax
comp=Z,32nm,2.0s
WMQ pmax pmax
comp=Z,180nm,4.0s
WMQ LR LR
comp=N,320nm,20.3s
WMQ LR LR
comp=E,220nm,18.5s
WMQ LR LR
comp=Z,430nm,27.9s
HHC Hu-ho-hao-te 33.88 24 *eP* **P** 15 04 58.5 +1.3
HHC pP **pP** 15 05 02.8 +1.5
HHC sP **sP** 15 05 06.0 +3.1
HHC PP **PnPn** 15 06 11.5 +1.5
HHC S **S** 15 10 21.5 +0.1
HHC sS **sS** 15 10 29.5 +1.4
HHC SS **SnSn** 15 12 29.8 +2.6
HHC ScS **ScS** 15 15 19.5 -2.8
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,170nm,6.8s
HHC LR LR
comp=N,590nm,17.8s
HHC LR LR
comp=E,730nm,15.5s
HHC LR LR
comp=Z,630nm,11.7s
BJI Beijing 35.28 30 P **P** 15 05 08.3 -0.9
BJI S S 15 10 50.3 +7.5
BJI LR LR
comp=N,480nm,13.2s
BJI LR LR
comp=E,260nm,11.1s
BJI LR LR
comp=Z,200nm,19.5s
AAK Ala-Archa 36.31 335 *eP* **P** 15 05 16.3 -1.9
AAK pmax pmax
comp=Z,14nm,1.1s
AAK Ala-Archa 36.31 335 *eP* **P** 15 05 16.3 -1.9
comp=Z,14nm,1.1s
AAK Ala-Archa 36.31 335 P **P** 15 05 18.6 +0.4
comp=Z,1.9nm,0.4s,baz=196,slow=4.0,SNR=8.0
FRU Bishkek 36.43 335 *eP* **P** 15 05 19.0 0.0
FRU pmax pmax
comp=Z,60nm,1.9s
FRU MLR MLR
comp=Z,600nm,22.0s
DL2 Dalian 37.40 36 *eP* **P** 15 05 28.8 +1.5
DL2 S **S** 15 11 15.8 +0.6
DL2 pmax pmax
comp=Z,29nm,1.3s
DL2 pmax pmax
comp=Z,120nm,6.9s
DL2 LR LR
comp=E,290nm,7.6s
DL2 LR LR
comp=Z,270nm,9.8s
MK31 Makanchi Array 37.53 347 *ce*P **P** 15 05 27.1 -1.2
MK31 pmax pmax
comp=Z,15nm,0.8s
MKAR Makanchi Array 37.53 347 *ce*P **P** 15 05 27.8 -0.5
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 37.53 347 *eP* **P** 15 05 28.0 -0.4
MKAR Makanchi Array 37.53 347 P **P** 15 05 27.9 -0.4
comp=Z,1.9nm,0.7s,baz=165,slow=7.6,SNR=20
MKAR LR LR 15 24 56.5
comp=Z,253nm,19.2s,baz=162,slow=43
KK31 Karatay Array 38.44 332 *ce*P **P** 15 05 37.2 +1.1
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 38.44 332 *eP* **P** 15 05 36.2 +0.1
KKAR Karatay Array 38.44 332 *eP* **P** 15 05 36.2 +0.1
SONM Songino Array 38.58 13 P **P** 15 05 37.3 0.0
SONM Songino Array 38.58 13 P **P** 15 05 37.3 0.0
comp=Z,5.5nm,1.2s,baz=197,slow=7.6,SNR=17
SONM LR LR 15 23 03.0
comp=Z,631nm,18.6s,baz=193,slow=39
ULN Ulaanbaatar 38.76 14 *eP* **P** 15 05 37.8 -1.1
comp=Z,40nm,2.1s
ZAK Zakamensk 40.44 9 *eP* **P** 15 05 53.1 +0.3
ZAK pmax pmax
comp=Z,3.0nm,1.6s
KSAR Wonju Array Be 40.45 43 P **P** 15 05 51.8 -1.1
KSRS Korea Array 40.48 43 P **P** 15 05 51.8 -1.3
comp=Z,6.6nm,1.2s,baz=243,slow=8.1,SNR=13
KSRS LR LR 15 23 45.8
comp=Z,120nm,18.7s,baz=238,slow=38
HVS Khovu-Aksy 40.49 360 *eP* **P** 15 05 52.5 -0.6
HVS pmax pmax
comp=Z,120nm,1.7s
MSEY Mahe Island 41.39 250 *eP* **P** 15 05 59.4 -1.6
comp=Z,100nm,1.3s
KURBB Kurchatov Arra 42.00 345 P **P** 15 06 05.2 -0.3
comp=Z,2.4nm,0.8s,baz=162,slow=8.0,SNR=20
KURK Kurchatov 42.06 345 P **P** 15 06 05.2 -0.8
KURK Kurchatov 42.06 345 P **P** 15 06 05.2 -0.8
FITZ Fitzroy Crossi 42.12 132 P **P** 15 06 05.9 -0.9
FITZ Fitzroy Crossi 42.12 132 P **P** 15 06 05.9 -0.9
comp=Z,9.2nm,1.2s,baz=339,slow=6.3,SNR=4.8
CN2 Changchun 42.79 34 *eP* **P** 15 06 11.5 -0.5
CN2 *es*P **sP** 15 06 17.8 0.0
CN2 *e*S **S** 15 12 34.5 -1.3
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=N,400nm,15.0s
CN2 LR LR
comp=E,200nm,15.0s
CN2 LR LR
comp=Z,400nm,18.0s
ZALV Zalesovo Beam 43.95 352 P **P** 15 06 20.9 -0.3
ZALV Zalesovo Beam 43.95 352 P **P** 15 06 20.9 -0.3
ZALV Zalesovo Beam 43.95 352 P **P** 15 06 20.9 -0.3
comp=Z,3.6nm,0.8s,baz=174,slow=9.5,SNR=15
ZALV LR LR 15 27 59.3
comp=Z,113nm,19.4s,baz=160,slow=41
NVS Novosibirsk 45.04 351 *eP* **P** 15 06 28.1 -1.8
NVS pmax pmax
comp=Z,21nm,1.5s
NVS pmax pmax
comp=N,22nm,1.9s
NVS pmax pmax
comp=E,10.0nm,1.3s
KRAR Krasnoyarsk 45.39 359 *eP* **P** 15 06 31.1 -1.5
KRAR pmax pmax
comp=Z,13nm,1.2s
MDJ Mudanjiang 45.62 35 P **P** 15 06 34.5 -0.2
MDJ pP **pP** 15 06 37.3 -1.5
MDJ sP **sP** 15 06 38.8 -1.6
MDJ PcP **PcP** 15 08 12.3 -0.6
MDJ PP **PP** 15 08 21.0 -0.5
MDJ S **S** 15 13 19.8 +2.9
MDJ pmax pmax
comp=Z,4.0nm,2.5s
MDJ pmax pmax
comp=Z,21nm,3.5s
MDJ LR LR
comp=N,220nm,13.1s
MDJ LR LR
comp=E,190nm,17.1s
MDJ LR LR
comp=Z,320nm,15.5s
VLA Vladivostok 46.11 38 *eP* **P** 15 06 39.2 +0.6
VLA pmax pmax
comp=Z,17nm,1.2s
BVA0 Borovoye Array 46.51 340 *i* P **P** 15 06 40.5 -1.1
BVA0 pmax pmax
comp=Z,13nm,1.0s
BVAR Borovoye Array 46.51 340 P **P** 15 06 40.9 -0.7
BVAR Borovoye Array 46.51 340 P **P** 15 06 40.9 -0.7
BVAR Borovoye Array 46.51 340 P **P** 15 06 40.9 -0.7
comp=Z,0.6nm,0.5s,baz=142,slow=7.5,SNR=5.6
BVAR LR LR 15 29 39.7
comp=Z,168nm,20.1s,baz=359,slow=41
BRVK Borovoye 46.57 340 *eP* P 15 06 38.1 -3.9
BRVK *e* 15 06 47.9
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 46.57 340 *eP* P 15 06 38.1 -3.9
comp=Z,10.0nm,1.0s
BRVK *e* 15 06 47.9
USRK Ussuriysk Arra 46.78 37 P **P** 15 06 41.9 -1.9
comp=Z,2.3nm,0.8s,baz=255,slow=3.7,SNR=7.9
USRK PP **PP** 15 08 37.9 +4.1
comp=Z,2.3nm,1.1s,baz=205,slow=8.4,SNR=4.7
USRK LR LR 15 28 18.2
comp=Z,163nm,19.5s,baz=125,slow=39
MRIV Mauritius Mete 47.34 230 *eP* **P** 15 06 47.3 -1.2
MAJO Matsushiro 47.39 50 *eP* **P** 15 06 46.7 -2.0
MAJO pmax pmax
comp=Z,30nm,1.8s
MAJO Matsushiro 47.39 50 *eP* **P** 15 06 46.7 -2.0
comp=Z,30nm,1.8s
MJAR Matsushiro Arr 47.39 50 P **P** 15 06 46.5 -2.2
MJAR PcP **PcP** 15 08 19.8 +0.4
MJAR Matsushiro Arr 47.39 50 P **P** 15 06 46.5 -2.2
comp=Z,0.9nm,0.8s,baz=252,slow=8.9,SNR=5.2
MJAR PcP **PcP** 15 08 19.8 +0.4
comp=Z,3.0nm,1.0s,baz=234,slow=4.0,SNR=6.7
MJAR LR LR 15 29 47.9
comp=Z,154nm,18.3s,baz=255,slow=40
AB31 Akbulak array 47.95 330 *ce*P **P** 15 06 52.4 -0.4
AB31 pmax pmax
comp=Z,7.0nm,0.7s
ABKAR Akbulak array 47.95 330 *eP* **P** 15 06 52.8 -0.1
ABKAR *e* 15 06 59.0
NWAO Narrogin (SRO) 48.49 154 P **P** 15 06 57.2 0.0
NWAO Narrogin (SRO) 48.49 154 P **P** 15 06 57.2 0.0
comp=Z,14nm,0.9s,baz=175,slow=3.4,SNR=3.3
KLR Kul'dur 49.61 32 *eP* **P** 15 07 03.2 -2.4
AKTO Aktyubinsk 49.66 330 P **P** 15 07 05.4 -0.6
AKTO Aktyubinsk 49.66 330 P **P** 15 07 05.3 -0.6
AKTO Aktyubinsk 49.66 330 P **P** 15 07 05.3 -0.6
comp=Z,0.5nm,0.3s,baz=119,slow=12,SNR=3.5
WRA Warramunga Arr 49.80 127 P **P** 15 07 06.7 -0.8
WRA Warramunga Arr 49.80 127 P **P** 15 07 06.7 -0.8
comp=Z,4.5nm,0.7s,baz=303,slow=8.7,SNR=15
WRAB Tennant Creek 49.80 127 *eP* **P** 15 07 08.2 +0.7
WRAB pmax pmax
comp=Z,21nm,1.3s
WRAB Tennant Creek 49.80 127 *eP* **P** 15 07 08.2 +0.7
comp=Z,21nm,1.3s
AS31 Alice Springs 51.61 132 *eP* **P** 15 07 21.8 +0.7
ASAR Alice Springs 51.61 132 P **P** 15 07 21.9 +0.8
ASAR Alice Springs 51.61 132 P **P** 15 07 21.9 +0.8
comp=Z,4.8nm,0.7s,baz=309,slow=6.6,SNR=61
ASAR LR LR 15 32 46.3
comp=Z,281nm,20.9s,baz=296,slow=40
GNI Garni 52.65 313 *eP* **P** 15 07 29.1 +0.3
comp=Z,44nm,1.1s
GNI Garni 52.65 313 P **P** 15 07 31.1 +2.3
comp=Z,3.3nm,0.3s,baz=325,slow=14,SNR=6.0
DGRG David-gareji 52.66 315 P **P** 15 07 31.8 +3.1
SVE Sverdlovsk 52.97 338 *eP* **P** 15 07 30.5 -0.2
SVE pmax pmax
comp=Z,29nm,1.5s
TBLG Delisi 53.20 315 *eP* **P** 15 07 34.6 +1.9
TBLG Delisi 53.20 315 P **P** 15 07 34.6 +1.9
AKH Akhalkalaki 53.97 314 P **P** 15 07 40.1 +1.6
ZEI Tsey 54.16 316 *eP* P 15 07 43.4 +3.5
ZEI pmax pmax
comp=Z,14nm,0.9s
ONI Oni 54.40 315 P **P** 15 07 44.5 +3.0
YSS Yuzh-Sakhalins 54.69 39 *eP* **P** 15 07 43.0 -0.4
YSS *e* 15 07 49.8
KBZ Khabaz 55.18 316 P **P** 15 07 47.4 +0.3
KBZ Khabaz 55.18 316 P **P** 15 07 47.4 +0.3
KBZ Khabaz 55.18 316 P **P** 15 07 47.4 +0.3
comp=Z,0.7nm,0.5s,baz=239,slow=3.1,SNR=5.0
KBZ LR LR 15 34 32.9
comp=Z,180nm,20.8s,baz=355,slow=40
CHVG Ch'k'valeri 55.39 315 P **P** 15 07 51.2 +2.6
KIV Kislovodsk 55.41 317 *eP* **P** 15 07 49.4 +0.6
KIV pmax pmax
comp=Z,18nm,0.9s
KIV MLR MLR
comp=Z,85nm,16.0s
SOC Sochi 57.31 315 *eP* P 15 08 06.8 +4.5
SOC *eS* **S** 15 16 02.4 +4.0
SOC *eS* S 15 16 06.2 +7.8
SOC *e*SS **SS** 15 19 40.9 -6.8
SOC pmax pmax
comp=Z,15nm,0.9s
SOC MLR MLR
comp=Z,187nm,19.0s
YAK Yakutsk 57.48 19 *eP* **P** 15 08 00.8 -2.3
YAK pmax pmax
comp=Z,13nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.5s
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK MLR MLR
comp=E,293nm,22.0s
YAK MLR MLR
comp=Z,439nm,25.0s
YAK MLR MLR
comp=N,201nm,18.0s
KMBO Kilima Mbogo 57.79 262 LR LR 15 32 37.4
comp=N,114nm,18.2s,baz=96,slow=36
VORD Divnogorie 60.11 323 *eP* **P** 15 08 21.8 +0.2
VORD pmax pmax
comp=N,6.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=Z,8.0nm,0.6s
VSR Storozhevoye 60.28 324 *eP* **P** 15 08 20.8 -2.0
VSR pmax pmax
comp=Z,8.0nm,1.4s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.0s
BRTR Keskin Array B 60.75 310 P **P** 15 08 25.4 -1.0
BRTR Keskin Array B 60.75 310 P **P** 15 08 25.4 -1.0
comp=E,1.3nm,0.9s,baz=115,slow=5.9,SNR=7.1
BRTR LR LR 15 38 14.3
comp=E,119nm,20.8s,baz=99,slow=40
STKA Stephens Creek 61.92 135 P **P** 15 08 34.1 -0.1
STKA Stephens Creek 61.92 135 P **P** 15 08 34.1 -0.1
comp=E,5.2nm,0.8s,baz=331,slow=9.4,SNR=4.4
STKA LR LR 15 35 44.1
comp=E,322nm,19.8s,baz=107,slow=36
OBN Obninsk 63.18 327‖ *eP* **P** 15 08 42.1 -0.1
OBN *e* 15 11 08.3
OBN *e*SS SS 15 21 24.4 +5.2
OBN pmax pmax
comp=Z,30nm,1.7s
OBN MLR MLR
comp=Z,300nm,18.0s
TIXI Tiksi 64.64 12 *eP* **P** 15 08 53.9 +2.3
TIXI pmax pmax
comp=Z,15nm,1.2s
PETK Petropavlovsk- 65.85 36 LR LR 15 42 19.9
comp=Z,87nm,19.2s,baz=142,slow=40
FINES FINESS Array B 70.40 332 P **P** 15 09 26.0 -2.1
FINES FINESS Array B 70.40 332 P **P** 15 09 26.0 -2.1
comp=Z,1.1nm,0.8s,baz=169,slow=16,SNR=2.8
FINES LR LR 15 47 08.6
comp=Z,249nm,18.1s,baz=113,slow=42
ARCES ARCESS Array B 72.80 340 P **P** 15 09 41.7 -0.9
ARCES ARCESS Array B 72.80 340 P **P** 15 09 41.7 -0.9
comp=Z,1.7nm,0.9s,baz=1.9,slow=15,SNR=4.1
ARCES LR LR 15 44 54.2
comp=Z,404nm,20.4s,baz=108,slow=38
GERES GERESS Array B 75.89 318 P **P** 15 10 00.8 -0.2
GERES GERESS Array B 75.89 318 P **P** 15 10 00.8 -0.2
comp=Z,0.2nm,0.6s,baz=79,slow=2.9,SNR=3.8
GERES LR LR 15 48 37.8
comp=Z,104nm,18.7s,baz=218,slow=40
BOSA Boshof 77.03 237 P **P** 15 10 09.8 +1.9
BOSA Boshof 77.03 237 P **P** 15 10 09.8 +1.9
comp=Z,2.9nm,1.0s,baz=158,slow=5.4,SNR=3.0
NB2 NORSAR Subarra 77.45 330 P **P** 15 10 09.5 -0.1
comp=Z,12nm,1.4s,baz=91,slow=5.9
NOA NORSAR Array B 77.45 330 P **P** 15 10 08.9 -0.7
NOA NORSAR Array B 77.45 330 P **P** 15 10 08.9 -0.7
comp=Z,0.6nm,0.9s,baz=207,slow=18,SNR=2.4
NOA LR LR 15 50 09.0
comp=Z,148nm,18.3s,baz=100,slow=40
KEST Kesra 79.77 305 P **P** 15 10 21.7 -1.2
KEST Kesra 79.77 305 P **P** 15 10 21.7 -1.2
comp=Z,1.3nm,0.9s,baz=352,slow=3.1,SNR=2.9
KEST LR LR 15 49 15.2
comp=Z,44nm,18.2s,baz=239,slow=38
LPG La Plagne 80.79 315 *eP* **P** 15 10 28.8 +0.3
comp=Z,111nm,0.8s
LPL La Plagne 80.80 315 *eP* **P** 15 10 28.0 -0.4
comp=Z,13nm,1.0s
MBDF Montbardon 80.85 314 *eP* **P** 15 10 29.2 +0.6
comp=Z,26nm,1.4s
ORIF Oris-en-Rattie 81.46 314 *eP* **P** 15 10 32.6 +0.8
comp=Z,13nm,1.1s
VIVF Saint-Julien-l 82.32 314 *eP* **P** 15 10 37.0 +0.7
LOR Lormes 82.58 317 *eP* **P** 15 10 38.2 +0.7

	comp=Z,22nm,1.3s							
ESDC	**Sonseca Array**	**89.54**	**310**	P	**P**	**15 11 11.4**	**-0.8**	
ESDC	**Sonseca Array**	**89.54**	**310**	P	**P**	**15 11 11.4**	**-0.8**	
	comp=Z,0.1nm,0.5s,baz=69,slow=4.8,SNR=2.4							
TORD	**Torodi Ar. Bea**	**90.03**	**283**	P	**P**	**15 11 15.3**	**+0.5**	
TORD				PP	**PP**	**15 14 51.5**	**+3.6**	
TORD	**Torodi Ar. Bea**	**90.03**	**283**	P	**P**	**15 11 15.3**	**+0.5**	
	comp=Z,1.4nm,0.9s,baz=92,slow=3.3,SNR=5.7							
TORD				PP	**PP**	**15 14 51.5**	**+3.6**	
	comp=Z,1.6nm,1.1s,baz=56,slow=3.7,SNR=4.1							
URZ	**Urewera**	**90.96**	**129**	LR	LR	15 50 34.1		
	comp=Z,312nm,21.9s,baz=255,slow=34							
ILAR	**Eielson Array**	**92.29**	**22**	P	**P**	**15 11 21.8**	**-2.5**	
ILAR	**Eielson Array**	**92.29**	**22**	P	**P**	**15 11 21.8**	**-2.5**	
	comp=Z,0.5nm,0.9s,baz=300,slow=3.0,SNR=5.0							
KDAK	**Kodiak Island**	**93.13**	**30**	LR	LR	15 59 04.1		
	comp=Z,89nm,18.6s,baz=326,slow=39							
VNDA	**Vanda**	**95.50**	**168**	P	**P**	**15 11 40.2**	**+1.5**	
VNDA	**Vanda**	**95.50**	**168**	P	**P**	**15 11 40.2**	**+1.5**	
	comp=Z,0.5nm,0.6s,baz=309,slow=5.1,SNR=3.5							
NVAR	**Mina Array Bea**	**122.63**	**30**	PKP	**PKPdf**	**15 17 11.6**	**+0.8**	
NVAR	**Mina Array Bea**	**122.63**	**30**	PKP	**PKPdf**	**15 17 11.6**	**+0.8**	
	comp=Z,0.7nm,0.6s,baz=314,slow=2.5,SNR=10							
PDAR	**Pinedale Array**	**122.69**	**21**	PKP	**PKPdf**	**15 17 10.6**	**-0.2**	
PDAR	**Pinedale Array**	**122.69**	**21**	PKP	**PKPdf**	**15 17 10.6**	**-0.2**	
	comp=Z,0.4nm,0.7s,baz=288,slow=1.4,SNR=4.0							
TXAR	**Lajitas Array**	**136.79**	**23**	PKP	**PKPdf**	**15 17 38.9**	**+1.1**	
TXAR	**Lajitas Array**	**136.79**	**23**	PKP	**PKPdf**	**15 17 38.9**	**+1.1**	
	comp=Z,0.4nm,0.7s,baz=148,slow=2.1,SNR=6.0							
PLCA	**Paso Flores**	**147.03**	**202**	PKPbc	**PKPab**	**15 17 59.3**	**+0.3**	
PLCA	**Paso Flores**	**147.03**	**202**	PKPbc	**PKPab**	**15 17 59.3**	**+0.3**	
	comp=Z,4.1nm,0.9s,baz=264,slow=0.5,SNR=6.1							
CPUP	**Villa Florida**	**148.84**	**236**	PKPbc	**PKPbc**	**15 18 03.4**	**+0.7**	
CPUP	**Villa Florida**	**148.84**	**236**	PKPbc	**PKPbc**	**15 18 03.4**	**+0.7**	
	comp=Z,1.4nm,0.7s,baz=228,slow=2.8,SNR=4.4							
LPAZ	**La Paz**	**161.87**	**250**	PKP	**PKPdf**	**15 18 19.1**	**+1.8**	
LPAZ	**La Paz**	**161.87**	**250**	PKP	**PKPdf**	**15 18 19.1**	**+1.8**	
	comp=Z,0.7nm,0.9s,baz=160,slow=5.0,SNR=3.1							

GUC 26 14:58:32.7±0.7, 32°21S×71°61W, h8km±5km, MD3.6, ML2.6, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.92**	**146**	⇑*i*	P	14 58 49.7	-1.0
ROCH				*i*	S	14 59 02.4	-0.5
ROCH					AML	14 59 03.1	
	comp=N,228nm,0.3s						
JACH	**Jahuel**	**0.98**	**119**	⇑*i*	P	14 58 51.2	-0.6
JACH				*i*	S	14 59 05.4	0.0
CMCH	**Combarbala**	**1.16**	**27**	⇑*i*	P	14 58 53.8	-1.2
CMCH				*i*	S	14 59 09.7	-0.5
CMCH					AML	14 59 13.1	
	comp=E,687nm,0.9s						
PEL	**Peldehue**	**1.22**	**140**	⇓*i*	P	14 58 54.7	-1.4
PEL				*i*	S	14 59 11.2	-0.8
PEL					AML	14 59 13.0	
	comp=N,260nm,0.3s						
CLCH	**Cerro Calan**	**1.49**	**143**	⇑*i*	P	14 58 59.2	-0.7
CLCH				*i*	S	14 59 18.9	-0.8
CLCH					AML	14 59 24.9	
	comp=N,88nm,0.5s						
TACH	**Talagante**	**1.55**	**159**	⇑*i*	P	14 59 00.3	-0.3
PCH	**Pirque**	**1.69**	**147**	⇑*i*	P	14 59 02.1	-0.5
PCH				*i*	S	14 59 24.9	+0.5
LNV	**Longovilo**	**1.75**	**174**	⇓*i*	P	14 59 03.1	-0.2
LNV				*i*	S	14 59 26.0	+0.2
CHCH	**Chadas Angostu**	**1.90**	**155**	*i*	S	14 59 30.3	+0.6
LMEL	**Las Melosas**	**2.02**	**144**	*e*	P	14 59 06.7	-0.6
LMEL				*i*	S	14 59 33.6	+0.7
LMEL					AML	14 59 39.5	
	comp=N,120nm,0.1s						
CACH	**El Canelo**	**2.09**	**156**	*e*	P	14 59 09.5	+1.4
CACH				*i*	S	14 59 37.4	+0.2

BJI ***26*** *15:26:54.9, 10°.72N×94°.34E, h6km, mB5.3/36, mb4.7/51, Ms4.8/58, Ms7 4.5/52*

IDC ***26*** *15:26:56.0±0.4, 10°.76N×94°.23E, h0km, mb4.4/23, mb1 4.5/25, mb1mx4.4/30, mbtmp4.3/25, ML3.9/2, MS4.3/29, Ms1 4.3/29, ms1mx4.2/45, Error ellipse: s-maj=16.0km s-min=12.2km az=64.0*

NEIC ***26*** *15:26:57.5±0.3, 10°.76N×94°.29E, h10km, mb5.0/14, Error ellipse: s-maj=8.9km s-min=5.7km az=57.0*

ISCJB ***26*** *15:26:57.5±1.0, 10°.78N±0°.03×94°.28E±0°.03, h20km±7km, mb4.8/85, MS4.4/49, Error ellipse: s-maj=5.8km s-min=4.4km az=27.7*

MOS ***26*** *15:26:58.9±1.4, 10°.75N×94°.21E, h33km, mb5.2/30, MS4.4/8, Error ellipse: s-maj=10.6km s-min=5.4km az=106.5*

GCMT ***26*** *15:27:01.2±0.2, 10°.76N×94°.48E, h12km, MW5.0, Moment Tensor Solution. s47,c64; s78,c143; Moment tensor: Scale 10^16Nm; Mrr=4.42±.09; Mθθ3.94±.08; Mφφ0.48±.10; Mrθ1.57±.28; Mrφ1.35±.08; Mθφ0.03±.33; Best double couple: M=4.70000×10^16 NP1:φ=65.00000°, δ36.00000°, λ-99.00000°. NP2:φ=257.00000°, δ55.00000°, λ-83.00000°. Principal axes: T 4.6500, Plg9.0000°, Azm342.0000°; N 0.0600, Plg6.0000°, Azm73.0000°; P -4.7100, Plg79.0000°, Azm193.0000°; Data Used: II IU IC G CN.*

DJA ***26*** *15:27:03.1±0.9, 11°N±4°×9°5E±1°, h10km, M4.8/9, mB5.1/4, mb4.6/9, MLv5.0/2, Mw(mB)4.5/4*

BKK ***26*** *15:27:07.0±0.8, 11°N±3°×9°4E±°, h72km±8km, M4.6/15, mB5.1/10, mb4.6/15, MLv4.9/6, Mw(mB)4.4/10*

ISC 26 15:26:58.9±0.4, 10°.79N±0°.04×94°.22E±0°.04, h17km±1km, h16km:pP-P, n307, σ1$42/340, mb4.8/85, MS4.4/50, 13C-5D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.69**	**301**	*e*P	Pb	15 27 29.1	-0.3
PBA				*e*S	Sb	15 27 50.5	+0.1
DGPR	**DIGLIPUR**	**2.69**	**332**	*e*P	**Pn**	**15 27 41.9**	**+0.4**
DGPR				*e*S	**Sn**	**15 28 14.6**	**+0.9**
CMBY	**CAMPBELL BAY**	**3.76**	**184**	*e*P	**Pn**	**15 27 55.8**	**-0.4**
PKDT	**Phuket**	**4.98**	**125**	P	Pn	15 28 16.5	+3.6
BSI	**Banda Aceh**	**5.36**	**168**	P	Pn	15 28 22.6	+4.3
	178nm,1.1s,3μm0.6nm						
SKLT	**Songkhla**	**7.27**	**119**	P	**Pn**	**15 28 43.1**	**-1.4**
	42nm,1.0s,1.3nm						
SKLT	**Songkhla**	**7.27**	**119**	P	**Pn**	**15 28 46.3**	**+1.8**
	42nm,1.0s,594nm0.8nm						
CHBT	**CHBT**	**8.18**	**75**	P	**Pn**	**15 28 55.0**	**-1.9**
	79nm,1.4s						
CHBT	**CHBT**	**8.18**	**75**	P	Pn	15 29 00.9	+4.0
	79nm,1.4s						
KULM	**Kulim**	**8.39**	**130**	*e*P	Pn	15 28 55.9	-3.9
	19nm,0.8s						
KULM	**Kulim**	**8.39**	**130**	P	**Pn**	**15 29 02.5**	**+2.7**
	33nm,0.8s,820nm						
PBKT	**Sadao Pong**	**8.72**	**48**	P	**Pn**	**15 29 03.9**	**-0.4**
	66nm,1.0s,1μm						
PBKT	**Sadao Pong**	**8.72**	**48**	P	**Pn**	**15 29 04.0**	**-0.4**
	66nm,1.0s,1μm0.3nm						
CMAR	**Chiang Mai Arr**	**8.89**	**30**	Pn	**Pn**	**15 29 07.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**8.89**	**30**	Pn	**Pn**	**15 29 07.7**	**+0.9**
	0.4nm,0.3s,baz=218,slow=15,SNR=30						
CMAR				LR	LR	15 32 43.2	
	comp=Z,1μm,18.3s,baz=318,slow=39						
CHTO	**Chiang Mai**	**9.19**	**29**	P	**Pn**	**15 29 12.9**	**+2.0**
	30nm,1.1s						
CHTO	**Chiang Mai**	**9.19**	**29**	P	Pn	15 29 16.8	+5.9
	26nm,1.2s						
CMMT	**Chiang Mai**	**9.20**	**29**	P	**Pn**	**15 29 13.6**	**+2.7**
	27nm,1.1s						
CMMT	**Chiang Mai**	**9.20**	**29**	P	Pn	15 29 16.6	+5.7
	27nm,1.1s,789nm						
IPM	**Ipoh**	**9.21**	**132**	*e*P	Pn	15 29 06.4	-4.6
	17nm,0.7s						
IPM	**Ipoh**	**9.21**	**132**	P	**Pn**	**15 29 12.1**	**+1.0**
	27nm,1.1s						
PSI	**Prapat**	**9.21**	**149**	Pn	**Pn**	**15 29 10.4**	**-0.7**
PSI	**Prapat**	**9.21**	**149**	Pn	**Pn**	**15 29 10.4**	**-0.7**
	0.8nm,0.3s,baz=326,slow=14,SNR=3.3						
PSI				LR	LR	15 33 22.7	
	comp=Z,4μm,18.6s,baz=307,slow=42						
SKNT	**Sakolnakorn**	**11.30**	**56**	P	**Pn**	**15 29 41.4**	**+1.7**
	66nm,1.5s						
UBPT	**Khong Chiam**	**11.84**	**67**	P	**Pn**	**15 29 50.1**	**+3.0**
UBPT	**Khong Chiam**	**11.84**	**67**	P	**Pn**	**15 29 50.1**	**+3.0**
	61nm,1.3s,1μm						
VIS	**Vishakhapatnam**	**12.60**	**304**	*i* P	**Pn**	**15 29 57.7**	**+0.2**
VIS				AMB	AMB	15 30 23.3	
	comp=Z,82nm,0.3s						
VIS				*i* x	x	15 32 11.1	
SHL	**Shillong**	**14.87**	**352**	*e*P	**Pn**	**15 30 27.1**	**-1.5**
SHL				AMB	AMB	15 30 34.1	
	comp=Z,52nm,0.9s						
SHL				*ex*	x	15 34 40.0	
BOK	**Bokaro**	**15.18**	**330**	*e*P	**Pn**	**15 30 33.7**	**+1.1**
BOK				AMB	AMB	15 30 46.9	
	comp=Z,69nm,2.6s						
MASI	**Maura Aman, Be**	**15.97**	**150**	P	P	15 30 52.9	+6.3
KMI	**Kunming**	**16.39**	**28**	P	**Pn**	**15 30 47.0**	**-1.5**
KMI				pP	**pP**	**15 30 54.0**	**-2.0**
KMI				sP	**sP**	**15 30 57.8**	**-0.4**
KMI				PP	**PnPn**	**15 31 00.0**	**+2.2**
KMI				pmax	pmax		
	comp=Z,10.0nm,2.0s						
KMI				pmax	pmax		
	comp=Z,75nm,4.7s						
KMI				LR	LR		
	comp=N,2μm,11.5s						
KMI				LR	LR		
	comp=E,2μm,10.1s						
KMI				LR	LR		
	comp=Z,1μm,10.6s						
HYB	**Hyderabad**	**16.55**	**295**	*i* P	**P**	**15 30 55.0**	**+2.0**
HYB				*e*S	**Sn**	**15 33 51.0**	**-3.1**
HYB	**Hyderabad**	**16.55**	**295**	*ex*	Sn	15 33 42.5	-12
HYB				AMB	AMB	15 34 16.8	
	comp=Z,43nm,1.9s						
QIZ	**Qiongzhong**	**17.17**	**60**	P	**Pn**	**15 30 56.0**	**-2.2**
QIZ				S	Sn	15 34 01.0	-7.9
QIZ				LR	LR		
	comp=N,2μm,8.9s						
QIZ				LR	LR		
	comp=E,1μm,10.6s						
QIZ				LR	LR		
	comp=Z,3μm,9.7s						
QIZ	**Qiongzhong**	**17.17**	**60**	*e*P	**Pn**	**15 30 57.2**	**-1.0**
	comp=Z,152nm,1.7s						
JBP	**Jabalpur**	**18.33**	**314**	⇑*i*P	**P**	**15 31 12.3**	**-0.2**
JBP				*ex*	x	15 34 47.0	
KSM	**Kuching**	**18.47**	**119**	P	**Pn**	**15 31 14.5**	**+0.3**
	comp=Z,71nm,1.5s						
LSA	**Lhasa**	**19.04**	**352**	P	**P**	**15 31 20.8**	**+0.1**
LSA				pmax	pmax		
	comp=Z,7μm,7.6s						
LSA				LR	LR		
	comp=E,1μm,26.1s						
LSA				LR	LR		
	comp=Z,1μm,26.2s						
LSA	**Lhasa**	**19.04**	**352**	*e*P	**P**	**15 31 21.0**	**+0.3**
LSA				pmax	pmax		
	comp=Z,290nm,1.9s						
LSA	**Lhasa**	**19.04**	**352**	*e*P	**P**	**15 31 21.0**	**+0.3**
	comp=Z,290nm,1.9s						
LSA				*e*		15 31 28.0	
GYA	**Guiyang**	**19.52**	**35**	P	**P**	**15 31 23.0**	**-2.7**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,4.8s						
GYA				LR	LR		
	comp=N,3μm,14.9s						
GYA				LR	LR		
	comp=E,1μm,16.2s						
GYA				LR	LR		
	comp=Z,3μm,15.7s						
SBUM	**Sibu**	**19.69**	**114**	P	**P**	**15 31 28.2**	**+0.6**
BHPL	**Bhopal**	**20.25**	**310**	*ex*	**P**	**15 31 37.6**	**+3.9**
BHPL				AMB	AMB	15 31 47.4	
	comp=Z,71nm,1.0s						
POO	**Poona**	**21.14**	**294**	*e*P	**P**	**15 31 41.0**	**-2.3**
POO				*e*P	**P**	**15 31 41.0**	**-2.3**
POO				AMB	AMB	15 31 51.0	
	comp=Z,44nm,2.1s						
CD2	**Chengdu**	**21.89**	**22**	P	**P**	**15 31 51.5**	**+0.2**
CD2				pP	**pP**	**15 31 55.5**	**-0.6**
CD2				sP	**sP**	**15 31 58.5**	**+0.3**
CD2				PP	**PnPn**	**15 32 16.5**	**+3.5**
CD2				S	**S**	**15 35 48.3**	**-4.5**
CD2				sS	sS	15 35 54.5	-5.9
CD2				SS	**SnSn**	**15 36 26.3**	**+7.7**
CD2				pmax	pmax		
	comp=Z,70nm,1.6s						
CD2				pmax	pmax		
	comp=Z,1μm,5.8s						
CD2				LR	LR		
	comp=E,1μm,14.2s						
CD2				LR	LR		
	comp=Z,2μm,11.8s						
KKM	**Kota Kinabalu**	**22.26**	**100**	*e*P	P	15 32 01.6	+6.2
	comp=Z,88nm,1.2s						
NDI	**New Delhi**	**23.88**	**321**	*e*P	**P**	**15 32 10.5**	**-1.3**
ENH	**Enshi**	**24.04**	**34**	*e*P	**P**	**15 32 11.9**	**-1.3**
	comp=Z,63nm,0.9s						
DDI	**Dehra Dun**	**24.57**	**325**	*e*P	**P**	**15 32 18.8**	**+0.5**
DDI				AMB	AMB	15 32 27.0	
	comp=Z,398nm,2.1s						
SMLA	**Simla**	**25.68**	**325**	*ex*	**P**	**15 32 32.0**	**+3.9**
LZH	**Lanzhou**	**26.66**	**18**	⇑P	**P**	**15 32 38.0**	**+0.9**
LZH				pP	**pP**	**15 32 41.0**	**-1.2**
LZH				sP	**sP**	**15 32 42.8**	**-1.5**
LZH				PP	**PnPn**	**15 33 18.3**	**+0.2**
LZH				S	S	15 37 04.0	-7.8
LZH				pmax	pmax		
	comp=Z,120nm,1.4s						
LZH				pmax	pmax		
	comp=Z,430nm,6.0s						
LZH				LR	LR		
	comp=N,2μm,15.0s						
LZH				LR	LR		
	comp=E,820nm,15.3s						
LZH				LR	LR		
	comp=Z,3μm,16.0s						
XAN	**Xi'an**	**26.77**	**28**	P	**P**	**15 32 36.0**	**-2.1**
XAN				pP	**pP**	**15 32 45.5**	**+2.3**
XAN				sP	**sP**	**15 32 50.5**	**+5.3**
XAN				S	**S**	**15 37 15.8**	**+2.3**
XAN				LR	LR		
	comp=N,600nm,14.1s						
XAN				LR	LR		
	comp=E,400nm,16.6s						
XAN				LR	LR		
	comp=Z,310nm,15.7s						
DHRM	**DHARAMSHALA**	**27.01**	**325**	*e*P	**P**	**15 32 41.6**	**+1.1**
DHRM				AMB	AMB	15 33 12.5	
	comp=Z,29nm,0.7s						
QZH	**Quanzhou**	**27.07**	**55**	*e*P	**P**	**15 32 41.5**	**+0.7**
QZH				S	**S**	**15 37 13.5**	**-4.7**
QZH				LR	LR		
	comp=N,1μm,6.9s						
QZH				LR	LR		
	comp=E,940nm,10.2s						
QZH				LR	LR		
	comp=Z,1μm,9.9s						
WHN	**Wuhan**	**27.14**	**41**	⇑P	**P**	**15 32 43.5**	**+2.2**
WHN				S	**S**	**15 37 24.0**	**+4.8**
WHN				LR	LR		
	comp=N,3μm,16.6s						
WHN				LR	LR		
	comp=E,930nm,10.8s						
WHN				LR	LR		
	comp=Z,2μm,11.8s						
GTA	**Gaotai**	**28.94**	**9**	⇑P	**P**	**15 32 58.8**	**+1.3**
GTA				pP	**pP**	**15 33 03.3**	**+0.7**
GTA				sP	**sP**	**15 33 05.8**	**+1.1**
GTA				S	**S**	**15 37 48.8**	**+1.2**
GTA				sS	**sS**	**15 37 55.0**	**-1.0**
GTA				SS	**SnSn**	**15 39 16.0**	**+5.3**
GTA				pmax	pmax		
	comp=Z,15nm,2.2s						
GTA				pmax	pmax		
	comp=Z,300nm,4.8s						
GTA				LR	LR		
	comp=N,690nm,18.3s						
GTA				LR	LR		
	comp=E,400nm,17.3s						
GTA				LR	LR		
	comp=Z,880nm,19.5s						
KAPI	**Kappang**	**29.88**	**120**	LR	LR	15 45 15.7	
	comp=Z,709nm,18.3s,baz=288,slow=37						
NJ2	**Nanjing**	**31.06**	**43**	*e*P	**P**	**15 33 15.3**	**-0.9**
NJ2				S	S	15 38 15.0	-5.8
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
NJ2				LR	LR		
	comp=N,560nm,9.2s						
NJ2				LR	LR		
	comp=E,1μm,11.0s						
NJ2				LR	LR		
	comp=Z,1μm,12.2s						
DAV	**Davao City (W)**	**31.19**	**94**	LR	LR	15 46 47.4	
	comp=Z,377nm,20.1s,baz=242,slow=38						
BTO	**Baotou**	**32.82**	**22**	*e*P	**P**	**15 33 30.3**	**-1.4**
KBL	**Kabul**	**32.97**	**320**	*e*P	**P**	**15 33 31.6**	**-1.6**
KBL				*e*		15 33 40.1	
KBL				pmax	pmax		
	comp=Z,15nm,1.1s						
KBL	**Kabul**	**32.97**	**320**	*e*P	**P**	**15 33 31.6**	**-1.6**
	comp=Z,15nm,1.1s						
KBL				*e*		15 33 40.1	
WMQ	**Urumqi**	**33.40**	**351**	P	**P**	**15 33 38.0**	**+1.4**
WMQ				pP	**pP**	**15 33 42.5**	**+0.8**
WMQ				sP	**sP**	**15 33 45.0**	**+1.2**
WMQ				PP	**PnPn**	**15 34 46.0**	**-1.6**
WMQ				S	S	15 38 51.0	-6.1
WMQ				ScS	**ScS**	**15 44 05.5**	**+2.7**
WMQ				pmax	pmax		
	comp=Z,56nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,200nm,4.2s						
WMQ				LR	LR		
	comp=N,350nm,15.0s						
WMQ				LR	LR		
	comp=E,400nm,13.5s						
WMQ				LR	LR		
	comp=Z,610nm,27.6s						
HHC	**Hu-ho-hao-te**	**33.63**	**24**	*e*P	**P**	**15 33 36.5**	**-2.3**
HHC				PcP	**PcP**	**15 36 21.8**	**+3.0**
HHC				S	S	15 38 51.5	-9.4
HHC				ScP	**ScP**	**15 40 04.0**	**+1.1**
HHC				PcS	**PcS**	**15 40 06.3**	**+1.6**
HHC				ScS	**ScS**	**15 44 03.3**	**-0.9**
HHC				pmax	pmax		
	comp=Z,24nm,0.7s						
HHC				pmax	pmax		
	comp=Z,290nm,6.4s						
HHC				LR	LR		
	comp=N,1μm,13.2s						
HHC				LR	LR		
	comp=E,1μm,12.3s						
HHC				LR	LR		
	comp=Z,900nm,12.8s						
BJI	**Beijing**	**35.04**	**30**	P	**P**	**15 33 49.0**	**-1.8**
BJI				S	**S**	**15 39 21.3**	**-1.1**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BJI				pmax	pmax		
	comp=Z,260nm,7.1s						
BJI				LR	LR		
	comp=N,730nm,15.0s						
BJI				LR	LR		
	comp=E,340nm,12.1s						
BJI				LR	LR		
	comp=Z,310nm,20.6s						
TKM2	**Tokmak 2**	**35.89**	**336**	P	**P**	**15 33 59.3**	**+0.9**
	SNR=6.1						
KBK	**Karagaybulak**	**35.93**	**335**	P	**P**	**15 34 00.2**	**+1.5**
	SNR=6.7						
AML	**Almayashu**	**36.02**	**334**	P	**P**	**15 34 00.8**	**+1.0**
	SNR=13						
AAK	**Ala-Archa**	**36.09**	**335**	*e*P	**P**	**15 34 00.4**	**+0.3**
AAK				pmax	pmax		
	comp=Z,14nm,0.8s						
AAK	**Ala-Archa**	**36.09**	**335**	*e*P	**P**	**15 34 00.4**	**+0.3**
	comp=Z,14nm,0.8s						
FRU	**Bishkek**	**36.21**	**335**	*e*P	**P**	**15 34 00.0**	**-0.9**
FRU				*e*		15 35 29.0	
FRU				pmax	pmax		
	comp=Z,150nm,2.4s						
FRU				MLR	MLR		
	comp=Z,1μm,23.0s						
CHMS	**Chumysh**	**36.29**	**336**	P	**P**	**15 33 59.1**	**-2.5**
	SNR=5.2						
EKS2	**Erkin-Say**	**36.42**	**334**	P	**P**	**15 34 03.9**	**+1.0**
	SNR=9.1						
USP	**Ospenovka**	**36.62**	**336**	P	**P**	**15 34 05.1**	**+0.7**
	SNR=7.9						
DL2	**Dalian**	**37.17**	**36**	⇑P	**P**	**15 34 10.0**	**+0.9**
DL2				S	**S**	**15 39 54.5**	**-0.6**
DL2				pmax	pmax		
	comp=Z,50nm,1.2s						
DL2				pmax	pmax		
	comp=Z,290nm,2.8s						
DL2				LR	LR		
	comp=N,450nm,13.8s						
DL2				LR	LR		
	comp=Z,380nm,10.8s						
MK31	**Makanchi Array**	**37.29**	**346**	*ce*P	**P**	**15 34 09.8**	**-0.2**
MK31				pmax	pmax		
	comp=Z,23nm,0.7s						
MK31	**Makanchi Array**	**37.29**	**346**	*e*P	**P**	**15 34 10.3**	**+0.2**
MK31				*e*	**pP**	**15 34 16.8**	**+1.6**
MKAR	**Makanchi Array**	**37.29**	**346**	*e*P	**P**	**15 34 08.0**	**-2.0**
MKAR	**Makanchi Array**	**37.29**	**346**	*e*P	**P**	**15 34 08.0**	**-2.0**
MKAR	**Makanchi Array**	**37.29**	**346**	P	**P**	**15 34 10.4**	**+0.4**
	comp=Z,9.3nm,0.8s,baz=167,slow=8.2,SNR=75						
MKAR				LR	LR	15 53 38.3	
	comp=Z,423nm,19.3s,baz=163,slow=43						
KK31	**Karatay Array**	**38.23**	**332**	*ce*P	**P**	**15 34 17.7**	**-0.4**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KKAR	**Karatay Array**	**38.23**	**332**	*e*P	**P**	**15 34 16.3**	**-1.8**
KKAR	**Karatay Array**	**38.23**	**332**	*e*P	**P**	**15 34 16.3**	**-1.8**
SONM	**Songino Array**	**38.33**	**13**	P	**P**	**15 34 19.5**	**+0.5**
SONM				PcP	**PcP**	**15 36 31.9**	**-0.7**
SONM	**Songino Array**	**38.33**	**13**	P	**P**	**15 34 19.5**	**+0.5**
	comp=Z,2.9nm,0.9s,baz=196,slow=8.1,SNR=16						
SONM				PcP	**PcP**	**15 36 31.9**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=185,slow=5.8,SNR=3.1						
SONM				LR	LR	15 51 44.7	
	comp=Z,1μm,18.9s,baz=194,slow=39						
ULN	**Ulaanbaatar**	**38.51**	**14**	*e*P	**P**	**15 34 17.9**	**-2.6**
	comp=Z,105nm,2.1s						
ZAK	**Zakamensk**	**40.18**	**9**	⇑*i*P	**P**	**15 34 35.1**	**+0.8**
ZAK				*e*		15 36 38.7	
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.8s						
SNY	**Shenyang**	**40.22**	**35**	⇓P	**P**	**15 34 36.0**	**+1.3**
SNY				pmax	pmax		
	comp=Z,23nm,1.5s						
SNY				LR	LR		
	comp=N,240nm,9.6s						
SNY				LR	LR		
	comp=E,450nm,12.9s						
SNY				LR	LR		
	comp=Z,470nm,13.9s						
KSAR	**Wonju Array Be**	**40.23**	**43**	P	**P**	**15 34 34.2**	**-0.6**
HVS	**Khovu-Aksy**	**40.23**	**359**	*d*P	**P**	**15 34 35.6**	**+0.8**
HVS				pmax	pmax		
	comp=Z,399nm,2.5s						
KSRS	**Korea Array**	**40.26**	**43**	P	**P**	**15 34 34.2**	**-0.9**
	comp=Z,3.7nm,1.0s,baz=252,slow=9.2,SNR=11						
KSRS				LR	LR	15 53 25.4	
	comp=Z,248nm,18.6s,baz=238,slow=40						
KURK	**Kurchatov**	**41.83**	**345**	P	**P**	**15 34 46.8**	**-1.0**
KURK				pmax	pmax		
	comp=Z,37nm,1.0s						
IRK	**Irkutsk**	**42.14**	**9**	*e*P	**P**	**15 34 51.6**	**+1.3**
IRK				*e*		15 36 33.9	
IRK				pmax	pmax		
	comp=Z,25nm,2.0s						
CN2	**Changchun**	**42.56**	**34**	*e*P	**P**	**15 34 53.

comp=Z,14nm,0.8s,baz=174,slow=8.6,SNR=56
ZALV LR LR 15 56 51.2
comp=Z,147nm,18.7s,baz=70,slow=41
HIA Hailar 43.84 24 *e*P **P 15 35 03.7 -0.5**
NVS Novosibirsk 44.80 351 *e*P **P 15 35 10.3 -1.4**
NVS *e*S **S 15 41 45.7 -2.4**
NVS pmax pmax
comp=Z,110nm,2.3s
NVS pmax pmax
comp=N,38nm,1.9s
NVS smax smax
comp=E,14nm,1.8s
KRAR Krasnoyarsk 45.13 359 *e*P **P 15 35 13.0 -1.3**
KRAR pmax pmax
comp=Z,16nm,1.2s
MDJ Mudanjiang 45.38 36 P **P 15 35 18.0 +1.4**
MDJ pP **pP 15 35 20.5 -1.3**
MDJ sP **sP 15 35 23.5 -0.3**
MDJ PcP **PcP 15 36 56.3 +0.5**
MDJ PP **PP 15 37 03.5 +0.7**
MDJ S **S 15 41 58.5 +1.5**
MDJ pmax pmax
comp=Z,12nm,2.3s
MDJ pmax pmax
comp=Z,100nm,4.7s
MDJ LR LR
comp=N,400nm,12.1s
MDJ LR LR
comp=E,100nm,11.1s
MDJ LR LR
comp=Z,470nm,12.7s
VLA Vladivostok 45.88 39*c i*P **P 15 35 21.2 +0.7**
VLA pmax pmax
comp=Z,31nm,1.7s
BVA0 Borovoye Array 46.28 340 *i* P **P 15 35 23.4 -0.1**
BVA0 pmax pmax
comp=Z,31nm,1.3s
BVAR Borovoye Array 46.28 340 P **P 15 35 23.9 +0.4**
BVAR Borovoye Array 46.28 340 P **P 15 35 23.9 +0.4**
BVAR Borovoye Array 46.28 340 P **P 15 35 23.9 +0.4**
comp=Z,3.8nm,0.8s,baz=147,slow=8.3,SNR=22
BVAR LR LR 15 58 11.3
comp=Z,242nm,20.3s,baz=356,slow=40
BRVK Borovoye 46.34 340 *e*P **P 15 35 23.9 -0.1**
BRVK *e* 15 35 30.0
BRVK pmax pmax
comp=Z,12nm,0.9s
BRVK Borovoye 46.34 340 *e*P **P 15 35 23.9 -0.1**
comp=Z,12nm,0.9s
BRVK *e* **pP 15 35 30.0 +0.7**
USRK Ussuriysk Arra 46.54 37 P **P 15 35 25.4 -0.3**
comp=Z,3.5nm,0.8s,baz=231,slow=8.0,SNR=9.8
USRK PP **PP 15 37 19.9 +4.7**
comp=Z,2.3nm,1.1s,baz=234,slow=6.4,SNR=5.7
USRK LR LR 15 55 07.6
comp=Z,198nm,21.6s,baz=21,slow=36
UMR Umm Al-Rimmam 47.11 300 *e*P **P 15 35 30.4 0.0**
UMR AMb AMB 15 35 32.3
comp=Z,17nm,0.8s
RDF Al-Radifah 47.12 300 *e*P **P 15 35 30.6 +0.2**
RDF AMb AMB 15 35 31.9
comp=Z,24nm,1.3s
MAJO Matsushiro 47.19 50 *e*P **P 15 35 31.3 +0.3**
MAJO pmax pmax
comp=Z,59nm,1.6s
MAJO Matsushiro 47.19 50 *e*P **P 15 35 31.2 +0.3**
comp=Z,59nm,1.6s
MAT Matsushiro 47.19 50 P **P 15 35 30.2 -0.7**
MAT *e*S **S 15 42 22.2 -1.0**
MJAR Matsushiro Arr 47.19 50 P **P 15 35 31.2 +0.3**
MJAR PcP **PcP 15 37 02.1 -0.3**
MJAR Matsushiro Arr 47.19 50 P **P 15 35 31.2 +0.3**
comp=Z,1.4nm,0.8s,baz=240,slow=9.9,SNR=8.3
MJAR PcP **PcP 15 37 02.1 -0.3**
comp=Z,7.2nm,1.1s,baz=245,slow=3.9,SNR=12
MJAR LR LR 15 58 30.3
comp=Z,192nm,20.0s,baz=255,slow=40
NAY Al-Naaiem 47.45 300 *e*P **P 15 35 32.4 -0.6**
NAY AMb AMB 15 35 40.3
comp=Z,17nm,0.7s
AB31 Akbulak array 47.74 330 P **P 15 35 32.9 -2.1**
AB31 pmax pmax
comp=Z,9.0nm,0.7s
ABKAR Akbulak array 47.74 330 *e*P **P 15 35 35.5 +0.5**
RAYN Ar Rayn 48.02 292 P **P 15 35 38.9 +1.3**
comp=Z,148nm,1.0s,SNR=10
NWAO Narrogin (SRO) 48.70 154 P **P 15 35 42.6 0.0**
NWAO Narrogin (SRO) 48.70 154 P **P 15 35 42.6 0.0**
comp=Z,12nm,1.0s,baz=341,slow=11,SNR=3.3
KLR Kul'dur 49.37 32 *e*P P 15 35 43.7 -3.8
KLR pmax pmax
comp=E,48nm,2.2s
KLR pmax pmax
comp=Z,100nm,2.2s
AKTO Aktyubinsk 49.46 330 P **P 15 35 48.0 -0.2**
AKTO pmax pmax
comp=Z,12nm,0.9s
AKTO Aktyubinsk 49.46 330 LR LR 16 02 17.6
comp=Z,311nm,19.6s,baz=89,slow=43
WRA Warramunga Arr 49.92 128 P **P 15 35 51.1 -1.1**
WRA Warramunga Arr 49.92 128 P **P 15 35 51.1 -1.1**
comp=Z,9.9nm,0.9s,baz=305,slow=8.5,SNR=26
WRA LR LR 16 00 40.7
comp=Z,251nm,21.0s,baz=235,slow=41
WRAB Tennant Creek 49.93 128 P **P 15 35 51.0 -1.2**
comp=Z,166nm,0.7s,SNR=13
WRAB Tennant Creek 49.93 128 *e*P **P 15 35 50.8 -1.4**
WRAB *e* 15 35 57.0
WRAB pmax pmax
comp=Z,19nm,0.8s
WRAB Tennant Creek 49.93 128 *e*P **P 15 35 50.8 -1.4**
comp=Z,19nm,0.8s
WRAB *e* **pP 15 35 57.0 -0.4**
CLNS Chul'man 51.70 21 *e*P **P 15 36 05.3 +0.3**
CLNS pmax pmax
comp=Z,21nm,0.9s
CLNS pmax pmax
comp=E,13nm,1.1s
CLNS pmax pmax
comp=N,16nm,1.3s
AS31 Alice Springs 51.75 132 *e*P **P 15 36 04.2 -1.7**
AS31 *e* **pP 15 36 10.7 -0.5**
ASAR Alice Springs 51.75 132 P **P 15 36 04.5 -1.4**
ASAR Alice Springs 51.75 132 P **P 15 36 04.5 -1.4**
comp=N,13nm,0.9s,baz=307,slow=6.5,SNR=81
ASAR LR LR 16 01 28.1
comp=N,373nm,19.6s,baz=293,slow=40
GNI Garni 52.50 313 *e*P **P 15 36 11.7 +0.3**
comp=N,48nm,1.0s
GNI Garni 52.50 313 LR LR 16 01 58.9
comp=N,397nm,21.2s,baz=264,slow=40
DGRG David-gareji 52.50 314 P **P 15 36 13.5 +2.2**
SVE Sverdlovsk 52.75 338‖ *e*P **P 15 36 13.3 +0.5**
SVE pmax pmax
comp=Z,22nm,1.0s
TBLG Delisi 53.05 315 *e*P **P 15 36 16.9 +1.6**
TBLG Delisi 53.05 315 P **P 15 36 16.9 +1.6**
ASAJ Asahikawa 53.20 42 *e*P **P 15 36 14.2 -2.1**
ASAJ Asahikawa 53.20 42 LR LR 15 59 23.7
comp=Z,239nm,20.2s,baz=232,slow=37
AKH Akhalkalaki 53.81 314 P **P 15 36 23.0 +1.9**
ZEI Tsey 54.01 316 *e*P **P 15 36 24.0 +1.5**
ZEI pmax pmax
comp=Z,9.0nm,1.0s
ONI Oni 54.25 315 P P 15 36 28.3 +4.1
YSS Yuzh-Sakhalins 54.47 39‖ *e*P **P 15 36 26.6 +1.1**
YSS *i* 15 36 32.5
OPO Ambohidratompo 54.80 238 P **P 15 36 29.7 +1.2**
OPO Ambohidratompo 54.80 238 P **P 15 36 29.7 +1.2**
comp=Z,4.1nm,0.8s,baz=95,slow=10,SNR=2.7
KBZ Khabaz 55.02 316 P **P 15 36 30.2 +0.5**
KBZ Khabaz 55.02 316 P **P 15 36 30.1 +0.5**
KBZ Khabaz 55.02 316 P **P 15 36 30.1 +0.5**
comp=Z,4.1nm,1.0s,baz=97,slow=3.1,SNR=8.4
KBZ LR LR 16 03 26.0
comp=Z,315nm,21.5s,baz=248,slow=40
CHVG Ch'k'valeri 55.24 315 P **P 15 36 33.7 +2.4**
KIV Kislovodsk 55.25 317 *e*P **P 15 36 31.5 +0.1**
KIV pmax pmax
comp=Z,22nm,1.0s
KIV MLR MLR
comp=Z,118nm,16.0s
YUK Yuzh-Kuril'sk 55.35 43*d i*P P 15 36 35.3 +3.3
YUK *i* 15 38 33.0
YUK *e*PPP PPP 15 39 58.9
YUK S **S 15 44 12.1 -3.5**
YUK SS **SS 15 48 03.7 +3.5**
YUK MLR MLR
comp=N,178nm,21.0s
YUK MLR MLR
comp=Z,242nm,21.0s
SOKR Solikamsk 56.15 338 *e*P **P 15 36 38.8 +1.4**
SOKR pmax pmax
comp=Z,10.0nm,1.3s
SOKR MLR MLR
comp=Z,680nm,24.0s
SOC Sochi 57.16 315 *i* P **P 15 36 45.6 +0.7**
SOC MLR MLR
comp=Z,221nm,16.0s
YAK Yakutsk 57.23 19 *i* P **P 15 36 44.0 -1.1**
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK MLR MLR
comp=E,382nm,18.0s
YAK MLR MLR
comp=Z,535nm,17.0s
YAK MLR MLR
comp=N,248nm,16.0s
KMBO Kilima Mbogo 57.87 262 LR LR 16 00 28.6
comp=N,99nm,18.7s,baz=95,slow=35
VORD Divnogorie 59.93 323 *e*P **P 15 37 02.3 -1.8**
VORD *e**PP **pP 15 37 08.3 -1.1**
VORD pmax pmax
comp=Z,10.0nm,1.1s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.9s
VSR Storozhevoye 60.09 324 *e*P **P 15 37 03.3 -1.9**
VSR *e**PP **pP 15 37 09.9 -0.7**
VSR pmax pmax
comp=Z,8.0nm,1.4s
VSR pmax pmax
comp=N,6.0nm,0.6s
VSR pmax pmax
comp=E,4.0nm,0.6s
BRTR Keskin Array B 60.62 310 P **P 15 37 08.2 -1.0**
BRTR Keskin Array B 60.62 310 P **P 15 37 08.2 -1.0**
comp=E,4.3nm,1.0s,baz=123,slow=6.1,SNR=16
BRTR LR LR 16 06 57.1
comp=E,153nm,21.7s,baz=100,slow=40
STKA Stephens Creek 62.07 135 P **P 15 37 18.2 -0.7**
STKA Stephens Creek 62.07 135 P **P 15 37 18.2 -0.7**
comp=E,9.6nm,1.0s,baz=303,slow=11,SNR=7.4
STKA LR LR 16 03 39.8
comp=E,434nm,21.4s,baz=291,slow=36
MOS Moscow 62.66 328 *e*P **P 15 37 20.6 -1.9**
OBN Obninsk 62.98 327‖ *e*P **P 15 37 25.4 +0.8**
OBN *e* 15 39 39.7
OBN *i* S **S 15 45 54.4 +0.3**
OBN pmax pmax
comp=Z,9.0nm,1.2s
OBN MLR MLR
comp=Z,500nm,19.0s
TIXI Tiksi 64.38 12 *e*P **P 15 37 31.5 -2.1**
TIXI pmax pmax
comp=Z,46nm,2.5s
PETK Petropavlovsk- 65.62 36 LR LR 16 10 53.7
comp=Z,138nm,18.2s,baz=360,slow=40
APA Apatity 69.17 339‖ *i*P P 15 38 11.0 +6.8
APA MLR MLR
comp=Z,900nm,18.0s
FINES FINESS Array B 70.19 332 P **P 15 38 09.8 -0.9**
FINES FINESS Array B 70.19 332 P **P 15 38 09.8 -0.9**
comp=Z,1.9nm,0.7s,baz=94,slow=5.7,SNR=8.3
FINES LR LR 16 15 41.3
comp=Z,371nm,18.3s,baz=108,slow=42
STHS Stebnicka Huta 70.81 319 *e*P **P 15 38 14.3 -0.4**
STHS pmax pmax
comp=Z,1.0nm,0.7s
STHS Stebnicka Huta 70.81 319 *e*P **P 15 38 14.3 -0.4**
KECS Kecovo 71.22 318 *e*P **P 15 38 17.3 +0.1**
KECS pmax pmax
comp=Z,4.0nm,1.5s
KECS Kecovo 71.22 318 *e*P **P 15 38 17.3 +0.1**
OJC Ojcow 71.82 319 *e*P **P 15 38 22.2 +1.4**
OJC pmax pmax
comp=Z,23nm,1.5s
OJC Ojcow 71.82 319 *e*P **P 15 38 22.1 +1.4**
comp=Z,23nm,1.5s
KEV Kevo 72.13 340 *e*p **P 15 38 22.5 +0.3**
comp=Z,8.4nm,0.7s
KEV Kevo 72.13 340 *e*P **P 15 38 22.5 +0.3**
KEV pmax pmax
comp=Z,8.0nm,0.7s
ARCES ARCESS Array B 72.57 340 P **P 15 38 24.2 -0.7**
ARCES ARCESS Array B 72.57 340 P **P 15 38 24.2 -0.7**
comp=Z,7.4nm,0.8s,baz=78,slow=7.0,SNR=13
ARCES LR LR 16 13 46.0
comp=Z,581nm,19.5s,baz=105,slow=39
DPC Dobruska-Polom 74.05 319 *e*P **P 15 38 36.0 +2.0**
DPC *e* 15 38 54.9
DPC Dobruska-Polom 74.05 319 *e*P **P 15 38 36.0 +2.0**
DPC *ex* x 15 38 54.9
TREC Trest 74.56 318 AMS AMS 16 13 40.0
comp=Z,200nm,23.9s
GERES GERESS Array B 75.73 318 P **P 15 38 43.4 -0.5**
GERES GERESS Array B 75.73 318 P **P 15 38 43.4 -0.5**
comp=Z,0.9nm,0.7s,baz=90,slow=5.3,SNR=11
GERES LR LR 16 17 31.1
comp=Z,146nm,19.7s,baz=95,slow=40
KHC Kasperske Hory 75.81 318 *e*P **P 15 38 44.9 +0.7**
KHC Kasperske Hory 75.81 318 *e*P **P 15 38 44.9 +0.7**
KHC *ex* x 15 39 04.4
BOSA Boshof 77.20 237 P **P 15 38 52.3 -0.3**
BOSA Boshof 77.20 237 P **P 15 38 52.3 -0.3**
comp=Z,1.1nm,0.4s,baz=40,slow=5.5,SNR=7.0
BOSA LR LR 16 09 41.9
comp=Z,156nm,18.4s,baz=166,slow=33
NB2 NORSAR Subarra 77.25 330 P **P 15 38 52.2 +0.1**
comp=Z,6.2nm,1.0s,baz=91,slow=5.9
NOA NORSAR Array B 77.25 330 P **P 15 38 51.2 -0.9**
NOA NORSAR Array B 77.25 330 P **P 15 38 51.2 -0.9**
comp=Z,0.7nm,0.9s,baz=90,slow=6.7,SNR=4.4
NOA LR LR 16 16 09.5
comp=Z,236nm,21.8s,baz=105,slow=38
CASY Casey 77.79 173 *e*P **P 15 38 56.5 +1.7**
comp=Z,7.1nm,0.7s
KEST Kesra 79.66 305 *e*P **P 15 39 05.4 -0.6**
KEST Kesra 79.66 305 P **P 15 39 05.3 -0.7**
comp=Z,3.9nm,1.1s,baz=64,slow=4.6,SNR=5.7
KEST LR LR 16 22 06.8
comp=Z,57nm,19.3s,baz=230,slow=42
LPG La Plagne 80.64 315 *e*P **P 15 39 11.5 +0.1**
comp=Z,19nm,0.9s
LPL La Plagne 80.65 315 *e*P **P 15 39 11.5 +0.2**
comp=Z,18nm,1.0s
MBDF Montbardon 80.70 314 *e*P **P 15 39 12.0 +0.5**
comp=Z,22nm,1.3s
ORIF Oris-en-Rattie 81.31 314 *e*P **P 15 39 15.0 +0.3**
comp=Z,12nm,1.0s
VIVF Saint-Julien-l 82.17 314 *e*P **P 15 39 19.2 0.0**
comp=Z,14nm,1.1s
LOR Lormes 82.42 317 *e*P **P 15 39 20.2 -0.2**
SMF Signal de Mont 82.51 316 *e*P **P 15 39 21.6 +0.7**
FLN La Foliniere 85.06 319 *e*P **P 15 39 34.0 +0.1**
comp=Z,93nm,1.6s
SYO Syowa Base 88.19 197‖ *e*P **P 15 39 49.6 +1.0**
ESDC Sonseca Array 89.41 310 P **P 15 39 55.3 +0.1**
ESDC Sonseca Array 89.41 310 P **P 15 39 55.3 +0.1**
comp=Z,0.9nm,0.7s,baz=62,slow=5.3,SNR=5.7
TORD Torodi Ar. Bea 90.01 283 P **P 15 39 57.9 -0.5**
TORD PP **PP 15 43 32.9 +1.3**
TORD Torodi Ar. Bea 90.01 283 P **P 15 39 57.9 -0.5**
comp=Z,1.7nm,0.8s,baz=82,slow=4.5,SNR=11
TORD PP **PP 15 43 32.9 +1.3**
comp=Z,2.3nm,1.1s,baz=77,slow=5.5,SNR=6.8
ILAR Eielson Array 92.03 22 P **P 15 40 05.7 -1.1**
ILAR Eielson Array 92.03 22 P **P 15 40 05.7 -1.1**
comp=Z,1.3nm,0.8s,baz=296,slow=4.2,SNR=13
ILAR LR LR 16 26 14.0
comp=Z,207nm,19.0s,baz=308,slow=39
MENT Mentasta 94.20 23 *e*P **P 15 40 18.3 +1.4**
VNDA Vanda 95.75 168 LR LR 16 22 41.5
comp=Z,200nm,18.2s,baz=284,slow=35
FFC Flin Flon 113.32 10*c i*PKIKP 15 45 36.0
B15A Bradely Ranch, 116.56 20 P **PKPdf 15 45 41.8 -0.6**
baz=116
C15A Salmond Ranch, 117.01 20 P **PKPdf 15 45 42.4 -0.9**
baz=117
EGMT Eagleton 117.70 18 P **PKPdf 15 45 43.6 -1.0**
baz=118
B20A Solberg Farm, 117.83 17 P **PKPdf 15 45 44.7 0.0**
baz=118
F17A Fitzpatrick Pl 119.30 20 P **PKPdf 15 45 47.4 -0.4**
baz=119
H24A Dirks Ranch, A 122.17 16 P **PKPdf 15 45 52.8 -0.5**
baz=122
G27A Dupree 122.23 13 P **PKPdf 15 45 52.9 -0.4**
baz=122
NVAR Mina Array Bea 122.38 30 PKP **PKPdf 15 45 54.6 +0.6**
NVAR Mina Array Bea 122.38 30 PKP **PKPdf 15 45 54.6 +0.6**
comp=Z,1.5nm,0.7s,baz=322,slow=2.3,SNR=15
I22A 9 Mile Ranch, 122.41 18 P **PKPdf 15 45 53.4 -0.4**
baz=122
PDAR Pinedale Array 122.44 21 PKP **PKPdf 15 45 53.3 -0.7**
PDAR Pinedale Array 122.44 21 PKP **PKPdf 15 45 53.3 -0.7**
comp=Z,1.7nm,0.9s,baz=90,slow=0.4,SNR=11
K19A Absolon Red Bu 122.63 20 P **PKPdf 15 45 53.7 -0.6**
baz=122
L19A Farson 123.09 21 P **PKPdf 15 45 54.8 -0.4**
baz=123
DUG Dugway 123.43 25 *e*PKIKP **PKPdf 15 45 56.2 +0.3**
DUG Dugway 123.43 25 *e*PKPdf **PKPdf 15 45 56.2 +0.3**
DUG Dugway 123.43 25 P **PKPdf 15 45 55.6 -0.3**
baz=123
R11A Troy Canyon, C 123.74 28 P **PKPdf 15 45 56.6 0.0**
baz=124
L21A Rawlins 123.88 19 P **PKPdf 15 45 56.5 -0.3**
baz=124
M21A Separation Pea 124.21 19 P **PKPdf 15 45 56.7 -0.8**
baz=124
L23A Garrett 124.27 18 P **PKPdf 15 45 57.2 -0.3**
baz=124
N20A Spence Gulch, 124.59 21 P **PKPdf 15 45 58.1 -0.1**
baz=124
MPMC Manual Prospec 124.63 31 P **PKPdf 15 45 58.6 +0.2**
baz=124
O19A Miners Draw (B 124.76 22 P **PKPdf 15 45 57.8 -0.6**
baz=124
ECSD EROS Data Cent 124.85 10 *e*PKPdf **PKPdf 15 45 57.5 -0.8**
N21A Black Mountain 124.92 20 P **PKPdf 15 45 58.5 -0.3**
baz=125
MVU Marysvale 125.10 25 *e*PKPdf **PKPdf 15 45 59.7 +0.4**
MSU Marysvale 125.11 25 *e*PKIKP **PKPdf 15 46 00.3 +1.0**
MSU Marysvale 125.11 25 *e*PKPdf **PKPdf 15 46 00.3 +1.0**
Q16A Castle Valley 125.18 24 P **PKPdf 15 45 59.4 +0.1**
baz=125
O20A White River Ci 125.22 21 P **PKPdf 15 45 59.6 +0.1**
baz=125
N22A Wattenberg Ran 125.23 19 P **PKPdf 15 45 59.3 -0.2**
baz=125
P19A Cripple Cowboy 125.40 22 P **PKPdf 15 45 59.7 -0.1**
baz=125
GSC Goldstone 125.57 31 P **PKPdf 15 46 00.1 +0.1**
baz=125
N24A Carr 125.69 18 P **PKPdf 15 45 59.7 -0.5**
baz=126
O23A Lake Granby, G 125.94 19 P **PKPdf 15 46 00.5 -0.4**
baz=126
Q20A Ridgley Place, 126.25 22 P **PKPdf 15 46 01.2 -0.2**
baz=126
GMRC Granite Mounta 126.56 31 P **PKPdf 15 46 02.3 +0.2**
baz=126
P23A Jefferson 126.72 19 P **PKPdf 15 46 02.2 -0.3**
baz=126
U15A North Rim 126.81 27 P **PKPdf 15 46 02.8 +0.2**
baz=127
R22A Saguache, Gunn 127.44 21 P **PKPdf 15 46 04.0 +0.1**
baz=127
BC3 Big Chuckawall 127.55 31 P **PKPdf 15 46 03.5 -0.4**
baz=127
S21A Coal Bank Pass 127.58 22 P **PKPdf 15 46 03.9 -0.2**
baz=127
Q26A Hugo 127.85 18 P **PKPdf 15 46 04.3 -0.1**
baz=128
S24A Houchin Ranch, 128.50 20 P **PKPdf 15 46 06.1 +0.2**
baz=128
U21A Nageezi 128.72 23 P **PKPdf 15 46 06.6 +0.3**
baz=128
V20A Brimhall 128.95 24 P **PKPdf 15 46 06.9 +0.2**
baz=129
U22A Llaves 129.06 22 P **PKPdf 15 46 07.0 +0.1**
baz=129
T26A Comanche Natio 129.44 18 P **PKPdf 15 46 07.6 +0.1**
baz=129
V22A San Miguel Ran 129.45 22 P **PKPdf 15 46 08.3 +0.6**
baz=129
U25A Circle Dot Ran 129.89 20 P **PKPdf 15 46 09.4 +1.0**
baz=130
V24A Rampart Ranch, 130.21 21 P **PKPdf 15 46 09.8 +0.7**
baz=130
V25A Rancho No Teng 130.33 20 P **PKPdf 15 46 09.4 +0.2**
baz=130
TUC Tucson 130.93 28 *e*PKIKP **PKPdf 15 46 12.3 +2.0**
TUC Tucson 130.93 28 *e*PKPdf **PKPdf 15 46 12.3 +2.0**
Y22A Socorro 131.17 24 P **PKPdf 15 46 11.1 +0.2**
baz=131
Y23A Lovelace Mesa, 131.53 23 P **PKPdf 15 46 12.2 +0.6**
baz=131
Y24A Capitan 131.77 22 P **PKPdf 15 46 12.3 +0.3**
baz=132
Z26A Caprock 132.88 21 P **PKPdf 15 46 13.4 -0.7**
baz=133
125A Gardner Draw, 133.19 22 P **PKPdf 15 46 14.8 +0.1**
baz=133
Z32A Haskell 134.25 16 P **PKPdf 15 46 16.4 -0.1**
baz=134
427A Hayter Ranch, 135.28 22 P **PKPdf 15 46 18.6 0.0**
baz=135
428A Kincaid Ranch, 135.64 21 P **PKPdf 15 46 19.5 +0.2**
baz=135
429A Davenport Ranc 136.01 20 P **PKPdf 15 46 20.5 +0.6**
baz=136
430A Baggett Ranch, 136.08 19 P **PKPdf 15 46 20.8 +0.7**
baz=136
626A Big Bend Ranch 136.16 23 P **PKPdf 15 46 20.7 +0.4**
baz=136
627A Terlingua Ranc 136.54 23 P **PKPdf 15 46 21.0 0.0**
baz=136
TXAR Lajitas Array 136.54 23 PKP **PKPdf 15 46 22.0 +1.0**
TXAR Lajitas Array 136.54 23 PKP **PKPdf 15 46 22.0 +1.0**
comp=Z,0.6nm,0.6s,baz=353,slow=0.6,SNR=10
530A J-C Ranch, Com 136.63 20 P **PKPdf 15 46 21.3 +0.2**
baz=136
628A Black Gap, Mar 136.69 22 P **PKPdf 15 46 20.5 -0.7**
baz=136
JCT Junction City 136.81 18 *e*PKIKP **PKPdf 15 46 21.6 +0.2**
JCT Junction City 136.81 18 *e*PKPdf **PKPdf 15 46 21.6 +0.2**
JCT Junction City 136.81 18 P **PKPdf 15 46 21.1 -0.3**
baz=137
531A Rocksprings 136.88 19 P **PKPdf 15 46 21.2 -0.3**
baz=137
BDFB Brasilia 142.95 258 PKPpre PKPpre 15 46 27.6
BDFB Brasilia 142.95 258 PKhKP PKPpre 15 46 27.6
comp=Z,0.8nm,0.4s,baz=207,slow=11,SNR=2.3
CELP Cerrillos 145.62 326 PKPdf **PKPdf 15 46 36.8 -0.6**
OBIP Obispado Ponce 145.66 326 *e*PKPdf **PKPab 15 46 37.8 -0.2**
SDDR Presa de Saban 147.15 334 *e*PKPbc **PKPbc 15 46 42.4 +0.3**
PLCA Paso Flores 147.28 202 *e*PKPdf **PKPbc 15 46 41.2 -0.8**
PLCA PKPbc **PKPbc 15 46 42.2 +0.2**
PLCA Paso Flores 147.28 202 PKPbc **PKPbc 15 46 42.2 +0.2**
comp=Z,13nm,1.1s,baz=150,slow=5.9,SNR=10.0
CPUP Villa Florida 149.01 236 PKPbc **PKPbc 15 46 46.9 0.0**
CPUP Villa Florida 149.01 236 PKPbc **PKPbc 15 46 46.9 0.0**
comp=Z,4.5nm,0.9s,baz=69,slow=4.5,SNR=6.4
TEIG Tepich 149.08 5 PKPbc **PKPbc 15 46 48.3 +1.1**
TEIG Tepich 149.08 5 PKPbc **PKPbc 15 46 48.3 +1.1**
comp=Z,11nm,0.9s,baz=315,slow=4.3,SNR=2.8
CFAA Coronel Fontan 153.68 215 PKPbc **PKPbc 15 46 57.6 -0.1**
CFAA Coronel Fontan 153.68 215 PKPbc **PKPbc 15 46 57.6 -0.1**
comp=Z,1.1nm,1.0s,baz=169,slow=1.6,SNR=9.1
SIV San Ignacio 155.42 255 PKP **PKPdf 15 46 53.6 +0.9**
SIV San Ignacio 155.42 255 PKP **PKPdf 15 46 53.6 +0.9**
comp=Z,0.5nm,0.4s,baz=170,slow=6.2,SNR=3.6
LPAZ La Paz 161.99 250 PKP **PKPdf 15 47 00.6 -0.6**
LPAZ La Paz 161.99 250 PKP **PKPdf 15 47 00.6 -0.6**
comp=Z,0.4nm,0.4s,baz=92,slow=6.9,SNR=3.7

IDC 26 15:31:41.9±2.1,10°69.N×94°30E,h0km,mb3.6/5,
mb1 3.8/5,mb1mx3.5/25,mbtmp3.6/5,MS4.0/2,Ms1 4.0/2,
ms1mx3.3/45,Error ellipse: s-maj=71.2km

s-min=23.3km az=63.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**36.22**	**335**	LR	LR	15 54 54.2	
	comp=Z,194nm,20.4s,baz=331,slow=38						
MKAR	**Makanchi Array**	**37.40**	**346**	P	P	15 38 56.8	+0.1
	1.1nm,0.9s,baz=174,slow=8.7,SNR=4.0						
KSRS	**Korea Array**	**40.28**	**43**	P	P	15 39 20.2	-0.7
	0.5nm,0.7s,baz=242,slow=9.0,SNR=2.8						
ZALV	**Zalesovo Beam**	**43.81**	**352**	P	P	15 39 49.1	-0.3
	0.9nm,0.5s,baz=194,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**49.80**	**128**	P	P	15 40 36.3	-0.6
	0.4nm,0.6s,baz=302,slow=8.8,SNR=5.0						
ASAR	**Alice Springs**	**51.63**	**132**	P	P	15 40 51.1	+0.5
	0.9nm,0.7s,baz=305,slow=6.6,SNR=6.7						
AFI	**Afiamalu**	**96.28**	**103**	LR	LR	16 25 06.5	
	comp=Z,73nm,21.6s,baz=284,slow=33						

IDC 26 15:42:07.0±2.6, 13°.80S×167°.13E, h254km±24km, mb3.3/8, mb1 3.4/10, mb1mx3.3/21, mbtmp3.3/10, Error ellipse: s-maj=28.1km s-min=17.8km az=102.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.25**	**184**	P	Pn	15 44 03.3	-0.3
	0.3nm,0.3s,baz=177,slow=19,SNR=6.8						
DZM				S	S	15 45 38.3	+0.6
	0.3nm,0.3s,baz=27,slow=18,SNR=2.2						
HNR	**Honiara**	**8.27**	**301**	P	Pn	15 44 05.1	+1.3
	2.2nm,0.3s,baz=170,slow=12,SNR=3.3						
STKA	**Stephens Creek**	**29.50**	**228**	P	P	15 47 48.8	+0.8
	1.3nm,0.4s,baz=65,slow=8.0,SNR=8.0						
WRA	**Warramunga Arr**	**31.93**	**254**	P	P	15 48 08.2	-1.2
	0.2nm,0.4s,baz=85,slow=9.5,SNR=3.3						
ASAR	**Alice Springs**	**32.89**	**248**	P	P	15 48 16.6	-1.1
	0.7nm,0.3s,baz=74,slow=10.0,SNR=39						
ASAR				PcP	PcP	15 50 56.6	+0.7
	0.5nm,0.8s,baz=67,slow=2.7,SNR=5.7						
MJAR	**Matsushiro Arr**	**57.03**	**332**	P	P	15 51 26.0	-0.7
	0.6nm,0.6s,baz=171,slow=8.6,SNR=4.7						
PETK	**Petropavlovsk-**	**67.13**	**354**	P	P	15 52 33.8	+0.5
	1.6nm,0.8s,baz=171,slow=9.8,SNR=5.6						
SONM	**Songino Array**	**81.68**	**324**	P	P	15 53 57.1	-0.1
	0.3nm,0.5s,baz=127,slow=4.2,SNR=2.9						
DIB	**Dawson Inlet,**	**84.29**	**32**	T	T	17 25 55.5	
	SNR=10						
ILAR	**Eielson Array**	**85.69**	**18**	P	P	15 54 14.9	-2.0
	0.5nm,0.8s,baz=216,slow=4.9,SNR=5.0						
MKAR	**Makanchi Array**	**96.44**	**316**	P	P	15 55 08.4	+1.0
	0.5nm,0.6s,baz=92,slow=6.8,SNR=6.8						
ARCES	**ARCESS Array B**	**119.33**	**345**	PKP	PKPdf	16 00 24.0	-1.5
	3.4nm,1.0s,baz=35,slow=3.3,SNR=5.5						
FINES	**FINESS Array B**	**124.82**	**338**	PKP	PKPdf	16 00 36.3	+0.2
	1.3nm,0.9s,baz=42,slow=2.1,SNR=3.4						
KEST	**Kesra**	**150.41**	**321**	PKPbc	PKPbc	16 01 30.3	+1.3
	1.7nm,0.7s,baz=287,slow=3.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**165.82**	**269**	PKPab	PKPab	16 02 43.1	-0.4
	0.3nm,0.6s,baz=98,slow=5.1,SNR=2.6						

BJI ***26*** *15:50:57.3, 10°.30N×94°.21E, h10km, mB5.0/28, mb4.5/34, Ms4.5/34, Ms7 4.2/31*

IDC ***26*** *15:51:00.8±0.5, 10°.67N×94°.33E, h0km, mb4.1/24, mb1 4.2/26, mb1mx4.1/33, mbtmp4.1/26, ML3.7/2, MS4.1/22, Ms1 4.1/22, ms1mx3.9/41, Error ellipse: s-maj=19.2km s-min=11.2km az=58.0*

NEIC ***26*** *15:51:02.1±0.3, 10°.66N×94°.32E, h10km, mb4.9/6, Error ellipse: s-maj=10.9km s-min=5.5km az=57.0*

ISCJB ***26*** *15:51:03.7±0.7, 10°.59N±0°.04×94°.23E±0°.04, h33km±6km, mb4.5/58, MS4.2/29, Error ellipse: s-maj=6.9km s-min=5.4km az=44.5*

MOS ***26*** *15:51:03.3±0.9, 10°.63N×94°.30E, h33km, mb4.9/21, Error ellipse: s-maj=13.7km s-min=6.4km az=111.9*

GCMT ***26*** *15:51:07.7±0.3, 10°.80N×94°.44E, h12km, MW5.0, Moment Tensor Solution. s30,c35; s72,c113; Moment tensor: Scale 10^16 Nm; Mrr=3.15±.09; Mθθ=2.73±.08; Mϕϕ=0.43±.10; Mrθ=2.41±.31; Mθϕ=0.94±.08; Mϕr=0.56±.34; Best double couple: Mo=4.00000×10^16 NP1:ϕs=67.00000°, δ=26.00000°, λ=-97.00000°. NP2:ϕs=254.00000°, δ=64.00000°, λ=-87.00000°. Principal axes: T 3.9200, Plg19.0000°, Azm342.0000°; N 0.1100, Plg3.0000°, Azm73.0000°; P -4.0200, Plg71.0000°, Azm172.0000°; Data Used: II IU IC G CN.*

DJA ***26*** *15:51:09.2±1.3, 11°.7N×9°.5E±1°.5, h10km, M4.8/4, mB5.2/1, mb4.5/4, MLv4.9/3, Mw(mB)4.6/1*

BKK ***26*** *15:51:12.4±0.8, 11°.5N×9°.4E±°, h54km±9km, M4.8/11, mB5.4/3, mb4.8/11, MLv4.8/4, Mw(mB)4.8/3*

ISC 26 15:51:02.8±0.4, 10.57N±0°.04×94.31E±0°.04, h15km±2km, h15km:pP-P, n161, σ1%69/200, mb4.6/58, MS4.2/30, 8C-2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.88**	**305**	*eP*	Pn	15 51 33.6	-0.8
PBA				*eS*	Sn	15 51 57.3	-0.5
DGPR	**DIGLIPUR**	**2.92**	**333**	*eP*	**Pn**	**15 51 48.5**	**-0.3**
DGPR				*eS*	**Sn**	**15 52 23.2**	**-0.5**
CMBY	**CAMPBELL BAY**	**3.55**	**186**	*eP*	**Pn**	**15 52 00.2**	**+2.8**
PKDT	**Phuket**	**4.78**	**123**	P	**Pb**	**15 52 25.5**	**-0.9**
	81nm,0.7s,3μm0.7nm						
BSI	**Banda Aceh**	**5.13**	**169**	P	Pb	15 52 27.0	-5.3
	233nm,1.2s,2μm0.8nm						
SKLT	**Songkhla**	**7.09**	**118**	P	**Pn**	**15 52 45.7**	**-0.4**
	24nm,1.0s,0.5nm						
SKLT	**Songkhla**	**7.09**	**118**	P	Pn	15 52 53.6	+7.5
KCSI	**Kotacane, Aceh**	**7.80**	**154**	P	Pn	15 53 01.1	+5.3
CHBT	**CHBT**	**8.16**	**74**	P	Pb	15 53 13.8	-10
	28nm,1.2s,0.2nm						
KULM	**Kulim**	**8.18**	**129**	*eP*	**Pn**	**15 53 01.3**	**+0.3**
KULM	**Kulim**	**8.18**	**129**	P	**Pn**	**15 53 01.2**	**+0.1**
	17nm,1.1s,0.3nm						
PBKT	**Sadao Pong**	**8.81**	**47**	P	**Pn**	**15 53 08.9**	**-0.7**
PSI	**Prapat**	**8.97**	**149**	Pn	**Pn**	**15 53 14.7**	**+2.7**
PSI	**Prapat**	**8.97**	**149**	Pn	**Pn**	**15 53 14.7**	**+2.7**
	0.9nm,0.3s,baz=332,slow=14,SNR=3.8						
PSI				LR	LR	15 57 27.5	
	comp=Z,2μm,18.3s,baz=315,slow=42						
IPM	**Ipoh**	**8.99**	**132**	*e*Pn	**Pn**	**15 53 10.4**	**-1.8**
CMAR	**Chiang Mai Arr**	**9.04**	**29**	Pn	**Pn**	**15 53 13.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**9.04**	**29**	Pn	**Pn**	**15 53 13.2**	**+0.4**
	0.2nm,0.3s,baz=217,slow=15,SNR=10						
CMAR				LR	LR	15 56 31.9	
	comp=Z,422nm,19.7s,baz=215,slow=37						
BKNI	**Bangkinang**	**12.18**	**146**	P	**P**	**15 54 06.9**	**-1.5**
VIS	**Vishakhapatnam**	**12.80**	**305**	*eP*	**Pn**	**15 54 03.6**	**-0.7**
VIS				AMB	AMB	15 54 25.3	
	comp=Z,114nm,1.9s						
VIS				*i* x	x	15 56 18.0	
SHL	**Shillong**	**15.10**	**352**	*ex*	P	15 54 29.4	-12
SHL				AMB	AMB	15 54 41.5	
	comp=Z,28nm,1.5s						
BOK	**Bokaro**	**15.41**	**330**	*eP*	**Pn**	**15 54 39.0**	**-0.8**
BOK				AMB	AMB	15 54 53.5	
	comp=Z,38nm,0.9s						
KMI	**Kunming**	**16.55**	**28**	P	**P**	**15 54 57.5**	**+0.3**
KMI				pP	**pP**	**15 55 02.3**	**+0.9**
KMI				sP	**sP**	**15 55 05.3**	**+1.9**
KMI				PP	PnPn	15 55 11.8	+7.8
KMI				S	**Sn**	**15 58 01.3**	**+3.1**
KMI				sS	**S**	**15 58 08.3**	**-1.6**
KMI				pmax	pmax		
	comp=Z,12nm,1.5s						
KMI				pmax	pmax		
	comp=Z,160nm,3.9s						
KMI				LR	LR		
	comp=N,670nm,10.9s						
KMI				LR	LR		
	comp=E,690nm,13.2s						
KMI				LR	LR		
	comp=Z,620nm,12.9s						
HYB	**Hyderabad**	**16.73**	**296**	*i* P	**P**	**15 55 00.0**	**+1.0**
HYB	**Hyderabad**	**16.73**	**296**	*eP*	**Pn**	**15 54 57.7**	**+0.9**
HYB				AMB	AMB	15 55 09.6	
	comp=Z,47nm,2.2s						
QIZ	**Qiongzhong**	**17.21**	**59**	P	**Pn**	**15 55 01.8**	**-1.0**
QIZ				S	**Sn**	**15 58 15.5**	**+1.4**
QIZ				LR	LR		
	comp=N,1μm,9.5s						
QIZ				LR	LR		
	comp=E,400nm,10.6s						
QIZ				LR	LR		
	comp=Z,1μm,9.3s						
LSA	**Lhasa**	**19.27**	**352**	P	**P**	**15 55 25.5**	**-1.9**
GYA	**Guiyang**	**19.65**	**35**	P	**Pn**	**15 55 33.3**	**+0.6**
GYA				PP	**PnPn**	**15 55 51.8**	**+5.3**
GYA				S	**S**	**15 59 11.0**	**-1.8**
GYA				SS	SnSn	15 59 38.3	+10
GYA				ScP	**ScP**	**16 03 25.0**	**-1.4**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,790nm,14.9s						
GYA				LR	LR		
	comp=E,660nm,16.2s						
GYA				LR	LR		
	comp=Z,750nm,15.6s						
BHPL	**Bhopal**	**20.46**	**310**	*eP*	**P**	**15 55 37.4**	**-2.6**
BHPL				AMB	AMB	15 55 53.5	
	comp=Z,40nm,0.8s						
POO	**Poona**	**21.31**	**294**	*eP*	**P**	**15 55 49.0**	**-0.3**
POO				*eP*	**pP**	**15 55 54.7**	**+1.1**
POO				AMB	AMB	15 56 19.1	
	comp=Z,59nm,2.1s						
CD2	**Chengdu**	**22.07**	**22**	P	**P**	**15 55 57.3**	**0.0**
CD2				pP	**pP**	**15 56 02.0**	**+0.3**
CD2				sP	**sP**	**15 56 05.0**	**+1.4**
CD2				PP	**PnPn**	**15 56 24.0**	**+4.5**
CD2				S	**S**	**15 59 56.8**	**-3.5**
CD2				sS	**sS**	**16 00 03.3**	**-4.0**
CD2				SS	**SnSn**	**16 00 36.0**	**+9.0**
CD2				pmax	pmax		
	comp=Z,70nm,1.8s						
CD2				pmax	pmax		
	comp=Z,520nm,8.2s						
CD2				LR	LR		
	comp=E,800nm,10.8s						
CD2				LR	LR		
	comp=Z,720nm,10.6s						
NDI	**New Delhi**	**24.11**	**321**	*eP*	**P**	**15 56 17.0**	**-1.0**
ENH	**Enshi**	**24.17**	**34**	*eP*	**P**	**15 56 18.3**	**-0.4**
	comp=Z,48nm,1.4s						
DDI	**Dehra Dun**	**24.80**	**325**	*eP*	**P**	**15 56 22.9**	**-1.5**
DDI				AMB	AMB	15 56 28.0	
	comp=Z,161nm,1.3s						
SMLA	**Simla**	**25.91**	**325**	*eP*	**P**	**15 56 34.1**	**-0.3**
SMLA				AMB	AMB	15 56 54.8	
	comp=Z,69nm,1.7s						
LZH	**Lanzhou**	**26.84**	**17**	*eP*	**P**	**15 56 43.0**	**+0.1**
LZH				pP	**pP**	**15 56 46.0**	**-1.6**
LZH				sP	**sP**	**15 56 47.8**	**-1.7**
LZH				PP	**PnPn**	**15 57 29.0**	**+4.2**
LZH				*e*S	**S**	**16 01 18.3**	**-0.7**
LZH				*e*SS	**SnSn**	**16 02 32.5**	**+8.7**
LZH				pmax	pmax		
	comp=Z,43nm,1.3s						
LZH				pmax	pmax		
	comp=Z,140nm,5.0s						
LZH				LR	LR		
	comp=N,460nm,12.0s						
LZH				LR	LR		
	comp=E,260nm,13.0s						
LZH				LR	LR		
	comp=Z,510nm,14.0s						
DHRM	**DHARAMSHALA**	**27.24**	**325**	*eP*	**P**	**15 56 43.9**	**-2.7**
DHRM				AMB	AMB	15 57 24.5	
	comp=Z,49nm,2.0s						
GTA	**Gaotai**	**29.14**	**9**	⇑P	**P**	**15 57 03.8**	**+0.4**
GTA				pP	**pP**	**15 57 08.0**	**-0.1**
GTA				sP	**sP**	**15 57 10.8**	**+0.8**
GTA				S	**S**	**16 01 57.3**	**+2.2**
GTA				sS	**sS**	**16 02 04.3**	**+1.5**
GTA				SS	SnSn	16 03 30.3	+10
GTA				pmax	pmax		
	comp=Z,4.0nm,2.1s						
GTA				pmax	pmax		
	comp=Z,130nm,6.7s						
GTA				LR	LR		
	comp=N,270nm,17.6s						
GTA				LR	LR		
	comp=E,210nm,17.3s						
GTA				LR	LR		
	comp=Z,470nm,21.4s						
KAPI	**Kappang**	**29.69**	**120**	LR	LR	16 09 21.3	
	comp=Z,440nm,18.6s,baz=283,slow=37						
NJ2	**Nanjing**	**31.16**	**43**	*eP*	**P**	**15 57 20.3**	**-0.9**
NJ2				S	**S**	**16 02 28.3**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
NJ2				LR	LR		
	comp=N,1μm,9.8s						
NJ2				LR	LR		
	comp=E,1μm,11.2s						
NJ2				LR	LR		
	comp=Z,1μm,12.2s						
KBL	**Kabul**	**33.19**	**320**	*eP*	**P**	**15 57 39.1**	**-0.2**
KBL	**Kabul**	**33.19**	**320**	*eP*	**P**	**15 57 39.1**	**-0.2**
WMQ	**Urumqi**	**33.63**	**351**	P	**P**	**15 57 43.5**	**+0.7**
WMQ				pP	**pP**	**15 57 47.8**	**+0.3**
WMQ				sP	**sP**	**15 57 50.5**	**+1.1**
WMQ				PP	**PnPn**	**15 58 56.3**	**+1.7**
WMQ				PcP	**PcP**	**16 00 23.0**	**+0.1**
WMQ				S	**S**	**16 03 05.0**	**0.0**
WMQ				sS	**sS**	**16 03 12.3**	**-0.4**
WMQ				ScP	**ScP**	**16 04 06.0**	**-1.1**
WMQ				SS	**SnSn**	**16 05 10.0**	**+1.3**
WMQ				ScS	**ScS**	**16 08 06.0**	**-2.3**
WMQ				pmax	pmax		
	comp=Z,44nm,1.7s						
WMQ				pmax	pmax		
	comp=Z,260nm,4.1s						
WMQ				LR	LR		
	comp=N,310nm,13.5s						
WMQ				LR	LR		
	comp=E,250nm,20.3s						
WMQ				LR	LR		
	comp=Z,490nm,27.4s						
HHC	**Hu-ho-hao-te**	**33.80**	**24**	*eP*	**P**	**15 57 44.3**	**-0.1**
HHC				PP	**PnPn**	**15 58 57.8**	**+0.9**
HHC				PcP	**PcP**	**16 00 23.0**	**-0.5**
HHC				S	**S**	**16 03 08.0**	**+0.2**
HHC				ScP	**ScP**	**16 04 05.5**	**-2.4**
HHC				PcS	**PcS**	**16 04 07.8**	**-1.6**
HHC				SS	**SnSn**	**16 05 15.5**	**+2.6**
HHC				ScS	**ScS**	**16 08 05.5**	**-3.9**
HHC				pmax	pmax		
	comp=Z,29nm,0.6s						
HHC				pmax	pmax		
	comp=Z,300nm,6.1s						
HHC				LR	LR		
	comp=N,590nm,13.1s						
HHC				LR	LR		
	comp=E,470nm,12.4s						
HHC				LR	LR		
	comp=Z,490nm,12.4s						
BATI	**Baumata**	**35.75**	**124**	P	**P**	**15 58 01.8**	**+0.4**
BATI	**Baumata**	**35.75**	**124**	P	**P**	**15 58 01.8**	**+0.4**
	comp=Z,8.3nm,0.7s,baz=333,slow=2.3,SNR=2.4						
AAK	**Ala-Archa**	**36.33**	**335**	*ce*P	**P**	**15 58 06.7**	**+0.4**
AAK				pmax	pmax		
	comp=Z,22nm,1.2s						
AAK	**Ala-Archa**	**36.33**	**335**	*eP*	**P**	**15 58 04.9**	**-1.4**
	comp=Z,20nm,1.3s						
AAK				*e*		15 58 12.7	
AAK	**Ala-Archa**	**36.33**	**335**	P	**P**	**15 58 06.4**	**+0.2**
	comp=Z,1.7nm,0.4s,baz=220,slow=7.2,SNR=8.2						
FRU	**Bishkek**	**36.45**	**335**	*eP*	**P**	**15 58 07.0**	**-0.1**
FRU				pmax	pmax		
	comp=Z,50nm,1.9s						
MK31	**Makanchi Array**	**37.52**	**346**	*ce*P	**P**	**15 58 15.4**	**-0.8**
MK31				pmax	pmax		
	comp=Z,20nm,0.9s						
MK31	**Makanchi Array**	**37.52**	**346**	*eP*	**P**	**15 58 15.7**	**-0.5**
MK31				*e*		15 58 22.0	
MKAR	**Makanchi Array**	**37.52**	**346**	*ce*P	**P**	**15 58 15.8**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	**Makanchi Array**	**37.52**	**346**	*eP*	**P**	**15 58 15.3**	**-0.8**
MKAR	**Makanchi Array**	**37.52**	**346**	P	**P**	**15 58 15.8**	**-0.4**
	comp=Z,3.4nm,0.9s,baz=164,slow=9.1,SNR=26						
MKAR				LR	LR	16 18 03.5	
	comp=Z,217nm,18.5s,baz=168,slow=43						
KK31	**Karatay Array**	**38.47**	**332**	*ce*P	**P**	**15 58 23.3**	**-0.9**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KKAR	**Karatay Array**	**38.47**	**332**	*eP*	**P**	**15 58 22.6**	**-1.6**
KKAR	**Karatay Array**	**38.47**	**332**	*eP*	**P**	**15 58 22.6**	**-1.6**
SONM	**Songino Array**	**38.52**	**13**	P	**P**	**15 58 25.2**	**+0.5**
SONM	**Songino Array**	**38.52**	**13**	P	**P**	**15 58 25.2**	**+0.5**
	comp=Z,1.6nm,1.0s,baz=196,slow=8.5,SNR=14						
SONM				LR	LR	16 15 41.7	
	comp=Z,514nm,20.3s,baz=193,slow=39						
ULN	**Ulaanbaatar**	**38.70**	**14**	*eP*	**P**	**15 58 25.1**	**-1.1**
	comp=Z,71nm,2.4s						
KSAR	**Wonju Array Be**	**40.33**	**43**	P	**P**	**15 58 38.1**	**-1.7**
KSRS	**Korea Array**	**40.37**	**43**	P	**P**	**15 58 38.1**	**-2.0**
	comp=Z,2.7nm,1.1s,baz=247,slow=12,SNR=8.8						
KSRS				LR	LR	16 18 41.3	
	comp=Z,144nm,18.1s,baz=72,slow=41						
ZAK	**Zakamensk**	**40.38**	**9**	*eP*	P	15 58 45.8	+5.6
ZAK				*e*		16 00 49.8	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.8s						
HVS	**Khovu-Aksy**	**40.45**	**359**	*c i*P	**P**	**15 58 40.9**	**+0.2**
HVS				pmax	pmax		
	comp=Z,105nm,1.7s						
KURBB	**Kurchatov Arra**	**42.00**	**345**	P	**P**	**15 58 53.1**	**-0.2**
KURK	**Kurchatov**	**42.06**	**345**	P	**P**	**15 58 53.1**	**-0.7**
KURK	**Kurchatov**	**42.06**	**345**	P	**P**	**15 58 53.1**	**-0.7**
CN2	**Changchun**	**42.69**	**34**	*eP*	**P**	**15 58 59.3**	**+0.2**
CN2				*es*P	**sP**	**15 59 05.5**	**-0.2**
CN2				*eS*	**S**	**16 05 22.8**	**+0.8**
CN2				pmax	pmax		
	comp=Z,20nm,1.2s						
CN2				LR	LR		
	comp=N,300nm,18.0s						
CN2				LR	LR		
	comp=E,200nm,18.0s						
CN2				LR	LR		
	comp=Z,200nm,18.0s						
ZAA0	**Zalesovo Array**	**43.93**	**352**	*eP*	**P**	**15 59 08.5**	**-0.4**
ZAA0				*e*		15 59 14.8	
ZALV	**Zalesovo Beam**	**43.93**	**352**	*i* P	**P**	**15 59 08.6**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ZALV	**Zalesovo Beam**	**43.93**	**352**	P	**P**	**15 59 08.7**	**-0.2**
ZALV	**Zalesovo Beam**	**43.93**	**352**	P	**P**	**15 59 08.7**	**-0.2**
	comp=Z,4.1nm,0.9s,baz=168,slow=7.6,SNR=20						
ZALV				LR	LR	16 20 58.0	
	comp=Z,94nm,18.4s,baz=340,slow=41						
NVS	**Novosibirsk**	**45.03**	**351**	⇑*i*P	**P**	**15 59 15.9**	**-1.8**
NVS				*e*S	S	16 05 48.5	-7.2
NVS				pmax	pmax		
	comp=Z,14nm,1.5s						
NVS				pmax	pmax		
	comp=N,10.0nm,1.4s						
NVS				smax	smax		
	comp=E,23nm,2.6s						
NVS				smax	smax		
	comp=N,14nm,2.5s						
KRAR	**Krasnoyarsk**	**45.35**	**359**	*eP*	**P**	**15 59 18.8**	**-1.4**
KRAR				pmax	pmax		
	comp=Z,11nm,1.2s						
MDJ	**Mudanjiang**	**45.52**	**35**	P	**P**	**15 59 21.3**	**-0.4**
MDJ				pP	**pP**	**15 59 24.3**	**-2.2**
MDJ				sP	**sP**	**15 59 25.8**	**-2.6**
MDJ				S	S	16 06 09.8	+6.7
MDJ				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MDJ				pmax	pmax		
	comp=Z,57nm,6.0s						
MDJ				LR	LR		
	comp=N,120nm,17.4s						
MDJ				LR	LR		
	comp=E,56nm,17.4s						
MDJ				LR	LR		
	comp=Z,140nm,17.4s						
BVAR	**Borovoye Array**	**46.52**	**340**	P	**P**	**15 59 29.2**	**-0.3**
BVAR	**Borovoye Array**	**46.52**	**340**	P	**P**	**15 59 29.2**	**-0.3**
BVAR	**Borovoye Array**	**46.52**	**340**	P	**P**	**15 59 29.2**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=138,slow=9.0,SNR=9.0						
BVAR				LR	LR	16 22 27.4	
	comp=Z,154nm,19.6s,baz=355,slow=41						
BRVK	**Borovoye**	**46.58**	**340**	*ce*P	**P**	**15 59 29.8**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BRVK	**Borovoye**	**46.58**	**340**	*eP*	**P**	**15 59 28.2**	**-1.7**
	comp=Z,9.4nm,1.1s						
BRVK				*e*		15 59 35.7	
USRK	**Ussuriysk Arra**	**46.67**	**37**	P	**P**	**15 59 29.6**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=237,slow=7.8,SNR=3.1						
MAT	**Matsushiro**	**47.27**	**49**	P	**P**	**15 59 35.3**	**-0.4**
MAT				*e*S	**S**	**16 06 27.6**	**-1.0**
MJAR	**Matsushiro Arr**	**47.27**	**49**	P	**P**	**15 59 33.9**	**-1.8**
MJAR				PcP	**PcP**	**16 01 07.5**	**+0.7**
MJAR	**Matsushiro Arr**	**47.27**	**49**	P	**P**	**15 59 33.9**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=250,slow=7.1,SNR=3.2						
MJAR				PcP	**PcP**	**16 01 07.5**	**+0.7**
	comp=Z,1.9nm,1.0s,baz=258,slow=5.1,SNR=5.1						
MJAR				LR	LR	16 22 35.7	
	comp=Z,134nm,19.6s,baz=270,slow=40						
AB31	**Akbulak array**	**47.98**	**330**	*i* P	**P**	**15 59 40.1**	**-0.8**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ABKAR	**Akbulak array**	**47.98**	**330**	*eP*	**P**	**15 59 40.3**	**-0.6**
NWAO	**Narrogin (SRO)**	**48.47**	**154**	P	**P**	**15 59 45.4**	**+0.5**
NWAO	**Narrogin (SRO)**	**48.47**	**154**	P	**P**	**15 59 45.4**	**+0.5**
	comp=Z,1.1nm,1.0s						
NWAO				LR	LR	16 21 13.4	
	comp=Z,270nm,20.6s,baz=133,slow=37						
KLR	**Kul'dur**	**49.51**	**32**	*eP*	P	15 59 57.9	+5.2
AKTO	**Aktyubinsk**	**49.69**	**330**	*i* P	**P**	**15 59 53.3**	**-0.8**
AKTO				pmax	pmax		
	comp=Z,9.0nm,1.2s						
AKTO	**Aktyubinsk**	**49.69**	**330**	P	**P**	**15 59 53.4**	**-0.7**
AKTO	**Aktyubinsk**	**49.69**	**330**	P	**P**	**15 59 53.4**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=18,slow=19						
WRA	**Warramunga Arr**	**49.72**	**128**	P	**P**	**15 59 55.6**	**+0.8**
WRA	**Warramunga Arr**	**49.72**	**128**	P	**P**	**15 59 55.6**	**+0.8**
	comp=Z,3.4nm,0.7s,baz=304,slow=8.7,SNR=13						
WRAB	**Tennant Creek**	**49.73**	**127**	*eP*	**P**	**15 59 55.7**	**+0.9**
WRAB				pmax	pmax		
	comp=Z,27nm,1.4s						
WRAB	**Tennant Creek**	**49.73**	**127**	*eP*	**P**	**15 59 55.7**	**+0.9**
	comp=Z,27nm,1.4s						
ATD	**Arta Tunnel**	**50.46**	**276**	LR	LR	16 18 07.0	
	comp=Z,98nm,20.0s,baz=345,slow=32						
ASAR	**Alice Springs**	**51.54**	**132**	P	**P**	**16 00 09.7**	**+1.2**
ASAR	**Alice Springs**	**51.54**	**132**	P	**P**	**16 00 09.7**	**+1.2**
	comp=Z,4.4nm,0.6s,baz=307,slow=6.5,SNR=75						
ASAR				LR	LR	16 25 42.5	
	comp=Z,228nm,18.0s,baz=270,slow=40						
GNI	**Garni**	**52.71**	**313**	P	**P**	**16 00 19.0**	**+1.8**
GNI	**Garni**	**52.71**	**313**	P	**P**	**16 00 19.0**	**+1.8**
	comp=Z,3.1nm,0.4s,baz=164,slow=13						
DGRG	**David-gareji

VORD				pmax	pmax			
	comp=N,30nm,0.6s							
VORD				pmax	pmax			
	comp=E,30nm,0.8s							
VSR	**Storozhevoye**	**60.32**	**324**	*eP*	**P**	**16**	**01**	**08.5 -2.5**
VSR				pmax	pmax			
	comp=Z,8.0nm,1.0s							
VSR				pmax	pmax			
	comp=N,10.0nm,0.9s							
VSR				pmax	pmax			
	comp=E,7.0nm,0.8s							
BRTR	**Keskin Array B**	**60.83**	**310**	P	**P**	**16**	**01**	**13.0 -1.8**
BRTR	**Keskin Array B**	**60.83**	**310**	P	**P**	**16**	**01**	**13.0 -1.8**
	comp=E,1.6nm,1.0s,baz=99,slow=4.1,SNR=9.2							
BRTR				LR	LR	16	31	13.2
	comp=E,74nm,20.5s,baz=98,slow=40							
STKA	**Stephens Creek**	**61.86**	**135**	P	**P**	**16**	**01**	**21.8 +0.1**
STKA	**Stephens Creek**	**61.86**	**135**	P	**P**	**16**	**01**	**21.8 +0.1**
	comp=E,4.6nm,1.0s,baz=355,slow=8.9,SNR=3.8							
STKA				LR	LR	16	28	10.1
	comp=E,300nm,21.6s,baz=107,slow=36							
ISP	**Isparta**	**62.92**	**307**	*eP*	**P**	**16**	**01**	**27.3 -1.6**
ISP				pmax	pmax			
	comp=Z,7.0nm,0.8s							
ISP	**Isparta**	**62.92**	**307**	*eP*	**P**	**16**	**01**	**27.3 -1.6**
	comp=Z,7.0nm,0.8s							
OBN	**Obninsk**	**63.21**	**327**⇓	*eP*	**P**	**16**	**01**	**29.7 -0.6**
OBN				*e*		16	03	46.7
OBN				*eS*	**S**	**16**	**09**	**58.0 -3.3**
OBN				pmax	pmax			
	comp=Z,6.0nm,1.2s							
OBN				MLR	MLR			
	comp=Z,300nm,18.0s							
PETK	**Petropavlovsk-**	**65.74**	**36**	LR	LR	16	34	58.5
	comp=Z,93nm,18.3s,baz=260,slow=40							
FINES	**FINESS Array B**	**70.43**	**332**	P	**P**	**16**	**02**	**16.7 +0.5**
FINES	**FINESS Array B**	**70.43**	**332**	P	**P**	**16**	**02**	**16.7 +0.5**
	comp=Z,1.2nm,0.7s,baz=105,slow=5.8,SNR=3.1							
FINES				LR	LR	16	39	47.6
	comp=Z,181nm,19.1s,baz=107,slow=42							
ARCES	**ARCESS Array B**	**72.81**	**340**	P	**P**	**16**	**02**	**30.7 +0.2**
ARCES	**ARCESS Array B**	**72.81**	**340**	P	**P**	**16**	**02**	**30.7 +0.2**
	comp=Z,4.8nm,0.8s,baz=90,slow=7.6,SNR=4.6							
ARCES				LR	LR	16	37	42.2
	comp=Z,366nm,20.4s,baz=101,slow=38							
DPC	**Dobruska-Polom**	**74.28**	**319**	*eP*	**P**	**16**	**02**	**37.5 -2.0**
DPC	**Dobruska-Polom**	**74.28**	**319**	*eP*	**P**	**16**	**02**	**37.5 -2.0**
GERES	**GERESS Array B**	**75.95**	**318**	P	**P**	**16**	**02**	**48.6 -0.6**
GERES	**GERESS Array B**	**75.95**	**318**	P	**P**	**16**	**02**	**48.6 -0.6**
	comp=Z,0.6nm,0.6s,baz=53,slow=5.2,SNR=4.8							
GERES				LR	LR	16	37	51.0
	comp=Z,102nm,20.0s,baz=86,slow=37							
BOSA	**Boshof**	**77.15**	**237**	LR	LR	16	31	46.0
	comp=Z,118nm,19.6s,baz=264,slow=32							
NOA	**NORSAR Array B**	**77.48**	**330**	LR	LR	16	42	56.7
	comp=Z,128nm,18.5s,baz=95,slow=40							
KEST	**Kesra**	**79.85**	**305**	P	**P**	**16**	**03**	**12.1 +0.9**
KEST	**Kesra**	**79.85**	**305**	P	**P**	**16**	**03**	**12.1 +0.9**
	comp=Z,0.7nm,0.7s,baz=45,slow=8.2,SNR=2.2							
LPG	**La Plagne**	**80.85**	**315**	*eP*	**P**	**16**	**03**	**17.1 +0.4**
LPL	**La Plagne**	**80.86**	**315**	*eP*	**P**	**16**	**03**	**17.7 +1.1**
	comp=Z,9.3nm,0.8s							
MBDF	**Montbardon**	**80.91**	**314**	*eP*	**P**	**16**	**03**	**18.0 +1.2**
	comp=Z,6.4nm,0.9s							
ORIF	**Oris-en-Rattie**	**81.53**	**314**	*eP*	**P**	**16**	**03**	**20.7 +0.7**
TORD	**Torodi Ar. Bea**	**90.14**	**283**	P	**P**	**16**	**04**	**02.1 -1.1**
TORD				PP	**PP**	**16**	**07**	**39.2 +2.5**
TORD	**Torodi Ar. Bea**	**90.14**	**283**	P	**P**	**16**	**04**	**02.1 -1.1**
	comp=Z,2.1nm,1.1s,baz=36,slow=2.8,SNR=6.5							
TORD				PP	**PP**	**16**	**07**	**39.2 +2.5**
	comp=Z,1.4nm,1.1s,baz=75,slow=7.4,SNR=4.3							
ILAR	**Eielson Array**	**92.21**	**22**	P	**P**	**16**	**04**	**11.3 -0.5**
ILAR	**Eielson Array**	**92.21**	**22**	P	**P**	**16**	**04**	**11.3 -0.5**
	comp=Z,0.3nm,0.8s,baz=317,slow=3.8,SNR=3.2							
VNDA	**Vanda**	**95.52**	**168**	P	**P**	**16**	**04**	**28.6 +2.1**
VNDA	**Vanda**	**95.52**	**168**	P	**P**	**16**	**04**	**28.6 +2.1**
	comp=Z,0.6nm,0.8s,baz=329,slow=6.2,SNR=3.5							
VNDA				LR	LR	16	43	31.7
	comp=Z,130nm,19.5s,baz=286,slow=33							
NVAR	**Mina Array Bea**	**122.53**	**30**	PKP	**PKPdf**	**16**	**09**	**59.5 +1.0**
NVAR	**Mina Array Bea**	**122.53**	**30**	PKP	**PKPdf**	**16**	**09**	**59.5 +1.0**
	comp=Z,0.5nm,0.5s,baz=293,slow=2.5,SNR=5.6							
PDAR	**Pinedale Array**	**122.61**	**21**	PKP	**PKPdf**	**16**	**09**	**58.5 0.0**
PDAR	**Pinedale Array**	**122.61**	**21**	PKP	**PKPdf**	**16**	**09**	**58.5 0.0**
	comp=Z,0.5nm,0.7s,baz=329,slow=1.1,SNR=3.8							
TXAR	**Lajitas Array**	**136.71**	**23**	PKP	**PKPdf**	**16**	**10**	**27.1 +1.7**
TXAR	**Lajitas Array**	**136.71**	**23**	PKP	**PKPdf**	**16**	**10**	**27.1 +1.7**
	comp=Z,0.2nm,0.6s,baz=94,slow=1.2,SNR=4.2							
BDFB	**Brasilia**	**142.99**	**258**	PKP	**PKPdf**	**16**	**10**	**39.0 +1.8**
BDFB	**Brasilia**	**142.99**	**258**	PKP	**PKPdf**	**16**	**10**	**39.0 +1.8**
	comp=Z,1.5nm,0.7s,baz=111,slow=6.5,SNR=3.1							
PLCA	**Paso Flores**	**147.10**	**201**	PKPbc	**PKPab**	**16**	**10**	**47.1 0.0**
PLCA	**Paso Flores**	**147.10**	**201**	PKPbc	**PKPab**	**16**	**10**	**47.1 0.0**
	comp=Z,5.4nm,1.1s,baz=42,slow=1.6,SNR=4.5							
CPUP	**Villa Florida**	**148.96**	**236**	PKPbc	**PKPbc**	**16**	**10**	**51.3 +0.4**
CPUP	**Villa Florida**	**148.96**	**236**	PKPbc	**PKPbc**	**16**	**10**	**51.3 +0.4**
	comp=Z,0.7nm,0.6s,baz=32,slow=14,SNR=4.0							
LPAZ	**La Paz**	**162.00**	**250**	PKP	**PKPdf**	**16**	**11**	**04.0 -1.4**
LPAZ				PKPab	**PKPab**	**16**	**11**	**51.8 +0.3**
LPAZ	**La Paz**	**162.00**	**250**	PKP	**PKPdf**	**16**	**11**	**04.0 -1.4**
	comp=Z,2.0nm,1.1s,baz=21,slow=3.8,SNR=4.1							
LPAZ				PKPab	**PKPab**	**16**	**11**	**51.8 +0.3**
	comp=Z,0.6nm,0.7s,baz=27,slow=2.3,SNR=1.7							

*IDC **26** 16:12:48.4±0.7, 10°.69N×94°.33E, h0km, mb4.0/19, mb1 4.0/20, mb1mx4.0/30, mbtmp3.9/20, ML3.4/1, MS3.7/9, Ms1 3.8/9, ms1mx3.4/35, Error ellipse: s-maj=23.2km s-min=14.3km az=57.0*

*ISCJB **26** 16:12:50.4±0.4, 10°.98N±0°.06×94°.23E±0°.06, h11km, mb4.0/20, MS3.7/8, Error ellipse: s-maj=9.7km s-min=7.1km az=35.9*

*DJA **26** 16:13:02.4±0.7, 11°.3˜×9°.5E±1°.0, h23km, M4.6/9, mB4.8/1, mb4.2/9, MLv4.7/2, Mw(mB)4.0/1*

ISC 26 16:12:52.6±0.6, 11°.13N±0°.09×94°.29E±0°.09, h11km, n50, σ1$ 63/40, mb4.0/20, MS3.6/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BSI	**Banda Aceh**	**5.68**	**170**	P		**Pn**	**16 14 19.9**	**+2.8**
LHMI	**Lhok Sumawe**	**6.43**	**156**	P		Pn	16 14 31.8	+4.5
	80nm,1.0s,0.4nm							
SKLT	**Songkhla**	**7.39**	**122**	P		**Pn**	**16 14 40.4**	**-0.1**
	14nm,1.2s,0.2nm							
CHBT	**CHBT**	**8.04**	**78**	P		**Pn**	**16 14 49.9**	**+0.5**
KCSI	**Kotacane, Aceh**	**8.31**	**155**	P		**Pn**	**16 14 56.1**	**+2.9**
	27nm,1.4s							
PBKT	**Sadao Pong**	**8.45**	**49**	P		**Pn**	**16 14 57.0**	**+1.9**
	17nm,0.9s							
KULM	**Kulim**	**8.56**	**132**	P		**Pn**	**16 14 56.5**	**-0.1**
	12nm,1.5s,520nm							
CMAR	**Chiang Mai Arr**	**8.56**	**31**	Pn		**Pn**	**16 14 59.5**	**+2.8**
	0.1nm,0.3s,baz=222,slow=14,SNR=5.8							
TSI	**Tuntungan**	**8.68**	**150**	P		**Pn**	**16 15 01.5**	**+3.2**
	176nm,2.0s							
CHTO	**Chiang Mai**	**8.87**	**30**	P		Pn	16 15 05.9	+5.1
	7.8nm,2.1s							
CMMT	**Chiang Mai**	**8.87**	**30**	P		Pn	16 15 05.1	+4.2
	6.8nm,2.1s							
SNSI	**Sinabang, Aceh**	**8.90**	**167**	P		Pn	16 15 06.9	+5.7
PSI	**Prapat**	**9.47**	**151**	Pn		**Pn**	**16 15 07.0**	**-2.1**
	1.2nm,0.3s,baz=350,slow=4.5,SNR=3.8							
PSI				LR		LR	16 18 54.5	
	comp=Z,709nm,20.4s,baz=306,slow=40							
HYB	**Hyderabad**	**16.47**	**294**	*eP*		**Pn**	**16 16 43.0**	**-1.0**
KAPI	**Kappang**	**29.99**	**121**	LR		LR	16 31 08.3	
	comp=Z,104nm,19.4s,baz=270,slow=37							
AAK	**Ala-Archa**	**35.82**	**335**	P		**P**	**16 19 54.0**	**+1.6**
	1.5nm,0.3s,baz=228,slow=5.0,SNR=6.3							
MKAR	**Makanchi Array**	**36.97**	**346**	P		**P**	**16 20 02.7**	**+0.7**
	2.3nm,0.9s,baz=161,slow=7.7,SNR=15							
MKAR				LR		LR	16 39 39.8	
	comp=Z,83nm,18.2s,baz=134,slow=43							
SONM	**Songino Array**	**37.98**	**13**	P		**P**	**16 20 11.4**	**+0.7**
	1.7nm,1.0s,baz=200,slow=7.5,SNR=12							
SONM				LR		LR	16 37 57.8	
	comp=Z,114nm,19.6s,baz=193,slow=39							
KSRS	**Korea Array**	**39.97**	**43**	P		**P**	**16 20 26.9**	**-0.3**
	1.8nm,1.1s,baz=252,slow=10,SNR=7.9							
KSRS				LR		LR	16 36 49.8	
	comp=Z,52nm,18.5s,baz=212,slow=36							
KURBB	**Kurchatov Arra**	**41.45**	**345**	P		**P**	**16 20 40.5**	**+1.2**
	0.7nm,0.3s,baz=164,slow=7.9,SNR=14							
ZALV	**Zalesovo Beam**	**43.37**	**352**	P		**P**	**16 20 56.4**	**+1.4**
	2.5nm,0.8s,baz=179,slow=8.5,SNR=13							
ZALV				LR		LR	16 41 08.8	
	comp=Z,49nm,18.6s,baz=70,slow=39							
BVAR	**Borovoye Array**	**45.99**	**340**	P		**P**	**16 21 16.1**	**+0.3**
	0.4nm,0.4s,baz=140,slow=9.4,SNR=6.2							
USRK	**Ussuriysk Arra**	**46.24**	**38**	P		**P**	**16 21 17.8**	**-0.1**
	1.0nm,0.8s,baz=237,slow=7.5,SNR=3.5							
MJAR	**Matsushiro Arr**	**46.92**	**50**	PcP		**PcP**	**16 22 54.8**	**-1.4**
	2.3nm,1.1s,baz=242,slow=4.7,SNR=5.7							
AKTO	**Aktyubinsk**	**49.20**	**330**	P		**P**	**16 21 40.6**	**-0.2**
	0.5nm,0.6s,baz=163,slow=11,SNR=2.5							
WRA	**Warramunga Arr**	**50.08**	**128**	P		P	16 21 43.4	-4.6
	2.7nm,0.9s,baz=304,slow=8.5,SNR=9.4							
ASAR	**Alice Springs**	**51.93**	**132**	P		P	16 21 56.9	-5.0
	3.0nm,0.8s,baz=309,slow=6.8,SNR=33							
ASAR				LR		LR	16 45 41.8	
	comp=Z,92nm,18.1s,baz=298,slow=38							
DGRG	**David-gareji**	**52.31**	**314**	P		**P**	**16 22 04.7**	**+0.2**
GNI	**Garni**	**52.32**	**313**	P		**P**	**16 22 05.6**	**+0.8**
	1.9nm,0.3s,baz=41,slow=9.3,SNR=3.2							
TBLG	**Delisi**	**52.86**	**314**	P		**P**	**16 22 09.2**	**+0.7**
AKH	**Akhalkalaki**	**53.63**	**314**	P		**P**	**16 22 16.0**	**+1.6**
ONI	**Oni**	**54.05**	**315**	P		P	16 22 24.5	+7.1
KBZ	**Khabaz**	**54.83**	**316**	P		**P**	**16 22 23.4**	**+0.6**
	0.5nm,0.3s,baz=93,slow=6.5,SNR=3.4							
BRTR	**Keskin Array B**	**60.46**	**309**	P		**P**	**16 23 01.2**	**-1.6**
	0.7nm,0.7s,baz=119,slow=10,SNR=4.9							
STKA	**Stephens Creek**	**62.27**	**135**	P		P	16 23 08.7	-6.3
	3.3nm,1.0s,baz=295,slow=14,SNR=2.9							
STKA				LR		LR	16 49 20.8	
	comp=Z,187nm,20.5s,baz=356,slow=35							
FINES	**FINESS Array B**	**69.93**	**332**	P		**P**	**16 24 02.8**	**-0.9**
	1.3nm,0.9s,baz=114,slow=3.5,SNR=2.3							
ARCES	**ARCESS Array B**	**72.28**	**340**	LR		LR	16 59 29.5	
	comp=Z,98nm,19.8s,baz=305,slow=38							
GERES	**GERESS Array B**	**75.52**	**318**	P		**P**	**16 24 36.7**	**-0.7**
	0.8nm,1.1s,baz=76,slow=9.2,SNR=2.8							
LPG	**La Plagne**	**80.44**	**315**	*eP*		**P**	**16 25 04.2**	**-0.8**
LPL	**La Plagne**	**80.45**	**315**	*eP*		**P**	**16 25 04.3**	**-0.7**
	4.3nm,0.9s							
ORIF	**Oris-en-Rattie**	**81.12**	**314**	*eP*		**P**	**16 25 07.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**89.99**	**283**	P		**P**	**16 25 50.9**	**-2.2**
	0.6nm,0.8s,baz=95,slow=4.9,SNR=3.3							
TORD				PP		**PP**	**16 29 30.1**	**+4.1**
	1.2nm,1.1s,baz=90,slow=7.2,SNR=4.7							
ILAR	**Eielson Array**	**91.69**	**22**	P		**P**	**16 25 58.0**	**-1.9**
	0.3nm,0.9s,baz=323,slow=5.7,SNR=3.5							
NVAR	**Mina Array Bea**	**122.06**	**30**	PKP		**PKPdf**	**16 31 47.6**	**-0.6**
	0.4nm,0.7s,baz=322,slow=2.5,SNR=3.4							
PDAR	**Pinedale Array**	**122.09**	**21**	PKP		**PKPdf**	**16 31 46.3**	**-1.8**
	0.3nm,0.6s,baz=134,slow=5.1,SNR=3.1							
TXAR	**Lajitas Array**	**136.20**	**23**	PKhKP		PKPpre	16 32 08.6	
	0.1nm,0.6s,baz=275,slow=4.2,SNR=2.7							
TXAR				PKP		**PKPdf**	**16 32 14.3**	**-0.8**
	0.2nm,0.7s,baz=338,slow=1.9,SNR=3.3							
BDFB	**Brasilia**	**143.09**	**259**	PKP		PKPbc	16 32 26.3	+1.5
	0.8nm,0.3s,baz=104,slow=6.5,SNR=3.5							
PLCA	**Paso Flores**	**147.62**	**202**	PKPbc		**PKPdf**	**16 32 34.6**	**-0.4**
	12nm,1.3s,baz=181,slow=4.9,SNR=4.1							
CPUP	**Villa Florida**	**149.26**	**237**	PKPbc		**PKPdf**	**16 32 38.8**	**+0.9**
	0.7nm,0.5s,baz=9.5,slow=6.1,SNR=2.8							
SIV	**San Ignacio**	**155.57**	**256**	PKP		**PKPdf**	**16 32 45.0**	**-2.6**
	2.4nm,1.1s,baz=228,slow=8.2,SNR=2.7							

*ISCJB **26** 16:20:16.3±0.7, 5°.26N±0°.05×72°.79W±0°.08, h33km, mb3.4/6, Error ellipse: s-maj=11.4km s-min=7.2km az=19.9*

*FUNV **26** 16:20:16.1, 5°.12N×72°.72W, h5km, MW3.4*

*IDC **26** 16:20:17.7±5.7, 5°.32N×72°.72W, h34km±41km, mb3.3/6, mb1 3.7/6, mb1mx3.4/23, mbtmp3.3/6, Error ellipse: s-maj=43.1km s-min=18.8km az=57.0*

ISC 26 16:20:18.4±0.9, 5°.22N±0°.08×72°.69W±0°.08, h35km, n23, σ1$ 32/27, mb3.4/6, 1C, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ROSC	**El Rosal**	**1.68**	**257**	Pg		**Pn**	**16 20 48.2**	**+2.5**
	63nm,0.3s,baz=51,slow=6.5,SNR=100							
ROSC				Lg		Lg	16 21 12.4	
	69nm,0.3s,baz=54,slow=17,SNR=11							
CAPV	**Capacho**	**2.65**	**8**	*eP*		**Pn**	**16 21 00.3**	**+1.4**
CAPV				*eS*		**Sn**	**16 21 32.8**	**+2.8**
SOCV	**Socops**	**3.54**	**31**	*eP*		**Pn**	**16 21 11.6**	**+0.5**
SOCV				*eS*		**Sn**	**16 21 53.3**	**+1.5**
ELOV	**Elorza**	**3.64**	**61**	*eP*		**Pn**	**16 21 13.2**	**+0.8**
VIGV	**El Vigia**	**3.83**	**20**	*eP*		**Pn**	**16 21 16.5**	**+1.5**
VIGV				*eS*		**Sn**	**16 22 00.2**	**+1.4**
VIRV	**Villa del Rosa**	**5.25**	**3**	*eP*		**Pn**	**16 21 34.5**	**-0.1**
VIRV				*eS*		**Sn**	**16 22 33.5**	**-0.4**
SANV	**Sanarito**	**5.28**	**36**	*eP*		**Pn**	**16 21 35.6**	**+0.7**
CURV	**Curarigua**	**5.47**	**29**	*eP*		**Pn**	**16 21 38.3**	**+0.6**
TEPV	**Terepaima**	**5.85**	**36**	*eP*		**Pn**	**16 21 42.5**	**-0.3**
BAUV	**El Baul**	**5.91**	**51**⇑	*eP*		**Pn**	**16 21 42.9**	**-0.7**
SIQV	**Siquisique**	**6.10**	**28**	*eP*		**Pn**	**16 21 46.6**	**+0.4**
MAPV	**Macapo**	**6.21**	**42**	*eP*		**Pn**	**16 21 48.2**	**+0.5**
TURV	**Turiamo**	**7.07**	**42**	*eP*		**Pn**	**16 21 59.0**	**-0.5**
MONV	**Montecano**	**7.21**	**22**	*eP*		**Pn**	**16 22 00.8**	**-0.6**
BIRV	**Birongo**	**8.22**	**50**	*eP*		**Pn**	**16 22 15.0**	**-0.4**
LPAZ	**La Paz**	**21.84**	**168**	P		**P**	**16 25 09.9**	**+1.2**
	0.9nm,0.5s,baz=324,slow=4.7,SNR=5.2							
SIV	**San Ignacio**	**24.01**	**152**	P		**P**	**16 25 30.9**	**+0.7**
	1.4nm,0.6s,baz=328,slow=8.6,SNR=9.6							
TXAR	**Lajitas Array**	**37.85**	**313**	P		**P**	**16 27 30.0**	**-2.1**
	0.1nm,0.6s,baz=134,slow=5.2,SNR=2.9							
PDAR	**Pinedale Array**	**49.62**	**325**	P		**P**	**16 29 05.8**	**-0.9**
	0.4nm,1.0s,baz=137,slow=9.9,SNR=2.3							
NVAR	**Mina Array Bea**	**52.91**	**315**	P		**P**	**16 29 31.1**	**-0.5**
	0.2nm,0.6s,baz=113,slow=6.9,SNR=2.8							
YKA	**Yellowknife Ar**	**64.90**	**340**	P		**P**	**16 30 53.1**	**-0.9**
	1.1nm,0.6s,baz=136,slow=6.8,SNR=6.4							
ASAR	**Alice Springs**	**148.50**	**232**	PKPbc		**PKPbc**	**16 40 01.2**	**-1.2**
	0.5nm,0.8s,baz=118,slow=3.4,SNR=7.1							
WRA	**Warramunga Arr**	**149.91**	**239**	PKPbc		**PKPdf**	**16 40 03.5**	**+2.3**
	0.6nm,0.4s,baz=108,slow=2.7,SNR=6.2							

GUC 26 16:24:42.2±0.7, 22°.40S×67°.77W, h181km±10km, ML3.7, 3C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LVC	**Limon Verde**	**1.08**	**258**⇓	*iP*		Pn	16 25 11.9	+1.0
LVC				*i* S		Sn	16 25 34.0	+0.9
PB09	**Plate Boundary**	**1.49**	**293**⇓	*iP*		Pn	16 25 16.8	+2.4
PB09				*i* S		Sn	16 25 42.3	+3.0
PB09				AML	AML		16 25 43.9	
	comp=N,489nm,0.3s							
PB04	**Plate Boundary**	**1.60**	**274**	*eP*		Pn	16 25 23.6	+8.4
PB04				*i* S		Sn	16 25 53.9	+13
PB04				AML	AML		16 25 57.1	
	comp=N,286nm,0.1s							
ANCH	**Antofagasta**	**2.75**	**242**⇑	*iP*		Pn	16 25 29.0	+1.2
ANCH				AML	AML		16 26 05.1	
	comp=E,269nm,0.0s							
HMBC	**Humberstone**	**2.89**	**316**⇓	*iP*		Pn	16 25 30.9	+1.1
HMBC				*i* S		Sn	16 26 08.7	+1.8
HMBC				AML	AML		16 26 12.1	
	comp=E,96nm,0.3s							
PSGC	**Pisagua**	**3.55**	**321**⇑	*iP*		Pn	16 25 38.6	+0.7
PSGC				*i* S		Sn	16 26 22.0	+0.7
PSGC				AML	AML		16 26 23.5	
	comp=N,25nm,0.2s							
MNMC	**Minimini**	**3.67**	**332**⇑	*iP*		Pn	16 25 41.6	+1.9
MNMC				*i* S		Sn	16 26 27.0	+2.5
MNMC				AML	AML		16 26 32.6	
	comp=N,87nm,0.3s							

IDC 26 16:26:00.2±2.1, 10°.58N×94°.18E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/26, mbtmp3.5/5, ML3.4/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/41, Error ellipse: s-maj=76.4km s-min=22.8km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSI	**Prapat**	**9.05**	**148**	LR		LR	16 32 16.5	
	comp=Z,252nm,18.6s,baz=169,slow=41							
CMAR	**Chiang Mai Arr**	**9.09**	**30**	Pn		Pn	16 28 12.4	-0.3
	0.1nm,0.3s,baz=204,slow=11,SNR=2.4							
MKAR	**Makanchi Array**	**37.48**	**347**	P		P	16 33 15.2	-0.3
	0.5nm,0.8s,baz=166,slow=9.6,SNR=5.6							
SONM	**Songino Array**	**38.54**	**13**	LR		LR	16 51 08.0	
	comp=Z,69nm,18.4s,baz=206,slow=39							
ZALV	**Zalesovo Beam**	**43.90**	**352**	P		P	16 34 08.8	+0.3
	0.5nm,0.7s,baz=178,slow=9.8,SNR=2.7							
WRA	**Warramunga Arr**	**49.83**	**127**	P		P	16 34 55.0	-0.3
	0.6nm,0.3s,baz=300,slow=8.8,SNR=5.5							
ASAR	**Alice Springs**	**51.64**	**132**	P		P	16 35 09.0	0.0
	1.4nm,0.7s,baz=310,slow=6.6,SNR=20							

*ISCJB **26** 16:39:57.8±0.8, 6°.32N±0°.05×126°.03E±0°.09, h35km, mb3.4/5, Error ellipse: s-maj=13.0km s-min=7.5km az=169.5*

*IDC **26** 16:39:59.9±2.1, 6°.71N×126°.12E, h68km±20km, mb3.2/5, mb1 3.5/6, mb1mx3.2/25, mbtmp3.4/6, Error ellipse: s-maj=61.3km s-min=18.7km az=76.0*

*MAN **26** 16:40:01, 6°.70N×125°.91E, h23km, mb4.2, ML3.0, MS2.8*

ISC 26 16:40:00.3±1.1, 6°.52N±0°.08×125°.98E±0°.08, h35km, n12, σ1$ 60/11, mb3.4/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MATI	**Mati**	**0.51**	**33**	*eP*		**Pn**	**16 40 10.6**	**-0.6**
MATI				*eS*		**Sn**	**16 40 20.4**	**+1.7**
DAV	**Davao City (W)**	**0.68**	**324**	P		**Pn**	**16 40 14.6**	**+1.1**
	103nm,0.3s,baz=142,slow=1.3,SNR=14							
DAV				S		Sn	16 40 26.3	+3.5
	305nm,0.3s,baz=155,slow=3.8,SNR=11							
BUKP	**Musuan**	**1.63**	**326**	*eP*		**Pn**	**16 40 26.7**	**0.0**
CGP	**Cagayan de Oro**	**2.31**	**327**	*eP*		**Pn**	**16 40 35.5**	**-0.4**
CGP				*i* S		**Sn**	**16 41 01.3**	**-1.8**
BUTP	**Butuan**	**2.46**	**352**	*eP*		**Pn**	**16 40 38.8**	**+0.7**
PAGZ	**Pagadian**	**2.89**	**297**	*eP*		**Pn**	**16 40 44.5**	**+0.6**
BATI	**Baumata**	**16.77**	**188**	P		**Pn**	**16 43 54.9**	**+2.2**
	1.8nm,0.3s,baz=349,slow=3.9,SNR=5.2							
FITZ	**Fitzroy Crossi**	**24.46**	**181**	P		**P**	**16 45 14.3**	**-1.8**
	1.6nm,0.7s,baz=4.8,slow=12,SNR=4.6							
WRA	**Warramunga Arr**	**27.55**	**163**	P		**P**	**16 45 42.3**	**-1.8**
	0.4nm,0.4s,baz=344,slow=10,SNR=2.6							
ASAR	**Alice Springs**	**30.98**	**166**	P		P	16 46 11.5	-3.1
	0.4nm,0.7s,baz=345,slow=7.5,SNR=12							
MKAR	**Makanchi Array**	**54.86**	**325**	P		P	16 49 22.6	-4.7
	0.2nm,0.5s,baz=119,slow=8.8,SNR=5.4							
ILAR	**Eielson Array**	**82.93**	**26**	P		P	16 52 16.4	-5.0
	0.2nm,0.6s,baz=244,slow=4.2,SNR=4.3							

*IDC **26** 16:44:28.7±0.7, 11°.89S×121°.08E, h0km, mb4.0/13, mb1 4.1/14, mb1mx4.0/21, mbtmp4.0/14, ML4.8/1, MS3.2/4, Ms1 3.2/4, ms1mx2.9/33, Error ellipse: s-maj=26.2km s-min=16.6km az=79.0*

*NEIC **26** 16:44:29.9±4.2, 11°.97S×121°.13E, h10km±27km, mb4.6/1, Error ellipse: s-maj=16.0km s-min=8.6km az=86.0*

*ISCJB **26** 16:44:30.3±0.3, 12°.10S±0°.03×121°.27E±0°.04, h33km, mb3.9/13, MS3.3/2, Error ellipse: s-maj=5.0km s-min=4.3km az=169.6*

*AUST **26** 16:44:32.3, 12°.00S×121°.48E, h20km*

*DJA **26** 16:44:34.2±1.5, 12°.S±14°×12°.1E±°, h10km, M4.5/9, mb4.7/3, mB4.9/2, MLv4.5/9, Mw(mB)4.2/2*

**ISC 26 16:44:33.2±0.5,

comp=Z,136nm,19.1s,baz=282,slow=36
JAY Jayapura 21.44 65 P **P** 16 49 19.9 +1.3
baz=21,SNR=3.6
RKGY Rocky Gully 22.82 189 P P 16 49 46.1 +13
baz=23,SNR=5.4
MTSU Mount Surprise 23.04 108 P **P** 16 49 38.0 +2.3
baz=23,SNR=9.4
BBOO Buckleboo 24.73 149 P **P** 16 49 53.6 +2.1
baz=25,SNR=20
CTA Charters Tower 25.28 112 P **P** 16 49 59.5 +3.0
CTA Charters Tower 25.28 112 P **P** 16 49 59.5 +3.0
1.1nm,0.6s,baz=277,slow=14,SNR=4.3
PMG Port Moresby 25.55 87 LR LR 17 00 51.1
comp=Z,88nm,18.9s,baz=277,slow=38
STKA Stephens Creek 27.21 140 P **P** 16 50 16.1 +2.3
STKA Stephens Creek 27.21 140 P **P** 16 50 16.1 +2.3
2.3nm,0.6s,baz=319,slow=10,SNR=6.2
STKA Stephens Creek 27.21 140 P **P** 16 50 16.1 +2.3
baz=27,SNR=3.7
KSAR Wonju Array Be 49.59 7 P **P** 16 53 20.7 -0.3
KSRS Korea Array 49.61 7 P **P** 16 53 20.7 -0.4
0.4nm,0.8s,baz=183,slow=7.4,SNR=2.8
MJAR Matsushiro Arr 50.87 18 P **P** 16 53 29.0 -1.8
MJAR Matsushiro Arr 50.87 18 P **P** 16 53 29.0 -1.8
2.0nm,0.9s,baz=189,slow=8.6,SNR=8.0
USRK Ussuriysk Arra 56.80 9 P **P** 16 54 15.0 +1.1
0.7nm,0.6s,baz=180,slow=7.8,SNR=3.5
SONM Songino Array 61.05 349 P **P** 16 54 43.0 -0.5
SONM Songino Array 61.05 349 P **P** 16 54 43.0 -0.5
0.2nm,0.6s,baz=145,slow=5.3,SNR=2.3
MAW Mawson 67.20 201 P **P** 16 55 23.0 -0.5
MAW Mawson 67.20 201 P **P** 16 55 23.0 -0.5
1.4nm,0.6s,baz=91,slow=3.5,SNR=3.0
MK31 Makanchi Array 68.16 332 *eP* **P** 16 55 29.7 -0.1
MKAR Makanchi Array 68.16 332 P **P** 16 55 30.1 +0.3
MKAR Makanchi Array 68.16 332 P **P** 16 55 30.1 +0.3
1.4nm,0.7s,baz=143,slow=7.5,SNR=13
PETK Petropavlovsk- 71.97 22 P **P** 16 55 54.1 +1.1
PETK Petropavlovsk 71.97 22 P **P** 16 55 54.1 +1.1
0.8nm,0.8s,baz=212,slow=5.4,SNR=4.4
ZALV Zalesovo Beam 72.65 338 P **P** 16 55 56.1 -1.0
ZALV Zalesovo Beam 72.65 338 P **P** 16 55 56.1 -1.0
0.8nm,0.4s,baz=134,slow=4.5,SNR=3.9
KURBB Kurchatov Arra 72.66 333 P **P** 16 55 57.4 +0.2
0.2nm,0.4s,baz=139,slow=5.1,SNR=4.0
KURK Kurchatov 72.69 333 P **P** 16 55 57.4 0.0
AKTO Aktyubinsk 82.97 325 P **P** 16 56 54.6 0.0
AKTO Aktyubinsk 82.97 325 P **P** 16 56 54.6 0.0
0.8nm,0.5s,baz=105,slow=11,SNR=3.1
LPAZ La Paz 150.37 161 PKPbc **PKPbc** 17 04 24.9 +2.2
LPAZ La Paz 150.37 161 PKPbc **PKPbc** 17 04 24.9 +2.2
0.9nm,0.9s,baz=98,slow=6.8,SNR=4.4

*IDC **26** 16:53:06.0±0.6, 10.°61N×94.°15E, h0km, mb4.0/22, mb1 4.1/24, mb1mx4.0/32, mbtmp4.0/24, ML3.6/2, MS3.8/21, Ms1 3.8/21, ms1mx3.6/52, Error ellipse: s-maj=21.9km s-min=12.6km az=56.0*
*ISCJB **26** 16:53:07.2±0.4, 10.°63N±0.°07×94.°27E±0.°09, h19km, mb4.0/23, MS3.9/19, Error ellipse: s-maj=14.2km s-min=8.9km az=147.9*
ISC 26 16:53:09.2±0.5, 10.°64N±0.°09×94.°2E±0.°1, h19km, n37, σ0s81/34, mb4.0/23, MS3.8/19, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.02**	**30**	Pn		**Pn**	**16 55 18.8**	**+0.2**
	0.2nm,0.3s,baz=220,slow=15,SNR=6.6							
CMAR				LR		LR	16 59 37.0	
	comp=Z,187nm,18.9s,baz=203,slow=43							
PSI	**Prapat**	**9.08**	**149**	Pn		**Pn**	**16 55 19.7**	**+0.3**
	0.7nm,0.3s,baz=339,slow=18,SNR=3.0							
PSI				LR		LR	16 59 32.3	
	comp=Z,1μm,18.9s,baz=166,slow=42							
KAPI	**Kappang**	**29.80**	**120**	LR		LR	17 11 17.2	
	comp=Z,216nm,19.1s,baz=282,slow=37							
AAK	**Ala-Archa**	**36.23**	**335**	P		**P**	**17 00 11.6**	**+0.3**
	1.4nm,0.3s,baz=162,slow=3.2,SNR=3.4							
AAK				LR		LR	17 16 34.1	
	comp=Z,312nm,21.6s,baz=132,slow=39							
MKAR	**Makanchi Array**	**37.43**	**346**	P		**P**	**17 00 21.1**	**-0.1**
	2.7nm,0.9s,baz=170,slow=8.3,SNR=18							
MKAR				LR		LR	17 19 48.8	
	comp=Z,114nm,18.7s,baz=165,slow=43							
SONM	**Songino Array**	**38.47**	**13**	P		**P**	**17 00 30.1**	**-0.1**
	1.4nm,0.9s,baz=190,slow=7.3,SNR=6.3							
SONM				LR		LR	17 17 57.0	
	comp=Z,189nm,18.4s,baz=195,slow=39							
KSRS	**Korea Array**	**40.37**	**43**	P		**P**	**17 00 45.5**	**-0.5**
	1.4nm,1.0s,baz=262,slow=9.5,SNR=4.2							
KSRS				LR		LR	17 20 44.9	
	comp=Z,65nm,18.8s,baz=71,slow=41							
KURBB	**Kurchatov Arra**	**41.91**	**345**	P		**P**	**17 00 57.7**	**-0.7**
	1.9nm,0.9s,baz=162,slow=7.3,SNR=16							
FITZ	**Fitzroy Crossi**	**42.16**	**132**	LR		LR	17 20 46.6	
	comp=Z,110nm,19.4s,baz=220,slow=39							
ZALV	**Zalesovo Beam**	**43.85**	**352**	P		**P**	**17 01 13.5**	**-0.6**
	5.1nm,1.0s,baz=177,slow=8.5,SNR=13							
ZALV				LR		LR	17 22 41.2	
	comp=Z,40nm,21.2s,baz=160,slow=40							
BVAR	**Borovoye Array**	**46.42**	**340**	P		**P**	**17 01 33.6**	**-1.1**
	1.3nm,0.9s,baz=119,slow=8.6,SNR=6.4							
BVAR				LR		LR	17 24 22.3	
	comp=Z,82nm,20.4s,baz=355,slow=40							
USRK	**Ussuriysk Arra**	**46.66**	**37**	P		**P**	**17 01 35.7**	**-0.9**
	0.6nm,0.6s,baz=266,slow=4.3,SNR=2.1							
MJAR	**Matsushiro Arr**	**47.29**	**50**	PcP		**PcP**	**17 03 12.9**	**+0.3**
	1.7nm,0.9s,baz=246,slow=3.7,SNR=7.0							
MJAR				LR		LR	17 25 01.5	
	comp=Z,85nm,18.1s,baz=245,slow=40							
AKTO	**Aktyubinsk**	**49.59**	**330**	P		**P**	**17 01 58.9**	**-0.3**
	0.3nm,0.3s,baz=130,slow=6.9,SNR=2.3							
AKTO				LR		LR	17 28 27.1	
	comp=Z,71nm,18.1s,baz=144,slow=43							
WRA	**Warramunga Arr**	**49.83**	**128**	P		**P**	**17 02 01.2**	**-0.2**
	5.0nm,0.7s,baz=304,slow=8.7,SNR=23							
ASAR	**Alice Springs**	**51.65**	**132**	P		**P**	**17 02 15.0**	**-0.1**
	9.1nm,0.9s,baz=308,slow=6.6,SNR=88							
GNI	**Garni**	**52.60**	**313**	P		**P**	**17 02 22.5**	**+0.2**
	1.9nm,0.3s,baz=169,slow=16,SNR=1.9							
GNI				LR		LR	17 28 08.6	
	comp=Z,106nm,20.3s,baz=116,slow=40							
KBZ	**Khabaz**	**55.13**	**316**	P		**P**	**17 02 40.3**	**-0.1**
	1.0nm,0.6s,baz=135,slow=2.9,SNR=4.4							
KBZ				LR		LR	17 29 37.2	
	comp=Z,90nm,20.6s,baz=148,slow=40							
CTA	**Charters Tower**	**59.61**	**121**	P		**P**	**17 03 12.4**	**0.0**
	6.7nm,0.9s,baz=180,slow=4.0,SNR=3.9							
BRTR	**Keskin Array B**	**60.72**	**310**	P		**P**	**17 03 18.2**	**-1.7**
	1.3nm,0.9s,baz=146,slow=9.0,SNR=7.2							
BRTR				LR		LR	17 33 06.4	
	comp=Z,29nm,20.9s,baz=100,slow=40							
STKA	**Stephens Creek**	**61.96**	**135**	P		**P**	**17 03 28.3**	**+0.1**
	3.7nm,0.9s,baz=300,slow=14,SNR=3.5							
STKA				LR		LR	17 30 27.9	
	comp=Z,136nm,21.2s,baz=115,slow=36							
FINES	**FINESS Array B**	**70.33**	**332**	P		**P**	**17 04 22.3**	**+0.9**
	0.4nm,0.7s,baz=108,slow=13,SNR=2.4							
FINES				LR		LR	17 42 01.1	
	comp=Z,161nm,19.9s,baz=98,slow=42							
ARCES	**ARCESS Array B**	**72.71**	**340**	P		**P**	**17 04 35.7**	**-0.1**
	1.4nm,0.9s,baz=107,slow=4.8,SNR=2.3							
ARCES				LR		LR	17 39 15.8	
	comp=Z,154nm,21.8s,baz=89,slow=38							
GERES	**GERESS Array B**	**75.84**	**318**	P		**P**	**17 04 53.5**	**-0.9**
	0.3nm,0.7s,baz=81,slow=6.2,SNR=4.1							
GERES				LR		LR	17 41 36.8	
	comp=Z,62nm,18.5s,baz=216,slow=38							
BOSA	**Boshof**	**77.12**	**237**	P		**P**	**17 05 00.6**	**-1.5**
	5.4nm,1.2s,baz=58,slow=6.2,SNR=2.5							
NOA	**NORSAR Array B**	**77.38**	**330**	LR		LR	17 45 01.8	
	comp=Z,75nm,19.3s,baz=100,slow=40							
LPG	**La Plagne**	**80.74**	**315**	*eP*		**P**	**17 05 22.3**	**+0.4**
LPL	**La Plagne**	**80.75**	**315**	*eP*		**P**	**17 05 22.3**	**+0.4**
	7.0nm,0.8s							
MBDF	**Montbardon**	**80.81**	**314**	*eP*		**P**	**17 05 22.9**	**+0.8**
ORIF	**Oris-en-Rattie**	**81.42**	**314**	*eP*		**P**	**17 05 26.1**	**+0.8**
TORD	**Torodi Ar. Bea**	**90.05**	**283**	P		**P**	**17 06 08.2**	**-0.4**
	0.5nm,0.8s,baz=90,slow=7.2,SNR=3.9							
TORD					PP	**PP**	**17 09 44.2**	**+2.4**
	0.9nm,1.1s,baz=97,slow=7.8,SNR=3.9							
URZ	**Urewera**	**90.99**	**129**	LR		LR	17 51 43.4	
	comp=Z,143nm,19.2s,baz=226,slow=39							
ILAR	**Eielson Array**	**92.17**	**22**	P		**P**	**17 06 18.2**	**+0.8**
	0.3nm,0.8s,baz=308,slow=4.4,SNR=2.9							
NVAR	**Mina Array Bea**	**122.51**	**30**	PKP		**PKPdf**	**17 12 05.2**	**+0.9**
	0.4nm,0.6s,baz=326,slow=2.3,SNR=5.4							
PDAR	**Pinedale Array**	**122.57**	**21**	PKP		**PKPdf**	**17 12 03.9**	**-0.4**
	0.2nm,0.5s,baz=96,slow=6.0,SNR=4.8							
TXAR	**Lajitas Array**	**136.68**	**23**	PKP		**PKPdf**	**17 12 32.1**	**+0.9**
	0.2nm,0.5s,baz=259,slow=1.8,SNR=4.9							
PLCA	**Paso Flores**	**147.14**	**202**	PKPbc		**PKPbc**	**17 12 51.5**	**0.0**
	3.2nm,0.9s,baz=141,slow=7.1,SNR=4.8							

*IDC **26** 17:01:03.7±0.6, 10.°68N×94.°29E, h0km, mb4.0/22, mb1 4.1/23, mb1mx4.0/32, mbtmp4.0/23, ML3.4/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/52, Error ellipse: s-maj=20.6km s-min=12.3km az=57.0*
*ISCJB **26** 17:01:04.7±0.3, 10.°64N±0.°05×94.°38E±0.°06, h24km, mb4.1/28, MS3.6/2, Error ellipse: s-maj=9.1km s-min=4.8km az=142.3*
*NEIC **26** 17:01:04.5±0.4, 10.°61N×94.°32E, h10km, mb4.4/3, Error ellipse: s-maj=16.0km s-min=7.7km az=59.0*
ISC 26 17:01:06.7±0.4, 10.°60N±0.°06×94.°38E±0.°07, h24km, n83, σ1s30/83, mb4.2/28, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.91**	**303**	*eP*		Pn	17 01 36.4	-1.5
PBA				*eS*		Sn	17 01 59.6	-1.6
DGPR	**DIGLIPUR**	**2.92**	**331**	*eP*		**Pn**	**17 01 50.8**	**-1.0**
DGPR				*eS*		**Sn**	**17 02 25.6**	**-0.6**
CMBY	**CAMPBELL BAY**	**3.59**	**187**	*eP*		**Pn**	**17 02 01.3**	**+0.3**
IPM	**Ipoh**	**8.97**	**132**	*ePn*		**Pn**	**17 03 13.7**	**-1.2**
	12nm,0.5s							
IPM				*eSn*		**Sn**	**17 04 50.6**	**-4.6**
PSI	**Prapat**	**8.97**	**149**	Pn		**Pn**	**17 03 14.7**	**-0.2**
PSI	**Prapat**	**8.97**	**149**	Pn		**Pn**	**17 03 14.7**	**-0.2**
	1.4nm,0.3s,baz=313,slow=18,SNR=2.4							
CMAR	**Chiang Mai Arr**	**8.97**	**29**	Pn		**Pn**	**17 03 15.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**8.97**	**29**	Pn		**Pn**	**17 03 15.9**	**+0.9**
	0.1nm,0.3s,baz=218,slow=14,SNR=4.2							
VIS	**Vishakhapatnam**	**12.83**	**305**	*eP*		**Pn**	**17 04 06.3**	**-1.5**
VIS					AMB	AMB	17 04 29.4	
	comp=Z,63nm,2.1s							
IMP	**Imphal**	**14.11**	**358**	*eP*		**Pn**	**17 04 24.0**	**-1.3**
SHL	**Shillong**	**15.07**	**351**	*eP*		**Pn**	**17 04 37.0**	**-1.4**
BOK	**Bokaro**	**15.41**	**329**	*eP*		**Pn**	**17 04 41.9**	**-0.9**
BOK					AMB	AMB	17 04 50.2	
	comp=Z,27nm,2.7s							
KSM	**Kuching**	**18.24**	**119**	*eP*		**Pn**	**17 05 15.7**	**-2.7**
LSA	**Lhasa**	**19.24**	**351**	*eP*		**P**	**17 05 28.6**	**-1.3**
BHPL	**Bhopal**	**20.49**	**310**	*eP*		**P**	**17 05 42.2**	**-0.9**
BHPL					AMB	AMB	17 06 00.3	
	comp=Z,28nm,2.2s							
NDI	**New Delhi**	**24.12**	**321**	*eP*		**P**	**17 06 19.0**	**-1.9**
SMLA	**Simla**	**25.92**	**325**	*eP*		**P**	**17 06 35.8**	**-1.3**
DHRM	**DHARAMSHALA**	**27.25**	**325**	*ex*		x	17 06 28.6	
DHRM					AMB	AMB	17 06 58.5	
	comp=Z,20nm,1.2s							
AAK	**Ala-Archa**	**36.33**	**335**	*eP*		**P**	**17 08 06.5**	**-2.4**
AAK	**Ala-Archa**	**36.33**	**335**	P		**P**	**17 08 08.3**	**-0.6**
	comp=Z,18nm,0.3s,baz=214,slow=12,SNR=4.1							
MKAR	**Makanchi Array**	**37.50**	**346**	P		**P**	**17 08 18.1**	**-0.6**
MKAR	**Makanchi Array**	**37.50**	**346**	P		**P**	**17 08 18.1**	**-0.6**
	comp=Z,3.0nm,0.9s,baz=165,slow=8.5,SNR=18							
KKAR	**Karatay Array**	**38.47**	**332**	*eP*		**P**	**17 08 25.9**	**-1.0**
	comp=Z,6.7nm,1.0s							
SONM	**Songino Array**	**38.47**	**13**	P		**P**	**17 08 27.4**	**+0.5**
SONM	**Songino Array**	**38.47**	**13**	P		**P**	**17 08 27.4**	**+0.5**
	comp=Z,3.6nm,1.3s,baz=196,slow=5.3,SNR=9.4							
KSAR	**Wonju Array Be**	**40.26**	**40**	P		**P**	**17 08 41.5**	**-0.4**
KSRS	**Korea Array**	**40.29**	**43**	P		**P**	**17 08 41.5**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=245,slow=9.8,SNR=8.1							
KURBB	**Kurchatov Arra**	**41.98**	**345**	P		**P**	**17 08 54.7**	**-1.1**
	comp=Z,2.4nm,1.0s,baz=163,slow=7.5,SNR=16							
FITZ	**Fitzroy Crossi**	**42.02**	**132**	P		**P**	**17 08 56.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**42.02**	**132**	P		**P**	**17 08 56.6**	**+0.1**
	comp=Z,5.4nm,1.0s,baz=289,slow=11,SNR=3.7							
KURK	**Kurchatov**	**42.05**	**345**	P		**P**	**17 08 54.7**	**-1.6**
ZAA0	**Zalesovo Array**	**43.90**	**352**	*eP*		**P**	**17 09 09.6**	**-1.8**
ZALV	**Zalesovo Beam**	**43.90**	**352**	P		**P**	**17 09 11.1**	**-0.3**
ZALV	**Zalesovo Beam**	**43.90**	**352**	P		**P**	**17 09 11.1**	**-0.3**
	comp=Z,3.3nm,0.9s,baz=169,slow=9.1,SNR=15							
BVAR	**Borovoye Array**	**46.51**	**340**	P		**P**	**17 09 31.5**	**-0.6**
BVAR	**Borovoye Array**	**46.51**	**340**	P		**P**	**17 09 31.5**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=142,slow=7.2,SNR=7.6							
USRK	**Ussuriysk Arra**	**46.60**	**37**	P		**P**	**17 09 32.9**	**0.0**
	comp=Z,0.4nm,0.5s,baz=183,slow=5.3,SNR=4.2							
MJAR	**Matsushiro Arr**	**47.20**	**49**	P		**P**	**17 09 37.9**	**+0.2**
MJAR				PcP		**PcP**	**17 11 09.9**	**+0.8**
MJAR	**Matsushiro Arr**	**47.20**	**49**	P		**P**	**17 09 37.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=251,slow=7.6,SNR=3.2							
MJAR				PcP		**PcP**	**17 11 09.9**	**+0.8**
	comp=Z,1.9nm,1.0s,baz=247,slow=3.2,SNR=6.3							
ABKAR	**Akbulak array**	**47.98**	**330**	*eP*		**P**	**17 09 42.4**	**-1.2**
	comp=Z,1.9nm,0.7s							
NWAO	**Narrogin (SRO)**	**48.47**	**154**	P		**P**	**17 09 49.2**	**+1.7**
NWAO	**Narrogin (SRO)**	**48.47**	**154**	P		**P**	**17 09 49.2**	**+1.7**
	comp=Z,13nm,0.9s,baz=360,slow=6.4,SNR=3.0							
WRA	**Warramunga Arr**	**49.69**	**128**	P		**P**	**17 09 58.1**	**+1.0**
WRA	**Warramunga Arr**	**49.69**	**128**	P		**P**	**17 09 58.1**	**+1.0**
	comp=Z,4.8nm,0.9s,baz=303,slow=8.6,SNR=14							
ATD	**Arta Tunnel**	**50.52**	**276**	LR		LR	17 27 24.4	
	comp=Z,207nm,21.8s,baz=49,slow=31							
ASAR	**Alice Springs**	**51.51**	**132**	P		**P**	**17 10 12.3**	**+1.5**
ASAR	**Alice Springs**	**51.51**	**132**	P		**P**	**17 10 12.3**	**+1.5**
	comp=Z,5.3nm,0.8s,baz=312,slow=6.8,SNR=46							
GNI	**Garni**	**52.74**	**313**	P		**P**	**17 10 20.8**	**+0.8**
GNI	**Garni**	**52.74**	**313**	P		**P**	**17 10 20.8**	**+0.8**
	comp=Z,2.5nm,0.3s,baz=144,slow=18,SNR=3.4							
DGRG	**David-gareji**	**52.74**	**315**	P		P	17 10 27.9	+8.0
TBLG	**Delisi**	**53.29**	**315**	P		**P**	**17 10 24.3**	**+0.4**
AKH	**Akhalkalaki**	**54.05**	**314**	P		**P**	**17 10 30.3**	**+0.6**
ONI	**Oni**	**54.48**	**315**	P		P	17 10 39.6	+7.0
KBZ	**Khabaz**	**55.26**	**316**	P		**P**	**17 10 38.3**	**+0.2**
KBZ	**Khabaz**	**55.26**	**316**	P		**P**	**17 10 38.3**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=170,slow=1.6,SNR=4.4							
BRTR	**Keskin Array B**	**60.86**	**310**	P		**P**	**17 11 15.9**	**-1.7**
BRTR	**Keskin Array B**	**60.86**	**310**	P		**P**	**17 11 15.9**	**-1.7**
	comp=Z,1.3nm,0.9s,baz=106,slow=2.7,SNR=7.5							
STKA	**Stephens Creek**	**61.83**	**135**	P		**P**	**17 11 26.0**	**+1.9**
STKA	**Stephens Creek**	**61.83**	**135**	P		**P**	**17 11 26.0**	**+1.9**
	comp=Z,4.5nm,0.9s,baz=302,slow=13,SNR=4.5							
FINES	**FINESS Array B**	**70.43**	**332**	P		**P**	**17 12 19.9**	**+1.1**
FINES	**FINESS Array B**	**70.43**	**332**	P		**P**	**17 12 19.9**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=90,slow=4.2,SNR=3.5							
ARCES	**ARCESS Array B**	**72.80**	**340**	P		**P**	**17 12 35.0**	**+2.0**
ARCES	**ARCESS Array B**	**72.80**	**340**	P		**P**	**17 12 35.0**	**+2.0**
	comp=Z,4.9nm,1.1s,baz=97,slow=7.4,SNR=5.3							
GERES	**GERESS Array B**	**75.97**	**318**	P		**P**	**17 12 51.5**	**-0.5**
GERES	**GERESS Array B**	**75.97**	**318**	P		**P**	**17 12 51.5**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=96,slow=3.0,SNR=2.7							
CASY	**Casey**		**77.59**	**173**	*eP*	**P**	**17 12 58.5**	**-1.9**
	comp=Z,6.9nm,0.6s							
LPG	**La Plagne**		**80.87**	**315**	*eP*	**P**	**17 13 19.9**	**+0.6**
	comp=Z,11nm,1.1s							
LPL	**La Plagne**		**80.89**	**315**	*eP*	**P**	**17 13 19.8**	**+0.5**
	comp=Z,9.9nm,1.0s							
MBDF	**Montbardon**		**80.94**	**314**	*eP*	**P**	**17 13 20.7**	**+1.2**
ORIF	**Oris-en-Rattie**		**81.55**	**314**	*eP*	**P**	**17 13 23.2**	**+0.5**
JMIC	**Jan Mayen**		**84.21**	**341**	LR	LR	17 52 08.1	
	comp=Z,40nm,21.5s,baz=74,slow=36							
TORD	**Torodi Ar. Bea**		**90.20**	**283**	P	**P**	**17 14 05.1**	**-0.9**
TORD					PP	**PP**	**17 17 41.2**	**+1.3**
TORD	**Torodi Ar. Bea**		**90.20**	**283**	P	**P**	**17 14 05.1**	**-0.9**
	comp=Z,1.1nm,1.0s,baz=96,slow=2.9,SNR=3.2							
TORD					PP	**PP**	**17 17 41.2**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=47,slow=5.0,SNR=3.9							
ILAR	**Eielson Array**		**92.15**	**22**	P	**P**	**17 14 16.4**	**+2.3**
ILAR	**Eielson Array**		**92.15**	**22**	P	**P**	**17 14 16.4**	**+2.3**
	comp=Z,0.3nm,0.8s,baz=306,slow=5.2,SNR=3.4							
NVAR	**Mina Array Bea**		**122.47**	**30**	PKP	**PKPdf**	**17 20 01.8**	**+0.9**
NVAR	**Mina Array Bea**		**122.47**	**30**	PKP	**PKPdf**	**17 20 01.8**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=300,slow=3.6,SNR=2.8							
PDAR	**Pinedale Array**		**122.55**	**21**	PKP	**PKPdf**	**17 20 02.4**	**+1.5**
PDAR	**Pinedale Array**		**122.55**	**21**	PKP	**PKPdf**	**17 20 02.4**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=299,slow=3.9,SNR=3.1							
PLCA	**Paso Flores**		**147.16**	**201**	PKPbc	**PKPab**	**17 20 49.7**	**-0.2**
PLCA	**Paso Flores**		**147.16**	**201**	PKPbc	**PKPab**	**17 20 49.7**	**-0.2**
	comp=Z,5.0nm,1.1s,baz=158,slow=5.4,SNR=3.4							
CPUP	**Villa Florida**		**149.04**	**236**	PKPbc	**PKPbc**	**17 20 54.4**	**+0.8**
CPUP	**Villa Florida**		**149.04**	**236**	PKPbc	**PKPbc**	**17 20 54.4**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=100,slow=11,SNR=3.1							

IDC 26 17:07:44.2±8.7, 10.°43N×93.°59E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/26, mbtmp3.5/4, Error ellipse: s-maj=494.1km s-min=22.9km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.49**	**347**	P		P	17 14 59.0	-0.7
	0.2nm,0.7s,baz=162,slow=9.8,SNR=2.4							
KURBB	**Kurchatov Arra**	**41.95**	**346**	P		P	17 15 37.2	+0.5
	0.2nm,0.6s,baz=162,slow=7.0,SNR=4.3							
WRA	**Warramunga Arr**	**50.20**	**127**	P		P	17 16 41.5	-0.7
	1.1nm,0.7s,baz=304,slow=8.9,SNR=4.7							
ASAR	**Alice Springs**	**51.98**	**131**	P		P	17 16 55.9	+0.3
	1.8nm,0.8s,baz=308,slow=6.6,SNR=13							

Islands region

*IDC **26** 17:09:25.8±0.9, 22.°11S×170.°37E, h0km, mb4.1/12, mb1 4.3/14, mb1mx4.2/22, mbtmp4.2/14, ML3.8/2, MS3.5/3, Ms1 3.6/3, ms1mx3.0/37, Error ellipse: s-maj=24.4km s-min=20.6km az=134.0*
*NOU **26** 17:09:26.7±0.7, 20.°49S×170.°19E, h30km, MD3.3, ML3.4, MS1.0*
*ISCJB **26** 17:09:31.1±0.6, 22.°20S±0.°09×170.°26E±0.°05, h51km, mb4.1/12, MS3.7/2, Error ellipse: s-maj=13.2km s-min=6.3km az=0.5*
*SZGRF **26** 17:09:37.8, 18.°25S×175.°12E, h33km, Fiji Islands region*
ISC 26 17:09:32.5±0.7, 22.°3S±0.°1×170.°28E±0.°08, h51km, n45, σ1s09/47, mb4.1/12, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.14**	**271**	*eP*		**Pn**	**17 10 17.8**	**-1.8**
BAYA				*eS*		**Sn**	**17 10 55.5**	**-0.4**
BAYA					AMP		17 11 14.5	
	comp=Z,18nm,32.4s							
PLUM	**Mont Dore**	**3.37**	**269**	*eP*		**Pn**	**17 10 21.4**	**-1.3**
PLUM				*eS*		**Sn**	**17 11 02.5**	**+1.1**
PLUM					AMP		17 11 03.0	
	comp=Z,185nm,1.4s							
DZM	**Mont Dzumac**	**3.56**	**272**	AMP			17 10 23.4	
	comp=Z,935nm,1.2s							
DZM	**Mont Dzumac**	**3.56**	**272**	Pn		**Pn**	**17 10 24.5**	**-0.8**
	comp=Z,18nm,0.3s,baz=122,slow=16,SNR=770							
DZM				LR		LR	17 11 04.5	
	comp=Z,246nm,19.1s,baz=26,slow=27							
DZM				Sn		**Sn**	**17 11 07.1**	**+0.9**
	comp=Z,27nm,0.3s,baz=101,slow=23,SNR=7.4							
NOUC	**Port Laguerre**	**3.69**	**272**	*eP*		**Pn**	**17 10 25.8**	**-1.2**
NOUC				*eS*		**Sn**	**17 11 09.0**	**-0.2**
NOUC					AMP		17 11 11.6	
	comp=Z,49nm,0.0s							
URZ	**Urewera**	**17.01**	**161**	Pn		**P**	**17 13 28.2**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=359,slow=7.5,SNR=3.0							
RPZ	**Rata Peaks**	**21.42**	**178**	P		**P**	**17 14 15.7**	**-0.5**
	comp=Z,8.5nm,1.0s,baz=112,slow=2.8,SNR=3.8							
RPZ				LR		LR	17 21 05.2	
	comp=Z,217nm,20.1s,baz=14,slow=32							
STKA	**Stephens Creek**	**27.21**	**243**	P		**P**	**17 15 13.3**	**+1.6**
	comp=Z,3.5nm,1.0s,baz=70,slow=12,SNR=4.2							
ASAR	**Alice Springs**	**33.47**	**260**	P		**P**	**17 16 07.7**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=80,slow=9.3,SNR=18							
WRA	**Warramunga

MKAR	**Makanchi Array**	**37.30**	**346**	P		**P**	**17 18 43.0**	**+0.2**
MKAR	**Makanchi Array**	**37.30**	**346**	P		**P**	**17 18 43.0**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=163,slow=8.9,SNR=12							
KKAR	**Karatay Array**	**38.26**	**332**	*eP*		**P**	**17 18 50.4**	**-0.5**
	comp=Z,2.8nm,0.8s							
SONM	**Songino Array**	**38.31**	**13**	P		**P**	**17 18 53.0**	**+1.5**
SONM	**Songino Array**	**38.31**	**13**	P		**P**	**17 18 53.0**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=191,slow=6.8,SNR=9.8							
SONM				LR		LR	17 36 39.5	
	comp=Z,108nm,19.9s,baz=200,slow=39							
KSAR	**Wonju Array Be**	**40.20**	**43**	P		**P**	**17 19 07.3**	**+0.1**
KSRS	**Korea Array**	**40.23**	**43**	P		**P**	**17 19 07.3**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=246,slow=8.4,SNR=7.3							
KSRS				LR		LR	17 36 30.4	
	comp=Z,43nm,18.8s,baz=198,slow=37							
KURBB	**Kurchatov Arra**	**41.78**	**345**	P		**P**	**17 19 20.2**	**+0.2**
	comp=Z,2.4nm,1.0s,baz=162,slow=7.6,SNR=10							
KURK	**Kurchatov**	**41.84**	**345**	P		**P**	**17 19 20.2**	**-0.3**
ZAA0	**Zalesovo Array**	**43.71**	**352**	*eP*		**P**	**17 19 34.9**	**-0.7**
ZALV	**Zalesovo Beam**	**43.71**	**352**	P		**P**	**17 19 35.6**	**0.0**
ZALV	**Zalesovo Beam**	**43.71**	**352**	P		**P**	**17 19 35.6**	**0.0**
	comp=Z,3.0nm,0.8s,baz=169,slow=8.8,SNR=13							
BVAR	**Borovoye Array**	**46.30**	**340**	P		**P**	**17 19 56.8**	**+0.5**
BVAR	**Borovoye Array**	**46.30**	**340**	P		**P**	**17 19 56.8**	**+0.5**
	comp=Z,1.3nm,0.9s,baz=133,slow=6.3,SNR=6.1							
USRK	**Ussuriysk Arra**	**46.52**	**37**	P		**P**	**17 19 57.6**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=215,slow=8.8,SNR=5.2							
MJAR	**Matsushiro Arr**	**47.16**	**50**	PcP		**PcP**	**17 21 35.4**	**+0.5**
MJAR	**Matsushiro Arr**	**47.16**	**50**	PcP		**PcP**	**17 21 35.4**	**+0.5**
	comp=Z,1.9nm,1.0s,baz=246,slow=3.8,SNR=7.4							
ABKAR	**Akbulak array**	**47.77**	**330**	*eP*		**P**	**17 20 05.6**	**-2.2**
	comp=Z,4.7nm,1.0s							
AKTO	**Aktyubinsk**	**49.48**	**330**	P		**P**	**17 20 19.9**	**-1.1**
AKTO	**Aktyubinsk**	**49.48**	**330**	P		**P**	**17 20 19.9**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=141,slow=6.5,SNR=2.7							
WRA	**Warramunga Arr**	**49.89**	**128**	P		**P**	**17 20 23.6**	**-0.9**
WRA	**Warramunga Arr**	**49.89**	**128**	P		**P**	**17 20 23.6**	**-0.9**
	comp=Z,4.7nm,0.9s,baz=301,slow=8.5,SNR=11							
ASAR	**Alice Springs**	**51.72**	**132**	P		**P**	**17 20 37.1**	**-1.1**
ASAR				ScP		**ScP**	**17 25 47.1**	**-1.5**
ASAR	**Alice Springs**	**51.72**	**132**	P		**P**	**17 20 37.1**	**-1.1**
	comp=Z,5.5nm,0.8s,baz=308,slow=7.3,SNR=31							
ASAR				ScP		**ScP**	**17 25 47.1**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=319,slow=5.5,SNR=2.8							
DGRG	**David-gareji**	**52.54**	**314**	P		P	17 20 48.1	+3.9
TBLG	**Delisi**	**53.08**	**315**	P		**P**	**17 20 49.6**	**+1.4**
AKH	**Akhalkalaki**	**53.85**	**314**	P		**P**	**17 20 54.3**	**+0.3**
ONI	**Oni**	**54.28**	**315**	P		P	17 21 02.6	+5.6
KBZ	**Khabaz**	**55.06**	**316**	P		**P**	**17 21 02.6**	**+0.2**
KBZ	**Khabaz**	**55.06**	**316**	P		**P**	**17 21 02.6**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=150,slow=8.1,SNR=3.1							
CHVG	**Ch'k'valeri**	**55.27**	**315**	P		P	17 21 11.9	+7.7
BRTR	**Keskin Array B**	**60.66**	**310**	P		**P**	**17 21 41.0**	**-1.1**
BRTR	**Keskin Array B**	**60.66**	**310**	P		**P**	**17 21 41.0**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=110,slow=6.7,SNR=7.5							
STKA	**Stephens Creek**	**62.04**	**135**	P		**P**	**17 21 51.0**	**-0.3**
STKA	**Stephens Creek**	**62.04**	**135**	P		**P**	**17 21 51.0**	**-0.3**
	comp=Z,4.5nm,1.0s,baz=296,slow=7.9,SNR=4.1							
GERES	**GERESS Array B**	**75.76**	**318**	P		**P**	**17 23 17.1**	**+0.4**
GERES	**GERESS Array B**	**75.76**	**318**	P		**P**	**17 23 17.1**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=73,slow=7.6,SNR=3.0							
CLL	**Collm**	**76.21**	**320**	*i* PKP			17 29 05.6	
	comp=Z,5.0nm,0.6s							
CLL				*i*			17 29 10.1	
BOSA	**Boshof**	**77.24**	**237**	P		**P**	**17 23 25.6**	**+0.2**
BOSA	**Boshof**	**77.24**	**237**	P		**P**	**17 23 25.6**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=90,slow=6.1,SNR=3.3							
LPG	**La Plagne**	**80.67**	**315**	*eP*		**P**	**17 23 45.5**	**+1.3**
LPL	**La Plagne**	**80.68**	**315**	*eP*		**P**	**17 23 45.1**	**+0.9**
ORIF	**Oris-en-Rattie**	**81.34**	**314**	*eP*		**P**	**17 23 48.7**	**+1.1**
	comp=Z,1nm,1.1s							
TORD	**Torodi Ar. Bea**	**90.05**	**283**	P		**P**	**17 24 30.9**	**-0.4**
TORD				PP		**PP**	**17 28 05.3**	**+0.8**
TORD	**Torodi Ar. Bea**	**90.05**	**283**	P		**P**	**17 24 30.9**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=62,slow=3.5,SNR=3.6							
TORD				PP		**PP**	**17 28 05.3**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=79,slow=8.7,SNR=3.8							
ILAR	**Eielson Array**	**92.02**	**22**	P		**P**	**17 24 39.7**	**+0.3**
ILAR	**Eielson Array**	**92.02**	**22**	P		**P**	**17 24 39.7**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=303,slow=5.0,SNR=3.4							
NVAR	**Mina Array Bea**	**122.36**	**30**	PKP		**PKPdf**	**17 30 26.5**	**-0.2**
NVAR	**Mina Array Bea**	**122.36**	**30**	PKP		**PKPdf**	**17 30 26.5**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=325,slow=1.1,SNR=3.0							
PDAR	**Pinedale Array**	**122.42**	**21**	PKP		**PKPdf**	**17 30 26.4**	**-0.3**
PDAR	**Pinedale Array**	**122.42**	**21**	PKP		**PKPdf**	**17 30 26.4**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=354,slow=1.5,SNR=4.1							
TXAR	**Lajitas Array**	**136.52**	**23**	PKP		**PKPdf**	**17 30 52.7**	**-1.0**
TXAR	**Lajitas Array**	**136.52**	**23**	PKP		**PKPdf**	**17 30 52.7**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=329,slow=2.1,SNR=2.8							
PLCA	**Paso Flores**	**147.29**	**202**	PKPbc		**PKPbc**	**17 31 15.3**	**+0.7**
PLCA	**Paso Flores**	**147.29**	**202**	PKPbc		**PKPbc**	**17 31 15.3**	**+0.7**
	comp=Z,5.7nm,1.0s,baz=170,slow=4.8,SNR=5.5							
CPUP	**Villa Florida**	**149.05**	**236**	PKPbc		**PKPbc**	**17 31 18.7**	**-1.0**
CPUP	**Villa Florida**	**149.05**	**236**	PKPbc		**PKPbc**	**17 31 18.7**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=40,slow=6.1,SNR=4.0							

*AUST **26** 17:12:38.1,0.°51N×132.°50E,h100km*
*DJA **26** 17:12:55.7±0.8,1.°5±6.°×13.°2E±.°,h10km,M4.1/4,MLv4.1/4*
ISC 26 17:12:56.2±2.1,0.°6S±0.°1×131.°87E±0.°07,h31km,n12,
σ2§26/13,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SWI	**Sorong**	**0.66**	**248**	P		**Pb**	**17 13 07.7**	**-1.6**
SWI				S		**Sn**	**17 13 18.2**	**-0.6**
SWI	**Sorong**	**0.66**	**248**	P		**Pb**	**17 13 07.5**	**-1.8**
	baz=1.8,SNR=354							
FAKI	**Fak Fak**	**2.33**	**171**	P		**Pn**	**17 13 32.3**	**0.0**
FAKI				S		**Sn**	**17 14 00.8**	**+0.9**
FAKI	**Fak Fak**	**2.33**	**171**	P		**Pn**	**17 13 32.0**	**-0.3**
	baz=3.4,SNR=105							
RKPI	**Ransiki, Papua**	**2.47**	**111**	P		**Pn**	**17 13 35.8**	**+1.5**
BNDI	**Bandanaira**	**4.36**	**207**	P		**Pn**	**17 14 01.2**	**+0.9**
BNDI	**Bandanaira**	**4.36**	**207**	P		**Pn**	**17 14 01.5**	**+1.2**
	baz=5.7,SNR=6.3							
AAI	**Ambon**	**4.78**	**230**	P		**Pn**	**17 14 07.2**	**+1.1**
	baz=6.0,SNR=6.7							
KDU	**Kakadu**	**12.01**	**177**	P		**Pn**	**17 15 42.6**	**-2.8**
	baz=13,SNR=18							
KDU				S		Sn	17 17 50.2	-8.2
	baz=13,SNR=4.6							
MTN	**Manton Dam**	**12.18**	**183**	P		**Pn**	**17 15 44.8**	**-2.8**
	baz=13,SNR=26							
MTN				S		Sn	17 17 54.7	-7.7
	baz=13,SNR=6.1							
WSI	**Waingapu**	**14.62**	**232**	S		**Sn**	**17 19 06.8**	**+4.7**
	baz=16,SNR=3.8							
KNRA	**Kununurra**	**15.28**	**191**	P		Pn	17 16 25.0	-4.9
	baz=17,SNR=5.0							
KNRA				S		Sn	17 19 08.9	-9.4
	baz=17,SNR=4.4							

IDC 26 17:16:08.2±1.3,10.°95N×94.°79E,h0km,mb3.6/6,
mb1 3.8/6,mb1mx3.5/26,mbtmp3.6/6,Error ellipse:
s-maj=71.9km s-min=19.4km az=55.0,Andaman Islands
region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.27**	**346**	P		P	17 23 21.2	-0.5
	0.4nm,0.6s,baz=168,slow=9.8,SNR=5.2							
KURBB	**Kurchatov Arra**	**41.76**	**344**	P		P	17 23 59.0	-0.1
	0.5nm,0.9s,baz=155,slow=7.2,SNR=4.1							
ZALV	**Zalesovo Beam**	**43.62**	**351**	P		P	17 24 14.3	+0.1
	0.5nm,0.7s,baz=160,slow=8.8,SNR=2.5							
WRA	**Warramunga Arr**	**49.58**	**128**	P		P	17 25 01.5	0.0
	0.3nm,0.3s,baz=308,slow=8.5,SNR=6.4							
ASAR	**Alice Springs**	**51.44**	**132**	P		P	17 25 15.3	-0.3
	1.6nm,0.8s,baz=308,slow=6.8,SNR=14							
BRTR	**Keskin Array B**	**60.95**	**309**	P		P	17 26 23.5	0.0
	0.7nm,0.8s,baz=97,slow=6.9,SNR=3.7							

IDC 26 17:35:59.0±2.3,11.°17N×95.°03E,h0km,mb3.5/6,
mb1 3.6/6,mb1mx3.4/26,mbtmp3.5/6,MS3.4/1,Ms1 3.4/1,
ms1mx2.2/32,Error ellipse: s-maj=103.9km
s-min=21.5km az=62.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**9.17**	**155**	LR		LR	17 42 24.6	
	comp=Z,200nm,18.8s,baz=352,slow=42							
MKAR	**Makanchi Array**	**37.11**	**345**	P		P	17 43 11.4	+0.2
	0.5nm,0.6s,baz=170,slow=8.1,SNR=4.6							
SONM	**Songino Array**	**37.77**	**13**	P		P	17 43 16.2	-0.8
	0.2nm,0.8s,baz=174,slow=7.2,SNR=2.2							
ZALV	**Zalesovo Beam**	**43.44**	**351**	P		P	17 44 04.1	+0.6
	0.7nm,0.5s,baz=178,slow=8.7,SNR=4.4							
BVAR	**Borovoye Array**	**46.20**	**340**	P		P	17 44 25.0	-0.6
	0.3nm,0.6s,baz=144,slow=5.4,SNR=3.1							
WRA	**Warramunga Arr**	**49.53**	**128**	P		P	17 44 52.2	+0.3
	0.3nm,0.3s,baz=304,slow=9.3,SNR=2.8							
ASAR	**Alice Springs**	**51.42**	**133**	P		P	17 45 05.9	-0.3
	0.6nm,0.8s,baz=305,slow=6.9,SNR=8.3							

IDC 26 17:47:26.6±2.1,10.°59N×94.°12E,h0km,mb3.6/7,
mb1 3.7/7,mb1mx3.5/27,mbtmp3.6/7,Error ellipse:
s-maj=96.5km s-min=18.8km az=61.0,Andaman Islands
region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.46**	**347**	P		P	17 54 41.5	-0.3
	1.3nm,0.9s,baz=166,slow=8.5,SNR=8.8							
SONM	**Songino Array**	**38.54**	**13**	P		P	17 54 50.5	-0.5
	0.2nm,0.3s,baz=189,slow=8.3,SNR=2.6							
KURBB	**Kurchatov Arra**	**41.93**	**345**	P		P	17 55 19.3	+0.4
	0.8nm,0.8s,baz=159,slow=8.0,SNR=6.6							
ZALV	**Zalesovo Beam**	**43.88**	**352**	P		P	17 55 35.0	+0.3
	0.6nm,0.4s,baz=170,slow=9.0,SNR=7.4							
BVAR	**Borovoye Array**	**46.44**	**340**	P		P	17 55 54.4	-0.6
	0.4nm,0.8s,baz=140,slow=7.5,SNR=3.1							
WRA	**Warramunga Arr**	**49.88**	**127**	P		P	17 56 21.4	-0.7
	0.6nm,0.3s,baz=304,slow=8.7,SNR=4.7							
ASAR	**Alice Springs**	**51.69**	**132**	P		P	17 56 36.2	+0.4
	1.0nm,0.8s,baz=312,slow=6.6,SNR=12							

*IDC **26** 17:47:53.5±0.5,10.°71N×94.°23E,h0km,mb4.2/25,*
mb1 4.3/27,mb1mx4.2/33,mbtmp4.1/27,ML3.8/2,MS4.4/3,
Ms1 4.4/3,ms1mx3.7/13,Error ellipse: s-maj=17.3km
s-min=12.6km az=61.0
*ISCJB **26** 17:47:53.7±0.3,10.°73N±0.°04×94.°29E±0.°04,h11km,*
mb4.3/38,MS4.3/2,Error ellipse: s-maj=6.7km
s-min=4.8km az=144.4
*NEIC **26** 17:47:54.8±0.3,10.°74N×94.°35E,h10km,mb4.8/7,Error*
ellipse: s-maj=11.7km s-min=6.8km az=61.0
*GCMT **26** 17:47:58.9±0.3,10.°76N×94.°41E,h12km,MW5.0,Moment*
Tensor Solution. s33,c42; s72,c118; Moment tensor:
Scale 10^16Nm; Mrr=3.46±.09; Mθθ=3.05±.08; Mφφ=0.41±.10;
Mrθ=1.93±.31; Mrφ=1.17±.07; Mθφ=0.62±.35; Best double
couple: M=4.00000×10^16 NP1:φs=68.00000°,δ=30.00000°,
λ=-93.00000°. NP2:φs=251.00000°,δ=60.00000°,
λ=-88.00000°. Principal axes: T 4.0400, Plg15.0000°,
Azm340.0000°; N -0.0300, Plg1.0000°, Azm70.0000°; P
-4.0100, Plg75.0000°, Azm165.0000°; Data Used: II IU IC
G CN.
*BKK **26** 17:48:06.9±0.8,11.°N±3.°×9.°5E±.°,h10km,M4.6/14,mB5.0/6,*
mb4.5/14,MLv4.8/6,Mw(mB)4.3/6
*DJA **26** 17:48:07.6±0.6,10.°N±4.°×9.°5E±.°,h127km±32km,M4.7/10,*
mB5.0/5,mb4.3/10,MLv5.0/5,Mw(mB)4.4/5
ISC 26 17:47:55.3±0.4,10.°75N±0.°06×94.°28E±0.°07,h11km,n134,
σ1§12/116,mb4.4/39,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PBA	**Port Blair**	**1.76**	**301**	*eP*		Pn	17 48 25.7	0.0
PBA				*ex*		Sn	17 48 43.1	-4.9
DGPR	**DIGLIPUR**	**2.75**	**331**	*eP*		**Pn**	**17 48 40.0**	**+0.7**
CMBY	**CAMPBELL BAY**	**3.73**	**185**	*eP*		**Pn**	**17 48 53.0**	**+0.1**
PKDT	**Phuket**	**4.91**	**125**	P		Pn	17 49 14.0	+4.9
BSI	**Banda Aceh**	**5.32**	**169**	P		Pn	17 49 19.5	+4.8
PHET	**Kaeng Krachan**	**5.66**	**67**	P		**Pn**	**17 49 19.6**	**+0.1**
	260nm,0.9s,3µm2.2nm							
PHET	**Kaeng Krachan**	**5.66**	**67**	P		**Pn**	**17 49 20.2**	**+0.7**
	260nm,0.9s,3µm1.0nm							
LHMI	**Lhok Sumawe**	**6.09**	**154**	P		**Pn**	**17 49 26.4**	**+1.1**
	76nm,1.0s,3µm0.9nm							
SKLT	**Songkhla**	**7.20**	**119**	P		**Pn**	**17 49 39.0**	**-1.6**
	22nm,0.8s,791nm1.2nm							
SKLT	**Songkhla**	**7.20**	**119**	P		**Pn**	**17 49 41.7**	**+1.1**
	22nm,0.8s,779nm0.8nm							
NAYO	**Nakonayok**	**7.74**	**62**	P		Pn	17 49 54.2	+6.3
	248nm,0.8s							
CHBT	**CHBT**	**8.13**	**75**	P		**Pn**	**17 49 54.6**	**+1.2**
	33nm,1.0s							
CHBT	**CHBT**	**8.13**	**75**	P		Pb	17 50 07.1	-9.2
KULM	**Kulim**	**8.32**	**130**	*ePn*		Pn	17 49 53.0	-2.9
KULM	**Kulim**	**8.32**	**130**	P		Pn	17 50 00.7	+4.7
KULM	**Kulim**	**8.32**	**130**	P		**Pn**	**17 49 53.5**	**-2.5**
	19nm,1.6s,0.5nm							
SNSI	**Sinabang, Aceh**	**8.53**	**166**	P		**Pn**	**17 49 57.6**	**-1.3**
PBKT	**Sadao Pong**	**8.70**	**48**	P		**Pn**	**17 50 02.3**	**+1.1**
	33nm,0.7s							
PBKT	**Sadao Pong**	**8.70**	**48**	P		**Pn**	**17 50 03.3**	**+2.1**
	33nm,0.7s,0.1nm							
CMAR	**Chiang Mai Arr**	**8.89**	**30**	Pn		**Pn**	**17 50 06.0**	**+2.1**
CMAR	**Chiang Mai Arr**	**8.89**	**30**	Pn		**Pn**	**17 50 06.0**	**+2.1**
	0.2nm,0.3s,baz=220,slow=14,SNR=13							
CHAI	**Chaiyaphum**	**9.08**	**55**	P		Pn	17 50 09.7	+3.3
	8.6nm,1.1s,96nm							
IPM	**Ipoh**	**9.14**	**132**	*ePn*		Pn	17 50 03.0	-4.3
IPM	**Ipoh**	**9.14**	**132**	P		Pn	17 50 03.2	-4.0
IPM	**Ipoh**	**9.14**	**132**	P		Pn	17 50 04.1	-3.1
	19nm,0.5s							
PSI	**Prapat**	**9.14**	**149**	Pn		**Pn**	**17 50 08.0**	**+0.6**
PSI	**Prapat**	**9.14**	**149**	Pn		**Pn**	**17 50 08.0**	**+0.6**
	1.1nm,0.3s,baz=340,slow=16,SNR=3.9							
PSI				LR		LR	17 54 20.2	
	comp=Z,3µm,18.4s,baz=304,slow=42							
CHTO	**Chiang Mai**	**9.20**	**29**	P		Pn	17 50 16.5	+8.5
	12nm,1.1s							
CHTO	**Chiang Mai**	**9.20**	**29**	P		Pn	17 50 18.5	+10
	26nm,1.1s							
CMMT	**Chiang Mai**	**9.20**	**29**	P		Pn	17 50 16.4	+8.3
	11nm,1.1s,602nm							
CMMT	**Chiang Mai**	**9.20**	**29**	P		Pn	17 50 18.3	+10
	19nm,1.6s,590nm							
LAMP	**Lampang**	**9.30**	**33**	P		Pn	17 50 18.9	+9.4
	4.8nm,0.9s							
LOEI	**Loei**	**9.54**	**44**	P		Pn	17 50 18.9	+6.1
	45nm,0.6s							
SKNT	**Sakolnakorn**	**11.27**	**56**	P		Pn	17 50 41.3	+4.9
	22nm,2.2s							
PANO	**Naornanom**	**11.87**	**56**	P		Pn	17 50 58.0	+13
VIS	**Vishakhapatnam**	**12.67**	**304**	*eP*		**Pn**	**17 50 55.3**	**-0.3**
IMP	**Imphal**	**13.96**	**359**	*eP*		**Pn**	**17 51 14.0**	**+0.7**
SHL	**Shillong**	**14.91**	**352**	*eP*		**Pn**	**17 51 25.4**	**-1.0**
SHL					AMB	AMB	17 51 32.2	
	comp=Z,20nm,0.9s							
BOK	**Bokaro**	**15.24**	**329**	*eP*		**Pn**	**17 51 31.0**	**+0.4**
BOK					AMB	AMB	17 51 48.5	
	comp=Z,27nm,3.2s							
LSA	**Lhasa**	**19.08**	**352**	*eP*		**P**	**17 52 18.2**	**-0.3**
	comp=Z,90nm,1.5s							
BHPL	**Bhopal**	**20.32**	**310**	*eP*		Pn	17 52 34.2	+0.5
BHPL					AMB	AMB	17 52 40.8	
	comp=Z,29nm,2.0s							
NDI	**New Delhi**	**23.95**	**321**	*eP*		**P**	**17 53 08.0**	**-1.7**
ENH	**Enshi**	**24.04**	**34**	*eP*		**P**	**17 53 08.7**	**-1.8**
	comp=Z,30nm,1.1s							
DDI	**Dehra Dun**	**24.64**	**325**	*eP*		**P**	**17 53 16.1**	**0.0**
DDI					AMB	AMB	17 53 26.6	
	comp=Z,235nm,1.4s							
SMLA	**Simla**	**25.75**	**324**	*eP*		**P**	**17 53 26.9**	**+0.9**
SMLA					AMB	AMB	17 53 56.8	
	comp=Z,47nm,1.0s							
DHRM	**DHARAMSHALA**	**27.07**	**325**	*eP*		**P**	**17 53 36.9**	**-1.5**
DHRM					AMB	AMB	17 54 14.3	
	comp=Z,26nm,0.8s							
DAV	**Davao City (W)**	**31.13**	**94**	LR		LR	18 07 46.6	
	comp=Z,311nm,19.9s,baz=250,slow=38							
AAK	**Ala-Archa**	**36.16**	**335**	P		**P**	**17 55 00.4**	**+2.5**
AAK	**Ala-Archa**	**36.16**	**335**	P		**P**	**17 55 00.4**	**+2.5**
	comp=Z,2.1nm,0.3s,baz=242,slow=6.3,SNR=3.6							
EKS2	**Erkin-Say**	**36.48**	**334**	*eP*		**P**	**17 54 58.9**	**-1.8**
	comp=Z,6.0nm,0.8s							
MK31	**Makanchi Array**	**37.34**	**346**	*eP*		**P**	**17 55 06.6**	**-1.1**
MKAR	**Makanchi Array**	**37.34**	**346**	*eP*		**P**	**17 55 08.0**	**+0.2**
MKAR	**Makanchi Array**	**37.34**	**346**	P		**P**	**17 55 08.5**	**+0.7**
	comp=Z,5.0nm,0.9s,baz=164,slow=7.4,SNR=17							
KKAR	**Karatay Array**	**38.29**	**332**	*eP*		**P**	**17 55 15.0**	**-0.9**
SONM	**Songino Array**	**38.35**	**13**	P		**P**	**17 55 16.7**	**+0.3**
SONM	**Songino Array**	**38.35**	**13**	P		**P**	**17 55 16.7**	**+0.3**
	comp=Z,3.2nm,1.0s,baz=196,slow=6.2,SNR=14							
ULN	**Ulaanbaatar**	**38.53**	**14**	*eP*		**P**	**17 55 17.5**	**-0.5**
	comp=Z,93nm,3.0s							
KSAR	**Wonju Array Be**	**40.22**	**43**	P		**P**	**17 55 32.1**	**+0.1**
KSRS	**Korea Array**	**40.25**	**43**	P		**P**	**17 55 32.1**	**-0.2**
	comp=Z,3.9nm,1.1s,baz=240,slow=8.1,SNR=11							
KURBB	**Kurchatov Arra**	**41.82**	**345**	P		**P**	**17 55 45.8**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=164,slow=7.5,SNR=14							
KURK	**Kurchatov**	**41.88**	**345**	P		**P**	**17 55 45.8**	**+0.3**
ZAA0	**Zalesovo Array**	**43.74**	**352**	*eP*		**P**	**17 55 58.2**	**-2.4**
ZALV	**Zalesovo Beam**	**43.74**	**352**	P		**P**	**17 56 01.4**	**+0.8**
ZALV	**Zalesovo Beam**	**43.74**	**352**	P		**P**	**17 56 01.4**	**+0.8**
	comp=Z,5.6nm,0.9s,baz=170,slow=9.0,SNR=18							
BVAR	**Borovoye Array**	**46.34**	**340**	P		**P**	**17 56 21.9**	**+0.6**
BVAR	**Borovoye Array**	**46.34**	**340**	P		**P**	**17 56 21.9**	**+0.6**
	comp=Z,2.2nm,1.0s,baz=139,slow=7.9,SNR=8.4							
BRVK	**Borovoye**	**46.40**	**340**	*eP*		**P**	**17 56 22.4**	**+0.7**
	comp=Z,5.7nm,1.0s							
USRK	**Ussuriysk Arra**	**46.54**	**37**	P		**P**	**17 56 24.1**	**+1.2**
	comp=Z,2.5nm,0.9s,baz=232,slow=7.0,SNR=8.3							
MJAR	**Matsushiro Arr**	**47.17**	**50**	P		**P**	**17 56 27.5**	**-0.6**
MJAR				PcP		**PcP**	**17 57 59.7**	**0.0**
MJAR	**Matsushiro Arr**	**47.17**	**50**	P		**P**	**17 56 27.5**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=248,slow=7.0,SNR=4.6							
MJAR				PcP		**PcP**	**17 57 59.7**	**0.0**
	comp=Z,2.2nm,0.8s,baz=244,slow=3.3,SNR=11							
ABKAR	**Akbulak array**	**47.81**	**330**	*eP*		**P**	**17 56 31.6**	**-1.2**
AKTO	**Aktyubinsk**	**49.52**	**330**	P		**P**	**17 56 44.4**	**-1.6**
AKTO	**Aktyubinsk**	**49.52**	**330**	P		**P**	**17 56 44.4**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=90,slow=9.1,SNR=2.9							
WRA	**Warramunga Arr**	**49.85**	**128**	P		**P**	**17 56 48.6**	**-0.3**
WRA	**Warramunga Arr**	**49.85**	**128**	P		**P**	**17 56 48.6**	**-0.3**
	comp=Z,6.4nm,0.8s,baz=304,slow=8.5,SNR=24							
WRAB	**Tennant Creek**	**49.86**	**128**	*eP*		**P**	**17 56 48.4**	**-0.6**
	comp=Z,9.8nm,1.0s							
ASAR	**Alice Springs**	**51.68**	**132**	P		**P**	**17 57 02.3**	**-0.4**
ASAR	**Alice Springs**	**51.68**	**132**	P		**P**	**17 57 02.3**	**-0.4**
	comp=Z,9.5nm,0.8s,baz=306,slow=6.2,SNR=53							
FORT	**Forrest**	**52.51**	**143**	*eP*		**P**	**17 57 10.4**	**+1.7**
	comp=Z,37nm,0.9s							
GNI	**Garni**	**52.57**	**313**	P		**P**	**17 57 11.2**	**+2.0**
GNI	**Garni**	**52.57**	**313**	P		**P**	**17 57 11.2**	**+2.0**
	comp=Z,3.7nm,0.5s,baz=96,slow=9.2,SNR=3.8							
DGRG	**David-gareji**	**52.57**	**314**	P		**P**	**17 57 11.4**	**+2.2**
TBLG	**Delisi**	**53.12**	**315**	P		**P**	**17 57 13.7**	**+0.5**
AKH	**Akhalkalaki**	**53.88**	**314**	P		**P**	**17 57 20.9**	**+1.9**
ONI	**Oni**	**54.31**	**315**	P		P	17 57 27.0	+5.0
OPO

OKFG	**Magazine Ridge**	**2.84**	**55**	P	**Pn**	**17 52 51.3**	**-1.1**
OKFG				S	**Sn**	**17 53 28.2**	**+2.8**
ETKA	**Kagalaska Isla**	**2.86**	**272**	P	**Pn**	**17 52 52.0**	**-0.7**
ADK	**Adak**	**3.03**	**272**	*e*Pn	**Pn**	**17 52 54.5**	**-0.6**
ADK				*e*Sn	**Sn**	**17 53 30.7**	**+0.6**
KIKV	**Kanaga Island**	**3.33**	**273**	P	**Pn**	**17 52 57.6**	**-1.6**
MREP	**Makushin Rep't**	**3.64**	**55**	P	**Pn**	**17 53 03.0**	**-0.5**
MTBL	**Makushin Table**	**3.75**	**54**	P	**Pn**	**17 53 04.3**	**-0.8**
UNV	**Unalaska Valle**	**3.78**	**56**	P	**Pn**	**17 53 04.8**	**-0.6**
TASE	**Tanaga Southea**	**3.87**	**272**	P	**Pn**	**17 53 06.5**	**-0.1**
ZRO	**Akutan Zero**	**4.17**	**55**	P	**Pn**	**17 53 10.1**	**-0.7**
AKGG	**Akutan Green G**	**4.22**	**54**	P	**Pn**	**17 53 11.3**	**-0.1**
GANE	**Gareloi Northe**	**4.33**	**272**	P	**Pn**	**17 53 12.6**	**-0.3**
CESW	**Semis' Southwe**	**5.35**	**274**	P	**Pn**	**17 53 25.8**	**-1.1**
SPIA	**Saint Paul Isl**	**5.41**	**9**	P	**Pn**	**17 53 27.7**	**0.0**
SSBA	**Shishaldin**	**5.45**	**55**	P	**Pn**	**17 53 29.0**	**+0.7**
FALS	**False Pass**	**5.85**	**56**	*e*Pn	**Pn**	**17 53 34.9**	**+1.2**
FALS				*e*Sn	**Sn**	**17 54 39.8**	**+0.4**
FX1	**Attu Island--F**	**9.26**	**282**	Pn	**Pn**	**17 54 20.1**	**-0.3**
FX1				Sn	**Sn**	**17 55 59.8**	**-3.3**
FX1	**Attu Island--F**	**9.26**	**282**	Pn	**Pn**	**17 54 20.1**	**-0.3**
	0.8nm,0.3s,baz=86,slow=18,SNR=5.4						
FX1				Sn	**Sn**	**17 55 59.8**	**-3.3**
	0.3nm,0.3s,baz=66,slow=19,SNR=1.6						
ILAR	**Eielson Array**	**18.23**	**35**	P	**P**	**17 56 16.1**	**-2.2**
ILAR	**Eielson Array**	**18.23**	**35**	P	**P**	**17 56 16.1**	**-2.2**
	0.1nm,0.3s,baz=233,slow=10,SNR=9.5						
PETK	**Petropavlovsk-**	**18.56**	**286**	P	**Pn**	**17 56 23.6**	**+0.9**
PETK	**Petropavlovsk-**	**18.56**	**286**	P	**Pn**	**17 56 23.6**	**+0.9**
	0.5nm,0.3s,baz=94,slow=13,SNR=10						
PETK				LR	LR	18 02 39.9	
	comp=Z,25nm,21.1s,baz=252,slow=34						
SKAG	**Skagway**	**21.70**	**55**	*e*P	**P**	**17 56 56.2**	**+0.3**
	7.0nm,0.7s						
DLBC	**Dease Lake**	**24.43**	**58**	P	**P**	**17 57 25.4**	**+2.2**
DLBC	**Dease Lake**	**24.43**	**58**	P	**P**	**17 57 25.4**	**+2.2**
	2.2nm,0.5s,baz=246,slow=6.3,SNR=8.1						
INK	**Inuvik**	**24.61**	**34**	P	**P**	**17 57 23.3**	**-1.3**
INK	**Inuvik**	**24.61**	**34**	P	**P**	**17 57 23.3**	**-1.3**
	1.6nm,0.5s,baz=249,slow=9.3,SNR=14						
ASAJ	**Asahikawa**	**31.05**	**274**	P	**P**	**17 58 24.8**	**+2.4**
ASAJ	**Asahikawa**	**31.05**	**274**	P	**P**	**17 58 24.8**	**+2.4**
	3.9nm,0.8s,baz=49,slow=9.3,SNR=3.2						
YKA	**Yellowknife Ar**	**31.70**	**48**	P	**P**	**17 58 26.6**	**-1.4**
YKA	**Yellowknife Ar**	**31.70**	**48**	P	**P**	**17 58 26.6**	**-1.4**
	0.4nm,0.4s,baz=274,slow=8.0,SNR=5.5						
YBH	**Yreka Blue Hor**	**34.49**	**87**	LR	LR	18 08 38.1	
	comp=Z,50nm,21.2s,baz=208,slow=29						
USRK	**Ussuriysk Aira**	**37.52**	**281**	P	**P**	**17 59 19.7**	**+1.4**
	1.1nm,0.7s,baz=73,slow=8.1,SNR=3.5						
MJAR	**Matsushiro Arr**	**38.17**	**266**	P	**P**	**17 59 24.8**	**+0.8**
MJAR	**Matsushiro Arr**	**38.17**	**266**	P	**P**	**17 59 24.8**	**+0.8**
	2.3nm,0.7s,baz=44,slow=6.9,SNR=10						
NVAR	**Mina Array Bea**	**39.16**	**88**	P	**P**	**17 59 32.0**	**-0.5**
NVAR	**Mina Array Bea**	**39.16**	**88**	P	**P**	**17 59 32.0**	**-0.5**
	0.3nm,0.7s,baz=292,slow=8.6,SNR=3.1						
KSRS	**Korea Array**	**43.97**	**275**	P	**P**	**18 00 12.6**	**+1.1**
	3.9nm,0.8s,baz=56,slow=7.6,SNR=24						
KSAR	**Wonju Array Be**	**44.00**	**275**	P	**P**	**18 00 12.6**	**+0.8**
SONM	**Songino Array**	**50.27**	**300**	P	**P**	**18 01 00.5**	**-0.2**
SONM				PcP	**PcP**	**18 02 19.3**	**+0.4**
SONM	**Songino Array**	**50.27**	**300**	P	**P**	**18 01 00.5**	**-0.2**
	0.7nm,0.8s,baz=50,slow=7.7,SNR=5.3						
SONM				PcP	**PcP**	**18 02 19.3**	**+0.4**
	0.3nm,0.6s,baz=50,slow=2.4,SNR=3.8						
TXAR	**Lajitas Array**	**54.27**	**87**	P	**P**	**18 01 29.5**	**-1.0**
TXAR	**Lajitas Array**	**54.27**	**87**	P	**P**	**18 01 29.5**	**-1.0**
	0.6nm,0.8s,baz=270,slow=3.8,SNR=5.5						
ZALV	**Zalesovo Beam**	**56.78**	**317**	P	**P**	**18 01 47.4**	**-0.6**
ZALV	**Zalesovo Beam**	**56.78**	**317**	P	**P**	**18 01 47.4**	**-0.6**
	0.2nm,0.4s,baz=49,slow=4.7,SNR=3.9						
ZALV				PcP	**PcP**	**18 02 44.5**	**+1.1**
	0.3nm,0.3s,baz=28,slow=3.4,SNR=5.2						
SCHQ	**Schefferville**	**56.83**	**42**	P	**P**	**18 01 48.4**	**0.0**
SCHQ	**Schefferville**	**56.83**	**42**	P	**P**	**18 01 48.4**	**0.0**
	1.9nm,0.8s,baz=312,slow=8.3,SNR=3.8						
KURK	**Kurchatov**	**61.75**	**317**	P	**P**	**18 02 23.0**	**+0.6**
KURK				PcP	**PcP**	**18 03 03.8**	**+0.6**
KURBB	**Kurchatov Arra**	**61.85**	**317**	P	**P**	**18 02 23.0**	**-0.1**
	2.8nm,0.7s,baz=44,slow=7.1,SNR=27						
KURBB				PcP	**PcP**	**18 03 03.8**	**+0.2**
	1.1nm,0.7s,baz=35,slow=3.3,SNR=7.3						
MKAR	**Makanchi Array**	**63.05**	**312**	P	**P**	**18 02 30.4**	**-0.8**
	0.7nm,0.4s,baz=40,slow=6.4,SNR=18						
BVAR	**Borovoye Array**	**63.23**	**323**	P	**P**	**18 02 32.2**	**-0.1**
	5.1nm,0.5s,baz=52,slow=6.5,SNR=47						
BVAR				PcP	**PcP**	**18 03 09.8**	**+0.6**
	1.5nm,0.6s,baz=25,slow=2.0,SNR=5.6						
FINES	**FINESS Array B**	**66.15**	**351**	P	**P**	**18 02 49.1**	**-2.1**
	0.9nm,0.7s,baz=18,slow=6.0,SNR=4.6						
NB2	**NORSAR Subarra**	**67.43**	**358**	P	**P**	**18 02 58.5**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=358,slow=6.5						
NOA	**NORSAR Array B**	**67.43**	**358**	P	**P**	**18 02 58.6**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=2.4,slow=6.3,SNR=3.5						
AKTO	**Aktyubinsk**	**69.69**	**329**	P	**P**	**18 03 13.2**	**-0.3**
	comp=Z,8.2nm,0.6s,baz=54,slow=7.5,SNR=33						
AAK	**Ala-Archa**	**69.80**	**314**	P	**P**	**18 03 14.4**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=218,slow=3.7,SNR=5.3						
CMAR	**Chiang Mai Arr**	**75.26**	**281**	P	**P**	**18 03 48.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**75.26**	**281**	P	**P**	**18 03 48.1**	**+1.0**
	comp=Z,2.9nm,0.9s,baz=23,slow=7.2,SNR=9.9						
GERES	**GERESS Array B**	**79.57**	**356**	P	**P**	**18 04 10.5**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=359,slow=6.7,SNR=4.6						
BRTR	**Keskin Array B**	**86.14**	**341**	P	**P**	**18 04 45.3**	**+0.1**
BRTR	**Keskin Array B**	**86.14**	**341**	P	**P**	**18 04 45.3**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=9.9,slow=3.2,SNR=3.9						
PSI	**Prapat**	**87.37**	**271**	P	**P**	**18 04 52.7**	**+1.2**
PSI	**Prapat**	**87.37**	**271**	P	**P**	**18 04 52.7**	**+1.2**
	comp=Z,5.0nm,0.4s,baz=123,slow=4.3,SNR=3.6						
ESDC	**Sonseca Array**	**88.23**	**9**	P	**P**	**18 04 54.1**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=350,slow=4.7,SNR=4.8						
ASAR	**Alice Springs**	**88.92**	**228**	P	**P**	**18 04 59.1**	**+0.7**
ASAR	**Alice Springs**	**88.92**	**228**	P	**P**	**18 04 59.1**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=25,slow=4.9,SNR=21						

IDC 26 17:55:31.9±7.1, 10°51N×93°97E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/25, mbtmp3.7/4, MS4.0/5, Ms1 4.0/5, ms1mx3.3/51, Error ellipse: s-maj=378.8km s-min=22.8km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.50**	**347**	P	P	18 02 47.4	-0.1
	0.5nm,0.7s,baz=175,slow=6.8,SNR=4.8						
ZALV	**Zalesovo Beam**	**43.94**	**352**	P	P	18 03 40.3	-0.2
	0.9nm,0.7s,baz=186,slow=2.9,SNR=3.0						
WRA	**Warramunga Arr**	**49.95**	**127**	P	P	18 04 27.9	-0.2
	1.1nm,0.7s,baz=303,slow=8.8,SNR=3.3						
ASAR	**Alice Springs**	**51.75**	**131**	P	P	18 04 41.5	-0.1
	1.4nm,0.8s,baz=311,slow=7.2,SNR=17						
MATP	**Matopo**	**71.33**	**244**	LR	LR	18 34 33.7	
	comp=Z,70nm,18.4s,baz=81,slow=33						
LBTB	**Lobatse**	**75.37**	**241**	LR	LR	18 35 29.0	
	comp=Z,63nm,19.4s,baz=246,slow=32						
DAVOX	**Davos/Dischmat**	**78.39**	**316**	LR	LR	18 44 12.5	
	comp=Z,100nm,18.2s,baz=185,slow=37						
TSUM	**Tsumeb**	**80.82**	**248**	LR	LR	18 38 45.9	
	comp=Z,80nm,18.8s,baz=203,slow=32						
SUR	**Sutherland**	**81.69**	**235**	LR	LR	18 41 07.2	
	comp=Z,111nm,21.3s,baz=46,slow=34						

IDC 26 18:04:47.9±5.8, 20°02N×144°62E, h428km±66km, mb3.1/13, mb1 3.2/13, mb1mx3.1/27, mbtmp3.1/13, Error ellipse: s-maj=30.0km s-min=12.8km az=81.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**22.66**	**324**	P	P	18 09 14.2	-0.4
	1.0nm,0.5s,baz=147,slow=9.3,SNR=8.7						
WRA	**Warramunga Arr**	**40.97**	**195**	P	P	18 11 52.2	+0.4
	0.6nm,0.4s,baz=18,slow=9.1,SNR=4.7						
SONM	**Songino Array**	**41.48**	**321**	P	P	18 11 56.3	+0.5
	0.5nm,0.5s,baz=137,slow=8.8,SNR=4.8						
FITZ	**Fitzroy Crossi**	**42.22**	**207**	P	P	18 12 01.7	-0.1
	2.6nm,0.9s,baz=38,slow=10,SNR=8.7						
CMAR	**Chiang Mai Arr**	**43.06**	**276**	P	P	18 12 08.4	-0.1
	0.8nm,0.4s,baz=65,slow=7.3,SNR=7.8						
ASAR	**Alice Springs**	**44.66**	**194**	P	P	18 12 20.4	-0.6
	0.7nm,1.0s,baz=10,slow=7.0,SNR=10						
ZALV	**Zalesovo Beam**	**56.35**	**322**	P	P	18 13 46.0	-0.6
	0.5nm,0.4s,baz=111,slow=8.1,SNR=4.5						
MKAR	**Makanchi Array**	**56.82**	**313**	P	P	18 13 50.2	+0.2
	0.8nm,0.6s,baz=92,slow=7.6,SNR=15						
KURBB	**Kurchatov Arra**	**59.66**	**318**	P	P	18 14 09.1	-0.2
	2.2nm,0.5s,baz=93,slow=7.6,SNR=43						
ILAR	**Eielson Array**	**62.92**	**27**	P	P	18 14 30.7	+0.1
	0.6nm,0.8s,baz=239,slow=6.1,SNR=5.7						
BVAR	**Borovoye Array**	**64.81**	**320**	P	P	18 14 43.1	+0.1
	2.7nm,0.4s,baz=94,slow=7.6,SNR=22						
ARCES	**ARCESS Array B**	**80.93**	**342**	P	P	18 16 16.6	+0.7
	0.8nm,0.7s,baz=81,slow=8.7,SNR=5.5						
JOF	**Joensuu**	**82.40**	**335**	*ep*	P	18 16 23.8	+0.2
FINES	**FINESS Array B**	**85.27**	**335**	P	P	18 16 37.0	-0.9
	0.8nm,0.4s,baz=73,slow=4.2,SNR=19						

IDC 26 18:15:03.8±7.7, 10°45N×93°92E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.3/26, mbtmp3.4/5, Error ellipse: s-maj=423.6km s-min=21.4km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.54**	**347**	P	P	18 22 19.6	-0.1
	0.4nm,0.6s,baz=172,slow=8.5,SNR=4.9						
KURBB	**Kurchatov Arra**	**42.01**	**345**	P	P	18 22 56.7	0.0
	0.2nm,0.3s,baz=164,slow=7.8,SNR=4.5						
ZALV	**Zalesovo Beam**	**43.99**	**352**	P	P	18 23 12.5	-0.2
	1.1nm,0.8s,baz=187,slow=8.7,SNR=5.1						
WRA	**Warramunga Arr**	**49.96**	**127**	P	P	18 23 59.6	-0.4
	0.3nm,0.3s,baz=309,slow=8.7,SNR=2.9						
ASAR	**Alice Springs**	**51.76**	**131**	P	P	18 24 13.7	+0.2
	0.6nm,0.8s,baz=303,slow=6.6,SNR=5.0						

IDC 26 18:26:10.9±13.0, 10°73N×94°38E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.2/25, mbtmp3.4/3, Error ellipse: s-maj=761.1km s-min=29.6km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.38**	**346**	P	P	18 33 25.2	-0.2
	0.5nm,0.7s,baz=160,slow=7.4,SNR=5.0						
ZALV	**Zalesovo Beam**	**43.77**	**352**	P	P	18 34 18.1	0.0
	0.3nm,0.5s,baz=174,slow=7.2,SNR=2.4						
ASAR	**Alice Springs**	**51.60**	**132**	P	P	18 35 19.3	-0.1
	0.4nm,0.9s,baz=313,slow=5.7,SNR=5.5						

IDC 26 18:34:13.4±2.8, 12°07S×166°35E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=123.9km s-min=34.1km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.70**	**252**	P	P	18 40 39.6	+0.4
	0.6nm,0.6s,baz=84,slow=9.2,SNR=3.3						
ASAR	**Alice Springs**	**32.88**	**245**	P	P	18 40 49.9	+0.4
	1.0nm,0.6s,baz=67,slow=10,SNR=24						
ASAR				PcP	PcP	18 43 33.4	-1.0
	0.6nm,1.0s,baz=97,slow=2.1,SNR=4.9						
ILAR	**Eielson Array**	**84.29**	**18**	P	P	18 46 47.8	+1.0
	0.2nm,0.5s,baz=245,slow=5.3,SNR=3.5						
MKAR	**Makanchi Array**	**94.67**	**317**	P	P	18 47 35.2	-1.4
	0.5nm,0.6s,baz=94,slow=5.8,SNR=6.4						

IDC 26 18:44:11.9±2.9, 10°28N×93°61E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.4/26, mbtmp3.4/6, Error ellipse: s-maj=130.4km s-min=21.8km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.64**	**347**	P	P	18 51 28.7	+0.1
	0.1nm,0.4s,baz=176,slow=6.6,SNR=2.7						
SONM	**Songino Array**	**38.95**	**14**	P	P	18 51 39.6	-0.2
	0.4nm,1.0s,baz=218,slow=8.5,SNR=3.0						
KURBB	**Kurchatov Arra**	**42.16**	**346**	P	P	18 52 05.9	+0.3
	0.1nm,0.3s,baz=167,slow=7.0,SNR=2.6						
ZALV	**Zalesovo Beam**	**44.11**	**353**	P	P	18 52 21.2	-0.7
	0.2nm,0.2s,baz=145,slow=6.3,SNR=2.9						
WRA	**Warramunga Arr**	**50.10**	**127**	P	P	18 53 08.7	-0.4
	0.8nm,0.7s,baz=304,slow=9.0,SNR=3.2						
ASAR	**Alice Springs**	**51.87**	**131**	P	P	18 53 22.6	+0.1
	1.1nm,0.8s,baz=308,slow=6.9,SNR=13						

IDC ***26*** *18:46:25.8±1.1, 36°58N×4°45E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.5/32, mbtmp3.6/9, ML4.2/2, Error ellipse: s-maj=25.0km s-min=19.8km az=4.0*

CSEM ***26*** *18:46:27.3±0.2, 36°58N×4°49E, h2km, mb4.3/19, Error ellipse: s-maj=5.6km s-min=3.5km az=139.0*

ISCJB ***26*** *18:46:27.8±0.3, 36°78N±0°02×4°45E±0°03, h13km, mb3.6/6, Error ellipse: s-maj=3.3km s-min=3.0km az=0.3*

CRAAG ***26*** *18:46:27.1, 36°58N×4°40E, Ml4.4*

MDD ***26*** *18:46:28.4±0.4, 36°57N×4°45E, h0km, mb4.3/19, Error ellipse: s-maj=4.7km s-min=4.3km az=169.0, PRXIMO*

LDG ***26*** *18:46:28.8±0.3, 36°44N×4°53E, h10km, Ml3.4/16, Error ellipse: s-maj=5.7km s-min=4.1km az=146.0*

ISC 26 18:46:27.8±0.6, 36°60N±0°05×4°43E±0°02, h13km, n161, σ1s99/217, mb3.7/6, 2C-1D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKET	**Djebel Ketaf**	**0.71**	**219**	Pg	**Pg**	**18 46 40.9**	**-0.6**
AKET	**Djebel Ketaf**	**0.71**	**219**	P	**Pg**	**18 46 40.9**	**-0.6**
AKET	**Djebel Ketaf**	**0.71**	**219**	Pg	**Pg**	**18 46 40.9**	**-0.6**
SET	**Setif**	**0.88**	**117**	Pg	**Pg**	**18 46 44.0**	**-0.8**
SET	**Setif**	**0.88**	**117**	P	**Pg**	**18 46 44.0**	**-0.8**
ADJB	**Djebel Djouab**	**0.91**	**241**	Pg	**Pg**	**18 46 44.5**	**-0.9**
ADJB	**Djebel Djouab**	**0.91**	**241**	P	**Pg**	**18 46 44.5**	**-0.9**
ADJB	**Djebel Djouab**	**0.91**	**241**	Pg	**Pg**	**18 46 44.5**	**-0.9**
ABA	**Alger-Bouzarea**	**1.14**	**281**	Pg	**Pb**	**18 46 48.8**	**-0.5**
ABA	**Alger-Bouzarea**	**1.14**	**281**	P	**Pb**	**18 46 48.8**	**-0.5**
DFRA	**Djebel Bou Aff**	**1.17**	**92**	Pg	**Pg**	**18 46 50.0**	**-0.3**
DFRA	**Djebel Bou Aff**	**1.17**	**92**	P	**Pg**	**18 46 50.0**	**-0.3**
EMHD	**Djebel Mahouad**	**1.25**	**252**	Pg	**Pn**	**18 46 51.0**	**-0.1**
EMHD	**Djebel Mahouad**	**1.25**	**252**	P	**Pn**	**18 46 51.0**	**-0.1**
EMHD	**Djebel Mahouad**	**1.25**	**252**	Pg	**Pn**	**18 46 51.0**	**-0.1**
CASM	**Ain Smara**	**1.70**	**101**	Pn	**Pn**	**18 46 56.0**	**-1.2**
CASM	**Ain Smara**	**1.70**	**101**	P	**Pn**	**18 46 56.0**	**-1.2**
CASM	**Ain Smara**	**1.70**	**101**	Pn	**Pn**	**18 46 56.0**	**-1.2**
CKFL	**Kef-Lekhel**	**1.86**	**96**	Pn	**Pb**	**18 47 01.0**	**-0.7**
CKFL	**Kef-Lekhel**	**1.86**	**96**	P	**Pb**	**18 47 01.0**	**-0.7**
CKFL	**Kef-Lekhel**	**1.86**	**96**	Pn	**Pb**	**18 47 01.0**	**-0.7**
EBNR	**Beni Rached**	**2.36**	**263**	P	**Pb**	**18 47 11.2**	**+1.1**
CMAH	**Djebel Manchou**	**2.41**	**89**	P	**Pg**	**18 47 17.0**	**+3.1**
ABSA	**Djebel Ababsia**	**2.48**	**97**	P	**Pg**	**18 47 17.5**	**+2.1**
ECHA	**Ech Chlef**	**2.51**	**261**	P	**Pb**	**18 47 12.1**	**-0.6**
ECHF	**Ech Chlef**	**2.53**	**261**	Pn	**Pb**	**18 47 12.1**	**-0.9**
ECHF	**Ech Chlef**	**2.53**	**261**	Pn	**Pb**	**18 47 12.1**	**-0.9**
EANR	**'Ain N'Sour**	**2.77**	**257**	Pn	**Pn**	**18 47 14.1**	**+2.2**
EANR	**'Ain N'Sour**	**2.77**	**257**	P	**Pn**	**18 47 14.1**	**+2.2**
EANR	**'Ain N'Sour**	**2.77**	**257**	Pn	**Pn**	**18 47 14.1**	**+2.2**
ETRT	**Tiaret**	**2.81**	**245**	Pn	**Pn**	**18 47 13.9**	**+1.4**
ETRT	**Tiaret**	**2.81**	**245**	P	**Pn**	**18 47 13.9**	**+1.4**
ETRT	**Tiaret**	**2.81**	**245**	Pn	**Pn**	**18 47 13.9**	**+1.4**
ETOS	**Mallorca**	**3.41**	**339**	Pn	**Pn**	**18 47 22.0**	**+1.4**
	8.6nm,0.2s,SNR=7.9						
ETOS				Sn	**Sn**	**18 48 01.3**	**+0.4**
	0.6nm,0.4s,SNR=7.9						
ETOS	**Mallorca**	**3.41**	**339**	Pn	**Pn**	**18 47 22.0**	**+1.4**
	8.6nm,0.2s,SNR=7.9						
ETOS				Sn	**Sn**	**18 48 01.3**	**+0.4**
KEST	**Kesra**	**4.07**	**101**	Pn	**Pn**	**18 47 30.2**	**+0.3**
	2.6nm,0.3s,baz=247,slow=1.5,SNR=31						
KEST				Sn	**Sn**	**18 48 17.9**	**+0.5**
	2.3nm,0.3s,baz=193,slow=17,SNR=6.0						
EBEN	**Beniarda**	**4.25**	**301**	Pn	**Pn**	**18 47 33.9**	**+1.7**
	1.1nm,0.2s,SNR=18						
EBEN				Sn	**Sn**	**18 48 21.0**	**-0.6**
	0.4nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**4.25**	**301**	Pn	**Pn**	**18 47 33.9**	**+1.7**
	1.1nm,0.2s,SNR=18						
EBEN				Sn	**Sn**	**18 48 21.0**	**-0.6**
	0.4nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**4.69**	**287**	Pn	**Pn**	**18 47 39.5**	**+1.2**
	5.0nm,0.3s,SNR=13						
EMUR				Sn	**Sn**	**18 48 30.9**	**-1.6**
	2.7nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**4.69**	**287**	Pn	**Pn**	**18 47 39.5**	**+1.2**
	5.0nm,0.3s,SNR=13						
ETOB	**Tobarra**	**5.16**	**295**	Pn	**Pn**	**18 47 46.4**	**+1.6**
	5.0nm,0.2s,SNR=40						
ETOB				Sn	**Sn**	**18 48 43.6**	**-0.7**
	1.0nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.16**	**295**	Pn	**Pn**	**18 47 46.4**	**+1.6**
	5.0nm,0.2s,SNR=40						
ETOB				Sn	**Sn**	**18 48 43.6**	**-0.7**
	1.0nm,0.2s,SNR=7.9						
ECHE	**Chera**	**5.20**	**307**	⇓Pn	**Pn**	**18 47 47.5**	**+2.3**
	5.3nm,0.2s,SNR=18						
ECHE	**Chera**	**5.20**	**307**	Pn	**Pn**	**18 47 47.5**	**+2.3**
	5.3nm,0.2s,SNR=18						
EMOS	**Mosqueruela**	**5.37**	**316**	Pn	**Pn**	**18 47 49.0**	**+1.2**
	1.6nm,0.2s,SNR=14						
EMOS				Sn	**Sn**	**18 48 47.1**	**-2.5**
	1.1nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.37**	**316**	Pn	**Pn**	**18 47 49.0**	**+1.2**
	1.6nm,0.2s,SNR=14						
EMOS				Sn	**Sn**	**18 48 47.1**	**-2.5**
	1.1nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**5.41**	**332**	Pn	**Pn**	**18 47 50.0**	**+1.8**
	2.7nm,0.3s,SNR=11						
EPOB				Sn	**Sn**	**18 48 46.8**	**-3.6**
	0.9nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**5.41**	**332**	Pn	**Pn**	**18 47 50.0**	**+1.8**
	2.7nm,0.3s,SNR=11						
EPOB				Sn	**Sn**	**18 48 46.8**	**-3.6**
	0.9nm,0.4s,SNR=7.9						
EMIR	**Miracle**	**5.76**	**338**	Pn	**Pn**	**18 47 55.5**	**+2.5**
	4.2nm,0.4s,SNR=22						
EMIR				Sn	**Sn**	**18 48 57.4**	**-1.6**
	2.5nm,0.4s,SNR=7.9						
EMIR	**Miracle**	**5.76**	**338**	Pn	**Pn**	**18 47 55.5**	**+2.5**
	4.2nm,0.4s,SNR=22						
EMIR				Sn	**Sn**	**18 48 57.4**	**-1.6**
	2.5nm,0.4s,SNR=7.9						
EVIA	**Vianos**	**5.86**	**292**	⇑Pn	**Pn**	**18 47 56.1**	**+1.6**
	3.9nm,0.2s,SNR=18						
EVIA	**Vianos**	**5.86**	**292**	Pn	**Pn**	**18 47 56.1**	**+1.6**
	3.9nm,0.2s,SNR=18						
EBER	**Berja**	**5.88**	**275**	Pn	**Pn**	**18 47 54.5**	**-0.3**
	3.2nm,0.4s,SNR=4.0						
EJON	**La Jonquera**	**5.96**	**349**	Pn	**Pn**	**18 47 57.2**	**+1.5**
	4.9nm,0.2s,SNR=39						
EJON				Sn	**Sn**	**18 49 02.5**	**-1.3**
	1.7nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**5.96**	**349**	Pn	**Pn**	**18 47 57.2**	**+1.5**
	4.9nm,0.2s,SNR=39						
EJON				Sn	**Sn**	**18 49 02.5**	**-1.3**
	1.7nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**6.00**	**349**	*e*P	**Pn**	**18 47 57.3**	**+1.1**
SJAF	**Saint Jean de**	**6.00**	**349**	*e*P	**Pn**	**18 47 57.3**	**+1.1**
VALF	**Valcebollere**	**6.08**	**343**	*e*P	**Pn**	**18 47 59.6**	**+2.1**
VALF	**Valcebollere**	**6.08**	**343**	*e*P	**Pn**	**18 47 59.6**	**+2.1**
EQES	**Quesada**	**6.10**	**284**	Pn	Pn	18 48 00.9	+3.1
	0.5nm,0.2s,SNR=19						
EQES				Sn	**Sn**	**18 49 08.6**	**+1.0**
	0.7nm,0.3s,SNR=5.2						

SBF					*e*Sn		**Sn**	**18 49 40.8**	**-3.7**
	10nm,0.6s								
SBF	**Sospel**	**7.61**	**17**		Pn		**Pn**	**18 48 19.0**	**+0.6**
SBF					*e*Sn		**Sn**	**18 49 40.8**	**-3.7**
	5.2nm,0.6s								
SJPF	**Ste Jean**	**7.82**	**328**		*e*Pn		**Pn**	**18 48 23.1**	**+1.9**
SJPF					*e*Sn		**Sn**	**18 49 46.8**	**-2.8**
	2.0nm,0.4s								
SJPF	**Ste Jean**	**7.82**	**328**		Pn		**Pn**	**18 48 23.1**	**+1.9**
SJPF					*e*Sn		**Sn**	**18 49 46.8**	**-2.8**
	1.0nm,0.4s								
GUD	**Guadarrama**	**7.83**	**304**		Pn		**Pn**	**18 48 23.6**	**+2.0**
	0.2nm,0.4s,SNR=7.9								
GUD	**Guadarrama**	**7.83**	**304**		Pn		**Pn**	**18 48 23.6**	**+2.0**
	0.2nm,0.4s,SNR=7.9								
ELIZ	**Elizondo**	**7.99**	**327**		Pn		**Pn**	**18 48 26.2**	**+2.6**
	0.9nm,0.2s,SNR=7.9								
ELIZ	**Elizondo**	**7.99**	**327**		Pn		**Pn**	**18 48 26.2**	**+2.6**
	0.9nm,0.2s,SNR=7.9								
EALK	**Alkuruntz**	**8.03**	**327**		Pn		**Pn**	**18 48 26.3**	**+2.3**
	1.4nm,0.3s,SNR=8.0								
EALK					Sn		**Sn**	**18 49 50.1**	**-4.5**
	8.9nm,0.4s,SNR=7.9								
EALK	**Alkurruntz**	**8.03**	**327**		Pn		**Pn**	**18 48 26.3**	**+2.3**
	1.4nm,0.3s,SNR=8.0								
VIVF	**Saint-Julien-l**	**8.25**	**1**		*e*Pn		**Pn**	**18 48 27.5**	**+0.4**
VIVF					*e*Sn		**Sn**	**18 49 56.4**	**-3.7**
	4.0nm,0.4s								
VIVF	**Saint-Julien-l**	**8.25**	**1**		Pn		**Pn**	**18 48 27.5**	**+0.4**
VIVF					*e*Sn		**Sn**	**18 49 56.4**	**-3.7**
	2.0nm,0.4s								
MBDF	**Montbardon**	**8.31**	**12**		*e*Pn		**Pn**	**18 48 29.5**	**+1.4**
MBDF					*e*Sn		**Sn**	**18 49 58.0**	**-3.8**
	5.3nm,0.7s								
MBDF	**Montbardon**	**8.31**	**12**		Pn		**Pn**	**18 48 29.5**	**+1.4**
MBDF					*e*Sn		**Sn**	**18 49 58.0**	**-3.8**
	2.7nm,0.7s								
MDT	**Midelt**	**8.35**	**246**		Pn		**Pn**	**18 48 29.7**	**+1.1**
	0.1nm,0.3s,baz=55,slow=12,SNR=4.6								
ORIF	**Oris-en-Rattie**	**8.38**	**7**		*e*Pn		**Pn**	**18 48 30.2**	**+1.2**
ORIF					*e*Sn		**Sn**	**18 49 59.8**	**-3.7**
	1.3nm,0.4s								
ORIF	**Oris-en-Rattie**	**8.38**	**7**		Pn		**Pn**	**18 48 30.2**	**+1.2**
ORIF					*e*Sn		**Sn**	**18 49 59.8**	**-3.7**
	0.6nm,0.4s								
CAF	**Calviac**	**8.51**	**349**		*e*Pn		**Pn**	**18 48 32.2**	**+1.6**
CAF	**Calviac**	**8.51**	**349**		Pn		**Pn**	**18 48 32.2**	**+1.6**
LFF	**La Frestale**	**8.79**	**343**		*e*Pn		**Pn**	**18 48 36.8**	**+2.4**
LFF	**La Frestale**	**8.79**	**343**		Pn		**Pn**	**18 48 36.8**	**+2.4**
RJF	**Les Rejaudoux**	**8.97**	**347**		*e*Pn		**Pn**	**18 48 38.5**	**+1.5**
RJF	**Les Rejaudoux**	**8.97**	**347**		Pn		**Pn**	**18 48 38.5**	**+1.5**
LPG	**La Plagne**	**9.06**	**10**		*e*Pn		**Pn**	**18 48 39.5**	**+1.0**
LPG					*e*Sn		**Sn**	**18 50 16.0**	**-4.4**
	2.9nm,0.5s								
LPG	**La Plagne**	**9.06**	**10**		Pn		**Pn**	**18 48 39.5**	**+1.0**
LPG					*e*Sn		**Sn**	**18 50 16.0**	**-4.4**
	1.5nm,0.5s								
LPL	**La Plagne**	**9.07**	**10**		*e*Pn		**Pn**	**18 48 39.8**	**+1.2**
LPL					*e*Sn		**Sn**	**18 50 16.4**	**-4.3**
	2.5nm,0.5s								
LPL	**La Plagne**	**9.07**	**10**		Pn		**Pn**	**18 48 39.8**	**+1.2**
LPL					*e*Sn		**Sn**	**18 50 16.4**	**-4.3**
	1.2nm,0.5s								
TCF	**Toulx Ste Croi**	**9.82**	**351**		*e*Pn		**Pn**	**18 48 49.8**	**+1.2**
TCF	**Toulx Ste Croi**	**9.82**	**351**		Pn		**Pn**	**18 48 49.8**	**+1.2**
EARI	**Arriondas**	**9.97**	**315**		Pn		**Pn**	**18 48 52.2**	**+1.5**
	3.9nm,0.7s,SNR=8.3								
EARI	**Arriondas**	**9.97**	**315**		Pn		**Pn**	**18 48 52.2**	**+1.5**
	3.9nm,0.7s,SNR=8.3								
BGF	**Bois d'Agland**	**10.02**	**354**		*e*Pn		**Pn**	**18 48 52.5**	**+1.2**
BGF	**Bois d'Agland**	**10.02**	**354**		Pn		**Pn**	**18 48 52.5**	**+1.2**
MVO	**Moncorvo**	**10.02**	**301**		Pn		**Pn**	**18 48 53.8**	**+2.3**
	4.8nm,0.6s,SNR=5.5								
MVO	**Moncorvo**	**10.02**	**301**		Pn		**Pn**	**18 48 53.8**	**+2.3**
	4.8nm,0.6s,SNR=5.5								
SMF	**Signal de Mont**	**10.04**	**358**		*e*Pn		**Pn**	**18 48 52.7**	**+1.0**
SMF	**Signal de Mont**	**10.04**	**358**		Pn		**Pn**	**18 48 52.7**	**+1.0**
CABF	**La Chapelle**	**10.08**	**7**		*e*Pn		**Pn**	**18 48 53.4**	**+1.2**
CABF	**La Chapelle**	**10.08**	**7**		Pn		**Pn**	**18 48 53.4**	**+1.2**
ECAL	**Calabor**	**10.16**	**305**		Pn		**Pn**	**18 48 54.9**	**+1.5**
	7.7nm,0.3s,SNR=11								
ECAL	**Calabor**	**10.16**	**305**		Pn		**Pn**	**18 48 54.9**	**+1.5**
	7.7nm,0.3s,SNR=11								
AVF	**Avril sur Loir**	**10.21**	**356**		*e*Pn		**Pn**	**18 48 54.9**	**+0.9**
AVF	**Avril sur Loir**	**10.21**	**356**		Pn		**Pn**	**18 48 54.9**	**+0.9**
SSF	**Saint Saulge**	**10.47**	**357**		*e*Pn		**Pn**	**18 48 58.8**	**+1.2**
SSF	**Saint Saulge**	**10.47**	**357**		Pn		**Pn**	**18 48 58.8**	**+1.2**
MFF	**Saint Martin d**	**10.56**	**343**		*e*Pn		**Pn**	**18 49 00.1**	**+1.4**
MFF	**Saint Martin d**	**10.56**	**343**		Pn		**Pn**	**18 49 00.1**	**+1.4**
LOR	**Lormes**	**10.67**	**358**		*e*Pn		**Pn**	**18 49 01.3**	**+1.1**
LOR	**Lormes**	**10.67**	**358**		Pn		**Pn**	**18 49 01.3**	**+1.1**
ELOB	**Lobios**	**11.02**	**302**		Pn		**Pn**	**18 49 07.4**	**+2.3**
	6.9nm,1.0s,SNR=4.8								
ELOB	**Lobios**	**11.02**	**302**		Pn		**Pn**	**18 49 07.4**	**+2.3**
	6.9nm,1.0s,SNR=4.8								
GRR	**Gorron**	**12.40**	**343**		*e*Pn		**Pn**	**18 49 24.8**	**+0.9**
GRR	**Gorron**	**12.40**	**343**		Pn		**Pn**	**18 49 24.8**	**+0.9**
LDF	**La Druitiere**	**12.44**	**346**		*e*Pn		**Pn**	**18 49 25.6**	**+1.1**
LDF	**La Druitiere**	**12.44**	**346**		*e*Pn		**Pn**	**18 49 25.6**	**+1.1**
FLN	**La Foliniere**	**12.67**	**345**		*e*Pn		**Pn**	**18 49 28.6**	**+1.0**
FLN	**La Foliniere**	**12.67**	**345**		Pn		**Pn**	**18 49 28.6**	**+1.0**
TORD	**Torodi Ar. Bea**	**23.48**	**187**		P		**P**	**18 51 36.5**	**-0.8**
	0.9nm,0.8s,baz=6.3,slow=10,SNR=6.0								
FINES	**FINESS Array B**	**28.35**	**22**		P		**P**	**18 52 21.8**	**+0.6**
	2.4nm,1.0s,baz=170,slow=8.5,SNR=3.6								
KURBB	**Kurchatov Arra**	**53.27**	**50**		P		**P**	**18 55 45.9**	**-0.1**
	0.2nm,0.3s,baz=290,slow=8.5,SNR=4.0								
MKAR	**Makanchi Array**	**56.80**	**53**		P		**P**	**18 56 11.4**	**-0.2**
	0.3nm,0.8s,baz=293,slow=6.2,SNR=3.3								
ULM	**Lac du Bonnet**	**68.73**	**317**		P		**P**	**18 57 30.8**	**-0.3**
	1.6nm,0.5s,baz=96,slow=2.9,SNR=2.6								
YKA	**Yellowknife Ar**	**69.85**	**334**		P		**P**	**18 57 38.1**	**+0.4**
	0.5nm,0.6s,baz=50,slow=6.1,SNR=3.4								

IDC 26 18:52:06.0±3.1, 10°41N×93°94E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/25, mbtmp3.4/5, Error ellipse: s-maj=126.7km s-min=22.1km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.59**	**347**	P	P	18 59 21.6	-0.6
	0.1nm,0.5s,baz=160,slow=9.3,SNR=4.5						
SONM	**Songino Array**	**38.75**	**13**	P	P	18 59 31.4	-0.8
	0.2nm,0.5s,baz=212,slow=5.1,SNR=2.9						
ZALV	**Zalesovo Beam**	**44.03**	**352**	P	P	19 00 16.5	+1.3
	0.2nm,0.3s,baz=186,slow=7.1,SNR=2.2						
WRA	**Warramunga Arr**	**49.92**	**127**	P	P	19 01 01.6	-0.2
	0.8nm,0.6s,baz=302,slow=9.0,SNR=4.7						
ASAR	**Alice Springs**	**51.71**	**131**	P	P	19 01 15.4	+0.1
	1.0nm,0.8s,baz=308,slow=6.9,SNR=17						

GUC 26 18:53:58.4±0.5, 23°92S×67°31W, h230km±14km, ML3.8, 2C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.96**	**311**	⇓*i*P	Pn	18 54 40.7	+1.5
LVC				*i* S	S	18 55 13.0	+1.9
PB09	**Plate Boundary**	**2.76**	**319**	⇓*i*P	Pn	18 54 50.3	+3.0
PB09				*i* S	S	18 55 29.1	+3.4
PB09				AML	AML	18 55 31.3	
	comp=E,125nm,0.3s						
ANCH	**Antofagasta**	**2.85**	**274**	⇑*i*P	Pn	18 54 50.2	+2.3
ANCH				*i* S	S	18 55 28.4	+1.6
ANCH				AML	AML	18 55 29.7	
	comp=N,193nm,0.0s						
PB01	**Plate Boundary**	**3.50**	**324**	⇓*i*P	Pn	18 54 57.6	+2.1
PB01				*i* S	S	18 55 43.0	+2.6
PB01				AML	AML	18 55 48.1	
	comp=E,34nm,0.3s						
HMBC	**Humberstone**	**4.34**	**326**	⇑*i*P	Pn	18 55 06.8	+1.1
HMBC				*i* S	S	18 56 00.4	+1.7
PSGC	**Pisagua**	**5.03**	**328**	*e*P	Pn	18 55 14.9	+0.7
PSGC				*i* S	S	18 56 14.1	-0.1
MNMC	**Minimini**	**5.21**	**336**	*e*P	Pn	18 55 18.9	+2.2
MNMC				*i* S	S	18 56 20.2	+1.4

IDC 26 18:59:46.8±0.8, 10°72N×94°14E, h0km, mb3.7/13, mb1 3.8/14, mb1mx3.7/29, mbtmp3.7/14, ML3.6/1, MS3.5/11, Ms1 3.5/11, ms1mx3.3/45, Error ellipse: s-maj=27.8km s-min=17.2km az=57.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.99**	**31**	Pn	Pn	19 01 59.2	+1.3
	0.2nm,0.3s,baz=218,slow=15,SNR=12						
CMAR				LR	LR	19 05 44.0	
	comp=Z,114nm,18.1s,baz=8.7,slow=40						
PSI	**Prapat**	**9.19**	**149**	LR	LR	19 06 14.0	
	comp=Z,459nm,19.0s,baz=170,slow=42						
KAPI	**Kappang**	**29.91**	**120**	LR	LR	19 17 58.0	
	comp=Z,107nm,18.3s,baz=57,slow=36						
MKAR	**Makanchi Array**	**37.34**	**347**	P	P	19 07 01.5	+0.5
	1.3nm,0.7s,baz=165,slow=8.1,SNR=10						
MKAR				LR	LR	19 26 28.5	
	comp=Z,59nm,18.1s,baz=158,slow=43						
SONM	**Songino Array**	**38.41**	**13**	P	P	19 07 10.8	+0.7
	0.3nm,0.7s,baz=203,slow=11,SNR=3.2						
SONM				LR	LR	19 24 36.4	
	comp=Z,106nm,18.9s,baz=190,slow=39						
KSRS	**Korea Array**	**40.36**	**43**	P	P	19 07 25.1	-1.3
	0.3nm,0.3s,baz=248,slow=6.6,SNR=4.2						
KSRS				LR	LR	19 27 26.5	
	comp=Z,37nm,18.4s,baz=188,slow=41						
KURBB	**Kurchatov Arra**	**41.81**	**345**	P	P	19 07 37.0	-1.1
	1.0nm,0.7s,baz=164,slow=7.4,SNR=9.0						
FITZ	**Fitzroy Crossi**	**42.27**	**132**	LR	LR	19 27 09.5	
	comp=Z,114nm,20.1s,baz=236,slow=39						
ZALV	**Zalesovo Beam**	**43.76**	**352**	P	P	19 07 54.0	+0.1
	1.3nm,0.6s,baz=175,slow=7.9,SNR=9.4						
ZALV				LR	LR	19 28 18.8	
	comp=Z,55nm,21.5s,baz=250,slow=39						
BVAR	**Borovoye Array**	**46.32**	**340**	P	P	19 08 14.9	+0.6
	0.6nm,0.8s,baz=133,slow=8.5,SNR=2.8						
BVAR				LR	LR	19 31 14.1	
	comp=Z,46nm,19.2s,baz=7.1,slow=41						
MJAR	**Matsushiro Arr**	**47.29**	**50**	LR	LR	19 28 24.3	
	comp=Z,48nm,20.0s,baz=255,slow=36						
AKTO	**Aktyubinsk**	**49.48**	**330**	P	P	19 08 38.8	-0.1
	0.4nm,0.5s,baz=96,slow=18,SNR=2.4						
WRA	**Warramunga Arr**	**49.94**	**128**	P	P	19 08 42.2	-0.6
	0.5nm,0.4s,baz=305,slow=8.9,SNR=4.6						
ASAR	**Alice Springs**	**51.76**	**132**	P	P	19 08 56.0	-0.5
	1.1nm,0.6s,baz=308,slow=6.6,SNR=27						
GNI	**Garni**	**52.49**	**313**	LR	LR	19 34 50.3	
	comp=Z,47nm,20.1s,baz=106,slow=40						
KBZ	**Khabaz**	**55.02**	**316**	P	P	19 09 21.2	+1.1
	1.3nm,0.8s,baz=243,slow=5.9,SNR=4.5						
BRTR	**Keskin Array B**	**60.61**	**310**	P	P	19 09 58.4	-1.3
	0.8nm,0.8s,baz=108,slow=6.7,SNR=6.5						
GERES	**GERESS Array B**	**75.73**	**318**	P	P	19 11 32.6	-1.9
	0.4nm,0.7s,baz=47,slow=4.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**89.95**	**283**	P	P	19 12 49.4	+0.6
	0.7nm,0.9s,baz=92,slow=3.3,SNR=3.4						
TORD				PP	PP	19 16 24.2	+2.6
	1.1nm,1.1s,baz=187,slow=1.2,SNR=3.5						
NVAR	**Mina Array Bea**	**122.48**	**30**	PKP	PKPdf	19 18 44.6	-0.4
	0.2nm,0.5s,baz=328,slow=0.8,SNR=3.6						
TXAR	**Lajitas Array**	**136.63**	**23**	PKP	PKPdf	19 19 13.5	+1.6
	0.2nm,0.7s,baz=64,slow=2.1,SNR=3.5						
PLCA	**Paso Flores**	**147.19**	**202**	PKPbc	PKPab	19 19 33.4	-0.6
	1.6nm,0.9s,baz=315,slow=1.4,SNR=3.1						

IDC 26 19:18:12.6±6.2, 10°20N×94°31E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/26, mbtmp3.5/5, Error ellipse: s-maj=341.7km s-min=20.3km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.87**	**347**	P	P	19 25 31.6	+0.3
	0.2nm,0.5s,baz=168,slow=7.6,SNR=4.1						
KURBB	**Kurchatov Arra**	**42.35**	**345**	P	P	19 26 08.4	+0.1
	0.3nm,0.4s,baz=161,slow=8.2,SNR=2.4						
ZALV	**Zalesovo Beam**	**44.29**	**352**	P	P	19 26 23.3	-0.7
	0.3nm,0.4s,baz=169,slow=8.7,SNR=2.3						
WRA	**Warramunga Arr**	**49.50**	**127**	P	P	19 27 05.1	-0.2
	0.7nm,0.6s,baz=305,slow=8.4,SNR=3.4						
ASAR	**Alice Springs**	**51.30**	**132**	P	P	19 27 18.8	-0.1
	0.9nm,0.7s,baz=310,slow=6.4,SNR=18						

IDC 26 19:18:30.4±0.8, 10°66N×94°22E, h0km, mb3.8/12, mb1 3.9/13, mb1mx3.8/28, mbtmp3.7/13, ML3.5/1, MS3.6/2, Ms1 3.6/2, ms1mx3.0/26, Error ellipse: s-maj=27.0km s-min=17.4km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.99**	**30**	Pn	Pn	19 20 42.9	+1.2
	0.1nm,0.3s,baz=218,slow=15,SNR=6.1						
PSI	**Prapat**	**9.10**	**149**	LR	LR	19 24 36.4	
	comp=Z,622nm,20.1s,baz=313,slow=40						
MKAR	**Makanchi Array**	**37.41**	**346**	P	P	19 25 45.3	+0.1
	1.2nm,0.8s,baz=158,slow=7.6,SNR=11						
SONM	**Songino Array**	**38.44**	**13**	P	P	19 25 54.7	+0.7
	1.6nm,1.2s,baz=188,slow=8.0,SNR=6.2						
SONM				PcP	PcP	19 28 07.5	+0.2
	0.3nm,0.8s,baz=148,slow=1.4,SNR=3.7						
SONM				ScP	ScP	19 31 54.1	-2.7
	0.3nm,0.8s,baz=343,slow=4.6,SNR=3.8						
KSRS	**Korea Array**	**40.35**	**43**	P	P	19 26 09.0	-0.9
	0.7nm,0.7s,baz=254,slow=9.0,SNR=4.7						
KURBB	**Kurchatov Arra**	**41.88**	**345**	P	P	19 26 22.4	0.0
	0.4nm,0.3s,baz=162,slow=7.4,SNR=6.4						
ZALV	**Zalesovo Beam**	**43.82**	**352**	P	P	19 26 38.0	0.0
	1.7nm,0.8s,baz=171,slow=10,SNR=8.3						
BVAR	**Borovoye Array**	**46.40**	**340**	P	P	19 26 58.5	-0.1
	0.9nm,0.7s,baz=129,slow=6.6,SNR=3.5						
MJAR	**Matsushiro Arr**	**47.27**	**50**	P	P	19 27 05.0	-0.7
	0.5nm,0.9s,baz=242,slow=8.9,SNR=4.2						
MJAR				PcP	PcP	19 28 37.0	0.0
	0.9nm,0.7s,baz=225,slow=1.2,SNR=5.4						
WRA	**Warramunga Arr**	**49.85**	**128**	P	P	19 27 25.1	-0.6
	0.3nm,0.7s,baz=303,slow=8.5,SNR=12						
ASAR	**Alice Springs**	**51.67**	**132**	P	P	19 27 39.4	-0.1
	4.2nm,0.7s,baz=309,slow=6.8,SNR=31						
BRTR	**Keskin Array B**	**60.70**	**310**	P	P	19 28 42.6	-1.4
	0.6nm,0.8s,baz=123,slow=9.0,SNR=3.9						
BRTR				LR	LR	19 56 40.2	
	comp=Z,25nm,18.9s,baz=104,slow=38						
TORD	**Torodi Ar. Bea**	**90.04**	**283**	P	P	19 31 32.5	-0.3
	0.4nm,0.7s,baz=107,slow=4.8,SNR=3.1						
ILAR	**Eielson Array**	**92.11**	**22**	P	P	19 31 41.0	-0.6
	0.5nm,0.9s,baz=284,slow=3.6,SNR=3.6						
NVAR	**Mina Array Bea**	**122.49**	**30**	PKP	PKPdf	19 37 29.5	+0.9
	0.3nm,0.6s,baz=300,slow=3.3,SNR=3.7						
TXAR	**Lajitas Array**	**136.65**	**23**	PKP	PKPdf	19 37 55.9	+0.4
	0.1nm,0.6s,baz=297,slow=2.9,SNR=2.9						
PLCA	**Paso Flores**	**147.16**	**202**	PKPbc	PKPab	19 38 16.8	-0.7
	2.0nm,0.9s,baz=54,slow=8.0,SNR=3.4						

NNC 26 19:29:30.2±4.3, 38°84N×74°95E, h0km, mb3.6, mpv3.4, 5C-6D, Error ellipse: s-maj=34.8km s-min=21.8km az=1.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**4.11**	**7**	⇓Pn	Pn	19 30 36.1	+1.6
	6.4nm,0.5s						
TKM2				⇑Sn	Sn	19 31 26.8	+3.3
	8.3nm,0.5s						
TKM2				⇓Lg	Lg	19 31 36.6	
	15nm,0.6s						
KNDC	**Almaty**	**4.63**	**19**	⇑Pn	Pn	19 30 41.2	-0.3
	16nm,0.6s						
KNDC				⇑Sn	Sn	19 31 38.2	+2.1
	28nm,0.5s						
KNDC				⇑Lg	Lg	19 31 54.9	
	64nm,1.2s						
KK31	**Karatay Array**	**5.42**	**323**	⇓Pn	Pn	19 30 56.7	+4.3
	0.3nm,0.5s,baz=130,slow=13,SNR=4.2						
KK31				⇑Sn	Sn	19 32 00.4	+4.9
	0.9nm,0.5s,baz=139,slow=20						
KK31				⇓Lg	Lg	19 32 24.2	
	0.5nm,0.3s						
MK31	**Makanchi Array**	**9.60**	**32**	⇓Pn	Pn	19 31 50.7	+1.0
	0.3nm,0.7s						
MK31				⇓Lg	Lg	19 34 28.0	
	1.0nm,0.8s						

*NEIC **26** 19:35:30.4±0.8, 44°03N×105°49W, h0km, ML3.4, Error ellipse: s-maj=12.7km s-min=8.8km az=149.0, Suspected Mining explosion. NEIC 30 km [20 miles] S of Gillette.*

*ISCJB **26** 19:35:32.0±0.1, 43°68N±0°01×105°30W±0°02, h0km, mb4.1/3, Error ellipse: s-maj=1.8km s-min=1.6km az=164.1*

*IDC **26** 19:35:33.2±0.8, 44°04N×105°72W, h0km, mb4.0/3, mb1 3.8/8, mb1mx3.5/30, mbtmp3.6/8, ML3.3/5, MS2.8/2, Ms1 2.7/2, ms1mx2.3/50, Error ellipse: s-maj=22.8km s-min=6.6km az=145.0*

ISC 26 19:35:32.1±0.6, 43°69N±0°02×105°32W±0°01, h0km, n296, σ1°05/339, mb4.1/3, 140C-144D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I23A	**Meade Ranch, G**	**0.29**	**339**	⇓P	Pb	19 35 39.6	-0.7
	baz=0.1,SNR=92						
I23A				⇓S	Sb	19 35 43.8	-1.9
	baz=0.1						
I23A	**Meade Ranch, G**	**0.29**	**339**	⇓P	Pb	19 35 39.6	-0.7
	baz=0.1,SNR=92						
I23A				⇓S	Sb	19 35 43.8	-1.9
	baz=0.1						
J23A	**Dilts Ranch, B**	**0.33**	**211**	P	Pg	19 35 39.2	+0.7
	baz=0.6,SNR=1000						
J23A	**Dilts Ranch, B**	**0.33**	**211**	P	Pg	19 35 39.2	+0.7
	baz=0.6,SNR=1000						
I24A	**Kuemmerle Ranc**	**0.53**	**71**	P	Pg	19 35 42.9	+0.7
	baz=0.6,SNR=964						
I24A				⇑S	Sg	19 35 50.4	+1.2
	baz=0.6						
I24A	**Kuemmerle Ranc**	**0.53**	**71**	P	Pg	19 35 42.9	+0.7
	baz=0.6,SNR=964						
I24A				⇑S	Sg	19 35 50.4	+1.2
	baz=0.6						
J24A	**Dixon Ranch, L**	**0.60**	**127**	⇓P	Pg	19 35 43.3	-0.2
	baz=0.9						
J24A				⇓S	Sg	19 35 51.8	+0.5
	baz=0.9						
J24A	**Dixon Ranch, L**	**0.60**	**127**	⇓P	Pg	19 35 43.3	-0.2
	baz=0.9						
J24A				⇓S	Sg	19 35 51.8	+0.5
	baz=0.9						
I22A	**9 Mile Ranch,**	**0.87**	**284**	P	Pb	19 35 49.6	-0.5
	baz=0.7,SNR=369						
I22A				⇓S	Sb	19 36 01.9	-0.4
	baz=0.7						
I22A	**9 Mile Ranch,**	**0.87**	**284**	P	Pb	19 35 49.6	-0.5
	baz=0.7,SNR=369						
I22A				⇓S	Sb	19 36 01.9	-0.4
	baz=0.7						
H23A	**Clabaugh Cattl**	**0.87**	**356**	⇑P	Pg	19 35 49.4	+0.6
	baz=0.5,SNR=16						
H23A	**Clabaugh Cattl**	**0.87**	**356**	⇑P	Pg	19 35 49.4	+0.6
	baz=0.5,SNR=16						
J22A	**Midwest**	**0.89**	**252**	P	Pg	19 35 49.4	+0.3
	baz=0.9,SNR=584						
J22A				⇓S	Sb	19 36 02.0	-0.9
	baz=0.9						
J22A	**Midwest**	**0.89**	**252**	P	Pg	19 35 49.4	+0.3
	baz=0.9,SNR=584						
J22A				⇓S	Sb	19 36 02.0	-0.9
	baz=0.9						
K23A	**Bowen Ranch, D**	**0.96**	**193**	⇑S	Sb	19 36 04.6	-0.4
	baz=1.3						
K23A	**Bowen Ranch, D**	**0.96**	**193**	⇑S	Sb	19 36 04.6	-0.4
	baz=1.3						
RSSD	**Black Hills**	**1.02**	**65**	*e*P	Pg	19 35 51.5	-0.2
RSSD				*e*S	Sn	19 36 08.6	-0.5
K24A	**Anderson Ranch**	**1.03**	**159**	⇑P	Pg	19 35 51.3	-0.6
	baz=1.4						
K24A				⇑S	Sg	19 36 05.8	+0.4
	baz=1.4						
K24A	**Anderson Ranch**	**1.03**	**159**	⇑P	Pg	19 35 51.3	-0.6
	baz=1.4						
K24A				⇑S	Sg	19 36 05.8	+0.4
	baz=1.4						
J25A	**Sunshine Ranch**	**1.14**	**105**	⇑P	Pg	19 35 53.3	-0.7
	baz=1.4						
J25A				⇑S	Sb	19 36 10.3	0.0
	baz=1.4						
J25A	**Sunshine Ranch**	**1.14**	**105**	⇑P	Pg	19 35 53.3	-0.7
	baz=1.4						
J25A				⇑S	Sb	19 36 10.3	0.0
	baz=1.4						
H22A	**Clearmont**	**1.17**	**321**	⇑P	Pb	19 35 55.1	-0.1
	baz=0.8						
**H

baz=1.5,SNR=24
K21A **Alcova** 1.76 234 P Pn 19 36 04.6 +0.5
baz=1.9,SNR=545
K21A ⇓S Sb 19 36 28.4 +0.2
baz=1.9
K21A **Alcova** 1.76 234 P Pn 19 36 04.6 +0.5
baz=1.9,SNR=545
K21A ⇓S Sb 19 36 28.4 +0.2
baz=1.9
I26A **New Underwood** 1.81 78 ⇑P Pn 19 36 05.1 +0.5
baz=1.9,SNR=24
I26A **New Underwood** 1.81 78 ⇑P Pn 19 36 05.1 +0.5
baz=1.9,SNR=24
L25A **Engebretsen Ra** 1.83 147 ⇓P Pn 19 36 05.4 +0.4
baz=2.2,SNR=62
L25A ⇓Sb Sg 19 36 31.3 +0.4
baz=2.2
L25A **Engebretsen Ra** 1.83 147 ⇓P Pn 19 36 05.4 +0.4
baz=2.2,SNR=62
L25A ⇓Sb Sg 19 36 31.3 +0.4
baz=2.2
L22A **Ellis Ranch, M** 1.85 207 P Pn 19 36 05.7 +0.4
baz=2.1,SNR=74
L22A ⇓S Sb 19 36 30.6 -0.1
baz=2.1
L22A **Ellis Ranch, M** 1.85 207 P Pn 19 36 05.7 +0.4
baz=2.1,SNR=74
L22A ⇓S Sb 19 36 30.6 -0.1
baz=2.1
K26A **Motz Farm, Whi** 1.85 121 ⇑P Pn 19 36 05.7 +0.5
baz=2.1,SNR=21
K26A **Motz Farm, Whi** 1.85 121 ⇑P Pn 19 36 05.7 +0.5
baz=2.1,SNR=21
G25A **Newell** 2.03 42 ⇑P Pb 19 36 09.2 -0.7
baz=1.9
G25A ⇓Sb Sg 19 36 38.1 +0.8
baz=1.9
G25A **Newell** 2.03 42 ⇑P Pb 19 36 09.2 -0.7
baz=1.9
G25A ⇓Sb Sg 19 36 38.1 +0.8
baz=1.9
F23A **Volborg** 2.03 358 ⇑P Pn 19 36 08.5 +0.9
baz=1.7,SNR=40
F23A ⇓Sb Sg 19 36 38.3 +1.0
baz=1.7
F23A **Volborg** 2.03 358 ⇑P Pn 19 36 08.5 +0.9
baz=1.7,SNR=40
F23A ⇓Sb Sg 19 36 38.3 +1.0
baz=1.7
J20A **Shoshoni** 2.04 261 ⇓P Pb 19 36 10.2 +0.1
baz=2.0,SNR=191
J20A ⇑Sb Sg 19 36 38.5 +0.9
baz=2.0
J20A **Shoshoni** 2.04 261 ⇓P Pb 19 36 10.2 +0.1
baz=2.0,SNR=191
J20A ⇑Sb Sg 19 36 38.5 +0.9
baz=2.0
G21A **Lodge Grass** 2.04 319 ⇑P Pn 19 36 08.8 +1.0
baz=1.7,SNR=27
G21A **Lodge Grass** 2.04 319 ⇑P Pn 19 36 08.8 +1.0
baz=1.7,SNR=27
I20A **Worland** 2.05 278 ⇑P Pn 19 36 09.0 +1.1
baz=1.9,SNR=156
I20A ⇑S Sb 19 36 36.7 +0.4
baz=1.9
I20A **Worland** 2.05 278 ⇑P Pn 19 36 09.0 +1.1
baz=1.9,SNR=156
I20A ⇑S Sb 19 36 36.7 +0.4
baz=1.9
H26A **Fairpoint** 2.05 62 P Pb 19 36 09.8 -0.5
baz=2.0,SNR=217
H26A **Fairpoint** 2.05 62 P Pb 19 36 09.8 -0.5
baz=2.0,SNR=217
H20A **Greybull** 2.09 293 ⇓P Pn 19 36 09.5 +1.0
baz=1.9,SNR=57
H20A **Greybull** 2.09 293 ⇓P Pn 19 36 09.5 +1.0
baz=1.9,SNR=57
F22A **Rosebud** 2.19 343 P Pn 19 36 10.8 +1.0
baz=1.8,SNR=58
F22A **Rosebud** 2.19 343 P Pn 19 36 10.8 +1.0
baz=1.8,SNR=58
F24A **Ekalaka** 2.24 16 ⇑P Pn 19 36 11.8 +1.2
baz=2.0
F24A **Ekalaka** 2.24 16 ⇑P Pn 19 36 11.8 +1.2
baz=2.0
M24A **Cheyenne** 2.25 170 ⇑P Pn 19 36 11.9 +1.1
baz=2.6,SNR=279
M24A **Cheyenne** 2.25 170 ⇑P Pn 19 36 11.9 +1.1
baz=2.6,SNR=279
L21A **Rawlins** 2.29 222 ⇑P Pn 19 36 12.7 +1.3
baz=2.5,SNR=50
L21A **Rawlins** 2.29 222 ⇑P Pn 19 36 12.7 +1.3
baz=2.5,SNR=50
PHWY **Pilot Hill** 2.39 182 *e*Pn Pn 19 36 13.6 +0.9
PHWY *e*Sn Sn 19 36 44.8 +1.9
I27A **Quinn** 2.39 80 ⇓P Pn 19 36 13.9 +1.3
baz=2.5,SNR=16
I27A **Quinn** 2.39 80 ⇓P Pn 19 36 13.9 +1.3
baz=2.5,SNR=16
RWWY **Rawlins** 2.44 215 *e*Pn Pn 19 36 14.9 +1.5
RWWY *e*Sn Sb 19 36 46.5 -1.1
K20A **Yellowstone Ra** 2.44 246 ⇓P Pb 19 36 15.3 -1.6
baz=2.5
K20A **Yellowstone Ra** 2.44 246 ⇓P Pb 19 36 15.3 -1.6
baz=2.5
M25A **Palm-Egli Farm** 2.44 157 ⇓P Pn 19 36 14.5 +1.2
baz=2.8
M25A **Palm-Egli Farm** 2.44 157 ⇓P Pn 19 36 14.5 +1.2
baz=2.8
K27A **Flueckinger Fa** 2.46 113 ⇑P Pn 19 36 14.7 +1.2
baz=2.7,SNR=24
K27A **Flueckinger Fa** 2.46 113 ⇑P Pn 19 36 14.7 +1.2
baz=2.7,SNR=24
M22A **Cedar Creek Ra** 2.47 203 ⇑P Pn 19 36 15.4 +1.5
baz=2.7
M22A **Cedar Creek Ra** 2.47 203 ⇑P Pn 19 36 15.4 +1.5
baz=2.7
F21A **Absaloka Mine,** 2.49 330 ⇑P Pn 19 36 15.0 +1.0
baz=2.1
F21A **Absaloka Mine,** 2.49 330 ⇑P Pn 19 36 15.0 +1.0
baz=2.1
H27A **Howes** 2.52 67 ⇓P Pb 19 36 16.6 -1.6
baz=2.5
H27A **Howes** 2.52 67 ⇓P Pb 19 36 16.6 -1.6
baz=2.5
G26A **Maurine** 2.52 50 ⇓P Pn 19 36 16.1 +1.7
baz=2.4
G26A **Maurine** 2.52 50 ⇓P Pn 19 36 16.1 +1.7
baz=2.4
M21A **Separation Pea** 2.57 217 ⇓P Pn 19 36 17.2 +1.9
baz=2.8,SNR=111
M21A **Separation Pea** 2.57 217 ⇓P Pn 19 36 17.2 +1.9
baz=2.8,SNR=111
G20A **Bridger** 2.58 307 ⇓P Pn 19 36 15.7 +0.5
baz=2.3,SNR=97
G20A **Bridger** 2.58 307 ⇓P Pn 19 36 15.7 +0.5
baz=2.3,SNR=97
I19A **Meeteetse** 2.68 279 ⇑P Pn 19 36 18.5 +1.9
baz=2.5,SNR=19
I19A **Meeteetse** 2.68 279 ⇑P Pn 19 36 18.5 +1.9
baz=2.5,SNR=19
K19A **Absolon Red Bu** 2.72 253 P Pn 19 36 18.4 +1.2
baz=2.7,SNR=195
K19A **Absolon Red Bu** 2.72 253 P Pn 19 36 18.4 +1.2
baz=2.7,SNR=195
M26A **McRoberts Ranc** 2.74 143 ⇑P Pn 19 36 18.8 +1.4
baz=3.1
M26A **McRoberts Ranc** 2.74 143 ⇑P Pn 19 36 18.8 +1.4
baz=3.1
J19A **Crowheart** 2.75 262 ⇓P Pn 19 36 19.6 +1.9
baz=2.7,SNR=99
J19A **Crowheart** 2.75 262 ⇓P Pn 19 36 19.6 +1.9
baz=2.7,SNR=99
E22A **Miles City** 2.78 351 ⇓P Pn 19 36 18.1 +0.2
baz=2.4,SNR=13
E22A **Miles City** 2.78 351 ⇓P Pn 19 36 18.1 +0.2
baz=2.4,SNR=13
L20A **Wamsutter** 2.79 234 ⇑P Pn 19 36 20.3 +2.1
baz=2.9
L20A **Wamsutter** 2.79 234 ⇑P Pn 19 36 20.3 +2.1
baz=2.9
E23A **Ismay** 2.81 0 ⇓P Pn 19 36 19.1 +0.8
baz=2.5
E23A **Ismay** 2.81 0 ⇓P Pn 19 36 19.1 +0.8
baz=2.5
H19A **Powell** 2.81 292 ⇑P Pn 19 36 19.8 +1.3
baz=2.6,SNR=80
H19A **Powell** 2.81 292 ⇑P Pn 19 36 19.8 +1.3
baz=2.6,SNR=80
N23A **Red Feather La** 2.83 190 P Pn 19 36 20.0 +1.1
baz=3.1,SNR=119
N23A **Red Feather La** 2.83 190 P Pn 19 36 20.0 +1.1
baz=3.1,SNR=119
F26A **Lodgepole** 2.87 40 ⇓P Pn 19 36 20.3 +1.1
baz=2.7
F26A **Lodgepole** 2.87 40 ⇓P Pn 19 36 20.3 +1.1
baz=2.7
N24A **Carr** 2.88 173 ⇑P Pn 19 36 20.2 +0.8
baz=3.2,SNR=18
N24A **Carr** 2.88 173 ⇑P Pn 19 36 20.2 +0.8
baz=3.2,SNR=18
F20A **Billings** 2.92 317 ⇓P Pn 19 36 20.5 +0.6
baz=2.6
F20A **Billings** 2.92 317 ⇓P Pn 19 36 20.5 +0.6
baz=2.6
G27A **Dupree** 2.95 54 ⇓P Pn 19 36 21.2 +0.9
baz=2.9,SNR=44
G27A **Dupree** 2.95 54 ⇓P Pn 19 36 21.2 +0.9
baz=2.9,SNR=44
E24A **Baker** 2.96 14 ⇑P Pn 19 36 21.7 +1.3
baz=2.7,SNR=45
E24A **Baker** 2.96 14 ⇑P Pn 19 36 21.7 +1.3
baz=2.7,SNR=45
E25A **Miller Ranch,** 3.12 25 ⇑P Pn 19 36 24.5 +1.8
baz=2.9,SNR=15
E25A **Miller Ranch,** 3.12 25 ⇑P Pn 19 36 24.5 +1.8
baz=2.9,SNR=15
PDAR **Pinedale Array** 3.23 255 Pn Pn 19 36 25.2 +1.0
PDAR Pg Pb 19 36 30.6 +0.1
PDAR Lg Lg 19 37 11.1
PDAR **Pinedale Array** 3.23 255 Pn Pn 19 36 25.2 +1.0
4.6nm,0.3s,baz=79,slow=16,SNR=67
PDAR Pg Pb 19 36 30.6 +0.1
22nm,0.3s,baz=75,slow=19,SNR=114
PDAR Lg Lg 19 37 11.1
29nm,0.3s,baz=66,slow=32,SNR=5.1
N26A **Koester Ranch,** 3.26 151 ⇑P Pn 19 36 25.5 +0.9
baz=3.6
N26A **Koester Ranch,** 3.26 151 ⇑P Pn 19 36 25.5 +0.9
baz=3.6
H18A **Shoshone NF, C** 3.28 289 ⇑P Pn 19 36 25.4 +0.5
baz=3.1,SNR=21
H18A **Shoshone NF, C** 3.28 289 ⇑P Pn 19 36 25.4 +0.5
baz=3.1,SNR=21
N21A **Black Mountain** 3.35 210 ⇓P Pn 19 36 27.0 +1.1
baz=3.6,SNR=12
N21A **Black Mountain** 3.35 210 ⇓P Pn 19 36 27.0 +1.1
baz=3.6,SNR=12
F19A **Roth Farm, Mol** 3.37 311 ⇑P Pn 19 36 27.2 +1.2
baz=3.0,SNR=32
F19A **Roth Farm, Mol** 3.37 311 ⇑P Pn 19 36 27.2 +1.2
baz=3.0,SNR=32
G18A **Lazy EL Ranch,** 3.44 300 ⇓P Pn 19 36 28.2 +1.0
baz=3.2,SNR=38
G18A **Lazy EL Ranch,** 3.44 300 ⇓P Pn 19 36 28.2 +1.0
baz=3.2,SNR=38
E20A **Meyer Farm, Mu** 3.45 326 ⇓P Pn 19 36 28.3 +1.2
baz=3.1
E20A **Meyer Farm, Mu** 3.45 326 ⇓P Pn 19 36 28.3 +1.2
baz=3.1
D22A **Cohagen** 3.51 350 ⇑P Pn 19 36 29.1 +1.2
baz=3.2
D22A **Cohagen** 3.51 350 ⇑P Pn 19 36 29.1 +1.2
baz=3.2
N27A **Anderson Farm,** 3.55 143 ⇑P Pn 19 36 29.2 +0.7
baz=3.9,SNR=11
N27A **Anderson Farm,** 3.55 143 ⇑P Pn 19 36 29.2 +0.7
baz=3.9,SNR=11
D21A **La Casta Ranch** 3.58 341 ⇓P Pn 19 36 29.9 +1.1
baz=3.2
D21A **La Casta Ranch** 3.58 341 ⇓P Pn 19 36 29.9 +1.1
baz=3.2
N20A **Spence Gulch,** 3.59 218 ⇑P Pn 19 36 30.2 +1.0
baz=3.8
N20A **Spence Gulch,** 3.59 218 ⇑P Pn 19 36 30.2 +1.0
baz=3.8
O22A **Kremmling** 3.64 195 ⇓P Pn 19 36 30.8 +0.8
baz=3.9,SNR=8.8
O22A **Kremmling** 3.64 195 ⇓P Pn 19 36 30.8 +0.8
baz=3.9,SNR=8.8
OGNE **Ogallala** 3.67 137 ⇑P Pn 19 36 31.2 +1.0
baz=4.0,SNR=16
OGNE **Ogallala** 3.67 137 ⇑P Pn 19 36 31.2 +1.0
baz=4.0,SNR=16
O25A **Wiggins** 3.69 166 ⇓P Pn 19 36 31.3 +0.8
baz=4.0
O25A **Wiggins** 3.69 166 ⇓P Pn 19 36 31.3 +0.8
baz=4.0
E19A **Rath Farm, Rou** 3.70 320 ⇑P Pn 19 36 31.1 +0.5
baz=3.4,SNR=12
E19A **Rath Farm, Rou** 3.70 320 ⇑P Pn 19 36 31.1 +0.5
baz=3.4,SNR=12
F18A **Big Timber** 3.83 307 ⇓P Pn 19 36 34.0 +1.6
baz=3.5
F18A **Big Timber** 3.83 307 ⇓P Pn 19 36 34.0 +1.6
baz=3.5
C24A **Savage** 3.89 9 ⇓P Pn 19 36 34.8 +1.6
baz=3.6,SNR=32
C24A **Savage** 3.89 9 ⇓P Pn 19 36 34.8 +1.6
baz=3.6,SNR=32
L18A **Fontenelle, Gr** 3.89 245 ⇑P Pn 19 36 34.4 +1.1
baz=3.9
L18A **Fontenelle, Gr** 3.89 245 ⇑P Pn 19 36 34.4 +1.1
baz=3.9
FLWY **Flagg Ranch** 3.91 278 *e*Pn Pn 19 36 29.0 -4.5
D20A **Manuel Ranch,** 3.94 331 ⇓P Pn 19 36 35.1 +1.3
baz=3.6
D20A **Manuel Ranch,** 3.94 331 ⇓P Pn 19 36 35.1 +1.3
baz=3.6
C22A **Vida** 4.08 355 ⇓P Pn 19 36 37.1 +1.4
baz=3.7,SNR=26
C22A **Vida** 4.08 355 ⇓P Pn 19 36 37.1 +1.4
baz=3.7,SNR=26
O27A **Beecher Island** 4.09 148 ⇓P Pn 19 36 36.3 +0.3
baz=4.4
O27A **Beecher Island** 4.09 148 ⇓P Pn 19 36 36.3 +0.3
baz=4.4
TPAW **Teton Pass** 4.09 269 *e*Pn Pn 19 36 32.0 -4.2
TPAW *e*Sn Sn 19 37 19.1 -5.8
C23A **Lambert** 4.11 1 ⇓P Pn 19 36 37.9 +1.6
baz=3.8,SNR=32
C23A **Lambert** 4.11 1 ⇓P Pn 19 36 37.9 +1.6
baz=3.8,SNR=32
O20A **White River Ci** 4.17 213 ⇑P Pn 19 36 38.2 +1.1
baz=4.4,SNR=5.7
O20A **White River Ci** 4.17 213 ⇑P Pn 19 36 38.2 +1.1
baz=4.4,SNR=5.7
P25A **Willow Gulch B** 4.26 168 ⇑P Pn 19 36 38.8 +0.3
baz=4.6
P25A **Willow Gulch B** 4.26 168 ⇑P Pn 19 36 38.8 +0.3
baz=4.6
C25A **Freed Ranch, W** 4.28 19 ⇓P Pn 19 36 40.2 +1.7
baz=4.0
C25A **Freed Ranch, W** 4.28 19 ⇓P Pn 19 36 40.2 +1.7
baz=4.0
D19A **Cripps Ranch,** 4.28 325 ⇑P Pn 19 36 40.4 +1.8
baz=3.9,SNR=6
D19A **Cripps Ranch,** 4.28 325 ⇑P Pn 19 36 40.4 +1.8
baz=3.9,SNR=5.6
C21A **Desert Coulee** 4.32 344 ⇑P Pn 19 36 40.2 +1.2
baz=4.0
C21A **Desert Coulee** 4.32 344 ⇑P Pn 19 36 40.2 +1.2
baz=4.0
E18A **Harlowton** 4.34 313 ⇑P Pn 19 36 40.9 +1.5
baz=4.0,SNR=21
E18A **Harlowton** 4.34 313 ⇑P Pn 19 36 40.9 +1.5
baz=4.0,SNR=21
P26A **Davis Ranch, A** 4.38 160 ⇑P Pn 19 36 41.2 +1.1
baz=4.7,SNR=17
P26A **Davis Ranch, A** 4.38 160 ⇑P Pn 19 36 41.2 +1.1
baz=4.7,SNR=17
F17A **Fitzpatrick Pl** 4.40 302 ⇓P Pn 19 36 42.1 +1.9
baz=4.1,SNR=17
F17A **Fitzpatrick Pl** 4.40 302 ⇓P Pn 19 36 42.1 +1.9
baz=4.1,SNR=17
O19A **Miners Draw (B** 4.42 221 ⇑P Pn 19 36 41.5 +1.0
baz=4.6
O19A **Miners Draw (B** 4.42 221 ⇑P Pn 19 36 41.5 +1.0
baz=4.6
O28A **Krutsinger Ran** 4.44 142 ⇓P Pn 19 36 40.7 -0.1
baz=4.8
O28A **Krutsinger Ran** 4.44 142 ⇓P Pn 19 36 40.7 -0.1
baz=4.8
C20A **Veseth Ranch,** 4.44 336 ⇑P Pn 19 36 41.6 +0.9
baz=4.1
C20A **Veseth Ranch,** 4.44 336 ⇑P Pn 19 36 41.6 +0.9
baz=4.1
P27A **Ficken Ranch,** 4.61 153 ⇑P Pn 19 36 43.2 0.0
baz=5.0,SNR=23
P27A **Ficken Ranch,** 4.61 153 ⇑P Pn 19 36 43.2 0.0
baz=5.0,SNR=23
B22A **Reddig Ranch S** 4.64 354 ⇓P Pn 19 36 44.4 +1.0
baz=4.3
B22A **Reddig Ranch S** 4.64 354 ⇓P Pn 19 36 44.4 +1.0
baz=4.3
SMCO **Snowmass** 4.68 196 *e*Pn Pn 19 36 47.4 +3.1
D18A **Linhart Farms,** 4.71 320 ⇑P Pn 19 36 45.8 +1.3
baz=4.4
D18A **Linhart Farms,** 4.71 320 ⇑P Pn 19 36 45.8 +1.3
baz=4.4
B23A **Brockton** 4.78 3 ⇑P Pn 19 36 46.5 +1.1
baz=4.5
B23A **Brockton** 4.78 3 ⇑P Pn 19 36 46.5 +1.1
baz=4.5
E17A **Martinsdale** 4.80 307 ⇑P Pn 19 36 47.1 +1.3
baz=4.5,SNR=23
E17A **Martinsdale** 4.80 307 ⇑P Pn 19 36 47.1 +1.3
baz=4.5,SNR=23
C19A **Slack Wire Ran** 4.81 328 ⇓P Pn 19 36 47.1 +1.2
baz=4.5
C19A **Slack Wire Ran** 4.81 328 ⇓P Pn 19 36 47.1 +1.2
baz=4.5
C27A **Sayler Ranch,** 4.83 32 ⇑P Pn 19 36 46.6 +0.6
baz=4.6
C27A **Sayler Ranch,** 4.83 32 ⇑P Pn 19 36 46.6 +0.6
baz=4.6
Q25A **Bedland, Calha** 4.84 170 ⇓P Pn 19 36 46.6 +0.2
baz=5.2
Q25A **Bedland, Calha** 4.84 170 ⇓P Pn 19 36 46.6 +0.2
baz=5.2
DGMT **Dagmar** 4.84 9 *e*Pn Pn 19 36 39.5 -6.8
DGMT **Dagmar** 4.84 9 ⇓P Pn 19 36 47.6 +1.4
baz=4.5,SNR=17
DGMT **Dagmar** 4.84 9 ⇓P Pn 19 36 47.6 +1.4
baz=4.5,SNR=17
P28A **Saint Francis** 4.91 146 P Pn 19 36 47.5 +0.3
baz=5.3,SNR=8.5
P28A **Saint Francis** 4.91 146 P Pn 19 36 47.5 +0.3
baz=5.3,SNR=8.5
O29A **4D Ranch, Culb** 4.91 135 ⇓P Pn 19 36 47.6 +0.4
baz=5.2
O29A **4D Ranch, Culb** 4.91 135 ⇓P Pn 19 36 47.6 +0.4
baz=5.2
Q26A **Hugo** 4.95 163 ⇑P Pn 19 36 48.0 +0.2
baz=5.3,SNR=13
Q26A **Hugo** 4.95 163 ⇑P Pn 19 36 48.0 +0.2
baz=5.3,SNR=13
HWUT **Hardware Ranch** 5.05 248 *e*Pn Pn 19 36 48.3 -1.0
15nm,0.6s
KSCO **Kaye Shedlock'** 5.09 156 ⇓P Pn 19 36 50.3 +0.5
baz=5.5,SNR=8.3
KSCO **Kaye Shedlock'** 5.09 156 ⇓P Pn 19 36 50.3 +0.5
baz=5.5,SNR=8.3
D17A **Six Diamond Ra** 5.12 314 ⇓P Pn 19 36 51.1 +0.9
baz=4.8,SNR=14
D17A **Six Diamond Ra** 5.12 314 ⇓P Pn 19 36 51.1 +0.9
baz=4.8,SNR=14
P29A **Atwood** 5.24 140 ⇑P Pn 19 36 51.7 -0.1
baz=5.6
P29A **Atwood** 5.24 140 ⇑P Pn 19 36 51.7 -0.1
baz=5.6
A24A **Westby** 5.31 9 ⇓P Pn 19 36 54.3 +1.6
baz=5.0,SNR=6.9
A24A **Westby** 5.31 9 ⇓P Pn 19 36 54.3 +1.6
baz=5.0,SNR=6.9
Q28A **Sharon Springs** 5.32 149 ⇓P Pn 19 36 52.8 0.0
baz=5.7
Q28A **Sharon Springs** 5.32 149 ⇓P Pn 19 36 52.8 0.0
baz=5.7
A22A **Carney Farms,** 5.32 356 ⇑P Pn 19 36 53.3 +0.5
baz=5.0
A22A **Carney Farms,** 5.32 356 ⇑P Pn 19 36 53.3 +0.5
baz=5.0
A21A **Bergtoll Ranch** 5.42 349 ⇑P Pn 19 36 55.1 +1.0
baz=5.1,SNR=8.5
A21A **Bergtoll Ranch** 5.42 349 ⇑P Pn 19 36 55.1 +1.0
baz=5.1,SNR=8.5
R24A **Sanders Place,** 5.46 178 ⇑P Pn 19 36 55.5 +0.7
baz=5.8
R24A **Sanders Place,** 5.46 178 ⇑P Pn 19 36 55.5 +0.7
baz=5.8
C17A **Wharram Farm,** 5.49 318 ⇑P Pn 19 36 56.1 +1.0
baz=5.1,SNR=7.4
C17A **Wharram Farm,** 5.49 318 ⇑P Pn 19 36 56.1 +1.0
baz=5.1,SNR=7.4
DAU **Daniels Canyon** 5.50 235 *e*Pn Pn 19 36 54.5 -1.1
0.3nm,0.4s
R26A **Arlington** 5.57 165 P Pn 19 36 56.4 +0.1
baz=5.9,SNR=72
R26A **Arlington** 5.57 165 P Pn 19 36 56.4 +0.1
baz=5.9,SNR=72
R25A **Fountain Ranch** 5.59 172 ⇑P Pn 19 36 56.8 +0.1
baz=6.0
R25A **Fountain Ranch** 5.59 172 ⇑P Pn 19 36 56.8 +0.1
baz=6.0
B18A **Beardsley Farm** 5.63 328 ⇓P Pn 19 36 57.9 +0.8
baz=5.3
B18A **Beardsley Farm** 5.63 328 ⇓P Pn 19 36 57.9 +0.8
baz=5.3
A26A **Wade Farm, Ken** 5.68 22 ⇓P Pn 19 36 58.6 +0.8
baz=5.4
A26A **Wade Farm, Ken** 5.68 22 ⇓P Pn 19 36 58.6 +0.8
baz=5.4
R27A **Eads** 5.73 160 ⇓P Pn 19 36 58.5 +0.1
baz=6.1,SNR=6.8
R27A **Eads** 5.73 160 ⇓P Pn 19 36 58.5 +0.1
baz=6.1,SNR=6.8
SDCO **Great Sand Dun** 5.94 181 *e*Pn Pn 19 37 02.3 +0.8
R28A **Tribune** 5.96 152 ⇓P Pn 19 37 01.4 -0.4
baz=6.3
R28A **Tribune** 5.96 152 ⇓P Pn 19 37 01.4 -0.4
baz=6.3
SRU **San Rafael** 6.02 222 *e*Pn Pn 19 37 01.8 -0.7
15nm,0.3s
S25A **Robets Cordova** 6.06 173 ⇓P Pn 19 37 03.0 -0.2
baz=6.4,SNR=7.5
S25A **Robets Cordova** 6.06 173 ⇓P Pn 19 37 03.0 -0.2
baz=6.4,SNR=7.5
S26A **Kim** 6.22 166 ⇑P Pn 19 37 05.0 -0.3
baz=6.6,SNR=14
S26A **Kim** 6.22 166 ⇑P Pn 19 37 05.0 -0.3
baz=6.6,SNR=14
TMUT **Trail Mountain** 6.23 227 *e*Pn Pn 19 37 05.8 +0.3
10.0nm,0.5s
ECSD **EROS Data Cent** 6.31 87 *e*Pn Pn 19 37 05.0 -1.4
Q16A **Castle Valley** 6.49 225 ⇑P Pn 19 37 10.2 +1.2
baz=6.6,SNR=9.7
Q16A **Castle Valley** 6.49 225 ⇑P Pn 19 37 10.2 +1.2
baz=6.6,SNR=9.7
C15A **Salmond Ranch,** 6.53 311 ⇑P Pn 19 37 10.3 +0.8
baz=6.2
C15A **Salmond Ranch,** 6.53 311 ⇑P Pn 19 37 10.3 +0.8
baz=6.2
DUG **Dugway** 6.59 241 ⇑P Pn 19 37 10.6 +0.3
baz=6.6,SNR=6.9
DUG **Dugway** 6.59 241 ⇑P Pn 19 37 10.6 +0.3
baz=6.6,SNR=6.9
B15A **Bradely Ranch,** 6.84 315 ⇑P Pn 19 37 14.4 +0.7
baz=6.5
B15A **Bradely Ranch,** 6.84 315 ⇑P Pn 19 37 14.4 +0.7
baz=6.5
T27A **Campo** 6.91 162 ⇑P Pn 19 37 15.0 +0.2
baz=7.3
T27A **Campo** 6.91 162 ⇑P Pn 19 37 15.0 +0.2
baz=7.3
T28A **Walsh** 7.00 158 ⇓P Pn 19 37 15.6 -0.4
baz=7.4
T28A **Walsh** 7.00 158 ⇓P Pn 19 37 15.6 -0.4
baz=7.4
C14A **Swan Lake** 7.17 308 ⇓P Pn 19 37 19.5 +1.3
baz=6.8
C14A **Swan Lake** 7.17 308 ⇓P Pn 19 37 19.5 +1.3
baz=6.8
MSU **Marysvale** 7.32 227 *e*Pn Pn 19 37 21.2 +0.8
7.8nm,0.9s
MVU **Marysvale** 7.34 227 *e*Pn Pn 19 37 20.5 -0.3
6.6nm,0.8s
U28A **Mallet** 7.68 161 ⇑P Pn 19 37 25.0 -0.2
baz=8.0,SNR=6.3
U28A **Mallet** 7.68 161 ⇑P Pn 19 37 25.0 -0.2
baz=8.0,SNR=6.3
ELK **Elko** 7.93 252 Pn Pn 19 37 31.7 +2.9
0.2nm,0.3s,baz=82,slow=7.1,SNR=4.5
ELK Lg Lg 19 39 34.7

0.0nm,0.3s,baz=136,slow=23,SNR=1.7
ELK LR LR 19 40 49.5
comp=Z,92nm,21.1s,baz=318,slow=41
AGMN Agassiz Nation 8.04 52 *e*Pn Pn 19 37 27.0 -3.1
ANMO Albuquerque 8.78 186 Lg Lg 19 40 18.3
0.1nm,0.3s,baz=323,slow=6.0,SNR=3.7
ULM Lac du Bonnet 9.20 41 Pn **Pn** **19 37 44.2 -1.8**
ULM Lac du Bonnet 9.20 41 Pn **Pn** **19 37 44.2 -1.8**
1.8nm,0.3s,baz=236,slow=11,SNR=10.0
ULM Sn Sn 19 39 23.3 -6.8
0.5nm,0.3s,baz=291,slow=16,SNR=1.9
ULM Lg Lg 19 40 15.9
0.4nm,0.3s,baz=204,slow=12,SNR=1.5
ULM LR LR 19 41 40.8
comp=Z,41nm,21.7s,baz=186,slow=40
WUAZ Wupatki 9.40 212 *e*Pn **Pn** **19 37 50.9 +1.9**
NVAR Mina Array Bea 11.12 246 Pn **Pn** **19 38 15.4 +2.9**
0.1nm,0.3s,baz=64,slow=12,SNR=2.8
TXAR Lajitas Array 14.39 174 Pn **P** **19 39 04.9 +0.6**
0.0nm,0.3s,baz=344,slow=12,SNR=2.6
TXAR Pg 19 40 01.4
0.1nm,0.3s,baz=9.9,slow=15,SNR=9.0
TXAR Lg Lg 19 43 11.3
0.1nm,0.3s,baz=4.5,slow=18,SNR=4.5
ARCES ARCESS Array B 61.47 18 P **P** **19 45 49.1 -0.9**
2.3nm,0.8s,baz=339,slow=7.0,SNR=6.4
FINES FINESS Array B 68.09 22 P **P** **19 46 33.6 +0.5**
1.0nm,0.8s,baz=328,slow=6.8,SNR=4.2
ZALV Zalesovo Beam 82.35 354 P **P** **19 47 54.7 -0.7**
0.4nm,0.4s,baz=35,slow=5.5,SNR=3.2

IDC 26 19:37:30.4±1.7, 10°30N×94°44E, *h*0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/26, mbtmp3.5/6, MS3.1/1, Ms1 3.1/1, ms1mx2.4/33, Error ellipse: s-maj=63.0km s-min=28.1km az=58.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.68**	**149**	LR	LR	19 42 54.3	
	comp=Z,114nm,18.6s,baz=24,slow=37						
MKAR	**Makanchi Array**	**37.81**	**346**	P	P	19 44 48.4	-0.2
	0.9nm,0.7s,baz=160,slow=7.4,SNR=7.0						
SONM	**Songino Array**	**38.75**	**13**	P	P	19 44 56.5	0.0
	0.3nm,0.6s,baz=192,slow=13,SNR=2.3						
ZALV	**Zalesovo Beam**	**44.21**	**352**	P	P	19 45 39.9	-1.2
	0.4nm,0.6s,baz=179,slow=5.9,SNR=3.6						
BVAR	**Borovoye Array**	**46.81**	**340**	P	P	19 46 03.0	+1.2
	0.4nm,0.7s,baz=124,slow=7.2,SNR=3.0						
ASAR	**Alice Springs**	**51.27**	**132**	P	P	19 46 36.3	-0.1
	1.1nm,1.1s,baz=316,slow=7.8,SNR=4.2						
BRTR	**Keskin Array B**	**61.10**	**310**	P	P	19 47 46.4	-0.3
	0.6nm,0.8s,baz=122,slow=6.0,SNR=4.2						

*IDC **26** 19:37:32.6±0.8, 45°.89S×166°.36E, h0km, mb4.4/9, mb1 4.5/11, mb1mx4.3/19, mbtmp4.4/11, ML4.2/2, MS3.8/7, Ms1 3.8/7, ms1mx3.5/26, Error ellipse: s-maj=24.6km s-min=19.8km az=12.0*
*ISCJB **26** 19:37:34.0±0.4, 45°.86S±0°.05×166°.26E±0°.03, h14km, mb4.4/11, MS3.9/6, Error ellipse: s-maj=6.7km s-min=3.3km az=179.8*
*AUST **26** 19:37:33.5±0.8, 46°.03S×166°.25E, h0km, Error ellipse: s-maj=1.3km s-min=0.6km az=12.0*
*WEL **26** 19:37:36.1±0.3, 45°.89S×166°.26E, h27km±1km, ML4.8/22, Error ellipse: s-maj=3.6km s-min=1.4km az=90.0*
WEL Felt from Otago to Southland, maximum reported intensity MM 4.
*NEIC **26** 19:37:37.7, 46°.03S×166°.46E, h12km, mb4.6/2, ML4.8(WEL), After WEL.*

ISC 26 19:37:34.8±0.5, 45°.94S±0°.05×166°.30E±0°.04, h14km, n105, σ1°.25/110, mb4.5/11, MS3.9/6, 4C-4D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.76**	**52**	P*	**Pb**	**19 37 49.8**	**+0.1**
DCZ				S*	**Sb**	**19 37 59.8**	**-0.1**
DCZ	**Deep Cove**	**0.76**	**52**	P*	**Pb**	**19 37 49.8**	**+0.1**
DCZ				AML	AML	19 38 01.0	
DCZ				AML	AML	19 38 01.1	
DCZ				*e*S*	**Sn**	**19 38 01.4**	**-0.8**
DCZ				AML	AML	19 38 02.0	
WHZ	**Wether Hill Ro**	**1.15**	**88**	P*	**Pn**	**19 37 56.7**	**+0.3**
WHZ	**Wether Hill Ro**	**1.15**	**88**	PN	**Pn**	**19 37 56.7**	**+0.3**
WHZ				SN	**Sb**	**19 38 11.9**	**+0.7**
WHZ				AML	AML	19 38 15.3	
MLZ	**Mavora Lakes**	**1.44**	**66**	Pn	**Pn**	**19 38 01.1**	**+0.6**
MLZ	**Mavora Lakes**	**1.44**	**66**	⇑PN	**Pn**	**19 38 01.1**	**+0.6**
MLZ				SN	**Sn**	**19 38 19.7**	**+0.5**
MLZ				AML	AML	19 38 24.7	
APZ	**The Paps**	**1.47**	**128**	Pn	**Pn**	**19 38 00.9**	**0.0**
APZ	**The Paps**	**1.47**	**128**	⇑PN	**Pn**	**19 38 00.9**	**0.0**
APZ				SN	**Sn**	**19 38 19.8**	**0.0**
MSZ	**Milford Sound**	**1.71**	**43**	Pn	**Pn**	**19 38 04.2**	**0.0**
MSZ	**Milford Sound**	**1.71**	**43**	⇑PN	**Pn**	**19 38 04.1**	**-0.1**
MSZ				AML	AML	19 38 35.5	
MSZ				AML	AML	19 38 35.5	
MSZ				AML	AML	19 38 41.3	
MSZ				AML	AML	19 38 41.3	
SYZ	**Scrubby Hill**	**2.06**	**108**	Pn	**Pn**	**19 38 10.0**	**+1.1**
SYZ	**Scrubby Hill**	**2.06**	**108**	PN	**Pn**	**19 38 10.0**	**+1.1**
WKZ	**Wanaka**	**2.21**	**61**	Pn	**Pb**	**19 38 13.7**	**-0.9**
WKZ	**Wanaka**	**2.21**	**61**	⇓PN	**Pb**	**19 38 13.7**	**-0.9**
WKZ				AML	AML	19 38 58.9	
WKZ				AML	AML	19 39 01.4	
WKZ				AML	AML	19 39 01.5	
EAZ	**Earnscleugh**	**2.23**	**72**	Pn	**Pn**	**19 38 13.5**	**+2.2**
EAZ	**Earnscleugh**	**2.23**	**72**	⇓PN	**Pn**	**19 38 13.5**	**+2.2**
EAZ				AML	AML	19 38 45.6	
EAZ				AML	AML	19 38 45.6	
EAZ				AML	AML	19 38 50.3	
EAZ				AML	AML	19 38 50.4	
TUZ	**Tuapeka**	**2.32**	**91**	Pn	**Pn**	**19 38 14.2**	**+1.6**
TUZ	**Tuapeka**	**2.32**	**91**	PN	**Pn**	**19 38 14.2**	**+1.6**
TUZ				AML	AML	19 38 47.5	
TUZ				AML	AML	19 38 52.2	
JCZ	**Jackson Bay**	**2.55**	**44**	Pn	**Pn**	**19 38 17.3**	**+1.5**
JCZ	**Jackson Bay**	**2.55**	**44**	PN	**Pn**	**19 38 17.5**	**+1.7**
JCZ				AML	AML	19 39 01.0	
JCZ				AML	AML	19 39 02.5	
HHSZ	**Highcliff Hill**	**3.00**	**90**	PN	**Pn**	**19 38 23.2**	**+1.3**
LBZ	**Lake Benmore**	**3.15**	**62**	Pn	**Pn**	**19 38 24.9**	**+0.9**
LBZ	**Lake Benmore**	**3.15**	**62**	⇓PN	**Pn**	**19 38 24.9**	**+0.9**
LBZ				AML	AML	19 39 21.8	
LBZ				AML	AML	19 39 21.8	
LBZ				AML	AML	19 39 22.6	
LBZ				AML	AML	19 39 22.6	
ODZ	**Otahua Downs**	**3.18**	**75**	*e*Pn	**Pn**	**19 38 24.6**	**+0.2**
ODZ				*e*Sn	**Sn**	**19 39 02.6**	**+0.5**
ODZ	**Otahua Downs**	**3.18**	**75**	PN	**Pn**	**19 38 24.7**	**+0.2**
ODZ				AML	AML	19 39 14.7	
ODZ				AML	AML	19 39 14.7	
ODZ				AML	AML	19 39 22.1	
ODZ				AML	AML	19 39 22.2	
FOZ	**Fox Glacier**	**3.39**	**47**	Pn	**Pn**	**19 38 29.4**	**+2.2**
FOZ	**Fox Glacier**	**3.39**	**47**	PN	**Pn**	**19 38 29.4**	**+2.2**
FOZ				AML	AML	19 39 28.6	
FOZ				AML	AML	19 39 28.7	
FOZ				AML	AML	19 39 30.2	
FOZ				AML	AML	19 39 30.2	
RPZ	**Rata Peaks**	**4.05**	**58**	*e*Pn	**Pn**	**19 38 36.3**	**0.0**
RPZ				*e*Sn	**Sn**	**19 39 22.2**	**-1.3**
RPZ	**Rata Peaks**	**4.05**	**58**	Pn	**Pn**	**19 38 36.1**	**-0.2**
	31nm,0.3s,baz=209,slow=3.9,SNR=48						
RPZ				Sn	**Sn**	**19 39 22.2**	**-1.3**
	28nm,0.3s,baz=278,slow=6.3,SNR=4.5						
RPZ				LR	LR	19 40 02.2	
	comp=Z,242nm,18.3s,baz=233,slow=38						
RPZ	**Rata Peaks**	**4.05**	**58**	⇓PN	**Pn**	**19 38 36.3**	**0.0**
RPZ				AML	AML	19 39 25.3	
RPZ				AML	AML	19 39 55.1	
WVZ	**Waitaha Valley**	**4.27**	**49**	Pn	**Pn**	**19 38 39.9**	**+0.5**
WVZ	**Waitaha Valley**	**4.27**	**49**	PN	**Pn**	**19 38 39.9**	**+0.5**
WVZ				AML	AML	19 39 51.4	
WVZ				AML	AML	19 40 01.3	
OXZ	**Oxford**	**4.86**	**59**	⇑PN	**Pn**	**19 38 46.7**	**-0.8**
MQZ	**McQueen's Vall**	**5.04**	**66**	Pn	**Pn**	**19 38 49.7**	**-0.2**
MQZ	**McQueen's Vall**	**5.04**	**66**	PN	**Pn**	**19 38 49.7**	**-0.2**
MQZ				AML	AML	19 40 32.6	
MQZ				AML	AML	19 40 34.1	
LTZ	**Lake Taylor**	**5.32**	**56**	Pn	**Pn**	**19 38 53.0**	**-0.8**
LTZ	**Lake Taylor**	**5.32**	**56**	PN	**Pn**	**19 38 53.0**	**-0.8**
LTZ				AML	AML	19 39 58.5	
LTZ				AML	AML	19 40 15.4	
DSZ	**Denniston Nort**	**5.78**	**45**	Pn	**Pn**	**19 39 00.5**	**+0.4**
DSZ	**Denniston Nort**	**5.78**	**45**	PN	**Pn**	**19 39 00.5**	**+0.4**
KHZ	**Kahutara**	**6.28**	**58**	*e*Pn	**Pn**	**19 39 05.9**	**-1.1**
	45nm,0.8s						
KHZ				*e*Sn	**Sn**	**19 40 17.7**	**-0.8**
THZ	**Tophouse**	**6.34**	**51**	Pn	**Pn**	**19 39 07.2**	**-0.7**
THZ	**Tophouse**	**6.34**	**51**	AML	AML	19 40 31.7	
THZ				AML	AML	19 40 39.1	
NNZ	**Nelson**	**6.98**	**50**	Pn	**Pn**	**19 39 19.0**	**+2.4**
NNZ	**Nelson**	**6.98**	**50**	PN	**Pn**	**19 39 19.0**	**+2.4**
MRZ	**Mangatainoka R**	**8.58**	**55**	Pn	**Pn**	**19 39 37.5**	**-1.0**
PKE	**Pukeiti**	**8.81**	**43**	Pn	**Pn**	**19 39 42.5**	**+0.8**
MKAZ	**Moumakai**	**11.04**	**40**	Pn	**Pn**	**19 40 14.6**	**+2.4**
URZ	**Urewera**	**11.10**	**50**	Pn	**Pn**	**19 40 12.7**	**-0.3**
URZ				Sn	Sn	19 42 10.3	-6.6
URZ	**Urewera**	**11.10**	**50**	Pn	**Pn**	**19 40 12.7**	**-0.3**
	1.0nm,0.3s,baz=198,slow=13,SNR=3.7						
URZ				Sn	Sn	19 42 10.3	-6.6
	1.3nm,0.3s,baz=152,slow=17,SNR=1.8						
WCZ	**Waipu Caves**	**11.69**	**34**	Pn	**Pn**	**19 40 21.4**	**+0.3**
OUZ	**Omahuta**	**12.05**	**30**	*e*Pn	**Pn**	**19 40 25.3**	**-0.8**
	11nm,0.6s						
MOO	**Moorlands**	**14.15**	**277**	P	**Pn**	**19 40 54.0**	**-0.7**
	baz=14,SNR=4.5						
MILA	**Mila**	**15.59**	**299**	P	**Pn**	**19 41 12.7**	**-1.5**
	baz=16,SNR=21						
CNB	**Canberra Magne**	**16.64**	**304**	P	**Pn**	**19 41 27.1**	**-0.6**
	baz=17,SNR=7.3						
MGCD	**Mangrove Creek**	**17.25**	**312**	P	**P**	**19 41 36.2**	**-0.4**
	baz=17,SNR=5.4						
TOO	**Toolangi**	**17.60**	**291**	P	**P**	**19 41 40.3**	**-0.3**
	baz=18,SNR=11						
YNG	**Young**	**17.92**	**304**	P	**P**	**19 41 44.0**	**-0.1**
	baz=18,SNR=6.9						
CMSA	**Cobar Meteorol**	**21.49**	**305**	P	**P**	**19 42 26.8**	**+3.8**
	baz=22,SNR=5.0						
STKA	**Stephens Creek**	**23.69**	**298**	P	**P**	**19 42 47.5**	**+1.5**
STKA	**Stephens Creek**	**23.69**	**298**	P	**P**	**19 42 47.5**	**+1.5**
	9.0nm,0.9s,baz=116,slow=11,SNR=7.2						
STKA				LR	LR	19 50 45.8	
	comp=Z,300nm,19.9s,baz=205,slow=34						
STKA	**Stephens Creek**	**23.69**	**298**	P	**P**	**19 42 48.2**	**+2.2**
	baz=24,SNR=4.9						
EIDS	**Eidsvold**	**23.89**	**324**	*e*P	**P**	**19 42 46.5**	**-1.4**
	18nm,0.9s						
EIDS	**Eidsvold**	**23.89**	**324**	P	**P**	**19 42 49.5**	**+1.5**
	baz=24,SNR=6.7						
RMQ	**Roma**	**23.93**	**318**	P	**P**	**19 42 50.1**	**+1.7**
	baz=24,SNR=5.4						
CTA	**Charters Tower**	**30.61**	**321**	P	**P**	**19 43 48.8**	**+0.4**
CTA	**Charters Tower**	**30.61**	**321**	P	**P**	**19 43 48.8**	**+0.4**
	2.3nm,0.3s,baz=153,slow=6.8,SNR=2.4						
VNDA	**Vanda**	**31.73**	**182**	LR	LR	19 55 05.9	
	comp=Z,196nm,19.4s,baz=57,slow=33						
AS31	**Alice Springs**	**34.30**	**299**	*e*P	P	19 44 16.8	-4.0
ASAR	**Alice Springs**	**34.30**	**299**	P	**P**	**19 44 20.2**	**-0.6**
ASAR	**Alice Springs**	**34.30**	**299**	P	**P**	**19 44 20.2**	**-0.6**
	7.0nm,0.8s,baz=130,slow=8.1,SNR=56						
ASAR				LR	LR	19 57 57.6	
	comp=Z,277nm,21.4s,baz=236,slow=36						
WRA	**Warramunga Arr**	**36.89**	**304**	P	**P**	**19 44 42.3**	**-0.7**
WRA	**Warramunga Arr**	**36.89**	**304**	P	**P**	**19 44 42.3**	**-0.7**
	7.9nm,0.9s,baz=142,slow=8.2,SNR=26						
WRAB	**Tennant Creek**	**36.89**	**304**	*e*P	P	19 44 39.2	-3.8
	14nm,1.0s						
NWAO	**Narrogin (SRO)**	**39.47**	**272**	LR	LR	19 57 15.6	
	comp=Z,165nm,18.9s,baz=241,slow=30						
KLBR	**Kellerberrin**	**39.86**	**274**	P	**P**	**19 45 08.0**	**+0.1**
	baz=40,SNR=7.9						
MEEK	**Meekatharra**	**42.28**	**280**	P	**P**	**19 45 27.5**	**-0.4**
	baz=42,SNR=5.8						
KNRA	**Kununurra**	**43.51**	**302**	P	**P**	**19 45 37.4**	**-0.4**
	baz=44,SNR=9.7						
FITZ	**Fitzroy Crossi**	**43.56**	**296**	P	**P**	**19 45 38.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**43.56**	**296**	P	**P**	**19 45 38.1**	**-0.1**
	5.4nm,0.7s,baz=175,slow=7.6,SNR=14						
FITZ				LR	LR	20 02 30.0	
	comp=Z,128nm,18.0s,baz=78,slow=34						
FITZ	**Fitzroy Crossi**	**43.56**	**296**	P	**P**	**19 45 38.3**	**0.0**
	baz=44,SNR=7.6						
QSPA	**South Pole Qui**	**44.18**	**180**	P	**P**	**19 45 44.0**	**+1.0**
QSPA	**South Pole Qui**	**44.18**	**180**	P	**P**	**19 45 44.0**	**+1.0**
	4.1nm,0.9s,baz=4.4,slow=4.0,SNR=9.4						
MTN	**Manton Dam**	**44.40**	**307**	P	**P**	**19 45 45.0**	**0.0**
	baz=44,SNR=8.3						
JNU	**Nakatsue**	**84.97**	**331**	LR	LR	20 21 31.9	
	comp=Z,55nm,18.9s,baz=282,slow=31						
MJAR	**Matsushiro Arr**	**85.92**	**338**	P	**P**	**19 50 14.3**	**+0.3**
MJAR	**Matsushiro Arr**	**85.92**	**338**	P	**P**	**19 50 14.3**	**+0.3**
	1.5nm,0.9s,baz=179,slow=7.5,SNR=5.4						
CMAR	**Chiang Mai Arr**	**88.31**	**299**	P	**P**	**19 50 26.9**	**+1.0**
CMAR	**Chiang Mai Arr**	**88.31**	**299**	P	**P**	**19 50 26.9**	**+1.0**
	2.7nm,0.8s,baz=158,slow=3.3,SNR=7.9						
KSRS	**Korea Array**	**89.91**	**330**	P	**P**	**19 50 34.0**	**+1.0**
	0.6nm,0.7s,baz=163,slow=4.5,SNR=3.9						
KSAR	**Wonju Array Be**	**89.92**	**330**	P	**P**	**19 50 34.0**	**+1.0**
BRVK	**Borovoye**	**127.97**	**310**	*e*P	**Pdif**	**19 53 29.1**	**+6.0**
TORD	**Torodi Ar. Bea**	**144.81**	**207**	PKP	**PKPab**	**19 57 09.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**144.81**	**207**	PKP	**PKPab**	**19 57 09.9**	**-0.5**
	4.5nm,0.8s,baz=160,slow=2.0,SNR=22						
BRTR	**Keskin Array B**	**145.15**	**277**	PKPbc	**PKPbc**	**19 57 10.7**	**-0.5**
BRTR	**Keskin Array B**	**145.15**	**277**	PKPbc	**PKPbc**	**19 57 10.7**	**-0.5**
	3.0nm,0.8s,baz=149,slow=4.9,SNR=6.8						
SCHQ	**Schefferville**	**145.74**	**55**	PKPbc	**PKPdf**	**19 57 11.1**	**-0.8**
SCHQ	**Schefferville**	**145.74**	**55**	PKPbc	**PKPdf**	**19 57 11.1**	**-0.8**
	1.4nm,0.8s,baz=300,slow=6.8,SNR=4.5						
ARCES	**ARCESS Array B**	**149.40**	**334**	PKPbc	**PKPbc**	**19 57 20.5**	**-1.4**
ARCES	**ARCESS Array B**	**149.40**	**334**	PKPbc	**PKPbc**	**19 57 20.5**	**-1.4**
	2.1nm,0.7s,baz=64,slow=2.1,SNR=5.5						
FINES	**FINESS Array B**	**152.36**	**318**	PKPbc	**PKPbc**	**19 57 29.0**	**-0.1**
FINES				PKPab	**PKPab**	**19 57 37.0**	**-2.4**
FINES	**FINESS Array B**	**152.36**	**318**	PKPbc	**PKPbc**	**19 57 29.0**	**-0.1**
	2.1nm,0.7s,baz=92,slow=4.3,SNR=11						
FINES				PKPab	**PKPab**	**19 57 37.0**	**-2.4**
	2.3nm,0.7s,baz=55,slow=4.7,SNR=5.6						
NOA	**NORSAR Array B**	**159.03**	**325**	PKPab	**PKPab**	**19 58 07.2**	**-0.7**
NOA	**NORSAR Array B**	**159.03**	**325**	PKPab	**PKPab**	**19 58 07.2**	**-0.7**
	1.0nm,0.8s,baz=48,slow=4.9,SNR=3.6						
GERES	**GERESS Array B**	**161.26**	**289**	PKPab	**PKPab**	**19 58 18.2**	**0.0**
GERES	**GERESS Array B**	**161.26**	**289**	PKPab	**PKPab**	**19 58 18.2**	**0.0**
	0.4nm,0.7s,baz=64,slow=5.6,SNR=2.0						

*CSEM **26** 19:39:31.3±0.2, 42°.13N×15°.59E, h2km, ML3.9/16, Error ellipse: s-maj=3.1km s-min=2.7km az=136.0*
*ROM **26** 19:39:31.5±0.2, 42°.10N×15°.62E, h6km±2km, Ml3.0/37, Error ellipse: s-maj=2.9km s-min=1.5km az=49.0*
*BEO **26** 19:39:34.2±1.0, 42°.14N×15°.67E, h14km±4km, ML2.8/8*

ISC 26 19:39:31.2±1.1, 42°.10N±0°.02×15°.62E±0°.02, h8km±9km, n101, σ0°.91/158, 7C-2D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGRT	**San Giovanni R**	**0.36**	**165**	⇑*i*Pg	**Pb**	**19 39 40.2**	**+0.2**
SGRT				Sg	**Sb**	**19 39 45.3**	**-0.5**
	3μm,0.3s						
SGRT	**San Giovanni R**	**0.36**	**165**	⇑*i*Pg	**Pb**	**19 39 40.2**	**+0.2**
SGRT				Sg	**Sb**	**19 39 45.3**	**-0.5**
	3μm,0.3s						
MSAG	**Monte S. Angel**	**0.45**	**151**	⇑*i*Pg	**Pb**	**19 39 41.9**	**+0.5**
MSAG				Sg	**Sb**	**19 39 48.1**	**-0.2**
	2μm,0.2s						
MSAG	**Monte S. Angel**	**0.45**	**151**	⇑*i*Pg	**Pb**	**19 39 41.9**	**+0.5**
MSAG				Sg	**Sb**	**19 39 48.1**	**-0.2**
	2μm,0.2s						
FG2	**Serracapriola**	**0.45**	**229**	Pg	**Pb**	**19 39 41.5**	**0.0**
FG2				Sg	**Sb**	**19 39 48.3**	**-0.1**
	1μm,0.3s						
FG2	**Serracapriola**	**0.45**	**229**	Pg	**Pb**	**19 39 41.5**	**0.0**
FG2				Sg	**Sb**	**19 39 48.3**	**-0.1**
	1μm,0.3s						
MELA	**Melanico ??? S**	**0.54**	**223**	Pg	**Pb**	**19 39 42.9**	**-0.1**
MELA				Sg	**Sb**	**19 39 50.7**	**-0.2**
	3μm,0.3s						
MELA	**Melanico ??? S**	**0.54**	**223**	Pg	**Pb**	**19 39 42.9**	**-0.1**
MELA				Sg	**Sb**	**19 39 50.7**	**-0.2**
	3μm,0.3s						
CIGN	**Sant'Elia a Pi**	**0.70**	**230**	⇓*i*Pg	**Pb**	**19 39 45.9**	**+0.3**
CIGN				Sg	**Sb**	**19 39 56.3**	**+0.9**
	434nm,0.8s						
CIGN	**Sant'Elia a Pi**	**0.70**	**230**	⇓*i*Pg	**Pb**	**19 39 45.9**	**+0.3**
CIGN				Sg	**Sb**	**19 39 56.3**	**+0.9**
	434nm,0.8s						
FRES	**Fresagrandinar**	**0.72**	**260**	Pg	**Pb**	**19 39 46.1**	**+0.1**
FRES				Sg	**Sb**	**19 39 57.4**	**+1.3**
	1μm,0.6s						
FRES	**Fresagrandinar**	**0.72**	**260**	Pg	**Pb**	**19 39 46.1**	**+0.1**
MOCO	**Biccari - m.te**	**0.81**	**205**	⇑*i*Pg	**Pb**	**19 39 47.8**	**+0.2**
MOCO				Sg	**Sb**	**19 39 58.4**	**-0.3**
	278nm,0.5s						
FG5	**Orsara di Pugl**	**0.86**	**198**	Pg	**Pb**	**19 39 48.9**	**+0.4**
FG5				Sg	**Sb**	**19 39 59.6**	**-0.6**
	329nm,0.6s						
FG5	**Orsara di Pugl**	**0.86**	**198**	Pg	**Pb**	**19 39 48.9**	**+0.4**
FG5				Sg	**Sb**	**19 39 59.6**	**-0.6**
	329nm,0.6s						
BSSO	**Busso**	**0.95**	**234**	Pg	**Pb**	**19 39 50.0**	**0.0**
BSSO				Sg	**Sb**	**19 40 03.2**	**+0.5**
	289nm,0.4s						
BSSO	**Busso**	**0.95**	**234**	Pg	**Pb**	**19 39 50.0**	**0.0**
BSSO				Sg	**Sb**	**19 40 03.2**	**+0.5**
	289nm,0.4s						
CAFR	**Castel Frentan**	**0.95**	**278**	Pg	**Pn**	**19 39 50.8**	**-0.2**
CAFR				Sg	**Sn**	**19 40 04.8**	**+0.1**
	1μm,0.6s						
CAFR	**Castel Frentan**	**0.95**	**278**	Pg	**Pn**	**19 39 50.8**	**-0.2**
SACR	**S. Croce Del S**	**0.98**	**224**	Pg	**Pb**	**19 39 50.4**	**-0.1**
SACR				Sg	**Sb**	**19 40 04.3**	**+0.6**
	318nm,0.5s						
SACR	**S. Croce Del S**	**0.98**	**224**	Pg	**Pb**	**19 39 50.4**	**-0.1**
SACR				Sg	**Sb**	**19 40 04.3**	**+0.6**
	318nm,0.5s						
SGTA	**Sant Agata di**	**0.98**	**191**	Pg	**Pb**	**19 39 50.5**	**-0.1**
SGTA				Sg	**Sb**	**19 40 04.8**	**+1.0**
	289nm,0.4s						
SGTA	**Sant Agata di**	**0.98**	**191**	Pg	**Pb**	**19 39 50.5**	**-0.1**
SGTA				Sg	**Sb**	**19 40 04.8**	**+1.0**
	289nm,0.4s						
PSB1	**Pescosannita**	**1.07**	**215**	Pg	**Pb**	**19 39 51.8**	**-0.2**
PSB1				Sg	**Sb**	**19 40 06.6**	**+0.5**
	230nm,0.6s						
PSB1	**Pescosannita**	**1.07**	**215**	Pg	**Pb**	**19 39 51.8**	**-0.2**
PSB1				Sg	**Sb**	**19 40 06.6**	**+0.5**
	230nm,0.6s						
LPEL	**Lama dei Pelig**	**1.07**	**267**	Pg	**Pb**	**19 39 52.3**	**+0.3**
	362nm,0.2s						
LPEL	**Lama dei Pelig**	**1.07**	**267**	Pg	**Pb**	**19 39 52.3**	**+0.3**
	362nm,0.2s						
MRB1	**Monte Rocchett**	**1.09**	**207**	Pg	**Pb**	**19 39 52.3**	**-0.1**
MRB1				Sg	**Sn**	**19 40 07.7**	**-0.4**
	388nm,0.7s						
MRB1	**Monte Rocchett**	**1.09**	**207**	Pg	**Pb**	**19 39 52.3**	**-0.1**
MRB1				Sg	**Sn**	**19 40 07.7**	**-0.4**
	388nm,0.7s						
PTRJ	**Pietraroja**	**1.10**	**228**	Pg	**Pg**	**19 39 51.8**	**-0.5**
PTRJ				Sg	**Sg**	**19 40 06.9**	**+0.3**
	594nm,0.4s						
PTRJ	**Pietraroja**	**1.10**	**228**	Pg	**Pg**	**19 39 51.8**	**-0.5**
PTRJ				Sg	**Sg**	**19 40 06.9**	**+0.3**
	594nm,0.4s						
CAFE	**Carife**	**1.11**	**195**	Pg	**Pb**	**19 39 52.9**	**+0.1**
CAFE				Sg	**Sn**	**19 40 08.4**	**-0.4**
	269nm,0.4s						
CAFE	**Carife**	**1.11**	**195**	Pg	**Pb**	**19 39 52.9**	**+0.1**
CAFE				Sg	**Sn**	**19 40 08.4**	**-0.4**
	269nm,0.4s						
MIDA	**Miranda**	**1.12**	**246**	Pg	**Pg**	**19 39 52.5**	**-0.2**
	225nm,0.5s						
MIDA	**Miranda**	**1.12**	**246**	Pg	**Pg**	**19 39 52.5**	**-0.2**
	225nm,0.5s						
MRVN	**Minervino Murg**	**1.13**	**157**	Pg	**Pg**	**19 39 51.8**	**-1.1**
	156nm,0.3s						
MRVN	**Minervino Murg**	**1.13**	**157**	Pg	**Pg**	**19 39 51.8**	**-1.1**
	156nm,0.3s						
CDT	**Castel del Mon**	**1.13**	**154**	*e*Sg	**Sn**	**19 40 09.3**	**+0.1**
VULT	**Monte Vulture**	**1.15**	**180**	Pg	**Pn**	**19 39 54.0**	**+0.3**
VULT				Sg	**Sn**	**19 40 10.1**	**+0.4**
	362nm,0.3s						
VULT	**Monte Vulture**	**1.15**	**180**	Pg	**Pn**	**19 39 54.0**	**+0.3**
VULT				Sg	**Sn**	**19 40 10.1**	**+0.4**
	362nm,0.3s						
RNI2	**Rionero Sannit**	**1.16**	**250**	Pg	**Pg**	**19 39 53.6**	**0.0**
	203nm,0.3s						
RNI2	**Rionero Sannit**	**1.16**	**250**	Pg	**Pg**	**19 39 53.6**	**0.0**
	203nm,0.3

PE1					*e*Sn	**Sg**	**19 40 32.6**	**+1.1**
UDBI	**Udbina**	**2.43**	**2**	*i* Pn	**Pn**	**19 40 13.2**	**+1.8**
UDBI				Sn	**Sb**	**19 40 44.8**	**-0.6**
UDBI	**Udbina**	**2.43**	**2**	*i* Pn	**Pn**	**19 40 13.1**	**+1.8**
UDBI				Sn	**Sb**	**19 40 44.7**	**-0.6**
NVLJ	**Novalja**	**2.52**	**348**	*e*Pn	**Pn**	**19 40 12.8**	**+0.3**
NVLJ				Sn	**Sn**	**19 40 44.1**	**+0.7**
NVLJ	**Novalja**	**2.52**	**348**	*e*Pn	**Pn**	**19 40 12.8**	**+0.3**
NVLJ				Sn	**Sn**	**19 40 44.0**	**+0.7**
PDG	**Podgorica**	**2.72**	**82**	*e*Pn	**Pn**	**19 40 16.3**	**+1.1**
PDG				*e*Sn	**Sn**	**19 40 47.8**	**-0.5**
PDG	**Podgorica**	**2.72**	**82**	*e*Pn	**Pn**	**19 40 16.3**	**+1.1**
PDG				*e*Sn	**Sn**	**19 40 47.8**	**-0.5**
BBLS	**Lazići**	**3.29**	**56**	*e*Pn	**Pn**	**19 40 25.7**	**+2.5**
BBLS				*e*Sn	**Sn**	**19 41 03.7**	**+1.2**
BBLS				*e*Sg	**Sg**	**19 41 17.2**	**+0.3**
BBLS	**Lazići**	**3.29**	**56**	*e*Pn	**Pn**	**19 40 25.7**	**+2.5**
BBLS				*e*Sn	**Sn**	**19 41 03.7**	**+1.2**
BBLS				*e*Sg	**Sg**	**19 41 17.2**	**+0.3**
BOJS	**Bojanci**	**3.41**	**356**	*e*Pn	**Pn**	**19 40 25.5**	**+0.8**
BOJS				*e*Sn	**Sn**	**19 41 05.1**	**-0.3**
BOJS	**Bojanci**	**3.41**	**356**	*e*Pn	**Pn**	**19 40 25.5**	**+0.8**
BOJS				*e*Sn	**Sn**	**19 41 05.1**	**-0.3**
DIVS	**Divibare**	**3.77**	**57**	*e*Sn	**Sn**	**19 41 13.7**	**-0.8**
DIVS	**Divibare**	**3.77**	**57**	*e*Sn	**Sn**	**19 41 13.7**	**-0.8**
GRUS	**Gruza**	**4.14**	**63**	*e*Pn	**Pn**	**19 40 37.5**	**+2.7**
GRUS				*e*Sg	**Sg**	**19 41 43.0**	**-1.3**
GRUS	**Gruza**	**4.14**	**63**	*e*Pn	**Pn**	**19 40 37.5**	**+2.7**
GRUS				*e*Sg	**Sg**	**19 41 43.0**	**-1.3**
OBKA	**Obir**	**4.47**	**350**	⇑*i* Pn	**Pn**	**19 40 40.0**	**+0.6**
OBKA				⇑*i* Sn	**Sn**	**19 41 27.9**	**-3.8**
OBKA	**Obir**	**4.47**	**350**	Pn	**Pn**	**19 40 40.0**	**+0.6**
OBKA				Sn	**Sn**	**19 41 27.9**	**-3.8**
BARS	**Barje**	**4.64**	**79**	*e*Pn	**Pn**	**19 40 43.8**	**+2.1**
BARS				*e*Sn	**Sn**	**19 41 33.2**	**-2.5**
BARS	**Barje**	**4.64**	**79**	*e*Pn	**Pn**	**19 40 43.8**	**+2.1**
BARS				*e*Sn	**Sn**	**19 41 33.2**	**-2.5**

IDC 26 19:43:35.6±2.1, 10°64N×94°21E, *h*0km, mb3.4/4, mb1 3.4/5, mb1mx3.2/27, mbtmp3.3/5, ML3.2/1, Error ellipse: s-maj=72.5km s-min=28.1km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.03**	**30**	Pn	Pn	19 45 48.1	+0.7
	0.1nm,0.3s,baz=218,slow=14,SNR=3.9						
MKAR	**Makanchi Array**	**37.43**	**347**	P	P	19 50 50.6	0.0
	0.4nm,0.6s,baz=160,slow=10.0,SNR=6.4						
KURBB	**Kurchatov Arra**	**41.91**	**345**	P	P	19 51 27.1	-0.7
	0.3nm,0.6s,baz=168,slow=8.3,SNR=2.9						
ZALV	**Zalesovo Beam**	**43.85**	**352**	P	P	19 51 43.3	-0.2
	0.6nm,0.6s,baz=167,slow=6.8,SNR=4.2						
ASAR	**Alice Springs**	**51.66**	**132**	P	P	19 52 44.7	+0.1
	0.2nm,0.6s,baz=323,slow=6.0,SNR=4.2						

*BJI **26** 19:45:02.1, 10°.27N×94°.25E, h10km, mB4.9/31, mb4.5/40, Ms4.3/36, Ms7 4.1/33*
*ISCJB **26** 19:45:05.9±0.2, 10°.67N±0°.03×94°.22E±0°.03, h10km, mb4.5/57, MS3.9/21, Error ellipse: s-maj=4.9km s-min=3.7km az=42.7*
*IDC **26** 19:45:06.2±0.5, 10°.67N×94°.24E, h0km, mb4.2/27, mb1 4.3/29, mb1mx4.2/34, mbtmp4.2/29, ML3.9/2, MS3.7/14, Ms1 3.8/14, ms1mx3.6/31, Error ellipse: s-maj=16.9km s-min=12.4km az=59.0*
*NEIC **26** 19:45:07.0±0.3, 10°.70N×94°.31E, h10km, mb4.8/6, Error ellipse: s-maj=10.5km s-min=7.5km az=63.0*
*MOS **26** 19:45:08.5±1.1, 10°.65N×94°.32E, h33km, mb5.1/14, Error ellipse: s-maj=13.5km s-min=6.8km az=110.1*
*DJA **26** 19:45:17.3±0.6, 10°N±3°×9°5E±°, h10km, M4.7/11, mB5.2/2, mb4.6/11, MLv4.7/7, Mw(mB)4.6/2*
*BKK **26** 19:45:18.4±0.6, 11°N±3°×9°4E±°, h68km±8km, M4.6/20, mB5.1/6, mb4.5/20, MLv4.7/7, Mw(mB)4.4/6*

ISC 26 19:45:08.1±0.4, 10°61N±0°.04×94°23E±0°.05, h14km±1km, n199, σ2s02/226, mb4.5/57, MS3.8/23, 6C-3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.79**	**306**	*e*P	Pb	19 45 40.4	-0.2
DGPR	**DIGLIPUR**	**2.85**	**334**	*e*P	**Pn**	**19 45 54.2**	**+1.1**
CMBY	**CAMPBELL BAY**	**3.59**	**185**	*e*P	Pn	19 46 06.8	+3.5
CMBY				AMB	AMB	19 46 16.0	
	comp=Z,453nm,0.5s						
PKDT	**Phuket**	**4.87**	**123**	P	Pn	19 46 26.9	+5.9
BSI	**Banda Aceh**	**5.19**	**168**	P	Pn	19 46 31.2	+5.8
PHET	**Kaeng Krachan**	**5.76**	**66**	P	**Pn**	**19 46 31.6**	**-1.6**
PHET	**Kaeng Krachan**	**5.76**	**66**	P	**Pn**	**19 46 31.7**	**-1.5**
LHMI	**Lhok Sumawe**	**5.99**	**153**	P	**Pn**	**19 46 38.6**	**+2.3**
	comp=Z,81nm,1.2s,comp=Z,0.6nm						
SKLT	**Songkhla**	**7.18**	**118**	P	Pn	19 46 49.3	-3.4
	comp=Z,36nm,0.8s,comp=Z,0.3nm						
SKLT	**Songkhla**	**7.18**	**118**	P	**Pn**	**19 46 55.1**	**+2.4**
	comp=Z,36nm,0.8s,comp=Z,0.3nm						
NAYO	**Nakonayok**	**7.84**	**61**	P	Pn	19 47 06.1	+4.3
	comp=Z,209nm,1.3s,comp=Z,24µmcomp=Z,1.0nm						
KCSI	**Kotacane, Aceh**	**7.87**	**153**	P	**Pn**	**19 47 05.0**	**+2.7**
	comp=Z,44nm,0.9s,comp=Z,0.2nm						
CHBT	**CHBT**	**8.22**	**74**	P	**Pn**	**19 47 05.7**	**-1.2**
	comp=Z,35nm,0.6s						
KULM	**Kulim**	**8.27**	**129**	*e*Pn	Pn	19 47 04.2	-3.5
KULM	**Kulim**	**8.27**	**129**	P	**Pn**	**19 47 05.5**	**-2.2**
KULM	**Kulim**	**8.27**	**129**	P	**Pn**	**19 47 05.5**	**-2.2**
	comp=Z,24nm,1.6s,comp=Z,0.2nm						
TSI	**Tuntungan**	**8.27**	**148**	P	**Pn**	**19 47 09.9**	**+2.2**
	comp=Z,80nm,1.5s,comp=Z,0.5nm						
SNSI	**Sinabang, Aceh**	**8.41**	**166**	P	Pn	19 47 16.6	+7.0
PBKT	**Sadao Pong**	**8.83**	**47**	P	**Pn**	**19 47 14.6**	**-0.8**
	comp=Z,38nm,0.8s						
PBKT	**Sadao Pong**	**8.83**	**47**	P	**Pn**	**19 47 14.9**	**-0.5**
CM31	**Chiang Mai Arr**	**9.04**	**30**	*e*Pn	Pn	19 47 14.5	-3.7
	comp=Z,7.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**9.04**	**30**	Pn	**Pn**	**19 47 18.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**9.04**	**30**	Pn	**Pn**	**19 47 18.7**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=218,slow=15,SNR=18						
PSI	**Prapat**	**9.05**	**149**	Pn	**Pn**	**19 47 19.8**	**+1.3**
PSI	**Prapat**	**9.05**	**149**	Pn	**Pn**	**19 47 19.8**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=344,slow=18,SNR=2.6						
PSI				LR	LR	19 51 32.1	
	comp=Z,1µm,18.4s,baz=298,slow=42						
IPM	**Ipoh**	**9.09**	**132**	*e*Pn	Pn	19 47 15.0	-3.9
IPM	**Ipoh**	**9.09**	**132**	P	**Pn**	**19 47 17.1**	**-1.8**
IPM	**Ipoh**	**9.09**	**132**	P	**Pn**	**19 47 16.4**	**-2.5**
	comp=Z,27nm,0.5s						
CHAI	**Chaiyaphum**	**9.20**	**54**	P	**Pn**	**19 47 21.2**	**+0.7**
	comp=Z,8.7nm,1.1s,comp=Z,76nm						
CHTO	**Chiang Mai**	**9.34**	**29**	*e*P	Pn	19 47 18.0	-4.4
CHTO	**Chiang Mai**	**9.34**	**29**	*e*Pn	Pn	19 47 18.0	-4.4
CHTO				*e*Pn	Pn	19 47 19.0	-3.4
CHTO	**Chiang Mai**	**9.34**	**29**	P	Pn	19 47 28.8	+6.4
	comp=Z,12nm,1.2s						
CHTO	**Chiang Mai**	**9.34**	**29**	P	Pn	19 47 30.4	+8.0
	comp=Z,16nm,1.8s						
CMMT	**Chiang Mai**	**9.34**	**29**	P	Pn	19 47 28.8	+6.4
	comp=Z,11nm,1.2s,comp=Z,759nm						
CMMT	**Chiang Mai**	**9.34**	**29**	P	Pn	19 47 30.2	+7.8
	comp=Z,9.2nm,1.4s,comp=Z,703nm						
LAMP	**Lampang**	**9.44**	**33**	P	Pn	19 47 30.5	+6.7
	comp=Z,7.2nm,0.8s						
LOEI	**Loei**	**9.67**	**44**	P	Pn	19 47 30.2	+3.3
	comp=Z,47nm,0.7s						
KTGM	**Kuala Trenggan**	**10.26**	**120**	P	**Pn**	**19 47 36.5**	**+1.5**
CMAI	**Chiengmai2**	**10.36**	**26**	P	Pn	19 47 51.7	+15
FRIM	**Kepong**	**10.37**	**134**	P	Pn	19 47 32.2	-4.3
SKNT	**Sakolnakorn**	**11.39**	**55**	P	Pn	19 47 58.4	+8.0
	comp=Z,23nm,0.7s						
PANO	**Nakornpanom**	**11.99**	**56**	P	Pn	19 48 06.0	+7.3
	comp=Z,54nm,1.6s						
KGM	**Kluang**	**12.43**	**133**	P	**Pn**	**19 48 05.8**	**+1.1**
PPI	**Padang Panjang**	**12.59**	**150**	P	P	19 48 23.1	+4.7
VIS	**Vishakhapatnam**	**12.71**	**305**	*e*P	**Pn**	**19 48 08.0**	**-0.5**
VIS				AMB	AMB	19 48 17.4	
	comp=Z,73nm,1.1s						
VIS				*i* x	x	19 50 23.0	
MYKOM	**Kota Tinggi**	**12.97**	**132**	P	**Pn**	**19 48 12.9**	**+0.8**
SHL	**Shillong**	**15.04**	**352**	*e*P	**Pn**	**19 48 39.3**	**-1.1**
SHL				AMB	AMB	19 48 51.7	
	comp=Z,24nm,0.8s						
BOK	**Bokaro**	**15.33**	**330**	*e*P	**Pn**	**19 48 42.8**	**-1.3**
BOK				AMB	AMB	19 48 58.9	
	comp=Z,36nm,1.9s						
KMI	**Kunming**	**16.54**	**28**	P	**P**	**19 49 03.8**	**+1.3**
KMI				*p*P	**pP**	**19 49 07.3**	**+0.8**
KMI				*s*P	**sP**	**19 49 09.5**	**+1.1**
KMI				PP	**PnPn**	**19 49 16.0**	**+6.7**
KMI				S	**Sn**	**19 52 05.0**	**+1.5**
KMI				*s*S	**S**	**19 52 11.3**	**-4.0**
KMI				SS	**SnSn**	**19 52 25.5**	**+8.5**
KMI				pmax	pmax		
	comp=Z,11nm,1.0s						
KMI				pmax	pmax		
	comp=Z,60nm,3.1s						
KMI				LR	LR		
	comp=N,380nm,14.4s						
KMI				LR	LR		
	comp=E,150nm,12.0s						
KMI				LR	LR		
	comp=Z,250nm,12.2s						
HYB	**Hyderabad**	**16.64**	**296**	*i* P	**P**	**19 49 05.5**	**+2.1**
HYB	**Hyderabad**	**16.64**	**296**	*e*P	**Pn**	**19 48 58.2**	**-2.9**
HYB				AMB	AMB	19 49 13.1	
	comp=Z,39nm,2.5s						
QIZ	**Qiongzhong**	**17.25**	**59**	P	**Pn**	**19 49 06.5**	**-2.2**
QIZ				S	**Sn**	**19 52 19.5**	**-1.0**
QIZ				LR	LR		
	comp=N,480nm,10.0s						
QIZ				LR	LR		
	comp=E,250nm,9.9s						
QIZ				LR	LR		
	comp=Z,800nm,8.5s						
KSM	**Kuching**	**18.38**	**119**	P	**Pn**	**19 49 23.3**	**+0.6**
JBP	**Jabalpur**	**18.46**	**314**	*e*P	**P**	**19 49 23.0**	**-0.5**
JBP				*i* x	x	19 49 28.4	
	comp=Z,22nm,1.8s						
JBP				*ex*	x	19 53 11.6	
LSA	**Lhasa**	**19.21**	**352**	P	**P**	**19 49 31.8**	**-0.4**
LSA				pmax	pmax		
	comp=Z,200nm,6.6s						
SBUM	**Sibu**	**19.62**	**113**	P	**Pn**	**19 49 37.7**	**0.0**
SBUM	**Sibu**	**19.62**	**113**	P	**Pn**	**19 49 37.8**	**+0.1**
GYA	**Guiyang**	**19.66**	**35**	P	**Pn**	**19 49 38.3**	**+0.1**
GYA				PP	**PnPn**	**19 49 55.8**	**+3.9**
GYA				S	**Sn**	**19 53 14.0**	**-4.4**
GYA				SS	**SnSn**	**19 53 42.0**	**+8.5**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,3µm,14.9s						
GYA				LR	LR		
	comp=E,1µm,16.2s						
GYA				LR	LR		
	comp=Z,3µm,15.6s						
BTM	**Bintulu**	**20.11**	**110**	P	Pn	19 49 44.1	+0.6
BHPL	**Bhopal**	**20.37**	**310**	*e*P	**P**	**19 49 44.7**	**+0.3**
BHPL				AMB	AMB	19 49 59.3	
	comp=Z,46nm,1.9s						
POO	**Poona**	**21.22**	**294**	*e*P	**P**	**19 49 53.0**	**-0.7**
CD2	**Chengdu**	**22.05**	**22**	P	**P**	**19 50 02.3**	**-0.2**
CD2				*p*P	**pP**	**19 50 06.5**	**-0.1**
CD2				*s*P	**sP**	**19 50 09.3**	**+0.8**
CD2				PP	**PnPn**	**19 50 28.3**	**+3.7**
CD2				S	**S**	**19 54 01.0**	**-4.5**
CD2				*s*S	**sS**	**19 54 07.3**	**-4.8**
CD2				SS	**SnSn**	**19 54 40.0**	**+8.0**
CD2				pmax	pmax		
	comp=Z,30nm,1.4s						
CD2				pmax	pmax		
	comp=E,850nm,5.2s						
CD2				LR	LR		
	comp=E,510nm,14.2s						
CD2				LR	LR		
	comp=Z,340nm,9.5s						
KKM	**Kota Kinabalu**	**22.22**	**100**	P	**P**	**19 50 05.9**	**+1.4**
NDI	**New Delhi**	**24.02**	**321**	*ex*	**P**	**19 50 27.0**	**+4.3**
TSM	**Tawau**	**24.26**	**103**	P	**P**	**19 50 26.6**	**+1.6**
MYLDM	**Lahad Datu**	**24.63**	**101**	P	**P**	**19 50 32.0**	**+3.6**
MYLDM	**Lahad Datu**	**24.63**	**101**	P	**P**	**19 50 31.2**	**+2.8**
DDI	**Dehra Dun**	**24.72**	**325**	*e*P	**P**	**19 50 28.6**	**-0.5**
DDI				AMB	AMB	19 50 39.5	
	comp=Z,237nm,1.6s						
SMLA	**Simla**	**25.83**	**325**	*e*P	**P**	**19 50 38.8**	**-0.3**
LZH	**Lanzhou**	**26.82**	**17**	*e*P	**P**	**19 50 48.5**	**+0.3**
LZH				*p*P	**pP**	**19 50 51.5**	**-1.0**
LZH				*s*P	**sP**	**19 50 53.3**	**-1.0**
LZH				*e*S	**S**	**19 55 22.3**	**-1.8**
LZH				*s*S	**sS**	**19 55 30.0**	**-1.4**
LZH				*e*SS	**SnSn**	**19 56 36.0**	**+7.3**
LZH				pmax	pmax		
	comp=Z,29nm,1.0s						
LZH				pmax	pmax		
	comp=Z,130nm,5.2s						
LZH				LR	LR		
	comp=N,480nm,12.3s						
LZH				LR	LR		
	comp=E,350nm,11.0s						
LZH				LR	LR		
	comp=Z,880nm,15.0s						
DHRM	**DHARAMSHALA**	**27.16**	**325**	*e*P	**P**	**19 50 50.6**	**-0.7**
DHRM				AMB	AMB	19 50 59.4	
	comp=Z,25nm,0.9s						
GTA	**Gaotai**	**29.11**	**9**	⇑P	**P**	**19 51 09.3**	**+0.8**
GTA				*p*P	**pP**	**19 51 14.0**	**+1.1**
GTA				*s*P	**sP**	**19 51 16.3**	**+1.6**
GTA				S	**S**	**19 56 02.0**	**+1.9**
GTA				*s*S	**sS**	**19 56 08.5**	**+1.2**
GTA				SS	**SnSn**	**19 57 33.0**	**+8.6**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.9s						
GTA				pmax	pmax		
	comp=Z,71nm,4.7s						
GTA				LR	LR		
	comp=N,140nm,18.0s						
GTA				LR	LR		
	comp=E,100nm,16.6s						
GTA				LR	LR		
	comp=Z,190nm,16.6s						
KAPI	**Kappang**	**29.78**	**120**	LR	LR	20 02 55.6	
	comp=Z,222nm,19.6s,baz=270,slow=36						
DAV	**Davao City (W)**	**31.17**	**94**	LR	LR	20 04 58.8	
	comp=Z,139nm,18.5s,baz=199,slow=38						
NJ2	**Nanjing**	**31.18**	**43**	*e*P	**P**	**19 51 25.0**	**-1.8**
NJ2				pmax	pmax		
	comp=Z,30nm,0.8s						
KSH	**Kashi**	**33.05**	**334**	P	**P**	**19 51 42.0**	**-1.3**
KSH				*s*P	**sP**	**19 51 50.5**	**+1.0**
KSH				PP	**PnPn**	**19 52 52.8**	**-0.1**
KSH				S	**S**	**19 57 00.8**	**-1.0**
KSH				*s*S	**sS**	**19 57 07.0**	**-2.1**
KSH				PcS	**PcS**	**19 58 11.0**	**-1.4**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,63nm,4.2s						
KSH				LR	LR		
	comp=N,120nm,4.5s						
KSH				LR	LR		
	comp=E,110nm,5.0s						
KSH				LR	LR		
	comp=Z,260nm,14.3s						
KBL	**Kabul**	**33.10**	**320**	*e*P	**P**	**19 51 42.3**	**-1.6**
KBL				pmax	pmax		
	comp=Z,18nm,1.6s						
KBL	**Kabul**	**33.10**	**320**	*e*P	**P**	**19 51 42.3**	**-1.6**
	comp=Z,18nm,1.6s						
WMQ	**Urumqi**	**33.57**	**351**	P	**P**	**19 51 49.3**	**+1.6**
WMQ				*p*P	**pP**	**19 51 53.5**	**+1.4**
WMQ				*s*P	**sP**	**19 51 56.3**	**+2.4**
WMQ				PP	**PP**	**19 53 01.8**	**-1.9**
WMQ				PcP	**PcP**	**19 54 29.5**	**+1.4**
WMQ				S	**S**	**19 57 10.3**	**+0.7**
WMQ				*s*S	**sS**	**19 57 17.5**	**+0.7**
WMQ				ScP	**ScP**	**19 58 12.5**	**0.0**
WMQ				SS	**SnSn**	**19 59 14.5**	**+1.8**
WMQ				ScS	**ScS**	**20 02 12.3**	**-1.3**
WMQ				pmax	pmax		
	comp=Z,44nm,1.7s						
WMQ				pmax	pmax		
	comp=Z,260nm,4.1s						
WMQ				LR	LR		
	comp=N,310nm,13.5s						
WMQ				LR	LR		
	comp=E,250nm,20.3s						
WMQ				LR	LR		
	comp=Z,490nm,27.4s						
HHC	**Hu-ho-hao-te**	**33.78**	**24**	*e*P	**P**	**19 51 48.5**	**-1.2**
HHC				PP	**PnPn**	**19 53 02.0**	**-0.1**
HHC				PcP	**PcP**	**19 54 28.5**	**-0.4**
HHC				S	**S**	**19 57 11.3**	**-1.8**
HHC				ScP	**ScP**	**19 58 10.8**	**-2.6**
HHC				PcS	**PcS**	**19 58 13.0**	**-1.8**
HHC				SS	**SnSn**	**19 59 17.3**	**-0.8**
HHC				ScS	**ScS**	**20 02 11.3**	**-3.6**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,5.8s						
HHC				LR	LR		
	comp=N,340nm,13.0s						
HHC				LR	LR		
	comp=E,480nm,12.4s						
HHC				LR	LR		
	comp=Z,300nm,12.5s						
AAK	**Ala-Archa**	**36.26**	**335**	*c i*P	**P**	**19 52 12.0**	**+1.0**
AAK				pmax	pmax		
	comp=Z,21nm,1.7s						
AAK	**Ala-Archa**	**36.26**	**335**	*e*P	**P**	**19 52 08.3**	**-2.7**
	comp=Z,14nm,1.0s						
AAK	**Ala-Archa**	**36.26**	**335**	P	**P**	**19 52 12.5**	**+1.5**
	comp=Z,3.4nm,0.5s,baz=196,slow=21,SNR=4.4						
MKAR	**Makanchi Array**	**37.46**	**346**	*ce*P	**P**	**19 52 21.2**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**37.46**	**346**	P	**P**	**19 52 20.9**	**-0.1**
MKAR	**Makanchi Array**	**37.46**	**346**	P	**P**	**19 52 20.9**	**-0.1**
	comp=Z,4.4nm,0.7s,baz=169,slow=8.6,SNR=35						
MKAR				LR	LR	20 11 48.6	
	comp=Z,110nm,18.9s,baz=171,slow=43						
KKAR	**Karatay Array**	**38.39**	**332**	*e*P	**P**	**19 52 26.3**	**-2.7**
KKAR	**Karatay Array**	**38.39**	**332**	*e*P	**P**	**19 52 26.2**	**-2.7**
SONM	**Songino Array**	**38.49**	**13**	P	**P**	**19 52 29.9**	**+0.1**
SONM				PcP	**PcP**	**19 54 43.4**	**+0.6**
SONM	**Songino Array**	**38.49**	**13**	P	**P**	**19 52 29.9**	**+0.1**
	comp=Z,2.8nm,1.1s,baz=196,slow=6.7,SNR=14						
SONM				PcP	**PcP**	**19 54 43.4**	**+0.6**
	comp=Z,1.2nm,0.9s,baz=172,slow=5.8,SNR=3.4						
ULN	**Ulaanbaatar**	**38.67**	**14**	*e*P	**P**	**19 52 28.7**	**-2.7**
	comp=Z,57nm,2.5s						
ZAK	**Zakamensk**	**40.35**	**9**	*e*P	P	19 52 39.5	-5.8
ZAK				*e*		19 54 47.4	
ZAK				pmax	pmax		
	comp=Z,3.0nm,2.0s						
KSAR	**Wonju Array Be**	**40.35**	**43**	P	**P**	**19 52 45.0**	**-0.4**
KSRS	**Korea Array**	**40.38**	**43**	P	**P**	**19 52 45.0**	**-0.7**
	comp=Z,2.2nm,0.9s,baz=252,slow=9.0,SNR=13						
KSRS				LR	LR	20 12 45.5	
	comp=Z,84nm,18.8s,baz=59,slow=41						
HVS	**Khovu-Aksy**	**40.41**	**359**	*c i*P	**P**	**19 52 46.2**	**+0.4**
HVS				pmax	pmax		
	comp=Z,114nm,1.7s						
KURBB	**Kurchatov Arra**	**41.93**	**345**	P	**P**	**19 52 58.2**	**0.0**
	comp=Z,3.6nm,0.7s,baz=163,slow=7.2,SNR=24						
KURK	**Kurchatov**	**41.99**	**345**	P	**P**	**19 52 58.2**	**-0.5**
KURK	**Kurchatov**	**41.99**	**345**	P	**P**	**19 52 58.2**	**-0.5**
CN2	**Changchun**	**42.70**	**34**	*e*P	**P**	**19 53 04.5**	**0.0**
CN2				*es*P	**sP**	**19 53 10.8**	**0.0**
CN2				*eS*	**S**	**19 59 27.0**	**-0.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				LR	LR		
	comp=N,200nm,15.0s						
CN2				LR	LR		
	comp=E,200nm,15.0s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
ZAA0	**Zalesovo Array**	**43.87**	**352**	*e*P	**P**	**19 53 12.1**	**-1.8**
ZALV	**Zalesovo Beam**	**43.87**	**352**	P	**P**	**19 53 13.9**	**0.0**
ZALV	**Zalesovo Beam**	**43.87**	**352**	P	**P**	**19 53 13.9**	**0.0**
ZALV	**Zalesovo Beam**	**43.87**	**352**	P	**P**	**19 53 13.9**	**0.0**
	comp=Z,6.6nm,0.8s,baz=170,slow=9.0,SNR=27						
ZALV				LR	LR	20 13 38.4	
	comp=Z,66nm,21.4s,baz=70,slow=39						
NVS	**Novosibirsk**	**44.97**	**351**	⇓*i* P	**P**	**19 53 21.0**	**-1.6**
NVS				*e*S	S	19 59 53.9	-6.5
NVS				pmax	pmax		
	comp=Z,20nm,1.5s						
NVS				pmax	pmax		
	comp=N,12nm,1.6s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.4s						
NVS				smax	smax		
	comp=E,23nm,2.7s						
KRAR	**Krasnoyarsk**	**45.30**	**359**	*e*P	**P**	**19 53 23.6**	**-1.6**
KRAR				pmax	pmax		
	comp=Z,13nm,1.2s						
MDJ	**Mudanjiang**	**45.52**	**35**	P	**P**	**19 53 25.8**	**-1.4**
MDJ				*p*P	**pP**	**19 53 28.3**	**-3.4**
MDJ				*s*P	**sP**	**19 53 30.3**	**-3.2**
MDJ				PP	**PP**	**19 53 14.0**	**+0.2**
MDJ				S	**S**	**20 00 08.5**	**-0.2**
MDJ				pmax	pmax		
	comp=Z,4.0nm,2.2s						
MDJ				pmax	pmax		
	comp=Z,52nm,4.6s						
MDJ				LR	LR		
	comp=N,45nm,18.4s						
MDJ				LR	LR		
	comp=E,26nm,14.7s						
MDJ				LR	LR		
	comp=Z,50nm,16.9s						
BVAR	**Borovoye Array**	**46.45**	**340**	P	**P**	**19 53 33.9**	**-0.5**
BVAR						19 55 09.7	
BVAR	**Borovoye Array**	**46.45**	**340**	P	**P**	**19 53 33.9**	**-0.5**
BVAR				PcP	**PcP**	**19 55 09.7**	**+0.8**
BVAR	**Borovoye Array**	**46.45**	**340**	P	**P**	**19 53 33.9**	**-0.5**
	comp=Z,2.4nm,0.9s,baz=142,slow=7.5,SNR=15						
BVAR				PcP	**PcP**	**19 55 09.7**	**+0.8**
	comp=Z,2.0nm,0.9s,baz=108,slow=9.3,SNR=2.3						
BVAR				LR	LR	20 17 17.9	
	comp=Z,83nm,19.4s,baz=353,slow=42						
BRVK	**Borovoye**	**46.51**	**340**	*e*P	**P**	**19 53 34.6**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
USRK	**Ussuriysk Arra**

ARU								19 56 28.0	
ARU					S	**S**		**20 02 00.0**	**+0.9**
ARU					SS	**SS**		**20 05 33.4**	**-5.8**
ARU					pmax	pmax			
	comp=Z,8.0nm,1.7s								
ARU					MLR	MLR			
	comp=Z,276nm,23.0s								
AKH	**Akhalkalaki**	**53.94**	**314**		P	**P**		**19 54 33.3**	**+1.7**
ZEI	**Tsey**	**54.13**	**316**	*eP*	P	**P**		**19 54 33.8**	**+0.8**
ZEI					pmax	pmax			
	comp=Z,25nm,1.3s								
ONI	**Oni**	**54.37**	**315**		P	**P**		**19 54 37.8**	**+3.2**
YSS	**Yuzh-Sakhalins**	**54.60**	**39**		P	P		19 54 44.0	+7.9
KBZ	**Khabaz**	**55.15**	**316**		P	**P**		**19 54 41.0**	**+0.8**
KBZ	**Khabaz**	**55.15**	**316**		P	**P**		**19 54 41.0**	**+0.8**
KBZ	**Khabaz**	**55.15**	**316**		P	**P**		**19 54 41.0**	**+0.8**
	comp=Z,3.5nm,1.0s,baz=98,slow=4.7,SNR=5.8								
CHVG	**Ch'k'valeri**	**55.37**	**315**		P	P		19 54 47.1	+5.3
KIV	**Kislovodsk**	**55.38**	**317**	*eP*	P	**P**		**19 54 42.4**	**+0.5**
KIV					pmax	pmax			
	comp=Z,17nm,1.0s								
KIV					MLR	MLR			
	comp=Z,40nm,15.0s								
YAK	**Yakutsk**	**57.39**	**19**	*eP*	P	**P**		**19 54 53.8**	**-2.0**
YAK					pmax	pmax			
	comp=Z,10.0nm,0.9s								
YAK					pmax	pmax			
	comp=E,5.0nm,1.2s								
YAK					pmax	pmax			
	comp=N,4.0nm,1.4s								
KMBO	**Kilima Mbogo**	**57.85**	**262**		LR	LR		20 16 21.9	
	comp=N,85nm,20.4s,baz=97,slow=32								
CTAO	**Charters Tower**	**59.60**	**121**	*eP*	P	**P**		**19 55 10.3**	**-1.6**
CTAO					pmax	pmax			
	comp=Z,27nm,1.2s								
CTAO	**Charters Tower**	**59.60**	**121**	*eP*	P	**P**		**19 55 10.3**	**-1.6**
	comp=Z,27nm,1.2s								
VSR	**Storozhevoye**	**60.24**	**324**	*eP*	P			19 55 21.0	+5.2
VSR				*e**SP	sP			19 55 37.4	+15
VSR					pmax	pmax			
	comp=Z,10.0nm,1.4s								
VSR					pmax	pmax			
	comp=N,6.0nm,0.7s								
VSR					pmax	pmax			
	comp=E,7.0nm,1.0s								
BRTR	**Keskin Array B**	**60.74**	**310**		P	**P**		**19 55 18.5**	**-1.2**
BRTR	**Keskin Array B**	**60.74**	**310**		P	**P**		**19 55 18.5**	**-1.2**
	comp=E,2.2nm,0.8s,baz=108,slow=7.9,SNR=13								
STKA	**Stephens Creek**	**61.95**	**135**		P	**P**		**19 55 28.9**	**+1.2**
STKA	**Stephens Creek**	**61.95**	**135**		P	**P**		**19 55 28.9**	**+1.2**
	comp=E,8.4nm,1.0s,baz=346,slow=7.8,SNR=5.1								
OBN	**Obninsk**	**63.13**	**327**⇑	*eP*		**P**		**19 55 35.7**	**+0.5**
OBN				*e*				19 57 54.9	
OBN				*eS*		**S**		**20 04 07.6**	**+1.8**
OBN					pmax	pmax			
	comp=Z,10.0nm,0.4s								
OBN					MLR	MLR			
	comp=Z,100nm,18.0s								
PETK	**Petropavlovsk-**	**65.75**	**36**		LR	LR		20 29 58.2	
	comp=Z,32nm,19.1s,baz=27,slow=41								
FINES	**FINESS Array B**	**70.35**	**332**		P	**P**		**19 56 19.5**	**-1.6**
FINES	**FINESS Array B**	**70.35**	**332**		P	**P**		**19 56 19.5**	**-1.6**
	comp=Z,1.9nm,0.9s,baz=108,slow=6.2,SNR=4.3								
ARCES	**ARCESS Array B**	**72.73**	**340**		P	**P**		**19 56 35.6**	**+0.1**
ARCES	**ARCESS Array B**	**72.73**	**340**		P	**P**		**19 56 35.6**	**+0.1**
	comp=Z,3.9nm,0.9s,baz=36,slow=10,SNR=4.5								
MORC	**Moravsky Berou**	**73.37**	**319**	*eP*		P		19 56 36.2	-3.5
MORC	**Moravsky Berou**	**73.37**	**319**	*eP*		P		19 56 36.2	-3.5
GERES	**GERESS Array B**	**75.86**	**318**		P	**P**		**19 56 53.8**	**-0.4**
GERES	**GERESS Array B**	**75.86**	**318**		P	**P**		**19 56 53.8**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=77,slow=7.0,SNR=6.3								
GERES					LR	LR		20 33 27.2	
	comp=Z,68nm,18.5s,baz=86,slow=38								
BOSA	**Boshof**	**77.11**	**237**		P	**P**		**19 57 02.5**	**+0.8**
BOSA	**Boshof**	**77.11**	**237**		P	**P**		**19 57 02.5**	**+0.8**
	comp=Z,3.0nm,1.0s,baz=104,slow=4.2,SNR=2.9								
SPITS	**Spitsbergen Ar**	**77.19**	**348**		P	**P**		**19 57 01.6**	**+0.5**
SPITS	**Spitsbergen Ar**	**77.19**	**348**		P	**P**		**19 57 01.6**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=118,slow=12,SNR=2.8								
NOA	**NORSAR Array B**	**77.40**	**330**		P	**P**		**19 57 03.4**	**+0.8**
NOA	**NORSAR Array B**	**77.40**	**330**		P	**P**		**19 57 03.4**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=94,slow=5.5,SNR=2.6								
KEST	**Kesra**	**79.76**	**305**		P	**P**		**19 57 16.5**	**+0.3**
KEST	**Kesra**	**79.76**	**305**		P	**P**		**19 57 16.5**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=170,slow=6.1,SNR=3.0								
LPG	**La Plagne**	**80.76**	**315**	*eP*		**P**		**19 57 21.7**	**+0.1**
	comp=Z,13nm,0.9s								
LPL	**La Plagne**	**80.77**	**315**	*eP*		**P**		**19 57 21.7**	**+0.1**
	comp=Z,11nm,0.9s								
MBDF	**Montbardon**	**80.83**	**314**	*eP*		**P**		**19 57 22.9**	**+1.1**
ORIF	**Oris-en-Rattie**	**81.44**	**314**	*eP*		**P**		**19 57 26.1**	**+1.1**
SYO	**Syowa Base**	**88.03**	**197**⇑	*ep*	P	pP		19 58 04.0	+1.8
ESDC	**Sonseca Array**	**89.53**	**310**		P	**P**		**19 58 05.6**	**+0.3**
ESDC	**Sonseca Array**	**89.53**	**310**		P	**P**		**19 58 05.6**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=42,slow=4.6,SNR=4.2								
TORD	**Torodi Ar. Bea**	**90.05**	**283**		P	**P**		**19 58 07.5**	**-0.7**
TORD					PP	**PP**		**20 01 42.9**	**+1.4**
TORD	**Torodi Ar. Bea**	**90.05**	**283**		P	**P**		**19 58 07.5**	**-0.7**
	comp=Z,1.0nm,1.0s,baz=92,slow=2.9,SNR=3.8								
TORD					PP	**PP**		**20 01 42.9**	**+1.4**
	comp=Z,1.8nm,1.1s,baz=65,slow=10,SNR=5.1								
ILAR	**Eielson Array**	**92.19**	**22**		P	**P**		**19 58 16.4**	**-0.7**
ILAR	**Eielson Array**	**92.19**	**22**		P	**P**		**19 58 16.4**	**-0.7**
	comp=Z,0.5nm,1.0s,baz=296,slow=5.5,SNR=5.2								
ILAR					LR	LR		20 48 33.5	
	comp=Z,55nm,18.1s,baz=342,slow=41								
INK	**Inuvik**	**94.35**	**16**		P	**P**		**19 58 26.7**	**-0.3**
INK	**Inuvik**	**94.35**	**16**		P	**P**		**19 58 26.7**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=262,slow=2.5,SNR=3.4								
NVAR	**Mina Array Bea**	**122.53**	**30**		PKP	**PKPdf**		**20 04 04.6**	**+0.7**
NVAR	**Mina Array Bea**	**122.53**	**30**		PKP	**PKPdf**		**20 04 04.6**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=319,slow=3.0,SNR=6.5								
PDAR	**Pinedale Array**	**122.59**	**21**		PKP	**PKPdf**		**20 04 03.2**	**-0.7**
PDAR	**Pinedale Array**	**122.59**	**21**		PKP	**PKPdf**		**20 04 03.2**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=107,slow=1.5,SNR=5.8								
TXAR	**Lajitas Array**	**136.70**	**23**		PKP	**PKPdf**		**20 04 32.9**	**+2.0**
TXAR	**Lajitas Array**	**136.70**	**23**		PKP	**PKPdf**		**20 04 32.9**	**+2.0**
	comp=Z,0.4nm,0.8s,baz=206,slow=0.6,SNR=4.9								
PLCA	**Paso Flores**	**147.12**	**202**		PKPbc	**PKPab**		**20 04 52.2**	**-0.4**
PLCA	**Paso Flores**	**147.12**	**202**		PKPbc	**PKPab**		**20 04 52.2**	**-0.4**
	comp=Z,8.4nm,1.0s,baz=163,slow=3.1,SNR=9.4								
CPUP	**Villa Florida**	**148.93**	**236**		PKPbc	**PKPbc**		**20 04 56.5**	**+0.2**
CPUP	**Villa Florida**	**148.93**	**236**		PKPbc	**PKPbc**		**20 04 56.5**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=125,slow=1.9,SNR=5.5								
CFAA	**Coronel Fontan**	**153.55**	**215**		PKPbc	**PKPbc**		**20 05 06.7**	**-0.2**
CFAA	**Coronel Fontan**	**153.55**	**215**		PKPbc	**PKPbc**		**20 05 06.7**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=219,slow=2.6,SNR=8.7								
SIV	**San Ignacio**	**155.39**	**255**		PKPab	**PKPab**		**20 05 28.4**	**+0.8**
SIV	**San Ignacio**	**155.39**	**255**		PKPab	**PKPab**		**20 05 28.4**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=120,slow=3.9,SNR=3.9								
LPAZ	**La Paz**	**161.94**	**250**		PKPab	**PKPab**		**20 05 57.0**	**+0.3**
LPAZ	**La Paz**	**161.94**	**250**		PKPab	**PKPab**		**20 05 57.0**	**+0.3**
	comp=Z,1.5nm,1.0s,baz=95,slow=11,SNR=2.6								

IDC 26 19:51:35.4±2.0, 10.46N×94.06E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/26, mbtmp3.6/7, Error ellipse: s-maj=69.4km s-min=21.1km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.57**	**347**	P		P	19 58 50.2	-1.3
	0.8nm,0.8s,baz=170,slow=8.1,SNR=4.5							
SONM	**Songino Array**	**38.68**	**13**	P		P	19 59 02.3	+1.2
	0.6nm,1.0s,baz=208,slow=5.0,SNR=3.8							
KSRS	**Korea Array**	**40.61**	**43**	P		P	19 59 16.0	-1.1
	0.3nm,0.4s,baz=265,slow=11,SNR=4.3							
KURBB	**Kurchatov Arra**	**42.04**	**345**	P		P	19 59 29.6	+1.0
	0.4nm,0.5s,baz=165,slow=6.8,SNR=3.4							
ZALV	**Zalesovo Beam**	**44.00**	**352**	P		P	19 59 43.5	-1.0
	0.9nm,0.8s,baz=161,slow=9.4,SNR=4.4							
WRA	**Warramunga Arr**	**49.85**	**127**	P		P	20 00 31.0	+0.2
	0.5nm,0.5s,baz=304,slow=8.9,SNR=4.5							
ASAR	**Alice Springs**	**51.65**	**131**	P		P	20 00 44.0	-0.4
	1.4nm,1.1s,baz=306,slow=5.8,SNR=4.5							

IDC 26 19:52:22.3±1.7, 10.61N×94.25E, h0km, mb3.8/7, mb1 3.8/8, mb1mx3.6/27, mbtmp3.7/8, ML3.4/1, Error ellipse: s-maj=54.3km s-min=20.5km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.03**	**30**	Pn		Pn	19 54 34.3	+0.3
	0.1nm,0.3s,baz=219,slow=16,SNR=3.7							
MKAR	**Makanchi Array**	**37.47**	**346**	P		P	19 59 37.2	-0.4
	1.4nm,0.8s,baz=162,slow=8.3,SNR=5.6							
SONM	**Songino Array**	**38.49**	**13**	P		P	19 59 46.6	+0.3
	0.9nm,0.8s,baz=191,slow=7.6,SNR=3.9							
KSRS	**Korea Array**	**40.37**	**43**	P		P	20 00 01.2	-0.7
	1.0nm,0.9s,baz=251,slow=8.5,SNR=4.2							
KURBB	**Kurchatov Arra**	**41.94**	**345**	P		P	20 00 14.7	-0.1
	1.2nm,0.9s,baz=164,slow=7.4,SNR=4.0							
ZALV	**Zalesovo Beam**	**43.88**	**352**	P		P	20 00 30.4	0.0
	2.2nm,0.9s,baz=176,slow=8.5,SNR=6.0							
WRA	**Warramunga Arr**	**49.79**	**128**	P		P	20 01 16.7	-0.5
	0.7nm,0.7s,baz=304,slow=9.1,SNR=2.6							
ASAR	**Alice Springs**	**51.61**	**132**	P		P	20 01 31.3	+0.4
	1.1nm,0.8s,baz=308,slow=6.8,SNR=5.8							

MAN 26 19:56:00, 7.87N×122.62E, h35km, mb3.9, ML2.7, MS2.3, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IPIL	**Ipil**	**0.10**	**212**	⇓*i*	P	Pn	19 56 08.2	+2.1
IPIL				*i*	S	Sn	19 56 12.5	+2.3
PAGZ	**Pagadian**	**0.75**	**92**	*eP*		Pn	19 56 16.1	+2.0
PAGZ				*eS*		Sn	19 56 18.4	-6.0
DCPH	**Dipolog City**	**1.01**	**46**⇑	*eP*		Pn	19 56 18.7	+1.0
DCPH				*eS*		Sn	19 56 31.5	+0.8

*ISCJB **26** 20:00:20.4±0.7, 23.99S×0.05×67.3W±0.2, h186km±19km, mb3.4/1, Error ellipse: s-maj=23.5km s-min=7.8km az=4.1*
*IDC **26** 20:00:20.4±1.2, 23.96S×67.02W, h155km±18km, mb3.3/1, mb1 3.3/5, mb1mx3.2/19, mbtmp3.3/5, Error ellipse: s-maj=22.3km s-min=14.1km az=94.0*
*GUC **26** 20:00:22.1±0.5, 23.68S×67.58W, h214km±11km, ML3.8*
ISC 26 20:00:21.0±0.9, 23.97S±0.07×67.2W±0.1, h172km±16km, n11, σ19/18, 2C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**2.08**	**310**⇑	*iP*		**Pn**	**20 00 59.7**	**+0.9**
LVC				*i*	S	**Sn**	**20 01 28.4**	**+0.5**
LVC	**Limon Verde**	**2.08**	**310**	P		**Pn**	**20 00 59.6**	**+0.8**
	5.6nm,0.3s,baz=128,slow=7.0,SNR=75							
LVC				S		**Sn**	**20 01 27.9**	**-0.1**
	12nm,0.3s,baz=264,slow=23,SNR=46							
PB09	**Plate Boundary**	**2.88**	**318**	⇓*iP*		**Pn**	**20 01 09.0**	**+1.0**
PB09				*i*	S	**Sn**	**20 01 44.0**	**-0.5**
PB09					AML	AML	20 01 45.1	
	comp=N,210nm,0.4s							
ANCH	**Antofagasta**	**2.96**	**275**⇑	*iP*		**Pn**	**20 01 09.9**	**+1.1**
ANCH				*i*	S	**Sn**	**20 01 45.1**	**-1.0**
PB01	**Plate Boundary**	**3.61**	**323**	⇓*iP*		**Pn**	**20 01 16.5**	**-0.5**
PB01				*i*	S	**Sn**	**20 01 57.8**	**-2.9**
PB01					AML	AML	20 01 58.3	
	comp=E,105nm,0.2s							
CFAA	**Coronel Fontan**	**7.66**	**187**	P		**Pn**	**20 02 11.0**	**+1.2**
	comp=E,0.0nm,0.3s,baz=32,slow=9.5,SNR=4.4							
CFAA				S		**Sn**	**20 03 34.2**	**-1.6**
	comp=E,0.0nm,0.3s,baz=254,slow=18,SNR=2.3							
LPAZ	**La Paz**	**7.70**	**353**	P		**Pn**	**20 02 10.9**	**-0.1**
	comp=E,0.3nm,0.3s,baz=155,slow=8.8,SNR=7.5							
LPAZ				S		**Sn**	**20 03 37.9**	**+0.2**
	comp=E,1.5nm,0.3s,baz=119,slow=4.7,SNR=26							
SIV	**San Ignacio**	**9.80**	**37**	P		**Pn**	**20 02 37.9**	**-0.3**
	comp=E,0.7nm,0.3s,baz=244,slow=13,SNR=9.3							
SIV				S		Sn	20 04 20.4	-6.9
	comp=E,0.1nm,0.3s,baz=290,slow=23,SNR=1.9							
BDFB	**Brasilia**	**19.84**	**69**	P		**P**	**20 04 39.0**	**+0.1**
	comp=E,0.9nm,0.3s,baz=238,slow=11,SNR=9.3							
TORD	**Torodi Ar. Bea**	**76.72**	**69**	P		**P**	**20 11 53.3**	**-0.4**
	comp=E,0.3nm,0.3s,baz=261,slow=5.7,SNR=13							
MKAR	**Makanchi Array**	**146.61**	**39**	PKPbc		**PKPbc**	**20 19 43.5**	**+1.2**
	comp=E,0.2nm,0.5s,baz=317,slow=2.5,SNR=2.1							

CASC 26 20:07:03.0±2.5, 13.88N×91.53W, h39km±84km, MD3.6, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAT	**Jato**	**0.45**	**346**⇑	*eP*		Pn	20 07 13.1	+0.1
FUG	**Fuego 3**	**0.87**	**50**	*eP*		Pn	20 07 18.9	-0.1
PCG	**Pacaya**	**1.03**	**60**	*eP*		Pn	20 07 22.8	+1.5
IXG	**Ixpaco**	**1.08**	**74**	*eP*		Pn	20 07 21.9	-0.1
NBG	**Las Nubes**	**1.34**	**58**	*eP*		Pn	20 07 27.5	+1.9
NBG				*eS*		Sn	20 07 47.9	+5.4
RBDL	**Robledal**	**1.80**	**82**	*eP*		Pn	20 07 32.2	+0.4
RBDL				*eS*		Sn	20 07 53.7	+0.1
RTR	**El Retiro**	**1.83**	**89**	*eP*		Pn	20 07 32.9	+0.7
SBLS	**San Blas**	**1.85**	**91**	*eP*		Pn	20 07 32.8	+0.3
SBLS				*eS*		Sn	20 07 56.4	+1.4
SNJE	**San Jose**	**1.87**	**90**	*eP*		Pn	20 07 33.1	+0.4
SNJE				*eS*		Sn	20 07 55.0	-0.2
MRL	**Marmol**	**2.13**	**56**	*eP*		Pn	20 07 40.6	+4.2
BOQS	**Boqueron**	**2.19**	**93**	*eP*		Pn	20 07 37.5	+0.4
LFRS	**El Faro**	**2.41**	**96**	*eP*		Pn	20 07 40.2	+0.1
LFRS				*eS*		Sn	20 08 08.5	0.0

IDC 26 20:13:46.9±5.4, 31.70S×138.46E, h0km, mb1 3.0/3, mb1mx3.0/16, mbtmp2.8/3, ML2.7/3, Error ellipse: s-maj=78.8km s-min=17.2km az=28.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**2.68**	**95**	Pn		Pn	20 14 30.7	-0.6
	0.5nm,0.3s,baz=274,slow=8.7,SNR=14							
STKA				Sn		Sn	20 15 04.9	+0.4
	1.9nm,0.3s,baz=331,slow=9.1,SNR=5.3							
STKA				Lg		Lg	20 15 12.8	
	4.8nm,0.3s,baz=354,slow=24,SNR=9.5							
ASAR	**Alice Springs**	**8.96**	**332**	Pn		Pn	20 15 58.9	+1.2
	0.1nm,0.3s,baz=152,slow=12,SNR=9.5							
ASAR				Sn		Sn	20 17 38.1	-1.3
	0.1nm,0.3s,baz=154,slow=22,SNR=6.6							
WRA	**Warramunga Arr**	**12.28**	**341**	Pn		Pn	20 16 42.7	-0.4
	0.1nm,0.3s,baz=159,slow=12,SNR=2.3							
WRA				Sn		Sn	20 19 02.9	+2.1
	0.1nm,0.3s,baz=278,slow=28,SNR=1.1							

IDC 26 20:17:47.4±0.8, 10.60N×94.10E, h0km, mb3.9/15, mb1 3.9/16, mb1mx3.9/27, mbtmp3.8/16, ML3.6/1, MS3.4/3, Ms1 3.4/3, ms1mx2.8/41, Error ellipse: s-maj=23.5km s-min=17.6km az=55.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**9.10**	**148**	LR		LR	20 23 40.5	
	comp=Z,202nm,19.6s,baz=183,slow=38							
CMAR	**Chiang Mai Arr**	**9.11**	**30**	Pn		Pn	20 20 00.0	-0.3
	0.2nm,0.3s,baz=217,slow=15,SNR=9.4							
AAK	**Ala-Archa**	**36.22**	**335**	LR		LR	20 41 03.2	
	comp=Z,38nm,19.3s,baz=322,slow=38							
MKAR	**Makanchi Array**	**37.45**	**347**	P		P	20 25 02.6	+0.1
	2.1nm,0.9s,baz=166,slow=7.5,SNR=13							
SONM	**Songino Array**	**38.53**	**13**	P		P	20 25 12.0	+0.1
	0.7nm,0.8s,baz=202,slow=5.6,SNR=5.6							
SONM				PcP		PcP	20 27 25.1	+0.4
	0.4nm,0.8s,baz=190,slow=5.7,SNR=3.1							
SONM				LR		LR	20 42 16.8	
	comp=Z,66nm,18.8s,baz=237,slow=38							
KSRS	**Korea Array**	**40.48**	**43**	P		P	20 25 26.9	-1.1
	0.3nm,0.3s,baz=244,slow=10,SNR=4.8							
KURBB	**Kurchatov Arra**	**41.92**	**345**	P		P	20 25 39.7	0.0
	1.4nm,0.8s,baz=161,slow=7.6,SNR=9.8							
ZALV	**Zalesovo Beam**	**43.87**	**352**	P		P	20 25 55.6	+0.2
	2.9nm,0.8s,baz=169,slow=8.8,SNR=14							
BVAR	**Borovoye Array**	**46.42**	**340**	P		P	20 26 15.9	+0.1
	0.5nm,0.6s,baz=138,slow=7.4,SNR=5.0							
USRK	**Ussuriysk Arra**	**46.77**	**37**	P		P	20 26 17.8	-0.8
	1.4nm,0.9s,baz=248,slow=10,SNR=4.3							
MJAR	**Matsushiro Arr**	**47.40**	**50**	PcP		PcP	20 27 54.6	+0.2
	1.5nm,0.9s,baz=217,slow=2.9,SNR=5.2							
WRA	**Warramunga Arr**	**49.90**	**127**	P		P	20 26 43.2	0.0
	1.2nm,0.8s,baz=303,slow=8.4,SNR=7.5							
ASAR	**Alice Springs**	**51.71**	**132**	P		P	20 26 56.9	+0.1
	2.5nm,0.8s,baz=308,slow=6.7,SNR=24							
KMBO	**Kilima Mbogo**	**57.73**	**262**	P		P	20 27 39.9	-1.1
	2.2nm,0.6s,baz=51,slow=18,SNR=3.7							
BRTR	**Keskin Array B**	**60.66**	**310**	P		P	20 28 00.4	-0.4
	0.5nm,0.7s,baz=85,slow=7.6,SNR=4.2							

FINES	**FINESS Array B**	**70.31**	**332**		P		P	20 29 03.1	+0.5
	1.0nm,0.8s,baz=152,slow=6.3,SNR=2.3								
GERES	**GERESS Array B**	**75.79**	**318**		P		P	20 29 35.5	-0.1
	0.1nm,0.4s,baz=52,slow=11,SNR=2.2								
TORD	**Torodi Ar. Bea**	**89.94**	**283**		P		P	20 30 49.8	+0.3
	0.4nm,0.9s,baz=85,slow=2.1,SNR=2.6								
ILAR	**Eielson Array**	**92.25**	**22**		P		P	20 30 58.4	-0.7
	0.4nm,0.9s,baz=302,slow=5.2,SNR=4.6								
NVAR	**Mina Array Bea**	**122.61**	**30**		PKP	**PKPdf**		20 36 45.3	-0.6
	0.5nm,0.6s,baz=334,slow=1.8,SNR=4.5								
PDAR	**Pinedale Array**	**122.65**	**21**		PKP	**PKPdf**		20 36 45.6	-0.2
	0.2nm,0.4s,baz=228,slow=2.3,SNR=3.5								
TXAR	**Lajitas Array**	**136.76**	**23**		PKP	**PKPdf**		20 37 14.6	+1.8
	0.1nm,0.5s,baz=29,slow=2.1,SNR=2.7								

WEL 26 20:28:12.7±0.2, 45.36S×166.72E, h22km, ML3.5/16, 2C-2D, Error ellipse: s-maj=1.3km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DCZ	**Deep Cove**	**0.33**	**112**	⇓P*		Pb	20 28 19.8	-0.1
DCZ				S*		Sb	20 28 24.8	0.0
DCZ				AML	AML	20 28 25.0		
DCZ				AML	AML	20 28 25.0		
DCZ				AML	AML	20 28 25.5		
WHZ	**Wether Hill Ro**	**1.01**	**122**	PN	Pn	20 28 31.1		-0.4
WHZ				SN	Sn	20 28 44.9		-0.3
WHZ				AML	AML	20 28 48.3		
MLZ	**Mavora Lakes**	**1.02**	**90**	⇓PN	Pn	20 28 30.5		-1.2
MLZ				SN	Sb	20 28 43.6		-1.2
MLZ				AML	AML	20 28 56.5		
MSZ	**Milford Sound**	**1.09**	**52**	⇑PN	Pn	20 28 31.4		-1.2
MSZ				SN	Sn	20 28 48.4		+1.4
MSZ				AML	AML	20 28 51.2		
MSZ				AML	AML	20 28 51.3		
MSZ				AML	AML	20 28 51.9		
WKZ	**Wanaka**	**1.71**	**73**	PN	Pb	20 28 42.4		-1.0
WKZ				AML	AML	20 29 11.6		
WKZ				AML	AML	20 29 12.3		
WKZ				AML	AML	20 29 12.8		
APZ	**The Paps**	**1.72**	**150**	⇑PN	Pb	20 28 42.9		-0.8
EAZ	**Earnscleugh**	**1.83**	**87**	PN	Pb	20 28 44.3		-1.1
EAZ				AML	AML	20 29 08.9		
EAZ				AML	AML	20 29 09.0		
EAZ				AML	AML	20 29 11.1		
JCZ	**Jackson Bay**	**1.94**	**49**	PN	Pn	20 28 44.3		0.0
JCZ				AML	AML	20 29 18.4		
JCZ				AML	AML	20 29 19.8		
SYZ	**Scrubby Hill**	**2.06**	**126**	PN	Pn	20 28 47.1		+1.2
TUZ	**Tuapeka**	**2.13**	**107**	PN	Pn	20 28 47.9		+1.1
TUZ				AML	AML	20 29 17.3		
TUZ				AML	AML	20 29 18.0		
LBZ	**Lake Benmore**	**2.65**	**70**	PN	Pn	20 28 54.5		+0.5
LBZ				AML	AML	20 29 32.0		
LBZ				AML	AML	20 29 32.5		
FOZ	**Fox Glacier**	**2.78**	**51**	PN	Pn	20 28 56.8		+1.1
ODZ	**Otahua Downs**	**2.79**	**85**	PN	Pn	20 28 56.5		+0.6
RPZ	**Rata Peaks**	**3.50**	**64**	PN	Pn	20 29 04.7		-1.1
RPZ				AML	AML	20 29 54.4		
LTZ	**Lake Taylor**	**4.75**	**59**	PN	Pn	20 29 25.0		+2.0

**IDC 26 20:30:52.1±9.6

s-maj=390.0km s-min=27.6km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.83**	**348**	P	P	21 02 57.3	-0.1
	0.1nm,0.5s,baz=116,slow=6.6,SNR=2.1						
WRA	**Warramunga Arr**	**50.23**	**126**	P	P	21 04 36.8	-0.6
	0.5nm,0.6s,baz=304,slow=8.8,SNR=3.4						
ASAR	**Alice Springs**	**51.97**	**131**	P	P	21 04 50.7	+0.2
	0.8nm,0.7s,baz=310,slow=6.8,SNR=12						

IDC 26 21:05:18.5±3.6, 21°.53N×143°.00E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.5/25, mbtmp3.4/6, ML3.5/1, Error ellipse: s-maj=155.9km s-min=20.7km az=80.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.53**	**345**	Pn	Pn	21 08 57.0	-1.9
	0.2nm,0.3s,baz=167,slow=11,SNR=3.4						
KSRS	**Korea Array**	**20.55**	**324**	P	Pn	21 10 03.5	+2.7
	1.8nm,0.7s,baz=147,slow=9.1,SNR=11						
USRK	**Ussuriysk Arra**	**24.38**	**341**	P	P	21 10 39.0	+0.6
	0.4nm,0.5s,baz=134,slow=12,SNR=4.0						
SONM	**Songino Array**	**39.36**	**321**	P	P	21 12 49.5	-0.3
	0.2nm,0.4s,baz=114,slow=6.4,SNR=3.1						
WRA	**Warramunga Arr**	**42.08**	**192**	P	P	21 13 12.4	0.0
	0.8nm,0.5s,baz=16,slow=9.0,SNR=5.3						
ASAR	**Alice Springs**	**45.79**	**192**	P	P	21 13 41.8	-0.3
	0.5nm,0.6s,baz=17,slow=7.9,SNR=13						
MKAR	**Makanchi Array**	**54.69**	**313**	P	P	21 14 49.5	+0.1
	0.2nm,0.7s,baz=98,slow=6.6,SNR=2.7						

IDC 26 21:23:44.9±1.0, 10°.54N×94°.13E, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.6/28, mbtmp3.6/11, ML3.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.4/46, Error ellipse: s-maj=33.3km s-min=18.0km az=54.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.14**	**30**	Pn	Pn	21 25 58.3	+0.1
	0.1nm,0.3s,baz=218,slow=15,SNR=7.8						
AAK	**Ala-Archa**	**36.28**	**335**	LR	LR	21 46 51.4	
	comp=Z,64nm,21.1s,baz=152,slow=38						
MKAR	**Makanchi Array**	**37.50**	**347**	P	P	21 31 00.2	-0.3
	1.4nm,0.8s,baz=161,slow=8.5,SNR=9.1						
SONM	**Songino Array**	**38.58**	**13**	P	P	21 31 09.0	-0.7
	0.3nm,0.7s,baz=201,slow=11,SNR=4.5						
KSRS	**Korea Array**	**40.50**	**43**	P	P	21 31 24.9	-0.7
	0.2nm,0.3s,baz=255,slow=8.2,SNR=5.1						
KURBB	**Kurchatov Arra**	**41.98**	**345**	P	P	21 31 38.1	+0.5
	1.3nm,1.0s,baz=163,slow=7.1,SNR=8.0						
ZALV	**Zalesovo Beam**	**43.93**	**352**	P	P	21 31 53.8	+0.4
	1.4nm,0.8s,baz=169,slow=8.3,SNR=7.6						
BVAR	**Borovoye Array**	**46.48**	**340**	P	P	21 32 13.8	+0.1
	0.3nm,0.5s,baz=148,slow=8.5,SNR=2.9						
WRA	**Warramunga Arr**	**49.84**	**127**	P	P	21 32 40.0	-0.2
	1.4nm,0.6s,baz=305,slow=8.8,SNR=6.8						
ASAR	**Alice Springs**	**51.66**	**132**	P	P	21 32 54.0	+0.2
	1.8nm,0.8s,baz=312,slow=9.0,SNR=14						
BRTR	**Keskin Array B**	**60.71**	**310**	P	P	21 33 58.3	-0.3
	0.6nm,0.8s,baz=107,slow=4.8,SNR=2.8						
GERES	**GERESS Array B**	**75.85**	**318**	P	P	21 35 33.0	-0.3
	0.1nm,0.2s,baz=65,slow=7.9,SNR=2.5						

IDC 26 21:24:50.6±1.6, 10°.56N×94°.06E, h0km, mb3.7/6, mb1 3.7/7, mb1mx3.5/28, mbtmp3.6/7, ML3.5/1, MS4.1/1, Ms1 4.1/1, ms1mx2.6/47, Error ellipse: s-maj=52.1km s-min=27.1km az=58.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.17**	**31**	Pn	Pn	21 27 03.7	-0.5
	0.1nm,0.3s,baz=217,slow=16,SNR=3.1						
MKAR	**Makanchi Array**	**37.47**	**347**	P	P	21 32 06.0	+0.1
	1.0nm,0.8s,baz=156,slow=7.1,SNR=3.2						
KURBB	**Kurchatov Arra**	**41.94**	**345**	P	P	21 32 43.5	+0.4
	0.9nm,0.8s,baz=163,slow=8.4,SNR=2.7						
ZALV	**Zalesovo Beam**	**43.90**	**352**	P	P	21 32 59.1	+0.3
	0.9nm,0.6s,baz=177,slow=9.5,SNR=2.8						
BVAR	**Borovoye Array**	**46.44**	**340**	P	P	21 33 18.0	-1.2
	1.0nm,0.9s,baz=115,slow=6.5,SNR=2.8						
ASAR	**Alice Springs**	**51.72**	**132**	P	P	21 33 60.0	-0.1
	1.0nm,0.9s,baz=301,slow=6.8,SNR=4.9						
OPO	**Ambohidratompo**	**54.55**	**238**	LR	LR	21 52 38.8	
	comp=Z,170nm,19.3s,baz=174,slow=31						
BRTR	**Keskin Array B**	**60.64**	**310**	P	P	21 35 03.8	0.0
	0.7nm,0.8s,baz=126,slow=9.4,SNR=4.3						

IDC 26 21:28:10.8±1.4, 10°.79N×94°.68E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.5/27, mbtmp3.6/8, Error ellipse: s-maj=59.1km s-min=19.5km az=58.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.40**	**346**	P	P	21 35 24.7	-0.8
	1.2nm,0.8s,baz=164,slow=8.4,SNR=8.7						
SONM	**Songino Array**	**38.23**	**13**	P	P	21 35 32.3	-0.3
	0.3nm,1.0s,baz=193,slow=5.9,SNR=3.2						
KURBB	**Kurchatov Arra**	**41.88**	**345**	P	P	21 36 02.3	-0.4
	0.9nm,0.8s,baz=166,slow=7.4,SNR=4.0						
ZALV	**Zalesovo Beam**	**43.77**	**352**	P	P	21 36 19.1	+1.1
	1.8nm,0.8s,baz=177,slow=8.9,SNR=6.6						
BVAR	**Borovoye Array**	**46.44**	**340**	P	P	21 36 39.0	-0.2
	0.9nm,0.9s,baz=93,slow=5.9,SNR=5.1						
WRA	**Warramunga Arr**	**49.56**	**128**	P	P	21 37 03.6	-0.4
	0.3nm,0.3s,baz=302,slow=9.0,SNR=3.1						
ASAR	**Alice Springs**	**51.41**	**132**	P	P	21 37 18.1	+0.2
	1.4nm,0.8s,baz=310,slow=7.0,SNR=4.6						
BRTR	**Keskin Array B**	**60.97**	**309**	P	P	21 38 26.3	0.0
	1.2nm,1.1s,baz=110,slow=12,SNR=3.8						

IDC 26 21:36:31.6±1.1, 10°.53N×93°.99E, h0km, mb3.7/9, mb1 3.7/10, mb1mx3.6/28, mbtmp3.6/10, ML3.5/1, Error ellipse: s-maj=42.8km s-min=19.1km az=57.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.23**	**31**	Pn	Pn	21 38 45.3	-0.9
	0.1nm,0.3s,baz=217,slow=15,SNR=6.5						
MKAR	**Makanchi Array**	**37.49**	**347**	P	P	21 43 47.1	0.0
	1.2nm,0.7s,baz=163,slow=8.1,SNR=17						
SONM	**Songino Array**	**38.63**	**13**	P	P	21 43 56.7	-0.1
	0.3nm,0.6s,baz=184,slow=8.4,SNR=3.3						
KURBB	**Kurchatov Arra**	**41.96**	**345**	P	P	21 44 24.3	+0.1
	1.0nm,0.8s,baz=163,slow=7.6,SNR=11						
ZALV	**Zalesovo Beam**	**43.92**	**352**	P	P	21 44 40.2	+0.1
	1.9nm,0.8s,baz=173,slow=8.4,SNR=11						
BVAR	**Borovoye Array**	**46.45**	**341**	P	P	21 45 00.3	+0.1
	0.5nm,0.7s,baz=128,slow=4.3,SNR=3.9						
WRA	**Warramunga Arr**	**49.95**	**127**	P	P	21 45 27.8	0.0
	0.8nm,0.8s,baz=303,slow=9.8,SNR=3.3						
ASAR	**Alice Springs**	**51.75**	**131**	P	P	21 45 41.2	-0.1
	0.7nm,0.9s,baz=313,slow=7.1,SNR=5.0						
BRTR	**Keskin Array B**	**60.61**	**310**	P	P	21 46 44.5	-0.1
	0.8nm,0.8s,baz=134,slow=8.6,SNR=6.0						
FINES	**FINESS Array B**	**70.31**	**332**	P	P	21 47 46.3	-0.5
	0.5nm,0.7s,baz=98,slow=8.6,SNR=2.7						

IDC 26 21:38:14.9±1.4, 10°.73N×94°.45E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/28, mbtmp3.5/7, ML3.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/37, Error ellipse: s-maj=53.4km s-min=24.5km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.83**	**29**	Pn	Pn	21 40 26.0	+2.1
	0.2nm,0.3s,baz=217,slow=15,SNR=4.4						
PSI	**Prapat**	**9.04**	**150**	LR	LR	21 44 31.7	
	comp=Z,248nm,20.4s,baz=306,slow=41						
MKAR	**Makanchi Array**	**37.40**	**346**	P	P	21 45 29.0	-0.6
	0.7nm,0.6s,baz=166,slow=7.9,SNR=6.1						
KURBB	**Kurchatov Arra**	**41.88**	**345**	P	P	21 46 06.1	-0.7
	0.3nm,0.6s,baz=162,slow=7.6,SNR=5.4						
ZALV	**Zalesovo Beam**	**43.79**	**352**	P	P	21 46 22.1	-0.2
	0.8nm,0.6s,baz=178,slow=7.8,SNR=3.7						
BVAR	**Borovoye Array**	**46.41**	**340**	P	P	21 46 42.4	-0.8
	0.4nm,0.7s,baz=81,slow=9.5,SNR=3.3						
ASAR	**Alice Springs**	**51.54**	**132**	P	P	21 47 23.2	+0.2
	0.8nm,0.7s,baz=306,slow=7.3,SNR=8.5						
GERES	**GERESS Array B**	**75.92**	**318**	P	P	21 50 04.2	+0.5
	0.1nm,0.4s,baz=99,slow=6.1,SNR=2.5						

*BJI **26** 21:49:18.0, 10°.40N×94°.06E, h10km, mB5.3/38, mb4.7/44, Ms4.8/51, Ms7 4.6/47*

*ISCJB **26** 21:49:19.9±0.2, 10°.56N±0°.03×94°.14E±0°.03, h10km, mb4.6/77, MS4.5/68, Error ellipse: s-maj=4.4km s-min=3.8km az=3.8*

*IDC **26** 21:49:20.6±0.5, 10°.76N×94°.21E, h0km, mb4.2/31, mb1 4.3/32, mb1mx4.3/35, mbtmp4.2/32, ML3.9/1, MS4.3/31, Ms1 4.3/31, ms1mx4.3/36, Error ellipse: s-maj=16.2km s-min=11.6km az=61.0*

*NEIC **26** 21:49:21.7±0.2, 10°.61N×94°.19E, h10km, mb5.0/14, Error ellipse: s-maj=5.2km s-min=4.2km az=40.0*

*MOS **26** 21:49:23.6±1.2, 10°.68N×94°.21E, h33km, mb5.1/27, MS4.5/11, Error ellipse: s-maj=9.0km s-min=5.5km az=103.5*

*GCMT **26** 21:49:25.7±0.2, 10°.76N×94°.46E, h12km, MW5.1, Moment Tensor Solution. s50,c68; s80,c137; Moment tensor: Scale 10^16 Nm; Mrr=5.31±.10; Mθθ=4.45±.09; Mϕϕ=0.86±.11; Mrθ=1.45±.30; Mθϕ=1.49±.09; Mϕr=0.11±.38; Best double couple: M=5.40000×10^16 NP1:ϕs=66.00000°, δ=38.00000°, λ=-96.00000°. NP2:ϕs=254.00000°, δ=53.00000°, λ=-85.00000°. Principal axes: T 5.1800, Plg8.0000°, Azm341.0000°; N 0.3500, Plg4.0000°, Azm71.0000°; P -5.5200, Plg82.0000°, Azm187.0000°; Data Used: lI lU CN IC G.*

*DJA **26** 21:49:34.8±0.6, 11°.N=3°×9°.5E±°, h23km, M4.7/11, mB5.2/8, mb4.5/11, MLv5.1/6, Mw(mB)4.5/8, Mwp6.1/1*

*BKK **26** 21:49:39.4±0.6, 11°.N=4°×9°.6E±°, h10km, M4.7/16, mB5.2/8, mb4.5/16, MLv4.8/12, Mw(mB)4.6/8*

ISC 26 21:49:22.5±0.4, 10°.56N±0°.04×94°.14E±0°.04, h14km±1km, h13km: pP-P, n254, σ1°.83/294, mb4.7/77, MS4.4/69, 3C-6D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.75**	**309**	*e*P	Pn	21 49 53.2	+0.7
PBA				*e*S	Sb	21 50 16.6	+0.3
DGPR	**DIGLIPUR**	**2.86**	**336**	*e*P	**Pn**	**21 50 09.1**	**+1.3**
CMBY	**CAMPBELL BAY**	**3.53**	**183**	*e*P	**Pn**	**21 50 17.6**	**+0.6**
PKDT	**Phuket**	**4.92**	**122**	P	Pn	21 50 40.4	+4.3
BSI	**Banda Aceh**	**5.16**	**167**	P	Pb	21 50 49.4	-3.2
	119nm,1.1s,4μm0.5nm						
PHET	**Kaeng Krachan**	**5.87**	**66**	P	**Pn**	**21 50 46.4**	**-2.7**
PHET	**Kaeng Krachan**	**5.87**	**66**	P	**Pn**	**21 50 46.7**	**-2.4**
SKLT	**Songkhla**	**7.24**	**117**	P	**Pn**	**21 51 08.2**	**+0.3**
	48nm,0.9s,1.4nm						
SKLT	**Songkhla**	**7.24**	**117**	P	Pn	21 51 13.4	+5.5
	48nm,0.9s,0.9nm						
KCSI	**Kotacane, Aceh**	**7.86**	**152**	P	Pn	21 51 22.3	+5.7
	40nm,1.1s,994nm0.2nm						
NAYO	**Nakonayok**	**7.95**	**61**	P	**Pn**	**21 51 15.9**	**-1.8**
	367nm,1.0s,26μm1.6nm						
KULM	**Kulim**	**8.31**	**129**	*e*Pn	**Pn**	**21 51 22.0**	**-0.6**
KULM				*e*Sn	Sn	21 52 50.2	-6.2
KULM	**Kulim**	**8.31**	**129**	P	**Pn**	**21 51 23.7**	**+1.1**
	23nm,1.1s,1μm113μm0.5nm						
CHBT	**CHBT**	**8.32**	**74**	P	Pn	21 51 19.7	-3.1
	72nm,1.4s,968nm0.5nm						
CHBT	**CHBT**	**8.32**	**74**	P	Pn	21 51 26.5	+3.7
SNSI	**Sinabang, Aceh**	**8.38**	**165**	P	Pn	21 51 33.2	+10
	94nm,1.1s						
PBKT	**Sadao Pong**	**8.94**	**47**	P	**Pn**	**21 51 28.3**	**-3.0**
	51nm,1.1s,2μm						
PBKT	**Sadao Pong**	**8.94**	**47**	P	**Pn**	**21 51 28.8**	**-2.5**
	52nm,1.1s,2μm0.2nm						
PSI	**Prapat**	**9.05**	**148**	Pn	Pn	21 51 38.9	+5.9
PSI	**Prapat**	**9.05**	**148**	Pn	Pn	21 51 38.9	+5.9
	0.9nm,0.3s,baz=300,slow=13,SNR=5.7						
PSI				LR	LR	21 55 47.5	
	comp=Z,4μm,18.6s,baz=308,slow=42						
IPM	**Ipoh**	**9.11**	**131**	*e*Pn	Pn	21 51 30.8	-3.0
CMAR	**Chiang Mai Arr**	**9.13**	**30**	Pn	**Pn**	**21 51 31.5**	**-2.4**
CMAR	**Chiang Mai Arr**	**9.13**	**30**	Pn	**Pn**	**21 51 31.5**	**-2.4**
	0.4nm,0.3s,baz=218,slow=15,SNR=15						
CMAR				LR	LR	21 55 08.3	
	comp=Z,1μm,18.8s,baz=326,slow=39						
CHAI	**Chaiyaphum**	**9.31**	**54**	P	Pn	21 51 31.8	-4.6
	12nm,1.3s,178nm0.0nm						
CHTO	**Chiang Mai**	**9.44**	**29**	*e*P	**Pn**	**21 51 36.8**	**-1.3**
CHTO				*e*		21 53 30.4	
CHTO	**Chiang Mai**	**9.44**	**29**	*e*Pn	**Pn**	**21 51 36.8**	**-1.3**
CHTO				*e*Sn	Sn	21 53 30.4	+6.3
CHTO	**Chiang Mai**	**9.44**	**29**	P	Pn	21 51 44.3	+6.2
	19nm,1.9s						
CHTO	**Chiang Mai**	**9.44**	**29**	P	Pn	21 51 44.6	+6.5
	14nm,1.7s,0.1nm						
CMMT	**Chiang Mai**	**9.44**	**29**	P	Pn	21 51 41.5	+3.3
	17nm,1.9s,713nm						
CMMT	**Chiang Mai**	**9.44**	**29**	P	Pn	21 51 44.4	+6.2
	17nm,1.9s,705nm0.1nm						
LAMP	**Lampang**	**9.54**	**33**	P	Pn	21 51 44.1	+4.5
	5.8nm,0.9s,0.0nm						
LOEI	**Loei**	**9.78**	**44**	P	**Pn**	**21 51 44.0**	**+1.2**
	77nm,0.7s,0.4nm						
CMAI	**Chiengmai2**	**10.46**	**26**	P	**Pn**	**21 51 54.8**	**+2.5**
	312nm,1.1s						
SKNT	**Sakolnakorn**	**11.49**	**55**	P	**Pn**	**21 52 06.9**	**+0.5**
	42nm,1.8s						
VIS	**Vishakhapatnam**	**12.67**	**305**	*e*P	**Pn**	**21 52 20.8**	**-1.6**
PALK	**Pallekele**	**13.66**	**257**	Pn	**Pn**	**21 52 36.2**	**+0.1**
IMP	**Imphal**	**14.15**	**359**	*e*P	**Pn**	**21 52 42.0**	**-0.7**
SHL	**Shillong**	**15.08**	**352**	*e*P	**Pn**	**21 52 53.0**	**-2.5**
SHL				AMB	AMB	21 52 59.8	
	comp=Z,36nm,1.6s						
SHL				*ex*	x	21 56 00.0	
BOK	**Bokaro**	**15.34**	**330**	*e*P	**Pn**	**21 52 58.6**	**-0.1**
HYB	**Hyderabad**	**16.58**	**296**	*i* P	**P**	**21 53 21.0**	**+3.7**
KMI	**Kunming**	**16.63**	**28**	P	**P**	**21 53 17.0**	**-1.0**
KMI				pP	**pP**	**21 53 21.5**	**-0.4**
KMI				sP	**sP**	**21 53 25.3**	**+1.6**
KMI				PP	PnPn	21 53 33.0	+7.9
KMI				S	**Sn**	**21 56 25.0**	**+4.7**
KMI				sS	**S**	**21 56 33.0**	**+1.3**
KMI				SS	SnSn	21 56 45.5	+12
KMI				pmax	pmax		
	comp=Z,14nm,2.0s						
KMI				pmax	pmax		
	comp=Z,360nm,3.2s						
KMI				LR	LR		
	comp=N,2μm,12.7s						
KMI				LR	LR		
	comp=E,2μm,10.4s						
KMI				LR	LR		
	comp=Z,2μm,11.9s						
TRD	**Trivandrum**	**17.06**	**265**	*e*P	**Pn**	**21 53 19.4**	**-1.5**
QIZ	**Qiongzhong**	**17.36**	**59**	P	**Pn**	**21 53 24.0**	**-0.5**
QIZ				S	**Sn**	**21 56 38.0**	**+0.4**
QIZ				LR	LR		
	comp=N,3μm,8.7s						
QIZ				LR	LR		
	comp=E,1μm,10.4s						
QIZ				LR	LR		
	comp=Z,3μm,9.9s						
QIZ	**Qiongzhong**	**17.36**	**59**	*e*Pn	**Pn**	**21 53 24.8**	**+0.3**
	comp=Z,131nm,1.8s						
KSM	**Kuching**	**18.43**	**118**	*e*P	**P**	**21 53 37.1**	**-0.6**
	comp=Z,77nm,1.5s						
KSM	**Kuching**	**18.43**	**118**	P	**Pn**	**21 53 39.9**	**+2.1**
LSA	**Lhasa**	**19.25**	**352**	P	**P**	**21 53 45.3**	**-1.8**
LSA				sP	sP	21 54 00.8	+7.9
LSA				LR	LR		
	comp=Z,1μm,25.3s						
LSA	**Lhasa**	**19.25**	**352**	*e*P	**P**	**21 53 47.1**	**0.0**
LSA				pmax	pmax		
	comp=Z,191nm,1.8s						
LSA	**Lhasa**	**19.25**	**352**	*e*P	**P**	**21 53 47.1**	**0.0**
	comp=Z,191nm,1.8s						
SBUM	**Sibu**	**19.68**	**113**	P	**Pn**	**21 53 53.9**	**+1.1**
GYA	**Guiyang**	**19.76**	**35**	P	**Pn**	**21 53 55.0**	**+1.2**
GYA				PP	**PnPn**	**21 54 13.8**	**+6.0**
GYA				S	**S**	**21 57 31.5**	**-3.4**
GYA				SS	**SnSn**	**21 57 59.3**	**+8.9**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,3μm,14.9s						
GYA				LR	LR		
	comp=E,1μm,16.2s						
GYA				LR	LR		
	comp=Z,2μm,15.6s						
BHPL	**Bhopal**	**20.34**	**310**	*e*P	**P**	**21 53 56.6**	**-2.0**
BHPL				AMB	AMB	21 54 03.8	
	comp=Z,26nm,0.5s						
POO	**Poona**	**21.16**	**294**	*ex*	P	21 54 15.8	+8.3
CD2	**Chengdu**	**22.14**	**22**	*e*P	**P**	**21 54 18.0**	**0.0**
CD2				pP	**pP**	**21 54 22.3**	**+0.4**
CD2				sP	**sP**	**21 54 25.3**	**+1.6**
CD2				PP	**PnPn**	**21 54 44.8**	**+4.5**
CD2				S	**S**	**21 58 17.5**	**-4.2**
CD2				sS	**sS**	**21 58 24.0**	**-4.1**
CD2				SS	**SnSn**	**21 58 57.3**	**+8.6**
CD2				pmax	pmax		
	comp=Z,60nm,1.8s						
CD2				pmax	pmax		
	comp=Z,1μm,7.2s						
CD2				LR	LR		
	comp=E,1μm,13.2s						
CD2				LR	LR		
	comp=Z,2μm,11.8s						
GZH	**Guangzhou**	**22.18**	**53**	P	P	21 54 23.3	+4.9
GZH				S	Sn	21 58 31.5	-2.3
GZH				LR	LR		
	comp=N,810nm,7.4s						
GZH				LR	LR		
	comp=E,690nm,8.6s						
KKM	**Kota Kinabalu**	**22.30**	**100**	*e*P	**P**	**21 54 20.3**	**+0.4**
	comp=E,120nm,1.4s						
KKM				LR	LR		
	comp=Z,648nm,20.0s						
KKM	**Kota Kinabalu**	**22.30**	**100**	P	P	21 54 30.5	+11
NDI	**New Delhi**	**24.01**	**321**	*e*P	**P**	**21 54 35.0**	**-2.0**
ENH	**Enshi**	**24.27**	**34**	*e*P	**P**	**21 54 37.3**	**-2.2**
	comp=Z,35nm,1.0s						
MYLDM	**Lahad Datu**	**24.71**	**101**	P	**P**	**21 54 47.8**	**+4.2**
DDI	**Dehra Dun**	**24.72**	**325**	*e*P	**P**	**21 54 42.9**	**-0.7**
DDI				AMB	AMB	21 54 49.1	
	comp=Z,145nm,3.7s						
BBKI	**Banjar Baru**	**24.88**	**123**	P	**P**	**21 54 49.1**	**+4.0**
SMLA	**Simla**	**25.82**	**325**	*i* P	**P**	**21 54 54.3**	**+0.8**
SMLA				*i* P	**pP**	**21 54 54.4**	**-3.3**
LZH	**Lanzhou**	**26.90**	**18**	⇑P	**P**	**21 55 03.3**	**-0.1**
LZH				pP	**pP**	**21 55 06.3**	**-1.3**
LZH				sP	**sP**	**21 55 08.0**	**-1.4**
LZH				PP	**PnPn**	**21 55 49.5**	**+4.1**
LZH				S	**S**	**21 59 38.5**	**-1.5**
LZH				sS	**sS**	**21 59 45.5**	**-1.5**
LZH				SS	**SnSn**	**22 00 51.3**	**+6.1**
LZH				pmax	pmax		
	comp=Z,78nm,1.4s						
LZH				pmax	pmax		
	comp=Z,410nm,7.8s						
LZH				LR	LR		
	comp=N,2μm,16.0s						
LZH				LR	LR		
	comp=E,840nm,12.3s						
LZH				LR	LR		
	comp=Z,3μm,17.0s						
XAN	**Xi'an**	**27.01**	**28**	P	**P**	**21 55 01.0**	**-3.3**
XAN				pP	**pP**	**21 55 09.3**	**+0.8**
XAN				sP	**sP**	**21 55 11.5**	**+1.2**
XAN				S	**S**	**21 59 45.0**	**+3.4**
XAN				LR	LR		
	comp=N,610nm,15.2s						
XAN				LR	LR		
	comp=E,470nm,17.1s						
XAN				LR	LR		
	comp=Z,360nm,15.2s						
DHRM	**DHARAMSHALA**	**27.15**	**325**	*e*P	**P**	**21 55 03.8**	**-2.0**
QZH	**Quanzhou**	**27.27**	**55**	P	**P**	**21 55 04.5**	**-2.1**
QZH				S	**S**	**21 59 41.8**	**-3.9**
QZH				LR	LR		
	comp=N,2μm,9.6s						
QZH				LR	LR		
	comp=E,1μm,9.6s						
QZH				LR	LR		
	comp=Z,1μm,10.6s						
WHN	**Wuhan**	**27.36**	**40**	⇓P	**P**	**21 55 07.8**	**+0.4**
WHN				S	**S**	**21 59 51.0**	**+3.9**
WHN				LR	LR		
	comp=N,2μm,13.8s						
WHN				LR	LR		
	comp=E,1μm,9.7s						
WHN				LR	LR		
	comp=Z,2μm,11.0s						
GTA	**Gaotai**	**29.18**	**9**	P	**P**	**21 55 25.0**	**+1.3**
GTA				pP	**pP**	**21 55 29.5**	**+1.6**
GTA				sP	**sP**	**21 55 32.0**	**+2.3**
GTA				S	**S**	**22 00 18.0**	**+2.3**
GTA				sS	**sS**	**22 00 24.3**	**+1.6**
GTA				pmax	pmax		
	comp=Z,11nm,2.0s						
GTA				pmax	pmax		
	comp=Z,270nm,5.5s						
GTA				LR	LR		
	comp=N,760nm,18.8s						
GTA				LR	LR		
	comp=E,470nm,19.2s						
GTA				LR	LR		
	comp=Z,990nm,20.7s						
NACB	**Ninganchiao**	**29.42**	**59**	*e*P	**P**	**21 55 24.9**	**-0.9**
YHNB	**Yeheng**	**29.43**	**58**	*e*P	**P**	**21 55 25.4**	**-0.7**
YHNB				*e*S	**S**	**22 00 19.8**	**-0.2**
YHNB				LR	LR		
	comp=Z,452nm,19.0s						
KAPI	**Kappang**	**29.83**	**120**	*e*P	**P**	**21 55 27.6**	**-1.9**
KAPI				*e*S	**S**	**22 00 25.3**	**-0.9**
KAPI	**Kappang**	**29.83**	**120**	LR	LR	22 07 40.4	
	comp=Z,772nm,18.3s,baz=286,slow=37						
DAV	**Davao City (W)**	**31.25**	**94**	*e*P	**P**	**21 55 41.6**	**-0.5**
DAV				*e*S	**S**	**22 00 48.3**	**-0.4**
DAV	**Davao City (W)**	**31.25**	**94**	LR	LR	22 09 13.2	
	comp=Z,408nm,20.8s,baz=246,slow=38						
NJ2	**Nanjing**	**31.29**	**43**	*e*P	**P**	**21 55 42.3**	**+0.1**
NJ2				pP	**pP**	**21 55 45.0**	**-1.5**
NJ2				sP	**sP**	**21 55 47.0**	**-1.2**
NJ2				S	**S**	**22 00 50.0**	**+1.3**
NJ2				sS	**sS**	**22 00 55.0**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,30nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,1μm,3.8s						
NJ2				LR	LR		
	comp=N,2μm,12.2s						
NJ

WMQ LR LR
comp=E,460nm,19.5s
WMQ LR LR
comp=Z,700nm,26.0s
HHC Hu-ho-hao-te 33.87 24 *e*P **P 21 56 05.0 +0.1**
HHC PP **PnPn 21 57 18.8 +1.1**
HHC PcP **PcP 21 58 43.0 -0.6**
HHC S **S 22 01 28.0 -1.0**
HHC ScP **ScP 22 02 26.3 -1.9**
HHC PcS **PcS 22 02 28.5 -1.1**
HHC SS **SnSn 22 03 35.0 +0.3**
HHC ScS **ScS 22 06 27.8 -2.1**
HHC pmax pmax
comp=Z,38nm,0.7s
HHC pmax pmax
comp=Z,260nm,6.3s
HHC LR LR
comp=N,1μm,13.2s
HHC LR LR
comp=E,1μm,12.3s
HHC LR LR
comp=Z,1μm,12.2s
BJT Baijiatuau 35.26 30 *e*P **P 21 56 15.8 -1.0**
BJT *e*S **S 22 01 48.5 -1.7**
BJT LR LR
comp=Z,517nm,19.0s
BJI Beijing 35.28 30 P **P 21 56 18.5 +1.6**
BJI PP **PP 21 57 40.5 +3.4**
BJI S **S 22 01 51.8 +1.4**
BJI pmax pmax
comp=Z,14nm,1.9s
BJI pmax pmax
comp=Z,250nm,4.5s
BJI LR LR
comp=N,750nm,18.7s
BJI LR LR
comp=E,370nm,14.2s
BJI LR LR
comp=Z,370nm,18.5s
AAK Ala-Archa 36.27 335 *e*P **P 21 56 24.9 -0.8**
AAK pmax pmax
comp=Z,66nm,2.5s
AAK Ala-Archa 36.27 335 *e*P **P 21 56 25.6 -0.1**
AAK Ala-Archa 36.27 335 P **P 21 56 24.6 -1.1**
comp=Z,3.5nm,0.6s,baz=199,slow=6.0,SNR=7.0
AAK LR LR 22 12 48.1
comp=Z,1μm,21.7s,baz=133,slow=39
FRU Bishkek 36.38 336 *e*P **P 21 56 28.0 +1.5**
FRU pmax pmax
comp=Z,80nm,2.2s
FRU MLR MLR
comp=Z,1μm,24.0s
MKAR Makanchi Array 37.49 347 *e*P **P 21 56 35.0 -0.8**
MKAR Makanchi Array 37.49 347 *e*P **P 21 56 35.0 -0.8**
MKAR Makanchi Array 37.49 347 P **P 21 56 34.5 -1.3**
comp=Z,4.9nm,0.8s,baz=165,slow=7.5,SNR=36
MKAR LR LR 22 16 03.2
comp=Z,496nm,19.1s,baz=163,slow=43
KKAR Karatay Array 38.40 332 *e*P **P 21 56 43.9 +0.4**
KKAR Karatay Array 38.40 332 *e*P **P 21 56 43.9 +0.4**
SONM Songino Array 38.57 13 P **P 21 56 43.5 -1.5**
SONM Songino Array 38.57 13 P **P 21 56 43.5 -1.5**
comp=Z,6.6nm,1.2s,baz=196,slow=6.5,SNR=21
SONM LR LR 22 14 18.8
comp=Z,1μm,18.3s,baz=192,slow=39
ULN Ulaanbaatar 38.75 14 *e*P **P 21 56 45.2 -1.4**
comp=Z,53nm,1.9s
ULN LR LR
comp=Z,1μm,20.0s
MBWA Marble Bar 40.32 141 *e*P **P 21 56 59.2 -0.6**
MBWA LR LR
comp=Z,742nm,22.0s
ZAK Zakamensk 40.42 9‖ *i*P **P 21 57 00.9 +0.5**
ZAK pmax pmax
comp=Z,6.0nm,2.1s
KSAR Wonju Array Be 40.45 43 P **P 21 56 59.9 -0.8**
HVS Khovu-Aksy 40.46 360 *e*P **P 21 57 00.2 -0.5**
HVS pmax pmax
comp=Z,150nm,1.7s
KSRS Korea Array 40.49 43 P **P 21 56 59.9 -1.1**
comp=Z,5.8nm,1.2s,baz=253,slow=9.1,SNR=15
KSRS LR LR 22 15 50.5
comp=Z,291nm,19.1s,baz=238,slow=40
MSEY Mahe Island 41.36 250 *e*P **P 21 57 07.7 -0.8**
comp=Z,60nm,1.1s
KURBB Kurchatov Arra 41.97 345 P **P 21 57 12.0 -1.0**
comp=Z,4.5nm,0.9s,baz=162,slow=8.1,SNR=29
KURK Kurchatov 42.03 345 P **P 21 57 12.0 -1.5**
KURK Kurchatov 42.03 345 P **P 21 57 12.0 -1.5**
FITZ Fitzroy Crossi 42.17 132 LR LR 22 18 52.4
comp=Z,356nm,18.2s,baz=314,slow=42
IRK Irkutsk 42.38 9 *e*P **P 21 57 17.1 +0.8**
IRK *e* 21 59 00.8
IRK pmax pmax
comp=Z,33nm,2.4s
CN2 Changchun 42.79 34 *e*P **P 21 57 20.5 +0.7**
CN2 *es*P **sP 21 57 25.3 -0.6**
CN2 *e*S **S 22 03 43.5 -0.1**
CN2 *e*SS **SS 22 06 48.3 -6.4**
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,700nm,16.0s
CN2 LR LR
comp=E,300nm,16.0s
CN2 LR LR
comp=Z,600nm,18.0s
ZALV Zalesovo Beam 43.91 352 P **P 21 57 27.7 -1.0**
ZALV Zalesovo Beam 43.91 352 P **P 21 57 27.7 -1.0**
ZALV Zalesovo Beam 43.91 352 P **P 21 57 27.7 -1.0**
comp=Z,9.1nm,0.9s,baz=173,slow=8.6,SNR=31
ZALV LR LR 22 19 16.2
comp=Z,181nm,18.9s,baz=70,slow=41
HIA Hailar 44.08 24 PFAKE 21 57 40.0 +10
HIA LR LR
comp=Z,640nm,19.0s
NVS Novosibirsk 45.01 351 *e*P **P 21 57 36.1 -1.3**
NVS *e*S **S 22 04 12.2 -3.3**
NVS pmax pmax
comp=Z,64nm,2.3s
NVS pmax pmax
comp=N,38nm,2.1s
NVS pmax pmax
comp=E,19nm,2.1s
NVS smax smax
comp=E,16nm,2.1s
NVS smax smax
comp=N,17nm,2.0s
KRAR Krasnoyarsk 45.36 359 *e*P **P 21 57 40.4 +0.2**
KRAR pmax pmax
comp=Z,14nm,1.2s
MDJ Mudanjiang 45.62 35 P **P 21 57 43.3 +0.8**
MDJ pP **pP 21 57 46.0 -0.8**
MDJ sP **sP 21 57 48.5 -0.1**
MDJ PcP **PcP 21 59 20.5 -0.2**
MDJ S **S 22 04 26.8 +2.1**
MDJ ScS **ScS 22 07 40.5 +1.9**
MDJ pmax pmax
comp=Z,8.0nm,2.2s
MDJ pmax pmax
comp=Z,68nm,5.0s
MDJ LR LR
comp=N,410nm,10.4s
MDJ LR LR
comp=E,74nm,11.8s
MDJ LR LR
comp=Z,530nm,15.9s
MDJ Mudanjiang 45.62 35 *e*P **P 21 57 41.5 -1.0**
MDJ LR LR
comp=Z,285nm,19.0s
VLA Vladivostok 46.11 38‖ *e*P **P 21 57 44.2 -2.2**
VLA *e* 21 59 20.3
VLA *i*S S 22 04 25.6 -6.2
VLA pmax pmax
comp=Z,13nm,0.7s
BVAR Borovoye Array 46.47 340 P **P 21 57 48.1 -1.0**
BVAR Borovoye Array 46.47 340 P **P 21 57 48.1 -1.0**
BVAR Borovoye Array 46.47 340 P **P 21 57 48.1 -1.0**
comp=Z,2.3nm,0.8s,baz=147,slow=8.7,SNR=16
BVAR LR LR 22 21 40.3
comp=Z,254nm,19.2s,baz=359,slow=42
BRVK Borovoye 46.53 340 *e*P **P 21 57 48.7 -0.8**
BRVK pmax pmax
comp=Z,18nm,2.5s
BRVK Borovoye 46.53 340 *e*P **P 21 57 49.9 +0.4**
comp=Z,7.6nm,1.1s
BRVK LR LR
comp=Z,338nm,19.0s
USRK Ussuriysk Arra 46.77 37 P **P 21 57 49.1 -2.5**
comp=Z,3.0nm,0.9s,baz=241,slow=6.3,SNR=10
USRK LR LR 22 19 16.4
comp=Z,267nm,18.2s,baz=29,slow=39
MAJO Matsushiro 47.40 50 *e*P **P 21 57 55.8 -0.9**
MAJO pmax pmax
comp=Z,28nm,1.3s
MAJO MLR MLR
comp=Z,310nm,19.0s
MAJO Matsushiro 47.40 50 *e*P **P 21 57 55.8 -0.9**
comp=Z,28nm,1.3s
MAJO LR LR
comp=Z,310nm,19.0s
MAT Matsushiro 47.40 50 P **P 21 57 56.9 +0.3**
MAT *e*S **S 22 04 48.2 -2.4**
MJAR Matsushiro Arr 47.40 50 P **P 21 57 56.1 -0.5**
MJAR PcP **PcP 21 59 26.9 -0.3**
MJAR Matsushiro Arr 47.40 50 P **P 21 57 56.1 -0.5**
comp=Z,2.2nm,0.9s,baz=245,slow=9.7,SNR=7.2
MJAR PcP **PcP 21 59 26.9 -0.3**
comp=Z,2.7nm,0.8s,baz=249,slow=4.2,SNR=9.1
MJAR LR LR 22 20 55.1
comp=Z,240nm,18.6s,baz=265,slow=40
ABKAR Akbulak array 47.90 330 *e*P **P 21 57 59.4 -0.8**
RAYN Ar Rayn 48.03 292 P **P 21 58 03.8 +2.0**
comp=Z,86nm,1.2s,SNR=5.2
RAYN Ar Rayn 48.03 292 *e*P **P 21 58 01.6 -0.1**
comp=Z,14nm,1.0s
NWAO Narrogin (SRO) 48.53 154 *e*P **P 21 58 03.9 -1.4**
NWAO Narrogin (SRO) 48.53 154 P **P 21 58 07.9 +2.6**
comp=Z,9.0nm,1.0s,baz=311,slow=9.3,SNR=2.3
KLR Kul'dur 49.61 32 *e*P P
KLR pmax pmax
comp=E,82nm,2.2s
KLR pmax pmax
comp=Z,130nm,2.2s
AKTO Aktyubinsk 49.62 330 P **P 21 58 12.4 -1.0**
AKTO Aktyubinsk 49.62 330 P **P 21 58 12.4 -1.0**
AKTO Aktyubinsk 49.62 330 P **P 21 58 12.4 -1.0**
comp=Z,1.7nm,0.7s,baz=125,slow=8.5,SNR=5.4
WRA Warramunga Arr 49.85 127 P **P 21 58 15.8 +0.1**
WRA Warramunga Arr 49.85 127 P **P 21 58 15.8 +0.1**
comp=Z,8.1nm,1.0s,baz=304,slow=8.6,SNR=12
WRA LR LR 22 18 17.9
comp=Z,376nm,21.2s,baz=285,slow=35
WRAB Tennant Creek 49.85 127 *e*P **P 21 58 15.2 -0.5**
WRAB pmax pmax
comp=Z,87nm,2.0s
WRAB MLR MLR
comp=Z,743nm,21.0s
WRAB Tennant Creek 49.85 127 *e*P **P 21 58 15.2 -0.5**
comp=Z,87nm,2.0s
WRAB LR LR
comp=Z,743nm,21.0s
ASAR Alice Springs 51.66 132 P **P 21 58 29.3 0.0**
ASAR Alice Springs 51.66 132 P **P 21 58 29.3 0.0**
comp=Z,8.3nm,0.9s,baz=308,slow=6.5,SNR=56
ASAR LR LR 22 20 44.6
comp=Z,396nm,21.6s,baz=296,slow=36
MAK Makhachkala 51.74 317 *e*P **P 21 58 29.2 -0.3**
MAK *e* 22 00 21.1
MAK *e*S **S 22 05 53.9 +2.9**
MAK *e*SS **SS 22 09 25.2 -2.3**
MAK pmax pmax
comp=Z,14nm,0.3s
MAK MLR MLR
comp=Z,491nm,18.0s
CLNS Chul'man 51.94 21 *e*P **P 21 58 29.9 -1.0**
CLNS pmax pmax
comp=Z,13nm,1.1s
CLNS pmax pmax
comp=N,7.0nm,0.7s
CLNS pmax pmax
comp=E,12nm,1.2s
GNI Garni 52.60 313 *e*P **P 21 58 36.8 +0.6**
comp=E,55nm,1.3s
GNI LR LR
comp=Z,459nm,21.0s
GNI Garni 52.60 313 P **P 21 58 38.4 +2.1**
comp=Z,14nm,1.1s,baz=294,slow=8.8,SNR=10
DGRG David-gareji 52.61 315 P P 21 58 39.6 +3.4
SVE Sverdlovsk 52.93 338‖ *e*P **P 21 58 39.4 +1.2**
SVE pmax pmax
comp=Z,15nm,1.3s
TBLG Delisi 53.15 315 *e*P **P 21 58 43.0 +2.8**
TBLG Delisi 53.15 315 P **P 21 58 43.0 +2.8**
DUS Dusheti 53.31 315 P P 21 58 48.6 +7.3
ASAJ Asahikawa 53.42 42 P **P 21 58 43.1 +1.0**
ASAJ Asahikawa 53.42 42 P **P 21 58 43.1 +1.0**
comp=Z,5.2nm,0.9s,baz=284,slow=9.6,SNR=2.7
ASAJ LR LR 22 21 48.5
comp=Z,225nm,20.5s,baz=196,slow=37
ARU Arti 53.44 336 *d* *i*P **P 21 58 42.4 +0.5**
ARU 22 00 42.0
ARU S **S 22 06 14.1 +0.2**
ARU SS SS 22 09 44.9 -9.1
ARU pmax pmax
comp=Z,11nm,1.7s
ARU MLR MLR
comp=Z,1μm,22.0s
AKH Akhalkalaki 53.92 314 P **P 21 58 49.0 +3.0**
ZEI Tsey 54.11 316 *e*P **P 21 58 48.5 +1.1**
ZEI pmax pmax
comp=Z,19nm,1.0s
ONI Oni 54.35 315 P P 21 58 59.2 +10
KBZ Khabaz 55.13 316 P **P 21 58 55.9 +1.4**
KBZ Khabaz 55.13 316 P **P 21 58 55.9 +1.4**
KBZ Khabaz 55.13 316 P **P 21 58 55.9 +1.4**
comp=Z,3.6nm,1.0s,baz=94,slow=7.0,SNR=7.7
KBZ LR LR 22 25 50.9
comp=Z,327nm,21.9s,baz=246,slow=40
CHVG Ch'k'valeri 55.34 315 P **P 21 58 59.1 +3.0**
KIV Kislovodsk 55.36 317 *e*P **P 21 58 57.7 +1.4**
KIV *e* 21 59 57.1
KIV *e*PPP PPP 22 02 14.5
KIV *e*S **S 22 06 41.0 +0.7**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,141nm,16.0s
GOF Gofitskoye 55.52 318 *e*P P 21 58 48.5 -8.8
PMG Port Moresby 56.35 109 PFAKE 21 59 20.0 +16
PMG LR LR
comp=Z,345nm,20.0s
SOC Sochi 57.26 315 *e*P **P 21 59 08.5 -1.2**
SOC *e*PPP PPP 22 02 32.0
SOC *e*S **S 22 07 04.4 -1.0**
SOC pmax pmax
comp=Z,17nm,1.0s
SOC MLR MLR
comp=Z,279nm,18.0s
YAK Yakutsk 57.47 19 *e*P **P 21 59 09.2 -1.6**
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,9.0nm,1.2s
KMBO Kilima Mbogo 57.75 262 LR LR 22 21 11.6
comp=E,154nm,19.5s,baz=94,slow=33
EIL Elat 58.13 298 P **P 21 59 16.9 +0.8**
EIL Elat 58.13 298 P **P 21 59 16.9 +0.8**
comp=E,4.8nm,0.9s,baz=47,slow=5.6,SNR=5.5
CTAO Charters Tower 59.65 121 PFAKE 21 59 40.0 +13
CTAO LR LR
comp=Z,561nm,22.0s
VORD Divnogorie 60.06 323 *e*P **P 21 59 27.9 -1.2**
VORD pmax pmax
comp=Z,6.0nm,1.0s
VORD pmax pmax
comp=N,10.0nm,1.4s
VORD pmax pmax
comp=E,10.0nm,0.8s
VSR Storozhevoye 60.23 324 *e*P **P 21 59 29.3 -0.9**
VSR pmax pmax
comp=Z,8.0nm,1.3s
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,1.3s
BRTR Keskin Array B 60.70 310 P **P 21 59 32.7 -1.2**
BRTR Keskin Array B 60.70 310 P **P 21 59 32.7 -1.2**
comp=E,2.3nm,0.8s,baz=110,slow=6.7,SNR=12
BRTR LR LR 22 29 32.1
comp=E,155nm,20.1s,baz=97,slow=40
STKA Stephens Creek 61.97 135 P **P 21 59 43.5 +1.2**
STKA Stephens Creek 61.97 135 P **P 21 59 43.5 +1.2**
comp=E,11nm,1.0s,baz=302,slow=7.0,SNR=8.1
STKA LR LR 22 27 13.8
comp=E,317nm,20.5s,baz=107,slow=37
MOS Moscow 62.81 328 *e*P **P 21 59 48.4 +0.8**
MOS *e* 22 00 19.0
MOS pmax pmax
comp=Z,36nm,1.2s
OBN Obninsk 63.13 327‖ *e*P **P 21 59 50.1 +0.4**
OBN *e* 22 02 06.8
OBN *i*S S 22 08 13.7 -6.6
OBN pmax pmax
comp=Z,18nm,1.7s
OBN MLR MLR
comp=Z,500nm,17.0s
TIXI Tiksi 64.62 12 *e*P **P 21 59 57.8 -1.4**
TIXI pmax pmax
comp=Z,13nm,1.2s
PETK Petropavlovsk- 65.85 36 LR LR 22 33 27.7
comp=Z,162nm,18.4s,baz=262,slow=40
SANT Santorini 66.67 305 PFAKE 22 00 30.0 +17
SANT LR LR
comp=Z,213nm,19.0s
MLR Muntele Rosu 67.27 315 P **P 22 00 17.0 0.0**
MLR Muntele Rosu 67.27 315 P **P 22 00 17.0 0.0**
comp=Z,0.5nm,0.6s,baz=54,slow=6.4,SNR=3.4
HNR Honiara 68.42 105 PFAKE 22 00 40.0 +15
HNR LR LR
comp=Z,445nm,21.0s
CAN Canberra 69.02 134 PFAKE 22 00 40.0 +12
CAN LR LR
comp=Z,707nm,22.0s
APA Apatity 69.36 339‖ *i*P **P 22 00 29.8 +0.4**
APA MLR MLR
comp=Z,900nm,19.0s
LSZ Lusaka 70.18 250 PFAKE 22 00 50.0 +14
LSZ LR LR
comp=Z,220nm,19.0s
FINES FINESS Array B 70.36 332 P **P 22 00 34.5 -1.2**
FINES FINESS Array B 70.36 332 P **P 22 00 34.5 -1.2**
comp=Z,1.8nm,0.7s,baz=102,slow=5.0,SNR=6.7
FINES LR LR 22 38 06.3
comp=Z,370nm,19.1s,baz=113,slow=42
STHS Stebnicka Huta 70.93 319 *e*P **P 22 00 39.8 +0.3**
STHS pmax pmax
comp=Z,1.0nm,1.0s
STHS Stebnicka Huta 70.93 319 *e*P **P 22 00 39.8 +0.3**
KECS Kecovo 71.33 318 *e*P **P 22 00 39.3 -2.6**
KECS pmax pmax
comp=Z,2.0nm,1.0s
KECS Kecovo 71.33 318 *e*P **P 22 00 39.3 -2.6**
VYHS Vyhne 72.43 318 *e*P **P 22 00 50.0 +1.5**
VYHS pmax pmax
comp=Z,11nm,2.3s
VYHS Vyhne 72.43 318 *e*P **P 22 00 50.0 +1.5**
ARCES ARCESS Array B 72.76 340 P **P 22 00 49.5 -0.6**
ARCES ARCESS Array B 72.76 340 P **P 22 00 49.5 -0.6**
comp=Z,5.8nm,1.0s,baz=91,slow=7.4,SNR=6.4
ARCES LR LR 22 36 01.2
comp=Z,664nm,20.5s,baz=113,slow=39
OKC Ostrava-Krasne 72.97 319 AMS AMS 22 35 40.0
comp=Z,200nm,20.2s
PRU Pruhonice 75.31 319 AMS AMS 22 37 30.0
comp=Z,100nm,15.4s
LBTB Lobatse 75.53 241 *e*P **P 22 01 07.5 +0.3**
comp=Z,10nm,1.3s
GERES GERESS Array B 75.84 318 P **P 22 01 08.0 -0.6**
GERES GERESS Array B 75.84 318 P **P 22 01 08.0 -0.6**
comp=Z,0.7nm,0.8s,baz=74,slow=4.9,SNR=8.6
GERES LR LR 22 39 55.0
comp=Z,154nm,20.1s,baz=93,slow=40
KHC Kasperske Hory 75.92 318 AMS AMS 22 38 50.0
comp=Z,200nm,20.9s
HFS Hagfors 76.16 329 P **P 22 01 09.1 -0.9**
HFS Hagfors 76.16 329 P **P 22 01 09.1 -0.9**
comp=Z,2.2nm,0.9s,baz=105,slow=5.2,SNR=4.4
BOSA Boshof 77.01 237 *e*P **P 22 01 15.1 -0.4**
BOSA Boshof 77.01 237 P **P 22 01 16.9 +1.3**
comp=Z,1.0nm,0.7s,baz=92,slow=6.6,SNR=3.7
BOSA LR LR 22 29 34.8
comp=Z,170nm,19.7s,baz=166,slow=31
NB2 NORSAR Subarra 77.41 330 P P 22 01 13.7 -3.4
comp=Z,25nm,2.0s,baz=91,slow=5.9
NOA NORSAR Array B 77.41 330 P **P 22 01 16.9 -0.2**
NOA NORSAR Array B 77.41 330 P **P 22 01 17.0 -0.2**
comp=Z,1.1nm,1.1s,baz=94,slow=5.8,SNR=2.4
NOA LR LR 22 38 34.2
comp=Z,259nm,21.1s,baz=100,slow=38
CASY Casey 77.58 173 PFAKE 22 01 30.0 +12
CASY LR LR
comp=Z,546nm,19.0s
DAVOX Davos/Dischmat 78.47 316 P **P 22 01 23.2 -0.3**
DAVOX Davos/Dischmat 78.47 316 P **P 22 01 23.2 -0.3**
comp=Z,1.2nm,0.7s,baz=48,slow=16,SNR=2.7
KEST Kesra 79.72 305 P **P 22 01 30.6 +0.2**
KEST Kesra 79.72 305 P **P 22 01 30.6 +0.2**
comp=Z,1.4nm,0.8s,baz=79,slow=5.2,SNR=2.9
KEST LR LR 22 41 46.5
comp=Z,59nm,19.7s,baz=326,slow=40
LPG La Plagne 80.74 315 *e*P **P 22 01 34.5 -1.5**
LPL La Plagne 80.75 315 *e*P **P 22 01 34.4 -1.6**
comp=Z,4.7nm,0.7s
MBDF Montbardon 80.80 314 *e*P **P 22 01 35.1 -1.1**
MAW Mawson 81.14 192 P **P 22 01 38.9 +1.8**
MAW Mawson 81.14 192 P **P 22 01 38.9 +1.8**
comp=Z,1.0nm,0.5s,baz=349,slow=5.2,SNR=2.6
MAW LR LR 22 33 19.0
comp=Z,193nm,19.2s,baz=199,slow=32
ORIF Oris-en-Rattie 81.41 314 *e*P **P 22 01 38.1 -1.2**
ESDC Sonseca Array 89.49 310 P **P 22 02 19.6 -0.1**
ESDC Sonseca Array 89.49 310 P **P 22 02 19.6 -0.1**
comp=Z,0.4nm,0.7s,baz=79,slow=6.7,SNR=3.5
TORD Torodi Ar. Bea 89.98 283 P **P 22 02 22.3 -0.1**
TORD PP **PP 22 05 56.4 +1.0**
TORD Torodi Ar. Bea 89.98 283 P **P 22 02 22.3 -0.1**
comp=Z,1.6nm,0.9s,baz=75,slow=3.8,SNR=7.6
TORD PP **PP 22 05 56.4 +1.0**
comp=Z,1.9nm,1.1s,baz=55,slow=5.3,SNR=6.4
TORD LR LR 22 42 46.1
comp=Z,120nm,19.9s,baz=145,slow=36
MCK McKinley 92.02 23 *e*P **P 22 02 30.8 -0.1**
MCK pmax pmax
comp=Z,11nm,1.1s
MCK McKinley 92.02 23 *e*P **P 22 02 30.8 -0.1**
comp=Z,11nm,1.1s
ILAR Eielson Array 92.28 22 P **P 22 02 30.8 -1.3**
ILAR Eielson Array 92.28 22 P **P 22 02 30.8 -1.3**
comp=Z,1.1nm,0.9s,baz=286,slow=4.7,SNR=8.6
ILAR LR LR 22 48 38.6
comp=Z,275nm,18.3s,baz=321,slow=39
VNDA Vanda 95.54 168 P **P 22 02 47.6 +1.0**
VNDA Vanda 95.54 168 P **P 22 02 47.6 +1.0**
comp=Z,0.4nm,0.6s,baz=305,slow=4.6,SNR=3.5
VNDA LR LR 22 40 19.8
comp=Z,207nm,18.6s,baz=264,slow=32
NVAR Mina Array Bea 122.62 30 PKP **PKPdf 22 08 18.8 +0.2**
NVAR Mina Array Bea 122.62 30 PKP **PKPdf 22 08 18.8 +0.2**
comp=Z,1.1nm,0.7s,baz=307,slow=2.1,SNR=7.4
PDAR Pinedale Array 122.68 21 PKP **PKPdf 22 08 17.8 -0.8**
PDAR Pinedale Array 122.68 21 PKP **PKPdf 22 08 17.8 -0.8**
comp=Z,1.2nm,0.9s,baz=11,slow=1.5,SNR=8.4
L23A Garrett 124.51 18 P **PKPdf 22 08 21.9 -0.3**
baz=124
N20A Spence Gulch, 124.84 21 P **PKPdf 22 08 22.3 -0.5**
baz=124
MSU Marysvale 125.35 25 *e*PKIKP **PKPdf 22 08 24.1 +0.3**
MSU Marysvale 125.35 25 *e*PKPdf **PKPdf 22 08 24.1 +0.3**
224A Cornudas Mount 133.62 23 P **PKPdf 22 08 36.0 -3.7**
baz=133
Z32A Haskell 134.49 16 P **PKPdf 22 08 40.3 -0.7**
baz=134
428A Kincaid Ranch, 135.89 21 P **PKPdf 22 08 44.9 +1.0**
baz=136
429A Davenport Ranc 136.25 20 P **PKPdf 22 08 43.8 -0.7**
baz=136
626A Big Bend Ranch 136.41 23 P **PKPdf 22 08 45.2 +0.4**
baz=136
627A Terlingua Ranc 136.78 23 P **PKPdf 22 08 46.4 +0.8**
baz=136
TXAR Lajitas Array 136.78 23 PKP **PKPdf 22 08 45.8 +0.2**
TXAR Lajitas Array 136.78 23 PKP **PKPdf 22 08 45.8 +0.2**
comp=Z,0.6nm,0.8s,baz=218,slow=0.7,SNR=6.7
628A Black Gap, Mar 136.94 22 P **PKPdf 22 08 47.1 +1.3**

	baz=137							
JCT	**Junction City**	**137.06**	**18**	P		**PKPdf**	**22 08 47.5**	**+1.5**
	baz=137							
531A	**Rockspring**s	**137.12**	**19**	P		**PKPdf**	**22 08 47.0**	**+0.9**
	baz=137							
PLCA	**Paso Flores**	**147.03**	**202**	PKPbc		**PKPab**	**22 09 06.3**	**-0.6**
PLCA	**Paso Flores**	**147.03**	**202**	PKPbc		**PKPab**	**22 09 06.3**	**-0.6**
	comp=Z,7.5nm,1.0s,baz=166,slow=2.9,SNR=6.5							
CPUP	**Villa Florida**	**148.82**	**236**	PKPbc		**PKPbc**	**22 09 11.1**	**+0.6**
CPUP	**Villa Florida**	**148.82**	**236**	PKPbc		**PKPbc**	**22 09 11.1**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=122,slow=2.4,SNR=5.8							
LPAZ	**La Paz**	**161.84**	**250**	PKP		**PKPdf**	**22 09 25.5**	**+0.4**
LPAZ				PKPab		**PKPab**	**22 10 11.2**	**+0.4**
LPAZ	**La Paz**	**161.84**	**250**	PKP		**PKPdf**	**22 09 25.5**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=180,slow=2.0,SNR=4.7							
LPAZ				PKPab		**PKPab**	**22 10 11.2**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=104,slow=4.2,SNR=4.5							

IDC ***26*** *21:59:31.4±1.1,25°.91N×128°.12E,h0km,mb3.8/11, mb1 3.9/13,mb1mx3.8/27,mbtmpb3.8/13,ML3.1/2, Error ellipse: s-maj=45.1km s-min=19.1km az=74.0*

ISCJB ***26*** *21:59:33.0±0.7,25°.85N±0°.04×128°.48E±0°.04,h33km±6km, mb3.8/14, Error ellipse: s-maj=7.7km s-min=5.1km az=142.9*

NEIC ***26*** *21:59:32.4±2.5,25°.92N×128°.17E,h8km±15km,mb4.1/3, Error ellipse: s-maj=9.1km s-min=5.8km az=114.0*

JMA ***26*** *21:59:33.2±0.2,25°.87N×128°.52E,h49km±4km,M3.4*

ISC 26 21:59:33.2±1.8,25°.86N±0°.05×128°.49E±0°.05,h24km±12km, n50,σ1s26/56,mb3.8/14,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.73**	**293**	P	**Pb**	**21 59 47.6**	**+0.4**
JJT2				S	**Sn**	**21 59 57.9**	**-0.5**
JOW	**Kunigami**	**0.99**	**349**	*e*Pn	**Pn**	**21 59 51.0**	**-0.8**
JOW				*e*Sn	**Sb**	**22 00 04.4**	**0.0**
JOW	**Kunigami**	**0.99**	**349**	P	**Pn**	**21 59 50.8**	**-0.9**
JOW				*e*S	**Sn**	**22 00 03.7**	**-1.3**
JIH	**Iheya**	**1.27**	**338**	P	**Pn**	**21 59 55.2**	**-0.2**
JIH				S	**Sn**	**22 00 10.6**	**-1.1**
JAGN	**Aguni-jima**	**1.34**	**303**	P	**Pn**	**21 59 56.3**	**-0.2**
JKE	**Kume jima 2**	**1.60**	**287**	P	**Pn**	**21 59 59.7**	**-0.4**
JKE				*e*S	**Sn**	**22 00 18.6**	**-1.5**
JTK	**Tokunoshima**	**1.96**	**12**	P	**Pn**	**22 00 04.7**	**-0.4**
JAMN	**Amaminishikomi**	**2.46**	**14**	P	**Pn**	**22 00 11.5**	**-0.3**
JMZ	**Minamidaito 2**	**2.46**	**90**	P	**Pn**	**22 00 11.3**	**-0.6**
JMZ				S	**Sn**	**22 00 37.9**	**-3.3**
JAM	**Amami Oshima**	**2.73**	**21**	P	**Pn**	**22 00 15.3**	**-0.3**
JAM				*e*S	**Sn**	**22 00 45.8**	**-2.1**
JZK	**Kikaishima**	**2.78**	**28**	P	**Pn**	**22 00 17.3**	**+1.0**
JZK				S	**Sn**	**22 00 49.1**	**-0.1**
JTJ	**Tarama**	**3.64**	**251**	P	**Pn**	**22 00 27.8**	**-0.3**
JTJ				S	**Sn**	**22 01 08.9**	**-1.4**
JIJ	**Ishigaki jima**	**4.21**	**250**	P	**Pn**	**22 00 36.0**	**0.0**
JKRS	**Kuro-shima**	**4.37**	**249**	P	**Pn**	**22 00 38.0**	**-0.2**
IRIF	**Iriomote-Funau**	**4.58**	**252**	P	**Pn**	**22 00 41.5**	**+0.5**
NACB	**Ninganchiao**	**6.48**	**256**	*e*Pn	**Pn**	**22 01 05.2**	**-2.0**
YHNB	**Yeheng**	**6.55**	**261**	*e*Pn	Pn	22 01 05.0	-3.2
YULB	**Yu-li**	**6.99**	**251**	*e*Pn	Pn	22 01 11.2	-3.1
SSLB	**Suanglung**	**7.15**	**255**	*e*Pn	**Pn**	**22 01 14.0**	**-2.5**
	7.3nm,0.4s						
JNU	**Nakatsue**	**7.53**	**15**	Pn	**Pn**	**22 01 23.4**	**+1.8**
JNU	**Nakatsue**	**7.53**	**15**	Pn	**Pn**	**22 01 23.4**	**+1.8**
	0.6nm,0.3s,baz=170,slow=12,SNR=3.2						
TPUB	**Ta-pu**	**7.59**	**252**	*e*Pn	Pn	22 01 19.8	-2.7
USRK	**Ussuriysk Arra**	**18.52**	**8**	P	**Pn**	**22 03 49.6**	**+1.4**
	0.1nm,0.3s,baz=205,slow=13,SNR=4.2						
SONM	**Songino Array**	**27.99**	**327**	P	**P**	**22 05 22.2**	**-0.1**
SONM	**Songino Array**	**27.99**	**327**	P	**P**	**22 05 22.2**	**-0.1**
	1.1nm,0.5s,baz=140,slow=10,SNR=12						
MKAR	**Makanchi Array**	**41.96**	**312**	P	**P**	**22 07 21.7**	**-0.6**
MKAR	**Makanchi Array**	**41.96**	**312**	P	**P**	**22 07 21.7**	**-0.6**
	0.7nm,0.5s,baz=92,slow=9.5,SNR=17						
ZALV	**Zalesovo Beam**	**42.69**	**323**	P	**P**	**22 07 27.5**	**-0.5**
ZALV	**Zalesovo Beam**	**42.69**	**323**	P	**P**	**22 07 27.5**	**-0.5**
	0.4nm,0.4s,baz=120,slow=8.9,SNR=3.0						
KURK	**Kurchatov**	**45.25**	**317**	P	**P**	**22 07 48.2**	**-0.5**
KURBB	**Kurchatov Arra**	**45.28**	**317**	P	**P**	**22 07 48.2**	**-0.7**
	0.2nm,0.3s,baz=105,slow=8.7,SNR=5.0						
WRAB	**Tennant Creek**	**45.87**	**172**	*e*P	**P**	**22 07 55.4**	**+1.6**
	3.1nm,0.9s						
WRA	**Warramunga Arr**	**45.88**	**172**	P	**P**	**22 07 56.2**	**+2.3**
WRA	**Warramunga Arr**	**45.88**	**172**	P	**P**	**22 07 56.2**	**+2.3**
	1.0nm,0.8s,baz=354,slow=8.7,SNR=4.5						
TKM2	**Tokmak 2**	**46.08**	**306**	*e*P	**P**	**22 07 54.4**	**-1.3**
	0.8nm,0.4s						
AAK	**Ala-Archa**	**46.88**	**305**	*e*P	**P**	**22 08 00.6**	**-1.2**
ASAR	**Alice Springs**	**49.51**	**173**	P	**P**	**22 08 24.6**	**+2.6**
ASAR	**Alice Springs**	**49.51**	**173**	P	**P**	**22 08 24.6**	**+2.6**
	0.4nm,0.7s,baz=5.0,slow=12,SNR=4.3						
BVAR	**Borovoye Array**	**50.71**	**318**	P	**P**	**22 08 30.2**	**-0.7**
BVAR	**Borovoye Array**	**50.71**	**318**	P	**P**	**22 08 30.2**	**-0.7**
	1.0nm,0.5s,baz=91,slow=9.0,SNR=4.4						
ABKAR	**Akbulak array**	**57.07**	**313**	*e*P	**P**	**22 09 17.0**	**-0.5**
	1.3nm,0.6s						
FINES	**FINESS Array B**	**73.30**	**331**	P	**P**	**22 11 03.2**	**+0.6**
FINES	**FINESS Array B**	**73.30**	**331**	P	**P**	**22 11 03.2**	**+0.6**
	1.4nm,0.8s,baz=88,slow=4.4,SNR=7.9						
BRTR	**Keskin Array B**	**77.45**	**308**	P	**P**	**22 11 28.4**	**+1.4**
BRTR	**Keskin Array B**	**77.45**	**308**	P	**P**	**22 11 28.4**	**+1.4**
	1.4nm,0.9s,baz=69,slow=6.8,SNR=7.5						
NB2	**NORSAR Subarra**	**79.75**	**334**	P	**P**	**22 11 39.4**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=50,slow=5.6						
NOA	**NORSAR Array B**	**79.75**	**334**	P	**P**	**22 11 39.7**	**+0.6**
NOA	**NORSAR Array B**	**79.75**	**334**	P	**P**	**22 11 39.7**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=51,slow=5.7,SNR=3.2						
GERES	**GERESS Array B**	**85.64**	**323**	P	**P**	**22 12 10.6**	**+0.5**
GERES	**GERESS Array B**	**85.64**	**323**	P	**P**	**22 12 10.6**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=56,slow=5.3,SNR=2.3						

IDC 26 22:13:38.9±2.1,10°.64N×94°.23E,h0km,mb3.6/4, mb1 3.7/5,mb1mx3.4/26,mbtmpb3.5/5,ML3.7/1,Error ellipse: s-maj=76.1km s-min=23.1km az=64.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.01**	**30**	Pn	Pn	22 15 50.8	+0.4
	0.2nm,0.3s,baz=217,slow=15,SNR=4.5						
MKAR	**Makanchi Array**	**37.43**	**346**	P	P	22 20 53.5	-0.4
	0.9nm,0.9s,baz=166,slow=8.8,SNR=6.0						
ZALV	**Zalesovo Beam**	**43.84**	**352**	P	P	22 21 46.6	-0.2
	0.8nm,0.5s,baz=160,slow=5.8,SNR=4.7						
WRA	**Warramunga Arr**	**49.83**	**128**	P	P	22 22 34.1	0.0
	0.3nm,0.4s,baz=305,slow=9.1,SNR=2.6						
ASAR	**Alice Springs**	**51.65**	**132**	P	P	22 22 47.9	0.0
	0.6nm,0.8s,baz=312,slow=7.2,SNR=4.3						

IDC ***26*** *22:16:46.3±1.0,10°.65N×94°.19E,h0km,mb3.8/10, mb1 3.9/11,mb1mx3.8/27,mbtmpb3.8/11,ML4.2/1,MS3.5/2, Ms1 3.5/2,ms1mx2.8/41,Error ellipse: s-maj=30.6km s-min=19.1km az=54.0*

ISCJB ***26*** *22:16:47.8±0.6,10°.66N±0°.09×94°.3E±0°.1,h24km, mb3.8/13,MS3.5/1,Error ellipse: s-maj=16.2km s-min=9.8km az=145.4*

NEIC ***26*** *22:16:47.6±0.4,10°.65N×94°.22E,h10km,mb4.2/4,Error ellipse: s-maj=10.6km s-min=6.2km az=55.0*

ISC 26 22:16:49.5±0.8,10°.6N±0°.1×94°.3E±0°.1,h24km,n30, σ0s94/29,mb3.9/13,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.20**	**130**	*e*Pn	**Pn**	**22 18 48.1**	**+0.9**
KULM				*e*Sn	**Sn**	**22 20 15.9**	**-3.3**
CMAR	**Chiang Mai Arr**	**8.99**	**29**	Pn	**Pn**	**22 18 57.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**8.99**	**29**	Pn	**Pn**	**22 18 57.8**	**-0.1**
	0.6nm,0.3s,baz=221,slow=15,SNR=4.5						
PSI	**Prapat**	**9.01**	**149**	LR	LR	22 22 51.8	
	comp=Z,299nm,19.2s,baz=160,slow=40						
LSA	**Lhasa**	**19.22**	**352**	*e*P	**P**	**22 21 11.3**	**-1.1**
	4.4nm,0.8s						
ENH	**Enshi**	**24.12**	**34**	*e*P	**P**	**22 22 04.0**	**+0.3**
	6.8nm,0.9s						
AAK	**Ala-Archa**	**36.29**	**335**	LR	LR	22 41 38.1	
	comp=Z,72nm,18.8s,baz=119,slow=41						
EKS2	**Erkin-Say**	**36.62**	**334**	*e*P	**P**	**22 23 53.3**	**-0.8**
	3.6nm,0.9s						
MKAR	**Makanchi Array**	**37.48**	**346**	P	**P**	**22 24 01.3**	**+0.1**
MKAR	**Makanchi Array**	**37.48**	**346**	P	**P**	**22 24 01.3**	**+0.1**
	1.9nm,0.9s,baz=165,slow=8.7,SNR=12						
SONM	**Songino Array**	**38.47**	**13**	P	**P**	**22 24 10.1**	**+0.4**
SONM	**Songino Array**	**38.47**	**13**	P	**P**	**22 24 10.1**	**+0.4**
	0.7nm,1.0s,baz=197,slow=4.6,SNR=4.2						
KSAR	**Wonju Array Be**	**40.29**	**43**	P	**P**	**22 24 25.5**	**+0.6**
KSRS	**Korea Array**	**40.32**	**43**	P	**P**	**22 24 25.5**	**+0.3**
	0.5nm,0.4s,baz=256,slow=9.7,SNR=5.2						
ZALV	**Zalesovo Beam**	**43.88**	**352**	P	**P**	**22 24 54.1**	**+0.2**
ZALV	**Zalesovo Beam**	**43.88**	**352**	P	**P**	**22 24 54.1**	**+0.2**
	0.9nm,0.4s,baz=166,slow=7.6,SNR=9.7						
BVAR	**Borovoye Array**	**46.48**	**340**	P	**P**	**22 25 14.5**	**-0.1**
BVAR	**Borovoye Array**	**46.48**	**340**	P	**P**	**22 25 14.5**	**-0.1**
	0.8nm,0.8s,baz=146,slow=8.0,SNR=4.3						
WRA	**Warramunga Arr**	**49.74**	**128**	P	**P**	**22 25 41.5**	**+1.2**
WRA	**Warramunga Arr**	**49.74**	**128**	P	**P**	**22 25 41.5**	**+1.2**
	1.5nm,1.0s,baz=304,slow=8.7,SNR=3.6						
WRAB	**Tennant Creek**	**49.74**	**128**	*e*P	**P**	**22 25 40.5**	**+0.1**
	4.0nm,1.1s						
ASAR	**Alice Springs**	**51.56**	**132**	P	**P**	**22 25 55.6**	**+1.6**
ASAR	**Alice Springs**	**51.56**	**132**	P	**P**	**22 25 55.6**	**+1.6**
	1.5nm,0.9s,baz=304,slow=7.3,SNR=8.3						
GNI	**Garni**	**52.69**	**313**	P	**P**	**22 26 01.7**	**-0.7**
BRTR	**Keskin Array B**	**60.81**	**310**	P	**P**	**22 26 59.6**	**-0.5**
BRTR	**Keskin Array B**	**60.81**	**310**	P	**P**	**22 26 59.6**	**-0.5**
	1.1nm,0.8s,baz=126,slow=6.4,SNR=7.6						
GERES	**GERESS Array B**	**75.92**	**318**	P	**P**	**22 28 34.4**	**0.0**
GERES	**GERESS Array B**	**75.92**	**318**	P	**P**	**22 28 34.4**	**0.0**
	0.2nm,0.6s,baz=130,slow=5.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**90.14**	**283**	P	**P**	**22 29 48.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**90.14**	**283**	P	**P**	**22 29 48.6**	**+0.1**
	2.0nm,1.0s,baz=72,slow=4.8,SNR=3.5						

IDC 26 22:28:28.5±7.9,10°.15N×93°.49E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.4/26,mbtmpb3.6/4,MS3.3/1,Ms1 3.3/1, ms1mx2.5/36,Error ellipse: s-maj=445.2km s-min=22.9km az=59.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.08**	**143**	LR	LR	22 34 56.8	
	comp=Z,159nm,18.4s,baz=110,slow=42						
MKAR	**Makanchi Array**	**37.74**	**347**	P	P	22 35 45.0	-1.1
	0.4nm,0.8s,baz=172,slow=9.8,SNR=3.6						
KURBB	**Kurchatov Arra**	**42.20**	**346**	P	P	22 36 23.7	+0.6
	0.1nm,0.5s,baz=159,slow=7.4,SNR=3.5						
WRA	**Warramunga Arr**	**50.12**	**127**	P	P	22 37 25.4	-0.5
	1.1nm,0.6s,baz=304,slow=8.8,SNR=6.2						
ASAR	**Alice Springs**	**51.87**	**131**	P	P	22 37 39.4	+0.2
	1.8nm,0.7s,baz=307,slow=7.2,SNR=15						

GUC 26 22:30:24.7±0.3,19°.86S×69°.38W,h103km±6km,ML3.5, 1C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.75**	**290**	*i*P	Pn	22 30 43.2	+0.2
PSGC				*e*S	Sn	22 30 57.5	+0.7
PSGC				AML	AML	22 30 58.3	
	comp=N,657nm,0.3s						
MNMC	**Minimini**	**0.75**	**344**	*i*P	Pn	22 30 43.6	+0.3
MNMC				*i* S	Sn	22 30 57.9	+0.7
MNMC				AML	AML	22 30 59.2	
	comp=N,4μm,0.4s						
PB04	**Plate Boundary**	**2.40**	**182**	AML	AML	22 31 41.0	
PB04				AML	AML	22 31 49.0	
	comp=E,318nm,0.3s						
LVC	**Limon Verde**	**2.78**	**171**	*e*P	Pn	22 31 09.4	+1.5
LVC				*i* S	Sn	22 31 43.0	+1.9

IDC 26 22:41:07.7±8.7,7°.34S×129°.68E,h157km±91km,mb3.1/1, mb1 3.3/5,mb1mx3.1/21,mbtmpb3.2/5,Error ellipse: s-maj=81.3km s-min=25.6km az=38.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.59**	**244**	P	Pn	22 42 43.5	+1.1
	5.6nm,0.3s,baz=86,slow=6.9,SNR=3.6						
BATI				S	Sn	22 43 56.9	+0.1
	2.5nm,0.3s,baz=78,slow=20,SNR=4.8						
FITZ	**Fitzroy Crossi**	**11.39**	**200**	P	Pn	22 43 44.7	-1.3
	0.4nm,0.3s,baz=21,slow=14,SNR=22						
FITZ				S	Sn	22 45 45.9	-6.2
	0.3nm,0.3s,baz=139,slow=19,SNR=4.3						
WRA	**Warramunga Arr**	**13.31**	**161**	P	Pn	22 44 09.4	-1.3
	0.5nm,0.3s,baz=343,slow=13,SNR=4.6						
WRA				S	Sn	22 46 29.9	-8.4
	0.8nm,0.3s,baz=333,slow=24,SNR=6.1						
ASAR	**Alice Springs**	**16.73**	**166**	P	Pn	22 44 54.5	+1.5
	0.4nm,0.3s,baz=343,slow=9.5,SNR=15						
ASAR				S	S	22 47 56.0	-2.8
	0.2nm,0.3s,baz=352,slow=26,SNR=5.1						
MKAR	**Makanchi Array**	**68.34**	**327**	P	P	22 51 52.0	-0.1
	0.2nm,0.4s,baz=118,slow=7.8,SNR=9.0						

CSEM ***26*** *22:49:13.0,38°.92N×20°.54E,h5km,MD3.1,After ATH*

ATH 26 22:49:13.0,38°.92N×20°.54E,h5km±1km,MD3.1/7,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.16**	**145**	*e*PG	Pg	22 49 16.7	+0.4
LKD2				*e*SG	Sg	22 49 18.8	+0.4
LKD2	**Lefkada island**	**0.16**	**145**	*e*Pg	Pg	22 49 16.7	+0.4
LKD2				*e*Sg	Sg	22 49 18.8	+0.4
VLS	**Valsamata**	**0.74**	**177**	*e*PG	Pg	22 49 27.3	0.0
VLS				*e*SB	Sb	22 49 38.5	-0.4
VLS	**Valsamata**	**0.74**	**177**	*e*Pg	Pg	22 49 27.3	0.0
VLS				*e*Sb	Sb	22 49 38.5	-0.4
EVR	**Evrytania**	**0.99**	**90**	*e*PN	Pg	22 49 32.2	0.0
EVR	**Evrytania**	**0.99**	**90**	*e*Pn	Pg	22 49 32.2	0.0
RLS	**Riolos of Patr**	**1.13**	**140**	*e*PN	Pg	22 49 34.1	-0.5
RLS				*e*SB	Sb	22 49 50.1	+0.2
RLS	**Riolos of Patr**	**1.13**	**140**	*e*Pn	Pg	22 49 34.1	-0.5
RLS				*e*Sb	Sb	22 49 50.1	+0.2
LAKA	**Lakka**	**1.32**	**121**	*e*PB	Pn	22 49 37.8	-0.3
LAKA				*e*SB	Sn	22 49 56.2	+0.1
LAKA	**Lakka**	**1.32**	**121**	*e*Pb	Pn	22 49 37.8	-0.3
LAKA				*e*Sb	Sn	22 49 56.2	+0.1
TRIZ	**Trizonia**	**1.32**	**114**	*e*PB	Pg	22 49 38.4	+0.1
TRIZ	**Trizonia**	**1.32**	**114**	*e*Pb	Pg	22 49 38.4	+0.1
KALE	**Kalithea**	**1.36**	**112**	*e*PG	Pn	22 49 38.3	-0.4
KALE				*e*SB	Sn	22 49 57.6	+0.4
KALE	**Kalithea**	**1.36**	**112**	*e*Pg	Pn	22 49 38.3	-0.4
KALE				*e*Sb	Sn	22 49 57.6	+0.4
AGG	**Agios Georgios**	**1.40**	**85**	*e*PB	Pn	22 49 39.3	+0.1
AGG	**Agios Georgios**	**1.40**	**85**	*e*Pb	Pn	22 49 39.3	+0.1
KLV	**Kalavryta, Ach**	**1.54**	**124**	*e*PB	Pb	22 49 42.2	+0.1
KLV				*e*SB	Sg	22 50 02.8	+0.2
KLV	**Kalavryta, Ach**	**1.54**	**124**	*e*Pb	Pb	22 49 42.2	+0.1
KLV				*e*Sb	Sg	22 50 02.8	+0.2

IDC ***26*** *22:52:11.0±1.5,39°.41N×24°.76E,h0km,mb3.1/3, mb1 3.3/4,mb1mx3.1/26,mbtmpb3.2/4,ML2.9/1,Error ellipse: s-maj=56.4km s-min=23.5km az=162.0*

DDA ***26*** *22:52:10.3,38°.78N×24°.81E,h6km,MD3.2*

ATH ***26*** *22:52:10.9,38°.76N×24°.87E,h72km±7km,ML3.5*

ISK ***26*** *22:52:10.7,38°.70N×24°.74E,h27km,ML3.6*

CSEM ***26*** *22:52:11.9±0.1,38°.74N×24°.81E,h20km,ML3.4/10,Error ellipse: s-maj=2.1km s-min=1.7km az=166.0*

THE ***26*** *22:52:12.7,38°.76N×24°.86E,h28km±2km,ML3.4/10,Error ellipse: s-maj=2.5km s-min=0.5km az=177.0*

ISC 26 22:52:12.0±1.0,38°.74N±0°.02×24°.82E±0°.02,h21km±3km, n235,σ0s87/269,mb3.1/3,14C-4D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRMA	**Marmari**	**0.76**	**207**	P	**Pn**	**22 52 27.2**	**-0.4**
MRMA	**Marmari**	**0.76**	**207**	P	**Pn**	**22 52 27.2**	**-0.4**
AOS	**Alonnisos**	**0.85**	**301**	P	**Pb**	**22 52 27.5**	**-0.5**
AOS				S	**Sn**	**22 52 40.6**	**+0.1**
AOS	**Alonnisos**	**0.85**	**301**	P	**Pb**	**22 52 27.5**	**-0.5**
PTL	**Penteli**	**1.02**	**228**	P	**Pb**	**22 52 30.3**	**-0.6**
PTL	**Penteli**	**1.02**	**228**	*e*P	**Pb**	**22 52 30.5**	**-0.4**
PTL	**Penteli**	**1.02**	**228**	P	**Pb**	**22 52 30.3**	**-0.6**
CHOS	**Chios island**	**1.03**	**110**	P	**Pb**	**22 52 30.6**	**-0.6**
CHOS				S	**Sb**	**22 52 43.7**	**-0.6**
CHOS	**Chios island**	**1.03**	**110**	*e*P	**Pb**	**22 52 30.6**	**-0.6**
CHOS	**Chios island**	**1.03**	**110**	P	**Pb**	**22 52 30.6**	**-0.6**
CHOS				S	**Sb**	**22 52 43.7**	**-0.6**
ATHU	**Athens Univers**	**1.12**	**227**	P	**Pn**	**22 52 31.8**	**-0.7**
ATHU	**Athens Univers**	**1.12**	**227**	P	**Pn**	**22 52 31.8**	**-0.7**
SKIA	**Skiathos**	**1.14**	**292**	P	**Pn**	**22 52 32.3**	**-0.4**
SKIA	**Skiathos**	**1.14**	**292**	P	**Pn**	**22 52 32.3**	**-0.4**
ATH	**Athens Observa**	**1.16**	**229**	P	**Pn**	**22 52 32.4**	**-0.5**
ATH	**Athens Observa**	**1.16**	**229**	*e*P	**Pn**	**22 52 32.3**	**-0.6**
ATH	**Athens Observa**	**1.16**	**229**	P	**Pn**	**22 52 32.4**	**-0.5**
LIA	**Limnos Island**	**1.19**	**14**	P	**Pn**	**22 52 32.2**	**-1.2**
LIA				S	**Sb**	**22 52 48.0**	**-0.8**
LIA	**Limnos Island**	**1.19**	**14**	*e*P	**Pn**	**22 52 32.3**	**-1.2**
LIA	**Limnos Island**	**1.19**	**14**	*e*P	**Pn**	**22 52 32.3**	**-1.2**
LIA				S	**Sb**	**22 52 48.0**	**-0.8**
PRK	**Paraskevi**	**1.24**	**66**	P	**Pn**	**22 52 33.1**	**-1.0**
PRK				S	**Sn**	**22 52 48.5**	**-1.7**
PRK	**Paraskevi**	**1.24**	**66**	*e*P	**Pn**	**22 52 33.1**	**-1.0**
PRK	**Paraskevi**	**1.24**	**66**	P	**Pn**	**22 52 33.1**	**-1.0**
PRK				S	**Sn**	**22 52 48.5**	**-1.7**
SMIA	**Simia**	**1.26**	**277**	P	**Pn**	**22 52 34.2**	**-0.3**
SMIA	**Simia**	**1.26**	**277**	P	**Pn**	**22 52 34.2**	**-0.3**
NEO	**Neokhori**	**1.36**	**295**	P	**Pn**	**22 52 35.5**	**-0.4**
NEO	**Neokhori**	**1.36**	**295**	*e*P	**Pn**	**22 52 35.4**	**-0.4**
NEO	**Neokhori**	**1.36**	**295**	P	**Pn**	**22 52 35.5**	**-0.4**
XOR	**Xorichti**	**1.41**	**297**	P	**Pn**	**22 52 35.8**	**-0.7**
XOR				S	**Sn**	**22 52 54.2**	**-0.3**
XOR	**Xorichti**	**1.41**	**297**	P	**Pn**	**22 52 35.8**	**-0.7**
XOR				S	**Sn**	**22 52 54.2**	**-0.3**
LKR	**Lokris**	**1.43**	**267**	*e*P	**Pn**	**22 52 35.9**	**-0.8**
LKR	**Lokris**	**1.43**	**267**	*e*P	**Pn**	**22 52 35.9**	**-0.8**
NAIG	**Nisos Aigina**	**1.43**	**227**	*e*P	**Pn**	**22 52 36.0**	**-0.8**
NAIG	**Nisos Aigina**	**1.43**	**227**	*e*P	**Pn**	**22 52 36.0**	**-0.8**
URLA	**Izmir**	**1.45**	**105**	*e*P	**Pn**	**22 52 35.9**	**-1.1**
URLA				*i* S	**Sb**	**22 52 58.6**	**+2.5**
URLA	**Izmir**	**1.45**	**105**	*e*P	**Pn**	**22 52 35.7**	**-1.1**
URLA				*i* S	**Sb**	**22 52 58.6**	**+2.5**
PAIG	**Paliouri**	**1.48**	**324**	P	**Pn**	**22 52 36.6**	**-0.8**
PAIG				S	**Sn**	**22 52 55.6**	**-0.5**
PAIG	**Paliouri**	**1.48**	**324**	P	**Pn**	**22 52 36.6**	**-0.8**
PAIG				S	**Sn**	**22 52 55.6**	**-0.5**
AYVA	**Ayvalik**	**1.56**	**68**	*i* P	**Pn**	**22 52 37.8**	**-0.8**
AYVA				*i* S	**Sb**	**22 52 59.9**	**+0.3**
AYVA	**Ayvalik**	**1.56**	**68**	*i* P	**Pn**	**22 52 37.8**	**-0.8**
AYVA				*i* S	**Sb**	**22 52 59.9**	**+0.3**
EZN	**Ezine**	**1.59**	**47**	*e*PN	**Pn**	**22 52 38.1**	**-0.9**
EZN				*e*SN	**Sn**	**22 52 59.5**	**+0.5**
EZN	**Ezine**	**1.59**	**47**	*e*Pn	**Pn**	**22 52 38.1**	**-0.9**
EZN				*e*Sn	**Sn**	**22 52 59.5**	**+0.5**
LTK	**Loutraki**	**1.62**	**244**	P	**Pn**	**22 52 39.1**	**-0.3**
LTK	**Loutraki**	**1.62**	**244**	*e*P	**Pn**	**22 52 39.9**	**+0.5**
LTK	**Loutraki**	**1.62**	**244**	P	**Pn**	**22 52 39.1**	**-0.3**
AXAR	**Agios Charalam**	**1.69**	**272**	P	**Pn**	**22 52 40.2**	**-0.1**
AXAR	**Agios Charalam**	**1.69**	**272**	P	**Pn**	**22 52 40.2**	**-0.1**
OUR	**Ouranopolis**	**1.72**	**338**	P	**Pn**	**22 52 39.9**	**-0.8**
OUR	**Ouranopolis**	**1.72**	**338**	P	**Pn**	**22 52 39.9**	**-0.8**
DID	**Didima**	**1.75**	**226**	P	**Pn**	**22 52 40.5**	**-0.7**
DID	**Didima**	**1.75**	**226**	*e*P	**Pn**	**22 52 40.4**	**-0.7**
DID	**Didima**	**1.75**	**226**	P	**Pn**	**22 52 40.5**	**-0.7**
APE	**Apeiranthos**	**1.76**	**161**	*e*PN	**Pn**	**22 52 40.2**	**-1.1**
APE				*e*SN	**Sn**	**22 53 01.1**	**-2.0**
APE	**Apeiranthos**

ITM	Ithomi	2.77	237	P		Pn	22 52 56.0	+0.9			
DYR	Agios Nikonas	2.79	226	P		Pn	22 52 55.7	+0.3			
DYR	Agios Nikonas	2.79	226	*e*P		Pn	22 52 56.0	+0.6			
DYR	Agios Nikonas	2.79	226	P		Pn	22 52 55.7	+0.3			
MFT	Murefte	2.79	42	*e*PN		Pn	22 52 56.8	+1.3			
MFT	Murefte	2.79	42	*e*Pn		Pn	22 52 56.8	+1.3			
KNT	Kendrikon	2.83	329	P		Pn	22 52 56.2	+0.2			
KNT				S		Sn	22 53 29.0	-0.6			
KNT	Kendrikon	2.83	329	P		Pn	22 52 56.2	+0.2			
KNT				S		Sn	22 53 29.0	-0.6			
KYTH	Kithira	2.83	211	*e*P		Pn	22 52 56.1	0.0			
KYTH	Kithira	2.83	211	*e*P		Pn	22 52 56.1	0.0			
BNT	Bandirma	2.89	55	*e*PN		Pn	22 52 57.5	+0.7			
BNT	Bandirma	2.89	55	*e*Pn		Pn	22 52 57.5	+0.7			
GRG	Griva	2.89	321	*e*P		Pn	22 52 57.3	+0.4			
GRG	Griva	2.89	321	*e*P		Pn	22 52 57.3	+0.4			
MANT	Manisa	2.94	94	*i* P		Pn	22 52 57.6	-0.1			
MANT				*i* S		Sb	22 53 37.7	-1.7			
MANT	Manisa	2.94	94	*i* P		Pn	22 52 57.6	-0.1			
MANT				*i* S		Sb	22 53 37.7	-1.7			
DAT	Datca	2.97	132	*e*PN		Pn	22 52 57.8	-0.2			
DAT	Datca	2.97	132	*e*Pn		Pn	22 52 57.8	-0.2			
KULA	Kula-Manisa	3.02	93	*e*PN		Pn	22 52 59.0	+0.3			
KULA	Kula-Manisa	3.02	93	*e*Pn		Pn	22 52 59.0	+0.3			
PYL	PYLOS	3.05	234	*e*P		Pn	22 53 00.5	+1.4			
PYL	PYLOS	3.05	234	*e*P		Pn	22 53 00.5	+1.4			
DST	Dursunbey	3.08	73	*e*PN		Pn	22 52 59.5	0.0			
DST	Dursunbey	3.08	73	*e*Pn		Pn	22 52 59.5	0.0			
KCTX	Karacabey (Bur	3.13	60	*e*PN		Pn	22 53 01.2	+1.0			
KCTX	Karacabey (Bur	3.13	60	*e*Pn		Pn	22 53 01.2	+1.0			
YER	Yerkesik	3.17	119	*e*PN		Pn	22 53 01.2	+0.4			
YER	Yerkesik	3.17	119	*e*Pn		Pn	22 53 01.2	+0.4			
FNA	Florina	3.35	309	*e*P		Pn	22 53 03.9	+0.8			
FNA	Florina	3.35	309	*e*P		Pn	22 53 03.9	+0.8			
KARN	Karanos	3.41	192	P		Pn	22 53 04.8	+0.8			
KARN	Karanos	3.41	192	*e*P		Pn	22 53 04.2	+0.2			
KARN	Karanos	3.41	192	*e*P		Pn	22 53 04.2	+0.2			
ORLT	Orhaneli	3.42	66	*e*PN		Pn	22 53 05.3	+1.2			
ORLT	Orhaneli	3.42	66	*e*Pn		Pn	22 53 05.3	+1.2			
EDRB	Edirne	3.44	25	*e*PN		Pn	22 53 05.3	+1.0			
EDRB	Edirne	3.44	25	*e*Pn		Pn	22 53 05.3	+1.0			
IDI	Anoyia	3.45	179	P		Pn	22 53 03.9	-0.6			
IDI	Anoyia	3.45	179	P		Pn	22 53 03.9	-0.6			
DALY	Dalyan (Mu˘la	3.59	121	*e*PN		Pn	22 53 06.4	-0.1			
DALY	Dalyan (Mu˘la	3.59	121	*e*Pn		Pn	22 53 06.4	-0.1			
SLVT	Silivri	3.60	45	*e*PN		Pn	22 53 07.5	+0.9			
SLVT	Silivri	3.60	45	*e*Pn		Pn	22 53 07.5	+0.9			
ARMT	Armutlu	3.62	58	*e*PN		Pn	22 53 07.8	+1.0			
ARMT	Armutlu	3.62	58	*e*Pn		Pn	22 53 07.8	+1.0			
TVSB	Tavsanli	3.68	77	*e*PN		Pn	22 53 08.3	+0.5			
TVSB	Tavsanli	3.68	77	*e*Pn		Pn	22 53 08.3	+0.5			
KHAL	Karahalli	3.68	94	*i* P		Pn	22 53 08.8	+1.0			
KHAL	Karahalli	3.68	94	*i* P		Pn	22 53 08.8	+1.0			
KARP	Karpathos	3.70	149	P		Pn	22 53 07.8	-0.1			
KARP	Karpathos	3.70	149	*e*P		Pn	22 53 07.1	-0.8			
KARP	Karpathos	3.70	149	P		Pn	22 53 07.8	-0.1			
KHL	Karahalli	3.71	95	*e*PN		Pn	22 53 09.0	+0.8			
KHL	Karahalli	3.71	95	*e*Pn		Pn	22 53 09.0	+0.8			
CTKS	Kestanelik-??a	3.77	47	*e*PN		Pn	22 53 09.4	+0.5			
CTKS	Kestanelik-??a	3.77	47	*e*Pn		Pn	22 53 09.4	+0.5			
BGKT	Bogazkoy	3.90	50	*e*PN		Pn	22 53 11.2	+0.6			
BGKT	Bogazkoy	3.90	50	*e*Pn		Pn	22 53 11.2	+0.6			
ISK	Istanbul-Kandi	4.00	53	*e*PN		Pn	22 53 13.1	+1.0			
ISK	Istanbul-Kandi	4.00	53	*e*Pn		Pn	22 53 13.1	+1.0			
VTS	Vitosha	4.04	343	||*i* P		Pn	22 53 13.1	+0.4			
VTS	Vitosha	4.04	343	||*i* P		Pn	22 53 13.1	+0.4			
ADVT	Abdulvahap	4.16	64	*e*PN		Pn	22 53 15.7	+1.4			
ADVT	Abdulvahap	4.16	64	*e*Pn		Pn	22 53 15.7	+1.4			
SHUT	Suhut-Afyon	4.49	91	*e*PN		Pn	22 53 20.2	+1.2			
SHUT	Suhut-Afyon	4.49	91	*e*Pn		Pn	22 53 20.2	+1.2			
AKAS	Kas	4.55	122	*e*P		Pn	22 53 22.7	+2.8			
AKAS				*e*S		Sn	22 54 11.0	-1.2			
AKAS	Kas	4.55	122	*e*P		Pn	22 53 22.7	+2.8			
AKAS				*e*S		Sn	22 54 11.0	-1.2			
GULT	Gulveren	4.71	67	*e*PN		Pn	22 53 22.8	+0.8			
GULT	Gulveren	4.71	67	*e*Pn		Pn	22 53 22.8	+0.8			
BOLS	Boljevac	5.52	338	*e*Pn		Pn	22 53 31.2	-1.8			
GRUS	Gruza	6.00	330	||*i* Pn		Pn	22 53 39.8	+0.3			
DIVS	Divibare	6.46	327	||*i* Pn		Pn	22 53 46.0	0.0			
ARR	Arges	6.62	359	||*i* P		Pn	22 53 47.5	-0.7			
ARR	Arges	6.62	359	||*i* P		Pn	22 53 47.5	-0.7			
LOT	Lotru	6.75	354	||*i* P		Pn	22 53 49.3	-0.6			
LOT	Lotru	6.75	354	||*i* P		Pn	22 53 49.3	-0.6			
MLR	Muntele Rosu	6.80	7	||*i* P		Pn	22 53 51.3	+0.7			
MLR	Muntele Rosu	6.80	7	||*i* P		Pn	22 53 51.3	+0.7			
GZR	Gura Zlata	6.82	348	||*i* P		Pn	22 53 50.4	-0.4			
GZR	Gura Zlata	6.82	348	||*i* P		Pn	22 53 50.4	-0.4			
BRTR	Keskin Array B	6.92	79	Pn		Pn	22 53 53.1	+0.8			
	0.2nm,0.3s,baz=268,slow=13,SNR=12										
VRI	Vrincioaia	7.26	11	||*i* P		Pn	22 53 59.2	+2.3			
VRI	Vrincioaia	7.26	11	||*i* P		Pn	22 53 59.2	+2.3			
DEV	Deva	7.28	349	||*i* P		Pn	22 53 57.8	+0.7			
DEV	Deva	7.28	349	||*i* P		Pn	22 53 57.8	+0.7			
TESR	Tescani	7.88	9	||*i* P		Pn	22 54 06.1	+0.7			
TESR	Tescani	7.88	9	||*i* P		Pn	22 54 06.1	+0.7			
ESDC	Sonseca Array	22.29	282	P		P	22 57 08.0	+0.1			
	0.4nm,0.7s,baz=74,slow=10,SNR=4.3										
TORD	Torodi Ar. Bea	32.70	225	P		P	22 58 49.2	+6.1			
	0.2nm,0.5s,baz=43,slow=8.1,SNR=2.8										
MKAR	Makanchi Array	42.12	60	P		P	23 00 02.2	-0.4			
	0.3nm,0.7s,baz=285,slow=7.6,SNR=4.1										

ISCJB ***26*** *23:01:29.7±1.6, 17°.78S±0°.03×168°.06E±0°.03, h23km±11km, mb5.7/118, MS5.5/52, Error ellipse: s-maj=5.4km s-min=4.6km az=18.8*

IDC ***26*** *23:01:30.5±3.2, 17°.72S×168°.13E, h20km±19km, mb5.3/27, mb1 5.4/29, mb1mx5.4/29, mbtmp5.4/29, ML5.3/2, MS5.5/22, Ms1 5.5/22, ms1mx5.3/38, Error ellipse: s-maj=12.0km s-min=11.6km az=91.0*

BKK ***26*** *23:01:30.9±0.4, 18°.S±6°×16°.8E±°, h10km, M6.0/40, mb6.0/40, mBB6.3/33, Mw(mB)6.0/33, Mwp6.4/3*

MOS ***26*** *23:01:31.4±1.1, 17°.72S×168°.01E, h33km, mb5.6/54, MS5.4/15, Error ellipse: s-maj=7.5km s-min=6.9km az=20.9*

BGS ***26*** *23:01:31.2±4.4, 17°.76S×168°.07E, h25km, mb5.8(NEIC)*

NEIC ***26*** *23:01:31.3±0.1, 17°.76S×168°.09E, h25km, mb5.8/37, ME5.4, MW5.7, Error ellipse: s-maj=4.8km s-min=3.8km az=148.0 Broadband fault plane solution: P waves. NP1:φs350.00000°,δ75.00000°,λ-90.00000°. NP2: φs170.00000°,δ15.00000°,λ-90.00000°. Principal axes: T Plg30.0000°, Azm80.0000°; N Plg0.0000°, Azm0.0000°; P Plg60.0000°, Azm260.0000°; Moment Tensor Solution. s48 Moment tensor: Scale 10¹⁷ Nm; Mrr-1.95; Mθθ0.12; Mφφ1.82; Mrθ0.86; Mθφ0.02; Mφr-4.29; Best double couple: M₀4.80000×10¹⁷ NP1:φs189.00000°, δ12.00000°,λ-71.00000°. NP2:φs350.00000°,δ79.00000°, λ-94.00000°. Principal axes: T 4.6700, Plg33.0000°, Azm83.0000°; N 0.1900, Plg3.0000°, Azm350.0000°; P -4.8600, Plg56.0000°, Azm254.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Port-Vila. Also felt at Lakatoro.

NOU ***26*** *23:01:33.1±1.6, 17°.76S×167°.85E, h30km, MD3.6, ML4.2*

BJI ***26*** *23:01:36.2, 17°.47S×168°.10E, h69km, mB5.6/47, mb5.4/58, Ms5.8/53, Ms7 5.5/50*

GCMT ***26*** *23:01:36.3±0.1, 17°.81S×167°.94E, h35km±1km, MW5.8, Moment Tensor Solution. s89,c162; s24,c24; Moment tensor: Scale 10¹⁷Nm; Mrr0.34±.06; Mθθ-0.04±.05; Mφφ-0.29±.05; Mrθ1.86±.10; Mθφ1.02±.05; Mφr-6.70±.22; Best double couple: M₀7.00000×10¹⁷ NP1:φs274.00000°, δ7.00000°,λ19.00000°. NP2:φs165.00000°,δ88.00000°, λ97.00000°. Principal axes: T 6.7900, Plg47.0000°, Azm82.0000°; N 0.4600, Plg7.0000°, Azm345.0000°; P -7.2500, Plg42.0000°, Azm248.0000°; Data Used: II IU CN IC G. Surface waves: sta=101, comp=186, per= 50.*

DJA ***26*** *23:01:44.3±1.5, 18°.S±5°×16°.8E±°, h131km±18km, M5.8/33, mB6.2/27, mb5.9/33, Mw(mB)5.8/27, Mwp5.6/2*

ISC 26 23:01:32.4±0.2, 17.77S±0°.03×168°.01E±0°.04, h32km, n777, σ1§59/778, mb5.7/116, MS5.5/53, 88C-78D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BAYA	Yate Dam	4.49	193	*e*P		Pn	23 02 38.1	-0.2
BAYA					*e*S	Sn	23 03 24.4	-5.0
BAYA					AMP		23 03 30.0	
	comp=Z,260nm,2.8s							
DZM	Mont Dzumac	4.53	199	*e*Pn		Pn	23 02 37.6	-1.2
	comp=Z,784nm,0.3s							
DZM					*e*Sn	Sn	23 03 27.8	-2.6
	comp=Z,4μm,0.2s							
DZM	Mont Dzumac	4.53	199	*e*P		Pn	23 02 37.4	-1.4
DZM					*e*S	Sn	23 03 26.9	-3.6
DZM	Mont Dzumac	4.53	199	*e*Pn		Pn	23 02 37.3	-1.5
DZM					*e*Sn	Sn	23 03 25.9	-4.5
DZM	Mont Dzumac	4.53	199	Pn		Pn	23 02 37.7	-1.2
	comp=Z,102nm,0.3s,baz=61,slow=17,SNR=442							
DZM					Sn	Sn	23 03 26.6	-3.9
	comp=Z,321nm,0.3s,baz=140,slow=19,SNR=12							
NOUC	Port Laguerre	4.60	200	*e*P		Pn	23 02 39.0	-0.8
NOUC					*e*S	Sn	23 03 26.7	-5.4
NOUC					AMP		23 03 42.6	
	comp=Z,1μm,4.0s							
NORM	Noumea	4.66	198	*e*P		Pn	23 02 40.0	-0.7
NORM					*e*S	Sn	23 03 30.3	-3.4
NORM					AMP		23 03 33.9	
	comp=Z,3μm,4.0s							
MSVF	Nonsavu	9.57	91	*e*P		Pn	23 03 51.6	+3.5
MSVF	Nonsavu	9.57	91	*e*Pn		Pn	23 03 51.6	+3.5
HNR	Honiara	11.40	316	*e*Pn		Pn	23 04 14.6	+1.5
HNR					*e*Sn	Sn	23 06 19.0	-0.4
HNR	Honiara	11.40	316	Pn		Pn	23 04 14.0	+0.9
	comp=Z,33nm,0.3s,baz=224,slow=4.9,SNR=15							
HNR					LR	LR	23 08 05.6	
	comp=Z,25μm,18.4s,baz=160,slow=34							
FUNA	Funafuti	14.24	51	*e*Pn		Pn	23 04 51.3	-0.7
RAO	Raoul Island	17.22	134	LR		LR	23 10 45.1	
	comp=Z,19μm,21.2s,baz=67,slow=32							
EIDS	Eidsvold	17.45	241	*e*Pn		P	23 05 36.5	+2.0
	comp=Z,254nm,1.2s							
OUZ	Omahuta	18.08	165	*e*Pn		P	23 05 41.1	-0.2
	comp=Z,130nm,0.7s							
ARMA	Armidale	19.52	227	*e*P		Pn	23 05 58.0	-0.7
	comp=Z,240nm,1.0s							
TARA	Tarawa	19.61	15	*e*Pn		Pn	23 06 00.6	+0.8
	comp=Z,687nm,1.3s							
AFI	Afiamalu	19.82	82	*e*P		Pn	23 06 01.7	-0.7
	comp=Z,339nm,1.1s							
AFI	Afiamalu	19.82	82	P		Pn	23 06 01.9	-0.5
	comp=Z,2.0nm,0.3s,baz=285,slow=12,SNR=13							
KUZ	Kuaotunu	20.09	162	PN		Pn	23 06 05.5	+0.2
MKAZ	Moumakai	20.28	163	PN		P	23 06 05.9	+0.5
CTA	Charters Tower	20.70	260	P		P	23 06 11.3	+1.1
CTA					ScP	ScP	23 13 54.9	+1.0
CTA	Charters Tower	20.70	260	P		P	23 06 11.3	+1.1
	comp=Z,179nm,1.0s,baz=83,slow=13,SNR=68							
CTA					LR	LR	23 13 16.7	
	comp=Z,36μm,20.4s,baz=80,slow=34							
CTA					ScP	ScP	23 13 54.9	+1.0
	comp=Z,20nm,1.0s,baz=63,slow=2.3,SNR=5.6							
CTAO	Charters Tower	20.70	260	*e*P		Pn	23 06 12.2	-0.5
CTAO					pmax	pmax		
	comp=Z,472nm,1.2s							
CTAO	Charters Tower	20.70	260	*e*P		Pn	23 06 12.2	-0.5
	comp=Z,472nm,1.2s							
HIZ	Hauiti	21.52	165	PN		P	23 06 19.9	+1.1
OMRZ	Omania	21.55	162	PN		P	23 06 20.2	+1.0
PMG	Port Moresby	21.88	290	LR		LR	23 13 49.8	
	comp=Z,27μm,19.1s,baz=103,slow=34							
URZ	Urewera	21.92	161	*e*P		P	23 06 23.6	+0.6
	comp=Z,374nm,0.9s							
URZ					S	S	23 10 27.2	+3.8
URZ	Urewera	21.92	161	P		P	23 06 23.6	+0.6
	comp=Z,44nm,0.8s,baz=4.6,slow=7.4,SNR=13							
URZ					S	S	23 10 27.2	+3.8
	comp=Z,13nm,0.8s,baz=196,slow=20,SNR=6.4							
MWZ	Matawai	22.12	160	PN		P	23 06 26.5	+1.2
ANWZ	Angora Road	23.77	164	PN		P	23 06 41.7	-0.3
COEN	Coen	24.18	275	*e*P		P	23 06 46.9	+0.7
	comp=Z,4μm,1.6s							
THZ	Tophouse	24.28	171	PN		P	23 06 47.0	+0.1
CAN	Canberra	24.31	220	*e*P		P	23 06 48.0	+0.8
CAN					pmax	pmax		
	comp=Z,432nm,0.9s							
CAN	Canberra	24.31	220	*e*P		P	23 06 48.0	+0.8
	comp=Z,432nm,0.9s							
MSWZ	Moikau Station	24.38	167	PN		P	23 06 46.8	-0.9
PAWZ	Paruwai Farm	24.38	166	PN		P	23 06 46.7	-1.0
TRWZ	Traveller	24.46	166	PN		P	23 06 48.0	-0.5
KHZ	Kahutara	25.02	170	*e*P		P	23 06 52.4	-1.1
	comp=Z,188nm,0.8s							
KHZ	Kahutara	25.02	170	PN		P	23 06 52.1	-1.4
LTZ	Lake Taylor	25.20	173	PN		P	23 06 54.5	-0.6
FOZ	Fox Glacier	25.76	177	PN		P	23 06 59.7	-0.4
RPZ	Rata Peaks	26.00	175	*e*P		P	23 07 02.2	-0.1
	comp=Z,155nm,1.0s							
RPZ					ScP	ScP	23 14 07.8	+0.3
RPZ	Rata Peaks	26.00	175	P		P	23 07 03.0	+0.6
	comp=Z,99nm,0.9s,baz=28,slow=9.5,SNR=21							
RPZ					ScP	ScP	23 14 07.8	+0.3
	comp=Z,18nm,1.1s,baz=135,slow=20,SNR=3.5							
JCZ	Jackson Bay	26.23	179	PN		P	23 07 04.9	+0.3
ODZ	Otahua Downs	27.29	176	*e*P		P	23 07 15.4	+1.5
ODZ					eScP	ScP	23 14 13.2	+1.8
STKA	Stephens Creek	27.69	235	P		P	23 07 18.5	+0.8
STKA					ScP	ScP	23 14 14.9	+2.0
STKA	Stephens Creek	27.69	235	P		P	23 07 18.5	+0.8
	comp=Z,275nm,0.9s,baz=62,slow=8.0,SNR=157							
STKA					ScP	ScP	23 14 14.9	+2.0
	comp=Z,12nm,1.1s,baz=27,slow=5.0,SNR=3.8							
STKA					LR	LR	23 18 05.5	
	comp=Z,20μm,19.3s,baz=94,slow=36							
WHZ	Wether Hill Ro	28.05	180	*e*P		P	23 07 21.0	+0.3
RAR	Rarotonga	30.54	102	P		P	23 07 43.0	-0.2
RAR	Rarotonga	30.54	102	P		P	23 07 42.9	-0.2
	comp=Z,52nm,1.0s,baz=270,slow=10,SNR=4.0							
RAR					LR	LR	23 17 41.2	
	comp=Z,6μm,21.1s,baz=275,slow=32							
TAU	Tasmania Unive	30.60	211	*e*P		P	23 07 44.6	+1.1
TAU					pmax	pmax		
	comp=Z,1μm,2.9s							
TAU	Tasmania Unive	30.60	211	*e*P		P	23 07 44.6	+1.1
	comp=Z,1μm,2.9s							
JAY	Jayapura	30.78	296	P		P	23 07 46.3	+0.9
	comp=Z,81nm,1.1s,comp=Z,11μm							
WRAB	Tennant Creek	31.89	261	*e*P		P	23 07 54.2	-1.0
WRAB					pmax	pmax		
	comp=Z,194nm,1.0s							
WRAB	Tennant Creek	31.89	261	*e*P		P	23 07 54.1	-1.0
	comp=Z,194nm,1.0s							
WRA	Warramunga Arr	31.90	261	P		P	23 07 54.6	-0.7
WRA					PcP	PcP	23 10 45.2	-0.2
WRA					ScP	ScP	23 14 27.0	+0.3
WRA	Warramunga Arr	31.90	261	P		P	23 07 54.6	-0.7
	comp=Z,126nm,0.9s,baz=90,slow=9.2,SNR=165							
WRA					PcP	PcP	23 10 45.2	-0.2
	comp=Z,23nm,1.0s,baz=86,slow=2.5,SNR=6.4							
WRA					ScP	ScP	23 14 27.0	+0.3
	comp=Z,30nm,1.2s,baz=86,slow=3.5,SNR=14							
WRA					LR	LR	23 19 45.4	
	comp=Z,19μm,21.9s,baz=95,slow=34							
AS31	Alice Springs	32.38	254	*e*P		P	23 07 58.8	-0.6
ASAR	Alice Springs	32.38	254	P		P	23 07 58.5	-0.9
ASAR					PcP	PcP	23 10 46.6	-0.1
ASAR					ScP	ScP	23 14 28.2	-0.1
ASAR	Alice Springs	32.38	254	P		P	23 07 58.5	-0.9
	comp=Z,132nm,0.8s,baz=80,slow=9.0,SNR=336							
ASAR					PcP	PcP	23 10 46.6	-0.1
	comp=Z,20nm,1.0s,baz=91,slow=2.1,SNR=6.7							
ASAR					ScP	ScP	23 14 28.2	-0.1
	comp=Z,11nm,1.1s,baz=94,slow=3.7,SNR=8.7							
ASAR					LR	LR	23 20 37.4	
	comp=Z,33μm,20.1s,baz=86,slow=35							
BBOO	Buckleboo	32.38	236	*e*P		P	23 07 59.9	+0.6
	comp=Z,2μm,0.9s							
BAKI	Biak	35.40	294	P		P	23 08 27.1	+1.4
	comp=Z,430nm,1.3s,comp=Z,5nm							
RKPI	Ransiki, Papua	36.94	292	P		P	23 08 42.5	+3.6
	comp=Z,631nm,1.2s							
MCQ	Macquarie Isla	37.32	189	*e*P		P	23 08 41.6	+0.1
MCQ	Macquarie Isla	37.32	189	*e*P		P	23 08 41.6	+0.1
	comp=Z,25μm,1.2s							
FAKI	Fak Fak	38.03	289	P		P	23 08 49.1	+1.0
	comp=Z,201nm,1.3s,comp=Z,3μm							
FORT	Forrest	38.45	243	*e*P		P	23 08 51.8	+0.3
	comp=Z,309nm,0.9s							
GUMO	Guam	38.63	322	*e*P		P	23 08 53.5	+0.5
	comp=Z,156nm,1.3s							
XMAS	Kiritimati	39.32	63	*e*P		P	23 08 55.1	-3.8
	comp=Z,161nm,1.2s							
BNDI	Bandanaira	39.53	285	P		P	23 09 13.5	+13
SWI	Sorong	39.83	291	P		P	23 09 04.3	+1.2
	comp=Z,278nm,1.2s,comp=Z,4μm							
TBI	Tubuai	40.10	105	*e*S		S	23 15 14.8	+5.0
	comp=Z,2μm,27.2s							
TBI					*e*LQ	LQ	23 18 24.2	
	comp=Z,6μm,28.0s							
TBI					*e*LR	LR	23 20 05.1	
	comp=Z,23μm,29.0s							
FITZ	Fitzroy Crossi	40.24	263	P		P	23 09 07.9	+1.3
FITZ	Fitzroy Crossi	40.24	263	P		P	23 09 07.9	+1.3
	comp=Z,914nm,1.0s,baz=110,slow=7.4,SNR=126							
FITZ					LR	LR	23 25 13.4	
	comp=Z,22μm,20.3s,baz=82,slow=35							
PAE	Paea	40.34	97	*e*P		P	23 09 09.1	+1.7
	comp=Z,30nm,1.2s							
PPT2	Papeete2	40.35	96	*e*S		S	23 15 18.1	+4.3
	comp=Z,2μm,26.0s							
PPT2					*e*LQ	LQ	23 18 28.3	
	comp=Z,8μm,27.0s							
PPT2					*e*LR	LR	23 20 13.5	
	comp=Z,34μm,26.0s							
PPT	Papeete	40.35	96	P		P	23 09 05.9	-1.6
PPT	Papeete	40.35	96	P		P	23 09 05.9	-1.6
	comp=Z,92nm,1.0s,baz=213,slow=23,SNR=2.3							
PPT					LR	LR	23 22 05.0	
	comp=Z,8μm,21.7s,baz=258,slow=31							
PMOR	Pomariorio Ree	42.33	93	*e*P		P	23 09 25.0	+1.3
	comp=Z,168nm,1.0s							
SOEI	Soe	43.14	275	P		P	23 09 32.0	+1.5
	comp=Z,398nm,1.2s,comp=Z,4μm							
BATI	Baumata	43.59	274	P		P	23 09 34.9	+0.9
BATI	Baumata	43.59	274	P		P	23 09 35.7	+1.7
	comp=Z,541nm,1.1s,comp=Z,5μm							
BATI	Baumata	43.59	274	P		P	23 09 34.9	+0.9
	comp=Z,865nm,1.0s,baz=147,slow=0.9,SNR=75							
BATI					LR	LR	23 26 57.4	
	comp=Z,9μm,21.5s,baz=18,slow=35							
MMRI	Maumere	45.37	275	P		P	23 09 48.9	+0.7
	comp=Z,346nm,1.2s,comp=Z,4μm							
MBWA	Marble Bar	45.51	258	*e*P		P	23 09 49.6	+0.4
	comp=Z,642nm,1.0s							
BBSI	Bau Bau	46.02	280	P		P	23 09 55.5	+2.2
	comp=Z,263nm,1.2s,comp=Z,3μm							
MNI	Manado	46.59	290	P		P	23 09 59.2	+1.4
	comp=Z,328nm,1.2s,comp=Z,5μm							
KMSI	Cibinong	46.99	288	P		P	23 10 02.8	+1.8
	comp=Z,568nm,1.1s,comp=Z,8μm							
LUWI	Luwuk	47.44	285	P		P	23 10 06.2	+1.8
	comp=Z,373nm,1.3s,comp=Z,5μm							
NWAO	Narrogin (SRO)	47.86	241	*e*P		P	23 10 07.3	-0.2
	comp=Z,274nm,0.9s							
NWAO	Narrogin (SRO)	47.86	241	P		P	23 10 07.7	+0.2
	comp=Z,300nm,0.9s,baz=86,slow=8.9,SNR=86							
DAV	Davao City (W)	48.62	297	*e*P		P	23 10 15.8	+2.2
	comp=Z,169nm,0.5s							
KAPI	Kappang	48.82	279	*e*P		P	23 10 15.1	-0.1
KAPI	Kappang	48.82	279	P		P	23 10 15.6	+0.5
KAPI	Kappang	48.82	279	P		P	23 10 14.9	-0.2
	comp=Z,150nm,1.0s,baz=104,slow=7.6,SNR=32							
DRV	Dumont d'Urvil	52.17	194	P		P	23 10 26.0	-14
DRV					S	S	23 17 52.0	-10
DRV					SS	SKiKP	23 21 58.0	-3.2
DRV					L	L	23 23 00.0	
DRV					R		23 25 00.0	
RCP	Roxas	53.35	300	||*e*P	P	23 10 50.9	+1.7
RKT	Rikitea	53.42

SSE pmax pmax
comp=Z,41nm,1.0s
SSE pmax pmax
comp=Z,250nm,3.9s
SSE LR LR
comp=N,2μm,22.3s
SSE LR LR
comp=E,1μm,22.3s
SSE LR LR
comp=Z,2μm,23.6s
KSRS Korea Array 66.64 326 P **P 23 12 20.4 +0.5**
comp=Z,12nm,1.0s,baz=145,slow=6.5,SNR=12
KSRS PP PP 23 14 41.2 -6.0
comp=Z,3.1nm,0.9s,baz=140,slow=9.3,SNR=5.2
KSAR Wonju Array Be 66.65 326 P **P 23 12 20.4 +0.4**
KSAR PP PP 23 14 41.2 -6.1
GZH Guangzhou 67.09 305 P **P 23 12 25.0 +1.9**
GZH S **S 23 21 19.5 +4.2**
GZH LR LR
comp=N,940nm,23.7s
GZH LR LR
comp=E,3μm,24.4s
INCN Inchon 67.35 325 *e*P **P 23 12 25.8 +1.2**
comp=E,159nm,1.3s
QIZ Qiongzhong 67.84 300 P **P 23 12 28.3 +0.4**
QIZ pP pP 23 12 44.0 +6.1
QIZ sP sP 23 12 53.0 +11
QIZ S **S 23 21 24.3 -0.1**
QIZ sS sS 23 21 54.0 +13
QIZ pmax pmax
comp=Z,47nm,1.1s
QIZ pmax pmax
comp=Z,670nm,9.5s
QIZ LR LR
comp=Z,3μm,25.0s
QIZ Qiongzhong 67.84 300 *e*P **P 23 12 29.1 +1.2**
comp=Z,55nm,1.1s
MIR Mirnyy 67.87 205⇓ *i*P **P 23 12 28.5 +1.2**
MIR *e*S **S 23 21 26.0 +2.6**
MIR *e*PS **PnS 23 21 47.0 -1.9**
MIR pmax pmax
comp=Z,420nm,1.0s
MIR pmax pmax
comp=Z,2μm,2.0s
KTGM Kuala Trenggan 67.98 283 P **P 23 12 30.3 +1.3**
YSS Yuzh-Sakhalins 68.32 342⇑ *e*P **P 23 12 32.8 +2.5**
YSS *e**SP sP 23 12 53.0 +9.0
YSS *e*S **S 23 21 33.0 +3.9**
YSS *e*PS **PnS 23 21 50.0 -5.8**
YSS pmax pmax
comp=Z,400nm,4.0s
YSS pmax pmax
comp=Z,50nm,1.1s
YSS MLR MLR
comp=N,2μm,19.0s
YSS MLR MLR
comp=Z,2μm,19.0s
NJ2 Nanjing 68.34 316 *e*P **P 23 12 32.0 +1.2**
NJ2 pP pP 23 12 46.0 +5.2
NJ2 PP **PP 23 15 01.0 -1.1**
NJ2 S **S 23 21 28.0 -2.0**
NJ2 sS sS 23 21 56.0 +10
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 pmax pmax
comp=Z,640nm,4.5s
NJ2 LR LR
comp=N,3μm,14.7s
NJ2 LR LR
comp=E,2μm,16.3s
NJ2 LR LR
comp=Z,3μm,15.8s
COCO West Island 68.63 264 *e*P **P 23 12 33.7 +0.7**
VLA Vladivostok 69.08 332⇓ *i*P **P 23 12 34.1 -1.1**
VLA S **S 23 21 36.2 -2.1**
VLA pmax pmax
comp=Z,72nm,1.4s
IPM Ipoh 69.64 282 *e*P **P 23 12 39.6 +0.3**
IPM Ipoh 69.64 282 Pn P 23 12 44.0 +4.7
IPM Ipoh 69.64 282 P **P 23 12 40.0 +0.6**
IPM Ipoh 69.64 282 P P 23 12 44.4 +5.1
UBPT Khong Chiam 69.84 294 P **P 23 12 42.5 +2.1**
comp=Z,75nm,1.0s,comp=Z,1μm
USRK Ussuriysk Arra 69.90 333 P **P 23 12 41.4 +1.2**
comp=Z,36nm,1.0s,baz=131,slow=5.0,SNR=69
KULM Kulim 70.27 282 *e*P **P 23 12 43.2 +0.1**
KULM Kulim 70.27 282 P **P 23 12 43.8 +0.6**
KULM Kulim 70.27 282 P **P 23 12 44.2 +1.0**
WHN Wuhan 70.50 313⇓ P **P 23 12 45.0 +0.8**
PET Petropavlovsk 70.96 354 *e*P P 23 12 40.3 -6.2
PET *e**PP pP 23 12 58.0 +1.5
PET *e**SP sP 23 13 04.9 +4.7
PET *e*S S 23 21 51.3 -8.6
PET pmax pmax
comp=Z,100nm,13.2s
PET pmax pmax
comp=Z,28nm,1.0s
SKLT Songkhla 70.97 284 P **P 23 12 48.9 +1.5**
comp=Z,160nm,1.1s,comp=Z,4μm
PSI Prapat 71.03 279 LR LR 23 46 53.6
comp=Z,4μm,19.7s,baz=132,slow=38
PETK Petropavlovsk- 71.14 353 P **P 23 12 47.1 -0.5**
PETK pmax pmax
comp=Z,50nm,1.1s
PETK Petropavlovsk- 71.14 353 P **P 23 12 47.1 -0.5**
PETK Petropavlovsk- 71.14 353 P **P 23 12 47.1 -0.5**
comp=Z,50nm,1.1s,baz=142,slow=7.3,SNR=20
DL2 Dalian 71.14 323 P **P 23 12 48.3 +0.4**
DL2 S **S 23 22 01.5 -1.1**
DL2 pmax pmax
comp=Z,150nm,1.4s
DL2 pmax pmax
comp=Z,260nm,9.8s
DL2 LR LR
comp=N,1μm,22.5s
DL2 LR LR
comp=E,710nm,23.9s
DL2 LR LR
comp=Z,2μm,26.7s
MDJ Mudanjiang 71.28 332 P **P 23 12 50.5 +1.9**
MDJ pP **PcP 23 13 07.0 -1.3**
MDJ PcP pP 23 13 09.5 +11
MDJ sP sP 23 13 13.5 +11
MDJ PP **PP 23 15 31.5 +4.2**
MDJ S **S 23 22 08.0 +4.0**
MDJ sS SKiKP 23 22 34.5 +7.5
MDJ SS **SS 23 26 40.0 +1.0**
MDJ pmax pmax
comp=Z,75nm,1.2s
MDJ pmax pmax
comp=Z,340nm,7.2s
MDJ LR LR
comp=N,1μm,27.3s
MDJ LR LR
comp=E,1μm,25.4s
MDJ LR LR
comp=Z,2μm,22.6s
MDJ Mudanjiang 71.28 332 *e*P **P 23 12 48.8 +0.2**
comp=Z,117nm,1.2s
PANO Nakornpanom 71.39 296 P **P 23 12 51.4 +1.5**
comp=Z,58nm,1.2s
CHBT CHBT 71.55 290 P **P 23 12 53.7 +2.8**
comp=Z,56nm,1.4s
TIA Tai'an 72.07 319⇑ P P 23 12 46.3 -7.3
TIA S **S 23 22 14.3 +0.8**
TIA pmax pmax
comp=Z,460nm,7.3s
TIA LR LR
comp=N,3μm,22.1s
TIA LR LR
comp=E,2μm,18.6s
TIA LR LR
comp=Z,580nm,22.1s
SNY Shenyang 72.12 327⇓ P **P 23 12 55.0 +1.3**
SNY S **S 23 22 15.5 +1.8**
SNY pmax pmax
comp=Z,38nm,1.1s
SNY pmax pmax
comp=Z,430nm,7.8s
SNY LR LR
comp=N,2μm,21.1s
SNY LR LR
comp=E,690nm,25.8s
SNY LR LR
comp=Z,3μm,26.3s

QSPA South Pole Qui 72.28 180 *e*P **P 23 12 53.8 -0.8**
QSPA South Pole Qui 72.28 180 LR LR 23 40 42.6
comp=Z,2μm,20.6s,baz=18,slow=32
CN2 Changchun 72.60 329 *e*P **P 23 12 57.5 +0.9**
CN2 *ep*P **PcP 23 13 14.5 +0.5**
CN2 *e*S **S 23 22 21.0 +1.8**
CN2 pmax pmax
comp=Z,70nm,1.0s
CN2 pmax pmax
comp=Z,620nm,6.0s
CN2 LR LR
comp=N,1μm,20.0s
CN2 LR LR
comp=E,2μm,20.0s
CN2 LR LR
comp=Z,2μm,24.0s
NAYO Nakonayok 73.08 291 P **P 23 13 02.2 +2.2**
comp=Z,75nm,1.1s
CHAI Chaiyaphum 73.14 293 P **P 23 13 01.6 +1.3**
comp=Z,13nm,1.0s,comp=Z,172nm
ENH Enshi 73.84 310 *e*P **P 23 13 03.7 -0.6**
comp=Z,47nm,1.0s
GYA Guiyang 74.02 305⇑ *i*P **P 23 13 08.3 +2.8**
GYA pP PcP 23 13 26.5 +5.8
GYA sP sP 23 13 33.3 +14
GYA PP **PP 23 15 56.0 +4.8**
GYA S **S 23 22 34.5 -1.8**
GYA SKS **SKSac 23 23 04.0 -7.0**
GYA sS **SKKSac 23 23 07.0 -4.2**
GYA SS **SS 23 27 23.0 +1.1**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,190nm,5.8s
GYA LR LR
comp=N,4μm,20.9s
GYA LR LR
comp=E,3μm,21.2s
GYA LR LR
comp=Z,5μm,20.6s
PHET Kaeng Krachan 74.03 289 P P 23 13 11.0 +5.4
comp=Z,74nm,1.5s,comp=Z,5μm
KLR Kul'dur 74.06 336 *e*P **P 23 13 02.1 -2.9**
KLR *e*S **S 23 22 37.5 +2.0**
KLR pmax pmax
comp=Z,130nm,1.6s
BJT Baijiatuau 75.06 321 *e*P **P 23 13 11.6 +0.5**
comp=Z,83nm,1.0s
BJI Beijing 75.06 321 P **P 23 13 12.5 +1.4**
BJI S **S 23 22 48.5 +1.4**
BJI sS **SKSac 23 23 15.5 -2.3**
BJI pmax pmax
comp=Z,92nm,1.4s
BJI pmax pmax
comp=Z,590nm,8.2s
BJI LR LR
comp=N,3μm,21.9s
BJI LR LR
comp=E,2μm,18.9s
BJI LR LR
comp=Z,5μm,24.6s
NANT Nan 75.46 295 P **P 23 13 15.6 +1.8**
comp=Z,214nm,1.1s,comp=Z,2μm
TIY Taiyuan 75.97 318 *e*P **P 23 13 17.0 +0.6**
TIY pP **PcP 23 13 32.3 +3.6**
TIY S **S 23 22 56.8 -0.6**
TIY pmax pmax
comp=Z,360nm,4.1s
TIY LR LR
comp=N,2μm,14.3s
TIY LR LR
comp=E,2μm,15.6s
TIY LR LR
comp=Z,4μm,19.1s
LAMP Lampang 76.26 295 P **P 23 13 20.6 +2.2**
comp=Z,30nm,1.0s,comp=Z,203nm
KMI Kunming 76.50 302 P **P 23 13 21.5 +1.5**
KMI S **S 23 23 05.5 +1.4**
KMI pmax pmax
comp=Z,100nm,1.1s
KMI pmax pmax
comp=Z,650nm,7.5s
KMI LR LR
comp=N,850nm,26.5s
KMI LR LR
comp=E,1μm,23.5s
KMI LR LR
comp=Z,3μm,23.5s
CMAR Chiang Mai Arr 76.83 294 P **P 23 13 23.2 +1.5**
CMAR Chiang Mai Arr 76.83 294 P **P 23 13 23.2 +1.5**
comp=Z,50nm,1.0s,baz=120,slow=4.9,SNR=102
CMAR LR LR 23 43 29.6
comp=Z,812nm,21.4s,baz=129,slow=33
CMMT Chiang Mai 76.97 295 P **P 23 13 24.0 +1.5**
comp=Z,70nm,1.1s,comp=Z,1μm
CHTO Chiang Mai 76.98 295 *e*P **P 23 13 23.9 +1.4**
CHTO Chiang Mai 76.98 295 *e*P **P 23 13 23.9 +1.4**
CHTO Chiang Mai 76.98 295 P **P 23 13 24.2 +1.7**
comp=Z,78nm,1.2s,comp=Z,1μm
CMAI Chiengmai2 77.34 296 P **P 23 13 26.4 +1.7**
comp=Z,266nm,1.0s,comp=Z,23μm
HHC Hu-ho-hao-te 78.35 320 *e*P **P 23 13 31.8 +2.0**
HHC pP pP 23 13 49.0 +9.1
HHC sP sP 23 13 55.0 +11
HHC S **S 23 23 22.0 -1.3**
HHC SKS **SKSac 23 23 35.8 -6.4**
HHC ScS **SKKSac 23 23 44.5 +1.2**
HHC sS **ScS 23 23 51.0 +2.9**
HHC pmax pmax
comp=Z,100nm,1.1s
HHC pmax pmax
comp=Z,730nm,6.7s
HHC LR LR
comp=N,4μm,16.8s
HHC LR LR
comp=E,3μm,17.2s
HHC LR LR
comp=Z,4μm,17.4s
CD2 Chengdu 78.42 308 P **P 23 13 31.3 +1.0**
CD2 S **S 23 23 21.5 -2.8**
CD2 ScS **SKSac 23 23 42.8 -0.2**
CD2 sS **ScS 23 23 53.0 +4.1**
CD2 SS **SS 23 28 28.8 +0.7**
CD2 pmax pmax
comp=Z,70nm,1.1s
CD2 pmax pmax
comp=Z,780nm,7.1s
CD2 LR LR
comp=E,2μm,22.6s
CD2 LR LR
comp=Z,3μm,21.4s
BTO Baotou 79.17 319 *e*P **P 23 13 34.3 0.0**
HIA Hailar 79.26 330 *e*P **P 23 13 34.5 0.0**
comp=Z,176nm,1.3s
MAW Mawson 79.35 202 P **P 23 13 36.0 +1.3**
MAW Mawson 79.35 202 P **P 23 13 36.0 +1.3**
comp=Z,106nm,0.9s,baz=115,slow=7.1,SNR=92
LZH Lanzhou 80.88 312⇓ P **P 23 13 46.0 +2.3**
LZH pP pP 23 14 03.5 +10
LZH sP sP 23 14 10.5 +13
LZH PP PP 23 16 54.0 +5.3
LZH S **S 23 23 49.0 -1.4**
LZH SKS **SKSac 23 23 56.0 -4.4**
LZH sS ScS 23 24 18.0 +9.0
LZH SS **SS 23 29 06.0 +0.9**
LZH pmax pmax
comp=Z,230nm,1.5s
LZH pmax pmax
comp=Z,680nm,7.4s
LZH LR LR
comp=N,4μm,14.6s
LZH LR LR
comp=E,3μm,15.3s
LZH LR LR
comp=Z,4μm,18.0s
OHAK Old Harbor 81.38 20 *e*P **P 23 13 46.1 +0.5**
CLNS Chul'man 82.59 338 *e*P **P 23 13 53.1 +1.0**
CLNS *e**PP **pP 23 14 03.6 +1.3**
CLNS *e* 23 17 05.6
CLNS *e* 23 25 17.1
CLNS *e*SS SS 23 29 35.4 +5.8
CLNS pmax pmax
comp=N,28nm,1.0s
CLNS pmax pmax
comp=Z,74nm,1.0s

CLNS pmax pmax
comp=E,9.0nm,1.0s
IMP Imphal 83.61 298 *ex* **P 23 13 58.0 -0.2**
IMP *i* x x 23 19 33.0
SVW2 Sparrevohn 83.83 17 *e*P **P 23 13 58.7 +0.3**
CIT Chita 84.04 330 *e*P **P 23 14 00.0 +0.3**
CIT *e* 23 14 08.1
CIT *e* 23 14 15.1
CIT pmax pmax
comp=Z,335nm,1.5s
RSO Redoubt South 84.13 18 *e*P **P 23 13 58.1 -2.1**
comp=Z,223nm,1.1s
ULN Ulaanbaatar 84.99 324 *e*P **P 23 14 04.9 +0.2**
comp=Z,204nm,1.2s
YAK Yakutsk 85.13 343 *e*P **P 23 14 04.6 -0.2**
YAK *e**PP **pP 23 14 14.4 -0.6**
YAK *e* 23 17 19.9
YAK *e*S S 23 24 24.4 -7.6
YAK pmax pmax
comp=Z,79nm,1.3s
YAK pmax pmax
comp=E,15nm,1.3s
YAK pmax pmax
comp=N,24nm,1.3s
YAK pmax pmax
comp=Z,9.0nm,0.7s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK smax smax
comp=N,48nm,1.8s
YAK smax smax
comp=E,48nm,1.5s
YAK MLR MLR
comp=Z,1μm,20.0s
YAK MLR MLR
comp=N,953nm,18.0s
YAK MLR MLR
comp=E,579nm,22.0s
GTA Gaotai 85.27 314⇓ P **P 23 14 07.0 +0.7**
GTA pP pP 23 14 25.8 +9.3
GTA sP sP 23 14 30.3 +10
GTA PP **PP 23 17 28.0 +3.4**
GTA SKS **SKSac 23 24 23.3 -5.8**
GTA S **S 23 24 32.0 -2.8**
GTA sS sS 23 25 04.5 +13
GTA pmax pmax
comp=Z,120nm,1.4s
GTA pmax pmax
comp=Z,560nm,7.4s
GTA LR LR
comp=N,1μm,22.3s
GTA LR LR
comp=E,1μm,20.4s
GTA LR LR
comp=Z,2μm,20.4s
SONM Songino Array 85.35 324 P **P 23 14 06.4 -0.1**
SONM P'P' 23 40 25.8
SONM Songino Array 85.35 324 P **P 23 14 06.4 -0.1**
comp=Z,92nm,1.1s,baz=138,slow=4.3,SNR=158
SONM PKPPKP P'P'df 23 40 25.8 +10
comp=Z,0.6nm,0.9s,baz=303,slow=2.2,SNR=3.7
KCPM Cahto Peak 85.55 46 *e*P **P 23 14 06.6 -1.1**
KIPM Iron Peak 85.67 46 *e*P **P 23 14 08.6 +0.3**
SAO San Andreas Ge 85.75 49 *e*P **P 23 14 08.7 +0.1**
SAO San Andreas Ge 85.75 49 *e*P **P 23 14 08.7 +0.1**
KHMM Horse Mountain 85.99 45 *e*P **P 23 14 10.3 +0.4**
SYO Syowa Base 86.01 196⇑ *e*P **P 23 14 07.6 -1.7**
SYO Syowa Base 86.01 196⇓ *i*P **P 23 14 08.8 -0.5**
SYO Syowa Base 86.01 196⇓ *e*P P 23 14 18.4 +9.1
PKM Peak Mountain 86.16 52⇓ P **P 23 14 10.7 -0.2**
baz=86,SNR=5.7
SML Sawmill 86.53 19 *e*P P 23 14 15.8 +3.9
SML Sawmill 86.53 19 *e*P P 23 14 15.8 +3.9
CIS Catalina Islan 86.62 53⇑ P **P 23 14 12.9 -0.1**
baz=87
WDC Whiskeytown Da 86.66 46 *e*P **P 23 14 13.1 +0.1**
WDC Whiskeytown Da 86.66 46 *e*P **P 23 14 13.1 +0.1**
ARVC Arvin 86.99 52⇑ P **P 23 14 14.8 0.0**
baz=87
DECC Green Verdugo 87.01 53⇓ P **P 23 14 14.9 0.0**
baz=87
CMB Columbia Colle 87.06 49 *e*P **P 23 14 13.7 -1.4**
CMB Columbia Colle 87.06 49 *e*P **P 23 14 13.7 -1.4**
YBH Yreka Blue Hor 87.07 45 *e*P **P 23 14 14.7 -0.3**
comp=Z,16nm,1.1s
YBH Yreka Blue Hor 87.07 45 P **P 23 14 13.4 -1.6**
comp=Z,12nm,1.0s,baz=337,slow=1.9,SNR=7.6
VES Vestal, Richgr 87.09 51⇓ P **P 23 14 15.2 0.0**
baz=87
BMRM Bremner River 87.14 21 *e*P P 23 14 19.7 +4.8
RCTC Rector, Farmer 87.17 51⇓ P **P 23 14 15.8 +0.2**
baz=87
TRF Thorofare Moun 87.21 17 *e*P **P 23 14 13.7 -1.7**
MWC Mount Wilson 87.21 53 *e*P **P 23 14 14.7 -1.4**
MWC Mount Wilson 87.21 53 *e*P **P 23 14 14.7 -1.4**
HUMO Hull Mountain 87.30 44 *e*P **P 23 14 17.0 +0.9**
109C Camp Elliot, M 87.42 54⇑ P **P 23 14 17.0 +0.2**
baz=88
ISA Isabella 87.47 51 *e*P **P 23 14 17.5 +0.3**
ISA Isabella 87.47 51 *e*P **P 23 14 17.5 +0.3**
ISA Isabella 87.47 51⇓ P **P 23 14 17.0 -0.2**
baz=88,SNR=8.9
BFSC Mount Baldy Ra 87.52 53⇓ P **P 23 14 16.4 -1.1**
baz=88
EDW2 Edwards Air Fo 87.52 52⇓ P **P 23 14 17.0 -0.5**
baz=88,SNR=14
MURC Murrieta 87.62 54⇓ P **P 23 14 16.9 -1.0**
baz=88
BAR Barrett 87.67 55 *e*P **P 23 14 18.4 +0.3**
LSA Lhasa 87.76 302 P **P 23 14 18.3 -0.9**
LSA Lhasa 87.76 302 *e*P **P 23 14 19.0 -0.2**
LSA pmax pmax
comp=Z,52nm,1.3s
LSA Lhasa 87.76 302 *e*P **P 23 14 18.9 -0.2**
comp=Z,52nm,1.3s
MCK McKinley 87.81 18 *e*P **P 23 14 19.0 +0.9**
MCK McKinley 87.81 18 *e*P **P 23 14 19.0 +0.9**
BEKR Beckworth 87.86 47 *e*P **P 23 14 18.0 -1.0**
WAKR Walker 87.93 49 *e*P **P 23 14 18.9 -0.6**
MONP Monument Peak 87.95 55⇓ P **P 23 14 19.7 0.0**
baz=88,SNR=8.3
LRMC Laurel Mountai 87.99 52⇑ P **P 23 14 19.3 -0.4**
baz=88
DVTC Desert V Tower 88.11 55⇑ P **P 23 14 19.7 -0.6**
baz=88
PFO Pinyon Flat Ob 88.20 54 *e*P **P 23 14 18.8 -1.9**
comp=Z,6.8nm,1.0s
PFO Pinyon Flat Ob 88.20 54 P **P 23 14 19.3 -1.4**
comp=Z,7.1nm,1.0s,baz=236,slow=6.1,SNR=6.3
PFO LR LR 23 45 09.7
comp=Z,5μm,21.1s,baz=176,slow=30
PFO Pinyon Flat Ob 88.20 54⇓ P **P 23 14 19.7 -1.0**
baz=88
TIN Tinemaha 88.22 50⇑ P **P 23 14 20.5 -0.2**
baz=88
MPMC Manual Prospec 88.37 51⇑ P **P 23 14 21.3 -0.2**
baz=88,SNR=8.3
ZAK Zakamensk 88.43 325 *e*P **P 23 14 20.6 -0.8**
ZAK pmax pmax
comp=Z,63nm,1.1s
SWSC Sam W. Stewart 88.45 55⇑ P **P 23 14 21.4 -0.3**
baz=88,SNR=8.4
PAHR Pah Rah Range 88.47 47 *e*P **P 23 14 20.5 -1.4**
GSC Goldstone 88.58 52 *e*P **P 23 14 22.9 +0.4**
GSC Goldstone 88.58 52 *e*P **P 23 14 22.9 +0.4**
GSC Goldstone 88.58 52⇑ P **P 23 14 22.1 -0.4**
baz=89,SNR=6.3
PMSA Palmer Station 88.69 160 LR LR 23 47 45.0
comp=Z,1μm,20.0s,baz=32,slow=31
BELC Belle Mtn. Jos 88.70 54⇓ P **P 23 14 22.9 -0.3**
baz=89,SNR=12
NVAR Mina Array Bea 88.72 49 P **P 23 14 21.8 -1.4**
NVAR Mina Array Bea 88.72 49 P **P 23 14 21.8 -1.4**
comp=Z,16nm,1.0s,baz=230,slow=7.0,SNR=48
HEC Hector,Ludlow 88.76 53⇑ P **P 23 14 23.1 -0.2**
baz=89,SNR=8.3
GRAC Grapevine Rang 88.83 51⇓ P **P 23 14 23.1 -0.4**
baz=89
IRK Irkutsk 88.85 327 *e*P **P 23 14 23.2 0.0**
IRK pmax pmax
comp=Z,53nm,1.2s
BBB Bella Bella 88.90 34 LR LR 23 50 46.1
comp=Z,2μm,18.7s,baz=235,slow=33

BC3	**Big Chuckawall**	88.99	54	⇑P		P		23 14 24.3	-0.1	
	baz=89,SNR=6.8									
COLA	**College**	88.99	17	*e*P		P		23 14 21.8	-1.7	
COLA	**College**	88.99	17	*e*P		P		23 14 21.8	-1.7	
FURC	**Furnace Creek,**	88.99	51	⇑P		P		23 14 24.2	-0.1	
	baz=89,SNR=9.0									
ILAR	**Eielson Array**	89.19	18	P		P		23 14 21.2	-3.3	
ILAR	**Eielson Array**	89.19	18	P		P		23 14 21.2	-3.3	
	comp=Z,4.2nm,0.7s,baz=237,slow=5.1,SNR=42									
SHOC	**Shoshone**	89.21	52	⇓P		P		23 14 25.0	-0.3	
	baz=89,SNR=8.4									
GLA	**Glamis**	89.25	55	*e*P		P		23 14 27.1	+1.5	
GLA	**Glamis**	89.25	55	*e*P		P		23 14 27.1	+1.5	
GLA	**Glamis**	89.25	55	⇑P		P		23 14 24.8	-0.8	
	baz=89									
GMRC	**Granite Mounta**	89.25	53	⇑P		P		23 14 25.3	-0.3	
	baz=89,SNR=9.3									
TUQ	**Turquoise Moun**	89.30	52	⇑P		P		23 14 25.3	-0.6	
	baz=89,SNR=10									
VLL	**Laurance Lake**	89.40	42	P		P		23 14 26.6	+0.4	
IRM	**Iron Mountain**	89.41	54	⇓P		P		23 14 26.2	-0.1	
	baz=90,SNR=13									
PALK	**Pallekele**	89.64	278	*e*P		P		23 14 29.6	+1.8	
	comp=Z,65nm,1.1s									
GULW	**Guler Mountain**	89.66	41	P		P		23 14 27.8	+0.5	
Y12C	**Blythe**	89.74	54	⇑P		P		23 14 27.7	-0.1	
	baz=90,SNR=6.6									
BLN	**Blyn Mountain**	89.75	39	P		P		23 14 28.5	+1.0	
LDFC	**Landfair**	89.78	53	*e*P		P		23 14 27.6	-0.5	
LPIG	**La Paz**	89.84	65	LR		LR		23 47 05.1		
	comp=Z,757nm,19.5s,baz=286,slow=30									
LON	**Longmire**	89.89	40	*e*P		P		23 14 27.8	-0.5	
LON				pmax		pmax				
	comp=Z,9.0nm,1.0s									
LON	**Longmire**	89.89	40	*e*P		P		23 14 27.8	-0.5	
	comp=Z,8.7nm,1.0s									
113A	**Mohawk Valley,**	89.98	56	⇓P		P		23 14 29.2	+0.2	
	baz=90,SNR=16									
VTHM	**Trough**	89.99	42	P		P		23 14 28.2	-0.6	
WPW	**White Pass**	90.03	40	P		P		23 14 29.3	+0.3	
NEE2	**Needles Airpor**	90.04	53	⇓P		P		23 14 29.0	-0.2	
	baz=90									
WVOR	**Wild Horse Val**	90.11	45	*e*P		P		23 14 28.3	-1.2	
WVOR	**Wild Horse Val**	90.11	45	*e*P		P		23 14 28.3	-1.2	
COLD	**Coldfoot**	90.16	15	*e*P		P		23 14 29.2	+0.2	
RMW	**Rattlesnake Mo**	90.21	40	P		P		23 14 29.8	0.0	
RMW	**Rattlesnake Mo**	90.21	40	P		P		23 14 29.8	0.0	
PDMCI	**Parker Dam,Lak**	90.24	54	⇑P		P		23 14 30.2	0.0	
	baz=90,SNR=8.7									
BMN	**Battle Mountai**	90.28	47	*e*P		P		23 14 31.1	+0.7	
BMN	**Battle Mountai**	90.28	47	*e*P		P		23 14 31.1	+0.7	
MOY	**Mondy**	90.32	325	*e*P		P		23 14 29.8	-0.4	
MOY				pmax		pmax				
	comp=Z,55nm,2.0s									
214A	**Organ Pipe Nat**	90.44	57	⇑P		P		23 14 31.2	0.0	
	baz=90,SNR=12									
JCW	**Jim Creek**	90.46	39	P		P		23 14 31.3	+0.4	
SNAA	**Sanae**	90.57	183	*e*P		P		23 14 29.7	-1.4	
SNAA	**Sanae**	90.57	183	*e*PcP		P		23 14 31.3	+0.2	
SNAA	**Sanae**	90.57	183	*e*P		P		23 14 30.0	-1.2	
R11A	**Troy Canyon, C**	90.65	50	⇓P		P		23 14 31.2	-1.1	
	baz=91									
W13A	**Hualapai Mount**	90.72	53	⇑P		P		23 14 32.7	0.0	
	baz=91,SNR=7.7									
Z14A	**Wintersburg**	90.83	55	⇑P		P		23 14 32.4	-0.5	
	baz=91									
EGAK	**Eagle**	90.93	19	*e*P		P		23 14 31.5	-1.1	
Y14A	**Wickenburg**	90.99	55	⇑P		P		23 14 33.4	-0.3	
	baz=91									
HAWA	**Hanford**	91.16	41	*e*P		P		23 14 33.1	-1.0	
ETW	**Entiat**	91.17	40	P		P		23 14 34.2	-0.1	
VNA1	**Neumayer--Stat**	91.78	181	*e*P		P		23 14 37.1	+0.5	
CCUT	**Cedar City**	91.99	51	*e*P		P		23 14 37.6	-0.9	
	comp=Z,266nm,1.6s									
ARUT	**Antelope Range**	92.02	51	*e*P		P		23 14 37.6	-1.0	
ARUT				pmax		pmax				
	comp=Z,12nm,1.3s									
ARUT	**Antelope Range**	92.02	51	*e*P		P		23 14 37.6	-1.0	
	comp=Z,12nm,1.3s									
TUC	**Tucson**	92.18	57	*e*P		P		23 14 38.6	-0.7	
TUC	**Tucson**	92.18	57	*e*P		P		23 14 38.6	-0.7	
X16A	**Lo Mia Camp, P**	92.37	55	⇑P		P		23 14 40.9	+0.6	
	baz=92,SNR=17									
MFID	**Camas Ranch**	92.39	45	*e*P		P		23 14 40.2	+0.1	
MFID	**Camas Ranch**	92.39	45	⇓P		P		23 14 40.1	+0.1	
	baz=92									
U15A	**North Rim**	92.41	53	⇓P		P		23 14 40.3	-0.2	
	baz=92									
WUAZ	**Wupatki**	92.79	54	*e*P		P		23 14 41.1	-1.1	
WUAZ	**Wupatki**	92.79	54	⇓P		P		23 14 41.8	-0.3	
	baz=93									
TIXI	**Tiksi**	93.07	348	*e*P		P		23 14 42.5	+0.1	
TIXI				pmax		pmax				
	comp=Z,22nm,1.7s									
319A	**Douglas**	93.08	58	⇑P		P		23 14 42.6	-1.0	
	baz=93									
MVU	**Marysvale**	93.18	51	*e*P		P		23 14 43.7	-0.3	
MSU	**Marysvale**	93.21	51	*e*P		P		23 14 45.0	+0.9	
MSU	**Marysvale**	93.21	51	*e*P		P		23 14 45.0	+0.9	
USHA	**Ushuaia**	93.29	151	LR		LR		23 48 20.3		
	comp=Z,2µm,20.1s,baz=209,slow=30									
DUG	**Dugway**	93.32	49	*e*P		P		23 14 43.0	-1.5	
DUG	**Dugway**	93.32	49	*e*P		P		23 14 43.0	-1.5	
DUG	**Dugway**	93.32	49	⇓P		P		23 14 44.2	-0.3	
	baz=93									
HLID	**Hailey**	93.40	45	*e*P		P		23 14 44.5	-0.3	
HLID	**Hailey**	93.40	45	⇓P		P		23 14 44.3	-0.6	
	baz=94									
NEW	**Newport**	93.41	40	*e*P		P		23 14 44.8	+0.2	
NEW	**Newport**	93.41	40	⇓P		P		23 14 44.5	-0.1	
	baz=94									
H12A	**Diamond D Ranc**	93.46	44	⇓P		P		23 14 44.7	-0.4	
	baz=94									
X18A	**Snowflake**	93.57	55	⇑P		P		23 14 45.3	-0.6	
	baz=94									
220A	**Playas Peak, P**	93.86	58	⇑P		P		23 14 46.7	-0.5	
	baz=94,SNR=6.6									
HVU	**Hansel Valley**	93.90	47	*e*P		P		23 14 47.4	+0.2	
HVU	**Hansel Valley**	93.90	47	*e*P		P		23 14 47.4	+0.2	
SPUT	**South Promonto**	93.97	48	*e*P		P		23 14 46.9	-0.6	
	comp=Z,3.9nm,1.0s									
120A	**U Bar Ranch, L**	93.98	57	⇑P		P		23 14 47.5	-0.3	
	baz=94									
I14A	**Mackay**	94.18	45	⇓P		P		23 14 47.6	-0.8	
	baz=94									
Z20A	**Nine Sixteen R**	94.19	57	⇓P		P		23 14 47.9	-0.7	
	baz=94									
HVS	**Khovu-Aksy**	94.19	323	*e*P		P		23 14 47.7	-0.4	
HVS				pmax		pmax				
	comp=Z,468nm,1.2s									
Y20A	**Horse Springs,**	94.61	56	⇓P		P		23 14 49.2	-1.4	
	baz=95									
121A	**Cookes Peak, D**	94.65	57	⇓P		P		23 14 50.7	-0.2	
	baz=95									
HYB	**Hyderabad**	94.68	287	*i* P		P		23 14 51.0	-0.1	
HWUT	**Hardware Ranch**	94.69	48	*e*P		P		23 14 48.7	-2.1	
	comp=Z,1.9nm,0.7s									
X20A	**Quemado**	94.71	55	⇑P		P		23 14 50.4	-0.7	
	baz=95									
C13A	**Hot Springs**	94.78	41	⇑P		P		23 14 51.3	+0.4	
	baz=95									
W20A	**Ramah**	94.89	55	⇓P		P		23 14 51.5	-0.4	
	baz=95									
Z21A	**St. Cloud Mine**	94.98	57	⇓P		P		23 14 52.0	-0.3	
	baz=95									
B13A	**Whitefish**	95.10	41	⇑P		P		23 14 53.3	+0.9	
	baz=95									
Y21A	**Point of Rocks**	95.19	56	⇑P		P		23 14 53.4	0.0	
	baz=95									
X21A	**Alamocita Cree**	95.24	56	⇑P		P		23 14 53.6	0.0	
	baz=95									
DLMT	**Dillon**	95.25	44	*e*P		P		23 14 52.4	-0.9	
M17A	**Scullys Gap (B**	95.29	48	⇓P		P		23 14 53.0	-0.5	
	baz=95									
WMQ	**Urumqi**	95.35	314	P		P		23 14 54.0	+0.4	
WMQ				pP		pP		23 15 11.3	+7.4	
WMQ				sP		sP		23 15 18.0	+10	
WMQ				PP		PP		23 18 47.3	+2.8	
WMQ				SKS		SKSac		23 25 23.3	-4.0	
WMQ				S		S		23 26 02.0	-5.4	
WMQ				sS		sS		23 26 31.5	+7.0	
WMQ				SS		SS		23 32 34.5	-1.1	
WMQ				pmax		pmax				
	comp=Z,73nm,1.3s									
WMQ				pmax		pmax				
	comp=Z,150nm,3.9s									
WMQ				LR		LR				
	comp=N,1µm,18.0s									
WMQ				LR		LR				
	comp=E,1µm,17.4s									
WMQ				LR		LR				
	comp=Z,2µm,29.0s									
CHMT	**Chamberlain Mo**	95.35	42	*e*P		P		23 14 53.8	+0.1	
	comp=Z,1.0nm,0.8s									
PV10	**Paradox Valley**	95.49	52	*e*P		P		23 14 57.1	+2.5	
I16A	**Newdale**	95.50	46	⇓P		P		23 14 55.0	+0.6	
	baz=96									
PV01	**Paradox Valley**	95.77	52	*e*P		P		23 14 56.7	+0.8	
REDW	**Red Top Meadow**	95.77	46	*e*P		P		23 14 56.1	+0.4	
S20A	**Disappointment**	95.83	52	⇓P		P		23 14 55.9	-0.3	
	baz=96									
IMW	**Indian Meadow**	95.88	46	*e*P		P		23 14 56.4	0.0	
U21A	**Nageezi**	95.94	54	⇓P		P		23 14 56.8	+0.1	
	baz=96									
O19A	**Miners Draw (B**	96.03	50	⇓P		P		23 14 56.9	0.0	
	baz=96									
324A	**Moseley Ranch,**	96.19	59	⇓P		P		23 14 57.9	0.0	
	baz=96									
S21A	**Coal Bank Pass**	96.21	53	⇓P		P		23 14 58.0	0.0	
	baz=96									
Q20A	**Ridgley Place,**	96.22	51	⇑P		P		23 14 58.0	+0.1	
	baz=96									
224A	**Corrodas Mount**	96.34	58	⇑P		P		23 14 57.8	-0.7	
	baz=96									
425A	**Indio Mountain**	96.41	60	⇓P		P		23 14 58.3	-0.5	
	baz=96									
Y23A	**Lovelace Mesa,**	96.45	57	⇓P		P		23 14 58.4	-0.6	
	baz=96									
G17A	**Pierce Place,**	96.47	45	⇓P		P		23 14 59.9	+1.1	
	baz=96									
PDAR	**Pinedale Array**	96.48	47	P		P		23 14 58.9	-0.1	
PDAR				PP		PP		23 18 53.9	+0.3	
PDAR	**Pinedale Array**	96.48	47	P		P		23 14 58.9	-0.1	
	comp=Z,0.5nm,0.4s,baz=268,slow=2.7,SNR=6.1									
PDAR				PP		PP		23 18 53.9	+0.3	
	comp=Z,0.8nm,0.8s,baz=255,slow=2.9,SNR=4.2									
PDAR				LR		LR		23 52 28.3		
	comp=Z,2µm,20.4s,baz=292,slow=32									
KRAR	**Krasnoyarsk**	96.53	327	*e*P		P		23 14 59.0	+0.5	
KRAR				pmax		pmax				
	comp=Z,13nm,1.7s									
R21A	**Cimarron**	96.60	52	⇓P		P		23 15 00.4	+0.7	
	baz=97									
E17A	**Martinsdale**	96.76	43	⇑P		P		23 15 00.4	+0.3	
	baz=97									
626A	**Big Bend Ranch**	96.77	61	⇓P		P		23 15 00.4	0.0	
	baz=97									
N20A	**Spence Gulch,**	96.81	49	⇓P		P		23 15 00.6	+0.1	
	baz=97									
V23A	**Ortiz Mt. (NFS**	96.88	55	⇓P		P		23 15 00.9	-0.1	
	baz=97									
225A	**Deer Hill, Car**	96.92	59	⇑P		P		23 15 01.4	+0.2	
	baz=97									
526A	**Mary Lane Ranc**	96.95	61	⇑P		P		23 15 01.1	-0.2	
	baz=97									
S22A	**4UR Ranch, Cre**	96.96	53	⇑P		P		23 15 01.3	-0.1	
	baz=97									
K19A	**Absolon Red Bu**	97.00	47	⇑P		P		23 15 01.1	-0.2	
	baz=97									
M20A	**Sweetwater, Wa**	97.06	49	⇑P		P		23 15 01.4	-0.3	
	baz=97									
D17A	**Six Diamond Ra**	97.09	43	⇑P		P		23 15 01.1	-0.4	
	baz=97									
TXAR	**Lajitas Array**	97.10	62	P		P		23 15 00.6	-1.3	
TXAR	**Lajitas Array**	97.10	62	P		P		23 15 00.6	-1.3	
	comp=Z,2.5nm,1.0s,baz=217,slow=5.2,SNR=16									
TXAR				LR		LR		23 53 25.7		
	comp=Z,3µm,18.4s,baz=5.0,slow=32									
L20A	**Wamsutter**	97.11	48	⇑P		Pdif		23 15 02.0	+0.1	
	baz=97									
R22A	**Saguache, Gunn**	97.16	52	⇑P		P		23 15 01.9	-0.4	
	baz=97									
426A	**McDonald Obser**	97.17	60	⇓P		P		23 15 02.2	-0.2	
	baz=97									
Q22A	**Crested Butte,**	97.23	52	⇑P		P		23 15 01.2	-1.3	
	baz=97									
G18A	**Lazy EL Ranch,**	97.26	45	⇑P		P		23 15 02.0	-0.4	
	baz=97									
K20A	**Yellowstone Ra**	97.30	48	⇓P		P		23 15 02.1	-0.5	
	baz=97									
N21A	**Black Mountain**	97.33	50	⇓P		P		23 15 02.7	-0.2	
	baz=97									
W24A	**Lazy 6 Ranch,**	97.33	56	⇑P		P		23 15 02.5	-0.5	
	baz=97									
Z25A	**Roswell**	97.34	58	⇓P		P		23 15 02.5	-0.5	
	baz=97									
627A	**Terlingua Ranc**	97.36	62	⇑P		P		23 15 02.7	-0.5	
	baz=97									
527A	**Woodward Ranch**	97.37	61	⇑P		P		23 15 02.7	-0.5	
	baz=97									
226B	**Tecolote Peak,**	97.45	59	⇑P		P		23 15 02.4	-1.1	
	baz=98									
M21A	**Separation Pea**	97.69	49	⇑P		P		23 15 03.7	-0.8	
	baz=98									
427A	**Hayter Ranch,**	97.74	60	⇓P		P		23 15 04.5	-0.3	
	baz=98									
L21A	**Rawlins**	97.79	49	⇑P		P		23 15 04.0	-0.9	
	baz=98									
O22A	**Kremmling**	97.87	50	⇓P		P		23 15 05.5	0.0	
	baz=98									
Z26A	**Caprock**	97.93	58	⇑P		P		23 15 05.6	0.0	
	baz=98									
528A	**Cox Ranch, San**	98.06	61	⇑P		P		23 15 06.2	-0.1	
	baz=98									
V25A	**Rancho No Teng**	98.13	55	⇓P		P		23 15 06.4	-0.1	
	baz=98									
J21A	**Lysite**	98.13	47	⇓P		Pdif		23 15 06.7	+0.2	
	baz=98									
D19A	**Cripps Ranch,**	98.27	43	⇓Pdiff		Pdif		23 15 06.9	+0.2	
	baz=98									
428A	**Kincaid Ranch,**	98.30	60	⇓P		P		23 15 07.1	-0.2	
	baz=98									
I21A	**Big Trails, Te**	98.37	47	⇓Pdiff		Pdif		23 15 08.2	+0.8	
	baz=98									
L22A	**Ellis Ranch, M**	98.47	49	⇓Pdiff		Pdif		23 15 08.4	+0.4	
	baz=98									
N23A	**Red Feather La**	98.51	50	⇑Pdiff		Pdif		23 15 08.6	+0.3	
	baz=99									
529A	**Stev Forest Ra**	98.52	61	⇑Pdiff		P		23 15 08.2	-0.1	
	baz=98									
D20A	**Manuel Ranch,**	98.73	43	⇓Pdiff		Pdif		23 15 09.0	+0.2	
	baz=99									
Y27A	**Causey**	98.75	57	⇓Pdiff		P		23 15 08.7	-0.6	
	baz=99									
429A	**Davenport Ranc**	98.93	61	⇑Pdiff		P		23 15 09.7	-0.4	
	baz=99									
MSTX	**Muleshoe**	99.09	57	⇓Pdiff		Pdif		23 15 10.5	-0.3	
	baz=99									
129A	**Stewart Farms,**	99.47	59	⇓Pdiff		Pdif		23 15 12.2	-0.3	
	baz=100									
C21A	**Desert Coulee**	99.61	43	⇑Pdiff		Pdif		23 15 13.0	+0.3	
	baz=100									
MK31	**Makanchi Array**	99.87	316	*e*P		Pdif		23 15 13.5	-0.4	
MK31	**Makanchi Array**	99.87	316	*e*Pdif		Pdif		23 15 13.5	-0.4	
MKAR	**Makanchi Array**	99.87	316	P		Pdif		23 15 13.3	-0.6	
MKAR								23 19 19.2		
MKAR				pmax		pmax				
	comp=Z,7.0nm,0.7s									
MKAR				pmax		pmax				
	comp=Z,1.0nm,0.9s									
MKAR	**Makanchi Array**	99.87	316	P		Pdif		23 15 13.2	-0.6	
MKAR				PP		PP		23 19 19.2	0.0	
MKAR	**Makanchi Array**	99.87	316	P		Pdif		23 15 13.2	-0.6	
	comp=Z,6.9nm,0.7s,baz=100,slow=5.1,SNR=35									
MKAR				PP		PP		23 19 19.2	0.0	
	comp=Z,1.3nm,0.9s,baz=111,slow=9.2,SNR=3.9									
YKA	**Yellowknife Ar**	99.91	27	P		Pdif		23 15 11.7	-1.9	
YKA	**Yellowknife Ar**	99.91	27	P		Pdif		23 15 11.7	-1.9	
	comp=Z,0.7nm,0.4s,baz=248,slow=4.5,SNR=7.2									
ZALV	**Zalesovo Beam**	100.24	323	P		Pdif		23 15 14.6	-0.7	
ZALV				pmax		pmax				
	comp=Z,9.0nm,0.9s									
ZALV	**Zalesovo Beam**	100.24	323	P		Pdif		23 15 14.6	-0.7	
ZALV	**Zalesovo Beam**	100.24	323	P		Pdif		23 15 14.6	-0.7	
	comp=Z,8.6nm,0.9s,baz=108,slow=4.7,SNR=29									
NVS	**Novosibirsk**	101.37	324	*e*P		Pdif		23 15 19.5	-0.8	
NVS				pmax		pmax				
	comp=Z,17nm,1.3s									
NVS				pmax		pmax				
	comp=N,6.0nm,1.5s									
NVS				pmax		pmax				
	comp=E,8.0nm,1.5s									
KSH	**Kashi**	102.61	308	*e*P		Pdif		23 15 27.3	+0.9	
KSH				S		Sdif		23 27 03.0	-6.2	
KSH				pmax		pmax				
	comp=Z,84nm,4.1s									
KSH				LR		LR				
	comp=N,740nm,18.9s									
KSH				LR		LR				
	comp=E,390nm,15.1s									
KSH				LR		LR				
	comp=Z,860nm,18.7s									
KURK	**Kurchatov**	103.16	319	P		Pdif		23 15 27.8	-0.5	
KURK				pmax		pmax				
	comp=Z,5.0nm,1.1s									
KURK	**Kurchatov**	103.16	319	Pdif		Pdif		23 15 27.8	-0.5	
KURBB	**Kurchatov Arra**	103.19	319	Pdiff		Pdif		23 15 27.8	-0.6	
	comp=Z,5.4nm,1.1s,baz=110,slow=3.4,SNR=14									
KKAR	**Karatay Array**	107.31	310	*e*P		Pdif		23 15 44.6	-2.4	
KKAR	**Karatay Array**	107.31	310	*e*Pdif		Pdif		23 15 44.6	-2.4	
BVAR	**Borovoye Array**	108.54	321	P		Pdif		23 15 52.4	+0.2	
BVAR				pmax		pmax				
	comp=Z,5.0nm,1.0s									
BVAR	**Borovoye Array**	108.54	321	Pdif		Pdif		23 15 52.4	+0.2	
BVAR				PKiKP		PKiKP		23 19 57.1	-0.6	
BVAR	**Borovoye Array**	108.54	321	Pdiff		Pdif		23 15 52.4	+0.2	
	comp=Z,5.2nm,1.0s,baz=92,slow=4.3,SNR=13									
BVAR				PKiKP		PKiKP		23 19 57.1	-0.6	
	comp=Z,1.3nm,0.4s,baz=128,slow=2.4,SNR=11									
BRVK	**Borovoye**	108.61	321	*e*P		Pdif		23 15 55.2	+2.7	
BRVK	**Borovoye**	108.61	321	*e*Pdif		Pdif		23 15 55.2	+2.7	
BRVK				*e*PKPdf		PKiKP		23 19 57.1	-0.7	
SVE	**Sverdlovsk**	114.19	325	*e*PKIKP		PKPdf		23 20 08.3	0.0	
SVE				pmax		pmax				
	comp=Z,8.0nm,0.8s									
ABKAR	**Akbulak array**	115.01	317	*e*PKPdf		PKPdf		23 20 08.2	-1.9	
LPAZ	**La Paz**	115.17	118	PKP		PKPdf		23 20 15.2	+3.0	
LPAZ	**La Paz**	115.17	118	PKP		PKPdf		23 20 15.2	+3.0	
	comp=Z,0.7nm,0.6s,baz=261,slow=1.5,SNR=3.0									
ARU	**Arti**	115.37	325	*i* PKIKP		PKPdf		23 20 09.2	-1.4	
ARU								23 21 11.4		
ARU								23 26 53.5		
ARU				MLR		MLR				
	comp=Z,2µm,23.0s									
SOKR	**Solikamsk**	115.88	328	*c i* PKIKP		PKPdf		23 20 11.4	0.0	
SOKR				pmax		pmax				
	comp=Z,20nm,1.2s									
AKTO	**Aktyubinsk**	116.20	318	PKIKP		PKPdf		23 20 11.2	-1.2	
AKTO				pmax		pmax				
	comp=Z,4.0nm,0.5s									
AKTO	**Aktyubinsk**	116.20	318	PKP		PKPdf		23 20 11.2	-1.2	
AKTO	**Aktyubinsk**	116.20	318	PKP		PKPdf		23 20 11.2	-1.2	
	comp=Z,3.9nm,0.5s,baz=97,slow=3.8,SNR=16									
CPUP	**Villa Florida**	117.86	134	PKP		PKPdf		23 20 15.0	-1.3	
CPUP	**Villa Florida**	117.86	134	PKP		PKPdf		23 20 15.0	-1.3	
	comp=Z,0.8nm,0.6s,baz=180,slow=1.0,SNR=3.3									
SPA0	**Spitsbergen Ar**	118.01	354	*e*P		PKPdf		23 20 15.6	+0.4	
SPITS	**Spitsbergen Ar**	118.01	354	PKP		PKPdf		23 20 13.4	-1.7	
SPITS	**Spitsbergen Ar**	118.01	354	PKP		PKPdf		23 20 13.4	-1.7	
	comp=Z,9.0nm,0.9s,baz=333,slow=1.0,SNR=7.6									
BOSA	**Boshof**	121.49	219	PKP		PKPdf		23 20 23.1	-0.4	
BOSA	**Boshof**	121.49	219	PKP		PKPdf		23 20 23.1	-0.4	
	comp=Z,5.5nm,0.9s,baz=131,slow=2.7,SNR=5.5									
APA	**Apatity**	122.47	341	⇑*i* PKIKP		PKPdf		23 20 24.0	+0.1	
APA				pmax		pmax				
	comp=Z,18nm,1.0s									
APA				MLR		MLR				
	comp=Z,2µm,21.0s									
TMCR	**Tamitsa**	122.74	336	*e*PKIKP		PKPdf		23 20 23.9	-0.6	
TMCR				pmax		pmax				
	comp=Z,21nm,1.4s									
KEV	**Kevo**	122.83	345	*e*p		PKPdf		23 20 24.9	+0.4	
	comp=Z,6.7nm,0.8s									
KEV	**Kevo**	122.83	345	*e*PKIKP		PKPdf		23 20 24.9	+0.4	
KEV				pmax		pm

MMAI	Mount Meron Ar	134.94	299	PKP		PKPdf	23 20 50.1	+1.2	
	comp=Z,15nm,1.0s,baz=74,slow=6.2,SNR=12								
BRTR	Keskin Array B	134.99	309	PKPpre	PKPpre		23 20 39.8		
BRTR				PKP		PKPdf	23 20 48.5	-0.3	
BRTR	Keskin Array B	134.99	309	PKhKP	PKPpre		23 20 39.8		
	comp=Z,1.5nm,1.0s,baz=111,slow=2.1,SNR=6.2								
BRTR				PKP		PKPdf	23 20 48.5	-0.3	
	comp=Z,6.8nm,0.9s,baz=50,slow=2.3,SNR=20								
EIL	Elat	135.69	294	PKP		PKPdf	23 20 49.9	-0.3	
EIL	Elat	135.69	294	PKP		PKPdf	23 20 49.9	-0.3	
	comp=Z,29nm,1.1s,baz=74,slow=2.7,SNR=14								
CSS	Prodhromos	136.33	302	ePKPdf		PKPdf	23 20 52.4	+1.2	
CFR	Carcaliu	136.86	318	∥iP		PKPdf	23 20 53.5	+1.6	
TIRR	Tirgusor	137.00	317	⫛iP		PKPdf	23 20 51.8	-0.3	
TESR	Tescani	137.17	321	⫛iP		PKPdf	23 20 52.1	-0.3	
BEL	Belsk	137.30	330	ePKP		PKPdf	23 20 52.2	-0.3	
VRI	Vrincioaia	137.43	320	⫛iP		PKPdf	23 20 52.0	-1.0	
BURAR	Bucovina Array	137.46	323	⫛iP		PKPdf	23 20 54.6	+1.5	
KWP	Kalwaria Pacla	137.72	327	ePKIKP		PKPdf	23 20 53.1	-0.3	
KWP	Kalwaria Pacla	137.72	327	ePKPdf		PKPdf	23 20 53.1	-0.3	
KWP	Kalwaria Pacla	137.72	327	⫛iP		PKPdf	23 20 53.9	+0.5	
KWP	Kalwaria Pacla	137.72	327	ePKP		PKPdf	23 20 53.7	+0.3	
ISP	Isparta	137.85	307	ePKIKP		PKPdf	23 20 54.3	+0.2	
ISP	Isparta	137.85	307	ePKPdf		PKPdf	23 20 54.3	+0.2	
ISP	Isparta	137.85	307	∥iP		PKPdf	23 20 53.0	-1.1	
GKP	Gorka Klasztor	137.90	334	ePKP		PKPdf	23 20 51.3	-2.2	
MLR	Muntele Rosu	138.09	320	PKP		PKPdf	23 20 53.6	-0.8	
MLR	Muntele Rosu	138.09	320	⫛iP		PKPdf	23 20 51.6	-2.7	
MLR	Muntele Rosu	138.09	320	PKP		PKPdf	23 20 53.6	-0.8	
	comp=Z,1.1nm,0.7s,baz=15,slow=3.0,SNR=7.0								
UZH	Uzhgorod	138.53	326	ePKHKP	PKPpre		23 20 48.1		
UZH				e			23 20 54.5		
UZH				e			23 21 05.7		
STHS	Stebnicka Huta	138.61	327	ePKIKP		PKPdf	23 20 55.8	+0.8	
STHS	Stebnicka Huta	138.61	327	ePKP		PKPdf	23 20 55.8	+0.8	
VOIR		138.67	320	⫛iP		PKPdf	23 20 54.4	-0.9	
TRPA	Tarpa	138.68	325	∥iP		PKPdf	23 20 55.9	+0.8	
TRPA	Tarpa	138.68	325	⫛ePKPdf		PKPdf	23 20 55.5	+0.4	
ARR	Arges	138.96	320	∥iP		PKPdf	23 20 53.0	-2.9	
HUMR	Humele	139.15	319	⫛iP		PKPdf	23 20 53.0	-2.5	
DRGR		139.34	323	⫛iP		PKPdf	23 20 50.5	-6.0	
LOT	Lotru	139.44	321	⫛iP		PKPdf	23 20 51.0	-5.8	
KECS	Kecovo	139.57	327	ePKIKP		PKPdf	23 20 58.2	+1.4	
KECS	Kecovo	139.57	327	ePKP		PKPdf	23 20 58.2	+1.4	
OKC	Ostrava-Krasne	139.88	330	ePKIKP		PKPdf	23 20 57.0	-0.3	
OKC				e			23 21 03.5		
OKC	Ostrava-Krasne	139.88	330	ePKPdf		PKPdf	23 20 57.0	-0.3	
OKC				epPKP		PKiKP	23 21 03.5	+3.8	
OKC				ex	x		23 42 25.0		
OKC				AMS	AMS		00 21 50.0		
	comp=Z,1μm,22.7s								
BSEG	Bad Segeberg	139.98	340	eSS	SS		23 42 04.2	-8.5	
KSP	Ksiaz	140.04	332	ePKIKP		PKPdf	23 20 53.4	-4.2	
KSP	Ksiaz	140.04	332	ePKP		PKPdf	23 20 54.2	-3.4	
GZR	Gura Zlata	140.06	321	⫛iP		PKPdf	23 20 52.7	-5.2	
ARG	Arkhangelos	140.15	306	eP		PKPdf	23 21 09.4	+11	
MORC	Moravsky Berou	140.21	330	ePKIKP		PKPdf	23 20 58.1	+0.1	
MORC	Moravsky Berou	140.21	330	ePKPdf		PKPdf	23 20 58.1	+0.1	
PSZ	Piszkesteto	140.23	326	⫛iP		PKPdf	23 20 54.1	-4.0	
DPC	Dobruska-Polom	140.38	332	ePKHKP	PKPpre		23 20 52.5		
DPC				e			23 20 58.4		
DPC	Dobruska-Polom	140.38	332	ePKPpre	PKPpre		23 20 52.5		
DPC				ePKPdf		PKPdf	23 20 58.4	+0.1	
DPC				eSS	SS		23 42 27.9	+10	
DPC				AMS	AMS		00 24 10.0		
VYHS	Vyhne	140.42	328	ePKIKP		PKPdf	23 20 58.5	+0.2	
VYHS	Vyhne	140.42	328	ePKP		PKPdf	23 20 58.5	+0.2	
PRK	Paraskevi	140.54	311	eP		PKPdf	23 20 54.8	-4.0	
VRAC	Vranov	140.98	330	PKP		PKPdf	23 20 58.2	-1.2	
VRAC	Vranov	140.98	330	PKP		PKPdf	23 20 58.2	-1.2	
	comp=Z,4.6nm,0.8s,baz=318,slow=2.1,SNR=5.5								
PVCC	Panska Ves	141.03	333	ePKIKP		PKPdf	23 20 56.8	-2.6	
PVCC				e			23 21 01.2		
PVCC	Panska Ves	141.03	333	ePKPpre		PKPdf	23 20 56.8	-2.6	
PVCC				ePKPdf		PKiKP	23 21 01.2	-0.8	
PVCC				AMS	AMS		00 20 40.0		
	comp=Z,2μm,23.8s								
KARP	Karpathos	141.09	305	eP		PKPdf	23 20 55.8	-4.2	
CLL	Collm	141.10	335	eSS	SS		23 42 21.6	-4.4	
CLL	Collm	141.10	335	ePKIKP		PKPdf	23 20 55.0	-4.4	
CLL				i			23 21 02.3		
CLL				pmax	pmax				
	comp=Z,16nm,1.0s								
CLL	Collm	141.10	335	ePKPpre	PKPpre		23 20 55.0		
CLL				ePKPdf		PKPdf	23 21 00.0	+0.6	
CLL				i PKiKP		PKiKP	23 21 02.3	+0.2	
	comp=Z,16nm,1.0s								
CLL				esPKiKP	sPKiKP		23 21 13.0	-3.3	
CLL				ePP	PP		23 23 59.0	-1.6	
CLL				epPP			23 24 09.0		
CLL				e(sPKSbc)			23 24 55.0		
CLL				eSKKSac	SKKSac		23 31 00.0	+7.9	
CLL				eSS	SS		23 42 30.0	+4.0	
CLL				e(PSPS)			23 43 44.0		
CLL				eSSS	SSS		23 47 52.0		
CLL				eSSSS			23 51 24.0		
SMOL	Smolenice	141.12	329	ePKIKP		PKPdf	23 20 59.2	-0.4	
SMOL	Smolenice	141.12	329	ePKP		PKPdf	23 20 59.2	-0.4	
VTS	Vitosha	141.22	317	⫛iP		PKPdf	23 20 54.8	-5.3	
PRA	Prague	141.43	333	PKPpre	PKPpre		23 20 58.0		
PRA				PKPdf		PKiKP	23 21 03.0	+0.1	
PRA				AMS	AMS		00 22 00.0		
PRU	Pruhonice	141.44	332	ePKIKP		PKPdf	23 20 57.9	-2.2	
PRU				e			23 21 03.1		
PRU				eSS	SS		23 42 37.7	+7.5	
PRU	Pruhonice	141.44	332	ePKPpre	PKPpre		23 20 57.9		
PRU				ePKPdf		PKiKP	23 21 03.1	+0.2	
PRU				eSS	SS		23 42 37.7	+7.5	
PRU				AMS	AMS		00 21 40.0		
	comp=Z,2μm,24.5s								
TREC	Trest	141.51	331	ePKIKP		PKPdf	23 20 56.6	-3.7	
TREC				eSS	SS		23 42 37.5	+6.3	
TREC	Trest	141.51	331	ePKPpre	PKPpre		23 20 56.6		
TREC				ePKPdf		PKiKP	23 21 00.7	+0.4	
TREC				eSS	SS		23 42 37.5	+6.3	
TREC				AMS	AMS		00 20 50.0		
	comp=Z,2μm,26.8s								
SRS	Serrai	141.65	315	P		PKPdf	23 20 53.1	-7.7	
PKSM	Moragy	141.96	325	∥iP		PKPdf	23 20 55.6	-5.5	
PKSM	Moragy	141.96	325	⫛ePKPdf		PKPdf	23 20 57.2	-3.9	
WERD	Werda	142.04	335	ePKP		PKPdf	23 20 56.8	-4.4	
PLN	Plauen	142.07	335	ePKP		PKPdf	23 20 56.9	-4.3	
PLG	Polygyros	142.07	314	eP		PKPdf	23 20 59.9	-1.7	
KNT	Kendrikon	142.09	315	P		PKPdf	23 20 53.5	-8.1	
GUNZ	Gunzen	142.10	335	ePKP		PKPdf	23 20 57.1	-4.2	
WERN	Wernitzgruen	142.14	334	ePKP		PKPdf	23 20 57.3	-4.1	
NKC	Novy Kostel	142.15	334	ePKP		PKPdf	23 20 57.3	-4.2	
NKC	Novy Kostel	142.15	334	ePKIKP		PKPdf	23 20 57.2	-4.2	
NKC				e			23 21 02.0		
NKC	Novy Kostel	142.15	334	ePKPpre		PKPdf	23 20 57.2	-4.2	
NKC				ePKPdf		PKiKP	23 21 02.0	-2.4	
NKC				AMS	AMS		00 24 10.0		
	comp=Z,1μm,24.4s								
MOX	Moxa	142.17	335	ePKP		PKPdf	23 20 57.3	-4.1	
MOX				eSS	SS		23 42 33.6	-4.9	
MOX	Moxa	142.17	335	ePKIKP		PKPdf	23 20 57.3	-4.1	
MOX				eSS	SS		23 42 33.6	-4.9	
ROHR	Rohrbach	142.20	334	ePKP		PKPdf	23 20 57.6	-3.9	
HORT	Hortiatis	142.21	314	P		PKPdf	23 20 55.7	-6.2	
CONA	Conrad Observa	142.28	329	⫛iPKPdf		PKPdf	23 20 56.6	-5.2	
	comp=Z,14nm,1.1s,SNR=7.9								
NPS	Neapolis	142.38	305	eP		PKPdf	23 20 58.6	-3.7	
KHC	Kasperske Hory	142.49	332	ePKIKP		PKPdf	23 20 57.8	-4.3	
KHC				e			23 21 05.6		
KHC				eSS	SS		23 42 44.2	+1.6	
KHC	Kasperske Hory	142.49	332	ePKPpre		PKPdf	23 20 57.8	-4.3	
KHC				ePKPdf		PKiKP	23 20 59.1	-6.1	
KHC				ex	x		23 21 05.6		
KHC				eSS	SS		23 42 44.2	+1.6	
KHC				AMS	AMS		00 24 50.0		
	comp=Z,2μm,21.9s								
GRG	Griva	142.52	315	P		PKPdf	23 20 56.8	-5.6	
ROTZ	Rotzenmuhle	142.61	334	ePKP		PKPdf	23 20 59.2	-3.0	
UBBA	Unterbreizbach	142.65	337	eSS	SS		23 42 39.2	-4.5	
GEC2	GERESS Array S	142.65	332	eSS	SS		23 42 41.2	-3.3	
GERES	GERESS Array B	142.65	332	PKPpre	PKPpre		23 20 58.4		
GERES	GERESS Array B	142.65	332	PKhKP	PKPpre		23 20 58.4		
	comp=Z,9.7nm,0.9s,baz=29,slow=2.2,SNR=30								
WTSB	Winterswijk	142.79	341	ePKPdf		PKPdf	23 21 01.0	-1.4	
	comp=Z,42nm,1.6s								
WET	Wettzell	142.79	333	ePKP		PKPdf	23 20 59.6	-3.0	
WET					eSS	SS	23 42 43.8	-2.2	
WET	Wettzell	142.79	333	ePKIKP		PKPdf	23 20 59.6	-3.0	
WET					eSS	SS	23 42 43.8	-2.2	
BEHE	Becsehely	142.80	327	⫛ePKPdf		PKPdf	23 20 59.9	-2.7	
ARSA	Arzberg	142.92	329	⫛iPKPdf		PKPdf	23 20 58.3	-4.6	
	comp=Z,17nm,1.6s,SNR=6.0								
IDI	Anoyia	142.94	305	ePKPdf		PKPdf	23 21 00.3	-3.0	
GRF	Grafenberg Arr	143.07	335	ePKP	PKPbc		23 21 00.7	+0.8	
GRF				eSS	SS		23 42 46.0	-3.0	
GRF	Grafenberg Arr	143.07	335	ePKIKP	PKPbc		23 20 59.9	0.0	
GRF				eSS	SS		23 42 46.0	-3.0	
GRFO	Grafenberg	143.07	335	ePKIKP	PKPbc		23 20 59.9	0.0	
GRFO	Grafenberg	143.07	335	ePKPdf	PKPbc		23 20 59.9	0.0	
KOGS	Kog	143.09	327	i PKPdf	PKPbc		23 21 00.2	+0.2	
BUG	Bochum--Univer	143.09	340	eSS	SS		23 42 43.6	-5.2	
MOA	Molln	143.11	330	⫛iPKPdf	PKPab		23 20 59.0	+0.3	
	comp=Z,26nm,1.1s,SNR=14								
LKR	Lokris	143.12	312	eP		PKPdf	23 21 05.4	+1.9	
KZN	Kozani	143.25	315	eP	PKPbc		23 21 00.8	0.0	
FNA	Florina	143.29	316	P	PKPab		23 20 58.4	-1.2	
FNA	Florina	143.29	316	eP	PKPab		23 21 00.1	+0.5	
DID	Didima	143.41	310	eP	PKPbc		23 21 01.4	+0.1	
VAM	Vamos	143.43	306	eP	PKPbc		23 21 01.5	+0.1	
AGG	Agios Georgios	143.44	312	P	PKPab		23 20 58.8	-1.5	
SOKA	Soboth	143.55	328	∥iPKPdf	PKPab		23 21 00.6	0.0	
	comp=Z,36nm,1.3s								
TNS	Taunus Mts	143.71	338	ePKP	PKPbc		23 21 02.8	+1.1	
TNS	Taunus Mts	143.71	338	ePKIKP	PKPbc		23 21 02.8	+1.1	
EVR	Evrytania	143.85	313	eP	PKPbc		23 21 03.4	+0.8	
RJOB	Jochberg	143.87	331	ePKP	PKPbc		23 21 03.1	+0.8	
GUR	Goura	143.88	311	eP	PKPab		23 21 02.4	+0.3	
TRIZ	Trizonia	143.90	312	eP	PKPbc		23 21 02.8	+0.2	
VLI	Veliai	143.93	309	eP	PKPbc		23 21 02.8	0.0	
ANKY	Antikythira Is	143.96	307	eP	PKPbc		23 21 03.6	+0.7	
KLV	Kalavryta, Ach	143.98	311	eP	PKPbc		23 21 02.7	-0.3	
EFP	Efpalio	143.99	312	eP	PKPbc		23 21 03.6	+0.7	
TIR	Tirane	144.00	317	ePKIKP	PKPbc		23 21 03.5	+0.7	
TIR	Tirane	144.00	317	ePKPdf	PKPbc		23 21 03.5	+0.7	
LAKA	Lakka	144.02	311	eP	PKPbc		23 21 03.1	+0.1	
PSA1	Psathopyrgos	144.05	312	eP	PKPdf		23 21 04.9	-0.2	
VLX	Vlachokerasia	144.09	310	eP	PKPbc		23 21 03.8	+0.4	
KBA	Koelnbreinsper	144.10	330	⫛iPKPdf	PKPab		23 21 02.1	-0.6	
	comp=Z,43nm,0.9s,SNR=23								
HGN	Heimansgroeve	144.10	341	ePKPdf	PKPbc		23 21 03.4	+0.6	
	comp=Z,53nm,1.2s								
BEBN	Eben Emael	144.15	341	PKP	PKPbc		23 21 03.6	+0.6	
JAN	Janina	144.18	314	eP	PKPdf		23 21 04.6	-0.7	
MEM	Membach	144.21	340	PKhKP	PKPab		23 21 02.9	+0.1	
FUR	Furstenfeldbru	144.23	333	eSS	SS		23 43 01.6	-0.9	
BOJS	Bojanci	144.23	327	i PKPdf	PKPab		23 21 03.0	0.0	
LJU	Ljubljana	144.24	328	ePKPdf	PKPab		23 21 02.6	-0.4	
MYKA	Terra Mystica	144.27	329	⫛iPKPdf	PKPab		23 21 02.3	-1.0	
	comp=Z,41nm,1.0s								
DYR	Agios Nikonas	144.36	309	eP	PKPbc		23 21 04.8	+0.7	
RLS	Riolos of Patr	144.46	312	eP	PKPbc		23 21 05.0	+0.6	
ITM	Ithomi	144.49	310	eP	PKPbc		23 21 04.8	+0.3	
AMT	Artemida-Makis	144.51	311	eP	PKPab		23 21 04.2	-0.2	
UCC	Uccle	144.55	342	PKP	PKPdf		23 21 05.0	-0.5	
VOY	Vojsko	144.57	328	ePKPdf	PKPab		23 21 03.5	-0.9	
VOY				e			23 23 32.7		
JAVS	Javornik	144.58	328	ePKPdf	PKPab		23 21 03.5	-0.9	
IGT	Igoumenitsa	144.59	314	P	PKPab		23 21 00.1	-4.5	
STU	Stuttgart	144.61	336	ePKP	PKPbc		23 21 04.8	+0.3	
STU				eSS	SS		23 43 04.1	-2.5	
STU	Stuttgart	144.61	336	ePKIKP	PKPab		23 21 04.1	-0.2	
STU	Stuttgart	144.61	336	ePKPdf	PKPab		23 21 04.1	-0.2	
LKD2	Lefkada island	144.71	313	P	PKPab		23 21 03.3	-1.8	
LKD2	Lefkada island	144.71	313	eP	PKPab		23 21 04.7	-0.4	
LKD2	Lefkada island	144.71	313	P	PKPab		23 21 03.3	-1.8	
WATA	Walderalm	144.72	332	⫛iPKPab	PKPab		23 21 04.4	-0.6	
	comp=Z,66nm,1.2s,SNR=10								
ABTA	Abfaltersbach	144.72	330	∥iPKPbc	PKPab		23 21 03.6	-1.4	
	comp=Z,125nm,1.2s,SNR=76								
PYL	PYLOS	144.74	310	eP	PKPab		23 21 04.2	-1.0	
WTTA	Wattenberg	144.75	332	⫛iPKPdf	PKPab		23 21 04.5	-0.6	
	comp=Z,130nm,1.3s,SNR=49								
TRI	Trieste	144.86	328	ePKIKP	PKPab		23 21 04.2	-1.1	
TRI	Trieste	144.86	328	ePKPdf	PKPab		23 21 04.2	-1.1	
KEK	Kerkira	144.86	315	eP	PKPbc		23 21 06.0	+0.4	
MOTA	Moosalm	144.93	332	⫛iPKPab	PKPab		23 21 04.7	-1.1	
	comp=Z,99nm,1.0s,SNR=90								
LANF	Langenberg	144.97	337	PKP	PKPab		23 21 04.4	-1.3	
RETA	Reutte	144.97	333	⫛iPKPdf	PKPab		23 21 05.1	-0.7	
	comp=Z,95nm,1.3s,SNR=30								
WLF	Walferdange	144.98	339	PKP	PKPab		23 21 05.7	0.0	
WLF	Walferdange	144.98	339	ePKP	PKPab		23 21 05.7	0.0	
WLF	Walferdange	144.98	339	ePKIKP	PKPab		23 21 05.6	0.0	
WLF	Walferdange	144.98	339	ePKPdf	PKPab		23 21 05.6	0.0	
VLS	Valsamata	145.03	312	P	PKPbc		23 21 02.2	-4.0	
VLS	Valsamata	145.03	312	PKHKP	PKPbc		23 21 02.2	-4.0	
VLS	Valsamata	145.03	312	eP	PKPbc		23 21 05.2	-1.0	
VLS	Valsamata	145.03	312	P	PKPbc		23 21 02.2	-4.0	
DOU	Dourbes	145.10	341	PKP	PKPbc		23 21 05.5	-0.5	
BFO	Black Forest	145.31	336	ePKP	PKPbc		23 21 06.2	-0.6	
BFO				eSS	SS		23 43 11.4	-3.2	
BFO	Black Forest	145.31	336	ePKIKP	PKPbc		23 21 06.2	-0.6	
BFO				eSS	SS		23 43 11.4	-3.2	
BFO	Black Forest	145.31	336	ePKPdf	PKPbc		23 21 05.9	-0.9	
FETA	Feichten	145.34	332	i PKPdf	PKPbc		23 21 06.5	-0.6	
	comp=Z,139nm,1.0s,SNR=100								
DAVA	Damuels	145.50	333	i PKPab	PKPdf		23 21 07.3	-0.3	
	comp=Z,156nm,1.1s,SNR=51								
ECH	Echery	145.84	337	ePKP2	PKPdf		23 21 08.1	+0.2	
ECH	Echery	145.84	337	ePKPdf	PKPdf		23 21 08.1	+0.2	
ECH	Echery	145.84	337	PKP	PKPdf		23 21 07.2	-0.7	
VAL	Valentia	145.88	358	eP	PKPdf		23 21 05.7	-2.1	
DAVOX	Davos/Dischmat	145.90	333	PKPbc	PKPdf		23 21 08.3	0.0	
DAVOX	Davos/Dischmat	145.90	333	PKPbc	PKPdf		23 21 08.3	0.0	
	baz=51,slow=3.2								
SHEL	Horse Pasture	145.93	191	ePKP2	PKPdf		23 21 09.1	+0.1	
SHEL	Horse Pasture	145.93	191	ePKPdf	PKPdf		23 21 09.1	+0.1	
MOF	Molkenrain	146.16	337	PKP	PKPdf		23 21 08.5	-0.1	
THEF	They Montfort	146.26	338	PKP	PKPdf		23 21 08.7	+0.1	
TUE	Stuetta	146.37	333	ePKPdf	PKPdf		23 21 08.9	-0.2	
LOMF	Lomont	146.69	336	PKP	PKPdf		23 21 09.8	+0.3	
TIP	Timpagrande	147.16	316	ePKPbc	PKPbc		23 21 13.0	+0.3	
AQU	L'Aquila	147.32	324	ePKPbc	PKPbc		23 21 12.6	-0.5	
CUC	Castrocucco	147.32	318	ePKPdf	PKPdf		23 21 10.7	0.0	
VLC	Villacollemand	147.64	329	ePKPbc	PKPbc		23 21 12.6	-1.2	
CEL	Celeste	148.22	316	ePKPbc	PKPbc		23 21 15.3	-0.3	
BNI	Bardonecchia	148.63	334	ePKIKP	PKPdf		23 21 13.5	+0.7	
BNI	Bardonecchia	148.63	334	ePKPdf	PKPdf		23 21 13.5	+0.7	
GDM	Grand'Maison	148.74	335	PKP	PKPbc		23 21 17.0	+0.2	
GRN	Grenoble	148.85	335	PKP	PKPbc		23 21 17.4	+0.3	
SURF	Saint Ours	149.03	333	PKP	PKPbc		23 21 17.2	-0.5	
SAOF	Saorge	149.10	332	PKP	PKPdf		23 21 14.2	+0.7	
AGO	Saint Agoulin	149.12	339	PKP	PKPbc		23 21 16.8	-0.8	
AUTN	L'Aution	149.15	332	PKP	PKPbc		23 21 14.7	+0.9	
TOUF	Mont Tournerai	149.22	332	PKP	PKPdf		23 21 14.2	+0.3	
SSB	Saint Sauveur	149.29	337	ePKP2	PKPbc		23 21 18.0	-0.1	
SSB	Saint Sauveur	149.29	337	ePKPbc	PKPbc		23 21 18.0	-0.1	
MVIF	Mont Vial	149.35	332	PKP	PKPdf		23 21 14.9	+0.9	
REVF	Revere	149.38	332	PKP	PKPdf		23 21 14.7	+0.7	
PYM	Petit Puy Mans	149.43	339	PKP	PKPbc		23 21 17.7	-0.8	
CALN	Calern	149.58	332	PKP	PKPdf		23 21 15.5	+1.1	
LBL	Lubilhac	149.80	338	PKP	PKPbc		23 21 18.7	-0.7	
VSL	Villasalto	151.49	324	ePKPbc	PKPbc		23 21 22.5	-1.0	
MLS	Moulis	152.54	339	PKP	PKPdf		23 21 19.6	+0.8	
VALF	Valcebollere	152.69	337	PKP	PKPdf		23 21 18.3	-0.9	
MELF	Melles	152.73	339	PKP	PKPdf		23 21 19.6	+0.4	
LABF	Labassere	152.80	340	PKP	PKPdf		23 21 20.5	+1.3	
RESF	Ens	152.93	340	PKP	PKPdf		23 21 19.1	-0.4	
VIEF	Viey	152.96	340	PKP	PKPdf		23 21 19.7	+0.2	
LARF	Larrau	153.13	342	PKP	PKPdf		23 21 21.2	+1.5	
KEST	Kesra	153.96	318	ePKPbc	PKPbc		23 21 28.7	-0.5	
KEST				ePKPab	PKPab		23 21 44.0	+1.5	
KEST	Kesra	153.96	318	PKPbc	PKPbc		23 21 28.3	-0.9	
	comp=Z,4.1nm,0.7s,baz=108,slow=3.2,SNR=46								
PGRA	Graciosa	154.65	30	eP	PP		23 25 10.3	-10	
ROSA	Rosais	154.77	31	eP	PP		23 25 13.1	-7.6	
PBRG	Braganca	155.62	350	ePKPab	PKPab		23 21 49.9	+0.7	
PGAV	Gavieira, Arco	155.67	353	ePKPab	PKPab		23 21 50.5	+1.0	
POLO	Lamas de Olo	156.20	352	ePKPab	PKPab		23 21 52.8	+1.0	
PSET	Sete Cidades	156.67	28	eP	PP		23 25 16.7	-15	
ESDC	Sonseca Array	157.09	344	PKPab	PKPab		23 21 55.9	+0.3	
ESDC	Sonseca Array	157.09	344	PKPab	PKPab		23 21 55.9	+0.3	
	comp=Z,3.5nm,0.7s,baz=12,slow=3.7,SNR=12								
ESLA	Sonseca Array	157.09	344	ePKPab	PKPab		23 21 56.4	+0.8	
MTE	Manteigas	157.12	351	ePKPab	PKPab		23 21 57.0	+1.3	
PCAS	Casmilo, Conde	157.59	353	ePKPab	PKPab		23 21 56.6	-1.1	
PSMN	Pico do Norte,	157.64	28	eP	PP		23 25 19.5	-17	
PMRV	Marv??o	158.05	350	ePKPab	PKPab		23 22 01.8	+2.1	
PESTR	Estremoz	158.63	351	ePKPab	PKPab		23 22 02.9	+0.7	
LIS	Lisbon	158.98	354	eP	PKPdf		23 21 27.1	-0.3	
LIS				AMS	AMS		00 42 20.4		
	comp=E,1μm,24.3s								
LIS	Lisbon	158.98	354	eP	PKPdf		23 21 27.1	-0.3	
LIS	Lisbon	158.98	354	ePKIKP	PKPdf		23 21 27.2	-0.3	
PBAR	Barrancos	159.21	349	ePKPab	PKPab		23 22 03.5	-1.2	
MORF	Marmelete	160.31	352	ePKIKP	PKPdf		23 21 28.2	-0.9	
MORF				eSS	SS		23 45 58.2	-0.4	
TAM	Tamanrasset	162.83	290	ePKIKP	PKPdf		23 21 32.2	-0.1	
TAM	Tamanrasset	162.83	290	ePKPdf	PKPdf		23 21 32.1	-0.1	
TAM				ePKPab	PKPab		23 22 23.5	+2.1	
TORD	Torodi Ar. Bea	166.03	253	PKP	PKPdf		23 21 34.5	-0.7	
TORD				PKPab	PKPab		23 22 35.5	0.0	
TORD				PP	PP		23 26 21.3	-1.7	
TORD	Torodi Ar. Bea	166.03	253	PKP	PKPdf		23 21 34.4	-0.7	
	comp=E,15nm,1.0s,baz=92,slow=0.3,SNR=56								
TORD				PKPab	PKPab		23 22 35.5	0.0	
	comp=E,45nm,0.9s,baz=101,slow=4.2,SNR=29								
TORD				PP

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.47**	**5**	P	**Pn**	**23 10 37.5**	**-0.9**
MNAI				S	**Sn**	**23 10 47.6**	**+0.5**
MNAI	**Manna**	**0.47**	**5**	P	**Pn**	**23 10 37.1**	**-1.2**
	baz=0.6,SNR=1000						
LWLI	**Liwa**	**1.15**	**99**	P	**Pn**	**23 10 46.8**	**+0.2**
LWLI				S	**Sn**	**23 11 02.5**	**+0.7**
KSI	**Kapahiang**	**1.21**	**345**	P	**Pn**	**23 10 47.5**	**+0.1**
KSI				S	**Sn**	**23 11 04.4**	**+1.3**
MASI	**Maura Aman, Be**	**1.81**	**338**	P	**Pn**	**23 10 55.8**	**+0.5**
MASI				S	**Sn**	**23 11 20.0**	**+2.8**
KLSI		**1.81**	**86**	P	**Pn**	**23 10 56.9**	**+1.6**
KLSI				S	**Sn**	**23 11 20.3**	**+2.9**
PMBI	**Palembang**	**2.64**	**45**	P	**Pn**	**23 11 07.7**	**+1.1**
SBJI	**Serang**	**3.45**	**112**	P	**Pn**	**23 11 18.9**	**+1.3**
TNG	**Tangerang**	**3.95**	**110**	P	**Pn**	**23 11 25.9**	**+1.5**
TNG	**Tangerang**	**3.95**	**110**	P	**Pn**	**23 11 24.8**	**+0.4**
TNG	**Tangerang**	**3.95**	**110**	S	Pn	23 11 30.5	+6.1
PPBI	**Pangkal Pinang**	**4.16**	**51**	P	**Pn**	**23 11 29.3**	**+1.9**
DBJI	**Dramaga**	**4.18**	**114**	P	**Pn**	**23 11 29.5**	**+1.8**
DBJI				S	Sn	23 12 26.6	+11
SKJI	**Sukabumi**	**4.22**	**121**	P	**Pn**	**23 11 28.3**	**+0.2**
SKJI				S	Sn	23 12 29.7	+14
PPI	**Padang Panjang**	**5.02**	**330**	P	**Pn**	**23 11 39.2**	**+0.1**
	baz=5.1,SNR=60						
LEM	**Lembang**	**5.08**	**113**	P	Pn	23 11 36.8	-3.3
	7μm,0.9s,67μm26nm						
LEM	**Lembang**	**5.08**	**113**	P	**Pn**	**23 11 37.2**	**-2.8**
	baz=5.1,SNR=58						
TPI	**Tanjungpandan**	**5.16**	**67**	P	**Pn**	**23 11 42.3**	**+1.4**
	1μm,0.8s,20μm195μm6.8nm						
BKNI	**Bangkinang**	**5.45**	**340**	P	**Pn**	**23 11 45.8**	**+0.8**
	5μm,1.0s,50μm42μm40nm						
BKNI	**Bangkinang**	**5.45**	**340**	P	**Pn**	**23 11 46.5**	**+1.5**
	baz=5.6,SNR=49						
CISI	**Cisompet, Garu**	**5.57**	**119**	P	**Pn**	**23 11 46.5**	**-0.2**
	baz=5.5,SNR=123						
CISI				S	**Sn**	**23 12 44.3**	**-5.2**
	baz=5.5,SNR=5.4						
BTDF	**Bukit Timah Da**	**6.21**	**8**	P	**Pn**	**23 11 57.9**	**+2.6**
	baz=6.4,SNR=88						
BTDF				P	**Pn**	**23 11 57.9**	**+2.6**
	baz=6.4,SNR=88						
XMI	**Christmas Isla**	**6.23**	**154**	P	Pn	23 11 48.8	-6.8
	baz=6.2,SNR=7.8						
XMI				S	Sn	23 12 54.6	-11
	baz=6.2,SNR=6.8						
XMIS	**Christmas Isla**	**6.24**	**154**	*e*Pn	Pn	23 11 48.3	-7.5
XMIS				*e*Sn	Sn	23 12 51.7	-14
XMIS	**Christmas Isla**	**6.24**	**154**	P	Pn	23 11 48.6	-7.2
	baz=6.2,SNR=36						
XMIS				S	Sn	23 12 53.5	-12
	baz=6.2,SNR=11						
TGJI	**Tegal**	**6.50**	**108**	P	Pn	23 12 03.8	+4.5
	2μm,0.8s,15μm5.3nm						
MNSI	**Mandailing Nat**	**6.50**	**329**	P	**Pn**	**23 11 58.4**	**-1.0**
	954nm,1.0s,13μm8.5nm						
MYKOM	**Kota Tinggi**	**6.64**	**8**	P	**Pn**	**23 12 03.8**	**+2.5**
MYKOM	**Kota Tinggi**	**6.64**	**8**	P	Pn	23 12 04.2	+2.9
MYKOM	**Kota Tinggi**	**6.64**	**8**	P	**Pn**	**23 12 03.6**	**+2.3**
	2μm,0.9s,12μm62μm5.4nm						
CLJI	**Cilicap**	**6.71**	**116**	P	Pn	23 12 05.0	+2.8
	462nm,1.2s,2.1nm						
KGM	**Kluang**	**6.81**	**3**	P	**Pn**	**23 12 06.0**	**+2.3**
KGM	**Kluang**	**6.81**	**3**	P	Pn	23 12 07.2	+3.5
YOGI	**Yogyakarta**	**7.91**	**112**	P	**Pn**	**23 12 20.1**	**+1.4**
	2μm,0.9s,23μm9.5nm						
FRIM	**Kepong**	**8.11**	**351**	P	**Pn**	**23 12 23.4**	**+1.9**
FRIM	**Kepong**	**8.11**	**351**	P	Pn	23 12 25.0	+3.5
UGM	**Wanagama**	**8.16**	**112**	*e*Pn	**Pn**	**23 12 21.7**	**-0.4**
UGM	**Wanagama**	**8.16**	**112**	P	**Pn**	**23 12 22.8**	**+0.7**
	2μm,1.1s,15μm						
UGM	**Wanagama**	**8.16**	**112**	P	**Pn**	**23 12 22.7**	**+0.7**
	baz=8.1,SNR=44						
WOJI	**Wonogiri, Jawa**	**8.50**	**111**	P	**Pn**	**23 12 28.4**	**+1.6**
	815nm,1.1s,9μm3.2nm						
PSI	**Prapat**	**8.56**	**332**	P	**Pn**	**23 12 25.1**	**-2.6**
PSI				S	**Sn**	**23 14 00.4**	**-2.5**
PSI				ScP	**ScP**	**23 22 19.9**	**+0.5**
PSI	**Prapat**	**8.56**	**332**	P	**Pn**	**23 12 25.1**	**-2.6**
	5.0nm,0.3s,baz=144,slow=7.3,SNR=19						
PSI				S	**Sn**	**23 14 00.4**	**-2.5**
	3.4nm,0.3s,baz=190,slow=18,SNR=4.0						
PSI				LR	LR	23 16 29.3	
	comp=Z,4μm,18.9s,baz=148,slow=43						
PSI				ScP	**ScP**	**23 22 19.9**	**+0.5**
	0.3nm,0.3s,baz=196,slow=5.4,SNR=6.1						
PSI	**Prapat**	**8.56**	**332**	P	**Pn**	**23 12 25.3**	**-2.5**
	baz=8.6,SNR=11						
PBKI	**Pangkalan Bun**	**8.98**	**77**	P	Pn	23 12 36.4	+3.0
	2μm,1.0s,18μm						
SJI	**Sawahan**	**9.26**	**109**	P	**Pn**	**23 12 38.6**	**+1.4**
	987nm,0.6s,11μm						
TSI	**Tuntungan**	**9.35**	**332**	P	**Pn**	**23 12 39.4**	**+1.1**
	496nm,0.9s,10μm90μm						
PWJI	**Pagerwojo**	**9.38**	**110**	P	**Pn**	**23 12 39.6**	**+0.8**
	900nm,0.8s,13μm						
COCO	**West Island**	**9.47**	**219**	*e*Pn	**Pn**	**23 12 37.0**	**-3.0**
KSM	**Kuching**	**9.68**	**50**	*e*Pn	**Pn**	**23 12 44.8**	**+1.9**
KSM	**Kuching**	**9.68**	**50**	P	Pn	23 12 45.5	+2.6
KSM	**Kuching**	**9.68**	**50**	P	**Pn**	**23 12 44.8**	**+1.9**
	637nm,1.1s,5μm						
KSM	**Kuching**	**9.68**	**50**	P	**Pn**	**23 12 45.4**	**+2.5**
	baz=9.8,SNR=21						
SNSI	**Sinabang, Aceh**	**9.75**	**317**	P	**Pn**	**23 12 42.7**	**-1.1**
	1μm,1.3s,15μm						
KCSI	**Kotacane, Aceh**	**9.76**	**328**	P	**Pn**	**23 12 40.8**	**-3.2**
	216nm,1.0s,3μm						
KRKI	**Karangkates**	**10.04**	**110**	P	**Pn**	**23 12 48.5**	**+0.7**
	2μm,0.6s,20μm						
KTGM	**Kuala Trenggan**	**10.09**	**1**	P	Pn	23 12 52.6	+4.1
KTGM	**Kuala Trenggan**	**10.09**	**1**	P	Pn	23 12 53.7	+5.2
KULM	**Kulim**	**10.30**	**347**	Pn	**Pn**	**23 12 51.8**	**+0.4**
KULM	**Kulim**	**10.30**	**347**	P	Pn	23 12 54.1	+2.7
BLJI	**Banyuglugur**	**11.00**	**106**	P	**Pn**	**23 13 02.6**	**+1.6**
	995nm,0.8s,19μm						
KMMI	**Kalianget**	**11.21**	**102**	P	Pn	23 13 06.4	+2.6
	982nm,1.1s,9μm						
LHMI	**Lhok Sumawe**	**11.63**	**329**	P	Pn	23 13 05.6	-4.0
	313nm,1.1s,4μm						
LHMI	**Lhok Sumawe**	**11.63**	**329**	P	Pn	23 13 06.1	-3.5
	baz=12,SNR=4.1						
SBUM	**Sibu**	**11.78**	**52**	P	Pn	23 13 15.6	+4.1
SBUM	**Sibu**	**11.78**	**52**	P	Pn	23 13 15.4	+3.9
	664nm,1.1s,6μm						
BBKI	**Banjar Baru**	**11.97**	**84**	P	Pn	23 13 17.6	+3.4
	631nm,1.1s,8μm						
SKLT	**Songkhla**	**12.13**	**349**	P	Pn	23 13 19.5	+3.1
	423nm,0.9s,4μm						
SKLT	**Songkhla**	**12.13**	**349**	P	Pn	23 13 11.4	-5.0
SRBI	**Singaraja**	**12.64**	**105**	P	**Pn**	**23 13 23.2**	**-0.1**
	1μm,0.7s,12μm						
IGBI	**Denpasar**	**12.77**	**109**	P	**Pn**	**23 13 23.4**	**-1.7**
	1μm,0.9s,13μm						
DNP	**Denpasar**	**12.79**	**108**	P	**Pn**	**23 13 24.8**	**-0.6**
	3μm,0.9s,36μm						
BTM	**Bintulu**	**12.91**	**52**	P	P	23 13 32.1	-3.4
KHKI	**Kahang-Kahang**	**13.09**	**106**	P	**Pn**	**23 13 29.1**	**-0.3**
	949nm,0.8s,8μm						
BKB	**Balikpapan**	**14.40**	**76**	P	P	23 13 56.8	+4.8
	2μm,1.0s,16μm						
CMBY	**CAMPBELL BAY**	**14.79**	**323**	*ex*	P	23 14 00.3	+4.0
CMBY				AMB	AMB	23 14 04.0	
	comp=Z,337nm,2.2s						
BMNI	**Bima**	**16.10**	**104**	P	**Pn**	**23 14 06.4**	**-2.2**
	comp=Z,461nm,0.7s,comp=Z,11μm						
KAPI	**Kappang**	**16.77**	**91**	*e*Pn	**Pn**	**23 14 16.4**	**-0.7**
KAPI	**Kappang**	**16.77**	**91**	P	**Pn**	**23 14 16.5**	**-0.7**
	comp=Z,1μm,1.2s,comp=Z,7μm						
KAPI	**Kappang**	**16.77**	**91**	P	**Pn**	**23 14 16.6**	**-0.5**
	comp=Z,14nm,0.3s,baz=271,slow=8.3,SNR=42						
KAPI				LR	LR	23 21 12.0	
	comp=Z,6μm,21.0s,baz=35,slow=39						
TTSI	**Tana Toraja**	**16.95**	**85**	P	**P**	**23 14 22.2**	**+1.8**
	comp=Z,2μm,1.0s,comp=Z,14μm						
WBSI	**Waikabubak, Su**	**17.03**	**107**	P	**Pn**	**23 14 15.8**	**-4.5**
	comp=Z,2μm,0.8s,comp=Z,14μm						
KKM	**Kota Kinabalu**	**17.11**	**51**	*e*P	**P**	**23 14 23.6**	**+1.3**
KKM	**Kota Kinabalu**	**17.11**	**51**	P	**P**	**23 14 23.9**	**+1.6**
KKM	**Kota Kinabalu**	**17.11**	**51**	P	**P**	**23 14 23.6**	**+1.3**
	comp=Z,620nm,0.9s,comp=Z,8μm						
KKM	**Kota Kinabalu**	**17.11**	**51**	P	**P**	**23 14 23.6**	**+1.3**
	baz=17,SNR=50						
BKSI	**Bulukumba**	**17.15**	**92**	P	**P**	**23 14 22.1**	**-0.4**
	comp=Z,2μm,0.9s,comp=Z,15μm						
TSM	**Tawau**	**17.47**	**59**	P	**P**	**23 14 29.4**	**+3.3**
CHBT	**CHBT**	**17.47**	**358**	P	**P**	**23 14 26.4**	**+0.3**
	comp=Z,504nm,1.6s,comp=Z,6μm						
CHBT	**CHBT**	**17.47**	**358**	P	**P**	**23 14 26.4**	**+0.3**
	comp=Z,504nm,1.6s,comp=Z,6μm						
BSSI	**Bau Bau, Buton**	**17.54**	**95**	P	**Pn**	**23 14 25.1**	**-1.5**
	comp=Z,487nm,1.0s,comp=Z,5μm						
SDKM	**Sandakan**	**17.65**	**54**	P	**P**	**23 14 30.5**	**+2.4**
WSI	**Waingapu**	**17.90**	**107**	P	**P**	**23 14 27.1**	**-3.7**
	comp=Z,4μm,0.6s,comp=Z,33μm						
WSI	**Waingapu**	**17.90**	**107**	P	**Pn**	**23 14 30.6**	**-0.3**
	baz=18,SNR=7.2						
WSI				S	**S**	**23 17 53.4**	**+0.9**
	baz=18,SNR=5.3						
PHET	**Kaeng Krachan**	**17.92**	**350**	P	**P**	**23 14 30.6**	**-0.4**
	comp=Z,618nm,0.8s,comp=Z,5μm						
KDM	**Kudat**	**18.14**	**50**	P	**Pn**	**23 14 35.9**	**+2.1**
BASI	**Baing, Sumba**	**18.30**	**108**	P	**P**	**23 14 32.4**	**-2.9**
	comp=Z,3μm,1.0s,comp=Z,35μm						
MYLDM	**Lahad Datu**	**18.47**	**58**	P	**Pn**	**23 14 41.4**	**+3.6**
MYLDM	**Lahad Datu**	**18.47**	**58**	P	**Pn**	**23 14 40.3**	**+2.5**
	comp=Z,2μm,1.0s,comp=Z,22μm						
NAYO	**Nakonayok**	**19.08**	**355**	P	**P**	**23 14 44.0**	**+0.2**
	comp=Z,333nm,1.0s,comp=Z,21μm						
PBA	**Port Blair**	**19.25**	**328**	*e*P	**P**	**23 14 45.4**	**-0.2**
PBA				AMB	AMB	23 18 53.2	
	comp=Z,1μm,0.5s						
MMRI	**Maumere**	**19.55**	**102**	P	**P**	**23 14 47.5**	**-1.5**
	comp=Z,1μm,0.8s,comp=Z,11μm						
BBSI	**Bau Bau**	**19.59**	**93**	P	**P**	**23 14 49.6**	**+0.3**
	comp=Z,603nm,0.8s,comp=Z,5μm						
MRSI	**Marisa**	**19.72**	**75**	P	**Pn**	**23 14 51.5**	**-1.3**
	comp=Z,2μm,0.7s,comp=Z,17μm						
UBPT	**Khong Chiam**	**20.14**	**7**	P	**P**	**23 14 54.7**	**-0.5**
	comp=Z,656nm,0.9s,comp=Z,6μm						
UBPT	**Khong Chiam**	**20.14**	**7**	P	**P**	**23 14 54.8**	**-0.5**
	comp=Z,656nm,0.9s,comp=Z,6μm						
LUWI	**Luwuk**	**20.18**	**80**	P	Pn	23 14 57.1	-1.1
	comp=Z,3μm,1.0s,comp=Z,24μm						
LUWI	**Luwuk**	**20.18**	**80**	P	Pn	23 14 57.2	-1.0
	baz=20,SNR=62						
DGPR	**DIGLIPUR**	**20.45**	**331**	*e*P	**P**	**23 14 57.5**	**-1.1**
DGPR				AMB	AMB	23 18 50.9	
	comp=Z,565nm,0.7s						
CHAI	**Chaiyaphum**	**20.62**	**357**	P	**P**	**23 15 01.0**	**+0.6**
	comp=Z,247nm,1.0s,comp=Z,2μm						
GTOI	**Gorontalo**	**20.79**	**75**	P	**P**	**23 15 01.5**	**-0.9**
	comp=Z,2μm,1.0s,comp=Z,16μm						
BATI	**Baumata**	**21.25**	**106**	P	**P**	**23 15 06.0**	**-1.2**
BATI				S	S	23 18 50.5	-10
BATI	**Baumata**	**21.25**	**106**	P	**P**	**23 15 06.9**	**-0.4**
	comp=Z,1μm,0.7s,comp=Z,11μm						
BATI	**Baumata**	**21.25**	**106**	P	**P**	**23 15 06.0**	**-1.2**
	comp=Z,1μm,0.5s,baz=299,slow=1.9,SNR=116						
BATI				S	S	23 18 50.5	-10
	comp=Z,344nm,0.4s,baz=113,slow=18,SNR=8.4						
PBKT	**Sadao Pong**	**21.35**	**355**	P	**P**	**23 15 08.2**	**0.0**
PBKT	**Sadao Pong**	**21.35**	**355**	P	**P**	**23 15 08.4**	**+0.2**
	comp=Z,555nm,0.9s,comp=Z,4μm						
PPR	**Puerto Princes**	**21.42**	**47**⇓	*e*P	**P**	**23 15 12.8**	**+3.7**
SKNT	**Sakolnakorn**	**21.69**	**3**	P	**P**	**23 15 13.5**	**+1.6**
	comp=Z,225nm,1.3s,comp=Z,4μm						
KMSI	**Cibinong**	**21.72**	**76**	P	**P**	**23 15 13.4**	**+1.1**
	comp=Z,2μm,0.8s,comp=Z,19μm						
SOEI	**Soe**	**21.73**	**104**	P	**P**	**23 15 08.7**	**-3.8**
	baz=22,SNR=56						
SOEI				S	**S**	**23 19 03.2**	**-6.6**
	baz=22,SNR=5.3						
PANO	**Nakornpanom**	**21.90**	**4**	P	**P**	**23 15 13.8**	**-0.3**
	comp=Z,2μm,1.0s,comp=Z,28μm						
MBWA	**Marble Bar**	**23.02**	**136**	*e*P	**P**	**23 15 26.5**	**+0.4**
	comp=Z,278nm,1.1s						
IPIL	**Ipil**	**23.27**	**58**	*e*P	**P**	**23 15 30.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**23.47**	**350**	P	**P**	**23 15 29.5**	**-0.8**
CMAR				PcP	**PcP**	**23 19 16.1**	**+1.4**
CMAR				ScP	**ScP**	**23 22 48.8**	**+1.4**
CMAR	**Chiang Mai Arr**	**23.47**	**350**	P	**P**	**23 15 29.5**	**-0.8**
	comp=Z,259nm,0.6s,baz=182,slow=8.8,SNR=374						
CMAR				PcP	**PcP**	**23 19 16.1**	**+1.4**
	comp=Z,44nm,0.9s,baz=209,slow=2.7,SNR=12						
CMAR				ScP	**ScP**	**23 22 48.8**	**+1.4**
	comp=Z,16nm,0.8s,baz=206,slow=3.5,SNR=15						
CMAR				LR	LR	23 24 53.5	
	comp=Z,3μm,20.0s,baz=176,slow=37						
CMMT	**Chiang Mai**	**23.81**	**351**	P	**P**	**23 15 32.4**	**-1.0**
	comp=Z,592nm,0.8s,comp=Z,5μmcomp=Z,186μm						
CHTO	**Chiang Mai**	**23.82**	**351**	*e*P	**P**	**23 15 32.3**	**-1.2**
CHTO	**Chiang Mai**	**23.82**	**351**	*e*P	**P**	**23 15 32.3**	**-1.2**
CHTO				*e*ScP	**ScP**	**23 22 50.0**	**+1.7**
CHTO	**Chiang Mai**	**23.82**	**351**	P	**P**	**23 15 32.7**	**-0.7**
	comp=Z,656nm,0.8s,comp=Z,6μm						
CHTO	**Chiang Mai**	**23.82**	**351**	P	**P**	**23 15 32.7**	**-0.7**
	comp=Z,656nm,0.8s,comp=Z,6μm						
PAGZ	**Pagadian**	**23.99**	**58**	*e*P	**P**	**23 15 36.9**	**+1.9**
CTBH	**Cotabato--PC H**	**24.42**	**61**⇓	*e*P	**P**	**23 15 40.2**	**+1.2**
QIZ	**Qiongzhong**	**24.67**	**16**	P	**P**	**23 15 40.8**	**-0.4**
QIZ				pP	**pP**	**23 15 57.5**	**+0.7**
QIZ				sP	**sP**	**23 16 06.5**	**+2.0**
QIZ				S	**S**	**23 19 59.0**	**+0.6**
QIZ				pmax	pmax		
	comp=Z,160nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,960nm,12.5s						
QIZ				LR	LR		
	comp=N,2μm,23.6s						
QIZ				LR	LR		
	comp=E,1μm,24.2s						
QIZ				LR	LR		
	comp=Z,4μm,28.4s						
QIZ	**Qiongzhong**	**24.67**	**16**	*e*P	**P**	**23 15 41.3**	**+0.1**
	comp=Z,280nm,1.1s						
CMAI	**Chiengmai2**	**24.90**	**351**	P	**P**	**23 15 43.2**	**-0.3**
	comp=Z,494nm,1.1s,comp=Z,17μm						
LBMI	**Labuha**	**24.90**	**81**	P	**P**	**23 15 45.7**	**+2.3**
	comp=Z,3μm,0.9s,comp=Z,18μm						
TNTI	**Ternate**	**25.05**	**78**	P	**P**	**23 15 44.0**	**-0.8**
	comp=Z,921nm,1.7s,comp=Z,12μm						
PALK	**Pallekele**	**25.22**	**298**	*e*P	**P**	**23 15 46.5**	**+0.1**
	comp=Z,52nm,1.1s						
PALK	**Pallekele**	**25.22**	**298**	P	**P**	**23 15 50.4**	**+4.1**
	comp=Z,71nm,1.6s						
CGP	**Cagayan de Oro**	**25.41**	**59**	*e*P	**P**	**23 15 48.1**	**+0.1**
BUKP	**Musuan**	**25.44**	**60**	*e*P	**P**	**23 15 50.2**	**+1.8**
DAV	**Davao City (W)**	**25.52**	**63**	*e*P	**P**	**23 15 51.6**	**+2.6**
	comp=Z,2μm,0.9s						
DAV	**Davao City (W)**	**25.52**	**63**	P	**P**	**23 15 51.2**	**+2.2**
	comp=Z,2μm,1.0s,comp=Z,19μm						
DAV	**Davao City (W)**	**25.52**	**63**	P	**P**	**23 15 50.2**	**+1.1**
	comp=Z,2μm,1.1s,baz=254,slow=7.4,SNR=48						
RCP	**Roxas**	**25.58**	**50**⇓	*e*P	**P**	**23 15 50.8**	**+1.2**
GAMI	**Galela, Maluku**	**25.72**	**76**	P	**P**	**23 15 49.6**	**-1.2**
	comp=Z,1μm,0.8s,comp=Z,12μm						
LLP	**Lapu-Lapu**	**25.80**	**54**	*e*P	**P**	**23 15 51.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**25.84**	**123**	*e*P	**P**	**23 15 52.3**	**+0.4**
	comp=Z,547nm,0.9s						
FITZ	**Fitzroy Crossi**	**25.84**	**123**	P	**P**	**23 15 52.0**	**+0.2**
	comp=Z,633nm,1.1s,baz=309,slow=9.3,SNR=204						
FITZ	**Fitzroy Crossi**	**25.84**	**123**	P	**P**	**23 15 52.1**	**+0.2**
	baz=26,SNR=201						
TGY	**Tagaytay City**	**25.95**	**43**	P	**P**	**23 15 53.7**	**+0.7**
TGY	**Tagaytay City**	**25.95**	**43**	P	**P**	**23 15 53.7**	**+0.7**
	comp=Z,1μm,0.5s,baz=203,slow=5.2,SNR=52						
TGY				LR	LR	23 26 16.9	
	comp=Z,15nm,20.3s,baz=185,slow=37						
MSAI	**Masohi**	**25.99**	**88**	P	**P**	**23 15 54.7**	**+1.4**
	comp=Z,38nm,0.9s,comp=Z,1μm						
MATI	**Mati**	**26.07**	**64**	*e*P	**P**	**23 15 54.2**	**+0.2**
LQP	**Lukban**	**26.37**	**44**⇑	*e*P	**P**	**23 15 57.8**	**+0.9**
MEEK	**Meekatharra**	**26.37**	**147**	P	**P**	**23 15 57.4**	**+0.7**
	baz=26,SNR=12						
BUTP	**Butuan**	**26.46**	**59**	*e*P	**P**	**23 15 58.4**	**+0.8**
MORW	**Morawa**	**27.13**	**154**	P	**P**	**23 16 04.8**	**+1.4**
	baz=27,SNR=6.7						
KNRA	**Kununurra**	**27.59**	**115**	P	**P**	**23 16 07.3**	**-0.3**
	baz=28,SNR=116						
KNRA				S	**S**	**23 20 41.0**	**-3.7**
	baz=28,SNR=6.5						
SWI	**Sorong**	**28.58**	**83**	P	**P**	**23 16 16.6**	**+0.1**
	comp=Z,394nm,1.0s,comp=Z,4μm						
SWI	**Sorong**	**28.58**	**83**	P	**P**	**23 16 17.1**	**+0.6**
	baz=29,SNR=5.2						
MTN	**Manton Dam**	**28.97**	**108**	P	**P**	**23 16 18.4**	**-1.5**
	baz=29,SNR=107						
FAKI	**Fak Fak**	**29.32**	**87**	P	**P**	**23 16 22.2**	**-0.9**
	comp=Z,421nm,0.8s,comp=Z,3μm						
FAKI	**Fak Fak**	**29.32**	**87**	P	**P**	**23 16 22.3**	**-0.9**
	baz=29,SNR=24						
VIS	**Vishakhapatnam**	**29.59**	**320**	*i* P	**P**	**23 16 27.2**	**+1.8**
VIS				*ex*	x	23 16 29.6	
	comp=Z,272nm,1.4s						
VIS				*i* S	**S**	**23 21 21.1**	**+4.9**
KMI	**Kunming**	**29.77**	**360**	P	**P**	**23 16 28.5**	**+1.3**
KMI				PcP	**PcP**	**23 19 31.0**	**+1.3**
KMI				S	**S**	**23 21 17.8**	**-1.4**
KMI				ScP	**ScP**	**23 23 07.8**	**+1.5**
KMI				pmax	pmax		
	comp=Z,420nm,0.9s						
KMI				pmax	pmax		
	comp=Z,260nm,6.0s						
KMI				LR	LR		
	comp=N,3μm,22.9s						
KMI				LR	LR		
	comp=E,4μm,17.2s						
KMI				LR	LR		
	comp=Z,7μm,15.5s						
KLBR	**Kellerberrin**	**30.05**	**154**	P	**P**	**23 16 30.4**	**+1.1**
	baz=30,SNR=5.3						
KDU	**Kakadu**	**30.21**	**107**	P	**P**	**23 16 28.9**	**-2.1**
	baz=30,SNR=96						
NWAO	**Narrogin (SRO)**	**30.99**	**156**	*e*P	**P**	**23 16 39.0**	**+1.4**
	comp=Z,195nm,1.5s						
NWAO	**Narrogin (SRO)**	**30.99**	**156**	P	**P**	**23 16 38.5**	**+0.9**
	comp=Z,59nm,1.0s,baz=332,slow=8.9,SNR=12						
GYA	**Guiyang**	**31.31**	**6**⇑	*i* P	**P**	**23 16 42.8**	**+2.2**
GYA				pP	pP	23 17 01.3	+4.8
GYA				sP	sP	23 17 09.8	+5.7
GYA				PP	**PP**	**23 17 49.3**	**-3.2**
GYA				S	S	**23 21 44.0**	**+0.8**
GYA				sS	sS	23 22 14.5	+4.3
GYA				ScP	**ScP**	**23 23 11.0**	**-0.2**
GYA				ScS	**ScS**	**23 27 08.0**	**-0.9**
GYA				pmax	pmax		
	comp=Z,40nm,1.0s						
GYA				pmax	pmax		
	comp=Z,290nm,5.0s						
GYA				LR	LR		
	comp=N,7μm,17.9s						
GYA				LR	LR		
	comp=E,5μm,18.2s						
GYA				LR	LR		
	comp=Z,7μm,17.6s						
RKPI	**Ransiki, Papua**	**31.38**	**85**	P	**P**	**23 16 40.8**	**-0.5**
	comp=Z,219nm,0.7s						
SHL	**Shillong**	**32.05**	**341**	*e*P	**P**	**23 16 45.9**	**-1.3**
SHL				*i* x	x	23 16 47.0	
SHL				*i* PCP	**PcP**	**23 19 38.0**	**+2.3**
SHL				*ex*	x	23 21 52.0	
HYB	**Hyderabad**	**32.67**	**313**	*i* P	**P**	**23 16 52.0**	**-0.6**
HYB				*e*S	**S**	**23 22 00.0**	**-4.4**
HYB	**Hyderabad**	**32.67**	**313**	*e*P	**P**	**23 16 53.6**	**+1.0**
HYB				AMB	AMB	23 16 54.1	
	comp=Z,77nm,1.4s						
TWG	**Pinlang**	**32.71**	**32**	*e*P	**P**	**23 16 53.8**	**+0.9**
TPUB	**Ta-pu**	**32.87**	**31**	*e*P	**P**	**23 16 54.9**	**+0.6**
TPUB				*e*PcP	**PcP**	**23 19 36.5**	**-1.3**
TPUB				*e*ScP	**ScP**	**23 23 18.1**	**+1.7**
BOK	**Bokaro**	**32.94**	**330**	*e*P	**P**	**23 16 56.0**	**+1.2**
BOK				AMB	AMB	23 16 56.7	
	comp=Z,726nm,1.0s						
QZH	**Quanzhou**	**33.29**	**27**⇑	*i* P	**P**	**23 16 57.5**	**-0.3**
QZH				S	**S**	**23 22 13.3**	**-0.4**
QZH				pmax	pmax		
	comp=Z,160nm,1.0s						
QZH				LR	LR		
	comp=N,3μm,14.9s						
QZH				LR	LR		
	comp=E,1μm,12.4s						
QZH				LR	LR		
	comp=Z,5μm,28.9s						
YULB	**Yu-li**	**33.30**	**32**	*e*P	**P**	**23 16 57.5**	**-0.4**
YULB				*e*ScP	**ScP**	**23 23 18.0**	**+0.1**
SSLB	**Suanglung**	**33.44**	**31**	*e*P	**P**	**23 16 59.0**	**-0.2**
SSLB				*e*PcP	**PcP**	**23 19 38.9**	**-0.5**
SSLB				*e*ScP	**ScP**	**23

LSA comp=Z,410nm,1.1s LR LR
LSA comp=N,1μm,21.1s LR LR
LSA comp=E,2μm,23.9s LR LR
LSA comp=Z,3μm,23.9s
LSA Lhasa 36.14 342 *e*P **P 23 17 22.9 0.0**
LSA *e* 23 19 49.2
LSA pmax pmax
LSA comp=Z,44nm,0.6s
LSA Lhasa 36.14 342 *e*P **P 23 17 22.9 0.0**
LSA comp=Z,44nm,0.6s
LSA *e*PcP **PcP 23 19 49.1 +1.5**
WHN Wuhan 36.83 17 ⇓P **P 23 17 29.3 +1.1**
WHN pP **pP 23 17 43.5 -0.8**
WHN PP **PnPn 23 18 59.0 +4.9**
WHN S **S 23 23 08.3 +0.2**
WHN pmax pmax
WHN comp=Z,990nm,1.3s
WHN LR LR
WHN comp=N,3μm,16.3s
WHN LR LR
WHN comp=E,4μm,16.0s
WHN LR LR
WHN comp=Z,11μm,24.4s
POO Poona 36.87 310 *e*P **P 23 17 30.0 +1.2**
POO AMB AMB 23 17 30.6
POO comp=Z,152nm,1.0s
BHPL Bhopal 37.39 319 *e*P **P 23 17 34.1 +1.0**
BHPL AMB AMB 23 17 34.7
BHPL comp=Z,226nm,0.0s
JAY Jayapura 37.78 88 P **P 23 17 34.4 -2.2**
baz=38,SNR=10
XAN Xi'an 39.07 8 P **P 23 17 46.0 -1.1**
XAN pmax pmax
XAN comp=Z,140nm,1.2s
XAN pmax pmax
XAN comp=Z,120nm,12.9s
XAN LR LR
XAN comp=N,2μm,18.3s
XAN LR LR
XAN comp=E,550nm,18.3s
XAN LR LR
XAN comp=Z,1μm,17.2s
NJ2 Nanjing 39.69 21 *e*P **P 23 17 52.8 +0.6**
NJ2 pP **pP 23 18 10.0 +1.6**
NJ2 sP **sP 23 18 19.0 +3.0**
NJ2 PP **PP 23 19 26.0 +1.4**
NJ2 S **S 23 23 53.0 +1.8**
NJ2 sS sS 23 24 23.0 +4.3
NJ2 pmax pmax
NJ2 comp=Z,110nm,0.6s
NJ2 pmax pmax
NJ2 comp=Z,2μm,5.3s
NJ2 LR LR
NJ2 comp=N,3μm,14.7s
NJ2 LR LR
NJ2 comp=E,1μm,17.7s
NJ2 LR LR
NJ2 comp=Z,3μm,19.3s
SSE Sheshan 39.76 25 P **P 23 17 53.8 +1.0**
SSE pmax pmax
SSE comp=Z,210nm,1.2s
SSE pmax pmax
SSE comp=Z,380nm,8.7s
JOW Kunigami 39.91 37 *e*P **P 23 17 55.1 +1.0**
JOW *e*PcP **PcP 23 19 58.9 +0.1**
COEN Coen 40.68 106 *e*P **P 23 17 59.4 -1.3**
COEN comp=Z,176nm,0.8s
COEN *e*PcP **PcP 23 20 02.5 +0.9**
COEN Coen 40.68 106 P **P 23 17 59.5 -1.3**
baz=41,SNR=52
LZH Lanzhou 40.71 1 ⇑P **P 23 18 01.3 +0.5**
LZH pP **pP 23 18 19.0 +1.9**
LZH sP **sP 23 18 27.5 +2.9**
LZH PP **PnPn 23 19 40.0 -0.4**
LZH PcP **PcP 23 20 02.5 +1.1**
LZH ScP **ScP 23 23 45.3 -0.1**
LZH PcS **PcS 23 23 52.3 0.0**
LZH S **S 23 24 06.5 -0.1**
LZH sS **sS 23 24 37.0 +2.7**
LZH ScS **ScS 23 27 57.5 -2.8**
LZH pmax pmax
LZH comp=Z,280nm,1.2s
LZH pmax pmax
LZH comp=Z,660nm,5.3s
LZH LR LR
LZH comp=N,4μm,14.6s
LZH LR LR
LZH comp=E,3μm,15.2s
LZH LR LR
LZH comp=Z,4μm,16.5s
NDI New Delhi 41.49 325 *e*P **P 23 18 08.0 +0.8**
NDI *ex* x 23 24 10.0
BBOO Buckleboo 41.61 136 *e*P **P 23 18 08.8 +0.7**
comp=Z,62nm,0.8s
BBOO *e*PcP **PcP 23 20 04.8 +0.5**
BBOO Buckleboo 41.61 136 P **P 23 18 08.7 +0.6**
baz=42,SNR=48
DDI Dehra Dun 42.28 327 *ex* P 23 18 08.5 -5.2
DDI *e*P pP 23 18 14.1 -16
DDI AMB AMB 23 18 14.7
DDI comp=Z,1μm,0.8s
MTSU Mount Surprise 42.55 112 P **P 23 18 16.8 +0.7**
baz=42,SNR=403
MTSU S **S 23 24 36.6 +2.4**
baz=42,SNR=12
TIA Tai'an 42.94 17 ⇑P **P 23 18 17.3 -1.5**
TIA pmax pmax
TIA comp=Z,580nm,7.4s
TIA LR LR
TIA comp=N,2μm,23.5s
TIA LR LR
TIA comp=E,2μm,13.7s
TIA LR LR
TIA comp=Z,3μm,13.7s
SMLA Simla 43.39 327 *i* P **P 23 18 22.6 0.0**
SMLA AMb AMB 23 18 26.2
SMLA comp=Z,910nm,0.9s
SMLA *i* x x 23 24 43.0
SDNR Sundarnagar 43.78 327 *e*P **P 23 18 26.0 +0.2**
SDNR *ex* x 23 24 51.0
GTA Gaotai 44.11 357 ⇑P **P 23 18 28.5 +0.1**
GTA pP **pP 23 18 45.5 +0.7**
GTA sP **sP 23 18 53.8 +1.5**
GTA PP **PcP 23 20 13.5 +0.9**
GTA ScP **ScP 23 23 58.0 -1.0**
GTA PcS **PcS 23 24 04.3 -1.5**
GTA S **S 23 24 56.0 -0.5**
GTA sS **sS 23 25 28.0 +3.6**
GTA SS SS 23 28 07.3 -9.0
GTA ScS **ScS 23 28 18.3 -2.8**
GTA pmax pmax
GTA comp=Z,340nm,1.3s
GTA pmax pmax
GTA comp=Z,1μm,6.2s
GTA LR LR
GTA comp=N,6μm,17.1s
GTA LR LR
GTA comp=E,3μm,21.4s
GTA LR LR
GTA comp=Z,7μm,18.5s
PMG Port Moresby 44.11 98 *e*P **P 23 18 27.9 -0.8**
comp=Z,105nm,0.7s
PMG *e*PcP **PcP 23 20 14.3 +1.3**
PMG Port Moresby 44.11 98 P **P 23 18 28.2 -0.5**
comp=Z,601nm,0.9s
PMG Port Moresby 44.11 98 P **P 23 18 28.2 -0.5**
comp=Z,243nm,0.8s,baz=272,slow=4.1,SNR=40
DHRM DHARAMSHALA 44.72 327 *e*P **P 23 18 33.5 0.0**
DHRM AMB AMB 23 18 34.0
comp=Z,476nm,1.1s
CTA Charters Tower 44.78 114 P **P 23 18 34.8 +0.8**
CTA S **S 23 25 06.0 -0.8**
CTA Charters Tower 44.78 114 P **P 23 18 34.8 +0.8**
comp=Z,732nm,0.9s,baz=283,slow=7.5,SNR=340
CTA S **S 23 25 06.0 -0.8**
comp=Z,14nm,0.9s,baz=41,slow=20,SNR=18
CTAO Charters Tower 44.78 114 *e*P **P 23 18 34.6 +0.6**
CTAO pmax pmax
comp=Z,850nm,0.9s
CTAO Charters Tower 44.78 114 *e*P **P 23 18 34.6 +0.6**
comp=Z,850nm,0.9s
STKA Stephens Creek 45.11 131 P **P 23 18 37.7 +1.3**
STKA ScP **ScP 23 24 04.7 +1.5**
STKA S **S 23 25 12.4 +1.3**
STKA Stephens Creek 45.11 131 P **P 23 18 37.7 +1.3**
comp=Z,448nm,0.8s,baz=304,slow=8.0,SNR=452
STKA ScP **ScP 23 24 04.7 +1.5**
comp=Z,24nm,1.0s,baz=343,slow=8.0,SNR=4.2
STKA S **S 23 25 12.4 +1.3**
comp=Z,7.2nm,0.7s,baz=0.0,slow=20,SNR=3.6
STKA LR LR 23 39 08.0
comp=Z,1μm,18.3s,baz=303,slow=38
STKA Stephens Creek 45.11 131 P **P 23 18 37.5 +1.2**
baz=45,SNR=314
STKA S **S 23 25 11.9 +0.8**
baz=45,SNR=13
DLH Dalhousie 45.13 327 *ex* P 23 18 33.0 -3.7
THN Thein Dam 45.18 327 *ex* P **23 18 34.4 -2.4**
THN *ex* x 23 25 08.4
GUMO Guam 45.48 66 *e*P **P 23 18 37.1 -2.5**
comp=Z,12nm,0.5s
GUMO *e*PcP **PcP 23 20 16.6 -1.0**
BTO Baotou 45.68 8 *e*P **P 23 18 41.0 +0.2**
JNU Nakatsue 46.12 33 P **P 23 18 44.1 -0.2**
JNU Nakatsue 46.12 33 P **P 23 18 44.1 -0.2**
comp=Z,226nm,0.8s,baz=209,slow=3.3,SNR=80
JNU LR LR 23 39 06.9
comp=Z,2μm,19.1s,baz=159,slow=37
HHC Hu-ho-hao-te 46.14 9 *e*P **P 23 18 44.8 +0.4**
HHC PcP **PcP 23 20 20.0 +0.5**
HHC PP **PP 23 20 34.5 +0.7**
HHC ScP **ScP 23 24 06.8 -0.5**
HHC PcS **PcS 23 24 13.0 -1.1**
HHC S **S 23 25 26.5 +0.7**
HHC sS **sS 23 25 53.0 -0.8**
HHC ScS **ScS 23 28 32.5 -1.6**
HHC SS SS 23 28 44.5 -7.4
HHC pmax pmax
HHC comp=Z,560nm,0.9s
HHC pmax pmax
HHC comp=Z,2μm,6.6s
HHC LR LR
HHC comp=N,5μm,16.0s
HHC LR LR
HHC comp=E,3μm,16.4s
HHC LR LR
HHC comp=Z,4μm,16.5s
BJT Baijiatuau 46.26 14 *e*P **P 23 18 45.4 +0.1**
comp=Z,351nm,0.8s
BJT *e*PcP **PcP 23 20 20.2 +0.4**
BJI Beijing 46.28 14 P **P 23 18 45.8 +0.4**
BJI S **S 23 25 29.0 +1.4**
BJI sS sS 23 25 59.3 +3.7
BJI pmax pmax
BJI comp=Z,530nm,1.0s
BJI LR LR
BJI comp=N,3μm,21.3s
BJI LR LR
BJI comp=E,2μm,19.7s
BJI LR LR
BJI comp=Z,5μm,25.2s
DL2 Dalian 46.83 20 P **P 23 18 49.5 -0.2**
DL2 S **S 23 25 34.5 -1.0**
DL2 pmax pmax
DL2 comp=Z,150nm,0.8s
DL2 pmax pmax
DL2 comp=Z,300nm,4.1s
DL2 LR LR
DL2 comp=N,890nm,19.7s
DL2 LR LR
DL2 comp=E,660nm,25.3s
DL2 LR LR
DL2 comp=Z,2μm,23.9s
INCN Inchon 47.54 26 *e*P **P 23 18 54.7 -0.6**
INCN *e*PcP **PcP 23 20 24.4 -0.1**
ARPS Mount Arapiles 47.75 137 P **P 23 18 59.0 +2.0**
baz=48,SNR=38
KSAR Wonju Array Be 48.05 27 P **P 23 18 59.4 +0.2**
KSAR PcP **PcP 23 20 26.2 0.0**
KSAR ScP **ScP 23 24 15.1 -0.2**
CMSA Cobar Meteorol 48.08 129 P **P 23 19 00.9 +1.3**
baz=48,SNR=312
KSRS Korea Array 48.08 27 P **P 23 18 59.4 0.0**
comp=Z,101nm,0.8s,baz=240,slow=7.6,SNR=264
KSRS PcP **PcP 23 20 26.2 -0.1**
comp=Z,62nm,0.9s,baz=210,slow=3.3,SNR=17
KSRS ScP **ScP 23 24 15.0 -0.3**
comp=Z,7.1nm,1.0s,baz=213,slow=3.7,SNR=7.2
KSRS LR LR 23 39 38.7
comp=Z,2μm,21.9s,baz=150,slow=37
RMQ Roma 48.76 121 P **P 23 19 06.8 +1.8**
baz=49,SNR=62
WMQ Urumqi 50.33 346 P **P 23 19 18.0 +1.4**
WMQ pP **pP 23 19 36.8 +3.4**
WMQ sP sP 23 19 45.5 +4.7
WMQ PcP **PcP 23 20 36.0 +1.5**
WMQ PP **PP 23 21 15.3 +2.5**
WMQ ScP **ScP 23 24 23.5 -1.5**
WMQ S **S 23 26 23.5 -1.3**
WMQ sS **sS 23 26 56.0 +2.8**
WMQ ScS **ScS 23 28 58.5 -3.3**
WMQ SS **SS 23 29 55.0 -4.5**
WMQ pmax pmax
WMQ comp=Z,830nm,1.0s
WMQ pmax pmax
WMQ comp=Z,1μm,3.8s
WMQ LR LR
WMQ comp=N,1μm,19.0s
WMQ LR LR
WMQ comp=E,1μm,17.0s
WMQ LR LR
WMQ comp=Z,2μm,32.4s
EIDS Eidsvold 50.44 119 *e*P **P 23 19 18.6 +0.9**
comp=Z,402nm,1.4s
EIDS Eidsvold 50.44 119 P **P 23 19 18.7 +0.9**
baz=50,SNR=45
KSH Kashi 50.64 333 ⇑*i*P **P 23 19 18.0 -1.1**
KSH pP **pP 23 19 37.0 +1.1**
KSH sP sP 23 19 46.3 +3.0
KSH PP **PP 23 21 16.5 +0.8**
KSH PcS **PcS 23 24 32.3 -1.0**
KSH S S 23 26 23.0 -6.4
KSH sS **sS 23 26 56.5 -1.2**
KSH ScS **ScS 23 28 59.5 -4.8**
KSH SS SS 23 29 56.0 -8.6
KSH pmax pmax
KSH comp=Z,220nm,0.9s
KSH LR LR
KSH comp=N,360nm,12.8s
KSH LR LR
KSH comp=E,1μm,19.1s
KSH LR LR
KSH comp=Z,400nm,14.2s
TOO Toolangi 50.67 136 P **P 23 19 21.9 +2.6**
baz=51,SNR=4.8
WBK Wadi Bani Khal 50.87 304 P **P 23 19 23.5 +2.5**
SNR=8.8
YNG Young 51.29 131 P **P 23 19 25.5 +1.4**
baz=51,SNR=184
JMDO Jabal Madar 51.48 304 P **P 23 19 27.6 +2.0**
SNR=7.9
SMDO Samad 51.83 304 P **P 23 19 30.6 +2.3**
SNR=14
CAN Canberra 52.17 132 *e*P **P 23 19 32.1 +1.5**
CAN pmax pmax
comp=Z,258nm,0.9s
CAN Canberra 52.17 132 *e*P **P 23 19 32.1 +1.5**
comp=Z,258nm,0.9s
BSY Bisya 52.40 303 P **P 23 19 34.9 +2.5**
SNR=16
ARMA Armidale 52.40 125 *e*P **P 23 19 35.0 +2.5**
comp=Z,239nm,1.0s
ARMA *e*PcP **PcP 23 20 44.2 +1.5**
ARMA *e*ScP **ScP 23 24 36.9 +2.5**
ARMA Armidale 52.40 125 P **P 23 19 34.9 +2.5**
baz=52,SNR=18
CNB Canberra Magne 52.44 132 P **P 23 19 34.1 +1.5**
baz=52,SNR=11
CN2 Changchun 52.50 20 ⇑*i*P **P 23 19 32.0 -0.7**
CN2 *e*pP **pP 23 19 47.3 -2.2**
CN2 *e*sP **sP 23 19 55.5 -1.4**
CN2 *e*PcP **PcP 23 20 42.5 0.0**
CN2 *e*S **S 23 26 53.0 -1.5**
CN2 pmax pmax
CN2 comp=Z,380nm,1.0s
CN2 pmax pmax
CN2 comp=Z,1μm,3.0s
CN2 LR LR
CN2 comp=N,1μm,17.0s LR LR
CN2 comp=E,1μm,17.0s LR LR
CN2 comp=Z,2μm,20.0s LR LR
SONM Songino Array 52.53 3 P **P 23 19 33.8 +0.7**
SONM PcP **PcP 23 20 42.8 +0.2**
SONM ScP **ScP 23 24 33.7 -0.7**
SONM Songino Array 52.53 3 P **P 23 19 33.8 +0.7**
comp=Z,439nm,0.9s,baz=183,slow=6.8,SNR=669
SONM PcP **PcP 23 20 42.8 +0.2**
comp=Z,144nm,0.8s,baz=190,slow=4.0,SNR=10
SONM ScP **ScP 23 24 33.7 -0.7**
comp=Z,7.5nm,0.8s,baz=174,slow=4.3,SNR=3.8
ULN Ulaanbaatar 52.59 4 *e*P **P 23 19 34.2 +0.7**
ULN *e*PcP **PcP 23 20 43.2 +0.3**
ULN Ulaanbaatar 52.59 4 P **P 23 19 33.9 +0.3**
comp=Z,355nm,1.1s,comp=Z,3μm
HOQ Hoqain 52.67 304 P **P 23 19 36.5 +2.1**
SNR=25
MAJO Matsushiro 52.74 36 *e*P **P 23 19 32.5 -2.2**
MAJO *e* 23 20 43.4
MAJO Matsushiro 52.74 36 *e*P **P 23 19 32.5 -2.2**
MAJO *e*PcP **PcP 23 20 43.4 -0.2**
MAT Matsushiro 52.74 36 P **P 23 19 33.2 -1.5**
MJAR Matsushiro Arr 52.74 36 P **P 23 19 33.2 -1.5**
MJAR PcP **PcP 23 20 44.0 +0.3**
MJAR ScP **ScP 23 24 35.5 0.0**
MJAR Matsushiro Arr 52.74 36 P **P 23 19 33.2 -1.5**
comp=Z,291nm,0.9s,baz=220,slow=8.2,SNR=440
MJAR PcP **PcP 23 20 44.0 +0.3**
comp=Z,53nm,0.9s,baz=193,slow=3.4,SNR=5.5
MJAR ScP **ScP 23 24 35.5 0.0**
comp=Z,4.6nm,0.8s,baz=207,slow=5.2,SNR=4.4
ULHL Ulahol 52.76 335 P **P 23 19 36.9 +1.9**
SNR=5.4
MGCD Mangrove Creek 52.95 128 P **P 23 19 38.3 +1.9**
baz=53,SNR=35
MILA Mila 53.02 134 P **P 23 19 38.9 +2.1**
baz=53,SNR=7.8
KZA Kyzart 53.04 334 P **P 23 19 38.4 +1.1**
SNR=8.4
ARQ Araqi 53.22 304 P **P 23 19 40.3 +1.9**
SNR=10
AAA Alma-Ata 53.33 336 *i* P **P 23 19 39.7 +0.8**
AAA *i* S **S 23 27 03.8 -2.1**
AAA pmax pmax
AAA comp=Z,2μm,4.0s
AAA smax smax
AAA comp=E,2μm,10.9s
AAA MLR MLR
AAA comp=Z,600nm,18.0s
UCH Uchtor 53.48 334 P **P 23 19 40.9 +0.3**
SNR=23
TKM2 Tokmak 2 53.58 335 *i* P **P 23 19 41.3 +0.3**
TKM2 Tokmak 2 53.58 335 P **P 23 19 41.3 +0.3**
SNR=26
TKM2 Tokmak 2 53.58 335 *e*P **P 23 19 40.8 -0.2**
comp=Z,257nm,0.7s
KBK Karagaybulak 53.64 335 P **P 23 19 42.0 +0.6**
SNR=36
AML Almayashu 53.77 333 P **P 23 19 42.8 +0.2**
SNR=113
AAK Ala-Archa 53.82 334 *e*P **P 23 19 43.1 +0.4**
AAK 23 20 48.6
AAK S **S 23 27 13.5 +0.6**
AAK *e*S S 23 27 15.4 +2.5
AAK pmax pmax
AAK comp=Z,149nm,0.8s
AAK Ala-Archa 53.82 334 P **P 23 19 43.1 +0.4**
SNR=37
AAK Ala-Archa 53.82 334 *e*P **P 23 19 43.0 +0.4**
comp=Z,149nm,0.8s
AAK PcP **PcP 23 20 48.6 +0.9**
AAK *e*PcP **PcP 23 20 49.1 +1.3**
AAK S **S 23 27 13.5 +0.6**
AAK *e*S S 23 27 15.4 +2.5
AAK Ala-Archa 53.82 334 P **P 23 19 43.0 +0.4**
comp=Z,49nm,0.7s,baz=146,slow=5.7,SNR=79
AAK PcP **PcP 23 20 48.6 +0.9**
comp=Z,119nm,0.7s,baz=124,slow=5.1,SNR=10
AAK S **S 23 27 13.5 +0.6**
comp=Z,2.8nm,0.6s,baz=180,slow=18,SNR=7.2
AAK LR LR 23 47 20.1
comp=Z,806nm,19.7s,baz=128,slow=41
FRU Bishkek 53.93 334 ⇑*i*P **P 23 19 42.5 -0.8**
FRU *i* 23 19 57.5
FRU *i* S **S 23 27 14.0 -0.1**
FRU *i* 23 27 34.0
FRU pmax pmax
FRU comp=Z,530nm,1.9s
FRU smax smax
FRU comp=E,140nm,2.0s
FRU MLR MLR
FRU comp=Z,1μm,24.0s
CHMS Chumysh 54.01 335 P **P 23 19 43.7 -0.2**
SNR=64
EKS2 Erkin-Say 54.16 334 *e*P **P 23 19 45.5 +0.4**
EKS2 *e*S **S 23 27 17.4 +0.1**
EKS2 pmax pmax
EKS2 comp=Z,291nm,0.8s
EKS2 Erkin-Say 54.16 334 P **P 23 19 45.5 +0.4**
SNR=241
EKS2 Erkin-Say 54.16 334 *e*P **P 23 19 45.5 +0.4**
comp=Z,291nm,0.8s
EKS2 *e*S **S 23 27 17.4 +0.1**
UOSS Wadi Hilu 54.18 305 P **P 23 19 46.0 +0.5**
comp=Z,494nm,1.1s,SNR=16
ASHO Ashiyiah 54.19 305 P **P 23 19 47.4 +1.8**
SNR=13
MOO Moorlands 54.24 140 P **P 23 19 48.1 +2.5**
baz=54,SNR=4.1
USP Ospenovka 54.33 335 P **P 23 19 46.0 -0.3**
SNR=114
VLA Vladivostok 54.45 26ĸ *i*P **P 23 19 46.8 -0.2**
VLA *i* 23 20 49.1
VLA *e* 23 21 48.7
VLA *e*S **S 23 27 18.5 -2.4**
VLA pmax pmax
VLA comp=Z,186nm,1.0s
MK31 Makanchi Array 54.55 343 *e*P **P 23 19 47.5 -0.2**
MK31 *e* 23 20 50.9
MK31 Makanchi Array 54.55 343 *e*P **P 23 19 47.5 -0.2**
MK31 *e*PcP **PcP 23 20 50.9 +0.7**
MKAR Makanchi Array 54.55 343 *e*P **P 23 19 47.5 -0.3**
MKAR 23 20 50.7
MKAR S **S 23 27 21.5 -0.7**
MKAR Makanchi Array 54.55 343 *e*P **P 23 19 47.5 -0.3**
MKAR PcP **PcP 23 20 50.7 +0.5**
MKAR S **S 23 27 21.5 -0.7**
MKAR P'P' 23 49 57.6
MKAR Makanchi Array 54.55 343 P **P 23 19 47.4 -0.3**
comp=Z,408nm,0.7s,baz=147,slow=7.7,SNR=1219
MKAR PcP **PcP 23 20 50.7 +0.5**
comp=Z,76nm,0.9s,baz=158,slow=5.4,SNR=4.0
MKAR S **S 23 27 21.5 -0.7**
comp=Z,4.9nm,0.9s,baz=150,slow=12,SNR=4.4
MKAR LR LR 23 47 29.6
comp=Z,900nm,20.0s,baz=127,slow=41
MKAR PKPPKP **P'P'df 23 49 57.6 -0.6**
comp=Z,2.6nm,1.1s,baz=321,slow=2.0,SNR=4.5
TAU Tasmania Unive 54.57 141 *e*P **P 23 19 50.3 +2.4**
TAU pmax pmax
comp=Z,401nm,1.9s
TAU Tasmania Unive 54.57 141 *e*P **P 23 19 50.3 +2.4**
comp=Z,403nm,1.9s
MDJ Mudanjiang 54.73 23 P **P 23 19 49.0 -0.1**
MDJ pP **pP 23 20 05.3 -0.7**
MDJ sP **sP 23 20 15.0 +1.7**
MDJ PP **PP 23 21 49.0 -3.4**
MDJ S S 23 27 16.5 -8.2
MDJ SS SKiKP 23 30 59.5 +8.1
MDJ pmax pmax
MDJ comp=Z,150nm,0.9s
MDJ pmax pmax
MDJ comp=Z,440nm,7.7s
MDJ LR LR
MDJ comp=N,1μm,31.7s
MDJ LR LR
MDJ comp=E,1μm,27.2s
MDJ LR LR
MDJ comp=Z,2μm,22.7s
MDJ Mudanjiang 54.73 23 *e*P **P 23 19 48.7 -0.4**
comp=Z,142nm,0.9s

ZAK	**Zakamensk**	**54.99**	**0**	⇓	*i*	P	**P**	**23 19 50.5**	**-0.4**
ZAK					*e*			23 20 52.0	
ZAK						pmax	pmax		
	comp=Z,97nm,1.0s								
USRK	**Ussuriysk Arra**	**55.36**	**25**		P		**P**	**23 19 53.3**	**-0.3**
	comp=Z,493nm,1.0s,baz=219,slow=6.3,SNR=409								
USRK						LR	LR	23 45 16.4	
	comp=Z,2µm,20.4s,baz=150,slow=38								
USRK						PKPPKP		**P'P'df**	**23 49 59.4**	**+2.1**
	comp=Z,0.4nm,0.4s,baz=20,slow=6.1,SNR=4.2								
HIA	**Hailar**	**55.83**	**13**		*e*P		**P**	**23 19 56.1**	**-0.8**
	comp=Z,256nm,1.0s								
HIA					*e*PcP		**PcP**	**23 20 55.2**	**+0.1**
KK31	**Karatay Array**	**55.99**	**332**		*i* P		**P**	**23 19 57.1**	**-1.1**
KK31						pmax	pmax		
	comp=Z,37nm,0.6s								
KKAR	**Karatay Array**	**55.99**	**332**		*e*P		**P**	**23 19 55.9**	**-2.3**
KKAR	**Karatay Array**	**55.99**	**332**		*e*P		**P**	**23 19 55.9**	**-2.3**
	comp=Z,0.2nm,0.5s								
OPO	**Ambohidratompo**	**56.03**	**251**		LR		LR	23 38 55.1	
	comp=Z,2µm,20.8s,baz=101,slow=30								
ABPO	**Ambohimpanom**	**56.05**	**250**		*e*P		**P**	**23 19 59.9**	**+0.7**
	comp=Z,58nm,1.3s								
TLY	**Talaya**	**56.29**	**1**		P		**P**	**23 20 02.8**	**+2.6**
	comp=Z,494nm,0.7s,SNR=11								
MOY	**Mondy**	**56.30**	**359**		*e*P		**P**	**23 20 00.5**	**+0.2**
MOY						pmax	pmax		
	comp=Z,243nm,2.5s								
HVS	**Khovu-Aksy**	**56.30**	**353**	*c*	*i* P		**P**	**23 19 59.4**	**-0.9**
HVS						pmax	pmax		
	comp=Z,782nm,1.2s								
PATS	**Pohnpei**	**56.49**	**79**		P		**P**	**23 20 04.1**	**+1.9**
	baz=56,SNR=4.3								
HNR	**Honiara**	**56.73**	**98**		*e*P		**P**	**23 20 03.6**	**-0.3**
	comp=Z,22nm,0.9s								
HNR	**Honiara**	**56.73**	**98**		P		**P**	**23 20 03.7**	**-0.3**
	comp=Z,600nm,0.7s,baz=220,slow=2.5,SNR=32								
IRK	**Irkutsk**	**56.86**	**1**		*e*P		**P**	**23 20 04.2**	**0.0**
IRK						pmax	pmax		
	comp=Z,284nm,1.3s								
CIT	**Chita**	**57.35**	**8**		*e*P		**P**	**23 20 08.3**	**+0.6**
CIT					*e*			23 20 16.8	
CIT					*e*			23 20 27.2	
CIT					*e*			23 21 02.4	
CIT						pmax	pmax		
	comp=Z,516nm,1.3s								
LHI	**Lord Howe Isla**	**58.83**	**124**		P		**P**	**23 20 20.0**	**+1.6**
	baz=59,SNR=5.2								
KURBB	**Kurchatov Arra**	**59.09**	**342**		P		**P**	**23 20 19.3**	**-0.5**
	comp=Z,306nm,0.8s,baz=160,slow=6.6,SNR=461								
KURBB						PcP		**PcP**	**23 21 08.1**	**+0.2**
	comp=Z,109nm,0.7s,baz=155,slow=3.5,SNR=15								
KURBB						S		**S**	**23 28 18.6**	**-3.3**
	comp=Z,6.9nm,1.0s,baz=167,slow=14,SNR=6.5								
KURBB						PKPPKP		P'P'df	23 49 38.1	-13
	comp=Z,1.2nm,0.9s,baz=345,slow=2.1,SNR=5.4								
KURBB						PKP2bc			23 50 02.0	
	comp=Z,10nm,1.0s,baz=329,slow=2.5,SNR=23								
KURK	**Kurchatov**	**59.15**	**342**		P		**P**	**23 20 19.3**	**-0.9**
KURK									23 21 08.1	
KURK						S		**S**	**23 28 18.6**	**-4.0**
KURK						pmax	pmax		
	comp=Z,306nm,0.8s								
KURK						pmax	pmax		
	comp=Z,109nm,0.7s								
KURK						smax	smax		
	comp=N,7.0nm,1.0s								
KURK						pmax	pmax		
	comp=Z,1.0nm,0.9s								
KURK						pmax	pmax		
	comp=Z,10.0nm,1.0s								
KURK	**Kurchatov**	**59.15**	**342**		P		**P**	**23 20 19.3**	**-0.9**
KURK						PcP		**PcP**	**23 21 08.1**	**0.0**
KURK						S		**S**	**23 28 18.6**	**-4.0**
KURK						P'P'			23 49 38.1	
KURK				⇑	*e*				23 50 02.0	
ERM	**Erimo**	**59.26**	**34**	*d*	*i* P		**P**	**23 20 20.8**	**-0.3**
ERM						pmax	pmax		
	comp=Z,324nm,1.0s								
ERM	**Erimo**	**59.26**	**34**		*e*P		**P**	**23 20 20.5**	**-0.6**
KLR	**Kul'dur**	**59.39**	**22**	⇓	*i* P		P	23 20 18.0	-3.9
KLR						pmax	pmax		
	comp=N,80nm,1.4s								
KLR						pmax	pmax		
	comp=E,160nm,1.4s								
KLR						pmax	pmax		
	comp=Z,660nm,1.4s								
ASAJ	**Asahikawa**	**60.37**	**32**		*e*P		**P**	**23 20 28.4**	**-0.3**
ASAJ	**Asahikawa**	**60.37**	**32**		P		**P**	**23 20 28.4**	**-0.3**
	comp=Z,374nm,0.7s,baz=236,slow=7.2,SNR=201								
ZALV	**Zalesovo Beam**	**60.50**	**348**		P		**P**	**23 20 28.6**	**-0.8**
ZALV						S		**S**	**23 28 36.7**	**-3.2**
ZALV									23 30 08.1	
ZALV						pmax	pmax		
	comp=Z,559nm,0.8s								
ZALV						smax	smax		
	comp=N,11nm,0.9s								
ZALV						pmax	pmax		
	comp=N,10.0nm,0.9s								
ZALV						pmax	pmax		
	comp=Z,2.0nm,1.0s								
ZALV	**Zalesovo Beam**	**60.50**	**348**		P		**P**	**23 20 28.6**	**-0.8**
ZALV						S		**S**	**23 28 36.6**	**-3.2**
ZALV						ScS	SKKSac	23 30 08.1	-5.9
ZALV						P'P'			23 49 44.9	
ZALV	**Zalesovo Beam**	**60.50**	**348**		P		**P**	**23 20 28.6**	**-0.8**
	comp=Z,558nm,0.8s,baz=164,slow=5.4,SNR=731								
ZALV						S		**S**	**23 28 36.6**	**-3.2**
	comp=Z,10nm,0.9s,baz=164,slow=13,SNR=7.7								
ZALV						ScS	SKKSac	23 30 08.1	-5.9
	comp=Z,10nm,0.9s,baz=147,slow=2.9,SNR=7.2								
ZALV						PKPPKP		**P'P'df**	**23 49 44.9**	**-4.1**
	comp=Z,2.0nm,1.0s,baz=347,slow=3.1,SNR=4.1								
KRAR	**Krasnoyarsk**	**61.19**	**354**	*c*	*i* P		**P**	**23 20 33.6**	**-0.4**
KRAR						pmax	pmax		
	comp=Z,534nm,1.7s								
NVS	**Novosibirsk**	**61.67**	**347**	⇑	*i* P		**P**	**23 20 35.3**	**-2.0**
NVS					*e**PP		**pP**	**23 20 50.4**	**-4.1**
NVS					*e*S		S	23 28 47.4	-7.3
NVS					*i*			23 30 16.5	
NVS						pmax	pmax		
	comp=Z,357nm,1.5s								
NVS						pmax	pmax		
	comp=N,255nm,1.7s								
NVS						pmax	pmax		
	comp=E,137nm,1.4s								
NVS						smax	smax		
	comp=E,112nm,1.5s								
NVS						smax	smax		
	comp=N,94nm,2.2s								
MIR	**Mirnyy**	**62.00**	**184**		*e*P		P	23 20 56.0	+17
MIR					*e*			23 21 11.0	
MIR						pmax	pmax		
	comp=Z,125nm,1.5s								
YSS	**Yuzh-Sakhalins**	**62.40**	**30**	⇑	*i* P		**P**	**23 20 43.0**	**+0.7**
YSS					*e*			23 20 57.0	
YSS					*e*			23 21 22.0	
YSS					*e*S		**S**	**23 29 04.0**	**-0.3**
YSS						pmax	pmax		
	comp=Z,1µm,2.0s								
YSS						pmax	pmax		
	comp=Z,740nm,1.0s								
KBD	**Kabd**	**62.84**	**306**		*e*P		**P**	**23 20 46.3**	**+0.7**
KBD						AMb	AMB	23 20 48.1	
	comp=Z,501nm,1.0s								
UMR	**Umm Al-Rimmam**	**62.97**	**307**		*e*P		**P**	**23 20 47.2**	**+0.8**
UMR						AMb	AMB	23 20 48.9	
	comp=Z,994nm,0.8s								
MIB	**Mutribah**	**63.37**	**307**		*e*P		**P**	**23 20 49.9**	**+0.7**
MIB						AMb	AMB	23 20 51.5	
	comp=Z,843nm,1.0s								
NOUC	**Port Laguerre**	**63.56**	**112**		*e*P		**P**	**23 20 50.0**	**-0.6**
DZM	**Mont Dzumac**	**63.69**	**112**		*e*LR		LR	23 39 59.7	
	comp=Z,2µm,27.1s								
DZM	**Mont Dzumac**	**63.69**	**112**		*e*P		**P**	**23 20 51.4**	**-0.2**
DZM	**Mont Dzumac**	**63.69**	**112**		*e*P		**P**	**23 20 52.1**	**+0.5**
	comp=Z,76nm,0.8s								
DZM						S		**S**	**23 29 23.3**	**+1.8**
DZM	**Mont Dzumac**	**63.69**	**112**		P		**P**	**23 20 52.3**	**+0.8**
	comp=Z,48nm,0.7s,baz=254,slow=7.1,SNR=24								
DZM						S		**S**	**23 29 23.3**	**+1.8**
	comp=Z,5.7nm,0.4s,baz=120,slow=20,SNR=6.7								
DZM						LR	LR	23 46 24.6	
	comp=Z,1µm,19.3s,baz=20,slow=34								
NORM	**Noumea**	**63.74**	**112**		*e*P		**P**	**23 20 51.6**	**-0.2**
BVAR	**Borovoye Array**	**63.84**	**339**		P		**P**	**23 20 51.1**	**-0.7**
BVAR						S	**S**	**23 29 19.7**	**-2.4**
BVAR						pmax	pmax		
	comp=Z,192nm,0.7s								
BVAR						pmax	pmax		
	comp=Z,79nm,0.7s								
BVAR						smax	smax		
	comp=N,5.0nm,0.8s								
BVAR						pmax	pmax		
	comp=Z,1.0nm,0.5s								
BVAR	**Borovoye Array**	**63.84**	**339**		P		**P**	**23 20 51.1**	**-0.7**
	comp=Z,192nm,0.7s,baz=134,slow=6.4,SNR=350								
BVAR						PcP		**PcP**	**23 21 27.5**	**+0.4**
	comp=Z,79nm,0.7s,baz=150,slow=6.1,SNR=6.6								
BVAR						S		**S**	**23 29 19.7**	**-2.4**
	comp=Z,4.9nm,0.8s,baz=126,slow=14,SNR=5.5								
BVAR						PKPPKP		**P'P'df**	**23 49 42.5**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=29,slow=3.3,SNR=3.5								
BRVK	**Borovoye**	**63.90**	**339**	*c*	*i* P		**P**	**23 20 51.5**	**-0.7**
BRVK						pmax	pmax		
	comp=Z,153nm,0.6s								
BRVK	**Borovoye**	**63.90**	**339**		*e*P		**P**	**23 20 51.4**	**-0.7**
CLNS	**Chul'man**	**64.02**	**13**		*e*P		**P**	**23 20 52.9**	**0.0**
CLNS					*e**PP		pP	23 20 59.7	-11
CLNS					*e*			23 21 27.4	
CLNS					*e*S		**S**	**23 29 26.7**	**+2.5**
CLNS						pmax	pmax		
	comp=Z,276nm,0.9s								
CLNS						pmax	pmax		
	comp=E,154nm,1.2s								
CLNS						pmax	pmax		
	comp=N,171nm,1.0s								
CLNS						pmax	pmax		
	comp=E,19nm,0.9s								
CLNS						pmax	pmax		
	comp=N,16nm,0.6s								
CLNS						pmax	pmax		
	comp=Z,21nm,1.0s								
CLNS						smax	smax		
	comp=N,227nm,10.2s								
CLNS						smax	smax		
	comp=E,352nm,11.5s								
AB31	**Akbulak array**	**65.51**	**331**		*i* P		**P**	**23 21 02.1**	**-0.6**
AB31						pmax	pmax		
	comp=Z,389nm,0.8s								
ABKAR	**Akbulak array**	**65.51**	**331**		*e*P		**P**	**23 21 02.2**	**-0.5**
KMBO	**Kilima Mbogo**	**65.66**	**271**		*e*P		**P**	**23 21 05.8**	**+1.0**
KMBO	**Kilima Mbogo**	**65.66**	**271**		P		**P**	**23 21 05.6**	**+0.9**
	comp=Z,13nm,1.0s,baz=77,slow=6.2,SNR=8.4								
KMBO	**Kilima Mbogo**	**65.66**	**271**		P		**P**	**23 21 06.4**	**+1.7**
	baz=66,SNR=3.9								
IBDR	**Badra**	**65.78**	**309**		*i* PKP		P	23 21 01.0	-3.8
IBDR					*i* SKS		**S**	**23 29 44.0**	**-2.6**
KWAJ	**Kwajalein Atol**	**65.91**	**78**		*e*P		**P**	**23 21 06.0**	**0.0**
KWAJ						pmax	pmax		
	comp=Z,397nm,0.9s								
KWAJ	**Kwajalein Atol**	**65.91**	**78**		*e*P		**P**	**23 21 06.0**	**0.0**
	comp=Z,396nm,0.9s								
BHD	**Baghdad**	**67.04**	**309**		*i* PKP		P	23 21 02.0	-11
BHD					*i* SKS		S	23 29 44.0	-18
AKTO	**Aktyubinsk**	**67.22**	**331**		P		**P**	**23 21 13.5**	**-0.2**
AKTO						S	**S**	**23 30 00.8**	**-2.7**
AKTO						pmax	pmax		
	comp=Z,77nm,1.0s								
AKTO						smax	smax		
	comp=N,5.0nm,0.9s								
AKTO						pmax	pmax		
	comp=Z,4.0nm,1.0s								
AKTO						MLR	MLR		
	comp=Z,561nm,21.3s								
AKTO	**Aktyubinsk**	**67.22**	**331**		P		**P**	**23 21 13.5**	**-0.2**
AKTO						S	**S**	**23 30 00.8**	**-2.7**
AKTO				⇑	*e*			23 49 39.7	
AKTO	**Aktyubinsk**	**67.22**	**331**		P		**P**	**23 21 13.5**	**-0.2**
	comp=Z,77nm,1.0s,baz=125,slow=8.0,SNR=85								
AKTO						S	**S**	**23 30 00.8**	**-2.7**
	comp=Z,5.2nm,0.9s,baz=306,slow=18,SNR=9.4								
AKTO						PKP2bc			23 49 39.7	
	comp=Z,3.9nm,1.0s,baz=72,slow=16,SNR=9.7								
AKTO						LR	LR	23 56 18.3	
	comp=Z,561nm,21.2s,baz=100,slow=41								
MAW	**Mawson**	**68.31**	**195**		P		**P**	**23 21 21.4**	**+1.2**
MAW				⇑	*e*			23 49 34.4	
MAW	**Mawson**	**68.31**	**195**		P		**P**	**23 21 21.4**	**+1.2**
	comp=Z,14nm,0.9s,baz=33,slow=8.3,SNR=19								
MAW						PKP2bc			23 49 34.4	
	comp=Z,13nm,0.7s,baz=216,slow=3.1,SNR=19								
MAW	**Mawson**	**68.31**	**195**		P		**P**	**23 21 21.7**	**+1.5**
	baz=68,SNR=13								
MAK	**Makhachkala**	**68.99**	**320**	*c*	*i* P		**P**	**23 21 25.8**	**+0.9**
MAK					*e*			23 21 31.4	
MAK					*e**PP		**PcP**	**23 21 47.0**	**-1.7**
MAK					*e*S		**S**	**23 30 24.7**	**-0.1**
MAK					*e**SS		**sS**	**23 30 57.8**	**+3.4**
MAK						pmax	pmax		
	comp=Z,360nm,0.9s								
MAK						MLR	MLR		
	comp=Z,348nm,20.0s								
CUKT	**Cukurca**	**69.18**	**313**		*e*P		**P**	**23 21 26.5**	**+0.1**
HAKT	**HAKKARI**	**69.23**	**313**		*i* P		**P**	**23 21 26.9**	**+0.1**
GNI	**Garni**	**69.57**	**316**		*e*P		**P**	**23 21 29.8**	**+1.0**
GNI	**Garni**	**69.57**	**316**		*e*P		**P**	**23 21 29.3**	**+0.5**
	comp=Z,129nm,0.9s								
GNI	**Garni**	**69.57**	**316**		P		**P**	**23 21 29.6**	**+0.8**
	comp=Z,60nm,0.9s,baz=129,slow=6.5,SNR=21								
GNI						LR	LR	23 53 32.2	
	comp=Z,363nm,21.7s,baz=243,slow=37								
DGRG	**David-gareji**	**69.70**	**317**		P		**P**	**23 21 31.0**	**+1.6**
CLDR	**Caldiran**	**69.72**	**315**		*e*P		**P**	**23 21 30.8**	**+0.9**
YAK	**Yakutsk**	**69.77**	**13**	*c*	*i* P		**P**	**23 21 28.0**	**-1.3**
YAK					*e*			23 21 38.3	
YAK					*e**PP		**pP**	**23 21 43.2**	**-3.6**
YAK					*e*			23 24 02.9	
YAK					*e*S		**S**	**23 30 31.5**	**-1.7**
YAK					*e**SS		**SKiKP**	**23 31 14.6**	**+3.7**
YAK					*e*			23 31 23.5	
YAK						pmax	pmax		
	comp=Z,635nm,1.0s								
YAK						pmax	pmax		
	comp=N,199nm,1.1s								
YAK						pmax	pmax		
	comp=E,162nm,1.3s								
YAK						pmax	pmax		
	comp=Z,44nm,1.3s								
YAK						pmax	pmax		
	comp=N,47nm,1.3s								
YAK						pmax	pmax		
	comp=E,31nm,1.5s								
YAK						smax	smax		
	comp=N,82nm,2.2s								
YAK						smax	smax		
	comp=E,37nm,1.8s								
YAK						MLR	MLR		
	comp=Z,1µm,23.0s								
YAK						MLR	MLR		
	comp=N,1µm,20.0s								
YAK						MLR	MLR		
	comp=E,564nm,21.0s								
GEVA	**Gevas**	**70.00**	**314**		*i* P		**P**	**23 21 31.4**	**-0.1**
TARA	**Tarawa**	**70.20**	**87**		*e*P		**P**	**23 21 34.0**	**+1.0**
	comp=E,632nm,0.8s								
TBLG	**Delisi**	**70.25**	**317**		*i* P		**P**	**23 21 33.6**	**+0.8**
TBLG						S	**S**	**23 30 43.5**	**+3.7**
TBLG	**Delisi**	**70.25**	**317**		P		**P**	**23 21 33.6**	**+0.8**
TBLG						S	**S**	**23 30 43.5**	**+3.7**
SVE	**Sverdlovsk**	**70.40**	**337**	*d*	*i* P		**P**	**23 21 33.5**	**+0.3**
SVE					*e*			23 24 07.7	
SVE					*e*PPP		PPP	23 25 54.2	
SVE					*e*S		**S**	**23 30 40.7**	**-0.1**
SVE					*e*SS		**SS**	**23 35 15.3**	**+2.4**
SVE						pmax	pmax		
	comp=Z,620nm,1.2s								
SVE						pmax	pmax		
	comp=Z,202nm,7.2s								
SVE						MLR	MLR		
	comp=Z,1µm,25.0s								
DUS	**Dusheti**	**70.44**	**318**		P		**P**	**23 21 35.4**	**+1.5**
DUS						S	S	23 30 34.2	-7.8
AGRB	**Hanur-Agry**	**70.55**	**315**		*e*P		**P**	**23 21 36.1**	**+1.2**
TUTA	**Tutak**	**70.61**	**315**		*i* P		**P**	**23 21 35.9**	**+0.7**
MZRK	**Al-Mazaregh**	**70.84**	**310**		*e*P		**P**	**23 21 39.1**	**+2.7**
MZRK	**Al-Mazaregh**	**70.84**	**310**		*e*P		**P**	**23 21 38.6**	**+2.2**
MZRK	**Al-Mazaregh**	**70.84**	**310**		*e*P		**P**	**23 21 38.8**	**+2.3**
ODZ	**Otahua Downs**	**70.93**	**136**		*e*P		**P**	**23 21 38.5**	**+1.7**
RPZ	**Rata Peaks**	**70.94**	**135**		*e*P		**P**	**23 21 37.6**	**+0.7**
	comp=Z,67nm,0.8s								
RPZ					*e*PP		**PP**	**23 24 13.3**	**-1.5**
RPZ	**Rata Peaks**	**70.94**	**135**		P		**P**	**23 21 37.4**	**+0.5**
	comp=Z,31nm,0.6s,baz=216,slow=2.4,SNR=15								
ARU	**Arti**	**70.95**	**336**	*c*	*i* P		**P**	**23 21 36.4**	**-0.2**
ARU					*i*	*PP	**pP**	**23 21 51.3**	**-2.9**
ARU						PPP	PPP	23 25 58.4	
ARU						S	**S**	**23 30 44.8**	**-2.5**
ARU						pmax	pmax		
	comp=Z,417nm,1.0s								
ARU						MLR	MLR		
	comp=Z,2µm,25.0s								
ARU	**Arti**	**70.95**	**336**		P		**P**	**23 21 36.8**	**+0.2**
	comp=Z,2µm,1.1s,SNR=66								
AKH	**Akhalkalaki**	**70.96**	**317**		P		**P**	**23 21 38.1**	**+0.9**
BEST	**Besiri**	**71.14**	**313**		*i* P		**P**	**23 21 39.0**	**+0.7**
ZEI	**Tsey**	**71.27**	**318**		*e*P		**P**	**23 21 39.6**	**+0.5**
ZEI						pmax	pmax		
	comp=Z,127nm,0.8s								
MARD	**Mardin**	**71.28**	**312**		*i* P		**P**	**23 21 40.1**	**+0.9**
KBSD	**Kabsdagh**	**71.35**	**312**		*e*P		**P**	**23 21 37.8**	**-1.7**
KBSD	**Kabsdagh**	**71.35**	**312**		*e*P		**P**	**23 21 38.2**	**-1.3**
KBSD	**Kabsdagh**	**71.35**	**312**		*e*P		**P**	**23 21 37.9**	**-1.6**
SFNV	**Sufian**	**71.46**	**311**		*e*P		**P**	**23 21 41.7**	**+1.4**
SFNV	**Sufian**	**71.46**	**311**		*e*P		**P**	**23 21 41.6**	**+1.4**
SFNV	**Sufian**	**71.46**	**311**		*e*P		**P**	**23 21 41.5**	**+1.3**
OUZ	**Omahuta**	**71.46**	**125**		*e*P		**P**	**23 21 42.7**	**+2.5**
	comp=Z,89nm,1.3s								
OUZ					*e*PP		**PP**	**23 24 22.2**	**+2.7**
ONI	**Oni**	**71.49**	**318**		P		**P**	**23 21 41.3**	**+1.0**
ONI						S	**S**	**23 30 55.3**	**+1.2**
HOMI	**Horasan**	**71.51**	**315**		*i* P		**P**	**23 21 41.6**	**+1.0**
MAZI	**Mazidag**	**71.58**	**312**		*e*P		**P**	**23 21 42.0**	**+0.9**
BNGL	**BINGOL**	**71.62**	**314**		*i* P		**P**	**23 21 42.5**	**+1.1**
SKR	**Severo-Kuril's**	**71.62**	**32**	⇑	*i* P		P	23 21 36.2	-4.6
SKR						pmax	pmax		
	comp=N,110nm,1.0s								
SKR						pmax	pmax		
	comp=E,180nm,1.0s								
SKR						pmax	pmax		
	comp=Z,400nm,1.0s								
SKR						pmax	pmax		
	comp=Z,1µm,10.0s								
ERZM	**Erzurum**	**71.83**	**315**		*i* P		**P**	**23 21 43.7**	**+1.0**
DAGI	**Agillar**	**71.91**	**316**		*i* P		**P**	**23 21 43.1**	**+0.2**
MNKR	**ALMNKUR**	**71.93**	**310**		*e*P		**P**	**23 21 39.9**	**-3.1**
MNKR	**ALMNKUR**	**71.93**	**310**		*e*P		**P**	**23 21 40.1**	**-3.0**
MNKR	**ALMNKUR**	**71.93**	**310**		*e*P		**P**	**23 21 40.3**	**-2.7**
ARTV	**Artvin**	**71.94**	**316**		*i* P		**P**	**23 21 43.7**	**+0.4**
DDEM	**Demirkent**	**71.95**	**316**		*i* P		**P**	**23 21 43.9**	**+0.8**
BNGB	**Bing¶ll**	**71.98**	**314**		*e*P		**P**	**23 21 44.5**	**+1.1**
DIYA	**Diyarbakir**	**71.99**	**312**		*i* P		**P**	**23 21 44.5**	**+1.1**
DBAD	**Bademkaya**	**72.04**	**316**		*i* P		**P**	**23 21 44.5**	**+0.8**
KSRV	**Kasrt alli**	**72.11**	**310**		*e*P		**P**	**23 21 41.0**	**-3.1**
KSRV	**Kasrt alli**	**72.11**	**310**		*e*P		**P**	**23 21 41.1**	**-2.9**
KSRV	**Kasrt alli**	**72.11**	**310**		*e*P		**P**	**23 21 41.3**	**-2.8**
DBOC	**Borcka**	**72.19**	**316**		*i* P		**P**	**23 21 44.9**	**+0.4**
BCA	**Borcka**	**72.26**	**316**		*e*P		**P**	**23 21 45.5**	**+0.6**
KBZ	**Khabaz**	**72.34**	**319**		P		**P**	**23 21 45.4**	**+0.2**
KBZ						S	**S**	**23 31 01.5**	**-2.1**
KBZ						pmax	pmax		
	comp=Z,209nm,0.9s								
KBZ						smax	smax		
	comp=N,2.0nm,0.8s								
KBZ	**Khabaz**	**72.34**	**319**		P		**P**	**23 21 45.4**	**+0.2**
KBZ						S	**S**	**23 31 01.5**	**-2.1**
KBZ	**Khabaz**	**72.34**	**319**		P		**P**	**23 21 45.4**	**+0.2**
	comp=N,209nm,0.8s,baz=135,slow=7.0,SNR=143								
KBZ						S	**S**	**23 31 01.5**	**-2.1**
	comp=N,1.9nm,0.8s,baz=253,slow=19,SNR=11								
CHVG	**Ch'k'valeri**	**72.46**	**318**		P		**P**	**23 21 47.0**	**+1.0**
ZALF	**Zalf**	**72.47**	**307**		*e*P		**P**	**23 21 48.3**	**+1.9**
ZALF	**Zalf**	**72.47**	**307**		*e*P		**P**	**23 21 48.2**	**+1.9**
ZALF	**Zalf**	**72.47**	**307**		*e*P		**P**	**23 21 47.8**	**+1.5**
KHZ	**Kahutara**	**72.48**	**133**		*e*P		**P**	**23 21 46.5**	**+0.3**
	comp=N,316nm,1.8s								
KOPT	**Kop Dagi**	**72.50**	**314**		*i* P		**P**	**23 21 47.7**	**+1.0**
KIV	**Kislovodsk**	**72.57**	**319**	*c*	*i* P		**P**	**23 21 47.1**	**+0.3**
KIV					*e*			23 24 29.5	
KIV					*e*S		**S**	**23 31 06.4**	**-0.2**
KIV						pmax	pmax		
	comp=Z,187nm,1.0s								
KIV						pmax	pmax		
	comp=Z,128nm,3.2s								
KIV	**Kislovodsk**	**72.57**	**319**		P		**P**	**23 21 47.4**	**+0.6**
	comp=Z,1µm,0.9s,SNR=31								
URFA	**Urfa**	**72.79**	**311**		*e*P		**P**	**23 21 49.6**	**+1.4**
PTK	**Pertek**	**72.88**	**313**		*e*P		**P**	**23 21 49.7**	**+0.9**
SALA	**Sala**	**72.89**	**306**		*e*P		**P**	**23 21 50.7**	**+1.7**
SALA	**Sala**	**72.89**	**306**		*e*P		**P**	**23 21 50.7**	**+1.7**
SALA	**Sala**	**72.89**	**306**		*e*P		**P**	**23 21 50.6**	**+1.6**
BAYT	**Ayd¯–ntepe-Bay**	**72.89**	**315**		*e*P		**P**	**23 21 50.2**	**+1.4**
ELZG	**Elazig**	**73.03**	**313**		*i* P		**P**	**23 21 51.0**	**+1.2**
SLMH	**Al Salmeh**	**73.05**	**310**		*e*P		**P**	**23 21 52.4**

comp=Z,200nm,10.4s
SUSE Susehri 74.20 314 *i* P **P** **23 21 57.2 +0.6**
KMRS Kahramanmaras 74.25 311 *e*P **P** **23 21 57.7 +1.0**
YAYL Yayladag 74.39 309 *i* P **P** **23 21 58.7 +1.1**
SOC Sochi 74.39 318*c i*P **P** **23 21 57.0 -0.3**
SOC *e* 23 22 11.9
SOC *e**PP **pP** **23 22 15.0 0.0**
SOC *e* 23 24 42.4
SOC *i* S **SKiKP** **23 31 22.5 +4.2**
SOC *e*SS **SS** **23 36 13.1 -1.4**
SOC *e*SSS SSS 23 39 34.7
SOC pmax pmax
comp=Z,288nm,0.8s
SOC pmax pmax
comp=Z,319nm,0.9s
SOC MLR MLR
comp=Z,275nm,20.0s
MSVF Nonsavu 74.40 107 *e*P **P** **23 21 59.0 +1.0**
MSVF Nonsavu 74.40 107 *e*P **P** **23 21 59.0 +1.0**
COBT Iskenderun 74.42 310 *i* P **P** **23 21 59.0 +1.1**
URZ Urewera 74.62 128 *e*P **P** **23 21 58.9 0.0**
comp=Z,44nm,0.9s
URZ Urewera 74.62 128 P **P** **23 21 58.8 0.0**
comp=Z,30nm,0.9s,baz=294,slow=5.1,SNR=7.5
SCER sogukcermik 74.86 313 *i* P **P** **23 22 01.2 +0.8**
RSDY Resadiye-TOKAT 74.90 314 *e*P **P** **23 22 01.6 +1.3**
SVSK Karacayir 74.97 313 *e*P **P** **23 22 02.1 +1.3**
ERBA Erbaa 75.40 314 *i* P **P** **23 22 03.8 +0.4**
BNN Bunyan 75.47 312 *e*P **P** **23 22 04.5 +0.7**
TOKA Tokat 75.48 314 *i* P **P** **23 22 04.3 +0.5**
KARA Karaisali 75.57 310 *e*P **P** **23 22 05.2 +0.9**
EREN Erenkoy 75.74 308 *e*P **P** **23 22 06.4 +1.2**
FUNA Funafuti 75.75 98 *e*P **P** **23 22 06.3 +0.6**
comp=Z,386nm,1.2s
GULE Gulek 75.79 310 *i* P **P** **23 22 06.7 +0.9**
KIZK Mersin 76.04 309 *i* P **P** **23 22 07.1 +0.1**
KVT Kavak 76.04 314 *e*P **P** **23 22 07.8 +0.9**
SYO Syowa Base 76.16 199‖*e*P **P** **23 22 06.9 -0.1**
LFK Lefkose 76.17 308 *e*P **P** **23 22 09.3 +1.5**
AVNT Avonos 76.18 312 *i* P **P** **23 22 08.0 +0.1**
CSS Prodhromos 76.24 308 ⇑P **P** **23 22 09.3 +1.1**
comp=Z,5.6nm,1.0s
CSS Prodhromos 76.24 308 *e*P **P** **23 22 09.2 +1.0**
comp=Z,111nm,1.0s
HAVZ Havza 76.28 314 *i* P **P** **23 22 08.6 +0.3**
IKL Isikli 76.32 309 *e*P **P** **23 22 09.2 +0.6**
ANN Anapa 76.37 318*c i*P **P** **23 22 07.8 -0.8**
ANN *i **PP **pP** **23 22 25.9 -0.5**
ANN *e*S **S** **23 31 44.8 -3.9**
ANN *i* 23 32 12.7
ANN pmax pmax
comp=Z,94nm,1.2s
ANN MLR MLR
comp=Z,270nm,19.0s
MAMC Mammari 76.39 308 ⇑P **P** **23 22 10.5 +1.5**
LBTB Lobatse 76.49 246 P **P** **23 22 11.3 +1.4**
LBTB Lobatse 76.49 246 P **P** **23 22 11.3 +1.4**
comp=Z,19nm,0.8s,baz=113,slow=6.6,SNR=21
LEF Lefka 76.63 308 *e*P **P** **23 22 11.5 +1.2**
CORM Corum 76.78 313 *e*P **P** **23 22 12.0 +0.8**
DIKM Dikmen 76.79 315 *e*P **P** **23 22 11.8 +0.7**
CDAG Cicekdag 76.80 312 *i* P **P** **23 22 11.0 -0.3**
CTKT Corum 76.80 313 *i* P **P** **23 22 11.9 +0.5**
ALFC Alevga 76.87 308 ⇑P **P** **23 22 12.3 +0.5**
comp=Z,2.6nm,0.8s
BOSA Boshof 76.88 242 *e*P **P** **23 22 13.1 +1.1**
comp=Z,96nm,1.2s
BOSA PKKPbc **PKKPbc** **23 41 20.9 -0.4**
BOSA Boshof 76.88 242 P **P** **23 22 12.7 +0.6**
comp=Z,18nm,0.7s,baz=100,slow=6.2,SNR=22
BOSA PKKPbc **PKKPbc** **23 41 20.9 -0.4**
comp=Z,3.5nm,0.8s,baz=316,slow=2.4,SNR=5.7
PPCY Paphos 77.00 307 P **P** **23 22 13.1 +0.7**
SULT Sultanhani-AKS 77.01 311 *e*P **P** **23 22 13.8 +1.3**
ERMK Ermenek 77.03 309 *i* P **P** **23 22 13.8 +0.9**
AKMC Akamas 77.05 307 P **P** **23 22 13.4 +0.6**
BRTR Keskin Array B 77.36 312 P **P** **23 22 14.4 -0.1**
BRTR PKKPbc **PKKPbc** **23 41 19.4 -1.8**
BRTR Keskin Array B 77.36 312 P **P** **23 22 14.4 -0.1**
comp=Z,115nm,0.8s,baz=130,slow=6.9,SNR=187
BRTR PKKPbc **PKKPbc** **23 41 19.4 -1.8**
comp=Z,1.2nm,0.9s,baz=258,slow=1.3,SNR=4.8
GAZI Gazipasa 77.38 309 *i* P **P** **23 22 14.2 -0.4**
VORD Divnogorie 77.57 325 *e*P **P** **23 22 14.6 -0.6**
VORD *e*S **S** **23 31 57.0 -4.6**
VORD pmax pmax
comp=N,110nm,0.9s
VORD pmax pmax
comp=E,180nm,0.9s
VORD pmax pmax
comp=Z,170nm,0.9s
VORD smax smax
comp=N,160nm,1.0s
VORD smax smax
comp=Z,100nm,2.0s
CANT Cankiri 77.64 313 *e*P **P** **23 22 16.7 +0.7**
BBAL Bala 77.69 312 *i* P **P** **23 22 16.3 -0.1**
AFSR Af˙ar-Bala (A 77.70 312 *e*P **P** **23 22 16.9 +0.5**
ILGA Ilgaz 77.70 314 *i* P **P** **23 22 16.9 +0.3**
ELDT Eldivan 77.75 313 *i* P **P** **23 22 16.9 +0.2**
VSR Storozhevoye 77.75 325 *e*P **P** **23 22 15.9 -0.3**
VSR *e*S **S** **23 31 58.7 -4.8**
VSR pmax pmax
comp=N,100nm,0.8s
VSR pmax pmax
comp=Z,420nm,0.8s
VSR pmax pmax
comp=E,310nm,0.9s
VSR smax smax
comp=E,780nm,2.8s
VSR smax smax
comp=Z,220nm,2.9s
VSR smax smax
comp=N,460nm,1.2s
KONT Konya--Tatoy 77.81 310 *e*P **P** **23 22 17.8 +0.8**
LADK Ladik-KONYA 77.88 311 *e*P **P** **23 22 17.6 +0.2**
VOR Voronezh 77.94 325‖*i*P **P** **23 22 18.0 +0.7**
VOR *e*S **S** **23 32 04.0 -1.5**
VOR pmax pmax
comp=Z,500nm,1.2s
LOD Lodumlu 78.06 312 *e*P **P** **23 22 18.8 +0.4**
KDHN Kadinhani 78.16 311 *i* P **P** **23 22 18.4 -0.5**
TIXI Tiksi 78.20 8*c i*P **P** **23 22 16.6 -1.7**
TIXI pmax pmax
comp=Z,201nm,1.7s
TIXI MLR MLR
comp=Z,2µm,21.0s
SIM Simferopol˚ 78.64 318*c i*P **P** **23 22 21.1 -0.2**
SIM *e*S **S** **23 32 10.5 -2.8**
SIM pmax pmax
comp=Z,302nm,0.9s
SUTC Sutluce-Ispart 78.73 310 *e*P **P** **23 22 22.1 0.0**
VNDA Vanda 78.85 169 P **P** **23 22 23.2 +1.3**
VNDA PKKPbc **PKKPbc** **23 41 15.9 -2.8**
VNDA Vanda 78.85 169 P **P** **23 22 23.2 +1.3**
comp=Z,6.8nm,0.7s,baz=312,slow=6.4,SNR=50
VNDA PKKPbc **PKKPbc** **23 41 15.9 -2.8**
comp=Z,2.7nm,0.9s,baz=321,slow=0.4,SNR=8.9
VNDA LR LR 23 52 17.7
comp=Z,2µm,20.9s,baz=317,slow=32
SVRH Sivrihisar-ESK 78.85 312 *e*P **P** **23 22 23.4 +0.6**
KORT Korkueli 79.11 309 *i* P **P** **23 22 24.3 +0.1**
ISP Isparta 79.18 310 *e*P **P** **23 22 24.1 -0.5**
ISP Isparta 79.18 310 *e*P **P** **23 22 24.3 -0.3**
ISP Isparta 79.18 310 *e*P **P** **23 22 24.3 -0.3**
ISP Isparta 79.18 310⇑*i*P **P** **23 22 24.3 -0.3**
SHUT Suhut-Afyon 79.35 311 *e*P **P** **23 22 26.1 +0.6**
MDUB Mudurnu 79.37 313 *e*P **P** **23 22 25.9 +0.3**
SEYT Eskypehyr 79.38 312 *i* P **P** **23 22 25.4 -0.3**
ELL Elmali 79.39 309 *e*P **P** **23 22 26.1 +0.3**
AKAS Kas 79.50 308 *i* P **P** **23 22 25.7 -0.8**
GOLH Golhisar 79.78 309 *i* P **P** **23 22 28.0 +0.1**
ALT Altintas 79.81 311 *e*P **P** **23 22 28.7 +0.7**
GULT Gulveren 79.86 312 *e*P **P** **23 22 28.7 +0.5**
SBA Scott Base 79.94 169 *e*P **P** **23 22 30.0 +2.2**
KHAL Karahalli 80.11 310 *i* P **P** **23 22 29.5 -0.1**
CAVI Cavuskoy 80.30 312 *e*P **P** **23 22 31.3 +0.8**
DALY Dalyan (Mu˙la 80.39 308 *e*P **P** **23 22 31.6 +0.7**
TVSB Tavsanli 80.40 311 *e*P **P** **23 22 31.9 +0.8**
MOS Moscow 80.41 329*c i*P **P** **23 22 31.0 +0.3**
MOS *e* 23 22 38.2
MOS *e**PP **pP** **23 22 46.3 -2.3**
MOS *e* 23 25 30.3
MOS *e*S **S** **23 32 28.9 -2.7**
MOS pmax pmax
comp=Z,571nm,0.9s
MOS pmax pmax
comp=Z,900nm,1.2s
MOS smax smax
comp=E,400nm,2.0s
MOS smax smax
comp=N,310nm,1.8s
ADVT Abdulvahap 80.44 312 *e*P **P** **23 22 31.9 +0.7**
TURN Turunc 80.44 308 *i* P **P** **23 22 33.6 +2.4**
HRT Hereke 80.59 313 *e*P **P** **23 22 32.7 +0.6**
ARG Arkhangelos 80.66 308 *e*P **P** **23 22 33.5 +1.0**
OBN Obninsk 80.72 328⇑*i*P **P** **23 22 32.7 +0.4**
OBN *e* 23 25 37.1
OBN pmax pmax
comp=Z,432nm,0.9s
OBN MLR MLR
comp=Z,900nm,25.0s
OBN Obninsk 80.72 328 P **P** **23 22 32.8 +0.4**
comp=Z,3µm,0.8s,SNR=53
YER Yerkesik 80.75 309 *e*P **P** **23 22 33.8 +0.8**
SUR Sutherland 80.77 238 *e*P **P** **23 22 35.4 +2.0**
SUR PKKPbc **PKKPbc** **23 41 13.2 +0.3**
SUR Sutherland 80.77 238 P **P** **23 22 34.9 +1.5**
comp=Z,27nm,0.7s,baz=100,slow=5.9,SNR=26
SUR PKKPbc **PKKPbc** **23 41 13.2 +0.3**
comp=Z,7.6nm,0.8s,baz=305,slow=2.7,SNR=5.0
SUR LR LR 23 50 52.6
comp=Z,891nm,21.9s,baz=247,slow=30
KULA Kula-Manisa 80.78 310 *e*P **P** **23 22 34.3 +1.1**
ULDT Uludag 80.81 312 *i* P **P** **23 22 34.0 +0.6**
MANT Manisa 80.85 310 *i* P **P** **23 22 34.4 +0.7**
DEMI Demirci 80.86 311 *i* P **P** **23 22 34.1 +0.5**
ISK Istanbul-Kandi 81.09 313 *e*P **P** **23 22 35.4 +0.8**
ISK Istanbul-Kandi 81.09 313 P **P** **23 22 35.5 +0.8**
ISK Istanbul-Kandi 81.09 313 P **P** **23 22 35.5 +0.8**
ISK Istanbul-Kandi 81.09 313 P **P** **23 22 35.5 +0.8**
ARMT Armutlu 81.12 312 *e*P **P** **23 22 35.3 +0.4**
KLYT Kilyos 81.15 313 *e*P **P** **23 22 35.8 +0.9**
DURS Dursunbey 81.17 311 *i* P **P** **23 22 35.6 +0.3**
AYDN Tasoluk 81.18 309 *i* P **P** **23 22 36.6 +1.3**
DAT Datca 81.21 308 *e*P **P** **23 22 36.1 +0.6**
KARP Karpathos 81.28 307 *e*P **P** **23 22 37.3 +1.4**
BGKT Bogazkoy 81.33 313 *e*P **P** **23 22 36.6 +0.7**
KCTX Karacabey (Bur 81.42 312 *e*P **P** **23 22 37.3 +0.8**
BODT Bodrum 81.49 308 *e*P **P** **23 22 37.6 +0.7**
CTKS Kestanelik-??a 81.54 313 *e*P **P** **23 22 37.5 +0.5**
BALB Balikesir 81.63 311 *e*P **P** **23 22 38.5 +0.9**
GCAM G?zelcamI? 81.69 309 *i* P **P** **23 22 39.1 +1.2**
SLVT Silivri 81.76 313 *e*P **P** **23 22 39.3 +1.1**
BALY Balya 81.85 311 *i* P **P** **23 22 39.4 +0.7**
GONE Gonen-Balikesi 81.87 311 *e*P **P** **23 22 39.6 +0.8**
SMG Samos 82.00 309 *e*P **P** **23 22 40.9 +1.3**
FX1 Attu Island--F 82.09 35 P **P** **23 22 38.9 -0.8**
FX1 Attu Island--F 82.09 35 P **P** **23 22 38.9 -0.8**
comp=Z,26nm,0.6s,baz=307,slow=1.5,SNR=34
MANR Mangalia 82.11 315‖*i*P **P** **23 22 41.0 +1.0**
KRBG Karabiga-Canak 82.24 312 *e*P **P** **23 22 41.5 +0.8**
TLCR 82.30 317 ⇓P **P** **23 22 42.0 +1.1**
TLCR 82.30 317‖*i*P **P** **23 22 42.0 +1.1**
URLA Izmir 82.32 310 *i* P **P** **23 22 42.5 +1.3**
PHSR Pinarhisar 82.35 313 *e*P **P** **23 22 42.2 +0.9**
TIRR Tirgusor 82.40 316 ⇓P **P** **23 22 41.9 +0.5**
TIRR Tirgusor 82.40 316 *e*P **P** **23 22 42.1 +0.6**
TIRR Tirgusor 82.40 316‖*i*P **P** **23 22 41.8 +0.4**
AYVA Ayvalik 82.45 311 *i* P **P** **23 22 42.5 +0.7**
NPS Neapolis 82.46 306 *e*P **P** **23 22 43.8 +1.8**
SMY Shemya 82.58 35 *e*P **P** **23 22 41.4 -0.8**
SMY Shemya 82.58 35 *e*P **P** **23 22 41.4 -0.8**
CVD Cernavoda 82.62 316 ⇓P **P** **23 22 44.1 +1.5**
CVD Cernavoda 82.62 316‖*i*P **P** **23 22 44.1 +1.5**
LPK Lapseki 82.63 312 *e*P **P** **23 22 44.0 +1.3**
CHOS Chios island 82.74 310 P **P** **23 22 44.1 +0.6**
CHOS Chios island 82.74 310 *e*P **P** **23 22 45.0 +1.5**
CHOS Chios island 82.74 310 P **P** **23 22 44.1 +0.6**
PRK Paraskevi 82.76 310 *e*P **P** **23 22 44.7 +1.3**
KIS Kishinev 82.76 318 *i* P **P** **23 22 43.0 -0.3**
comp=Z,500nm,1.5s
KIS *e*pP **pP** **23 23 00.0 -1.3**
KIS Kishinev 82.76 318 *e*PP PP 23 25 53.0 -1.2
KIS *e*S **S** **23 32 54.0 -2.3**
KIS *e*sS sS 23 33 20.0 -6.8
KIS Kishinev 82.76 318 *e*PS 23 33 52.0
KIS *e*SSS SSS 23 41 40.0
KIS *e*L L 23 53 12.0
KIS LRM MLR 00 04 20.0
comp=Z,300nm,18.0s
KIS Kishinev 82.76 318α *i*P **P** **23 22 43.0 -0.3**
KIS *i* 23 22 54.0
KIS *e**PP **pP** **23 23 00.0 -1.3**
KIS *e* 23 25 53.0
KIS *e*S **S** **23 32 54.0 -2.3**
KIS *e*PS **PnS** **23 33 52.0 -2.4**
KIS *e*SSS SSS 23 41 40.0
KIS pmax pmax
comp=Z,500nm,1.5s
KIS pmax pmax
comp=Z,700nm,7.0s
KIS Kishinev 82.76 318‖*i*P **P** **23 22 43.6 +0.3**
CFR Carcaliu 82.77 317 ⇑P **P** **23 22 44.0 +0.7**
CFR Carcaliu 82.77 317⇑*i*P **P** **23 22 44.0 +0.7**
SANT Santorini 82.80 307 *e*P **P** **23 22 43.9 0.0**
THR1 Thera Island 82.80 307 P **P** **23 22 44.2 +0.4**
EZN Ezine 82.84 311 *e*P **P** **23 22 44.9 +1.1**
THR3 Thira Island, 82.86 307 P **P** **23 22 46.1 +2.1**
THR3 Thira Island, 82.86 307 P **P** **23 22 44.7 +0.7**
THR3 Thira Island, 82.86 307 P **P** **23 22 44.7 +0.7**
APE Apeiranthos 82.88 308 ⇓P **P** **23 22 44.3 +0.1**
APE Apeiranthos 82.88 308‖*i*P **P** **23 22 44.3 +0.1**
EDRB Edirne 82.97 315 *e*P **P** **23 22 45.4 +0.9**
LEOM Leova 83.01 318 ⇓P **P** **23 22 45.6 +1.0**
LEOM Leova 83.01 318‖*i*P **P** **23 22 45.6 +1.0**
IDI Anoyia 83.05 306 *e*P **P** **23 22 46.7 +1.5**
ENEZ Enez 83.16 312 *e*P **P** **23 22 46.8 +1.3**
AMRR Amara 83.18 316 ⇑P **P** **23 22 46.8 +1.3**
AMRR Amara 83.18 316⇑*i*P **P** **23 22 46.8 +1.3**
ALN Alexandroupoli 83.28 312 P **P** **23 22 46.9 +0.8**
ALN Alexandroupoli 83.28 312 P **P** **23 22 46.9 +0.8**
ALN Alexandroupoli 83.28 312 P **P** **23 22 46.9 +0.8**
KIEV Kiev 83.50 322 *e*P **P** **23 22 46.8 -0.2**
KIEV Kiev 83.50 322 *e*P **P** **23 22 46.8 -0.2**
PETR Petresti 83.51 317⇑*i*P **P** **23 22 49.0 +1.8**
SMTH Samothraki Isl 83.57 311 *e*P **P** **23 22 48.5 +0.8**
GRER 83.61 317‖*i*P **P** **23 22 50.8 +3.1**
VAM Vamos 83.62 306 *e*P **P** **23 22 50.1 +2.1**
IAS Iasi 83.64 318 ⇑P **P** **23 22 48.6 +0.8**
IAS Iasi 83.64 318⇑*i*P **P** **23 22 48.6 +0.8**
TMCR Tamitsa 83.67 336 *e*P **P** **23 22 47.8 +0.2**
TMCR *e* 23 26 06.0
TMCR pmax pmax
comp=Z,555nm,1.4s
RDO Rodhopi 83.70 312 *e*P **P** **23 22 48.9 +0.6**
LIA Limnos Island 83.72 311 *e*P **P** **23 22 49.1 +0.7**
ISR Istrita 83.85 316 ⇑P **P** **23 22 50.5 +1.5**
ISR Istrita 83.85 316⇑*i*P **P** **23 22 50.5 +1.5**
VRI Vrincioaia 83.89 317 ⇑P **P** **23 22 50.6 +1.4**
VRI Vrincioaia 83.89 317⇑*i*P **P** **23 22 50.6 +1.4**
PLOR Plostina 83.94 317 ⇑P **P** **23 22 50.8 +1.3**
PLOR Plostina 83.94 317⇑*i*P **P** **23 22 50.8 +1.3**
SULR 83.95 316⇑*i*P **P** **23 22 51.0 +1.6**
TSUM Tsumeb 84.03 251 *e*P **P** **23 22 51.6 +1.0**
TSUM Tsumeb 84.03 251 P **P** **23 22 51.8 +1.1**
comp=Z,12nm,0.8s,baz=96,slow=7.1,SNR=13
TESR Tescani 84.09 318‖*i*P **P** **23 22 51.2 +1.0**
AFI Afiamalu 84.31 103 *e*P **P** **23 22 53.7 +1.6**
AFI Afiamalu 84.31 103 P **P** **23 22 53.7 +1.6**
comp=Z,203nm,1.0s,baz=264,slow=3.3,SNR=16
MLR Muntele Rosu 84.34 316 P **P** **23 22 52.8 +1.2**
MLR S **S** **23 33 11.8 -0.8**
MLR PKKPbc **PKKPbc** **23 41 05.9 +0.4**
MLR Muntele Rosu 84.34 316‖*i*P **P** **23 22 52.8 +1.2**
MLR Muntele Rosu 84.34 316 P **P** **23 22 52.8 +1.2**
comp=Z,54nm,1.0s,baz=127,slow=5.1,SNR=104
MLR S **S** **23 33 11.8 -0.8**
comp=Z,1.4nm,1.0s,baz=328,slow=19,SNR=9.3
MLR PKKPbc **PKKPbc** **23 41 05.9 +0.4**
comp=Z,0.4nm,0.5s,baz=139,slow=22,SNR=3.8
ZIMR 84.35 315 ⇓P **P** **23 22 52.9 +1.4**
ZIMR 84.35 315‖*i*P **P** **23 22 52.9 +1.4**
PTL Penteli 84.37 309 *e*P **P** **23 22 52.3 +0.5**
ANKY Antikythira Is 84.42 307 *e*P **P** **23 22 53.9 +1.8**
KAVA Kavala 84.43 312 P **P** **23 22 51.7 -0.3**
KAVA Kavala 84.43 312 P **P** **23 22 51.7 -0.3**
ATH Athens Observa 84.47 309 *e*P **P** **23 22 52.7 +0.5**
PRAR RASCA 84.57 318‖*i*P **P** **23 22 53.4 +0.8**
OUR Ouranopolis 84.70 311 P **P** **23 22 53.7 +0.3**
OUR Ouranopolis 84.70 311 P **P** **23 22 53.7 +0.3**
OUR Ouranopolis 84.70 311 P **P** **23 22 53.7 +0.3**
DID Didima 84.76 308 *e*P **P** **23 22 53.6 -0.2**
HUMR Humele 84.80 315‖*i*P **P** **23 22 54.5 +0.7**
DOPR Dopca 84.82 317⇑*i*P **P** **23 22 55.3 +1.4**
PAIG Paliouri 84.86 311 P **P** **23 22 54.3 +0.2**
PAIG Paliouri 84.86 311 P **P** **23 22 54.3 +0.2**
PAIG Paliouri 84.86 311 P **P** **23 22 54.3 +0.2**
VLI Veliai 84.86 307 *e*P **P** **23 22 54.3 0.0**
VOIR 84.94 316 ⇑P **P** **23 22 54.9 +0.3**
VOIR 84.94 316⇑*i*P **P** **23 22 54.9 +0.3**
NVR Nevrokopi 84.98 312 *e*P **P** **23 22 55.3 +0.5**
LTK Loutraki 85.06 309 *e*P **P** **23 22 54.8 -0.5**
PLG Polygyros 85.11 311 *e*P **P** **23 22 56.0 +0.5**
XOR Xorichti 85.12 310 P **P** **23 22 52.9 -2.7**
XOR Xorichti 85.12 310 P **P** **23 22 52.9 -2.7**
SRS Serrai 85.14 312 P **P** **23 22 55.5 -0.1**
SRS Serrai 85.14 312 P **P** **23 22 55.5 -0.1**
SRS Serrai 85.14 312 P **P** **23 22 55.5 -0.1**
LKR Lokris 85.15 309 *e*P **P** **23 22 55.4 -0.2**
QSPA South Pole Qui 85.15 180 *e*P **P** **23 22 55.9 +0.6**
QSPA PKKPbc **PKKPbc** **23 41 01.0 -3.8**
QSPA South Pole Qui 85.15 180 PKKPbc PKKPbc 23 41 01.0 -3.8
comp=Z,9.1nm,0.9s,baz=124,slow=1.7,SNR=12
ARR Arges 85.22 316⇑*i*P **P** **23 22 56.6 +0.7**
MICGM Minsk 85.28 326‖*e*P **P** **23 22 54.0 -2.0**
BURAR Bucovina Array 85.29 318 ⇓P **P** **23 22 57.9 +1.6**
BURAR Bucovina Array 85.29 318‖*i*P **P** **23 22 57.9 +1.6**
AMKA Amchitka 85.30 38 *e*P **P** **23 22 55.3 -0.8**
MNK Minsk 85.31 326⇑*i*P **P** **23 22 54.0 -2.1**
MNK *e**PP **pP** **23 23 12.0 -2.1**
MNK *e* 23 26 12.0
MNK *e*S **S** **23 33 20.0 -1.5**
MNK pmax pmax
comp=Z,2µm,2.0s
MNK pmax pmax
comp=Z,1µm,0.8s
MNK pmax pmax
comp=E,820nm,1.0s
DYR Agios Nikonas 85.35 307 *e*P **P** **23 22 57.5 +0.8**
VLX Vlachokerasia 85.41 308 *e*P **P** **23 22 57.7 +0.6**
HORT Hortiatis 85.41 311 P **P** **23 22 56.5 -0.6**
HORT Hortiatis 85.41 311 P **P** **23 22 56.5 -0.6**
PUL Pulkovo 85.48 331*c i*P **P** **23 22 57.6 +0.8**
PUL pmax pmax
comp=Z,442nm,1.0s
THE Thessaloniki 85.52 311 P **P** **23 22 57.0 -0.4**
THE Thessaloniki 85.52 311 P **P** **23 22 57.0 -0.4**
THE Thessaloniki 85.52 311 P **P** **23 22 57.0 -0.4**
GUR Goura 85.53 309 *e*P **P** **23 22 57.8 +0.1**
KNT Kendrikon 85.66 312 P **P** **23 22 57.9 -0.3**
KNT Kendrikon 85.66 312 P **P** **23 22 57.9 -0.3**
KNT Kendrikon 85.66 312 P **P** **23 22 57.9 -0.3**
VTS Vitosha 85.69 313 ⇑P **P** **23 22 59.2 +0.7**
VTS Vitosha 85.69 313⇑*i*P **P** **23 22 59.2 +0.7**
KLV Kalavryta, Ach 85.70 309 *e*P **P** **23 22 59.1 +0.6**
AGG Agios Georgios 85.72 310 P **P** **23 22 57.8 -0.8**
AGG Agios Georgios 85.72 310 P **P** **23 22 57.8 -0.8**
AGG Agios Georgios 85.72 310 *e*P **P** **23 22 58.4 -0.2**
AGG Agios Georgios 85.72 310 P **P** **23 22 57.8 -0.8**
ITM Ithomi 85.74 308 *e*P **P** **23 22 59.3 +0.6**
KALE Kalithea 85.77 309 *e*P **P** **23 22 58.9 +0.1**
LIT Litokhoron 85.78 311 P **P** **23 22 58.8 0.0**
LIT Litokhoron 85.78 311 P **P** **23 22 58.8 0.0**
LIT Litokhoron 85.78 311 P **P** **23 22 58.8 0.0**
TRIZ Trizonia 85.81 309 *e*P **P** **23 22 59.1 +0.1**
LOT Lotru 85.83 316⇑*i*P **P** **23 22 59.6 +0.5**
LAKA Lakka 85.87 309 *e*P **P** **23 22 59.2 -0.1**
VAY Valandovo 85.94 312 P **P** **23 23 00.3 +0.8**
VAY Valandovo 85.94 312 P **P** **23 23 00.3 +0.8**
VAY Valandovo 85.94 312 P **P** **23 23 00.3 +0.8**
VAY Valandovo 85.94 312 *e*P **P** **23 22 59.2 -0.3**
PSA1 Psathopyrgos 85.95 309 *e*P **P** **23 23 00.4 +0.8**
AMT Artemida-Makis 85.96 308 *e*P **P** **23 23 00.5 +0.7**
GRG Griva 86.00 312 P **P** **23 22 59.9 0.0**
GRG Griva 86.00 312 P **P** **23 22 59.9 0.0**
GRG Griva 86.00 312 *e*P **P** **23 23 00.1 +0.2**
GRG Griva 86.00 312 P **P** **23 22 59.9 0.0**
NACGM Naroch 86.00 326 *e*P **P** **23 22 57.0 -2.5**
JOF Joensuu 86.01 334 *e*p **P** **23 23 00.7 +1.3**
comp=Z,314nm,0.9s
JOF Joensuu 86.01 334 *e*P **P** **23 23 00.7 +1.3**
JOF pmax pmax
comp=Z,314nm,0.9s
THL Klokotos Trika 86.06 310 *e*P **P** **23 23 00.1 0.0**
EVR Evrytania 86.11 309 *e*P **P** **23 23 01.2 +0.6**
IDID Didziasalis 86.13 326 *e*P **P** **23 23 01.1 +1.0**
IDID AMB AMB 23 23 03.1
comp=Z,135nm,1.0s
RLS Riolos of Patr 86.24 309 *e*P **P** **23 23 02.3 +1.2**
KZN Kozani 86.36 311 P **P** **23 23 01.1 -0.7**
KZN Kozani 86.36 311 P **P** **23 23 01.1 -0.7**
KZN Kozani 86.36 311 P **P** **23 23 01.1 -0.7**
IIGN Ignalina 86.42 326 *e*P **P** **23 23 02.6 +1.0**
IIGN AMB AMB 23 23 04.5
comp=Z,171nm,1.0s
LVZ Lovozero 86.43 339*c i*P **P** **23 23 01.1 -0.3**
LVZ pmax pmax
comp=Z,410nm,1.6s
LVZ Lovozero 86.43 339 P **P** **23 23 01.4 0.0**
comp=Z,2µm,1.3s,SNR=43
IZAR Zarasai 86.50 327 *e*P **P** **23 23 03.0 +1.1**
IZAR AMB AMB 23 23 03.7
comp=Z,84nm,1.0s
GZR Gura Zlata 86.51 316 ⇑P **P** **23 23 03.5 +1.2**
GZR Gura Zlata 86.51 316⇑*i*P **P** **23 23 03.5 +1.2**
DEV Deva 86.51 316 ⇓P **P** **23 23 04.1 +1.9**
DEV Deva 86.51 316‖*i*P **P** **23 23 04.1 +1.9**
LVV L'vov 86.52 320*d i*P **P** **23 23 02.7 +0.5**
LVV *e* 23 26 25.1
LVV *e*S **S** **23 33 30.3 -3.2**
LVV pmax pmax
comp=Z,420nm,1.8s
ISAL Salakas 86.53 326 *e*P **P** **23 23 03.1 +1.1**
ISAL AMB AMB 23 23 03.9
comp=Z,97nm,0.9s
FNA Florina 86.74 311 P **P** **23 23 02.2 -1.3**
FNA Florina 86.74 311 P **P** **23 23 02.2 -1.3**
FNA Florina 86.74 311 *e*P **P** **23 23 02.8 -0.7**
FNA Florina 86.74 311 P **P** **23 23 02.2 -1.3**
APA Apatity 86.75 339‖*i*P **P** **23 23 03.0 +0.1**
APA *i* S **S** **23 33 34.0 -1.0**
APA pmax pmax
comp=Z,432nm,1.4s
APA MLR MLR
comp=Z,2µm,27.0s
DRGR 86.80 317 ⇑P **P** **23 23 05.0 +1.2**
DRGR 86.80 317⇑*i*P **P** **23 23 05.0 +1.2**
SKO Skopje 86.88 312 *e*P **P** **23 23 01.3 -2.9**
VSU Vasula 86.91 329*c i*P **P** **23 23 04.5 +0.7**
VSU pmax pmax
comp=Z,788nm,1.0s
NEST Nestorio 86.92 311 P **P** **23 23 04.3 -0.2**
VLS Valsamata 86.94 309 *e*P **P** **23 23 05.2 +0.7**
JAN Janina 86.96 310 *e*P **P** **23 23 05.1 +1.5**
LKD2 Lefkada island 86.98 309 P **P** **23 23 05.5 +0.8**
LKD2 Lefkada island 86.98 309 *e*P **P** **23 23 05.6 +0.8**
LKD2 Lefkada island 86.98 309 P **P** **23 23 05.5 +0.8**
TRPA Tarpa 87.16 319⇑*i*P **P** **23 23 06.4 +1.1**
TRPA Tarpa 87.16 319‖*e*P **P** **23 23 06.5 +1.1**
KWP Kalwaria Pacla 87.32 320 ⇑P **P** **23 23 07.2 +1.1**
KWP Kalwaria Pacla 87.32 320 *e*P **P** **23 23 06.9 +0.8**
comp=Z,290nm,1.3s
KWP Kalwaria Pacla 87.32 320⇑*i*P **P** **23 23 07.2 +1.1**
KWP Kalwaria Pacla 87.32 320 *e*P **P** **23 23 07.1 +1.0**
KWP *e*pP **pP** **23 23 23.9 -0.3**
KWP *e*PP **PP** **23 26 29.3 -1.9**
IGT Igoumenitsa 87.34 310 P **P** **23 23 06.8 +0.4**
IGT Igoumenitsa 87.34 310 P **P** **23 23 06.8 +0.4**
IGT Igoumenitsa 87.34 310 P **P** **23 23 06.8 +0.4**
UZH Uzhgorod 87.41 319 *e*P **P** **23 23 07.3 +0.8**
UZH *i* 23 23 15.7
UZH *e* 23 23 24.7
UZH *e* 23 26 31.3
UZH *e*S **S** **23 33 42.5 +0.3**

UZH e 23 43 08.1
TIM Timisoara 87.64 316 ⇑P P 23 23 09.8 +2.1
TIM Timisoara 87.64 316 ⇑iP P 23 23 09.8 +2.1
KEK Kerkira 87.77 310 eP P 23 23 09.5 +1.0
ADK Adak 87.86 38 eP P 23 23 07.5 -1.1
ADK Adak 87.86 38 eP P 23 23 07.5 -1.1
SUW Suwalki 87.86 324 eP P 23 23 09.1 +0.5
SUW Suwalki 87.86 324 eP P 23 23 09.1 +0.5
SUW Suwalki 87.86 324 eP P 23 23 09.0 +0.5
SUW epP **pP 23 23 27.4 +0.7**
SUW eS S 23 33 45.5 -0.7
TIR Tirane 87.95 312 eP P 23 23 10.3 +1.0
TIR Tirane 87.95 312 eP P 23 23 10.3 +1.0
FINES FINESS Array B 87.95 332 P P 23 23 09.2 +0.4
FINES PKKP **PKKPdf 23 40 50.6 -0.7**
FINES FINESS Array B 87.95 332 P P 23 23 09.2 +0.4
comp=Z,116nm,0.8s,baz=106,slow=7.4,SNR=148
FINES PKKP **PKKPdf 23 40 50.6 -0.7**
comp=Z,1.9nm,0.7s,baz=169,slow=0.7,SNR=6.7
KAF Kangasniemi 88.01 333 ep P 23 23 10.1 +1.0
comp=Z,421nm,0.9s,baz=98,slow=4.3
KAF Kangasniemi 88.01 333 eP P 23 23 10.1 +1.0
KAF pmax pmax
comp=Z,421nm,0.9s
PVY Plav 88.06 313 ⇑iP P 23 23 10.2 +0.2
IVA Berane 88.15 313 eP P 23 23 11.0 +0.7
STHS Stebnicka Huta 88.23 320 eP P 23 23 12.2 +1.8
STHS pmax pmax
comp=Z,115nm,0.8s
STHS Stebnicka Huta 88.23 320 eP P 23 23 12.2 +1.8
ULC Ulcinj 88.50 312 ⇑iP P 23 23 12.3 +0.4
TTG Podgorica 88.55 313 ⇑iP P 23 23 12.8 +0.7
KECS Kecovo 88.57 319 eP P 23 23 13.2 +1.1
KECS pmax pmax
comp=Z,47nm,0.9s
KECS Kecovo 88.57 319 eP P 23 23 13.2 +1.1
KECS ePP **PP 23 26 42.5 +1.3**
PKSN Nyarlorinc 88.75 317 ⇓eP P 23 23 15.0 +2.1
NKY Niksic 88.80 313 ⇑iP P 23 23 14.0 +0.6
BUM Brajici-Budva 88.80 312 ⇑iP P 23 23 14.1 +0.7
NIE Niedzica 88.83 320 ⇑iP P 23 23 16.4 +3.1
NIE e 23 26 45.1
NIE eS S **23 33 56.2 +0.5**
NIE Niedzica 88.83 320 iP P 23 23 16.4 +3.1
NIE ePP **PP 23 26 45.1 +1.8**
NIE eS S 23 33 56.2 +0.5
PSZ Piszkesteto 88.88 318 eP P 23 23 14.6 +1.0
PSZ Piszkesteto 88.88 318 eP P 23 23 14.6 +1.0
PSZ Piszkesteto 88.88 318 ⇑iP P 23 23 14.6 +1.0
PSZ Piszkesteto 88.88 318 ⇑ePKPdf 23 20 53.5
PSZ Piszkesteto 88.88 318 ⇑eP P 23 23 14.7 +1.1
BEL Belsk 88.90 322 eP P 23 23 14.9 +1.4
BEL epP **pP 23 23 30.7 -1.0**
BEL ePP **PP 23 26 39.4 -4.3**
BEL eS S 23 33 56.2 0.0
BEL epS **pS 23 34 19.7 +0.5**
PKS6 Bocsa 88.91 317 ⇓eP P 23 23 15.5 +1.8
UPM Unac-Piva 88.91 313 ⇑iP P 23 23 14.5 +0.5
HCY Herceg Novi 89.11 313 eP P 23 23 15.3 +0.5
PKS2 Kecel 89.14 317 ⇑eP P 23 23 16.3 +1.6
BRY Bratogost 89.14 313 ⇑iP P 23 23 15.7 +0.7
PKS7 Kunszentmiklos 89.25 317 ⇓eP P 23 23 17.0 +1.8
OJC Ojcow 89.28 320 ⇑iP P 23 23 16.1 +0.8
OJC e*PP **pP 23 23 34.3 +0.8**
OJC e 23 26 46.9
OJC eS S **23 33 59.5 -0.3**
OJC Ojcow 89.28 320 eP P 23 23 16.3 +0.9
OJC Ojcow 89.28 320 iP P 23 23 16.1 +0.8
OJC epP **pP 23 23 34.3 +0.8**
OJC ePP **PP 23 26 46.9 +0.1**
OJC eS S **23 33 59.5 -0.3**
BUD Budapest 89.40 318 eP P 23 23 17.0 +1.0
ATKA Atka Island 89.42 38 eP P 23 23 15.2 -0.7
PKSM Moragy 89.49 316 ⇑iP P 23 23 17.5 +1.1
PKSM Moragy 89.49 316 ⇑iP P 23 23 17.5 +1.1
PKSM Moragy 89.49 316 ⇑eP P 23 23 17.5 +1.1
KEV Kevo 89.65 340 ep P 23 23 17.0 +0.4
comp=Z,285nm,0.9s
KEV Kevo 89.65 340 eP P 23 23 16.8 +0.1
KEV Kevo 89.65 340 eP P 23 23 16.8 +0.1
VYHS Vyhne 89.66 319 eP P 23 23 18.0 +0.8
VYHS pmax pmax
comp=Z,87nm,1.4s
VYHS Vyhne 89.66 319 eP P 23 23 18.0 +0.8
VYHS eSP sP 23 23 37.0 -5.4
VYHS ePP **PP 23 26 51.3 +1.4**
PKS9 Tamasi 89.79 317 ⇓eP P 23 23 19.4 +1.6
PKSG 89.81 317 ⇓eP P 23 23 19.6 +1.7
CSKK Cs˘ˇtakko 89.90 317 ⇓eP P 23 23 19.9 +1.6
PKST T˜˚s 90.04 317 ⇓eP P 23 23 20.5 +1.5
TIP Timpagrande 90.04 309 eP P 23 23 21.1 +1.9
ARCES ARCESS Array B 90.11 340 P P 23 23 19.1 +0.3
ARCES PP **PP 23 26 49.8 -3.1**
ARCES PKKP **PKKPdf 23 40 47.3 -0.5**
ARCES ARCESS Array B 90.11 340 P P 23 23 19.1 +0.3
comp=Z,178nm,0.9s,baz=90,slow=5.4,SNR=168
comp=Z,36nm,1.1s,baz=105,slow=9.3,SNR=3.7
comp=Z,1.1nm,0.7s,baz=291,slow=2.8,SNR=4.2
ARCES LR LR 00 09 45.5
comp=Z,769nm,21.2s,baz=93,slow=40
ARE0 ARCESS Array S 90.11 340 ⇑iP P 23 23 18.9 0.0
OKC Ostrava-Krasne 90.28 320 ⇑iP P 23 23 21.3 +1.3
OKC e 23 23 29.0
OKC e 23 26 55.0
OKC e 23 33 47.0
OKC Ostrava-Krasne 90.28 320 ⇑iP P 23 23 21.3 +1.3
OKC ex x 23 23 29.0
OKC ePP **PP 23 26 55.0 +0.3**
OKC eSKS **SKSac 23 33 47.0 +1.4**
OKC ex x 23 33 54.7
RAC Raciborz 90.28 320 eP P 23 23 21.7 +1.7
SNAA Sanae 90.36 198 eP P 23 23 21.3 +1.2
SNAA Sanae 90.36 198 epP pP 23 23 41.8 +3.5
SNAA Sanae 90.36 198 eP P 23 23 21.6 +1.5
SNAA Sanae 90.36 198 P P 23 23 22.6 +2.5
comp=Z,2.4nm,0.9s,baz=109,slow=6.3
SMOL Smolenice 90.59 318 eP P 23 23 22.7 +1.2
SMOL e 23 26 57.8
SMOL Smolenice 90.59 318 eP P 23 23 22.7 +1.2
SMOL eSP **sP 23 23 41.9 -4.9**
SMOL ePP **PP 23 26 57.8 +0.5**
CEL Celeste 90.62 308 eP P 23 23 23.8 +1.9
MORC Moravsky Berou 90.66 320 eP P 23 23 23.1 +1.2
MORC Moravsky Berou 90.66 320 eP P 23 23 23.1 +1.2
KTK1 Kautokeino 90.78 339 eP P 23 23 21.8 -0.2
BEHE Becsehely 90.81 316 eP P 23 23 24.4 +1.8
CUC Castrocucco 90.85 310 eP P 23 23 23.9 +0.9
KOGS Kog 91.16 316 iP P 23 23 25.4 +1.2
KOGS e 23 23 41.0
KOGS eS S **23 34 16.2 -1.2**
VRAC Vranov 91.22 319 P P 23 23 25.3 +0.8
VRAC Vranov 91.22 319 P P 23 23 25.3 +0.8
comp=Z,13nm,1.0s,baz=95,slow=5.6,SNR=17
GKP Gorka Klasztor 91.25 323 eP P 23 23 25.1 +0.7
GKP epP **pP 23 23 39.4 -3.2**
GKP ePP PP 23 26 54.7 -7.6
GKP eS S **23 34 17.5 -0.2**
WDD Wield Dalam 91.49 306 eP P 23 23 26.5 +0.5
DPC Dobruska-Polom 91.50 320 ⇑iP P 23 23 27.4 +1.6
DPC e 23 27 02.9
DPC e 23 33 52.9
DPC e 23 34 16.9
DPC Dobruska-Polom 91.50 320 ⇑iP P 23 23 27.4 +1.6
DPC ePP **PP 23 27 02.9 -1.6**
DPC eSKS **SKSac 23 33 52.9 +0.2**
DPC eS S **23 34 16.9 -3.5**
DPC Dobruska-Polom 91.50 320 eP P 23 23 27.4 +1.6
CONA Conrad Observa 91.57 318 PcP PcP 23 23 26.8 -0.3
comp=Z,39nm,1.3s,SNR=8.2
KSP Ksiaz 91.57 321 ⇑iP P 23 23 27.2 +1.2
KSP e*PP **pP 23 23 41.9 -2.3**
KSP eS S **23 34 21.0 +0.2**
KSP Ksiaz 91.57 321 eP P 23 23 27.0 +1.0
KSP epP **pP 23 23 43.2 -1.0**
KSP ePP **PP 23 27 02.5 -2.5**
GROS Grobnik 91.68 316 iP P 23 23 27.7 +1.0
ARSA Arzberg 91.74 317 iPcP PcP 23 23 27.8 +0.1
comp=Z,85nm,1.4s,SNR=16
BOJS Bojanci 91.77 315 iP P 23 23 28.2 +1.1

BOJS ePP **PP 23 27 09.7 +3.1**
BOJS eS S **23 34 21.0 -1.8**
BOJS e 23 43 14.2
TREC Trest 91.94 319 ⇑iP P 23 23 28.9 +1.1
TREC e 23 27 06.9
TREC Trest 91.94 319 ⇑iP P 23 23 28.9 +1.1
TREC ePP **PP 23 27 06.9 -1.1**
SOKA Soboth 92.02 316 ⇓iPcP PcP 23 23 29.3 +0.2
comp=Z,111nm,1.1s
LJU Ljubljana 92.32 316 iP P 23 23 30.8 +1.2
LJU eS S **23 34 26.7 -1.1**
OBKA Obir 92.34 316 ⇑iPcP PcP 23 23 30.7 +0.2
comp=Z,52nm,1.1s
VNA1 Neumayer--Stat 92.36 198 eP P 23 23 30.7 +1.4
VNA1 Neumayer--Stat 92.36 198 epP pP 23 23 51.3 +3.8
TRO Tromso 92.39 340 eP P 23 23 29.5 +0.1
TRO AMB AMB 23 23 30.2
comp=Z,136nm,3.1s
PRU Pruhonice 92.61 320 ⇑eP P 23 23 32.0 +1.2
PRU e 23 33 59.2
PRU e 23 34 28.6
PRU Pruhonice 92.61 320 ⇑eP P 23 23 32.0 +1.2
PRU ex x 23 23 36.1
PRU ePP PP 23 27 06.2 -7.0
PRU eSKS **SKSac 23 33 59.2 +0.3**
PRU eS S **23 34 28.6 -1.6**
MOA Molln 92.64 318 ⇑iPcP PcP 23 23 31.7 -0.1
comp=Z,44nm,1.9s
PVCC Panska Ves 92.64 320 ⇑eP P 23 23 32.1 +1.2
PVCC e 23 23 38.1
PVCC Panska Ves 92.64 320 ⇑eP P 23 23 32.1 +1.2
PVCC ex x 23 23 38.1
PRA Prague 92.69 320 ⇑P P 23 23 32.0 +0.8
PRA PP **PP 23 27 10.0 -3.7**
PRA SKS **SKSac 23 34 00.0 +0.7**
BSD Bornholm Skovb 92.78 325 ⇑iP P 23 23 31.6 +0.2
BSD pmax pmax
comp=Z,42nm,0.9s
BSD Bornholm Skovb 92.78 325 ⇑iP P 23 23 31.6 +0.2
comp=Z,42nm,0.8s
TRI Trieste 92.83 315 eP P 23 23 31.7 -0.2
TRI Trieste 92.83 315 eP P 23 23 31.6 -0.2
AQU L'Aquila 92.86 312 eP P 23 23 32.5 +0.3
CADS Cadrg 92.88 316 iP P 23 23 32.8 +0.5
MYKA Terra Mystica 92.97 316 ⇓iPcP PcP 23 23 33.4 +0.1
comp=Z,63nm,1.7s
GEC2 GERESS Array S 93.08 319 eP P 23 23 34.2 +1.0
comp=Z,120nm,1.5s
GEC2 GERESS Array S 93.08 319 eP P 23 23 34.2 +1.0
GEC2 pmax pmax
comp=Z,10.0nm,1.5s
GERES GERESS Array B 93.08 319 P P 23 23 33.7 +0.6
GERES PP **PP 23 27 15.2 -1.7**
GERES PKKP **PKKPbc 23 40 44.3 +0.3**
GERES GERESS Array B 93.08 319 P P 23 23 33.7 +0.6
comp=Z,13nm,0.7s,baz=96,slow=4.0,SNR=18
GERES PP **PP 23 27 15.2 -1.7**
comp=Z,3.1nm,0.7s,baz=92,slow=6.0,SNR=3.7
GERES PKKP **PKKPbc 23 40 44.3 +0.3**
comp=Z,0.3nm,0.6s,baz=289,slow=3.0,SNR=4.0
KHC Kasperske Hory 93.18 319 ⇑eP P 23 23 34.1 +0.6
KHC e 23 27 16.9
KHC e 23 34 02.2
KHC e 23 34 35.7
KHC Kasperske Hory 93.18 319 ⇑eP P 23 23 34.1 +0.6
KHC ex x 23 23 37.9
KHC ex x 23 24 05.0
KHC ePP **PP 23 27 16.9 -0.8**
KHC eSKS **SKSac 23 34 02.2 +0.1**
KHC eS S **23 34 35.7 +0.3**
KHC Kasperske Hory 93.18 319 ⇑eP P 23 23 33.5 -0.1
comp=Z,16nm,0.8s
KBA Koelnbreinsper 93.21 317 ⇑iPcP P 23 23 34.0 +0.1
comp=Z,33nm,1.4s
FBE Freiberg 93.43 321 eP P 23 23 35.7 +1.1
comp=Z,55nm,1.0s
STEI Steigen 93.56 338 eP P 23 23 34.9 +0.1
RJOB Jochberg 93.62 317 eP P 23 23 35.7 +0.1
comp=Z,32nm,1.2s
WET Wettzell 93.64 319 eP P 23 23 36.6 +1.0
comp=Z,127nm,1.6s
WET Wettzell 93.64 319 eP P 23 23 36.6 +1.0
WET pmax pmax
comp=Z,5.0nm,1.6s
RGN Rugen 93.66 324 eP P 23 23 36.6 +1.1
comp=Z,64nm,1.0s
CLL Collm 93.68 321 eP P 23 23 36.2 +0.5
comp=Z,37nm,1.1s
CLL Collm 93.68 321 ⇑iP P 23 23 36.1 +0.4
CLL i*PP **pP 23 23 53.5 -0.4**
CLL pmax pmax
comp=Z,38nm,1.1s
CLL Collm 93.68 321 ⇑iP P 23 23 36.1 +0.4
comp=Z,38nm,1.1s
CLL eSP sP 23 23 54.0 -7.0
CLL ePP **PP 23 27 22.0 +0.6**
CLL epPP 23 27 31.0
ABTA Abfaltersbach 93.76 316 ⇑iPcP P 23 23 36.4 0.0
comp=Z,23nm,1.1s
HFS Hagfors 93.76 330 P P 23 23 36.2 +0.3
HFS PP PP 23 27 15.0 -6.8
HFS Hagfors 93.76 330 P P 23 23 36.2 +0.3
comp=Z,109nm,1.0s,baz=98,slow=3.2,SNR=59
HFS PP PP 23 27 15.0 -6.8
comp=Z,16nm,0.8s,baz=97,slow=7.6,SNR=4.5
MOR8 Moi Rana 93.76 336 ⇑iP P 23 23 35.1 -0.7
MOR8 AMB AMB 23 23 37.6
comp=Z,130nm,1.5s
NKC Novy Kostel 93.97 320 ⇑eP P 23 23 38.1 +0.9
NKC e 23 27 23.5
NKC Novy Kostel 93.97 320 ⇑eP P 23 23 38.1 +0.9
NKC ex x 23 23 40.5
NKC ePP **PP 23 27 23.5 -0.3**
TANN Tannenbergstha 93.97 320 eP P 23 23 38.0 +0.8
comp=Z,25nm,1.0s
SPA0 Spitsbergen Ar 93.98 348 ⇑iP P 23 23 35.8 -0.8
SPITS Spitsbergen Ar 93.98 348 P P 23 23 35.5 -1.1
SPITS Spitsbergen Ar 93.98 348 P P 23 23 35.5 -1.1
comp=Z,84nm,0.7s,baz=101,slow=7.5,SNR=57
WERN Wernitzgruen 94.02 320 ⇑eP P 23 23 38.4 +1.0
comp=Z,28nm,1.0s
GUNZ Gunzen 94.05 320 eP P 23 23 38.5 +1.0
comp=Z,34nm,0.9s
WERD Werda 94.07 320 eP P 23 23 38.4 +0.8
comp=Z,33nm,0.9s
ROTZ Rotzenmuhle 94.11 319 eP P 23 23 39.1 +1.3
comp=Z,46nm,1.1s
PLN Plauen 94.17 320 eP P 23 23 38.9 +0.9
comp=Z,167nm,1.0s
MANZ Manzenberg 94.18 320 eP P 23 23 39.4 +1.3
comp=Z,67nm,1.1s
UNV Unalaska Valle 94.20 36 eP P 23 23 36.2 -1.9
WTTA Wattenberg 94.38 317 ⇑iPcP P 23 23 39.3 +0.1
comp=Z,42nm,1.1s
WATA Walderalm 94.42 317 ⇓iPcP P 23 23 39.3 -0.2
comp=Z,20nm,0.9s
NEUB Neuenburg 94.44 321 eP P 23 23 39.9 +0.7
comp=Z,95nm,1.0s
MOX Moxa 94.52 320 eP P 23 23 40.6 +1.0
comp=Z,66nm,1.5s
MOX Moxa 94.52 320 eP P 23 23 40.6 +1.0
MOX pmax pmax
comp=Z,1.0nm,1.5s
AKUT Akutan 94.65 36 eP P 23 23 39.1 -0.9
FUR Furstenfeldbru 94.66 318 eP P 23 23 40.7 +0.4
comp=Z,96nm,1.3s
FUR Furstenfeldbru 94.66 318 eP P 23 23 40.7 +0.4
FUR pmax pmax
comp=Z,20nm,1.3s
NSS Namsos 94.73 334 eP P 23 23 39.4 -0.9
GRF Grafenberg Arr 94.74 319 eP P 23 23 41.8 +1.1
comp=Z,61nm,1.1s
GRF Grafenberg Arr 94.74 319 eP P 23 23 41.8 +1.1
GRF pmax pmax
comp=Z,13nm,1.1s
MOTA Moosalm 94.74 317 ⇑iPcP P 23 23 40.8 -0.1
comp=Z,32nm,1.1s,SNR=6.8
NC602 NORSAR Array S 94.85 330 eP P 23 23 40.9 0.0
KBS Kingsbay 94.89 349 ⇑iP P 23 23 39.7 -1.1
KBS ePP **PP 23 27 27.0 -3.3**
KBS eSS SS 23 41 12.4 -2.5
KBS AMS AMS 00 11 00.5
comp=Z,1µm,21.8s
KBS Kingsbay 94.89 349 eP P 23 23 39.7 -1.1

KBS Kingsbay 94.89 349 eP P 23 23 39.7 -1.1
RETA Reutte 94.98 317 ⇑iPcP PcP 23 23 42.2 0.0
comp=Z,30nm,1.0s,SNR=8.0
FETA Feichten 94.99 317 ⇑PcP PcP 23 23 42.6 +0.2
comp=Z,33nm,1.3s
NB2 NORSAR Subarra 95.02 331 P P 23 23 41.7 0.0
comp=Z,45nm,0.9s,baz=95,slow=4.6
NB2 NORSAR Subarra 95.02 331 P P 23 23 41.7 0.0
baz=92,slow=4.6
NOA NORSAR Array B 95.02 331 P P 23 23 41.3 -0.4
NOA PP **PP 23 27 30.5 -1.2**
NOA PKKPbc **PKKPdf 23 40 36.2 -2.7**
NOA NORSAR Array B 95.02 331 P P 23 23 41.3 -0.4
comp=Z,27nm,1.0s,baz=95,slow=4.9,SNR=45
NOA PP **PP 23 27 30.5 -1.2**
comp=Z,11nm,1.0s,baz=100,slow=7.0,SNR=7.0
NOA PKKPbc **PKKPdf 23 40 36.2 -2.7**
comp=Z,1.4nm,0.8s,baz=280,slow=2.4,SNR=4.5
BSEG Bad Segeberg 95.40 324 eP P 23 23 44.2 +0.7
comp=Z,90nm,1.2s
BSEG Bad Segeberg 95.40 324 eP P 23 23 44.2 +0.7
BSEG pmax pmax
comp=Z,29nm,1.2s
TBLU Trondheim 95.48 333 eP P 23 23 40.7 -3.0
NRDL Niedersach Rie 95.51 322 eP P 23 23 44.8 +0.8
comp=Z,45nm,1.2s
UBBA Unterbreizbach 95.55 320 eP P 23 23 44.8 +0.6
comp=Z,42nm,1.6s
DAVOX Davos/Dischmat 95.57 316 P P 23 23 45.5 +0.8
DAVOX S **SKSac 23 34 14.4 -1.1**
DAVOX PKKPbc **PKKPdf 23 40 37.7 -0.1**
DAVOX Davos/Dischmat 95.57 316 P P 23 23 45.5 +0.8
comp=Z,16nm,0.9s,baz=155,slow=3.8,SNR=6.2
DAVOX S **SKSac 23 34 14.4 -1.1**
comp=Z,4.7nm,0.9s,baz=332,slow=11,SNR=6.7
DAVOX PKKPbc **PKKPdf 23 40 37.7 -0.1**
comp=Z,2.3nm,0.7s,baz=178,slow=7.9,SNR=5.4
DAVA Damuels 95.58 317 ⇑iPcP P 23 23 44.7 -0.1
comp=Z,57nm,1.3s
KEST Kesra 95.69 305 eP P 23 23 47.3 +1.9
KEST Kesra 95.69 305 P P 23 23 47.4 +1.9
comp=Z,12nm,0.9s,baz=88,slow=3.5,SNR=7.5
VSL Villasalto 95.77 309 eP P 23 23 45.7 +0.1
KONO Kongsberg 95.81 329 eP P 23 23 44.6 -0.7
KONO eSS SS 23 41 31.0 +2.3
KONO AMS AMS 00 15 42.2
comp=Z,1µm,23.0s
KONO Kongsberg 95.81 329 eP P 23 23 45.9 +0.6
KONO Kongsberg 95.81 329 eP P 23 23 45.9 +0.6
STU Stuttgart 96.05 318 eP P 23 23 47.2 +0.5
comp=Z,32nm,1.1s
MUD Monsted U'grnd 96.06 326 iP P 23 23 47.3 +0.8
MUD pmax pmax
comp=Z,14nm,1.0s
MUD Monsted U'grnd 96.06 326 iP P 23 23 47.3 +0.8
comp=Z,14nm,0.9s
PGF Pioggiola 96.12 312 ⇑iP P 23 23 47.6 +0.3
comp=Z,54nm,1.1s
TNS Taunus Mts 96.54 320 eP P 23 23 49.8 +0.9
comp=Z,51nm,1.0s
TNS Taunus Mts 96.54 320 eP P 23 23 49.8 +0.9
TNS pmax pmax
comp=Z,10.0nm,1.0s
BFO Black Forest 96.63 318 eP P 23 23 49.5 +0.2
comp=Z,23nm,1.1s
BFO Black Forest 96.63 318 eP P 23 23 49.5 +0.2
BFO pmax pmax
comp=Z,7.0nm,1.1s
IBBN Ibbenburen 96.95 322 eP P 23 23 51.2 +0.6
comp=Z,34nm,1.1s
BUG Bochum--Univer 97.27 321 eP Pdif 23 23 52.6 +0.5
comp=Z,34nm,1.2s
SBF Sospel 97.27 313 ⇑iP Pdif 23 23 52.5 0.0
comp=Z,64nm,1.0s
CDF Champ du Feu 97.33 318 ⇑iP P 23 23 52.4 -0.2
comp=Z,52nm,1.3s
HINF Hinteralfeld 97.62 317 ⇑iP P 23 23 53.4 -0.5
MBDF Montbardon 97.74 314 eP P 23 23 54.0 -0.6
comp=Z,26nm,1.2s
LPG La Plagne 97.74 315 ⇑iP Pdif 23 23 54.9 +0.1
comp=Z,45nm,1.1s
LPL La Plagne 97.75 315 ⇑iP Pdif 23 23 54.9 +0.1
comp=Z,26nm,0.9s
FRF La Foret Royal 97.84 313 ⇑iP Pdif 23 23 55.2 +0.3
comp=Z,57nm,1.2s
BER Bergen 97.92 330 AMS AMS 00 22 37.7
comp=Z,821nm,22.8s
LMR La Mourre 97.95 313 ⇑iP Pdif 23 23 55.7 +0.3
comp=Z,25nm,1.2s
HAU Haudompre 97.96 318 ⇑iP Pdif 23 23 55.3 -0.1
comp=Z,60nm,1.1s
HAU eR
comp=Z,2µm,20.8s
MEM Membach 98.09 320 P Pdif 23 23 56.5 +0.6
CABF La Chapelle 98.18 316 ⇑iP Pdif 23 23 56.9 +0.4
comp=Z,69nm,1.3s
PAGF Fort de Pagny 98.36 318 ⇑iP Pdif 23 23 57.1 0.0
comp=Z,5.3nm,1.0s
ORIF Oris-en-Rattie 98.37 315 ⇑iP Pdif 23 23 57.7 +0.3
comp=Z,35nm,1.2s
ORIF eR
comp=Z,2µm,23.0s
SMRF Simiane la Rot 98.61 314 ⇑iP Pdif 23 23 59.2 +0.8
comp=Z,22nm,1.0s
MEZF Maizieres J'vi 98.81 318 eP Pdif 23 23 59.3 +0.2
comp=Z,69nm,1.4s
SFTF Sexfontaines 98.83 318 eP Pdif 23 23 59.3 +0.1
comp=Z,62nm,0.9s
GIVF Givet 98.88 320 eP Pdif 23 23 59.6 +0.3
DOU Dourbes 99.02 320 P Pdif 23 24 00.9 +0.9
comp=Z,12nm,1.8s
VIVF Saint-Julien-l 99.23 315 ⇑iP Pdif 23 24 01.3 +0.2
comp=Z,17nm,1.1s
BAIF Baives 99.27 320 ⇑iP Pdif 23 24 01.5 +0.4
comp=Z,37nm,1.0s
LOR Lormes 99.67 317 ⇑iP Pdif 23 24 03.2 +0.2
comp=Z,45nm,1.2s
LOR eR
comp=Z,2µm,20.2s
SMF Signal de Mont 99.72 316 ⇑iP Pdif 23 24 03.4 +0.2
comp=Z,59nm,1.3s
LASF Ste Croix 99.85 314 ⇑iP Pdif 23 24 04.4 +0.5
comp=Z,33nm,1.3s
SSF Saint Saulge 99.93 317 eP Pdif 23 24 04.6 +0.5
AVF Avril sur Loir 100.05 317 ⇑iP Pdif 23 24 04.9 +0.3
comp=Z,29nm,1.2s
BGF Bois d'Agland 100.41 316 eP Pdif 23 24 06.8 +0.5
HYF Humbligny 100.50 317 eP Pdif 23 24 07.5 +0.8
TCF Toulx Ste Croi 100.87 316 eP Pdif 23 24 09.2 +0.8
COLD Coldfoot 100.93 22 ePdif Pdif 23 24 08.0 -0.1
comp=Z,12nm,1.0s
PPLA Purkeypile 101.05 27 ePdif Pdif 23 24 07.6 -1.3
CAF Calviac 101.08 315 ⇑iP Pdif 23 24 10.3 +1.0
comp=Z,27nm,1.5s
MTLF Montolieu 101.08 313 ⇑iP Pdif 23 24 09.9 +0.6
comp=Z,28nm,1.3s
JMIC Jan Mayen 101.44 342 AMS AMS 00 17 16.6
comp=Z,883nm,16.3s
SPU Mount Spurr 101.44 29 ePdif Pdif 23 24 10.0 -0.6
DAG Danmarks Havn 101.62 348 ⇑iP Pdif 23 24 09.8 -1.2
DAG pmax pmax
comp=Z,28nm,0.8s
DAG Danmarks Havn 101.62 348 ⇑iP Pdif 23 24 09.8 -1.2
comp=Z,38nm,0.8s
TORD Torodi Ar. Bea 101.99 282 PKiKP PKiKP 23 28 36.4 -0.3
TORD PKKPbc **PKKPbc 23 40 17.3 -0.9**
TORD Torodi Ar. Bea 101.99 282 PKiKP PKiKP 23 28 36.4 -0.3
comp=Z,1.7nm,0.9s,baz=93,slow=1.7,SNR=4.6
TORD PKKPbc **PKKPbc 23 40 17.3 -0.9**
comp=Z,3.9nm,0.8s,baz=298,slow=2.7,SNR=12
LDF La Druitiere 102.22 319 eP Pdif 23 24 14.5 +0.2
comp=Z,150nm,1.7s
MCK McKinley 102.30 26 eP Pdif 23 24 13.4 -0.9
MCK pmax pmax
comp=Z,11nm,0.8s
MCK McKinley 102.30 26 ePdif Pdif 23 24 13.4 -0.9
comp=Z,11nm,0.8s
FLN La Foliniere 102.44 319 ⇑iP Pdif 23 24 15.5 +0.3
comp=Z,30nm,1.1s
FLN eR
comp=Z,2µm,21.8s
COLA College 102.46 24 eP Pdif 23 24 15.8 +0.9
COLA pmax pmax
comp=Z,15nm,0.8s
COLA College 102.46 24 ePdif Pdif 23 24 15.8 +0.9
comp=Z,4.0nm,0.8s
MFF Saint Martin d 102.46 317 eP Pdif 23 24 15.8 +0.4

comp=Z,28nm,1.2s
GRR Gorton 102.74 318 *e*P **Pdif** **23 24 17.0 +0.4**
ILAR Eielson Array 102.88 24 Pdif **Pdif** **23 24 14.5 -2.4**
ILAR PP **PP** **23 28 30.3 -1.1**
ILAR PKKPbc **PKKPbc** **23 40 13.6 -3.6**
ILAR Eielson Array 102.88 24 Pdiff **Pdif** **23 24 14.5 -2.4**
comp=Z,3.0nm,0.7s,baz=293,slow=3.6,SNR=26
ILAR PP **PP** **23 28 30.3 -1.1**
comp=Z,2.7nm,0.8s,baz=301,slow=9.1,SNR=5.8
ILAR PKKPbc **PKKPbc** **23 40 13.6 -3.6**
comp=Z,0.6nm,0.5s,baz=134,slow=2.1,SNR=6.1
SML Sawmill 103.04 27 *e*P **Pdif** **23 24 17.3 -0.4**
SML pmax pmax
comp=Z,7.0nm,0.8s
SML Sawmill 103.04 27 *e*Pdif **Pdif** **23 24 17.3 -0.4**
comp=Z,6.8nm,0.8s
EKA Eskdalemuir Ar 103.08 326 PP PP 23 28 25.6 -7.5
EKA Eskdalemuir Ar 103.08 326 PP PP 23 28 25.6 -7.5
comp=Z,8.6nm,1.0s,baz=86,slow=9.0,SNR=5.2
SGMF Saint Gilles 103.88 318 *e*P **Pdif** **23 24 22.2 +0.6**
TBI Tubuai 104.14 115 *e*LR LR 23 58 44.6
comp=Z,1µm,30.8s
QUIF Quistinic 104.33 318 *e*P **Pdif** **23 24 23.9 +0.3**
BMRM Bremner River 105.00 28 *e*Pdif **Pdif** **23 24 25.5 -0.9**
comp=Z,16nm,1.0s
PPT2 Papeete2 105.12 110 *e*LR LR 23 59 10.4
comp=Z,979nm,23.8s
EGAK Eagle 105.20 24 *e*PKPdf **PKiKP** **23 28 41.4 +0.3**
SCO Scoresbysund 105.67 343 *i* P **Pdif** **23 24 35.1 +6.0**
SCO pmax pmax
comp=Z,7.0nm,0.8s
SCO Scoresbysund 105.67 343 *i* P **Pdif** **23 24 35.1 +6.0**
comp=Z,7.1nm,0.8s
ESDC Sonseca Array 106.05 310 PKiKP **PKiKP** **23 28 42.6 -0.9**
ESDC PKKPbc **PKKPbc** **23 40 05.8 -1.0**
ESDC Sonseca Array 106.05 310 PKiKP **PKiKP** **23 28 42.6 -0.9**
comp=Z,1.3nm,0.8s,baz=56,slow=2.8,SNR=5.7
ESDC PKKPbc **PKKPbc** **23 40 05.8 -1.0**
comp=Z,2.3nm,0.7s,baz=282,slow=3.7,SNR=13
INK Inuvik 106.41 19 Pdif **Pdif** **23 24 31.8 -0.6**
INK PKiKP **PKiKP** **23 28 41.5 -1.6**
INK Inuvik 106.41 19 Pdiff **Pdif** **23 24 31.8 -0.6**
comp=Z,7.0nm,0.8s,baz=297,slow=4.7,SNR=14
INK PKiKP **PKiKP** **23 28 41.5 -1.6**
comp=Z,7.5nm,0.9s,baz=318,slow=2.0,SNR=7.0
MDT Midelt 107.33 303 PKiKP **PKiKP** **23 28 45.2 -0.9**
MDT PKKPbc **PKKPbc** **23 40 03.9 +1.2**
MDT Midelt 107.33 303 PKiKP **PKiKP** **23 28 45.2 -0.9**
comp=Z,2.6nm,0.9s,baz=315,slow=1.4,SNR=3.2
MDT PKKPbc **PKKPbc** **23 40 03.9 +1.2**
comp=Z,3.3nm,0.7s,baz=272,slow=3.8,SNR=9.9
DBIC Dimbokro 108.17 275 PKKPbc PKKPbc 23 40 00.5 +1.2
DBIC Dimbokro 108.17 275 PKKPbc PKKPbc 23 40 00.5 +1.2
comp=Z,3.8nm,0.6s,baz=201,slow=3.2,SNR=5.6
SUMG Summit 108.31 349 *e*P **Pdif** **23 24 41.4 0.0**
SUMG pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 108.31 349 *e*Pdif **Pdif** **23 24 41.4 0.0**
comp=Z,9.8nm,0.8s
SUMG *e*PKPdf **PKiKP** **23 28 45.7 -1.5**
SUMG Summit 108.31 349 *i* P **Pdif** **23 24 41.8 +0.4**
comp=Z,11nm,0.8s
SUMG Summit 108.31 349 *i* P **PKiKP** **23 28 46.8 -0.4**
comp=Z,10nm,0.9s
SUMG *i* **PP** **23 29 13.6 +2.0**
PVRL Vila Real 108.64 312 *e*PP PP 23 29 14.2 -0.5
POLO Lamas de Olo 108.68 312 PP PP 23 29 12.5 -2.5
PVIS Viseu 108.87 311 PP PP 23 29 14.4 -2.0
PGAV Gavieira, Arco 108.92 313 *e*PP PP 23 29 17.1 +0.3
PESTR Estremoz 108.95 309 PP PP 23 29 18.5 +1.5
PTOM Tomar 109.45 310 PP PP 23 29 17.3 -3.2
DLBC Dease Lake 112.76 27 PKiKP **PKiKP** **23 28 55.9 +0.3**
DLBC PP **PP** **23 29 44.7 +1.1**
DLBC Dease Lake 112.76 27 PKiKP **PKiKP** **23 28 55.9 +0.3**
comp=Z,8.8nm,0.9s,baz=270,slow=1.0,SNR=11
DLBC PP **PP** **23 29 44.7 +1.1**
comp=Z,6.5nm,1.0s,baz=281,slow=7.2,SNR=4.6
YKA Yellowknife Ar 116.17 18 PKP **PKPdf** **23 29 01.3 -0.5**
YKA SKP 23 32 30.7
YKA PKKP **PKKPdf** **23 39 55.0 -4.4**
YKA Yellowknife Ar 116.17 18 PKP **PKPdf** **23 29 01.3 -0.5**
comp=Z,12nm,0.9s,baz=323,slow=1.8,SNR=41
YKA SKP 23 32 30.7
comp=Z,3.0nm,0.9s,baz=330,slow=2.0,SNR=4.4
YKA PKKP **PKKPdf** **23 39 55.0 -4.4**
comp=Z,1.7nm,0.7s,baz=129,slow=4.1,SNR=5.6
BBB Bella Bella 116.86 32 PKP **PKPdf** **23 29 04.3 +0.9**
BBB Bella Bella 116.86 32 PKP **PKPdf** **23 29 04.3 +0.9**
comp=Z,16nm,0.8s,baz=53,slow=4.7,SNR=3.6
RKT Rikitea 117.07 119 *e*LR LR 00 04 43.3
comp=Z,636nm,29.5s
USHA Ushuaia 120.12 186 PKP **PKPdf** **23 29 09.1 -0.6**
USHA Ushuaia 120.12 186 PKP **PKPdf** **23 29 09.1 -0.6**
comp=Z,16nm,0.8s,baz=205,slow=5.6,SNR=4.7
NLWA Neilton Lookou 121.66 36 *e*PKPdf **PKPdf** **23 29 13.8 +0.9**
LON Longmire 123.20 35 *e*PKIKP **PKPdf** **23 29 16.2 +0.3**
LON Longmire 123.20 35 *e*PKPdf **PKPdf** **23 29 16.2 +0.3**
WPW White Pass 123.38 35 P **PKPdf** **23 29 17.1 +0.7**
TWW Teanaway 123.52 35 P **PKPdf** **23 29 17.8 +1.2**
KEBM Edson Butte 123.64 40 *e*PKPdf **PKPdf** **23 29 16.6 -0.4**
KEBM *es*PKPdf sPKPdf 23 29 32.0 -11
WTV Waterville 123.71 34 P **PKPdf** **23 29 17.4 +0.5**
VLL Laurance Lake 123.97 37 P **PKPdf** **23 29 18.8 +1.2**
BROR Big Rock Looko 124.13 38 P **PKPdf** **23 29 18.7 +1.0**
HUMO Hull Mountain 124.65 40 *e*PKPdf **PKPdf** **23 29 18.8 0.0**
HUMO *es*PKPdf sPKPdf 23 29 36.5 -8.1
WRD Warden 124.68 34 P **PKPdf** **23 29 19.8 +1.1**
HAWA Hanford 124.70 35 *e*PKPdf **PKPdf** **23 29 19.4 +0.6**
HAWA *ep*PKPdf pPKPdf 23 29 30.0 -7.7
NEW Newport 124.89 32 *e*PKPdf **PKPdf** **23 29 19.0 -0.1**
NEW Newport 124.89 32 P **PKPdf** **23 29 19.5 +0.3**
baz=125
KHMM Horse Mountain 124.98 42 *e*PKPdf **PKPdf** **23 29 20.8 +1.1**
KHMM pPKPdf **pPKPdf** **23 29 31.6 -6.9**
A12A Yaak River Ran 125.21 30 P **PKPdf** **23 29 20.4 +0.7**
baz=125
YBH Yreka Blue Hor 125.24 41 *e*PKPdf **PKPdf** **23 29 18.9 -1.2**
YBH PKP **PKPdf** **23 29 20.2 +0.2**
YBH Yreka Blue Hor 125.24 41 PKP **PKPdf** **23 29 20.2 +0.2**
comp=Z,9.5nm,0.8s,baz=274,slow=0.3,SNR=14
B12A Libby 125.55 31 P **PKPdf** **23 29 20.8 +0.4**
baz=125
KCPM Cahto Peak 125.63 44 *e*PKPdf **PKPdf** **23 29 21.9 +1.0**
KCPM *ep*PKPdf **pPKPdf** **23 29 33.1 -6.7**
KIPM Iron Peak 125.64 43 *e*PKPdf **PKPdf** **23 29 22.3 +1.3**
A13A Flathead Natio 125.83 30 P **PKPdf** **23 29 21.6 +0.7**
baz=126
WDC Whiskeytown Da 125.91 42 *e*PKIKP **PKPdf** **23 29 21.3 0.0**
WDC *e* 23 29 38.0
WDC Whiskeytown Da 125.91 42 *e*PKPdf **PKPdf** **23 29 21.3 0.0**
WDC *es*PKPdf sPKPdf 23 29 38.0 -9.1
WALA Waterton Lakes 125.99 29 *e*PKPdf **PKPdf** **23 29 21.1 -0.2**
C12B Naegeli Ranch, 126.10 31 P **PKPdf** **23 29 21.4 0.0**
baz=126
B13A Whitefish 126.17 30 P **PKPdf** **23 29 21.9 +0.3**
baz=126
A14A Double T Ranch 126.28 29 P **PKPdf** **23 29 21.8 -0.1**
baz=126
HOPS Hopland 126.29 44 *e*PKPdf **PKPdf** **23 29 22.5 +0.5**
FFC Flin Flon 126.33 18*c* *i*PKIKP **PKPdf** **23 29 21.8 +0.2**
FFC Flin Flon 126.33 18 *e*PKPdf **PKPdf** **23 29 21.2 -0.4**
FFC *e*PP **PP** **23 31 14.9 -1.5**
FFC *e*SKPdf **SKiKP** **23 32 52.6 +0.1**
BSMT Bassoo Peak 126.36 31 *e*PKPdf **PKPdf** **23 29 22.2 +0.1**
BSMT *es*PKPdf sPKPdf 23 29 37.7 -10
BLMT Blacktail Moun 126.47 30 *e*PKPdf **PKPdf** **23 29 21.1 -1.3**
C13A Hot Springs 126.58 31 P **PKPdf** **23 29 22.2 -0.2**
baz=126
A15A Johnson Ranch, 126.61 29 P **PKPdf** **23 29 22.1 -0.4**
baz=126
JTMT Jette 126.68 31 *e*PKPdf **PKPdf** **23 29 22.5 -0.2**
YBMT Yellow Bay 126.74 30 *e*PKPdf **PKPdf** **23 29 21.6 -1.2**
B14A Marquette Ranc 126.77 29 P **PKPdf** **23 29 22.5 -0.3**
baz=127
BMO Blue Mountains 126.87 35 *e*PKIKP **PKPdf** **23 29 22.9 -0.2**
BMO Blue Mountains 126.87 35 *e*PKPdf **PKPdf** **23 29 22.9 -0.2**
C14A Swan Lake 126.94 30 P **PKPdf** **23 29 23.0 -0.2**
baz=127
SWMT Swartz Lake 126.98 31 *e*PKPdf **PKPdf** **23 29 21.5 -1.7**
B15A Bradely Ranch, 127.15 29 P **PKPdf** **23 29 23.2 -0.4**
baz=127
A16A West Butte Ran 127.17 28 P **PKPdf** **23 29 23.6 +0.1**
baz=127
SLMT Seeley Lake 127.42 31 *e*PKPdf **PKPdf** **23 29 24.3 +0.1**
SLMT *es*PKPdf sPKPdf 23 29 40.8 -9.1
WVOR Wild Horse Val 127.46 38 *e*PKIKP **PKPdf** **23 29 25.3 +0.9**
WVOR *e* 23 29 40.8
WVOR Wild Horse Val 127.46 38 *e*PKPdf **PKPdf** **23 29 25.3 +0.9**
WVOR *es*PKPdf sPKPdf 23 29 40.8 -9.3
B16A M & M Farms, S 127.49 28 P **PKPdf** **23 29 23.9 -0.3**
baz=127
C15A Salmond Ranch, 127.50 30 P **PKPdf** **23 29 24.2 -0.1**
baz=127
A17A Triple J Farms 127.59 27 P **PKPdf** **23 29 24.6 +0.3**
baz=128
BEKR Beckworth 127.72 42 *e*PKPdf **PKPdf** **23 29 25.3 +0.3**
CHMT Chamberlain Mo 127.76 31 *e*PKPdf **PKPdf** **23 29 25.0 +0.1**
CHMT *es*PKPdf sPKPdf 23 29 41.3 -9.4
C16A Fuhringer Ranc 127.90 29 P **PKPdf** **23 29 24.5 -0.5**
baz=128
A18A Metzger Ranch, 127.99 27 P **PKPdf** **23 29 25.0 -0.1**
baz=128
B17A L&G Farms, Che 128.01 28 P **PKPdf** **23 29 25.0 -0.1**
baz=128
B18A Beardsley Farm 128.41 27 P **PKPdf** **23 29 25.8 -0.1**
baz=128
H12A Diamond D Ranc 128.44 34 P **PKPdf** **23 29 26.5 +0.3**
baz=128
PAHR Pah Rah Range 128.44 42 *e*PKPdf **PKPdf** **23 29 27.2 +0.9**
PAHR *es*PKPdf sPKPdf 23 29 44.4 -7.8
SAO San Andreas Ge 128.46 46 *e*PKIKP **PKPdf** **23 29 25.9 -0.4**
SAO *e* 23 29 42.6
SAO San Andreas Ge 128.46 46 *e*PKPdf **PKPdf** **23 29 25.9 -0.4**
SAO *es*PKPdf sPKPdf 23 29 42.6 -9.4
A19A Klindworth Far 128.48 26 P **PKPdf** **23 29 25.8 -0.2**
baz=128
C17A Wharram Farm, 128.49 29 P **PKPdf** **23 29 25.9 -0.2**
baz=128
MFID Camas Ranch 128.58 36 *e*PKPdf **PKPdf** **23 29 27.4 +1.0**
MFID *es*PKPdf sPKPdf 23 29 44.1 -8.1
CMB Columbia Colle 128.60 44 *e*PKIKP **PKPdf** **23 29 26.7 +0.2**
CMB *e* 23 29 42.7
CMB Columbia Colle 128.60 44 *e*PKPdf **PKPdf** **23 29 26.7 +0.2**
CMB *es*PKPdf sPKPdf 23 29 42.7 -10
HRY Holter Researc 128.61 30 *e*PKPdf **PKPdf** **23 29 26.8 +0.4**
EGMT Eagleton 128.69 28 *e*PKPdf **PKPdf** **23 29 25.8 -0.7**
EGMT Eagleton 128.69 28 P **PKPdf** **23 29 26.7 +0.3**
baz=129
B19A Brinkman Farms 128.74 27 P **PKPdf** **23 29 27.1 +0.6**
baz=129
D17A Six Diamond Ra 128.87 29 P **PKPdf** **23 29 26.7 -0.3**
baz=129
A20A Cobblestone Ra 128.87 26 P **PKPdf** **23 29 26.5 -0.2**
baz=129
LRM Limekiln Ridge 128.90 31 *e*PKPdf **PKPdf** **23 29 26.6 -0.6**
LRM *es*PKPdf sPKPdf 23 29 44.1 -8.8
WAKR Walker 129.02 43 *e*PKPdf **PKPdf** **23 29 28.8 +1.3**
DLMT Dillon 129.13 32 *e*PKPdf **PKPdf** **23 29 28.2 +0.8**
B20A Solberg Farm, 129.16 26 P **PKPdf** **23 29 27.5 +0.2**
baz=129
A21A Bergtold Ranch 129.22 25 P **PKPdf** **23 29 27.5 +0.2**
baz=129
C19A Slack Wire Ran 129.22 27 P **PKPdf** **23 29 27.9 +0.4**
baz=129
D18A Linhart Farms, 129.26 28 P **PKPdf** **23 29 27.9 +0.3**
baz=129
E17A Martinsdale 129.27 30 P **PKPdf** **23 29 27.9 +0.2**
baz=129
HLID Hailey 129.30 35 *e*PKPdf **PKPdf** **23 29 28.8 +0.9**
HLID Hailey 129.30 35 P **PKPdf** **23 29 29.1 +1.2**
baz=129
MCMT McKenzie Canyo 129.35 33 *e*PKPdf **PKPdf** **23 29 28.5 +0.5**
BMN Battle Mountai 129.46 40 *e*PKIKP **PKPdf** **23 29 29.6 +1.3**
BMN Battle Mountai 129.46 40 *e*PKPdf **PKPdf** **23 29 29.6 +1.3**
SCHQ Schefferville 129.46 352 PKP **PKPdf** **23 29 27.7 +0.1**
SCHQ PP **PP** **23 31 37.4 +0.5**
SCHQ Schefferville 129.46 352 PKP **PKPdf** **23 29 27.7 +0.1**
comp=Z,40nm,0.9s,baz=38,slow=4.0,SNR=51
SCHQ PP **PP** **23 31 37.4 +0.5**
comp=Z,23nm,1.1s,baz=10,slow=7.9,SNR=6.0
B21A Ellsworth Farm 129.61 26 P **PKPdf** **23 29 29.0 +0.8**
baz=130
I14A Mackay 129.61 34 P **PKPdf** **23 29 28.8 +0.3**
baz=130
A22A Carney Farms, 129.63 24 P **PKPdf** **23 29 28.6 +0.4**
baz=130
E18A Harlowton 129.66 29 P **PKPdf** **23 29 28.9 +0.5**
baz=130
C20A Veseth Ranch, 129.71 27 P **PKPdf** **23 29 29.1 +0.7**
baz=130
D19A Cripps Ranch, 129.72 28 P **PKPdf** **23 29 29.2 +0.7**
baz=130
F17A Fitzpatrick Pl 129.76 30 P **PKPdf** **23 29 29.4 +0.8**
baz=130
NVAR Mina Array Bea 129.82 42 PKPpre PKPpre 23 29 19.9
NVAR PKP **PKiKP** **23 29 30.0 +0.1**
NVAR PP **PP** **23 31 38.5 -2.0**
NVAR SKPbc SKPbc 23 32 47.2 +1.1
NVAR Mina Array Bea 129.82 42 PKhKP PKPpre 23 29 19.9
comp=Z,2.9nm,0.8s,baz=270,slow=1.8,SNR=9.3
NVAR PP **PKiKP** **23 29 30.0 +0.1**
comp=Z,12nm,0.6s,baz=290,slow=2.3,SNR=32
NVAR PP **PP** **23 31 38.5 -2.0**
comp=Z,4.8nm,0.9s,baz=280,slow=5.4,SNR=3.8
NVAR SKPbc SKPbc 23 32 47.2 +1.1
comp=Z,8.9nm,0.7s,baz=267,slow=4.5,SNR=9.8
MLAC Mammoth Lakes 129.87 44 P **PKPdf** **23 29 30.3 +1.1**
baz=130
C21A Desert Coulee 130.03 26 P **PKPdf** **23 29 29.3 +0.3**
baz=130
A23A Redstone 130.08 24 P **PKPdf** **23 29 29.3 +0.2**
baz=130
QLMT Earthquake Lak 130.10 32 *e*PKPdf **PKPdf** **23 29 30.6 +1.2**
QLMT *es*PKPdf sPKPdf 23 29 46.4 -8.8
D20A Manuel Ranch, 130.12 27 P **PKPdf** **23 29 29.6 +0.5**
baz=130
G17A Pierce Place, 130.12 31 P **PKPdf** **23 29 30.5 +1.1**
baz=130
B22A Reddig Ranch S 130.14 25 P **PKPdf** **23 29 29.6 +0.4**
baz=130
SMMC Simmler 130.16 47 P **PKPdf** **23 29 31.0 +1.4**
baz=130
F18A Big Timber 130.23 30 P **PKPdf** **23 29 30.1 +0.6**
baz=130
RCTC Rector, Farmer 130.24 45 P **PKPdf** **23 29 30.5 +0.8**
baz=130
E19A Rath Farm, Rou 130.28 28 P **PKPdf** **23 29 29.9 +0.4**
baz=130
GCMT Greycliff 130.33 30 *e*PKPpre PKPpre 23 29 18.7
GCMT *e*PKPdf **PKPdf** **23 29 29.9 +0.2**
GCMT *es*PKPdf sPKPdf 23 29 46.6 -8.9
GCMT *e*SKPab **SKPbc** **23 32 48.0 +0.5**
B23A Brockton 130.43 24 P **PKPdf** **23 29 30.1 +0.4**
baz=130
YMR Madison River 130.46 32 *e*PKPdf **PKPdf** **23 29 31.8 +1.7**
YMR *es*PKPdf sPKPdf 23 29 48.4 -7.5
YMR *e*SKPbc **SKPbc** **23 32 49.1 +1.0**
A24A Westby 130.46 23 P **PKPdf** **23 29 30.2 +0.5**
baz=130
PKM Peak Mountain 130.48 47 P **PKPdf** **23 29 30.3 -0.1**
baz=130
E20A Meyer Farm, Mu 130.55 28 P **PKPdf** **23 29 30.3 +0.2**
baz=130
VES Vestal, Richgr 130.57 46 P **PKPdf** **23 29 30.6 +0.3**
baz=130
C22A Vida 130.62 25 P **PKPdf** **23 29 31.4 +1.3**
baz=130
F19A Roth Farm, Mol 130.64 29 P **PKPdf** **23 29 30.5 +0.3**
baz=130
D21A La Casta Ranch 130.65 27 P **PKPdf** **23 29 30.5 +0.3**
baz=130
YFT Old Faithful 130.67 32 *e*PKPdf **PKPdf** **23 29 32.9 +2.4**
YFT *es*PKPdf sPKPdf 23 29 48.2 -8.2
YFT *e*SKPbc **SKPab** **23 32 50.9 +1.9**
I16A Newdale 130.72 33 P **PKPdf** **23 29 31.5 +1.0**
baz=131
G18A Lazy EL Ranch, 130.72 30 P **PKPdf** **23 29 30.6 +0.1**
baz=131
DGMT Dagmar 130.75 24 *e*PKPdf **PKPdf** **23 29 30.9 +0.7**
DGMT Dagmar 130.75 24 P **PKPdf** **23 29 30.6 +0.3**
baz=131
LKWY Lake 130.82 31 *e*PKIKP **PKPdf** **23 29 31.9 +1.0**
LKWY Lake 130.82 31 *e*PKPdf **PKPdf** **23 29 31.9 +1.0**
C23A Lambert 130.87 25 P **PKPdf** **23 29 31.4 +0.8**
baz=131
D22A Cohagen 130.95 26 P **PKPdf** **23 29 31.7 +1.0**
baz=131
IMW Indian Meadow 131.00 32 *e*PKPdf **PKPdf** **23 29 27.5 -3.7**
IMW *e*SKPbc **SKPab** **23 32 51.3 +0.9**
FLWY Flagg Ranch 131.00 32 *e*PKPdf **PKPdf** **23 29 31.1 0.0**
FLWY *e*SKPbc **SKPab** **23 32 51.0 +0.7**
RLMT Red Lodge 131.00 30 *e*PKPdf **PKPdf** **23 29 27.2 -3.9**
RLMT *e*SKPbc **SKPbc** **23 32 50.2 +0.1**
E21A Keefer Ranch, 131.01 27 P **PKPdf** **23 29 31.5 +0.6**
baz=131
F20A Billings 131.06 29 P **PKPdf** **23 29 31.4 +0.3**
baz=131
ISA Isabella 131.09 46 *e*PKIKP **PKPdf** **23 29 32.1 +0.7**
ISA Isabella 131.09 46 *e*PKPdf **PKPdf** **23 29 32.1 +0.7**
ISA *e*SKPbc **SKPbc** **23 32 50.1 -0.4**
ISA Isabella 131.09 46 P **PKPdf** **23 29 32.3 +0.9**
baz=131
ARVC Arvin 131.09 46 P **PKPdf** **23 29 32.3 +1.0**
baz=131
H18A Shoshone NF, C 131.12 31 P **PKPdf** **23 29 31.8 +0.5**
baz=131
RRI2 Red Ridge 131.16 33 *e*PKPdf **PKPdf** **23 29 32.7 +1.1**
RRI2 *e*SKPbc **SKPbc** **23 32 50.6 -0.2**
I17A Pilgrim Ck. 131.17 32 P **PKPdf** **23 29 32.1 +0.6**
baz=131
GRAC Grapevine Rang 131.20 43 P **PKPdf** **23 29 31.1 -0.4**
baz=131
MOOW Moose Ponds 131.20 32 *e*PKPdf **PKPdf** **23 29 29.2 -2.4**
MOOW *es*PKPdf sPKPdf 23 29 47.1 -10
MOOW *e*SKPbc **SKPbc** **23 32 51.4 +0.5**
A26A Wade Farm, Ken 131.22 22 P **PKPdf** **23 29 31.5 +0.3**
baz=131
TPAW Teton Pass 131.26 33 *e*PKPpre PKPpre 23 29 21.7
TPAW *e*PKPdf **PKiKP** **23 29 32.2 -0.5**
TPAW *es*PKPdf sPKPdf 23 29 48.5 -9.0
TPAW *e*SKPbc **SKPbc** **23 32 51.9 +0.7**
D23A Lindsay 131.35 25 P **PKPdf** **23 29 32.5 +1.0**
baz=131
HVU Hansel Valley 131.36 36 *e*PKIKP **PKPdf** **23 29 32.4 +0.6**
HVU *e* 23 29 48.9
HVU Hansel Valley 131.36 36 *e*PKPdf **PKPdf** **23 29 32.4 +0.6**
HVU *es*PKPdf sPKPdf 23 29 48.9 -8.7
HVU *e*SKPbc **SKPbc** **23 32 51.8 +0.3**
LOHW Long Hollow 131.37 32 *e*PKPdf **PKPdf** **23 29 32.6 +0.7**
LOHW *e*SKPbc **SKPbc** **23 32 51.8 +0.3**
SNOW Snow King Moun 131.39 33 *e*PKPdf **PKPdf** **23 29 31.5 -0.5**
SNOW *e*SKPbc **SKPbc** **23 32 52.2 +0.7**
BLG Laguna Peak 131.40 48 P **PKPdf** **23 29 33.0 +1.1**
baz=131
C24A Savage 131.40 25 P **PKPdf** **23 29 32.3 +0.8**
baz=131
REDW Red Top Meadow 131.40 33 *e*PKPdf **PKPdf** **23 29 32.3 +0.4**
REDW *es*PKPdf sPKPdf 23 29 49.3 -8.5
REDW *e*SKPbc **SKPab** **23 32 52.6 +0.5**
G20A Bridger 131.45 29 P **PKPdf** **23 29 32.1 +0.2**
baz=131
H19A Powell 131.47 30 P **PKPdf** **23 29 33.2 +1.3**
baz=131
F21A Absaloka Mine, 131.53 28 P **PKPdf** **23 29 32.7 +0.8**
baz=131
MPMC Manual Prospec 131.59 45 P **PKPdf** **23 29 33.8 +1.3**
baz=132
E22A Miles City 131.60 27 P **PKPdf** **23 29 32.6 +0.6**
baz=132
AHID Auburn Hatcher 131.67 33 *e*PKPdf **PKPdf** **23 29 32.9 +0.4**
AHID *es*PKPdf sPKPdf 23 29 48.9 -9.3
AHID *e*SKPbc **SKPbc** **23 32 53.2 +0.6**
R11A Troy Canyon, C 131.67 41 P **PKPdf** **23 29 34.0 +1.4**
baz=132
I18A Diamond G Ranc 131.72 32 P **PKPdf** **23 29 33.1 +0.5**
baz=132
C25A Freed Ranch, W 131.73 24 P **PKPdf** **23 29 33.1 +0.9**
baz=132
LRMC Laurel Mountai 131.74 45 P **PKPdf** **23 29 33.9 +1.2**
baz=132
BGU Big Grassy Mou 131.75 37 *e*PKPdf **PKPdf** **23 29 32.7 +0.1**
BGU *es*PKPdf sPKPdf 23 29 50.4 -7.9
BGU *e*SKPbc **SKPab** **23 32 54.1 +0.5**
EDW2 Edwards Air Fo 131.82 46 P **PKPdf** **23 29 34.2 +1.4**
baz=132
E23A Ismay 131.84 26 P **PKPdf** **23 29 33.2 +0.8**
baz=132
SPUT South Promonto 131.85 36 *e*PKPdf **PKPdf** **23 29 33.9 +1.1**
SPUT *es*PKPdf sPKPdf 23 29 49.7 -8.9
SPUT *e*SKPbc **SKPab** **23 32 54.1 +0.1**
I19A Meeteetse 131.91 31 P **PKPdf** **23 29 33.5 +0.7**
baz=132
G21A Lodge Grass 131.93 28 P **PKPdf** **23 29 33.1 +0.4**
baz=132
F22A Rosebud 131.96 27 P **PKPdf** **23 29 33.4 +0.7**
baz=132
ULM Lac du Bonnet 132.05 16 *e*PKPdf **PKPdf** **23 29 31.8 -0.9**
ULM PKP **PKPdf** **23 29 32.2 -0.4**
ULM SKPbc **SKPbc** **23 32 52.2 -1.2**
ULM *e*SKPbc **SKPab** **23 32 52.5 -1.7**
ULM Lac du Bonnet 132.05 16 PKP **PKPdf** **23 29 32.2 -0.4**
comp=Z,21nm,0.7s,baz=337,slow=3.8,SNR=3.7
ULM SKPbc **SKPbc** **23 32 52.2 -1.2**
comp=Z,80nm,1.1s,baz=323,slow=5.1,SNR=20
MWC Mount Wilson 132.08 47 *e*PKIKP **PKPdf** **23 29 31.3 -2.2**
MWC Mount Wilson 132.08 47 *e*PKPdf **PKPdf** **23 29 31.3 -2.2**
MWC *es*PKPdf sPKPdf 23 29 50.5 -8.8
MWC *e*SKPbc **SKPab** **23 32 55.3 +0.1**
C26A Wahner Farm, P 132.09 23 P **PKPdf** **23 29 33.4 +0.6**
baz=132
H20A Greybull 132.09 30 P **PKPdf** **23 29 33.2 +0.1**
baz=132
HWUT Hardware Ranch 132.17 35 *e*PKPpre PKPpre 23 29 20.0
HWUT *e*PKPdf **PKPdf** **23 29 33.5 +0.1**
HWUT *es*PKPdf sPKPdf 23 29 50.4 -8.8
CIS Catalina Islan 132.21 48 P **PKPdf** **23 29 34.9 +1.4**
baz=132
E24A Baker 132.22 25 P **PKPdf** **23 29 33.7 +0.5**
baz=132
DUG Dugway 132.33 37 *e*PKHKP PKPpre 23 29 20.5
DUG *e* 23 29 33.6
DUG Dugway 132.33 37 *e*PKPpre PKPpre 23 29 20.5
DUG *e*PKPdf **PKPdf** **23 29 33.6 -0.1**
DUG Dugway 132.33 37 P **PKPdf** **23 29 34.8 +1.1**
baz=132
BFSC Mount Baldy Ra 132.37 47 P **PKPdf** **23 29 34.9 +0.9**
baz=132
G22A Birney 132.37 28 P **PKPdf** **23 29 33.9 +0.4**
baz=132
F23A Volborg 132.39 27 P **PKPdf** **23 29 33.7 +0.2**
baz=132
C27A Sayler Ranch, 132.41 22 P **PKPdf** **23 29 34.2 +0.8**
baz=132
I20A Worland 132.41 30 P **PKPdf** **23 29 34.3 +0.6**
baz=132
J19A Crowheart 132.42 32 P **PKPdf** **23 29 34.1 +0.3**
baz=132
H21A Big Horn, Sher 132.45 29 P **PKPdf** **23 29 34.0 +0.2**
baz=132
GSC Goldstone 132.46 45 *e*PKIKP **PKPdf** **23 29 34.0 0.0**
GSC Goldstone 132.46 45 *e*PKPdf **PKPdf** **23 29 34.0 0.0**
GSC *e*SKPbc **SKPbc** **23 32 56.4 +1.0**
GSC *e*SKPdf **SKiKP** **23 33 05.5 -0.2**
GSC Goldstone 132.46 45 P **PKPdf** **23 29 35.5 +1.5**
baz=132
BW06 Boulder Array 132.50 32 *e*PKPdf **PKPdf** **23 29 33.6 -0.4**
PDAR Pinedale Array 132.50 32 PKPpre PKPpre 23 29 22.6
PDAR PKP **PKPdf** **23 29 33.5 -0.6**
PDAR PP **PP** **23 31 55.9 -1.6**
PDAR SKPbc **SKPbc** **23 32 54.5 -1.1**
PDAR Pinedale Array 132.50 32 PKhKP PKPpre 23 29 22.6
comp=Z,4.1nm,0.7s,baz=336,slow=2.0,SNR=24
PDAR PKP **PKPdf** **23 29 33.5 -0.6**
comp=Z,3.9nm,0.5s,baz=323,slow=1.4,SNR=17
PDAR PP **PP** **23 31 55.9 -1.6**
comp=Z,9.3nm,1.1s,baz=297,slow=4.0,SNR=4.1
PDAR SKPbc **SKPbc** **23 32 54.5 -1.1**
comp=Z,20nm,1.0s,baz=300,slow=1.8,SNR=15
RRX Edison Barstow 132.53 46 P **PKPdf** **23 29 35.4 +1.4**
baz=132
E25A Miller Ranch, 132.64 25 P **PKPdf** **23 29 34.7 +0.7**
baz=132
F24A Ekalaka 132.72 26 P **PKPdf** **23 29 34.4 +0.2**
baz=133
M17A Scullys Gap (B 132.77 34 P **PKPdf** **23 29 34.9 +0.3**
baz=133
H22A Clearmont 132.81 28 P **PKPdf** **23 29 34.6 +0.2**
baz=133
L18A Fontenelle, Gr 132.82 34 P **PKPdf** **23 29 35.1 +0.5**
baz=133
K19A Absolon Red Bu 132.84 32 P **PKPdf** **23 29 34.5 -0.2**
baz=133
J20A Shoshoni 132.86 31 P **PKPdf** **23 29 35.1 +0.5**
baz=133

JLU	Jordanelle	132.88	36	*e*PKPdf	**PKPdf**	23 29 35.3	+0.4
JLU				*es*PKPdf	sPKPdf	23 29 51.6	-9.0
JLU				*e*SKPbc	**SKPbc**	23 32 57.7	+0.8
NLU	North Lily Min	132.92	37	*e*PKPdf	**PKPdf**	23 29 35.6	+0.7
NLU				*es*PKPdf	sPKPdf	23 29 52.6	-8.1
NLU				*e*SKPbc	**SKPbc**	23 32 57.5	+0.4
I21A	Big Trails, Te	132.93	30	P	**PKPdf**	23 29 34.6	-0.2
	baz=133						
MDND	Maddock	132.99	21	P	**PKPdf**	23 29 34.3	-0.2
	baz=133						
TUQ	Turquoise Moun	133.01	44	P	**PKPdf**	23 29 36.1	+1.0
	baz=133						
HEC	Hector,Ludlow	133.03	45	P	**PKPdf**	23 29 36.3	+1.2
	baz=133						
L19A	Farson	133.07	33	P	**PKPdf**	23 29 35.4	+0.3
	baz=133						
DAU	Daniels Canyon	133.12	36	*e*PKPpre	PKPpre	23 29 27.0	
DAU				*e*PKPdf	**PKiKP**	23 29 36.3	-0.3
DAU				*e*SKPbc	**SKPbc**	23 32 59.0	+1.2
G24A	Alzada	133.14	26	P	**PKPdf**	23 29 35.4	+0.4
	baz=133						
MPU	Maple Canyon	133.15	37	*e*PKPdf	**PKPdf**	23 29 34.9	-0.4
MPU				*e*SKPbc	**SKPbc**	23 32 58.9	+1.1
J21A	Lysite	133.19	30	P	**PKPdf**	23 29 35.5	+0.2
	baz=133						
K20A	Yellowstone Ra	133.22	32	P	**PKPdf**	23 29 35.3	-0.1
	baz=133						
I22A	9 Mile Ranch,	133.27	29	P	**PKPdf**	23 29 35.3	0.0
	baz=133						
H23A	Clabaugh Cattl	133.28	28	P	**PKPdf**	23 29 35.2	-0.1
	baz=133						
F26A	Lodgepole	133.47	25	P	**PKPdf**	23 29 36.7	+1.2
	baz=133						
H24A	Dirks Ranch, A	133.53	27	P	**PKPdf**	23 29 35.7	-0.1
	baz=133						
GMRC	Granite Mounta	133.53	45	P	**PKPdf**	23 29 37.7	+1.6
	baz=133						
PFO	Pinyon Flat Ob	133.55	47	*e*PKPpre	PKPpre	23 29 27.0	
PFO				PKPpre	PKPpre	23 29 27.6	
PFO				PKP	**PKiKP**	23 29 36.9	-0.5
PFO				*e*PKPdf	**PKPdf**	23 29 37.7	+1.5
PFO				SKPbc	**SKPbc**	23 32 59.8	+0.5
PFO	Pinyon Flat Ob	133.55	47	PKHKP	PKPpre	23 29 27.6	
	comp=Z,7.1nm,0.9s,baz=333,slow=2.3,SNR=7.5						
PFO				PKP	**PiKK**	23 29 36.9	-0.5
	comp=Z,23nm,0.8s,baz=210,slow=2.2,SNR=24						
PFO				SKPbc	**SKPbc**	23 32 59.8	+0.5
	comp=Z,48nm,1.0s,baz=286,slow=2.5,SNR=24						
PFO	Pinyon Flat Ob	133.55	47	P	**PKPdf**	23 29 37.2	+1.1
	baz=134						
CCUT	Cedar City	133.57	40	*e*PKPpre	PKPpre	23 29 27.9	
CCUT				*e*PKPdf	**PKPdf**	23 29 36.3	+0.1
CCUT				*e*SKPbc	**SKPbc**	23 33 00.2	+0.8
M19A	Rock Springs	133.58	33	P	**PKPdf**	23 29 36.6	+0.5
	baz=134						
J22A	Midwest	133.62	30	P	**PKPdf**	23 29 35.6	-0.4
	baz=134						
L20A	Wamsutter	133.68	32	P	**PKPdf**	23 29 36.6	+0.4
	baz=134						
BELC	Belle Mtn. Jos	133.68	46	P	**PKPdf**	23 29 38.0	+1.6
	baz=134						
MVU	Marysvale	133.73	39	*e*PKPdf	**PKPdf**	23 29 35.4	-1.2
MVU				*e*SKPbc	**SKPab**	23 33 01.6	-0.7
MSU	Marysvale	133.75	39	*e*PKHKP	PKPpre	23 29 20.8	
MSU				*e*		23 29 35.9	
MSU	Marysvale	133.75	39	*e*PKPpre	PKPpre	23 29 20.8	
MSU				*e*PKPdf	**PKPdf**	23 29 35.9	-0.6
K21A	Alcova	133.80	31	P	**PKPdf**	23 29 36.6	+0.1
	baz=134						
AGMN	Agassiz Nation	133.81	17	*e*PKPdf	**PKPdf**	23 29 34.8	-1.2
TMUT	Trail Mountain	133.85	37	*e*PKPdf	**PKPdf**	23 29 37.6	+0.8
TMUT				*e*SKPbc	**SKPbc**	23 33 00.9	+0.6
MONP	Monument Peak	133.92	48	P	**PKPdf**	23 29 38.0	+1.0
	baz=134						
G26A	Maurine	133.95	25	P	**PKPdf**	23 29 36.6	+0.2
	baz=134						
J23A	Dilts Ranch, B	134.08	29	P	**PKPdf**	23 29 36.7	-0.2
	baz=134						
Q16A	Castle Valley	134.12	38	P	**PKPdf**	23 29 38.7	+1.5
	baz=134						
M20A	Sweetwater, Wa	134.12	33	P	**PKPdf**	23 29 37.8	+0.7
	baz=134						
G27A	Dupree	134.16	24	P	**PKPdf**	23 29 36.9	0.0
	baz=134						
K22A	Casper	134.16	30	P	**PKPdf**	23 29 36.8	-0.3
	baz=134						
I24A	Kuemmerle Ranc	134.18	28	P	**PKPdf**	23 29 36.5	-0.5
	baz=134						
IRM	Iron Mountain	134.21	46	P	**PKPdf**	23 29 38.8	+1.6
	baz=134						
L21A	Rawlins	134.22	32	P	**PKPdf**	23 29 37.3	0.0
	baz=134						
BC3	Big Chuckawall	134.25	46	P	**PKPdf**	23 29 38.8	+1.3
	baz=134						
PLCA	Paso Flores	134.27	187	PKP	**PKPdf**	23 29 39.6	+2.4
PLCA				SKPbc	**SKPbc**	23 33 00.2	-1.2
PLCA	Paso Flores	134.27	187	PKP	**PKPdf**	23 29 39.6	+2.4
	comp=Z,6.6nm,1.0s,baz=174,slow=8.2,SNR=8.4						
PLCA				SKPbc	**SKPbc**	23 33 00.2	-1.2
	comp=Z,7.6nm,0.9s,baz=178,slow=4.2,SNR=5.6						
SWSC	Sam W. Stewart	134.35	47	P	**PKPdf**	23 29 38.8	+1.3
	baz=134						
SRU	San Rafael	134.38	37	*e*PKIKP	**PKPdf**	23 29 37.1	-0.5
SRU	San Rafael	134.38	37	*e*PKPdf	**PKPdf**	23 29 37.1	-0.5
SRU				*e*SKPbc	**SKPbc**	23 33 02.6	+0.7
O19A	Miners Draw (B	134.42	35	P	**PKPdf**	23 29 37.8	+0.1
	baz=134						
I25A	Rochford	134.46	27	P	**PKPdf**	23 29 37.8	+0.1
	baz=134						
M21A	Separation Pea	134.48	32	P	**PKPdf**	23 29 38.0	+0.1
	baz=134						
RWWY	Rawlins	134.50	32	*e*PKPdf	**PKPdf**	23 29 37.8	-0.1
RWWY				*e*SKPbc	**SKPbc**	23 33 02.9	+0.6
N20A	Spence Gulch,	134.53	33	P	**PKPdf**	23 29 38.8	+0.8
	baz=134						
J24A	Dixon Ranch, L	134.56	28	P	**PKPdf**	23 29 37.6	-0.1
	baz=134						
W13A	Hualapai Mount	134.60	44	P	**PKPdf**	23 29 39.8	+1.6
	baz=134						
L22A	Ellis Ranch, M	134.66	31	P	**PKPdf**	23 29 37.9	-0.2
	baz=134						
H27A	Howes	134.70	25	P	**PKPdf**	23 29 37.7	-0.1
	baz=134						
G28A	Parade	134.82	24	P	**PKPdf**	23 29 38.2	+0.1
	baz=135						
I26A	New Underwood	134.84	26	P	**PKPdf**	23 29 38.5	+0.3
	baz=135						
Y12C	Blythe	134.87	46	P	**PKPdf**	23 29 39.8	+1.4
	baz=135						
U15A	North Rim	134.92	41	P	**PKPdf**	23 29 40.2	+1.4
	baz=135						
J25A	Sunshine Ranch	134.92	28	P	**PKPdf**	23 29 38.6	+0.2
	baz=135						
P19A	Cripple Cowboy	134.95	35	P	**PKPdf**	23 29 39.5	+0.8
	baz=135						
K24A	Anderson Ranch	134.95	29	P	**PKPdf**	23 29 38.2	-0.4
	baz=135						
L23A	Garrett	134.97	30	P	**PKPdf**	23 29 38.6	-0.1
	baz=135						
N21A	Black Mountain	134.99	33	P	**PKPdf**	23 29 39.1	+0.3
	baz=135						
GLA	Glamis	135.00	47	*e*PKIKP	**PKPdf**	23 29 39.6	+0.8
GLA	Glamis	135.00	47	*e*PKPdf	**PKPdf**	23 29 39.5	+0.8
GLA				*e*SKPbc	**SKPbc**	23 33 05.8	+1.9
GLA	Glamis	135.00	47	P	**PKPdf**	23 29 40.3	+1.5
	baz=135						
O20A	White River Ci	135.03	34	P	**PKPdf**	23 29 39.3	+0.5
	baz=135						
M22A	Cedar Creek Ra	135.03	32	P	**PKPdf**	23 29 39.0	+0.1
	baz=135						
TRQA	Tornquist	135.09	197	*e*PKPdf	**PKPdf**	23 29 38.5	-0.3
H28A	Mission Ridge	135.10	24	P	**PKPdf**	23 29 38.6	0.0
	baz=135						
I27A	Quinn	135.16	26	P	**PKPdf**	23 29 38.9	+0.2
	baz=135						
EYMN	Ely	135.30	14	*e*PKPdf	**PKPdf**	23 29 38.5	-0.3
O21A	Pagoda	135.40	33	P	**PKPdf**	23 29 39.9	+0.3
	baz=135						
L24A	Wheatland	135.40	30	P	**PKPdf**	23 29 39.8	+0.4
	baz=135						
K25A	Mack Ranch, Ha	135.49	28	P	**PKPdf**	23 29 39.4	-0.1
	baz=135						
N22A	Wattenberg Ran	135.53	32	P	**PKPdf**	23 29 40.2	+0.3
	baz=135						
I28A	Midland	135.59	25	P	**PKPdf**	23 29 39.5	0.0
	baz=135						
PHWY	Pilot Hill	135.69	31	*e*PKPpre	PKPpre	23 29 27.8	
PHWY				*e*PKPdf	**PKPdf**	23 29 39.9	-0.3
PHWY				*e*SKPbc	**SKPbc**	23 33 06.7	+0.5
N23A	Red Feather La	135.74	32	P	**PKPdf**	23 29 40.2	0.0
	baz=136						
K26A	Motz Farm, Whi	135.74	28	P	**PKPdf**	23 29 39.6	-0.3
	baz=136						
L25A	Engebretsen Ra	135.79	29	P	**PKPdf**	23 29 39.9	-0.2
	baz=136						
Q20A	Ridgley Place,	135.79	35	P	**PKPdf**	23 29 41.0	+0.7
	baz=136						
PV04	Paradox Valley	135.81	36	*e*PKPdf	**PKPdf**	23 29 38.4	-1.9
PV04				*e*SKPbc	**SKPbc**	23 33 07.9	+1.4
Y14A	Wickenburg	135.84	44	P	**PKPdf**	23 29 41.3	+1.0
	baz=136						
M24A	Cheyenne	135.89	30	P	**PKPdf**	23 29 40.8	+0.4
	baz=136						
J28A	Allard Ranch,	136.03	25	P	**PKPdf**	23 29 40.4	0.0
	baz=136						
WUAZ	Wupatki	136.05	41	*e*PKPpre	PKPpre	23 29 30.4	
WUAZ				*e*PKPdf	**PKiKP**	23 29 42.4	-0.1
WUAZ				*e*SKPbc	**SKPbc**	23 33 08.6	+1.3
WUAZ				*e*SKPab	**SKiKP**	23 33 16.3	+3.1
WUAZ	Wupatki	136.05	41	P	**PKPdf**	23 29 42.1	+1.3
	baz=136						
BRSD	Miller	136.12	23	P	**PKPdf**	23 29 40.6	+0.1
	baz=136						
K27A	Flueckinger Fa	136.17	27	P	**PKPdf**	23 29 40.3	-0.4
	baz=136						
PV01	Paradox Valley	136.18	37	*e*PKPpre	PKPpre	23 29 25.5	
PV01				*e*PKPdf	**PKPdf**	23 29 41.5	+0.5
PV01				*e*SKPbc	**SKPbc**	23 33 09.1	+1.5
Z14A	Wintersburg	136.19	45	P	**PKPdf**	23 29 42.1	+1.2
	baz=136						
O23A	Lake Granby, G	136.24	32	P	**PKPdf**	23 29 41.8	+0.5
	baz=136						
R20A	Redvale	136.26	36	P	**PKPdf**	23 29 42.3	+1.1
	baz=136						
Q21A	Lamborn Mesa,	136.29	35	P	**PKPdf**	23 29 42.3	+1.0
	baz=136						
M25A	Palm-Egli Farm	136.29	30	P	**PKPdf**	23 29 41.9	+0.8
	baz=136						
N24A	Carr	136.33	31	P	**PKPdf**	23 29 41.5	+0.3
	baz=136						
SMCO	Snowmass	136.40	34	*e*PKPpre	PKPpre	23 29 27.5	
SMCO				*e*PKPdf	**PKPdf**	23 29 42.1	+0.5
SMCO				*e*SKPbc	**SKPbc**	23 33 08.7	+0.1
SMCO				*e*SKPab	**SKPab**	23 33 17.5	+3.4
S20A	Disappointment	136.50	37	P	**PKPdf**	23 29 42.5	+0.8
	baz=136						
R21A	Cimarron	136.62	35	P	**PKPdf**	23 29 42.9	+1.0
	baz=136						
X16A	Lo Mia Camp, P	136.65	43	P	**PKPdf**	23 29 43.5	+1.5
	baz=136						
Q22A	Crested Butte,	136.65	34	P	**PKPdf**	23 29 43.2	+1.1
	baz=136						
ISCO	Idaho Springs	136.70	32	*e*PKHKP	PKPpre	23 29 28.4	
ISCO				*e*		23 29 41.6	
ISCO	Idaho Springs	136.70	32	*e*PKPpre	PKPpre	23 29 28.4	
ISCO				*e*PKPdf	**PKPdf**	23 29 41.6	-0.5
ISCO	Idaho Springs	136.70	32	P	**PKPdf**	23 29 42.4	+0.3
	baz=137						
M26A	McRoberts Ranc	136.71	29	P	**PKPdf**	23 29 42.0	+0.2
	baz=137						
O24A	Longmont	136.75	32	P	**PKPdf**	23 29 42.2	+0.3
	baz=137						
MVCO	Mesa Verde	136.83	37	*e*PKPpre	PKPpre	23 29 29.5	
MVCO				*e*PKPdf	**PKPdf**	23 29 43.0	+0.7
MVCO	Mesa Verde	136.83	37	P	**PKPdf**	23 29 43.3	+1.0
	baz=137						
P23A	Jefferson	136.88	33	P	**PKPdf**	23 29 43.1	+0.6
	baz=137						
S21A	Coal Bank Pass	136.95	36	P	**PKPdf**	23 29 44.1	+1.5
	baz=137						
214A	Organ Pipe Nat	137.03	47	P	**PKPdf**	23 29 43.5	+0.9
	baz=137						
L28A	Connealy Angus	137.04	27	P	**PKPdf**	23 29 42.5	+0.1
	baz=137						
N26A	Koester Ranch,	137.16	29	P	**PKPdf**	23 29 42.5	-0.1
	baz=137						
R22A	Saguache, Gunn	137.17	35	P	**PKPdf**	23 29 44.5	+1.4
	baz=137						
O25A	Wiggins	137.25	31	P	**PKPdf**	23 29 43.1	+0.2
	baz=137						
U20A	Newcomb	137.35	38	P	**PKPdf**	23 29 44.4	+1.2
	baz=137						
W18A	Petrified Fore	137.37	41	P	**PKPdf**	23 29 44.7	+1.4
	baz=137						
S22A	4UR Ranch, Cre	137.46	36	P	**PKPdf**	23 29 44.4	+0.8
	baz=137						
L29A	Maesberg Ranch	137.46	26	P	**PKPdf**	23 29 42.9	-0.2
	baz=137						
SPMN	St. Paul	137.48	16	P	**PKPdf**	23 29 42.9	0.0
	baz=137						
Q24A	Divide	137.55	33	P	**PKPdf**	23 29 43.9	+0.2
	baz=137						
O26A	Horse Wrangler	137.56	30	P	**PKPdf**	23 29 43.5	0.0
	baz=137						
COWI	Conover	137.57	12	*e*PKPpre	PKPpre	23 29 31.7	
COWI				*e*PKPdf	**PKPdf**	23 29 42.5	-0.6
X18A	Snowflake	137.58	42	P	**PKPdf**	23 29 45.3	+1.5
	baz=138						
PQI	Presque Isle	137.58	351	*e*PKPpre	PKPpre	23 29 31.9	
PQI				*e*PKPdf	**PKPdf**	23 29 42.6	-0.5
PQI				*e*SKPbc	**SKPbc**	23 33 10.7	-0.5
ECSD	EROS Data Cent	137.59	21	*e*PKPpre	PKPpre	23 29 32.7	
ECSD				*e*PKPdf	**PKPdf**	23 29 43.2	0.0
ECSD				*es*PKPdf	sPKPdf	23 29 60.0	-9.1
P25A	Willow Gulch B	137.67	32	P	**PKPdf**	23 29 44.2	+0.4
	baz=138						
R23A	Moffat	137.73	34	P	**PKPdf**	23 29 44.9	+0.9
	baz=138						
V20A	Brimhall	137.75	39	P	**PKPdf**	23 29 45.0	+1.0
	baz=138						
U21A	Nageezi	137.85	38	P	**PKPdf**	23 29 45.9	+1.6
	baz=138						
T22A	Edith	137.91	36	P	**PKPdf**	23 29 45.9	+1.6
	baz=138						
S23A	Nye Farm, Mont	137.96	35	P	**PKPdf**	23 29 45.8	+1.4
	baz=138						
O27A	Beecher Island	138.01	29	P	**PKPdf**	23 29 44.3	0.0
	baz=138						
P26A	Davis Ranch, A	138.06	31	P	**PKPdf**	23 29 44.7	+0.3
	baz=138						
Q25A	Bedland, Calha	138.07	32	P	**PKPdf**	23 29 44.6	+0.1
	baz=138						
N28A	Pribbeno Ranch	138.08	28	P	**PKPdf**	23 29 44.3	0.0
	baz=138						
R24A	Sanders Place,	138.10	34	P	**PKPdf**	23 29 44.7	+0.1
	baz=138						
W20A	Ramah	138.16	40	P	**PKPdf**	23 29 46.1	+1.3
	baz=138						
SDCO	Great Sand Dun	138.22	34	*e*PKPpre	PKPpre	23 29 34.6	
SDCO				*e*PKPdf	**PKPdf**	23 29 45.6	+0.6
SDCO				*es*PKPdf	sPKPdf	23 29 59.6	-11
SDCO				*e*SKPbc	**SKPbc**	23 33 14.3	+0.5
V21A	Milan	138.26	38	P	**PKPdf**	23 29 46.4	+1.4
	baz=138						
T23A	Casias Ranch,	138.41	36	P	PKPdf	23 29 35.2	-10
	baz=138						
O28A	Krutsinger Ran	138.41	29	P	PKPdf	23 29 35.8	-9.2
	baz=138						
P27A	Ficken Ranch,	138.45	30	P	PKPdf	23 29 36.4	-8.7
	baz=138						
R25A	Fountain Ranch	138.61	33	P	PKPdf	23 29 38.2	-7.3
	baz=138						
N30A	Hueftle Ranch,	138.65	27	P	PKPdf	23 29 37.9	-7.5
	baz=138						
KSCO	Kaye Shedlock'	138.84	31	P	PKPdf	23 29 36.4	-9.4
	baz=139						
P28A	Saint Francis	138.84	29	P	PKPdf	23 29 37.8	-8.0
	baz=139						
S25A	Robets Cordova	138.88	34	P	PKPdf	23 29 36.1	-10
	baz=139						
R26A	Arlington	138.94	32	P	PKPdf	23 29 35.0	-11
	baz=139						
Y20A	Horse Springs,	138.99	41	P	PKPdf	23 29 37.7	-8.7
	baz=139						
X21A	Alamocita Cree	139.04	40	P	PKPdf	23 29 37.6	-8.9
	baz=139						
P29A	Atwood	139.22	29	P	PKPdf	23 29 36.8	-10
	baz=139						
T25A	Trinidad	139.26	34	P	PKPdf	23 29 36.8	-10
	baz=139						
R27A	Eads	139.30	32	P	PKPdf	23 29 36.8	-10
	baz=139						
Z20A	Nine Sixteen R	139.33	42	P	PKPdf	23 29 37.9	-9.0
	baz=139						
Y21A	Point of Rocks	139.39	40	P	PKPdf	23 29 39.2	-7.9
	baz=139						
EMMW	East Machias	139.39	349	*e*PKPdf	**PKPdf**	23 29 46.5	+0.1
LAZ	Ladron	139.48	40	*e*PKPpre	PKPpre	23 29 40.9	
LAZ				*e*PKPdf	**PKPdf**	23 29 47.1	-0.1
LAZ				*e*SKPdf	**SKPbc**	23 33 19.1	+1.8
ANMO	Albuquerque	139.56	38	*e*PKPdf	PKPdf	23 29 40.5	-6.8
ANMO				SKPbc	**SKPbc**	23 33 19.2	+1.8
ANMO	Albuquerque	139.56	38	SKPbc	**SKPbc**	23 33 19.2	+1.8
	comp=Z,25nm,0.9s,baz=313,slow=2.0,SNR=14						
P30A	Selden	139.59	28	P	PKPdf	23 29 39.3	-7.8
	baz=139						
120A	U Bar Ranch, L	139.64	43	P	PKPdf	23 29 39.7	-7.8
	baz=140						
T26A	Comanche Natio	139.69	33	P	PKPdf	23 29 38.1	-9.4
	baz=140						
LENM	Lemitar	139.74	40	*e*PKPdf	**PKPdf**	23 29 47.6	0.0
V24A	Rampart Ranch,	139.75	37	P	PKPdf	23 29 39.2	-8.6
	baz=140						
Q29A	Oakley	139.75	29	P	PKPdf	23 29 39.2	-8.2
	baz=140						
R28A	Tribune	139.76	31	P	PKPdf	23 29 37.9	-10
	baz=140						
U25A	Circle Dot Ran	139.79	35	P	PKPdf	23 29 39.0	-8.7
	baz=140						
Z21A	St. Cloud Mine	139.82	41	P	PKPdf	23 29 41.5	-6.4
	baz=140						
LPM	Los Pinos Moun	139.86	39	*e*PKPpre	PKPpre	23 29 40.1	
LPM				*e*PKPdf	**PKPdf**	23 29 47.4	-0.5
LPM				*e*SKPdf	**SKiKP**	23 33 20.2	-0.8
319A	Douglas	139.87	45	P	PKPdf	23 29 41.9	-6.0
	baz=140						
WVL	Waterville	139.89	352	*e*PKPpre	PKPpre	23 29 38.9	
WVL				*e*PKPdf	**PKPdf**	23 29 47.6	+0.3
WVL				*e*SKPdf	**SKPdf**	23 33 17.5	+0.8
Y22A	Socorro	139.89	40	P	PKPdf	23 29 42.6	-5.4
	baz=140						
BNM	Barren Site	139.97	39	*e*PKPpre	PKPpre	23 29 38.9	
BNM				*e*PKPdf	**PKPdf**	23 29 47.5	-0.7
BNM				*e*SKPbc	**SKPbc**	23 33 20.3	+1.6
P31A	Stockton	140.01	27	P	PKPdf	23 29 39.8	-8.0
	baz=140						
W24A	Lazy 6 Ranch,	140.02	37	P	PKPdf	23 29 39.8	-8.4
	baz=140						
R29A	Marienthal	140.04	30	P	PKPdf	23 29 40.0	-8.0
	baz=140						
Q30A	Quinter	140.05	28	P	PKPdf	23 29 39.4	-8.6
	baz=140						
V25A	Rancho No Teng	140.06	36	P	PKPdf	23 29 39.6	-8.6
	baz=140						
220A	Playas Peak, P	140.09	44	P	PKPdf	23 29 40.2	-8.1
	baz=140						
U26A	Atchley Ranch,	140.17	34	P	PKPdf	23 29 40.3	-8.2
	baz=140						
S28A	Manter	140.29	31	P	PKPdf	23 29 40.4	-8.1
	baz=140						
LONY	Lake Ozonia	140.31	357	*e*PKPpre	PKPpre	23 29 36.4	
LONY				*e*PKPdf	**PKPdf**	23 29 48.5	+0.3
LONY				*e*PP	**PP**	23 32 44.1	-1.3
LONY				*e*SKPdf	**SKPdf**	23 33 18.5	+1.0
Q31A	Ellis	140.42	28	P	PKPdf	23 29 40.8	-7.8
	baz=140						
Y23A	Lovelace Mesa,	140.47	39	P	PKPdf	23 29 41.4	-7.6
	baz=140						
T28A	Walsh	140.53	32	P	PKPdf	23 29 41.7	-7.2
	baz=140						
V26A	Tequesquite Ra	140.57	35	P	PKPdf	23 29 41.2	-7.8
	baz=140						
R30A	Dighton	140.57	29	P	PKPdf	23 29 41.7	-7.2
	baz=140						
U27A	Thompson Grove	140.66	34	P	PKPdf	23 29 42.1	-7.1
	baz=140						
S29A	Ulysses	140.67	31	P	PKPdf	23 29 41.8	-7.3
	baz=140						
MDV	Middlebury	140.84	356	*e*PKPpre	PKPpre	23 29 40.8	
MDV				*e*PKPdf	**PKPdf**	23 29 49.7	+0.6
R31A	Burdett	140.93	28	P	PKPdf	23 29 42.0	-7.5
	baz=141						
NCB	Newcomb	140.93	357	*e*PKPdf	PKPdf	23 29 40.9	-8.5
NCB				*e*SKPdf	**SKPdf**	23 33 19.8	+1.2
222A	Williams Famil	140.94	42	P	PKPdf	23 29 43.4	-6.5
	baz=141						
S30A	Montezuma	140.98	30	P	PKPdf	23 29 42.0	-7.6
	baz=141						
U28A	Mallet	141.02	33	P	PKPdf	23 29 42.3	-7.5
	baz=141						
HNH	Hanover	141.05	354	*e*PKPdf	**PKPdf**	23 29 44.6	-4.9
W26A	Owens Ranch, T	141.08	36	P	PKPdf	23 29 44.1	-5.9
	baz=141						
V27A	Dan Oppiter Fa	141.14	34	P	PKPdf	23 29 44.1	-5.9
	baz=141						
123A	Bell Site, Whi	141.17	41	P	PKPdf	23 29 44.3	-6.0
	baz=141						
Z24A	Sheeppen Canyo	141.30	39	P	PKPdf	23 29 44.6	-5.9
	baz=141						
T30A	Plains	141.40	31	P	PKPdf	23 29 43.5	-6.9
	baz=141						
X26A	CR and CF Fran	141.43	37	P	PKPdf	23 29 44.3	-6.4
	baz=141						
S31A	Mullinville	141.48	29	P	PKPdf	23 29 44.3	-6.3
	baz=141						
V28A	Channing	141.48	34	P	PKPdf	23 29 44.2	-6.5
	baz=141						
W27A	Bowe Ranch, En	141.50	35	P	PKPdf	23 29 44.5	-6.3
	baz=141						
124A	Stringfield Ra	141.65	40	P	PKPdf	23 29 45.6	-5.6
	baz=142						
Z25A	Roswell	141.74	39	P	PKPdf	23 29 45.8	-5.5
	baz=142						
U30A	WK&E Inc. Balk	141.74	31	P	PKPdf	23 29 45.6	-5.5
	baz=142						
V29A	Stinnett	141.78	33	P	**PKPdf**	23 29 46.2	-4.9
	baz=142						
X27A	F and S Farms,	141.78	36	P	PKPdf	23 29 45.4	-

226B	**Tecolote Peak,** baz=143	**142.88**	**40**	P		**PKPdf**	**23 29 50.2**	**-3.1**
CLNB	**Carlsbad**	**142.94**	**39**	*e*PKPdf		**PKPdf**	**23 29 49.9**	**-3.5**
CLNB				*e*SKPbc		**SKiKP**	**23 33 27.6**	**+0.3**
127A	**Arkansas Junct** baz=143	**142.99**	**38**	P		**PKPdf**	**23 29 50.4**	**-3.1**
W31A	**Holland Ranch,** baz=143	**143.14**	**32**	P		PKPbc	23 29 50.0	-0.6
Z28A	**Tucker Farm, M** baz=143	**143.16**	**37**	P		PKPbc	23 29 50.4	-0.4
Y29A	**Porterfield Fa** baz=143	**143.17**	**35**	P		PKPbc	23 29 50.4	-0.4
425A	**Indio Mountain** baz=143	**143.17**	**42**	P		PKPbc	23 29 50.9	-0.1
X30A	**Coker Ranch, T** baz=143	**143.19**	**34**	P		PKPab	23 29 49.9	+0.5
SFIN	**Scholer Farm** baz=143	**143.47**	**13**	P		PKPab	23 29 50.6	+0.4
227A	**Bennet, Jal** baz=143	**143.48**	**39**	P		PKPab	23 29 50.4	-0.2
326A	**Caldwell Ranch** baz=143	**143.50**	**41**	P		PKPbc	23 29 51.8	0.0
X31A	**McDonald Ranch** baz=143	**143.54**	**33**	P		PKPab	23 29 51.0	+0.3
128A	**Castleberry Fa** baz=143	**143.56**	**38**	P		PKPbc	23 29 51.6	-0.3
Z29A	**Hungry Hill Ra** baz=144	**143.58**	**36**	P		PKPbc	23 29 51.9	0.0
CPUP	**Villa Florida**	**143.59**	**211**	PKP		PKPbc	23 29 52.9	+0.9
CPUP	**Villa Florida** comp=Z,15nm,0.9s,baz=134,slow=3.7,SNR=36	**143.59**	**211**	PKP		PKPbc	23 29 52.9	+0.9
Y30A	**Stafford Cattl** baz=144	**143.59**	**34**	P		PKPbc	23 29 51.8	-0.1
327A	**Balmorhea Ranc** baz=144	**143.78**	**40**	P		PKPbc	23 29 52.5	0.0
228A	**UT Block 9, Go** baz=144	**143.84**	**38**	P		PKPbc	23 29 52.7	0.0
426A	**McDonald Obser** baz=144	**143.88**	**41**	P		PKPbc	23 29 52.9	-0.1
Y31A	**Rekieta Farm,** baz=144	**143.89**	**34**	P		PKPbc	23 29 52.4	-0.3
Z30A	**Sanderson Ranc** baz=144	**143.89**	**35**	P		PKPbc	23 29 52.7	-0.1
129A	**Stewart Farms,** baz=144	**143.93**	**37**	P		PKPbc	23 29 52.9	-0.1
CPNY	**Central Park**	**144.08**	**356**	*e*PKPdf		**PKPab**	**23 29 52.1**	**-0.4**
WMOK	**Wichita Mounta**	**144.09**	**31**	*e*PKIKP		**PKPab**	**23 29 52.8**	**0.0**
WMOK	**Wichita Mounta**	**144.09**	**31**	*e*PKPdf		**PKPab**	**23 29 52.8**	**0.0**
427A	**Hayter Ranch,** baz=144	**144.18**	**41**	P		PKPbc	23 29 53.9	+0.1
328A	**Wristen Ranch,** baz=144	**144.21**	**39**	P		PKPbc	23 29 54.5	+0.6
526A	**Mary Lane Ranc** baz=144	**144.23**	**42**	P		PKPbc	23 29 54.5	+0.5
BRNJ	**Basking Ridge**	**144.23**	**357**	*e*PKPdf		PKPbc	23 29 53.5	0.0
SLM	**Saint Louis**	**144.28**	**18**	*e*PKIKP		**PKPab**	**23 29 53.1**	**-0.3**
SLM	**Saint Louis**	**144.28**	**18**	*e*PKPdf		**PKPab**	**23 29 53.1**	**-0.3**
Y32A	**R-V Farms, Ver** baz=144	**144.30**	**33**	P		**PKPab**	**23 29 53.7**	**+0.1**
229A	**Bryant Ranch,** baz=144	**144.43**	**38**	P		PKPbc	23 29 54.7	+0.2
Z31A	**Sharp Cattle R** baz=144	**144.43**	**34**	P		PKPbc	23 29 54.5	+0.1
130A	**Snyder** baz=144	**144.49**	**36**	P		PKPbc	23 29 54.7	0.0
527A	**Woodward Ranch** baz=144	**144.50**	**42**	P		PKPbc	23 29 55.1	+0.2
626A	**Big Bend Ranch** baz=144	**144.52**	**43**	P		PKPbc	23 29 55.4	+0.5
TUL1	**Tulsa** baz=144	**144.59**	**27**	P		PKPbc	23 29 54.7	-0.1
329A	**Wagon Wheel Ra** baz=144	**144.65**	**38**	P		PKPbc	23 29 55.7	+0.4
428A	**Kincaid Ranch,** baz=145	**144.72**	**40**	P		**PKPdf**	**23 29 56.8**	**+0.3**
BLO	**Bloomington**	**144.76**	**13**	*e*PKIKP		**PKPab**	**23 29 54.7**	**-0.4**
BLO	**Bloomington**	**144.76**	**13**	*e*PKPdf		**PKPab**	**23 29 54.7**	**-0.4**
BDFB	**Brasilia**	**144.76**	**234**	PKP		**PKPdf**	**23 29 57.3**	**+0.3**
BDFB	**Brasilia** comp=Z,75nm,0.7s,baz=128,slow=3.3,SNR=122	**144.76**	**234**	PKP		**PKPdf**	**23 29 57.3**	**+0.3**
131A	**Roby** baz=145	**144.76**	**35**	P		PKPbc	23 29 55.9	+0.4
Z32A	**Haskell** baz=145	**144.81**	**34**	P		PKPbc	23 29 55.7	0.0
230A	**Sterling City** baz=145	**144.90**	**37**	P		**PKPdf**	**23 29 56.5**	**-0.3**
TXAR	**Lajitas Array**	**144.97**	**43**	PKP		**PKPdf**	**23 29 57.3**	**+0.3**
TXAR				SKPbc		**SKPbc**	**23 33 30.2**	**-0.8**
TXAR	**Lajitas Array** comp=Z,248nm,0.8s,baz=254,slow=1.7,SNR=1823	**144.97**	**43**	PKP		**PKPdf**	**23 29 57.3**	**+0.3**
TXAR	comp=Z,8.3nm,0.8s,baz=220,slow=2.4,SNR=4.3			SKPbc		**SKPbc**	**23 33 30.2**	**-0.8**
528A	**Cox Ranch, San** baz=145	**145.03**	**41**	P		**PKPdf**	**23 29 57.3**	**+0.2**
627A	**Terlingua Ranc** baz=145	**145.09**	**42**	P		**PKPdf**	**23 29 57.6**	**+0.4**
330A	**Mertzon** baz=145	**145.20**	**38**	P		**PKPdf**	**23 29 57.2**	**-0.1**
ABTX	**Abilene, Hawle** baz=145	**145.23**	**35**	P		**PKPdf**	**23 29 57.3**	**0.0**
429A	**Davenport Ranc** baz=145	**145.29**	**39**	P		**PKPdf**	**23 29 57.6**	**+0.1**
231A	**Bronte** baz=145	**145.34**	**36**	P		**PKPab**	**23 29 57.6**	**0.0**
628A	**Black Gap, Mar** baz=145	**145.40**	**42**	P		**PKPab**	**23 29 58.6**	**+0.7**
529A	**Stev Forest Ra** baz=145	**145.42**	**40**	P		**PKPab**	**23 29 58.3**	**+0.4**
SIUC	**Southern Illin**	**145.44**	**17**	*e*PKPdf		**PKPdf**	**23 29 57.3**	**-0.1**
SIUC				*e*SKPbc		**SKPbc**	**23 33 32.0**	**+0.3**
SDMD	**Soldier's Deli**	**145.57**	**360**	*e*PKPdf		**PKPdf**	**23 29 57.2**	**-0.4**
430A	**Baggett Ranch,** baz=146	**145.60**	**39**	P		**PKPab**	**23 29 58.5**	**0.0**
USIN	**University of**	**145.63**	**15**	*e*PKPdf		**PKPdf**	**23 29 57.7**	**-0.1**
331A	**San Angelo** baz=146	**145.72**	**37**	P		**PKPbc**	**23 29 58.6**	**0.0**
232A	**Coleman** baz=146	**145.77**	**35**	P		**PKPab**	**23 29 59.1**	**-0.1**
LCO	**Las Campanas**	**145.80**	**190**	*e*PKPdf		**PKPbc**	**23 29 59.2**	**0.0**
530A	**J-C Ranch, Com** baz=146	**145.97**	**39**	P		**PKPab**	**23 30 00.1**	**+0.1**
431A	**Sonora** baz=146	**146.06**	**38**	P		**PKPab**	**23 29 60.0**	**-0.3**
332A	**Millersview** baz=146	**146.08**	**36**	P		**PKPab**	**23 30 00.3**	**0.0**
PARMO	**Parma**	**146.25**	**19**	*e*PKPdf		**PKPbc**	**23 29 59.4**	**-0.6**
PARMO				*e*SKPdf		**SKPbc**	**23 33 33.6**	**+0.1**
432A	**Menard** baz=146	**146.41**	**37**	P		**PKPbc**	**23 30 00.8**	**+0.1**
531A	**Rocksprings** baz=146	**146.46**	**39**	P		**PKPab**	**23 30 01.4**	**-0.4**
PVMO	**Portageville**	**146.49**	**19**	*e*PKPdf		**PKPbc**	**23 30 00.3**	**-0.4**
RFTA	**Plano**	**146.52**	**31**	*e*PKPbc		**PKPbc**	**23 30 01.0**	**+0.1**
JCT	**Junction City**	**146.69**	**37**	*e*PKP2		**PKPdf**	**23 30 00.3**	**+0.5**
JCT	**Junction City**	**146.69**	**37**	*e*PKPdf		**PKPdf**	**23 30 00.3**	**+0.5**
JCT				*e*PKPab		**PKPab**	**23 30 02.5**	**-0.2**
JCT	**Junction City** baz=147	**146.69**	**37**	P		**PKPbc**	**23 30 01.9**	**+0.4**
MIAR	**Mount Ida**	**146.71**	**25**	*e*PKP2		**PKPdf**	**23 30 00.4**	**+0.7**
MIAR	**Mount Ida**	**146.71**	**25**	*e*PKPdf		**PKPdf**	**23 30 00.4**	**+0.7**
MIAR				*e*PKPab		**PKiKP**	**23 30 03.4**	**-0.7**
GLAT	**Glass**	**146.76**	**18**	*e*PKPdf		**PKPdf**	**23 30 00.3**	**+0.6**
GLAT				*e*PKPbc		**PKPbc**	**23 30 02.0**	**+0.6**
CBN	**Corbin**	**146.78**	**0**	*e*PKPbc		**PKPbc**	**23 30 01.6**	**+0.2**
GNAR	**Gosnell**	**146.80**	**19**	*e*PKPdf		**PKPdf**	**23 30 00.6**	**+0.8**
GNAR				*e*PKPbc		**PKPab**	**23 30 02.2**	**-0.7**
532A	**Rocksprings** baz=147	**146.88**	**38**	P		**PKPbc**	**23 30 02.2**	**+0.1**
WHTX	**Lake Whitney** baz=147	**146.91**	**33**	P		**PKPbc**	**23 30 02.2**	**+0.1**
631A	**Perdido Creek** baz=147	**146.95**	**40**	P		**PKPbc**	**23 30 02.6**	**+0.3**
HBAR	**Harrisburg**	**146.96**	**21**	*e*PKPdf		**PKPbc**	**23 30 01.0**	**-1.1**
UALR	**University of**	**147.02**	**23**	*e*PKPdf		**PKPdf**	**23 30 00.6**	**+0.4**
UALR				*e*PKPbc		**PKPbc**	**23 30 02.5**	**+0.2**
HALT	**Halls**	**147.07**	**18**	*e*PKPdf		**PKPdf**	**23 30 00.2**	**0.0**
HALT				*e*PKPbc		**PKPbc**	**23 30 02.4**	**0.0**
JSRW	**J. Sargeant Re**	**147.28**	**1**	*e*PKPdf		**PKPdf**	**23 30 00.9**	**+0.4**
WVT	**Waverly**	**147.31**	**16**	*e*PKIKP		**PKPdf**	**23 30 00.7**	**0.0**
WVT				*e*			23 30 03.4	
WVT	**Waverly**	**147.31**	**16**	*e*PKPdf		**PKPdf**	**23 30 00.7**	**0.0**
WVT				*e*PKPbc		**PKPbc**	**23 30 03.4**	**+0.4**
632A	**Uvalde** baz=147	**147.38**	**39**	P		**PKPbc**	**23 30 04.1**	**+0.7**
MET	**Memphis--Engin**	**147.60**	**20**	*e*PKPab		**PKPab**	**23 30 05.3**	**-0.7**
BLA	**Blacksburg**	**147.62**	**5**	*e*PKIKP		**PKPdf**	**23 30 00.9**	**-0.3**
BLA				*e*			23 30 03.6	
BLA	**Blacksburg**	**147.62**	**5**	*e*PKPdf		**PKPdf**	**23 30 00.9**	**-0.3**
BLA				*e*PKPbc		**PKPbc**	**23 30 03.6**	**-0.3**
VWCC	**Virginia Weste**	**147.62**	**4**	*e*PKPdf		**PKPdf**	**23 30 01.2**	**+0.1**
VWCC				*e*PKPbc		**PKPbc**	**23 30 03.6**	**-0.3**
732A	**Laxson Ranch,** baz=148	**147.81**	**40**	P		**PKPbc**	**23 30 05.3**	**+0.7**
TZTN	**Tazewell**	**147.88**	**10**	*e*PKPdf		**PKPdf**	**23 30 01.6**	**0.0**
TZTN				*e*PKPbc		**PKPbc**	**23 30 04.7**	**+0.1**
TZTN				*e*PKPab		**PKPab**	**23 30 07.2**	**0.0**
OXF	**Oxford**	**148.33**	**20**	*e*PKIKP		**PKPdf**	**23 30 02.4**	**0.0**
OXF				*e*			23 30 05.8	
OXF				*e*			23 30 08.6	
OXF	**Oxford**	**148.33**	**20**	*e*PKPdf		**PKPdf**	**23 30 02.4**	**0.0**
OXF				*e*PKPbc		**PKPbc**	**23 30 05.8**	**0.0**
OXF				*e*PKPab		**PKPab**	**23 30 08.6**	**-0.4**
TKL	**Tuckaleechee C**	**148.70**	**11**	PKPbc		**PKPbc**	**23 30 06.7**	**0.0**
TKL	**Tuckaleechee C** baz=358,slow=2.2	**148.70**	**11**	PKPbc		**PKPbc**	**23 30 06.7**	**0.0**
CPCT	**Cooper Cave**	**148.76**	**12**	*e*PKPdf		**PKPdf**	**23 30 03.2**	**+0.2**
CPCT				*e*PKPbc		**PKPbc**	**23 30 07.0**	**+0.1**
CPCT				*e*PKPab		**PKPab**	**23 30 10.5**	**-0.1**
ANIG	**Ahuacatlan**	**148.86**	**56**	P		**PKPdf**	**23 30 04.6**	**+0.9**
KMSC	**Kings Mountain** baz=149	**149.58**	**7**	P		**PKPbc**	**23 30 08.7**	**-0.3**
ZAIG	**Zacatecas**	**149.59**	**52**	P		**PKPbc**	**23 30 10.8**	**+1.1**
CNNC	**Cliffs of the**	**149.73**	**1**	*e*PKPdf		**PKPdf**	**23 30 05.3**	**+0.7**
CNNC				*e*PKPbc		**PKPbc**	**23 30 09.6**	**+0.3**
CNNC				*e*PKPab		**PKPab**	**23 30 14.6**	**0.0**
KVTX	**Kingsville**	**149.94**	**39**	*e*PKPbc		**PKPbc**	**23 30 12.1**	**+2.1**
VBMS	**Vicksburg**	**149.99**	**23**	*e*PKPbc		**PKPbc**	**23 30 10.4**	**+0.4**
BBSR	**BB Station**	**150.25**	**339**	*e*PKPdf		**PKPdf**	**23 30 06.3**	**+0.8**
BBSR				*e*PKPbc		**PKPbc**	**23 30 10.7**	**+0.1**
LRAL	**Lakeview Retre**	**150.45**	**17**	*e*PKPdf		**PKPdf**	**23 30 05.7**	**0.0**
LRAL				*e*PKPbc		**PKPbc**	**23 30 10.6**	**-0.5**
MMIG	**Aquila**	**151.06**	**60**	P		**PKPbc**	**23 30 13.6**	**+0.7**
LVC	**Limon Verde**	**151.58**	**196**	*e*PKPdf		**PKPdf**	**23 30 10.1**	**+1.9**
LVC				PKPbc		**PKiKP**	**23 30 16.3**	**+1.5**
LVC				*e*PKPbc		**PKPbc**	**23 30 16.4**	**+2.0**
LVC	**Limon Verde** comp=Z,9.1nm,0.9s,baz=226,slow=2.5,SNR=8.8	**151.58**	**196**	PKP		**PKPdf**	**23 30 10.1**	**+1.9**
LVC	comp=Z,62nm,0.8s,baz=82,slow=2.4,SNR=48			PKPbc		**PKiKP**	**23 30 16.3**	**+1.5**
BRAL	**Brewton**	**152.31**	**19**	*e*PKPdf		**PKPdf**	**23 30 08.8**	**+0.2**
BRAL				*e*PKPbc		**PKiKP**	**23 30 15.9**	**+0.2**
TIGA	**Tifton** baz=153	**152.83**	**12**	P		**PKPbc**	**23 30 17.0**	**+0.4**
SIV	**San Ignacio**	**153.94**	**217**	PKP		**PKPdf**	**23 30 12.3**	**+0.8**
SIV				PKPbc		**PKiKP**	**23 30 20.3**	**+0.7**
SIV	**San Ignacio** comp=Z,10nm,0.9s,baz=121,slow=3.5,SNR=35	**153.94**	**217**	PKP		**PKPdf**	**23 30 12.3**	**+0.8**
SIV	comp=Z,14nm,0.9s,baz=139,slow=3.1,SNR=21			PKPbc		**PKiKP**	**23 30 20.3**	**+0.7**
LPAZ	**La Paz**	**157.23**	**203**	PKP		**PKPdf**	**23 30 17.8**	**+1.1**
LPAZ	**La Paz** comp=Z,16nm,1.1s,baz=1.5,slow=2.1,SNR=28	**157.23**	**203**	PKP		**PKPdf**	**23 30 17.8**	**+1.1**
SAML	**Samuel**	**160.52**	**225**	*e*PKPdf		**PKPdf**	**23 30 19.4**	**-0.4**
TEIG	**Tepich**	**161.21**	**34**	PKP		**PKPdf**	**23 30 20.6**	**+0.3**
TEIG				PKPab		**PKPab**	**23 31 03.5**	**-0.5**
TEIG	**Tepich** comp=Z,12nm,0.9s,baz=258,slow=4.8,SNR=4.7	**161.21**	**34**	PKP		**PKPdf**	**23 30 20.6**	**+0.3**
TEIG	comp=Z,32nm,0.9s,baz=58,slow=3.0,SNR=8.6			PKPab		**PKPab**	**23 31 03.4**	**-0.5**
LRS	**Lares**	**163.29**	**324**	*e*PKPdf		**PKPdf**	**23 30 20.2**	**-2.3**
LRS				*e*PKPab		**PKPab**	**23 31 12.9**	**-0.3**
NNA	**Nana**	**163.29**	**181**	PKP		**PKPdf**	**23 30 23.2**	**+0.6**
NNA	**Nana** comp=Z,17nm,0.8s,baz=108,slow=1.2,SNR=5.0	**163.29**	**181**	PKP		**PKPdf**	**23 30 23.2**	**+0.6**
CELP	**Cerrillos**	**163.30**	**323**	*e*PKPdf		**PKPdf**	**23 30 22.9**	**+0.4**
CELP				*e*PKPab		**PKPab**	**23 31 13.6**	**+0.4**
TGUH	**Tegucigalpa,Un**	**166.40**	**47**	*e*PKPdf		**PKPdf**	**23 30 24.9**	**-0.4**
TGUH				*e*PKPab		**PKPab**	**23 31 27.7**	**+0.8**
ATAH	**Atahualpa**	**168.05**	**174**	PKP		**PKPdf**	**23 30 28.0**	**+1.0**
ATAH	**Atahualpa** comp=Z,18nm,1.1s,baz=257,slow=1.9,SNR=13	**168.05**	**174**	PKP		**PKPdf**	**23 30 28.0**	**+1.0**
JTS	**JuntasAbangare**	**170.50**	**55**	PKPab		**PKPab**	**23 31 44.2**	**-1.0**
JTS	**JuntasAbangare** comp=Z,19nm,0.8s,baz=349,slow=6.9,SNR=7.0	**170.50**	**55**	PKPab		**PKPab**	**23 31 44.2**	**-1.0**
SDV	**Santo Domingo**	**172.43**	**303**	*e*PKPdf		**PKPdf**	**23 30 27.8**	**-1.4**
SDV				*e*PKPab		**PKPab**	**23 31 53.8**	**-0.3**
ROSC	**El Rosal**	**177.26**	**271**	PKP		**PKPdf**	**23 30 30.1**	**-0.8**
ROSC				*e*PKPdf		PKPdf	23 30 30.8	-0.2
ROSC				PKPab		PKPab	23 32 16.7	+0.8
ROSC	**El Rosal** comp=Z,5.6nm,0.6s,baz=92,slow=16,SNR=12	**177.26**	**271**	PKP		**PKPdf**	**23 30 30.1**	**-0.8**
ROSC	comp=Z,4.0nm,0.4s,baz=90,slow=4.0,SNR=3.1			PKPab		PKPab	23 32 16.7	+0.8

IDC 26 23:27:39.5±4.1, 5°57'S×146°56'E, h72km±40km, mb3.3/3, mb1 3.6/6, mb1mx3.3/19, mbtmp3.4/6, ML3.4/3, Error ellipse: s-maj=40.1km s-min=28.0km az=85.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 8.1nm,0.3s,baz=14,slow=5.0,SNR=13	**3.86**	**171**	P	Pn	23 28 36.7	+0.2
PMG	4.2nm,0.3s,baz=212,slow=15,SNR=2.2			S	Sn	23 29 20.8	+0.3
CTA	**Charters Tower** 0.4nm,0.3s,baz=0.2,slow=15,SNR=3.6	**14.43**	**181**	P	Pn	23 31 01.5	+1.3
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=46,slow=11,SNR=2.8	**18.58**	**219**	P	P	23 31 49.1	-1.8
ASAR	**Alice Springs** 0.5nm,0.7s,baz=42,slow=9.9,SNR=3.1	**21.73**	**213**	P	P	23 32 26.0	+1.0
KSRS	**Korea Array** 0.4nm,0.4s,baz=153,slow=9.9,SNR=4.2	**46.20**	**339**	P	P	23 35 57.9	+0.7
ILAR	**Eielson Array** 0.9nm,0.6s,baz=254,slow=4.8,SNR=14	**85.26**	**23**	P	P	23 40 07.1	-0.9
TORD	**Torodi Ar. Bea** 1.1nm,0.9s,baz=68,slow=3.3,SNR=5.3	**144.56**	**285**	PKP	PKPab	23 47 06.4	-1.0
SIV	**San Ignacio** 6.3nm,0.9s,baz=208,slow=4.2,SNR=22	**145.26**	**128**	PKPbc	PKPdf	23 47 10.2	+0.2

IDC 26 23:31:19.5±2.9, 30°53S×177°50W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.9/19, mbtmp4.0/4, ML2.8/1, Error ellipse: s-maj=62.9km s-min=24.6km az=107.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 191nm,0.3s,baz=272,slow=17,SNR=4.5	**1.33**	**344**	Pn	Pn	23 31 45.9	+0.6
RAO	226nm,0.3s,baz=214,slow=23,SNR=7.2			Sn	Sg	23 31 58.2	-3.9
URZ	**Urewera** 0.1nm,0.3s,baz=270,slow=1.0,SNR=2.6	**8.90**	**209**	Pn	Pn	23 33 28.9	-0.4
URZ	0.7nm,0.3s,baz=23,slow=21,SNR=6.6			Sn	Sn	23 35 12.2	+1.9
STKA	**Stephens Creek** 3.3nm,0.8s,baz=110,slow=12,SNR=5.5	**34.87**	**257**	P	P	23 38 14.3	+1.7
ASAR	**Alice Springs** 0.5nm,0.3s,baz=106,slow=7.6,SNR=9.3	**43.53**	**267**	P	P	23 39 24.6	-0.6
WRA	**Warramunga Arr** 3.5nm,0.8s,baz=110,slow=7.8,SNR=8.6	**44.53**	**272**	P	P	23 39 32.0	-1.2
FINES	**FINESS Array B** 1.5nm,0.4s,baz=45,slow=3.6,SNR=16	**145.42**	**340**	PKPbc	PKPbc	23 50 57.7	-1.0

GUC 26 23:31:44.1±0.6, 31°19S×68°58W, h145km, MD3.4, ML3.5, 2C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**2.07**	**270**	⇓*i*P	Pn	23 32 20.3	+0.4
CMCH				*i* S	Sn	23 32 48.1	+0.8
CMCH	comp=N,452nm,0.4s			AML	AML	23 32 48.4	
TLL	**Tololo Astrono**	**2.17**	**298**	*e*P	Pn	23 32 24.4	+3.1
TLL				*i* S	Sn	23 32 52.8	+3.0
TLL	comp=E,241nm,0.3s			AML	AML	23 32 55.1	
PEL	**Peldehue**	**2.64**	**222**	⇑*i*P	Pn	23 32 27.5	+0.8
PEL				*i* S	Sn	23 33 00.3	+0.6
PEL	comp=E,101nm,0.2s			AML	AML	23 33 06.3	
ROCH	**El Roble**	**2.72**	**229**	*i* P	Pn	23 32 28.6	+0.6
ROCH				*i* S	Sn	23 33 02.7	+0.9
ROCH	comp=N,97nm,0.3s			AML	AML	23 33 04.5	
LCO	**Las Campanas**	**2.84**	**319**	⇓*i*P	Pn	23 32 30.4	+0.7
CACH	**El Canelo**	**3.38**	**210**	⇑*i*P	Pn	23 32 37.3	+1.1

IDC 26 23:34:55.9±1.1, 10°51N×94°19E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.6/27, mbtmp3.6/9, Error ellipse: s-maj=47.6km s-min=18.6km az=55.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=217,slow=15,SNR=4.8	**9.14**	**30**	Pn	Pn	23 37 13.3	+4.2
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=176,slow=7.9,SNR=5.7	**37.55**	**347**	P	P	23 42 10.3	-1.5
SONM	**Songino Array** 0.2nm,0.4s,baz=194,slow=11,SNR=3.0	**38.60**	**13**	P	P	23 42 21.0	+0.1
KURBB	**Kurchatov Arra** 1.2nm,0.7s,baz=160,slow=7.6,SNR=4.0	**42.02**	**345**	P	P	23 42 47.1	-1.8
ZALV	**Zalesovo Beam** 1.6nm,0.6s,baz=169,slow=8.1,SNR=8.7	**43.97**	**352**	P	P	23 43 05.7	+1.0
BVAR	**Borovoye Array** 0.6nm,0.8s,baz=167,slow=8.9,SNR=3.2	**46.53**	**340**	P	P	23 43 26.1	+1.0
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=300,slow=8.4,SNR=5.3	**49.78**	**127**	P	P	23 43 50.4	-0.3
ASAR	**Alice Springs** 2.1nm,0.7s,baz=312,slow=7.0,SNR=17	**51.59**	**132**	P	P	23 44 04.2	-0.1
BRTR	**Keskin Array B** 0.4nm,0.7s,baz=81,slow=9.2,SNR=2.9	**60.78**	**310**	P	P	23 45 10.0	0.0
GERES	**GERESS Array B** 0.1nm,0.3s,baz=61,slow=6.9,SNR=2.9	**75.91**	**318**	P	P	23 46 44.8	+0.1

IDC 26 23:43:20.1±1.2, 10°07N×94°03E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.7/28, mbtmp3.9/9, ML3.9/1, Error ellipse: s-maj=45.3km s-min=19.2km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=225,slow=14,SNR=5.6	**9.60**	**29**	Pn	Pn	23 45 37.5	-2.2
MKAR	**Makanchi Array** 1.8nm,0.8s,baz=168,slow=8.7,SNR=5.0	**37.94**	**347**	P	P	23 50 39.1	-0.3
SONM	**Songino Array** 1.5nm,1.1s,baz=199,slow=7.2,SNR=4.1	**39.06**	**13**	P	P	23 50 47.8	-1.1
KURBB	**Kurchatov Arra** 1.1nm,0.8s,baz=163,slow=7.8,SNR=8.4	**42.41**	**345**	P	P	23 51 16.6	+0.4
ZALV	**Zalesovo Beam** 3.1nm,0.8s,baz=170,slow=9.5,SNR=4.8	**44.38**	**352**	P	P	23 51 33.1	+1.0
BVAR	**Borovoye Array** 1.1nm,0.8s,baz=149,slow=6.7,SNR=4.4	**46.89**	**341**	P	P	23 51 53.1	+1.0
WRA	**Warramunga Arr** 0.8nm,0.3s,baz=306,slow=8.8,SNR=5.4	**49.64**	**127**	P	P	23 52 13.8	-0.1
ASAR	**Alice Springs** 2.1nm,0.7s,baz=310,slow=6.7,SNR=18	**51.42**	**131**	P	P	23 52 27.6	+0.4
TORD	**Torodi Ar. Bea** 0.2nm,0.8s,baz=89,slow=5.6,SNR=2.2	**89.99**	**283**	P	P	23 56 20.4	-1.9
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=320,slow=2.4,SNR=3.8	**137.27**	**23**	PKP	PKPdf	00 02 45.2	-1.2

*IDC **26** 23:45:35.8±2.7, 37°59N×76°53E, h0km, mb3.6/2, mb1 3.4/4, mb1mx3.2/28, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=55.5km s-min=26.9km az=101.0*
*NNC **26** 23:45:46.9±29.0, 38°34N×77°00E, h0km, mb3.7, mpv3.2, Error ellipse: s-maj=325.3km s-min=153.6km az=6.0*

ISC 26 23:45:40.4±2.5, 37°5N±0°2×76°6E±0°2, h35km, n8, σ1§30/8, 1C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa** 3.4nm,0.3s,baz=158,slow=5.4,SNR=11	**5.38**	**343**	Pn	**Pn**	**23 46 59.7**	**+1.4**
AAK	1.6nm,0.3s,baz=72,slow=18,SNR=3.6			Lg	Lg	23 48 22.9	
KK31	**Karatay Array** 0.5nm,0.3s,baz=130,slow=13,SNR=40	**7.27**	**322**	P	**Pn**	**23 47 24.9**	**+0.7**
KK31	2.2nm,0.7s,baz=122,slow=20,SNR=3.5			⇓S	Sn	23 48 50.6	+5.1
MK31	**Makanchi Array** 0.2nm,0.5s,baz=200,slow=12,SNR=6.1	**10.21**	**23**	⇓P	**Pn**	**23 48 06.1**	**+1.6**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=203,slow=15,SNR=3.2	**10.21**	**23**	Pn	**Pn**	**23 48 04.0**	**-0.4**
BVAR	**Borovoye Array** baz=148,slow=12,SNR=3.5	**16.12**	**346**	Pn	**Pn**	**23 49 22.8**	**-1.4**
AB31	**Akbulak array** 16nm,1.2s,baz=284,slow=2.3,SNR=9.0	**16.82**	**320**	⇑P	**P**	**23 49 34.0**	**-1.0**
FINES	**FINESS Array B** 0.3nm,0.4s,baz=115,slow=9.8,SNR=3.7	**39.23**	**324**	P	**P**	**23 53 05.0**	**-0.1**
TORD	**Torodi Ar. Bea** 0.8nm,1.0s,baz=53,slow=5.3,SNR=6.2	**70.18**	**272**	P	**P**	**23 56 50.2**	**+0.3**

**IDC 26 23:53:06.9±1.3, 3°49S×140°20E, h0km, mb3.8/4, m

	200nm,0.5s								
UNR				*e*S	Sn	00 16 25.2	+17		
UNR				Sgmax		00 16 30.3			
	12µm,1.0s								
UNR				Sgmax		00 16 30.4			
	4µm,0.5s								
SUUS	**Susuman**	**1.76**	**130**	⇑*i*P	**Pg**	**00 16 03.8**	**-0.7**		
SUUS				Pmax		00 16 04.4			
	490nm,0.3s								
SUUS				⇓*i*Pg	Pb	00 16 05.9	+2.4		
SUUS				Pgmax		00 16 07.6			
	2µm,0.3s								
SUUS				Pgmax		00 16 07.6			
	1µm,0.3s								
SUUS				Pgmax		00 16 07.6			
	1µm,0.3s								
SUUS				*e*Sg	**Sg**	**00 16 29.6**	**+2.3**		
SUUS				Sgmax		00 16 31.8			
	54µm,0.3s								
SUUS				Sgmax		00 16 32.2			
	23µm,0.2s								
SUUS				Sgmax		00 16 32.2			
	21µm,0.2s								
OCHR	**Omchak**	**2.58**	**151**	*e*P	**Pb**	**00 16 17.7**	**+0.1**		
OCHR				Pmax		00 16 18.0			
	270nm,0.2s								
OCHR				*e*Pg	Pg	00 16 23.3	+3.0		
OCHR				Pgmax		00 16 23.9			
	1µm,0.2s								
OCHR				*e*Sg	**Sg**	**00 16 55.3**	**+1.6**		
SNGR	**Sinegor'e**	**3.01**	**126**	*e*P	Pb	00 16 21.2	-3.6		
SNGR				Pmax		00 16 22.0			
	150nm,0.2s								
SNGR				*e*Pg	**Pg**	**00 16 28.7**	**+0.2**		
SNGR				Pgmax		00 16 29.2			
	180nm,0.3s								
SNGR				*e*S	**Sb**	**00 16 58.6**	**-3.2**		
SNGR				*e*Sg	**Sg**	**00 17 10.1**	**+2.6**		
SNGR				Sgmax		00 17 16.8			
	4µm,0.3s								
SNGR				Sgmax		00 17 16.8			
	3µm,0.3s								
SEY	**Seymchan**	**3.36**	**104**	⇓*i*P	**Pn**	**00 16 24.6**	**+0.8**		
SEY				*e*Pg	**Pg**	**00 16 34.4**	**-0.7**		
SEY				Pgmax		00 16 36.0			
	310nm,0.5s								
SEY				*e*Sg	**Sg**	**00 17 18.4**	**-0.2**		
SEY				Sgmax		00 17 18.5			
	7µm,0.5s								
SEY	**Seymchan**	**3.36**	**104**	⇓*i*P	**Pn**	**00 16 24.6**	**+0.8**		
SEY				pmax	pmax				
	comp=Z,310nm,0.5s								
SEY	**Seymchan**	**3.36**	**104**	Pn	**Pn**	**00 16 25.4**	**+1.6**		
SEY				Pg	**Pg**	**00 16 34.9**	**-0.2**		
SEY				Lg	Lg	00 17 20.6			
SEY	**Seymchan**	**3.36**	**104**	Pn	**Pn**	**00 16 25.4**	**+1.6**		
	comp=Z,25nm,0.3s,baz=91,slow=23,SNR=2.8								
SEY				Pg	**Pg**	**00 16 34.9**	**-0.2**		
	comp=Z,166nm,0.3s,baz=271,slow=24,SNR=15								
SEY				Lg	Lg	00 17 20.6			
	comp=Z,855nm,0.3s,baz=31,slow=6.1,SNR=12								
TLAR	**Talaya**	**4.35**	**127**	*e*P	Pn	00 16 39.9	+2.4		
TLAR				*e*Pg	**Pg**	**00 16 54.8**	**+0.7**		
TLAR				Pgmax		00 16 58.7			
	comp=Z,160nm,0.4s								
TLAR				*e*S	**Sb**	**00 17 34.9**	**-5.5**		
TLAR				*e*Sg	**Sg**	**00 17 51.7**	**+1.3**		
TLAR				Sgmax		00 18 02.2			
	comp=Z,5µm,0.6s								
TLAR	**Talaya**	**4.35**	**127**	*i* P	Pn	00 16 39.9	+2.4		
TLAR				pmax	pmax				
	comp=Z,160nm,0.4s								
MGD	**Magadan 1**	**4.69**	**144**	⇓*i*P	**Pn**	**00 16 42.6**	**+0.6**		
MGD				Pmax		00 16 43.1			
	comp=Z,120nm,0.3s								
MGD				*e*Pg	Pg	00 16 57.3	-3.2		
MGD				Pgmax		00 17 01.7			
	comp=Z,1µm,0.5s								
MGD				*e*S	**Sn**	**00 17 38.0**	**+1.3**		
MGD				*e*Sg	**Sg**	**00 17 59.9**	**-1.3**		
MGD				Sgmax		00 18 06.5			
	comp=Z,7µm,0.3s								
MGD				Sgmax		00 18 06.5			
	comp=Z,2µm,0.3s								
OHTR	**Okhotsk**	**4.69**	**192**	*e*Pg	**Pg**	**00 17 00.7**	**+0.1**		
OHTR				Pmax		00 17 01.9			
	comp=Z,250nm,0.4s								
OHTR				*e*Sg	**Sg**	**00 18 01.1**	**-0.2**		
OHTR				Sgmax		00 18 08.9			
	comp=Z,2µm,0.5s								
OHTR				Sgmax		00 18 08.9			
	comp=Z,940nm,0.4s								
OMS	**Omsukchan**	**4.97**	**102**	*e*P	Pn	00 16 48.3	+2.3		
OMS				*e*Pg	**Pg**	**00 17 04.9**	**-1.0**		
OMS				Pgmax		00 17 06.4			
	comp=Z,160nm,0.6s								
OMS				*e*		00 17 53.3			
OMS				*e*Sg	**Sg**	**00 18 11.6**	**+1.3**		
OMS				Sgmax		00 18 16.4			
	comp=Z,1µm,0.7s								
OMS				Sgmax		00 18 16.5			
	comp=Z,3µm,0.8s								
EVEN	**Evensk**	**6.70**	**101**	*e*	Pb	00 17 19.3	-8.2		
EVEN				Pmax		00 17 26.7			
	comp=Z,20nm,0.5s								
EVEN				*e*		00 18 37.4			
EVEN				*e*S	Sg	00 19 12.3	+6.7		
EVEN				Sgmax		00 19 15.2			
	comp=Z,2µm,0.8s								
YAK	**Yakutsk**	**7.34**	**262**	*e*P	**Pn**	**00 17 16.8**	**-1.6**		
YAK				*e*		00 18 36.5			
YAK				pmax	pmax				
	comp=Z,14nm,0.6s								
YAK				pmax	pmax				
	comp=N,3.0nm,0.6s								
YAK				pmax	pmax				
	comp=E,5.0nm,0.6s								
YAK				pmax	pmax				
	comp=Z,42nm,0.6s								
YAK				pmax	pmax				
	comp=N,4.0nm,0.4s								
YAK				pmax	pmax				
	comp=E,29nm,0.7s								
YAK				smax	smax				
	comp=N,25nm,0.5s								
YAK				smax	smax				
	comp=E,15nm,0.4s								
YAK				smax	smax				
	comp=N,366nm,1.1s								
YAK				smax	smax				
	comp=E,169nm,0.8s								
YAK				MLR	MLR				
	comp=Z,336nm,9.8s								
YAK				MLR	MLR				
	comp=N,819nm,8.6s								
YAK				MLR	MLR				
	comp=E,258nm,7.3s								
TIXI	**Tiksi**	**9.87**	**329**	*e*P	Pn	00 17 54.6	+1.6		
TIXI				pmax	pmax				
	comp=Z,11nm,1.2s								
CLNS	**Chul'man**	**12.28**	**244**	*e*P	**Pn**	**00 18 24.3**	**-1.8**		
CLNS				*e*S	Sn	00 20 53.4	+10		
CLNS				pmax	pmax				
	comp=Z,1.0nm,0.2s								
CLNS				pmax	pmax				
	comp=N,2.0nm,0.8s								
CLNS				pmax	pmax				
	comp=E,4.0nm,0.7s								
CLNS				pmax	pmax				
	comp=Z,5.0nm,1.0s								
CLNS				smax	smax				
	comp=N,107nm,1.2s								
CLNS				smax	smax				
	comp=E,65nm,1.3s								
CLNS				MLR	MLR				
	comp=Z,586nm,9.0s								
CLNS				MLR	MLR				
	comp=N,434nm,9.0s								
PETK	**Petropavlovsk-**	**12.63**	**144**	P	**Pn**	**00 18 31.2**	**+0.3**		
PETK						00 21 02.6			
PETK				MLR	MLR				
	comp=Z,366nm,21.2s								
PETK	**Petropavlovsk-**	**12.63**	**144**	Pn	**Pn**	**00 18 31.2**	**+0.3**		
PETK				Sn	Sn	00 21 02.5	+11		
PETK	**Petropavlovsk-**	**12.63**	**144**	Pn	**Pn**	**00 18 31.2**	**+0.3**		
	comp=Z,0.4nm,0.3s,baz=321,slow=11,SNR=14								
PETK				Sn	Sn	00 21 02.5	+11		
	baz=333,slow=15,SNR=3.3								
PETK				LR	LR	00 24 03.4			
	comp=Z,366nm,21.2s,baz=353,slow=40								
PET	**Petropavlovsk**	**12.96**	**141**	*e*P	**Pn**	**00 18 33.7**	**-1.6**		
KLR	**Kul'dur**	**16.46**	**213**	*e*P	**Pn**	**00 19 21.6**	**-0.5**		
KLR				pmax	pmax				
	comp=Z,80nm,2.0s								
YSS	**Yuzh-Sakhalins**	**17.09**	**186**	*e*P	P	00 19 35.9	+4.1		
FX1	**Attu Island--F**	**18.16**	**114**	*e*Pn	**P**	**00 19 43.9**	**+0.2**		
FX1	**Attu Island--F**	**18.16**	**114**	P	**P**	**00 19 44.2**	**+0.5**		
	comp=Z,1.8nm,0.3s,baz=315,slow=11,SNR=12								
ASAJ	**Asahikawa**	**19.93**	**186**	*e*P	**Pn**	**00 20 04.0**	**-0.7**		
	comp=Z,13nm,0.8s								
ASAJ	**Asahikawa**	**19.93**	**186**	P	**Pn**	**00 20 04.1**	**-0.6**		
	comp=Z,1.9nm,0.3s,baz=347,slow=9.9,SNR=22								
HIA	**Hailar**	**20.12**	**235**	*e*P	Pn	00 20 06.6	-0.4		
USRK	**Ussuriysk Arra**	**21.17**	**207**	P	**P**	**00 20 16.9**	**+0.4**		
	comp=Z,3.7nm,0.8s,baz=9.8,slow=9.4,SNR=10								
USRK				LR	LR	00 27 57.2			
	comp=Z,313nm,18.9s,baz=2.0,slow=35								
MDJ	**Mudanjiang**	**21.30**	**212**	P	P	00 20 22.5	+4.6		
MDJ				pmax	pmax				
	comp=Z,14nm,0.9s								
MDJ				pmax	pmax				
	comp=Z,330nm,9.3s								
MDJ	**Mudanjiang**	**21.30**	**212**	*e*P	**P**	**00 20 16.5**	**-1.4**		
ERM	**Erimo**	**22.00**	**184**	*e*P	**P**	**00 20 23.4**	**-2.0**		
ERM				pmax	pmax				
	comp=Z,28nm,1.2s								
VLA	**Vladivostok**	**22.23**	**207**	⇑*i*P	**P**	**00 20 28.5**	**+0.6**		
VLA				*e*S	**S**	**00 24 34.0**	**+1.3**		
VLA				pmax	pmax				
	comp=Z,17nm,0.7s								
COLD	**Coldfoot**	**25.80**	**54**	*e*P	**P**	**00 21 02.2**	**+0.1**		
	comp=Z,8.5nm,0.7s								
ZAK	**Zakamensk**	**25.91**	**258**	*e*P	P	00 21 07.2	+3.7		
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.2s								
MOY	**Mondy**	**25.98**	**263**	*e*P	P	00 21 07.9	+3.8		
ULN	**Ulaanbaatar**	**26.23**	**250**	*e*P	**P**	**00 21 08.0**	**+1.6**		
SONM	**Songino Array**	**26.53**	**251**	P	**P**	**00 21 10.3**	**+1.3**		
SONM	**Songino Array**	**26.53**	**251**	P	**P**	**00 21 10.3**	**+1.3**		
	comp=Z,1.3nm,0.9s,baz=48,slow=8.8,SNR=5.2								
SONM				LR	LR	00 32 45.2			
	comp=Z,320nm,18.2s,baz=25,slow=39								
MJA0	**Matsu Arr-Jizo**	**27.76**	**192**	*e*P	**P**	**00 21 23.0**	**+2.9**		
MJA0				pmax	pmax				
	comp=Z,1.0nm,0.6s								
MAJO	**Matsushiro**	**27.77**	**192**	*e*P	**P**	**00 21 22.6**	**+2.5**		
MJAR	**Matsushiro Arr**	**27.77**	**192**	P	**P**	**00 21 19.4**	**-0.8**		
MJAR	**Matsushiro Arr**	**27.77**	**192**	P	**P**	**00 21 19.4**	**-0.8**		
	comp=Z,1.4nm,0.6s,baz=1.5,slow=8.7,SNR=5.9								
MJAR				LR	LR	00 33 54.2			
	comp=Z,265nm,18.3s,baz=50,slow=40								
ILAR	**Eielson Array**	**28.12**	**57**	P	**P**	**00 21 23.1**	**0.0**		
ILAR	**Eielson Array**	**28.12**	**57**	P	**P**	**00 21 23.0**	**0.0**		
	comp=Z,1.4nm,0.7s,baz=296,slow=8.2,SNR=18								
KSRS	**Korea Array**	**28.50**	**210**	P	**P**	**00 21 26.2**	**-0.4**		
	comp=Z,0.8nm,0.4s,baz=16,slow=7.5,SNR=6.6								
KSRS				LR	LR	00 32 48.0			
	comp=Z,141nm,19.6s,baz=261,slow=36								
KSAR	**Wonju Array Be**	**28.52**	**210**	P	**P**	**00 21 26.2**	**-0.6**		
HVS	**Khovu-Aksy**	**29.57**	**269**	*e*P	**P**	**00 21 37.3**	**+1.2**		
HVS				pmax	pmax				
	comp=Z,46nm,2.5s								
INK	**Inuvik**	**30.92**	**46**	P	**P**	**00 21 48.0**	**+0.3**		
INK	**Inuvik**	**30.92**	**46**	P	**P**	**00 21 48.0**	**+0.3**		
	comp=Z,1.6nm,0.4s,baz=310,slow=8.2,SNR=8.5								
ZALV	**Zalesovo Beam**	**31.52**	**280**	LR	LR	00 36 00.1			
	comp=Z,372nm,20.4s,baz=68,slow=39								
SPITS	**Spitsbergen Ar**	**34.84**	**344**	P	**P**	**00 22 21.7**	**-0.2**		
SPITS	**Spitsbergen Ar**	**34.84**	**344**	P	**P**	**00 22 21.7**	**-0.2**		
	comp=Z,3.8nm,0.7s,baz=63,slow=7.8,SNR=5.9								
KURK	**Kurchatov**	**36.49**	**281**	P	**P**	**00 22 36.3**	**-0.1**		
KURK				pmax	pmax				
	comp=Z,3.0nm,0.8s								
KURK	**Kurchatov**	**36.49**	**281**	P	**P**	**00 22 36.3**	**-0.1**		
KURBB	**Kurchatov Arra**	**36.60**	**281**	P	**P**	**00 22 36.3**	**-1.0**		
	comp=Z,2.7nm,0.8s,baz=48,slow=8.5,SNR=27								
MK31	**Makanchi Array**	**37.83**	**274**	*e*P	**P**	**00 22 47.2**	**-0.6**		
MK31	**Makanchi Array**	**37.83**	**274**	*e*P	**P**	**00 22 47.1**	**-0.6**		
MKAR	**Makanchi Array**	**37.83**	**274**	*e*P	P	00 22 49.2	+1.4		
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
MKAR	**Makanchi Array**	**37.83**	**274**	P	**P**	**00 22 48.1**	**+0.3**		
MKAR	**Makanchi Array**	**37.83**	**274**	P	**P**	**00 22 48.1**	**+0.3**		
	comp=Z,1.4nm,0.8s,baz=52,slow=7.9,SNR=10								
BVAR	**Borovoye Array**	**38.31**	**290**	P	**P**	**00 22 52.6**	**+0.9**		
BVAR						00 25 06.6			
BVAR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
BVAR				pmax	pmax				
	comp=Z,2.0nm,0.8s								
BVAR	**Borovoye Array**	**38.31**	**290**	P	**P**	**00 22 52.6**	**+0.9**		
BVAR				PcP	**PcP**	**00 25 06.6**	**+1.2**		
BVAR	**Borovoye Array**	**38.31**	**290**	P	**P**	**00 22 52.6**	**+0.9**		
	comp=Z,1.5nm,0.8s,baz=54,slow=7.7,SNR=6.5								
BVAR				PcP	**PcP**	**00 25 06.6**	**+1.2**		
	comp=Z,1.5nm,0.8s,baz=47,slow=5.0,SNR=4.8								
BRVK	**Borovoye**	**38.33**	**290**	*e*P	P	00 22 53.6	+1.7		
BRVK				pmax	pmax				
	comp=Z,4.0nm,1.7s								
WHN	**Wuhan**	**38.68**	**225**	*e*P	**P**	**00 22 55.3**	**+0.2**		
ARCES	**ARCESS Array B**	**40.29**	**332**	P	**P**	**00 23 07.3**	**-0.8**		
ARCES	**ARCESS Array B**	**40.29**	**332**	P	**P**	**00 23 07.3**	**-0.8**		
	comp=Z,1.2nm,0.8s,baz=31,slow=11,SNR=5.1								
ARU	**Arti**	**40.52**	**301**	*c i*P	P	00 23 11.4	+1.3		
ARU						00 24 42.7			
ARU				S	**S**	**00 29 21.4**	**+2.3**		
ARU				SS	**SS**	**00 32 16.3**	**-1.6**		
ARU				pmax	pmax				
	comp=Z,5.0nm,1.7s								
YKA	**Yellowknife Ar**	**40.67**	**45**	P	**P**	**00 23 11.3**	**+0.1**		
YKA	**Yellowknife Ar**	**40.67**	**45**	P	**P**	**00 23 11.3**	**+0.1**		
	comp=Z,2.4nm,0.6s,baz=315,slow=8.0,SNR=15								
TMCR	**Tamitsa**	**41.48**	**321**	*e*P	P	00 23 19.2	+1.3		
TMCR				*e*		00 24 56.8			
TMCR				pmax	pmax				
	comp=Z,17nm,1.4s								
JOF	**Joensuu**	**44.30**	**323**	*e*p	**P**	**00 23 39.8**	**-1.0**		
	comp=Z,4.9nm,0.6s								
JOF	**Joensuu**	**44.30**	**323**	*e*P	**P**	**00 23 39.8**	**-1.0**		
JOF				pmax	pmax				
	comp=Z,5.0nm,0.6s								
AAK	**Ala-Archa**	**44.53**	**277**	*e*P	**P**	**00 23 44.4**	**+1.3**		
AAK				pmax	pmax				
	comp=Z,22nm,2.5s								
KKAR	**Karatay Array**	**45.89**	**280**	*e*P	**P**	**00 23 53.0**	**-0.7**		
KKAR				pmax	pmax				
	comp=Z,10.0nm,1.4s								
KKAR	**Karatay Array**	**45.89**	**280**	*e*P	**P**	**00 23 53.0**	**-0.7**		
	comp=Z,10nm,1.4s								
KAF	**Kangasniemi**	**46.26**	**325**	*e*p	**P**	**00 23 55.1**	**-1.3**		
	comp=Z,3.0nm,0.7s								
KAF	**Kangasniemi**	**46.26**	**325**	*e*P	**P**	**00 23 55.1**	**-1.3**		
KAF				pmax	pmax				
	comp=Z,3.0nm,0.7s								
FINES	**FINESS Array B**	**46.89**	**325**	P	**P**	**00 23 59.3**	**-2.0**		
FINES				PcP	**PcP**	**00 25 32.1**	**-1.7**		
FINES	**FINESS Array B**	**46.89**	**325**	P	**P**	**00 23 59.3**	**-2.0**		
	comp=Z,1.7nm,0.6s,baz=29,slow=8.7,SNR=11								
FINES				PcP	**PcP**	**00 25 32.1**	**-1.7**		
	comp=Z,2.0nm,0.8s,baz=57,slow=5.1,SNR=3.9								
NB2	**NORSAR Subarra**	**50.63**	**333**	P	**P**	**00 24 30.1**	**0.0**		
	comp=Z,1.5nm,0.7s,baz=25,slow=7.4								
NOA	**NORSAR Array B**	**50.63**	**333**	P	**P**	**00 24 28.6**	**-1.4**		
NOA	**NORSAR Array B**	**50.63**	**333**	P	**P**	**00 24 28.6**	**-1.4**		
	comp=Z,1.8nm,0.9s,baz=25,slow=7.5,SNR=4.3								
CMAR	**Chiang Mai Arr**	**55.12**	**237**	P	**P**	**00 25 04.3**	**+0.7**		
CMAR	**Chiang Mai Arr**	**55.12**	**237**	P	**P**	**00 25 04.3**	**+0.7**		
	comp=Z,0.9nm,0.6s,baz=15,slow=8.2,SNR=5.0								
MCMT	**McKenzie Canyo**	**55.56**	**58**	*e*P	**P**	**00 25 07.3**	**+0.4**		
	comp=Z,1.7nm,0.6s								
KBZ	**Khabaz**	**56.66**	**302**	P	**P**	**00 25 15.5**	**+1.1**		
KBZ				pmax	pmax				
	comp=Z,1.0nm,0.7s								
KBZ	**Khabaz**	**56.66**	**302**	P	**P**	**00 25 15.5**	**+1.1**		
KBZ	**Khabaz**	**56.66**	**302**	P	**P**	**00 25 15.5**	**+1.1**		
	comp=Z,1.0nm,0.7s,baz=336,slow=3.7,SNR=3.8								
PDAR	**Pinedale Array**	**58.55**	**56**	P	**P**	**00 25 28.2**	**+0.1**		
PDAR	**Pinedale Array**	**58.55**	**56**	P	**P**	**00 25 28.2**	**+0.1**		
	comp=Z,1.5nm,0.7s,baz=4.6,slow=2.9,SNR=11								
NVAR	**Mina Array Bea**	**58.91**	**66**	P	**P**	**00 25 31.9**	**+1.3**		
NVAR	**Mina Array Bea**	**58.91**	**66**	P	**P**	**00 25 31.9**	**+1.3**		
	comp=Z,1.3nm,0.7s,baz=321,slow=6.2,SNR=10								
SCHQ	**Schefferville**	**58.98**	**21**	P	**P**	**00 25 29.2**	**-1.4**		
SCHQ	**Schefferville**	**58.98**	**21**	P	**P**	**00 25 29.2**	**-1.4**		
	comp=Z,7.3nm,0.8s,baz=349,slow=7.5,SNR=13								
CLL	**Collm**	**59.20**	**327**	*e*P	**P**	**00 25 33.0**	**+0.9**		
CLL	**Collm**	**59.20**	**327**	*e*P	**P**	**00 25 33.0**	**+0.9**		
GERES	**GERESS Array B**	**61.31**	**326**	P	**P**	**00 25 46.1**	**-0.6**		
GERES	**GERESS Array B**	**61.31**	**326**	P	**P**	**00 25 46.2**	**-0.6**		
	comp=Z,0.4nm,0.7s,baz=32,slow=5.3,SNR=5.4								
PV01	**Parador Valley**	**62.96**	**58**	*e*P	**P**	**00 25 58.5**	**+0.4**		
	comp=Z,443nm,1.2s								
BRTR	**Keskin Array B**	**63.53**	**307**	P	**P**	**00 26 01.9**	**+0.1**		
BRTR	**Keskin Array B**	**63.53**	**307**	P	**P**	**00 26 01.9**	**+0.1**		
	comp=Z,0.5nm,0.7s,baz=57,slow=4.6,SNR=4.5								
ASF	**Jabal al Asfar**	**69.05**	**300**	LR	LR	01 01 02.9			
	comp=Z,298nm,19.3s,baz=109,slow=40								
TXAR	**Lajitas Array**	**72.63**	**59**	P	**P**	**00 26 59.2**	**+0.2**		
TXAR	**Lajitas Array**	**72.63**	**59**	P	**P**	**00 26 59.3**	**+0.2**		
	comp=Z,0.2nm,0.6s,baz=316,slow=3.8,SNR=2.9								
ESDC	**Sonseca Array**	**73.88**	**336**	P	**P**	**00 27 07.3**	**+1.1**		
ESDC	**Sonseca Array**	**73.88**	**336**	P	**P**	**00 27 07.3**	**+1.1**		
	comp=Z,0.1nm,0.4s,baz=359,slow=4.5,SNR=4.1								
FITZ	**Fitzroy Crossi**	**83.19**	**199**	P	**P**	**00 27 57.2**	**-0.3**		
FITZ	**Fitzroy Crossi**	**83.19**	**199**	P	**P**	**00 27 57.2**	**-0.3**		
	comp=Z,2.8nm,0.8s,baz=3.6,slow=8.1,SNR=3.1								
WRAB	**Tennant Creek**	**84.03**	**190**	*e*P	**P**	**00 28 02.3**	**+0.5**		
WRA	**Warramunga Arr**	**84.05**	**190**	P	**P**	**00 28 00.8**	**-1.1**		
WRA	**Warramunga Arr**	**84.05**	**190**	P	**P**	**00 28 00.8**	**-1.1**		
	comp=Z,3.5nm,0.9s,baz=8.3,slow=5.4,SNR=11								
ASAR	**Alice Springs**	**87.77**	**190**	P	**P**	**00 28 20.1**	**-0.2**		
ASAR	**Alice Springs**	**87.77**	**190**	P	**P**	**00 28 20.1**	**-0.2**		
	comp=Z,0.7nm,0.7s,baz=360,slow=5.1,SNR=5.8								
TORD	**Torodi Ar. Bea**	**98.24**	**324**	P	Pdif	00 29 10.3	+1.4		
TORD	**Torodi Ar. Bea**	**98.24**	**324**	P	Pdif	00 29 10.3	+1.4		
	comp=Z,0.7nm,1.1s,baz=339,slow=3.7,SNR=2.8								

IDC 27 00:22:44.8±1.0, 10°54N×94°05E, h0km, mb3.7/9, mb1 3.9/10, mb1mx3.7/28, mbtmp3.7/10, ML3.8/1, Error ellipse: s-maj=44.1km s-min=18.2km az=54.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.19**	**30**	Pn	Pn		00 24 58.3	-0.4
	0.3nm,0.3s,baz=218,slow=15,SNR=6.3							
MKAR	**Makanchi Array**	**37.49**	**347**	P	P		00 30 00.3	0.0
	0.9nm,0.6s,baz=164,slow=7.9,SNR=12							
KURBB	**Kurchatov Arra**	**41.96**	**345**	P	P		00 30 37.1	-0.2
	0.9nm,0.7s,baz=162,slow=7.8,SNR=9.6							
ZALV	**Zalesovo Beam**	**43.92**	**352**	P	P		00 30 53.1	-0.1
	1.6nm,0.8s,baz=173,slow=8.9,SNR=7.4							
BVAR	**Borovoye Array**	**46.46**	**340**	P	P		00 31 14.0	+0.5
	0.8nm,0.8s,baz=133,slow=8.3,SNR=4.8							
WRA	**Warramunga Arr**	**49.91**	**127**	P	P		00 31 40.4	-0.2
	0.5nm,0.3s,baz=304,slow=8.9,SNR=3.6							
ASAR	**Alice Springs**	**51.71**	**132**	P	P		00 31 54.1	-0.1
	1.1nm,0.7s,baz=311,slow=7.2,SNR=8.8							
BRTR	**Keskin Array B**	**60.65**	**310**	P	P		00 32 57.9	-0.2
	0.4nm,0.7s,baz=141,slow=9.3,SNR=3.8							
FINES	**FINESS Array B**	**70.33**	**332**	P	P		00 33 59.9	-0.3
	1.1nm,0.9s,baz=85,slow=7.5,SNR=2.7							
GERES	**GERESS Array B**	**75.80**	**318**	P	P		00 34 32.9	0.0
	0.3nm,0.8s,baz=104,slow=9.1,SNR=3.6							
NVAR	**Mina Array Bea**	**122.68**	**30**	PKP	PKPdf		00 41 43.4	0.0
	0.2nm,0.4s,baz=302,slow=1.7,SNR=2.6							

IDC 27 00:41:31.8±1.1, 10°57N×94°04E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.8/27, mbtmp3.8/11, ML3.8/1, MS4.0/6, Ms1 4.0/6, ms1mx3.6/39, Error ellipse: s-maj=30.3km s-min=18.2km az=51.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.12**	**148**	LR	LR		00 47 58.9	
	comp=Z,772nm,18.4s,baz=310,slow=42							
CMAR	**Chiang Mai Arr**	**9.16**	**31**	Pn	Pn		00 43 45.8	+0.4
	0.3nm,0.3s,baz=220,slow=14,SNR=6.4							
KAPI	**Kappang**	**29.92**	**120**	LR	LR		00 59 43.6	
	comp=Z,145nm,19.9s,baz=150,slow=36							
AAK	**Ala-Archa**	**36.21**	**335**	LR	LR		01 05 00.3	
	comp=Z,238nm,20.6s,baz=238,slow=39							
MKAR	**Makanchi Array**	**37.45**	**347**	P	P		00 48 47.2	+0.3
	1.0nm,0.7s,baz=162,slow=8.6,SNR=8.3							
SONM	**Songino Array**	**38.57**	**13**	P	P		00 48 56.6	0.0
	2.

comp=E,244nm,0.4s
MAK smax smax
comp=N,402nm,0.4s
MAK Makhachkala 0.98 107 *e*Pg **Pn 00 44 05.5 0.0**
comp=N,48nm,0.4s
SNJR Sundja 1.05 260 *e*PG **Pb 00 44 06.0 +0.1**
SNJR *i* S **Sn 00 44 21.8 +0.3**
SNJR Sundja 1.05 260 *e*Pg **Pb 00 44 06.0 +0.1**
SNJR *i* Sg **Sn 00 44 21.8 +0.3**
VLKR Vladikavkaz 1.16 260 *e*PG **Pg 00 44 07.6 +0.1**
VLKR *e*S **Sn 00 44 24.5 +0.5**
VLKR Vladikavkaz 1.16 260 *e*Pg **Pg 00 44 07.6 +0.1**
VLKR *e*Sg **Sn 00 44 24.5 +0.5**
TRKR Terskaya 1.19 294 *e*PG **Pg 00 44 08.0 -0.1**
TRKR *e*S **Sn 00 44 25.3 +0.6**
TRKR Terskaya 1.19 294 *e*Pg **Pg 00 44 08.0 -0.1**
TRKR *e*Sg **Sn 00 44 25.3 +0.6**
BTKR Batakoyurt 1.24 276 *e*PG **Pg 00 44 08.9 -0.2**
BTKR *e*S **Sn 00 44 27.0 +1.0**
BTKR Batakoyurt 1.24 276 *e*Pg **Pg 00 44 08.9 -0.2**
BTKR *e*Sg **Sn 00 44 27.0 +1.0**
KMKR Kumukh 1.29 150 *e*PG **Pn 00 44 10.0 0.0**
KMKR *e*S **Sn 00 44 28.5 +0.9**
KMKR pmax pmax
comp=Z,70nm,0.2s
KMKR Kumukh 1.29 150 *e*Pg **Pn 00 44 10.0 0.0**
comp=Z,70nm,0.2s
KMKR *e*Sg **Sn 00 44 28.5 +0.9**
ARNR Ardon 1.43 268 ⇓ *i*PG **Pn 00 44 11.5 -0.2**
ARNR *e*S **Sg 00 44 32.1 +0.9**
ARNR Ardon 1.43 268 *i* Pg **Pn 00 44 11.5 -0.2**
ARNR *e*Sg **Sg 00 44 32.1 +0.9**
LACR Lac 1.48 254 *e*PG **Pn 00 44 10.4 -2.1**
LACR *i* S **Sn 00 44 31.3 -0.9**
PRTR Priterechnaya 1.50 290 *e*PG **Pn 00 44 12.9 +0.3**
PRTR *e*S **Sg 00 44 34.3 +0.7**
PRTR Priterechnaya 1.50 290 *e*Pg **Pn 00 44 12.9 +0.3**
PRTR *e*Sg **Sg 00 44 34.3 +0.7**
STDR Stavd-Durt 1.58 275 *e*PG **Pn 00 44 13.9 +0.1**
STDR Stavd-Durt 1.58 275 *e*Pg **Pn 00 44 13.9 +0.1**
KORR Kora 1.59 265 ⇓ *i*PG **Pn 00 44 13.8 -0.1**
KORR *i* S **Sb 00 44 36.0 +0.6**
KORR Kora 1.59 265 *i* Sg **Sb 00 44 36.0 +0.6**
DUS Dusheti 1.62 225 P **Pb 00 44 15.7 +0.2**
DUS S **Sg 00 44 38.0 +0.6**
DUS Dusheti 1.62 225 S **Sg 00 44 38.0 +0.6**
ZEI Tsey 1.78 255 *e*PN **Pn 00 44 15.5 -1.2**
ZEI Tsey 1.78 255 *e*Pn **Pn 00 44 15.5 -1.2**
TBLG Delisi 1.88 216 PN **Pb 00 44 19.3 -0.7**
TBLG Delisi 1.88 216 P **Pb 00 44 19.3 -0.7**
TBLG S **Sb 00 44 43.9 +0.2**
TBLG Delisi 1.88 216 P **Pb 00 44 19.3 -0.7**
TBLG S **Sb 00 44 43.9 +0.2**
DGRG David-gareji 1.91 200 P **Pb 00 44 21.2 +0.7**
DGRG S **Sg 00 44 48.5 +1.8**
DGRG David-gareji 1.91 200 P **Pb 00 44 21.2 +0.7**
DGRG S **Sg 00 44 48.5 +1.8**
DIGR Digorskoe uzhe 1.97 261 *e*PN **Pn 00 44 18.4 -0.9**
DIGR Digorskoe uzhe 1.97 261 *e*Pn **Pn 00 44 18.4 -0.9**
ONI Oni 2.15 253 P **Pb 00 44 23.4 -1.1**
ONI S **Sb 00 44 51.9 +0.6**
ONI Oni 2.15 253 P **Pb 00 44 23.4 -1.1**
ONI S **Sb 00 44 51.9 +0.6**
BEYR Belyy Ugol+ 2.59 288 *e*PN **Pn 00 44 25.7 -2.0**
AKH Akhalkalaki 2.74 229 P **Pb 00 44 33.4 -1.4**
AKH S **Sb 00 45 08.2 -0.4**
AKH Akhalkalaki 2.74 229 P **Pb 00 44 33.4 -1.4**
AKH S **Sb 00 45 08.2 -0.4**

NIED ***27*** *00:44:00,35.˚10N×137.˚30E,h38km,Mw4.0 Best double couple: M₀1.23000×10¹⁵ NP1:φs321.00000°,δ81.00000°, λ-114.00000°. NP2:φs213.00000°,δ26.00000°, λ-20.00000°.*

ISCJB ***27*** *00:44:18.9±0.4,35.˚04N±0.˚04×137.˚27E±0.˚04,h58km±5km, mb3.7/6,MS3.9/2,Error ellipse: s-maj=6.9km s-min=5.3km az=139.0*

JMA ***27*** *00:44:19.5,35.˚08N×137.˚27E,h41km,M4.0 Broadband fault plane solution: P waves. NP1:φs326.00000°, δ75.00000°,λ-117.00000°. NP2:φs210.00000°, δ31.00000°,λ-30.00000°. Principal axes: T Plg25.0000°, Azm77.0000°; N Plg26.0000°, Azm334.0000°; P Plg52.0000°, Azm204.0000°;*

JMA Felt III J1.

IDC ***27*** *00:44:21.3±1.7,35.˚09N×137.˚29E,h67km±17km,mb3.4/6, mb1 3.6/8,mb1mx3.3/29,mbtmp3.4/8,MS3.6/3,Ms1 3.6/3, ms1mx3.2/26 Error ellipse: s-maj=18.5km s-min=13.4km az=144.0*

ISC 27 00:44:19.3±0.9,35.˚04N±0.˚04×137.˚30E±0.˚04,h41km±8km, n21,σ1°32/27,mb3.7/6,2C-4D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAO	**Obara**	**0.23**	**352**	⇓P	**Pn**	**00 44 26.8**	**-0.2**
JAO				S	**Sn**	**00 44 32.2**	**-0.2**
SHZ3	**Shizuoka 3**	**0.75**	**88**	⇑P	**Pn**	**00 44 33.8**	**+0.3**
SHZ3				S	**Sn**	**00 44 45.4**	**+1.7**
TSUJ	**Tsu 2**	**0.80**	**245**	P	**Pn**	**00 44 34.4**	**+0.4**
TSUJ				S	**Sn**	**00 44 45.3**	**+0.6**
JGM	**Miyama**	**0.81**	**324**	⇓P	**Pn**	**00 44 34.2**	**-0.1**
JGM				S	**Sn**	**00 44 45.0**	**-0.1**
TK04	**Tokai 4**	**0.81**	**144**	P	**Pn**	**00 44 35.3**	**+1.1**
JIE	**Ise**	**0.81**	**217**	⇓P	**Pn**	**00 44 34.8**	**+0.5**
JIE				S	**Sn**	**00 44 46.1**	**+0.9**
JYN	**Shimob**	**1.12**	**66**	⇑P	**Pn**	**00 44 39.1**	**+0.6**
TK02	**Tokai 2**	**1.16**	**161**	P	**Pn**	**00 44 39.2**	**+0.4**
JKN2	**Miekihoku**	**1.17**	**227**	⇓P	**Pn**	**00 44 39.3**	**+0.2**
MAT	**Matsushiro**	**1.67**	**26**	P	**Pn**	**00 44 46.9**	**+0.8**
MAT				S	**Sn**	**00 45 08.3**	**+2.0**
MJAR	**Matsushiro Arr** 155nm,0.3s,baz=212,slow=14,SNR=1219	**1.67**	**26**	P	**Pn**	**00 44 47.1**	**+1.0**
MJAR				S	**Sn**	**00 45 08.4**	**+2.2**
	222nm,0.3s,baz=208,slow=26,SNR=21						
JNU	**Nakatsue** 5.7nm,0.3s,baz=68,slow=5.3,SNR=10	**5.66**	**252**	P	**Pn**	**00 45 42.5**	**+1.6**
JNU				LR	LR	00 48 07.9	
	comp=Z,223nm,18.8s,baz=108,slow=40						
KSRS	**Korea Array** 0.3nm,0.3s,baz=104,slow=14,SNR=4.1	**7.95**	**290**	P	**Pn**	**00 46 14.2**	**+2.0**
KSRS				S	**Sn**	**00 47 44.1**	**+3.3**
	0.4nm,0.3s,baz=115,slow=24,SNR=5.4						
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=96,slow=10.0,SNR=4.4	**42.38**	**303**	P	**P**	**00 52 08.8**	**-0.7**
KAPI	**Kappang** comp=Z,96nm,18.8s,baz=154,slow=37	**43.13**	**206**	LR	LR	01 11 05.3	
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=86,slow=7.7,SNR=5.9	**44.63**	**309**	P	**P**	**00 52 26.2**	**-1.3**
BVAR	**Borovoye Array** 0.7nm,0.8s,baz=97,slow=11,SNR=3.4	**49.46**	**313**	P	**P**	**00 53 04.0**	**-1.2**
ILAR	**Eielson Array** 0.4nm,0.5s,baz=272,slow=5.6,SNR=6.8	**52.94**	**31**	P	**P**	**00 53 29.9**	**-1.2**
WRA	**Warramunga Arr** 1.7nm,0.8s,baz=2.2,slow=7.7,SNR=13	**54.76**	**183**	P	**P**	**00 53 44.1**	**-0.7**
ASAR	**Alice Springs** 1.2nm,0.6s,baz=13,slow=12,SNR=12	**58.48**	**184**	P	**P**	**00 54 11.1**	**-0.1**
AFI	**Afiamalu** comp=Z,99nm,19.4s,baz=36,slow=32	**68.55**	**126**	LR	LR	01 21 04.4	

CSEM ***27*** *00:51:25.6,42.˚33N×13.˚51E,h11km,MD2.1/11,After ROM*

ROM 27 00:51:25.6±0.1,42.˚33N×13.˚51E,h11km±1km,Md2.1/11, Ml1.3/6,Error ellipse: s-maj=1.6km s-min=1.2km az=70.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.09**	**284**	Pg	Pg	00 51 28.2	0.0
AQU				Sg	Sg	00 51 30.6	+0.5
	266nm,0.3s						
AQU	**L'Aquila**	**0.09**	**284**	Pg	Pg	00 51 28.2	0.0
AQU				Sg	Sg	00 51 30.6	+0.5
	266nm,0.3s						
CAMP	**Campotosto**	**0.22**	**339**	Pg	Pg	00 51 30.7	+0.3
CAMP				Sg	Sg	00 51 34.6	+1.0
	34nm,0.9s						
CAMP	**Campotosto**	**0.22**	**339**	Pg	Pg	00 51 30.7	+0.3
CAMP				Sg	Sg	00 51 34.6	+1.0
	34nm,0.9s						
VCEL	**Villa Celiera**	**0.25**	**76**	Pg	Pg	00 51 31.6	+0.7
VCEL				Sg	Sg	00 51 35.9	+1.4
	52nm,0.4s						
VCEL	**Villa Celiera**	**0.25**	**76**	Pg	Pg	00 51 31.6	+0.7
VCEL				Sg	Sg	00 51 35.9	+1.4
	52nm,0.4s						
TERO	**Teramo**	**0.30**	**13**	Pg	Pg	00 51 31.8	+0.1
TERO				Sg	Sg	00 51 36.6	+0.8
	35nm,0.3s						
TERO	**Teramo**	**0.30**	**13**	Pg	Pg	00 51 31.8	+0.1
TERO				Sg	Sg	00 51 36.6	+0.8
	35nm,0.3s						
FIAM	**Fiamignano**	**0.30**	**258**	Pg	Pg	00 51 32.1	+0.2
FIAM				Sg	Sb	00 51 37.3	-1.0
	32nm,0.5s						
FIAM	**Fiamignano**	**0.30**	**258**	Pg	Pg	00 51 32.1	+0.2
FIAM				Sg	Sb	00 51 37.3	-1.0
	32nm,0.5s						
PTQR	**Pietraquaria**	**0.32**	**195**	Pg	Pg	00 51 32.3	+0.1
PTQR				Sg	Sg	00 51 37.4	+0.8
	11nm,0.6s						
PTQR	**Pietraquaria**	**0.32**	**195**	Pg	Pg	00 51 32.3	+0.1
PTQR				Sg	Sg	00 51 37.4	+0.8
	11nm,0.6s						
INTR	**Introdacqua**	**0.43**	**138**	Pg	Pg	00 51 34.4	+0.1
INTR				Sg	Sb	00 51 41.8	-0.2
INTR	**Introdacqua**	**0.43**	**138**	Pg	Pg	00 51 34.4	+0.1
INTR				Sg	Sb	00 51 41.8	-0.2
LNSS	**Leonessa**	**0.44**	**308**	Pg	Pg	00 51 34.6	+0.1
LNSS	**Leonessa**	**0.44**	**308**	Pg	Pg	00 51 34.6	+0.1
NRCA	**Norcia**	**0.58**	**330**	Pg	Pg	00 51 36.8	-0.3
NRCA				Sg	Sb	00 51 45.9	-0.4
	3.0nm,0.2s						
NRCA	**Norcia**	**0.58**	**330**	Pg	Pg	00 51 36.8	-0.3
NRCA				Sg	Sb	00 51 45.9	-0.4
	3.0nm,0.2s						

NIED ***27*** *00:55:00,43.˚60N×148.˚30E,h20km,Mw4.0 Best double couple: M₀1.01000×10¹⁵ NP1:φs40.00000°,δ62.00000°, λ-69.00000°. NP2:φs180.00000°,δ35.00000°, λ-124.00000°.*

JMA ***27*** *00:55:55.5±0.5,43.˚61N×148.˚31E,h0km,M4.1*

ISCJB ***27*** *00:55:56.6±0.9,43.˚75N±0.˚05×148.˚53E±0.˚07,h41km±7km, mb4.0/21,Error ellipse: s-maj=10.8km s-min=6.7km az=137.4*

MOS ***27*** *00:55:58.8±1.0,43.˚99N×148.˚36E,h49km,mb4.3/8,Error ellipse: s-maj=15.8km s-min=9.8km az=113.4*

IDC ***27*** *00:56:04.3±2.9,44.˚25N×148.˚44E,h71km±25km,mb3.5/17, mb1 3.6/20,mb1mx3.5/28,mbtmp3.5/20,MS3.1/1, Ms1 3.1/1,ms1mx2.4/42,Error ellipse: s-maj=28.5km s-min=14.8km az=177.0*

ISC 27 00:55:57.6±0.7,43.˚71N±0.˚06×148.˚54E±0.˚08,h35km±5km, n50,σ1°22/59,mb4.0/21,2C-5D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.60**	**343**	*d i* PN	**Pn**	**00 56 22.3**	**-1.0**
KUR				*i* S	**Sn**	**00 56 42.4**	**-0.3**
KUR				pmax	pmax		
	comp=N,84nm,0.2s						
KUR				pmax	pmax		
	comp=Z,157nm,0.4s						
KUR				pmax	pmax		
	comp=E,44nm,0.2s						
KUR				smax	smax		
	comp=N,250nm,0.4s						
KUR				smax	smax		
	comp=E,295nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.96**	**280**	*d i* PN	**Pn**	**00 56 27.9**	**-0.4**
YUK				*i* S	**Sn**	**00 56 53.0**	**+1.4**
YUK				pmax	pmax		
	comp=Z,113nm,0.5s						
YUK				pmax	pmax		
	comp=N,58nm,0.2s						
YUK				pmax	pmax		
	comp=E,61nm,0.5s						
YUK				smax	smax		
	comp=N,379nm,0.7s						
YUK				smax	smax		
	comp=E,514nm,0.7s						
NEM2	**Nemuro 2**	**2.06**	**261**	P	**Pn**	**00 56 29.2**	**-0.5**
NEM2				*e*S	**Sn**	**00 56 53.8**	**-0.3**
JRA	**Rausu**	**2.48**	**276**	P	**Pn**	**00 56 35.7**	**+0.3**
JNK	**Nakash**	**2.77**	**269**	P	**Pn**	**00 56 39.2**	**-0.3**
JAK	**Akkeshi**	**2.89**	**257**	P	**Pn**	**00 56 41.7**	**+0.6**
JAR	**Ashorobuto**	**3.49**	**265**	P	**Pn**	**00 56 50.1**	**+0.7**
JAR				*e*S	**Sn**	**00 57 31.1**	**+1.7**
JCH	**Churui**	**3.94**	**256**	P	**Pn**	**00 56 56.7**	**+1.2**
JCH				*e*S	**Sn**	**00 57 41.9**	**+1.4**
JKK2	**Kamakawa 2**	**4.19**	**274**	P	**Pn**	**00 57 01.7**	**+2.7**
ERM	**Erimo**	**4.30**	**249**	*e*PN	**Pn**	**00 57 02.4**	**+1.9**
ASAJ	**Asahikawa** comp=E,1.8nm,0.3s,baz=94,slow=12,SNR=4.7	**4.31**	**277**	P	Pn	00 57 06.2	+5.6
JFR	**Furan**	**4.36**	**265**	P	**Pn**	**00 57 02.8**	**+1.5**
JNBK	**Urakawa-nobuka**	**4.48**	**253**	P	**Pn**	**00 57 03.4**	**+0.5**
JNBK				*e*S	**Sn**	**00 57 54.6**	**+0.9**
YSS	**Yuzh-Sakhalins**	**5.21**	**311**	⇑ *e*PN	**Pn**	**00 57 13.5**	**+0.6**
YSS				*e*S	**Sn**	**00 58 11.3**	**-0.4**
YSS				smax	smax		
	comp=N,20nm,0.6s						
JKB	**Kayabe**	**5.81**	**254**	P	**Pn**	**00 57 21.7**	**+0.5**
JKB				*e*S	**Sn**	**00 58 25.3**	**-1.3**
JOT	**Ohata**	**6.00**	**250**	P	**Pn**	**00 57 24.3**	**+0.5**
JOT				*e*S	**Sn**	**00 58 29.5**	**-1.7**
JANG	**Nango**	**6.20**	**240**	P	**Pn**	**00 57 25.7**	**-0.9**
JANG				*e*S	**Sn**	**00 58 30.9**	**-5.3**
PETK	**Petropavlovsk-**	**11.19**	**30**	PN	**Pn**	**00 58 34.9**	**-0.1**
PETK				MLR	MLR		
	comp=Z,104nm,19.0s						
PETK	**Petropavlovsk-** comp=Z,0.3nm,0.3s,baz=204,slow=17,SNR=2.7	**11.19**	**30**	P	**Pn**	**00 58 34.9**	**-0.1**
PETK				LR	LR	01 03 02.9	
	comp=Z,104nm,18.9s,baz=223,slow=39						
KSRS	**Korea Array** baz=74,slow=12,SNR=3.0	**16.84**	**255**	P	P	00 59 58.6	+6.3
SONM	**Songino Array** comp=Z,0.9nm,0.5s,baz=86,slow=8.6,SNR=6.5	**29.41**	**293**	P	**P**	**01 01 57.7**	**+0.1**
ILAR	**Eielson Array** comp=Z,0.2nm,0.5s,baz=268,slow=8.9,SNR=6.0	**40.93**	**36**	P	**P**	**01 03 35.6**	**-0.5**
ZALV	**Zalesovo Beam**	**41.82**	**307**	P	**P**	**01 03 43.1**	**-0.5**
ZALV	**Zalesovo Beam** comp=Z,0.3nm,0.5s,baz=72,slow=4.7,SNR=2.9	**41.82**	**307**	P	**P**	**01 03 43.1**	**-0.5**
MKAR	**Makanchi Array**	**45.49**	**298**	*e*P	**P**	**01 04 13.3**	**0.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array** comp=Z,1.6nm,0.6s,baz=78,slow=8.8,SNR=18	**45.49**	**298**	P	**P**	**01 04 13.3**	**0.0**
KURK	**Kurchatov**	**46.38**	**304**	P	**P**	**01 04 20.9**	**+0.7**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURBB	**Kurchatov Arra** comp=Z,1.2nm,0.4s,baz=70,slow=8.7,SNR=5.4	**46.47**	**304**	P	**P**	**01 04 20.9**	**0.0**
BVAR	**Borovoye Array**	**50.30**	**310**	P	**P**	**01 04 49.4**	**-1.0**
BVAR	**Borovoye Array** comp=Z,0.4nm,0.4s,baz=81,slow=9.8,SNR=4.1	**50.30**	**310**	P	**P**	**01 04 49.4**	**-1.0**
ARU	**Arti**	**55.06**	**317**	*c i* P	**P**	**01 05 24.9**	**-0.6**
ARU						01 07 25.5	
ARU				S	**S**	**01 13 04.5**	**-0.7**
ARU				SS	**SS**	**01 16 46.9**	**-1.7**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.7s						
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.6s,baz=303,slow=7.0,SNR=3.0	**55.27**	**34**	P	**P**	**01 05 27.9**	**+0.9**
ARCES	**ARCESS Array B** comp=Z,4.4nm,1.0s,baz=45,slow=10,SNR=3.5	**59.63**	**340**	P	**P**	**01 05 56.7**	**-0.8**
FINES	**FINESS Array B** comp=Z,1.2nm,0.7s,baz=36,slow=7.6,SNR=12	**65.36**	**334**	P	**P**	**01 06 34.9**	**-1.0**
NVAR	**Mina Array Bea** comp=Z,0.3nm,0.4s,baz=297,slow=8.0,SNR=3.9	**66.75**	**59**	P	**P**	**01 06 47.4**	**+2.0**
NB2	**NORSAR Subarra** comp=Z,0.7nm,0.6s,baz=32,slow=6.5	**70.00**	**339**	P	**P**	**01 07 04.5**	**-0.7**
NOA	**NORSAR Array B** comp=Z,1.5nm,0.7s,baz=31,slow=6.4,SNR=5.2	**70.00**	**339**	P	**P**	**01 07 04.9**	**-0.2**
HFS	**Hagfors** comp=Z,1.2nm,0.6s,baz=64,slow=8.6,SNR=5.1	**70.11**	**338**	P	**P**	**01 07 05.4**	**-0.4**
KBZ	**Khabaz**	**70.57**	**312**	P	**P**	**01 07 09.8**	**+0.9**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KBZ	**Khabaz** comp=Z,1.6nm,0.7s,baz=48,slow=9.0,SNR=4.9	**70.57**	**312**	P	**P**	**01 07 09.8**	**+0.9**
ANN	**Anapa**	**72.68**	**316**	*e*P	**P**	**01 07 19.3**	**-2.3**
ANN				*i* S	S	01 16 36.8	-7.3
ANN				pmax	pmax		
	comp=Z,55nm,1.2s						
BURAR	**Bucovina Array**	**76.26**	**324**	⇓ *i*P	**P**	**01 07 42.2**	**-0.3**
SCHQ	**Schefferville** comp=Z,0.8nm,0.7s,baz=349,slow=5.2,SNR=2.7	**77.32**	**20**	P	**P**	**01 07 47.4**	**-0.8**
MLR	**Muntele Rosu** baz=60,slow=6.2	**77.60**	**323**	P	**P**	**01 07 50.7**	**+0.6**
CLL	**Collm**	**77.81**	**333**	⇓ *i*P	**P**	**01 07 51.0**	**+0.1**
CLL	**Collm**	**77.81**	**333**	⇓ *i*P	**P**	**01 07 51.0**	**+0.1**
BRTR	**Keskin Array B** comp=Z,0.6nm,0.9s,baz=353,slow=8.0,SNR=2.8	**78.30**	**314**	P	**P**	**01 07 54.8**	**+0.8**
GERES	**GERESS Array B** comp=Z,0.3nm,0.5s,baz=28,slow=6.4,SNR=4.7	**79.68**	**332**	P	**P**	**01 08 01.8**	**+0.3**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.8s,baz=316,slow=2.5,SNR=3.2	**81.83**	**57**	P	**P**	**01 08 14.2**	**+0.9**
PPT	**Papeete** comp=Z,75nm,1.0s,baz=314,slow=7.9,SNR=3.1	**83.14**	**122**	P	P	01 08 24.0	+4.1

IDC ***27*** *01:02:35.8±0.9,0.˚30S×125.˚14E,h0km,mb3.6/5, mb1 3.8/6,mb1mx3.6/23,mbtmp3.7/6,ML3.4/1,Error ellipse: s-maj=35.6km s-min=19.6km az=78.0*

ISCJB ***27*** *01:02:40.5±1.0,0.˚45S±0.˚08×125.˚40E±0.˚08,h57km, mb3.6/5,Error ellipse: s-maj=13.4km s-min=9.4km az=43.6*

DJA ***27*** *01:02:40.2±1.5,0.˚5S±11.˚×12.˚6E±1.˚4,h100km±24km, M4.6/4,mb4.6/2,mB4.7/2,MLv4.6/4,Mw(mB)4.0/2*

ISC 27 01:02:42.8±1.0,0.˚43S±0.˚08×125.˚40E±0.˚09,h57km,n12, σ2°33/16,mb3.6/5,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.73**	**305**	P	Pn	01 03 04.1	-6.5
KMSI				S	**Sn**	**01 03 29.7**	**-1.9**
GTOI	**Gorontalo**	**2.61**	**294**	P	**Pn**	**01 03 22.0**	**-0.6**
GTOI				S	**Sn**	**01 03 53.6**	**+0.5**
LUWI	**Luwuk**	**2.69**	**257**	P	**Pn**	**01 03 25.2**	**+1.5**
LUWI				S	**Sn**	**01 04 00.2**	**+5.0**
TTSI	**Tana Toraja** 38nm,0.5s,908nm0.2nm	**6.15**	**245**	P	**Pn**	**01 04 10.2**	**-0.9**
SPSI	**Sidrap Palu**	**6.63**	**238**	P	**Pn**	**01 04 17.0**	**-0.7**
KAPI	**Kappang** 0.6nm,0.3s,baz=32,slow=9.5,SNR=4.2	**7.25**	**231**	Pn	**Pn**	**01 04 23.5**	**-2.6**
KAPI				Sn	**Sn**	**01 05 43.1**	**-4.0**
	0.6nm,0.3s,baz=107,slow=20,SNR=3.1						
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=331,slow=11,SNR=3.0	**21.28**	**156**	P	**P**	**01 07 25.5**	**+0.8**
ASAR	**Alice Springs** 0.3nm,0.4s,baz=343,slow=9.1,SNR=4.9	**24.53**	**161**	P	**P**	**01 07 60.0**	**+2.8**
ASAR				PcP	**PcP**	**01 11 35.8**	**+1.3**
	0.2nm,0.4s,baz=340,slow=2.0,SNR=4.5						
USRK	**Ussuriysk Arra** 0.4nm,0.4s,baz=186,slow=6.0,SNR=4.0	**44.83**	**7**	P	**P**	**01 10 50.9**	**-0.2**
MKAR	**Makanchi Array** 1.1nm,0.5s,baz=123,slow=8.5,SNR=18	**60.25**	**327**	P	**P**	**01 12 43.3**	**-2.1**
KURBB	**Kurchatov Arra** 0.6nm,0.2s,baz=132,slow=6.5,SNR=8.8	**64.55**	**329**	P	**P**	**01 13 14.1**	**+0.2**
TORD	**Torodi Ar. Bea** 0.5nm,1.0s,baz=90,slow=2.0,SNR=4.9	**122.83**	**285**	PKP	**PKPdf**	**01 21 33.6**	**+0.1**

IDC 27 01:12:03.2±1.2,10.˚74N×94.˚34E,h0km,mb3.8/10, mb1 3.9/11,mb1mx3.7/28,mbtmp3.8/11,Error ellipse: s-maj=33.4km s-min=18.5km az=55.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** baz=217,slow=14,SNR=6.0	**8.87**	**30**	Pn	Pn	01 14 11.2	-1.6
MKAR	**Makanchi Array** 0.9nm,0.7s,baz=160,slow=7.9,SNR=8.6	**37.36**	**346**	P	P	01 19 17.1	-0.4
SONM	**Songino Array** 0.3nm,0.3s,baz=190,slow=7.5,SNR=6.6	**38.34**	**13**	P	P	01 19 26.2	+0.2
KSRS	**Korea Array** 1.2nm,0.9s,baz=257,slow=8.4,SNR=6.4	**40.21**	**43**	P	P	01 19 41.0	-0.6
KURBB	**Kurchatov Arra** 0.7nm,0.3s,baz=158,slow=7.3,SNR=4.7	**41.84**	**345**	P	P	01 19 54.9	+0.1
ZALV	**Zalesovo Beam** 1.1nm,0.6s,baz=168,slow=7.6,SNR=6.0	**43.76**	**352**	P	P	01 20 09.9	-0.4
BVAR	**Borovoye Array** 0.2nm,0.4s,baz=141,slow=9.3,SNR=2.7	**46.36**	**340**	P	P	01 20 30.9	-0.2
MJAR	**Matsushiro Arr** 0.5nm,0.3s,baz=250,slow=13,SNR=3.0	**47.13**	**50**	P	P	01 20 38.5	+1.1
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=304,slow=8.3,SNR=3.5	**49.80**	**128**	P	P	01 20 58.1	-0.1
ASAR	**Alice Springs** 1.2nm,0.8s,baz=313,slow=7.6,SNR=9.2	**51.63**	**132**	P	P	01 21 11.5	-0.5
BRTR	**Keskin Array B** 0.8nm,0.7s,baz=119,slow=6.3,SNR=5.4	**60.74**	**310**	P	P	01 22 17.3	+0.1

IDC 27 01:15:02.7±1.1,10.˚52N×94.˚01E,h0km,mb3.7/8, mb1 3.8/9,mb1mx3.6/27,mbtmp3.7/9,ML3.9/1,MS3.9/2, Ms1 3.9/2,ms1mx3.1/33,Error ellipse: s-maj=39.7km s-min=18.9km az=57.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=218,slow=16,SNR=4.5	**9.23**	**31**	Pn	Pn	01 17 16.3	-0.8
BATI	**Baumata** comp=Z,230nm,19.3s,baz=274,slow=38	**35.97**	**124**	LR	LR	01 37 35.1	
MKAR	**Makanchi Array** 1.3nm,0.6s,baz=173,slow=8.7,SNR=8.9	**37.50**	**347**	P	P	01 22 17.6	-0.6
SONM	**Songino Array** 0.3nm,0.3s,baz=188,slow=9.5,SNR=3.4	**38.63**	**13**	P	P	01 22 27.8	-0.1
KURBB	**Kurchatov Arra** 0.5nm,0.3s,baz=161,slow=7.6,SNR=4.2	**41.97**	**345**	P	P	01 22 55.4	+0.1
ZALV	**Zalesovo Beam** 1.7nm,0.7s,baz=175,slow=8.3,SNR=5.6	**43.94**	**352**	P	P	01 23 10.9	-0.3
BVAR	**Borovoye Array** 0.3nm,0.6s,baz=127,slow=9.2,SNR=2.5	**46.47**	**340**	P	P	01 23 32.5	+1.1
BVAR				LR	LR	01 44 53.7	
	comp=Z,111nm,20.3s,baz=10,slow=38						
WRA	**Warramunga Arr** 1.0nm,0.7s,baz=304,slow=8.9,SNR=4.6	**49.92**	**127**	P	P	01 23 58.5	-0.1
ASAR	**Alice Springs** 0.8nm,0.7s,baz=308,slow=6.7,SNR=7.3	**51.73**	**131**	P	P	01 24 12.1	0.0
BRTR	**Keskin Array B** 0.8nm,0.8s,baz=127,slow=5.3,SNR=4.8	**60.63**	**310**	P	P	01 25 15.6	-0.2
GERES	**GERESS Array B** 0.3nm,0.7s,baz=81,slow=6.5,SNR=3.2	**75.79**	**318**	P	P	01 26 50.3	-0.4

**IDC 27 01:17:33.6±4.2,29.˚98N×138.˚81E,h442km±42km,mb3.0/9, mb1 3.1/11,mb1mx2.9/27,mbtmp3.0/11,Error ellipse: s-maj=56.2km s

DEIG	**Demacu**	**1.84**	**78**	*e*P	Pn	01 26 16.8	-3.9
DEIG				*i* S	Sn	01 26 39.5	-4.7
PLIG	**Platanillo**	**2.04**	**138**	*e*P	Pn	01 26 20.5	-2.7
PLIG				*i* S	Sn	01 26 44.4	-4.5
YAIG	**Yautepec**	**2.06**	**120**	*i* P	Pn	01 26 20.3	-3.3
YAIG				*i* S	Sn	01 26 45.5	-4.1
PPM	**Popocatepetl**	**2.35**	**111**	*i* P	Pn	01 26 25.4	-2.6
PPM				*i* S	Sn	01 26 52.0	-5.3
ZIIG	**Zihuatanejo**	**2.35**	**192**	*e*P	Pn	01 26 25.4	-2.0
ZIIG				*i* S	Sn	01 26 55.2	-1.1
MMIG	**Aquila**	**2.79**	**235**	*i* P	Pn	01 26 31.3	-2.1
MMIG				*i* S	Sn	01 27 04.4	-2.7
CAIG	**El Cayaco**	**2.92**	**167**	*e*P	Pn	01 26 33.5	-1.8
CAIG				*i* S	Sn	01 27 07.3	-3.2
ZAIG	**Zacatecas**	**3.22**	**332**	*e*P	Pn	01 26 35.8	-3.9
ZAIG				*i* S	Sn	01 27 15.6	-2.8
ANIG	**Ahuacatlan**	**3.54**	**289**	*i* P	Pn	01 26 31.3	-13
PNIG	**Pinotepa**	**4.41**	**142**	*i* P	Pn	01 26 44.0	-12

IDC 27 01:30:33.0±7.0, 10°66N×94°26E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/25, mbtmp3.6/4, Error ellipse: s-maj=375.0km s-min=22.5km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.42**	**346**	P	P	01 37 48.1	+0.2
	0.2nm,0.7s,baz=166,slow=6.7,SNR=2.8						
ZALV	**Zalesovo Beam**	**43.83**	**352**	P	P	01 38 40.2	-0.5
	0.4nm,0.3s,baz=141,slow=9.3,SNR=2.8						
WRA	**Warramunga Arr**	**49.82**	**128**	P	P	01 39 27.5	-0.6
	0.7nm,0.7s,baz=306,slow=8.4,SNR=3.8						
ASAR	**Alice Springs**	**51.64**	**132**	P	P	01 39 42.2	+0.4
	1.2nm,0.8s,baz=315,slow=7.5,SNR=7.8						

IDC 27 01:41:40.1±0.9, 10°67N×94°19E, h0km, mb3.8/14, mb1 3.9/15, mb1mx3.8/28, mbtmp3.8/15, ML4.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/36, Error ellipse: s-maj=28.0km s-min=17.8km az=48.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.01**	**30**	Pn	Pn	01 43 52.1	+0.5
	0.5nm,0.3s,baz=218,slow=15,SNR=4.6						
PSI	**Prapat**	**9.12**	**149**	LR	LR	01 47 35.6	
	comp=Z,270nm,19.5s,baz=286,slow=39						
MKAR	**Makanchi Array**	**37.40**	**347**	P	P	01 48 54.3	-0.4
	1.5nm,0.7s,baz=162,slow=7.5,SNR=16						
MKAR				ScP	ScP	01 55 03.1	+0.7
	0.2nm,0.6s,baz=116,slow=3.4,SNR=3.6						
SONM	**Songino Array**	**38.45**	**13**	P	P	01 49 03.4	-0.4
	0.5nm,0.3s,baz=163,slow=16,SNR=6.4						
KSRS	**Korea Array**	**40.37**	**43**	P	P	01 49 19.2	-0.6
	0.5nm,0.4s,baz=247,slow=12,SNR=4.1						
KURBB	**Kurchatov Arra**	**41.87**	**345**	P	P	01 49 31.9	-0.1
	1.2nm,0.8s,baz=160,slow=7.4,SNR=10.0						
ZALV	**Zalesovo Beam**	**43.81**	**352**	P	P	01 49 47.7	+0.1
	2.2nm,0.8s,baz=170,slow=9.0,SNR=7.1						
BVAR	**Borovoye Array**	**46.38**	**340**	P	P	01 50 08.0	-0.2
	0.8nm,0.8s,baz=168,slow=7.6,SNR=4.0						
BVAR				PcP	PcP	01 51 43.8	+0.6
	0.5nm,0.8s,baz=130,slow=4.5,SNR=2.6						
USRK	**Ussuriysk Arra**	**46.66**	**37**	P	P	01 50 10.2	-0.3
	1.1nm,0.8s,baz=179,slow=7.2,SNR=3.7						
WRA	**Warramunga Arr**	**49.88**	**128**	P	P	01 50 35.7	+0.1
	0.8nm,0.7s,baz=306,slow=8.4,SNR=3.8						
ASAR	**Alice Springs**	**51.70**	**132**	P	P	01 50 49.0	-0.3
	1.3nm,0.8s,baz=312,slow=7.1,SNR=8.9						
KBZ	**Khabaz**	**55.09**	**316**	P	P	01 51 15.1	+1.2
	1.0nm,0.8s,baz=112,slow=5.4,SNR=2.1						
BRTR	**Keskin Array B**	**60.67**	**310**	P	P	01 51 52.2	-1.3
	0.9nm,0.8s,baz=54,slow=6.7,SNR=5.2						
ARCES	**ARCESS Array B**	**72.67**	**340**	P	P	01 53 09.9	+0.4
	0.8nm,0.7s,baz=90,slow=6.3,SNR=2.6						
GERES	**GERESS Array B**	**75.80**	**318**	P	P	01 53 27.7	-0.5
	0.3nm,0.7s,baz=95,slow=3.2,SNR=3.5						
LPL	**La Plagne**	**80.71**	**315**	*e*P	P	01 53 55.2	-0.5
	9.8nm,1.1s						
MBDF	**Montbardon**	**80.76**	**314**	*e*P	P	01 53 54.7	-1.2
ILAR	**Eielson Array**	**92.16**	**22**	P	P	01 54 50.9	-0.5
	0.4nm,0.9s,baz=260,slow=4.4,SNR=4.4						

IDC 27 02:06:09.0±0.9, 10°63N×94°09E, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.7/28, mbtmp3.7/11, ML4.1/1, Error ellipse: s-maj=33.8km s-min=18.6km az=58.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.09**	**31**	Pn	Pn	02 08 21.1	-0.5
	0.6nm,0.3s,baz=217,slow=15,SNR=5.0						
MKAR	**Makanchi Array**	**37.41**	**347**	P	P	02 13 23.8	0.0
	1.1nm,0.7s,baz=164,slow=8.6,SNR=11						
SONM	**Songino Array**	**38.51**	**13**	P	P	02 13 33.0	-0.1
	0.2nm,0.3s,baz=198,slow=9.1,SNR=2.3						
SONM				ScP	ScP	02 19 34.4	-1.2
	0.2nm,0.3s,baz=202,slow=1.6,SNR=4.6						
KURBB	**Kurchatov Arra**	**41.89**	**345**	P	P	02 14 01.1	+0.2
	0.5nm,0.3s,baz=163,slow=7.3,SNR=4.8						
ZALV	**Zalesovo Beam**	**43.84**	**352**	P	P	02 14 17.0	+0.2
	1.7nm,0.7s,baz=177,slow=8.9,SNR=6.5						
BVAR	**Borovoye Array**	**46.39**	**340**	P	P	02 14 37.3	+0.2
	0.3nm,0.4s,baz=125,slow=7.2,SNR=3.5						
WRA	**Warramunga Arr**	**49.92**	**127**	P	P	02 15 05.0	+0.1
	0.6nm,0.7s,baz=305,slow=8.6,SNR=2.9						
ASAR	**Alice Springs**	**51.74**	**132**	P	P	02 15 18.4	-0.2
	1.1nm,0.8s,baz=307,slow=6.7,SNR=7.3						
BRTR	**Keskin Array B**	**60.63**	**310**	P	P	02 16 21.4	-0.7
	0.4nm,0.6s,baz=86,slow=7.4,SNR=3.5						
GERES	**GERESS Array B**	**75.76**	**318**	P	P	02 17 56.4	-0.5
	0.2nm,0.6s,baz=85,slow=4.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**89.92**	**283**	P	P	02 19 11.5	+0.6
	0.4nm,0.8s,baz=91,slow=5.1,SNR=2.4						
NVAR	**Mina Array Bea**	**122.58**	**30**	PKP	PKPdf	02 25 07.0	-0.3
	0.2nm,0.5s,baz=306,slow=3.0,SNR=2.4						

IDC ***27*** *02:09:13.1±0.5, 10°72N×94°16E, h0km, mb4.1/25, mb1 4.2/26, mb1mx4.2/30, mbtmp4.1/26, ML4.3/1, MS4.0/23, Ms1 4.0/23, ms1mx3.9/37, Error ellipse: s-maj=17.3km s-min=13.2km az=59.0*

ISCJB ***27*** *02:09:14.1±0.3, 10°69N±0°05×94°25E±0°06, h19km, mb4.3/37, MS4.1/21, Error ellipse: s-maj=9.2km s-min=6.3km az=141.6*

NEIC ***27*** *02:09:14.4±0.3, 10°67N×94°18E, h10km, mb4.6/9, Error ellipse: s-maj=9.3km s-min=5.7km az=57.0*

GCMT ***27*** *02:09:18.8±0.3, 10°64N×94°29E, h12km, MW4.9, Moment Tensor Solution. s22,c24; s61,c94; Moment tensor: Scale 10^{16}Nm; M_{rr}=2.62±.08; $M_{\theta\theta}$=1.51±.08; $M_{\phi\phi}$=1.11±.09; $M_{r\theta}$=0.06±.33; $M_{\theta\phi}$=1.09±.07; $M_{r\phi}$=0.97±.40; Best double couple: M_0=2.70000×10^{16} NP1:ϕ_1=62.00000°, δ_1=39.00000°, λ_1=-70.00000°. NP2:ϕ_2=217.00000°, δ_2=54.00000°, λ_2=-105.00000°. Principal axes: T 2.5100, Plg8.0000°, Azm318.0000°; N 0.3600, Plg12.0000°, Azm226.0000°; P -2.8700, Plg75.0000°, Azm79.0000°; Data Used: IU II IC G CN.*

ISC 27 02:09:16.0±0.4, 10°68N±0°07×94°21E±0°07, h19km, n106, σ0s87/104, mb4.3/37, MS4.1/21, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.73**	**304**	*e*P	Pn	02 09 46.2	+1.0
PBA				*ex*	x	02 09 56.6	
DGPR	**DIGLIPUR**	**2.78**	**333**	*e*P	**Pn**	**02 09 58.6**	**-0.9**
DGPR				*ex*	x	02 10 19.0	
CMBY	**CAMPBELL BAY**	**3.66**	**184**	*e*P	**Pn**	**02 10 10.6**	**-1.0**
CMBY				AMB	AMB	02 10 33.3	
	comp=Z,247nm,1.7s						
KULM	**Kulim**	**8.33**	**130**	*e*Pn	**Pn**	**02 11 14.0**	**-1.9**
KULM				*e*S	Sn	02 12 43.1	-6.4
CMAR	**Chiang Mai Arr**	**8.98**	**30**	Pn	**Pn**	**02 11 25.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**8.98**	**30**	Pn	**Pn**	**02 11 25.2**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=224,slow=15,SNR=4.8						
CMAR				LR	LR	02 15 00.3	
	comp=Z,99nm,19.2s,baz=203,slow=39						
PSI	**Prapat**	**9.12**	**149**	Pn	Pn	02 11 32.4	+5.5
PSI				Sn	Sn	02 13 25.2	+16
PSI	**Prapat**	**9.12**	**149**	Pn	Pn	02 11 32.4	+5.5
	comp=Z,1.1nm,0.3s,baz=328,slow=24,SNR=4.0						
PSI				Sn	Sn	02 13 25.2	+16
	baz=323,slow=20,SNR=1.3						
PSI				LR	LR	02 15 39.4	
	comp=Z,2μm,18.3s,baz=298,slow=42						
VIS	**Vishakhapatnam**	**12.65**	**305**	*e*P	**Pn**	**02 12 15.0**	**-0.1**
VIS				AMB	AMB	02 12 24.9	
	comp=Z,46nm,2.0s						
IMP	**Imphal**	**14.03**	**359**	*ex*	P	02 12 38.0	-3.7
SHL	**Shillong**	**14.97**	**352**	*e*P	**Pn**	**02 12 45.5**	**-1.4**
SHL				AMB	AMB	02 12 59.8	
	comp=Z,27nm,0.0s						
BOK	**Bokaro**	**15.26**	**330**	*e*P	**Pn**	**02 12 50.6**	**0.0**
BOK				AMB	AMB	02 13 06.9	
	comp=Z,18nm,1.8s						
HYB	**Hyderabad**	**16.59**	**296**	*e*P	**Pn**	**02 13 07.1**	**-0.7**
HYB				AMB	AMB	02 13 32.6	
	comp=Z,38nm,1.3s						
TRD	**Trivandrum**	**17.15**	**264**	*ex*	x	02 16 08.9	
LSA	**Lhasa**	**19.14**	**352**	*e*P	**Pn**	**02 13 40.1**	**+0.5**
	comp=Z,25nm,1.1s						
BHPL	**Bhopal**	**20.31**	**310**	*e*P	**P**	**02 13 51.3**	**+0.2**
BHPL				AMB	AMB	02 14 09.3	
	comp=Z,25nm,0.0s						
POO	**Poona**	**21.17**	**294**	*e*P	**P**	**02 13 59.3**	**-1.2**
POO				AMB	AMB	02 14 13.9	
	comp=Z,41nm,2.3s						
NDI	**New Delhi**	**23.96**	**321**	*e*P	**P**	**02 14 28.0**	**-1.3**
DDI	**Dehra Dun**	**24.65**	**325**	*ex*	P	02 14 27.2	-8.6
SMLA	**Simla**	**25.76**	**325**	*e*P	**P**	**02 14 44.7**	**-0.9**
DHRM	**DHARAMSHALA**	**27.09**	**325**	*e*P	**P**	**02 14 59.3**	**+1.3**
DHRM				AMB	AMB	02 15 24.4	
	comp=Z,31nm,2.2s						
KAPI	**Kappang**	**29.83**	**120**	LR	LR	02 27 24.0	
	comp=Z,320nm,19.0s,baz=25,slow=36						
AAK	**Ala-Archa**	**36.18**	**335**	*e*P	**P**	**02 16 16.8**	**-0.9**
	comp=Z,14nm,1.2s						
AAK	**Ala-Archa**	**36.18**	**335**	P	**P**	**02 16 16.7**	**-0.9**
	comp=Z,4.6nm,0.8s,baz=194,slow=4.7,SNR=6.6						
AAK				LR	LR	02 32 40.4	
	comp=Z,563nm,21.6s,baz=135,slow=39						
MK31	**Makanchi Array**	**37.38**	**346**	*e*P	**P**	**02 16 27.7**	**0.0**
MKAR	**Makanchi Array**	**37.38**	**346**	*e*P	**P**	**02 16 28.0**	**+0.4**
MKAR	**Makanchi Array**	**37.38**	**346**	P	**P**	**02 16 27.7**	**+0.1**
	comp=Z,4.8nm,0.9s,baz=162,slow=8.4,SNR=26						
MKAR				LR	LR	02 36 05.1	
	comp=Z,197nm,18.6s,baz=162,slow=43						
KKAR	**Karatay Array**	**38.32**	**332**	*e*P	**P**	**02 16 35.5**	**-0.1**
	comp=Z,1.9nm,0.8s						
SONM	**Songino Array**	**38.43**	**13**	P	**P**	**02 16 37.1**	**+0.6**
SONM	**Songino Array**	**38.43**	**13**	P	**P**	**02 16 37.1**	**+0.6**
	comp=Z,1.6nm,1.0s,baz=188,slow=9.0,SNR=10						
SONM				LR	LR	02 34 34.8	
	comp=Z,289nm,18.9s,baz=196,slow=40						
KSAR	**Wonju Array Be**	**40.31**	**43**	P	**P**	**02 16 51.8**	**-0.5**
KSRS	**Korea Array**	**40.34**	**43**	P	**P**	**02 16 51.8**	**-0.8**
	comp=Z,4.1nm,1.1s,baz=254,slow=8.9,SNR=15						
KSRS				LR	LR	02 33 53.0	
	comp=Z,73nm,19.2s,baz=64,slow=37						
KURBB	**Kurchatov Arra**	**41.86**	**345**	P	**P**	**02 17 04.8**	**0.0**
	comp=Z,3.2nm,0.8s,baz=162,slow=7.6,SNR=18						
KURK	**Kurchatov**	**41.92**	**345**	P	**P**	**02 17 04.8**	**-0.6**
ZALV	**Zalesovo Beam**	**43.80**	**352**	P	**P**	**02 17 20.6**	**+0.1**
ZALV	**Zalesovo Beam**	**43.80**	**352**	P	**P**	**02 17 20.6**	**+0.1**
	comp=Z,6.3nm,0.9s,baz=170,slow=9.0,SNR=23						
ZALV				LR	LR	02 38 48.0	
	comp=Z,58nm,21.0s,baz=340,slow=41						
BVAR	**Borovoye Array**	**46.38**	**340**	P	**P**	**02 17 40.8**	**-0.2**
BVAR				PcP	**PcP**	**02 19 16.4**	**+0.5**
BVAR	**Borovoye Array**	**46.38**	**340**	P	**P**	**02 17 40.8**	**-0.2**
	comp=Z,2.3nm,0.9s,baz=151,slow=6.8,SNR=11						
BVAR				PcP	**PcP**	**02 19 16.4**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=156,slow=3.9,SNR=2.4						
BRVK	**Borovoye**	**46.44**	**340**	*e*P	**P**	**02 17 40.4**	**-1.1**
	comp=Z,5.4nm,1.0s						
USRK	**Ussuriysk Arra**	**46.64**	**37**	P	**P**	**02 17 42.9**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=226,slow=6.7,SNR=5.4						
USRK				LR	LR	02 40 10.8	
	comp=Z,128nm,18.6s,baz=214,slow=40						
MJAR	**Matsushiro Arr**	**47.27**	**50**	P	**P**	**02 17 48.9**	**+0.6**
MJAR				PcP	**PcP**	**02 19 19.7**	**+0.3**
MJAR	**Matsushiro Arr**	**47.27**	**50**	P	**P**	**02 17 48.9**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=251,slow=7.5,SNR=2.2						
MJAR				PcP	**PcP**	**02 19 19.7**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=247,slow=5.8,SNR=7.8						
ABKAR	**Akbulak array**	**47.83**	**330**	*e*P	**P**	**02 17 52.3**	**-0.1**
	comp=Z,2.1nm,0.8s						
AKTO	**Aktyubinsk**	**49.54**	**330**	P	**P**	**02 18 05.4**	**-0.2**
AKTO				PcP	**PcP**	**02 19 26.3**	**-1.0**
AKTO	**Aktyubinsk**	**49.54**	**330**	P	**P**	**02 18 05.4**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=107,slow=5.3,SNR=5.7						
AKTO				PcP	**PcP**	**02 19 26.3**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=150,slow=8.1,SNR=1.8						
WRA	**Warramunga Arr**	**49.87**	**128**	P	**P**	**02 18 08.6**	**+0.1**
WRA	**Warramunga Arr**	**49.87**	**128**	P	**P**	**02 18 08.6**	**+0.1**
	comp=Z,4.4nm,0.9s,baz=303,slow=8.6,SNR=10						
WRAB	**Tennant Creek**	**49.87**	**128**	*e*P	**P**	**02 18 08.4**	**-0.1**
	comp=Z,6.7nm,1.1s						
ATD	**Arta Tunnel**	**50.35**	**276**	LR	LR	02 35 44.6	
	comp=Z,169nm,21.8s,baz=246,slow=32						
ASAR	**Alice Springs**	**51.69**	**132**	P	**P**	**02 18 22.2**	**0.0**
ASAR	**Alice Springs**	**51.69**	**132**	P	**P**	**02 18 22.2**	**0.0**
	comp=Z,4.9nm,0.9s,baz=305,slow=7.4,SNR=24						
GNI	**Garni**	**52.56**	**313**	*e*P	**P**	**02 18 29.9**	**+1.3**
	comp=Z,36nm,1.1s						
DGRG	**David-gareji**	**52.57**	**315**	P	**P**	**02 18 30.7**	**+2.1**
TBLG	**Delisi**	**53.11**	**315**	P	**P**	**02 18 33.8**	**+1.2**
AKH	**Akhalkalaki**	**53.88**	**314**	P	**P**	**02 18 40.1**	**+1.7**
ONI	**Oni**	**54.31**	**315**	P	**P**	**02 18 44.4**	**+3.1**
OPO	**Ambohidratompo**	**54.74**	**238**	LR	LR	02 35 29.8	
	comp=Z,191nm,21.3s,baz=325,slow=29						
KBZ	**Khabaz**	**55.09**	**316**	P	**P**	**02 18 46.8**	**-0.1**
KBZ	**Khabaz**	**55.09**	**316**	P	**P**	**02 18 46.8**	**-0.1**
	comp=Z,4.0nm,1.1s,baz=109,slow=7.3,SNR=4.1						
KBZ				LR	LR	02 45 42.5	
	comp=Z,150nm,20.9s,baz=257,slow=40						
KMBO	**Kilima Mbogo**	**57.84**	**262**	LR	LR	02 39 01.5	
	comp=Z,111nm,20.6s,baz=86,slow=31						
BRTR	**Keskin Array B**	**60.68**	**310**	P	**P**	**02 19 25.1**	**-1.3**
BRTR				PcP	**PcP**	**02 20 10.1**	**-0.4**
BRTR	**Keskin Array B**	**60.68**	**310**	P	**P**	**02 19 25.1**	**-1.3**
	comp=Z,3.7nm,0.8s,baz=119,slow=7.2,SNR=20						
BRTR				PcP	**PcP**	**02 20 10.1**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=133,slow=6.2,SNR=2.3						
BRTR				LR	LR	02 49 24.6	
	comp=Z,70nm,20.8s,baz=95,slow=40						
STKA	**Stephens Creek**	**62.01**	**135**	P	**P**	**02 19 36.1**	**+0.8**
STKA	**Stephens Creek**	**62.01**	**135**	P	**P**	**02 19 36.1**	**+0.8**
	comp=Z,3.4nm,0.8s,baz=250,slow=7.9,SNR=3.0						
STKA				LR	LR	02 45 58.2	
	comp=Z,288nm,19.4s,baz=112,slow=36						
ISP	**Isparta**	**62.77**	**307**	*e*P	**P**	**02 19 39.3**	**-1.3**
	comp=Z,24nm,1.4s						
FINES	**FINESS Array B**	**70.28**	**332**	P	**P**	**02 20 27.1**	**-0.8**
FINES	**FINESS Array B**	**70.28**	**332**	P	**P**	**02 20 27.1**	**-0.8**
	comp=Z,1.2nm,0.9s,baz=98,slow=6.5,SNR=3.8						
FINES				LR	LR	02 57 57.8	
	comp=Z,179nm,19.4s,baz=117,slow=42						
ARCES	**ARCESS Array B**	**72.66**	**340**	P	**P**	**02 20 41.1**	**-1.1**
ARCES	**ARCESS Array B**	**72.66**	**340**	P	**P**	**02 20 41.1**	**-1.1**
	comp=Z,2.4nm,0.9s,baz=95,slow=6.1,SNR=6.0						
ARCES				LR	LR	02 56 02.9	
	comp=Z,272nm,19.1s,baz=123,slow=39						
OKC	**Ostrava-Krasne**	**72.92**	**319**	*i* pP	**pP**	**02 20 50.9**	**+0.6**
OKC				*ex*	x	02 21 05.3	
MORC	**Moravsky Berou**	**73.31**	**319**	*e*P	**P**	**02 20 45.8**	**-0.6**
	comp=Z,35nm,2.3s						
DPC	**Dobruska-Polom**	**74.12**	**319**	*i* pP	**pP**	**02 21 00.4**	**+2.9**
DPC				*ex*	x	02 21 12.2	
GERES	**GERESS Array B**	**75.80**	**318**	P	**P**	**02 21 00.8**	**-0.2**
GERES	**GERESS Array B**	**75.80**	**318**	P	**P**	**02 21 00.8**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=96,slow=5.4,SNR=11						
GERES				LR	LR	02 59 37.3	
	comp=Z,79nm,18.1s,baz=96,slow=40						
KHC	**Kasperske Hory**	**75.88**	**318**	*i* pP	pP	02 21 09.7	+2.1
BOSA	**Boshof**	**77.14**	**237**	P	**P**	**02 21 09.8**	**+0.8**
BOSA	**Boshof**	**77.14**	**237**	P	**P**	**02 21 09.8**	**+0.8**
	comp=Z,3.0nm,1.0s,baz=90,slow=5.1,SNR=3.3						
NOA	**NORSAR Array B**	**77.33**	**330**	P	**P**	**02 21 08.9**	**-0.5**
NOA	**NORSAR Array B**	**77.33**	**330**	P	**P**	**02 21 08.9**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=102,slow=11,SNR=3.2						
NOA				LR	LR	02 58 25.9	
	comp=Z,122nm,21.5s,baz=105,slow=38						
KEST	**Kesra**	**79.71**	**305**	P	**P**	**02 21 23.1**	**0.0**
KEST	**Kesra**	**79.71**	**305**	P	**P**	**02 21 23.1**	**0.0**
	comp=Z,2.3nm,0.9s,baz=73,slow=11,SNR=5.7						
LPG	**La Plagne**	**80.70**	**315**	*e*P	**P**	**02 21 27.8**	**-0.7**
	comp=Z,15nm,0.9s						
LPL	**La Plagne**	**80.71**	**315**	*e*P	**P**	**02 21 27.8**	**-0.6**
	comp=Z,11nm,0.9s						
MBDF	**Montbardon**	**80.76**	**314**	*e*P	**P**	**02 21 29.0**	**+0.3**
	comp=Z,9.7nm,1.0s						
ORIF	**Oris-en-Rattie**	**81.37**	**314**	*e*P	**P**	**02 21 31.8**	**0.0**
ESDC	**Sonseca Array**	**89.47**	**310**	P	**P**	**02 22 12.5**	**+0.3**
ESDC	**Sonseca Array**	**89.47**	**310**	P	**P**	**02 22 12.5**	**+0.3**
	comp=Z,0.8nm,0.9s,baz=65,slow=4.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**90.02**	**283**	P	**P**	**02 22 15.1**	**-0.1**
TORD				PP	**PP**	**02 25 49.6**	**+1.2**
TORD	**Torodi Ar. Bea**	**90.02**	**283**	P	**P**	**02 22 15.1**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=80,slow=3.0,SNR=7.4						
TORD				PP	**PP**	**02 25 49.6**	**+1.2**
	comp=Z,1.4nm,1.1s,baz=86,slow=8.0,SNR=5.3						
TORD				LR	LR	02 58 46.2	
	comp=Z,72nm,20.6s,baz=155,slow=33						
ILAR	**Eielson Array**	**92.13**	**22**	P	**P**	**02 22 22.8**	**-1.3**
ILAR	**Eielson Array**	**92.13**	**22**	P	**P**	**02 22 22.8**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=301,slow=6.2,SNR=6.6						
ILAR				LR	LR	03 06 51.2	
	comp=Z,67nm,20.6s,baz=330,slow=38						
VNDA	**Vanda**	**95.65**	**168**	P	**P**	**02 22 40.5**	**+0.7**
VNDA	**Vanda**	**95.65**	**168**	P	**P**	**02 22 40.5**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=291,slow=9.3,SNR=4.0						
VNDA				LR	LR	03 00 38.0	
	comp=Z,118nm,21.8s,baz=309,slow=32						
DBIC	**Dimbokro**	**97.62**	**279**	LR	LR	03 04 14.9	
	comp=Z,66nm,19.1s,baz=49,slow=34						
NVAR	**Mina Array Bea**	**122.48**	**30**	PKP	**PKPdf**	**02 28 11.8**	**+0.8**
NVAR	**Mina Array Bea**	**122.48**	**30**	PKP	**PKPdf**	**02 28 11.8**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=316,slow=3.8,SNR=3.2						
PDAR	**Pinedale Array**	**122.53**	**21**	PKP	**PKPdf**	**02 28 10.9**	**-0.1**
PDAR	**Pinedale Array**	**122.53**	**21**	PKP	**PKPdf**	**02 28 10.9**	**-0.1**
	comp=Z,0.9nm,1.0s,baz=82,slow=3.1,SNR=5.2						
TXAR	**Lajitas Array**	**136.64**	**23**	PKP	**PKPdf**	**02 28 39.1**	**+1.2**
TXAR	**Lajitas Array**	**136.64**	**23**	PKP	**PKPdf**	**02 28 39.1**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=63,slow=1.6,SNR=3.9						
PLCA	**Paso Flores**	**147.18**	**202**	PKPbc	**PKPbc**	**02 28 57.9**	**-0.5**
PLCA	**Paso Flores**	**147.18**	**202**	PKPbc	**PKPbc**	**02 28 57.9**	**-0.5**
	comp=Z,5.4nm,1.1s,baz=169,slow=4.7,SNR=8.0						
CPUP	**Villa Florida**	**148.95**	**236**	PKPbc	**PKPbc**	**02 29 03.3**	**-0.1**
CPUP	**Villa Florida**	**148.95**	**236**	PKPbc	**PKPbc**	**02 29 03.3**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=337,slow=2.3,SNR=3.5						
LPAZ	**La Paz**	**161.95**	**250**	PKP	**PKPdf**	**02 29 18.3**	**+0.4**
LPAZ	**La Paz**	**161.95**	**250**	PKP	**PKPdf**	**02 29 18.3**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=181,slow=3.1,SNR=3.5						

IDC 27 02:17:24.0±2.7, 10°43N×93°78E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/26, mbtmp3.6/6, Error ellipse: s-maj=115.9km s-min=20.4km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.53**	**347**	P	P	02 24 39.2	-0.6
	1.2nm,0.6s,baz=170,slow=7.6,SNR=5.5						
SONM	**Songino Array**	**38.77**	**14**	P	P	02 24 50.2	-0.2
	0.2nm,0.4s,baz=195,slow=9.0,SNR=2.3						
KURBB	**Kurchatov Arra**	**41.99**	**346**	P	P	02 25 16.6	-0.3
	1.2nm,0.7s,baz=163,slow=7.6,SNR=4.1						
ZALV	**Zalesovo Beam**	**

comp=Z,50nm,18.4s,baz=339,slow=39
BVAR Borovoye Array 46.53 340 P **P 03 20 36.3 -0.9**
BVAR Borovoye Array 46.53 340 P **P 03 20 36.3 -0.9**
0.8nm,0.6s,baz=148,slow=8.5,SNR=5.8
BVAR LR LR 03 44 19.8
comp=Z,62nm,19.6s,baz=9.3,slow=42
USRK Ussuriysk Arra 46.69 37 P **P 03 20 38.5 -0.1**
1.3nm,0.8s,baz=234,slow=8.7,SNR=4.1
MJAR Matsushiro Art 47.29 49 P **P 03 20 43.7 +0.3**
MJAR PcP **PcP 03 22 14.9 +0.6**
MJAR Matsushiro Arr 47.29 49 P **P 03 20 43.7 +0.3**
0.8nm,0.5s,baz=244,slow=8.5,SNR=2.9
MJAR PcP **PcP 03 22 14.9 +0.6**
1.5nm,0.6s,baz=232,slow=5.7,SNR=5.0
MJAR LR LR 03 38 54.7
comp=Z,49nm,22.0s,baz=230,slow=34
ABKAR Akbulak array 47.98 330 *eP* **P 03 20 48.3 -0.2**
1.5nm,0.5s
NWAO Narrogin (SRO) 48.46 154 LR LR 03 41 58.9
comp=Z,183nm,19.6s,baz=200,slow=37
WRA Warramunga Arr 49.72 127 P **P 03 21 03.9 +1.6**
WRA Warramunga Arr 49.72 127 P **P 03 21 03.9 +1.6**
3.2nm,0.7s,baz=304,slow=8.8,SNR=17
WRAB Tennant Creek 49.73 127 *eP* **P 03 21 04.2 +1.9**
3.8nm,0.6s
ASAR Alice Springs 51.54 132 P **P 03 21 17.5 +1.5**
ASAR Alice Springs 51.54 132 P **P 03 21 17.5 +1.5**
3.7nm,0.7s,baz=307,slow=6.7,SNR=33
BRTR Keskin Array B 60.83 310 P **P 03 22 21.0 -1.4**
BRTR Keskin Array B 60.83 310 P **P 03 22 21.0 -1.4**
1.7nm,0.8s,baz=123,slow=7.8,SNR=11
FINES FINESS Array B 70.43 332 P **P 03 23 23.1 -0.7**
FINES FINESS Array B 70.43 332 P **P 03 23 23.1 -0.7**
0.4nm,0.5s,baz=111,slow=7.6,SNR=4.3
ARCES ARCESS Array B 72.82 340 P **P 03 23 38.0 0.0**
ARCES ARCESS Array B 72.82 340 P **P 03 23 38.0 0.0**
2.5nm,0.9s,baz=144,slow=7.0,SNR=3.9
GERES GERESS Array B 75.95 318 P **P 03 23 56.0 -0.8**
GERES GERESS Array B 75.95 318 P **P 03 23 56.0 -0.8**
0.5nm,0.7s,baz=73,slow=4.6,SNR=6.5
BOSA Boshof 77.13 237 P **P 03 24 04.0 +0.2**
BOSA Boshof 77.13 237 P **P 03 24 04.0 +0.2**
1.3nm,0.9s,baz=88,slow=5.6,SNR=4.5
TORD Torodi Ar. Bea 90.13 283 P **P 03 25 10.9 +0.3**
TORD PP PP 03 28 50.7 +6.4
TORD Torodi Ar. Bea 90.13 283 P **P 03 25 10.9 +0.3**
0.8nm,0.9s,baz=83,slow=4.1,SNR=4.6
TORD PP PP 03 28 50.7 +6.4
0.4nm,1.0s,baz=257,slow=18,SNR=3.7
ILAR Eielson Array 92.22 22 P **P 03 25 18.2 -1.1**
ILAR Eielson Array 92.22 22 P **P 03 25 18.2 -1.1**
0.3nm,0.5s,baz=312,slow=5.3,SNR=7.5
NVAR Mina Array Bea 122.55 30 PKP **PKPdf 03 31 07.6 +1.6**
NVAR Mina Array Bea 122.55 30 PKP **PKPdf 03 31 07.6 +1.6**
0.5nm,0.6s,baz=325,slow=1.4,SNR=4.6
PDAR Pinedale Array 122.63 21 PKP **PKPdf 03 31 06.5 +0.4**
PDAR Pinedale Array 122.63 21 PKP **PKPdf 03 31 06.5 +0.4**
0.3nm,0.8s,baz=38,slow=1.6,SNR=4.1
TXAR Lajitas Array 136.73 23 PKP **PKPdf 03 31 34.7 +1.7**
TXAR Lajitas Array 136.73 23 PKP **PKPdf 03 31 34.7 +1.7**
0.1nm,0.6s,baz=197,slow=2.8,SNR=4.1
MTP Monte Pirata 145.27 325 *e*PKPbc **PKPdf 03 31 49.4 +1.0**
PLCA Paso Flores 147.09 201 PKPbc **PKPab 03 31 54.6 0.0**
PLCA Paso Flores 147.09 201 PKPbc **PKPab 03 31 54.6 0.0**
1.9nm,0.8s,baz=153,slow=2.3,SNR=4.6

IDC 27 03:31:42.9±8.8, 10°14N×93°42E, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/25, mbtmp4.2/3, Error ellipse: s-maj=479.8km s-min=27.9km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.73**	**347**	P	P	03 39 00.2	-0.1
	2.8nm,0.8s,baz=161,slow=7.7,SNR=6.1						
WRA	**Warramunga Arr**	**50.17**	**127**	P	P	03 40 40.0	-0.6
	1.7nm,0.7s,baz=303,slow=9.0,SNR=5.5						
ASAR	**Alice Springs**	**51.92**	**131**	P	P	03 40 54.1	+0.3
	3.3nm,0.6s,baz=309,slow=7.3,SNR=13						

*IDC **27** 03:31:49.4±0.6, 10°64N×94°25E, h0km, mb4.0/21, mb1 4.1/23, mb1mx4.1/32, mbtmp4.0/23, ML4.0/2, MS3.7/2, Ms1 3.8/2, ms1mx3.2/21, Error ellipse: s-maj=20.7km s-min=13.1km az=59.0*

*ISCJB **27** 03:31:50.9±0.3, 10°60N±0°05×94°32E±0°06, h24km, mb4.2/29, MS4.1/1, Error ellipse: s-maj=9.0km s-min=5.6km az=145.0*

*NEIC **27** 03:31:51.5±3.7, 10°59N×94°23E, h14km±23km, mb4.7/6, Error ellipse: s-maj=13.2km s-min=5.7km az=65.0*

*GCMT **27** 03:32:02.2±0.3, 10°71N×94°42E, h12km, MW4.9, Moment Tensor Solution. s23,c24; s62,c102; Moment tensor: Scale 10¹⁶Nm; Mrr=3.06±.09; Mθθ=2.33±.08; Mφφ=0.73±.10; Mrθ=1.02±.33; Mrφ=1.01±.08; Mθφ=0.12±.51; Best double couple: M=3.10000×10¹⁶ NP1:φ=56.00000°, δ37.00000°, λ=-104.00000°. NP2:φ=253.00000°, δ54.00000°, λ=-79.00000°. Principal axes: T 2.9500, Plg8.0000°, Azm336.0000°; N 0.3300, Plg9.0000°, Azm67.0000°; P -3.2700, Plg78.0000°, Azm202.0000°; Data Used: II IC IU CN G.*

ISC 27 03:31:52.8±0.5, 10°59N±0°07×94°29E±0°07, h24km, n81, σ0s94/77, mb4.2/29, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.85**	**305**	*eP*	Pn	03 32 23.4	+0.3
DGPR	**DIGLIPUR**	**2.99**	**333**	*eP*	**Pn**	**03 32 37.9**	**+0.5**
CMBY	**CAMPBELL BAY**	**3.58**	**186**	*eP*	**Pn**	**03 32 46.2**	**-0.6**
KULM	**Kulim**	**8.21**	**129**	*e*Pn	**Pn**	**03 33 49.4**	**-1.1**
KULM				*e*S	**Sn**	**03 35 19.9**	**-2.6**
PSI	**Prapat**	**9.00**	**149**	Pn	**Pn**	**03 34 02.9**	**+1.4**
PSI	**Prapat**	**9.00**	**149**	Pn	**Pn**	**03 34 02.9**	**+1.4**
	1.0nm,0.3s,baz=332,slow=9.3,SNR=4.5						
CMAR	**Chiang Mai Arr**	**9.02**	**29**	Pn	**Pn**	**03 34 02.4**	**+0.7**
CMAR	**Chiang Mai Arr**	**9.02**	**29**	Pn	**Pn**	**03 34 02.4**	**+0.7**
	0.6nm,0.3s,baz=220,slow=15,SNR=6.7						
CMAR				LR	LR	03 37 39.0	
	comp=Z,205nm,19.6s,baz=196,slow=39						
CHTO	**Chiang Mai**	**9.33**	**28**	*e*Pn	**Pn**	**03 34 07.9**	**+2.0**
	6.1nm,0.9s						
VIS	**Vishakhapatnam**	**12.77**	**305**	*eP*	**Pn**	**03 34 52.5**	**-0.5**
VIS				AMB	AMB	03 35 08.6	
	comp=Z,40nm,1.2s						
SHL	**Shillong**	**15.07**	**352**	*eP*	**Pn**	**03 35 24.4**	**-0.1**
BOK	**Bokaro**	**15.38**	**330**	*eP*	**Pn**	**03 35 28.8**	**+0.3**
BOK				AMB	AMB	03 35 35.2	
	comp=Z,19nm,1.2s						
HYB	**Hyderabad**	**16.70**	**296**	*eP*	**Pn**	**03 35 43.6**	**-1.9**
HYB				AMB	AMB	03 35 59.5	
	comp=Z,23nm,1.1s						
LSA	**Lhasa**	**19.24**	**352**	*eP*	**P**	**03 36 14.9**	**-1.1**
	comp=Z,45nm,1.3s						
BHPL	**Bhopal**	**20.43**	**310**	*eP*	**P**	**03 36 26.4**	**-2.2**
BHPL				AMB	AMB	03 36 35.9	
	comp=Z,20nm,0.7s						
POO	**Poona**	**21.29**	**294**	*eP*	**P**	**03 36 39.7**	**+1.8**
POO				AMB	AMB	03 36 57.1	
	comp=Z,49nm,2.3s						
NDI	**New Delhi**	**24.08**	**321**	*eP*	**P**	**03 37 06.0**	**-0.6**
ENH	**Enshi**	**24.16**	**34**	*eP*	P	03 37 03.0	-4.3
	comp=Z,30nm,1.1s						
DDI	**Dehra Dun**	**24.78**	**325**	*ex*	x	03 35 20.2	
SMLA	**Simla**	**25.89**	**325**	*eP*	**P**	**03 37 22.6**	**-0.3**
SMLA				AMB	AMB	03 37 45.1	
	comp=Z,38nm,1.6s						
DHRM	**DHARAMSHALA**	**27.21**	**325**	*eP*	**P**	**03 37 33.7**	**-1.5**
DHRM				AMB	AMB	03 37 42.1	
	comp=Z,18nm,1.0s						
AAK	**Ala-Archa**	**36.30**	**335**	P	**P**	**03 38 54.7**	**-0.1**
AAK	**Ala-Archa**	**36.30**	**335**	P	**P**	**03 38 54.7**	**-0.1**
	comp=Z,2.5nm,0.5s,baz=162,slow=6.4,SNR=6.2						
MK31	**Makanchi Array**	**37.49**	**346**	*eP*	**P**	**03 39 05.0**	**+0.3**
MKAR	**Makanchi Array**	**37.49**	**346**	P	**P**	**03 39 04.5**	**-0.1**
MKAR	**Makanchi Array**	**37.49**	**346**	P	**P**	**03 39 04.5**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=164,slow=7.9,SNR=21						
KKAR	**Karatay Array**	**38.44**	**332**	*eP*	**P**	**03 39 13.5**	**+0.8**
	comp=Z,11nm,1.0s						
SONM	**Songino Array**	**38.50**	**13**	P	**P**	**03 39 14.1**	**+0.9**
SONM	**Songino Array**	**38.50**	**13**	P	**P**	**03 39 14.1**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=187,slow=10,SNR=3.7						
KSAR	**Wonju Array Be**	**40.32**	**43**	P	**P**	**03 39 26.6**	**-1.9**
KSRS	**Korea Array**	**40.35**	**43**	P	**P**	**03 39 26.6**	**-2.1**
	comp=Z,1.1nm,0.8s,baz=229,slow=7.4,SNR=6.7						
KURBB	**Kurchatov Arra**	**41.97**	**345**	P	**P**	**03 39 42.0**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=161,slow=7.7,SNR=14						
KURK	**Kurchatov**	**42.03**	**345**	P	**P**	**03 39 42.0**	**-0.3**
ZALV	**Zalesovo Beam**	**43.90**	**352**	P	**P**	**03 39 57.8**	**+0.4**
ZALV	**Zalesovo Beam**	**43.90**	**352**	P	**P**	**03 39 57.8**	**+0.4**
	comp=Z,2.9nm,0.7s,baz=179,slow=7.9,SNR=8.3						
BVAR	**Borovoye Array**	**46.49**	**340**	P	**P**	**03 40 17.7**	**-0.4**
BVAR	**Borovoye Array**	**46.49**	**340**	P	**P**	**03 40 17.7**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=147,slow=8.2,SNR=4.7						
BRVK	**Borovoye**	**46.55**	**340**	*eP*	**P**	**03 40 19.1**	**+0.6**
	comp=Z,9.4nm,1.3s						
USRK	**Ussuriysk Arra**	**46.66**	**37**	P	**P**	**03 40 19.7**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=240,slow=11,SNR=4.0						
ABKAR	**Akbulak array**	**47.95**	**330**	*eP*	**P**	**03 40 29.6**	**+0.1**
	comp=Z,6.8nm,0.9s						
AKTO	**Aktyubinsk**	**49.66**	**330**	P	**P**	**03 40 42.2**	**-0.4**
AKTO	**Aktyubinsk**	**49.66**	**330**	P	**P**	**03 40 42.2**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=135,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**49.75**	**128**	P	**P**	**03 40 44.5**	**+0.8**
WRA	**Warramunga Arr**	**49.75**	**128**	P	**P**	**03 40 44.4**	**+0.8**
	comp=Z,5.9nm,0.7s,baz=304,slow=8.9,SNR=28						
WRAB	**Tennant Creek**	**49.75**	**128**	*eP*	**P**	**03 40 44.9**	**+1.1**
AS31	**Alice Springs**	**51.57**	**132**	*eP*	**P**	**03 40 58.1**	**+0.7**
ASAR	**Alice Springs**	**51.57**	**132**	P	**P**	**03 40 58.4**	**+1.0**
ASAR	**Alice Springs**	**51.57**	**132**	P	**P**	**03 40 58.4**	**+1.0**
	comp=Z,7.4nm,0.7s,baz=311,slow=7.4,SNR=41						
GNI	**Garni**	**52.69**	**313**	*eP*	**P**	**03 41 05.5**	**-0.2**
	comp=Z,27nm,1.3s						
GNI	**Garni**	**52.69**	**313**	P	**P**	**03 41 05.7**	**0.0**
	comp=Z,2.0nm,0.4s,baz=0.8,slow=21,SNR=5.0						
DGRG	**David-gareji**	**52.69**	**315**	P	P	03 41 13.0	+7.5
TBLG	**Delisi**	**53.24**	**315**	P	**P**	**03 41 11.6**	**+2.0**
ONI	**Oni**	**54.44**	**315**	P	**P**	**03 41 18.1**	**-0.2**
KBZ	**Khabaz**	**55.22**	**316**	P	**P**	**03 41 23.9**	**+0.1**
KBZ	**Khabaz**	**55.22**	**316**	P	**P**	**03 41 23.9**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=101,slow=5.2,SNR=2.5						
BRTR	**Keskin Array B**	**60.80**	**310**	P	**P**	**03 42 02.1**	**-1.2**
BRTR	**Keskin Array B**	**60.80**	**310**	P	**P**	**03 42 02.1**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=129,slow=6.5,SNR=3.6						
STKA	**Stephens Creek**	**61.88**	**135**	P	**P**	**03 42 10.8**	**+0.3**
STKA	**Stephens Creek**	**61.88**	**135**	P	**P**	**03 42 10.8**	**+0.3**
	comp=Z,4.1nm,0.9s,baz=270,slow=8.1,SNR=3.5						
FINES	**FINESS Array B**	**70.40**	**332**	P	**P**	**03 43 04.2**	**-0.5**
FINES	**FINESS Array B**	**70.40**	**332**	P	**P**	**03 43 04.2**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=119,slow=8.1,SNR=2.8						
ARCES	**ARCESS Array B**	**72.78**	**340**	P	**P**	**03 43 18.5**	**-0.4**
ARCES	**ARCESS Array B**	**72.78**	**340**	P	**P**	**03 43 18.5**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=66,slow=7.0,SNR=4.4						
GERES	**GERESS Array B**	**75.92**	**318**	P	**P**	**03 43 37.7**	**0.0**
GERES	**GERESS Array B**	**75.92**	**318**	P	**P**	**03 43 37.7**	**0.0**
	comp=Z,0.4nm,0.6s,baz=99,slow=4.4,SNR=3.9						
BOSA	**Boshof**	**77.16**	**237**	P	**P**	**03 43 44.9**	**-0.2**
BOSA	**Boshof**	**77.16**	**237**	P	**P**	**03 43 44.9**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=79,slow=3.4,SNR=3.9						
DZM	**Mont Dzumac**	**77.80**	**115**	LR	LR	04 17 54.6	
	comp=Z,96nm,19.6s,baz=180,slow=36						
LPL	**La Plagne**	**80.83**	**315**	*eP*	**P**	**03 44 06.2**	**+1.1**
	comp=Z,7.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**90.12**	**283**	P	**P**	**03 44 52.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**90.12**	**283**	P	**P**	**03 44 52.0**	**+0.2**
	comp=Z,1.0nm,1.0s,baz=91,slow=4.6,SNR=4.9						
ILAR	**Eielson Array**	**92.19**	**22**	P	**P**	**03 44 59.4**	**-1.0**
ILAR	**Eielson Array**	**92.19**	**22**	P	**P**	**03 44 59.4**	**-1.0**
	comp=Z,0.4nm,0.9s,baz=294,slow=4.8,SNR=4.2						
NVAR	**Mina Array Bea**	**122.52**	**30**	PKP	**PKPdf**	**03 50 48.1**	**+1.1**
NVAR	**Mina Array Bea**	**122.52**	**30**	PKP	**PKPdf**	**03 50 48.1**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=323,slow=1.4,SNR=7.3						
PDAR	**Pinedale Array**	**122.59**	**21**	PKP	**PKPdf**	**03 50 47.1**	**+0.1**
PDAR	**Pinedale Array**	**122.59**	**21**	PKP	**PKPdf**	**03 50 47.1**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=114,slow=1.1,SNR=5.3						
TXAR	**Lajitas Array**	**136.69**	**23**	PKP	**PKPdf**	**03 51 15.0**	**+1.0**
TXAR	**Lajitas Array**	**136.69**	**23**	PKP	**PKPdf**	**03 51 15.0**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=344,slow=2.9,SNR=6.4						
PLCA	**Paso Flores**	**147.12**	**201**	PKPbc	**PKPab**	**03 51 36.1**	**+0.3**
PLCA	**Paso Flores**	**147.12**	**201**	PKPbc	**PKPab**	**03 51 36.1**	**+0.3**
	comp=Z,4.7nm,0.9s,baz=169,slow=2.7,SNR=7.5						

IDC 27 03:32:09.2±0.7, 10°73N×94°03E, h0km, mb4.3/13, mb1 4.4/15, mb1mx4.2/30, mbtmp4.3/15, ML4.0/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/21, Error ellipse: s-maj=30.5km s-min=14.6km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.03**	**31**	Pn	Pn	03 34 22.6	+1.6
	0.9nm,0.3s,baz=220,slow=16,SNR=6.3						
PSI	**Prapat**	**9.26**	**148**	Pn	Pn	03 34 24.6	+0.3
	0.5nm,0.3s,baz=323,slow=15,SNR=2.8						
MKAR	**Makanchi Array**	**37.30**	**347**	P	P	03 39 22.1	-0.9
	4.9nm,0.8s,baz=169,slow=8.0,SNR=7.2						
KSRS	**Korea Array**	**40.43**	**43**	P	P	03 39 49.1	-0.3
	1.5nm,0.9s,baz=248,slow=10.0,SNR=4.3						
KURBB	**Kurchatov Arra**	**41.77**	**345**	P	P	03 39 59.8	-0.5
	3.2nm,0.8s,baz=163,slow=7.3,SNR=6.4						
BVAR	**Borovoye Array**	**46.27**	**340**	P	P	03 40 35.4	-0.9
	2.0nm,0.8s,baz=133,slow=8.3,SNR=5.9						
USRK	**Ussuriysk Arra**	**46.71**	**37**	LR	LR	04 02 46.4	
	comp=Z,62nm,18.6s,baz=224,slow=39						
NWAO	**Narrogin (SRO)**	**48.73**	**154**	P	P	03 40 56.7	+0.9
	25nm,1.0s,baz=323,slow=7.2,SNR=3.8						
WRA	**Warramunga Arr**	**50.04**	**127**	P	P	03 41 05.9	-0.1
	2.1nm,0.9s,baz=306,slow=8.5,SNR=7.4						
ASAR	**Alice Springs**	**51.86**	**132**	P	P	03 41 20.2	+0.6
	7.5nm,0.9s,baz=304,slow=7.3,SNR=9.7						
STKA	**Stephens Creek**	**62.17**	**135**	P	P	03 42 31.6	-1.1
	9.0nm,1.0s,baz=301,slow=5.8,SNR=5.5						
GERES	**GERESS Array B**	**75.64**	**318**	P	P	03 43 57.8	+1.3
	1.5nm,0.9s,baz=101,slow=5.1,SNR=6.8						
NOA	**NORSAR Array B**	**77.20**	**330**	P	P	03 44 05.2	+0.2
	1.1nm,0.9s,baz=47,slow=1.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**89.83**	**283**	P	P	03 45 10.4	-0.3
	2.5nm,1.1s,baz=90,slow=4.4,SNR=5.5						
ILAR	**Eielson Array**	**92.16**	**22**	P	P	03 45 20.5	0.0
	0.7nm,0.9s,baz=309,slow=5.0,SNR=5.6						
VNDA	**Vanda**	**95.73**	**168**	P	P	03 45 35.1	-1.5
	1.0nm,1.0s,baz=313,slow=5.0,SNR=4.2						
NVAR	**Mina Array Bea**	**122.53**	**30**	PKP	PKPdf	03 51 06.1	-1.4
	1.1nm,0.9s,baz=318,slow=1.2,SNR=3.0						
PDAR	**Pinedale Array**	**122.55**	**20**	PKP	PKPdf	03 51 08.3	+0.8
	0.7nm,0.8s,baz=325,slow=1.4,SNR=4.4						
TXAR	**Lajitas Array**	**136.66**	**23**	PKP	PKPdf	03 51 34.3	-0.1
	0.4nm,0.6s,baz=147,slow=2.2,SNR=3.7						
PLCA	**Paso Flores**	**147.16**	**202**	PKPbc	PKPbc	03 51 54.7	-0.1
	12nm,1.2s,baz=135,slow=4.3,SNR=5.5						

WEL 27 03:54:25.9±0.2, 45°45S×166°37E, h12km, ML3.7/16, 2D, Error ellipse: s-maj=1.9km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.55**	**94**	⇓P*	Pg	03 54 36.3	-0.4
DCZ				S*	Sg	03 54 43.8	-0.3
DCZ				AML	AML	03 54 45.4	
DCZ				AML	AML	03 54 47.0	
DCZ				AML	AML	03 54 47.0	
PYZ	**Puysegur Point**	**0.76**	**163**	P*	Pg	03 54 39.6	-0.9
PYZ				S*	Sg	03 54 49.5	-1.0
WHZ	**Wether Hill Ro**	**1.19**	**113**	P*	Pn	03 54 47.2	-1.2
WHZ				S*	Sb	03 55 02.8	-1.1
WHZ				AML	AML	03 55 10.1	
MLZ	**Mavora Lakes**	**1.27**	**86**	P*	Pn	03 54 47.9	-1.7
MLZ				S*	Sb	03 55 06.3	0.0
MLZ				AML	AML	03 55 12.0	
MSZ	**Milford Sound**	**1.35**	**56**	PN	Pn	03 54 50.1	-0.4
MSZ				SN	Sn	03 55 08.3	0.0
MSZ				AML	AML	03 55 16.6	
MSZ				AML	AML	03 55 16.6	
MSZ				AML	AML	03 55 17.4	
APZ	**The Paps**	**1.79**	**142**	⇓PN	Pn	03 54 56.7	0.0
WKZ	**Wanaka**	**1.97**	**73**	PN	Pn	03 54 59.1	-0.1
WKZ				AML	AML	03 55 29.9	
WKZ				AML	AML	03 55 32.3	
EAZ	**Earnscleugh**	**2.08**	**85**	PN	Pn	03 55 01.8	+1.1
EAZ				AML	AML	03 55 31.9	
EAZ				AML	AML	03 55 31.9	
EAZ				AML	AML	03 55 32.1	
EAZ				AML	AML	03 55 35.0	
JCZ	**Jackson Bay**	**2.19**	**52**	AML	AML	03 55 40.2	
JCZ				AML	AML	03 55 43.0	
SYZ	**Scrubby Hill**	**2.22**	**121**	PN	Pn	03 55 04.0	+1.5
TUZ	**Tuapeka**	**2.34**	**104**	PN	Pn	03 55 05.6	+1.4
TUZ				AML	AML	03 55 40.7	
TUZ				AML	AML	03 55 41.7	
LBZ	**Lake Benmore**	**2.91**	**70**	PN	Pn	03 55 13.2	+1.1
LBZ				AML	AML	03 56 23.3	
ODZ	**Otahua Downs**	**3.05**	**84**	PN	Pn	03 55 13.8	0.0
ODZ				AML	AML	03 55 53.4	

WEL 27 04:01:19.1±0.3, 45°06S×166°94E, h33km, ML3.7/15, 4C-3D, Error ellipse: s-maj=2.5km s-min=2.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.45**	**160**	⇓PN	Pb	04 01 28.1	-0.8
DCZ				SN	Sb	04 01 34.2	-1.4
DCZ				AML	AML	04 01 34.6	
DCZ				AML	AML	04 01 34.6	
DCZ				AML	AML	04 01 41.5	
MSZ	**Milford Sound**	**0.80**	**62**	PN	Pn	04 01 32.9	-1.1
MSZ				SN	Sn	04 01 42.8	-2.0
MSZ				AML	AML	04 01 44.1	
MSZ				AML	AML	04 01 44.3	
MSZ				AML	AML	04 01 44.3	
MLZ	**Mavora Lakes**	**0.92**	**109**	⇓PN	Pn	04 01 34.8	-0.9
MLZ				SN	Sn	04 01 46.0	-1.9
MLZ				AML	AML	04 01 50.0	
WHZ	**Wether Hill Ro**	**1.10**	**140**	PN	Pn	04 01 38.2	0.0
WHZ				SN	Sn	04 01 52.2	0.0
WHZ				AML	AML	04 01 55.6	
PYZ	**Puysegur Point**	**1.13**	**189**	⇓PN	Pn	04 01 38.1	-0.4
PYZ				SN	Sn	04 01 52.4	-0.5
WKZ	**Wanaka**	**1.49**	**82**	PN	Pb	04 01 45.1	-1.2
WKZ				SN	Sb	04 02 04.4	-0.5
WKZ				AML	AML	04 02 06.9	
WKZ				AML	AML	04 02 09.9	
WKZ				AML	AML	04 02 09.9	
JCZ	**Jackson Bay**	**1.63**	**54**	PN	Pn	04 01 44.9	-0.7
JCZ				AML	AML	04 02 11.8	
JCZ				AML	AML	04 02 12.5	
EAZ	**Earnscleugh**	**1.69**	**97**	⇑PN	Pb	04 01 47.9	-1.6
EAZ				SN	Sn	04 02 08.4	+1.7
EAZ				AML	AML	04 02 10.1	
EAZ				AML	AML	04 02 10.2	
APZ	**The Paps**	**1.92**	**158**	PN	Pn	04 01 51.0	+1.5
TUZ	**Tuapeka**	**2.10**	**116**	PN	Pn	04 01 52.8	+0.9
TUZ				AML	AML	04 02 18.3	
TUZ				AML	AML	04 02 19.2	
SYZ	**Scrubby Hill**	**2.14**	**135**	PN	Pn	04 01 53.2	+0.8
LBZ	**Lake Benmore**	**2.41**	**75**	⇑PN	Pn	04 01 56.7	+0.6
FOZ	**Fox Glacier**	**2.47**	**54**	PN	Pn	04 01 57.0	0.0
ODZ	**Otahua Downs**	**2.63**	**91**	⇑PN	Pn	04 01 59.7	+0.5
ODZ				AML	AML	04 02 43.0	
ODZ				AML	AML	04 02 43.2	
HHSZ	**Highcliff Hill**	**2.70**	**109**	⇑PN	Pn	04 02 01.4	+1.1
DSZ	**Denniston Nort**	**4.85**	**49**	PN	Pn	04 02 28.8	-1.0
THZ	**Tophouse**	**5.45**	**55**	PN	Pn	04 02 37.9	-0.1

*ISCJB **27** 04:05:33.1±0.3, 51°55N±0°02×16°12E±0°02, h0km, Error ellipse: s-maj=2.8km s-min=2.0km az=16.5*

*CSEM **27** 04:05:35.3±0.1, 51°54N×16°10E, h2km, ML3.8/7, Error ellipse: s-maj=2.3km s-min=1.7km az=16.0*

*IPEC **27** 04:05:36.2±0.4, 51°49N×16°23E, h1km±1km, ML2.7/3, Error ellipse: s-maj=2.4km s-min=1.5km az=29.0*

*IDC **27** 04:05:36.3±0.8, 51°53N×15°81E, h0km, mb1 3.2/7, mb1mx3.1/29, mbtmp3.1/7, ML3.0/7, Error ellipse: s-maj=19.6km s-min=6.9km az=98.0*

*WAR **27** 04:05:36.4, 51°51N×16°12E*

*BGR **27** 04:05:37.2±0.4, 51°48N×16°09E, h1km, ML3.2/13, Error ellipse: s-maj=4.4km s-min=2.2km az=15.0*

*PRU **27** 04:05:37.5, 51°44N×16°05E, h0km*

*VIE **27** 04:05:38.9±0.5, 51°27N×16°06E, h0km, mb2.3/6, ML3.2/6, Error ellipse: s-maj=3.0km s-min=2.7km az=164.0 69 km WNW of Wroclaw Suspected Mining induced.*

*UPP **27** 04:05:40.3, 51°85N×16°09E, h0km, ML1.9, Suspected Mining explosion.*

*LDG **27** 04:06:25.6±0.1, 51°61N×15°51E, h1km, Ml3.2/16, Error ellipse: s-maj=4.5km s-min=2.5km az=152.0, Suspected Mining induced.*

ISC 27 04:05:35.2±0.8, 51°53N±0°03×16°10E±0°02, h0km, n94, σ1s96/144, 5C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**170**	*e*Pg	**Pg**	**04 05 49.3**	**+0.8**
KSP				*e*Sg	**Sg**	**04 05 58.6**	**+1.1**
KSP	**Ksiaz**	**0.69**	**170**	*e*Pg	**Pg**	**04 05 49.1**	**+0.6**
KSP

comp=Z,96nm,0.7s
NKC Novy Kostel 2.65 242 Pn **Pn 04 06 19.8 +0.6**
OJC Ojcow 2.69 118 *e*Sg **Sg 04 07 02.6 +1.2**
OJC Ojcow 2.69 118 *e*Pn **Pn 04 06 18.0 -1.7**
OJC *e*Pg **Pg 04 06 26.7 0.0**
OJC *e*Sg **Sg 04 07 01.8 +0.4**
OJC Ojcow 2.69 118 *e*Pn **Pn 04 06 18.0 -1.7**
OJC Ojcow 2.69 118 *e*Pg **Pg 04 06 26.7 0.0**
OJC Sg **Sg 04 07 02.7 +1.2**
KHC Kasperske Hory 2.89 215 *e*PN **Pn 04 06 22.8 +0.3**
KHC *e*PG **Pb 04 06 29.4 +1.7**
KHC *e*SN **Sn 04 06 57.7 -0.3**
KHC *e*SG **Sb 04 07 06.6 +3.0**
comp=Z,49nm,0.7s
KHC Kasperske Hory 2.89 215 Pn **Pn 04 06 22.8 +0.3**
MOX Moxa 2.96 254 *e*Pn **Pn 04 06 24.0 +0.5**
MOX *e*Pg **Pg 04 06 32.3 +0.4**
MOX *e*Sg **Sg 04 07 10.8 +0.5**
MOX Moxa 2.96 254 Pn **Pn 04 06 24.0 +0.5**
MANZ Manzenberg 2.96 240 *e*Pn **Pn 04 06 24.3 +0.7**
MANZ *e*Pg **Pg 04 06 32.9 +0.8**
MANZ *e*Sg **Sg 04 07 10.9 +0.5**
MANZ Manzenberg 2.96 240 Pn **Pn 04 06 24.3 +0.7**
ROTZ Rotzenmuhle 3.04 236 *e*Pn **Pn 04 06 25.3 +0.7**
ROTZ Rotzenmuhle 3.04 236 Pn **Pn 04 06 25.3 +0.7**
GEC2 GERESS Array S 3.09 211 *e*Pn **Pn 04 06 25.9 +0.5**
GEC2 *e*Pg **Pg 04 06 34.1 -0.4**
GEC2 *e*Sg **Sg 04 07 13.1 -1.5**
GEC2 GERESS Array S 3.09 211 Pn **Pn 04 06 25.9 +0.5**
GERES GERESS Array B 3.09 211 Pn **Pn 04 06 25.2 -0.1**
comp=Z,0.8nm,0.3s,baz=28,slow=12,SNR=22
GERES Pg **Pb 04 06 31.4 +0.3**
comp=Z,1.6nm,0.3s,baz=28,slow=16,SNR=29
GERES Lg Lg 04 07 12.2
comp=Z,8.0nm,0.3s,baz=27,slow=29,SNR=12
SMOL Smolenice 3.13 164 *e*PG **Pg 04 06 34.7 -0.6**
SMOL *e*SG **Sg 04 07 16.3 +0.4**
WET Wettzell 3.15 222 *e*Pn **Pn 04 06 26.7 +0.6**
WET *e*Sg **Sg 04 07 15.7 -0.7**
WET Wettzell 3.15 222 Pn **Pn 04 06 26.7 +0.6**
WET Sg **Sg 04 07 15.7 -0.7**
NIE Niedzica 3.42 126 *e*Pg **Pg 04 06 42.2 +1.4**
NIE *e*Sg **Sg 04 07 25.9 +0.8**
NIE Niedzica 3.42 126 *e*Pg **Pg 04 06 42.2 +1.4**
NIE *e*Sg **Sg 04 07 25.9 +0.8**
VYHS Vyhne 3.51 149 *e*PG **Pg 04 06 41.9 -0.6**
VYHS *e*SG **Sg 04 07 28.7 +0.7**
VYHS Vyhne 3.51 149 *e*Pg **Pg 04 06 41.9 -0.6**
VYHS *e*Sg **Sg 04 07 28.7 +0.7**
CONA Conrad Observa 3.60 183 ⇑*i*Pn **Pn 04 06 33.1 +0.7**
CONA ⇓*i*Sg **Sg 04 07 29.7 -1.3**
comp=Z,36nm,0.4s
CONA Conrad Observa 3.60 183 Pn **Pn 04 06 33.1 +0.7**
CONA Sg **Sg 04 07 29.7 -1.3**
comp=Z,36nm,0.4s
GRA1 Grafenberg Arr 3.61 241 Pn **Pn 04 06 33.1 +0.7**
GRA1 Sg **Sg 04 07 31.8 +0.7**
GRF Grafenberg Arr 3.61 241 *e*Pn **Pn 04 06 33.1 +0.7**
GRF *e*Sg **Sg 04 07 31.8 +0.7**
BSD Bornholm Skovb 3.66 349 *i*P **Pn 04 06 32.0 -1.1**
BSD *i*S Sn 04 07 08.3 -8.7
MOA Molln 3.87 199 ⇑*i*Pn **Pn 04 06 36.7 +0.8**
MOA ⇑*i*Sg **Sg 04 07 38.8 -0.6**
comp=Z,42nm,0.6s
MOA Molln 3.87 199 Pn **Pn 04 06 36.7 +0.8**
MOA Sg **Sg 04 07 38.8 -0.6**
comp=Z,42nm,0.6s
STHS Stebnicka Huta 3.91 121 *e*PG **Pg 04 06 50.5 +0.4**
STHS *e*SG **Sg 04 07 44.5 +3.9**
STHS Stebnicka Huta 3.91 121 *e*Pg **Pg 04 06 50.5 +0.4**
STHS *e*Sg **Sg 04 07 44.6 +3.9**
KECS Kecovo 4.16 135 *e*PG **Pg 04 06 55.8 +0.9**
KECS *e*SG **Sg 04 07 50.2 +1.5**
KECS Kecovo 4.16 135 *e*Pg **Pg 04 06 55.8 +0.9**
KECS *e*Sg **Sg 04 07 50.2 +1.5**
ARSA Arzberg 4.30 185 ⇑*i*Pn **Pn 04 06 42.1 +0.3**
ARSA ⇓*i*Sg **Sg 04 07 51.6 -1.6**
comp=Z,34nm,0.6s
ARSA Arzberg 4.30 185 Pn **Pn 04 06 42.1 +0.3**
ARSA Sg **Sg 04 07 51.6 -1.6**
comp=Z,34nm,0.6s
KBA Koelnbreinsper 4.80 203 ⇑*i*Pn **Pn 04 06 49.9 +1.0**
KBA ⇓*i*Sg **Sg 04 08 09.5 +0.1**
comp=Z,18nm,0.6s
KBA Koelnbreinsper 4.80 203 Pn **Pn 04 06 49.9 +1.0**
KBA Sg **Sg 04 08 09.5 +0.1**
comp=Z,18nm,0.6s
OSKU Oskarshamn 5.68 0 P **Pn 04 07 00.2 -0.6**
BYXU Byxelkrok 5.80 5 P **Pn 04 07 01.8 -0.6**
FABU Falkenberg 5.83 341 P **Pn 04 07 02.0 -0.9**
EKSU Eksjoe 6.08 356 P **Pn 04 07 05.6 -0.6**
DAVOX Davos/Dischmat 6.26 223 Lg Lg 04 08 55.7
comp=Z,0.6nm,0.3s,baz=25,slow=19,SNR=3.7
BORU Boraas 6.42 344 P **Pn 04 07 10.7 -0.2**
CDF Champ du Feu 6.49 245 *e*Pn Pg 04 07 56.3 +17
CDF *e*Sn **Sg 04 09 03.3 -0.2**
comp=Z,2.8nm,0.4s
HINF Hinteralfeld 7.05 242 *e*Pn Pg 04 08 03.8 +13
HINF *e*Sn **Sg 04 09 17.2 -4.4**
comp=Z,16nm,0.8s
HAU Haudompre 7.23 245 *e*Pn Pg 04 08 06.0 +12
HAU *e*Sn Sg 04 09 21.3 -6.0
comp=Z,16nm,0.8s
PAGF Fort de Pagny 7.31 250 *e*Pn Pg 04 08 06.6 +11
PAGF *e*Sn Sg 04 09 22.3 -7.6
comp=Z,2.1nm,0.5s
MEZF Maizieres J'vi 7.73 251 *e*Pn Pg 04 08 12.3 +9.0
MEZF *e*Sn Sb 04 09 32.3 +10
comp=Z,3.3nm,0.4s
SFTF Sexfontaines 7.88 249 *e*Pn Pg 04 08 14.4 +8.3
SFTF *e*Sn Sb 04 09 35.9 +8.9
comp=Z,5.1nm,0.6s
CABF La Chapelle 8.21 237 *e*Pn Pg 04 08 20.0 +7.7
CABF *e*Sn Sb 04 09 45.4 +8.8
comp=Z,23nm,1.0s
LPL La Plagne 8.64 230 *e*Pn Pg 04 08 26.5 +5.8
LPL *e*Sn Sg 04 09 56.8 -16
comp=Z,1.5nm,0.5s
LPG La Plagne 8.65 229 *e*Pn Pg 04 08 26.8 +6.0
LPG *e*Sn Sg 04 09 56.9 -17
comp=Z,0.9nm,0.2s
HFS Hagfors 8.73 352 Pn **Pn 04 07 41.4 -1.3**
comp=Z,0.1nm,0.3s,baz=171,slow=19,SNR=4.5
HFS Sn Sn 04 09 14.3 -7.4
comp=Z,0.1nm,0.3s,baz=176,slow=22,SNR=2.4
LOR Lormes 9.04 247 *e*Pn Pn 04 08 30.3 +43
LOR *e*Sn Sn 04 10 04.1 +35
comp=Z,6.9nm,0.9s
MBDF Montbardon 9.22 226 *e*Pn Pn 04 08 34.5 +45
MBDF *e*Sn Sn 04 10 10.9 +37
comp=Z,0.7nm,0.2s
SSF Saint Saulge 9.36 246 *e*Pn Pn 04 08 35.3 +44
SSF *e*Sn Sn 04 10 12.0 +35
comp=Z,2.4nm,0.6s
SMF Signal de Mont 9.40 244 *e*Pn Pn 04 08 35.7 +44
SMF *e*Sn Sn 04 10 13.1 +35
comp=Z,1.3nm,0.4s
AVF Avril sur Loir 9.60 245 *e*Pn Pn 04 08 38.1 +44
AVF *e*Sn Sn 04 10 17.6 +35
comp=Z,0.7nm,0.4s
NOA NORSAR Array B 9.91 346 Pn **Pn 04 07 57.1 -1.8**
comp=Z,0.1nm,0.3s,baz=166,slow=13,SNR=2.8
FINES FINESS Array B 11.35 25 Pn **Pn 04 08 16.2 -2.2**
comp=Z,0.1nm,0.3s,baz=216,slow=11,SNR=4.6
FINES Sn Sn 04 10 14.6 -11
comp=Z,0.3nm,0.3s,baz=211,slow=19,SNR=5.9
EKA Eskdalemuir Ar 12.09 296 Pn Pn 04 08 25.5 -3.1
baz=106,slow=14,SNR=3.6
ARCES ARCESS Array B 18.61 10 Pn **P 04 09 51.0 -2.8**
comp=Z,0.1nm,0.3s,baz=185,slow=12,SNR=5.7

IDC 27 04:09:39.8±3.5, 17.70S×167.84E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.8/19, mbtmp4.0/5, ML3.7/1, MS4.0/1, Ms1 4.1/1, ms1mx2.8/20, Error ellipse: s-maj=78.4km s-min=37.2km az=102.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.54**	**197**	*e*P	Pn	04 10 48.4	-1.6
DZM	**Mont Dzumac**	**4.54**	**197**	Pn	Pn	04 10 49.2	-0.8
	3.8nm,0.3s,baz=87,slow=24,SNR=38						
DZM				Sn	Sn	04 11 35.7	-7.9
	3.7nm,0.3s,baz=90,slow=20,SNR=7.8						

STKA Stephens Creek 27.60 234 P P 04 15 29.5 +0.5
1.1nm,0.5s,baz=66,slow=12,SNR=4.5
WRA Warramunga Arr 31.76 261 P P 04 16 05.5 -0.6
0.6nm,0.4s,baz=90,slow=9.2,SNR=4.6
ASAR Alice Springs 32.24 254 P P 04 16 10.4 +0.1
1.1nm,0.4s,baz=78,slow=9.0,SNR=18
VNDA Vanda 59.92 182 LR LR 04 42 24.0
comp=Z,116nm,18.2s,baz=98,slow=33
SONM Songino Array 85.20 324 P P 04 22 18.3 0.0
0.4nm,0.4s,baz=142,slow=5.6,SNR=5.0

WEL 27 04:20:14.0±0.3, 38.61S×175.73E, h159km±2km, ML3.8/15, 20C-4D, Error ellipse: s-maj=1.7km s-min=1.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WATZ	**Wairara**	**0.10**	**178**	P	Pn	04 20 35.0	-0.2
RATZ	**Rangitukua**	**0.26**	**173**	⇑P	Pn	04 20 35.3	-0.2
TLZ	**Tolley Road**	**0.32**	**332**	P	Pn	04 20 35.8	0.0
KATZ	**Kakaramea**	**0.37**	**184**	P	Pn	04 20 35.8	-0.2
RITZ	**Rihia Road**	**0.38**	**165**	⇓P	Pn	04 20 36.1	+0.2
ALRZ	**Allen Road**	**0.48**	**85**	P	Pn	04 20 36.0	-0.3
KRVZ	**Karewarewa**	**0.49**	**188**	P	Pn	04 20 36.3	-0.2
TWVZ	**Taurewa**	**0.51**	**206**	⇑P	Pn	04 20 36.4	-0.1
WTVZ	**West Tongariro**	**0.52**	**192**	P	Pn	04 20 36.5	-0.1
OTVZ	**Oturere**	**0.56**	**185**	P	Pn	04 20 36.7	-0.1
NGZ	**Ngauruhoe**	**0.57**	**190**	P	Pn	04 20 36.7	-0.2
WPVZ	**Whakapapa**	**0.61**	**193**	P	Pn	04 20 37.0	0.0
FWVZ	**Far West T-bar**	**0.66**	**192**	P	Pn	04 20 37.2	-0.3
TUVZ	**Tukino**	**0.66**	**185**	⇑P	Pn	04 20 37.4	+0.1
TUVZ					SN	04 20 54.2	-1.2
WHVZ	**Whangaehu Hut**	**0.68**	**189**	⇑P	Pn	04 20 37.6	0.0
HIZ	**Hauiti**	**0.69**	**278**	⇓P	Pn	04 20 37.3	0.0
HIZ					SN	04 20 55.1	-0.1
TRVZ	**Turoa**	**0.70**	**191**	P	Pn	04 20 37.6	-0.1
TARZ	**Mount Tarawera**	**0.72**	**59**	P	Pn	04 20 37.7	0.0
WNVZ	**Wahianoa**	**0.72**	**188**	⇑P	Pn	04 20 37.8	0.0
PKVZ	**Pokaka**	**0.74**	**204**	⇑P	Pn	04 20 37.7	-0.1
MOVZ	**Moawhango**	**0.80**	**179**	⇑P	Pn	04 20 37.8	-0.3
MTVZ	**Mangateitei**	**0.80**	**194**	P	Pn	04 20 38.1	0.0
BKZ	**Black Stump Fm**	**0.81**	**133**	⇓P	Pn	04 20 38.0	-0.2
BKZ					AML	04 20 38.3	
BKZ					AML	04 20 39.0	
BHHZ	**Black Hill Sta**	**0.92**	**164**	⇑P	Pn	04 20 38.7	-0.3
VRZ	**Vera Road**	**0.92**	**236**	P	Pn	04 20 38.8	-0.1
RAHZ	**Arahi**	**1.10**	**107**	P	Pn	04 20 41.0	+0.5
MCHZ	**McNeill Hill**	**1.12**	**138**	P	Pn	04 20 41.5	+0.9
URZ	**Urewera**	**1.14**	**73**	⇑P	Pn	04 20 40.2	-0.6
URZ					AML	04 21 00.4	
URZ					AML	04 21 00.9	
WAZ	**Wanganui**	**1.28**	**207**	P	Pn	04 20 42.0	-0.1
PNHZ	**Pukenui**	**1.35**	**164**	⇑P	Pn	04 20 42.6	-0.2
MWZ	**Matawai**	**1.44**	**80**	⇑P	Pn	04 20 43.3	-0.3
MWZ					AML	04 21 09.9	
MWZ					AML	04 21 13.2	
TSZ	**Takapari Road**	**1.46**	**173**	⇑P	Pn	04 20 43.6	-0.2
TSZ					AML	04 21 06.8	
TSZ					AML	04 21 07.7	
PKE	**Pukeiti**	**1.48**	**246**	P	Pn	04 20 43.9	-0.1
CKHZ	**Cape Kidnapper**	**1.48**	**135**	⇑P	Pn	04 20 44.5	+0.5
KAHZ	**Kahuranaki**	**1.48**	**143**	⇑P	Pn	04 20 44.4	+0.3
KHEZ	**Kahui Hut**	**1.50**	**242**	P	Pn	04 20 44.6	+0.2
WPHZ	**Waipukurau**	**1.55**	**159**	⇑P	Pn	04 20 44.7	-0.1
MKAZ	**Moumakai**	**1.56**	**343**	P	Pn	04 20 45.2	+0.3
KNZ	**Kokohu**	**1.57**	**106**	P	Pn	04 20 45.1	+0.2
PXZ	**Pawanui**	**1.67**	**149**	⇑P	Pn	04 20 45.9	-0.1
PXZ					AML	04 21 11.2	
PXZ					AML	04 21 11.2	
PXZ					AML	04 21 11.4	
PRGZ	**Paritu Road**	**1.71**	**101**	P	Pn	04 20 46.5	0.0
DVHZ	**Dannevirke**	**1.72**	**169**	⇑P	Pn	04 20 45.9	-0.6
POWZ	**Post Office Ro**	**1.78**	**179**	P	Pn	04 20 46.5	-0.7
MHGZ	**Mahia Peninsul**	**1.79**	**108**	P	Pn	04 20 47.5	+0.3
PRHZ	**Porangahau**	**1.80**	**157**	⇑P	Pn	04 20 47.1	-0.2
ANWZ	**Angora Road**	**1.94**	**163**	⇑P	Pn	04 20 48.6	-0.3
CNGZ	**Carnagh Statio**	**1.95**	**87**	P	Pn	04 20 49.2	+0.1
PRWZ	**Pori Road**	**1.95**	**175**	P	Pn	04 20 48.5	-0.6
MRZ	**Mangatainoka R**	**2.05**	**183**	⇑P	Pn	04 20 49.1	-1.1
MRZ					AML	04 21 17.3	
MRZ					AML	04 21 17.3	
PUZ	**Puketiti**	**2.06**	**76**	P	Pn	04 20 49.8	-0.5
PUZ					AML	04 21 18.3	
PUZ					AML	04 21 19.3	
BFZ	**Birch Farm**	**2.11**	**169**	P	Pn	04 20 50.1	-0.8
BFZ					AML	04 21 19.1	
BFZ					AML	04 21 19.1	
BFZ					AML	04 21 20.2	
BFZ					AML	04 21 20.2	
TIWZ	**Tintock**	**2.17**	**177**	P	Pn	04 20 50.6	-1.0
OGWZ	**Otaki Gorge**	**2.25**	**191**	P	Pn	04 20 51.4	-1.1
HOWZ	**Holdsworth Sta**	**2.29**	**184**	P	Pn	04 20 51.7	-1.4
KIW	**Kapiti Island**	**2.33**	**195**	P	Pn	04 20 52.0	-1.5
TMWZ	**Te Maipa**	**2.50**	**177**	P	Pn	04 20 53.9	-1.7
CAW	**Cannon Point**	**2.55**	**191**	P	Pn	04 20 54.5	-1.6
CAW					AML	04 21 26.7	
CAW					AML	04 21 28.1	
MTW	**Mount Morrison**	**2.55**	**184**	P	Pn	04 20 54.4	-1.7
MTW					AML	04 21 26.8	
MTW					AML	04 21 26.8	
PAWZ	**Paruwai Farm**	**2.78**	**185**	P	Pn	04 20 57.0	-1.9
PAWZ					AML	04 21 31.6	
PAWZ					AML	04 21 31.8	
TRWZ	**Traveller**	**2.79**	**181**	P	Pn	04 20 57.5	-1.5
SNZO	**South Karori**	**2.81**	**196**	P	Pn	04 20 57.2	-2.0
SNZO					AML	04 21 32.2	
MSWZ	**Moikau Station**	**2.83**	**187**	P	Pn	04 20 57.4	-2.1
MSWZ					AML	04 21 32.2	
MSWZ					AML	04 21 32.5	
TCW	**Tory Channel**	**2.83**	**203**	P	Pn	04 20 57.7	-1.8
TCW					AML	04 21 33.4	
TCW					AML	04 21 34.1	
BHW	**Baring Head**	**2.87**	**193**	P	Pn	04 20 57.9	-2.1
BHW					AML	04 21 33.3	
PLWZ	**Palliser**	**2.98**	**187**	P	Pn	04 20 59.1	-2.3
TUWZ	**Tuamarina**	**3.13**	**205**	P	Pn	04 21 01.2	-2.1
NNZ	**Nelson**	**3.17**	**214**	⇓P	Pn	04 21 01.7	-2.1
KHZ	**Kahutara**	**4.15**	**203**	P	Pn	04 21 14.0	-2.4
LTZ	**Lake Taylor**	**4.93**	**211**	P	Pn	04 21 23.7	-2.9

GUC 27 04:30:49.4±0.5, 32.54S×71.60W, h4km±1km, MD3.8, ML2.9, 8C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.49**	**184**	⇑*i*P	Pg	04 30 59.3	+0.5
IHA				*i*S	Sb	04 31 07.0	-1.1
PTCH	**Petorca**	**0.63**	**64**	⇑*i*P	Pb	04 31 02.6	-0.5
PTCH				*i*S	Sb	04 31 12.1	-0.2
PTCH				AML	AML	04 31 21.4	
	comp=E,2μm,0.6s						
ROCH	**El Roble**	**0.66**	**131**	⇓*i*P	Pb	04 31 03.1	-0.7
ROCH				*i*S	Sb	04 31 13.5	-0.1
ROCH				AML	AML	04 31 14.7	
	comp=E,642nm,0.7s						
JACH	**Jahuel**	**0.86**	**100**	⇓*i*P	Pg	04 31 06.5	+0.4
JACH				*i*S	Sb	04 31 19.4	+0.3
PEL	**Peldehue**	**0.98**	**128**	⇑*i*P	Pg	04 31 08.3	0.0
PEL				*i*S	Sb	04 31 22.4	0.0
PEL				AML	AML	04 31 23.4	
	comp=E,1μm,0.4s						
SAN	**Santiago**	**1.21**	**139**	*e*P	Pg	04 31 09.3	-3.3
SAN				*i*S	Sb	04 31 28.6	-0.3
SAN				AML	AML	04 31 33.9	
	comp=N,247nm,0.4s						
CLCH	**Cerro Calan**	**1.24**	**134**	⇓*i*P	Pg	04 31 12.0	-1.2
CLCH				*e*S	Sg	04 31 29.5	+0.1
CLCH				AML	AML	04 31 36.2	
	comp=E,247nm,0.6s						
TACH	**Talagante**	**1.24**	**154**	*e*P	Pg	04 31 12.2	-1.1
TACH				*e*S	Sb	04 31 29.9	-0.1
ANTU	**Antumapu**	**1.31**	**142**	*e*P	Pn	04 31 13.3	-1.3
ANTU				*i*S	Sg	04 31 31.5	-0.2
ANTU				AML	AML	04 31 37.1	
	comp=E,298nm,0.7s						
PCH	**Pirque**	**1.41**	**140**	⇑*i*P	Pn	04 31 15.1	-1.0
PCH				*i*S	Sb	04 31 34.6	-0.4
CMCH	**Combarbala**	**1.45**	**21**	⇑*i*P	Pn	04 31 13.9	-2.7
CMCH				*i*S	Sb	04 31 33.1	-3.0
CMCH				AML	AML	04 31 39.6	
	comp=N,1μm,0.5s						
CHCH	**Chadas Angostu**	**1.60**	**151**	⇑*i*P	Pn	04 31 18.2	-0.4
CHCH				*i*S	Sn	04 31 40.0	+0.2
LMEL	**Las Melosas**	**1.75**	**138**	⇑*i*P	Pn	04 31 20.2	-0.7
LMEL				*i*S	Sn	04 31 44.4	+0.5
LMEL				AML	AML	04 31 48.9	
	comp=N,219nm,0.4s						
CACH	**El Canelo**	**1.78**	**152**	⇑*i*P	Pn	04 31 21.5	+0.3
CACH				*i*S	Sb	04 31 46.3	+0.6
TLL	**Tololo Astrono**	**2.46**	**16**	*e*P	Pb	04 31 33.5	-1.0
TLL				*i*S	Sb	04 32 08.8	+0.3
TLL				AML	AML	04 32 15.0	
	comp=N,107nm,0.5s						

IDC 27 04:59:32.6±3.0, 18.09S×177.62W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.8/3, Error ellipse: s-maj=344.4km s-min=33.1km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.34**	**260**	P	P	05 07 52.3	-0.6
	0.2nm,0.3s,baz=96,slow=7.5,SNR=7.4						
ASAR	**Alice Springs**	**45.46**	**254**	P	P	05 07 54.0	+0.2
	2.6nm,0.5s,baz=88,slow=8.4,SNR=40						
TXAR	**Lajitas Array**	**85.46**	**57**	P	P	05 12 12.7	0.0
	0.3nm,0.8s,baz=211,slow=7.1,SNR=4.7						

IDC 27 05:13:19.9±13.0, 10.76N×94.32E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/25, mbtmp3.5/3, Error ellipse: s-maj=762.0km s-min=30.7km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.34**	**346**	P	P	05 20 33.9	-0.1
	0.3nm,0.7s,baz=165,slow=7.4,SNR=3.7						
WRA	**Warramunga Arr**	**49.83**	**128**	P	P	05 22 14.8	-0.2
	0.5nm,0.7s,baz=308,slow=8.4,SNR=3.0						
ASAR	**Alice Springs**	**51.66**	**132**	P	P	05 22 28.8	0.0
	0.7nm,0.7s,baz=303,slow=6.6,SNR=5.4						

*IDC **27** 05:14:09.7±1.0, 42.14N×44.51E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.1/25, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=20.5km s-min=8.6km az=69.0*
*CSEM **27** 05:14:10.9±0.1, 42.34N×45.10E, h5km, mb3.9, Error ellipse: s-maj=2.9km s-min=2.6km az=5.0*
*TIF **27** 05:14:11.3, 42.28N×45.03E, h23km±1km*
*MOS **27** 05:14:11.2±0.6, 42.33N×45.03E, h13km, mb3.9/1, Error ellipse: s-maj=7.6km s-min=5.0km az=111.5*
*ISCJB **27** 05:14:12.2±0.3, 42.33N±0.02×45.08E±0.02, h19km±5km, mb3.0/2, Error ellipse: s-maj=3.2km s-min=3.0km az=171.4*

ISC 27 05:14:11.3±1.0, 42.33N±0.02×45.07E±0.02, h15km±8km, n80, σ1.903/125, 6C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUS	**Dusheti**	**0.36**	**229**	P	**Pb**	**05 14 19.1**	**-0.4**
DUS				S	**Sb**	**05 14 26.2**	**+1.2**
DUS	**Dusheti**	**0.36**	**229**	P	**Pb**	**05 14 19.1**	**-0.4**
DUS				S	**Sb**	**05 14 26.2**	**+1.2**
TBLG	**Delisi**	**0.65**	**203**	*e*PG	**Pg**	**05 14 23.6**	**-0.4**
TBLG	**Delisi**	**0.65**	**203**	P	**Pg**	**05 14 23.6**	**-0.4**
TBLG				S	**Sb**	**05 14 34.1**	**+0.9**
TBLG	**Delisi**	**0.65**	**203**	P	**Pg**	**05 14 23.6**	**-0.4**
TBLG				S	**Sb**	**05 14 34.1**	**+0.9**
LACR	**Lac**	**0.76**	**311**	⇓*i*PG	**Pg**	**05 14 24.5**	**-1.7**
LACR				*i*S	**Sg**	**05 14 35.7**	**-0.5**
LACR	**Lac**	**0.76**	**311**	*i*Pg	**Pg**	**05 14 24.5**	**-1.7**
LACR				*i*Sg	**Sg**	**05 14 35.7**	**-0.5**
SNJR	**Sundja**	**0.76**	**346**	*e*PG	**Pg**	**05 14 25.2**	**-1.0**
SNJR				*e*S	**Sb**	**05 14 36.8**	**+0.2**
SNJR	**Sundja**	**0.76**	**346**	*e*Pg	**Pg**	**05 14 25.2**	**-1.0**
SNJR				*e*Sg	**Sb**	**05 14 36.8**	**+0.2**
VLKR	**Vladikavkaz**	**0.78**	**338**	*e*PG	**Pg**	**05 14 26.1**	**-0.3**
VLKR				*e*S	**Sn**	**05 14 38.4**	**-0.8**
VLKR	**Vladikavkaz**	**0.78**	**338**	*e*Pg	**Pg**	**05 14 26.1**	**-0.3**
VLKR				*e*Sg	**Sn**	**05 14 38.4**	**-0.8**
DGRG	**David-gareji**	**0.91**	**166**	*e*PG	**Pb**	**05 14 29.1**	**+0.4**
DGRG	**David-gareji**	**0.91**	**166**	P	**Pb**	**05 14 29.2**	**+0.4**
DGRG				S	**Sn**	**05 14 42.5**	**+0.1**
DGRG	**David-gareji**	**0.91**	**166**	*e*Pg	**Pb**	**05 14 29.1**	**+0.4**
DGRG				S	**Sn**	**05 14 42.5**	**+0.1**
ZEI	**Tsey**	**0.97**	**297**	⇓*i*PG	**Pb**	**05 14 29.2**	**-0.8**
ZEI				*i*S	**Sb**	**05 14 42.9**	**+0.1**
ZEI	**Tsey**	**0.97**	**297**	*i*Pg	**Pb**	**05 14 29.2**	**-0.8**
ZEI				*i*Sg	**Sb**	**05 14 42.9**	**+0.1**
ARNR	**Ardon**	**1.04**	**326**	*e*PG	**Pb**	**05 14 30.9**	**-0.1**
ARNR				*e*S	**Sn**	**05 14 45.8**	**+0.1**
ARNR	**Ardon**	**1.04**	**326**	*e*Pg	**Pb**	**05 14 30.9**	**-0.1**
ARNR				*e*Sg	**Sn**	**05 14 45.8**	**+0.1**
KORR	**Kora**	**1.06**	**316**	⇓*i*PG	**Pb**	**05 14 31.1**	**-0.3**
KORR				*e*S	**Sn**	**05 14 46.5**	**+0.3**
KORR	**Kora**	**1.06**	**316**	*i*Pg	**Pb**	**05 14 31.1**	**-0.3**
KORR				*e*Sg	**Sn**	**05 14 46.5**	**+0.3**
KZR	**Kazreti**	**1.07**	**208**	P	**Pb**	**05 14 30.6**	**-0.9**
KZR				S	**Sg**	**05 14 45.6**	**-0.2**
KZR	**Kazreti**	**1.07**	**208**	P	**Pb**	**05 14 30.6**	**-0.9**
KZR				S	**Sg**	**05 14 45.6**	**-0.2**
GRO	**Groznyy**	**1.11**	**26**	*e*PG	**Pb**	**05 14 30.6**	**-1.6**
GRO				*e*S	**Sb**	**05 14 45.5**	**-0.9**
GRO	**Groznyy**	**1.11**	**26**	*e*Pg	**Pb**	**05 14 30.6**	**-1.6**
GRO				*e*Sg	**Sb**	**05 14 45.5**	**-0.9**
BTKR	**Batakoyurt**	**1.11**	**340**	*e*PG	**Pg**	**05 14 32.8**	**-0.1**
BTKR				*e*S	**Sn**	**05 14 49.3**	**+1.8**
BTKR	**Batakoyurt**	**1.11**	**340**	*e*Pg	**Pg**	**05 14 32.8**	**-0.1**
BTKR				*e*Sg	**Sn**	**05 14 49.3**	**+1.8**
ONI	**Oni**	**1.23**	**283**	*e*PG	**Pn**	**05 14 34.0**	**0.0**
ONI	**Oni**	**1.23**	**283**	P	**Pn**	**05 14 34.0**	**0.0**
ONI				S	**Sg**	**05 14 53.4**	**+2.4**
ONI	**Oni**	**1.23**	**283**	P	**Pn**	**05 14 34.0**	**0.0**
ONI				S	**Sg**	**05 14 53.4**	**+2.4**
XNZR	**Khunzakh**	**1.

AKH	**Akhalkalaki**	**1.50**	**233**	P		**Pn**	**05 14 37.6**	**-0.2**
AKH				S		**Sg**	**05 14 58.5**	**-1.1**
AKH	**Akhalkalaki**	**1.50**	**233**	P		**Pn**	**05 14 37.6**	**-0.2**
AKH				S		**Sg**	**05 14 58.5**	**-1.1**
KMKR	**Kumukh**	**1.52**	**97**	*e*PG		**Pg**	**05 14 40.5**	**0.0**
KMKR				*e*S		**Sg**	**05 15 01.0**	**+0.7**
KMKR				pmax	pmax			
	comp=Z,44nm,0.4s							
KMKR	**Kumukh**	**1.52**	**97**	*e*Pg		**Pg**	**05 14 40.5**	**0.0**
	comp=Z,44nm,0.4s							
KMKR				*e*Sg		**Sg**	**05 15 01.0**	**+0.7**
PRTR	**Priterechnaya**	**1.54**	**338**	*i* PG		**Pb**	**05 14 39.3**	**-0.2**
PRTR				*e*S		**Sg**	**05 15 01.4**	**+0.6**
PRTR	**Priterechnaya**	**1.54**	**338**	*i* Pg		**Pb**	**05 14 39.3**	**-0.2**
PRTR				*e*Sg		**Sg**	**05 15 01.4**	**+0.6**
NCK	**Nalchik**	**1.59**	**318**	*e*PG		**Pn**	**05 14 38.4**	**-0.6**
MAK	**Makhachkala**	**1.90**	**70**	*e*PN		Pn	05 14 39.9	-3.3
KBZ	**Khabaz**	**2.12**	**312**	PN		**Pn**	**05 14 47.9**	**+1.7**
KBZ				pmax	pmax			
	comp=Z,3.0nm,0.3s							
KBZ	**Khabaz**	**2.12**	**312**	Pg		**Pn**	**05 14 47.9**	**+1.7**
	comp=Z,2.5nm,0.3s,baz=145,slow=12,SNR=32							
KBZ				Lg		Lg	05 15 15.0	
	comp=Z,7.4nm,0.3s,baz=210,slow=18,SNR=9.7							
KBZ	**Khabaz**	**2.12**	**312**	Pn		**Pn**	**05 14 47.9**	**+1.7**
GNI	**Garni**	**2.19**	**187**	Pg		**Pb**	**05 14 49.7**	**-1.1**
	comp=Z,13nm,0.3s,baz=355,slow=6.2,SNR=31							
GNI				Lg		Lg	05 15 20.0	
	comp=Z,18nm,0.3s,baz=18,slow=11,SNR=11							
GNI	**Garni**	**2.19**	**187**	*i* Pn		**Pb**	**05 14 49.5**	**-1.3**
	comp=Z,59nm,0.6s							
BEYR	**Belyy Ugol+**	**2.36**	**316**⇑	*e*PN		**Pn**	**05 14 50.2**	**+0.7**
BEYR	**Belyy Ugol+**	**2.36**	**316**	*e*Pn		**Pn**	**05 14 50.2**	**+0.7**
KIV	**Kislovodsk**	**2.39**	**314**	*e*PN		**Pn**	**05 14 51.3**	**+1.3**
KIV	**Kislovodsk**	**2.39**	**314**	*e*Pn		**Pn**	**05 14 51.3**	**+1.3**
DOMR	**Dombai**	**2.71**	**292**⇑	*e*PN		**Pn**	**05 14 56.2**	**+1.7**
DOMR	**Dombai**	**2.71**	**292**	*e*Pn		**Pn**	**05 14 56.2**	**+1.7**
SOC	**Sochi**	**4.13**	**289**	*e*PN		**Pn**	**05 15 14.1**	**+0.3**
SOC	**Sochi**	**4.13**	**289**	*e*Pn		**Pn**	**05 15 14.1**	**+0.3**
ANN	**Anapa**	**6.08**	**297**	*e*P		**Pn**	**05 15 38.4**	**-2.1**
ANN				pmax	pmax			
	comp=Z,13nm,1.1s							
AKTK	**Aktyubinsk**	**12.05**	**43**	P		**Pn**	**05 17 05.0**	**+2.6**
AKTO	**Aktyubinsk**	**12.05**	**43**	⇓P		**Pn**	**05 17 03.1**	**+0.7**
	comp=Z,1.2nm,0.8s							
AKTO				⇑Sn		**Sn**	**05 19 13.9**	**-2.6**
	comp=Z,1.7nm,1.0s							
AKTO	**Aktyubinsk**	**12.05**	**43**	P		**Pn**	**05 17 05.0**	**+2.6**
AKTO	**Aktyubinsk**	**12.05**	**43**	Pn		**Pn**	**05 17 05.0**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=225,slow=14,SNR=3.0							
AKTO	**Aktyubinsk**	**12.05**	**43**	Pn		**Pn**	**05 17 03.1**	**+0.7**
	comp=Z,1.2nm,0.8s							
AB31	**Akbulak array**	**12.47**	**51**	⇑Pn		**Pn**	**05 17 08.1**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=247,slow=13,SNR=4.8							
AB31				⇑Sn		**Sn**	**05 19 22.5**	**-4.0**
	comp=Z,1.1nm,0.7s,baz=242,slow=22							
AB31	**Akbulak array**	**12.47**	**51**	Pn		**Pn**	**05 17 08.1**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=247,SNR=4.8							
FINES	**FINESS Array B**	**22.29**	**336**	P		**P**	**05 19 08.9**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=151,slow=21,SNR=3.2							
FINES	**FINESS Array B**	**22.29**	**336**	P		**P**	**05 19 08.9**	**+1.2**
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**26.72**	**68**	P		P	05 19 56.7	+6.7
MKAR	**Makanchi Array**	**26.72**	**68**	P		P	05 19 56.7	+6.7
	comp=Z,0.1nm,0.4s,baz=274,slow=8.4,SNR=2.7							

IDC 27 05:27:12.8±2.6, **10°.61N**×**94°.18E**, **h0**km, **mb3.6**/6, **mb1 3.7**/6, **mb1mx3.5**/26, **mbtmp3.6**/6, **MS3.2**/1, **Ms1 3.2**/1, **ms1mx2.4**/37, **Error ellipse: s-maj=112.1km s-min=20.6km az=62.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.07**	**148**	LR	LR	05 32 40.2	
	comp=Z,128nm,18.2s,baz=342,slow=36						
MKAR	**Makanchi Array**	**37.45**	**347**	P	P	05 34 27.9	-0.1
	0.6nm,0.7s,baz=171,slow=8.9,SNR=8.0						
SONM	**Songino Array**	**38.51**	**13**	P	P	05 34 36.2	-0.8
	0.2nm,0.4s,baz=216,slow=8.9,SNR=2.4						
KURBB	**Kurchatov Arra**	**41.92**	**345**	P	P	05 35 05.1	0.0
	0.1nm,0.4s,baz=158,slow=8.3,SNR=4.5						
ZALV	**Zalesovo Beam**	**43.87**	**352**	P	P	05 35 21.2	+0.3
	0.7nm,0.3s,baz=161,slow=9.2,SNR=2.2						
WRA	**Warramunga Arr**	**49.85**	**127**	P	P	05 36 08.0	-0.2
	0.4nm,0.6s,baz=302,slow=8.5,SNR=5.5						
ASAR	**Alice Springs**	**51.66**	**132**	P	P	05 36 21.9	+0.1
	1.0nm,0.7s,baz=308,slow=7.5,SNR=7.1						

*IDC **27** 05:39:33.4*±*0.5, 10°.73N*×*94°.25E, h0km, mb4.1/23, mb1 4.2/25, mb1mx4.1/33, mbtmp4.1/25, ML3.5/2, MS3.7/13, Ms1 3.7/13, ms1mx3.5/36, Error ellipse: s-maj=18.6km s-min=11.9km az=58.0*

*ISCJB **27** 05:39:35.6*±*0.3, 10°.73N*±*0°.05*×*94°.41E*±*0°.05, h24km, mb4.2/29, MS3.7/11, Error ellipse: s-maj=8.3km s-min=5.3km az=44.9*

*NEIC **27** 05:39:37.6*±*2.1, 10°.69N*×*94°.27E, h28km*±*15km, mb4.5/6, Error ellipse: s-maj=9.8km s-min=4.6km az=65.0*

ISC 27 05:39:37.3±0.4, **10°.71N**±0°.06×**94°.38E**±0°.07, **h24**km, **n82, σ1°29/81, mb4.2/29, MS3.7/11, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.86**	**300**	*e*P	Pn	05 40 08.6	+0.9
PBA				*e*S	Sn	05 40 30.3	-0.2
DGPR	**DIGLIPUR**	**2.83**	**330**	*e*P	**Pn**	**05 40 23.4**	**+2.3**
DGPR				*ex*	**Sn**	**05 40 51.7**	**-2.8**
CMBY	**CAMPBELL BAY**	**3.70**	**187**	*e*P	**Pn**	**05 40 35.5**	**+2.5**
CMAR	**Chiang Mai Arr**	**8.88**	**29**	Pn	**Pn**	**05 41 45.7**	**+1.6**
CMAR	**Chiang Mai Arr**	**8.88**	**29**	Pn	**Pn**	**05 41 45.7**	**+1.6**
	0.2nm,0.3s,baz=219,slow=14,SNR=8.0						
CMAR				LR	LR	05 45 03.1	
	comp=Z,167nm,18.4s,baz=306,slow=37						
IPM	**Ipoh**	**9.04**	**133**	*e*Pn	**Pn**	**05 41 44.7**	**-1.7**
IPM				*e*Sn	**Sn**	**05 43 22.4**	**-5.1**
PSI	**Prapat**	**9.06**	**150**	Pn	**Pn**	**05 41 49.0**	**+2.3**
PSI	**Prapat**	**9.06**	**150**	Pn	**Pn**	**05 41 49.0**	**+2.3**
	0.3nm,0.3s,baz=332,slow=18,SNR=2.1						
PSI				LR	LR	05 45 40.1	
	comp=Z,760nm,21.2s,baz=304,slow=40						
CHTO	**Chiang Mai**	**9.18**	**28**	*e*Pn	**Pn**	**05 41 50.1**	**+1.8**
	9.4nm,1.1s						
VIS	**Vishakhapatnam**	**12.78**	**304**	*e*P	**Pn**	**05 42 36.4**	**-1.2**
SHL	**Shillong**	**14.97**	**351**	*e*P	**Pn**	**05 43 08.3**	**+0.7**
BOK	**Bokaro**	**15.33**	**329**	*e*P	**Pn**	**05 43 13.7**	**+1.5**
BOK				AMB	AMB	05 43 24.8	
	comp=Z,23nm,1.5s						
HYB	**Hyderabad**	**16.73**	**295**	*e*P	**P**	**05 43 31.5**	**-1.0**
HYB				AMB	AMB	05 43 46.7	
	comp=Z,27nm,1.7s						
LSA	**Lhasa**	**19.13**	**351**	*e*P	**P**	**05 43 59.5**	**+0.2**
	comp=Z,25nm,1.1s						
BHPL	**Bhopal**	**20.42**	**310**	*e*P	Pn	05 44 15.1	-0.1
BHPL				AMB	AMB	05 44 22.5	
	comp=Z,20nm,1.5s						
POO	**Poona**	**21.32**	**294**	*e*P	**P**	**05 44 23.3**	**+0.7**
ENH	**Enshi**	**24.01**	**34**	*e*P	**P**	**05 44 51.0**	**+0.6**
	comp=Z,24nm,1.0s						
NDI	**New Delhi**	**24.04**	**320**	*ex*	**P**	**05 44 50.0**	**-0.7**
DDI	**Dehra Dun**	**24.73**	**324**	*e*P	**P**	**05 45 00.9**	**+3.9**
SMLA	**Simla**	**25.84**	**324**	*e*P	**P**	**05 45 07.2**	**+0.3**
SMLA				AMB	AMB	05 45 30.9	
	comp=Z,25nm,2.1s						
DHRM	**DHARAMSHALA**	**27.16**	**325**	*e*P	**P**	**05 45 22.1**	**+2.9**
KAPI	**Kappang**	**29.70**	**121**	*e*P	**P**	**05 45 42.8**	**+1.1**
KAPI	**Kappang**	**29.70**	**121**	P	**P**	**05 45 43.6**	**+1.9**
	comp=Z,4.8nm,0.4s,baz=246,slow=13,SNR=4.2						
AAK	**Ala-Archa**	**36.23**	**335**	*e*P	P	05 46 45.6	+7.0
AAK	**Ala-Archa**	**36.23**	**335**	P	**P**	**05 46 38.0**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=202,slow=7.5,SNR=3.9						
EKS2	**Erkin-Say**	**36.56**	**334**	*e*P	**P**	**05 46 41.3**	**0.0**
	comp=Z,6.5nm,0.8s						
MK31	**Makanchi Array**	**37.40**	**346**	*e*P	**P**	**05 46 48.1**	**-0.3**
MKAR	**Makanchi Array**	**37.40**	**346**	P	**P**	**05 46 48.1**	**-0.2**
MKAR	**Makanchi Array**	**37.40**	**346**	P	**P**	**05 46 48.1**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=168,slow=8.3,SNR=26						
MKAR				LR	LR	06 06 06.0	
	comp=Z,72nm,18.2s,baz=163,slow=43						
SONM	**Songino Array**	**38.36**	**13**	P	**P**	**05 46 57.2**	**+0.6**
SONM	**Songino Array**	**38.36**	**13**	P	**P**	**05 46 57.2**	**+0.6**
	comp=Z,1.2nm,1.0s,baz=191,slow=8.7,SNR=9.5						
SONM				LR	LR	06 04 13.6	
	comp=Z,214nm,19.6s,baz=354,slow=39						
KKAR	**Karatay Array**	**38.38**	**331**	*e*P	**P**	**05 46 56.5**	**-0.2**
	comp=Z,5.4nm,1.0s						
KSAR	**Wonju Array Be**	**40.18**	**43**	P	**P**	**05 47 11.3**	**-0.4**
KSRS	**Korea Array**	**40.21**	**43**	P	**P**	**05 47 11.3**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=244,slow=9.4,SNR=9.9						
KSRS				LR	LR	06 04 23.4	
	comp=Z,44nm,18.9s,baz=227,slow=37						
KURBB	**Kurchatov Arra**	**41.88**	**345**	P	**P**	**05 47 25.1**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=158,slow=8.0,SNR=19						
KURK	**Kurchatov**	**41.94**	**345**	P	**P**	**05 47 25.1**	**-1.0**
FITZ	**Fitzroy Crossi**	**42.09**	**133**	LR	LR	06 05 42.6	
	comp=Z,108nm,21.6s,baz=328,slow=37						
ZALV	**Zalesovo Beam**	**43.80**	**352**	P	**P**	**05 47 41.0**	**-0.1**
ZALV	**Zalesovo Beam**	**43.80**	**352**	P	**P**	**05 47 41.0**	**-0.1**
	comp=Z,5.1nm,0.8s,baz=148,slow=8.5,SNR=4.8						
ZALV				LR	LR	06 08 05.7	
	comp=Z,75nm,21.1s,baz=250,slow=39						
BVAR	**Borovoye Array**	**46.41**	**340**	P	**P**	**05 48 01.1**	**-0.8**
BVAR	**Borovoye Array**	**46.41**	**340**	P	**P**	**05 48 01.1**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=148,slow=8.7,SNR=5.8						
USRK	**Ussuriysk Arra**	**46.51**	**37**	P	**P**	**05 48 02.5**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=234,slow=12,SNR=5.1						
MJAR	**Matsushiro Arr**	**47.12**	**50**	P	**P**	**05 48 07.7**	**0.0**
MJAR				PcP	**PcP**	**05 49 39.8**	**+0.4**
MJAR	**Matsushiro Arr**	**47.12**	**50**	P	**P**	**05 48 07.7**	**0.0**
	comp=Z,0.5nm,0.4s,baz=213,slow=8.4,SNR=3.2						
MJAR				PcP	**PcP**	**05 49 39.8**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=269,slow=5.0,SNR=4.2						
ABKAR	**Akbulak array**	**47.89**	**330**	*e*P	**P**	**05 48 12.7**	**-0.7**
	comp=Z,6.9nm,0.9s						
AKTO	**Aktyubinsk**	**49.60**	**330**	P	**P**	**05 48 25.8**	**-0.9**
AKTO	**Aktyubinsk**	**49.60**	**330**	P	**P**	**05 48 25.8**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=91,slow=9.6,SNR=3.6						
WRA	**Warramunga Arr**	**49.75**	**128**	P	**P**	**05 48 28.5**	**+0.4**
WRA	**Warramunga Arr**	**49.75**	**128**	P	**P**	**05 48 28.5**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=306,slow=8.8,SNR=16						
WRAB	**Tennant Creek**	**49.75**	**128**	*e*P	**P**	**05 48 28.9**	**+0.7**
	comp=Z,2.4nm,0.7s						
AS31	**Alice Springs**	**51.58**	**132**	*e*P	**P**	**05 48 42.8**	**+0.8**
ASAR	**Alice Springs**	**51.58**	**132**	P	**P**	**05 48 42.5**	**+0.6**
ASAR	**Alice Springs**	**51.58**	**132**	P	**P**	**05 48 42.5**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=309,slow=7.3,SNR=20						
GNI	**Garni**	**52.67**	**313**	P	**P**	**05 48 49.7**	**-0.4**
GNI	**Garni**	**52.67**	**313**	P	**P**	**05 48 49.7**	**-0.4**
	comp=Z,2.7nm,0.3s,baz=24,slow=11,SNR=3.7						
KBZ	**Khabaz**	**55.19**	**316**	P	**P**	**05 49 08.2**	**+0.1**
KBZ	**Khabaz**	**55.19**	**316**	P	**P**	**05 49 08.2**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=173,slow=5.9,SNR=4.1						
KBZ				LR	LR	06 16 03.3	
	comp=Z,69nm,21.5s,baz=303,slow=40						
BRTR	**Keskin Array B**	**60.79**	**310**	P	**P**	**05 49 45.8**	**-2.0**
BRTR	**Keskin Array B**	**60.79**	**310**	P	**P**	**05 49 45.8**	**-2.0**
	comp=Z,1.7nm,0.8s,baz=108,slow=7.9,SNR=8.7						
BRTR				LR	LR	06 18 05.9	
	comp=Z,32nm,18.9s,baz=7.7,slow=38						
STKA	**Stephens Creek**	**61.91**	**135**	P	**P**	**05 49 55.0**	**-0.1**
STKA	**Stephens Creek**	**61.91**	**135**	P	**P**	**05 49 55.0**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=323,slow=20,SNR=2.1						
STKA				LR	LR	06 16 17.7	
	comp=Z,200nm,21.6s,baz=342,slow=36						
PETK	**Petropavlovsk-**	**65.58**	**36**	LR	LR	06 24 34.5	
	comp=Z,26nm,18.3s,baz=62,slow=41						
FINES	**FINESS Array B**	**70.34**	**332**	P	**P**	**05 50 47.8**	**-1.0**
FINES	**FINESS Array B**	**70.34**	**332**	P	**P**	**05 50 47.8**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=93,slow=5.6,SNR=3.1						
FINES				LR	LR	06 22 39.7	
	comp=Z,63nm,18.3s,baz=287,slow=37						
ARCES	**ARCESS Array B**	**72.70**	**340**	P	**P**	**05 51 01.4**	**-1.5**
ARCES	**ARCESS Array B**	**72.70**	**340**	P	**P**	**05 51 01.4**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=99,slow=7.5,SNR=6.1						
ARCES				LR	LR	06 26 22.7	
	comp=Z,125nm,18.6s,baz=330,slow=39						
BOSA	**Boshof**	**77.30**	**237**	P	**P**	**05 51 29.8**	**-0.5**
BOSA	**Boshof**	**77.30**	**237**	P	**P**	**05 51 29.8**	**-0.5**
	comp=Z,2.4nm,0.9s,baz=31,slow=5.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**90.18**	**283**	P	**P**	**05 52 35.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**90.18**	**283**	P	**P**	**05 52 35.7**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=84,slow=3.5,SNR=4.7						
ILAR	**Eielson Array**	**92.04**	**22**	P	**P**	**05 52 43.3**	**-0.8**
ILAR	**Eielson Array**	**92.04**	**22**	P	**P**	**05 52 43.3**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=328,slow=4.7,SNR=4.1						
VNDA	**Vanda**	**95.64**	**168**	P	**P**	**05 53 00.6**	**+0.3**
VNDA	**Vanda**	**95.64**	**168**	P	**P**	**05 53 00.6**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=288,slow=5.2,SNR=3.7						
NVAR	**Mina Array Bea**	**122.37**	**30**	PKP	**PKPdf**	**05 58 31.8**	**+0.6**
NVAR	**Mina Array Bea**	**122.37**	**30**	PKP	**PKPdf**	**05 58 31.8**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=312,slow=2.4,SNR=5.4						
PDAR	**Pinedale Array**	**122.45**	**21**	PKP	**PKPdf**	**05 58 31.0**	**-0.3**
PDAR	**Pinedale Array**	**122.45**	**21**	PKP	**PKPdf**	**05 58 31.0**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=48,slow=2.2,SNR=4.0						
TXAR	**Lajitas Array**	**136.55**	**23**	PKP	**PKPdf**	**05 58 59.2**	**+1.0**
TXAR	**Lajitas Array**	**136.55**	**23**	PKP	**PKPdf**	**05 58 59.2**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=68,slow=0.5,SNR=3.4						
PLCA	**Paso Flores**	**147.27**	**201**	PKPbc	**PKPbc**	**05 59 19.3**	**+0.1**
PLCA	**Paso Flores**	**147.27**	**201**	PKPbc	**PKPbc**	**05 59 19.3**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=72,slow=0.9,SNR=5.8						

*IDC **27** 05:44:17.9*±*1.4, 50°.80N*×*179°.88E, h0km, mb3.3/8, mb1 3.6/9, mb1mx3.5/30, mbtmp3.4/9, ML3.6/1, MS2.4/1, Ms1 2.4/1, ms1mx2.2/24, Error ellipse: s-maj=41.0km s-min=13.4km az=2.0*

*ISCJB **27** 05:44:21.1*±*1.6, 50°.85N*±*0°.07×179°.38E*±*0°.06, h25km*±*10km, mb3.5/8, Error ellipse: s-maj=12.5km s-min=6.1km az=9.4*

*NEIC **27** 05:44:23.3, 51°.01N×179°.46E, h14km, ML3.2(AEIC), After AEIC.*

ISC 27 05:44:20.5±2.0, **50°.87N**±0°.09×**179°.63E**±0°.04, **h15**km±11km, **n32**, **σ1°38/36, mb3.6/8, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.55**	**338**	P	**Pg**	**05 44 31.7**	**+0.3**
AMKA				S	**Sg**	**05 44 38.8**	**0.0**
CESW	**Semis' Southwe**	**1.03**	**358**	P	**Pb**	**05 44 40.1**	**-0.1**
CERAA	**Semis' Rag'd T**	**1.04**	**2**	P	**Pb**	**05 44 40.2**	**-0.1**
CETU	**Semis' Tuman**	**1.10**	**356**	P	**Pb**	**05 44 41.3**	**0.0**
CETU				S	**Sb**	**05 44 55.0**	**-0.5**
CEAP	**Semis' Anvil P**	**1.14**	**358**	P	**Pb**	**05 44 41.9**	**0.0**
LSSE	**Little Sitkin**	**1.25**	**329**	P	**Pn**	**05 44 43.0**	**-0.5**
LSPA	**Little Sitkin**	**1.27**	**329**	P	**Pn**	**05 44 43.2**	**-0.6**
LSPA				S	**Sb**	**05 44 59.5**	**-0.9**
LSSA	**Little Sitkin**	**1.29**	**328**	P	**Pn**	**05 44 43.6**	**-0.4**
LSNW	**Little Sitkin**	**1.30**	**328**	P	**Pn**	**05 44 43.7**	**-0.5**
GALAA	**Gareloi Lava P**	**1.35**	**48**	P	**Pg**	**05 44 47.4**	**+1.0**
GAEA	**Gareloi East**	**1.37**	**47**	P	**Pg**	**05 44 47.7**	**+0.7**
GANE	**Gareloi Northe**	**1.38**	**46**	P	**Pg**	**05 44 46.8**	**-0.3**
TASE	**Tanaga Southea**	**1.76**	**56**	P	**Pb**	**05 44 53.0**	**+0.5**
TAFL	**Tanaga Flats**	**1.79**	**59**	P	**Pb**	**05 44 53.2**	**+0.2**
TAFP	**Tanaga Falls P**	**1.82**	**54**	P	**Pb**	**05 44 53.3**	**-0.2**
TAFP				S	**Sb**	**05 45 17.1**	**+1.0**
ADK	**Adak**	**2.53**	**65**	*e*Pn	**Pb**	**05 45 03.8**	**-1.7**
ADK				*e*Sn	**Sb**	**05 45 37.7**	**+1.3**
ADAG	**Mount Adagdak**	**2.61**	**63**	P	**Pn**	**05 45 04.8**	**+2.6**
GSTD	**Great Sitkin T**	**2.90**	**64**	P	**Pb**	**05 45 09.4**	**-2.6**
KOWE	**Korovin West**	**4.10**	**66**	P	Pn	05 45 27.1	+4.4
KOFP	**Korovin Flat P**	**4.16**	**68**	P	Pn	05 45 27.5	+4.0
FX1	**Attu Island--F**	**4.48**	**299**	P	**Pn**	**05 45 28.9**	**+1.0**
FX1				S	**Sn**	**05 46 21.6**	**+1.9**
FX1	**Attu Island--F**	**4.48**	**299**	Pn	**Pn**	**05 45 29.2**	**+1.4**
	9.2nm,0.3s,baz=81,slow=4.2,SNR=40						
FX1				Sn	**Sn**	**05 46 24.1**	**+4.4**
	3.1nm,0.3s,baz=49,slow=20,SNR=2.4						
PETK	**Petropavlovsk-**	**13.69**	**288**	LR	LR	05 51 36.7	
	comp=Z,14nm,18.4s,baz=77,slow=32						
ILAR	**Eilson Array**	**22.26**	**39**	P	**P**	**05 49 14.5**	**-2.1**
	0.3nm,0.8s,baz=241,slow=9.2,SNR=2.5						
DLBC	**Dease Lake**	**29.47**	**55**	P	**P**	**05 50 21.7**	**-1.8**
	0.3nm,0.3s,baz=279,slow=16,SNR=2.3						
YKA	**Yellowknife Ar**	**36.30**	**46**	P	**P**	**05 51 21.6**	**-1.4**
	0.2nm,0.7s,baz=284,slow=7.3,SNR=2.9						
JNU	**Nakatsue**	**39.52**	**262**	P	**P**	**05 51 50.8**	**+0.2**
	5.0nm,0.7s,baz=68,slow=5.4,SNR=3.2						
SONM	**Songino Array**	**45.98**	**296**	P	**P**	**05 52 43.0**	**0.0**
	0.2nm,0.4s,baz=70,slow=9.3,SNR=2.7						
PDAR	**Pinedale Array**	**47.41**	**71**	P	**P**	**05 52 54.9**	**+0.6**
	0.6nm,0.8s,baz=307,slow=5.4,SNR=5.3						
KURBB	**Kurchatov Arra**	**58.76**	**313**	P	**P**	**05 54 17.1**	**-0.3**
	0.7nm,0.5s,baz=41,slow=6.6,SNR=5.5						
MKAR	**Makanchi Array**	**59.57**	**308**	P	**P**	**05 54 22.2**	**-1.0**
	0.2nm,0.3s,baz=44,slow=7.2,SNR=6.7						
TXAR	**Lajitas Array**	**59.72**	**80**	P	**P**	**05 54 24.6**	**0.0**
	0.0nm,0.5s,baz=304,slow=6.4,SNR=2.4						

IDC 27 06:12:35.2±8.3, **10°.22N**×**94°.43E**, **h0**km, **mb3.3**/3, **mb1 3.5**/3, **mb1mx3.3**/25, **mbtmp3.3**/3, **Error ellipse: s-maj=467.5km s-min=28.1km az=59.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.88**	**346**	P	P	06 19 53.9	-0.1
	0.2nm,0.5s,baz=162,slow=7.2,SNR=3.0						
WRA	**Warramunga Arr**	**49.42**	**127**	P	P	06 21 27.2	-0.1
	0.4nm,0.7s,baz=305,slow=8.8,SNR=4.4						
ASAR	**Alice Springs**	**51.22**	**132**	P	P	06 21 40.9	-0.1
	0.2nm,0.6s,baz=316,slow=7.8,SNR=4.1						

*LDG **27** 06:23:42.5*±*0.1, 34°.68N*×*73°.23E, h10km, Mb5.0/42, Ms4.1/8, Error ellipse: s-maj=9.4km s-min=4.3km az=29.0*

*IDC **27** 06:23:44.6*±*0.4, 34°.83N*×*73°.28E, h0km, mb5.0/31, mb1 5.2/36, mb1mx5.2/36, mbtmp5.1/36, ML5.1/5, MS4.2/27, Ms1 4.2/27, ms1mx4.1/37, Error ellipse: s-maj=9.4km s-min=9.0km az=96.0*

*BJI **27** 06:23:46.9, 34°.80N*×*73°.40E, h15km, mB5.1/38, mb5.0/49, ML5.4/2, Ms4.8/54, Ms7 4.5/49*

*MOS **27** 06:23:48.1*±*0.9, 34°.85N*×*73°.21E, h33km, mb5.3/73, MS4.3/31, Error ellipse: s-maj=5.9km s-min=3.5km az=105.2*

*BKK **27** 06:23:48.7*±*0.3, 35°.N*±*6°*×*7°.3E*±*°, h10km, M5.3/26, mB5.6/8, mb5.3/26, MLv5.6/1, Mw(mB)5.1/8*

*SZGRF **27** 06:23:48.4, 34°.68N*×*73°.15E, h33km, mb5.0, MS4.2, Pakistan*

*ISCJB **27** 06:23:49.7*±*0.3, 34°.93N*±*0°.02*×*73°.24E*±*0°.02, h47km*±*3km, mb5.1/234, MS4.5/65, Error ellipse: s-maj=2.9km s-min=2.4km az=8.8*

*NEIC **27** 06:23:51.7*±*0.7, 34°.90N*×*73°.22E, h49km*±*6km, mb5.1/60, Error ellipse: s-maj=5.1km s-min=3.3km az=189.0*

NEIC Felt [III] at Islamabad. Also felt at Abbottabad, Peshawar and Rawalpindi.

*TEH **27** 06:23:51.0, 34°.90N*×*73°.20E, h38km, ML5.1*

*DJA **27** 06:23:51.6*±*2.2, 35°.N*±*13°*×*7°.3E*±*°, h44km*±*25km, M5.8/7, mB5.6/4, mb5.2/7, MLv6.3/1, Mw(mB)5.0/4*

*GCMT **27** 06:23:52.9*±*0.3, 34°.93N*×*73°.01E, h26km*±*1km, MW5.0, Moment Tensor Solution. s28,c40; s59,c85; Moment tensor: Scale 10^16Nm; Mrr2.38±.17; Mθθ-1.55±.16; Mφφ-0.84±.16; Mrθ2.05±.31; Mθφ1.94±.11; Mφr-0.94±.30; Best double couple: M0:4.10000×10^16 NP1:φs338.00000°, δ34.00000°, λ130.00000°. NP2:φs113.00000°, δ65.00000°, λ67.00000°. Principal axes: T 3.2900, Plg63.0000°, Azm345.0000°; N

KK31 **Karatay Array** 8.44 346 ⇑P Pn 06 25 51.3 +1.6
comp=Z,68nm,0.3s,baz=160,slow=11,SNR=2730
KK31 ⇑S **Sn** 06 27 22.9 -0.7
comp=Z,44nm,0.4s,baz=166,slow=20,SNR=4.9
KK31 Karatay Array 8.44 346*ce*P **Pn** 06 25 51.2 +1.6
KK31 pmax pmax
comp=Z,229nm,0.3s
KKAR Karatay Array 8.44 346 *e*P **Pn** 06 25 51.3 +1.7
KKAR *e* 06 27 24.0
KKAR pmax pmax
comp=Z,279nm,0.4s
KKAR Karatay Array 8.44 346 *e*Pn **Pn** 06 25 51.3 +1.7
comp=Z,279nm,0.4s
KKAR *e*Sn **Sn** 06 27 24.0 +0.3
AJM Ajmer 8.51 171 *i* x **Sn** 06 27 21.0 -4.6
KNDC Almaty 8.77 18 ⇑P **Pn** 06 25 57.3 +3.1
comp=Z,123nm,0.6s
KNDC ⇓S **Sn** 06 27 31.4 -0.5
comp=Z,445nm,1.1s
AAA Alma-Ata 8.81 18 *i* P **Pn** 06 25 57.4 +2.6
AAA *i* S **Sn** 06 27 34.7 +1.7
AAA pmax pmax
comp=Z,500nm,0.5s
AAA smax smax
comp=E,600nm,0.9s
AAA MLR MLR
comp=Z,9μm,4.0s
IMYA Miami 10.79 281 *e*P **Pn** 06 26 22.3 +0.3
ISRO Mashad 11.30 281 *e*P **Pn** 06 26 30.3 +1.4
IMOG Moghan 11.39 280 *e*P **Pn** 06 26 31.7 +1.3
IPAY Payeh 11.69 282 *e*P **Pn** 06 26 35.2 +0.9
IAKL Akhelmad 11.89 282 *e*P **Pn** 06 26 38.2 +1.1
IKRD Kardeh 12.10 283 *e*P Pn 06 26 29.0 -11
IKOO Kooshah 12.12 262 *e*P **Pn** 06 26 42.2 +1.9
BHPL Bhopal 12.20 162 *e*P **Pn** 06 26 40.1 -1.2
BHPL AMB AMB 06 26 43.9
comp=Z,74nm,0.9s
BHPL *ex* x 06 28 46.2
ISFR Sfrayin 12.53 284 *e*P **Pn** 06 26 46.1 +0.2
JBP Jabalpur 13.11 152 *e*P **Pn** 06 26 51.6 -2.0
JBP *ex* x 06 29 06.6
MK31 Makanchi Array 13.68 27 ⇑P **Pn** 06 27 01.5 +0.2
comp=Z,24nm,0.6s,baz=214,slow=13,SNR=190
MK31 Makanchi Array 13.68 27*ce*P **Pn** 06 27 00.7 -0.6
MK31 pmax pmax
comp=Z,51nm,0.7s
MKAR Makanchi Array 13.68 27 P **Pn** 06 27 01.0 -0.3
MKAR pmax pmax
comp=Z,2.0nm,0.3s
MKAR Makanchi Array 13.68 27 *e*Pn **Pn** 06 27 01.1 -0.1
MKAR Lg Lg 06 30 57.6
MKAR Makanchi Array 13.68 27 Pn **Pn** 06 27 01.0 -0.3
comp=Z,1.9nm,0.3s,baz=205,slow=11,SNR=124
MKAR Lg Lg 06 30 57.6
comp=Z,0.1nm,0.3s,baz=188,slow=19,SNR=2.2
WMQ Urumqi 14.26 47 P **P** 06 27 14.5 -1.6
WMQ PP PnPn 06 27 26.3 +9.1
WMQ S Sn 06 29 52.8 +6.5
WMQ SS **S** **06 30 09.5 +3.4**
WMQ ScS **ScS** **06 39 37.0 +2.8**
WMQ pmax pmax
comp=Z,91nm,0.8s
WMQ pmax pmax
comp=Z,430nm,3.9s
WMQ LR LR
comp=N,2μm,8.0s
WMQ LR LR
comp=E,1μm,9.3s
WMQ LR LR
comp=Z,2μm,22.3s
AKL Akola 14.56 166 *ex* **Pn** 06 27 10.8 -2.5
AKL *i* 4 06 29 45.0
IBAF Bafgh 15.16 262 *e*P **P** 06 27 24.2 -2.1
BOK Bokaro 15.62 132 *e*P **Pn** 06 27 28.4 +0.9
BOK AMB AMB 06 27 31.2
comp=Z,40nm,1.8s
IANJ Anjilo 15.81 278 *e*P **P** 06 27 33.0 -0.7
ICHK Chekchek 15.93 266 *e*P **P** 06 27 34.7 -0.2
IKIA Kiasar 15.97 280 *e*P **P** 06 27 34.6 -0.8
IMEH Mehriz 16.00 262 *e*P **P** 06 27 34.9 -0.8
LSA Lhasa 16.01 104 P **Pn** 06 27 28.5 -4.3
LSA pP **P** **06 27 38.5 +2.5**
LSA sP **sP** **06 27 45.5 -3.2**
LSA LR LR
comp=N,1μm,16.9s
LSA LR LR
comp=E,850nm,10.7s
LSA LR LR
comp=Z,1μm,10.7s
LSA Lhasa 16.01 104 *e*P **Pn** 06 27 28.6 -4.3
LSA *e* 06 30 21.1
LSA pmax pmax
comp=Z,72nm,0.7s
LSA Lhasa 16.01 104 *e*Pn **Pn** 06 27 28.6 -4.3
comp=Z,72nm,0.7s
LSA *e*Sn Sn 06 30 21.1 -8.4
IBND Bandar-abas 16.11 247 *e*P **Pn** 06 27 34.3 +0.6
IBND *e*P **P** 06 27 34.4 -2.3
KURBB Kurchatov Arra 16.15 12 Pn **Pn** 06 27 31.6 -2.5
comp=Z,0.9nm,0.3s,baz=200,slow=11,SNR=73
KURBB Sn **Sn** **06 30 32.4 +0.4**
baz=201,slow=22,SNR=2.3
KURBB Lg Lg 06 32 20.2
baz=192,slow=28,SNR=6.0
KURK Kurchatov 16.26 12 P **Pn** 06 27 31.6 -3.8
KURK 06 30 32.4
KURK pmax pmax
comp=Z,1.0nm,0.3s
KURK Kurchatov 16.26 12 Pn **Pn** 06 27 31.6 -3.8
KURK Sn **Sn** **06 30 32.5 -2.2**
KURK Lg Lg 06 32 20.2
ISHM Shahmirzad 16.30 279 *e*P **Pn** 06 27 37.5 +1.1
POO Poona 16.34 178 *e*P **Pn** 06 27 35.4 -1.4
POO AMB AMB 06 27 39.1
comp=Z,45nm,2.6s
POO *i* 4 06 30 24.0
ILAS Lasjerd 16.60 277 *e*P **P** 06 27 42.5 +0.1
ISAD Sadrabad 16.60 265 *e*P **P** 06 27 43.1 +0.6
IALA Alasht 16.68 280 *e*P **P** 06 27 43.5 +0.2
LATR Latur 16.71 169 *ex* x 06 27 34.3
LATR AMB AMB 06 27 45.4
comp=Z,60nm,2.5s
LATR *e*4 06 30 33.2
IFIR Firoozkooh 16.75 278 *e*P **P** 06 27 44.7 +0.7
IPRN Peran 17.06 280 *e*P **Pn** 06 27 46.2 +0.4
BANOM Banah 17.13 243 ⇑P **P** 06 27 48.1 0.0
ISFB Sefidab 17.30 274 *e*P **P** 06 27 52.1 +2.2
IDMV Damavand 17.34 278 *e*P **Pn** 06 27 48.9 -0.6
AB31 Akbulak array 17.35 330 ⇑P **Pn** 06 27 47.2 -2.0
comp=Z,24nm,0.5s,baz=142,slow=12,SNR=492
AB31 ⇓S **Sn** **06 30 55.7 -5.4**
comp=Z,36nm,0.7s,baz=151,slow=23,SNR=11
AB31 Akbulak array 17.35 330 *i* P **Pn** 06 27 46.4 -2.8
AB31 *e*S Sn 06 30 52.0 -9.2
AB31 pmax pmax
comp=Z,22nm,0.3s
AB31 smax smax
comp=N,29nm,0.5s
ABKAR Akbulak array 17.35 330 *e*Pn **Pn** 06 27 46.6 -2.5
comp=N,36nm,0.5s
IZEF Zefreh 17.48 269 *e*P **P** 06 27 52.6 +0.5
WBK Wadi Bani Khal 17.50 229 ⇑P **Pn** 06 27 50.7 -0.6
SNR=8.0
KAD Karad 17.57 177 *i* P **Pn** 06 27 50.7 -1.4
KAD *i* 4 06 30 57.9
IVRN Varamin 17.64 276 *e*P **P** 06 27 53.6 -0.1
SMDO Samad 17.77 232 ⇓P **P** 06 27 55.2 0.0
SNR=7.6
IPAR Pars 17.79 259 *e*P **P** 06 27 56.0 +0.4
VOSK Vostochnaya 17.86 356 ⇑P **Pn** 06 27 52.6 -2.9
comp=N,84nm,0.9s
HOQ Hoqain 17.89 235 ⇑P **P** 06 27 56.6 +0.1
ISRV Sarvestan 17.91 258 *e*P **P** 06 27 58.0 +1.0
IKLH Kolahrood 18.01 271 *e*P **P** 06 27 58.9 +0.9
ASHO Ashiyiah 18.05 240 P **P** 06 27 59.8 +1.5
SNR=13
HYB Hyderabad 18.07 163 *i* P **Pn** 06 27 54.5 -3.8
HYB *e*S **Sn** **06 31 20.0 +0.9**
HYB Hyderabad 18.07 163 *e*P **Pn** 06 27 56.6 -1.7
HYB AMB AMB 06 27 59.0
comp=Z,56nm,0.4s
IR3 Iran Long-Peri 18.17 278 *e*P **P** 06 27 59.9 +0.4
BVA0 Borovoye Array 18.21 354 ⇓P **Pn** 06 27 56.2 -3.5
comp=Z,22nm,0.3s,baz=0.0,slow=0.1,SNR=198

BVA0 Borovoye Array 18.21 354 P **Pn** 06 27 58.0 -1.7
BVA0 pmax pmax
comp=Z,215nm,0.9s
BVAR Borovoye Array 18.21 354 P **Pn** 06 27 58.5 -1.2
BVAR S **S** 06 31 26.2 -0.1
BVAR pmax pmax
comp=Z,23nm,0.3s
BVAR MLR MLR
comp=Z,2μm,20.7s
BVAR Borovoye Array 18.21 354 P **Pn** 06 27 58.5 -1.2
BVAR S **S** 06 31 26.2 -0.1
BVAR Lg Lg 06 33 30.9
BVAR Borovoye Array 18.21 354 P **Pn** 06 27 58.5 -1.2
comp=Z,23nm,0.3s,baz=163,slow=12,SNR=139
BVAR S **S** 06 31 26.2 -0.1
baz=159,slow=25,SNR=2.5
BVAR Lg Lg 06 33 30.9
comp=Z,0.3nm,0.3s,baz=158,slow=20,SNR=2.1
BVAR LR LR 06 35 15.2
comp=Z,2μm,20.7s,baz=172,slow=38
JMDO Jabal Madar 18.22 231 ⇑P **Pn** 06 28 01.9 +1.8
SNR=5.5
BRVK Borovoye 18.25 354 P **P** 06 27 59.0 -1.2
comp=Z,1μm,0.9s,SNR=46
BRVK Borovoye 18.25 354 ⇑P **P** 06 27 56.5 -3.6
comp=Z,23nm,0.4s
BRVK Borovoye 18.25 354*c* *i*P **P** 06 27 58.5 -1.7
BRVK pmax pmax
comp=Z,300nm,1.2s
BRVK Borovoye 18.25 354 *e*P **P** 06 27 59.2 -1.0
comp=Z,158nm,0.7s
BSY Bisya 18.54 233 ⇓P **Pn** 06 28 06.3 +2.2
SNR=7.9
IR5 Iran Long-Peri 18.55 277 *e*P **Pn** 06 28 04.4 +0.2
SHL Shillong 18.59 115 *ex* P 06 27 58.3 -6.0
SHL AMB AMB 06 28 10.7
comp=Z,60nm,1.2s
SHL *e*4 06 31 15.0
SHL *ex* x 06 34 47.0
ARQ Araqi 18.59 236 ⇓P **Pn** 06 28 06.8 +2.2
SNR=20
IPIR Pirpir 18.71 269 *e*P **Pn** 06 28 08.2 +1.9
IGZV Ghazvin 18.76 281 *e*P **Pn** 06 28 08.4 +1.6
AKTO Aktyubinsk 19.06 329 ⇑P **P** 06 28 07.5 -1.6
comp=Z,121nm,0.6s
AKTO Aktyubinsk 19.06 329 P **Pn** 06 28 09.7 -0.4
AKTO S Sn 06 31 35.0 -7.4
AKTO pmax pmax
comp=Z,23nm,0.3s
AKTO smax smax
comp=N,1.0nm,0.3s
AKTO MLR MLR
comp=Z,473nm,19.2s
AKTO Aktyubinsk 19.06 329 P **Pn** 06 28 09.7 -0.4
AKTO S Sn 06 31 35.0 -7.4
AKTO Aktyubinsk 19.06 329 P **Pn** 06 28 09.7 -0.4
comp=Z,22nm,0.3s,baz=134,slow=8.6,SNR=395
AKTO S Sn 06 31 35.0 -7.4
comp=Z,0.7nm,0.3s,baz=59,slow=18,SNR=3.3
AKTO LR LR 06 36 20.0
comp=Z,473nm,19.2s,baz=143,slow=39
IRAZ Razeghan 19.06 278 *e*P **Pn** 06 28 11.4 +0.9
VIS Vishakhapatnam 19.35 150 *i* P **P** 06 28 12.8 +0.3
VIS *ex* x 06 28 23.7
comp=Z,72nm,1.4s
VIS *i* x x 06 31 55.4
ZALV Zalesovo Beam 20.68 20 P **P** 06 28 26.3 -0.4
ZALV S **S** 06 32 12.5 -3.4
ZALV pmax pmax
comp=Z,132nm,0.5s
ZALV smax smax
comp=N,16nm,0.9s
ZALV MLR MLR
comp=Z,202nm,21.4s
ZALV Zalesovo Beam 20.68 20 P **P** 06 28 26.3 -0.4
ZALV S **S** 06 32 12.5 -3.4
ZALV Lg Lg 06 34 52.0
ZALV Zalesovo Beam 20.68 20 P **P** 06 28 26.3 -0.4
comp=Z,132nm,0.5s,baz=214,slow=10,SNR=396
ZALV S **S** 06 32 12.5 -3.4
comp=Z,16nm,0.9s,baz=208,slow=18,SNR=2.9
ZALV Lg Lg 06 34 52.0
comp=Z,1.6nm,0.6s,baz=217,slow=22,SNR=2.1
ZALV LR LR 06 36 09.3
comp=Z,202nm,21.4s,baz=250,slow=36
ISRB Sarab 20.78 285 *e*P Pn 06 28 29.8 -1.0
NVS Novosibirsk 21.09 16 ⇑*i*P **P** 06 28 29.5 -1.6
NVS *i* S **S** 06 32 18.9 -5.0
NVS pmax pmax
comp=Z,313nm,1.6s
NVS pmax pmax
comp=N,193nm,1.5s
NVS smax smax
comp=N,158nm,1.5s
NVS smax smax
comp=E,90nm,1.7s
IKOM Komasi 21.20 275 *e*P **P** 06 28 33.2 +0.6
IHRS Heris 21.28 287 *e*P **P** 06 28 35.8 +2.3
MAK Makhachkala 21.51 300 *e*P **P** 06 28 34.7 -1.0
MAK *e* 06 29 07.7
MAK *e*S **S** **06 32 30.6 -1.8**
MAK *e*SS **SnSn** **06 32 56.7 +0.1**
MAK pmax pmax
comp=Z,248nm,1.6s
MAK MLR MLR
comp=Z,916nm,12.0s
GTA Gaotai 21.61 70 ⇑P **P** 06 28 37.5 +0.5
GTA pP **pP** **06 28 44.5 -1.2**
GTA sP **sP** **06 28 48.0 -1.8**
GTA S **S** **06 32 33.8 -0.9**
GTA sS Sn 06 32 45.0 +0.8
GTA pmax pmax
comp=Z,45nm,1.1s
GTA pmax pmax
comp=Z,540nm,6.2s
GTA LR LR
comp=N,730nm,12.8s
GTA LR LR
comp=E,1μm,13.1s
GTA LR LR
comp=Z,1μm,11.6s
IVIS Veis 21.68 277 *e*P **P** 06 28 38.2 +0.4
IGHG Ghaleghazi 21.94 276 *e*P **P** 06 28 40.9 +0.2
IDHR Dehrash 22.03 277 *e*P **P** 06 28 42.1 +0.4
UMR Umm Al-Rimmam 22.22 263 *e*P **P** 06 28 43.4 -0.1
UMR AMb AMB 06 28 49.7
comp=Z,352nm,0.7s
IMRD Marand 22.33 288 *e*P **P** 06 28 47.4 +2.6
KBD Kabd 22.37 262 *e*P **P** 06 28 45.1 0.0
KBD AMb AMB 06 28 54.7
comp=Z,398nm,1.8s
ISHB Shabestar 22.40 287 *e*P **P** 06 28 47.5 +1.9
MIB Mutribah 22.44 264 *e*P **P** 06 28 46.0 +0.2
MIB AMb AMB 06 28 52.6
comp=Z,459nm,0.8s
RDF Al-Radifah 22.58 262 *e*P **P** 06 28 47.7 +0.3
RDF AMb AMB 06 28 56.5
comp=Z,735nm,1.5s
IBDR Badra 22.69 273 *i* P **P** 06 28 50.0 +1.5
IBDR *i* S **S** **06 32 53.7 -1.0**
NAY Al-Naaiem 22.71 263 *e*P **P** 06 28 48.5 -0.3
NAY AMb AMB 06 28 55.9
comp=Z,316nm,1.2s
GNI Garni 23.14 291 *e*P **P** 06 28 55.5 +2.2
GNI Garni 23.14 291 P **P** 06 28 55.2 +1.9
comp=Z,23nm,0.6s,baz=3.5,slow=19,SNR=19
GNI LR LR 06 39 53.8
comp=Z,490nm,18.9s,baz=285,slow=42
TBLG Delisi 23.30 295 P **P** 06 28 56.5 +1.8
TBLG Delisi 23.30 295 P **P** 06 28 56.5 +1.8
DUS Dusheti 23.38 296 P P 06 29 01.5 +6.0
SVE Sverdlovsk 23.52 343*de*P **P** 06 28 57.1 +0.5
SVE pmax pmax
comp=Z,97nm,0.8s
SVE MLR MLR
comp=Z,2μm,12.0s
ARU Arti 23.73 340*d* *i*P **P** 06 28 58.7 +0.1
ARU 06 29 28.7
ARU PPP PPP 06 29 38.7
ARU S **S** **06 33 13.2 +1.8**
ARU SS **SnSn** **06 33 54.4 +3.6**
ARU pmax pmax
comp=Z,161nm,1.7s
ARU MLR MLR
comp=Z,2μm,15.0s

ARU Arti 23.73 340 P **P** 06 28 59.5 +0.9
comp=Z,547nm,0.6s,SNR=19
ZEI Tsey 24.07 298 *e*P **P** 06 29 04.3 +2.1
ZEI pmax pmax
comp=Z,96nm,1.6s
ONI Oni 24.37 297 P **P** 06 29 08.0 +3.2
LZH Lanzhou 24.89 78 ⇑P **P** 06 29 10.5 +0.8
LZH pP **pP** **06 29 21.5 +2.5**
LZH PP **PnPn** **06 29 48.3 +5.3**
LZH S **S** **06 33 29.0 -1.9**
LZH SS SnSn 06 34 30.3 +10
LZH pmax pmax
comp=Z,53nm,1.0s
LZH pmax pmax
comp=Z,240nm,4.1s
LZH LR LR
comp=N,780nm,12.2s
LZH LR LR
comp=E,690nm,10.3s
LZH LR LR
comp=Z,1μm,13.0s
KBZ Khabaz 24.95 300 P **P** 06 29 10.3 +0.3
KBZ pmax pmax
comp=Z,10.0nm,0.8s
KBZ MLR MLR
comp=Z,314nm,19.4s
KBZ Khabaz 24.95 300 P **P** 06 29 10.2 +0.3
KBZ Khabaz 24.95 300 P **P** 06 29 10.2 +0.3
comp=Z,10nm,0.8s,baz=105,slow=8.4,SNR=12
KBZ LR LR 06 41 08.6
comp=Z,314nm,19.4s,baz=254,slow=42
KRAR Krasnoyarsk 25.01 27*d* *i*P **P** 06 29 11.3 +0.9
KRAR pmax pmax
comp=Z,59nm,0.6s
KIV Kislovodsk 25.15 300 *e*P **P** 06 29 12.0 +0.2
KIV *e*S **S** **06 33 35.2 +0.5**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV MLR MLR
comp=Z,397nm,14.0s
CHVG Ch'k'valeri 25.39 297 P P 06 29 05.8 -8.2
CD2 Chengdu 25.88 90 *e*P **P** 06 29 19.0 +0.5
CD2 sP sP 06 29 24.3 -7.5
CD2 pP **pP** **06 29 30.0 +2.1**
CD2 PP **PnPn** **06 30 00.3 +3.9**
CD2 PcP **PcP** **06 32 48.0 +0.9**
CD2 S **S** **06 33 43.5 -2.9**
CD2 sS **sS** **06 34 01.0 -0.9**
CD2 ScS **ScS** **06 40 11.0 -2.8**
CD2 pmax pmax
comp=Z,110nm,1.1s
CD2 pmax pmax
comp=Z,310nm,4.8s
CD2 LR LR
comp=E,980nm,12.0s
CD2 LR LR
comp=Z,820nm,14.2s
MOY Mondy 26.00 41 *e*P **P** 06 29 21.3 +1.8
MOY pmax pmax
comp=Z,71nm,2.1s
RAYN Ar Rayn 26.66 252 P **P** 06 29 25.0 -0.7
comp=Z,245nm,0.7s,SNR=15
RAYN Ar Rayn 26.66 252 *e*P **P** 06 29 25.2 -0.4
comp=Z,27nm,0.8s
ZAK Zakamensk 26.72 45 ⇓*i*P **P** 06 29 26.5 +0.5
ZAK pmax pmax
comp=Z,21nm,1.2s
SOKR Solikamsk 26.93 341*c* *i*P **P** 06 29 28.8 +1.1
SOKR pmax pmax
comp=Z,120nm,1.5s
SOKR MLR MLR
comp=Z,2μm,20.0s
SOC Sochi 27.21 299 *e*P **P** 06 29 29.0 -1.4
SOC *e*S **S** **06 34 04.3 -2.9**
SOC pmax pmax
comp=Z,31nm,0.8s
SOC MLR MLR
comp=Z,483nm,21.0s
CMAI Chiengmai2 27.23 117 P **P** 06 29 29.7 -1.3
comp=Z,40nm,1.4s
KMI Kunming 27.26 103 P **P** 06 29 30.5 -0.8
KMI pP **pP** **06 29 40.5 -0.1**
KMI sP **sP** **06 29 44.8 +0.2**
KMI PP **PnPn** **06 30 16.8 +1.3**
KMI S **S** **06 34 04.5 -4.1**
KMI sS **sS** **06 34 21.5 -2.6**
KMI SS **SnSn** **06 35 22.3 +4.3**
KMI pmax pmax
comp=Z,16nm,0.7s
KMI pmax pmax
comp=Z,57nm,3.1s
KMI LR LR
comp=N,1μm,17.1s
KMI LR LR
comp=E,360nm,18.2s
KMI LR LR
comp=Z,480nm,13.5s
SONM Songino Array 27.79 52 P **P** 06 29 36.9 +1.1
SONM Songino Array 27.79 52 P **P** 06 29 36.9 +1.1
comp=Z,7.1nm,0.5s,baz=250,slow=9.0,SNR=51
SONM LR LR 06 42 10.8
comp=Z,2μm,18.3s,baz=180,slow=40
CHTO Chiang Mai 27.87 119 *e*P **P** 06 29 36.1 -0.4
CHTO pmax pmax
comp=Z,48nm,1.0s
CHTO Chiang Mai 27.87 119 *e*P **P** 06 29 36.1 -0.4
comp=Z,48nm,1.0s
CHTO Chiang Mai 27.87 119 P **P** 06 29 35.4 -1.1
comp=Z,59nm,1.4s,comp=Z,706nm
CHTO Chiang Mai 27.87 119 P **P** 06 29 36.5 0.0
comp=Z,59nm,1.4s,comp=Z,706nm
CMMT Chiang Mai 27.87 118 P **P** 06 29 34.9 -1.7
comp=Z,51nm,1.4s,comp=Z,705nm
CMMT Chiang Mai 27.87 118 P **P** 06 29 36.3 -0.3
comp=Z,51nm,1.3s,comp=Z,701nm
DGPR DIGLIPUR 28.04 136 *ex* **P** 06 29 39.1 +1.2
DGPR AMB AMB 06 28 40.4
comp=Z,153nm,1.4s
MALT Malatya 28.05 287 ⇓*i*P P 06 29 58.4 +20
CMAR Chiang Mai Arr 28.10 119 P **P** 06 29 37.8 -0.8
CMAR PcP **PcP** **06 32 52.9 +0.5**
CMAR Chiang Mai Arr 28.10 119 P P 06 29 37.8 -0.8
comp=Z,35nm,1.0s,baz=300,slow=8.7,SNR=31
CMAR PcP **PcP** **06 32 52.9 +0.5**
comp=Z,4.8nm,0.7s,baz=292,slow=4.1,SNR=5.6
PAYA Payao 28.20 116 P pP 06 29 51.4 +2.6
ULN Ulaanbaatar 28.23 52 *e*P **P** 06 29 40.5 +0.9
comp=Z,14nm,1.0s
ULN Ulaanbaatar 28.23 52 P **P** 06 29 40.5 +0.9
comp=Z,15nm,1.2s
LAMP Lampang 28.55 118 P P 06 29 47.3 +4.7
ANN Anapa 29.00 301 *e*P **P** 06 29 46.5 +0.2
ANN *e**PP **pP** **06 29 57.4 +1.7**
ANN *e*S **S** **06 34 36.2 +1.0**
ANN pmax pmax
comp=Z,56nm,1.7s
ANN MLR MLR
comp=N,342nm,15.0s
ANN MLR MLR
comp=E,361nm,15.0s
ANN MLR MLR
comp=Z,700nm,15.0s
NANT Nan 29.16 116 P **P** 06 29 45.9 -2.1
comp=Z,73nm,0.6s,comp=Z,3μm
VORD Divnogorie 29.25 314 *e*P **P** 06 29 47.8 -0.6
VORD pmax pmax
comp=Z,20nm,1.1s
VORD pmax pmax
comp=N,30nm,0.7s
VORD pmax pmax
comp=E,20nm,0.6s
VORD MLR MLR
comp=Z,560nm,12.0s
VORD MLR MLR
comp=N,180nm,15.0s
VORD MLR MLR
comp=E,430nm,12.0s
XAN Xi'an 29.33 81 P **P** 06 29 49.0 -0.5
XAN pP **pP** **06 29 58.0 -0.8**
XAN sP **sP** **06 29 59.3 -3.5**
XAN LR LR
comp=N,590nm,21.6s
XAN LR LR
comp=E,100nm,14.6s
XAN LR LR
comp=Z,170nm,13.9s

VSR	**Storozhevoye**	**29.41**	**314**	*e*P		**P**		**06 29 48.7**	**-1.2**
VSR				pmax		pmax			
	comp=Z,20nm,1.3s								
VSR				pmax		pmax			
	comp=N,10.0nm,1.2s								
VSR				pmax		pmax			
	comp=E,20nm,1.1s								
VSR				MLR		MLR			
	comp=Z,690nm,18.0s								
VSR				MLR		MLR			
	comp=N,880nm,22.0s								
VSR				MLR		MLR			
	comp=E,740nm,24.0s								
BTO	**Baotou**	**29.47**	**68**	*e*P		**P**		**06 29 51.8**	**+1.1**
GYA	**Guiyang**	**29.84**	**97**	P		**P**		**06 29 55.8**	**+1.6**
GYA				pP		**pP**		**06 30 06.8**	**+3.2**
GYA				PP		**PnPn**		**06 30 53.3**	**+2.6**
GYA				PcP		**PcP**		**06 32 59.0**	**+2.1**
GYA				S		**S**		**06 34 49.5**	**+0.4**
GYA				SS		**SnSn**		**06 36 26.5**	**+5.5**
GYA				ScP		**ScP**		**06 36 37.8**	**+1.3**
GYA				ScS		**ScS**		**06 40 30.0**	**-2.0**
GYA				pmax		pmax			
	comp=Z,20nm,0.8s								
GYA				pmax		pmax			
	comp=Z,120nm,4.8s								
GYA				LR		LR			
	comp=N,690nm,18.9s								
GYA				LR		LR			
	comp=E,560nm,19.2s								
GYA				LR		LR			
	comp=Z,750nm,17.6s								
ASF	**Jabal al Asfar**	**30.31**	**275**	P		**P**		**06 29 59.2**	**+1.0**
ASF	**Jabal al Asfar**	**30.31**	**275**	P		**P**		**06 29 59.2**	**+1.0**
	comp=Z,3.2nm,1.0s								
LOEI	**Loei**	**30.39**	**118**	P		**P**		**06 30 00.0**	**+1.1**
	comp=Z,26nm,0.7s,comp=Z,1μm								
HHC	**Hu-ho-hao-te**	**30.64**	**67**	*e*P		**P**		**06 30 03.0**	**+1.9**
HHC				pP		**pP**		**06 30 12.5**	**+2.0**
HHC				sP		**sP**		**06 30 17.5**	**+3.1**
HHC				PP		**PnPn**		**06 31 05.0**	**+4.0**
HHC				S		**S**		**06 35 02.5**	**+1.2**
HHC				sS		**sS**		**06 35 19.3**	**+2.4**
HHC				SS		**SnSn**		**06 36 45.5**	**+5.5**
HHC				pmax		pmax			
	comp=Z,42nm,1.0s								
HHC				pmax		pmax			
	comp=Z,340nm,5.4s								
HHC				LR		LR			
	comp=N,620nm,12.4s								
HHC				LR		LR			
	comp=E,1μm,9.5s								
HHC				LR		LR			
	comp=Z,1μm,14.3s								
ENH	**Enshi**	**30.77**	**88**	*e*P		**P**		**06 30 02.8**	**+0.6**
	comp=Z,29nm,0.8s								
PBKT	**Sadao Pong**	**30.79**	**119**	P		P		06 29 52.0	-10
PBKT	**Sadao Pong**	**30.79**	**119**	P		**P**		**06 30 03.0**	**+0.6**
	comp=Z,22nm,1.2s								
MMAI	**Mount Meron Ar**	**31.32**	**277**	P		**P**		**06 30 08.0**	**+0.9**
MMAI	**Mount Meron Ar**	**31.32**	**277**	P		**P**		**06 30 08.0**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=62,slow=13,SNR=2.6								
MMAI				LR		LR		06 44 03.9	
	comp=Z,270nm,19.4s,baz=105,slow=39								
BRTR	**Keskin Array B**	**31.67**	**291**	P		**P**		**06 30 11.1**	**+0.8**
BRTR				PcP		**PcP**		**06 33 01.3**	**-0.3**
BRTR	**Keskin Array B**	**31.67**	**291**	P		**P**		**06 30 11.1**	**+0.8**
	comp=Z,5.3nm,0.7s,baz=96,slow=8.8,SNR=20								
BRTR				PcP		**PcP**		**06 33 01.3**	**-0.3**
	comp=Z,5.0nm,0.9s,baz=130,slow=4.1,SNR=4.3								
BRTR				LR		LR		06 44 08.7	
	comp=Z,150nm,20.3s,baz=253,slow=39								
CHAI	**Chaiyaphum**	**31.96**	**119**	P		**P**		**06 30 13.0**	**+0.3**
	comp=Z,9.2nm,1.0s								
MOS	**Moscow**	**32.03**	**322**	*e*P		**P**		**06 30 12.0**	**-0.9**
MOS				*e*				06 30 17.7	
MOS				*e*				06 31 26.9	
MOS				pmax		pmax			
	comp=Z,129nm,1.0s								
MOS				pmax		pmax			
	comp=Z,200nm,1.2s								
MOS				MLR		MLR			
	comp=Z,900nm,17.0s								
OBN	**Obninsk**	**32.31**	**320**	*c* *i*P		**P**		**06 30 15.4**	**0.0**
OBN				*i* *PP		**pP**		**06 30 27.9**	**+3.1**
OBN				*e*				06 31 24.5	
OBN				*e*SS		SS		06 37 22.7	-23
OBN				pmax		pmax			
	comp=Z,113nm,1.2s								
OBN				MLR		MLR			
	comp=Z,500nm,18.0s								
EIL	**Elat**	**32.65**	**272**	P		**P**		**06 30 19.1**	**+0.4**
EIL	**Elat**	**32.65**	**272**	P		**P**		**06 30 19.1**	**+0.4**
	baz=26,slow=5.2								
EIL				LR		LR		06 45 38.8	
	comp=Z,337nm,18.9s,baz=81,slow=40								
SKNT	**Sakolnakorn**	**32.73**	**115**	P		**P**		**06 30 18.5**	**-1.0**
	comp=Z,56nm,1.0s								
PANO	**Nakornpanom**	**33.09**	**114**	P		**P**		**06 30 21.9**	**-0.7**
	comp=Z,67nm,1.0s								
BJI	**Beijing**	**34.20**	**68**	P		**P**		**06 30 33.3**	**+1.2**
BJI				PcP		**PcP**		**06 33 09.8**	**+1.4**
BJI				S		S		06 36 03.5	+7.0
BJI				pmax		pmax			
	comp=Z,17nm,1.0s								
BJI				pmax		pmax			
	comp=Z,150nm,8.8s								
BJI				LR		LR			
	comp=N,600nm,13.2s								
BJI				LR		LR			
	comp=E,920nm,12.3s								
BJI				LR		LR			
	comp=Z,420nm,18.6s								
WHN	**Wuhan**	**34.68**	**85**	⇑P		**P**		**06 30 36.8**	**+0.5**
WHN				pP		**pP**		**06 30 42.3**	**-3.5**
WHN				S		**S**		**06 36 05.8**	**+1.7**
WHN				pmax		pmax			
	comp=Z,66nm,0.8s								
WHN				LR		LR			
	comp=N,2μm,14.7s								
WHN				LR		LR			
	comp=E,1μm,11.6s								
WHN				LR		LR			
	comp=Z,1μm,12.0s								
UBPT	**Khong Chiam**	**34.91**	**116**	P		**P**		**06 30 37.3**	**-1.1**
	comp=Z,46nm,1.2s,comp=Z,1μm								
KIS	**Kishinev**	**35.20**	**304**	*e*P		**P**		**06 30 40.0**	**-0.6**
KIS	**Kishinev**	**35.20**	**304**	*e*PP		PP		06 32 00.0	-0.7
KIS	**Kishinev**	**35.20**	**304**	*e*P		**P**		**06 30 40.0**	**-0.6**
KIS				*e*				06 32 00.0	
KIS				*e*PPP		PPP		06 32 20.0	
KIEV	**Kiev**	**35.36**	**310**	*e*P		**P**		**06 30 41.2**	**-0.8**
KIEV				pmax		pmax			
	comp=Z,18nm,0.7s								
KIEV	**Kiev**	**35.36**	**310**	*e*P		**P**		**06 30 41.2**	**-0.8**
	comp=Z,18nm,0.7s								
TIA	**Tai'an**	**35.49**	**75**	*e*P		**P**		**06 30 44.5**	**+1.2**
CFR	**Carcaliu**	**35.60**	**301**	⇓P		**P**		**06 30 43.7**	**-0.4**
CFR	**Carcaliu**	**35.60**	**301**	⇓*i*P		**P**		**06 30 43.7**	**-0.4**
QIZ	**Qiongzhong**	**36.02**	**106**	P		**P**		**06 30 49.5**	**+1.5**
QIZ				S		**S**		**06 36 23.3**	**-1.6**
QIZ				LR		LR			
	comp=N,320nm,10.6s								
QIZ				LR		LR			
	comp=Z,460nm,11.1s								
ATD	**Arta Tunnel**	**36.12**	**237**	LR		LR		06 46 50.0	
	comp=Z,176nm,20.0s,baz=131,slow=38								
TMCR	**Tamitsa**	**36.24**	**335**	*e*P		**P**		**06 30 50.6**	**+1.3**
TMCR				*e*				06 32 12.8	
TMCR				pmax		pmax			
	comp=Z,204nm,1.5s								
VRI	**Vrincioaia**	**36.60**	**302**	⇑P		**P**		**06 30 53.9**	**+1.2**
VRI	**Vrincioaia**	**36.60**	**302**	⇑*i*P		**P**		**06 30 53.9**	**+1.2**
PLOR	**Plostina**	**36.65**	**302**	⇑P		**P**		**06 30 54.5**	**+1.3**
PLOR	**Plostina**	**36.65**	**302**	⇑*i*P		**P**		**06 30 54.5**	**+1.3**
ISR	**Istrita**	**36.73**	**300**	⇑P		**P**		**06 30 55.5**	**+1.7**
ISR	**Istrita**	**36.73**	**300**	⇑*i*P		**P**		**06 30 55.5**	**+1.7**
MICGM	**Minsk**	**36.90**	**316**	*e*		**P**		**06 30 54.0**	**-1.1**
MNK	**Minsk**	**36.93**	**316**	*e*P		**P**		**06 30 54.0**	**-1.3**
MLR	**Muntele Rosu**	**37.15**	**301**	⇑*i*P		**P**		**06 30 59.1**	**+1.6**
PUL	**Pulkovo**	**37.24**	**325**	⇑*e*P		**P**		**06 30 59.1**	**+1.2**
PUL				pmax		pmax			
	comp=Z,167nm,0.5s								
SKLT	**Songkhla**	**37.37**	**131**	P		**P**		**06 31 00.2**	**+0.7**
	comp=Z,25nm,1.5s								
DOPR	**Dopca**	**37.53**	**302**	⇑*i*P		**P**		**06 31 02.1**	**+1.5**
NACGM	**Naroch**	**37.61**	**317**	*e*		**P**		**06 31 00.0**	**-1.1**
BURAR	**Bucovina Array**	**37.67**	**305**	⇑P		**P**		**06 31 02.1**	**+0.2**
BURAR	**Bucovina Array**	**37.67**	**305**	⇑*i*P		**P**		**06 31 02.1**	**+0.2**
BUR08	**Bucovina Ar. S**	**37.69**	**305**	*e*P		**P**		**06 31 02.0**	**0.0**
BUR08				*e*PP		**PnPn**		**06 32 29.5**	**+0.1**
VOIR		**37.78**	**301**	⇓P		**P**		**06 31 03.1**	**+0.3**
VOIR		**37.78**	**301**	⇓*i*P		**P**		**06 31 03.1**	**+0.3**
NJ2	**Nanjing**	**37.90**	**81**	*e*P		**P**		**06 31 04.3**	**+0.5**
NJ2				pP		**pP**		**06 31 13.5**	**+0.2**
NJ2				sP		**sP**		**06 31 17.5**	**+0.2**
NJ2				PP		**PnPn**		**06 32 31.5**	**-0.5**
NJ2				S		**S**		**06 36 56.0**	**+2.7**
NJ2				sS		**sS**		**06 37 11.0**	**+2.0**
NJ2				pmax		pmax			
	comp=Z,20nm,0.8s								
NJ2				pmax		pmax			
	comp=Z,40nm,3.7s								
NJ2				LR		LR			
	comp=N,570nm,20.7s								
NJ2				LR		LR			
	comp=E,160nm,18.7s								
NJ2				LR		LR			
	comp=Z,930nm,25.5s								
ARR	**Arges**	**38.07**	**301**	⇑*i*P		**P**		**06 31 05.8**	**+0.6**
JOF	**Joensuu**	**38.14**	**330**	*ep*		**P**		**06 31 05.1**	**-0.3**
	comp=Z,34nm,0.3s								
JOF	**Joensuu**	**38.14**	**330**	*e*P		**P**		**06 31 05.1**	**-0.3**
JOF				pmax		pmax			
	comp=Z,34nm,0.3s								
VSU	**Vasula**	**38.55**	**322**	*c* *i*P		**P**		**06 31 08.7**	**-0.2**
VSU				pmax		pmax			
	comp=Z,247nm,1.2s								
LVV	**L'vov**	**38.56**	**308**	*e*P		**P**		**06 31 09.1**	**-0.1**
LVV				*e*PPP		PPP		06 33 06.5	
LVV				*e*S		**S**		**06 37 03.3**	**+0.3**
LVV				*e*SS		**SnSn**		**06 39 41.7**	**-10**
LVV				*e*SSS		SSS		06 40 18.7	
LOT	**Lotru**	**38.68**	**301**	⇑*i*P		**P**		**06 31 10.8**	**+0.4**
KULM	**Kulim**	**38.87**	**133**	*e*P		P		06 31 07.0	-5.1
	comp=Z,25nm,1.1s								
VTS	**Vitosha**	**39.28**	**297**	⇓P		**P**		**06 31 16.2**	**+0.7**
VTS	**Vitosha**	**39.28**	**297**	⇓*i*P		**P**		**06 31 16.2**	**+0.7**
DRGR		**39.38**	**303**	⇓P		**P**		**06 31 17.2**	**+1.0**
DRGR		**39.38**	**303**	⇓*i*P		**P**		**06 31 17.2**	**+1.0**
GZR	**Gura Zlata**	**39.38**	**301**	⇑P		**P**		**06 31 16.0**	**-0.2**
GZR	**Gura Zlata**	**39.38**	**301**	⇑*i*P		**P**		**06 31 16.0**	**-0.2**
TRPA	**Tarpa**	**39.49**	**305**	⇑*i*P		**P**		**06 31 17.6**	**+0.7**
LVZ	**Lovozero**	**39.59**	**338**	*c*eP		**P**		**06 31 17.9**	**+0.3**
LVZ				pmax		pmax			
	comp=Z,83nm,0.7s								
LVZ	**Lovozero**	**39.59**	**338**	P		**P**		**06 31 18.0**	**+0.3**
	comp=Z,588nm,0.9s,SNR=9.6								
UZH	**Uzhgorod**	**39.66**	**306**	*e*P		**P**		**06 31 20.0**	**+1.7**
UZH				*e*				06 32 48.1	
UZH				*e*				06 33 22.1	
UZH				*e*				06 33 31.1	
UZH				*e*S		**S**		**06 37 20.3**	**+0.9**
UZH				*e*				06 41 23.7	
UZH				MLR		MLR			
	comp=N,210nm,11.0s								
UZH				MLR		MLR			
	comp=E,270nm,11.0s								
UZH				MLR		MLR			
	comp=Z,190nm,11.0s								
IPM	**Ipoh**	**39.74**	**133**	*e*P		**P**		**06 31 18.8**	**-0.6**
	comp=Z,16nm,0.6s								
IPM	**Ipoh**	**39.74**	**133**	P		**P**		**06 31 19.1**	**-0.3**
APA	**Apatity**	**39.79**	**337**	⇑*i*P		**P**		**06 31 20.0**	**+0.8**
APA				*i*				06 32 50.0	
APA				pmax		pmax			
	comp=Z,33nm,1.0s								
APA				MLR		MLR			
	comp=Z,2μm,14.0s								
FINES	**FINESS Array B**	**39.80**	**327**	P		**P**		**06 31 19.8**	**+0.5**
FINES	**FINESS Array B**	**39.80**	**327**	P		**P**		**06 31 19.8**	**+0.5**
	comp=Z,60nm,0.7s,baz=107,slow=10,SNR=142								
FINES				LR		LR		06 49 47.2	
	comp=Z,181nm,19.2s,baz=249,slow=39								
KAF	**Kangasniemi**	**39.93**	**328**	*ep*		**P**		**06 31 20.5**	**+0.1**
	comp=Z,11nm,0.4s								
KAF	**Kangasniemi**	**39.93**	**328**	*e*P		**P**		**06 31 20.5**	**+0.1**
KAF				pmax		pmax			
	comp=Z,11nm,0.4s								
SSE	**Sheshan**	**40.09**	**82**	P		**P**		**06 31 19.3**	**-2.8**
SSE				pP		**pP**		**06 31 30.5**	**-1.2**
SSE				S		**S**		**06 37 23.5**	**-2.7**
SSE				sS		**sS**		**06 37 39.0**	**-3.0**
SSE				pmax		pmax			
	comp=Z,34nm,0.7s								
SSE				pmax		pmax			
	comp=Z,120nm,5.9s								
SSE				LR		LR			
	comp=N,490nm,14.6s								
SSE				LR		LR			
	comp=E,190nm,14.6s								
SSE				LR		LR			
	comp=Z,410nm,13.9s								
BZS	**Buzias**	**40.18**	**301**	⇑P		**P**		**06 31 23.3**	**+0.5**
BZS	**Buzias**	**40.18**	**301**	⇑*i*P		**P**		**06 31 23.3**	**+0.5**
STHS	**Stebnicka Huta**	**40.36**	**307**	*e*P		**P**		**06 31 24.1**	**-0.1**
STHS				pmax		pmax			
	comp=Z,7.0nm,0.6s								
STHS	**Stebnicka Huta**	**40.36**	**307**	*e*P		**P**		**06 31 24.1**	**-0.1**
STHS				*e*PCP		**PcP**		**06 33 27.4**	**+0.4**
KTGM	**Kuala Trenggan**	**40.37**	**130**	P		**P**		**06 31 25.0**	**+0.4**
CN2	**Changchun**	**40.74**	**61**	*e*P		**P**		**06 31 28.0**	**+0.6**
CN2				*ep*P		**pP**		**06 31 40.3**	**+3.4**
CN2				*e*PP		**PnPn**		**06 33 06.0**	**+0.4**
CN2				PcS		**PcS**		**06 37 18.8**	**-0.2**
CN2				*e*S		**S**		**06 37 35.5**	**-0.1**
CN2				*e*SS		**SS**		**06 40 33.0**	**-3.8**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CN2				pmax		pmax			
	comp=Z,130nm,7.0s								
CN2				LR		LR			
	comp=N,400nm,13.0s								
CN2				LR		LR			
	comp=Z,1μm,14.0s								
CLNS	**Chul'man**	**40.86**	**41**	*e*P		**P**		**06 31 29.2**	**+1.0**
CLNS				*e**PP		**pP**		**06 31 34.9**	**-2.9**
CLNS				*e*				06 33 06.0	
CLNS				*e*				06 33 27.7	
CLNS				*e*PPP		PPP		06 33 33.0	
CLNS				*e*S		**S**		**06 37 39.7**	**+2.5**
CLNS				pmax		pmax			
	comp=Z,28nm,1.0s								
CLNS				pmax		pmax			
	comp=E,16nm,0.9s								
CLNS				pmax		pmax			
	comp=N,9.0nm,1.0s								
CLNS				pmax		pmax			
	comp=N,4.0nm,0.9s								
CLNS				pmax		pmax			
	comp=Z,9.0nm,1.0s								
CLNS				pmax		pmax			
	comp=E,6.0nm,0.9s								
CLNS				smax		smax			
	comp=N,40nm,14.1s								
CLNS				smax		smax			
	comp=E,107nm,19.5s								
CLNS				MLR		MLR			
	comp=Z,526nm,13.0s								
CLNS				MLR		MLR			
	comp=E,501nm,13.0s								
CLNS				MLR		MLR			
	comp=N,514nm,14.0s								
KECS	**Kecovo**	**40.86**	**306**	*e*P		**P**		**06 31 28.5**	**+0.2**
KECS				pmax		pmax			
	comp=Z,3.0nm,0.7s								
KECS	**Kecovo**	**40.86**	**306**	*e*P		**P**		**06 31 28.5**	**+0.2**
KECS				*e*PP		**PP**		**06 33 03.0**	**+0.3**
NIE	**Niedzica**	**40.97**	**307**	*e*P		**P**		**06 31 31.8**	**+2.5**
NIE				*e*				06 33 10.6	
NIE	**Niedzica**	**40.97**	**307**	*e*P		**P**		**06 31 31.8**	**+2.5**
NIE				*e*PP		**PnPn**		**06 33 10.6**	**+2.3**
FRIM	**Kepong**	**41.08**	**134**	P		**P**		**06 31 31.4**	**+0.9**
PSZ	**Piszkesteto**	**41.27**	**305**	*e*P		**P**		**06 31 32.8**	**+1.0**
PSZ				*e*				06 33 07.9	
PSZ				pmax		pmax			
	comp=Z,11nm,0.8s								
PSZ	**Piszkesteto**	**41.27**	**305**	*e*P		**P**		**06 31 32.8**	**+1.0**
	comp=Z,11nm,0.8s								
PSZ				*e*PP		**PP**		**06 33 07.9**	**+0.7**
PSZ	**Piszkesteto**	**41.27**	**305**	⇑*i*P		**P**		**06 31 32.4**	**+0.6**
OJC	**Ojcow**	**41.31**	**309**	*e*P		**P**		**06 31 31.6**	**-0.4**
OJC				*e*				06 33 12.0	
OJC	**Ojcow**	**41.31**	**309**	*e*P		**P**		**06 31 32.1**	**+0.1**
	comp=Z,11nm,1.0s								
OJC	**Ojcow**	**41.31**	**309**	*e*P		**P**		**06 31 31.6**	**-0.4**
OJC				*e*PP		**PnPn**		**06 33 12.0**	**-0.2**
VYHS	**Vyhne**	**41.95**	**306**	*e*P		**P**		**06 31 37.7**	**+0.4**
VYHS				pmax		pmax			
	comp=Z,11nm,1.7s								
VYHS	**Vyhne**	**41.95**	**306**	*e*P		**P**		**06 31 37.7**	**+0.4**
PKSM	**Moragy**	**42.21**	**303**	⇑P		**P**		**06 31 40.1**	**+0.7**
PKSM	**Moragy**	**42.21**	**303**	⇑*i*P		**P**		**06 31 40.1**	**+0.7**
OKC	**Ostrava-Krasne**	**42.37**	**308**	⇑*e*PP		PP		06 33 25.1	+6.1
OKC				AMS		AMS		06 52 40.0	
	comp=Z,200nm,16.8s								
TPUB	**Ta-pu**	**42.64**	**93**	*e*P		**P**		**06 31 43.8**	**+0.5**
SSLB	**Suanglung**	**42.69**	**92**	*e*P		**P**		**06 31 44.8**	**+1.1**
	comp=Z,20nm,0.8s								
MORC	**Moravsky Berou**	**42.77**	**308**	*e*P		**P**		**06 31 44.4**	**+0.4**
MORC				pmax		pmax			
	comp=Z,13nm,0.7s								
MORC	**Moravsky Berou**	**42.77**	**308**	*e*P		**P**		**06 31 44.4**	**+0.4**
	comp=Z,13nm,0.7s								
KEV	**Kevo**	**42.93**	**338**	*ep*		**P**		**06 31 45.1**	**+0.1**
	comp=Z,39nm,0.8s								
KEV	**Kevo**	**42.93**	**338**	*e*P		**P**		**06 31 45.1**	**+0.1**
KEV				pmax		pmax			
	comp=Z,39nm,0.8s								
KEV	**Kevo**	**42.93**	**338**	*e*P		**P**		**06 31 45.8**	**+0.9**
	comp=Z,64nm,0.9s								
YULB	**Yu-li**	**43.14**	**92**	*e*P		**P**		**06 31 49.1**	**+1.9**
	comp=Z,22nm,1.1s								
TWG	**Pinlang**	**43.22**	**93**	*e*P		**P**		**06 31 49.9**	**+2.0**
	comp=Z,193nm,0.7s								
KRLC	**Kraliky**	**43.25**	**308**	*e*P		**P**		**06 31 48.1**	**+0.2**
KRLC	**Kraliky**	**43.25**	**308**	⇑*e*P		**P**		**06 31 48.1**	**+0.2**
ARCES	**ARCESS Array B**	**43.29**	**338**	P		**P**		**06 31 48.8**	**+0.9**
ARCES	**ARCESS Array B**	**43.29**	**338**	P		**P**		**06 31 48.8**	**+0.9**
	comp=Z,75nm,0.8s,baz=114,slow=8.2,SNR=186								
ARCES				LR		LR		06 51 06.5	
	comp=Z,2μm,18.5s,baz=117,slow=38								
DPC	**Dobruska-Polom**	**43.54**	**309**	⇑P		**P**		**06 31 50.7**	**+0.5**
DPC				*e*				06 31 56.4	
DPC				*e*				06 33 40.2	
DPC	**Dobruska-Polom**	**43.54**	**309**	⇑*i*P		**P**		**06 31 50.7**	**+0.5**
DPC				*ex*		x		06 31 56.4	
DPC				*e*PP		**PcP**		**06 33 40.2**	**+2.7**
DPC				AMS		AMS		06 53 20.0	
DPC	**Dobruska-Polom**	**43.54**	**309**	*e*P		**P**		**06 31 50.8**	**+0.6**
	comp=Z,78nm,0.7s								
KSP	**Ksiaz**	**43.54**	**310**	*e*P		**P**		**06 31 50.2**	**0.0**
KSP				*e*				06 33 29.7	
KSP				*e*				06 33 38.0	
MDJ	**Mudanjiang**	**43.60**	**60**	P		**P**		**06 31 51.8**	**+1.1**
MDJ				pP		**pP**		**06 32 00.5**	**+0.1**
MDJ				sP		**sP**		**06 32 04.5**	**+0.2**
MDJ				S		**S**		**06 38 21.0**	**+3.1**
MDJ				sS		**sS**		**06 38 34.8**	**+1.0**
MDJ				ScS		**ScS**		**06 41 49.8**	**+2.1**
MDJ				pmax		pmax			
	comp=Z,23nm,1.3s								
MDJ				pmax		pmax			
	comp=Z,120nm,7.0s								
MDJ				LR		LR			
	comp=N,170nm,13.2s								
MDJ				LR		LR			
	comp=E,790nm,16.0s								
MDJ				LR		LR			
	comp=Z,930nm,16.4s								
MDJ	**Mudanjiang**	**43.60**	**60**	*e*P		**P**		**06 31 51.5**	**+0.8**
	comp=Z,43nm,1.2s								
KSAR	**Wonju Array Be**	**43.66**	**70**	P		**P**		**06 31 51.9**	**+0.6**
KSAR				PcP		**PcP**		**06 33 38.3**	**+0.2**
KSRS	**Korea Array**	**43.68**	**70**	P		**P**		**06 31 51.9**	**+0.4**
	comp=Z,15nm,0.7s,baz=274,slow=7.2,SNR=78								
KSRS				PcP		**PcP**		**06 33 38.3**	**+0.1**
	comp=Z,6.3nm,0.7s,baz=286,slow=2.8,SNR=12								
KSRS				LR		LR		06 51 37.8	
	comp=Z,308nm,18.1s,baz=23,slow=38								
KOGS	**Kog**	**43.84**	**303**	*e*P		**P**		**06 31 52.6**	**0.0**
KOGS				*i* PcP		**PcP**		**06 33 41.1**	**+2.6**
CONA	**Conrad Observa**	**43.97**	**305**	*i* P		**P**		**06 31 54.2**	**+0.4**
	comp=Z,28nm,1.0s,SNR=18								
TREC	**Trest**	**44.12**	**307**	*e*P		**P**		**06 31 55.4**	**+0.5**
TREC				MLR		MLR			
	comp=Z,300nm,15.2s								
TREC	**Trest**	**44.12**	**307**	⇑*e*P		**P**		**06 31 55.4**	**+0.5**
TREC				AMS		AMS		06 53 50.0	
	comp=Z,300nm,15.2s								
YAK	**Yakutsk**	**44.21**	**34**	⇑*i*P		**P**		**06 31 55.3**	**0.0**
YAK				*e**PP		**pP**		**06 32 00.9**	**-4.1**
YAK				*e*				06 33 38.5	
YAK				*e*				06 33 42.5	
YAK				*e*S		**S**		**06 38 26.0**	**-0.3**
YAK				*e*SS		**SS**		**06 41 45.0**	**+0.5**
YAK				*e*				06 41 51.7	
YAK				pmax		pmax			
	comp=Z,90nm,1.0s								
YAK				pmax		pmax			
	comp=N,5.0nm,0.8s								
YAK				pmax		pmax			
	comp=E,24nm,1.1s								
YAK				pmax		pmax			
	comp=Z,7.0nm,0.4s								
YAK				pmax		pmax			
	comp=N,2.0nm,0.5s								
YAK				pmax		pmax			
	comp=E,9.0nm,0.9s								
YAK				smax		smax			
	comp=E,10.0nm,0.7s								
YAK				smax		smax			
	comp=N,33nm,1.5s								
YAK				MLR		MLR			
	comp=E,442nm,14.0s								
YAK				MLR		MLR			
	comp=Z,743nm,16.0s								
YAK				MLR		MLR			
	comp=N,124nm,12.0s								
GROS

comp=E,386nm,15.4s
BRG MLR MLR
comp=Z,313nm,26.3s
MOA Molln 45.05 305 *i* P **P 06 32 02.4 +0.1**
comp=Z,20nm,0.9s,SNR=10
LJU Ljubljana 45.08 303 *i* P **P 06 32 03.1 +0.6**
LJU *i* PcP **PcP 06 33 42.8 0.0**
CUC Castrocucco 45.20 294 *eP* **P 06 32 03.7 +0.1**
comp=Z,32nm,0.7s
GEC2 GERESS Array S 45.33 307 *eP* **P 06 32 04.5 -0.1**
comp=Z,9.0nm,1.4s
GEC2 GERESS Array S 45.33 307 *eP* **P 06 32 04.5 -0.1**
GEC2 pmax pmax
comp=Z,120nm,1.4s
GERES GERESS Array B 45.33 307 P **P 06 32 04.8 +0.2**
GERES PcP **PcP 06 33 43.7 -0.1**
GERES GERESS Array B 45.33 307 P **P 06 32 04.8 +0.2**
comp=Z,3.2nm,0.8s,baz=89,slow=6.8,SNR=19
GERES PcP **PcP 06 33 43.7 -0.1**
comp=Z,4.3nm,0.9s,baz=103,slow=4.2,SNR=6.5
GERES LR LR 06 52 16.7
comp=Z,115nm,21.1s,baz=85,slow=38
USRK Ussuriysk Arra 45.36 60 P **P 06 32 05.0 +0.2**
comp=Z,2.5nm,0.5s,baz=268,slow=7.6,SNR=12
USRK PcP **PcP 06 33 43.5 -0.3**
comp=Z,0.9nm,0.5s,baz=283,slow=4.3,SNR=4.4
USRK LR LR 06 52 48.9
comp=Z,734nm,18.7s,baz=258,slow=38
KHC Kasperske Hory 45.38 307 *eP* **P 06 32 05.2 +0.2**
KHC *e* 06 32 13.4
KHC *e* 06 33 48.9
KHC *e* 06 42 04.8
KHC MLR MLR
comp=Z,300nm,15.4s
KHC Kasperske Hory 45.38 307⇑ *eP* **P 06 32 05.2 +0.2**
KHC *ep*P **pP 06 32 13.4 -1.2**
KHC *ex* x 06 33 35.0
KHC *e*PP **PP 06 33 48.9 -2.4**
KHC *e*SS SS 06 42 04.8 -2.4
KHC AMS AMS 06 54 40.0
comp=Z,300nm,15.4s
KHC Kasperske Hory 45.38 307 *eP* **P 06 32 05.3 +0.4**
comp=Z,5.9nm,0.7s
VLA Vladivostok 45.47 61⇑ *iP* **P 06 32 06.3 +0.7**
VLA S **S 06 38 46.1 +1.1**
VLA pmax pmax
comp=Z,66nm,1.2s
VOY Vojsko 45.52 303 *eP* **P 06 32 05.7 -0.4**
VOY *e* 06 32 18.9
VOY *e* 06 33 43.7
CADS Cadrg 45.60 303 *i* P **P 06 32 06.5 -0.2**
CLL Collm 45.60 310 *eP* **P 06 32 06.3 -0.2**
comp=Z,9.0nm,0.8s
CLL Collm 45.60 310 *eP* **P 06 32 06.0 -0.5**
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL MLR MLR
comp=Z,200nm,18.1s
CLL Collm 45.60 310 *eP* **P 06 32 06.0 -0.5**
comp=Z,9.0nm,0.8s
CLL *e* 06 32 10.0
CLL *e*PcP **PcP 06 33 44.0 -0.5**
CLL *e*PP **PP 06 33 54.0 +0.6**
CLL *ep*PP 06 34 06.0
CLL *e*SS SS 06 42 06.0 -4.6
CLL LV 06 53 00.0
comp=Z,200nm,18.1s
CLL Lm MLR 06 54 00.0
comp=N,200nm,19.4s
CLL Lm MLR 06 54 00.0
comp=E,200nm,20.7s
MYKA Terra Mystica 45.61 304⇑ *iP* **P 06 32 07.0 +0.2**
comp=E,8.7nm,0.7s
KBA Koelnbreinsper 45.76 304⇓ *iP* **P 06 32 08.0 -0.1**
comp=E,12nm,1.1s
WET Wettzell 45.84 307 *eP* **P 06 32 08.9 +0.3**
comp=Z,8.0nm,1.4s
WET Wettzell 45.84 307 *eP* **P 06 32 08.9 +0.3**
WET pmax pmax
comp=Z,127nm,1.4s
TANN Tannenbergstha 46.00 309 *eP* **P 06 32 10.0 +0.2**
comp=Z,5.0nm,0.9s
NKC Novy Kostel 46.02 309 *eP* **P 06 32 10.5 +0.5**
NKC MLR MLR
comp=Z,300nm,14.9s
NKC Novy Kostel 46.02 309⇑ *eP* **P 06 32 10.5 +0.5**
NKC AMS AMS 06 54 00.0
comp=Z,300nm,14.9s
RJOB Jochberg 46.05 305 *eP* **P 06 32 09.5 -0.7**
comp=Z,10.0nm,1.0s
ROTZ Rotzenmuhle 46.22 308 *eP* **P 06 32 11.9 +0.4**
comp=Z,11nm,1.1s
ABTA Abfaltersbach 46.37 304⇑ *iP* **P 06 32 11.9 -0.9**
comp=Z,10nm,0.8s
MOX Moxa 46.52 309 *eP* **P 06 32 13.9 +0.1**
comp=Z,9.0nm,0.8s
MOX *e*L L 06 54 21.7
comp=Z,228nm,18.3s
MOX Moxa 46.52 309 *eP* **P 06 32 13.9 +0.1**
MOX pmax pmax
comp=Z,66nm,0.8s
MOX MLR MLR
comp=Z,9μm,18.3s
NB2 NORSAR Subarra 46.73 324 P **P 06 32 15.1 -0.3**
comp=Z,46nm,0.8s,baz=94,slow=7.4
NB2 NORSAR Subarra 46.73 324 P **P 06 32 15.1 -0.3**
baz=94,slow=7.4
NOA NORSAR Array B 46.73 324 P **P 06 32 15.1 -0.3**
NOA NORSAR Array B 46.73 324 P **P 06 32 15.1 -0.3**
comp=Z,33nm,0.7s,baz=96,slow=7.7,SNR=101
NOA LR LR 06 55 06.7
comp=Z,250nm,19.3s,baz=100,slow=40
GRF Grafenberg Arr 46.86 308 *eP* **P 06 32 17.3 +0.8**
comp=Z,27nm,1.3s
GRF *e*L L 06 54 39.5
comp=Z,298nm,18.3s
GRF Grafenberg Arr 46.86 308 *eP* **P 06 32 17.3 +0.8**
GRF pmax pmax
comp=Z,61nm,1.3s
GRF MLR MLR
comp=Z,27μm,18.3s
WTTA Wattenberg 46.89 305⇑ *iP* **P 06 32 16.2 -0.7**
comp=Z,21nm,1.0s
BSEG Bad Segeberg 47.10 314 *eP* **P 06 32 18.4 +0.2**
comp=Z,31nm,1.0s
BSEG Bad Segeberg 47.10 314 *eP* **P 06 32 18.4 +0.2**
BSEG pmax pmax
comp=Z,90nm,1.0s
JNU Nakatsue 47.23 75 *eP* **P 06 32 20.3 +0.7**
comp=Z,10nm,0.9s
MOTA Moosalm 47.23 305⇑ *iP* **P 06 32 18.6 -1.1**
comp=Z,9.9nm,0.7s,SNR=7.2
NRDL Niedersach Rie 47.31 312 *eP* **P 06 32 20.0 +0.1**
comp=Z,11nm,0.9s
RETA Reutte 47.44 305⇑ *iP* **P 06 32 20.4 -0.8**
comp=Z,11nm,1.2s
KONO Kongsberg 47.45 322 *eP* **P 06 32 21.5 +0.6**
KONO pmax pmax
comp=Z,61nm,1.5s
KONO Kongsberg 47.45 322 *eP* **P 06 32 21.5 +0.6**
comp=Z,61nm,1.5s
FETA Feichten 47.54 305⇑ *iP* **P 06 32 20.9 -1.1**
comp=Z,8.8nm,0.8s
MUD Monsted U'grnd 47.66 318 *eP* **sP 06 32 37.9 +1.7**
MUD pmax pmax
comp=Z,10.0nm,0.9s
MUD Monsted U'grnd 47.66 318 *iP* sP 06 32 37.9 +1.7
comp=Z,9.5nm,0.9s
KSM Kuching 47.93 126 *eP* **P 06 32 25.6 +0.3**
comp=Z,26nm,0.7s
KSM Kuching 47.93 126 P **P 06 32 25.8 +0.6**
DAVA Damuels 48.07 305 *iP* **P 06 32 25.5 -0.6**
comp=Z,42nm,0.9s,SNR=20
VLC Villacollemand 48.28 301 *eP* **P 06 32 27.8 +0.1**
comp=Z,15nm,0.8s
STU Stuttgart 48.30 307 *eP* **P 06 32 27.8 +0.1**
comp=Z,20nm,0.7s
SBUM Sibu 48.52 123 P **P 06 32 30.6 +0.9**
TUE Stuetta 48.56 304 *eP* **P 06 32 29.4 -0.7**
comp=Z,6.4nm,0.6s
KKM Kota Kinabalu 48.89 116 *eP* **P 06 32 33.0 +0.2**
comp=Z,93nm,1.3s
KKM Kota Kinabalu 48.89 116 P **P 06 32 33.3 +0.6**
BFO Black Forest 48.93 307 *eP* **P 06 32 32.2 -0.4**
comp=Z,16nm,1.4s
BFO Black Forest 48.93 307 *eP* **P 06 32 32.1 -0.5**
BFO pmax pmax
comp=Z,11nm,1.0s
BFO Black Forest 48.93 307 *eP* **P 06 32 32.1 -0.5**
comp=Z,10nm,1.0s
BUG Bochum--Univer 49.16 311 *eP* **P 06 32 34.7 +0.5**
comp=Z,18nm,1.2s
LANF Langenberg 49.17 308⇑ *eP* **P 06 32 34.7 +0.3**
KMBO Kilima Mbogo 49.19 231 *eP* **P 06 32 36.5 +1.3**
KMBO Kilima Mbogo 49.19 231 P **P 06 32 35.5 +0.3**
KMBO Kilima Mbogo 49.19 231 P **P 06 32 35.5 +0.3**
comp=Z,12nm,0.9s,baz=31,slow=12,SNR=17
KMBO LR LR 06 55 34.1
comp=Z,232nm,18.7s,baz=92,slow=39
SPITS Spitsbergen Ar 49.44 347 P **P 06 32 37.5 +1.5**
SPITS Spitsbergen Ar 49.44 347 P **P 06 32 37.5 +1.5**
comp=Z,37nm,0.6s,baz=121,slow=11,SNR=85
CDF Champ du Feu 49.61 307 *eP* **P 06 32 37.0 -0.9**
PGF Pioggiola 49.62 299⇑ *iP* **P 06 32 37.1 -0.9**
comp=Z,35nm,0.8s
ECH Echery 49.72 307 *eP* **P 06 32 39.5 +0.9**
ECH pmax pmax
comp=Z,7.0nm,0.9s
ECH Echery 49.72 307 *eP* **P 06 32 39.5 +0.9**
comp=Z,7.1nm,0.9s
MOF Molkenrain 49.80 306⇑ *eP* **P 06 32 38.2 -1.1**
SENIN Lac Senin/Sane 49.98 304 *eP* **P 06 32 40.5 -0.3**
HINF Hinteralfeld 49.99 306⇑ *iP* **P 06 32 39.9 -0.8**
comp=Z,22nm,0.8s
MEM Membach 50.07 310 P **P 06 32 41.0 -0.1**
comp=Z,12nm,1.1s
WLF Walferdange 50.13 309 P **P 06 32 42.6 +0.9**
comp=Z,12nm,0.9s
WLF Walferdange 50.13 309 *eP* **P 06 32 42.3 +0.7**
comp=Z,24nm,0.8s
HAU Haudompre 50.29 307 *eP* **P 06 32 42.3 -0.7**
comp=Z,21nm,0.8s
HAU *e*R
comp=Z,232nm,18.5s
SAOF Saorge 50.31 301⇑ *eP* **P 06 32 43.3 +0.1**
AUTN L'Aution 50.40 301 *eP* **P 06 32 44.1 0.0**
SBF Sospel 50.42 301⇑ *iP* **P 06 32 43.7 -0.4**
comp=Z,58nm,0.7s
THEF They Montfort 50.49 307 *eP* **P 06 32 44.2 -0.2**
REVF Revere 50.50 301 *eP* **P 06 32 44.4 -0.2**
TOUF Mont Tournerai 50.52 301⇑ *eP* **P 06 32 45.0 +0.1**
LPG La Plagne 50.53 303⇑ *iP* **P 06 32 44.9 -0.2**
comp=Z,38nm,0.7s
LPL La Plagne 50.54 303⇑ *iP* **P 06 32 44.9 -0.2**
comp=Z,62nm,0.9s
KBS Kingsbay 50.54 347 *c iP* **P 06 32 45.3 +0.9**
KBS pmax pmax
comp=Z,48nm,0.7s
KBS Kingsbay 50.54 347 *eP* **P 06 32 45.6 +1.3**
comp=Z,51nm,0.8s
RSL Roselend 50.58 304⇑ *eP* **P 06 32 45.0 -0.3**
PAGF Fort de Pagny 50.60 307⇑ *iP* **P 06 32 45.3 0.0**
comp=Z,12nm,0.9s
MVIF Mont Vial 50.61 301⇑ *eP* **P 06 32 45.5 -0.1**
BNI Bardonecchia 50.68 303 *eP* **P 06 32 45.9 -0.2**
BNI Bardonecchia 50.68 303 *eP* **P 06 32 45.9 -0.2**
MBDF Montbardon 50.69 302⇑ *iP* **P 06 32 45.2 -1.0**
comp=Z,29nm,0.7s
CABF La Chapelle 50.74 305⇑ *iP* **P 06 32 46.3 -0.2**
comp=Z,24nm,0.9s
CALN Calern 50.83 301 *eP* **P 06 32 47.1 -0.1**
GIVF Givet 50.90 310 *eP* **P 06 32 47.7 +0.2**
comp=Z,54nm,1.1s
DOU Dourbes 51.05 310 P **P 06 32 48.6 +0.1**
comp=Z,8.8nm,1.2s
FRF La Foret Royal 51.05 301 *eP* **P 06 32 48.0 -0.7**
comp=Z,18nm,0.7s
SFTF Sexfontaines 51.12 307 *eP* **P 06 32 48.7 -0.4**
comp=Z,37nm,0.9s
MYLDM Lahad Datu 51.16 115 P **P 06 32 50.8 +1.0**
LMR La Mourre 51.20 301 *eP* **P 06 32 49.4 -0.4**
ORIF Oris-en-Rattie 51.26 303 *eP* **P 06 32 51.2 +0.8**
comp=Z,12nm,0.7s
ORIF *e*R
comp=Z,213nm,19.8s
TSM Tawau 51.28 116 P **P 06 32 51.2 +0.5**
KEST Kesra 51.28 291 *eP* **P 06 32 51.4 +0.8**
KEST Kesra 51.28 291 P **P 06 32 50.6 0.0**
comp=Z,6.9nm,0.7s,baz=320,slow=1.9,SNR=22
BAIF Baives 51.30 310⇑ *iP* **P 06 32 50.6 +0.1**
comp=Z,32nm,0.9s
SMRF Simiane la Rot 51.70 302 *eP* **P 06 32 54.4 +0.8**
comp=Z,8.5nm,0.8s
MAJO Matsushiro 51.84 68 *eP* **P 06 32 54.7 0.0**
MAJO pmax pmax
comp=Z,78nm,0.8s
MAJO Matsushiro 51.84 68 *eP* **P 06 32 54.7 0.0**
comp=Z,78nm,0.8s
MAT Matsushiro 51.84 68 P **P 06 32 54.5 -0.2**
MAT S **S 06 40 09.6 -5.4**
MJAR Matsushiro Arr 51.84 68 P **P 06 32 55.0 +0.3**
MJAR Matsushiro Arr 51.84 68 P **P 06 32 55.0 +0.3**
comp=Z,51nm,0.8s,baz=286,slow=10.0,SNR=113
LOR Lormes 52.09 306 *eP* **P 06 32 55.5 -1.0**
comp=Z,12nm,0.8s
LOR *e*R
comp=Z,178nm,18.8s
SSB Saint Sauveur 52.10 304 *eP* **P 06 32 56.6 0.0**
SSB pmax pmax
comp=Z,11nm,0.7s
SSB Saint Sauveur 52.10 304 *eP* **P 06 32 56.5 0.0**
comp=Z,11nm,0.7s
VIVF Saint-Julien-l 52.11 303⇑ *iP* **P 06 32 56.3 -0.3**
comp=Z,24nm,0.8s
SMF Signal de Mont 52.25 305⇑ *iP* **P 06 32 56.9 -0.7**
comp=Z,58nm,0.9s
YSS Yuzh-Sakhalins 52.25 54⇑ *eP* **P 06 32 58.5 +0.9**
YSS *e* 06 33 11.5
YSS MLR MLR
comp=Z,1μm,16.0s
SSF Saint Saulge 52.38 306 *eP* **P 06 32 57.8 -0.7**
comp=Z,20nm,0.9s
AVF Avril sur Loir 52.54 306⇑ *iP* **P 06 32 59.0 -0.7**
comp=Z,39nm,0.8s
ASAJ Asahikawa 52.84 58 P **P 06 33 02.1 +0.1**
ASAJ Asahikawa 52.84 58 P **P 06 33 02.1 +0.1**
comp=Z,5.4nm,0.4s,baz=229,slow=20,SNR=5.6
AGO Saint Agoulin 52.87 305⇑ *eP* **P 06 33 03.2 +1.0**
LASF Ste Croix 52.87 302⇑ *iP* **P 06 33 02.2 -0.1**
comp=Z,35nm,0.8s
HYF Humbligny 52.90 306 *eP* **P 06 33 02.2 -0.2**
BGF Bois d'Agland 52.93 305 *eP* **P 06 33 01.8 -0.9**
comp=Z,19nm,0.8s
LBL Lubilhac 52.99 304 *eP* **P 06 33 04.3 +1.1**
MBAR Mbarara 53.15 238 *eP* **P 06 33 03.6 -1.2**
TCF Toulx Ste Croi 53.43 305⇑ *iP* **P 06 33 06.1 -0.3**
comp=Z,37nm,0.9s
CAF Calviac 53.88 304⇑ *iP* **P 06 33 09.6 -0.1**
comp=Z,22nm,0.7s
RJF Les Rejaudoux 54.15 304 *eP* **P 06 33 11.7 0.0**
comp=Z,28nm,0.9s
MTLF Montolieu 54.22 302 *eP* **P 06 33 11.8 -0.4**
comp=Z,13nm,0.7s
LDF La Druitiere 54.38 309 *eP* **P 06 33 12.3 -0.9**
comp=Z,50nm,1.1s
FLN La Foliniere 54.57 309 *eP* **P 06 33 13.5 -1.1**
comp=Z,42nm,1.0s
FLN *e*R
comp=Z,164nm,20.5s
LFF La Frestale 54.78 304 *eP* **P 06 33 16.0 -0.2**
comp=Z,22nm,0.7s
GRR Gorron 54.91 308 *eP* **P 06 33 16.1 -0.9**
comp=Z,33nm,0.9s
MFF Saint Martin d 54.92 306 *eP* **P 06 33 16.2 -1.0**
comp=Z,6.6nm,0.5s
DAV Davao City (W) 55.39 107 LR LR 07 00 27.1
comp=Z,163nm,21.2s,baz=156,slow=40
EPF Esparros 55.62 302 *eP* **P 06 33 20.9 -1.5**
comp=Z,14nm,0.7s
SGMF Saint Gilles 56.03 309 *eP* **P 06 33 24.4 -0.8**
comp=Z,14nm,0.7s
ETSF Etsaut 56.29 302⇑ *iP* **P 06 33 27.0 -0.2**
comp=Z,26nm,0.6s
ROSF Rostrenen 56.47 309 *eP* **P 06 33 27.5 -0.8**
comp=Z,36nm,0.8s
QUIF Quistinic 56.52 308 *eP* **P 06 33 27.6 -1.0**
comp=Z,25nm,0.8s
SJPF Ste Jean 56.68 302 *eP* **P 06 33 29.8 -0.1**
DAG Danmarks Havn 56.74 344⇑ *iP* **P 06 33 30.3 +0.5**
DAG pmax pmax
comp=Z,26nm,0.9s
DAG MLR MLR
comp=Z,260nm,22.0s
DAG Danmarks Havn 56.74 344⇑ *iP* **P 06 33 30.3 +0.5**
comp=Z,30nm,0.9s
DAG
comp=Z,230nm,21.0s
KAPI Kappang 59.08 123 LR LR 07 02 28.2
comp=Z,100nm,18.0s,baz=132,slow=39
SCO Scoresbysund 59.22 337 *i* P **P 06 33 49.0 +1.8**
SCO pmax pmax
comp=Z,11nm,0.8s
SCO Scoresbysund 59.22 337 *i* P **P 06 33 49.0 +1.8**
comp=Z,11nm,0.8s
TAM Tamanrasset 59.53 278 *eP* **P 06 33 50.6 +0.3**
TAM pmax pmax
comp=Z,7.0nm,0.8s
TAM Tamanrasset 59.53 278 *eP* **P 06 33 50.6 +0.3**
comp=Z,6.8nm,0.8s
ESDC Sonseca Array 59.81 299 P **P 06 33 51.6 -0.3**
ESDC Sonseca Array 59.81 299 P **P 06 33 51.6 -0.3**
comp=Z,19nm,0.9s,baz=62,slow=7.2,SNR=50
PETK Petropavlovsk- 59.83 44 P **P 06 33 51.8 +0.1**
PETK pmax pmax
comp=Z,4.0nm,0.6s
PETK MLR MLR
comp=Z,199nm,18.1s
PETK Petropavlovsk- 59.83 44 P **P 06 33 51.8 +0.1**
PETK Petropavlovsk- 59.83 44 P **P 06 33 51.8 +0.1**
comp=Z,4.2nm,0.6s,baz=191,slow=1.5,SNR=14
PETK LR LR 07 02 46.9
comp=Z,199nm,18.1s,baz=292,slow=39
PAB San Pablo 60.13 299 *eP* **P 06 33 54.1 0.0**
PAB pmax pmax
comp=Z,33nm,1.2s
PAB San Pablo 60.13 299 *eP* **P 06 33 54.1 0.0**
comp=Z,33nm,1.2s
ALE Alert 60.80 354 P **P 06 33 58.2 +0.3**
comp=Z,151nm,0.6s,SNR=8.8
MVO Moncorvo 61.41 302 *eP* **P 06 34 03.1 +0.3**
comp=Z,50nm,1.0s
POLO Lamas de Olo 61.86 303 *eP* **P 06 34 05.6 -0.2**
comp=Z,13nm,1.4s
PGAV Gavieira, Arco 61.96 303 *eP* **P 06 34 06.5 0.0**
comp=Z,69nm,1.0s
MTE Manteigas 62.07 301 *eP* **P 06 34 07.5 +0.3**
comp=Z,73nm,1.0s
MTE Manteigas 62.07 301 *eP* **P 06 34 07.6 +0.3**
comp=Z,51nm,0.9s
PMRV Marv??o 62.35 300 *eP* **P 06 34 09.2 +0.2**
comp=Z,33nm,1.6s
PBAR Barrancos 62.61 299 *eP* **P 06 34 10.8 +0.1**
comp=Z,40nm,0.7s
PESTR Estremoz 62.72 300 *eP* **P 06 34 11.2 -0.3**
comp=Z,37nm,1.3s
PCAS Casmilo, Conde 62.88 301 *eP* **P 06 34 12.6 +0.1**
comp=Z,28nm,1.0s
PMTG Montargil 63.09 300 *eP* **P 06 34 13.8 -0.1**
comp=Z,24nm,1.1s
SUMG Summit 63.13 342⇑ *iP* **P 06 34 15.2 +1.0**
SUMG pmax pmax
comp=Z,48nm,0.9s
SUMG Summit 63.13 342 *eP* **P 06 34 15.0 +0.9**
comp=Z,53nm,0.8s
SUMG Summit 63.13 342⇑ *iP* **P 06 34 15.2 +1.0**
comp=Z,48nm,0.9s
EVO Evora 63.16 300⇑ *iP* **P 06 34 14.8 +0.4**
comp=Z,73nm,1.1s
EVO Evora 63.16 300 *eP* **P 06 34 14.2 -0.2**
comp=Z,44nm,1.2s
PVAQ Vaqueiros 63.41 298 *eP* **P 06 34 15.8 -0.3**
comp=Z,88nm,1.9s
PCVE Castro Verde 63.55 299 *eP* **P 06 34 16.7 -0.3**
comp=Z,49nm,0.6s
PBDV Barranco-do-Ve 63.64 298 *eP* **P 06 34 17.6 0.0**
comp=Z,86nm,2.0s
PNCL Nicolau / Gran 63.70 299 *eP* **P 06 34 18.3 +0.3**
comp=Z,41nm,1.1s
PMAFR Mafra 63.88 301 *eP* **P 06 34 18.9 -0.3**
comp=Z,101nm,0.9s
LSZ Lusaka 65.73 229 *eP* **P 06 34 31.3 -0.3**
LSZ Lusaka 65.73 229 *eP* **P 06 34 32.3 +0.7**
comp=Z,28nm,1.4s
TOA0 Torodi Ar. Sit 67.53 271 *eP* **P 06 34 42.4 -0.6**
TORD Torodi Ar. Bea 67.53 271 P **P 06 34 42.4 -0.6**
TORD Torodi Ar. Bea 67.53 271 P **P 06 34 42.4 -0.6**
comp=Z,95nm,0.8s,baz=46,slow=5.7,SNR=646
TORD LR LR 07 07 51.2
comp=Z,272nm,18.1s,baz=60,slow=39
FX1 Attu Island--F 68.43 40 *eP* **P 06 34 48.1 0.0**
SFJD Kangerlussuaq 69.87 340⇑ *iP* **P 06 34 56.6 -0.2**
comp=Z,30nm,0.8s
FITZ Fitzroy Crossi 72.49 128 LR LR 07 07 49.5
comp=Z,100nm,20.4s,baz=241,slow=36
COLD Coldfoot 72.98 16 *eP* **P 06 35 15.9 +0.4**
comp=Z,49nm,0.9s
POGA Pongola 73.41 218⇑ *iP* **P 06 35 18.4 -0.1**
POGA AMB AMB 06 35 24.5
comp=Z,42nm,1.4s
SLR Silverton 73.84 222 *eP* **P 06 35 20.4 -0.9**
SLR AMB AMB 06 35 20.8
comp=Z,31nm,3.8s
ERPM east rand prop 74.35 221 *eP* **P 06 35 23.4 -0.9**
ERPM AMB AMB 06 35 25.0
comp=Z,21nm,2.0s
KSR Koster 74.70 223 *eP* **P 06 35 26.1 -0.2**
KSR AMB AMB 06 35 27.5
comp=Z,16nm,3.6s
LBTB Lobatse 74.78 224⇑ *iP* **P 06 35 27.0 +0.3**
LBTB AMB AMB 06 35 27.8
comp=Z,28nm,0.8s
TSUM Tsumeb 75.42 234⇑ *iP* **P 06 35 31.2 +0.7**
TSUM Tsumeb 75.42 234 *eP* **P 06 35 31.3 +0.7**
comp=Z,62nm,1.8s
COLA College 75.46 17 *eP* **P 06 35 30.1 +0.1**
COLA pmax pmax
comp=Z,222nm,0.8s
COLA College 75.46 17 *eP* **P 06 35 30.1 +0.1**
comp=Z,222nm,0.8s
ILAR Eielson Array 75.78 17 P **P 06 35 31.6 -0.2**
ILAR PP **PP 06 38 19.0 -2.4**
ILAR Eielson Array 75.78 17 P **P 06 35 31.6 -0.2**
comp=Z,19nm,0.9s,baz=311,slow=4.8,SNR=178
ILAR PP **PP 06 38 19.0 -2.4**
comp=Z,1.8nm,0.9s,baz=314,slow=7.1,SNR=3.8
ILAR LR LR 07 13 17.6
comp=Z,234nm,19.5s,baz=315,slow=39
TRF Thorofare Moun 76.03 19 *eP* **P 06 35 34.3 +0.8**
comp=Z,14nm,0.8s
MCK McKinley 76.14 18 *eP* **P 06 35 33.9 -0.1**
MCK pmax pmax
comp=Z,18nm,0.8s
MCK McKinley 76.14 18 *eP* **P 06 35 33.9 -0.1**
comp=Z,18nm,0.8s
DBIC Dimbokro 76.46 269⇑ *iP* **P 06 35 36.2 -0.4**
DBIC Dimbokro 76.46 269 P **P 06 35 36.6 0.0**
DBIC Dimbokro 76.46 269 P **P 06 35 36.6 0.0**
comp=Z,74nm,0.7s,baz=36,slow=6.6,SNR=97
DBIC LR LR 07 12 43.3
comp=Z,317nm,18.5s,baz=39,slow=38
KIC Kosan Boka 76.54 268⇑ *iP* **P 06 35 37.0 -0.1**
comp=Z,231nm,0.8s
SWZ Schweizer 76.61 223⇑ *iP* **P 06 35 37.1 -0.1**
SWZ AMB AMB 06 35 42.7
comp=Z,33nm,1.6s
TIC Toumodi 76.61 269⇑ *iP* **P 06 35 37.4 -0.1**
comp=Z,190nm,0.8s
LIC Lamto 76.85 268⇑ *iP* **P 06 35 38.6 -0.2**
comp=Z,153nm,0.7s
LIC *e*R
comp=Z,429nm,21.5s
LIC Lamto 76.85 268⇑ *iP* **P 06 35 38.7 -0.1**
comp=Z,253nm,0.7s
EGAK Eagle 77.03 14 *eP* **P 06 35 39.4 +0.4**
comp=Z,28nm,1.2s
PAX Paxson 77.64 17 *eP* **P 06 35 43.1 +0.6**
PAX pmax pmax
comp=Z,23nm,0.8s
PAX Paxson 77.64 17 *eP* **P 06 35 43.1 +0.6**
comp=Z,23nm,0.8s
RSO Redoubt South 77.75 21 *eP* **P 06 35 44.6 +1.3**
comp=Z,65nm,0.8s
BOSA Boshof 77.76 222⇑ *iP* **P 06 35 43.5 -0.1**
BOSA AMB AMB 06 35 44.0
comp=Z,34nm,0.9s
BOSA Boshof 77.76 222 P **P 06 35 43.5 -0.1**
BOSA Boshof 77.76 222 P **P 06 35 43.5 -0.1**
comp=Z,24nm,0.6s,baz=39,slow=4.8,SNR=66
BOSA LR LR 07 08 05.1

comp=Z,144nm,20.1s,baz=348,slow=34
PMR Palmer 77.86 19 *e*P **P 06 35 44.0 +0.4**
PMR pmax pmax
comp=Z,25nm,0.9s
PMR Palmer 77.86 19 *e*P **P 06 35 44.0 +0.4**
comp=Z,25nm,0.9s
SML Sawmill 77.90 19 *e*P **P 06 35 44.4 +0.5**
SML pmax pmax
comp=Z,16nm,0.8s
SML Sawmill 77.90 19 *e*P **P 06 35 44.4 +0.5**
comp=Z,16nm,0.8s
HVD Gariep Dam 79.19 221 *e*P **P 06 35 48.5 -3.0**
HVD AMB AMB 06 35 49.6
comp=Z,24nm,3.2s
BMRM Bremner River 79.57 18 *e*P **P 06 35 54.1 +0.9**
comp=Z,17nm,0.8s
WRA Warramunga Arr 79.61 123 P **P 06 35 53.7 -0.1**
WRA PKKPbc **PKKPbc 06 54 41.4 0.0**
WRA Warramunga Arr 79.61 123 P **P 06 35 53.7 -0.1**
comp=Z,16nm,0.8s,baz=324,slow=5.4,SNR=78
WRA PKKPbc **PKKPbc 06 54 41.4 0.0**
comp=Z,0.8nm,0.5s,baz=126,slow=2.2,SNR=16
WRAB Tennant Creek 79.61 123 P **P 06 35 53.3 -0.6**
comp=Z,216nm,1.0s,SNR=25
WRAB Tennant Creek 79.61 123 *e*P **P 06 35 53.9 +0.1**
WRAB pmax pmax
comp=Z,22nm,0.9s
WRAB Tennant Creek 79.61 123 *e*P **P 06 35 53.9 +0.1**
comp=Z,22nm,0.9s
KDAK Kodiak Island 79.95 23 P **P 06 35 56.3 +1.2**
comp=Z,366nm,0.8s,SNR=7.2
KDAK Kodiak Island 79.95 23 *e*P **P 06 35 56.4 +1.2**
comp=Z,65nm,1.0s
OHAK Old Harbor 80.17 24 *e*P **P 06 35 57.5 +1.2**
comp=Z,85nm,1.1s
ASAR Alice Springs 81.86 126 P **P 06 36 05.7 -0.2**
ASAR PKiKP **PKiKP 06 41 28.2 -0.9**
ASAR PKKPbc **PKKPbc 06 54 36.7 +0.2**
ASAR Alice Springs 81.86 126 P **P 06 36 05.7 -0.2**
comp=Z,15nm,0.7s,baz=310,slow=5.2,SNR=180
ASAR PKiKP **PKiKP 06 41 28.2 -0.9**
comp=Z,0.3nm,0.5s,baz=344,slow=1.0,SNR=5.5
ASAR PKKPbc **PKKPbc 06 54 36.7 +0.2**
comp=Z,0.5nm,0.6s,baz=131,slow=2.8,SNR=7.0
YKA Yellowknife Ar 82.71 4 P **P 06 36 10.0 +0.3**
YKA PP **PP 06 39 18.9 0.0**
YKA PKKPbc **PKKPbc 06 54 33.0 -1.0**
YKA Yellowknife Ar 82.71 4 P **P 06 36 10.0 +0.3**
comp=Z,48nm,0.6s,baz=347,slow=5.2,SNR=424
YKA PP **PP 06 39 18.9 0.0**
comp=Z,3.4nm,1.0s,baz=352,slow=7.7,SNR=4.7
YKA PKKPbc **PKKPbc 06 54 33.0 -1.0**
comp=Z,0.1nm,0.3s,baz=155,slow=2.4,SNR=4.0
SKAG Skagway 83.02 14 *e*P **P 06 36 12.5 +1.1**
comp=Z,59nm,1.4s
SCHQ Schefferville 84.24 338 P **P 06 36 17.6 -0.2**
SCHQ PP **PP 06 39 31.1 -0.5**
SCHQ PKKPbc **PKKPbc 06 54 29.1 -1.3**
SCHQ Schefferville 84.24 338 P **P 06 36 17.6 -0.2**
comp=Z,13nm,0.9s,baz=50,slow=5.8,SNR=24
SCHQ PP **PP 06 39 31.1 -0.5**
comp=Z,5.9nm,1.1s,baz=30,slow=12,SNR=2.8
SCHQ PKKPbc **PKKPbc 06 54 29.1 -1.3**
comp=Z,1.3nm,0.8s,baz=144,slow=3.3,SNR=4.1
WRAK Wrangell Islan 86.44 14 *e*P **P 06 36 30.1 +1.4**
comp=Z,15nm,1.0s
FFC Flin Flon 90.61 357 *i*P **P 06 36 49.0 +0.5**
FFC Flin Flon 90.61 357 *e*P **P 06 36 49.1 +0.5**
comp=Z,10nm,1.0s
STKA Stephens Creek 92.39 128 P **P 06 36 56.9 0.0**
STKA Stephens Creek 92.39 128 P **P 06 36 56.9 0.0**
comp=Z,1.7nm,0.5s,baz=302,slow=14,SNR=6.2
ULM Lac du Bonnet 94.65 353 P **P 06 37 06.7 -0.6**
ULM Lac du Bonnet 94.65 353 P **P 06 37 06.7 -0.6**
comp=Z,4.6nm,0.7s,baz=12,slow=3.8,SNR=9.4
ULM LR LR 07 22 11.0
comp=Z,194nm,21.3s,baz=342,slow=37
A12A Yaak River Ran 96.13 6 ⇑P **P 06 37 13.5 -0.6**
baz=96
WALA Waterton Lakes 96.14 5 *e*P **P 06 37 14.4 +0.2**
comp=Z,0.3nm,1.1s
A13A Flathead Natio 96.23 5 ⇑P **P 06 37 13.1 -1.6**
baz=96
A14A Double T Ranch 96.26 4 ⇓P **P 06 37 13.6 -1.2**
baz=96,SNR=7.4
A15A Johnson Ranch, 96.30 4 ⇓P **P 06 37 13.6 -1.3**
baz=96,SNR=15
EYMN Ely 96.37 350 *e*P **P 06 37 15.0 -0.2**
comp=Z,5.2nm,1.1s
A16A West Butte Ran 96.38 3 ⇓P **P 06 37 14.4 -1.0**
baz=96
A17A Triple J Farms 96.42 3 ⇓P **P 06 37 14.4 -1.1**
baz=96,SNR=12
A22A Carney Farms, 96.45 359 ⇓P **P 06 37 14.3 -1.3**
baz=96
A21A Bergtoll Ranch 96.45 0 ⇓P **P 06 37 14.9 -0.7**
baz=96,SNR=6.4
A18A Metzger Ranch, 96.48 2 ⇑P **P 06 37 14.5 -1.1**
baz=96,SNR=14
A24A Westby 96.48 358 ⇑P **P 06 37 15.2 -0.5**
baz=96
A19A Klindworth Far 96.50 1 ⇓P **P 06 37 15.4 -0.4**
baz=96
A20A Cobblestone Ra 96.56 1 ⇓P **P 06 37 15.1 -0.9**
baz=96
AGMN Agassiz Nation 96.58 353 *e*P **P 06 37 15.9 -0.1**
comp=Z,4.2nm,0.8s
B12A Libby 96.60 6 ⇑P **P 06 37 15.7 -0.5**
baz=96
NEW Newport 96.66 7 *e*P **P 06 37 16.6 +0.1**
comp=Z,4.3nm,0.8s
NEW Newport 96.66 7 ⇑P **P 06 37 16.0 -0.5**
baz=96,SNR=5.8
B13A Whitefish 96.78 5 ⇑P **P 06 37 16.3 -0.8**
baz=96
B14A Marquette Ranc 96.88 4 ⇑P **P 06 37 16.6 -1.0**
baz=96
B16A M & M Farms, S 96.91 3 ⇑P **P 06 37 17.1 -0.6**
baz=97
DGMT Dagmar 96.94 358 ⇓P **P 06 37 17.4 -0.4**
baz=97
B23A Brockton 96.97 359 ⇓P **P 06 37 17.1 -0.8**
baz=97
B19A Brinkman Farms 96.97 1 ⇑P **P 06 37 16.6 -1.3**
baz=97
B15A Bradely Ranch, 96.97 4 ⇓P **P 06 37 16.8 -1.2**
baz=97,SNR=12
B20A Solberg Farm, 97.00 1 ⇓P **P 06 37 17.9 -0.2**
baz=97,SNR=7.3
B18A Beardsley Farm 97.01 2 ⇓P **P 06 37 17.7 -0.5**
baz=97,SNR=5.9
B21A Ellsworth Farm 97.02 0 ⇓P **P 06 37 17.4 -0.7**
baz=97
B17A L&G Farms, Che 97.07 3 ⇑P **P 06 37 17.5 -0.9**
baz=97
BSMT Bassoo Peak 97.28 5 *e*P Pdif 06 37 20.6 +1.0
comp=Z,11nm,1.3s
C12B Naegeli Ranch, 97.36 6 ⇓P **P 06 37 19.3 -0.4**
baz=97,SNR=7.9
C14A Swan Lake 97.44 5 ⇓P **P 06 37 18.6 -1.5**
baz=97
C13A Hot Springs 97.47 5 ⇑P **P 06 37 19.4 -0.8**
baz=97
C15A Salmond Ranch, 97.50 4 ⇑P **P 06 37 19.5 -0.9**
baz=97
C16A Fuhringer Ranc 97.52 3 ⇑P **P 06 37 19.4 -1.1**
baz=97
C21A Desert Coulee 97.62 0 ⇓P **P 06 37 20.4 -0.5**
baz=97,SNR=6.1
C23A Lambert 97.63 359 ⇓P **P 06 37 19.8 -1.1**
baz=97
C22A Vida 97.69 359 ⇓P **P 06 37 20.4 -0.8**
baz=97
C20A Veseth Ranch, 97.72 1 ⇓P **P 06 37 20.1 -1.2**
baz=97
C17A Wharram Farm, 97.73 3 ⇓P **P 06 37 20.4 -1.0**
baz=97
SLMT Seeley Lake 97.98 5 *e*P Pdif 06 37 22.9 +0.2
comp=Z,4.6nm,1.0s
D17A Six Diamond Ra 98.22 3 ⇑P **P 06 37 23.2 -0.5**
baz=98,SNR=5.2
D19A Cripps Ranch, 98.26 1 ⇓P **P 06 37 22.8 -1.0**
baz=98
D22A Cohagen 98.29 360 ⇓P Pdif 06 37 24.0 +0.1
baz=98,SNR=5.7
CHMT Chamberlain Mo 98.32 4 *e*P Pdif 06 37 24.4 +0.1
comp=Z,1.8nm,0.6s

D21A La Casta Ranch 98.38 0 ⇓P **P 06 37 23.7 -0.7**
baz=98
E18A Harlowton 98.83 2 ⇓Pdiff **P 06 37 26.3 -0.1**
baz=98
E17A Martinsdale 98.90 3 ⇓Pdiff **P 06 37 25.9 -0.9**
baz=99
E19A Rath Farm, Rou 98.96 1 ⇓Pdiff **P 06 37 26.9 -0.1**
baz=99
F17A Fitzpatrick Pl 99.46 3 ⇑Pdiff **Pdif 06 37 29.5 +0.2**
baz=99
F18A Big Timber 99.50 2 ⇑Pdiff **Pdif 06 37 29.5 +0.1**
baz=99
F19A Roth Farm, Mol 99.57 2 ⇓Pdiff **Pdif 06 37 29.7 0.0**
baz=99
F24A Ekalaka 99.57 358 ⇑Pdiff **Pdif 06 37 29.5 -0.3**
baz=99
G17A Pierce Place, 100.04 3 ⇓Pdiff **Pdif 06 37 31.7 -0.2**
baz=100
I14A Mackay 101.28 5 ⇓Pdiff **Pdif 06 37 36.9 -0.5**
baz=101
I21A Big Trails, Te 101.63 0 ⇑Pdiff **Pdif 06 37 37.7 -1.3**
baz=101
PDAR Pinedale Array 102.64 2 P **Pdif 06 37 44.2 +0.7**
PDAR PKiKP **PKiKP 06 42 01.7 -2.7**
PDAR Pinedale Array 102.64 2 P **Pdif 06 37 44.2 +0.7**
comp=Z,0.5nm,0.8s,baz=32,slow=4.3,SNR=4.0
PDAR PKiKP **PKiKP 06 42 01.7 -2.7**
comp=Z,0.6nm,0.6s,baz=105,slow=2.3,SNR=4.9
HWUT Hardware Ranch 103.71 4 *e*Pdif **Pdif 06 37 49.8 +1.5**
comp=Z,4.3nm,0.9s
NVAR Mina Array Bea 106.23 9 Pdif **Pdif 06 38 01.6 +2.0**
NVAR PKiKP **PKiKP 06 42 12.0 +0.9**
NVAR Mina Array Bea 106.23 9 Pdiff **Pdif 06 38 01.6 +2.0**
comp=Z,0.6nm,0.8s,baz=2.8,slow=2.5,SNR=4.9
NVAR PKiKP **PKiKP 06 42 12.0 +0.9**
comp=Z,0.7nm,0.8s,baz=338,slow=2.1,SNR=3.8
DRV Dumont d'Urvil 113.18 157 SS SS 06 59 57.0 +61
TXAR Lajitas Array 116.02 357 PKP **PKPdf 06 42 29.9 +0.2**
TXAR PKKPbc **PKKPbc 06 52 58.8 -1.1**
TXAR Lajitas Array 116.02 357 PKP **PKPdf 06 42 29.9 +0.2**
comp=Z,0.5nm,0.9s,baz=101,slow=2.6,SNR=5.2
TXAR PKKPbc **PKKPbc 06 52 58.8 -1.1**
comp=Z,0.7nm,0.8s,baz=183,slow=7.0,SNR=11
SNAA Sanae 118.56 200 *e*P **PKPdf 06 42 32.5 -0.6**
SNAA Sanae 118.56 200 *e*Pakistan PKiKP 06 42 44.2 +11
SNAA Sanae 118.56 200 PKP **PKPdf 06 42 31.4 -1.7**
SNAA PKKPbc **PKKPab 06 52 49.6 -0.5**
SNAA Sanae 118.56 200 PKP **PKPdf 06 42 31.4 -1.7**
comp=Z,0.4nm,0.7s,baz=142,slow=2.0,SNR=10.0
SNAA PKKPbc **PKKPab 06 52 49.6 -0.5**
comp=Z,0.6nm,0.9s,baz=264,slow=5.3,SNR=6.1
VNDA Vanda 123.50 165 PKP **PKPdf 06 42 41.7 -0.7**
VNDA *e*PKPdf **PKPdf 06 42 41.7 -0.7**
VNDA Vanda 123.50 165 PKP **PKPdf 06 42 41.7 -0.7**
comp=Z,3.3nm,0.7s,baz=291,slow=4.4,SNR=20
QSPA South Pole Qui 124.72 180 *e*PKPdf **PKPdf 06 42 44.3 -0.8**
ROSC El Rosal 130.03 316 PKP **PKPdf 06 42 56.2 -1.0**
ROSC El Rosal 130.03 316 PKP **PKPdf 06 42 56.2 -1.0**
comp=Z,4.5nm,0.7s,baz=97,slow=16,SNR=6.6
SAML Samuel 132.55 292 *e*PKPdf **PKPdf 06 43 02.4 +0.9**
SIV San Ignacio 135.08 283 PKP **PKPdf 06 43 05.9 -0.3**
SIV San Ignacio 135.08 283 PKP **PKPdf 06 43 05.9 -0.3**
comp=Z,2.0nm,0.8s,baz=76,slow=4.0,SNR=7.5
CPUP Villa Florida 136.97 267 PKP **PKPdf 06 43 08.8 -0.6**
CPUP Villa Florida 136.97 267 PKP **PKPdf 06 43 08.8 -0.6**
comp=Z,1.9nm,0.6s,baz=39,slow=4.4,SNR=7.4
LPAZ La Paz 140.84 288 PKPpre PKPpre 06 43 10.2
LPAZ La Paz 140.84 288 PKhKP PKPpre 06 43 10.2
comp=Z,0.8nm,0.8s,baz=18,slow=7.8,SNR=3.4
ATAH Atahualpa 141.99 310 PKPpre PKPpre 06 43 13.7
ATAH Atahualpa 141.99 310 PKhKP PKPpre 06 43 13.7
comp=Z,3.3nm,0.8s,baz=120,slow=20,SNR=1.6
TRQA Ternquist 144.13 252 *e*PKPdf PKPbc 06 43 20.4 +0.2
NNA Nana 144.54 303 PKP PKPbc 06 43 22.0 0.0
NNA *e*PKPdf **PKPab 06 43 22.1 +0.3**
NNA Nana 144.54 303 PKP PKPbc 06 43 22.0 0.0
comp=Z,54nm,0.7s,baz=324,slow=2.8,SNR=26
LVC Limon Verde 144.83 280 PKP PKPbc 06 43 23.1 0.0
LVC Limon Verde 144.83 280 PKP PKPbc 06 43 23.1 0.0
comp=Z,32nm,0.7s,baz=46,slow=3.3,SNR=57
CFAA Coronel Fontan 147.75 265 PKPbc **PKPbc 06 43 31.4 +0.1**
CFAA Coronel Fontan 147.75 265 PKPbc **PKPbc 06 43 31.4 +0.1**
comp=Z,6.5nm,0.9s,baz=58,slow=3.7,SNR=38
LCO Las Campanas 148.96 271 *e*PKPbc **PKPbc 06 43 35.4 +0.6**
PLCA Paso Flores 150.96 248 PKP **PKPdf 06 43 33.1 -0.2**
PLCA PKPbc **PKPbc 06 43 39.0 -0.1**
PLCA Paso Flores 150.96 248 PKP **PKPdf 06 43 33.1 -0.2**
comp=Z,4.9nm,1.0s,baz=23,slow=6.8,SNR=3.4
PLCA PKPbc **PKPbc 06 43 39.0 -0.1**
comp=Z,9.3nm,0.9s,baz=119,slow=4.4,SNR=13

IDC 27 06:56:28.9±2.3, 3°93S×100°90E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.8/23, mbtmpg3.8/8, MS3.0/1, Ms1 3.0/1, ms1mx2.4/33, Error ellipse: s-maj=88.4km s-min=17.6km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.97**	**344**	LR	LR	07 01 36.2	
	comp=Z,132nm,20.8s,baz=88,slow=45						
CMAR	**Chiang Mai Arr**	**22.33**	**355**	P	P	07 01 27.3	-1.2
	0.7nm,0.3s,baz=184,slow=9.7,SNR=5.0						
WRA	**Warramunga Arr**	**36.27**	**119**	P	P	07 03 33.9	-0.4
	1.0nm,0.9s,baz=299,slow=11,SNR=8.0						
ASAR	**Alice Springs**	**37.41**	**125**	P	P	07 03 43.7	-0.3
	0.3nm,0.5s,baz=296,slow=7.2,SNR=4.1						
STKA	**Stephens Creek**	**47.21**	**131**	P	P	07 05 03.3	-0.5
	2.1nm,0.8s,baz=219,slow=13,SNR=3.1						
SONM	**Songino Array**	**51.77**	**5**	P	P	07 05 38.5	0.0
	1.0nm,0.7s,baz=186,slow=10.0,SNR=5.8						
MKAR	**Makanchi Array**	**53.12**	**344**	P	P	07 05 48.3	-0.1
	0.9nm,0.7s,baz=150,slow=7.9,SNR=9.6						
USRK	**Ussuriysk Arra**	**55.45**	**27**	P	P	07 06 05.5	+0.2
	1.6nm,0.9s,baz=222,slow=8.3,SNR=5.9						
ZALV	**Zalesovo Beam**	**59.22**	**349**	P	P	07 06 31.1	-0.6
	0.7nm,0.5s,baz=172,slow=4.5,SNR=5.2						
TXAR	**Lajitas Array**	**145.64**	**40**	PKPbc	PKPab	07 16 11.1	+0.4
	1.8nm,0.8s,baz=276,slow=1.2,SNR=20						

IDC 27 07:20:43.1±48.0, 16°26S×175°73W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/19, mbtmpg3.9/3, Error ellipse: s-maj=911.7km s-min=166.7km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.67**	**240**	P	P	07 28 34.0	+0.4
	3.3nm,1.1s,baz=86,slow=16,SNR=2.8						
WRA	**Warramunga Arr**	**47.47**	**258**	P	P	07 29 19.9	-0.2
	0.2nm,0.4s,baz=95,slow=7.5,SNR=5.2						
ASAR	**Alice Springs**	**47.72**	**253**	P	P	07 29 21.6	-0.5
	2.9nm,0.5s,baz=88,slow=8.2,SNR=53						

*AUST **27** 07:33:41.1, 17°.00S×168°.96E, h25km*
*IDC **27** 07:33:44.5±0.7, 17°.64S×168°.02E, h0km, mb4.0/15, mb1 4.2/16, mb1mx4.2/21, mbtmp4.1/16, ML4.5/1, MS3.6/9, Ms1 3.6/9, ms1mx3.3/31, Error ellipse: s-maj=23.5km s-min=17.4km az=114.0*
*VIE **27** 07:33:45.6, 17°.43S×168°.05E, h0km, mb4.0 44 km NW of Port Vila*
*ISCJB **27** 07:33:47.3±0.6, 17°.95S±0°.05×168°.17E±0°.10, h32km, mb4.0/13, MS3.7/7, Error ellipse: s-maj=13.7km s-min=5.8km az=14.2*
*NOU **27** 07:33:50.1±1.3, 17°.69S×167°.53E, h30km, MD3.2, ML2.5*

ISC 27 07:33:49.0±0.6, 17°.89S±0°.07×168°.1E±0°.1, h32km, n44, σ1§33/38, mb4.1/12, MS3.6/7, 3C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.40**	**195**	*e*P	**Pn**	**07 34 54.8**	**+1.2**
BAYA				*e*S	**Sn**	**07 35 42.0**	**-1.8**
BAYA				AMP		07 35 57.4	
	comp=Z,8.5nm,2.1s						
DZM	**Mont Dzumac**	**4.45**	**200**	Pn	**Pn**	**07 34 54.2**	**-0.2**
	comp=Z,20nm,0.3s,baz=18,slow=13,SNR=266						
DZM				Sn	**Sn**	**07 35 42.9**	**-2.3**
	comp=Z,21nm,0.3s,baz=326,slow=23,SNR=8.0						
NOUC	**Port Laguerre**	**4.53**	**202**	*e*P	**Pn**	**07 34 55.4**	**0.0**
NOUC				*e*S	**Sn**	**07 35 43.2**	**-3.7**
NOUC				AMP		07 35 54.7	
	comp=Z,34nm,0.8s						
LASL	**Noumea**	**4.57**	**199**	*e*S	**Sn**	**07 35 46.9**	**-1.1**
RAO	**Raoul Island**	**17.06**	**134**	LR	LR	07 42 51.3	

comp=Z,140nm,19.1s,baz=31,slow=32
AFI Afiamalu 19.73 81 LR LR 07 44 15.3
comp=Z,185nm,20.7s,baz=259,slow=32
RMQ Roma 19.85 241 P **Pn 07 38 21.1 +2.0**
baz=21,SNR=4.6
CTA Charters Tower 20.79 260 P **P 07 38 27.9 +0.2**
comp=Z,3.3nm,0.7s,baz=79,slow=16,SNR=2.2
CTA S **S 07 42 16.9 -1.3**
comp=Z,1.0nm,0.3s,baz=180,slow=9.1,SNR=2.8
URZ Urewera 21.77 161 P P 07 38 42.6 +4.6
comp=Z,2.2nm,0.3s,baz=93,slow=20,SNR=7.9
URZ LR LR 07 46 15.0
comp=Z,132nm,19.0s,baz=184,slow=34
MTSU Mount Surprise 22.64 266 P **P 07 38 50.2 +2.6**
baz=24,SNR=5.8
CNB Canberra Magne 24.07 220 P **P 07 39 03.5 +1.9**
baz=25,SNR=4.9
CMSA Cobar Meteorol 24.43 232 P **P 07 39 06.2 +1.3**
baz=26,SNR=14
MANU Manus Island 25.75 305 P P 07 39 07.5 -9.4
baz=26,SNR=9.9
RPZ Rata Peaks 25.87 175 LR LR 07 48 08.3
comp=Z,155nm,20.2s,baz=202,slow=33
STKA Stephens Creek 27.71 235 P **P 07 39 35.5 +1.0**
comp=Z,2.9nm,0.6s,baz=91,slow=7.8,SNR=9.8
STKA LR LR 07 49 17.4
comp=Z,145nm,18.6s,baz=23,slow=34
STKA Stephens Creek 27.71 235 P **P 07 39 35.9 +1.3**
baz=29,SNR=4.1
JAY Jayapura 30.93 296 S S 07 45 25.7 +20
baz=31,SNR=4.3
WRA Warramunga Arr 32.00 261 P **P 07 40 11.8 -0.9**
comp=Z,0.5nm,0.4s,baz=79,slow=6.1,SNR=4.9
ASAR Alice Springs 32.45 254 P **P 07 40 16.4 -0.2**
comp=Z,2.0nm,0.5s,baz=80,slow=8.7,SNR=41
KNRA Kununurra 37.70 267 P **P 07 41 01.8 -0.1**
baz=38,SNR=7.4
KNRA S S 07 46 59.0 +8.7
baz=38,SNR=3.0
FITZ Fitzroy Crossi 40.34 263 P **P 07 41 24.7 +0.8**
baz=41,SNR=10
MEEK Meekatharra 46.40 250 P **P 07 42 13.7 +0.9**
baz=47,SNR=3.9
LUWI Luwuk 47.58 286 S S 07 48 50.6 -25
baz=48,SNR=5.6
VNDA Vanda 59.74 182 P **P 07 43 51.9 +1.7**
comp=Z,0.7nm,0.9s,baz=333,slow=6.5,SNR=3.5
VNDA LR LR 08 04 46.2
comp=Z,76nm,18.8s,baz=334,slow=31
MJAR Matsushiro Art 61.07 333 P **P 07 43 59.1 -0.8**
comp=Z,0.9nm,0.5s,baz=152,slow=5.5,SNR=3.7
USRK Ussuriysk Arra 70.05 333 P **P 07 44 57.1 -0.6**
comp=Z,1.6nm,0.8s,baz=157,slow=7.4,SNR=5.1
PETK Petropavlovsk- 71.27 353 P **P 07 45 04.9 -0.1**
comp=Z,1.7nm,0.7s,baz=121,slow=11,SNR=3.7
PETK LR LR 08 11 51.5
comp=Z,34nm,19.2s,baz=162,slow=32
LHMI Lhok Sumawe 73.84 281 P **P 07 45 20.7 -0.4**
baz=74,SNR=3.9
SONM Songino Array 85.51 323 P **P 07 46 23.9 0.0**
comp=Z,2.3nm,0.8s,baz=150,slow=6.2,SNR=12
NVAR Mina Array Bea 88.71 49 P **P 07 46 40.2 +0.4**
comp=Z,2.5nm,0.7s,baz=226,slow=9.2,SNR=4.6
ILAR Eielson Array 89.27 18 P **P 07 46 39.4 -2.0**
comp=Z,0.4nm,0.5s,baz=237,slow=5.0,SNR=11
PDAR Pinedale Array 96.48 47 LR LR 08 20 29.9
comp=Z,39nm,20.7s,baz=80,slow=29
TXAR Lajitas Array 97.05 62 P **P 07 47 19.7 +1.4**
comp=Z,0.1nm,0.8s,baz=199,slow=5.3,SNR=2.6
TXAR LR LR 08 20 47.1
comp=Z,31nm,19.9s,baz=0.0,slow=29
YKA Yellowknife Ar 99.96 27 P **Pdif 07 47 29.8 -0.6**
comp=Z,0.2nm,0.5s,baz=258,slow=5.8,SNR=3.2
MKAR Makanchi Array 100.03 316 P **Pdif 07 47 30.6 -0.6**
comp=Z,0.4nm,0.6s,baz=85,slow=9.1,SNR=5.4
ARCES ARCESS Array B 123.50 345 PKP **PKPdf 07 52 41.8 -0.6**
comp=Z,2.3nm,0.7s,baz=5.7,slow=1.2,SNR=8.4
FINES FINESS Array B 128.94 338 PKP **PKPdf 07 52 51.6 -1.4**
comp=Z,2.1nm,1.0s,baz=336,slow=3.0,SNR=2.6
BRTR Keskin Array B 135.15 309 PKP **PKPdf 07 53 05.0 -0.6**
comp=Z,0.5nm,0.5s,baz=40,slow=2.5,SNR=2.5
GERES GERESS Array B 142.81 332 PKhKP PKPpre 07 53 15.9
comp=Z,0.4nm,0.4s,baz=96,slow=2.0,SNR=2.8
ABTA Abfaltersbach 144.89 330 ⇓*i*PKPdf PKPbc 07 53 21.5 -0.6
comp=Z,7.4nm,0.5s
WTTA Wattenberg 144.91 332 ⇑*i*PKPdf **PKPdf 07 53 22.3 -0.8**
comp=Z,4.3nm,0.5s
RETA Reutte 145.13 333 ⇓*i*PKPdf **PKPdf 07 53 23.0 -0.4**
comp=Z,4.9nm,0.5s
FETA Feichten 145.50 332 ⇑*i*PKPdf **PKPab 07 53 24.4 0.0**
comp=Z,7.0nm,0.6s
DAVA Damuels 145.66 333 ⇑*i*PKPdf **PKPab 07 53 24.7 -0.3**
comp=Z,6.6nm,0.8s

IDC 27 07:47:27.4±4.7, 10°.59N×94°.21E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/26, mbtmp3.8/5, MS3.9/1, Ms1 3.9/1, ms1mx2.5/43, Error ellipse: s-maj=284.8km s-min=21.6km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.47**	**347**	P	P	07 54 42.7	-0.1
	0.8nm,0.6s,baz=166,slow=8.7,SNR=7.5						
KURBB	**Kurchatov Arra**	**41.95**	**345**	P	P	07 55 19.6	-0.4
	0.4nm,0.2s,baz=155,slow=7.5,SNR=3.2						
ZALV	**Zalesovo Beam**	**43.89**	**352**	P	P	07 55 35.7	+0.1
	1.1nm,0.5s,baz=184,slow=8.7,SNR=3.6						
WRA	**Warramunga Arr**	**49.81**	**127**	P	P	07 56 21.9	-0.7
	0.9nm,0.9s,baz=300,slow=9.4,SNR=3.4						
ASAR	**Alice Springs**	**51.63**	**132**	P	P	07 56 36.5	+0.3
	1.3nm,0.9s,baz=309,slow=6.7,SNR=14						
ASAR				LR	LR	08 17 50.9	
	comp=Z,116nm,21.1s,baz=275,slow=35						
PDAR	**Pinedale Array**	**122.62**	**21**	PKP	PKPdf	08 06 25.0	-0.8
	0.3nm,0.8s,baz=296,slow=2.9,SNR=2.9						
TXAR	**Lajitas Array**	**136.72**	**23**	PKP	PKPdf	08 06 53.2	+0.4
	0.1nm,0.5s,baz=329,slow=1.1,SNR=3.1						

IDC 27 07:55:26.1±11.0, 11°.16N×95°.30E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.4/25, mbtmpg3.7/3, Error ellipse: s-maj=715.1km s-min=29.2km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.19**	**345**	P	P	08 02 38.9	-0.2
	1.0nm,0.9s,baz=160,slow=7.5,SNR=5.2						
ZALV	**Zalesovo Beam**	**43.49**	**351**	P	P	08 03 31.0	0.0
	0.5nm,0.3s,baz=160,slow=8.8,SNR=2.4						
ASAR	**Alice Springs**	**51.21**	**133**	P	P	08 04 31.6	-0.1
	0.8nm,0.9s,baz=310,slow=8.0,SNR=5.7						

*AUST **27** 08:14:31.2, 0°.50N×120°.50E, h200km*
*IDC **27** 08:15:22.2±1.7, 3°.92S×124°.20E, h0km, mb3.3/2, mb1 3.8/5, mb1mx3.5/23, mbtmpg3.6/5, ML3.6/3, Error ellipse: s-maj=48.9km s-min=24.6km az=57.0*

ISC 27 08:14:34.4±4.3, 0°.2S±0°.4×120°.1E±0°.2, h100km, n13, σ0§99/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**4.81**	**184**	Pn	Sn	08 16 31.4	-7.7
	2.6nm,0.3s,baz=112,slow=5.4,SNR=11						
KAPI				Sn	Sn	08 17 34.7	+56
	3.2nm,0.3s,baz=163,slow=23,SNR=8.6						
SOEI	**Soe**	**10.39**	**156**	P	**Pn**	**08 17 01.0**	**+0.3**
	baz=11,SNR=11						
LEM	**Lembang**	**14.05**	**242**	P	**P**	**08 17 55.2**	**+1.4**
	baz=15,SNR=8.4						
CISI	**Cisompet, Garu**	**14.23**	**239**	P	**Pn**	**08 17 51.4**	**-0.1**
	baz=15,SNR=4.3						
CISI				S	Sn	08 20 16.7	-12
	baz=15,SNR=4.6						
PMBI	**Palembang**	**15.51**	**260**	P	**P**	**08 18 09.0**	**-1.0**
	baz=16,SNR=3.3						
MTN	**Manton Dam**	**16.70**	**139**	P	P	08 18 27.8	+4.7
	baz=17,SNR=8.0						
MTN				S	S	08 21 47.1	+15
	baz=17,SNR=4.3						
XMIS	**Christmas Isla**	**17.59**	**234**	P	**P**	**08 18 32.2**	**-0.8**
	baz=18,SNR=4.5						
KNRA	**Kununurra**	**17.64**	**151**	P	**P**	**08 18 32.6**	**-0.8**
	baz=18,SNR=4.3						
FITZ	**Fitzroy Crossi**	**18.64**	**163**	Pn	**P**	**08 18 43.4**	**-0.9**
	0.3nm,0.3s,baz=358,slow=11,SNR=2.0						

FITZ	**Fitzroy Crossi**	**18.64**	**163**	P		**P**	**08**	**18**	**43.7**	**-0.6**
	baz=19,SNR=5.5									
WRA	**Warramunga Arr**	**24.11**	**145**	P		**P**	**08**	**19**	**41.8**	**+0.7**
	0.2nm,0.3s,baz=329,slow=12,SNR=13									
ASAR	**Alice Springs**	**26.94**	**151**	P		P	08	20	16.4	+10
	0.9nm,0.7s,baz=338,slow=12,SNR=6.3									
MKAR	**Makanchi Array**	**57.26**	**330**	P		PP	08	25	48.4	-31
	0.2nm,0.3s,baz=124,slow=6.2,SNR=5.2									

IDC 27 08:16:27.6±4.8, 8°24S×123°39E, h161km±43km, mb3.9/1, mb1 3.4/4, mb1mx3.1/20, mbtmp3.3/4, Error ellipse: s-maj=94.9km s-min=47.3km az=69.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**1.97**	**188**	P		Pn	08 17 02.3	-0.8
	43nm,0.3s,baz=344,slow=7.4,SNR=11							
BATI				S		Sn	08 17 31.2	+0.7
	24nm,0.3s,baz=108,slow=20,SNR=4.8							
FITZ	**Fitzroy Crossi**	**9.94**	**171**	P		Pn	08 18 45.0	-1.7
	0.3nm,0.3s,baz=353,slow=16,SNR=11							
FITZ				S		Sn	08 20 33.8	-3.2
	0.3nm,0.3s,baz=211,slow=11,SNR=2.2							
WRA	**Warramunga Arr**	**15.39**	**140**	P		P	08	19	57.8	+0.2
	0.2nm,0.3s,baz=322,slow=12,SNR=2.8									
WRA				S		S	08	22	50.2	-0.1
	0.1nm,0.3s,baz=322,slow=26,SNR=2.6									
ASAR	**Alice Springs**	**18.07**	**149**	P		P	08	20	27.2	+0.2
	0.2nm,0.3s,baz=330,slow=12,SNR=4.1									
STKA	**Stephens Creek**	**28.69**	**147**	P		P	08	22	10.1	+0.5
	5.8nm,1.1s,baz=319,slow=9.3,SNR=2.9									

KRSC 27 08:16:45.1±1.8, 49.79N×157.02E, h5km±5km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.07**	**327**	P		Pg	08 17 05.2	-0.3
SKR				*e*S		Sb	08 17 19.9	-0.3
PAU	**Pauzhetka**	**1.68**	**356**	S		Sg	08 17 39.1	-0.1
ASAK	**Asacha**	**2.66**	**12**	*e*P		Pb	08 17 31.1	-2.1
MTVR	**Mutnovka**	**2.79**	**15**	*e*P		Pn	08 17 32.6	+1.9
MTVR				*e*S		Sn	08 18 07.4	+2.5
RUS	**Russkaya**	**2.81**	**19**	*i* P		Pn	08 17 32.2	+1.6
RUS				*e*S		Sn	08 18 06.7	+1.9
APC	**Apacha**	**3.14**	**2**	P		Pn	08 17 36.4	+1.2
UGLR	**Uglovaya**	**3.60**	**18**	*e*P		Pn	08 17 44.5	+2.8
KOK	**Koryaka**	**3.65**	**15**	*e*P		Pn	08 17 45.4	+3.1
SDLR	**Sedlovina**	**3.68**	**18**	P		Pn	08 17 44.9	+2.1
GNL	**Ganaly**	**3.95**	**8**	*e*P		Pn	08 17 49.6	+3.1
BKI	**Bering**	**7.69**	**42**	S		Sn	08 20 02.7	-2.4

IDC 27 08:36:01.3±1.4, 18.25S×178.15W, h538km±17km, mb3.2/16, mb1 3.4/17, mb1mx3.4/21, mbtmp3.2/17, Error ellipse: s-maj=21.2km s-min=10.1km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.49**	**56**	P		P	08 37 53.1	-0.7
	3.3nm,0.3s,baz=285,slow=22,SNR=5.4							
AFI				S		S	08 39 23.9	-2.1
	1.0nm,0.3s,baz=218,slow=19,SNR=3.5							
URZ	**Urewera**	**20.36**	**191**	P		P	08 40 00.7	-0.4
	4.9nm,0.8s,baz=288,slow=3.2,SNR=5.6							
CTA	**Charters Tower**	**33.64**	**261**	P		P	08 41 57.5	-0.1
	1.3nm,0.4s,baz=85,slow=13,SNR=3.6							
STKA	**Stephens Creek**	**38.69**	**242**	P		P	08 42 39.5	+0.3
	1.5nm,0.7s,baz=114,slow=16,SNR=4.6							
WRA	**Warramunga Arr**	**44.81**	**260**	P		P	08 43 27.4	-0.3
	0.9nm,0.5s,baz=95,slow=7.4,SNR=15							
WRA				PcP		PcP	08 44 57.9	-0.3
	1.0nm,0.9s,baz=92,slow=3.1,SNR=2.6							
ASAR	**Alice Springs**	**44.94**	**255**	P		P	08 43 29.2	+0.6
	5.7nm,0.7s,baz=87,slow=8.6,SNR=81							
ASAR				PcP		PcP	08 44 58.3	-0.2
	0.7nm,0.5s,baz=100,slow=3.5,SNR=5.3							
ASAR				S		S	08 49 24.9	-2.9
	0.8nm,0.9s,baz=84,slow=13,SNR=5.7							
MJAR	**Matsushiro Arr**	**68.33**	**323**	P		P	08 46 08.5	-0.4
	2.5nm,0.5s,baz=158,slow=5.8,SNR=9.5							
FX1	**Attu Island--F**	**71.23**	**354**	P		P	08 46 24.9	-0.9
	baz=128,slow=19							
PETK	**Petropavlovsk-**	**74.07**	**345**	P		P	08 46 42.4	+0.2
	2.9nm,0.7s,baz=140,slow=9.2,SNR=4.0							
KSRS	**Korea Array**	**75.12**	**318**	P		P	08 46 49.4	+0.9
	0.4nm,0.3s,baz=118,slow=8.0,SNR=3.5							
USRK	**Ussuriysk Arra**	**77.03**	**326**	P		P	08 46 59.8	+1.0
	1.2nm,0.9s,baz=98,slow=2.9,SNR=4.6							
NVAR	**Mina Array Bea**	**79.50**	**44**	P		P	08 47 12.4	-0.1
	0.4nm,0.6s,baz=229,slow=9.0,SNR=4.6							
TXAR	**Lajitas Array**	**85.97**	**58**	P		P	08 47 46.5	+1.4
	0.3nm,0.7s,baz=212,slow=5.8,SNR=7.0							
ILAR	**Eielson Array**	**86.16**	**13**	P		P	08 47 44.0	-1.0
	0.6nm,0.4s,baz=220,slow=4.9,SNR=24							
PDAR	**Pinedale Array**	**87.43**	**43**	P		P	08 47 52.2	+0.4
	0.7nm,0.8s,baz=209,slow=2.7,SNR=6.3							
CMAR	**Chiang Mai Arr**	**89.23**	**290**	P		P	08 48 01.4	+0.9
	0.9nm,0.3s,baz=93,slow=5.0,SNR=3.4							
SONM	**Songino Array**	**93.97**	**319**	P		P	08 48 21.9	+0.1
	0.2nm,0.3s,baz=157,slow=4.1,SNR=2.8							
YKA	**Yellowknife Ar**	**94.53**	**25**	P		P	08 48 23.4	-0.4
	0.2nm,0.5s,baz=230,slow=4.9,SNR=3.5							
ULM	**Lac du Bonnet**	**99.01**	**40**	P		Pdif	08 48 43.5	-0.7
	0.8nm,0.4s,baz=315,slow=5.7,SNR=2.0							
BVAR	**Borovoye Array**	**117.26**	**321**	PKP		PKPdf	08 53 44.1	-1.2
	0.5nm,0.4s,baz=46,slow=4.2,SNR=2.5							
ARCES	**ARCESS Array B**	**126.69**	**350**	PKP		PKPdf	08 54 01.6	-1.3
	1.5nm,0.8s,baz=28,slow=2.5,SNR=4.7							
BRTR	**Keskin Array B**	**145.20**	**315**	PKPbc		PKPbc	08 54 38.8	-0.3
	0.7nm,0.4s,baz=80,slow=4.9,SNR=5.4							
CLL	**Collm**	**145.85**	**348**	*i* PKP		PKPbc	08 54 40.2	-0.1
	comp=Z,8.0nm,0.6s							
MMAI	**Mount Meron Ar**	**146.53**	**303**	PKPbc		PKPbc	08 54 43.2	+0.3
	comp=Z,1.9nm,0.5s,baz=70,slow=7.2,SNR=4.0							
GERES	**GERESS Array B**	**148.00**	**345**	PKPbc		PKPbc	08 54 46.3	0.0
	comp=Z,1.2nm,0.5s,baz=41,slow=4.3,SNR=9.7							
DAVOX	**Davos/Dischmat**	**150.78**	**349**	PKPbc		PKPbc	08 54 51.4	-1.8
	comp=Z,1.3nm,0.4s,baz=30,slow=20,SNR=4.1							

*IDC **27** 08:39:57.9±1.4, 41.98N×24.69E, h0km, mb3.7/3, mb1 3.8/7, mb1mx3.5/28, mbtmp3.6/7, ML3.1/4, MS3.1/4, Ms1 3.2/4, ms1mx2.5/43, Error ellipse: s-maj=25.0km s-min=13.7km az=119.0*

*THE **27** 08:39:59.2, 42.11N×24.87E, h5km±1km, ML4.0/9, Error ellipse: s-maj=1.4km s-min=0.7km az=357.0*

*CSEM **27** 08:39:59.3±0.1, 42.06N×24.82E, h2km, ML3.8, Error ellipse: s-maj=2.0km s-min=1.7km az=26.0*

*BEO **27** 08:39:59.9±0.7, 42.11N×24.81E, h0km±2km, ML3.8/1*

*ATH **27** 08:40:00.1, 41.90N×24.83E, h21km±2km, MD3.6/18*

*ISK **27** 08:40:01.7, 41.90N×25.06E, h9km, ML3.7*

ISC 27 08:39:59.1±1.0, 42.07N±0.02×24.83E±0.02, h6km±7km, n260, σ1°1°1s/325, mb3.5/3, 28C-19D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLD	**Plovdiv**	**0.10**	**289**	*i* Pg		**Pg**	**08 40 01.1**	**-0.2**
PLD	**Plovdiv**	**0.10**	**289**	*i* Pg		**Pg**	**08 40 01.1**	**-0.2**
NVR	**Nevrokopi**	**1.02**	**226**	P		**Pg**	**08 40 18.2**	**-0.5**
NVR				S		**Sn**	**08 40 35.5**	**+0.7**
NVR	**Nevrokopi**	**1.02**	**226**	*e*PN		**Pg**	**08 40 18.5**	**-0.2**
NVR				*e*SN		**Sg**	**08 40 32.1**	**+0.1**
NVR	**Nevrokopi**	**1.02**	**226**	P		**Pg**	**08 40 18.2**	**-0.5**
NVR	**Nevrokopi**	**1.02**	**226**	*e*Pn		**Pg**	**08 40 18.5**	**-0.2**
NVR				*e*Sn		**Sg**	**08 40 32.1**	**+0.1**
NVR				S		**Sn**	**08 40 35.5**	**+0.7**
KAVA	**Kavala**	**1.10**	**193**	P		**Pg**	**08 40 19.6**	**-0.6**
KAVA				S		**Sb**	**08 40 35.0**	**-0.1**
KAVA	**Kavala**	**1.10**	**193**	P		**Pg**	**08 40 19.6**	**-0.6**
KAVA				S		**Sb**	**08 40 35.0**	**-0.1**
VTS	**Vitosha**	**1.31**	**294**	P		**Pg**	**08 40 22.8**	**-1.4**
VTS				S		**Sg**	**08 40 41.5**	**+0.3**
VTS	**Vitosha**	**1.31**	**294**	*i* P		**Pg**	**08 40 22.3**	**-1.9**
VTS	**Vitosha**	**1.31**	**294**	S		**Sn**	**08 40 43.9**	**+1.8**
VTS	**Vitosha**	**1.31**	**294**	*i* Pg		**Pg**	**08 40 22.6**	**-1.6**
VTS	**Vitosha**	**1.31**	**294**	P		**Pg**	**08 40 22.8**	**-1.4**
VTS				S		**Sg**	**08 40 41.5**	**+0.3**
SRS	**Serrai**	**1.33**	**225**	P		**Pg**	**08 40 24.1**	**-0.5**
SRS				S		**Sn**	**08 40 43.7**	**+1.3**
SRS	**Serrai**	**1.33**	**225**	P		**Pg**	**08 40 24.1**	**-0.5**
SRS				S		**Sn**	**08 40 43.7**	**+1.3**
JMB	**Yambol**	**1.36**	**73**	P		**Pn**	**08 40 24.6**	**0.0**
JMB				S		**Sg**	**08 40 41.7**	**-1.0**
JMB	**Yambol**	**1.36**	**73**	P		**Pn**	**08 40 24.6**	**0.0**
JMB				S		**Sg**	**08 40 41.7**	**-1.0**
EDRB	**Edirne**	**1.44**	**98**	*e*PN		**Pn**	**08 40 25.6**	**-0.1**
EDRB				*e*SN		**Sb**	**08 40 44.2**	**-0.8**
EDRB	**Edirne**	**1.44**	**98**	P		**Pn**	**08 40 25.5**	**-0.3**
EDRB				S		**Sb**	**08 40 44.5**	**-0.5**
EDRB	**Edirne**	**1.44**	**98**	P		**Pn**	**08 40 25.5**	**-0.3**
EDRB				*e*Sn		**Sb**	**08 40 44.2**	**-0.8**
ALN	**Alexandroupoli**	**1.49**	**142**	P		**Pn**	**08 40 26.7**	**+0.4**
ALN				S		**Sb**	**08 40 46.3**	**+0.1**
ALN	**Alexandroupoli**	**1.49**	**142**	*e*PN		**Pn**	**08 40 26.7**	**+0.4**
ALN				*e*SN		**Sb**	**08 40 46.4**	**+0.2**
ALN	**Alexandroupoli**	**1.49**	**142**	P		**Pn**	**08 40 26.7**	**+0.4**
ALN				S		**Sb**	**08 40 46.3**	**+0.1**
ZIMR		**1.63**	**14**	*i* P		**Pg**	**08 40 30.1**	**-0.2**
ZIMR		**1.63**	**14**	S		**Sg**	**08 40 54.0**	**+2.5**
ENEZ	**Enez**	**1.66**	**143**	*e*PN		**Pn**	**08 40 28.7**	**-0.1**
ENEZ				*e*SN		**Sn**	**08 40 47.5**	**-3.0**
ENEZ	**Enez**	**1.66**	**143**	*e*Pn		**Pn**	**08 40 28.7**	**-0.1**
ENEZ				*e*Sn		**Sn**	**08 40 47.5**	**-3.0**
SMTH	**Samothraki Isl**	**1.68**	**162**	P		**Pn**	**08 40 29.0**	**-0.1**
SMTH				S		**Sn**	**08 40 51.7**	**+0.7**
SMTH	**Samothraki Isl**	**1.68**	**162**	*e*PN		**Pn**	**08 40 29.4**	**+0.3**
SMTH				*e*SN		**Sn**	**08 40 50.2**	**-0.8**
SMTH	**Samothraki Isl**	**1.68**	**162**	P		**Pn**	**08 40 29.0**	**-0.1**
SMTH	**Samothraki Isl**	**1.68**	**162**	*e*Pn		**Pn**	**08 40 29.4**	**+0.3**
SMTH				*e*Sn		**Sn**	**08 40 50.2**	**-0.8**
SMTH				S		**Sn**	**08 40 51.7**	**+0.7**
KNT	**Kendrikon**	**1.71**	**239**	P		**Pn**	**08 40 29.8**	**+0.3**
KNT				S		**Sg**	**08 40 53.5**	**-0.6**
KNT	**Kendrikon**	**1.71**	**239**	P		**Pn**	**08 40 29.8**	**+0.3**
KNT				S		**Sg**	**08 40 53.5**	**-0.6**
OUR	**Ouranopolis**	**1.85**	**201**	P		**Pn**	**08 40 31.5**	**+0.1**
OUR				S		**Sb**	**08 40 56.9**	**+0.2**
OUR	**Ouranopolis**	**1.85**	**201**	P		**Pn**	**08 40 31.5**	**+0.1**
OUR				S		**Sb**	**08 40 56.9**	**+0.2**
VAY	**Valandovo**	**1.85**	**247**	P		**Pn**	**08 40 31.4**	**0.0**
VAY				S		**Sb**	**08 40 56.6**	**-0.2**
VAY	**Valandovo**	**1.85**	**247**	*i* Pn		**Pn**	**08 40 31.9**	**+0.5**
VAY				*e*Sg		**Sg**	**08 41 01.7**	**+3.1**
VAY	**Valandovo**	**1.85**	**247**	*e*Pn		**Pn**	**08 40 31.4**	**0.0**
VAY	**Valandovo**	**1.85**	**247**	P		**Pn**	**08 40 31.4**	**0.0**
VAY				S		**Sb**	**08 40 56.6**	**-0.2**
VAY				*e*Sg		**Sg**	**08 41 01.7**	**+3.1**
HORT	**Hortiatis**	**1.97**	**222**	P		**Pn**	**08 40 33.6**	**+0.5**
HORT				S		**Sb**	**08 41 00.4**	**+0.4**
HORT	**Hortiatis**	**1.97**	**222**	P		**Pn**	**08 40 33.6**	**+0.5**
HORT				S		**Sb**	**08 41 00.6**	**+0.4**
PLG	**Polygyros**	**1.99**	**212**	P		**Pn**	**08 40 33.9**	**+0.5**
PLG				S		**Sb**	**08 41 00.9**	**0.0**
PLG	**Polygyros**	**1.99**	**212**	*e*PN		**Pn**	**08 40 33.9**	**+0.5**
PLG	**Polygyros**	**1.99**	**212**	P		**Pn**	**08 40 33.9**	**+0.5**
PLG				S		**Sb**	**08 41 00.9**	**0.0**
THE	**Thessaloniki**	**2.01**	**225**	P		**Pn**	**08 40 33.8**	**+0.2**
THE				S		**Sb**	**08 41 01.1**	**-0.2**
THE	**Thessaloniki**	**2.01**	**225**	P		**Pn**	**08 40 33.8**	**+0.2**
THE				S		**Sb**	**08 41 01.1**	**-0.2**
ZAPS	**Zavoj**	**2.02**	**307**	*e*Sg		**Sb**	**08 41 01.7**	**+0.1**
PHSR	**Pinarhisar**	**2.06**	**101**	*e*PN		**Pn**	**08 40 34.4**	**+0.2**
PHSR	**Pinarhisar**	**2.06**	**101**	*e*Pn		**Pn**	**08 40 34.4**	**+0.2**
GRG	**Griva**	**2.14**	**239**	P		**Pn**	**08 40 36.0**	**+0.6**
GRG				S		**Sn**	**08 41 03.8**	**+1.5**
GRG	**Griva**	**2.14**	**239**	*e*PN		**Pn**	**08 40 36.6**	**+1.2**
GRG	**Griva**	**2.14**	**239**	P		**Pn**	**08 40 36.0**	**+0.6**
GRG	**Griva**	**2.14**	**239**	*e*Pn		**Pn**	**08 40 36.6**	**+1.2**
GRG				S		**Sn**	**08 41 03.8**	**+1.5**
LIA	**Limnos Island**	**2.19**	**173**	P		**Pn**	**08 40 35.5**	**-0.5**
LIA				S		**Sn**	**08 41 04.7**	**+1.3**
LIA	**Limnos Island**	**2.19**	**173**	*e*PB		**Pn**	**08 40 35.8**	**-0.2**
LIA	**Limnos Island**	**2.19**	**173**	P		**Pn**	**08 40 35.5**	**-0.5**
LIA	**Limnos Island**	**2.19**	**173**	*e*Pb		**Pn**	**08 40 35.8**	**-0.2**
LIA				S		**Sn**	**08 41 04.7**	**+1.3**
RKY	**Sarkoy-Tekirda**	**2.24**	**127**	*e*PN		**Pn**	**08 40 36.5**	**-0.3**
RKY	**Sarkoy-Tekirda**	**2.24**	**127**	*e*Pn		**Pn**	**08 40 36.5**	**-0.3**
MFT	**Murefte**	**2.24**	**124**	*e*PN		**Pn**	**08 40 36.5**	**-0.4**
MFT	**Murefte**	**2.24**	**124**	*e*Pn		**Pn**	**08 40 36.5**	**-0.4**
TKR	**Tekirdag**	**2.30**	**117**	*e*PN		**Pn**	**08 40 37.5**	**0.0**
TKR	**Tekirdag**	**2.30**	**117**	*e*Pn		**Pn**	**08 40 37.5**	**0.0**
PAIG	**Paliouri**	**2.31**	**203**	P		**Pn**	**08 40 37.5**	**-0.3**
PAIG				S		**Sn**	**08 41 07.9**	**+1.4**
PAIG	**Paliouri**	**2.31**	**203**	*e*PN		**Pn**	**08 40 37.4**	**-0.3**
PAIG	**Paliouri**	**2.31**	**203**	P		**Pn**	**08 40 37.5**	**-0.3**
PAIG				S		**Sn**	**08 41 07.9**	**+1.4**
BARS	**Barje**	**2.35**	**289**	*i* Pn		**Pn**	**08 40 38.8**	**+0.5**
BARS				*e*Sg		**Sg**	**08 41 13.4**	**-1.3**
BARS	**Barje**	**2.35**	**289**	*i* Pn		**Pn**	**08 40 38.8**	**+0.5**
BARS				*e*Sg		**Sg**	**08 41 13.4**	**-1.3**
HUMR	**Humele**	**2.46**	**2**	*i* P		**Pn**	**08 40 41.8**	**+2.1**
HUMR	**Humele**	**2.46**	**2**	*i* P		**Pn**	**08 40 41.8**	**+2.1**
KRBG	**Karabiga-Canak**	**2.50**	**131**	*e*PN		**Pn**	**08 40 40.5**	**+0.2**
KRBG	**Karabiga-Canak**	**2.50**	**131**	*e*Pn		**Pn**	**08 40 40.5**	**+0.2**
EZN	**Ezine**	**2.51**	**153**	*e*PN		**Pn**	**08 40 41.1**	**+0.7**
EZN	**Ezine**	**2.51**	**153**	*e*Pn		**Pn**	**08 40 41.1**	**+0.7**
SKO	**Skopje**	**2.53**	**269**	P		**Pn**	**08 40 39.5**	**-1.2**
SKO	**Skopje**	**2.53**	**269**	*i* Pn		**Pn**	**08 40 42.9**	**+2.2**
SKO				*e*Sg		Sg	08 41 27.8	+7.4
SKO	**Skopje**	**2.53**	**269**	*i* P		**Pn**	**08 40 42.3**	**+1.6**
SKO	**Skopje**	**2.53**	**269**	P		**Pn**	**08 40 39.5**	**-1.2**
SKO	**Skopje**	**2.53**	**269**	*i* Pn		**Pn**	**08 40 42.3**	**+1.6**
CTYL	**Yal??k??y-??at**	**2.65**	**102**	*e*PN		**Pn**	**08 40 42.8**	**+0.4**
CTYL	**Yal??k??y-??at**	**2.65**	**102**	*e*Pn		**Pn**	**08 40 42.8**	**+0.4**
SLVT	**Silivri**	**2.67**	**107**	*e*PN		**Pn**	**08 40 43.0**	**+0.4**
SLVT	**Silivri**	**2.67**	**107**	*e*Pn		**Pn**	**08 40 43.0**	**+0.4**
BOLS	**Boljevac**	**2.75**	**311**	*e*Pn		**Pn**	**08 40 43.5**	**-0.2**
BOLS				*e*Sg		**Sg**	**08 41 26.8**	**-0.5**
BOLS	**Boljevac**	**2.75**	**311**	*e*PN		**Pn**	**08 40 43.5**	**-0.2**
BOLS				*e*Sg		**Sg**	**08 41 26.8**	**-0.5**
BIA	**Bitola**	**2.84**	**249**	P		**Pn**	**08 40 45.9**	**+0.9**
BIA	**Bitola**	**2.84**	**249**	*i* Pn		**Pn**	**08 40 45.4**	**+0.4**
BIA	**Bitola**	**2.84**	**249**	*i* Pn		**Pn**	**08 40 45.4**	**+0.4**
BIA	**Bitola**	**2.84**	**249**	P		**Pn**	**08 40 45.9**	**+0.9**
CTKS	**Kestenalik-??a**	**2.88**	**106**	*e*PN		**Pn**	**08 40 46.7**	**+1.3**
CTKS	**Kestenalik-??a**	**2.88**	**106**	*e*Pn		**Pn**	**08 40 46.7**	**+1.3**
FNA	**Florina**	**2.90**	**245**	P		**Pn**	**08 40 46.6**	**+0.7**
FNA				S		**Sn**	**08 41 22.9**	**+1.8**
FNA	**Florina**	**2.90**	**245**	*e*PN		**Pn**	**08 40 46.5**	**+0.7**
FNA	**Florina**	**2.90**	**245**	*e*Pn		**Pn**	**08 40 46.5**	**+0.7**
FNA				S		**Sn**	**08 41 22.9**	**+1.8**
KZN	**Kozani**	**2.91**	**234**	P		**Pn**	**08 40 47.0**	**+1.0**
KZN	**Kozani**	**2.91**	**234**	*e*PN		**Pn**	**08 40 47.3**	**+1.3**
KZN	**Kozani**	**2.91**	**234**	P		**Pn**	**08 40 47.0**	**+1.0**
KZN	**Kozani**	**2.91**	**234**	*e*Pn		**Pn**	**08 40 47.3**	**+1.3**
GONE	**Gonen-Balikesi**	**2.96**	**132**	*e*PN		**Pn**	**08 40 47.1**	**+0.5**
GONE	**Gonen-Balikesi**	**2.96**	**132**	*e*Pn		**Pn**	**08 40 47.1**	**+0.5**
SELS	**Selova**	**2.97**	**294**	*i* Pn		**Pn**	**08 40 46.7**	**-0.1**
SELS				*e*Sg		**Sg**	**08 41 32.4**	**-2.1**
SELS	**Selova**	**2.97**	**294**	*i* Pn		**Pn**	**08 40 46.7**	**-0.1**
SELS				*e*Sg		**Sg**	**08 41 32.4**	**-2.1**
XOR	**Xorichti**	**2.98**	**205**	P		**Pn**	**08 40 47.0**	**+0.1**
XOR	**Xorichti**	**2.98**	**205**	P		**Pn**	**08 40 47.0**	**+0.1**
AOS	**Alonnisos**	**2.99**	**194**	P		**Pn**	**08 40 46.9**	**-0.1**
AOS	**Alonnisos**	**2.99**	**194**	*e*PN		**Pn**	**08 40 46.5**	**-0.5**
AOS	**Alonnisos**	**2.99**	**194**	*e*Pn		**Pn**	**08 40 46.5**	**-0.5**
AOS	**Alonnisos**	**2.99**	**194**	P		**Pn**	**08 40 46.9**	**-0.1**
NEO	**Neokhori**	**3.02**	**204**	P		**Pn**	**08 40 48.0**	**+0.5**
NEO	**Neokhori**	**3.02**	**204**	*e*PN		**Pn**	**08 40 47.6**	**+0.1**
NEO	**Neokhori**	**3.02**	**204**	*e*Pn		**Pn**	**08 40 47.6**	**+0.1**
NEO	**Neokhori**	**3.02**	**204**	P		**Pn**	**08 40 48.0**	**+0.5**
BGKT	**Bogazkoy**	**3.08**	**105**	*e*PN		**Pn**	**08 40 49.5**	**+1.3**
BGKT	**Bogazkoy**	**3.08**	**105**	*e*Pn		**Pn**	**08 40 49.6**	**+1.3**
DJES	**Djerdap**	**3.09**	**328**	*e*Sg		**Sg**	**08 41 35.8**	**-2.6**
BALY	**Balya**	**3.14**	**137**	*i* P		**Pn**	**08 40 50.1**	**+0.9**
BALY	**Balya**	**3.14**	**137**	*i* P		**Pn**	**08 40 50.1**	**+0.9**
MTUR	**Matau**	**3.16**	**3**	*i* P		**Pn**	**08 40 51.7**	**+2.3**
MTUR	**Matau**	**3.16**	**3**	*i* P		**Pn**	**08 40 51.7**	**+2.3**
KCTX	**Karacabey (Bur**	**3.21**	**123**	*e*PN		**Pn**	**08 40 50.0**	**-0.1**
KCTX	**Karacabey (Bur**	**3.21**	**123**	*e*Pn		**Pn**	**08 40 50.0**	**-0.1**
KLYT	**Kilyos**	**3.26**	**103**	*e*PN		**Pn**	**08 40 52.3**	**+1.6**
KLYT	**Kilyos**	**3.26**	**103**	*e*Pn		**Pn**	**08 40 52.3**	**+1.6**
MANR	**Mangalia**	**3.26**	**56**	S		**Sb**	**08 41 38.1**	**+0.8**
ISR	**Istrita**	**3.29**	**22**	*i* P		**Pn**	**08 40 52.9**	**+1.7**
ISR	**Istrita**	**3.29**	**22**	*i* P		**Pn**	**08 40 52.9**	**+1.7**
THL	**Klokotos Trika**	**3.29**	**221**	P		**Pn**	**08 40 52.2**	**+1.0**
THL	**Klokotos Trika**	**3.29**	**221**	*e*PN		**Pn**	**08 40 52.0**	**+0.8**
THL	**Klokotos Trika**	**3.29**	**221**	*e*Pn		**Pn**	**08 40 52.0**	**+0.8**
ARR	**Arges**	**3.30**	**358**	*i* P		**Pn**	**08 40 51.7**	**+0.4**
ARR	**Arges**	**3.30**	**358**	*i* P		**Pn**	**08 40 51.7**	**+0.4**
PHP	**Peshkopia**	**3.30**	**265**	P		**Pn**	**08 40 52.6**	**+1.2**
PHP				S		**Sn**	**08 41 31.4**	**+0.4**
PHP	**Peshkopia**	**3.30**	**265**	P		**Pn**	**08 40 52.6**	**+1.2**
PHP				S		**Sn**	**08 41 31.4**	**+0.4**
ISK	**Istanbul-Kandi**	**3.33**	**106**	*e*PN		**Pn**	**08 40 52.5**	**+0.9**
ISK	**Istanbul-Kandi**	**3.33**	**106**	P		**Pn**	**08 40 51.6**	**0.0**
ISK	**Istanbul-Kandi**	**3.33**	**106**	P		**Pn**	**08 40 51.6**	**0.0**
ISK	**Istanbul-Kandi**	**3.33**	**106**	*e*Pn		**Pn**	**08 40 52.5**	**+0.9**
BALB	**Balikesir**	**3.35**	**135**	*e*PN		**Pn**	**08 40 52.4**	**+0.4**
BALB	**Balikesir**	**3.35**	**135**	*e*Pn		**Pn**	**08 40 52.4**	**+0.4**
VOIR		**3.37**	**3**	*i* P		**Pn**	**08 40 53.7**	**+1.4**
VOIR		**3.37**	**3**	S		**Sg**	**08 41 46.5**	**-0.7**
VOIR		**3.37**	**3**	*i* P		**Pn**	**08 40 53.7**	**+1.4**
ARMT	**Armutlu**	**3.39**	**115**	*e*PN		**Pn**	**08 40 53.1**	**+0.6**
ARMT	**Armutlu**	**3.39**	**115**	*e*Pn		**Pn**	**08 40 53.1**	**+0.6**
SMIA	**Simia**	**3.42**	**202**	P		**Pn**	**08 40 53.4**	**+0.4**
SMIA				S		**Sn**	**08 41 36.0**	**+2.1**
SMIA	**Simia**	**3.42**	**202**	P		**Pn**	**08 40 53.4**	**+0.4**
SMIA				S		**Sn**	**08 41 36.0**	**+2.1**
SVIS	**Svilajnac**	**3.44**	**311**	*e*Pg		**Pb**	**08 41 01.0**	**+0.7**
SVIS				*e*Sg		**Sg**	**08 41 48.2**	**-1.2**
LOT	**Lotru**	**3.46**	**347**	*i* P		**Pn**	**08 40 53.6**	**0.0**
LOT	**Lotru**	**3.46**	**347**	*i* P		**Pn**	**08 40 53.6**	**0.0**
MLR	**Muntele Rosu**	**3.51**	**13**

IGQ 27 09:02:06.0, 1°11S×80°99W, h17km±9km, Mb4.1, Ms3.9, 3C, Error ellipse: s-maj=9.7km s-min=3.3km az=4.1, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**0.27**	**78**	⇑P		Pg	09 02 11.5	-0.5
PECV	**Mancha de Ca P**	**1.00**	**71**	⇑P		Pb	09 02 18.9	-6.0
JAMA	**Jama**	**1.15**	**43**	S		Sb	09 02 42.2	-0.1
JAMA	**Jama**	**1.15**	**43**	P		Pn	09 02 27.0	-0.4
MAG1	**Magdalena**	**1.59**	**50**	P		Pn	09 02 34.0	+0.5
IGUA	**Igualata**	**2.38**	**99**	P		Pn	09 02 45.9	+0.8
RIOE	**Riobamba**	**2.45**	**105**	⇑P		Pn	09 02 46.6	+1.0
CAMI	**Rancho Maria**	**2.52**	**80**	P		Pb	09 02 50.5	-1.1
JUI6	**Juive**	**2.54**	**97**	P		Pb	09 02 50.4	-1.2
PINO	**Pino**	**2.56**	**68**	P		Pn	09 02 48.9	+1.3
ARRY	**Arrayan**	**2.57**	**99**	P		Pn	09 02 48.2	+0.9
RETU	**Refugio**	**2.57**	**98**	P		Pb	09 02 50.3	-2.0
GGP	**Refugio Guagua**	**2.57**	**69**	P		Pn	09 02 48.6	+1.0
PAT1	**Patacocha**	**2.58**	**99**	P		Pn	09 02 49.4	+1.6
RUN5	**Runtun**	**2.58**	**97**	P		Pb	09 02 50.0	-2.4
BREF	**Cotopaxi Volca**	**2.59**	**80**	P		Pn	09 02 49.4	+1.4
ARNL	**Arenillas**	**2.60**	**159**	P		Pn	09 02 49.3	+2.0
BRUN	**Tungurahua Vol**	**2.60**	**97**	P		Pn	09 02 49.7	+2.0
BULB	**Ulba Tungurahu**	**2.60**	**97**	P		Pn	09 02 49.4	+1.6
PISA	**Pisayambo**	**2.61**	**89**	P		Pb	09 02 50.6	-2.3
PITA	**Cotopaxi Volc**	**2.62**	**78**	P		Pn	09 02 49.6	+1.4
BTAM	**Cotopaxi Volca**	**2.63**	**81**	P		Pn	09 02 50.0	+1.5
VC1	**Cotopaxi 1**	**2.63**	**80**	P		Pb	09 02 51.6	-1.8
TAMB	**Tambo**	**2.66**	**81**	P		Pb	09 02 51.7	-2.2
COV1	**Cotopaxi Volc**	**2.68**	**81**	P		Pn	09 02 50.7	+1.4
ANTI	**Antisana**	**2.90**	**77**	P		Pb	09 02 56.2	-1.9
COTA	**Cotacachi**	**3.02**	**62**	P		Pn	09 02 55.1	+1.3
MACE	**Macas**	**3.02**	**112**	P		Pn	09 02 55.8	+2.5
CAYR	**Refugio Cayamb**	**3.19**	**70**	P		Pb	09 03 00.1	-2.9
CAYA	**Cayambe**	**3.22**	**69**	P		Pn	09 02 59.9	+3.3
LITE	**Lita**	**3.24**	**54**	P		Pn	09 02 59.5	+3.1
CHAR	**Charly**	**3.47**	**73**	P		Pb	09 03 06.9	-0.7

LDG ***27*** *09:03:16.7±0.3, 41°79N×81°31E, h10km, Mb4.9/24, Ms3.6/6, Error ellipse: s-maj=13.8km s-min=5.1km az=160.0*

IDC ***27*** *09:03:19.0±0.5, 42°08N×81°30E, h0km, mb4.3/20, mb1 4.4/27, mb1mx4.4/35, mbtmp4.3/27, ML3.9/7, MS3.8/12, Ms1 3.8/12, ms1mx3.5/33, Error ellipse: s-maj=13.3km s-min=9.3km az=27.0*

BJI ***27*** *09:03:20.0, 42°09N×81°25E, h9km, mB4.6/22, mb4.5/35, ML4.6/8, Ms4.3/31, Ms7 4.0/30*

ISCJB ***27*** *09:03:21.7±1.0, 42°14N±0°03×81°19E±0°03, h24km±7km, mb4.7/92, MS4.0/27, Error ellipse: s-maj=4.7km s-min=3.5km az=18.6*

MOS ***27*** *09:03:23.6±1.4, 42°28N×81°39E, h37km, mb4.8/31, Error ellipse: s-maj=7.7km s-min=4.9km az=122.0*

NNC ***27*** *09:03:25.4±1.3, 42°34N×81°08E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=11.8km s-min=5.5km az=141.0*

NEIC ***27*** *09:03:25.5±0.8, 42°21N×81°30E, h43km±7km, mb4.7/19, Error ellipse: s-maj=7.9km s-min=6.3km az=197.0*

SZGRF ***27*** *09:03:37.5, 43.71N×80.62E, h33km, mb4.6, MS3.9, Kazakhstan-Xinjiang border region*

ISC 27 09:03:23.7±0.3, 42°20N±0°04×81°20E±0°03, h23km±2km, h23km:pP-P, n236, σ1§91/287, mb4.7/92, MS3.9/28, 29C-15D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**3.28**	**289**	⇓Pn		Pn	09 04 17.1	+3.4
	727nm,1.1s							
KNDC				⇓Lg		Lg	09 05 05.3	
	4μm,1.2s							
AAA	**Alma-Ata**	**3.31**	**290**	*i* PN		**Pb**	**09 04 19.7**	**-2.0**
AAA				pmax		pmax		
	comp=Z,246nm,0.3s							
ULHL	**Ulahol**	**3.68**	**272**	P		**Pn**	**09 04 20.1**	**+0.8**
	SNR=38							
TKM2	**Tokmak 2**	**4.20**	**282**	⇑Pn		**Pn**	**09 04 29.5**	**+3.1**
	comp=Z,48nm,0.7s							
TKM2				⇓Pg		Pb	09 04 41.0	+4.0
	comp=Z,435nm,1.1s							
TKM2				⇑Lg		Lg	09 05 35.4	
	comp=Z,1μm,1.3s							
TKM2	**Tokmak 2**	**4.20**	**282**	*e*PN		**Pn**	**09 04 28.7**	**+2.2**
TKM2	**Tokmak 2**	**4.20**	**282**	P		**Pn**	**09 04 28.4**	**+1.9**
	SNR=33							
TKM2	**Tokmak 2**	**4.20**	**282**	*e*Pn		**Pn**	**09 04 28.7**	**+2.2**
TKM2				*e*Sn		**Sn**	**09 05 16.2**	**+1.4**
KZA	**Kyzart**	**4.42**	**270**	P		**Pn**	**09 04 32.6**	**+2.9**
	SNR=18							
KBK	**Karagaybulak**	**4.65**	**278**	*i* PN		Pn	09 04 35.9	+3.3
KBK	**Karagaybulak**	**4.65**	**278**	P		Pn	09 04 35.9	+3.3
	SNR=19							
MK31	**Makanchi Array**	**4.66**	**9**	⇑Pn		**Pn**	**09 04 34.9**	**+2.3**
	comp=Z,44nm,0.7s,baz=189,slow=13							
MK31				⇑Pg		Pb	09 04 47.6	+3.0
	comp=Z,76nm,0.7s							
MK31				⇑Sn		**Sn**	**09 05 30.9**	**+5.0**
	comp=Z,197nm,0.8s							
MK31				⇑Lg		Lg	09 05 49.5	
	comp=Z,256nm,0.7s,baz=192,slow=30							
MK31	**Makanchi Array**	**4.66**	**9**	*ce*PN		**Pn**	**09 04 33.9**	**+1.3**
MK31				pmax		pmax		
	comp=Z,13nm,0.2s							
MK31	**Makanchi Array**	**4.66**	**9**	*e*Pn		**Pn**	**09 04 33.8**	**+1.1**
MKAR	**Makanchi Array**	**4.66**	**9**	*e*PN		**Pn**	**09 04 33.9**	**+1.3**
MKAR							09 05 24.0	
MKAR	**Makanchi Array**	**4.66**	**9**	*e*Pn		**Pn**	**09 04 33.9**	**+1.3**
MKAR				Sn		**Sn**	**09 05 23.9**	**-2.0**
MKAR				Lg		Lg	09 05 47.4	
MKAR	**Makanchi Array**	**4.66**	**9**	Pn		**Pn**	**09 04 34.4**	**+1.8**
	comp=Z,11nm,0.3s,baz=187,slow=14,SNR=157							
MKAR				Sn		**Sn**	**09 05 23.9**	**-2.0**
	comp=Z,16nm,0.3s,baz=184,slow=15,SNR=4.9							
MKAR				Lg		Lg	09 05 47.4	
	comp=Z,20nm,0.3s,baz=188,slow=28,SNR=15							
MKAR				LR		LR	09 06 45.4	
	comp=Z,200nm,20.9s,baz=86,slow=43							
KSH	**Kashi**	**4.78**	**238**	Pn		Pb	09 04 43.3	-3.5
KSH				Sn		**Sb**	**09 05 45.0**	**+1.0**
KSH				smax		smax		
	comp=N,300nm,0.8s							
KSH				smax		smax		
	comp=E,590nm,1.1s							
FRU	**Bishkek**	**4.90**	**280**	⇑*i*PN		Pb	09 04 52.0	+3.1
FRU				pmax		pmax		
	comp=Z,600nm,2.0s							
FRU				pmax		pmax		
	comp=E,2μm,2.0s							
AAK	**Ala-Archa**	**4.98**	**277**	*e*PN		**Pn**	**09 04 39.5**	**+2.3**
AAK	**Ala-Archa**	**4.98**	**277**	*e*Pn		**Pn**	**09 04 39.5**	**+2.3**
AAK				Pg		**Pb**	**09 04 52.5**	**+2.2**
AAK				*e*Sn		**Sn**	**09 05 34.0**	**-0.1**
AAK				Sn		**Sn**	**09 05 34.5**	**+0.4**
AAK				Lg		Lg	09 05 59.5	
AAK	**Ala-Archa**	**4.98**	**277**	Pn		**Pn**	**09 04 40.0**	**+2.8**
	comp=E,2.6nm,0.3s,baz=117,slow=11,SNR=12							
AAK				Pg		**Pb**	**09 04 52.5**	**+2.2**
	comp=E,6.7nm,0.3s,baz=97,slow=10,SNR=11							
AAK				Sn		**Sn**	**09 05 34.5**	**+0.4**
	comp=E,5.7nm,0.3s,baz=169,slow=12,SNR=3.6							
AAK				Lg		Lg	09 05 59.5	
	comp=E,6.8nm,0.3s,baz=12,slow=20,SNR=3.5							
WMQ	**Urumqi**	**5.03**	**69**	Pn		**Pn**	**09 04 39.8**	**+2.0**
WMQ				Sg		Sb	09 05 57.8	+6.7
WMQ				smax		smax		
	comp=N,1μm,1.6s							
WMQ				smax		smax		
	comp=E,1μm,1.6s							
USP	**Ospenovka**	**5.05**	**284**	*i* PN		**Pn**	**09 04 39.9**	**+2.0**
USP	**Ospenovka**	**5.05**	**284**	P		**Pn**	**09 04 40.0**	**+2.0**
	SNR=6.2							
EKS2	**Erkin-Say**	**5.51**	**277**	*e*PN		Pn	09 04 48.2	+3.8
EKS2				pmax		pmax		
	comp=Z,56nm,0.6s							
EKS2	**Erkin-Say**	**5.51**	**277**	P		**Pb**	**09 05 01.9**	**+2.7**
	SNR=14							
EKS2	**Erkin-Say**	**5.51**	**277**	*e*Pn		Pn	09 04 48.1	+3.8
	comp=Z,56nm,0.6s							
AML	**Almayashu**	**5.58**	**272**	*i* PN		Pn	09 04 49.2	+3.7
AML	**Almayashu**	**5.58**	**272**	P		Pn	09 04 49.2	+3.7
	SNR=6.8							
KK31	**Karatay Array**	**7.93**	**280**	⇑Pn		**Pn**	**09 05 20.4**	**+2.9**
	comp=Z,1.2nm,0.6s,baz=81,slow=15,SNR=26							
KK31				⇑Pg		Pb	09 05 48.2	+7.9
	comp=Z,48nm,1.1s							
KK31				⇑Lg		Lg	09 07 35.5	
	comp=Z,67nm,0.8s,baz=90,slow=25,SNR=3.5							
KKAR	**Karatay Array**	**7.93**	**280**	*e*P		**Pn**	**09 05 18.7**	**+1.2**
KKAR	**Karatay Array**	**7.93**	**280**	*e*Pn		**Pn**	**09 05 18.7**	**+1.2**
KURBB	**Kurchatov Arra**	**8.62**	**349**	⇑Pn		**Pn**	**09 05 28.1**	**+1.1**
	comp=Z,18nm,1.1s							
KURBB				⇓Pg			09 06 00.3	
	comp=Z,107nm,1.2s							
KURBB				⇑Sn		**Sn**	**09 07 07.1**	**+3.8**
	comp=Z,173nm,0.7s							
KURBB				⇑Lg		Lg	09 07 54.5	
	comp=Z,545nm,0.8s							
KURBB	**Kurchatov Arra**	**8.62**	**349**	Pn		**Pn**	**09 05 27.7**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=172,slow=12,SNR=48							
KURBB				Sn		**Sn**	**09 06 57.9**	**-5.5**
	comp=Z,0.6nm,0.3s,baz=204,slow=29,SNR=4.1							
KURBB				Lg		Lg	09 07 56.8	
	comp=Z,1.3nm,0.3s,baz=178,slow=29,SNR=7.3							
KURK	**Kurchatov**	**8.70**	**349**	P		**Pn**	**09 05 27.7**	**-0.3**
KURK							09 06 57.9	
KURK				smax		smax		
	comp=N,1.0nm,0.3s							
KURK	**Kurchatov**	**8.70**	**349**	Pn		**Pn**	**09 05 27.7**	**-0.3**
KURK				Sn		Sn	09 06 57.9	-7.4
KURK				Lg		Lg	09 07 56.8	
DLH	**Dalhousie**	**10.50**	**205**	*e*P		**Pn**	**09 05 50.0**	**-2.9**
DLH				*e*S		**Sn**	**09 07 49.0**	**-0.9**
CHCP	**Chirah Chowk**	**10.58**	**219**	P		**Pn**	**09 05 53.0**	**-0.8**
DHRM	**DHARAMSHALA**	**10.67**	**203**	*e*P		**Pn**	**09 05 52.2**	**-3.1**
DHRM				*e*S		**Sn**	**09 07 49.0**	**-5.1**
DHRM				AML		AML	09 08 00.4	
	comp=N,91nm,0.7s							
DHRM				AML		AML	09 08 01.7	
	comp=E,107nm,0.5s							
CEP	**Cherat**	**11.11**	**224**	P		**Pn**	**09 06 01.2**	**0.0**
SMLA	**Simla**	**11.51**	**198**	*e*P		**Pn**	**09 06 03.8**	**-2.7**
SMLA				*e*S		Sn	09 08 06.6	-7.8
SMLA				AML		AML	09 08 14.1	
	comp=E,50nm,0.5s							
SMLA				AML		AML	09 08 15.3	
	comp=N,41nm,0.4s							
ZALV	**Zalesovo Beam**	**12.00**	**10**	P		**Pn**	**09 06 12.4**	**-0.7**
ZALV							09 08 25.3	
ZALV				pmax		pmax		
	comp=Z,3.0nm,0.3s							
ZALV				smax		smax		
	comp=N,1.0nm,0.3s							
ZALV				MLR		MLR		
	comp=Z,151nm,18.3s							
ZALV	**Zalesovo Beam**	**12.00**	**10**	Pn		**Pn**	**09 06 12.4**	**-0.7**
ZALV				Sn		**Sn**	**09 08 25.3**	**-0.9**
ZALV				Lg		Lg	09 09 43.4	
ZALV	**Zalesovo Beam**	**12.00**	**10**	Pn		**Pn**	**09 06 12.4**	**-0.7**
	comp=Z,2.6nm,0.3s,baz=191,slow=14,SNR=11							
ZALV				Sn		**Sn**	**09 08 25.3**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=192,slow=21,SNR=2.8							
ZALV				Lg		Lg	09 09 43.4	
	comp=Z,0.6nm,0.3s,baz=202,slow=24,SNR=6.8							
ZALV				LR		LR	09 11 01.9	
	comp=Z,151nm,18.3s,baz=249,slow=38							
THW	**Thamme Wali**	**12.01**	**222**	P		**Pn**	**09 06 12.1**	**-1.4**
DDI	**Dehra Dun**	**12.12**	**193**	*ex*		Sn	09 08 17.6	-12
DDI				AML		AML	09 09 13.3	
	comp=N,551nm,0.2s							
DDI				AML		AML	09 09 14.5	
	comp=E,302nm,0.3s							
VOSK	**Vostochnaya**	**12.58**	**330**	⇓Pn		**Pn**	**09 06 20.0**	**-1.1**
	comp=E,12nm,1.0s							
VOSK				⇑Sn		**Sn**	**09 08 44.4**	**+4.1**
	comp=E,17nm,1.4s							
VOSK				⇓Lg		Lg	09 10 00.2	
	comp=E,125nm,1.4s							
NVS	**Novosibirsk**	**12.72**	**5**	*e*P		**Pn**	**09 06 20.8**	**-2.2**
NVS				*e*			09 08 36.9	
BVA0	**Borovoye Array**	**13.04**	**330**	Pn		**Pn**	**09 06 29.7**	**+2.4**
	comp=E,17nm,0.9s,baz=138,slow=15,SNR=17							
BVA0				⇑Sn		**Sn**	**09 08 52.7**	**+1.2**
	comp=E,17nm,0.9s							
BVA0				⇑Lg		Lg	09 10 15.3	
	comp=E,103nm,1.5s,baz=148,slow=20,SNR=6.2							
BVA0	**Borovoye Array**	**13.04**	**330**	*i* P		**Pn**	**09 06 27.2**	**-0.1**
BVA0				pmax		pmax		
	comp=Z,19nm,0.8s							
BVAR	**Borovoye Array**	**13.04**	**330**	P		**Pn**	**09 06 26.3**	**-1.0**
BVAR				MLR		MLR		
	comp=Z,914nm,18.3s							
BVAR	**Borovoye Array**	**13.04**	**330**	Pn		**Pn**	**09 06 26.3**	**-1.0**
BVAR				Lg		Lg	09 10 14.8	
BVAR	**Borovoye Array**	**13.04**	**330**	Pn		**Pn**	**09 06 26.3**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=130,slow=14,SNR=11							
BVAR				Lg		Lg	09 10 14.8	
	comp=Z,1.1nm,0.3s,baz=146,slow=31,SNR=4.4							
BVAR				LR		LR	09 11 34.4	
	comp=Z,914nm,18.2s,baz=332,slow=38							
BRVK	**Borovoye**	**13.10**	**330**	⇓Pn		**Pn**	**09 06 29.5**	**+1.3**
	comp=Z,30nm,1.0s							
BRVK				⇑Sn		**Sn**	**09 08 54.0**	**+0.9**
	comp=Z,28nm,1.0s							
BRVK				⇓Lg		Lg	09 10 16.9	
	comp=Z,233nm,1.1s							
BRVK	**Borovoye**	**13.10**	**330**	*ce*P		**Pn**	**09 06 28.8**	**+0.6**
BRVK				pmax		pmax		
	comp=Z,10.0nm,0.8s							
BRVK	**Borovoye**	**13.10**	**330**	*e*Pn		**Pn**	**09 06 29.0**	**+0.8**
NDI	**New Delhi**	**13.87**	**195**	*e*P		Pn	09 06 33.0	-5.8
GTA	**Gaotai**	**14.38**	**95**	*e*P		**Pn**	**09 06 43.5**	**-2.3**
GTA				pP		P	09 06 48.3	-4.3
GTA				sP			09 06 50.5	
GTA				S		Sn	09 09 18.3	-6.2
GTA				pmax		pmax		
	comp=Z,7.0nm,1.8s							
GTA				pmax		pmax		
	comp=Z,40nm,4.5s							
GTA				LR		LR		
	comp=N,570nm,10.4s							
GTA				LR		LR		
	comp=E,450nm,7.8s							
GTA				LR		LR		
	comp=Z,260nm,8.8s							
LSA	**Lhasa**	**14.84**	**144**	P		**Pn**	**09 06 53.5**	**+1.1**
LSA	**Lhasa**	**14.84**	**144**	*e*P		**Pn**	**09 06 53.5**	**+1.1**
LSA	**Lhasa**	**14.84**	**144**	*e*Pn		**Pn**	**09 06 53.5**	**+1.1**
KRAR	**Krasnoyarsk**	**15.76**	**25**	⇓*e*P		**Pn**	**09 07 05.3**	**+1.3**
KRAR				pmax		pmax		
	comp=Z,102nm,1.7s							
AB31	**Akbulak array**	**16.40**	**303**	⇑Pn		**Pn**	**09 07 11.7**	**-0.5**
	comp=Z,11nm,0.8s,baz=105,slow=12,SNR=56							
AB31				⇓Lg		Lg	09 12 02.3	
	comp=Z,15nm,1.0s							
AB31	**Akbulak array**	**16.40**	**303**	*i* P		**Pn**	**09 07 10.5**	**-1.7**
AB31				pmax		pmax		
	comp=Z,13nm,0.8s							
ABKAR	**Akbulak array**	**16.40**	**303**	*e*Pn		**Pn**	**09 07 11.3**	**-0.8**
MOY	**Mondy**	**16.46**	**48**	*e*P		**P**	**09 07 15.7**	**+0.1**
ZAK	**Zakamensk**	**17.27**	**54**	*e*P		**Pn**	**09 07 20.6**	**-2.7**
ZAK				pmax		pmax		
	comp=Z,8.0nm,1.5s							
AKTO	**Aktyubinsk**	**17.95**	**305**	⇓Pn		**P**	**09 07 32.0**	**0.0**
	comp=Z,17nm,1.2s							
AKTO				⇑Lg		Lg	09 12 51.7	
	comp=Z,45nm,1.4s							
AKTO	**Aktyubinsk**	**17.95**	**305**	*i* P		**Pn**	**09 07 30.3**	**-1.2**
AKTO				pmax		pmax		
	comp=Z,17nm,1.2s							
AKTO	**Aktyubinsk**	**17.95**	**305**	P		**Pn**	**09 07 31.2**	**-0.4**
AKTO				Lg		Lg	09 12 55.4	
AKTO	**Aktyubinsk**	**17.95**	**305**	P		**Pn**	**09 07 31.2**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=110,slow=13,SNR=12							
AKTO				Lg		Lg	09 12 55.4	
	comp=Z,0.1nm,0.3s,baz=30,slow=20,SNR=3.1							
AKTO				LR		LR	09 14 58.9	
	comp=Z,440nm,18.8s,baz=120,slow=39							
LZH	**Lanzhou**	**18.57**	**102**	*e*P		**Pn**	**09 07 42.5**	**+3.1**
LZH				pP		**pP**	**09 07 47.5**	**+2.0**
LZH				sP		**sP**	**09 07 51.3**	**+2.8**
LZH				PP		PnPn	09 07 58.5	+7.2
LZH				*e*S		**Sn**	**09 11 07.0**	**+0.6**
LZH				sS		**S**	**09 11 14.3**	**+4.7**
LZH				pmax		pmax		
	comp=Z,39nm,1.2s							
LZH				pmax		pmax		
	comp=Z,140nm,4.9s							
LZH				LR		LR		
	comp=N,320nm,10.6s							
LZH				LR		LR		
	comp=E,750nm,12.0s							
LZH				LR		LR		
	comp=Z,1μm,13.0s							
SONM	**Songino Array**	**18.64**	**64**	P		**P**	**09 07 37.7**	**-2.1**
SONM				Lg		Lg	09 13 21.0	
SONM	**Songino Array**	**18.64**	**64**	P		**P**	**09 07 37.7**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=257,slow=11,SNR=17							
SONM				Lg		Lg	09 13 21.0	
	comp=Z,0.1nm,0.3s,baz=258,slow=18,SNR=5.3							
ULN	**Ulaanbaatar**	**19.09**	**64**	*e*P		**P**	**09 07 44.1**	**-0.6**
	comp=Z,6.9nm,0.7s							
SVE	**Sverdlovsk**	**19.69**	**325**	⇓*e*P		**Pn**	**09 07 52.7**	**+0.1**
SVE				*e*S		**Sn**	**09 11 35.9**	**+3.0**
SVE				pmax		pmax		
	comp=Z,43nm,1.2s							
SVE				MLR		MLR		
	comp=Z,627nm,14.0s							
ARU	**Arti**	**20.37**	**322**	*d* iP		**P**	**09 07 58.5**	**+0.1**
ARU							09 08 14.7	
ARU				PPP		PPP	09 08 24.8	
ARU				S		**S**	**09 11 44.5**	**-0.9**
ARU				pmax		pmax		
	comp=Z,62nm,1.0s							
ARU				MLR		MLR		
	comp=Z,652nm,19.0s							
CD2	**Chengdu**	**21.28**	**115**	*e*P		**P**	**09 08 08.8**	**+0.3**
CD2				pP		**pP**	**09 08 14.3**	**-0.6**
CD2				sP		**sP**	**09 08 17.5**	**-0.4**
CD2				PP		**PnPn**	**09 08 32.5**	**+4.2**
CD2				S		**S**	**09 11 59.5**	**-4.3**
CD2				sS		Sn	09 12 08.5	-3.0
CD2				SS		**SnSn**	**09 12 34.0**	**+7.6**
CD2				pmax		pmax		
	comp=Z,30nm,1.2s							
CD2				pmax		pmax		
	comp=Z,120nm,6.2s							
CD2				LR		LR		
	comp=E,370nm,16.2s							
CD2				LR		LR		
	comp=Z,560nm,16.4s							
HHC	**Hu-ho-hao-te**	**22.72**	**83**	*e*P		**P**	**09 08 23.5**	**-0.5**
HHC				pP		**pP**	**09 08 30.5**	**+0.1**
HHC				sP		**sP**	**09 08 34.3**	**+0.9**
HHC				PP		**PnPn**	**09 08 52.8**	**+4.8**
HHC				S		**S**	**09 12 27.0**	**-4.2**
HHC				sS		**sS**	**09 12 37.8**	**-4.5**
HHC				SS		**SnSn**	**09 13 10.0**	**+8.2**
HHC				pmax		pmax		
	comp=Z,54nm,0.9s							
HHC				pmax		pmax		
	comp=Z,280nm,4.4s							
HHC				LR		LR		
	comp=N,340nm,7.1s							
HHC				LR		LR		
	comp=E,220nm,6.0s							
HHC				LR		LR		
	comp=Z,260nm,12.9s							
SOKR	**Solikamsk**	**23.00**	**327**	*c* iP		**P**	**09 08 27.0**	**+0.5**
SOKR				pmax		pmax		
	comp=Z,30nm,0.9s							
SOKR				MLR		MLR		
	comp=Z,360nm,15.0s							
XAN	**Xi'an**	**23.21**	**101**	P		**P**	**09 08 27.3**	**-1.7**
XAN				pP		**pP**	**09 08 37.0**	**+1.5**
XAN				sP		**sP**	**09 08 40.0**	**+1.5**
XAN				pmax		pmax		
	comp=Z,3.0nm,1.4s							
XAN				LR		LR		
	comp=N,91nm,14.5s							
XAN				LR		LR		
	comp=E,130nm,14.4s							
XAN				LR		LR		
	comp=Z,120nm,13.6s							
KMI	**Kunming**	**24.62**	**127**	P		**P**	**09 08 44.5**	**+1.9**
KMI				pP		**pP**	**09 08 50.3**	**+0.8**
KMI				sP		**sP**	**09 08 53.0**	**+0.6**
KMI				PP		**PnPn**	**09 09 20.3**	**+6.0**
KMI				S		**S**	**09 13 02.5**	**-0.2**
KMI				sS		**sS**	**09 13 11.5**	**-2.6**
KMI				pmax		pmax		
	comp=Z,8.0nm,0.7s							
KMI				pmax		pmax		
	comp=Z,84nm,3.1s							
KMI				LR		LR		
	comp=N,290nm,12.3s							
KMI				LR		LR		
	comp=E,230nm,11.6s							
KMI				LR		LR		
	comp=Z,440nm,13.2s							
MAK	**Makhachkala**	**24.73**	**283**	*e*P		P	09 08 53.9	+11
MAK				MLR		MLR		
	comp=Z,461nm,12.0s							
ENH	**Enshi**	**25.62**	**108**	*e*P		**P**	**09 08 50.4**	**-0.9**
	comp=Z,32nm,1.4s							
GYA	**Guiyang**	**26.11**	**119**	P		**P**	**09 08 57.8**	**+1.9**
GYA				pP		**pP**	**09 09 03.5**	**+0.7**
GYA				PP		**PnPn**	**09 09 40.8**	**+6.3**
GYA				PcP		**PcP**	**09 12 25.3**	**+2.2**
GYA				S		**S**	**09 13 27.0**	**+0.8**
GYA				sS		**sS**	**09 13 37.5**	**-0.1**
GYA				SS		**SnSn**	**09 14 33.5**	**+8.5**
GYA				ScP		**ScP**	**09 16 02.5**	**+1.3**
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,120nm,4.8s							
GYA				LR		LR		
	comp=N,490nm,16.9s							
GYA				LR		LR		
	comp=E,360nm,17.2s							
GYA				LR		LR		
	comp=Z,450nm,17.6s							
BJI	**Beijing**	**26.33**	**83**	P		**P**	**09 08 58.5**	**+0.8**
BJI				S		**S**	**09 13 30.3**	**+1.1**
BJI				pmax		pmax		
	comp=Z,11nm,0.9s							
BJI				LR		LR		
	comp=N,170nm,12.5s							
BJI				LR		LR		
	comp=E,170nm,16.7s							
BJI				LR		LR		
	comp=Z,140nm,23.2s							
**G

NJ2 S **S** **09 14 50.0 0.0**
NJ2 sS **sS** **09 15 01.0 -0.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,410nm,5.2s
NJ2 LR LR
comp=N,270nm,14.6s
NJ2 LR LR
comp=E,290nm,18.7s
NJ2 LR LR
comp=Z,330nm,20.5s
ANN Anapa 31.57 290 *e*P **P** **09 09 43.7 -0.5**
ANN *i* *PP **pP** **09 09 55.3 +4.2**
ANN *e*S **S** **09 14 49.6 -1.8**
ANN pmax pmax
comp=Z,18nm,1.0s
ANN MLR MLR
comp=N,265nm,17.0s
ANN MLR MLR
comp=E,136nm,17.0s
ANN MLR MLR
comp=Z,288nm,17.0s
OBN Obninsk 31.61 310⇓ *e*P **P** **09 09 44.6 +0.1**
OBN pmax pmax
comp=Z,10.0nm,0.4s
OBN MLR MLR
comp=Z,200nm,17.0s
CN2 Changchun 32.12 72 *e*P **P** **09 09 49.0 0.0**
CN2 *e*pP **pP** **09 09 54.8 -1.2**
CN2 *e*S **S** **09 14 58.5 -1.5**
CN2 *e*SS **SnSn** **09 16 51.0 +0.3**
CN2 LR LR
comp=N,200nm,21.0s
CN2 LR LR
comp=E,100nm,21.0s
CN2 LR LR
comp=Z,200nm,22.0s
TMCR Tamitsa 32.96 327 *e*P **P** **09 09 57.4 +1.3**
TMCR *e* 09 11 06.0
TMCR pmax pmax
comp=Z,8.0nm,0.3s
QIZ Qiongzhong 33.51 125 P **P** **09 10 02.5 +1.1**
QIZ S **S** **09 15 24.0 +1.9**
QIZ LR LR
comp=E,250nm,21.1s
QIZ LR LR
comp=Z,250nm,15.4s
MDJ Mudanjiang 34.84 69 P **P** **09 10 12.8 +0.1**
MDJ pP **pP** **09 10 19.0 -0.7**
MDJ sP **sP** **09 10 21.5 -1.1**
MDJ PP **PP** **09 11 34.3 +2.6**
MDJ S **S** **09 15 42.5 +0.4**
MDJ sS **sS** **09 15 53.5 -0.2**
MDJ pmax pmax
comp=Z,4.0nm,0.6s
MDJ pmax pmax
comp=Z,28nm,3.0s
MDJ LR LR
comp=N,100nm,23.4s
MDJ LR LR
comp=E,44nm,23.4s
MDJ LR LR
comp=Z,57nm,25.3s
RAYN Ar Rayn 34.97 249 *e*P **P** **09 10 13.2 -0.9**
comp=Z,6.9nm,0.8s
JOF Joensuu 35.49 323 *e*p **P** **09 10 19.1 +1.0**
comp=Z,9.1nm,0.7s
JOF Joensuu 35.49 323 *e*P **P** **09 10 19.1 +1.0**
JOF pmax pmax
comp=Z,9.0nm,0.7s
LVZ Lovozero 35.62 332⇓ *e*P **P** **09 10 19.9 +0.6**
LVZ pmax pmax
comp=Z,28nm,1.7s
KSAR Wonju Array Be 35.82 82 P **P** **09 10 20.8 -0.5**
KSRS Korea Array 35.85 82 P **P** **09 10 20.8 -0.7**
comp=Z,1.9nm,0.7s,baz=281,slow=8.1,SNR=11
APA Apatity 35.95 331⇑ *e*P P 09 10 32.0 +10
APA MLR MLR
comp=Z,100nm,13.0s
KIEV Kiev 36.15 302 *e*P **P** **09 10 23.9 0.0**
KIEV pmax pmax
comp=Z,7.0nm,0.9s
KIEV Kiev 36.15 302 *e*P **P** **09 10 23.9 0.0**
comp=Z,7.2nm,0.9s
USRK Ussuriysk Arra 36.61 69 P **P** **09 10 27.3 -0.6**
comp=Z,1.8nm,0.8s,baz=301,slow=8.0,SNR=10
MMAI Mount Meron Ar 37.04 271 P **P** **09 10 33.2 +1.4**
MMAI Mount Meron Ar 37.04 271 P **P** **09 10 33.2 +1.4**
comp=Z,1.0nm,0.4s,baz=81,slow=10,SNR=2.4
VSU Vasula 37.22 315⇑ *i*P **P** **09 10 33.8 +0.9**
VSU pmax pmax
comp=Z,56nm,1.2s
FINES FINESS Array B 37.71 320 P **P** **09 10 37.3 +0.3**
FINES PcP **PcP** **09 12 53.4 -0.3**
FINES FINESS Array B 37.71 320 P **P** **09 10 37.3 +0.3**
comp=Z,3.6nm,0.6s,baz=114,slow=8.8,SNR=12
FINES PcP **PcP** **09 12 53.4 -0.3**
comp=Z,0.7nm,0.5s,baz=103,slow=6.0,SNR=4.3
FINES LR LR 09 26 56.7
comp=Z,463nm,18.8s,baz=16,slow=38
ARCES ARCESS Array B 39.30 333 P **P** **09 10 50.9 +0.5**
ARCES PcP **PcP** **09 12 58.2 -0.3**
ARCES ARCESS Array B 39.30 333 P **P** **09 10 50.9 +0.5**
comp=Z,9.8nm,0.8s,baz=91,slow=7.4,SNR=23
ARCES PcP **PcP** **09 12 58.2 -0.3**
comp=Z,2.8nm,0.8s,baz=93,slow=4.9,SNR=4.4
ARCES LR LR 09 28 05.5
comp=Z,152nm,18.6s,baz=198,slow=38
ARE0 ARCESS Array S 39.30 333 P **P** **09 10 49.7 -0.7**
UZH Uzhgorod 40.94 300 *e*P **P** **09 11 07.1 +2.9**
UZH *e* 09 11 24.3
PSI Prapat 42.32 153 P **P** **09 11 13.6 -2.3**
PSI Prapat 42.32 153 P **P** **09 11 13.6 -2.3**
comp=Z,2.2nm,0.4s,baz=312,slow=7.5,SNR=5.0
MJAR Matsushiro Arr 43.74 78 P **P** **09 11 25.1 -2.0**
MJAR Matsushiro Ar 43.74 78 P **P** **09 11 25.1 -2.0**
comp=Z,0.9nm,0.6s,baz=298,slow=9.2,SNR=3.8
KSP Ksiaz 44.16 305 *e*P **P** **09 11 29.8 -0.5**
DPC Dobruska-Polom 44.27 304 *e*P **P** **09 11 32.1 +0.8**
DPC pmax pmax
comp=Z,34nm,0.6s
DPC Dobruska-Polom 44.27 304 *e*P **P** **09 11 32.1 +0.8**
comp=Z,34nm,0.6s
NB2 NORSAR Subarra 44.89 320 P **P** **09 11 35.5 -0.6**
comp=Z,7.0nm,0.6s,baz=82,slow=8.6
NOA NORSAR Array B 44.89 320 P **P** **09 11 35.8 -0.3**
NOA NORSAR Array B 44.89 320 P **P** **09 11 35.8 -0.3**
comp=Z,5.9nm,0.5s,baz=80,slow=8.0,SNR=36
NOA LR LR 09 31 25.6
comp=Z,149nm,19.8s,baz=80,slow=38
NAO01 NORSAR Array S 45.08 319 *e*P **P** **09 11 37.3 -0.2**
comp=Z,4.7nm,0.6s
BRG Berggiesshubel 45.59 305 *e*(P) **P** **09 11 43.4 +1.7**
comp=Z,3.2nm,0.7s
BRG Berggiesshubel 45.59 305 *e*P **P** **09 11 43.4 +1.7**
BRG pmax pmax
comp=Z,6.0nm,0.7s
CLL Collm 46.03 306 *e*P **P** **09 11 46.7 +1.5**
comp=Z,13nm,1.2s
CLL Collm 46.03 306 *i*P **P** **09 11 46.6 +1.4**
CLL pmax pmax
comp=Z,13nm,1.3s
CLL Collm 46.03 306 *i*P **P** **09 11 46.6 +1.4**
comp=Z,13nm,1.3s
CLL *e* 09 11 51.0
KHC Kasperske Hory 46.33 303 *e*P **P** **09 11 49.5 +1.9**
KHC Kasperske Hory 46.33 303 *e*P **P** **09 11 49.5 +1.9**
GEC2 GERESS Array S 46.34 302 *e*P **P** **09 11 49.7 +1.9**
comp=Z,2.0nm,0.6s
GEC2 GERESS Array S 46.34 302 *e*P **P** **09 11 49.7 +1.9**
GEC2 pmax pmax
comp=Z,9.0nm,0.6s
GERES GERESS Array B 46.34 302 P **P** **09 11 48.3 +0.5**
GERES GERESS Array B 46.34 302 P **P** **09 11 48.3 +0.5**
comp=Z,1.4nm,0.5s,baz=68,slow=7.5,SNR=11
GERES LR LR 09 35 03.3
comp=Z,139nm,19.1s,baz=90,slow=41
TANN Tannenbergstha 46.62 305 *e*P **P** **09 11 51.6 +1.7**
comp=Z,6.0nm,1.2s
WET Wettzell 46.76 303 *e*P **P** **09 11 53.2 +2.2**
comp=Z,7.0nm,1.1s
WET Wettzell 46.76 303 *e*P **P** **09 11 53.2 +2.2**
WET pmax pmax
comp=Z,8.0nm,1.1s
ROTZ Rotzenmuhle 46.98 304 *e*P **P** **09 11 54.7 +2.0**
comp=Z,2.0nm,0.6s
MOX Moxa 47.07 305 *e*P **P** **09 11 55.4 +2.1**
comp=Z,12nm,1.3s
MOX *e*L L 09 32 54.8
comp=Z,147nm,18.7s
MOX Moxa 47.07 305 *e*P **P** **09 11 55.4 +2.1**
MOX MLR MLR
comp=Z,12µm,18.7s
GRF Grafenberg Arr 47.61 304 *e*P **P** **09 12 00.0 +2.4**
comp=Z,12nm,0.8s
GRF *e*L L 09 35 31.2
comp=Z,97nm,19.6s
GRF Grafenberg Arr 47.61 304 *e*P **P** **09 12 00.0 +2.4**
GRF MLR MLR
comp=Z,12µm,19.6s
WTTA Wattenberg 48.18 301⇑ *i*P **P** **09 12 02.9 +0.7**
comp=Z,16nm,1.1s
MOTA Moosalm 48.49 301⇑ *i*P **P** **09 12 05.1 +0.5**
comp=Z,13nm,0.8s
RETA Reutte 48.66 302⇑ *i*P **P** **09 12 06.0 +0.3**
comp=Z,9.8nm,0.8s
FETA Feichten 48.85 301⇑ *i*P **P** **09 12 07.6 +0.3**
comp=Z,9.5nm,1.1s
BFO Black Forest 49.87 303 *e*P **P** **09 12 17.3 +2.3**
BFO Black Forest 49.87 303 *e*P **P** **09 12 17.3 +2.3**
TUE Stuetta 49.93 301 *e*P P 09 12 19.8 +4.1
comp=Z,7.5nm,1.0s
VLC Villacollemand 50.18 298 *e*P **P** **09 12 20.0 +2.7**
comp=Z,15nm,0.8s
PETK Petropavlovsk- 50.32 50 P **P** **09 12 19.1 +0.8**
PETK pmax pmax
comp=Z,2.0nm,0.8s
PETK Petropavlovsk- 50.32 50 P **P** **09 12 19.1 +0.8**
PETK Petropavlovsk- 50.32 50 P **P** **09 12 19.1 +0.8**
comp=Z,2.2nm,0.8s,baz=333,slow=5.0,SNR=4.1
CDF Champ du Feu 50.49 304 *e*P **P** **09 12 19.4 -0.3**
HINF Hinteralfeld 50.98 303 *e*P **P** **09 12 23.2 -0.2**
GIVF Givet 51.34 307 *e*P **P** **09 12 26.2 +0.3**
DAG Danmarks Havn 51.54 343 *i*P **P** **09 12 26.1 -1.0**
DAG pmax pmax
comp=Z,5.0nm,1.0s
DAG Danmarks Havn 51.54 343 *i*P **P** **09 12 26.1 -1.0**
comp=Z,5.4nm,1.0s
BAIF Baives 51.72 307 *e*P **P** **09 12 29.1 +0.3**
comp=Z,20nm,1.0s
MEZF Maizieres J'vi 51.82 305 *e*P **P** **09 12 30.1 +0.5**
comp=Z,51nm,0.9s
SFTF Sexfontaines 51.95 304 *e*P **P** **09 12 30.4 -0.2**
comp=Z,38nm,0.8s
LPG La Plagne 51.98 301 *e*P **P** **09 12 31.4 +0.2**
comp=Z,37nm,0.9s
LPL La Plagne 51.99 301 *e*P **P** **09 12 31.4 +0.2**
comp=Z,46nm,0.9s
BNI Bardonecchia 52.22 300 *e*P **P** **09 12 32.4 -0.4**
BNI pmax pmax
comp=Z,27nm,1.2s
BNI Bardonecchia 52.22 300 *e*P **P** **09 12 32.4 -0.4**
comp=Z,27nm,1.2s
SBF Sospel 52.23 299 *e*P **P** **09 12 32.7 -0.1**
comp=Z,48nm,0.8s
MBDF Montbardon 52.30 300 *e*P **P** **09 12 32.6 -0.8**
comp=Z,13nm,0.7s
ORIF Oris-en-Rattie 52.79 300 *e*P **P** **09 12 36.4 -0.5**
comp=Z,19nm,0.6s
ORIF *e*R
comp=Z,182nm,19.0s
LOR Lormes 53.06 304 *e*P **P** **09 12 37.9 -0.9**
comp=Z,10.0nm,0.9s
LOR *e*R
comp=Z,151nm,17.0s
SMF Signal de Mont 53.33 303 *e*P **P** **09 12 40.3 -0.6**
comp=Z,24nm,1.0s
SSF Saint Saulge 53.36 304 *e*P **P** **09 12 40.6 -0.5**
AVF Avril sur Loir 53.58 303 *e*P **P** **09 12 42.1 -0.5**
comp=Z,36nm,0.9s
VIVF Saint-Julien-l 53.59 301 *e*P **P** **09 12 42.5 -0.3**
comp=Z,18nm,0.8s
TCF Toulx Ste Croi 54.51 303 *e*P **P** **09 12 49.2 -0.2**
comp=Z,23nm,0.9s
KEST Kesra 54.73 289 LR LR 09 39 29.0
comp=Z,35nm,19.1s,baz=312,slow=40
LDF La Druitiere 54.90 307 *e*P **P** **09 12 51.6 -0.6**
comp=Z,12nm,0.8s
RJF Les Rejaudoux 55.38 302 *e*P **P** **09 12 56.0 +0.2**
comp=Z,20nm,0.8s
GRR Gorron 55.43 307 *e*P **P** **09 12 55.3 -0.8**
MFF Saint Martin d 55.81 305 *e*P **P** **09 12 58.1 -0.7**
comp=Z,19nm,0.9s
MTLF Montolieu 55.85 300 *e*P **P** **09 12 59.1 -0.1**
comp=Z,20nm,1.1s
LFF La Frestale 56.04 302 *e*P **P** **09 13 00.7 +0.3**
comp=Z,32nm,0.8s
SGMF Saint Gilles 56.50 307 *e*P **P** **09 13 03.4 -0.3**
comp=Z,21nm,0.7s
ROSF Rostrenen 56.89 308 *e*P **P** **09 13 06.0 -0.5**
comp=Z,18nm,0.7s
ETSF Etaut 57.84 301 *e*P **P** **09 13 13.5 +0.1**
comp=Z,26nm,1.1s
SUMG Summit 58.17 342 *i*P **P** **09 13 15.8 +0.2**
SUMG pmax pmax
comp=Z,5.0nm,1.0s
SUMG Summit 58.17 342 *e*P **P** **09 13 17.3 +1.7**
comp=Z,7.9nm,1.1s
SUMG Summit 58.17 342 *i*P **P** **09 13 15.8 +0.2**
comp=Z,4.8nm,1.0s
ESDC Sonseca Array 61.71 299 P **P** **09 13 39.1 -0.9**
ESDC Sonseca Array 61.71 299 P **P** **09 13 39.1 -0.9**
comp=Z,1.1nm,0.4s,baz=53,slow=7.4,SNR=11
COLD Coldfoot 64.15 20 *e*P **P** **09 13 54.8 -0.9**
comp=Z,4.3nm,0.8s
ILAR Eielson Array 66.93 20 P **P** **09 14 12.4 -1.3**
ILAR Eielson Array 66.93 20 P **P** **09 14 12.4 -1.3**
comp=Z,2.7nm,0.8s,baz=317,slow=4.8,SNR=37
EGAK Eagle 68.32 18 *e*P **P** **09 14 21.5 -1.0**
comp=Z,6.1nm,1.2s
TORD Torodi Ar. Bea 73.55 273 P **P** **09 14 53.5 -1.4**
TORD Torodi Ar. Bea 73.55 273 P **P** **09 14 53.5 -1.4**
comp=Z,9.7nm,0.8s,baz=43,slow=5.2,SNR=37
SKAG Skagway 74.31 18 *e*P **P** **09 14 58.3 -0.4**
comp=Z,9.2nm,1.0s
YKA Yellowknife Ar 74.88 8 P **P** **09 15 01.2 -0.7**
YKA Yellowknife Ar 74.88 8 P **P** **09 15 01.2 -0.7**
comp=Z,3.5nm,0.8s,baz=344,slow=5.5,SNR=19
WRA Warramunga Arr 78.91 130 P **P** **09 15 23.5 -1.8**
WRA Warramunga Ar 78.91 130 P **P** **09 15 23.5 -1.8**
comp=Z,3.5nm,1.0s,baz=332,slow=5.9,SNR=8.8
SCHQ Scheffervlle 79.56 342 P **P** **09 15 27.7 -0.7**
SCHQ Scheffervlle 79.56 342 P **P** **09 15 27.7 -0.7**
comp=Z,1.8nm,0.9s,baz=32,slow=9.4,SNR=4.9
ASAR Alice Springs 81.63 132 P **P** **09 15 38.2 -1.6**
ASAR Alice Springs 81.63 132 P **P** **09 15 38.2 -1.6**
comp=Z,3.2nm,1.1s,baz=324,slow=4.7,SNR=12
FFC Flin Flon 83.41 2 *e*P **P** **09 15 48.8 0.0**
FFC pmax pmax
comp=Z,7.0nm,1.1s
FFC Flin Flon 83.41 2 *e*P **P** **09 15 48.8 0.0**
comp=Z,6.7nm,1.1s
ULM Lac du Bonnet 87.89 358 P **P** **09 16 08.8 -2.3**
ULM Lac du Bonnet 87.89 358 P **P** **09 16 08.8 -2.3**
comp=Z,1.8nm,0.8s,baz=357,slow=5.7,SNR=3.1
BSMT Bassoo Peak 89.22 11 *e*P **P** **09 16 18.7 +1.0**
AGMN Agassiz Nation 89.85 358 *e*P **P** **09 16 18.9 -1.4**
comp=Z,3.6nm,0.9s
SLMT Seeley Lake 89.99 10 *e*P **P** **09 16 20.7 -0.5**
EYMN Ely 90.00 355 *e*P **P** **09 16 19.7 -1.4**
comp=Z,4.3nm,1.0s
LONY Lake Ozonia 90.89 343 *e*P **P** **09 16 26.8 +1.5**
comp=Z,11nm,1.0s
SADO Sadowa 91.64 346 LR LR 09 58 01.3
comp=Z,36nm,20.9s,baz=151,slow=36
ECSD EROS Data Cent 94.43 358 *e*P **P** **09 16 40.7 -1.0**
comp=Z,47nm,2.7s
PDAR Pinedale Array 94.86 8 P **P** **09 16 42.0 -1.9**
PDAR Pinedale Array 94.86 8 P **P** **09 16 42.0 -1.9**
comp=Z,0.3nm,0.6s,baz=88,slow=5.0,SNR=3.2
QSPA South Pole Qui 131.98 180 PKP **PKPdf** **09 22 32.6 -1.4**
QSPA South Pole Qui 131.98 180 PKP **PKPdf** **09 22 32.6 -1.4**
comp=Z,2.3nm,0.9s,baz=272,slow=3.3,SNR=5.7
CPUP Villa Florida 142.64 282 PKP **PKPdf** **09 22 52.8 -2.1**
CPUP Villa Florida 142.64 282 PKP **PKPdf** **09 22 52.8 -2.1**
comp=Z,1.2nm,0.8s,baz=150,slow=7.1,SNR=3.0
LPAZ La Paz 143.16 305 PKP PKPbc 09 22 53.8 0.0
LPAZ La Paz 143.16 305 PKP PKPbc 09 22 53.8 0.0
comp=Z,0.5nm,0.5s,baz=315,slow=1.4,SNR=2.9

MAN 27 09:09:33.9±3.23N×126.18E,h21km,mb4.8,ML3.7,MS3.7, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.61**	**245**	*e*P	Pn	09 09 46.5	+0.1
BUTP				*e*S	Sn	09 09 56.6	+0.9
CGP	**Cagayan de Oro**	**1.66**	**243**	*e*P	Pn	09 10 00.8	-0.1
CGP				*i* S	Sb	09 10 22.9	-0.4
BUKP	**Musuan**	**1.74**	**220**	*e*P	Pn	09 10 02.9	+0.9
BUKP				*e*S	Sb	09 10 25.4	-0.4
PLP	**Palo**	**2.26**	**328**⇑	*e*P	Pn	09 10 10.1	+0.9
PLP				*e*S	Sb	09 10 40.9	+0.2
TBP	**Tagbilaran**	**2.34**	**282**	*e*P	Pb	09 10 12.6	-1.9
PAGZ	**Pagadian**	**3.09**	**244**	*e*P	Pn	09 10 23.7	+3.1

IDC 27 09:36:43.3±1.2,10.95N×95.47E,h0km,mb3.8/6, mb1 3.9/7,mb1mx3.6/27,mbtmp3.7/7,ML3.8/1,MS3.6/13, Ms1 3.6/13,ms1mx3.3/35,Error ellipse: s-maj=45.0km s-min=19.6km az=59.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.19**	**24**	Pn	Pn	09 38 44.0	+0.6
	0.3nm,0.3s,baz=214,slow=14,SNR=3.2						
PSI	**Prapat**	**8.79**	**157**	LR	LR	09 43 03.9	
	comp=Z,425nm,19.1s,baz=162,slow=43						
KAPI	**Kappang**	**28.90**	**122**	LR	LR	09 55 07.5	
	comp=Z,106nm,18.4s,baz=321,slow=38						
AAK	**Ala-Archa**	**36.49**	**334**	LR	LR	10 00 05.0	
	comp=Z,120nm,22.0s,baz=285,slow=38						
MKAR	**Makanchi Array**	**37.44**	**345**	P	P	09 43 58.3	0.0
	1.1nm,0.7s,baz=170,slow=8.3,SNR=7.0						
MKAR				LR	LR	10 03 18.9	
	comp=Z,46nm,18.3s,baz=173,slow=43						
SONM	**Songino Array**	**37.90**	**12**	P	P	09 44 02.1	-0.3
	0.3nm,0.6s,baz=191,slow=6.9,SNR=3.8						
SONM				LR	LR	10 01 18.1	
	comp=Z,63nm,21.1s,baz=61,slow=39						
FITZ	**Fitzroy Crossi**	**41.47**	**134**	LR	LR	10 01 24.9	
	comp=Z,95nm,21.1s,baz=41,slow=36						
KURBB	**Kurchatov Arra**	**41.94**	**344**	P	P	09 44 35.2	-0.5
	0.8nm,0.7s,baz=163,slow=7.5,SNR=6.3						
ZALV	**Zalesovo Beam**	**43.73**	**351**	LR	LR	10 04 46.4	
	comp=Z,25nm,18.6s,baz=250,slow=38						
BVAR	**Borovoye Array**	**46.56**	**339**	LR	LR	10 07 29.0	
	comp=Z,44nm,19.5s,baz=194,slow=40						
WRA	**Warramunga Arr**	**49.05**	**129**	P	P	09 45 32.8	+0.3
	1.1nm,0.7s,baz=306,slow=8.5,SNR=7.4						
ASAR	**Alice Springs**	**50.95**	**133**	P	P	09 45 46.5	-0.5
	1.6nm,0.8s,baz=307,slow=7.4,SNR=12						
ASAJ	**Asahikawa**	**52.26**	**42**	LR	LR	10 08 55.7	
	comp=Z,27nm,19.8s,baz=353,slow=37						
STKA	**Stephens Creek**	**61.32**	**136**	LR	LR	10 11 57.3	
	comp=Z,141nm,21.5s,baz=206,slow=34						
BRTR	**Keskin Array B**	**61.47**	**309**	P	P	09 47 02.3	+0.2
	0.5nm,0.6s,baz=97,slow=9.1,SNR=2.3						
FINES	**FINESS Array B**	**70.64**	**332**	LR	LR	10 23 31.8	
	comp=Z,33nm,18.4s,baz=16,slow=40						
ARCES	**ARCESS Array B**	**72.85**	**340**	LR	LR	10 22 45.2	
	comp=Z,73nm,18.7s,baz=212,slow=38						
NOA	**NORSAR Array B**	**77.72**	**330**	LR	LR	10 25 39.6	
	comp=Z,36nm,21.5s,baz=205,slow=38						

MEX 27 09:44:18.7±0.4,17.38N×101.06W,h9km±6km,MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.45**	**300**	*e*P	Pg	09 44 27.1	-0.4
ZIIG				*e*S	Sg	09 44 33.9	+0.4
CAIG	**El Cayaco**	**0.82**	**113**	*i*P	Sg	09 44 32.3	-2.3
CAIG				*i* S	Sg	09 44 43.6	-1.8
ARIG	**Puente Sto Nin**	**1.12**	**37**	*e*P	Pb	09 44 36.8	-3.5
ARIG				*i* S	Sg	09 44 50.9	-4.2
PLIG	**Platanillo**	**1.79**	**55**	*e*P	Pn	09 44 46.8	-3.2
PLIG				*i* S	Sn	09 45 08.0	-4.9
MMIG	**Aquila**	**2.36**	**293**	*e*P	Pn	09 44 53.6	-4.0
MMIG				*i* S	Sn	09 45 21.7	-5.0
YAIG	**Yautepec**	**2.40**	**52**	*i*P	Pn	09 44 54.8	-3.6
YAIG				*i* S	Sn	09 45 23.5	-4.5
PPM	**Popocatepetl**	**2.86**	**54**	*i*P	Pn	09 45 01.6	-3.5
PPM				*i* S	Sn	09 45 35.1	-5.0
PNIG	**Pinotepa**	**2.97**	**109**	*i*P	Pn	09 45 02.6	-3.5
PNIG				*i* S	Sn	09 45 37.1	-4.8

IDC 27 09:49:45.7±1.9,17.83S×167.89E,h0km,mb4.0/6, mb1 4.1/7,mb1mx3.9/19,mbtmp3.9/7,MS3.8/1,Ms1 3.8/1, ms1mx2.6/31,Error ellipse: s-maj=54.7km s-min=27.0km az=127.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.43**	**198**	Pn	Pn	09 50 54.4	0.0
	2.4nm,0.3s,baz=86,slow=14,SNR=29						
DZM				Sn	Sn	09 51 44.1	-2.7
	4.3nm,0.3s,baz=307,slow=20,SNR=4.0						
STKA	**Stephens Creek**	**27.56**	**235**	P	P	09 55 34.1	-0.4
	3.2nm,1.0s,baz=83,slow=8.1,SNR=3.3						
WRA	**Warramunga Arr**	**31.78**	**261**	P	P	09 56 11.6	-0.6
	0.4nm,0.5s,baz=91,slow=9.1,SNR=5.7						
ASAR	**Alice Springs**	**32.25**	**254**	P	P	09 56 16.0	-0.3
	2.1nm,0.8s,baz=82,slow=8.6,SNR=15						
FITZ	**Fitzroy Crossi**	**40.12**	**263**	P	P	09 57 25.1	+1.4
	4.7nm,0.9s,baz=90,slow=5.1,SNR=4.4						
BATI	**Baumata**	**43.49**	**274**	LR	LR	10 14 48.3	
	comp=Z,96nm,18.3s,baz=132,slow=35						
SONM	**Songino Array**	**85.33**	**324**	P	P	10 02 24.1	-0.7
	0.2nm,0.3s,baz=116,slow=6.6,SNR=3.3						
ILAR	**Eielson Array**	**89.28**	**18**	P	P	10 02 43.8	+0.4
	0.4nm,0.8s,baz=233,slow=5.0,SNR=7.1						

*ISCJB **27** 09:54:49.0±0.4,53.35N±0.04×159.62E±0.10, h129km±4km,mb3.3/7,Error ellipse: s-maj=11.4km s-min=4.2km az=33.3*
*KRSC **27** 09:54:49.7±0.8,53.36N×159.73E,h118km±47km,ML3.9*
*IDC **27** 09:54:50.6±0.9,53.55N×159.13E,h138km±9km,mb3.2/7, mb1 3.4/7,mb1mx3.1/27,mbtmp3.2/7,Error ellipse: s-maj=26.7km s-min=20.6km az=3.0*

ISC 27 09:54:49.1±0.8,53.37N±0.05×159.63E±0.06,h128km±5km, n40,σ1ᵖ08/56,mb3.4/7,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLC	**Nalytchevo**	**0.26**	**221**	*e*P	**Pn**	**09 55 07.3**	**+0.4**
NLC				*e*S	**Sn**	**09 55 20.5**	**+0.2**
SDLR	**Sedlovina**	**0.46**	**259**	*i*P	**Pn**	**09 55 08.2**	**+0.3**
SMAR	**Somma**	**0.51**	**258**	*i*P	**Pn**	**09 55 08.5**	**+0.2**
SMAR				S	**Sn**	**09 55 22.4**	**-0.4**
UGLR	**Uglovaya**	**0.51**	**252**	*i*P	**Pn**	**09 55 08.8**	**+0.6**
UGLR				*e*S	**Sn**	**09 55 22.8**	**+0.2**
AVH	**Avacha**	**0.55**	**259**	P	**Pn**	**09 55 09.1**	**+0.7**
AVH				*e*S	**Sn**	**09 55 23.4**	**+0.5**
KOK	**Koryaka**	**0.60**	**263**	*i*P	**Pn**	**09 55 09.1**	**+0.4**
KOK				*e*S	**Sn**	**09 55 23.5**	**-0.1**
KII	**Karymskiy**	**0.68**	**351**	*i*P	**Pn**	**09 55 09.7**	**+0.5**
KII				*e*S	**Sn**	**09 55 24.4**	**-0.1**
PET	**Petropavlovsk**	**0.68**	**240**	*i*P	**Pn**	**09 55 09.3**	**+0.1**
PET				*e*S	**Sn**	**09 55 23.8**	**-0.5**
GNL	**Ganaly**	**1.06**	**289**	*i*P	**Pn**	**09 55 12.8**	**+0.3**
GNL				*e*S	**Sn**	**09 55 29.6**	**-0.7**
RUS	**Russkaya**	**1.16**	**216**	P	**Pn**	**09 55 13.4**	**0.0**
RUS				*e*S	**Sn**	**09 55 30.9**	**-0.9**
PETK	**Petropavlovsk-**	**1.19**	**258**	P	**Pn**	**09 55 14.1**	**+0.3**
	65nm,0.3s,baz=85,slow=15,SNR=1083						
PETK				S	**Sn**	**09 55 32.0**	**-0.4**
	12nm,0.3s,baz=95,slow=20,SNR=14						
MTVR	**Mutnovka**	**1.25**	**225**	*e*P	**Pn**	**09 55 15.0**	**+0.5**
MTVR				*e*S	**Sn**	**09 55 33.7**	**0.0**
GRL	**Gorelyy**	**1.25**	**230**	*i*P	**Pn**	**09 55 15.3**	**+0.8**
GRL				*e*S	**Sn**	**09 55 34.1**	**+0.4**
ASAK	**Asacha**	**1.44**	**227**	P	**Pn**	**09 55 17.3**	**+0.8**
ASAK				*e*S	**Sn**	**09 55 37.6**	**+0.3**
APC	**Apacha**	**1.55**	**254**	*i*P	**Pn**	**09 55 18.5**	**+0.8**
APC				*i* S	**Sn**	**09 55 39.5**	**+0.1**
MKZ	**Mys Kozlova**	**1.72**	**45**	*i*P	**Pn**	**09 55 20.1**	**+0.6**
MKZ				*e*S	**Sn**	**09 55 41.9**	**-0.9**
MIPR	**Malaya Ipel'ka**	**2.06**	**239**	P	**Pn**	**09 55 24.6**	**+0.9**
KMNR	**Kamenistaya**	**2.42**	**8**	P	**Pn**	**09 55 29.8**	**+1.6**

KMNR				*e*S	**Sn**	**09 55 59.2 +0.9**
PAU	**Pauzhetka**	**2.57**	**223**	P	**Pn**	**09 55 32.0 +1.9**
ESO	**Esso**	**2.62**	**348**	*e*P	**Pn**	**09 55 31.4 +0.7**
BZMR	**Bezymyannaya**	**2.62**	**11**	*e*P	**Pn**	**09 55 32.6 +1.8**
KIRR	**Kirishev**	**2.62**	**9**	P	**Pn**	**09 55 32.0 +1.1**
BZWR	**Bezymyannyi-We**	**2.65**	**11**	*e*P	**Pn**	**09 55 32.8 +1.6**
BZGR	**Bezymyannyi-Gr**	**2.65**	**13**	P	**Pn**	**09 55 32.1 +0.9**
KOZ	**Kozyrevsk**	**2.70**	**3**	P	**Pn**	**09 55 33.0 +1.3**
ZLN	**Zelenaya**	**2.74**	**14**	P	**Pn**	**09 55 34.1 +1.8**
KRSR	**Krestovskiy**	**2.91**	**10**	P	**Pn**	**09 55 35.1 +0.6**
SRDR	**Sredinnyy**	**2.96**	**1**	P	**Pn**	**09 55 35.8 +0.7**
SMKR	**Semkarok**	**3.39**	**17**	P	Pn	09 55 44.1 +3.3
KBG	**Krutoberegovo**	**3.40**	**30**	S	**Sn**	**09 56 19.8 -0.9**
SRKR	**Sorokina**	**3.41**	**14**	P	**Pn**	**09 55 42.6 +1.6**
SKR	**Severo-Kuril's**	**3.46**	**220**	S	**Sn**	**09 56 21.2 -0.9**
BKI	**Bering**	**4.15**	**61**	*e*P	**Pn**	**09 55 51.2 +0.5**
BKI				*e*S	**Sn**	**09 56 35.8 -2.6**
KURBB	**Kurchatov Arra**	**47.45**	**301**	P	**P**	**10 03 08.1 -2.3**
	0.5nm,0.3s,baz=55,slow=7.7,SNR=5.4					
MKAR	**Makanchi Array**	**47.78**	**295**	P	**P**	**10 03 10.9 -2.2**
	0.1nm,0.4s,baz=58,slow=7.7,SNR=4.5					
PDAR	**Pinedale Array**	**57.63**	**61**	P	**P**	**10 04 27.7 +1.9**
	0.2nm,0.5s,baz=342,slow=2.4,SNR=3.4					
FINES	**FINESS Array B**	**59.75**	**336**	P	**P**	**10 04 38.2 -1.6**
	0.7nm,0.4s,baz=39,slow=7.3,SNR=5.0					
NOA	**NORSAR Array B**	**63.20**	**343**	P	**P**	**10 05 01.9 -1.2**
	0.5nm,0.7s,baz=32,slow=5.9,SNR=3.2					
TXAR	**Lajitas Array**	**70.78**	**67**	P	**P**	**10 05 53.0 +1.4**
	0.3nm,0.6s,baz=296,slow=5.1,SNR=9.5					
ASAR	**Alice Springs**	**79.90**	**204**	P	**P**	**10 06 44.1 +0.8**
	0.6nm,1.1s,baz=23,slow=5.0,SNR=4.2					

KRSC 27 10:15:53.7±1.0, 59.30N×161.48E, h5km±5km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALN	**Palana**	**0.81**	**255**	*e*P	Pb	10 16 10.0	-0.2
PALN				*i* S	Sb	10 16 22.0	+0.6
TILK	**Tilichiki**	**2.62**	**62**	P	Pb	10 16 39.0	-2.0
TILK				*i* S	Sb	10 17 12.6	-0.8
SRKR	**Sorokina**	**2.66**	**184**	P	Pn	10 16 38.1	+0.8
SRKR				*i* S	Sn	10 17 10.8	+0.9
SMKR	**Semkarok**	**2.73**	**180**	P	Pn	10 16 38.9	+0.7
SMKR				*i* S	Sn	10 17 12.5	+0.9
BDR	**Baidarnaya**	**2.74**	**183**	P	Pn	10 16 39.5	+1.1
BDR				*i* S	Sn	10 17 13.4	+1.4
SRDR	**Sredinnyy**	**3.14**	**198**	P	Pb	10 16 47.6	-2.4
SRDR				*i* S	Sb	10 17 26.0	-2.6
BZWR	**Bezymyannyi-We**	**3.39**	**189**	P	Pn	10 16 50.3	+2.9
BZGR	**Bezymyannyi-Gr**	**3.40**	**187**	P	Pn	10 16 50.2	+2.8
BZGR				*i* S	Sn	10 17 30.8	+2.6
BZMR	**Bezymyannaya**	**3.42**	**189**	P	Pn	10 16 50.6	+2.8

IDC 27 10:17:33.5±7.9, 9.38N×92.15E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/26, mbtmp3.6/4, MS3.1/1, Ms1 3.1/1, ms1mx2.3/37, Error ellipse: s-maj=414.1km s-min=24.1km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**9.38**	**134**	LR	LR	10 23 12.1	
	comp=Z,110nm,20.6s,baz=63,slow=36						
MKAR	**Makanchi Array**	**38.22**	**349**	P	P	10 24 54.7	-0.4
	0.7nm,0.6s,baz=165,slow=9.4,SNR=5.2						
KURBB	**Kurchatov Arra**	**42.63**	**347**	P	P	10 25 31.6	+0.1
	0.3nm,0.3s,baz=159,slow=8.0,SNR=4.3						
WRA	**Warramunga Arr**	**50.73**	**125**	P		10 26 35.0	-0.6
	0.7nm,0.7s,baz=303,slow=8.8,SNR=5.3						
ASAR	**Alice Springs**	**52.39**	**130**	P	P	10 26 48.3	+0.3
	0.5nm,0.8s,baz=306,slow=7.9,SNR=6.9						

CSEM 27 10:23:44.8±0.2, 45.44N×26.24E, h121km±2km, MD3.7/2, Error ellipse: s-maj=4.0km s-min=2.7km az=168.0
BUC 27 10:23:44.4±1.2, 45.45N×26.25E, h126km±11km, MD3.7/2, 33C-24D, Error ellipse: s-maj=7.4km s-min=6.0km az=327.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.22**	**281**	⇑*i*P	Pn	10 24 02.3	+0.3
MLR				*i* S	Sn	10 24 14.6	-0.7
MLR	**Muntele Rosu**	**0.22**	**281**	⇑*i*P	Pn	10 24 02.3	+0.3
MLR	**Muntele Rosu**	**0.22**	**281**	⇑*i*P	Pn	10 24 02.3	+0.3
MLR				*i* S	Sn	10 24 14.6	-0.7
PLOR	**Plostina**	**0.49**	**35**	⇑*i*P	Pn	10 24 03.3	+0.3
PLOR				*i* S	Sn	10 24 16.5	-0.7
PLOR	**Plostina**	**0.49**	**35**	⇑*i*P	Pn	10 24 03.3	+0.3
PLOR	**Plostina**	**0.49**	**35**	⇑*i*P	Pn	10 24 03.3	+0.3
PLOR				*i* S	Sn	10 24 16.5	-0.7
GRER		**0.52**	**98**	*i* S	Sn	10 24 16.6	-0.7
GRER		**0.52**	**98**	S	Sn	10 24 16.6	-0.7
GRER		**0.52**	**98**	*i* S	Sn	10 24 16.6	-0.7
VRI	**Vrincioaia**	**0.53**	**39**	⇑*i*P	Pn	10 24 03.8	+0.5
VRI				*i* S	Sn	10 24 17.6	0.0
VRI	**Vrincioaia**	**0.53**	**39**	⇑*i*P	Pn	10 24 03.8	+0.5
VRI	**Vrincioaia**	**0.53**	**39**	⇑*i*P	Pn	10 24 03.8	+0.5
VRI				*i* S	Sn	10 24 17.6	0.0
PETR	**Petresti**	**0.74**	**68**	⇑*i*P	Pn	10 24 05.7	+1.1
PETR				*i* S	Sn	10 24 20.4	+0.4
PETR	**Petresti**	**0.74**	**68**	⇑*i*P	Pn	10 24 05.7	+1.1
PETR	**Petresti**	**0.74**	**68**	⇑*i*P	Pn	10 24 05.7	+1.1
PETR				*i* S	Sn	10 24 20.4	+0.4
SULR		**0.77**	**180**	⇓*i*P	Pn	10 24 05.6	+0.7
SULR				*i* S	Sn	10 24 21.1	+0.7
SULR		**0.77**	**180**	⇓*i*P	Pn	10 24 05.6	+0.7
SULR		**0.77**	**180**	⇓*i*P	Pn	10 24 05.6	+0.7
SULR				*i* S	Sn	10 24 21.1	+0.7
DOPR	**Dopca**	**0.79**	**311**	⇑*i*P	Pn	10 24 05.1	0.0
DOPR				*i* S	Sn	10 24 19.7	-1.2
DOPR	**Dopca**	**0.79**	**311**	⇑*i*P	Pn	10 24 05.1	0.0
DOPR	**Dopca**	**0.79**	**311**	⇑*i*P	Pn	10 24 05.1	0.0
DOPR				*i* S	Sn	10 24 19.7	-1.2
VOIR		**0.84**	**269**	⇑*i*P	Pn	10 24 05.7	0.0
VOIR				*i* S	Sn	10 24 20.5	-1.2
VOIR		**0.84**	**269**	⇑*i*P	Pn	10 24 05.7	0.0
VOIR		**0.84**	**269**	⇑*i*P	Pn	10 24 05.7	0.0
VOIR				*i* S	Sn	10 24 20.5	-1.2
MTUR	**Matau**	**0.87**	**255**	⇓*i*P	Pn	10 24 06.1	+0.2
MTUR	**Matau**	**0.87**	**255**	⇓*i*P	Pn	10 24 06.1	+0.2
MTUR	**Matau**	**0.87**	**255**	⇓*i*P	Pn	10 24 06.1	+0.2
BUC	**Bucharest**	**1.04**	**186**	⇓*i*P	Pn	10 24 08.3	+0.9
BUC				*i* S	Sn	10 24 24.6	-0.1
BUC	**Bucharest**	**1.04**	**186**	⇓*i*P	Pn	10 24 08.3	+0.9
GOLR		**1.10**	**237**	⇓*i*P	Pn	10 24 08.5	+0.6
GOLR				*i* S	Sn	10 24 26.4	+0.7
GOLR		**1.10**	**237**	⇓*i*P	Pn	10 24 08.5	+0.6
GOLR		**1.10**	**237**	⇓*i*P	Pn	10 24 08.5	+0.6
GOLR				*i* S	Sn	10 24 26.4	+0.7
TESR	**Tescani**	**1.10**	**15**	⇑*i*P	Pn	10 24 08.3	+0.4
TESR				*i* S	Sn	10 24 24.9	-0.9
TESR	**Tescani**	**1.10**	**15**	⇑*i*P	Pn	10 24 08.3	+0.4
TESR	**Tescani**	**1.10**	**15**	⇑*i*P	Pn	10 24 08.3	+0.4
TESR				*i* S	Sn	10 24 24.9	-0.9
BUC1	**Bucharest**	**1.11**	**188**	⇓*i*P	Pn	10 24 08.3	+0.2
BUC1				*i* S	Sn	10 24 24.6	-1.4
AMRR	**Amara**	**1.14**	**137**	*i* S	Sn	10 24 26.7	+0.3
AMRR	**Amara**	**1.14**	**137**	S	Sn	10 24 26.7	+0.3
AMRR	**Amara**	**1.14**	**137**	*i* S	Sn	10 24 26.7	+0.3
ARR	**Arges**	**1.14**	**266**	⇑*i*P	Pn	10 24 09.0	+0.6
ARR				*i* S	Sn	10 24 26.7	0.0
ARR	**Arges**	**1.14**	**266**	⇑*i*P	Pn	10 24 09.0	+0.6
ARR	**Arges**	**1.14**	**266**	⇑*i*P	Pn	10 24 09.0	+0.6
ARR				*i* S	Sn	10 24 26.7	0.0
HUMR	**Humele**	**1.29**	**225**	⇓*i*P	Pn	10 24 10.0	+0.1
HUMR				*i* S	Sn	10 24 28.8	-0.5
HUMR	**Humele**	**1.29**	**225**	⇓*i*P	Pn	10 24 10.0	+0.1
HUMR	**Humele**	**1.29**	**225**	⇓*i*P	Pn	10 24 10.0	+0.1
HUMR				*i* S	Sn	10 24 28.8	-0.5
CFR	**Carcaliu**	**1.36**	**101**	⇓*i*P	Pn	10 24 10.9	+0.3
CFR				*i* S	Sn	10 24 29.7	-0.8
CFR	**Carcaliu**	**1.36**	**101**	⇓*i*P	Pn	10 24 10.9	+0.3
CFR	**Carcaliu**	**1.36**	**101**	⇓*i*P	Pn	10 24 10.9	+0.3
CFR				*i* S	Sn	10 24 29.7	-0.8
LEOM	**Leova**	**1.73**	**53**	⇑*i*P	Pn	10 24 15.7	+0.9
LEOM				*i* S	Sn	10 24 38.0	-0.1
LEOM	**Leova**	**1.73**	**53**	⇑*i*P	Pn	10 24 15.7	+0.9
LEOM	**Leova**	**1.73**	**53**	⇑*i*P	Pn	10 24 15.7	+0.9
LEOM				*i* S	Sn	10 24 38.0	-0.1
LOT	**Lotru**	**1.75**	**271**	⇓*i*P	Pn	10 24 16.2	+1.0
LOT				*i* S	Sn	10 24 38.3	-0.5
LOT	**Lotru**	**1.75**	**271**	⇓*i*P	Pn	10 24 16.2	+1.0
LOT	**Lotru**	**1.75**	**271**	⇓*i*P	Pn	10 24 16.2	+1.0
LOT				*i* S	Sn	10 24 38.3	-0.5
TIRR	**Tirgusor**	**1.83**	**122**	⇑*i*P	Pn	10 24 16.5	+0.5
TIRR				*i* S	Sn	10 24 39.3	-0.9
TIRR	**Tirgusor**	**1.83**	**122**	⇑*i*P	Pn	10 24 16.5	+0.5
TIRR	**Tirgusor**	**1.83**	**122**	⇑*i*P	Pn	10 24 16.5	+0.5
TIRR				*i* S	Sn	10 24 39.3	-0.9
TLCR		**1.83**	**97**	*i* S	Sn	10 24 40.3	+0.1
TLCR		**1.83**	**97**	S	Sn	10 24 40.3	+0.1
TLCR		**1.83**	**97**	*i* S	Sn	10 24 40.3	+0.1
GZR	**Gura Zlata**	**2.45**	**270**	⇓*i*P	Pn	10 24 24.6	+0.8
GZR				*i* S	Sn	10 24 54.2	+0.1
GZR	**Gura Zlata**	**2.45**	**270**	⇓*i*P	Pn	10 24 24.6	+0.8
GZR	**Gura Zlata**	**2.45**	**270**	⇓*i*P	Pn	10 24 24.6	+0.8
GZR				*i* S	Sn	10 24 54.2	+0.1
DRGR		**2.80**	**300**	⇑*i*P	Pn	10 24 28.8	+0.4
DRGR		**2.80**	**300**	⇑*i*P	Pn	10 24 28.8	+0.4
DRGR		**2.80**	**300**	⇑*i*P	Pn	10 24 28.8	+0.4
ZAPS	**Zavoj**	**3.38**	**231**	*e*Sn	Sn	10 25 11.3	-4.5
GRUS	**Gruza**	**4.25**	**250**	*e*Pn	Pn	10 24 46.8	-0.5
DIVS	**Divibare**	**4.66**	**255**	*e*Pn	Pn	10 24 52.1	-0.8
BBLS	**Lazići**	**5.13**	**254**	*e*Pn	Pn	10 24 59.6	+0.3

JMA 27 10:37:06.9±0.4, 25.25N×121.75E, h27km, M2.5
TAP 27 10:37:09.5, 24.31N×121.81E, h12km, ML3.1, B
ISC 27 10:37:09.6±0.9, 24.31N±0.02×121.80E±0.02, h13km±7km, n36, σ0.84/64, 6C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.13**	**334**	⇑*i*P	Pb	**10 37 13.2**	**-0.8**
	baz=335						
ENA				S	Sg	**10 37 15.4**	**+0.2**
	baz=335						
TWC	**Suao**	**0.30**	**8**	⇑*i*P	Pb	**10 37 16.0**	**-0.8**
	baz=8.0						
TWC				*i* S	Sg	**10 37 20.2**	**+0.3**
	baz=8.0						
TWD	**Chiawan**	**0.30**	**219**	⇓*i*P	Pb	**10 37 15.7**	**-1.2**
	baz=220						
TWD				S	Sg	**10 37 20.1**	**+0.3**
	baz=220						
HWA	**Hwalien**	**0.38**	**208**	*e*P	Pb	**10 37 17.6**	**-0.6**
	baz=219						
HWA				*e*S	Sb	**10 37 22.7**	**-1.4**
	baz=219						
ENTT	**Nioudou**	**0.39**	**327**	⇑*i*P	Pb	**10 37 18.0**	**-0.4**
	baz=327						
ENTT				*i* S	Sb	**10 37 23.5**	**-0.9**
	baz=327						
NNS	**Nan Shan**	**0.41**	**288**	⇑*i*P	Pb	**10 37 18.2**	**-0.6**
	baz=289						
NNS				S	Sg	**10 37 23.8**	**+0.5**
	baz=289						
TWE	**Neicheng**	**0.42**	**343**	⇑*i*P	Pb	**10 37 18.5**	**-0.4**
	baz=344						
TWE				*i* S	Sb	**10 37 24.3**	**-1.0**
	baz=344						
ILA	**Ilan**	**0.45**	**354**	*e*P	Pb	**10 37 19.3**	**-0.2**
	baz=347						
ILA				*e*S	Sb	**10 37 26.0**	**-0.2**
	baz=347						
NSK	**Sanguang**	**0.54**	**312**	⇑*i*P	Pb	**10 37 20.8**	**-0.3**
	baz=312						
NSK				*i* S	Sb	**10 37 28.0**	**-0.8**
	baz=312						
TWT	**Tachien**	**0.57**	**264**	P	Pb	**10 37 21.6**	**-0.1**
	baz=265						
TWT				*i* S	Sb	**10 37 29.6**	**-0.2**
	baz=265						
ESL	**Shilin**	**0.60**	**214**	*e*P	Pg	**10 37 20.8**	**-0.5**
	baz=222						
ESL				*e*S	Sb	**10 37 29.9**	**-0.5**
	baz=222						
TWA	**Mucha**	**0.69**	**343**	*e*P	Pn	**10 37 24.2**	**-1.0**
	baz=343						
NWF	**Wu-fen Shan**	**0.75**	**359**	*e*P	Pb	**10 37 24.9**	**+0.2**
	baz=358						
NSTT	**Nanjuang**	**0.79**	**294**	*e*P	Pn	**10 37 25.6**	**-0.9**
	baz=294						
NSTT				S	Sb	**10 37 36.2**	**+0.2**
	baz=294						
TWS1	**Kuangyinshan**	**0.86**	**336**	*e*P	Pn	**10 37 27.7**	**+0.2**
	baz=336						
TWS1				*e*S	Sn	**10 37 39.6**	**-0.3**
	baz=336						
EHY	**Hungye**	**0.92**	**209**	P	Pb	**10 37 26.9**	**-0.5**
	baz=221						
EHY				*e*S	Sn	**10 37 39.9**	**-1.5**
	baz=221						
SMLT	**Sun Moon Lake**	**0.93**	**243**	P	Pb	**10 37 27.2**	**-0.4**
	baz=235						
SMLT				*e*S	Sn	**10 37 41.8**	**0.0**
	baz=235						
TWQ1	**Liyutan**	**0.94**	**272**	*e*P	Pn	**10 37 28.7**	**+0.1**
	baz=273						
TWQ1				*e*S	Sn	**10 37 41.6**	**-0.3**
	baz=273						
NSY	**Sanyi**	**0.95**	**276**	*e*P	Pn	**10 37 29.8**	**+1.0**
	baz=277						
TYC	**Yuchr**	**0.95**	**245**	P	Pb	**10 37 27.8**	**-0.3**
	baz=238						
TYC				*e*S	Sn	**10 37 42.3**	**+0.1**
	baz=238						
TWY	**Chenhua**	**0.97**	**349**	*e*P	Pn	**10 37 29.2**	**+0.2**
	baz=348						
TWY				*e*S	Sn	**10 37 42.5**	**-0.2**
	baz=348						
TCU	**Taichung**	**1.04**	**261**	*e*P	Pn	**10 37 31.6**	**+1.6**
	baz=262						
TWF1	**Yuli**	**1.06**	**206**	*e*P	Pb	**10 37 28.9**	**-1.0**
	baz=217						
TWF1				*e*S	Sn	**10 37 44.1**	**-0.9**
	baz=217						
YOJ	**Yonaguni jima**	**1.11**	**82**	*e*P	Pg	**10 37 30.8**	**-0.3**
	baz=69						
YOJ				*e*S	Sn	**10 37 47.1**	**+0.9**
	baz=69						
YOJ	**Yonaguni jima**	**1.11**	**82**	P	Pg	**10 37 30.8**	**-0.3**
YOJ				*e*S	Sn	**10 37 48.5**	**+2.3**
YUS	**Yu-Shan**	**1.13**	**224**	*e*P	Pb	**10 37 30.9**	**-0.4**
	baz=225						
YUS				*e*S	Sn	**10 37 48.3**	**+1.0**
	baz=225						
ALS	**Alishan**	**1.21**	**229**	*e*P	Pg	**10 37 34.2**	**+1.2**
	baz=216						
CHN5	**Tsauling**	**1.25**	**235**	*e*P	Pg	**10 37 33.8**	**+0.1**
	baz=238						
CHN5				*e*S	Sg	**10 37 52.6**	**+2.6**
	baz=238						
CHN4	**Tsaushan**	**1.46**	**229**	*e*P	Pg	**10 37 37.2**	**-0.6**
	baz=233						
CHN4				*e*S	Sg	**10 37 57.9**	**+1.2**
	baz=233						
STYT	**Tauyuan**	**1.49**	**220**	*e*P	Pb	**10 37 36.9**	**-0.4**
	baz=222						
STYT				*e*S	Sg	**10 37 58.5**	**+0.8**
	baz=222						
CHN1	**Nanshi**	**1.62**	**226**	*e*P	Pg	**10 37 40.9**	**+0.1**
	baz=230						
TWG	**Pinlang**	**1.63**	**204**	*e*P	Pb	**10 37 38.2**	**-1.4**
	baz=191						
IRIF	**Iriomote-Funau**	**1.76**	**89**	P	Pb	**10 37 40.6**	**-1.2**
IRIF				*e*S	Sb	**10 38 04.2**	**+0.4**
HATJ	**Hateruma jima**	**1.85**	**98**	P	Pb	**10 37 42.8**	**-0.5**
JKRS	**Kuro-shima**	**2.02**	**92**	P	Pn	**10 37 43.7**	**+0.3**
JKRS				*e*S	Sb	**10 38 11.3**	**+0.1**
JIJ	**Ishigaki jima**	**2.14**	**88**	P	Pn	**10 37 44.8**	**-0.2**
JIJ				*e*S	Sn	**10 38 12.2**	**+0.7**

SKO 27 10:43:57.9, 42.13N×24.91E, h0km
CSEM 27 10:43:58.5±0.1, 42.08N×24.82E, h2km, ML3.8, Error ellipse: s-maj=2.6km s-min=2.4km az=84.0
THE 27 10:43:58.0, 42.12N×24.87E, h0km±1km, ML3.7/9, Error ellipse: s-maj=1.5km s-min=0.5km az=4.0
BEO 27 10:43:58.1±0.8, 42.07N×24.84E, h1km±2km, ML3.8/1
ATH 27 10:43:59.5, 41.99N×24.80E, h25km±1km, MD3.5/12
ISC 27 10:43:58.2±0.9, 42.10N±0.02×24.83E±0.02, h5km±7km, n146, σ0.90/185, 10C-12D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLD	**Plovdiv**	**0.10**	**275**	P	Pg	**10 44 00.3**	**0.0**
PLD				S	Sg	**10 44 02.2**	**+0.5**
PLD	**Plovdiv**	**0.10**	**275**	*e*Pg	Pg	**10 44 00.4**	**+0.1**
PLD				*e*Sg	Sg	**10 44 02.0**	**+0.3**
PLD	**Plovdiv**	**0.10**	**275**	P	Pg	**10 44 00.3**	**0.0**
PLD				S	Sg	**10 44 02.2**	**+0.5**
NVR	**Nevrokopi**	**1.04**	**225**	P	Pg	**10 44 17.7**	**-0.5**
NVR				S	Sn	**10 44 34.7**	**+0.3**
NVR	**Nevrokopi**	**1.04**	**225**	*e*PN	Pg	**10 44 17.9**	**-0.3**
NVR				*e*SN	Sg	**10 44 31.3**	**-0.4**
NVR	**Nevrokopi**	**1.04**	**225**	P	Pg	**10 44 17.7**	**-0.5**
NVR				*e*Sn	Sg	**10 44 31.3**	**-0.4**
NVR				S	Sn	**10 44 34.7**	**+0.3**
KAVA	**Kavala**	**1.12**	**192**	P	Pb	**10 44 19.0**	**-1.1**
KAVA				S	Sb	**10 44 34.4**	**-0.6**
KAVA	**Kavala**	**1.12**	**192**	P	Pb	**10 44 19.0**	**-1.1**
KAVA				S	Sb	**10 44 34.4**	**-0.6**
VTS	**Vitosha**	**1.30**	**293**	P	Pn	**10 44 22.0**	**-1.3**
VTS				S	Sg	**10 44 42.0**	**+1.9**
VTS	**Vitosha**	**1.30**	**293**	⇑*i*P	Pn	**10 44 21.9**	**-1.3**
VTS	**Vitosha**	**1.30**	**293**	*e*Pn	Pn	**10 44 21.9**	**-1.3**
VTS				*e*Sg	Sn	**10 44 40.4**	**-0.6**
VTS	**Vitosha**	**1.30**	**293**	P	Pn	**10 44 22.0**	**-1.3**
VTS				*e*Sg	Sn	**10 44 40.4**	**-0.6**
VTS				S	Sg	**10 44 42.0**	**+1.9**
SRS	**Serrai**	**1.35**	**224**	P	Pn	**10 44 23.6**	**-0.1**
SRS				S	Sg	**10 44 44.0**	**+2.4**
SRS	**Serrai**	**1.35**	**224**	P	Pn	**10 44 23.6**	**-0.1**
SRS				S	Sg	**10 44 44.0**	**+2.4**
JMB	**Yambol**	**1.35**	**73**	P	Pg	**10 44 23.2**	**-0.9**
JMB				S	Sg	**10 44 41.9**	**+0.2**
JMB	**Yambol**	**1.35**	**73**	P	Pg	**10 44 23.2**	**-0.9**
JMB				S	Sg	**10 44 41.9**	**+0.2**
EDRB	**Edirne**	**1.45**	**99**	*e*PN	Pb	**10 44 24.8**	**-0.9**
EDRB				*e*SN	Sb	**10 44 42.9**	**-1.4**
EDRB	**Edirne**	**1.45**	**99**	P	Pb	**10 44 24.7**	**-0.9**
EDRB				S	Sg	**10 44 44.1**	**-0.6**
EDRB	**Edirne**	**1.45**	**99**	P	Pb	**10 44 24.7**	**-0.9**
EDRB				S	Sg	**10 44 44.1**	**-0.6**
ALN	**Alexandroupoli**	**1.50**	**142**	P	Pb	**10 44 26.0**	**-0.6**
ALN				S	Sb	**10 44 45.7**	**-0.3**
ALN	**Alexandroupoli**	**1.50**	**142**	*e*PN	Pb	**10 44 26.0**	**-0.6**
ALN				*e*SN	Sb	**10 44 45.6**	**-0.4**
ALN	**Alexandroupoli**	**1.50**	**142**	P	Pb	**10 44 26.0**	**-0.6**
ALN				S	Sb	**10 44 45.7**	**-0.3**
ZIMR		**1.61**	**14**	⇑*i*P	Pg	**10 44 30.0**	**+0.9**
ZIMR		**1.61**	**14**	S	Sg	**10 44 52.6**	**+2.7**
ENEZ	**Enez**	**1.68**	**143**	*e*PN	Pb	**10 44 28.4**	**-1.3**
ENEZ				*e*SN	Sb	**10 44 50.1**	**-0.9**
SMTH	**Samothraki Isl**	**1.71**	**162**	P	Pn	**10 44 28.9**	**+0.3**
SMTH				S	Sb	**10 44 52.1**	**+0.3**
SMTH	**Samothraki Isl**	**1.71**	**162**	*e*PN	Pn	**10 44 29.0**	**+0.3**
SMTH	**Samothraki Isl**	**1.71**	**162**	*e*Pn	Pn	**10 44 29.0**	**+0.3**
SMTH				S	Sb	**10 44 52.1**	**+0.3**
KNT	**Kendrikon**	**1.72**	**238**	P	Pn	**10 44 29.4**	**+0.5**
KNT				S	Sb	**10 44 53.5**	**+1.2**
KNT	**Kendrikon**	**1.72**	**238**	P	Pn	**10 44 29.4**	**+0.5**
KNT				S	Sb	**10 44 53.5**	**+1.2**
VAY	**Valandovo**	**1.86**	**246**	P	Pn	**10 44 30.8**	**+0.1**
VAY				S	Sb	**10 44 56.5**	**+0.2**
VAY	**Valandovo**	**1.86**	**246**	*i* Pn	Pb	**10 44 31.7**	**-1.0**
VAY	**Valandovo**	**1.86**	**246**	*e*Pn	Pn	**10 44 30.2**	**-0.5**
VAY				*e*Sg	Sb	**10 44 56.7**	**+0.4**
VAY	**Valandovo**	**1.86**	**246**	*e*Pn	Pn	**10 44 30.2**	**-0.5**
VAY	**Valandovo**	**1.86**	**246**	P	Pn	**10 44 30.8**	**+0.1**
VAY				S	Sb	**10 44 56.5**	**+0.2**
OUR	**Ouranopolis**	**1.87**	**200**	P	Pn	**10 44 30.8**	**-0.1**
OUR				S	Sb	**10 44 56.8**	**+0.2**
OUR	**Ouranopolis**	**1.87**	**200**	P	Pn	**10 44 30.8**	**-0.1**
OUR				S	Sb	**10 44 56.8**	**+0.2**
HORT	**Hortiatis**	**1.98**	**222**	P	Pn	**10 44 33.2**	**+0.7**
HORT				S	Sb	**10 45 00.0**	**+0.1**
HORT	**Hortiatis**	**1.98**	**222**	P	Pn	**10 44 33.2**	**+0.7**
HORT				S	Sb	**10 45 00.0**	**+0.1**
ZAPS	**Zavoj**	**2.00**	**307**	*e*Pn	Pn	**10 44 33.2**	**+0.5**
ZAPS				*e*Sn	Sb	**10 44 59.6**	**-0.8**
PLG	**Polygyros**	**2.01**	**212**	P	Pn	**10 44 33.2**	**+0.3**
PLG				S	Sb	**10 45 00.6**	**-0.1**
PLG	**Polygyros**	**2.01**	**212**	*e*PB	Pn	**10 44 32.4**	**-0.5**
PLG	**Polygyros**	**2.01**	**212**	*e*Pb	Pn	**10 44 32.4**	**-0.5**
PLG	**Polygyros**	**2.01**	**212**	P	P

GRUS	Gruza	3.51	302	*e*Pn		Pn	10 44 53.6	+0.2
GRUS	Gruza	3.51	302	*e*Pn		Pn	10 44 53.6	+0.2
TIRR	Tirgusor	3.52	47	⇓*i*P		Pn	10 44 55.7	+2.1
TIRR	Tirgusor	3.52	47	S		Sb	10 45 44.9	+0.8
TIRR	Tirgusor	3.52	47	⇓*i*P		Pn	10 44 55.7	+2.1
AGG	Agios Georgios	3.61	213	*e*PN		Pn	10 44 55.5	+0.6
AGG	Agios Georgios	3.61	213	*e*Pn		Pn	10 44 55.5	+0.6
GZR	Gura Zlata	3.62	336	⇓*i*P		Pn	10 44 55.2	+0.3
GZR	Gura Zlata	3.62	336	⇓*i*P		Pn	10 44 55.2	+0.3
SJES	Sjenica	3.77	290	*e*Sg		Sg	10 45 56.8	-2.4
CHOS	Chios island	3.82	165	P		Pn	10 44 58.0	+0.2
CHOS	Chios island	3.82	165	*e*Pn		Pn	10 44 57.8	0.0
CHOS	Chios island	3.82	165	P		Pn	10 44 58.0	+0.2
HRT	Hereke	3.85	108	*e*PN		Pn	10 44 59.2	+1.0
CFR	Carcaliu	3.90	37	⇓*i*P		Pn	10 45 00.3	+1.5
CFR	Carcaliu	3.90	37	S		Sb	10 45 55.7	+0.7
CFR	Carcaliu	3.90	37	⇓*i*P		Pn	10 45 00.3	+1.5
PLOR	Plostina	3.98	19	⇓*i*P		Pb	10 45 03.5	-5.3
PLOR	Plostina	3.98	19	⇓*i*P		Pb	10 45 03.5	-5.3
VRI	Vrincioaia	4.01	19	⇓*i*P		Pn	10 45 02.5	+2.2
VRI	Vrincioaia	4.01	19	⇓*i*P		Pn	10 45 02.5	+2.2
DIVS	Divibare	4.07	301	*e*Sg		Sg	10 46 08.3	-0.7
DIVS	Divibare	4.07	301	*e*Sg		Sg	10 46 08.3	-0.7
BZS	Buzias	4.22	328	⇑*i*P		Pn	10 45 02.2	-0.9
BZS	Buzias	4.22	328	⇑*i*P		Pn	10 45 02.2	-0.9
KALE	Kalithea	4.24	210	*e*PN		Pn	10 45 04.2	+0.8
KALE	Kalithea	4.24	210	*e*Pn		Pn	10 45 04.2	+0.8
BBLS	Lazići	4.36	296	*e*Sg		Sg	10 46 18.5	+0.4
BBLS	Lazići	4.36	296	*e*Sg		Sg	10 46 18.5	+0.4
TVSB	Tavsanli	4.40	125	*e*PN		Pn	10 45 06.3	+0.6
KULA	Kula-Manisa	4.62	139	*e*PN		Pn	10 45 09.4	+0.6
KULA	Kula-Manisa	4.62	139	P		Pn	10 45 09.6	+0.8
KULA	Kula-Manisa	4.62	139	P		Pn	10 45 09.6	+0.8
FGSL	Fruska Gora	4.76	312	*e*Pn		Pn	10 45 11.9	+1.3
FRGS	Fruska Gora	4.76	312	*e*Pn		Pn	10 45 11.9	+1.3
ALT	Altintas	5.04	125	*e*PN		Pn	10 45 15.6	+1.1
KHL	Karahalli	5.21	135	*e*PN		Pn	10 45 17.9	+1.1
KIZT	Kizilcal	6.26	119	*e*PN		Pn	10 45 33.1	+1.8

*IDC **27** 10:45:54.0±0.7, 17°.77S×167°.67E, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.4/21, mbtmp4.4/16, ML4.0/1, MS4.0/8, Ms1 4.0/8, ms1mx3.5/45, Error ellipse: s-maj=22.9km s-min=15.7km az=120.0*

*NOU **27** 10:45:54.7±1.4, 17°.60S×167°.46E, h25km, MD3.5, ML3.3*

*ISCJB **27** 10:45:55.6±0.5, 17°.96S±0°.04×167°.67E±0°.09, h23km, mb4.3/17, MS4.0/7, Error ellipse: s-maj=12.1km s-min=5.3km az=7.6*

*NEIC **27** 10:45:59.3±0.5, 17°.83S×167°.62E, h35km, mb4.5/5, Error ellipse: s-maj=12.5km s-min=9.6km az=127.0*

*AUST **27** 10:46:03.6, 17°.48S×167°.39E, h60km*

ISC 27 10:45:57.4±0.6, 17°.90S±0°.06×167°.7E±0°.1, h23km, n65, σ1§25/59, mb4.5/16, MS4.2/7, 2C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAYA	Yate Dam	4.30	190	*e*S	Sn	10 47 48.4	-2.4
DZM	Mont Dzumac	4.31	196	*e*P	Pn	10 46 59.8	-1.8
DZM				*e*S	Sn	10 47 49.4	-1.9
DZM				AMP		10 48 18.2	
	comp=Z,721nm,1.8s						
DZM	Mont Dzumac	4.31	196	Pn	Pn	10 47 01.6	-0.1
DZM				Sn	Sn	10 47 51.0	-0.3
DZM				*e*Sn	Sb	10 47 54.2	-10
DZM	Mont Dzumac	4.31	196	Pn	Pn	10 47 01.6	-0.1
	comp=Z,7.4nm,0.3s,baz=26,slow=17,SNR=69						
DZM				Sn	Sn	10 47 51.0	-0.3
	comp=Z,7.3nm,0.3s,baz=105,slow=20,SNR=4.8						
NOUC	Port Laguerre	4.38	197	*e*P	Pn	10 47 00.9	-1.6
NOUC				*e*S	Sn	10 47 49.2	-3.6
NOUC				AMP		10 48 17.8	
	comp=Z,26nm,2.9s						
LASL	Noumea	4.44	194	*e*P	Pn	10 47 02.1	-1.2
NORM	Noumea	4.45	195	*e*P	Pn	10 47 03.0	-0.5
NORM				*e*S	Sn	10 47 53.4	-1.2
NORM				AMP		10 48 00.8	
	comp=Z,87nm,0.9s						
HNR	Honiara	11.29	317	LR	LR	10 52 17.7	
	comp=Z,379nm,20.3s,baz=281,slow=34						
EIDS	Eidsvold	17.13	241	*e*Pn	Pn	10 49 55.4	0.0
	comp=Z,13nm,1.0s						
EIDS	Eidsvold	17.13	241	P	P	10 49 57.5	+0.6
	baz=17,SNR=4.2						
RMQ	Roma	19.49	241	P	Pn	10 50 25.6	+1.4
	baz=20,SNR=8.0						
AFI	Afiamalu	20.14	82	LR	LR	10 56 29.7	
	comp=Z,376nm,21.4s,baz=278,slow=32						
CTA	Charters Tower	20.39	260	P	Pn	10 50 34.0	-1.0
CTA	Charters Tower	20.39	260	P	Pn	10 50 34.0	-1.0
	comp=Z,13nm,0.8s,baz=85,slow=10,SNR=15						
CTAO	Charters Tower	20.39	260	*e*P	Pn	10 50 33.5	-1.4
	comp=Z,12nm,0.8s						
PMG	Port Moresby	21.65	290	LR	LR	10 57 57.4	
	comp=Z,379nm,18.1s,baz=236,slow=34						
URZ	Urewera	21.89	160	P	P	10 50 51.0	+2.2
URZ	Urewera	21.89	160	P	P	10 50 51.0	+2.2
	comp=Z,7.3nm,0.8s,baz=343,slow=15,SNR=3.6						
MTSU	Mount Surprise	22.23	266	P	P	10 50 54.0	+1.4
	baz=22,SNR=10.0						
CMSA	Cobar Meteorol	24.10	232	P	P	10 51 12.0	+0.6
	baz=24,SNR=23						
STKA	Stephens Creek	27.37	234	P	P	10 51 41.9	+0.9
STKA	Stephens Creek	27.37	234	P	P	10 51 41.9	+0.9
	comp=Z,14nm,0.8s,baz=65,slow=9.2,SNR=17						
STKA				LR	LR	11 01 19.3	
	comp=Z,361nm,21.1s,baz=28,slow=34						
STKA	Stephens Creek	27.37	234	P	P	10 51 41.9	+0.9
	baz=27,SNR=7.3						
WRAB	Tennant Creek	31.58	261	*e*P	P	10 52 17.4	-1.2
WRA	Warramunga Arr	31.59	261	P	P	10 52 17.0	-1.6
WRA	Warramunga Arr	31.59	261	P	P	10 52 17.0	-1.6
	comp=Z,2.8nm,0.7s,baz=93,slow=9.1,SNR=28						
AS31	Alice Springs	32.06	254	*e*P	P	10 52 21.4	-1.3
ASAR	Alice Springs	32.06	254	P	P	10 52 21.5	-1.2
ASAR	Alice Springs	32.06	254	P	P	10 52 21.5	-1.2
	comp=Z,8.1nm,0.7s,baz=80,slow=8.7,SNR=79						
ASAR				LR	LR	11 05 23.7	
	comp=Z,421nm,18.8s,baz=86,slow=36						
BBOO	Buckleboo	32.06	236	P	P	10 52 23.0	+0.4
	baz=32,SNR=5.1						
KNRA	Kununurra	37.29	267	P	P	10 53 06.7	-1.3
	baz=37,SNR=8.9						
FITZ	Fitzroy Crossi	39.93	263	*e*P	P	10 53 29.6	-0.5
	comp=Z,16nm,0.9s						
FITZ	Fitzroy Crossi	39.93	263	LR	LR	11 09 50.3	
	comp=Z,302nm,19.4s,baz=326,slow=36						
FITZ	Fitzroy Crossi	39.93	263	P	P	10 53 29.8	-0.4
	baz=40,SNR=9.7						
NWAO	Narrogin (SRO)	47.54	242	LR	LR	11 14 21.5	
	comp=Z,276nm,19.1s,baz=220,slow=36						
MJAR	Matsushiro Arr	60.90	333	P	P	10 56 06.9	-1.5
MJAR	Matsushiro Arr	60.90	333	P	P	10 56 06.9	-1.5
	comp=Z,1.8nm,0.9s,baz=162,slow=6.2,SNR=5.9						
USRK	Ussuriysk Arra	69.88	333	P	P	10 57 07.0	+0.7
	comp=Z,0.9nm,0.6s,baz=109,slow=7.9,SNR=5.6						
FX1	Attu Island--F	70.65	4	P	P	10 57 10.4	-0.4
FX1	Attu Island--F	70.65	4	P	P	10 57 10.4	-0.4
	comp=Z,7.3nm,1.0s,baz=281,slow=5.2,SNR=3.9						
PETK	Petropavlovsk-	71.24	354	P	P	10 57 14.4	-0.1
PETK	Petropavlovsk-	71.24	354	P	P	10 57 14.4	-0.1
	comp=Z,8.7nm,0.8s,baz=152,slow=8.9,SNR=17						
QSPA	South Pole Qui	72.14	180	*e*P	P	10 57 21.0	+1.0
	comp=Z,5.9nm,0.9s						
CMAR	Chiang Mai Arr	76.62	295	P	P	10 57 48.1	+1.4
CMAR	Chiang Mai Arr	76.62	295	P	P	10 57 48.1	+1.4
	comp=Z,1.6nm,0.6s,baz=126,slow=4.1,SNR=7.5						
MAW	Mawson	79.11	202	P	P	10 58 01.6	+1.9
MAW	Mawson	79.11	202	P	P	10 58 01.6	+1.9
	comp=Z,1.2nm,0.5s,baz=23,slow=7.7,SNR=4.1						
ULN	Ulaanbaatar	84.92	324	*e*P	P	10 58 31.2	+0.5
	comp=Z,4.0nm,0.9s						
SONM	Songino Array	85.28	324	P	P	10 58 32.6	+0.1
SONM	Songino Array	85.28	324	P	P	10 58 32.6	+0.1
	comp=Z,3.2nm,0.9s,baz=133,slow=5.7,SNR=12						
NVAR	Mina Array Bea	89.03	49	P	P	10 58 50.3	-0.6
NVAR	Mina Array Bea	89.03	49	P	P	10 58 50.3	-0.6
	comp=Z,1.2nm,0.9s,baz=228,slow=8.4,SNR=7.1						
ILAR	Eielson Array	89.41	18	P	P	10 58 50.1	-1.6
ILAR	Eielson Array	89.41	18	P	P	10 58 50.1	-1.6
	comp=Z,1.6nm,0.7s,baz=239,slow=4.7,SNR=22						
ANMO	Albuquerque	96.75	56	LR	LR	11 41 07.6	
	comp=Z,68nm,18.6s,baz=326,slow=34						
TXAR	Lajitas Array	97.42	62	P	Pdif	10 59 29.8	0.0
	comp=Z,0.3nm,0.7s,baz=228,slow=4.9,SNR=4.7						
YKA	Yellowknife Ar	100.16	27	P	Pdif	10 59 40.4	-0.6
YKA	Yellowknife Ar	100.16	27	P	Pdif	10 59 40.4	-0.6
	comp=Z,0.8nm,0.8s,baz=250,slow=4.9,SNR=5.3						
BFO	Black Forest	145.31	336	*e*PKPbc	PKPdf	11 05 33.2	-0.2
FETA	Feichten	145.32	332	⇑*i*PKPdf	PKPdf	11 05 33.6	0.0
	comp=Z,12nm,1.1s						
DAVA	Damuels	145.49	333	⇑*i*PKPdf	PKPab	11 05 34.3	+0.2
	comp=Z,12nm,0.8s						
TUE	Stuetta	146.35	333	*e*PKPdf	PKPbc	11 05 36.1	-0.5
TORD	Torodi Ar. Bea	165.71	253	PKPab	PKPab	11 07 00.5	+0.2
TORD	Torodi Ar. Bea	165.71	253	PKPab	PKPab	11 07 00.5	+0.2
	comp=Z,0.8nm,0.9s,baz=107,slow=4.0,SNR=2.9						

*IDC **27** 10:55:35.6±6.0, 36°.21N×70°.45E, h154km±54km, mb3.5/7, mb1 3.6/12, mb1mx3.3/32, mbtmp3.5/12, Error ellipse: s-maj=47.0km s-min=18.9km az=35.0*

*ISCJB **27** 10:55:38.6±0.4, 36°.49N±0°.03×70°.62E±0°.07, h204km, mb3.5/7, Error ellipse: s-maj=8.2km s-min=3.8km az=161.2*

*NNC **27** 10:55:46.3±2.5, 37°.13N×70°.63E, h221km±23km, mb3.2, mpv4.5, Error ellipse: s-maj=22.7km s-min=14.0km az=27.0*

ISC 27 10:55:39.7±0.7, 36°.57N±0°.06×70°.70E±0°.08, h204km, n39, σ2§01/42, mb3.6/7, 3C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	Cherat	2.91	160	⇑P	Pn	10 56 28.8	+0.1
CEP				S	S	10 57 05.0	-1.3
CHCP	Chirah Chowk	3.58	143	P	Pn	10 56 37.0	+0.5
THW	Thamme Wali	3.86	167	⇑P	Pn	10 56 38.7	-1.3
SARP	Sargodha	4.91	160	P	Pn	10 56 51.9	-1.2
DLH	Dalhousie	5.92	131	*e*P	Pn	10 57 07.0	+0.9
DLH				*e*S	S	10 58 15.0	+0.8
AML	Almayashu	6.02	22	P	Pn	10 57 08.2	+0.7
	SNR=156						
UCH	Uchtor	6.37	26	P	Pn	10 57 13.3	+1.1
	SNR=6.6						
KK31	Karatay Array	6.53	359	P	Pn	10 57 13.3	-0.4
	15nm,0.4s,baz=174,slow=8.5,SNR=352						
KK31				⇓S	S	10 58 23.6	-4.6
	18nm,0.6s,baz=188,slow=24,SNR=9.9						
EKS2	Erkin-Say	6.53	20	P	Pn	10 57 15.0	+1.1
	SNR=29						
KZA	Kyzart	6.53	31	P	Pn	10 57 14.7	+0.6
	SNR=9.4						
AAK	Ala-Archa	6.73	25	P	Pn	10 57 17.8	+1.4
	SNR=17						
AAK	Ala-Archa	6.73	25	P	Pn	10 57 17.9	+1.5
	7.7nm,0.3s,baz=189,slow=6.5,SNR=27						
AAK				S	S	10 58 32.2	-0.8
	4.9nm,0.3s,baz=348,slow=23,SNR=17						
KBK	Karagaybulak	6.91	27	P	Pn	10 57 20.4	+1.6
	SNR=10						
ULHL	Ulahol	7.11	35	P	Pn	10 57 24.0	+2.6
	SNR=5.7						
CHMS	Chumysh	7.14	25	P	Pn	10 57 22.5	+0.9
	SNR=15						
SDNR	Sundarnagar	7.25	132	*e*P	Pn	10 57 21.0	-2.2
SDNR				*e*S	S	10 58 41.4	-4.1
USP	Ospenovka	7.30	22	P	Pn	10 57 24.4	+0.7
	SNR=12						
TKM2	Tokmak 2	7.38	29	⇓P	Pn	10 57 25.8	+0.9
	24nm,0.5s						
TKM2				⇓S	S	10 58 45.2	-3.3
	6.6nm,0.8s						
TKM2	Tokmak 2	7.38	29	P	Pn	10 57 26.3	+1.3
	SNR=36						
NDI	New Delhi	9.59	143	*e*P	Pn	10 57 50.0	-3.5
NDI				*e*S	S	10 59 31.0	-10
AYAN	Aya Nagar	9.71	144	*e*P	Pn	10 57 52.8	-2.4
AYAN				*e*S	S	10 59 34.0	-10
KUDL	Kundal	9.72	148	*e*P	Pn	10 57 50.6	-4.6
KUDL				*e*S	S	10 59 33.2	-11
KUDL				AML	AML	10 59 38.0	
	comp=N,7.9nm,0.3s						
KUDL				AML	AML	10 59 38.4	
	comp=E,16nm,0.4s						
SONA	Sohna	9.89	145	*e*P	Pn	10 57 54.0	-3.5
SONA				*e*S	S	10 59 36.5	-12
SONA				AML	AML	10 59 43.8	
	comp=N,19nm,0.6s						
SONA				AML	AML	10 59 44.1	
	comp=E,31nm,0.4s						
AGRA	Agra	11.15	145	*e*S	S	11 00 07.6	-10
AGRA				AML	AML	11 00 35.6	
	comp=N,60nm,0.1s						
AGRA				AML	AML	11 00 37.3	
	comp=E,37nm,0.1s						
MKAR	Makanchi Array	13.38	37	P	P	10 58 43.7	-0.5
	comp=E,0.1nm,0.3s,baz=218,slow=16,SNR=5.9						
MK31	Makanchi Array	13.38	37	P	P	10 58 43.4	-0.8
	comp=E,1.1nm,0.6s						
AB31	Akbulak array	14.91	332	P	Pn	10 58 59.4	-1.0
	comp=E,1.2nm,0.3s,baz=147,slow=12,SNR=40						
AB31				⇑S	S	11 01 39.0	-6.6
	comp=E,0.8nm,0.6s,baz=150,slow=26,SNR=5.5						
KURBB	Kurchatov Arra	15.14	19	P	P	10 59 07.8	+4.3
	comp=E,0.0nm,0.3s,baz=211,slow=11,SNR=5.1						
BVAR	Borovoye Array	16.46	359	P	Pn	10 59 19.9	+0.9
	comp=E,0.6nm,0.3s,baz=182,slow=13,SNR=7.8						
AKTO	Aktyubinsk	16.60	331	⇓P	Pn	10 59 20.1	-0.7
	comp=E,5.7nm,0.9s						
AKTO				⇓S	S	11 02 18.1	-4.6
	comp=E,2.7nm,1.2s						
AKTO	Aktyubinsk	16.60	331	P	Pn	10 59 21.4	+0.7
	comp=E,0.5nm,0.3s,baz=147,slow=12,SNR=18						
FINES	FINESS Array B	37.29	326	P	P	11 02 33.6	+1.9
	comp=E,1.6nm,0.9s,baz=101,slow=9.9,SNR=3.7						
ARCES	ARCESS Array B	40.99	338	P	P	11 03 05.2	+3.0
	comp=E,3.1nm,1.0s,baz=111,slow=9.2,SNR=6.9						
HFS	Hagfors	42.87	322	P	P	11 03 19.6	+2.2
	comp=E,4.0nm,0.6s,baz=105,slow=9.3,SNR=16						
NB2	NORSAR Subarra	44.18	323	P	P	11 03 29.5	+1.5
	comp=Z,1.8nm,0.5s,baz=96,slow=7.9						
NOA	NORSAR Array B	44.18	323	P	P	11 03 29.8	+1.8
	comp=Z,1.8nm,0.5s,baz=97,slow=7.8,SNR=7.8						
TORD	Torodi Ar. Bea	65.48	268	P	P	11 06 01.1	-0.1
	comp=Z,0.8nm,0.8s,baz=46,slow=5.8,SNR=4.9						
WRA	Warramunga Arr	82.23	122	P	P	11 07 39.4	+1.1
	comp=Z,0.4nm,0.7s,baz=357,slow=22,SNR=4.8						
ASAR	Alice Springs	84.49	125	P	P	11 07 51.5	+1.8
	comp=Z,0.3nm,0.6s,baz=312,slow=5.0,SNR=6.5						

*BJI **27** 10:58:13.0, 23°.90S×66°.47W, h160km, mB5.1/20*

*NEIC **27** 10:58:15.9±0.4, 23°.96S×66°.59W, h184km±3km, mb5.1/92, Error ellipse: s-maj=5.4km s-min=3.4km az=67.0*

*ISCJB **27** 10:58:15.3±0.5, 23°.97S±0°.03×66°.64W±0°.04, h191km±3km, mb5.0/138, Error ellipse: s-maj=6.7km s-min=4.7km az=144.8*

*GUC **27** 10:58:17.8±0.3, 23°.90S×67°.27W, h240km±6km, ML6.2*

*IDC **27** 10:58:17.0±0.8, 23°.96S×66°.62W, h192km±6km, mb4.7/24, mb1 4.8/32, mb1mx4.8/32, mbtmp4.7/32, MS4.1/6, Ms1 4.1/6, ms1mx3.5/39, Error ellipse: s-maj=8.7km s-min=6.9km az=66.0*

*MOS **27** 10:58:18.6±1.3, 23°.74S×66°.54W, h213km, mb5.1/31, Error ellipse: s-maj=14.1km s-min=7.1km az=119.4*

*LDG **27** 10:58:20.4±0.4, 23°.28S×66°.43W, h210km, Mb4.7/14, Ms4.0/2, Error ellipse: s-maj=34.5km s-min=24.8km az=108.0*

*GCMT **27** 10:58:23.0±0.2, 24°.10S×66°.93W, h223km±1km, MW5.4, Moment Tensor Solution. s63,c88; s97,c145; Moment tensor: Scale 10^{17}Nm; M_{rr}-1.25±.03; $M_{\theta\theta}$0.20±.03; $M_{\phi\phi}$1.05±.04; $M_{r\theta}$0.36±.03; $M_{\theta\phi}$0.55±.03; $M_{\phi r}$-0.63±.03; Best double couple: $M_0$1.50000×10^{17} NP1:ϕ_s226.00000°, δ40.00000°, λ-56.00000°. NP2:ϕ_s5.00000°, δ58.00000°, λ-115.00000°. Principal axes: T 1.3900, Plg10.0000°, Azm112.0000°; N 0.1600, Plg21.0000°, Azm18.0000°; P -1.5500, Plg67.0000°, Azm226.0000°; Data Used: II IU CN G IC.*

ISC 27 10:58:15.7±0.5, 24°.01S±0°.04×66°.68W±0°.05, h186km±4km, n844, σ0§98/910, mb5.0/137, 223C-209D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	2.48	304	⇑*i*P	Pn	10 59 01.1	+2.3
LVC				*i* S	Sn	10 59 34.3	+2.0
	784nm,0.3s,baz=123,slow=11,SNR=5882						
LVC				S	Sn	10 59 34.6	+2.2
	1µm,0.3s,baz=279,slow=19,SNR=25						
PB04	Plate Boundary	3.12	303	⇑*i*P	Pn	10 59 13.0	+6.9
PB04				*i* S	Sn	10 59 54.8	+9.4
PB04	Plate Boundary	3.12	303	⇑*i*P	Pn	10 59 13.0	+6.9
PB04				*i* S	Sn	10 59 54.8	+9.4
PB04				AML	AML	10 59 57.9	
	comp=N,33µm,0.5s						
PB09	Plate Boundary	3.23	312	⇑*i*P	Pn	10 59 09.6	+1.9
PB09				*i* S	Sn	10 59 48.7	+0.4
PB09	Plate Boundary	3.23	312	⇑*i*P	Pn	10 59 09.6	+1.9
PB09				*i* S	Sn	10 59 48.7	+0.4
PB09				AML	AML	10 59 53.1	
	comp=E,43µm,0.7s						
ANCH	Antofagasta	3.43	275	⇑*i*P	Pn	10 59 11.1	+1.2
ANCH				*i* S	Sn	10 59 51.1	-1.2
ANCH	Antofagasta	3.43	275	⇑*i*P	Pn	10 59 11.1	+1.2
ANCH				*i* S	Sn	10 59 51.1	-1.2
ANCH				AML	AML	10 59 54.1	
	comp=E,12µm,0.3s						
HMBC	Humberstone	4.76	321	⇑*i*P	Pn	10 59 25.9	-1.0
HMBC				*i* S	Sn	11 00 19.4	-3.4
HMBC	Humberstone	4.76	321	⇑*i*P	Pn	10 59 25.9	-1.0
HMBC				*i* S	Sn	11 00 19.4	-3.4
MNMC	Minimini	5.56	330	*i* P	Pn	10 59 37.0	-0.4
MNMC				*i* S	Pn	10 59 39.1	+1.7
MNMC	Minimini	5.56	330	*i* P	Pn	10 59 37.0	-0.4
MNMC				*i* S	Sn	11 00 39.1	-2.6
LCO	Las Campanas	6.15	215	*e*Pn	Pn	10 59 43.7	-1.2
LCO				*e*Sn	Sn	11 00 42.9	-13
CFAA	Coronel Fontan	7.69	190	P	Pn	11 00 05.1	+0.2
CFAA				S	Sn	11 01 27.7	-3.8
CFAA	Coronel Fontan	7.69	190	P	Pn	11 00 05.1	+0.2
	comp=E,4.1nm,0.3s,baz=6.5,slow=14,SNR=118						
CFAA				S	Sn	11 01 27.7	-3.8
	comp=E,12nm,0.3s,baz=220,slow=13,SNR=17						
LPAZ	La Paz	7.80	350	P	Pn	11 00 08.3	+1.2
LPAZ				S	Sn	11 01 35.9	+0.6
LPAZ	La Paz	7.80	350	P	Pn	11 00 08.3	+1.2
	comp=E,25nm,0.3s,baz=172,slow=9.6,SNR=349						
LPAZ				S	Sn	11 01 35.9	+0.6
	comp=E,8.5nm,0.3s,baz=176,slow=24,SNR=9.5						
CPUP	Villa Florida	8.78	107	P	Pn	11 00 20.2	+1.1
CPUP				ScP	ScP	11 09 40.9	-0.6
CPUP	Villa Florida	8.78	107	P	Pn	11 00 20.2	+1.1
	comp=E,58nm,0.3s,baz=268,slow=11,SNR=560						
CPUP				ScP	ScP	11 09 40.9	-0.6
	comp=E,0.9nm,0.3s,baz=273,slow=3.4,SNR=3.5						
SIV	San Ignacio	9.56	34	P	Pn	11 00 30.0	+0.5
SIV	San Ignacio	9.56	34	P	Pn	11 00 30.0	+0.5
	comp=E,12nm,0.3s,baz=225,slow=13,SNR=354						
TRQA	Tornquist	14.56	165	*e*Pn	Pn	11 01 32.1	-1.0
NNA	Nana	15.37	319	P	P	11 01 44.5	+0.8
	comp=E,1µm,1.1s,SNR=8.0						
NNA	Nana	15.37	319	*e*Pn	P	11 01 44.2	+0.5
	comp=E,219nm,1.0s						
NNA				S	S	11 04 32.2	-2.6
NNA	Nana	15.37	319	P	P	11 01 45.1	+1.4
	comp=E,3.5nm,0.3s,baz=158,slow=12,SNR=31						
NNA				S	S	11 04 32.2	-2.6
	comp=E,3.5nm,0.3s,baz=225,slow=18,SNR=4.5						
PLCA	Paso Flores	16.99	190	P	P	11 02 01.9	+0.5
PLCA				S	Sn	11 05 12.6	-1.0
PLCA				PcP	PcP	11 06 37.9	+1.0
PLCA	Paso Flores	16.99	190	P	P	11 02 01.9	+0.5
	comp=E,5.2nm,0.3s,baz=12,slow=13,SNR=101						
PLCA				S	Sn	11 05 12.6	-1.0
	baz=15,slow=18,SNR=1.4						
PLCA				PcP	PcP	11 06 37.9	+1.0
	comp=E,1.9nm,0.3s,baz=359,slow=1.9,SNR=9.4						
BDFB	Brasilia	19.41	68	P	P	11 02 29.1	+1.0
BDFB				S	S	11 05 58.9	+1.2
BDFB	Brasilia	19.41	68	P	P	11 02 29.1	+1.0
	comp=E,28nm,0.3s,baz=239,slow=12,SNR=249						
BDFB				S	S	11 05 58.9	+1.2
	comp=E,0.6nm,0.3s,baz=81,slow=19,SNR=2.0						
ATAH	Atahualpa	20.20	324	P	Pn	11 02 39.4	-1.8
ATAH	Atahualpa	20.20	324	P	Pn	11 02 39.4	-1.8
	comp=E,16nm,0.6s,baz=138,slow=9.1,SNR=11						
CAM4	Nova Friburgo	22.22	91	⇓*i*P	P	11 02 55.7	-1.9
CAM4				*i*		11 02 58.3	
CAM4				*i*		11 03 01.2	
CAM4				*i*		11 03 06.1	
CAM4				*i*		11 03 22.9	
CAM4				*i*		11 03 31.9	
ROSC	El Rosal	29.65	344	PcP	PcP	11 07 05.4

comp=Z,20nm,1.3s
631A **Perdido Creek** 62.32 327 ⇓P P 11 08 17.9 -0.4
baz=63,SNR=25
532A **Rocksprings** 62.57 328 ⇑P P 11 08 19.9 -0.1
baz=63,SNR=30
JCT **Junction City** 62.81 328 *eP* P 11 08 21.4 -0.2
JCT pmax pmax
comp=Z,41nm,0.6s
JCT **Junction City** 62.81 328 *eP* P 11 08 21.4 -0.2
comp=Z,41nm,0.6s
JCT **Junction City** 62.81 328 ⇓P P 11 08 21.2 -0.4
baz=63,SNR=42
531A **Rocksprings** 62.92 327 ⇓P P 11 08 22.3 0.0
baz=63,SNR=37
WHTX **Lake Whitney** 62.98 331 ⇓P P 11 08 22.2 -0.4
baz=63,SNR=14
WVT **Waverly** 63.07 341 *eP* P 11 08 21.7 -1.4
WVT pmax pmax
comp=Z,57nm,0.6s
WVT **Waverly** 63.07 341 *eP* P 11 08 21.7 -1.4
comp=Z,57nm,0.6s
432A **Menard** 63.13 328 ⇓P P 11 08 23.4 -0.4
baz=63,SNR=58
530A **J-C Ranch, Com** 63.30 327 ⇑P P 11 08 24.6 -0.2
baz=64,SNR=30
UALR **University of** 63.34 336 *eP* P 11 08 24.7 -0.2
comp=Z,89nm,1.6s
431A **Sonora** 63.37 327 ⇓P P 11 08 24.8 -0.5
baz=64,SNR=35
332A **Millersview** 63.53 329 ⇓P P 11 08 25.9 -0.4
baz=64,SNR=74
628A **Black Gap, Mar** 63.57 325 ⇑P P 11 08 27.0 +0.4
baz=64,SNR=80
MIAR **Mount Ida** 63.59 335 *eP* P 11 08 25.9 -0.7
MIAR pmax pmax
comp=Z,81nm,1.4s
MIAR **Mount Ida** 63.59 335 *eP* P 11 08 25.9 -0.7
comp=Z,81nm,1.4s
GNAR **Gosnell** 63.60 339 *eP* P 11 08 26.8 +0.2
comp=Z,494nm,0.6s
GLAT **Glass** 63.65 340 *eP* P 11 08 26.4 -0.5
529A **Stev Forest Ra** 63.73 326 ⇓P P 11 08 27.7 0.0
baz=64,SNR=68
430A **Baggett Ranch,** 63.77 327 ⇑P P 11 08 27.5 -0.4
baz=64,SNR=41
331A **San Angelo** 63.80 328 ⇑P P 11 08 27.5 -0.6
baz=64,SNR=38
627A **Terlingua Ranc** 63.80 324 ⇓P P 11 08 28.2 -0.1
baz=64,SNR=38
TXAR **Lajitas Array** 63.86 324 P P 11 08 28.9 +0.3
TXAR P'P'ab P'P'ab 11 37 33.4 +2.0
TXAR **Lajitas Array** 63.86 324 P P 11 08 28.9 +0.3
comp=Z,4.9nm,0.4s,baz=150,slow=7.7,SNR=130
TXAR PKP2ab 11 37 33.4
comp=Z,0.4nm,0.7s,baz=309,slow=1.3,SNR=4.5
232A **Coleman** 63.90 329 ⇓P P 11 08 28.3 -0.5
baz=64,SNR=41
429A **Davenport Ranc** 63.97 326 ⇑P P 11 08 29.0 -0.2
baz=64,SNR=35
528A **Cox Ranch, San** 64.05 325 ⇑P P 11 08 29.6 -0.3
baz=64,SNR=61
PARMO **Parma** 64.16 340 *eP* P 11 08 30.5 +0.2
330A **Mertzon** 64.24 327 ⇓P P 11 08 30.3 -0.7
baz=64,SNR=18
231A **Bronte** 64.26 328 ⇑P P 11 08 30.4 -0.7
baz=64,SNR=25
626A **Big Bend Ranch** 64.28 324 ⇑P P 11 08 31.8 +0.5
baz=64,SNR=85
428A **Kincaid Ranch,** 64.45 326 ⇑P P 11 08 32.4 0.0
baz=65,SNR=29
527A **Woodward Ranch** 64.47 325 ⇓P P 11 08 32.3 -0.3
baz=65,SNR=36
ABTX **Abilene, Hawle** 64.51 329 ⇑P P 11 08 32.2 -0.5
baz=65,SNR=12
230A **Sterling City** 64.60 328 ⇓P P 11 08 32.8 -0.6
baz=65,SNR=14
526A **Mary Lane Ranc** 64.66 324 ⇑P P 11 08 34.2 +0.4
baz=65
329A **Wagon Wheel Ra** 64.71 327 ⇑P P 11 08 33.6 -0.5
baz=65,SNR=37
131A **Roby** 64.90 329 ⇓P P 11 08 35.0 -0.3
baz=65,SNR=19
427A **Hayter Ranch,** 64.92 325 ⇓P P 11 08 35.3 -0.1
baz=65,SNR=34
SIUC **Southern Illin** 64.95 340 *eP* P 11 08 34.7 -0.6
Z32A **Haskell** 65.00 330 ⇓P P 11 08 35.4 -0.5
baz=65,SNR=18
229A **Bryant Ranch,** 65.01 327 ⇓P P 11 08 35.6 -0.4
baz=65,SNR=10
328A **Wristen Ranch,** 65.04 326 ⇓P P 11 08 36.1 0.0
baz=65,SNR=49
426A **McDonald Obser** 65.10 325 ⇑P P 11 08 37.0 +0.2
baz=65,SNR=51
130A **Snyder** 65.11 328 ⇓P P 11 08 36.1 -0.5
baz=65,SNR=38
Z31A **Sharp Cattle R** 65.32 329 ⇑P P 11 08 37.4 -0.5
baz=66,SNR=35
228A **UT Block 9, Go** 65.52 327 ⇓P P 11 08 38.6 -0.7
baz=66,SNR=23
BLO **Bloomington** 65.54 343 *eP* P 11 08 37.4 -1.7
BLO pmax pmax
comp=Z,29nm,0.5s
BLO **Bloomington** 65.54 343 *eP* P 11 08 37.4 -1.7
comp=Z,29nm,0.5s
Y32A **R-V Farms, Ver** 65.57 330 ⇑P P 11 08 39.3 -0.2
baz=66,SNR=21
129A **Stewart Farms,** 65.58 328 ⇓P P 11 08 39.2 -0.4
baz=66,SNR=18
326A **Caldwell Ranch** 65.59 325 ⇑P P 11 08 39.7 0.0
baz=66
TUL1 **Tulsa** 65.65 334 ⇑P P 11 08 39.4 -0.5
baz=66,SNR=7.5
425A **Indio Mountain** 65.70 324 ⇑P P 11 08 40.4 -0.1
baz=66,SNR=64
Z30A **Sanderson Ranc** 65.76 329 ⇓P P 11 08 40.2 -0.5
baz=66,SNR=32
227A **Bennet, Jal** 65.79 326 ⇑P P 11 08 41.1 +0.2
baz=66,SNR=25
128A **Castleberry Fa** 65.87 327 ⇑P P 11 08 40.8 -0.7
baz=66
WMOK **Wichita Mounta** 65.89 331 *eP* P 11 08 40.7 -0.8
WMOK *e* 11 09 11.3
WMOK pmax pmax
comp=Z,7.0nm,0.6s
WMOK **Wichita Mounta** 65.89 331 *eP* P 11 08 40.7 -0.8
comp=Z,7.1nm,0.6s
WMOK *eP*cP PcP 11 09 11.2 +0.4
Y31A **Rekieta Farm,** 65.91 330 ⇑P P 11 08 41.4 -0.3
baz=66,SNR=16
Z29A **Hungry Hill Ra** 66.01 328 ⇑P P 11 08 41.6 -0.8
baz=66,SNR=19
Y30A **Stafford Cattl** 66.13 329 ⇓P P 11 08 42.5 -0.6
baz=66,SNR=5.1
QSPA **South Pole Qui** 66.19 180 *eP* P 11 08 44.1 +0.9
comp=Z,144nm,0.6s
226B **Tecolote Peak,** 66.29 326 ⇑P P 11 08 44.6 +0.5
baz=66,SNR=57
CLNB **Carlsbad** 66.29 326 P P 11 08 44.6 +0.4
comp=Z,4.0nm,0.5s
HRV **Adam Dziewonsk** 66.34 356 *eP* P 11 08 43.9 -0.2
HRV pmax pmax
comp=Z,19nm,1.0s
HRV **Adam Dziewonsk** 66.34 356 *eP* P 11 08 43.9 -0.2
comp=Z,19nm,1.0s
X31A **McDonald Ranch** 66.34 330 ⇑P P 11 08 43.8 -0.5
baz=67,SNR=42
127A **Arkansas Junct** 66.35 327 ⇑P P 11 08 44.3 -0.3
baz=67,SNR=12
Z28A **Tucker Farm, M** 66.36 328 ⇑P P 11 08 44.0 -0.7
baz=67,SNR=26
BINY **Binghamton** 66.44 352 *eP* P 11 08 44.8 0.0
comp=Z,35nm,1.0s
324A **Moseley Ranch,** 66.48 324 ⇑P P 11 08 44.7 -0.8
baz=67,SNR=70
Y29A **Porterfield Fa** 66.49 329 ⇑P P 11 08 44.8 -0.6
baz=67,SNR=5.3
GDL2 **Guadalupe Moun** 66.49 326 *eP* P 11 08 46.4 +0.9
X30A **Coker Ranch, T** 66.59 330 ⇓P P 11 08 45.4 -0.7
baz=67,SNR=20
MNTX **Cornudas Mount** 66.63 325 *eP* P 11 08 45.4 -0.9
comp=Z,268nm,1.5s
225A **Deer Hill, Car** 66.66 325 ⇓P P 11 08 46.6 -0.1
baz=67,SNR=33
126A **Clayton Basin,** 66.67 326 ⇑P P 11 08 46.4 -0.2
baz=67,SNR=28
TRY **Troy** 66.72 354 *eP* P 11 08 46.2 -0.3
comp=Z,17nm,0.7s
W31A **Holland Ranch,** 66.79 331 ⇓P P 11 08 46.5 -0.7
baz=67,SNR=7.6
Y28A **McKinney Farm,** 66.80 328 ⇑P P 11 08 46.7 -0.7
baz=67,SNR=18
SFIN **Scholer Farm** 66.82 343 ⇑P P 11 08 45.4 -1.9
baz=67,SNR=6.5
X29A **Tulia** 66.98 329 ⇑P P 11 08 47.9 -0.6
baz=67,SNR=18
224A **Cornudas Mount** 67.00 325 ⇑P P 11 08 48.3 -0.4
baz=67,SNR=126
125A **Gardner Draw,** 67.00 326 ⇓P P 11 08 48.1 -0.6
baz=67,SNR=39
W30A **Crocket Farms** 67.07 330 ⇑P P 11 08 48.5 -0.5
baz=67
Z26A **Caprock** 67.14 327 ⇓P P 11 08 49.5 -0.1
baz=67,SNR=25
LIC **Lamto** 67.16 72 *eP* P 11 08 48.8 -1.2
comp=Z,30nm,0.4s
LIC *eR*
comp=Z,265nm,18.5s
LIC **Lamto** 67.16 72 *eP* P 11 08 48.8 -1.2
comp=Z,55nm,0.4s
Y27A **Causey** 67.23 328 ⇑P P 11 08 49.5 -0.6
baz=68
V31A **Spring Creek L** 67.23 331 ⇓P P 11 08 50.0 0.0
baz=68,SNR=9.2
X28A **Dimmitt** 67.27 329 ⇓P P 11 08 49.9 -0.5
baz=68,SNR=18
AMTX **Amarillo** 67.33 329 *eP* P 11 08 50.3 -0.4
comp=Z,8.8nm,0.5s
TIC **Toumodi** 67.37 71 *eP* P 11 08 50.4 -0.9
comp=Z,9.0nm,0.2s
223A **Chaparral, Ant** 67.42 324 ⇑P P 11 08 51.4 0.0
baz=68
124A **Stringfield Ra** 67.45 325 ⇓P P 11 08 51.6 0.0
baz=68,SNR=24
KIC **Kosan Boka** 67.47 72 *eP* P 11 08 51.3 -0.7
comp=Z,79nm,0.5s
W29A **Amraillo** 67.51 329 ⇓P P 11 08 51.3 -0.6
baz=68,SNR=11
Z25A **Roswell** 67.52 326 ⇓P P 11 08 51.4 -0.6
baz=68,SNR=44
DBIC **Dimbokro** 67.53 71 *eP* P 11 08 51.6 -0.7
comp=Z,24nm,0.5s
DBIC **Dimbokro** 67.53 71 P P 11 08 51.8 -0.5
comp=Z,23nm,0.4s,baz=218,slow=7.3,SNR=54
HNH **Hanover** 67.58 356 *eP* P 11 08 52.4 +0.5
Y26A **Elida** 67.58 327 ⇑P P 11 08 51.8 -0.6
baz=68,SNR=12
V30A **Spur Ranch, Mi** 67.60 331 ⇑P P 11 08 52.8 +0.4
baz=68
U31A **Nine Bar Ranch** 67.74 331 ⇑P P 11 08 52.9 -0.3
baz=68
X27A **F and S Farms,** 67.81 328 ⇑P P 11 08 53.3 -0.5
baz=68,SNR=7.7
123A **Bell Site, Whi** 67.82 325 ⇓P P 11 08 54.3 +0.5
baz=68
222A **Williams Famil** 67.86 324 ⇑P P 11 08 54.8 +0.6
baz=68
W28A **Vega** 67.88 329 ⇓P P 11 08 54.0 -0.2
baz=68,SNR=14
Z24A **Sheeppen Canyo** 67.89 326 ⇓P P 11 08 54.4 0.0
baz=68,SNR=88
Y25A **Mesa, Roswell** 68.02 326 ⇓P P 11 08 54.8 -0.3
baz=68,SNR=56
V29A **Stinnett** 68.07 330 ⇓P P 11 08 54.9 -0.4
baz=68
X26A **CR and CF Fran** 68.08 328 ⇓P P 11 08 55.3 -0.2
baz=68,SNR=29
W27A **Bowe Ranch, En** 68.13 328 ⇑P P 11 08 55.6 -0.1
baz=68,SNR=28
221A **Mesquite Ranch** 68.16 323 ⇑P P 11 08 56.9 +0.9
baz=68
U30A **WK&E Inc. Balk** 68.22 331 ⇑P P 11 08 56.2 0.0
baz=68,SNR=9.4
122A **Conniff Cattle** 68.27 324 ⇑P P 11 08 57.7 +1.0
baz=68,SNR=10
T31A **Randall Ranch,** 68.27 332 ⇑P P 11 08 56.6 +0.1
baz=68,SNR=7.4
V28A **Channing** 68.29 329 ⇑P P 11 08 56.8 0.0
baz=69,SNR=24
Z23A **Rita Site, Whi** 68.29 325 ⇑P P 11 08 57.5 +0.7
baz=69,SNR=38
Y24A **Capitan** 68.40 326 ⇓P P 11 08 57.5 -0.1
baz=69,SNR=18
U29A **Oasis Ranch, S** 68.43 331 ⇓P P 11 08 57.7 +0.1
baz=69
X25A **Clemmons Ranch** 68.48 327 ⇓P P 11 08 57.8 -0.2
baz=69,SNR=5.1
W26A **Owens Ranch, T** 68.49 328 ⇓P P 11 08 58.1 +0.1
baz=69,SNR=33
220A **Playas Peak, P** 68.50 322 ⇓P P 11 08 58.8 +0.7
baz=69,SNR=17
319A **Douglas** 68.53 322 ⇑P P 11 08 59.1 +0.8
baz=69,SNR=54
121A **Cookes Peak, D** 68.56 323 ⇑P P 11 08 59.7 +1.1
baz=69,SNR=38
V27A **Dan Oppiter Fa** 68.58 329 ⇓P P 11 08 58.5 -0.1
baz=69,SNR=8.7
T30A **Plains** 68.60 331 ⇑P P 11 08 58.7 +0.1
baz=69
S31A **Mullinville** 68.63 332 ⇑P P 11 08 59.0 +0.3
baz=69
Z22A **Elephant Butte** 68.67 324 ⇓P P 11 09 00.3 +1.1
baz=69,SNR=94
LONY **Lake Ozonia** 68.68 354 *eP* P 11 08 59.2 +0.4
comp=Z,45nm,1.6s
Y23A **Lovelace Mesa,** 68.72 326 ⇓P P 11 09 00.3 +0.7
baz=69,SNR=35
KSU1 **Kansas State U** 68.75 335 *eP* P 11 08 58.4 -0.9
comp=Z,36nm,0.9s
U28A **Mallet** 68.81 330 ⇑P P 11 08 59.7 -0.2
baz=69,SNR=5.3
X24A **Lazy VL Ranch,** 68.90 326 ⇓P P 11 09 00.7 +0.1
baz=69,SNR=38
W25A **X Bar L Ranch,** 68.93 327 ⇓P P 11 09 00.7 -0.1
baz=69,SNR=73
T29A **Hugoton** 69.03 331 ⇑P P 11 09 01.3 +0.1
baz=69,SNR=8.6
120A **U Bar Ranch, L** 69.04 323 ⇓P P 11 09 02.5 +1.0
baz=69,SNR=20
S30A **Montezuma** 69.07 332 ⇓P P 11 09 01.4 0.0
baz=69
V26A **Tequesquite Ra** 69.07 328 ⇑P P 11 09 01.6 0.0
baz=69,SNR=53
Z21A **St. Cloud Mine** 69.09 324 ⇑P P 11 09 02.8 +0.9
baz=69,SNR=35
U27A **Thompson Greve** 69.12 329 ⇑P P 11 09 02.1 +0.2
baz=69,SNR=9.8
BNM **Barren Site** 69.19 325 *eP* P 11 09 03.3 +0.9
comp=Z,13nm,0.7s
Y22A **Socorro** 69.20 325 ⇓P P 11 09 03.2 +0.8
baz=70,SNR=11
R31A **Burdett** 69.22 333 ⇓P P 11 09 02.3 +0.1
baz=70,SNR=11
Y22D **IRIS PASSCAL I** 69.28 325 ⇓P P 11 09 04.2 +1.3
baz=70,SNR=5.4
X23A **Hourglass Bar** 69.30 326 ⇑P P 11 09 03.9 +0.8
baz=70,SNR=27
LPM **Los Pinos Moun** 69.32 325 *eP* P 11 09 04.4 +1.2
S29A **Ulysses** 69.33 331 ⇑P P 11 09 03.5 +0.4
baz=70,SNR=15
T28A **Walsh** 69.37 330 ⇓P P 11 09 03.2 -0.1
baz=70,SNR=22
LENM **Lemitar** 69.38 325 *eP* P 11 09 05.0 +1.4
SADO **Sadowa** 69.39 351 LR LR 11 42 15.9
comp=Z,86nm,19.0s,baz=332,slow=38
W24A **Lazy G Ranch,** 69.40 327 ⇑P P 11 09 03.9 +0.3
baz=70,SNR=32
Z20A **Nine Sixteen R** 69.44 323 ⇑P P 11 09 05.0 +1.1
baz=70,SNR=31
V25A **Rancho No Teng** 69.50 328 ⇑P P 11 09 04.3 0.0
baz=70,SNR=25
R30A **Dighton** 69.53 332 ⇑P P 11 09 04.3 0.0
baz=70,SNR=9.7
U26A **Atchley Ranch,** 69.53 329 ⇑P P 11 09 04.5 +0.1
baz=70,SNR=37
T27A **Campo** 69.59 330 ⇑P P 11 09 04.7 -0.1
baz=70,SNR=40
Y21A **Point of Rocks** 69.63 324 ⇑P P 11 09 06.2 +1.0
baz=70,SNR=13
LAZ **Ladron** 69.65 325 *eP* P 11 09 05.8 +0.6
comp=Z,5.1nm,0.6s
S28A **Manter** 69.66 331 ⇑P P 11 09 05.0 -0.1
baz=70,SNR=32
X22A **Bernardo** 69.67 325 ⇑P P 11 09 06.6 +1.3
baz=70,SNR=14
ANMO **Albuquerque** 69.72 326 *eP* P 11 09 06.3 +0.7
comp=Z,16nm,0.6s
W23A **Werner Place,** 69.73 326 ⇓P P 11 09 06.4 +0.7
baz=70,SNR=38
V24A **Rampart Ranch,** 69.74 327 ⇓P P 11 09 05.9 +0.1
baz=70,SNR=21
Q31A **Ellis** 69.77 333 ⇑P P 11 09 05.8 +0.2
baz=70,SNR=7.7
U25A **Circle Dot Ran** 69.85 328 ⇓P P 11 09 06.8 +0.3
baz=70,SNR=28
Y20A **Horse Springs,** 69.93 324 ⇑P P 11 09 07.9 +0.9
baz=70,SNR=23
R29A **Marienthal** 70.01 332 ⇓P P 11 09 07.5 +0.3
baz=70,SNR=11
X21A **Alamocita Cree** 70.03 325 ⇑P P 11 09 08.7 +1.1
baz=70,SNR=30
W22A **Albuquerque** 70.03 326 ⇑P P 11 09 08.6 +1.1
baz=70,SNR=14
SCIA **State Center** 70.04 339 *eP* P 11 09 07.2 0.0
comp=Z,34nm,0.7s
TUC **Tucson** 70.08 321 *eP* P 11 09 08.3 +0.5
TUC **Tucson** 70.08 321 *eP* P 11 09 08.2 +0.5
Q30A **Quinter** 70.09 333 ⇑P P 11 09 07.9 +0.3
baz=70
T26A **Comanche Natio** 70.09 329 ⇓P P 11 09 08.1 +0.3
baz=70,SNR=48
S27A **Las Animas** 70.18 330 ⇑P P 11 09 08.4 0.0
baz=70,SNR=11
V23A **Ortiz Mt. (NFS** 70.21 327 ⇑P P 11 09 09.5 +0.9
baz=70,SNR=33
R28A **Tribune** 70.24 331 ⇑P P 11 09 08.8 +0.1
baz=70,SNR=16
Q29A **Oakley** 70.33 332 ⇓P P 11 09 09.3 +0.2
baz=71,SNR=9.2
S26A **Kim** 70.40 330 ⇑P P 11 09 10.2 +0.6
baz=71
T25A **Trinidad** 70.45 329 ⇑P P 11 09 10.8 +0.8
baz=71,SNR=34
W21A **San Fidel** 70.47 325 ⇑P P 11 09 11.1 +0.9
baz=71
P30A **Selden** 70.58 333 ⇓P P 11 09 10.6 0.0
baz=71,SNR=8.3
R27A **Eads** 70.63 331 ⇑P P 11 09 11.0 0.0
baz=71,SNR=12
U23A **El Rito** 70.67 327 ⇓P P 11 09 12.2 +0.7
baz=71,SNR=38
V22A **San Miguel Ran** 70.71 326 ⇓P P 11 09 12.7 +1.0
baz=71,SNR=46
Q28A **Sharon Springs** 70.84 332 ⇓P P 11 09 12.5 +0.2
baz=71,SNR=7.1
S25A **Robets Cordova** 70.88 329 ⇑P P 11 09 13.1 +0.5
baz=71,SNR=38
P29A **Atwood** 70.91 333 ⇓P P 11 09 13.0 +0.4
baz=71,SNR=6.2
W20A **Ramah** 70.92 325 ⇓P P 11 09 13.8 +0.8
baz=71,SNR=18
R26A **Arlington** 70.94 330 ⇑P P 11 09 13.2 +0.3
baz=71,SNR=16
V21A **Milan** 70.99 326 ⇑P P 11 09 14.2 +0.8
baz=71,SNR=7.8
214A **Organ Pipe Nat** 71.00 320 ⇑P P 11 09 14.3 +1.0
baz=71,SNR=20
O30A **MW Ranch, Wils** 71.03 334 ⇓P P 11 09 13.5 +0.2
baz=71,SNR=8.3
U22A **Llaves** 71.04 327 ⇓P P 11 09 14.9 +1.3
baz=71,SNR=12
T23A **Casias Ranch,** 71.15 328 ⇑P P 11 09 15.4 +1.0
baz=71,SNR=26
KSCO **Kaye Shedlock'** 71.15 331 ⇑P P 11 09 14.9 +0.8
baz=71,SNR=19
R25A **Fountain Ranch** 71.20 329 ⇑P P 11 09 15.0 +0.5
baz=72,SNR=19
S24A **Houchin Ranch,** 71.23 329 ⇑P P 11 09 15.9 +1.0
baz=72,SNR=31
X18A **Snowflake** 71.25 323 ⇑P P 11 09 15.8 +0.8
baz=72,SNR=7.0
O29A **4D Ranch, Culb** 71.29 333 ⇑P P 11 09 15.1 +0.2
baz=72
BGNE **Belgrade** 71.33 336 ⇑P P 11 09 15.0 -0.1
baz=72,SNR=24
V20A **Brimhall** 71.42 325 ⇓P P 11 09 16.5 +0.6
baz=72,SNR=7.7
SDCO **Great Sand Dun** 71.45 328 *eP* P 11 09 16.8 +0.6
comp=Z,12nm,0.6s
Q26A **Hugo** 71.48 330 ⇓P P 11 09 17.1 +0.9
baz=72,SNR=25
U21A **Nageezi** 71.48 326 ⇑P P 11 09 16.9 +0.6
baz=72,SNR=21
T22A **Edith** 71.56 327 ⇑P P 11 09 17.6 +0.8
baz=72,SNR=34
N30A **Hueftle Ranch,** 71.57 334 ⇓P P 11 09 17.0 +0.4
baz=72
P27A **Ficken Ranch,** 71.58 331 ⇑P P 11 09 17.2 +0.5
baz=72,SNR=8.2
W18A **Petrified Fore** 71.58 324 ⇑P P 11 09 17.7 +0.9
baz=72,SNR=12
R24A **Sanders Place,** 71.65 329 ⇓P P 11 09 18.2 +1.0
baz=72,SNR=35
S23A **Nye Farm, Mont** 71.66 328 ⇓P P 11 09 18.1 +0.7
baz=72,SNR=5.6
Q25A **Bedland, Calha** 71.80 330 ⇓P P 11 09 18.5 +0.4
baz=72,SNR=10
N29A **Votaw Ranch, W** 71.81 334 ⇓P P 11 09 18.3 +0.4
baz=72,SNR=9.3
T21A **Navajo Lake** 71.86 327 ⇑P P 11 09 19.1 +0.5
baz=72
U20A **Newcomb** 71.89 325 ⇓P P 11 09 19.4 +0.7
baz=72,SNR=12
P26A **Davis Ranch, A** 71.92 331 ⇓P P 11 09 19.5 +0.8
baz=72,SNR=10
R23A **Moffat** 71.96 328 ⇓P P 11 09 20.3 +1.1
baz=72,SNR=32
X16A **Lo Mia Camp, P** 72.00 322 ⇑P P 11 09 20.5 +1.1
baz=72,SNR=30
O27A **Beecher Island** 72.06 332 ⇓P P 11 09 20.3 +0.7
baz=72,SNR=16
N28A **Pribbeno Ranch** 72.07 333 ⇓P P 11 09 20.0 +0.4
baz=72
Z14A **Wintersburg** 72.09 321 ⇑P P 11 09 20.5 +0.8
baz=72
S22A **4UR Ranch, Cre** 72.10 328 ⇑P P 11 09 20.7 +0.7
baz=72,SNR=8.6
M30A **Dale-Ortello V** 72.11 334 ⇑P P 11 09 20.1 +0.3
baz=72,SNR=13
113A **Mohawk Valley,** 72.15 320 ⇑P P 11 09 20.8 +0.7
baz=72
P25A **Willow Gulch B** 72.25 330 ⇓P P 11 09 21.8 +1.0
baz=72,SNR=18
Q24A **Divide** 72.26 329 ⇓P P 11 09 21.7 +0.7
baz=72
R22A **Saguache, Gunn** 72.44 328 ⇑P P 11 09 23.0 +0.9
baz=73,SNR=11
O26A **Horse Wrangler** 72.46 331 ⇑P P 11 09 22.4 +0.5
baz=73
OGNE **Ogallala** 72.49 333 *eP* P 11 09 22.1 0.0
comp=Z,35nm,0.8s
OGNE **Ogallala** 72.49 333 ⇑P P 11 09 22.6 +0.6
baz=73
S21A **Coal Bank Pass** 72.51 327 ⇑P P 11 09 23.3 +0.8
baz=73,SNR=9.5
MVCO **Mesa Verde** 72.52 326 *eP* P 11 09 22.6 +0.2
MVCO **Mesa Verde** 72.52 326 ⇑P P 11 09 23.3 +0.9
baz=73,SNR=22
Q23A **Hartsel** 72.53 329 ⇑P P 11 09 23.1 +0.5
baz=73
Y14A **Wickenburg** 72.53 321 ⇓P P 11 09 23.2 +0.8
baz=73
P24A **Kohler Place,** 72.59 330 ⇓P P 11 09 23.8 +1.0
baz=73,SNR=7.2
N27A **Anderson Farm,** 72.59 332 ⇓P P 11 09 23.2 +0.6
baz=73
M28A **Bar X Bar Ranc** 72.59 333 ⇓P P 11 09 23.4 +0.8
baz=73,SNR=6.1
O25A **Wiggins** 72.72 331 ⇓P P 11 09 24.5 +1.1
baz=73
WUAZ **Wupatki** 72.77 323 *eP* P 11 09 24.8 +0.9
comp=Z,41nm,1.1s
WUAZ **Wupatki** 72.77 323 ⇑P P 11 09 25.0 +1.1
baz=73,SNR=14
L29A **Maesberg Ranch** 72.80 334 ⇑P P 11 09 24.1 +0.3
baz=73,SNR=7.2
ECSD **EROS Data Cent** 72.80 338 *eP* P 11 09 22.9 -0.8
comp=Z,27nm,0.4s
N26A **Koester Ranch,** 72.91 332 ⇓P P 11 09 25.4 +0.9
baz=73,SNR=5.3
SPMN **St. Paul** 72.91 341 ⇑P P 11 09 23.5 -0.7
baz=73
P23A **Jefferson** 72.91 329 ⇓P P 11 09 25.7 +0.9
baz=73,SNR=7.2
S20A **Disappointment** 72.92 327 ⇑P P 11 09 26.2 +1.4

R21A **Cimarron** 72.94 327 ⇑P P 11 09 26.0 +1.1
baz=73,SNR=20
baz=73,SNR=15
GLA **Glamis** 72.98 319 *eP* P 11 09 25.9 +0.9
GLA pmax pmax
comp=Z,111nm,1.9s
GLA **Glamis** 72.98 319 *eP* P 11 09 25.9 +0.9
comp=Z,111nm,1.9s
GLA **Glamis** 72.98 319 ⇓P P 11 09 26.0 +0.9
baz=73
Q22A **Crested Butte,** 73.01 328 ⇓P P 11 09 26.3 +0.9
baz=73,SNR=15
M27A **Reverse DX Ran** 73.13 333 ⇑P P 11 09 26.5 +0.7
baz=73
ISCO **Idaho Springs** 73.14 330 *eP* P 11 09 27.2 +1.0
ISCO pmax pmax
comp=Z,55nm,1.5s
ISCO **Idaho Springs** 73.14 330 *eP* P 11 09 27.2 +1.0
comp=Z,55nm,1.5s
ISCO **Idaho Springs** 73.14 330 ⇓P P 11 09 26.9 +0.7
baz=73,SNR=13
O24A **Longmont** 73.15 330 ⇑P P 11 09 26.8 +0.8
baz=73
L28A **Connealy Angus** 73.17 334 ⇓P P 11 09 26.7 +0.7
baz=73,SNR=5.5
R20A **Redvale** 73.21 327 ⇑P P 11 09 27.8 +1.3
baz=74,SNR=34
N25A **Grover** 73.27 331 ⇓P P 11 09 27.7 +1.0
baz=74
Y12C **Blythe** 73.29 320 ⇓P P 11 09 27.9 +1.1
baz=74,SNR=9.1
SMCO **Snowmass** 73.29 328 *eP* P 11 09 28.3 +1.1
comp=Z,19nm,0.6s
Q21A **Lamborn Mesa,** 73.31 328 ⇓P P 11 09 27.9 +0.8
baz=74
K29A **Lazy Trails An** 73.33 335 ⇑P P 11 09 27.1 +0.3
baz=74,SNR=21
M26A **McRoberts Ranc** 73.39 332 ⇓P P 11 09 28.1 +0.7
baz=74
SYO **Syowa Base** 73.43 159⇑*eP* P 11 09 26.4 -0.7
SYO **Syowa Base** 73.43 159⇓*ePcP* PcP 11 09 41.6 -0.7
PDMCI **Parker Dam,Lak** 73.45 320 ⇑P P 11 09 28.9 +1.2
baz=74
DVTC **Desert V Tower** 73.47 318 ⇓P P 11 09 29.1 +1.1
baz=74
SWSC **Sam W. Stewart** 73.48 318 ⇑P P 11 09 28.9 +1.0
baz=74
P22A **Eagle** 73.52 329 ⇓P P 11 09 29.0 +0.7
baz=74,SNR=17
L27A **T5 Ranch, Ells** 73.56 333 ⇓P P 11 09 29.1 +0.8
baz=74,SNR=6.6
O23A **Lake Granby, G** 73.61 330 ⇓P P 11 09 29.8 +0.9
baz=74,SNR=12
PV04 **Paradox Valley** 73.63 327 *eP* P 11 09 29.6 +0.7
N24A **Carr** 73.63 331 ⇑P P 11 09 29.8 +1.0
baz=74
SBA **Scott Base** 73.74 190 *eP* P 11 09 30.6 +1.8
SBA **Scott Base** 73.74 190 *eP* P 11 09 30.6 +1.8
Q20A **Ridgley Place,** 73.76 327 ⇑P P 11 09 30.3 +0.7
baz=74,SNR=9.7
M25A **Palm-Egli Farm** 73.76 332 ⇓P P 11 09 30.3 +0.7
baz=74
BC3 **Big Chuckawall** 73.77 319 ⇑P P 11 09 30.6 +0.8
baz=74,SNR=21
P21A **Newcastle** 73.79 328 ⇑P P 11 09 31.0 +1.1
baz=74,SNR=9.7
MONP **Monument Peak** 73.83 318 ⇑P P 11 09 31.0 +0.7
baz=74,SNR=14
L26A **Underwood Farm** 73.84 333 ⇓P P 11 09 30.7 +0.8
baz=74,SNR=6.3
BAR **Barrett** 73.84 318 *eP* P 11 09 30.7 +0.7
comp=Z,21nm,0.6s
O22A **Kremmling** 73.86 329 ⇑P P 11 09 31.0 +0.6
baz=74,SNR=22
W13A **Hualapai Mount** 73.87 321 ⇑P P 11 09 31.5 +1.1
baz=74,SNR=21
U15A **North Rim** 73.94 323 ⇑P P 11 09 32.1 +1.2
baz=74,SNR=33
IRM **Iron Mountain** 73.94 320 ⇓P P 11 09 31.5 +0.9
baz=74,SNR=18
K27A **Flueckinger Fa** 74.04 334 ⇓P P 11 09 31.7 +0.6
baz=74,SNR=23
NEE2 **Needles Airpor** 74.06 321 ⇑P P 11 09 32.0 +0.7
baz=74
M24A **Cheyenne** 74.12 331 ⇓P P 11 09 32.6 +0.9
baz=74,SNR=22
N23A **Red Feather La** 74.17 330 ⇑P P 11 09 32.8 +0.7
baz=74,SNR=15
J28A **Allard Ranch,** 74.24 335 ⇓P P 11 09 32.5 +0.3
baz=74,SNR=33
109C **Camp Elliot, M** 74.25 318 ⇓P P 11 09 33.1 +0.7
baz=74
BRSD **Miller** 74.25 337 ⇓P P 11 09 31.5 -0.6
baz=74,SNR=5.5
PHWY **Pilot Hill** 74.27 331 *eP* P 11 09 33.2 +0.6
comp=Z,48nm,1.5s
L25A **Engebretsen Ra** 74.31 332 ⇓P P 11 09 33.6 +0.9
baz=75
N22A **Wattenberg Ran** 74.33 330 ⇓P P 11 09 34.0 +1.0
baz=75,SNR=18
BELC **Belle Mtn. Jos** 74.34 319 ⇓P P 11 09 34.1 +1.0
baz=75,SNR=16
O21A **Pagoda** 74.34 329 ⇑P P 11 09 34.3 +1.2
baz=75,SNR=5.7
PFO **Pinyon Flat Ob** 74.34 319 P P 11 09 34.5 +1.4
comp=Z,85nm,0.7s,SNR=7.7
PFO **Pinyon Flat Ob** 74.34 319 *eP* P 11 09 34.2 +1.2
comp=Z,52nm,1.7s
PFO **Pinyon Flat Ob** 74.34 319 ⇓P P 11 09 34.2 +1.2
baz=75,SNR=12
K26A **Motz Farm, Whi** 74.43 333 ⇑P P 11 09 34.2 +0.9
baz=75,SNR=5.9
LDFC **Landfair** 74.56 320 *eP* P 11 09 35.6 +1.3
P19A **Cripple Cowboy** 74.62 327 ⇑P P 11 09 35.6 +1.0
baz=75,SNR=60
L24A **Wheatland** 74.64 331 ⇓P P 11 09 35.4 +0.8
baz=75,SNR=5.6
K25A **Mack Ranch, Ha** 74.64 332 ⇓P P 11 09 35.4 +0.8
baz=75
O20A **White River Ci** 74.65 328 ⇓P P 11 09 35.6 +0.8
baz=75,SNR=17
GMRC **Granite Mounta** 74.68 320 ⇓P P 11 09 36.2 +1.2
baz=75,SNR=58
VNDA **Vanda** 74.74 190 *eP* P 11 09 35.6 +1.1
comp=Z,17nm,1.1s
VNDA **Vanda** 74.74 190 P P 11 09 36.5 +2.0
comp=Z,6.8nm,0.6s,baz=124,slow=5.5,SNR=52
MURC **Murrieta** 74.79 318 ⇑P P 11 09 36.7 +1.2
baz=75,SNR=9.8
N21A **Black Mountain** 74.79 329 ⇓P P 11 09 36.7 +1.1
baz=75,SNR=15
M22A **Cedar Creek Ra** 74.87 330 ⇓P P 11 09 36.9 +0.8
baz=75,SNR=6.6
SRU **San Rafael** 75.00 326 *eP* P 11 09 37.4 +0.6
SRU pmax pmax
comp=Z,26nm,0.6s
SRU **San Rafael** 75.00 326 *eP* P 11 09 37.4 +0.6
comp=Z,26nm,0.6s
EYMN **Ely** 75.02 343 *eP* P 11 09 35.1 -1.3
comp=Z,14nm,0.6s
L23A **Garrett** 75.03 331 ⇓P P 11 09 37.5 +0.6
baz=75,SNR=8.6
BBRC **Big Bear Solar** 75.07 319 ⇑P P 11 09 38.6 +1.2
baz=75,SNR=9.3
I27A **Quinn** 75.11 334 ⇓P P 11 09 37.5 +0.4
baz=75,SNR=22
HEC **Hector,Ludlow** 75.11 320 ⇓P P 11 09 38.6 +1.2
baz=75,SNR=5.8
K24A **Anderson Ranch** 75.14 332 ⇓P P 11 09 38.3 +0.8
baz=75
N20A **Spence Gulch,** 75.20 329 ⇓P P 11 09 38.6 +0.7
baz=76
O19A **Miners Draw (B** 75.20 328 ⇑P P 11 09 38.5 +0.6
baz=76,SNR=30
SCI **San Clemente I** 75.20 317 ⇓P P 11 09 38.8 +0.9
baz=75
H28A **Mission Ridge** 75.22 335 ⇓P P 11 09 37.6 -0.1
baz=76,SNR=20
J25A **Sunshine Ranch** 75.25 333 ⇓P P 11 09 38.8 +0.8
baz=76,SNR=9.9
TUQ **Turquoise Moun** 75.29 320 ⇑P P 11 09 39.3 +0.8
baz=76,SNR=11
L22A **Ellis Ranch, M** 75.30 330 ⇑P P 11 09 39.5 +1.1
baz=76,SNR=9.8
CCUT **Cedar City** 75.34 323 *eP* P 11 09 40.5 +1.6
comp=Z,158nm,1.9s
RWWY **Rawlins** 75.38 330 *eP* P 11 09 39.8 +0.8
comp=Z,12nm,0.5s

M21A **Separation Pea** 75.38 330 ⇓P P 11 09 39.6 +0.6
baz=76,SNR=16
CIS **Catalina Islan** 75.40 317 ⇑P P 11 09 40.0 +1.0
baz=76
MSU **Marysvale** 75.41 325 *eP* P 11 09 40.3 +1.1
MSU **Marysvale** 75.41 325 *eP* P 11 09 40.3 +1.1
MVU **Marysvale** 75.42 325 *eP* P 11 09 40.1 +0.8
comp=Z,43nm,1.3s
TMUT **Trail Mountain** 75.49 326 *eP* P 11 09 40.5 +0.8
comp=Z,62nm,1.9s
BFSC **Mount Baldy Ra** 75.50 318 ⇓P P 11 09 40.6 +0.9
baz=76,SNR=13
G28A **Parade** 75.52 336 ⇓P P 11 09 39.3 -0.1
baz=76,SNR=12
K23A **Bowen Ranch, D** 75.52 331 ⇓P P 11 09 40.2 +0.6
baz=76,SNR=20
FMP **Fort Macarthur** 75.54 318 ⇑P P 11 09 40.8 +1.1
baz=76
RRX **Edison Barstow** 75.54 319 ⇑P P 11 09 40.8 +1.0
baz=76
SUR **Sutherland** 75.55 119 P P 11 09 41.4 +1.1
SUR **Sutherland** 75.55 119 P P 11 09 41.4 +1.1
comp=Z,3.9nm,0.6s,baz=215,slow=6.2,SNR=9.5
ARUT **Antelope Range** 75.56 323 *eP* P 11 09 41.4 +1.4
ARUT pmax pmax
comp=Z,35nm,1.0s
ARUT **Antelope Range** 75.56 323 *eP* P 11 09 41.4 +1.4
comp=Z,35nm,1.0s
J24A **Dixon Ranch,** 75.57 332 ⇓P P 11 09 41.0 +1.2
baz=76,SNR=14
H27A **Howes** 75.59 335 ⇑P P 11 09 39.8 0.0
baz=76,SNR=14
L21A **Rawlins** 75.67 330 ⇑P P 11 09 41.0 +0.4
baz=76,SNR=50
M20A **Sweetwater, Wa** 75.68 329 ⇓P P 11 09 41.4 +0.7
baz=76,SNR=15
GSC **Goldstone** 75.72 320 *eP* P 11 09 41.9 +1.1
GSC pmax pmax
comp=Z,77nm,1.7s
GSC **Goldstone** 75.72 320 *eP* P 11 09 41.9 +1.1
comp=Z,77nm,1.7s
GSC **Goldstone** 75.72 320 ⇑P P 11 09 41.7 +0.9
baz=76,SNR=15
MWC **Mount Wilson** 75.74 318 *eP* P 11 09 41.3 +0.2
MWC **Mount Wilson** 75.74 318 *eP* P 11 09 41.3 +0.2
I25A **Rochford** 75.74 333 ⇑P P 11 09 41.6 +0.7
baz=76,SNR=32
PASC **Pasadena Art C** 75.78 318 *eP* P 11 09 41.9 +0.8
comp=Z,49nm,1.5s
SHOC **Shoshone** 75.82 320 ⇑P P 11 09 42.1 +0.8
baz=76
K22A **Casper** 75.83 331 ⇑P P 11 09 42.1 +0.7
baz=76,SNR=18
H26A **Fairpoint** 75.85 334 ⇑P P 11 09 41.3 -0.1
baz=76,SNR=9.1
DECC **Green Verdugo** 75.92 318 ⇓P P 11 09 43.0 +1.0
baz=76,SNR=5.6
RSSD **Black Hills** 75.95 333 *eP* P 11 09 42.4 +0.3
RSSD pmax pmax
comp=Z,15nm,0.8s
RSSD **Black Hills** 75.95 333 *eP* P 11 09 42.4 +0.3
comp=Z,15nm,0.8s
I24A **Kuemmerle Ranc** 75.98 333 ⇓P P 11 09 42.8 +0.6
baz=76,SNR=12
J23A **Dilts Ranch, B** 76.01 332 ⇑P P 11 09 43.0 +0.7
baz=76
EDW2 **Edwards Air Fo** 76.14 319 ⇓P P 11 09 43.8 +0.6
baz=76,SNR=11
K21A **Alcova** 76.14 330 ⇓P P 11 09 44.0 +0.8
baz=76,SNR=76
M19A **Rock Springs** 76.15 329 ⇑P P 11 09 43.6 +0.3
baz=76,SNR=6.7
L20A **Wamsutter** 76.15 329 ⇑P P 11 09 43.8 +0.5
baz=76,SNR=30
G27A **Dupree** 76.16 335 ⇓P P 11 09 43.0 0.0
baz=76,SNR=20
H25A **Fruitdale** 76.18 334 ⇑P P 11 09 43.5 +0.2
baz=76,SNR=12
MPU **Maple Canyon** 76.24 326 *eP* P 11 09 45.4 +1.6
comp=Z,36nm,1.3s
BLG **Laguna Peak** 76.28 317 ⇓P P 11 09 44.8 +0.8
baz=76
TORD **Torodi Ar. Bea** 76.30 69 P P 11 09 44.2 -0.2
TORD S S 11 19 08.3 -5.7
TORD **Torodi Ar. Bea** 76.30 69 P P 11 09 44.3 -0.2
comp=Z,29nm,0.5s,baz=256,slow=5.3,SNR=509
TORD S S 11 19 08.3 -5.7
comp=Z,1.3nm,0.9s,baz=239,slow=9.4,SNR=5.2
TORD LR LR 11 45 22.3
comp=Z,128nm,18.5s,baz=200,slow=37
G26A **Maurine** 76.34 335 ⇑P P 11 09 43.9 -0.2
baz=77,SNR=52
DAU **Daniels Canyon** 76.35 327 *eP* P 11 09 45.5 +0.9
DAU **Daniels Canyon** 76.35 327 *eP* P 11 09 45.5 +0.9
LRMC **Laurel Mountai** 76.36 319 ⇓P P 11 09 45.3 +0.8
baz=77,SNR=14
OSI **Oslo Adit** 76.41 318 ⇓P P 11 09 45.2 +0.5
baz=77
J22A **Midwest** 76.42 331 ⇑P P 11 09 44.9 +0.2
baz=77
I23A **Meade Ranch, G** 76.42 332 ⇑P P 11 09 45.0 +0.3
baz=77
NLU **North Lily Min** 76.42 326 *eP* P 11 09 45.5 +0.6
comp=Z,38nm,1.5s
FURC **Furnace Creek,** 76.55 320 ⇑P P 11 09 46.7 +1.3
baz=77,SNR=19
G25A **Newell** 76.58 334 ⇓P P 11 09 45.6 +0.1
baz=77,SNR=16
JLU **Jordanelle** 76.59 327 *eP* P 11 09 46.8 +0.9
AGMN **Agassiz Nation** 76.59 340 *eP* P 11 09 44.8 -0.6
comp=Z,26nm,0.8s
MPMC **Manual Prospec** 76.64 320 ⇓P P 11 09 46.7 +0.6
baz=77,SNR=13
K20A **Yellowstone Ra** 76.66 330 ⇓P P 11 09 46.2 +0.2
baz=77,SNR=45
H24A **Dirks Ranch, A** 76.67 333 ⇓P P 11 09 46.0 -0.1
baz=77,SNR=66
L19A **Farson** 76.70 329 ⇓P P 11 09 47.2 +0.8
baz=77,SNR=30
PPT **Papeete** 76.75 257 P P 11 09 49.7 +2.6
PPT **Papeete** 76.75 257 P P 11 09 49.7 +2.6
comp=Z,28nm,0.7s,baz=205,slow=13,SNR=6.8
J21A **Lysite** 76.79 331 ⇑P P 11 09 47.2 +0.4
baz=77,SNR=30
I22A **9 Mile Ranch,** 76.80 332 ⇓P P 11 09 47.1 +0.3
baz=77,SNR=31
ARVC **Arvin** 76.81 318 ⇓P P 11 09 47.8 +0.9
baz=77
F26A **Lodgepole** 76.84 335 ⇑P P 11 09 46.9 0.0
baz=77,SNR=30
M17A **Scullys Gap (B** 76.85 328 ⇑P P 11 09 47.6 +0.3
baz=77,SNR=18
H23A **Clabaugh Cattl** 76.88 333 ⇓P P 11 09 47.3 +0.1
baz=77,SNR=5.4
L18A **Fontenelle, Gr** 76.89 328 ⇑P P 11 09 48.0 +0.5
baz=77,SNR=61
SBC **Santa Barbara** 76.90 317 ⇑P P 11 09 47.9 +0.5
baz=77
ISA **Isabella** 76.96 319 *eP* P 11 09 48.9 +1.1
ISA pmax pmax
comp=Z,112nm,1.9s
ISA **Isabella** 76.96 319 *eP* P 11 09 48.9 +1.1
comp=Z,112nm,1.9s
ISA **Isabella** 76.96 319 ⇑P P 11 09 48.6 +0.8
baz=77,SNR=19
DUG **Dugway** 76.98 325 *eP* P 11 09 48.8 +0.9
DUG pmax pmax
comp=Z,72nm,1.8s
DUG **Dugway** 76.98 325 *eP* P 11 09 48.8 +0.9
comp=Z,72nm,1.8s
DUG **Dugway** 76.98 325 ⇓P P 11 09 48.8 +0.9
baz=77,SNR=17
K19A **Absolon Red Bu** 77.02 330 ⇑P P 11 09 48.4 +0.2
baz=77,SNR=40
J20A **Shoshoni** 77.08 330 ⇑P P 11 09 49.0 +0.6
baz=77,SNR=23
I21A **Big Trails, Te** 77.09 331 ⇓P P 11 09 48.7 +0.2
baz=77,SNR=56
G24A **Alzada** 77.09 334 ⇓P P 11 09 48.5 +0.1
baz=77,SNR=28
R11A **Troy Canyon, C** 77.14 323 ⇑P P 11 09 49.9 +1.0
baz=77,SNR=45
GRAC **Grapevine Rang** 77.22 321 ⇑P P 11 09 50.3 +1.2
baz=78,SNR=8.5
CWC **Cottonwood Cre** 77.25 320 ⇑P P 11 09 50.6 +1.1
baz=78,SNR=12
PKM **Peak Mountain** 77.27 318 ⇓P P 11 09 50.4 +0.8
baz=78,SNR=21

BW06 **Boulder Array** 77.31 329 *eP* P 11 09 49.8 0.0
comp=Z,8.0nm,0.5s
PDAR **Pinedale Array** 77.31 329 P P 11 09 50.1 +0.3
PDAR PKKPbc **PKKPbc** 11 28 53.9 -2.3
PDAR **Pinedale Array** 77.31 329 P P 11 09 50.1 +0.3
comp=Z,9.0nm,0.5s,baz=130,slow=7.7,SNR=129
PDAR PKKPbc **PKKPbc** 11 28 53.9 -2.3
comp=Z,0.3nm,0.5s,baz=242,slow=1.9,SNR=5.3
TSUM **Tsumeb** 77.37 105 *eP* P 11 09 50.3 -0.3
comp=Z,12nm,0.6s
G23A **Biddle** 77.39 333 ⇓P P 11 09 50.3 +0.3
baz=78
HWUT **Hardware Ranch** 77.40 327 *eP* P 11 09 50.4 +0.2
comp=Z,23nm,0.5s
MDND **Maddock** 77.41 338 ⇑P P 11 09 50.3 +0.3
baz=78,SNR=21
VES **Vestal, Richgr** 77.44 319 ⇓P P 11 09 51.1 +0.7
baz=78,SNR=9.1
J19A **Crowheart** 77.46 330 ⇑P P 11 09 50.9 +0.3
baz=78,SNR=38
F24A **Ekalaka** 77.53 334 ⇓P P 11 09 50.8 0.0
baz=78,SNR=30
I20A **Worland** 77.57 331 ⇑P P 11 09 51.5 +0.4
baz=78,SNR=36
SPUT **South Promonto** 77.62 326 *eP* P 11 09 51.9 +0.5
comp=Z,23nm,0.6s
H21A **Big Horn, Sher** 77.63 332 ⇓P P 11 09 51.2 -0.2
baz=78,SNR=52
BGU **Big Grassy Mou** 77.63 326 *eP* P 11 09 52.0 +0.4
comp=Z,34nm,1.3s
SMMC **Simmler** 77.65 318 ⇓P P 11 09 52.7 +1.1
baz=78,SNR=13
E25A **Miller Ranch,** 77.66 335 ⇑P P 11 09 51.8 +0.3
baz=78,SNR=12
TIN **Tinemaha** 77.75 320 ⇑P P 11 09 53.2 +1.0
baz=78
G22A **Birney** 77.78 333 ⇑P P 11 09 51.9 -0.3
baz=78,SNR=11
F23A **Volborg** 77.82 333 ⇓P P 11 09 52.2 -0.1
baz=78,SNR=45
RCTC **Rector, Farmer** 77.85 319 ⇓P P 11 09 52.8 +0.2
baz=78
H20A **Greybull** 77.94 331 ⇓P P 11 09 53.1 0.0
baz=78,SNR=38
PTRM **Twissleman Ran** 78.01 318 *eP* P 11 09 54.5 +0.9
I19A **Meeteetse** 78.03 330 ⇑P P 11 09 54.0 +0.3
baz=78,SNR=28
AHID **Auburn Hatcher** 78.04 328 *eP* P 11 09 54.4 +0.6
comp=Z,43nm,0.6s
E24A **Baker** 78.06 334 ⇓P P 11 09 54.1 +0.5
baz=78,SNR=26
HVU **Hansel Valley** 78.13 327 *eP* P 11 09 55.3 +1.0
HVU pmax pmax
comp=Z,16nm,0.7s
HVU **Hansel Valley** 78.13 327 *eP* P 11 09 55.3 +1.0
comp=Z,16nm,0.7s
I18A **Diamond G Sanc** 78.15 330 ⇑P P 11 09 55.2 +0.8
baz=78,SNR=18
G21A **Lodge Grass** 78.17 332 ⇓P P 11 09 54.4 +0.1
baz=78,SNR=43
F22A **Rosebud** 78.22 333 ⇓P P 11 09 54.6 +0.1
baz=78,SNR=17
ULM **Lac du Bonnet** 78.33 341 P P 11 09 54.2 -0.7
comp=Z,33nm,0.5s
ULM **Lac du Bonnet** 78.33 341 P P 11 09 54.6 -0.3
comp=Z,43nm,0.5s,baz=158,slow=6.2,SNR=86
REDW **Red Top Meadow** 78.38 329 *eP* P 11 09 56.2 +0.6
SNOW **Snow King Moun** 78.41 329 *eP* P 11 09 56.3 +0.5
E23A **Ismay** 78.41 334 ⇑P P 11 09 55.5 0.0
baz=79,SNR=20
LOHW **Long Hollow** 78.45 329 *eP* P 11 09 56.7 +0.6
comp=Z,23nm,0.6s
MLAC **Mammoth Lakes** 78.50 320 ⇓P P 11 09 57.5 +1.0
baz=79,SNR=12
SCHQ **Schefferville** 78.52 360 PKKPbc PKKPbc 11 28 51.5 -2.6
SCHQ **Schefferville** 78.52 360 PKKPbc PKKPbc 11 28 51.5 -2.6
comp=Z,1.3nm,0.4s,baz=327,slow=1.6,SNR=8.4
TPAW **Teton Pass** 78.52 329 *eP* P 11 09 57.1 +0.6
comp=Z,17nm,0.8s
H19A **Powell** 78.52 331 ⇑P P 11 09 56.7 +0.4
baz=79,SNR=27
RRI2 **Red Ridge** 78.59 328 *eP* P 11 09 57.7 +0.8
comp=Z,103nm,1.4s
G20A **Bridger** 78.61 331 ⇓P P 11 09 56.7 0.0
baz=79,SNR=77
F21A **Absaloka Mine,** 78.62 332 ⇑P P 11 09 56.8 +0.1
baz=79
MOOW **Moose Ponds** 78.62 329 *eP* P 11 09 57.5 +0.5
comp=Z,68nm,1.7s
E22A **Miles City** 78.62 333 ⇓P P 11 09 56.4 -0.3
baz=79
I17A **Pilgrim Ck.** 78.67 329 ⇑P P 11 09 58.4 +1.2
baz=79,SNR=10
NVAR **Mina Array Bea** 78.73 321 P P 11 09 58.8 +1.1
NVAR PKKPbc **PKKPbc** 11 28 51.5 -1.1
NVAR **Mina Array Bea** 78.73 321 P P 11 09 58.8 +1.1
comp=Z,4.5nm,0.5s,baz=144,slow=5.3,SNR=49
NVAR PKKPbc **PKKPbc** 11 28 51.5 -1.1
comp=Z,0.3nm,0.4s,baz=301,slow=2.1,SNR=3.5
IMW **Indian Meadow** 78.82 329 *eP* P 11 09 58.9 +0.7
comp=Z,54nm,1.3s
H18A **Shoshone NF, C** 78.83 330 ⇑P P 11 09 58.4 +0.2
baz=79,SNR=63
C24A **Savage** 78.90 335 ⇓P P 11 09 58.8 +0.6
baz=79,SNR=12
D23A **Lindsay** 78.92 334 ⇓P P 11 09 58.9 +0.6
baz=79,SNR=25
RLMT **Red Lodge** 79.00 331 *eP* P 11 09 59.3 +0.3
comp=Z,35nm,0.6s
H17A **Grant Village** 79.03 330 ⇑P P 11 10 00.6 +1.3
baz=79
F20A **Billings** 79.04 332 ⇑P P 11 09 59.2 +0.1
baz=79,SNR=5.8
I16A **Newdale** 79.06 329 ⇓P P 11 09 60.0 +0.6
baz=79,SNR=24
LKWY **Lake** 79.08 330 *eP* P 11 10 01.0 +1.5
LKWY pmax pmax
comp=Z,93nm,1.6s
LKWY **Lake** 79.08 330 *eP* P 11 10 01.0 +1.5
comp=Z,93nm,1.6s
E21A **Keefer Ranch,** 79.17 333 ⇑P P 11 10 00.2 +0.5
baz=79
YFT **Old Faithful** 79.19 329 *eP* P 11 10 01.5 +1.4
comp=Z,9.0nm,0.6s
G18A **Lazy EL Ranch,** 79.28 331 ⇓P P 11 10 00.7 +0.3
baz=80,SNR=36
D22A **Cohagen** 79.29 334 ⇓P P 11 10 00.8 +0.5
baz=80,SNR=36
YMR **Madison River** 79.42 330 *eP* P 11 10 02.6 +1.3
comp=Z,110nm,1.4s
C23A **Lambert** 79.42 335 ⇓P P 11 10 01.3 +0.3
baz=80,SNR=16
F19A **Roth Farm, Mol** 79.42 331 ⇓P P 11 10 01.3 +0.1
baz=80,SNR=56
WAKR **Walker** 79.44 321 *eP* P 11 10 03.3 +1.8
SAO **San Andreas Ge** 79.49 318 *eP* P 11 10 02.0 +0.4
SAO **San Andreas Ge** 79.49 318 *eP* P 11 10 02.0 +0.4
D21A **La Casta Ranch** 79.55 333 ⇑P P 11 10 02.1 +0.3
baz=80,SNR=37
H16A **Russell Place,** 79.58 329 ⇓P P 11 10 03.0 +0.9
baz=80,SNR=18
E20A **Meyer Farm, Mu** 79.58 332 ⇓P P 11 10 02.3 +0.4
baz=80,SNR=99
DGMT **Dagmar** 79.59 336 *eP* P 11 10 02.6 +0.7
comp=Z,96nm,0.7s
DGMT **Dagmar** 79.59 336 ⇑P P 11 10 02.4 +0.5
baz=80,SNR=30
C22A **Vida** 79.65 334 ⇓P P 11 10 02.4 +0.2
baz=80,SNR=24
CMB **Columbia Colle** 79.68 320 *eP* P 11 10 03.3 +0.6
CMB pmax pmax
comp=Z,109nm,2.7s
CMB **Columbia Colle** 79.68 320 *eP* P 11 10 03.3 +0.6
comp=Z,109nm,2.7s
GCMT **Greycliff** 79.69 331 *eP* P 11 10 03.1 +0.4
comp=Z,17nm,0.7s
QLMT **Earthquake Lak** 79.76 329 *eP* P 11 10 05.0 +1.9
F18A **Big Timber** 79.80 331 ⇓P P 11 10 03.5 +0.3
baz=80,SNR=64
G17A **Pierce Place,** 79.81 330 ⇓P P 11 10 04.2 +0.8
baz=80,SNR=9.6
E19A **Rath Farm, Rou** 79.83 332 ⇑P P 11 10 03.6 +0.3
baz=80,SNR=89
B23A **Brockton** 79.89 335 ⇓P P 11 10 03.9 +0.4
baz=80,SNR=22
A24A **Westby** 79.89 336 ⇑P P 11 10 04.1 +0.6
baz=80,SNR=17
D20A **Manuel Ranch,** 80.05 333 ⇓P P 11 10 04.7 +0.2

baz=80,SNR=64
I14A Mackay 80.05 328 ⇑P **P 11 10 05.9 +1.2**
baz=80,SNR=58
B22A Reddig Ranch S 80.14 335 ⇓P **P 11 10 05.1 +0.2**
baz=80,SNR=22
C21A Desert Coulee 80.20 334 ⇑P **P 11 10 05.2 0.0**
baz=80,SNR=92
PAHR Pah Rah Range 80.22 321 *e*P **P 11 10 06.7 +1.1**
F17A Fitzpatrick Pl 80.22 331 ⇓P **P 11 10 06.2 +0.7**
baz=80,SNR=41
A23A Redstone 80.25 336 ⇓P **P 11 10 05.8 +0.4**
baz=80,SNR=6.6
HLID Hailey 80.26 327 *e*P **P 11 10 06.9 +1.1**
comp=Z,35nm,0.8s
HLID Hailey 80.26 327 ⇑P **P 11 10 06.7 +0.9**
baz=80,SNR=79
E18A Harlowton 80.40 331 ⇑P **P 11 10 06.7 +0.3**
baz=81,SNR=20
D19A Cripps Ranch, 80.42 332 ⇓P **P 11 10 06.5 +0.1**
baz=81,SNR=60
MCMT McKenzie Canyo 80.42 329 P **P 11 10 08.0 +1.2**
BOSA Boshof 80.46 117 *e*P **P 11 10 06.8 -0.5**
comp=Z,9.3nm,0.8s
BOSA PKKPbc **PKKPbc 11 28 46.4 -0.3**
BOSA Boshof 80.46 117 P **P 11 10 07.3 0.0**
comp=Z,4.9nm,0.4s,baz=262,slow=3.2,SNR=34
BOSA PKKPbc **PKKPbc 11 28 46.4 -0.3**
comp=Z,1.7nm,0.5s,baz=38,slow=4.7,SNR=4.2
BOZ Bozeman (W) 80.47 330 *e*P **P 11 10 06.5 -0.3**
BOZ pmax pmax
comp=Z,214nm,1.3s
BOZ Bozeman (W) 80.47 330 *e*P **P 11 10 06.5 -0.3**
comp=Z,214nm,1.3s
C20A Veseth Ranch, 80.48 333 ⇑P **P 11 10 06.4 -0.3**
baz=81,SNR=48
B21A Ellsworth Farm 80.65 334 ⇓P **P 11 10 07.9 +0.4**
baz=81,SNR=40
A22A Carney Farms, 80.67 335 ⇓P **P 11 10 07.9 +0.2**
baz=81,SNR=33
DLMT Dillon 80.70 329 *e*P **P 11 10 08.8 +0.7**
comp=Z,111nm,1.5s
E17A Martinsdale 80.74 331 ⇓P **P 11 10 08.7 +0.4**
baz=81,SNR=46
D18A Linhart Farms, 80.84 332 ⇑P **P 11 10 08.9 +0.2**
baz=81,SNR=32
MFID Camas Ranch 80.87 326 *e*P **P 11 10 09.8 +0.9**
MFID Camas Ranch 80.87 326 ⇓P **P 11 10 09.7 +0.7**
baz=81,SNR=15
BEKR Beckworth 80.88 321 *e*P **P 11 10 10.1 +0.9**
comp=Z,45nm,1.7s
C19A Slack Wire Ran 80.94 333 ⇑P **P 11 10 09.2 0.0**
baz=81,SNR=44
LRM Limekiln Ridge 80.98 330 *e*P **P 11 10 10.3 +0.6**
B20A Solberg Farm, 81.07 334 ⇓P **P 11 10 09.8 0.0**
baz=81,SNR=5.6
A21A Bergtoll Ranch 81.07 334 ⇑P **P 11 10 09.7 0.0**
baz=81,SNR=11
OHCM Honcut 81.18 320 *e*P **P 11 10 11.5 +1.0**
D17A Six Diamond Ra 81.19 331 ⇑P **P 11 10 10.9 +0.3**
baz=82,SNR=38
H12A Diamond D Ranc 81.19 327 ⇓P **P 11 10 11.4 +0.7**
baz=82,SNR=42
MCCM Marconi Confer 81.25 318 *e*P **P 11 10 11.3 +0.4**
MAW Mawson 81.34 163 P **P 11 10 11.9 +0.9**
MAW Mawson 81.34 163 P **P 11 10 11.9 +0.9**
comp=Z,45nm,0.6s,baz=211,slow=5.9,SNR=158
HRY Holter Researc 81.36 330 *e*P **P 11 10 12.2 +0.7**
A20A Cobblestone Ra 81.38 334 ⇑P **P 11 10 11.5 +0.1**
baz=82,SNR=60
B19A Brinkman Farms 81.46 333 ⇑P **P 11 10 11.9 +0.1**
baz=82,SNR=32
EGMT Eagleton 81.46 332 *e*P **P 11 10 11.8 -0.1**
comp=Z,44nm,1.0s
EGMT Eagleton 81.46 332 ⇑P **P 11 10 11.7 -0.1**
baz=82,SNR=24
C17A Wharram Farm, 81.59 332 ⇓P **P 11 10 12.4 -0.2**
baz=82,SNR=51
WVOR Wild Horse Val 81.66 324 *e*P **P 11 10 13.4 +0.3**
WVOR pmax pmax
comp=Z,3.0nm,0.6s
WVOR Wild Horse Val 81.66 324 *e*P **P 11 10 13.4 +0.3**
comp=Z,3.0nm,0.6s
A19A Klindworth Far 81.75 333 ⇓P **P 11 10 13.1 -0.3**
baz=82,SNR=24
B18A Beardsley Farm 81.76 333 ⇑P **P 11 10 13.4 -0.1**
baz=82,SNR=34
LBTB Lobatse 82.11 114 *e*P **P 11 10 16.0 0.0**
comp=Z,12nm,0.6s
B17A L&G Farms, Che 82.11 332 ⇓P **P 11 10 14.9 -0.4**
baz=82,SNR=26
C16A Fuhringer Ranc 82.15 331 ⇓P **P 11 10 15.4 -0.2**
baz=82,SNR=35
CHMT Chamberlain Mo 82.16 330 *e*P **P 11 10 16.1 +0.3**
A18A Metzger Ranch, 82.19 333 ⇑P **P 11 10 15.4 -0.3**
baz=82,SNR=28
PNCL Nicolau / Gran 82.42 43 *e*P **P 11 10 18.3 +1.3**
comp=Z,35nm,1.8s
PCVE Castro Verde 82.42 43 *e*P **P 11 10 18.0 +0.9**
comp=Z,31nm,1.7s
C15A Salmond Ranch, 82.51 331 ⇑P **P 11 10 17.8 +0.3**
baz=83,SNR=75
SLMT Seeley Lake 82.52 330 *e*P **P 11 10 17.8 +0.2**
A17A Triple J Farms 82.57 332 ⇓P **P 11 10 17.5 -0.1**
baz=83,SNR=44
B16A M & M Farms, S 82.60 332 ⇑P **P 11 10 17.3 -0.5**
baz=83
BMO Blue Mountains 82.64 326 *e*P **P 11 10 17.9 -0.2**
BMO pmax pmax
comp=Z,14nm,0.8s
BMO Blue Mountains 82.64 326 *e*P **P 11 10 17.9 -0.2**
comp=Z,14nm,0.8s
PBEJ Beja 82.77 43 *e*P **P 11 10 20.2 +1.3**
comp=Z,17nm,1.8s
B15A Bradely Ranch, 82.90 331 ⇓P **P 11 10 18.8 -0.6**
baz=83,SNR=24
SWMT Swartz Lake 82.95 330 *e*P **P 11 10 20.0 +0.3**
EVO Evora 82.99 42 *e*P **P 11 10 20.3 +0.3**
comp=Z,10.0nm,0.6s
PMTG Montargil 83.20 42 *e*P **P 11 10 21.7 +0.7**
comp=Z,30nm,1.5s
B14A Marquette Ranc 83.25 331 ⇑P **P 11 10 21.1 -0.2**
baz=84,SNR=6.1
JTMT Jette 83.25 330 *e*P **P 11 10 21.7 +0.4**
C13A Hot Springs 83.34 330 ⇓P **P 11 10 21.9 +0.3**
baz=84,SNR=32
PBAR Barrancos 83.38 43 *e*P **P 11 10 22.8 +0.8**
comp=Z,21nm,1.6s
PTOM Tomar 83.42 41 *e*P **P 11 10 23.3 +1.1**
comp=Z,35nm,2.0s
A15A Johnson Ranch, 83.47 331 ⇑P **P 11 10 21.6 -0.7**
baz=84,SNR=12
BLMT Blacktail Moun 83.48 330 *e*P **P 11 10 23.6 +1.0**
BSMT Bassoo Peak 83.56 330 *e*P **P 11 10 23.2 +0.3**
PCAS Casmilo, Conde 83.64 41 *e*P **P 11 10 24.3 +1.0**
comp=Z,55nm,1.8s
A14A Double T Ranch 83.77 331 ⇑P **P 11 10 23.5 -0.4**
baz=84,SNR=14
C12B Naegeli Ranch, 83.78 329 ⇑P **P 11 10 24.1 +0.3**
baz=84,SNR=16
B13A Whitefish 83.80 330 ⇓P **P 11 10 24.0 0.0**
baz=84,SNR=13
PMRV Marv??o 83.93 42 *e*P **P 11 10 26.0 +1.2**
comp=Z,26nm,1.9s
WALA Waterton Lakes 84.05 331 *e*P **P 11 10 24.8 -0.5**
comp=Z,0.5nm,0.8s
FFC Flin Flon 84.07 340 *i* P **P 11 10 25.5 +0.4**
FFC Flin Flon 84.07 340 *e*P **P 11 10 24.9 -0.1**
PCBR Castelo Branco 84.13 42 *e*P **P 11 10 26.7 +1.0**
comp=Z,29nm,1.9s
TAM Tamanrasset 84.14 62 *e*P **P 11 10 26.6 +0.2**
TAM pmax pmax
comp=Z,7.0nm,0.7s
TAM Tamanrasset 84.14 62 *e*P **P 11 10 26.6 +0.2**
comp=Z,6.5nm,0.7s
HUMO Hull Mountain 84.15 322 *e*P **P 11 10 25.8 0.0**
A13A Flathead Natio 84.18 331 ⇓P **P 11 10 26.3 +0.4**
baz=84
B12A Libby 84.38 330 ⇑P **P 11 10 27.0 +0.2**
baz=85,SNR=20
A12A Yaak River Ran 84.74 330 ⇓P **P 11 10 28.8 +0.1**
baz=85,SNR=9.9
HAWA Hanford 84.83 326 *e*P **P 11 10 29.4 +0.3**
NEW Newport 84.95 329 *e*P **P 11 10 29.6 -0.2**
NEW Newport 84.95 329 ⇓P **P 11 10 29.2 -0.5**
baz=85,SNR=15
PCAB Cabril 84.95 40 *e*P **P 11 10 30.4 +0.5**
comp=Z,45nm,1.7s

KEBM Edson Butte 85.10 321 *e*P **P 11 10 31.2 +0.6**
OD2 Odessa Site #2 85.10 327 P **P 11 10 30.8 +0.3**
VFP Flag Point 85.11 325 P **P 11 10 31.9 +1.1**
C09A Chrisman Ranch 85.17 328 P **P 11 10 31.0 +0.2**
MVO Moncorvo 85.21 41 *e*P **P 11 10 31.8 +0.6**
comp=Z,26nm,0.8s
TRW Toppenish Ridg 85.28 326 P **P 11 10 32.6 +1.2**
VLL Laurance Lake 85.32 325 P **P 11 10 33.0 +1.3**
PBRG Braganca 85.77 40 *e*P **P 11 10 35.2 +1.3**
comp=Z,32nm,1.7s
PAB San Pablo 85.88 43 *e*P **P 11 10 35.0 +0.4**
PAB pmax pmax
comp=Z,11nm,0.6s
PAB San Pablo 85.88 43 *e*P **P 11 10 35.0 +0.4**
comp=Z,11nm,0.6s
WTV Waterville 85.93 327 P **P 11 10 35.3 +0.7**
LTY Liberty 85.99 326 P **P 11 10 34.7 -0.2**
ETW Entiat 86.05 327 P **P 11 10 35.3 0.0**
WPW White Pass 86.06 326 P **P 11 10 35.8 +0.5**
ESDC Sonseca Array 86.20 43 P **P 11 10 37.2 +1.1**
ESDC Sonseca Array 86.20 43 P **P 11 10 37.2 +1.1**
comp=Z,2.9nm,0.5s,baz=230,slow=5.2,SNR=15
LON Longmire 86.23 326 *e*P **P 11 10 36.1 0.0**
LON Longmire 86.23 326 *e*P **P 11 10 36.1 0.0**
MATP Matopo 86.39 111 LR LR 11 44 11.8
comp=Z,177nm,19.9s,baz=186,slow=32
BMW Boistfort Moun 86.80 325 P **P 11 10 39.1 +0.3**
BMW Boistfort Moun 86.80 325 P **P 11 10 39.1 +0.3**
FRB Frobisher Bay 87.47 359 PKKPbc PKKPbc 11 28 29.9 -3.2
FRB Frobisher Bay 87.47 359 PKKPbc PKKPbc 11 28 29.9 -3.2
comp=Z,2.1nm,0.6s,baz=333,slow=4.5,SNR=3.2
NLWA Neilton Lookou 87.72 325 *e*P **P 11 10 43.5 +0.3**
LSZ Lusaka 88.22 106 *e*P **P 11 10 48.2 +1.7**
comp=Z,17nm,1.1s
LSZ PKKPbc **PKKPbc 11 28 29.2 +0.6**
LSZ Lusaka 88.22 106 PKKPbc PKKPbc 11 28 29.2 +0.6
comp=Z,4.0nm,0.5s,baz=40,slow=4.4,SNR=9.9
LSZ LR LR 11 44 38.0
comp=Z,84nm,20.4s,baz=202,slow=32
PGC Sidney 88.31 326 *e*P **P 11 10 46.7 +0.8**
comp=Z,0.7nm,0.6s
CASY Casey 89.97 179 *e*P **P 11 10 54.5 +1.0**
comp=Z,45nm,0.6s
ETSF Etsaut 90.14 42 *e*P **P 11 10 55.6 +0.9**
comp=Z,15nm,0.7s
EPF Esparros 90.76 42 *e*P **P 11 10 58.1 +0.5**
comp=Z,9.4nm,0.6s
ROSF Rostrenen 91.62 37 *e*P **P 11 11 01.1 -0.2**
SGMF Saint Gilles 91.96 37 *e*P **P 11 11 03.0 +0.1**
LFF La Frestale 92.03 41 *e*P **P 11 11 03.6 +0.3**
MTLF Montolieu 92.09 43 *e*P **P 11 11 03.6 0.0**
comp=Z,5.5nm,0.7s
MFF Saint Martin d 92.41 39 *e*P **P 11 11 05.2 +0.2**
comp=Z,19nm,0.6s
CAF Calviac 92.82 42 *e*P **P 11 11 07.2 +0.2**
BBB Bella Bella 92.85 327 P **P 11 11 08.2 +1.3**
BBB Bella Bella 92.85 327 P **P 11 11 08.2 +1.3**
comp=Z,11nm,0.9s,baz=74,slow=9.3,SNR=3.7
GRR Gorron 92.98 38 *e*P **P 11 11 07.1 -0.5**
comp=Z,10.0nm,0.6s
KEST Kesra 93.18 52 P **P 11 11 10.1 +1.1**
KEST Kesra 93.18 52 P **P 11 11 10.1 +1.1**
comp=Z,1.2nm,0.5s,baz=93,slow=4.2,SNR=7.0
LASF Ste Croix 93.49 43 *e*P **P 11 11 10.4 +0.3**
comp=Z,3.7nm,0.5s
LDF La Druliere 93.50 38 *e*P **P 11 11 09.6 -0.4**
comp=Z,11nm,0.6s
TCF Toulx Ste Croi 93.62 40 *e*P **P 11 11 10.3 -0.3**
comp=Z,5.5nm,0.6s
URZ Urewera 93.93 225 P **P 11 11 13.8 +1.4**
URZ Urewera 93.93 225 P **P 11 11 13.8 +1.4**
comp=Z,6.9nm,0.6s,baz=58,slow=1.9,SNR=6.5
BGF Bois d'Agland 94.14 40 *e*P **P 11 11 12.9 -0.1**
comp=Z,8.6nm,0.6s
YKA Yellowknife Ar 94.24 340 P **P 11 11 13.1 +0.1**
YKA PKiKP **PKiKP 11 15 55.7 0.0**
YKA PKKPbc **PKKPdf 11 28 13.8 -1.3**
YKA Yellowknife Ar 94.24 340 P **P 11 11 13.1 +0.1**
comp=Z,18nm,0.5s,baz=137,slow=4.6,SNR=345
YKA PKiKP **PKiKP 11 15 55.7 0.0**
comp=Z,0.3nm,0.4s,baz=140,slow=1.9,SNR=4.8
YKA PKKPbc **PKKPdf 11 28 13.8 -1.3**
comp=Z,0.4nm,0.5s,baz=314,slow=3.5,SNR=6.4
SMF Signal de Mont 94.77 41 *e*P **P 11 11 16.0 +0.1**
comp=Z,8.0nm,0.5s
SSF Saint Saulge 94.78 40 *e*P **P 11 11 15.4 -0.5**
comp=Z,4.7nm,0.7s
DLBC Dease Lake 97.38 332 P Pdif 11 11 28.4 +0.9
DLBC Dease Lake 97.38 332 P Pdif 11 11 28.4 +0.9
comp=Z,6.4nm,0.7s,baz=87,slow=1.7,SNR=21
INK Inuvik 104.00 339 Pdif **Pdif 11 11 56.6 0.0**
INK PKKPbc **PKKPbc 11 27 46.9 -1.1**
INK Inuvik 104.00 339 Pdiff **Pdif 11 11 56.6 0.0**
comp=Z,1.2nm,0.5s,baz=100,slow=4.1,SNR=8.7
INK PKKPbc **PKKPbc 11 27 46.9 -1.1**
comp=Z,1.3nm,0.5s,baz=322,slow=5.1,SNR=7.3
HFS Hagfors 105.89 31 PKKPbc PKKPbc 11 27 39.3 -2.8
HFS PKKP **PKKPab 11 27 55.9 +0.5**
HFS Hagfors 105.89 31 PKKPbc PKKPbc 11 27 39.3 -2.8
comp=Z,1.3nm,0.6s,baz=123,slow=5.5,SNR=6.7
HFS PKKP **PKKPab 11 27 55.9 +0.5**
comp=Z,1.2nm,0.5s,baz=67,slow=3.9,SNR=5.5
ILAR Eielson Array 107.39 334 Pdif **Pdif 11 12 11.6 -0.3**
ILAR PKiKP **PKiKP 11 16 19.3 0.0**
ILAR PKKPbc **PKKPbc 11 27 34.8 -2.8**
ILAR Eielson Array 107.39 334 Pdiff **Pdif 11 12 11.6 -0.3**
comp=Z,0.5nm,0.5s,baz=138,slow=2.9,SNR=13
ILAR PKiKP **PKiKP 11 16 19.3 0.0**
comp=Z,0.3nm,0.4s,baz=118,slow=1.2,SNR=12
ILAR PKKPbc **PKKPbc 11 27 34.8 -2.8**
comp=Z,0.3nm,0.5s,baz=295,slow=3.3,SNR=6.7
KBS Kingsbay 111.23 12 *i* PKiKP **PKiKP 11 16 26.3 +0.1**
KBS pmax pmax
comp=Z,7.0nm,1.0s
FINES FINESS Array B 112.08 31 PKiKP **PKiKP 11 16 28.6 +0.4**
FINES PKKPbc **PKKPbc 11 27 20.8 -1.4**
FINES PKKPab **PKKPab 11 27 29.8 +1.9**
FINES PKKP **PKKPdf 11 27 42.1 +0.5**
FINES FINESS Array B 112.08 31 PKiKP **PKiKP 11 16 28.6 +0.4**
comp=Z,0.4nm,0.4s,baz=4.1,slow=2.7,SNR=4.9
FINES PKKPbc **PKKPbc 11 27 20.8 -1.4**
comp=Z,1.0nm,0.4s,baz=90,slow=5.6,SNR=11
FINES PKKPab **PKKPab 11 27 29.8 +1.9**
comp=Z,1.1nm,0.5s,baz=90,slow=3.8,SNR=4.6
FINES PKKP **PKKPdf 11 27 42.1 +0.5**
comp=Z,0.5nm,0.4s,baz=99,slow=8.6,SNR=3.5
BRTR Keskin Array B 112.57 55 PKKPab PKKPab 11 27 29.1 +2.2
BRTR Keskin Array B 112.57 55 PKKPab PKKPab 11 27 29.1 +2.2
comp=Z,1.0nm,0.5s,baz=112,slow=3.4,SNR=4.8
ARCES ARCESS Array B 113.02 22 PKiKP **PKiKP 11 16 30.0 +0.1**
ARCES PKKPbc **PKKPbc 11 27 17.7 -1.7**
ARCES PKKPab **PKKPab 11 27 25.4 +1.8**
ARCES ARCESS Array B 113.02 22 PKiKP **PKiKP 11 16 30.0 +0.1**
comp=Z,1.5nm,0.8s,baz=279,slow=1.7,SNR=5.2
ARCES PKKPbc **PKKPbc 11 27 17.7 -1.7**
comp=Z,2.2nm,0.5s,baz=97,slow=3.7,SNR=19
ARCES PKKPab **PKKPab 11 27 25.4 +1.8**
comp=Z,2.7nm,0.6s,baz=75,slow=5.3,SNR=7.7
STKA Stephens Creek 118.20 207 PKP **PKPdf 11 16 41.1 0.0**
STKA PKKPbc **PKKPbc 11 26 59.9 -0.7**
STKA Stephens Creek 118.20 207 PKP **PKPdf 11 16 41.1 0.0**
comp=Z,2.4nm,0.6s,baz=166,slow=1.1,SNR=5.7
STKA PKKPbc **PKKPbc 11 26 59.9 -0.7**
comp=Z,2.9nm,0.5s,baz=343,slow=1.8,SNR=13
KBZ Khabaz 120.05 52 PKiKP **PKPdf 11 16 44.7 +0.6**
KBZ Khabaz 120.05 52 PKP **PKPdf 11 16 44.7 +0.6**
KBZ Khabaz 120.05 52 PKP **PKPdf 11 16 44.7 +0.6**
comp=Z,3.4nm,0.6s,baz=152,slow=11,SNR=6.3
NWAO Narrogin (SRO) 123.26 184 PKP **PKPdf 11 16 50.8 0.0**
NWAO Narrogin (SRO) 123.26 184 PKP **PKPdf 11 16 50.8 0.0**
comp=Z,10nm,0.5s,baz=142,slow=3.7,SNR=18
CTA Charters Tower 125.68 219 PKP **PKPdf 11 16 56.3 +0.5**
CTA Charters Tower 125.68 219 PKP **PKPdf 11 16 56.3 +0.5**
comp=Z,12nm,0.5s,baz=120,slow=5.1,SNR=29
CTAO Charters Tower 125.68 219 *e*PKiKP **PKPdf 11 16 55.1 -0.7**
CTAO Charters Tower 125.68 219 *e*PKPdf **PKPdf 11 16 55.1 -0.7**
FX1 Attu Island--F 126.89 319 PKP **PKPdf 11 16 56.4 -0.6**
FX1 Attu Island--F 126.89 319 PKP **PKPdf 11 16 56.4 -0.6**
comp=Z,5.6nm,0.4s,baz=286,slow=2.8,SNR=39
ASAR Alice Springs 128.57 204 PKP **PKPdf 11 17 01.4 +0.2**
ASAR SKPbc SKiKP 11 20 02.2 -18
ASAR PKKPbc PKKPdf 11 26 20.9 -47
ASAR PKKP 11 27 07.5
ASAR Alice Springs 128.57 204 PKhKP PKPpre 11 16 48.3
comp=Z,0.9nm,0.5s,baz=132,slow=1.5,SNR=4.6

ASAR PKP **PKPdf 11 17 01.4 +0.2**
comp=Z,24nm,0.6s,baz=137,slow=1.8,SNR=61
ASAR SKPbc SKiKP 11 20 02.2 -18
comp=Z,1.0nm,0.5s,baz=148,slow=3.2,SNR=6.2
ASAR PKKPbc PKKPdf 11 26 20.9 -47
comp=Z,0.3nm,0.7s,baz=336,slow=3.4,SNR=4.6
ASAR PKKP 11 27 07.5
comp=Z,0.5nm,0.4s,baz=355,slow=1.7,SNR=14
ARU Arti 129.02 36 *i* PKIKP **PKPdf 11 17 01.5 +0.6**
ARU 11 19 08.6
AB31 Akbulak array 131.54 45*c i* PKIKP **PKPdf 11 17 06.3 +0.4**
AB31 pmax pmax
comp=Z,4.0nm,0.4s
WRA Warramunga Arr 131.75 207 PKP **PKPdf 11 17 07.5 +0.1**
WRA SKPbc **SKPbc 11 20 14.2 -1.4**
WRA Warramunga Arr 131.75 207 PKhKP PKPpre 11 16 55.5
comp=Z,1.3nm,0.4s,baz=159,slow=5.8,SNR=12
WRA PKP **PKPdf 11 17 07.5 +0.1**
comp=Z,20nm,0.5s,baz=159,slow=1.7,SNR=79
WRA SKPbc **SKPbc 11 20 14.2 -1.4**
comp=Z,6.7nm,0.6s,baz=155,slow=3.6,SNR=19
WRAB Tennant Creek 131.75 207 *e*PKIKP **PKPdf 11 17 07.5 +0.2**
WRAB Tennant Creek 131.75 207 *e*PKPdf **PKPdf 11 17 07.5 +0.2**
PETK Petropavlovsk- 135.80 323 PKHKP PKPpre 11 17 06.6
PETK 11 17 15.0
PETK Petropavlovsk- 135.80 323 PKPpre PKPpre 11 17 06.6
PETK PKP **PKPdf 11 17 15.0 +1.2**
PETK Petropavlovsk- 135.80 323 PKhKP PKPpre 11 17 06.6
comp=Z,3.5nm,0.5s,baz=140,slow=2.5,SNR=8.8
PETK PKP **PKPdf 11 17 15.0 +1.2**
comp=Z,10nm,0.4s,baz=148,slow=2.8,SNR=24
FITZ Fitzroy Crossi 136.45 197 PKP **PKPdf 11 17 17.8 +1.6**
FITZ Fitzroy Crossi 136.45 197 PKP **PKPdf 11 17 17.8 +1.6**
comp=Z,11nm,0.5s,baz=176,slow=7.6,SNR=9.2
BRVK Borovoye 136.56 37*d i* PKIKP **PKPdf 11 17 15.8 +0.6**
BRVK pmax pmax
comp=Z,8.0nm,0.6s
BRVK Borovoye 136.56 37 *e*PKPdf **PKPdf 11 17 15.8 +0.6**
BVA0 Borovoye Array 136.63 37 PKIKP **PKPdf 11 17 15.6 +0.2**
BVA0 pmax pmax
comp=Z,9.0nm,0.5s
BVAR Borovoye Array 136.63 37 PKIKP **PKPdf 11 17 16.2 +0.8**
BVAR Borovoye Array 136.63 37 PKP **PKPdf 11 17 16.2 +0.8**
BVAR Borovoye Array 136.63 37 PKP **PKPdf 11 17 16.2 +0.8**
comp=Z,5.9nm,0.5s,baz=279,slow=2.3,SNR=25
VOSK Vostochnaya 137.08 37 PKIKP **PKPdf 11 17 16.6 +0.4**
VOSK pmax pmax
comp=Z,9.0nm,0.4s
YAK Yakutsk 140.40 348 *i* PKIKP **PKPdf 11 17 22.3 +0.4**
NVS Novosibirsk 141.98 28 *e*PKHKP PKPpre 11 17 19.3
KURBB Kurchatov Arra 142.21 36 PKhKP PKPpre 11 17 22.4
comp=Z,6.1nm,0.5s,baz=303,slow=2.9,SNR=20
KURBB PKP **PKPdf 11 17 26.3 +0.7**
comp=Z,7.9nm,0.5s,baz=297,slow=2.6,SNR=19
KURK Kurchatov 142.21 36 PKPpre PKPpre 11 17 22.4
KURK PKP **PKPdf 11 17 26.3 +0.7**
EKS2 Erkin-Say 142.50 50 *e*PKIKP **PKPdf 11 17 23.9 -2.6**
EKS2 Erkin-Say 142.50 50 *e*PKPdf **PKPdf 11 17 23.9 -2.6**
AAK Ala-Archa 143.01 50*c i* PKIKP PKPbc 11 17 25.5 +0.6
AAK Ala-Archa 143.01 50 *e*PKPdf PKPbc 11 17 25.4 +0.5
FRU Bishkek 143.04 50 *e*PKIKP PKPbc 11 17 25.0 +0.2
ZALV Zalesovo Beam 143.26 28 PKIKP PKPbc 11 17 25.3 +0.4
ZALV Zalesovo Beam 143.26 28 PKP PKPbc 11 17 25.3 +0.3
ZALV Zalesovo Beam 143.26 28 PKP PKPbc 11 17 25.3 +0.3
comp=Z,39nm,0.6s,baz=300,slow=3.8,SNR=31
TKM2 Tokmak 2 143.69 49 *e*PKIKP PKPbc 11 17 27.0 +0.2
TKM2 Tokmak 2 143.69 49 *e*PKPdf PKPbc 11 17 27.0 +0.2
BATI Baumata 144.52 198 PKP PKPbc 11 17 30.8 +1.0
BATI Baumata 144.52 198 P PKPbc 11 17 30.8 +1.0
BATI Baumata 144.52 198 PKP PKPbc 11 17 30.8 +1.0
comp=Z,204nm,0.6s,baz=211,slow=0.5,SNR=46
SOEI Soe 144.78 199 P **PKPdf 11 17 31.6 +0.2**
comp=Z,278nm,0.7s,comp=Z,2μmcomp=Z,0.9nm
KSH Kashi 144.96 55 PKP PKPbc 11 17 30.5 -0.2
KSH PKS **PKSdf 11 21 04.3 -2.2**
KSH SKS **SKSdf 11 24 22.5 -0.2**
KSH AMB AMB
comp=Z,110nm,4.2s
KSH LR LR
comp=N,140nm,5.9s
KSH LR LR
comp=E,110nm,5.9s
KSH LR LR
comp=Z,170nm,12.4s
MK31 Makanchi Array 146.34 40 PKIKP **PKPdf 11 17 33.2 +0.3**
MK31 pmax pmax
comp=Z,39nm,0.4s
MKAR Makanchi Array 146.34 40 PKP2 **PKPdf 11 17 34.1 +1.1**
MKAR Makanchi Array 146.34 40 PKPbc **PKPdf 11 17 34.1 +1.1**
MKAR Makanchi Array 146.34 40 PKPbc **PKPdf 11 17 34.1 +1.1**
comp=Z,49nm,0.5s,baz=300,slow=1.5,SNR=242
MMRI Maumere 146.40 196 P **PKPbc 11 17 35.5 0.0**
comp=Z,207nm,0.7s,comp=Z,3μmcomp=Z,0.9nm
HYB Hyderabad 146.88 95 *i* PKP **PKPbc 11 17 37.0 +0.1**
YSS Yuzh-Sakhalins 147.18 322*i e*PKP2 **PKPbc 11 17 36.0 -0.7**
FAKI Fak Fak 147.51 217 P **PKPbc 11 17 38.7 0.0**
comp=Z,79nm,1.2s,comp=Z,0.3nm
GMJI Gumukmas 147.91 180 P **PKPbc 11 17 40.5 +0.8**
KRKI Karangkates 148.02 178 P **PKPbc 11 17 41.2 +1.2**
comp=Z,314nm,0.5s
PWJI Pagerwojo 148.13 177 P **PKPbc 11 17 40.6 +0.3**
comp=Z,143nm,0.7s
CISI Cisompet, Garu 148.17 170 P **PKPbc 11 17 40.6 +0.1**
comp=Z,466nm,0.7s,comp=Z,4μm
BLJI Banyuglugur 148.44 181 P **PKPbc 11 17 41.3 +0.2**
comp=Z,205nm,0.6s,comp=Z,4μm
GUMO Guam 148.46 257 *e*PKPdf **PKPdf 11 17 38.9 +1.6**
ASAJ Asahikawa 148.79 317 *e*PKPdf **PKPdf 11 17 38.0 +1.1**
ASAJ *e*PKPbc **PKPbc 11 17 40.9 -0.2**
ASAJ PKPbc **PKPbc 11 17 41.7 +0.7**
ASAJ Asahikawa 148.79 317 PKPbc **PKPbc 11 17 41.7 +0.7**
comp=Z,18nm,0.6s,baz=315,slow=0.8,SNR=40
LEM Lembang 148.85 169 P **PKPbc 11 17 42.9 +0.6**
KMMI Kalianget 149.12 181 P **PKPbc 11 17 43.9 +1.1**
BSSI Bau Bau, Buton 149.22 194 P **PKPbc 11 17 43.0 -0.1**
comp=Z,110nm,0.6s,comp=Z,1μmcomp=Z,0.4nm
KASI Kota Agung 149.41 163 P **PKPbc 11 17 43.7 +0.2**
ERM Erimo 149.43 313 *e*PKPdf **PKPdf 11 17 38.6 +0.5**
ERM *e*PKPbc **PKiKP 11 17 43.7 0.0**
ERM *e*PKPab **PKPab 11 17 48.5 +0.3**
SWI Sorong 149.75 218 P **PKPbc 11 17 44.6 +0.2**
comp=Z,194nm,0.6s,comp=Z,2μmcomp=Z,0.8nm
BKSI Bulukumba 150.10 194 P **PKPbc 11 17 45.2 0.0**
comp=Z,109nm,0.6s,comp=Z,985nmcomp=Z,0.4nm
BKSI Bulukumba 150.10 194 P **PKPbc 11 17 45.0 -0.2**
KAPI Kappang 150.48 193 *e*PKPdf **PKPdf 11 17 41.5 +0.9**
KAPI *e*PKPbc **PKPbc 11 17 45.3 -0.8**
KAPI PKPbc **PKPbc 11 17 46.1 0.0**
KAPI *e*PKPab **PKPab 11 17 52.7 -0.4**
KAPI PKPab PKPab 11 17 53.3 +0.2
KAPI Kappang 150.48 193 P **PKPbc 11 17 45.6 -0.5**
comp=Z,113nm,0.6s,comp=Z,1μmcomp=Z,0.4nm
KAPI Kappang 150.48 193 PKPbc **PKPbc 11 17 46.1 0.0**
comp=Z,50nm,0.5s,baz=173,slow=0.6,SNR=52
KAPI PKPab **PKPab 11 17 53.3 +0.2**
comp=Z,35nm,0.5s,baz=297,slow=4.5,SNR=10
MOY Mondy 150.81 16 *e*PKIKP **PKPdf 11 17 41.7 +1.6**
MOY pmax pmax
comp=Z,92nm,1.8s
KLR Kul'dur 150.96 335 *e*PKIKP **PKPdf 11 17 37.0 -3.3**
KLR *e* 11 17 42.4
KLR *e* 11 18 37.2
KLR pmax pmax
comp=Z,130nm,1.8s
IRK Irkutsk 150.97 12 *e*PKIKP **PKPdf 11 17 40.0 -0.2**
IRK *e* 11 18 33.4
IRK pmax pmax
comp=Z,89nm,1.2s
WMQ Urumqi 151.16 40 PKPbc **PKPdf 11 17 40.0 -0.9**
WMQ PP **PP 11 21 28.5 +1.9**
WMQ LR LR
comp=N,250nm,29.6s
WMQ LR LR
comp=E,260nm,29.7s
WMQ LR LR
comp=Z,270nm,27.8s
SPSI Sidrap Palu 151.49 194 P **PKPbc 11 17 48.3 -0.2**
comp=Z,63nm,1.7s,comp=Z,809nmcomp=Z,0.2nm
TTSI Tana Toraja 152.37 194 P **PKPbc 11 17 50.8 +0.4**
ZAK Zakamensk 152.54 14 *e*PKIKP **PKPdf 11 17 43.3 +0.6**
ZAK pmax pmax
comp=Z,8.0nm,1.6s
USRK Ussuriysk Arra 154.72 327 PKP **PKPdf 11 17 45.8 -0.1**
comp=Z,1.9nm,0.6s,baz=132,slow=2.8,SNR=9.4

USRK					PKPbc	**PKiKP**		**11 17 55.0**	**+0.4**
	comp=Z,6.7nm,0.6s,baz=34,slow=0.7,SNR=20								
MNI	**Manado**	**154.95**	**208**		P	**PKPdf**		**11 17 43.4**	**-3.8**
MNI	**Manado**	**154.95**	**208**		P	PKPdf		11 17 42.3	-4.9
	comp=Z,224nm,0.8s								
MJAR	**Matsushiro Arr**	**155.22**	**306**		PKP	**PKPdf**		**11 17 47.2**	**+0.4**
MJAR					PKPbc	PKPab		11 17 56.3	-17
MJAR					PKPab	PKPab		11 18 13.1	+0.3
MJAR	**Matsushiro Arr**	**155.22**	**306**		PKP	**PKPdf**		**11 17 47.2**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=140,slow=0.7,SNR=4.1								
MJAR					PKPbc	PKPab		11 17 56.3	-17
	comp=Z,6.6nm,0.4s,baz=82,slow=1.2,SNR=26								
MJAR					PKPab	PKPab		11 18 13.1	+0.3
	comp=Z,5.4nm,0.5s,baz=60,slow=4.2,SNR=13								
SONM	**Songino Array**	**155.59**	**11**		PKP	**PKPdf**		**11 17 48.3**	**+1.1**
SONM					PKPbc	PKPab		11 17 56.6	-17
SONM					PKPab	PKPab		11 18 14.3	+0.3
SONM	**Songino Array**	**155.59**	**11**		PKP	**PKPdf**		**11 17 48.3**	**+1.1**
	comp=Z,2.7nm,0.7s,baz=287,slow=0.9,SNR=13								
SONM					PKPbc	PKPab		11 17 56.6	-17
	comp=Z,4.1nm,0.4s,baz=305,slow=1.5,SNR=12								
SONM					PKPab	PKPab		11 18 14.3	+0.3
	comp=Z,6.9nm,0.5s,baz=316,slow=3.4,SNR=12								
ULN	**Ulaanbaatar**	**155.68**	**10**	*e*	PKPdf	**PKPdf**		**11 17 48.1**	**+0.8**
CN2	**Changchun**	**157.89**	**336**	*e*	PKP	**PKPdf**		**11 17 48.0**	**-2.0**
CN2					SKS	**SKSdf**		**11 24 36.0**	**-2.2**
CN2					SKKS	**SKKSac**		**11 28 35.3**	**+0.5**
GTA	**Gaotai**	**160.86**	**33**	⇑	PKP	**PKPdf**		**11 17 54.5**	**+0.7**
GTA					pPKP	**PKPab**		**11 18 37.5**	**+0.3**
GTA					PKPab	PKPab		11 18 39.5	+2.3
GTA					sPKP			11 18 54.0	
GTA					PKS	**PKSdf**		**11 21 27.0**	**-0.2**
GTA					PP	**PP**		**11 22 22.8**	**+2.8**
GTA					SKS	**SKSdf**		**11 24 42.0**	**+0.5**
GTA					SKKS	**SKKSac**		**11 28 53.3**	**+2.5**
GTA					AMB	AMB			
	comp=Z,84nm,7.1s								
GTA					LR	LR			
	comp=N,180nm,20.9s								
GTA					LR	LR			
	comp=E,190nm,20.4s								
GTA					LR	LR			
	comp=Z,230nm,19.5s								
KSRS	**Korea Array**	**161.67**	**320**		PKP	**PKPdf**		**11 17 55.2**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=69,slow=1.0,SNR=9.9								
KSRS					PKPab	**PKPab**		**11 18 41.8**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=34,slow=4.7,SNR=8.1								
KSAR	**Wonju Array Be**	**161.70**	**320**		PKP	**PKPdf**		**11 17 55.2**	**+0.7**
KSAR					PKPab	**PKPab**		**11 18 41.8**	**+1.1**
LZH	**Lanzhou**	**165.44**	**32**	*e*	PKP	**PKPdf**		**11 17 56.8**	**-1.5**
LZH					pPKP	**pPKPdf**		**11 18 45.0**	**-2.2**
LZH					sPKP			11 18 59.8	
LZH					PP	**PP**		**11 22 45.0**	**+0.8**
LZH					SKS	**SKSdf**		**11 24 42.0**	**-3.1**
LZH					SKKS	**SKKSac**		**11 29 12.8**	**-1.5**
LZH					AMB	AMB			
	comp=Z,150nm,8.5s								
LZH					LR	LR			
	comp=N,150nm,18.0s								
LZH					LR	LR			
	comp=E,140nm,18.2s								
LZH					LR	LR			
	comp=Z,180nm,20.1s								
CMAR	**Chiang Mai Arr**	**165.50**	**110**		PKP	**PKPdf**		**11 17 59.4**	**+0.8**
CMAR					PKPab	**PKPab**		**11 18 59.3**	**+1.2**
CMAR	**Chiang Mai Arr**	**165.50**	**110**		PKP	**PKPdf**		**11 17 59.4**	**+0.8**
	comp=Z,1.1nm,0.4s,baz=270,slow=1.8,SNR=11								
CMAR					PKPab	**PKPab**		**11 18 59.3**	**+1.2**
	comp=Z,3.1nm,0.6s,baz=250,slow=5.4,SNR=8.6								
CD2	**Chengdu**	**169.08**	**49**	*e*	PKP	**PKPdf**		**11 18 00.5**	**-0.4**
CD2					pPKP	**pPKPdf**		**11 18 45.8**	**-4.0**
CD2					sPKP			11 19 03.5	
CD2					PKPab	**PKPab**		**11 19 13.5**	**-0.1**
CD2					PP	**PP**		**11 23 04.0**	**+0.8**
CD2					SKKS			11 29 31.8	
CD2					AMB	AMB			
	comp=Z,120nm,10.2s								
CD2					LR	LR			
	comp=E,190nm,13.2s								
CD2					LR	LR			
	comp=Z,210nm,11.9s								
KMI	**Kunming**	**170.30**	**81**		PKP	**PKPdf**		**11 17 59.0**	**-3.0**
KMI					pPKP	pPKPdf		11 18 44.0	-7.0
KMI					sPKP			11 19 03.8	
KMI					PP	**PP**		**11 23 10.3**	**-0.2**
KMI					AMB	AMB			
	comp=Z,61nm,5.7s								
KMI					LR	LR			
	comp=N,140nm,15.2s								
KMI					LR	LR			
	comp=E,230nm,18.6s								
KMI					LR	LR			
	comp=Z,300nm,22.0s								
NJ2	**Nanjing**	**170.62**	**330**	*e*	PKP	**PKPdf**		**11 18 00.5**	**-1.2**
WHN	**Wuhan**	**173.43**	**352**		PKP	**PKPdf**		**11 18 03.8**	**+0.8**
GYA	**Guiyang**	**173.50**	**67**		PKP	**PKPdf**		**11 18 02.0**	**-1.4**
GYA					pPKP	**pPKPdf**		**11 18 47.5**	**-4.8**
GYA					sPKP			11 19 05.8	
GYA					PKPab	**PKPab**		**11 19 31.8**	**-1.7**
GYA					PKS	**PKSdf**		**11 21 32.5**	**-3.3**
GYA					PP	**PP**		**11 23 25.0**	**-0.8**
GYA					AMB	AMB			
	comp=Z,130nm,8.0s								
QIZ	**Qiongzhong**	**174.08**	**146**		PKP	**PKPdf**		**11 18 02.0**	**-1.6**
QIZ					PP	**PP**		**11 23 25.5**	**-1.7**
QIZ					SS	SS		11 44 30.0	-0.1

*IDC **27** 10:58:22.6±2.1,53.67N×168.38W,h0km,mb3.4/4, mb1 3.7/5,mb1mx3.4/29,mbtmp3.3/5,ML3.2/1,MS3.9/2, Ms1 4.0/2,ms1mx2.8/49,Error ellipse: s-maj=39.6km s-min=27.4km az=28.0*
*NEIC **27** 10:58:44.8,53.75N×164.54W,h21km,ML3.4(AEIC),After AEIC.*

ISC 27 10:58:43.9±0.8,53.81N±0.09×164.54W±0.05,h21km±5km, n40,σ0.91/44,mb3.4/3,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.67**	**358**	P		**Pb**	**10 58 57.7**	**+0.8**
AKSA	**Akutan Strait**	**0.76**	**296**	P		**Pb**	**10 58 58.3**	**0.0**
AKSA				S		Sb	10 59 09.0	+0.8
WESN	**West Dahl Nort**	**0.76**	**358**	P		**Pn**	**10 58 59.4**	**0.0**
AKA	**Akutan**	**0.80**	**295**	P		**Pb**	**10 58 59.3**	**+0.3**
AKA				S		Sn	10 59 10.4	-0.7
AKUT	**Akutan**	**0.80**	**295**	P		**Pb**	**10 58 59.0**	**0.0**
AKUT				S		Sb	10 59 10.1	+0.8
HSB	**Akutan Spr's B**	**0.90**	**296**	P		**Pb**	**10 59 00.4**	**-0.3**
ZRO	**Akutan Zero**	**0.90**	**289**	P		**Pb**	**10 59 00.4**	**-0.3**
AKLV	**Akutan Long Va**	**0.91**	**294**	P		**Pb**	**10 59 00.5**	**-0.4**
AKLV				S		Sb	10 59 12.6	0.0
AKGG	**Akutan Green G**	**0.94**	**295**	P		**Pb**	**10 59 01.1**	**-0.3**
LVA	**Lava Point**	**0.95**	**293**	P		**Pb**	**10 59 01.2**	**-0.4**
AKRB	**Akutan Reef Bi**	**0.96**	**290**	P		**Pb**	**10 59 01.3**	**-0.5**
BRPK	**Brown Peak**	**0.96**	**29**	P		**Pb**	**10 59 01.3**	**-0.5**
SSLW	**Shishaldin Wes**	**1.00**	**14**	P		**Pb**	**10 59 02.7**	**+0.2**
SSBA	**Shishaldin**	**1.00**	**14**	P		**Pb**	**10 59 02.5**	**+0.1**
SSBA				S		Sn	10 59 16.5	+0.3
UNV	**Unalaska Valle**	**1.16**	**273**	P		**Pn**	**10 59 03.1**	**-1.8**
UNV				S		Sb	10 59 17.9	-1.9
FALS	**False Pass**	**1.24**	**32**	P		**Pn**	**10 59 05.4**	**-0.6**
FALS				S		Sn	10 59 22.3	+0.2
MTBL	**Makushin Table**	**1.27**	**278**	P		**Pn**	**10 59 05.5**	**-1.0**
MREP	**Makushin Rep't**	**1.31**	**271**	P		**Pn**	**10 59 06.4**	**-0.5**
MCIR	**Makushin Cirqu**	**1.40**	**277**	P		**Pn**	**10 59 07.5**	**-0.7**
DRIA	**Deer Island**	**1.77**	**48**	P		**Pn**	**10 59 12.9**	**-0.4**
DT1	**Dutton Round H**	**1.85**	**44**	P		**Pn**	**10 59 14.2**	**-0.2**
DTNA	**Dutton South F**	**1.90**	**44**	P		**Pn**	**10 59 15.0**	**0.0**
OKTU	**Okmok Mt. Tuli**	**2.13**	**260**	P		**Pn**	**10 59 18.9**	**+0.7**
OKCE	**Okmok Cone E**	**2.19**	**261**	P		**Pn**	**10 59 19.6**	**+0.6**
OKAK	**Okmok**	**2.28**	**266**	P		**Pn**	**10 59 21.2**	**+1.0**
OKSP	**Okmok Steeple**	**2.31**	**258**	P		**Pn**	**10 59 21.2**	**+0.6**
NIKH	**Nikolski High**	**2.71**	**254**	P		**Pn**	**10 59 26.4**	**+0.1**
SDPT	**Sand Point**	**2.83**	**55**	P		**Pn**	**10 59 28.8**	**+1.1**
FX1	**Attu Island--F**	**13.34**	**275**	*e*	Pn	**Pn**	**11 01 54.8**	**+3.0**
ILAR	**Eielson Array**	**14.15**	**32**		Pn	**Pn**	**11 02 01.2**	**-1.6**
ILAR	**Eielson Array**	**14.15**	**32**		Pn	**Pn**	**11 02 01.2**	**-1.6**
	0.0nm,0.3s,baz=223,slow=1.1,SNR=3.7							
INK	**Inuvik**	**20.55**	**33**	P		P	11 03 15.8	-4.8
INK	**Inuvik**	**20.55**	**33**	P		P	11 03 15.8	-4.8
	0.7nm,0.8s,baz=239,slow=12,SNR=3.1							
YKA	**Yellowknife Ar**	**27.09**	**51**	P		**P**	**11 04 23.8**	**-0.8**
	0.4nm,0.5s,baz=278,slow=9.8,SNR=6.2							
NVAR	**Mina Array Bea**	**34.86**	**97**	P		**P**	**11 05 34.2**	**+0.6**
NVAR	**Mina Array Bea**	**34.86**	**97**	P		**P**	**11 05 34.2**	**+0.6**
	0.2nm,0.4s,baz=321,slow=7.0,SNR=2.8							
TXAR	**Lajitas Array**	**49.87**	**94**	P		**P**	**11 07 35.0**	**-0.7**
TXAR	**Lajitas Array**	**49.87**	**94**	P		**P**	**11 07 35.0**	**-0.7**
	0.3nm,0.5s,baz=296,slow=5.1,SNR=6.7							
TXAR					LR	LR	11 25 59.5	
	comp=Z,105nm,21.1s,baz=190,slow=32							
ESDC	**Sonseca Array**	**85.40**	**15**		LR	LR	11 50 22.7	
	comp=Z,69nm,18.1s,baz=295,slow=36							

*NEIC **27** 10:58:35.6±0.5,49.95N×157.14E,h10km,mb4.8/20,Error ellipse: s-maj=51.9km s-min=9.1km az=148.0*
*KRSC **27** 10:59:02.7±1.2,50.93N×152.32E,h564km±34km,ML4.7*
*ISCJB **27** 10:59:07.3±0.3,51.64N±0.05×151.39E±0.08, h482km±3km,mb3.9/47,Error ellipse: s-maj=10.2km s-min=4.4km az=140.3*
*MOS **27** 10:59:07.1±1.5,51.34N×151.99E,h519km,mb3.6/13, Error ellipse: s-maj=17.5km s-min=9.0km az=64.0*
*IDC **27** 10:59:08.4±0.8,51.63N×151.36E,h485km±10km, mb3.3/23,mb1 3.6/28,mb1mx3.5/34,mbtmp3.4/28,Error ellipse: s-maj=12.2km s-min=6.9km az=142.0*

ISC 27 10:59:07.9±0.6,51.55N±0.07×151.55E±0.06,h483km±7km, n303,σ1.07/331,mb3.9/47,84C-100D,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.00**	**105**	*e*	P	P	11 00 13.5	-3.9
SKR				*e*	S	**S**	**11 01 08.5**	**-5.6**
SKR					pmax	pmax		
	comp=Z,30nm,0.5s							
SKR					smax	smax		
	comp=N,190nm,0.5s							
SKR					smax	smax		
	comp=E,90nm,0.5s							
SKR					smax	smax		
	comp=Z,80nm,0.5s							
SKR	**Severo-Kuril's**	**3.00**	**105**		P	**P**	**11 00 17.0**	**-0.4**
SKR				*i*	S	**S**	**11 01 12.7**	**-1.4**
PAU	**Pauzhetka**	**3.29**	**89**		P	**P**	**11 00 20.2**	**+0.8**
PAU					S	**S**	**11 01 17.1**	**-0.7**
PAU	**Pauzhetka**	**3.29**	**89**	*i*	P	**P**	**11 00 20.2**	**+0.8**
PAU				*i*	S	**S**	**11 01 17.1**	**-0.7**
MIPR	**Malaya Ipel'ka**	**3.31**	**75**	*i*	P	**P**	**11 00 20.7**	**+1.1**
APC	**Apacha**	**3.71**	**66**	*e*	P	**P**	**11 00 23.1**	**+0.5**
APC				*i*	S	**S**	**11 01 22.8**	**-0.9**
ASAK	**Asacha**	**4.01**	**75**	*e*	P	**P**	**11 00 25.9**	**+0.6**
ASAK				*i*	S	**S**	**11 01 27.5**	**-0.9**
PETK	**Petropavlovsk-**	**4.08**	**65**		P	**P**	**11 00 26.8**	**+1.1**
PETK					S	**S**	**11 01 31.6**	**+2.3**
PETK					pmax	pmax		
	comp=Z,17nm,0.3s							
PETK	**Petropavlovsk-**	**4.08**	**65**		P	**P**	**11 00 26.8**	**+1.1**
	comp=Z,17nm,0.3s,baz=216,slow=7.1,SNR=555							
PETK					S	**S**	**11 01 31.6**	**+2.3**
	baz=146,slow=21,SNR=1.8							
GRL	**Gorelyy**	**4.15**	**73**		P	**P**	**11 00 26.8**	**+0.4**
MTVR	**Mutnovka**	**4.20**	**75**	*i*	P	**P**	**11 00 27.6**	**+0.7**
MTVR				*i*	S	**S**	**11 01 30.4**	**-1.0**
RUS	**Russkaya**	**4.39**	**76**		P	**P**	**11 00 28.3**	**0.0**
RUS					S	**S**	**11 01 32.1**	**-2.0**
RUS	**Russkaya**	**4.39**	**76**	*i*	P	**P**	**11 00 28.3**	**0.0**
RUS				*i*	S	**S**	**11 01 32.1**	**-2.0**
GNL	**Ganaly**	**4.45**	**59**	*i*	P	**P**	**11 00 29.7**	**+0.8**
PET	**Petropavlovsk**	**4.60**	**68**	⇑	iP	**P**	**11 00 30.7**	**+0.5**
PET					eS	**S**	**11 01 37.4**	**0.0**
PET					pmax	pmax		
	comp=Z,400nm,1.2s							
PET					pmax	pmax		
	comp=Z,229nm,0.6s							
PET					smax	smax		
	comp=N,42nm,0.8s							
PET					smax	smax		
	comp=E,90nm,0.5s							
PET	**Petropavlovsk**	**4.60**	**68**	*i*	P	**P**	**11 00 31.0**	**+0.8**
PET				*i*	S	**S**	**11 01 36.4**	**-1.0**
KOK	**Koryaka**	**4.67**	**65**	*i*	P	**P**	**11 00 32.3**	**+1.4**
AVH	**Avacha**	**4.72**	**66**	*i*	P	**P**	**11 00 32.8**	**+1.4**
AVH				*i*	S	**S**	**11 01 39.4**	**-0.2**
UGLR	**Uglovaya**	**4.76**	**67**	*i*	P	**P**	**11 00 32.9**	**+1.2**
UGLR				*i*	S	**S**	**11 01 39.9**	**-0.3**
SMAR	**Somma**	**4.76**	**66**	*e*	P	**P**	**11 00 32.9**	**+1.1**
SMAR				*i*	S	**S**	**11 01 40.4**	**-0.1**
SDLR	**Sedlovina**	**4.81**	**66**	*i*	P	**P**	**11 00 33.0**	**+0.8**
SDLR				*i*	S	**S**	**11 01 40.2**	**-0.9**
NLC	**Nalytchevo**	**5.05**	**68**		P	**P**	**11 00 34.1**	**-0.1**
NLC					S	**S**	**11 01 42.6**	**-2.1**
NLC	**Nalytchevo**	**5.05**	**68**	*e*	P	**P**	**11 00 34.1**	**-0.1**
NLC				*i*	S	**S**	**11 01 42.6**	**-2.1**
KII	**Karymskiy**	**5.40**	**59**	*e*	P	**P**	**11 00 38.7**	**+1.1**
ESO	**Esso**	**6.10**	**41**		P	**P**	**11 00 45.8**	**+1.5**
ESO	**Esso**	**6.10**	**41**	*e*	P	**P**	**11 00 45.8**	**+1.5**
KOZ	**Kozyrevsk**	**6.68**	**44**	*e*	P	**P**	**11 00 52.4**	**+2.3**
KOZR	**Kozyr**	**6.70**	**44**		P	**P**	**11 00 52.4**	**+2.2**
KPT	**Kopyto**	**6.78**	**46**	*e*	P	**P**	**11 00 52.9**	**+1.8**
SRDR	**Sredinnyy**	**6.79**	**42**	*e*	P	**P**	**11 00 53.5**	**+2.4**
SRDR				*e*	P	P	11 00 53.6	+2.4
KIRR	**Kirishev**	**6.83**	**46**	*e*	P	**P**	**11 00 53.3**	**+1.6**
MKZ	**Mys Kozlova**	**6.84**	**60**		P	**P**	**11 00 50.8**	**-0.8**
MKZ					S	S	11 02 10.3	-6.4
MKZ	**Mys Kozlova**	**6.84**	**60**	*i*	P	**P**	**11 00 50.8**	**-0.8**
MKZ				*i*	S	S	11 02 10.3	-6.4
BZMR	**Bezymyannaya**	**6.88**	**47**	*e*	P	**P**	**11 00 53.9**	**+1.7**
BZWR	**Bezymyannyi-We**	**6.90**	**47**	*e*	P	**P**	**11 00 53.8**	**+1.3**
BZGR	**Bezymyannyi-Gr**	**6.98**	**47**		P	**P**	**11 00 55.3**	**+2.1**
LGNR	**Loginova**	**7.06**	**46**	*e*	P	**P**	**11 00 55.7**	**+1.5**
LGNR				*e*	S	**S**	**11 02 20.2**	**-1.3**
ZLN	**Zelenaya**	**7.08**	**47**	*e*	P	**P**	**11 00 56.1**	**+1.9**
KRSR	**Krestovskiy**	**7.09**	**45**	*e*	P	**P**	**11 00 55.8**	**+1.5**
KRSR				*i*	S	**S**	**11 02 19.6**	**-2.0**
CIRR	**Tsirk**	**7.11**	**46**	*e*	P	**P**	**11 00 56.6**	**+2.1**
YSS	**Yuzh-Sakhalins**	**7.37**	**235**	⇑	iP	**P**	**11 00 59.0**	**+1.8**
YSS					eS	**S**	**11 02 29.8**	**+2.9**
YSS					pmax	pmax		
	comp=Z,30nm,0.7s							
YSS					smax	smax		
	comp=N,30nm,1.0s							
YSS	**Yuzh-Sakhalins**	**7.37**	**235**	*e*	P	**P**	**11 00 58.3**	**+1.1**
BDR	**Baidarnaya**	**7.58**	**45**	*e*	P	**P**	**11 01 00.0**	**+0.6**
BDR				*e*	S	**S**	**11 02 27.5**	**-3.5**
SRKR	**Sorokina**	**7.62**	**44**		P	**P**	**11 00 59.6**	**-0.1**
SRKR				*i*	S	**S**	**11 02 27.0**	**-4.6**
SMKR	**Semkarok**	**7.71**	**45**		P	**P**	**11 01 01.6**	**+0.9**
SMKR				*i*	S	**S**	**11 02 30.7**	**-2.6**
KBG	**Krutoberegovo**	**8.10**	**50**		P	**P**	**11 01 03.5**	**-1.1**
KBG					S	S	11 02 32.6	-8.0
KBG	**Krutoberegovo**	**8.10**	**50**	*e*	P	**P**	**11 01 03.5**	**-1.1**
KBG				*i*	S	S	11 02 32.6	-8.0
ASAJ	**Asahikawa**	**9.56**	**222**	*e*	Pn	**P**	**11 01 19.1**	**-1.3**
ASAJ	**Asahikawa**	**9.56**	**222**		P	**P**	**11 01 21.0**	**+0.6**
	comp=N,1.9nm,0.3s,baz=28,slow=7.9,SNR=16							
ASAJ					S	**S**	**11 03 09.2**	**-0.2**
	baz=30,slow=20,SNR=2.4							
ERM	**Erimo**	**11.13**	**214**	⇑	eP	**P**	**11 01 34.9**	**-2.3**
ERM	**Erimo**	**11.13**	**214**	*e*	P	**P**	**11 01 34.9**	**-2.3**
SEY	**Seymchan**	**11.43**	**2**	P		Px	11 03 20.5	
	comp=N,241nm,0.4s,baz=145,slow=8.7,SNR=2.6							
KLR	**Kul'dur**	**12.84**	**267**	*e*	P	**P**	**11 01 53.2**	**-2.2**
FX1	**Attu Island--F**	**13.31**	**76**	P		**P**	**11 02 01.5**	**+1.2**
	comp=N,8.2nm,0.3s,baz=280,slow=3.0,SNR=74							
FX1					S	**S**	**11 04 27.4**	**+4.8**
	comp=N,0.1nm,0.3s,baz=297,slow=17,SNR=2.7							
USRK	**Ussuriysk Arra**	**15.02**	**248**	P		**P**	**11 02 16.7**	**-1.7**
	comp=N,0.6nm,0.3s,baz=57,slow=8.9,SNR=10							
MJA0	**Matsu Arr-Jizo**	**17.74**	**217**	*e*	P	**P**	**11 02 46.2**	**-0.5**
MJA0					pmax	pmax		
	comp=Z,3.0nm,0.3s							
MAJO	**Matsushiro**	**17.76**	**218**	*e*	P	**P**	**11 02 45.7**	**-1.2**
MAJO	**Matsushiro**	**17.76**	**218**	*e*	P	**P**	**11 02 45.7**	**-1.2**
MAT	**Matsushiro**	**17.76**	**218**	P		**P**	**11 02 45.3**	**-1.5**
MJAR	**Matsushiro Arr**	**17.76**	**218**	P		**P**	**11 02 45.6**	**-1.3**
	comp=Z,2.6nm,0.3s,baz=12,slow=9.4,SNR=45							
MJAR					S	**S**	**11 05 47.6**	**+1.6**
	baz=83,slow=15,SNR=3.0							
KSRS	**Korea Array**	**21.84**	**239**	P		**P**	**11 03 24.0**	**0.0**
	comp=Z,4.5nm,0.6s,baz=42,slow=9.5,SNR=31							
JNU	**Nakatsue**	**23.79**	**227**	P		**P**	**11 03 42.0**	**+0.4**
	comp=Z,3.4nm,0.6s,baz=360,slow=10.0,SNR=2.8							
COLD	**Coldfoot**	**32.07**	**39**	*e*	P	**P**	**11 04 54.0**	**+0.5**
	comp=Z,8.0nm,0.8s							
COLA	**College**	**33.16**	**43**	*e*	P	**P**	**11 05 03.3**	**+0.6**
COLA					pmax	pmax		
	comp=Z,43nm,0.9s							
COLA	**College**	**33.16**	**43**	*e*	P	**P**	**11 05 03.3**	**+0.6**
	comp=Z,43nm,0.9s							
ILAR	**Eielson Array**	**33.58**	**43**		P	**P**	**11 05 06.6**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=273,slow=8.7,SNR=35							
EGAK	**Eagle**	**36.00**	**42**	*e*	P	**P**	**11 05 26.5**	**-0.1**
INK	**Inuvik**	**38.24**	**35**	P		**P**	**11 05 45.4**	**+0.4**
	comp=Z,10nm,0.6s,baz=307,slow=6.3,SNR=68							
INK					PcP	**PcP**	**11 07 46.5**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=292,slow=3.6,SNR=4.8							
DLBC	**Dease Lake**	**43.09**	**49**	P		**P**	**11 06 25.6**	**+1.4**
	comp=Z,2.4nm,0.8s,baz=289,slow=8.1,SNR=5.8							
MKAR	**Makanchi Array**	**43.99**	**292**	*e*	P	**P**	**11 06 29.9**	**-1.3**
MKAR	**Makanchi Array**	**43.99**	**292**	P		**P**	**11 06 30.9**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=54,slow=6.0,SNR=4.6							
KURK	**Kurchatov**	**43.99**	**299**	P		**P**	**11 06 31.0**	**-0.1**
KURK							11 08 05.4	
KURK					pmax	pmax		
	comp=Z,1.0nm,0.5s							
KURK					pmax	pmax		
	comp=Z,1.0nm,0.6s							
KURBB	**Kurchatov Arra**	**44.09**	**299**	P		**P**	**11 06 31.0**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=65,slow=8.3,SNR=5.1							
KURBB					PcP	**PcP**	**11 08 05.3**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=64,slow=3.0,SNR=7.6							
BVAR	**Borovoye Array**	**47.12**	**305**	P		**P**	**11 06 54.7**	**-0.4**
BVAR							11 08 16.1	
BVAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
BVAR					pmax	pmax		
	comp=Z,1.0nm,0.4s							
BVAR	**Borovoye Array**	**47.12**	**305**	P		**P**	**11 06 54.7**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=47,slow=8.5,SNR=5.3							
BVAR					PcP	**PcP**	**11 08 16.1**	**-1.3**
	comp=Z,1.0nm,0.4s,baz=74,slow=1.8,SNR=4.5							
KBS	**Kingsbay**	**47.59**	**350**	⇑	eP	P	11 06 54.1	-4.2
KBS					pmax	pmax		
	comp=Z,7.0nm,1.2s							
YKA	**Yellowknife Ar**	**47.75**	**39**	P		**P**	**11 06 59.8**	**+0.2**
	comp=Z,3.8nm,0.5s,baz=303,slow=6.9,SNR=51							
YKA					PcP	**PcP**	**11 08 19.0**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=310,slow=3.5,SNR=6.1							
CMAR	**Chiang Mai Arr**	**52.72**	**251**	P		**P**	**11 07 37.3**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=24,slow=7.0,SNR=5.4							
ARCES	**ARCESS Array B**	**52.99**	**339**	P		**P**	**11 07 37.3**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=27,slow=8.2,SNR=8.4							
NEW	**Newport**	**55.15**	**54**	⇓	P	**P**	**11 07 54.3**	**+0.6**
	baz=53							
A13A	**Flathead Natio**	**56.07**	**52**	⇓	P	**P**	**11 08 00.2**	**+0.1**
	baz=54							
C12B	**Naegeli Ranch,**	**56.35**	**54**	⇓	P	**P**	**11 08 02.7**	**+0.7**
	baz=54,SNR=5.5							
B13A	**Whitefish**	**56.41**	**53**	⇓	P	**P**	**11 08 02.9**	**+0.5**
	baz=54							
A14A	**Double T Ranch**	**56.53**	**52**	⇓	P	**P**	**11 08 03.2**	**-0.1**
	baz=54,SNR=5.4							
JOF	**Joensuu**	**56.60**	**332**	*ep*		**P**	**11 08 01.9**	**-1.5**
	comp=Z,1.2nm,0.5s							
JOF	**Joensuu**	**56.60**	**332**	*e*	P	**P**	**11 08 01.9**	**-1.5**
JOF					pmax	pmax		
	comp=Z,1.0nm,0.5s							
BSMT	**Bassoo Peak**	**56.60**	**54**	*e*	P	**P**	**11 08 05.0**	**+1.1**
C13A	**Hot Springs**	**56.82**	**54**	⇑	P	**P**	**11 08 06.0**	**+0.7**
	baz=55							
A15A	**Johnson Ranch,**	**56.87**	**52**	⇑	P	**P**	**11 08 05.0**	**-0.7**
	baz=55,SNR=5.8							
SWMT	**Swartz Lake**	**57.23**	**54**	*e*	P	**P**	**11 08 08.9**

	baz=59							
C22A	**Vida**	61.01	49	⇑P		P	11 08 33.7	+0.2
	baz=59							
A24A	**Westby**	61.03	47	⇑P		P	11 08 33.7	+0.1
	baz=59							
H17A	**Grant Village**	61.10	54	⇓P		P	11 08 36.7	+2.3
	baz=59							
NVAR	**Mina Array Bea**	61.17	64	P		P	11 08 36.3	+1.4
	comp=Z,2.4nm,0.6s,baz=299,slow=6.4,SNR=19							
RLMT	**Red Lodge**	61.24	53	*eP*		P	11 08 36.2	+0.9
	comp=Z,1.0nm,0.5s							
DGMT	**Dagmar**	61.27	47	⇑P		P	11 08 34.8	-0.4
	baz=59							
C23A	**Lambert**	61.29	48	⇓P		P	11 08 35.9	+0.6
	baz=59							
D22A	**Cohagen**	61.30	49	⇓P		P	11 08 35.9	+0.5
	baz=59							
RRI2	**Red Ridge**	61.46	55	*eP*		P	11 08 38.5	+1.7
	comp=Z,7.1nm,0.7s							
TPAW	**Teton Pass**	61.55	55	*eP*		P	11 08 39.1	+1.7
	comp=Z,3.8nm,0.8s							
LOHW	**Long Hollow**	61.64	55	*eP*		P	11 08 39.5	+1.5
	comp=Z,4.2nm,1.1s							
REDW	**Red Top Meadow**	61.69	55	*eP*		P	11 08 39.7	+1.4
	comp=Z,7.8nm,1.3s							
G20A	**Bridger**	61.70	52	⇑P		P	11 08 38.3	+0.1
	baz=60							
D23A	**Lindsay**	61.74	49	⇑P		P	11 08 38.6	+0.3
	baz=60							
E23A	**Ismay**	62.18	50	⇑P		P	11 08 41.7	+0.5
	baz=60							
F22A	**Rosebud**	62.25	51	⇓P		P	11 08 41.9	+0.2
	baz=60							
E24A	**Baker**	62.61	49	⇑P		P	11 08 44.5	+0.5
	baz=61							
I20A	**Worland**	62.65	53	⇑P		P	11 08 45.4	+1.0
	baz=60							
J19A	**Crowheart**	62.68	54	⇓P		P	11 08 45.7	+1.1
	baz=60							
F23A	**Volborg**	62.70	50	⇓P		P	11 08 44.8	+0.2
	baz=61							
H21A	**Big Horn, Sher**	62.70	52	⇑P		P	11 08 45.2	+0.5
	baz=61							
GRAC	**Grapevine Rang**	62.70	64	⇑P		P	11 08 45.9	+1.2
	baz=60							
R11A	**Troy Canyon, C**	62.74	62	⇓P		P	11 08 45.8	+0.7
	baz=60							
PDAR	**Pinedale Array**	62.78	55	P		P	11 08 46.0	+0.6
	comp=Z,3.9nm,0.6s,baz=356,slow=1.7,SNR=36							
DUG	**Dugway**	62.92	59	*eP*		P	11 08 47.6	+1.3
	comp=Z,3.4nm,0.8s							
DUG	**Dugway**	62.92	59	⇑P		P	11 08 47.4	+1.2
	baz=60							
TCUT	**Toone Canyon**	63.01	57	*eP*		P	11 08 47.7	+0.8
	comp=Z,16nm,0.5s							
ISA	**Isabella**	63.03	66	⇓P		P	11 08 47.0	+0.2
	baz=60							
F24A	**Ekalaka**	63.07	50	⇓P		P	11 08 47.2	+0.2
	baz=61							
K19A	**Absolon Red Bu**	63.10	54	⇓P		P	11 08 47.1	-0.2
	baz=61							
J20A	**Shoshoni**	63.10	54	⇑P		P	11 08 48.0	+0.7
	baz=61							
M17A	**Scullys Gap (B**	63.14	57	⇓P		P	11 08 47.8	+0.1
	baz=61							
L18A	**Fontenelle, Gr**	63.14	56	⇑P		P	11 08 48.4	+0.7
	baz=61							
I21A	**Big Trails, Te**	63.17	53	⇓P		P	11 08 48.2	+0.5
	baz=61							
MPMC	**Manual Prospec**	63.30	65	⇓P		P	11 08 49.1	+0.3
	baz=60							
NB2	**NORSAR Subarra**	63.36	340	P		P	11 08 47.4	-1.1
	comp=Z,0.6nm,0.5s,baz=28,slow=6.2							
NOA	**NORSAR Array B**	63.36	340	P		P	11 08 47.8	-0.8
	comp=Z,1.0nm,0.5s,baz=27,slow=6,4,SNR=5.7							
FURC	**Furnace Creek,**	63.37	64	⇑P		P	11 08 50.1	+1.3
	baz=61							
J21A	**Lysite**	63.43	53	⇑P		P	11 08 50.0	+0.5
	baz=61							
G24A	**Alzada**	63.46	50	⇑P		P	11 08 49.4	-0.1
	baz=61							
NLU	**North Lily Min**	63.49	59	*eP*		P	11 08 51.4	+1.5
	comp=Z,64nm,1.8s							
I22A	**9 Mile Ranch,**	63.51	52	⇑P		P	11 08 50.4	+0.5
	baz=61							
LRMC	**Laurel Mountai**	63.61	66	⇓P		P	11 08 51.2	+0.5
	baz=61							
HFS	**Hagfors**	63.61	338	P		P	11 08 49.5	-0.6
	comp=Z,1.6nm,0.4s,baz=67,slow=5.0,SNR=18							
OSI	**Osito Adit**	63.63	67	⇑P		P	11 08 51.6	+0.8
	baz=61							
MDND	**Maddock**	63.80	45	⇓P		P	11 08 52.0	+0.4
	baz=62							
H24A	**Dirks Ranch, A**	63.82	50	⇑P		P	11 08 51.6	-0.3
	baz=62							
EDW2	**Edwards Air Fo**	63.86	66	⇓P		P	11 08 53.2	+1.0
	baz=61							
J22A	**Midwest**	63.86	53	⇓P		P	11 08 52.1	-0.1
	baz=62							
F26A	**Lodgepole**	63.90	49	⇑P		P	11 08 52.4	+0.1
	baz=62							
L20A	**Wamsutter**	63.95	55	⇓P		P	11 08 53.5	+0.6
	baz=62							
K21A	**Alcova**	64.05	54	⇑P		P	11 08 53.4	-0.1
	baz=62							
DECC	**Green Verdugo**	64.12	67	⇓P		P	11 08 54.7	+0.9
	baz=61							
GSC	**Goldstone**	64.23	65	⇑P		P	11 08 55.0	+0.4
	baz=61							
G26A	**Maurine**	64.35	49	⇑P		P	11 08 55.1	0.0
	baz=62							
H25A	**Fruitdale**	64.37	50	⇓P		P	11 08 55.5	+0.2
	baz=62							
K22A	**Casper**	64.40	53	⇑P		P	11 08 56.0	+0.3
	baz=62							
M20A	**Sweetwater, Wa**	64.41	55	⇓P		P	11 08 56.2	+0.3
	baz=62							
MVU	**Marysvale**	64.47	60	*eP*		P	11 08 57.8	+1.5
	comp=Z,93nm,1.8s							
L21A	**Rawlins**	64.48	54	⇑P		P	11 08 56.6	+0.3
	baz=62							
BFSC	**Mount Baldy Ra**	64.51	67	⇓P		P	11 08 57.4	+1.0
	baz=62							
FMP	**Fort Macarthur**	64.53	67	⇑P		P	11 08 57.9	+1.5
	baz=62							
RSSD	**Black Hills**	64.54	51	*eP*		P	11 08 56.5	-0.1
	comp=Z,15nm,0.8s							
TUQ	**Turquoise Moun**	64.64	65	⇑P		P	11 08 58.2	+1.0
	baz=62							
M21A	**Separation Pea**	64.74	54	⇓P		P	11 08 58.4	+0.4
	baz=62							
O19A	**Miners Draw (B**	64.80	57	⇓P		P	11 08 58.5	+0.3
	baz=62							
J24A	**Dixon Ranch, L**	64.82	52	⇑P		P	11 08 59.0	+0.7
	baz=63							
HEC	**Hector,Ludlow**	64.84	65	⇓P		P	11 08 59.2	+0.7
	baz=62							
N20A	**Spence Gulch,**	64.85	56	⇓P		P	11 08 59.6	+1.0
	baz=62							
L22A	**Ellis Ranch, M**	64.90	54	⇑P		P	11 08 59.4	+0.5
	baz=63							
SCI	**San Clemente I**	64.91	68	⇓P		P	11 09 00.6	+1.7
	baz=62							
BBRC	**Big Bear Solar**	64.92	66	⇓P		P	11 08 59.8	+0.7
	baz=62							
SRU	**San Rafael**	64.93	58	*eP*		P	11 09 00.1	+1.0
	comp=Z,26nm,0.6s							
H27A	**Howes**	65.09	49	⇑P		P	11 08 60.0	+0.2
	baz=63							
J25A	**Sunshine Ranch**	65.19	51	⇑P		P	11 09 01.0	+0.4
	baz=63							
L23A	**Garrett**	65.21	53	⇓P		P	11 09 01.0	+0.1
	baz=63							
GMRC	**Granite Mounta**	65.26	65	⇑P		P	11 09 01.9	+0.8
	baz=62							
M22A	**Cedar Creek Ra**	65.28	54	⇑P		P	11 09 02.2	+0.8
	baz=63							
O20A	**White River Ci**	65.38	56	⇓P		P	11 09 02.4	+0.4
	baz=63							
I27A	**Quinn**	65.52	49	⇓P		P	11 09 03.0	+0.4
	baz=64							
H28A	**Mission Ridge**	65.55	48	⇓P		P	11 09 03.3	+0.5
	baz=64							
BELC	**Belle Mtn. Jos**	65.63	66	⇑P		P	11 09 04.1	+0.6
	baz=63							
O21A	**Pagoda**	65.72	56	⇓P		P	11 09 04.4	+0.3
	baz=63							
N22A	**Wattenberg Ran**	65.80	54	⇑P		P	11 09 05.1	+0.5
	baz=64							
U15A	**North Rim**	65.93	61	⇓P		P	11 09 06.4	+0.8
	baz=63							
N23A	**Red Feather La**	65.99	54	⇓P		P	11 09 06.3	+0.4
	baz=64							
IRM	**Iron Mountain**	66.00	65	⇓P		P	11 09 06.8	+1.0
	baz=63							
W13A	**Hualapai Mount**	66.02	63	⇓P		P	11 09 06.8	+0.8
	baz=63							
L25A	**Engebretsen Ra**	66.04	52	⇓P		P	11 09 06.1	+0.2
	baz=64							
BC3	**Big Chuckawall**	66.19	66	⇑P		P	11 09 07.9	+0.9
	baz=63							
Q20A	**Ridgley Place,**	66.22	57	⇓P		P	11 09 07.5	+0.3
	baz=64							
O22A	**Kremmling**	66.23	55	⇓P		P	11 09 07.9	+0.5
	baz=64							
J28A	**Allard Ranch,**	66.40	49	⇓P		P	11 09 08.4	+0.3
	baz=64							
PDMCI	**Parker Dam,Lak**	66.47	64	⇓P		P	11 09 09.6	+1.1
	baz=64							
O23A	**Lake Granby, G**	66.51	55	⇑P		P	11 09 09.6	+0.4
	baz=64							
P22A	**Eagle**	66.54	56	⇓P		P	11 09 09.6	+0.3
	baz=64							
L26A	**Underwood Farm**	66.56	52	⇓P		P	11 09 09.4	+0.2
	baz=64							
Y12C	**Blythe**	66.65	65	⇓P		P	11 09 10.6	+0.9
	baz=64							
Q21A	**Lamborn Mesa,**	66.69	57	⇓P		P	11 09 10.5	+0.4
	baz=64							
R20A	**Redvale**	66.74	58	⇑P		P	11 09 10.8	+0.3
	baz=64							
KBZ	**Khabaz**	66.84	312	P		P	11 09 11.4	+0.7
KBZ				pmax		pmax		
	comp=Z,2.0nm,0.7s							
KBZ	**Khabaz**	66.84	312	P		P	11 09 11.4	+0.7
	comp=Z,2.3nm,0.7s,baz=50,slow=7.9,SNR=3.8							
ISCO	**Idaho Springs**	66.97	55	⇓P		P	11 09 12.3	+0.3
	baz=65							
O24A	**Longmont**	67.01	54	⇑P		P	11 09 12.3	+0.3
	baz=65							
Q22A	**Crested Butte,**	67.01	56	⇑P		P	11 09 12.2	0.0
	baz=65							
S20A	**Disappointment**	67.02	58	⇓P		P	11 09 12.6	+0.3
	baz=65							
R21A	**Cimarron**	67.04	57	⇓P		P	11 09 12.9	+0.5
	baz=65							
WUAZ	**Wupatki**	67.11	61	⇓P		P	11 09 13.6	+0.9
	baz=64							
EYMN	**Ely**	67.17	41	*eP*		P	11 09 11.6	-1.2
P23A	**Jefferson**	67.18	55	⇑P		P	11 09 13.8	+0.4
	baz=65							
K29A	**Lazy Trails An**	67.34	49	⇑P		P	11 09 14.3	+0.4
	baz=65							
Y14A	**Wickenburg**	67.37	64	⇑P		P	11 09 15.0	+0.7
	baz=65,SNR=5.6							
MVCO	**Mesa Verde**	67.41	58	*eP*		P	11 09 15.4	+0.7
	comp=Z,163nm,1.8s							
MVCO	**Mesa Verde**	67.41	58	⇑P		P	11 09 14.8	+0.2
	baz=65							
S21A	**Coal Bank Pass**	67.44	58	⇓P		P	11 09 15.4	+0.4
	baz=65							
O25A	**Wiggins**	67.50	54	⇓P		P	11 09 15.6	+0.5
	baz=65							
R22A	**Saguache, Gunn**	67.56	57	⇑P		P	11 09 16.3	+0.6
	baz=65							
N27A	**Anderson Farm,**	67.76	52	⇓P		P	11 09 17.1	+0.5
	baz=66							
113A	**Mohawk Valley,**	67.80	65	⇓P		P	11 09 17.8	+1.0
	baz=65,SNR=17							
Q24A	**Divide**	67.84	55	⇓P		P	11 09 17.9	+0.5
	baz=66,SNR=18							
OGNE	**Ogallala**	67.90	52	⇓P		P	11 09 17.6	+0.2
	baz=66,SNR=6.6							
P25A	**Willow Gulch B**	67.92	54	⇑P		P	11 09 18.2	+0.5
	baz=66							
SCHQ	**Schefferville**	69.27	23	P		P	11 09 24.5	-0.9
	comp=Z,4.6nm,0.4s,baz=346,slow=5.8,SNR=26							
U23A	**El Rito**	69.29	58	⇑P		P	11 09 26.0	-0.1
	baz=67							
120A	**U Bar Ranch, L**	70.83	62	⇓P		P	11 09 35.9	+0.6
	baz=68							
121A	**Chookes Peak, D**	71.31	61	⇑P		P	11 09 38.4	+0.3
	baz=69							
Y24A	**Capitan**	71.52	59	⇓P		P	11 09 39.6	+0.2
	baz=69							
Z23A	**Rita Site, Whi**	71.60	60	⇓P		P	11 09 40.0	+0.2
	baz=69							
X26A	**CR and CF Fran**	71.90	57	⇓P		P	11 09 41.6	+0.1
	baz=70							
Y25A	**Mesa, Roswell**	71.92	58	⇑P		P	11 09 42.0	+0.4
	baz=69							
X27A	**F and S Farms,**	72.20	57	⇓P		P	11 09 43.7	+0.5
	baz=70							
Y26A	**Elida**	72.37	58	⇓P		P	11 09 44.5	+0.3
	baz=70							
Z25A	**Roswell**	72.40	59	⇓P		P	11 09 44.8	+0.4
	baz=70							
124A	**Stringfield Ra**	72.45	60	⇓P		P	11 09 45.0	+0.2
	baz=70							
V30A	**Spur Ranch, Mi**	72.57	54	⇓P		P	11 09 45.0	-0.3
	baz=70							
WRA	**Warramunga Arr**	72.77	197	P		P	11 09 46.4	0.0
	comp=Z,0.4nm,0.9s,baz=15,slow=6.1,SNR=4.7							
X29A	**Tulia**	73.08	56	⇓P		P	11 09 48.4	+0.1
	baz=71							
GERES	**GERESS Array B**	73.71	332	P		P	11 09 51.0	-0.6
	comp=Z,0.9nm,0.5s,baz=46,slow=5.7,SNR=6.6							
Z29A	**Hungry Hill Ra**	74.00	57	⇑P		P	11 09 53.3	-0.2
	baz=72							
227A	**Bennet, Jal**	74.14	58	⇑P		P	11 09 54.6	+0.2
	baz=72							
BRTR	**Keskin Array B**	74.23	315	P		P	11 09 54.8	0.0
	comp=Z,1.0nm,0.7s,baz=104,slow=2.4,SNR=3.8							
129A	**Stewart Farms,**	74.41	57	⇓P		P	11 09 56.0	+0.2
	baz=72							
Y32A	**R-V Farms, Ver**	74.58	55	⇓P		P	11 09 56.8	0.0
	baz=72							
Z31A	**Sharp Cattle R**	74.76	55	⇑P		P	11 09 57.8	0.0
	baz=72							
426A	**McDonald Obser**	74.78	60	⇑P		P	11 09 58.2	0.0
	baz=72							
328A	**Wristen Ranch,**	74.88	59	⇑P		P	11 09 59.0	+0.5
	baz=72							
427A	**Hayter Ranch,**	74.98	59	⇓P		P	11 09 59.4	+0.2
	baz=72							
526A	**Mary Lane Ranc**	75.22	60	⇓P		P	11 10 00.8	+0.2
	baz=73							
329A	**Wagon Wheel Ra**	75.24	58	⇓P		P	11 10 01.1	+0.6
	baz=73							
TXAR	**Lajitas Array**	76.02	60	P		P	11 10 05.7	+0.7
	comp=Z,1.4nm,0.5s,baz=295,slow=5.3,SNR=7.2							
627A	**Terlingua Ranc**	76.08	60	⇑P		P	11 10 05.4	+0.1
	baz=74							
430A	**Baggett Ranch,**	76.19	58	⇑P		P	11 10 05.8	0.0
	baz=74							
331A	**San Angelo**	76.20	57	⇑P		P	11 10 06.2	+0.3
	baz=74							
ASAR	**Alice Springs**	76.48	197	P		P	11 10 08.3	+1.1
	comp=Z,0.4nm,0.7s,baz=14,slow=4.8,SNR=5.4							
JCT	**Junction City**	77.18	57	⇓P		P	11 10 11.6	+0.3
	baz=75							
WHTX	**Lake Whitney**	77.19	54	⇓P		P	11 10 11.1	-0.1
	baz=75							
532A	**Rocksprings**	77.41	57	⇑P		P	11 10 12.7	+0.2
	baz=75							
631A	**Perdido Creek**	77.62	58	⇓P		P	11 10 13.9	+0.3
	baz=75							
732A	**Laxson Ranch,**	78.48	58	⇓P		P	11 10 18.7	+0.4
	baz=76							
STKA	**Stephens Creek**	83.53	189	P		P	11 10 44.4	+0.4
	comp=Z,2.0nm,0.9s,baz=7.1,slow=8.1,SNR=3.0							
QSPA	**South Pole Qui**	141.29	180	PKhKP	PKPpre		11 17 36.0	
	comp=Z,1.0nm,0.5s,baz=351,slow=1.7,SNR=6.5							
CFAA	**Coronel Fontan**	144.76	71	PKP		PKPdf	11 17 48.1	-0.7
	comp=Z,0.6nm,0.8s,baz=310,slow=2.5,SNR=8.2							
CPUP	**Villa Florida**	146.64	52	PKPbc		PKPdf	11 17 53.9	+1.8
	comp=Z,0.6nm,0.4s,baz=225,slow=4.3,SNR=4.0							

ISCJB ***27*** *11:08:15.8±0.2,5.47S±0.03×151.80E±0.04,h33km, mb4.9/78,MS4.2/34,Error ellipse: s-maj=5.7km s-min=4.2km az=31.6*

MOS ***27*** *11:08:15.8±1.1,5.41S×151.80E,h33km,mb5.3/16,Error ellipse: s-maj=10.6km s-min=7.5km az=83.1*

IDC ***27*** *11:08:16.4±2.7,5.51S×151.85E,h29km±18km, mb4.6/24, mb1 4.7/26,mb1mx4.7/27,mbtmp4.6/26,ML3.8/2,MS4.1/24, Ms1 4.1/24,ms1mx4.0/35,Error ellipse: s-maj=15.1km s-min=9.5km az=114.0*

BJI ***27*** *11:08:19.7,4.91S×151.93E,h48km,mB5.0/22,mb4.9/33, Ms4.5/21,Ms7 4.5/22*

NEIC ***27*** *11:08:19.4±0.8,5.50S×151.77E,h53km±8km,mb5.1/34, Error ellipse: s-maj=5.4km s-min=4.9km az=102.0*

DJA ***27*** *11:08:21.9±1.6,6.3S±6.1×15.2E±1.2,h65km±16km,M5.2/7, mB5.6/1,mb5.1/7,MLv5.3/1,Mw(mB)5.0/1*

GCMT ***27*** *11:08:21.1±0.3,5.76S×151.86E,h29km,MW5.0,Moment Tension Solution. s41,c56; s53,c72; Moment tensor: Scale 10¹⁶Nm; Mrr3.54±.21; Mθθ-3.36±.13; Mϕϕ-0.18±.13; Mrθ2.32±.20; Mθϕ-0.85±.11; Mϕr-0.28±.27; Best double couple: M₀4.30000×10¹⁶ NP1:ϕ±245.00000°,δ30.00000°, λ71.00000°. NP2:ϕ±87.00000°,δ62.00000°,λ101.00000°. Principal axes: T 4.3100, Plg71.0000°, Azm21.0000°; N -0.1100, Plg9.0000°, Azm262.0000°; P -4.2000, Plg16.0000°, Azm169.0000°; Data Used: II IU G IC CN.*

AUST ***27*** *11:08:25.9,5.67S×151.61E,h100km*

BKK ***27*** *11:08:30.7±1.5,6.3S±7×15.1E±2.0,h101km±11km, M5.1/12,mB5.5/2,mb5.0/12,MLv5.1/1,Mw(mB)4.9/2*

ISC 27 11:08:18.5±0.4,5.49S±0.04×151.89E±0.05,h46km±2km, n379,σ1$04/400,mb4.9/77,MS4.2/37,81C-73D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	5.66	307	P	Pn	11 09 46.2	+6.1
	baz=5.6,SNR=18						
PMG	**Port Moresby**	6.09	230	*e*Pn	**Pn**	**11 09 47.3**	**+1.1**
PMG				*e*Sn	**Sn**	**11 10 53.6**	**-1.1**
PMG				Sn	Sn	11 10 55.0	+0.4
PMG	**Port Moresby**	6.09	230	P	**Pn**	**11 09 47.2**	**+1.1**
	392nm,1.0s,5μm1.6nm						
PMG	**Port Moresby**	6.09	230	Pn	**Pn**	**11 09 46.8**	**+0.7**
	8.8nm,0.3s,baz=50,slow=10,SNR=42						
PMG				Sn	**Sn**	**11 10 55.0**	**+0.4**
	10nm,0.3s,baz=136,slow=22,SNR=8.2						
HNR	**Honiara**	8.90	117	Pn	**Pn**	**11 10 25.4**	**+0.7**
HNR	**Honiara**	8.90	117	Pn	**Pn**	**11 10 25.4**	**+0.7**
	3.0nm,0.3s,baz=233,slow=3.5,SNR=3.5						
HNR				LR	LR	11 13 20.9	
	comp=Z,901nm,20.7s,baz=48,slow=34						
JAY	**Jayapura**	11.54	284	P	Pn	11 11 05.0	+4.2
	baz=11,SNR=4.5						
MTSU	**Mount Surprise**	14.59	210	P	**P**	**11 11 48.5**	**+0.8**
	baz=14,SNR=12						
CTA	**Charters Tower**	15.52	200	Pn	**Pn**	**11 11 53.2**	**-1.2**
CTA	**Charters Tower**	15.52	200	Pn	**Pn**	**11 11 53.2**	**-1.2**
	0.1nm,0.3s,baz=36,slow=12,SNR=2.4						
CTA				LR	LR	11 16 02.7	
	comp=Z,430nm,20.7s,baz=4.9,slow=30						
CTAO	**Charters Tower**	15.52	200	*e*P	**Pn**	**11 11 55.9**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,16nm,0.9s						
CTAO	**Charters Tower**	15.52	200	*e*Pn	**Pn**	**11 11 55.9**	**+1.5**
	comp=Z,16nm,0.9s						
EIDS	**Eidsvold**	19.79	182	*e*P	**P**	**11 12 44.7**	**-0.4**
	comp=Z,60nm,0.9s						
EIDS	**Eidsvold**	19.79	182	P	**P**	**11 12 44.7**	**-0.4**
	baz=20,SNR=26						
GUMO	**Guam**	20.19	340	*e*P	**P**	**11 12 50.1**	**+0.6**
	comp=Z,321nm,1.2s						
KDU	**Kakadu**	20.45	248	P	**P**	**11 12 51.3**	**-1.1**
	baz=20,SNR=31						
KDU				S	**S**	**11 16 37.2**	**-1.8**
	baz=20,SNR=3.7						
SWI	**Sorong**	21.09	282	P	**P**	**11 13 01.8**	**+2.4**
	comp=Z,64nm,0.9s						
RMQ	**Roma**	21.10	188	P	**P**	**11 12 59.1**	**-0.2**
	baz=21,SNR=10						
RMQ				S	S	11 16 43.8	-7.9
	baz=21,SNR=5.0						
DZM	**Mont Dzumac**	21.69	141	LR	LR	11 19 04.5	
	comp=Z,312nm,18.2s,baz=359,slow=30						
MTN	**Manton Dam**	21.74	249	P	**P**	**11 13 08.1**	**+1.8**
	baz=21,SNR=8.9						
MTN				S	**S**	**11 16 59.9**	**-4.7**
	baz=21,SNR=7.7						
WRAB	**Tennant Creek**	22.30	228	P	**P**	**11 13 11.6**	**-0.7**
	comp=Z,389nm,0.7s,SNR=8.0						
WRAB	**Tennant Creek**	22.30	228	*e*P	**P**	**11 13 11.3**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,47nm,0.8s						
WRAB	**Tennant Creek**	22.30	228	*e*P	**P**	**11 13 11.2**	**-1.0**
	comp=Z,47nm,0.8s						
WRA	**Warramunga Arr**	22.31	228	P	**P**	**11 13 11.4**	**-1.0**
WRA				S	**S**	**11 17 16.3**	**+1.1**
WRA	**Warramunga Arr**	22.31	228	P	**P**	**11 13 11.4**	**-1.0**
	comp=Z,36nm,0.8s,baz=53,slow=9.8,SNR=46						
WRA				S	**S**	**11 17 16.3**	**+1.1**
	comp=Z,6.7nm,1.1s,baz=58,slow=17,SNR=5.2						
WRA				LR	LR	11 22 33.1	
	comp=Z,552nm,19.3s,baz=95,slow=38						
AAI	**Ambon**	23.68	273	S	**S**	**11 17 41.6**	**+3.4**
	baz=23,SNR=6.5						
ARMA	**Armidale**	24.80	181	*e*P	**P**	**11 13 36.7**	**+0.1**
	comp=Z,24nm,1.1s						
ARMA	**Armidale**	24.80	181	P	**P**	**11 13 36.3**	**-0.2**
	baz=25,SNR=4.0						
KNRA	**Kununurra**	24.85	244	P	**P**	**11 13 36.4**	**-0.6**
	baz=24,SNR=72						
AS31	**Alice Springs**	25.03	222	*e*P	**P**	**11 13 38.2**	**-0.4**
ASAR	**Alice Springs**	25.03	222	P	**P**	**11 13 38.2**	**-0.4**
ASAR				S	**S**	**11 18 01.0**	**+1.1**
ASAR	**Alice Springs**	25.03	222	P	**P**	**11 13 38.2**	**-0.4**
	comp=Z,81nm,0.8s,baz=56,slow=9.1,SNR=220						
ASAR				S	**S**	**11 18 01.0**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=41,slow=17,SNR=3.2						
ASAR				LR	LR	11 23 22.0	
	comp=Z,470nm,20.3s,baz=57,slow=36						
TNTI	**Ternate**	25.26	284	P	PcP	11 17 06.9	-6.5
CMSA	**Cobar Meteorol**	26.56	192

YHNB	**Yeheng**	**42.19**	**317**	*e*P	**P**	**11**	**16**	**07.3**	**+0.1**
NWAO	**Narrogin (SRO)**	**42.26**	**225**	LR	LR	11	33	41.4	
	comp=Z,504nm,21.3s,baz=54,slow=36								
JNU	**Nakatsue**	**43.26**	**334**	*e*P	**P**	**11**	**16**	**14.8**	**-0.9**
	comp=Z,118nm,2.7s								
JNU				PcP	**PcP**	**11**	**18**	**04.1**	**-0.2**
JNU	**Nakatsue**	**43.26**	**334**	P	**P**	**11**	**16**	**15.3**	**-0.4**
	comp=Z,14nm,0.8s,baz=97,slow=1.5,SNR=8.8								
JNU				PcP	**PcP**	**11**	**18**	**04.1**	**-0.2**
	comp=Z,7.5nm,0.8s,baz=169,slow=5.2,SNR=3.6								
MJAR	**Matsushiro Arr**	**43.72**	**344**	P	**P**	**11**	**16**	**19.9**	**+0.5**
MJAR	**Matsushiro Arr**	**43.72**	**344**	P	**P**	**11**	**16**	**19.9**	**+0.5**
	comp=Z,2.3nm,0.9s,baz=174,slow=9.0,SNR=7.1								
MJAR				LR	LR	11	33	38.4	
	comp=Z,228nm,19.6s,baz=205,slow=35								
MAJO	**Matsushiro**	**43.73**	**344**	*e*P	**P**	**11**	**16**	**17.1**	**-2.3**
MAJO				pmax	pmax				
	comp=Z,7.0nm,0.8s								
MAJO	**Matsushiro**	**43.73**	**344**	*e*P	**P**	**11**	**16**	**17.1**	**-2.3**
	comp=Z,6.5nm,0.8s								
MAT	**Matsushiro**	**43.73**	**344**	PKP	PP	11	17	55.6	-6.3
QZH	**Quanzhou**	**44.31**	**314**	⇓*i*P	**P**	**11**	**16**	**24.5**	**+0.3**
QZH				pmax	pmax				
	comp=Z,130nm,0.8s								
SSE	**Sheshan**	**46.73**	**323**	P	**P**	**11**	**16**	**41.0**	**-2.2**
SSE				S	**S**	**11**	**23**	**31.0**	**+1.0**
SSE				pmax	pmax				
	comp=Z,12nm,0.6s								
SSE				pmax	pmax				
	comp=Z,71nm,3.5s								
SSE				LR	LR				
	comp=N,100nm,22.7s								
SSE				LR	LR				
	comp=E,180nm,22.7s								
SSE				LR	LR				
	comp=Z,220nm,21.6s								
PMBI	**Palembang**	**47.05**	**271**	P	P	11	16	53.5	+7.4
PMBI	**Palembang**	**47.05**	**271**	P	P	11	16	59.5	+13
	baz=47,SNR=4.6								
PMBI				S	S	11	23	25.3	-10
	baz=47,SNR=3.6								
KSRS	**Korea Array**	**48.21**	**334**	P	**P**	**11**	**16**	**54.4**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=152,slow=9.3,SNR=16								
KSRS				PcP	**PcP**	**11**	**18**	**21.4**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=141,slow=3.9,SNR=4.8								
KSRS				ScP	**ScP**	**11**	**22**	**14.1**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=151,slow=4.5,SNR=5.2								
KSRS				LR	LR	11	35	30.8	
	comp=Z,92nm,19.6s,baz=37,slow=34								
KSAR	**Wonju Array Be**	**48.21**	**334**	P	**P**	**11**	**16**	**54.4**	**-0.4**
KSAR				PcP	**PcP**	**11**	**18**	**21.4**	**0.0**
KSAR				ScP	**ScP**	**11**	**22**	**14.1**	**+1.7**
YUK	**Yuzh-Kuril'sk**	**49.59**	**354**	*e*P	**P**	**11**	**17**	**02.6**	**-2.5**
YUK				*e*S	**S**	**11**	**24**	**08.2**	**-1.8**
YUK				*e*SS	SS	11	27	30.3	-13
YUK				MLR	MLR				
	comp=E,1μm,18.0s								
YUK				MLR	MLR				
	comp=Z,381nm,18.0s								
WHN	**Wuhan**	**50.73**	**317**	⇓*i*P	**P**	**11**	**17**	**14.8**	**+0.8**
WHN				S	**S**	**11**	**24**	**27.5**	**+1.2**
WHN				pmax	pmax				
	comp=Z,58nm,1.2s								
WHN				LR	LR				
	comp=Z,600nm,17.4s								
PPI	**Padang Panjang**	**51.64**	**274**	P	**P**	**11**	**17**	**19.1**	**-2.1**
	comp=Z,26nm,1.0s								
USRK	**Ussuriysk Arra**	**52.61**	**342**	P	**P**	**11**	**17**	**27.6**	**-0.2**
	comp=Z,3.6nm,0.8s,baz=167,slow=8.9,SNR=7.1								
PSI	**Prapat**	**53.54**	**278**	P	P	11	17	47.7	+12
	baz=53,SNR=3.6								
MDJ	**Mudanjiang**	**53.75**	**340**	P	**P**	**11**	**17**	**36.0**	**-0.2**
MDJ				pP	**pP**	**11**	**17**	**47.8**	**-1.2**
MDJ				sP	**sP**	**11**	**17**	**52.3**	**-2.0**
MDJ				PcP	**PcP**	**11**	**18**	**41.3**	**-0.5**
MDJ				PP	**PP**	**11**	**19**	**37.3**	**-0.3**
MDJ				pmax	pmax				
	comp=Z,2.0nm,0.6s								
MDJ				pmax	pmax				
	comp=Z,34nm,3.9s								
MDJ				LR	LR				
	comp=N,87nm,22.4s								
MDJ				LR	LR				
	comp=E,110nm,15.7s								
MDJ				LR	LR				
	comp=Z,150nm,15.7s								
ENH	**Enshi**	**53.96**	**314**	*e*P	**P**	**11**	**17**	**37.5**	**-0.6**
	comp=Z,19nm,1.1s								
GYA	**Guiyang**	**54.09**	**308**	P	**P**	**11**	**17**	**40.3**	**+1.1**
GYA				pP	**pP**	**11**	**17**	**51.8**	**-0.2**
GYA				sP	**sP**	**11**	**17**	**56.3**	**-1.0**
GYA				PP	**PP**	**11**	**19**	**44.3**	**+3.1**
GYA				ScP	**ScP**	**11**	**22**	**38.0**	**-0.3**
GYA				PcS	**PcS**	**11**	**22**	**45.5**	**+2.2**
GYA				S	**S**	**11**	**25**	**13.0**	**+0.2**
GYA				sS	**sS**	**11**	**25**	**32.8**	**-1.5**
GYA				SS	**SKiKP**	**11**	**28**	**51.0**	**+3.1**
GYA				pmax	pmax				
	comp=Z,20nm,1.0s								
GYA				pmax	pmax				
	comp=Z,120nm,5.0s								
GYA				LR	LR				
	comp=N,590nm,19.9s								
GYA				LR	LR				
	comp=E,460nm,20.2s								
GYA				LR	LR				
	comp=Z,550nm,19.6s								
CN2	**Changchun**	**54.55**	**337**	*e*P	**P**	**11**	**17**	**42.0**	**-0.1**
CN2				*e*PP	**PP**	**11**	**19**	**46.5**	**+1.6**
CN2				*e*S	**S**	**11**	**25**	**17.3**	**-0.9**
CN2				LR	LR				
	comp=N,100nm,16.0s								
CN2				LR	LR				
	comp=E,100nm,16.0s								
CN2				LR	LR				
	comp=Z,200nm,17.0s								
LOEI	**Loei**	**54.95**	**296**	P	**P**	**11**	**17**	**43.0**	**-2.4**
	comp=Z,14nm,0.7s								
NANT	**Nan**	**55.90**	**297**	P	**P**	**11**	**17**	**52.5**	**+0.3**
	comp=Z,46nm,1.2s								
BJI	**Beijing**	**55.96**	**327**	P	**P**	**11**	**17**	**52.0**	**-0.3**
BJI				pmax	pmax				
	comp=Z,11nm,1.2s								
BJI				LR	LR				
	comp=N,220nm,22.9s								
BJI				LR	LR				
	comp=E,150nm,20.9s								
BJI				LR	LR				
	comp=Z,200nm,20.5s								
XAN	**Xi'an**	**56.49**	**317**	P	**P**	**11**	**17**	**55.5**	**-0.8**
XAN				pmax	pmax				
	comp=Z,4.0nm,1.3s								
XAN				pmax	pmax				
	comp=Z,28nm,9.8s								
XAN				LR	LR				
	comp=N,110nm,23.5s								
XAN				LR	LR				
	comp=E,70nm,18.6s								
XAN				LR	LR				
	comp=Z,80nm,20.5s								
KMI	**Kunming**	**56.62**	**305**	P	P	11	18	01.5	+3.9
KMI				pmax	pmax				
	comp=Z,8.0nm,1.0s								
LAMP	**Lampang**	**56.75**	**296**	P	**P**	**11**	**17**	**59.1**	**+0.8**
	comp=Z,6.4nm,0.8s								
CMAR	**Chiang Mai Arr**	**57.35**	**296**	P	**P**	**11**	**18**	**03.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**57.35**	**296**	P	**P**	**11**	**18**	**03.4**	**+0.8**
	comp=Z,4.4nm,0.7s,baz=111,slow=6.1,SNR=21								
CMAR				LR	LR	11	42	56.5	
	comp=Z,97nm,19.1s,baz=105,slow=36								
CMMT	**Chiang Mai**	**57.46**	**296**	P	**P**	**11**	**18**	**00.8**	**-2.6**
	comp=Z,10nm,1.5s,comp=Z,554nm								
CHTO	**Chiang Mai**	**57.47**	**296**	*e*P	P	11	17	59.5	-3.9
CHTO				pmax	pmax				
	comp=Z,27nm,1.6s								
CHTO	**Chiang Mai**	**57.47**	**296**	*e*P	P	11	17	59.5	-3.9
	comp=Z,27nm,1.6s								
CHTO	**Chiang Mai**	**57.47**	**296**	P	**P**	**11**	**18**	**01.0**	**-2.4**
	comp=Z,12nm,1.5s								
CD2	**Chengdu**	**58.50**	**311**	*e*P	**P**	**11**	**18**	**11.5**	**+1.1**
CD2				pP	**pP**	**11**	**18**	**23.3**	**-0.1**
CD2				sP	**sP**	**11**	**18**	**28.0**	**-0.7**
CD2				PcP	**PcP**	**11**	**19**	**01.5**	**+0.9**
CD2				PP	**PP**	**11**	**20**	**22.8**	**+2.4**
CD2				S	**S**	**11**	**26**	**10.3**	**-0.7**
CD2				sS	**sS**	**11**	**26**	**30.0**	**-2.6**
CD2				ScS	**ScS**	**11**	**27**	**54.0**	**-2.8**
CD2				SS	**SS**	**11**	**30**	**04.5**	**+0.3**
CD2				pmax	pmax				
	comp=Z,20nm,0.6s								
CD2				pmax	pmax				
	comp=Z,60nm,4.8s								
CD2				LR	LR				
	comp=E,290nm,21.4s								
CD2				LR	LR				
	comp=Z,370nm,16.6s								
PETK	**Petropavlovsk-**	**58.58**	**4**	P	**P**	**11**	**18**	**10.4**	**-0.1**
PETK	**Petropavlovsk-**	**58.58**	**4**	P	**P**	**11**	**18**	**10.4**	**-0.1**
PETK	**Petropavlovsk-**	**58.58**	**4**	P	**P**	**11**	**18**	**10.4**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=168,slow=7.1,SNR=3.1								
PETK				LR	LR	11	43	48.2	
	comp=Z,132nm,18.3s,baz=12,slow=36								
FX1	**Attu Island--F**	**60.88**	**15**	P	**P**	**11**	**18**	**26.6**	**+0.2**
FX1	**Attu Island--F**	**60.88**	**15**	P	**P**	**11**	**18**	**26.6**	**+0.2**
	comp=Z,6.9nm,0.7s,baz=225,slow=1.4,SNR=6.1								
FX1				LR	LR	11	40	52.8	
	comp=Z,204nm,18.8s,baz=225,slow=32								
LZH	**Lanzhou**	**61.09**	**317**	*e*P	**P**	**11**	**18**	**31.3**	**+3.0**
LZH				pP	**pP**	**11**	**18**	**43.0**	**+1.6**
LZH				sP	**sP**	**11**	**18**	**48.8**	**+2.2**
LZH				PP	**PP**	**11**	**20**	**47.5**	**+4.1**
LZH				*e*S	**S**	**11**	**26**	**45.5**	**+1.1**
LZH				sS	**sS**	**11**	**27**	**07.5**	**+1.3**
LZH				pmax	pmax				
	comp=Z,25nm,1.5s								
LZH				pmax	pmax				
	comp=Z,140nm,7.9s								
LZH				LR	LR				
	comp=N,480nm,16.0s								
LZH				LR	LR				
	comp=E,380nm,15.4s								
LZH				LR	LR				
	comp=Z,650nm,18.6s								
GTA	**Gaotai**	**65.54**	**318**	*e*P	**P**	**11**	**18**	**58.5**	**+0.8**
GTA				pP	**pP**	**11**	**19**	**11.8**	**+0.9**
GTA				sP	**sP**	**11**	**19**	**17.0**	**+0.9**
GTA				S	**S**	**11**	**27**	**39.3**	**-0.5**
GTA				sS	**sS**	**11**	**28**	**01.0**	**-0.8**
GTA				SS	**SS**	**11**	**31**	**54.8**	**+0.4**
GTA				pmax	pmax				
	comp=Z,7.0nm,1.8s								
GTA				pmax	pmax				
	comp=Z,76nm,5.5s								
GTA				LR	LR				
	comp=N,100nm,17.6s								
GTA				LR	LR				
	comp=E,110nm,18.1s								
GTA				LR	LR				
	comp=Z,160nm,18.3s								
ULN	**Ulaanbaatar**	**66.10**	**329**	*e*P	**P**	**11**	**19**	**01.5**	**+0.4**
	comp=Z,14nm,1.0s								
SONM	**Songino Array**	**66.42**	**328**	P	**P**	**11**	**19**	**03.1**	**0.0**
SONM	**Songino Array**	**66.42**	**328**	P	**P**	**11**	**19**	**03.1**	**0.0**
	comp=Z,9.7nm,0.7s,baz=139,slow=5.6,SNR=16								
YAK	**Yakutsk**	**69.47**	**349**	*i* P	**P**	**11**	**19**	**21.7**	**-0.1**
VNDA	**Vanda**	**72.18**	**178**	P	**P**	**11**	**19**	**37.9**	**-0.2**
VNDA	**Vanda**	**72.18**	**178**	P	**P**	**11**	**19**	**37.9**	**-0.2**
	comp=Z,2.9nm,1.0s,baz=338,slow=5.5,SNR=10								
VNDA				LR	LR	11	48	22.3	
	comp=Z,80nm,18.1s,baz=295,slow=33								
WMQ	**Urumqi**	**75.63**	**318**	P	**P**	**11**	**20**	**00.5**	**+1.5**
WMQ				pP	**pP**	**11**	**20**	**13.8**	**+1.4**
WMQ				sP	**sP**	**11**	**20**	**19.0**	**+1.4**
WMQ				PP	**PP**	**11**	**22**	**52.3**	**+3.2**
WMQ				S	**S**	**11**	**29**	**36.3**	**-0.7**
WMQ				sS	**sS**	**11**	**29**	**58.5**	**-0.9**
WMQ				SKS	**SKSac**	**11**	**30**	**01.5**	**-4.1**
WMQ				ScS	**SKKSac**	**11**	**30**	**06.8**	**+0.9**
WMQ				SS	**SS**	**11**	**34**	**30.0**	**+0.9**
WMQ				pmax	pmax				
	comp=Z,19nm,1.0s								
WMQ				pmax	pmax				
	comp=Z,93nm,4.1s								
WMQ				LR	LR				
	comp=N,95nm,7.0s								
WMQ				LR	LR				
	comp=E,91nm,13.6s								
WMQ				LR	LR				
	comp=Z,76nm,22.4s								
SVW2	**Sparrevohn**	**77.81**	**23**	*e*P	**P**	**11**	**20**	**12.2**	**+1.3**
	comp=Z,15nm,0.9s								
KRAR	**Krasnoyarsk**	**77.92**	**331**	⇓*e*P	**P**	**11**	**20**	**12.0**	**+0.5**
KRAR				pmax	pmax				
	comp=Z,29nm,0.4s								
MKAR	**Makanchi Array**	**80.24**	**319**	*ce*P	**P**	**11**	**20**	**24.5**	**0.0**
MKAR				pmax	pmax				
	comp=Z,9.0nm,0.9s								
MKAR	**Makanchi Array**	**80.24**	**319**	P	**P**	**11**	**20**	**24.3**	**-0.2**
MKAR	**Makanchi Array**	**80.24**	**319**	P	**P**	**11**	**20**	**24.3**	**-0.2**
	comp=Z,8.5nm,0.9s,baz=101,slow=6.3,SNR=12								
MKAR				LR	LR	11	56	06.7	
	comp=Z,122nm,18.3s,baz=356,slow=36								
ZALV	**Zalesovo Beam**	**81.22**	**327**	P	**P**	**11**	**20**	**28.8**	**-0.7**
ZALV	**Zalesovo Beam**	**81.22**	**327**	P	**P**	**11**	**20**	**28.8**	**-0.7**
ZALV	**Zalesovo Beam**	**81.22**	**327**	P	**P**	**11**	**20**	**28.8**	**-0.7**
	comp=Z,6.0nm,0.5s,baz=103,slow=6.5,SNR=4.7								
ZALV				LR	LR	11	56	24.5	
	comp=Z,137nm,19.3s,baz=69,slow=36								
MCK	**McKinley**	**81.84**	**23**	*e*P	**P**	**11**	**20**	**32.6**	**-0.1**
MCK	**McKinley**	**81.84**	**23**	*e*P	**P**	**11**	**20**	**32.6**	**-0.1**
NVS	**Novosibirsk**	**82.40**	**327**	*e*P	**P**	**11**	**20**	**33.2**	**-2.5**
NVS				pmax	pmax				
	comp=Z,19nm,1.6s								
NVS				pmax	pmax				
	comp=E,1.0nm,0.4s								
KSH	**Kashi**	**82.69**	**311**	P	**P**	**11**	**20**	**39.3**	**+1.5**
KSH				S	**S**	**11**	**30**	**52.0**	**-0.3**
KSH				pmax	pmax				
	comp=Z,8.0nm,1.0s								
KSH				pmax	pmax				
	comp=Z,70nm,5.6s								
KSH				LR	LR				
	comp=N,210nm,10.6s								
KSH				LR	LR				
	comp=E,140nm,10.3s								
KSH				LR	LR				
	comp=Z,94nm,14.7s								
COLA	**College**	**82.82**	**22**	P	**P**	**11**	**20**	**36.5**	**-1.2**
COLA				pmax	pmax				
	comp=Z,46nm,0.4s								
COLA	**College**	**82.82**	**22**	P	**P**	**11**	**20**	**36.5**	**-1.2**
	comp=Z,46nm,0.4s								
ILAR	**Eielson Array**	**83.13**	**22**	P	**P**	**11**	**20**	**38.4**	**-0.9**
ILAR	**Eielson Array**	**83.13**	**22**	P	**P**	**11**	**20**	**38.4**	**-0.9**
	comp=Z,3.8nm,0.6s,baz=243,slow=4.9,SNR=32								
ILAR				LR	LR	11	55	16.4	
	comp=Z,209nm,20.6s,baz=248,slow=34								
COLD	**Coldfoot**	**83.20**	**19**	*e*P	**P**	**11**	**20**	**40.3**	**+0.7**
KURK	**Kurchatov**	**83.75**	**322**	P	**P**	**11**	**20**	**42.2**	**-0.6**
KURK	**Kurchatov**	**83.75**	**322**	P	**P**	**11**	**20**	**42.1**	**-0.6**
TKM2	**Tokmak 2**	**83.75**	**314**	*i* P	**P**	**11**	**20**	**43.1**	**-0.1**
TKM2	**Tokmak 2**	**83.75**	**314**	P	**P**	**11**	**20**	**43.1**	**-0.1**
	SNR=7.0								
TKM2	**Tokmak 2**	**83.75**	**314**	*e*P	**P**	**11**	**20**	**42.6**	**-0.7**
	comp=Z,35nm,0.8s								
KURBB	**Kurchatov Arra**	**83.78**	**322**	P	**P**	**11**	**20**	**42.1**	**-0.8**
	comp=Z,11nm,1.1s,baz=106,slow=3.9,SNR=21								
KZA	**Kyzart**	**83.81**	**313**	*i* P	**P**	**11**	**20**	**44.7**	**+0.9**
KZA	**Kyzart**	**83.81**	**313**	P	**P**	**11**	**20**	**44.7**	**+0.9**
	SNR=11								
CHMS	**Chumysh**	**84.37**	**314**	*i* P	**P**	**11**	**20**	**46.3**	**+0.1**
CHMS	**Chumysh**	**84.37**	**314**	P	**P**	**11**	**20**	**46.3**	**+0.1**
	SNR=5.0								
AAK	**Ala-Archa**	**84.47**	**314**	*d i*P	**P**	**11**	**20**	**47.0**	**+0.1**
AAK				pmax	pmax				
	comp=Z,96nm,1.7s								
AAK	**Ala-Archa**	**84.47**	**314**	*e*P	**P**	**11**	**20**	**46.7**	**-0.2**
	comp=Z,19nm,1.0s								
QSPA	**South Pole Qui**	**84.48**	**180**	P	**P**	**11**	**20**	**45.9**	**-0.5**
QSPA	**South Pole Qui**	**84.48**	**180**	P	**P**	**11**	**20**	**45.9**	**-0.5**
	comp=Z,4.1nm,1.0s,baz=51,slow=5.5,SNR=6.1								
MAW	**Mawson**	**84.59**	**203**	P	**P**	**11**	**20**	**46.4**	**-0.4**
MAW	**Mawson**	**84.59**	**203**	P	**P**	**11**	**20**	**46.4**	**-0.4**
	comp=Z,3.4nm,1.1s,baz=100,slow=11,SNR=3.0								
MAW				LR	LR	11	55	17.3	
	comp=Z,256nm,18.5s,baz=68,slow=33								
USP	**Ospenovka**	**84.61**	**314**	*i* P	**P**	**11**	**20**	**47.5**	**+0.1**
USP	**Ospenovka**	**84.61**	**314**	P	**P**	**11**	**20**	**47.5**	**+0.1**
	SNR=16								
AML	**Almayashu**	**84.95**	**313**	*i* P	**P**	**11**	**20**	**50.3**	**+0.7**
AML	**Almayashu**	**84.95**	**313**	P	**P**	**11**	**20**	**50.3**	**+0.7**
	SNR=16								
EKS2	**Erkin-Say**	**85.00**	**314**	*e*P	**P**	**11**	**20**	**47.0**	**-2.5**
EKS2				pmax	pmax				
	comp=Z,1.0nm,0.7s								
EKS2	**Erkin-Say**	**85.00**	**314**	P	**P**	**11**	**20**	**50.6**	**+1.1**
	SNR=7.3								
EKS2	**Erkin-Say**	**85.00**	**314**	*e*P	**P**	**11**	**20**	**47.0**	**-2.5**
	comp=Z,1.0nm,0.7s								
EGAK	**Eagle**	**85.34**	**23**	*e*P	**P**	**11**	**20**	**51.2**	**+0.7**
	comp=Z,48nm,2.0s								
SKAG	**Skagway**	**86.05**	**29**	*e*P	**P**	**11**	**20**	**55.5**	**+1.4**
	comp=Z,19nm,1.1s								
KKAR	**Karatay Array**	**87.44**	**314**	*e*P	**P**	**11**	**21**	**00.7**	**-0.7**
KKAR	**Karatay Array**	**87.44**	**314**	*e*P	**P**	**11**	**21**	**00.7**	**-0.7**
DLBC	**Dease Lake**	**88.43**	**31**	P	**P**	**11**	**21**	**06.9**	**+1.1**
DLBC	**Dease Lake**	**88.43**	**31**	P	**P**	**11**	**21**	**06.9**	**+1.1**
	comp=Z,16nm,1.0s,baz=255,slow=4.7,SNR=22								
BRVK	**Borovoye**	**89.31**	**323**	*e*P	**P**	**11**	**21**	**08.5**	**-1.4**
BRVK				pmax	pmax				
	comp=Z,9.0nm,0.9s								
BRVK	**Borovoye**	**89.31**	**323**	*e*P	**P**	**11**	**21**	**08.5**	**-1.4**
	comp=Z,8.6nm,0.9s								
INK	**Inuvik**	**89.42**	**21**	P	**P**	**11**	**21**	**09.8**	**-0.2**
INK	**Inuvik**	**89.42**	**21**	P	**P**	**11**	**21**	**09.8**	**-0.2**
	comp=Z,3.7nm,1.0s,baz=272,slow=4.7,SNR=7.5								
NLWA	**Neilton Lookou**	**90.11**	**43**	*e*P	**P**	**11**	**21**	**15.0**	**+1.2**
	comp=Z,18nm,1.1s								
HUMO	**Hull Mountain**	**90.11**	**47**	*e*P	**P**	**11**	**21**	**16.0**	**+2.0**
	comp=Z,20nm,1.0s								
YBH	**Yreka Blue Hor**	**90.19**	**48**	*e*P	**P**	**11**	**21**	**15.8**	**+1.4**
	comp=Z,8.9nm,1.1s								
FRIS	**Frissel Point**	**90.93**	**46**	P	**P**	**11**	**21**	**18.9**	**+1.0**
TDL	**Tradedollar La**	**91.10**	**44**	P	**P**	**11**	**21**	**19.3**	**+0.7**
BKCOR	**Black Crater**	**91.23**	**46**	P	**P**	**11**	**21**	**20.2**	**+1.0**
CMW	**Cultus Mountai**	**91.40**	**42**	P	**P**	**11**	**21**	**20.9**	**+0.9**
CMB	**Columbia Colle**	**91.55**	**52**	*e*P	**P**	**11**	**21**	**22.5**	**+1.7**
WPW	**White Pass**	**91.60**	**43**	P	**P**	**11**	**21**	**21.5**	**+0.6**
WAKR	**Walker**	**92.34**	**52**	*e*P	**P**	**11**	**21**	**26.1**	**+1.4**
VES	**Vestal, Richgr**	**92.39**	**54**	⇓P	**P**	**11**	**21**	**25.5**	**+0.9**
	baz=92								
SYO	**Syowa Base**	**92.72**	**199**	⇑*e*PP	PP	11	25	11.2	+3.8
MLAC	**Mammoth Lakes**	**92.74**	**53**	⇑P	**P**	**11**	**21**	**27.5**	**+0.9**
	baz=93								
CIS	**Catalina Islan**	**92.74**	**57**	⇑P	**P**	**11**	**21**	**27.0**	**+0.6**
	baz=93								
ISA	**Isabella**	**92.87**	**55**	*e*P	**P**	**11**	**21**	**28.0**	**+1.0**
ISA				pmax	pmax				
	comp=Z,18nm,1.8s								
ISA	**Isabella**	**92.87**	**55**	*e*P	**P**	**11**	**21**	**28.0**	**+1.0**
	comp=Z,18nm,1.8s								
ISA	**Isabella**	**92.87**	**55**	⇑P	**P**	**11**	**21**	**27.8**	**+0.8**
	baz=93								
HAWA	**Hanford**	**92.95**	**44**	*e*P	**P**	**11**	**21**	**27.6**	**+0.6**
	comp=Z,9.0nm,1.0s								
MWC	**Mount Wilson**	**93.09**	**56**	*e*P	**P**	**11**	**21**	**28.8**	**+0.6**
MWC	**Mount Wilson**	**93.09**	**56**	*e*P	**P**	**11**	**21**	**28.8**	**+0.6**
EDW2	**Edwards Air Fo**	**93.20**	**55**	⇑P	**P**	**11**	**21**	**29.1**	**+0.6**
	baz=93								
NVAR	**Mina Array Bea**	**93.22**	**52**	P	**P**	**11**	**21**	**29.5**	**+0.8**
NVAR	**Mina Array Bea**	**93.22**	**52**	P	**P**	**11**	**21**	**29.5**	**+0.8**
	comp=Z,4.1nm,0.8s,baz=256,slow=6.2,SNR=24								
CWC	**Cottonwood Cre**	**93.25**	**54**	⇑P	**P**	**11**	**21**	**29.6**	**+0.7**
	baz=93								
WVOR	**Wild Horse Val**	**93.27**	**48**	*e*P	**P**	**11**	**21**	**29.0**	**+0.2**
WVOR				pmax	pmax				
	comp=Z,31nm,1.6s								
WVOR	**Wild Horse Val**	**93.27**	**48**	*e*P	**P**	**11**	**21**	**29.0**	**+0.2**
	comp=Z,31nm,1.6s								
BFSC	**Mount Baldy Ra**	**93.42**	**56**	⇓P	**P**	**11**	**21**	**30.4**	**+0.7**
	baz=94								
LRMC	**Laurel Mountai**	**93.49**	**55**	⇓P	**P**	**11**	**21**	**30.6**	**+0.7**
	baz=94,SNR=8.9								
MPMC	**Manual Prospec**	**93.69**	**54**	⇑P	**P**	**11**	**21**	**31.7**	**+0.8**
	baz=94,SNR=6.5								
GRAC	**Grapevine Rang**	**93.86**	**53**	⇓P	**P**	**11**	**21**	**32.1**	**+0.6**
	baz=94								
GSC	**Goldstone**	**94.20**	**55**	⇑P	**P**	**11**	**21**	**33.9**	**+0.8**
	baz=94								
FURC	**Furnace Creek,**	**94.23**	**54**	⇓P	**P**	**11**	**21**	**33.5**	**+0.5**
	baz=94,SNR=7.6								
MONP	**Monument Peak**	**94.36**	**58**	⇑P	**P**	**11**	**21**	**34.5**	**+0.4**
	baz=94								
PFO	**Pinyon Flat Ob**	**94.38**	**57**	*e*P	**P**	**11**	**21**	**34.6**	**+0.5**
	comp=Z,3.3nm,0.8s								
PFO	**Pinyon Flat Ob**	**94.38**	**57**	⇑P	**P**	**11**	**21**	**34.4**	**+0.3**
	baz=94								
BMO	**Blue Mountains**	**94.40**	**46**	*e*P	**P**	**11**	**21**	**34.1**	**+0.2**
BMO				pmax	pmax				
	comp=Z,23nm,1.6s								
BMO	**Blue Mountains**	**94.40**	**46**	*e*P	**P**	**11**	**21**	**34.0**	**+0.2**
	comp=Z,23nm

C16A	Fuhringer Ranc baz=98	98.31	43	⇑Pdiff	Pdif	11 21 51.7	+0.1
B16A	M & M Farms, S baz=98	98.33	42	⇓Pdiff	Pdif	11 21 51.8	+0.2
BOZ	Bozeman (W)	98.43	45	*e*P	Pdif	11 21 52.3	+0.1
BOZ	comp=Z,2.0nm,0.9s			pmax	pmax		
BOZ	Bozeman (W) comp=Z,2.1nm,0.9s	98.43	45	*e*P	Pdif	11 21 52.3	+0.1
I16A	Newdale baz=99	98.55	47	⇓Pdiff	Pdif	11 21 53.4	+0.5
X16A	Lo Mia Camp, P baz=99	98.57	56	⇓Pdiff	Pdif	11 21 53.3	+0.1
H16A	Russell Place, baz=99	98.71	46	⇓Pdiff	Pdif	11 21 53.7	+0.1
B17A	L&G Farms, Che baz=99	98.94	42	⇑Pdiff	Pdif	11 21 54.9	+0.6
E17A	Martinsdale baz=99	98.95	44	⇓Pdiff	Pdif	11 21 54.6	+0.1
A17A	Triple J Farms baz=99	98.98	41	⇑Pdiff	Pdif	11 21 55.1	+0.6
C17A	Wharram Farm, baz=99	98.98	43	⇓Pdiff	Pdif	11 21 54.9	+0.3
D17A	Six Diamond Ra baz=99	99.05	43	⇓Pdiff	**Pdif**	**11 21 55.2**	**+0.3**
G17A	Pierce Place, baz=99	99.06	45	⇓Pdiff	**Pdif**	**11 21 55.2**	**+0.2**
MOOW	Moose Ponds	99.09	47	*e*P	**Pdif**	**11 21 55.5**	**+0.2**
F17A	Fitzpatrick Pl baz=99	99.10	45	⇓Pdiff	**Pdif**	**11 21 55.8**	**+0.6**
M17A	Scullys Gap (B baz=99	99.18	49	⇑Pdiff	**Pdif**	**11 21 55.6**	**-0.2**
H17A	Grant Village baz=99	99.20	46	⇑Pdiff	**Pdif**	**11 21 56.0**	**+0.2**
A18A	Metzger Ranch, baz=100	99.54	41	⇓Pdiff	**Pdif**	**11 21 57.3**	**+0.4**
E18A	Harlowton baz=100	99.60	44	⇑Pdiff	**Pdif**	**11 21 57.7**	**+0.4**
EGMT	Eagleton baz=100	99.64	42	⇓Pdiff	**Pdif**	**11 21 57.4**	**0.0**
F18A	Big Timber baz=100	99.76	44	⇓Pdiff	**Pdif**	**11 21 58.6**	**+0.5**
I18A	Diamond G Ranc baz=100	99.76	47	⇓Pdiff	**Pdif**	**11 21 58.7**	**+0.4**
H18A	Shoshone NF, C baz=100	99.84	46	⇓Pdiff	**Pdif**	**11 21 59.1**	**+0.5**
PDAR	Pinedale Array	99.98	48	P	**Pdif**	**11 21 59.6**	**+0.3**
PDAR	Pinedale Array comp=Z,2.6nm,0.9s,baz=253,slow=2.9,SNR=18	99.98	48	P	**Pdif**	**11 21 59.6**	**+0.3**
C19A	Slack Wire Ran baz=100	100.13	43	⇑Pdiff	**Pdif**	**11 22 00.2**	**+0.6**
L19A	Farson baz=100	100.15	48	⇓Pdiff	**Pdif**	**11 22 00.2**	**+0.2**
A19A	Klindworth Far baz=100	100.27	41	⇓Pdiff	**Pdif**	**11 22 00.4**	**+0.2**
D19A	Cripps Ranch, baz=100	100.28	43	⇑Pdiff	**Pdif**	**11 22 00.6**	**+0.3**
F19A	Roth Farm, Mol baz=100	100.30	45	⇓Pdiff	**Pdif**	**11 22 00.8**	**+0.4**
H19A	Powell baz=100	100.32	46	⇑Pdiff	**Pdif**	**11 22 00.8**	**+0.2**
J19A	Crowheart baz=100	100.33	47	⇑Pdiff	**Pdif**	**11 22 01.0**	**+0.2**
I19A	Meeteetse baz=100	100.34	46	⇓Pdiff	**Pdif**	**11 22 01.3**	**+0.5**
E19A	Rath Farm, Rou baz=100	100.38	44	⇑Pdiff	**Pdif**	**11 22 01.3**	**+0.5**
K19A	Absolon Red Bu baz=101	100.50	48	⇑Pdiff	**Pdif**	**11 22 01.6**	**+0.1**
D20A	Manuel Ranch, baz=101	100.79	43	⇓Pdiff	**Pdif**	**11 22 02.9**	**+0.3**
A20A	Cobblestone Ra baz=101	100.81	41	⇓Pdiff	**Pdif**	**11 22 03.3**	**+0.7**
E20A	Meyer Farm, Mu baz=101	100.83	44	⇓Pdiff	**Pdif**	**11 22 03.2**	**+0.4**
C20A	Veseth Ranch, baz=101	100.84	43	⇑Pdiff	**Pdif**	**11 22 03.0**	**+0.2**
K20A	Yellowstone Ra baz=101	100.88	48	⇓Pdiff	**Pdif**	**11 22 03.4**	**+0.2**
MVCO	Mesa Verde baz=101	100.95	53	⇓Pdiff	**Pdif**	**11 22 03.6**	**-0.2**
I20A	Worland baz=101	100.97	46	⇑Pdiff	**Pdif**	**11 22 03.6**	**+0.1**
V20A	Brimhall baz=101	101.01	55	⇑Pdiff	**Pdif**	**11 22 03.9**	**0.0**
N20A	Spence Gulch, baz=101	101.02	50	⇑Pdiff	**Pdif**	**11 22 03.7**	**-0.2**
R20A	Redvale baz=101	101.02	52	⇑Pdiff	**Pdif**	**11 22 03.8**	**-0.1**
J20A	Shoshoni baz=101	101.04	47	⇓Pdiff	**Pdif**	**11 22 04.0**	**+0.2**
H20A	Greybull baz=101	101.04	46	⇑Pdiff	**Pdif**	**11 22 03.9**	**+0.1**
S20A	Disappointment baz=101	101.04	53	⇑Pdiff	**Pdif**	**11 22 04.3**	**+0.2**
M20A	Sweetwater, Wa baz=101	101.05	49	⇑Pdiff	**Pdif**	**11 22 04.2**	**+0.1**
O20A	White River Ci baz=101	101.06	50	⇑Pdiff	**Pdif**	**11 22 04.5**	**+0.4**
Q20A	Ridgley Place, baz=101	101.06	52	⇓Pdiff	**Pdif**	**11 22 04.4**	**+0.3**
A21A	Bergtoll Ranch baz=102	101.46	41	⇑Pdiff	**Pdif**	**11 22 05.8**	**+0.3**
S21A	Coal Bank Pass baz=102	101.50	53	⇑Pdiff	**Pdif**	**11 22 06.4**	**+0.1**
J21A	Lysite baz=102	101.50	47	⇑Pdiff	**Pdif**	**11 22 06.4**	**+0.4**
G21A	Lodge Grass baz=102	101.55	45	⇑Pdiff	**Pdif**	**11 22 06.5**	**+0.5**
N21A	Black Mountain baz=102	101.58	50	⇓Pdiff	**Pdif**	**11 22 06.6**	**+0.1**
I21A	Big Trails, Te baz=102	101.58	47	⇑Pdiff	**Pdif**	**11 22 06.9**	**+0.6**
X21A	Alamocita Cree baz=102	101.59	56	⇑Pdiff	**Pdif**	**11 22 06.7**	**0.0**
Q21A	Lamborn Mesa, baz=102	101.63	52	⇓Pdiff	**Pdif**	**11 22 07.3**	**+0.6**
121A	Cookes Peak, D baz=102	101.63	58	⇓Pdiff	**Pdif**	**11 22 06.9**	**+0.1**
U21A	Nageezi baz=102	101.64	54	⇑Pdiff	**Pdif**	**11 22 07.3**	**+0.4**
R21A	Cimarron baz=102	101.66	52	⇑Pdiff	**Pdif**	**11 22 06.8**	**-0.1**
K21A	Alcova baz=102	101.69	48	⇑Pdiff	**Pdif**	**11 22 06.9**	**+0.1**
P21A	Newcastle baz=102	101.69	51	⇑Pdiff	**Pdif**	**11 22 06.7**	**-0.3**
D22A	Cohagen baz=102	102.12	43	⇑Pdiff	**Pdif**	**11 22 09.1**	**+0.7**
Q22A	Crested Butte, baz=102	102.14	52	⇑Pdiff	**Pdif**	**11 22 09.3**	**+0.2**
I22A	9 Mile Ranch, baz=102	102.16	46	⇑Pdiff	**Pdif**	**11 22 09.2**	**+0.4**
F22A	Rosebud baz=102	102.18	44	⇑Pdiff	**Pdif**	**11 22 09.5**	**+0.8**
G22A	Birney baz=102	102.20	45	⇓Pdiff	**Pdif**	**11 22 09.3**	**+0.3**
J22A	Midwest baz=102	102.20	47	⇓Pdiff	**Pdif**	**11 22 09.4**	**+0.4**
K22A	Casper baz=102	102.22	48	⇓Pdiff	**Pdif**	**11 22 09.2**	**+0.1**
P22A	Eagle baz=102	102.22	51	⇓Pdiff	**Pdif**	**11 22 09.5**	**+0.2**
S22A	4UR Ranch, Cre baz=102	102.26	53	⇑Pdiff	**Pdif**	**11 22 10.1**	**+0.5**
R22A	Saguache, Gunn baz=102	102.29	52	⇑Pdiff	**Pdif**	**11 22 10.0**	**+0.2**
O22A	Kremmling baz=102	102.36	50	⇓Pdiff	**Pdif**	**11 22 09.9**	**-0.1**
N23A	Red Feather La baz=103	102.77	49	⇓Pdiff	**Pdif**	**11 22 12.2**	**+0.4**
D23A	Lindsay baz=103	102.78	43	⇓Pdiff	**Pdif**	**11 22 12.0**	**+0.6**
F23A	Volborg baz=103	102.78	44	⇑Pdiff	**Pdif**	**11 22 12.1**	**+0.6**
B23A	Brockton baz=103	102.78	42	⇑Pdiff	**Pdif**	**11 22 11.9**	**+0.6**
G23A	Biddle baz=103	102.84	45	⇓Pdiff	**Pdif**	**11 22 12.3**	**+0.6**
L23A	Garrett baz=103	102.86	48	⇓Pdiff	**Pdif**	**11 22 12.4**	**+0.2**
K23A	Bowen Ranch, D baz=103	102.87	48	⇑Pdiff	**Pdif**	**11 22 12.6**	**+0.6**
P23A	Jefferson baz=103	102.95	51	⇓Pdiff	**Pdif**	**11 22 12.6**	**-0.1**
ISCO	Idaho Springs baz=103	103.09	51	⇓Pdiff	**Pdif**	**11 22 13.3**	**0.0**
H24A	Dirks Ranch, A baz=104	103.47	45	⇓Pdiff	**Pdif**	**11 22 15.0**	**+0.4**
I24A	Kuemmerle Ranc baz=104	103.50	46	⇑Pdiff	**Pdif**	**11 22 15.0**	**+0.3**
W24A	Lazy 6 Ranch, baz=104	103.52	55	⇑Pdiff	**Pdif**	**11 22 15.6**	**+0.4**
S24A	Houchin Ranch, baz=104	103.54	53	⇓Pdiff	**Pdif**	**11 22 15.8**	**+0.4**
224A	Cornudas Mount baz=104	103.56	58	⇓Pdiff	**Pdif**	**11 22 15.6**	**+0.3**
M24A	Cheyenne baz=104	103.57	49	⇑Pdiff	**Pdif**	**11 22 15.7**	**+0.5**
V24A	Rampart Ranch, baz=104	103.61	55	⇑Pdiff	**Pdif**	**11 22 15.7**	**+0.1**
425A	Indio Mountain baz=104	104.06	60	⇑Pdiff	**Pdif**	**11 22 17.4**	**-0.2**
I25A	Rochford baz=104	104.13	46	⇓Pdiff	**Pdif**	**11 22 17.8**	**+0.2**
V25A	Rancho No Teng baz=104	104.13	55	⇓Pdiff	**Pdif**	**11 22 18.2**	**+0.3**
S25A	Robets Cordova baz=104	104.16	53	⇓Pdiff	**Pdif**	**11 22 18.1**	**+0.2**
H25A	Fruitdale baz=104	104.16	45	⇑Pdiff	**Pdif**	**11 22 18.2**	**+0.6**
K25A	Mack Ranch, Ha baz=104	104.17	48	⇑Pdiff	**Pdif**	**11 22 18.5**	**+0.7**
Y25A	Mesa, Roswell baz=104	104.17	57	⇑Pdiff	**Pdif**	**11 22 18.2**	**+0.2**
Z25A	Roswell baz=104	104.19	57	⇓Pdiff	**Pdif**	**11 22 18.3**	**+0.2**
526A	Mary Lane Ranc baz=105	104.86	60	⇑Pdiff	**Pdif**	**11 22 20.8**	**-0.3**
H27A	Howes baz=105	105.24	45	⇓Pdiff	**Pdif**	**11 22 22.1**	**-0.3**
G27A	Dupree baz=105	105.24	45	⇑Pdiff	**Pdif**	**11 22 22.3**	**-0.1**
TXAR	Lajitas Array	105.26	61	PKKPab	PKKPab	11 38 19.9	-0.6
TXAR	Lajitas Array comp=Z,0.4nm,0.9s,baz=119,slow=10,SNR=4.2	105.26	61	PKKPab	PKKPab	11 38 19.9	-0.6
527A	Woodward Ranch baz=105	105.27	60	⇑Pdiff	**Pdif**	**11 22 22.7**	**-0.3**
I27A	Quinn baz=105	105.33	46	⇓Pdiff	**Pdif**	**11 22 23.4**	**+0.5**
127A	Arkansas Junct baz=106	105.36	58	⇑Pdiff	**Pdif**	**11 22 23.7**	**+0.4**
530A	J-C Ranch, Com baz=107	107.24	60	⇓Pdiff	**Pdif**	**11 22 30.7**	**-0.9**
V30A	Spur Ranch, Mi baz=107	107.32	54	⇑Pdiff	**Pdif**	**11 22 31.1**	**-0.8**
531A	Rocksprings baz=108	107.92	60	⇓Pdiff	**Pdif**	**11 22 33.8**	**-0.8**
NOA	NORSAR Array B	117.24	340	PKP	**PKPdf**	**11 26 59.4**	**+0.7**
NOA	NORSAR Array B comp=Z,0.6nm,0.6s,baz=46,slow=1.7,SNR=3.0	117.24	340	PKP	**PKPdf**	**11 26 59.4**	**+0.7**
PLCA	Paso Flores	119.78	144	PKP	**PKPdf**	**11 27 04.5**	**+0.3**
PLCA	Paso Flores comp=Z,2.1nm,1.1s,baz=239,slow=4.2,SNR=3.6	119.78	144	PKP	**PKPdf**	**11 27 04.5**	**+0.3**
BRG	Berggiesshubel comp=Z,7.7nm,1.1s	122.80	330	*e*P	**PKPdf**	**11 27 09.7**	**+0.1**
BRG	Berggiesshubel	122.80	330	*e*PKIKP	**PKPdf**	**11 27 09.7**	**+0.1**
BRG	comp=Z,3.0nm,1.1s			pmax	pmax		
CLL	Collm	123.00	331	*e*PKIKP	**PKPdf**	**11 27 10.0**	**+0.1**
CLL	Collm	123.00	331	*e*PKPdf	**PKPdf**	**11 27 10.0**	**+0.1**
CLL	comp=Z,100nm,20.2s			Lm	MLR	12 22 00.0	
CONA	Conrad Observa comp=Z,3.8nm,0.8s	123.51	326	⇑*i*PKiKP	**PKPdf**	**11 27 11.0**	**-0.2**
GERES	GERESS Array B	124.15	328	PKP	**PKPdf**	**11 27 12.3**	**-0.1**
GERES	GERESS Array B comp=Z,2.5nm,0.6s,baz=49,slow=1.8,SNR=20	124.15	328	PKP	**PKPdf**	**11 27 12.3**	**-0.1**
BOJS	Bojanci	125.20	324	*i* PKPdf	**PKPdf**	**11 27 14.0**	**-0.4**
CRNS	Crni Vrh	125.45	325	*i* PKPdf	**PKPdf**	**11 27 14.0**	**-0.9**
WTTA	Wattenberg comp=Z,14nm,1.2s	126.21	327	⇑*i*PKiKP	**PKPdf**	**11 27 15.8**	**-0.7**
FETA	Feichten comp=Z,6.5nm,1.0s	126.85	328	⇓*i*PKiKP	**PKPdf**	**11 27 17.5**	**-0.2**
CFAA	Coronel Fontan	126.87	137	PKP	**PKPdf**	**11 27 17.8**	**-0.3**
CFAA	Coronel Fontan comp=Z,0.2nm,0.5s,baz=220,slow=4.1,SNR=5.6	126.87	137	PKP	**PKPdf**	**11 27 17.8**	**-0.3**
ATAH	Atahualpa	128.28	103	PKP	**PKPdf**	**11 27 22.5**	**+0.8**
ATAH	Atahualpa comp=Z,5.3nm,0.7s,baz=49,slow=3.8,SNR=5.0	128.28	103	PKP	**PKPdf**	**11 27 22.5**	**+0.8**
CABF	La Chapelle comp=Z,43nm,1.5s	129.52	330	*e*PKIKP	**PKPdf**	**11 27 21.5**	**-1.2**
PGF	Pioggiola comp=Z,13nm,0.8s	130.59	324	*e*PKIKP	**PKPdf**	**11 27 24.2**	**-0.7**
SMF	Signal de Mont	130.60	331	*e*PKIKP	**PKPdf**	**11 27 22.9**	**-1.7**
LDF	La Bruitiere comp=Z,72nm,1.5s	130.89	336	*e*PKIKP	**PKPdf**	**11 27 23.6**	**-1.5**
LPAZ	La Paz	134.89	119	PKP	**PKPdf**	**11 27 35.0**	**+0.7**
LPAZ	La Paz comp=Z,2.4nm,0.9s,baz=34,slow=5.6,SNR=10.0	134.89	119	PKP	**PKPdf**	**11 27 35.0**	**+0.7**
SDV	Santo Domingo	137.70	83	*e*PKPdf	**PKPdf**	**11 27 38.9**	**-0.2**
SIV	San Ignacio	141.02	124	PKP	**PKPdf**	**11 27 43.8**	**-1.1**
SIV	San Ignacio comp=Z,2.2nm,0.8s,baz=270,slow=5.4,SNR=5.9	141.02	124	PKP	**PKPdf**	**11 27 43.8**	**-1.1**
TORD	Torodi Ar. Bea	149.64	287	PKPbc	**PKPbc**	**11 28 04.1**	**-0.2**
TORD	Torodi Ar. Bea comp=Z,47nm,0.8s,baz=70,slow=2.5,SNR=206	149.64	287	PKPbc	**PKPbc**	**11 28 04.1**	**-0.2**
BDFB	Brasilia	151.21	137	PKPbc	**PKPbc**	**11 28 07.8**	**-0.4**
BDFB				PKPab	**PKPab**	**11 28 14.3**	**-1.7**
BDFB	Brasilia comp=Z,9.8nm,0.7s,baz=195,slow=4.7,SNR=14	151.21	137	PKPbc	**PKPbc**	**11 28 07.8**	**-0.4**
BDFB	comp=Z,5.4nm,0.7s,baz=334,slow=3.9,SNR=5.2			PKPab	**PKPab**	**11 28 14.3**	**-1.7**
DBIC	Dimbokro	156.84	274	PKPbc	PKPdf	11 28 20.7	+11
DBIC				PKPab	**PKPab**	**11 28 39.2**	**-0.7**
DBIC	Dimbokro comp=Z,7.7nm,1.1s,baz=98,slow=7.1,SNR=3.7	156.84	274	PKPbc	PKPdf	11 28 20.7	+11
DBIC	comp=Z,7.1nm,0.9s,baz=96,slow=6.0,SNR=5.4			PKPab	**PKPab**	**11 28 39.2**	**-0.7**

WEL 27 11:23:16.0±0.2, 46.05S×166.05E, h31km, ML3.6/13, Error ellipse: s-maj=1.6km s-min=0.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.46**	**106**	P*	Pb	11 23 25.7	0.0
PYZ				S*	Sb	11 23 32.6	+0.1
DCZ	**Deep Cove**	**0.96**	**54**	PN	Pn	11 23 33.0	-0.3
DCZ				SN	Sn	11 23 45.3	-0.6
DCZ				AML	AML	11 23 47.5	
DCZ				AML	AML	11 23 47.5	
DCZ				AML	AML	11 23 51.2	
WHZ	**Wether Hill Ro**	**1.33**	**84**	PN	Pb	11 23 39.5	-0.8
WHZ				SN	Sn	11 23 55.0	-0.2
WHZ				AML	AML	11 24 00.7	
APZ	**The Paps**	**1.55**	**121**	PN	Pn	11 23 40.9	-0.7
MLZ	**Mavora Lakes**	**1.64**	**66**	PN	Pn	11 23 41.8	-1.0
MLZ				AML	AML	11 24 10.2	
MLZ				AML	AML	11 24 10.6	
MSZ	**Milford Sound**	**1.91**	**45**	AML	AML	11 24 22.1	
MSZ				AML	AML	11 24 24.9	
MSZ				AML	AML	11 24 26.0	
SYZ	**Scrubby Hill**	**2.20**	**104**	PN	Pn	11 23 51.0	+0.7
WKZ	**Wanaka**	**2.42**	**61**	AML	AML	11 24 39.3	
WKZ				AML	AML	11 24 43.1	
EAZ	**Earnscleugh**	**2.43**	**72**	AML	AML	11 24 35.4	
EAZ				AML	AML	11 24 37.6	
TUZ	**Tuapeka**	**2.50**	**89**	PN	Pn	11 23 55.0	+0.5
TUZ				AML	AML	11 24 31.5	
TUZ				AML	AML	11 24 32.4	
LBZ	**Lake Benmore**	**3.36**	**62**	PN	Pn	11 24 06.1	-0.3
ODZ	**Otahua Downs**	**3.38**	**74**	PN	Pn	11 24 06.7	+0.1

MEX 27 11:27:40.8±0.7, 16.35N×99.41W, h16km±7km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**1.08**	**311**	*i* P	Pb	11 27 57.8	-3.3
CAIG				*i* S	Sb	11 28 09.8	-5.1
PNIG	**Pinotepa**	**1.23**	**88**	*i* P	Pn	11 27 60.0	-3.5
PNIG				*i* S	Sb	11 28 13.8	-5.8
PLIG	**Platanillo**	**2.04**	**358**	*e*P	Pn	11 28 11.4	-3.2
PLIG				*i* S	Sn	11 28 35.4	-4.5
ARIG	**Puente Sto Nin**	**2.12**	**335**	*e*P	Pn	11 28 13.0	-2.7
ARIG				*i* S	Sn	11 28 36.8	-5.0
ZIIG	**Zihuatanejo**	**2.33**	**303**	*i* P	Pn	11 28 15.5	-2.9
ZIIG				*i* S	Sn	11 28 42.0	-4.8
YAIG	**Yautepec**	**2.52**	**7**	*i* P	Pn	11 28 18.5	-2.9
YAIG				*i* S	Sn	11 28 47.8	-4.2
PPM	**Popocatepetl**	**2.81**	**15**	*i* P	Pn	11 28 23.1	-2.6
PPM				*i* S	Sn	11 28 55.3	-4.5

ISCJB **27** *11:31:07.0±0.5, 15.78N±0.05×93.86W±0.03, h95km±6km, mb4.0/6, Error ellipse: s-maj=8.3km s-min=5.5km az=177.9*
MEX **27** *11:31:09.6±0.8, 15.75N×93.87W, h82km±16km, MD4.1*
NEIC **27** *11:31:09.5, 15.75N×93.87W, h83km, mb3.6/1, MD4.1(MEX), After MEX.*
IDC **27** *11:31:10.0±3.8, 15.68N×93.55W, h114km±34km, mb3.7/6, mb1 3.8/9, mb1mx3.5/26, mbtmp3.7/9, Error ellipse: s-maj=34.6km s-min=19.4km az=60.0*

ISC 27 11:31:08.1±0.9, 15.76N±0.05×93.86W±0.03, h86km±10km, n25, σ0°91/39, mb4.2/6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGIG		**1.23**	**35**	*i* P	**Pn**	**11 31 31.1**	**+0.7**
TGIG				*i* S	**Sn**	**11 31 46.8**	**-0.3**
TGIG		**1.23**	**35**	*i* P	**Pn**	**11 31 31.1**	**+0.7**
TGIG				*i* S	**Sn**	**11 31 46.8**	**-0.3**
CCIG	**Comitan**	**1.74**	**73**	*i* P	**Pn**	**11 31 37.0**	**+0.2**
CCIG				*i* S	**Sn**	**11 31 59.2**	**+0.5**
CCIG	**Comitan**	**1.74**	**73**	*i* P	**Pn**	**11 31 37.0**	**+0.2**
CCIG				*i* S	**Sn**	**11 31 59.2**	**+0.5**
THIG		**1.76**	**119**	*e*P	**Pn**	**11 31 37.7**	**+0.7**
THIG				*i* S	**Sn**	**11 31 57.9**	**-1.1**
THIG		**1.76**	**119**	*e*P	**Pn**	**11 31 37.7**	**+0.7**
THIG				*i* S	**Sn**	**11 31 57.9**	**-1.1**
HUIG	**Huatulco**	**2.16**	**270**	*i* P	**Pn**	**11 31 42.6**	**+0.3**
HUIG				*i* S	**Sn**	**11 32 07.8**	**-0.7**
HUIG	**Huatulco**	**2.16**	**270**	*i* P	**Pn**	**11 31 42.6**	**+0.3**
HUIG				*i* S	**Sn**	**11 32 07.8**	**-0.7**
TUIG	**Tuzandepetl**	**2.32**	**347**	*i* P	**Pn**	**11 31 43.9**	**-0.5**
TUIG				*i* S	**Sn**	**11 32 12.1**	**-0.1**
TUIG	**Tuzandepetl**	**2.32**	**347**	*e*P	**Pn**	**11 31 43.1**	**-1.3**
TUIG				*i* S	**Sn**	**11 32 12.1**	**-0.1**
SCIG	**Sabancuy**	**4.08**	**38**	*e*P	**Pn**	**11 32 08.3**	**+0.1**
SCIG				*i* S	**Sn**	**11 32 55.0**	**+0.2**
SCIG	**Sabancuy**	**4.08**	**38**	*e*P	**Pn**	**11 32 08.3**	**+0.1**
SCIG				*i* S	**Sn**	**11 32 55.0**	**+0.2**
PNIG	**Pinotepa**	**4.15**	**279**	*e*P	**Pn**	**11 32 09.8**	**+0.7**
PNIG				*i* S	**Sn**	**11 32 55.9**	**-0.5**
PNIG	**Pinotepa**	**4.15**	**279**	*e*P	**Pn**	**11 32 09.8**	**+0.7**
PNIG				*i* S	**Sn**	**11 32 55.9**	**-0.5**
TEIG	**Tepich** 77nm,0.6s	**6.92**	**49**	*e*Pn	**Pn**	**11 32 45.4**	**-1.5**
TEIG	**Tepich** 19nm,0.3s,baz=254,slow=2.8,SNR=78	**6.92**	**49**	P	**Pn**	**11 32 45.8**	**-1.1**
TEIG				S	**Sn**	**11 34 02.5**	**-1.7**
JTS	**JuntasAbangare** 18nm,0.3s,baz=223,slow=22,SNR=15	**10.24**	**121**	P	**Pn**	**11 33 31.8**	**-0.5**
JCT	**Junction City** 2.5nm,0.3s,baz=295,slow=14,SNR=9.1	**15.63**	**341**	*e*Pn	**P**	**11 34 44.7**	**-1.2**
TXAR	**Lajitas Array** 4.1nm,0.9s	**16.25**	**328**	P	**P**	**11 34 54.7**	**+1.9**
ANMO	**Albuquerque** 0.1nm,0.3s,baz=143,slow=14,SNR=8.6	**22.20**	**332**	P	**P**	**11 36 00.1**	**+2.5**
ULM	**Lac du Bonnet** 0.5nm,0.5s,baz=108,slow=9.6,SNR=3.8	**34.44**	**358**	P	**P**	**11 37 46.2**	**-1.0**
YKA	**Yellowknife Ar** 1.7nm,0.5s,baz=164,slow=8.2,SNR=3.1	**48.91**	**347**	P	**P**	**11 39 45.8**	**+0.7**
CPUP	**Villa Florida** 1.5nm,0.5s,baz=151,slow=7.3,SNR=18	**54.89**	**139**	P	P	11 40 26.1	-3.9
KDAK	**Kodiak Island** 0.7nm,0.3s,baz=315,slow=2.9,SNR=3.2	**60.28**	**328**	P	**P**	**11 41 07.0**	**-0.4**
ARCES	**ARCESS Array B** 2.9nm,0.5s,baz=131,slow=9.3,SNR=2.8	**85.03**	**18**	P	**P**	**11 43 33.8**	**0.0**
	1.6nm,0.8s,baz=297,slow=4.0,SNR=7.2						

IDC 27 11:55:41.9±26.0, 12.19N×94.10E, h153km±197km, mb3.6/3, mb1 3.8/4, mb1mx3.2/26, mbtmp3.6/4, ML4.6/1, Error ellipse: s-maj=318.2km s-min=20.4km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr** 2.6nm,0.3s,baz=231,slow=15,SNR=58	**7.78**	**36**	P	Pn	11 57 32.3	-0.1
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=161,slow=9.2,SNR=2.5	**42.30**	**352**	P	P	12 03 20.3	0.0
WRA	**Warramunga Arr** 0.7nm,0.5s,baz=305,slow=8.3,SNR=5.9	**50.88**	**128**	P	P	12 04 27.5	0.0
ASAR	**Alice Springs** 1.0nm,0.4s,baz=311,slow=6.9,SNR=49	**52.77**	**133**	P	P	12 04 41.4	-0.1
PDAR	**Pinedale Array** 0.3nm,0.6s,baz=343,slow=2.8,SNR=3.4	**121.17**	**20**	PKP	PKPdf	12 14 16.2	-1.0
NVAR	**Mina Array Bea** 0.5nm,0.5s,baz=276,slow=2.4,SNR=5.0	**121.23**	**29**	PKP	PKPdf	12 14 17.8	+0.4
TXAR	**Lajitas Array** 0.2nm,0.4s,baz=305,slow=0.7,SNR=8.9	**135.29**	**22**	PKP	PKPdf	12 14 43.9	-0.4

IDC 27 12:03:53.9±0.8, 36.19S×52.50E, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.9/26, mbtmp4.1/8, ML4.1/1, MS3.6/1, Ms1 3.5/1, ms1mx2.9/38, Error ellipse: s-maj=26.2km s-min=20.6km az=29.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo** 0.6nm,0.3s,baz=175,slow=11,SNR=3.2	**18.16**	**344**	P	P	12 08 08.8	+0.6
BOSA	**Boshof** 1.9nm,0.6s,baz=112,slow=8.9,SNR=5.7	**24.16**	**280**	P	P	12 09 11.5	-0.5
MAW	**Mawson** comp=Z,116nm,21.5s,baz=242,slow=30	**32.02**	**173**	LR	LR	12 19 46.5	
SNAA	**Sanae** 0.5nm,0.6s,baz=95,slow=7.8,SNR=14	**45.32**	**201**	P	P	12 12 13.7	+0.5
QSPA	**South Pole Qui** 0.9nm,0.8s,baz=262,slow=5.5,SNR=4.3	**54.00**	**180**	P	P	12 13 19.2	-0.4
FITZ	**Fitzroy Crossi** 3.6nm,1.0s,baz=196,slow=7.4,SNR=4.0	**66.13**	**96**	P	P	12 14 42.9	-0.4
TORD	**Torodi Ar. Bea** 1.2nm,0.9s,baz=121,slow=6.0,SNR=5.1	**68.58**	**306**	P	P	12 14 58.8	0.0
ASAR	**Alice Springs** 2.9nm,0.6s,baz=231,slow=5.9,SNR=50	**69.79**	**105**	P	P	12 15 06.6	+0.2
WRA	**Warramunga Arr** 3.5nm,0.9s,baz=230,slow=5.4,SNR=9.7	**72.10**	**102**	P	P	12 15 20.5

92nm,0.8s,0.4nm
CHBT CHBT 8.23 74 P **Pn 12 10 13.9 +0.1**
44nm,0.5s,2µm0.2nm
CHBT CHBT 8.23 74 P Pn 12 10 20.4 +6.6
KULM Kulim 8.29 129 *e*Pn **Pn 12 10 13.9 -0.7**
KULM *e*Sn **Sn 12 11 42.9 -5.1**
KULM Kulim 8.29 129 P **Pn 12 10 14.2 -0.4**
34nm,0.7s,557nm0.3nm
PBKT Sadao Pong 8.84 47 P **Pn 12 10 22.0 -0.2**
PBKT Sadao Pong 8.84 47 P **Pn 12 10 21.9 -0.2**
46nm,0.6s,805nm0.2nm
CMAR Chiang Mai Arr 9.04 30 Pn **Pn 12 10 25.1 +0.2**
CMAR Chiang Mai Arr 9.04 30 Pn **Pn 12 10 25.1 +0.2**
0.9nm,0.3s,baz=216,slow=15,SNR=4.9
PSI Prapat 9.07 149 Pn **Pn 12 10 27.9 +2.4**
PSI Prapat 9.07 149 Pn **Pn 12 10 27.9 +2.4**
1.2nm,0.3s,baz=321,slow=12,SNR=3.7
PSI LR LR 12 14 39.4
comp=Z,2µm,18.5s,baz=294,slow=42
IPM Ipoh 9.10 132 *e*Pn **Pn 12 10 24.2 -1.6**
IPM *e*Sn Sn 12 12 00.9 -7.2
IPM Ipoh 9.10 132 P **Pn 12 10 24.8 -1.0**
27nm,0.6s
CHAI Chaiyaphum 9.21 54 P Pn 12 10 31.4 +4.1
11nm,1.1s,208nm0.0nm
CHTO Chiang Mai 9.35 29 P Pn 12 10 36.9 +7.8
11nm,1.0s
CHTO Chiang Mai 9.35 29 P Pn 12 10 40.9 +12
9.4nm,1.1s,0.1nm
CMMT Chiang Mai 9.35 29 P Pn 12 10 36.7 +7.6
9.5nm,1.0s
CMMT Chiang Mai 9.35 29 P Pn 12 10 40.7 +12
9.5nm,1.6s
LAMP Lampang 9.45 33 P **Pn 12 10 31.8 +1.3**
LOEI Loei 9.68 44 P Pn 12 10 37.4 +3.7
42nm,0.6s,0.1nm
PPI Padang Panjang 12.61 150 P **Pn 12 11 15.5 +1.7**
VIS Vishakhapatnam 12.69 305 *i* P **Pn 12 11 14.9 0.0**
VIS *e*P **Pn 12 11 15.0 +0.1**
VIS AMB AMB 12 11 33.2
comp=Z,96nm,0.6s
VIS *i* x x 12 13 30.7
SHL Shillong 15.03 352 *e*P **Pn 12 11 45.9 -1.1**
SHL AMB AMB 12 12 00.1
comp=Z,25nm,0.5s
SHL *e*4 12 14 58.0
BOK Bokaro 15.32 330 *e*P **Pn 12 11 49.9 -0.8**
BOK AMB AMB 12 12 15.4
comp=Z,40nm,4.0s
KMI Kunming 16.54 28 P **P 12 12 08.0 -1.2**
KMI pP **pP 12 12 10.3 -3.2**
KMI sP **sP 12 12 11.5 -4.0**
KMI PP **PnPn 12 12 21.3 +5.3**
KMI S **Sn 12 15 10.5 +0.3**
KMI SS **SnSn 12 15 30.5 +6.7**
KMI pmax pmax
comp=Z,5.0nm,0.5s
KMI pmax pmax
comp=Z,110nm,4.3s
KMI LR LR
comp=N,790nm,10.7s
KMI LR LR
comp=E,550nm,10.3s
KMI LR LR
comp=Z,680nm,11.4s
HYB Hyderabad 16.62 296 *i* P **P 12 12 11.0 +1.1**
HYB Hyderabad 16.62 296 *e*P **Pn 12 12 05.5 -1.9**
HYB AMB AMB 12 12 24.3
comp=Z,45nm,0.0s
TRD Trivandrum 17.14 264⇑*ex* **PcP 12 16 58.4 -0.1**
QIZ Qiongzhong 17.26 59 P **Pn 12 12 14.5 -1.0**
QIZ S **Sn 12 15 25.3 -2.1**
QIZ sS **sS 12 15 39.8 -3.3**
QIZ pmax pmax
comp=Z,120nm,6.4s
QIZ LR LR
comp=E,530nm,9.2s
QIZ LR LR
comp=Z,1µm,9.5s
KSM Kuching 18.39 119 Pn **Pn 12 12 30.4 +0.8**
comp=Z,56nm,1.5s
LSA Lhasa 19.20 352 P **P 12 12 38.5 -0.2**
LSA S **Sn 12 16 12.0 -2.9**
LSA LR LR
comp=Z,500nm,26.5s
LSA Lhasa 19.20 352 *e*P **P 12 12 38.7 0.0**
LSA pmax pmax
comp=Z,45nm,1.0s
LSA Lhasa 19.20 352 *e*P **P 12 12 38.7 0.0**
comp=Z,45nm,1.0s
GYA Guiyang 19.66 35 P **Pn 12 12 45.0 +0.1**
GYA PP **PnPn 12 13 03.3 +4.6**
GYA S **S 12 16 21.0 -4.1**
GYA SS **SnSn 12 16 47.5 +7.3**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,110nm,4.8s
GYA LR LR
comp=N,690nm,14.6s
GYA LR LR
comp=E,560nm,16.0s
GYA LR LR
comp=Z,750nm,15.8s
BHPL Bhopal 20.35 310 *e*P Pn 12 12 52.1 -0.9
BHPL AMB AMB 12 13 05.9
comp=Z,49nm,0.9s
POO Poona 21.20 294 *e*P **P 12 13 00.5 +0.3**
POO AMB AMB 12 13 16.1
comp=Z,68nm,1.8s
CD2 Chengdu 22.05 22 P **P 12 13 09.5 +0.3**
CD2 pP **pP 12 13 13.8 +0.2**
CD2 sP **sP 12 13 16.5 +0.9**
CD2 PP **PnPn 12 13 35.0 +3.7**
CD2 S **S 12 17 06.8 -5.3**
CD2 SS **SnSn 12 17 45.0 +6.3**
CD2 pmax pmax
comp=Z,40nm,1.3s
CD2 pmax pmax
comp=Z,290nm,10.2s
CD2 LR LR
comp=E,710nm,8.8s
CD2 LR LR
comp=Z,730nm,10.2s
NDI New Delhi 24.01 321 *e*P **P 12 13 27.5 -1.7**
NDI *e*4 12 17 32.0
ENH Enshi 24.18 34 *e*P **P 12 13 29.3 -1.5**
comp=Z,34nm,0.9s
DDI Dehra Dun 24.71 325 *ex* P 12 13 30.0 -5.6
SMLA Simla 25.82 325 *ex* **P 12 13 42.4 -3.2**
SMLA AMB AMB 12 13 55.5
comp=Z,83nm,2.1s
LZH Lanzhou 26.82 17 *e*P **P 12 13 53.3 -1.5**
LZH pP **pP 12 13 56.3 -3.2**
LZH PP **PnPn 12 14 38.5 +2.0**
LZH *e*S **S 12 18 26.8 -3.9**
LZH pmax pmax
comp=Z,33nm,1.0s
LZH pmax pmax
comp=Z,130nm,5.5s
LZH LR LR
comp=N,790nm,13.0s
LZH LR LR
comp=E,450nm,12.2s
LZH LR LR
comp=Z,890nm,16.5s
XAN Xi'an 26.93 28 P **P 12 13 53.8 -1.9**
XAN pP **pP 12 14 02.5 +2.2**
XAN sP **sP 12 14 05.3 +3.1**
XAN S **S 12 18 38.3 +6.1**
XAN LR LR
comp=N,360nm,11.0s
XAN LR LR
comp=E,640nm,14.3s
XAN LR LR
comp=Z,130nm,11.0s
DHRM DHARAMSHALA 27.14 325 *e*P **P 12 13 56.6 -1.2**
DHRM AMB AMB 12 14 17.5
comp=Z,43nm,2.4s
WHN Wuhan 27.27 40⇑P **P 12 13 59.0 +0.3**
WHN S S 12 18 45.0 +7.4
WHN LR LR
comp=N,680nm,9.0s
WHN LR LR
comp=E,820nm,9.8s
WHN LR LR
comp=Z,1µm,9.9s
GTA Gaotai 29.11 9⇑P **P 12 14 16.3 +1.1**
GTA pP **pP 12 14 20.8 +1.0**
GTA sP **sP 12 14 23.3 +1.6**
GTA S **S 12 19 07.8 +1.2**
GTA sS **sS 12 19 15.0 +0.7**
GTA SS **SnSn 12 20 38.5 +7.5**
GTA pmax pmax
comp=Z,7.0nm,1.5s
GTA pmax pmax
comp=Z,130nm,4.5s
GTA LR LR
comp=N,180nm,21.1s
GTA LR LR
comp=E,140nm,18.8s
GTA LR LR
comp=Z,230nm,19.7s
KAPI Kappang 29.80 120 LR LR 12 26 24.7
comp=Z,359nm,18.9s,baz=269,slow=37
NJ2 Nanjing 31.19 43 *e*P **P 12 14 32.8 -0.7**
NJ2 pmax pmax
comp=Z,20nm,0.6s
KSH Kashi 33.04 334 P **P 12 14 48.5 -1.4**
KSH sP **sP 12 14 55.5 -1.0**
KSH PP **PnPn 12 15 56.8 -2.6**
KSH S **S 12 20 02.5 -5.7**
KSH PcS **PcS 12 21 18.5 -0.4**
KSH pmax pmax
comp=Z,16nm,0.8s
KSH pmax pmax
comp=Z,46nm,5.3s
KSH LR LR
comp=N,540nm,14.7s
KSH LR LR
comp=E,340nm,14.5s
KSH LR LR
comp=Z,190nm,18.5s
KBL Kabul 33.09 320 *e*P **P 12 14 50.9 +0.4**
KBL pmax pmax
comp=Z,19nm,0.8s
KBL Kabul 33.09 320 *e*P **P 12 14 50.9 +0.4**
comp=Z,19nm,0.8s
WMQ Urumqi 33.56 351 P **P 12 14 55.5 +1.2**
WMQ pP **pP 12 15 00.0 +1.0**
WMQ sP **sP 12 15 02.5 +1.6**
WMQ PP **PnPn 12 16 07.8 +1.9**
WMQ PcP **PcP 12 17 36.5 +1.8**
WMQ S **S 12 20 16.0 0.0**
WMQ sS **sS 12 20 23.3 -0.4**
WMQ ScP **ScP 12 21 19.5 +0.5**
WMQ SS **SnSn 12 22 19.5 +0.4**
WMQ ScS **ScS 12 25 19.0 -1.1**
WMQ pmax pmax
comp=Z,27nm,1.6s
WMQ pmax pmax
comp=Z,140nm,3.8s
WMQ LR LR
comp=N,240nm,8.8s
WMQ LR LR
comp=E,130nm,16.4s
WMQ LR LR
comp=Z,280nm,28.0s
BJI Beijing 35.19 30 P **P 12 15 09.5 +1.2**
BJI PP **PP 12 16 28.5 +0.2**
BJI S **S 12 20 41.3 +0.2**
BJI pmax pmax
comp=Z,13nm,0.6s
BJI pmax pmax
comp=Z,88nm,4.5s
BJI LR LR
comp=N,200nm,14.2s
BJI LR LR
comp=E,260nm,17.3s
BJI LR LR
comp=Z,110nm,19.8s
AAK Ala-Archa 36.24 335*d* *i*P **P 12 15 18.2 +0.6**
AAK pmax pmax
comp=Z,27nm,1.0s
AAK Ala-Archa 36.24 335 *e*P **P 12 15 18.4 +0.9**
AAK Ala-Archa 36.24 335 P **P 12 15 17.6 0.0**
comp=Z,5.2nm,0.6s,baz=170,slow=4.4,SNR=11
FRU Bishkek 36.36 335 *e*P **P 12 15 18.0 -0.4**
FRU MLR MLR
comp=Z,500nm,22.0s
EKS2 Erkin-Say 36.57 334 *e*P **P 12 15 20.9 +0.6**
EKS2 pmax pmax
comp=Z,17nm,0.8s
EKS2 Erkin-Say 36.57 334 *e*P **P 12 15 20.9 +0.6**
comp=Z,17nm,0.8s
MK31 Makanchi Array 37.45 347*ce*P **P 12 15 26.9 -0.7**
MK31 pmax pmax
comp=Z,21nm,0.7s
MKAR Makanchi Array 37.45 347*ce*P **P 12 15 27.7 +0.1**
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR Makanchi Array 37.45 347 *e*P **P 12 15 28.0 +0.4**
MKAR Makanchi Array 37.45 347 P **P 12 15 27.6 +0.1**
comp=Z,9.2nm,0.7s,baz=165,slow=7.9,SNR=54
MKAR LR LR 12 34 55.9
comp=Z,208nm,18.4s,baz=172,slow=43
KK31 Karatay Array 38.38 332*ce*P **P 12 15 35.2 -0.3**
KK31 pmax pmax
comp=Z,13nm,0.9s
SONM Songino Array 38.49 13 P **P 12 15 36.4 -0.1**
SONM Songino Array 38.49 13 P **P 12 15 36.4 -0.1**
comp=Z,2.8nm,0.9s,baz=198,slow=9.1,SNR=11
SONM LR LR 12 32 54.2
comp=Z,264nm,19.9s,baz=324,slow=39
ULN Ulaanbaatar 38.67 14 *e*P **P 12 15 37.7 -0.4**
comp=Z,9.0nm,1.2s
IMYA Miami 40.07 315 *e*P **P 12 15 49.9 -0.1**
ZAK Zakamensk 40.34 9 *e*P **P 12 15 51.9 0.0**
ZAK *e* 12 17 50.8
ZAK pmax pmax
comp=Z,3.0nm,1.3s
KSAR Wonju Array Be 40.36 43 P **P 12 15 51.6 -0.5**
KSRS Korea Array 40.39 43 P **P 12 15 51.6 -0.8**
comp=Z,6.4nm,1.0s,baz=251,slow=8.3,SNR=28
KSRS LR LR 12 36 01.4
comp=Z,135nm,18.9s,baz=225,slow=41
HVS Khovu-Aksy 40.40 360*d* *i*P **P 12 15 52.8 +0.4**
HVS pmax pmax
comp=Z,89nm,1.0s
IAKL Akhelmad 41.14 315 *e*P **P 12 15 56.2 -2.7**
ISFR Sfrayin 41.89 315 *e*P **P 12 16 05.7 +0.6**
KURBB Kurchatov Arra 41.92 345 P **P 12 16 04.5 -0.2**
comp=Z,9nm,0.8s,baz=164,slow=7.6,SNR=49
KURK Kurchatov 41.99 345 P **P 12 16 04.5 -0.8**
KURK Kurchatov 41.99 345 P **P 12 16 04.5 -0.8**
IMEH Mehriz 42.04 306 *e*P **P 12 16 03.6 -2.7**
CN2 Changchun 42.70 34 *e*P **P 12 16 11.5 +0.3**
CN2 *es*P **sP 12 16 18.5 +0.6**
CN2 *e*PP **PP 12 17 53.3 +2.9**
CN2 *e*S **S 12 22 31.5 -2.7**
CN2 *e*SS SS 12 25 37.0 -7.9
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,160nm,5.0s
CN2 LR LR
comp=N,300nm,14.0s
CN2 LR LR
comp=E,100nm,14.0s
CN2 LR LR
comp=Z,200nm,16.0s
ZALV Zalesovo Beam 43.86 352 *i* P **P 12 16 20.6 +0.2**
ZALV pmax pmax
comp=Z,15nm,0.8s
ZALV Zalesovo Beam 43.86 352 P **P 12 16 20.4 0.0**
ZALV Zalesovo Beam 43.86 352 P **P 12 16 20.4 0.0**
comp=Z,15nm,0.8s,baz=176,slow=8.6,SNR=42
ZALV LR LR 12 39 20.3
comp=Z,61nm,19.3s,baz=249,slow=43
IANJ Anjilo 44.12 311 *e*P **P 12 16 24.4 +1.2**
ISHM Shahmirzad 44.73 311 *e*P **P 12 16 26.9 -1.1**
NVS Novosibirsk 44.96 351 *e*P **P 12 16 28.1 -1.1**
ISFB Sefidab 44.96 308 *e*P **P 12 16 31.8 +2.1**
IALA Alasht 45.19 311 *e*P **P 12 16 32.8 +1.0**
KRAR Krasnoyarsk 45.30 359‖*e*P **P 12 16 31.5 -0.3**
KRAR pmax pmax
comp=Z,59nm,1.2s
MDJ Mudanjiang 45.53 35 P **P 12 16 33.8 -0.1**
MDJ pP **pP 12 16 36.8 -1.9**
MDJ sP **sP 12 16 38.3 -2.3**
MDJ S **S 12 23 11.8 -3.6**
MDJ pmax pmax
comp=Z,4.0nm,1.6s
MDJ pmax pmax
comp=Z,51nm,3.6s
MDJ LR LR
comp=N,51nm,24.9s
MDJ LR LR
comp=E,60nm,27.1s
MDJ LR LR
comp=Z,76nm,24.9s
IVRN Varamin 45.59 309 *e*P **P 12 16 36.6 +1.9**
IPRN Peran 45.61 311 *e*P **P 12 16 35.3 +0.4**
VOSK Vostochnaya 45.99 341 P **P 12 16 35.7 -1.7**
VOSK pmax pmax
comp=Z,23nm,0.9s
VLA Vladivostok 46.02 38‖*e*P **P 12 16 37.7 -0.1**
VLA pmax pmax
comp=Z,23nm,1.2s
BVA0 Borovoye Array 46.44 340 P **P 12 16 39.4 -1.5**
BVA0 pmax pmax
comp=Z,20nm,1.2s
BRVK Borovoye 46.50 340*d* *i*P **P 12 16 41.0 -0.4**
BRVK pmax pmax
comp=Z,13nm,1.5s
BRVK Borovoye 46.50 340 *e*P **P 12 16 41.1 -0.4**
comp=Z,10nm,1.0s
USRK Ussuriysk Arra 46.69 37 P **P 12 16 42.4 -0.6**
comp=Z,3.3nm,0.8s,baz=245,slow=7.4,SNR=8.8
IRAZ Razeghan 47.11 309 *e*P **P 12 16 48.0 +1.2**
KBD Kabd 47.12 300 *e*P **P 12 16 46.8 +0.1**
RDF Al-Radifah 47.19 300 *e*P **P 12 16 47.2 -0.1**
RDF AMb AMB 12 16 51.1
comp=Z,47nm,1.4s
MAT Matsushiro 47.31 50 P **P 12 16 47.3 -0.8**
MAT S **PcS 12 22 19.0 +4.7**
MJAR Matsushiro Arr 47.31 50 P **P 12 16 48.0 -0.1**
MJAR PcP **PcP 12 18 18.8 -0.2**
MJAR Matsushiro Arr 47.31 50 P **P 12 16 48.0 -0.1**
comp=Z,1.8nm,0.8s,baz=236,slow=7.3,SNR=6.7
MJAR PcP **PcP 12 18 18.8 -0.2**
comp=Z,6.8nm,0.9s,baz=250,slow=3.7,SNR=17
NAY Al-Naaiem 47.52 300 *e*P **P 12 16 49.6 -0.3**
NAY AMb AMB 12 16 57.7
comp=Z,18nm,0.7s
MIB Mutribah 47.57 301 *e*P **P 12 16 50.3 +0.1**
MIB AMb AMB 12 16 58.2
comp=Z,41nm,0.8s
AB31 Akbulak array 47.88 330*ce*P **P 12 16 52.2 -0.1**
AB31 pmax pmax
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 47.88 330 *e*P **P 12 16 52.3 0.0**
comp=Z,5.9nm,0.7s
KLR Kul'dur 49.51 32 *e*P P 12 17 00.0 -4.8
AKTO Aktyubinsk 49.60 330 *i* P **P 12 17 04.3 -1.2**
AKTO pmax pmax
comp=Z,8.0nm,0.7s
WRA Warramunga Arr 49.83 127 P **P 12 17 07.9 +0.3**
WRA Warramunga Arr 49.83 127 P **P 12 17 07.9 +0.3**
comp=Z,5.8nm,0.8s,baz=304,slow=8.7,SNR=13
WRAB Tennant Creek 49.83 127 *e*P **P 12 17 07.4 -0.3**
WRAB pmax pmax
comp=Z,12nm,0.8s
WRAB Tennant Creek 49.83 127 *e*P **P 12 17 07.4 -0.3**
comp=Z,12nm,0.8s
ISHB Shabestar 51.34 311 *e*P **P 12 17 19.2 0.0**
IMRD Marand 51.42 311 *e*P **P 12 17 20.5 +0.8**
ASAR Alice Springs 51.65 132 P **P 12 17 21.9 +0.5**
ASAR Alice Springs 51.65 132 P **P 12 17 21.9 +0.5**
comp=Z,6.8nm,0.8s,baz=308,slow=6.9,SNR=64
CLNS Chul'man 51.86 21 *e*P **P 12 17 22.8 +0.4**
CLNS pmax pmax
comp=Z,17nm,0.9s
CLNS pmax pmax
comp=E,11nm,0.9s
CLNS pmax pmax
comp=N,10.0nm,0.9s
GNI Garni 52.61 313 *e*P **P 12 17 29.6 +1.2**
comp=N,61nm,1.0s
SVE Sverdlovsk 52.90 338‖*e*P **P 12 17 30.4 +0.3**
SVE pmax pmax
comp=Z,29nm,1.4s
ARU Arti 53.41 336*d* *i*P **P 12 17 33.1 -0.8**
ARU 12 19 30.9
ARU S **S 12 25 06.5 +1.0**
ARU SS **SS 12 28 39.4 -6.2**
ARU pmax pmax
comp=Z,13nm,1.7s
ARU MLR MLR
comp=Z,508nm,21.0s
ZEI Tsey 54.11 316 *e*P **P 12 17 40.5 +0.9**
ZEI pmax pmax
comp=Z,26nm,1.0s
YSS Yuzh-Sakhalins 54.60 39 *e*P **P 12 17 44.0 +1.2**
KBZ Khabaz 55.14 316 P **P 12 17 47.2 +0.5**
KBZ Khabaz 55.14 316 P **P 12 17 47.2 +0.5**
KBZ Khabaz 55.14 316 P **P 12 17 47.2 +0.5**
comp=Z,6.9nm,1.1s,baz=128,slow=6.2,SNR=7.1
KIV Kislovodsk 55.36 317 *e*P **P 12 17 48.8 +0.4**
KIV pmax pmax
comp=Z,40nm,1.1s
KIV MLR MLR
comp=Z,78nm,16.0s
YAK Yakutsk 57.39 19 *e*P **P 12 18 01.2 -1.2**
YAK *e**PP **pP 12 18 07.4 +0.1**
YAK *e* 12 18 54.1
YAK *e* 12 20 08.2
YAK *e*S **S 12 25 58.8 +0.3**
YAK *e* 12 27 46.5
YAK pmax pmax
comp=Z,27nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=Z,5.0nm,0.6s
YAK pmax pmax
comp=E,4.0nm,0.8s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK smax smax
comp=N,31nm,4.0s
YAK smax smax
comp=E,66nm,5.2s
YAK MLR MLR
comp=Z,163nm,20.0s
YAK MLR MLR
comp=E,107nm,19.0s
YAK MLR MLR
comp=N,55nm,14.0s
KMBO Kilima Mbogo 57.83 262 LR LR 12 40 19.1
comp=N,78nm,18.1s,baz=97,slow=33
ANN Anapa 59.20 316 *e*P **P 12 18 13.9 -1.5**
ANN pmax pmax
comp=Z,58nm,1.8s
CTAO Charters Tower 59.62 121 *e*P **P 12 18 19.8 +1.1**
CTAO pmax pmax
comp=Z,21nm,1.4s
CTAO Charters Tower 59.62 121 *e*P **P 12 18 19.8 +1.1**
comp=Z,21nm,1.4s
VORD Divnogorie 60.06 323 *e*P **P 12 18 22.1 +0.9**
VORD pmax pmax
comp=Z,20nm,1.1s
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,30nm,0.6s
VSR Storozhevoye 60.23 324 *e*P P 12 18 25.9 +3.6
VSR pmax pmax
comp=Z,4.0nm,0.4s
VSR pmax pmax
comp=N,8.0nm,0.8s
VSR pmax pmax
comp=E,7.0nm,0.5s
BRTR Keskin Array B 60.72 310 P **P 12 18 24.9 -1.2**
BRTR Keskin Array B 60.72 310 P **P 12 18 24.9 -1.2**
comp=E,6.4nm,0.8s,baz=117,slow=6.3,SNR=22
STKA Stephens Creek 61.96 135 P **P 12 18 34.6 +0.2**
STKA Stephens Creek 61.96 135 P **P 12 18 34.6 +0.2**
comp=E,5.4nm,0.9s,baz=302,slow=9.8,SNR=5.4
OBN Obninsk 63.12 327‖*e*P **P 12 18 41.7 -0.1**
OBN *i* 12 18 49.8
OBN pmax pmax
comp=Z,8.0nm,0.5s
OBN MLR MLR

comp=Z,200nm,18.0s
SEY Seymchan 66.42 25 ↑ *e*P **P 12 19 03.8 +0.6**
JOF Joensuu 68.42 334 *e*p **P 12 19 15.0 -0.8**
comp=Z,2.3nm,0.6s
JOF Joensuu 68.42 334 *e*P **P 12 19 15.0 -0.8**
JOF pmax pmax
comp=Z,2.0nm,0.6s
APA Apatity 69.32 339 ↑ *e*P **P 12 19 21.4 0.0**
APA MLR MLR
comp=Z,500nm,23.0s
LSZ Lusaka 70.27 250 P **P 12 19 28.8 +0.6**
LSZ Lusaka 70.27 250 P **P 12 19 28.8 +0.6**
comp=Z,2.9nm,0.6s,baz=62,slow=8.1,SNR=6.6
FINES FINESS Array B 70.34 332 P **P 12 19 27.0 -0.7**
FINES FINESS Array B 70.34 332 P **P 12 19 27.0 -0.7**
comp=Z,2.0nm,0.7s,baz=100,slow=7.2,SNR=5.2
FINES LR LR 12 56 58.0
comp=Z,184nm,18.4s,baz=265,slow=42
ARCES ARCESS Array B 72.72 340 P **P 12 19 41.9 -0.1**
ARCES ARCESS Array B 72.72 340 P **P 12 19 41.9 -0.1**
comp=Z,4.8nm,0.8s,baz=83,slow=7.4,SNR=7.8
ARCES LR LR 12 54 53.1
comp=Z,328nm,20.0s,baz=138,slow=39
MORC Moravsky Berou 73.36 319 *e*P **P 12 19 45.9 -0.3**
MORC pmax pmax
comp=Z,7.0nm,1.0s
MORC Moravsky Berou 73.36 319 *e*P **P 12 19 45.9 -0.3**
comp=Z,7.0nm,1.0s
DPC Dobruska-Polom 74.17 319 *e*P **P 12 19 50.8 -0.2**
DPC Dobruska-Polom 74.17 319 *e*P **P 12 19 50.8 -0.2**
KSP Ksiaz 74.21 320 *e*P **P 12 19 51.4 +0.3**
CEL Celeste 74.36 307 *e*P **P 12 19 52.0 -0.3**
SOKA Soboth 74.94 316 ↑ *i*P **P 12 19 55.6 +0.1**
comp=Z,4.2nm,1.1s
LBTB Lobatse 75.62 241 P **P 12 20 00.1 +0.3**
LBTB Lobatse 75.62 241 P **P 12 20 00.1 +0.3**
comp=Z,2.1nm,0.7s,baz=53,slow=5.1,SNR=3.2
BRG Berggiesshubel 75.70 320 *e*P P 12 20 06.7 +6.9
comp=Z,6.2nm,0.8s
BRG Berggiesshubel 75.70 320 *e*P P 12 20 06.7 +6.9
BRG pmax pmax
comp=Z,13nm,0.9s
GERES GERESS Array B 75.84 318 P **P 12 20 00.5 -0.3**
GERES GERESS Array B 75.84 318 P **P 12 20 00.4 -0.3**
comp=Z,1.8nm,0.7s,baz=88,slow=6.0,SNR=14
GERES LR LR 12 58 46.9
comp=Z,79nm,19.3s,baz=126,slow=40
KHC Kasperske Hory 75.93 318 *e*P **P 12 20 00.5 -0.6**
KHC *e* 12 20 09.1
KHC Kasperske Hory 75.93 318 *e*P **P 12 20 00.5 -0.6**
KHC *ex* x 12 20 09.1
CLL Collm 76.30 320 *e*P P 12 20 11.0 +7.9
CLL pmax pmax
comp=Z,6.0nm,1.1s
CLL Collm 76.30 320 *e*P P 12 20 11.0 +7.9
comp=Z,6.0nm,1.1s
CLL *e*PP **PP 12 22 54.0 -0.4**
CLL LmV 13 00 00.0
comp=Z,100nm,19.6s
BOSA Boshof 77.10 237 P **P 12 20 08.8 +0.6**
BOSA Boshof 77.10 237 P **P 12 20 08.8 +0.6**
comp=Z,1.8nm,0.7s,baz=87,slow=6.3,SNR=3.7
NB2 NORSAR Subarra 77.39 330 P **P 12 20 08.0 -1.2**
comp=Z,4.0nm,0.9s,baz=90,slow=6.2
NOA NORSAR Array B 77.39 330 P **P 12 20 08.2 -1.0**
NOA NORSAR Array B 77.39 330 P **P 12 20 08.2 -1.0**
comp=Z,1.8nm,0.8s,baz=93,slow=5.4,SNR=5.4
NOA LR LR 12 57 25.5
comp=Z,123nm,21.2s,baz=95,slow=38
FETA Feichten 77.88 316 ↑ *i*P **P 12 20 11.4 -1.0**
comp=Z,3.3nm,0.9s
PGF Pioggiola 79.40 311 *e*P **P 12 20 21.1 +0.4**
comp=Z,34nm,1.3s
KEST Kesra 79.74 305 *e*P **P 12 20 22.6 -0.2**
KEST Kesra 79.74 305 P **P 12 20 21.2 -1.5**
comp=Z,3.3nm,0.9s,baz=79,slow=4.1,SNR=8.7
KEST LR LR 12 59 25.7
comp=Z,34nm,19.7s,baz=310,slow=39
MBDF Montbardon 80.81 314 *e*P **P 12 20 28.8 +0.4**
comp=Z,13nm,0.8s
BNI Bardonecchia 80.84 314 *e*P **P 12 20 30.2 +1.7**
BNI pmax pmax
comp=Z,7.0nm,0.9s
BNI Bardonecchia 80.84 314 *e*P **P 12 20 30.2 +1.7**
comp=Z,7.2nm,0.9s
VIVF Saint-Julien-l 82.28 314 *e*P **P 12 20 36.0 0.0**
TAM Tamanrasset 84.76 292 *e*P **P 12 20 49.5 +0.2**
TAM pmax pmax
comp=Z,5.0nm,0.8s
TAM Tamanrasset 84.76 292 *e*P **P 12 20 49.5 +0.2**
comp=Z,4.5nm,0.8s
DAG Danmarks Havn 84.83 348 *e*P **P 12 20 47.9 -0.5**
DAG pmax pmax
comp=Z,3.0nm,1.0s
DAG Danmarks Havn 84.83 348 *i* P **P 12 20 47.9 -0.5**
comp=Z,3.4nm,1.0s
ESDC Sonseca Array 89.51 310 P **P 12 21 11.1 -0.8**
ESDC Sonseca Array 89.51 310 P **P 12 21 11.1 -0.8**
comp=Z,0.2nm,0.3s,baz=75,slow=3.9,SNR=4.0
TORD Torodi Ar. Bea 90.04 283 P **P 12 21 14.5 -0.3**
TORD PP **PP 12 24 49.2 +1.2**
TORD Torodi Ar. Bea 90.04 283 P **P 12 21 14.5 -0.3**
comp=Z,1.5nm,0.7s,baz=86,slow=4.3,SNR=11
TORD PP **PP 12 24 49.2 +1.2**
comp=Z,1.9nm,1.0s,baz=51,slow=4.8,SNR=7.4
SUMG Summit 91.50 347 *e*P **P 12 21 20.8 -0.1**
SUMG pmax pmax
comp=Z,4.0nm,1.0s
SUMG Summit 91.50 347 *i* P **P 12 21 20.8 -0.1**
comp=Z,3.8nm,1.0s
MCK McKinley 91.93 23 *e*P **P 12 21 22.6 0.0**
MCK pmax pmax
comp=Z,15nm,1.1s
MCK McKinley 91.93 23 *e*P **P 12 21 22.6 0.0**
comp=Z,15nm,1.1s
ILAR Eielson Array 92.19 22 P **P 12 21 22.6 -1.2**
ILAR Eielson Array 92.19 22 P **P 12 21 22.6 -1.2**
comp=Z,1.2nm,0.7s,baz=302,slow=4.5,SNR=15
INK Inuvik 94.35 16 P **P 12 21 32.7 -0.9**
INK Inuvik 94.35 16 P **P 12 21 32.7 -0.9**
comp=Z,2.8nm,0.9s,baz=305,slow=5.6,SNR=6.6
VNDA Vanda 95.59 168 P **P 12 21 39.8 +0.8**
VNDA Vanda 95.59 168 P **P 12 21 39.8 +0.8**
comp=Z,0.9nm,0.8s,baz=304,slow=5.2,SNR=4.4
FFC Flin Flon 113.49 10 *i* PKIKP 12 26 50.0
NVAR Mina Array Bea 122.53 30 PKP **PKPdf 12 27 11.2 +0.7**
NVAR Mina Array Bea 122.53 30 PKP **PKPdf 12 27 11.2 +0.7**
comp=Z,1.3nm,0.7s,baz=309,slow=2.9,SNR=8.8
PDAR Pinedale Array 122.59 21 PKP **PKPdf 12 27 10.7 +0.1**
PDAR Pinedale Array 122.59 21 PKP **PKPdf 12 27 10.7 +0.1**
comp=Z,1.0nm,0.9s,baz=333,slow=3.0,SNR=8.5
MVU Marysvale 125.26 25 *e*PKPdf **PKPdf 12 27 16.9 +1.1**
MSU Marysvale 125.27 25 *e*PKIKP **PKPdf 12 27 16.7 +0.9**
MSU Marysvale 125.27 25 *e*PKPdf **PKPdf 12 27 16.7 +0.9**
TXAR Lajitas Array 136.70 23 PKP **PKPdf 12 27 36.9 -0.6**
TXAR Lajitas Array 136.70 23 PKP **PKPdf 12 27 36.9 -0.6**
comp=Z,1.0nm,1.1s,baz=333,slow=1.0,SNR=5.9
CELP Cerrillos 145.76 326 *e*PKPdf **PKPbc 12 27 54.0 -0.2**
PLCA Paso Flores 147.12 202 PKPbc **PKPab 12 27 58.9 -0.5**
PLCA Paso Flores 147.12 202 PKPbc **PKPab 12 27 58.9 -0.5**
comp=Z,6.7nm,0.9s,baz=144,slow=2.5,SNR=8.4
LPAZ La Paz 161.93 250 PKP **PKPdf 12 28 17.9 +0.5**
LPAZ La Paz 161.93 250 PKP **PKPdf 12 28 17.9 +0.5**
comp=Z,1.6nm,0.9s,baz=90,slow=1.0,SNR=5.2

IDC 27 12:18:59.4±2.1, 18.66N×107.41W, h0km, mb3.2/3, mb1 3.8/5, mb1mx3.6/24, mbtmp3.4/5, ML3.5/2, MS3.1/1, Ms1 3.1/1, ms1mx2.3/14, Error ellipse: s-maj=90.0km s-min=31.2km az=97.0, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**11.16**	**17**	Pn		Pn	12 21 42.0	+1.6
	0.1nm,0.3s,baz=200,slow=12,SNR=15							
ANMO	**Albuquerque**	**16.25**	**3**	Pn		P	12 22 51.3	-1.2
	0.1nm,0.3s,baz=185,slow=11,SNR=3.2							
PFO	**Pinyon Flat Ob**	**16.95**	**333**	LR		LR	12 28 57.8	
	comp=Z,56nm,18.5s,baz=313,slow=35							
NVAR	**Mina Array Bea**	**21.87**	**337**	P		P	12 23 54.8	+0.7
	0.7nm,0.8s,baz=161,slow=11,SNR=6.2							
PDAR	**Pinedale Array**	**24.10**	**356**	P		P	12 24 15.9	-1.1
	0.3nm,0.7s,baz=180,slow=12,SNR=3.1							
ILAR	**Eielson Array**	**53.06**	**340**	P		P	12 28 17.6	-0.6
	0.5nm,0.7s,baz=146,slow=6.6,SNR=6.2							
WRA	**Warramunga Arr**	**122.00**	**258**	PKP		PKPdf	12 37 56.4	-0.3
	0.5nm,0.8s,baz=83,slow=1.9,SNR=3.5							
ASAR	**Alice Springs**	**122.97**	**253**	PKP		PKPdf	12 37 58.6	+0.2
	0.4nm,0.8s,baz=83,slow=2.9,SNR=4.6							

*CSEM **27** 12:21:18.2±0.2, 47.89N×16.40E, h10km, ML1.4/3, Error ellipse: s-maj=4.3km s-min=1.7km az=118.0*
VIE 27 12:21:18.8±0.3, 47.88N×16.36E, h3km, mb0.7/1, ML1.4/3, 4D, Error ellipse: s-maj=2.9km s-min=1.2km az=115.0
7 km SW of Wimpassing a.d. Leitha, Austria

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CONA	**Conrad Observa**	**0.34**	**279**	↓ *i*Pg		Pg	12 21 25.6	+0.1
	5.0nm,0.3s							
CONA				↓ *i*Sg		Sg	12 21 30.3	+0.2
	14nm,0.5s							
CONA	**Conrad Observa**	**0.34**	**279**	Pg		Pg	12 21 25.6	+0.1
	5.0nm,0.3s							
CONA				Sg		Sg	12 21 30.3	+0.3
	14nm,0.5s							
ARSA	**Arzberg**	**0.84**	**222**	↓ *i*Pg		Pg	12 21 35.1	0.0
	1.2nm,0.2s							
ARSA				↓ *i*Sg		Sg	12 21 46.6	+0.6
	2.7nm,0.2s							
ARSA	**Arzberg**	**0.84**	**222**	Pg		Pg	12 21 35.1	0.0
	1.2nm,0.2s							
ARSA				Sg		Sg	12 21 46.6	+0.6
	2.7nm,0.2s							
VRAC	**Vranov**	**1.44**	**6**	*e*Pg		Pn	12 21 45.6	-0.3
VRAC				*e*Sg		Sb	12 22 04.7	-0.5

*ISCJB **27** 12:34:13.8±1.0, 5.44S±0.03×151.73E±0.03, h12km±6km, mb5.2/129, MS4.8/52, Error ellipse: s-maj=5.8km s-min=4.9km az=147.9*
*IDC **27** 12:34:15.0±2.0, 5.41S×151.84E, h14km±12km, mb4.9/29, mb1 4.9/32, mb1mx4.9/33, mbtmp4.9/32, ML4.0/3, MS4.7/28, Ms1 4.7/28, ms1mx4.5/44, Error ellipse: s-maj=13.7km s-min=9.3km az=102.0*
*BJI **27** 12:34:15.1, 5.40S×152.27E, h37km, mB5.2/35, mb5.1/55, Ms4.9/50, Ms7 4.7/46*
*MOS **27** 12:34:17.3±1.0, 5.33S×151.63E, h34km, mb5.6/34, MS4.9/6, Error ellipse: s-maj=9.6km s-min=6.8km az=86.5*
*NEIC **27** 12:34:19.6±0.8, 5.52S×151.74E, h46km±7km, mb5.4/63, Error ellipse: s-maj=4.8km s-min=4.3km az=162.0*
*GCMT **27** 12:34:22.2±0.1, 5.80S×151.88E, h28km, MW5.3, Moment Tensor Solution. s86,c154; s84,c154; Moment tensor: Scale 10^17Nm; Mrr0.91±.02; Mθθ-1.04±.02; Mϕϕ0.13±.02; Mrθ0.78±.03; Mθϕ-0.29±.01; Mϕr0.08±.03; Best double couple: Mo1.30000×10^17 NP1:ϕs250.00000°, δ27.00000°, λ79.00000°. NP2:ϕs82.00000°, δ64.00000°, λ96.00000°. Principal axes: T 1.1800, Plg71.0000°, Azm4.0000°; N 0.1900, Plg5.0000°, Azm260.0000°; P -1.3700, Plg19.0000°, Azm168.0000°; Data Used: II IU IC G CN.*
*DJA **27** 12:34:24.5±1.0, 6.5S×15.2E±*, h87km±11km, M5.4/14, mB5.7/9, mb5.2/14, MLv5.8/1, Mw(mB)5.3/9*
*BKK **27** 12:34:24.1±1.0, 5.5S×15.2E±*, h74km±9km, M5.5/24, mB5.9/8, mb5.2/24, MLv5.8/1, Mw(mB)5.5/8*
ISC 27 12:34:19.5±0.3, 5.44S±0.04×151.79E±0.05, h45km, n498, σ1§41/554, mb5.2/119, MS4.8/53, 15C-5D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.05**	**229**	*e*Pn		Pn	**12 35 46.4**	**-0.2**
PMG				Sn		Sn	**12 36 54.0**	**-0.6**
PMG				*e*Sn		Sn	12 36 54.2	-0.4
PMG	**Port Moresby**	**6.05**	**229**	P		Pn	**12 35 47.7**	**+1.2**
	861nm,0.9s,20µm5.1nm							
PMG	**Port Moresby**	**6.05**	**229**	Pn		Pn	**12 35 46.7**	**+0.2**
	27nm,0.3s,baz=40,slow=11,SNR=80							
PMG				Sn		Sn	**12 36 54.0**	**-0.6**
	16nm,0.3s,baz=49,slow=16,SNR=13							
HNR	**Honiara**	**9.00**	**117**	Pn		Pn	**12 36 25.9**	**-1.2**
HNR	**Honiara**	**9.00**	**117**	Pn		Pn	**12 36 25.8**	**-1.2**
	4.9nm,0.3s,baz=218,slow=12,SNR=3.4							
HNR				LR		LR	12 39 22.5	
	comp=Z,4µm,20.3s,baz=288,slow=34							
JAY	**Jayapura**	**11.44**	**284**	P		Pn	12 37 07.7	+7.3
	49nm,2.5s,3µm							
COEN	**Coen**	**11.98**	**224**	*e*Pn		**Pn**	**12 37 05.3**	**-2.5**
CTA	**Charters Tower**	**15.52**	**200**	Pn		**Pn**	**12 37 55.2**	**-0.2**
CTA	**Charters Tower**	**15.52**	**200**	Pn		**Pn**	**12 37 55.2**	**-0.2**
	0.2nm,0.3s,baz=22,slow=14,SNR=12							
CTA				LR		LR	12 43 20.8	
	comp=Z,3µm,19.9s,baz=23,slow=35							
CTAO	**Charters Tower**	**15.52**	**200**	*e*P		**Pn**	**12 37 55.4**	**-0.1**
CTAO				pmax		pmax		
	comp=Z,441nm,2.5s							
CTAO	**Charters Tower**	**15.52**	**200**	*e*Pn		**Pn**	**12 37 55.4**	**-0.1**
	comp=Z,441nm,2.5s							
RKPI	**Ransiki, Papua**	**18.01**	**282**	P		P	**12 38 30.6**	**+3.8**
	comp=Z,154nm,1.1s							
EIDS	**Eidsvold**	**19.82**	**182**	*e*P		P	**12 38 45.4**	**-1.1**
	comp=Z,171nm,1.3s							
GUMO	**Guam**	**20.12**	**340**	*e*P		Pn	12 38 51.8	-0.2
	comp=Z,466nm,1.1s							
SWI	**Sorong**	**21.00**	**282**	P		Pn	12 39 01.2	-1.3
	comp=Z,113nm,0.9s,comp=Z,1µm							
DZM	**Mont Dzumac**	**21.77**	**141**	*e*P		P	**12 39 11.6**	**+3.8**
	comp=Z,100nm,1.2s							
DZM				*e*LQ		LQ	12 43 27.0	
	comp=Z,4µm,26.2s							
DZM				*e*LR		LR	12 44 23.9	
	comp=Z,5µm,23.2s							
DZM	**Mont Dzumac**	**21.77**	**141**	P		P	**12 39 07.1**	**-0.6**
DZM	**Mont Dzumac**	**21.77**	**141**	P		P	**12 39 07.1**	**-0.6**
	comp=Z,19nm,1.0s,baz=12,slow=9.3,SNR=7.9							
TARA	**Tarawa**	**22.16**	**73**	*e*P		P	**12 39 11.5**	**-0.3**
	comp=Z,333nm,1.1s							
WRAB	**Tennant Creek**	**22.26**	**228**	P		P	**12 39 12.0**	**-0.9**
	comp=Z,663nm,0.9s,SNR=28							
WRAB	**Tennant Creek**	**22.26**	**228**	*e*P		P	**12 39 11.7**	**-1.2**
WRAB				*e*S		S	**12 43 13.2**	**-2.1**
WRAB				pmax		pmax		
	comp=Z,87nm,0.8s							
WRAB	**Tennant Creek**	**22.26**	**228**	*e*P		P	**12 39 11.7**	**-1.2**
	comp=Z,87nm,0.8s							
WRAB				*e*S		S	**12 43 13.2**	**-2.1**
WRA	**Warramunga Arr**	**22.27**	**228**	P		P	**12 39 12.3**	**-0.8**
WRA				S		S	**12 43 12.0**	**-3.6**
WRA				ScP		ScP	**12 46 45.3**	**+3.3**
WRA	**Warramunga Arr**	**22.27**	**228**	P		P	**12 39 12.3**	**-0.8**
	comp=Z,85nm,1.0s,baz=53,slow=9.6,SNR=58							
WRA				S		S	**12 43 12.0**	**-3.6**
	comp=Z,47nm,1.1s,baz=54,slow=18,SNR=16							
WRA				ScP		ScP	**12 46 45.3**	**+3.3**
	comp=Z,4.0nm,0.9s,baz=44,slow=2.1,SNR=4.6							
WRA				LR		LR	12 48 34.0	
	comp=Z,2µm,19.0s,baz=55,slow=38							
ARMA	**Armidale**	**24.84**	**180**	*e*P		P	**12 39 37.4**	**-0.6**
	comp=Z,87nm,1.4s							
ASAR	**Alice Springs**	**25.00**	**222**	P		P	**12 39 38.8**	**-0.6**
ASAR				S		S	**12 44 05.7**	**+5.2**
ASAR				ScP		ScP	**12 46 51.8**	**+2.4**
ASAR	**Alice Springs**	**25.00**	**222**	P		P	**12 39 38.8**	**-0.6**
	comp=Z,122nm,0.8s,baz=55,slow=9.3,SNR=217							
ASAR				S		S	**12 44 05.7**	**+5.2**
	comp=Z,23nm,1.1s,baz=41,slow=17,SNR=12							
ASAR				ScP		ScP	**12 46 51.8**	**+2.4**
	comp=Z,3.7nm,1.0s,baz=43,slow=2.5,SNR=5.7							
ASAR				LR		LR	12 49 12.9	
	comp=Z,2µm,20.2s,baz=59,slow=36							
SOEI	**Soe**	**27.61**	**259**	P		P	**12 40 03.3**	**+0.1**
STKA	**Stephens Creek**	**27.98**	**199**	*e*P		P	**12 40 04.5**	**-1.6**
STKA	**Stephens Creek**	**27.98**	**199**	P		P	**12 40 04.8**	**-1.3**
	comp=Z,3.2nm,0.7s,baz=29,slow=11,SNR=11							
STKA				LR		LR	12 51 32.7	
	comp=Z,2µm,19.1s,baz=133,slow=37							
BATI	**Baumata**	**28.26**	**259**	P		P	**12 40 09.6**	**+0.7**
BATI	**Baumata**	**28.26**	**259**	P		P	**12 40 09.6**	**+0.7**
	comp=Z,143nm,0.9s,baz=194,slow=9.6,SNR=18							
FITZ	**Fitzroy Crossi**	**28.47**	**242**	*e*P		P	**12 40 09.8**	**-0.8**
	comp=Z,176nm,1.0s							
FITZ	**Fitzroy Crossi**	**28.47**	**242**	P		P	**12 40 09.9**	**-0.8**
	comp=Z,152nm,1.0s,baz=69,slow=9.1,SNR=41							
FITZ				LR		LR	12 52 41.0	
	comp=Z,864nm,18.9s,baz=65,slow=39							
DAV	**Davao City (W)**	**28.96**	**295**	LR		LR	12 51 34.0	
	comp=Z,2µm,18.8s,baz=100,slow=36							
FORT	**Forrest**	**33.66**	**219**	*e*P		P	**12 40 55.4**	**-0.8**
	comp=Z,46nm,0.8s							
MBWA	**Marble Bar**	**34.78**	**240**	*e*P		P	**12 41 05.1**	**-1.0**
	comp=Z,59nm,1.0s							
TGY	**Tagaytay City**	**36.26**	**303**	P		P	**12 41 20.0**	**+1.1**
TGY	**Tagaytay City**	**36.26**	**303**	P		P	**12 41 20.0**	**+1.1**
	comp=Z,114nm,0.3s,baz=158,slow=11,SNR=5.6							
AFI	**Afiamalu**	**36.84**	**106**	LR		LR	12 54 46.0	
	comp=Z,557nm,18.7s,baz=49,slow=33							
JOW	**Kunigami**	**39.34**	**326**	*e*P		P	**12 41 46.5**	**+1.8**
	comp=Z,38nm,1.0s							
NACB	**Ninganchiao**	**41.63**	**316**	*e*P		P	**12 42 02.9**	**-0.7**
	comp=Z,49nm,0.9s							
RPZ	**Rata Peaks**	**41.73**	**159**	P		P	**12 42 02.7**	**-1.5**
RPZ	**Rata Peaks**	**41.73**	**159**	P		P	**12 42 02.7**	**-1.5**
	comp=Z,8.0nm,0.5s,baz=32,slow=14,SNR=4.5							
RPZ				LR		LR	12 57 11.3	
	comp=Z,2µm,20.7s,baz=329,slow=33							
KSM	**Kuching**	**42.00**	**278**	*e*P		P	**12 42 06.8**	**-0.1**
	comp=Z,11nm,1.0s							
NWAO	**Narrogin (SRO)**	**42.23**	**225**	LR		LR	13 00 35.2	
	comp=Z,2µm,19.1s,baz=50,slow=37							
TATO	**Taipei**	**42.23**	**317**	*e*P		P	**12 42 10.2**	**+1.7**
	comp=Z,87nm,1.1s							
JNU	**Nakatsue**	**43.19**	**334**	*e*P		P	**12 42 16.8**	**+0.6**
JNU	**Nakatsue**	**43.19**	**334**	P		P	**12 42 14.5**	**-1.7**
	comp=Z,20nm,0.9s,baz=146,slow=9.6,SNR=11							
MJAR	**Matsushiro Arr**	**43.66**	**344**	P		P	**12 42 17.1**	**-2.8**
MJAR				PcP		**PcP**	**12 44 06.1**	**-0.6**
MJAR				ScP		**ScP**	**12 47 57.2**	**+2.5**
MJAR	**Matsushiro Arr**	**43.66**	**344**	P		P	**12 42 17.1**	**-2.8**
	comp=Z,6.1nm,1.0s,baz=171,slow=9.4,SNR=11							
MJAR				PcP		**PcP**	**12 44 06.1**	**-0.6**
	comp=Z,6.6nm,1.0s,baz=174,slow=3.3,SNR=9.0							
MJAR				ScP		**ScP**	**12 47 57.2**	**+2.5**
	comp=Z,1.8nm,0.9s,baz=165,slow=3.7,SNR=4.9							
MJAR				LR		LR	12 59 49.9	
	comp=Z,799nm,18.9s,baz=180,slow=35							
MAJO	**Matsushiro**	**43.66**	**344**	*e*P		P	**12 42 18.8**	**-1.2**
MAJO				pmax		pmax		
	comp=Z,15nm,1.0s							
MAJO	**Matsushiro**	**43.66**	**344**	*e*P		P	**12 42 18.8**	**-1.2**
	comp=Z,15nm,1.0s							
MAT	**Matsushiro**	**43.66**	**344**	P		P	**12 42 17.7**	**-2.3**
MAT				S		S	12 48 53.2	+6.5
QZH	**Quanzhou**	**44.22**	**315** ↑	*i*P		P	**12 42 25.5**	**+0.9**
QZH				*e*S		S	**12 48 55.3**	**+0.2**
QZH				pmax		pmax		
	comp=Z,190nm,0.9s							
QZH				LR		LR		
	comp=N,2µm,21.7s							
QZH				LR		LR		
	comp=E,2µm,16.0s							
QZH				LR		LR		
	comp=Z,2µm,16.4s							
SSE	**Sheshan**	**46.64**	**323**	P		P	**12 42 41.5**	**-2.1**
SSE				pP		**pP**	**12 42 51.3**	**-4.8**
SSE				S		S	**12 49 31.3**	**+1.4**
SSE				sS		**sS**	**12 49 46.8**	**-3.8**
SSE				pmax		pmax		
	comp=Z,25nm,0.7s							
SSE				pmax		pmax		
	comp=Z,120nm,5.0s							
SSE				LR		LR		
	comp=N,480nm,20.2s							
SSE				LR		LR		
	comp=E,740nm,20.2s							
SSE				LR		LR		
	comp=Z,1µm,18.5s							
QIZ	**Qiongzhong**	**47.94**	**302**	P		P	**12 42 55.0**	**+1.0**
QIZ				PP		**PP**	**12 44 47.8**	**+1.4**
QIZ				S		S	**12 49 52.5**	**+3.7**
QIZ				sS		**sS**	**12 50 07.8**	**-1.8**
QIZ				LR		LR		
	comp=N,400nm,19.4s							
QIZ				LR		LR		
	comp=E,260nm,19.4s							
QIZ				LR		LR		
	comp=Z,880nm,22.2s							
KSRS	**Korea Array**	**48.13**	**334**	P		P	**12 42 54.8**	**-0.3**
	comp=Z,4.9nm,0.9s,baz=149,slow=8.5,SNR=28							
KSRS				PcP		**PcP**	**12 44 23.5**	**+1.3**
	comp=Z,5.9nm,1.0s,baz=149,slow=4.1,SNR=9.1							
KSRS				ScP		**ScP**	**12 48 15.0**	**+1.8**
	comp=Z,2.2nm,0.9s,baz=145,slow=5.1,SNR=8.7							
KSRS				LR		LR	13 01 44.0	
	comp=Z,371nm,20.7s,baz=217,slow=34							
KSAR	**Wonju Array Be**	**48.14**	**334**	P		P	**12 42 54.8**	**-0.4**
KSAR				PcP		**PcP**	**12 44 23.5**	**+1.3**
KSAR				ScP		**ScP**	**12 48 15.0**	**+1.7**
INCN	**Inchon**	**48.72**	**333**	*e*P		P	**12 42 60.0**	**+0.2**
	comp=Z,49nm,1.1s							
NJ2	**Nanjing**	**48.72**	**322**	*e*P		P	**12 43 02.8**	**+3.0**
NJ2				pP		**pP**	**12 43 10.5**	**-1.8**
NJ2				sP		**sP**	**12 43 15.0**	**-2.6**
NJ2				PP		**PP**	**12 44 55.0**	**+1.7**
NJ2				S		S	**12 50 03.0**	**+3.6**
NJ2				sS		**sS**	**12 50 20.0**	**-0.3**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
NJ2				pmax		pmax		
	comp=Z,240nm,8.1s							
NJ2				LR		LR		
	comp=N,840nm,14.6s							
NJ2				LR		LR		
	comp=E,650nm,16.7s							
NJ2				LR		LR		
	comp=Z,840nm,16.5s							
RAR	**Rarotonga**	**49.44**	**113**	LR		LR	13 01 42.1	
	comp=Z,273nm,18.3s,baz=269,slow=33							
YUK	**Yuzh-Kuril'sk**	**49.54**	**354**	*e*P		P	**12 43 04.5**	**-1.3**
YUK				*e*			12 44 58.1	
YUK				*e*PPP		PPP	12 45 48.6	
YUK				*e*S		S	**12 50 10.2**	**-0.3**
YUK				*e*SSS		SSS	12 55 00.6	
ASAJ	**Asahikawa**	**50.02**	**351**	P		P	**12 43 08.5**	**-1.0**
ASAJ	**Asahikawa**	**50.02**	**351**	P		P	**12 43 08.5**	**-1.0**
	comp=Z,7.3nm,1.0s,baz=225,slow=10.0,SNR=3.2							
ASAJ				LR		LR	13 05 14.3	
	comp=Z,397nm,18.9s,baz=353,slow=37							
WHN	**Wuhan**	**50.63**	**317** ↑	*i*P		P	**12 43 15.5**	**+1.1**
WHN				pP		**pP**	**12 43 24.8**	**-2.2**
WHN				pmax		pmax		
	comp=Z,92nm,1.0s							
WHN				LR		LR		
	comp=N,2µm,20.0s							
WHN				LR		LR		
	comp=E,2µm,21.0s							
WHN				LR		LR		
	comp=Z,2µm,20.5s							
VLA	**Vladivostok**	**51.60**	**341** ↑	*i*P		P	**12 43 21.0**	**-0.3**
VLA				*e*S		S	**12 50 39.6**	**+0.6**
VLA				pmax		pmax		
	comp=Z,17nm,1.3s							
PANO	**Nakornpanom**	**51.73**	**297**	P		P	**12 43 24.4**	**+1.6**
	comp=Z,26nm,1.0s							
DL2	**Dalian**	**52.22**	**330**	P		P	**12 43 25.0**	**-1.1**
DL2				S		S	**12 50 46.0**	**-1.8**

	comp=Z,520nm,22.4s							
ENH	**Enshi**	**53.87**	**314**	*e*P		**P**	**12 43 39.0**	**+0.5**
	comp=Z,51nm,1.2s							
GYA	**Guiyang**	**53.99**	**308**	P		**P**	**12 43 42.0**	**+2.4**
GYA				pP		**pP**	**12 43 52.3**	**+0.1**
GYA				sP		**sP**	**12 43 58.0**	**+0.5**
GYA				PP		**PP**	**12 45 45.5**	**+4.1**
GYA				ScP		**ScP**	**12 48 40.0**	**+1.0**
GYA				PcS		**PcS**	**12 48 46.3**	**+2.3**
GYA				S		**S**	**12 51 15.0**	**+2.3**
GYA				sS		**sS**	**12 51 33.3**	**-0.5**
GYA				SS		**SS**	**12 54 56.5**	**+1.8**
GYA				pmax	pmax			
	comp=Z,20nm,1.0s							
GYA				pmax	pmax			
	comp=Z,140nm,5.4s							
GYA				LR	LR			
	comp=N,790nm,19.3s							
GYA				LR	LR			
	comp=E,560nm,20.0s							
GYA				LR	LR			
	comp=Z,750nm,19.4s							
CN2	**Changchun**	**54.48**	**337**	*e*P		**P**	**12 43 43.3**	**+0.7**
CN2				*e*PP		**PP**	**12 45 47.5**	**+2.2**
CN2				*e*S		**S**	**12 51 18.3**	**-0.1**
CN2				*e*SS		**SS**	**12 55 01.0**	**-0.6**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
CN2				LR	LR			
	comp=N,300nm,17.0s							
CN2				LR	LR			
	comp=E,300nm,17.0s							
CN2				LR	LR			
	comp=Z,300nm,18.0s							
PBKT	**Sadao Pong**	**54.80**	**295**	P		**P**	**12 43 46.8**	**+1.4**
	comp=Z,31nm,1.3s							
LOEI	**Loei**	**54.85**	**296**	P		**P**	**12 43 43.9**	**-1.9**
	comp=Z,32nm,1.0s,comp=Z,1μm							
NANT	**Nan**	**55.80**	**297**	P		**P**	**12 43 53.4**	**+0.8**
	comp=Z,74nm,1.2s							
BJI	**Beijing**	**55.88**	**327**	P		**P**	**12 43 53.3**	**+0.5**
BJI				pP		**pP**	**12 44 03.3**	**-2.2**
BJI				sP		**sP**	**12 44 06.3**	**-4.4**
BJI				S		**S**	**12 51 38.3**	**+1.1**
BJI				sS		**sS**	**12 51 58.8**	**+0.4**
BJI				SS		**SS**	**12 55 18.0**	**-5.7**
BJI				pmax	pmax			
	comp=Z,14nm,1.4s							
BJI				pmax	pmax			
	comp=Z,180nm,5.0s							
BJI				LR	LR			
	comp=N,680nm,20.7s							
BJI				LR	LR			
	comp=E,500nm,20.1s							
BJI				LR	LR			
	comp=Z,740nm,22.0s							
XAN	**Xi'an**	**56.40**	**317**	P		**P**	**12 43 56.3**	**-0.4**
XAN				pP		**pP**	**12 44 05.5**	**-4.0**
XAN				sP		**sP**	**12 44 10.3**	**-4.4**
XAN				pmax	pmax			
	comp=Z,8.0nm,1.3s							
XAN				pmax	pmax			
	comp=Z,19nm,6.4s							
XAN				LR	LR			
	comp=N,380nm,23.7s							
XAN				LR	LR			
	comp=E,200nm,19.4s							
XAN				LR	LR			
	comp=Z,260nm,20.4s							
KMI	**Kunming**	**56.52**	**305**	⇑P		**P**	**12 43 59.3**	**+1.4**
KMI				pP		**pP**	**12 44 11.3**	**+0.6**
KMI				sP		**sP**	**12 44 15.5**	**-0.4**
KMI				PP		**PP**	**12 46 08.5**	**+4.3**
KMI				S		**S**	**12 51 48.3**	**+1.6**
KMI				sS		**sS**	**12 52 07.3**	**-0.7**
KMI				SS		**SS**	**12 55 36.8**	**+2.0**
KMI				pmax	pmax			
	comp=Z,27nm,1.4s							
KMI				pmax	pmax			
	comp=Z,160nm,6.9s							
KMI				LR	LR			
	comp=N,340nm,16.9s							
KMI				LR	LR			
	comp=E,350nm,16.0s							
KMI				LR	LR			
	comp=Z,490nm,17.3s							
LAMP	**Lampang**	**56.65**	**296**	P		**P**	**12 44 00.0**	**+1.3**
	comp=Z,8.1nm,0.9s							
KLR	**Kul'dur**	**57.19**	**344**	*e*P		P	12 43 57.8	-4.1
CMAR	**Chiang Mai Arr**	**57.25**	**296**	P		**P**	**12 44 03.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**57.25**	**296**	P		**P**	**12 44 03.5**	**+0.6**
	comp=Z,8.0nm,0.8s,baz=121,slow=5.3,SNR=36							
CMAR				LR	LR		13 08 49.4	
	comp=Z,426nm,18.4s,baz=282,slow=36							
CMMT	**Chiang Mai**	**57.36**	**296**	P		**P**	**12 44 04.2**	**+0.5**
	comp=Z,21nm,1.4s							
CHTO	**Chiang Mai**	**57.37**	**296**	*e*P		**P**	**12 44 04.0**	**+0.2**
CHTO				pmax	pmax			
	comp=Z,37nm,1.4s							
CHTO	**Chiang Mai**	**57.37**	**296**	*e*P		**P**	**12 44 04.0**	**+0.2**
	comp=Z,37nm,1.4s							
CHTO	**Chiang Mai**	**57.37**	**296**	P		**P**	**12 44 04.4**	**+0.6**
	comp=Z,22nm,1.4s							
CMAI	**Chiengmai2**	**57.65**	**298**	P		**P**	**12 44 08.8**	**+2.8**
	comp=Z,41nm,1.0s							
CD2	**Chengdu**	**58.40**	**311**	P		**P**	**12 44 11.5**	**+0.6**
CD2				pP		**pP**	**12 44 22.5**	**-1.2**
CD2				sP		**sP**	**12 44 27.0**	**-1.8**
CD2				PcP		**PcP**	**12 45 01.0**	**-0.3**
CD2				PP		**PP**	**12 46 22.5**	**+1.9**
CD2				S		**S**	**12 52 10.3**	**-0.6**
CD2				sS		**sS**	**12 52 29.3**	**-2.9**
CD2				ScS		**ScS**	**12 53 54.0**	**-3.3**
CD2				SS		**SS**	**12 56 04.8**	**+0.9**
CD2				pmax	pmax			
	comp=Z,30nm,1.0s							
CD2				pmax	pmax			
	comp=Z,180nm,6.8s							
CD2				LR	LR			
	comp=E,740nm,20.2s							
CD2				LR	LR			
	comp=Z,1μm,20.2s							
PPT	**Papeete**	**58.49**	**107**	LR		LR	13 04 24.3	
	comp=Z,247nm,20.5s,baz=224,slow=31							
PPT2	**Papeete2**	**58.49**	**107**	*e*LR		LR	13 01 21.8	
	comp=Z,346nm,22.8s							
PET	**Petropavlovsk**	**58.54**	**5**	*e*P		P	12 44 16.7	+5.5
PET				*e*S		S	12 52 18.4	+6.8
PET				MLR		MLR		
	comp=Z,300nm,16.0s							
PETK	**Petropavlovsk-**	**58.55**	**4**	P		**P**	**12 44 11.9**	**+0.6**
PETK	**Petropavlovsk-**	**58.55**	**4**	P		**P**	**12 44 11.9**	**+0.6**
PETK	**Petropavlovsk-**	**58.55**	**4**	P		**P**	**12 44 11.9**	**+0.6**
	comp=Z,2.7nm,0.5s,baz=166,slow=8.3,SNR=15							
PETK				LR		LR	13 04 12.1	
	comp=Z,482nm,21.5s,baz=185,slow=31							
HHC	**Hu-ho-hao-te**	**58.99**	**325**	*e*P		**P**	**12 44 15.5**	**+0.6**
HHC				pP		**pP**	**12 44 25.8**	**-1.9**
HHC				sP		**sP**	**12 44 29.5**	**-3.3**
HHC				PP		**PP**	**12 46 28.3**	**+2.6**
HHC				S		**S**	**12 52 19.3**	**+1.0**
HHC				sS		**sS**	**12 52 36.5**	**-3.2**
HHC				ScS		**ScS**	**12 53 59.5**	**-1.8**
HHC				SS		**SS**	**12 56 15.0**	**+2.1**
HHC				pmax	pmax			
	comp=Z,72nm,0.7s							
HHC				pmax	pmax			
	comp=Z,310nm,6.8s							
HHC				LR	LR			
	comp=N,1μm,16.7s							
HHC				LR	LR			
	comp=E,1μm,16.7s							
HHC				LR	LR			
	comp=Z,2μm,19.1s							
TBI	**Tubuai**	**59.21**	**114**	*e*S		**S**	**12 52 24.7**	**+3.1**
	comp=Z,564nm,26.1s							
TBI				*e*LQ		LQ	12 59 16.2	
	comp=Z,1μm,36.0s							
TBI				*e*LR		LR	13 01 41.2	
	comp=Z,439nm,33.2s							
BTO	**Baotou**	**59.72**	**324**	*e*P		**P**	**12 44 19.5**	**-0.4**
FX1	**Attu Island--F**	**60.86**	**15**	*e*P		**P**	**12 44 27.7**	**+0.4**
LZH	**Lanzhou**	**61.00**	**317**	⇑P		**P**	**12 44 30.0**	**+1.2**
LZH				pP		**pP**	**12 44 45.5**	**+3.8**
LZH				sP		**sP**	**12 44 47.0**	**+0.2**
LZH				PP		**PP**	**12 46 45.0**	**+1.3**
LZH				*e*S		**S**	**12 52 45.3**	**+0.9**
LZH				sS		**sS**	**12 53 05.0**	**-0.8**
LZH				SS		**SS**	**12 56 45.3**	**+0.6**
LZH				pmax	pmax			
	comp=Z,70nm,1.2s							
LZH				pmax	pmax			
	comp=Z,220nm,7.0s							
LZH				LR	LR			
	comp=N,920nm,15.0s							
LZH				LR	LR			
	comp=E,940nm,15.4s							
LZH				LR	LR			
	comp=Z,1μm,18.6s							
GTA	**Gaotai**	**65.45**	**318**	⇑P		**P**	**12 44 59.0**	**+0.8**
GTA				pP		**pP**	**12 45 09.3**	**-1.9**
GTA				sP		**sP**	**12 45 13.3**	**-3.0**
GTA				S		**S**	**12 53 40.0**	**+0.2**
GTA				sS		**sS**	**12 53 57.8**	**-3.7**
GTA				SS		**SS**	**12 57 56.3**	**+2.2**
GTA				pmax	pmax			
	comp=Z,17nm,1.6s							
GTA				pmax	pmax			
	comp=Z,160nm,5.5s							
GTA				LR	LR			
	comp=N,330nm,18.5s							
GTA				LR	LR			
	comp=E,360nm,19.5s							
GTA				LR	LR			
	comp=Z,500nm,19.9s							
SHL	**Shillong**	**65.77**	**301**	*e*P		**P**	**12 45 01.0**	**+0.4**
ULN	**Ulaanbaatar**	**66.02**	**329**	*e*P		**P**	**12 45 02.2**	**+0.5**
	comp=Z,29nm,1.0s							
SONM	**Songino Array**	**66.34**	**328**	P		**P**	**12 45 04.2**	**+0.5**
SONM	**Songino Array**	**66.34**	**328**	P		**P**	**12 45 04.2**	**+0.5**
	comp=Z,22nm,1.0s,baz=137,slow=5.7,SNR=55							
SONM				LR		LR	13 14 18.0	
	comp=Z,630nm,19.4s,baz=120,slow=36							
CASY	**Casey**	**67.11**	**197**	*e*P		**P**	**12 45 07.2**	**-0.9**
LSA	**Lhasa**	**67.78**	**305**	P		**P**	**12 45 14.5**	**+0.8**
LSA				pmax	pmax			
	comp=Z,20nm,1.0s							
LSA	**Lhasa**	**67.78**	**305**	*e*P		**P**	**12 45 14.2**	**+0.5**
LSA				pmax	pmax			
	comp=Z,22nm,1.1s							
LSA	**Lhasa**	**67.78**	**305**	*e*P		**P**	**12 45 14.2**	**+0.5**
	comp=Z,22nm,1.1s							
YAK	**Yakutsk**	**69.41**	**349**	*e*P		**P**	**12 45 20.8**	**-1.7**
YAK				*e**PP		pP	12 45 30.4	-5.2
YAK				*e*			12 45 48.3	
YAK				*e*			12 47 51.4	
YAK				*e*S		**S**	**12 54 21.2**	**-4.9**
YAK				*e*			12 55 10.0	
YAK				pmax	pmax			
	comp=E,3.0nm,1.4s							
YAK				pmax	pmax			
	comp=N,9.0nm,1.7s							
YAK				pmax	pmax			
	comp=Z,14nm,1.3s							
YAK				pmax	pmax			
	comp=Z,7.0nm,0.9s							
YAK				pmax	pmax			
	comp=N,2.0nm,0.9s							
YAK				smax	smax			
	comp=N,16nm,2.2s							
YAK				smax	smax			
	comp=E,16nm,2.3s							
YAK				MLR	MLR			
	comp=Z,270nm,17.0s							
YAK				MLR	MLR			
	comp=N,273nm,21.0s							
YAK				MLR	MLR			
	comp=E,244nm,22.0s							
ZAK	**Zakamensk**	**69.52**	**329**	*e*P		**P**	**12 45 24.0**	**+0.3**
ZAK				pmax	pmax			
	comp=Z,38nm,1.0s							
IRK	**Irkutsk**	**70.18**	**331**	*e*P		**P**	**12 45 26.6**	**-0.9**
IRK				pmax	pmax			
	comp=Z,37nm,1.0s							
MOY	**Mondy**	**71.45**	**329**	*e*P		**P**	**12 45 36.0**	**+0.6**
MOY				pmax	pmax			
	comp=Z,48nm,1.7s							
VNDA	**Vanda**	**72.23**	**178**	P		**P**	**12 45 40.0**	**+0.5**
VNDA	**Vanda**	**72.23**	**178**	P		**P**	**12 45 40.0**	**+0.5**
	comp=Z,5.0nm,1.1s,baz=331,slow=8.0,SNR=11							
RKT	**Rikitea**	**72.47**	**112**	*e*LR		LR	13 07 56.5	
	comp=Z,556nm,29.0s							
MIR	**Mirnyy**	**72.97**	**201**	⇓*i*P		**P**	**12 45 45.0**	**+0.9**
MIR				*i*			12 45 52.0	
MIR				*i*			12 46 04.0	
MIR				pmax	pmax			
	comp=Z,44nm,1.2s							
HVS	**Khovu-Aksy**	**75.03**	**326**	*c i*P		**P**	**12 45 56.8**	**+0.3**
HVS				pmax	pmax			
	comp=Z,400nm,1.2s							
WMQ	**Urumqi**	**75.54**	**318**	P		**P**	**12 46 01.0**	**+1.4**
WMQ				pP		**PcP**	**12 46 11.3**	**-1.1**
WMQ				PcP		**pP**	**12 46 14.3**	**+1.5**
WMQ				sP		**sP**	**12 46 15.3**	**-2.6**
WMQ				PP		**PP**	**12 48 52.5**	**+3.1**
WMQ				S		**S**	**12 55 38.5**	**+1.4**
WMQ				sS		**sS**	**12 55 55.5**	**-3.7**
WMQ				SKS		**SKSac**	**12 56 03.5**	**-2.5**
WMQ				ScS		**ScS**	**12 56 08.5**	**-1.2**
WMQ				SS		**SS**	**13 00 35.0**	**+6.1**
WMQ				pmax	pmax			
	comp=Z,34nm,1.2s							
WMQ				pmax	pmax			
	comp=Z,180nm,4.8s							
WMQ				LR	LR			
	comp=N,320nm,19.4s							
WMQ				LR	LR			
	comp=E,200nm,16.7s							
WMQ				LR	LR			
	comp=Z,260nm,23.3s							
HYB	**Hyderabad**	**75.76**	**289**	*i* P		**P**	**12 46 00.0**	**-1.3**
OHAK	**Old Harbor**	**76.58**	**27**	*e*P		**P**	**12 46 05.7**	**+0.7**
	comp=Z,480nm,2.2s							
KDAK	**Kodiak Island**	**77.20**	**27**	P		**P**	**12 46 08.8**	**+0.3**
KDAK	**Kodiak Island**	**77.20**	**27**	P		**P**	**12 46 08.8**	**+0.3**
	comp=Z,30nm,1.0s,baz=350,slow=2.4,SNR=5.6							
SVW2	**Sparrevohn**	**77.81**	**23**	*e*P		**P**	**12 46 13.4**	**+1.5**
	comp=Z,12nm,0.8s							
MK31	**Makanchi Array**	**80.15**	**319**	*i* P		**P**	**12 46 24.8**	**-0.3**
MK31				pmax	pmax			
	comp=Z,27nm,1.0s							
MKAR	**Makanchi Array**	**80.15**	**319**	P		**P**	**12 46 25.1**	**0.0**
MKAR	**Makanchi Array**	**80.15**	**319**	P		**P**	**12 46 25.1**	**0.0**
MKAR	**Makanchi Array**	**80.15**	**319**	P		**P**	**12 46 25.1**	**0.0**
	comp=Z,20nm,1.0s,baz=101,slow=6.3,SNR=56							
MKAR				LR		LR	13 22 08.2	
	comp=Z,386nm,18.8s,baz=118,slow=36							
PMR	**Palmer**	**80.68**	**25**	*e*P		**P**	**12 46 27.3**	**-0.3**
PMR				pmax	pmax			
	comp=Z,26nm,1.3s							
PMR	**Palmer**	**80.68**	**25**	*e*P		**P**	**12 46 27.2**	**-0.3**
	comp=Z,26nm,1.3s							
SML	**Sawmill**	**81.12**	**25**	*e*P		**P**	**12 46 30.4**	**+0.4**
SML				pmax	pmax			
	comp=Z,13nm,1.3s							
SML	**Sawmill**	**81.12**	**25**	*e*P		**P**	**12 46 30.4**	**+0.4**
	comp=Z,13nm,1.3s							
ZALV	**Zalesovo Beam**	**81.13**	**327**	*i* P		**P**	**12 46 29.3**	**-0.8**
ZALV				pmax	pmax			
	comp=Z,5.0nm,0.4s							
ZALV	**Zalesovo Beam**	**81.13**	**327**	P		**P**	**12 46 28.9**	**-1.2**
ZALV	**Zalesovo Beam**	**81.13**	**327**	P		**P**	**12 46 28.9**	**-1.2**
	comp=Z,4.5nm,0.4s,baz=118,slow=5.9,SNR=19							
ZALV				LR		LR	13 22 26.9	
	comp=Z,476nm,20.4s,baz=70,slow=36							
TRF	**Thorofare Moun**	**81.17**	**23**	*e*P		**P**	**12 46 29.7**	**-0.7**
	comp=Z,115nm,2.4s							
MCK	**McKinley**	**81.84**	**23**	*e*P		**P**	**12 46 33.4**	**-0.3**
MCK	**McKinley**	**81.84**	**23**	*e*P		**P**	**12 46 33.4**	**-0.3**
BMRM	**Bremner River**	**82.32**	**26**	*e*P		**P**	**12 46 36.9**	**+0.5**
NVS	**Novosibirsk**	**82.32**	**327**	⇑*i*P		**P**	**12 46 33.7**	**-2.7**
NVS				pmax	pmax			
	comp=N,10.0nm,1.4s							
NVS				pmax	pmax			
	comp=E,17nm,1.4s							
NVS				pmax	pmax			
	comp=Z,29nm,1.4s							
KSH	**Kashi**	**82.59**	**311**	P		**P**	**12 46 40.5**	**+2.2**
KSH				sP		**sP**	**12 46 55.5**	**-1.3**
KSH				S		**SKSac**	**12 56 55.8**	**-0.5**
KSH				sS		**sS**	**12 57 13.0**	**-1.8**
KSH				SS		**SS**	**13 02 21.8**	**+6.7**
KSH				pmax	pmax			
	comp=Z,17nm,1.1s							
KSH				pmax	pmax			
	comp=Z,160nm,5.3s							
KSH				LR	LR			
	comp=N,600nm,16.0s							
KSH				LR	LR			
	comp=E,650nm,18.0s							
KSH				LR	LR			
	comp=Z,370nm,18.4s							
COLA	**College**	**82.82**	**22**	*e*P		**P**	**12 46 38.1**	**-0.6**
COLA				pmax	pmax			
	comp=Z,43nm,0.7s							
COLA	**College**	**82.82**	**22**	*e*P		**P**	**12 46 38.1**	**-0.6**
	comp=Z,43nm,0.7s							
PAX	**Paxson**	**82.85**	**24**	*e*P		**P**	**12 46 39.2**	**+0.1**
PAX				pmax	pmax			
	comp=Z,37nm,1.7s							
PAX	**Paxson**	**82.85**	**24**	*e*P		**P**	**12 46 39.2**	**+0.1**
	comp=Z,37nm,1.7s							
ULHL	**Ulahol**	**83.03**	**314**	P		**P**	**12 46 40.4**	**-0.3**
	SNR=7.9							
ILAR	**Eielson Array**	**83.13**	**22**	P		**P**	**12 46 39.0**	**-1.4**
ILAR	**Eielson Array**	**83.13**	**22**	P		**P**	**12 46 39.0**	**-1.4**
	comp=Z,3.3nm,0.7s,baz=248,slow=5.4,SNR=45							
ILAR				LR		LR	13 21 07.9	
	comp=Z,642nm,19.5s,baz=70,slow=34							
COLD	**Coldfoot**	**83.19**	**19**	*e*P		**P**	**12 46 41.8**	**+1.1**
	comp=Z,82nm,2.3s							
TKM2	**Tokmak 2**	**83.65**	**314**	*e*P		**P**	**12 46 43.8**	**-0.1**
TKM2				pmax	pmax			
	comp=Z,48nm,1.4s							
TKM2	**Tokmak 2**	**83.65**	**314**	P		**P**	**12 46 44.5**	**+0.6**
	SNR=13							
TKM2	**Tokmak 2**	**83.65**	**314**	*e*P		**P**	**12 46 43.8**	**-0.1**
	comp=Z,48nm,1.4s							
KURK	**Kurchatov**	**83.66**	**322**	P		**P**	**12 46 42.8**	**-0.6**
KURK	**Kurchatov**	**83.66**	**322**	P		**P**	**12 46 42.8**	**-0.6**
KURBB	**Kurchatov Arra**	**83.69**	**322**	P		**P**	**12 46 42.8**	**-0.8**
	comp=Z,23nm,1.1s,baz=109,slow=4.0,SNR=69							
KZA	**Kyzart**	**83.71**	**313**	P		**P**	**12 46 45.5**	**+1.1**
	SNR=30							
KBK	**Karagaybulak**	**84.06**	**314**	P		**P**	**12 46 46.7**	**+0.8**
	SNR=7.2							
PNL	**Peninsula**	**84.18**	**28**	*e*P		**P**	**12 46 46.4**	**+0.5**
	comp=Z,73nm,1.2s							
CHMS	**Chumnysh**	**84.28**	**314**	P		**P**	**12 46 47.5**	**+0.7**
	SNR=18							
UCH	**Uchtor**	**84.28**	**313**	P		**P**	**12 46 48.9**	**+1.5**
	SNR=6.1							
FRU	**Bishkek**	**84.34**	**314**	*i* P		**P**	**12 46 48.0**	**+0.9**
FRU				*e*			12 47 04.0	
FRU				pmax	pmax			
	comp=Z,90nm,2.0s							
AAK	**Ala-Archa**	**84.38**	**314**	P		**P**	**12 46 48.0**	**+0.5**
	comp=Z,156nm,1.2s,SNR=6.0							
AAK	**Ala-Archa**	**84.38**	**314**	*c i*P		**P**	**12 46 47.6**	**+0.1**
AAK				pmax	pmax			
	comp=Z,126nm,1.7s							
AAK	**Ala-Archa**	**84.38**	**314**	P		**P**	**12 46 48.1**	**+0.6**
	SNR=9.7							
AAK	**Ala-Archa**	**84.38**	**314**	*e*P		**P**	**12 46 47.0**	**-0.5**
	comp=Z,33nm,1.1s							
AAK	**Ala-Archa**	**84.38**	**314**	P		**P**	**12 46 47.5**	**0.0**
	comp=Z,19nm,0.9s,baz=121,slow=3.4,SNR=31							
USP	**Ospenovka**	**84.52**	**314**	P		**P**	**12 46 48.4**	**+0.3**
	SNR=35							
QSPA	**South Pole Qui**	**84.52**	**180**	P		**P**	**12 46 47.1**	**-0.6**
QSPA	**South Pole Qui**	**84.52**	**180**	P		**P**	**12 46 47.1**	**-0.6**
	comp=Z,9.7nm,1.0s,baz=9.1,slow=6.0,SNR=17							
MAW	**Mawson**	**84.59**	**203**	P		**P**	**12 46 47.1**	**-0.7**
MAW	**Mawson**	**84.59**	**203**	P		**P**	**12 46 47.1**	**-0.7**
	comp=Z,5.7nm,0.9s,baz=103,slow=4.6,SNR=8.7							
MAW				LR		LR	13 21 06.6	
	comp=Z,576nm,20.2s,baz=86,slow=33							
AML	**Almayashu**	**84.85**	**313**	P		**P**	**12 46 51.0**	**+0.8**
	SNR=50							
EKS2	**Erkin-Say**	**84.90**	**314**	*e*P		**P**	**12 46 50.5**	**+0.4**
EKS2				pmax	pmax			
	comp=Z,71nm,1.1s							
EKS2	**Erkin-Say**	**84.90**	**314**	P		**P**	**12 46 50.6**	**+0.4**
	SNR=44							
EKS2	**Erkin-Say**	**84.90**	**314**	*e*P		**P**	**12 46 50.5**	**+0.4**
	comp=Z,71nm,1.1s							
EGAK	**Eagle**	**85.34**	**23**	*e*P		**P**	**12 46 52.3**	**+0.7**
	comp=Z,73nm,1.8s							
SKAG	**Skagway**	**86.06**	**29**	*e*P		**P**	**12 46 56.5**	**+1.2**
	comp=Z,66nm,1.3s							
WRAK	**Wrangell Islan**	**86.74**	**33**	*e*P		**P**	**12 46 59.2**	**+0.5**
	comp=Z,152nm,1.4s							
KKAR	**Karatay Array**	**87.34**	**314**	*e*P		**P**	**12 47 01.9**	**-0.1**
KKAR	**Karatay Array**	**87.34**	**314**	*e*P		**P**	**12 47 01.9**	**-0.1**
VOSK	**Vostochnaya**	**88.75**	**323**	P		**P**	**12 47 05.7**	**-2.7**
VOSK				pmax	pmax			
	comp=Z,17nm,1.0s							
BVA0	**Borovoye Array**	**89.15**	**323**	P		**P**	**12 47 08.0**	**-2.3**
BVA0				pmax	pmax			
	comp=Z,37nm,1.1s							
BVAR	**Borovoye Array**	**89.15**	**323**	P		**P**	**12 47 08.8**	**-1.5**
BVAR	**Borovoye Array**	**89.15**	**323**	P		**P**	**12 47 08.8**	**-1.5**
BVAR	**Borovoye Array**	**89.15**	**323**	P		**P**	**12 47 08.8**	**-1.5**
	comp=Z,18nm,0.8s,baz=104,slow=6.1,SNR=72							
BVAR				LR		LR	13 29 25.1	
	comp=Z,321nm,18.5s,baz=327,slow=37							
BRVK	**Borovoye**	**89.22**	**323**	P		**P**	**12 47 09.6**	**-1.0**
	comp=Z,139nm,1.0s,SNR=7.4							
BRVK	**Borovoye**	**89.22**	**323**	*c i*P		**P**	**12 47 08.9**	**-1.7**
BRVK				pmax	pmax			
	comp=Z,35nm,1.2s							
BRVK	**Borovoye**	**89.22**	**323**	*e*P		**P**	**12 47 09.7**	**-0.9**
	comp=Z,28nm,1.1s							
NLWA	**Neilton Lookou**	**90.14**	**43**	*e*P		**P**	**12 47 16.4**	**+1.4**
	comp=Z,45nm,1.2s							
HUMO	**Hull Mountain**	**90.15**	**47**	*e*P		**P**	**12 47 16.1**	**+0.9**
	comp=Z,40nm,1.0s							
YBH	**Yreka Blue Hor**	**90.23**	**48**	P		**P**	**12 47 17.0**	**+1.3**
YBH	**Yreka Blue Hor**	**90.23**	**48**	P		**P**	**12 47 17.0**	**+1.3**
	comp=Z,17nm,1.1s,baz=140,slow=3.1,SNR=12							
YBH				LR		LR	13 21 42.0	
	comp=Z,570nm,19.4s,baz=250,slow=32							
PGC	**Sidney**	**90.58**	**41**	*e*P		**P**	**12 47 17.2**	**+0.2**
	comp=Z,0.5nm,0.8s							
OHCM	**Honcut**	**90.88**	**51**	*e*P		**P**	**12 47 19.7**	**+1.1**
LON	**Longmire**	**91.45**	**43**	*e*P		**P**	**12 47 21.7**	**+0.4**
LON				pmax	pmax			
	comp=Z,11nm,1.3s							
LON	**Longmire**	**91.45**	**43**	*e*P		**P**	**12 47 21.6**	**+0.4**
	comp=Z,11nm,1.3s							
JCW	**Jim Creek**	**91.53**	**42**	P		**P**	**12 47 22.4**	**+0.9**
VFP	**Flag Point**	**91.54**	**45**	P		**P**	**12 47 22.3**	**+0.5**
CMB	**Columbia Colle**	**91.60**	**52**	*e*P		**P**	**12 47 23.2**	**+1.1**
CMB				pmax	pmax			
	comp=Z,36nm,1.5s							
CMB	**Columbia Colle**	**91.60**	**52**	*e*P		**P**	**12 47 23.2**	**+1.1**
	comp=Z,36nm,1.5s							
WPW	**White Pass**	**91.63**	**43**	P		**P**	**12 47 22.4**	**+0.3**
**B

WVOR	**Wild Horse Val**	**93.31**	**48**	*e*P		**P**		**12 47 30.5**	**+0.5**
WVOR	comp=Z,70nm,1.7s				pmax	pmax			
WVOR	**Wild Horse Val**	**93.31**	**48**	*e*P		**P**		**12 47 30.5**	**+0.5**
	comp=Z,70nm,1.7s								
BFSC	**Mount Baldy Ra**	**93.48**	**56**	P		**P**		**12 47 31.8**	**+0.8**
	baz=94								
LRMC	**Laurel Mountai**	**93.54**	**55**	P		**P**		**12 47 32.2**	**+1.0**
	baz=94								
MPMC	**Manual Prospec**	**93.75**	**54**	P		**P**		**12 47 33.3**	**+1.0**
	baz=94								
GRAC	**Grapevine Rang**	**93.91**	**53**	P		**P**		**12 47 33.8**	**+1.0**
	baz=94								
BAR	**Barrett**	**94.19**	**58**	*e*P		**P**		**12 47 37.2**	**+3.0**
	comp=Z,10.0nm,1.1s								
GSC	**Goldstone**	**94.25**	**55**	*e*P		**P**		**12 47 36.0**	**+1.5**
GSC	**Goldstone**	**94.25**	**55**	*e*P		**P**		**12 47 36.0**	**+1.5**
GSC	**Goldstone**	**94.25**	**55**	P		**P**		**12 47 35.5**	**+1.0**
	baz=94								
FURC	**Furnace Creek,**	**94.28**	**54**	P		**P**		**12 47 35.6**	**+1.2**
	baz=94								
MONP	**Monument Peak**	**94.42**	**58**	P		**P**		**12 47 36.7**	**+1.2**
	baz=94								
PFO	**Pinyon Flat Ob**	**94.43**	**57**	*e*P		**P**		**12 47 36.1**	**+0.7**
	comp=Z,51nm,2.2s								
PFO	**Pinyon Flat Ob**	**94.43**	**57**	LR		LR		13 28 04.1	
	comp=Z,403nm,18.2s,baz=179,slow=34								
PFO	**Pinyon Flat Ob**	**94.43**	**57**	P		**P**		**12 47 36.2**	**+0.7**
	baz=94								
BMO	**Blue Mountains**	**94.44**	**46**	*e*P		**P**		**12 47 34.9**	**-0.2**
BMO	comp=Z,54nm,1.5s				pmax	pmax			
BMO	**Blue Mountains**	**94.44**	**46**	*e*P		**P**		**12 47 34.9**	**-0.2**
	comp=Z,54nm,1.5s								
HEC	**Hector,Ludlow**	**94.61**	**56**	P		**P**		**12 47 37.0**	**+0.9**
	baz=95								
NEW	**Newport**	**94.74**	**42**	*e*P		**P**		**12 47 36.7**	**+0.3**
	comp=Z,26nm,1.1s								
NEW	**Newport**	**94.74**	**42**	P		**P**		**12 47 36.4**	**+0.1**
	baz=95								
BELC	**Belle Mtn. Jos**	**94.84**	**56**	P		**P**		**12 47 38.3**	**+1.0**
	baz=95								
SWSC	**Sam W. Stewart**	**94.95**	**57**	P		**P**		**12 47 39.3**	**+1.7**
	baz=95								
TUQ	**Turquoise Moun**	**94.98**	**55**	P		**P**		**12 47 38.7**	**+0.9**
	baz=95								
GMRC	**Granite Mounta**	**95.16**	**56**	P		**P**		**12 47 39.5**	**+0.8**
	baz=95								
BC3	**Big Chuckawall**	**95.27**	**57**	P		**P**		**12 47 40.2**	**+1.0**
	baz=95								
ABKAR	**Akbulak array**	**95.29**	**319**	*e*P		**P**		**12 47 37.5**	**-1.3**
R11A	**Troy Canyon, C**	**95.39**	**52**	P		**P**		**12 47 40.5**	**+0.7**
	baz=96								
MFID	**Camas Ranch**	**95.43**	**47**	P		**P**		**12 47 40.3**	**+0.6**
	baz=96								
IRM	**Iron Mountain**	**95.55**	**56**	P		**P**		**12 47 41.5**	**+1.1**
	baz=96								
LDFC	**Landfair**	**95.62**	**55**	*e*P		**P**		**12 47 41.8**	**+1.0**
A12A	**Yaak River Ran**	**95.75**	**41**	P		**P**		**12 47 42.1**	**+1.1**
	baz=96								
GLA	**Glamis**	**95.76**	**57**	*e*P		P		12 47 45.4	+4.0
GLA	comp=Z,18nm,1.2s				pmax	pmax			
GLA	**Glamis**	**95.76**	**57**	*e*P		P		12 47 45.4	+4.0
	comp=Z,18nm,1.2s								
C12B	**Naegeli Ranch,**	**95.83**	**43**	P		**P**		**12 47 41.6**	**+0.3**
	baz=96								
H12A	**Diamond D Ranc**	**96.17**	**46**	P		**P**		**12 47 43.5**	**+0.4**
	baz=96								
ARU	**Arti**	**96.29**	**326***d*	*i*P		**P**		**12 47 41.3**	**-1.8**
ARU								12 51 34.3	
ARU					S	**SKSac**		**12 58 14.9**	**-1.1**
ARU					SS	**SS**		**13 05 26.6**	**-5.9**
ARU					pmax	pmax			
ARU	comp=Z,14nm,1.2s				MLR	MLR			
	comp=Z,998nm,22.0s								
BSMT	**Bassoo Peak**	**96.30**	**43**	*e*P		**P**		**12 47 44.2**	**+0.5**
YKA	**Yellowknife Ar**	**96.46**	**28**	P		**P**		**12 47 43.5**	**-0.2**
YKA	**Yellowknife Ar**	**96.46**	**28**	P		**P**		**12 47 43.5**	**-0.2**
	comp=Z,4.2nm,1.0s,baz=273,slow=4.6,SNR=32								
HLID	**Hailey**	**96.46**	**47**	*e*P		**P**		**12 47 45.0**	**+0.5**
	comp=Z,68nm,2.4s								
HLID	**Hailey**	**96.46**	**47**	P		**P**		**12 47 45.0**	**+0.5**
	baz=97								
B13A	**Whitefish**	**96.52**	**42**	P		**P**		**12 47 45.0**	**+0.5**
	baz=97								
A13A	**Flathead Natio**	**96.56**	**41**	P		**P**		**12 47 45.3**	**+0.6**
	baz=97								
AKTO	**Aktyubinsk**	**96.57**	**320**	P		**P**		**12 47 43.2**	**-1.4**
AKTO	**Aktyubinsk**	**96.57**	**320**	P		**P**		**12 47 43.2**	**-1.4**
AKTO	**Aktyubinsk**	**96.57**	**320**	P		**P**		**12 47 43.2**	**-1.4**
	comp=Z,4.5nm,1.0s,baz=73,slow=5.1,SNR=7.6								
W13A	**Hualapai Mount**	**96.63**	**55**	P		**P**		**12 47 46.5**	**+1.0**
	baz=97								
WALA	**Waterton Lakes**	**96.89**	**41**	*e*P		**P**		**12 47 46.6**	**+0.3**
	comp=Z,1.8nm,1.6s								
C14A	**Swan Lake**	**97.00**	**43**	P		**P**		**12 47 46.3**	**-0.4**
	baz=97								
ARUT	**Antelope Range**	**97.07**	**53**	*e*P		Pdif		12 47 48.4	+0.9
ARUT	comp=Z,12nm,1.2s				pmax	pmax			
ARUT	**Antelope Range**	**97.07**	**53**	*e*P		Pdif		12 47 48.4	+0.9
	comp=Z,12nm,1.2s								
CCUT	**Cedar City**	**97.12**	**53**	*e*P		Pdif		12 47 49.5	+1.7
	comp=Z,14nm,1.3s								
SLMT	**Seeley Lake**	**97.16**	**43**	*e*P		**P**		**12 47 47.5**	**-0.1**
I14A	**Mackay**	**97.17**	**47**	P		Pdif		12 47 48.2	+0.4
	baz=97								
A14A	**Double T Ranch**	**97.22**	**41**	P		Pdif		12 47 48.5	+0.8
	baz=97								
B14A	**Marquette Ranc**	**97.31**	**42**	P		**P**		**12 47 48.3**	**+0.2**
	baz=97								
CHMT	**Chamberlain Mo**	**97.33**	**44**	*e*P		**P**		**12 47 48.3**	**0.0**
BGU	**Big Grassy Mou**	**97.44**	**50**	*e*P		Pdif		12 47 50.4	+1.3
MCMT	**McKenzie Canyo**	**97.61**	**46**	*e*P		**P**		**12 47 49.8**	**0.0**
	comp=Z,3.0nm,1.1s								
HVU	**Hansel Valley**	**97.64**	**49**	*e*P		Pdif		12 47 51.0	+1.1
HVU	comp=Z,12nm,1.1s				pmax	pmax			
HVU	**Hansel Valley**	**97.64**	**49**	*e*P		Pdif		12 47 51.0	+1.0
	comp=Z,12nm,1.1s								
A15A	**Johnson Ranch,**	**97.67**	**41**	P		Pdif		12 47 50.0	+0.2
	baz=98								
C15A	**Salmond Ranch,**	**97.76**	**43**	P		**P**		**12 47 50.1**	**-0.1**
	baz=98								
DLMT	**Dillon**	**97.78**	**45**	*e*P		Pdif		12 47 50.7	+0.2
	comp=Z,5.7nm,1.2s								
B15A	**Bradely Ranch,**	**97.79**	**42**	P		**P**		**12 47 50.1**	**-0.2**
	baz=98								
LRM	**Limekiln Ridge**	**97.89**	**45**	*e*P		**P**		**12 47 50.6**	**-0.3**
U15A	**North Rim**	**97.96**	**54**	P		Pdif		12 47 53.0	+1.4
	baz=98								
MVU	**Marysvale**	**98.05**	**52**	*e*P		Pdif		12 47 53.4	+1.4
MSU	**Marysvale**	**98.08**	**52**	*e*P		Pdif		12 47 53.8	+1.8
MSU	**Marysvale**	**98.08**	**52**	*e*P		Pdif		12 47 53.8	+1.8
C16A	**Fuhringer Ranc**	**98.34**	**43**	P		**P**		**12 47 52.5**	**-0.3**
	baz=98								
B16A	**M & M Farms, S**	**98.36**	**42**	P		**P**		**12 47 52.8**	**0.0**
	baz=98								
A16A	**West Butte Ran**	**98.42**	**41**	P		**P**		**12 47 53.3**	**+0.2**
	baz=98								
BOZ	**Bozeman (W)**	**98.46**	**45**	*e*P		**P**		**12 47 53.4**	**0.0**
BOZ	comp=Z,4.0nm,1.0s				pmax	pmax			
BOZ	**Bozeman (W)**	**98.46**	**45**	*e*P		**P**		**12 47 53.4**	**0.0**
	comp=Z,4.0nm,1.0s								
HWUT	**Hardware Ranch**	**98.55**	**49**	*e*P		Pdif		12 47 54.2	+0.2
	comp=Z,2.7nm,0.9s								
QLMT	**Earthquake Lak**	**98.61**	**46**	*e*P		Pdif		12 47 54.6	+0.4
	comp=Z,0.3nm,0.4s								
JLU	**Jordanelle**	**98.64**	**50**	*e*P		Pdif		12 47 55.4	+0.9
WUAZ	**Wupatki**	**98.69**	**55**	*e*P		Pdif		12 47 56.2	+1.5
	comp=Z,17nm,1.6s								
WUAZ	**Wupatki**	**98.69**	**55**	P		Pdif		12 47 56.1	+1.3
	baz=99								
RRI2	**Red Ridge**	**98.72**	**47**	*e*P		Pdif		12 47 55.8	+1.0
H16A	**Russell Place,**	**98.75**	**46**	P		Pdif		12 47 55.4	+0.6
	baz=99								
TMUT	**Trail Mountain**	**98.83**	**51**	*e*P		Pdif		12 47 56.0	+0.5
	comp=Z,10nm,1.1s								
Q16A	**Castle Valley**	**98.86**	**52**	P		Pdif		12 47 56.1	+0.7
	baz=99								
B17A	**L&G Farms, Che**	**98.97**	**42**	P		**P**		**12 47 55.4**	**-0.1**
	baz=99								
E17A	**Martinsdale**	**98.98**	**44**	P		Pdif		12 47 56.5	+0.7
	baz=99								
TPAW	**Teton Pass**	**98.98**	**47**	*e*P		Pdif		12 47 56.9	+0.9
	comp=Z,9.3nm,1.2s								
IMW	**Indian Meadow**	**98.98**	**47**	*e*P		Pdif		12 47 56.9	+0.9
	comp=Z,4.2nm,1.2s								
A17A	**Triple J Farms**	**99.01**	**41**	P		**Pdif**		**12 47 56.1**	**+0.4**
	baz=99								
C17A	**Wharram Farm,**	**99.01**	**43**	P		**Pdif**		**12 47 55.6**	**-0.2**
	baz=99								
D17A	**Six Diamond Ra**	**99.08**	**43**	P		**Pdif**		**12 47 56.6**	**+0.4**
	baz=99								
G17A	**Pierce Place,**	**99.09**	**45**	P		**Pdif**		**12 47 57.1**	**+0.8**
	baz=99								
MOOW	**Moose Ponds**	**99.13**	**47**	*e*P		**Pdif**		**12 47 56.9**	**+0.3**
	comp=Z,4.8nm,1.1s								
F17A	**Fitzpatrick Pl**	**99.14**	**45**	P		**Pdif**		**12 47 57.3**	**+0.8**
	baz=99								
I17A	**Pilgrim Ck.**	**99.25**	**47**	P		**Pdif**		**12 47 58.0**	**+1.0**
	baz=99								
LPIG	**La Paz**	**99.40**	**67**	LR		LR		13 25 20.5	
	comp=Z,44nm,20.1s,baz=90,slow=31								
E18A	**Harlowton**	**99.63**	**44**	P		**Pdif**		**12 47 59.2**	**+0.6**
	baz=100								
B18A	**Beardsley Farm**	**99.64**	**42**	P		**Pdif**		**12 47 58.3**	**-0.2**
	baz=100								
EGMT	**Eagleton**	**99.68**	**42**	*e*Pdif		**Pdif**		**12 47 59.4**	**+0.7**
	comp=Z,32nm,1.8s								
EGMT	**Eagleton**	**99.68**	**42**	P		**Pdif**		**12 47 58.9**	**+0.2**
	baz=100								
D18A	**Linhart Farms,**	**99.68**	**43**	P		**Pdif**		**12 47 59.2**	**+0.4**
	baz=100								
L18A	**Fontenelle, Gr**	**99.69**	**49**	P		**Pdif**		**12 47 59.7**	**+0.6**
	baz=100								
F18A	**Big Timber**	**99.79**	**44**	P		**Pdif**		**12 48 00.2**	**+0.9**
	baz=100								
I18A	**Diamond G Ranc**	**99.80**	**47**	P		**Pdif**		**12 48 00.3**	**+0.7**
	baz=100								
H18A	**Shoshone NF, C**	**99.88**	**46**	P		**Pdif**		**12 48 00.5**	**+0.7**
	baz=100								
G18A	**Lazy EL Ranch,**	**99.92**	**45**	P		**Pdif**		**12 48 00.4**	**+0.4**
	baz=100								
PDAR	**Pinedale Array**	**100.02**	**48**	P		**Pdif**		**12 48 00.1**	**-0.5**
PDAR	**Pinedale Array**	**100.02**	**48**	P		**Pdif**		**12 48 00.1**	**-0.5**
	comp=Z,4.5nm,0.9s,baz=256,slow=2.7,SNR=32								
PDAR					LR	LR		13 32 37.2	
	comp=Z,625nm,18.2s,baz=271,slow=35								
C19A	**Slack Wire Ran**	**100.17**	**43**	P		**Pdif**		**12 48 01.5**	**+0.7**
	baz=100								
L19A	**Farson**	**100.19**	**48**	P		**Pdif**		**12 48 01.6**	**+0.3**
	baz=100								
B19A	**Brinkman Farms**	**100.19**	**42**	P		**Pdif**		**12 48 01.6**	**+0.6**
	baz=100								
A19A	**Klindworth Far**	**100.30**	**41**	P		**Pdif**		**12 48 01.9**	**+0.5**
	baz=100								
D19A	**Cripps Ranch,**	**100.31**	**43**	P		**Pdif**		**12 48 02.3**	**+0.8**
	baz=100								
F19A	**Roth Farm, Mol**	**100.33**	**45**	P		**Pdif**		**12 48 02.4**	**+0.6**
	baz=100								
H19A	**Powell**	**100.36**	**46**	P		**Pdif**		**12 48 02.9**	**+1.0**
	baz=100								
J19A	**Crowheart**	**100.37**	**47**	P		**Pdif**		**12 48 02.6**	**+0.6**
	baz=100								
E19A	**Rath Farm, Rou**	**100.41**	**44**	P		**Pdif**		**12 48 02.7**	**+0.7**
	baz=100								
K19A	**Absolon Red Bu**	**100.54**	**48**	P		**Pdif**		**12 48 02.6**	**-0.3**
	baz=101								
PV04	**Paradox Valley**	**100.64**	**52**	*e*Pdif		**Pdif**		**12 48 05.2**	**+1.9**
B20A	**Solberg Farm,**	**100.81**	**42**	P		**Pdif**		**12 48 04.0**	**+0.3**
	baz=101								
D20A	**Manuel Ranch,**	**100.82**	**43**	P		**Pdif**		**12 48 04.4**	**+0.6**
	baz=101								
A20A	**Cobblestone Ra**	**100.84**	**41**	P		**Pdif**		**12 48 04.5**	**+0.6**
	baz=101								
E20A	**Meyer Farm, Mu**	**100.86**	**44**	P		**Pdif**		**12 48 04.6**	**+0.6**
	baz=101								
C20A	**Veseth Ranch,**	**100.87**	**43**	P		**Pdif**		**12 48 04.6**	**+0.6**
	baz=101								
G20A	**Bridger**	**100.88**	**45**	P		**Pdif**		**12 48 04.4**	**+0.2**
	baz=101								
K20A	**Yellowstone Ra**	**100.92**	**48**	P		**Pdif**		**12 48 04.2**	**-0.3**
	baz=101								
L20A	**Wamsutter**	**100.95**	**48**	P		**Pdif**		**12 48 04.9**	**+0.2**
	baz=101								
MVCO	**Mesa Verde**	**101.00**	**53**	*e*Pdif		**Pdif**		**12 48 06.8**	**+1.8**
MVCO	**Mesa Verde**	**101.00**	**53**	P		**Pdif**		**12 48 06.1**	**+1.1**
	baz=101								
N20A	**Spence Gulch,**	**101.06**	**50**	P		**Pdif**		**12 48 05.3**	**0.0**
	baz=101								
R20A	**Redvale**	**101.06**	**52**	P		**Pdif**		**12 48 06.2**	**+0.9**
	baz=101								
J20A	**Shoshoni**	**101.08**	**47**	P		**Pdif**		**12 48 05.4**	**+0.3**
	baz=101								
M20A	**Sweetwater, Wa**	**101.09**	**49**	P		**Pdif**		**12 48 05.8**	**+0.5**
	baz=101								
O20A	**White River Ci**	**101.10**	**50**	P		**Pdif**		**12 48 05.9**	**+0.5**
	baz=101								
Q20A	**Ridgley Place,**	**101.11**	**52**	P		**Pdif**		**12 48 06.3**	**+0.9**
	baz=101								
C21A	**Desert Coulee**	**101.47**	**42**	P		**Pdif**		**12 48 07.1**	**+0.4**
	baz=102								
B21A	**Ellsworth Farm**	**101.48**	**42**	P		**Pdif**		**12 48 07.5**	**+0.9**
	baz=102								
A21A	**Bergtoll Ranch**	**101.49**	**41**	P		**Pdif**		**12 48 07.4**	**+0.7**
	baz=102								
J21A	**Lysite**	**101.54**	**47**	P		**Pdif**		**12 48 07.7**	**+0.4**
	baz=102								
S21A	**Coal Bank Pass**	**101.55**	**53**	P		**Pdif**		**12 48 08.6**	**+1.0**
	baz=102								
E21A	**Keefer Ranch,**	**101.59**	**44**	P		**Pdif**		**12 48 07.8**	**+0.6**
	baz=102								
G21A	**Lodge Grass**	**101.59**	**45**	P		**Pdif**		**12 48 08.1**	**+0.7**
	baz=102								
I21A	**Big Trails, Te**	**101.62**	**47**	P		**Pdif**		**12 48 07.3**	**-0.3**
	baz=102								
Q21A	**Lamborn Mesa,**	**101.67**	**52**	P		**Pdif**		**12 48 08.8**	**+0.8**
	baz=102								
L21A	**Rawlins**	**101.68**	**48**	P		**Pdif**		**12 48 07.6**	**-0.3**
	baz=102								
U21A	**Nageezi**	**101.69**	**54**	P		**Pdif**		**12 48 09.5**	**+1.4**
	baz=102								
M21A	**Separation Pea**	**101.70**	**49**	P		**Pdif**		**12 48 07.8**	**-0.3**
	baz=102								
R21A	**Cimarron**	**101.71**	**52**	P		**Pdif**		**12 48 09.1**	**+0.9**
	baz=102								
K21A	**Alcova**	**101.72**	**48**	P		**Pdif**		**12 48 08.2**	**+0.1**
	baz=102								
V21A	**Milan**	**101.73**	**55**	P		**Pdif**		**12 48 09.5**	**+1.2**
	baz=102								
H21A	**Big Horn, Sher**	**101.75**	**46**	P		**Pdif**		**12 48 08.6**	**+0.5**
	baz=102								
D22A	**Cohagen**	**102.15**	**43**	P		**Pdif**		**12 48 10.2**	**+0.6**
	baz=102								
Q22A	**Crested Butte,**	**102.19**	**52**	P		**Pdif**		**12 48 11.3**	**+0.9**
	baz=102								
I22A	**9 Mile Ranch,**	**102.20**	**46**	P		**Pdif**		**12 48 10.6**	**+0.5**
	baz=102								
F22A	**Rosebud**	**102.21**	**44**	P		**Pdif**		**12 48 10.8**	**+0.8**
	baz=102								
G22A	**Birney**	**102.23**	**45**	P		**Pdif**		**12 48 10.8**	**+0.7**
	baz=102								
J22A	**Midwest**	**102.24**	**47**	P		**Pdif**		**12 48 10.6**	**+0.3**
	baz=102								
H22A	**Clearmont**	**102.24**	**46**	P		**Pdif**		**12 48 10.9**	**+0.7**
	baz=102								
K22A	**Casper**	**102.26**	**48**	P		**Pdif**		**12 48 11.1**	**+0.7**
	baz=102								
P22A	**Eagle**	**102.27**	**51**	P		**Pdif**		**12 48 11.4**	**+0.8**
	baz=102								
S22A	**4UR Ranch, Cre**	**102.31**	**53**	P		**Pdif**		**12 48 11.6**	**+0.7**
	baz=102								
U22A	**Llaves**	**102.34**	**54**	P		**Pdif**		**12 48 12.3**	**+1.3**
	baz=102								
C23A	**Lambert**	**102.76**	**42**	P		**Pdif**		**12 48 13.5**	**+1.1**
	baz=103								
N23A	**Red Feather La**	**102.81**	**49**	P		**Pdif**		**12 48 13.8**	**+0.8**
	baz=103								
B23A	**Brockton**	**102.82**	**42**	P		**Pdif**		**12 48 13.7**	**+1.1**
	baz=103								
G23A	**Biddle**	**102.87**	**45**	P		**Pdif**		**12 48 13.7**	**+0.7**
	baz=103								
L23A	**Garrett**	**102.91**	**48**	P		**Pdif**		**12 48 13.9**	**+0.5**
	baz=103								
DGMT	**Dagmar**	**103.34**	**42**	P		**Pdif**		**12 48 15.5**	**+0.6**
	baz=103								
E24A	**Baker**	**103.49**	**44**	P		**Pdif**		**12 48 16.8**	**+1.1**
	baz=104								
H24A	**Dirks Ranch, A**	**103.51**	**45**	P		**Pdif**		**12 48 16.1**	**+0.3**
	baz=104								
I24A	**Kuemmerle Ranc**	**103.54**	**46**	P		**Pdif**		**12 48 16.5**	**+0.4**
	baz=104								
S24A	**Houchin Ranch,**	**103.59**	**53**	P		**Pdif**		**12 48 17.4**	**+0.8**
	baz=104								
I25A	**Rochford**	**104.17**	**46**	P		**Pdif**		**12 48 19.0**	**0.0**
	baz=104								
J25A	**Sunshine Ranch**	**104.18**	**47**	P		**Pdif**		**12 48 19.1**	**+0.2**
	baz=104								
H25A	**Fruitdale**	**104.20**	**45**	P		**Pdif**		**12 48 19.4**	**+0.5**
	baz=104								
G26A	**Maurine**	**104.82**	**45**	P		**Pdif**		**12 48 22.1**	**+0.5**
	baz=105								
527A	**Woodward Ranch**	**105.33**	**60**	P				12 52 38.4	
	baz=105								
ANN	**Anapa**	**111.01**	**316**	*i* PKIKP				12 52 46.8	
ANN	comp=Z,71nm,1.5s				pmax	pmax			
BRTR	**Keskin Array B**	**114.98**	**311**	PKP		PKPdf		12 52 55.4	-0.8
BRTR	**Keskin Array B**	**114.98**	**311**	PKP		PKPdf		12 52 55.4	-0.8
	comp=Z,2.0nm,0.9s,baz=142,slow=1.8,SNR=7.1								
NB2	**NORSAR Subarra**	**117.17**	**340**	PKPdf		**PKPdf**		**12 52 58.8**	**-0.8**
	comp=Z,2.1nm,1.0s,baz=44,slow=1.9								
NOA	**NORSAR Array B**	**117.17**	**340**	PKP		**PKPdf**		**12 52 58.9**	**-0.7**
NOA	**NORSAR Array B**	**117.17**	**340**	PKP		**PKPdf**		**12 52 58.9**	**-0.7**
	comp=Z,1.7nm,1.0s,baz=57,slow=2.0,SNR=3.3								
STHS	**Stebnicka Huta**	**119.61**	**325**	*e*PKIKP		**PKPdf**		**12 53 05.5**	**+0.9**
STHS	**Stebnicka Huta**	**119.61**	**325**	*e*PKP		**PKPdf**		**12 53 05.5**	**+0.9**
OKC	**Ostrava-Krasne**	**121.11**	**327**	AMS		AMS		13 45 00.0	
	comp=Z,400nm,16.2s								
VYHS	**Vyhne**	**121.44**	**325**	*e*PKIKP		**PKPdf**		**12 53 08.3**	**+0.1**
VYHS	**Vyhne**	**121.44**	**325**	*e*PKP		**PKPdf**		**12 53 08.2**	**+0.1**
KSP	**Ksiaz**	**121.54**	**329**	*e*PKIKP		**PKPdf**		**12 53 08.2**	**-0.1**
DPC	**Dobruska-Polom**	**121.81**	**328**	*i* PKIKP		**PKPdf**		**12 53 09.2**	**+0.3**
DPC	**Dobruska-Polom**	**121.81**	**328**	*i* PKPdf		**PKPdf**		**12 53 09.2**	**+0.3**
DPC					AMS	AMS		13 45 30.0	
BSEG	**Bad Segeberg**	**122.45**	**334**	*e*PKPdf		**PKPdf**		**12 53 10.3**	**+0.4**
BSEG	**Bad Segeberg**	**122.45**	**334**	*e*PKIKP		**PKPdf**		**12 53 10.3**	**+0.4**
BRG	**Berggiesshubel**	**122.72**	**330**	*e*PKP		**PKPdf**		**12 53 10.9**	**+0.4**
	comp=Z,11nm,0.9s								
BRG	comp=N,432nm,27.4s								
BRG	comp=E,466nm,22.0s								
BRG	comp=Z,495nm,22.8s								
BRG	**Berggiesshubel**	**122.72**	**330**	*e*PKIKP		**PKPdf**		**12 53 10.9**	**+0.4**
BRG	comp=Z,6.0nm,1.0s				pmax	pmax			
BRG	comp=N,11μm,27.4s				MLR	MLR			
BRG	comp=E,432nm,22.0s				MLR	MLR			
BRG	comp=Z,466nm,22.8s				MLR	MLR			
TREC	**Trest**	**122.85**	**327**	AMS		AMS		13 45 30.0	
	comp=Z,500nm,20.7s								
CLL	**Collm**	**122.92**	**330**	*e*PKPdf		**PKPdf**		**12 53 10.9**	**0.0**
CLL	**Collm**	**122.92**	**330**	*i* PKIKP		**PKPdf**		**12 53 11.1**	**+0.2**
CLL	comp=Z,9.0nm,1.0s				pmax	pmax			
CLL	comp=Z,400nm,19.5s				MLR	MLR			
CLL	**Collm**	**122.92**	**330**	*i* PKPdf		**PKPdf**		**12 53 11.1**	**+0.2**
	comp=Z,9.0nm,1.0s								
CLL					*e*PPS	PPS		13 06 12.0	
CLL					*e*(SS)			13 12 06.0	
CLL					*e*			13 17 31.0	
CLL					LmH			13 48 00.0	
CLL	comp=N,200nm,20.3s				LmH			13 48 00.0	
CLL	comp=E,300nm,21.6s				LmV			13 49 00.0	
CLL	comp=Z,400nm,19.5s								
PRU	**Pruhonice**	**122.95**	**329**	*i* PKIKP		**PKPdf**		**12 53 11.3**	**+0.3**
PRU	comp=Z,400nm,25.1s				MLR	MLR			
PRU	**Pruhonice**	**122.95**	**329**	*i* PKPdf		**PKPdf**		**12 53 11.3**	**+0.3**
PRU	comp=Z,400nm,25.1s				AMS	AMS		13 46 40.0	
PRA	**Prague**	**122.95**	**329**	PKPdf		**PKPdf**		**12 53 12.0**	**+1.0**
PRA					AMS	AMS		13 47 00.0	
NRDL	**Niedersach Rie**	**123.52**	**333**	*e*PKPdf		**PKPdf**		**12 53 12.4**	**+0.5**
TANN	**Tannenbergstha**	**123.75**	**330**	*e*PKPdf		**PKPdf**		**12 53 12.7**	**+0.1**
NKC	**Novy Kostel**	**123.87**	**330**	*i* PKIKP		**PKPdf**		**12 53 13.1**	**+0.3**
NKC	**Novy Kostel**	**123.87**	**330**	*i* PKPdf		**PKPdf**		**12 53 13.1**	**+0.3**
KHC	**Kasperske Hory**	**123.96**	**328**	*e*PKIKP		**PKPdf**

KEST				PKP	**PKPdf**	**12 53 33.4**	**+0.5**	
KEST	**Kesra**	**134.18**	**316**	PKP	**PKPdf**	**12 53 33.4**	**+0.5**	
	comp=Z,5.0nm,1.0s,baz=45,slow=2.9,SNR=12							
LPAZ	**La Paz**	**134.99**	**119**	*e*PKPdf	**PKPdf**	**12 53 35.4**	**-0.2**	
LPAZ				PKP	**PKPdf**	**12 53 36.3**	**+0.7**	
LPAZ	**La Paz**	**134.99**	**119**	PKP	**PKPdf**	**12 53 36.3**	**+0.7**	
	comp=Z,3.6nm,0.9s,baz=315,slow=1.7,SNR=13							
TAM	**Tamanrasset**	**143.17**	**301**	*e*PKIKP	PKPbc	12 53 46.6	-0.2	
TAM	**Tamanrasset**	**143.17**	**301**	*e*PKPdf	PKPbc	12 53 46.6	-0.2	
TORD	**Torodi Ar. Sit**	**149.54**	**287**	*e*PKPbc	**PKPbc**	**12 54 04.7**	**-0.5**	
TORD	**Torodi Ar. Bea**	**149.54**	**287**	PKPbc	**PKPbc**	**12 54 04.7**	**-0.4**	
TORD	**Torodi Ar. Bea**	**149.54**	**287**	PKPbc	**PKPbc**	**12 54 04.7**	**-0.4**	
	comp=Z,75nm,0.9s,baz=78,slow=2.1,SNR=278							
BDFB	**Brasilia**	**151.30**	**137**	PKPbc	**PKPbc**	**12 54 08.8**	**-0.6**	
BDFB	**Brasilia**	**151.30**	**137**	PKPbc	**PKPbc**	**12 54 08.8**	**-0.6**	
	comp=Z,18nm,0.9s,baz=209,slow=3.3,SNR=16							
KIC	**Kosan Boka**	**156.64**	**273**	*e*PKP2	**PKPab**	**12 54 39.6**	**-0.6**	
	comp=Z,62nm,1.1s							
TIC	**Toumodi**	**156.91**	**274**	*e*PKP2	**PKPab**	**12 54 40.8**	**-0.6**	
	comp=Z,68nm,1.2s							
LIC	**Lamto**	**156.93**	**273**	*e*PKP2	**PKPab**	**12 54 40.6**	**-0.8**	
	comp=Z,38nm,1.0s							

MAN ***27*** *12:40:17, 18.˝49N×119.˝21E, h14km, mb4.6, ML3.5, MS3.4*
IDC ***27*** *12:40:17.2±0.6, 18.˝45N×119.˝51E, h0km, mb4.2/15, mb1 4.4/15, mb1mx4.2/28, mbtmp4.3/15, Error ellipse: s-maj=35.4km s-min=13.1km az=62.0*
NEIC ***27*** *12:40:18.5±0.4, 18.˝41N×119.˝37E, h10km, mb4.6/2, Error ellipse: s-maj=11.3km s-min=6.7km az=86.0*
ISCJB ***27*** *12:40:20.3±0.4, 18.˝48N±0.˝04×119.˝47E±0.˝05, h32km, mb4.2/15, Error ellipse: s-maj=8.3km s-min=4.8km az=145.4*

ISC 27 12:40:21.9±0.6, 18.˝44N±0.˝05×119.˝49E±0.˝07, h32km, n50, σ1§00/50, mb4.3/15, 4C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**1.05**	**119**	⇑*iP*		**Pn**	**12 40 39.7**	**-0.7**
SIPP				*iS*		**Sb**	**12 40 54.0**	**-1.0**
PIP	**Pasuquin**	**1.07**	**96**	⇑*iP*		Pn	12 40 36.1	-4.6
PIP				*eS*		**Sn**	**12 40 52.3**	**-2.3**
ABRA	**Dolores**	**1.40**	**124**	*e*P		**Pn**	**12 40 44.8**	**-0.5**
APYP	**Conner**	**1.76**	**109**	*e*P		**Pn**	**12 40 50.0**	**-0.2**
BCPH	**Baguio City Da**	**2.29**	**153**	⇑*iP*		**Pn**	**12 40 57.6**	**-0.1**
BCPH				*i* S		Sn	12 41 14.8	-10
CVP	**Callao Caves**	**2.33**	**108**	⇑*iP*		**Pn**	**12 40 59.3**	**+1.2**
CVP				*i* S		**Sb**	**12 41 30.3**	**-1.4**
CAUP	**Cauayan**	**2.67**	**123**	*e*P		Pb	12 41 05.4	-3.7
SCZP	**Santa Cruz**	**2.68**	**171**	*e*P		**Pn**	**12 41 00.5**	**-2.3**
PALP	**Palanan**	**3.11**	**116**	*e*P		**Pn**	**12 41 10.5**	**+1.7**
BALP	**Baler**	**3.34**	**143**	*e*P		**Pn**	**12 41 13.7**	**+1.8**
TWG	**Pinlang**	**4.60**	**18**	*e*Pn		**Pn**	**12 41 28.7**	**-0.6**
TPUB	**Ta-pu**	**4.95**	**12**	*e*Pn		**Pn**	**12 41 32.0**	**-2.1**
	16nm,0.4s							
YULB	**Yu-li**	**5.21**	**19**	*e*Pn		**Pn**	**12 41 38.0**	**+0.4**
	36nm,0.9s							
SSLB	**Suanglung**	**5.49**	**14**	*e*Pn		**Pn**	**12 41 41.2**	**-0.4**
	19nm,0.6s							
YHNB	**Yeheng**	**6.44**	**15**	*e*Pn		**Pn**	**12 41 55.0**	**+0.3**
	98nm,1.0s							
QIZ	**Qiongzhong**	**9.16**	**275**	*e*Pn		Pn	12 42 27.5	-4.5
	31nm,0.9s							
KSAR	**Wonju Array Be**	**20.31**	**20**	P		**P**	**12 44 55.9**	**+0.7**
KSRS	**Korea Array**	**20.34**	**20**	P		**P**	**12 44 55.9**	**+0.4**
	2.4nm,0.9s,baz=202,slow=11,SNR=5.8							
WRAB	**Tennant Creek**	**40.83**	**158**	*e*P		**P**	**12 47 59.6**	**-1.1**
	3.5nm,0.4s							
WRA	**Warramunga Arr**	**40.83**	**158**	P		**P**	**12 47 59.7**	**-1.1**
WRA	**Warramunga Arr**	**40.83**	**158**	P		**P**	**12 47 59.7**	**-1.1**
	2.2nm,0.4s,baz=342,slow=8.9,SNR=19							
AS31	**Alice Springs**	**44.15**	**161**	*e*P		**P**	**12 48 28.2**	**+0.4**
ASAR	**Alice Springs**	**44.15**	**161**	P		**P**	**12 48 27.6**	**-0.2**
ASAR	**Alice Springs**	**44.15**	**161**	P		**P**	**12 48 27.6**	**-0.2**
	3.0nm,0.5s,baz=340,slow=7.0,SNR=51							
KURK	**Kurchatov**	**45.65**	**324**	P		**P**	**12 48 40.5**	**+1.1**
KURBB	**Kurchatov Arra**	**45.66**	**324**	P		**P**	**12 48 40.5**	**+1.0**
	3.1nm,0.6s,baz=122,slow=8.2,SNR=11							
CTA	**Charters Tower**	**46.42**	**144**	P		**P**	**12 48 46.7**	**+0.9**
CTA	**Charters Tower**	**46.42**	**144**	P		**P**	**12 48 46.7**	**+0.9**
	11nm,0.7s,baz=310,slow=7.9,SNR=17							
CTAO	**Charters Tower**	**46.42**	**144**	*e*P		**P**	**12 48 46.2**	**+0.3**
	5.9nm,0.6s							
BVAR	**Borovoye Array**	**51.25**	**324**	P		**P**	**12 49 22.9**	**+0.4**
BVAR	**Borovoye Array**	**51.25**	**324**	P		**P**	**12 49 22.9**	**+0.4**
	1.4nm,0.8s,baz=103,slow=6.2,SNR=3.2							
STKA	**Stephens Creek**	**54.33**	**157**	P		**P**	**12 49 45.8**	**+0.3**
STKA	**Stephens Creek**	**54.33**	**157**	P		**P**	**12 49 45.8**	**+0.3**
	4.4nm,0.7s,baz=334,slow=9.8,SNR=9.8							
AKTO	**Aktyubinsk**	**57.89**	**318**	P		**P**	**12 50 11.6**	**+0.8**
AKTO	**Aktyubinsk**	**57.89**	**318**	P		**P**	**12 50 11.6**	**+0.8**
	1.5nm,0.5s,baz=110,slow=8.1,SNR=5.8							
DZM	**Mont Dzumac**	**61.08**	**129**	P		**P**	**12 50 34.2**	**+0.9**
DZM	**Mont Dzumac**	**61.08**	**129**	P		**P**	**12 50 34.2**	**+0.9**
	3.7nm,0.6s,baz=185,slow=19,SNR=5.7							
KBZ	**Khabaz**	**67.91**	**310**	P		**P**	**12 51 18.2**	**+0.7**
KBZ	**Khabaz**	**67.91**	**310**	P		**P**	**12 51 18.2**	**+0.7**
	1.1nm,0.7s,baz=63,slow=14,SNR=4.8							
ILAR	**Eielson Array**	**75.03**	**26**	P		**P**	**12 51 58.9**	**-1.2**
ILAR	**Eielson Array**	**75.03**	**26**	P		**P**	**12 51 58.9**	**-1.2**
	0.4nm,0.8s,baz=273,slow=5.8,SNR=5.3							
FINES	**FINESS Array B**	**75.61**	**330**	P		**P**	**12 52 03.3**	**-0.1**
FINES	**FINESS Array B**	**75.61**	**330**	P		**P**	**12 52 03.3**	**-0.1**
	1.8nm,0.6s,baz=68,slow=7.7,SNR=5.8							
NOA	**NORSAR Array B**	**82.55**	**332**	P		**P**	**12 52 40.4**	**-1.1**
NOA	**NORSAR Array B**	**82.55**	**332**	P		**P**	**12 52 40.4**	**-1.1**
	1.7nm,1.0s,baz=70,slow=5.3,SNR=2.8							
CLL	**Collm**	**85.67**	**323**	*e*P		**P**	**12 52 57.0**	**-0.5**
GERES	**GERESS Array B**	**86.25**	**320**	P		**P**	**12 53 00.8**	**+0.2**
GERES	**GERESS Array B**	**86.25**	**320**	P		**P**	**12 53 00.8**	**+0.2**
	0.2nm,0.3s,baz=66,slow=5.5,SNR=4.4							
YKA	**Yellowknife Ar**	**88.85**	**22**	P		**P**	**12 53 13.3**	**+0.7**
YKA	**Yellowknife Ar**	**88.85**	**22**	P		**P**	**12 53 13.3**	**+0.7**
	1.7nm,0.8s,baz=315,slow=4.3,SNR=15							

GUC 27 12:44:50.0±0.8, 28.˝73S×71.˝38W, h38km±7km, ML3.6, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.66**	**116**	⇓*iP*		Pn	12 45 03.3	-0.1
LCO				*i* S		Sn	12 45 14.1	+1.3
TLL	**Tololo Astrono**	**1.52**	**161**	⇑*iP*		Pn	12 45 17.0	+2.0
TLL				*i* S		Sn	12 45 36.6	+2.8
TLL				AML		AML	12 45 41.2	
	comp=E,1μm,0.6s							
CPCH	**Copiapo**	**1.64**	**34**	*i* P		Pn	12 45 17.7	+1.4
CPCH				AML		AML	12 45 44.4	
	comp=N,6μm,0.1s							
CDCH	**Caldera**	**1.73**	**17**	*e*P		Pn	12 45 17.1	-0.4
CDCH				*i* S		Sn	12 45 38.8	+0.6
CDCH				AML		AML	12 45 39.4	
	comp=N,258nm,0.4s							

IDC ***27*** *12:54:13.4±0.8, 22.˝58S×170.˝93E, h0km, mb4.2/13, mb1 4.4/15, mb1mx4.3/22, mbtmp4.3/15, ML3.7/2, MS4.2/2, Ms1 4.2/2, ms1mx3.4/38, Error ellipse: s-maj=25.0km s-min=17.6km az=154.0*
SZGRF ***27*** *12:54:16.3, 23.˝81S×170.˝06E, h33km, Southeast of Loyalty Islands*
NOU ***27*** *12:54:17.4±1.7, 20.˝85S×170.˝74E, h30km, MD3.3, ML3.2, MS3.2*
ISCJB ***27*** *12:54:18.7±0.5, 22.˝59S±0.˝09×170.˝73E±0.˝04, h42km, mb4.3/16, MS3.8/1, Error ellipse: s-maj=12.6km s-min=5.6km az=177.5*
NEIC ***27*** *12:54:20.7±1.2, 22.˝60S×170.˝81E, h51km±10km, mb4.8/4, Error ellipse: s-maj=19.0km s-min=7.7km az=161.0*
AUST ***27*** *12:54:21.9, 23.˝00S×171.˝09E, h60km*

ISC 27 12:54:19.5±0.5, 22.˝65S±0.˝07×170.˝84E±0.˝06, h42km, n104, σ1§13/111, mb4.3/16, 1C-5D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.69**	**277**	*e*P		**Pn**	**12 55 14.3**	**+0.1**
BAYA				*e*S		**Sn**	**12 55 54.0**	**-2.5**
BAYA				AMP			12 56 00.7	
	comp=Z,27nm,5.6s							
PLUM	**Mont Dore**	**3.90**	**275**	*e*P		**Pn**	**12 55 15.4**	**-1.6**
PLUM				*e*S		**Sn**	**12 55 59.9**	**-1.7**
PLUM				AMP			12 56 02.9	
	comp=Z,273nm,6.9s							
DZM	**Mont Dzumac**	**4.11**	**277**	*e*P		**Pn**	**12 55 18.7**	**-1.3**
DZM				*e*S		**Sn**	**12 56 04.0**	**-2.9**
DZM				AMP			12 56 17.1	
	comp=Z,2μm,21.6s							
DZM	**Mont Dzumac**	**4.11**	**277**	Pn		**Pn**	**12 55 18.8**	**-1.1**
DZM				Sn		**Sn**	**12 56 04.1**	**-2.7**
DZM	**Mont Dzumac**	**4.11**	**277**	Pn		**Pn**	**12 55 18.8**	**-1.1**
	comp=Z,26nm,0.3s,baz=101,slow=16,SNR=654							
DZM				Sn		**Sn**	**12 56 04.1**	**-2.7**
	comp=Z,20nm,0.3s,baz=133,slow=19,SNR=10							
NOUC	**Port Laguerre**	**4.24**	**277**	*e*P		**Pn**	**12 55 20.3**	**-1.2**
NOUC				*e*S		**Sn**	**12 56 07.8**	**-2.0**
NOUC				AMP			12 56 13.5	
	comp=Z,98nm,1.9s							
NFK	**Norfolk Island**	**6.88**	**202**	P		**Pn**	**12 55 56.8**	**-1.1**
	baz=6.7,SNR=32							
NFK				S		**Sn**	**12 57 11.2**	**-3.8**
	baz=6.7,SNR=8.3							
MSVF	**Nonsavu**	**8.35**	**55**	*e*Pn		Pn	12 56 21.3	+3.2
	comp=Z,79nm,1.0s							
URZ	**Urewera**	**16.46**	**162**	LR		LR	13 03 05.4	
	comp=Z,1μm,18.7s,baz=344,slow=32							
AFI	**Afiamalu**	**18.64**	**65**	P		**P**	**12 58 32.6**	**-1.4**
AFI	**Afiamalu**	**18.64**	**65**	P		**P**	**12 58 32.6**	**-1.4**
	comp=Z,2.1nm,0.3s,baz=204,slow=20,SNR=4.1							
ARMA	**Armidale**	**18.83**	**242**	P		**Pn**	**12 58 40.7**	**+3.9**
	baz=19,SNR=3.7							
RMQ	**Roma**	**20.44**	**255**	P		Pn	12 58 57.3	+1.4
	baz=21,SNR=8.9							
RPZ	**Rata Peaks**	**21.01**	**180**	LR		LR	13 05 49.3	
	comp=Z,418nm,19.9s,baz=320,slow=33							
CTA	**Charters Tower**	**23.03**	**272**	P		**P**	**12 59 22.1**	**+0.9**
CTA	**Charters Tower**	**23.03**	**272**	P		**P**	**12 59 22.1**	**+0.9**
	comp=Z,3.3nm,1.0s,baz=90,slow=12,SNR=4.5							
CTAO	**Charters Tower**	**23.03**	**272**	*e*P		**P**	**12 59 21.7**	**+0.5**
	comp=Z,6.4nm,0.8s							
CMSA	**Cobar Meteorol**	**24.03**	**243**	P		**P**	**12 59 32.5**	**+1.8**
	baz=24,SNR=42							
MTSU	**Mount Surprise**	**25.25**	**275**	P		**P**	**12 59 43.9**	**+2.0**
	baz=26,SNR=5.8							
STKA	**Stephens Creek**	**27.50**	**244**	P		**P**	**13 00 03.0**	**+0.8**
STKA	**Stephens Creek**	**27.50**	**244**	P		**P**	**13 00 03.0**	**+0.8**
	comp=Z,3.4nm,0.9s,baz=85,slow=12,SNR=4.2							
AS31	**Alice Springs**	**33.92**	**261**	*e*P		**P**	**13 00 59.2**	**+0.4**
ASAR	**Alice Springs**	**33.92**	**261**	P		**P**	**13 00 59.2**	**+0.3**
ASAR	**Alice Springs**	**33.92**	**261**	P		**P**	**13 00 59.2**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=88,slow=8.9,SNR=32							
WRAB	**Tennant Creek**	**34.05**	**268**	*e*P		P	13 00 52.9	-7.1
	comp=Z,14nm,1.5s							
WRA	**Warramunga Arr**	**34.06**	**268**	P		**P**	**13 00 59.0**	**-1.1**
WRA	**Warramunga Arr**	**34.06**	**268**	P		**P**	**13 00 59.0**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=99,slow=8.4,SNR=11							
KDU	**Kakadu**	**37.78**	**279**	P		**P**	**13 01 34.1**	**+2.1**
	baz=38,SNR=3.7							
MTN	**Manton Dam**	**38.95**	**278**	P		**P**	**13 01 41.9**	**+0.1**
	baz=39,SNR=4.7							
KNRA	**Kununurra**	**40.24**	**272**	P		P	13 01 57.3	+4.8
	baz=40,SNR=3.2							
FITZ	**Fitzroy Crossi**	**42.49**	**268**	*e*P		**P**	**13 02 11.8**	**+0.8**
FITZ	**Fitzroy Crossi**	**42.49**	**268**	P		**P**	**13 02 11.4**	**+0.4**
	comp=Z,5.5nm,1.0s,baz=112,slow=5.2,SNR=10							
FITZ	**Fitzroy Crossi**	**42.49**	**268**	P		**P**	**13 02 12.2**	**+1.2**
	baz=43,SNR=3.7							
BNDI	**Bandanaira**	**43.47**	**288**	S		**S**	**13 08 44.8**	**-0.1**
	baz=44,SNR=8.3							
MBWA	**Marble Bar**	**47.25**	**262**	*e*P		**P**	**13 02 49.2**	**+0.3**
MEEK	**Meekatharra**	**47.37**	**254**	P		**P**	**13 02 49.9**	**+0.1**
	baz=47,SNR=6.1							
KSM	**Kuching**	**63.61**	**284**	*e*P		**P**	**13 04 47.2**	**+0.6**
	comp=Z,16nm,1.1s							
MJAR	**Matsushiro Arr**	**66.45**	**332**	P		**P**	**13 05 04.1**	**-0.5**
MJAR	**Matsushiro Arr**	**66.45**	**332**	P		**P**	**13 05 04.1**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=163,slow=7.5,SNR=3.9							
QSPA	**South Pole Qui**	**67.42**	**180**	P		**P**	**13 05 11.0**	**+0.4**
QSPA	**South Pole Qui**	**67.42**	**180**	P		**P**	**13 05 11.0**	**+0.4**
	comp=Z,5.2nm,1.1s,baz=36,slow=5.4,SNR=9.0							
KSRS	**Korea Array**	**72.15**	**325**	P		**P**	**13 05 39.6**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=134,slow=5.2,SNR=4.8							
KSAR	**Wonju Array Be**	**72.16**	**325**	P		**P**	**13 05 39.6**	**-0.3**
PETK	**Petropavlovsk-**	**76.30**	**352**	P		**P**	**13 06 03.3**	**-0.4**
PETK	**Petropavlovsk-**	**76.30**	**352**	P		**P**	**13 06 03.3**	**-0.4**
	comp=Z,4.1nm,0.8s,baz=147,slow=8.1,SNR=5.4							
ENH	**Enshi**	**78.98**	**309**	P		**P**	**13 06 19.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**81.26**	**294**	P		**P**	**13 06 33.9**	**+2.1**
CMAR	**Chiang Mai Arr**	**81.26**	**294**	P		**P**	**13 06 33.9**	**+2.1**
	comp=Z,2.7nm,0.7s,baz=135,slow=4.0,SNR=12							
SNAA	**Sanae**	**85.83**	**182**	*e*P		**P**	**13 06 54.0**	**-0.4**
VNA1	**Neumayer--Stat**	**86.95**	**180**	*e*P		P	13 07 05.8	+6.0
NVAR	**Mina Array Bea**	**89.95**	**48**	P		**P**	**13 07 14.6**	**-0.1**
NVAR	**Mina Array Bea**	**89.95**	**48**	P		**P**	**13 07 14.6**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=224,slow=7.6,SNR=8.9							
ULN	**Ulaanbaatar**	**90.48**	**323**	*e*P		**P**	**13 07 17.0**	**+0.1**
	comp=Z,7.4nm,1.1s							
SONM	**Songino Array**	**90.83**	**323**	P		**P**	**13 07 18.6**	**+0.1**
SONM	**Songino Array**	**90.83**	**323**	P		**P**	**13 07 18.6**	**+0.1**
	comp=Z,4.4nm,0.9s,baz=123,slow=3.5,SNR=15							
ILAR	**Eielson Array**	**93.04**	**17**	P		**P**	**13 07 27.6**	**-0.5**
ILAR	**Eielson Array**	**93.04**	**17**	P		**P**	**13 07 27.6**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=231,slow=5.6,SNR=4.6							
ARCES	**ARCESS Array B**	**128.73**	**345**	PKP		**PKPdf**	**13 13 21.2**	**-0.3**
ARCES	**ARCESS Array B**	**128.73**	**345**	PKP		**PKPdf**	**13 13 21.2**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=52,slow=1.5,SNR=14							
KECS	**Kecovo**	**145.09**	**325**	*e*PKP		**PKPdf**	**13 13 52.4**	**+0.1**
KSP	**Ksiaz**	**145.58**	**331**	*e*P		**PKPab**	**13 13 53.6**	**0.0**
PSZ	**Piszkesteto**	**145.74**	**325**	*e*PKPdf		**PKPab**	**13 13 54.1**	**-0.3**
PSZ	**Piszkesteto**	**145.74**	**325**	⇓*e*PKPdf		**PKPab**	**13 13 54.5**	**+0.1**
DPC	**Dobruska-Polom**	**145.92**	**331**	*e*PKP		**PKPab**	**13 13 54.6**	**-0.3**
DPC				*ep*PKP		**pPKPdf**	**13 14 06.0**	**-0.9**
VYHS	**Vyhne**	**145.94**	**326**	*e*PKP		**PKPab**	**13 13 55.2**	**+0.2**
BRG	**Berggiesshubel**	**146.57**	**333**	*e*PKP		**PKPbc**	**13 13 56.1**	**-0.2**
	comp=Z,8.8nm,1.1s							
CLL	**Collm**	**146.62**	**335**	*e*PKPbc		**PKPbc**	**13 13 56.3**	**-0.1**
CLL	**Collm**	**146.62**	**335**	*i* PKPbc		**PKPbc**	**13 13 56.1**	**-0.3**
	comp=Z,15nm,1.1s							
CLL				*i* PKiKP		**PKiKP**	**13 14 00.0**	**+0.8**
FBE	**Freiberg**	**146.78**	**334**	*e*PKPbc		**PKPab**	**13 13 57.2**	**-0.9**
PRU	**Pruhonice**	**146.97**	**332**	*e*PKP		**PKPbc**	**13 13 57.6**	**+0.2**
PRU				*ex*		x	13 14 01.4	
TREC	**Trest**	**147.05**	**330**	*e*PKP		**PKPbc**	**13 13 58.0**	**+0.3**
PKSM	**Moragy**	**147.46**	**323**	⇓*e*PKPdf		**PKPbc**	**13 13 59.2**	**+0.3**
TANN	**Tannenbergstha**	**147.53**	**334**	*e*PKPbc		**PKPbc**	**13 13 58.8**	**-0.3**
WERD	**Werda**	**147.57**	**334**	*e*PKPbc		**PKPbc**	**13 13 59.0**	**-0.1**
PLN	**Plauen**	**147.60**	**334**	*e*PKPbc		**PKPbc**	**13 13 59.0**	**-0.2**
GUNZ	**Gunzen**	**147.63**	**334**	*e*PKPbc		**PKPbc**	**13 13 59.6**	**+0.3**
WERN	**Wernitzgruen**	**147.67**	**334**	*e*PKPbc		**PKPbc**	**13 13 59.7**	**+0.3**
ROHR	**Rohrbach**	**147.73**	**334**	*e*PKPbc		**PKPbc**	**13 13 59.8**	**+0.2**
KHC	**Kasperske Hory**	**148.03**	**331**	*e*PKP		**PKPbc**	**13 14 00.8**	**+0.4**
KHC				*ep*PKP		**pPKPdf**	**13 14 10.1**	**-0.4**
KHC	**Kasperske Hory**	**148.03**	**331**	*e*PKPbc		**PKPbc**	**13 14 00.1**	**-0.3**
UBBA	**Unterbreizbach**	**148.16**	**337**	*e*PKPbc		**PKPbc**	**13 14 00.5**	**0.0**
GEC2	**GERESS Array S**	**148.19**	**331**	*e*PKPbc		**PKPbc**	**13 14 00.6**	**-0.3**
GERES	**GERESS Array B**	**148.19**	**331**	PKPbc		**PKPbc**	**13 14 00.8**	**-0.1**
GERES	**GERESS Array B**	**148.19**	**331**	PKPbc		**PKPbc**	**13 14 00.8**	**-0.1**
	comp=Z,5.4nm,0.8s,baz=58,slow=2.8,SNR=18							
TNS	**Taunus Mts**	**149.21**	**338**	*e*PKPbc		**PKPbc**	**13 14 03.7**	**+0.3**
RJOB	**Jochberg**	**149.41**	**330**	*e*PKPbc		**PKPbc**	**13 14 03.7**	**-0.3**
KBA	**Koelnbreinsper**	**149.63**	**329**	⇓*i*PKPdf		**PKPdf**	**13 14 00.9**	**+0.8**
	comp=Z,12nm,0.8s							
VNDS	**Vrh nad Dolski**	**149.64**	**326**	*i* PKPbc		**PKPbc**	**13 14 04.4**	**-0.2**
VNDS				*i* pPKPbc		**PKPab**	**13 14 08.2**	**-1.6**
MEM	**Membach**	**149.68**	**341**	P		**PKPbc**	**13 14 04.7**	**+0.2**
BOJS	**Bojanci**	**149.75**	**325**	*e*PKPbc		**PKPbc**	**13 14 04.9**	**+0.1**
BOJS				*ep*PKPbc		**PKPab**	**13 14 08.8**	**-1.4**
LJU	**Ljubljana**	**149.77**	**326**	*i* PKPbc		**PKPbc**	**13 14 04.5**	**-0.4**
LJU				*i* pPKPbc		**PKPab**	**13 14 08.7**	**-1.6**
CRNS	**Crni Vrh**	**149.88**	**327**	*i* PKPbc		**PKPbc**	**13 14 04.7**	**-0.5**
CRNS				*ep*PKPbc		**PKPab**	**13 14 08.7**	**-2.1**
ABTA	**Abfaltersbach**	**150.27**	**329**	⇓*i*PKPbc		**PKPbc**	**13 14 04.8**	**-1.4**
	comp=Z,8.3nm,0.7s							
WTTA	**Wattenberg**	**150.29**	**331**	⇑*i*PKPbc		**PKPbc**	**13 14 03.8**	**-2.5**
	comp=Z,15nm,0.9s							
WLF	**Walferdange**	**150.46**	**340**	*e*PKPbc		**PKPbc**	**13 14 07.2**	**+0.8**
DOU	**Dourbes**	**150.55**	**342**	P		**PKPbc**	**13 14 06.8**	**+0.2**
BFO	**Black Forest**	**150.83**	**336**	*e*PKPbc		**PKPbc**	**13 14 07.3**	**-0.1**
BFO	**Black Forest**	**150.83**	**336**	*e*PKPbc		**PKPbc**	**13 14 05.9**	**-1.5**
FETA	**Feichten**	**150.88**	**331**	⇓*i*PKPbc		**PKPbc**	**13 14 07.5**	**-0.3**
	comp=Z,17nm,1.0s							
TUE	**Stuetta**	**151.91**	**332**	*e*PKPbc		**PKPbc**	**13 14 09.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**166.01**	**229**	PKP		**PKPdf**	**13 14 21.1**	**+0.3**
TORD				PKPab		**PKPab**	**13 15 21.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**166.01**	**229**	PKP		**PKPdf**	**13 14 21.1**	**+0.3**
	comp=Z,1.4nm,1.0s,baz=160,slow=0.5,SNR=5.3							
TORD				PKPab		**PKPab**	**13 15 21.2**	**+0.2**
	comp=Z,0.9nm,1.0s,baz=126,slow=2.0,SNR=3.2							

IDC ***27*** *13:04:17.4±0.6, 22.˝49S×170.˝96E, h0km, mb4.4/17, mb1 4.5/18, mb1mx4.5/21, mbtmp4.4/18, ML4.2/1, MS4.2/19, Ms1 4.2/19, ms1mx4.0/39, Error ellipse: s-maj=19.4km s-min=16.5km az=124.0*
SZGRF ***27*** *13:04:20.9, 22.˝39S×172.˝35E, h33km, Southeast of Loyalty Islands*
ISCJB ***27*** *13:04:22.7±0.3, 22.˝56S±0.˝06×170.˝77E±0.˝04, h42km, mb4.6/40, MS4.3/20, Error ellipse: s-maj=8.6km s-min=5.1km az=1.0*
DJA ***27*** *13:04:25.1±4.1, 22.˚S±10.˚×17.˚1E±1.˚8, h47km±31km, M4.8/17, mB6.0/2, mb4.8/17, Mw(mB)5.7/2*
GCMT ***27*** *13:04:25.2±0.3, 22.˚63S×170.˚76E, h27km, MW5.0, Moment Tensor Solution. s28,c39; s61,c86; Moment tensor: Scale 10^16 Nm; Mrr 3.29±.20; Mθθ -3.53±.13; Mϕϕ 0.24±.12; Mrθ 1.87±.20; Mrϕ 0.55±.08; Mθϕ 0.51±.23; Best double couple: M=0.40000×10^16 NP1: ϕ 291.00000°, δ 33.00000°, λ 111.00000°. NP2: ϕ 86.00000°, δ 60.00000°, λ 77.00000°. Principal axes: T 3.8800, Plg72.0000°, Azm326.0000°; N 0.1700, Plg11.0000°, Azm93.0000°; P -4.0500, Plg14.0000°, Azm186.0000°; Data Used: II IU CN IC G.*
NEIC ***27*** *13:04:25.6±1.0, 22.˝55S×170.˝81E, h60km±9km, mb4.8/13 Error ellipse: s-maj=8.7km s-min=7.4km az=173.0*
AUST ***27*** *13:04:26.8, 23.˝00S×171.˝09E, h60km*
BJI ***27*** *13:04:30.4, 21.˚62S×170.˚82E, h81km, mB5.1/17, mb4.7/26, Ms5.1/9, Ms7 4.6/9*

ISC 27 13:04:23.9±0.4, 22.˚61S±0.˚06×170.˚81E±0.˚05, h42km, n172, σ1§48/172, mb4.7/39, MS4.3/20, 8C-2D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.66**	**276**	*e*S		**Sn**

comp=Z,20nm,0.5s
USRK Ussuriysk Arra 75.39 332 P **P** **13 16 04.4 +1.5**
comp=Z,1.6nm,0.8s,baz=160,slow=4.2,SNR=6.8
USRK LR LR 13 45 22.4
comp=Z,96nm,21.5s,baz=324,slow=33
WHN Wuhan 75.69 312 P P 13 16 14.8 +10
MAW Mawson 75.88 202 P **P** **13 16 06.9 +1.4**
MAW Mawson 75.88 202 P **P** **13 16 06.9 +1.4**
comp=Z,3.8nm,0.8s,baz=91,slow=6.9,SNR=4.1
PETK Petropavlovsk- 76.26 352 P **P** **13 16 06.8 -1.0**
PETK Petropavlovsk- 76.26 352 P **P** **13 16 06.8 -1.0**
comp=Z,10.0nm,0.9s,baz=157,slow=7.8,SNR=12
PETK LR LR 13 46 21.0
comp=Z,163nm,18.7s,baz=338,slow=33
MDJ Mudanjiang 76.77 331 P **P** **13 16 11.5 +0.6**
MDJ pmax pmax
comp=Z,3.0nm,0.6s
CN2 Changchun 78.09 328 *e*P **P** **13 16 17.5 -0.7**
CN2 *e*PP **PP** **13 19 17.8 +2.4**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
PBKT Sadao Pong 78.64 293 P **P** **13 16 22.4 +0.6**
comp=Z,8.6nm,1.6s
ENH Enshi 78.94 309 *e*P **P** **13 16 22.9 -0.4**
comp=Z,7.3nm,0.9s
GYA Guiyang 78.94 305 P **P** **13 16 25.0 +1.5**
GYA sP sP 13 16 56.5 +16
GYA PP **PP** **13 19 26.3 +3.3**
GYA S **S** **13 26 15.5 -3.9**
GYA SKS SKSac 13 26 28.8 -7.4
GYA sS ScS 13 26 53.0 +10
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,110nm,6.4s
GYA LR LR
comp=N,490nm,19.3s
GYA LR LR
comp=E,360nm,20.0s
GYA LR LR
comp=Z,450nm,19.4s
CMAR Chiang Mai Arr 81.22 294 P **P** **13 16 37.5 +1.6**
CMAR Chiang Mai Arr 81.22 294 P **P** **13 16 37.5 +1.6**
comp=Z,4.7nm,0.8s,baz=136,slow=4.3,SNR=21
KMI Kunming 81.29 302 P **P** **13 16 37.8 +1.4**
KMI pP pP 13 16 59.8 +11
KMI sP sP 13 17 08.8 +15
KMI PP **PP** **13 19 46.3 +3.7**
KMI S **S** **13 26 40.5 -3.9**
KMI sS sS 13 27 18.8 +13
KMI pmax pmax
comp=Z,9.0nm,0.9s
KMI pmax pmax
comp=Z,140nm,7.2s
KMI LR LR
comp=N,100nm,12.2s
KMI LR LR
comp=E,100nm,15.0s
KMI LR LR
comp=Z,110nm,17.8s
CMMT Chiang Mai 81.38 294 P **P** **13 16 37.2 +0.5**
comp=Z,13nm,1.1s
CHTO Chiang Mai 81.38 294 *e*P **P** **13 16 38.3 +1.6**
comp=Z,18nm,1.4s
CHTO Chiang Mai 81.38 294 P **P** **13 16 37.1 +0.4**
comp=Z,15nm,1.1s
HHC Hu-ho-hao-te 83.72 319 *e*P **P** **13 16 50.0 +1.5**
HHC pP pP 13 17 10.5 +9.3
HHC sP sP 13 17 18.5 +13
HHC PP **PP** **13 20 06.0 +3.8**
HHC SKS **SKSac** **13 27 01.8 -6.2**
HHC S **S** **13 27 05.0 -3.3**
HHC sS sS 13 27 40.5 +11
HHC pmax pmax
comp=Z,20nm,1.2s
HHC pmax pmax
comp=Z,170nm,5.2s
HHC LR LR
comp=N,170nm,19.0s
HHC LR LR
comp=E,180nm,20.2s
HHC LR LR
comp=Z,280nm,19.0s
SNAA Sanae 85.87 182 *e*P **P** **13 16 58.6 -0.3**
SNAA Sanae 85.87 182 *e*P **P** **13 16 57.8 -1.1**
comp=Z,7.8nm,1.0s
LZH Lanzhou 86.06 312 *e*P **P** **13 17 02.5 +2.0**
LZH pP pP 13 17 24.0 +11
LZH sP sP 13 17 32.5 +15
LZH PP **PP** **13 20 25.5 +4.1**
LZH pmax pmax
comp=Z,20nm,1.5s
LZH pmax pmax
comp=Z,75nm,7.6s
LZH LR LR
comp=N,180nm,7.5s
LZH LR LR
comp=E,170nm,7.2s
LZH LR LR
comp=Z,260nm,9.3s
VNA1 Neumayer--Stat 86.99 180 *e*P P 13 17 09.1 +4.8
ISA Isabella 88.47 50 *e*P **P** **13 17 11.0 -1.0**
comp=Z,4.8nm,0.9s
GLA Glamis 89.90 54 *e*P **P** **13 17 18.6 -0.1**
comp=Z,8.9nm,0.9s
NVAR Mina Array Bea 89.94 48 P **P** **13 17 18.2 -0.8**
NVAR Mina Array Bea 89.94 48 P **P** **13 17 18.2 -0.8**
comp=Z,3.4nm,0.9s,baz=224,slow=6.3,SNR=16
ULN Ulaanbaatar 90.43 323 *e*P **P** **13 17 20.8 -0.2**
comp=Z,13nm,1.1s
ULN Ulaanbaatar 90.43 323 P **P** **13 17 20.3 -0.7**
GTA Gaotai 90.49 313 *e*P **P** **13 17 22.5 +1.0**
GTA pP pP 13 17 43.0 +8.8
GTA sP sP 13 17 51.5 +13
GTA S **S** **13 28 09.3 -4.4**
GTA sS sS 13 28 44.8 +10
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,190nm,6.4s
GTA LR LR
comp=N,63nm,16.2s
GTA LR LR
comp=E,110nm,15.9s
GTA LR LR
comp=Z,120nm,16.2s
LDFC Landfair 90.62 52 *e*P **P** **13 17 22.4 +0.3**
comp=Z,1.1nm,0.9s
SONM Songino Array 90.78 323 P **P** **13 17 22.3 -0.3**
SONM Songino Array 90.78 323 P **P** **13 17 22.3 -0.3**
comp=Z,7.2nm,1.0s,baz=126,slow=4.6,SNR=16
ILAR Eielson Array 93.01 17 P **P** **13 17 29.9 -2.5**
ILAR Eielson Array 93.01 17 P **P** **13 17 29.9 -2.5**
comp=Z,0.9nm,1.1s,baz=231,slow=5.7,SNR=4.1
ILAR LR LR 13 55 02.8
comp=Z,89nm,19.0s,baz=224,slow=33
DLBC Dease Lake 94.36 27 LR LR 13 51 27.0
comp=Z,189nm,20.0s,baz=324,slow=30
TXAR Lajitas Array 97.08 61 P **P** **13 17 50.5 -1.4**
TXAR Lajitas Array 97.08 61 P **P** **13 17 50.5 -1.4**
comp=Z,0.4nm,0.9s,baz=261,slow=5.9,SNR=4.1
PDAR Pinedale Array 97.83 47 P Pdif 13 17 55.4 +0.1
PDAR Pinedale Array 97.83 47 P Pdif 13 17 55.4 +0.1
comp=Z,0.5nm,0.9s,baz=217,slow=5.4,SNR=2.9
PDAR LR LR 13 54 17.4
comp=Z,124nm,18.8s,baz=261,slow=31
WMQ Urumqi 100.58 313 P **Pdif** **13 18 08.8 +1.6**
KSH Kashi 107.61 306 *e*Pdif **Pdif** **13 18 40.0 +1.3**
KSH PP PP 13 23 13.3 +5.8
KSH AMB AMB
comp=Z,98nm,4.7s
KSH LR LR
comp=N,200nm,13.0s
KSH LR LR
comp=E,73nm,8.9s
KSH LR LR
comp=Z,190nm,15.8s
AKTO Aktyubinsk 121.52 316 PKP **PKPdf** **13 23 12.2 -0.5**
AKTO Aktyubinsk 121.52 316 PKP **PKPdf** **13 23 12.2 -0.5**
comp=Z,1.6nm,0.8s,baz=108,slow=2.6,SNR=6.1
SPITS Spitsbergen Ar 123.09 354 PKP **PKPdf** **13 23 13.3 -1.7**
SPITS Spitsbergen Ar 123.09 354 PKP **PKPdf** **13 23 13.3 -1.7**
comp=Z,5.0nm,0.7s,baz=110,slow=9.0,SNR=4.6
ARCES ARCESS Array B 128.69 345 PKP **PKPdf** **13 23 24.9 -0.9**
ARCES ARCESS Array B 128.69 345 PKP **PKPdf** **13 23 24.9 -0.9**
comp=Z,1.9nm,0.6s,baz=48,slow=1.3,SNR=10.0

STHS Stebnicka Huta 144.08 326 *e*PKP **PKPdf** **13 23 56.0 +1.2**
KECS Kecovo 145.04 325 *e*PKP **PKPdf** **13 23 56.4 -0.1**
OKC Ostrava-Krasne 145.37 328 *e*PKP **PKPab** **13 23 57.2 +0.1**
BSEG Bad Segeberg 145.42 340 *e*PKPbc **PKPbc** **13 23 56.7 -0.2**
PSZ Piszkesteto 145.70 325 *e*PKP **PKPdf** **13 23 56.7 -1.1**
KRLC Kraliky 145.85 330 *e*PKP **PKPab** **13 23 59.0 0.0**
DPC Dobruska-Polom 145.87 331 *e*PKP **PKPbc** **13 23 58.6 0.0**
VYHS Vyhne 145.90 326 *e*PKP **PKPab** **13 23 59.5 +0.3**
VRAC Vranov 146.47 329 PKPbc **PKPbc** **13 24 00.3 -0.1**
VRAC Vranov 146.47 329 PKPbc **PKPbc** **13 24 00.3 -0.1**
comp=Z,15nm,1.0s,baz=64,slow=4.2,SNR=11
BRG Berggiesshubel 146.53 333 *e*PKP **PKPbc** **13 24 00.2 -0.2**
comp=Z,17nm,1.0s
CLL Collm 146.58 335 *e*PKPbc **PKPbc** **13 24 00.2 -0.4**
CLL Collm 146.58 335 ⇑*i*PKPbc **PKPbc** **13 24 00.2 -0.4**
comp=Z,19nm,0.9s
CLL *i* PKiKP **PKiKP** **13 24 04.0 +0.6**
NRDL Niedersach Rie 146.69 338 *e*PKPbc **PKPbc** **13 24 00.5 -0.3**
PRU Pruhonice 146.93 332 *e*PKP **PKPbc** **13 24 02.0 +0.4**
TREC Trest 147.00 330 *e*PKP **PKPbc** **13 24 01.4 -0.5**
EKA Eskdalemuir Ar 147.01 354 PKPbc **PKPdf** **13 24 00.1 +0.4**
EKA Eskdalemuir Ar 147.01 354 PKPbc **PKPdf** **13 24 00.1 +0.4**
comp=Z,10nm,0.7s,baz=358,slow=2.4,SNR=26
TANN Tannenbergstha 147.49 334 *e*PKPbc **PKPbc** **13 24 03.1 -0.2**
IBBN Ibbenburen 147.61 340 *e*PKPbc **PKPbc** **13 24 02.9 -0.5**
NKC Novy Kostel 147.63 334 *e*PKP **PKPbc** **13 24 03.6 0.0**
MOX Moxa 147.64 335 *e*PKPbc **PKPbc** **13 24 03.3 -0.3**
CONA Conrad Observa 147.77 328 ⇑*i*PKPbc **PKPdf** **13 24 01.6 +0.4**
comp=Z,9.3nm,1.0s
KHC Kasperske Hory 147.99 331 *e*PKP **PKPbc** **13 24 04.2 -0.4**
KHC Kasperske Hory 147.99 331 *e*PKPbc **PKPbc** **13 24 04.1 -0.6**
ROTZ Rotzenmuhle 148.09 333 *e*PKPbc **PKPbc** **13 24 05.1 +0.3**
UBBA Unterbreizbach 148.11 337 *e*PKPbc **PKPbc** **13 24 04.5 -0.2**
GEC2 GERESS Array S 148.14 331 *e*PKPbc **PKPbc** **13 24 04.9 -0.2**
GERES GERESS Array B 148.14 331 PKPbc **PKPbc** **13 24 04.4 -0.7**
GERES GERESS Array B 148.14 331 PKPbc **PKPbc** **13 24 04.4 -0.7**
comp=Z,13nm,0.8s,baz=43,slow=2.0,SNR=31
WET Wettzell 148.28 332 *e*PKPbc **PKPbc** **13 24 05.4 0.0**
BUG Bochum--Univer 148.52 340 *e*PKPbc **PKPbc** **13 24 05.4 -0.4**
MOA Molln 148.60 329 ⇑*i*PKPab **PKPab** **13 24 09.5 -0.4**
comp=Z,8.2nm,0.7s
SOKA Soboth 149.03 327 ⇓*i*PKPbc **PKPbc** **13 24 06.3 -1.2**
comp=Z,12nm,0.9s
TNS Taunus Mts 149.16 338 *e*PKPbc **PKPbc** **13 24 07.8 +0.1**
RJOB Jochberg 149.36 330 *e*PKPbc **PKPbc** **13 24 07.7 -0.5**
KBA Koelnbreinsper 149.59 329 ⇑*i*PKiKP **PKPbc** **13 24 08.7 -0.3**
comp=Z,27nm,0.8s
MEM Membach 149.63 341 PKPbc **PKPbc** **13 24 08.7 0.0**
BOJS Bojanci 149.70 325 *i* PKPbc **PKPbc** **13 24 08.9 -0.1**
BOJS *i* pPKPbc **PKPab** **13 24 12.9 -1.5**
LJU Ljubljana 149.72 326 *i* PKPbc **PKPbc** **13 24 08.8 -0.3**
LJU *i* pPKPbc **PKPab** **13 24 12.8 -1.6**
MYKA Terra Mystica 149.76 328 ⇓*i*PKPbc **PKPbc** **13 24 08.4 -0.9**
comp=Z,13nm,0.7s
CADS Cadrg 149.99 327 *i* PKPbc **PKPbc** **13 24 08.6 -1.2**
CADS *i* pPKPbc **PKiKP** **13 24 12.4 +1.7**
VOY Vojsko 150.05 327 *e*PKPdf **PKPbc** **13 24 09.3 -0.7**
VOY *e* 13 24 13.2
VOY *e* 13 24 17.7
STU Stuttgart 150.09 335 *e*PKPbc **PKPbc** **13 24 09.6 -0.3**
ABTA Abfaltersbach 150.22 329 ⇑*i*PKPbc **PKPbc** **13 24 09.6 -0.8**
comp=Z,16nm,0.7s,SNR=6.5
WTTA Wattenberg 150.24 331 ⇑*i*PKiKP **PKPbc** **13 24 10.0 -0.6**
comp=Z,35nm,1.2s,SNR=8.4
WLF Walferdange 150.41 340 PKPbc **PKPbc** **13 24 11.4 +0.8**
WLF Walferdange 150.41 340 *e*PKPbc **PKPbc** **13 24 11.1 +0.5**
MOTA Moosalm 150.42 331 ⇑*i*PKPbc **PKPbc** **13 24 10.3 -0.6**
comp=Z,15nm,0.7s,SNR=11
LANF Langenberg 150.43 337 PKP **PKPbc** **13 24 10.5 -0.2**
DOU Dourbes 150.51 342 PKPbc **PKPbc** **13 24 10.9 +0.1**
BFO Black Forest 150.78 336 *e*PKPbc **PKPbc** **13 24 10.7 -0.9**
BFO Black Forest 150.78 336 *e*PKPbc **PKPbc** **13 24 10.7 -0.9**
FETA Feichten 150.83 331 ⇑*i*PKiKP **PKPbc** **13 24 11.5 -0.4**
comp=Z,28nm,1.0s,SNR=9.1
ECH Echery 151.31 337 PKP **PKPbc** **13 24 12.0 -0.8**
DAVOX Davos/Dischmat 151.39 332 PKPbc **PKPbc** **13 24 13.1 -0.2**
DAVOX Davos/Dischmat 151.39 332 PKPbc **PKPbc** **13 24 13.1 -0.2**
comp=Z,20nm,0.7s,baz=117,slow=2.3,SNR=20
MOF Molkenrain 151.62 337 PKP **PKPbc** **13 24 11.6 -2.1**
TUE Stuetta 151.86 332 *e*PKPbc **PKPbc** **13 24 14.1 -0.3**
LOMF Lomont 152.16 336 PKP **PKPbc** **13 24 14.4 -0.5**
TORD Torodi Ar. Bea 166.01 230 PKP **PKPdf** **13 24 24.7 -0.4**
TORD PKPab **PKPab** **13 25 25.9 +0.6**
TORD Torodi Ar. Bea 166.01 230 PKP **PKPdf** **13 24 24.7 -0.4**
comp=Z,2.1nm,0.9s,baz=122,slow=0.8,SNR=7.9
TORD PKPab **PKPab** **13 25 25.9 +0.6**
comp=Z,2.9nm,1.1s,baz=118,slow=3.1,SNR=4.5

IDC 27 13:19:16.7±5.8, 32°.76S×179°.80E, h204km±42km, mb3.2/4, mb1 3.3/5, mb1mx3.1/20, mbtmp3.2/5, Error ellipse: s-maj=56.8km s-min=22.1km az=52.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.91**	**201**	P	Pn	13 20 43.2	+0.5
	1.0nm,0.3s,baz=145,slow=4.5,SNR=19						
URZ				S		13 21 50.2	-0.3
	3.7nm,0.3s,baz=279,slow=19,SNR=9.5						
ASAR	**Alice Springs**	**41.18**	**271**	P	P	13 26 41.8	+0.2
	0.3nm,0.6s,baz=113,slow=7.5,SNR=5.0						
WRA	**Warramunga Arr**	**42.39**	**276**	P	P	13 26 51.0	-0.3
	0.3nm,0.3s,baz=114,slow=8.2,SNR=3.0						
QSPA	**South Pole Qui**	**57.35**	**180**	P	P	13 28 44.7	+1.3
	3.8nm,0.6s,baz=21,slow=3.9,SNR=12						
SNAA	**Sanae**	**75.84**	**179**	P	P	13 30 39.6	-0.5
	0.2nm,0.2s,baz=207,slow=9.0,SNR=11						
FINES	**FINESS Array B**	**146.65**	**337**	PKPbc	PKPbc	13 38 33.0	-0.6
	0.5nm,0.5s,baz=36,slow=2.6,SNR=5.3						
TORD	**Torodi Ar. Bea**	**160.40**	**186**	PKPab	PKPab	13 39 32.3	-1.9
	0.3nm,0.9s,baz=198,slow=4.5,SNR=2.9						

IDC 27 13:20:21.3±1.2, 10°.52N×93°.98E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.5/27, mbtmp3.7/7, ML3.6/1, MS3.6/2, Ms1 3.6/2, ms1mx2.8/38, Error ellipse: s-maj=48.0km s-min=19.8km az=56.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.11**	**147**	LR	LR	13 26 18.8	
	comp=Z,209nm,20.2s,baz=276,slow=39						
CMAR	**Chiang Mai Arr**	**9.24**	**31**	Pn	Pn	13 22 34.5	-1.5
	0.1nm,0.3s,baz=217,slow=15,SNR=6.8						
MKAR	**Makanchi Array**	**37.49**	**347**	P	P	13 27 37.1	+0.4
	0.9nm,0.7s,baz=159,slow=8.6,SNR=5.7						
KURBB	**Kurchatov Arra**	**41.96**	**345**	P	P	13 28 14.1	+0.3
	0.3nm,0.3s,baz=165,slow=7.7,SNR=5.4						
ZALV	**Zalesovo Beam**	**43.93**	**352**	P	P	13 28 29.9	+0.1
	1.4nm,0.7s,baz=152,slow=6.5,SNR=6.8						
WRA	**Warramunga Arr**	**49.95**	**127**	P	P	13 29 17.4	-0.1
	0.6nm,0.7s,baz=306,slow=8.8,SNR=2.4						
ASAR	**Alice Springs**	**51.75**	**131**	P	P	13 29 31.0	0.0
	0.8nm,0.9s,baz=308,slow=6.7,SNR=8.2						
BRTR	**Keskin Array B**	**60.61**	**310**	P	P	13 30 33.7	-0.6
	0.4nm,0.4s,baz=50,slow=7.7,SNR=2.7						
BOSA	**Boshof**	**76.86**	**237**	LR	LR	14 04 36.0	
	comp=Z,78nm,19.7s,baz=147,slow=34						

*NEIC **27** 13:21:04.1±0.6, 52°.09N×172°.35W, h70km±10km, mb3.5/1, ML3.4(AEIC), Error ellipse: s-maj=16.7km s-min=3.1km az=165.0*
*IDC **27** 13:21:06.1±4.9, 52°.37N×172°.63W, h96km±49km, mb3.4/8, mb1 3.6/10, mb1mx3.3/30, mbtmp3.3/10, MS3.1/1, Ms1 3.1/1, ms1mx2.6/22, Error ellipse: s-maj=46.5km s-min=15.8km az=156.0*
ISC 27 13:21:03.2±0.8, 52°.1N±0°.1×172°.36W±0°.04, h67km±8km, n35, σ1s12/43, mb3.6/8, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.08**	**286**	P	**Pn**	**13 21 23.6**	**+1.0**
KOFP	**Korovin Flat P**	**1.09**	**282**	P	**Pn**	**13 21 23.5**	**+0.8**
ATKA	**Atka Island**	**1.14**	**278**	P	**Pn**	**13 21 23.1**	**-0.2**
ATKA				S	**Sn**	**13 21 38.5**	**+0.2**
KOKV	**Korovin Volcan**	**1.15**	**286**	P	**Pn**	**13 21 24.2**	**+0.7**
KOKV				S	**Sn**	**13 21 39.8**	**+1.1**
KOKL	**Mount Kliuchef**	**1.16**	**284**	P	**Pn**	**13 21 24.9**	**+1.3**
KOWE	**Korovin West**	**1.20**	**285**	P	**Pn**	**13 21 25.2**	**+1.0**
GSMY	**Great Sitkin M**	**2.28**	**271**	P	**Pn**	**13 21 39.3**	**+0.7**
NIKH	**Nikolski High**	**2.33**	**66**	P	**Pn**	**13 21 39.3**	**+0.1**
NIKH				S	**Sn**	**13 22 07.8**	**+1.0**
GSTD	**Great Sitkin T**	**2.33**	**271**	P	**Pn**	**13 21 40.1**	**+0.7**
GSTD				S	**Sn**	**13 22 08.2**	**+1.2**
GSCK	**Great Sitkin C**	**2.35**	**270**	P	**Pn**	**13 21 40.4**	**+0.9**
ETKA	**Kagalaska Isla**	**2.51**	**267**	P	**Pn**	**13 21 42.7**	**+1.1**
OKSP	**Okmok Steeple**	**2.75**	**63**	P	**Pn**	**13 21 46.2**	**+1.3**
OKCE	**Okmok Cone E**	**2.89**	**60**	P	**Pn**	**13 21 47.1**	**+0.2**
OKTU	**Okmok Mt. Tuli**	**2.94**	**62**	P	**Pn**	**13 21 48.5**	**+0.9**
KIKV	**Kanaga Island**	**2.98**	**268**	P	**Pn**	**13 21 49.3**	**+1.2**
TAFP	**Tanaga Falls P**	**3.48**	**270**	P	**Pn**	**13 21 56.0**	**+1.1**
MSW	**Makushin Switc**	**3.85**	**59**	P	**Pn**	**13 22 00.2**	**+0.3**
UNV	**Unalaska Valle**	**3.97**	**61**	P	**Pn**	**13 22 01.5**	**0.0**
UNV				S	**Sn**	**13 22 47.5**	**+0.8**
GANE	**Gareloi Northe**	**3.98**	**269**	P	**Pn**	**13 22 03.3**	**+1.6**
AKGG	**Akutan Green G**	**4.39**	**58**	P	**Pn**	**13 22 08.6**	**+1.3**
AKSA	**Akutan Strait**	**4.52**	**60**	P	**Pn**	**13 22 10.1**	**+1.0**
AMKA	**Amchitka**	**5.23**	**266**	P	**Pn**	**13 22 19.8**	**+1.1**
SPIA	**Saint Paul Isl**	**5.27**	**13**	P	**Pn**	**13 22 20.1**	**+0.8**
LSSE	**Little Sitkin**	**5.61**	**272**	P	**Pn**	**13 22 25.6**	**+1.7**
FX1	**Attu Island--F**	**8.88**	**281**	P	**Pn**	**13 23 08.4**	**-0.2**
	0.2nm,0.3s,baz=82,slow=7.1,SNR=3.2						
FX1				S	**Sn**	**13 24 45.2**	**-1.7**
	0.1nm,0.3s,baz=210,slow=20,SNR=2.5						
FX1				LR	LR	13 25 31.0	
	comp=Z,116nm,18.1s,baz=277,slow=31						
ILAR	**Eielson Array**	**18.26**	**36**	P	**P**	**13 25 08.4**	**-2.6**
	0.1nm,0.3s,baz=234,slow=8.6,SNR=7.9						
EGAK	**Eagle**	**20.43**	**39**	*e*P	**P**	**13 25 34.3**	**-0.3**
	1.7nm,0.6s						
DLBC	**Dease Lake**	**24.62**	**58**	P	**P**	**13 26 18.0**	**+1.1**
	1.1nm,0.5s,baz=253,slow=12,SNR=4.5						
INK	**Inuvik**	**24.62**	**34**	P	**P**	**13 26 15.3**	**-1.5**
	1.0nm,0.3s,baz=260,slow=8.4,SNR=8.8						
YKA	**Yellowknife Ar**	**31.82**	**48**	P	**P**	**13 27 21.1**	**+0.1**
	0.3nm,0.6s,baz=276,slow=8.4,SNR=3.1						
NVAR	**Mina Array Bea**	**39.51**	**88**	P	**P**	**13 28 29.3**	**+2.0**
	0.3nm,0.7s,baz=311,slow=8.2,SNR=3.1						
PDAR	**Pinedale Array**	**42.27**	**77**	P	**P**	**13 28 50.2**	**+0.2**
	1.0nm,0.6s,baz=299,slow=3.5,SNR=9.6						
PDAR				pP	**pP**	**13 29 06.8**	**0.0**
	0.7nm,0.6s,baz=296,slow=4.8,SNR=3.9						
TXAR	**Lajitas Array**	**54.60**	**86**	P	**P**	**13 30 24.2**	**-0.5**
	0.2nm,0.5s,baz=291,slow=7.6,SNR=3.6						
WRA	**Warramunga Arr**	**85.39**	**229**	P	**P**	**13 33 31.9**	**-1.1**
	0.4nm,0.4s,baz=33,slow=5.7,SNR=2.5						
ASAR	**Alice Springs**	**88.81**	**228**	P	**P**	**13 33 49.9**	**+0.4**
	0.9nm,0.7s,baz=23,slow=4.7,SNR=20						
ASAR				pP	**pP**	**13 34 06.5**	**-1.7**
	0.4nm,0.7s,baz=27,slow=4.9,SNR=2.8						

*AUST **27** 13:30:51.9±0.5, 0°.04N×124°.09E, h100km, Error ellipse: s-maj=1.4km s-min=0.9km az=25.0*
*BJI **27** 13:30:54.5, 0°.70S×123°.89E, h214km, mB4.6/12, mb4.4/22*
*IDC **27** 13:30:54.8±2.0, 0°.00S×123°.38E, h149km±19km, mb3.8/16, mb1 4.0/19, mb1mx3.9/25, mbtmp3.9/19, Error ellipse: s-maj=18.8km s-min=9.5km az=77.0*
*ISCJB **27** 13:30:54.5±0.3, 0°.10S±0°.03×123°.50E±0°.04, h162km±3km, mb4.3/34, Error ellipse: s-maj=6.8km s-min=5.1km az=175.7*
*BKK **27** 13:30:55.9±0.5, 0°.3S±4°×12°.4E±°, h151km±4km, M4.6/17, mB4.7/3, mb4.7/17, MLv4.7/4, Mw(mB)4.0/3*
*DJA **27** 13:30:57.2±0.6, 0°.3S±5°×12°.4E±°, h126km±6km, MA 4.7/8, mb4.7/3, mB4.8/3, MLv4.8/8, Mw(mB)4.1/3*
*NEIC **27** 13:30:59.5±1.6, 0°.04S×123°.59E, h198km±16km, mb4.6/10, Error ellipse: s-maj=17.4km s-min=8.2km az=66.0*
ISC 27 13:30:55.4±0.6, 0°.14S±0°.04×123°.49E±0°.05, h156km±5km, n97, σ1s45/119, mb4.4/34, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.86**	**34**	P	**Pn**	**13 31 19.1**	**-0.5**
KMSI				S	**Sn**	**13 31 38.1**	**-0.1**
GTOI	**Gorontalo**	**0.91**	**328**	P	**Pn**	**13 31 20.4**	**+0.4**
GTOI				S	**Sn**	**13 31 38.8**	**-0.1**
LUWI	**Luwuk**	**1.15**	**219**	P	**Pn**	**13 31 20.6**	**-1.4**
LUWI				S	**Sn**	**13 31 39.8**	**-2.6**
LUWI	**Luwuk**	**1.15**	**219**	P	**Pn**	**13 31 20.2**	**-1.8**
	baz=1.7,SNR=511						
LUWI				S	**Sn**	**13 31 39.5**	**-2.9**
	baz=1.7,SNR=13						
MNI	**Manado**	**2.07**	**40**	P	**Pn**	**13 31 31.8**	**+0.1**
SKSI	**Soroako, Sulaw**	**3.21**	**222**	P	**Pn**	**13 31 45.6**	**0.0**
SKSI				S	**Sn**	**13 32 22.8**	**-1.8**
SPSI	**Sidrap Palu**	**5.32**	**224**	P	**Pn**	**13 32 13.6**	**+0.5**
	95nm,0.8s,2µm0.6nm						
BBSI	**Bau Bau**	**5.39**	**190**	P	Pn	13 32 21.5	+7.4
AAI	**Ambon**	**5.87**	**127**	P	Pn	13 32 26.1	+5.7
	baz=5.5,SNR=3.7						
KAPI	**Kappang**	**6.11**	**218**	*e*P	**Pn**	**13 32 22.5**	**-1.2**
	38nm,0.5s						
KAPI				S	**Sn**	**13 33 32.9**	**0.0**
KAPI	**Kappang**	**6.11**	**218**	P	**Pn**	**13 32 23.3**	**-0.3**
	8.0nm,0.3s,baz=29,slow=13,SNR=11						
KAPI				S	**Sn**	**13 33 32.9**	**0.0**
	7.1nm,0.3s,baz=252,slow=20,SNR=7.3						
BKSI	**Bulukumba**	**6.15**	**213**	P	**Pn**	**13 32 24.8**	**+0.7**
	46nm,1.1s,560nm0.2nm						
BSSI	**Bau Bau, Buton**	**6.67**	**207**	P	**Pn**	**13 32 32.5**	**+1.4**
TSM	**Tawau**	**7.14**	**308**	P	**Pn**	**13 32 37.9**	**+0.6**
MYLDM	**Lahad Datu**	**7.27**	**317**	P	**Pn**	**13 32 40.6**	**+1.5**
MYLDM	**Lahad Datu**	**7.27**	**317**	P	Pn	13 32 43.4	+4.3
SDKM	**Sandakan**	**8.52**	**313**	P	**Pn**	**13 32 58.0**	**+2.2**
FAKI	**Fak Fak**	**9.18**	**108**	S	**Sn**	**13 34 44.3**	**-2.1**
	baz=8.7,SNR=4.4						
KKM	**Kota Kinabalu**	**9.52**	**310**	*e*P	Pn	13 33 13.4	+4.3
	34nm,0.5s						
KKM	**Kota Kinabalu**	**9.52**	**310**	P	Pn	13 33 12.4	+3.3
KKM	**Kota Kinabalu**	**9.52**	**310**	P	Pn	13 33 13.7	+4.6
	baz=9.9,SNR=12						
BATI	**Baumata**	**10.00**	**179**	P	Pn	13 33 18.6	+3.3
BATI	**Baumata**	**10.00**	**179**	P	Pn	13 33 18.6	+3.3
	3.6nm,0.3s,baz=59,slow=5.5,SNR=9.8						
KSM	**Kuching**	**13.28**	**277**	*e*P	**P**	**13 34 04.3**	**+2.1**
	12nm,0.6s						
KSM	**Kuching**	**13.28**	**277**	P	**P**	**13 34 03.9**	**+1.7**
KSM	**Kuching**	**13.28**	**277**	P	**P**	**13 34 04.5**	**+2.3**
	baz=14,SNR=8.1						
MTN	**Manton Dam**	**14.72**	**149**	P	**P**	**13 34 17.7**	**-0.4**
	baz=15,SNR=11						
KDU	**Kakadu**	**15.32**	**145**	P	**P**	**13 34 24.4**	**-0.4**
	baz=15,SNR=5.9						
KNRA	**Kununurra**	**16.29**	**162**	P	**P**	**13 34 37.3**	**+1.8**
	baz=16,SNR=36						
FITZ	**Fitzroy Crossi**	**17.97**	**173**	*e*P	**Pn**	**13 34 55.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**17.97**	**173**	P	**P**	**13 34 54.9**	**+0.9**
	2.7nm,0.3s,baz=3.1,slow=9.1,SNR=57						
FITZ	**Fitzroy Crossi**	**17.97**	**173**	P	**Pn**	**13 34 55.2**	**-0.3**
	baz=18,SNR=12						
WRAB	**Tennant Creek**	**22.36**	**152**	*e*P	**P**	**13 35 41.1**	**+0.4**
	8.3nm,0.6s						
WRA	**Warramunga Arr**	**22.36**	**152**	P	**P**	**13 35 41.4**	**+0.6**
WRA	**Warramunga Arr**	**22.36**	**152**	P	**P**	**13 35 41.4**	**+0.6**
	8.7nm,0.7s,baz=330,slow=10,SNR=34						
IPM	**Ipoh**	**22.91**	**282**	*e*P	**P**	**13 35 47.0**	**+1.0**
IPM	**Ipoh**	**22.91**	**282**	P	**P**	**13 35 47.1**	**+1.1

CHTO	Chiang Mai	30.59	309	P		P		13 36 56.3	+1.5
	26nm,0.9s								
GYA	Guiyang	31.02	330	*e*P		P		13 37 00.3	+1.7
GYA				pP		pP		13 37 44.8	+13
GYA				sP		sP		13 38 09.5	+20
GYA				PP		PP		13 38 13.0	+1.1
GYA				PcP		PcP		13 39 50.3	-0.6
GYA				S		S		13 41 49.0	-3.3
GYA				ScP		ScP		13 43 07.0	-12
GYA				PcS		PcS		13 43 32.0	-3.3
GYA				ScS		ScS		13 47 06.5	-10
GYA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
NJ2	Nanjing	32.32	353	*e*P		P		13 37 09.5	-0.2
NJ2				pmax		pmax			
	comp=Z,20nm,0.6s								
ENH	Enshi	33.06	337	*e*P		P		13 37 16.4	+0.1
	comp=Z,7.4nm,0.9s								
PATS	Pohnpei	35.42	78	S		S		13 42 40.3	-20
	baz=35,SNR=3.4								
STKA	Stephens Creek	35.91	153	P		P		13 37 42.2	+1.5
STKA				PcP		PcP		13 40 05.4	+1.0
STKA	Stephens Creek	35.91	153	P		P		13 37 42.2	+1.5
	comp=Z,1.2nm,0.4s,baz=325,slow=12,SNR=7.8								
STKA				PcP		PcP		13 40 05.4	+1.0
	comp=Z,2.2nm,0.5s,baz=338,slow=5.7,SNR=4.9								
STKA	Stephens Creek	35.91	153	P		P		13 37 42.6	+1.9
	baz=36,SNR=6.8								
KSAR	Wonju Array Be	37.62	6	P		P		13 37 55.5	+0.5
KSAR				PcP		PcP		13 40 09.6	+0.1
KSRS	Korea Array	37.63	6	P		P		13 37 55.5	+0.4
	comp=Z,1.1nm,0.9s,baz=180,slow=9.6,SNR=7.3								
KSRS				PcP		PcP		13 40 09.6	+0.1
	comp=Z,1.0nm,0.6s,baz=173,slow=3.9,SNR=4.4								
MJAR	Matsushiro Arr	38.97	19	P		P		13 38 04.7	-1.8
MJAR	Matsushiro Arr	38.97	19	P		P		13 38 04.7	-1.8
	comp=Z,2.0nm,0.7s,baz=192,slow=8.9,SNR=8.2								
LZH	Lanzhou	40.41	335	P		P		13 38 21.8	+3.2
LZH				pP		pP		13 39 06.0	+13
LZH				sP		sP		13 39 29.5	+19
LZH				PP		PnPn		13 40 02.0	+1.7
LZH				pmax		pmax			
	comp=Z,21nm,1.4s								
LZH				pmax		pmax			
	comp=Z,66nm,5.3s								
HHC	Hu-ho-hao-te	42.22	347	*e*P		P		13 38 33.8	+0.7
HHC				pP		pP		13 39 19.8	+12
HHC				sP		sP		13 39 47.8	+23
HHC				PP		PP		13 40 17.0	+2.8
HHC				S		S		13 44 34.0	-7.8
HHC				sS		sS		13 45 58.5	+17
HHC				pmax		pmax			
	comp=Z,24nm,0.9s								
HHC				pmax		pmax			
	comp=Z,140nm,4.6s								
LSA	Lhasa	42.79	317	*e*P		P		13 38 39.1	+0.8
	comp=Z,6.4nm,0.6s								
CN2	Changchun	43.79	2	*e*P		P		13 38 45.8	+0.3
CN2				*e*sP		sP		13 39 53.0	+15
USRK	Ussuriysk Arra	44.80	9	P		P		13 38 52.7	-0.9
	comp=Z,1.2nm,0.5s,baz=195,slow=5.8,SNR=10								
MDJ	Mudanjiang	44.90	6	P		P		13 38 54.0	-0.3
MDJ				pmax		pmax			
	comp=Z,5.0nm,0.8s								
MDJ				pmax		pmax			
	comp=Z,110nm,11.3s								
GTA	Gaotai	44.94	334	P		P		13 38 55.5	+0.6
GTA				pP		pP		13 39 37.3	+7.7
GTA				PcP		PcP		13 40 34.5	+0.9
GTA				S		S		13 45 19.0	-2.4
GTA				SS		ScS		13 48 38.5	+2.5
GTA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
GTA				pmax		pmax			
	comp=Z,65nm,5.2s								
GTA				LR		LR			
	comp=N,63nm,15.9s								
GTA				LR		LR			
	comp=E,110nm,15.7s								
GTA				LR		LR			
	comp=Z,120nm,17.1s								
ASAJ	Asahikawa	47.24	19	P		P		13 39 12.3	-0.4
ASAJ	Asahikawa	47.24	19	P		P		13 39 12.3	-0.4
	comp=Z,2.4nm,0.5s,baz=188,slow=7.1,SNR=5.3								
ULN	Ulaanbaatar	49.91	346	*e*P		P		13 39 31.6	-1.6
	comp=Z,3.3nm,0.7s								
SONM	Songino Array	50.05	345	P		P		13 39 33.2	-1.1
SONM				PcP		PcP		13 40 51.1	-0.6
SONM	Songino Array	50.05	345	P		P		13 39 33.2	-1.1
	comp=Z,4.1nm,0.7s,baz=160,slow=8.5,SNR=12								
SONM				PcP		PcP		13 40 51.1	-0.6
	comp=Z,1.6nm,0.7s,baz=160,slow=4.7,SNR=3.9								
WMQ	Urumqi	54.17	329	P		P		13 40 05.3	+0.6
WMQ				pP		pP		13 40 51.3	+11
WMQ				sP		sP		13 41 14.0	+16
WMQ				LR		LR			
	comp=Z,47nm,19.2s								
MKAR	Makanchi Array	58.99	328	P		P		13 40 37.4	-1.2
MKAR				PcP		PcP		13 41 24.9	-1.1
MKAR	Makanchi Array	58.99	328	P		P		13 40 37.4	-1.2
	comp=Z,3.5nm,0.5s,baz=122,slow=8.3,SNR=39								
MKAR				PcP		PcP		13 41 24.9	-1.1
	comp=Z,1.9nm,0.5s,baz=151,slow=3.0,SNR=9.9								
PETK	Petropavlovsk-	60.22	23	P		P		13 40 47.2	+0.3
PETK				PcP		PcP		13 41 29.3	-1.4
PETK	Petropavlovsk-	60.22	23	P		P		13 40 47.2	+0.3
	comp=Z,4.4nm,0.7s,baz=193,slow=5.9,SNR=19								
PETK				PcP		PcP		13 41 29.3	-1.4
	comp=Z,2.8nm,1.0s,baz=209,slow=5.4,SNR=4.2								
ZALV	Zalesovo Beam	62.65	335	P		P		13 41 00.7	-2.5
ZALV	Zalesovo Beam	62.65	335	P		P		13 41 00.7	-2.5
	comp=Z,1.5nm,0.5s,baz=132,slow=5.0,SNR=11								
ABKAR	Akbulak array	73.15	322	*e*P		P		13 42 06.8	-2.0
VNDA	Vanda	80.04	172	P		P		13 42 48.0	+1.0
VNDA	Vanda	80.04	172	P		P		13 42 48.0	+1.0
	comp=Z,1.3nm,0.7s,baz=319,slow=7.4,SNR=7.7								
ILAR	Eielson Array	89.97	25	P		P		13 43 35.1	-1.7
ILAR	Eielson Array	89.97	25	P		P		13 43 35.1	-1.7
	comp=Z,0.6nm,0.6s,baz=264,slow=4.1,SNR=13								
ARCES	ARCESS Array B	92.94	340	P		P		13 43 48.1	-2.3
ARCES	ARCESS Array B	92.94	340	P		P		13 43 48.1	-2.3
	comp=Z,2.3nm,0.8s,baz=89,slow=5.6,SNR=8.7								
FINES	FINESS Array B	93.68	331	P		P		13 43 51.5	-2.5
FINES	FINESS Array B	93.68	331	P		P		13 43 51.5	-2.5
	comp=Z,0.6nm,0.5s,baz=64,slow=3.2,SNR=4.5								
LSZ	Lusaka	95.08	255	*e*P		P		13 44 00.2	-1.4
	comp=Z,6.0nm,0.8s								
TORD	Torodi Ar. Bea	120.92	285	PKP		PKPdf		13 49 29.5	-0.8
TORD	Torodi Ar. Bea	120.92	285	PKP		PKPdf		13 49 29.5	-0.8
	comp=Z,1.5nm,0.7s,baz=74,slow=1.7,SNR=10								
SCHQ	Schefferville	124.83	7	PKP		PKPdf		13 49 36.2	-0.5
SCHQ	Schefferville	124.83	7	PKP		PKPdf		13 49 36.2	-0.5
	comp=Z,4.0nm,0.7s,baz=360,slow=3.5,SNR=9.2								
TXAR	Lajitas Array	126.51	53	PKP		PKPdf		13 49 42.0	+1.2
TXAR	Lajitas Array	126.51	53	PKP		PKPdf		13 49 42.0	+1.2
	comp=Z,0.2nm,0.6s,baz=252,slow=0.9,SNR=4.4								
LPAZ	La Paz	160.05	145	PKP		PKPdf		13 50 39.6	+1.8
LPAZ				PKPab		PKPab		13 51 20.4	+2.2
LPAZ	La Paz	160.05	145	PKP		PKPdf		13 50 39.6	+1.8
	comp=Z,0.4nm,0.4s,baz=228,slow=4.6,SNR=3.8								
LPAZ				PKPab		PKPab		13 51 20.4	+2.2
	comp=Z,0.9nm,0.7s,baz=158,slow=8.0,SNR=4.2								

NSSC ***27*** *13:39:25.6±1.4,30°.21N×35°.35E,h187km±108km,MD1.7, ML2.3*

ISCJB ***27*** *13:39:39.2±0.7,31°.03N±0°.06×35°.20E±0°.07,h8km, Error ellipse: s-maj=10.7km s-min=5.2km az=137.2*

CSEM ***27*** *13:39:39.9±0.2,30°.98N×35°.14E,h2km,ML3.3, Error ellipse: s-maj=5.1km s-min=3.9km az=142.0*

HLW ***27*** *13:39:41.9,31°.05N×35°.17E,h22km±12km,Md3.6,Ml3.3*

ISC 27 13:39:39.6±1.1,31°.07N±0°.05×35°.16E±0°.06,h8km,n21, σ1s03/26,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSH		1.24	265	S	Sb	13 40 19.4	+0.1
	baz=267						
RSH		1.24	265	P	Pn	13 40 03.3	+0.2
RSH				S	Sb	13 40 19.4	+0.1
HNKL	Nakhl	1.53	222	P	Pn	13 40 06.5	-0.7
	baz=223						
HNKL				S	Sn	13 40 26.4	-0.8
	baz=223						
HNKL	Nakhl	1.53	222	P	Pn	13 40 06.5	-0.7
HNKL				S	Sn	13 40 26.4	-0.8
AMAG	Maghara	1.73	256	P	Pn	13 40 10.7	+0.7
	baz=258						
AMAG	Maghara	1.73	256	P	Pn	13 40 10.7	+0.7
TCHB	Talchebab	1.73	23	AML	AML	13 40 33.8	
	comp=E,81nm,0.8s						
HBST	Basata	1.89	191	AMP		13 40 00.0	
	comp=N,300μm,0.3s,logA/T=6.0,baz=192						
SALA	Sala	2.11	39	*i* P	Pn	13 40 13.6	-1.8
SALA				*e*S	Sb	13 40 46.5	+1.8
SALA				AML	AML	13 40 55.9	
	comp=N,21nm,0.3s						
SALA				AML	AML	13 41 04.6	
	comp=E,2.7nm,0.4s						
SALA	Sala	2.11	39	*i* P	Pn	13 40 13.6	-1.8
	SNR=119						
SALA				*e*S	Sb	13 40 46.5	+1.8
	comp=E,2.7nm,0.4s,SNR=119						
SUZ		2.35	239	P	Pn	13 40 18.5	0.0
	baz=240						
SUZ		2.35	239	P	Pn	13 40 18.5	0.0
HDHB	Dhahab	2.39	191	P	Pn	13 40 18.9	-0.1
	baz=192						
HDHB	Dhahab	2.39	191	P	Pn	13 40 18.9	-0.1
BRBR	Barbar	2.43	16	*i* P	Pn	13 40 18.8	-0.9
BRBR				*e*S	Sg	13 40 56.8	-0.8
BRBR				AML	AML	13 41 01.9	
	comp=N,20nm,0.4s						
BRBR				AML	AML	13 41 05.5	
	comp=E,28nm,0.3s						
BRBR	Barbar	2.43	16	*i* P	Pn	13 40 18.8	-0.9
	SNR=115						
BRBR				*e*S	Sg	13 40 56.8	-0.8
	comp=E,28nm,0.3s,SNR=115						
ZALF	Zalf	2.61	45	*i* P	Pn	13 40 17.3	-4.8
ZALF				*e*S	Sn	13 40 56.4	+2.3
HKAT	Jabal Katrina	2.74	202	P	Pn	13 40 24.0	0.0
	baz=203						
HKAT	Jabal Katrina	2.74	202	P	Pn	13 40 24.0	0.0
TR2		2.96	205	P	Pn	13 40 26.7	-0.1
	baz=206						
TR2		2.96	205	P	Pn	13 40 26.7	-0.1

JMA 27 13:55:00.8±0.8,46°.31N×152°.48E,h30km,M4.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	Nemuro 2	5.62	241	P	Pn	13 56 21.5	-0.8
NEM2				*e*S	Sn	13 57 21.1	-4.7
JRA	Rausu	5.72	248	P	Pn	13 56 26.0	+2.4
JNK	Nakash	6.14	246	P	Pn	13 56 30.5	+1.0
JNK				*e*S	Sn	13 57 37.4	-1.3
JAK	Akkeshi	6.46	242	P	Pn	13 56 33.0	-0.8
JAK				*e*S	Sn	13 57 41.9	-4.6
JTKR	Abashiri--Toko	6.50	252	P	Pn	13 56 36.8	+2.5
JMP	Maruseppu	6.85	254	P	Pn	13 56 42.2	+3.0
JAR	Ashorobuto	6.89	247	P	Pn	13 56 41.3	+1.6
JCH	Churui	7.50	244	P	Pn	13 56 48.5	+0.5
JCH				*e*S	Sn	13 58 06.4	-5.5
JEM	Erimo	7.96	241	P	Pn	13 56 54.7	+0.4
JEM				*e*S	Sn	13 58 17.9	-5.4
JNBK	Urakawa-nobuka	8.06	243	P	Pn	13 56 55.4	-0.3
JNBK				*e*S	Sn	13 58 20.4	-5.3
JKB	Kayabe	9.35	246	P	Pn	13 57 13.1	-0.2
JKB				*e*S	Sn	13 58 50.1	-7.2
JANG	Nango	9.95	237	P	Pn	13 57 19.1	-2.5
JANG				*e*S	Sn	13 59 00.2	-12
JOSM	Okushiri--Mats	10.25	250	P	Pn	13 57 26.0	+0.3

IDC 27 13:57:09.7±2.3,10°.31N×94°.45E,h0km,mb3.6/3, mb1 3.7/4,mb1mx3.4/26,mbtmp3.6/4,ML4.3/1,MS3.3/1, Ms1 3.3/1,ms1mx2.4/31,Error ellipse: s-maj=81.9km s-min=29.7km az=66.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	8.68	149	LR	LR	14 02 25.0	
	comp=Z,175nm,18.6s,baz=269,slow=36						
CMAR	Chiang Mai Arr	9.20	28	Pn	Pn	13 59 24.1	+0.3
	0.8nm,0.3s,baz=232,slow=14,SNR=4.6						
MKAR	Makanchi Array	37.80	346	P	P	14 04 27.9	0.0
	0.8nm,0.8s,baz=161,slow=9.2,SNR=4.7						
ZALV	Zalesovo Beam	44.20	352	P	P	14 05 20.1	-0.3
	1.1nm,0.8s,baz=170,slow=9.5,SNR=4.7						
ASAR	Alice Springs	51.26	132	P	P	14 06 15.7	-0.1
	0.4nm,0.8s,baz=323,slow=7.5,SNR=4.1						

IDC 27 14:10:53.1±1.2,12°.23N×92°.44E,h0km,mb3.9/8, mb1 4.0/9,mb1mx3.8/27,mbtmp3.9/9,ML3.9/1,MS3.2/2, Ms1 3.2/2,ms1mx2.6/32,Error ellipse: s-maj=44.3km s-min=17.3km az=63.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	8.81	45	Pn	Pn	14 13 02.6	+0.7
	0.3nm,0.3s,baz=235,slow=15,SNR=7.4						
CMAR				Sn	Sn	14 14 53.8	+12
	0.2nm,0.3s,baz=238,slow=31,SNR=4.7						
MKAR	Makanchi Array	35.50	348	P	P	14 17 51.6	0.0
	1.0nm,0.8s,baz=166,slow=8.9,SNR=6.5						
KURBB	Kurchatov Arra	39.94	346	P	P	14 18 28.9	-0.1
	1.1nm,0.6s,baz=162,slow=7.8,SNR=10.0						
KSRS	Korea Array	40.45	45	P	P	14 18 32.8	-0.7
	0.3nm,0.5s,baz=246,slow=9.2,SNR=3.6						
KSRS				LR	LR	14 38 26.8	
	comp=Z,37nm,19.2s,baz=235,slow=41						
ZALV	Zalesovo Beam	42.05	353	P	P	14 18 46.2	-0.2
	0.8nm,0.3s,baz=171,slow=10,SNR=4.1						
USRK	Ussuriysk Arra	46.50	39	LR	LR	14 40 50.1	
	comp=Z,23nm,20.3s,baz=144,slow=39						
WRA	Warramunga Arr	52.18	127	P	P	14 20 05.8	-0.2
	1.4nm,0.5s,baz=305,slow=8.2,SNR=7.6						
ASAR	Alice Springs	54.01	131	P	P	14 20 19.2	-0.2
	1.2nm,0.4s,baz=310,slow=6.7,SNR=53						
STKA	Stephens Creek	64.32	134	P	P	14 21 31.0	+0.2
	0.9nm,0.4s,baz=337,slow=5.2,SNR=8.3						
ARCES	ARCESS Array B	70.63	340	P	P	14 22 10.2	+0.1
	1.8nm,0.8s,baz=75,slow=6.8,SNR=5.3						

IDC 27 14:11:21.6±8.5,4°.94S×150°.62E,h95km±59km,mb3.1/2, mb1 3.4/3,mb1mx3.0/18,mbtmp3.2/3,ML2.5/1,Error ellipse: s-maj=137.0km s-min=56.4km az=119.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.61	217	P	Pn	14 12 41.6	-1.1
	0.9nm,0.3s,baz=34,slow=15,SNR=3.8						
PMG				S	Sn	14 13 46.5	+0.7
	0.8nm,0.3s,baz=276,slow=18,SNR=2.8						
WRA	Warramunga Arr	21.76	225	P	P	14 16 07.6	+1.8
	1.2nm,0.9s,baz=48,slow=10,SNR=2.4						
ASAR	Alice Springs	24.62	219	P	P	14 16 32.6	-0.8
	1.1nm,0.7s,baz=57,slow=8.5,SNR=15						
TORD	Torodi Ar. Bea	148.27	287	PKPbc	PKPbc	14 30 57.2	-0.7
	0.6nm,0.6s,baz=72,slow=2.9,SNR=3.8						

ISCJB ***27*** *14:17:55.7±2.1,36°.01N±0°.05×27°.15E±0°.06,h2km±14km, Error ellipse: s-maj=9.4km s-min=5.7km az=135.1*

ATH ***27*** *14:17:56.6,36°.01N×27°.23E,h26km,MD3.1/6*

CSEM ***27*** *14:17:57.3±0.3,36°.00N×27°.15E,h5km,MD3.1, Error ellipse: s-maj=9.2km s-min=5.7km az=126.0*

DDA ***27*** *14:17:59.8,36°.12N×27°.51E,h7km,MD2.9*

ISC 27 14:17:57.3±1.1,36°.01N±0°.03×27°.20E±0°.04,h16km±9km, n17,σ0s75/27,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	Karpathos	0.46	184	*e*PB	Pg	14 18 06.3	-0.2
KARP				*e*SB	Sg	14 18 13.5	+0.7
KARP	Karpathos	0.46	184	*e*Pb	Pg	14 18 06.3	-0.2
KARP				*e*Sb	Sg	14 18 13.5	+0.7
NIS1	Nisyros Isl.	0.60	358	*e*PN	Pg	14 18 08.7	-0.4
NIS1	Nisyros Isl.	0.60	358	*e*Pn	Pg	14 18 08.7	-0.4
ARG	Arkhangelos	0.78	74	*e*Pn	Pg	14 18 11.8	-0.7
ARG				*e*SN	Sb	14 18 22.4	-0.3
TURN	Turunc	1.42	52	*i* P	Pn	14 18 18.0	-4.5
TURN				*i* S	Sn	14 18 33.1	-7.8
NPS	Neapolis	1.49	241	*e*PN	Pn	14 18 23.7	+0.2
NPS				*e*SN	Sn	14 18 42.5	-0.2
NPS	Neapolis	1.49	241	*e*Pn	Pn	14 18 23.7	+0.2
NPS				*e*Sn	Sn	14 18 42.5	-0.2
LAST	Lasithi	1.64	240	*e*PN	Pn	14 18 26.0	+0.4
LAST	Lasithi	1.64	240	*e*Pn	Pn	14 18 26.0	+0.4
AYDN	Tasoluk	1.74	18	*i* P	Pg	14 18 30.1	-0.7
AYDN				*i* S	Sb	14 18 50.7	+0.1
AYDN	Tasoluk	1.74	18	*i* P	Pg	14 18 30.1	-0.7
AYDN				*i* S	Sb	14 18 50.7	+0.1
AKAS	Kas	1.96	83	*i* P	Pb	14 18 32.0	-0.7
AKAS				*i* S	Sb	14 18 55.8	-1.1
AKAS	Kas	1.96	83	*i* P	Pb	14 18 32.0	-0.7
AKAS				*i* S	Sb	14 18 55.8	-1.1
IDI	Anoyia	2.02	250	*e*PB	Pn	14 18 31.5	+0.8
GOLH	Golhisar	2.26	56	*i* P	Pn	14 18 35.6	+1.5
GOLH				*i* S	Sb	14 19 06.4	+0.8
GOLH	Golhisar	2.26	56	*i* P	Pn	14 18 35.6	+1.5
GOLH				*i* S	Sb	14 19 06.4	+0.8

WEL 27 15:02:56.2±0.2,45°.73S×166°.41E,h20km±1km,ML3.7/15, 1C-1D,Error ellipse: s-maj=2.7km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	Puysegur Point	0.47	157	P*	Pb	15 03 05.1	-0.8
PYZ				S*	Sb	15 03 10.5	-2.0
DCZ	Deep Cove	0.58	64	P*	Pb	15 03 07.1	-0.7
DCZ				S*	Sb	15 03 14.2	-1.4
DCZ				AML	AML	15 03 15.2	
DCZ				AML	AML	15 03 15.5	
DCZ				AML	AML	15 03 15.5	
WHZ	Wether Hill Ro	1.09	99	PN	Pn	15 03 15.5	-0.9
WHZ				SN	Sn	15 03 30.7	-0.1
WHZ				AML	AML	15 03 35.9	
MLZ	Mavora Lakes	1.30	73	⇓PN	Pn	15 03 18.5	-0.8
MLZ				SN	Sn	15 03 34.6	-1.5
MLZ				AML	AML	15 03 41.5	
MSZ	Milford Sound	1.51	46	PN	Pn	15 03 21.6	-0.5
MSZ				AML	AML	15 03 49.4	
MSZ				AML	AML	15 03 49.4	
MSZ				AML	AML	15 03 50.8	
MSZ				AML	AML	15 03 50.8	
APZ	The Paps	1.55	136	PN	Pn	15 03 22.5	-0.3
WKZ	Wanaka	2.05	65	PN	Pb	15 03 31.7	-1.2
WKZ				AML	AML	15 04 00.6	
WKZ				AML	AML	15 04 00.6	
WKZ				AML	AML	15 04 00.8	
WKZ				AML	AML	15 04 04.2	
SYZ	Scrubby Hill	2.06	114	PN	Pn	15 03 31.0	+1.4
EAZ	Earnscleugh	2.10	77	PN	Pb	15 03 32.5	-1.1
EAZ				AML	AML	15 03 59.5	
EAZ				AML	AML	15 04 00.2	
EAZ				AML	AML	15 04 00.3	
EAZ				AML	AML	15 04 00.9	
TUZ	Tuapeka	2.26	97	PN	Pn	15 03 34.2	+1.8
TUZ				AML	AML	15 04 05.5	
TUZ				AML	AML	15 04 05.8	
JCZ	Jackson Bay	2.35	46	AML	AML	15 04 16.1	
JCZ				AML	AML	15 04 17.2	
HHSZ	Highcliff Hill	2.93	94	PN	Pn	15 03 44.5	+2.8
LBZ	Lake Benmore	3.00	65	⇑PN	Pn	15 03 44.9	+2.3
ODZ	Otahua Downs	3.06	79	PN	Pn	15 03 44.6	+1.2
RPZ	Rata Peaks	3.88	60	AML	AML	15 04 54.5	

WEL 27 15:05:04.7±0.3,44°.37S×168°.03E,h5km,ML4.1/13,4C-1D, Error ellipse: s-maj=3.7km s-min=2.1km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	Milford Sound	0.31	194	AML	AML	15 05 15.6	
MSZ				AML	AML	15 05 15.7	
JCZ	Jackson Bay	0.60	61	P*	Pg	15 05 16.8	+0.4
JCZ				SG	Sg	15 05 25.3	+0.9
JCZ				AML	AML	15 05 27.8	
JCZ				AML	AML	15 05 31.9	
MLZ	Mavora Lakes	0.98	174	P*	Pg	15 05 23.5	-0.1
MLZ				S*	Sg	15 05 36.6	+0.2
MLZ				AML	AML	15 05 46.1	
EAZ	Earnscleugh	1.25	134	AML	AML	15 05 47.6	
EAZ				AML	AML	15 05 48.6	
DCZ	Deep Cove	1.27	209	P*	Pg	15 05 27.4	-1.6
DCZ				S*	Sg	15 05 44.7	-0.8
DCZ				AML	AML	15 05 45.2	
DCZ				AML	AML	15 05 45.2	
DCZ				AML	AML	15 05 45.4	
FOZ	Fox Glacier	1.45	57	⇑PN	Pb	15 05 32.1	+0.1
FOZ				AML	AML	15 05 54.8	
FOZ				AML	AML	15 05 58.3	
FOZ				AML	AML	15 05 59.1	
FOZ				AML	AML	15 05 59.1	
WHZ	Wether Hill Ro	1.52	182	PN	Pn	15 05 32.3	-0.3
WHZ				SN	Sn	15 05 52.0	-0.8
WHZ				AML	AML	15 05 54.0	
LBZ	Lake Benmore	1.54	91	⇑PN	Pb	15 05 33.8	0.0
LBZ				AML	AML	15 05 53.6	
LBZ				AML	AML	15 05 53.6	
LBZ				AML	AML	15 05 54.8	
LBZ				AML	AML	15 05 54.8	
TUZ	Tuapeka	1.95	145	⇓PN	Pn	15 05 38.9	+0.5
TUZ				AML	AML	15 06 05.2	
TUZ				AML	AML	15 06 07.6	
ODZ	Otahua Downs	1.98	111	AML	AML	15 06 10.7	
RPZ	Rata Peaks	2.28	74	PN	Pn	15 05 43.8	+0.8
RPZ				AML	AML	15 06 18.6	
RPZ				AML	AML	15 06 19.2	
SYZ	Scrubby Hill	2.30	161	PN	Pn	15 05 43.5	+0.2
HHSZ	Highcliff Hill	2.36	131	PN	Pn	15 05 44.7	+0.6
APZ	The Paps	2.46	181	⇑PN	Pn	15 05 46.6	+1.1
OXZ	Oxford	3.08	72	PN	Pn	15 05 53.1	-0.9
CRLZ	Canterbury Las	3.41	78	PN	Pn	15 05 58.2	-0.3
LTZ	Lake Taylor	3.47	64	PN	Pn	15 05 58.7	-0.7
DSZ	Denniston Nort	3.81	48	⇑PN	Pn	15 06 03

CMAR	**Chiang Mai Arr**	**7.81**	**151**	P		**Pn**	**15**	**24**	**48.2**	**+0.3**
	0.5nm,0.3s,baz=326,slow=13,SNR=34									
MKAR	**Makanchi Array**	**23.65**	**338**	P		**P**	**15**	**28**	**01.5**	**+0.9**
	0.8nm,0.5s,baz=149,slow=9.0,SNR=13									
SONM	**Songino Array**	**24.17**	**19**	P		**P**	**15**	**28**	**05.4**	**0.0**
	0.7nm,0.5s,baz=202,slow=9.0,SNR=5.6									
KURBB	**Kurchatov Arra**	**28.21**	**338**	P		**P**	**15**	**28**	**42.5**	**+0.9**
	0.3nm,0.2s,baz=149,slow=10.0,SNR=2.1									
ZALV	**Zalesovo Beam**	**29.53**	**348**	P		**P**	**15**	**28**	**54.9**	**+1.6**
	0.3nm,0.3s,baz=167,slow=8.9,SNR=2.9									
WRA	**Warramunga Arr**	**59.11**	**136**	P		**P**	**15**	**32**	**46.6**	**-2.3**
	1.0nm,0.7s,baz=325,slow=7.2,SNR=2.8									
ASAR	**Alice Springs**	**61.63**	**139**	P		**P**	**15**	**33**	**04.2**	**-1.9**
	0.5nm,0.6s,baz=322,slow=7.3,SNR=10									

IDC 27 15:24:23.2±1.7, 10°40'N×94°70'E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/27, mbtmp3.6/7, ML3.2/1, MS3.5/3, Ms1 3.5/3, ms1mx2.7/49, Error ellipse: s-maj=53.8km s-min=20.1km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
PSI	**Prapat**	**8.63**	**151**	LR		LR	15	30	00.6	
	comp=Z,158nm,18.6s,baz=316,slow=39									
CMAR	**Chiang Mai Arr**	**9.00**	**27**	Pn		Pn	15	26	35.3	+0.8
	0.1nm,0.3s,baz=217,slow=13,SNR=5.2									
AAK	**Ala-Archa**	**36.65**	**335**	LR		LR	15	47	10.1	
	comp=Z,47nm,18.7s,baz=118,slow=37									
MKAR	**Makanchi Array**	**37.77**	**346**	P		P	15	31	40.4	-0.6
	0.9nm,0.9s,baz=169,slow=8.4,SNR=5.5									
KSRS	**Korea Array**	**40.22**	**42**	P		P	15	32	00.9	-0.7
	0.5nm,0.7s,baz=246,slow=10,SNR=2.6									
KURBB	**Kurchatov Arra**	**42.26**	**345**	P		P	15	32	18.1	-0.1
	0.4nm,0.5s,baz=160,slow=8.1,SNR=4.9									
ZALV	**Zalesovo Beam**	**44.15**	**352**	P		P	15	32	33.8	+0.4
	1.0nm,0.8s,baz=186,slow=7.2,SNR=5.8									
WRA	**Warramunga Arr**	**49.31**	**128**	P		P	15	33	14.2	-0.2
	1.6nm,0.8s,baz=301,slow=8.8,SNR=3.6									
ASAR	**Alice Springs**	**51.14**	**132**	P		P	15	33	28.3	0.0
	1.1nm,0.7s,baz=310,slow=6.8,SNR=12									
TORD	**Torodi Ar. Bea**	**90.56**	**283**	LR		LR	16	15	11.2	
	comp=Z,57nm,18.7s,baz=110,slow=34									

IDC 27 15:35:14.3±1.6, 20°33S×68°52W, h144km±17km, mb3.5/2, mb1 3.2/6, mb1mx3.1/20, mbtmp3.2/6, Error ellipse: s-maj=39.1km s-min=16.1km az=103.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
LVC	**Limon Verde**	**2.30**	**189**	P		Pn	15	35	54.6	+1.6
	2.3nm,0.3s,baz=13,slow=12,SNR=21									
LVC				S		Sn	15	36	22.9	0.0
	9.5nm,0.3s,baz=270,slow=20,SNR=22									
LPAZ	**La Paz**	**4.04**	**5**	P		Pn	15	36	16.0	+0.2
	0.8nm,0.3s,baz=189,slow=7.5,SNR=20									
SIV	**San Ignacio**	**8.29**	**60**	P		Pn	15	37	09.8	-1.9
	0.7nm,0.3s,baz=250,slow=14,SNR=8.2									
CPUP	**Villa Florida**	**11.88**	**122**	P		Pn	15	38	00.8	+1.5
	0.4nm,0.3s,baz=278,slow=13,SNR=4.0									
BDFB	**Brasilia**	**20.05**	**80**	P		P	15	39	37.2	+0.7
	1.7nm,0.3s,baz=247,slow=7.7,SNR=3.3									
TORD	**Torodi Ar. Bea**	**76.62**	**70**	P		P	15	46	49.5	-0.2
	0.8nm,0.5s,baz=251,slow=5.5,SNR=12									
YKA	**Yellowknife Ar**	**90.21**	**340**	pP		pP	15	48	34.0	-0.5
	0.2nm,0.4s,baz=144,slow=4.4,SNR=3.0									

IDC 27 15:49:01.6±1.6, 6°90S×130°38E, h0km, mb3.9/2, mb1 4.0/6, mb1mx3.6/21, mbtmp3.9/6, ML3.8/4, Error ellipse: s-maj=51.0km s-min=24.6km az=86.0
ISCJB 27 15:49:09.2±0.6, 7°31S±0°04×130°04E±0°06, h50km, mb3.8/2, Error ellipse: s-maj=9.0km s-min=5.6km az=173.1
AUST 27 15:49:12.3, 7°48S×130°05E, h100km

ISC 27 15:49:09.7±0.8, 7°34S±0°05×130°03E±0°08, h50km, n18, σ2s92/19, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
BNDI	**Bandanaira**	**2.81**	**357**	S		**Sn**	**15**	**50**	**25.1**	**+0.4**
	baz=3.0,SNR=3.7									
AAI	**Ambon**	**4.07**	**333**	P		**Pn**	**15**	**50**	**10.5**	**+1.1**
	baz=4.2,SNR=3.3									
FAKI	**Fak Fak**	**4.92**	**27**	P		**Pn**	**15**	**50**	**22.6**	**+1.5**
	baz=5.1,SNR=7.7									
MTN	**Manton Dam**	**5.57**	**169**	P		Pn	15	50	35.7	+5.6
	baz=5.5,SNR=11									
MTN				S		**Sn**	**15**	**51**	**37.9**	**+5.1**
	baz=5.5,SNR=9.7									
KDU	**Kakadu**	**5.83**	**156**	P		Pn	15	50	38.3	+4.8
	baz=5.7,SNR=72									
KDU				S		**Sn**	**15**	**51**	**41.9**	**+2.8**
	baz=5.7,SNR=6.9									
SOEI	**Soe**	**6.19**	**247**	P		**Pn**	**15**	**50**	**39.0**	**+0.3**
	baz=6.2,SNR=3.3									
SWI	**Sorong**	**6.55**	**11**	S		**Sn**	**15**	**51**	**53.9**	**-3.1**
	baz=6.7,SNR=3.9									
BATI	**Baumata**	**6.91**	**245**	Pn		Pn	15	50	53.1	+4.7
	3.0nm,0.3s,baz=87,slow=7.6,SNR=6.0									
BATI				Sn		**Sn**	**15**	**52**	**09.3**	**+3.5**
	2.7nm,0.3s,baz=135,slow=17,SNR=4.4									
KNRA	**Kununurra**	**8.38**	**188**	P		Pn	15	51	11.7	+3.2
	baz=8.3,SNR=53									
KNRA				S		**Sn**	**15**	**52**	**40.9**	**-0.9**
	baz=8.3,SNR=8.9									
LUWI	**Luwuk**	**9.57**	**311**	S		Sn	15	53	25.9	+15
	baz=9.7,SNR=3.6									
FITZ	**Fitzroy Crossi**	**11.52**	**201**	Pn		**Pn**	**15**	**51**	**53.3**	**+1.7**
	0.7nm,0.3s,baz=28,slow=14,SNR=37									
FITZ				Sn		**Sn**	**15**	**53**	**55.4**	**-3.4**
	1.2nm,0.3s,baz=114,slow=20,SNR=8.6									
FITZ	**Fitzroy Crossi**	**11.52**	**201**	P		**Pn**	**15**	**51**	**52.5**	**+1.0**
	baz=12,SNR=18									
FITZ				S		**Sn**	**15**	**53**	**56.7**	**-2.1**
	baz=12,SNR=4.8									
WRA	**Warramunga Arr**	**13.20**	**162**	Pn		**Pn**	**15**	**52**	**14.9**	**+0.4**
	0.5nm,0.3s,baz=343,slow=14,SNR=10									
WRA				Sn		**Sn**	**15**	**54**	**35.0**	**-4.9**
	1.8nm,0.3s,baz=340,slow=22,SNR=8.8									
ASAR	**Alice Springs**	**16.65**	**168**	Pn		**P**	**15**	**53**	**01.4**	**0.0**
	0.2nm,0.3s,baz=345,slow=9.7,SNR=22									
ASAR				Sn		**Sn**	**15**	**55**	**58.7**	**-5.1**
	0.5nm,0.3s,baz=346,slow=25,SNR=7.8									
PATS	**Pohnpei**	**31.53**	**64**	P		P	15	55	22.9	-4.5
	baz=32,SNR=3.7									
TOO	**Toolangi**	**33.20**	**157**	P		**P**	**15**	**55**	**43.4**	**+1.6**
	baz=33,SNR=8.7									
MKAR	**Makanchi Array**	**68.53**	**327**	P		P	**16**	**00**	**05.5**	**-1.6**
	0.8nm,0.5s,baz=116,slow=8.2,SNR=21									
ZALV	**Zalesovo Beam**	**71.91**	**334**	P		P	16	00	24.3	-3.1
	0.4nm,0.5s,baz=142,slow=5.3,SNR=3.0									

IDC 27 15:54:42.9±0.4, 8°96S×160°93E, h0km, mb4.9/27, mb1 4.9/27, mb1mx4.9/29, mbtmp4.8/27, MS4.3/27, Ms1 4.4/27, ms1mx4.2/34, Error ellipse: s-maj=17.2km s-min=11.7km az=107.0
MOS 27 15:54:47.3±1.3, 8°80S×160°92E, h33km, mb5.3/24, MS4.7/4, Error ellipse: s-maj=9.5km s-min=8.3km az=65.2
ISCJB 27 15:54:50.0±1.1, 8°89S±0°05×160°82E±0°05, h59km±9km, mb5.1/102, MS4.4/47, Error ellipse: s-maj=8.1km s-min=7.8km az=148.9
GCMT 27 15:54:49.3±0.3, 8°61S×161°10E, h33km±1km, MW5.0, Moment Tensor Solution. s41,c54; s58,c68; Moment tensor: Scale 10^16 Nm; Mrr 3.36±.21; Mθθ -1.77±.13; Mφφ -1.58±.14; Mrθ -2.34±.21; Mθφ 2.40±.12; Mφr 1.52±.19; Best double couple: M0 4.70000×10^16 NP1:φs 143.00000°, δ27.00000°, λ105.00000°. NP2:φs 306.00000°, δ64.00000°, λ82.00000°. Principal axes: T 4.3300, Plg70.0000°, Azm200.0000°; N 0.6600, Plg7.0000°, Azm310.0000°; P -4.9800, Plg18.0000°, Azm42.0000°; Data Used: IU II CN G IC.
NEIC 27 15:54:52.4±1.3, 8°91S×160°86E, h68km±11km, mb5.1/44 Error ellipse: s-maj=8.6km s-min=6.7km az=104.0
DJA 27 15:54:53.8±1.1, 9°S±5°×16°1E±°, h103km±12km, M5.1/27, mB5.6/7, mb5.2/27, Mw(mB)5.1/7
BKK 27 15:54:53.6±1.0, 9°S±6°×16°1E±°, h88km±9km, M5.2/25, mB5.7/10, mb5.1/25, Mw(mB)5.2/10
BJI 27 15:54:55.2, 8°19S×160°52E, h69km, mB5.1/28, mb5.1/55, Ms4.7/43, Ms7 4.4/44

ISC 27 15:54:52.2±0.4, 8°89S±0°05×160°90E±0°06, h63km±2km, h63km:pP-P, n297, σ1s54/352, mb5.1/103, 9C-3D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
HNR	**Honiara**	**1.08**	**240**	⇓*i*P		**Pn**	**15**	**55**	**09.7**	**-1.8**
HNR				Sn		**Sn**	**15**	**55**	**26.6**	**+0.8**
HNR				*e*S		**Sn**	**15**	**55**	**28.9**	**+3.1**
HNR	**Honiara**	**1.08**	**240**	Pn		**Pn**	**15**	**55**	**09.5**	**-1.9**
	691nm,0.3s,baz=173,slow=1.7,SNR=749									
HNR				Sn		**Sn**	**15**	**55**	**26.5**	**+0.8**
	3μm,0.3s,baz=68,slow=19,SNR=47									
PMG	**Port Moresby**	**13.57**	**267**	*e*P		**Pn**	**15**	**58**	**03.8**	**+1.8**
	49nm,1.4s									
PMG	**Port Moresby**	**13.57**	**267**	P		**Pn**	**15**	**58**	**04.4**	**+2.5**
	77nm,1.3s									
PMG	**Port Moresby**	**13.57**	**267**	Pn		**Pn**	**15**	**58**	**03.7**	**+1.8**
	0.3nm,0.3s,baz=10.0,slow=8.9,SNR=4.6									
PMG				LR		LR	16	01	49.9	
	comp=Z,441nm,20.4s,baz=267,slow=31									
DZM	**Mont Dzumac**	**14.15**	**158**	*e*P		**P**	**15**	**58**	**15.0**	**-0.3**
	145nm,1.2s									
DZM				*e*LR		LR	16	01	25.7	
	3μm,21.4s									
DZM	**Mont Dzumac**	**14.15**	**158**	*e*P		**Pn**	**15**	**58**	**10.8**	**+1.1**
DZM	**Mont Dzumac**	**14.15**	**158**	LR		LR	16	02	29.1	
	comp=Z,2μm,21.8s,baz=0.4,slow=33									
TARA	**Tarawa**	**15.72**	**50**	*e*P		Pn	15	58	23.0	-6.9
	291nm,0.9s									
CTA	**Charters Tower**	**18.01**	**230**	Pn		**Pn**	**15**	**59**	**01.4**	**+3.2**
CTA	**Charters Tower**	**18.01**	**230**	Pn		**Pn**	**15**	**59**	**01.4**	**+3.2**
CTAO	**Charters Tower**	**18.01**	**230**	*e*P		**Pn**	**15**	**59**	**00.3**	**+2.0**
CTAO				pmax		pmax				
	comp=Z,291nm,1.4s									
CTAO	**Charters Tower**	**18.01**	**230**	*e*P		**Pn**	**15**	**59**	**00.3**	**+2.0**
	comp=Z,291nm,1.4s									
COEN	**Coen**	**18.08**	**252**	*e*P		**Pn**	**15**	**59**	**01.0**	**+1.7**
	comp=Z,952nm,1.2s									
EIDS	**Eidsvold**	**18.86**	**208**	*e*P		**Pn**	**15**	**59**	**08.9**	**+0.4**
	comp=Z,57nm,0.9s									
JAY	**Jayapura**	**21.06**	**286**	P		**P**	**15**	**59**	**28.3**	**-3.0**
	comp=Z,159nm,1.0s,comp=Z,4μm									
ARMA	**Armidale**	**23.10**	**201**	*e*P		**P**	**15**	**59**	**51.7**	**-1.3**
	comp=Z,58nm,0.9s									
AFI	**Afiamalu**	**27.23**	**103**	LR		LR	16	09	10.9	
	comp=Z,836nm,18.6s,baz=282,slow=32									
WRAB	**Tennant Creek**	**27.91**	**244**	P		**P**	**16**	**00**	**35.0**	**-1.6**
	comp=Z,700nm,0.7s,SNR=27									
WRAB	**Tennant Creek**	**27.91**	**244**	*e*P		**P**	**16**	**00**	**35.6**	**-1.0**
WRAB	**Tennant Creek**	**27.91**	**244**	*e*P		**P**	**16**	**00**	**35.6**	**-1.0**
WRA	**Warramunga Arr**	**27.92**	**244**	P		**P**	**16**	**00**	**35.5**	**-1.2**
WRA				PcP		**PcP**	**16**	**03**	**49.7**	**-1.4**
WRA				ScP		**ScP**	**16**	**07**	**31.4**	**+4.8**
WRA				PKiKP		**PKiKP**	**16**	**11**	**25.4**	**-2.0**
WRA	**Warramunga Arr**	**27.92**	**244**	P		**P**	**16**	**00**	**35.5**	**-1.2**
	comp=Z,69nm,0.8s,baz=70,slow=9.1,SNR=108									
WRA				PcP		**PcP**	**16**	**03**	**49.7**	**-1.4**
	comp=Z,4.5nm,1.1s,baz=65,slow=2.6,SNR=4.5									
WRA				ScP		**ScP**	**16**	**07**	**31.4**	**+4.8**
	comp=Z,0.6nm,0.4s,baz=74,slow=3.4,SNR=4.6									
WRA				PKiKP		**PKiKP**	**16**	**11**	**25.4**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=356,slow=0.6,SNR=2.3									
STKA	**Stephens Creek**	**29.06**	**215**	*e*P		**P**	**16**	**00**	**46.0**	**-0.7**
	comp=Z,5.9nm,0.9s									
STKA				ScP		**ScP**	**16**	**07**	**34.5**	**+4.6**
STKA	**Stephens Creek**	**29.06**	**215**	P		**P**	**16**	**00**	**45.8**	**-0.9**
	comp=Z,20nm,0.7s,baz=19,slow=8.2,SNR=30									
STKA				ScP		**ScP**	**16**	**07**	**34.5**	**+4.6**
	comp=Z,3.6nm,0.9s,baz=345,slow=17,SNR=3.3									
STKA				LR		LR	16	12	43.8	
	comp=Z,911nm,18.8s,baz=206,slow=37									
AS31	**Alice Springs**	**29.70**	**237**	*e*P		**P**	**16**	**00**	**50.6**	**-2.0**
ASAR	**Alice Springs**	**29.70**	**237**	P		**P**	**16**	**00**	**50.9**	**-1.7**
ASAR				PcP		**PcP**	**16**	**03**	**54.4**	**-1.1**
ASAR				ScP		**ScP**	**16**	**07**	**36.8**	**+4.6**
ASAR				PKiKP		**PKiKP**	**16**	**11**	**26.9**	**-1.6**
ASAR	**Alice Springs**	**29.70**	**237**	P		**P**	**16**	**00**	**50.9**	**-1.7**
	comp=Z,41nm,0.8s,baz=66,slow=9.4,SNR=187									
ASAR				PcP		**PcP**	**16**	**03**	**54.4**	**-1.1**
	comp=Z,2.2nm,0.8s,baz=85,slow=2.4,SNR=4.4									
ASAR				ScP		**ScP**	**16**	**07**	**36.8**	**+4.6**
	comp=Z,7.3nm,0.8s,baz=65,slow=2.8,SNR=25									
ASAR				PKiKP		**PKiKP**	**16**	**11**	**26.9**	**-1.6**
	comp=Z,0.6nm,0.9s,baz=107,slow=1.0,SNR=4.1									
ASAR				LR		LR	16	12	30.8	
	comp=Z,1μm,19.2s,baz=63,slow=36									
URZ	**Urewera**	**32.69**	**156**	LR		LR	16	13	01.7	
	comp=Z,310nm,20.1s,baz=332,slow=34									
BBOO	**Buckleboo**	**33.07**	**220**	*e*P		**P**	**16**	**01**	**21.1**	**-0.9**
	comp=Z,2μm,0.8s									
FITZ	**Fitzroy Crossi**	**35.43**	**251**	*e*P		**P**	**16**	**01**	**41.0**	**-1.6**
	comp=Z,32nm,0.6s									
FITZ	**Fitzroy Crossi**	**35.43**	**251**	P		**P**	**16**	**01**	**40.5**	**-2.0**
	comp=Z,35nm,0.7s,baz=97,slow=6.3,SNR=90									
FITZ				LR		LR	16	15	30.8	
	comp=Z,472nm,19.8s,baz=72,slow=35									
RPZ	**Rata Peaks**	**35.81**	**167**	*e*P		**P**	**16**	**01**	**44.0**	**-1.5**
	comp=Z,41nm,0.9s									
RPZ	**Rata Peaks**	**35.81**	**167**	P		**P**	**16**	**01**	**43.6**	**-1.9**
	comp=Z,22nm,0.8s,baz=36,slow=1.4,SNR=5.9									
RPZ				LR		LR	16	14	48.4	
	comp=Z,329nm,19.5s,baz=168,slow=34									
SOEI	**Soe**	**36.15**	**266**	P		**P**	**16**	**01**	**49.8**	**+0.9**
	comp=Z,56nm,1.1s									
BATI	**Baumata**	**36.73**	**265**	P		**P**	**16**	**01**	**52.9**	**-0.9**
	comp=Z,80nm,0.9s									
BATI	**Baumata**	**36.73**	**265**	LR		LR	16	19	10.8	
	comp=Z,945nm,18.3s,baz=274,slow=40									
FORT	**Forrest**	**37.56**	**230**	*e*P		**P**	**16**	**01**	**58.8**	**-1.8**
	comp=Z,72nm,0.8s									
BBSI	**Bau Bau**	**38.16**	**272**	P		P	16	02	13.9	+8.0
	comp=Z,41nm,1.2s									
KKSI	**Kolaka, Sulawe**	**39.25**	**274**	P		**P**	**16**	**02**	**13.9**	**-1.1**
	comp=Z,41nm,1.1s									
SKSI	**Sorako, Sulaw**	**39.84**	**277**	P		**P**	**16**	**02**	**21.2**	**+1.2**
	comp=Z,21nm,1.1s,comp=Z,2μm									
BSSI	**Bau Bau, Buton**	**40.14**	**271**	P		**P**	**16**	**02**	**20.5**	**-1.9**
	comp=Z,62nm,1.1s									
BKSI	**Bulukumba**	**40.60**	**272**	P		**P**	**16**	**02**	**25.7**	**-0.5**
	comp=Z,15nm,0.9s									
KAPI	**Kappang**	**41.01**	**273**	P		**P**	**16**	**02**	**27.5**	**-2.0**
	comp=Z,18nm,0.8s									
KAPI	**Kappang**	**41.01**	**273**	LR		LR	16	19	40.7	
	comp=Z,207nm,21.8s,baz=108,slow=36									
MBWA	**Marble Bar**	**41.46**	**248**	*e*P		**P**	**16**	**02**	**31.4**	**-1.7**
	comp=Z,72nm,1.0s									
TSM	**Tawau**	**44.85**	**285**	P		**P**	**16**	**02**	**59.5**	**-1.1**
SDKM	**Sandakan**	**45.90**	**287**	P		**P**	**16**	**03**	**09.1**	**+0.1**
NWAO	**Narrogin (SRO)**	**46.82**	**233**	*e*P		**P**	**16**	**03**	**15.0**	**-0.9**
	comp=Z,30nm,0.8s									
NWAO	**Narrogin (SRO)**	**46.82**	**233**	P		**P**	**16**	**03**	**15.2**	**-0.8**
	comp=Z,45nm,0.7s,baz=63,slow=7.0,SNR=27									
NWAO				LR		LR	16	23	45.3	
	comp=Z,1μm,18.8s,baz=65,slow=37									
SJI	**Sawahan**	**48.60**	**268**	P		**P**	**16**	**03**	**29.3**	**-0.8**
PPT	**Papeete**	**48.86**	**106**	LR		LR	16	20	07.8	
	comp=Z,407nm,18.4s,baz=244,slow=31									
PPT2	**Papeete2**	**48.86**	**106**	*e*S		S	16	10	41.4	+10
	comp=Z,223nm,26.0s									
PPT2				*e*LR		LR	16	17	25.3	
	comp=Z,539nm,25.8s									
TBI	**Tubuai**	**49.56**	**113**	*e*LQ		LQ	16	15	45.3	
	comp=Z,1μm,29.5s									
TBI				*e*LR		LR	16	17	49.6	
	comp=Z,358nm,27.8s									
MJAR	**Matsushiro Arr**	**49.97**	**336**	P		**P**	**16**	**03**	**38.3**	**-1.7**
MJAR	**Matsushiro Arr**	**49.97**	**336**	P		**P**	**16**	**03**	**38.3**	**-1.7**
	comp=Z,5.3nm,1.0s,baz=171,slow=8.7,SNR=13									
MAJO	**Matsushiro**	**49.97**	**336**	*e*P		**P**	**16**	**03**	**39.3**	**-0.8**
MAJO				pmax		pmax				
	comp=Z,9.0nm,0.8s									
MAJO	**Matsushiro**	**49.97**	**336**	*e*P		**P**	**16**	**03**	**39.3**	**-0.8**
	comp=Z,8.8nm,0.8s									
MAT	**Matsushiro**	**49.97**	**336**	P		**P**	**16**	**03**	**38.2**	**-1.8**
MAT				S		**S**	**16**	**10**	**45.6**	**-0.5**
YULB	**Yu-li**	**50.29**	**310**	*e*P		**P**	**16**	**03**	**41.8**	**-0.9**
	comp=Z,18nm,0.8s									
NACB	**Ninganchiao**	**50.52**	**311**	*e*P		**P**	**16**	**03**	**43.4**	**-1.0**
	comp=Z,32nm,1.0s									
JNU	**Nakatsue**	**50.62**	**327**	*e*P		**P**	**16**	**03**	**44.1**	**-0.9**
	comp=Z,22nm,1.4s									
JNU	**Nakatsue**	**50.62**	**327**	P		**P**	**16**	**03**	**44.5**	**-0.5**
	comp=Z,20nm,1.1s,baz=137,slow=1.8,SNR=5.7									
JNU				LR		LR	16	24	03.5	
	comp=Z,123nm,18.1s,baz=145,slow=35									

TPUB	**Ta-pu**	**50.74**	**310**	*e*P		**P**	**16**	**03**	**44.9**	**-1.2**
	comp=Z,100nm,1.6s									
SSLB	**Suanglung**	**50.77**	**311**	*e*P		**P**	**16**	**03**	**46.0**	**-0.4**
	comp=Z,30nm,0.8s									
YHNB	**Yeheng**	**50.97**	**312**	*e*P		**P**	**16**	**03**	**47.4**	**-0.4**
	comp=Z,34nm,0.9s									
TATO	**Taipei**	**51.06**	**312**	*e*P		**P**	**16**	**03**	**46.8**	**-1.6**
QZH	**Quanzhou**	**53.20**	**310**	⇓*i*P		**P**	**16**	**04**	**03.8**	**-0.5**
QZH				S		**S**	**16**	**11**	**29.0**	**-1.8**
QZH				pmax		pmax				
	comp=Z,100nm,0.9s									
QZH				LR		LR				
	comp=Z,470nm,17.6s									
YUK	**Yuzh-Kuril'sk**	**54.41**	**347**	*d i*P		P	16	04	08.8	-4.0
YUK				*i*			16	06	09.7	
YUK				*i*	PPP	PPP	16	07	25.4	
YUK				*i*	S	**S**	**16**	**11**	**43.4**	**-3.1**
YUK				*i*	SS	**SKiKP**	**16**	**15**	**23.4**	**+6.2**
YUK				*i*	SSS	SSS	16	17	29.6	
YUK				pmax		pmax				
	comp=N,60nm,0.7s									
YUK				pmax		pmax				
	comp=E,92nm,0.7s									
YUK				pmax		pmax				
	comp=Z,240nm,0.7s									
YUK				pmax		pmax				
	comp=Z,820nm,1.4s									
SSE	**Sheshan**	**55.03**	**318**	P		P	16	04	14.0	-3.5
SSE				sS		S	16	12	20.3	+25
SSE				pmax		pmax				
	comp=Z,21nm,0.7s									
SSE				pmax		pmax				
	comp=Z,53nm,2.6s									
SSE				LR		LR				
	comp=N,92nm,19.7s									
SSE				LR		LR				
	comp=E,50nm,19.7s									
SSE				LR		LR				
	comp=Z,77nm,19.0s									
ASAJ	**Asahikawa**	**55.30**	**344**	*e*P		**P**	**16**	**04**	**19.0**	**-0.2**
	comp=Z,10nm,0.9s									
ASAJ	**Asahikawa**	**55.30**	**344**	P		**P**	**16**	**04**	**19.4**	**+0.2**
	comp=Z,18nm,1.1s,baz=244,slow=15,SNR=6.6									
ASAJ				LR		LR	16	26	08.5	
	comp=Z,713nm,19.8s,baz=190,slow=34									
KSRS	**Korea Array**	**55.48**	**328**	P		**P**	**16**	**04**	**20.4**	**-0.3**
	comp=Z,7.5nm,1.0s,baz=141,slow=7.7,SNR=31									
KSRS				LR		LR	16	26	04.6	
	comp=Z,239nm,19.5s,baz=131,slow=34									
KSAR	**Wonju Array Be**	**55.49**	**328**	P		**P**	**16**	**04**	**20.4**	**-0.4**
NJ2	**Nanjing**	**57.18**	**317**	*e*P		**P**	**16**	**04**	**32.3**	**-0.5**
NJ2				pP		**pP**	**16**	**04**	**48.0**	**-1.5**
NJ2				sP		**sP**	**16**	**04**	**55.3**	**-1.4**
NJ2				PP		**PP**	**16**	**06**	**40.5**	**0.0**
NJ2				sS		**sS**	**16**	**12**	**53.0**	**+1.0**
NJ2				pmax		pmax				
	comp=Z,240nm,4.6s									
NJ2				LR		LR				
	comp=N,760nm,27.6s									
NJ2				LR		LR				
	comp=E,450nm,22.5s									
NJ2				LR		LR				
	comp=Z,230nm,22.8s									
QIZ	**Qiongzhong**	**57.46**	**299**	P		**P**	**16**	**04**	**35.0**	**-0.1**
QIZ				S		**S**	**16**	**12**	**27.8**	**-0.2**
QIZ

BJI pmax pmax
comp=Z,13nm,1.4s
BJI pmax pmax
comp=Z,75nm,3.4s
BJI LR LR
comp=N,260nm,20.0s
BJI LR LR
comp=E,200nm,21.3s
BJI LR LR
comp=Z,190nm,22.3s
PBKT Sadao Pong 64.45 293 P **P** **16 05 23.1 +0.6**
comp=Z,13nm,0.8s,comp=Z,824nm
LOEI Loei 64.48 294 P **P** **16 05 20.4 -2.4**
comp=Z,26nm,1.2s,comp=Z,857nm
XAN Xi'an 65.17 314 P **P** **16 05 26.5 -0.5**
XAN pmax pmax
comp=Z,7.0nm,1.1s
NANT Nan 65.41 295 P **P** **16 05 28.6 -0.2**
comp=Z,90nm,0.9s
KMI Kunming 65.94 303 P **P** **16 05 33.5 +1.2**
KMI pP **pP** **16 05 52.3 +2.9**
KMI sP **sP** **16 05 59.8 +3.3**
KMI PP **PP** **16 08 01.5 +3.2**
KMI S **S** **16 14 14.3 -1.2**
KMI sS **sS** **16 14 46.3 +2.0**
KMI SKS **SKSac** **16 15 19.0 -4.3**
KMI pmax pmax
comp=Z,32nm,1.2s
KMI pmax pmax
comp=Z,88nm,3.1s
KMI LR LR
comp=N,110nm,13.0s
KMI LR LR
comp=E,110nm,15.6s
KMI LR LR
comp=Z,130nm,16.2s
LAMP Lampang 66.28 295 P **P** **16 05 34.9 +0.5**
comp=Z,12nm,0.8s,comp=Z,122nm
CASY Casey 66.71 200 *e*P **P** **16 05 35.2 -1.0**
comp=Z,8.0nm,1.0s
CMAR Chiang Mai Arr 66.88 294 P **P** **16 05 38.2 0.0**
CMAR Chiang Mai Arr 66.88 294 P **P** **16 05 38.2 0.0**
comp=Z,10nm,0.7s,baz=123,slow=4.8,SNR=44
CMAR LR LR 16 31 38.8
comp=Z,113nm,18.4s,baz=133,slow=33
CMMT Chiang Mai 66.99 295 P **P** **16 05 38.7 -0.2**
comp=Z,19nm,1.2s
CHTO Chiang Mai 66.99 295 *e*P **P** **16 05 38.6 -0.3**
CHTO pmax pmax
comp=Z,17nm,1.1s
CHTO Chiang Mai 66.99 295 *e*P **P** **16 05 38.6 -0.3**
comp=Z,18nm,1.1s
CHTO Chiang Mai 66.99 295 P **P** **16 05 38.9 0.0**
comp=Z,21nm,1.2s
HHC Hu-ho-hao-te 67.14 321 *e*P **P** **16 05 40.5 +0.9**
HHC pP **pP** **16 05 53.8 -2.9**
HHC PP **PP** **16 08 11.0 +2.6**
HHC S **S** **16 14 30.3 +1.0**
HHC sS **sS** **16 14 53.0 -5.2**
HHC pmax pmax
comp=Z,53nm,0.9s
HHC pmax pmax
comp=Z,190nm,7.5s
HHC LR LR
comp=N,270nm,16.7s
HHC LR LR
comp=E,260nm,16.7s
HHC LR LR
comp=Z,420nm,19.0s
CMAI Chiengmai2 67.26 296 P **P** **16 05 41.4 +0.6**
comp=Z,215nm,1.0s,comp=Z,11µm
CD2 Chengdu 67.52 309 P **P** **16 05 42.8 +0.7**
CD2 pP **pP** **16 05 56.5 -2.7**
CD2 PcP **PcP** **16 06 09.3 +0.3**
CD2 PP **PP** **16 08 14.8 +3.0**
CD2 S **S** **16 14 36.0 +1.9**
CD2 sS **sS** **16 14 59.3 -3.7**
CD2 ScS **SKSac** **16 15 33.3 -1.4**
CD2 pmax pmax
comp=Z,50nm,1.1s
CD2 pmax pmax
comp=Z,200nm,4.8s
CD2 LR LR
comp=E,210nm,19.0s
CD2 LR LR
comp=Z,230nm,21.4s
HIA Hailar 68.20 332 *e*P **P** **16 05 46.5 +0.5**
comp=Z,8.7nm,0.6s
VNDA Vanda 68.61 180 *e*P **P** **16 05 47.1 -1.0**
comp=Z,8.1nm,1.1s
VNDA Vanda 68.61 180 P **P** **16 05 47.0 -1.0**
comp=Z,5.4nm,0.9s,baz=346,slow=6.5,SNR=22
VNDA LR LR 16 30 42.4
comp=Z,305nm,19.8s,baz=2.3,slow=32
SBA Scott Base 69.01 179 *e*P **P** **16 05 50.3 -0.2**
SBA pmax pmax
comp=Z,6.0nm,1.0s
SBA Scott Base 69.01 179 *e*P **P** **16 05 50.3 -0.2**
comp=Z,6.5nm,1.0s
LZH Lanzhou 69.80 314 *e*P **P** **16 05 57.5 +1.1**
LZH pP **PcP** **16 06 18.5 -0.1**
LZH sP sP 16 06 26.8 +6.2
LZH PP **PP** **16 08 35.0 +3.4**
LZH *e*S **S** **16 15 00.3 -0.9**
LZH pmax pmax
comp=Z,50nm,1.5s
LZH pmax pmax
comp=Z,100nm,7.2s
LZH LR LR
comp=N,370nm,18.0s
LZH LR LR
comp=E,430nm,17.4s
LZH LR LR
comp=Z,500nm,19.5s
MIR Mirnyy 73.17 203⇑ *i*P **P** **16 06 17.7 +1.9**
MIR *i* 16 06 38.0
MIR pmax pmax
comp=Z,44nm,1.2s
ULN Ulaanbaatar 73.80 326 *e*P **P** **16 06 20.8 +0.7**
comp=Z,53nm,1.2s
SONM Songino Array 74.15 325 P **P** **16 06 22.7 +0.6**
SONM Songino Array 74.15 325 P **P** **16 06 22.7 +0.6**
comp=Z,16nm,0.9s,baz=133,slow=6.0,SNR=87
SONM LR LR 16 40 00.4
comp=Z,207nm,18.1s,baz=105,slow=37
GTA Gaotai 74.15 315⇑ P **P** **16 06 23.5 +1.2**
GTA pP **pP** **16 06 40.5 +0.9**
GTA sP **sP** **16 06 47.0 +0.3**
GTA S **S** **16 15 51.0 +0.1**
GTA sS **sS** **16 16 19.0 -1.3**
GTA SKS **SKSac** **16 16 21.0 -3.7**
GTA pmax pmax
comp=Z,48nm,1.2s
GTA pmax pmax
comp=Z,200nm,6.2s
GTA LR LR
comp=N,140nm,18.1s
GTA LR LR
comp=E,130nm,18.3s
GTA LR LR
comp=Z,170nm,19.0s
YAK Yakutsk 74.75 345 *e*P **P** **16 06 23.6 -1.4**
YAK pmax pmax
comp=Z,38nm,1.1s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.5s
SHL Shillong 75.30 299 *e*P **P** **16 06 30.0 +0.7**
LSA Lhasa 77.18 303 P **P** **16 06 40.8 +0.6**
LSA pmax pmax
comp=Z,20nm,1.4s
LSA Lhasa 77.18 303 *e*P **P** **16 06 41.4 +1.2**
LSA pmax pmax
comp=Z,33nm,1.4s
LSA Lhasa 77.18 303 *e*P **P** **16 06 41.4 +1.2**
comp=Z,34nm,1.4s
ZAK Zakamensk 77.24 326 *e*P **P** **16 06 38.6 -1.1**
ZAK pmax pmax
comp=Z,13nm,1.3s
IRK Irkutsk 77.69 328 *e*P **P** **16 06 40.6 -1.4**
IRK pmax pmax
comp=Z,21nm,1.2s
MOY Mondy 79.14 327 *e*P **P** **16 06 50.8 +0.7**
SML Sawmill 80.70 22 *e*P **P** **16 06 59.9 +1.7**
SML pmax pmax
comp=Z,3.0nm,0.9s
SML Sawmill 80.70 22 *e*P **P** **16 06 59.9 +1.7**
comp=Z,2.8nm,0.9s
QSPA South Pole Qui 81.10 180 LR LR 16 39 59.1
comp=Z,284nm,18.3s,baz=14,slow=34
MCK McKinley 81.71 20 *e*P **P** **16 07 02.4 -1.2**
MCK pmax pmax
comp=Z,33nm,1.0s
MCK McKinley 81.71 20 *e*P **P** **16 07 02.4 -1.2**
comp=Z,32nm,1.0s
COLA College 82.81 20 *e*P **P** **16 07 07.1 -2.1**
COLA pmax pmax
comp=Z,71nm,0.8s
COLA College 82.81 20 *e*P **P** **16 07 07.1 -2.1**
comp=Z,71nm,0.8s
HVS Khovu-Aksy 82.99 324 *c i*P **P** **16 07 10.6 0.0**
HVS pmax pmax
comp=Z,215nm,1.2s
ILAR Eielson Array 83.06 20 P **P** **16 07 09.4 -1.2**
ILAR Eielson Array 83.06 20 P **P** **16 07 09.4 -1.2**
comp=Z,13nm,1.2s,baz=252,slow=4.8,SNR=30
ILAR LR LR 16 40 15.1
comp=Z,185nm,19.4s,baz=123,slow=33
WMQ Urumqi 84.22 316 P **P** **16 07 17.5 +0.5**
WMQ pP **pP** **16 07 34.5 -0.2**
WMQ sP **sP** **16 07 41.3 -0.3**
WMQ PP **PP** **16 10 34.5 +2.1**
WMQ S **SKSac** **16 17 36.5 +1.3**
WMQ pmax pmax
comp=Z,25nm,1.2s
WMQ pmax pmax
comp=Z,94nm,5.0s
WMQ LR LR
comp=Z,75nm,28.2s
MAW Mawson 84.90 202 P **P** **16 07 18.7 -1.2**
MAW Mawson 84.90 202 P **P** **16 07 18.7 -1.2**
comp=Z,5.2nm,0.8s,baz=86,slow=9.4,SNR=9.5
MAW LR LR 16 40 40.4
comp=Z,239nm,19.8s,baz=67,slow=32
HYB Hyderabad 85.41 288 *i* P **P** **16 07 22.0 -1.5**
HYB *es*P **sP** **16 07 50.0 +1.8**
YBH Yreka Blue Hor 85.86 47 P **P** **16 07 26.0 +0.6**
YBH Yreka Blue Hor 85.86 47 P **P** **16 07 26.0 +0.6**
comp=Z,4.0nm,0.9s,baz=284,slow=1.6,SNR=5.5
ISA Isabella 87.60 54 P **P** **16 07 34.5 +0.6**
baz=88
EDW2 Edwards Air Fo 87.82 54 P **P** **16 07 35.6 +0.6**
baz=88
LRMC Laurel Mountai 88.18 54 P **P** **16 07 37.8 +1.0**
baz=88
NVAR Mina Array Bea 88.34 51 P **P** **16 07 38.1 +0.5**
NVAR Mina Array Bea 88.34 51 P **P** **16 07 38.1 +0.5**
comp=Z,2.3nm,0.9s,baz=238,slow=7.4,SNR=12
MPMC Manual Prospec 88.46 53 P **P** **16 07 38.9 +0.7**
baz=89
MONP Monument Peak 88.69 57 P **P** **16 07 39.7 +0.3**
baz=89
MK31 Makanchi Array 88.71 318 *e*P **P** **16 07 38.6 -0.3**
MK31 Makanchi Array 88.71 318 *e*P **P** **16 07 38.6 -0.3**
MKAR Makanchi Array 88.71 318 P **P** **16 07 38.7 -0.2**
MKAR Makanchi Array 88.71 318 P **P** **16 07 38.7 -0.2**
MKAR Makanchi Array 88.71 318 P **P** **16 07 38.7 -0.2**
comp=Z,20nm,0.9s,baz=99,slow=6.0,SNR=90
MKAR LR LR 16 51 39.5
comp=Z,114nm,18.7s,baz=215,slow=38
PFO Pinyon Flat Ob 88.80 56 P **P** **16 07 38.5 -1.3**
PFO Pinyon Flat Ob 88.80 56 P **P** **16 07 38.5 -1.3**
comp=Z,2.0nm,0.8s,baz=27,slow=5.4,SNR=4.2
PFO Pinyon Flat Ob 88.80 56 P **P** **16 07 40.6 +0.9**
baz=89
ZALV Zalesovo Beam 89.04 325 P **P** **16 07 39.1 -1.1**
ZALV Zalesovo Beam 89.04 325 P **P** **16 07 39.1 -1.1**
ZALV Zalesovo Beam 89.04 325 P **P** **16 07 39.1 -1.1**
comp=Z,3.0nm,0.8s,baz=102,slow=4.9,SNR=15
ZALV LR LR 16 45 08.8
comp=Z,113nm,21.1s,baz=69,slow=34
BELC Belle Mtn. Jos 89.25 56 P **P** **16 07 42.5 +0.6**
baz=89
INK Inuvik 89.47 20 P **P** **16 07 42.1 +0.3**
INK Inuvik 89.47 20 P **P** **16 07 42.1 +0.3**
comp=Z,2.4nm,1.1s,baz=239,slow=5.2,SNR=3.9
TUQ Turquoise Moun 89.59 54 P **P** **16 07 44.3 +0.8**
baz=90
BC3 Big Chuckawall 89.63 56 P **P** **16 07 44.4 +0.8**
baz=90
GMRC Granite Mounta 89.67 55 P **P** **16 07 44.5 +0.7**
baz=90
IRM Iron Mountain 89.97 56 P **P** **16 07 46.2 +1.1**
baz=90
GLA Glamis 90.03 57 P **P** **16 07 46.6 +1.2**
baz=90
LDFC Landfair 90.17 55 *e*P **P** **16 07 47.3 +1.2**
comp=Z,20nm,1.0s
NVS Novosibirsk 90.18 326⇑ *i*P **P** **16 07 43.1 -2.4**
NVS pmax pmax
comp=Z,21nm,1.7s
NVS pmax pmax
comp=N,4.0nm,1.3s
NVS pmax pmax
comp=E,8.0nm,1.3s
R11A Troy Canyon, C 90.41 51 P **P** **16 07 48.0 +0.8**
baz=90
BMO Blue Mountains 90.44 45 P **P** **16 07 47.7 +0.6**
BMO pmax pmax
comp=Z,10.0nm,1.6s
BMO Blue Mountains 90.44 45 P **P** **16 07 47.7 +0.6**
comp=Z,9.7nm,1.6s
113A Mohawk Valley, 90.86 57 P **P** **16 07 49.8 +0.6**
baz=91
W13A Hualapai Mount 91.17 55 P **P** **16 07 51.4 +0.5**
baz=91
KSH Kashi 91.70 310 P **P** **16 07 55.0 +1.9**
KSH sP sP 16 08 23.8 +5.9
KSH PP PP 16 11 38.0 +5.4
KSH SKS **SKSac** **16 18 18.5 -2.2**
KSH S **S** **16 18 48.5 -0.5**
KSH sS **sS** **16 19 23.5 +4.2**
KSH pmax pmax
comp=Z,26nm,1.7s
KSH pmax pmax
comp=Z,71nm,3.2s
KSH LR LR
comp=N,92nm,4.9s
KSH LR LR
comp=E,99nm,5.4s
KSH LR LR
comp=Z,150nm,5.2s
KURK Kurchatov 91.95 321 P **P** **16 07 53.3 -0.5**
KURK Kurchatov 91.95 321 P **P** **16 07 53.3 -0.5**
KURBB Kurchatov Arra 91.99 321 P **P** **16 07 53.3 -0.7**
comp=Z,2.9nm,0.9s,baz=106,slow=3.3,SNR=18
CCUT Cedar City 92.00 52 *e*P **P** **16 07 52.8 -1.9**
comp=Z,5.7nm,1.0s
HLID Hailey 92.23 46 P **P** **16 07 54.6 -1.0**
comp=Z,4.2nm,1.0s
HLID Hailey 92.23 46 P **P** **16 07 56.2 +0.6**
baz=92
U15A North Rim 92.66 54 P **P** **16 07 58.6 +0.7**
baz=93
MVU Marysvale 93.05 52 *e*P **P** **16 08 00.4 +0.9**
comp=Z,5.0nm,1.0s
MSU Marysvale 93.08 52 *e*P **P** **16 08 00.9 +1.3**
MSU pmax pmax
comp=Z,6.0nm,1.1s
MSU Marysvale 93.08 52 *e*P **P** **16 08 00.9 +1.3**
comp=Z,5.7nm,1.1s
HVU Hansel Valley 93.13 48 *e*P **P** **16 07 57.3 -2.4**
HVU pmax pmax
comp=Z,14nm,1.2s
HVU Hansel Valley 93.13 48 *e*P **P** **16 07 57.3 -2.4**
comp=Z,14nm,1.2s
AAK Ala-Archa 93.32 312 *c i*P **P** **16 08 00.2 -0.4**
AAK pmax pmax
comp=Z,8.0nm,0.7s
HWUT Hardware Ranch 94.00 49 *e*P **P** **16 08 04.6 +0.8**
comp=Z,2.5nm,0.8s
BOZ Bozeman (W) 94.52 45 *e*P **P** **16 08 06.8 +0.7**
BOZ pmax pmax
comp=Z,3.0nm,1.3s
BOZ Bozeman (W) 94.52 45 *e*P **P** **16 08 06.8 +0.7**
comp=Z,3.4nm,1.3s
C16A Fuhringer Ranc 94.74 43 P **P** **16 08 07.6 +0.6**
baz=95
IMW Indian Meadow 94.77 46 P **P** **16 08 06.8 -0.6**
E17A Martinsdale 95.17 44 P **P** **16 08 09.3 +0.3**
baz=95
YKA Yellowknife Ar 95.28 28 P **P** **16 08 07.8 -1.1**
YKA Yellowknife Ar 95.28 28 P **P** **16 08 07.8 -1.1**
comp=Z,1.4nm,0.8s,baz=259,slow=4.7,SNR=19
D17A Six Diamond Ra 95.37 43 P **P** **16 08 10.6 +0.8**
baz=96
BW06 Boulder Array 95.63 48 *e*P **P** **16 08 11.0 -0.3**
comp=Z,2.7nm,0.9s
PDAR Pinedale Array 95.63 48 P **P** **16 08 11.1 -0.2**
PDAR Pinedale Array 95.63 48 P **P** **16 08 11.1 -0.2**
comp=Z,2.5nm,0.9s,baz=233,slow=2.4,SNR=15
PDAR LR LR 16 51 24.7
comp=Z,132nm,18.2s,baz=121,slow=36
EGMT Eagleton 96.10 42 P **P** **16 08 13.3 +0.2**
baz=96
KKAR Karatay Array 96.28 313 *e*P **P** **16 08 12.8 -1.2**
KKAR pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 96.28 313 *e*P **P** **16 08 12.8 -1.2**
comp=Z,3.6nm,1.0s
E19A Rath Farm, Rou 96.59 44 P **P** **16 08 15.9 +0.6**
baz=97
J21A Lysite 97.23 47 P **P** **16 08 18.4 -0.1**
baz=97
BVAR Borovoye Array 97.33 322 P **P** **16 08 17.2 -1.3**
BVAR Borovoye Array 97.33 322 P **P** **16 08 17.1 -1.3**
BVAR Borovoye Array 97.33 322 P **P** **16 08 17.1 -1.3**
comp=Z,5.2nm,0.9s,baz=106,slow=4.8,SNR=24
BRVK Borovoye 97.40 323 *c i*P **P** **16 08 17.3 -1.5**
BRVK pmax pmax
comp=Z,14nm,1.7s
BRVK Borovoye 97.40 323 *e*P **P** **16 08 17.2 -1.5**
comp=Z,7.8nm,1.0s
TXAR Lajitas Array 99.01 62 LR LR 16 47 04.0
comp=Z,256nm,19.0s,baz=345,slow=32
ABKAR Akbulak array 103.83 319 *e*Pdif **Pdif** **16 08 46.0 -1.4**
KIV Kislovodsk 116.33 315 *i* PKIKP **PKPdf** **16 13 27.5 -1.5**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,89nm,20.0s
FINES FINESS Array B 117.99 337 PKP **PKPdf** **16 13 30.6 -0.8**
FINES FINESS Array B 117.99 337 PKP **PKPdf** **16 13 30.6 -0.8**
comp=Z,2.1nm,0.9s,baz=113,slow=5.0,SNR=4.6
KMBO Kilima Mbogo 122.98 263 PKP **PKPdf** **16 13 42.8 -0.1**
KMBO Kilima Mbogo 122.98 263 PKP **PKPdf** **16 13 42.8 -0.1**
comp=Z,3.0nm,0.7s,baz=227,slow=22,SNR=6.6
BOSA Boshof 123.23 227 PKP **PKPdf** **16 13 42.5 -0.3**
BOSA Boshof 123.23 227 PKP **PKPdf** **16 13 42.5 -0.3**
comp=Z,6.0nm,0.6s,baz=158,slow=4.8,SNR=20
NB2 NORSAR Subarra1 123.32 343 PKPdf **PKPdf** **16 13 41.2 -0.6**
comp=Z,3.5nm,1.0s,baz=39,slow=1.9
NOA NORSAR Array B 123.32 343 PKP **PKPdf** **16 13 41.2 -0.6**
NOA NORSAR Array B 123.32 343 PKP **PKPdf** **16 13 41.2 -0.6**
comp=Z,2.9nm,0.9s,baz=37,slow=1.9,SNR=7.9
BRTR Keskin Array B 123.99 312 PKP **PKPdf** **16 13 43.0 -0.9**
BRTR Keskin Array B 123.99 312 PKP **PKPdf** **16 13 43.0 -0.9**
comp=Z,0.7nm,0.7s,baz=152,slow=5.5,SNR=3.5
LPAZ La Paz 125.41 117 PKP **PKPdf** **16 13 47.8 -0.1**
LPAZ La Paz 125.41 117 PKP **PKPdf** **16 13 47.8 -0.1**
comp=Z,2.5nm,0.8s,baz=258,slow=1.9,SNR=12
LSZ Lusaka 127.35 243 *e*PKPdf **PKPdf** **16 13 51.1 +0.1**
STHS Stebnicka Huta 127.45 328 *e*PKIKP **PKPdf** **16 13 52.3 +2.3**
STHS Stebnicka Huta 127.45 328 *e*PKP **PKPdf** **16 13 52.3 +2.3**
KECS Kecovo 128.41 327 *e*PKIKP **PKPdf** **16 13 55.1 +3.2**
KECS Kecovo 128.41 327 *e*PKP **PKPdf** **16 13 55.1 +3.2**
OKC Ostrava-Krasne 128.78 330 AMS AMS 17 11 20.0
comp=Z,200nm,17.2s
CPUP Villa Florida 128.97 134 PKP **PKPdf** **16 13 53.1 -0.5**
CPUP Villa Florida 128.97 134 PKP **PKPdf** **16 13 53.1 -0.5**
comp=Z,9.2nm,1.1s,baz=308,slow=2.2,SNR=8.9
KSP Ksiaz 129.01 332 *e*PKIKP **PKPdf** **16 13 53.6 +0.7**
SDV Santo Domingo 129.12 86 *e*PKPdf **PKPdf** **16 13 53.5 -0.9**
DPC Dobruska-Polom 129.33 331 *e*PKIKP **PKPdf** **16 13 54.2 +0.6**
DPC *e* 16 13 59.2
DPC Dobruska-Polom 129.33 331 *e*PKPdf **PKPdf** **16 13 54.2 +0.6**
DPC *ex* x 16 13 59.2
BRG Berggiesshubel 130.06 333 *e*(P) **PKPdf** **16 13 55.3 +0.4**
comp=Z,3.8nm,1.0s
BRG Berggiesshubel 130.06 333 *e*PKIKP **PKPdf** **16 13 55.3 +0.4**
BRG pmax pmax
comp=Z,3.0nm,1.0s
PRA Prague 130.40 332 PKPdf **PKPdf** **16 13 56.0 +0.4**
PRU Pruhonice 130.41 332 *e*PKIKP **PKPdf** **16 13 56.1 +0.5**
PRU *e* 16 14 01.2
PRU MLR MLR
comp=Z,200nm,18.1s
PRU Pruhonice 130.41 332 *e*PKPdf **PKPdf** **16 13 56.1 +0.5**
PRU *ex* x 16 14 01.2
PRU AMS AMS 17 14 10.0
comp=Z,200nm,18.1s
TREC Trest 130.44 331 AMS AMS 17 12 50.0
comp=Z,300nm,18.4s
CONA Conrad Observa 131.17 329⇑ *i*PKIKP **PKiKP** **16 13 58.7 +0.5**
comp=Z,4.7nm,0.8s
KHC Kasperske Hory 131.46 332 *e*PKIKP **PKPdf** **16 13 58.0 +0.3**
KHC *e* 16 14 03.2
KHC MLR MLR
comp=Z,300nm,14.3s
KHC Kasperske Hory 131.46 332 *e*PKPdf **PKPdf** **16 13 58.0 +0.3**
KHC *ex* x 16 14 03.2
KHC AMS AMS 17 13 10.0
comp=Z,300nm,14.3s
GERES GERESS Array B 131.60 331 PKP **PKPdf** **16 13 58.0 -0.1**
GERES SKPbc **SKPab** **16 17 23.2 +4.4**
GERES GERESS Array B 131.60 331 PKP **PKPdf** **16 13 58.0 -0.1**
comp=Z,1.6nm,0.7s,baz=34,slow=0.5,SNR=15
GERES SKPbc **SKPab** **16 17 23.2 +4.4**
comp=Z,1.8nm,1.1s,baz=27,slow=2.4,SNR=6.9
HINF Hinteralfeld 135.42 335 *e*PKIKP **PKPdf** **16 14 05.0 -0.2**
comp=Z,12nm,1.1s
HAU Haudompre 135.47 336 *e*PKIKP **PKPdf** **16 14 05.3 0.0**
CABF La Chapelle 136.69 335 *e*PKIKP **PKPdf** **16 14 07.3 -0.4**
comp=Z,31nm,1.2s
LOR Lormes 137.06 337 *e*PKIKP **PKPdf** **16 14 08.4 +0.2**
comp=Z,19nm,1.3s
LPG La Plagne 137.27 333 *e*PKIKP **PKPdf** **16 14 08.3 -0.7**
SSF Saint Saulge 137.37 337 *e*PKIKP **PKPdf** **16 14 08.8 0.0**
SMF Signal de Mont 137.58 337 *e*PKIKP **PKPdf** **16 14 08.9 -0.3**
AVF Avril sur Loir 137.65 337 *e*PKIKP **PKPdf** **16 14 09.2 -0.1**
GRR Gorron 137.73 342 *e*PKIKP **PKPdf** **16 14 09.4 0.0**
MBDF Montbardon 137.85 332 *e*PKIKP **PKPdf** **16 14 10.1 +0.1**
PGF Pioggiola 138.38 328 *e*PKIKP **PKPdf** **16 14 10.6 -0.3**
comp=Z,15nm,0.9s
TCF Toulx Ste Croi 138.50 338 *e*PKIKP **PKPdf** **16 14 11.1 +0.2**
EPF Esparros 141.97 337 *e*PKIKP **PKPdf** **16 14 17.7 +0.4**
comp=Z,14nm,1.1s
BDFB Brasilia 142.39 130 PKPpre PKPpre 16 14 13.0
BDFB Brasilia 142.39 130 PKhKP PKPpre 16 14 13.0
comp=Z,5.6nm,0.7s,baz=221,slow=3.0,SNR=9.6
ETSF Etsaut 142.43 337 *e*PKIKP **PKPdf** **16 14 19.0 +0.8**
comp=Z,26nm,1.2s
PBRG Braganca 145.45 344 *e*PKP **PKPab** **16 14 23.9 +0.2**
PGAV Gavieira, Arco 145.70 346 *e*PKP **PKPab** **16 14 25.3 +0.6**
MVO Moncorvo 146.12 344 *e*PKP **PKPab** **16 14 26.4 +0.1**
POLO Lamas de Olo 146.13 345 *e*PKP **PKPab** **16 14 26.7 +0.3**
ESDC Sonseca Array 146.49 339 PKPbc **PKPbc** **16 14 26.8 0.0**
ESDC Sonseca Array 146.49 339 PKPbc **PKPbc** **16 14 26.8 0.0**
comp=Z,2.9nm,0.8s,baz=20,slow=2.6,SNR=16
PAB San Pablo 146.74 339 *e*PKP2 **PKPbc** **16 14 26.7 -0.8**
PAB San Pablo 146.74 339 *e*PKPbc **PKPbc** **16 14 26.7 -0.8**
PVIS Viseu 146.78 344 *e*PKP **PKPab** **16 14 28.3 -0.5**
MTE Manteigas 146.98 344 *e*PKP **PKPab** **16 14 30.7 +1.1**
PCBR Castelo Branco 147.48 343 *e*PKP **PKPbc** **16 14 30.4 +0.9**
PMRV Marv??o 147.84 343 *e*PKP **PKPbc** **16 14 31.2 +0.7**
PTOM Tomar 147.94 344 *e*PKP **PKPbc** **16 14 31.6 +0.9**
PMTG Montargil 148.41 344 *e*PKP **PKPbc** **16 14 32.6 +0.6**
PESTR Estremoz 148.41 343 *e*PKP **PKPbc** **16 14 32.7 +0.7**
EVO Evora 148.85 343 *e*PKIKP **PKPdf** **16 14 29.3 +0.1**
comp=Z,27nm,1.1s
PBEJ Beja 149.27 342 *e*PKP **PKPbc** **16 14 35.5 +1.3**
PCVE Castro Verde 149.69 342 *e*PKP **PKPbc** **16 14 36.5 +1.3**
PBDV Barranco-do-Ve 150.01 342 *e*PKP **PKPbc** **16 14 37.9 +1.8**
MORF Marmelete 150.17 343 *e*PKP **PKPbc** **16 14 37.7 +1.2**
PFVI Vila Bisbo 150.38 343 *e*PKP **PKPbc** **16 14 38.4 +1.5**
TAM Tamanrasset 152.63 303 *e*PKIKP **PKPbc** **16 14 43.4 +0.6**
TAM Tamanrasset 152.63 303 *e*PKPbc **PKPbc** **16 14 43.4 +0.6**
TORD Torodi Ar. Bea 159.16 284 PKP **PKPdf** **16 14 44.5 +0.2**
TORD PKPab **PKPab** **16 15 20.6 -0.9**
TORD Torodi Ar. Bea 159.16 284 PKP **PKPdf** **16 14 44.5 +0.2**
comp=Z,3.4nm,0.8s,baz=28,slow=1.5,SNR=21
TORD PKPab **PKPab** **16 15 20.6 -0.9**
comp=Z,7.4nm,0.9s,baz=70,slow=4.4,SNR=13
LIC Lamto 165.80 260 *e*PKIKP **PKPdf** **16 14 50.7 -0.2**
comp=Z,6.3nm,0.5s

IDC 27 16:09:58.0±3.2, 2°48S×137°25E, *h*0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/19, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=145.9km s-min=26.4km az=83.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.59**	**189**	P	P	16 14 06.3	+0.5
	0.2nm,0.3s,baz=10.0,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**21.31**	**188**	P	P	16 14 45.5	-1.0
	0.7nm,0.6s,baz=19,slow=11,SNR=14						
MKAR	**Makanchi Array**	**68.72**	**323**	P	P	16 21 04.1	+0.4
	0.5nm,0.7s,baz=115,slow=6.9,SNR=2.9						
BVAR	**Borovoye Array**	**78.30**	**325**	P	P	16 21 59.8	-0.2
	0.9nm,0.7s,baz=111,slow=6.3,SNR=5.0						

*ISCJB **27** 16:13:22.6±0.3, 42°34N±0°02×45°20E±0°02, h1km±4km, Error ellipse: s-maj=3.4km s-min=2.6km az=12.7*
*TIF **27** 16:13:23.0, 42°37N×45°11E, h23km±4km*
*CSEM **27** 16:13:23.3±0.2, 42°37N×45°21E, h10km, mb4.2, Error ellipse: s-maj=4.0km s-min=3.1km az=166.0*
*MOS **27** 16:13:23.7±0.8, 42°28N×45°12E, h19km, mb4.2/1, Error ellipse: s-maj=8.7km s-min=6.6km az=102.5*

ISC 27 16:13:23.8±1.1, 42°35N±0°02×45°15E±0°02, h8km±9km, n68, σ0s97/95, 4C-9D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUS	**Dusheti**	**0.43**	**232**	P	**Pg**	**16 13 32.6**	**+0.4**
DUS				S	**Sg**	**16 13 39.2**	**+1.4**
DUS	**Dusheti**	**0.43**	**232**	P	**Pg**	**16 13 32.6**	**+0.4**
DUS				S	**Sg**	**16 13 39.2**	**+1.4**
TBLG	**Delisi**	**0.69**	**207**	PG	**Pg**	**16 13 36.9**	**-0.3**
TBLG				S	**Sg**	**16 13 47.3**	**+1.0**
TBLG	**Delisi**	**0.69**	**207**	P	**Pg**	**16 13 36.9**	**-0.3**
TBLG				S	**Sg**	**16 13 47.3**	**+1.0**
TBLG	**Delisi**	**0.69**	**207**	P	**Pg**	**16 13 36.9**	**-0.3**
TBLG				S	**Sg**	**16 13 47.3**	**+1.0**
SNJR	**Sundja**	**0.76**	**341**	*i*PG	**Pg**	**16 13 38.5**	**0.0**
SNJR				*e*S	**Sb**	**16 13 50.5**	**+0.7**
SNJR	**Sundja**	**0.76**	**341**	*i* Pg	**Pg**	**16 13 38.5**	**0.0**
SNJR				*e*Sg	**Sb**	**16 13 50.5**	**+0.7**
VLKR	**Vladikavkaz**	**0.78**	**333**	*i*PG	**Pg**	**16 13 39.4**	**+0.6**
VLKR				*i* S	**Sb**	**16 13 51.7**	**+1.4**
VLKR	**Vladikavkaz**	**0.78**	**333**	*i* Pg	**Pg**	**16 13 39.4**	**+0.6**
LACR	**Lac**	**0.79**	**307**	*i*PG	**Pg**	**16 13 37.8**	**-1.3**
LACR				*e*S	**Sg**	**16 13 49.0**	**-0.4**
LACR	**Lac**	**0.79**	**307**	*i* Pg	**Pg**	**16 13 37.8**	**-1.3**
LACR				*e*Sg	**Sg**	**16 13 49.0**	**-0.4**
DGRG	**David-gareji**	**0.92**	**170**	P	**Pg**	**16 13 42.4**	**+1.0**
DGRG				S	**Sn**	**16 13 57.4**	**+1.0**
DGRG	**David-gareji**	**0.92**	**170**	P	**Pg**	**16 13 42.4**	**+1.0**
DGRG				S	**Sn**	**16 13 57.4**	**+1.0**
ZEI	**Tsey**	**1.02**	**295**	*i*PG	**Pg**	**16 13 42.5**	**-0.9**
ZEI				*i* S	**Sg**	**16 13 56.1**	**-0.5**
ZEI	**Tsey**	**1.02**	**295**	*i* Pg	**Pg**	**16 13 42.5**	**-0.9**
ZEI				*i* Sg	**Sg**	**16 13 56.1**	**-0.5**
ARNR	**Ardon**	**1.05**	**323**	*i*PG	**Pg**	**16 13 44.1**	**0.0**
ARNR				*e*S	**Sb**	**16 13 59.2**	**+0.9**
ARNR	**Ardon**	**1.05**	**323**	*i* Pg	**Pg**	**16 13 44.1**	**0.0**
ARNR				*e*Sg	**Sb**	**16 13 59.2**	**+0.9**
GRO	**Groznyy**	**1.06**	**24**	*e*PG	**Pg**	**16 13 43.3**	**-0.9**
GRO				*i* S	**Sg**	**16 13 58.7**	**+0.7**
GRO	**Groznyy**	**1.06**	**24**	*e*Pg	**Pg**	**16 13 43.3**	**-0.9**
GRO				*i* Sg	**Sg**	**16 13 58.7**	**+0.7**
KORR	**Kora**	**1.08**	**313**	*i*PG	**Pg**	**16 13 44.4**	**-0.3**
KORR				*i* S	**Sb**	**16 13 59.8**	**+0.6**
KORR	**Kora**	**1.08**	**313**	*i* Pg	**Pg**	**16 13 44.4**	**-0.3**
KORR				*i* Sg	**Sb**	**16 13 59.8**	**+0.6**
BTKR	**Batakoyurt**	**1.11**	**336**	*e*PG	**Pg**	**16 13 45.9**	**+0.7**
BTKR				*e*S	**Sn**	**16 14 02.3**	**+1.0**
BTKR	**Batakoyurt**	**1.11**	**336**	*e*Pg	**Pg**	**16 13 45.9**	**+0.7**
KZR	**Kazreti**	**1.12**	**210**	P	**Pg**	**16 13 43.5**	**-1.8**
KZR				S	**Sg**	**16 13 58.9**	**-0.9**
KZR	**Kazreti**	**1.12**	**210**	P	**Pg**	**16 13 43.5**	**-1.8**
KZR				S	**Sg**	**16 13 58.9**	**-0.9**
XNZR	**Khunzakh**	**1.16**	**80**	*e*PG	**Pg**	**16 13 45.0**	**-1.2**
XNZR				*i* S	**Sg**	**16 14 01.0**	**-0.3**
XNZR				pmax	pmax		
	comp=Z,73nm,0.1s						
XNZR	**Khunzakh**	**1.16**	**80**	*e*Pg	**Pg**	**16 13 45.0**	**-1.2**
	comp=Z,73nm,0.1s						
XNZR				*i* Sg	**Sg**	**16 14 01.0**	**-0.3**
UNCR	**Uncukul**	**1.27**	**73**	*e*PG	**Pn**	**16 13 46.5**	**-1.3**
UNCR				*e*S	**Sg**	**16 14 03.5**	**-1.0**
UNCR				pmax	pmax		
	comp=Z,101nm,0.2s						
UNCR	**Uncukul**	**1.27**	**73**	*e*Pg	**Pn**	**16 13 46.5**	**-1.3**
	comp=Z,101nm,0.2s						
UNCR				*e*Sg	**Sg**	**16 14 03.5**	**-1.0**
DIGR	**Digorskoe uzhe**	**1.28**	**296**	*i*PG	**Pg**	**16 13 46.9**	**-1.6**
DIGR				*e*S	**Sg**	**16 14 04.2**	**-1.0**
DIGR	**Digorskoe uzhe**	**1.28**	**296**	*i* Pg	**Pg**	**16 13 46.9**	**-1.6**
DIGR				*e*Sg	**Sg**	**16 14 04.2**	**-1.0**
STDR	**Stavd-Durt**	**1.29**	**322**	*e*PG	**Pg**	**16 13 48.2**	**-0.5**
STDR	**Stavd-Durt**	**1.29**	**322**	*e*Pg	**Pg**	**16 13 48.2**	**-0.5**
DLMR	**Dylym**	**1.30**	**56**	*e*PG	**Pn**	**16 13 47.0**	**-1.3**
DLMR				*e*S	**Sg**	**16 14 04.5**	**-1.2**
DLMR				pmax	pmax		
	comp=Z,197nm,0.3s						
DLMR	**Dylym**	**1.30**	**56**	*e*Pg	**Pn**	**16 13 47.0**	**-1.3**
	comp=Z,197nm,0.3s						
DLMR				*e*Sg	**Sg**	**16 14 04.5**	**-1.2**
KRNR	**Karanay**	**1.38**	**69**	*e*PG	**Pn**	**16 13 49.0**	**-0.4**
KRNR				*i* S	**Sb**	**16 14 08.0**	**+0.3**
KRNR				pmax	pmax		
	comp=Z,104nm,0.1s						
KRNR	**Karanay**	**1.38**	**69**	*e*Pg	**Pn**	**16 13 49.0**	**-0.4**
	comp=Z,104nm,0.1s						
KRNR				*i* Sg	**Sb**	**16 14 08.0**	**+0.3**
ARKR	**Arakani**	**1.38**	**79**	*e*PG	**Pn**	**16 13 49.0**	**-0.5**
ARKR				*e*S	**Sb**	**16 14 07.5**	**-0.3**
ARKR				pmax	pmax		
	comp=Z,54nm,0.2s						
ARKR	**Arakani**	**1.38**	**79**	*e*Pg	**Pn**	**16 13 49.0**	**-0.5**
	comp=Z,54nm,0.2s						
ARKR				*e*Sg	**Sb**	**16 14 07.5**	**-0.3**
DBC	**Dubki**	**1.40**	**61**	*e*PG	**Pn**	**16 13 50.0**	**+0.2**
DBC				*i* S	**Sg**	**16 14 11.4**	**+2.4**
DBC	**Dubki**	**1.40**	**61**	*e*Pg	**Pn**	**16 13 50.0**	**+0.2**
TRKR	**Terskaya**	**1.40**	**347**	*i*PG	Pn	16 13 50.5	+0.8
TRKR				*i* S	Sn	16 14 11.1	+2.8
TRKR	**Terskaya**	**1.40**	**347**	*i* Pg	Pn	16 13 50.5	+0.8
TRKR				*i* Sg	Sn	16 14 11.1	+2.8
KMKR	**Kumukh**	**1.46**	**98**	*e*PG	**Sn**	**16 13 50.0**	**-0.7**
KMKR				*e*S	**Sn**	**16 14 11.5**	**+1.4**
KMKR				pmax	pmax		
	comp=Z,64nm,0.3s						
KMKR	**Kumukh**	**1.46**	**98**	*e*Pg	**Pn**	**16 13 50.0**	**-0.7**
	comp=Z,64nm,0.3s						
KMKR				*e*Sg	**Sn**	**16 14 11.5**	**+1.4**
BUJR	**Buynaksk**	**1.52**	**71**	*e*PG	**Pn**	**16 13 52.0**	**+0.7**
BUJR				*e*S	**Sn**	**16 14 12.0**	**+0.8**
BUJR				pmax	pmax		
	comp=Z,54nm,0.2s						
BUJR	**Buynaksk**	**1.52**	**71**	*e*Pg	**Pn**	**16 13 52.0**	**+0.7**
	comp=Z,54nm,0.2s						
BUJR				*e*Sg	**Sn**	**16 14 12.0**	**+0.8**
PRTR	**Priterechnaya**	**1.54**	**336**	*i*PG	Pn	16 13 52.5	+1.0
PRTR				*i* S	**Sg**	**16 14 14.4**	**+1.1**
PRTR	**Priterechnaya**	**1.54**	**336**	*i* Pg	Pn	16 13 52.5	+1.0
PRTR				*i* Sg	**Sg**	**16 14 14.4**	**+1.1**
AKH	**Akhalkalaki**	**1.56**	**233**	P	**Pn**	**16 13 50.9**	**-1.1**
AKH				S	**Sn**	**16 14 11.3**	**-1.1**
AKH	**Akhalkalaki**	**1.56**	**233**	P	**Pn**	**16 13 50.9**	**-1.1**
AKH				S	**Sn**	**16 14 11.3**	**-1.1**
CHVG	**Ch'k'valeri**	**2.30**	**280**	P	Pn	16 14 04.1	+2.1
CHVG				S	**Sb**	**16 14 36.2**	**+2.1**
CHVG	**Ch'k'valeri**	**2.30**	**280**	P	Pn	16 14 04.1	+2.1
DIGO	**Kars**	**2.35**	**215**	*i* P	Pn	16 14 03.8	+0.8
DIGO				*i* S	Sn	16 14 34.5	+2.3
DIGO	**Kars**	**2.35**	**215**	*i* P	Pn	16 14 03.8	+0.8
DIGO				*i* S	Sn	16 14 34.5	+2.3
ARTV	**Artvin**	**2.68**	**245**	*i* P	Pn	16 14 08.8	+1.4
ARTV				*i* S	Sn	16 14 41.8	+1.6
ARTV	**Artvin**	**2.68**	**245**	*i* P	Pn	16 14 08.8	+1.4
ARTV				*i* S	Sn	16 14 41.8	+1.6
DAGI	**Agillar**	**2.74**	**243**	*i* P	**Pn**	**16 14 07.7**	**-0.5**
DAGI				*i* S	Sn	16 14 43.2	+1.7
DBOC	**Borcka**	**2.79**	**250**	*i* P	Pn	16 14 09.8	+1.0
DBOC				*i* S	**Sb**	**16 14 48.8**	**+0.5**
DBOC	**Borcka**	**2.79**	**250**	*i* P	Pn	16 14 09.8	+1.0
DBOC				*i* S	**Sb**	**16 14 48.8**	**+0.5**
DBAD	**Bademkaya**	**2.91**	**244**	*i* P	Pn	16 14 11.0	+0.5
DBAD	**Bademkaya**	**2.91**	**244**	*i* P	Pn	16 14 11.0	+0.5
DDEM	**Demirkent**	**2.94**	**241**	*i* P	Pn	16 14 11.7	+0.8
DDEM				*i* S	Sn	16 14 49.2	+2.8
DDEM	**Demirkent**	**2.94**	**241**	*i* P	Pn	16 14 11.7	+0.8
DDEM				*i* S	Sn	16 14 49.2	+2.8
AKTO	**Aktyubinsk**	**11.99**	**43**	⇓Pn	Pn	16 16 10.6	-4.3
	comp=Z,1.7nm,0.9s						
AKTO				⇑Sn	Sn	16 18 22.4	-6.4
	comp=Z,3.3nm,1.2s						
AKTO	**Aktyubinsk**	**11.99**	**43**	Pn	Pn	16 16 10.6	-4.3
	comp=Z,1.7nm,0.9s						
AKTO				Sn	Sn	16 18 22.4	-6.4
	comp=Z,3.3nm,1.2s						
AB31	**Akbulak array**	**12.40**	**51**	⇓Pn	Pn	16 16 17.2	-3.3
	comp=Z,0.4nm,0.6s,baz=240,slow=12,SNR=11						
AB31				⇑Sn	Sn	16 18 32.9	-5.9
	comp=Z,0.4nm,0.5s,baz=244,slow=24,SNR=2.5						
AB31	**Akbulak array**	**12.40**	**51**	Pn	Pn	16 16 17.2	-3.3
	comp=Z,0.4nm,0.6s,SNR=11						
AB31				Sn	Sn	16 18 32.9	-5.9
	comp=Z,0.4nm,0.5s,SNR=2.5						

*ISCJB **27** 16:16:20.9±0.4, 42°36N±0°02×45°14E±0°02, h10km±5km, Error ellipse: s-maj=3.8km s-min=2.8km az=21.7*
*CSEM **27** 16:16:21.2±0.1, 42°35N×45°12E, h15km, mb4.1, Error ellipse: s-maj=2.8km s-min=2.4km az=7.0*
*TIF **27** 16:16:21.1, 42°34N×45°09E, h24km±3km*
*MOS **27** 16:16:22.0±1.0, 42°30N×45°02E, h21km, mb4.1/1, Error ellipse: s-maj=9.4km s-min=6.7km az=102.1*

ISC 27 16:16:22.4±1.0, 42°34N±0°02×45°07E±0°02, h24km±10km, n50, σ1s28/96, 2C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUS	**Dusheti**	**0.37**	**228**	P	**Pb**	**16 16 30.1**	**-0.4**
DUS				S	**Sb**	**16 16 36.8**	**+0.8**
DUS	**Dusheti**	**0.37**	**228**	P	**Pb**	**16 16 30.1**	**-0.4**
DUS				S	**Sb**	**16 16 36.8**	**+0.8**
TBLG	**Delisi**	**0.65**	**202**	PG	**Pb**	**16 16 34.5**	**-0.7**
TBLG				S	**Sn**	**16 16 44.8**	**-0.9**
TBLG	**Delisi**	**0.65**	**202**	P	**Pb**	**16 16 34.5**	**-0.7**
TBLG				S	**Sn**	**16 16 44.8**	**-0.9**
TBLG	**Delisi**	**0.65**	**202**	P	**Pb**	**16 16 34.5**	**-0.7**
TBLG				S	**Sn**	**16 16 44.8**	**-0.9**
LACR	**Lac**	**0.75**	**311**	*i*PG	**Pb**	**16 16 35.2**	**-1.8**
LACR				*i* S	**Sb**	**16 16 45.9**	**-1.0**
LACR	**Lac**	**0.75**	**311**	*i* Pg	**Pb**	**16 16 35.2**	**-1.8**
LACR				*i* Sg	**Sb**	**16 16 45.9**	**-1.0**
SNJR	**Sundja**	**0.76**	**346**	*e*PG	**Pb**	**16 16 36.0**	**-1.0**
SNJR				*e*S	**Sn**	**16 16 47.5**	**-0.9**
SNJR	**Sundja**	**0.76**	**346**	*e*Pg	**Pb**	**16 16 36.0**	**-1.0**
SNJR				*e*Sg	**Sn**	**16 16 47.5**	**-0.9**
VLKR	**Vladikavkaz**	**0.77**	**338**	*e*PG	**Pb**	**16 16 36.7**	**-0.5**
VLKR				*e*S	**Sn**	**16 16 48.5**	**-0.1**
VLKR	**Vladikavkaz**	**0.77**	**338**	*e*Pg	**Pb**	**16 16 36.7**	**-0.5**
VLKR				*e*Sg	**Sn**	**16 16 48.5**	**-0.1**
DGRG	**David-gareji**	**0.91**	**165**	P	**Pb**	**16 16 39.9**	**+0.3**
DGRG				S	**Sn**	**16 16 55.1**	**+2.9**
DGRG	**David-gareji**	**0.91**	**165**	P	**Pb**	**16 16 39.9**	**+0.3**
DGRG				S	**Sn**	**16 16 55.1**	**+2.9**
ZEI	**Tsey**	**0.97**	**297**	*e*PG	**Pn**	**16 16 39.7**	**-1.0**
ZEI				*e*S	**Sn**	**16 16 53.4**	**-0.4**
ZEI	**Tsey**	**0.97**	**297**	*e*Pg	**Pn**	**16 16 39.7**	**-1.0**
ZEI				*e*Sg	**Sn**	**16 16 53.4**	**-0.4**
ARNR	**Ardon**	**1.03**	**326**	*i*PG	**Pb**	**16 16 41.7**	**0.0**
ARNR				*e*S	**Sb**	**16 16 56.3**	**+1.5**
ARNR	**Ardon**	**1.03**	**326**	*i* Pg	**Pb**	**16 16 41.7**	**0.0**
ARNR				*e*Sg	**Sb**	**16 16 56.3**	**+1.5**
KORR	**Kora**	**1.05**	**316**	*i*PG	**Pb**	**16 16 41.8**	**-0.2**
KORR				*e*S	**Sb**	**16 16 56.8**	**+1.4**
KORR	**Kora**	**1.05**	**316**	*i* Pg	**Pb**	**16 16 41.8**	**-0.2**
KORR				*e*Sg	**Sb**	**16 16 56.8**	**+1.4**
KZR	**Kazreti**	**1.07**	**207**	P	**Pn**	**16 16 41.3**	**-0.7**
KZR				S	**Sb**	**16 16 56.3**	**+0.4**
KZR	**Kazreti**	**1.07**	**207**	P	**Pn**	**16 16 41.3**	**-0.7**
KZR				S	**Sb**	**16 16 56.3**	**+0.4**
GRO	**Groznyy**	**1.10**	**27**	*i*PG	**Pn**	**16 16 41.0**	**-1.4**
GRO				*i* S	**Sb**	**16 16 56.2**	**-0.6**
GRO	**Groznyy**	**1.10**	**27**	*i* Pg	**Pn**	**16 16 41.0**	**-1.4**
GRO				*i* Sg	**Sb**	**16 16 56.2**	**-0.6**
BTKR	**Batakoyurt**	**1.11**	**340**	*e*PG	**Pb**	**16 16 43.2**	**+0.3**
BTKR				*e*S	**Sb**	**16 16 59.5**	**+2.6**
BTKR	**Batakoyurt**	**1.11**	**340**	*e*Pg	**Pb**	**16 16 43.2**	**+0.3**
BTKR				*e*Sg	**Sb**	**16 16 59.5**	**+2.6**
XNZR	**Khunzakh**	**1.23**	**80**	*e*PG	**Pn**	**16 16 43.5**	**-0.8**
XNZR				pmax	pmax		
	comp=Z,102nm,0.1s						
XNZR	**Khunzakh**	**1.23**	**80**	*e*Pg	**Pn**	**16 16 43.5**	**-0.8**
	comp=Z,102nm,0.1s						
DIGR	**Digorskoe uzhe**	**1.23**	**298**	*i*PG	**Pb**	**16 16 44.4**	**-0.8**
DIGR				*e*S	**Sb**	**16 17 01.3**	**+0.5**
DIGR	**Digorskoe uzhe**	**1.23**	**298**	*i* Pg	**Pb**	**16 16 44.4**	**-0.8**
DIGR				*e*Sg	**Sb**	**16 17 01.3**	**+0.5**
STDR	**Stavd-Durt**	**1.27**	**325**	*e*PG	**Pb**	**16 16 45.7**	**0.0**
STDR	**Stavd-Durt**	**1.27**	**325**	*e*Pg	**Pb**	**16 16 45.7**	**0.0**
UNCR	**Uncukul**	**1.33**	**73**	*e*PG	**Pb**	**16 16 46.0**	**-0.8**
UNCR				*e*S	**Sb**	**16 17 03.0**	**-0.4**
UNCR				pmax	pmax		
	comp=Z,74nm,0.2s						
UNCR	**Uncukul**	**1.33**	**73**	*e*Pg	**Pb**	**16 16 46.0**	**-0.8**
	comp=Z,74nm,0.2s						
UNCR				*e*Sg	**Sb**	**16 17 03.0**	**-0.4**
DLMR	**Dylym**	**1.36**	**57**	*i*PG	**Pb**	**16 16 47.0**	**-0.3**
DLMR				*e*S	**Sb**	**16 17 04.5**	**+0.1**
DLMR				pmax	pmax		
	comp=Z,186nm,0.4s						
DLMR	**Dylym**	**1.36**	**57**	*i* Pg	**Pb**	**16 16 47.0**	**-0.3**
	comp=Z,186nm,0.4s						
DLMR				*e*Sg	**Sb**	**16 17 04.5**	**+0.1**
TRKR	**Terskaya**	**1.41**	**350**	*e*PG	**Pb**	**16 16 48.3**	**+0.3**
TRKR				*e*S	**Sb**	**16 17 08.4**	**+2.8**
TRKR	**Terskaya**	**1.41**	**350**	*e*Pg	**Pb**	**16 16 48.3**	**+0.3**
TRKR				*e*Sg	**Sb**	**16 17 08.4**	**+2.8**
KRNR	**Karanay**	**1.44**	**70**	*e*PG	**Pb**	**16 16 49.0**	**+0.3**
KRNR				*i* S	**Sb**	**16 17 08.0**	**+1.3**
KRNR				pmax	pmax		
	comp=Z,86nm,0.1s						
KRNR	**Karanay**	**1.44**	**70**	*e*Pg	**Pb**	**16 16 49.0**	**+0.3**
	comp=Z,86nm,0.1s						
KRNR				*i* Sg	**Sb**	**16 17 08.0**	**+1.3**
ARKR	**Arakani**	**1.45**	**79**	*e*PG	**Pb**	**16 16 49.0**	**+0.2**
ARKR				*e*S	**Sb**	**16 17 07.5**	**+0.7**
ARKR				pmax	pmax		
	comp=Z,54nm,0.2s						
ARKR	**Arakani**	**1.45**	**79**	*e*Pg	**Pb**	**16 16 49.0**	**+0.2**
	comp=Z,54nm,0.2s						
ARKR				*e*Sg	**Sb**	**16 17 07.5**	**+0.7**
DBC	**Dubki**	**1.47**	**62**	*e*PG	**Pb**	**16 16 47.4**	**-1.7**
DBC				*i* S	**Sb**	**16 17 08.9**	**+1.5**
DBC	**Dubki**	**1.47**	**62**	*e*Pg	**Pb**	**16 16 47.4**	**-1.7**
DBC				*i* Sg	**Sb**	**16 17 08.9**	**+1.5**
AKH	**Akhalkalaki**	**1.50**	**232**	P	**Pb**	**16 16 48.4**	**-1.2**
AKH				S	**Sb**	**16 17 08.5**	**+0.2**
AKH	**Akhalkalaki**	**1.50**	**232**	P	**Pb**	**16 16 48.4**	**-1.2**
AKH				S	**Sb**	**16 17 08.5**	**+0.2**
KMKR	**Kumukh**	**1.52**	**97**	*e*PG	**Pb**	**16 16 49.5**	**-0.6**
KMKR				*e*S	**Sb**	**16 17 11.0**	**+1.9**
KMKR				pmax	pmax		
	comp=Z,56nm,0.2s						
KMKR	**Kumukh**	**1.52**	**97**	*e*Pg	**Pb**	**16 16 49.5**	**-0.6**
	comp=Z,56nm,0.2s						
KMKR				*e*Sg	**Sb**	**16 17 11.0**	**+1.9**
PRTR	**Priterechnaya**	**1.53**	**338**	*i*PG	**Pb**	**16 16 50.0**	**-0.1**
PRTR				*e*S	**Sb**	**16 17 11.7**	**+2.7**
PRTR	**Priterechnaya**	**1.53**	**338**	*i* Pg	**Pb**	**16 16 50.0**	**-0.1**
PRTR				*e*Sg	**Sb**	**16 17 11.7**	**+2.7**
CHVG	**Ch'k'valeri**	**2.24**	**281**	P	**Pb**	**16 17 05.0**	**+2.8**
CHVG				S	**Sb**	**16 17 33.6**	**+4.1**

IDC 27 16:16:56.0±1.6, 10°70N×94°33E, *h*0km, mb3.7/7, mb1 3.8/8, mb1mx3.6/27, mbtmp3.7/8, ML3.3/1, MS3.9/6, Ms1 3.9/6, ms1mx3.4/35, Error ellipse: s-maj=49.7km s-min=20.0km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.91**	**30**	Pn	Pn	16 19 08.1	+1.9
	0.1nm,0.3s,baz=219,slow=13,SNR=4.4						
PSI	**Prapat**	**9.08**	**150**	LR	LR	16 22 12.7	
	comp=Z,162nm,19.6s,baz=283,slow=34						
MKAR	**Makanchi Array**	**37.40**	**346**	P	P	16 24 11.0	+0.3
	1.1nm,0.9s,baz=166,slow=7.5,SNR=5.9						
SONM	**Songino Array**	**38.39**	**13**	P	P	16 24 18.7	-0.5
	0.9nm,1.0s,baz=190,slow=6.0,SNR=4.8						
KSRS	**Korea Array**	**40.25**	**43**	P	P	16 24 33.7	-1.1
	0.1nm,0.3s,baz=215,slow=16,SNR=4.5						
ZALV	**Zalesovo Beam**	**43.80**	**352**	P	P	16 25 03.6	+0.2
	1.1nm,0.8s,baz=168,slow=7.6,SNR=5.6						
BVAR	**Borovoye Array**	**46.40**	**340**	P	P	16 25 23.7	-0.5
	0.5nm,0.7s,baz=138,slow=5.4,SNR=3.3						
BVAR				LR	LR	16 46 17.4	
	comp=Z,79nm,20.1s,baz=82,slow=38						
WRA	**Warramunga Arr**	**49.79**	**128**	P	P	16 25 50.6	-0.3
	1.8nm,1.0s,baz=305,slow=6.6,SNR=3.6						
ASAR	**Alice Springs**	**51.61**	**132**	P	P	16 26 05.0	+0.3
	2.4nm,0.8s,baz=310,slow=7.2,SNR=18						
STKA	**Stephens Creek**	**61.94**	**135**	LR	LR	16 59 31.7	
	comp=Z,127nm,18.2s,baz=25,slow=41						
FINES	**FINESS Array B**	**70.32**	**332**	LR	LR	17 03 40.3	
	comp=Z,199nm,21.5s,baz=51,slow=40						
BOSA	**Boshof**	**77.24**	**237**	LR	LR	17 00 21.4	
	comp=Z,138nm,19.0s,baz=280,slow=34						
NOA	**NORSAR Array B**	**77.38**	**330**	LR	LR	17 09 14.4	
	comp=Z,48nm,20.3s,baz=20,slow=41						

IDC 27 16:19:54.2±1.8, 8°45S×159°78E, *h*0km, mb4.1/6, mb1 4.2/6, mb1mx3.8/20, mbtmp4.1/6, MS3.3/1, Ms1 3.3/1, ms1mx2.7/32, Error ellipse: s-maj=40.9km s-min=18.2km az=73.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.99**	**171**	Pn	Pn	16 20 15.4	0.0
	98nm,0.3s,baz=132,slow=4.1,SNR=44						
HNR				Sn	Sn	16 20 32.2	+2.1
	176nm,0.3s,baz=68,slow=9.8,SNR=13						
WRA	**Warramunga Arr**	**27.14**	**242**	P	P	16 25 39.7	+0.3
	2.0nm,0.6s,baz=72,slow=9.3,SNR=7.4						
STKA	**Stephens Creek**	**28.80**	**213**	P	P	16 25 53.2	-0.9
	1.3nm,0.5s,baz=58,slow=14,SNR=4.1						
ASAR	**Alice Springs**	**29.03**	**236**	P	P	16 25 56.6	+0.3
	1.2nm,0.4s,baz=62,slow=10,SNR=52						
FITZ	**Fitzroy Crossi**	**34.53**	**250**	P	P	16 26 44.3	-0.3
	2.6nm,0.6s,baz=73,slow=8.9,SNR=11						
JNU	**Nakatsue**	**49.65**	**328**	LR	LR	16 46 06.5	
	comp=Z,30nm,20.8s,baz=270,slow=32						
SONM	**Songino Array**	**73.16**	**326**	P	P	16 31 27.7	+0.7
	0.4nm,0.6s,baz=125,slow=4.4,SNR=4.7						
MKAR	**Makanchi Array**	**87.64**	**318**	P	P	16 32 43.9	-0.8
	0.5nm,0.6s,baz=89,slow=5.2,SNR=4.4						

*IDC **27** 16:24:57.9±1.0, 32°61S×179°14W, h0km, mb4.6/6, mb1 4.7/7, mb1mx4.2/21, mbtmp4.6/7, ML4.4/1, Error ellipse: s-maj=31.8km s-min=21.7km az=46.0*
*ISCJB **27** 16:24:58.1±0.9, 32°82S±0°05×179°3W±0°1, h10km, mb4.5/9, Error ellipse: s-maj=17.9km s-min=6.8km az=2.2*
*NEIC **27** 16:24:58.8±0.6, 32°60S×179°03W, h10km, mb4.5/5, Error ellipse: s-maj=16.5km s-min=11.7km az=97.0*
*AUST **27** 16:25:14.8±0.7, 32°60S×179°76W, h118km, Error ellipse: s-maj=1.8km s-min=1.4km az=288.0*

ISC 27 16:24:58.8±0.6, 32°69S±0°07×179°0W±0°1, h10km, n73, σ1s55/68, mb4.6/9, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.55**	**16**	*e*Pn	**Pn**	**16 25 52.4**	**-1.6**
PUZ	**Puketiti**	**5.82**	**202**	PN	**Pn**	**16 26 26.5**	**+1.3**
PUZ				SN	Sn	16 27 26.1	-5.8
CNGZ	**Carnagh Statio**	**6.

	2.9nm,0.5s							
FIA1	FINESS Array S	146.96	338	*e*PKPbc	PKPbc	16	44	40.4 -0.4
FINES	FINESS Array B	146.96	338	PKPbc	PKPbc	16	44	40.4 -0.5
FINES	FINESS Array B	146.96	338	PKPbc	PKPbc	16	44	40.4 -0.5
	3.0nm,0.5s,baz=48,slow=4.1,SNR=44							
NB2	NORSAR Subarra	150.85	350	PKP	PKPbc	16	44	50.1 -0.8
	comp=Z,0.9nm,0.5s,baz=15,slow=2.5							
NOA	NORSAR Array B	150.85	350	PKPbc	PKPbc	16	44	50.6 -0.3
NOA	NORSAR Array B	150.85	350	PKPbc	PKPbc	16	44	50.6 -0.3
	comp=Z,0.9nm,0.4s,baz=14,slow=4.1,SNR=7.0							
LIC	Lamto	153.09	167	*e*PKP2	PKPbc	16	45	00.1 +2.8
	comp=Z,20nm,0.7s							
KIC	Kosan Boka	153.27	167	*e*PKP2	PKPbc	16	45	00.5 +2.7
	comp=Z,61nm,1.6s							
TIC	Toumodi	153.50	167	*e*PKP2	PKPbc	16	44	59.8 +1.5
DBIC	Dimbokro	153.55	167	PKPbc	PKPbc	16	45	01.1 +2.8
DBIC				PKPab	PKPab	16	45	12.8 +2.3
DBIC	Dimbokro	153.55	167	PKPbc	PKPbc	16	45	01.1 +2.8
	comp=Z,2.0nm,0.3s,baz=171,slow=2.9,SNR=6.2							
DBIC				PKPab	PKPab	16	45	12.8 +2.3
	comp=Z,3.0nm,0.7s,baz=200,slow=5.7,SNR=3.5							
TORD	Torodi Ar. Bea	160.54	182	PKPab	PKPab	16	45	40.2 -0.4
TORD	Torodi Ar. Bea	160.54	182	PKPab	PKPab	16	45	40.2 -0.4
	comp=Z,1.9nm,0.5s,baz=174,slow=3.8,SNR=14							

IDC 27 16:27:45.6±6.4, 10.55N×94.17E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/25, mbtmp3.5/4, Error ellipse: s-maj=338.8km s-min=23.0km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	37.50	347	P	P	16 35 01.1	-0.1
	0.2nm,0.6s,baz=162,slow=8.5,SNR=4.2						
ZALV	Zalesovo Beam	43.92	352	P	P	16 35 53.9	-0.1
	0.2nm,0.3s,baz=170,slow=8.8,SNR=2.5						
WRA	Warramunga Arr	49.82	127	P	P	16 36 40.0	-0.8
	1.7nm,1.1s,baz=307,slow=8.8,SNR=3.1						
ASAR	Alice Springs	51.63	132	P	P	16 36 54.9	+0.5
	0.8nm,0.8s,baz=305,slow=6.8,SNR=9.9						

IDC 27 16:28:49.8±9.7, 9.89N×93.94E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/25, mbtmp3.6/4, Error ellipse: s-maj=504.3km s-min=23.6km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	38.09	347	P	P	16 36 10.9	+0.5
	0.1nm,0.5s,baz=170,slow=8.9,SNR=4.1						
ZALV	Zalesovo Beam	44.55	352	P	P	16 37 02.6	-0.6
	0.3nm,0.6s,baz=161,slow=5.7,SNR=2.7						
WRA	Warramunga Arr	49.60	127	P	P	16 37 43.8	+0.5
	1.0nm,0.6s,baz=309,slow=9.4,SNR=4.6						
ASAR	Alice Springs	51.37	131	P	P	16 37 55.9	-0.7
	0.5nm,0.6s,baz=306,slow=6.3,SNR=5.7						

GUC 27 16:36:21.9±0.6, 33.03S×72.12W, h30km±8km, MD3.5, ML2.5, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCH	El Roble	0.93	87	*e*P	Pn	16 36 38.0	-1.3
ROCH				*i* S	Sn	16 36 51.0	-0.9
ROCH				AML	AML	16 36 58.0	
	comp=N,171nm,0.5s						
LNV	Longovilo	1.10	147	↑*i*P	Pn	16 36 41.6	+0.4
LNV				*e*S	Sn	16 36 55.7	+0.4
PEL	Peldehue	1.21	96	↑*i*P	Pn	16 36 43.0	+0.1
PEL				*i* S	Sb	16 36 59.7	0.0
PEL				AML	AML	16 37 06.2	
	comp=E,321nm,0.4s						
CLCH	Cerro Calan	1.38	106	↓*i*P	Pn	16 36 45.7	+0.6
CLCH				*e*S	Sb	16 37 04.1	-0.3
CLCH				AML	AML	16 37 11.6	
	comp=N,132nm,0.4s						
CACH	El Canelo	1.67	131	*e*P	Pb	16 36 51.0	-1.2
CACH				*i* S	Sb	16 37 13.4	+0.5
LMEL	Las Melosas	1.80	117	↓*i*P	Pn	16 36 52.6	+1.5
LMEL				AML	AML	16 37 22.2	
	comp=N,99nm,0.2s						

*AUST **27** 16:39:24.1, 21.06S×178.76W, h600km*
*ISCJB **27** 16:39:29.9±1.0, 23.43S±0.09×179.9W±0.1, h532km, mb4.0/7, Error ellipse: s-maj=18.1km s-min=12.5km az=175.1*
*IDC **27** 16:39:33.5±3.0, 23.47S×179.88W, h570km±43km, mb3.4/7, mb1 3.6/8, mb1mx3.2/21, mbtmp3.4/8, Error ellipse: s-maj=48.7km s-min=19.5km az=154.0*

ISC 27 16:39:30.2±1.1, 23.6S±0.1×179.8W±0.1, h532km, n23, σ1§26/21, mb4.0/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	14.89	190	P	**P**	16 42 40.0	**+1.4**
URZ				S	**S**	16 45 11.5	**-2.5**
	1.5nm,0.3s,baz=264,slow=2.2,SNR=9.1						
	0.5nm,0.3s,baz=97,slow=8.1,SNR=3.9						
RMQ	Roma	28.61	258	P	**P**	16 44 45.8	**+2.1**
	baz=30,SNR=4.3						
CMSA	Cobar Meteorol	31.52	248	P	**P**	16 45 09.9	**+1.2**
	baz=33,SNR=16						
CTA	Charters Tower	31.67	270	P	**P**	16 45 11.0	**+0.8**
	7.5nm,0.3s,baz=114,slow=12,SNR=13						
MTSU	Mount Surprise	33.91	272	P	**P**	16 45 29.9	**+0.7**
	baz=35,SNR=4.8						
STKA	Stephens Creek	35.02	248	P	**P**	16 45 39.5	**+1.2**
	4.0nm,0.6s,baz=99,slow=11,SNR=14						
STKA	Stephens Creek	35.02	248	P	**P**	16 45 39.5	**+1.2**
	baz=37,SNR=12						
PATS	Pohnpei	37.02	322	S	S	16 50 19.1	-44
	baz=36,SNR=3.6						
ASAR	Alice Springs	42.28	260	P	**P**	16 46 37.4	**+0.1**
	2.5nm,0.4s,baz=95,slow=7.3,SNR=116						
ASAR				S	**S**	16 52 17.6	**-2.0**
	0.4nm,0.7s,baz=96,slow=15,SNR=4.0						
WRA	Warramunga Arr	42.62	266	P	**P**	16 46 39.4	**-0.6**
	1.3nm,0.3s,baz=89,slow=5.9,SNR=24						
MTN	Manton Dam	47.62	274	P	**P**	16 47 17.5	**-0.8**
	baz=48,SNR=3.5						
KNRA	Kununurra	48.88	269	P	**P**	16 47 27.6	**-0.1**
	baz=50,SNR=10.0						
FAKI	Fak Fak	50.67	286	S	S	16 54 08.0	-8.5
	baz=51,SNR=3.7						
FITZ	Fitzroy Crossi	51.04	265	P	**P**	16 47 43.5	**0.0**
	1.3nm,0.4s,baz=36,slow=8.8,SNR=19						
FITZ	Fitzroy Crossi	51.04	265	P	**P**	16 47 43.9	**+0.4**
	baz=52,SNR=5.1						
SWI	Sorong	52.52	288	S	S	16 54 19.5	-22
	baz=53,SNR=6.5						
KLBR	Kellerberrin	55.30	247	P	**P**	16 48 13.8	**+0.1**
	baz=57,SNR=7.1						
MEEK	Meekatharra	55.39	253	P	**P**	16 48 14.2	**-0.2**
	baz=57,SNR=3.5						
MORW	Morawa	57.17	250	P	**P**	16 48 26.7	**+0.1**
	baz=59,SNR=5.3						
PETK	Petropavlovsk-	78.82	346	P	**P**	16 50 36.5	**-1.1**
	1.9nm,0.6s,baz=108,slow=9.1,SNR=4.7						
PDAR	Pinedale Array	92.32	44	P	**P**	16 51 44.5	**+0.7**
	0.5nm,0.7s,baz=237,slow=4.6,SNR=4.4						
ARCES	ARCESS Array B	131.59	348	PKP	**PKPdf**	16 57 39.8	**-1.9**
	1.6nm,0.7s,baz=71,slow=3.9,SNR=4.7						
NOA	NORSAR Array B	141.78	351	PKhKP	PKPpre	16 57 55.1	
	0.6nm,0.6s,baz=21,slow=3.9,SNR=3.3						

IDC 27 16:42:42.6±1.4, 18.89N×145.93E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.5/24, mbtmp3.7/5, MS3.2/1, Ms1 3.2/1, ms1mx2.4/36, Error ellipse: s-maj=137.4km s-min=21.7km az=118.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USRK	Ussuriysk Arra	27.81	338	LR	LR	16 57 37.9	
	comp=Z,48nm,18.8s,baz=306,slow=32						
WRA	Warramunga Arr	40.23	197	P	P	16 50 21.1	-0.1
	0.3nm,0.3s,baz=21,slow=9.2,SNR=5.0						
FITZ	Fitzroy Crossi	41.81	210	P	P	16 50 33.9	-0.3
	1.1nm,0.3s,baz=35,slow=11,SNR=14						
ASAR	Alice Springs	43.89	196	P	P	16 50 51.1	0.0
	0.2nm,0.4s,baz=12,slow=6.0,SNR=10.0						
YKA	Yellowknife Ar	77.72	28	P	P	16 54 40.8	-0.3
	0.2nm,0.4s,baz=270,slow=5.4,SNR=3.4						
NVAR	Mina Array Bea	82.85	52	P	P	16 55 10.1	+0.5
	0.3nm,0.6s,baz=290,slow=3.7,SNR=2.8						

WEL 27 17:07:59.1±0.1, 40.53S×174.90E, h51km±2km, ML3.7/16, 12C-12D, Error ellipse: s-maj=0.9km s-min=0.5km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIW	Kapiti Island	0.33	178	↑PN	Pn	17 08 07.8	-0.9
KIW				SN	Sn	17 08 14.3	-1.2
KIW				AML	AML	17 08 14.8	
OGWZ	Otaki Gorge	0.36	144	↑PN	Pn	17 08 08.4	-0.5
OGWZ				SN	Sn	17 08 16.3	+0.3
MRZ	Mangatainoka R	0.54	105	PN	Pn	17 08 10.4	-0.6
MRZ				SN	Sn	17 08 20.0	+0.6
MRZ				AML	AML	17 08 21.3	
CAW	Cannon Point	0.59	167	↑PN	Pn	17 08 11.1	-0.5
CAW				SN	Sn	17 08 20.5	-0.2
CAW				AML	AML	17 08 23.1	
HOWZ	Holdsworth Sta	0.60	128	PN	Pn	17 08 11.1	-0.6
HOWZ				SN	Sn	17 08 21.7	+0.9
POWZ	Post Office Ro	0.68	79	PN	Pn	17 08 12.4	-0.2
POWZ				SN	Sn	17 08 23.5	+1.0
WEL	Wellington	0.76	187	PN	Pn	17 08 13.2	-0.5
WEL				SN	Sn	17 08 24.6	+0.2
WAZ	Wanganui	0.78	5	↓PN	Pn	17 08 13.3	-0.7
MTW	Mount Morrison	0.78	144	PN	Pn	17 08 13.5	-0.5
MTW				AML	AML	17 08 29.6	
MTW				AML	AML	17 08 29.7	
DUWZ	D'Urville Isla	0.79	249	↓PN	Pn	17 08 12.5	-1.6
TIWZ	Tintock	0.79	109	PN	Pn	17 08 13.5	-0.7
SNZO	South Karori	0.79	190	PN	Pn	17 08 13.6	-0.5
SNZO				AML	AML	17 08 25.2	
SNZO				AML	AML	17 08 29.9	
PRWZ	Pori Road	0.82	92	PN	Pn	17 08 14.2	-0.3
TCW	Tory Channel	0.83	214	PN	Pn	17 08 13.8	-0.8
TCW				AML	AML	17 08 27.3	
TCW				AML	AML	17 08 27.5	
BHW	Baring Head	0.88	181	PN	Pn	17 08 15.0	-0.3
BHW				AML	AML	17 08 32.1	
BHW				AML	AML	17 08 32.2	
MSWZ	Moikau Station	0.93	163	PN	Pn	17 08 15.8	-0.1
MSWZ				AML	AML	17 08 31.5	
MSWZ				AML	AML	17 08 33.6	
TSZ	Takapari Road	0.94	60	↓PN	Pn	17 08 15.6	-0.6
TSZ				AML	AML	17 08 32.0	
TSZ				AML	AML	17 08 32.0	
PAWZ	Paruwai Farm	0.94	155	PN	Pn	17 08 16.1	0.0
PAWZ				AML	AML	17 08 32.3	
PAWZ				AML	AML	17 08 33.6	
TMWZ	Te Maipa	0.95	128	PN	Pn	17 08 16.5	+0.2
DVHZ	Dannevirke	1.00	77	PN	Pn	17 08 16.0	-0.9
BFZ	Birch Farm	1.04	99	PN	Pn	17 08 16.1	-0.9
BFZ				AML	AML	17 08 37.3	
BFZ				AML	AML	17 08 37.3	
BFZ				AML	AML	17 08 37.7	
BFZ				AML	AML	17 08 37.8	
TRWZ	Traveller	1.06	146	PN	Pn	17 08 18.4	+0.7
TRWZ				AML	AML	17 08 37.7	
TRWZ				AML	AML	17 08 38.3	
PLWZ	Palliser	1.08	166	PN	Pn	17 08 17.4	-0.6
TUWZ	Tuamarina	1.16	218	PN	Pn	17 08 18.4	-0.6
TUWZ				AML	AML	17 08 37.3	
TUWZ				AML	AML	17 08 39.0	
PNHZ	Pukenui	1.17	59	↓PN	Pn	17 08 18.4	-0.9
ANWZ	Angora Road	1.21	87	PN	Pn	17 08 18.6	-1.0
MTVZ	Mangateitei	1.22	21	↑PN	Pn	17 08 19.7	-0.3
WPHZ	Waipukurau	1.27	69	↓PN	Pn	17 08 19.6	-0.9
PKVZ	Pokaka	1.28	16	↑PN	Pn	17 08 20.2	-0.7
MOVZ	Moawhango	1.30	31	↓PN	Pn	17 08 20.3	-0.7
RAEZ	Rainy Point	1.30	342	PN	Pn	17 08 20.7	-0.2
WNVZ	Wahianoa	1.31	24	PN	Pn	17 08 21.2	-0.2
TRVZ	Turoa	1.33	22	↓PN	Pn	17 08 21.4	-0.3
NNZ	Nelson	1.34	239	↑PN	Pn	17 08 20.4	-1.1
DFE	Dawson Falls	1.35	333	PN	Pn	17 08 21.5	-0.2
PRHZ	Porangahau	1.35	79	PN	Pn	17 08 21.0	-0.7
WHVZ	Whangaehu Hut	1.35	23	PN	Pn	17 08 21.7	-0.3
NMEZ	Namu Road	1.36	325	PN	Pn	17 08 21.7	-0.1
FWVZ	Far West T-bar	1.37	22	↑PN	Pn	17 08 21.7	-0.4
BHHZ	Black Hill Sta	1.37	41	↓PN	Pn	17 08 21.5	-0.5
TUVZ	Tukino	1.39	25	↓PN	Pn	17 08 22.3	0.0
NEZ	North Egmont	1.40	334	↑PN	Pn	17 08 22.2	-0.2
VRZ	Vera Road	1.41	356	↑PN	Pn	17 08 21.9	-0.5
KHEZ	Kahui Hut	1.41	331	PN	Pn	17 08 22.3	-0.2
WPVZ	Whakapapa	1.41	21	PN	Pn	17 08 22.4	-0.3
BSWZ	Blackbirch Sta	1.41	213	PN	Pn	17 08 22.0	-0.5
BSWZ				AML	AML	17 08 45.9	
BSWZ				AML	AML	17 08 46.9	
DREZ	Durham Road	1.44	338	PN	Pn	17 08 23.0	+0.2
NGZ	Ngauruhoe	1.46	22	PN	Pn	17 08 23.1	-0.2
NWEZ	Newall Road	1.48	327	PN	Pn	17 08 23.4	0.0
OTVZ	Oturere	1.48	24	PN	Pn	17 08 23.7	0.0
PKE	Pukeiti	1.50	332	PN	Pn	17 08 23.7	-0.1
WTVZ	West Tongariro	1.51	21	PN	Pn	17 08 23.6	-0.4
TWVZ	Taurewa	1.51	16	PN	Pn	17 08 23.4	-0.6
MHEZ	Mangahewa	1.52	343	PN	Pn	17 08 24.0	+0.1
KRVZ	Karewarewa	1.54	22	↓PN	Pn	17 08 24.1	-0.3
PXZ	Pawanui	1.58	72	PN	Pn	17 08 23.6	-1.2
PXZ				AML	AML	17 08 58.7	
PXZ				AML	AML	17 08 58.8	
PXZ				AML	AML	17 09 03.2	
PXZ				AML	AML	17 09 03.2	
KATZ	Kakaramea	1.67	22	PN	Pn	17 08 26.3	+0.2
KAHZ	Kahuranaki	1.69	65	PN	Pn	17 08 24.9	-1.4
RITZ	Rihia Road	1.72	26	PN	Pn	17 08 26.9	+0.2
MCHZ	McNeill Hill	1.76	53	PN	Pn	17 08 26.3	-0.9
BKZ	Black Stump Fm	1.83	43	↓PN	Pn	17 08 27.0	-1.3
BKZ				AML	AML	17 09 14.9	
BKZ				AML	AML	17 09 17.0	
THZ	Tophouse	1.95	230	↑PN	Pn	17 08 28.7	-1.1
HIZ	Hauiti	2.01	359	↑PN	Pn	17 08 30.5	-0.2
KHZ	Kahutara	2.15	208	↓PN	Pn	17 08 31.1	-1.4
TLZ	Tolley Road	2.25	13	PN	Pn	17 08 33.3	-0.7
KNZ	Kokohu	2.62	56	PN	Pn	17 08 36.2	-2.7
DSZ	Denniston Nort	2.63	241	PN	Pn	17 08 37.7	-1.6
MHGZ	Mahia Peninsul	2.69	60	PN	Pn	17 08 37.7	-2.3
TOZ	Tahuroa Road	2.83	10	PN	Pn	17 08 41.3	-0.6
URZ	Urewera	2.84	38	↑PN	Pn	17 08 39.2	-2.8
MWZ	Matawai	2.99	44	PN	Pn	17 08 41.4	-2.7
CNGZ	Carnagh Statio	3.27	53	PN	Pn	17 08 44.8	-3.2
MKAZ	Moumakai	3.42	4	PN	Pn	17 08 49.3	-0.6
MQZ	McQueen's Vall	3.59	207	PN	Pn	17 08 48.4	-3.8

*ISCJB **27** 17:30:59.8±0.4, 42.36N±0.02×45.12E±0.02, h3km±4km, Error ellipse: s-maj=3.5km s-min=2.7km az=34.5*
*TIF **27** 17:30:59.0, 42.39N×45.05E, h28km*
*CSEM **27** 17:31:00.2±0.1, 42.36N×45.11E, h2km, mb4.1, Error ellipse: s-maj=3.2km s-min=2.8km az=46.0*
*MOS **27** 17:31:01.5±1.7, 42.32N×44.94E, h24km, mb4.1/1, Error ellipse: s-maj=8.9km s-min=6.7km az=104.7*

ISC 27 17:31:01.3±1.0, 42.32N±0.02×45.04E±0.02, h22km±11km, n73, σ1§30/115, 3C-8D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUS	Dusheti	0.34	227	P	**Pb**	17 31 08.6	**-0.2**
DUS				S	**Sn**	17 31 15.7	**-1.6**
DUS	Dusheti	0.34	227	P	**Pb**	17 31 08.6	**-0.2**
DUS				S	**Sn**	17 31 15.7	**-1.6**
TBLG	Delisi	0.63	201	PG	**Pb**	17 31 13.2	**-0.5**
TBLG				S	**Sn**	17 31 23.3	**-1.0**
TBLG	Delisi	0.63	201	P	**Pb**	17 31 13.2	**-0.5**
TBLG				S	**Sn**	17 31 23.3	**-1.0**
TBLG	Delisi	0.63	201	P	**Pb**	17 31 13.2	**-0.5**
TBLG				S	**Sn**	17 31 23.3	**-1.0**
LACR	Lac	0.74	313	*e*PG	**Pb**	17 31 14.0	**-1.7**
LACR				*e*S	**Sb**	17 31 24.5	**-1.0**
LACR	Lac	0.74	313	*e*Pg	**Pb**	17 31 14.0	**-1.7**
LACR				*e*Sg	**Sb**	17 31 24.5	**-1.0**
SNJR	Sundja	0.77	348	*e*PG	**Pb**	17 31 14.5	**-1.5**
SNJR				*e*S	**Sb**	17 31 26.2	**+0.2**
SNJR	Sundja	0.77	348	*e*Pg	**Pb**	17 31 14.5	**-1.5**
SNJR				*e*Sg	**Sb**	17 31 26.2	**+0.2**
VLKR	Vladikavkaz	0.77	340	*e*PG	**Pb**	17 31 15.6	**-0.5**
VLKR				*e*S	**Sn**	17 31 27.3	**-0.6**
VLKR	Vladikavkaz	0.77	340	*e*Pg	**Pb**	17 31 15.6	**-0.5**
VLKR				*e*Sg	**Sn**	17 31 27.3	**-0.6**
DGRG	David-gareji	0.91	164	P	**Pn**	17 31 18.7	**0.0**
DGRG				S	**Sn**	17 31 33.7	**+2.6**
DGRG	David-gareji	0.91	164	P	**Pn**	17 31 18.7	**0.0**
DGRG				S	**Sn**	17 31 33.7	**+2.6**
ZEI	Tsey	0.95	298	↓*i*PG	**Pb**	17 31 18.4	**-0.9**
ZEI				*i* S	**Sb**	17 31 31.8	**+0.2**
ZEI	Tsey	0.95	298	*i* Pg	**Pb**	17 31 18.4	**-0.9**
ZEI				*i* Sg	**Sb**	17 31 31.8	**+0.2**
ARNR	Ardon	1.03	327	*e*PG	**Pn**	17 31 20.4	**-0.1**
ARNR				*e*S	**Sn**	17 31 35.0	**+0.8**
ARNR	Ardon	1.03	327	*e*Pg	**Pn**	17 31 20.4	**-0.1**
ARNR				*e*Sg	**Sn**	17 31 35.0	**+0.8**
KORR	Kora	1.05	317	↓*i*PG	**Pb**	17 31 20.6	**-0.2**
KORR				*e*S	**Sn**	17 31 35.2	**+0.6**
KORR	Kora	1.05	317	*i* Pg	**Pb**	17 31 20.6	**-0.2**
KORR				*e*Sg	**Sn**	17 31 35.2	**+0.6**
KZR	Kazreti	1.05	207	P	**Pb**	17 31 20.0	**-0.8**
KZR				S	**Sn**	17 31 35.2	**+0.5**
KZR	Kazreti	1.05	207	P	**Pb**	17 31 20.0	**-0.8**
KZR				S	**Sn**	17 31 35.2	**+0.5**
BTKR	Batakoyurt	1.11	341	*e*PG	**Pb**	17 31 22.1	**+0.2**
BTKR				*e*S	**Sn**	17 31 38.1	**+1.8**
BTKR	Batakoyurt	1.11	341	*e*Pg	**Pb**	17 31 22.1	**+0.2**
BTKR				*e*Sg	**Sn**	17 31 38.1	**+1.8**
GRO	Groznyy	1.13	27	↓*i*PG	**Pn**	17 31 19.9	**-1.9**
GRO	Groznyy	1.13	27	*i* Pg	**Pn**	17 31 19.9	**-1.9**
DIGR	Digorskoe uzhe	1.22	299	↓*i*PG	**Pn**	17 31 23.0	**-0.2**
DIGR				*e*S	**Sb**	17 31 39.9	**+0.6**
DIGR	Digorskoe uzhe	1.22	299	*i* Pg	**Pn**	17 31 23.0	**-0.2**
DIGR				*e*Sg	**Sb**	17 31 39.9	**+0.6**
XNZR	Khunzakh	1.25	79	*e*PG	**Pn**	17 31 23.0	**-0.7**
XNZR				pmax	pmax		
	comp=Z,73nm,0.1s						
XNZR	Khunzakh	1.25	79	*e*Pg	**Pn**	17 31 23.0	**-0.7**
	comp=Z,73nm,0.1s						
STDR	Stavd-Durt	1.27	326	*e*PG	**Pb**	17 31 24.5	**-0.1**
STDR	Stavd-Durt	1.27	326	*e*Pg	**Pb**	17 31 24.5	**-0.1**
UNCR	Uncukul	1.36	73	*e*PG	**Pb**	17 31 25.5	**-0.6**
UNCR				pmax	pmax		
	comp=Z,67nm,0.2s						
UNCR	Uncukul	1.36	73	*e*Pg	**Pb**	17 31 25.5	**-0.6**
	comp=Z,67nm,0.2s						
DLMR	Dylym	1.39	57	↓*i*PG	**Pb**	17 31 27.0	**+0.3**
DLMR				pmax	pmax		
	comp=Z,197nm,0.3s						
DLMR	Dylym	1.39	57	*i* Pg	**Pb**	17 31 27.0	**+0.3**
	comp=Z,197nm,0.3s						
TRKR	Terskaya	1.42	351	↓*i*PG	**Pb**	17 31 26.7	**-0.4**
TRKR				*i* S	**Sb**	17 31 46.9	**+2.1**
TRKR	Terskaya	1.42	351	*i* Pg	**Pb**	17 31 26.7	**-0.4**
TRKR				*i* Sg	**Sb**	17 31 46.9	**+2.1**
AKH	Akhalkalaki	1.47	232	P	**Pb**	17 31 27.2	**-0.9**
AKH				S	**Sb**	17 31 47.8	**+1.4**
AKH	Akhalkalaki	1.47	232	P	**Pb**	17 31 27.2	**-0.9**
AKH				S	**Sb**	17 31 47.8	**+1.4**
KRNR	Karanay	1.47	69	*e*PG	**Pb**	17 31 27.0	**-1.1**
KRNR				pmax	pmax		
	comp=Z,57nm,0.2s						
KRNR	Karanay	1.47	69	*e*Pg	**Pb**	17 31 27.0	**-1.1**
	comp=Z,57nm,0.2s						
ARKR	Arakani	1.48	78	*e*PG	**Pb**	17 31 28.0	**-0.1**
ARKR				pmax	pmax		
	comp=Z,46nm,0.2s						
ARKR	Arakani	1.48	78	*e*Pg	**Pb**	17 31 28.0	**-0.1**
	comp=Z,46nm,0.2s						
DBC	Dubki	1.50	62	↑*i*PG	**Pn**	17 31 27.0	**+0.1**
DBC	Dubki	1.50	62	*i* Pg	**Pn**	17 31 27.0	**+0.1**
PRTR	Priterechnaya	1.53	339	*e*PG	**Pb**	17 31 28.8	**-0.2**
PRTR				*e*S	**Sb**	17 31 50.4	**+2.4**
PRTR	Priterechnaya	1.53	339	*e*Pg	**Pb**	17 31 28.8	**-0.2**
PRTR				*e*Sg	**Sb**	17 31 50.4	**+2.4**
KMKR	Kumukh	1.54	96	*e*PG	**Pb**	17 31 29.0	**-0.3**
KMKR				pmax	pmax		
	comp=Z,76nm,0.4s						
KMKR	Kumukh	1.54	96	*e*Pg	**Pb**	17 31 29.0	**-0.3**
	comp=Z,76nm,0.4s						
GANJ	Ganja	1.93	150	P	**Pn**	17 31 33.3	**+0.4**
	SNR=86						
GANJ				S	**Sb**	17 31 58.6	**-0.9**
SGKR	Sergokala	1.95	85	*e*PN	Pb	17 31 40.5	+4.4
SGKR				*e*S	Sb	17 32 08.5	+8.5
SEKA	Sheki	1.96	124	P	**Pb**	17 31 34.3	**-2.1**
	SNR=165						
SEKA				S	**Sb**	17 32 00.2	**-0.2**
AKT	Akhty	2.18	112	*e*PN	**Pb**	17 31 38.0	**-2.1**
AKT				*i* S	**Sb**	17 32 08.0	**+1.3**
AKT	Akhty	2.18	112	*e*Pn	**Pb**	17 31 38.0	**-2.1**
DIGO	Kars	2.28	214	*i* P	**Pb**	17 31 40.5	**-1.5**
DIGO				*i* S	**Sb**	17 32

DCZ	**Deep Cove**	**0.38**	**83**	P*	**Pg**	**18 02 57.3**	**-0.6**
DCZ				S*	**Sg**	**18 03 02.9**	**-0.3**
DCZ	**Deep Cove**	**0.38**	**83**	P*	**Pg**	**18 02 57.3**	**-0.6**
DCZ				S*	**Sg**	**18 03 02.9**	**-0.3**
DCZ				AML	AML	18 03 03.5	
DCZ				AML	AML	18 03 08.3	
DCZ				AML	AML	18 03 08.3	
PYZ	**Puysegur Point**	**0.64**	**176**	P*	**Pg**	**18 03 02.0**	**-0.7**
PYZ				S*	**Sg**	**18 03 10.0**	**-1.3**
PYZ	**Puysegur Point**	**0.64**	**176**	P*	**Pg**	**18 03 02.0**	**-0.7**
PYZ				S*	**Sg**	**18 03 10.0**	**-1.3**
WHZ	**Wether Hill Ro**	**1.00**	**112**	P*	**Pb**	**18 03 08.4**	**-0.8**
WHZ				S*	**Sg**	**18 03 22.2**	**-0.5**
WHZ	**Wether Hill Ro**	**1.00**	**112**	PN	**Pb**	**18 03 08.4**	**-0.8**
WHZ				SN	**Sg**	**18 03 22.2**	**-0.5**
WHZ				AML	AML	18 03 32.5	
MLZ	**Mavora Lakes**	**1.11**	**81**	P*	**Pb**	**18 03 09.2**	**-1.9**
MLZ	**Mavora Lakes**	**1.11**	**81**	PN	**Pb**	**18 03 09.1**	**-1.9**
MLZ				SN	**Sb**	**18 03 23.9**	**-1.5**
MLZ				AML	AML	18 03 25.9	
MSZ	**Milford Sound**	**1.26**	**48**	Pn	**Pn**	**18 03 11.1**	**-2.1**
MSZ	**Milford Sound**	**1.26**	**48**	PN	**Pn**	**18 03 11.1**	**-2.1**
MSZ				AML	AML	18 03 34.3	
MSZ				AML	AML	18 03 34.3	
MSZ				AML	AML	18 03 37.9	
MSZ				AML	AML	18 03 37.9	
APZ	**The Paps**	**1.62**	**144**	Pn	**Pn**	**18 03 18.5**	**+0.4**
APZ	**The Paps**	**1.62**	**144**	⇓PN	**Pn**	**18 03 18.5**	**+0.4**
WKZ	**Wanaka**	**1.84**	**69**	Pn	**Pn**	**18 03 21.6**	**+0.4**
WKZ	**Wanaka**	**1.84**	**69**	PN	**Pn**	**18 03 21.6**	**+0.4**
WKZ				AML	AML	18 03 53.3	
WKZ				AML	AML	18 03 53.4	
WKZ				AML	AML	18 04 00.3	
WKZ				AML	AML	18 04 00.3	
EAZ	**Earnscleugh**	**1.92**	**82**	Pn	**Pn**	**18 03 22.7**	**+0.4**
EAZ	**Earnscleugh**	**1.92**	**82**	⇑PN	**Pn**	**18 03 22.7**	**+0.4**
EAZ				AML	AML	18 03 52.3	
EAZ				AML	AML	18 03 52.6	
EAZ				AML	AML	18 03 54.6	
EAZ				AML	AML	18 03 54.6	
SYZ	**Scrubby Hill**	**2.03**	**121**	Pn	**Pb**	**18 03 25.5**	**-1.2**
SYZ	**Scrubby Hill**	**2.03**	**121**	PN	**Pb**	**18 03 25.5**	**-1.2**
JCZ	**Jackson Bay**	**2.11**	**47**	Pn	**Pb**	**18 03 26.6**	**-1.5**
JCZ	**Jackson Bay**	**2.11**	**47**	PN	**Pb**	**18 03 27.6**	**-0.5**
JCZ				AML	AML	18 03 59.9	
JCZ				AML	AML	18 04 09.2	
TUZ	**Tuapeka**	**2.16**	**103**	Pn	**Pn**	**18 03 26.8**	**+1.2**
TUZ	**Tuapeka**	**2.16**	**103**	PN	**Pn**	**18 03 26.8**	**+1.2**
TUZ				AML	AML	18 03 59.7	
TUZ				AML	AML	18 04 00.7	
LBZ	**Lake Benmore**	**2.78**	**67**	Pn	**Pn**	**18 03 33.8**	**-0.3**
LBZ	**Lake Benmore**	**2.78**	**67**	PN	**Pn**	**18 03 33.8**	**-0.3**
LBZ				AML	AML	18 04 25.3	
LBZ				AML	AML	18 04 25.4	
LBZ				AML	AML	18 04 39.5	
LBZ				AML	AML	18 04 39.6	
HHSZ	**Highcliff Hill**	**2.81**	**99**	PN	**Pn**	**18 03 35.6**	**+1.0**
ODZ	**Otahua Downs**	**2.88**	**82**	Pn	**Pn**	**18 03 35.1**	**-0.4**
ODZ	**Otahua Downs**	**2.88**	**82**	PN	**Pn**	**18 03 35.1**	**-0.4**
ODZ				AML	AML	18 04 14.1	
ODZ				AML	AML	18 04 14.4	
ODZ				AML	AML	18 04 14.5	
ODZ				AML	AML	18 04 14.5	
FOZ	**Fox Glacier**	**2.95**	**49**	Pn	**Pn**	**18 03 37.6**	**+1.2**
FOZ	**Fox Glacier**	**2.95**	**49**	PN	**Pn**	**18 03 37.6**	**+1.2**
FOZ				AML	AML	18 04 31.1	
FOZ				AML	AML	18 04 31.1	
FOZ				AML	AML	18 04 31.7	
FOZ				AML	AML	18 04 31.7	
RPZ	**Rata Peaks**	**3.65**	**62**	Pn	**Pn**	**18 03 45.1**	**-1.0**
RPZ				Sn	**Sn**	**18 04 31.8**	**+3.0**
RPZ	**Rata Peaks**	**3.65**	**62**	Pn	**Pn**	**18 03 46.1**	**0.0**
	41nm,0.3s,baz=219,slow=6.2,SNR=111						
RPZ				Sn	**Sn**	**18 04 31.8**	**+3.0**
	46nm,0.3s,baz=24,slow=18,SNR=11						
RPZ	**Rata Peaks**	**3.65**	**62**	PN	**Pn**	**18 03 45.1**	**-1.0**
RPZ				AML	AML	18 04 39.7	
RPZ				AML	AML	18 04 53.3	
WVZ	**Waitaha Valley**	**3.84**	**52**	Pn	**Pn**	**18 03 48.4**	**-0.2**
WVZ	**Waitaha Valley**	**3.84**	**52**	PN	**Pn**	**18 03 48.4**	**-0.2**
WVZ				AML	AML	18 04 55.0	
WVZ				AML	AML	18 04 58.9	
OXZ	**Oxford**	**4.46**	**62**	PN	**Pn**	**18 03 57.1**	**-0.2**
MQZ	**McQueen's Vall**	**4.68**	**69**	Pn	**Pn**	**18 04 00.3**	**+0.1**
MQZ	**McQueen's Vall**	**4.68**	**69**	AML	AML	18 05 28.9	
MQZ				AML	AML	18 05 40.2	
LTZ	**Lake Taylor**	**4.91**	**58**	Pn	**Pn**	**18 04 02.5**	**-0.9**
LTZ	**Lake Taylor**	**4.91**	**58**	AML	AML	18 05 07.3	
LTZ				AML	AML	18 05 41.3	
DSZ	**Denniston Nort**	**5.33**	**47**	Pn	**Pn**	**18 04 08.5**	**-0.8**
KHZ	**Kahutara**	**5.88**	**61**	Pn	**Pn**	**18 04 17.6**	**+0.9**
THZ	**Tophouse**	**5.91**	**53**	Pn	**Pn**	**18 04 17.2**	**0.0**
THZ	**Tophouse**	**5.91**	**53**	AML	AML	18 05 35.5	
THZ				AML	AML	18 05 35.9	
NNZ	**Nelson**	**6.54**	**51**	Pn	**Pn**	**18 04 25.5**	**-0.3**
NNZ	**Nelson**	**6.54**	**51**	AML	AML	18 05 49.2	
TUWZ	**Tuamarina**	**6.72**	**55**	Pn	**Pn**	**18 04 30.2**	**+2.0**
NEZ	**North Egmont**	**8.35**	**44**	Pn	**Pn**	**18 04 51.6**	**+1.0**
PKE	**Pukeiti**	**8.35**	**43**	Pn	**Pn**	**18 04 51.8**	**+1.1**
HIZ	**Hauiti**	**9.31**	**44**	Pn	**Pn**	**18 05 03.3**	**-0.4**
WCZ	**Waipu Caves**	**11.22**	**34**	Pn	**Pn**	**18 05 28.9**	**-1.1**
MOO	**Moorlands**	**14.32**	**276**	P	**Pn**	**18 06 10.0**	**-2.2**
	baz=14,SNR=7.7						
MILA	**Mila**	**15.59**	**297**	P	**Pn**	**18 06 27.4**	**-2.0**
	baz=16,SNR=8.6						
TOO	**Toolangi**	**17.66**	**289**	P	**Pn**	**18 06 55.6**	**0.0**
	baz=18,SNR=12						
STKA	**Stephens Creek**	**23.69**	**296**	P	**P**	**18 08 02.2**	**+1.0**
STKA	**Stephens Creek**	**23.69**	**296**	P	**P**	**18 08 02.2**	**+1.0**
	2.3nm,0.8s,baz=216,slow=19,SNR=3.3						
ASAR	**Alice Springs**	**34.29**	**298**	P	**P**	**18 09 35.5**	**-0.3**
ASAR	**Alice Springs**	**34.29**	**298**	P	**P**	**18 09 35.5**	**-0.3**
	1.0nm,0.9s,baz=130,slow=8.7,SNR=8.3						
WRA	**Warramunga Arr**	**36.84**	**303**	P	**P**	**18 09 59.8**	**+2.0**
WRA	**Warramunga Arr**	**36.84**	**303**	P	**P**	**18 09 59.8**	**+2.0**
	1.7nm,0.9s,baz=139,slow=7.7,SNR=4.6						
QSPA	**South Pole Qui**	**44.60**	**180**	P	**P**	**18 11 02.9**	**+1.4**
QSPA	**South Pole Qui**	**44.60**	**180**	P	**P**	**18 11 02.8**	**+1.4**
	0.9nm,0.8s,baz=74,slow=1.5,SNR=3.4						
SOEI	**Soe**	**50.81**	**301**	P	**P**	**18 11 51.8**	**+1.6**
	baz=51,SNR=3.8						
TORD	**Torodi Ar. Bea**	**145.28**	**206**	PKPbc	**PKPab**	**18 22 27.3**	**0.0**
TORD	**Torodi Ar. Bea**	**145.28**	**206**	PKPbc	**PKPab**	**18 22 27.3**	**0.0**
	4.0nm,0.8s,baz=145,slow=2.4,SNR=19						
BRTR	**Keskin Array B**	**145.32**	**277**	PKPbc	**PKPab**	**18 22 27.1**	**+0.1**
BRTR	**Keskin Array B**	**145.32**	**277**	PKPbc	**PKPab**	**18 22 27.1**	**+0.1**
	2.5nm,0.9s,baz=130,slow=3.7,SNR=6.7						
ARCES	**ARCESS Array B**	**149.12**	**335**	PKPbc	**PKPbc**	**18 22 36.6**	**+0.1**
ARCES	**ARCESS Array B**	**149.12**	**335**	PKPbc	**PKPbc**	**18 22 36.6**	**+0.1**
	2.1nm,0.6s,baz=85,slow=2.7,SNR=8.0						
FINES	**FINESS Array B**	**152.19**	**319**	PKPbc	**PKPbc**	**18 22 43.2**	**-0.7**
FINES	**FINESS Array B**	**152.19**	**319**	PKPbc	**PKPbc**	**18 22 43.2**	**-0.7**
	2.0nm,0.7s,baz=48,slow=2.8,SNR=7.6						

*MAN **27** 18:11:25,10°.24N×126°.19E,h23km,mb5.0,ML3.9,MS4.0*
*ISCJB **27** 18:11:26.6±0.7,10°.21N±0°.04×126°.10E±0°.07,h74km±7km, mb4.2/29,Error ellipse: s-maj=11.0km s-min=5.4km az=164.9*
*IDC **27** 18:11:27.6±0.8,10°.19N×126°.00E,h66km±7km,mb4.0/24, mb1 4.1/25,mb1mx4.1/29,mbtmp4.0/25,MS3.6/17, Ms1 3.6/17,ms1mx3.4/35,Error ellipse: s-maj=20.1km s-min=8.6km az=84.0*
*NEIC **27** 18:11:30.5±1.2,10°.15N×125°.96E,h96km±11km,mb4.4/6, Error ellipse: s-maj=11.9km s-min=6.1km az=81.0*

ISC 27 18:11:27.5±0.6,10°.22N±0°.04×126°.10E±0°.06,h66km±5km, h65km:pP-P,n89,σ1s08/102,mb4.3/29,4C-3D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**1.22**	**266**	*eP*	**Pn**	**18 11 47.7**	**-0.9**
MSLP				*eS*	**Sn**	**18 12 05.1**	**+0.7**
BUTP	**Butuan**	**1.33**	**201**	*eP*	**Pn**	**18 11 48.3**	**-1.8**
BUTP				*eS*	**Sn**	**18 12 06.4**	**-0.6**
PLP	**Palo**	**1.44**	**311**	⇑*eP*	**Pn**	**18 11 50.0**	**-1.6**
PLP				*eS*	**Sn**	**18 12 09.9**	**+0.2**
OCLP	**Ormoc**	**1.68**	**300**	*eP*	**Pn**	**18 11 55.1**	**+0.3**
LLP	**Lapu-Lapu**	**2.10**	**273**	⇑*eP*	**Pn**	**18 11 59.9**	**-0.5**
LLP				*i* S	**Sn**	**18 12 28.1**	**+2.6**
CGP	**Cagayan de Oro**	**2.23**	**218**	*eP*	**Pn**	**18 12 01.8**	**-0.5**
CGP				*eS*	**Sn**	**18 12 30.2**	**+1.4**
TBP	**Tagbilaran**	**2.26**	**257**	*eP*	**Pn**	**18 12 02.6**	**0.0**
TBP				*eS*	**Sn**	**18 12 33.0**	**+3.5**
BUKP	**Musuan**	**2.54**	**204**	*eP*	**Pn**	**18 12 07.5**	**+1.0**
SNPH	**Sibulan**	**2.95**	**253**	i/*eP*	**Pn**	18 11 58.9	-13
SNPH				*i* S	Sn	18 12 38.0	-8.4
DCPH	**Dipolog City**	**3.16**	**239**	‖*eP*	**Pn**	**18 12 15.3**	**+0.5**
DMPH	**Davao City--Mi**	**3.17**	**191**	‖*eP*	**Pn**	**18 12 12.7**	**-2.4**
DMPH				*eS*	Sn	18 12 30.8	-21
DAV	**Davao City (W)**	**3.17**	**189**	P	**Pn**	**18 12 16.4**	**+1.4**
DAV	**Davao City (W)**	**3.17**	**189**	P	**Pn**	**18 12 16.4**	**+1.4**
	64nm,0.3s,baz=193,slow=4.2,SNR=4.6						
DAV				LR	LR	18 13 50.4	
	comp=Z,654nm,21.3s,baz=147,slow=46						
MATI	**Mati**	**3.26**	**177**	*eP*	**Pn**	**18 12 16.9**	**+0.7**
GUIM	**Jordan**	**3.47**	**277**	*eP*	**Pn**	**18 12 20.3**	**+1.2**
CTBH	**Cotabato--PC H**	**3.50**	**212**	‖*eP*	**Pn**	**18 12 19.9**	**+0.4**
CTBH				*i* S	Sn	18 12 48.8	-11
RCP	**Roxas**	**3.55**	**292**	⇑*eP*	**Pn**	**18 12 20.9**	**+0.8**
PAGZ	**Pagadian**	**3.57**	**229**	*eP*	**Pn**	**18 12 21.2**	**+0.8**
KALP	**Kalibo**	**3.96**	**292**	*eP*	Pn	18 12 57.8	+32
IPIL	**Ipil**	**4.24**	**236**	*eP*	**Pn**	**18 12 31.0**	**+1.4**
TPUB	**Ta-pu**	**14.02**	**339**	*ePn*	**P**	**18 14 47.8**	**-1.1**
BATI	**Baumata**	**20.44**	**187**	P	**P**	**18 15 59.1**	**-0.6**
BATI	**Baumata**	**20.44**	**187**	P	**P**	**18 15 59.1**	**-0.6**
	14nm,0.4s,baz=335,slow=0.7,SNR=9.8						
BATI				LR	LR	18 26 33.9	
	comp=Z,104nm,18.3s,baz=278,slow=44						
JNU	**Nakatsue**	**23.21**	**10**	P	**P**	**18 16 28.3**	**-0.7**
JNU				pP	**pP**	**18 16 45.0**	**+1.5**
JNU	**Nakatsue**	**23.21**	**10**	P	**P**	**18 16 28.3**	**-0.7**
	10nm,1.0s,baz=113,slow=7.2,SNR=3.8						
JNU				pP	**pP**	**18 16 45.0**	**+1.5**
	12nm,1.0s,baz=194,slow=4.0,SNR=3.8						
IPM	**Ipoh**	**25.50**	**259**	*eP*	**P**	**18 16 48.5**	**-1.5**
	10nm,0.9s						
KSAR	**Wonju Array Be**	**27.15**	**3**	P	**P**	**18 17 04.9**	**+0.3**
KSAR				pP	**pP**	**18 17 22.1**	**+1.8**
KSAR				PcP	**PcP**	**18 20 25.2**	**+1.4**
KSRS	**Korea Array**	**27.16**	**3**	P	**P**	**18 17 04.9**	**+0.2**
	3.0nm,1.1s,baz=181,slow=10,SNR=11						
KSRS				pP	**pP**	**18 17 22.1**	**+1.6**
	1.5nm,0.9s,baz=179,slow=11,SNR=3.7						
KSRS				PcP	**PcP**	**18 20 25.2**	**+1.4**
	0.6nm,0.5s,baz=183,slow=3.9,SNR=4.3						
KSRS				LR	LR	18 26 18.5	
	comp=Z,40nm,20.3s,baz=338,slow=33						
CMAR	**Chiang Mai Arr**	**27.52**	**290**	P	**P**	**18 17 08.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**27.52**	**290**	P	**P**	**18 17 08.3**	**+0.2**
	3.1nm,0.7s,baz=105,slow=6.8,SNR=17						
FITZ	**Fitzroy Crossi**	**28.15**	**181**	P	**P**	**18 17 13.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**28.15**	**181**	P	**P**	**18 17 13.4**	**-0.2**
	5.0nm,0.5s,baz=7.0,slow=9.3,SNR=28						
MJAR	**Matsushiro Arr**	**28.41**	**21**	P	**P**	**18 17 17.4**	**+1.5**
MJAR	**Matsushiro Arr**	**28.41**	**21**	P	**P**	**18 17 17.4**	**+1.5**
	1.2nm,0.7s,baz=193,slow=10,SNR=4.6						
MJAR				LR	LR	18 26 48.3	
	comp=Z,102nm,18.6s,baz=215,slow=32						
PMG	**Port Moresby**	**28.63**	**132**	LR	LR	18 29 12.7	
	comp=Z,84nm,21.4s,baz=230,slow=37						
WRA	**Warramunga Arr**	**31.05**	**165**	P	**P**	**18 17 37.6**	**-1.8**
WRA				pP	**pP**	**18 17 54.3**	**-1.1**
WRA	**Warramunga Arr**	**31.05**	**165**	P	**P**	**18 17 37.6**	**-1.8**
	1.2nm,0.5s,baz=347,slow=9.2,SNR=6.6						
WRA				pP	**pP**	**18 17 54.3**	**-1.1**
	2.0nm,0.7s,baz=348,slow=9.6,SNR=3.7						
USRK	**Ussuriysk Arra**	**34.24**	**8**	P	**P**	**18 18 07.5**	**+0.6**
	5.2nm,1.1s,baz=184,slow=5.5,SNR=9.6						
ASAR	**Alice Springs**	**34.53**	**167**	P	**P**	**18 18 08.9**	**-0.9**
ASAR				PcP	**PcP**	**18 20 44.0**	**+0.5**
ASAR	**Alice Springs**	**34.53**	**167**	P	**P**	**18 18 08.9**	**-0.9**
	1.3nm,0.3s,baz=352,slow=7.1,SNR=110						
ASAR				PcP	**PcP**	**18 20 44.0**	**+0.5**
	1.2nm,0.6s,baz=348,slow=2.7,SNR=5.6						
LSA	**Lhasa**	**37.92**	**306**	*eP*	**P**	**18 18 39.2**	**0.0**
	3.8nm,0.9s						
FORT	**Forrest**	**40.81**	**177**	*eP*	**P**	**18 19 02.7**	**+0.1**
	30nm,0.8s						
ULN	**Ulaanbaatar**	**40.81**	**340**	*eP*	**P**	**18 19 02.4**	**-0.3**
	4.6nm,0.8s						
SONM	**Songino Array**	**41.01**	**340**	P	**P**	**18 19 04.6**	**+0.4**
SONM				PcP	**PcP**	**18 21 03.8**	**+0.6**
SONM	**Songino Array**	**41.01**	**340**	P	**P**	**18 19 04.6**	**+0.4**
	0.8nm,0.4s,baz=157,slow=9.6,SNR=14						
SONM				PcP	**PcP**	**18 21 03.8**	**+0.6**
	1.1nm,0.7s,baz=171,slow=3.5,SNR=5.7						
SONM				LR	LR	18 38 24.2	
	comp=Z,56nm,19.6s,baz=326,slow=39						
NWAO	**Narrogin (SRO)**	**43.73**	**191**	P	**P**	**18 19 27.0**	**+0.6**
NWAO	**Narrogin (SRO)**	**43.73**	**191**	P	**P**	**18 19 27.0**	**+0.6**
	7.7nm,0.4s,baz=18,slow=11,SNR=13						
STKA	**Stephens Creek**	**44.41**	**161**	*eP*	**P**	**18 19 31.8**	**0.0**
STKA	**Stephens Creek**	**44.41**	**161**	P	**P**	**18 19 31.6**	**-0.2**
	3.6nm,0.5s,baz=329,slow=8.7,SNR=16						
PETK	**Petropavlovsk-**	**49.75**	**24**	P	**P**	**18 20 13.8**	**+0.5**
PETK	**Petropavlovsk-**	**49.75**	**24**	P	**P**	**18 20 13.8**	**+0.5**
	3.7nm,0.6s,baz=202,slow=4.4,SNR=23						
PETK				LR	LR	18 40 15.5	
	comp=Z,27nm,18.4s,baz=76,slow=35						
DZM	**Mont Dzumac**	**50.95**	**129**	P	**P**	**18 20 23.6**	**+0.8**
DZM	**Mont Dzumac**	**50.95**	**129**	P	**P**	**18 20 23.6**	**+0.8**
	5.2nm,0.9s,baz=201,slow=18,SNR=5.9						
MKAR	**Makanchi Array**	**51.96**	**323**	P	**P**	**18 20 29.6**	**-0.3**
MKAR				PcP	**PcP**	**18 21 41.8**	**+0.1**
MKAR	**Makanchi Array**	**51.96**	**323**	P	**P**	**18 20 29.6**	**-0.3**
	2.5nm,0.8s,baz=121,slow=7.4,SNR=23						
MKAR				PcP	**PcP**	**18 21 41.8**	**+0.1**
	1.5nm,0.6s,baz=119,slow=5.1,SNR=4.3						
MKAR				LR	LR	18 43 42.8	
	comp=Z,42nm,21.5s,baz=245,slow=37						
ZALV	**Zalesovo Beam**	**54.59**	**331**	P	**P**	**18 20 48.1**	**-1.0**
ZALV	**Zalesovo Beam**	**54.59**	**331**	P	**P**	**18 20 48.1**	**-1.0**
	1.3nm,0.4s,baz=120,slow=6.7,SNR=7.2						
ZALV				LR	LR	18 46 34.9	
	comp=Z,48nm,18.4s,baz=69,slow=39						
AAK	**Ala-Archa**	**55.24**	**315**	LR	LR	18 45 37.4	
	comp=Z,73nm,21.3s,baz=82,slow=37						
FX1	**Attu Island--F**	**56.87**	**32**	*eP*	**P**	**18 21 06.7**	**+1.3**
KKAR	**Karatay Array**	**58.16**	**315**	*eP*	**P**	**18 21 13.5**	**-1.3**
AFI	**Afiamalu**	**65.12**	**110**	LR	LR	18 45 04.1	
	comp=Z,158nm,19.7s,baz=90,slow=30						
ABKAR	**Akbulak array**	**66.80**	**319**	*eP*	**P**	**18 22 11.5**	**-0.7**
RPZ	**Rata Peaks**	**67.44**	**146**	LR	LR	18 54 36.1	
	comp=Z,90nm,18.0s,baz=24,slow=38						
AKTO	**Aktyubinsk**	**68.25**	**320**	LR	LR	18 54 42.5	
	comp=Z,65nm,18.8s,baz=266,slow=38						
RAYN	**Ar Rayn**	**77.43**	**292**	*eP*	**P**	**18 23 13.7**	**-2.6**
COLD	**Coldfoot**	**78.20**	**23**	*eP*	**P**	**18 23 19.7**	**+0.1**
	7.1nm,1.2s						
MCK	**McKinley**	**78.68**	**27**	*eP*	**P**	**18 23 23.2**	**+0.8**
	12nm,1.1s						
RAR	**Rarotonga**	**79.18**	**114**	LR	LR	18 53 59.5	
	comp=Z,203nm,18.3s,baz=132,slow=32						
ILAR	**Eielson Array**	**79.56**	**26**	P	**P**	**18 23 27.6**	**+0.4**
ILAR	**Eielson Array**	**79.56**	**26**	P	**P**	**18 23 27.6**	**+0.4**
	0.8nm,0.9s,baz=247,slow=6.3,SNR=8.3						
ARCES	**ARCESS Array B**	**84.18**	**340**	P	**P**	**18 23 51.2**	**-0.1**
ARCES	**ARCESS Array B**	**84.18**	**340**	P	**P**	**18 23 51.2**	**-0.1**
	1.3nm,0.6s,baz=81,slow=7.5,SNR=5.7						
BRTR	**Keskin Array B**	**85.43**	**309**	P	**P**	**18 23 56.6**	**-1.8**
BRTR	**Keskin Array B**	**85.43**	**309**	P	**P**	**18 23 56.6**	**-1.8**
	0.9nm,0.8s,baz=121,slow=6.1,SNR=3.6						
FINES	**FINESS Array B**	**85.85**	**332**	P	**P**	**18 23 58.9**	**-0.9**
FINES	**FINESS Array B**	**85.85**	**332**	P	**P**	**18 23 58.9**	**-0.9**
	1.3nm,0.5s,baz=81,slow=3.9,SNR=7.6						
FINES				LR	LR	19 07 00.2	
	comp=Z,35nm,18.4s,baz=200,slow=39						
MAW	**Mawson**	**89.59**	**200**	P	**P**	**18 24 18.3**	**+0.9**
MAW	**Mawson**	**89.59**	**200**	P	**P**	**18 24 18.3**	**+0.9**
	2.6nm,0.5s,baz=57,slow=5.7,SNR=9.4						
VNDA	**Vanda**	**89.90**	**173**	P	**P**	**18 24 19.3**	**+0.5**
VNDA				pP	**pP**	**18 24 36.5**	**-0.6**
VNDA	**Vanda**	**89.90**	**173**	P	**P**	**18 24 19.3**	**+0.5**
	2.1nm,0.9s,baz=306,slow=6.0,SNR=6.2						
VNDA				pP	**pP**	**18 24 36.5**	**-0.6**
	1.5nm,0.9s,baz=338,slow=7.4,SNR=2.9						
NOA	**NORSAR Array B**	**92.73**	**334**	P	**P**	**18 24 31.4**	**-1.0**
NOA	**NORSAR Array B**	**92.73**	**334**	P	**P**	**18 24 31.4**	**-1.0**
	0.8nm,1.0s,baz=36,slow=1.8,SNR=3.3						
NOA				LR	LR	19 10 25.0	
	comp=Z,14nm,19.4s,baz=240,slow=38						
YKA	**Yellowknife Ar**	**93.87**	**24**	P	**P**	**18 24 38.5**	**+0.9**
YKA	**Yellowknife Ar**	**93.87**	**24**	P	**P**	**18 24 38.4**	**+0.9**
	2.0nm,0.8s,baz=302,slow=4.8,SNR=12						
GERES	**GERESS Array B**	**96.63**	**322**	LR	LR	19 10 01.9	
	comp=Z,21nm,19.1s,baz=127,slow=36						
TORD	**Torodi Ar. Bea**	**120.12**	**292**	PKP	**PKPdf**	**18 30 10.9**	**-1.1**
TORD	**Torodi Ar. Bea**	**120.12**	**292**	PKP	**PKPdf**	**18 30 10.9**	**-1.1**
	0.8nm,0.3s,baz=60,slow=1.8,SNR=13						
PLCA	**Paso Flores**	**146.23**	**157**	PKPbc	**PKPbc**	**18 31 00.9**	**0.0**
PLCA	**Paso Flores**	**146.23**	**157**	PKPbc	**PKPbc**	**18 31 00.9**	**0.0**
	2.8nm,0.7s,baz=204,slow=6.6,SNR=6.1						

*ISCJB **27** 18:42:00.5±0.4,7°.28S±0°.05×155°.98E±0°.08,h27km, mb4.4/23,MS3.6/4,Error ellipse: s-maj=11.0km s-min=7.9km az=175.4*
*IDC **27** 18:42:01.9±0.6,7°.39S×155°.98E,h26km±3km,mb4.1/18, mb1 4.2/20,mb1mx4.2/23,mbtmp4.1/20,ML3.7/2,MS3.7/7, Ms1 3.7/7,ms1mx3.3/32,Error ellipse: s-maj=21.4km s-min=12.6km az=85.0*
*NEIC **27** 18:42:05.2±1.5,7°.36S×156°.03E,h56km±15km,mb4.8/5, Error ellipse: s-maj=11.3km s-min=9.0km az=102.0*
*AUST **27** 18:42:14.8±0.0,7°.83S×155°.84E,h108km,Error ellipse: s-maj=1.8km s-min=1.2km az=10.0*

ISC 27 18:42:01.6±0.5,7°.38S±0°.08×156°.05E±0°.07,h25km±3km, h25km:pP-P,n63,σ1s15/74,mb4.6/23,MS3.8/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.36**	**118**	Pn	**Pn**	**18 43 09.1**	**+2.8**
HNR				Sn	**Sb**	**18 44 07.4**	**-2.5**
HNR	**Honiara**	**4.36**	**118**	Pn	**Pn**	**18 43 09.1**	**+2.8**
	11nm,0.3s,baz=276,slow=4.1,SNR=7.4						
HNR				Sn	**Sb**	**18 44 07.4**	**-2.5**
	23nm,0.3s,baz=217,slow=19,SNR=5.9						
HNR				LR	LR	18 44 50.1	
	comp=Z,1μm,18.9s,baz=99,slow=38						
PMG	**Port Moresby**	**9.02**	**256**	LR	LR	18 47 30.3	
	comp=Z,428nm,20.4s,baz=185,slow=37						
MMPI	**Merauke**	**15.55**	**265**	S	S	18 48 60.0	+14
	baz=15,SNR=3.2						
CTA	**Charters Tower**	**15.80**	**216**	Pn	**P**	**18 45 45.2**	**-1.0**
CTA	**Charters Tower**	**15.80**	**216**	Pn	**P**	**18 45 45.2**	**-1.0**
	0.2nm,0.3s,baz=52,slow=12,SNR=3.5						
DZM	**Mont Dzumac**	**17.71**	**147**	P	**P**	**18 46 08.5**	**+1.0**
DZM	**Mont Dzumac**	**17.71**	**147**	P	**P**	**18 46 08.5**	**+1.0**
	0.1nm,0.3s,baz=17,slow=14,SNR=3.7						
DZM				LR	LR	18 51 36.1	
	comp=Z,183nm,20.5s,baz=315,slow=32						
RMQ	**Roma**	**20.23**	**199**	P	Pn	18 46 37.3	+0.4
	baz=20,SNR=16						
WRAB	**Tennant Creek**	**24.46**	**237**	*eP*	**P**	**18 47 19.1**	**+0.4**
	58nm,1.4s						
WRA	**Warramunga Arr**	**24.47**	**237**	P	**P**	**18 47 19.3**	**+0.4**
WRA	**Warramunga Arr**	**24.47**	**237**	P	**P**	**18 47 19.3**	**+0.4**
	14nm,0.8s,baz=63,slow=9.4,SNR=20						
MTN	**Manton Dam**	**25.11**	**256**	P	**P**	**18 47 25.

*ISCJB **27** 19:11:47.6±0.8, 16°.1N±0°.1×41°.72E±0°.09, h10^km, mb3.4/4, Error ellipse: s-maj=17.7km s-min=7.2km az=39.2*
*IDC **27** 19:11:48.3±3.4, 16°.04N×41°.45E, h0^km, mb3.5/4, mb1 3.6/4, mb1mx3.4/26, mbtmp3.5/4, Error ellipse: s-maj=76.4km s-min=33.4km az=149.0*
*DHMR **27** 19:11:48.5±1.5, 16°.12N×41°.83E, h25^km±41^km, ML3.8*
ISC 27 19:11:49.1±1.0, **16°.1N**±0°.1×**41°.8E**±0°.1, **h10**^km, **n7,** σ1§**65**/10, **mb3.5/4, Red Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HAJJ	**Hajjah**	**1.81**	**103**	*i* P		**Pn**		**19 12 18.5**	**-2.0**
HAJJ				*e*				19 12 18.6	
	baz=289,slow=6.5								
HAJJ				*i* S		**Sn**		**19 12 42.3**	**-1.4**
HAJJ				AML		AML		19 12 51.7	
	comp=Z,1μm,0.6s								
TRBA	**At Turbah**	**3.66**	**141**	*i* P		**Pn**		**19 12 45.1**	**-0.8**
TRBA				*i* S		**Sn**		**19 13 30.7**	**+1.5**
LBOS		**4.04**	**123**	*i* P		**Pn**		**19 12 51.8**	**+0.5**
LBOS				*i* S		**Sn**		**19 13 39.2**	**+0.4**
BRTR	**Keskin Array B**	**24.58**	**345**	P		**P**		**19 17 09.9**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=162,slow=8.8,SNR=3.4								
TORD	**Torodi Ar. Bea**	**38.84**	**271**	P		**P**		**19 19 12.9**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=82,slow=7.4,SNR=8.0								
GERES	**GERESS Array B**	**39.88**	**331**	P		**P**		**19 19 23.3**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=142,slow=6.8,SNR=4.8								
ZALV	**Zalesovo Beam**	**50.39**	**32**	P		**P**		**19 20 48.8**	**+2.4**
	comp=Z,0.3nm,0.4s,baz=238,slow=9.7,SNR=2.7								

*IDC **27** 19:15:21.1±0.6, 10°.69N×94°.26E, h0^km, mb4.1/16, mb1 4.2/17, mb1mx4.1/30, mbtmp4.1/17, ML4.0/1, MS3.7/19, Ms1 3.7/19, ms1mx3.5/41, Error ellipse: s-maj=23.8km s-min=14.5km az=53.0*
*ISCJB **27** 19:15:22.6±0.4, 10°.64N±0°.05×94°.30E±0°.04, h24^km, mb4.2/25, MS3.7/17, Error ellipse: s-maj=7.6km s-min=5.6km az=30.8*
*NEIC **27** 19:15:22.4±0.4, 10°.64N×94°.25E, h10^km, mb4.5/6, Error ellipse: s-maj=11.4km s-min=8.0km az=58.0*
*BKK **27** 19:15:57.5±0.9, 12°.N±5°.×9°.7E±1°.1, h10^km, M4.3/10, mb4.1/9, mB5.1/3, MLv4.3/10, Mw(mB)4.4/3*
ISC 27 19:15:24.6±0.5, **10°.64N**±0°.07×**94°.26E**±0°.07, **h24**^km, **n85,** σ1§**02**/67, **mb4.3**/25, **MS3.6**/17, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.80**	**304**	*eP*		Pn		19 15 54.9	+0.8
PBA				*eS*		Sn		19 16 17.1	+1.0
DGPR	**DIGLIPUR**	**2.83**	**333**	*eP*		**Pn**		**19 16 06.7**	**-1.7**
DGPR				*eS*		**Sn**		**19 16 43.4**	**+1.6**
CMBY	**CAMPBELL BAY**	**3.62**	**185**	*eP*		**Pn**		**19 16 18.0**	**-1.2**
PKDT	**Phuket**	**4.86**	**124**	P		Pb		19 16 59.6	+10
PHET	**Kaeng Krachan**	**5.72**	**66**	P		**Pn**		**19 16 48.9**	**+0.8**
PBKT	**Sadao Pong**	**8.79**	**47**	P		**Pn**		**19 17 31.1**	**+0.9**
	23nm,1.0s,0.1nm								
CMAR	**Chiang Mai Arr**	**8.99**	**30**	Pn		**Pn**		**19 17 33.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**8.99**	**30**	Pn		**Pn**		**19 17 33.4**	**+0.4**
	0.4nm,0.3s,baz=217,slow=15,SNR=18								
CMAR					LR	LR		19 21 01.3	
	comp=Z,112nm,18.2s,baz=325,slow=38								
PSI	**Prapat**	**9.06**	**149**		LR	LR		19 21 48.0	
	comp=Z,733nm,18.3s,baz=309,slow=42								
IPM	**Ipoh**	**9.08**	**132**	*eP*		**Pn**		**19 17 31.7**	**-2.6**
	12nm,0.4s								
CHAI	**Chaiyaphum**	**9.16**	**54**	P		**Pn**		**19 17 37.3**	**+2.0**
	7.3nm,1.2s,71nm0.0nm								
CHTO	**Chiang Mai**	**9.30**	**29**	P		**Pn**		**19 17 38.5**	**+1.3**
	3.9nm,0.9s								
CHTO	**Chiang Mai**	**9.30**	**29**	P		Pn		19 17 49.2	+12
	6.3nm,1.4s,10nm								
CMMT	**Chiang Mai**	**9.30**	**29**	P		Pn		19 17 48.6	+11
	12nm,1.5s,0.1nm								
LAMP	**Lampang**	**9.40**	**33**	P		Pn		19 17 47.0	+8.4
	5.3nm,0.9s,0.0nm								
LOEI	**Loei**	**9.63**	**44**	P		Pn		19 17 46.8	+5.0
	173nm,0.7s,6μm0.8nm								
VIS	**Vishakhapatnam**	**12.72**	**305**	*eP*		**Pn**		**19 18 23.3**	**-0.7**
VIS					AMB	AMB		19 18 52.2	
	comp=Z,38nm,0.3s								
SHL	**Shillong**	**15.01**	**352**	*eP*		**Pn**		**19 18 53.8**	**-1.7**
SHL					AMB	AMB		19 19 11.2	
	comp=Z,16nm,1.3s								
BOK	**Bokaro**	**15.32**	**330**	*eP*		**Pn**		**19 18 58.7**	**-0.8**
BOK					AMB	AMB		19 19 29.9	
	comp=Z,19nm,1.2s								
HYB	**Hyderabad**	**16.65**	**296**	*eP*		**Pn**		**19 19 16.4**	**-0.3**
HYB					AMB	AMB		19 19 37.7	
	comp=Z,29nm,3.3s								
LSA	**Lhasa**	**19.18**	**352**	*eP*		**P**		**19 19 46.6**	**-0.5**
	comp=Z,31nm,1.2s								
AKL	**Akola**	**19.36**	**303**	*eP*		**Pn**		**19 19 49.9**	**0.0**
AKL					AMB	AMB		19 20 01.4	
	comp=Z,29nm,1.6s								
BHPL	**Bhopal**	**20.38**	**310**	*eP*		**P**		**19 20 00.4**	**+0.6**
POO	**Poona**	**21.24**	**294**	*eP*		**P**		**19 20 08.2**	**-0.9**
POO					AMB	AMB		19 20 15.7	
	comp=Z,67nm,2.1s								
NDI	**New Delhi**	**24.02**	**321**	*eP*		**P**		**19 20 37.0**	**-0.8**
ENH	**Enshi**	**24.13**	**34**	*eP*		**P**		**19 20 37.7**	**-1.1**
	comp=Z,23nm,1.2s								
SMLA	**Simla**	**25.82**	**325**	*eP*		**P**		**19 20 54.5**	**+0.3**
SMLA					AMB	AMB		19 21 20.1	
	comp=Z,20nm,1.4s								
DHRM	**DHARAMSHALA**	**27.15**	**325**	*eP*		**P**		**19 21 07.0**	**+0.6**
KAPI	**Kappang**	**29.77**	**120**	LR		LR		19 33 42.8	
	comp=Z,122nm,19.6s,baz=297,slow=37								
AAK	**Ala-Archa**	**36.24**	**335**	LR		LR		19 38 49.0	
	comp=Z,206nm,21.8s,baz=130,slow=39								
EKS2	**Erkin-Say**	**36.57**	**334**	*eP*		**P**		**19 22 27.7**	**-1.1**
	comp=Z,4.4nm,0.8s								
MK31	**Makanchi Array**	**37.44**	**346**	*eP*		**P**		**19 22 35.1**	**-0.8**
MKAR	**Makanchi Array**	**37.44**	**346**	P		**P**		**19 22 36.0**	**0.0**
MKAR	**Makanchi Array**	**37.44**	**346**	P		**P**		**19 22 36.0**	**0.0**
	comp=Z,2.6nm,0.6s,baz=167,slow=9.2,SNR=31								
MKAR					LR	LR		19 42 33.6	
	comp=Z,84nm,18.1s,baz=148,slow=44								
KKAR	**Karatay Array**	**38.38**	**332**	*eP*		**P**		**19 22 44.2**	**+0.3**
	comp=Z,2.8nm,0.9s								
SONM	**Songino Array**	**38.45**	**13**	LR		LR		19 40 11.8	
	comp=Z,151nm,19.0s,baz=220,slow=39								
KSAR	**Wonju Array Be**	**40.30**	**43**	P		**P**		**19 22 59.7**	**-0.4**
KSRS	**Korea Array**	**40.34**	**43**	P		**P**		**19 22 59.7**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=248,slow=7.7,SNR=6.8								
KSRS					LR	LR		19 43 02.2	
	comp=Z,64nm,18.2s,baz=234,slow=41								
KURBB	**Kurchatov Arra**	**41.91**	**345**	P		**P**		**19 23 12.8**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=161,slow=7.6,SNR=26								
KURK	**Kurchatov**	**41.98**	**345**	P		**P**		**19 23 12.8**	**-0.8**
FITZ	**Fitzroy Crossi**	**42.13**	**132**	LR		LR		19 39 58.4	
	comp=Z,72nm,21.0s,baz=324,slow=35								
ZAA0	**Zalesovo Array**	**43.85**	**352**	*eP*		**P**		**19 23 28.6**	**-0.1**
ZALV	**Zalesovo Beam**	**43.85**	**352**	P		**P**		**19 23 28.7**	**0.0**
ZALV	**Zalesovo Beam**	**43.85**	**352**	P		**P**		**19 23 28.7**	**0.0**
	comp=Z,2.9nm,0.6s,baz=177,slow=7.9,SNR=17								
ZALV					LR	LR		19 43 13.7	
	comp=Z,56nm,18.1s,baz=249,slow=38								
BVAR	**Borovoye Array**	**46.43**	**340**	P		**P**		**19 23 48.1**	**-1.2**
BVAR	**Borovoye Array**	**46.43**	**340**	P		**P**		**19 23 48.1**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=146,slow=8.2,SNR=6.7								
BRVK	**Borovoye**	**46.49**	**340**	*eP*		**P**		**19 23 50.1**	**+0.3**
	comp=Z,10.0nm,1.4s								
MJAR	**Matsushiro Arr**	**47.25**	**50**	LR		LR		19 47 34.5	
	comp=Z,61nm,19.3s,baz=230,slow=41								
ABKAR	**Akbulak array**	**47.89**	**330**	*eP*		**P**		**19 24 00.5**	**-0.2**
	comp=Z,6.2nm,1.0s								
AKTO	**Aktyubinsk**	**49.60**	**330**	P		**P**		**19 24 13.9**	**0.0**
AKTO	**Aktyubinsk**	**49.60**	**330**	P		**P**		**19 24 13.9**	**0.0**
	comp=Z,0.9nm,0.5s,baz=294,slow=19,SNR=5.5								
WRA	**Warramunga Arr**	**49.80**	**128**	P		**P**		**19 24 16.3**	**+0.4**
WRA	**Warramunga Arr**	**49.80**	**128**	P		**P**		**19 24 16.3**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=305,slow=8.6,SNR=6.9								
ATD	**Arta Tunnel**	**50.41**	**276**	LR		LR		19 44 42.8	
	comp=Z,35nm,18.5s,baz=136,slow=35								
ASAR	**Alice Springs**	**51.62**	**132**	P		**P**		**19 24 30.4**	**+0.8**
ASAR	**Alice Springs**	**51.62**	**132**	P		**P**		**19 24 30.4**	**+0.8**
	comp=Z,2.6nm,0.6s,baz=308,slow=6.8,SNR=45								
GNI	**Garni**	**52.63**	**313**	P		**P**		**19 24 38.7**	**+1.7**
GNI	**Garni**	**52.63**	**313**	P		**P**		**19 24 38.7**	**+1.7**
	comp=Z,1.9nm,0.4s,baz=69,slow=20,SNR=3.3								
GNI					LR	LR		19 50 23.7	
	comp=Z,73nm,19.1s,baz=65,slow=40								
ASAJ	**Asahikawa**	**53.27**	**42**	LR		LR		19 51 22.5	
	comp=Z,39nm,18.2s,baz=169,slow=41								
KBZ	**Khabaz**	**55.16**	**316**	P		**P**		**19 24 55.6**	**+0.4**
KBZ	**Khabaz**	**55.16**	**316**	P		**P**		**19 24 55.6**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=173,slow=4.9,SNR=2.8								
KMBO	**Kilima Mbogo**	**57.89**	**262**	LR		LR		19 49 48.6	
	comp=Z,58nm,18.2s,baz=96,slow=36								
MMAI	**Mount Meron Ar**	**58.22**	**302**	LR		LR		19 53 47.9	
	comp=Z,46nm,19.1s,baz=150,slow=40								
BRTR	**Keskin Array B**	**60.74**	**310**	P		**P**		**19 25 33.0**	**-1.7**
BRTR	**Keskin Array B**	**60.74**	**310**	P		**P**		**19 25 33.0**	**-1.7**
	comp=Z,1.6nm,0.8s,baz=111,slow=7.1,SNR=6.9								
STKA	**Stephens Creek**	**61.94**	**135**	P		**P**		**19 25 42.0**	**-0.6**
STKA	**Stephens Creek**	**61.94**	**135**	P		**P**		**19 25 42.0**	**-0.6**
	comp=Z,6.8nm,1.2s,baz=274,slow=15,SNR=2.6								
STKA					LR	LR		19 51 52.4	
	comp=Z,218nm,20.2s,baz=349,slow=35								
FIA1	**FINESS Array S**	**70.34**	**332**	*eP*		**P**		**19 26 34.7**	**-1.4**
FINES	**FINESS Array B**	**70.34**	**332**	LR		LR		20 04 08.3	
	comp=Z,71nm,19.1s,baz=296,slow=42								
ARCES	**ARCESS Array B**	**72.72**	**340**	LR		LR		20 02 01.8	
	comp=Z,130nm,19.7s,baz=69,slow=38								
GERES	**GERESS Array B**	**75.86**	**318**	P		**P**		**19 27 08.6**	**-0.5**
GERES	**GERESS Array B**	**75.86**	**318**	P		**P**		**19 27 08.6**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=84,slow=4.2,SNR=5.7								
BOSA	**Boshof**	**77.16**	**237**	P		**P**		**19 27 18.1**	**+1.2**
BOSA	**Boshof**	**77.16**	**237**	P		**P**		**19 27 18.1**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=43,slow=15,SNR=5.5								
NOA	**NORSAR Array B**	**77.39**	**330**	LR		LR		20 05 03.8	
	comp=Z,38nm,18.3s,baz=35,slow=39								
KEST	**Kesra**	**79.77**	**305**	P		**P**		**19 27 31.1**	**-0.1**
KEST	**Kesra**	**79.77**	**305**	P		**P**		**19 27 31.1**	**-0.1**
	comp=Z,2.5nm,1.1s,baz=60,slow=4.1,SNR=4.3								
LPG	**La Plagne**	**80.77**	**315**	*eP*		**P**		**19 27 37.4**	**+0.8**
	comp=Z,6.5nm,0.9s								
LPL	**La Plagne**	**80.78**	**315**	*eP*		**P**		**19 27 36.7**	**+0.1**
	comp=Z,4.2nm,0.7s								
MBDF	**Montbardon**	**80.83**	**314**	*eP*		**P**		**19 27 37.9**	**+1.1**
ORIF	**Oris-en-Rattie**	**81.44**	**314**	*eP*		**P**		**19 27 40.9**	**+0.9**
TORD	**Torodi Ar. Bea**	**90.08**	**283**	P		**P**		**19 28 24.9**	**+1.6**
TORD	**Torodi Ar. Bea**	**90.08**	**283**	P		**P**		**19 28 24.9**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=78,slow=5.3								
NVAR	**Mina Array Bea**	**122.49**	**30**	PKP		**PKPdf**		**19 34 20.2**	**+1.5**
NVAR	**Mina Array Bea**	**122.49**	**30**	PKP		**PKPdf**		**19 34 20.2**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=322,slow=1.3,SNR=5.3								

*NIED **27** 19:16:00, 43°.80N×145°.40E, h160^km, Mw4.8 Best double couple: M0 1.60000×10^16 NP1:φs260.00000°, δ80.00000°, λ-73.00000°. NP2:φs18.00000°, δ19.00000°, λ-150.00000°.*
*ISCJB **27** 19:16:16.8±0.2, 43°.87N±0°.02×145°.33E±0°.03, h156^km±1^km, mb4.7/170, Error ellipse: s-maj=4.3km s-min=3.3km az=146.5*
*BJI **27** 19:16:16.1, 43°.93N×145°.23E, h145^km, mB4.8/24, mb4.9/41*
*MOS **27** 19:16:16.7±1.1, 43°.93N×145°.25E, h154^km, mb5.0/53, Error ellipse: s-maj=7.3km s-min=4.5km az=111.0*
*SKHL **27** 19:16:17.0±0.5, 43°.95N×145°.40E, h158^km±8^km, mb5.6/2, mbh5.1/1, Ms4.3/1, msh5.6/3*
*IDC **27** 19:16:17.9±0.5, 43°.91N×145°.34E, h151^km±3^km, mb4.4/37, mb1 4.5/42, mb1mx4.5/45, mbtmp4.4/42, MS3.1/2, Ms1 3.2/2, ms1mx2.6/33, Error ellipse: s-maj=7.7km s-min=6.2km az=162.0*
*NEIC **27** 19:16:17.4±0.2, 43°.90N×145°.30E, mb4.8/46, MW4.7(NIED), Error ellipse: s-maj=5.3km s-min=3.5km az=137.0*
NEIC Recorded [2 JMA] in eastern Hokkaido and [1 JMA] in southern Hokkaido.
*TEH **27** 19:16:18.0, 43°.94N×145°.25E, h143^km, ML4.8*
*JMA **27** 19:16:18.1±0.1, 43°.80N×145°.41E, h147^km±1^km, M4.7 Broadband fault plane solution: P waves. NP1: φs277.00000°, δ74.00000°, λ-60.00000°. NP2:φs34.00000°, δ34.00000°, λ-149.00000°. Principal axes: T Plg23.0000°, Azm345.0000°; N Plg28.0000°, Azm88.0000°; P Plg52.0000°, Azm222.0000°;*
JMA Felt II J1.
*SZGRF **27** 19:16:22.6, 44°.63N×145°.63E, h150^km, mb4.9, Hokkaido, Japan, region*
ISC 27 19:16:17.4±0.3, **43°.87N**±0°.03×**145°.29E**±0°.03, **h147**^km±1^km, **h146**^km:**pP-P, n454,** σ1§**36**/576, **mb4.8**/170, **46C-32D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JRA	**Rausu**	**0.14**	**300**	⇓P		**Pn**		**19 16 38.1**	**+1.0**
JRA				*eS*		**Sn**		**19 16 53.4**	**+1.3**
YUK	**Yuzh-Kuril'sk**	**0.45**	**68**	*d* iPN		**Pn**		**19 16 38.9**	**+0.9**
YUK				*i* S		**Sn**		**19 16 55.0**	**+1.2**
YUK				pmax		pmax			
	comp=Z,9μm,0.5s								
YUK				pmax		pmax			
	comp=N,356nm,0.4s								
YUK				pmax		pmax			
	comp=E,1μm,0.4s								
YUK				smax		smax			
	comp=N,14μm,0.5s								
YUK				smax		smax			
	comp=E,32μm,0.5s								
YUK	**Yuzh-Kuril'sk**	**0.45**	**68**	⇓ *i* P		**Pn**		**19 16 39.0**	**+0.9**
YUK				AMB		AMB		19 16 39.4	
	comp=E,357nm,0.5s								
YUK				AMB		AMB		19 16 39.4	
	comp=E,1μm,0.5s								
YUK				AMB		AMB		19 16 39.4	
	comp=E,9μm,0.5s								
YUK				*i* S		**Sn**		**19 16 55.1**	**+1.2**
YUK				A		A		19 16 55.9	
	comp=E,14μm,0.5s								
YUK				A		A		19 16 55.9	
	comp=E,31μm,0.5s								
JNK	**Nakash**	**0.50**	**235**	⇓P		**Pn**		**19 16 39.5**	**+1.1**
JNK				*eS*		**Sn**		**19 16 55.6**	**+1.3**
NEM2	**Nemuro 2**	**0.60**	**146**	⇑P		**Pn**		**19 16 38.8**	**-0.1**
NEM2				*eS*		**Sn**		**19 16 54.3**	**-1.0**
JAK	**Akkeshi**	**0.97**	**206**	⇑P		**Pn**		**19 16 42.3**	**+0.7**
JAK				*eS*		**Sn**		**19 17 00.4**	**+0.4**
JTKR	**Abashiri--Toko**	**1.00**	**276**	⇓P		**Pn**		**19 16 43.4**	**+1.6**
JTKR				*eS*		**Sn**		**19 17 02.8**	**+2.4**
JAR	**Ashorobuto**	**1.24**	**243**	⇑P		**Pn**		**19 16 45.8**	**+1.7**
JAR				*eS*		**Sn**		**19 17 06.6**	**+2.2**
JMP	**Maruseppu**	**1.40**	**276**	⇓P		**Pn**		**19 16 47.3**	**+1.7**
JMP				*eS*		**Sn**		**19 17 09.0**	**+1.8**
JOB	**Onbets**	**1.43**	**228**	⇑P		**Pn**		**19 16 47.4**	**+1.4**
JOB				*eS*		**Sn**		**19 17 09.1**	**+1.3**
JKK2	**Kamakawa 2**	**1.83**	**271**	⇑P		**Pn**		**19 16 52.4**	**+2.0**
JKK2				*eS*		**Sn**		**19 17 18.4**	**+2.7**
JCH	**Churui**	**1.88**	**229**	⇑P		**Pn**		**19 16 52.0**	**+1.0**
JCH				*eS*		**Sn**		**19 17 16.6**	**-0.1**
ASAJ	**Asahikawa**	**1.96**	**278**	*eP*		**Pn**		**19 16 53.7**	**+2.0**
ASAJ				*S*		**Sn**		**19 17 20.9**	**+2.7**
ASAJ	**Asahikawa**	**1.96**	**278**	⇑P		**Pn**		**19 16 54.0**	**+2.3**
ASAJ				*eS*		**Sn**		**19 17 21.1**	**+2.9**
ASAJ	**Asahikawa**	**1.96**	**278**	P		**Pn**		**19 16 54.1**	**+2.3**
	comp=E,120nm,0.3s,baz=93,slow=9.5,SNR=978								
ASAJ				*S*		**Sn**		**19 17 20.9**	**+2.7**
	comp=E,61nm,0.3s,baz=265,slow=29,SNR=36								
ASAJ				LR		LR		19 17 39.5	
	comp=E,634nm,18.8s,baz=265,slow=41								
JFR	**Furan**	**2.08**	**251**	P		**Pn**		**19 16 54.9**	**+1.6**
JFR				*eS*		**Sn**		**19 17 22.7**	**+1.9**
JSE	**Soyaes**	**2.22**	**300**	⇑P		**Pn**		**19 16 56.3**	**+1.4**
JSE				*eS*		**Sn**		**19 17 25.0**	**+1.3**
JAB	**Ashibetsu**	**2.25**	**262**	⇑P		**Pn**		**19 16 57.9**	**+2.6**
JAB				*eS*		**Sn**		**19 17 28.5**	**+4.1**
KUR	**Kuril'sk**	**2.29**	**53**	*d* iPN		**Pn**		**19 16 56.2**	**+0.5**
KUR				*eS*		**Sn**		**19 17 26.0**	**+0.7**
KUR				pmax		pmax			
	comp=Z,835nm,1.2s								
KUR				pmax		pmax			
	comp=N,393nm,0.4s								
KUR				pmax		pmax			
	comp=E,346nm,0.4s								
KUR				smax		smax			
	comp=N,742nm,1.1s								
KUR				smax		smax			
	comp=E,692nm,0.4s								
KUR	**Kuril'sk**	**2.29**	**53**	⇓ *i* P		**Pn**		**19 16 56.2**	**+0.5**
KUR				AMB		AMB		19 16 57.3	
	comp=E,1μm,0.5s								
KUR				AMB		AMB		19 16 58.0	
	comp=E,8μm,1.5s								
KUR				*e*S		**Sn**		**19 17 26.0**	**+0.7**
KUR				A		A		19 17 26.6	
	comp=E,8μm,1.5s								
KUR				A		A		19 17 26.6	
	comp=E,31μm,2.0s								
KUR				A		A		19 17 27.0	
	comp=E,5μm,1.0s								
KUR				A		A		19 17 27.0	
	comp=E,4μm,1.0s								
ERM	**Erimo**	**2.42**	**221**	*d* iPN		**Pn**		**19 16 58.7**	**+1.3**
ERM				pmax		pmax			
	comp=Z,453nm,0.7s								
ERM	**Erimo**	**2.42**	**221**	*e*Pn		**Pn**		**19 16 58.9**	**+1.5**
YSS	**Yuzh-Sakhalins**	**3.56**	**331**	⇑ *i* PN		**Pn**		**19 17 13.2**	**+1.5**
YSS				*i* S		**Sn**		**19 17 56.0**	**+2.1**
YSS				pmax		pmax			
	comp=Z,350nm,0.9s								
YSS				smax		smax			
	comp=N,680nm,1.2s								
YSS				smax		smax			
	comp=E,2μm,1.5s								
YSS				smax		smax			
	comp=N,3μm,4.0s								
YSS				smax		smax			
	comp=E,2μm,3.0s								
YSS	**Yuzh-Sakhalins**	**3.56**	**331**	⇑ *i* P		**Pn**		**19 17 13.2**	**+1.5**
YSS				⇑ *i* P		**Pn**		**19 17 13.2**	**+1.5**
YSS				AMB		AMB		19 17 14.7	
	comp=E,350nm,0.9s								
YSS				*i* S		**Sn**		**19 17 56.0**	**+2.1**
YSS				A		A		19 17 58.5	
	comp=E,680nm,1.2s								
YSS				A		A		19 17 58.5	
	comp=E,2μm,1.5s								
YSS				A		A		19 17 59.0	
	comp=E,2μm,3.0s								
YSS				A		A		19 17 59.0	
	comp=E,3μm,4.0s								
UGL	**Uglegorsk**	**5.66**	**338**	*e*PN		**Pn**		**19 17 39.9**	**+0.5**
UGL				*e*S		**Sn**		**19 18 47.0**	**+3.4**
UGL				pmax		pmax			
	comp=Z,560nm,1.0s								
UGL				pmax		pmax			
	comp=N,800nm,5.0s								
UGL				pmax		pmax			
	comp=E,400nm,5.0s								
UGL				smax		smax			
	comp=N,2μm,4.0s								
UGL				smax		smax			
	comp=E,1μm,4.0s								
UGL	**Uglegorsk**	**5.66**	**338**	*e*P		**Pn**		**19 17 39.9**	**+0.5**
UGL				AMB		AMB		19 17 41.0	
	comp=E,560nm,1.0s								
UGL				AMB		AMB		19 17 42.0	
	comp=E,800nm,5.0s								
UGL				AMB		AMB		19 17 42.0	
	comp=E,400nm,5.0s								
UGL				*e*S		**Sn**		**19 18 47.0**	**+3.4**
UGL				A		A		19 18 50.0	
	comp=E,2μm,4.0s								
UGL				A		A		19 18 50.0	
	comp=E,1μm,4.0s								
TEY	**Ternei**	**6.32**	**284**	*i* P		**Pn**		**19 17 49.0**	**+0.7**
TEY				AMB		AMB		19 17 49.2	
	comp=E,141nm,0.8s								
TEY				AMB		AMB		19 17 49.2	
	comp=E,172nm,1.0s								
TEY				AMB		AMB		19 17 49.2	
	comp=E,52nm,1.0s								
TYV	**Tymovskoe**	**7.22**	**347**	*eP*		**Pn**		**19 17 58.0**	**-2.2**
TYV				AMB		AMB		19 18 03.0	
	comp=E,20nm,0.8s								
TYV				AMB		AMB		19 18 03.0	
	comp=E,33nm,0.8s								
MAJO	**Matsushiro**	**9.10**	**219**	*e*PN		**Pn**		**19 18 24.8**	**-0.7**
MAJO	**Matsushiro**	**9.10**	**219**	*e*Pn		**Pn**		**19 18 24.8**	**-0.7**
MAT	**Matsushiro**	**9.10**	**219**	P		**Pn**		**19 18 24.9**	**-0.6**
MAT				S		**Sn**		**19 20 07.4**	**+1.0**
MJAR	**Matsushiro Arr**	**9.10**	**219**	P		**Pn**		**19 18 24.8**	**-0.7**
MJAR	**Matsushiro Arr**	**9.10**	**219**	P		**Pn**		**19 18 24.8**	**-0.7**
	comp=E,3.0nm,0.3s,baz=33,slow=12,SNR=58								
MJAR					LR	LR		19 22 28.0	
	comp=E,101nm,20.5s,baz=45,slow=40								
USRK	**Ussuriysk Arra**	**9.58**	**277**	P		**Pn**		**19 18 31.5**	**-0.2**
	comp=E,1.3nm,0.3s,baz=90,slow=13,SNR=102								
VLA	**Vladivostok**	**9.76**	**270**	⇑ *i* PN		**Pn**		**19 18 34.2**	**0.0**
VLA				*i* S		**Sn**		**19 20 23.4**	**+1.2**
VLA				pmax		pmax			
	comp=Z,35nm,1.4s						

ZEA AMB AMB 19 19 45.0
comp=Z,200nm,2.0s
ZEA AMB AMB 19 19 45.0
comp=Z,200nm,2.0s
ZEA *e*S **Sn** **19 22 33.0 -4.8**
ZEA A A 19 22 37.0
comp=Z,300nm,6.0s
ZEA *e*LQ LQ 19 24 22.0
INCN Inchon 15.51 252 *e*P **Pn** **19 19 47.6 -0.5**
comp=Z,9.6nm,0.4s
JNU Nakatsue 15.54 231 *e*Pn **Pn** **19 19 48.5 -0.2**
comp=Z,21nm,0.8s
JNU Nakatsue 15.54 231 P **Pn** **19 19 49.4 +0.7**
comp=Z,2.0nm,0.3s,baz=58,slow=5.3,SNR=18
CLNS Chul'man 18.28 322 *e*P **P** **19 20 17.8 -1.9**
CLNS pmax pmax
comp=N,15nm,0.9s
CLNS pmax pmax
comp=Z,26nm,1.0s
CLNS pmax pmax
comp=E,11nm,1.0s
HIA Hailar 18.33 296 *e*P **P** **19 20 18.3 -2.0**
comp=E,52nm,0.6s
YAK Yakutsk 20.37 339*d i*P **P** **19 20 38.4 -3.7**
YAK *e**PP **pP** **19 21 10.0 +1.9**
YAK *e*S S 19 24 13.5 -8.6
YAK *e* 19 24 42.5
YAK *e**SS **sS** **19 25 04.9 -0.6**
YAK *e* 19 31 50.0
YAK pmax pmax
comp=Z,74nm,0.9s
YAK pmax pmax
comp=E,14nm,1.0s
YAK pmax pmax
comp=N,13nm,0.9s
YAK smax smax
comp=N,214nm,2.7s
YAK smax smax
comp=E,139nm,2.4s
FX1 Attu Island--F 20.48 54 P **P** **19 20 43.6 +0.1**
FX1 Attu Island--F 20.48 54 P **P** **19 20 43.6 +0.1**
comp=E,33nm,0.8s,baz=338,slow=1.9,SNR=36
JOW Kunigami 21.87 225 *e*P **P** **19 20 59.5 +1.1**
comp=E,20nm,0.7s
BJI Beijing 21.93 270 P **P** **19 20 58.5 -0.5**
BJI pP **pP** **19 21 24.5 -0.9**
BJI sP **sP** **19 21 42.3 -1.4**
BJI S **S** **19 24 50.3 -0.7**
BJI sS **sS** **19 25 37.0 -0.2**
BJI pmax pmax
comp=Z,17nm,0.7s
BJI pmax pmax
comp=Z,73nm,4.1s
SSE Sheshan 22.89 244 P **P** **19 21 04.8 -3.5**
SSE pP **pP** **19 21 32.5 -3.3**
SSE sP **sP** **19 21 50.0 -4.0**
SSE S **S** **19 25 08.8 +2.1**
SSE pmax pmax
comp=Z,37nm,0.7s
SSE pmax pmax
comp=Z,99nm,3.8s
SSE LR LR
comp=N,62nm,20.4s
SSE LR LR
comp=E,12nm,20.4s
SSE LR LR
comp=Z,45nm,17.0s
NJ2 Nanjing 23.84 249 *e*P **P** **19 21 17.5 +0.5**
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 LR LR
comp=N,120nm,17.6s
NJ2 LR LR
comp=E,150nm,18.5s
NJ2 LR LR
comp=Z,210nm,12.8s
HHC Hu-ho-hao-te 25.00 275 *e*P **P** **19 21 29.0 +1.4**
HHC pP **pP** **19 21 57.3 -0.9**
HHC sP **sP** **19 22 14.3 -0.9**
HHC S **S** **19 25 39.8 -0.8**
HHC sS sS 19 26 29.0 -5.7
HHC SS **SnSn** **19 26 49.0 +1.4**
HHC ScS **ScS** **19 32 13.0 +0.8**
HHC pmax pmax
comp=Z,42nm,0.7s
HHC pmax pmax
comp=Z,140nm,3.6s
ULN Ulaanbaatar 26.73 292 *e*P **P** **19 21 44.0 +0.8**
comp=Z,79nm,0.9s
TATO Taipei 27.06 234 *e*P **P** **19 21 49.1 +3.0**
comp=Z,38nm,0.8s
SONM Songino Array 27.18 292 P **P** **19 21 47.9 +0.8**
SONM ScP **ScP** **19 28 29.0 -0.9**
SONM Songino Array 27.18 292 P **P** **19 21 47.9 +0.8**
comp=Z,35nm,0.5s,baz=82,slow=7.8,SNR=338
SONM ScP **ScP** **19 28 29.0 -0.9**
comp=Z,0.8nm,0.8s,baz=151,slow=1.5,SNR=4.8
WHN Wuhan 27.82 252⇑*i*P **P** **19 21 53.5 +0.7**
WHN pP **pP** **19 22 22.0 -1.7**
WHN LR LR
comp=Z,430nm,9.8s
IRK Irkutsk 28.34 302 *e*P **P** **19 21 55.0 -2.2**
IRK pmax pmax
comp=Z,20nm,0.9s
TPUB Ta-pu 28.84 233 *e*P **P** **19 22 01.2 -0.7**
comp=Z,18nm,0.8s
ZAK Zakamensk 29.00 298 *e*P **P** **19 22 03.1 -0.1**
ZAK pmax pmax
comp=Z,11nm,0.8s
MOY Mondy 30.38 301 *e*P **P** **19 22 13.7 -1.6**
ENH Enshi 31.36 256 *e*P **P** **19 22 23.5 -0.7**
comp=Z,7.4nm,0.7s
LZH Lanzhou 32.42 271 ⇓P P 19 22 46.0 +12
LZH pP pP 19 23 16.5 +12
LZH sP sP 19 23 33.3 +12
LZH PP **PP** **19 23 49.5 0.0**
LZH *e*S S 19 27 46.0 +8.8
LZH sS **ScP** **19 28 41.0 -6.2**
LZH SS **SnSn** **19 29 52.3 +4.7**
LZH pmax pmax
comp=Z,45nm,1.5s
LZH pmax pmax
comp=Z,130nm,5.0s
LZH LR LR
comp=N,170nm,10.4s
LZH LR LR
comp=E,200nm,11.0s
LZH LR LR
comp=Z,230nm,12.0s
GTA Gaotai 33.94 278 ⇓P P 19 22 53.0 +6.4
GTA pP pP 19 23 23.8 +5.7
GTA sP sP 19 23 40.0 +5.1
GTA S S 19 28 11.8 +11
GTA sS sS 19 29 04.3 +8.6
GTA SS **SS** **19 30 32.5 -1.1**
GTA pmax pmax
comp=Z,28nm,0.7s
GTA pmax pmax
comp=Z,91nm,4.8s
GTA LR LR
comp=N,130nm,16.9s
GTA LR LR
comp=E,97nm,17.1s
GTA LR LR
comp=Z,160nm,17.1s
FALS False Pass 34.42 53 *e*P P 19 23 00.4 +10
HVS Khovu-Aksy 34.97 301*c i*P **P** **19 22 54.5 -0.8**
HVS pmax pmax
comp=Z,150nm,1.7s
CD2 Chengdu 35.08 263 *e*P **P** **19 22 57.0 +0.6**
CD2 pP **pP** **19 23 28.5 +0.5**
CD2 sP **sP** **19 23 45.0 +0.2**
CD2 PP **PnPn** **19 24 20.5 +1.5**
CD2 S **S** **19 28 17.8 -0.2**
CD2 sS **sS** **19 29 12.0 -1.3**
CD2 SS **SnSn** **19 30 42.5 -9.0**
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 pmax pmax
comp=Z,50nm,4.8s
GYA Guiyang 35.65 254 P **P** **19 23 02.3 +0.9**
GYA pP **pP** **19 23 35.0 +1.9**
GYA sP **sP** **19 23 52.0 +2.2**
GYA PP **PnPn** **19 24 29.8 +3.7**
GYA PcP **PcP** **19 25 29.5 +2.9**
GYA S **S** **19 28 27.0 0.0**
GYA ScP **ScP** **19 29 01.3 +2.6**
GYA PcS **PcS** **19 29 15.5 +1.2**
GYA ScS **ScS** **19 33 04.8 +0.6**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,4.8s
QIZ Qiongzhong 38.63 241 P **P** **19 23 24.3 -2.1**
QIZ S **S** **19 29 09.0 -2.9**
QIZ LR LR
comp=N,300nm,9.0s
QIZ LR LR
comp=E,200nm,9.5s
QIZ LR LR
comp=Z,540nm,8.4s
KMI Kunming 39.23 256 ⇓P **P** **19 23 32.3 +0.6**
KMI pP **pP** **19 24 06.5 +2.7**
KMI sP **sP** **19 24 22.5 +2.1**
KMI PP **PnPn** **19 25 08.5 -0.3**
KMI S **S** **19 29 21.0 -0.3**
KMI sS **sS** **19 30 18.0 +0.7**
KMI SS **SS** **19 32 14.3 -6.1**
KMI pmax pmax
comp=Z,16nm,0.9s
KMI pmax pmax
comp=Z,93nm,3.1s
KMI LR LR
comp=N,230nm,8.8s
KMI LR LR
comp=E,190nm,8.8s
KMI LR LR
comp=Z,130nm,8.0s
ZALV Zalesovo Beam 39.85 307 P **P** **19 23 34.9 -1.2**
ZALV pmax pmax
comp=Z,5.0nm,0.3s
ZALV pmax pmax
comp=N,2.0nm,0.8s
ZALV Zalesovo Beam 39.85 307 P **P** **19 23 34.9 -1.2**
ZALV ScP **ScP** **19 29 13.6 -0.4**
ZALV Zalesovo Beam 39.85 307 P **P** **19 23 34.9 -1.2**
comp=N,5.2nm,0.3s,baz=68,slow=9.7,SNR=34
ZALV ScP **ScP** **19 29 13.6 -0.4**
comp=N,2.1nm,0.8s,baz=72,slow=4.8,SNR=8.0
SPU Mount Spurr 40.09 42 *e*P **P** **19 23 38.5 +0.4**
KDAK Kodiak Island 40.16 47 P **P** **19 23 37.7 -0.9**
KDAK Kodiak Island 40.16 47 P **P** **19 23 37.7 -0.9**
comp=N,12nm,0.6s,baz=296,slow=3.8,SNR=7.7
NVS Novosibirsk 40.59 308⇑*i*P **P** **19 23 40.0 -2.2**
NVS pmax pmax
comp=Z,18nm,0.9s
NVS pmax pmax
comp=N,4.0nm,0.8s
NVS pmax pmax
comp=E,16nm,1.0s
COLD Coldfoot 40.77 33 *e*P **P** **19 23 43.2 -0.4**
comp=E,27nm,1.4s
WMQ Urumqi 40.79 291 P **P** **19 23 45.3 +1.2**
WMQ pP **pP** **19 24 16.5 0.0**
WMQ sP **sP** **19 24 32.8 -0.3**
WMQ PP **PnPn** **19 25 24.5 -2.1**
WMQ PcP **PcP** **19 25 44.8 +2.5**
WMQ ScP **ScP** **19 29 19.8 +1.8**
WMQ S **S** **19 29 44.5 +0.6**
WMQ sS **sS** **19 30 39.3 -0.9**
WMQ SS **SS** **19 32 45.0 -5.5**
WMQ ScS **ScS** **19 33 33.3 0.0**
WMQ pmax pmax
comp=Z,100nm,0.9s
WMQ pmax pmax
comp=Z,95nm,3.9s
WMQ LR LR
comp=N,100nm,38.7s
WMQ LR LR
comp=E,95nm,34.8s
WMQ LR LR
comp=Z,100nm,31.0s
MCK McKinley 41.37 38 *e*P **P** **19 23 48.7 +0.2**
MCK pmax pmax
comp=Z,19nm,0.8s
MCK McKinley 41.37 38 *e*P **P** **19 23 48.7 +0.2**
comp=Z,19nm,0.8s
COLA College 41.77 36 *e*P **P** **19 23 52.2 +0.5**
COLA pmax pmax
comp=Z,238nm,0.8s
COLA College 41.77 36 *e*P **P** **19 23 52.2 +0.5**
comp=Z,238nm,0.8s
SML Sawmill 41.81 41 *e*P **P** **19 23 52.4 +0.2**
SML pmax pmax
comp=Z,10.0nm,0.9s
SML Sawmill 41.81 41 *e*P **P** **19 23 52.4 +0.2**
comp=Z,9.8nm,0.9s
ILAR Eielson Array 42.19 36 P **P** **19 23 54.5 -0.6**
ILAR Eielson Array 42.19 36 P **P** **19 23 54.5 -0.6**
comp=Z,14nm,0.4s,baz=255,slow=5.7,SNR=186
DIV Divide 43.12 42 *e*P **P** **19 24 01.7 -1.1**
comp=Z,29nm,1.1s
MK31 Makanchi Array 43.33 297 *e*P **P** **19 24 04.8 +0.2**
MK31 Makanchi Array 43.33 297 *e*P **P** **19 24 04.8 +0.2**
MKAR Makanchi Array 43.33 297 *e*P **P** **19 24 06.8 +2.2**
MKAR Makanchi Array 43.33 297 *e*P **P** **19 24 06.8 +2.2**
MKAR ScP **ScP** **19 29 27.0 -1.1**
MKAR Makanchi Array 43.33 297 P **P** **19 24 04.9 +0.3**
comp=Z,30nm,0.6s,baz=80,slow=9.5,SNR=102
MKAR ScP **ScP** **19 29 27.0 -1.1**
comp=Z,1.1nm,0.6s,baz=74,slow=4.2,SNR=5.6
BMRM Bremner River 43.71 42 *e*P **P** **19 24 07.9 +0.4**
comp=Z,5.9nm,0.5s
KURK Kurchatov 44.34 303 P **P** **19 24 12.7 +0.2**
KURK pmax pmax
comp=Z,37nm,0.7s
KURK pmax pmax
comp=N,1.0nm,1.0s
KURK Kurchatov 44.34 303 P **P** **19 24 12.7 +0.2**
KURK ScP **ScP** **19 29 31.2 -0.8**
KURBB Kurchatov Arra 44.42 303 P **P** **19 24 12.7 -0.5**
comp=N,37nm,0.7s,baz=76,slow=9.4,SNR=128
KURBB ScP **ScP** **19 29 31.2 -1.1**
comp=N,1.3nm,1.0s,baz=78,slow=3.4,SNR=5.7
EGAK Eagle 44.62 36 *e*P **P** **19 24 14.3 -0.4**
comp=N,29nm,0.8s
LSA Lhasa 44.84 270 *e*P **P** **19 24 19.0 +1.6**
LSA pmax pmax
comp=Z,5.0nm,0.8s
LSA Lhasa 44.84 270 *e*P **P** **19 24 19.0 +1.6**
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 46.03 252 *e*P **P** **19 24 27.2 +1.0**
CHTO pmax pmax
comp=Z,9.0nm,0.7s
CHTO Chiang Mai 46.03 252 *e*P **P** **19 24 27.2 +1.0**
comp=Z,9.2nm,0.7s
CMAR Chiang Mai Arr 46.27 252 P **P** **19 24 29.1 +0.9**
CMAR Chiang Mai Arr 46.27 252 P **P** **19 24 29.1 +0.9**
comp=Z,2.9nm,0.7s,baz=41,slow=7.7,SNR=21
CMAR LR LR 19 45 35.1
comp=Z,24nm,18.8s,baz=20,slow=38
INK Inuvik 46.98 30 P **P** **19 24 32.8 -0.2**
INK Inuvik 46.98 30 P **P** **19 24 32.8 -0.2**
comp=Z,23nm,0.7s,baz=305,slow=7.5,SNR=88
VOSK Vostochnaya 48.15 308 P **P** **19 24 41.1 -1.2**
VOSK pmax pmax
comp=Z,68nm,1.2s
BVA0 Borovoye Array 48.38 309 *i* P **P** **19 24 43.3 -0.7**
BVA0 pmax pmax
comp=Z,18nm,0.5s
BVAR Borovoye Array 48.38 309 P **P** **19 24 43.8 -0.3**
BVAR pmax pmax
comp=Z,12nm,0.5s
BVAR pmax pmax
comp=N,2.0nm,0.8s
BVAR Borovoye Array 48.38 309 P **P** **19 24 43.8 -0.3**
BVAR ScP **ScP** **19 29 48.5 -0.4**
BVAR Borovoye Array 48.38 309 P **P** **19 24 43.8 -0.3**
comp=N,12nm,0.5s,baz=86,slow=10,SNR=44
BVAR ScP **ScP** **19 29 48.5 -0.4**
comp=N,1.6nm,0.8s,baz=64,slow=5.1,SNR=5.5
BRVK Borovoye 48.43 309*c i*P **P** **19 24 43.8 -0.6**
BRVK pmax pmax
comp=Z,53nm,1.4s
BRVK Borovoye 48.43 309 *e*P **P** **19 24 43.8 -0.6**
comp=Z,32nm,0.9s
ULHL Ulahol 49.11 293 *i* P **P** **19 24 53.0 +3.0**
ULHL Ulahol 49.11 293 P **P** **19 24 53.0 +3.0**
SNR=7.8
TKM2 Tokmak 2 49.23 295 *i* P **P** **19 24 51.8 +0.9**
TKM2 Tokmak 2 49.23 295 P **P** **19 24 51.9 +0.9**
SNR=20
TKM2 Tokmak 2 49.23 295 *e*P **P** **19 24 51.5 +0.6**
comp=Z,31nm,1.0s
KBK Karagaybulak 49.78 295 *i* P **P** **19 24 55.9 +0.9**
KBK Karagaybulak 49.78 295 P **P** **19 24 55.9 +0.9**
SNR=24
USP Ospenovka 49.80 295 *i* P **P** **19 24 55.6 +0.6**
USP Ospenovka 49.80 295 P **P** **19 24 55.6 +0.6**
SNR=22
KZA Kyzart 49.84 294 *i* P **P** **19 24 57.4 +1.6**
KZA Kyzart 49.84 294 P **P** **19 24 57.4 +1.6**
SNR=19
AAK Ala-Archa 50.09 295*c i*P **P** **19 24 57.8 +0.4**
AAK pmax pmax
comp=Z,40nm,1.7s
AAK Ala-Archa 50.09 295 *e*P **P** **19 24 58.1 +0.8**
comp=Z,7.5nm,0.8s
AAK Ala-Archa 50.09 295 P **P** **19 24 57.1 -0.3**
comp=Z,6.8nm,0.4s,baz=98,slow=6.0,SNR=7.7
EKS2 Erkin-Say 50.54 295 *e*P **P** **19 25 01.2 +0.5**
EKS2 pmax pmax
comp=Z,18nm,0.6s
EKS2 Erkin-Say 50.54 295 P **P** **19 25 01.4 +0.7**
SNR=18
EKS2 Erkin-Say 50.54 295 *e*P **P** **19 25 01.2 +0.5**
comp=Z,18nm,0.6s
KSH Kashi 50.56 290 P P 19 25 05.0 +4.1
KSH pP pP 19 25 37.3 +2.9
KSH sP sP 19 25 53.5 +2.8
KSH PP PP 19 27 04.5 +6.6
KSH S **S** **19 32 09.3 +5.4**
KSH sS sS 19 33 05.8 +3.8
KSH SS **SS** **19 35 42.8 +3.4**
KSH pmax pmax
comp=Z,6.0nm,1.2s
KSH pmax pmax
comp=Z,87nm,4.4s
KSH LR LR
comp=N,100nm,4.2s
KSH LR LR
comp=E,89nm,7.2s
KSH LR LR
comp=Z,140nm,17.8s
AML Almayashu 50.84 294 *i* P **P** **19 25 04.3 +1.0**
AML Almayashu 50.84 294 P **P** **19 25 04.3 +1.0**
SNR=11
DLBC Dease Lake 51.50 42 P **P** **19 25 08.1 +0.6**
DLBC Dease Lake 51.50 42 P **P** **19 25 08.1 +0.6**
comp=Z,2.5nm,0.5s,baz=298,slow=5.3,SNR=8.7
SVE Sverdlovsk 52.12 316 *e*P **P** **19 25 11.5 -0.6**
SVE pmax pmax
comp=Z,70nm,1.4s
KSM Kuching 52.41 226 *e*P **P** **19 25 16.4 +1.6**
comp=Z,23nm,0.7s
KK31 Karatay Array 52.46 297 *i* P **P** **19 25 13.5 -1.3**
KK31 pmax pmax
comp=Z,14nm,0.4s
KKAR Karatay Array 52.46 297 *e*P **P** **19 25 15.0 +0.1**
KKAR Karatay Array 52.46 297 *e*P **P** **19 25 15.0 +0.1**
SOKR Solikamsk 52.84 320*c i*P **P** **19 25 16.0 -1.2**
SOKR pmax pmax
comp=Z,50nm,1.5s
ARU Arti 53.33 316*d i*P **P** **19 25 19.6 -1.4**
ARU 19 26 22.5
ARU 19 27 18.4
ARU S **S** **19 32 40.2 -0.8**
ARU SS **SKiKP** **19 36 14.5 -6.7**
ARU pmax pmax
comp=Z,107nm,1.7s
KAPI Kappang 53.83 212 *e*P **P** **19 25 24.8 -0.2**
comp=Z,21nm,0.7s
KAPI Kappang 53.83 212 P **P** **19 25 24.5 -0.6**
comp=Z,17nm,0.6s,baz=343,slow=2.4,SNR=16
KBS Kingsbay 54.44 350 *e*P **P** **19 25 27.1 -1.6**
KBS Kingsbay 54.44 350*c i*P **P** **19 25 26.7 -2.0**
KBS pmax pmax
comp=Z,26nm,1.3s
KBS Kingsbay 54.44 350 *e*P **P** **19 25 27.2 -1.5**
comp=Z,15nm,0.9s
AB31 Akbulak array 55.93 308 P **P** **19 25 39.7 -0.1**
AB31 pmax pmax
comp=Z,28nm,0.3s
ABKAR Akbulak array 55.93 308 *e*P **P** **19 25 40.0 +0.2**
AKTO Aktyubinsk 56.43 310 P **P** **19 25 42.8 -0.5**
AKTO pmax pmax
comp=Z,16nm,0.4s
AKTO Aktyubinsk 56.43 310 P **P** **19 25 42.8 -0.5**
AKTO Aktyubinsk 56.43 310 P **P** **19 25 42.8 -0.5**
comp=Z,16nm,0.4s,baz=69,slow=8.4,SNR=32
YKA Yellowknife Ar 56.45 33 P **P** **19 25 42.9 -0.4**
YKA Yellowknife Ar 56.45 33 P **P** **19 25 42.9 -0.4**
comp=Z,9.2nm,0.8s,baz=303,slow=6.9,SNR=45
BATI Baumata 57.30 206 P **P** **19 25 49.4 -0.5**
BATI Baumata 57.30 206 P **P** **19 25 49.4 -0.5**
comp=Z,15nm,0.6s,baz=137,slow=2.6,SNR=6.4
COEN Coen 57.58 182 *e*P **P** **19 25 52.7 +1.0**
comp=Z,148nm,0.8s
APA Apatity 57.70 335⇑*i*P **P** **19 25 51.0 -1.0**
APA pmax pmax
comp=Z,26nm,1.0s
APA MLR MLR
comp=Z,200nm,10.0s
KBL Kabul 57.88 289 *e*P **P** **19 25 52.9 -1.1**
KBL pmax pmax
comp=Z,7.0nm,0.5s
KBL Kabul 57.88 289 *e*P **P** **19 25 52.9 -1.1**
comp=Z,6.5nm,0.5s
KEV Kevo 58.12 339 *e*p **P** **19 25 53.1 -1.8**
comp=Z,7.5nm,0.6s
KEV Kevo 58.12 339 *e*P **P** **19 25 53.1 -1.8**
KEV pmax pmax
comp=Z,8.0nm,0.6s
TMCR Tamitsa 58.21 331 *e*P **P** **19 25 55.3 -0.3**
TMCR *e* 19 26 42.9
TMCR *e* 19 28 05.1
TMCR pmax pmax
comp=Z,113nm,1.5s
ARCES ARCESS Array B 58.66 339 P **P** **19 25 58.0 -0.6**
ARCES ARCESS Array B 58.66 339 P **P** **19 25 58.0 -0.6**
comp=Z,6.2nm,0.5s,baz=41,slow=7.5,SNR=57
ARE0 ARCESS Array S 58.66 339 *e*P **P** **19 25 58.0 -0.6**
ARE0 ARCESS Array S 58.66 339 *e*P **P** **19 25 57.8 -0.8**
DAG Danmarks Havn 59.20 356⇑*i*P **P** **19 26 00.2 -2.1**
DAG pmax pmax
comp=Z,4.0nm,0.7s
DAG Danmarks Havn 59.20 356⇑*i*P **P** **19 26 00.2 -2.1**
comp=Z,6.4nm,0.7s
KTK1 Kautokeino 59.60 339 *e*P **P** **19 26 04.3 -0.9**
KTK1 AMB AMB 19 26 05.3
comp=Z,157nm,0.7s
TRO Tromso 60.21 341 *e*P **P** **19 26 08.0 -1.2**
TRO AMB AMB 19 26 09.6
comp=Z,71nm,0.4s
JOF Joensuu 61.34 332 *e*p **P** **19 26 16.0 -1.0**
comp=Z,37nm,0.5s
JOF Joensuu 61.34 332 *e*P **P** **19 26 16.0 -1.0**
JOF pmax pmax
comp=Z,37nm,0.5s
IMYA Miami 62.84 295 *e*P **P** **19 26 26.8 -0.9**
IMOG Moghan 63.47 295 *e*P **P** **19 26 31.1 -0.9**
IPAY Payeh 63.50 296 *e*P **P** **19 26 31.1 -1.0**
MOS Moscow 63.55 323 *e*P **P** **19 26 30.7 -1.0**
MOS pmax pmax
comp=Z,73nm,1.3s
IAKL Akhelmad 63.56 296 *e*P **P** **19 26 32.8 +0.2**
KAF Kangasniemi 63.59 333 *e*p **P** **19 26 30.2 -1.7**
comp=Z,37nm,0.5s
KAF Kangasniemi 63.59 333 *e*P **P** **19 26 30.2 -1.7**
KAF pmax pmax
comp=Z,37nm,0.5s
IKRD Kardeh 63.62 297 *e*P P 19 26 28.9 -4.0
CTA Charters Tower 63.65 179 P **P** **19 26 32.3 -0.4**
CTA Charters Tower 63.65 179 P **P** **19 26 32.3 -0.4**
comp=Z,4.5nm,0.6s,baz=9.6,slow=9.3,SNR=9.0
ISFR Sfrayin 63.78 297 *e*P **P** **19 26 34.6 +0.6**
PUL Pulkovo 63.82 329*d i*P **P** **19 26 33.3 -0.2**
PUL pmax pmax
comp=Z,77nm,0.4s
SUMG Summit 63.83 1 *i* P **P** **19 26 33.8 0.0**
SUMG pmax pmax
comp=Z,31nm,0.9s
SUMG Summit 63.83 1 *e*P **P** **19 26 33.7 0.0**
comp=Z,70nm,1.1s
SUMG Summit 63.83 1 *i* P **P** **19 26 33.8 0.0**

comp=Z,31nm,0.9s
MOR8 Moi Rana 63.97 340 *e*P **P** **19 26 32.1 -2.2**
MOR8 AMB AMB 19 26 33.0
comp=Z,94nm,0.5s
FINES FINESS Array B 64.15 332 P **P** **19 26 35.0 -0.6**
FINES FINESS Array B 64.15 332 P **P** **19 26 35.0 -0.6**
comp=Z,86nm,0.5s,baz=45,slow=7.6,SNR=785
FITZ Fitzroy Crossi 64.24 201 P **P** **19 26 37.5 +0.9**
FITZ Fitzroy Crossi 64.24 201 P **P** **19 26 37.5 +0.9**
comp=Z,8.9nm,0.7s,baz=14,slow=5.1,SNR=23
WRAB Tennant Creek 64.28 191 *e*P **P** **19 26 36.1 -0.8**
WRAB pmax pmax
comp=Z,48nm,1.3s
WRAB Tennant Creek 64.28 191 *e*P **P** **19 26 36.1 -0.8**
comp=Z,48nm,1.3s
WRA Warramunga Arr 64.29 191 P **P** **19 26 36.8 -0.1**
WRA Warramunga Arr 64.29 191 P **P** **19 26 36.8 -0.1**
comp=Z,22nm,0.8s,baz=10,slow=6.7,SNR=42
OBN Obninsk 64.41 323*c* *i*P **P** **19 26 36.4 -1.0**
OBN *i* *P **PcP** **19 27 09.2 -1.3**
OBN pmax pmax
comp=Z,73nm,1.2s
OBN MLR MLR
comp=Z,100nm,15.0s
WALA Waterton Lakes 64.47 46 *e*P **P** **19 26 37.9 -0.1**
VSR Storozhevoye 65.76 318 *e*P **P** **19 26 45.7 -0.4**
VSR pmax pmax
comp=Z,50nm,0.4s
VSR pmax pmax
comp=N,40nm,0.7s
VSR pmax pmax
comp=E,20nm,0.6s
VORD Divnogorie 65.86 318 *e*P **P** **19 26 46.3 -0.5**
VORD pmax pmax
comp=Z,30nm,0.7s
VORD pmax pmax
comp=N,40nm,0.8s
VORD pmax pmax
comp=E,30nm,0.8s
VSU Vasula 66.06 330*c* *i*P **P** **19 26 47.3 -0.6**
VSU pmax pmax
comp=Z,395nm,1.2s
EGMT Eagleton 67.26 45 *e*P **P** **19 26 56.2 +0.3**
comp=Z,5.0nm,0.9s
LRM Limekiln Ridge 67.28 48 *e*P **P** **19 26 56.9 +0.6**
TBLU Trondheim 67.40 340 *e*P **P** **19 26 54.5 -1.8**
DLMT Dillon 67.50 48 *e*P **P** **19 26 58.6 +1.1**
comp=Z,52nm,2.7s
ISHM Shahmirzad 67.55 298 *e*P **P** **19 26 58.2 0.0**
AS31 Alice Springs 68.01 191 *e*P **P** **19 27 00.8 +0.2**
ASAR Alice Springs 68.01 191 P **P** **19 27 01.2 +0.6**
ASAR Alice Springs 68.01 191 P **P** **19 27 01.2 +0.6**
comp=Z,8.6nm,0.7s,baz=9.1,slow=7.1,SNR=121
IZAR Zarasai 68.21 328 *e*P **P** **19 27 01.5 -0.1**
IZAR AMB AMB 19 27 03.3
comp=Z,19nm,1.0s
IDID Didziasalis 68.34 327 *e*P **P** **19 27 02.2 -0.2**
IDID AMB AMB 19 27 04.3
comp=Z,28nm,0.9s
ISAL Salakas 68.39 328 *e*P **P** **19 27 02.6 -0.1**
ISAL AMB AMB 19 27 04.6
comp=Z,31nm,0.9s
DZM Mont Dzumac 68.43 159 P **P** **19 27 04.3 +1.0**
DZM Mont Dzumac 68.43 159 P **P** **19 27 04.3 +1.0**
comp=Z,12nm,0.9s,baz=42,slow=7.7,SNR=5.6
IIGN Ignalina 68.52 328 *e*P **P** **19 27 03.4 -0.1**
IIGN AMB AMB 19 27 05.5
comp=Z,38nm,1.1s
NACGM Naroch 68.63 327 *e*P **P** **19 27 01.0 -3.2**
MOL Molde 68.64 340 *e*P **P** **19 27 04.3 +0.2**
NVAR Mina Array Bea 68.65 57 P **P** **19 27 05.8 +0.9**
NVAR pP **pP** **19 27 41.4 +1.0**
NVAR sP **sP** **19 27 57.2 +1.0**
NVAR Mina Array Bea 68.65 57 P **P** **19 27 05.8 +0.9**
comp=Z,1.5nm,0.7s,baz=289,slow=6.3,SNR=11
NVAR pP **pP** **19 27 41.4 +1.0**
comp=Z,1.5nm,0.8s,baz=301,slow=6.0,SNR=3.0
NVAR sP **sP** **19 27 57.2 +1.0**
comp=Z,1.7nm,0.6s,baz=299,slow=6.9,SNR=4.1
KIV Kislovodsk 68.67 311 *e*P **P** **19 27 05.4 +0.6**
KIV *e**SP **sP** **19 27 55.4 -0.7**
KIV *e*PPP PPP 19 31 22.8
KIV *e*S **S** **19 35 57.0 +1.2**
KIV pmax pmax
comp=Z,62nm,0.9s
KIV MLR MLR
comp=Z,44nm,17.0s
KBZ Khabaz 68.70 311 P **P** **19 27 05.6 +0.8**
KBZ pmax pmax
comp=Z,24nm,0.8s
KBZ Khabaz 68.70 311 P **P** **19 27 05.6 +0.8**
KBZ Khabaz 68.70 311 P **P** **19 27 05.6 +0.8**
comp=Z,24nm,0.8s,baz=59,slow=4.4,SNR=38
ZEI Tsey 68.77 309 *e*P **P** **19 27 04.5 -1.1**
ZEI pmax pmax
comp=Z,35nm,0.9s
SFJD Kangerlussuaq 68.80 7 *i* P **P** **19 27 04.3 -0.7**
comp=Z,12nm,1.0s
MBWA Marble Bar 68.83 206 *e*P **P** **19 27 05.3 -0.4**
NB2 NORSAR Subarra 68.99 338 P **P** **19 27 05.8 -0.6**
comp=Z,41nm,0.7s,baz=32,slow=6.5
NB2 NORSAR Subarra 68.99 338 P **P** **19 27 05.8 -0.6**
baz=32,slow=6.5
NOA NORSAR Array B 68.99 338 P **P** **19 27 05.8 -0.6**
NOA NORSAR Array B 68.99 338 P **P** **19 27 05.8 -0.6**
comp=Z,45nm,0.8s,baz=34,slow=6.2,SNR=166
IVRN Varamin 69.06 299 *e*P **P** **19 27 07.6 +0.3**
NC602 NORSAR Array S 69.16 338 *e*P **P** **19 27 06.3 -1.1**
FLWY Flagg Ranch 69.36 48 *e*P **P** **19 27 10.7 +1.5**
comp=Z,29nm,0.4s
RRI2 Red Ridge 69.50 49 *e*P **P** **19 27 11.8 +1.6**
comp=Z,7.6nm,0.9s
MOOW Moose Ponds 69.55 49 *e*P P 19 27 15.1 +4.7
comp=Z,9.4nm,1.5s
ISRB Sarab 69.77 303 *e*P **P** **19 27 11.6 -0.2**
IHRS Heris 69.83 304 *e*P **P** **19 27 12.3 +0.1**
GNI Garni 70.00 307 P **P** **19 27 13.5 +0.4**
GNI Garni 70.00 307 P **P** **19 27 13.5 +0.4**
comp=Z,5.5nm,0.6s,baz=100,slow=8.3,SNR=3.6
IZEF Zefreh 70.01 297 *e*P **P** **19 27 13.5 +0.1**
HYA Hoyanger 70.18 340 *e*P **P** **19 27 13.3 -0.3**
KIEV Kiev 70.69 323 *e*P **P** **19 27 16.0 -0.8**
KIEV pmax pmax
comp=Z,55nm,1.0s
KIEV Kiev 70.69 323 *e*P **P** **19 27 16.0 -0.8**
comp=Z,55nm,1.0s
SUW Suwalki 70.69 328 *e*P **P** **19 27 16.1 -0.7**
SUW pmax pmax
comp=Z,61nm,0.9s
SUW Suwalki 70.69 328 *e*P **P** **19 27 16.1 -0.7**
comp=Z,61nm,0.9s
SUW Suwalki 70.69 328 *e*P **P** **19 27 16.1 -0.7**
ISHB Shabestar 70.70 305 *e*P **P** **19 27 16.8 -0.7**
PDAR Pinedale Array 70.85 49 P **P** **19 27 18.4 +0.1**
PDAR pP **pP** **19 27 54.0 0.0**
PDAR sP **sP** **19 28 11.2 +1.4**
PDAR Pinedale Array 70.85 49 P **P** **19 27 18.4 +0.1**
comp=Z,3.0nm,0.6s,baz=276,slow=1.5,SNR=34
PDAR pP **pP** **19 27 54.0 0.0**
comp=Z,1.1nm,0.7s,baz=308,slow=3.3,SNR=1.8
PDAR sP **sP** **19 28 11.2 +1.4**
comp=Z,1.5nm,0.5s,baz=294,slow=2.9,SNR=3.0
IAZR Azarshahr 70.88 304 *e*P **P** **19 27 19.2 +0.6**
ANN Anapa 70.91 314 *e*P **P** **19 27 17.4 -0.9**
ANN *e**PP **pP** **19 27 52.6 -1.3**
ANN *e*S **S** **19 36 25.0 +3.4**
ANN pmax pmax
comp=Z,54nm,1.3s
BER Bergen 71.07 340 *e*P **P** **19 27 18.1 -0.9**
ODD1 Odda 71.16 339 *e*P **P** **19 27 19.8 +0.2**
ODD1 AMB AMB 19 27 21.6
comp=Z,44nm,1.7s
MSU Marysvale 72.24 54 *e*P P 19 27 23.0 -3.7
MSU Marysvale 72.24 54 *e*P P 19 27 23.0 -3.7
BSD Bornholm Skovb 72.78 333 *i* P **P** **19 27 28.2 -1.0**
BSD pmax pmax
comp=Z,30nm,0.8s
BSD Bornholm Skovb 72.78 333 *i* P **P** **19 27 28.2 -1.0**
comp=Z,30nm,0.8s
SRU San Rafael 72.79 52 *e*P **P** **19 27 30.9 +1.0**
SRU pmax pmax
comp=Z,4.0nm,0.8s
SRU San Rafael 72.79 52 *e*P **P** **19 27 30.9 +1.0**
comp=Z,4.1nm,0.8s
COP Copenhagen 73.11 334 *e*P **P** **19 27 30.4 -0.7**
COP pmax pmax
comp=Z,16nm,0.9s
COP Copenhagen 73.11 334 *i* P **P** **19 27 30.4 -0.7**
comp=Z,16nm,0.8s
BEL Belsk 73.29 328 *e*P **P** **19 27 32.8 +0.5**
MUD Monsted U'grnd 73.44 336 *e*P **P** **19 27 33.9 +0.8**
MUD pmax pmax
comp=Z,9.0nm,0.7s
MUD Monsted U'grnd 73.44 336 *i* P **P** **19 27 33.9 +0.8**
comp=Z,9.4nm,0.7s
LLD Lille Linde 73.47 334 *e*P **P** **19 27 34.4 +1.1**
LLD pmax pmax
comp=Z,28nm,0.8s
LLD Lille Linde 73.47 334 *i* P **P** **19 27 34.4 +1.1**
comp=Z,28nm,0.7s
LVV L'vov 73.56 325 *e*P **P** **19 27 33.7 -0.2**
KIS Kishinev 73.57 320 *e*P **P** **19 27 33.0 -1.1**
KIS Kishinev 73.57 320 *e*P **P** **19 27 33.0 -1.1**
KWP Kalwaria Pacla 74.25 325 ⇑P **P** **19 27 38.7 +0.7**
KWP Kalwaria Pacla 74.25 325 *e*P **P** **19 27 38.4 +0.4**
comp=Z,68nm,1.0s
KWP Kalwaria Pacla 74.25 325 ⇑*i*P **P** **19 27 38.7 +0.7**
KWP Kalwaria Pacla 74.25 325 *e*P **P** **19 27 38.7 +0.7**
BUR08 Bucovina Ar. S 74.72 323 *e*P **P** **19 27 41.0 +0.2**
BURAR Bucovina Array 74.73 323 ⇓P **P** **19 27 41.0 +0.1**
BURAR Bucovina Array 74.73 323 ⇓*i*P **P** **19 27 41.0 +0.1**
TLCR 74.91 319 ⇑P **P** **19 27 42.3 +0.5**
TLCR 74.91 319 ⇑*i*P **P** **19 27 42.3 +0.5**
TESR Tescani 74.93 321 ⇓*i*P **P** **19 27 42.3 +0.4**
OJC Ojcow 74.96 327 *e*P **P** **19 27 42.2 +0.2**
OJC Ojcow 74.96 327 *e*P **P** **19 27 42.2 +0.2**
comp=Z,31nm,0.9s
OJC Ojcow 74.96 327 *e*P **P** **19 27 42.2 +0.2**
STHS Stebnicka Huta 75.01 326 *e*P **P** **19 27 43.4 +1.0**
STHS pmax pmax
comp=Z,14nm,1.2s
STHS Stebnicka Huta 75.01 326 *e*P **P** **19 27 43.4 +1.0**
CFR Carcaliu 75.24 319 ⇓P **P** **19 27 43.9 +0.2**
CFR Carcaliu 75.24 319 ⇓*i*P **P** **19 27 43.9 +0.2**
BSEG Bad Segeberg 75.24 334 *e*P **P** **19 27 43.6 0.0**
comp=Z,23nm,0.7s
BSEG Bad Segeberg 75.24 334 *e*P **P** **19 27 43.6 0.0**
BSEG pmax pmax
comp=Z,31nm,0.7s
VRI Vrincioaia 75.38 321 ⇓P **P** **19 27 45.2 +0.6**
VRI Vrincioaia 75.38 321 ⇓*i*P **P** **19 27 45.2 +0.6**
NIE Niedzica 75.39 326 *e*P **P** **19 27 47.0 +2.4**
NIE Niedzica 75.39 326 *e*P **P** **19 27 47.0 +2.4**
PLOR Plostina 75.42 321 ⇑P **P** **19 27 45.7 +0.8**
PLOR Plostina 75.42 321 ⇑*i*P **P** **19 27 45.7 +0.8**
STKA Stephens Creek 75.46 183 P **P** **19 27 45.6 +0.7**
STKA Stephens Creek 75.46 183 P **P** **19 27 45.6 +0.7**
comp=Z,8.4nm,0.7s,baz=349,slow=6.7,SNR=19
TRPA Tarpa 75.48 324 ⇓*i*P **P** **19 27 45.9 +0.8**
KSP Ksiaz 75.78 329 ⇑*e*P **P** **19 27 47.0 +0.2**
KSP *e**PP **pP** **19 28 24.2 +1.3**
KSP Ksiaz 75.78 329 *e*P **P** **19 27 46.9 +0.1**
OKC Ostrava-Krasne 75.90 328 *e*P **P** **19 27 47.1 -0.3**
OKC *e* 19 28 22.7
OKC Ostrava-Krasne 75.90 328 *e*P **P** **19 27 47.1 -0.3**
OKC *e*pP **pP** **19 28 22.7 -0.8**
FORT Forrest 75.94 195 *e*P **P** **19 27 48.5 +0.8**
MLR Muntele Rosu 76.02 321 ⇓*i*P **P** **19 27 48.8 +0.4**
KECS Kecovo 76.06 326 *e*P **P** **19 27 48.6 +0.2**
KECS pmax pmax
comp=Z,4.0nm,1.0s
KECS Kecovo 76.06 326 *e*P **P** **19 27 48.6 +0.2**
DPC Dobruska-Polom 76.18 329 *e*P **P** **19 27 48.9 -0.2**
DPC *e* 19 28 26.3
DPC Dobruska-Polom 76.18 329 *e*P **P** **19 27 48.9 -0.2**
DPC *e*pP **pP** **19 28 26.3 +1.1**
DPC Dobruska-Polom 76.18 329 *e*P **P** **19 27 49.5 +0.5**
comp=Z,95nm,1.1s
MORC Moravsky Berou 76.18 328 *e*P **P** **19 27 49.4 +0.3**
MORC pmax pmax
comp=Z,27nm,1.2s
MORC Moravsky Berou 76.18 328 *e*P **P** **19 27 49.4 +0.3**
comp=Z,26nm,1.2s
KRLC Kraliky 76.23 329 *e*P **P** **19 27 50.6 +1.2**
KRLC Kraliky 76.23 329 *e*P **P** **19 27 50.6 +1.2**
VOIR 76.47 321 ⇑P **P** **19 27 52.0 +1.2**
VOIR 76.47 321 ⇑*i*P **P** **19 27 52.0 +1.2**
BRTR Keskin Array B 76.47 312 P **P** **19 27 51.2 +0.2**
BRTR PP **PP** **19 30 45.4 +1.1**
BRTR Keskin Array B 76.47 312 P **P** **19 27 51.2 +0.2**
comp=Z,2.2nm,0.6s,baz=83,slow=3.1,SNR=11
BRTR PP **PP** **19 30 45.4 +1.1**
comp=Z,2.0nm,1.0s,baz=69,slow=6.9,SNR=4.6
NRDL Niedersach Rie 76.54 334 *e*P **P** **19 27 50.8 -0.1**
comp=Z,11nm,1.3s
CLL Collm 76.57 331 *e*P **P** **19 27 50.8 -0.4**
comp=Z,18nm,0.8s
CLL *e*pP **pP** **19 28 27.5 +0.1**
CLL Collm 76.57 331 ⇑*i*P **P** **19 27 51.0 -0.2**
CLL *e**PP **pP** **19 28 27.0 -0.4**
CLL pmax pmax
comp=Z,22nm,0.8s
CLL Collm 76.57 331 ⇑*i*P **P** **19 27 51.0 -0.2**
comp=Z,22nm,0.8s
CLL *i* 19 27 54.8
CLL *e*PcP **PcP** **19 28 01.0 -1.1**
CLL *e*pP **pP** **19 28 27.0 -0.4**
CLL *e*PP **PP** **19 30 43.0 -1.5**
BRG Berggiesshubel 76.61 331 *e*P **P** **19 27 51.0 -0.4**
comp=Z,6.6nm,1.0s
BRG Berggiesshubel 76.61 331 *e*P **P** **19 27 51.0 -0.4**
BRG pmax pmax
comp=Z,4.0nm,1.0s
ARR Arges 76.71 321 ⇓*i*P **P** **19 27 53.2 +1.0**
VYHS Vyhne 76.71 327 *e*P **P** **19 27 52.5 +0.4**
VYHS pmax pmax
comp=Z,4.0nm,0.8s
VYHS Vyhne 76.71 327 *e*P **P** **19 27 52.5 +0.4**
PSZ Piszkesteto 76.75 326 ⇓P **P** **19 27 53.1 +0.8**
PSZ Piszkesteto 76.75 326 *e*P **P** **19 27 52.9 +0.6**
comp=Z,14nm,1.0s
PSZ Piszkesteto 76.75 326 ⇓*i*P **P** **19 27 53.1 +0.8**
LOT Lotru 77.03 322 ⇓*i*P **P** **19 27 54.2 +0.2**
PRA Prague 77.10 330 P **P** **19 27 54.0 -0.2**
PRU Pruhonice 77.13 330 *e*P **P** **19 27 53.8 -0.5**
PRU *e* 19 28 30.6
PRU Pruhonice 77.13 330 *e*P **P** **19 27 53.8 -0.5**
PRU *e*pP **pP** **19 28 30.6 +0.1**
SMOL Smolenice 77.25 327 *e*P **P** **19 27 56.1 +1.0**
SMOL Smolenice 77.25 327 *e*P **P** **19 27 56.1 +1.0**
TREC Trest 77.35 329 *e*P **P** **19 27 55.9 +0.3**
TREC *e* 19 28 33.3
TREC Trest 77.35 329 *e*P **P** **19 27 55.9 +0.3**
TREC *e*pP **pP** **19 28 33.3 +1.4**
MOX Moxa 77.61 332 *e*P **P** **19 27 56.8 -0.2**
comp=Z,7.0nm,1.1s
MOX Moxa 77.61 332 *e*P **P** **19 27 56.8 -0.2**
NKC Novy Kostel 77.67 331 *e*P **P** **19 27 57.0 -0.4**
NKC Novy Kostel 77.67 331 *e*P **P** **19 27 57.0 -0.4**
BZS Buzias 77.85 323 ⇓P **P** **19 27 58.5 +0.1**
BZS Buzias 77.85 323 ⇓*i*P **P** **19 27 58.5 +0.1**
SCHQ Schefferville 77.94 18 *e*P **P** **19 27 58.2 -0.6**
comp=Z,4.1nm,0.6s
SCHQ Schefferville 77.94 18 P **P** **19 27 58.0 -0.7**
comp=Z,3.9nm,0.5s,baz=5.4,slow=5.7,SNR=10
ROTZ Rotzenmuhle 78.14 331 *e*P **P** **19 28 00.3 +0.3**
comp=Z,10.0nm,1.3s
KHC Kasperske Hory 78.19 330 *e*P **P** **19 28 00.0 -0.3**
KHC *e* 19 28 36.8
KHC Kasperske Hory 78.19 330 *e*P **P** **19 28 00.0 -0.3**
KHC *e*pP **pP** **19 28 36.8 +0.2**
KHC Kasperske Hory 78.19 330 *e*P **P** **19 28 00.4 +0.1**
comp=Z,8.3nm,0.8s
CONA Conrad Observa 78.33 328 ⇑*i*P **P** **19 28 01.7 +0.6**
comp=Z,5.6nm,0.7s,SNR=6.0
GEC2 GERESS Array S 78.38 330 *e*P **P** **19 28 01.2 -0.2**
comp=Z,7.0nm,1.1s
GEC2 GERESS Array S 78.38 330 *e*P **P** **19 28 01.2 -0.2**
GEC2 pmax pmax
comp=Z,2.0nm,1.1s
GERES GERESS Array B 78.38 330 P **P** **19 28 01.3 -0.1**
GERES GERESS Array B 78.38 330 P **P** **19 28 01.3 -0.1**
comp=Z,1.0nm,0.4s,baz=40,slow=5.2,SNR=12
WET Wettzell 78.43 330 *e*P **P** **19 28 02.0 +0.4**
comp=Z,10.0nm,1.0s
WET *e*pP **pP** **19 28 38.7 +0.8**
WET Wettzell 78.43 330 *e*P **P** **19 28 02.0 +0.4**
WET *e**PP **pP** **19 28 38.7 +0.8**
WET pmax pmax
comp=Z,7.0nm,1.0s
GRF Grafenberg Arr 78.55 332 *e*P **P** **19 28 02.5 +0.3**
comp=Z,13nm,0.9s
GRF *e*pP **pP** **19 28 39.2 +0.6**
GRF Grafenberg Arr 78.55 332 *e*P **P** **19 28 02.5 +0.3**
GRF *e**PP **pP** **19 28 39.2 +0.6**
GRFO Grafenberg 78.55 332 *e*P **P** **19 28 02.3 +0.1**
GRFO Grafenberg 78.55 332 *e*P **P** **19 28 02.3 +0.1**
VTS Vitosha 79.51 320 ⇓P **P** **19 28 08.4 +0.6**
VTS Vitosha 79.51 320 ⇓*i*P **P** **19 28 08.4 +0.6**
RJOB Jochberg 79.64 330 *e*P **P** **19 28 08.6 +0.3**
comp=Z,9.0nm,0.9s
KBA Koelnbreinsper 79.99 329 ⇑*i*P **P** **19 28 10.8 +0.5**
comp=Z,16nm,0.7s,SNR=7.0
OBKA Obir 80.01 328 ⇑*i*P **P** **19 28 10.1 -0.2**
comp=Z,6.0nm,0.6s
CSS Prodhromos 80.10 309 *e*P **P** **19 28 10.7 -0.2**
comp=Z,9.6nm,0.6s
LEGS Legarje 80.18 327 *i* P **P** **19 28 10.8 -0.3**
MMAI Mount Meron Ar 80.34 307 P **P** **19 28 12.7 +0.4**
MMAI Mount Meron Ar 80.34 307 P **P** **19 28 12.7 +0.4**
comp=Z,4.2nm,0.5s,baz=41,slow=5.6,SNR=21
LJU Ljubljana 80.41 328 *e*P **P** **19 28 11.7 -0.7**
WATA Walderalm 80.42 330 ⇑*i*P **P** **19 28 12.6 0.0**
comp=Z,5.6nm,0.4s,SNR=6.1
WTTA Wattenberg 80.46 330 ⇑*i*P **P** **19 28 13.0 +0.2**
comp=Z,6.6nm,0.6s
BOJS Bojanci 80.57 327 *i* P **P** **19 28 12.7 -0.5**
MOTA Moosalm 80.59 330 ⇑*i*P **P** **19 28 13.3 -0.1**
comp=Z,6.0nm,0.6s
NWAO Narrogin (SRO) 80.61 204 P **P** **19 28 13.8 +0.5**
NWAO Narrogin (SRO) 80.61 204 P **P** **19 28 13.8 +0.5**
comp=Z,13nm,0.6s,baz=21,slow=5.4,SNR=13
RAYN Ar Rayn 80.72 294 *e*P **P** **19 28 15.1 +0.7**
comp=Z,3.2nm,0.7s
CDF Champ du Feu 80.97 333 ⇑*i*P **P** **19 28 15.0 -0.4**
comp=Z,15nm,0.9s
DAVA Damuels 81.07 331 ⇑*i*P **P** **19 28 15.9 -0.2**
comp=Z,5.4nm,0.8s
PAGF Fort de Pagny 81.35 334 ⇑*i*P **P** **19 28 17.1 -0.2**
comp=Z,6.7nm,0.7s
DAVOX Davos/Dischmat 81.50 331 P **P** **19 28 19.1 +0.8**
DAVOX Davos/Dischmat 81.50 331 P **P** **19 28 19.1 +0.8**
comp=Z,3.1nm,0.5s,baz=38,slow=6.9,SNR=6.0
MEZF Maizieres J'vi 81.61 335 *e*P **P** **19 28 18.3 -0.3**
HAU Haudompre 81.63 334 *e*P **P** **19 28 18.1 -0.7**
HAU *e*R
comp=Z,71nm,22.8s
HINF Hinteralfeld 81.63 333 *e*P **P** **19 28 18.0 -0.8**
TUE Stuetta 81.96 331 *e*P **P** **19 28 20.9 +0.2**
comp=Z,8.5nm,1.0s
CABF La Chapelle 82.94 333 *e*P **P** **19 28 25.9 +0.2**
FLN La Foliniere 82.98 338 *e*P **P** **19 28 25.9 +0.1**
FLN *e*R
comp=Z,73nm,19.5s
EIL Elat 83.03 305 P **P** **19 28 27.6 +1.2**
EIL Elat 83.03 305 P **P** **19 28 27.6 +1.2**
comp=Z,5.5nm,1.0s,baz=342,slow=9.6,SNR=4.4
LDF La Druitiere 83.04 338 *e*P **P** **19 28 25.9 -0.1**
comp=Z,15nm,0.8s
LOR Lormes 83.07 335 *e*P **P** **19 28 26.4 +0.1**
comp=Z,9.4nm,0.8s
LOR *e*R
comp=Z,50nm,22.2s
SSF Saint Saulge 83.36 335 *e*P **P** **19 28 27.2 -0.6**
comp=Z,10nm,0.8s
GRR Gorron 83.43 338 *e*P **P** **19 28 28.4 +0.4**
comp=Z,12nm,0.6s
SMF Signal de Mont 83.63 334 *e*P **P** **19 28 28.7 -0.5**
comp=Z,9.6nm,0.5s
AVF Avril sur Loir 83.65 335 ⇑*i*P **P** **19 28 28.9 -0.3**
comp=Z,10nm,0.8s
LPL La Plagne 83.69 332 *e*P **P** **19 28 29.6 -0.1**
comp=Z,9.9nm,0.9s
TXAR Lajitas Array 83.70 55 P **P** **19 28 30.3 +0.4**
TXAR pP **pP** **19 29 06.8 +0.2**
TXAR Lajitas Array 83.70 55 P **P** **19 28 30.3 +0.4**
comp=Z,1.2nm,0.6s,baz=291,slow=3.9,SNR=12
TXAR pP **pP** **19 29 06.8 +0.2**
comp=Z,1.2nm,0.6s,baz=270,slow=3.4,SNR=4.2
LPG La Plagne 83.70 332 *e*P **P** **19 28 29.8 -0.1**
comp=Z,7.1nm,0.5s
SGMF Saint Gilles 84.00 339 *e*P **P** **19 28 30.9 0.0**
ROSF Rostrenen 84.11 340 *e*P **P** **19 28 31.7 +0.2**
MBDF Montbardon 84.37 332 *e*P **P** **19 28 32.6 -0.5**
comp=Z,9.6nm,0.6s
TCF Toulx Ste Croi 84.45 335 *e*P **P** **19 28 33.0 -0.3**
comp=Z,4.6nm,0.6s
QUIF Quistinic 84.47 339 *e*P **P** **19 28 33.2 -0.1**
ORIF Oris-en-Rattie 84.50 332 *e*P **P** **19 28 33.5 -0.2**
comp=Z,11nm,0.8s
ORIF *e*R
comp=Z,63nm,20.8s
MFF Saint Martin d 84.86 337 *e*P **P** **19 28 34.9 -0.4**
comp=Z,16nm,0.8s
SBF Sospel 84.89 331 *e*P **P** **19 28 35.3 -0.3**
comp=Z,14nm,0.6s
VIVF Saint-Julien-l 84.96 333 *e*P **P** **19 28 35.7 -0.2**
comp=Z,4.0nm,0.5s
TIP Timpagrande 85.16 322 *e*P **P** **19 28 37.2 +0.2**
comp=Z,11nm,1.0s
FRF La Foret Royal 85.43 331 *e*P **P** **19 28 38.4 +0.2**
comp=Z,4.9nm,0.7s
SMRF Simiane la Rot 85.44 332 *e*P **P** **19 28 38.3 0.0**
PGF Pioggiola 85.47 329 *e*P **P** **19 28 37.6 -1.0**
comp=Z,4.6nm,0.7s
RJF Les Rejaudoux 85.55 335 *e*P **P** **19 28 39.0 +0.2**
comp=Z,4.1nm,0.5s
LMR La Mourre 85.68 331 *e*P **P** **19 28 38.9 -0.5**
comp=Z,5.2nm,0.5s
CAF Calvisc 85.72 335 *e*P **P** **19 28 39.4 -0.3**
comp=Z,14nm,0.8s
LFF La Frestale 86.11 336 *e*P **P** **19 28 41.9 +0.4**
MTLF Montolieu 87.10 334 *e*P **P** **19 28 46.7 +0.3**
EPF Esparros 87.97 335 *e*P **P** **19 28 50.1 -0.5**
comp=Z,3.1nm,0.6s
ETSF Etsaut 88.36 336 *e*P **P** **19 28 52.6 +0.1**
ESDC Sonseca Array 92.32 337 P **P** **19 29 10.3 -0.6**
ESDC Sonseca Array 92.32 337 P **P** **19 29 10.3 -0.6**
comp=Z,1.0nm,0.5s,baz=13,slow=3.8,SNR=8.5
TORD Torodi Ar. Bea 114.26 321 PKP PKPdf 19 34 38.1 -1.7
TORD PP PP 19 35 21.3 -15
TORD PKKPbc **PKKPbc** **19 45 18.6 +0.3**
TORD Torodi Ar. Bea 114.26 321 PKP PKPdf 19 34 38.1 -1.7
comp=Z,0.2nm,0.4s,baz=44,slow=1.7,SNR=6.4
TORD PP PP 19 35 21.3 -15
comp=Z,0.9nm,0.9s,baz=21,slow=7.4,SNR=3.7
TORD PKKPbc **PKKPbc** **19 45 18.6 +0.3**
comp=Z,0.4nm,0.5s,baz=202,slow=2.3,SNR=9.7
VNDA Vanda 121.55 176 PKP **PKPdf** **19 34 52.1 +0.3**
VNDA Vanda 121.55 176 PKP **PKPdf** **19 34 52.1 +0.3**
comp=Z,0.9nm,0.6s,baz=347,slow=4.5,SNR=5.9
MAW Mawson 126.96 208 PKP **PKPdf** **19 35 03.3 +0.8**
MAW Mawson 126.96 208 PKP **PKPdf** **19 35 03.3 +0.8**
comp=Z,1.7nm,0.6s,baz=295,slow=5.4,SNR=5.4
QSPA South Pole Qui 133.60 180 *e*P **PKPdf** **19 35 14.9 -0.3**
SIV San Ignacio 144.33 47 PKP **PKPab** **19 35 34.6 0.0**
SIV San Ignacio 144.33 47 PKP **PKPab** **19 35 34.6 0.0**
comp=Z,3.9nm,0.7s,baz=310,slow=1.4,SNR=13
LVC Limon Verde 144.76 64 PKP **PKPab** **19 35 35.7 -0.7**
LVC Limon Verde 144.76 64 PKP **PKPab** **19 35 35.7 -0.7**
comp=Z,3.9nm,0.6s,baz=310,slow=4.7,SNR=6.4
SNAA Sanae 148.15 198 *e*PKPdf **PKPdf** **19 35 41.4 +0.3**
SNAA Sanae 148.15 198 *e*PKPbc **PKPbc** **19 35 44.5 -0.1**
SNAA Sanae 148.15 198 *e*PKKP **PKiKP** **19 35 46.0 -0.2**
SNAA Sanae 148.15 198 *e*PKPab **PKPab** **19 35 48.6 +0.6**
SNAA Sanae 148.15 198 *e*P **PP** **19 39 14.9 +0.3**
SNAA Sanae 148.15 198 *e*PKPdf **PKPdf** **19 35 40.3 -0.8**
BDFB Brasilia 149.67 26 PKPbc **PKPbc** **19 35 48.8 -1.2**
BDFB Brasilia 149.67 26 PKPbc **PKPbc** **19 35 48.8 -1.2**
comp=Z,2.1nm,0.8s,baz=177,slow=5.3,SNR=3.5
VNA1 Neumayer--Stat 150.10 197 *e*PKPbc **PKPbc** **19 35 49.8 +0.5**
CFAA Coronel Fontan 151.00 76 PKPbc **PKPbc** **19 35 52.0 -0.8**
CFAA Coronel Fontan 151.00 76 PKPbc **PKPbc** **19 35 52.0 -0.8**
comp=Z,0.3nm,0.6s,baz=252,slow=3.4,SNR=5.6

IDC 27 19:24:45.1±3.0,**22°.83N**×**11°.96W**,**h0**km,**mb3.8**/3,
mb1 3.7/5,**mb1mx3.4**/27,**mbtmp3.7**/5,**ML3.4**/2,**MS2.7**/1,
Ms1 2.7/1,**ms1mx2.3**/28,**Error ellipse: s-maj=89.2km**
s-min=31.3km az=74.0,**Mauritania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDT	**Midelt**	**11.88**	**32**	Lg	Lg	19 31 00.9	

0.1nm,0.3s,baz=335,slow=14,SNR=3.9
MDT LR LR 19 33 03.0
comp=Z,38nm,20.2s,baz=335,slow=42
TORD Torodi Ar. Bea 16.16 124 Pn Pn 19 28 33.2 -0.5
0.1nm,0.3s,baz=315,slow=13,SNR=7.2
TORD Sn Sn 19 31 37.5 +3.8
0.1nm,0.3s,baz=316,slow=23,SNR=4.3
DBIC Dimbokro 17.46 156 P Pn 19 28 49.0 -1.2
0.2nm,0.3s,baz=336,slow=12,SNR=3.2
FINES FINESS Array B 46.57 24 P P 19 33 14.2 -0.2
1.6nm,0.8s,baz=215,slow=6.8,SNR=3.5
KURBB Kurchatov Arra 73.00 42 P P 19 36 16.4 -0.3
0.1nm,0.3s,baz=286,slow=6.5,SNR=5.4
MKAR Makanchi Array 76.51 45 P P 19 36 37.3 +0.1
0.4nm,0.6s,baz=284,slow=5.5,SNR=7.5
ASAR Alice Springs 148.67 98 PKPbc PKPbc 19 44 35.2 +0.2
0.3nm,0.6s,baz=285,slow=1.9,SNR=4.3

ROM 27 19:26:13.9±0.2, 42°.98N×12°.91E, h9km, Md1.6/3, Ml0.9/1, Error ellipse: s-maj=4.0km s-min=0.5km az=180.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESI	**CESI - Serrava**	**0.02**	**359**	Pg	Pg	19 26 15.8	+0.1
CESI				Sg	Sg	19 26 17.1	+0.2
	58nm,0.2s						
FDMO	**Fiordimonte**	**0.14**	**68**	Pg	Pg	19 26 17.5	+0.4
FDMO				Sg	Sg	19 26 20.3	+0.9
	28nm,0.3s						
ASSB	**Assisi San Ben**	**0.19**	**288**	Pg	Pg	19 26 18.4	+0.4
ASSB				Sg	Sg	19 26 21.8	+1.1

ISCJB ***27*** *19:28:56.3±0.5, 6°.62S±0°.04×129°.23E±0°.05, h150km, mb3.5/7, Error ellipse: s-maj=6.8km s-min=5.1km az=14.3*
IDC ***27*** *19:28:56.5±3.7, 6°.49S×129°.22E, h163km±41km, mb3.4/7, mb1 3.7/11, mb1mx3.5/23, mbtmp3.6/11, Error ellipse: s-maj=31.0km s-min=25.2km az=44.0*
AUST ***27*** *19:28:57.4±0.0, 6°.53S×129°.07E, h130km, Error ellipse: s-maj=1.1km s-min=0.8km az=296.0*

ISC 27 19:28:56.0±0.6, 6°.57S±0°.05×129°.15E±0°.06, h150km, n23, σ2§18/23, mb3.6/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.76**	**41**	P	Pn	19 30 11.3	+5.0
	baz=4.8,SNR=123						
FAKI				S	**Sn**	**19 31 01.9**	**+0.8**
	baz=4.8,SNR=20						
SOEI	**Soe**	**5.78**	**236**	P	Pn	19 30 25.0	+5.0
	baz=5.7,SNR=18						
SOEI				S	**Sn**	**19 31 29.3**	**+3.8**
	baz=5.7,SNR=7.9						
SWI	**Sorong**	**6.05**	**20**	P	Pn	19 30 27.9	+4.5
	baz=6.1,SNR=57						
SWI				S	**Sn**	**19 31 35.1**	**+3.4**
	baz=6.1,SNR=8.7						
BATI	**Baumata**	**6.52**	**236**	P	Pn	19 30 33.2	+3.5
	15nm,0.3s,baz=122,slow=2.2,SNR=36						
BATI				S	**Sn**	**19 31 45.3**	**+2.2**
	36nm,0.3s,baz=49,slow=22,SNR=25						
MTN	**Manton Dam**	**6.53**	**163**	P	Pn	19 30 33.6	+3.8
	baz=6.6,SNR=21						
MTN				S	**Sn**	**19 31 42.9**	**-0.4**
	baz=6.6,SNR=10						
KDU	**Kakadu**	**6.90**	**152**	P	Pn	19 30 38.4	+3.6
	baz=7.0,SNR=31						
KDU				S	**Sn**	**19 31 51.5**	**-0.7**
	baz=7.0,SNR=5.0						
KNRA	**Kununurra**	**9.06**	**182**	P	**Pn**	**19 31 05.6**	**+2.1**
	baz=9.1,SNR=333						
KNRA				S	**Sn**	**19 32 39.7**	**-4.4**
	baz=9.1,SNR=11						
WSI	**Waingapu**	**9.29**	**250**	S	**Sn**	**19 32 46.2**	**-3.5**
	baz=9.2,SNR=5.5						
FITZ	**Fitzroy Crossi**	**11.96**	**196**	P	**Pn**	**19 31 43.0**	**+1.1**
	4.3nm,0.3s,baz=32,slow=11,SNR=165						
FITZ	**Fitzroy Crossi**	**11.96**	**196**	P	**Pn**	**19 31 43.2**	**+1.4**
	baz=12,SNR=19						
WRA	**Warramunga Arr**	**14.21**	**160**	P	**Pn**	**19 32 09.9**	**-0.8**
	1.2nm,0.3s,baz=332,slow=14,SNR=14						
WRA				S	Sn	19 34 43.0	-5.4
	3.0nm,0.3s,baz=320,slow=25,SNR=9.6						
COEN	**Coen**	**15.62**	**119**	P	**P**	**19 32 30.5**	**+1.3**
	baz=16,SNR=10						
ASAR	**Alice Springs**	**17.60**	**165**	P	**Pn**	**19 32 52.4**	**+0.2**
	2.2nm,0.3s,baz=338,slow=9.2,SNR=94						
ASAR				S	S	19 35 58.7	-7.7
	0.3nm,0.3s,baz=347,slow=24,SNR=8.8						
MTSU	**Mount Surprise**	**18.73**	**129**	P	**Pn**	**19 33 08.1**	**+2.6**
	baz=19,SNR=13						
CISI	**Cisompet, Garu**	**21.20**	**266**	P	**P**	**19 33 30.5**	**+0.4**
	baz=21,SNR=3.9						
MEEK	**Meekatharra**	**22.34**	**206**	P	P	19 33 50.2	+8.5
	baz=22,SNR=5.0						
MJAR	**Matsushiro Arr**	**43.72**	**11**	P	**P**	**19 36 43.7**	**-2.6**
	0.9nm,0.5s,baz=183,slow=10,SNR=4.1						
KSRS	**Korea Array**	**43.81**	**359**	P	**P**	**19 36 46.1**	**-0.9**
	0.5nm,0.6s,baz=171,slow=8.8,SNR=4.5						
USRK	**Ussuriysk Arra**	**50.60**	**3**	P	**P**	**19 37 38.1**	**-1.3**
	0.8nm,0.5s,baz=172,slow=9.2,SNR=4.1						
MKAR	**Makanchi Array**	**67.41**	**327**	P	**P**	**19 39 34.9**	**-0.5**
	0.9nm,0.5s,baz=118,slow=8.5,SNR=25						
ZALV	**Zalesovo Beam**	**70.83**	**334**	P	**P**	**19 39 54.2**	**-1.9**
	0.2nm,0.3s,baz=144,slow=5.2,SNR=2.7						
KURBB	**Kurchatov Arra**	**71.71**	**329**	P	**P**	**19 40 00.2**	**-1.3**
	0.9nm,0.5s,baz=129,slow=4.9,SNR=16						
BVAR	**Borovoye Array**	**77.26**	**328**	P	**P**	**19 40 32.8**	**-0.7**
	0.3nm,0.4s,baz=132,slow=8.7,SNR=4.7						

ISCJB ***27*** *20:30:54.2±0.7, 31°.97N±0°.05×131°.85E±0°.08, h51km±6km, mb3.9/10, MS3.7/12, Error ellipse: s-maj=11.1km s-min=7.2km az=22.4*
IDC ***27*** *20:30:54.9±0.7, 31°.97N×131°.64E, h35km±5km, mb3.7/10, mb1 3.8/13, mb1mx3.7/29, mbtmp3.6/13, ML2.7/3, MS3.7/14, Ms1 3.7/14, ms1mx3.3/45, Error ellipse: s-maj=21.1km s-min=9.4km az=67.0*
JMA ***27*** *20:30:54.6±0.1, 32°.01N×131°.85E, h34km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs221.00000°, δ69.00000°, λ-81.00000°. NP2: φs17.00000°, δ23.00000°, λ-112.00000°. Principal axes: T Plg23.0000°, Azm304.0000°; N Plg8.0000°, Azm38.0000°; P Plg65.0000°, Azm146.0000°;*
JMA Felt II J1.
NIED ***27*** *20:31:00, 32°.00N×131°.90E, h29km, Mw4.3 Best double couple: M0 2.74000×10^15 NP1: φs197.00000°, δ76.00000°, λ-85.00000°. NP2: φs359.00000°, δ15.00000°, λ-107.00000°.*

ISC 27 20:30:55.3±0.7, 31°.99N±0°.05×131°.77E±0°.06, h40km±6km, n29, σ1§17/30, mb3.9/10, MS3.8/12, 5C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSN	**Tsuno**	**0.34**	**319**	⇓P	**Pn**	**20 31 02.9**	**-1.2**
JTSN				S	**Sn**	**20 31 09.4**	**-0.7**
JTZ	**Takazaki**	**0.58**	**262**	⇑P	**Pn**	**20 31 06.9**	**-0.3**
JTZ				S	**Sn**	**20 31 16.8**	**+1.2**
JNAR	**Kushima--Naru**	**0.63**	**223**	⇑P	**Pn**	**20 31 08.0**	**+0.3**
JNAR				S	**Sn**	**20 31 18.4**	**+1.8**
JIU2	**Izumi 2**	**0.98**	**305**	⇑P	**Pn**	**20 31 13.0**	**+0.4**
JIU2				*e*S	**Sn**	**20 31 27.1**	**+1.8**
JZO	**Okuchi**	**1.00**	**279**	⇑P	**Pn**	**20 31 13.4**	**+0.4**
JZO				*e*S	**Sn**	**20 31 28.0**	**+2.1**
JUS	**Usuki**	**1.07**	**359**	⇑P	**Pn**	**20 31 13.9**	**0.0**
JUS				S	**Sn**	**20 31 29.0**	**+1.4**
JNU	**Nakatsue**	**1.36**	**327**	Pg	**Pn**	**20 31 18.9**	**+1.1**
	57nm,0.3s,baz=140,slow=8.6,SNR=316						
JNU				Lg	Lg	20 31 40.0	
	114nm,0.3s,baz=321,slow=18,SNR=14						
KSRS	**Korea Array**	**6.30**	**331**	Pn	**Pn**	**20 32 26.8**	**+1.1**
	0.3nm,0.3s,baz=147,slow=14,SNR=5.2						
KSRS				Lg	Lg	20 34 15.7	
	0.3nm,0.3s,baz=150,slow=30,SNR=4.8						
KSRS				LR	LR	20 35 14.2	
	comp=Z,402nm,20.4s,baz=156,slow=41						
MJAR	**Matsushiro Arr**	**7.00**	**48**	Pn	**Pn**	**20 32 35.9**	**+0.6**
	0.5nm,0.3s,baz=239,slow=13,SNR=11						
USRK	**Ussuriysk Arra**	**12.19**	**1**	Pn	**Pn**	**20 33 47.6**	**+1.3**
	0.1nm,0.3s,baz=202,slow=14,SNR=2.6						
USRK				LR	LR	20 38 26.6	
	comp=Z,123nm,18.9s,baz=315,slow=37						
SONM	**Songino Array**	**24.93**	**317**	P	**P**	**20 36 14.7**	**0.0**
	4.4nm,0.9s,baz=127,slow=10,SNR=28						
SONM				LR	LR	20 47 10.6	
	comp=Z,253nm,18.3s,baz=314,slow=39						
CMAR	**Chiang Mai Arr**	**32.47**	**253**	LR	LR	20 52 14.1	
	comp=Z,92nm,18.4s,baz=149,slow=40						
ZALV	**Zalesovo Beam**	**39.81**	**318**	LR	LR	20 56 06.1	
	comp=Z,83nm,21.2s,baz=70,slow=38						
MKAR	**Makanchi Array**	**40.32**	**306**	P	**P**	**20 38 27.4**	**-1.4**
	0.6nm,0.5s,baz=92,slow=10,SNR=13						
MKAR				pP	**pP**	**20 38 37.9**	**-2.2**
	0.5nm,0.6s,baz=94,slow=10.0,SNR=3.6						
MKAR				LR	LR	20 56 35.3	
	comp=Z,80nm,20.3s,baz=159,slow=38						
KURBB	**Kurchatov Arra**	**43.08**	**312**	P	**P**	**20 38 49.6**	**-1.6**
	0.7nm,0.9s,baz=96,slow=8.4,SNR=4.6						
WRA	**Warramunga Arr**	**51.70**	**177**	P	**P**	**20 39 57.6**	**-0.9**
	2.3nm,0.8s,baz=352,slow=7.8,SNR=3.9						
ASAR	**Alice Springs**	**55.38**	**178**	P	**P**	**20 40 25.8**	**+0.3**
	1.1nm,0.8s,baz=13,slow=12,SNR=11						
ASAR				pP	**pP**	**20 40 37.7**	**+0.6**
	0.9nm,0.5s,baz=11,slow=12,SNR=5.0						
ILAR	**Eielson Array**	**57.92**	**30**	P	**P**	**20 40 42.7**	**-0.3**
	0.6nm,0.7s,baz=290,slow=7.7,SNR=6.8						
ILAR				pP	**pP**	**20 40 55.6**	**+0.9**
	0.5nm,0.9s,baz=292,slow=9.1,SNR=3.3						
STKA	**Stephens Creek**	**64.20**	**171**	P	**P**	**20 41 25.2**	**-0.7**
	2.4nm,0.6s,baz=350,slow=5.6,SNR=6.6						
STKA				pP	**pP**	**20 41 38.3**	**+0.6**
	1.7nm,0.6s,baz=143,slow=4.0,SNR=2.0						
ARCES	**ARCESS Array B**	**65.81**	**338**	LR	LR	21 13 24.8	
	comp=Z,54nm,19.2s,baz=225,slow=39						
KBZ	**Khabaz**	**67.96**	**309**	LR	LR	21 15 49.0	
	comp=Z,48nm,18.6s,baz=39,slow=40						
FINES	**FINESS Array B**	**69.39**	**330**	P	**P**	**20 41 57.6**	**-1.1**
	1.2nm,0.8s,baz=119,slow=20,SNR=4.5						
FINES				LR	LR	21 15 07.6	
	comp=Z,62nm,19.0s,baz=262,slow=38						
YKA	**Yellowknife Ar**	**72.01**	**27**	P	**P**	**20 42 15.3**	**+0.7**
	0.6nm,0.7s,baz=303,slow=5.5,SNR=5.1						
HFS	**Hagfors**	**75.15**	**333**	LR	LR	21 19 37.5	
	comp=Z,44nm,18.5s,baz=238,slow=39						
NOA	**NORSAR Array B**	**75.50**	**334**	LR	LR	21 19 09.0	
	comp=Z,34nm,19.6s,baz=10.0,slow=38						
MLR	**Muntele Rosu**	**77.78**	**316**	LR	LR	21 19 59.6	
	comp=Z,17nm,20.5s,baz=114,slow=38						
VRAC	**Vranov**	**80.68**	**323**	LR	LR	21 23 03.8	
	comp=Z,62nm,18.6s,baz=273,slow=39						
NVAR	**Mina Array Bea**	**84.33**	**48**	P	**P**	**20 43 24.4**	**+0.8**
	0.6nm,0.6s,baz=307,slow=4.1,SNR=4.9						
DAVOX	**Davos/Dischmat**	**85.73**	**324**	LR	LR	21 26 13.8	
	comp=Z,100nm,19.7s,baz=82,slow=39						

ISCJB ***27*** *20:47:16.8±0.6, 49°.89N±0°.02×142°.30E±0°.05, h3km±4km, mb3.8/18, Error ellipse: s-maj=5.8km s-min=3.7km az=165.6*
SKHL ***27*** *20:47:17.9±0.4, 49°.86N×142°.16E, h10km, mb4.2/8, Ms3.8/2*
IDC ***27*** *20:47:18.2±0.6, 49°.82N×142°.37E, h0km, mb3.7/11, mb1 3.9/16, mb1mx3.8/28, mbtmp3.7/16, ML3.1/5, Error ellipse: s-maj=20.2km s-min=13.6km az=148.0*
MOS ***27*** *20:47:18.5±1.8, 49°.93N×142°.37E, h11km, mb4.1/8, Error ellipse: s-maj=12.3km s-min=7.8km az=89.4*

ISC 27 20:47:19.9±1.1, 49°.87N±0°.03×142°.31E±0°.04, h10km±7km, n46, σ1§48/60, mb3.9/18, 6C-2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGL	**Uglegorsk**	**0.80**	**191**	⇑*i*PN	**Pg**	**20 47 34.0**	**-1.4**
UGL				S	**Sg**	**20 47 44.0**	**-1.8**
UGL				pmax	pmax		
	comp=Z,270nm,0.5s						
UGL				smax	smax		
	comp=E,4μm,0.5s						
UGL				smax	smax		
	comp=N,3μm,0.4s						
UGL	**Uglegorsk**	**0.80**	**191**	⇑*i*Pg	**Pg**	**20 47 34.0**	**-1.4**
UGL				*e*Pg	**Pg**	**20 47 34.0**	**-1.4**
UGL				AMB	AMB	20 47 35.0	
	comp=N,270nm,0.5s						
UGL				*e*Sg	**Sg**	**20 47 45.0**	**-0.8**
UGL				A	A	20 47 47.0	
	comp=N,3μm,0.5s						
UGL				A	A	20 47 47.0	
	comp=N,4μm,0.5s						
TYV	**Tymovskoe**	**1.02**	**13**	*e*Pg	**Pg**	**20 47 39.0**	**-0.6**
TYV				AMB	AMB	20 47 42.8	
	comp=N,662nm,0.3s						
TYV				AMB	AMB	20 47 42.8	
	comp=N,684nm,0.3s						
TYV				*e*Sg	**Sn**	**20 47 54.0**	**-0.8**
TYV				A	A	20 47 59.5	
	comp=N,686nm,0.5s						
TYV				AMS	AMS	20 48 10.0	
	comp=N,4μm,6.0s						
TYV				AMS	AMS	20 48 10.0	
	comp=N,2μm,6.0s						
YSS	**Yuzh-Sakhalins**	**2.93**	**174**	*e*PN	**Pn**	**20 48 08.2**	**+1.7**
YSS				*e*S	**Sg**	**20 48 53.0**	**-0.9**
YSS				smax	smax		
	comp=E,110nm,0.9s						
YSS	**Yuzh-Sakhalins**	**2.93**	**174**	*e*P	**Pn**	**20 48 05.5**	**-1.0**
YSS				*e*Pg	**Pg**	**20 48 16.5**	**+0.5**
YSS				AMB	AMB	20 48 18.8	
	comp=E,63nm,0.5s						
YSS				*e*Sg	**Sg**	**20 48 55.5**	**+1.6**
YSS				A	A	20 49 02.3	
	comp=E,135nm,0.6s						
YSS				A	A	20 49 02.3	
	comp=E,142nm,0.6s						
YSS				AMS	AMS	20 49 28.0	
	comp=E,400nm,10.0s						
NKL	**Nikolayevsk**	**3.44**	**343**	*i* P	Pn	20 48 10.0	-3.5
NKL				AMB	AMB	20 48 10.5	
	comp=E,27nm,0.3s						
NKL				AMB	AMB	20 48 10.5	
	comp=E,15nm,0.3s						
NKL				AMB	AMB	20 48 10.5	
	comp=E,87nm,0.3s						
NKL				*e*Pg	**Pg**	**20 48 25.0**	**-0.8**
NKL				*e*S	**Sn**	**20 48 52.5**	**-1.8**
NKL				A	A	20 48 54.3	
	comp=E,100nm,0.3s						
NKL				*e*Sg	**Sg**	**20 49 12.5**	**+2.1**
NKL				A	A	20 49 21.8	
	comp=E,170nm,0.5s						
NKL				A	A	20 49 21.8	
	comp=E,110nm,0.5s						
GRNR	**Gornyy**	**3.88**	**286**	*e*P	**Pn**	**20 48 18.7**	**-0.9**
GRNR				AMB	AMB	20 48 20.2	
	comp=E,30nm,0.5s						
GRNR				*e*Pg	**Pg**	**20 48 33.3**	**-0.8**
GRNR				*e*Sg	**Sg**	**20 49 25.0**	**+0.7**
GRNR				A	A	20 49 25.5	
	comp=E,261nm,0.4s						
GRNR				A	A	20 49 25.5	
	comp=E,285nm,0.4s						
ASAJ	**Asahikawa**	**5.75**	**178**	Pn	**Pn**	**20 48 45.2**	**-0.1**
	comp=E,1.6nm,0.3s,baz=7.4,slow=14,SNR=14						
KUR	**Kuril'sk**	**5.97**	**139**	*e*S	**Sn**	**20 49 57.5**	**+0.9**
KUR				A	A	20 49 58.5	
	comp=E,76nm,0.5s						
TEY	**Ternei**	**6.19**	**221**	*e*Pg	**Pg**	**20 49 19.0**	**+0.7**
TEY				AMB	AMB	20 49 24.0	
	comp=E,16nm,0.8s						
TEY				*e*Sg	**Sg**	**20 50 43.5**	**+5.1**
TEY				A	A	20 50 45.0	
	comp=E,67nm,0.9s						
EKMR	**Ekimchan**	**6.67**	**302**	*e*P	**Pn**	**20 48 57.5**	**-0.4**
EKMR				AMB	AMB	20 49 02.0	
	comp=E,5.0nm,0.7s						
EKMR				*e*Pg	**Pg**	**20 49 27.8**	**+0.3**
EKMR				AMB	AMB	20 49 31.6	
	comp=E,6.0nm,0.6s						
EKMR				*e*S	**Sn**	**20 50 11.5**	**-2.3**
EKMR				A	A	20 50 55.0	
	comp=E,70nm,0.7s						
EKMR				A	A	20 50 55.0	
	comp=E,50nm,0.7s						
KLR	**Kul'dur**	**6.90**	**269**	*e*PN	**Pn**	**20 48 58.8**	**-2.2**
KLR				MLR	MLR		
	comp=E,500nm,10.0s						
KLR				MLR	MLR		
	comp=Z,900nm,10.0s						
KLR	**Kul'dur**	**6.90**	**269**	*e*P	Pn	20 48 57.8	-3.2
ERM	**Erimo**	**7.87**	**175**	⇑*e*PN	Pn	20 49 20.1	+5.7
USRK	**Ussuriysk Arra**	**9.03**	**235**	Pn	**Pn**	**20 49 29.8**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=42,slow=14,SNR=7.8						
USRK				Lg	Lg	20 52 06.1	
	comp=Z,0.8nm,0.3s,baz=43,slow=31,SNR=10						
BMKR	**Bomnak**	**9.57**	**306**	*e*Pg	**Pn**	**20 49 37.9**	**+0.3**
BMKR				*e*Sg	Sn	20 52 24.0	+59
BMKR				A	A	20 52 32.9	
	comp=Z,18nm,0.8s						
ZEA	**Zeya**	**10.10**	**298**	*e*Sg	Sn	20 52 35.9	+58
ZEA				A	A	20 52 39.0	
	comp=Z,100nm,1.0s						
ZEA				A	A	20 52 39.1	
	comp=Z,35nm,1.1s						
ZEA				A	A	20 52 39.1	
	comp=Z,28nm,1.1s						
ZEA				AMS	AMS	20 53 50.0	
	comp=Z,200nm,9.0s						
PETK	**Petropavlovsk-**	**10.13**	**65**	PN	**Pn**	**20 49 44.8**	**-0.6**
PETK	**Petropavlovsk-**	**10.13**	**65**	Pn	**Pn**	**20 49 44.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=244,slow=6.3,SNR=3.7						
KROS	**Kirovskiy**	**10.47**	**302**	*e*Pg	**Pn**	**20 49 47.3**	**-2.6**
KROS				AMB	AMB	20 49 51.4	
	comp=Z,1.0nm,0.6s						
KROS				*e*Sg		20 52 51.0	
KROS				A	A	20 52 57.5	
	comp=Z,14nm,0.8s						
PET	**Petropavlovsk**	**10.68**	**67**	*e*PN	**Pn**	**20 49 53.3**	**+0.5**
YAK	**Yakutsk**	**14.06**	**335**	*e*P	**Pn**	**20 50 37.3**	**-1.6**
KSRS	**Korea Array**	**16.16**	**225**	Pn	**Pn**	**20 51 07.8**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=43,slow=9.7,SNR=6.0						
FX1	**Attu Island--F**	**19.42**	**69**	P	**P**	**20 51 45.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=168,slow=9.3,SNR=2.1						
TIXI	**Tiksi**	**22.71**	**349**	⇑*e*P	**P**	**20 52 23.5**	**+2.2**
TIXI				pmax	pmax		
	comp=Z,15nm,1.4s						
SONM	**Songino Array**	**23.58**	**279**	P	**P**	**20 52 29.7**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=134,slow=6.2,SNR=4.0						
SONM				PcP	**PcP**	**20 56 16.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=96,slow=2.9,SNR=3.2						
ZAK	**Zakamensk**	**24.84**	**286**	*e*P	**P**	**20 52 42.9**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KRAR	**Krasnoyarsk**	**29.87**	**301**	⇑*e*P	**P**	**20 53 29.4**	**+2.2**
KRAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HVS	**Khovu-Aksy**	**30.50**	**291**	⇑*i*P	**P**	**20 53 33.2**	**+0.3**
ZALV	**Zalesovo Beam**	**34.86**	**299**	PcP	**PcP**	**20 56 43.3**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=72,slow=4.8,SNR=3.8						
ILAR	**Eielson Array**	**38.74**	**40**	P	**P**	**20 54 44.1**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=288,slow=8.3,SNR=8.7						
MKAR	**Makanchi Array**	**39.09**	**289**	*e*P	**P**	**20 54 47.7**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**39.09**	**289**	P	**P**	**20 54 47.7**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=65,slow=7.9,SNR=16						
KURK	**Kurchatov**	**39.57**	**297**	P	**P**	**20 54 52.0**	**+1.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURBB	**Kurchatov Arra**	**39.66**	**296**	P	**P**	**20 54 52.0**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=69,slow=8.5,SNR=6.1						
BRVK	**Borovoye**	**43.25**	**303**	⇓*e*P	**P**	**20 55 21.1**	**0.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.7s						
ARU	**Arti**	**47.69**	**312**	*d* iP	**P**	**20 55 56.6**	**+0.4**
ARU						20 57 43.4	
ARU				S	**S**	**21 02 53.3**	**+1.5**
ARU				SS	**SS**	**21 06 14.6**	**-4.8**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.2s						
YKA	**Yellowknife Ar**	**52.61**	**35**	P	**P**	**20 56 33.6**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=307,slow=7.0,SNR=5.0						
JOF	**Joensuu**	**55.13**	**329**	*e*p	**P**	**20 56 52.5**	**+0.7**
	comp=Z,0.9nm,0.5s						
JOF	**Joensuu**	**55.13**	**329**	*e*P	**P**	**20 56 52.5**	**+0.7**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**57.91**	**329**	P	**P**	**20 57 11.6**	**0.0**
	comp=Z,1.6nm,0.6s,baz=46,slow=8.2,SNR=8.7						
NVAR	**Mina Array Bea**	**67.11**	**57**	P	**P**	**20 58 13.2**	**-0.6**
	comp=Z,2.0nm,0.3s,baz=298,slow=4.0,SNR=4.3						
PDAR	**Pinedale Array**	**68.44**	**49**	P	**P**	**20 58 21.0**	**-1.1**
	comp=Z,0.7nm,0.9s,baz=319,slow=2.6,SNR=3.5						
WRA	**Warramunga Arr**	**69.85**	**188**	P	**P**	**20 58 29.7**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=1.9,slow=6.2,SNR=2.9						
ASAR	**Alice Springs**	**73.58**	**188**	P	**P**	**20 58 52.6**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=4.2,slow=5.3,SNR=6.4						
TXAR	**Lajitas Array**	**81.86**	**54**	P	**P**	**20 59 40.9**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=270,slow=3.8,SNR=3.5						

IDC 27 20:48:33.1±2.0, 7°.64S×32°.12E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/25, mbtmp3.7/3, ML4.0/1, MS3.9/1, Ms1 3.9/1, ms1mx2.7/17, Error ellipse: s-maj=47.5km s-min=24.9km az=122.0, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**8.25**	**39**	Pn	Pn	20 50 34.3	-0.2
	1.9nm,0.3s,baz=218,slow=18,SNR=22						
KMBO				Sn	Sn	20 52 03.5	-5.3
	2.3nm,0.3s,baz=245,slow=24,SNR=6.2						
KMBO				Lg	Lg	20 52 55.8	
	4.2nm,0.3s,baz=276,slow=22,SNR=7.1						
BOSA	**Boshof**	**21.84**	**196**	P	P	20 53 27.5	0.0
	7.5nm,1.2s,baz=27,slow=12,SNR=4.0						
TORD	**Torodi Ar. Bea**	**36.60**	**304**	P	P	20 55 41.3	-0.1
	0.4nm,0.8s,baz=120,slow=7.8,SNR=3.6						
GERES	**GERESS Array B**	**58.53**	**346**	LR	LR	21 24 26.1	
	comp=Z,104nm,18.9s,baz=236,slow=37						

IDC ***27*** *21:02:34.7±0.7, 10°.74N×94°.22E, h0km, mb4.1/14, mb1 4.2/15, mb1mx4.0/27, mbtmp4.1/15, ML3.5/1, MS3.6/5, Ms1 3.6/5, ms1mx3.1/39, Error ellipse: s-maj=24.0km s-min=15.4km az=58.0*
ISCJB ***27*** *21:02:35.7±0.6, 10°.73N±0°.08×94°.25E±0°.10, h19km, mb4.1/20, MS3.6/3, Error ellipse: s-maj=14.8km s-min=10.2km az=145.6*
NEIC ***27*

ZALV	**Zalesovo Beam**	**43.76**	**352**	P		**P**	**21**	**10**	**42.1** **+0.4**
ZALV	**Zalesovo Beam**	**43.76**	**352**	P		**P**	**21**	**10**	**42.1** **+0.4**
	6.1nm,0.9s,baz=169,slow=8.8,SNR=23								
USRK	**Ussuriysk Arra**	**46.60**	**37**	P		**P**	**21**	**11**	**02.7** **-1.7**
	1.8nm,0.8s,baz=232,slow=8.0,SNR=8.7								
MJAR	**Matsushiro Arr**	**47.24**	**50**	PcP		**PcP**	**21**	**12**	**41.1** **+0.3**
MJAR	**Matsushiro Arr**	**47.24**	**50**	PcP		**PcP**	**21**	**12**	**41.1** **+0.3**
	1.3nm,0.6s,baz=239,slow=4.2,SNR=5.9								
ABKAR	**Akbulak array**	**47.79**	**330**	*e*P		**P**	**21**	**11**	**13.7** **+0.1**
	2.2nm,0.9s								
AKTO	**Aktyubinsk**	**49.51**	**330**	LR		LR	21	35	28.5
	comp=Z,84nm,18.3s,baz=42,slow=40								
WRA	**Warramunga Arr**	**49.89**	**128**	P		**P**	**21**	**11**	**29.8** **-0.5**
WRA	**Warramunga Arr**	**49.89**	**128**	P		**P**	**21**	**11**	**29.8** **-0.5**
	3.3nm,0.8s,baz=306,slow=8.5,SNR=5.7								
WRAB	**Tennant Creek**	**49.90**	**128**	*e*P		**P**	**21**	**11**	**29.9** **-0.3**
	12nm,1.1s								
ASAR	**Alice Springs**	**51.72**	**132**	P		**P**	**21**	**11**	**44.4** **+0.4**
ASAR	**Alice Springs**	**51.72**	**132**	P		**P**	**21**	**11**	**44.4** **+0.4**
	3.9nm,0.7s,baz=307,slow=6.9,SNR=41								
GNI	**Garni**	**52.53**	**313**	P		**P**	**21**	**11**	**51.0** **+1.0**
GNI	**Garni**	**52.53**	**313**	P		**P**	**21**	**11**	**51.0** **+1.0**
	1.2nm,0.3s,baz=22,slow=21,SNR=4.8								
BRTR	**Keskin Array B**	**60.65**	**310**	P		**P**	**21**	**12**	**47.5** **-0.3**
BRTR	**Keskin Array B**	**60.65**	**310**	P		**P**	**21**	**12**	**47.5** **-0.3**
	1.6nm,1.0s,baz=119,slow=10.0,SNR=5.4								
STKA	**Stephens Creek**	**62.04**	**135**	*e*P		**P**	**21**	**12**	**56.7** **-0.4**
	0.4nm,0.7s								
STKA	**Stephens Creek**	**62.04**	**135**	P		**P**	**21**	**12**	**57.8** **+0.7**
	2.1nm,0.8s,baz=309,slow=19,SNR=2.5								
GERES	**GERESS Array B**	**75.77**	**318**	P		**P**	**21**	**14**	**21.2** **-1.2**
GERES	**GERESS Array B**	**75.77**	**318**	P		**P**	**21**	**14**	**21.2** **-1.2**
	0.3nm,0.7s,baz=27,slow=4.6,SNR=3.9								
TORD	**Torodi Ar. Bea**	**90.01**	**283**	P		**P**	**21**	**15**	**37.2** **+0.5**
TORD	**Torodi Ar. Bea**	**90.01**	**283**	P		**P**	**21**	**15**	**37.2** **+0.5**
	0.7nm,1.1s,baz=67,slow=3.5,SNR=3.8								
ILAR	**Eielson Array**	**92.09**	**22**	P		**P**	**21**	**15**	**44.9** **-0.5**
ILAR	**Eielson Array**	**92.09**	**22**	P		**P**	**21**	**15**	**44.9** **-0.5**
	0.7nm,1.1s,baz=290,slow=6.0,SNR=4.5								
NVAR	**Mina Array Bea**	**122.44**	**30**	PKP		**PKPdf**	**21**	**21**	**32.6** **+0.1**
NVAR	**Mina Array Bea**	**122.44**	**30**	PKP		**PKPdf**	**21**	**21**	**32.6** **+0.1**
	0.4nm,0.7s,baz=307,slow=2.9,SNR=3.8								
PDAR	**Pinedale Array**	**122.49**	**21**	PKP		**PKPdf**	**21**	**21**	**31.6** **-0.8**
PDAR	**Pinedale Array**	**122.49**	**21**	PKP		**PKPdf**	**21**	**21**	**31.6** **-0.8**
	0.5nm,0.7s,baz=349,slow=1.5,SNR=4.8								
PLCA	**Paso Flores**	**147.22**	**202**	PKPbc		**PKPbc**	**21**	**22**	**20.3** **+0.2**
PLCA	**Paso Flores**	**147.22**	**202**	PKPbc		**PKPbc**	**21**	**22**	**20.3** **+0.2**
	4.9nm,1.0s,baz=125,slow=0.9,SNR=4.2								

BJI ***27*** *21:14:56.6, 10˚.28N×94˚.17E, h10km, mB4.9/22, mb4.6/29, Ms4.5/31, Ms7 4.2/29*

IDC ***27*** *21:14:59.2±0.5, 10˚.64N×94˚.30E, h0km, mb4.3/23, mb1 4.4/25, mb1mx4.3/32, mbtmp4.3/25, ML3.7/2, MS4.1/21, Ms1 4.1/21, ms1mx4.0/30, Error ellipse: s-maj=17.7km s-min=12.9km az=55.0*

ISCJB ***27*** *21:15:01.6±0.3, 10˚.64N±0˚.03×94˚.34E±0˚.03, h24km, mb4.5/47, MS4.2/26, Error ellipse: s-maj=5.3km s-min=4.1km az=37.8*

NEIC ***27*** *21:15:01.1±0.3, 10˚.60N×94˚.33E, h10km, mb4.7/12, Error ellipse: s-maj=7.9km s-min=5.8km az=56.0*

DJA ***27*** *21:15:05.4±1.4, 11˚.N±3˚×9˚.5E±˚, h21km±12km, M4.6/16, mB5.1/5, mb4.5/16, MLv4.8/4, Mw(mB)4.5/5*

GCMT ***27*** *21:15:05.9±0.3, 10˚.71N±.94˚.32E, h12km, MW4.9, Moment Tensor Solution. s30,c34; s69,c111; Moment tensor: Scale 10¹⁶Nm; Mrr=3.09±.08; Mθθ=2.66±.07; Mφφ=0.43±.09; Mrθ=0.40±.27; Mrφ=0.96±.07; Mθφ=1.26±.36; Best double couple: M=3.30000×10¹⁶ NP1:φ=85.00000°, δ=40.00000°, λ=-65.00000°. NP2:φ=233.00000°, δ=55.00000°, λ=-109.00000°. Principal axes: T 3.1300, Plg8.0000°, Azm337.0000°; N 0.3700, Plg16.0000°, Azm245.0000°; P -3.5000, Plg72.0000°, Azm93.0000°; Data Used: II IC G IU CN.*

BKK ***27*** *21:15:43.3±4.2, 12˚.N±.30˚×9˚.7E±2˚.3, h10km, M4.3/10, mb4.4/9, mB5.3/2, MLv4.3/10, Mw(mB)4.7/2*

ISC 27 21:15:03.4±0.3, 10˚.60N±0˚.04×94˚.33E±0˚.04, h24km, n138, σ1ˢ75/163, mb4.5/47, MS4.1/27, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time			Res
				Op			h	m	s	ISC
PBA	**Port Blair**	**1.88**	**304**	*e*P		Pn	21	15	33.0	-1.0
PBA				*e*S		Sn	21	15	57.1	+0.1
DGPR	**DIGLIPUR**	**2.91**	**332**	*e*P		**Pn**	**21**	**15**	**47.9**	**-0.2**
CMBY	**CAMPBELL BAY**	**3.59**	**186**	*e*P		**Pn**	**21**	**15**	**59.3**	**+1.7**
BSI	**Banda Aceh**	**5.16**	**169**	P		Pn	21	16	21.6	+2.4
	100nm,1.0s,2µm0.3nm									
PHET	**Kaeng Krachan**	**5.68**	**66**	P		**Pn**	**21**	**16**	**25.4**	**-0.9**
KCSI	**Kotacane, Aceh**	**7.82**	**154**	P		**Pn**	**21**	**16**	**56.7**	**+1.0**
	29nm,0.9s,666nm0.1nm									
CHBT	**CHBT**	**8.12**	**74**	P		Pn	21	16	56.5	-3.4
	42nm,0.6s,0.4nm									
KULM	**Kulim**	**8.19**	**130**	*e*Pn		**Pn**	**21**	**16**	**59.6**	**-1.2**
KULM				*e*Sn		**Sn**	**21**	**18**	**30.0**	**-2.6**
KULM	**Kulim**	**8.19**	**130**	P		Pn	21	16	56.5	-4.3
	18nm,1.7s,0.3nm									
KULM				S		**Sn**	**21**	**18**	**31.4**	**-1.2**
	18nm,1.7s,0.3nm									
PBKT	**Sadao Pong**	**8.77**	**47**	P		**Pn**	**21**	**17**	**07.3**	**-1.4**
	43nm,0.8s,1µm									
PBKT	**Sadao Pong**	**8.77**	**47**	P		**Pn**	**21**	**17**	**08.8**	**+0.1**
	42nm,0.8s,1µm0.2nm									
PSI	**Prapat**	**8.99**	**149**	Pn		**Pn**	**21**	**17**	**11.8**	**-0.1**
PSI	**Prapat**	**8.99**	**149**	Pn		**Pn**	**21**	**17**	**11.8**	**-0.1**
	0.4nm,0.3s,baz=333,slow=14,SNR=6.8									
PSI					LR	LR	21	21	26.3	
	comp=Z,2µm,18.8s,baz=307,slow=42									
CMAR	**Chiang Mai Arr**	**9.00**	**29**	Pn		**Pn**	**21**	**17**	**11.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**9.00**	**29**	Pn		**Pn**	**21**	**17**	**11.3**	**-0.5**
	0.3nm,0.3s,baz=218,slow=14,SNR=13									
CMAR					LR	LR	21	20	48.9	
	comp=Z,511nm,18.8s,baz=59,slow=39									
IPM	**Ipoh**	**9.00**	**132**	*e*Pn		**Pn**	**21**	**17**	**09.7**	**-2.3**
IPM				*e*Sn		**Sn**	**21**	**18**	**47.2**	**-5.5**
IPM	**Ipoh**	**9.00**	**132**	P		**Pn**	**21**	**17**	**08.9**	**-3.1**
	15nm,1.5s									
CHAI	**Chaiyaphum**	**9.13**	**54**	P		**Pn**	**21**	**17**	**14.1**	**+0.4**
	7.2nm,0.8s,0.0nm									
CHTO	**Chiang Mai**	**9.30**	**28**	*e*Pn		**Pn**	**21**	**17**	**16.2**	**+0.1**
CHTO	**Chiang Mai**	**9.30**	**28**	P		**Pn**	**21**	**17**	**16.3**	**+0.1**
	11nm,1.0s									
CHTO	**Chiang Mai**	**9.30**	**28**	P		Pn	21	17	24.5	+8.4
	12nm,1.0s,0.1nm									
CMMT	**Chiang Mai**	**9.31**	**28**	P		**Pn**	**21**	**17**	**15.4**	**-0.7**
	10nm,1.0s									
CMMT	**Chiang Mai**	**9.31**	**28**	P		Pn	21	17	24.3	+8.2
	12nm,1.0s,0.0nm									
LAMP	**Lampang**	**9.40**	**32**	P		Pn	21	17	24.1	+6.7
	7.0nm,0.8s,0.0nm									
LOEI	**Loei**	**9.61**	**44**	P		**Pn**	**21**	**17**	**23.4**	**+3.1**
	150nm,0.9s,0.6nm									
CMAI	**Chiengmai2**	**10.33**	**26**	P		Pn	21	17	43.9	+13
VIS	**Vishakhapatnam**	**12.80**	**305**	*e*P		**Pn**	**21**	**18**	**02.3**	**-1.6**
VIS					AMB	AMB	21	18	19.5	
	comp=Z,53nm,1.4s									
PALK	**Pallekele**	**13.86**	**257**	*e*Pn		**Pn**	**21**	**18**	**19.3**	**+0.7**
SHL	**Shillong**	**15.07**	**351**	*e*P		**Pn**	**21**	**18**	**33.8**	**-1.1**
SHL				*ex*		x	21	21	30.0	
BOK	**Bokaro**	**15.39**	**330**	*e*P		**Pn**	**21**	**18**	**38.3**	**-0.8**
BOK					AMB	AMB	21	19	07.8	
	comp=Z,21nm,4.8s									
KMI	**Kunming**	**16.50**	**28**	P		**P**	**21**	**18**	**58.5**	**+2.4**
KMI				pP		**pP**	**21**	**19**	**02.8**	**+0.1**
KMI				PP		PnPn	21	19	12.0	+8.9
KMI				S		**S**	**21**	**22**	**05.5**	**-2.3**
KMI					pmax	pmax				
	comp=Z,10.0nm,1.3s									
KMI					pmax	pmax				
	comp=Z,220nm,6.1s									
KMI					LR	LR				
	comp=N,840nm,14.5s									
KMI					LR	LR				
	comp=E,860nm,11.3s									
KMI					LR	LR				
	comp=Z,650nm,11.9s									
HYB	**Hyderabad**	**16.73**	**296**	*i* P		**P**	**21**	**19**	**00.0**	**+1.5**
QIZ	**Qiongzhong**	**17.17**	**59**	P		**Pn**	**21**	**19**	**01.8**	**0.0**
QIZ				sP		sP	21	19	07.5	-5.5
QIZ				S		**Sn**	**21**	**22**	**13.8**	**+1.5**
QIZ				sS		**S**	**21**	**22**	**27.3**	**+6.1**
QIZ					LR	LR				
	comp=N,1µm,8.5s									
QIZ					LR	LR				
	comp=Z,2µm,9.4s									
LSA	**Lhasa**	**19.23**	**352**	P		**P**	**21**	**19**	**24.5**	**-2.0**
LSA					LR	LR				
	comp=Z,640nm,28.5s									
LSA	**Lhasa**	**19.23**	**352**	*e*P		**P**	**21**	**19**	**27.1**	**+0.6**
	comp=Z,36nm,1.2s									
SBUM	**Sibu**	**19.52**	**113**	P		**Pn**	**21**	**19**	**31.7**	**+1.1**
	comp=Z,19nm,1.2s,comp=Z,490nm									
GYA	**Guiyang**	**19.61**	**35**	*e*P		**Pn**	**21**	**19**	**33.3**	**+1.6**
GYA					pmax	pmax				
	comp=Z,10.0nm,0.8s									
BHPL	**Bhopal**	**20.45**	**310**	*e*P		**P**	**21**	**19**	**38.9**	**-0.5**
POO	**Poona**	**21.32**	**294**	*e*P		**P**	**21**	**19**	**49.6**	**+0.9**
POO					AMB	AMB	21	20	21.4	
	comp=Z,62nm,1.4s									
KKM	**Kota Kinabalu**	**22.12**	**100**	P		**P**	**21**	**19**	**58.4**	**+1.0**
NDI	**New Delhi**	**24.10**	**321**	*e*P		**P**	**21**	**20**	**17.0**	**-0.3**
ENH	**Enshi**	**24.13**	**34**	*e*P		**P**	**21**	**20**	**17.1**	**-0.5**
	comp=Z,29nm,1.1s									
MYLDM	**Lahad Datu**	**24.53**	**101**	P		**P**	**21**	**20**	**23.8**	**+2.4**
	comp=Z,39nm,1.3s									
BBKI	**Banjar Baru**	**24.74**	**123**	P		**P**	**21**	**20**	**24.9**	**+1.6**
SMLA	**Simla**	**25.90**	**325**	*e*P		**P**	**21**	**20**	**33.5**	**-0.1**
SMLA					AMB	AMB	21	21	17.5	
	comp=Z,50nm,1.4s									
LZH	**Lanzhou**	**26.80**	**17**	*e*P		P	21	20	31.5	-10
LZH					pP	pP	21	20	34.5	-15
LZH					sP	sP	21	20	36.3	-16
LZH					PP	PnPn	21	21	16.8	-7.0
LZH					pmax	pmax				
	comp=Z,18nm,1.1s									
LZH					pmax	pmax				
	comp=Z,56nm,5.0s									
LZH					LR	LR				
	comp=N,240nm,11.5s									
LZH					LR	LR				
	comp=E,230nm,12.2s									
LZH					LR	LR				
	comp=Z,300nm,15.0s									
QZH	**Quanzhou**	**27.09**	**55**	*e*P		**P**	**21**	**20**	**44.8**	**+0.4**
QZH					S	**S**	**21**	**25**	**21.5**	**+0.2**
QZH					LR	LR				
	comp=N,680nm,8.3s									
QZH					LR	LR				
	comp=E,630nm,7.8s									
QZH					LR	LR				
	comp=Z,890nm,11.3s									
WHN	**Wuhan**	**27.21**	**40**	*i*P		P	21	20	53.0	+7.6
WHN					S	S	21	25	32.8	+10
WHN					LR	LR				
	comp=N,740nm,7.7s									
WHN					LR	LR				
	comp=E,1µm,7.6s									
WHN					LR	LR				
	comp=Z,1µm,12.6s									
DHRM	**DHARAMSHALA**	**27.23**	**325**	*e*P		**P**	**21**	**20**	**46.0**	**+0.2**
DHRM					AMB	AMB	21	21	13.1	
	comp=Z,25nm,0.0s									
GTA	**Gaotai**	**29.11**	**9**	*e*P		**P**	**21**	**21**	**03.8**	**+1.4**
GTA					pP	**pP**	**21**	**21**	**08.0**	**-1.6**
GTA					sP	**sP**	**21**	**21**	**10.8**	**-1.8**
GTA					S	**S**	**21**	**25**	**56.0**	**+3.0**
GTA					sS	**sS**	**21**	**26**	**03.3**	**-1.6**
GTA					SS	**SnSn**	**21**	**27**	**27.0**	**+8.9**
GTA					pmax	pmax				
	comp=Z,3.0nm,1.4s									
GTA					pmax	pmax				
	comp=Z,110nm,5.7s									
GTA					LR	LR				
	comp=N,380nm,18.8s									
GTA					LR	LR				
	comp=E,230nm,17.3s									
GTA					LR	LR				
	comp=Z,500nm,20.2s									
BSSI	**Bau Bau, Buton**	**30.91**	**121**	P		P	21	21	21.7	+3.2
	comp=Z,25nm,1.5s									
NJ2	**Nanjing**	**31.12**	**43**	*e*P		**P**	**21**	**21**	**20.5**	**+0.3**
NJ2					pmax	pmax				
	comp=Z,20nm,0.5s									
SSE	**Sheshan**	**32.19**	**47**	P		**P**	**21**	**21**	**29.5**	**0.0**
SSE				pP		**pP**	**21**	**21**	**38.5**	**+1.8**
SSE				S		**S**	**21**	**26**	**39.0**	**-2.2**
SSE				PcS		**PcS**	**21**	**28**	**04.0**	**+1.0**
SSE					pmax	pmax				
	comp=Z,20nm,0.8s									
SSE					pmax	pmax				
	comp=Z,43nm,3.8s									
SSE					LR	LR				
	comp=N,150nm,8.9s									
SSE					LR	LR				
	comp=E,370nm,8.9s									
SSE					LR	LR				
	comp=Z,430nm,8.8s									
KSH	**Kashi**	**33.11**	**334**	P		**P**	**21**	**21**	**36.8**	**-0.9**
KSH				PP		**PnPn**	**21**	**22**	**45.3**	**-2.4**
KSH				S		**S**	**21**	**26**	**52.8**	**-2.9**
KSH				PcS		**PcS**	**21**	**28**	**05.0**	**-1.3**
KSH					pmax	pmax				
	comp=Z,4.0nm,0.5s									
KSH					pmax	pmax				
	comp=Z,250nm,7.3s									
KSH					LR	LR				
	comp=N,140nm,10.7s									
KSH					LR	LR				
	comp=E,140nm,7.8s									
KSH					LR	LR				
	comp=Z,310nm,20.6s									
KBL	**Kabul**	**33.18**	**320**	*e*P		**P**	**21**	**21**	**37.1**	**-1.3**
	comp=Z,6.5nm,1.3s									
WMQ	**Urumqi**	**33.59**	**351**	P		**P**	**21**	**21**	**43.5**	**+1.7**
WMQ					pP	**pP**	**21**	**21**	**48.0**	**-1.0**
WMQ					sP	**sP**	**21**	**21**	**50.5**	**-1.5**
WMQ					PP	**PnPn**	**21**	**22**	**56.0**	**+2.2**
WMQ					PcP	**PcP**	**21**	**24**	**24.0**	**+2.1**
WMQ					S	**S**	**21**	**27**	**04.5**	**+1.5**
WMQ					sS	**sS**	**21**	**27**	**12.0**	**-2.9**
WMQ					ScP	**ScP**	**21**	**28**	**07.0**	**+1.8**
WMQ					SS	**SnSn**	**21**	**29**	**08.8**	**+1.8**
WMQ					ScS	**ScS**	**21**	**32**	**06.5**	**+0.1**
WMQ					pmax	pmax				
	comp=Z,13nm,1.2s									
WMQ					pmax	pmax				
	comp=Z,76nm,4.9s									
WMQ					LR	LR				
	comp=N,280nm,18.2s									
WMQ					LR	LR				
	comp=E,220nm,18.2s									
WMQ					LR	LR				
	comp=Z,370nm,26.8s									
HHC	**Hu-ho-hao-te**	**33.76**	**24**	*e*P		**P**	**21**	**21**	**44.0**	**+0.7**
HHC					pP	**pP**	**21**	**21**	**48.0**	**-2.5**
HHC					sP	**sP**	**21**	**21**	**51.0**	**-2.5**
HHC					PP	**PnPn**	**21**	**22**	**57.3**	**+1.4**
HHC					S	**S**	**21**	**27**	**05.8**	**+0.2**
HHC					SS	**SnSn**	**21**	**29**	**12.8**	**+1.8**
HHC					pmax	pmax				
	comp=Z,21nm,1.0s									
HHC					pmax	pmax				
	comp=Z,220nm,4.5s									
HHC					LR	LR				
	comp=N,710nm,14.3s									
HHC					LR	LR				
	comp=E,610nm,14.3s									
HHC					LR	LR				
	comp=Z,580nm,16.7s									
BJT	**Baijiatuan**	**35.12**	**30**	*e*P		**P**	**21**	**21**	**53.9**	**-1.1**
	comp=Z,7.7nm,0.8s									
AAK	**Ala-Archa**	**36.31**	**335**	*e*P		**P**	**21**	**22**	**06.7**	**+1.3**
AAK	**Ala-Archa**	**36.31**	**335**	P		**P**	**21**	**22**	**05.5**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=223,slow=12,SNR=8.1									
MKAR	**Makanchi Array**	**37.49**	**346**	*e*P		**P**	**21**	**22**	**14.8**	**-0.4**
MKAR	**Makanchi Array**	**37.49**	**346**	P		**P**	**21**	**22**	**14.5**	**-0.7**
	comp=Z,6.4nm,1.0s,baz=166,slow=7.8,SNR=16									
MKAR					LR	LR	21	41	42.9	
	comp=Z,241nm,19.1s,baz=170,slow=43									
KKAR	**Karatay Array**	**38.45**	**332**	*e*P		**P**	**21**	**22**	**23.5**	**+0.2**
SONM	**Songino Array**	**38.48**	**13**	P		**P**	**21**	**22**	**22.6**	**-1.1**
SONM	**Songino Array**	**38.48**	**13**	P		**P**	**21**	**22**	**22.6**	**-1.1**
	comp=Z,4.6nm,1.0s,baz=196,slow=8.2,SNR=20									
SONM					LR	LR	21	39	49.5	
	comp=Z,570nm,19.0s,baz=191,slow=39									
ULN	**Ulaanbaatar**	**38.66**	**14**	*e*P		**P**	**21**	**22**	**26.6**	**+1.4**
	comp=Z,5.7nm,1.2s									
ULN	**Ulaanbaatar**	**38.66**	**14**	P		**P**	**21**	**22**	**23.8**	**-1.4**
	comp=Z,4.5nm,2.2s									
KSAR	**Wonju Array Be**	**40.29**	**43**	P		**P**	**21**	**22**	**37.5**	**-1.3**
KSRS	**Korea Array**	**40.32**	**43**	P		**P**	**21**	**22**	**37.5**	**-1.5**
	comp=Z,4.0nm,1.0s,baz=241,slow=7.8,SNR=20									
KSRS					LR	LR	21	42	39.7	
	comp=Z,156nm,18.3s,baz=236,slow=41									
CN2	**Changchun**	**42.65**	**34**	*e*P		**P**	**21**	**22**	**56.3**	**-1.7**
CN2					pmax	pmax				
	comp=Z,10.0nm,0.7s									
ZAA0	**Zalesovo Array**	**43.90**	**352**	*e*P		**P**	**21**	**23**	**07.5**	**-0.4**
ZALV	**Zalesovo Beam**	**43.90**	**352**	P		**P**	**21**	**23**	**07.0**	**-1.0**
ZALV	**Zalesovo Beam**	**43.90**	**352**	P		**P**	**21**	**23**	**07.0**	**-1.0**
	comp=Z,11nm,1.0s,baz=180,slow=8.2,SNR=28									
ZALV					LR	LR	21	44	56.2	
	comp=Z,92nm,19.0s,baz=160,slow=41									
HIA	**Hailar**	**43.96**	**24**	*e*P		**P**	**21**	**23**	**08.7**	**+0.1**
	comp=Z,8.6nm,1.2s									
MDJ	**Mudanjiang**	**45.47**	**35**	P		**P**	**21**	**23**	**21.5**	**+0.8**
MDJ				pP		**pP**	**21**	**23**	**24.5**	**-3.5**
MDJ				sP		**sP**	**21**	**23**	**26.0**	**-5.0**
MDJ				S		**S**	**21**	**30**	**04.3**	**+3.3**
MDJ				ScS		**ScS**	**21**	**33**	**17.3**	**+1.5**
MDJ				pmax	pmax					
	comp=Z,3.0nm,0.8s									
MDJ				pmax	pmax					
	comp=Z,44nm,3.8s									
MDJ					LR	LR				
	comp=N,190nm,12.0s									
MDJ					LR	LR				
	comp=E,37nm,6.6s									
MDJ					LR	LR				
	comp=Z,260nm,15.4s									
BRVK	**Borovoye**	**46.56**	**340**	*e*P		**P**	**21**	**23**	**30.5**	**+1.5**
	comp=Z,5.8nm,1.0s									
USRK	**Ussuriysk Arra**	**46.63**	**37**	P		**P**	**21**	**23**	**29.4**	**-0.3**
	comp=Z,3.9nm,1.0s,baz=242,slow=6.1,SNR=12									
USRK					LR	LR	21	43	58.9	
	comp=Z,144nm,18.8s,baz=359,slow=37									
MAJO	**Matsushiro**	**47.23**	**49**	*e*P		**P**	**21**	**23**	**35.3**	**+0.6**
MJAR	**Matsushiro Arr**	**47.23**	**50**	P		**P**	**21**	**23**	**35.0**	**+0.3**
MJAR				PcP		**PcP**	**21**	**25**	**06.0**	**+0.2**
MJAR	**Matsushiro Arr**	**47.23**	**50**	P		**P**	**21**	**23**	**35.0**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=239,slow=12,SNR=7.1									
MJAR				PcP		**PcP**	**21**	**25**	**06.0**	**+0.2**
	comp=Z,4.3nm,0.9s,baz=246,slow=3.9,SNR=12									
MJAR					LR	LR	21	46	35.1	
	comp=Z,115nm,18.4s,baz=240,slow=40									
ABKAR	**Akbulak array**	**47.96**	**330**	*e*P		**P**	**21**	**23**	**41.3**	**+1.2**
RAYN	**Ar Rayn**	**48.19**	**292**	*e*P		**P**	**21**	**23**	**43.1**	**+0.8**
	comp=Z,16nm,1.4s									
AKTO	**Aktyubinsk**	**49.67**	**330**	P		**P**	**21**	**23**	**52.5**	**-0.7**
AKTO	**Aktyubinsk**	**49.67**	**330**	P		**P**	**21**	**23**	**52.5**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=113,slow=11,SNR=3.6									
WRA	**Warramunga Arr**	**49.73**	**128**	P		**P**	**21**	**23**	**53.1**	**-1.0**
WRA	**Warramunga Arr**	**49.73**	**128**	P		**P**	**21**	**23**	**53.1**	**-1.0**
	comp=Z,10nm,1.0s,baz=304,slow=8.7,SNR=11									
WRAB	**Tennant Creek**	**49.73**	**128**	*e*P		**P**	**21**	**23**	**54.1**	**0.0**
	comp=Z,11nm,0.9s									
ASAR	**Alice Springs**	**51.55**	**132**	P		**P**	**21**	**24**	**08.0**	**+0.2**
ASAR	**Alice Springs**	**51.55**	**132**	P		**P**	**21**	**24**	**08.0**	**+0.2**
	comp=Z,13nm,0.9s,baz=309,slow=6.7,SNR=78									
ASAR					LR	LR	21	45	11.2	
	comp=Z,242nm,21.9s,baz=288,slow=35									
GNI	**Garni**	**52.70**	**313**	*e*P		**P**	**21**	**24**	**16.9**	**+0.5**
	comp=Z,34nm,1.1s									
GNI	**Garni**	**52.70**	**313**	P		**P**	**21**	**24**	**17.4**	**+1.0**
	comp=Z,9.7nm,1.0s,baz=66,slow=4.1,SNR=7.3									
KBZ	**Khabaz**	**55.23**	**316**	P		**P**	**21**	**24**	**34.4**	**-0.1**
KBZ	**Khabaz**	**55.23**	**316**	P		**P**	**21**	**24**	**34.4**	**-0.1**
	comp=Z,3.9nm,1.1s,baz=55,slow=2.4,SNR=3.6									
KBZ					LR	LR	21	51	30.6	
	comp=Z,163nm,21.1s,baz=139,slow=40									
KMBO	**Kilima Mbogo**	**57.95**	**262**	LR		LR	21	47	12.3	
	comp=Z,81nm,18.1s,baz=96,slow=33									
BRTR	**Keskin Array B**	**60.82**	**310**	P		**P**	**21**	**25**	**12.6**	**-1.5**
BRTR	**Keskin Array B**	**60.82**	**310**	P		**P**	**21**	**25**	**12.6**	**-1.5**
	comp=Z,3.3nm,1.1s,baz=106,slow=4.4,SNR=6.2									
STKA	**Stephens Creek**	**61.87**	**135**	*e*P		**P**	**21**	**25**	**22.7**	**+1.8**
STKA	**Stephens Creek**	**61.87**	**135**	P		**P**	**21**	**25**	**20.9**	**0.0**
	comp=Z,12nm,1.

DCZ				AML	AML	22 40 45.4		
DCZ				AML	AML	22 40 45.4		
DCZ				AML	AML	22 40 45.4		
PYZ	**Puysegur Point**	**0.69**	**168**	⇑P*	Pb	22 40 42.1	-0.7	
PYZ				S*	Sb	22 40 52.1	+0.1	
WHZ	**Wether Hill Ro**	**1.10**	**112**	PN	Pn	22 40 49.3	-0.6	
WHZ				SN	Sn	22 41 04.9	+0.3	
WHZ				AML	AML	22 41 14.1		
MLZ	**Mavora Lakes**	**1.20**	**84**	⇓PN	Pn	22 40 50.1	-1.2	
MLZ				SN	Sb	22 41 06.8	0.0	
MLZ				AML	AML	22 41 13.2		
MSZ	**Milford Sound**	**1.31**	**52**	PN	Pn	22 40 52.6	-0.1	
MSZ				AML	AML	22 41 19.6		
MSZ				AML	AML	22 41 19.6		
MSZ				AML	AML	22 41 22.2		
MSZ				AML	AML	22 41 22.2		
APZ	**The Paps**	**1.70**	**142**	⇓PN	Pn	22 40 58.8	+0.6	
WKZ	**Wanaka**	**1.92**	**71**	PN	Pb	22 41 02.8	-0.9	
WKZ				AML	AML	22 41 30.5		
WKZ				AML	AML	22 41 30.5		
WKZ				AML	AML	22 41 30.6		
WKZ				AML	AML	22 41 30.6		
EAZ	**Earnscleugh**	**2.01**	**84**	PN	Pn	22 41 03.7	+1.4	
EAZ				AML	AML	22 41 33.4		
EAZ				AML	AML	22 41 33.4		
EAZ				AML	AML	22 41 35.1		
SYZ	**Scrubby Hill**	**2.13**	**120**	PN	Pb	22 41 06.4	-1.0	
JCZ	**Jackson Bay**	**2.15**	**50**	PN	Pb	22 41 07.8	-0.2	
JCZ				AML	AML	22 41 43.8		
JCZ				AML	AML	22 41 44.9		
TUZ	**Tuapeka**	**2.26**	**103**	PN	Pb	22 41 08.3	-1.2	
TUZ				AML	AML	22 41 41.4		
TUZ				AML	AML	22 41 43.3		
LBZ	**Lake Benmore**	**2.85**	**69**	PN	Pn	22 41 15.7	+1.8	
LBZ				AML	AML	22 43 04.6		
ODZ	**Otahua Downs**	**2.98**	**83**	PN	Pn	22 41 16.0	+0.4	
WVZ	**Waitaha Valley**	**3.90**	**53**	AML	AML	22 44 12.5		

*ISCJB **27** 22:58:24.6±0.6,67.°19N±0.°03×20.°7E±0.°1,h0km, Error ellipse: s-maj=8.1km s-min=4.4km az=16.5*
*NAO **27** 22:58:26.8±1.0,67.°14N×21.°17E, ML2.3*
*UPP **27** 22:58:26.0,67.°19N×20.°72E, h0km, ML1.1, Mining explosion.*
*CSEM **27** 22:58:26.1±0.2,67.°20N×20.°69E, h2km, ML3.0, Error ellipse: s-maj=4.6km s-min=3.5km az=88.0, Mining explosion.*
*IDC **27** 22:58:26.4±0.9,67.°18N×20.°94E, h0km, mb1 2.9/4, mb1mx2.8/29, mbtmp2.9/4, ML2.5/4, Error ellipse: s-maj=15.3km s-min=6.3km az=116.0*
*BER **27** 22:58:28.6±3.8,67.°18N×20.°91E, h0km, ML3.0, ML2.3(NAO), Suspected explosion*

ISC 27 22:58:25.4±0.9, 67.°16N±0.°04×20.°63E±0.°05, h0km, n22, σ1s39/33, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.81**	**352**	P	**Pg**	**22 58 40.7**	**-0.1**
SALU	**Saltoluokta**	**0.86**	**286**	P	**Pg**	**22 58 42.4**	**+0.6**
PAJU	**Pajala**	**0.98**	**97**	P	**Pg**	**22 58 43.8**	**-0.3**
KALU	**Kalix**	**1.70**	**139**	P	**Pn**	**22 58 57.0**	**+0.7**
LILU	**Lilltraesk**	**1.91**	**190**	P	**Pn**	**22 59 00.8**	**+1.7**
KTK1	**Kautokeino**	**2.10**	**27**	*e*Sg	**Sb**	**22 59 31.2**	**+0.3**
KTK1	comp=Z,228nm,0.7s			AML	AML	22 59 38.3	
KTK1	**Kautokeino**	**2.10**	**27**	*e*Sg	**Sb**	**22 59 31.2**	**+0.3**
	comp=Z,228nm,0.7s,SNR=90						
ARA0	**ARCESS Array S**	**2.99**	**35**	Pn	**Pn**	**22 59 14.7**	**+0.6**
ARA0	baz=213,slow=14			Sn	**Sn**	**22 59 50.8**	**+0.2**
ARA0	baz=216,slow=22			Lg	Lg	22 59 56.8	
ARA0	**ARCESS Array S**	**2.99**	**35**	Pn	**Pn**	**22 59 14.7**	**+0.6**
ARA0	baz=213,slow=14			Sn	**Sn**	**22 59 50.8**	**+0.2**
ARA0	baz=216,slow=22			Lg	Lg	22 59 56.8	
ARA0	baz=210,slow=28			Lg	Lg	22 59 56.8	
ARA0	**ARCESS Array S**	**2.99**	**35**	Pn	**Pn**	**22 59 14.6**	**+0.6**
ARA0	baz=213,slow=14,SNR=50			Sn	**Sn**	**22 59 50.8**	**+0.2**
ARA0	baz=216,slow=21,SNR=50			Lg	Lg	22 59 56.8	
ARA0	baz=210,slow=24,SNR=29			Lg	Lg	22 59 56.8	
ARCES	**ARCESS Array B**	**2.99**	**35**	Pn	**Pn**	**22 59 15.0**	**+1.0**
ARCES	comp=Z,1.0nm,0.3s,baz=213,slow=13,SNR=17			Sn	**Sn**	**22 59 48.9**	**-1.6**
ARCES	comp=Z,1.7nm,0.3s,baz=216,slow=20,SNR=4.1			Lg	Lg	22 59 56.9	
	comp=Z,2.9nm,0.3s,baz=208,slow=23,SNR=9.4						
UMAU	**Umea**	**3.29**	**180**	P	**Pn**	**22 59 19.9**	**+1.8**
FIA0	**FINESS Array S**	**6.21**	**155**	Pn	**Pn**	**22 59 59.9**	**+1.8**
FIA0	baz=349,slow=18			Sn	**Sn**	**23 01 08.2**	**-1.5**
FIA0	baz=338,slow=16			Lg	Lg	23 01 38.1	
FIA0	**FINESS Array S**	**6.21**	**155**	Pn	**Pn**	**22 59 59.9**	**+1.8**
FIA0	baz=349,slow=18			Sn	**Sn**	**23 01 08.2**	**-1.5**
FIA0	baz=338,slow=16			Lg	Lg	23 01 38.1	
FIA0	baz=349,slow=37			Lg	Lg	23 01 38.1	
FIA0	**FINESS Array S**	**6.21**	**155**	Pn	**Pn**	**22 59 59.9**	**+1.8**
FIA0	baz=349,slow=17,SNR=50			Sn	**Sn**	**23 01 08.2**	**-1.5**
FIA0	baz=349,slow=28,SNR=27			Lg	Lg	23 01 38.2	
FINES	**FINESS Array B**	**6.21**	**155**	Pn	**Pn**	**22 59 59.8**	**+1.8**
FINES	comp=Z,0.2nm,0.3s,baz=350,slow=16,SNR=6.7			Sn	**Sn**	**23 01 08.0**	**-1.6**
FINES	comp=Z,0.3nm,0.3s,baz=347,slow=23,SNR=4.3			Lg	Lg	23 01 41.5	
MEF	**Metsahovi**	**7.17**	**165**	*e*S	**Sn**	**23 01 35.7**	**+2.4**
NOA	**NORSAR Array B**	**7.39**	**218**	Pn	**Pn**	**23 00 15.3**	**+0.9**
NOA	comp=Z,0.1nm,0.3s,baz=26,slow=11,SNR=2.9			Lg	Lg	23 02 20.9	
HFS	**Hagfors**	**7.69**	**207**	Pn	**Pn**	**23 00 19.1**	**+0.6**
HFS	baz=41,slow=22			Sn	**Sn**	**23 01 43.7**	**-2.6**
HFS	baz=21,slow=18			Lg	Lg	23 02 28.5	
HFS	**Hagfors**	**7.69**	**207**	Pn	**Pn**	**23 00 19.1**	**+0.6**
HFS	baz=41,slow=22			Sn	**Sn**	**23 01 43.7**	**-2.6**
HFS	baz=21,slow=18			Lg	Lg	23 02 28.5	
HFS	baz=30,slow=28			Lg	Lg	23 02 28.5	
HFS	**Hagfors**	**7.69**	**207**	Pn	**Pn**	**23 00 17.8**	**-0.7**
HFS	comp=Z,0.1nm,0.3s,baz=29,slow=22,SNR=3.1			Sn	**Sn**	**23 01 44.6**	**-1.7**
HFS	comp=Z,0.3nm,0.3s,baz=32,slow=22,SNR=4.0			Lg	Lg	23 02 28.0	
HFS	**Hagfors**	**7.69**	**207**	Pn	**Pn**	**23 00 19.1**	**+0.6**
HFS	comp=Z,0.3nm,0.3s,baz=24,slow=28,SNR=2.9			Lg	Lg	23 02 28.5	
	baz=30,slow=27,SNR=35						

WEL 27 23:14:34.9±0.6, 38.°03S×176.°07E, h174km±4km, ML3.5/7, 3C-3D, Error ellipse: s-maj=4.9km s-min=4.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.85**	**106**	⇑PN	Pn	23 15 00.9	0.0
URZ				SN	Sn	23 15 20.9	0.0
BKZ	**Black Stump Fm**	**1.18**	**164**	⇑PN	Pn	23 15 03.6	+0.1
MWZ	**Matawai**	**1.19**	**105**	⇓PN	Pn	23 15 03.7	+0.1
MWZ				SN	Sn	23 15 25.7	0.0
TUVZ	**Tukino**	**1.28**	**195**	PN	Pn	23 15 04.9	+0.4
BHHZ	**Black Hill Sta**	**1.45**	**180**	⇓PN	Pn	23 15 05.8	-0.2
MCHZ	**McNeill Hill**	**1.49**	**161**	PN	Pn	23 15 06.9	+0.6
KNZ	**Kokohu**	**1.60**	**129**	PN	Pn	23 15 07.3	0.0
MHGZ	**Mahia Peninsul**	**1.82**	**128**	PN	Pn	23 15 09.7	+0.1
KAHZ	**Kahuranaki**	**1.87**	**161**	PN	Pn	23 15 10.2	0.0
PNHZ	**Pukenui**	**1.88**	**177**	PN	Pn	23 15 09.6	-0.7
TSZ	**Takapari Road**	**2.03**	**182**	⇑PN	Pn	23 15 11.0	-0.9
PXZ	**Pawanui**	**2.09**	**163**	PN	Pn	23 15 11.9	-0.6
DVHZ	**Dannevirke**	**2.27**	**178**	PN	Pn	23 15 13.2	-1.4
ANWZ	**Angora Road**	**2.45**	**173**	⇓PN	Pn	23 15 15.5	-1.1
MRZ	**Mangatainoka R**	**2.65**	**188**	PN	Pn	23 15 17.0	-2.0
MRZ				SN	Sn	23 15 49.7	-3.8
OGWZ	**Otaki Gorge**	**2.87**	**194**	PN	Pn	23 15 19.6	-2.0
HOWZ	**Holdsworth Sta**	**2.89**	**188**	PN	Pn	23 15 19.6	-2.4
KIW	**Kapiti Island**	**2.96**	**197**	PN	Pn	23 15 20.2	-2.5

OTT 27 23:24:10.3±0.8, 76.°72N×122.°40W, h18km, ML3.8/11, 97km northwest from Mould Bay, Nt, Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUNU	**Eureka**	**7.86**	**48**	PN	Pn	23 26 10.9	+7.4
EUNU				SN	Sn	23 27 26.6	-5.1
INK	**Inuvik**	**9.07**	**207**	PN	Pn	23 26 16.6	-3.4
INK				SN	Sn	23 27 52.7	-8.7
CB31	**Cambridge Bay**	**9.11**	**138**	PN	Pn	23 26 20.5	-0.1
CB31				SN	Sn	23 27 55.8	-6.7
CB31				Trac		23 28 01.9	
	comp=Z,14nm,0.2s						
DHRN	**Dharma Camp**	**9.78**	**173**	PN	Pn	23 26 28.8	-1.0
DHRN				SN	Sn	23 28 13.5	-5.4
DHRN				Trac		23 28 17.2	
	comp=Z,2.1nm,0.2s						
HPLN	**Hepburn Lake,**	**10.65**	**164**	PN	Pn	23 26 41.4	-0.4
HPLN				SN	Sn	23 28 31.1	-9.2
HPLN				Trac		23 28 37.9	
	comp=Z,1.5nm,0.2s						
CTLN	**Castor Lake**	**12.52**	**167**	PN	Pn	23 27 05.6	-1.7
CTLN				SN	Sn	23 29 15.1	-11
CTLN				Trac		23 29 32.8	
	comp=Z,1.5nm,0.3s						
ROMN	**Roman Lake**	**12.55**	**171**	PN	Pn	23 27 04.8	-2.8
ROMN				SN	Sn	23 29 18.9	-7.8
ROMN				Trac		23 29 32.4	
	comp=Z,2.4nm,0.2s						
GALN	**Gameti Lake**	**12.77**	**170**	SN	Sn	23 29 22.6	-10
KUGN	**Kugaaruk Camp,**	**12.81**	**115**	PN	Pn	23 27 09.0	-2.2
KUGN				SN	Sn	23 29 20.4	-13
KUGN				Trac		23 29 43.3	
	comp=Z,2.3nm,0.3s						
STLN	**Stellar Camp,**	**12.88**	**121**	SN	Sn	23 29 26.7	-8.1
GIFN	**Gifford Fjord,**	**13.16**	**99**	PN	Pn	23 27 14.4	-1.5
GIFN				SN	Sn	23 29 33.9	-7.6
GIFN				Trac		23 29 43.2	
	comp=Z,2.1nm,0.6s						
LAIN	**Lailor River,**	**13.41**	**104**	PN	Pn	23 27 20.9	+1.5
LAIN				SN	Sn	23 29 39.7	-8.0
LAIN				Trac		23 29 51.5	
	comp=Z,1.2nm,0.4s						
DAWY	**Dawson**	**13.83**	**213**	PN	Pn	23 27 20.2	-5.0
DAWY				SN	Sn	23 29 45.2	-13
DAWY				Trac		23 29 51.9	
	comp=Z,0.8nm,0.1s						
YKW3	**Yellowknife Ar**	**14.46**	**165**	PN	Pn	23 27 31.7	-2.0
YKW3				SN	Sn	23 30 00.1	-13
YKW3				Trac		23 30 13.1	
	comp=Z,0.4nm,0.2s						
QILN	**Qililugaq Expl**	**14.80**	**113**	PN	Pn	23 27 37.9	-0.4
QILN				SN	Sn	23 30 11.3	-10
QILN				Trac		23 30 16.3	
	comp=Z,3.5nm,0.6s						

WEL 27 23:31:18.8±0.4, 45.°75S×165.°82E, h12km, ML3.8/15, 2C, Error ellipse: s-maj=3.4km s-min=1.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.73**	**125**	P*	Pg	23 31 32.3	-0.7
PYZ				S*	Sg	23 31 42.0	-0.6
DCZ	**Deep Cove**	**0.98**	**74**	⇑P*	Pg	23 31 36.2	-1.5
DCZ				S*	Sg	23 31 47.9	-2.4
DCZ				AML	AML	23 31 48.5	
DCZ				AML	AML	23 31 48.6	
DCZ				AML	AML	23 31 48.7	
WHZ	**Wether Hill Ro**	**1.50**	**96**	PN	Pn	23 31 44.7	-0.8
WHZ				SN	Sn	23 32 03.3	-1.7
WHZ				AML	AML	23 32 10.0	
MLZ	**Mavora Lakes**	**1.70**	**77**	PN	Pn	23 31 47.5	-0.9
MLZ				SN	Sn	23 32 08.3	-1.9
MLZ				AML	AML	23 32 22.4	
MSZ	**Milford Sound**	**1.84**	**55**	PN	Pn	23 31 49.6	-0.6
MSZ				AML	AML	23 32 26.1	
MSZ				AML	AML	23 32 33.6	
APZ	**The Paps**	**1.85**	**126**	⇑PN	Pn	23 31 48.9	-1.5
APZ				SN	Sn	23 32 11.5	-2.3
SYZ	**Scrubby Hill**	**2.44**	**110**	PN	Pn	23 31 57.8	-0.6
WKZ	**Wanaka**	**2.44**	**69**	PN	Pn	23 31 59.8	+1.3
WKZ				AML	AML	23 32 49.2	
WKZ				AML	AML	23 32 49.5	
EAZ	**Earnscleugh**	**2.51**	**79**	PN	Pn	23 32 00.3	+0.9
EAZ				AML	AML	23 32 37.2	
EAZ				AML	AML	23 32 44.1	
EAZ				AML	AML	23 32 44.1	
TUZ	**Tuapeka**	**2.67**	**96**	PN	Pn	23 32 01.2	-0.4
TUZ				AML	AML	23 32 39.7	
TUZ				AML	AML	23 32 42.3	
LBZ	**Lake Benmore**	**3.38**	**68**	PN	Pn	23 32 10.8	-0.6
LBZ				AML	AML	23 32 38.6	
LBZ				AML	AML	23 32 55.3	
ODZ	**Otahua Downs**	**3.47**	**80**	PN	Pn	23 32 11.6	-1.0
FOZ	**Fox Glacier**	**3.52**	**53**	PN	Pn	23 32 13.2	-0.1
FOZ				AML	AML	23 32 49.4	
WVZ	**Waitaha Valley**	**4.42**	**55**	PN	Pn	23 32 24.0	-1.7

WEL 27 23:53:08.3±0.2, 45.°45S×166.°65E, h23km, ML3.8/19, 1C-3D, Error ellipse: s-maj=2.0km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.36**	**94**	P*	Pb	23 53 15.6	-0.5
DCZ				S*	Sb	23 53 20.8	-0.6
DCZ				AML	AML	23 53 21.0	
DCZ				AML	AML	23 53 21.0	
DCZ				AML	AML	23 53 21.1	
PYZ	**Puysegur Point**	**0.71**	**178**	⇓P*	Pb	23 53 21.4	-0.7
PYZ				S*	Sb	23 53 30.5	-1.1
WHZ	**Wether Hill Ro**	**1.01**	**116**	PN	Pn	23 53 26.8	-0.3
WHZ				SN	Sb	23 53 39.9	-0.2
WHZ				AML	AML	23 53 42.5	
MLZ	**Mavora Lakes**	**1.08**	**85**	⇓PN	Pn	23 53 27.4	-0.7
MLZ				SN	Sb	23 53 41.3	-0.9
MLZ				AML	AML	23 53 42.5	
MSZ	**Milford Sound**	**1.20**	**50**	PN	Pn	23 53 28.8	-0.8
MSZ				AML	AML	23 53 49.6	
MSZ				AML	AML	23 53 49.6	
MSZ				AML	AML	23 53 50.6	
MSZ				AML	AML	23 53 50.6	
APZ	**The Paps**	**1.67**	**146**	PN	Pb	23 53 37.7	-0.7
WKZ	**Wanaka**	**1.79**	**70**	PN	Pb	23 53 39.4	-1.1
WKZ				AML	AML	23 54 07.2	
WKZ				AML	AML	23 54 07.2	
WKZ				AML	AML	23 54 12.1	
EAZ	**Earnscleugh**	**1.89**	**84**	⇑PN	Pb	23 53 40.8	-1.3
EAZ				AML	AML	23 54 07.8	
EAZ				AML	AML	23 54 07.8	
EAZ				AML	AML	23 54 09.8	
JCZ	**Jackson Bay**	**2.04**	**48**	AML	AML	23 54 15.5	
JCZ				AML	AML	23 54 17.8	
SYZ	**Scrubby Hill**	**2.05**	**123**	PN	Pb	23 53 43.6	-1.1
TUZ	**Tuapeka**	**2.15**	**105**	PN	Pn	23 53 44.1	+1.4
TUZ				AML	AML	23 54 16.9	
TUZ				AML	AML	23 54 17.4	
LBZ	**Lake Benmore**	**2.73**	**68**	PN	Pn	23 53 51.3	+0.6
LBZ				AML	AML	23 54 42.1	
LBZ				AML	AML	23 54 49.0	
ODZ	**Otahua Downs**	**2.85**	**83**	⇓PN	Pn	23 53 52.9	+0.5
ODZ				AML	AML	23 54 31.6	
ODZ				AML	AML	23 54 40.2	
FOZ	**Fox Glacier**	**2.88**	**50**	PN	Pb	23 53 58.4	-0.6
FOZ				AML	AML	23 54 47.3	
FOZ				AML	AML	23 54 48.0	
RPZ	**Rata Peaks**	**3.59**	**63**	PN	Pn	23 54 04.2	+1.5
RPZ				AML	AML	23 54 50.4	
RPZ				AML	AML	23 55 09.1	
WVZ	**Waitaha Valley**	**3.78**	**52**	PN	Pn	23 54 06.7	+1.6
WVZ				AML	AML	23 55 11.9	
LTZ	**Lake Taylor**	**4.85**	**59**	PN	Pn	23 54 21.7	+1.8

IDC 27 23:58:48.7±1.6, 11.°86N×91.°91E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/27, mbtmp3.7/7, ML3.8/1, Error ellipse: s-maj=60.8km s-min=20.3km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.44**	**45**	Pn	Pn	00 01 06.2	+0.2
	0.3nm,0.3s,baz=233,slow=15,SNR=3.5						
MKAR	**Makanchi Array**	**35.76**	**349**	P	P	00 05 48.6	-0.7
	1.0nm,0.9s,baz=168,slow=9.6,SNR=3.8						
KURBB	**Kurchatov Arra**	**40.18**	**347**	P	P	00 06 27.1	+0.5
	0.4nm,0.6s,baz=161,slow=7.2,SNR=5.2						
ZALV	**Zalesovo Beam**	**42.36**	**354**	P	P	00 06 44.3	-0.2
	0.4nm,0.4s,baz=176,slow=8.7,SNR=3.1						
WRA	**Warramunga Arr**	**52.38**	**127**	P	P	00 08 02.4	-0.6
	1.0nm,0.7s,baz=301,slow=9.1,SNR=4.0						
ASAR	**Alice Springs**	**54.16**	**131**	P	P	00 08 16.5	+0.4
	0.4nm,0.4s,baz=308,slow=6.5,SNR=6.8						
ARCES	**ARCESS Array B**	**70.79**	**340**	P	P	00 10 06.8	+0.1
	1.3nm,0.7s,baz=83,slow=7.4,SNR=4.0						

WEL 28 00:48:30.7±0.4, 46.°01S×166.°07E, h26km±1km, ML3.8/13, 1C-4D, Error ellipse: s-maj=3.8km s-min=1.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.45**	**111**	⇓P*	Pb	00 48 39.9	-0.4
PYZ				S*	Sb	00 48 46.2	-0.5
DCZ	**Deep Cove**	**0.93**	**55**	⇑PN	Pn	00 48 47.2	-0.8
DCZ				SN	Sb	00 48 59.7	-0.3
DCZ				AML	AML	00 49 01.2	
DCZ				AML	AML	00 49 01.2	
DCZ				AML	AML	00 49 01.3	
WHZ	**Wether Hill Ro**	**1.31**	**86**	⇓PN	Pn	00 48 53.6	+0.1
WHZ				SN	Sn	00 49 10.3	+0.1
WHZ				AML	AML	00 49 14.4	
APZ	**The Paps**	**1.56**	**123**	PN	Pn	00 48 56.5	-0.4
MLZ	**Mavora Lakes**	**1.61**	**67**	⇓PN	Pn	00 48 58.8	+1.1
MLZ				AML	AML	00 49 23.6	
MLZ				AML	AML	00 49 25.6	
SYZ	**Scrubby Hill**	**2.19**	**105**	PN	Pn	00 49 06.7	+1.2
SYZ				SN	Sb	00 49 35.0	-1.4
WKZ	**Wanaka**	**2.39**	**61**	PN	Pn	00 49 10.1	+1.9
WKZ				AML	AML	00 49 44.5	
WKZ				AML	AML	00 49 51.3	
EAZ	**Earnscleugh**	**2.40**	**72**	*e*PN	Pb	00 49 11.0	-2.2
EAZ				AML	AML	00 49 41.8	
EAZ				AML	AML	00 49 41.8	
EAZ				AML	AML	00 49 48.8	
EAZ				AML	AML	00 49 48.9	
TUZ	**Tuapeka**	**2.48**	**90**	AML	AML	00 49 48.1	
TUZ				AML	AML	00 49 49.0	
LBZ	**Lake Benmore**	**3.33**	**62**	PN	Pn	00 49 22.4	+1.2
LBZ				AML	AML	00 50 02.8	
LBZ				AML	AML	00 50 08.1	
ODZ	**Otahua Downs**	**3.36**	**75**	⇓PN	Pn	00 49 22.2	+0.7

*ISCJB **28** 00:54:01.2±0.4, 42.°79N±0.°04×142.°89E±0.°04, h134km±3km, mb3.6/7, Error ellipse: s-maj=6.9km s-min=4.6km az=154.8*
*MOS **28** 00:54:01.7±1.2, 42.°82N×142.°88E, h146km, mb3.8/7, Error ellipse: s-maj=23.1km s-min=13.5km az=79.3*
*IDC **28** 00:54:02.8±1.9, 42.°85N×142.°94E, h136km±9km, mb3.4/7, mb1 3.4/10, mb1mx3.3/26, mbtmp3.3/10, Error ellipse: s-maj=26.9km s-min=17.2km az=145.0*
*JMA **28** 00:54:03.2±0.2, 42.°82N×142.°94E, h121km±2km, M3.3*

ISC 28 00:54:02.1±0.7, 42.°77N±0.°05×142.°89E±0.°04, h132km±6km, n34, σ0s84/49, mb3.6/7, 1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	**Churui**	**0.38**	**114**	P	**Pn**	**00 54 20.4**	**-0.3**
JCH				*e*S	**Sn**	**00 54 33.3**	**-1.4**
JBT2	**Biratori 2**	**0.39**	**272**	P	**Pn**	**00 54 20.8**	**+0.1**
JBT2				*e*S	**Sn**	**00 54 34.6**	**-0.2**
JFR	**Furan**	**0.45**	**331**	P	**Pn**	**00 54 20.9**	**-0.1**
JNBK	**Urakawa-nobuka**	**0.50**	**192**	P	**Pn**	**00 54 22.2**	**+0.9**
JNBK				*e*S	**Sn**	**00 54 37.5**	**+1.7**
JOB	**Onbets**	**0.71**	**79**	P	**Pn**	**00 54 22.8**	**+0.2**
JOB				*e*S	**Sn**	**00 54 37.9**	**-0.2**
JEM	**Erimo**	**0.78**	**165**	P	**Pn**	**00 54 24.1**	**+0.9**
JAR	**Ashorobuto**	**0.83**	**50**	P	**Pn**	**00 54 23.3**	**-0.3**
JAR				*e*S	**Sn**	**00 54 38.8**	**-1.2**
JEW	**Eniwo**	**1.06**	**274**	P	**Pn**	**00 54 25.8**	**+0.1**
JEW				*e*S	**Sn**	**00 54 43.3**	**-0.3**
JKK2	**Kamakawa 2**	**1.11**	**355**	P	**Pn**	**00 54 26.7**	**+0.6**
JHR	**Hokuryu**	**1.29**	**319**	P	**Pn**	**00 54 28.4**	**+0.4**
JHR				*e*S	**Sn**	**00 54 47.7**	**-0.1**
JAK	**Akkeshi**	**1.34**	**80**	P	**Pn**	**00 54 28.2**	**-0.3**
JAK				*e*S	**Sn**	**00 54 47.1**	**-1.5**
ASAJ	**Asahikawa**	**1.36**	**351**	P	**Pn**	**00 54 29.4**	**+0.6**
ASAJ	11nm,0.3s,baz=210,slow=11,SNR=41			S	**Sn**	**00 54 49.0**	**-0.1**
	5.5nm,0.3s,baz=149,slow=18,SNR=6.0						
JTKR	**Abashiri--Toko**	**1.41**	**31**	P	**Pn**	**00 54 29.2**	**0.0**
JTKR				*e*S	**Sn**	**00 54 48.8**	**-1.2**
JKB	**Kayabe**	**1.64**	**238**	P	**Pn**	**00 54 31.5**	**-0.3**
JKB				*e*S	**Sn**	**00 54 53.2**	**-1.2**
JSK	**Shakotan**	**1.86**	**289**	P	**Pn**	**00 54 34.2**	**-0.2**
JSK				*e*S	**Sn**	**00 54 58.6**	**-0.6**
JOT	**Ohata**	**1.95**	**225**	P	**Pn**	**00 54 35.3**	**-0.2**
JOT				*e*S	**Sn**	**00 54 59.6**	**-1.5**
JYG	**Yagishiri**	**1.97**	**328**	*e*S	**Sn**	**00 55 00.8**	**-0.7**
JRA	**Rausu**	**2.00**	**54**	P	**Pn**	**00 54 36.5**	**+0.4**
JRA				*e*S	**Sn**	**00 55 02.5**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**2.51**	**59**	*d*PN	**Pn**	**00 54 43.0**	**+0.7**
YUK				*i*S	**Sn**	**00 55 13.4**	**+0.1**
YUK	comp=Z,147nm,0.3s			pmax	pmax		
YUK	comp=N,31nm,0.4s			pmax	pmax		
YUK	comp=E,23nm,0.3s			pmax	pmax		
YUK	comp=N,163nm,0.6s			smax	smax		
YUK	comp=E,276nm,0.6s			smax	smax		
MJAR	**Matsushiro Arr**	**7.19**	**212**	P	**Pn**	**00 55 45.6**	**+1.0**
	comp=E,0.4nm,0.3s,baz=20,slow=11,SNR=6.1						
USRK	**Ussuriysk Arra**	**8.05**	**284**	P	**Pn**	**00 55 57.0**	**+1.0**
	comp=E,0.2nm,0.3s,baz=88,slow=14,SNR=7.8						
PETK	**Petropavlovsk-**	**14.30**	**39**	P	**Pn**	**00 57 18.9**	**+0.6**
PETK	**Petropavlovsk-**	**14.30**	**39**	P	**Pn**	**00 57 18.9**	**+0.6**
	baz=223,slow=13,SNR=2.1						
YAK	**Yakutsk**	**20.83**	**342**	*e

*ISCJB **28** 01:00:33.0±0.4, 7.36S×0.04×131.60E±0.04, h33km, mb4.0/12, MS3.9/5, Error ellipse: s-maj=6.5km s-min=5.1km az=21.5*
*AUST **28** 01:00:32.7, 7.46S×131.56E, h0km*
*IDC **28** 01:00:32.5±0.8, 6.99S×131.40E, h0km, mb4.0/10, mb1 4.2/12, mb1mx4.1/18, mbtmp4.1/12, ML4.3/2, MS3.8/5, Ms1 3.8/5, ms1mx3.2/34, Error ellipse: s-maj=26.1km s-min=17.3km az=80.0*
*NEIC **28** 01:00:37.5±0.5, 7.04S×131.38E, h35km, mb4.5/3, Error ellipse: s-maj=14.3km s-min=10.0km az=67.0*

ISC 28 01:00:36.0±0.5, 7.35S±0.05×131.51E±0.06, h35km, n56, σ2§53/55, mb4.1/12, MS4.0/5, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**3.23**	**330**	P		**Pn**		**01 01 23.6**	**-0.7**
	baz=3.4,SNR=3.9								
FAKI	**Fak Fak**	**4.46**	**10**	P		Pn		01 01 38.8	-2.4
	baz=4.6,SNR=10								
KDU	**Kakadu**	**5.39**	**170**	P		**Pn**		**01 01 55.4**	**+1.5**
	baz=5.3,SNR=64								
MTN	**Manton Dam**	**5.47**	**184**	P		**Pn**		**01 01 57.2**	**+2.1**
	baz=5.4,SNR=22								
MTN				S		**Sn**		**01 03 01.4**	**+4.6**
	baz=5.4,SNR=10.0								
SOEI	**Soe**	**7.55**	**251**	P		Pn		01 02 26.9	+3.1
	baz=7.6,SNR=9.0								
SOEI				S		**Sn**		**01 03 51.4**	**+3.1**
	baz=7.6,SNR=6.6								
BATI	**Baumata**	**8.26**	**249**	Pn		**Pn**		**01 02 35.0**	**+1.6**
BATI				Sn		**Sn**		**01 04 07.7**	**+2.2**
BATI	**Baumata**	**8.26**	**249**	Pn		**Pn**		**01 02 35.0**	**+1.6**
	9.0nm,0.3s,baz=80,slow=3.6,SNR=8.2								
BATI				Sn		**Sn**		**01 04 07.7**	**+2.2**
	17nm,0.3s,baz=277,slow=19,SNR=4.8								
KNRA	**Kununurra**	**8.70**	**198**	P		**Pn**		**01 02 39.8**	**+0.4**
	baz=8.7,SNR=9.0								
KNRA				S		**Sn**		**01 04 16.7**	**+0.3**
	baz=8.7,SNR=7.5								
JAY	**Jayapura**	**10.34**	**63**	P		**Pn**		**01 03 01.3**	**-0.7**
	baz=10,SNR=4.7								
WSI	**Waingapu**	**11.33**	**257**	S		**Sn**		**01 05 17.2**	**-3.7**
	baz=11,SNR=4.8								
FITZ	**Fitzroy Crossi**	**12.12**	**208**	*e*Pn		**Pn**		**01 03 25.9**	**-0.4**
FITZ				Sn		**Sn**		**01 05 35.0**	**-5.3**
FITZ	**Fitzroy Crossi**	**12.12**	**208**	Pn		**Pn**		**01 03 25.4**	**-0.9**
	1.9nm,0.3s,baz=45,slow=13,SNR=67								
FITZ				Sn		**Sn**		**01 05 35.0**	**-5.3**
	5.2nm,0.3s,baz=195,slow=16,SNR=9.9								
FITZ	**Fitzroy Crossi**	**12.12**	**208**	P		**Pn**		**01 03 25.2**	**-1.1**
	baz=12,SNR=34								
WRAB	**Tennant Creek**	**12.81**	**168**	*e*Pn		**Pn**		**01 03 33.9**	**-1.8**
	27nm,0.8s								
WRAB				*e*S		**Sn**		**01 05 52.6**	**-4.6**
WRA	**Warramunga Arr**	**12.82**	**168**	Pn		**Pn**		**01 03 33.8**	**-2.1**
WRA				Sn		**Sn**		**01 05 53.7**	**-3.7**
WRA	**Warramunga Arr**	**12.82**	**168**	Pn		**Pn**		**01 03 33.8**	**-2.1**
	1.1nm,0.3s,baz=344,slow=14,SNR=4.0								
WRA				Sn		**Sn**		**01 05 53.7**	**-3.7**
	6.5nm,0.3s,baz=342,slow=22,SNR=9.2								
COEN	**Coen**	**13.21**	**121**	*e*Pn		**Pn**		**01 03 40.4**	**-0.8**
	101nm,0.5s								
COEN	**Coen**	**13.21**	**121**	P		**Pn**		**01 03 40.4**	**-0.8**
	baz=13,SNR=9.2								
PALU	**Palau**	**14.89**	**12**	S		Sn		01 06 55.6	+7.7
	baz=15,SNR=6.0								
ASAR	**Alice Springs**	**16.39**	**172**	Pn		**Pn**		**01 04 22.0**	**-1.5**
ASAR				Sn		Sn		01 07 15.6	-8.8
ASAR	**Alice Springs**	**16.39**	**172**	Pn		**Pn**		**01 04 22.0**	**-1.5**
	1.1nm,0.3s,baz=355,slow=9.1,SNR=59								
ASAR				Sn		Sn		01 07 15.6	-8.8
	1.0nm,0.3s,baz=2.2,slow=27,SNR=4.4								
MTSU	**Mount Surprise**	**16.45**	**132**	P		**Pn**		**01 04 22.9**	**-1.4**
	baz=16,SNR=5.8								
CTA	**Charters Tower**	**19.10**	**133**	P		**Pn**		**01 05 00.0**	**+3.1**
CTA	**Charters Tower**	**19.10**	**133**	P		**Pn**		**01 05 00.0**	**+3.1**
	0.3nm,0.3s,baz=305,slow=16,SNR=2.1								
CTAO	**Charters Tower**	**19.10**	**133**	*e*P		**Pn**		**01 05 01.6**	**+4.8**
	28nm,1.0s								
FORT	**Forrest**	**23.53**	**187**	*e*P		**P**		**01 05 45.5**	**+2.5**
	30nm,0.6s								
RMQ	**Roma**	**25.13**	**141**	P		P		01 06 10.8	+13
	baz=25,SNR=7.3								
STKA	**Stephens Creek**	**26.15**	**160**	*e*P		**P**		**01 06 11.4**	**+4.3**
	4.5nm,0.9s								
STKA	**Stephens Creek**	**26.15**	**160**	P		**P**		**01 06 11.7**	**+4.6**
	5.5nm,0.7s,baz=327,slow=11,SNR=9.9								
STKA	**Stephens Creek**	**26.15**	**160**	P		**P**		**01 06 11.8**	**+4.7**
	baz=26,SNR=6.8								
CMSA	**Cobar Meteorol**	**27.47**	**153**	P		P		01 06 30.0	+11
	baz=27,SNR=5.9								
CMAR	**Chiang Mai Arr**	**41.11**	**309**	P		**P**		**01 08 16.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**41.11**	**309**	P		**P**		**01 08 16.3**	**-0.6**
	0.7nm,0.3s,baz=135,slow=6.0,SNR=4.1								
MJAR	**Matsushiro Arr**	**44.11**	**8**	P		P		01 08 38.7	-2.3
MJAR	**Matsushiro Arr**	**44.11**	**8**	P		P		01 08 38.7	-2.3
	1.6nm,0.7s,baz=182,slow=9.0,SNR=5.5								
MJAR				LR		LR		01 25 40.9	
	comp=Z,58nm,18.2s,baz=225,slow=34								
KSAR	**Wonju Array Be**	**44.69**	**356**	P		**P**		**01 08 44.3**	**-1.2**
KSRS	**Korea Array**	**44.69**	**356**	P		**P**		**01 08 44.3**	**-1.3**
	0.5nm,0.3s,baz=176,slow=8.2,SNR=3.2								
USRK	**Ussuriysk Arra**	**51.31**	**0**	P		**P**		**01 09 35.9**	**-0.8**
	1.6nm,0.7s,baz=187,slow=8.0,SNR=9.9								
URZ	**Urewera**	**51.34**	**134**	LR		LR		01 28 45.2	
	comp=Z,145nm,18.5s,baz=319,slow=33								
GTA	**Gaotai**	**55.01**	**330**	*e*P		**P**		**01 10 06.5**	**+2.3**
GTA				pP		**pP**		**01 10 11.0**	**-3.8**
GTA				sP		sP		01 10 13.8	-5.1
GTA				pmax		pmax			
	comp=Z,3.0nm,1.6s								
SONM	**Songino Array**	**59.26**	**341**	P		**P**		**01 10 33.9**	**-0.1**
SONM	**Songino Array**	**59.26**	**341**	P		**P**		**01 10 33.9**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=157,slow=8.0,SNR=3.9								
MKAR	**Makanchi Array**	**69.34**	**326**	P		**P**		**01 11 39.8**	**-0.3**
MKAR	**Makanchi Array**	**69.34**	**326**	P		**P**		**01 11 39.8**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=113,slow=8.5,SNR=22								
FX1	**Attu Island--F**	**69.63**	**25**	P		**P**		**01 11 42.4**	**+0.7**
FX1	**Attu Island--F**	**69.63**	**25**	P		**P**		**01 11 42.4**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=233,slow=10,SNR=3.6								
ZALV	**Zalesovo Beam**	**72.56**	**333**	P		**P**		**01 11 58.0**	**-1.4**
ZALV	**Zalesovo Beam**	**72.56**	**333**	P		**P**		**01 11 58.0**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=101,slow=7.7,SNR=4.5								
MAW	**Mawson**	**75.18**	**202**	P		P		01 12 18.0	+3.5
MAW	**Mawson**	**75.18**	**202**	P		P		01 12 18.0	+3.5
	comp=Z,0.6nm,0.2s,baz=112,slow=5.4,SNR=2.8								
MAW				LR		LR		01 41 40.3	
	comp=Z,80nm,20.9s,baz=309,slow=33								
ILAR	**Eielson Array**	**93.02**	**25**	LR		LR		01 55 51.3	
	comp=Z,48nm,18.8s,baz=274,slow=36								
SNAA	**Sanae**	**95.67**	**193**	LR		LR		01 54 53.7	
	comp=Z,36nm,18.4s,baz=210,slow=34								
TORD	**Torodi Ar. Bea**	**130.35**	**281**	PKP		**PKPdf**		**01 19 44.4**	**+0.6**
TORD	**Torodi Ar. Bea**	**130.35**	**281**	PKP		**PKPdf**		**01 19 44.4**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=73,slow=1.8,SNR=3.0								
LPAZ	**La Paz**	**149.51**	**140**	PKPbc		**PKPab**		**01 20 27.5**	**-0.7**
LPAZ	**La Paz**	**149.51**	**140**	PKPbc		**PKPab**		**01 20 27.5**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=102,slow=3.1,SNR=3.9								

WEL 28 01:14:57.0±0.2, 45.47S×166.66E, h21km±1km, ML3.6/15, 2C-3D, Error ellipse: s-maj=2.3km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.35**	**91**	⇓P*		Pb		01 15 04.3	-0.1
DCZ				S*		Sb		01 15 09.1	-0.4
DCZ				AML	AML			01 15 09.3	
DCZ				AML	AML			01 15 09.5	
DCZ				AML	AML			01 15 09.5	
PYZ	**Puysegur Point**	**0.70**	**179**	⇑P*		Pb		01 15 09.7	-0.8
PYZ				S*		Sb		01 15 18.9	-0.9
WHZ	**Wether Hill Ro**	**1.00**	**116**	PN		Pb		01 15 15.3	-0.3
WHZ				S*		Sn		01 15 28.8	-0.4
WHZ				AML	AML			01 15 38.5	
MLZ	**Mavora Lakes**	**1.07**	**84**	⇓PN		Pn		01 15 15.7	-1.2
MLZ				SN		Sb		01 15 29.9	-0.8
MLZ				AML	AML			01 15 30.0	
MSZ	**Milford Sound**	**1.20**	**49**	PN		Pn		01 15 17.8	-0.8
MSZ				SN		Sn		01 15 36.0	+1.8
MSZ				AML	AML			01 15 37.1	
MSZ				AML	AML			01 15 37.1	
MSZ				AML	AML			01 15 37.2	
APZ	**The Paps**	**1.65**	**146**	PN		Pb		01 15 26.0	-0.8
WKZ	**Wanaka**	**1.79**	**70**	PN		Pb		01 15 28.1	-1.0
WKZ				AML	AML			01 15 55.8	
WKZ				AML	AML			01 15 57.7	
EAZ	**Earnscleugh**	**1.88**	**84**	⇓PN		Pb		01 15 29.4	-1.3
EAZ				AML	AML			01 15 57.7	
EAZ				AML	AML			01 15 57.7	
EAZ				AML	AML			01 15 58.0	
EAZ				AML	AML			01 15 58.1	
TUZ	**Tuapeka**	**2.14**	**104**	AML	AML			01 16 05.6	
TUZ				AML	AML			01 16 05.8	
LBZ	**Lake Benmore**	**2.73**	**68**	PN		Pn		01 15 41.6	+2.0
LBZ				AML	AML			01 16 34.0	
ODZ	**Otahua Downs**	**2.85**	**83**	⇑PN		Pn		01 15 41.6	+0.4
FOZ	**Fox Glacier**	**2.89**	**50**	AML	AML			01 16 34.7	
FOZ				AML	AML			01 16 36.2	

IDC 28 01:27:19.0±6.2, 5.49S×151.82E, h51km±49km, mb3.6/7, mb1 3.8/8, mb1mx3.6/19, mbtmp3.7/8, ML3.2/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/28, Error ellipse: s-maj=62.9km s-min=28.9km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.04**	**230**	P		Pn		01 28 47.5	+1.6
	4.0nm,0.3s,baz=46,slow=8.8,SNR=5.8								
PMG				S		Sn		01 29 53.0	-0.8
	2.6nm,0.3s,baz=165,slow=20,SNR=2.8								
PMG				LR		LR		01 31 11.5	
	comp=Z,107nm,18.8s,baz=99,slow=38								
WRA	**Warramunga Arr**	**22.26**	**228**	P		P		01 32 11.9	0.0
	0.9nm,0.4s,baz=54,slow=10,SNR=3.6								
ASAR	**Alice Springs**	**24.99**	**222**	P		P		01 32 38.8	+0.6
	4.0nm,0.8s,baz=57,slow=9.3,SNR=25								
ASAR				LR		LR		01 43 11.8	
	comp=Z,70nm,19.7s,baz=12,slow=38								
FITZ	**Fitzroy Crossi**	**28.48**	**242**	P		P		01 33 09.3	-0.4
	1.4nm,0.3s,baz=83,slow=8.1,SNR=12								
KSRS	**Korea Array**	**48.18**	**334**	LR		LR		01 54 20.4	
	comp=Z,27nm,19.1s,baz=213,slow=34								
SONM	**Songino Array**	**66.39**	**328**	P		P		01 38 03.3	+0.5
	0.6nm,0.4s,baz=135,slow=4.4,SNR=4.2								
MKAR	**Makanchi Array**	**80.20**	**319**	P		P		01 39 24.8	+0.6
	0.8nm,0.9s,baz=104,slow=6.9,SNR=3.4								
ZALV	**Zalesovo Beam**	**81.18**	**327**	P		P		01 39 28.6	-0.5
	0.5nm,0.5s,baz=105,slow=6.3,SNR=2.5								
ILAR	**Eielson Array**	**83.16**	**22**	P		P		01 39 38.4	-0.9
	0.3nm,0.6s,baz=240,slow=5.5,SNR=5.5								
GERES	**GERESS Array B**	**124.12**	**328**	PKP		PKPdf		01 46 11.8	-0.3
	0.2nm,0.5s,baz=138,slow=4.6,SNR=4.1								
TORD	**Torodi Ar. Bea**	**149.58**	**287**	PKPbc		PKPbc		01 47 03.7	-0.2
	3.3nm,0.7s,baz=79,slow=2.2,SNR=28								
TORD				PKPab		PKPab		01 47 08.6	-0.5
	0.8nm,0.8s,baz=70,slow=3.4,SNR=6.0								

*SZGRF **28** 01:30:48.9, 18.71S×176.02W, h33km, Fiji Islands region*
*VIE **28** 01:31:46.5, 17.65S×178.35W, h498km, mb3.6 346 km E of Suva*
*ISCJB **28** 01:31:51.0±0.6, 18.1S±0.1×178.1W±0.1, h590km, mb3.9/11, Error ellipse: s-maj=23.0km s-min=9.6km az=140.0*
*IDC **28** 01:31:50.3±1.7, 18.08S×178.24W, h559km±21km, mb3.5/12, mb1 3.8/14, mb1mx3.6/23, mbtmp3.5/14, Error ellipse: s-maj=23.7km s-min=12.2km az=146.0*
*AUST **28** 01:32:11.5, 19.26S×178.45E, h450km*

ISC 28 01:31:51.7±0.7, 18.1S±0.2×178.1W±0.1, h590km, n60, σ1§24/58, mb3.9/11, 3C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.40**	**56**	P		**P**		**01 33 42.9**	**-2.4**
	10nm,0.3s,baz=57,slow=8.7,SNR=6.4								
RAO	**Raoul Island**	**11.06**	**179**	S		S		01 36 06.2	-17
	94nm,0.3s,baz=37,slow=20,SNR=2.7								
DZM	**Mont Dzumac**	**15.02**	**252**	P		**P**		**01 34 59.7**	**-0.9**
	1.0nm,0.3s,baz=90,slow=24,SNR=10								
URZ	**Urewera**	**20.48**	**191**	P		**P**		**01 35 49.1**	**-1.0**
	7.8nm,0.4s,baz=38,slow=3.1,SNR=8.7								
ARMA	**Armidale**	**30.07**	**240**	P		**P**		**01 37 15.7**	**+1.0**
	baz=27,SNR=6.5								
RMQ	**Roma**	**31.68**	**249**	P		**P**		**01 37 29.1**	**+0.7**
	baz=28,SNR=5.2								
CNB	**Canberra Magne**	**33.51**	**233**	P		**P**		**01 37 45.1**	**+1.3**
	baz=30,SNR=9.3								
CTA	**Charters Tower**	**33.69**	**261**	P		**P**		**01 37 44.9**	**-0.6**
	2.7nm,0.4s,baz=96,slow=13,SNR=5.4								
CMSA	**Cobar Meteorol**	**35.28**	**241**	P		**P**		**01 37 59.1**	**+0.5**
	baz=32,SNR=16								
MTSU	**Mount Surprise**	**35.66**	**264**	S		S		01 42 40.5	-17
	baz=32,SNR=7.8								
TOO	**Toolangi**	**37.24**	**231**	P		**P**		**01 38 15.8**	**+1.2**
	baz=34,SNR=4.9								
STKA	**Stephens Creek**	**38.77**	**241**	P		**P**		**01 38 27.9**	**+0.9**
	8.7nm,0.7s,baz=91,slow=8.8,SNR=15								
STKA	**Stephens Creek**	**38.77**	**241**	P		**P**		**01 38 27.9**	**+0.9**
	baz=35,SNR=9.0								
BBOO	**Buckleboo**	**43.54**	**241**	P		**P**		**01 39 05.1**	**+0.4**
	baz=40,SNR=8.5								
WRA	**Warramunga Arr**	**44.87**	**260**	P		**P**		**01 39 14.0**	**-1.1**
	0.5nm,0.3s,baz=95,slow=8.4,SNR=6.9								
ASAR	**Alice Springs**	**45.00**	**254**	P		**P**		**01 39 16.1**	**+0.1**
	14nm,0.5s,baz=88,slow=8.6,SNR=157								
ASAR				PcP		**PcP**		**01 40 44.7**	**+0.4**
	0.8nm,0.5s,baz=95,slow=4.6,SNR=4.2								
MORW	**Morawa**	**60.65**	**246**	P		P		01 40 56.7	-10
	baz=57,SNR=9.5								
MJAR	**Matsushiro Arr**	**68.26**	**323**	P		**P**		**01 41 54.5**	**-0.2**
	2.1nm,0.6s,baz=166,slow=6.7,SNR=5.3								
PETK	**Petropavlovsk-**	**73.97**	**345**	P		**P**		**01 42 28.1**	**+0.4**
	3.2nm,0.6s,baz=136,slow=8.7,SNR=5.9								
NVAR	**Mina'ay Bea**	**79.39**	**44**	P		**P**		**01 43 00.3**	**+2.4**
	1.7nm,0.7s,baz=226,slow=8.9,SNR=12								
TXAR	**Lajitas Array**	**85.88**	**57**	P		P		01 43 33.8	+3.3
	2.4nm,0.8s,baz=219,slow=6.0,SNR=30								
ILAR	**Eielson Array**	**86.05**	**13**	P		**P**		**01 43 30.1**	**-0.2**
	0.9nm,0.4s,baz=223,slow=5.1,SNR=17								
PDAR	**Pinedale Array**	**87.32**	**43**	P		**P**		**01 43 39.0**	**+1.8**
	1.4nm,0.7s,baz=235,slow=3.0,SNR=13								
YKA	**Yellowknife Ar**	**94.42**	**25**	P		**P**		**01 44 09.2**	**+0.2**
	0.5nm,0.7s,baz=243,slow=3.6,SNR=3.8								
MKAR	**Makanchi Array**	**109.50**	**314**	PKiKP		**PKiKP**		**01 49 15.6**	**-0.4**
	0.3nm,0.5s,baz=112,slow=0.9,SNR=5.5								
ARCES	**ARCESS Array B**	**126.59**	**350**	PKP		**PKPdf**		**01 49 48.1**	**0.0**
	4.0nm,1.0s,baz=48,slow=1.8,SNR=3.7								
FINES	**FINESS Array B**	**133.49**	**344**	PKhKP		PKPpre		01 49 56.2	
	1.1nm,0.7s,baz=58,slow=2.2,SNR=2.4								
FINES				PKP		**PKiKP**		**01 50 01.4**	**-1.2**
	1.6nm,1.1s,baz=73,slow=4.7,SNR=4.3								
BSEG	**Bad Segeberg**	**143.68**	**352**	*e*PKPbc		**PKPdf**		**01 50 20.1**	**0.0**
BRTR	**Keskin Array B**	**145.14**	**315**	PKPbc		**PKPab**		**01 50 25.1**	**-0.5**
	1.8nm,0.7s,baz=126,slow=3.8,SNR=9.9								
CLL	**Collm**	**145.75**	**348**	*e*PKPbc		**PKPab**		**01 50 26.2**	**-1.1**
CLL	**Collm**	**145.75**	**348**	⇓*i*PKP		**PKPab**		**01 50 26.3**	**-1.0**
	comp=Z,10.0nm,0.9s								
CLL				*e*(pPKP)				01 51 20.0	
DPC	**Dobruska-Polom**	**145.85**	**343**	*e*P		**PKPab**		**01 50 27.3**	**-0.5**
BRG	**Berggiesshubel**	**145.96**	**346**	*e*PKP		**PKPab**		**01 50 27.3**	**-0.8**
	comp=Z,3.3nm,0.8s								
FBE	**Freiberg**	**146.04**	**347**	*e*PKPbc		**PKPab**		**01 50 27.7**	**-0.8**
PVCC	**Panska Ves**	**146.13**	**345**	*e*P		**PKPab**		**01 50 28.2**	**-0.7**
PRU	**Pruhonice**	**146.64**	**345**	*e*P		**PKPab**		**01 50 29.1**	**-1.8**
PRU						x		01 50 31.6	
MOX	**Moxa**	**146.65**	**349**	*e*PKPab		**PKPab**		**01 50 31.2**	**+0.3**
TANN	**Tannenbergstha**	**146.71**	**348**	*e*PKPbc		**PKPab**		**01 50 29.3**	**-1.9**
WERD	**Werda**	**146.71**	**348**	*e*PKPbc		**PKPab**		**01 50 29.4**	**-1.8**
GUNZ	**Gunzen**	**146.78**	**348**	*e*PKPbc		**PKPab**		**01 50 29.8**	**-1.7**
WERN	**Wernitzgruen**	**146.84**	**348**	*e*PKPbc		**PKPab**		**01 50 30.3**	**-1.5**
NKC	**Novy Kostel**	**146.88**	**348**	*e*PKPbc		**PKPab**		**01 50 30.0**	**-1.9**
NKC				*e*PKPab		**PKiKP**		**01 50 32.6**	**+2.1**
NKC	**Novy Kostel**	**146.88**	**348**	*e*P		**PKPab**		**01 50 32.4**	**+0.5**
TREC	**Trest**	**147.03**	**344**	*e*P		**PKPab**		**01 50 30.2**	**-2.4**
ROTZ	**Rotzenmuhle**	**147.37**	**348**	*e*PKPbc		**PKPab**		**01 50 31.3**	**-2.6**
GRF	**Grafenberg Arr**	**147.64**	**349**	*e*PKPbc		**PKPbc**		**01 50 31.9**	**+1.3**
KHC	**Kasperske Hory**	**147.67**	**346**	*e*P		**PKPbc**		**01 50 32.0**	**+1.2**
KHC				*e*x		x		01 50 36.1	
WET	**Wettzell**	**147.82**	**346**	*e*PKPab		**PKPab**		**01 50 37.2**	**+1.4**
GEC2	**GERESS Array S**	**147.91**	**345**	*e*PKPbc		**PKPbc**		**01 50 32.4**	**+1.0**
GERES	**GERESS Array B**	**147.91**	**345**	PKPbc		**PKPbc**		**01 50 32.5**	**+1.0**
	comp=Z,2.4nm,0.5s,baz=20,slow=3.2,SNR=28								
CONA	**Conrad Observa**	**148.17**	**342**	⇑*i*PKPbc		**PKPbc**		**01 50 33.5**	**+1.4**
	comp=Z,4.3nm,0.8s								
RJOB	**Jochberg**	**149.16**	**346**	*e*PKPab		**PKPab**		**01 50 42.8**	**+1.4**
BFO	**Black Forest**	**149.43**	**352**	*e*PKPbc		**PKPbc**		**01 50 35.8**	**+0.7**
WTTA	**Wattenberg**	**149.87**	**347**	⇑*i*PKPbc		**PKPbc**		**01 50 37.5**	**+1.1**
	comp=Z,6.9nm,0.6s								
ABTA	**Abfaltersbach**	**150.15**	**345**	⇑*i*PKPbc		**PKPbc**		**01 50 37.5**	**+0.5**
	comp=Z,6.4nm,0.7s								
LJU	**Ljubljana**	**150.26**	**342**	*i* PKPbc		**PKPbc**		**01 50 38.0**	**+0.9**
FETA	**Feichten**	**150.29**	**348**	⇓*i*PKPbc		**PKPbc**		**01 50 38.5**	**+1.2**
	comp=Z,3.8nm,0.9s								
CRNS	**Crni Vrh**	**150.31**	**342**	*i* PKPbc		**PKPbc**		**01 50 37.8**	**+0.5**
BOJS	**Bojanci**	**150.53**	**341**	*i* PKPbc		**PKPbc**		**01 50 38.9**	**+1.2**
CEY	**Cerknica**	**150.57**	**342**	*i* PKPbc		**PKPbc**		**01 50 38.6**	**+0.7**

IDC 28 01:45:34.4±0.9, 27.79S×65.12E, h0km, mb3.7/9, mb1 3.8/9, mb1mx3.7/27, mbtmp3.7/9, Error ellipse: s-maj=38.1km s-min=21.5km az=89.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**56.97**	**200**	P		P		01 55 20.9	-0.4
	0.2nm,0.7s,baz=72,slow=19,SNR=3.1								
ASAR	**Alice Springs**	**61.38**	**103**	P		P		01 55 52.4	-0.2
	1.2nm,0.6s,baz=249,slow=6.3,SNR=16								
QSPA	**South Pole Qui**	**62.36**	**180**	P		P		01 55 58.7	0.0
	2.2nm,1.1s,baz=262,slow=2.7,SNR=6.1								
WRA	**Warramunga Arr**	**63.07**	**99**	P		P		01 56 04.3	+0.3
	1.0nm,0.6s,baz=247,slow=5.5,SNR=2.9								
VNDA	**Vanda**	**64.53**	**166**	P		P		01 56 12.7	+0.1
	0.4nm,0.6s,baz=271,slow=4.2,SNR=2.6								
MKAR	**Makanchi Array**	**75.84**	**12**	P		P		01 57 21.9	-0.4
	0.3nm,0.6s,baz=195,slow=6.1,SNR=4.6								
KURBB	**Kurchatov Arra**	**78.96**	**9**	P		P		01 57 39.7	+0.1
	0.2nm,0.3s,baz=202,slow=6.8,SNR=5.0								
BVAR	**Borovoye Array**	**80.60**	**3**	P		P		01 57 48.2	-0.2
	0.3nm,0.5s,baz=151,slow=9.2,SNR=4.2								
ZALV	**Zalesovo Beam**	**83.17**	**12**	P		P		01 58 01.9	-0.1
	0.5nm,0.3s,baz=182,slow=7.2,SNR=3.5								
YKA	**Yellowknife Ar**	**145.29**	**360**	PKPbc		PKPdf		02 05 13.4	-0.1
	0.3nm,0.7s,baz=338,slow=4.7,SNR=3.0								

*IDC **28** 02:18:04.6±0.7, 2.34N×97.19E, h0km, mb3.9/15, mb1 4.0/16, mb1mx3.9/26, mbtmp3.9/16, ML4.6/1, MS3.5/7, Ms1 3.5/7, ms1mx3.1/41, Error ellipse: s-maj=24.6km s-min=15.5km az=66.0*
*ISCJB **28** 02:18:08.0±0.5, 2.32N±0.06×97.02E±0.05, h33km, mb4.0/16, MS3.5/6, Error ellipse: s-maj=8.7km s-min=7.1km az=29.8*
*NEIC **28** 02:18:09.9±0.4, 2.29N×97.08E, h35km, mb4.3/1, Error ellipse: s-maj=9.3km s-min=8.8km az=224.0*
*DJA **28** 02:18:09.7±0.8, 2.1N±5.5×97.7E±, h72km±16km, M4.5/9, mb4.6/1, mB4.7/1, MLv4.4/9, Mw(mB)4.0/1*

**ISC 28 02:18:09.8±0.5, 2.36N±0.06×97.11E±0.05, h33km, n56, σ

YAIG	**Yautepec**	**1.84**	**15**	*i* P	Pn	02 31 46.4	-2.8
YAIG				*i* S	Sn	02 32 09.2	-2.5
ZIIG	**Zihuatanejo**	**1.90**	**286**	*i* P	Pn	02 31 47.2	-2.6
ZIIG				*i* S	Sn	02 32 10.3	-2.4
PPM	**Popocatepetl**	**2.17**	**24**	*i* P	Pn	02 31 51.5	-2.8
PPM				*i* S	Sn	02 32 17.9	-2.7

*CSEM **28** 02:32:00.5, 36°63N × 3°15E, h0km, ML2.4, After ALG*
CRAAG 28 02:32:00.5, 36°51N × 7°18E, Ml2.4, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAH	**Djebel Manchou**	**0.22**	**60**	P	Pg	02 32 06.8	+1.9
CMAH	**Djebel Manchou**	**0.22**	**60**	P	Pg	02 32 06.8	+1.9
ABSA	**Djebel Ababsia**	**0.34**	**135**	P	Pb	02 32 09.0	-0.6
ABSA	**Djebel Ababsia**	**0.34**	**135**	P	Pb	02 32 09.0	-0.6
CKFL	**Kef-Lekhel**	**0.39**	**253**	P	Pb	02 32 10.0	-0.5
CKFL	**Kef-Lekhel**	**0.39**	**253**	P	Pb	02 32 10.0	-0.5
CASM	**Ain Smara**	**0.61**	**246**	P	Pb	02 32 14.0	-0.2
CASM	**Ain Smara**	**0.61**	**246**	P	Pb	02 32 14.0	-0.2

IDC 28 02:33:49.9±3.8, 9°19N × 91°63E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/25, mbtmp3.6/4, MS3.4/1, Ms1 3.4/1, ms1mx2.5/34, Error ellipse: s-maj=148.9km s-min=29.8km az=64.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**38.31**	**350**	P	P	02 41 13.1	+0.8
	1.0nm,0.8s,baz=169,slow=8.5,SNR=6.2						
SONM	**Songino Array**	**40.49**	**15**	P	P	02 41 30.7	+0.1
	0.2nm,0.4s,baz=202,slow=7.7,SNR=4.4						
ZALV	**Zalesovo Beam**	**44.97**	**354**	P	P	02 42 05.2	-1.4
	1.1nm,0.7s,baz=180,slow=8.7,SNR=4.1						
ASAR	**Alice Springs**	**52.66**	**129**	P	P	02 43 06.2	-0.1
	0.7nm,0.9s,baz=311,slow=6.2,SNR=4.4						
MMAI	**Mount Meron Ar**	**56.82**	**303**	LR	LR	03 11 26.1	
	comp=Z,28nm,18.2s,baz=260,slow=40						

*AUST **28** 02:48:35.8, 0°49S × 132°50E, h0km*
*IDC **28** 02:48:53.6±4.6, 0°91S × 131°55E, h170km±43km, mb3.2/3, mb1 3.4/5, mb1mx3.1/21, mbtmp3.2/5, MS2.9/1, Ms1 2.9/1, ms1mx2.5/16, Error ellipse: s-maj=35.9km s-min=11.7km az=89.0*
ISC 28 02:48:41.7±1.3, 0.72S±0.09 × 132.19E±0.09, h31km, n12, σ1°97/13, mb3.7/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**0.94**	**261**	P	**Pn**	02 48 57.7	**-1.0**
	baz=1.3,SNR=20						
SWI				S	**Sb**	**02 49 14.9**	**+3.4**
	baz=1.3,SNR=13						
FAKI	**Fak Fak**	**2.18**	**178**	P	**Pn**	**02 49 18.4**	**+2.4**
	baz=2.4,SNR=19						
BNDI	**Bandanaira**	**4.41**	**211**	S	**Sb**	**02 50 49.5**	**-1.8**
	baz=4.8,SNR=5.4						
KDU	**Kakadu**	**11.89**	**179**	P	**Pn**	**02 51 29.5**	**+0.2**
	baz=12,SNR=8.8						
MTN	**Manton Dam**	**12.09**	**185**	P	**Pn**	**02 51 31.6**	**-0.4**
	baz=12,SNR=10						
MTN				S	**Sn**	**02 53 44.9**	**-0.9**
	baz=12,SNR=3.2						
WSI	**Waingapu**	**14.80**	**233**	P	**P**	**02 52 16.2**	**+1.7**
	baz=15,SNR=4.2						
KNRA	**Kununurra**	**15.24**	**193**	P	**Pn**	**02 52 15.3**	**+0.5**
	baz=16,SNR=4.1						
FITZ	**Fitzroy Crossi**	**18.43**	**200**	P	**P**	**02 52 51.2**	**-3.5**
	0.2nm,0.3s,baz=21,slow=15,SNR=4.2						
FITZ				S	Sn	02 56 12.4	-7.7
	0.1nm,0.3s,baz=53,slow=20,SNR=2.3						
FITZ				LR	LR	02 59 10.3	
	comp=Z,38nm,19.6s,baz=216,slow=34						
WRA	**Warramunga Arr**	**19.22**	**174**	P	**P**	**02 53 03.2**	**-0.2**
	0.3nm,0.3s,baz=352,slow=11,SNR=4.3						
WRA				S	Sn	02 56 29.6	-10
	0.3nm,0.3s,baz=354,slow=23,SNR=2.9						
ASAR	**Alice Springs**	**22.87**	**176**	P	**P**	**02 53 42.7**	**-0.1**
	2.0nm,0.7s,baz=354,slow=11,SNR=17						
MKAR	**Makanchi Array**	**64.31**	**324**	P	P	02 59 08.1	-6.3
	0.6nm,0.6s,baz=126,slow=7.9,SNR=7.4						
ILAR	**Eielson Array**	**86.77**	**25**	P	**P**	**03 01 22.1**	**-0.6**
	0.1nm,0.6s,baz=266,slow=5.0,SNR=2.9						

*CRAAG **28** 02:52:01.9, 36°52N × 7°15E, Ml4.0*
*CSEM **28** 02:52:01.9, 36°52N × 7°15E, h0km, ML4.0, After ALG*
*LDG **28** 02:52:07.8±0.4, 36°93N × 6°78E, h2km, Ml3.0/6, Error ellipse: s-maj=9.5km s-min=2.7km az=142.0*
ISC 28 02:52:07.9±2.5, 37°1N±0°1 × 7°2E±0°1, h10km, n62, σ1°42/61, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAEH	**'Ain El Ouahch**	**0.41**	**219**	P	Pg	02 52 11.0	-5.0
CAEH	**'Ain El Ouahch**	**0.41**	**219**	P	Pg	02 52 11.0	-5.0
CKFL	**Kef-Lekhel**	**0.79**	**207**	P	Pg	02 52 10.9	-12
CKFL	**Kef-Lekhel**	**0.79**	**207**	P	Pg	02 52 10.9	-12
ABSA	**Djebel Ababsia**	**0.86**	**163**	P	Pg	02 52 08.1	-17
ABSA	**Djebel Ababsia**	**0.86**	**163**	P	Pg	02 52 08.1	-17
CASM	**Ain Smara**	**1.00**	**213**	P	Pg	02 52 14.8	-12
CASM	**Ain Smara**	**1.00**	**213**	P	Pg	02 52 14.8	-12
DFRA	**Djebel Bou Aff**	**1.18**	**242**	P	Pb	02 52 23.0	-7.4
DFRA	**Djebel Bou Aff**	**1.18**	**242**	P	Pb	02 52 23.0	-7.4
ETOS	**Mallorca**	**4.33**	**309**	P	**Pn**	**02 53 14.9**	**+1.1**
	13nm,0.3s,SNR=23						
PGF	**Pioggiola**	**5.62**	**14**	*e*Pn	**Pn**	**02 53 33.9**	**+2.3**
PGF				*e*Sn	**Sn**	**02 54 37.6**	**+1.4**
	3.5nm,0.4s						
PGF	**Pioggiola**	**5.62**	**14**	*e*Pn	**Pn**	**02 53 33.9**	**+2.3**
PGF				*e*Sn	**Sn**	**02 54 37.6**	**+1.4**
	1.8nm,0.4s						
EBEN	**Beniarda**	**6.06**	**288**	P	**Pn**	**02 53 37.7**	**+0.1**
	0.3nm,0.2s,SNR=7.9						
LMR	**La Mourre**	**6.25**	**356**	*e*Pn	**Pn**	**02 53 40.7**	**+0.7**
LMR				*e*Sn	**Sn**	**02 54 50.7**	**-0.7**
	3.8nm,0.3s						
LMR	**La Mourre**	**6.25**	**356**	*e*Pn	**Pn**	**02 53 40.7**	**+0.7**
LMR				*e*Sn	**Sn**	**02 54 50.7**	**-0.7**
	1.9nm,0.3s						
EJON	**La Jonquera**	**6.28**	**330**	P	**Pn**	**02 53 41.5**	**+1.0**
	1.2nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**6.35**	**314**	P	**Pn**	**02 53 43.8**	**+2.2**
	0.9nm,0.2s,SNR=7.9						
FRF	**La Foret Royal**	**6.46**	**357**	*e*Pn	**Pn**	**02 53 43.4**	**+0.3**
FRF				*e*Sn	**Sn**	**02 54 56.3**	**-0.5**
	2.1nm,0.2s						
FRF	**La Foret Royal**	**6.46**	**357**	*e*Pn	**Pn**	**02 53 43.4**	**+0.3**
FRF				*e*Sn	**Sn**	**02 54 56.3**	**-0.5**
	1.0nm,0.2s						
EMIR	**Miracle**	**6.49**	**320**	P	**Pn**	**02 53 45.5**	**+2.0**
	2.0nm,0.2s,SNR=8.0						
ERTA	**Horta de San J**	**6.57**	**308**	P	Pn	02 53 47.6	+3.1
	0.2nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**6.73**	**279**	P	**Pn**	**02 53 45.3**	**-1.4**
	2.4nm,0.3s,SNR=11						
SBF	**Sospel**	**6.76**	**2**	*e*Pn	**Pn**	**02 53 48.4**	**+1.3**
SBF				*e*Sn	**Sn**	**02 55 03.9**	**-0.3**
	2.9nm,0.4s						
SBF	**Sospel**	**6.76**	**2**	*e*Pn	**Pn**	**02 53 48.4**	**+1.3**
SBF				*e*Sn	**Sn**	**02 55 03.9**	**-0.3**
	1.5nm,0.4s						
EMOS	**Mosqueruela**	**6.80**	**301**	P	**Pn**	**02 53 48.9**	**+1.0**
	5.2nm,0.6s,SNR=22						
ECHE	**Chera**	**6.86**	**294**	P	**Pn**	**02 53 49.7**	**+1.1**
	4.3nm,0.4s,SNR=7.9						
SMRF	**Simiane la Rot**	**6.97**	**350**	*e*Pn	**Pn**	**02 53 50.8**	**+0.7**
SMRF				*e*Sn	**Sn**	**02 55 07.5**	**-1.9**
	0.7nm,0.4s						
SMRF	**Simiane la Rot**	**6.97**	**350**	*e*Pn	**Pn**	**02 53 50.8**	**+0.7**
SMRF				*e*Sn	**Sn**	**02 55 07.5**	**-1.9**
	0.3nm,0.4s						
CSOR	**Sort**	**7.02**	**320**	P	**Pn**	**02 53 52.8**	**+1.9**
	0.7nm,0.2s,SNR=7.7						
ETOB	**Tobarra**	**7.07**	**285**	P	**Pn**	**02 53 52.1**	**+0.7**
	1.5nm,0.2s,SNR=12						
MTLF	**Montolieu**	**7.29**	**330**	*e*Pn	**Pn**	**02 53 54.0**	**-0.4**
MTLF	**Montolieu**	**7.29**	**330**	*e*Pn	**Pn**	**02 53 54.0**	**-0.4**
LASF	**Ste Croix**	**7.41**	**341**	*e*Pn	**Pn**	**02 53 56.7**	**+0.7**
LASF	**Ste Croix**	**7.41**	**341**	*e*Pn	**Pn**	**02 53 56.7**	**+0.7**
ESAC	**San Caprasio**	**7.50**	**310**	P	**Pn**	**02 53 59.7**	**+2.4**
	15nm,0.3s,SNR=14						
MBDF	**Montbardon**	**7.62**	**358**	*e*Pn	**Pn**	**02 54 00.0**	**+0.9**
MBDF	**Montbardon**	**7.62**	**358**	*e*Pn	**Pn**	**02 54 00.0**	**+0.9**
EBIE	**Bielsa**	**7.76**	**318**	P	**Pn**	**02 54 03.4**	**+2.3**
	4.0nm,0.4s,SNR=10						
EHUE	**Huescar**	**7.80**	**278**	P	**Pn**	**02 54 01.2**	**-0.3**
	0.3nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**7.80**	**284**	P	**Pn**	**02 54 01.7**	**+0.2**
	1.8nm,0.2s,SNR=7.9						
ORIF	**Oris-en-Rattie**	**7.87**	**353**	*e*Pn	**Pn**	**02 54 02.9**	**+0.5**
ORIF	**Oris-en-Rattie**	**7.87**	**353**	*e*Pn	**Pn**	**02 54 02.9**	**+0.5**
EPF	**Esparros**	**7.90**	**321**	*e*P	**Pn**	**02 54 05.1**	**+2.3**
EPF	**Esparros**	**7.90**	**321**	*e*P	**Pn**	**02 54 05.1**	**+2.3**
VIVF	**Saint-Julien-l**	**7.97**	**347**	*e*Pn	**Pn**	**02 54 03.1**	**-0.7**
VIVF	**Saint-Julien-l**	**7.97**	**347**	*e*Pn	**Pn**	**02 54 03.1**	**-0.7**
EBER	**Berja**	**8.05**	**272**	P	**Pn**	**02 54 02.2**	**-2.8**
	0.4nm,0.2s,SNR=6.9						
EQES	**Quesada**	**8.18**	**278**	P	**Pn**	**02 54 06.6**	**-0.1**
	7.2nm,0.4s,SNR=33						
ETSF	**Etsaut**	**8.29**	**317**	*e*P	**Pn**	**02 54 09.9**	**+1.8**
ETSF	**Etsaut**	**8.29**	**317**	*e*P	**Pn**	**02 54 09.9**	**+1.8**
LPL	**La Plagne**	**8.41**	**358**	*e*Pn	**Pn**	**02 54 10.8**	**+0.8**
LPL	**La Plagne**	**8.41**	**358**	*e*Pn	**Pn**	**02 54 10.8**	**+0.8**
CAF	**Calviac**	**8.71**	**335**	*e*Pn	**Pn**	**02 54 13.0**	**-1.0**
CAF	**Calviac**	**8.71**	**335**	*e*Pn	**Pn**	**02 54 13.0**	**-1.0**
SJPF	**Ste Jean**	**8.79**	**316**	*e*Pn	**Pn**	**02 54 12.7**	**-2.4**
SJPF	**Ste Jean**	**8.79**	**316**	*e*Pn	**Pn**	**02 54 12.7**	**-2.4**
ESDC	**Sonseca Array**	**9.11**	**290**	P	**Pn**	**02 54 20.1**	**+0.7**
	0.2nm,0.2s,SNR=5.6						
EADA	**Adamuz**	**9.38**	**280**	P	**Pn**	**02 54 21.7**	**-1.4**
	SNR=7.9						
GUD	**Guadarrama**	**9.51**	**295**	P	**Pn**	**02 54 26.6**	**+1.6**
	SNR=7.9						
ELAN	**Lanestosa**	**10.16**	**310**	P	**Pn**	**02 54 36.1**	**+2.4**
	SNR=7.9						
ECAL	**Calabor**	**11.77**	**299**	P	**Pn**	**02 54 57.7**	**+1.8**
	1.9nm,0.3s,SNR=8.3						

*MAN **28** 02:57:18, 9°94N × 126°29E, h7km, mb4.3, ML3.2, MS3.0*
*ISCJB **28** 02:57:20.0±1.3, 9°88N±0°05 × 126°38E±0°09, h56km±12km, mb3.9/18, Error ellipse: s-maj=14.4km s-min=7.0km az=165.8*
*IDC **28** 02:57:23.8±6.4, 9°82N × 126°04E, h76km±61km, mb3.6/18, mb1 3.7/18, mb1mx3.7/28, mbtmp3.6/18, Error ellipse: s-maj=29.2km s-min=11.5km az=80.0*
ISC 28 02:57:22.6±1.9, 9.88N±0°06 × 126.3E±0°1, h64km±19km, n29, σ1°17/33, mb4.0/18, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.11**	**216**	*e*P	Pn	02 57 39.3	-3.0
BUTP				*e*S	**Sn**	**02 57 55.2**	**-1.7**
PLP	**Palo**	**1.81**	**315**	*e*P	Pn	02 57 49.5	-2.1
PLP				*e*S	**Sn**	**02 58 14.0**	**+0.4**
CGP	**Cagayan de Oro**	**2.11**	**228**	*e*P	**Pn**	**02 57 53.6**	**-2.0**
CGP				*i* S	**Sn**	**02 58 22.4**	**+1.6**
LLP	**Lapu-Lapu**	**2.32**	**281**	*e*P	**Pn**	**02 57 58.1**	**-0.3**
LLP				*e*S	**Sn**	**02 58 26.0**	**+0.1**
BUKP	**Musuan**	**2.32**	**211**	*e*P	**Pn**	**02 57 58.4**	**-0.2**
BUKP				*e*S	**Sn**	**02 58 29.4**	**+3.3**
TBP	**Tagbilaran**	**2.39**	**266**	*e*P	**Pn**	**02 57 59.4**	**-0.1**
TBP				*e*S	**Sn**	**02 58 29.4**	**+1.7**
DCPH	**Dipolog City**	**3.16**	**246**	*e*P	**Pn**	**02 58 09.4**	**-0.5**
PAGZ	**Pagadian**	**3.50**	**235**	*e*P	**Pn**	**02 58 14.9**	**+0.3**
GUIM	**Jordan**	**3.71**	**282**	*e*P	**Pn**	**02 58 17.2**	**-0.2**
RCP	**Roxas**	**3.85**	**296**	*e*P	**Pn**	**02 58 19.5**	**0.0**
KSRS	**Korea Array**	**27.50**	**3**	P	**P**	**03 03 05.0**	**+2.0**
	0.4nm,0.4s,baz=181,slow=9.2,SNR=3.2						
FITZ	**Fitzroy Crossi**	**27.81**	**181**	P	**P**	**03 03 05.4**	**-0.6**
	3.2nm,0.8s,baz=29,slow=10,SNR=4.5						
WRA	**Warramunga Arr**	**30.68**	**165**	P	**P**	**03 03 30.6**	**-0.9**
	0.5nm,0.7s,baz=343,slow=9.4,SNR=2.6						
ASAR	**Alice Springs**	**34.16**	**167**	P	**P**	**03 04 01.4**	**-0.5**
	0.3nm,0.3s,baz=347,slow=6.7,SNR=7.0						
USRK	**Ussuriysk Arra**	**34.55**	**7**	P	**P**	**03 04 05.3**	**+0.3**
	0.8nm,0.6s,baz=198,slow=14,SNR=6.6						
CTA	**Charters Tower**	**35.69**	**147**	P	**P**	**03 04 16.1**	**+1.0**
	1.1nm,0.5s,baz=323,slow=5.1,SNR=1.9						
SONM	**Songino Array**	**41.39**	**340**	P	**P**	**03 05 02.7**	**0.0**
	0.3nm,0.5s,baz=154,slow=9.7,SNR=3.0						
NWAO	**Narrogin (SRO)**	**43.43**	**191**	P	**P**	**03 05 19.8**	**+0.5**
	6.1nm,0.7s,baz=6.7,slow=9.6,SNR=4.9						
STKA	**Stephens Creek**	**44.03**	**161**	P	**P**	**03 05 23.8**	**-0.4**
	3.6nm,1.0s,baz=331,slow=11,SNR=2.9						
PETK	**Petropavlovsk-**	**49.99**	**24**	P	**P**	**03 06 11.6**	**+1.3**
	0.4nm,0.4s,baz=207,slow=6.1,SNR=3.5						
MKAR	**Makanchi Array**	**52.34**	**323**	P	**P**	**03 06 27.2**	**-0.9**
	1.2nm,0.7s,baz=126,slow=8.1,SNR=14						
ZALV	**Zalesovo Beam**	**54.97**	**331**	P	**P**	**03 06 45.4**	**-1.7**
	0.5nm,0.4s,baz=134,slow=8.3,SNR=2.5						
BVAR	**Borovoye Array**	**61.99**	**325**	P	**P**	**03 07 35.4**	**-0.7**
	0.5nm,0.6s,baz=119,slow=8.4,SNR=3.2						
ILAR	**Eielson Array**	**79.79**	**26**	P	**P**	**03 09 23.7**	**-0.1**
	0.3nm,0.7s,baz=250,slow=5.4,SNR=5.4						
ARCES	**ARCESS Array B**	**84.56**	**340**	P	**P**	**03 09 48.5**	**-0.1**
	0.3nm,0.1s,baz=89,slow=5.2,SNR=5.5						
FINES	**FINESS Array B**	**86.24**	**332**	P	**P**	**03 09 56.0**	**-1.0**
	0.5nm,0.4s,baz=60,slow=5.0,SNR=7.5						
HFS	**Hagfors**	**92.40**	**332**	P	**P**	**03 10 25.3**	**-0.9**
	1.9nm,0.9s,baz=74,slow=5.3,SNR=2.7						
YKA	**Yellowknife Ar**	**94.11**	**24**	P	**P**	**03 10 34.7**	**+0.8**
	0.7nm,0.6s,baz=300,slow=4.6,SNR=10						
TORD	**Torodi Ar. Bea**	**120.42**	**292**	PKP	**PKPdf**	**03 16 07.3**	**-0.6**
	0.3nm,0.9s,baz=70,slow=2.4,SNR=3.4						

IDC 28 03:02:23.4±2.2, 7°59S × 123°62E, h246km±24km, mb3.2/2, mb1 3.4/7, mb1mx3.1/23, mbtmp3.3/7, Error ellipse: s-maj=70.1km s-min=15.6km az=58.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.60**	**179**	P	Pn	03 03 11.5	+0.1
	47nm,0.3s,baz=6.1,slow=1.8,SNR=14						
BATI				S	S	03 03 49.9	+0.4
	35nm,0.3s,baz=359,slow=23,SNR=8.4						
KAPI	**Kappang**	**4.62**	**303**	P	Pn	03 03 33.8	-0.6
	0.8nm,0.3s,baz=122,slow=15,SNR=2.9						
FITZ	**Fitzroy Crossi**	**10.63**	**170**	P	Pn	03 04 51.4	+1.4
	0.7nm,0.3s,baz=355,slow=11,SNR=13						
FITZ				S	S	03 06 44.0	-5.2
	0.4nm,0.3s,baz=90,slow=14,SNR=6.6						
WRA	**Warramunga Arr**	**16.09**	**141**	P	P	03 05 56.0	+0.5
	0.7nm,0.3s,baz=320,slow=12,SNR=12						
WRA				S	S	03 08 54.4	+2.6
	0.3nm,0.3s,baz=324,slow=23,SNR=3.0						
ASAR	**Alice Springs**	**18.79**	**149**	P	P	03 06 25.2	+0.4
	0.9nm,0.3s,baz=334,slow=14,SNR=33						
STKA	**Stephens Creek**	**29.40**	**148**	P	P	03 08 03.7	-0.4
	1.1nm,0.3s,baz=327,slow=8.4,SNR=8.2						
MKAR	**Makanchi Array**	**65.41**	**330**	P	P	03 12 39.8	0.0
	0.2nm,0.7s,baz=145,slow=6.2,SNR=2.5						

IDC 28 03:09:30.0±1.5, 24°39N × 94°48E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/26, mbtmp3.6/5, Error ellipse: s-maj=69.5km s-min=22.8km az=64.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**0.63**	**308**	*i* P	Pn	03 09 52.0	+5.6
IMP				*i* S	Sn	03 10 06.0	+8.8
SHL	**Shillong**	**2.63**	**297**	*e*Pn	Pb	03 10 18.0	-0.3
SHL				*e*Sn	Sn	03 10 46.0	-0.8
MKAR	**Makanchi Array**	**24.39**	**339**	P	P	03 14 50.3	+0.3
	0.7nm,0.4s,baz=146,slow=9.2,SNR=18						
SONM	**Songino Array**	**25.24**	**19**	P	P	03 14 57.7	-0.1
	0.9nm,0.7s,baz=196,slow=10,SNR=6.9						
FINES	**FINESS Array B**	**58.57**	**328**	P	P	03 19 27.9	-0.4
	0.5nm,0.4s,baz=99,slow=8.6,SNR=3.0						
WRA	**Warramunga Arr**	**58.72**	**135**	P	P	03 19 29.9	-0.1
	0.3nm,0.3s,baz=316,slow=8.0,SNR=3.2						
ASAR	**Alice Springs**	**61.20**	**138**	P	P	03 19 46.9	0.0
	0.2nm,0.3s,baz=320,slow=6.5,SNR=5.5						

*LDG **28** 03:17:47.2±0.1, 39°43N × 74°19E, h10km, Mb4.8/27, Ms3.4/6, Error ellipse: s-maj=15.8km s-min=4.1km az=47.0*
*MOS **28** 03:17:52.5±1.0, 39°44N × 74°03E, h33km, mb5.0/48, Error ellipse: s-maj=6.7km s-min=4.1km az=100.3*
*ISCJB **28** 03:17:54.7±0.4, 39°59N±0°02 × 73°97E±0°03, h47km±3km, mb4.7/135, MS3.8/36, Error ellipse: s-maj=3.6km s-min=3.0km az=143.0*

*IDC **28** 03:17:54.4±3.2, 39°59N × 74°11E, h33km±23km, mb4.3/28, mb1 4.4/34, mb1mx4.4/37, mbtmp4.3/34, ML4.1/5, MS3.6/18, Ms1 3.6/18, ms1mx3.4/44, Error ellipse: s-maj=17.0km s-min=9.3km az=177.0*
*NEIC **28** 03:17:55.0±0.2, 39°70N × 74°07E, h35km, mb4.8/28, Error ellipse: s-maj=6.2km s-min=4.9km az=172.0*
*BKK **28** 03:17:55.3±0.3, 40°N±6° × 7°4E±°, h10km, M5.0/10, mB5.4/2, mb4.9/10, MLv5.0/1, Mw(mB)4.9/2*
*NNC **28** 03:17:55.7±1.4, 40°04N × 73°61E, h0km, mb5.1, mpv4.8, Error ellipse: s-maj=13.2km s-min=5.9km az=153.0*
*SZGRF **28** 03:17:55.1, 39°93N × 74°14E, h33km, mb4.7, MS3.8, Southern Xinjiang, China*
*TEH **28** 03:17:57.0, 39°65N × 73°94E, h46km, ML4.8*
*BJI **28** 03:17:58.2, 39°79N × 74°47E, h50km, mB4.5/26, mb4.5/34, ML4.4/3, Ms4.2/33, Ms7 4.1/31*
*DJA **28** 03:18:05.7±1.0, 40°N±13° × 7°4E±°, h124km±14km, M5.0/7, mB5.7/1, mb4.6/7, MLv5.3/1, Mw(mB)5.3/1*
ISC 28 03:17:53.9±1.5, 39.72N±0.03 × 73.80E±0.03, h17km±9km, n368, σ1°41/306, mb4.7/135, MS3.8/38, 33C-31D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.69**	**96**	*i* P	Pn	03 18 13.5	-9.4
KSH				S	Sn	03 18 29.5	-15
KSH				smax	smax		
	comp=N,10μm,0.8s						
KSH				smax	smax		
	comp=E,7μm,0.7s						
AML	**Almayashu**	**2.41**	**358**	*i* PN	**Pn**	**03 18 35.2**	**+2.2**
AML	**Almayashu**	**2.41**	**358**	P	**Pn**	**03 18 35.2**	**+2.2**
	SNR=208						
UCH	**Uchtor**	**2.57**	**12**	*i* PN	**Pn**	**03 18 37.3**	**+2.2**
UCH	**Uchtor**	**2.57**	**12**	P	**Pn**	**03 18 37.4**	**+2.2**
	SNR=299						
KZA	**Kyzart**	**2.60**	**25**	*i* PN	**Pn**	**03 18 37.0**	**+1.4**
KZA	**Kyzart**	**2.60**	**25**	P	**Pn**	**03 18 37.0**	**+1.4**
	SNR=99						
EKS2	**Erkin-Say**	**2.94**	**360**	*i* PN	**Pn**	**03 18 42.8**	**+2.8**
EKS2	**Erkin-Say**	**2.94**	**360**	P	**Pn**	**03 18 42.8**	**+2.8**
	SNR=451						
AAK	**Ala-Archa**	**2.96**	**10**	PN	**Pn**	**03 18 42.4**	**+2.1**
AAK						03 19 24.8	
AAK				pmax	pmax		
	comp=Z,65nm,0.3s						
AAK				MLR	MLR		
	comp=Z,308nm,19.9s						
AAK	**Ala-Archa**	**2.96**	**10**	P	**Pn**	**03 18 43.0**	**+2.7**
	SNR=237						
AAK	**Ala-Archa**	**2.96**	**10**	*e*Pn	**Pn**	**03 18 42.9**	**+2.6**
AAK				*e*S	**Sn**	**03 19 25.2**	**+2.9**
AAK	**Ala-Archa**	**2.96**	**10**	Pn	**Pn**	**03 18 42.4**	**+2.1**
	comp=Z,65nm,0.3s,baz=172,slow=8.2,SNR=151						
AAK				Lg	Lg	03 19 24.8	
	comp=Z,48nm,0.3s,baz=280,slow=18,SNR=5.6						
AAK				LR	LR	03 19 29.9	
	comp=Z,308nm,19.9s,baz=250,slow=31						
KBK	**Karagaybulak**	**3.06**	**16**	*i* PN	**Pn**	**03 18 44.2**	**+2.4**
KBK	**Karagaybulak**	**3.06**	**16**	P	**Pn**	**03 18 44.2**	**+2.4**
	SNR=235						
ULHL	**Ulahol**	**3.13**	**35**	*i* PN	**Pn**	**03 18 44.1**	**+1.4**
ULHL	**Ulahol**	**3.13**	**35**	P	**Pn**	**03 18 44.0**	**+1.4**
	SNR=87						
FRU	**Bishkek**	**3.17**	**11**	*i* PN	**Pn**	**03 18 45.2**	**+2.1**
FRU				*e*S	**Sg**	**03 19 34.0**	**-1.9**
FRU				pmax	pmax		
	comp=Z,2μm,1.4s						
FRU				smax	smax		
	comp=E,2μm,1.8s						
FRU				MLR	MLR		
	comp=Z,7μm,6.2s						
CHMS	**Chumysh**	**3.36**	**12**	*i* PN	**Pn**	**03 18 48.1**	**+2.5**
CHMS	**Chumysh**	**3.36**	**12**	P	**Pn**	**03 18 48.1**	**+2.5**
	SNR=55						
TKM2	**Tokmak 2**	**3.48**	**22**	⇓Pn	**Pn**	**03 18 49.4**	**+1.9**
	comp=Z,328nm,1.1s						
TKM2				⇑Lg	Lg	03 19 38.9	
	comp=Z,3μm,1.9s						
TKM2	**Tokmak 2**	**3.48**	**22**	*i* PN	**Pn**	**03 18 49.0**	**+1.6**
TKM2	**Tokmak 2**	**3.48**	**22**	P	**Pn**	**03 18 49.1**	**+1.6**
	SNR=147						
USP	**

	comp=Z,23nm,4.0s								
WMQ					LR	LR			
	comp=N,350nm,8.0s								
WMQ					LR	LR			
	comp=E,310nm,7.0s								
IMYA	**Miami**	**11.31**	**257**	*e*P	**Pn**		**03 20 33.7**	**-1.3**
KURBB	**Kurchatov Arra**	**11.40**	**15**	⇑Pn	**Pn**		**03 20 35.0**	**-0.8**
	comp=E,6.9nm,0.6s								
KURBB				⇑Lg	Lg		03 23 53.4		
	comp=E,558nm,1.2s								
KURBB	**Kurchatov Arra**	**11.40**	**15**	Pn	**Pn**		**03 20 35.1**	**-0.8**
	comp=E,0.1nm,0.3s,baz=205,slow=12,SNR=12								
KURBB				Lg	Lg		03 23 54.2		
	comp=E,0.4nm,0.3s,baz=198,slow=30,SNR=11								
KURK	**Kurchatov**	**11.51**	**16**	P	Pn		03 20 35.1	-2.3	
KURK	**Kurchatov**	**11.51**	**16**	Pn	Pn		03 20 35.1	-2.3	
KURK				Lg	Lg		03 23 54.2		
ISRO	**Mashad**	**11.80**	**258**	*e*P	**Pn**		**03 20 39.9**	**-1.7**	
IMOG	**Moghan**	**11.97**	**257**	*e*P	**Pn**		**03 20 43.0**	**-1.1**	
IEMG	**Emamgholi**	**12.08**	**264**	*e*P	**Pn**		**03 20 43.8**	**-1.7**	
IPAY	**Payeh**	**12.11**	**259**	*e*P	**Pn**		**03 20 45.2**	**-0.7**	
IAKL	**Akhelmad**	**12.24**	**260**	*e*P	**Pn**		**03 20 46.1**	**-1.6**	
ISFR	**Sfrayin**	**12.68**	**263**	*e*P	**Pn**		**03 20 52.3**	**-1.4**	
VOSK	**Vostochnaya**	**13.15**	**352**	⇓Pn	Pn		03 20 57.8	-2.1	
	comp=E,28nm,0.8s								
VOSK				⇓Lg	Lg		03 24 38.9		
	comp=E,145nm,1.1s								
VOSK	**Vostochnaya**	**13.15**	**352**	P	Pn		03 20 57.7	-2.1	
VOSK				pmax	pmax				
	comp=Z,27nm,0.8s								
BVA0	**Borovoye Array**	**13.52**	**351**	Pn	**Pn**		**03 21 03.6**	**-1.1**	
	comp=Z,38nm,0.9s,baz=161,slow=13,SNR=170								
BVA0				⇑Pg	P		03 21 12.1	-1.8	
	comp=Z,38nm,0.8s,baz=162,slow=9.3,SNR=8.7								
BVA0				⇓Lg	Lg		03 24 54.8		
	comp=Z,168nm,1.3s								
BVAR	**Borovoye Array**	**13.52**	**351**	P	**Pn**		**03 21 03.7**	**-1.1**	
BVAR				pmax	pmax				
	comp=Z,3.0nm,0.3s								
BVAR	**Borovoye Array**	**13.52**	**351**	Pn	**Pn**		**03 21 03.7**	**-1.1**	
BVAR				Lg	Lg		03 25 03.0		
BVAR	**Borovoye Array**	**13.52**	**351**	Pn	**Pn**		**03 21 03.7**	**-1.1**	
	comp=Z,3.3nm,0.3s,baz=163,slow=13,SNR=54								
BVAR				Lg	Lg		03 25 03.0		
	comp=Z,0.9nm,0.3s,baz=156,slow=24,SNR=5.3								
BRVK	**Borovoye**	**13.56**	**351**	⇑Pn	**Pn**		**03 21 03.9**	**-1.4**	
	comp=Z,50nm,0.9s								
BRVK				⇓Pg	**P**		**03 21 14.9**	**+0.5**	
	comp=Z,117nm,1.0s								
BRVK				⇑Lg	Lg		03 24 55.9		
	comp=Z,218nm,1.2s								
BRVK	**Borovoye**	**13.56**	**351**	*de*P	**Pn**		**03 21 04.7**	**-0.7**	
BRVK				pmax	pmax				
	comp=Z,39nm,1.0s								
BRVK	**Borovoye**	**13.56**	**351**	*e*Pn	**Pn**		**03 21 04.2**	**-1.1**	
AB31	**Akbulak array**	**13.72**	**319**	⇑P	**Pn**		**03 21 06.6**	**-0.9**	
	comp=Z,23nm,0.7s,baz=123,slow=13								
AB31				⇑S	**Sn**		**03 23 37.7**	**-1.7**	
	comp=Z,28nm,0.8s,baz=122,slow=21								
AB31	**Akbulak array**	**13.72**	**319**	P	**Pn**		**03 21 06.6**	**-0.9**	
AB31				pmax	pmax				
	comp=Z,12nm,0.4s								
ABKAR	**Akbulak array**	**13.72**	**319**	*e*Pn	**Pn**		**03 21 06.9**	**-0.6**	
ABKAR				*e*S	**Sn**		**03 23 39.1**	**-0.3**	
AKTO	**Aktyubinsk**	**15.43**	**319**	⇓Pn	**Pn**		**03 21 29.5**	**-1.1**	
	comp=Z,51nm,1.4s								
AKTO	**Aktyubinsk**	**15.43**	**319**	P	**Pn**		**03 21 30.3**	**-0.4**	
AKTO							03 24 20.8		
AKTO				pmax	pmax				
	comp=Z,1.0nm,0.3s								
AKTO				smax	smax				
	comp=N,1.0nm,0.3s								
AKTO				MLR	MLR				
	comp=Z,267nm,22.0s								
AKTO	**Aktyubinsk**	**15.43**	**319**	Pn	**Pn**		**03 21 30.2**	**-0.4**	
AKTO				Sn	**Sn**		**03 24 20.8**	**-0.2**	
AKTO				Lg	Lg		03 26 02.8		
AKTO	**Aktyubinsk**	**15.43**	**319**	Pn	**Pn**		**03 21 30.2**	**-0.4**	
	comp=Z,1.1nm,0.3s,baz=134,slow=14,SNR=51								
AKTO				Sn	**Sn**		**03 24 20.8**	**-0.2**	
	comp=Z,0.5nm,0.3s,baz=0.0,slow=20,SNR=3.7								
AKTO				Lg	Lg		03 26 02.8		
	comp=Z,0.1nm,0.3s,baz=235,slow=21,SNR=1.7								
AKTO				LR	LR		03 27 57.6		
	comp=Z,267nm,22.0s,baz=322,slow=38								
ZALV	**Zalesovo Beam**	**16.08**	**24**	P	**Pn**		**03 21 37.3**	**-1.8**	
ZALV				MLR	MLR				
	comp=Z,98nm,19.7s								
ZALV	**Zalesovo Beam**	**16.08**	**24**	Pn	**Pn**		**03 21 37.2**	**-1.8**	
ZALV				Lg	Lg		03 26 28.4		
ZALV	**Zalesovo Beam**	**16.08**	**24**	Pn	**Pn**		**03 21 37.2**	**-1.8**	
	baz=211,slow=10,SNR=10								
ZALV				Lg	Lg		03 26 28.4		
	comp=Z,0.2nm,0.3s,baz=216,slow=20,SNR=4.0								
ZALV				LR	LR		03 28 02.3		
	comp=Z,98nm,19.7s,baz=250,slow=38								
NVS	**Novosibirsk**	**16.41**	**20**	*e*P	**Pn**		**03 21 42.6**	**-0.6**	
NVS				pmax	pmax				
	comp=Z,31nm,0.9s								
NVS				pmax	pmax				
	comp=N,30nm,0.8s								
NVS				pmax	pmax				
	comp=E,6.0nm,0.5s								
BHPL	**Bhopal**	**16.71**	**168**	*e*P	**Pn**		**03 21 45.0**	**-2.3**	
BHPL				*ex*	x		03 24 37.5		
LSA	**Lhasa**	**17.39**	**120**	P	Pn		03 21 53.0	-3.3	
LSA				LR	LR				
	comp=N,300nm,12.6s								
LSA				LR	LR				
	comp=E,430nm,16.4s								
LSA				LR	LR				
	comp=Z,580nm,11.1s								
ISFB	**Sefidab**	**18.01**	**259**	*e*P	**Pn**		**03 22 04.2**	**+0.7**	
IGZV	**Ghazvin**	**18.85**	**267**	*e*P	**P**		**03 22 14.6**	**+1.3**	
BOK	**Bokaro**	**18.88**	**144**	*ex*	x		03 21 53.3		
AKL	**Akola**	**19.15**	**171**	*e*P	**P**		**03 22 14.6**	**-1.9**	
SVE	**Sverdlovsk**	**19.17**	**338**	*e*P	**P**		**03 22 18.1**	**+1.7**	
SVE				pmax	pmax				
	comp=Z,24nm,0.9s								
ARU	**Arti**	**19.50**	**334**	*d i*P	**P**		**03 22 21.1**	**+1.1**	
ARU				S	**S**		**03 26 02.2**	**+2.7**	
ARU				pmax	pmax				
	comp=Z,35nm,1.7s								
ARU				MLR	MLR				
	comp=Z,243nm,12.0s								
GTA	**Gaotai**	**20.05**	**83**	P	**P**		**03 22 24.5**	**-1.8**	
GTA				pmax	pmax				
	comp=Z,8.0nm,1.4s								
GTA				pmax	pmax				
	comp=Z,130nm,5.0s								
GTA				LR	LR				
	comp=N,170nm,16.4s								
GTA				LR	LR				
	comp=E,300nm,16.4s								
GTA				LR	LR				
	comp=Z,270nm,17.6s								
SHL	**Shillong**	**20.71**	**128**	*e*P	Sn		03 26 10.5	-19	
LATR	**Latur**	**21.36**	**173**	*e*P	**P**		**03 22 38.7**	**-1.7**	
DGRG	**David-gareji**	**21.62**	**284**	P	**P**		**03 22 45.7**	**+2.6**	
TBLG	**Delisi**	**22.07**	**285**	*e*P	**P**		**03 22 45.0**	**-3.0**	
TBLG	**Delisi**	**22.07**	**285**	P	**P**		**03 22 45.0**	**-3.0**	
DUS	**Dusheti**	**22.07**	**286**	P	P		03 22 54.6	+6.5	
GNI	**Garni**	**22.25**	**280**	*e*P	**P**		**03 22 51.7**	**+1.7**	
	comp=Z,48nm,1.0s								
GNI	**Garni**	**22.25**	**280**	P	**P**		**03 22 52.6**	**+2.5**	
	comp=Z,11nm,0.7s,baz=4.8,slow=9.5,SNR=11								
GNI				LR	LR		03 32 50.5		
	comp=Z,52nm,19.7s,baz=287,slow=40								
MOY	**Mondy**	**22.30**	**49**	*e*P	**P**		**03 22 49.5**	**-1.0**	
MOY				pmax	pmax				
	comp=Z,49nm,1.7s								
KZR	**Kazreti**	**22.34**	**284**	P	P		03 23 03.3	+12	
IMP	**Imphal**	**22.55**	**125**	*ex*	**P**		**03 22 53.0**	**-0.3**	
IMP				*e*S	S		03 26 53.0	-6.9	
SOKR	**Solikamsk**	**22.59**	**337**	*d i*P	**P**		**03 22 54.8**	**+1.5**	
SOKR				pmax	pmax				
	comp=Z,30nm,1.0s								
HYB	**Hyderabad**	**22.60**	**168**	*i* P	**P**		**03 22 53.0**	**-0.8**	
AKH	**Akhalkalaki**	**23.03**	**284**	P	**P**		**03 22 59.9**	**+1.6**	
ZAK	**Zakamensk**	**23.25**	**53**	*e*P	**P**		**03 22 58.3**	**-2.1**	
ZAK				pmax	pmax				
	comp=Z,9.0nm,1.0s								
KBZ	**Khabaz**	**23.34**	**290**	P	**P**		**03 23 02.4**	**+1.2**	
KBZ				pmax	pmax				
	comp=Z,2.0nm,0.7s								
KBZ				MLR	MLR				
	comp=Z,115nm,20.9s								
KBZ	**Khabaz**	**23.34**	**290**	P	**P**		**03 23 02.4**	**+1.2**	
KBZ	**Khabaz**	**23.34**	**290**	P	**P**		**03 23 02.4**	**+1.2**	
	comp=Z,2.1nm,0.7s,baz=90,slow=13,SNR=2.8								
KBZ				LR	LR		03 33 29.5		
	comp=Z,114nm,20.9s,baz=100,slow=40								
KIV	**Kislovodsk**	**23.49**	**291**	*e*P	**P**		**03 23 02.5**	**-0.3**	
KIV				*e*S	**S**		**03 27 14.5**	**-1.2**	
KIV				pmax	pmax				
	comp=Z,13nm,1.0s								
KIV				MLR	MLR				
	comp=Z,65nm,15.0s								
MIB	**Mutribah**	**23.80**	**254**	*e*P	**P**		**03 23 06.1**	**+0.2**	
MIB				AMb	AMB		03 23 16.3		
	comp=Z,37nm,0.9s								
LZH	**Lanzhou**	**23.93**	**89**	*e*P	**P**		**03 23 08.0**	**+0.7**	
LZH				pP	pP		03 23 20.3	+8.0	
LZH				sP	sP		03 23 25.5	+11	
LZH				S	S		03 27 18.5	-4.6	
LZH				pmax	pmax				
	comp=Z,30nm,1.0s								
LZH				pmax	pmax				
	comp=Z,110nm,4.0s								
LZH				LR	LR				
	comp=N,540nm,15.3s								
LZH				LR	LR				
	comp=E,250nm,12.5s								
LZH				LR	LR				
	comp=Z,370nm,14.6s								
RDF	**Al-Radifah**	**24.12**	**252**	*e*P	**P**		**03 23 09.4**	**+0.5**	
RDF				AMb	AMB		03 23 11.3		
	comp=Z,59nm,1.4s								
NAY	**Al-Naaiem**	**24.17**	**253**	*e*P	**P**		**03 23 09.3**	**0.0**	
NAY				AMb	AMB		03 23 13.0		
	comp=Z,28nm,0.9s								
SONM	**Songino Array**	**24.75**	**60**	P	P		03 23 10.9	-3.8	
SONM	**Songino Array**	**24.75**	**60**	P	P		03 23 10.9	-3.8	
	comp=Z,3.2nm,0.8s,baz=265,slow=10,SNR=16								
ULN	**Ulaanbaatar**	**25.20**	**60**	*e*P	P		03 23 16.0	-2.7	
	comp=Z,5.4nm,0.4s								
ULN	**Ulaanbaatar**	**25.20**	**60**	P	P		03 23 16.1	-2.6	
	comp=Z,9.9nm,0.9s								
CD2	**Chengdu**	**25.89**	**101**	*e*P	**P**		**03 23 23.5**	**-1.5**	
CD2				pP	pP		03 23 35.3	+5.2	
CD2				sP	sP		03 23 41.0	+8.8	
CD2				PP	**PnPn**		**03 24 04.8**	**+2.5**	
CD2				S	S		03 27 46.8	-7.5	
CD2				sS	sS		03 28 06.8	+4.1	
CD2				pmax	pmax				
	comp=Z,20nm,1.2s								
CD2				pmax	pmax				
	comp=Z,120nm,5.2s								
CD2				LR	LR				
	comp=E,340nm,14.2s								
CD2				LR	LR				
	comp=Z,370nm,14.6s								
VSR	**Storozhevoye**	**26.62**	**307**	*e*P	**P**		**03 23 30.9**	**-0.4**	
VSR				pmax	pmax				
	comp=Z,20nm,1.1s								
VSR				pmax	pmax				
	comp=N,10.0nm,1.0s								
VSR				pmax	pmax				
	comp=E,30nm,1.1s								
ANN	**Anapa**	**27.23**	**293**	*e*P	P		03 23 30.7	-6.2	
ANN				*e**PP	pP		03 23 46.0	+4.0	
ANN				pmax	pmax				
	comp=Z,53nm,1.0s								
ANN				MLR	MLR				
	comp=Z,198nm,18.0s								
KMI	**Kunming**	**28.29**	**112**	P	P		03 23 34.0	-13	
KMI				pmax	pmax				
	comp=Z,10.0nm,0.5s								
KMI	**Kunming**	**28.29**	**112**	P	**P**		**03 23 46.5**	**-0.3**	
KMI				pP	pP		03 23 59.3	+7.4	
KMI				PP	**PnPn**		**03 24 38.0**	**+2.7**	
KMI				S	S		03 28 27.0	-5.5	
KMI				pmax	pmax				
	comp=Z,8.0nm,0.5s								
KMI				pmax	pmax				
	comp=Z,34nm,3.7s								
KMI				LR	LR				
	comp=N,240nm,15.1s								
KMI				LR	LR				
	comp=E,200nm,15.4s								
KMI				LR	LR				
	comp=Z,260nm,12.8s								
XAN	**Xi'an**	**28.54**	**90**	P	**P**		**03 23 48.3**	**-0.5**	
XAN				pP	pP		03 23 58.5	+4.6	
XAN				sP	sP		03 24 05.5	+9.4	
XAN				pmax	pmax				
	comp=Z,3.0nm,0.8s								
XAN				pmax	pmax				
	comp=Z,7.0nm,4.5s								
XAN				LR	LR				
	comp=N,190nm,18.8s								
XAN				LR	LR				
	comp=E,73nm,19.6s								
XAN				LR	LR				
	comp=Z,64nm,13.3s								
HHC	**Hu-ho-hao-te**	**28.69**	**75**	*e*P	**P**		**03 23 50.3**	**+0.2**	
HHC				pP	pP		03 24 01.5	+6.2	
HHC				sP	sP		03 24 08.0	+11	
HHC				PP	**PnPn**		**03 24 41.8**	**+1.3**	
HHC				S	S		03 28 33.0	-5.4	
HHC				sS	sS		03 28 52.8	+5.9	
HHC				pmax	pmax				
	comp=Z,21nm,0.9s								
HHC				pmax	pmax				
	comp=Z,80nm,4.3s								
HHC				LR	LR				
	comp=N,290nm,14.3s								
HHC				LR	LR				
	comp=E,630nm,12.7s								
HHC				LR	LR				
	comp=Z,520nm,11.9s								
RAYN	**Ar Rayn**	**28.84**	**244**	*e*P	**P**		**03 23 51.8**	**+0.3**	
	comp=Z,14nm,1.4s								
OBN	**Obninsk**	**29.10**	**314**	*d i*P	**P**		**03 23 53.7**	**+0.3**	
OBN				*e*			03 24 45.6		
OBN				*e*S	**S**		**03 28 48.3**	**+4.1**	
OBN				pmax	pmax				
	comp=Z,29nm,1.6s								
OBN				MLR	MLR				
	comp=Z,100nm,16.0s								
SIM	**Simferopol'**	**29.58**	**293**	*e*P	**P**		**03 23 58.6**	**+0.8**	
SIM				pmax	pmax				
	comp=Z,36nm,0.5s								
SIM				MLR	MLR				
	comp=Z,30nm,13.0s								
CMAR	**Chiang Mai Arr**	**30.34**	**127**	P	**P**		**03 24 06.0**	**+1.2**	
CMAR				PcP	**PcP**		**03 27 03.1**	**-1.6**	
CMAR	**Chiang Mai Arr**	**30.34**	**127**	P	**P**		**03 24 06.0**	**+1.2**	
	comp=Z,0.9nm,0.4s,baz=312,slow=8.2,SNR=6.9								
CMAR				PcP	**PcP**		**03 27 03.1**	**-1.6**	
	comp=Z,0.6nm,0.3s,baz=309,slow=3.2,SNR=4.9								
CMAR				LR	LR		03 38 13.1		
	comp=Z,65nm,21.2s,baz=334,slow=40								
GYA	**Guiyang**	**30.37**	**106**	P	**P**		**03 24 05.0**	**-0.1**	
GYA				pP	pP		03 24 17.8	+7.5	
GYA				sP	sP		03 24 23.3	+11	
GYA				PP	**PnPn**		**03 25 03.3**	**-0.1**	
GYA				S	S		03 28 59.5	-5.5	
GYA				sS	sS		03 29 22.0	+8.5	
GYA				pmax	pmax				
	comp=Z,10.0nm,0.8s								
GYA				pmax	pmax				
	comp=Z,90nm,4.9s								
GYA				LR	LR				
	comp=N,640nm,17.2s								
GYA				LR	LR				
	comp=E,520nm,16.4s								
GYA				LR	LR				
	comp=Z,500nm,17.8s								
BRTR	**Keskin Array B**	**30.71**	**283**	P	**P**		**03 24 09.2**	**+1.2**	
BRTR	**Keskin Array B**	**30.71**	**283**	P	**P**		**03 24 09.2**	**+1.2**	
	comp=Z,2.8nm,0.7s,baz=93,slow=6.4,SNR=15								
TMCR	**Tamitsa**	**32.18**	**331**	*e*P	**P**		**03 24 20.6**	**+0.1**	
TMCR				*e*			03 25 28.4		
TMCR				pmax	pmax				
	comp=Z,37nm,1.1s								
BJI	**Beijing**	**32.30**	**76**	P	P		03 24 19.5	-2.3	
BJI				S	S		03 29 24.5	-10	
BJI				pmax	pmax				
	comp=Z,8.0nm,0.5s								
BJI				pmax	pmax				
	comp=Z,54nm,5.1s								
BJI				LR	LR				
	comp=N,220nm,22.1s								
BJI				LR	LR				
	comp=E,190nm,18.4s								
BJI				LR	LR				
	comp=Z,110nm,22.1s								
KIEV	**Kiev**	**32.81**	**305**	*e*P	**P**		**03 24 26.1**	**-0.1**	
KIEV				pmax	pmax				
	comp=Z,11nm,0.9s								
KIEV	**Kiev**	**32.81**	**305**	*e*P	**P**		**03 24 26.1**	**-0.1**	
	comp=Z,11nm,0.9s								
PBKT	**Sadao Pong**	**33.03**	**127**	P	P		03 24 34.4	+6.0	
	comp=Z,11nm,0.9s,comp=Z,1μm								
PBKT	**Sadao Pong**	**33.03**	**127**	P	P		03 24 34.4	+6.0	
	comp=Z,11nm,0.9s,comp=Z,1μm								
EIL	**Elat**	**33.25**	**265**	P	**P**		**03 24 31.9**	**+1.6**	
EIL	**Elat**	**33.25**	**265**	P	**P**		**03 24 31.9**	**+1.6**	
	comp=Z,1.8nm,0.5s,baz=45,slow=10.0,SNR=4.3								
CFR	**Carcaliu**	**33.78**	**295**	⇑P	**P**		**03 24 35.5**	**+0.8**	
CFR	**Carcaliu**	**33.78**	**295**	⇑*i*P	**P**		**03 24 35.5**	**+0.8**	
CHAI	**Chaiyaphum**	**34.16**	**126**	P	**P**		**03 24 39.7**	**+1.4**	
	comp=Z,4.6nm,0.8s,comp=Z,183nm								
JOF	**Joensuu**	**34.29**	**327**	*ep*	**P**		**03 24 40.0**	**+1.1**	
	comp=Z,12nm,0.6s								
JOF	**Joensuu**	**34.29**	**327**	*e*P	**P**		**03 24 40.0**	**+1.1**	
JOF				pmax	pmax				
	comp=Z,12nm,0.6s								
NACGM	**Naroch**	**34.58**	**312**	*e*	P		03 24 38.0	-3.6	
SKNT	**Sakolnakorn**	**34.64**	**122**	P	P		03 24 40.8	-1.7	
	comp=Z,32nm,0.8s								
TESR	**Tescani**	**34.66**	**297**	⇑*i*P	**P**		**03 24 42.9**	**+0.6**	
VRI	**Vrincioaia**	**34.67**	**296**	⇑P	**P**		**03 24 44.5**	**+2.0**	
VRI	**Vrincioaia**	**34.67**	**296**	⇑*i*P	**P**		**03 24 44.5**	**+2.0**	
PLOR	**Plostina**	**34.73**	**296**	⇑P	**P**		**03 24 45.3**	**+2.3**	
PLOR	**Plostina**	**34.73**	**296**	⇑*i*P	**P**		**03 24 45.3**	**+2.3**	
VSU	**Vasula**	**35.15**	**318**	*d i*P	**P**		**03 24 46.8**	**+0.4**	
VSU				pmax	pmax				
	comp=Z,38nm,1.0s								
MLR	**Muntele Rosu**	**35.27**	**295**	⇑*i*P	**P**		**03 24 50.4**	**+2.6**	
LVZ	**Lovozero**	**35.36**	**336**	*de*P	**P**		**03 24 49.1**	**+0.9**	
LVZ				pmax	pmax				
	comp=Z,23nm,1.0s								
BURAR	**Bucovina Array**	**35.52**	**299**	⇓P	**P**		**03 24 50.9**	**+1.0**	
BURAR	**Bucovina Array**	**35.52**	**299**	⇓*i*P	**P**		**03 24 50.9**	**+1.0**	
BUR08	**Bucovina Ar. S**	**35.53**	**299**	*e*P	**P**		**03 24 50.3**	**+0.4**	
VOIR		**35.90**	**295**	⇑P	**P**		**03 24 53.2**	**+0.1**	
VOIR		**35.90**	**295**	⇑*i*P	**P**		**03 24 53.2**	**+0.1**	
LVV	**L'vov**	**36.14**	**303**	*e*P	**P**		**03 24 55.2**	**+0.2**	
LVV				*e*S	**S**		**03 30 37.8**	**+4.0**	
LVV				MLR	MLR				
	comp=Z,100nm,14.0s								
LVV				MLR	MLR				
	comp=E,100nm,15.0s								
LVV				MLR	MLR				
	comp=N,70nm,13.0s								
FIA1	**FINESS Array S**	**36.15**	**323**	*e*P	**P**		**03 24 55.0**	**+0.1**	
FINES	**FINESS Array B**	**36.15**	**323**	P	**P**		**03 24 55.3**	**+0.4**	
FINES	**FINESS Array B**	**36.15**	**323**	P	**P**		**03 24 55.3**	**+0.4**	
	comp=N,14nm,0.6s,baz=112,slow=9.6,SNR=68								
FINES				LR	LR		03 40 15.0		
	comp=N,183nm,18.3s,baz=112,slow=37								
ARR	**Arges**	**36.20**	**295**	⇓*i*P	**P**		**03 24 57.5**	**+1.8**	
LOT	**Lotru**	**36.79**	**296**	⇑*i*P	**P**		**03 25 02.9**	**+2.1**	
QIZ	**Qiongzhong**	**37.23**	**113**	P	P		03 25 03.0	-1.6	
QIZ				S	S		03 30 46.0	-5.0	
QIZ				pmax	pmax				
	comp=Z,120nm,3.8s								
QIZ				LR	LR				
	comp=Z,320nm,14.5s								
UZH	**Uzhgorod**	**37.37**	**301**	*e*P	**P**		**03 25 05.3**	**-0.2**	
GZR	**Gura Zlata**	**37.49**	**296**	⇓P	**P**		**03 25 07.9**	**+1.3**	
GZR	**Gura Zlata**	**37.49**	**296**	⇓*i*P	**P**		**03 25 07.9**	**+1.3**	
STHS	**Stebnicka Huta**	**37.98**	**303**	*e*P	**P**		**03 25 10.8**	**+0.1**	
STHS				pmax	pmax				
	comp=Z,2.0nm,0.6s								
STHS	**Stebnicka Huta**	**37.98**	**303**	*e*P	**P**		**03 25 10.8**	**+0.1**	
CN2	**Changchun**	**38.23**	**67**	*e*P	**P**		**03 25 12.8**	**-0.1**	
CN2				*ep*P	pP		03 25 21.8	+3.7	
CN2				*e*S	S		03 31 02.3	-3.5	
CN2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CN2				pmax	pmax				
	comp=Z,100nm,4.0s								
CN2				LR	LR				
	comp=N,200nm,16.0s								
CN2				LR	LR				
	comp=E,200nm,16.0s								
CN2				LR	LR				
	comp=Z,300nm,17.0s								
BZS	**Buzias**	**38.25**	**296**	⇑P	**P**		**03 25 13.6**	**+0.6**	
BZS	**Buzias**	**38.25**	**296**	⇑*i*P	**P**		**03 25 13.6**	**+0.6**	
KECS	**Kecovo**	**38.58**	**301**	*e*P	**P**		**03 25 16.8**	**+1.1**	
KECS				pmax	pmax				
	comp=Z,3.0nm,0.8s								
KECS	**Kecovo**	**38.58**	**301**	*e*P	**P**		**03 25 16.8**	**+1.1**	
NIE	**Niedzica**	**38.58**	**303**	*e*P	**P**		**03 25 17.8**	**+2.0**	
NIE	**Niedzica**	**38.58**	**303**	*e*P	**P**		**03 25 17.8**	**+2.0**	
OJC	**Ojcow**	**38.83**	**304**	*e*P	**P**		**03 25 18.2**	**+0.4**	
OJC				pmax	pmax				
	comp=Z,10.0nm,0.7s								
OJC	**Ojcow**	**38.83**	**304**	*e*P	**P**		**03 25 18.2**	**+0.4**	
	comp=Z,10nm,0.7s								
OJC	**Ojcow**	**38.83**	**304**	*e*P	**P**		**03 25 16.6**	**-1.2**	
ARCES	**ARCESS Array B**	**39.08**	**335**	P	**P**		**03 25 20.1**	**+0.4**	
ARCES	**ARCESS Array B**	**39.08**	**335**	P	**P**		**03 25 20.1**	**+0.4**	
	comp=Z,8.4nm,0.5s,baz=111,slow=8.8,SNR=33								
ARCES				LR	LR		03 42 47.0		
	comp=Z,60nm,19.8s,baz=96,slow=38								
ATD	**Arta Tunnel**	**39.22**	**233**	P	**P**		**03 25 22.9**	**+1.4**	
ATD	**Arta Tunnel**	**39.22**	**233**	P	**P**		**03 25 22.9**	**+1.4**	
	comp

DPC	Dobruska-Polom	41.03	305	*e*P		P		03 25 37.4	+1.2	
	comp=Z,36nm,0.8s									
KLR	Kul'dur	41.50	57	*e*P		P		03 25 33.7	-6.3	
KLR				MLR		MLR				
	comp=Z,600nm,11.5s									
CONA	Conrad Observa	41.72	301	⇑*i*P		P		03 25 42.5	+0.6	
	comp=Z,14nm,1.3s									
TREC	Trest	41.72	303	AMS		AMS		03 46 30.0		
	comp=Z,200nm,16.6s									
KSAR	Wonju Array Be	41.81	75	P		P		03 25 39.5	-3.1	
KSRS	Korea Array	41.83	75	P		P		03 25 39.5	-3.3	
	comp=Z,2.4nm,1.0s,baz=278,slow=7.4,SNR=7.5									
KSRS				LR		LR		03 45 20.6		
	comp=Z,66nm,18.4s,baz=283,slow=40									
PRU	Pruhonice	42.21	304	*i* P		P		03 25 46.7	+0.9	
PRU				MLR		MLR				
	comp=Z,200nm,20.7s									
PRU	Pruhonice	42.21	304	*i* P		P		03 25 46.7	+0.9	
PRU				AMS		AMS		03 46 20.0		
	comp=Z,200nm,20.7s									
BRG	Berggiesshubel	42.45	306	⇓*i*P		P		03 25 48.5	+0.8	
	comp=Z,10nm,0.8s									
BRG				*e*				03 27 39.6		
	comp=Z,5.6nm,1.1s									
BRG										
	comp=N,106nm,17.4s									
BRG										
	comp=E,176nm,23.8s									
BRG										
	comp=Z,258nm,25.7s									
BRG	Berggiesshubel	42.45	306	⇓*i*P		P		03 25 48.5	+0.8	
BRG				*e*				03 27 39.6		
BRG				pmax		pmax				
	comp=Z,10.0nm,0.8s									
BRG				pmax		pmax				
	comp=Z,6.0nm,1.1s									
BRG				MLR		MLR				
	comp=N,106nm,17.4s									
BRG				MLR		MLR				
	comp=E,176nm,23.8s									
BRG				MLR		MLR				
	comp=Z,258nm,25.7s									
SOKA	Soboth	42.53	299	⇑*i*P		P		03 25 48.8	+0.3	
	comp=Z,11nm,1.2s									
USRK	Ussuriysk Arra	42.74	64	P		P		03 25 47.0	-3.0	
	comp=Z,1.0nm,0.7s,baz=140,slow=40,SNR=3.6									
USRK				LR		LR		03 45 28.7		
	comp=Z,164nm,18.1s,baz=178,slow=39									
OBKA	Obir	42.89	299	⇓*i*P		P		03 25 51.7	+0.3	
	comp=Z,9.2nm,1.3s									
GEC2	GERESS Array S	42.96	303	*e*P		P		03 25 52.4	+0.4	
	comp=Z,11nm,0.9s									
GEC2	GERESS Array S	42.96	303	*e*P		P		03 25 52.4	+0.4	
GEC2				pmax		pmax				
	comp=Z,11nm,0.9s									
GERES	GERESS Array B	42.96	303	P		P		03 25 52.9	+0.9	
GERES	GERESS Array B	42.96	303	P		P		03 25 52.9	+0.9	
	comp=Z,5.4nm,0.7s,baz=65,slow=8.0,SNR=49									
GERES				LR		LR		03 45 52.4		
	comp=Z,70nm,18.1s,baz=97,slow=39									
CLL	Collm	42.97	307	*e*P		P		03 25 51.4	-0.5	
	comp=Z,10.0nm,0.8s									
CLL	Collm	42.97	307	⇑*i*P		P		03 25 52.0	+0.1	
CLL				pmax		pmax				
	comp=Z,10.0nm,0.8s									
CLL	Collm	42.97	307	⇑*i*P		P		03 25 52.0	+0.1	
	comp=Z,10.0nm,0.8s									
CLL				*i*				03 25 56.1		
CLL				*e*PP		PP		03 27 32.0	+0.5	
CLL				*e*SS		SS		03 35 18.0	-10	
KHC	Kasperske Hory	42.98	303	*i* P		P		03 25 53.1	+1.0	
KHC				MLR		MLR				
	comp=Z,200nm,13.9s									
KHC	Kasperske Hory	42.98	303	*i* P		P		03 25 53.1	+1.0	
KHC				AMS		AMS		03 47 20.0		
	comp=Z,200nm,13.9s									
KHC	Kasperske Hory	42.98	303	*e*P		P		03 25 52.0	-0.1	
	comp=Z,9.6nm,0.9s									
LJU	Ljubljana	43.01	299	*i* P		P		03 25 53.0	+0.7	
NB2	NORSAR Subarra	43.21	321	P		P		03 25 53.4	-0.3	
	comp=Z,14nm,0.6s,baz=90,slow=8.6									
NOA	NORSAR Array B	43.21	321	P		P		03 25 53.5	-0.3	
NOA	NORSAR Array B	43.21	321	P		P		03 25 53.5	-0.3	
	comp=Z,16nm,0.7s,baz=91,slow=8.0,SNR=58									
NOA				LR		LR		03 44 11.8		
	comp=Z,96nm,20.4s,baz=85,slow=36									
WET	Wettzell	43.43	303	*e*P		P		03 25 55.9	+0.2	
	comp=Z,9.0nm,1.0s									
WET	Wettzell	43.43	303	*e*P		P		03 25 55.9	+0.2	
WET				pmax		pmax				
	comp=Z,9.0nm,1.0s									
TANN	Tannenbergstha	43.46	305	*e*P		P		03 25 56.4	+0.4	
	comp=Z,4.0nm,0.9s									
CADS	Cadrg	43.50	299	*i* P		P		03 25 56.1	-0.2	
ROTZ	Rotzenmuhle	43.74	304	*e*P		P		03 25 58.6	+0.4	
	comp=Z,16nm,1.7s									
CUC	Castrocucco	43.81	290	*e*P		P		03 25 59.1	+0.2	
	comp=Z,12nm,0.9s									
MOX	Moxa	43.95	306	*e*P		P		03 25 59.9	+0.1	
	comp=Z,19nm,1.7s									
MOX				*e*L		L		03 46 43.6		
	comp=Z,162nm,20.5s									
MOX	Moxa	43.95	306	*e*P		P		03 25 59.9	+0.1	
MOX				pmax		pmax				
	comp=Z,19nm,1.7s									
MOX				MLR		MLR				
	comp=Z,200nm,20.5s									
BSEG	Bad Segeberg	44.20	311	*e*P		P		03 26 01.9	+0.2	
	comp=Z,13nm,0.8s									
BSEG	Bad Segeberg	44.20	311	*e*P		P		03 26 01.9	+0.2	
BSEG				pmax		pmax				
	comp=Z,13nm,0.8s									
CEL	Celeste	44.35	287	*e*P		P		03 26 03.8	+0.5	
	comp=Z,15nm,0.9s									
GRF	Grafenberg Arr	44.38	304	*e*P		P		03 26 03.0	-0.3	
	comp=Z,15nm,1.0s									
GRF				*e*L		L		03 46 47.1		
	comp=Z,97nm,19.0s									
GRF	Grafenberg Arr	44.38	304	*e*P		P		03 26 03.0	-0.3	
GRF				pmax		pmax				
	comp=Z,15nm,1.0s									
GRF				MLR		MLR				
	comp=Z,100nm,19.0s									
GRFO	Grafenberg	44.38	304	*e*P		P		03 26 04.0	+0.7	
GRFO				pmax		pmax				
	comp=Z,12nm,0.7s									
GRFO	Grafenberg	44.38	304	*e*P		P		03 26 04.0	+0.7	
	comp=Z,12nm,0.7s									
NRDL	Niedersach Rie	44.55	309	*e*P		P		03 26 04.8	+0.3	
	comp=Z,12nm,1.0s									
FUR	Furstenfeldbru	44.68	302	*e*P		P		03 26 06.3	+0.6	
	comp=Z,29nm,1.2s									
FUR	Furstenfeldbru	44.68	302	*e*P		P		03 26 06.3	+0.6	
FUR				pmax		pmax				
	comp=Z,29nm,1.2s									
UBBA	Unterbreizbach	44.92	306	*e*P		P		03 26 07.6	+0.1	
	comp=Z,6.0nm,0.9s									
JNU	Nakatsue	45.74	80	P		P		03 26 12.7	-1.7	
JNU	Nakatsue	45.74	80	P		P		03 26 12.7	-1.7	
	comp=Z,10nm,0.8s,baz=345,slow=6.1,SNR=4.6									
JNU				LR		LR		03 48 13.9		
	comp=Z,58nm,20.4s,baz=340,slow=40									
DAVA	Damuels	45.81	301	⇑*i*P		P		03 26 14.6	-0.3	
	comp=Z,11nm,0.8s									
STU	Stuttgart	45.88	304	*e*P		P		03 26 15.4	+0.2	
	comp=Z,14nm,1.3s									
KBS	Kingsbay	45.99	346	*d i*P		P		03 26 16.1	+0.4	
KBS				pmax		pmax				
	comp=Z,22nm,1.0s									
KBS	Kingsbay	45.99	346	*e*P		P		03 26 15.9	+0.3	
	comp=Z,16nm,0.7s									
VLC	Villacollemand	46.34	297	*e*P		P		03 26 19.6	+0.7	
	comp=Z,16nm,0.9s									
BUG	Bochum--Univer	46.47	308	*e*P		P		03 26 19.8	0.0	
	comp=Z,33nm,1.5s									
BFO	Black Forest	46.55	303	*e*P		P		03 26 20.1	-0.4	
	comp=Z,10.0nm,1.3s									
BFO	Black Forest	46.55	303	*e*P		P		03 26 20.1	-0.4	
BFO				pmax		pmax				
	comp=Z,10.0nm,1.3s									
BFO	Black Forest	46.55	303	*e*P		P		03 26 20.9	+0.4	
	comp=Z,7.2nm,1.0s									
CDF	Champ du Feu	47.20	304	*e*P		P		03 26 25.3	-0.4	
	comp=Z,14nm,1.0s									
WLF	Walferdange	47.59	306	*e*P		P		03 26 29.3	+0.7	
	comp=Z,27nm,1.5s									
HINF	Hinteralfeld	47.64	303	*e*P		P		03 26 28.6	-0.5	
	comp=Z,10.0nm,0.9s									
PGF	Pioggiola	47.81	296	*e*P		P		03 26 30.1	-0.5	
	comp=Z,34nm,1.3s									
HAU	Haudompre	47.91	303	*e*P		P		03 26 30.8	-0.4	
	comp=Z,9.5nm,0.7s									
HAU				*e*R						
	comp=Z,93nm,17.2s									
PAGF	Fort de Pagny	48.16	304	*e*P		P		03 26 33.2	+0.2	
	comp=Z,7.0nm,1.1s									
GIVF	Givet	48.31	306	*e*P		P		03 26 34.3	+0.2	
LPG	La Plagne	48.39	300	*e*P		P		03 26 35.2	0.0	
	comp=Z,13nm,0.8s									
LPL	La Plagne	48.40	300	*e*P		P		03 26 35.2	0.0	
DOU	Dourbes	48.45	306	P		P		03 26 35.2	0.0	
	comp=Z,5.9nm,1.4s									
SBF	Sospel	48.46	298	*e*P		P		03 26 35.4	-0.1	
	comp=Z,48nm,1.0s									
CABF	La Chapelle	48.49	302	*e*P		P		03 26 35.1	-0.6	
	comp=Z,8.5nm,0.8s									
BNI	Bardonecchia	48.58	299	*e*P		P		03 26 34.0	-2.5	
BNI				pmax		pmax				
	comp=Z,19nm,1.2s									
BNI	Bardonecchia	48.58	299	*e*P		P		03 26 34.0	-2.5	
	comp=Z,19nm,1.2s									
MEZF	Maizieres J'vi	48.60	304	*e*P		P		03 26 36.5	+0.1	
	comp=Z,18nm,0.8s									
MBDF	Montbardon	48.62	299	*e*P		P		03 26 36.0	-0.9	
	comp=Z,10nm,0.8s									
BAIF	Baives	48.70	306	*e*P		P		03 26 37.3	+0.2	
	comp=Z,31nm,1.0s									
FRF	La Foret Royal	49.10	298	*e*P		P		03 26 39.8	-0.5	
	comp=Z,20nm,1.0s									
ORIF	Oris-en-Rattie	49.16	300	*e*P		P		03 26 41.4	+0.5	
	comp=Z,5.1nm,0.6s									
ORIF				*e*R						
	comp=Z,66nm,17.2s									
SMRF	Simiane la Rot	49.68	298	*e*P		P		03 26 44.6	-0.2	
LOR	Lormes	49.74	303	*e*P		P		03 26 44.2	-1.0	
	comp=Z,21nm,1.2s									
LOR				*e*R						
	comp=Z,70nm,22.0s									
MAJO	Matsushiro	49.79	72	⇓*e*P		P		03 26 43.8	-1.9	
MAJO				pmax		pmax				
	comp=Z,9.0nm,1.0s									
MAJO	Matsushiro	49.79	72	*e*P		P		03 26 44.0	-1.8	
	comp=Z,9.8nm,1.0s									
MAT	Matsushiro	49.79	72	P		P		03 26 41.9	-3.8	
MAT				S		S		03 33 29.8	-25	
MJAR	Matsushiro Arr	49.79	72	P		P		03 26 42.0	-3.7	
MJAR	Matsushiro Arr	49.79	72	P		P		03 26 42.0	-3.7	
	comp=Z,6.4nm,0.9s,baz=292,slow=9.5,SNR=13									
SMF	Signal de Mont	49.95	302	*e*P		P		03 26 47.1	+0.3	
VIVF	Saint-Julien-l	49.99	300	*e*P		P		03 26 46.9	-0.3	
	comp=Z,16nm,1.0s									
ASAJ	Asahikawa	50.03	61	LR		LR		03 47 55.1		
	comp=Z,55nm,21.8s,baz=348,slow=36									
SSF	Saint Saulge	50.03	303	*e*P		P		03 26 46.5	-0.9	
KEST	Kesra	50.16	287	P		P		03 26 47.9	-0.7	
KEST	Kesra	50.16	287	P		P		03 26 47.9	-0.7	
	comp=Z,1.2nm,1.0s,baz=294,slow=3.1,SNR=3.9									
AVF	Avril sur Loir	50.22	303	*e*P		P		03 26 48.2	-0.6	
	comp=Z,38nm,1.1s									
BGF	Bois d'Agland	50.63	302	*e*P		P		03 26 51.1	-0.8	
	comp=Z,14nm,0.9s									
LASF	Ste Croix	50.81	299	*e*P		P		03 26 53.2	-0.1	
	comp=Z,47nm,1.3s									
TCF	Toulx Ste Croi	51.13	302	*e*P		P		03 26 55.4	-0.3	
	comp=Z,28nm,1.1s									
CAF	Calviac	51.70	301	*e*P		P		03 27 00.0	-0.1	
	comp=Z,26nm,1.2s									
LDF	La Druitiere	51.84	306	*e*P		P		03 27 01.2	+0.2	
RJF	Les Rejaudoux	51.93	301	*e*P		P		03 27 01.7	0.0	
	comp=Z,23nm,1.2s									
MTLF	Montolieu	52.19	299	*e*P		P		03 27 03.5	-0.1	
DAG	Danmarks Havn	52.28	343	⇑*i*P		P		03 27 03.5	-0.3	
DAG				pmax		pmax				
	comp=Z,10.0nm,0.9s									
DAG	Danmarks Havn	52.28	343	⇑*i*P		P		03 27 03.5	-0.3	
	comp=Z,12nm,0.9s									
GRR	Gorron	52.37	306	*e*P		P		03 27 03.9	-1.0	
	comp=Z,38nm,1.1s									
LFF	La Frestale	52.58	301	*e*P		P		03 27 06.3	-0.2	
	comp=Z,30nm,1.1s									
KMBO	Kilima Mbogo	52.62	229	P		P		03 27 06.9	-0.5	
	comp=Z,9.9nm,1.1s									
KMBO	Kilima Mbogo	52.62	229	P		P		03 27 07.1	-0.3	
	comp=Z,28nm,0.7s,baz=16,slow=7.8,SNR=5.6									
SGMF	Sait Gilles	53.48	306	*e*P		P		03 27 12.4	-0.7	
	comp=Z,38nm,1.0s									
ROSF	Rostrenen	53.90	306	*e*P		P		03 27 15.4	-0.8	
ETSF	Etsaut	54.23	299	*e*P		P		03 27 18.6	-0.2	
PETK	Petropavlovsk-	56.14	46	P		P		03 27 29.3	-3.0	
PETK				pmax		pmax				
	comp=Z,3.0nm,1.0s									
PETK				MLR		MLR				
	comp=Z,41nm,18.2s									
PETK	Petropavlovsk-	56.14	46	P		P		03 27 29.3	-3.0	
PETK	Petropavlovsk-	56.14	46	P		P		03 27 29.3	-3.0	
	comp=Z,3.1nm,1.0s,baz=284,slow=5.8,SNR=4.6									
PETK				LR		LR		03 52 51.1		
	comp=Z,41nm,18.2s,baz=109,slow=37									
ESDC	Sonseca Array	57.93	297	P		P		03 27 44.0	-1.2	
ESDC	Sonseca Array	57.93	297	P		P		03 27 44.0	-1.2	
	comp=Z,2.2nm,0.6s,baz=58,slow=7.3,SNR=19									
SUMG	Summit	58.74	341	*i* P		P		03 27 50.7	-0.1	
SUMG				pmax		pmax				
	comp=Z,8.0nm,0.8s									
SUMG	Summit	58.74	341	*e*P		P		03 27 50.5	-0.3	
	comp=Z,9.4nm,0.8s									
SUMG	Summit	58.74	341	*i* P		P		03 27 50.7	-0.1	
	comp=Z,7.7nm,0.8s									
TAM	Tamanrasset	59.43	275	P		P		03 27 54.6	-1.4	
TAM				pmax		pmax				
	comp=Z,3.0nm,0.9s									
TAM	Tamanrasset	59.43	275	P		P		03 27 54.6	-1.4	
	comp=Z,2.5nm,0.9s									
FX1	Attu Island--F	64.52	41	*e*P		P		03 28 26.7	-2.9	
FX1	Attu Island--F	64.52	41	P		P		03 28 26.5	-3.1	
	comp=Z,8.4nm,0.7s,baz=329,slow=3.3,SNR=14									
TORD	Torodi Ar. Bea	67.99	269	P		P		03 28 51.1	-1.3	
TORD	Torodi Ar. Bea	67.99	269	P		P		03 28 51.1	-1.3	
	comp=Z,12nm,0.7s,baz=47,slow=5.5,SNR=224									
COLD	Coldfoot	68.27	17	*e*P		P		03 28 51.6	-1.7	
	comp=Z,14nm,0.9s									
LSZ	Lusaka	69.26	228	*e*P		P		03 28 59.1	-1.3	
	comp=Z,12nm,1.2s									
INK	Inuvik	70.36	10	P		P		03 29 05.1	-1.2	
INK	Inuvik	70.36	10	P		P		03 29 05.1	-1.2	
	comp=Z,13nm,0.7s,baz=57,slow=17									
COLA	College	70.77	17	*e*P		P		03 29 06.9	-1.9	
COLA				pmax		pmax				
	comp=Z,62nm,0.9s									
COLA	College	70.77	17	*e*P		P		03 29 06.9	-1.9	
	comp=Z,62nm,0.9s									
ILAR	Eielson Array	71.07	17	P		P		03 29 08.3	-2.4	
ILAR	Eielson Array	71.07	17	P		P		03 29 08.3	-2.4	
	comp=Z,6.8nm,0.8s,baz=320,slow=5.0,SNR=96									
PMR	Palmer	73.21	20	*e*P		P		03 29 20.8	-2.7	
PMR				pmax		pmax				
	comp=Z,11nm,0.9s									
PMR	Palmer	73.21	20	*e*P		P		03 29 20.8	-2.7	
	comp=Z,10nm,0.9s									
SML	Sawmill	73.23	19	*e*P		P		03 29 21.7	-2.0	
SML				pmax		pmax				
	comp=Z,6.0nm,0.8s									
SML	Sawmill	73.23	19	*e*P		P		03 29 21.7	-2.0	
	comp=Z,6.0nm,0.8s									
FITZ	Fitzroy Crossi	75.13	129	P		P		03 29 31.6	-3.6	
FITZ	Fitzroy Crossi	75.13	129	P		P		03 29 31.6	-3.6	
	comp=Z,4.4nm,1.0s,baz=27,slow=4.5,SNR=2.1									
HYT	Haines Junctio	76.59	15	*e*P		P		03 29 42.3	-1.0	
DBIC	Dimbokro	77.04	268	P		P		03 29 45.6	-0.7	
DBIC	Dimbokro	77.04	268	P		P		03 29 45.6	-0.7	
	comp=Z,12nm,0.9s,baz=18,slow=8.8,SNR=8.0									
KIC	Kosan Boka	77.15	268	*e*P		P		03 29 45.3	-1.7	
	comp=Z,51nm,1.0s									
TIC	Toumodi	77.19	268	*e*P		P		03 29 45.7	-1.5	
	comp=Z,34nm,0.9s									
LIC	Lamto	77.46	268	*e*P		P		03 29 46.5	-2.2	
	comp=Z,14nm,0.6s									
LIC	Lamto	77.46	268	*e*P		P		03 29 47.1	-1.6	
	comp=Z,31nm,0.7s									
YKA	Yellowknife Ar	77.91	4	P		P		03 29 49.0	-1.4	
YKA	Yellowknife Ar	77.91	4	P		P		03 29 49.0	-1.4	
	comp=Z,9.0nm,0.7s,baz=349,slow=5.6,SNR=85									
SKAG	Skagway	78.28	15	*e*P		P		03 29 51.9	-0.6	
	comp=Z,26nm,1.4s									
SCHQ	Schefferville	79.97	338	P		P		03 30 00.6	-1.3	
SCHQ	Schefferville	79.97	338	P		P		03 30 00.6	-1.3	
	comp=Z,3.7nm,0.8s,baz=14,slow=8.3,SNR=3.6									
DLBC	Dease Lake	80.20	12	*e*P		P		03 30 01.6	-1.6	
BOSA	Boshof	81.62	222	P		P		03 30 09.4	-1.6	
BOSA	Boshof	81.62	222	P		P		03 30 09.4	-1.6	
	comp=Z,5.0nm,1.1s,baz=158,slow=6.0,SNR=3.4									
WRA	Warramunga Arr	81.89	124	P		P		03 30 08.7	-3.9	
WRA	Warramunga Arr	81.89	124	P		P		03 30 08.7	-3.9	
	comp=Z,5.5nm,0.8s,baz=322,slow=5.0,SNR=20									
ASAR	Alice Springs	84.35	127	P		P		03 30 21.6	-3.6	
ASAR	Alice Springs	84.35	127	P		P		03 30 21.6	-3.6	
	comp=Z,3.1nm,0.8s,baz=319,slow=5.2,SNR=20									
FFC	Flin Flon	85.86	358	*i* P		P		03 30 31.4	-1.0	
FFC	Flin Flon	85.86	358	*e*P		P		03 30 31.0	-1.4	
	comp=Z,7.4nm,1.0s									
BBB	Bella Bella	86.51	13	LR		LR		04 11 53.8		
	comp=Z,52nm,18.9s,baz=195,slow=37									
ULM	Lac du Bonnet	89.95	353	LR		LR		04 13 51.3		
	comp=Z,50nm,18.9s,baz=304,slow=37									
WALA	Waterton Lakes	91.34	5	*e*P		P		03 30 57.1	-1.7	
	comp=Z,0.1nm,1.0s									
NEW	Newport	91.86	7	*e*P		P		03 30 59.6	-1.4	
	comp=Z,3.7nm,0.8s									
BSMT	Bassoo Peak	92.48	6	*e*P		P		03 31 03.1	-1.1	
EGMT	Eagleton	92.58	2	*e*P		P		03 31 03.4	-1.1	
	comp=Z,7.6nm,1.2s									
SLMT	Seeley Lake	93.18	5	*e*P		P		03 31 05.5	-1.9	
CHMT	Chamberlain Mo	93.52	5	*e*P		P		03 31 07.1	-1.9	
HRY	Holter Researc	93.81	4	*e*P		P		03 31 09.2	-1.0	
DLMT	Dillon	95.11	5	*e*P		P		03 31 15.8	-0.4	
NVAR	Mina Array Bea	101.44	10	P		Pdif		03 31 41.8	-3.1	
NVAR	Mina Array Bea	101.44	10	P		Pdif		03 31 41.8	-3.1	
	comp=Z,0.1nm,0.5s,baz=339,slow=2.2,SNR=2.3									
CPUP	Villa Florida	137.40	273	PKP		PKPdf		03 37 14.3	-2.3	
CPUP	Villa Florida	137.40	273	PKP		PKPdf		03 37 14.3	-2.3	
	comp=Z,2.5nm,0.8s,baz=71,slow=2.9,SNR=6.0									
PLCA	Paso Flores	152.87	256	PKPbc		PKPbc		03 37 48.6	-1.3	
PLCA	Paso Flores	152.87	256	PKPbc		PKPbc		03 37 48.6	-1.3	
	comp=Z,5.1nm,0.9s,baz=102,slow=2.5,SNR=7.4									

IDC 28 03:26:09.4±4.8, 22°.52N×94°.33E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/25, mbtmp3.5/3, Error ellipse: s-maj=393.5km s-min=30.3km az=60.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	5.92	132	Pn	Pn		03 27 44.4	+6.1
	1.2nm,0.3s,baz=309,slow=12,SNR=4.1							
CMAR				Lg	Lg		03 29 24.7	
	0.6nm,0.3s,baz=286,slow=7.3,SNR=4.9							
MKAR	Makanchi Array	26.10	341	P	P		03 31 44.9	0.0
	0.4nm,0.6s,baz=160,slow=9.2,SNR=3.4							
WRA	Warramunga Arr	57.51	134	P	P		03 36 00.7	0.0
	0.4nm,0.3s,baz=321,slow=7.5,SNR=3.1							
ASAR	Alice Springs	59.90	138	P	P		03 36 17.4	-0.1
	0.4nm,0.5s,baz=318,slow=6.9,SNR=7.5							

*ISCJB **28** 03:26:12.6±0.3, 13°.52N±0°.07×88°.20W±0°.08, h210km±4km, mb3.5/11, Error ellipse: s-maj=16.5km s-min=4.8km az=44.7*

*CASC **28** 03:26:12.3±3.1, 13°.39N×88°.28W, h208km±17km, MD3.9*

*IDC **28** 03:26:13.9±1.5, 13°.61N×88°.05W, h206km±16km, mb3.3/11, mb1 3.5/13, mb1mx3.4/25, mbtmp3.3/13, Error ellipse: s-maj=30.4km s-min=10.3km az=65.0*

ISC 28 03:26:13.6±0.7, 13°.55N±0°.08×88°.16W±0°.08, h205km±6km, n34, σ1°39/41, mb3.8/11, 2C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BLLM	Bellamira	0.13	213	*e*P		Pn	03 26 39.3	-1.2
VSM	San Miguel	0.16	221	*e*P		Pn	03 26 40.1	-0.7
CNCH	Conchagua	0.42	130	*e*P		Pn	03 26 41.0	-0.1
SNVI	San Vicente	0.66	275	*e*P		Pn	03 26 41.3	-0.7
SNVI				*e*S		S	03 27 04.3	+0.2
LBRS	Las Brisas	0.87	282	*e*P		Pn	03 26 42.1	-1.0
LFRS	El Faro	0.88	275	*e*P		Pn	03 26 41.6	-1.6
LFU	La Fuente	0.94	282	*e*P		Pn	03 26 42.4	-1.2
BOQS	Boqueron	1.10	280	*e*P		Pn	03 26 43.4	-1.4
BOQS				*e*S		S	03 27 10.5	+

FITZ	**Fitzroy Crossi**	**23.55**	**179**	P	P	04 12 59.8	0.0		
	3.6nm,0.7s,baz=341,slow=22,SNR=11								
WRA	**Warramunga Arr**	**26.92**	**161**	P	P	04 13 30.7	+0.7		
	0.4nm,0.8s,baz=342,slow=9.4,SNR=2.5								
ASAR	**Alice Springs**	**30.29**	**164**	P	P	04 13 58.8	-1.0		
	0.2nm,0.4s,baz=315,slow=31,SNR=2.9								
ASAR				PcP	PcP	04 16 53.8	+0.5		
	0.5nm,0.6s,baz=348,slow=2.6,SNR=5.6								
KSRS	**Korea Array**	**31.81**	**4**	P	P	04 14 12.5	-0.4		
	0.4nm,0.3s,baz=187,slow=9.8,SNR=4.7								
USRK	**Ussuriysk Arra**	**38.91**	**8**	P	P	04 15 13.1	+0.1		
	1.0nm,0.6s,baz=240,slow=11,SNR=3.4								
SONM	**Songino Array**	**45.07**	**342**	P	P	04 16 02.9	+0.2		
	0.2nm,0.3s,baz=138,slow=8.9,SNR=3.3								
SONM				PcP	PcP	04 17 39.3	+0.7		
	0.4nm,0.5s,baz=126,slow=3.7,SNR=3.2								
PETK	**Petropavlovsk-**	**54.31**	**23**	P	P	04 17 12.2	+0.3		
	1.1nm,0.6s,baz=201,slow=7.7,SNR=3.4								
MKAR	**Makanchi Array**	**55.17**	**325**	P	P	04 17 18.3	+0.1		
	0.6nm,0.4s,baz=116,slow=7.5,SNR=12								
MKAR				PcP	PcP	04 18 15.4	-0.4		
	0.4nm,0.5s,baz=148,slow=3.2,SNR=5.1								
ILAR	**Eielson Array**	**84.08**	**26**	P	P	04 20 12.4	-1.2		
	0.3nm,0.4s,baz=243,slow=4.6,SNR=7.7								
BRTR	**Keskin Array B**	**87.68**	**310**	P	P	04 20 31.7	-0.2		
	0.3nm,0.4s,baz=102,slow=2.0,SNR=2.7								
ARCES	**ARCESS Array B**	**88.19**	**340**	P	P	04 20 32.6	-0.9		
	1.7nm,0.7s,baz=64,slow=5.5,SNR=3.7								
FINES	**FINESS Array B**	**89.49**	**332**	P	P	04 20 38.4	-1.3		
	0.6nm,0.5s,baz=61,slow=6.5,SNR=3.0								
TORD	**Torodi Ar. Bea**	**120.90**	**289**	PKP	PKPdf	04 26 34.7	+0.2		
	0.1nm,0.3s,baz=45,slow=1.8,SNR=9.5								

IDC 28 04:59:19.7±2.1, 53°.64N×88°.02E, h0km, mb1 2.8/2, mb1mx2.8/29, mbtmp2.8/2, ML2.8/2, Error ellipse: s-maj=19.8km s-min=6.0km az=98.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.92**	**280**	*i*		05 11 00.0	
	baz=98,slow=320,SNR=15						
ZALV	**Zalesovo Beam**	**1.92**	**280**	Pn	Pn	04 59 53.8	+0.1
	0.4nm,0.3s,baz=100,slow=15,SNR=7.1						
ZALV				Lg	Lg	05 00 20.4	
	4.0nm,0.3s,baz=111,slow=26,SNR=19						
ZALV				Rg	Rg	05 00 27.7	
	5.5nm,0.5s,baz=98,slow=31,SNR=8.0						
KURBB	**Kurchatov Arra**	**6.58**	**246**	Pn	Pn	05 00 58.3	+0.7
	0.1nm,0.3s,baz=61,slow=14,SNR=6.1						
KURBB				Sn	Sn	05 02 13.3	0.0
	0.1nm,0.3s,baz=33,slow=16,SNR=4.3						
KURBB				Lg	Lg	05 02 46.5	
	0.0nm,0.3s,baz=135,slow=33,SNR=8.9						
MKAR	**Makanchi Array**	**7.78**	**210**	Pn	Pn	05 01 15.1	+1.0
	0.2nm,0.3s,baz=31,slow=13,SNR=6.6						
MKAR				Sn	Sn	05 02 42.5	-0.4
	0.1nm,0.3s,baz=30,slow=24,SNR=5.4						
MKAR				Lg	Lg	05 03 25.2	
	0.1nm,0.3s,baz=38,slow=31,SNR=7.5						

IDC 28 05:08:39.3±2.0, 53°.40N×87°.45E, h0km, mb1 2.8/2, mb1mx2.7/29, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=20.1km s-min=5.1km az=108.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.66**	**290**	*i*		05 18 50.0	
	baz=108,slow=314,SNR=2.9						
ZALV	**Zalesovo Beam**	**1.66**	**290**	Pg	Pn	05 09 08.7	-0.9
	0.9nm,0.3s,baz=111,slow=14,SNR=8.2						
ZALV				Lg	Lg	05 09 32.2	
	0.6nm,0.3s,baz=105,slow=26,SNR=3.2						
ZALV				Rg	Rg	05 09 41.0	
	0.8nm,0.3s,baz=96,slow=28,SNR=3.6						
KURBB	**Kurchatov Arra**	**6.17**	**247**	Pn	Pn	05 10 12.1	+0.6
	0.1nm,0.3s,baz=64,slow=13,SNR=4.8						
MKAR	**Makanchi Array**	**7.40**	**209**	Pn	Pn	05 10 29.8	+1.3
	0.1nm,0.3s,baz=30,slow=14,SNR=5.5						

IDC 28 05:09:09.4±6.0, 9°.80N×92°.80E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/26, mbtmp3.5/5, Error ellipse: s-maj=303.2km s-min=24.0km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.94**	**348**	P	P	05 16 29.4	+0.8
	0.4nm,0.7s,baz=156,slow=10,SNR=3.9						
KURBB	**Kurchatov Arra**	**42.37**	**347**	P	P	05 17 04.9	-0.5
	0.4nm,0.8s,baz=163,slow=7.4,SNR=4.2						
WRA	**Warramunga Arr**	**50.46**	**126**	P	P	05 18 09.6	+0.2
	0.4nm,0.6s,baz=302,slow=9.1,SNR=4.6						
ASAR	**Alice Springs**	**52.16**	**130**	P	P	05 18 22.1	0.0
	1.3nm,0.9s,baz=313,slow=7.5,SNR=7.9						
ILAR	**Eielson Array**	**93.46**	**22**	P	P	05 22 25.5	-1.2
	0.1nm,0.5s,baz=309,slow=5.7,SNR=3.2						

IDC ***28*** *05:10:55.8±0.6, 10°.52N×93°.96E, h0km, mb4.1/23, mb1 4.2/25, mb1mx4.1/35, mbtmp4.0/25, ML4.0/2, Error ellipse: s-maj=22.7km s-min=13.6km az=51.0*

ISCJB ***28*** *05:10:56.7±0.4, 10°.52N±0°.07×94°.05E±0°.08, h19km, mb4.1/29, Error ellipse: s-maj=13.1km s-min=8.5km az=145.9*

NEIC ***28*** *05:10:57.1±0.3, 10°.50N×93°.98E, h10km, mb4.4/6, Error ellipse: s-maj=11.5km s-min=7.0km az=59.0*

ISC 28 05:10:58.8±0.5, 10°.53N±0°.08×94°.0E±0°.1, h19km, n64, σ0s95/69, mb4.2/29, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.08**	**147**	Pn	**Pn**	**05 13 08.3**	**-0.9**
PSI	**Prapat**	**9.08**	**147**	Pn	**Pn**	**05 13 08.3**	**-0.9**
	0.8nm,0.3s,baz=162,slow=20,SNR=2.0						
CMAR	**Chiang Mai Arr**	**9.21**	**31**	Pn	**Pn**	**05 13 11.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**9.21**	**31**	Pn	**Pn**	**05 13 11.2**	**+0.4**
	0.5nm,0.3s,baz=216,slow=15,SNR=5.2						
LSA	**Lhasa**	**19.27**	**352**	*eP*	**P**	**05 15 23.0**	**+0.1**
	32nm,1.2s						
ENH	**Enshi**	**24.36**	**34**	*eP*	**P**	**05 16 15.0**	**-0.8**
	31nm,1.3s						
AAK	**Ala-Archa**	**36.25**	**335**	*eP*	**P**	**05 18 00.4**	**-0.7**
	13nm,1.3s						
AAK	**Ala-Archa**	**36.25**	**335**	P	**P**	**05 18 00.6**	**-0.4**
	1.4nm,0.3s,baz=191,slow=5.2,SNR=3.4						
EKS2	**Erkin-Say**	**36.57**	**335**	*eP*	**P**	**05 18 02.9**	**-0.8**
	5.6nm,1.0s						
MKAR	**Makanchi Array**	**37.49**	**347**	P	**P**	**05 18 11.4**	**0.0**
MKAR	**Makanchi Array**	**37.49**	**347**	P	**P**	**05 18 11.4**	**0.0**
	2.6nm,0.6s,baz=163,slow=8.0,SNR=24						
KKAR	**Karatay Array**	**38.37**	**332**	*eP*	**P**	**05 18 17.6**	**-1.2**
	8.3nm,1.1s						
SONM	**Songino Array**	**38.62**	**13**	P	**P**	**05 18 20.8**	**-0.2**
SONM	**Songino Array**	**38.62**	**13**	P	**P**	**05 18 20.8**	**-0.2**
	0.7nm,0.6s,baz=200,slow=8.6,SNR=4.4						
KSAR	**Wonju Array Be**	**40.55**	**43**	P	**P**	**05 18 36.3**	**-0.7**
KSRS	**Korea Array**	**40.58**	**43**	P	**P**	**05 18 36.3**	**-0.9**
	1.0nm,0.7s,baz=251,slow=7.6,SNR=5.5						
KURBB	**Kurchatov Arra**	**41.97**	**345**	P	**P**	**05 18 48.6**	**+0.1**
	1.8nm,0.7s,baz=162,slow=7.6,SNR=16						
KURK	**Kurchatov**	**42.03**	**345**	P	**P**	**05 18 48.6**	**-0.4**
ZALV	**Zalesovo Beam**	**43.93**	**352**	P	**P**	**05 19 04.4**	**0.0**
ZALV	**Zalesovo Beam**	**43.93**	**352**	P	**P**	**05 19 04.4**	**0.0**
	2.5nm,0.6s,baz=178,slow=8.9,SNR=8.7						
BVAR	**Borovoye Array**	**46.46**	**340**	P	**P**	**05 19 24.0**	**-0.5**
BVAR				PcP	**PcP**	**05 21 00.1**	**+1.2**
BVAR	**Borovoye Array**	**46.46**	**340**	P	**P**	**05 19 24.0**	**-0.5**
	0.7nm,0.6s,baz=151,slow=6.8,SNR=4.2						
BVAR				PcP	**PcP**	**05 21 00.1**	**+1.2**
	0.8nm,0.6s,baz=140,slow=4.7,SNR=2.6						
MJAR	**Matsushiro Arr**	**47.50**	**50**	P	**P**	**05 19 34.8**	**+1.8**
MJAR				PcP	**PcP**	**05 21 03.5**	**+0.5**
MJAR	**Matsushiro Arr**	**47.50**	**50**	P	**P**	**05 19 34.8**	**+1.8**
	0.4nm,0.3s,baz=240,slow=9.7,SNR=3.2						
MJAR				PcP	**PcP**	**05 21 03.5**	**+0.5**
	1.0nm,0.5s,baz=268,slow=1.5,SNR=5.5						
ABKAR	**Akbulak array**	**47.88**	**330**	*eP*	**P**	**05 19 35.4**	**-0.2**
	1.6nm,0.6s						
AKTO	**Aktyubinsk**	**49.59**	**330**	P	**P**	**05 19 48.5**	**-0.2**
AKTO	**Aktyubinsk**	**49.59**	**330**	P	**P**	**05 19 48.5**	**-0.2**
	0.9nm,0.6s,baz=144,slow=10,SNR=4.7						
WRA	**Warramunga Arr**	**49.91**	**127**	P	**P**	**05 19 51.8**	**+0.1**
WRA	**Warramunga Arr**	**49.91**	**127**	P	**P**	**05 19 51.8**	**+0.1**
	2.1nm,0.6s,baz=304,slow=9.0,SNR=10						
ASAR	**Alice Springs**	**51.72**	**132**	P	**P**	**05 20 05.5**	**+0.2**
ASAR	**Alice Springs**	**51.72**	**132**	P	**P**	**05 20 05.4**	**+0.2**
	1.9nm,0.7s,baz=310,slow=6.9,SNR=15						
GNI	**Garni**	**52.54**	**313**	P	**P**	**05 20 09.9**	**-1.4**
GNI	**Garni**	**52.54**	**313**	P	**P**	**05 20 09.9**	**-1.4**
	3.2nm,0.3s,baz=27,slow=14,SNR=2.4						
BRTR	**Keskin Array B**	**60.64**	**310**	P	**P**	**05 21 08.3**	**-0.6**
BRTR	**Keskin Array B**	**60.64**	**310**	P	**P**	**05 21 08.3**	**-0.6**
	2.5nm,0.8s,baz=122,slow=7.1,SNR=12						
STKA	**Stephens Creek**	**62.02**	**135**	P	**P**	**05 21 18.3**	**+0.1**
STKA	**Stephens Creek**	**62.02**	**135**	P	**P**	**05 21 18.3**	**+0.1**
	2.8nm,0.9s,baz=310,slow=7.9,SNR=2.3						
MLR	**Muntele Rosu**	**67.22**	**315**	P	**P**	**05 21 52.8**	**+0.7**
MLR	**Muntele Rosu**	**67.22**	**315**	P	**P**	**05 21 52.8**	**+0.7**
	0.3nm,0.5s,baz=153,slow=11,SNR=3.1						
FINES	**FINESS Array B**	**70.33**	**332**	P	**P**	**05 22 10.8**	**-0.2**
FINES	**FINESS Array B**	**70.33**	**332**	P	**P**	**05 22 10.8**	**-0.2**
	0.5nm,0.3s,baz=119,slow=11,SNR=3.4						
ARCES	**ARCESS Array B**	**72.75**	**340**	P	**P**	**05 22 25.9**	**+0.4**
ARCES	**ARCESS Array B**	**72.75**	**340**	P	**P**	**05 22 25.9**	**+0.4**
	3.6nm,0.9s,baz=54,slow=6.2,SNR=4.1						
GERES	**GERESS Array B**	**75.79**	**318**	P	**P**	**05 22 43.5**	**-0.3**
GERES	**GERESS Array B**	**75.79**	**318**	P	**P**	**05 22 43.5**	**-0.3**
	0.6nm,0.6s,baz=86,slow=5.5,SNR=7.0						
HFS	**Hagfors**	**76.13**	**329**	P	**P**	**05 22 44.3**	**-0.9**
HFS	**Hagfors**	**76.13**	**329**	P	**P**	**05 22 44.3**	**-0.9**
	1.2nm,0.8s,baz=197,slow=40,SNR=2.7						
KEST	**Kesra**	**79.65**	**305**	P	**P**	**05 23 04.2**	**-1.3**
KEST	**Kesra**	**79.65**	**305**	P	**P**	**05 23 04.2**	**-1.3**
	1.2nm,0.8s,baz=66,slow=9.0,SNR=3.8						
LPG	**La Plagne**	**80.68**	**315**	*eP*	**P**	**05 23 11.8**	**+0.6**
LPL	**La Plagne**	**80.69**	**315**	*eP*	**P**	**05 23 11.8**	**+0.7**
	4.9nm,0.6s						
MBDF	**Montbardon**	**80.74**	**314**	*eP*	P	05 23 14.6	+3.3
	18nm,1.3s						
ORIF	**Oris-en-Rattie**	**81.36**	**314**	*eP*	**P**	**05 23 17.4**	**+2.9**
EKA	**Eskdalemuir Ar**	**85.49**	**325**	P	**P**	**05 23 36.1**	**+0.7**
EKA	**Eskdalemuir Ar**	**85.49**	**325**	P	**P**	**05 23 36.1**	**+0.7**
	1.5nm,0.7s,baz=96,slow=6.6,SNR=3.3						
ODZ	**Otahuhu Downs**	**88.09**	**136**	*eP*	**P**	**05 23 47.6**	**-0.6**
TORD	**Torodi Ar. Bea**	**89.89**	**283**	P	**P**	**05 23 57.6**	**+0.2**
TORD				PP	**PP**	**05 27 31.8**	**+1.7**
TORD	**Torodi Ar. Bea**	**89.89**	**283**	P	**P**	**05 23 57.6**	**+0.2**
	0.9nm,0.9s,baz=88,slow=2.3,SNR=5.1						
TORD				PP	**PP**	**05 27 31.8**	**+1.7**
	0.5nm,0.9s,baz=66,slow=8.8,SNR=3.2						
ILAR	**Eielson Array**	**92.34**	**22**	P	**P**	**05 24 06.4**	**-1.4**
ILAR	**Eielson Array**	**92.34**	**22**	P	**P**	**05 24 06.4**	**-1.4**
	0.4nm,0.7s,baz=297,slow=4.4,SNR=7.6						
TXAR	**Lajitas Array**	**136.85**	**23**	PKP	**PKPdf**	**05 30 23.4**	**+2.3**
TXAR	**Lajitas Array**	**136.85**	**23**	PKP	**PKPdf**	**05 30 23.4**	**+2.3**
	0.15s,baz=118,slow=1.5,SNR=2.9						
PLCA	**Paso Flores**	**146.97**	**202**	PKPbc	**PKPab**	**05 30 41.9**	**-0.2**
PLCA	**Paso Flores**	**146.97**	**202**	PKPbc	**PKPab**	**05 30 41.9**	**-0.2**
	2.9nm,0.8s,baz=194,slow=6.4,SNR=4.2						

SZGRF ***28*** *05:14:54.5, 10°.19N×95°.17E, h24km, mb4.9, MS4.4, Andaman Islands, India, region*

IDC ***28*** *05:14:56.2±0.3, 10°.60N×94°.11E, h0km, mb4.6/40, mb1 4.6/42, mb1mx4.6/43, mbtmp4.5/42, ML3.9/2, MS4.4/35, Ms1 4.4/35, ms1mx4.4/43, Error ellipse: s-maj=13.1km s-min=9.3km az=54.0*

ISCJB ***28*** *05:14:57.2±0.8, 10°.59N±0°.02×94°.11E±0°.02, h18km±5km, mb4.9/164, MS4.5/68, Error ellipse: s-maj=4.1km s-min=3.5km az=43.5*

NEIC ***28*** *05:14:57.5±0.2, 10°.59N×94°.12E, h10km, mb5.1/31, Error ellipse: s-maj=5.5km s-min=4.0km az=49.0*

BJI ***28*** *05:14:57.4, 10°.75N×93°.97E, h10km, mB5.2/39, mb4.8/52, Ms4.9/63, Ms7 4.6/58*

DJA ***28*** *05:14:59.6±0.3, 11°.N±3°×9°.4E±°, h10km, M5.0/17, mB5.7/9, mb5.0/17, MLv4.8/1, Mw(mB)5.2/9*

TEH ***28*** *05:14:59.0, 10°.76N×94°.09E, h10km, ML5.3*

MOS ***28*** *05:14:59.1±1.0, 10°.62N×94°.15E, h33km, mb5.3/42, MS4.6/14, Error ellipse: s-maj=7.9km s-min=4.1km az=114.7*

GCMT ***28*** *05:15:00.4±0.2, 10°.64N×94°.23E, h12km, MW5.2, Moment Tensor Solution. s59,c87; s88,c154; Moment tensor: Scale 10^16Nm; Mrr=7.55±.12; Mθθ=5.06±.12; Mϕϕ=2.49±.14; Mrθ=1.22±.37; Mϕθ=2.86±.10; Mϕr=0.44±.40; Best double couple: Mo=7.40000×10^16 NP1:ϕ=55.00000°, δ=40.00000°, λ=-93.00000°. NP2:ϕ=239.00000°, δ=50.00000°, λ=-87.00000°. Principal axes: T 7.0200, Plg5.0000°, Azm327.0000°; N 0.6500, Plg2.0000°, Azm57.0000°; P -7.6700, Plg85.0000°, Azm169.0000°; Data Used: IU II IC G N,*

BKK ***28*** *05:15:08.0±0.6, 11°.N±3°×9°.4E±°, h71km±7km, M5.0/25, mB5.5/13, mb5.0/25, MLv5.1/3, Mw(mB)4.9/13*

ISC 28 05:14:58.6±0.3, 10°.61N±0°.03×94°.12E±0°.03, h15km±1km, h15km:pP-P, n535, σ1s50/605, mb5.0/164, MS4.5/71, 65C-25D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.70**	**308**	*eP*	Pn	05 15 27.9	+0.2
PBA				eS	Sb	05 15 51.3	+0.2
DGPR	**DIGLIPUR**	**2.80**	**336**	*eP*	**Pn**	**05 15 44.3**	**+1.4**
DGPR				eS	**Sn**	**05 16 17.4**	**+1.0**
CMBY	**CAMPBELL BAY**	**3.58**	**183**	*eP*	**Pn**	**05 15 53.2**	**-0.4**
CMBY				eS	**Sn**	**05 16 35.7**	**+0.1**
PKDT	**Phuket**	**4.96**	**123**	P	Pb	05 16 19.9	-5.3
BSI	**Banda Aceh**	**5.21**	**167**	P	**Pn**	**05 16 14.3**	**-1.7**
	186nm,1.1s,5μm0.8nm						
SKLT	**Songkhla**	**7.28**	**117**	P	Pn	05 16 49.6	+5.2
SKLT	**Songkhla**	**7.28**	**117**	P	Pn	05 16 50.9	+6.5
	104nm,1.8s,1.3nm						
NAYO	**Nakonayok**	**7.94**	**62**	P	Pn	05 16 59.5	+6.0
	77nm,1.3s,2μm0.2nm						
KULM	**Kulim**	**8.36**	**129**	P	**Pn**	**05 16 58.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**9.09**	**30**	Pn	**Pn**	**05 17 10.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**9.09**	**30**	Pn	**Pn**	**05 17 10.1**	**+0.8**
	0.4nm,0.3s,baz=216,slow=15,SNR=5.9						
CMAR				LR	LR	05 21 11.2	
	comp=Z,457nm,19.3s,baz=213,slow=41						
PSI	**Prapat**	**9.11**	**148**	Pn	**Pn**	**05 17 11.1**	**+1.5**
PSI	**Prapat**	**9.11**	**148**	Pn	**Pn**	**05 17 11.1**	**+1.5**
	0.8nm,0.3s,baz=325,slow=18,SNR=2.8						
PSI				LR	LR	05 21 22.0	
	comp=Z,8μm,18.4s,baz=295,slow=42						
IPM	**Ipoh**	**9.16**	**131**	*eP*	**Pn**	**05 17 07.7**	**-2.7**
IPM	**Ipoh**	**9.16**	**131**	P	**Pn**	**05 17 08.8**	**-1.5**
IPM	**Ipoh**	**9.16**	**131**	P	Pn	05 17 03.9	-6.4
CHTO	**Chiang Mai**	**9.40**	**29**	*eP*	**Pn**	**05 17 13.9**	**+0.4**
CHTO	**Chiang Mai**	**9.40**	**29**	*eP*	**Pn**	**05 17 13.9**	**+0.4**
CHTO	**Chiang Mai**	**9.40**	**29**	P	**Pn**	**05 17 11.8**	**-1.7**
	29nm,1.6s,820nm						
CHTO	**Chiang Mai**	**9.40**	**29**	P	Pn	05 17 27.9	+14
CMMT	**Chiang Mai**	**9.40**	**29**	P	**Pn**	**05 17 14.1**	**+0.6**
	26nm,1.5s						
CMMT	**Chiang Mai**	**9.40**	**29**	P	Pn	05 17 27.7	+14
LAMP	**Lampang**	**9.51**	**34**	P	Pn	05 17 22.6	+7.6
	8.9nm,1.0s,137nm						
LOEI	**Loei**	**9.75**	**45**	P	Pn	05 17 24.4	+6.0
	102nm,0.8s,2μm						
KTGM	**Kuala Trenggan**	**10.36**	**120**	P	**Pn**	**05 17 28.7**	**+2.0**
CMAI	**Chiengmai2**	**10.42**	**27**	P	Pn	05 17 35.7	+8.1
	90nm,1.1s,2μm						
FRIM	**Kepong**	**10.45**	**134**	P	Pn	05 17 32.4	+4.5
SKNT	**Sakolnakorn**	**11.48**	**55**	P	Pn	05 17 48.6	+6.5
	52nm,1.4s						
UBPT	**Khong Chiam**	**12.00**	**66**	P	**Pn**	**05 17 50.7**	**+1.5**
	52nm,2.1s						
UBPT	**Khong Chiam**	**12.00**	**66**	P	Pn	05 17 56.7	+7.5
	113nm,2.0s						
PANO	**Nakornpanom**	**12.08**	**56**	P	P	05 17 57.6	-5.5
	84nm,1.3s,1μm						
KGM	**Kluang**	**12.51**	**132**	P	Pn	05 17 52.2	-3.9
VIS	**Vishakhapatnam**	**12.62**	**305**	*eP*	**Pn**	**05 17 58.6**	**+1.0**
VIS				*i* P	P	05 17 59.3	-10
VIS				*i* x	x	05 20 12.5	
PPI	**Padang Panjang**	**12.65**	**150**	P	**Pn**	**05 17 58.4**	**+0.4**
	29nm,1.1s						
MYKOM	**Kota Tinggi**	**13.05**	**132**	P	**Pn**	**05 18 02.6**	**-0.9**
MYKOM	**Kota Tinggi**	**13.05**	**132**	P	**Pn**	**05 18 01.7**	**-1.8**
	34nm,1.2s						
SHL	**Shillong**	**15.03**	**352**	*eP*	**Pn**	**05 18 29.5**	**-1.1**
SHL				*ex*	x	05 23 16.5	

BOK	**Bokaro**	**15.28**	**330**	*eP*	**Pn**	**05 18 33.6**	**-0.2**		
MASI	**Maura Aman, Be**	**15.88**	**149**	P	**P**	**05 18 44.1**	**-1.2**		
HYB	**Hyderabad**	**16.54**	**296**	*i* P	**P**	**05 18 54.0**	**+1.3**		
	140nm,1.0s								
HYB				*eS*	**Sn**	**05 21 56.0**	**+2.4**		
HYB	**Hyderabad**	**16.54**	**296**	*eP*	**Pn**	**05 18 50.9**	**+0.7**		
HYB				AMB	AMB	05 19 03.3			
	comp=Z,124nm,0.8s								
KMI	**Kunming**	**16.59**	**28**	P	**P**	**05 18 53.0**	**-0.4**		
KMI				pP	**pP**	**05 18 55.0**	**-2.8**		
KMI				sP	**sP**	**05 18 56.3**	**-3.5**		
KMI				PP	**PnPn**	**05 19 05.8**	**+5.4**		
KMI				S	**Sn**	**05 21 55.8**	**+0.6**		
KMI				sS	**S**	**05 22 00.3**	**-6.4**		
KMI				SS	**SnSn**	**05 22 16.8**	**+8.1**		
KMI				pmax	pmax				
	comp=Z,9.0nm,0.9s								
KMI				pmax	pmax				
	comp=Z,290nm,3.7s								
KMI				LR	LR				
	comp=N,3μm,11.4s								
KMI				LR	LR				
	comp=E,2μm,10.0s								
KMI				LR	LR				
	comp=Z,2μm,12.2s								
TRD	**Trivandrum**	**17.05**	**264**	*ex*	x	05 19 48.4			
QIZ	**Qiongzhong**	**17.34**	**59**	P	**P**	**05 19 01.0**	**-0.6**		
QIZ				S	**Sn**	**05 22 14.3**	**+1.1**		
QIZ				PcS	**PcS**	**05 27 20.3**	**+1.5**		
QIZ				pmax	pmax				
	comp=Z,29nm,2.2s								
QIZ				LR	LR				
	comp=N,3μm,9.1s								
QIZ				LR	LR				
	comp=E,1μm,8.7s								
QIZ				LR	LR				
	comp=Z,4μm,9.5s								
QIZ	**Qiongzhong**	**17.34**	**59**	*ePn*	**Pn**	**05 19 00.8**	**+0.6**		
	comp=Z,181nm,1.6s								
PPBI	**Pangkal Pinang**	**17.44**	**136**	P	P	05 19 12.7	+10		
JBP	**Jabalpur**	**18.38**	**315**	*i* P	**Pn**	**05 19 14.2**	**+1.2**		
JBP				*ex*	x	05 23 00.9			
KSM	**Kuching**	**18.47**	**118**	P	**P**	**05 19 13.2**	**-0.8**		
	comp=Z,154nm,1.7s								
KSM	**Kuching**	**18.47**	**118**	P	**Pn**	**05 19 15.1**	**+1.0**		
LSA	**Lhasa**	**19.19**	**352**	P	**P**	**05 19 22.5**	**+0.1**		
LSA				S	**Sn**	**05 22 53.8**	**-4.6**		
LSA				LR	LR				
	comp=N,700nm,26.3s								
LSA				LR	LR				
	comp=E,1μm,23.2s								
LSA				LR	LR				
	comp=Z,1μm,27.5s								
LSA	**Lhasa**	**19.19**	**352**	*eP*	**P**	**05 19 21.7**	**-0.7**		
LSA				pmax	pmax				
	comp=Z,184nm,1.3s								
LSA	**Lhasa**	**19.19**	**352**	*eP*	**P**	**05 19 21.7**	**-0.7**		
	comp=Z,184nm,1.3s								
SBUM	**Sibu**	**19.72**	**113**	P	**P**	**05 19 23.9**	**-3.8**		
SBUM	**Sibu**	**19.72**	**113**	P	**Pn**	**05 19 30.6**	**+1.4**		
	comp=Z,40nm,1.4s,comp=Z,1μm								
GYA	**Guiyang**	**19.72**	**35**	*iP*	**Pn**	**05 19 28.8**	**-0.5**		
GYA				PP	**PnPn**	**05 19 48.5**	**+5.3**		
GYA				S	**S**	**05 23 03.5**	**-6.4**		
GYA				SS	**SnSn**	**05 23 33.3**	**+7.9**		
GYA				pmax	pmax				
	comp=Z,50nm,1.0s								
GYA				pmax	pmax				
	comp=Z,300nm,5.9s								
GYA				LR	LR				
	comp=N,1μm,14.9s								
GYA				LR	LR				
	comp=E,980nm,10.6s								
GYA				LR	LR				
	comp=Z,1μm,13.4s								
STKI	**Sintang**	**20.19**	**120**	P	Pn	05 19 42.1	+7.3		
BTM	**Bintulu**	**20.21**	**110**	P	Pn	05 19 35.1	+0.1		
BHPL	**Bhopal**	**20.29**	**310**	*eP*	Pn	05 19 36.7	+0.8		
BHPL				AMB	AMB	05 19 42.6			
	comp=Z,104nm,2.2s								
KAD	**Karad**	**20.45**	**291**	*i* x	x	05 19 40.8			
POO	**Poona**	**21.12**	**294**	*i* P	**P**	**05 19 41.0**	**-2.0**		
	comp=Z,100nm,1.0s		

comp=Z,2µm,10.6s
WHN Wuhan 27.34 41 ⇓P **P** **05 20 43.8 +0.8**
WHN S S 05 25 32.0 +10
WHN LR LR
comp=N,3µm,10.6s
WHN LR LR
comp=E,2µm,9.2s
WHN LR LR
comp=Z,3µm,13.0s
DGAR Diego Garcia 28.03 231 *e*P **P** **05 20 49.8 +0.5**
YULB Yu-li 28.87 60 *e*P **P** **05 20 57.9 +1.1**
comp=Z,7.0nm,0.8s
TTSI Tana Toraja 28.96 117 P P 05 21 05.7 +8.0
GTA Gaotai 29.13 9 ⇑P **P** **05 21 00.0 +0.9**
GTA pP **pP** **05 21 04.0 +0.3**
GTA S **S** **05 25 53.8 +3.2**
GTA sS **sS** **05 26 00.5 +2.1**
GTA pmax pmax
comp=Z,18nm,1.4s
GTA pmax pmax
comp=Z,210nm,4.3s
GTA LR LR
comp=N,560nm,17.6s
GTA LR LR
comp=E,360nm,18.3s
GTA LR LR
comp=Z,900nm,21.6s
KAPI Kappang 29.88 120 P **P** **05 21 06.3 +0.5**
KAPI Kappang 29.88 120 P **P** **05 21 06.3 +0.5**
comp=Z,4.8nm,0.4s,baz=141,slow=17,SNR=3.5
KAPI LR LR 05 33 08.4
comp=Z,1µm,19.4s,baz=272,slow=37
BKSI Bulukumba 30.35 120 P P 05 21 13.5 +3.5
comp=Z,37nm,1.4s
GTOI Gorontalo 30.38 107 P P 05 21 16.8 +6.5
comp=Z,76nm,1.5s,comp=Z,2µm
BSSI Bau Bau, Buton 31.09 121 P **P** **05 21 17.4 +0.8**
comp=Z,64nm,1.3s
NJ2 Nanjing 31.26 43 *e*P **P** **05 21 19.0 +1.2**
NJ2 S **S** **05 26 24.0 0.0**
NJ2 sS **sS** **05 26 30.5 -1.2**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 LR LR
comp=N,970nm,19.6s
NJ2 LR LR
comp=E,900nm,20.2s
NJ2 LR LR
comp=Z,970nm,19.6s
DAV Davao City (W) 31.28 94 LR LR 05 35 13.1
comp=Z,640nm,18.7s,baz=214,slow=39
TIY Taiyuan 31.61 28 *e*P **P** **05 21 20.0 -1.0**
TIY S **S** **05 26 31.3 +1.7**
TIY LR LR
comp=N,1µm,9.2s
TIY LR LR
comp=E,850nm,10.2s
TIY LR LR
comp=Z,960nm,9.5s
SSE Sheshan 32.33 47 P **P** **05 21 27.3 0.0**
SSE S **S** **05 26 43.8 +3.1**
SSE pmax pmax
comp=Z,25nm,1.0s
SSE LR LR
comp=N,700nm,9.5s
SSE LR LR
comp=E,620nm,9.5s
SSE LR LR
comp=Z,1µm,10.3s
KSH Kashi 33.01 334 P **P** **05 21 32.0 -1.3**
KSH sP **sP** **05 21 39.8 -0.1**
KSH S **S** **05 26 46.8 -4.5**
KSH sS sS 05 26 53.3 -5.8
KSH ScP **ScP** **05 28 00.0 -0.9**
KSH PcS **PcS** **05 28 02.0 -0.5**
KSH pmax pmax
comp=Z,22nm,0.9s
KSH pmax pmax
comp=Z,83nm,4.2s
KSH LR LR
comp=N,490nm,15.2s
KSH LR LR
comp=E,2µm,22.7s
KSH LR LR
comp=Z,2µm,21.3s
BTO Baotou 33.02 23 *e*P **P** **05 21 32.3 -1.1**
WMQ Urumqi 33.55 352 P **P** **05 21 39.5 +1.6**
WMQ pP **pP** **05 21 43.8 +1.2**
WMQ sP **sP** **05 21 46.5 +2.0**
WMQ PP **PnPn** **05 22 51.3 +1.8**
WMQ PcP **PcP** **05 24 21.0 +2.6**
WMQ S **S** **05 26 59.0 -0.6**
WMQ sS **sS** **05 27 06.3 -1.1**
WMQ ScP **ScP** **05 28 03.8 +1.2**
WMQ SS **SnSn** **05 29 01.8 -0.8**
WMQ ScS **ScS** **05 32 03.0 -0.7**
WMQ pmax pmax
comp=Z,69nm,1.5s
WMQ pmax pmax
comp=Z,480nm,6.4s
WMQ LR LR
comp=N,510nm,26.1s
WMQ LR LR
comp=E,550nm,19.2s
WMQ LR LR
comp=Z,820nm,27.0s
HHC Hu-ho-hao-te 33.83 24 *e*P **P** **05 21 40.8 +0.4**
HHC pP **pP** **05 21 45.3 +0.2**
HHC sP **sP** **05 21 47.8 +0.7**
HHC PP **PnPn** **05 22 54.3 +1.2**
HHC S **S** **05 27 03.0 -1.1**
HHC sS **sS** **05 27 10.5 -1.4**
HHC SS **SnSn** **05 29 09.5 0.0**
HHC pmax pmax
comp=Z,33nm,0.9s
HHC pmax pmax
comp=Z,310nm,3.9s
HHC LR LR
comp=N,2µm,10.0s
HHC LR LR
comp=E,730nm,10.2s
HHC LR LR
comp=Z,2µm,9.6s
ULHL Ulahol 35.19 337 *i*P **P** **05 21 52.8 +0.5**
ULHL Ulahol 35.19 337 P **P** **05 21 52.8 +0.5**
SNR=6.6
BJI Beijing 35.24 30 P **P** **05 21 53.3 +0.8**
BJI S **S** **05 27 27.3 +1.7**
BJI pmax pmax
comp=Z,13nm,0.8s
BJI pmax pmax
comp=Z,280nm,5.0s
BJI LR LR
comp=N,540nm,18.1s
BJI LR LR
comp=E,750nm,18.1s
BJI LR LR
comp=Z,360nm,26.5s
KZA Kyzart 35.44 335 *i*P **P** **05 21 56.1 +1.4**
KZA Kyzart 35.44 335 P **P** **05 21 56.1 +1.4**
SNR=6.5
BATI Baumata 35.93 124 P **P** **05 21 56.9 -1.9**
BATI Baumata 35.93 124 P **P** **05 21 56.9 -1.9**
comp=Z,19nm,0.4s,baz=274,slow=16,SNR=3.2
TKM2 Tokmak 2 36.01 337 *e*P **P** **05 21 59.0 -0.3**
TKM2 pmax pmax
comp=Z,58nm,1.5s
TKM2 Tokmak 2 36.01 337 P **P** **05 21 57.1 -2.3**
SNR=5.1
TKM2 Tokmak 2 36.01 337 *e*P **P** **05 21 59.0 -0.3**
comp=Z,58nm,1.5s
AML Almayashu 36.14 334 *i*P **P** **05 22 02.3 +1.7**
AML Almayashu 36.14 334 P **P** **05 22 02.3 +1.7**
SNR=12
SOEI Soe 36.18 123 P P 05 22 14.3 +13
AAK Ala-Archa 36.21 335 P **P** **05 22 02.0 +1.0**
comp=Z,263nm,1.3s,SNR=7.8
AAK Ala-Archa 36.21 335 P **P** **05 22 02.3 +1.3**
AAK 05 23 28.8
AAK Ala-Archa 36.21 335 P **P** **05 22 02.5 +1.5**
SNR=30
AAK Ala-Archa 36.21 335 P **P** **05 22 02.5 +1.5**
SNR=7.7
AAK Ala-Archa 36.21 335 P **P** **05 22 02.3 +1.3**
AAK PP **PP** **05 23 28.8 +5.4**

AAK Ala-Archa 36.21 335 P **P** **05 22 02.3 +1.3**
comp=Z,12nm,1.0s,baz=167,slow=6.4,SNR=18
AAK PP **PP** **05 23 28.8 +5.4**
comp=Z,7.7nm,0.9s,baz=149,slow=9.0,SNR=3.7
AAK LR LR 05 38 34.4
comp=Z,2µm,21.3s,baz=136,slow=39
FRU Bishkek 36.33 336 ⇓*i*P **P** **05 22 02.6 +0.8**
FRU *i* 05 23 28.0
FRU pmax pmax
comp=Z,53nm,1.8s
CHMS Chumysh 36.41 336 *i*P **P** **05 22 03.3 +0.7**
CHMS Chumysh 36.41 336 P **P** **05 22 03.2 +0.7**
SNR=5.9
EKS2 Erkin-Say 36.53 334 *e*P **P** **05 22 04.8 +1.1**
EKS2 pmax pmax
comp=Z,91nm,0.5s
EKS2 Erkin-Say 36.53 334 P **P** **05 22 05.0 +1.3**
SNR=13
EKS2 Erkin-Say 36.53 334 *e*P **P** **05 22 04.8 +1.1**
comp=Z,91nm,0.5s
USP Ospenovka 36.74 336 *i*P **P** **05 22 05.6 +0.3**
USP Ospenovka 36.74 336 P **P** **05 22 05.6 +0.3**
SNR=21
BSY Bisya 37.25 294 P P 05 22 14.6 +4.6
SNR=13
HOQ Hoqain 37.35 295 P P 05 22 14.5 +3.7
SNR=10
DL2 Dalian 37.37 36 P **P** **05 22 10.0 -0.7**
DL2 S **S** **05 27 59.5 +1.3**
DL2 pmax pmax
comp=Z,46nm,1.1s
DL2 pmax pmax
comp=Z,280nm,4.7s
DL2 LR LR
comp=N,620nm,10.4s
DL2 LR LR
comp=E,530nm,10.9s
DL2 LR LR
comp=Z,570nm,10.9s
MK31 Makanchi Array 37.43 347 *ce*P **P** **05 22 11.3 +0.1**
MK31 pmax pmax
comp=Z,66nm,1.1s
MKAR Makanchi Array 37.43 347 P **P** **05 22 11.5 +0.3**
MKAR Makanchi Array 37.43 347 P **P** **05 22 11.5 +0.3**
MKAR Makanchi Array 37.43 347 P **P** **05 22 11.5 +0.3**
comp=Z,12nm,0.9s,baz=165,slow=7.5,SNR=34
MKAR LR LR 05 41 39.5
comp=Z,555nm,18.4s,baz=167,slow=43
KK31 Karatay Array 38.34 332 *ce*P **P** **05 22 18.8 -0.1**
KK31 pmax pmax
comp=Z,34nm,1.0s
KKAR Karatay Array 38.34 332 *e*P **P** **05 22 19.7 +0.8**
KKAR Karatay Array 38.34 332 *e*P **P** **05 22 19.7 +0.8**
SONM Songino Array 38.52 13 P **P** **05 22 20.7 +0.3**
SONM Songino Array 38.52 13 P **P** **05 22 20.7 +0.3**
comp=Z,12nm,1.2s,baz=194,slow=7.5,SNR=24
SONM LR LR 05 40 20.2
comp=Z,1µm,19.3s,baz=192,slow=40
ULN Ulaanbaatar 38.70 14 P **P** **05 22 22.7 +0.6**
SNR=18
ULN Ulaanbaatar 38.70 14 *e*P **P** **05 22 22.3 +0.3**
comp=Z,71nm,1.7s
ULN Ulaanbaatar 38.70 14 P **P** **05 22 22.6 +0.6**
comp=Z,24nm,2.2s,comp=Z,589nm
IMYA Miami 40.01 315 *e*P **P** **05 22 34.1 +0.9**
ZAK Zakamensk 40.37 9 *e*P **P** **05 22 35.2 -0.6**
ZAK *e* 05 24 13.1
ZAK pmax pmax
comp=Z,10.0nm,1.7s
SNY Shenyang 40.42 35 ⇑P **P** **05 22 36.8 +0.6**
SNY S **S** **05 28 45.0 +0.9**
SNY pmax pmax
comp=Z,16nm,0.5s
SNY LR LR
comp=N,750nm,15.2s
SNY LR LR
comp=E,470nm,15.5s
SNY LR LR
comp=Z,640nm,14.2s
KSAR Wonju Array Be 40.43 43 P **P** **05 22 36.2 -0.1**
KSRS Korea Array 40.46 43 P **P** **05 22 36.2 -0.4**
comp=Z,9.4nm,1.1s,baz=249,slow=9.0,SNR=15
KSRS LR LR 05 40 00.8
comp=Z,320nm,19.3s,baz=240,slow=37
JNU Nakatsue 40.50 51 *e*P **P** **05 22 36.2 -0.9**
comp=Z,16nm,1.2s
JNU Nakatsue 40.50 51 P **P** **05 22 38.4 +1.3**
comp=Z,6.6nm,0.7s,baz=333,slow=4.5,SNR=3.0
IBAF Bafgh 41.28 306 *e*P **P** **05 22 44.3 +0.6**
IKRD Kardeh 41.33 315 *e*P P 05 22 39.9 -4.3
KURBB Kurchatov Arra 41.91 345 P **P** **05 22 48.6 +0.3**
comp=Z,9.2nm,0.9s,baz=161,slow=7.4,SNR=34
KURBB PcP **PcP** **05 24 44.9 +1.1**
comp=Z,1.8nm,0.8s,baz=160,slow=2.8,SNR=4.1
IMEH Mehriz 41.97 306 *e*P **P** **05 22 49.3 -0.1**
KURK Kurchatov 41.97 345 P **P** **05 22 48.6 -0.2**
KURK 05 24 44.9
KURK Kurchatov 41.97 345 P **P** **05 22 48.6 -0.2**
KURK PcP **PcP** **05 24 44.9 +0.9**
FITZ Fitzroy Crossi 42.22 132 P **P** **05 22 51.2 -0.1**
FITZ Fitzroy Crossi 42.22 132 P **P** **05 22 51.2 -0.1**
comp=Z,15nm,1.1s,baz=252,slow=8.6,SNR=3.8
ISRV Sarvestan 42.54 302 *e*P **P** **05 22 55.9 +1.7**
IPAR Pars 42.73 303 *e*P **P** **05 22 57.1 +1.4**
CN2 Changchun 42.76 34 *e*P **P** **05 22 55.5 +0.1**
CN2 *es*P **sP** **05 23 02.0 -0.1**
CN2 *e*S **S** **05 29 17.8 -0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,700nm,13.0s
CN2 LR LR
comp=E,500nm,13.0s
CN2 LR LR
comp=Z,900nm,15.0s
ZALV Zalesovo Beam 43.86 352 P **P** **05 23 04.3 +0.2**
ZALV Zalesovo Beam 43.86 352 P **P** **05 23 04.3 +0.2**
ZALV Zalesovo Beam 43.86 352 P **P** **05 23 04.3 +0.2**
comp=Z,14nm,0.8s,baz=170,slow=9.0,SNR=31
ZALV LR LR 05 43 52.5
comp=Z,148nm,18.8s,baz=249,slow=40
IZEF Zefreh 44.31 307 *e*P **P** **05 23 07.4 -1.0**
ISHM Shahmirzad 44.66 311 *e*P **P** **05 23 12.7 +1.5**
ILAS Lasjerd 44.74 310 *e*P **P** **05 23 13.6 +1.8**
ISFB Sefidab 44.89 309 *e*P **P** **05 23 13.5 +0.7**
NVS Novosibirsk 44.95 351 ⇑*i*P **P** **05 23 11.5 -1.3**
NVS pmax pmax
comp=N,90nm,2.6s
NVS pmax pmax
comp=Z,128nm,2.6s
NVS pmax pmax
comp=E,27nm,1.7s
IFIR Firoozkooh 45.00 310 *e*P **P** **05 23 15.2 +1.3**
KRAR Krasnoyarsk 45.30 359 *e*P **P** **05 23 17.1 +1.5**
KRAR pmax pmax
comp=Z,88nm,1.0s
IDMV Damavand 45.51 310 *e*P **P** **05 23 19.1 +1.1**
IVRN Varamin 45.52 309 *e*P **P** **05 23 18.2 +0.4**
MDJ Mudanjiang 45.59 35 P **P** **05 23 18.5 +0.5**
MDJ pP **pP** **05 23 21.5 -1.4**
MDJ PcP **PcP** **05 24 54.3 -2.1**
MDJ PP **PP** **05 25 06.3 +1.5**
MDJ S **S** **05 30 01.5 +1.6**
MDJ ScS **ScS** **05 33 15.0 +0.9**
MDJ pmax pmax
comp=Z,9.0nm,2.2s
MDJ pmax pmax
comp=Z,84nm,4.1s
MDJ LR LR
comp=N,460nm,12.8s
MDJ LR LR
comp=E,240nm,9.3s
MDJ LR LR
comp=Z,500nm,13.9s
VOSK Vostochnaya 45.97 341 P **P** **05 23 19.6 -1.3**
VOSK pmax pmax
comp=Z,63nm,1.2s
VLA Vladivostok 46.08 39 *e*P **P** **05 23 22.5 +0.5**
VLA pmax pmax
comp=Z,46nm,1.4s
BVA0 Borovoye Array 46.41 340 *i*P **P** **05 23 24.4 0.0**
BVA0 pmax pmax
comp=Z,35nm,1.2s

BVAR Borovoye Array 46.41 340 P **P** **05 23 24.3 -0.1**
BVAR 05 25 00.1
BVAR Borovoye Array 46.41 340 P **P** **05 23 24.3 -0.1**
BVAR PcP **PcP** **05 25 00.1 +1.0**
BVAR Borovoye Array 46.41 340 P **P** **05 23 24.3 -0.1**
comp=Z,5.9nm,0.8s,baz=142,slow=7.5,SNR=23
BVAR PcP **PcP** **05 25 00.1 +1.0**
comp=Z,3.9nm,0.9s,baz=132,slow=2.2,SNR=3.5
BRVK Borovoye 46.48 340 *c i*P **P** **05 23 24.9 0.0**
BRVK pmax pmax
comp=Z,21nm,1.5s
BRVK Borovoye 46.48 340 P **P** **05 23 25.0 +0.1**
SNR=16
BRVK Borovoye 46.48 340 *e*P **P** **05 23 25.2 +0.3**
comp=Z,30nm,1.1s
USRK Ussuriysk Arra 46.74 37 P **P** **05 23 27.0 -0.1**
comp=Z,4.1nm,0.9s,baz=241,slow=7.9,SNR=9.5
USRK LR LR 05 44 07.3
comp=Z,339nm,20.5s,baz=233,slow=38
IRAZ Razeghan 47.05 309 *e*P **P** **05 23 30.8 +0.8**
KBD Kabd 47.05 300 *e*P **P** **05 23 29.5 -0.3**
KBD AMb AMB 05 23 38.9
comp=Z,100nm,1.6s
RDF Al-Radifah 47.11 300 *e*P **P** **05 23 30.6 +0.3**
RDF AMb AMB 05 23 40.8
comp=Z,142nm,1.6s
MAJO Matsushiro 47.38 50 ⇑*i*P **P** **05 23 32.2 -0.1**
MAJO pmax pmax
comp=Z,30nm,2.5s
MAJO Matsushiro 47.38 50 *e*P **P** **05 23 31.5 -0.8**
comp=Z,29nm,1.3s
MAT Matsushiro 47.38 50 P **P** **05 23 32.0 -0.3**
MAT S S 05 30 34.4 +8.4
MJAR Matsushiro Arr 47.38 50 P **P** **05 23 32.3 0.0**
MJAR PcP **PcP** **05 25 02.6 -0.3**
MJAR Matsushiro Arr 47.38 50 P **P** **05 23 32.3 0.0**
comp=Z,2.5nm,1.0s,baz=244,slow=9.2,SNR=6.5
MJAR PcP **PcP** **05 25 02.6 -0.3**
comp=Z,7.6nm,0.9s,baz=251,slow=3.3,SNR=11
MJAR LR LR 05 47 10.8
comp=Z,273nm,18.7s,baz=250,slow=41
NAY Al-Naaiem 47.45 300 *e*P **P** **05 23 32.4 -0.5**
NAY AMb AMB 05 23 41.0
comp=Z,68nm,1.3s
AB31 Akbulak array 47.84 330 *ce*P **P** **05 23 35.2 -0.5**
AB31 pmax pmax
comp=Z,19nm,0.7s
RAYN Ar Rayn 47.99 292 P **P** **05 23 38.2 +0.9**
comp=Z,308nm,1.1s,SNR=8.6
RAYN Ar Rayn 47.99 292 *e*P **P** **05 23 38.2 +0.9**
comp=Z,82nm,1.1s
NWAO Narrogin (SRO) 48.59 154 P **P** **05 23 41.8 +0.2**
NWAO Narrogin (SRO) 48.59 154 P **P** **05 23 41.8 +0.2**
comp=Z,13nm,0.8s,baz=321,slow=9.4,SNR=4.6
NWAO LR LR 05 44 37.6
comp=Z,538nm,18.3s,baz=128,slow=37
AKTO Aktyubinsk 49.56 330 P **P** **05 23 48.8 -0.1**
AKTO 05 25 45.2
AKTO Aktyubinsk 49.56 330 P **P** **05 23 48.8 -0.1**
AKTO PP **PP** **05 25 45.1 +1.9**
AKTO Aktyubinsk 49.56 330 P **P** **05 23 48.8 -0.1**
comp=Z,5.2nm,0.8s,baz=132,slow=8.9,SNR=11
AKTO PP **PP** **05 25 45.1 +1.9**
comp=Z,4.3nm,1.0s,baz=111,slow=12,SNR=1.9
AKTO LR LR 05 49 27.9
comp=Z,441nm,18.9s,baz=141,slow=42
KLR Kul'dur 49.57 32 *e*P P 05 23 45.0 -3.9
WRA Warramunga Arr 49.90 127 P **P** **05 23 51.3 -0.6**
WRA Warramunga Arr 49.90 127 P **P** **05 23 51.3 -0.6**
comp=Z,11nm,0.8s,baz=303,slow=8.6,SNR=38
WRA LR LR 05 49 44.0
comp=Z,399nm,18.4s,baz=265,slow=42
WRAB Tennant Creek 49.90 127 P **P** **05 23 51.1 -0.8**
comp=Z,283nm,0.8s,SNR=9.8
WRAB Tennant Creek 49.90 127 *e*P **P** **05 23 51.4 -0.5**
WRAB pmax pmax
comp=Z,47nm,0.9s
WRAB Tennant Creek 49.90 127 *e*P **P** **05 23 51.4 -0.5**
comp=Z,47nm,0.9s
ATD Arta Tunnel 50.27 276 P **P** **05 23 54.2 -0.7**
ATD Arta Tunnel 50.27 276 P **P** **05 23 54.2 -0.7**
comp=Z,12nm,0.7s,baz=205,slow=20,SNR=2.3
MAK Makhachkala 51.68 317 *e*P **P** **05 24 03.7 -1.3**
MAK *e* 05 25 11.9
MAK *e*PPP PPP 05 27 03.3
MAK *e*S **S** **05 31 25.7 -0.2**
MAK *e*SSS SSS 05 36 43.4
MAK pmax pmax
comp=Z,171nm,1.1s
MAK MLR MLR
comp=Z,579nm,19.0s
AS31 Alice Springs 51.71 132 *e*P **P** **05 24 04.9 -0.6**
ASAR Alice Springs 51.71 132 P **P** **05 24 05.0 -0.6**
ASAR PcP **PcP** **05 25 19.6 +0.7**
ASAR Alice Springs 51.71 132 P **P** **05 24 05.0 -0.6**
comp=Z,14nm,0.9s,baz=308,slow=7.2,SNR=52
ASAR PcP **PcP** **05 25 19.6 +0.7**
comp=Z,4.2nm,0.8s,baz=305,slow=3.7,SNR=2.6
ASAR LR LR 05 49 39.0
comp=Z,568nm,18.7s,baz=303,slow=40
CLNS Chul'man 51.90 21 *e*P **P** **05 24 06.7 +0.3**
CLNS pmax pmax
comp=Z,19nm,1.0s
CLNS pmax pmax
comp=N,15nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,1.1s
GNI Garni 52.54 313 P **P** **05 24 13.7 +2.0**
SNR=21
GNI Garni 52.54 313 P **P** **05 24 13.4 +1.7**
GNI Garni 52.54 313 P **P** **05 24 13.4 +1.7**
comp=E,5.4nm,0.4s,baz=314,slow=5.5,SNR=17
DGRG David-gareji 52.55 315 P **P** **05 24 13.7 +2.1**
SVE Sverdlovsk 52.87 338 ⇓*e*P **P** **05 24 13.6 0.0**
SVE *e* 05 26 18.8
SVE pmax pmax
comp=Z,81nm,1.4s
SVE MLR MLR
comp=Z,1µm,25.0s
TBLG Delisi 53.10 315 P **P** **05 24 16.3 +0.7**
TBLG Delisi 53.10 315 P **P** **05 24 16.3 +0.7**
KZR Kazreti 53.20 314 P **P** **05 24 15.7 -0.7**
DUS Dusheti 53.26 315 P **P** **05 24 19.2 +2.4**
ARU Arti 53.38 336 *c i*P **P** **05 24 17.2 -0.2**
ARU 05 26 19.1
ARU S **S** **05 31 50.4 +1.6**
ARU pmax pmax
comp=Z,26nm,1.7s
ARU MLR MLR
comp=Z,2µm,21.0s
ASAJ Asahikawa 53.40 42 LR LR 05 50 09.7
comp=Z,282nm,18.8s,baz=278,slow=40
ZEI Tsey 54.06 316 *e*P **P** **05 24 22.3 -0.5**
ZEI pmax pmax
comp=Z,72nm,1.5s
OPO Ambohidratompo 54.62 238 P **P** **05 24 28.0 +0.8**
OPO Ambohidratompo 54.62 238 P **P** **05 24 28.0 +0.8**
comp=Z,12nm,1.1s,baz=63,slow=6.2,SNR=3.5
OPO LR LR 05 43 58.5
comp=Z,319nm,21.3s,baz=360,slow=32
YSS Yuzh-Sakhalins 54.67 39 *e*P **P** **05 24 28.8 +1.9**
YSS *e* 05 24 34.9
KBZ Khabaz 55.08 316 P **P** **05 24 30.7 +0.8**
KBZ Khabaz 55.08 316 P **P** **05 24 30.7 +0.8**
KBZ Khabaz 55.08 316 P **P** **05 24 30.7 +0.8**
comp=Z,13nm,1.1s,baz=87,slow=7.6,SNR=15
KBZ LR LR 05 51 26.0
comp=Z,560nm,21.9s,baz=116,slow=40
KIV Kislovodsk 55.30 317 *e*P **P** **05 24 32.7 +1.0**
KIV *e*S **S** **05 32 15.4 +0.1**
KIV *e*SS **SS** **05 36 01.1 +1.3**
KIV pmax pmax
comp=Z,75nm,1.1s
KIV pmax pmax
comp=Z,24nm,3.7s
KIV MLR MLR
comp=Z,252nm,16.0s
KIV Kislovodsk 55.30 317 P **P** **05 24 32.8 +1.0**
comp=Z,339nm,1.1s,SNR=7.2
YUK Yuzh-Kuril'sk 55.55 43 *c i*P **P** **05 24 31.6 -1.7**
YUK *i*S **S** **05 32 14.5 -3.8**
YUK *e* 05 34 12.9
YUK *i*SS **SS** **05 35 58.4 -4.9**
YUK MLR MLR
comp=E,295nm,21.0s

YUK MLR MLR
comp=N,36nm,19.0s
YUK MLR MLR
comp=Z,333nm,19.0s
SOKR Solikamsk 56.28 338⇑ iP P 05 24 38.4 +0.2
SOKR pmax pmax
comp=Z,50nm,1.2s
SOKR MLR MLR
comp=Z,1µm,25.0s
MALT Malatya 56.71 309⇓ iP P 05 24 59.5 +18
SOC Sochi 57.21 315 eP P 05 24 43.9 -1.3
SOC eS **S 05 32 35.6 -4.8**
SOC pmax pmax
comp=Z,37nm,0.9s
YAK Yakutsk 57.43 19 eP P 05 24 44.5 -1.9
YAK e*PP **pP 05 24 54.7 +3.4**
YAK e 05 25 40.2
YAK e 05 26 49.4
YAK eS **S 05 32 39.0 -3.6**
YAK e*SS **sS 05 32 51.3 +0.6**
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,11nm,1.1s
YAK pmax pmax
comp=Z,15nm,1.0s
YAK smax smax
comp=E,107nm,3.5s
YAK smax smax
comp=N,58nm,3.3s
YAK MLR MLR
comp=E,251nm,20.0s
YAK MLR MLR
comp=Z,472nm,17.0s
YAK MLR MLR
comp=N,159nm,20.0s
KMBO Kilima Mbogo 57.74 262 eP P 05 24 51.5 +1.8
comp=N,73nm,2.1s
KMBO Kilima Mbogo 57.74 262 P **P 05 24 51.5 +1.8**
comp=N,0.9nm,0.3s,baz=56,slow=12,SNR=5.1
KMBO LR LR 05 47 10.7
comp=N,237nm,18.2s,baz=273,slow=34
ANN Anapa 59.14 316 eP P 05 25 00.8 +2.1
ANN pmax pmax
comp=Z,117nm,1.5s
CTAO Charters Tower 59.69 121 eP P 05 25 03.0 +0.1
CTAO pmax pmax
comp=Z,23nm,1.0s
CTAO Charters Tower 59.69 121 eP P 05 25 03.0 +0.1
comp=Z,23nm,1.0s
VORD Divnogorie 60.01 323 eP P 05 25 03.1 -1.4
VORD e*SP **sP 05 25 10.2 -1.1**
VORD pmax pmax
comp=Z,20nm,1.1s
VORD pmax pmax
comp=N,30nm,1.9s
VORD pmax pmax
comp=E,30nm,0.8s
VORD MLR MLR
comp=Z,500nm,16.0s
VORD MLR MLR
comp=N,560nm,20.0s
VORD MLR MLR
comp=E,590nm,23.0s
VSR Storozhevoye 60.18 324 eP P 05 25 04.1 -1.6
VSR e*SP **sP 05 25 11.0 -1.5**
VSR pmax pmax
comp=Z,20nm,1.2s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.1s
VSR MLR MLR
comp=Z,580nm,21.0s
VSR MLR MLR
comp=N,330nm,23.0s
VSR MLR MLR
comp=E,330nm,21.0s
BRTR Keskin Array B 60.65 310 P **P 05 25 08.1 -1.3**
BRTR Keskin Array B 60.65 310 P **P 05 25 08.1 -1.3**
comp=E,8.5nm,0.9s,baz=126,slow=6.3,SNR=29
SIM Simferopol' 61.45 316 *ceP* **P 05 25 13.8 -0.7**
SIM pmax pmax
comp=Z,44nm,0.6s
SIM MLR MLR
comp=Z,100nm,20.8s
STKA Stephens Creek 62.02 135 eP P 05 25 18.5 0.0
comp=Z,7.4nm,1.2s
STKA Stephens Creek 62.02 135 P **P 05 25 19.3 +0.8**
comp=Z,13nm,0.8s,baz=304,slow=6.4,SNR=13
STKA LR LR 05 51 41.4
comp=Z,759nm,21.2s,baz=108,slow=36
ISP Isparta 62.74 307⇑P P 05 25 21.5 -2.0
ISP Isparta 62.74 307⇑ iP P 05 25 21.5 -2.0
MOS Moscow 62.75 328 eP P 05 25 22.1 -0.9
MOS e 05 27 38.0
MOS eS **S 05 33 50.7 -0.6**
MOS pmax pmax
comp=Z,88nm,1.4s
MOS pmax pmax
comp=Z,200nm,1.7s
OBN Obninsk 63.07 327⇑ eP P 05 25 24.9 -0.2
OBN *i* 05 25 31.2
OBN e 05 27 44.5
OBN *i* S **S 05 33 54.2 -1.1**
OBN pmax pmax
comp=Z,51nm,1.3s
OBN MLR MLR
comp=Z,700nm,17.0s
TIRR Tirgusor 65.33 314⇓P P 05 25 43.1 +2.9
TIRR Tirgusor 65.33 314⇓ iP P 05 25 43.1 +2.9
KIS Kishinev 65.51 317 eP P 05 25 40.0 -1.3
KIS LRM MLR 05 57 46.0
comp=Z,300nm,16.0s
KIS Kishinev 65.51 317 eP P 05 25 40.0 -1.3
KIS e 05 25 55.0
KIS e 05 28 05.0
KIS e 05 34 40.0
KIS MLR MLR
comp=Z,300nm,15.0s
KIS MLR MLR
comp=Z,300nm,16.0s
CFR Carcaliu 65.64 315⇑P P 05 25 42.3 +0.1
CFR Carcaliu 65.64 315⇑ iP P 05 25 42.3 +0.1
PETK Petropavlovsk- 65.82 36 P **P 05 25 43.4 +0.2**
PETK Petropavlovsk- 65.82 36 P **P 05 25 43.4 +0.2**
PETK Petropavlovsk- 65.82 36 P **P 05 25 43.4 +0.2**
comp=Z,1.0nm,0.6s,baz=232,slow=6.4,SNR=2.8
EIDS Eidsvold 65.99 124 eP P 05 25 43.0 -1.8
comp=Z,26nm,1.4s
KIEV Kiev 66.03 321 eP P 05 25 43.0 -1.5
KIEV pmax pmax
comp=Z,16nm,1.3s
KIEV Kiev 66.03 321 eP P 05 25 43.0 -1.5
comp=Z,16nm,1.3s
VRI Vrincioaia 66.73 315⇓P P 05 25 50.1 +0.8
VRI Vrincioaia 66.73 315⇓ iP P 05 25 50.1 +0.8
PLOR Plostina 66.78 315⇓P P 05 25 49.9 +0.3
PLOR Plostina 66.78 315⇓ iP P 05 25 49.9 +0.3
TESR Tescani 66.89 316⇓ iP P 05 25 50.3 +0.1
MLR Muntele Rosu 67.22 315 P **P 05 25 52.8 +0.3**
MLR PP **PP 05 28 18.0 -2.6**
MLR Muntele Rosu 67.22 315⇓ iP P 05 25 53.1 +0.6
MLR Muntele Rosu 67.22 315 P **P 05 25 52.8 +0.3**
comp=Z,3.0nm,1.1s,baz=59,slow=5.0,SNR=14
MLR PP **PP 05 28 18.0 -2.6**
comp=Z,2.6nm,1.2s,baz=155,slow=2.3,SNR=3.4
VOIR 67.84 315⇑P P 05 25 58.5 +2.2
VOIR 67.84 315⇑ iP P 05 25 58.5 +2.2
BURAR Bucovina Array 68.03 317⇓P P 05 25 56.2 -1.3
BURAR Bucovina Array 68.03 317⇓ iP P 05 25 56.2 -1.3
ARR Arges 68.12 315⇑ iP P 05 25 57.7 -0.4
ARMA Armidale 68.66 129 eP P 05 26 03.4 +1.6
comp=Z,15nm,0.9s
VTS Vitosha 68.85 312⇑P P 05 26 02.2 -0.6
VTS Vitosha 68.85 312⇑ iP P 05 26 02.2 -0.6
VSU Vasula 69.25 329 eP P 05 26 03.2 -1.5
VSU pmax pmax
comp=Z,31nm,1.1s
APA Apatity 69.30 339⇓ iP P 05 26 10.6 +5.7
APA pmax pmax
comp=Z,26nm,1.0s
APA MLR MLR
comp=Z,1µm,20.0s
GZR Gura Zlata 69.42 315⇓P P 05 26 04.8 -1.4
GZR Gura Zlata 69.42 315⇓ iP P 05 26 04.8 -1.4
DRGR 69.61 316⇑P P 05 26 05.2 -2.2
DRGR 69.61 316⇑ iP P 05 26 05.2 -2.2
TRPA Tarpa 69.88 317⇓ iP P 05 26 09.6 +0.7
KWP Kalwaria Pacla 69.95 319⇑P P 05 26 05.2 -4.1
KWP Kalwaria Pacla 69.95 319 eP P 05 26 09.2 -0.2
comp=Z,18nm,0.5s
KWP Kalwaria Pacla 69.95 319⇑ iP P 05 26 05.2 -4.1
UZH Uzhgorod 70.10 318 eP P 05 26 10.0 -0.2
LSZ Lusaka 70.18 250 eP P 05 26 11.7 +0.3
comp=Z,58nm,2.1s
LSZ Lusaka 70.18 250 LR LR 05 50 47.1
comp=Z,134nm,21.0s,baz=20,slow=31
SUW Suwalki 70.29 324 eP P 05 26 10.6 -0.7
SUW Suwalki 70.29 324 eP P 05 26 10.6 -0.7
FINES FINESS Array B 70.30 332 P **P 05 26 10.8 -0.3**
FINES FINESS Array B 70.30 332 P **P 05 26 10.8 -0.3**
comp=Z,3.1nm,0.7s,baz=105,slow=13,SNR=8.5
FINES LR LR 06 03 40.4
comp=Z,506nm,19.1s,baz=115,slow=42
STHS Stebnicka Huta 70.88 319 eP P 05 26 14.4 -0.6
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 70.88 319 eP P 05 26 14.4 -0.6
KECS Kecovo 71.28 318 eP P 05 26 16.8 -0.6
KECS pmax pmax
comp=Z,3.0nm,1.2s
KECS Kecovo 71.28 318 eP P 05 26 16.8 -0.6
NIE Niedzica 71.48 319 eP P 05 26 20.8 +2.1
NIE Niedzica 71.48 319 eP P 05 26 20.8 +2.1
PSZ Piszkesteto 71.63 317 eP P 05 26 18.9 -0.8
PSZ pmax pmax
comp=Z,12nm,1.3s
PSZ Piszkesteto 71.63 317 eP P 05 26 18.9 -0.8
comp=Z,12nm,1.3s
OJC Ojcow 71.89 319 eP P 05 26 20.7 -0.4
OJC Ojcow 71.89 319 eP P 05 26 20.9 -0.1
comp=Z,15nm,0.9s
OJC Ojcow 71.89 319 eP P 05 26 20.7 -0.4
VYHS Vyhne 72.38 318 eP P 05 26 23.4 -0.6
VYHS pmax pmax
comp=Z,4.0nm,1.5s
VYHS Vyhne 72.38 318 eP P 05 26 23.4 -0.6
ARCES ARCESS Array B 72.70 340 P **P 05 26 25.5 -0.1**
ARCES ARCESS Array B 72.70 340 P **P 05 26 25.5 -0.1**
comp=Z,5.8nm,0.9s,baz=82,slow=7.4,SNR=9.1
ARCES LR LR 06 01 26.3
comp=Z,973nm,20.9s,baz=106,slow=38
OKC Ostrava-Krasne 72.92 319 eP P 05 26 27.4 +0.2
OKC e*PP **pP 05 26 33.8 +1.6**
OKC eS SKiKP 05 36 15.8 +16
OKC MLR MLR
comp=Z,200nm,29.8s
OKC Ostrava-Krasne 72.92 319 eP P 05 26 27.4 +0.2
OKC epP **pP 05 26 33.8 +1.6**
OKC *ex* x 05 36 15.8
OKC AMS AMS 06 01 20.0
comp=Z,200nm,29.8s
MORC Moravsky Berou 73.30 319 eP P 05 26 29.4 -0.2
MORC pmax pmax
comp=Z,33nm,1.4s
MORC Moravsky Berou 73.30 319 eP P 05 26 29.4 -0.2
comp=Z,34nm,1.4s
TIP Timpagrande 73.60 308 eP P 05 26 31.1 -0.4
VRAC Vranov 73.90 318 P **P 05 26 32.7 -0.3**
VRAC Vranov 73.90 318 P **P 05 26 32.7 -0.3**
comp=Z,2.0nm,0.4s,baz=135,slow=7.1,SNR=3.3
DPC Dobruska-Polom 74.12 319 eP P 05 26 34.6 +0.3
DPC e*PP **pP 05 26 41.5 +2.1**
DPC Dobruska-Polom 74.12 319 eP P 05 26 34.6 +0.3
DPC *ex* x 05 26 41.5
DPC AMS AMS 06 02 10.0
DPC Dobruska-Polom 74.12 319 eP P 05 26 34.9 +0.6
comp=Z,218nm,1.7s
KSP Ksiaz 74.16 320⇑ eP P 05 26 34.7 +0.2
KSP e*PP **pP 05 26 40.9 +1.4**
KSP e 05 26 49.9
CEL Celeste 74.29 307 eP P 05 26 35.6 0.0
CONA Conrad Observa 74.34 317⇑ iP P 05 26 35.4 -0.3
comp=Z,7.5nm,1.4s
ARSA Arzberg 74.55 316⇑ iP P 05 26 34.7 -2.2
comp=Z,9.7nm,1.3s
TREC Trest 74.62 318 AMS AMS 06 02 00.0
comp=Z,300nm,21.6s
SOKA Soboth 74.88 316⇓ iP P 05 26 38.3 -0.6
comp=Z,27nm,1.7s
OBKA Obir 75.21 315⇓ iP P 05 26 41.0 +0.2
comp=Z,17nm,1.6s
LJU Ljubljana 75.22 315 eP P 05 26 40.4 -0.4
LJU e 05 26 47.1
PRU Pruhonice 75.25 319 eP P 05 26 39.9 -0.9
PRU e*PP **pP 05 26 46.8 +0.9**
PRU eS SKiKP 05 36 11.3 +7.6
PRU MLR MLR
comp=Z,300nm,25.3s
PRU Pruhonice 75.25 319 eP P 05 26 39.9 -0.9
PRU epP **pP 05 26 46.8 +0.9**
PRU eS SKiKP 05 36 11.3 +7.6
PRU AMS AMS 06 02 40.0
comp=Z,300nm,25.3s
PRA Prague 75.32 319 P **P 05 26 40.0 -1.2**
MOA Moln 75.41 317⇑ iP P 05 26 40.0 -1.8
comp=Z,12nm,1.4s
LBTB Lobatse 75.54 241 eP P 05 26 43.2 +0.2
comp=Z,8.2nm,0.9s
LBTB Lobatse 75.54 241 LR LR 05 55 17.7
comp=Z,110nm,18.4s,baz=238,slow=32
SMY Shemya 75.57 38 eP P 05 26 42.2 -0.4
SMY pmax pmax
comp=Z,78nm,1.3s
SMY Shemya 75.57 38 eP P 05 26 42.2 -0.4
comp=Z,78nm,1.3s
BRG Berggiesshubel 75.65 320 eP P 05 26 42.9 -0.2
comp=Z,11nm,1.2s
BRG *e* 05 26 49.3
comp=Z,38nm,1.7s
BRG *e* 05 29 39.0
comp=Z,4.5nm,1.1s
BRG S **S 05 36 20.0 -3.9**
BRG SS **SS 05 41 13.0 -2.0**
BRG
comp=N,314nm,18.5s
BRG
comp=E,158nm,17.5s
BRG
comp=Z,244nm,28.6s
BRG Berggiesshubel 75.65 320 eP P 05 26 42.9 -0.2
BRG *e* 05 26 49.3
BRG *e* 05 29 39.0
BRG S **S 05 36 20.0 -3.9**
BRG SS **SS 05 41 13.0 -2.0**
BRG pmax pmax
comp=Z,11nm,1.3s
BRG pmax pmax
comp=Z,38nm,1.7s
BRG pmax pmax
comp=Z,5.0nm,1.1s
BRG MLR MLR
comp=N,314nm,18.5s
BRG MLR MLR
comp=E,158nm,17.5s
BRG MLR MLR
comp=Z,244nm,28.6s
VOJS Vojsko 75.67 315 eP P 05 26 42.7 -0.7
VOJS *i* 05 26 49.2
TRI Trieste 75.76 315 eP P 05 26 42.2 -1.7
TRI Trieste 75.76 315 eP P 05 26 42.2 -1.7
CADS Cadrg 75.77 315 *i* P **P 05 26 42.8 -1.2**
CADS *e* 05 26 49.9
GEC2 GERESS Array S 75.79 318 eP P 05 26 43.9 -0.2
comp=Z,13nm,1.3s
GEC2 epP **pP 05 26 50.1 +1.0**
GEC2 GERESS Array S 75.79 318 eP P 05 26 43.9 -0.2
GEC2 e*PP **pP 05 26 50.1 +1.0**
GEC2 pmax pmax
comp=Z,13nm,1.3s
GERES GERESS Array B 75.79 318 P **P 05 26 44.0 -0.1**
GERES GERESS Array B 75.79 318 P **P 05 26 44.0 -0.1**
comp=Z,1.9nm,0.7s,baz=93,slow=5.3,SNR=17
GERES LR LR 06 05 31.0
comp=Z,272nm,20.6s,baz=82,slow=40
KHC Kasperske Hory 75.87 318 eP P 05 26 43.4 -1.1
KHC *e*PP **pP 05 26 49.5 0.0**
KHC *e* 05 29 38.7
KHC eS S 05 36 19.9 -6.6
KHC MLR MLR
comp=Z,200nm,15.1s
KHC Kasperske Hory 75.87 318 eP P 05 26 43.4 -1.1
KHC epP **pP 05 26 49.5 0.0**
KHC *e*PP **PP 05 29 38.7 +4.1**
KHC eS S 05 36 19.9 -6.6
KHC AMS AMS 06 04 40.0
comp=Z,200nm,15.1s
HFS Hagfors 76.10 329 P **P 05 26 45.4 -0.1**
HFS Hagfors 76.10 329 P **P 05 26 45.4 -0.1**
comp=Z,4.2nm,0.8s,baz=101,slow=7.7,SNR=6.6
CLL Collm 76.25 320 eP P 05 26 45.7 -0.7
comp=Z,9.0nm,1.3s
CLL epP **pP 05 26 52.7 +1.1**
CLL Collm 76.25 320 *i* P **P 05 26 45.8 -0.7**
CLL *i* 05 26 52.4
CLL eS S 05 36 24.0 -6.4
CLL pmax pmax
comp=Z,9.0nm,1.3s
CLL MLR MLR
comp=Z,300nm,21.0s
CLL Collm 76.25 320 *i* P **P 05 26 45.8 -0.7**
comp=Z,9.0nm,1.3s
CLL *i* sP **sP 05 26 52.4 -1.0**
comp=Z,21nm,1.7s
CLL *e* 05 27 25.0
CLL eS **S 05 36 30.0 -0.4**
CLL e(SS) 05 42 06.0
CLL eSSS SSS 05 45 12.0
CLL LmV 06 04 00.0
comp=Z,300nm,21.0s
WET Wettzell 76.33 318 eP P 05 26 46.5 -0.6
comp=Z,9.0nm,1.3s
WET epP **pP 05 26 53.5 +1.4**
WET Wettzell 76.33 318 eP P 05 26 46.5 -0.6
WET e*PP **pP 05 26 53.5 +1.4**
WET pmax pmax
comp=Z,9.0nm,1.3s
RJOB Jochberg 76.40 317 eP P 05 26 46.7 -0.9
comp=Z,10.0nm,1.5s
TANN Tannenbergstha 76.59 319 eP P 05 26 47.7 -0.9
comp=Z,22nm,2.0s
TANN epP **pP 05 26 55.2 +1.6**
NKC Novy Kostel 76.60 319 AMS AMS 06 03 30.0
comp=Z,200nm,24.6s
ROTZ Rotzenmuhle 76.76 319 eP P 05 26 49.6 +0.1
comp=Z,19nm,1.5s
ROTZ epP **pP 05 26 56.1 +1.6**
ROTZ *e*PP PP 05 29 52.0 +10
BOSA Boshof 77.02 237 P **P 05 26 51.5 0.0**
BOSA Boshof 77.02 237 P **P 05 26 51.5 0.0**
comp=Z,5.8nm,0.9s,baz=87,slow=7.6,SNR=7.5
BOSA LR LR 06 01 48.1
comp=Z,114nm,18.0s,baz=346,slow=36
MOX Moxa 77.13 320 eP P 05 26 51.3 -0.2
comp=Z,7.0nm,1.3s
MOX eL L 06 08 03.8
comp=Z,193nm,20.3s
MOX Moxa 77.13 320 eP P 05 26 51.3 -0.2
MOX pmax pmax
comp=Z,7.0nm,1.3s
WTTA Wattenberg 77.20 316⇑ iP P 05 26 50.5 -1.7
comp=Z,15nm,1.1s
NB2 NORSAR Subarra 77.35 330 P **P 05 26 51.3 -1.3**
comp=Z,18nm,1.2s,baz=91,slow=5.9
NOA NORSAR Array B 77.35 330 P **P 05 26 51.5 -1.2**
NOA NORSAR Array B 77.35 330 P **P 05 26 51.5 -1.2**
comp=Z,3.1nm,0.9s,baz=93,slow=5.5,SNR=7.1
NOA LR LR 06 03 57.2
comp=Z,379nm,20.9s,baz=95,slow=38
GRF Grafenberg Arr 77.40 319 eP P 05 26 53.3 +0.2
comp=Z,12nm,1.2s
GRF epP **pP 05 26 59.8 +1.6**
GRF eL L 06 08 32.1
comp=Z,170nm,20.7s
GRF Grafenberg Arr 77.40 319 eP P 05 26 53.3 +0.2
GRF e*PP **pP 05 26 59.8 +1.6**
GRF pmax pmax
comp=Z,12nm,1.2s
CASY Casey 77.63 173 eP P 05 26 54.0 +0.1
FETA Feichten 77.83 316⇓ iP P 05 26 54.7 -1.0
comp=Z,12nm,1.3s
BSEG Bad Segeberg 77.86 323 eP P 05 26 55.8 +0.3
comp=Z,37nm,1.4s
BSEG epP **pP 05 27 02.4 +1.9**
BSEG ePP PP 05 29 59.2 +8.1
BSEG Bad Segeberg 77.86 323 eP P 05 26 55.8 +0.3
BSEG e*PP **pP 05 27 02.4 +1.9**
BSEG *e* 05 29 59.2
BSEG pmax pmax
comp=Z,37nm,1.4s
DZM Mont Dzumac 77.97 115 eSS SS 05 41 52.2 +0.4
comp=Z,154nm,30.8s
DZM eLR LR 05 51 05.2
comp=Z,500nm,24.3s
NRDL Niedersach Rie 78.02 322 eP P 05 26 57.0 +0.6
comp=Z,25nm,1.4s
NRDL epP **pP 05 27 03.4 +2.0**
KBS Kingsbay 78.15 349⇓ eP P 05 26 56.2 -0.5
KBS pmax pmax
comp=Z,24nm,1.7s
DAVA Damuels 78.39 316⇓ iP P 05 26 56.3 -2.5
comp=Z,24nm,1.5s
TUE Stuetta 78.80 315 eP P 05 27 00.6 -0.6
comp=Z,30nm,1.4s
TNS Taunus Mts 79.17 319 epP pP 05 27 09.5 +1.5
TNS Taunus Mts 79.17 319 eP pP 05 27 09.5 +1.5
PGF Pioggiola 79.33 311⇑ iP P 05 27 03.6 -0.4
BFO Black Forest 79.37 317 epP **pP 05 27 10.0 +0.9**
BFO ePP PP 05 30 14.8 +11
IBBN Ibbenburen 79.47 321 epP pP 05 27 11.1 +1.6
KEST Kesra 79.67 305 eP **P 05 27 05.3 -0.7**
KEST Kesra 79.67 305 P **P 05 27 05.3 -0.7**
comp=Z,4.3nm,1.1s,baz=323,slow=2.9,SNR=9.3
KEST LR LR 06 07 27.8
comp=Z,74nm,18.1s,baz=327,slow=40
BUG Bochum--Univer 79.83 321 epP pP 05 27 13.0 +1.5
CDF Champ du Feu 80.06 318⇑ iP P 05 27 07.1 -0.8
SBF Sospel 80.36 313⇑ iP P 05 27 09.1 -0.4
comp=Z,66nm,1.1s
HINF Hinteralfeld 80.40 317⇑ iP P 05 27 08.9 -0.7
LPG La Plagne 80.69 315⇑ iP P 05 27 11.3 -0.2
comp=Z,40nm,1.0s
WLF Walferdange 80.69 319 *e*PP PP 05 30 23.5 +8.7
LPL La Plagne 80.70 315⇑ iP P 05 27 11.3 -0.2
comp=Z,33nm,0.8s
HAU Haudompre 80.72 317⇑ iP P 05 27 10.7 -0.6
comp=Z,39nm,1.1s
HAU eR
comp=Z,236nm,22.0s
MBDF Montbardon 80.75 314⇑ iP P 05 27 10.7 -1.0
comp=Z,27nm,1.2s
BNI Bardonecchia 80.78 314 eP P 05 27 10.6 -1.3
BNI Bardonecchia 80.78 314 eP P 05 27 10.6 -1.3
FRF La Foret Royal 80.96 313⇑ iP P 05 27 12.5 -0.2
comp=Z,123nm,1.5s
TSUM Tsumeb 80.99 249 eP P 05 27 14.2 +0.8
comp=Z,7.6nm,1.0s
CABF La Chapelle 81.03 316⇑ iP P 05 27 12.8 -0.3
comp=Z,79nm,1.6s
PAGF Fort de Pagny 81.08 318⇑ iP P 05 27 12.7 -0.5
comp=Z,4.2nm,0.6s
LMR La Mourre 81.08 312⇑ iP P 05 27 13.0 -0.3
MAW Mawson 81.19 192 P **P 05 27 13.8 +0.6**
MAW Mawson 81.19 192 P **P 05 27 13.8 +0.6**
comp=Z,1.8nm,0.9s,baz=39,slow=11,SNR=3.6
MAW LR LR 05 57 13.9
comp=Z,194nm,18.5s,baz=28,slow=31
ORIF Oris-en-Rattie 81.36 314⇑ iP P 05 27 14.7 -0.2
comp=Z,38nm,1.4s
ORIF eR
comp=Z,181nm,23.0s
GIVF Givet 81.50 319⇑ iP P 05 27 15.2 -0.2
SMRF Simiane la Rot 81.68 313⇑ iP P 05 27 16.8 +0.2
comp=Z,96nm,1.5s
BAIF Baives 81.90 319⇑ iP P 05 27 17.5 0.0
comp=Z,48nm,1.3s
VIVF Saint-Julien-l 82.22 314⇑ iP P 05 27 19.1 -0.2
comp=Z,31nm,1.2s
LOR Lormes 82.47 317⇑ iP P 05 27 20.0 -0.6
comp=Z,35nm,1.1s
LOR eR

comp=Z,183nm,21.5s
SMF Signal de Mont 82.57 316⇑*iP* P 05 27 20.6 -0.5
comp=Z,46nm,1.3s
SSF Saint Saulge 82.74 316⇑*iP* P 05 27 21.5 -0.5
comp=Z,54nm,1.5s
AVF Avril sur Loir 82.88 316⇑*iP* P 05 27 22.1 -0.6
comp=Z,42nm,1.3s
LASF Ste Croix 82.90 313⇑*iP* P 05 27 23.1 +0.2
comp=Z,106nm,1.6s
BGF Bois d'Agland 83.26 316⇑*iP* P 05 27 24.6 -0.1
comp=Z,41nm,1.1s
TCF Toulx Ste Croi 83.73 316⇑*iP* P 05 27 27.0 -0.2
comp=Z,62nm,1.5s
CAF Calviac 84.04 314⇑*iP* P 05 27 28.8 0.0
comp=Z,31nm,1.3s
MTLF Montolieu 84.18 313⇑*iP* P 05 27 29.4 -0.1
comp=Z,25nm,1.2s
RJF Les Rejaudoux 84.37 315⇑*iP* P 05 27 30.6 +0.2
comp=Z,44nm,1.2s
TAM Tamanrasset 84.68 292 *eP* P 05 27 32.9 +0.3
TAM pmax pmax
comp=Z,2.0nm,0.8s
TAM Tamanrasset 84.68 292 *eP* P 05 27 32.9 +0.3
comp=Z,1.5nm,0.8s
DAG Danmarks Havn 84.81 348 *iP* P 05 27 31.2 -0.8
DAG pmax pmax
comp=Z,4.0nm,1.1s
DAG Danmarks Havn 84.81 348 *iP* P 05 27 31.2 -0.8
comp=Z,3.4nm,1.1s
LDF La Druitiere 84.92 318⇑*iP* P 05 27 32.6 -0.5
comp=Z,40nm,1.1s
LFF La Frestale 84.97 315⇑*iP* P 05 27 32.4 -1.0
comp=Z,42nm,1.2s
MFF Saint Martin d 85.29 316⇑*iP* P 05 27 34.7 -0.3
EKA Eskdalemuir Ar 85.47 325 P P 05 27 35.2 -0.5
EKA Eskdalemuir Ar 85.47 325 P P 05 27 35.2 -0.5
comp=Z,6.1nm,1.0s,baz=99,slow=5.2,SNR=5.6
EPF Esparros 85.59 313 *eP* P 05 27 36.3 -0.3
ALE Alert 86.39 357⇑*iP* P 05 27 29.0 -11
comp=Z,110nm,0.4s,SNR=5.4
SJPF Ste Jean 86.70 313⇑*iP* P 05 27 42.2 +0.1
comp=Z,43nm,1.3s
SYO Syowa Base 88.00 197⇓*eP* P 05 27 47.4 -0.2
SYO Syowa Base 88.00 197⇓*e*PcP PcP 05 27 50.0 +0.6
ESDC Sonseca Array 89.44 310 P P 05 27 54.5 -0.8
ESDC Sonseca Array 89.44 310 P P 05 27 54.4 -0.8
comp=Z,0.3nm,0.3s,baz=66,slow=4.4,SNR=6.0
ESDC LR LR 06 15 14.1
comp=Z,106nm,19.3s,baz=115,slow=40
TORD Torodi Ar. Bea 89.95 283 P P 05 27 57.9 -0.1
TORD PP PP 05 31 31.4 +0.4
TORD Torodi Ar. Bea 89.95 283 P P 05 27 57.9 -0.1
comp=Z,3.2nm,1.1s,baz=86,slow=4.6,SNR=8.9
TORD PP PP 05 31 31.4 +0.4
comp=Z,6.3nm,1.2s,baz=66,slow=5.5,SNR=15
TORD LR LR 06 08 27.2
comp=Z,230nm,19.5s,baz=95,slow=36
URZ Urewera 91.06 129 LR LR 06 07 17.0
comp=Z,679nm,21.8s,baz=104,slow=34
SUMG Summit 91.49 347 *eP* P 05 28 05.5 +1.0
SUMG pmax pmax
comp=Z,3.0nm,0.9s
SUMG Summit 91.49 347 *i*P P 05 28 05.5 +1.0
comp=Z,3.2nm,0.9s
ILAR Eielson Array 92.23 22 P P 05 28 06.3 -1.3
ILAR Eielson Array 92.23 22 P P 05 28 06.3 -1.3
comp=Z,1.0nm,0.8s,baz=294,slow=4.6,SNR=12
ILAR LR LR 06 10 39.7
comp=Z,150nm,20.2s,baz=315,slow=36
VNDA Vanda 95.60 168 P P 05 28 23.3 +0.5
VNDA Vanda 95.60 168 P P 05 28 23.3 +0.5
comp=Z,2.5nm,0.9s,baz=277,slow=3.7,SNR=11
VNDA LR LR 06 06 05.8
comp=Z,251nm,18.8s,baz=297,slow=32
DBIC Dimbokro 97.54 278 LR LR 06 13 51.1
comp=Z,121nm,18.2s,baz=54,slow=36
YKA Yellowknife Ar 103.78 13 Pdif **Pdif 05 28 59.8 0.0**
YKA PP **PP 05 33 14.1 -1.7**
YKA PKKPbc **PKKPbc 05 44 49.8 -3.2**
YKA PKKPab PKKPdf 05 45 07.9 +6.9
YKA Yellowknife Ar 103.78 13 Pdiff **Pdif 05 28 59.8 0.0**
comp=Z,0.1nm,0.5s,baz=333,slow=4.0,SNR=3.7
YKA PP **PP 05 33 14.1 -1.7**
comp=Z,1.2nm,1.2s,baz=335,slow=7.1,SNR=8.0
YKA PKKPbc **PKKPbc 05 44 49.8 -3.2**
comp=Z,0.4nm,0.9s,baz=156,slow=2.3,SNR=5.3
YKA PKKPab PKKPdf 05 45 07.9 +6.9
comp=Z,0.2nm,0.9s,baz=142,slow=4.5,SNR=3.9
B15A Bradely Ranch, 116.76 20 P **PKPdf 05 33 42.1 -0.6**
baz=116
C14A Swan Lake 116.83 21 P **PKPdf 05 33 42.3 -0.5**
baz=117
C15A Salmond Ranch, 117.21 20 P **PKPdf 05 33 43.0 -0.6**
baz=117
EGMT Eagleton 117.90 18 P **PKPdf 05 33 44.6 -0.2**
baz=118
C17A Wharram Farm, 117.94 19 P **PKPdf 05 33 44.5 -0.4**
baz=118
B20A Solberg Farm, 118.03 17 P **PKPdf 05 33 45.0 0.0**
baz=118
PPT2 Papeete2 118.07 104 *e*LR LR 06 09 39.8
comp=Z,258nm,23.5s
TBI Tubuai 118.31 111 *e*LR LR 06 09 46.0
comp=Z,375nm,29.2s
C19A Slack Wire Ran 118.37 18 P **PKPdf 05 33 46.1 +0.3**
baz=118
D19A Cripps Ranch, 118.93 18 P **PKPdf 05 33 46.5 -0.3**
baz=119
D22A Cohagen 119.71 16 P **PKPdf 05 33 48.3 0.0**
baz=120
F18A Big Timber 119.80 19 P **PKPdf 05 33 48.4 -0.3**
baz=120
REDW Red Top Meadow 121.66 21 *e*PKPdf **PKPdf 05 33 51.2 -1.2**
G27A Dupree 122.42 13 P **PKPdf 05 33 53.4 -0.2**
baz=122
I21A Big Trails, Te 122.44 18 P **PKPdf 05 33 53.4 -0.4**
baz=122
NVAR Mina Array Bea 122.59 30 PKP **PKPdf 05 33 55.5 +1.1**
NVAR Mina Array Bea 122.59 30 PKP **PKPdf 05 33 55.5 +1.1**
comp=Z,0.8nm,0.8s,baz=280,slow=2.5,SNR=6.5
PDAR Pinedale Array 122.64 21 PKP **PKPdf 05 33 53.7 -0.7**
PDAR Pinedale Array 122.64 21 PKP **PKPdf 05 33 53.7 -0.7**
comp=Z,1.3nm,1.0s,baz=29,slow=3.4,SNR=8.8
J21A Lysite 122.81 19 P **PKPdf 05 33 54.6 0.0**
baz=123
K19A Absolon Red Bu 122.83 20 P **PKPdf 05 33 54.1 -0.5**
baz=123
J22A Midwest 123.05 18 P **PKPdf 05 33 54.3 -0.7**
baz=123
K21A Alcova 123.52 19 P **PKPdf 05 33 55.6 -0.4**
baz=123
I28A Midland 123.90 13 P **PKPdf 05 33 56.5 +0.1**
baz=124
R11A Troy Canyon, C 123.95 28 P **PKPdf 05 33 57.0 +0.1**
baz=124
L21A Rawlins 124.08 19 P **PKPdf 05 33 56.7 -0.4**
baz=124
M21A Separation Pea 124.41 19 P **PKPdf 05 33 57.4 -0.4**
baz=124
J28A Allard Ranch, 124.43 14 P **PKPdf 05 33 57.5 0.0**
baz=124
FURC Furnace Creek, 124.83 30 P **PKPdf 05 33 58.0 -0.3**
baz=125
MPMC Manual Prospec 124.84 31 P **PKPdf 05 33 58.6 -0.1**
baz=125
ECSD EROS Data Cent 125.04 9 *e*PKPdf **PKPdf 05 33 58.4 -0.2**
N21A Black Mountain 125.11 20 P **PKPdf 05 33 58.5 -0.7**
baz=125
PHWY Pilot Hill 125.28 18 *e*PKPdf **PKPdf 05 33 58.8 -0.7**
P21A Newcastle 126.24 21 P **PKPdf 05 34 00.7 -0.6**
baz=126
P26A Davis Ranch, A 127.51 17 P **PKPdf 05 34 03.0 -0.7**
baz=127
WUAZ Wupatki 128.18 27 *e*PKPdf **PKPdf 05 34 05.7 +0.6**
R26A Arlington 128.65 18 P **PKPdf 05 34 05.5 -0.3**
baz=128
S24A Houchin Ranch, 128.70 20 P **PKPdf 05 34 05.9 -0.3**
baz=128
R27A Eads 128.85 17 P **PKPdf 05 34 06.2 0.0**
baz=129
S25A Robets Cordova 128.93 19 P **PKPdf 05 34 05.9 -0.6**
baz=129
R28A Tribune 129.08 16 P **PKPdf 05 34 06.2 -0.4**
baz=129
V24A Rampart Ranch, 130.41 21 P **PKPdf 05 34 09.7 +0.3**
baz=130
W22A Albuquerque 130.41 23 P **PKPdf 05 34 09.3 0.0**
baz=130
V25A Rancho No Teng 130.53 20 P **PKPdf 05 34 09.9 +0.4**
baz=130
X21A Alamocita Cree 130.60 24 P **PKPdf 05 34 10.3 +0.5**
baz=130
W24A Lazy 6 Ranch, 130.82 21 P **PKPdf 05 34 10.7 +0.6**
baz=131
LAZ Ladron 130.90 23 *e*PKPdf **PKPdf 05 34 09.6 -0.7**
TUC Tucson 131.13 28 *e*PKIKP **PKPdf 05 34 11.6 +0.9**
TUC Tucson 131.13 28 *e*PKPdf **PKPdf 05 34 11.6 +0.9**
W25A X Bar L Ranch, 131.15 20 P **PKPdf 05 34 11.1 +0.4**
baz=131
Y22A Socorro 131.38 23 P **PKPdf 05 34 12.1 +0.9**
baz=131
Z20A Nine Sixteen R 131.43 26 P **PKPdf 05 34 12.0 +0.7**
baz=131
Y24A Capitan 131.97 22 P **PKPdf 05 34 13.6 +1.2**
baz=132
X26A CR and CF Fran 131.97 20 P **PKPdf 05 34 12.5 +0.2**
baz=132
Z22A Elephant Butte 131.97 24 P **PKPdf 05 34 12.9 +0.6**
baz=132
Y25A Mesa, Roswell 132.24 21 P **PKPdf 05 34 13.1 +0.3**
baz=132
125A Gardner Draw, 133.39 22 P **PKPdf 05 34 14.9 0.0**
baz=133
226B Tecolote Peak, 134.09 22 P **PKPdf 05 34 16.1 -0.2**
baz=134
427A Hayter Ranch, 135.48 22 P **PKPdf 05 34 18.2 -0.6**
baz=135
428A Kincaid Ranch, 135.84 21 P **PKPdf 05 34 18.5 -1.1**
baz=136
528A Cox Ranch, San 136.32 21 P **PKPdf 05 34 20.4 -0.1**
baz=136
626A Big Bend Ranch 136.37 23 P **PKPdf 05 34 20.1 -0.4**
baz=136
529A Stev Forest Ra 136.56 21 P **PKPdf 05 34 19.4 -1.5**
baz=136
627A Terlingua Ranc 136.74 23 P **PKPdf 05 34 20.9 -0.4**
baz=136
TXAR Lajitas Array 136.74 23 PKPpre PKPpre 05 34 10.8
TXAR PKP **PKPdf 05 34 21.6 +0.3**
TXAR Lajitas Array 136.74 23 PKhKP PKPpre 05 34 10.8
comp=Z,0.2nm,0.7s,baz=312,slow=4.5,SNR=2.8
TXAR PKP **PKPdf 05 34 21.6 +0.3**
comp=Z,0.8nm,0.8s,baz=159,slow=1.8,SNR=7.1
530A J-D Ranch, Com 136.83 20 P **PKPdf 05 34 20.2 -1.2**
baz=137
628A Black Gap, Mar 136.90 22 P **PKPdf 05 34 20.5 -1.0**
baz=137
JCT Junction City 137.01 18 *e*PKIKP **PKPdf 05 34 21.4 -0.3**
JCT Junction City 137.01 18 *e*PKPdf **PKPdf 05 34 21.4 -0.3**
JCT Junction City 137.01 18 P **PKPdf 05 34 20.6 -1.1**
baz=137
531A Rocksprings 137.07 19 P **PKPdf 05 34 20.7 -1.1**
baz=137
532A Rocksprings 137.31 18 P **PKPdf 05 34 22.2 0.0**
baz=137
BDFB Brasilia 142.82 258 PKPpre PKPpre 05 34 28.6
BDFB Brasilia 142.82 258 PKhKP PKPpre 05 34 28.6
comp=Z,1.3nm,0.7s,baz=111,slow=8.6,SNR=2.7
MTP Monte Pirata 145.12 325 *e*PKPdf **PKPab 05 34 35.9 0.0**
PLCA Paso Flores 147.08 202 PKP **PKPdf 05 34 38.2 -1.0**
PLCA *e*PKPbc **PKPbc 05 34 40.7 -0.6**
PLCA PKPbc **PKPbc 05 34 41.9 +0.6**
PLCA Paso Flores 147.08 202 PKP **PKPdf 05 34 38.2 -1.0**
comp=Z,11nm,1.0s,baz=168,slow=4.0,SNR=12
PLCA PKPbc **PKPbc 05 34 41.9 +0.6**
comp=Z,11nm,1.0s,baz=150,slow=3.8,SNR=11
SDDR Presa de Saban 147.26 334 *e*PKPbc **PKPdf 05 34 41.0 +0.9**
CPUP Villa Florida 148.83 236 PKPbc **PKPdf 05 34 43.6 +1.2**
CPUP Villa Florida 148.83 236 PKPbc **PKPdf 05 34 43.6 +1.2**
comp=Z,0.8nm,0.6s,baz=44,slow=2.3,SNR=4.2
SAML Samuel 157.57 272 *e*PKPdf **PKPdf 05 34 54.8 -0.6**
ROSC El Rosal 160.81 323 PKPab **PKPab 05 35 43.2 +1.5**
ROSC El Rosal 160.81 323 PKPab **PKPab 05 35 43.2 +1.5**
comp=Z,1.2nm,0.3s,baz=103,slow=21,SNR=5.4
LPAZ La Paz 161.84 250 PKP **PKPdf 05 35 01.2 +0.3**
LPAZ PKPab **PKPab 05 35 46.0 -0.6**
LPAZ La Paz 161.84 250 PKP **PKPdf 05 35 01.2 +0.3**
comp=Z,2.4nm,1.0s,baz=55,slow=3.4,SNR=8.4
LPAZ PKPab **PKPab 05 35 46.0 -0.6**
comp=Z,4.6nm,1.1s,baz=71,slow=6.3,SNR=4.9

IDC 28 05:18:28.9±1.2, 10°51N×94°00E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/27, mbtmp4.0/11, ML4.3/1, MS4.5/2, Ms1 4.5/2, ms1mx3.6/42, Error ellipse: s-maj=37.3km s-min=19.6km az=57.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.24**	**31**	Pn	Pn	05 20 43.6	+0.1
	0.8nm,0.3s,baz=212,slow=17,SNR=2.8						
MKAR	**Makanchi Array**	**37.51**	**347**	P	P	05 25 44.7	+0.1
	1.6nm,0.8s,baz=164,slow=8.9,SNR=4.6						
SONM	**Songino Array**	**38.64**	**13**	P	P	05 25 54.4	+0.1
	1.4nm,1.0s,baz=197,slow=4.5,SNR=2.6						
KSRS	**Korea Array**	**40.61**	**43**	P	P	05 26 09.6	-1.0
	1.1nm,0.5s,baz=250,slow=9.1,SNR=3.8						
KURBB	**Kutov Array**	**41.98**	**345**	P	P	05 26 22.1	+0.4
	1.4nm,0.7s,baz=159,slow=7.5,SNR=3.1						
ZALV	**Zalesovo Beam**	**43.94**	**352**	P	P	05 26 37.9	+0.3
	2.2nm,0.7s,baz=182,slow=7.2,SNR=3.7						
BVAR	**Borovoye Array**	**46.47**	**341**	P	P	05 26 58.0	+0.3
	0.7nm,0.5s,baz=131,slow=6.5,SNR=2.9						
MJAR	**Matsushiro Arr**	**47.54**	**50**	PcP	PcP	05 28 36.7	+0.2
	0.5nm,0.3s,baz=254,slow=3.8,SNR=4.5						
WRA	**Warramunga Arr**	**49.93**	**127**	P	P	05 27 25.2	+0.3
	3.3nm,0.7s,baz=304,slow=9.0,SNR=6.8						
ASAR	**Alice Springs**	**51.73**	**131**	P	P	05 27 38.6	+0.2
	2.8nm,0.8s,baz=309,slow=6.8,SNR=4.3						
PMG	**Port Moresby**	**56.47**	**109**	LR	LR	05 52 22.9	
	comp=Z,282nm,21.0s,baz=263,slow=36						
BRTR	**Keskin Array B**	**60.63**	**310**	P	P	05 28 41.1	-0.9
	1.7nm,0.8s,baz=111,slow=7.5,SNR=4.0						
ILAR	**Eielson Array**	**92.37**	**22**	P	P	05 31 39.7	-1.5
	0.9nm,1.1s,baz=317,slow=5.6,SNR=5.1						
RAO	**Raoul Island**	**93.40**	**119**	LR	LR	06 16 34.7	
	comp=Z,268nm,18.2s,baz=200,slow=37						

IDC 28 05:30:13.7±0.7, 42°80S×42°33E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/22, mbtmp4.0/9, MS3.1/2, Ms1 3.1/2, ms1mx2.8/35, Error ellipse: s-maj=30.2km s-min=19.4km az=70.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**19.76**	**310**	LR	LR	05 40 58.7	
	comp=Z,77nm,18.3s,baz=160,slow=33						
MAW	**Mawson**	**27.20**	**163**	P	P	05 35 59.4	+0.8
	1.9nm,0.9s,baz=322,slow=11,SNR=3.8						
LSZ	**Lusaka**	**30.00**	**332**	P	P	05 36 24.8	+0.7
	2.2nm,0.8s,baz=47,slow=7.0,SNR=3.9						
SNAA	**Sanae**	**36.26**	**202**	P	P	05 37 18.6	+0.4
	0.9nm,0.9s,baz=77,slow=7.0,SNR=7.6						
SNAA				LR	LR	05 47 54.8	
	comp=Z,24nm,22.0s,baz=50,slow=29						
QSPA	**South Pole Qui**	**47.41**	**180**	P	P	05 38 48.5	-1.0
	2.0nm,0.9s,baz=260,slow=7.2,SNR=5.0						
TORD	**Torodi Ar. Bea**	**66.98**	**316**	P	P	05 41 08.2	-0.1
	1.5nm,1.0s,baz=163,slow=5.3,SNR=6.3						
ASAR	**Alice Springs**	**75.42**	**109**	P	P	05 41 59.7	+0.2
	1.2nm,1.0s,baz=224,slow=6.5,SNR=5.6						
PLCA	**Paso Flores**	**77.14**	**226**	P	P	05 42 08.2	-0.9
	3.2nm,1.2s,baz=135,slow=2.9,SNR=3.4						
WRA	**Warramunga Arr**	**78.15**	**106**	P	P	05 42 14.8	-0.2
	0.6nm,0.4s,baz=224,slow=5.0,SNR=3.8						
BRTR	**Keskin Array B**	**82.52**	**353**	P	P	05 42 37.6	-0.4
	0.8nm,0.8s,baz=142,slow=7.3,SNR=3.5						
TXAR	**Lajitas Array**	**149.63**	**255**	PKP	PKPdf	05 50 00.6	-0.1
	2.0nm,1.1s,baz=141,slow=4.2,SNR=8.6						
TXAR				PKPbc	PKPbc	05 50 05.1	-0.2
	2.0nm,1.1s,baz=147,slow=5.2,SNR=9.6						

IDC 28 05:39:13.3±3.2, 10°58N×94°20E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/25, mbtmp3.4/4, Error ellipse: s-maj=130.7km s-min=23.9km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.48**	**347**	P	P	05 46 28.8	+0.1
	0.4nm,0.9s,baz=166,slow=8.6,SNR=3.0						
SONM	**Songino Array**	**38.53**	**13**	P	P	05 46 37.3	-0.4
	0.2nm,0.5s,baz=209,slow=8.1,SNR=2.7						
WRA	**Warramunga Arr**	**49.81**	**127**	P	P	05 48 08.5	+0.1
	0.4nm,0.4s,baz=304,slow=9.5,SNR=3.5						
ASAR	**Alice Springs**	**51.63**	**132**	P	P	05 48 21.8	-0.3
	0.7nm,1.0s,baz=309,slow=7.9,SNR=4.7						

IDC 28 05:48:53.1±1.2, 10°43N×93°92E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.7/27, mbtmp3.7/9, ML3.7/1, Error ellipse: s-maj=42.2km s-min=19.0km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.35**	**31**	Pn	Pn	05 51 10.2	+0.9
	0.2nm,0.3s,baz=218,slow=14,SNR=10.0						
MKAR	**Makanchi Array**	**37.56**	**347**	P	P	05 56 09.0	-0.3
	0.3nm,0.7s,baz=163,slow=8.7,SNR=6.9						
SONM	**Songino Array**	**38.74**	**13**	P	P	05 56 20.0	+0.7
	0.3nm,0.6s,baz=222,slow=1.9,SNR=2.7						
KURBB	**Kurchatov Arra**	**42.03**	**345**	P	P	05 56 46.0	-0.3
	0.2nm,0.3s,baz=163,slow=7.5,SNR=3.7						
ZALV	**Zalesovo Beam**	**44.01**	**352**	P	P	05 57 02.1	-0.2
	0.8nm,0.7s,baz=148,slow=8.5,SNR=2.5						
WRA	**Warramunga Arr**	**49.94**	**127**	P	P	05 57 49.0	-0.2
	1.8nm,0.7s,baz=303,slow=9.0,SNR=7.3						
ASAR	**Alice Springs**	**51.74**	**131**	P	P	05 58 03.0	+0.3
	2.0nm,0.9s,baz=313,slow=7.3,SNR=13						
BRTR	**Keskin Array B**	**60.62**	**310**	P	P	05 59 06.7	+0.5
	0.6nm,0.7s,baz=138,slow=5.2,SNR=3.2						
ILAR	**Eielson Array**	**92.47**	**22**	P	P	06 02 04.1	-1.8
	0.1nm,0.4s,baz=309,slow=3.0,SNR=2.9						

IDC 28 05:53:20.4±5.8, 10°07N×93°25E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/26, mbtmp3.8/5, MS3.3/1, Ms1 3.3/1, ms1mx2.5/41, Error ellipse: s-maj=307.3km s-min=20.5km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.16**	**142**	LR	LR	05 59 47.0	
	comp=Z,153nm,18.3s,baz=190,slow=42						
MKAR	**Makanchi Array**	**37.77**	**348**	P	P	06 00 38.4	+0.1
	0.6nm,0.7s,baz=148,slow=8.5,SNR=2.3						
KURBB	**Kurchatov Arra**	**42.22**	**346**	P	P	06 01 15.2	+0.1
	0.3nm,0.2s,baz=164,slow=8.1,SNR=4.3						
ZALV	**Zalesovo Beam**	**44.28**	**353**	P	P	06 01 31.1	-0.6
	0.6nm,0.4s,baz=172,slow=15,SNR=3.5						
WRA	**Warramunga Arr**	**50.25**	**126**	P	P	06 02 18.5	-0.3
	1.1nm,0.6s,baz=305,slow=8.8,SNR=12						
ASAR	**Alice Springs**	**51.99**	**131**	P	P	06 02 32.1	+0.2
	1.4nm,0.8s,baz=308,slow=7.5,SNR=8.4						

*IDC **28** 06:04:01.3±1.0, 10°57N×94°13E, h0km, mb3.9/13, mb1 4.0/14, mb1mx3.8/28, mbtmp3.8/14, ML4.0/1, MS3.7/7, Ms1 3.7/7, ms1mx3.3/34, Error ellipse: s-maj=32.3km s-min=17.4km az=56.0*
*ISCJB **28** 06:04:02.6±0.8, 10°6N±0°1×94°2E±0°1, h19km, mb3.8/15, MS3.5/7, Error ellipse: s-maj=18.3km s-min=13.6km az=141.0*
*NEIC **28** 06:04:02.8±0.7, 10°58N×94°10E, h10km, mb4.0/2, Error ellipse: s-maj=18.3km s-min=13.1km az=53.0*

ISC 28 06:04:04.2±0.9, 10°6N±0°1×94°1E±0°1, h19km, n38, σ09°94/34, mb3.8/15, MS3.7/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.09**	**30**	Pn	**Pn**	**06 06 14.5**	**0.0**
CMAR	**Chiang Mai Arr**	**9.09**	**30**	Pn	**Pn**	**06 06 14.5**	**0.0**
	0.4nm,0.3s,baz=217,slow=14,SNR=5.2						
PSI	**Prapat**	**9.12**	**148**	LR	LR	06 10 26.5	
	comp=Z,591nm,18.3s,baz=325,slow=42						
TGY	**Tagaytay City**	**26.43**	**80**	LR	LR	06 18 29.6	
	comp=Z,9.4nm,21.5s,baz=304,slow=33						
MK31	**Makanchi Array**	**37.42**	**347**	*e*P	**P**	**06 11 16.9**	**+0.7**
MKAR	**Makanchi Array**	**37.42**	**347**	P	**P**	**06 11 16.7**	**+0.5**
MKAR	**Makanchi Array**	**37.42**	**347**	P	**P**	**06 11 16.7**	**+0.5**
	1.5nm,0.7s,baz=162,slow=8.4,SNR=18						
MKAR				LR	LR	06 31 21.4	
	comp=Z,47nm,18.2s,baz=359,slow=44						
KKAR	**Karatay Array**	**38.33**	**332**	*e*P	**P**	**06 11 21.2**	**-2.7**
	1.5nm,0.8s						
SONM	**Songino Array**	**38.51**	**13**	P	**P**	**06 11 26.1**	**+0.7**
SONM	**Songino Array**	**38.51**	**13**	P	**P**	**06 11 26.2**	**+0.7**
	0.5nm,0.8s,baz=183,slow=8.3,SNR=4.8						
KSAR	**Wonju Array Be**	**40.42**	**43**	P	**P**	**06 11 40.9**	**-0.5**
KSRS	**Korea Array**	**40.46**	**43**	P	**P**	**06 11 40.9**	**-0.8**
	0.7nm,0.6s,baz=248,slow=6.6,SNR=4.9						
KURBB	**Kurchatov Arra**	**41.90**	**345**	P	**P**	**06 11 53.5**	**+0.2**
	1.0nm,0.7s,baz=161,slow=7.3,SNR=11						
KURK	**Kurchatov**	**41.96**	**345**	P	**P**	**06 11 53.5**	**-0.3**
ZAA0	**Zalesovo Array**	**43.85**	**352**	*e*P	**P**	**06 12 11.3**	**+2.2**
ZALV	**Zalesovo Beam**	**43.85**	**352**	P	**P**	**06 12 10.1**	**+1.0**
ZALV	**Zalesovo Beam**	**43.85**	**352**	P	**P**	**06 12 10.1**	**+1.0**
	1.6nm,0.6s,baz=167,slow=7.0,SNR=6.3						
ZALV				LR	LR	06 33 38.6	
	comp=Z,36nm,19.1s,baz=326,slow=40						
BVAR	**Borovoye Array**	**46.40**	**340**	P	**P**	**06 12 29.6**	**+0.2**
BVAR	**Borovoye Array**	**46.40**	**340**	P	**P**	**06 12 29.6**	**+0.2**
	0.4nm,0.5s,baz=128,slow=9.3,SNR=2.5						
MJAR	**Matsushiro Arr**	**47.38**	**50**	PcP	**PcP**	**06 14 08.2**	**+0.2**
MJAR	**Matsushiro Arr**	**47.38**	**50**	PcP	**PcP**	**06 14 08.2**	**+0.2**
	0.6nm,0.4s,baz=233,slow=5.0,SNR=4.2						
ABKAR	**Akbulak array**	**47.83**	**330**	*e*P	**P**	**06 12 40.7**	**+0.1**
	1.7nm,0.7s						
AKTO	**Aktyubinsk**	**49.55**	**330**	P	**P**	**06 12 54.4**	**+0.6**
AKTO	**Aktyubinsk**	**49.55**	**330**	P	**P**	**06 12 54.4**	**+0.6**
	0.4nm,0.5s,baz=100,slow=12,SNR=2.5						
WRA	**Warramunga Arr**	**49.91**	**127**	P	**P**	**06 12 56.6**	**-0.4**
WRA	**Warramunga Arr**	**49.91**	**127**	P	**P**	**06 12 56.7**	**-0.4**
	3.6nm,0.9s,baz=304,slow=8.8,SNR=12						
ASAR	**Alice Springs**	**51.72**	**132**	P	**P**	**06 13 10.5**	**-0.2**
ASAR	**Alice Springs**	**51.72**	**132**	P	**P**	**06 13 10.5**	**-0.2**
	3.9nm,0.9s,baz=301,slow=6.9,SNR=19						
ASAR				LR	LR	06 35 23.8	
	comp=Z,94nm,18.5s,baz=81,slow=36						
BRTR	**Keskin Array B**	**60.64**	**310**	P	**P**	**06 14 13.4**	**-1.0**
BRTR	**Keskin Array B**	**60.64**	**310**	P	**P**	**06 14 13.4**	**-1.0**
	0.7nm,0.6s,baz=113,slow=7.3,SNR=3.9						
STKA	**Stephens Creek**	**62.03**	**135**	LR	LR	06 45 14.4	
	comp=Z,134nm,19.2s,baz=206,slow=40						
ARCES	**ARCESS Array B**	**72.69**	**340**	P	**P**	**06 15 31.9**	**+1.4**
ARCES	**ARCESS Array B**	**72.69**	**340**	P	**P**	**06 15 31.9**	**+1.4**
	3.0nm,1.0s,baz=92,slow=6.3,SNR=4.3						
ARCES				LR	LR	06 49 36.6	
	comp=Z,88nm,20.4s,baz=228,slow=38						
NOA	**NORSAR Array B**	**77.34**	**330**	LR	LR	06 53 03.0	
	comp=Z,39nm,19.9s,baz=245,slow=38						
TORD	**Torodi Ar. Bea**	**89.94**	**283**	P	**P**	**06 17 04.2**	**+1.2**
TORD	**Torodi Ar. Bea**	**89.94**	**283**	P	**P**	**06 17 04.2**	**+1.2**
	0.4nm,0.7s,baz=91,slow=6.0,SNR=2.6						
ILAR	**Eielson Array**	**92.23**	**22**	P	**P**	**06 17 12.1**	**-0.6**
ILAR	**Eielson Array**	**92.23**	**22**	P	**P**	**06 17 12.1**	**-0.6**
	0.1nm,0.6s,baz=280,slow=5.4,SNR=3.0						

IDC 28 06:28:21.3±4.5, 10°31S×114°29E, h0km, mb3.1/3, mb1 3.5/4, mb1mx3.3/21, mbtmp3.3/4, ML3.5/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/12, Error ellipse: s-maj=274.0km s-min=24.7km az=46.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.55**	**46**	LR	LR	06 33 22.4	
	comp=Z,83nm,20.5s,baz=13,slow=40						
FITZ	**Fitzroy Crossi**	**13.45**	**126**	Pn	Pn	06 31 33.1	-0.5
	0.2nm,0.3s,baz=306,slow=14,SNR=4.6						
FITZ				Sn	Sn	06 33 46.0	-18

*ISCJB **28** 06:36:16.3±0.5, 10°.64N×94°.19E±0°.09, h19km, mb4.1/23, MS3.8/14, Error ellipse: s-maj=13.8km s-min=7.4km az=145.5*

*NEIC **28** 06:36:16.5±0.3, 10°.61N×94°.14E, h10km, mb4.1/4, Error ellipse: s-maj=11.7km s-min=7.5km az=63.0*

ISC 28 06:36:18.0±0.5, 10°.64N±0°.08×94°.1E±0°.1, h19km, n72, σ0s95/71, mb4.1/23, MS3.8/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	9.07	31	Pn	Pn	06 38 28.0	0.0
CMAR	Chiang Mai Arr	9.07	31	Pn	Pn	06 38 28.0	0.0
	0.4nm,0.3s,baz=217,slow=14,SNR=8.5						
PSI	Prapat	9.14	148	Pn	Pn	06 38 30.3	+1.2
PSI	Prapat	9.14	148	Pn	Pn	06 38 30.3	+1.2
	0.8nm,0.3s,baz=334,slow=19,SNR=6.9						
PSI				LR	LR	06 42 40.5	
	comp=Z,791nm,18.3s,baz=298,slow=42						
ODAN	Odare	17.33	339	eP	Pn	06 40 19.4	+0.2
TAPN	Taplejung	17.68	341	eP	Pn	06 40 22.4	-1.1
	460nm,1.8s						
RAMN	Ramite	17.70	337	eP	P	06 40 24.7	+0.1
	145nm,1.4s						
JIRN	Jiri	18.49	337	eP	Pn	06 40 33.9	+0.3
	83nm,1.1s						
PKI	Pulchoki	18.72	335	eP	Pn	06 40 37.4	+1.0
	155nm,1.4s						
PKIN	Phulchoki	18.73	335	eP	Pn	06 40 36.5	+0.1
	19nm,0.6s						
GUN	Gumba	18.84	337	eP	P	06 40 37.5	+0.3
	330nm,1.6s						
DMN	Daman	18.88	335	eP	Pn	06 40 39.1	+0.9
	55nm,1.0s						
KKN	Kakani	18.97	335	eP	Pn	06 40 40.2	+1.0
KOLN	Koldanda	19.69	331	eP	Pn	06 40 48.4	+0.5
	30nm,0.7s						
DANN	Dangsing	20.11	333	eP	Pn	06 40 52.2	-0.8
	66nm,0.8s						
NDI	New Delhi	23.92	321	eP	P	06 41 25.0	-5.9
ENH	Enshi	24.22	34	eP	P	06 41 33.5	-0.2
	8.2nm,0.8s						
KAPI	Kappang	29.91	120	LR	LR	06 54 38.2	
	comp=Z,183nm,19.7s,baz=143,slow=37						
TKM2	Tokmak 2	35.98	337	eP	P	06 43 18.0	+0.1
AAK	Ala-Archa	36.18	335	P	P	06 43 21.8	+2.2
AAK	Ala-Archa	36.18	335	P	P	06 43 21.8	+2.2
	1.8nm,0.4s,baz=173,slow=9.7,SNR=4.2						
AAK				LR	LR	06 59 53.1	
	comp=Z,167nm,21.1s,baz=134,slow=39						
EKS2	Erkin-Say	36.50	334	eP	P	06 43 23.4	+1.1
	2.1nm,0.7s						
MKAR	Makanchi Array	37.40	347	P	P	06 43 30.0	+0.2
MKAR	Makanchi Array	37.40	347	P	P	06 43 30.0	+0.2
	2.3nm,0.7s,baz=163,slow=8.2,SNR=26						
MKAR				LR	LR	07 02 10.4	
	comp=Z,65nm,20.0s,baz=172,slow=42						
KKAR	Karatay Array	38.30	332	eP	P	06 43 38.2	+0.8
	1.9nm,0.7s						
SONM	Songino Array	38.49	13	P	P	06 43 39.5	+0.5
SONM				PcP	PcP	06 45 51.5	-0.4
SONM	Songino Array	38.49	13	P	P	06 43 39.5	+0.5
	2.0nm,1.1s,baz=192,slow=5.9,SNR=9.7						
SONM				PcP	PcP	06 45 51.5	-0.4
	0.5nm,0.8s,baz=200,slow=12,SNR=2.2						
KSAR	Wonju Array Be	40.41	43	P	P	06 43 54.6	-0.5
KSRS	Korea Array	40.45	43	P	P	06 43 54.6	-0.7
	1.8nm,0.8s,baz=254,slow=8.7,SNR=9.9						
KURBB	Kurchatov Arra	41.87	345	P	P	06 44 07.3	+0.4
	1.8nm,0.8s,baz=163,slow=7.4,SNR=18						
KURK	Kurchatov	41.94	345	P	P	06 44 07.3	-0.1
FITZ	Fitzroy Crossi	42.25	132	LR	LR	07 00 04.0	
	comp=Z,118nm,21.4s,baz=272,slow=34						
ZALV	Zalesovo Beam	43.83	352	P	P	06 44 23.6	+1.0
ZALV	Zalesovo Beam	43.83	352	P	P	06 44 23.6	+1.0
	2.0nm,0.3s,baz=171,slow=9.8,SNR=2.2						
ZALV				LR	LR	07 04 24.3	
	comp=Z,43nm,19.6s,baz=340,slow=38						
MJAR	Matsushiro Arr	47.38	50	P	P	06 44 52.2	+1.1
MJAR				PcP	PcP	06 46 22.0	+0.3
MJAR	Matsushiro Arr	47.38	50	P	P	06 44 52.2	+1.1
	0.4nm,0.3s,baz=257,slow=8.6,SNR=4.5						
MJAR				PcP	PcP	06 46 22.0	+0.3
	3.1nm,1.0s,baz=232,slow=3.3,SNR=6.9						
ABKAR	Akbulak array	47.81	330	eP	P	06 44 54.6	+0.4
	1.2nm,0.5s						
AKTO	Aktyubinsk	49.53	330	P	P	06 45 07.6	+0.2
AKTO	Aktyubinsk	49.53	330	P	P	06 45 07.6	+0.2
	1.1nm,0.9s,baz=139,slow=8.6,SNR=2.7						
AKTO				LR	LR	07 08 55.5	
	comp=Z,38nm,18.2s,baz=338,slow=40						
WRA	Warramunga Arr	49.93	127	P	P	06 45 10.1	-0.8
WRA	Warramunga Arr	49.93	127	P	P	06 45 10.1	-0.8
	7.9nm,1.0s,baz=303,slow=8.6,SNR=21						
ATD	Arta Tunnel	50.25	276	LR	LR	07 02 33.8	
	comp=Z,77nm,21.2s,baz=260,slow=31						
ASAR	Alice Springs	51.74	132	P	P	06 45 23.9	-0.7
ASAR	Alice Springs	51.74	132	P	P	06 45 23.9	-0.7
	4.9nm,0.9s,baz=307,slow=7.0,SNR=26						
ASAR				LR	LR	07 06 35.2	
	comp=Z,105nm,22.0s,baz=106,slow=35						
GNI	Garni	52.51	313	P	P	06 45 32.0	+1.7
GNI	Garni	52.51	313	P	P	06 45 32.0	+1.7
	3.2nm,0.3s,baz=74,slow=4.2,SNR=2.9						
KMBO	Kilima Mbogo	57.73	262	LR	LR	07 10 54.8	
	comp=Z,60nm,18.8s,baz=96,slow=36						
BRTR	Keskin Array B	60.62	310	P	P	06 46 26.9	-1.1
BRTR	Keskin Array B	60.62	310	P	P	06 46 26.9	-1.1
	1.5nm,0.7s,baz=119,slow=6.5,SNR=8.7						
STKA	Stephens Creek	62.05	135	LR	LR	07 12 35.7	
	comp=Z,205nm,20.5s,baz=343,slow=35						
FINES	FINESS Array B	70.26	332	P	P	06 47 30.1	+0.3
FINES	FINESS Array B	70.26	332	P	P	06 47 30.1	+0.3
	0.6nm,0.5s,baz=111,slow=7.6,SNR=2.8						
FINES				LR	LR	07 25 09.5	
	comp=Z,68nm,18.7s,baz=206,slow=42						
ARCES	ARCESS Array B	72.67	340	P	P	06 47 44.4	+0.2
ARCES	ARCESS Array B	72.67	340	P	P	06 47 44.4	+0.2
	1.4nm,0.8s,baz=71,slow=5.3,SNR=3.9						
ARCES				LR	LR	07 22 55.2	
	comp=Z,106nm,20.0s,baz=78,slow=38						
GERES	GERESS Array B	75.75	318	P	P	06 48 02.7	0.0
GERES	GERESS Array B	75.75	318	P	P	06 48 02.7	0.0
	0.4nm,0.3s,baz=72,slow=4.3,SNR=4.1						
GERES				LR	LR	07 26 49.1	
	comp=Z,47nm,19.3s,baz=53,slow=40						
NOA	NORSAR Array B	77.32	330	P	P	06 48 10.4	-0.9
NOA	NORSAR Array B	77.32	330	P	P	06 48 10.4	-0.9
	0.7nm,0.8s,baz=89,slow=6.0,SNR=3.3						
NOA				LR	LR	07 25 37.2	
	comp=Z,48nm,18.8s,baz=95,slow=38						
TORD	Torodi Ar. Bea	89.93	283	P	P	06 49 17.4	+0.6
TORD				PP	PP	06 52 47.4	-2.3
TORD	Torodi Ar. Bea	89.93	283	P	P	06 49 17.4	+0.6
	0.4nm,0.7s,baz=93,slow=4.1,SNR=3.0						
TORD				PP	PP	06 52 47.4	-2.3
	0.3nm,0.7s,baz=102,slow=6.1,SNR=2.7						
ILAR	Eielson Array	92.21	22	P	P	06 49 24.6	-1.8
ILAR	Eielson Array	92.21	22	P	P	06 49 24.6	-1.8
	0.3nm,0.6s,baz=302,slow=4.6,SNR=5.7						
VNDA	Vanda	95.63	168	P	P	06 49 42.3	+0.6
VNDA	Vanda	95.63	168	P	P	06 49 42.3	+0.6
	0.4nm,0.5s,baz=349,slow=10,SNR=2.6						
NVAR	Mina Array Bea	122.57	30	PKP	PKPdf	06 55 12.3	-0.8
NVAR	Mina Array Bea	122.57	30	PKP	PKPdf	06 55 12.3	-0.8
	0.4nm,0.7s,baz=174,slow=0.9,SNR=2.7						
PDAR	Pinedale Array	122.61	21	PKP	PKPdf	06 55 11.7	-1.4
PDAR	Pinedale Array	122.61	21	PKP	PKPdf	06 55 11.7	-1.4
	0.3nm,0.9s,baz=347,slow=3.7,SNR=3.3						
PLCA	Paso Flores	147.10	202	PKPbc	PKPbc	06 56 00.6	+0.4
PLCA	Paso Flores	147.10	202	PKPbc	PKPbc	06 56 00.6	+0.4
	2.7nm,0.9s,baz=232,slow=6.1,SNR=4.0						
CFAA	Coronel Fontan	153.50	215	PKPbc	PKPbc	06 56 15.8	-0.1
CFAA	Coronel Fontan	153.50	215	PKPbc	PKPbc	06 56 15.8	-0.1
	0.1nm,0.3s,baz=87,slow=1.0,SNR=4.7						

*IDC **28** 06:51:21.5±0.6, 10°.60N×94°.09E, h0km, mb4.1/17, mb1 4.2/18, mb1mx4.1/27, mbtmp4.1/18, ML4.1/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/39, Error ellipse: s-maj=22.4km s-min=15.5km az=57.0*

*ISCJB **28** 06:51:22.3±0.5, 10°.53N±0°.06×94°.19E±0°.08, h19km, mb4.2/23, MS3.2/4, Error ellipse: s-maj=12.1km s-min=7.3km az=144.0*

*NEIC **28** 06:51:22.9±0.3, 10°.57N×94°.09E, h10km, mb4.1/4, Error ellipse: s-maj=9.4km s-min=6.4km az=60.0*

ISC 28 06:51:24.2±0.6, 10°.53N±0°.09×94°.1E±0°.1, h19km, n72, σ0s84/68, mb4.2/23, MS3.2/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	Kulim	8.32	128	ePn	Pn	06 53 23.8	-0.1
PSI	Prapat	9.05	148	LR	LR	06 57 46.1	
	comp=Z,432nm,18.1s,baz=148,slow=42						
CMAR	Chiang Mai Arr	9.17	30	Pn	Pn	06 53 36.0	+0.4
CMAR	Chiang Mai Arr	9.17	30	Pn	Pn	06 53 36.0	+0.4
	0.5nm,0.3s,baz=216,slow=15,SNR=11						
CHTO	Chiang Mai	9.48	29	Pn	Pn	06 53 39.8	+0.1
ODAN	Odare	17.43	340	eP	P	06 55 30.0	+2.2
TAPN	Taplejung	17.78	341	eP	P	06 55 34.1	+2.4
	66nm,0.9s						
RAMN	Ramite	17.80	338	eP	P	06 55 34.0	+2.2
	33nm,0.7s						
JIRN	Jiri	18.59	338	eP	Pn	06 55 42.1	+1.1
	51nm,0.9s						
PKI	Pulchoki	18.82	335	eP	Pn	06 55 44.7	+1.0
	84nm,1.1s						
PKIN	Phulchoki	18.83	335	eP	Pn	06 55 45.5	+1.7
	23nm,0.8s						
GUN	Gumba	18.93	337	eP	Pn	06 55 45.9	+0.8
DMN	Daman	18.98	335	eP	Pn	06 55 46.5	+0.9
KKN	Kakani	19.06	335	eP	Pn	06 55 47.1	+0.5
LSA	Lhasa	19.27	352	eP	Pn	06 55 47.4	-1.9
	4.5nm,0.4s						
KOLN	Koldanda	19.78	332	eP	Pn	06 55 54.6	-0.6
	42nm,0.7s						
DANN	Dangsing	20.20	333	eP	Pn	06 55 59.1	-1.3
	55nm,0.6s						
NDI	New Delhi	24.00	321	eP	P	06 56 36.0	-1.8
KAPI	Kappang	29.86	120	LR	LR	07 09 31.3	
	comp=Z,64nm,18.7s,baz=61,slow=36						
AAK	Ala-Archa	36.27	335	P	P	06 58 27.9	+1.3
AAK	Ala-Archa	36.27	335	P	P	06 58 27.9	+1.3
	1.5nm,0.3s,baz=209,slow=3.5,SNR=4.0						
EKS2	Erkin-Say	36.59	335	eP	P	06 58 29.9	+0.6
	2.5nm,0.7s						
MK31	Makanchi Array	37.50	347	eP	P	06 58 36.4	-0.4
MKAR	Makanchi Array	37.50	347	P	P	06 58 36.5	-0.3
MKAR				PcP	PcP	07 00 55.5	+0.7
MKAR	Makanchi Array	37.50	347	P	P	06 58 36.5	-0.3
	4.1nm,0.7s,baz=164,slow=8.3,SNR=53						
MKAR				PcP	PcP	07 00 55.5	+0.7
	0.6nm,0.8s,baz=188,slow=4.4,SNR=2.2						
MKAR				LR	LR	07 17 45.2	
	comp=Z,33nm,18.1s,baz=174,slow=42						
KKAR	Karatay Array	38.40	332	eP	P	06 58 44.0	-0.4
	1.3nm,0.7s						
SONM	Songino Array	38.60	13	P	P	06 58 46.2	0.0
SONM	Songino Array	38.60	13	P	P	06 58 46.2	0.0
	1.1nm,0.7s,baz=194,slow=7.9,SNR=8.8						
SONM				LR	LR	07 16 06.0	
	comp=Z,51nm,20.4s,baz=24,slow=38						
KSAR	Wonju Array Be	40.50	43	P	P	06 59 01.6	-0.4
KSRS	Korea Array	40.53	43	P	P	06 59 01.6	-0.6
	1.3nm,0.6s,baz=256,slow=9.6,SNR=7.8						
KSRS				LR	LR	07 16 11.2	
	comp=Z,30nm,18.6s,baz=245,slow=37						
ZALV	Zalesovo Beam	43.93	352	P	P	06 59 29.7	0.0
ZALV	Zalesovo Beam	43.93	352	P	P	06 59 29.7	0.0
	5.1nm,0.7s,baz=177,slow=8.9,SNR=18						
MJAR	Matsushiro Arr	47.45	50	PcP	PcP	07 01 27.6	-0.5
MJAR	Matsushiro Arr	47.45	50	PcP	PcP	07 01 27.6	-0.5
	2.5nm,0.7s,baz=242,slow=4.2,SNR=7.1						
ABKAR	Akbulak array	47.90	330	eP	P	07 00 00.5	-0.6
	4.4nm,0.9s						
AKTO	Aktyubinsk	49.62	330	P	P	07 00 14.1	-0.3
AKTO	Aktyubinsk	49.62	330	P	P	07 00 14.1	-0.3
	1.6nm,0.7s,baz=107,slow=4.7,SNR=4.2						
WRA	Warramunga Arr	49.87	127	P	P	07 00 17.1	+0.5
WRA	Warramunga Arr	49.87	127	P	P	07 00 17.1	+0.5
	2.3nm,0.7s,baz=302,slow=9.1,SNR=11						
AS31	Alice Springs	51.68	132	eP	P	07 00 30.4	+0.2
ASAR	Alice Springs	51.68	132	P	P	07 00 30.6	+0.3
ASAR				PcP	PcP	07 01 44.6	+0.8
ASAR	Alice Springs	51.68	132	P	P	07 00 30.6	+0.3
	1.9nm,0.8s,baz=312,slow=7.1,SNR=15						
ASAR				PcP	PcP	07 01 44.6	+0.8
	1.2nm,0.9s,baz=309,slow=5.7,SNR=3.2						
BRTR	Keskin Array B	60.69	310	P	P	07 01 33.7	-0.9
BRTR	Keskin Array B	60.69	310	P	P	07 01 33.7	-0.9
	3.1nm,0.8s,baz=118,slow=7.6,SNR=13						
FINES	FINESS Array B	70.36	332	P	P	07 02 36.1	-0.4
FINES	FINESS Array B	70.36	332	P	P	07 02 36.1	-0.4
	1.3nm,0.6s,baz=108,slow=7.5,SNR=3.0						
ARCES	ARCESS Array B	72.77	340	P	P	07 02 51.2	+0.3
ARCES	ARCESS Array B	72.77	340	P	P	07 02 51.2	+0.3
	1.7nm,0.7s,baz=79,slow=6.4,SNR=6.8						
GERES	GERESS Array B	75.83	318	P	P	07 03 09.2	-0.1
GERES	GERESS Array B	75.83	318	P	P	07 03 09.2	-0.1
	1.3nm,0.7s,baz=76,slow=5.2,SNR=8.9						
BOSA	Boshof	76.96	237	P	P	07 03 17.6	+1.5
BOSA	Boshof	76.96	237	P	P	07 03 17.6	+1.5
	1.4nm,0.7s,baz=56,slow=6.2,SNR=3.6						
NOA	NORSAR Array B	77.41	330	P	P	07 03 17.4	-0.5
NOA	NORSAR Array B	77.41	330	P	P	07 03 17.4	-0.5
	1.0nm,0.8s,baz=90,slow=5.9,SNR=3.8						
KEST	Kesra	79.70	305	P	P	07 03 31.7	+0.6
KEST	Kesra	79.70	305	P	P	07 03 31.7	+0.6
	0.8nm,0.5s,baz=180,slow=4.0,SNR=3.6						
LPG	La Plagne	80.72	315	eP	P	07 03 36.3	-0.4
	8.8nm,0.8s						
LPL	La Plagne	80.74	315	eP	P	07 03 36.1	-0.6
MBDF	Montbardon	80.78	314	eP	P	07 03 36.0	-0.9
	19nm,1.2s						
LOR	Lormes	82.52	317	eP	P	07 03 45.2	-0.6
	7.8nm,0.6s						
TORD	Torodi Ar. Bea	89.94	283	P	P	07 04 23.2	+0.2
TORD	Torodi Ar. Bea	89.94	283	P	P	07 04 23.2	+0.2
	0.5nm,0.8s,baz=81,slow=5.3,SNR=4.0						
ILAR	Eielson Array	92.31	22	P	P	07 04 31.8	-1.2
ILAR	Eielson Array	92.31	22	P	P	07 04 31.8	-1.2
	0.7nm,0.7s,baz=298,slow=4.4,SNR=11						
NVAR	Mina Array Bea	122.67	30	PKP	PKPdf	07 10 19.7	+0.3
NVAR	Mina Array Bea	122.67	30	PKP	PKPdf	07 10 19.7	+0.3
	0.2nm,0.5s,baz=336,slow=3.3,SNR=3.9						
PDAR	Pinedale Array	122.72	21	PKP	PKPdf	07 10 18.5	-1.0
PDAR	Pinedale Array	122.72	21	PKP	PKPdf	07 10 18.5	-1.0
	0.6nm,0.9s,baz=48,slow=2.2,SNR=4.2						
TXAR	Lajitas Array	136.82	23	PKP	PKPdf	07 10 48.2	+1.8
TXAR	Lajitas Array	136.82	23	PKP	PKPdf	07 10 48.2	+1.8
	0.1nm,0.4s,baz=360,slow=0.4,SNR=5.8						
PLCA	Paso Flores	147.00	202	PKPbc	PKPab	07 11 07.4	-0.1
PLCA	Paso Flores	147.00	202	PKPbc	PKPab	07 11 07.4	-0.1
	5.9nm,1.2s,baz=125,slow=5.1,SNR=4.2						

*CSEM **28** 06:53:17.8±0.1, 46°.22N×7°.43E, h19km, ML2.3/19, Error ellipse: s-maj=2.0km s-min=1.4km az=102.0*

*ZUR **28** 06:53:18.7, 46°.23N×7°.45E, h5km±1km, ML1.7/7*

*VIE **28** 06:53:18.3±0.4, 46°.30N×7°.30E, h11km±1km, ML2.1/2, Error ellipse: s-maj=5.3km s-min=1.1km az=133.0 9 km NNW of Sion*

*LDG **28** 06:53:18.6±0.1, 46°.23N×7°.47E, h5km, Md2.4/3, Ml2.4/18, Error ellipse: s-maj=1.0km s-min=0.6km az=93.0*

ISC 28 06:53:19.2±0.9, 46°.22N±0°.02×7°.43E±0°.02, h7km±8km, n52, σ1s04/91, 4C-10D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DIX	Grande Dixence	0.14	187	i Pg	Pg	06 53 22.2	-0.1
	611nm,0.6s						
DIX				e Sg	Sg	06 53 24.5	+0.1
	611nm,0.6s						
DIX	Grande Dixence	0.14	187	i Pg	Pg	06 53 22.2	-0.1
	611nm,0.6s						
DIX				e Sg	Sg	06 53 24.5	+0.1
	611nm,0.6s						
SENIN	Lac Senin/Sane	0.17	327	i Pg	Pg	06 53 22.2	-0.5
	286nm,0.4s						
SENIN	Lac Senin/Sane	0.17	327	i Pg	Pg	06 53 22.2	-0.5
	286nm,0.4s						
LKBD	Leukerbad	0.21	39	i Pg	Pg	06 53 22.9	-0.6
	112nm,0.4s						
LKBD				i Sg	Sg	06 53 26.0	-0.4
	112nm,0.4s						
LKBD	Leukerbad	0.21	39	i Pg	Pg	06 53 22.9	-0.6
	112nm,0.4s						
LKBD				i Sg	Sg	06 53 26.0	-0.4
	112nm,0.4s						
GRYON	Gryon	0.23	278	i Pg	Pg	06 53 23.5	-0.2
	67nm,0.6s						
SALAN	Lac Salanfe	0.33	257	i Pg	Pg	06 53 25.7	0.0
	22nm,0.5s						
SALAN				e Sg	Sg	06 53 30.6	+0.5
	22nm,0.5s						
SALAN	Lac Salanfe	0.33	257	i Pg	Pg	06 53 25.7	0.0
	22nm,0.5s						
SALAN				e Sg	Sg	06 53 30.6	+0.5
	22nm,0.5s						
MMK	Mattmark	0.41	115	eP g	Pg	06 53 26.8	-0.3
	98nm,0.2s						
MMK	Mattmark	0.41	115	eP g	Pg	06 53 26.8	-0.3
	98nm,0.2s						
WIMIS	Wimmis	0.46	16	eP g	Pg	06 53 27.9	-0.3
	94nm,0.7s						
WIMIS	Wimmis	0.46	16	eP g	Pg	06 53 27.9	-0.3
	94nm,0.7s						
LPL	La Plagne	0.86	215	eP g	Pg	06 53 35.4	-0.3
LPL				e Sg	Sg	06 53 46.9	+0.1
	12nm,0.4s						
LPL	La Plagne	0.86	215	eP g	Pg	06 53 35.4	-0.3
LPL				e Sg	Sg	06 53 46.9	+0.1
	6.2nm,0.4s						
LPG	La Plagne	0.87	214	eP g	Pg	06 53 35.6	-0.2
LPG				e Sg	Sg	06 53 47.3	+0.2
	15nm,0.4s						
LPG	La Plagne	0.87	214	eP g	Pg	06 53 35.6	-0.2
LPG				e Sg	Sg	06 53 47.3	+0.2
	7.5nm,0.4s						
CABF	La Chapelle	1.01	293	eP g	Pg	06 53 38.4	-0.2
CABF				e Sg	Sg	06 53 51.2	-0.5
	4.2nm,0.2s						
CABF	La Chapelle	1.01	293	eP g	Pg	06 53 38.4	-0.2
CABF				e Sg	Sg	06 53 51.2	-0.5
	2.1nm,0.2s						
MBDF	Montbardon	1.57	198	eP g	Pb	06 53 48.0	-0.6
MBDF				e Sg	Sb	06 54 08.9	+0.2
	21nm,0.6s						
MBDF	Montbardon	1.57	198	eP g	Pb	06 53 48.0	-0.6
MBDF				e Sg	Sb	06 54 08.9	+0.2
	11nm,0.6s						
HINF	Hinteralfeld	1.65	346	eP g	Pb	06 53 49.3	-0.6
HINF				e Sg	Sb	06 54 10.7	-0.2
	6.1nm,0.3s						
HINF	Hinteralfeld	1.65	346	eP g	Pb	06 53 49.3	-0.6
HINF				e Sg	Sb	06 54 10.7	-0.2
	3.0nm,0.3s						
ORIF	Oris-en-Rattie	1.70	221	eP g	Pb	06 53 50.7	-0.1
ORIF				e Sg	Sb	06 54 13.0	+0.5
	12nm,0.5s						
ORIF	Oris-en-Rattie	1.70	221	eP g	Pb	06 53 50.7	-0.1
ORIF				e Sg	Sb	06 54 13.0	+0.5
	6.0nm,0.5s						
HAU	Haudompre	1.93	338	eP g	Pb	06 53 54.7	-0.1
HAU				e Sg	Sb	06 54 19.4	+0.3
	3.3nm,0.2s						
HAU	Haudompre	1.93	338	eP g	Pb	06 53 54.7	-0.1
HAU				e Sg	Sb	06 54 19.4	+0.3
	1.6nm,0.2s						
DAVA	Damuels	1.99	57	i Pn	Pg	06 53 56.9	-0.4
DAVA				i Sg	Sg	06 54 25.2	+2.0
	3.0nm,0.2s						
DAVA	Damuels	1.99	57	Pg	Pg	06 53 56.9	-0.4
DAVA				Sg	Sg	06 54 25.2	+2.0
	3.0nm,0.2s						
CDF	Champ du Feu	2.19	357	eP g	Pb	06 53 59.6	+0.3
CDF				e Sg	Sb	06 54 27.8	+1.1
	3.6nm,0.5s						
CDF	Champ du Feu	2.19	357	eP g	Pb	06 53 59.6	+0.3
CDF				e Sg	Sb	06 54 27.8	+1.1
	1.8nm,0.5s						
SBF	Sospel	2.36	180	eP g	Pb	06 54 01.8	-0.2
SBF				e Sg	Sg	06 54 33.2	-1.7
	4.1nm,0.3s						
SBF	Sospel	2.36	180	eP g	Pb	06 54 01.8	-0.2
SBF				e Sg	Sg	06 54 33.2	-1.7
	2.0nm,0.3s						
VIVF	Saint-Julien-l	2.37	236	eP g	Pb	06 54 03.2	+0.9
VIVF				e Sg	Sg	06 54 33.9	-1.5
	9.1nm,0.4s						
VIVF	Saint-Julien-l	2.37	236	eP g	Pb	06 54 03.2	+0.9
VIVF				e Sg	Sg	06 54 33.9	-1.5
	4.6nm,0.4s						
FETA	Feichten	2.41	69	i Pn	Pn	06 53 58.9	-0.3
FETA				i Pg	Pg	06 54 04.9	-0.5
FETA	Feichten	2.41	69	Pn	Pn	06 53 58.9	-0.3
SMF	Signal de Mont	2.52	281	eP g	Pb	06 54 05.6	+0.8
SMF				e Sg	Sg	06 54 38.4	-1.7
	2.5nm,0.3s						
SMF	Signal de Mont	2.52	281	eP g	Pb	06 54 05.6	+0.8
SMF				e Sg	Sg	06 54 38.4	-1.7
	1.2nm,0.3s						
SMRF	Simiane la Rot	2.60	211	eP g	Pb	06 54 07.2	+1.0
SMRF				e Sg	Sg	06 54 41.0	-1.8
	3.3nm,0.4s						
SMRF	Simiane la Rot	2.60	211	eP g	Pb	06 54 07.2	+1.0
SMRF				e Sg	Sg	06 54 41.0	-1.8
	1.6nm,0.4s						
LOR	Lormes	2.67	294	eP g	Pb	06 54 08.5	+1.

comp=Z,164nm,18.3s,baz=138,slow=34
KMBO Kilima Mbogo 34.18 300 LR LR 07 35 16.6
comp=Z,67nm,18.1s,baz=108,slow=32
LBTB Lobatse 37.93 255 *eP* P P 07 24 26.8 +3.6
12nm,1.4s
LBTB Lobatse 37.93 255 P P 07 24 27.8 +4.6
1.9nm,0.8s,baz=90,slow=7.1,SNR=2.9
BOSA Boshof 38.31 249 LR LR 07 38 41.8
comp=Z,72nm,18.1s,baz=169,slow=34
MAW Mawson 47.57 182 P **P 07 25 41.0 +0.3**
MAW Mawson 47.57 182 P **P 07 25 41.0 +0.3**
1.9nm,0.6s,baz=19,slow=7.0,SNR=4.4
MAW LR LR 07 40 25.6
comp=Z,64nm,22.0s,baz=80,slow=30
CMAR Chiang Mai Arr 49.83 42 LR LR 07 43 27.0
comp=Z,95nm,19.3s,baz=328,slow=32
ASAR Alice Springs 62.20 107 P **P 07 27 27.3 -0.1**
ASAR Alice Springs 62.20 107 P **P 07 27 27.3 -0.1**
1.2nm,0.7s,baz=259,slow=6.1,SNR=10
ASAR LR LR 07 50 25.2
comp=Z,114nm,21.8s,baz=300,slow=32
TKM2 Tokmak 2 63.24 8 *eP* **P 07 27 34.5 +0.5**
1.8nm,0.7s
WRA Warramunga Arr 63.37 103 P **P 07 27 35.5 +0.2**
WRA Warramunga Arr 63.37 103 P **P 07 27 35.5 +0.2**
0.5nm,0.3s,baz=259,slow=5.5,SNR=5.9
WRAB Tennant Creek 63.38 103 *eP* **P 07 27 35.5 +0.2**
8.8nm,1.1s
SNAA Sanae 64.60 199 P **P 07 27 42.3 -0.3**
SNAA Sanae 64.60 199 P **P 07 27 42.3 -0.3**
0.2nm,0.6s,baz=52,slow=7.3,SNR=2.7
BRTR Keskin Array B 66.90 333 P **P 07 27 58.2 +0.4**
BRTR Keskin Array B 66.90 333 P **P 07 27 58.2 +0.4**
0.9nm,0.8s,baz=153,slow=8.3,SNR=4.7
MKAR Makanchi Array 68.08 12 P **P 07 28 05.2 +0.2**
MKAR Makanchi Array 68.08 12 P **P 07 28 05.2 +0.2**
0.9nm,0.8s,baz=201,slow=5.8,SNR=9.4
ABKAR Akbulak array 69.25 355 *eP* **P 07 28 12.3 +0.1**
1.3nm,0.6s
TORD Torodi Ar. Bea 71.72 292 P **P 07 28 28.7 +0.7**
TORD Torodi Ar. Bea 71.72 292 P **P 07 28 28.7 +0.7**
0.6nm,0.9s,baz=123,slow=4.8,SNR=2.3
DBIC Dimbokro 74.92 283 LR LR 07 58 48.5
comp=Z,63nm,18.9s,baz=117,slow=33
ZALV Zalesovo Beam 75.40 11 P **P 07 28 48.3 -0.5**
ZALV Zalesovo Beam 75.40 11 P **P 07 28 48.3 -0.5**
1.4nm,0.4s,baz=222,slow=4.0,SNR=3.7
SONM Songino Array 76.51 26 P **P 07 28 55.5 0.0**
SONM Songino Array 76.51 26 P **P 07 28 55.5 0.0**
0.9nm,0.8s,baz=212,slow=4.6,SNR=5.7
YKA Yellowknife Ar 137.61 1 PKP **PKPdf 07 36 29.0 +0.1**
YKA Yellowknife Ar 137.61 1 PKP **PKPdf 07 36 29.0 +0.1**
0.3nm,0.8s,baz=0.0,slow=1.9,SNR=3.9
TXAR Lajitas Array 167.12 318 PKPab **PKPab 07 38 14.2 -1.9**
TXAR Lajitas Array 167.12 318 PKPab **PKPab 07 38 14.2 -1.9**
0.3nm,0.8s,baz=95,slow=4.4,SNR=4.3

IDC 28 07:23:22.3±1.0, 20°92N×146°41E, h0km, mb3.5/8, mb1 3.8/8, mb1mx3.6/25, mbtmp3.5/8, Error ellipse: s-maj=34.8km s-min=24.1km az=100.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KSRS	**Korea Array**	**22.99**	**320**	P	P		07 28 28.3	-0.4
	1.2nm,0.7s,baz=136,slow=9.0,SNR=5.7							
WRA	**Warramunga Arr**	**42.30**	**197**	P	P		07 31 18.8	+0.8
	0.5nm,0.7s,baz=21,slow=8.9,SNR=2.5							
ASAR	**Alice Springs**	**45.96**	**196**	P	P		07 31 46.0	-1.4
	0.2nm,0.6s,baz=12,slow=7.8,SNR=3.2							
MKAR	**Makanchi Array**	**57.43**	**313**	P	P		07 33 14.8	+1.8
	0.2nm,0.7s,baz=93,slow=7.2,SNR=2.2							
ILAR	**Eielson Array**	**61.37**	**27**	P	P		07 33 39.2	-0.6
	0.3nm,0.7s,baz=265,slow=6.8,SNR=4.1							
YKA	**Yellowknife Ar**	**75.72**	**28**	P	P		07 35 09.5	0.0
	0.2nm,0.6s,baz=295,slow=5.3,SNR=3.9							
NVAR	**Mina Array Bea**	**81.25**	**52**	P	P		07 35 41.7	+0.8
	1.0nm,0.8s,baz=263,slow=6.6,SNR=8.4							
FINES	**FINESS Array B**	**85.15**	**335**	P	P		07 35 58.6	-1.6
	0.9nm,0.6s,baz=92,slow=8.3,SNR=3.6							

*DDA **28** 07:33:13.6, 39°43N×33°05E, h9km, MD3.4*
*ISK **28** 07:33:13.4, 39°45N×33°04E, h2km, MD3.4, ML3.5*
*ISCJB **28** 07:33:14.3±0.6, 39°43N±0°02×33°04E±0°03, h3km±5km, Error ellipse: s-maj=4.1km s-min=3.1km az=141.7*
*CSEM **28** 07:33:14.4±0.1, 39°44N×33°06E, h2km, MD3.4, Error ellipse: s-maj=2.7km s-min=2.2km az=156.0*

ISC 28 07:33:14.6±1.0, 39°43N±0°02×33°06E±0°02, h4km±9km, n90, σ0°62/111, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
BBAL	**Bala**	**0.12**	**24**	*i* P	**Pg**		**07 33 17.0**	**-0.1**
BBAL				*i* S	**Sg**		**07 33 19.1**	**+0.3**
BBAL	**Bala**	**0.12**	**24**	*i* P	**Pg**		**07 33 17.0**	**-0.1**
BBAL				*i* S	**Sg**		**07 33 19.1**	**+0.3**
LOD	**Lodumlu**	**0.51**	**333**	*e*PG	**Pg**		**07 33 23.7**	**-0.7**
LOD				*e*SG	**Sg**		**07 33 31.5**	**+0.5**
LOD	**Lodumlu**	**0.51**	**333**	*e*Pg	**Pg**		**07 33 23.7**	**-0.7**
LOD				*e*Sg	**Sg**		**07 33 31.5**	**+0.5**
DAD	**Ankara**	**0.53**	**334**	*e*P	**Pg**		**07 33 25.2**	**+0.4**
DAD				*i* S	**Sg**		**07 33 32.2**	**+0.5**
DAD	**Ankara**	**0.53**	**334**	*e*P	**Pg**		**07 33 25.2**	**+0.4**
DAD				*i* S	**Sg**		**07 33 32.2**	**+0.5**
CDAG	**Cicekdag**	**1.03**	**79**	*i* P	**Pg**		**07 33 33.4**	**-1.0**
CDAG				*i* S	**Sg**		**07 33 48.4**	**+0.6**
CDAG	**Cicekdag**	**1.03**	**79**	*i* P	**Pg**		**07 33 33.4**	**-1.0**
CDAG				*i* S	**Sg**		**07 33 48.4**	**+0.6**
KIZT	**Kizilcal**	**1.07**	**239**	*e*PG	**Pg**		**07 33 34.8**	**-0.3**
KIZT				*e*SG	**Sb**		**07 33 50.1**	**0.0**
KIZT	**Kizilcal**	**1.07**	**239**	*e*Pg	**Pg**		**07 33 34.8**	**-0.3**
KIZT				*e*Sg	**Sb**		**07 33 50.1**	**0.0**
ELDT	**Eldivan**	**1.09**	**15**	*i* P	**Pg**		**07 33 34.6**	**-1.0**
ELDT				*i* S	**Sg**		**07 33 50.2**	**+0.5**
ELDT	**Eldivan**	**1.09**	**15**	*i* P	**Pg**		**07 33 34.6**	**-1.0**
ELDT				*i* S	**Sg**		**07 33 50.2**	**+0.5**
KDHN	**Kadinhani**	**1.17**	**219**	*i* P	**Pg**		**07 33 36.3**	**-0.7**
KDHN				*i* S	**Sg**		**07 33 51.9**	**-0.3**
KDHN	**Kadinhani**	**1.17**	**219**	*i* P	**Pg**		**07 33 36.3**	**-0.7**
KDHN				*i* S	**Sg**		**07 33 51.9**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.19**	**271**	*e*PN	**Pg**		**07 33 36.5**	**-0.9**
SVRH	**Sivrihisar-ESK**	**1.19**	**271**	*e*Pn	**Pg**		**07 33 36.5**	**-0.9**
CANT	**Cankiri**	**1.25**	**20**	*e*PN	**Pg**		**07 33 37.9**	**-0.6**
LADK	**Ladik-KONYA**	**1.35**	**204**	*e*PN	**Pg**		**07 33 40.0**	**-0.4**
LADK	**Ladik-KONYA**	**1.35**	**204**	*e*Pn	**Pg**		**07 33 40.0**	**-0.4**
CORM	**Corum**	**1.42**	**58**	*e*PN	**Pn**		**07 33 40.6**	**-0.7**
CORM	**Corum**	**1.42**	**58**	*e*Pn	**Pn**		**07 33 40.6**	**-0.7**
KONT	**Konya--Tatoy**	**1.58**	**200**	*e*PN	**Pn**		**07 33 43.5**	**+0.2**
KONT	**Konya--Tatoy**	**1.58**	**200**	*e*Pn	**Pn**		**07 33 43.6**	**+0.2**
ILGA	**Ilgaz**	**1.69**	**17**	*i* P	**Pn**		**07 33 45.5**	**+0.4**
ILGA				*i* S	**Sn**		**07 34 07.3**	**0.0**
ILGA	**Ilgaz**	**1.69**	**17**	*i* P	**Pn**		**07 33 45.5**	**+0.4**
ILGA				*i* S	**Sn**		**07 34 07.3**	**0.0**
ESKT	**Eskisehir**	**1.71**	**274**	*e*PN	**Pn**		**07 33 45.1**	**-0.2**
ESKT	**Eskisehir**	**1.71**	**274**	*e*Pn	**Pn**		**07 33 45.1**	**-0.2**
YOZ	**Yozgat**	**1.76**	**83**	*e*PN	**Pn**		**07 33 46.1**	**+0.1**
YOZ	**Yozgat**	**1.76**	**83**	*e*Pn	**Pn**		**07 33 46.1**	**+0.1**
TOS	**Tosya**	**1.76**	**24**	*e*PN	**Pn**		**07 33 45.5**	**-0.5**
TOS	**Tosya**	**1.76**	**24**	*e*Pn	**Pn**		**07 33 45.5**	**-0.5**
MDUB	**Mudurnu**	**1.77**	**307**	*e*PN	**Pn**		**07 33 46.1**	**+0.1**
MDUB	**Mudurnu**	**1.77**	**307**	*e*Pn	**Pn**		**07 33 46.1**	**+0.1**
CTKT	**Corum**	**1.78**	**48**	*i* P	**Pb**		**07 33 47.1**	**-0.8**
CTKT				*i* S	**Sg**		**07 34 11.4**	**-0.5**
CTKT	**Corum**	**1.78**	**48**	*i* P	**Pb**		**07 33 47.1**	**-0.8**
CTKT				*i* S	**Sg**		**07 34 11.4**	**-0.5**
BOLV	**Bolvadin**	**1.79**	**247**	*i* P	**Pn**		**07 33 45.8**	**-0.5**
BOLV				*i* S	Sn		07 34 03.1	-6.5
BOLV	**Bolvadin**	**1.79**	**247**	*i* P	**Pn**		**07 33 45.8**	**-0.5**
NIG	**Nigde**	**1.79**	**137**	*e*PN	**Pn**		**07 33 46.7**	**+0.2**
NIG	**Nigde**	**1.79**	**137**	*e*Pn	**Pn**		**07 33 46.7**	**+0.2**
SAFT	**Safranbolu**	**1.83**	**351**	*e*PN	**Pn**		**07 33 46.8**	**0.0**
SAFT	**Safranbolu**	**1.83**	**351**	*e*Pn	**Pn**		**07 33 46.8**	**0.0**
BORA	**Eskisehir**	**2.06**	**283**	*e*P	**Pn**		**07 33 49.8**	**-0.3**
BORA				*i* S	**Sn**		**07 34 16.2**	**0.0**
BORA	**Eskisehir**	**2.06**	**283**	*e*P	**Pn**		**07 33 49.8**	**-0.3**
BORA				*i* S	**Sn**		**07 34 16.2**	**0.0**
SHUT	**Suhut-Afyon**	**2.14**	**247**	*e*PN	**Pn**		**07 33 51.4**	**+0.2**
SHUT	**Suhut-Afyon**	**2.14**	**247**	*e*Pn	**Pn**		**07 33 51.4**	**+0.2**
GULT	**Gulveren**	**2.20**	**298**	*e*PN	**Pn**		**07 33 52.0**	**+0.1**
GULT	**Gulveren**	**2.20**	**298**	*e*Pn	**Pn**		**07 33 52.0**	**+0.1**
BNN	**Bunyan**	**2.24**	**104**	*e*PN	**Pn**		**07 33 53.3**	**+0.7**
BNN	**Bunyan**	**2.24**	**104**	*e*Pn	**Pn**		**07 33 53.3**	**+0.7**
KDZE	**Karadeniz Ereo**	**2.25**	**327**	*e*PN	**Pn**		**07 33 52.7**	**+0.2**
KDZE	**Karadeniz Ereo**	**2.25**	**327**	*e*Pn	**Pn**		**07 33 52.7**	**+0.2**
GPA	**Golpazari**	**2.28**	**293**	*e*PN	**Pn**		**07 33 53.0**	**0.0**
GPA	**Golpazari**	**2.28**	**293**	*e*Pn	**Pn**		**07 33 53.0**	**0.0**
ALT	**Altintas**	**2.32**	**262**	*e*PN	**Pn**		**07 33 54.0**	**+0.4**
ALT	**Altintas**	**2.32**	**262**	*e*Pn	**Pn**		**07 33 54.0**	**+0.4**
BYBT	**Boyabat**	**2.41**	**32**	*e*PN	**Pn**		**07 33 55.5**	**+0.7**
BYBT	**Boyabat**	**2.41**	**32**	*e*Pn	**Pn**		**07 33 55.5**	**+0.7**
SUTC	**Sutluce-Ispart**	**2.54**	**220**	*e*PN	**Pn**		**07 33 57.0**	**+0.5**
SUTC	**Sutluce-Ispart**	**2.54**	**220**	*e*Pn	**Pn**		**07 33 57.1**	**+0.5**
CAVI	**Cavuskoy**	**2.59**	**288**	*e*PN	**Pn**		**07 33 57.9**	**+0.6**
CAVI	**Cavuskoy**	**2.59**	**288**	*e*Pn	**Pn**		**07 33 57.9**	**+0.6**
HAVZ	**Havza**	**2.61**	**50**	*e*P	**Pb**		**07 34 02.5**	**+0.5**
HAVZ				*i* S	**Sg**		**07 34 38.2**	**-0.3**
BZK	**Bozkurt**	**2.62**	**16**	*e*PN	**Pn**		**07 33 58.4**	**+0.7**
BZK	**Bozkurt**	**2.62**	**16**	*e*Pn	**Pn**		**07 33 58.4**	**+0.7**
KARA	**Karaisali**	**2.68**	**144**	*e*PN	**Pn**		**07 33 59.2**	**+0.8**
KARA	**Karaisali**	**2.68**	**144**	*e*Pn	**Pn**		**07 33 59.2**	**+0.8**
ADVT	**Abdulvahap**	**2.74**	**292**	*e*PN	**Pn**		**07 34 00.0**	**+0.7**
ADVT	**Abdulvahap**	**2.74**	**292**	*e*Pn	**Pn**		**07 34 00.0**	**+0.7**
DIKM	**Dikmen**	**2.78**	**36**	*e*PN	**Pn**		**07 34 00.3**	**+0.5**
DIKM	**Dikmen**	**2.78**	**36**	*e*Pn	**Pn**		**07 34 00.3**	**+0.5**
TVSB	**Tavsanli**	**2.79**	**271**	*e*PN	**Pn**		**07 34 00.6**	**+0.6**
TVSB	**Tavsanli**	**2.79**	**271**	*e*Pn	**Pn**		**07 34 00.6**	**+0.6**
SARI	**SarD1z-Kayseri**	**2.81**	**110**	*e*PN	**Pn**		**07 34 01.6**	**+1.1**
KOZT	**Kozan**	**2.92**	**131**	*e*PN	**Pn**		**07 34 02.7**	**+0.9**
KOZT	**Kozan**	**2.92**	**131**	*e*Pn	**Pn**		**07 34 02.7**	**+0.9**
KHL	**Karahalli**	**2.97**	**249**	*e*PN	**Pn**		**07 34 03.3**	**+0.7**
KHL	**Karahalli**	**2.97**	**249**	*e*Pn	**Pn**		**07 34 03.3**	**+0.7**
YLV	**Yalova**	**3.05**	**293**	*e*PN	**Pn**		**07 34 04.5**	**+0.9**
YLV	**Yalova**	**3.05**	**293**	*e*Pn	**Pn**		**07 34 04.5**	**+0.9**
SVSK	**Karacayir**	**3.08**	**80**	*e*PN	**Pn**		**07 34 04.8**	**+0.9**
SVSK	**Karacayir**	**3.08**	**80**	*e*Pn	**Pn**		**07 34 04.8**	**+0.9**
IKL	**Isikli**	**3.23**	**171**	*e*PN	**Pn**		**07 34 07.1**	**+1.1**
IKL	**Isikli**	**3.23**	**171**	*e*Pn	**Pn**		**07 34 07.1**	**+1.1**
ORLT	**Orhaneli**	**3.27**	**282**	*e*PN	**Pn**		**07 34 07.5**	**+0.9**
ORLT	**Orhaneli**	**3.27**	**282**	*e*Pn	**Pn**		**07 34 07.5**	**+0.9**
ARMT	**Armutlu**	**3.42**	**291**	*e*PN	**Pn**		**07 34 09.4**	**+0.8**
ARMT	**Armutlu**	**3.42**	**291**	*e*Pn	**Pn**		**07 34 09.4**	**+0.8**
KULA	**Kula-Manisa**	**3.55**	**256**	*e*PN	**Pn**		**07 34 11.6**	**+1.1**
KULA	**Kula-Manisa**	**3.55**	**256**	*e*Pn	**Pn**		**07 34 11.6**	**+1.1**
DARE	**Darende-Malaty**	**3.55**	**103**	*e*PN	**Pn**		**07 34 11.9**	**+1.4**

*IDC **28** 07:44:45.7±0.8, 51°.28N×178°.64W, h0km, mb3.7/11, mb1 4.0/12, mb1mx3.8/29, mbtmp3.8/12, Error ellipse: s-maj=27.9km s-min=16.9km az=156.0*
*NEIC **28** 07:44:51.0, 51°.17N×178°.44W, h23km, ML3.8(AEIC), After AEIC.*
*ISCJB **28** 07:44:51.8±0.7, 51°.26N±0°.09×178°.46W±0°.04, h59km±5km, mb3.7/11, Error ellipse: s-maj=15.3km s-min=3.5km az=173.5*

ISC 28 07:44:52.6±1.4, 51°.3N±0°.1×178°.45W±0°.03, h45km±11km, n57, σ1°33/69, mb3.6/11, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
GAKI	**Gareloi-Kavalg**	**0.36**	**321**	P	**Pn**		**07 45 00.5**	**-1.4**
GALAA	**Gareloi Lava P**	**0.53**	**338**	P	**Pn**		**07 45 03.8**	**-0.1**
GAEA	**Gareloi East**	**0.54**	**340**	P	**Pn**		**07 45 04.0**	**-0.2**
GANE	**Gareloi Northe**	**0.58**	**340**	P	**Pn**		**07 45 04.4**	**-0.3**
TASE	**Tanaga Southea**	**0.62**	**24**	P	**Pn**		**07 45 04.8**	**-0.3**
TAPA	**Tanaga Point A**	**0.67**	**36**	P	**Pn**		**07 45 05.3**	**-0.5**
TANO	**Tanaga North**	**0.68**	**17**	P	**Pn**		**07 45 05.8**	**-0.1**
TAFP	**Tanaga Falls P**	**0.69**	**25**	P	**Pn**		**07 45 05.7**	**-0.4**
TAFP				S	**Sn**		**07 45 17.0**	**+1.2**
KIKV	**Kanaga Island**	**1.00**	**52**	P	**Pn**		**07 45 09.7**	**-0.5**
KIRH	**Kanaga Island**	**1.05**	**53**	P	**Pn**		**07 45 10.5**	**-0.4**
KINC	**Kanaga Island**	**1.05**	**51**	P	**Pn**		**07 45 10.7**	**-0.2**
ADK	**Adak**	**1.26**	**60**	P	**Pn**		**07 45 13.0**	**-0.7**
ADK				S	**Sn**		**07 45 29.5**	**+0.1**
CERAA	**Semis' Rag'd T**	**1.33**	**299**	P	**Pn**		**07 45 14.6**	**0.0**
ADAG	**Mount Adagdak**	**1.35**	**58**	P	**Pn**		**07 45 15.3**	**+0.3**
CERB	**Semis' Cerberu**	**1.37**	**300**	P	**Pn**		**07 45 15.5**	**+0.3**
CESW	**Semis' Southwe**	**1.39**	**298**	P	**Pn**		**07 45 15.3**	**-0.2**
ETKA	**Kagalaska Isla**	**1.40**	**64**	P	**Pn**		**07 45 15.1**	**-0.6**
AMKA	**Amchitka**	**1.42**	**275**	P	**Pn**		**07 45 14.2**	**-1.6**
AMKA				S	**Sn**		**07 45 34.0**	**+0.7**
CEAP	**Semis' Anvil P**	**1.43**	**301**	P	**Pn**		**07 45 16.4**	**+0.3**
CETU	**Semis' Tuman**	**1.46**	**299**	P	**Pn**		**07 45 16.5**	**+0.1**
GSCK	**Great Sitkin C**	**1.60**	**62**	P	**Pn**		**07 45 18.6**	**+0.2**
GSTD	**Great Sitkin T**	**1.64**	**60**	P	**Pn**		**07 45 19.2**	**+0.3**
GSTD				S	**Sn**		**07 45 40.0**	**+1.2**
GSMY	**Great Sitkin M**	**1.68**	**62**	P	**Pn**		**07 45 19.6**	**+0.2**
GSTR	**Great Sitkin T**	**1.70**	**60**	*e*Pn	**Pn**		**07 45 20.5**	**+0.8**
GSTR				*e*Sn	**Sn**		**07 45 41.2**	**+0.9**
LSSE	**Little Sitkin**	**1.98**	**291**	P	**Pn**		**07 45 23.7**	**+0.2**
LSPA	**Little Sitkin**	**1.98**	**291**	P	**Pn**		**07 45 23.7**	**+0.1**
LSPA				S	**Sn**		**07 45 50.2**	**+3.1**
LSSA	**Little Sitkin**	**2.01**	**291**	P	**Pn**		**07 45 23.9**	**-0.1**
LSNW	**Little Sitkin**	**2.02**	**291**	P	**Pn**		**07 45 25.1**	**+1.1**
ATKA	**Atka Island**	**2.80**	**69**	P	**Pn**		**07 45 35.6**	**+0.8**
ATKA				S	**Sn**		**07 46 09.3**	**+1.9**
KOWE	**Korovin West**	**2.83**	**66**	P	**Pn**		**07 45 36.7**	**+1.5**
KOKL	**Mount Kliuchef**	**2.84**	**67**	P	**Pn**		**07 45 36.7**	**+1.3**
KOKV	**Korovin Volcan**	**2.87**	**66**	P	**Pn**		**07 45 36.9**	**+1.1**
KOKV				S	**Sn**		**07 46 13.4**	**+4.2**
KOFP	**Korovin Flat P**	**2.88**	**68**	P	**Pn**		**07 45 37.3**	**+1.3**
KOSE	**Korovin Southe**	**2.93**	**67**	P	**Pn**		**07 45 38.1**	**+1.4**
SMY	**Shemya**	**4.83**	**290**	*e*Pn	Pn		07 46 06.2	+3.6
FX1	**Attu Island--F**	**5.42**	**291**	P	**Pn**		**07 46 10.7**	**0.0**
FX1	**Attu Island--F**	**5.42**	**291**	Pn	**Pn**		**07 46 10.5**	**-0.2**
	0.7nm,0.3s,baz=167,slow=3.6,SNR=6.6							
FX1				Sn	**Sn**		**07 47 16.4**	**+4.6**
	2.0nm,0.3s,baz=84,slow=24,SNR=1.8							
NIKH	**Nikolski High**	**6.15**	**70**	P	**Pn**		**07 46 21.8**	**+1.1**
OKCE	**Okmok Cone E**	**6.66**	**67**	P	**Pn**		**07 46 29.8**	**+2.0**
MSOM	**Makushin Julie**	**7.46**	**66**	P	**Pn**		**07 46 40.2**	**+1.6**
MREP	**Makushin Rep't**	**7.58**	**66**	P	**Pn**		**07 46 42.8**	**+2.5**
SPIA	**Saint Paul Isl**	**7.62**	**36**	P	**Pn**		**07 46 43.0**	**+2.1**
UNV	**Unalaska Valle**	**7.72**	**66**	P	**Pn**		**07 46 43.9**	**+1.6**
KDAK	**Kodiak Island**	**16.30**	**56**	Pn	**Pn**		**07 48 37.0**	**-0.9**
	2.1nm,0.3s,baz=282,slow=9.5,SNR=31							
KDAK				Sn	**Sn**		**07 51 37.0**	**-0.4**
	0.2nm,0.3s,baz=118,slow=20,SNR=2.3							
ILAR	**Eielson Array**	**21.19**	**38**	P	**P**		**07 49 32.5**	**-1.4**
	0.4nm,0.6s,baz=236,slow=8.1,SNR=12							
INK	**Inuvik**	**27.42**	**35**	P	**P**		**07 50 32.9**	**-0.6**
	0.6nm,0.4s,baz=251,slow=9.0,SNR=14							
INK				PcP	**PcP**		**07 53 51.2**	**+0.3**
	0.6nm,0.8s,baz=246,slow=4.3,SNR=4.8							
YKA	**Yellowknife Ar**	**35.15**	**46**	P	**P**		**07 51 40.8**	**-0.6**
	0.4nm,0.5s,baz=282,slow=7.4,SNR=7.6							
YKA				PcP	**PcP**		**07 54 12.3**	**+0.7**
	0.2nm,0.4s,baz=285,slow=3.1,SNR=8.4							
NVAR	**Mina Array Bea**	**43.34**	**83**	P	**P**		**07 52 51.5**	**+1.2**
	0.3nm,0.7s,baz=294,slow=9.8,SNR=3.5							
PDAR	**Pinedale Array**	**46.13**	**72**	P	**P**		**07 53 12.8**	**+0.3**
	1.7nm,0.5s,baz=319,slow=3.0,SNR=24							
SONM	**Songino Array**	**46.89**	**297**	P	**P**		**07 53 18.6**	**+0.3**
	0.4nm,0.5s,baz=67,slow=6.2,SNR=3.9							
SONM				PcP	**PcP**		**07 54 51.6**	**+1.3**
	0.2nm,0.5s,baz=96,slow=2.9,SNR=2.3							
ARCES	**ARCESS Array B**	**58.23**	**350**	P	**P**		**07 54 40.0**	**-1.6**
	2.4nm,0.8s,baz=27,slow=8.2,SNR=5.6							
TXAR	**Lajitas Array**	**58.45**	**81**	P	**P**		**07 54 43.7**	**-0.1**
	0.3nm,0.6s,baz=304,slow=6.2,SNR=6.5							
FINES	**FINESS Array B**	**65.94**	**347**	P	**P**		**07 55 31.6**	**-1.7**
	1.8nm,1.0s,baz=24,slow=5.2,SNR=3.5							
WRA	**Warramunga Arr**	**82.09**	**224**	P	**P**		**07 57 07.1**	**-0.9**
	0.9nm,1.0s,baz=33,slow=5.7,SNR=2.8							
ASAR	**Alice Springs**	**85.56**	**223**	P	**P**		**07 57 23.7**	**-2.1**
	0.2nm,0.4s,baz=23,slow=5.8,SNR=5.4							
TORD	**Torodi Ar. Bea**	**115.85**	**360**	PKP	**PKPdf**		**08 03 29.3**	**-1.0**
	0.1nm,0.4s,baz=1.2,slow=2.9,SNR=2.8							
BOSA	**Boshof**	**151.21**	**313**	PKPbc	**PKPbc**		**08 04 40.8**	**+0.1**
	0.9nm,0.4s,baz=112,slow=18,SNR=4.9							

IDC 28 07:51:40.6±9.2, 9°52N×92°34E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/25, mbtmp3.3/3, Error ellipse: s-maj=470.7km s-min=30.4km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
MKAR	**Makanchi Array**	**38.12**	**349**	P	P		07 59 01.3	-0.1
	0.3nm,0.7s,baz=173,slow=6.8,SNR=3.9							
WRA	**Warramunga Arr**	**50.66**	**126**	P	P		08 00 41.4	-0.7
	0.3nm,0.6s,baz=304,slow=8.8,SNR=4.8							
ASAR	**Alice Springs**	**52.33**	**130**	P	P		08 00 55.2	+0.7
	0.4nm,0.7s,baz=303,slow=6.4,SNR=4.3							

*ISCJB **28** 07:57:01.7±0.4, 11°.16N±0°.03×61°.89W±0°.03, h72km±7km, Error ellipse: s-maj=5.9km s-min=3.7km az=35.6*
*TRN **28** 07:57:04.0, 11°.26N×61°.69W, h18km, MD3.5*
*FUNV **28** 07:57:06.7, 10°.95N×61°.97W, h58km, MW3.2*

ISC 28 07:57:01.7±1.3, 11°.14N±0°.03×61°.89W±0°.03, h78km±10km, n29, σ1°72/48, 3C-3D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
TCE	**Chacachacare**	**0.45**	**163**	*e*P	**Pn**		**07 57 15.3**	**+0.4**
TCE				*e*S	**Sn**		**07 57 23.9**	**-0.7**
GUIV	**Guiria**	**0.59**	**214**	*e*P	**Pn**		**07 57 16.5**	**+0.5**
GUIV				*e*S	**Sn**		**07 57 25.5**	**-1.2**
TRN	**Trinidad (W)**	**0.68**	**136**	*e*P	**Pn**		**07 57 17.5**	**+0.5**
TRN				*e*S	**Sn**		**07 57 27.5**	**-0.8**
TPP	**Pointe-a-Pierr**	**0.92**	**152**	*e*P	Pn		07 57 23.1	+3.5
TPP				*e*S	**Sn**		**07 57 35.5**	**+2.5**
TBH	**Brigand Hill**	**1.03**	**129**	*e*P	**Pn**		**07 57 22.4**	**+1.4**
TBH				*e*S	**Sn**		**07 57 37.0**	**+1.5**
GRW	**Mount Saint Ca**	**1.04**	**12**	*e*P	**Pn**		**07 57 21.1**	**-0.1**
TPR	**Prospect**	**1.09**	**87**	*e*P	**Pn**		**07 57 21.3**	**-0.4**
TPR				*e*S	**Sn**		**07 57 34.3**	**-2.4**
GRHS	**Sauteurs**	**1.11**	**12**	*e*P	**Pn**		**07 57 22.3**	**+0.4**
GRHS				*e*S	**Sn**		**07 57 36.0**	**-1.1**
BOT	**Bacolet**	**1.15**	**88**	*e*P	**Pn**		**07 57 23.2**	**+0.8**
BOT				*e*S	**Sn**		**07 57 35.7**	**-2.2**
GRSS	**Sisters**	**1.19**	**13**	*e*P	**Pn**		**07 57 23.9**	**+1.0**
GRSS				*e*S	**Sn**		**07 57 38.8**	**-0.1**
TOSP	**Speyside**	**1.33**	**83**	*e*P	**Pn**		**07 57 24.8**	**0.0**
TOSP				*e*S	**Sn**		**07 57 41.4**	**-0.7**
CRUV	**Carupano**	**1.40**	**251**	*i*P	**Pn**		**07 57 27.0**	**+1.3**
CRUV				*e*S	**Sn**		**07 57 42.8**	**-0.9**
GUNV	**Guanoco**	**1.42**	**227**	*i*P	**Pn**		**07 57 27.7**	**+1.8**
GUNV				*e*S	**Sn**		**07 57 43.4**	**-0.7**
SVB	**Belmont**	**2.21**	**16**

Ms1 3.6/11,ms1mx3.3/37,Error ellipse: s-maj=18.9km s-min=16.4km az=22.0

ISCJB ***28*** *08:11:49.7±0.4,36°.11N±0°.03×141°.49E±0°.06,h26km, mb4.1/21,MS3.6/7,Error ellipse: s-maj=6.7km s-min=4.3km az=21.4*

NEIC ***28*** *08:11:49.1±3.4,36°.01N×141°.48E,h13km±20km,mb4.6/4, MW4.3(NIED),Error ellipse: s-maj=9.8km s-min=7.1km az=148.0*

JMA ***28*** *08:11:51.6±0.2,36°.08N×141°.38E,h42km±3km,M4.3*

JMA Felt I J1.

NIED ***28*** *08:12:00,36°.10N×141°.50E,h20km,Mw4.4 Best double couple: M₀3.84000×10¹⁵ NP1:φ₀22.00000°,δ73.00000°, λ81.00000°. NP2:φ₀231.00000°,δ19.00000°,λ118.00000°.*

ISC 28 08:11:51.1±0.5,36°.04N±0°.04×141°.43E±0°.05,h26km,n64, σ0s82/72,mb4.2/21,MS3.7/7,4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.57**	**234**	⇓P	**Pn**	**08 12 03.0**	**-0.5**
CHOJ				S	**Sn**	**08 12 11.5**	**-0.6**
JHO	**Hitachi**	**0.90**	**310**	⇓P	**Pn**	**08 12 07.0**	**-1.0**
JYT	**Yasato**	**1.02**	**281**	⇓P	**Pn**	**08 12 08.8**	**-0.8**
ONAJ	**Iwakimizuishiy**	**1.17**	**335**	*eS*	**Sn**	**08 12 25.5**	**-1.6**
JFK	**Kawauchi**	**1.40**	**342**	P	**Pn**	**08 12 14.0**	**-0.9**
BSO1	**Boso 1**	**1.43**	**195**	P	**Pb**	**08 12 15.6**	**-1.2**
BSO1				S	**Sb**	**08 12 33.5**	**-0.9**
BSO3	**Boso 3**	**1.45**	**212**	P	**Pb**	**08 12 16.3**	**-0.9**
JAG	**Ashikaga**	**1.64**	**284**	⇓P	**Pn**	**08 12 17.9**	**-0.4**
MJAR	**Matsushiro Arr**	**2.65**	**282**	Pn	**Pn**	**08 12 31.8**	**-0.4**
MJAR				Sn	**Sb**	**08 13 10.2**	**+0.3**
MJAR	**Matsushiro Arr**	**2.65**	**282**	Pn	**Pn**	**08 12 31.8**	**-0.4**
	14nm,0.3s,baz=92,slow=12,SNR=52						
MJAR				Sn	**Sb**	**08 13 10.2**	**+0.3**
	15nm,0.3s,baz=166,slow=19,SNR=7.3						
MJAR				LR	LR	08 13 42.4	
	comp=Z,805nm,20.6s,baz=120,slow=44						
MAJO	**Matsushiro**	**2.65**	**282**	*e*Pn	**Pn**	**08 12 33.5**	**+1.4**
MAT	**Matsushiro**	**2.65**	**282**	P	**Pn**	**08 12 33.3**	**+1.1**
MAT				S	**Sn**	**08 13 01.1**	**-2.4**
ERM	**Erimo**	**6.12**	**12**	*e*Pn	**Pn**	**08 13 20.2**	**+0.5**
ERM				*e*Sn	**Sn**	**08 14 28.8**	**0.0**
ASAJ	**Asahikawa**	**8.12**	**6**	*e*Pn	**Pn**	**08 13 45.5**	**-1.6**
ASAJ				Sn	**Sn**	**08 15 16.1**	**-1.9**
ASAJ	**Asahikawa**	**8.12**	**6**	Pn	**Pn**	**08 13 45.7**	**-1.5**
	1.1nm,0.3s,baz=219,slow=15,SNR=5.1						
ASAJ				Sn	**Sn**	**08 15 16.1**	**-1.9**
	0.8nm,0.3s,baz=82,slow=28,SNR=4.5						
ASAJ				LR	LR	08 17 40.1	
	comp=Z,271nm,21.1s,baz=189,slow=43						
USRK	**Ussuriysk Arra**	**10.88**	**321**	Pn	**Pn**	**08 14 24.6**	**-0.4**
	0.1nm,0.3s,baz=133,slow=12,SNR=8.0						
USRK				LR	LR	08 18 30.2	
	comp=Z,439nm,18.3s,baz=49,slow=37						
KSRS	**Korea Array**	**10.93**	**281**	LR	LR	08 18 37.5	
	comp=Z,284nm,19.3s,baz=158,slow=37						
PETK	**Petropavlovsk-**	**20.54**	**29**	LR	LR	08 24 55.9	
	comp=Z,53nm,18.5s,baz=226,slow=38						
FX1	**Attu Island--F**	**27.91**	**43**	LR	LR	08 27 55.9	
	comp=Z,55nm,19.4s,baz=300,slow=35						
SONM	**Songino Array**	**28.36**	**305**	P	**P**	**08 17 43.1**	**0.0**
SONM	**Songino Array**	**28.36**	**305**	P	**P**	**08 17 43.1**	**0.0**
	1.7nm,0.8s,baz=103,slow=9.3,SNR=11						
SONM				LR	LR	08 29 34.6	
	comp=Z,168nm,18.1s,baz=290,slow=38						
ZALV	**Zalesovo Beam**	**42.60**	**313**	P	**P**	**08 19 45.3**	**+0.6**
ZALV	**Zalesovo Beam**	**42.60**	**313**	P	**P**	**08 19 45.3**	**+0.6**
	3.3nm,0.6s,baz=83,slow=6.5,SNR=12						
ZALV				LR	LR	08 38 08.7	
	comp=Z,72nm,19.9s,baz=70,slow=37						
MK31	**Makanchi Array**	**44.66**	**303**	*e*P	**P**	**08 20 01.9**	**+0.4**
MKAR	**Makanchi Array**	**44.66**	**303**	P	**P**	**08 20 02.3**	**+0.8**
MKAR				PcP	**PcP**	**08 21 44.1**	**+0.3**
MKAR	**Makanchi Array**	**44.66**	**303**	P	**P**	**08 20 02.3**	**+0.8**
	4.5nm,0.9s,baz=88,slow=8.7,SNR=26						
MKAR				PcP	**PcP**	**08 21 44.1**	**+0.3**
	0.8nm,0.8s,baz=90,slow=3.2,SNR=3.1						
MKAR				LR	LR	08 39 22.3	
	comp=Z,95nm,19.5s,baz=352,slow=37						
KURK	**Kurchatov**	**46.56**	**309**	P	**P**	**08 20 17.1**	**+0.7**
KURBB	**Kurchatov Arra**	**46.63**	**309**	P	**P**	**08 20 17.1**	**+0.2**
	6.1nm,0.6s,baz=84,slow=8.0,SNR=35						
KDAK	**Kodiak Island**	**47.83**	**41**	P	**P**	**08 20 26.6**	**+0.4**
KDAK	**Kodiak Island**	**47.83**	**41**	P	**P**	**08 20 26.6**	**+0.4**
	5.1nm,0.9s,baz=294,slow=12,SNR=3.3						
HNR	**Honiara**	**48.48**	**155**	LR	LR	08 36 43.3	
	comp=Z,83nm,21.2s,baz=295,slow=31						
ILAR	**Eielson Array**	**50.33**	**32**	P	**P**	**08 20 45.3**	**+0.1**
ILAR	**Eielson Array**	**50.33**	**32**	P	**P**	**08 20 45.3**	**+0.1**
	0.5nm,0.8s,baz=269,slow=6.3,SNR=7.4						
BVAR	**Borovoye Array**	**51.25**	**313**	P	**P**	**08 20 52.8**	**+0.4**
BVAR				PcP	**PcP**	**08 22 07.7**	**+0.4**
BVAR	**Borovoye Array**	**51.25**	**313**	P	**P**	**08 20 52.8**	**+0.4**
	1.8nm,0.6s,baz=78,slow=6.8,SNR=12						
BVAR				PcP	**PcP**	**08 22 07.7**	**+0.4**
	0.8nm,0.5s,baz=117,slow=5.0,SNR=3.0						
BRVK	**Borovoye**	**51.31**	**313**	*e*P	**P**	**08 20 53.5**	**+0.8**
	4.3nm,0.8s						
KKAR	**Karatay Array**	**53.64**	**301**	*e*P	**P**	**08 21 10.9**	**+0.6**
	2.0nm,0.8s						
WRAB	**Tennant Creek**	**56.07**	**188**	*e*P	**P**	**08 21 28.8**	**+0.9**
	10nm,1.2s						
WRA	**Warramunga Arr**	**56.08**	**188**	P	**P**	**08 21 27.8**	**-0.2**
WRA	**Warramunga Arr**	**56.08**	**188**	P	**P**	**08 21 27.8**	**-0.2**
	1.4nm,0.7s,baz=5.3,slow=7.3,SNR=9.2						
AKTO	**Aktyubinsk**	**59.35**	**312**	P	**P**	**08 21 50.9**	**+0.1**
AKTO	**Aktyubinsk**	**59.35**	**312**	P	**P**	**08 21 50.9**	**+0.1**
	2.2nm,0.9s,baz=55,slow=9.0,SNR=4.7						
ASAR	**Alice Springs**	**59.81**	**188**	P	**P**	**08 21 52.3**	**-1.9**
ASAR	**Alice Springs**	**59.81**	**188**	P	**P**	**08 21 52.3**	**-1.9**
	0.2nm,0.4s,baz=359,slow=5.9,SNR=5.6						
YKA	**Yellowknife Ar**	**64.66**	**30**	P	**P**	**08 22 26.8**	**+0.6**
YKA	**Yellowknife Ar**	**64.66**	**30**	P	**P**	**08 22 26.7**	**+0.6**
	0.6nm,0.9s,baz=302,slow=6.7,SNR=4.5						
AFI	**Afiamalu**	**66.49**	**129**	LR	LR	08 47 56.2	
	comp=Z,147nm,19.6s,baz=345,slow=33						
FINES	**FINESS Array B**	**69.70**	**332**	P	**P**	**08 22 57.9**	**-0.2**
FINES	**FINESS Array B**	**69.70**	**332**	P	**P**	**08 22 57.9**	**-0.2**
	3.3nm,0.9s,baz=71,slow=6.9,SNR=5.5						
LRM	**Limekiln Ridge**	**74.85**	**44**	*e*P	**P**	**08 23 30.2**	**+0.6**
	18nm,0.9s						
NOA	**NORSAR Array B**	**75.11**	**337**	P	**P**	**08 23 30.1**	**-0.4**
NOA	**NORSAR Array B**	**75.11**	**337**	P	**P**	**08 23 30.0**	**-0.4**
	0.8nm,0.7s,baz=38,slow=5.9,SNR=4.1						
NVAR	**Mina Array Bea**	**75.57**	**53**	P	**P**	**08 23 34.1**	**+0.3**
NVAR	**Mina Array Bea**	**75.57**	**53**	P	**P**	**08 23 34.1**	**+0.3**
	0.3nm,0.5s,baz=289,slow=5.6,SNR=3.3						
PDAR	**Pinedale Array**	**78.35**	**45**	P	**P**	**08 23 49.5**	**+0.1**
PDAR	**Pinedale Array**	**78.35**	**45**	P	**P**	**08 23 49.6**	**+0.1**
	0.2nm,0.5s,baz=298,slow=1.9,SNR=3.9						
BRTR	**Keskin Array B**	**79.52**	**312**	P	**P**	**08 23 56.3**	**+0.6**
BRTR	**Keskin Array B**	**79.52**	**312**	P	**P**	**08 23 56.3**	**+0.6**
	1.2nm,0.8s,baz=138,slow=4.9,SNR=3.8						
TXAR	**Lajitas Array**	**90.72**	**52**	P	**P**	**08 24 52.5**	**+0.5**
TXAR	**Lajitas Array**	**90.72**	**52**	P	**P**	**08 24 52.5**	**+0.5**
	0.2nm,0.6s,baz=336,slow=2.7,SNR=3.7						
LPAZ	**La Paz**	**147.17**	**61**	*e*PKPdf	**PKPdf**	**08 31 31.2**	**+0.3**
LPAZ				PKPbc	**PKPbc**	**08 31 33.3**	**+0.2**
LPAZ	**La Paz**	**147.17**	**61**	PKPbc	**PKPbc**	**08 31 33.3**	**+0.2**
	0.5nm,0.4s,baz=297,slow=2.3,SNR=3.4						
SIV	**San Ignacio**	**151.71**	**51**	PKPbc	**PKPbc**	**08 31 43.9**	**+0.1**
SIV	**San Ignacio**	**151.71**	**51**	PKPbc	**PKPbc**	**08 31 43.9**	**+0.1**
	1.0nm,0.6s,baz=264,slow=1.9,SNR=5.6						

IDC ***28*** *08:12:22.7±0.8,20°.10S×66°.50E,h0km,mb3.9/10, mb1 4.1/10,mb1mx3.8/27,mbtmp3.9/10,MS3.7/1, Ms1 3.6/1,ms1mx2.9/28,Error ellipse: s-maj=29.6km s-min=19.9km az=87.0*

ISCJB ***28*** *08:12:23.1±0.7,20°.1S±0°.1×66°.5E±0°.2,h16km,mb4.0/11, MS3.7/1,Error ellipse: s-maj=25.5km s-min=16.0km az=175.0*

NEIC ***28*** *08:12:24.2±0.4,20°.10S×66°.49E,h10km,mb4.4/1,Error ellipse: s-maj=15.5km s-min=10.9km az=82.0*

ISC 28 08:12:25.2±0.8,20°.1S±0°.1×66°.5E±0°.2,h16km,n24, σ0s30/23,mb4.1/11,Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**38.35**	**249**	LR	LR	08 33 58.7	
	comp=Z,106nm,18.1s,baz=344,slow=34						
MAW	**Mawson**	**47.54**	**182**	P	**P**	**08 20 59.1**	**-0.4**
MAW	**Mawson**	**47.54**	**182**	P	**P**	**08 20 59.1**	**-0.4**
	2.6nm,0.6s,baz=8.1,slow=7.1,SNR=4.7						
CMAR	**Chiang Mai Arr**	**49.82**	**42**	P	**P**	**08 21 17.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**49.82**	**42**	P	**P**	**08 21 17.6**	**-0.1**
	0.8nm,0.3s,baz=236,slow=9.7,SNR=4.1						
ASAR	**Alice Springs**	**62.13**	**107**	P	**P**	**08 22 45.8**	**-0.2**
ASAR	**Alice Springs**	**62.13**	**107**	P	**P**	**08 22 45.8**	**-0.2**
	1.1nm,0.7s,baz=263,slow=5.9,SNR=9.3						
WRA	**Warramunga Arr**	**63.30**	**103**	P	**P**	**08 22 54.1**	**+0.3**
WRA	**Warramunga Arr**	**63.30**	**103**	P	**P**	**08 22 54.1**	**+0.3**
	1.8nm,0.9s,baz=259,slow=5.3,SNR=5.1						
WRAB	**Tennant Creek**	**63.31**	**103**	*e*P	**P**	**08 22 53.8**	**-0.1**
	2.8nm,1.0s						
SNAA	**Sanae**	**64.58**	**199**	P	**P**	**08 23 01.9**	**+0.5**
SNAA	**Sanae**	**64.58**	**199**	P	**P**	**08 23 01.9**	**+0.5**
	0.2nm,0.7s,baz=59,slow=5.9,SNR=3.5						
BRTR	**Keskin Array B**	**66.97**	**333**	P	**P**	**08 23 17.4**	**+0.1**
BRTR	**Keskin Array B**	**66.97**	**333**	P	**P**	**08 23 17.4**	**+0.1**
	1.0nm,0.6s,baz=157,slow=8.9,SNR=6.0						
MKAR	**Makanchi Array**	**68.10**	**12**	P	**P**	**08 23 24.0**	**-0.1**
MKAR	**Makanchi Array**	**68.10**	**12**	P	**P**	**08 23 24.0**	**-0.1**
	0.7nm,0.8s,baz=165,slow=6.0,SNR=5.2						
KURBB	**Kurchatov Arra**	**71.22**	**8**	P	**P**	**08 23 43.5**	**+0.3**
	0.5nm,0.3s,baz=207,slow=5.4,SNR=3.4						
KURK	**Kurchatov**	**71.32**	**8**	P	**P**	**08 23 43.5**	**-0.3**
BVAR	**Borovoye Array**	**72.91**	**2**	P	**P**	**08 23 53.1**	**-0.2**
BVAR	**Borovoye Array**	**72.91**	**2**	P	**P**	**08 23 53.1**	**-0.2**
	0.8nm,0.6s,baz=175,slow=7.4,SNR=4.5						
SONM	**Songino Array**	**76.52**	**26**	P	**P**	**08 24 14.9**	**+0.4**
SONM	**Songino Array**	**76.52**	**26**	P	**P**	**08 24 14.9**	**+0.4**
	1.0nm,0.8s,baz=216,slow=7.3,SNR=4.6						
TXAR	**Lajitas Array**	**167.19**	**318**	PKPab	**PKPab**	**08 33 35.0**	**-0.4**
TXAR	**Lajitas Array**	**167.19**	**318**	PKPab	**PKPab**	**08 33 35.0**	**-0.4**
	0.3nm,0.7s,baz=48,slow=3.2,SNR=5.2						

BEO 28 08:24:23.9±1.4,44°.56N×20°.08E,h0km,ML1.4/2, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEKS	**Tekeris**	**0.39**	**269**	*e*Sg	Sg	08 24 35.5	-1.2
DIVS	**Divibare**	**0.47**	**188**	*e*Pg	Pg	08 24 32.0	-1.0
DIVS				*e*Sg	Sg	08 24 37.6	-1.5
BBLS	**Lazići**	**0.85**	**215**	*e*Pg	Pg	08 24 39.4	-0.9
BBLS				*e*Sg	Sg	08 24 51.5	+0.2

IDC 28 08:26:13.0±3.0,53°.70N×88°.15E,h0km,mb1 2.9/2, mb1mx2.8/29,mbtmp2.9/2,ML2.8/2,Error ellipse: s-maj=26.0km s-min=17.6km az=69.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.99**	**278**	*i*		08 38 20.0	
	baz=95,slow=318,SNR=15						
ZALV	**Zalesovo Beam**	**1.99**	**278**	Pn	Pn	08 26 47.8	0.0
	1.2nm,0.3s,baz=94,slow=11,SNR=12						
ZALV				Lg	Lg	08 27 15.9	
	2.7nm,0.3s,baz=97,slow=26,SNR=14						
KURBB	**Kurchatov Arra**	**6.67**	**246**	Pn	Pn	08 27 52.6	+0.5
	0.1nm,0.3s,baz=63,slow=14,SNR=2.7						
KURBB				Lg	Lg	08 29 44.7	
	0.0nm,0.3s,baz=66,slow=32,SNR=4.3						
MKAR	**Makanchi Array**	**7.87**	**211**	Pn	Pn	08 28 09.7	+1.1
	0.1nm,0.3s,baz=26,slow=15,SNR=3.5						
MKAR				Lg	Lg	08 30 22.8	
	0.2nm,0.3s,baz=28,slow=33,SNR=4.6						

IDC 28 08:29:46.0±1.5,31°.21S×178°.39W,h0km,mb4.3/3, mb1 4.4/4,mb1mx3.9/19,mbtmp4.2/4,ML3.2/1,MS5.6/2, Ms1 5.6/2,ms1mx3.6/30,Error ellipse: s-maj=40.8km s-min=20.1km az=116.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.99**	**12**	Pn	Pb	08 30 22.7	-0.4
	16nm,0.3s,baz=54,slow=23,SNR=2.1						
RAO				Sn	Sn	08 30 46.8	+0.3
	127nm,0.3s,baz=80,slow=21,SNR=6.4						
URZ	**Urewera**	**7.95**	**207**	Pn	Pn	08 31 41.9	-0.9
	0.4nm,0.3s,baz=143,slow=18,SNR=2.9						
URZ				Sn	Sn	08 33 11.7	-1.7
	1.2nm,0.3s,baz=167,slow=21,SNR=9.5						
STKA	**Stephens Creek**	**33.98**	**258**	P	P	08 36 32.8	+1.4
	4.8nm,1.1s,baz=105,slow=14,SNR=4.4						
ASAR	**Alice Springs**	**42.73**	**268**	P	P	08 37 45.3	0.0
	2.7nm,0.7s,baz=105,slow=7.6,SNR=36						
WRA	**Warramunga Arr**	**43.80**	**273**	P	P	08 37 53.5	-0.3
	4.1nm,0.5s,baz=114,slow=7.8,SNR=47						
NWAO	**Narrogin (SRO)**	**53.80**	**250**	LR	LR	08 59 48.4	
	comp=Z,6µm,19.3s,baz=326,slow=34						
KSRS	**Korea Array**	**84.74**	**320**	LR	LR	09 16 55.2	
	comp=Z,2µm,18.3s,baz=323,slow=33						
FINES	**FINESS Array B**	**145.78**	**339**	PKPbc	PKPdf	08 49 23.5	-2.3
	1.2nm,0.4s,baz=59,slow=3.5,SNR=7.8						
BRTR	**Keskin Array B**	**152.67**	**297**	PKPbc	PKPbc	08 49 43.1	-1.7
	0.3nm,0.3s,baz=27,slow=5.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**162.03**	**180**	PKPab	PKPab	08 50 37.7	+1.7
	0.4nm,0.8s,baz=187,slow=3.0,SNR=4.8						

BJI ***28*** *08:43:38.7,6°.44S×101°.54E,h35km,mB6.0/59,mb5.3/61, Ms6.2/71,Ms7 6.0/65*

IDC ***28*** *08:43:42.1±0.3,5°.47S×101°.66E,h0km,mb5.3/29, mb1 5.3/31,mb1mx5.3/31,mbtmp5.2/31,ML4.7/2,MS5.4/28, Ms1 5.4/28,ms1mx5.3/34,Error ellipse: s-maj=8.2km s-min=7.4km az=57.0*

AUST ***28*** *08:43:42.6±1.0,5°.67S×101°.60E,h0km,Error ellipse: s-maj=0.8km s-min=0.5km az=231.0*

ISCJB ***28*** *08:43:43.7±0.1,5°.50S±0°.02×101°.67E±0°.02,h16km, mb5.5/186,MS5.5/211,Error ellipse: s-maj=3.0km s-min=2.1km az=25.5*

DJA ***28*** *08:43:43.5±0.2,6°.S±2°×10°2E±°,h10km,M5.8/63, mb5.7/63,mB6.1/59,MLv5.9/16,Mw(mB)5.8/59,Mwp5.9/12*

BKK ***28*** *08:43:45.5±0.2,6°.S±2°×10°2E±°,h10km,M5.8/48, mb5.6/48,mB6.1/43,MLv6.1/9,Mw(mB)5.7/43,Mwp5.8/6*

NEIC ***28*** *08:43:45.5±0.1,5°.50S×101°.71E,h16km,mb5.5/61,ME5.9, MS5.5/133,MW5.6,Error ellipse: s-maj=5.7km s-min=4.3km az=51.0 Broadband fault plane solution: P waves. NP1:φ₀355.00000°,δ70.00000°,λ150.00000°. NP2:φ₀96.00000°,δ62.00000°,λ23.00000°. Principal axes: T Plg35.0000°, Azm313.0000°; N Plg0.0000°, Azm0.0000°; P Plg5.0000°, Azm47.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

SZGRF ***28*** *08:43:45.9,5°.83S×101°.56E,h33km,mb5.2,MS5.4, Southwest of Sumatera, Indonesia*

GCMT ***28*** *08:43:46.7±0.1,5°.68S×101°.62E,h12km,MW5.6,Moment Tensor Solution. s78,c133; s48,c58; Moment tensor: Scale 10¹⁷Nm; Mrr2.29±.04; Mθθ-1.75±.03; Mφφ-0.54±.04; Mrθ1.77±.09; Mθφ2.04±.03; Mφr1.32±.10; Best double couple: M₀3.60000×10¹⁷ NP1:φ₀336.00000°,δ48.00000°, λ141.00000°. NP2:φ₀95.00000°,δ62.00000°,λ49.00000°. Principal axes: T 3.8900, Plg54.0000°, Azm314.0000°; N -0.5300, Plg35.0000°, Azm117.0000°; P -3.3600, Plg8.0000°, Azm213.0000°; Data Used: IU II CN IC G. Surface waves: sta= 91, comp=164, per= 50.*

MOS ***28*** *08:43:46.6±1.2,5°.37S×101°.75E,h33km,mb5.7/72, MS5.4/59 Error ellipse: s-maj=8.4km s-min=4.5km az=115.4*

TEH ***28*** *08:43:48.0,5°.48S×101°.62E,h35km,ML5.9*

NEIC ***28*** *08:44:00.5±0.0,5°.75S×101°.61E,h10km,Moment Tensor Solution. s134 Moment tensor: Scale 10¹⁷Nm; Mrr2.33; Mθθ-1.79; Mφφ-0.54; Mrθ-0.28; Mθφ1.63; Mφr0.39; Best double couple:M₀2.70000×10¹⁷ NP1:φ₀119.00000°, δ40.00000°,λ82.00000°. NP2:φ₀310.00000°,δ50.00000°, λ97.00000°. Principal axes: T 2.3800, Plg82.0000°, Azm261.0000°; N 0.5600, Plg5.0000°, Azm125.0000°; P -2.9500, Plg4.0000°, Azm34.0000°;*

ISC 28 08:43:45.2±0.2,5°.53S±0°.03×101°.67E±0°.03,h16km, h16km:pP-P,n1326,σ1s44/1391,mb5.6/197,MS5.5/211, 268C-226D,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**1.73**	**48**	P	**Pb**	**08 44 14.9**	**-1.8**
MNAI				S	**Sg**	**08 44 41.1**	**0.0**
	baz=1.9,SNR=26						
MNAI				S	**Sb**	**08 44 36.9**	**-1.4**
	baz=1.9,SNR=4.1						
KSI	**Kapahiang**	**2.08**	**26**	P	**Pn**	**08 44 19.9**	**+0.3**
KSI				S	**Sg**	**08 44 49.0**	**-3.3**
LWLI	**Liwa**	**2.43**	**78**	P	**Pn**	**08 44 24.2**	**-0.3**
LWLI				S	**Sb**	**08 44 59.5**	**+0.9**
MASI	**Maura Aman, Be**	**2.44**	**13**	P	**Pn**	**08 44 24.5**	**0.0**
MASI				S	**Sn**	**08 44 54.4**	**+0.3**
KASI	**Kota Agung**	**2.81**	**90**	P	**Pn**	**08 44 28.7**	**-0.9**
KASI				S	**Sn**	**08 45 03.4**	**+0.2**
KLSI		**3.16**	**75**	P	**Pn**	**08 44 34.5**	**+0.1**
BLSI	**Bandar Lampung**	**3.56**	**88**	P	**Pn**	**08 44 39.6**	**-0.3**
SBJI	**Serang**	**4.48**	**98**	P	**Pn**	**08 44 54.3**	**+1.8**
TNG	**Tangerang**	**4.99**	**98**	P	**Pn**	**08 45 01.3**	**+1.7**
	3µm,1.1s,51µm12nm						
SKJI	**Sukabumi**	**5.07**	**107**	P	**Pn**	**08 45 01.1**	**+0.4**
DBJI	**Dramaga**	**5.15**	**102**	P	**Pn**	**08 45 01.8**	**0.0**
	2µm,0.5s,32µm11nm						
RGRI	**Rengat**	**5.19**	**7**	P	**Pn**	**08 45 03.0**	**+0.7**
PPI	**Padang Panjang**	**5.20**	**346**	P	**Pn**	**08 45 00.9**	**-1.5**
	2µm,1.2s,25µm97µm9.2nm						
PPI	**Padang Panjang**	**5.20**	**346**	P	**Pn**	**08 45 00.8**	**-1.5**
	baz=5.3,SNR=83						
PPBI	**Pangkal Pinang**	**5.57**	**53**	P	**Pn**	**08 45 09.0**	**+1.4**
	263nm,1.1s,27µm50µm5.1nm						
BKNI	**Bangkinang**	**5.85**	**354**	P	**Pn**	**08 45 10.7**	**-0.7**
	2µm,1.1s,28µm60µm14nm						
BKNI	**Bangkinang**	**5.85**	**354**	P	**Pn**	**08 45 10.9**	**-0.5**
	baz=6.0,SNR=4.2						
LEM	**Lembang**	**6.05**	**103**	P	**Pn**	**08 45 15.6**	**+1.3**
	2µm,1.2s,44µm7.8nm						
LEM	**Lembang**	**6.05**	**103**	P	**Pn**	**08 45 16.1**	**+1.9**
	baz=6.1,SNR=36						
XMI	**Christmas Isla**	**6.30**	**141**	P	Pn	08 45 11.8	-5.8
	baz=6.3,SNR=7.5						
XMI				S	**Sn**	**08 46 23.8**	**-5.6**
	baz=6.3,SNR=3.6						
XMIS	**Christmas Isla**	**6.30**	**142**	*e*Pn	Pn	08 45 11.0	-6.6
	171nm,0.4s						
XMIS	**Christmas Isla**	**6.30**	**142**	P	Pn	08 45 13.3	-4.3
	baz=6.3,SNR=5.8						
XMIS				S	Sn	08 46 18.1	-11
	baz=6.3,SNR=4.4						
CISI	**Cisompet, Garu**	**6.43**	**109**	P	**Pn**	**08 45 17.4**	**-2.0**
	2µm,0.6s,25µm39µm7.9nm						
CISI	**Cisompet, Garu**	**6.43**	**109**	P	**Pn**	**08 45 17.1**	**-2.3**
	baz=6.5,SNR=70						
TPI	**Tanjungpandan**	**6.57**	**65**	P	**Pn**	**08 45 23.1**	**+1.8**
	75nm,1.3s,5µm2.5nm						
MNSI	**Mandailing Nat**	**6.62**	**342**	P	**Pn**	**08 45 21.1**	**-0.9**
	700nm,0.9s,11µm3.3nm						
BTDF	**Bukit Timah Da**	**7.16**	**17**	P	**Pn**	**08 45 30.7**	**+1.3**
	399nm,1.2s,6µm26µm5.7nm						
BTDF	**Bukit Timah Da**	**7.16**	**17**	P	Pb	08 45 39.9	-9.4
	baz=7.4,SNR=7.5						
BTDF				P	Pb	08 45 39.9	-9.4
	baz=7.4,SNR=7.5						
TGJI	**Tegal**	**7.53**	**101**	P	**Pn**	**08 45 35.9**	**+1.5**
MYKOM	**Kota Tinggi**	**7.59**	**17**	P	**Pn**	**08 45 36.3**	**+1.0**
MYKOM	**Kota Tinggi**	**7.59**	**17**	P	**Pn**	**08 45 36.4**	**+1.1**
	295nm,0.9s,7µm50µm6.6nm						
CLJI	**Cilicap**	**7.61**	**107**	P	**Pn**	**08 45 37.3**	**+1.7**
	454nm,0.7s,1.9nm						
KGM	**Kluang**	**7.68**	**12**	P	**Pn**	**08 45 37.0**	**+0.6**
COCO	**West Island**	**8.16**	**215**	*e*P	Pn	08 45 39.8	-3.2
COCO	**West Island**	**8.16**	**215**	P	**Pn**	**08 45 42.7**	**-0.3**
	SNR=6.8						
COCO	**West Island**	**8.16**	**215**	*e*Pn	Pn	08 45 39.8	-3.2
COCO				*e*Sn	Sn	08 47 05.0	-10
COCO	**West Island**	**8.16**	**215**	P	Pn	08 45 40.3	-2.8
	2µm,0.9s,19µm						
BJII	**Banjamegara**	**8.19**	**103**	P	**Pn**	**08 45 44.8**	**+1.2**
	572nm,0.8s,12µm						
FRIM	**Kepong**	**8.71**	**360**	P	**Pn**	**08 45 51.5**	**+0.8**
PSI	**Prapat**	**8.72**	**342**	Pn	Pn	08 45 47.6	-3.3
PSI				Sn	Sn	08 47 21.2	-7.9
PSI	**Prapat**	**8.72**	**342**	Pn	Pn	08 45 47.6	-3.3
	14nm,0.3s,baz=183,slow=23,SNR=22						
PSI				Sn	Sn	08 47 21.2	-7.9
	2.3nm,0.3s,ba

KAPI S **S** **08 51 20.8 -1.1**
comp=Z,0.3nm,0.3s,baz=244,slow=21,SNR=1.8
KAPI LR LR 08 56 07.0
comp=Z,12µm,18.4s,baz=279,slow=41
SPSI Sidrap Palu 18.11 86 P **P** **08 47 57.3 +0.7**
comp=Z,175nm,1.6s,comp=Z,7µm
CHBT CHBT 18.18 2 P **Pn** **08 47 55.6 -1.5**
CHBT CHBT 18.18 2 P **P** **08 47 56.6 -0.7**
comp=Z,283nm,1.1s,comp=Z,5µm
TTSI Tana Toraja 18.27 83 P **P** **08 47 59.8 +1.5**
comp=Z,399nm,1.3s,comp=Z,13µmcomp=Z,20µm
BKSI Bulukumba 18.37 90 P **Pn** **08 47 58.3 -1.2**
comp=Z,213nm,1.0s,comp=Z,3µm
KKM Kota Kinabalu 18.52 52 *eP* **Pn** **08 48 01.6 +0.1**
comp=Z,244nm,1.1s
KKM Kota Kinabalu 18.52 52 P **Pn** **08 48 01.9 +0.4**
KKM Kota Kinabalu 18.52 52 P **Pn** **08 48 02.2 +0.7**
comp=Z,273nm,1.7s,comp=Z,7µm
KKM Kota Kinabalu 18.52 52 P **Pn** **08 48 02.1 +0.6**
baz=19,SNR=8.7
BSSI Bau Bau, Buton 18.73 93 P **Pn** **08 48 04.6 +0.6**
comp=Z,143nm,1.8s,comp=Z,5µmcomp=Z,14µm
TSM Tawau 18.90 59 P **Pn** **08 48 06.0 0.0**
WSI Waingapu 18.91 104 P Pn 08 48 15.8 +10
SDKM Sandakan 19.07 55 P **Pn** **08 48 07.5 -0.5**
PBA Port Blair 19.25 333 *eP* P 08 48 08.3 -0.8
PBA AMB AMB 08 48 29.8
comp=Z,37nm,12.0s
BASI Baing, Sumba 19.30 105 P **Pn** **08 48 11.5 +0.8**
comp=Z,1µm,0.9s,comp=Z,12µm
KDM Kudat 19.54 51 P **Pn** **08 48 12.8 -0.9**
SKSI Soroako, Sulaw 19.84 82 P **Pn** **08 48 16.3 -1.0**
comp=Z,229nm,1.2s,comp=Z,6µm
MYLDM Lahad Datu 19.89 58 P **Pn** **08 48 17.2 -0.7**
MYLDM Lahad Datu 19.89 58 P **Pn** **08 48 18.2 +0.4**
comp=Z,418nm,1.2s,comp=Z,13µm
DGPR DIGLIPUR 20.52 335 *eP* **P** **08 48 22.0 -1.0**
DGPR AMB AMB 08 48 46.2
comp=Z,66nm,5.6s
MMRI Maumere 20.64 100 P Pn 08 48 25.5 -1.2
comp=Z,361nm,0.8s,comp=Z,5µm
UBPT Khong Chiam 21.02 10 P **P** **08 48 27.5 -0.9**
comp=Z,464nm,1.2s,comp=Z,5µmcomp=Z,27µm
UBPT Khong Chiam 21.02 10 P **P** **08 48 27.2 -1.2**
comp=Z,464nm,1.2s,comp=Z,5µm
MRSI Marisa 21.10 74 P **P** **08 48 31.1 +1.7**
comp=Z,539nm,1.0s,comp=Z,7µm
LUWI Luwuk 21.53 79 P **P** **08 48 37.4 +3.5**
comp=Z,707nm,1.2s,comp=Z,8µm
LUWI Luwuk 21.53 79 P P 08 48 39.7 +5.8
baz=22,SNR=4.4
PBKT Sadao Pong 21.97 358 P **P** **08 48 37.7 -0.8**
PBKT Sadao Pong 21.97 358 P **P** **08 48 37.8 -0.8**
comp=Z,103nm,1.6s,comp=Z,4µm
GTOI Gorontalo 22.18 75 P **P** **08 48 42.9 +2.0**
comp=Z,429nm,1.2s,comp=Z,7µm
BATI Baumata 22.27 103 P **P** **08 48 40.6 -1.3**
BATI S S 08 52 39.2 -7.4
BATI Baumata 22.27 103 P **P** **08 48 41.2 -0.7**
comp=Z,639nm,0.8s,comp=Z,7µm
BATI Baumata 22.27 103 P **P** **08 48 40.6 -1.3**
comp=Z,345nm,0.7s,baz=48,slow=0.6,SNR=19
BATI S S 08 52 39.2 -7.4
comp=Z,39nm,0.6s,baz=156,slow=20,SNR=3.2
PANO Nakornpanom 22.72 7 P **P** **08 48 46.5 -0.1**
comp=Z,250nm,1.0s,comp=Z,4µm
SOEI Soe 22.78 102 P **P** **08 48 48.6 +1.1**
comp=Z,561nm,1.1s,comp=Z,11µm
SOEI Soe 22.78 102 P **P** **08 48 45.0 -2.5**
baz=23,SNR=16
SOEI S **S** **08 53 01.0 +4.7**
baz=23,SNR=5.6
KMSI Cibinong 23.09 75 P **P** **08 48 52.9 +2.3**
comp=Z,404nm,1.0s,comp=Z,9µm
MBWA Marble Bar 23.41 133 *eP* **P** **08 48 53.4 -0.3**
comp=Z,803nm,2.4s
MBWA LR LR
comp=Z,7µm,22.0s
LAMP Lampang 23.99 355 P **P** **08 48 59.5 +0.2**
comp=Z,66nm,1.2s,comp=Z,589nm
CMAR Chiang Mai Arr 23.99 354 P **P** **08 48 58.6 -0.7**
CMAR S **S** **08 53 18.1 +2.3**
CMAR Chiang Mai Arr 23.99 354 P **P** **08 48 58.6 -0.7**
comp=Z,190nm,1.1s,baz=185,slow=8.4,SNR=183
CMAR S **S** **08 53 18.1 +2.3**
comp=Z,1.1nm,0.3s,baz=193,slow=16,SNR=3.4
CMAR LR LR 08 59 00.8
comp=Z,12µm,18.3s,baz=178,slow=38
CMMT Chiang Mai 24.34 354 P **P** **08 49 02.3 -0.3**
comp=Z,150nm,1.2s,comp=Z,4µm
CMMT Chiang Mai 24.34 354 P **P** **08 49 02.0 -0.6**
comp=Z,191nm,0.7s,comp=Z,4µm
CHTO Chiang Mai 24.34 354 *eP* **P** **08 49 01.3 -1.3**
CHTO pmax pmax
comp=Z,152nm,1.1s
CHTO MLR MLR
comp=Z,12µm,19.0s
CHTO Chiang Mai 24.34 354 P **P** **08 49 02.5 -0.1**
SNR=40
CHTO Chiang Mai 24.34 354 *eP* **P** **08 49 01.3 -1.3**
comp=Z,38nm,1.1s
CHTO LR LR
comp=Z,12µm,19.0s
CHTO Chiang Mai 24.34 354 P **P** **08 49 02.5 -0.1**
comp=Z,167nm,1.2s,comp=Z,4µm
CHTO Chiang Mai 24.34 354 P **P** **08 49 02.2 -0.4**
comp=Z,168nm,1.2s,comp=Z,4µm
PALK Pallekele 24.48 301 *eP* **P** **08 49 04.7 +0.7**
comp=Z,64nm,1.3s
PALK Pallekele 24.48 301 P **P** **08 49 06.6 +2.6**
CMAI Chiengmai2 25.44 354 P **P** **08 49 13.1 +0.5**
comp=Z,136nm,1.1s,comp=Z,6µm
QIZ Qiongzhong 25.70 18 P **P** **08 49 15.8 +0.9**
QIZ pP **pP** **08 49 20.5 +0.7**
QIZ sP sP 08 49 27.5 +5.8
QIZ S **S** **08 53 44.5 +1.4**
QIZ sS sS 08 54 00.8 +10
QIZ pmax pmax
comp=Z,38nm,1.7s
QIZ pmax pmax
comp=Z,2µm,11.9s
QIZ LR LR
comp=N,19µm,13.2s
QIZ LR LR
comp=E,8µm,13.1s
QIZ LR LR
comp=Z,16µm,13.4s
QIZ Qiongzhong 25.70 18 *eP* **P** **08 49 16.6 +1.7**
comp=Z,141nm,1.2s
QIZ LR LR
comp=Z,8µm,19.0s
LBMI Labuha 26.24 80 P P 08 49 34.3 +14
TNTI Ternate 26.41 77 P **P** **08 49 23.4 +1.9**
comp=Z,240nm,1.6s,comp=Z,5µm
MEEK Meekatharra 26.50 144 P **P** **08 49 22.9 +0.8**
baz=26,SNR=6.0
FITZ Fitzroy Crossi 26.53 120 *eP* **P** **08 49 21.6 -0.9**
comp=Z,12nm,0.6s
FITZ Fitzroy Crossi 26.53 120 P **P** **08 49 21.9 -0.6**
comp=Z,63nm,0.7s,baz=291,slow=8.3,SNR=45
FITZ Fitzroy Crossi 26.53 120 P **P** **08 49 21.9 -0.6**
baz=27,SNR=37
DAV Davao City (W) 26.95 63 P **P** **08 49 26.5 +0.3**
DAV S **S** **08 54 06.5 +3.4**
DAV Davao City (W) 26.95 63 P **P** **08 49 26.5 +0.3**
comp=Z,172nm,0.3s,baz=109,slow=4.4,SNR=2.1
DAV S **S** **08 54 06.4 +3.4**
comp=Z,195nm,0.4s,baz=223,slow=11,SNR=1.7
DAV LR LR 09 01 16.2
comp=Z,7µm,18.9s,baz=50,slow=39
MORW Morawa 27.07 151 P **P** **08 49 29.2 +1.9**
baz=27,SNR=3.8
TGY Tagaytay City 27.31 44 P **P** **08 49 28.0 -1.6**
TGY Tagaytay City 27.31 44 P **P** **08 49 28.0 -1.6**
comp=Z,137nm,0.4s,baz=184,slow=13,SNR=2.4
TGY LR LR 09 00 47.9
comp=Z,45nm,18.7s,baz=55,slow=38
MDRS Chennai 28.18 311 *eP* **P** **08 49 38.5 +1.2**
MDRS AMB AMB 08 49 53.0
comp=Z,11nm,9.5s
TRD Trivandrum 28.31 299 *eP* **P** **08 49 38.2 -0.3**
TRD AMB AMB 08 49 55.0
comp=Z,12nm,6.7s
KNRA Kununurra 28.44 113 P **P** **08 49 38.1 -1.5**
baz=28,SNR=22
DGAR Diego Garcia 29.09 265 *eP* **P** **08 49 45.9 +0.5**
DGAR Diego Garcia 29.09 265 PFAKE 08 50 00.0 +15
DGAR LR LR
comp=Z,7µm,20.0s
VIS Vishakhapatnam 29.36 322 *eP* **P** **08 49 44.7 -3.0**
VIS AMB AMB 08 51 06.1
comp=Z,13nm,10.1s
MTN Manton Dam 29.95 106 P **P** **08 49 52.9 -0.2**
baz=30,SNR=5.1
MTN S S 08 55 20.6 +30
baz=30,SNR=4.4
KMI Kunming 30.49 2 ⇑P **P** **08 49 59.5 +1.6**
KMI pP pP 08 50 10.3 +7.5
KMI sP sP 08 50 14.5 +10
KMI PP **PnPn** **08 51 00.5 +3.6**
KMI S **S** **08 54 57.8 -1.1**
KMI sS sS 08 55 15.5 +8.5
KMI pmax pmax
comp=Z,42nm,1.3s
KMI pmax pmax
comp=Z,1µm,4.6s
KMI LR LR
comp=N,23µm,11.4s
KMI LR LR
comp=E,32µm,15.0s
KMI LR LR
comp=Z,22µm,8.7s
GZH Guangzhou 30.65 21 P P 08 50 04.8 +5.8
GZH S **S** **08 55 05.5 +4.5**
GZH LR LR
comp=N,21µm,13.3s
GZH LR LR
comp=E,24µm,13.3s
GZH LR LR
comp=Z,37µm,14.2s
NWAO Narrogin (SRO) 30.88 154 *eP* **P** **08 49 59.7 -1.3**
comp=Z,21nm,1.0s
NWAO LR LR
comp=Z,6µm,19.0s
NWAO Narrogin (SRO) 30.88 154 P **P** **08 50 01.5 +0.5**
comp=Z,17nm,0.9s,baz=315,slow=11,SNR=6.9
IMP Imphal 31.06 346 *eP* **P** **08 50 02.0 -0.8**
IMP *ex* x 08 53 00.0
KDU Kakadu 31.21 105 P **P** **08 50 02.3 -1.9**
baz=31,SNR=19
GYA Guiyang 32.17 8 P **P** **08 50 13.0 +0.4**
GYA pP pP 08 50 25.3 +7.8
GYA sP sP 08 50 29.5 +10
GYA PP **PP** **08 51 23.3 -2.1**
GYA S **S** **08 55 25.5 +0.6**
GYA sS sS 08 55 43.3 +10
GYA ScP **ScP** **08 56 42.0 -2.7**
GYA pmax pmax
comp=Z,60nm,0.8s
GYA pmax pmax
comp=Z,360nm,4.9s
GYA LR LR
comp=N,12µm,17.9s
GYA LR LR
comp=E,12µm,18.6s
GYA LR LR
comp=Z,14µm,17.4s
HYB Hyderabad 32.27 315 *i* P **P** **08 50 13.0 -0.5**
HYB *eS* **S** **08 55 32.0 +5.4**
HYB Hyderabad 32.27 315 *ex* x 08 50 02.2
HYB AMB AMB 08 50 25.5
comp=Z,5.7nm,12.5s
SHL Shillong 32.34 343 *i* P **P** **08 50 14.5 +0.3**
SHL AMB AMB 08 50 25.7
comp=Z,6.3nm,9.8s
SHL *ex* x 08 55 34.5
MNGI Mangalore 32.38 305 *ex* x 08 51 31.3
MNGI *ex* x 08 56 55.9
BOK Bokaro 32.97 333 *eP* **P** **08 50 18.4 -1.1**
BOK AMB AMB 08 50 32.6
comp=Z,10.0nm,12.4s
TPUB Ta-pu 34.12 32 *eP* **P** **08 50 30.0 +0.4**
comp=Z,59nm,0.8s
QZH Quanzhou 34.48 28 P **P** **08 50 33.8 +1.2**
QZH PP **PP** **08 51 51.5 +0.6**
QZH S **S** **08 56 02.5 +1.9**
QZH pmax pmax
comp=Z,1µm,5.0s
QZH LR LR
comp=N,18µm,13.2s
QZH LR LR
comp=E,22µm,13.8s
QZH LR LR
comp=Z,17µm,13.2s
YULB Yu-li 34.55 33 *eP* **P** **08 50 34.3 +1.0**
NGP Nagpur 34.58 321⇑ *eP* P 08 50 29.4 -4.2
NGP *ex* x 08 50 31.6
comp=Z,153nm,1.2s
NGP *eS* **S** **08 55 59.1 -3.2**
GOA Goa 34.60 308 *eP* **P** **08 50 32.0 -1.7**
GOA AMB AMB 08 50 47.1
comp=Z,7.7nm,10.6s
SSLB Suanglung 34.69 32 *eP* **P** **08 50 34.3 -0.2**
comp=Z,10nm,0.3s
WRA Warramunga Arr 34.84 117 P **P** **08 50 34.8 -1.1**
WRA Warramunga Arr 34.84 117 P **P** **08 50 34.8 -1.1**
comp=Z,54nm,0.8s,baz=296,slow=8.7,SNR=109
WRA LR LR 09 04 04.7
comp=Z,3µm,21.8s,baz=295,slow=35
WRAB Tennant Creek 34.85 117 P **P** **08 50 36.0 +0.1**
comp=Z,674nm,0.9s,SNR=13
WRAB Tennant Creek 34.85 117 *eP* **P** **08 50 35.0 -0.9**
WRAB pmax pmax
comp=Z,104nm,0.8s
WRAB MLR MLR
comp=Z,4µm,20.0s
WRAB Tennant Creek 34.85 117 *eP* **P** **08 50 35.0 -0.9**
comp=Z,104nm,0.8s
WRAB LR LR
comp=Z,4µm,20.0s
ODAN Odare 35.04 337 *eP* **P** **08 50 38.0 +0.2**
comp=Z,769nm,1.0s
FORT Forrest 35.30 139 *eP* **P** **08 50 37.7 -2.0**
comp=Z,44nm,0.9s
NACB Ninganchiao 35.34 33 *eP* **P** **08 50 39.8 -0.3**
comp=Z,1µm,0.7s
TAPN Taplejung 35.37 338 *eP* **P** **08 50 41.3 +0.7**
comp=Z,969nm,0.9s
RAMN Ramite 35.43 336 *eP* **P** **08 50 41.9 +0.8**
comp=Z,478nm,0.9s
AKL Akola 35.58 318 *eP* **P** **08 50 43.6 +1.4**
AKL AMP 08 50 45.4
comp=Z,134nm,1.3s
AKL *i* S **S** **08 56 17.7 -0.1**
YHNB Yeheng 35.63 32 *eP* **P** **08 50 42.1 -0.5**
YHNB LR LR
comp=Z,6µm,19.0s
ASAR Alice Springs 35.88 123 P **P** **08 50 43.8 -1.1**
ASAR S **S** **08 56 22.1 -0.4**
ASAR Alice Springs 35.88 123 P **P** **08 50 43.8 -1.1**
comp=Z,18nm,0.7s,baz=300,slow=7.8,SNR=188
ASAR S **S** **08 56 22.1 -0.4**
comp=Z,8.8nm,1.2s,baz=297,slow=17,SNR=5.9
AS31 Alice Springs 35.88 123 *eP* **P** **08 50 43.3 -1.5**
TATO Taipei 35.94 32 PFAKE 08 50 50.0 +4.8
TATO LR LR
comp=Z,3µm,19.0s
JIRN Jiri 36.23 336 *eP* **P** **08 50 48.5 +0.4**
comp=Z,932nm,0.9s
CD2 Chengdu 36.29 3 *eP* **P** **08 50 48.3 +0.1**
CD2 pP **pP** **08 50 57.5 +4.4**
CD2 sP sP 08 51 02.8 +7.7
CD2 PP **PP** **08 52 12.5 +1.5**
CD2 PcP **PcP** **08 53 12.3 -0.8**
CD2 S **S** **08 56 27.3 -1.1**
CD2 ScS **ScS** **09 00 59.8 -5.4**
CD2 pmax pmax
comp=Z,100nm,1.2s
CD2 pmax pmax
comp=Z,2µm,5.9s
CD2 LR LR
comp=E,32µm,14.2s
CD2 LR LR
comp=Z,20µm,15.5s
ENH Enshi 36.38 11 *eP* **P** **08 50 47.9 -1.1**
comp=Z,71nm,0.6s
POO Poona 36.39 312 *eP* **P** **08 50 48.6 -0.5**
POO AMB AMB 08 51 16.1
comp=Z,5.9nm,5.2s
LSA Lhasa 36.46 344 P **P** **08 50 51.0 +0.9**
LSA pP **pP** **08 50 59.3 +4.2**
LSA sP sP 08 51 08.0 +11
LSA PP **PnPn** **08 52 12.0 -0.8**
LSA S S 08 56 24.3 -7.5
LSA pmax pmax
comp=Z,120nm,1.1s
LSA pmax pmax
comp=Z,980nm,5.9s
LSA LR LR
comp=N,3µm,21.0s
LSA LR LR
comp=E,5µm,24.0s
LSA LR LR
comp=Z,7µm,21.0s
LSA Lhasa 36.46 344 *eP* **P** **08 50 50.6 +0.5**
LSA pmax pmax
comp=Z,142nm,1.1s
LSA MLR MLR
comp=Z,7µm,21.0s
LSA Lhasa 36.46 344 *eP* **P** **08 50 50.6 +0.5**
comp=Z,142nm,1.1s
LSA LR LR
comp=Z,7µm,21.0s
PKI Pulchoki 36.47 335 *eP* **P** **08 50 50.0 -0.1**
PKIN Phulchoki 36.48 335 *eP* **P** **08 50 50.7 +0.6**
comp=Z,245nm,1.2s
GUN Gumba 36.58 336 *eP* **P** **08 50 51.4 +0.4**
comp=Z,597nm,0.8s
DMN Daman 36.63 335 *eP* **P** **08 50 52.5 +1.1**
comp=Z,553nm,1.1s
KKN Kakani 36.71 335 *eP* **P** **08 50 52.1 0.0**
comp=Z,593nm,1.1s
BHPL Bhopal 37.13 321 *eP* **P** **08 50 54.1 -1.3**
BHPL AMB AMB 08 51 05.5
comp=Z,6.5nm,6.1s
KOLN Koldanda 37.42 333 *eP* **P** **08 50 58.3 +0.2**
comp=Z,226nm,0.7s
DANN Dangsing 37.85 334 *eP* **P** **08 51 02.7 +0.9**
comp=Z,826nm,1.2s
WHN Wuhan 37.87 18 ⇑P **P** **08 51 02.0 +0.5**
WHN pP **pP** **08 51 10.8 +4.3**
WHN S **S** **08 56 55.8 +3.4**
WHN LR LR
comp=N,29µm,12.6s
WHN LR LR
comp=E,20µm,11.8s
WHN LR LR
comp=Z,29µm,11.7s
PYUN Piuthan 37.98 333 *eP* **P** **08 51 03.9 +1.1**
comp=Z,418nm,1.0s
JAY Jayapura 39.05 87 P P 08 51 22.0 +10
baz=39,SNR=3.8
JAY S **S** **08 57 13.0 +2.1**
baz=39,SNR=4.1
XAN Xi'an 39.95 9 P **P** **08 51 18.5 -0.5**
XAN pP **pP** **08 51 28.3 +4.3**
XAN sP sP 08 51 33.5 +7.5
XAN S **S** **08 57 20.3 -3.5**
XAN pmax pmax
comp=Z,42nm,1.3s
XAN pmax pmax
comp=Z,250nm,6.3s
XAN LR LR
comp=N,15µm,12.6s
XAN LR LR
comp=E,9µm,12.6s
XAN LR LR
comp=Z,7µm,13.6s
NJ2 Nanjing 40.80 23 *eP* P 08 51 29.5 +3.5
NJ2 pP pP 08 51 41.0 +10
NJ2 sP sP 08 51 44.8 +12
NJ2 S **S** **08 57 34.5 -2.0**
NJ2 sS sS 08 57 52.0 +7.3
NJ2 pmax pmax
comp=Z,48nm,0.7s
NJ2 pmax pmax
comp=Z,490nm,5.2s
NJ2 LR LR
comp=N,22µm,18.6s
NJ2 LR LR
comp=E,16µm,17.5s
NJ2 LR LR
comp=Z,25µm,17.0s
SSE Sheshan 40.92 26 P **P** **08 51 27.5 +0.5**
SSE pP **pP** **08 51 35.3 +3.3**
SSE sP sP 08 51 40.8 +6.8
SSE S **S** **08 57 37.8 -0.4**
SSE pmax pmax
comp=Z,35nm,0.7s
SSE pmax pmax
comp=Z,570nm,4.9s
SSE LR LR
comp=N,10µm,13.4s
SSE LR LR
comp=E,8µm,13.5s
SSE LR LR
comp=Z,14µm,12.9s
JOW Kunigami 41.21 37 *eP* **P** **08 51 29.5 0.0**
comp=Z,22nm,0.9s
NDI New Delhi 41.37 327 *ex* **P** **08 51 28.0 -2.8**
NDI *ex* x 08 57 52.0
LZH Lanzhou 41.45 3 ⇑P **P** **08 51 31.8 +0.3**
LZH pP pP 08 51 42.0 +5.5
LZH S **S** **08 57 42.3 -4.0**
LZH pmax pmax
comp=Z,170nm,1.1s
LZH pmax pmax
comp=Z,2µm,4.9s
LZH LR LR
comp=N,13µm,10.7s
LZH LR LR
comp=E,19µm,12.2s
LZH LR LR
comp=Z,17µm,15.7s
COEN Coen 41.70 105 *eP* **P** **08 51 33.4 -0.3**
comp=Z,53nm,0.8s
COEN Coen 41.70 105 P **P** **08 51 32.8 -0.9**
baz=42,SNR=13
BBOO Buckleboo 41.98 135 *eP* **P** **08 51 36.2 +0.4**
DDI Dehra Dun 42.22 329 *ex* x 08 51 32.0
DDI *eP* **P** **08 51 36.5 -1.3**
DDI AMB AMB 08 51 47.2
comp=Z,33nm,6.0s
BHJ Bhuj 42.38 314 *ex* x 08 51 30.6
BHJ AMB AMB 08 51 52.5
comp=Z,9.6nm,14.3s
SMLA Simla 43.33 329 *i* P **P** **08 51 45.8 -0.9**
SMLA AMB AMB 08 51 59.3
comp=Z,9.5nm,17.5s
MTSU Mount Surprise 43.46 111 P **P** **08 51 47.9 -0.1**
baz=44,SNR=19
TIA Tai'an 43.98 18 ⇑P **P** **08 51 51.5 -0.4**
TIA S **S** **08 58 19.0 -4.2**
TIA pmax pmax
comp=Z,20nm,1.2s
TIA LR LR
comp=N,13µm,22.6s
TIA LR LR
comp=E,18µm,20.2s
TIA LR LR
comp=Z,6µm,21.4s
TIY Taiyuan 44.18 12 *eP* **P** **08 51 53.0 -0.5**
TIY pP **pP** **08 52 02.3 +3.8**
TIY sP sP 08 52 06.5 +6.0
TIY S **S** **08 58 24.8 -1.4**
TIY SS **SS** **09 01 41.5 -2.9**
TIY pmax pmax
comp=Z,1µm,4.4s
TIY LR LR
comp=N,10µm,11.6s
TIY LR LR
comp=E,9µm,11.4s
TIY LR LR
comp=Z,12µm,13.0s
DHRM DHARAMSHALA 44.66 329 *eP* **P** **08 51 56.2 -1.5**
DHRM AMB AMB 08 52 08.9
comp=Z,10.0nm,11.0s
GTA Gaotai 44.75 358 ⇑P **P** **08 51 57.8 -0.3**
GTA pP **pP** **08 52 07.8 +4.6**
GTA sP sP 08 52 11.8 +6.7
GTA PP **PP** **08 53 44.0 +1.1**
GTA S **S** **08 58 33.5 -1.1**
GTA sS sS 08 58 50.0 +7.1
GTA pmax pmax
comp=Z,49nm,1.5s
GTA pmax pmax
comp=Z,2µm,6.9s
GTA LR LR

comp=N,11µm,13.3s
GTA LR LR
comp=E,20µm,14.2s
GTA LR LR
comp=Z,12µm,13.8s
DLH Dalhousie 45.06 329 *e*P **P 08 52 00.0 -0.9**
THN Thein Dam 45.11 329 *e*x x 08 51 55.0
PMG Port Moresby 45.24 98 *e*P **P 08 52 02.4 0.0**
comp=Z,29nm,0.9s
PMG LR LR
comp=Z,3µm,19.0s
STKA Stephens Creek 45.59 130 P **P 08 52 04.0 -0.8**
STKA Stephens Creek 45.59 130 P **P 08 52 04.0 -0.8**
comp=Z,38nm,0.8s,baz=303,slow=7.7,SNR=30
STKA LR LR 09 12 32.8
comp=Z,6µm,19.3s,baz=295,slow=38
STKA Stephens Creek 45.59 130 P **P 08 52 04.3 -0.6**
baz=46,SNR=18
CTAO Charters Tower 45.65 113 *e*P **P 08 52 06.4 +0.9**
CTAO pmax pmax
comp=Z,135nm,1.2s
CTAO MLR MLR
comp=Z,6µm,19.0s
CTAO Charters Tower 45.65 113 *e*P **P 08 52 06.4 +0.9**
comp=Z,135nm,1.2s
CTAO LR LR
comp=Z,6µm,19.0s
MANU Manus Island 45.72 87 P **P 08 52 06.5 +0.4**
baz=46,SNR=3.6
MSEY Mahe Island 46.01 269 PFAKE 08 52 20.0 +12
MSEY LR LR
comp=Z,4µm,21.0s
BTO Baotou 46.55 9 *e*P **P 08 52 12.5 +0.2**
BTO S **S 08 59 02.5 +2.1**
HHC Hu-ho-hao-te 47.04 10 *e*P **P 08 52 16.0 -0.2**
HHC pP pP 08 52 26.3 +5.1
HHC sP sP 08 52 30.0 +6.8
HHC PP **PP 08 54 05.5 -1.5**
HHC S **S 08 59 04.3 -3.2**
HHC ScS **ScS 09 02 04.5 -5.8**
HHC pmax pmax
comp=Z,130nm,1.3s
HHC pmax pmax
comp=Z,3µm,4.2s
HHC LR LR
comp=N,19µm,11.7s
HHC LR LR
comp=E,18µm,12.3s
HHC LR LR
comp=Z,21µm,13.5s
BJT Baijiatuau 47.25 15 *e*P **P 08 52 18.0 +0.3**
comp=Z,52nm,0.8s
BJT LR LR
comp=Z,10µm,19.0s
BJI Beijing 47.28 15 P **P 08 52 18.0 +0.1**
BJI S **S 08 59 10.8 +0.2**
BJI SS **SS 09 02 42.5 +4.1**
BJI pmax pmax
comp=Z,59nm,1.4s
BJI pmax pmax
comp=Z,1µm,5.1s
BJI LR LR
comp=N,15µm,21.8s
BJI LR LR
comp=E,12µm,20.3s
BJI LR LR
comp=Z,7µm,19.6s
JNU Nakatsue 47.39 34 *e*P **P 08 52 18.7 -0.2**
comp=Z,249nm,2.4s
JNU S **S 08 59 08.3 -4.3**
JNU Nakatsue 47.39 34 P **P 08 52 17.6 -1.3**
comp=Z,18nm,0.8s,baz=186,slow=4.4,SNR=8.8
JNU S **S 08 59 08.3 -4.3**
comp=Z,4.5nm,0.9s,baz=124,slow=18,SNR=2.1
CMSA Cobar Meteorol 48.62 128 P **P 08 52 28.4 -0.2**
baz=49,SNR=42
INCN Inchon 48.71 27 PFAKE 08 52 40.0 +11
INCN LR LR
comp=Z,4µm,21.0s
KSAR Wonju Array Be 49.25 28 P **P 08 52 32.1 -1.0**
KSRS Korea Array 49.27 28 P **P 08 52 32.1 -1.2**
comp=Z,18nm,0.8s,baz=222,slow=7.7,SNR=57
RMQ Roma 49.47 120 P **P 08 52 35.7 +0.6**
baz=50,SNR=10.0
WBK Wadi Bani Khal 50.25 305 P **P 08 52 43.0 +1.8**
SNR=6.0
KSH Kashi 50.72 334 P **P 08 52 43.3 -1.2**
KSH sP sP 08 52 57.5 +6.0
KSH PP **PP 08 54 40.0 -0.7**
KSH S **S 08 59 54.0 -5.4**
KSH sS **sS 09 00 11.0 +3.3**
KSH pmax pmax
comp=Z,30nm,0.9s
KSH pmax pmax
comp=Z,1µm,5.5s
KSH LR LR
comp=N,2µm,11.3s
KSH LR LR
comp=E,3µm,13.7s
KSH LR LR
comp=Z,4µm,13.9s
WMQ Urumqi 50.72 347 P **P 08 52 46.0 +1.7**
WMQ pP pP 08 52 56.0 +6.6
WMQ sP sP 08 52 59.8 +8.4
WMQ PP **PP 08 54 42.8 +2.2**
WMQ S **S 08 59 57.5 -1.6**
WMQ sS sS 09 00 14.0 +6.5
WMQ ScS **ScS 09 02 31.0 -3.8**
WMQ SS **SS 09 03 29.5 -4.4**
WMQ pmax pmax
comp=Z,230nm,1.0s
WMQ pmax pmax
comp=Z,2µm,5.8s
WMQ LR LR
comp=N,5µm,14.7s
WMQ LR LR
comp=E,5µm,16.2s
WMQ LR LR
comp=Z,4µm,19.5s
JMDO Jabal Madar 50.85 305 P **P 08 52 47.2 +1.6**
SNR=5.5
PAF Port-aux-Franc 51.12 206 PFAKE 08 53 00.0 +13
PAF LR LR
comp=Z,9µm,20.0s
EIDS Eidsvold 51.19 118 *e*P **P 08 52 49.7 +1.5**
comp=Z,143nm,1.8s
SNY Shenyang 51.20 21 ⇓P **P 08 52 47.3 -0.6**
SNY S **S 09 00 02.8 -2.9**
SNY pmax pmax
comp=Z,31nm,1.4s
SNY pmax pmax
comp=Z,1µm,4.5s
SNY LR LR
comp=N,5µm,13.9s
SNY LR LR
comp=E,14µm,13.9s
SNY LR LR
comp=Z,15µm,14.2s
SMDO Samad 51.21 305 P **P 08 52 49.7 +1.2**
SNR=11
BSY Bisya 51.76 305 P **P 08 52 54.4 +1.9**
SNR=11
YNG Young 51.79 130 P **P 08 52 52.5 0.0**
baz=52,SNR=20
HOQ Hoqain 52.06 306 P **P 08 52 56.1 +1.5**
SNR=21
ARQ Araqi 52.59 305 P **P 08 53 00.2 +1.6**
SNR=6.4
CAN Canberra 52.64 131 *e*P **P 08 52 59.0 +0.1**
CAN pmax pmax
comp=Z,166nm,1.7s
CAN MLR MLR
comp=Z,5µm,19.0s
CAN Canberra 52.64 131 *e*P **P 08 52 59.0 +0.1**
comp=Z,166nm,1.7s
CAN LR LR
comp=Z,5µm,19.0s
ARMA Armidale 53.03 124 *e*P **P 08 53 04.0 +2.1**
comp=Z,194nm,2.0s
ARMA Armidale 53.03 124 P **P 08 53 03.9 +1.9**
baz=53,SNR=6.8
SONM Songino Array 53.30 4 P **P 08 53 03.3 -0.2**
SONM S **S 09 00 36.3 +1.7**
SONM Songino Array 53.30 4 P **P 08 53 03.3 -0.2**
comp=Z,79nm,0.9s,baz=185,slow=6.5,SNR=154
SONM S **S 09 00 36.3 +1.7**
comp=Z,0.2nm,0.5s,baz=178,slow=14,SNR=2.5
SONM LR LR 09 16 11.9
comp=Z,6µm,20.1s,baz=178,slow=37
ULN Ulaanbaatar 53.38 5 P **P 08 53 05.4 +1.2**
SNR=40
ULN Ulaanbaatar 53.38 5 *e*P **P 08 53 04.4 +0.2**
comp=Z,73nm,1.0s
ULN LR LR
comp=Z,5µm,21.0s
AAA Alma-Ata 53.49 338 *i*P **P 08 53 05.0 +0.1**
AAA *e*S **S 09 00 37.8 +0.7**
AAA pmax pmax
comp=Z,2µm,4.8s
AAA smax smax
comp=E,4µm,6.4s
UCH Uchtor 53.58 335 P **P 08 53 05.9 -0.2**
SNR=8.8
ASHO Ashiyiah 53.58 306 P **P 08 53 07.2 +1.2**
SNR=7.7
CN2 Changchun 53.59 21 ⇑P **P 08 53 05.5 -0.1**
CN2 *es*P sP 08 53 21.0 +8.3
CN2 *e*S **S 09 00 37.0 -1.4**
CN2 pmax pmax
comp=Z,60nm,1.3s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,9µm,14.0s
CN2 LR LR
comp=E,9µm,14.0s
CN2 LR LR
comp=Z,11µm,14.0s
TKM2 Tokmak 2 53.71 336 *i*P **P 08 53 06.2 -0.6**
TKM2 pmax pmax
comp=Z,110nm,1.1s
TKM2 Tokmak 2 53.71 336 P **P 08 53 06.1 -0.6**
SNR=67
TKM2 Tokmak 2 53.71 336 *e*P **P 08 53 05.8 -1.0**
comp=Z,94nm,1.0s
TKM2 LR LR
comp=Z,3µm,20.0s
KBK Karagaybulak 53.76 336 P **P 08 53 07.0 0.0**
SNR=24
AML Almayashu 53.85 334 P **P 08 53 08.4 +0.4**
SNR=20
AAK Ala-Archa 53.92 335 *i*P **P 08 53 08.9 +0.6**
AAK MLR MLR
comp=Z,5µm,19.0s
AAK Ala-Archa 53.92 335 P **P 08 53 09.1 +0.8**
SNR=35
AAK Ala-Archa 53.92 335 P **P 08 53 09.0 +0.6**
SNR=8.5
AAK Ala-Archa 53.92 335 *e*P **P 08 53 08.8 +0.6**
comp=Z,50nm,1.2s
AAK LR LR
comp=Z,4µm,19.0s
MAJO Matsushiro 54.03 36*c i*P **P 08 53 06.9 -2.1**
MAJO pmax pmax
comp=Z,43nm,2.3s
MAJO MLR MLR
comp=Z,2µm,19.0s
MAJO Matsushiro 54.03 36 *e*P **P 08 53 07.1 -1.9**
comp=Z,5.2nm,0.9s
MAJO LR LR
comp=Z,1µm,19.0s
MAT Matsushiro 54.03 36 P **P 08 53 06.6 -2.4**
MAT S **S 09 00 45.0 +0.3**
MJAR Matsushiro Arr 54.03 36 P **P 08 53 07.6 -1.5**
MJAR Matsushiro Arr 54.03 36 P **P 08 53 07.6 -1.5**
comp=Z,5.8nm,0.7s,baz=219,slow=7.8,SNR=21
FRU Bishkek 54.04 336 ⇑*i*P **P 08 53 09.0 0.0**
FRU pmax pmax
comp=Z,152nm,1.8s
FRU MLR MLR
comp=Z,3µm,19.0s
CHMS Chumysh 54.12 336 P **P 08 53 09.5 -0.1**
SNR=16
EKS2 Erkin-Say 54.25 335 *e*P **P 08 53 09.9 -0.7**
EKS2 pmax pmax
comp=Z,92nm,0.9s
EKS2 MLR MLR
comp=Z,2µm,19.0s
EKS2 Erkin-Say 54.25 335 P **P 08 53 10.1 -0.5**
SNR=64
EKS2 Erkin-Say 54.25 335 *e*P **P 08 53 09.9 -0.7**
comp=Z,92nm,0.9s
EKS2 LR LR
comp=Z,2µm,19.0s
USP Ospenovka 54.45 336 P **P 08 53 12.1 +0.1**
SNR=61
ABPO Ambohimpanom 54.64 251 *e*P **P 08 53 14.5 +0.5**
ABPO MLR MLR
comp=Z,3µm,21.0s
ABPO Ambohimpanom 54.64 251 *e*P **P 08 53 14.5 +0.5**
ABPO LR LR
comp=Z,3µm,21.0s
TAU Tasmania Unive 54.82 140 PFAKE 08 53 20.0 +5.4
TAU LR LR
comp=Z,3µm,21.0s
MK31 Makanchi Array 54.86 344*ce*P **P 08 53 13.6 -1.2**
MK31 pmax pmax
comp=Z,41nm,0.5s
MK31 Makanchi Array 54.86 344 *e*P **P 08 53 13.8 -1.0**
MKAR Makanchi Array 54.86 344 *e*P **P 08 53 13.9 -0.9**
MKAR S **S 09 00 56.9 +1.4**
MKAR Makanchi Array 54.86 344 *e*P **P 08 53 13.9 -0.9**
MKAR S **S 09 00 56.9 +1.4**
MKAR Makanchi Array 54.86 344 P **P 08 53 14.0 -0.9**
comp=Z,105nm,0.9s,baz=142,slow=7.5,SNR=144
MKAR S **S 09 00 56.9 +1.4**
comp=Z,2.1nm,1.1s,baz=137,slow=11,SNR=4.3
MKAR LR LR 09 19 05.8
comp=Z,2µm,18.9s,baz=330,slow=39
IDAH Dahanechah 54.98 317 *e*P **P 08 53 16.8 +0.5**
IKOO Kooshah 55.39 316 *e*P **P 08 53 18.7 -0.6**
VLA Vladivostok 55.62 27 ⇑*i*P **P 08 53 19.8 -0.6**
VLA *e* 08 54 18.0
VLA S **S 09 01 03.0 -2.7**
VLA pmax pmax
comp=Z,48nm,1.0s
ZAK Zakamensk 55.70 1 *e*P **P 08 53 20.8 -0.2**
ZAK pmax pmax
comp=Z,24nm,1.4s
MDJ Mudanjiang 55.87 24 P **P 08 53 22.3 +0.2**
MDJ pP **pP 08 53 31.5 +4.3**
MDJ sP sP 08 53 35.0 +5.8
MDJ S **S 09 01 11.0 +2.0**
MDJ SS **SS 09 04 57.0 +1.9**
MDJ pmax pmax
comp=Z,11nm,0.8s
MDJ pmax pmax
comp=Z,590nm,5.0s
MDJ LR LR
comp=N,11µm,13.8s
MDJ LR LR
comp=E,5µm,12.3s
MDJ LR LR
comp=Z,12µm,13.8s
MDJ Mudanjiang 55.87 24 *e*P **P 08 53 22.3 +0.2**
comp=Z,44nm,0.8s
MDJ LR LR
comp=Z,4µm,22.0s
KK31 Karatay Array 56.04 333*ce*P **P 08 53 21.8 -1.6**
KK31 pmax pmax
comp=Z,35nm,1.0s
KKAR Karatay Array 56.04 333 *e*P **P 08 53 22.4 -1.0**
KKAR pmax pmax
comp=Z,20nm,0.9s
KKAR Karatay Array 56.04 333 *e*P **P 08 53 22.4 -1.0**
comp=Z,20nm,0.9s
USRK Ussuriysk Arra 56.53 26 P **P 08 53 25.7 -1.1**
comp=Z,34nm,0.7s,baz=218,slow=7.4,SNR=101
USRK S S 09 01 09.9 -7.9
comp=Z,0.3nm,0.3s,baz=139,slow=44,SNR=3.0
USRK LR LR 09 21 16.6
comp=Z,4µm,18.7s,baz=4.8,slow=40
HIA Hailar 56.80 14 *e*P **P 08 53 28.6 -0.1**
comp=Z,75nm,1.3s
HIA LR LR
comp=Z,8µm,19.0s
MOY Mondy 56.98 359 *e*P **P 08 53 31.0 +1.0**
MOY pmax pmax
comp=Z,121nm,2.7s
IMYA Miami 56.99 320 *e*P **P 08 53 30.0 -0.5**
IMOG Moghan 57.34 320 *e*P **P 08 53 33.5 +0.4**
ISRO Mashad 57.37 320 *e*P **P 08 53 32.9 -0.2**
IBAF Bafgh 57.38 313 *e*P **P 08 53 31.9 -1.4**
IRK Irkutsk 57.59 2 *e*P **P 08 53 34.6 +0.4**
IRK pmax pmax
comp=Z,112nm,1.4s
IPAY Payeh 57.76 320 *e*P **P 08 53 35.9 -0.1**
HNR Honiara 57.86 98 PFAKE 08 53 50.0 +13
HNR LR LR
comp=Z,199nm,20.0s
ISRV Sarvestan 58.11 310 *e*P **P 08 53 36.9 -1.8**
IKRD Kardeh 58.27 320 *e*P P 08 53 35.4 -4.2
IPAR Pars 58.38 310 *e*P **P 08 53 40.1 -0.5**
KURK Kurchatov 59.45 343 P **P 08 53 45.3 -1.8**
KURK pmax pmax
comp=Z,106nm,1.2s
KLR Kul'dur 60.51 22 *e*P P 08 53 50.5 -4.0
KLR *e*S S 09 02 00.0 -9.4
KLR *e* 09 03 39.5
ERM Erimo 60.54 35 *e*P **P 08 53 55.4 +0.6**
ERM *i* *PP **pP 08 54 03.3 +3.3**
ERM pmax pmax
comp=Z,71nm,2.6s
ERM MLR MLR
comp=Z,2µm,18.0s
ERM Erimo 60.54 35 *e*P **P 08 53 55.6 +0.7**
comp=Z,34nm,0.8s
ERM LR LR
comp=Z,2µm,19.0s
IANJ Anjilo 60.60 316 *e*P **P 08 53 54.3 -1.4**
ZALV Zalesovo Beam 60.93 349 *i*P **P 08 53 56.0 -1.3**
ZALV pmax pmax
comp=Z,72nm,0.8s
ZALV Zalesovo Beam 60.93 349 P **P 08 53 56.2 -1.1**
ZALV Zalesovo Beam 60.93 349 P **P 08 53 56.2 -1.1**
comp=Z,72nm,0.8s,baz=165,slow=5.3,SNR=122
ZALV LR LR 09 21 11.6
comp=Z,3µm,20.4s,baz=250,slow=37
CASY Casey 60.96 176 *e*P **P 08 53 55.5 -1.8**
CASY LR LR
comp=Z,4µm,20.0s
ISFB Sefidab 61.19 314 *e*P **P 08 53 59.2 -0.4**
ISHM Shahmirzad 61.21 316 *e*P **P 08 53 59.2 -0.7**
MIR Mirnyy 61.21 184 *e*P **P 08 54 00.0 +1.0**
MIR *e*PS **PnS 09 02 42.0 +9.5**
MIR pmax pmax
comp=Z,56nm,1.5s
MIR pmax pmax
comp=Z,1µm,6.0s
IPIR Pirpir 61.36 312 *e*P **P 08 54 01.5 +0.5**
ASAJ Asahikawa 61.62 32 *e*P **P 08 54 02.5 +0.3**
comp=Z,16nm,0.8s
ASAJ S **S 09 02 21.4 -2.4**
ASAJ Asahikawa 61.62 32 P **P 08 54 01.0 -1.2**
comp=Z,8.1nm,0.6s,baz=211,slow=6.7,SNR=10
ASAJ S **S 09 02 21.4 -2.4**
comp=Z,2.1nm,0.7s,baz=354,slow=30,SNR=2.2
KRAR Krasnoyarsk 61.76 354 ⇑*i*P **P 08 54 02.9 +0.1**
KRAR pmax pmax
comp=Z,135nm,1.1s
KRAR MLR MLR
comp=Z,2µm,15.0s
IVRN Varamin 61.88 315 *e*P **P 08 54 03.9 -0.3**
RAYN Ar Rayn 61.92 300 P **P 08 54 04.5 -0.2**
comp=Z,188nm,1.2s,SNR=15
RAYN Ar Rayn 61.92 300 *e*P **P 08 54 04.9 +0.2**
comp=Z,49nm,1.1s
NVS Novosibirsk 62.09 348 ⇑*i*P **P 08 54 03.4 -1.7**
NVS *i* 08 56 26.9
NVS *e*S **S 09 02 29.2 -0.1**
NVS pmax pmax
comp=Z,58nm,1.1s
NVS pmax pmax
comp=N,28nm,0.9s
NVS pmax pmax
comp=E,19nm,0.9s
NVS pmax pmax
comp=Z,35nm,1.6s
NVS pmax pmax
comp=N,16nm,1.2s
NVS pmax pmax
comp=E,13nm,1.1s
NVS smax smax
comp=N,15nm,1.1s
NVS smax smax
comp=E,144nm,2.4s
KBD Kabd 62.26 307 *e*P **P 08 54 06.8 0.0**
KBD AMb AMB 08 54 09.0
comp=Z,114nm,1.2s
RDF Al-Radifah 62.27 307 *e*P **P 08 54 07.2 +0.3**
RDF AMb AMB 08 54 09.4
comp=Z,237nm,1.1s
UMR Umm Al-Rimmam 62.40 307 *e*P **P 08 54 07.4 -0.3**
UMR AMb AMB 08 54 09.9
comp=Z,230nm,1.1s
NAY Al-Naaiem 62.65 307 *e*P **P 08 54 09.1 -0.2**
NAY AMb AMB 08 54 11.3
comp=Z,89nm,1.1s
MIB Mutribah 62.80 307 *e*P **P 08 54 09.7 -0.6**
MIB AMb AMB 08 54 12.6
comp=Z,228nm,1.1s
IR5 Iran Long-Peri 62.81 314 *e*P **P 08 54 10.8 +0.3**
YUK Yuzh-Kuril'sk 63.36 34*c i*P P 08 54 07.6 -6.1
YUK *i* S S 09 02 38.5 -7.1
YUK *i* 09 03 58.5
YUK *i* SSS SSS 09 09 36.8
YUK pmax pmax
comp=E,157nm,1.1s
YUK pmax pmax
comp=N,50nm,1.0s
YUK pmax pmax
comp=Z,320nm,1.1s
YUK pmax pmax
comp=Z,1µm,1.5s
YUK MLR MLR
comp=N,445nm,19.0s
YUK MLR MLR
comp=E,3µm,19.0s
YUK MLR MLR
comp=Z,3µm,19.0s
IRAZ Razeghan 63.37 314 *e*P **P 08 54 14.4 +0.1**
VOSK Vostochnaya 63.60 340 P **P 08 54 13.8 -1.4**
VOSK pmax pmax
comp=Z,54nm,1.1s
YSS Yuzh-Sakhalins 63.63 30*ce*P **P 08 54 15.0 -0.5**
YSS *e**PP **pP 08 54 25.1 +4.4**
YSS *e* 08 54 28.8
YSS *e*S **S 09 02 54.0 +5.1**
YSS *e*PS **PnS 09 03 12.0 +5.7**
YSS *e*PPS PPS 09 03 20.0
YSS pmax pmax
comp=Z,100nm,1.4s
YSS pmax pmax
comp=N,60nm,1.3s
BVA0 Borovoye Array 64.05 340 *i*P **P 08 54 16.9 -1.3**
BVA0 pmax pmax
comp=Z,55nm,1.1s
BRVK Borovoye 64.12 340*c i*P **P 08 54 17.9 -0.7**
BRVK pmax pmax
comp=Z,60nm,1.2s
BRVK MLR MLR
comp=Z,3µm,23.0s
BRVK Borovoye 64.12 340 P **P 08 54 17.7 -0.9**
SNR=30
BRVK Borovoye 64.12 340 *e*P **P 08 54 17.3 -1.3**
comp=Z,61nm,1.2s
BRVK LR LR
comp=Z,2µm,20.0s
KMBO Kilima Mbogo 64.43 271 *e*P **P 08 54 21.8 0.0**
KMBO Kilima Mbogo 64.43 271 *e*P **P 08 54 22.7 +1.0**
comp=Z,7.7nm,1.2s
KMBO S S 09 03 16.7 +16
KMBO Kilima Mbogo 64.43 271 P **P 08 54 22.1 +0.3**
comp=Z,15nm,0.9s,baz=45,slow=8.3,SNR=20
KMBO S S 09 03 16.7 +16
comp=Z,0.6nm,0.4s,baz=238,slow=23,SNR=2.7
KMBO LR LR 09 18 45.9
comp=Z,2µm,19.5s,baz=97,slow=33
KMBO Kilima Mbogo 64.43 271 P **P 08 54 23.7 +1.9**
baz=64,SNR=7.4
DZM Mont Dzumac 64.58 112 *e*P **P 08 54 25.2 +2.8**
comp=Z,50nm,1.2s
DZM Mont Dzumac 64.58 112 *e*SS SS 09 07 12.9 +0.2
comp=Z,905nm,24.4s
DZM *e*LR LR 09 13 47.3
comp=Z,5µm,22.6s
CLNS Chul'man 64.99 14 *e*P **P 08 54 23.3 -1.0**

CLNS e*PP **pP** **08 54 31.4 +1.9**
CLNS e 08 54 57.9
CLNS e 08 56 43.7
CLNS eS **S** **09 03 05.9 +0.3**
CLNS e 09 04 07.6
CLNS eSS **SS** **09 07 21.5 +3.7**
CLNS pmax pmax
comp=Z,20nm,1.4s
CLNS pmax pmax
comp=E,10.0nm,1.3s
CLNS pmax pmax
comp=N,12nm,1.4s
CLNS pmax pmax
comp=Z,7.0nm,1.4s
CLNS pmax pmax
comp=E,10.0nm,1.3s
CLNS pmax pmax
comp=N,15nm,1.4s
CLNS smax smax
comp=E,967nm,14.8s
CLNS smax smax
comp=N,327nm,13.5s
CLNS MLR MLR
comp=N,7μm,15.0s
CLNS MLR MLR
comp=E,3μm,14.0s
CLNS MLR MLR
comp=Z,10μm,16.0s
KUR Kuril'sk 65.22 34 *d* iP P 08 54 22.1 -3.9
KUR *i* S **S** **09 03 05.2 -3.5**
KUR pmax pmax
comp=N,187nm,1.6s
KUR pmax pmax
comp=Z,209nm,1.1s
KUR pmax pmax
comp=E,92nm,1.9s
KUR MLR MLR
comp=N,1μm,19.0s
KUR MLR MLR
comp=E,2μm,19.0s
KUR MLR MLR
comp=Z,2μm,19.0s
IBDR Badra 65.28 310 *i* P **P** **08 54 25.0 -1.6**
IBDR *i* S **S** **09 03 05.0 -4.8**
AB31 Akbulak array 65.52 331 *ce* P **P** **08 54 26.4 -1.4**
AB31 pmax pmax
comp=Z,98nm,0.8s
ABKAR Akbulak array 65.52 331 *e* P **P** **08 54 26.4 -1.4**
comp=Z,49nm,0.6s
DRV Dumont d'Urvil 66.49 164 P P 08 54 19.0 -15
DRV S S 09 03 07.0 -17
DRV SS SS 09 07 30.0 -10
DRV L L 09 10 00.0
DRV R 09 15 00.0
BHD Baghdad 66.52 310 *i* P P 08 54 31.0 -3.6
BHD *i* S **S** **09 03 25.0 0.0**
AKTO Aktyubinsk 67.23 331 LR LR 09 30 27.9
comp=Z,1μm,18.2s,baz=226,slow=42
MAW Mawson 67.31 195 P **P** **08 54 39.4 +0.5**
MAW S **S** **09 03 35.2 +1.8**
MAW Mawson 67.31 195 P **P** **08 54 39.4 +0.5**
comp=Z,16nm,1.1s,baz=43,slow=10,SNR=15
MAW S **S** **09 03 35.2 +1.8**
comp=Z,0.6nm,0.4s,baz=101,slow=18,SNR=1.6
MAW LR LR 09 19 42.9
comp=Z,9μm,18.3s,baz=32,slow=32
MAW Mawson 67.31 195 P **P** **08 54 39.7 +0.8**
baz=67,SNR=8.8
WAKE Wake Island 68.52 67 PFAKE 08 55 00.0 +13
WAKE LR LR
comp=Z,1μm,20.0s
MAK Makhachkala 68.73 320 *e* P **P** **08 54 48.5 +0.2**
MAK *e* 08 55 11.2
MAK *e* 08 57 22.4
MAK ePPP PPP 08 59 04.6
MAK eS **S** **09 03 50.3 -0.8**
MAK *e* 09 04 48.4
MAK eSS **SS** **09 08 18.1 +1.9**
MAK pmax pmax
comp=Z,177nm,1.1s
HAKT HAKKARI 68.81 314 *i* P **P** **08 54 50.2 +0.9**
GNI Garni 69.22 317 P **P** **08 54 52.9 +1.2**
SNR=8.6
GNI Garni 69.22 317 *e* P **P** **08 54 52.8 +1.2**
comp=Z,64nm,1.3s
GNI Garni 69.22 317 LR LR 09 25 22.0
comp=Z,1μm,21.1s,baz=299,slow=36
DGRG David-gareji 69.39 318 P **P** **08 54 53.4 +0.8**
DGRG S S 09 04 09.6 +10
POGA Pongola 69.77 243 *e* P **P** **08 54 55.7 +0.5**
POGA AMB AMB 08 54 57.6
comp=Z,35nm,1.8s
TBLG Delisi 69.94 318 *i* P **P** **08 54 56.0 +0.1**
TBLG S **S** **09 04 06.2 +0.6**
TBLG Delisi 69.94 318 P **P** **08 54 56.0 +0.1**
TBLG S **S** **09 04 06.2 +0.6**
SVE Sverdlovsk 70.56 337 *d* iP **P** **08 54 59.5 +0.1**
SVE *e* 08 57 35.1
SVE eS **S** **09 04 12.2 0.0**
SVE *e* 09 04 52.4
SVE eSS **SS** **09 08 45.8 +1.9**
SVE pmax pmax
comp=Z,170nm,1.2s
SVE MLR MLR
comp=Z,2μm,18.0s
AKH Akhalkalaki 70.63 317 P **P** **08 54 59.9 -0.5**
YAK Yakutsk 70.74 14 *e* P **P** **08 54 59.1 -1.2**
YAK *e**PP **pP** **08 55 08.6 +3.1**
YAK *e* 08 55 18.2
YAK *e* 08 57 31.6
YAK ePPP PPP 08 59 22.3
YAK eS **S** **09 04 09.4 -4.6**
YAK eSS **SS** **09 08 41.4 -5.0**
YAK eSSS SSS 09 11 54.0
YAK pmax pmax
comp=Z,41nm,1.1s
YAK pmax pmax
comp=N,17nm,1.2s
YAK pmax pmax
comp=E,19nm,1.3s
YAK pmax pmax
comp=Z,115nm,2.7s
YAK pmax pmax
comp=N,51nm,2.6s
YAK pmax pmax
comp=E,81nm,2.5s
YAK smax smax
comp=E,533nm,7.1s
YAK smax smax
comp=N,524nm,5.4s
YAK MLR MLR
comp=Z,7μm,15.0s
YAK MLR MLR
comp=E,575nm,17.0s
YAK MLR MLR
comp=N,6μm,16.0s
MARD Mardin 70.84 312 *i* P **P** **08 55 02.4 +0.7**
MBAR Mbarara 70.96 271 *e* P **P** **08 55 01.4 -1.5**
MBAR Mbarara 70.96 271 LR LR 09 21 43.3
comp=N,2μm,19.4s,baz=39,slow=32
ZEI Tsey 70.97 319 *e* P **P** **08 55 02.5 0.0**
ZEI pmax pmax
comp=Z,44nm,1.0s
ARU Arti 71.09 336 *c* iP **P** **08 55 02.3 -0.3**
ARU 08 57 36.2
ARU PPP PPP 08 59 26.3
ARU S **S** **09 04 17.6 -0.7**
ARU SSS SSS 09 11 56.5
ARU pmax pmax
comp=Z,116nm,1.2s
ARU MLR MLR
comp=Z,2μm,18.0s
ARU Arti 71.09 336 P **P** **08 55 02.9 +0.3**
comp=Z,453nm,1.1s,SNR=11
ONI Oni 71.18 318 P **P** **08 55 04.0 +0.5**
ONI S **S** **09 04 21.9 +1.8**
KSD Kokstad 71.93 240 *e* P **P** **08 55 09.4 +1.0**
KSD AMB AMB 08 55 10.1
comp=Z,70nm,1.7s
KBZ Khabaz 72.05 319 P **P** **08 55 08.2 -0.4**
KBZ S **S** **09 04 27.6 -2.3**
KBZ Khabaz 72.05 319 P **P** **08 55 08.2 -0.4**
KBZ S **S** **09 04 27.6 -2.3**
KBZ Khabaz 72.05 319 P **P** **08 55 08.2 -0.4**
comp=Z,42nm,0.9s,baz=121,slow=5.6,SNR=32
KBZ S **S** **09 04 27.6 -2.3**
comp=Z,0.8nm,0.4s,baz=70,slow=18,SNR=2.5
KBZ LR LR 09 32 09.5
comp=Z,711nm,18.1s,baz=308,slow=40
OUZ Omahuta 72.07 125 *eP* **P** **08 55 08.8 -0.2**
comp=Z,13nm,1.4s
KIV Kislovodsk 72.29 319 *e* P **P** **08 55 09.9 -0.3**
KIV *e* 08 57 48.6
KIV eS **S** **09 04 31.6 -1.3**
KIV pmax pmax
comp=Z,69nm,1.0s
KIV pmax pmax
comp=Z,273nm,3.7s
KIV Kislovodsk 72.29 319 P **P** **08 55 10.8 +0.6**
comp=Z,385nm,1.1s,SNR=6.4
ELZG Elazig 72.60 313 *i* P **P** **08 55 14.3 +2.0**
LSZ Lusaka 72.65 256 *eP* **P** **08 55 12.4 -0.6**
LSZ Lusaka 72.65 256 P **P** **08 55 13.8 +0.8**
SNR=9.3
LSZ Lusaka 72.65 256 *eP* **P** **08 55 12.8 -0.2**
LSZ comp=Z,41nm,1.1s LR LR
comp=Z,3μm,22.0s
SLR Silverton 72.66 245 *eP* **P** **08 55 12.5 -0.4**
SLR AMB AMB 08 55 16.0
comp=Z,50nm,3.9s
ERPM east rand prop 72.72 244 *eP* **P** **08 55 13.6 +0.3**
ERPM AMB AMB 08 55 16.3
comp=Z,29nm,4.2s
EIL Elat 72.83 303 LR LR 09 26 22.6
comp=Z,2μm,18.0s,baz=107,slow=35
EIL Elat 72.83 303 P **P** **08 55 14.4 +0.8**
baz=73,SNR=4.9
SKR Severo-Kuril's 72.88 33 *eP* P 08 55 07.0 -6.4
SKR *e* 08 55 15.6
SKR *e* 08 55 24.0
SKR eS **S** **09 04 36.0 -3.1**
SKR *e* 09 05 17.0
SKR ePS **PnS** **09 05 18.0 +6.8**
SKR pmax pmax
comp=E,1μm,6.0s
SKR pmax pmax
comp=Z,1μm,6.0s
SKR pmax pmax
comp=Z,70nm,1.0s
SKR smax smax
comp=N,1μm,10.0s
SKR smax smax
comp=E,2μm,10.0s
SKR MLR MLR
comp=N,2μm,18.0s
SKR MLR MLR
comp=E,1μm,18.0s
SKR MLR MLR
comp=Z,2μm,18.0s
MALT Malatya 72.94 313 ⇑P P 08 55 26.4 +12
MALT Malatya 72.94 313 PFAKE 08 55 20.0 +5.8
MALT LR LR
comp=Z,1μm,20.0s
MALT Malatya 72.94 313⇑ *i* P P 08 55 26.4 +12
KELT Kelkit 73.03 315 *i* P **P** **08 55 17.0 +2.2**
GZT Gaziantep 73.23 312 *i* P **P** **08 55 16.2 +0.2**
KEMA Kemaliye 73.24 314 *i* P **P** **08 55 16.7 +0.7**
HWQ Hawqa 73.43 308 *eP* **P** **08 55 17.5 +0.3**
MMAI Mount Meron Ar 73.46 307 LR LR 09 29 54.1
comp=Z,2μm,18.1s,baz=110,slow=38
BHL Bhannes 73.54 308 *eP* **P** **08 55 17.8 -0.1**
SNZO South Karori 73.63 131 PFAKE 08 55 30.0 +12
SNZO LR LR
comp=Z,5μm,20.0s
SOKR Solikamsk 73.96 338 *c* iP **P** **08 55 19.0 -0.6**
SOKR 08 58 10.2
SOKR S **S** **09 04 50.1 -0.8**
SOKR pmax pmax
comp=Z,90nm,1.3s
SOC Sochi 74.08 318 *eP* **P** **08 55 19.6 -1.1**
SOC *e* 08 58 01.2
SOC eS **S** **09 04 50.6 -2.4**
SOC *e* 09 05 23.6
SOC pmax pmax
comp=Z,86nm,0.9s
SOC MLR MLR
comp=Z,859nm,15.0s
GRM Grahamstown 74.58 237 *eP* **P** **08 55 24.8 +0.9**
GRM AMB AMB 08 55 25.8
comp=Z,47nm,1.7s
PETK Petropavlovsk- 74.99 31 P **P** **08 55 25.1 -0.7**
PETK Petropavlovsk- 74.99 31 P **P** **08 55 25.1 -0.7**
PETK Petropavlovsk- 74.99 31 P **P** **08 55 25.1 -0.7**
comp=Z,6.1nm,0.9s,baz=205,slow=6.3,SNR=8.0
PETK LR LR 09 33 53.9
comp=Z,2μm,18.7s,baz=224,slow=40
SYO Syowa Base 75.09 199‖ *eP* **P** **08 55 24.4 -1.7**
URZ Urewera 75.17 128 *eP* **P** **08 55 27.6 +0.5**
comp=Z,97nm,1.8s
GULE Gulek 75.30 311 *i* P **P** **08 55 28.4 +0.3**
HVD Gariep Dam 75.31 240 *eP* **P** **08 55 27.2 -1.2**
HVD AMB AMB 08 55 31.9
comp=Z,42nm,3.5s
SWZ Schweizer 75.35 243 *eP* **P** **08 55 28.9 +0.2**
SWZ AMB AMB 08 55 29.6
comp=Z,35nm,1.5s
MSVF Nonsavu 75.38 107 PFAKE 08 55 40.0 +11
MSVF LR LR
comp=Z,3μm,19.0s
PET Petropavlovsk 75.44 32 *c* iP **P** **08 55 27.6 -0.7**
PET *e* 08 58 16.3
PET eS **S** **09 05 02.2 -5.6**
PET eSS **SS** **09 09 57.0 -1.6**
PET pmax pmax
comp=Z,72nm,0.8s
PET pmax pmax
comp=Z,700nm,13.1s
PET MLR MLR
comp=Z,2μm,19.0s
BOSA Boshof 75.45 242 P **P** **08 55 29.1 -0.1**
BOSA Boshof 75.45 242 P **P** **08 55 29.1 -0.1**
comp=Z,20nm,1.0s,baz=92,slow=6.7,SNR=16
BOSA LR LR 09 23 09.3
comp=Z,5μm,19.6s,baz=99,slow=31
CSS Prodhromos 75.69 308 *eP* **P** **08 55 30.0 -0.2**
comp=Z,32nm,1.0s
CSS LR LR
comp=Z,369nm,19.0s
ANN Anapa 76.07 319 *eP* **P** **08 55 29.8 -2.3**
ANN eS **S** **09 05 12.6 -2.5**
ANN pmax pmax
comp=Z,43nm,1.4s
BRTR Keskin Array B 76.92 313 P **P** **08 55 35.7 -1.6**
BRTR Keskin Array B 76.92 313 P **P** **08 55 35.7 -1.6**
comp=Z,32nm,0.9s,baz=131,slow=5.6,SNR=74
BRTR LR LR 09 30 36.3
comp=Z,1μm,18.7s,baz=279,slow=37
ILGA Ilgaz 77.30 314 *i* P **P** **08 55 41.2 +1.8**
VORD Divnogorie 77.43 325 *eP* **P** **08 55 36.6 -3.0**
VORD eS **S** **09 05 24.9 -4.8**
VORD pmax pmax
comp=Z,50nm,0.4s
VORD pmax pmax
comp=N,50nm,0.6s
VORD pmax pmax
comp=E,80nm,0.4s
VORD smax smax
comp=N,550nm,8.3s
VORD smax smax
comp=Z,160nm,7.3s
VORD smax smax
comp=E,500nm,8.9s
VORD MLR MLR
comp=Z,1μm,19.0s
VORD MLR MLR
comp=N,730nm,14.0s
VORD MLR MLR
comp=E,650nm,19.0s
VSR Storozhevoye 77.61 325 *eP* **P** **08 55 39.5 -1.2**
VSR eS S 09 05 24.9 -6.8
VSR pmax pmax
comp=Z,60nm,1.0s
VSR pmax pmax
comp=N,20nm,1.3s
VSR pmax pmax
comp=E,30nm,0.7s
VSR smax smax
comp=N,350nm,6.9s
VSR smax smax
comp=Z,140nm,9.9s
VSR smax smax
comp=E,120nm,6.5s
VSR MLR MLR
comp=Z,1μm,18.0s
VSR MLR MLR
comp=N,390nm,14.0s
VSR MLR MLR
comp=E,830nm,21.0s
SIM Simferopol' 78.32 318 *d* iP **P** **08 55 44.5 -0.3**
SIM *e* 08 58 40.0
SIM ePPP PPP 09 00 36.0
SIM eS **S** **09 05 40.4 +0.8**
SIM ePS PnS 09 06 36.0 +14
SIM eSS **SS** **09 10 45.0 +2.5**
SIM pmax pmax
comp=Z,60nm,0.9s
SIM pmax pmax
comp=Z,460nm,10.6s
VNDA Vanda 78.40 169 P **P** **08 55 44.3 -0.3**
VNDA S **S** **09 05 39.1 -0.3**
VNDA Vanda 78.40 169 P **P** **08 55 44.3 -0.3**
comp=Z,21nm,1.1s,baz=299,slow=6.2,SNR=30
VNDA S **S** **09 05 39.1 -0.3**
comp=Z,0.4nm,0.5s,baz=272,slow=6.9,SNR=2.5
VNDA LR LR 09 29 32.2
comp=Z,2μm,18.1s,baz=308,slow=35
ISP Isparta 78.68 310 *eP* **P** **08 55 47.3 +0.2**
ISP pmax pmax
comp=Z,30nm,0.8s
ISP MLR MLR
comp=Z,1μm,20.0s
ISP Isparta 78.68 310 *eP* **P** **08 55 47.3 +0.2**
comp=Z,30nm,0.8s
ISP LR LR
comp=Z,1μm,20.0s
SEYT Eskypehyr 78.92 312 *i* P **P** **08 55 48.7 +0.4**
RAO Raoul Island 78.96 119 PFAKE 08 56 00.0 +11
RAO LR LR
comp=Z,3μm,19.0s
BORA Eskisehir 79.31 312 *i* P **P** **08 55 51.4 +0.9**
SUR Sutherland 79.35 238 *eP* **P** **08 55 51.6 +0.6**
SUR AMB AMB 08 55 52.8
comp=Z,41nm,1.9s
SUR Sutherland 79.35 238 *eP* **P** **08 55 52.7 +1.7**
comp=Z,13nm,1.1s
SUR LR LR
comp=Z,1μm,20.0s
SBA Scott Base 79.49 169 *eP* **P** **08 55 51.2 +0.6**
SBA pmax pmax
comp=Z,103nm,1.6s
SBA MLR MLR
comp=Z,2μm,19.0s
SBA Scott Base 79.49 169 *eP* **P** **08 55 51.2 +0.6**
comp=Z,103nm,1.6s
SBA LR LR
comp=Z,2μm,19.0s
MOS Moscow 80.36 329 *eP* **P** **08 55 54.6 -1.0**
MOS *e* 08 56 08.8
MOS *e* 08 58 57.5
MOS eS **S** **09 05 57.7 -3.1**
MOS pmax pmax
comp=Z,142nm,1.2s
MOS pmax pmax
comp=Z,1μm,4.0s
MOS smax smax
comp=E,900nm,4.4s
OBN Obninsk 80.65 328 *c* iP **P** **08 55 57.4 +0.2**
OBN *i* 08 56 06.0
OBN *e* 08 59 01.2
OBN *i* S **S** **09 06 01.9 -2.0**
OBN *i* SS **SS** **09 11 16.0 -1.0**
OBN pmax pmax
comp=Z,131nm,1.2s
OBN MLR MLR
comp=Z,2μm,22.0s
OBN Obninsk 80.65 328 P **P** **08 55 57.9 +0.7**
comp=Z,566nm,1.2s,SNR=6.7
TIRR Tirgusor 82.04 316 ⇑P **P** **08 56 04.7 -0.1**
TIRR Tirgusor 82.04 316 *eP* **P** **08 56 03.5 -1.3**
comp=Z,39nm,0.9s
TIRR Tirgusor 82.04 316⇑ *i* P **P** **08 56 04.7 -0.1**
SANT Santorini 82.24 308 PFAKE 08 56 20.0 +14
SANT LR LR
comp=Z,889nm,21.0s
APE Apeiranthos 82.34 308 ⇑P **P** **08 56 07.2 +0.5**
APE Apeiranthos 82.34 308⇑ *i* P **P** **08 56 07.2 +0.5**
CFR Carcaliu 82.42 317 ⇑P **P** **08 56 06.2 -0.6**
CFR Carcaliu 82.42 317⇑ *i* P **P** **08 56 06.2 -0.6**
IDI Anoyia 82.46 307 *eP* **P** **08 56 07.7 +0.3**
comp=Z,99nm,1.2s
KIS Kishinev 82.47 319⇑ *i* P **P** **08 56 06.0 -1.0**
comp=Z,200nm,1.0s
KIS Kishinev 82.47 319 *e*PP PP 08 59 18.0 +1.7
KIS Kishinev 82.47 319α *i* P **P** **08 56 06.0 -1.0**
KIS *e* 08 59 18.0
KIS *e* 09 01 10.0
KIS eS **S** **09 06 20.0 -3.1**
KIS ePS PnS 09 07 25.0 +12
KIS pmax pmax
comp=Z,200nm,1.0s
KIS pmax pmax
comp=Z,500nm,6.0s
KIS MLR MLR
comp=Z,300nm,16.0s
KIS MLR MLR
comp=Z,600nm,20.0s
TSUM Tsumeb 82.63 251 *eP* **P** **08 56 08.4 -0.2**
TSUM Tsumeb 82.63 251 *eP* **P** **08 56 08.9 +0.2**
comp=Z,15nm,0.9s
TSUM LR LR
comp=Z,3μm,19.0s
KIEV Kiev 83.29 322 *eP* **P** **08 56 09.6 -1.6**
KIEV pmax pmax
comp=Z,20nm,0.9s
KIEV MLR MLR
comp=Z,1μm,19.0s
KIEV Kiev 83.29 322 *eP* **P** **08 56 09.6 -1.6**
comp=Z,20nm,0.9s
KIEV LR LR
comp=Z,1μm,19.0s
FX1 Attu Island--F 83.38 35 P **P** **08 56 12.5 +0.9**
FX1 Attu Island--F 83.38 35 P **P** **08 56 12.5 +0.9**
comp=Z,6.0nm,0.8s,baz=234,slow=14,SNR=3.8
ISR Istrita 83.50 316 ⇑P **P** **08 56 13.6 +1.1**
ISR Istrita 83.50 316⇑ *i* P **P** **08 56 13.6 +1.1**
VRI Vrincioaia 83.56 317 ⇑P **P** **08 56 12.9 +0.1**
VRI Vrincioaia 83.56 317⇑ *i* P **P** **08 56 12.9 +0.1**
PLOR Plostina 83.61 317 ⇓P **P** **08 56 13.7 +0.7**
PLOR Plostina 83.61 317⇓ *i* P **P** **08 56 13.7 +0.7**
TESR Tescani 83.78 318⇑ *i* P **P** **08 56 14.1 +0.3**
TMCR Tamitsa 83.82 337 *eP* **P** **08 56 13.6 0.0**
TMCR pmax pmax
comp=Z,149nm,1.4s
SMY Shemya 83.87 36 *eP* **P** **08 56 13.3 -0.8**
SMY pmax pmax
comp=Z,72nm,1.1s
SMY Shemya 83.87 36 *eP* **P** **08 56 13.3 -0.8**
comp=Z,72nm,1.1s
MLR Muntele Rosu 84.00 317⇑ *i* P **P** **08 56 15.4 +0.2**
QSPA South Pole Qui 84.45 180 PFAKE 08 56 30.0 +13
QSPA LR LR
comp=Z,3μm,19.0s
VOIR 84.60 317 ⇑P **P** **08 56 17.3 -0.8**
VOIR 84.60 317⇑ *i* P **P** **08 56 17.3 -0.8**
ARR Arges 84.86 316⇑ *i* P **P** **08 56 19.3 -0.2**
BURAR Bucovina Array 85.00 319 ⇓P **P** **08 56 20.5 +0.4**
BURAR Bucovina Array 85.00 319⇓ *i* P **P** **08 56 20.5 +0.4**
MICGM Minsk 85.16 326⇑ *eP* **P** **08 56 20.0 -0.6**
MNK Minsk 85.19 326⇑ *eP* **P** **08 56 20.0 -0.8**
MNK *e* 08 59 36.0
MNK eS **S** **09 06 45.0 -5.1**
MNK pmax pmax
comp=Z,170nm,1.0s
VTS Vitosha 85.27 313 ⇑P **P** **08 56 21.4 -0.3**
VTS Vitosha 85.27 313⇑ *i* P **P** **08 56 21.4 -0.3**
NACGM Naroch 85.89 326 *eP* P 08 56 21.0 -3.2
JOF Joensuu 86.10 334 *ep* **P** **08 56 26.3 +1.2**
comp=Z,17nm,0.8s
JOF Joensuu 86.10 334 *eP* **P** **08 56 26.3 +1.2**
JOF pmax pmax
comp=Z,17nm,0.8s
LVV L'vov 86.27 321 *eP* **P** **08 56 26.2 -0.1**
LVV eS **S** **09 06 58.2 -2.8**
LVV ePS **PnS** **09 07 56.4 -3.4**
DRGR 86.48 317 ⇓P **P** **08 56 27.9 +0.4**

DRGR			86.48 317	⇓	*i*	P	P	08 56 27.9 +0.4
LVZ	Lovozero		86.65 340		*e*	P	P	08 56 27.5 -0.3
LVZ					pmax	pmax		
	comp=Z,42nm,1.2s							
TRPA	Tarpa		86.87 319	⇑	*e*	P	P	08 56 29.9 +0.7
VSU	Vasula		86.87 329	*c*	*i*	P	P	08 56 29.2 +0.2
VSU					pmax	pmax		
	comp=Z,229nm,1.0s							
APA	Apatity		86.96 339	⇓	*i*	P	P	08 56 30.0 +0.8
APA					*i*			08 59 50.0
APA					*i*	PPP	PPP	09 01 46.0
APA					*e*			09 06 50.0
APA					*i*	S	S	09 07 06.0 -0.9
APA					pmax	pmax		
	comp=Z,54nm,1.4s							
BZS	Buzias		86.99 316	⇑	*i*	P	P	08 56 29.9 0.0
BZS	Buzias		86.99 316	⇑	*i*	P	P	08 56 29.9 0.0
KWP	Kalwaria Pacla		87.07 320	⇓	*i*	P	P	08 56 30.5 +0.3
KWP	Kalwaria Pacla		87.07 320		*e*	P	P	08 56 30.5 +0.3
	comp=Z,59nm,1.3s							
KWP					LR	LR		
	comp=Z,1μm,20.0s							
KWP	Kalwaria Pacla		87.07 320	⇓	*i*	P	P	08 56 30.5 +0.3
KWP	Kalwaria Pacla		87.07 320		*e*	P	P	08 56 30.5 +0.3
KWP					*e*	PcP	PcP	08 56 32.1 -0.3
KWP					*e*	SKSac	SKSac	09 06 53.5 -3.4
KWP					*e*	S	SKKSac	09 07 05.4 -0.3
KWP					LMZ	LR		09 42 54.7
UZH	Uzhgorod		87.13 319		*e*	P	P	08 56 30.3 -0.2
UZH					*e*			08 56 38.9
UZH					*i*	S	S	09 07 07.0 -2.3
UZH					*e*			09 08 05.3
UZH	Uzhgorod		87.13 319		*e*	P	P	08 56 30.5 0.0
UZH					*i*	S	S	09 07 05.5 -3.8
TIR	Tirane		87.49 312			PFAKE		08 56 40.0 +7.6
TIR						LR	LR	
	comp=Z,1μm,19.0s							
SUW	Suwalki		87.71 325		*e*	P	P	08 56 33.6 +0.5
SUW					pmax	pmax		
	comp=Z,220nm,1.1s							
SUW	Suwalki		87.71 325		*e*	P	P	08 56 33.6 +0.5
	comp=Z,220nm,1.1s							
SUW	Suwalki		87.71 325		*e*	P	P	08 56 33.2 0.0
SUW					*e*	PcP	PcP	08 56 34.3 -0.8
SUW					*e*	pP	pP	08 56 35.9 -2.6
SUW					*e*	S	S	09 07 18.9 +4.2
SUW					LMZ	LR		09 44 23.8
STHS	Stebnicka Huta		87.96 320		*e*	P	P	08 56 35.4 +0.9
STHS					pmax	pmax		
	comp=Z,21nm,1.0s							
STHS	Stebnicka Huta		87.96 320		*e*	P	P	08 56 35.4 +0.9
FINES	FINESS Array B		87.99 332			P	P	08 56 33.9 -0.4
FINES						PP	PP	09 00 01.1 +0.3
FINES	FINESS Array B		87.99 332			P	P	08 56 33.9 -0.4
	comp=Z,46nm,1.0s,baz=104,slow=5.9,SNR=42							
FINES						PP	PP	09 00 01.1 +0.3
	comp=Z,6.3nm,1.0s,baz=99,slow=8.7,SNR=4.8							
FINES						LR	LR	09 40 45.8
	comp=Z,1μm,19.3s,baz=94,slow=39							
KAF	Kangasniemi		88.07 333		*ep*	P	P	08 56 34.0 -0.7
	comp=Z,42nm,0.7s							
KAF	Kangasniemi		88.07 333		*e*	P	P	08 56 34.0 -0.7
KAF					pmax	pmax		
	comp=Z,42nm,0.7s							
KECS	Kecovo		88.28 319		*e*	P	P	08 56 35.9 -0.1
KECS					pmax	pmax		
	comp=Z,11nm,1.0s							
KECS	Kecovo		88.28 319		*e*	P	P	08 56 35.9 -0.1
PKSN	Nyarlorinc		88.42 317	⇓	*e*	P	P	08 56 38.0 +1.3
NIE	Niedzica		88.56 320		*e*	P	P	08 56 40.0 +2.6
NIE					*e*	S	S	09 07 25.7 +2.6
NIE	Niedzica		88.56 320		*e*	P	P	08 56 40.0 +2.6
NIE					*e*	S	S	09 07 25.7 +2.6
PSZ	Piszkesteto		88.57 318	⇑	*i*	P	P	08 56 37.5 0.0
PSZ	Piszkesteto		88.57 318		*e*	P	P	08 56 37.7 +0.2
	comp=Z,52nm,1.5s							
PSZ					LR	LR		
	comp=Z,706nm,21.0s							
PSZ	Piszkesteto		88.57 318	⇑	*i*	P	P	08 56 37.5 0.0
PSZ	Piszkesteto		88.57 318	⇑	*e*	P	P	08 56 37.3 -0.2
BEL	Belsk		88.69 322		*e*	P	P	08 56 38.3 +0.4
BEL					*e*	PcP	PcP	08 56 39.5 +0.1
BEL					*e*	pP	pP	08 56 41.4 -1.8
BEL					*e*	S	S	09 07 22.4 -1.7
BEL					LMZ	LR		09 42 41.9
PKS2	Kecel		88.79 317	⇓	*e*	P	P	08 56 40.0 +1.5
PKS7	Kunszentmiklos		88.92 317	⇓	*e*	P	P	08 56 40.4 +1.4
OJC	Ojcow		89.02 321		*e*	P	P	08 56 39.6 +0.1
OJC					*e*			09 00 09.8
OJC					*e*	S	S	09 07 29.4 +2.0
OJC	Ojcow		89.02 321		*e*	P	P	08 56 40.0 +0.5
OJC	Ojcow		89.02 321		*e*	P	P	08 56 40.0 +0.5
OJC	Ojcow		89.02 321		*e*	P	P	08 56 39.6 +0.1
OJC					*e*	sP	sP	08 56 43.6 -3.2
OJC					*e*	PP	PP	09 00 09.8 +0.4
OJC					*e*	S	S	09 07 29.4 +2.0
BUD	Budapest		89.08 318		*e*	P	P	08 56 40.6 +0.8
PKSM	Moragy		89.14 316	⇓	P	P	P	08 56 40.3 +0.2
PKSM	Moragy		89.14 316	⇓	*i*	P	P	08 56 40.3 +0.2
PKSM	Moragy		89.14 316	⇑	*e*	P	P	08 56 40.1 0.0
ADK	Adak		89.17 38		*e*	P	P	08 56 40.6 +0.5
ADK					pmax	pmax		
	comp=Z,214nm,1.1s							
ADK					MLR	MLR		
	comp=Z,989nm,22.0s							
ADK	Adak		89.17 38		*e*	P	P	08 56 40.5 +0.5
	comp=Z,54nm,1.1s							
ADK					LR	LR		
	comp=Z,989nm,22.0s							
SNAA	Sanae		89.31 198		*e*	P	P	08 56 42.1 +1.5
SNAA	Sanae		89.31 198		*e*	pP	pP	08 56 57.3 +11
VYHS	Vyhne		89.36 319		*e*	P	P	08 56 41.1 -0.1
VYHS					pmax	pmax		
	comp=Z,12nm,1.2s							
VYHS	Vyhne		89.36 319		*e*	P	P	08 56 41.1 -0.1
PKS9	Tamasi		89.44 317	⇓	*e*	P	P	08 56 42.6 +1.1
PKSG			89.49 318	⇓	*e*	P	P	08 56 42.9 +1.2
TIP	Timpagrande		89.52 309		*e*	P	P	08 56 43.5 +1.3
	comp=Z,23nm,1.2s							
TIP					LR	LR		
	comp=Z,662nm,20.0s							
CSKK	Cs‡kako		89.57 318	⇓	*e*	P	P	08 56 43.2 +1.1
PKST	T˜s		89.71 317	⇓	*e*	P	P	08 56 43.9 +1.1
KEV	Kevo		89.89 340		*e*	P	P	08 56 42.9 -0.2
KEV					pmax	pmax		
	comp=Z,30nm,1.1s							
KEV					MLR	MLR		
	comp=Z,2μm,21.0s							
KEV	Kevo		89.89 340		*e*	P	P	08 56 42.9 -0.2
	comp=Z,30nm,1.1s							
KEV					LR	LR		
	comp=Z,2μm,21.0s							
OKC	Ostrava-Krasne		90.02 320		*e*	P	P	08 56 45.2 +1.1
OKC					*e*			09 00 17.1
OKC					*e*			09 07 16.3
OKC					MLR	MLR		
	comp=Z,1μm,16.8s							
OKC	Ostrava-Krasne		90.02 320	⇑	*e*	P	P	08 56 45.2 +1.1
OKC					*e*	PP	PP	09 00 17.1 -0.2
OKC					*e*	SKS	SKSac	09 07 16.3 +1.8
OKC					AMS	AMS		09 46 10.0
	comp=Z,1μm,16.8s							
CEL	Celeste		90.08 308		*e*	P	P	08 56 45.6 +0.9
	comp=Z,63nm,1.1s							
CEL					LR	LR		
	comp=Z,581nm,19.0s							
ARCES	ARCESS Array B		90.34 340			P	P	08 56 44.8 -0.4
ARCES	ARCESS Array B		90.34 340			P	P	08 56 44.8 -0.4
	comp=Z,23nm,0.9s,baz=97,slow=3.9,SNR=30							
ARCES						LR	LR	09 43 40.7
	comp=Z,3μm,18.2s,baz=99,slow=40							
ARE0	ARCESS Array S		90.34 340		*e*	P	P	08 56 45.6 +0.4
MORC	Moravsky Berou		90.39 320		*e*	P	P	08 56 46.4 +0.4
MORC					pmax	pmax		
	comp=Z,25nm,1.1s							
MORC	Moravsky Berou		90.39 320		*e*	P	P	08 56 46.4 +0.4
	comp=Z,25nm,1.1s							
BEHE	Becsehely		90.46 316		*e*	P	P	08 56 47.5 +1.2
ATKA	Atka Island		90.74 38		*e*	P	P	08 56 47.3 -0.1
	comp=Z,62nm,1.2s							
WDD	Wield Dalam		90.89 306			PFAKE		08 57 00.0 +11
WDD						LR	LR	
	comp=Z,753nm,19.0s							
KTK1	Kautokeino		91.00 339		*e*	P	P	08 56 48.5 +0.2
KTK1						AMB	AMB	08 56 51.3
	comp=Z,344nm,1.2s							
DPC	Dobruska-Polom		91.25 320	⇑	*i*	P	P	08 56 50.7 +0.7
DPC					*e*			08 56 59.2
DPC					*e*			09 00 28.4
DPC					*e*			09 07 22.5
DPC					*e*			09 07 49.9
DPC	Dobruska-Polom		91.25 320	⇑	*i*	P	P	08 56 50.7 +0.7
DPC					*ex*		x	08 56 59.2
DPC					*e*	PP	PP	09 00 28.4 +1.2
DPC					*e*	SKS	SKSac	09 07 22.5 +0.8
DPC					*e*	S	ScS	09 07 49.9 -1.1
DPC						AMS	AMS	09 47 20.0
DPC	Dobruska-Polom		91.25 320		*e*	P	P	08 56 50.9 +0.9
	comp=Z,146nm,1.3s							
CONA	Conrad Observa		91.26 318	⇑	*i*	P	P	08 56 50.0 -0.1
	comp=Z,7.9nm,1.1s							
KSP	Ksiaz		91.33 321		*e*	P	P	08 56 50.6 +0.4
KSP					*e*			09 00 27.0
KSP					*e*			09 07 19.0
KSP					*e*	S	S	09 07 47.0 -1.6
KSP	Ksiaz		91.33 321		*e*	P	P	08 56 50.9 +0.7
KSP					*e*	SKSac	SKSac	09 07 24.0 +2.0
KSP					*e*	S	S	09 07 48.6 0.0
KSP					LMZ	LR		09 44 51.1
BOJS	Bojanci		91.39 315		*i*	P	P	08 56 50.9 +0.2
BOJS					*e*			08 57 11.3
BOJS					*e*	SKSac	SKSac	09 07 22.7 +0.1
BOJS					*e*	S	S	09 07 49.5 +0.1
ARSA	Arzberg		91.41 317	⇑	*i*	P	P	08 56 50.8 +0.1
	comp=Z,23nm,1.6s,SNR=8.2							
PERS	Pernice		91.61 317		*i*	P	P	08 56 52.0 +0.3
TREC	Trest		91.66 319		*e*	P	P	08 56 52.2 +0.3
TREC					*e*			09 00 36.5
TREC					*e*			09 07 26.0
TREC					MLR	MLR		
	comp=Z,1μm,17.0s							
TREC	Trest		91.66 319	⇑	*e*	P	P	08 56 52.2 +0.3
TREC					*e*	PP	PP	09 00 36.5 +6.1
TREC					*e*	SKS	SKSac	09 07 26.0 +1.9
TREC					AMS	AMS		09 49 10.0
	comp=Z,1μm,17.0s							
SOKA	Soboth		91.67 317	⇓	*i*	P	P	08 56 51.5 -0.6
	comp=Z,20nm,1.1s							
LJU	Ljubljana		91.96 316		*e*	P	P	08 56 53.8 +0.5
LJU					*i*			08 57 14.5
LJU					*e*	PP	PP	09 00 33.5 +0.7
PRU	Pruhonice		92.35 320		*e*	P	P	08 56 55.7 +0.7
PRU					*e*			08 57 04.0
PRU					*e*			09 00 35.4
PRU					*e*			09 07 27.3
PRU					*e*			09 07 56.3
PRU					MLR	MLR		
	comp=Z,1μm,19.4s							
PRU	Pruhonice		92.35 320	⇑	*e*	P	P	08 56 55.7 +0.7
PRU					*ex*		x	08 57 04.0
PRU					*e*	PP	PP	09 00 35.4 -0.4
PRU					*e*	SKS	SKSac	09 07 27.3 -0.5
PRU					*e*	S	S	09 07 56.3 -1.5
PRU					AMS	AMS		09 45 10.0
	comp=Z,1μm,19.4s							
PVCC	Panska Ves		92.38 320		*e*	P	P	08 56 56.2 +1.1
PVCC					*e*			09 07 29.8
PVCC					MLR	MLR		
	comp=Z,2μm,19.5s							
PVCC	Panska Ves		92.38 320	⇑	*e*	P	P	08 56 56.2 +1.1
PVCC					*e*	SKS	SKSac	09 07 29.8 +1.8
PVCC					AMS	AMS		09 45 10.0
	comp=Z,2μm,19.5s							
VOJS	Vojsko		92.40 316		*e*	P	P	08 56 54.4 -1.0
AQU	L'Aquila		92.41 312			PFAKE		08 57 10.0 +14
AQU						LR	LR	
	comp=Z,976nm,21.0s							
PRA	Prague		92.42 320	⇑		P	P	08 56 56.0 +0.7
PRA						AMS	AMS	09 45 30.0
TRO	Tromso		92.62 340		*e*	P	P	08 56 55.0 -0.8
TRO					*e*			09 07 58.3
TRO					AMS	AMS		09 45 54.1
	comp=Z,2μm,17.6s							
BSD	Bornholm Skovb		92.64 325		*i*	P	P	08 56 56.2 +0.1
BSD					*i*			09 07 31.5
BSD					MLR	MLR		
	comp=Z,1μm,16.0s							
BSD	Bornholm Skovb		92.64 325		*i*	P	P	08 56 56.2 +0.1
BSD					*i*			09 02 49.8
BSD					*i*			09 07 31.5
BSD								
	comp=Z,1μm,16.0s							
GEC2	GERESS Array S		92.78 319		*e*	P	P	08 56 56.8 -0.4
	comp=Z,16nm,1.2s							
GEC2					*e*	PP	PP	09 00 38.4 -1.0
GEC2					*e*	SKSac	SKSac	09 07 30.1 -0.4
GEC2	GERESS Array S		92.78 319		*e*	P	P	08 56 56.8 -0.4
GEC2					*e*			09 00 38.4
GEC2					*e*			09 07 30.1
GEC2					pmax	pmax		
	comp=Z,16nm,1.2s							
GERES	GERESS Array B		92.78 319		P	P	P	08 56 57.1 0.0
GERES					PP	PP	PP	09 00 39.2 -0.2
GERES	GERESS Array B		92.78 319		P	P	P	08 56 57.1 0.0
	comp=Z,3.9nm,0.8s,baz=101,slow=5.3,SNR=27							
GERES					PP	PP	PP	09 00 39.2 -0.2
	comp=Z,0.7nm,0.7s,baz=122,slow=11,SNR=3.0							
GERES					LR	LR	LR	09 46 51.4
	comp=Z,1μm,18.4s,baz=226,slow=41							
BRG	Berggiesshubel		92.81 321		*e*	P	P	08 56 57.6 +0.5
	comp=Z,12nm,1.0s							
BRG					PP	PP	PP	09 00 35.0 -4.4
BRG					SKS	SKSac	SKSac	09 07 29.0 -1.4
BRG					S	S	S	09 07 59.0 -2.9
BRG					SS	SS	SS	09 14 11.0 -4.3
BRG								
	comp=Z,2μm,17.2s							
BRG	Berggiesshubel		92.81 321		*e*	P	P	08 56 57.6 +0.5
BRG								09 00 35.0
BRG								09 07 29.0
BRG					S	S	S	09 07 59.0 -2.9
BRG					SS	SS	SS	09 14 11.0 -4.3
BRG					pmax	pmax		
	comp=Z,12nm,1.0s							
BRG					MLR	MLR		
	comp=Z,2μm,17.2s							
KHC	Kasperske Hory		92.89 319		*e*	P	P	08 56 58.3 +0.7
KHC					*e*			09 07 32.2
KHC					*e*			09 08 03.9
KHC					MLR	MLR		
	comp=Z,1μm,18.2s							
KHC	Kasperske Hory		92.89 319	⇑	*e*	P	P	08 56 58.3 +0.7
KHC					*e*	PP	PP	09 00 33.0 -7.1
KHC					*e*	SKS	SKSac	09 07 32.2 +1.2
KHC					*e*	S	ScS	09 08 03.9 -0.8
KHC					AMS	AMS		09 48 20.0
	comp=Z,1μm,18.2s							
KHC	Kasperske Hory		92.89 319		*e*	P	P	08 56 58.2 +0.7
	comp=Z,2.4nm,0.3s							
BJO	Bjornoya		93.28 345		AMS	AMS		09 46 09.4
	comp=Z,3μm,16.9s							
RJOB	Jochberg		93.29 317		*e*	P	P	08 56 59.2 -0.3
	comp=Z,7.0nm,1.3s							
RJOB					*e*	PP	PP	09 00 42.2 -1.2
RJOB					*e*	SKSac	SKSac	09 07 31.0 -2.3
WET	Wettzell		93.35 319		*e*	P	P	08 57 00.4 +0.7
	comp=Z,9.0nm,0.5s							
WET					*e*	SKSac	SKSac	09 07 33.4 -0.1
WET	Wettzell		93.35 319		*e*	P	P	08 57 00.4 +0.7
WET					*e*			09 07 33.4
WET					pmax	pmax		
	comp=Z,9.0nm,0.5s							
CLL	Collm		93.44 321		*e*	P	P	08 56 59.5 -0.5
	comp=Z,8.0nm,1.1s							
CLL					*e*	PP	PP	09 00 44.1 -0.2
CLL					*e*	SKSac	SKSac	09 07 31.9 -1.9
CLL	Collm		93.44 321		*e*	P	P	08 57 00.0 0.0
CLL					*e*			09 00 49.0
CLL					*e*	S	S	09 08 05.0 -2.5
CLL					pmax	pmax		
	comp=Z,13nm,1.4s							
CLL					MLR	MLR		
	comp=Z,1μm,21.3s							
CLL	Collm		93.44 321		*e*	P	P	08 57 00.0 0.0
	comp=Z,13nm,1.4s							
CLL					*e*	PP	PP	09 00 49.0 +4.7
CLL					*e*	SKSac	SKSac	09 07 36.0 +2.2
CLL					*e*	S	S	09 08 05.0 -2.5
CLL					*e*(PS)			09 09 14.0
CLL					*e*	PPS	PPS	09 09 56.0
CLL					*e*	SSS	SSS	09 18 36.0
CLL					LmV			09 44 00.0
	comp=Z,1μm,21.3s							
NKC	Novy Kostel		93.71 320		*e*	P	P	08 56 57.5 -3.8
NKC	Novy Kostel		93.71 320	⇑	*e*	PP	PP	09 00 47.1 +0.6
NKC					*e*	SKS	SKSac	09 07 35.9 +0.5
NKC					*e*	S	ScS	09 08 16.0 +4.5
NKC					AMS	AMS		09 48 30.0
	comp=Z,900nm,17.9s							
TANN	Tannenbergstha		93.72 320		*e*	P	P	08 57 01.7 +0.3
	comp=Z,5.0nm,0.6s							
TANN					*e*	PP	PP	09 00 46.5 -0.1
TANN					*e*	SKSac	SKSac	09 07 35.4 -0.1
HFS	Hagfors		93.74 330			LR	LR	09 44 04.1
	comp=Z,980nm,19.6s,baz=78,slow=39							
WERN	Wernitzgruen		93.76 320		*e*	P	P	08 56 57.5 -4.0
ROHR	Rohrbach		93.80 320		*e*	P	P	08 56 55.7 -6.0
ROTZ	Rotzenmuhle		93.83 319		*e*	P	P	08 57 02.3 +0.4
ROTZ					*e*	PP	PP	09 00 47.7 +0.2
ROTZ					*e*	SKSac	SKSac	09 07 36.9 +0.8
COP	Copenhagen		94.09 325		*i*	P	P	08 57 03.2 +0.4
COP					*i*			09 02 59.8
COP					MLR	MLR		
	comp=Z,750nm,14.0s							
COP	Copenhagen		94.09 325		*i*	P	P	08 57 03.2 +0.4
COP					*i*			09 02 59.8
COP								
	comp=Z,740nm,13.0s							
NEUB	Neuenburg		94.20 321		*e*	P	P	08 57 04.3 +0.8
MOX	Moxa		94.27 320		*e*	P	P	08 57 04.1 +0.3
	comp=Z,9.0nm,1.0s							
MOX					*e*	PP	PP	09 00 50.8 0.0
MOX					*e*	SKSac	SKSac	09 07 37.8 -0.6
MOX					*e*	L	L	09 45 08.9
	comp=Z,1μm,20.9s							
MOX	Moxa		94.27 320		*e*	P	P	08 57 04.1 +0.3
MOX					*e*			09 00 50.8
MOX					*e*			09 07 37.8
MOX					pmax	pmax		
	comp=Z,9.0nm,1.0s							
FUR	Furstenfeldbru		94.34 318		*e*	P	P	08 57 03.6 -0.7
	comp=Z,22nm,0.4s							
FUR					*e*	PP	PP	09 00 50.3 -1.2
FUR					*e*	SKSac	SKSac	09 07 36.9 -2.0
FUR	Furstenfeldbru		94.34 318		*e*	P	P	08 57 03.6 -0.7
FUR					*e*			09 00 50.3
FUR					*e*			09 07 36.9
FUR					pmax	pmax		
	comp=Z,22nm,0.4s							
SPA0	Spitsbergen Ar		94.41 348		*e*	P	P	08 57 03.0 -1.0
SPA0					*e*	PP	PP	09 00 51.6 +0.4
SPA0					*e*			09 08 07.6
GRF	Grafenberg Arr		94.47 319		*e*	PP	PP	09 00 52.2 -0.2
GRF					*e*	SKSac	SKSac	09 07 39.2 -0.3
GRF					*e*	L	L	09 47 02.6
	comp=Z,1μm,21.0s							
FETA	Feichten		94.65 317	⇑	*i*	P	P	08 57 05.6 -0.3
	comp=Z,3.7nm,0.8s							
VLC	Villacollemand		94.73 314			PFAKE		08 57 20.0 +14
VLC						LR	LR	
	comp=Z,1μm,20.0s							
NC602	NORSAR Array S		94.85 330		*e*	P	P	08 57 05.1 -1.2
NC602					*e*	PP	PP	09 00 54.3 -0.7
NC602					*e*			09 07 36.1
NC602					*e*			09 08 14.0
NB2	NORSAR Subarra		95.02 331			P	P	08 57 06.3 -0.8
	comp=Z,9.0nm,1.1s,baz=92,slow=5.6							
NOA	NORSAR Array B		95.02 331			P	P	08 57 06.8 -0.3
NOA						PP	PP	09 00 55.9 -0.5
NOA	NORSAR Array B		95.02 331			P	P	08 57 06.8 -0.3
	comp=Z,3.3nm,0.9s,baz=93,slow=4.9,SNR=6.3							
NOA						PP	PP	09 00 55.9 -0.5
	comp=Z,1.2nm,0.8s,baz=80,slow=9.0,SNR=3.7							
NOA						LR	LR	09 47 37.9
	comp=Z,1μm,19.1s,baz=100,slow=40							
KEST	Kesra		95.08 305			P	P	08 57 08.6 +0.6
KEST	Kesra		95.08 305			P	P	08 57 08.6 +0.6
	comp=Z,3.1nm,0.9s,baz=87,slow=6.1,SNR=6.2							
KEST						LR	LR	09 44 14.3
	comp=Z,424nm,18.3s,baz=12,slow=38							
BSEG	Bad Segeberg		95.23 324		*e*	P	P	08 57 07.9 -0.2
	comp=Z,11nm,0.5s							
BSEG					*e*	SKSac	SKSac	09 07 43.6 +0.3
BSEG	Bad Segeberg		95.23 324		*e*	P	P	08 57 07.9 -0.2
BSEG					*e*			09 07 43.6
BSEG					pmax	pmax		
	comp=Z,11nm,0.5s							
VSL	Villasalto		95.25 309			PFAKE		08 57 20.0 +11
VSL						LR	LR	
	comp=Z,456nm,21.0s							
NRDL	Niedersach Rie		95.30 322		*e*	P	P	08 57 08.7 +0.3
	comp=Z,11nm,1.1s							
NRDL					*e*	PP	PP	09 00 57.2 -1.5
UBBA	Unterbreizbach		95.30 320		*e*	P	P	08 57 08.2 -0.2
	comp=Z,5.0nm,0.9s							
UBBA					*e*	PP	PP	09 00 58.4 -0.3
UBBA					*e*	SKSac	SKSac	09 07 43.4 -0.3
KBS	Kingsbay		95.34 349		*e*	P	P	08 57 09.2 +1.0
KBS					*e*	PP	PP	09 00 57.5 -0.9
KBS					AMS	AMS		09 49 32.3
	comp=Z,2μm,16.4s							
KBS	Kingsbay		95.34 349			PFAKE		08 57 20.0 +12
KBS						LR	LR	
	comp=Z,2μm,19.0s							
TBLU	Trondheim		95.54 333		*e*	PP	PP	09 00 59.1 -1.2
TUE	Stuetta		95.57 316			PFAKE		08 57 20.0 +10
TUE						LR	LR	
	comp=Z,980nm,19.0s							
STU	Stuttgart		95.75 318		*e*	SKSac	SKSac	09 07 44.7 -1.7
KONO	Kongsberg		95.78 329		*e*	P	P	08 57 09.3 -1.2
KONO					*e*	PP	PP	09 00 59.3 -3.0
KONO					*e*			09 08 26.6
KONO					AMS	AMS		09 50 32.9
	comp=Z,2μm,12.8s							
KONO	Kongsberg		95.78 329			PFAKE		08 57 20.0 +9.5
KONO						LR	LR	
	comp=Z,2μm,20.0s							
MUD	Monsted U'grnd		95.95 326		*i*	P	P	08 57 12.1 +0.8
MUD						MLR	MLR	
	comp=Z,1μm,17.0s							
MUD	Monsted U'grnd		95.95 326		*i*	P	P	08 57 12.1 +0.8
MUD								
	comp=Z,1μm,17.0s							
TNS	Taunus Mts		96.28 320		*e*	P	P	08 57 13.1 0.0
	comp=Z,12nm,1.0s							
TNS					*e*	PP	PP	09 01 08.6 +2.1
TNS					*e*	SKSac	SKSac	09 07 49.6 +0.4
TNS	Taunus Mts		96.28 320		*e*	P	P	08 57 13.1 0.0
TNS					*e*			09 01 08.6
TNS					*e*			09 07 49.6
TNS					pmax	pmax		
	comp=Z,12nm,1.0s							
BFO	Black Forest		96.32 318		*e*	P	P	08 57 12.5 -0.8
	comp=Z,2.0nm,0.5s					

TAM	**Tamanrasset**	**97.77**	**292**	*e*P	Pdif	08 57 21.3	+0.6			
TAM				pmax	pmax					
	comp=Z,2.0nm,0.4s									
TAM				MLR	MLR					
	comp=Z,818nm,19.0s									
TAM	**Tamanrasset**	**97.77**	**292**	*e*P	Pdif	08 57 21.3	+0.6			
	comp=Z,2.0nm,0.4s									
TAM				LR	LR					
	comp=Z,818nm,19.0s									
BER	**Bergen**	**97.91**	**330**	*e*P	Pdif	08 57 24.2	+4.0			
BER				AMS	AMS	09 51 26.6				
	comp=Z,1µm,7.8s									
SSB	**Saint Sauveur**	**98.92**	**315**	PFAKE		08 57 40.0	+15			
SSB				LR	LR					
	comp=Z,732nm,21.0s									
TORD	**Torodi Ar. Bea**	**100.93**	**282**	P	**Pdif**	**08 57 34.4**	**-0.2**			
TORD				PP	**PP**	**09 01 44.2**	**+1.2**			
TORD	**Torodi Ar. Bea**	**100.93**	**282**	P	**Pdif**	**08 57 34.4**	**-0.2**			
	comp=Z,3.8nm,1.1s,baz=93,slow=5.7,SNR=12									
TORD				PP	**PP**	**09 01 44.2**	**+1.2**			
	comp=Z,1.1nm,1.1s,baz=91,slow=8.4,SNR=2.8									
DAG	**Danmarks Havn**	**102.06**	**348**	*i* P	**Pdif**	**08 57 39.3**	**+1.0**			
DAG				*i*		09 01 51.1				
DAG				MLR	MLR					
	comp=Z,1µm,14.0s									
DAG	**Danmarks Havn**	**102.06**	**348**	*i* P	**Pdif**	**08 57 39.3**	**+1.0**			
DAG				*i*		09 01 51.1				
DAG										
	comp=Z,1µm,14.0s									
ESK	**Eskdalemuir**	**102.98**	**325**	PFAKE		08 57 50.0	+7.1			
ESK				LR	LR					
	comp=Z,1µm,19.0s									
KDAK	**Kodiak Island**	**103.04**	**32**	PFAKE		08 57 50.0	+7.0			
KDAK				LR	LR					
	comp=Z,2µm,20.0s									
COLA	**College**	**103.61**	**24**	PFAKE		08 58 00.0	+15			
COLA				LR	LR					
	comp=Z,2µm,20.0s									
ILAR	**Eielson Array**	**104.03**	**24**	PP	PP	09 02 04.7	0.0			
ILAR				PKKPbc	**PKKPbc**	**09 13 37.4**	**-1.8**			
ILAR	**Eielson Array**	**104.03**	**24**	PP	PP	09 02 04.7	0.0			
	comp=Z,2.3nm,1.1s,baz=289,slow=5.6,SNR=7.6									
ILAR				PKKPbc	**PKKPbc**	**09 13 37.4**	**-1.8**			
	comp=Z,1.3nm,0.9s,baz=116,slow=1.7,SNR=9.4									
TBI	**Tubuai**	**104.96**	**116**	*e*LR	LR	09 32 27.9				
	comp=Z,1µm,29.5s									
SHEL	**Horse Pasture**	**105.09**	**252**	PFAKE		09 02 20.0				
SHEL				LR	LR					
	comp=Z,3µm,21.0s									
PAB	**San Pablo**	**105.85**	**309**	PFAKE		09 02 20.0				
PAB				LR	LR					
	comp=Z,755nm,19.0s									
SCO	**Scoresbysund**	**105.99**	**343**	*e*P	**Pdif**	**08 58 01.7**	**+5.8**			
SCO				*i*		09 02 18.6				
SCO				MLR	MLR					
	comp=Z,1µm,15.0s									
SCO	**Scoresbysund**	**105.99**	**343**	*i* P	**Pdif**	**08 58 01.7**	**+5.8**			
SCO				*i*		09 02 18.6				
SCO										
	comp=Z,1µm,14.0s									
PPT2	**Papeete2**	**106.05**	**110**	*e*SS	SS	09 17 20.8	-1.3			
	comp=Z,288nm,26.8s									
PPT2	**Papeete2**	**106.05**	**110**	*e*LR	LR	09 33 02.6				
	comp=Z,1µm,22.5s									
EGAK	**Eagle**	**106.34**	**23**	PFAKE		09 02 20.0				
EGAK				LR	LR					
	comp=Z,1µm,20.0s									
PBRG	**Braganca**	**107.38**	**312**	*e*Pdif	**Pdif**	**08 58 08.2**	**+5.4**			
PBRG	**Braganca**	**107.38**	**312**	*e*PP	PP	09 02 31.7	+1.4			
MVO	**Moncorvo**	**107.68**	**311**	*e*Pdif	**Pdif**	**08 58 05.4**	**+1.2**			
MVO	**Moncorvo**	**107.68**	**311**	*e*PP	PP	09 02 34.2	+1.6			
PBAR	**Barrancos**	**108.09**	**308**	*e*Pdif	**Pdif**	**08 58 09.2**	**+3.2**			
PBAR	**Barrancos**	**108.09**	**308**	*e*PP	PP	09 02 38.9	+3.3			
PBAR				*e*SKSac	**SKSac**	**09 08 45.8**	**+0.1**			
MTE	**Manteigas**	**108.18**	**311**	*e*Pdif	**Pdif**	**08 58 09.3**	**+2.9**			
MTE	**Manteigas**	**108.18**	**311**	*e*PP	PP	09 02 39.3	+3.1			
MTE				*e*SKSac	**SKSac**	**09 08 45.4**	**-0.8**			
MTE	**Manteigas**	**108.18**	**311**	PFAKE		09 02 20.0				
MTE				LR	LR					
	comp=Z,709nm,19.0s									
PMRV	**Marv??o**	**108.20**	**310**	*e*Pdif	**Pdif**	**08 58 09.6**	**+3.1**			
PMRV	**Marv??o**	**108.20**	**310**	*e*PP	PP	09 02 39.1	+2.7			
PMRV				*e*SKSac	**SKSac**	**09 08 45.4**	**-0.8**			
POLO	**Lamas de Olo**	**108.22**	**312**	*e*Pdif	**Pdif**	**08 58 12.1**	**+5.5**			
POLO	**Lamas de Olo**	**108.22**	**312**	*e*PP	PP	09 02 37.5	+1.0			
POLO				*e*SKSac	**SKSac**	**09 08 52.0**	**+5.6**			
PESTR	**Estremoz**	**108.43**	**309**	*e*Pdif	**Pdif**	**08 58 13.6**	**+6.1**			
PESTR	**Estremoz**	**108.43**	**309**	*e*PP	PP	09 02 41.2	+3.1			
PGAV	**Gavieira, Arco**	**108.48**	**312**	*e*Pdif	**Pdif**	**08 58 10.5**	**+2.7**			
PGAV	**Gavieira, Arco**	**108.48**	**312**	*e*PP	PP	09 02 39.4	+1.0			
PGAV				*e*SKSac	**SKSac**	**09 08 47.2**	**-0.3**			
BORG	**Borgarnes**	**108.60**	**338**	PFAKE		09 02 20.0				
BORG				LR	LR					
	comp=Z,2µm,21.0s									
PVAQ	**Vaqueiros**	**108.73**	**308**	*e*Pdif	**Pdif**	**08 58 11.1**	**+2.3**			
PVAQ	**Vaqueiros**	**108.73**	**308**	*e*PP	PP	09 02 44.5	+4.3			
PVAQ				*e*SKSac	SKSac	09 08 55.5	+7.0			
SUMG	**Summit**	**108.75**	**348**	*e*P	**Pdif**	**08 58 07.9**	**-0.8**			
SUMG				MLR	MLR					
	comp=Z,1µm,23.0s									
SUMG	**Summit**	**108.75**	**348**	*i* P	**Pdif**	**08 58 07.9**	**-0.8**			
SUMG				*i*		09 02 32.3				
SUMG										
	comp=Z,1µm,23.0s									
PMTG	**Montargil**	**108.89**	**309**	*e*Pdif	**Pdif**	**08 58 16.6**	**+7.1**			
PMTG	**Montargil**	**108.89**	**309**	*e*PP	PP	09 02 44.5	+3.1			
PMTG				*e*SKSac	**SKSac**	**09 08 50.1**	**+1.0**			
PBDV	**Barranco-do-Ve**	**108.92**	**307**	*e*Pdif	**Pdif**	**08 58 14.8**	**+5.1**			
PBDV	**Barranco-do-Ve**	**108.92**	**307**	*e*PP	PP	09 02 45.9	+4.2			
PBDV				*e*SKSac	SKSac	09 08 35.0	-14			
PCVE	**Castro Verde**	**108.95**	**308**	*e*Pdif	**Pdif**	**08 58 15.0**	**+5.2**			
PCVE	**Castro Verde**	**108.95**	**308**	*e*PP	PP	09 02 46.4	+4.6			
PCAS	**Casmilo, Conde**	**108.95**	**310**	*e*Pdif	**Pdif**	**08 58 10.3**	**+0.5**			
PCAS	**Casmilo, Conde**	**108.95**	**310**	*e*PP	PP	09 02 45.0	+3.2			
PMSA	**Palmer Station**	**109.08**	**186**	PFAKE		09 02 20.0				
PMSA				LR	LR					
	comp=Z,3µm,19.0s									
PNCL	**Nicolau / Gran**	**109.27**	**308**	*e*Pdif	**Pdif**	**08 58 18.9**	**+7.7**			
PNCL	**Nicolau / Gran**	**109.27**	**308**	*e*PP	PP	09 02 50.6	+6.5			
MORF	**Marmelete**	**109.48**	**308**	*e*Pdif	**Pdif**	**08 58 11.2**	**-1.1**			
MORF	**Marmelete**	**109.48**	**308**	*e*PP	PP	09 02 46.3	+0.5			
MORF	**Marmelete**	**109.48**	**308**	*e*P	**Pdif**	**08 58 09.3**	**-3.0**			
MORF				*e*		09 02 43.7				
PFVI	**Vila Bisbo**	**109.64**	**307**	*e*Pdif	**Pdif**	**08 58 14.4**	**+1.5**			
PFVI	**Vila Bisbo**	**109.64**	**307**	*e*PP	PP	09 02 49.7	+2.8			
LIS	**Lisbon**	**109.66**	**309**	*e*PP	PP	09 02 45.0	-1.9			
LIS				AMS	AMS	09 56 43.6				
	comp=E,1µm,20.3s									
LIS	**Lisbon**	**109.66**	**309**	*e*PP	PP	09 02 45.0	-1.9			
PMAFR	**Mafra**	**109.72**	**309**	*e*Pdif	**Pdif**	**08 58 19.4**	**+6.1**			
PMAFR	**Mafra**	**109.72**	**309**	*e*PP	PP	09 02 51.7	+4.3			
WRAK	**Wrangell Islan**	**113.87**	**29**	PFAKE		09 02 30.0				
WRAK				LR	LR					
	comp=Z,1µm,20.0s									
ASCN	**Ascension**	**114.81**	**259**	PFAKE		09 02 40.0	+14			
ASCN				LR	LR					
	comp=Z,2µm,21.0s									
SFJD	**Kangerlussuaq**	**115.75**	**348**	PFAKE		09 02 40.0	+13			
SFJD				LR	LR					
	comp=Z,2µm,20.0s									
PMPST	**Porto Santo, M**	**116.39**	**304**	*e*Pdif	**Pdif**	**08 58 45.6**	**+2.6**			
PMPST	**Porto Santo, M**	**116.39**	**304**	*e*PP	PP	09 03 33.5	-1.5			
YKA	**Yellowknife Ar**	**117.22**	**18**	PKP	**PKPdf**	**09 02 28.9**	**-0.6**			
YKA				PKKPbc	**PKKPbc**	**09 12 55.4**	**-0.6**			
YKA	**Yellowknife Ar**	**117.22**	**18**	PKP	**PKPdf**	**09 02 28.9**	**-0.6**			
	comp=Z,4.2nm,1.0s									
YKA				PKKPbc	**PKKPbc**	**09 12 55.3**	**-0.6**			
	comp=Z,0.9nm,0.8s,baz=143,slow=3.4,SNR=8.6									
RKT	**Rikitea**	**117.81**	**120**	*e*LR	LR	09 38 24.7				
	comp=Z,1µm,22.0s									
EFI	**East Falkland**	**120.43**	**194**	PFAKE		09 02 50.0	+14			
EFI				LR	LR					
	comp=Z,3µm,22.0s									
CMLA	**Cha da Macela**	**122.36**	**312**	PFAKE		09 02 50.0	+10			
CMLA				LR	LR					
	comp=Z,2µm,19.0s									
NLWA	**Neilton Lookou**	**122.95**	**35**	PFAKE		09 02 50.0	+8.9			
NLWA				LR	LR					
	comp=Z,875nm,20.0s									
FL2	**Flat Top 2**	**124.48**	**36**	P	**PKPdf**	**09 02 45.8**	**+1.6**			
LON	**Longmire**	**124.48**	**35**	*e*PKIKP	**PKPdf**	**09 02 44.8**	**+0.8**			
LON	**Longmire**	**124.48**	**35**	*e*PKPdf	**PKPdf**	**09 02 44.8**	**+0.8**			
ETW	**Entiat**	**124.83**	**33**	P	**PKPdf**	**09 02 45.3**	**+0.6**			
B08A	**Colville Reser**	**124.92**	**32**	P	**PKPdf**	**09 02 44.9**	**+0.1**			
ASR	**Mount Adams--S**	**124.94**	**36**	P	**PKPdf**	**09 02 46.5**	**+1.5**			
VFP	**Flag Point**	**125.48**	**36**	P	**PKPdf**	**09 02 47.2**	**+1.0**			
OD2	**Odessa Site #2**	**125.84**	**33**	P	**PKPdf**	**09 02 47.4**	**+0.8**			
HAWA	**Hanford**	**125.98**	**34**	*e*PKPdf	**PKPdf**	**09 02 47.6**	**+0.8**			
HAWA				LR	LR					
	comp=Z,836nm,19.0s									
HUMO	**Hull Mountain**	**125.99**	**40**	*e*PKPdf	**PKPdf**	**09 02 47.9**	**+0.8**			
REDWA	**Red Mountain**	**126.09**	**34**	P	**PKPdf**	**09 02 48.4**	**+1.3**			
NEW	**Newport**	**126.13**	**31**	*e*PKPdf	**PKPdf**	**09 02 47.6**	**+0.5**			
NEW				LR	LR					
	comp=Z,1µm,21.0s									
NEW	**Newport**	**126.13**	**31**	⇑PKiKP	**PKPdf**	**09 02 46.8**	**-0.3**			
	baz=126									
KHMM	**Horse Mountain**	**126.33**	**42**	*e*PKPdf	**PKPdf**	**09 02 49.4**	**+1.5**			
A12A	**Yaak River Ran**	**126.44**	**30**	⇑PKiKP	**PKPdf**	**09 02 47.4**	**-0.3**			
	baz=126									
B12A	**Libby**	**126.78**	**30**	⇑PKiKP	**PKPdf**	**09 02 47.8**	**-0.5**			
	baz=127									
KIPM	**Iron Peak**	**127.00**	**43**	*e*PKPdf	**PKPdf**	**09 02 50.4**	**+1.2**			
A13A	**Flathead Natio**	**127.05**	**29**	⇑PKiKP	**PKPdf**	**09 02 48.6**	**-0.3**			
	baz=127									
WALA	**Waterton Lakes**	**127.20**	**29**	*e*PKPdf	**PKPdf**	**09 02 49.5**	**+0.3**			
WDC	**Whiskeytown Da**	**127.26**	**42**	*e*PKiKP	**PKPdf**	**09 02 49.9**	**+0.4**			
WDC	**Whiskeytown Da**	**127.26**	**42**	*e*PKPdf	**PKPdf**	**09 02 49.9**	**+0.4**			
C12B	**Naegeli Ranch,**	**127.34**	**31**	⇓PKiKP	**PKPdf**	**09 02 49.3**	**-0.2**			
	baz=127									
FFC	**Flin Flon**	**127.37**	**17**	*c i*PKIKP	**PKPdf**	**09 02 50.5**	**+1.3**			
FFC	**Flin Flon**	**127.37**	**17**	PFAKE		09 03 00.0	+11			
FFC				LR	LR					
	comp=Z,3µm,20.0s									
B13A	**Whitefish**	**127.40**	**30**	⇓PKiKP	**PKPdf**	**09 02 49.3**	**-0.3**			
	baz=127									
BSMT	**Basoo Peak**	**127.59**	**30**	*e*PKPdf	**PKPdf**	**09 02 50.4**	**+0.3**			
LTIM	**Timbered Crate**	**127.66**	**41**	P	**PKPdf**	**09 02 51.2**	**+0.8**			
C13A	**Hot Springs**	**127.81**	**30**	⇑PKiKP	**PKPdf**	**09 02 50.0**	**-0.4**			
	baz=128									
A15A	**Johnson Ranch,**	**127.82**	**28**	⇑PKiKP	**PKPdf**	**09 02 50.1**	**-0.3**			
	baz=128									
LBCM	**Butte Creek Ri**	**127.92**	**41**	P	**PKPdf**	**09 02 51.3**	**+0.3**			
B14A	**Marquette Ranc**	**127.99**	**29**	⇓PKiKP	**PKPdf**	**09 02 50.4**	**-0.4**			
	baz=128									
BMO	**Blue Mountains**	**128.15**	**35**	*e*PKIKP	**PKPdf**	**09 02 50.9**	**-0.3**			
BMO				MLR	MLR					
	comp=Z,898nm,20.0s									
BMO	**Blue Mountains**	**128.15**	**35**	*e*PKPdf	**PKPdf**	**09 02 50.9**	**-0.3**			
BMO				LR	LR					
	comp=Z,898nm,20.0s									
C14A	**Swan Lake**	**128.17**	**30**	⇓PKiKP	**PKPdf**	**09 02 50.8**	**-0.3**			
	baz=128									
SWMT	**Swartz Lake**	**128.22**	**30**	*e*PKPdf	**PKPdf**	**09 02 51.1**	**-0.1**			
SLMT	**Seeley Lake**	**128.65**	**30**	*e*PKPdf	**PKPdf**	**09 02 52.1**	**-0.1**			
B16A	**M & M Farms, S**	**128.70**	**28**	⇓PKiKP	**PKPdf**	**09 02 51.8**	**-0.2**			
	baz=129									
C15A	**Salmond Ranch,**	**128.72**	**29**	⇑PKiKP	**PKPdf**	**09 02 51.9**	**-0.3**			
	baz=129									
A17A	**Triple J Farms**	**128.78**	**27**	⇑PKiKP	**PKPdf**	**09 02 51.9**	**-0.3**			
	baz=129									
WVOR	**Wild Horse Val**	**128.78**	**38**	*e*PKiKP	**PKPdf**	**09 02 53.1**	**+0.6**			
WVOR				MLR	MLR					
	comp=Z,723nm,20.0s									
WVOR	**Wild Horse Val**	**128.78**	**38**	*e*PKPdf	**PKPdf**	**09 02 53.1**	**+0.6**			
WVOR				LR	LR					
	comp=Z,723nm,20.0s									
CHMT	**Chamberlain Mo**	**128.99**	**30**	*e*PKPdf	**PKPdf**	**09 02 52.8**	**-0.1**			
BEKR	**Beckworth**	**129.07**	**42**	*e*PKPdf	**PKPdf**	**09 02 53.9**	**+0.7**			
C16A	**Fuhringer Ranc**	**129.12**	**29**	⇑PKiKP	**PKPdf**	**09 02 52.5**	**-0.4**			
	baz=129									
A18A	**Metzger Ranch,**	**129.18**	**26**	⇑PKiKP	**PKPdf**	**09 02 52.6**	**-0.3**			
	baz=129									
B17A	**L&G Farms, Che**	**129.21**	**28**	⇓PKiKP	**PKPdf**	**09 02 52.9**	**-0.1**			
	baz=129									
B18A	**Beardsley Farm**	**129.60**	**27**	⇓PKiKP	**PKPdf**	**09 02 53.6**	**-0.2**			
	baz=129									
A19A	**Klindworth Far**	**129.65**	**26**	⇓PKiKP	**PKPdf**	**09 02 53.7**	**-0.2**			
	baz=130									
C17A	**Wharram Farm,**	**129.70**	**28**	⇑PKiKP	**PKPdf**	**09 02 53.9**	**-0.2**			
	baz=130									
PAHR	**Pah Rah Range**	**129.79**	**41**	*e*PKPdf	**PKPdf**	**09 02 55.6**	**+1.1**			
HRY	**Holter Researc**	**129.84**	**30**	*e*PKPdf	**PKPdf**	**09 02 54.8**	**+0.5**			
MFID	**Camas Ranch**	**129.87**	**35**	*e*PKPdf	**PKPdf**	**09 02 55.6**	**+1.1**			
MFID	**Camas Ranch**	**129.87**	**35**	⇓PKiKP	**PKPdf**	**09 02 54.3**	**-0.2**			
	baz=130									
EGMT	**Eagleton**	**129.88**	**27**	*e*PKPdf	**PKPdf**	**09 02 55.2**	**+0.8**			
EGMT				LR	LR					
	comp=Z,1µm,19.0s									
EGMT	**Eagleton**	**129.88**	**27**	⇓PKiKP	**PKPdf**	**09 02 54.2**	**-0.1**			
	baz=130									
B19A	**Brinkman Farms**	**129.92**	**26**	⇑PKiKP	**PKPdf**	**09 02 54.2**	**-0.1**			
	baz=130									
CMB	**Columbia Colle**	**129.97**	**44**	*e*PKIKP	**PKPdf**	**09 02 55.5**	**+0.7**			
CMB	**Columbia Colle**	**129.97**	**44**	*e*PKPdf	**PKPdf**	**09 02 55.5**	**+0.7**			
SCHQ	**Schefferville**	**129.97**	**351**	PKP	**PKPdf**	**09 02 54.3**	**+0.1**			
SCHQ	**Schefferville**	**129.97**	**351**	PKP	**PKPdf**	**09 02 54.3**	**+0.1**			
	comp=Z,8.7nm,1.1s,baz=46,slow=3.6,SNR=6.4									
A20A	**Cobblestone Ra**	**130.04**	**25**	⇑PKiKP	**PKPdf**	**09 02 54.4**	**-0.1**			
	baz=130									
D17A	**Six Diamond Ra**	**130.08**	**29**	⇑PKiKP	**PKPdf**	**09 02 54.6**	**-0.3**			
	baz=130									
LRM	**Limekiln Ridge**	**130.14**	**31**	*e*PKPdf	**PKPdf**	**09 02 55.7**	**+0.6**			
B20A	**Solberg Farm,**	**130.34**	**26**	⇑PKiKP	**PKPdf**	**09 02 55.0**	**-0.1**			
	baz=130									
WAKR	**Walker**	**130.38**	**43**	*e*PKPdf	**PKPdf**	**09 02 56.2**	**+0.4**			
DLMT	**Dillon**	**130.38**	**31**	*e*PKPdf	**PKPdf**	**09 02 55.9**	**+0.5**			
C19A	**Slack Wire Ran**	**130.41**	**27**	⇑PKiKP	**PKPdf**	**09 02 55.3**	**0.0**			
	baz=130									
D18A	**Linhart Farms,**	**130.47**	**28**	⇓PKiKP	**PKPdf**	**09 02 55.5**	**0.0**			
	baz=130									
E17A	**Martinsdale**	**130.49**	**29**	⇑PKiKP	**PKPdf**	**09 02 55.5**	**-0.2**			
	baz=130									
HLID	**Hailey**	**130.58**	**34**	*e*PKPdf	**PKPdf**	**09 02 55.9**	**0.0**			
HLID				LR	LR					
	comp=Z,1µm,20.0s									
HLID	**Hailey**	**130.58**	**34**	⇑PKiKP	**PKPdf**	**09 02 55.7**	**-0.3**			
	baz=130									
MCMT	**McKenzie Canyo**	**130.61**	**32**	*e*PKPdf	**PKPdf**	**09 02 56.6**	**+0.5**			
BOZ	**Bozeman (W)**	**130.68**	**31**	*e*PKIKP	**PKPdf**	**09 02 55.9**	**-0.1**			
BOZ				MLR	MLR					
	comp=Z,1µm,20.0s									
BOZ	**Bozeman (W)**	**130.68**	**31**	*e*PKPdf	**PKPdf**	**09 02 55.9**	**-0.1**			
BOZ				LR	LR					
	comp=Z,911nm,20.0s									
B21A	**Ellsworth Farm**	**130.77**	**25**	⇑PKiKP	**PKPdf**	**09 02 55.9**	**-0.1**			
	baz=131									
A22A	**Carney Farms,**	**130.78**	**24**	⇓PKiKP	**PKPdf**	**09 02 56.0**	**0.0**			
	baz=131									
BMN	**Battle Mountai**	**130.79**	**39**	PFAKE		09 03 10.0	+14			
BMN				LR	LR					
	comp=Z,523nm,21.0s									
E18A	**Harlowton**	**130.87**	**29**	⇓PKiKP	**PKPdf**	**09 02 56.3**	**-0.1**			
	baz=131									
I14A	**Mackay**	**130.88**	**33**	⇓PKiKP	**PKPdf**	**09 02 56.3**	**-0.3**			
	baz=131									
C20A	**Veseth Ranch,**	**130.90**	**26**	⇓PKiKP	**PKPdf**	**09 02 56.2**	**-0.1**			
	baz=131									
D19A	**Cripps Ranch,**	**130.91**	**27**	⇑PKiKP	**PKPdf**	**09 02 56.3**	**0.0**			
	baz=131									
F17A	**Fitzpatrick Pl**	**130.99**	**30**	⇑PKiKP	**PKPdf**	**09 02 56.5**	**-0.1**			
	baz=131									
NVAR	**Mina Array Bea**	**131.18**	**42**	PKPpre	PKPpre	09 02 51.9				
NVAR				PKP	**PKPdf**	**09 02 57.3**	**0.0**			
NVAR				SKPab	**SKPab**	**09 06 23.4**	**+1.6**			
NVAR	**Mina Array Bea**	**131.18**	**42**	PKhKP	PKPpre	09 02 51.9				
	comp=Z,0.4nm,0.8s,baz=263,slow=6.1,SNR=4.1									
NVAR				PKP	**PKPdf**	**09 02 57.3**	**0.0**			
	comp=Z,2.3nm,0.8s,baz=253,slow=2.3,SNR=14									
NVAR				SKPab	**SKPab**	**09 06 23.4**	**+1.6**			
	comp=Z,1.4nm,1.0s,baz=279,slow=3.3,SNR=3.6									
C21A	**Desert Coulee**	**131.20**	**26**	⇓PKiKP	**PKPdf**	**09 02 56.8**	**0.0**			
	baz=131									
A23A	**Redstone**	**131.22**	**23**	⇓PKiKP	**PKiKP**	**09 02 57.0**	**-0.7**			
	baz=131									
MLAC	**Mammoth Lakes**	**131.23**	**43**	⇑PKiKP	**PKPdf**	**09 02 55.9**	**-1.5**			
	baz=131									
B22A	**Reddig Ranch S**	**131.29**	**24**	⇓PKiKP	**PKPdf**	**09 02 56.4**	**-0.5**			
	baz=131									
D20A	**Manuel Ranch,**	**131.31**	**27**	⇑PKiKP	**PKPdf**	**09 02 56.9**	**-0.1**			
	baz=131									
QLMT	**Earthquake Lak**	**131.35**	**31**	*e*PKPdf	**PKPdf**	**09 02 59.3**	**+1.9**			
G17A	**Pierce Place,**	**131.36**	**30**	⇓PKiKP	**PKPdf**	**09 02 56.8**	**-0.5**			
	baz=131									
E19A	**Rath Farm, Rou**	**131.48**	**28**	⇑PKiKP	**PKPdf**	**09 02 56.6**	**-0.9**			
	baz=131									
SMMC	**Simmler**	**131.55**	**47**	⇓PKiKP	**PKPdf**	**09 02 57.4**	**-0.4**			
	baz=131									
GCMT	**Greycliff**	**131.55**	**29**	*e*PKPdf	**PKPdf**	**09 02 57.5**	**-0.1**			
B23A	**Brockton**	**131.57**	**24**	⇓PKiKP	**PKPdf**	**09 02 56.7**	**-0.7**			
	baz=131									
A24A	**Westby**	**131.58**	**22**	⇓PKiKP	**PKPdf**	**09 02 56.8**	**-0.7**			
	baz=131									
YMR	**Madison River**	**131.70**	**31**	*e*PKPdf	**PKPdf**	**09 02 59.8**	**+1.7**			
E20A	**Meyer Farm, Mu**	**131.75**	**27**	⇑PKiKP	**PKPdf**	**09 02 57.3**	**-0.6**			
	baz=132									
C22A	**Vida**	**131.78**	**25**	⇓PKiKP	**PKPdf**	**09 02 57.6**	**-0.3**			
	baz=132									
D21A	**La Casta Ranch**	**131.83**	**26**	⇓PKiKP	**PKPdf**	**09 02 57.5**	**-0.6**			
	baz=132									
F19A	**Roth Farm, Mol**	**131.85**	**29**	⇑PKiKP	**PKPdf**	**09 02 57.7**	**-0.5**			
	baz=132									
PKM	**Peak Mountain**	**131.87**	**47**	⇑PKiKP	**PKPdf**	**09 02 57.6**	**-1.0**			
	baz=132									
DGMT	**Dagmar**	**131.88**	**23**	PFAKE		09 03 10.0	+12			
DGMT				LR	LR					
	comp=Z,1µm,21.0s									
DGMT	**Dagmar**	**131.88**	**23**	⇑PKiKP	**PKPdf**	**09 02 57.1**	**-1.0**			
	baz=132									
YFT	**Old Faithful**	**131.92**	**31**	*e*PKPdf	**PKPdf**	**09 03 00.8**	**+2.3**			
G18A	**Lazy EL Ranch,**	**131.94**	**29**	⇓PKiKP	**PKPdf**	**09 02 57.7**	**-0.8**			
	baz=132									
VES	**Vestal, Richgr**	**131.95**	**45**	⇑PKiKP	**PKPdf**	**09 02 57.7**	**-0.8**			
	baz=132									
I16A	**Newdale**	**131.97**	**32**	⇑PKiKP	**PKPdf**	**09 02 58.0**	**-0.6**			
	baz=132									
C23A	**Lambert**	**132.02**	**24**	⇓PKiKP	**PKPdf**	**09 02 58.0**	**-0.3**			
	baz=132									
LKWY	**Lake**	**132.06**	**31**	PFAKE		09 03 10.0	+11			
LKWY				LR	LR					
	comp=Z,2µm,19.0s									
TPH	**Tonopah**	**132.09**	**42**	PFAKE		09 03 10.0	+11			
TPH				LR	LR					
	comp=Z,679nm,19.0s									

	baz=134							
RRX	Edison Barstow	133.91	45	⇓PKiKP	PKPdf	09 03 01.6	-0.6	
	baz=134							
G23A	Biddle	133.98	27	⇓PKiKP	PKPdf	09 03 02.1	-0.1	
	baz=134							
H22A	Clearmont	134.01	28	⇓PKiKP	PKPdf	09 03 02.2	-0.1	
	baz=134							
M17A	Scullys Gap (B	134.04	34	⇓PKiKP	PKPdf	09 03 02.0	-0.6	
	baz=134							
TRQA	Tornquist	134.04	198	PFAKE		09 03 10.0	+7.5	
TRQA				LR	LR			
	comp=Z,1μm,19.0s							
MDND	Maddock	134.07	20	⇑PKiKP	PKPdf	09 03 01.6	-0.6	
	baz=134							
L18A	Fontenelle, Gr	134.08	33	⇑PKiKP	PKPdf	09 03 02.1	-0.5	
	baz=134							
K19A	Absolon Red Bu	134.09	31	⇓PKiKP	PKPdf	09 03 01.9	-0.7	
	baz=134							
J20A	Shoshoni	134.10	30	⇑PKiKP	PKPdf	09 03 02.1	-0.4	
	baz=134							
I21A	Big Trails, Te	134.15	29	⇑PKiKP	PKPdf	09 03 01.8	-0.9	
	baz=134							
JLU	Jordanelle	134.18	35	ePKPdf	PKPdf	09 03 03.2	+0.3	
NLU	North Lily Min	134.23	37	ePKPdf	PKPdf	09 03 03.9	+0.9	
BBRC	Big Bear Solar	134.27	46	⇑PKiKP	PKPdf	09 03 02.5	-0.7	
	baz=134							
G24A	Alzada	134.31	26	⇓PKiKP	PKPdf	09 03 02.3	-0.5	
	baz=134							
L19A	Farson	134.33	32	⇑PKiKP	PKPdf	09 03 03.0	-0.1	
	baz=134							
TUQ	Turquoise Moun	134.37	44	⇑PKiKP	PKPdf	09 03 02.0	-1.3	
	baz=134							
MURC	Murrieta	134.39	47	⇓PKiKP	PKPdf	09 03 02.1	-1.2	
	baz=134							
HEC	Hector,Ludlow	134.41	45	⇑PKiKP	PKPdf	09 03 02.5	-0.8	
	baz=134							
DAU	Daniels Canyon	134.41	36	ePKiKP	PKPdf	09 03 04.8	+1.3	
DAU	Daniels Canyon	134.41	36	ePKPdf	PKPdf	09 03 04.8	+1.3	
J21A	Lysite	134.42	30	⇓PKiKP	PKPdf	09 03 02.3	-0.9	
	baz=134							
K20A	Yellowstone Ra	134.47	31	⇑PKiKP	PKPdf	09 03 02.6	-0.7	
	baz=134							
H23A	Clabaugh Cattl	134.47	27	⇑PKiKP	PKPdf	09 03 02.6	-0.6	
	baz=134							
I22A	9 Mile Ranch,	134.48	29	⇑PKiKP	PKPdf	09 03 02.6	-0.6	
	baz=134							
F26A	Lodgepole	134.62	24	⇓PKiKP	PKPdf	09 03 03.1	-0.2	
	baz=134							
H24A	Dirks Ranch, A	134.71	26	⇓PKiKP	PKPdf	09 03 02.8	-0.8	
	baz=135							
ARUT	Antelope Range	134.72	40	ePKiKP	PKPdf	09 03 05.7	+1.8	
ARUT	Antelope Range	134.72	40	ePKPdf	PKPdf	09 03 05.7	+1.8	
109C	Camp Elliot, M	134.81	48	⇓PKiKP	PKPdf	09 03 03.3	-0.7	
	baz=135							
AGMN	Agassiz Nation	134.84	16	ePKPdf	PKPdf	09 03 04.7	+1.1	
AGMN				LR	LR			
	comp=Z,2μm,19.0s							
G25A	Newell	134.84	25	⇑PKiKP	PKPdf	09 03 03.1	-0.7	
	baz=135							
J22A	Midwest	134.84	29	⇓PKiKP	PKPdf	09 03 03.1	-0.9	
	baz=135							
M19A	Rock Springs	134.85	33	⇑PKiKP	PKPdf	09 03 03.5	-0.6	
	baz=135							
GMRC	Granite Mounta	134.90	45	⇓PKiKP	PKPdf	09 03 03.7	-0.6	
	baz=135							
CCUT	Cedar City	134.90	40	ePKPdf	PKPdf	09 03 05.8	+1.5	
I23A	Meade Ranch, G	134.91	28	⇑PKiKP	PKPdf	09 03 04.3	+0.3	
	baz=135							
PFO	Pinyon Flat Ob	134.93	47	ePKPdf	PKPdf	09 03 06.0	+1.6	
PFO				LR	LR			
	comp=Z,785nm,19.0s							
PFO	Pinyon Flat Ob	134.93	47	⇑PKiKP	PKPdf	09 03 04.0	-0.4	
	baz=135							
L20A	Wamsutter	134.93	32	⇑PKiKP	PKPdf	09 03 03.7	-0.6	
	baz=135							
K21A	Alcova	135.04	30	⇓PKiKP	PKPdf	09 03 04.1	-0.3	
	baz=135							
MVU	Marysvale	135.05	38	ePKPdf	PKPdf	09 03 05.7	+1.1	
MVU				LR	LR			
	comp=Z,806nm,20.0s							
BELC	Belle Mtn. Jos	135.06	46	⇓PKiKP	PKPdf	09 03 04.2	-0.4	
	baz=135							
MSU	Marysvale	135.07	38	ePKiKP	PKPdf	09 03 04.2	-0.4	
MSU	Marysvale	135.07	38	ePKPdf	PKPdf	09 03 04.2	-0.4	
G26A	Maurine	135.10	24	⇑PKiKP	PKPdf	09 03 04.0	-0.3	
	baz=135							
H25A	Fruitdale	135.22	26	⇑PKiKP	PKPdf	09 03 04.4	-0.1	
	baz=135							
J23A	Dilts Ranch, B	135.29	28	⇓PKiKP	PKPdf	09 03 03.9	-0.9	
	baz=135							
G27A	Dupree	135.30	24	⇓PKiKP	PKPdf	09 03 04.1	-0.5	
	baz=135							
MONP	Monument Peak	135.31	48	⇑PKiKP	PKPdf	09 03 04.7	-0.5	
	baz=135							
I24A	Kuemmerle Ranc	135.37	27	⇑PKiKP	PKPdf	09 03 04.3	-0.6	
	baz=135							
M20A	Sweetwater, Wa	135.38	32	⇑PKiKP	PKPdf	09 03 04.7	-0.4	
	baz=135							
K22A	Casper	135.39	30	⇑PKiKP	PKPdf	09 03 04.7	-0.3	
	baz=135							
Q16A	Castle Valley	135.43	37	⇓PKiKP	PKPdf	09 03 05.3	0.0	
	baz=135							
RSSD	Black Hills	135.43	26	ePKiKP	PKPdf	09 03 05.4	+0.3	
RSSD	Black Hills	135.43	26	ePKPdf	PKPdf	09 03 05.4	+0.3	
L21A	Rawlins	135.47	31	⇓PKiKP	PKPdf	09 03 04.7	-0.6	
	baz=135							
H26A	Fairpoint	135.58	25	⇑PKiKP	PKPdf	09 03 04.6	-0.5	
	baz=135							
IRM	Iron Mountain	135.59	45	⇓PKiKP	PKPdf	09 03 05.2	-0.3	
	baz=136							
BC3	Big Chuckawall	135.63	46	⇑PKiKP	PKPdf	09 03 05.5	-0.2	
	baz=136							
NEE2	Needles Airpor	135.63	44	⇓PKiKP	PKPdf	09 03 04.8	-0.7	
	baz=136							
I25A	Rochford	135.64	26	⇑PKiKP	PKPdf	09 03 05.2	-0.3	
	baz=136							
DVTC	Desert V Tower	135.66	48	⇓PKiKP	PKPdf	09 03 05.5	-0.2	
	baz=136							
SRU	San Rafael	135.69	36	ePKiKP	PKPdf	09 03 06.3	+0.6	
SRU	San Rafael	135.69	36	ePKPdf	PKPdf	09 03 06.3	+0.6	
M21A	Separation Pea	135.73	31	⇓PKiKP	PKPdf	09 03 05.8	0.0	
	baz=136							
SWSC	Sam W. Stewart	135.74	47	⇓PKiKP	PKPdf	09 03 05.9	+0.2	
	baz=136							
RWWY	Rawlins	135.75	31	ePKPdf	PKPdf	09 03 05.4	-0.5	
K23A	Bowen Ranch, D	135.75	29	⇓PKiKP	PKPdf	09 03 05.9	+0.2	
	baz=136							
J24A	Dixon Ranch, L	135.76	28	⇓PKiKP	PKPdf	09 03 05.9	+0.2	
	baz=136							
N20A	Spence Gulch,	135.80	33	⇑PKiKP	PKPdf	09 03 05.3	-0.6	
	baz=136							
H27A	Howes	135.85	24	⇑PKiKP	PKPdf	09 03 05.4	-0.3	
	baz=136							
L22A	Ellis Ranch, M	135.89	30	⇑PKiKP	PKPdf	09 03 05.9	-0.1	
	baz=136							
G28A	Parade	135.95	23	⇑PKiKP	PKPdf	09 03 06.0	+0.2	
	baz=136							
W13A	Hualapai Mount	135.96	43	⇓PKiKP	PKPdf	09 03 06.3	-0.1	
	baz=136							
I26A	New Underwood	136.01	26	⇓PKiKP	PKPdf	09 03 05.9	-0.1	
	baz=136							
RCBR	Riachuelo	136.16	256	PFAKE		09 03 20.0	+13	
RCBR				LR	LR			
	comp=Z,2μm,19.0s							
L23A	Garrett	136.19	30	⇓PKiKP	PKPdf	09 03 06.2	-0.4	
	baz=136							
PDMCI	Parker Dam,Lak	136.22	44	⇑PKiKP	PKPdf	09 03 06.8	+0.2	
	baz=136							
P19A	Cripple Cowboy	136.23	35	⇑PKiKP	PKPdf	09 03 06.8	0.0	
	baz=136							
Y12C	Blythe	136.24	45	⇓PKiKP	PKPdf	09 03 06.8	+0.2	
	baz=136							
H28A	Mission Ridge	136.25	23	⇑PKiKP	PKPdf	09 03 06.1	-0.3	
	baz=136							
N21A	Black Mountain	136.25	32	⇓PKiKP	PKPdf	09 03 06.8	0.0	
	baz=136							
U15A	North Rim	136.26	41	⇑PKiKP	PKPdf	09 03 07.3	+0.3	
	baz=136							
EYMN	Ely	136.26	13	ePKPdf	PKPdf	09 03 06.6	+0.3	
EYMN				LR	LR			
	comp=Z,2μm,20.0s							
M22A	Cedar Creek Ra	136.27	31	⇓PKiKP	PKPdf	09 03 06.6	-0.2	
	baz=136							
O20A	White River Ci	136.30	34	⇓PKiKP	PKPdf	09 03 06.9	+0.1	
	baz=136							
I27A	Quinn	136.32	25	⇓PKiKP	PKPdf	09 03 06.7	+0.1	
	baz=136							
GLA	Glamis	136.39	46	⇓PKiKP	PKPdf	09 03 07.1	+0.1	
	baz=136							
L24A	Wheatland	136.62	29	⇓PKiKP	PKPdf	09 03 07.5	+0.2	
	baz=136							
O21A	Pagoda	136.66	33	⇓PKiKP	PKPdf	09 03 07.3	-0.3	
	baz=136							
K25A	Mack Ranch, Ha	136.69	28	⇓PKiKP	PKPdf	09 03 07.1	-0.3	
	baz=136							
I28A	Midland	136.75	24	⇓PKiKP	PKPdf	09 03 07.5	+0.1	
	baz=137							
N22A	Wattenberg Ran	136.78	32	⇓PKiKP	PKPdf	09 03 07.5	-0.3	
	baz=137							
PHWY	Pilot Hill	136.92	30	ePKPdf	PKPdf	09 03 07.7	-0.4	
K26A	Motz Farm, Whi	136.93	27	⇓PKiKP	PKPdf	09 03 08.2	+0.5	
	baz=137							
N23A	Red Feather La	136.98	31	⇑PKiKP	PKPdf	09 03 08.3	+0.2	
	baz=137							
L25A	Engebretsen Ra	137.00	28	⇓PKiKP	PKPdf	09 03 07.5	-0.5	
	baz=137							
Q20A	Ridgley Place,	137.08	35	⇑PKiKP	PKPdf	09 03 08.5	+0.3	
	baz=137							
PV04	Paradox Valley	137.11	36	ePKPdf	PKPdf	09 03 07.5	-0.8	
M24A	Cheyenne	137.11	30	⇑PKiKP	PKPdf	09 03 08.4	+0.1	
	baz=137							
P21A	Newcastle	137.16	34	⇓PKiKP	PKPdf	09 03 08.5	0.0	
	baz=137							
J28A	Allard Ranch,	137.19	25	⇓PKiKP	PKPdf	09 03 08.5	+0.3	
	baz=137							
O22A	Kremmling	137.20	32	⇓PKiKP	PKPdf	09 03 08.8	+0.1	
	baz=137							
Y14A	Wickenburg	137.21	44	⇓PKiKP	PKPdf	09 03 08.0	-0.5	
	baz=137							
BRSD	Miller	137.23	22	⇑PKiKP	PKPdf	09 03 08.6	+0.4	
	baz=137							
113A	Mohawk Valley,	137.30	46	⇑PKiKP	PKPdf	09 03 08.8	+0.2	
	baz=137							
K27A	Fleckinger Fa	137.35	26	⇑PKiKP	PKPdf	09 03 08.3	-0.2	
	baz=137							
WUAZ	Wupatki	137.40	41	ePKPdf	PKPdf	09 03 10.2	+1.3	
WUAZ				LR	LR			
	comp=Z,815nm,20.0s							
WUAZ	Wupatki	137.40	41	⇑PKiKP	PKPdf	09 03 08.8	-0.2	
	baz=137							
PV01	Paradox Valley	137.48	36	ePKPdf	PKPdf	09 03 10.2	+1.0	
P22A	Eagle	137.49	33	⇑PKiKP	PKPdf	09 03 09.3	+0.2	
	baz=137							
O23A	Lake Granby, G	137.49	32	⇓PKiKP	PKPdf	09 03 09.2	0.0	
	baz=137							
M25A	Palm-Egli Farm	137.51	29	⇓PKiKP	PKPdf	09 03 09.1	+0.1	
	baz=137							
R20A	Redvale	137.55	36	⇓PKiKP	PKPdf	09 03 09.1	-0.1	
	baz=137							
Z14A	Wintersburg	137.56	45	⇑PKiKP	PKPdf	09 03 09.3	+0.2	
	baz=138							
N24A	Carr	137.57	30	⇑PKiKP	PKPdf	09 03 09.1	0.0	
	baz=137							
Q21A	Lamborn Mesa,	137.57	34	⇑PKiKP	PKPdf	09 03 09.5	+0.2	
	baz=137							
K28A	Ten Mile Ranch	137.72	25	⇓PKiKP	PKPdf	09 03 09.6	+0.4	
	baz=138							
S20A	Disappointment	137.81	36	⇑PKiKP	PKPdf	09 03 09.8	0.0	
	baz=138							
L27A	T5 Ranch, Ells	137.81	27	⇓PKiKP	PKPdf	09 03 09.6	+0.1	
	baz=138							
R21A	Cimarron	137.91	35	⇑PKiKP	PKPdf	09 03 09.8	-0.2	
	baz=138							
M26A	McRoberts Ranc	137.92	28	⇑PKiKP	PKPdf	09 03 09.6	-0.1	
	baz=138							
Q22A	Crested Butte,	137.93	34	⇑PKiKP	PKPdf	09 03 10.1	+0.1	
	baz=138							
ISCO	Idaho Springs	137.95	32	ePKiKP	PKPdf	09 03 08.9	-1.2	
ISCO				MLR	MLR			
	comp=Z,1μm,20.0s							
ISCO	Idaho Springs	137.95	32	ePKPdf	PKPdf	09 03 08.9	-1.2	
ISCO				LR	LR			
	comp=Z,1μm,20.0s							
ISCO	Idaho Springs	137.95	32	⇓PKiKP	PKPdf	09 03 09.7	-0.3	
	baz=138							
N25A	Grover	137.97	30	⇑PKiKP	PKPdf	09 03 09.7	-0.2	
	baz=138							
O24A	Longmont	138.00	31	⇓PKiKP	PKPdf	09 03 09.9	0.0	
	baz=138							
X16A	Lo Mia Camp, P	138.00	42	⇑PKiKP	PKPdf	09 03 10.1	-0.1	
	baz=138							
MVCO	Mesa Verde	138.14	37	ePKPdf	PKPdf	09 03 11.4	+1.1	
MVCO				LR	LR			
	comp=Z,870nm,19.0s							
MVCO	Mesa Verde	138.14	37	⇓PKiKP	PKPdf	09 03 10.3	-0.1	
	baz=138							
P23A	Jefferson	138.14	32	⇑PKiKP	PKPdf	09 03 10.4	-0.1	
	baz=138							
M27A	Reverse DX Ran	138.22	27	⇓PKiKP	PKPdf	09 03 10.1	-0.1	
	baz=138							
S21A	Coal Bank Pass	138.25	36	⇓PKiKP	PKPdf	09 03 10.8	+0.1	
	baz=138							
N26A	Koester Ranch,	138.38	29	⇓PKiKP	PKPdf	09 03 10.7	+0.2	
	baz=138							
214A	Organ Pipe Nat	138.41	46	⇓PKiKP	PKPdf	09 03 11.1	+0.4	
	baz=138							
R22A	Saguache, Gunn	138.46	34	⇑PKiKP	PKPdf	09 03 10.6	-0.5	
	baz=138							
Q23A	Hartsel	138.49	33	⇑PKiKP	PKPdf	09 03 10.7	-0.3	
	baz=138							
O25A	Wiggins	138.49	30	⇑PKiKP	PKPdf	09 03 10.9	+0.1	
	baz=138							
SPMN	St. Paul	138.49	15	⇑PKiKP	PKPdf	09 03 10.6	+0.1	
	baz=138							
P24A	Kohler Place,	138.53	32	⇓PKiKP	PKPdf	09 03 11.1	+0.1	
	baz=138							
L29A	Maesberg Ranch	138.63	25	⇓PKiKP	PKPdf	09 03 11.3	+0.4	
	baz=138							
U20A	Newcomb	138.67	38	⇑PKiKP	PKPdf	09 03 11.4	+0.1	
	baz=138							
ECSD	EROS Data Cent	138.69	20	ePKPdf	PKPdf	09 03 10.8	-0.1	
ECSD				LR	LR			
	comp=Z,2μm,19.0s							
W18A	Petrified Fore	138.70	40	⇑PKiKP	PKPdf	09 03 11.8	+0.4	
	baz=139							
N27A	Anderson Farm,	138.72	28	⇓PKiKP	PKPdf	09 03 11.4	+0.3	
	baz=139							
S22A	4UR Ranch, Cre	138.75	35	⇓PKiKP	PKPdf	09 03 12.1	+0.5	
	baz=139							
M28A	Bar X Bar Ranc	138.78	27	⇑PKiKP	PKPdf	09 03 11.8	+0.6	
	baz=139							
O26A	Horse Wrangler	138.79	29	⇑PKiKP	PKPdf	09 03 11.3	-0.1	
	baz=139							
Q24A	Divide	138.81	32	⇑PKiKP	PKPdf	09 03 11.7	0.0	
	baz=139							
OGNE	Ogallala	138.85	28	PFAKE		09 03 20.0	+8.6	
OGNE				LR	LR			
	comp=Z,1μm,19.0s							
OGNE	Ogallala	138.85	28	⇑PKiKP	PKPdf	09 03 11.7	+0.3	
	baz=139							
P25A	Willow Gulch B	138.91	31	⇑PKiKP	PKPdf	09 03 12.0	+0.3	
	baz=139							
X18A	Snowflake	138.93	41	⇓PKiKP	PKPdf	09 03 12.2	+0.4	
	baz=139							
R23A	Moffat	139.00	34	⇑PKiKP	PKPdf	09 03 12.2	+0.3	
	baz=139							
V20A	Brimhall	139.08	39	⇓PKiKP	PKPdf	09 03 12.3	+0.2	
	baz=139							
U21A	Nageezi	139.16	37	⇑PKiKP	PKPdf	09 03 12.3	+0.1	
	baz=139							
T22A	Edith	139.21	36	⇑PKiKP	PKPdf	09 03 12.9	+0.6	
	baz=139							
O27A	Beecher Island	139.23	29	⇑PKiKP	PKiKP	09 03 12.9	-1.4	
	baz=139							
S23A	Nye Farm, Mont	139.25	34	⇑PKiKP	PKPdf	09 03 13.0	+0.6	
	baz=139							
P26A	Davis Ranch, A	139.29	30	⇑PKiKP	PKPdf	09 03 12.8	+0.5	
	baz=139							
M30A	Dale-Ortello V	139.32	25	⇑PKiKP	PKPdf	09 03 12.5	+0.3	
	baz=139							
Q25A	Bedland, Calha	139.32	32	⇓PKiKP	PKPdf	09 03 12.5	+0.1	
	baz=139							
R24A	Sanders Place,	139.37	33	⇑PKiKP	PKPdf	09 03 12.5	0.0	
	baz=139							
W20A	Ramah	139.49	39	⇓PKiKP	PKPdf	09 03 13.3	+0.5	
	baz=139							
SDCO	Great Sand Dun	139.50	34	ePKPdf	PKPdf	09 03 13.0	+0.1	
SDCO				LR	LR			
	comp=Z,1μm,20.0s							
N29A	Votaw Ranch, W	139.58	26	⇑PKiKP	PKPdf	09 03 12.6	-0.1	
	baz=139							
V21A	Milan	139.58	38	⇑PKiKP	PKPdf	09 03 13.0	0.0	
	baz=140							
O28A	Krutsinger Ran	139.62	28	⇓PKiKP	PKPdf	09 03 12.9	+0.2	
	baz=140							
TUC	Tucson	139.66	45	ePKPpre	PKPpre	09 03 07.9		
TUC				LR	LR			
	comp=Z,1μm,22.0s							
U22A	Llaves	139.67	37	⇑PKiKP	PKPdf	09 03 13.5	+0.3	
	baz=140							
P27A	Ficken Ranch,	139.68	29	⇑PKiKP	PKPdf	09 03 13.2	+0.2	
	baz=140							
Q26A	Hugo	139.69	31	⇓PKiKP	PKPdf	09 03 13.3	+0.2	
	baz=140							
T23A	Casias Ranch,	139.70	35	⇑PKiKP	PKPdf	09 03 13.5	+0.2	
	baz=140							
S24A	Houchin Ranch,	139.73	34	⇓PKiKP	PKPdf	09 03 13.2	-0.2	
	baz=140							
N30A	Hueftle Ranch,	139.83	26	⇑PKiKP	PKPdf	09 03 13.5	+0.4	
	baz=140							
R25A	Fountain Ranch	139.87	32	⇑PKiKP	PKPdf	09 03 13.7	+0.3	
	baz=140							
V22A	San Miguel Ran	139.95	37	⇑PKiKP	PKPdf	09 03 14.1	+0.4	
	baz=140							
W21A	San Fidel	140.03	39	⇓PKiKP	PKPdf	09 03 13.8	0.0	
	baz=140							
KSCO	Kaye Shedlock'	140.07	30	⇑PKiKP	PKPdf	09 03 13.9	+0.2	
	baz=140							
U23A	El Rito	140.10	36	⇓PKiKP	PKPdf	09 03 14.1	+0.2	
	baz=140							
BGNE	Belgrade	140.13	23	⇑PKiKP	PKPdf	09 03 13.6	0.0	
	baz=140							
S25A	Robbins Cordova	140.14	33	⇑PKiKP	PKPdf	09 03 13.8	-0.1	
	baz=140							
R26A	Arlington	140.19	31	⇑PKiKP	PKPdf	09 03 14.0	+0.1	
	baz=140							
Y20A	Horse Springs,	140.33	41	⇑PKiKP	PKPdf	09 03 14.5	0.0	
	baz=140							
O30A	MW Ranch, Wils	140.35	26	⇑PKiKP	PKPdf	09 03 13.8	-0.3	
	baz=140							
X21A	Alamocita Cree	140.37	40	⇑PKiKP	PKPdf	09 03 15.3	+0.8	
	baz=140							
P29A	Atwood	140.42	28	⇓PKiKP	PKPdf	09 03 14.1	-0.2	
	baz=140							
Q28A	Sharon Springs	140.42	29	⇓PKiKP	PKPdf	09 03 14.6	+0.3	
	baz=140							
GLMI	Grayling	140.48	7	ePKPdf	PKPdf	09 03 13.6	-0.5	
GLMI				LR	LR			
	comp=Z,2μm,21.0s							
V23A	Ortiz Mt. (NFS	140.50	37	⇓PKiKP	PKPdf	09 03 15.0	+0.3	
	baz=140							
T25A	Trinidad	140.54	34	⇓PKiKP	PKPdf	09 03 15.1	+0.4	
	baz=140							
W22A	Albuquerque	140.54	38	⇑PKiKP	PKPdf	09 03 15.2	+0.5	
	baz=140							
R27A	Eads	140.54	31	⇓PKiKP	PKPdf	09 03 14.5	0.0	
	baz=140							
U24A	Moreno Valley	140.57	35	⇓PKiKP	PKPdf	09 03 15.6	+0.7	
	baz=140							
Z20A	Nine Sixteen R	140.68	42	⇑PKiKP	PKPdf	09 03 15.5	+0.5	
	baz=141							
S26A	Kim	140.69	32	⇑PKiKP	PKPdf	09 03 15.3	+0.4	
	baz=140							
Y21A	Point of Rocks	140.72	40	⇓PKiKP	PKPdf	09 03 15.9	+0.7	
	baz=141							
P30A	Selden	140.78	27	⇑PKiKP	PKPdf	09 03 15.3	+0.5	
	baz=141							
LAZ	Ladron	140.81	39	ePKPdf	PKPdf	09 03 15.7	+0.4	
X22A	Bernardo	140.82	39	⇓PKiKP	PKPdf	09 03 15.8	+0.6	
	baz=141							
ANMO	Albuquerque	140.87	38	ePKPdf	PKPdf	09 03 11.8	-3.5	
ANMO				LR	LR			
	comp=Z,1μm,19.0s							
W23A	Werner Place,	140.92	37	⇑PKiKP	PKPdf	09 03 16.3	+0.8	
	baz=141							
LONY	Lake Ozonia	140.93	356	PFAKE		09 03 30.0	+15	
LONY				LR	LR			
	comp=Z,2μm,22.0s							
S27A	Las Animas	140.94	32	⇑PKiKP	PKPdf	09 03 15.9	+0.6	
	baz=141							
T26A	Comanche Natio	140.96	33	⇓PKiKP	PKPdf	09 03 15.6	+0.1	
	baz=141							
Q29A	Oakley	140.97	29	⇓PKiKP	PKPdf	09 03 15.8	+0.5	
	baz=141							
R28A	Tribune	140.99	30	⇓PKiKP	PKPdf	09 03 15.3	0.0	
	baz=141							
120A	U Bar Ranch, L	141.00	43	⇑PKiKP	PKiKP	09 03 16.8	-1.5	
	baz=141							
LBNH	Lisbon	141.04	353	PFAKE		09 03 30.0	+15	
LBNH				LR	LR			
	comp=Z,1μm,21.0s							
V24A	Rampart Ranch,	141.05	36	⇓PKiKP	PKPdf	09 03 16.0	+0.3	
	baz=141							
U25A	Circle Dot Ran	141.07	34	⇓PKiKP	PKPdf	09 03 16.2	+0.5	
	baz=141							
Z21A	St. Cloud Mine	141.17	41	⇓PKiKP	PKPdf	09 03 16.7	+0.7	
	baz=141							
LPM	Los Pinos Moun	141.19	39	ePKPdf	PKPdf	09 03 17.8	+1.8	
Y22A	Socorro	141.22	40	⇑PKiKP	PKPdf	09 03 16.1	+0.1	
	baz=141							
319A	Douglas	141.24	45	⇓PKiKP	PKPdf	09 03 16.1	+0.1	
	baz=141							
Q30A	Quinter	141.25	28	⇑PKiKP	PKPdf	09 03 16.1	+0.3	
	baz=141							
R29A	Marienthal	141.26	29

baz=142
Z24A Sheeppen Canyo 142.62 39 ⇑PKiKP PKPdf 09 03 19.1 +0.6
baz=142
T30A Plains 142.63 30 ⇓PKiKP PKPdf 09 03 19.1 +0.8
baz=142
Y25A Mesa, Roswell 142.64 37 ⇑PKiKP PKPdf 09 03 19.2 +0.7
baz=142
S31A Mullinville 142.69 28 ⇓PKiKP PKPdf 09 03 18.8 +0.5
baz=142
KSU1 Kansas State U 142.71 24 ePKPdf PKPdf 09 03 15.9 -2.4
KSU1 LR LR
comp=Z,2μm,21.0s
U29A Oasis Ranch, S 142.72 31 ⇑PKiKP PKPdf 09 03 19.1 +0.6
baz=143
X26A CR and CF Fran 142.73 36 ⇑PKiKP PKPdf 09 03 19.1 +0.5
baz=143
V28A Channing 142.75 33 ⇓PKiKP PKPdf 09 03 19.2 +0.6
baz=143
W27A Bowe Ranch, En 142.79 35 ⇓PKiKP PKPdf 09 03 19.2 +0.5
baz=143
223A Chaparral, Ant 142.80 41 ⇑PKiKP PKPdf 09 03 19.4 +0.7
baz=143
U30A WK&E Inc. Balk 142.98 31 ⇓PKiKP PKPdf 09 03 19.5 +0.6
baz=143
124A Stringfield Ra 142.98 40 ⇓PKiKP PKPdf 09 03 19.8 +0.5
baz=143
T31A Randall Ranch, 143.01 29 ⇑PKiKP PKPdf 09 03 19.2 +0.3
baz=143
V29A Stinnett 143.03 32 ⇓PKiKP PKPdf 09 03 19.3 +0.3
baz=143
Z25A Roswell 143.06 38 ⇓PKiKP PKPdf 09 03 20.3 +1.1
baz=143
X27A F and S Farms, 143.07 35 ⇑PKiKP PKPdf 09 03 20.3 +1.1
baz=143
W28A Vega 143.12 34 ⇑PKiKP PKPdf 09 03 20.3 +1.0
baz=143
Y26A Elida 143.16 37 ⇑PKiKP PKPdf 09 03 20.5 +1.1
baz=143
BDFB Brasilia 143.34 235 PKP PKPbc 09 03 17.6 +0.4
BDFB Brasilia 143.34 235 PKP PKPbc 09 03 17.6 +0.4
comp=Z,12nm,0.9s,baz=32,slow=3.5,SNR=12
224A Cornudas Mount 143.35 41 ⇑PKiKP PKiKP 09 03 21.2 -1.9
baz=143
BINY Binghamton 143.43 357 ePKPdf PKPdf 09 03 17.9 -1.6
BINY LR LR
comp=Z,2μm,19.0s
U31A Nine Bar Ranch 143.51 30 ⇓PKiKP PKPdf 09 03 20.9 +1.1
baz=143
125A Gardner Draw, 143.51 39 ⇓PKiKP PKPdf 09 03 21.4 +1.3
baz=143
Z26A Caprock 143.52 38 ⇓PKiKP PKPdf 09 03 21.1 +1.1
baz=143
W29A Amraillo 143.53 33 ⇓PKiKP PKPdf 09 03 21.2 +1.2
baz=143
V30A Spur Ranch, Mi 143.56 31 ⇑PKiKP PKPdf 09 03 21.1 +1.2
baz=143
Y27A Causey 143.58 36 ⇑PKiKP PKPdf 09 03 20.9 +0.8
baz=143
X28A Dimmitt 143.67 34 ⇑PKPdf PKPbc 09 03 17.1 -0.6
baz=144
MNTX Cornudas Mount 143.68 41 ePKPdf PKPbc 09 03 18.4 +0.7
MNTX LR LR
comp=Z,961nm,20.0s
AMTX Amarillo 143.69 33 PFAKE 09 03 30.0 +10
AMTX LR LR
comp=Z,1μm,21.0s
MSTX Muleshoe 143.74 36 ⇓PKPdf PKPbc 09 03 17.6 -0.3
baz=144
225A Deer Hill, Car 143.77 40 ⇑PKPdf PKPbc 09 03 18.0 -0.2
baz=144
324A Moseley Ranch, 143.78 41 ⇑PKPdf PKPbc 09 03 17.9 -0.2
baz=144
126A Clayton Basin, 143.92 38 ⇓PKPdf PKPbc 09 03 18.1 -0.3
baz=144
V31A Spring Creek L 143.98 30 ⇓PKPdf PKPbc 09 03 18.3 -0.2
baz=144
ALLY Alegheny Colle 144.00 2 ePKPdf PKPab 09 03 17.5 -0.2
GDL2 Guadalupe Moun 144.00 39 ePKPdf PKPdf 09 03 20.1 -0.9
X29A Tulia 144.00 34 ⇑PKPdf PKPbc 09 03 18.3 -0.3
baz=144
W30A Crocket Farms 144.06 32 ⇓PKPdf PKPbc 09 03 18.1 -0.6
baz=144
Y28A McKinney Farm, 144.09 35 ⇓PKPdf PKPbc 09 03 18.7 -0.2
baz=144
226B Tecolote Peak, 144.21 39 ⇓PKPdf PKPbc 09 03 19.3 0.0
baz=144
127A Arkansas Junct 144.31 38 ⇓PKPdf PKPbc 09 03 19.8 +0.1
baz=144
W31A Holland Ranch, 144.38 31 ⇓PKPdf PKPbc 09 03 19.5 -0.3
baz=144
SFIN Scholer Farm 144.42 12 ⇑PKPdf PKPbc 09 03 19.1 -0.5
baz=144
Y29A Porterfield Fa 144.45 35 ⇓PKPdf PKPbc 09 03 19.6 -0.4
baz=144
Z28A Tucker Farm, M 144.46 36 ⇓PKPdf PKPbc 09 03 19.7 -0.4
baz=144
X30A Coker Ranch, T 144.46 33 ⇓PKPdf PKPab 09 03 19.3 -0.4
baz=144
425A Indio Mountain 144.53 42 ⇑PKPdf PKPbc 09 03 20.3 -0.2
baz=144
CPNY Central Park 144.68 354 ePKPdf PKPbc 09 03 20.4 0.0
X31A McDonald Ranch 144.79 32 ⇑PKPdf PKPab 09 03 19.9 -1.1
baz=145
227A Bennet, Jal 144.80 38 ⇓PKPdf PKPab 09 03 20.8 -0.4
baz=145
326A Caldwell Ranch 144.84 40 ⇓PKPdf PKPbc 09 03 21.1 -0.3
baz=145
128A Castleberry Fa 144.87 37 ⇑PKPdf PKPbc 09 03 21.1 -0.4
baz=145
Z29A Hungry Hill Ra 144.87 35 ⇓PKPdf PKPab 09 03 21.0 -0.4
baz=145
Y30A Stafford Cattl 144.87 34 ⇑PKPdf PKPbc 09 03 21.0 -0.4
baz=145
LCO Las Campanas 144.88 192 ePKPdf PKPdf 09 03 22.2 -0.5
LCO LR LR
comp=Z,1μm,21.0s
327A Balmorhea Ranc 145.11 39 ⇓PKPdf PKPab 09 03 22.1 -0.2
baz=145
Y31A Rekieta Farm, 145.16 33 ⇓PKPdf PKPbc 09 03 21.4 -0.8
baz=145
228A UT Block 9, Go 145.16 38 ⇑PKPdf PKPbc 09 03 21.9 -0.4
baz=145
Z30A Sanderson Ranc 145.18 35 ⇑PKPdf PKPbc 09 03 21.7 -0.7
baz=145
426A McDonald Obser 145.23 41 ⇓PKPdf PKPbc 09 03 22.2 -0.6
baz=145
129A Stewart Farms, 145.23 36 ⇑PKPdf PKPbc 09 03 22.0 -0.6
baz=145
SLM Saint Louis 145.32 16 ePKIKP PKPbc 09 03 21.5 -1.0
SLM Saint Louis 145.32 16 ePKPdf PKPbc 09 03 21.5 -1.0
WMOK Wichita Mounta 145.33 30 ePKIKP PKPbc 09 03 21.2 -1.6
WMOK MLR MLR
comp=Z,2μm,20.0s
WMOK Wichita Mounta 145.33 30 ePKPdf PKPbc 09 03 21.1 -1.6
WMOK LR LR
comp=Z,2μm,20.0s
427A Hayter Ranch, 145.52 40 ⇓PKPdf PKPbc 09 03 23.1 -0.5
baz=145
328A Wristen Ranch, 145.53 39 ⇓PKPdf PKPdf 09 03 23.2 -0.3
baz=145
Y32A R-V Farms, Ver 145.56 32 ⇓PKPdf PKPdf 09 03 22.5 -0.9
baz=145
526A Mary Lane Ranc 145.58 42 ⇓PKPdf PKPbc 09 03 23.5 -0.3
baz=146
BLO Bloomington 145.70 11 ePKP2 PKPdf 09 03 22.8 -0.7
BLO Bloomington 145.70 11 ePKPdf PKPdf 09 03 22.8 -0.7
Z31A Sharp Cattle R 145.71 34 ⇑PKPdf PKPdf 09 03 23.2 -0.5
baz=146
229A Bryant Ranch, 145.74 37 ⇑PKPdf PKPdf 09 03 22.9 -1.0
baz=146
TUL1 Tulsa 145.77 26 ⇓PKPdf PKPdf 09 03 23.0 -0.7
baz=146
130A Snyder 145.78 35 ⇑PKPdf PKPdf 09 03 23.0 -0.9
baz=146
527A Woodward Ranch 145.84 41 ⇓PKPdf PKPdf 09 03 23.3 -0.9
baz=146
626A Big Bend Ranch 145.88 43 ⇓PKPdf PKPdf 09 03 23.8 -0.4
baz=146
329A Wagon Wheel Ra 145.97 38 ⇓PKPdf PKPdf 09 03 24.0 -0.3
baz=146
131A Roby 146.05 35 ⇑PKPdf PKPdf 09 03 24.2 -0.1
baz=146
428A Kincaid Ranch, 146.06 39 ⇑PKPdf PKPdf 09 03 24.4 0.0
baz=146
Z32A Haskell 146.08 33 ⇓PKPdf PKPdf 09 03 24.4 0.0
baz=146
230A Sterling City 146.21 36 ⇓PKPdf PKPdf 09 03 24.6 0.0
baz=146

SDMD Soldier's Deli 146.25 358 ePKPdf PKPdf 09 03 24.2 -0.2
TXAR Lajitas Array 146.33 42 PKPbc PKPab 09 03 26.4 -0.5
TXAR Lajitas Array 146.33 42 PKPbc PKPab 09 03 26.4 -0.5
comp=Z,14nm,0.7s,baz=301,slow=1.1,SNR=84
528A Cox Ranch, San 146.37 40 ⇑PKPdf PKPdf 09 03 25.2 +0.1
baz=146
627A Terlingua Ranc 146.44 42 ⇑PKPdf PKPdf 09 03 25.0 -0.2
baz=146
SIUC Southern Illin 146.46 16 ePKPdf PKPdf 09 03 25.0 +0.2
ABTX Abilene, Hawle 146.50 34 ⇑PKPdf PKPdf 09 03 25.2 +0.1
baz=146
330A Mertzon 146.51 37 ⇓PKPdf PKPbc 09 03 25.6 -1.0
baz=146
USIN University of 146.62 13 ePKPdf PKPbc 09 03 25.6 -1.0
429A Davenport Ranc 146.62 39 ⇓PKPdf PKPbc 09 03 25.9 -1.0
baz=146
231A Bronte 146.64 35 ⇓PKPdf PKPbc 09 03 26.0 -0.9
baz=146
WCI Wyandotte Cave 146.66 11 ePKP2 PKPdf 09 03 25.1 -0.1
WCI Wyandotte Cave 146.66 11 ePKPdf PKPdf 09 03 25.1 -0.1
628A Black Gap, Mar 146.75 41 ⇑PKPdf PKPbc 09 03 26.1 -1.2
baz=147
529A Stev Forest Ra 146.76 40 ⇓PKPdf PKPdf 09 03 25.6 0.0
baz=147
430A Baggett Ranch, 146.91 38 ⇓PKPdf PKPdf 09 03 26.3 +0.4
baz=147
331A San Angelo 147.03 36 ⇑PKPdf PKPdf 09 03 26.1 0.0
baz=147
232A Coleman 147.05 35 ⇓PKPdf PKPdf 09 03 26.4 +0.4
baz=147
PARMO Parma 147.29 17 ePKPbc PKPbc 09 03 27.9 -0.6
530A J-C Ranch, Com 147.30 39 ⇓PKPdf PKPdf 09 03 26.6 +0.1
baz=147
431A Sonora 147.37 37 ⇑PKPdf PKPdf 09 03 26.6 0.0
baz=147
332A Millersview 147.37 35 ⇑PKPdf PKPdf 09 03 26.8 +0.3
baz=147
CBN Corbin 147.47 359 PFAKE 09 03 40.0 +9.2
CBN LR LR
comp=Z,2μm,20.0s
432A Menard 147.71 36 ⇓PKPdf PKPdf 09 03 27.5 +0.3
baz=148
RFTA Plano 147.75 30 ePKPbc PKPbc 09 03 30.0 +0.1
531A Rocksprings 147.77 38 ⇑PKPdf PKPdf 09 03 27.3 0.0
baz=148
GLAT Glass 147.80 17 ePKPbc PKPbc 09 03 30.3 +0.4
GNAR Gosnell 147.86 18 ePKPbc PKPbc 09 03 30.8 +0.7
MIAR Mount Ida 147.87 24 ePKIKP PKPdf 09 03 27.4 +0.1
MIAR e 09 03 30.6
MIAR MLR MLR
comp=Z,1μm,21.0s
MIAR Mount Ida 147.87 24 ePKPdf PKPdf 09 03 27.4 +0.1
MIAR ePKPbc PKPbc 09 03 30.6 +0.4
MIAR LR LR
comp=Z,1μm,21.0s
JSRW J. Sargeant Re 147.99 359 ePKPbc PKPbc 09 03 29.5 -0.9
JCT Junction City 148.00 37 ePKIKP PKPdf 09 03 28.3 +0.6
JCT e 09 03 31.4
JCT MLR MLR
comp=Z,1μm,20.0s
JCT Junction City 148.00 37 ePKPdf PKPdf 09 03 28.3 +0.6
JCT ePKPbc PKiKP 09 03 31.4 -1.2
JCT LR LR
comp=Z,1μm,20.0s
JCT Junction City 148.00 37 ⇓PKPdf PKPdf 09 03 27.6 -0.1
baz=148
HBAR Harrisburg 148.04 19 ePKPbc PKPbc 09 03 30.0 -0.6
HALT Halls 148.12 17 ePKPbc PKPbc 09 03 31.4 +0.6
UALR University of 148.15 22 ePKPdf PKPdf 09 03 28.1 +0.4
WHTX Lake Whitney 148.17 32 ⇓PKPdf PKPdf 09 03 28.0 +0.2
baz=148
532A Rocksprings 148.19 37 ⇓PKPdf PKPdf 09 03 27.5 -0.5
baz=148
631A Perdido Creek 148.28 39 ⇓PKPdf PKPdf 09 03 27.9 -0.2
baz=148
WVT Waverly 148.32 15 ePKIKP PKPdf 09 03 27.6 -0.3
WVT Waverly 148.32 15 ePKPdf PKPdf 09 03 27.6 -0.3
BLA Blacksburg 148.41 3 ePKIKP PKPdf 09 03 29.0 +0.9
BLA MLR MLR
comp=Z,2μm,19.0s
BLA Blacksburg 148.41 3 ePKPdf PKPdf 09 03 29.0 +0.9
BLA LR LR
comp=Z,2μm,19.0s
632A Uvalde 148.70 38 ⇑PKPdf PKPdf 09 03 28.5 -0.3
baz=149
TZTN Tazewell 148.77 8 ePKPdf PKPdf 09 03 28.6 -0.1
TZTN ePKPbc PKPbc 09 03 31.8 -0.7
732A Laxson Ranch, 149.14 39 ⇑PKPdf PKPdf 09 03 29.9 +0.4
baz=149
OXF Oxford 149.39 18 ePKPdf PKPdf 09 03 30.0 +0.3
OXF ePKPbc PKPbc 09 03 34.1 0.0
OXF LR LR
comp=Z,1μm,20.0s
CPCT Cooper Cave 149.69 10 ePKPdf PKPdf 09 03 30.3 +0.1
CPCT ePKPbc PKPbc 09 03 33.9 -0.9
KMSC Kings Mountain 150.40 5 ⇑PKPdf PKPdf 09 03 31.4 0.0
baz=150
BBSR BB Station 150.41 336 ePKPbc PKPbc 09 03 36.6 0.0
BBSR LR LR
comp=Z,1μm,19.0s
CNNC Cliffs of the 150.43 359 PFAKE 09 03 40.0 -2.9
CNNC LR LR
comp=Z,2μm,22.0s
LVC Limon Verde 150.55 198 ePKPbc PKPbc 09 03 37.9 +0.3
LVC LR LR
comp=Z,1μm,20.0s
VBMS Vicksburg 151.11 22 ePKPdf PKPdf 09 03 33.5 +1.0
VBMS ePKPbc PKiKP 09 03 38.3 -0.5
VBMS ePKPab PKPab 09 03 45.6 -0.2
VBMS LR LR
comp=Z,1μm,19.0s
KVTX Kingsville 151.27 38 PFAKE 09 03 40.0 +1.2
KVTX LR LR
comp=Z,1μm,20.0s
LRAL Lakeview Retre 151.47 15 ePKPdf PKPdf 09 03 33.7 +0.7
LRAL ePKPbc PKPbc 09 03 38.9 -0.2
LRAL ePKPab PKPab 09 03 46.6 -0.6
LRAL LR LR
comp=Z,2μm,22.0s
BRAL Brewton 153.36 17 ePKPbc PKPbc 09 03 44.4 +1.0
BRAL LR LR
comp=Z,2μm,22.0s
TIGA Tifton 153.76 10 ⇑PKPdf PKPdf 09 03 36.6 +0.2
baz=154
LPAZ La Paz 156.09 205 PKP PKPdf 09 03 40.1 -0.7
LPAZ PKPab PKPab 09 04 08.5 +0.5
LPAZ La Paz 156.09 205 PKP PKPdf 09 03 40.1 -0.7
comp=Z,6.2nm,1.0s,baz=23,slow=2.5,SNR=13
LPAZ PKPab PKPab 09 04 08.5 +0.5
comp=Z,7.6nm,0.9s,baz=149,slow=4.8,SNR=6.6
SAML Samuel 159.14 226 ePKPdf PKPdf 09 03 43.2 -0.7
SAML ePKPab PKPab 09 04 20.2 -0.4
SAML LR LR
comp=Z,2μm,20.0s
ANWB Willy Bob 159.82 308 PFAKE 09 03 50.0 +5.5
ANWB LR LR
comp=Z,1μm,22.0s
BBGH Gun Hill 160.00 294 PFAKE 09 04 00.0 +15
BBGH LR LR
comp=Z,2μm,19.0s
FDF Fort de France 160.79 300 PFAKE 09 04 00.0 +14
FDF LR LR
comp=Z,1μm,20.0s
GRGR Grenville 162.27 293 PFAKE 09 04 00.0 +13
GRGR LR LR
comp=Z,794nm,20.0s
TEIG Tepich 162.48 33 PFAKE 09 04 00.0 +13
TEIG LR LR
comp=Z,973nm,19.0s
NNA Nana 162.53 185 PFAKE 09 04 00.0 +12
NNA LR LR
comp=Z,2μm,22.0s
GRTK Grand Turk 162.65 337 PFAKE 09 04 00.0 +13
GRTK LR LR
comp=Z,1μm,21.0s
SJG San Juan 162.74 317 PFAKE 09 04 00.0 +12
SJG LR LR
comp=Z,928nm,20.0s
SDDR Presa de Saban 164.97 333 PFAKE 09 04 00.0 +10
SDDR LR LR
comp=Z,2μm,20.0s
GTBY Guantanamo Bay 165.35 348 PFAKE 09 04 00.0 +10
GTBY LR LR
comp=Z,1μm,21.0s
PAYG Puerto Ayora 166.56 117 PFAKE 09 04 00.0 +8.8
PAYG LR LR
comp=Z,2μm,22.0s
MTDJ Mount Denham 167.36 357 PFAKE 09 04 00.0 +8.3
MTDJ LR LR
comp=Z,2μm,19.0s
TGUH Tegucigalpa,Un 167.78 45 ePKPdf PKPdf 09 03 51.0 -0.9
TGUH LR LR
comp=Z,1μm,20.0s
ROSC El Rosal 175.96 261 PKP PKPdf 09 03 55.9 -0.4
ROSC PKPab PKPab 09 05 36.1 +0.6
ROSC El Rosal 175.96 261 PKP PKPdf 09 03 55.9 -0.4
comp=Z,2.4nm,0.5s,baz=78,slow=0.8,SNR=6.8
ROSC PKPab PKPab 09 05 36.1 +0.6
comp=Z,2.7nm,0.5s,baz=101,slow=5.2,SNR=4.3
BCIP Isla Barro Col 176.09 22 PFAKE 09 04 10.0 +14
BCIP LR LR
comp=Z,2μm,22.0s

TAP 28 08:45:38.8, 24.25N×121.77E, h14km, ML3.8, 7C-6D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ENA	Nanau	0.18	352	⇑	iP		Pg	08 45 43.1	+0.1
baz=354									
ENA						S	Sg	08 45 46.2	+0.3
baz=354									
TWD	Chiawan	0.23	223	⇑	iP		Pg	08 45 44.0	+0.1
baz=227									
TWD					i	S	Sg	08 45 47.8	+0.5
baz=227									
HWA	Hwalien	0.31	209		eP		Pb	08 45 46.1	-0.1
baz=216									
HWA					e	S	Sb	08 45 51.4	+0.2
baz=216									
TWC	Suao	0.36	12		i	P	Pg	08 45 46.4	+0.1
baz=9.0									
TWC					i	S	Sg	08 45 51.9	+0.6
baz=9.0									
NNS	Nan Shan	0.41	298	⇑	P		Pg	08 45 47.3	+0.2
baz=298									
NNS						S	Sg	08 45 52.9	+0.1
baz=298									
ENTT	Nioudou	0.43	335	⇓	P		Pg	08 45 47.7	+0.2
baz=335									
ENTT						S	Sg	08 45 53.8	+0.5
baz=335									
WHF	Hehuan Shan	0.47	257	⇑	iP		Pg	08 45 48.3	-0.4
baz=258									
WHF						S	Sg	08 45 55.1	-0.4
baz=258									
TWE	Neicheng	0.48	349	⇑	iP		Pg	08 45 48.7	+0.4
baz=350									
TWE						S	Sb	08 45 55.9	-0.1
baz=350									
ILA	Ilan	0.51	358		eP		Pg	08 45 48.8	-0.2
baz=352									
ILA					e	S	Sb	08 45 57.8	+0.8
baz=352									
ESL	Shilin	0.53	215	⇓	eP		Pg	08 45 49.3	0.0
baz=223									
TWT	Tachien	0.54	270		eP		Pb	08 45 50.3	-0.1
baz=271									
TWT						S	Sb	08 45 57.8	-0.4
baz=271									
NSK	Sanguang	0.56	319	⇓	P		Pg	08 45 50.2	+0.2
baz=319									
NSK						S	Sg	08 45 58.1	+0.5
baz=319									
TWA	Mucha	0.74	347		eP		Pb	08 45 53.9	+0.2
baz=347									
TWA					e	S	Sg	08 46 02.3	-0.9
baz=347									
TWB1	Santiao Chiao	0.78	15		eP		Pb	08 45 54.4	+0.1
baz=14									
TWB1					e	S	Sg	08 46 04.0	-0.3
baz=14									
NSTT	Nanjuang	0.79	299		eP		Pb	08 45 54.7	+0.2
baz=299									
NSTT						S	Sb	08 46 05.3	+0.1
baz=299									
TAP1	Taipei	0.81	344		eP		Pn	08 45 55.7	-0.3
baz=343									
TAP1					e	S	Sb	08 46 06.0	+0.3
baz=343									
NWF	Wu-fen Shan	0.82	1		eP		Pb	08 45 55.3	+0.3
baz=352									
NWF						S	Sb	08 46 05.9	-0.1
baz=352									
EHY	Hungye	0.85	209		eP		Pg	08 45 55.1	-0.2
baz=221									
EHY					e	S	Sb	08 46 07.5	+0.8
baz=221									
SMLT	Sun Moon Lake	0.87	245	⇓	P		Pb	08 45 56.0	+0.1
baz=239									
SMLT					e	S	Sb	08 46 07.6	-0.1
baz=239									
NCU	National Centr	0.89	324		eP		Pn	08 45 57.6	+0.7
baz=323									
NCU					e	S	Sn	08 46 10.7	+0.9
baz=323									
TYC	Yuchr	0.90	248	⇑	eP		Pb	08 45 56.1	-0.2
baz=242									
TYC						S	Sg	08 46 07.9	-0.2
baz=242									
TWS1	Kuangyinshan	0.90	339		eP		Pn	08 45 57.4	+0.2
baz=339									
TWS1					e	S	Sn	08 46 10.9	+0.9
baz=339									
HSN	Hsinchu	0.91	307		eP		Pn	08 45 58.0	+0.7
baz=310									
TWQ1	Liyutan	0.91	276		eP		Pn	08 45 58.6	+1.3
baz=277									
TWQ1					e	S	Sn	08 46 11.6	+1.3
baz=277									
NSY	Sanyi	0.93	280		P		Pn	08 45 58.7	+1.1
baz=281									
NSY						S	Sn	08 46 11.3	+0.5
baz=281									
TWF1	Yuli	0.99	206		eP		Pb	08 45 56.4	-1.5
baz=218									
TWF1					e	S	Sn	08 46 12.3	0.0
baz=218									
TCU	Taichung	1.00	264		eP		Pn	08 45 59.9	+1.3
baz=266									
TCU					e	S	Sn	08 46 13.6	+1.1
baz=266									
TWY	Chenhua	1.03	352		eP		Pn	08 45 59.5	+0.6
baz=335									
WNT	Mingjian	1.06	250		eP		Pn	08 45 60.0	+0.7
baz=247									
WNT					e	S	Sn	08 46 15.6	+1.8
baz=247									
YUS	Yu-Shan	1.06	225	⇑	P		Pb	08 45 59.5	-0.3
baz=227									
YUS						S	Sg	08 46 14.3	-0.1
baz=227									
ALS	Alishan	1.15	230	⇓	eP		Pb	08 46 00.9	0.0
baz=219									
ALS					e	S	Sn	08 46 17.8	+1.0
baz=219									
YOJ	Yonaguni jima	1.15	79		eP		Pb	08 46 00.6	0.0
baz=66									
YOJ					e	S	Sn	08 46 18.5	+2.3
baz=66									
CHN5	Tsauling	1.19	237		eP		Pg	08 46 02.0	+0.1
baz=240									
CHN5						S	Sg	08 46 19.3	+1.7
baz=240									
CHKT	Chengkung	1.20	198		eP		Pn	08 46 01.1	-0.2
baz=186									
ELDTW	Lidau	1.26	213		eP		Pn	08 46 01.6	-0.6
baz=215									
CHN4	Tsaushan	1.40	230		eP		Pb	08 46 05.1	+0.3
baz=234									
CHN4					e	S	Sg	08 46 26.3	+2.3
baz=234									
PCYT	Pengchaiyu	1.40	11		eP		Pb	08 46 04.6	-0.2
baz=9.0									
STYT	Tauyuan	1.43	221		eP		Pn	08 46 04.5	+0.1
baz=223									
CHY	Chiayi	1.44	239		eP		Pb	08 46 05.2	-0.2
baz=242									
CHY					e	S	Sg	08 46 27.0	+1.7
baz=242									
WTP	Ta-pu	1.46	227	⇓	P		Pg	08 46 06.4	-0.5
baz=231									

WTP				*e*S	Sg	08 46 28.0	+2.1		
	baz=231								
TWK	**Hsinying**	**1.53**	**230**	*e*P	Pb	08 46 07.2	+0.2		
	baz=235								
TWK				*e*S	Sg	08 46 29.3	+1.1		
	baz=235								
WSF	**Szhu**	**1.54**	**247**	*e*P	Pb	08 46 06.6	-0.5		
	baz=259								
WSF				*e*S	Sg	08 46 29.3	+0.8		
	baz=259								
CHN1	**Nanshi**	**1.55**	**227**	*e*P	Pb	08 46 07.9	+0.4		
	baz=232								
CHN1				*e*S	Sg	08 46 30.4	+1.4		
	baz=232								
TWG	**Pinlang**	**1.56**	**204**	*e*P	Pb	08 46 08.0	+0.4		
	baz=192								
SGST	**Jiashian**	**1.59**	**223**	*e*P	Pb	08 46 08.5	+0.4		
	baz=228								
SGST				*e*S	Sg	08 46 30.6	+0.4		
	baz=228								
SCLT	**Jiali**	**1.80**	**234**	*e*P	Pn	08 46 09.7	+0.2		
	baz=239								
SCLT				*e*S	Sg	08 46 37.0	+0.4		
	baz=239								
TWM1	**Shoushan**	**1.88**	**221**	*e*P	Pb	08 46 13.8	+0.8		
	baz=224								
PNG	**Penghu**	**2.14**	**252**	*e*P	Pn	08 46 14.0	-0.1		
	baz=256								
PNG				*e*S	Sn	08 46 41.5	+1.0		
	baz=256								
SCZT	**Fangliau**	**2.15**	**210**	*e*P	Pb	08 46 16.4	-1.1		
	baz=198								
TWK1	**Hengchun**	**2.46**	**201**	*e*P	Pn	08 46 20.6	+2.0		
	baz=192								

CSEM ***28*** *08:55:20.2, 42.47N × 13.29E, h10km, MD1.7/8, After ROM*
ROM 28 08:55:20.2 ± 0.1, 42.47N × 13.29E, h10km, Md1.7/8, Ml1.8/5, Error ellipse: s-maj=1.5km s-min=0.9km az=120.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.11**	**54**	Pg	Pg	08 55 23.7	+0.6
CAMP				Sg	Sg	08 55 25.9	+0.7
	184nm,0.5s						
CAMP	**Campotosto**	**0.11**	**54**	Pg	Pg	08 55 23.7	+0.6
CAMP				Sg	Sg	08 55 25.9	+0.7
	184nm,0.5s						
AQU	**L'Aquila**	**0.14**	**144**	Pg	Pg	08 55 24.1	+0.5
AQU				Sg	Sg	08 55 26.7	+0.8
	278nm,0.3s						
AQU	**L'Aquila**	**0.14**	**144**	Pg	Pg	08 55 24.1	+0.5
AQU				Sg	Sg	08 55 26.7	+0.8
	278nm,0.3s						
FIAM	**Fiamignano**	**0.24**	**212**	Pg	Pg	08 55 25.9	+0.6
FIAM				Sg	Sg	08 55 30.2	+1.5
	90nm,0.5s						
FIAM	**Fiamignano**	**0.24**	**212**	Pg	Pg	08 55 25.9	+0.6
FIAM				Sg	Sg	08 55 30.2	+1.5
	90nm,0.5s						
TERO	**Teramo**	**0.28**	**57**	Pg	Pg	08 55 26.3	+0.4
TERO				Sg	Sg	08 55 30.9	+1.1
	73nm,0.3s						
TERO	**Teramo**	**0.28**	**57**	Pg	Pg	08 55 26.3	+0.4
TERO				Sg	Sg	08 55 30.9	+1.1
	73nm,0.3s						

CSEM ***28*** *09:17:15.7, 39.10N × 27.57E, h7km, MD2.7, After DDA*
DDA 28 09:17:15.7, 39.10N × 27.57E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.29**	**139**	*i* P	Pg	09 17 21.5	+0.3
AKHS				*i* S	Sb	09 17 27.3	-1.9
AKHS	**Akhisar**	**0.29**	**139**	*i* P	Pg	09 17 21.5	+0.3
AKHS				*i* S	Sb	09 17 27.3	-1.8
BALY	**Balya**	**0.65**	**3**	*i* P	Pg	09 17 28.1	-0.1
BALY				*i* S	Sg	09 17 37.8	+1.2
BALY	**Balya**	**0.65**	**3**	*i* P	Pg	09 17 28.1	-0.1
BALY				*i* S	Sg	09 17 37.8	+1.2
DURS	**Dursunbey**	**0.86**	**54**	*i* P	Pg	09 17 32.3	-0.1
DURS				*i* S	Sb	09 17 45.9	0.0
DURS	**Dursunbey**	**0.86**	**54**	*i* P	Pg	09 17 32.3	-0.1
DURS				*i* S	Sb	09 17 45.9	0.0
DEMI	**Demirci**	**0.89**	**93**	*i* P	Pg	09 17 32.8	-0.1
DEMI				*i* S	Sb	09 17 46.0	-0.8
DEMI	**Demirci**	**0.89**	**93**	*i* P	Pg	09 17 32.8	-0.1
DEMI				*i* S	Sb	09 17 46.0	-0.7

IDC ***28*** *09:17:30.6 ± 1.3, 36.66N × 18.84E, h0km, mb4.1/3, mb1 4.2/6, mb1mx3.7/29, mbtmp4.1/6, ML4.2/3, MS4.5/2, Ms1 4.5/2, ms1mx3.3/46, Error ellipse: s-maj=29.8km s-min=22.8km az=149.0*
PDG ***28*** *09:17:36.6 ± 0.4, 36.92N × 18.64E, h26km ± 5km, ML4.4/9, Error ellipse: s-maj=6.4km s-min=2.6km az=90.0*
BEO ***28*** *09:17:36.2 ± 0.9, 36.93N × 18.85E, h0km, ML4.1/7*
ROM ***28*** *09:17:36.4 ± 0.2, 36.68N × 18.77E, h53km ± 4km, Ml3.9/39, Error ellipse: s-maj=3.5km s-min=3.2km az=34.0*
CSEM ***28*** *09:17:37.7 ± 0.2, 36.78N × 18.75E, h40km, ML4.4/7, Error ellipse: s-maj=4.6km s-min=2.4km az=178.0*
THE ***28*** *09:17:39.8, 36.71N × 19.02E, h32km ± 32km, ML3.3/2, Error ellipse: s-maj=32.4km s-min=1.0km az=0.0*
ISC 28 09:17:32.3 ± 2.7, 36.76N ± 0.04 × 18.71E ± 0.02, h9km ± 19km, n248, σ1§85/251, mb4.3/3, 10C-9D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**2.06**	**46**	P	Pb	**09 18 09.5**	**-0.4**
VLS				S	Sn	**09 18 33.6**	**+0.6**
VLS	**Valsamata**	**2.06**	**46**	*e*P	Pb	**09 18 09.1**	**-0.8**
VLS	**Valsamata**	**2.06**	**46**	P	Pb	**09 18 09.5**	**-0.4**
VLS				S	Sn	**09 18 33.6**	**+0.6**
KFL	**Anninata**	**2.13**	**50**	P	Pb	**09 18 10.8**	**-0.4**
KFL	**Anninata**	**2.13**	**50**	P	Pb	**09 18 10.8**	**-0.4**
PYL	**PYLOS**	**2.44**	**86**	P	Pn	**09 18 13.5**	**+1.1**
PYL				S	Sn	**09 18 40.4**	**-1.9**
PYL	**PYLOS**	**2.44**	**86**	*e*P	Pn	**09 18 13.4**	**+1.1**
PYL	**PYLOS**	**2.44**	**86**	P	Pn	**09 18 13.5**	**+1.1**
MPAZ	**Palizzi**	**2.46**	**300**	Pg	Pb	**09 18 16.3**	**-0.4**
	298nm,0.4s						
MPAZ	**Palizzi**	**2.46**	**300**	Pg	Pb	**09 18 16.3**	**-0.4**
	298nm,0.4s						
PLAC	**Placanica**	**2.47**	**314**	Pg	Pb	**09 18 16.3**	**-0.6**
	157nm,0.4s						
PLAC	**Placanica**	**2.47**	**314**	Pg	Pb	**09 18 16.3**	**-0.6**
	157nm,0.4s						
SOI	**Samo**	**2.48**	**303**	Pg	Pb	**09 18 16.8**	**-0.3**
SOI				Sg	Sn	**09 18 44.9**	**+1.5**
	91nm,0.5s						
SOI	**Samo**	**2.48**	**303**	Pg	Pb	**09 18 16.8**	**-0.3**
SOI				Sg	Sn	**09 18 44.9**	**+1.5**
	91nm,0.5s						
LKD2	**Lefkada island**	**2.55**	**37**	P	Pb	**09 18 16.9**	**-1.3**
LKD2				S	Sn	**09 18 46.4**	**+1.4**
LKD2	**Lefkada island**	**2.55**	**37**	*e*P	Pb	**09 18 16.9**	**-1.3**
LKD2	**Lefkada island**	**2.55**	**37**	P	Pb	**09 18 16.9**	**-1.3**
LKD2				S	Sn	**09 18 46.4**	**+1.4**
RLS	**Riolos of Patr**	**2.55**	**59**	P	Pb	**09 18 16.6**	**-1.7**
RLS				S	Sn	**09 18 46.0**	**+1.0**
RLS	**Riolos of Patr**	**2.55**	**59**	*e*P	Pb	**09 18 16.6**	**-1.7**
RLS	**Riolos of Patr**	**2.55**	**59**	P	Pb	**09 18 16.6**	**-1.7**
RLS				S	Sn	**09 18 46.0**	**+1.0**
ITM	**Ithomi**	**2.61**	**80**	P	Pn	**09 18 16.5**	**+1.7**
ITM				S	Sn	**09 18 45.0**	**-1.6**
ITM	**Ithomi**	**2.61**	**80**	*e*P	Pn	**09 18 15.2**	**+0.4**
ITM	**Ithomi**	**2.61**	**80**	P	Pn	**09 18 16.5**	**+1.7**
ITM				S	Sn	**09 18 45.0**	**-1.6**
CEL	**Celeste**	**2.69**	**305**	Pg	Pb	**09 18 19.6**	**-1.1**
CEL				Sg	Sn	**09 18 50.4**	**+1.8**
	167nm,0.5s						
CEL	**Celeste**	**2.69**	**305**	Pg	Pb	**09 18 19.6**	**-1.1**
CEL				Sg	Sn	**09 18 50.4**	**+1.8**
	167nm,0.5s						
MTTG	**Motta San Giov**	**2.70**	**298**	Pg	Pb	**09 18 19.6**	**-1.3**
MTTG				Sg	Sn	**09 18 49.7**	**+0.9**
	309nm,0.5s						
MTTG	**Motta San Giov**	**2.70**	**298**	Pg	Pb	**09 18 19.6**	**-1.3**
MTTG				Sg	Sn	**09 18 49.7**	**+0.9**
	309nm,0.5s						

GRI	**Girifalco**	**2.74**	**319**	Pg	Pb	**09 18 20.3 -1.2**
	78nm,0.3s					
GRI	**Girifalco**	**2.74**	**319**	Pg	Pb	09 18 20.3 -1.2
	78nm,0.3s					
MSCL	**Scilla**	**2.74**	**303**	Pg	Pb	**09 18 20.4 -1.2**
MSCL				Sg	Sn	**09 18 51.6 +1.6**
	286nm,0.5s					
MSCL	**Scilla**	**2.74**	**303**	Pg	Pb	**09 18 20.4 -1.2**
MSCL				Sg	Sn	**09 18 51.6 +1.6**
	286nm,0.5s					
SERS	**Sersale**	**2.77**	**325**	Pg	Pb	**09 18 20.0 -2.2**
	50nm,0.3s					
SERS	**Sersale**	**2.77**	**325**	Pg	Pb	**09 18 20.0 -2.2**
	50nm,0.3s					
TIP	**Timpagrande**	**2.86**	**328**	P	Pn	**09 18 21.1 +2.8**
TIP				S	Sn	**09 18 55.0 +2.1**
TIP	**Timpagrande**	**2.86**	**328**	Pg	Pb	**09 18 21.2 -2.4**
	59nm,0.8s					
TIP	**Timpagrande**	**2.86**	**328**	Pg	Pb	**09 18 21.2 -2.4**
	59nm,0.8s					
TIP				S	Sn	**09 18 55.0 +2.1**
HAVL	**Avola**	**2.88**	**275**	Pg	Pn	**09 18 20.7 +2.2**
HAVL				Sg	Sn	**09 18 52.5 -0.7**
	735nm,0.3s					
HAVL	**Avola**	**2.88**	**275**	Pg	Pn	**09 18 20.7 +2.2**
HAVL				Sg	Sn	**09 18 52.5 -0.7**
	735nm,0.3s					
JOPP	**Joppolo**	**2.90**	**310**	Pg	Pb	**09 18 22.3 -1.9**
	107nm,0.2s					
JOPP	**Joppolo**	**2.90**	**310**	Pg	Pb	**09 18 22.3 -1.9**
	107nm,0.2s					
DYR	**Agios Nikonas**	**2.91**	**89**	P	Pn	**09 18 19.8 +0.9**
DYR				S	Sn	**09 18 51.9 -2.2**
DYR	**Agios Nikonas**	**2.91**	**89**	*e*P	Pn	**09 18 19.7 +0.9**
DYR	**Agios Nikonas**	**2.91**	**89**	P	Pn	**09 18 19.8 +0.9**
SSY	**Sortino**	**2.94**	**279**	Pg	Pn	**09 18 21.0 +1.7**
	569nm,0.2s					
SSY	**Sortino**	**2.94**	**279**	Pg	Pn	**09 18 21.0 +1.7**
	569nm,0.2s					
MSRU	**Castanea**	**2.95**	**301**	Pg	Pb	**09 18 23.2 -1.9**
MSRU				Sg	Sn	**09 18 56.3 +1.3**
	347nm,0.4s					
MSRU	**Castanea**	**2.95**	**301**	Pg	Pb	**09 18 23.2 -1.9**
MSRU				Sg	Sn	**09 18 56.3 +1.3**
	347nm,0.4s					
HCRL	**Carlentini**	**2.99**	**281**	Pg	Pn	**09 18 21.7 +1.8**
	406nm,0.4s					
HCRL	**Carlentini**	**2.99**	**281**	Pg	Pn	**09 18 21.7 +1.8**
	406nm,0.4s					
MMME	**Mongiuffi-Meli**	**2.99**	**294**	Pg	Pn	09 18 23.2 +3.2
MMME				Sg	Sn	**09 18 55.3 -0.8**
	237nm,0.4s					
MMME	**Mongiuffi-Meli**	**2.99**	**294**	Pg	Pn	09 18 23.2 +3.2
MMME				Sg	Sn	**09 18 55.3 -0.8**
	237nm,0.4s					
LAKA	**Lakka**	**2.99**	**59**	P	Pb	**09 18 23.4 -2.4**
LAKA	**Lakka**	**2.99**	**59**	*e*P	Pb	**09 18 23.4 -2.4**
LAKA	**Lakka**	**2.99**	**59**	P	Pb	**09 18 23.4 -2.4**
VLX	**Vlachokerasia**	**3.00**	**77**	P	Pn	**09 18 22.1 +1.9**
VLX	**Vlachokerasia**	**3.00**	**77**	P	Pn	**09 18 22.1 +1.9**
KLV	**Kalavryta, Ach**	**3.02**	**64**	P	Pn	**09 18 23.1 +2.6**
KLV				S	Sn	**09 18 58.6 +1.7**
KLV	**Kalavryta, Ach**	**3.02**	**64**	P	Pn	**09 18 23.1 +2.6**
KLV				S	Sn	**09 18 58.6 +1.7**
EFP	**Efpalio**	**3.04**	**56**	P	Pn	09 18 23.9 +3.3
EFP				S	Sn	**09 18 57.2 +0.2**
EFP	**Efpalio**	**3.04**	**56**	*e*P	Pb	**09 18 24.2 -2.4**
EFP	**Efpalio**	**3.04**	**56**	P	Pn	09 18 23.9 +3.3
EFP				S	Sn	**09 18 57.2 +0.2**
IGT	**Igoumenitsa**	**3.05**	**24**	P	Pn	**09 18 23.4 +2.6**
IGT				S	Sn	**09 18 58.0 +0.6**
IGT	**Igoumenitsa**	**3.05**	**24**	P	Pn	**09 18 23.4 +2.6**
IGT				S	Sn	**09 18 58.0 +0.6**
KEK	**Kerkira**	**3.07**	**16**	P	Pn	**09 18 23.6 +2.5**
KEK				S	Sn	**09 18 58.5 +0.6**
KEK	**Kerkira**	**3.07**	**16**	Pg	Pn	**09 18 23.6 +2.5**
	136nm,0.5s					
KEK	**Kerkira**	**3.07**	**16**	*e*P	Pn	**09 18 23.5 +2.5**
KEK	**Kerkira**	**3.07**	**16**	P	Pn	**09 18 23.6 +2.5**
KEK				S	Sn	**09 18 58.5 +0.6**
TRIZ	**Trizonia**	**3.12**	**58**	P	Pn	09 18 25.2 +3.5
TRIZ	**Trizonia**	**3.12**	**58**	*e*P	Pb	**09 18 26.4 -1.5**
TRIZ	**Trizonia**	**3.12**	**58**	P	Pn	09 18 25.2 +3.5
GUR	**Goura**	**3.12**	**67**	*e*P	Pn	**09 18 24.9 +3.0**
HMDC	**Modica**	**3.15**	**275**	Pg	Pn	**09 18 24.3 +2.1**
	818nm,0.5s					
HMDC	**Modica**	**3.15**	**275**	Pg	Pn	**09 18 24.3 +2.1**
	818nm,0.5s					
CARO	**Carolei**	**3.17**	**322**	Pg	Pb	**09 18 26.4 -2.5**
	180nm,0.5s					
CARO	**Carolei**	**3.17**	**322**	Pg	Pb	**09 18 26.4 -2.5**
	180nm,0.5s					
KALE	**Kalithea**	**3.17**	**58**	*e*P	Pb	**09 18 27.3 -1.7**
HVZN	**Vizzini**	**3.22**	**279**	Pg	Pn	**09 18 25.3 +2.1**
HVZN				Sg	Sn	**09 19 00.5 -1.3**
	995nm,0.5s					
HVZN	**Vizzini**	**3.22**	**279**	Pg	Pn	**09 18 25.3 +2.1**
HVZN				Sg	Sn	**09 19 00.5 -1.3**
	995nm,0.5s					
SRN	**Sarande**	**3.27**	**18**	*e*PN	Pn	**09 18 26.2 +2.4**
SRN	**Sarande**	**3.27**	**18**	P	Pn	**09 18 26.3 +2.4**
SRN				S	Sn	**09 19 03.2 +0.3**
SRN	**Sarande**	**3.27**	**18**	*e*Pn	Pn	**09 18 26.4 +2.4**
SRN				S	Sn	**09 19 03.2 +0.3**
ECNV	**Catenanuova**	**3.30**	**286**	Pg	Pn	09 18 27.4 +3.2
	302nm,0.8s					
ECNV	**Catenanuova**	**3.30**	**286**	Pg	Pn	09 18 27.4 +3.2
	302nm,0.8s					
SCTE	**Santa Cesarea**	**3.31**	**357**	Pg	Pn	**09 18 26.9 +2.6**
SCTE				Sg	Sn	**09 19 04.8 +1.0**
	230nm,0.4s					
SCTE	**Santa Cesarea**	**3.31**	**357**	Pg	Pn	**09 18 26.9 +2.6**
SCTE				Sg	Sn	**09 19 04.8 +1.0**
	230nm,0.4s					
JAN	**Janina**	**3.35**	**30**	P	Pb	09 18 29.4 -2.5
JAN				S	Sn	**09 19 05.8 +1.0**
JAN	**Janina**	**3.35**	**30**	P	Pb	09 18 29.4 -2.5
JAN				S	Sn	**09 19 05.8 +1.0**
VPL	**Vulcano Piano**	**3.37**	**300**	Pg	Pn	09 18 28.4 +3.2
VPL	**Vulcano Piano**	**3.37**	**300**	Pg	Pn	09 18 28.4 +3.2
VLI	**Veliai**	**3.40**	**89**	P	Pn	**09 18 27.5 +1.9**
VLI				S	Sn	**09 19 04.8 -1.2**
VLI	**Veliai**	**3.40**	**89**	*e*P	Pn	**09 18 27.2 +1.6**
VLI	**Veliai**	**3.40**	**89**	P	Pn	**09 18 27.5 +1.9**
VLI				S	Sn	**09 19 04.8 -1.2**
MNO	**Monte Soro**	**3.40**	**291**	Pg	Pn	09 18 30.1 +4.3
MNO				Sg	Sn	**09 19 08.1 +1.7**
	52nm,0.2s					
MNO	**Monte Soro**	**3.40**	**291**	Pg	Pn	09 18 30.1 +4.3
MNO				Sg	Sn	**09 19 08.1 +1.7**
	52nm,0.2s					
STR4	**STROMBOLI 4**	**3.42**	**307**	Pg	Pn	09 18 28.7 +2.8
LLI	**Lipari**	**3.42**	**300**	Pg	Pn	09 18 29.2 +3.3
	942nm,0.9s					
LLI	**Lipari**	**3.42**	**300**	Pg	Pn	09 18 29.2 +3.3
	942nm,0.9s					
GALF	**Gagliano Caste**	**3.44**	**287**	Pg	Pn	09 18 29.8 +3.6
	278nm,0.8s					
GALF	**Gagliano Caste**	**3.44**	**287**	Pg	Pn	09 18 29.8 +3.6
	278nm,0.8s					
TDS	**Terranova Siba**	**3.44**	**328**	Pg	Pn	09 18 29.7 +3.5
	18nm,0.3s					
TDS	**Terranova Siba**	**3.44**	**328**	Pg	Pn	09 18 29.7 +3.5
	18nm,0.3s					
DSF	**Desfina**	**3.45**	**60**	P	Pb	**09 18 31.6 -2.1**
DSF				S	Sn	**09 19 08.4 +1.0**
WDD	**Wield Dalam**	**3.50**	**256**	Pg	Pn	**09 18 29.6 +2.7**
WDD				Sg	Sn	**09 19 07.1 -1.3**
WDD	**Wield Dalam**	**3.50**	**256**	Pg	Pn	**09 18 29.6 +2.7**
WDD				Sg	Sn	**09 19 07.1 -1.3**
RAFF	**Raffo Rosso**	**3.51**	**279**	Pg	Pn	**09 18 29.8 +2.7**
	201nm,0.5s					
RAFF	**Raffo Rosso**	**3.51**	**279**	Pg	Pn	**09 18 29.8 +2.7**
	201nm,0.5s					
KYTH	**Kithira**	**3.52**	**97**	P	Pn	**09 18 28.6 +1.3**
KYTH	**Kithira**	**3.52**	**97**	*e*P	Pn	**09 18 28.5 +1.3**
KYTH	**Kithira**	**3.52**	**97**	P	Pn	**09 18 28.6 +1.3**
MAKR	**Makrakomi, Fth**	**3.52**	**49**	P	Pb	09 18 32.6 -2.2
AGG	**Agios Georgios**	**3.65**	**51**	P	Pb	09 18 33.7 -3.3
AGG				S	Sn	**09 19 12.8 +0.6**
AGG	**Agios Georgios**	**3.65**	**51**	*e*P	Pb	09 18 33.7 -3.3
DIDY	**Didyma**	**3.67**	**77**	P	Pn	**09 18 31.4 +2.0**
DIDY				S	Sn	**09 19 12.1 -0.8**
DIDY	**Didyma**	**3.67**	**77**	P	Pn	**09 18 31.4 +2.0**

DIDY				S	Sn	**09 19 12.1 -0.8**
DID	**Didima**	**3.69**	**77**	P	Pn	**09 18 31.6 +1.9**
DID				S	Sn	**09 19 12.1 -1.3**
DID	**Didima**	**3.69**	**77**	*e*P	Pn	09 18 27.6 -2.1
DID	**Didima**	**3.69**	**77**	P	Pn	**09 18 31.6 +1.9**
ORI	**Oriolo Calabro**	**3.74**	**332**	Pg	Pn	09 18 33.5 +3.2
	212nm,0.4s					
ORI	**Oriolo Calabro**	**3.74**	**332**	Pg	Pn	09 18 33.5 +3.2
	212nm,0.4s					
MMN	**Mormanno**	**3.78**	**326**	Pg	Pn	09 18 34.9 +4.1
	43nm,0.3s					
MMN	**Mormanno**	**3.78**	**326**	Pg	Pn	09 18 34.9 +4.1
	43nm,0.3s					
RESU	**Resuttano**	**3.82**	**285**	Pg	Pn	09 18 36.0 +4.6
	175nm,0.8s					
RESU	**Resuttano**	**3.82**	**285**	Pg	Pn	09 18 36.0 +4.6
	175nm,0.8s					
THL	**Klokotos Trika**	**3.82**	**42**	P	Pn	09 18 35.6 +4.2
THL				S	Sn	**09 19 17.7 +1.2**
THL	**Klokotos Trika**	**3.82**	**42**	P	Pn	09 18 35.6 +4.2
THL				S	Sn	**09 19 17.7 +1.2**
PLLN	**Pollina**	**3.84**	**290**	Pg	Pn	09 18 35.6 +4.0
	163nm,0.6s					
PLLN	**Pollina**	**3.84**	**290**	Pg	Pn	09 18 35.6 +4.0
	163nm,0.6s					
IACL	**Alicudi**	**3.88**	**298**	Pg	Pn	09 18 35.1 +2.9
	143nm,0.3s					
IACL	**Alicudi**	**3.88**	**298**	Pg	Pn	09 18 35.1 +2.9
	143nm,0.3s					
MESG	**Mesagne**	**3.88**	**350**	Pg	Pn	**09 18 34.8 +2.6**
	383nm,0.2s					
MESG	**Mesagne**	**3.88**	**350**	Pg	Pn	**09 18 34.8 +2.6**
	383nm,0.2s					
LKR	**Lokris**	**3.89**	**60**	*e*P	Pn	09 18 36.4 +4.1
GIB	**Gibilmanna**	**3.92**	**290**	Pg	Pn	09 18 36.7 +3.8
	133nm,0.5s					
GIB	**Gibilmanna**	**3.92**	**290**	Pg	Pn	09 18 36.7 +3.8
	133nm,0.5s					
SCHR	**S. Chirico Rap**	**4.00**	**330**	Pg	Pn	09 18 38.5 +4.5
	22nm,0.3s					
SCHR	**S. Chirico Rap**	**4.00**	**330**	Pg	Pn	09 18 38.5 +4.5
	22nm,0.3s					
SIRI	**Monte Sirino -**	**4.08**	**328**	Pg	Pn	09 18 38.5 +3.5
SIRI	**Monte Sirino -**	**4.08**	**328**	Pg	Pn	09 18 38.5 +3.5
NEST	**Nestorio**	**4.08**	**26**	P	Pn	09 18 39.5 +4.4
NEST				S	Sn	**09 19 26.6 +3.6**
NEST	**Nestorio**	**4.08**	**26**	P	Pn	09 18 39.5 +4.4
MATE	**Matera**	**4.18**	**339**	Pg	Pn	**09 18 38.9 +2.6**
	130nm,0.2s					
MATE	**Matera**	**4.18**	**339**	Pg	Pn	**09 18 38.9 +2.6**
	130nm,0.2s					
BULG	**Bulgheria - Ca**	**4.22**	**323**	Pg	Pn	09 18 39.9 +3.0
	85nm,0.3s					
BULG	**Bulgheria - Ca**	**4.22**	**323**	Pg	Pn	09 18 39.9 +3.0
	85nm,0.3s					
NOCI	**Noci**	**4.22**	**343**	Pg	Pn	**09 18 39.0 +2.1**
	197nm,0.1s					
NOCI	**Noci**	**4.22**	**343**	Pg	Pn	**09 18 39.0 +2.1**
	197nm,0.1s					
MIGL	**Miglionico**	**4.23**	**336**	Pg	Pn	09 18 40.0 +3.0
	132nm,0.3s					
MIGL	**Miglionico**	**4.23**	**336**	Pg	Pn	09 18 40.0 +3.0
	132nm,0.3s					
KZN	**Kozani**	**4.28**	**33**	P	Pn	09 18 41.8 +4.1
KZN	**Kozani**	**4.28**	**33**	P	Pn	09 18 41.8 +4.1
NEO	**Neokhori**	**4.38**	**53**	P	Pn	09 18 42.9 +3.8
NEO				S	Sn	**09 19 28.3 -1.9**
NEO	**Neokhori**	**4.38**	**53**	P	Pn	09 18 42.9 +3.8
NEO				S	Sn	**09 19 28.3 -1.9**
CMPR	**Campora**	**4.44**	**324**	Pg	Pn	09 18 42.9 +3.0
	48nm,0.5s					
CMPR	**Campora**	**4.44**	**324**	Pg	Pn	09 18 42.9 +3.0
	48nm,0.5s					
AMUR	**Altamura**	**4.45**	**339**	Pg	Pn	**09 18 42.1 +2.0**
	120nm,0.2s					
AMUR	**Altamura**	**4.45**	**339**	Pg	Pn	**09 18 42.1 +2.0**
	120nm,0.2s					
FNA	**Florina**	**4.52**	**27**	P	Pn	09 18 44.5 +3.4
FNA				S	Sn	**09 19 35.4 +1.5**
FNA	**Florina**	**4.52**	**27**	*e*P	Pn	09 18 44.4 +3.3
FNA	**Florina**	**4.52**	**27**	P	Pn	09 18 44.5 +3.4
FNA				S	Sn	**09 19 35.4 +1.5**
CDRU	**Civita di Ruta**	**4.58**	**325**	Pg	Pn	09 18 44.6 +2.8
	27nm,0.2s					
CDRU	**Civita di Ruta**	**4.58**	**325**	Pg	Pn	09 18 44.6 +2.8
	27nm,0.2s					
TIR	**Tirane**	**4.67**	**11**	*e*PN	Pn	09 18 46.4 +3.5
MRVN	**Minervino Murg**	**4.72**	**336**	Pg	Pn	**09 18 45.9 +2.2**
	96nm,0.4s					
MRVN	**Minervino Murg**	**4.72**	**336**	Pg	Pn	**09 18 45.9 +2.2**
	96nm,0.4s					
AOS	**Alonnisos**	**4.74**	**58**	P	Pn	09 18 47.5 +3.5
AOS	**Alonnisos**	**4.74**	**58**	*e*P	Pn	09 18 47.6 +3.5
AOS	**Alonnisos**	**4.74**	**58**	P	Pn	09 18 47.5 +3.5
GRG	**Griva**	**5.08**	**33**	*e*P	Pn	**09 18 50.8 +2.0**
PHP	**Peshkopia**	**5.10**	**15**	*e*PN	Pn	**09 18 51.7 +2.8**
PHP	**Peshkopia**	**5.10**	**15**	P	Pn	09 18 52.0 +3.0
PHP	**Peshkopia**	**5.10**	**15**	*e*Pn	Pn	**09 18 51.7 +2.8**
PHP	**Peshkopia**	**5.10**	**15**	P	Pn	09 18 52.0 +3.0
PLG	**Polygyros**	**5.17**	**44**	P	Pn	**09 18 52.9 +2.9**
PLG				S	Sn	**09 19 47.4 -2.5**
PLG	**Polygyros**	**5.17**	**44**	*e*P	Pn	**09 18 52.3 +2.3**
PLG	**Polygyros**	**5.17**	**44**	P	Pn	**09 18 52.9 +2.9**
PLG				S	Sn	**09 19 47.4 -2.5**
ULC	**Ulcinj**	**5.21**	**4**	⇑*i*Pn	Pn	**09 18 52.2 +1.7**

ZAPS	**Zavoj**	**7.17**	**24**	*e*Pn	**Pn**	**09 19 19.8**	**+2.4**			
ZAPS				*e*Sn	**Sn**	**09 20 36.5**	**-2.4**			
GRUS	**Gruza**	**7.28**	**12**	*e*Pn	**Pn**	**09 19 20.2**	**+1.3**			
GRUS				*e*Sn	**Sn**	**09 20 38.7**	**-3.0**			
GRUS	**Gruza**	**7.28**	**12**	*e*Pn	**Pn**	**09 19 20.2**	**+1.3**			
GRUS				*e*Sn	**Sn**	**09 20 38.7**	**-3.0**			
DIVS	**Divibare**	**7.39**	**7**	*e*Pn	**Pn**	**09 19 22.2**	**+1.7**			
DIVS				*e*Sn	**Sn**	**09 20 41.2**	**-3.3**			
DIVS	**Divibare**	**7.39**	**7**	*e*Pn	**Pn**	**09 19 22.2**	**+1.7**			
KEST	**Kesra**	**7.63**	**265**	Pn	**Pn**	**09 19 26.6**	**+2.8**			
	baz=54,slow=17,SNR=1.6									
KEST				Sn	**Sn**	**09 20 49.1**	**-1.4**			
	0.1nm,0.3s,baz=60,slow=20,SNR=5.3									
TURN	**Turunc**	**7.94**	**86**	*i* P	**Pn**	**09 19 28.3**	**+0.4**			
TURN				*i* S	Sn	09 20 49.2	-8.6			
TURN	**Turunc**	**7.94**	**86**	*i* P	**Pn**	**09 19 28.3**	**+0.4**			
UDBI	**Udbina**	**8.07**	**345**	*e*Pn	Pn	09 19 33.2	+3.4			
UDBI				Sn	**Sn**	**09 20 59.1**	**-2.1**			
UDBI	**Udbina**	**8.07**	**345**	*e*Pn	Pn	09 19 33.2	+3.4			
UDBI				Sn	**Sn**	**09 20 59.1**	**-2.1**			
NVLJ	**Novalja**	**8.32**	**341**	*e*Pn	**Pn**	**09 19 35.0**	**+1.9**			
NVLJ				Sn	**Sn**	**09 21 02.9**	**-4.3**			
NVLJ	**Novalja**	**8.32**	**341**	*e*Pn	**Pn**	**09 19 35.0**	**+1.9**			
GOLH	**Golhisar**	**8.70**	**84**	*i* P	Pn	09 19 42.9	+4.5			
AKAS	**Kas**	**8.79**	**90**	*i* P	**Pn**	**09 19 40.8**	**+1.0**			
AKAS				*i* S	Sn	09 21 11.2	-7.9			
AKAS	**Kas**	**8.79**	**90**	*i* P	**Pn**	**09 19 40.8**	**+1.0**			
BZS	**Buzias**	**9.11**	**13**	*e*Pn	**Pn**	**09 19 44.2**	**+0.2**			
BZS				*e*Sn	Sn	09 21 20.7	-6.0			
BZS	**Buzias**	**9.11**	**13**	*e*Pn	**Pn**	**09 19 44.2**	**+0.2**			
ARSA	**Arzberg**	**10.74**	**348**⇑	*i*Pn	**Pn**	**09 20 08.0**	**+1.6**			
	2.9nm,0.3s									
ARSA	**Arzberg**	**10.74**	**348**	Pn	**Pn**	**09 20 08.0**	**+1.6**			
	2.9nm,0.3s									
ABTA	**Abfaltersbach**	**10.99**	**337**⇓	*i*Pn	**Pn**	**09 20 11.6**	**+1.8**			
	3.6nm,0.6s									
ABTA	**Abfaltersbach**	**10.99**	**337**	Pn	**Pn**	**09 20 11.6**	**+1.8**			
	3.6nm,0.6s									
MOA	**Molln**	**11.55**	**345**⇓	*i*Pn	**Pn**	**09 20 18.6**	**+1.2**			
	3.4nm,0.3s									
MOA	**Molln**	**11.55**	**345**	Pn	**Pn**	**09 20 18.6**	**+1.2**			
	3.4nm,0.3s									
GERES	**GERESS Array B**	**12.62**	**345**	Pn	**Pn**	**09 20 33.6**	**+1.6**			
	0.3nm,0.3s,baz=162,slow=16,SNR=3.6									
GERES				Sn	Sn	09 22 46.3	-6.4			
	0.5nm,0.3s,baz=158,slow=24,SNR=5.8									
MMAI	**Mount Meron Ar**	**14.20**	**100**	Pn	Pn	09 20 50.5	-3.3			
	3.5nm,0.3s,baz=268,slow=13,SNR=5.8									
HMDT	**Nahal Hemdat**	**14.58**	**103**	Pn	Pn	09 20 55.2	-3.6			
DSI	**Dead Sea**	**14.74**	**106**	Pn	Pn	09 20 57.6	-3.4			
MZDA	**Masada**	**14.84**	**107**	Pn	Pn	09 20 58.7	-3.6			
KRMI	**Paran Flat**	**14.92**	**112**	Pn	Pn	09 21 00.0	-3.5			
MBRI	**Mt Berech**	**15.22**	**112**	Pn	Pn	09 21 04.0	-3.6			
EIL	**Elat**	**15.31**	**113**	Pn	Pn	09 21 04.1	-4.6			
	1.6nm,0.3s,baz=315,slow=10.0,SNR=23									
EIL	**Elat**	**15.31**	**113**	Pn	Pn	09 21 05.3	-3.5			
TORD	**Torodi Ar. Bea**	**28.03**	**217**	P	**P**	**09 23 22.8**	**-1.2**			
	0.4nm,0.6s,baz=34,slow=9.5,SNR=5.3									
TORD				LR	LR	09 36 30.7				
	comp=Z,630nm,19.4s,baz=75,slow=41									
DBIC	**Dimbokro**	**36.88**	**221**	LR	LR	09 42 43.0				
	comp=Z,978nm,21.7s,baz=74,slow=41									
MKAR	**Makanchi Array**	**47.28**	**57**	P	**P**	**09 26 05.7**	**-0.3**			
	1.4nm,0.5s,baz=272,slow=7.3,SNR=23									
ZALV	**Zalesovo Beam**	**47.71**	**47**	P	**P**	**09 26 09.2**	**+0.1**			
	3.6nm,0.4s,baz=280,slow=7.6,SNR=12									

*JMA **28** 09:25:48.5±0.1,25.°30N×140.°39E,h154km,M4.5*
*IDC **28** 09:25:54.0±6.7,24.°95N×141.°09E,h306km±68km,mb2.9/6, mb1 3.1/7,mb1mx2.9/24,mbtmp2.9/7,Error ellipse: s-maj=32.6km s-min=20.3km az=90.0*
ISC 28 09:25:44.3±2.4,24.°9N±0.°2×141.°1E±0.°2,h200km,n12, σ2s01/9,mb3.4/5,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.99**	**28**	P	**Pn**	**09 26 25.1**	**+2.4**
JHHJ				S	**Sn**	**09 26 53.1**	**+0.3**
CBIJ	**Chichi jima**	**2.41**	**23**	P	**Pn**	**09 26 29.1**	**+1.9**
CBIJ				*e*S	**Sn**	**09 27 00.4**	**-0.4**
JOD2	**Odawara 2**	**10.52**	**351**	P	**Pn**	**09 28 08.3**	**-1.9**
JAG	**Ashikaga**	**11.62**	**353**	P	Pn	09 28 19.7	-4.5
JAG				*e*S	Sn	09 30 18.9	-15
JHO	**Hitachi**	**11.72**	**358**	P	Pn	09 28 21.4	-4.2
KSRS	**Korea Array**	**16.88**	**321**	P	**Pn**	**09 29 31.9**	**+2.9**
	0.4nm,0.3s,baz=134,slow=12,SNR=15						
USRK	**Ussuriysk Arra**	**20.68**	**341**	P	**P**	**09 30 08.9**	**+0.1**
	0.4nm,0.8s,baz=153,slow=11,SNR=4.2						
WRA	**Warramunga Ar**	**45.02**	**189**	P	P	09 33 40.3	+0.1
	0.3nm,0.5s,baz=9.2,slow=8.7,SNR=5.8						
MKAR	**Makanchi Array**	**51.20**	**311**	P	P	09 34 26.2	-1.0
	0.5nm,0.4s,baz=87,slow=9.0,SNR=13						
ILAR	**Eielson Array**	**60.12**	**28**	P	**P**	**09 35 29.1**	**-1.2**
	0.5nm,0.8s,baz=250,slow=6.0,SNR=6.2						
YKA	**Yellowknife Ar**	**74.55**	**28**	P	**P**	**09 36 59.5**	**-1.3**
	0.2nm,0.2s,baz=291,slow=4.7,SNR=3.4						
FINES	**FINESS Array B**	**79.53**	**334**	P	P	09 37 25.5	-3.0
	0.4nm,0.4s,baz=60,slow=4.6,SNR=4.6						

*KRSC **28** 09:34:13.5±0.5,55.°10N×160.°37E,h5km±5km,ML4.3*
*ISCJB **28** 09:34:14.9±0.6,55.°09N±0.°02×160.°37E±0.°05,h1km±4km, mb3.9/17,Error ellipse: s-maj=4.9km s-min=2.2km az=18.4*
*IDC **28** 09:34:14.3±0.6,54.°93N×160.°48E,h0km,mb3.6/12, mb1 3.9/15,mb1mx3.8/28,mbtmp3.7/15,ML3.6/3,Error ellipse: s-maj=17.0km s-min=9.5km az=168.0*
*MOS **28** 09:34:14.5±1.2,55.°03N×160.°42E,h10km,mb4.2/7,Error ellipse: s-maj=13.5km s-min=6.5km az=81.3*
ISC 28 09:34:14.1±0.9,55.°04N±0.°02×160.°32E±0.°03,h3km±6km, n71,σ1s14/107,mb3.9/17,1C,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.26**	**337**	*i* P	**Pg**	**09 34 19.6**	**+0.4**
KMNR	**Kamenistaya**	**0.71**	**356**	*i* P	**Pg**	**09 34 20.0**	**+0.1**
KMNR				*i* S	**Sg**	**09 34 38.3**	**+1.2**
BZMR	**Bezymyannaya**	**0.90**	**6**	*e*P	**Pg**	**09 34 31.4**	**0.0**
BZMR				*i* S	**Sb**	**09 34 44.4**	**-0.5**
KIRR	**Kirishev**	**0.91**	**1**	*e*P	**Pg**	**09 34 31.0**	**-0.6**
KIRR				*i* S	**Sg**	**09 34 43.9**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**0.92**	**13**	*e*P	**Pg**	**09 34 31.8**	**0.0**
BZGR				*i* S	**Sb**	**09 34 44.9**	**-0.7**
KPT	**Kopyto**	**0.93**	**357**	*e*P	**Pg**	**09 34 32.0**	**+0.1**
KPT				*i* S	**Sb**	**09 34 45.4**	**-0.3**
BZWR	**Bezymyannyi-We**	**0.93**	**6**	*i* P	**Pg**	**09 34 32.0**	**+0.1**
BZWR				*i* S	**Sb**	**09 34 45.5**	**-0.3**
MKZ	**Mys Kozlova**	**0.95**	**120**	PN	**Pn**	**09 34 34.1**	**-0.3**
MKZ				S	**Sn**	**09 34 48.4**	**-0.1**
MKZ	**Mys Kozlova**	**0.95**	**120**	*i* P	**Pn**	**09 34 34.1**	**-0.3**
MKZ				*i* S	**Sn**	**09 34 48.4**	**-0.1**
ZLN	**Zelenaya**	**1.01**	**16**	*e*P	**Pn**	**09 34 34.2**	**-1.2**
ZLN				*i* S	**Sn**	**09 34 49.3**	**-0.9**
KOZ	**Kozyrevsk**	**1.05**	**346**	*e*P	**Pg**	**09 34 33.7**	**-0.5**
KOZ				*i* S	**Sg**	**09 34 47.9**	**+0.1**
KOZR	**Kozyr**	**1.05**	**347**	PN	**Pg**	**09 34 33.7**	**-0.6**
KOZR				S	**Sg**	**09 34 47.9**	**0.0**
LGNR	**Loginova**	**1.06**	**11**	*e*P	**Pn**	**09 34 35.4**	**-0.8**
LGNR				*i* S	**Sn**	**09 34 50.4**	**-1.3**
CIRR	**Tsirk**	**1.10**	**13**	*i* P	**Pn**	**09 34 35.9**	**-0.7**
CIRR				*i* S	**Sn**	**09 34 51.6**	**-0.8**
KII	**Karymskiy**	**1.13**	**207**	*i* P	**Pn**	**09 34 37.6**	**+0.6**
KII				*i* S	**Sn**	**09 34 54.6**	**+1.6**
KRSR	**Krestovskiy**	**1.18**	**7**	*e*P	**Pb**	**09 34 36.8**	**-0.5**
KRSR				*i* S	**Sn**	**09 34 53.3**	**-1.1**
KLY	**Klyuchi**	**1.29**	**8**	PN	**Pg**	**09 34 38.8**	**0.0**
KLY				S	**Sg**	**09 34 57.4**	**+2.0**
KLY	**Klyuchi**	**1.29**	**8**	*e*P	**Pg**	**09 34 38.8**	**0.0**
KLY				*i* S	**Sg**	**09 34 57.4**	**+2.0**
SRDR	**Sredinnyy**	**1.32**	**345**	*e*P	**Pn**	**09 34 37.4**	**-2.2**
SRDR				*i* S	**Sb**	**09 34 54.3**	**-2.7**
BDR	**Baidarnaya**	**1.61**	**18**	*e*P	**Pb**	**09 34 44.0**	**-0.5**
BDR				*i* S	**Sg**	**09 35 05.8**	**0.0**
SMKR	**Semkarok**	**1.67**	**22**	*e*P	**Pg**	**09 34 45.8**	**-0.4**
SMKR				*i* S	**Sg**	**09 35 09.0**	**+1.2**
SRKR	**Sorokina**	**1.68**	**16**	*e*P	**Pb**	**09 34 45.1**	**-0.7**
SRKR				*i* S	**Sg**	**09 35 07.6**	**-0.6**
KBG	**Krutoberegovo**	**1.82**	**47**	PN	**Pb**	**09 34 47.2**	**-0.8**
KBG				S	**Sg**	**09 35 11.8**	**-0.7**
KBG	**Krutoberegovo**	**1.82**	**47**	*e*P	**Pb**	**09 34 47.2**	**-0.8**
KBG				*i* S	**Sg**	**09 35 11.8**	**-0.7**
GNL	**Ganaly**	**1.94**	**227**	*e*P	**Pb**	**09 34 49.6**	**-0.6**
GNL				*i* S	**Sb**	**09 35 15.2**	**+0.4**
SPN	**Mys Shipunski**	**1.96**	**185**	PN	**Pb**	**09 34 49.1**	**-1.3**
SPN				S	**Sb**	**09 35 15.1**	**-0.1**
SPN	**Mys Shipunski**	**1.96**	**185**	*e*P	**Pb**	**09 34 49.1**	**-1.3**
SPN				*i* S	**Sb**	**09 35 15.1**	**-0.1**
SDLR	**Sedlovina**	**1.96**	**206**	*e*P	**Pb**	**09 34 50.8**	**+0.3**
SDLR				*i* S	**Sg**	**09 35 18.0**	**+0.9**
NLC	**Nalytchevo**	**1.96**	**197**	PN	**Pb**	**09 34 50.2**	**-0.3**
NLC				S	**Sg**	**09 35 17.7**	**+0.6**
NLC	**Nalytchevo**	**1.96**	**197**	*e*P	**Pb**	**09 34 50.2**	**-0.3**
NLC				*i* S	**Sg**	**09 35 17.7**	**+0.6**
SMAR	**Somma**	**2.00**	**207**	*e*P	**Pb**	**09 34 51.4**	**+0.2**
SMAR				*i* S	**Sg**	**09 35 18.8**	**+0.6**
AVH	**Avacha**	**2.01**	**208**	*e*P	**Pb**	**09 34 51.8**	**+0.4**
AVH				*e*S	**Sg**	**09 35 19.5**	**+0.8**
KOK	**Koryaka**	**2.02**	**210**	*e*P	**Pb**	**09 34 51.9**	**+0.4**
KOK				*i* S	**Sg**	**09 35 19.7**	**+0.9**
UGLR	**Uglovaya**	**2.04**	**206**	*i* P	**Pb**	**09 34 52.3**	**+0.4**
UGLR				*i* S	**Sg**	**09 35 20.6**	**+1.0**
PET	**Petropavlovsk**	**2.25**	**207**⇑	*i*PN	**Pb**	**09 34 55.1**	**-0.3**
PET				*e*S	**Sb**	**09 35 24.8**	**+1.2**
PET				pmax	pmax		
	comp=Z,283nm,0.8s						
PET				smax	smax		
	comp=E,606nm,0.7s						
PET				smax	smax		
	comp=N,445nm,0.6s						
PET	**Petropavlovsk**	**2.25**	**207**	*e*P	**Pb**	**09 34 55.7**	**+0.3**
PET				*i* S	**Sg**	**09 35 26.3**	**-0.1**
PETK	**Petropavlovsk-**	**2.48**	**220**	PN	**Pn**	**09 34 55.6**	**+0.1**
PETK						09 35 32.2	
PETK				pmax	pmax		
	comp=Z,18nm,0.3s						
PETK	**Petropavlovsk-**	**2.48**	**220**	Pn	**Pn**	**09 34 55.6**	**+0.1**
	comp=Z,18nm,0.3s,baz=64,slow=13,SNR=35						
PETK				Lg	Lg	09 35 32.2	
	comp=Z,10nm,0.3s,baz=72,slow=16,SNR=5.4						
APC	**Apacha**	**2.83**	**223**	*e*P	Pb	09 35 02.5	-2.7
APC				*i* S	**Sb**	**09 35 37.9**	**-2.3**
RUS	**Russkaya**	**2.83**	**203**	PN	Pb	09 35 02.6	-2.6
RUS				S	**Sb**	**09 35 37.9**	**-2.3**
RUS	**Russkaya**	**2.83**	**203**	*e*P	Pb	09 35 02.6	-2.6
RUS				*i* S	**Sb**	**09 35 37.9**	**-2.3**
GRL	**Gorelyy**	**2.83**	**209**	P	**Pb**	**09 35 04.1**	**-1.3**
GRL				*i* S	**Sb**	**09 35 40.6**	**+0.2**
MTVR	**Mutnovka**	**2.86**	**207**	*e*P	**Pb**	**09 35 04.9**	**-1.0**
MTVR				*i* S	**Sb**	**09 35 43.0**	**+1.6**
ASAK	**Asacha**	**3.03**	**209**	*e*P	**Pb**	**09 35 06.3**	**-2.4**
ASAK				*e*S	**Sb**	**09 35 45.1**	**-1.0**
BKI	**Bering**	**3.25**	**85**	PN	**Pn**	**09 35 06.3**	**+0.3**
BKI				S	**Sn**	**09 35 45.2**	**+0.1**
BKI	**Bering**	**3.25**	**85**	P	**Pn**	**09 35 06.3**	**+0.3**
BKI				*i* S	**Sn**	**09 35 45.2**	**+0.1**
MIPR	**Malaya Ipel'ka**	**3.49**	**219**	*e*P	Pn	09 35 12.1	+2.8
MIPR				*e*S	**Sb**	**09 35 54.9**	**-4.4**
SKR	**Severo-Kuril's**	**5.06**	**212**	*e*PN	**Pn**	**09 35 31.2**	**+0.4**
SKR				*e*		09 36 34.5	
FX1	**Attu Island--F**	**7.88**	**101**	Pn	**Pn**	**09 36 09.0**	**-0.6**
	comp=Z,5.4nm,0.3s,baz=107,slow=19,SNR=36						
FX1				Sn	**Sn**	**09 37 35.4**	**-3.8**
	comp=Z,2.9nm,0.3s,baz=150,slow=20,SNR=4.3						
YUK	**Yuzh-Kuril'sk**	**14.44**	**226**	*i* P	P	09 37 49.0	+2.7
YUK				S	S	09 40 32.7	-7.3
YUK				pmax	pmax		
	comp=N,17nm,0.8s						
YUK				pmax	pmax		
	comp=E,25nm,0.8s						
YUK				pmax	pmax		
	comp=Z,34nm,0.8s						
YUK				MLR	MLR		
	comp=Z,412nm,13.0s						
ASAJ	**Asahikawa**	**15.81**	**234**	Pn	**Pn**	**09 37 57.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=34,slow=15,SNR=2.3						
YAK	**Yakutsk**	**17.32**	**306**	*e*P	**P**	**09 38 20.8**	**+2.7**
USRK	**Ussuriysk Arra**	**21.16**	**251**	P	**P**	**09 39 01.0**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=94,slow=9.2,SNR=2.3						
TIXI	**Tiksi**	**21.38**	**333**	*e*P	**P**	**09 39 05.5**	**+3.1**
TIXI				pmax	pmax		
	comp=Z,16nm,1.6s						
MAJO	**Matsushiro**	**23.91**	**228**	*e*P	**P**	**09 39 28.6**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,11nm,2.5s						
MJAR	**Matsushiro Arr**	**23.91**	**228**	P	**P**	**09 39 29.6**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=27,slow=8.8,SNR=4.0						
ILAR	**Eielson Array**	**27.37**	**48**	P	**P**	**09 40 00.1**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=264,slow=6.9,SNR=5.3						
SONM	**Songino Array**	**33.63**	**280**	P	**P**	**09 40 56.7**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=58,slow=8.7,SNR=2.7						
YKA	**Yellowknife Ar**	**41.65**	**44**	P	**P**	**09 42 03.5**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=304,slow=8.8,SNR=4.0						
ZALV	**Zalesovo Beam**	**41.86**	**301**	P	P	09 42 07.5	+2.5
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ZALV	**Zalesovo Beam**	**41.86**	**301**	P	P	09 42 07.5	+2.5
	comp=Z,7.6nm,0.2s,baz=74,slow=11,SNR=33						
MKAR	**Makanchi Array**	**47.45**	**294**	P	**P**	**09 42 50.1**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**47.45**	**294**	P	**P**	**09 42 50.1**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=58,slow=6.9,SNR=7.9						
BRVK	**Borovoye**	**49.32**	**307**	*e*P	P	09 43 06.6	+2.5
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	**Ala-Archa**	**54.35**	**295**	*e*P	P	09 43 45.6	+3.6
AAK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NVAR	**Mina Array Bea**	**54.97**	**71**	P	**P**	**09 43 47.4**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=297,slow=7.8,SNR=14						
PDAR	**Pinedale Array**	**56.47**	**62**	P	**P**	**09 43 58.1**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=340,slow=2.6,SNR=9.3						
FINES	**FINESS Array B**	**58.38**	**336**	P	**P**	**09 44 11.3**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=40,slow=11,SNR=3.2						
TXAR	**Lajitas Array**	**69.76**	**68**	P	**P**	**09 45 26.3**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=300,slow=4.7,SNR=19						
WRA	**Warramunga Arr**	**77.91**	**205**	P	**P**	**09 46 13.6**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=18,slow=5.8,SNR=3.3						
ASAR	**Alice Springs**	**81.59**	**204**	P	**P**	**09 46 33.6**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=17,slow=4.8,SNR=3.8						

IDC 28 09:50:24.6±2.2,54.°26N×86.°12E,h0km,mb1 3.2/2, mb1mx3.0/29,mbtmp3.2/2,ML3.2/2,Error ellipse: s-maj=17.4km s-min=2.4km az=68.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.83**	**248**	*i*		09 55 40.0	
	baz=67,slow=316,SNR=3.1						
ZALV	**Zalesovo Beam**	**0.83**	**248**	Pg	Pg	09 50 38.6	-1.9
	2.0nm,0.3s,baz=65,slow=19,SNR=12						
ZALV				Lg	Lg	09 50 52.6	
	11nm,0.3s,baz=68,slow=28,SNR=32						
KURBB	**Kurchatov Arra**	**5.90**	**235**	Pn	Pn	09 51 54.4	+1.2
	0.2nm,0.3s,baz=52,slow=13,SNR=9.2						
KURBB				Lg	Lg	09 53 33.0	
	0.1nm,0.3s,baz=51,slow=31,SNR=4.8						
MKAR	**Makanchi Array**	**7.86**	**200**	Pn	Pn	09 52 21.1	+0.9
	0.4nm,0.3s,baz=25,slow=14,SNR=16						
MKAR				Sn	Sn	09 53 48.9	-0.9
	0.1nm,0.3s,baz=21,slow=26,SNR=4.3						
MKAR				Lg	Lg	09 54 35.8	
	0.1nm,0.3s,baz=18,slow=29,SNR=3.7						

*ISCJB **28** 09:59:14.6±0.6,63.°29N±0.°03×151.°11W±0.°06,h7km±5km, mb3.4/2,Error ellipse: s-maj=5.1km s-min=3.4km az=135.6*
*NEIC **28** 09:59:15.1,63.°29N×151.°11W,h9km,ML3.2(AEIC),After AEIC.*
*IDC **28** 09:59:17.5±1.2,63.°30N×150.°64W,h0km,mb3.4/2, mb1 3.5/5,mb1mx3.3/26,mbtmp3.3/5,ML2.9/3,MS3.5/1, Ms1 3.6/1,ms1mx2.9/30,Error ellipse: s-maj=20.9km s-min=10.6km az=122.0*
ISC 28 09:59:14.7±1.2,63.°30N±0.°03×151.°06W±0.°03,h2km±11km, n59,σ0s83/70,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.38**	**66**	P	**Pg**	**09 59 23.0**	**+1.0**
TRF				S	**Sb**	**09 59 29.1**	**-1.5**
CAST	**Castle Rocks**	**0.47**	**285**	P	**Pg**	**09 59 24.1**	**+0.3**
CAST				S	**Sg**	**09 59 30.3**	**+0.4**
PPLA	**Purkeypile**	**0.65**	**232**	P	**Pg**	**09 59 26.8**	**-0.4**
CHUM	**Lake Minchumin**	**0.81**	**317**	P	**Pg**	**09 59 30.9**	**+0.7**
RND	**Reindeer**	**1.00**	**83**	P	**Pb**	**09 59 34.3**	**-0.4**
RND				S	**Sb**	**09 59 48.8**	**+0.4**
BWN	**Browne**	**1.13**	**38**	P	**Pn**	**09 59 37.8**	**+0.4**
SKT	**Skwentna**	**1.34**	**189**	P	**Pg**	**09 59 39.0**	**-1.4**
NEA	**Nenana**	**1.55**	**33**	P	**Pn**	**09 59 42.4**	**-0.9**
DHY	**Denali Highway**	**1.69**	**96**	P	**Pn**	**09 59 45.8**	**+0.5**
DHY				S	**Sb**	**10 00 07.7**	**-0.5**
MLY	**Manley**	**1.74**	**5**	P	**Pn**	**09 59 45.8**	**-0.2**
WRH	**Wood River Hil**	**1.76**	**47**	P	**Pn**	**09 59 45.5**	**-0.7**
WRH				S	**Sg**	**10 00 11.3**	**0.0**
STLK	**Strandline Lak**	**1.84**	**192**	P	**Pn**	**09 59 47.0**	**-0.3**
SUA	**Susitna One**	**1.85**	**175**	P	**Pn**	**09 59 48.0**	**+0.5**
PMR	**Palmer**	**1.94**	**152**	P	**Pn**	**09 59 48.0**	**-0.5**
PMR				S	**Sn**	**10 00 13.0**	**-0.4**
CCB	**Clear Creek Bu**	**1.97**	**45**	P	**Pn**	**09 59 48.3**	**-0.7**
CCB				S	**Sg**	**10 00 17.4**	**-0.6**
MDM	**Murphy Dome**	**2.08**	**35**	P	**Pn**	**09 59 49.9**	**-0.6**
BGL	**Barrier Glacie**	**2.14**	**197**	P	**Pn**	**09 59 51.7**	**+0.3**
SPU	**Mount Spurr**	**2.18**	**193**	P	**Pn**	**09 59 51.8**	**-0.1**
CKL	**Chakachamna La**	**2.19**	**196**	P	**Pn**	**09 59 52.9**	**+0.7**
SCM	**Sheep Creek Mo**	**2.27**	**129**	P	**Pn**	**09 59 53.5**	**+0.3**
IL1	**Eielson Array**	**2.36**	**49**	P	**Pn**	**09 59 53.8**	**-0.6**
ILAR	**Eielson Array**	**2.36**	**49**	Pn	**Pn**	**09 59 53.5**	**-0.8**
ILAR				Pg	**Pb**	**09 59 58.4**	**+0.5**
ILAR				Lg	Lg	10 00 29.0	
ILAR	**Eielson Array**	**2.36**	**49**	Pn	**Pn**	**09 59 53.5**	**-0.8**
	0.9nm,0.3s,baz=232,slow=14,SNR=13						
ILAR				Pg	**Pb**	**09 59 58.3**	**+0.5**
	4.5nm,0.3s,baz=230,slow=15,SNR=20						
ILAR				Lg	Lg	10 00 29.0	
	21nm,0.3s,baz=230,slow=29,SNR=14						
ILAR				LR	LR	10 00 45.6	
	comp=Z,885nm,18.2s,baz=21,slow=40						
PAX	**Paxson**	**2.56**	**95**	P	**Pn**	**09 59 58.0**	**+0.8**
DFR	**Drift River**	**2.83**	**196**	P	**Pn**	**10 00 01.2**	**+0.3**
HARP	**HAARP**	**2.85**	**106**	P	**Pn**	**10 00 02.2**	**+1.0**
NCT	**North Crescent**	**2.89**	**199**	P	**Pn**	**10 00 01.9**	**+0.2**
RSO	**Redoubt South**	**2.96**	**196**	*e*Pn	**Pn**	**10 00 02.8**	**0.0**
RSO				*e*Sn	**Sn**	**10 00 40.8**	**+1.9**
KLU	**Klutina**	**3.00**	**125**	P	**Pn**	**10 00 04.2**	**+0.9**
SVW2	**Sparrevohn**	**3.06**	**226**	P	**Pn**	**10 00 03.5**	**-0.5**
SCRK	**Sand Creek**	**3.23**	**75**	P	**Pn**	**10 00 06.3**	**-0.1**
FID	**Port Fidalgo**	**3.35**	**138**	P	**Pn**	**10 00 08.4**	**+0.5**
MENT	**Mentasta**	**3.35**	**93**	*e*Pn	**Pn**	**10 00 08.9**	**+0.8**
BRLK	**Bradley Lake**	**3.55**	**179**	P	**Pn**	**10 00 12.0**	**+1.2**
HOM	**Homer**	**3.67**	**185**	P	**Pn**	**10 00 13.3**	**+1.0**
CNPM	**China Poot**	**3.79**	**181**	P	**Pn**	**10 00 14.8**	**+0.8**
BMRM	**Bremner River**	**3.83**	**125**	*e*Pn	**Pn**	**10 00 16.1**	**+1.5**
BMRM				*e*Sn	**Sn**	**10 00 58.5**	**-1.7**
GLB	**Gilahina Butte**	**3.86**	**116**	P	**Pn**	**10 00 15.9**	**+0.9**
COLD	**Coldfoot**	**3.96**	**5**	P	**Pn**	**10 00 17.1**	**+0.7**
VRDI	**Verde Repeater**	**4.12**	**117**	P	**Pn**	**10 00 19.6**

TWB1				*e*S		**Sg**	**10 27 11.3 -0.6**
	baz=15						
NSTT	**Nanjuang**	**0.83**	**300**	*e*P		**Pg**	**10 27 01.5 -0.5**
	baz=299						
NSTT				*e*S		**Sg**	**10 27 12.8 -0.1**
	baz=299						
EHY	**Hungye**	**0.83**	**212**	*e*P		**Pn**	**10 27 02.4 -1.3**
	baz=220						
EHY				*e*S		**Sn**	**10 27 15.0 -1.1**
	baz=220						
NWF	**Wu-fen Shan**	**0.85**	**359**	*e*P		**Pg**	**10 27 02.5 +0.2**
	baz=353						
NWF				S		**Sg**	**10 27 12.9 -0.4**
	baz=353						
SMLT	**Sun Moon Lake**	**0.89**	**248**	P		**Pn**	**10 27 03.5 -1.0**
	baz=237						
SMLT				*e*S		**Sn**	**10 27 15.6 -1.9**
	baz=237						
TYC	**Yuchr**	**0.92**	**250**	*e*P		**Pn**	**10 27 03.6 -1.2**
	baz=239						
TYC				S		**Sb**	**10 27 15.3 -0.8**
	baz=239						
TWS1	**Kuangyinshan**	**0.94**	**339**	*e*P		**Pg**	**10 27 04.3 +0.2**
	baz=340						
TWS1				*e*S		**Sg**	**10 27 17.2 +0.8**
	baz=340						
TWQ1	**Liyutan**	**0.94**	**278**	*e*P		**Pn**	**10 27 05.3 +0.1**
	baz=277						
TWQ1				*e*S		**Sb**	**10 27 17.1 +0.1**
	baz=277						
NSY	**Sanyi**	**0.96**	**282**	P		**Pn**	**10 27 06.0 +0.5**
	baz=281						
NSY				S		**Sb**	**10 27 18.2 +0.6**
	baz=281						
TWF1	**Yuli**	**0.98**	**208**	*e*P		**Pn**	**10 27 04.4 -1.4**
	baz=217						
TWF1				*e*S		**Sn**	**10 27 19.5 -0.2**
	baz=217						
TCU	**Taichung**	**1.03**	**266**	*e*P		**Pn**	**10 27 07.0 +0.6**
	baz=265						
TCU				*e*S		**Sn**	**10 27 21.1 +0.2**
	baz=265						
YUS	**Yu-Shan**	**1.06**	**227**	*e*P		**Pn**	**10 27 06.1 -1.2**
	baz=225						
YUS				S		**Sn**	**10 27 21.6 -0.8**
	baz=225						
TWY	**Chenhua**	**1.07**	**350**	*e*P		**Pg**	**10 27 06.5 +0.1**
	baz=351						
YOJ	**Yonaguni jima**	**1.13**	**78**	⇓P		**Pg**	**10 27 07.7 0.0**
	baz=68						
YOJ	**Yonaguni jima**	**1.13**	**78**	P		**Pg**	**10 27 07.7 0.0**
YOJ				*e*S		**Sn**	**10 27 24.6 +1.2**
CHKT	**Chengkung**	**1.19**	**200**	*e*P		**Pn**	**10 27 08.1 -0.5**
	baz=185						
CHN5	**Tsauling**	**1.20**	**239**	*e*P		**Pn**	**10 27 09.5 +0.7**
	baz=239						
CHN5				*e*S		**Sn**	**10 27 27.1 +1.9**
	baz=239						
ELDTW	**Lidau**	**1.25**	**215**	*e*P		**Pn**	**10 27 08.6 -1.0**
	baz=214						
CHN4	**Tsaushan**	**1.40**	**232**	*e*P		**Pg**	**10 27 12.8 -0.1**
	baz=233						
CHN4				*e*S		**Sn**	**10 27 33.3 +3.2**
	baz=233						
STYT	**Tauyuan**	**1.42**	**222**	*e*P		**Pg**	**10 27 12.3 -0.9**
	baz=222						
STYT				*e*S		**Sn**	**10 27 32.8 +2.1**
	baz=222						
CHY	**Chiayi**	**1.45**	**240**	*e*P		**Pg**	**10 27 14.0 +0.2**
	baz=240						
CHY				*e*S		**Sg**	**10 27 33.5 +1.0**
	baz=240						
WTP	**Ta-pu**	**1.46**	**228**	*e*P		**Pg**	**10 27 14.0 +0.2**
	baz=229						
WTP				*e*S		**Sn**	**10 27 34.5 +3.0**
	baz=229						
TWK	**Hsinying**	**1.53**	**232**	*e*P		**Pg**	**10 27 15.3 0.0**
	baz=232						
CHN1	**Nanshi**	**1.56**	**229**	*e*P		**Pg**	**10 27 15.1 -0.6**
	baz=230						
CHN1				*e*S		**Sg**	**10 27 36.7 +0.8**
	baz=230						
SGST	**Jiashian**	**1.59**	**225**	*e*P		**Pg**	**10 27 16.2 -0.2**
	baz=225						
SGST				*e*S		**Sg**	**10 27 37.7 +0.7**
	baz=225						
IRIF	**Iriomote-Funau**	**1.77**	**86**	P		**Pb**	**10 27 17.7 -0.7**
IRIF				*e*S		**Sn**	**10 27 40.3 +1.2**
HATJ	**Hateruma jima**	**1.84**	**95**	P		**Pn**	**10 27 17.1 -0.5**
JKRS	**Kuro-shima**	**2.02**	**89**	P		**Pn**	**10 27 20.5 +0.5**
JIJ	**Ishigaki jima**	**2.15**	**86**	P		**Pn**	**10 27 21.7 -0.1**

ISCJB ***28*** *10:38:06.6±0.8, 1°.03N±0°.09×126°.80E±0°.05, h72km, mb4.0/5, Error ellipse: s-maj=12.5km s-min=6.9km az=16.9*

IDC ***28*** *10:38:07.2±3.5, 0°.90N×126°.57E, h60km±31km, mb3.8/5, mb1 3.9/6, mb1mx3.5/21, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=91.9km s-min=14.8km az=70.0*

DJA ***28*** *10:38:07.1±0.8, 1°.N±8'×12°.7E±', h10km, M4.5/8, mb4.6/4, mB4.9/2, MLv4.5/8, Mw(mB)4.2/2*

ISC 28 10:38:07.6±1.5, 1°.0N±0°.1×126°.8E±0°.1, h72km, n17, σ1§42/15, mb4.2/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	**0.62**	**116**	P		Pn	10 38 21.1	-0.7
LBMI	**Labuha**	**1.81**	**157**	P		Pn	10 38 38.7	+1.9
LBMI				S		Sn	10 39 04.9	+6.0
MNI	**Manado**	**2.01**	**281**	P		**Pn**	**10 38 39.3**	**-0.1**
MNI				S		**Sn**	**10 39 03.4**	**-0.3**
KMSI	**Cibinong**	**2.87**	**261**	P		**Pn**	**10 38 48.9**	**-2.1**
KMSI				S		**Sn**	**10 39 24.5**	**0.0**
GTOI	**Gorontalo**	**3.82**	**264**	P		**Pn**	**10 39 06.6**	**+2.6**
LUWI	**Luwuk**	**4.54**	**243**	P		**Pn**	**10 39 14.3**	**+0.5**
MRSI	**Marisa**	**4.90**	**263**	P		Pn	10 39 29.2	+10
SKSI	**Soroako, Sulaw**	**6.52**	**237**	P		**Pn**	**10 39 41.5**	**+0.5**
	35nm,0.7s,521nm0.1nm							
TTSI	**Tana Toraja**	**8.08**	**240**	P		**Pn**	**10 40 01.9**	**-0.4**
	22nm,0.9s,1μm0.1nm							
SPSI	**Sidrap Palu**	**8.62**	**235**	P		**Pn**	**10 40 10.3**	**+0.7**
	22nm,0.8s							
BKSI	**Bulukumba**	**9.20**	**227**	P		**Pn**	**10 40 19.3**	**+1.7**
FITZ	**Fitzroy Crossi**	**19.06**	**183**	P		**Pn**	**10 42 23.2**	**-2.6**
	0.2nm,0.3s,baz=15,slow=9.7,SNR=3.6							
WRA	**Warramunga Arr**	**22.12**	**161**	P		**P**	**10 42 57.2**	**-0.2**
	3.8nm,0.5s,baz=339,slow=11,SNR=44							
ASAR	**Alice Springs**	**25.51**	**165**	P		**P**	**10 43 29.8**	**+0.2**
	3.4nm,0.4s,baz=346,slow=12,SNR=32							
ASAR				S		**S**	**10 47 53.2**	**+1.2**
	0.4nm,0.8s,baz=346,slow=18,SNR=3.9							
STKA	**Stephens Creek**	**35.61**	**158**	P		P	10 44 59.0	+0.4
	3.7nm,1.0s,baz=338,slow=11,SNR=4.6							
SONM	**Songino Array**	**49.86**	**342**	P		P	10 46 54.9	+1.2
	0.4nm,0.4s,baz=166,slow=7.4,SNR=3.8							
MKAR	**Makanchi Array**	**59.80**	**326**	P		**P**	**10 48 06.1**	**+0.6**
	1.1nm,0.5s,baz=122,slow=7.8,SNR=10							

GRAL 28 10:42:23.5±0.5, 34°.57N×36°.72E, h15km±999km, MD3.1, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HWQ	**Hawqa**	**0.70**	**246**	*e*P		Pg	10 42 35.9	-1.6
HWQ				*e*S		Sg	10 42 45.3	-1.6
BHL	**Bhannes**	**1.10**	**234**	*e*P		Pb	10 42 42.9	-1.6
RCY	**Rachaya**	**1.30**	**215**	*e*P		Pn	10 42 45.6	-1.7
RCY				*e*S		Sb	10 43 02.2	-2.2

NIED ***28*** *10:56:00, 24°.00N×121°.60E, h8km, Mw4.3 Best double couple: M₀3.26000×10¹⁵ NP1:φ=51.00000°, δ72.00000°, λ76.00000°. NP2:φ=269.00000°, δ22.00000°, λ126.00000°.*

JMA ***28*** *10:56:20.3±0.4, 23°.97N×121°.61E, h31km, M3.6*

BJI ***28*** *10:56:20.7, 24°.22N×121°.89E, h9km, mb4.0/3, ML3.8/4, Ms3.7/2, Ms7 3.8/2*

ISCJB ***28*** *10:56:22.8±0.3, 24°.26N±0°.01×121°.84E±0°.02, h16km±3km, mb3.5/10, Error ellipse: s-maj=3.3km s-min=2.1km az=31.1*

TAP ***28*** *10:56:22.2, 24°.25N×121°.77E, h14km, ML4.2, B*

IDC ***28*** *10:56:34.6±5.8, 24°.27N×121°.83E, h132km±55km, mb3.2/9, mb1 3.4/10, mb1mx3.3/25, mbtmp3.3/10, Error ellipse: s-maj=26.0km s-min=17.8km az=75.0*

ISC 28 10:56:22.2±0.8, 24°.25N±0°.02×121°.79E±0°.02, h16km±5km, n81, σ0§84/122, mb3.6/10, 10C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ENA	**Nanau**	**0.18**	**347**	⇑*i*P		Pg	**10 56 26.5**	**-0.2**
	baz=352							
ENA				S		**Sg**	**10 56 29.6**	**-0.2**
	baz=352							
TWD	**Chiawan**	**0.24**	**226**	⇑*i*P		Pg	**10 56 27.5**	**-0.2**
	baz=228							
TWD				*i* S		**Sg**	**10 56 31.3**	**0.0**
	baz=228							
HWA	**Hwalien**	**0.32**	**212**	⇓*e*P		**Pb**	**10 56 29.5**	**-0.1**
	baz=217							
TWC	**Suao**	**0.36**	**9**	⇑*i*P		Pg	**10 56 29.8**	**0.0**
	baz=8.0							
TWC				*i* S		**Sg**	**10 56 35.1**	**+0.3**
	baz=8.0							
NNS	**Nan Shan**	**0.42**	**297**	⇑*i*P		Pg	**10 56 30.7**	**-0.2**
	baz=298							
NNS				*e*S		**Sg**	**10 56 36.4**	**-0.3**
	baz=298							
ENTT	**Nioudou**	**0.44**	**333**	⇑*i*P		Pg	**10 56 31.2**	**+0.1**
	baz=334							
ESF	**Shoufeng Towns**	**0.46**	**214**	*e*P		Pg	**10 56 31.6**	**+0.2**
	baz=220							
ESF				*e*S		**Sb**	**10 56 38.2**	**-0.2**
	baz=220							
TWE	**Neicheng**	**0.48**	**347**	⇑*i*P		Pg	**10 56 32.0**	**+0.1**
	baz=349							
TWE				S		**Sg**	**10 56 38.8**	**+0.3**
	baz=349							
ILA	**Ilan**	**0.52**	**356**	*e*P		Pb	**10 56 32.9**	**-0.1**
	baz=352							
ILA				S		**Sb**	**10 56 40.5**	**+0.3**
	baz=352							
ESL	**Shilin**	**0.54**	**217**	P		Pg	**10 56 32.6**	**-0.3**
	baz=222							
ESL				*e*S		**Sb**	**10 56 41.9**	**+1.0**
	baz=222							
TWT	**Tachien**	**0.56**	**271**	P		Pg	**10 56 33.6**	**+0.2**
	baz=270							
TWT				S		**Sg**	**10 56 40.9**	**0.0**
	baz=270							
NSK	**Sanguang**	**0.58**	**317**	⇑*i*P		Pg	**10 56 33.6**	**-0.1**
	baz=318							
NSK				S		**Sg**	**10 56 41.3**	**-0.2**
	baz=318							
TEGC	**Jichi Village**	**0.58**	**203**	*e*P		Pb	**10 56 34.6**	**+0.5**
	baz=194							
TEGC				*e*S		**Sn**	**10 56 44.4**	**-0.7**
	baz=194							
TWA	**Mucha**	**0.75**	**346**	⇑*e*P		Pb	**10 56 37.2**	**+0.2**
	baz=346							
TWA				*e*S		**Sg**	**10 56 46.9**	**0.0**
	baz=346							
TWB1	**Santiao Chiao**	**0.78**	**13**	⇑P		Pb	**10 56 37.4**	**-0.1**
	baz=14							
TWB1				*e*S		**Sb**	**10 56 48.0**	**+0.2**
	baz=14							
NSTT	**Nanjuang**	**0.81**	**298**	P		Pg	**10 56 38.2**	**+0.1**
	baz=299							
NSTT				S		**Sg**	**10 56 49.0**	**+0.1**
	baz=299							
NWF	**Wu-fen Shan**	**0.82**	**360**	*e*P		Pg	**10 56 38.5**	**+0.2**
	baz=352							
NWF				S		**Sg**	**10 56 49.5**	**+0.4**
	baz=352							
TAP1	**Taipei**	**0.82**	**343**	*e*P		Pn	**10 56 38.8**	**-0.4**
	baz=333							
TAP	**Taipei**	**0.83**	**342**	*e*P		Pn	**10 56 39.1**	**-0.2**
	baz=333							
EHY	**Hungye**	**0.85**	**210**	⇓P		Pb	**10 56 37.7**	**-1.0**
	baz=221							
EHY				*e*S		**Sg**	**10 56 51.1**	**+1.0**
	baz=221							
SMLT	**Sun Moon Lake**	**0.89**	**246**	*e*P		Pb	**10 56 39.4**	**0.0**
	baz=246							
NCU	**National Centr**	**0.90**	**323**	*e*P		Pn	**10 56 40.9**	**+0.6**
	baz=318							
NCU				*e*S		**Sn**	**10 56 54.0**	**+0.9**
	baz=318							
TWS1	**Kuangyinshan**	**0.91**	**338**	P		Pn	**10 56 40.7**	**+0.3**
	baz=338							
TWS1				*e*S		**Sn**	**10 56 53.2**	**-0.1**
	baz=338							
TYC	**Yuchr**	**0.92**	**248**	⇓*i*P		Pb	**10 56 39.7**	**0.0**
	baz=240							
TYC				*e*S		**Sb**	**10 56 51.3**	**-0.4**
	baz=240							
HSN	**Hsinchu**	**0.93**	**307**	*e*P		Pn	**10 56 41.2**	**+0.6**
	baz=301							
HSN				*e*S		**Sn**	**10 56 53.6**	**-0.1**
	baz=301							
TWQ1	**Liyutan**	**0.93**	**276**	*e*P		Pn	**10 56 41.0**	**+0.2**
	baz=277							
TWQ1				*e*S		**Sn**	**10 56 53.4**	**-0.3**
	baz=277							
NSY	**Sanyi**	**0.95**	**280**	*e*P		Pn	**10 56 41.8**	**+0.8**
	baz=281							
NSY				S		**Sn**	**10 56 54.5**	**+0.2**
	baz=281							
TWF1	**Yuli**	**1.00**	**207**	*e*P		Pb	**10 56 39.7**	**-1.5**
	baz=219							
TCU	**Taichung**	**1.02**	**265**	⇓P		Pg	**10 56 43.0**	**+1.0**
	baz=266							
TCU				*e*S		**Sn**	**10 56 57.5**	**+1.5**
	baz=266							
TWY	**Chenhua**	**1.04**	**351**	*e*P		Pg	**10 56 42.8**	**+0.5**
	baz=335							
WNT	**Mingjian**	**1.07**	**250**	*e*P		Pg	**10 56 43.8**	**+0.7**
	baz=248							
WNT				*e*S		**Sn**	**10 56 59.2**	**+2.0**
	baz=248							
YUS	**Yu-Shan**	**1.07**	**226**	*e*P		Pb	**10 56 42.7**	**-0.1**
	baz=227							
YUS				*e*S		**Sg**	**10 56 58.2**	**+0.9**
	baz=227							
YOJ	**Yonaguni jima**	**1.14**	**79**	⇓P		Pg	**10 56 44.0**	**-0.1**
	baz=66							
YOJ				*e*S		**Sg**	**10 57 00.3**	**+1.3**
	baz=66							
YOJ	**Yonaguni jima**	**1.14**	**79**	P		Pg	**10 56 43.9**	**-0.3**
YOJ				S		**Sg**	**10 57 01.4**	**+2.4**
ALS	**Alishan**	**1.16**	**231**	*e*P		Pb	**10 56 44.6**	**+0.5**
	baz=219							
ALS				*e*S		**Sn**	**10 57 00.3**	**+0.5**
	baz=219							
CHN5	**Tsauling**	**1.21**	**238**	*e*P		Pb	**10 56 45.1**	**+0.4**
	baz=240							
CHN5				S		**Sg**	**10 57 02.9**	**+1.6**
	baz=240							
CHKT	**Chengkung**	**1.21**	**199**	*e*P		Pn	**10 56 43.0**	**-1.5**
	baz=187							
ELDTW	**Lidau**	**1.27**	**214**	*e*P		Pn	**10 56 44.5**	**-0.9**
	baz=215							
PCYT	**Pengchaiyu**	**1.40**	**11**	*e*P		Pb	**10 56 47.9**	**-0.2**
	baz=9.0							
CHN4	**Tsaushan**	**1.41**	**231**	*e*P		Pb	**10 56 49.0**	**+0.7**
	baz=235							
CHN4				S		**Sg**	**10 57 09.2**	**+1.4**
	baz=235							
WTCT	**Ta-ch'eng**	**1.43**	**255**	*e*P		Pb	**10 56 49.2**	**+0.7**
	baz=257							
WTCT				*e*S		**Sg**	**10 57 09.0**	**+0.6**
	baz=257							
STYT	**Tauyuan**	**1.44**	**221**	⇑P		Pb	**10 56 48.4**	**-0.3**
	baz=224							
STYT				*e*S		**Sg**	**10 57 08.7**	**+0.1**
	baz=224							
CHY	**Chiayi**	**1.46**	**239**	*e*P		Pg	**10 56 49.9**	**-0.4**
	baz=242							
CHY				*e*S		**Sg**	**10 57 09.5**	**+0.2**
	baz=242							
WTP	**Ta-pu**	**1.47**	**227**	*e*P		Pb	**10 56 49.9**	**+0.7**
	baz=231							
WTP				*e*S		**Sg**	**10 57 10.5**	**+0.9**
	baz=231							
TWK	**Hsinying**	**1.54**	**231**	*e*P		Pb	**10 56 50.8**	**+0.3**
	baz=234							
WSF	**Szhu**	**1.56**	**247**	*e*P		Pb	**10 56 50.9**	**+0.3**
	baz=259							
WSF				*e*S		**Sg**	**10 57 12.5**	**0.0**
	baz=259							
TWG	**Pinlang**	**1.56**	**205**	*e*P		Pn	**10 56 48.0**	**-1.4**
	baz=192							
CHN1	**Nanshi**	**1.57**	**228**	*e*P		Pb	**10 56 51.3**	**+0.4**
	baz=232							
CHN1				S		**Sg**	**10 57 13.4**	**+0.7**
	baz=232							
SGST	**Jiashian**	**1.60**	**224**	*e*P		Pb	**10 56 51.8**	**+0.3**
	baz=227							
SGST				*e*S		**Sg**	**10 57 14.8**	**+0.8**
	baz=227							
CHN3	**Shinhua**	**1.75**	**228**	*e*P		Pn	**10 56 51.8**	**-0.2**
	baz=233							
IRIF	**Iriomote-Funau**	**1.77**	**87**	P		Pn	**10 56 52.7**	**+0.4**
IRIF				*e*S		**Sb**	**10 57 16.0**	**-0.4**
SCLT	**Jiali**	**1.81**	**234**	*e*P		Pb	**10 56 55.2**	**+0.1**
	baz=238							
ECL	**Taimali**	**1.81**	**205**	*e*P		Pb	**10 56 54.1**	**-1.0**
	baz=195							
HATJ	**Hateruma jima**	**1.85**	**95**	P		Pn	**10 56 53.1**	**-0.3**
HATJ				*e*S		**Sn**	**10 57 17.5**	**+1.0**
TAI1	**Yung-k'ang**	**1.87**	**230**	*e*P		Pb	**10 56 55.8**	**-0.2**
	baz=234							
TWM1	**Shoushan**	**1.89**	**222**	*e*P		Pb	**10 56 56.9**	**+0.5**
	baz=225							
SGLT	**Jiouru**	**1.93**	**218**	*e*P		Pb	**10 56 57.5**	**+0.5**
	baz=222							
JKRS	**Kuro-shima**	**2.03**	**90**	P		Pn	**10 56 56.7**	**+0.9**
TAW	**Tawu**	**2.05**	**204**	*e*P		Pb	**10 56 57.8**	**-1.4**
	baz=195							
JIJ	**Ishigaki jima**	**2.15**	**86**	P		Pn	**10 56 57.9**	**+0.4**
JIJ				S		**Sn**	**10 57 25.3**	**+1.4**
PNG	**Penghu**	**2.15**	**252**	*e*P		Pn	**10 56 58.1**	**+0.7**
	baz=257							
PNG				*e*S		**Sn**	**10 57 24.9**	**+1.0**
	baz=257							
SCZT	**Fangliau**	**2.15**	**210**	*e*P		Pn	**10 56 59.2**	**+1.7**
	baz=199							
LAY	**Lan-yu**	**2.21**	**186**	*e*P		Pn	**10 56 56.8**	**-1.6**
	baz=189							
TWP	**Hsiaoliuchiu**	**2.30**	**215**	*e*P		Pb	**10 57 02.8**	**-0.7**
	baz=237							
HEN	**Hengchun**	**2.43**	**204**	*e*P		Pn	**10 57 01.8**	**+0.5**
	baz=197							
TWK1	**Hengchun**	**2.47**	**202**	*e*P		Pn	**10 57 03.2**	**+1.4**
	baz=193							
TSEB	**Hengchuen, Pin**	**2.48**	**199**	*e*P		Pn	**10 57 03.6**	**+1.7**
	baz=192							
JTJ	**Tarama**	**2.68**	**81**	P		Pn	**10 57 06.0**	**+1.2**
QZH	**Quanzhou**	**2.99**	**284**	Pn		Pn	**10 57 08.3**	**-0.7**
QZH				Sn		**Sn**	**10 57 42.0**	**-2.6**
QZH				smax		smax		
	comp=N,710nm,0.9s							
QZH				smax		smax		
	comp=E,480nm,0.9s							
QZH				LR		LR		
	comp=N,1μm,11.9s							
QZH				LR		LR		
	comp=E,2μm,8.8s							
QZH				LR		LR		
	comp=Z,2μm,9.6s							
KNM	**Kinmen**	**3.06**	**274**	*e*P		Pn	**10 57 10.8**	**+0.8**
	baz=274							
KSRS	**Korea Array**	**14.17**	**20**	P		**P**	**10 59 49.9**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=198,slow=12,SNR=14							
CMAR	**Chiang Mai Arr**	**22.03**	**259**	P		**P**	**11 01 18.6**	**+2.3**
	comp=Z,1.0nm,0.6s,baz=68,slow=7.9,SNR=3.8							
GTA	**Gaotai**	**23.93**	**314**	*e*P		P	11 01 42.3	+6.5
GTA				pP		pP	11 01 46.5	+5.9
GTA				sP		sP	11 01 49.3	+6.7
GTA				pmax		pmax		
	comp=Z,4.0nm,0.9s							
SONM	**Songino Array**	**26.53**	**336**	P		**P**	**11 02 00.0**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=150,slow=9.4,SNR=4.5							
MKAR	**Makanchi Array**	**38.68**	**316**	P		**P**	**11 03 45.5**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=105,slow=9.8,SNR=8.8							
ZALV	**Zalesovo Beam**	**40.49**	**327**	P		**P**	**11 03 59.5**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=126,slow=9.7,SNR=2.9							
WRA	**Warramunga Arr**	**45.59**	**163**	P		**P**	**11 04 41.4**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=343,slow=8.7,SNR=3.5							
ASAR	**Alice Springs**	**49.06**	**165**	P		**P**	**11 05 08.9**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=339,slow=6.6,SNR=4.6							
ILAR	**Eielson Array**	**68.90**	**27**	P		**P**	**11 07 24.1**	**-2.0**
	comp=Z,0.2nm,0.9s,baz=277,slow=3.5,SNR=3.5							
BRTR	**Keskin Array B**	**73.58**	**307**	P		**P**	**11 07 54.7**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=96,slow=6.3,SNR=4.7							
YKA	**Yellowknife Ar**	**82.70**	**23**	P		**P**	**11 08 43.4**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=308,slow=4.6,SNR=4.3							

TAP 28 11:03:32.3, 24°.25N×121°.76E, h12km, ML3.7, 7C-1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ENA	**Nanau**	**0.18**	**356**	⇑*i*P		Pg	11 03 36.5	+0.2
	baz=358							
ENA				*e*S		Sg	11 03 39.4	+0.3
	baz=358							
TWD	**Chiawan**	**0.22**	**221**	⇑*i*P		Pg	11 03 37.2	+0.1
	baz=220							
TWD				*i* S		Sg	11 03 40.8	+0.4
	baz=220							
HWA	**Hwalien**	**0.31**	**207**	*e*P		Pb	11 03 39.1	-0.6
	baz=214							
TWC	**Suao**	**0.37**	**13**	⇑*i*P		Pg	11 03 39.8	+0.1
	baz=7.0							
TWC				*i* S		Sg	11 03 45.3	+0.7
	baz=7.0							
NNS	**Nan Shan**	**0.40**	**298**	⇑*i*P		Pg	11 03 40.5	+0.1
	baz=299							
NNS				*i* S		Sg	11 03 46.0	+0.2
	baz=299							
ENTT	**Nioudou**	**0.42**	**336**	⇑*i*P		Pg	11 03 41.1	+0.3
	baz=336							
ENTT				S		Sg	11 03 47.1	+0.6
	baz=336							
ESF	**Shoufeng Towns**	**0.44**	**211**	*e*P		Pg	11 03 41.2	+0.2
	baz=221							
TWE	**Neicheng**	**0.47**	**350**	⇑*i*P		Pg	11 03 42.0	+0.4
	baz=351							
TWE				*i* S		Sg	11 03 48.5	+0.5
	baz=351							
ILA	**Ilan**	**0.51**	**359**	*e*P		Pg	11 03 42.4	0.0
	baz=354							
ILA				*e*S		Sb	11 03 50.4	-0.3
	baz=354							
ESL	**Shilin**	**0.53**	**214**	⇓*i*P		Pg	11 03 42.5	-0.1
	baz=222							
TWT	**Tachien**	**0.53**	**270**	*e*P		Pb	11 03 43.5	-0.3
	baz=271							
TWT				S		Sg	11 03 50.6	+0.5
	baz=271							
NSK	**Sanguang**	**0.56**	**319**	⇑*i*P		Pg	11 03 43.6	+0.2
	baz=320							
NSK				*i* S		Sg	11 03 51.2	+0.4
	baz=320							
TWA	**Mucha**	**0.74**	**348**	*e*P		Pb	11 03 47.2	0.0
	baz=338							
TWB1	**Santiao Chiao**	**0.78**	**16**	*e*P		Pg	11 03 47.4	-0.1
	baz=16							
TWB1				*e*S		Sg	11 03 57.6	-0.1
	baz=16							
NSTT	**Nanjuang**	**0.79**	**299**	*e*P		Pb	11 03 48.2	+0.3
	baz=299							
NSTT				S		Sb	11 03 58.7	+0.1
	baz=299							
TAP1	**Taipei**	**0.81**	**345**	*e*P		Pn	11 03 49.4	-0.2

	baz=300							
TWQ1	**Liyutan**	**0.90**	**276**	*e*P		Pn	11 03 51.0	+0.2
	baz=276							
NSY	**Sanyi**	**0.92**	**280**	P		Pn	11 03 51.9	+0.8
	baz=281							
NSY				*e*S		Sn	11 04 04.8	+0.5
	baz=281							
TWF1	**Yuli**	**0.99**	**205**	*e*P		Pb	11 03 50.3	-1.1
	baz=218							
TCU	**Taichung**	**0.99**	**264**	*e*P		Pn	11 03 52.9	+0.9
	baz=264							
TWY	**Chenhua**	**1.03**	**352**	*e*P		Pn	11 03 52.7	+0.1
	baz=352							
WNT	**Mingjian**	**1.05**	**249**	*e*P		Pn	11 03 53.5	+0.7
	baz=245							
WNT				*e*S		Sn	11 04 09.6	+2.2
	baz=245							
YUS	**Yu-Shan**	**1.06**	**224**	*e*P		Pb	11 03 52.4	-0.8
	baz=225							
YUS				*e*S		Sb	11 04 07.3	-0.1
	baz=225							
ALS	**Alishan**	**1.14**	**230**	*e*P		Pb	11 03 53.8	-0.5
	baz=230							
YOJ	**Yonaguni jima**	**1.16**	**79**	*i* P		Pb	11 03 53.5	-0.8
	baz=67							
YOJ				S		Sn	11 04 11.0	+0.8
	baz=67							
CHN5	**Tsauling**	**1.18**	**237**	*e*P		Pg	11 03 55.2	0.0
	baz=238							
CHN5				S		Sn	11 04 12.2	+1.3
	baz=238							
CHKT	**Chengkung**	**1.20**	**197**	*e*P		Pn	11 03 53.1	-1.8
	baz=184							
WGK	**Gukeng**	**1.23**	**243**	*e*P		Pg	11 03 55.9	-0.1
	baz=243							
ELDTW	**Lidau**	**1.26**	**213**	*e*P		Pn	11 03 54.9	-1.0
	baz=213							
CHN4	**Tsaushan**	**1.39**	**230**	*e*P		Pg	11 03 58.9	-0.2
	baz=232							
CHN4				*e*S		Sg	11 04 19.6	+2.4
	baz=232							
PCYT	**Pengchaiyu**	**1.40**	**12**	*e*P		Pn	11 03 58.0	+0.3
	baz=10.0							
WTCT	**Ta-ch'eng**	**1.40**	**254**	*e*P		Pg	11 03 59.1	-0.1
	baz=255							
WTCT				*e*S		Sg	11 04 18.6	+1.1
	baz=255							
STYT	**Tauyuan**	**1.42**	**220**	*e*P		Pn	11 03 57.9	-0.1
	baz=222							
CHY	**Chiayi**	**1.43**	**239**	*e*P		Pb	11 03 58.8	-0.1
	baz=240							
CHY				*e*S		Sg	11 04 19.6	+1.2
	baz=240							
WTP	**Ta-pu**	**1.45**	**227**	*e*P		Pb	11 03 59.7	+0.4
	baz=229							
WTP				*e*S		Sg	11 04 20.6	+1.5
	baz=229							
TWK	**Hsinying**	**1.52**	**230**	*e*P		Pg	11 04 01.1	-0.5
	baz=232							
TWK				*e*S		Sg	11 04 22.1	+0.6
	baz=232							
CHN1	**Nanshi**	**1.55**	**227**	*e*P		Pg	11 04 01.6	-0.5
	baz=229							
CHN1				*e*S		Sg	11 04 23.9	+1.6
	baz=229							
TWG	**Pinlang**	**1.56**	**204**	*e*P		Pn	11 03 58.8	-1.0
	baz=205							
SGST	**Jiashian**	**1.58**	**223**	*e*P		Pb	11 04 01.6	0.0
	baz=225							
SCZT	**Fangliau**	**2.14**	**209**	*e*P		Pb	11 04 10.0	-1.1
	baz=196							
QZH	**Quanzhou**	**2.96**	**284**	Pn		Sn	11 04 53.5	-1.1

TAP 28 11:04:19.0,24.26N×121.76E,h12km,ML3.2,3C,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.17**	**353**	⇑*i* P	Pg	11 04 23.1	+0.2
	baz=355						
ENA				*i* S	Sg	11 04 25.9	+0.3
	baz=355						
TWD	**Chiawan**	**0.24**	**220**	*i* P	Pg	11 04 24.1	+0.2
	baz=219						
TWD				*i* S	Sg	11 04 27.8	+0.4
	baz=219						
HWA	**Hwalien**	**0.32**	**207**	*e*P	Pb	11 04 26.6	0.0
	baz=214						
TWC	**Suao**	**0.35**	**13**	*i* P	Pg	11 04 26.3	+0.2
	baz=6.0						
TWC				*i* S	Sg	11 04 31.1	+0.2
	baz=6.0						
NNS	**Nan Shan**	**0.40**	**297**	⇑*i* P	Pg	11 04 27.3	+0.1
	baz=297						
NNS				S	Sg	11 04 32.6	0.0
	baz=297						
ENTT	**Nioudou**	**0.42**	**334**	⇑*i* P	Pg	11 04 27.7	+0.4
	baz=335						
TWE	**Neicheng**	**0.47**	**349**	P	Pg	11 04 28.5	+0.3
	baz=350						
TWE				S	Sg	11 04 35.0	+0.6
	baz=350						
ESL	**Shilin**	**0.54**	**214**	*e*P	Pg	11 04 29.3	-0.3
	baz=222						
NSK	**Sanguang**	**0.56**	**318**	*e*P	Pg	11 04 30.1	+0.1
	baz=318						
EHY	**Hungye**	**0.85**	**208**	*e*P	Pg	11 04 35.5	-0.1
	baz=221						
TWF1	**Yuli**	**1.00**	**205**	*e*P	Pb	11 04 37.6	-0.6
	baz=217						

NIED ***28*** *11:04:00,23.80N×121.90E,h41km,Mw4.4 Best double couple: M0=4.00000×10¹⁵ NP1:φs=59.00000°,δ=80.00000°, λ=85.00000°. NP2:φs=266.00000°,δ=11.00000°,λ=116.00000°.*
JMA ***28*** *11:04:24.5±0.5,23.82N×121.89E,h0km,M3.9*
TAP ***28*** *11:04:26.2,24.26N×121.77E,h13km,ML4.5,B*
BJI ***28*** *11:04:26.7,24.24N×121.86E,h8km,mB4.6/5,mb4.4/6, ML4.1/3,Ms4.1/3,Ms7 3,8/4*
ISCJB ***28*** *11:04:26.5±0.3,24.27N±0.01×121.85E±0.02,h17km±3km, mb3.7/14,MS3.9/1,Error ellipse: s-maj=3.4km s-min=2.1km az=28.5*
IDC ***28*** *11:04:31.4±4.8,24.28N×121.91E,h64km±45km,mb3.6/13, mb1 3.7/14,mb1mx3.7/27,mbtmp3.6/14,ML3.3/1,MS3.1/1, Ms1 3.1/1,ms1mx2.7/38,Error ellipse: s-maj=21.6km s-min=16.5km az=76.0*

ISC 28 11:04:26.3±0.6,24.25N±0.02×121.78E±0.02,h18km±4km, n87,σ0.992/131,mb3.8/14,6C-2D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.18**	**348**	⇑*i* P	**Pg**	**11 04 30.3**	**-0.6**
	baz=354						
ENA				*i* S	**Sg**	**11 04 33.3**	**-0.7**
	baz=354						
TWD	**Chiawan**	**0.24**	**224**	⇑*i* P	**Pg**	**11 04 31.4**	**-0.5**
	baz=221						
TWD				*i* S	**Sg**	**11 04 35.0**	**-0.6**
	baz=221						
HWA	**Hwalien**	**0.32**	**210**	*e*P	**Pb**	**11 04 33.4**	**-0.2**
	baz=215						
HWA				*e*S	**Sb**	**11 04 38.2**	**-0.1**
	baz=215						
TWC	**Suao**	**0.36**	**10**	⇑P	**Pg**	**11 04 33.6**	**-0.3**
	baz=5.0						
TWC				S	**Sg**	**11 04 38.5**	**-0.5**
	baz=5.0						
NNS	**Nan Shan**	**0.41**	**297**	⇑P	**Pg**	**11 04 34.5**	**-0.4**
	baz=297						
NNS				S	**Sg**	**11 04 40.1**	**-0.7**
	baz=297						
ENTT	**Nioudou**	**0.43**	**333**	*e*P	**Pg**	**11 04 33.6**	**-1.6**
	baz=335						
ESF	**Shoufeng Towns**	**0.46**	**213**	*e*P	**Pg**	**11 04 35.3**	**-0.3**
	baz=219						
ESF				*e*S	**Sb**	**11 04 43.9**	**+1.6**
	baz=219						
TWE	**Neicheng**	**0.48**	**348**	⇑P	**Pb**	**11 04 35.8**	**-0.5**
	baz=350						
TWE				S	**Sg**	**11 04 42.1**	**-0.4**
	baz=350						
ILA	**Ilan**	**0.51**	**357**	⇑P	**Pb**	**11 04 36.7**	**-0.1**
	baz=353						
ILA				S	**Sb**	**11 04 43.9**	**-0.1**
	baz=353						
ESL	**Shilin**	**0.54**	**216**	*e*P	**Pg**	**11 04 36.5**	**-0.7**
	baz=222						
TWT	**Tachien**	**0.55**	**270**	*e*P	**Pb**	**11 04 37.3**	**-0.3**
	baz=270						
TWT				*e*S	**Sg**	**11 04 44.6**	**-0.2**
	baz=270						
NSK	**Sanguang**	**0.57**	**318**	*i* P	**Pb**	**11 04 37.5**	**-0.3**
	baz=319						
NSK				*e*S	**Sg**	**11 04 44.8**	**-0.6**
	baz=319						
TEGC	**Jichi Village**	**0.58**	**202**	*e*P	**Pb**	**11 04 39.0**	**+0.9**
	baz=190						
TWA	**Mucha**	**0.74**	**346**	⇓P	**Pb**	**11 04 41.0**	**+0.2**
	baz=347						
TWA				S	**Sb**	**11 04 50.7**	**0.0**
	baz=347						
TWB1	**Santiao Chiao**	**0.77**	**14**	*e*P	**Pg**	**11 04 41.0**	**-0.5**
	baz=15						
TWB1				*e*S	**Sg**	**11 04 51.3**	**-0.5**
	baz=15						
NSTT	**Nanjuang**	**0.80**	**298**	*e*P	**Pb**	**11 04 42.0**	**+0.1**
	baz=299						
NSTT				S	**Sb**	**11 04 52.4**	**0.0**
	baz=299						
NWF	**Wu-fen Shan**	**0.81**	**0**	*e*P	**Pb**	**11 04 42.5**	**+0.5**
	baz=353						
NWF				*e*S	**Sb**	**11 04 53.1**	**+0.4**
	baz=353						
TAP1	**Taipei**	**0.82**	**343**	*e*P	**Pb**	**11 04 42.2**	**+0.2**
	baz=343						
TAP1				*e*S	**Sb**	**11 04 53.1**	**+0.4**
	baz=343						
TAP	**Taipei**	**0.82**	**342**	*e*P	**Pn**	**11 04 43.1**	**0.0**
	baz=343						
TAP				*e*S	**Sb**	**11 04 53.3**	**+0.4**
	baz=343						
EHY	**Hungye**	**0.85**	**209**	*e*P	**Pb**	**11 04 42.8**	**+0.1**
	baz=221						
SMLT	**Sun Moon Lake**	**0.89**	**246**	*e*P	**Pb**	**11 04 43.4**	**+0.2**
	baz=237						
SMLT				*e*S	**Sb**	**11 04 55.4**	**+0.5**
	baz=237						
NCU	**National Centr**	**0.89**	**323**	*e*P	**Pn**	**11 04 44.2**	**+0.1**
	baz=323						
NCU				S	**Sn**	**11 04 57.5**	**+0.9**
	baz=323						
TWS1	**Kuangyinshan**	**0.91**	**339**	*e*P	**Pn**	**11 04 44.2**	**0.0**
	baz=339						
TWS1				*e*S	**Sn**	**11 04 57.6**	**+0.7**
	baz=339						
TYC	**Yuchr**	**0.91**	**248**	P	**Pg**	**11 04 43.3**	**-0.8**
	baz=239						
TYC				*e*S	**Sb**	**11 04 55.8**	**+0.3**
	baz=239						
HSN	**Hsinchu**	**0.92**	**307**	*e*P	**Pn**	**11 04 44.8**	**+0.4**
	baz=301						
HSN				*e*S	**Sn**	**11 04 56.8**	**-0.4**
	baz=301						
TWQ1	**Liyutan**	**0.92**	**276**	*e*P	**Pn**	**11 04 45.9**	**+1.4**
	baz=276						
TWQ1				*e*S	**Sn**	**11 04 57.1**	**-0.3**
	baz=276						
NSY	**Sanyi**	**0.94**	**280**	*e*P	**Pn**	**11 04 45.3**	**+0.5**
	baz=280						
NSY				S	**Sn**	**11 04 58.0**	**+0.2**
	baz=280						
TWF1	**Yuli**	**1.00**	**206**	*e*P	**Pb**	**11 04 44.9**	**-0.3**
	baz=217						
TWF1				*e*S	**Sn**	**11 04 59.4**	**+0.1**
	baz=217						
TCU	**Taichung**	**1.01**	**264**	*i* P	**Pn**	**11 04 46.7**	**+1.0**
	baz=265						
TCU				S	**Sn**	**11 05 00.6**	**+1.1**
	baz=265						
TWY	**Chenhua**	**1.03**	**351**	*e*P	**Pn**	**11 04 46.6**	**+0.6**
	baz=335						
WNT	**Mingjian**	**1.07**	**250**	*e*P	**Pn**	**11 04 47.3**	**+0.8**
	baz=247						
WNT				S	**Sn**	**11 05 03.1**	**+2.2**
	baz=247						
YUS	**Yu-Shan**	**1.07**	**225**	*e*P	**Pb**	**11 04 46.5**	**-0.3**
	baz=226						
YUS				*e*S	**Sb**	**11 05 01.4**	**+0.8**
	baz=226						
YOJ	**Yonaguni jima**	**1.14**	**79**	P	**Pb**	**11 04 47.6**	**+0.1**
	baz=67						
YOJ				*e*S	**Sn**	**11 05 04.5**	**+1.8**
	baz=67						
YOJ	**Yonaguni jima**	**1.14**	**79**	P	**Pb**	**11 04 47.7**	**+0.1**
YOJ				S	**Sn**	**11 05 04.5**	**+1.8**
ALS	**Alishan**	**1.16**	**231**	*e*P	**Pb**	**11 04 48.1**	**0.0**
	baz=231						
CHN5	**Tsauling**	**1.20**	**237**	*e*P	**Pg**	**11 04 49.6**	**-0.1**
	baz=239						
CHN5				*e*S	**Sg**	**11 05 07.0**	**+1.7**
	baz=239						
CHKT	**Chengkung**	**1.21**	**198**	*e*P	**Pn**	**11 04 47.5**	**-0.9**
	baz=186						
WGK	**Gukeng**	**1.25**	**243**	*e*P	**Pg**	**11 04 50.4**	**-0.1**
	baz=245						
WGK				*e*S	**Sg**	**11 05 08.1**	**+1.3**
	baz=245						
ELDTW	**Lidau**	**1.27**	**214**	*e*P	**Pn**	**11 04 49.0**	**-0.4**
	baz=214						
PCYT	**Pengchaiyu**	**1.40**	**11**	*e*P	**Pb**	**11 04 51.8**	**-0.1**
	baz=10.0						
CHN4	**Tsaushan**	**1.41**	**231**	*e*P	**Pg**	**11 04 52.8**	**-0.7**
	baz=234						
CHN4				*e*S	**Sg**	**11 05 12.8**	**+0.8**
	baz=234						
WTCT	**Ta-ch'eng**	**1.42**	**254**	P	**Pb**	**11 04 52.5**	**+0.1**
	baz=256						
WTCT				*i* S	**Sg**	**11 05 12.7**	**+0.3**
	baz=256						
STYT	**Tauyuan**	**1.44**	**221**	*e*P	**Pb**	**11 04 52.2**	**-0.4**
	baz=222						
CHY	**Chiayi**	**1.45**	**239**	*e*P	**Pg**	**11 04 53.3**	**-1.1**
	baz=241						
CHY				*e*S	**Sg**	**11 05 14.0**	**+0.7**
	baz=241						
WTP	**Ta-pu**	**1.47**	**227**	*e*P	**Pb**	**11 04 53.3**	**+0.2**
	baz=230						
WTP				*e*S	**Sg**	**11 05 14.2**	**+0.5**
	baz=230						
TWK	**Hsinying**	**1.54**	**231**	*e*P	**Pb**	**11 04 54.6**	**+0.2**
	baz=234						
TWK				*e*S	**Sg**	**11 05 15.8**	**-0.3**
	baz=234						
WSF	**Szhu**	**1.55**	**247**	P	**Pb**	**11 04 54.5**	**-0.1**
	baz=258						
WSF				S	**Sg**	**11 05 16.4**	**-0.1**
	baz=258						
CHN1	**Nanshi**	**1.56**	**227**	*e*P	**Pb**	**11 04 55.2**	**+0.4**
	baz=231						
CHN1				*e*S	**Sg**	**11 05 17.2**	**+0.3**
	baz=231						
TWG	**Pinlang**	**1.57**	**205**	*e*P	**Pn**	**11 04 52.4**	**-1.0**
	baz=192						
SGST	**Jiashian**	**1.60**	**223**	*e*P	**Pb**	**11 04 55.9**	**+0.5**
	baz=226						
SGST				*e*S	**Sg**	**11 05 17.7**	**-0.4**
	baz=226						
TTN	**Taitung**	**1.60**	**201**	*e*P	**Pn**	**11 04 54.5**	**+0.7**
	baz=204						
IRIF	**Iriomote-Funau**	**1.78**	**87**	P	**Pn**	**11 04 56.7**	**+0.4**
IRIF				S	**Sn**	**11 05 19.9**	**+1.4**
SCLT	**Jiali**	**1.81**	**234**	*e*P	**Pb**	**11 04 59.3**	**+0.3**
	baz=238						
SCLT				*e*S	**Sg**	**11 05 24.1**	**-0.5**
	baz=238						
ECL	**Taimali**	**1.82**	**205**	*e*P	**Pn**	**11 04 56.0**	**-0.8**
	baz=194						
HATJ	**Hateruma jima**	**1.86**	**96**	*e*S	**Sn**	**11 05 18.5**	**-1.9**
TAI1	**Yung-k'ang**	**1.87**	**230**	*e*P	**Pb**	**11 04 59.3**	**-0.6**
	baz=234						
TWM1	**Shoushan**	**1.89**	**221**	*e*P	**Pg**	**11 05 01.7**	**-1.0**
	baz=223						
SGLT	**Jiouru**	**1.93**	**218**	*e*P	**Pb**	**11 05 00.4**	**-0.6**
	baz=222						
JKRS	**Kuro-shima**	**2.04**	**90**	P	**Pn**	**11 05 00.4**	**+0.6**
TAW	**Tawu**	**2.06**	**203**	*e*P	**Pn**	**11 04 59.5**	**-0.6**
	baz=194						
PNG	**Penghu**	**2.15**	**252**	*e*P	**Pn**	**11 05 01.5**	**+0.2**
	baz=254						
SCZT	**Fangliau**	**2.16**	**210**	*e*P	**Pn**	**11 05 03.0**	**+1.6**
	baz=198						
JIJ	**Ishigaki jima**	**2.16**	**87**	P	**Pn**	**11 05 01.8**	**+0.3**
JIJ				S	**Sn**	**11 05 29.7**	**+1.9**
LAY	**Lan-yu**	**2.21**	**186**	*e*P	**Pn**	**11 05 00.5**	**-1.7**
	baz=188						
TWP	**Hsiaoliuchiu**	**2.30**	**215**	*e*P	**Pb**	**11 05 05.6**	**-1.8**
	baz=236						
HEN	**Hengchun**	**2.44**	**203**	*e*P	**Pb**	**11 05 07.6**	**-2.0**
	baz=196						
TWK1	**Hengchun**	**2.47**	**202**	*e*P	**Pb**	**11 05 08.3**	**-1.9**
	baz=192						
TSEB	**Hengchuen, Pin**	**2.48**	**199**	*e*P	**Pn**	**11 05 07.5**	**+1.6**
	baz=192						
JTJ	**Tarama**	**2.69**	**81**	P	**Pn**	**11 05 10.1**	**+1.3**
QZH	**Quanzhou**	**2.98**	**284**	⇓*i* Pn	**Pn**	**11 05 12.0**	**-0.8**
QZH				Sn	**Sn**	**11 05 46.5**	**-1.6**
QZH				smax	smax		
	comp=N,820nm,0.7s						
QZH				smax	smax		
	comp=E,590nm,1.0s						
QZH				LR	LR		
	comp=Z,3μm,9.4s						
KNM	**Kinmen**	**3.06**	**274**	*e*P	**Pn**	**11 05 15.3**	**+1.4**
	baz=274						
KSRS	**Korea Array**	**14.17**	**20**	P	**Pn**	**11 07 47.8**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=211,slow=21,SNR=3.1						
DAV	**Davao City (W)**	**17.47**	**167**	LR	LR	11 15 58.5	
	comp=Z,68nm,20.0s,baz=10,slow=39						
USRK	**Ussuriysk Arra**	**21.58**	**20**	P	**P**	**11 09 15.5**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=230,slow=11,SNR=4.1						
CMAR	**Chiang Mai Arr**	**22.02**	**259**	P	**P**	**11 09 23.4**	**+3.3**
	comp=Z,1.6nm,1.0s,baz=64,slow=8.1,SNR=3.5						
GTA	**Gaotai**	**23.92**	**314**	*e*P	**P**	**11 09 40.8**	**+1.3**
GTA				pP	**pP**	**11 09 45.3**	**+0.5**
GTA				sP	**sP**	**11 09 47.8**	**+0.7**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,51nm,5.0s						
GTA				LR	LR		
	comp=N,130nm,12.4s						
GTA				LR	LR		
	comp=E,260nm,12.8s						
GTA				LR	LR		
	comp=Z,220nm,13.8s						
SONM	**Songino Array**	**26.52**	**336**	P	**P**	**11 10 02.2**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=151,slow=10.0,SNR=6.3						
MKAR	**Makanchi Array**	**38.67**	**316**	P	**P**	**11 11 49.1**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=106,slow=9.1,SNR=15						
KURBB	**Kurchatov Arra**	**42.41**	**320**	P	**P**	**11 12 18.5**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=113,slow=9.3,SNR=5.0						
WRA	**Warramunga Arr**	**45.60**	**163**	P	**P**	**11 12 44.4**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=345,slow=8.7,SNR=6.8						
BVAR	**Borovoye Array**	**47.97**	**321**	P	**P**	**11 13 03.9**	**0.0**
	comp=Z,1.0nm,0.5s,baz=99,slow=6.8,SNR=4.6						
ASAR	**Alice Springs**	**49.07**	**165**	P	**P**	**11 13 12.1**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=348,slow=6.8,SNR=8.4						
ILAR	**Eielson Array**	**68.90**	**27**	P	**P**	**11 15 28.8**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=269,slow=5.2,SNR=7.1						
FINES	**FINESS Array B**	**71.66**	**330**	P	**P**	**11 15 45.8**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=65,slow=6.7,SNR=6.4						
BRTR	**Keskin Array B**	**73.57**	**307**	P	**P**	**11 15 59.0**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=80,slow=6.8,SNR=7.5						
YKA	**Yellowknife Ar**	**82.69**	**23**	P	**P**	**11 16 47.4**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=309,slow=4.8,SNR=15						
NVAR	**Mina Array Bea**	**96.01**	**43**	P	**P**	**11 17 52.7**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=292,slow=4.8,SNR=3.2						

TAP 28 11:09:45.1,24.35N×121.68E,h4km,ML1.2,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.10**	**34**	*e*P	Pg	11 09 46.7	-0.5
	baz=38						
ENA				*e*S	Sg	11 09 49.6	+1.1
	baz=38						
TWD	**Chiawan**	**0.28**	**196**	*e*P	Pg	11 09 51.3	+0.8
	baz=195						
NNS	**Nan Shan**	**0.30**	**288**	*e*P	Pg	11 09 51.2	+0.1
	baz=288						
NNS				S	Sg	11 09 56.3	+1.2
	baz=288						
TWC	**Suao**	**0.30**	**30**	*e*P	Pg	11 09 51.6	+0.6
	baz=18						
TWC				*e*S	Sg	11 09 56.4	+1.4
	baz=18						
ENTT	**Nioudou**	**0.31**	**340**	*e*P	Pg	11 09 51.3	+0.1
	baz=341						
ENTT				S	Sg	11 09 57.0	+1.7
	baz=341						
TWE	**Neicheng**	**0.37**	**358**	*e*P	Pg	11 09 53.2	+0.9
	baz=360						
NSK	**Sanguang**	**0.44**	**318**	*e*P	Pg	11 09 53.7	-0.1
	baz=319						

TAP 28 11:09:49.7,24.26N×121.76E,h13km,ML2.0,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.17**	**354**	*e*P	Pg	11 09 53.8	+0.1
	baz=356						
ENA				*e*S	Sg	11 09 56.8	+0.4
	baz=356						
TWD	**Chiawan**	**0.23**	**220**	P	Pg	11 09 54.9	+0.2
	baz=219						
TWD				S	Sg	11 09 58.6	+0.4
	baz=219						
TWC	**Suao**	**0.36**	**13**	P	Pg	11 09 57.2	+0.3
	baz=10.0						
TWC				*e*S	Sg	11 10 02.4	+0.6
	baz=10.0						
NNS	**Nan Shan**	**0.40**	**297**	*e*P	Pg	11 09 57.8	-0.1
	baz=297						
NNS				S	Sg	11 10 03.4	+0.1
	baz=297						
ENTT	**Nioudou**	**0.42**	**335**	*e*P	Pg	11 09 58.4	+0.4
	baz=335						
ENTT				S	Sg	11 10 04.3	+0.6
	baz=335						
TWE	**Neicheng**	**0.47**	**350**	P	Pg	11 09 59.0	+0.1
	baz=351						
TWE				S	Sg	11 10 05.3	+0.1
	baz=351						
NSK	**Sanguang**	**0.55**	**319**	*e*P	Pb	11 10 01.0	-0.3
	baz=319						
NSK				S	Sg	11 10 08.5	+0.4
	baz=319						

IDC 28 11:19:27.4±26.0,18.50S×173.06W,h0km,mb4.3/4, mb1 4.4/4,mb1mx3.8/21,mbtmp4.3/4,Error ellipse: s-maj=481.0km s-min=166.8km az=73.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.37**	**261**	P	P	11 26 51.0	+0.4
	3.1nm,0.4s,baz=87,slow=11,SNR=6.6						
STKA	**Stephens Creek**	**42.84**	**243**	P	P	11 27 27.8	+0.3
	2.0nm,0.9s,baz=86,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**49.52**	**259**	P	P	11 28 19.8	-0.5
	1.6nm,0.4s,baz=97,slow=8.3,SNR=26						
ASAR	**Alice Springs**	**49.52**	**254**	P	P	11 28 19.9	-0.4
	2.0nm,0.3s,baz=88,slow=8.1,SNR=83						

TAP 28 11:52:10.0,24.25N×121.75E,h12km,ML3.7,2C-1D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.18**	**358**	⇑*i* P	Pg	11 52 14.2	+0.2
ENA				*i* S	Sg	11 52 17.2	+0.3
TWD	**Chiawan**	**0.22**	**219**	⇑*i* P	Pg	11 52 14.7	0.0
	baz=218						
TWD				*i* S	Sg	11 52 18.4	+0.5
	baz=218						
HWA	**Hwalien**	**0.30**	**206**	*e*P	Pb	11 52 17.1	-0.3
	baz=213						
TWC	**Suao**	**0.37**	**15**	P	Pg	11 52 17.8	+0.3
	baz=8.0						
TWC				*i* S	Sg	11 52 22.8	+0.4
	baz=8.0						
NNS	**Nan Shan**	**0.39**	**299**	*i* P	Pg	11 52 18.2	+0.2
	baz=299						
NNS				*i* S	Sg	11 52 23.5	+0.2
	baz=299						
ENTT	**Nioudou**	**0.42**	**337**	*i* P	Pg	11 52 18.8	+0.3
	baz=337						
ENTT				*i* S	Sg	11 52 24.8	+0.7
	baz=337						

ESF	Shoufeng Towns	0.44	210	eP	Pg	11 52 18.9	+0.2
	baz=220						
WHF	Hehuan Shan	0.45	257	eP	Pg	11 52 19.0	-0.5
WHF	baz=257			eS	Sg	11 52 25.5	-0.5
	baz=257						
TWE	Neicheng	0.47	351	*i* P	Pg	11 52 19.8	+0.4
TWE	baz=358			S	Sb	11 52 26.6	-0.7
	baz=358						
ILA	Ilan	0.51	0	eP	Pb	11 52 20.7	-0.3
ILA	baz=355			eS	Sb	11 52 28.4	0.0
	baz=355						
ESL	Shilin	0.52	214	eP	Pg	11 52 20.1	-0.2
	baz=221						
TWT	Tachien	0.52	270	eP	Pg	11 52 20.9	+0.4
TWT	baz=271			*i* S	Sg	11 52 27.9	+0.3
	baz=271						
NSK	Sanguang	0.55	320	⇓*i* P	Pg	11 52 21.2	+0.2
NSK	baz=321			*i* S	Sg	11 52 28.7	+0.3
	baz=321						
TWA	Mucha	0.74	348	eP	Pg	11 52 24.6	+0.1
	baz=338						
NSTT	Nanjuang	0.78	299	eP	Pb	11 52 26.0	+0.4
NSTT	baz=300			eS	Sb	11 52 36.2	+0.1
	baz=300						
TWB1	Santiao Chiao	0.79	16	eP	Pn	11 52 26.6	-0.3
TWB1	baz=16			eS	Sg	11 52 35.0	-0.6
	baz=16						
TAP1	Taipei	0.81	346	eP	Pn	11 52 26.8	-0.5
TAP1	baz=345			eS	Sg	11 52 36.4	0.0
	baz=345						
NWF	Wu-fen Shan	0.82	2	eP	Pb	11 52 26.4	+0.1
NWF	baz=354			eS	Sg	11 52 36.7	-0.1
	baz=354						
EHY	Hungye	0.84	208	eP	Pg	11 52 26.1	-0.2
EHY	baz=213			eS	Sn	11 52 39.2	-0.7
	baz=213						
SMLT	Sun Moon Lake	0.86	245	eP	Pg	11 52 26.8	+0.1
	baz=245						
NCU	National Centr	0.88	325	eP	Pn	11 52 28.6	+0.3
NCU	baz=325			eS	Sn	11 52 41.4	+0.4
	baz=325						
TYC	Yuchr	0.88	247	eP	Pg	11 52 26.4	-0.7
	baz=247						
TWQ1	Liyutan	0.89	276	eP	Pn	11 52 29.5	+1.1
	baz=276						
HSN	Hsinchu	0.90	308	eP	Pn	11 52 28.6	+0.2
	baz=300						
TWS1	Kuangyinshan	0.90	341	eP	Pb	11 52 27.8	+0.2
TWS1	baz=349			eS	Sn	11 52 42.0	+0.6
	baz=349						
NSY	Sanyi	0.91	281	eP	Pn	11 52 29.6	+0.9
	baz=280						
TCU	Taichung	0.98	264	eP	Pn	11 52 30.5	+0.9
TCU	baz=265			eS	Sn	11 52 44.3	+0.8
	baz=265						
TWF1	Yuli	0.98	205	eP	Pb	11 52 28.7	-0.3
	baz=217						
TWY	Chenhua	1.03	353	eP	Pg	11 52 30.1	+0.2
	baz=4.0						
WNT	Mingjian	1.04	249	eP	Pn	11 52 31.0	+0.5
WNT	baz=245			eS	Sn	11 52 46.1	+1.2
	baz=245						
YUS	Yu-Shan	1.05	224	eP	Pb	11 52 30.1	-0.7
	baz=234						
ALS	Alishan	1.13	230	eP	Pb	11 52 31.6	-0.4
	baz=230						
YOJ	Yonaguni jima	1.17	79	eP	Pb	11 52 31.2	-1.0
	baz=68						
CHN5	Tsauling	1.18	237	eP	Pg	11 52 33.5	+0.7
CHN5	baz=227			eS	Sn	11 52 49.6	+1.1
	baz=227						
CHKT	Chengkung	1.20	197	eP	Pn	11 52 32.2	-0.4
	baz=184						
ELDTW	Lidau	1.25	212	eP	Pn	11 52 33.0	-0.4
	baz=213						
CHN4	Tsaushan	1.39	230	eP	Pg	11 52 36.6	-0.1
CHN4	baz=232			eS	Sg	11 52 56.9	+2.2
	baz=232						
WTCT	Ta-ch'eng	1.39	254	eP	Pg	11 52 39.0	+2.1
WTCT	baz=255			eS	Sg	11 52 56.1	+1.2
	baz=255						
PCYT	Pengchaiyu	1.41	12	eP	Pn	11 52 35.7	+0.2
	baz=11						
STYT	Tauyuan	1.41	220	eP	Pb	11 52 36.4	0.0
STYT	baz=221			eS	Sg	11 52 57.0	+1.2
	baz=221						
CHY	Chiayi	1.42	239	eP	Pg	11 52 37.2	-0.2
CHY	baz=240			eS	Sg	11 52 57.1	+1.2
	baz=240						
WTP	Ta-pu	1.44	226	eP	Pb	11 52 37.2	+0.3
WTP	baz=228			eS	Sg	11 52 58.9	+2.3
	baz=228						
TWK	Hsinying	1.51	230	eP	Pb	11 52 38.5	+0.4
TWK	baz=232			eS	Sg	11 52 59.5	+0.5
	baz=232						
CHN1	Nanshi	1.54	227	eP	Pg	11 52 39.7	+0.1
CHN1	baz=218			eS	Sg	11 53 01.8	+2.0
	baz=218						
TWG	Pinlang	1.55	204	eP	Pg	11 52 39.7	-0.1
	baz=205						
SGST	Jiashian	1.58	223	eP	Pb	11 52 38.9	-0.3
	baz=224						
ECL	Taimali	1.80	204	eP	Pb	11 52 42.9	-0.1
	baz=193						
TWM1	Shoushan	1.87	221	eP	Pb	11 52 44.7	+0.6
	baz=222						
SCZT	Fangliau	2.14	209	eP	Pb	11 52 49.7	+1.0
	baz=198						
TWK1	Hengchun	2.45	201	eP	Pb	11 52 52.0	-2.1
	baz=190						

*NIED **28** 11:52:00,41.40N×140.10E,h5km,Mw3.8 Best double couple: M0=6.13000×10^14 NP1:φs=13.00000°,δ54.00000°, λ51.00000°. NP2:φs=248.00000°,δ51.00000°,λ132.00000°.*
*ISCJB **28** 11:52:50.7±0.7,41.41N±0.03×140.11E±0.04,h12km±4km, mb3.9/12,MS3.2/2,Error ellipse: s-maj=5.0km s-min=3.9km az=137.2*
*IDC **28** 11:52:50.3±0.8,41.36N×140.18E,h0km,mb3.9/8, mb1 4.2/11,mb1mx3.9/26,mbtmp3.9/11,ML3.5/4,MS3.1/3, Ms1 3.2/3,ms1mx2.5/41,Error ellipse: s-maj=23.7km s-min=17.5km az=135.0*
*JMA **28** 11:52:50.9,41.42N×140.11E,h8km±1km,M4.0 Broadband fault plane solution: P waves. NP1: φs=248.00000°,λ65.00000°,λ135.00000°. NP2:φs=1.00000°, δ50.00000°,λ34.00000°. Principal axes: T Plg49.0000°, Azm207.0000°; N Plg40.0000°, Azm46.0000°; P Plg9.0000°, Azm308.0000°;*
JMA Felt IV J1.
*NEIC **28** 11:52:55.3±2.2,41.37N×140.17E,h32km±17km,mb4.1/4 Error ellipse: s-maj=12.5km s-min=7.2km az=131.0*

ISC 28 11:52:51.0±1.2,41.41N±0.03×140.14E±0.03,h4km±8km, n39,σ1§17/50,mb4.0/12,4C-3D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSR	Shiriuchi	0.24	59	⇑P	Pg	11 52 56.2	+0.5
JSR				eS	Sg	11 52 59.7	+0.8
JSI2	Shiura 2	0.40	150	⇓P	Pg	11 52 59.1	+0.3
JSI2				eS	Sb	11 53 05.4	-1.8
JOT	Ohata	0.68	92	⇓P	Pg	11 53 04.2	+0.1
JOT				eS	Sb	11 53 13.7	-1.6
JYM2	Yakumo 2	0.73	13	⇑P	Pg	11 53 04.7	-0.4
JYM2				eS	Sg	11 53 14.5	-0.1
JIW	Iwasaki	0.82	187	⇑P	Pg	11 53 06.5	-0.2
JKB	Kayabe	0.82	54	⇑P	Pg	11 53 06.8	0.0
JKB				eS	Sg	11 53 17.7	+0.2
JOSM	Okushiri--Mats	0.84	324	P	Pg	11 53 06.1	-1.1
JOSM				eS	Sg	11 53 17.2	-0.9
JTM	Tenmabayashi	0.93	131	⇓P	Pg	11 53 08.5	-0.4
ERM	Erimo	2.34	74	ePn	Pn	11 53 30.7	+0.4
ERM				eSn	Sn	11 53 58.2	-1.2
ASAJ	Asahikawa	3.26	33	ePn	Pn	11 53 44.7	+1.8
ASAJ				eSn	Sn	11 54 21.9	-0.2
ASAJ	Asahikawa	3.26	33	Pn	Pn	11 53 42.8	-0.1
	2.9nm,0.3s,baz=227,slow=11,SNR=33						
MAJO	Matsushiro	5.08	198	ePn	Pn	11 54 08.7	+0.6
	23nm,0.6s						
MAT	Matsushiro	5.08	198	P	Pn	11 54 08.9	+0.9
MAT				S	Sn	11 55 04.9	-2.3
MJAR	Matsushiro Arr	5.08	198	Pn	Pn	11 54 09.2	+1.1
MJAR	Matsushiro Arr	5.08	198	Pn	Pn	11 54 09.2	+1.1
	2.6nm,0.3s,baz=327,slow=18,SNR=20						
USRK	Ussuriysk Arra	6.61	298	Pn	Pn	11 54 27.7	-1.2
	1.5nm,0.3s,baz=98,slow=14,SNR=17						
USRK				Sn	Sn	11 55 45.4	+0.7
	1.2nm,0.3s,baz=106,slow=28,SNR=8.2						
USRK				LR	LR	11 56 53.8	
	comp=Z,134nm,20.0s,baz=303,slow=37						
KSRS	Korea Array	10.24	251	Pn	Pn	11 55 20.9	+2.1
	3.0nm,0.3s,baz=62,slow=14,SNR=66						
KSRS				Sn	Sn	11 57 17.2	+3.2
	0.8nm,0.3s,baz=67,slow=24,SNR=13						
KSAR	Wonju Array Be	10.28	251	Pn	Pn	11 55 20.9	+1.6
KSAR				Sn	Sn	11 57 17.2	+2.4
ZALV	Zalesovo Beam	38.33	308	LR	LR	12 16 22.0	
	comp=Z,23nm,18.6s,baz=159,slow=37						
ILAR	Eielson Array	46.39	34	P	P	12 01 18.6	+0.4
ILAR	Eielson Array	46.39	34	P	P	12 01 18.6	+0.4
	2.2nm,0.9s,baz=273,slow=6.6,SNR=24						
EGAK	Eagle	48.81	34	eP	P	12 01 38.2	+1.2
	2.8nm,0.9s						
KKAR	Karatay Array	50.18	297	eP	P	12 01 47.2	-0.6
	0.9nm,0.6s						
ABKAR	Akbulak array	54.43	307	eP	P	12 02 18.7	-0.5
	0.1nm,0.3s						
YKA	Yellowknife Ar	60.55	31	P	P	12 03 01.4	-0.6
YKA	Yellowknife Ar	60.55	31	P	P	12 03 01.4	-0.6
	0.6nm,0.9s,baz=307,slow=7.0,SNR=4.8						
WRAB	Tennant Creek	61.26	186	eP	P	12 03 08.3	+0.9
	1.1nm,0.6s						
WRA	Warramunga Arr	61.27	186	P	P	12 03 06.0	-1.5
WRA	Warramunga Arr	61.27	186	P	P	12 03 06.0	-1.5
	1.2nm,0.6s,baz=4.3,slow=7.2,SNR=8.0						
FINES	FINESS Array B	64.50	331	P	P	12 03 28.3	-0.2
FINES	FINESS Array B	64.50	331	P	P	12 03 28.3	-0.2
	1.2nm,0.8s,baz=41,slow=9.3,SNR=2.7						
NOA	NORSAR Array B	69.78	336	P	P	12 04 03.6	+1.5
NOA	NORSAR Array B	69.78	336	P	P	12 04 03.6	+1.5
	0.5nm,0.7s,baz=61,slow=8.3,SNR=3.3						
NOA				LR	LR	12 36 30.5	
	comp=Z,18nm,18.3s,baz=315,slow=38						
NVAR	Mina Array Bea	73.17	54	P	P	12 04 23.7	+0.5
NVAR	Mina Array Bea	73.17	54	P	P	12 04 23.7	+0.5
	0.7nm,0.6s,baz=297,slow=5.9,SNR=6.8						
PDAR	Pinedale Array	75.31	46	P	P	12 04 35.4	-0.2
PDAR	Pinedale Array	75.31	46	P	P	12 04 35.4	-0.2
	1.2nm,0.7s,baz=120,slow=9.3,SNR=12						
TXAR	Lajitas Array	88.21	52	P	P	12 05 43.4	-0.3
TXAR	Lajitas Array	88.21	52	P	P	12 05 43.4	-0.3
	0.2nm,0.5s,baz=291,slow=3.5,SNR=4.7						

IDC 28 11:55:58.5±3.5,5.99S×150.19E,h0km,mb3.2/2, mb1 3.5/3,mb1mx3.3/18,mbtmp3.3/3,ML2.4/1,Error ellipse: s-maj=136.6km s-min=42.0km az=118.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.53	221	Pn	Pn	11 57 09.8	+1.4
	1.2nm,0.3s,baz=14,slow=17,SNR=5.6						
PMG				Sn	Sn	11 58 00.1	-1.7
	3.4nm,0.3s,baz=182,slow=12,SNR=6.8						
WRA	Warramunga Arr	20.73	227	P	P	12 00 40.6	-0.2
	1.3nm,0.6s,baz=52,slow=11,SNR=4.7						
ASAR	Alice Springs	23.54	220	P	P	12 01 09.9	-0.8
	0.4nm,0.8s,baz=53,slow=9.3,SNR=5.0						
TORD	Torodi Ar. Bea	148.16	285	PKPbc	PKPbc	12 15 47.0	-0.4
	0.2nm,0.5s,baz=76,slow=2.7,SNR=4.2						

*IDC **28** 12:13:11.3±2.5,64.50N×149.77W,h0km,mb3.1/2, mb1 3.6/3,mb1mx3.3/25,mbtmp3.1/3,ML2.8/1,Error ellipse: s-maj=25.3km s-min=15.3km az=88.0*
*ISCJB **28** 12:13:15.2±0.4,64.66N±0.03×149.50W±0.07,h46km±8km, mb3.1/2,Error ellipse: s-maj=5.7km s-min=4.1km az=142.9*
*NEIC **28** 12:13:15.7,64.61N×149.49W,h23km,ML3.7(AEIC),After AEIC.*

ISC 28 12:13:14.9±1.1,64.65N±0.03×149.54W±0.03,h27km±9km, n49,σ1§15/59,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEA	Nenana	0.21	109	P	Pb	12 13 20.8	0.0
BWN	Browne	0.48	176	P	Pb	12 13 25.1	+0.3
MDM	Murphy Dome	0.64	60	P	Pb	12 13 28.0	+0.4
MDM				S	Sb	12 13 36.2	+0.1
MLY	Manley	0.64	307	P	Pn	12 13 29.0	+0.7
WRH	Wood River Hil	0.65	105	P	Pb	12 13 27.6	-0.1
CCB	Clear Creek Bu	0.74	89	P	Pb	12 13 29.4	+0.2
CCB				S	Sb	12 13 39.2	+0.2
COLA	College	0.76	72	P	Pn	12 13 29.8	+0.1
COLA				S	Sn	12 13 40.0	-0.3
MCK	McKinley	0.95	164	P	Pn	12 13 32.5	0.0
MCK				S	Sb	12 13 44.0	-1.0
GLM	Gilmore Dome	0.98	69	P	Pb	12 13 33.1	-0.2
HDA	Harding Lake	1.14	101	P	Pn	12 13 34.6	-0.5
HDA				S	Sn	12 13 50.8	+1.0
IL1	Eielson Array	1.15	82	P	Pn	12 13 35.1	0.0
ILAR	Eielson Array	1.15	82	Pn	Pn	12 13 35.0	-0.1
ILAR				Pg	Pb	12 13 36.6	+0.7
ILAR				Lg	Lg	12 13 50.4	
ILAR	Eielson Array	1.15	82	Pn	Pn	12 13 35.0	-0.1
	367nm,0.3s,baz=256,slow=17,SNR=909						
ILAR				Pg	Pb	12 13 36.6	+0.7
	367nm,0.3s,baz=265,slow=13,SNR=276						
ILAR				Lg	Lg	12 13 50.4	
	756nm,0.3s,baz=261,slow=29,SNR=65						
TRF	Thorofare Moun	1.24	196	P	Pn	12 13 36.1	-0.5
RND	Reindeer	1.28	166	P	Pb	12 13 37.5	-0.8
CHUM	Lake Minchumin	1.44	239	P	Pn	12 13 39.3	+0.2
CAST	Castle Rocks	1.67	223	P	Pb	12 13 43.9	-0.9
DHY	Denali Highway	1.84	148	P	Pn	12 13 45.8	+0.9
IM3	Indian Mountai	2.22	309	P	Pn	12 13 51.0	+1.1
PAX	Paxson	2.47	131	P	Pn	12 13 54.5	+1.2
SCRK	Sand Creek	2.51	103	P	Pn	12 13 54.6	+0.7
COLD	Coldfoot	2.61	354	P	Pn	12 13 56.8	+1.6
SKT	Skwentna	2.82	199	P	Pn	12 13 59.0	+0.8
SML	Sawmill	2.90	169	P	Pn	12 14 00.3	+1.0
HARP	HAARP	2.98	137	P	Pn	12 14 02.5	+2.1
SCM	Sheep Creek Mo	3.00	160	P	Pn	12 14 02.0	+1.4
PMR	Palmer	3.07	176	P	Pn	12 14 02.7	+1.1
MENT	Mentasta	3.10	121	ePn	Pn	12 14 02.6	+0.6
MENT				eSn	Sn	12 14 38.1	0.0
STLK	Strandline Lak	3.33	199	P	Pn	12 14 06.1	+0.9
TT01	Tatalina	3.37	242	P	Pn	12 14 05.3	-0.3
BM3	Burnt Mountain	3.44	34	P	Pn	12 14 07.2	+0.6
KLU	Klutina	3.57	151	P	Pn	12 14 11.5	+3.1
EGAK	Eagle	3.60	84	ePn	Pn	12 14 09.1	+0.3
EGAK				eSn	Sn	12 14 51.8	+1.5
SPU	Mount Spurr	3.66	199	P	Pn	12 14 10.9	+1.1
CKL	Chakachamna La	3.69	202	P	Pn	12 14 11.8	+1.6
BCA3	Beaver Creek A	3.78	111	P	Pn	12 14 11.1	-0.3
BMRM	Bremner River	4.33	146	ePn	Pn	12 14 19.1	+0.2
BMRM				eSn	Sn	12 15 10.7	+2.2
VRDI	Verde Repeater	4.41	138	P	Pn	12 14 22.0	+1.8
DAWY	Dawson	4.45	93	P	Pn	12 14 21.4	+0.8
RSO	Redoubt South	4.46	201	ePn	Pn	12 14 22.1	+1.3
RSO				eSn	Sn	12 15 13.4	+1.6
PTPK	Patty Peak	4.74	134	P	Pn	12 14 28.0	+3.3
CNPM	China Poot	5.20	190	P	Pn	12 14 33.6	+2.8
INK	Inuvik	7.38	53	P	Pn	12 15 01.6	+1.0
YKA	Yellowknife Ar	15.58	82	Pn	Pn	12 16 50.1	-2.1
YKA	Yellowknife Ar	15.58	82	Pn	Pn	12 16 50.1	-2.1
	0.1nm,0.3s,baz=294,slow=13,SNR=1.4						
PDAR	Pinedale Array	31.39	115	P	P	12 19 32.4	-1.1
PDAR	Pinedale Array	31.39	115	P	P	12 19 32.4	-1.1
	0.1nm,0.4s,baz=318,slow=2.4,SNR=1.9						
NVAR	Mina Array Bea	32.02	130	P	P	12 19 39.0	0.0
NVAR	Mina Array Bea	32.02	130	P	P	12 19 39.0	0.0
	0.3nm,0.8s,baz=325,slow=7.8,SNR=2.0						

TAP 28 12:20:24.3,24.25N×121.75E,h12km,ML3.6,9C-2D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	Nanau	0.17	356	⇑*i*P	Pg	12 20 28.4	+0.2
ENA	baz=358			S	Sg	12 20 31.4	+0.3
	baz=358						
TWD	Chiawan	0.23	220	⇑*i*P	Pg	12 20 29.3	+0.2
TWD	baz=219			*i* S	Sg	12 20 32.8	+0.5
	baz=219						
HWA	Hwalien	0.31	206	eP	Pb	12 20 31.2	-0.5
	baz=213						
TWC	Suao	0.36	14	⇑*i*P	Pg	12 20 31.8	+0.1
TWC	baz=7.0			*i* S	Sg	12 20 37.1	+0.5
	baz=7.0						
NNS	Nan Shan	0.39	298	⇑*i*P	Pg	12 20 32.5	+0.2
NNS	baz=299			S	Sg	12 20 37.8	0.0
	baz=299						
ENTT	Nioudou	0.42	336	⇑*i*P	Pg	12 20 33.0	+0.3
ENTT	baz=337			S	Sg	12 20 38.9	+0.5
	baz=337						
ESF	Shoufeng Towns	0.44	211	eP	Pg	12 20 33.3	+0.2
	baz=220						
WHF	Hehuan Shan	0.46	256	⇑*i*P	Pg	12 20 33.5	-0.4
WHF	baz=257			S	Sg	12 20 39.9	-0.5
	baz=257						
TWE	Neicheng	0.47	350	⇑*i*P	Pg	12 20 34.0	+0.4
TWE	baz=352			*i* S	Sb	12 20 40.8	-0.7
	baz=352						
ILA	Ilan	0.51	359	eP	Pg	12 20 34.7	+0.4
ILA	baz=354			eS	Sb	12 20 42.6	+0.1
	baz=354						
ESL	Shilin	0.53	214	⇑P	Pg	12 20 34.4	-0.3
	baz=221						
TWT	Tachien	0.53	270	P	Pb	12 20 35.4	-0.3
TWT	baz=270			S	Sg	12 20 42.7	+0.6
	baz=270						
NSK	Sanguang	0.55	319	⇓*i*P	Pg	12 20 35.5	+0.2
NSK	baz=320			S	Sg	12 20 42.9	+0.2
	baz=320						
TWA	Mucha	0.74	348	eP	Pb	12 20 39.2	+0.1
	baz=348						
NSTT	Nanjuang	0.78	299	P	Pb	12 20 40.0	+0.1
NSTT	baz=299			S	Sb	12 20 50.4	0.0
	baz=299						
TWB1	Santiao Chiao	0.78	16	eP	Pg	12 20 39.3	-0.1
TWB1	baz=16			eS	Sg	12 20 49.4	-0.3
	baz=16						
TAP1	Taipei	0.81	345	eP	Pn	12 20 41.3	-0.2
TAP1	baz=344			eS	Sb	12 20 51.0	-0.1
	baz=344						
NWF	Wu-fen Shan	0.81	2	eP	Pg	12 20 40.2	+0.1
NWF	baz=354			eS	Sg	12 20 50.6	-0.3
	baz=354						
EHY	Hungye	0.84	208	eP	Pg	12 20 40.3	-0.3
	baz=220						
SMLT	Sun Moon Lake	0.86	245	eP	Pg	12 20 40.9	-0.2
	baz=245						
NCU	National Centr	0.88	324	eP	Pn	12 20 42.8	+0.3
NCU	baz=324			eS	Sn	12 20 55.1	-0.1
	baz=324						
TYC	Yuchr	0.89	247	eP	Pg	12 20 41.3	-0.2
TYC	baz=239			eS	Sg	12 20 53.6	+0.2
	baz=239						
TWS1	Kuangyinshan	0.90	340	eP	Pn	12 20 42.7	0.0
TWS1	baz=340			eS	Sn	12 20 55.2	-0.4
	baz=340						
HSN	Hsinchu	0.90	308	eP	Pn	12 20 43.0	+0.3
	baz=300						
TWQ1	Liyutan	0.90	276	eP	Pn	12 20 42.5	-0.3
	baz=276						
NSY	Sanyi	0.92	280	eP	Pn	12 20 43.2	+0.2
NSY	baz=281			S	Sn	12 20 56.2	0.0
	baz=281						
TCU	Taichung	0.99	264	eP	Pn	12 20 45.0	+1.1
TCU	baz=265			eS	Sn	12 20 58.5	+0.7
	baz=265						
TWF1	Yuli	0.99	205	eP	Pb	12 20 41.5	-1.9
	baz=217						
TWY	Chenhua	1.03	352	eP	Pb	12 20 43.7	-0.3
	baz=352						
WNT	Mingjian	1.05	249	eP	Pn	12 20 45.7	+0.9
WNT	baz=247			eS	Sn	12 21 01.3	+2.1
	baz=247						
YUS	Yu-Shan	1.06	224	eP	Pb	12 20 44.6	-0.5
YUS	baz=225			eS	Sb	12 20 59.1	-0.3
	baz=225						
ALS	Alishan	1.14	230	⇑*i*P	Pb	12 20 46.2	-0.1
ALS	baz=230			eS	Sn	12 21 02.2	0.0
	baz=230						
YOJ	Yonaguni jima	1.17	80	⇓*i*P	Pb	12 20 46.0	-0.3
YOJ	baz=67			S	Sn	12 21 02.9	+0.7
	baz=67						
CHN5	Tsauling	1.18	237	eP	Pg	12 20 47.2	0.0
CHN5	baz=238			eS	Sn	12 21 04.2	+1.4
	baz=238						
CHKT	Chengkung	1.20	197	eP	Pn	12 20 44.9	-2.0
WGK	Gukeng	1.23	243	eP	Pg	12 20 48.3	+0.4
	baz=243						
ELDTW	Lidau	1.26	213	eP	Pn	12 20 46.0	-1.8
	baz=213						
CHN4	Tsaushan	1.39	230	P	Pg	12 20 51.1	0.0
CHN4	baz=232			eS	Sg	12 21 10.6	+1.4
	baz=232						
PCYT	Pengchaiyu	1.40	12	eP	Pg	12 20 50.9	-0.4
	baz=11						
WTCT	Ta-ch'eng	1.40	254	eP	Pb	12 20 50.7	+0.4
WTCT	baz=255			eS	Sg	12 21 10.9	+1.4
	baz=255						
STYT	Tauyuan	1.42	220	eP	Pn	12 20 49.7	-0.3
	baz=222						
CHY	Chiayi	1.43	239	eP	Pg	12 20 52.0	+0.2
CHY	baz=240			eS	Sg	12 21 11.9	+1.5
	baz=240						
WTP	Ta-pu	1.45	226	eP	Pb	12 20 51.2	-0.1
WTP	baz=228			eS	Sg	12 21 12.2	+1.1
	baz=228						
TWK	Hsinying	1.52	230	eP	Pn	12 20 51.3	-0.1
	baz=231						
WSF	Szhu	1.53	247	eP	Pb	12 20 52.2	-0.4
WSF	baz=258			eS	Sg	12 21 14.5	+0.9
	baz=258						
CHN1	Nanshi	1.55	227	eP	Pb	12 20 53.3	+0.4
CHN1	baz=230			eS	Sg	12 21 14.1	-0.1
	baz=230						
TWG	Pinlang	1.56	204	eP	Pn	12 20 49.9	-1.9
	baz=205						

SGST	**Jiashian**	**1.58**	**223**	*e*P	Pb	12 20 53.3	-0.2
	baz=224							
SGST				*e*S	Sg	12 21 15.1	-0.3
	baz=224							
ECL	**Taimali**	**1.81**	**204**	*e*P	Pb	12 20 56.8	-0.5
	baz=193							
TWM1	**Shoushan**	**1.88**	**221**	*e*P	Pb	12 20 57.7	-0.8
	baz=222							
EAST	**Anshuo**	**2.04**	**204**	*e*P	Pb	12 20 59.9	-1.4
	baz=194							
PNG	**Penghu**	**2.12**	**252**	*e*P	Pn	12 20 59.4	-0.2
	baz=252							
SCZT	**Fangliau**	**2.14**	**209**	*e*P	Pn	12 21 01.1	+1.3
	baz=214							
SCZT				*e*S	Sb	12 21 30.0	+0.4
	baz=214							
LAY	**Lan-yu**	**2.21**	**185**	*e*P	Pn	12 20 58.9	-1.9
	baz=187							
TWK1	**Hengchun**	**2.46**	**201**	*e*P	Pn	12 21 06.2	+2.0
	baz=191							

IDC 28 12:29:08.0±8.5, 6°24'S×150°50'E, h77km±61km, mb3.3/3, mb1 3.5/4, mb1mx3.2/18, mbtmp3.4/4, ML2.5/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/19, Error ellipse: s-maj=70.2km s-min=53.7km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.57**	**226**	P	Pn	12 30 14.7	+0.1
	1.7nm,0.3s,baz=66,slow=16,SNR=6.3						
PMG				S	Sn	12 31 07.5	+1.0
	1.5nm,0.3s,baz=69,slow=18,SNR=3.3						
PMG				LR	LR	12 32 10.1	
	comp=Z,93nm,20.3s,baz=293,slow=40						
WRA	**Warramunga Arr**	**20.79**	**228**	P	P	12 33 42.3	-0.8
	1.5nm,0.6s,baz=52,slow=0.9,SNR=7.1						
ASAR	**Alice Springs**	**23.56**	**221**	P	P	12 34 11.8	0.0
	0.7nm,0.7s,baz=55,slow=9.0,SNR=7.5						
STKA	**Stephens Creek**	**26.83**	**197**	P	P	12 34 41.5	+0.2
	1.3nm,0.8s,baz=13,slow=14,SNR=3.0						
FITZ	**Fitzroy Crossi**	**26.96**	**242**	LR	LR	12 45 54.0	
	comp=Z,94nm,18.6s,baz=1.0,slow=37						
TORD	**Torodi Ar. Bea**	**148.52**	**285**	PKPbc	PKPbc	12 48 46.6	-0.4
	0.6nm,0.6s,baz=55,slow=2.8,SNR=3.8						

*ISCJB **28** 12:40:09.8±0.3, 53°23'N±0°09'×170°88'W±0°05, h193km±4km, mb3.5/9, Error ellipse: s-maj=15.6km s-min=3.1km az=163.3*

*NEIC **28** 12:40:11.2, 52°98'N×170°74'W, h199km, MG3.6(AEIC), After AEIC.*

*IDC **28** 12:40:13.3±3.1, 53°49'N×171°12'W, h216km±33km, mb3.2/9, mb1 3.5/11, mb1mx3.2/30, mbtmp3.2/11, Error ellipse: s-maj=28.5km s-min=13.6km az=158.0*

ISC 28 12:40:10.5±0.7, 53°2'N±0°1×170°90'W±0°05, h189km±7km, n60, σ0°77/68, mb3.6/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.26**	**99**	P	**Pn**	**12 40 40.6**	**-0.4**
NIKH				S	**Sn**	**12 41 03.8**	**-0.9**
OKSP	**Okmok Steeple**	**1.57**	**87**	P	**Pn**	**12 40 44.6**	**+0.8**
OKSO	**Okmok South**	**1.66**	**83**	P	**Pn**	**12 40 44.6**	**-0.1**
OKSO				S	**Sn**	**12 41 11.6**	**+0.5**
OKTU	**Okmok Mt. Tuli**	**1.73**	**83**	P	**Pn**	**12 40 45.9**	**+0.6**
OKFG	**Magazine Ridge**	**1.81**	**82**	P	**Pn**	**12 40 46.3**	**+0.2**
OKFG				S	**Sn**	**12 41 13.9**	**+0.1**
KOSE	**Korovin Southe**	**2.09**	**247**	P	**Pn**	**12 40 50.3**	**+1.1**
KOFP	**Korovin Flat P**	**2.15**	**246**	P	**Pn**	**12 40 51.0**	**+1.2**
KOKL	**Mount Kliuchef**	**2.19**	**248**	P	**Pn**	**12 40 51.6**	**+1.4**
KOWE	**Korovin West**	**2.20**	**249**	P	**Pn**	**12 40 52.0**	**+1.7**
ATKA	**Atka Island**	**2.24**	**245**	P	**Pn**	**12 40 50.7**	**0.0**
ATKA				S	**Sn**	**12 41 21.3**	**-0.7**
MCIR	**Makushin Cirqu**	**2.51**	**71**	P	**Pn**	**12 40 53.7**	**-0.1**
MREP	**Makushin Rep't**	**2.56**	**74**	P	**Pn**	**12 40 55.0**	**+0.7**
MSW	**Makushin Switc**	**2.56**	**72**	P	**Pn**	**12 40 54.2**	**-0.1**
MSW				S	**Sn**	**12 41 29.1**	**+0.5**
MTBL	**Makushin Table**	**2.63**	**71**	P	**Pn**	**12 40 55.2**	**0.0**
UNV	**Unalaska Valle**	**2.71**	**74**	P	**Pn**	**12 40 55.9**	**0.0**
UNV				S	**Sn**	**12 41 29.8**	**-1.7**
AKRB	**Akutan Reef Bi**	**3.02**	**70**	P	**Pn**	**12 41 00.1**	**+0.4**
LVA	**Lava Point**	**3.05**	**70**	P	**Pn**	**12 41 00.5**	**+0.4**
ZRO	**Akutan Zero**	**3.06**	**71**	P	**Pn**	**12 41 00.6**	**+0.4**
AKGG	**Akutan Green G**	**3.09**	**69**	P	**Pn**	**12 41 00.7**	**+0.2**
AKLV	**Akutan Long Va**	**3.10**	**70**	P	**Pn**	**12 41 01.0**	**+0.4**
AKUT	**Akutan**	**3.19**	**71**	P	**Pn**	**12 41 02.1**	**+0.4**
GSTR	**Great Sitkin T**	**3.33**	**253**	P	**Pn**	**12 41 04.4**	**+0.9**
GSMY	**Great Sitkin M**	**3.35**	**252**	P	**Pn**	**12 41 04.0**	**+0.3**
GSTD	**Great Sitkin T**	**3.39**	**252**	P	**Pn**	**12 41 04.8**	**+0.5**
GSTD				S	**Sn**	**12 41 46.0**	**-0.4**
GSCK	**Great Sitkin C**	**3.42**	**252**	P	**Pn**	**12 41 04.7**	**+0.1**
ADK	**Adak**	**3.77**	**252**	P	**Pn**	**12 41 08.8**	**0.0**
ADK				S	**Sn**	**12 41 54.1**	**-0.5**
WESN	**West Dahl Nort**	**3.98**	**67**	P	**Pn**	**12 41 12.1**	**+0.5**
SPIA	**Saint Paul Isl**	**4.01**	**5**	P	**Pn**	**12 41 12.8**	**+1.0**
KIKV	**Kanaga Island**	**4.05**	**253**	P	**Pn**	**12 41 12.6**	**+0.2**
SSBA	**Shishaldin**	**4.30**	**66**	P	**Pn**	**12 41 15.2**	**-0.4**
SSLW	**Shishaldin Wes**	**4.30**	**66**	P	**Pn**	**12 41 15.5**	**-0.1**
TAPA	**Tanaga Point A**	**4.44**	**255**	P	**Pn**	**12 41 17.6**	**+0.1**
TAFP	**Tanaga Falls P**	**4.51**	**256**	P	**Pn**	**12 41 18.8**	**+0.5**
TASE	**Tanaga Southea**	**4.57**	**255**	P	**Pn**	**12 41 20.4**	**+1.4**
FALS	**False Pass**	**4.72**	**66**	P	**Pn**	**12 41 20.6**	**-0.2**
GAEA	**Gareloi East**	**5.00**	**257**	P	**Pn**	**12 41 25.2**	**+0.7**
GANE	**Gareloi Northe**	**5.00**	**257**	P	**Pn**	**12 41 25.0**	**+0.4**
GALA	**Gareloi Lava P**	**5.02**	**257**	P	**Pn**	**12 41 25.3**	**+0.5**
GAKI	**Gareloi-Kavalg**	**5.12**	**254**	P	**Pn**	**12 41 26.0**	**0.0**
DRIA	**Deer Island**	**5.39**	**67**	P	**Pn**	**12 41 28.4**	**-1.1**
DT1	**Dutton Round H**	**5.42**	**66**	P	**Pn**	**12 41 29.0**	**-0.8**
DTNA	**Dutton South F**	**5.45**	**65**	P	**Pn**	**12 41 29.7**	**-0.5**
DOL	**Dolgoi Island**	**5.66**	**66**	P	**Pn**	**12 41 32.5**	**-0.5**
CESW	**Semis' Southwe**	**5.96**	**261**	P	**Pn**	**12 41 37.5**	**+0.5**
AMKA	**Amchitka**	**6.28**	**257**	P	**Pn**	**12 41 40.6**	**-0.5**
SDPT	**Sand Point**	**6.48**	**66**	P	**Pn**	**12 41 42.0**	**-1.6**
LSSE	**Little Sitkin**	**6.54**	**263**	P	**Pn**	**12 41 45.4**	**+0.9**
LSSA	**Little Sitkin**	**6.57**	**263**	P	**Pn**	**12 41 46.0**	**+1.1**
FX1	**Attu Island--F**	**9.61**	**274**	P	**Pn**	**12 42 25.0**	**+0.4**
	1.1nm,0.3s,baz=222,slow=4.9,SNR=35						
FX1				S	**Sn**	**12 44 12.1**	**+0.4**
	0.2nm,0.3s,baz=323,slow=20,SNR=3.4						
KDAK	**Kodiak Island**	**11.35**	**59**	P	Pn	12 42 43.0	-4.0
	2.4nm,0.3s,baz=257,slow=7.3,SNR=10.0						
ILAR	**Eielson Array**	**16.82**	**37**	P	**P**	**12 43 53.4**	**-0.4**
	0.3nm,0.3s,baz=236,slow=8.9,SNR=24						
INK	**Inuvik**	**23.18**	**35**	P	**P**	**12 44 59.0**	**-0.9**
	1.4nm,0.4s,baz=249,slow=7.4,SNR=25						
DLBC	**Dease Lake**	**23.27**	**61**	P	**P**	**12 45 01.6**	**+0.7**
	1.0nm,0.5s,baz=280,slow=11,SNR=3.3						
YKA	**Yellowknife Ar**	**30.41**	**50**	P	**P**	**12 46 03.4**	**-1.0**
	0.2nm,0.3s,baz=274,slow=9.0,SNR=3.6						
NVAR	**Mina Array Bea**	**38.61**	**91**	P	**P**	**12 47 17.0**	**+1.7**
	0.6nm,0.7s,baz=295,slow=8.5,SNR=4.8						
PDAR	**Pinedale Array**	**41.16**	**79**	P	**P**	**12 47 37.0**	**+0.7**
	0.6nm,0.5s,baz=294,slow=3.1,SNR=8.3						
TXAR	**Lajitas Array**	**53.66**	**88**	P	**P**	**12 49 13.5**	**+1.0**
	0.7nm,0.5s,baz=309,slow=5.4,SNR=7.8						
NOA	**NORSAR Array B**	**66.10**	**359**	P	**P**	**12 50 35.1**	**-1.5**
	0.7nm,0.6s,baz=1.5,slow=6.4,SNR=3.8						
WRA	**Warramunga Arr**	**86.80**	**230**	P	**P**	**12 52 33.5**	**+0.3**
	0.5nm,0.7s,baz=33,slow=5.7,SNR=2.7						
ASAR	**Alice Springs**	**90.23**	**229**	P	**P**	**12 52 49.3**	**0.0**
	0.4nm,0.5s,baz=21,slow=4.5,SNR=14						

*NSSC **28** 12:40:52.5±1.2, 34°.41N×36°.67E, h0km±7km, ML1.5*

CSEM 28 12:40:52.4±0.5, 34°43N×36°67E, h12km, ML1.5, Error ellipse: s-maj=11.8km s-min=7.4km az=13.0, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAWK	**Haweek**	**0.24**	**292**	*e*P	Pg	12 40 57.4	-0.2
HAWK				*e*S	Sg	12 41 02.6	+1.5
HAWK				AML	AML	12 41 05.7	
	comp=N,742nm,0.3s						
HAWK				AML	AML	12 41 05.8	
	comp=E,329nm,0.2s						
HAWK				AML	AML	12 41 06.8	
	comp=Z,567nm,0.3s						
HAWK	**Haweek**	**0.24**	**292**	*e*P	Pg	12 40 57.3	-0.3
HAWK				*e*S	Sg	12 41 02.5	+1.4
HAWK				AML	AML	12 41 05.7	
	comp=N,742nm,0.3s						
HAWK				AML	AML	12 41 05.9	
	comp=E,329nm,0.2s						
HAWK				AML	AML	12 41 06.8	
	comp=Z,567nm,0.3s						
HAWK	**Haweek**	**0.24**	**292**	*e*P	Pg	12 40 57.3	-0.3
	SNR=92						
HAWK				*e*S	Sg	12 41 02.5	+1.4
	comp=Z,567nm,0.3s,SNR=92						
MARH	**Ras Al Marh**	**0.43**	**201**	*e*P	Pg	12 41 00.4	-1.0
MARH				*e*S	Sg	12 41 08.0	+0.5
MARH				AML	AML	12 41 13.5	
	comp=Z,102nm,0.3s						
MARH				AML	AML	12 41 14.4	
	comp=E,227nm,0.5s						
MARH				AML	AML	12 41 16.1	
	comp=N,149nm,0.9s						
MARH	**Ras Al Marh**	**0.43**	**201**	*e*P	Pg	12 41 00.5	-1.0
MARH				*e*S	Sg	12 41 08.0	+0.5
MARH				AML	AML	12 41 13.5	
	comp=Z,102nm,0.3s						
MARH				AML	AML	12 41 14.4	
	comp=E,227nm,0.5s						
MARH				AML	AML	12 41 16.1	
	comp=N,149nm,0.9s						
MARH	**Ras Al Marh**	**0.43**	**201**	*e*P	Pg	12 41 00.5	-0.9
	SNR=93						
MARH				*e*S	Sg	12 41 08.0	+0.5
	comp=N,149nm,0.9s,SNR=59						
ROOS	**tl_alroos**	**0.57**	**117**	*e*P	Pg	12 41 03.6	-0.2
ROOS				*e*S	Sb	12 41 12.9	+0.2
ROOS				AML	AML	12 41 17.0	
	comp=N,0.9nm,0.6s						
ROOS				AML	AML	12 41 18.1	
	comp=Z,1.2nm,0.3s						
ROOS				AML	AML	12 41 19.7	
	comp=E,0.8nm,0.6s						
ROOS	**tl_alroos**	**0.57**	**117**	*e*P	Pb	12 41 04.2	-0.3
ROOS				*e*S	Sg	12 41 11.3	-0.1
ROOS				AML	AML	12 41 17.0	
	comp=N,0.9nm,0.6s						
ROOS				AML	AML	12 41 18.1	
	comp=Z,1.2nm,0.3s						
ROOS				AML	AML	12 41 19.7	
	comp=E,0.8nm,0.6s						
ROOS	**tl_alroos**	**0.57**	**117**	*e*P	Pb	12 41 04.2	-0.3
	SNR=91						
ROOS				*e*S	Sg	12 41 11.4	0.0
	comp=E,0.8nm,0.6s,SNR=59						
HWQ	**Hawqa**	**0.62**	**256**	*e*P	Pb	12 41 05.6	+0.2
HWQ	**Hawqa**	**0.62**	**256**	*e*P	Pb	12 41 05.6	+0.3
RCY	**Rachaya**	**1.16**	**217**	*e*P	Pb	12 41 14.3	-0.3
BRBR	**Barbar**	**1.18**	**211**	*e*P	Pg	12 41 15.4	-0.1
BRBR	**Barbar**	**1.18**	**211**	*e*P	Pg	12 41 15.4	-0.1
BRBR	**Barbar**	**1.18**	**211**	*e*P	Pg	12 41 15.4	0.0
	SNR=57						

*MOS **28** 12:50:46.3±1.1, 8°45S×112°49E, h33km, mb5.5/31, Error ellipse: s-maj=11.9km s-min=6.6km az=116.8*

*BJI **28** 12:50:47.3, 9°00S×112°50E, h72km, mB5.0/25, mb5.2/43, Ms4.5/26, Ms7 4.0/24*

*DJA **28** 12:50:51.7±0.9, 9°S±3°×111°2E±°, h13km±8km, MS.1/25, mb5.4/23, mB5.5/17, MLv5.3/25, Mw(mB)5.0/17, Mwp6.3/1*

*ISCJB **28** 12:50:52.4±0.3, 8°69S±0°03×112°50E±0°02, h96km±2km, mb5.0/86, Error ellipse: s-maj=6.0km s-min=3.4km az=19.8*

*NEIC **28** 12:50:52.9±0.7, 8°68S×112°51E, h80km±6km, mb5.2/29, Error ellipse: s-maj=7.8km s-min=5.5km az=222.0*

NEIC Felt [IV] at Karangkates; [III] at Blitar and Tulungagung; [II] at Bantul.

*IDC **28** 12:50:52.8±2.1, 8°.54S×112°.57E, h75km±17km, mb4.7/21, mb1 4.7/23, mb1mx4.7/26, mbtmp4.7/23, MS3.8/26, Ms1 3.9/26, ms1mx3.7/40, Error ellipse: s-maj=15.0km s-min=10.4km az=60.0*

*AUST **28** 12:50:53.3±0.2, 8°.77S×112°.43E, h89km, Error ellipse: s-maj=0.8km s-min=0.5km az=21.0*

*GCMT **28** 12:50:53.1±0.3, 9°.05S×112°.59E, h89km±2km, MW4.9, Moment Tensor Solution. s28,c40; s60,c93; Moment tensor: Scale 10^{16}Nm; M_{rr}2.49±.11; $M_{\theta\theta}$-3.22±.10; $M_{\phi\phi}$0.73±.12; $M_{r\theta}$0.88±.09; $M_{r\phi}$0.67±.10; $M_{\theta\phi}$0.05±.08; Best double couple: $M_0$3.10000×10^{16} NP1:ϕ_s286.00000°, δ37.00000°, λ100.00000°. NP2:ϕ_s94.00000°, δ54.00000°, λ83.00000°. Principal axes: T 2.6300, Plg80.0000°, Azm333.0000°; N 0.8200, Plg6.0000°, Azm98.0000°; P -3.4600, Plg8.0000°, Azm189.0000°; Data Used: IU IC G II CN.*

*BKK **28** 12:50:54.8±0.4, 9°S±4°×111°2E±°, h89km±4km, M5.3/28, mB5.5/8, mb5.2/28, MLv5.8/4, Mw(mB)4.9/8*

ISC 28 12:50:52.1±0.3, 8.75S±0°04×112°51E±0°03, h76km±2km, h76km:pP-P, n484, σ1°54/491, mb5.2/96, 12C-3D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**1.00**	**316**	P	**Pn**	**12 51 10.9**	**-0.1**
PWJI				S	**Sn**	**12 51 24.7**	**-0.4**
GMJI	**Gumukmas**	**1.04**	**63**	P	**Pn**	**12 51 10.7**	**-0.7**
GMJI				S	**Sn**	**12 51 26.4**	**+0.6**
SJI	**Sawahan**	**1.25**	**324**	P	**Pn**	**12 51 14.7**	**+0.5**
PCJI	**Pacitan**	**1.43**	**293**	P	**Pn**	**12 51 16.0**	**-0.4**
PCJI				S	**Sn**	**12 51 34.5**	**-0.2**
BLJI	**Banyuglugur**	**1.47**	**47**	P	**Pn**	**12 51 18.0**	**+1.1**
WOJI	**Wonogiri, Jawa**	**1.81**	**300**	P	**Pn**	**12 51 22.2**	**+0.7**
BYJI	**Banyuwangi**	**1.90**	**74**	P	**Pn**	**12 51 25.0**	**+2.4**
UGM	**Wanagama**	**2.13**	**293**	*e*Pn	**Pn**	**12 51 26.6**	**+0.7**
UGM	**Wanagama**	**2.13**	**293**	P	**Pn**	**12 51 26.7**	**+0.9**
UGM	**Wanagama**	**2.13**	**293**	P	**Pn**	**12 51 26.5**	**+0.7**
	baz=2.1,SNR=108						
UGM				S	**Sn**	**12 51 52.4**	**+0.9**
	baz=2.1,SNR=12						
KMMI	**Kalianget**	**2.22**	**41**	P	**Pn**	**12 51 27.8**	**+0.9**
YOGI	**Yogyakarta**	**2.38**	**293**	P	Pn	12 51 34.8	+5.7
IGBI	**Denpasar**	**2.61**	**92**	P	**Pn**	**12 51 33.9**	**+1.8**
DNP	**Denpasar**	**2.67**	**89**	P	**Pn**	**12 51 35.8**	**+2.8**
BJII	**Banjamegara**	**3.11**	**297**	P	**Pn**	**12 51 40.9**	**+1.9**
CLJI	**Cilicap**	**3.61**	**286**	P	**Pn**	**12 51 47.7**	**+2.0**
CISI	**Cisompet, Garu**	**4.80**	**284**	P	**Pn**	**12 52 02.6**	**+0.6**
CISI	**Cisompet, Garu**	**4.80**	**284**	P	**Pn**	**12 52 02.4**	**+0.4**
	baz=4.7,SNR=46						
LEM	**Lembang**	**5.21**	**291**	P	**Pn**	**12 52 10.9**	**+3.2**
	384nm,1.0s,8µm4.4nm						
LEM	**Lembang**	**5.21**	**291**	P	Pn	12 52 12.3	+4.6
	baz=5.1,SNR=9.8						
PBKI	**Pangkalan Bun**	**6.06**	**352**	P	**Pn**	**12 52 21.6**	**+2.3**
	1µm,1.1s,12µm4.1nm						
DBJI	**Dramaga**	**6.11**	**291**	P	Pn	12 52 24.2	+4.3
	288nm,1.0s,4µm2.4nm						
SBJI	**Serang**	**6.84**	**292**	P	Pn	12 52 37.8	+7.9
XMI	**Christmas Isla**	**6.94**	**255**	P	**Pn**	**12 52 29.4**	**-1.8**
	baz=6.9,SNR=10						
XMI				S	Sn	12 53 36.7	-12
	baz=6.9,SNR=6.4						
XMIS	**Christmas Isla**	**6.98**	**255**	*e*Pn	**Pn**	**12 52 29.9**	**-1.9**
	640nm,0.6s						
XMIS				*e*Sn	Sn	12 53 40.4	-9.4
XMIS	**Christmas Isla**	**6.98**	**255**	P	**Pn**	**12 52 29.7**	**-2.1**
	baz=6.9,SNR=31						
XMIS				S	Sn	12 53 37.1	-13
	baz=6.9,SNR=10						
TPI	**Tanjungpandan**	**7.67**	**321**	P	Pn	12 52 45.0	+3.8
	77nm,1.1s,1µm171µm0.3nm						
WSI	**Waingapu**	**7.74**	**97**	P	Pn	12 52 53.9	+12
WSI	**Waingapu**	**7.74**	**97**	P	Pn	12 52 48.6	+6.4
	baz=7.8,SNR=4.2						
KAPI	**Kappang**	**8.09**	**63**	*e*Pn	**Pn**	**12 52 47.6**	**+0.7**
KAPI				*e*Sn	**Sn**	**12 54 17.8**	**+0.9**
KAPI	**Kappang**	**8.09**	**63**	P	**Pn**	**12 52 46.7**	**-0.2**
	3.8nm,0.3s,baz=240,slow=11,SNR=5.8						
KAPI				S	**Sn**	**12 54 13.8**	**-3.1**
	baz=168,slow=20,SNR=2.1						
BKSI	**Bulukumba**	**8.29**	**66**	P	**Pn**	**12 52 52.1**	**+2.5**
	75nm,0.8s,686nm0.3nm						
BSSI	**Bau Bau, Buton**	**8.33**	**72**	P	Pn	12 52 56.0	+5.8
KASI	**Kota Agung**	**8.57**	**291**	P	Pn	12 52 57.4	+3.9
	192nm,0.7s,2µm0.6nm						
SPSI	**Sidrap Palu**	**8.64**	**57**	P	**Pn**	**12 52 55.9**	**+1.5**
	145nm,1.1s,1µm0.5nm						
KLSI		**8.71**	**297**	P	Pn	12 53 00.0	+4.5
	71nm,0.9s,0.2nm						
STKI	**Sintang**	**8.82**	**353**	P	**Pn**	**12 53 00.0**	**+3.1**
	344nm,0.8s,11µm1.1nm						
LWLI	**Liwa**	**9.17**	**293**	P	Pn	12 53 05.4	+3.5
	360nm,0.8s,7µm						
TTSI	**Tana Toraja**	**9.22**	**52**	P	Pn	12 53 07.6	+5.3
	78nm,1.0s,757nm						
MMRI	**Maumere**	**9.62**	**90**	P	**Pn**	**12 53 09.5**	**+1.7**
	145nm,0.8s,2µm						
KSM	**Kuching**	**10.39**	**348**	*e*Pn	**Pn**	**12 53 20.7**	**+2.3**
KSM	**Kuching**	**10.39**	**348**	P	**Pn**	**12 53 21.1**	**+2.7**
KSM	**Kuching**	**10.39**	**348**	P	**Pn**	**12 53 21.2**	**+2.8**
	120nm,0.3s,846nm						
KSM	**Kuching**	**10.39**	**348**	P	**Pn**	**12 53 21.1**	**+2.7**
	baz=10,SNR=12						
MNAI	**Manna**	**10.44**	**294**	P	**Pn**	**12 53 20.6**	**+1.5**
	757nm,0.9s						
MNAI	**Manna**	**10.44**	**294**	P	**Pn**	**12 53 19.9**	**+0.7**
	baz=10,SNR=25						
SKSI	**Soroako, Sulaw**	**10.74**	**55**	P	Pn	12 53 31.0	+7.8
KSI	**Kapahiang**	**11.08**	**297**	P	**Pn**	**12 53 28.7**	**+0.8**
	1µm,0.8s,9µm						
BATI	**Baumata**	**11.10**	**98**	P	**Pn**	**12 53 27.4**	**-0.6**
BATI				S	**Sn**	**12 55 27.7**	**-2.8**
BATI	**Baumata**	**11.10**	**98**	P	Pn	12 53 33.8	+5.7
BATI	**Baumata**	**11.10**	**98**	P	**Pn**	**12 53 27.4**	**-0.6**
	12nm,0.3s,baz=215,slow=1.9,SNR=13						
BATI				S	**Sn**	**12 55 27.7**	**-2.8**
	8.8nm,0.3s,baz=292,slow=19,SNR=3.8						
SBUM	**Sibu**	**11.13**	**358**	P	Pn	12 53 31.9	+3.4
SBUM	**Sibu**	**11.13**	**358**	P	Pn	12 53 32.1	+3.6
	99nm,0.8s,731nm						
SOEI	**Soe**	**11.65**	**96**	P	**Pn**	**12 53 36.8**	**+1.1**
	114nm,0.8s						
SOEI	**Soe**	**11.65**	**96**	P	**Pn**	**12 53 35.3**	**-0.3**
	baz=12,SNR=11						
BTM	**Bintulu**	**11.88**	**3**	P	Pn	12 53 42.9	+4.1
LUWI	**Luwuk**	**12.77**	**54**	P	P	12 54 05.7	+6.8
MRSI	**Marisa**	**13.13**	**46**	P	P	12 53 59.3	-3.6
	139nm,0.8s,1µm						
MYKOM	**Kota Tinggi**	**13.57**	**320**	P	**P**	**12 54 04.8**	**-3.0**
GTOI	**Gorontalo**	**14.01**	**49**	P	**P**	**12 54 11.4**	**-1.4**
	418nm,0.8s,3µm						
TSM	**Taiwu**	**14.02**	**23**	P	**P**	**12 54 13.8**	**+1.1**
KGM	**Kluang**	**14.08**	**319**	P	**P**	**12 54 11.8**	**-1.7**
MBWA	**Marble Bar**	**14.17**	**151**	*e*Pn	Pn	12 54 04.2	-5.0
PPI	**Padang Panjang**	**14.61**	**304**	P	**Pn**	**12 54 15.4**	**+0.4**
	28nm,0.7s						
PPI	**Padang Panjang**	**14.61**	**304**	P	**Pn**	**12 54 13.6**	**-1.4**
	baz=15,SNR=4.0						
SDKM	**Sandakan**	**15.04**	**18**	P	**P**	**12 54 26.1**	**+1.8**
MYLDM	**Lahad Datu**	**15.07**	**24**	P	**P**	**12 54 27.3**	**+2.8**
KKM	**Kota Kinabalu**	**15.15**	**14**	*e*Pn	**P**	**12 54 24.1**	**-1.4**
	45nm,0.8s						
KKM	**Kota Kinabalu**	**15.15**	**14**	P	**P**	**12 54 24.5**	**-1.1**
KKM	**Kota Kinabalu**	**15.15**	**14**	P	**P**	**12 54 24.2**	**-1.4**
	baz=15,SNR=4.1						
FITZ	**Fitzroy Crossi**	**15.79**	**127**	P	**Pn**	**12 54 28.4**	**-1.6**
FITZ				S	Sn	12 57 12.3	-12
FITZ	**Fitzroy Crossi**	**15.79**	**127**	P	**Pn**	**12 54 28.4**	**-1.6**
	0.8nm,0.3s,baz=292,slow=8.0,SNR=38						
FITZ				S	Sn	12 57 12.3	-12
	0.8nm,0.3s,baz=197,slow=20,SNR=4.2						
FITZ				LR	LR	13 00 40.4	
	comp=Z,267nm,21.4s,baz=308,slow=37						
MNI	**Manado**	**15.92**	**51**	P	**P**	**12 54 37.1**	**+3.1**
FRIM	**Lepong**	**16.11**	**317**	P	**P**	**12 54 39.3**	**+3.2**
KTGM	**Kuala Trenggan**	**16.82**	**326**	P	P	12 54 48.9	+5.0
KNRA	**Kununurra**	**17.30**	**115**	P	**P**	**12 54 49.8**	**+0.5**
	baz=17,SNR=33						
IPM	**Ipoh**	**17.43**	**318**	*e*Pn	**P**	**12 54 53.9**	**+3.3**
	24nm,0.8s						
IPM	**Ipoh**	**17.43**	**318**	P	P	12 54 56.3	+5.6
PSI	**Prapat**	**17.75**	**310**	P	**Pn**	**12 54 55.5**	**+1.0**
PSI	**Prapat**	**17.75**	**310**	P	**Pn**	**12 54 55.5**	**+1.0**
	baz=160,slow=13,SNR=5.7						
PSI				LR	LR	13 01 58.4	
	comp=Z,418nm,21.4s,baz=131,slow=38						
KULM	**Kulim**	**18.29**	**319**	P	Pn	12 55 06.7	+5.9
MEEK	**Meekatharra**	**18.71**	**163**	P	**Pn**	**12 55 05.7**	**-0.2**
	baz=19,SNR=63						
MEEK				S	S	12 58 18.9	-15
	baz=19,SNR=6.9						
MTN	**Manton Dam**	**18.74**	**104**	P	**P**	**12 55 05.3**	**+0.3**
	baz=19,SNR=28						
MTN				S	**S**	**12 58 29.9**	**-4.3**
	baz=19,SNR=3.5						
KDU	**Kakadu**	**20.00**	**103**	P	**P**	**12 55 18.3**	**-0.5**
	baz=20,SNR=26						
SWI	**Sorong**	**20.25**	**68**	P	Pn	12 55 24.8	+0.7
	baz=20,SNR=6.6						
DAV	**Davao City (W)**	**20.41**	**40**	LR	LR	13 03 58.5	
	comp=Z

comp=Z,14nm,0.8s
PMG Port Moresby 34.21 94 P **P** **12 57 32.3 +1.4**
PMG Port Moresby 34.21 94 P **P** **12 57 32.3 +1.4**
comp=Z,8.0nm,0.5s,baz=342,slow=17,SNR=5.4
CTA Charters Tower 34.49 113 P **P** **12 57 34.8 +1.6**
CTA Charters Tower 34.49 113 P **P** **12 57 34.8 +1.6**
comp=Z,5.9nm,0.8s,baz=277,slow=15,SNR=3.7
CTAO Charters Tower 34.49 113 *e*P **P** **12 57 34.9 +1.7**
CTAO pmax pmax
comp=Z,9.0nm,0.9s
CTAO Charters Tower 34.49 113 *e*P **P** **12 57 34.9 +1.6**
comp=Z,9.4nm,0.9s
KMI Kunming 34.99 344 P **P** **12 57 40.3 +2.7**
KMI pP **pP** **12 57 58.8 +3.1**
KMI sP **sP** **12 58 07.5 +3.0**
KMI S S 13 03 11.0 +6.7
KMI pmax pmax
comp=Z,10.0nm,0.9s
KMI LR LR
comp=N,160nm,14.3s
KMI LR LR
comp=E,240nm,17.1s
KMI LR LR
comp=Z,180nm,21.3s
GYA Guiyang 35.45 351 P P 12 57 45.0 +3.5
GYA pP pP 12 58 03.3 +3.7
GYA sP sP 12 58 13.0 +4.6
GYA PcP **PcP** **13 00 11.3 +1.6**
GYA S S 13 03 17.5 +6.2
GYA sS **ScP** **13 03 47.5 -1.5**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,510nm,17.5s
GYA LR LR
comp=E,480nm,18.0s
GYA LR LR
comp=Z,580nm,17.9s
STKA Stephens Creek 35.48 135 P **P** **12 57 42.9 +1.4**
STKA PcP **PcP** **13 00 10.7 +1.1**
STKA Stephens Creek 35.48 135 P **P** **12 57 42.9 +1.4**
comp=Z,26nm,0.6s,baz=311,slow=9.0,SNR=80
STKA PcP **PcP** **13 00 10.7 +1.1**
comp=Z,14nm,0.6s,baz=322,slow=4.8,SNR=5.3
STKA LR LR 13 13 02.8
comp=Z,434nm,20.4s,baz=295,slow=37
STKA Stephens Creek 35.48 135 P **P** **12 57 42.8 +1.3**
baz=36,SNR=68
CMSA Cobar Meteorol 38.27 131 P **P** **12 58 07.4 +2.2**
baz=38,SNR=12
JOW Kunigami 38.54 23 *e*P **P** **12 58 07.7 +0.2**
comp=Z,22nm,1.0s
ENH Enshi 38.91 356 *e*P **P** **12 58 10.0 -0.5**
comp=Z,12nm,0.6s
SHL Shillong 39.58 330 *i* P **P** **12 58 17.5 +1.1**
CD2 Chengdu 40.32 348 *e*P **P** **12 58 22.0 -0.3**
CD2 pP **pP** **12 58 40.3 -0.4**
CD2 sP **sP** **12 58 48.0 -1.5**
CD2 PP **PnPn** **13 00 01.0 +0.1**
CD2 S S **13 04 27.8 +3.2**
CD2 sS **sS** **13 04 58.3 +2.2**
CD2 SS **SS** **13 07 26.5 +0.3**
CD2 pmax pmax
comp=Z,50nm,1.0s
CD2 pmax pmax
comp=Z,180nm,5.8s
CD2 LR LR
comp=E,260nm,17.8s
CD2 LR LR
comp=Z,240nm,16.7s
YNG Young 41.60 133 P P 12 58 36.6 +3.8
baz=42,SNR=5.1
ARMA Armidale 42.39 126 P P 12 58 42.9 +3.5
baz=42,SNR=6.0
ODAN Odare 42.98 326 *e*P **P** **12 58 43.1 -1.2**
comp=Z,95nm,0.7s
TAPN Taplejung 43.19 327 *e*P **P** **12 58 45.4 -0.7**
comp=Z,87nm,0.7s
LSA Lhasa 43.41 333 P **P** **12 58 47.8 -0.2**
LSA pmax pmax
comp=Z,70nm,0.6s
LSA Lhasa 43.41 333 *e*P **P** **12 58 48.3 +0.3**
LSA *e* 13 00 36.6
LSA pmax pmax
comp=Z,57nm,0.8s
LSA Lhasa 43.41 333 *e*P **P** **12 58 48.3 +0.3**
comp=Z,57nm,0.8s
LSA *e*PcP **PcP** **13 00 36.6 +1.2**
RAMN Ramite 43.48 325 *e*P **P** **12 58 47.4 -1.0**
JIRN Jiri 44.26 326 *e*P **P** **12 58 53.9 -0.9**
comp=Z,91nm,0.7s
GUN Gumba 44.63 326 *e*P **P** **12 58 56.8 -0.9**
comp=Z,106nm,0.7s
PKI Pulchoki 44.63 325 *e*P **P** **12 58 56.3 -1.4**
comp=Z,23nm,0.7s
PKIN Phulchoki 44.65 325 *e*P **P** **12 58 55.7 -2.0**
DMN Daman 44.84 325 *e*P **P** **12 58 58.0 -1.2**
comp=Z,69nm,0.7s
KKN Kakani 44.88 325 *e*P **P** **12 58 57.8 -1.7**
comp=Z,46nm,0.8s
JNU Nakatsue 45.16 22 P **P** **12 59 00.4 -1.0**
JNU Nakatsue 45.16 22 P **P** **12 59 00.4 -1.0**
comp=Z,14nm,0.8s,baz=311,slow=1.8,SNR=8.5
LZH Lanzhou 45.34 350 ⇑P **P** **12 59 03.3 +0.4**
LZH pP **pP** **12 59 21.0 -0.7**
LZH sP **sP** **12 59 30.3 0.0**
LZH ScS **ScS** **13 08 49.0 -3.6**
LZH pmax pmax
comp=Z,43nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.0s
LZH LR LR
comp=N,140nm,10.2s
LZH LR LR
comp=E,160nm,11.9s
LZH LR LR
comp=Z,160nm,14.7s
KOLN Koldanda 45.83 323 *e*P **P** **12 59 05.7 -1.4**
comp=Z,77nm,0.6s
DANN Dangsing 46.17 324 *e*P **P** **12 59 08.0 -1.8**
comp=Z,80nm,0.6s
PYUN Piuthan 46.44 323 *e*P **P** **12 59 10.0 -1.8**
comp=Z,66nm,0.7s
INCN Inchon 47.85 15 *e*P **P** **12 59 22.5 +0.1**
comp=Z,23nm,0.6s
KSAR Wonju Array Be 48.15 16 P **P** **12 59 25.0 +0.3**
KSAR PcP **PcP** **13 00 51.4 +0.3**
KSRS Korea Array 48.17 16 P **P** **12 59 25.0 +0.2**
comp=Z,18nm,0.7s,baz=204,slow=8.4,SNR=87
KSRS PcP **PcP** **13 00 51.4 +0.3**
comp=Z,3.6nm,0.8s,baz=197,slow=2.9,SNR=6.5
KSRS LR LR 13 19 07.4
comp=Z,57nm,20.3s,baz=29,slow=35
BJT Baijiatuan 48.64 4 *e*P **P** **12 59 28.0 -0.3**
comp=Z,23nm,0.5s
BJI Beijing 48.66 4 P **P** **12 59 27.5 -1.0**
BJI S S 13 06 31.5 +6.4
BJI pmax pmax
comp=Z,33nm,0.7s
BJI pmax pmax
comp=Z,71nm,3.9s
BJI LR LR
comp=N,130nm,12.8s
BJI LR LR
comp=E,100nm,19.4s
BJI LR LR
comp=Z,110nm,26.6s
GTA Gaotai 49.34 347 ⇑*e*P **P** **12 59 34.3 +0.3**
GTA pP **pP** **12 59 53.0 +0.1**
GTA sP **sP** **13 00 02.0 +0.4**
GTA PcP **PcP** **13 00 56.3 +0.7**
GTA S **S** **13 06 35.0 0.0**
GTA sS **sS** **13 07 06.8 -0.6**
GTA SS **SS** **13 10 03.3 -4.6**
GTA pmax pmax
comp=Z,18nm,1.3s
GTA pmax pmax
comp=Z,63nm,4.0s
GTA LR LR
comp=N,120nm,18.1s
GTA LR LR
comp=E,120nm,20.9s
GTA LR LR
comp=Z,150nm,21.4s

NDI New Delhi 50.45 319 *ex* P 12 59 37.0 -5.4
MAJO Matsushiro 51.12 27 *e*P **P** **12 59 45.0 -2.3**
MAJO pmax pmax
comp=Z,18nm,0.7s
MAJO Matsushiro 51.12 27 *e*P **P** **12 59 45.0 -2.3**
comp=Z,18nm,0.7s
MAT Matsushiro 51.12 27 P **P** **12 59 45.1 -2.2**
MJAR Matsushiro Arr 51.12 27 P **P** **12 59 45.2 -2.0**
MJAR PcP **PcP** **13 01 02.1 +0.1**
MJAR Matsushiro Arr 51.12 27 P P **12 59 45.2 -2.0**
comp=Z,28nm,1.0s,baz=202,slow=7.6,SNR=47
MJAR PcP **PcP** **13 01 02.1 +0.1**
comp=Z,5.8nm,0.9s,baz=202,slow=4.8,SNR=5.4
MJAR LR LR 13 21 44.5
comp=Z,52nm,21.3s,baz=70,slow=36
CN2 Changchun 53.60 12 ⇑P **P** **13 00 04.0 -1.5**
CN2 *e*sP **sP** **13 00 28.8 -4.5**
CN2 *e*S **S** **13 07 33.0 -0.3**
CN2 pmax pmax
comp=Z,20nm,0.8s
THN Thein Dam 53.93 321 *i* x P 13 00 03.1 -5.0
VLA Vladivostok 54.56 17 ⇑*e*P **P** **13 00 10.6 -1.8**
VLA *i* 13 01 12.0
VLA *i* 13 02 10.6
VLA *e*S **S** **13 07 42.5 -3.6**
VLA pmax pmax
comp=Z,20nm,1.1s
MDJ Mudanjiang 55.31 15 P **P** **13 00 17.0 -0.9**
MDJ pP **pP** **13 00 35.3 -1.9**
MDJ sP **sP** **13 00 43.0 -2.8**
MDJ S S **13 08 01.0 +4.8**
MDJ sS **sS** **13 08 29.3 +0.2**
MDJ ScS **ScS** **13 09 58.5 -1.5**
MDJ pmax pmax
comp=Z,42nm,0.8s
MDJ pmax pmax
comp=Z,26nm,3.7s
MDJ LR LR
comp=N,19nm,23.5s
MDJ LR LR
comp=E,47nm,23.5s
MDJ LR LR
comp=Z,57nm,28.2s
MDJ Mudanjiang 55.31 15 *e*P **P** **13 00 16.9 -0.9**
comp=Z,36nm,0.9s
USRK Ussuriysk Arra 55.58 17 P **P** **13 00 18.9 -0.9**
comp=Z,89nm,1.0s,baz=200,slow=4.8,SNR=169
ULN Ulaanbaatar 56.57 356 *e*P **P** **13 00 26.1 -0.9**
comp=Z,11nm,0.6s
SONM Songino Array 56.59 355 P **P** **13 00 26.4 -0.7**
SONM PcP **PcP** **13 01 22.8 0.0**
SONM Songino Array 56.59 355 P **P** **13 00 26.4 -0.7**
comp=Z,13nm,0.6s,baz=177,slow=8.3,SNR=99
SONM PcP **PcP** **13 01 22.8 0.0**
comp=Z,7.3nm,0.7s,baz=170,slow=3.9,SNR=9.3
SONM LR LR 13 27 24.9
comp=Z,129nm,18.9s,baz=200,slow=39
WMQ Urumqi 56.96 339 P **P** **13 00 32.5 +2.7**
WMQ pP **pP** **13 00 51.8 +2.6**
WMQ sP **sP** **13 01 00.5 +2.8**
WMQ PP **PP** **13 02 42.0 +4.7**
WMQ LR LR
comp=N,74nm,39.0s
WMQ LR LR
comp=E,170nm,37.6s
WMQ LR LR
comp=Z,79nm,31.8s
KSH Kashi 58.76 327 P **P** **13 00 40.0 -2.5**
KSH sP **sP** **13 01 09.3 -1.2**
KSH PP **PP** **13 02 52.5 -0.9**
KSH PcS **PcS** **13 05 30.8 -2.6**
KSH S **S** **13 08 36.3 -5.8**
KSH sS sS 13 09 09.0 -6.2
KSH pmax pmax
comp=Z,15nm,0.7s
KSH pmax pmax
comp=Z,81nm,5.3s
KSH LR LR
comp=N,790nm,16.0s
KSH LR LR
comp=E,610nm,12.8s
KSH LR LR
comp=Z,110nm,18.0s
ASAJ Asahikawa 59.25 25 *e*P **P** **13 00 44.9 -0.7**
comp=Z,7.9nm,0.8s
ASAJ Asahikawa 59.25 25 P **P** **13 00 45.1 -0.6**
comp=Z,19nm,0.9s,baz=237,slow=11,SNR=18
ASAJ LR LR 13 30 52.0
comp=Z,49nm,19.0s,baz=352,slow=41
ZAK Zakamensk 59.43 353 *e*P **P** **13 00 45.8 -1.1**
ZAK pmax pmax
comp=Z,2.0nm,1.3s
KLR Kul'dur 60.15 14 *e*P P 13 00 46.8 -4.9
KLR pmax pmax
comp=Z,36nm,1.0s
YUK Yuzh-Kuril'sk 60.60 27 P P 13 00 50.5 -4.4
YUK *e* 13 01 36.4
YUK *e*S S 13 08 58.5 -6.7
YUK SS **SS** **13 13 05.4 +0.3**
DRV Dumont d'Urvil 60.80 168 SS SS 13 12 39.0 -28
DRV L L 13 16 00.0
DRV R 13 19 00.0
MOY Mondy 60.99 352 *e*P **P** **13 00 57.0 -0.5**
KZA Kyzart 61.00 329 P **P** **13 00 57.5 -0.7**
SNR=23
RPZ Rata Peaks 61.44 135 LR LR 13 25 27.3
comp=Z,352nm,18.9s,baz=217,slow=34
TKM2 Tokmak 2 61.44 330 *i* P **P** **13 00 59.9 -1.0**
TKM2 Tokmak 2 61.44 330 P **P** **13 00 59.9 -1.0**
SNR=39
TKM2 Tokmak 2 61.44 330 *e*P **P** **13 00 59.6 -1.3**
comp=Z,46nm,0.9s
MK31 Makanchi Array 61.51 337 *i* P **P** **13 00 59.3 -1.7**
MK31 pmax pmax
comp=Z,17nm,0.6s
MKAR Makanchi Array 61.51 337 *ce*P **P** **13 00 59.7 -1.3**
MKAR pmax pmax
comp=Z,20nm,0.6s
MKAR Makanchi Array 61.51 337 P **P** **13 00 59.8 -1.3**
MKAR PcP **PcP** **13 01 42.2 0.0**
MKAR Makanchi Array 61.51 337 P **P** **13 00 59.8 -1.3**
comp=Z,20nm,0.6s,baz=147,slow=7.2,SNR=227
MKAR PcP **PcP** **13 01 42.2 0.0**
comp=Z,5.3nm,0.7s,baz=134,slow=6.9,SNR=3.7
KBK Karagaybulak 61.57 329 P **P** **13 01 01.3 -0.5**
SNR=43
YSS Yuzh-Sakhalins 61.65 23 *e*P **P** **13 01 02.0 +0.1**
YSS pmax pmax
comp=N,40nm,1.0s
YSS pmax pmax
comp=Z,70nm,1.0s
AAK Ala-Archa 61.79 329 *c* *i*P **P** **13 01 02.4 -0.7**
AAK pmax pmax
comp=Z,71nm,0.9s
AAK Ala-Archa 61.79 329 P **P** **13 01 02.5 -0.7**
SNR=12
AAK Ala-Archa 61.79 329 *e*P **P** **13 01 02.5 -0.7**
comp=Z,30nm,0.9s
HVS Khovu-Aksy 61.82 347 ⇓*i*P **P** **13 01 02.4 -0.7**
HVS pmax pmax
comp=Z,55nm,1.0s
AML Almayashu 61.84 328 P **P** **13 01 03.0 -0.9**
SNR=17
EKS2 Erkin-Say 62.17 329 *e*P **P** **13 01 04.9 -0.9**
EKS2 pmax pmax
comp=Z,50nm,0.8s
EKS2 Erkin-Say 62.17 329 P **P** **13 01 05.1 -0.6**
SNR=39
EKS2 Erkin-Say 62.17 329 *e*P **P** **13 01 04.9 -0.9**
comp=Z,50nm,0.8s
USP Ospenovka 62.24 329 P **P** **13 01 04.8 -1.3**
SNR=14
KK31 Karatay Array 64.20 327 *i* P **P** **13 01 17.1 -1.9**
KK31 pmax pmax
comp=Z,11nm,0.6s
KKAR Karatay Array 64.20 327 *e*P **P** **13 01 17.1 -1.9**
KKAR pmax pmax
comp=Z,11nm,0.7s
KKAR Karatay Array 64.20 327 *e*P **P** **13 01 17.1 -1.9**
comp=Z,11nm,0.7s
URZ Urewera 64.72 128 LR LR 13 32 06.3
comp=Z,158nm,18.1s,baz=258,slow=38
CLNS Chul'man 66.15 7 *e*P **P** **13 01 30.5 -0.8**
CLNS pmax pmax
comp=Z,20nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,1.1s
CLNS pmax pmax
comp=N,12nm,1.0s
ZALV Zalesovo Beam 66.70 343 *i* P **P** **13 01 33.2 -1.7**
ZALV pmax pmax
comp=Z,28nm,0.8s
ZALV Zalesovo Beam 66.70 343 P **P** **13 01 33.1 -1.7**
ZALV Zalesovo Beam 66.70 343 P **P** **13 01 33.1 -1.7**
comp=Z,28nm,0.8s,baz=151,slow=4.5,SNR=74
MAW Mawson 67.36 198 P **P** **13 01 41.4 +2.5**
MAW Mawson 67.36 198 P **P** **13 01 41.4 +2.5**
comp=Z,1.7nm,0.6s,baz=71,slow=5.4,SNR=6.7
MAW LR LR 13 26 16.6
comp=Z,93nm,19.8s,baz=52,slow=31
NVS Novosibirsk 67.94 342 *e*P P 13 01 39.1 -3.6
NVS *e* 13 02 05.6
NVS pmax pmax
comp=Z,14nm,1.2s
NVS pmax pmax
comp=N,11nm,1.5s
NVS pmax pmax
comp=E,6.0nm,1.3s
VOSK Vostochnaya 70.72 335 P **P** **13 01 58.0 -1.9**
VOSK pmax pmax
comp=Z,5.0nm,0.7s
BVAR Borovoye Array 71.19 335 LR LR 13 39 06.9
comp=Z,80nm,18.0s,baz=244,slow=41
BRVK Borovoye 71.26 335 *c* *i*P **P** **13 02 01.8 -1.3**
BRVK pmax pmax
comp=Z,15nm,1.2s
BRVK Borovoye 71.26 335 *e*P **P** **13 02 01.9 -1.2**
comp=Z,12nm,1.0s
YAK Yakutsk 71.82 8 *c* *i*P **P** **13 02 04.9 -1.4**
YAK *e* 13 02 20.4
YAK *e**PP **pP** **13 02 28.8 +2.4**
YAK *e* 13 04 46.7
YAK *e*S **S** **13 11 23.7 +3.1**
YAK *e* 13 11 59.8
YAK *e**SS **ScS** **13 12 08.0 +3.1**
YAK pmax pmax
comp=Z,90nm,0.9s
YAK pmax pmax
comp=E,11nm,1.1s
YAK pmax pmax
comp=N,33nm,1.2s
YAK pmax pmax
comp=Z,13nm,0.9s
YAK smax smax
comp=N,16nm,1.6s
YAK smax smax
comp=E,18nm,1.9s
PETK Petropavlovsk- 72.58 27 P **P** **13 02 10.4 -0.6**
PETK Petropavlovsk- 72.58 27 P **P** **13 02 10.4 -0.6**
PETK Petropavlovsk- 72.58 27 P **P** **13 02 10.4 -0.6**
comp=E,13nm,0.7s,baz=212,slow=4.2,SNR=35
PETK LR LR 13 39 33.4
comp=E,21nm,18.1s,baz=321,slow=40
KBD Kabd 72.87 304 *e*P **P** **13 02 12.0 -1.3**
KBD AMb AMB 13 02 12.8
comp=Z,40nm,0.9s
RDF Al-Radifah 72.90 304 *e*P **P** **13 02 12.4 -1.1**
RDF AMb AMB 13 02 13.3
comp=Z,61nm,0.8s
UMR Umm Al-Rimmam 72.98 304 *e*P **P** **13 02 12.5 -1.4**
UMR AMb AMB 13 02 13.4
comp=Z,98nm,0.7s
NAY Al-Naaiem 73.26 304 *e*P **P** **13 02 13.9 -1.7**
NAY AMb AMB 13 02 14.8
comp=Z,31nm,0.8s
VNDA Vanda 73.29 170 P **P** **13 02 17.0 +2.1**
VNDA Vanda 73.29 170 P **P** **13 02 17.0 +2.1**
comp=Z,1.2nm,0.6s,baz=333,slow=3.0,SNR=4.3
VNDA LR LR 13 31 12.3
comp=Z,175nm,19.8s,baz=329,slow=33
AB31 Akbulak array 73.77 327 *i* P **P** **13 02 16.7 -1.4**
AB31 pmax pmax
comp=Z,64nm,0.7s
ABKAR Akbulak array 73.77 327 *e*P **P** **13 02 16.9 -1.2**
comp=Z,56nm,0.7s
KMBO Kilima Mbogo 75.26 271 P **P** **13 02 29.1 +1.2**
KMBO Kilima Mbogo 75.26 271 P **P** **13 02 29.1 +1.2**
comp=Z,6.8nm,0.8s,baz=56,slow=8.9,SNR=14
KMBO LR LR 13 27 43.2
comp=Z,89nm,21.5s,baz=96,slow=29
AKTO Aktyubinsk 75.47 327 P **P** **13 02 25.5 -2.5**
AKTO pmax pmax
comp=Z,26nm,0.8s
SYO Syowa Base 75.78 201 ⇑*e*P **P** **13 02 29.4 -0.1**
SYO Syowa Base 75.78 201 ⇓*e*PcP **PcP** **13 02 38.8 -3.0**
SVE Sverdlovsk 77.92 334 ⇑*i*P **P** **13 02 41.1 -0.5**
SVE pmax pmax
comp=Z,43nm,1.0s
ARU Arti 78.61 333 *c* *i*P **P** **13 02 44.0 -1.4**
ARU S **S** **13 12 35.5 -0.6**
ARU pmax pmax
comp=Z,25nm,1.0s
ARU Arti 78.61 333 P **P** **13 02 44.7 -0.7**
comp=Z,126nm,1.1s,SNR=6.2
FX1 Attu Island--F 80.02 32 LR LR 13 40 45.1
comp=Z,28nm,19.3s,baz=235,slow=38
ZEI Tsey 80.61 316 *e*P **P** **13 02 54.6 -2.3**
ZEI pmax pmax
comp=Z,32nm,0.8s
KBZ Khabaz 81.63 317 P **P** **13 03 01.8 -0.2**
KBZ Khabaz 81.63 317 P **P** **13 03 01.8 -0.2**
KBZ Khabaz 81.63 317 P **P** **13 03 01.8 -0.2**
comp=Z,27nm,0.9s,baz=114,slow=4.8,SNR=29
KIV Kislovodsk 81.85 317 *e*P **P** **13 03 03.0 -0.3**
KIV pmax pmax
comp=Z,34nm,1.1s
LSZ Lusaka 82.30 256 *e*P **P** **13 03 07.5 +1.2**
comp=Z,13nm,0.6s
BOSA Boshof 83.47 242 LR LR 13 31 27.1
comp=Z,113nm,21.6s,baz=153,slow=29
EIL Eilat 83.63 301 P **P** **13 03 13.5 +0.8**
baz=84,SNR=9.7
MMAI Mount Meron Ar 84.07 305 LR LR 13 48 17.1
comp=Z,41nm,18.2s,baz=15,slow=41
ADK Adak 85.25 36 *e*P **P** **13 03 19.3 -1.1**
ADK pmax pmax
comp=Z,47nm,0.7s
ADK Adak 85.25 36 *e*P **P** **13 03 19.3 -1.1**
comp=Z,47nm,0.7s
ANN Anapa 85.69 316 *e*P **P** **13 03 20.5 -2.2**
ANN pmax pmax
comp=Z,64nm,1.3s
CSS Prodhromos 86.20 306 *e*P **P** **13 03 26.1 +0.6**
comp=Z,36nm,1.0s
VORD Divnogorie 86.36 323 *e*P **P** **13 03 24.8 -1.1**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD pmax pmax
comp=N,10.0nm,1.3s
VORD pmax pmax
comp=E,20nm,1.1s
VSR Storozhevoye 86.52 323 *e*P **P** **13 03 25.5 -1.2**
VSR pmax pmax
comp=Z,60nm,0.8s
VSR pmax pmax
comp=N,10.0nm,0.5s
VSR pmax pmax
comp=E,40nm,1.0s
BRTR Keskin Array B 87.08 311 P **P** **13 03 29.4 -0.5**
BRTR Keskin Array B 87.08 311 P **P** **13 03 29.4 -0.5**
comp=E,23nm,0.8s,baz=131,slow=6.8,SNR=99
BRTR LR LR 13 47 52.7
comp=E,19nm,18.3s,baz=275,slow=39
SIM Simferopol' 88.00 316 *e*P **P** **13 03 33.1 -0.9**
SIM pmax pmax
comp=Z,66nm,0.4s
MOS Moscow 88.79 327 *e*P **P** **13 03 35.9 -1.5**
OBN Obninsk 89.18 326 ⇓*i*P **P** **13 03 38.9 -0.3**
OBN pmax pmax
comp=Z,55nm,0.9s
SNAA Sanae 89.46 197 *e*P **P** **13 03 42.0 +1.5**
SNAA Sanae 89.46 197 *es*P sP 13 04 02.3 -7.1
SNAA Sanae 89.46 197 *e*P **P** **13 03 42.2 +1.7**
comp=Z,27nm,1.1s
TSUM Tsumeb 91.77 250 LR LR 13 38 34.7
comp=Z,70nm,21.4s,baz=153,slow=31
KIEV Kiev 92.48 321 *e*P **P** **13 03 53.1 -1.6**
KIEV pmax pmax
comp=Z,12nm,0.8s
KIEV Kiev 92.48 321 *e*P **P** **13 03 53.1 -1.6**
comp=Z,12nm,0.8s

PPT	Papeete	94.85	109	LR	LR		13 43 48.5	
	comp=Z,116nm,20.6s,baz=353,slow=34							
FINES	FINESS Array B	95.91	331	P	P		13 04 09.1	-1.1
FINES	FINESS Array B	95.91	331	P	P		13 04 09.1	-1.1
	comp=Z,2.7nm,0.7s,baz=98,slow=7.9,SNR=7.7							
ARCES	ARCESS Array B	97.08	339	LR	LR		13 55 28.4	
	comp=Z,48nm,18.3s,baz=104,slow=40							
GERES	GERESS Array B	102.32	318	PP	PP		13 08 49.0	-3.6
GERES	GERESS Array B	102.32	318	PP	PP		13 08 49.0	-3.6
	comp=Z,0.4nm,0.2s,baz=76,slow=5.6,SNR=3.4							
ILAR	Eielson Array	102.39	26	PP	PP		13 08 47.0	-5.5
ILAR	Eielson Array	102.39	26	PP	PP		13 08 47.0	-5.5
	comp=Z,0.5nm,0.9s,baz=281,slow=9.1,SNR=4.8							
YKA	Yellowknife Ar	116.50	22	PKP	PKPdf		13 09 26.6	-0.3
YKA	Yellowknife Ar	116.50	22	PKP	PKPdf		13 09 26.6	-0.3
	comp=Z,3.5nm,0.6s,baz=318,slow=1.8,SNR=22							
KIC	Kosan Boka	117.81	273	*e*PKIKP	PKPdf		13 09 30.7	-0.2
	comp=Z,51nm,1.4s							
DBIC	Dimbokro	117.96	273	PKP	PKPdf		13 09 31.0	-0.1
DBIC	Dimbokro	117.96	273	PKP	PKPdf		13 09 31.0	-0.1
	comp=Z,4.0nm,0.6s,baz=85,slow=1.4,SNR=6.3							
LIC	Lamto	118.08	272	*e*PKIKP	PKPdf		13 09 31.0	-0.4
	comp=Z,27nm,0.6s							
TIC	Toumodi	118.11	273	*e*PKIKP	PKPdf		13 09 31.2	-0.3
	comp=Z,5.5nm,0.3s							
NEW	Newport	122.70	37	*e*PKPdf	PKPdf		13 09 40.0	+0.6
BEKR	Beckworth	123.76	48	*e*PKPdf	PKPdf		13 09 42.5	+0.6
A13A	Flathead Natio	123.97	36	P	PKPdf		13 09 42.6	+0.7
	baz=124							
BMO	Blue Mountains	124.05	41	*e*PKIKP	PKPdf		13 09 42.3	+0.2
BMO	Blue Mountains	124.05	41	*e*PKPdf	PKPdf		13 09 42.3	+0.2
B13A	Whitefish	124.22	36	P	PKPdf		13 09 42.8	+0.5
	baz=124							
BSMT	Bassoo Peak	124.28	37	*e*PKPdf	PKPdf		13 09 43.0	+0.4
C13A	Hot Springs	124.49	37	P	PKPdf		13 09 42.8	0.0
	baz=124							
A15A	Johnson Ranch,	124.91	35	P	PKPdf		13 09 43.6	-0.1
	baz=125							
B14A	Marquette Ranc	124.92	36	P	PKPdf		13 09 43.7	0.0
	baz=125							
C14A	Swan Lake	124.93	36	P	PKPdf		13 09 43.8	0.0
	baz=125							
SLMT	Seeley Lake	125.34	37	*e*PKPdf	PKPdf		13 09 44.7	+0.1
B15A	Bradely Ranch,	125.35	35	P	PKPdf		13 09 44.4	-0.1
	baz=125							
A16A	West Butte Ran	125.56	34	P	PKPdf		13 09 44.9	0.0
	baz=125							
C15A	Salmond Ranch,	125.60	36	P	PKPdf		13 09 45.1	0.0
	baz=126							
MFID	Camas Ranch	125.61	42	P	PKPdf		13 09 46.0	+0.8
	baz=126							
NVAR	Mina Array Bea	125.74	49	PKP	PKPdf		13 09 47.3	+1.6
NVAR	Mina Array Bea	125.74	49	PKP	PKPdf		13 09 47.3	+1.6
	comp=Z,3.7nm,0.8s,baz=247,slow=2.4,SNR=23							
A17A	Triple J Farms	126.06	34	P	PKPdf		13 09 46.2	+0.4
	baz=126							
C16A	Fuhringer Ranc	126.08	36	P	PKPdf		13 09 45.8	-0.2
	baz=126							
B17A	L&G Farms, Che	126.36	35	P	PKPdf		13 09 46.7	+0.2
	baz=126							
HLID	Hailey	126.48	41	P	PKPdf		13 09 48.6	+1.6
	baz=126							
A18A	Metzger Ranch,	126.54	34	P	PKPdf		13 09 47.1	+0.4
	baz=126							
FFC	Flin Flon	126.56	24	*c i* PKIKP	PKPdf		13 09 47.1	+0.6
LRM	Limekiln Ridge	126.67	38	*e*PKPdf	PKPdf		13 09 48.2	+0.9
C17A	Wharram Farm,	126.73	35	P	PKPdf		13 09 47.5	+0.3
	baz=127							
DLMT	Dillon	126.80	39	*e*PKPdf	PKPdf		13 09 48.9	+1.4
B18A	Beardsley Farm	126.87	34	P	PKPdf		13 09 48.1	+0.7
	baz=127							
MCMT	McKenzie Canyo	126.90	39	*e*PKPdf	PKPdf		13 09 49.0	+1.2
I14A	Mackay	126.94	41	P	PKPdf		13 09 48.9	+1.1
	baz=127							
D17A	Six Diamond Ra	127.03	36	P	PKPdf		13 09 48.1	+0.2
	baz=127							
EDW2	Edwards Air Fo	127.08	53	P	PKPdf		13 09 49.7	+1.5
	baz=127							
EGMT	Eagleton	127.09	34	*e*PKPdf	PKPdf		13 09 48.9	+1.1
EGMT	Eagleton	127.09	34	P	PKPdf		13 09 48.6	+0.8
	baz=127							
MPMC	Manual Prospec	127.11	51	P	PKPdf		13 09 50.0	+1.6
	baz=127							
A19A	Klindworth Far	127.14	33	P	PKPdf		13 09 48.6	+0.7
	baz=127							
LRMC	Laurel Mountai	127.14	52	P	PKPdf		13 09 50.0	+1.6
	baz=127							
CIS	Catalina Islan	127.17	55	P	PKPdf		13 09 49.4	+1.1
	baz=127							
BOZ	Bozeman (W)	127.25	38	*e*PKIKP	PKPdf		13 09 48.8	+0.5
BOZ	Bozeman (W)	127.25	38	*e*PKPdf	PKPdf		13 09 48.8	+0.5
E17A	Martinsdale	127.30	37	P	PKPdf		13 09 48.8	+0.4
	baz=127							
B19A	Brinkman Farms	127.30	34	P	PKPdf		13 09 48.5	+0.3
	baz=127							
FURC	Furnace Creek,	127.47	50	P	PKPdf		13 09 49.5	+0.8
	baz=127							
D18A	Linhart Farms,	127.52	35	P	PKPdf		13 09 49.2	+0.5
	baz=127							
A20A	Cobblestone Ra	127.60	33	P	PKPdf		13 09 49.1	+0.4
	baz=128							
C19A	Slack Wire Ran	127.65	34	P	PKPdf		13 09 49.6	+0.7
	baz=128							
F17A	Fitzpatrick Pl	127.70	37	P	PKPdf		13 09 50.0	+0.8
	baz=128							
R11A	Troy Canyon, C	127.77	48	P	PKPdf		13 09 50.3	+0.8
	baz=128							
E18A	Harlowton	127.80	36	P	PKPdf		13 09 50.0	+0.7
	baz=128							
B20A	Solberg Farm,	127.81	33	P	PKPdf		13 09 49.4	+0.3
	baz=128							
GSC	Goldstone	127.88	52	P	PKPdf		13 09 51.4	+1.6
	baz=128							
G17A	Pierce Place,	127.96	38	P	PKPdf		13 09 51.4	+1.7
	baz=128							
H16A	Russell Place,	127.96	39	P	PKPdf		13 09 51.4	+1.6
	baz=128							
D19A	Cripps Ranch,	128.06	35	P	PKPdf		13 09 50.6	+0.8
	baz=128							
C20A	Veseth Ranch,	128.24	34	P	PKPdf		13 09 50.3	+0.2
	baz=128							
F18A	Big Timber	128.26	37	P	PKPdf		13 09 51.2	+1.0
	baz=128							
GCMT	Greycliff	128.35	37	*e*PKPdf	PKPdf		13 09 52.0	+1.6
B21A	Ellsworth Farm	128.36	33	P	PKPdf		13 09 51.2	+1.0
	baz=128							
E19A	Rath Farm, Rou	128.51	36	P	PKPdf		13 09 51.2	+0.6
	baz=128							
D20A	Manuel Ranch,	128.52	35	P	PKPdf		13 09 51.4	+0.8
	baz=128							
IMW	Indian Meadow	128.55	39	*e*PKPdf	PKPdf		13 09 52.1	+1.1
PFO	Pinyon Flat Ob	128.67	54	PKP	PKPdf		13 09 51.8	+0.4
PFO	Pinyon Flat Ob	128.67	54	PKP	PKPdf		13 09 51.8	+0.4
	comp=Z,2.3nm,0.8s,baz=321,slow=6.2,SNR=4.4							
REDW	Red Top Meadow	128.87	40	*e*PKPdf	PKPdf		13 09 52.8	+1.2
LOHW	Long Hollow	128.90	40	*e*PKPdf	PKPdf		13 09 52.8	+1.1
MONP	Monument Peak	128.91	55	P	PKPdf		13 09 53.3	+1.4
	baz=129							
BELC	Belle Mtn. Jos	128.92	53	P	PKPdf		13 09 53.8	+2.0
	baz=129							
GMRC	Granite Mounta	128.94	52	P	PKPdf		13 09 54.2	+2.4
	baz=129							
DUG	Dugway	129.01	45	P	PKPdf		13 09 54.0	+2.2
	baz=129							
D21A	La Casta Ranch	129.18	34	P	PKPdf		13 09 52.7	+0.9
	baz=129							
HWUT	Hardware Ranch	129.24	42	*e*PKPdf	PKPdf		13 09 53.3	+1.0
B23A	Brockton	129.40	32	P	PKPdf		13 09 53.2	+1.0
	baz=129							
E21A	Keefer Ranch,	129.44	35	P	PKPdf		13 09 54.3	+2.0
	baz=129							
G20A	Bridger	129.52	37	P	PKPdf		13 09 53.8	+1.1
	baz=129							
D22A	Cohagen	129.57	34	P	PKPdf		13 09 53.9	+1.3
	baz=129							
A24A	Westby	129.61	31	P	PKPdf		13 09 53.9	+1.3
	baz=130							
I19A	Meeteetse	129.69	38	P	PKPdf		13 09 53.9	+0.8
	baz=130							
M17A	Scullys Gap (B	129.90	42	P	PKPdf		13 09 54.4	+0.8
	baz=130							
PDAR	Pinedale Array	129.99	40	PKP	PKPdf		13 09 54.4	+0.6
PDAR	Pinedale Array	129.99	40	PKP	PKPdf		13 09 54.4	+0.6
	comp=Z,0.8nm,0.5s,baz=328,slow=0.8,SNR=10							
L18A	Fontenelle, Gr	130.10	41	P	PKPdf		13 09 55.0	+1.0
	baz=130							
E22A	Miles City	130.12	34	P	PKPdf		13 09 55.0	+1.4
	baz=130							
W13A	Hualapai Mount	130.21	51	P	PKPdf		13 09 55.8	+1.4
	baz=130							
I20A	Worland	130.26	38	P	PKPdf		13 09 54.7	+0.7
	baz=130							
K19A	Absolon Red Bu	130.41	40	P	PKPdf		13 09 55.0	+0.5
	baz=130							
E23A	Ismay	130.44	34	P	PKPdf		13 09 55.0	+0.7
	baz=130							
A26A	Wade Farm, Ken	130.60	30	P	PKPdf		13 09 55.5	+1.0
	baz=130							
J20A	Shoshoni	130.61	39	P	PKPdf		13 09 55.2	+0.5
	baz=130							
K20A	Yellowstone Ra	130.81	40	P	PKPdf		13 09 55.4	+0.2
	baz=131							
I21A	Big Trails, Te	130.85	38	P	PKPdf		13 09 55.8	+0.5
	baz=131							
J21A	Lysite	131.01	38	P	PKPdf		13 09 55.5	-0.1
	baz=131							
K21A	Alcova	131.51	39	P	PKPdf		13 09 57.1	+0.5
	baz=131							
J22A	Midwest	131.56	38	P	PKPdf		13 09 56.3	-0.3
	baz=131							
N20A	Spence Gulch,	131.79	42	P	PKPdf		13 09 58.5	+1.3
	baz=132							
H24A	Dirks Ranch, A	131.92	35	P	PKPdf		13 09 57.6	+0.4
	baz=132							
K22A	Casper	131.95	39	P	PKPdf		13 09 56.9	-0.5
	baz=132							
WUAZ	Wupatki	131.96	50	*e*PKPdf	PKPdf		13 10 00.3	+2.7
M21A	Separation Pea	131.98	40	P	PKPdf		13 09 57.7	+0.1
	baz=132							
E26A	Carlson Angus	131.99	32	P	PKPdf		13 09 57.7	+0.6
	baz=132							
O20A	White River Ci	132.16	42	P	PKPdf		13 09 58.6	+0.7
	baz=132							
ULM	Lac du Bonnet	132.39	24	PKP	PKPdf		13 09 58.2	+0.5
ULM	Lac du Bonnet	132.39	24	PKP	PKPdf		13 09 58.2	+0.5
	comp=Z,3.9nm,0.7s,baz=318,slow=6.9,SNR=5.1							
I24A	Kuemmerle Ranc	132.41	36	P	PKPdf		13 09 58.2	+0.1
	baz=132							
MDND	Maddock	132.50	29	P	PKPdf		13 09 58.8	+0.8
	baz=132							
RSSD	Black Hills	132.59	36	*e*PKIKP	PKPdf		13 09 58.1	-0.5
RSSD	Black Hills	132.59	36	*e*PKPdf	PKPdf		13 09 58.1	-0.5
PV01	Paradox Valley	132.88	45	*e*PKPdf	PKPdf		13 10 00.8	+1.4
G27A	Dupree	132.98	33	P	PKPdf		13 09 59.1	0.0
	baz=133							
J25A	Sunshine Ranch	133.17	36	P	PKPdf		13 09 59.7	+0.1
	baz=133							
O23A	Lake Granby, G	133.65	41	P	PKPdf		13 10 01.1	+0.3
	baz=134							
S21A	Coal Bank Pass	133.65	45	P	PKPdf		13 10 01.9	+1.0
	baz=134							
G28A	Parade	133.72	33	P	PKPdf		13 10 00.6	+0.1
	baz=134							
SCHQ	Schefferville	134.04	359	PKP	PKPdf		13 10 00.7	0.0
SCHQ	Schefferville	134.04	359	PKP	PKPdf		13 10 00.7	0.0
	comp=Z,6.1nm,0.8s,baz=51,slow=5.4,SNR=7.2							
I28A	Midland	134.29	34	P	PKPdf		13 10 01.7	+0.2
	baz=134							
U21A	Nageezi	134.31	47	P	PKPdf		13 10 02.7	+0.6
	baz=134							
Z20A	Nine Sixteen R	135.02	51	P	PKPdf		13 10 05.1	+1.7
	baz=135							
319A	Douglas	135.13	54	P	PKPdf		13 10 04.9	+1.3
	baz=135							
P25A	Willow Gulch B	135.16	41	P	PKPdf		13 10 04.5	+1.0
	baz=135							
Y21A	Point of Rocks	135.35	50	P	PKPdf		13 10 05.8	+1.7
	baz=135							
Q25A	Bedland, Calha	135.43	42	P	PKPdf		13 10 04.1	0.0
	baz=135							
P26A	Davis Ranch, A	135.66	40	P	PKPdf		13 10 04.2	-0.3
	baz=136							
ANMO	Albuquerque	135.85	48	*e*PKPdf	PKPdf		13 10 06.5	+1.5
121A	Cookes Peak, D	135.87	52	P	PKPdf		13 10 06.3	+1.3
	baz=136							
Z22A	Elephant Butte	136.21	50	P	PKPdf		13 10 07.1	+1.4
	baz=136							
T25A	Trinidad	136.25	44	P	PKPdf		13 10 06.2	+0.5
	baz=136							
R26A	Arlington	136.29	42	P	PKPdf		13 10 07.2	+1.6
	baz=136							
V24A	Rampart Ranch,	136.35	46	P	PKPdf		13 10 07.0	+1.1
	baz=136							
W24A	Lazy 6 Ranch,	136.50	47	P	PKPdf		13 10 07.7	+1.5
	baz=136							
S26A	Kim	136.64	43	P	PKPdf		13 10 06.7	+0.4
	baz=136							
R27A	Eads	136.72	42	P	PKPdf		13 10 08.2	+1.8
	baz=137							
V25A	Rancho No Teng	136.76	46	P	PKPdf		13 10 07.6	+1.0
	baz=137							
T26A	Comanche Natio	136.79	43	P	PKPdf		13 10 07.6	+1.0
	baz=137							
ECSD	EROS Data Cent	136.89	31	*e*PKPdf	PKPdf		13 10 06.5	+0.2
W25A	X Bar L Ranch,	137.17	46	P	PKPdf		13 10 08.6	+1.3
	baz=137							
V26A	Tequesquite Ra	137.37	45	P	PKPdf		13 10 09.3	+1.6
	baz=137							
Q29A	Oakley	137.55	40	P	PKPdf		13 10 08.8	+1.0
	baz=137							
Y25A	Mesa, Roswell	137.62	48	P	PKPdf		13 10 08.4	+0.2
	baz=138							
T28A	Walsh	137.82	43	P	PKPdf		13 10 08.6	+0.2
	baz=138							
527A	Woodward Ranch	140.10	53	P	PKPdf		13 10 05.5	-7.4
	baz=140							
Z29A	Hungry Hill Ra	140.12	47	P	PKPdf		13 10 13.6	+0.8
	baz=140							
129A	Stewart Farms,	140.31	48	P	PKPdf		13 10 14.3	+1.2
	baz=140							
TXAR	Lajitas Array	140.39	54	PKPpre	PKPpre		13 10 06.5	
TXAR	Lajitas Array	140.39	54	PKhKP	PKPpre		13 10 06.5	
	comp=Z,1.2nm,0.7s,baz=264,slow=2.4,SNR=8.6							
Z30A	Sanderson Ranc	140.53	47	P	PKPdf		13 10 07.1	-6.3
	baz=140							
428A	Kincaid Ranch,	140.57	51	P	PKPdf		13 10 08.0	-5.6
	baz=140							
Y31A	Rekieta Farm,	140.79	45	P	PKPdf		13 10 16.0	+2.1
	baz=141							
628A	Black Gap, Mar	140.95	53	P	PKPdf		13 10 07.8	-6.5
	baz=141							
130A	Snyder	140.99	48	P	PKPdf		13 10 09.2	-5.1
	baz=141							
529A	Stev Forest Ra	141.20	52	P	PKPdf		13 10 09.7	-5.0
	baz=141							
429A	Davenport Ranc	141.23	51	P	PKPdf		13 10 09.5	-5.3
	baz=141							
230A	Sterling City	141.23	49	P	PKPdf		13 10 09.4	-5.3
	baz=141							
WMOK	Wichita Mounta	141.39	43	*e*PKHKP	PKPpre		13 10 09.4	
WMOK	Wichita Mounta	141.39	43	*e*PKPdf	PKPpre		13 10 09.4	
430A	Baggett Ranch,	141.66	50	P	PKPdf		13 10 11.4	-4.2
	baz=142							
Z32A	Haskell	141.69	46	P	PKPdf		13 10 10.5	-4.9
	baz=142							
530A	J-C Ranch, Com	141.87	51	P	PKPdf		13 10 11.4	-4.5
	baz=142							
ABTX	Abilene, Hawle	141.94	47	P	PKPdf		13 10 13.4	-2.6
	baz=142							
PQI	Presque Isle	142.21	1	*e*PKPdf	PKPdf		13 10 11.5	-4.5
531A	Rocksprings	142.47	51	P	PKPdf		13 10 12.8	-4.2
	baz=142							
332A	Millersview	142.50	49	P	PKPdf		13 10 13.5	-3.5
	baz=142							
631A	Perdido Creek	142.79	52	P	PKPdf		13 10 14.3	-3.3
	baz=143							
JCT	Junction City	142.89	50	*e*PKIKP	PKPdf		13 10 16.4	-1.3
JCT	Junction City	142.89	50	*e*PKPdf	PKPdf		13 10 16.4	-1.3
JCT	Junction City	142.89	50	P	PKPdf		13 10 15.0	-2.8
	baz=143							
532A	Rocksprings	142.98	50	P	PKPdf		13 10 14.6	-3.3
	baz=143							
632A	Uvalde	143.36	51	P	PKPbc		13 10 16.7	+0.8
	baz=143							
732A	Laxson Ranch,	143.57	53	P	PKPbc		13 10 17.2	+0.7
	baz=144							
CPUP	Villa Florida	143.76	196	PKP	PKPdf		13 10 18.4	-0.8
CPUP	Villa Florida	143.76	196	PKP	PKPdf		13 10 18.4	-0.8
	comp=Z,5.5nm,0.6s,baz=144,slow=3.6,SNR=23							
WHTX	Lake Whitney	143.84	46	P	PKPbc		13 10 17.9	+0.8
	baz=144							
SFIN	Scholer Farm	143.99	26	P	PKPbc		13 10 17.3	+0.1
	baz=144							
EMMW	East Machias	144.17	360	*e*PKPdf	PKPbc		13 10 17.7	0.0
WVL	Waterville	144.27	3	*e*PKPdf	PKPbc		13 10 18.0	+0.1
NCB	Newcomb	144.43	8	*e*PKPdf	PKPbc		13 10 18.8	+0.3
LBNH	Lisbon	144.43	5	*e*PKIKP	PKPbc		13 10 18.9	+0.4
LBNH	Lisbon	144.43	5	*e*PKPdf	PKPbc		13 10 18.9	+0.4
MDV	Middlebury	144.54	7	*e*PKPdf	PKPbc		13 10 19.2	+0.4
MIAR	Mount Ida	144.90	39	*e*PKIKP	PKPbc		13 10 20.5	+0.2
MIAR	Mount Ida	144.90	39	*e*PKPbc	PKPbc		13 10 20.5	+0.1
HNH	Hanover	144.93	6	*e*PKPbc	PKPdf		13 10 20.5	-0.3
ACCN	Adirondack Com	145.08	8	*e*PKPbc	PKPbc		13 10 20.4	-0.2
SIUC	Southern Illin	145.11	31	*e*PKPbc	PKPbc		13 10 20.8	-0.1
BLO	Bloomington	145.23	26	*e*PKIKP	PKPdf		13 10 21.4	-0.1
BLO	Bloomington	145.23	26	*e*PKPbc	PKPdf		13 10 21.4	-0.1
UALR	University of	145.50	38	*e*PKPbc	PKPab		13 10 22.4	-0.1
USIN	University of	145.68	29	*e*PKPbc	PKPbc		13 10 22.6	-0.1
BINY	Binghamton	145.85	11	*e*PKPbc	PKPbc		13 10 23.0	-0.1
WCI	Wyandotte Cave	146.11	27	*e*PKIKP	PKPdf		13 10 22.5	-0.5
WCI				*e*			13 10 24.0	
WCI	Wyandotte Cave	146.11	27	*e*PKPdf	PKPdf		13 10 22.5	-0.5
WCI				*e*PKPbc	PKPbc		13 10 24.0	0.0
HRV	Adam Dziewonsk	146.19	5	*e*PKP2	PKPbc		13 10 24.1	0.0
HRV	Adam Dziewonsk	146.19	5	*e*PKPbc	PKPbc		13 10 24.1	0.0
QUA2	Belchertown	146.33	7	*e*PKPbc	PKPbc		13 10 24.8	+0.3
WVT	Waverly	147.04	31	*e*PKP2	PKPbc		13 10 26.6	-0.2
WVT	Waverly	147.04	31	*e*PKPbc	PKPbc		13 10 26.6	-0.2
OXF	Oxford	147.41	35	*e*PKP2	PKPbc		13 10 27.8	0.0
OXF	Oxford	147.41	35	*e*PKPbc	PKPbc		13 10 27.8	0.0
SDMD	Soldier's Deli	148.34	14	*e*PKPbc	PKPbc		13 10 29.9	-0.2
TZTN	Tazewell	148.71	25	*e*PKPdf	PKPdf		13 10 27.7	+0.3
TZTN				*e*PKPbc	PKPbc		13 10 31.5	+0.2
TZTN				*e*PKPab	PKPab		13 10 34.6	-0.4
BDFB	Brasilia	149.03	219	PKPbc	PKPbc		13 10 34.0	+1.3
BDFB	Brasilia	149.03	219	PKPbc	PKPbc		13 10 34.0	+1.3
	comp=Z,8.7nm,0.6s,baz=132,slow=2.0,SNR=13							
CPCT	Cooper Cave	149.20	28	*e*PKPdf	PKPdf		13 10 28.8	+0.6
CPCT				*e*PKPbc	PKPbc		13 10 32.5	0.0
CPCT				*e*PKPab	PKPab		13 10 36.8	-0.2
BLA	Blacksburg	149.34	21	*e*PKIKP	PKPdf		13 10 28.8	+0.4
BLA				*e*			13 10 32.7	
BLA				*e*			13 10 37.8	
BLA	Blacksburg	149.34	21	*e*PKPdf	PKPdf		13 10 28.8	+0.4
BLA				*e*PKPbc	PKPbc		13 10 32.7	-0.1
BLA				*e*PKPab	PKPab		13 10 37.8	+0.2
LRAL	Lakeview Retre	149.85	34	*e*PKPdf	PKPdf		13 10 29.9	+0.6
LRAL				*e*PKPbc	PKPbc		13 10 34.3	+0.2
LRAL				*e*PKPab	PKPab		13 10 39.7	0.0
KMSC	Kings Mountain	150.83	24	P	PKPbc		13 10 36.6	+0.2
	baz=151							
BRAL	Brewton	151.31	37	*e*PKPbc	PKPbc		13 10 38.8	+1.1
SAML	Samuel	161.90	194	*e*PKPdf	PKPdf		13 10 46.9	+1.2

IDC ***28*** *13:08:55.9±0.5, 12°.26N×92°.54E, h0km, mb4.2/22, mb1 4.3/23, mb1mx4.2/31, mbtmp4.2/23, ML4.1/1, MS3.7/5, Ms1 3.7/5, ms1mx3.1/41, Error ellipse: s-maj=18.4km s-min=11.4km az=60.0*

ISCJB ***28*** *13:08:59.6±0.3, 12°.43N±0°.04×92°.40E±0°.04, h26km, mb4.4/45, MS3.7/6, Error ellipse: s-maj=5.7km s-min=4.4km az=44.3*

NEIC ***28*** *13:09:00.0±3.2, 12°.28N×92°.51E, h26km±22km, mb4.6/6, Error ellipse: s-maj=11.9km s-min=9.2km az=63.0*

BJI ***28*** *13:09:01.1, 12°.40N×92°.33E, h23km, mB4.4/6, mb4.3/10, Ms4.0/3, Ms7 3.7/3*

BKK ***28*** *13:09:03.2±2.1, 12°N±7°×9°2E±1°9, h10km, M4.9/11, mB5.3/4, mb5.0/11, MLv4.9/3, Mw(mB)4.7/4*

SZGRF ***28*** *13:09:09.1, 12°.76N×92°.59E, h33km, mb4.5, Andaman Islands, India, region*

ISC 28 13:09:00.2±0.4, 12°33N±0°.05×92°48E±0°.06, h26km, n120, σ1s60/118, mb4.5/45, MS3.7/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	Port Blair	0.72	159	*e*P	Pn	13 09 15.0	+0.3
PBA				*e*S	Sn	13 09 27.4	+2.6
DGPR	DIGLIPUR	0.95	27	*e*P	Pb	13 09 18.0	-0.1
DGPR				*e*S	Sn	13 09 33.1	+2.5
CMBY	CAMPBELL BAY	5.47	165	*e*P	Pn	13 10 21.4	+1.3
CMBY				*ex*	Sn	13 11 21.4	-0.9
PHET	Kaeng Krachan	7.00	84	P	Pn	13 10 44.3	+3.2
	468nm,0.6s						
CMAR	Chiang Mai Arr	8.71	45	Pn	Pn	13 11 05.2	+0.6
CMAR				Sn	Sn	13 12 38.4	-3.7
CMAR	Chiang Mai Arr	8.71	45	Pn	Pn	13 11 05.2	+0.6
	0.6nm,0.3s,baz=237,slow=15,SNR=24						
CMAR				Sn	Sn	13 12 38.4	-3.7

	comp=Z,5.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,50nm,5.5s						
GTA				LR	LR		
	comp=N,76nm,15.0s						
GTA				LR	LR		
	comp=E,79nm,16.9s						
GTA				LR	LR		
	comp=Z,100nm,15.9s						
DAV	**Davao City (W)**	**33.02**	**96**	LR	LR	13 30 42.1	
	comp=Z,94nm,19.5s,baz=222,slow=40						
MKAR	**Makanchi Array**	**35.41**	**348**	P	**P**	**13 15 54.1**	**+0.1**
MKAR	**Makanchi Array**	**35.41**	**348**	P	**P**	**13 15 54.1**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=166,slow=8.7,SNR=18						
KKAR	**Karatay Array**	**36.08**	**332**	P	**P**	**13 15 58.8**	**-1.0**
	comp=Z,2.5nm,0.8s						
SONM	**Songino Array**	**37.26**	**16**	P	**P**	**13 16 10.2**	**+0.2**
SONM				PcP	**PcP**	**13 18 31.7**	**+2.5**
SONM	**Songino Array**	**37.26**	**16**	P	**P**	**13 16 10.2**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=200,slow=9.5,SNR=12						
SONM				PcP	**PcP**	**13 18 31.7**	**+2.5**
	comp=Z,0.4nm,0.5s,baz=129,slow=2.0,SNR=2.8						
BATI	**Baumata**	**38.22**	**125**	P	P	13 16 14.7	-3.6
BATI	**Baumata**	**38.22**	**125**	P	P	13 16 14.7	-3.6
	comp=Z,16nm,0.5s,baz=208,slow=3.1,SNR=6.6						
KURBB	**Kurchatov Arra**	**39.86**	**346**	P	**P**	**13 16 31.2**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=160,slow=8.1,SNR=15						
KURK	**Kurchatov**	**39.92**	**346**	P	**P**	**13 16 31.2**	**-0.8**
KSAR	**Wonju Array Be**	**40.32**	**45**	P	**P**	**13 16 34.1**	**-1.5**
KSRS	**Korea Array**	**40.35**	**45**	P	**P**	**13 16 34.1**	**-1.7**
	comp=Z,1.6nm,0.8s,baz=244,slow=9.4,SNR=9.8						
KSRS				LR	LR	13 36 20.7	
	comp=Z,92nm,19.1s,baz=48,slow=41						
ZALV	**Zalesovo Beam**	**41.96**	**353**	P	**P**	**13 16 48.7**	**-0.1**
ZALV	**Zalesovo Beam**	**41.96**	**353**	P	**P**	**13 16 48.7**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=177,slow=8.9,SNR=10						
BVAR	**Borovoye Array**	**44.27**	**341**	P	**P**	**13 17 07.1**	**-0.5**
BVAR	**Borovoye Array**	**44.27**	**341**	P	**P**	**13 17 07.1**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=144,slow=9.5,SNR=4.2						
FITZ	**Fitzroy Crossi**	**44.55**	**132**	P	**P**	**13 17 08.3**	**-1.9**
FITZ	**Fitzroy Crossi**	**44.55**	**132**	P	**P**	**13 17 08.3**	**-1.9**
	comp=Z,6.9nm,0.6s,baz=330,slow=7.4,SNR=28						
ABKAR	**Akbulak array**	**45.57**	**330**	*eP*	**P**	**13 17 18.0**	**+0.1**
	comp=Z,6.5nm,0.8s						
AKTO	**Aktyubinsk**	**47.28**	**330**	P	**P**	**13 17 33.3**	**+1.9**
AKTO	**Aktyubinsk**	**47.28**	**330**	P	**P**	**13 17 33.3**	**+1.9**
	comp=Z,1.8nm,0.5s,baz=126,slow=12,SNR=7.8						
MJAR	**Matsushiro Arr**	**47.53**	**51**	P	**P**	**13 17 34.5**	**+0.9**
MJAR	**Matsushiro Arr**	**47.53**	**51**	P	**P**	**13 17 34.5**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=256,slow=4.9,SNR=2.9						
NWAO	**Narrogin (SRO)**	**50.83**	**153**	P	**P**	**13 17 57.6**	**-1.1**
NWAO	**Narrogin (SRO)**	**50.83**	**153**	P	**P**	**13 17 57.6**	**-1.1**
	comp=Z,3.6nm,0.3s,baz=126,slow=10,SNR=11						
WRA	**Warramunga Arr**	**52.21**	**127**	P	**P**	**13 18 07.8**	**-1.5**
WRA				PcP	**PcP**	**13 19 20.3**	**-0.5**
WRA	**Warramunga Arr**	**52.21**	**127**	P	**P**	**13 18 07.8**	**-1.5**
	comp=Z,8.8nm,0.7s,baz=304,slow=8.5,SNR=52						
WRA				PcP	**PcP**	**13 19 20.3**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=318,slow=3.0,SNR=3.8						
WRAB	**Tennant Creek**	**52.21**	**127**	*eP*	**P**	**13 18 07.8**	**-1.5**
	comp=Z,10nm,0.6s						
ASAR	**Alice Springs**	**54.04**	**131**	P	**P**	**13 18 21.3**	**-1.5**
ASAR	**Alice Springs**	**54.04**	**131**	P	**P**	**13 18 21.3**	**-1.5**
	comp=Z,3.6nm,0.4s,baz=308,slow=6.5,SNR=46						
BRTR	**Keskin Array B**	**58.33**	**309**	P	**P**	**13 18 52.2**	**-1.2**
BRTR	**Keskin Array B**	**58.33**	**309**	P	**P**	**13 18 52.2**	**-1.2**
	comp=Z,3.4nm,0.8s,baz=138,slow=4.9,SNR=5.9						
STKA	**Stephens Creek**	**64.36**	**134**	P	**P**	**13 19 31.9**	**-2.1**
STKA	**Stephens Creek**	**64.36**	**134**	P	**P**	**13 19 31.9**	**-2.1**
	comp=Z,2.0nm,0.5s,baz=318,slow=6.1,SNR=12						
FINES	**FINESS Array B**	**68.04**	**332**	P	**P**	**13 19 56.8**	**-0.3**
FINES	**FINESS Array B**	**68.04**	**332**	P	**P**	**13 19 56.8**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=117,slow=8.0,SNR=3.7						
ARCES	**ARCESS Array B**	**70.55**	**340**	P	**P**	**13 20 11.9**	**-0.7**
ARCES	**ARCESS Array B**	**70.55**	**340**	P	**P**	**13 20 11.9**	**-0.7**
	comp=Z,2.8nm,0.7s,baz=78,slow=7.6,SNR=12						
GERES	**GERESS Array B**	**73.45**	**317**	P	**P**	**13 20 31.3**	**+0.8**
GERES	**GERESS Array B**	**73.45**	**317**	P	**P**	**13 20 31.3**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=212,slow=28,SNR=3.7						
GERES				LR	LR	13 55 57.3	
	comp=Z,34nm,18.5s,baz=97,slow=38						
FX1	**Attu Island--F**	**74.66**	**38**	P	**P**	**13 20 39.0**	**+1.7**
FX1	**Attu Island--F**	**74.66**	**38**	P	**P**	**13 20 39.0**	**+1.7**
	comp=Z,3.6nm,0.7s,baz=176,slow=3.4,SNR=5.5						
GRF	**Grafenberg Arr**	**75.06**	**318**	*eP*	P	13 20 46.2	+6.4
	comp=Z,7.0nm,1.2s						
NB2	**NORSAR Subarra**	**75.08**	**330**	P	**P**	**13 20 38.6**	**-1.1**
	comp=Z,3.9nm,0.9s,baz=91,slow=5.3						
NOA	**NORSAR Array B**	**75.08**	**330**	P	**P**	**13 20 38.6**	**-1.1**
NOA	**NORSAR Array B**	**75.08**	**330**	P	**P**	**13 20 38.6**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=90,slow=6.1,SNR=3.2						
NOA				LR	LR	13 56 23.4	
	comp=Z,42nm,20.7s,baz=40,slow=38						
BOSA	**Boshof**	**76.61**	**236**	P	**P**	**13 20 50.0**	**+0.9**
BOSA	**Boshof**	**76.61**	**236**	P	**P**	**13 20 50.0**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=56,slow=15,SNR=2.3						
BOSA				LR	LR	13 53 33.5	
	comp=Z,61nm,19.2s,baz=353,slow=35						
CDF	**Champ du Feu**	**77.72**	**317**	*eP*	**P**	**13 20 56.5**	**+1.5**
LPG	**La Plagne**	**78.35**	**314**	*eP*	**P**	**13 21 00.6**	**+1.8**
	comp=Z,17nm,0.8s						
LPL	**La Plagne**	**78.36**	**314**	*eP*	**P**	**13 21 00.7**	**+1.9**
	comp=Z,29nm,0.9s						
MBDF	**Montbardon**	**78.41**	**313**	*eP*	**P**	**13 21 01.0**	**+2.0**
	comp=Z,12nm,1.1s						
BNI	**Bardonecchia**	**78.44**	**314**	P	**P**	**13 21 00.8**	**+1.6**
	comp=Z,6.6nm,0.8s						
FRF	**La Foret Royal**	**78.62**	**312**	*eP*	**P**	**13 21 01.6**	**+1.6**
	comp=Z,20nm,1.0s						
CABF	**La Chapelle**	**78.69**	**315**	*eP*	**P**	**13 21 02.4**	**+2.0**
	comp=Z,29nm,1.3s						
ORIF	**Oris-en-Rattie**	**79.02**	**314**	*eP*	**P**	**13 21 04.3**	**+2.0**
SMRF	**Simiane la Rot**	**79.35**	**313**	*eP*	**P**	**13 21 06.2**	**+2.2**
VIVF	**Saint-Julien-l**	**79.88**	**314**	*eP*	**P**	**13 21 08.7**	**+1.8**
	comp=Z,19nm,1.0s						
LOR	**Lormes**	**80.13**	**316**	*eP*	**P**	**13 21 10.0**	**+1.8**
	comp=Z,18nm,1.2s						
SMF	**Signal de Mont**	**80.23**	**316**	*eP*	**P**	**13 21 10.2**	**+1.5**
	comp=Z,20nm,1.1s						
AVF	**Avril sur Loir**	**80.54**	**316**	*eP*	**P**	**13 21 11.9**	**+1.6**
	comp=Z,5.5nm,0.6s						
LASF	**Ste Croix**	**80.56**	**313**	*eP*	**P**	**13 21 12.8**	**+2.3**
	comp=Z,8.8nm,0.8s						
TCF	**Toulx Ste Croi**	**81.39**	**315**	*eP*	**P**	**13 21 16.9**	**+2.0**
	comp=Z,9.4nm,0.8s						
MTLF	**Montolieu**	**81.85**	**313**	*eP*	**P**	**13 21 19.4**	**+2.0**
	comp=Z,18nm,1.1s						
MAW	**Mawson**	**82.55**	**191**	P	**P**	**13 21 22.9**	**+2.5**
MAW	**Mawson**	**82.55**	**191**	P	**P**	**13 21 22.9**	**+2.5**
	comp=Z,1.5nm,0.7s,baz=321,slow=13,SNR=4.4						
TORD	**Torodi Ar. Bea**	**88.00**	**283**	P	**P**	**13 21 47.8**	**-1.0**
TORD	**Torodi Ar. Bea**	**88.00**	**283**	P	**P**	**13 21 47.8**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=66,slow=4.3,SNR=3.3						
ILAR	**Eielson Array**	**91.24**	**22**	P	**P**	**13 22 01.3**	**-1.7**
ILAR	**Eielson Array**	**91.24**	**22**	P	**P**	**13 22 01.3**	**-1.7**
	comp=Z,0.2nm,0.8s,baz=325,slow=4.5,SNR=3.7						
PDAR	**Pinedale Array**	**121.57**	**19**	PKP	**PKPdf**	**13 27 53.9**	**+1.7**
PDAR	**Pinedale Array**	**121.57**	**19**	PKP	**PKPdf**	**13 27 53.9**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=336,slow=2.0,SNR=2.5						
NVAR	**Mina Array Bea**	**121.87**	**28**	PKP	**PKPdf**	**13 27 53.3**	**+0.5**
NVAR	**Mina Array Bea**	**121.87**	**28**	PKP	**PKPdf**	**13 27 53.3**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=332,slow=1.9,SNR=5.2						
TXAR	**Lajitas Array**	**135.74**	**20**	PKP	**PKPdf**	**13 28 20.0**	**+0.7**
TXAR	**Lajitas Array**	**135.74**	**20**	PKP	**PKPdf**	**13 28 20.0**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=343,slow=2.8,SNR=2.0						
PLCA	**Paso Flores**	**148.02**	**205**	PKPbc	**PKPbc**	**13 28 44.8**	**+1.0**
PLCA	**Paso Flores**	**148.02**	**205**	PKPbc	**PKPbc**	**13 28 44.8**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=191,slow=11,SNR=3.3						
CPUP	**Villa Florida**	**148.39**	**239**	PKPbc	**PKPbc**	**13 28 46.6**	**+1.5**
CPUP	**Villa Florida**	**148.39**	**239**	PKPbc	**PKPbc**	**13 28 46.6**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=18,slow=3.2,SNR=2.8						

WEL 28 13:11:46.1±0.5, 44°.55S×175°.22E, h12km, ML3.7/10, Error ellipse: s-maj=4.6km s-min=2.4km az=90.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**2.03**	**293**	PN	Pn	13 12 18.5	-1.7
MQZ				SN	Sn	13 12 44.3	-1.1
CRLZ	**Canterbury Las**	**2.11**	**296**	SN	Sn	13 12 46.3	-1.1
CRLZ				AML	AML	13 12 47.7	
KHZ	**Kahutara**	**2.45**	**329**	PN	Pn	13 12 24.9	-1.0
KHZ				SN	Sn	13 12 54.2	-1.6
LTZ	**Lake Taylor**	**2.77**	**308**	PN	Pn	13 12 29.4	-1.0
LTZ				SN	Sn	13 13 03.0	-0.9
THZ	**Tophouse**	**3.26**	**328**	PN	Pn	13 12 36.3	-0.8
THZ				AML	AML	13 13 18.8	
ODZ	**Otahua Downs**	**3.30**	**260**	PN	Pn	13 12 36.9	-0.7
ODZ				SN	Sn	13 13 13.2	-3.5
WVZ	**Waitaha Valley**	**3.56**	**293**	AML	AML	13 13 26.0	
DSZ	**Denniston Nort**	**3.75**	**317**	AML	AML	13 13 20.3	
DSZ				AML	AML	13 13 28.8	
DSZ				AML	AML	13 13 42.9	
TUZ	**Tuapeka**	**4.19**	**248**	PN	Pn	13 12 48.2	-1.6
EAZ	**Earnscleugh**	**4.26**	**259**	PN	Pn	13 12 47.6	-3.1
WKZ	**Wanaka**	**4.43**	**264**	AML	AML	13 13 47.8	

IDC 28 13:21:32.6±6.0, 15°.48S×173°.33W, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.7/22, mbtmp3.9/4, ML1.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/34, Error ellipse: s-maj=297.0km s-min=24.4km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.17**	**44**	Pn	Pn	13 22 08.8	-1.3
	21nm,0.3s,baz=233,slow=6.6,SNR=19						
AFI				Sn	Sn	13 22 29.7	-8.1
	46nm,0.3s,baz=67,slow=22,SNR=8.2						
AFI				LR	LR	13 22 38.8	
	comp=Z,545nm,20.5s,baz=69,slow=30						
DZM	**Mont Dzumac**	**20.23**	**248**	LR	LR	13 32 50.0	
	comp=Z,69nm,18.2s,baz=355,slow=34						
WRA	**Warramunga Arr**	**49.89**	**257**	P	P	13 30 27.5	-0.9
	0.7nm,0.8s,baz=88,slow=8.6,SNR=4.6						
ASAR	**Alice Springs**	**50.15**	**252**	P	P	13 30 29.9	-0.4
	6.4nm,0.8s,baz=85,slow=8.0,SNR=49						
ILAR	**Eielson Array**	**82.51**	**11**	P	P	13 33 57.2	+0.4
	0.2nm,0.6s,baz=224,slow=7.4,SNR=4.7						
BRTR	**Keskin Array B**	**146.26**	**321**	PKPbc	PKPab	13 41 16.5	+0.1
	0.8nm,0.7s,baz=42,slow=2.0,SNR=4.4						

*NIED **28** 13:33:00,24°.00N×121°.70E,h8km,Mw4.2 Best double couple: M₀2.17000×10¹⁵ NP1:φ₀52.00000°,δ72.00000°, λ79.00000°. NP2:φ₀263.00000°,δ21.00000°,λ119.00000°.*
*IDC **28** 13:33:02.4±1.0,24°.19N×121°.39E,h0km,mb3.7/7, mb1 3.7/9,mb1mx3.6/27,mbtmp3.6/9,ML3.4/2,MS3.2/3, Ms1 3.2/3,ms1mx2.6/44,Error ellipse: s-maj=36.8km s-min=18.2km az=67.0*
*JMA **28** 13:33:02.0±0.4,24°.00N×121°.65E,h27km,M3.7*
*ISCJB **28** 13:33:03.1±0.3,24°.23N±0°.01×121°.82E±0°.02,h4km±2km, mb3.6/8,MS3.2/3,Error ellipse: s-maj=2.7km s-min=1.8km az=40.2*
*TAP **28** 13:33:03.5,24°.24N×121°.76E,h14km,ML4.2,B*
ISC 28 13:33:03.5±0.9, 24°.23N±0°.02×121°.72E±0°.02, h16km±6km, n85,σ1°33/133, mb3.7/8, MS3.2/3, 13C-8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.19**	**217**	*i*P	**Pb**	**13 33 08.4**	**-0.2**
	baz=228						
TWD				*i* S	**Sb**	**13 33 12.0**	**-0.1**
	baz=228						
ENA	**Nanau**	**0.20**	**5**	⇑*i*P	**Pg**	**13 33 07.9**	**-0.2**
	baz=357						
ENA				S	**Sg**	**13 33 11.2**	**-0.1**
	baz=357						
HWA	**Hwalien**	**0.28**	**203**	P	**Pb**	**13 33 10.4**	**+0.3**
	baz=216						
HWA				*e*S	**Sb**	**13 33 15.7**	**+1.2**
	baz=216						
NNS	**Nan Shan**	**0.38**	**303**	⇑*i*P	**Pn**	**13 33 11.9**	**-2.6**
	baz=300						
NNS				S	**Sb**	**13 33 17.3**	**-0.4**
	baz=300						
TWC	**Suao**	**0.39**	**17**	⇑*i*P	**Pg**	**13 33 11.3**	**-0.2**
	baz=10.0						
TWC				*i* S	**Sg**	**13 33 16.5**	**-0.4**
	baz=10.0						
ESF	**Shoufeng Towns**	**0.41**	**209**	*e*P	**Pb**	**13 33 12.4**	**0.0**
	baz=219						
ESF				*e*S	**Sb**	**13 33 19.6**	**+1.2**
	baz=219						
WHF	**Hehuan Shan**	**0.43**	**258**	⇑*i*P	**Pb**	**13 33 12.8**	**-0.2**
	baz=259						
WHF				*e*S	**Sb**	**13 33 19.0**	**-0.3**
	baz=259						
ENTT	**Nioudou**	**0.43**	**341**	⇑*i*P	**Pb**	**13 33 12.5**	**-0.2**
	baz=336						
ENTT				*e*S	**Sb**	**13 33 18.4**	**-0.6**
	baz=336						
TWE	**Neicheng**	**0.49**	**354**	⇑*i*P	**Pb**	**13 33 13.4**	**-0.3**
	baz=351						
TWE				*i* S	**Sb**	**13 33 20.4**	**-0.3**
	baz=351						
ESL	**Shilin**	**0.49**	**213**	⇑P	**Pb**	**13 33 13.6**	**-0.3**
	baz=221						
ESL				*e*S	**Sn**	**13 33 22.2**	**-2.0**
	baz=221						
TWT	**Tachien**	**0.50**	**272**	⇑*i*P	**Pn**	**13 33 14.7**	**-1.5**
	baz=272						
TWT				S	**Sn**	**13 33 21.9**	**-2.6**
	baz=272						
ILA	**Ilan**	**0.53**	**2**	⇑*i*P	**Pb**	**13 33 14.3**	**-0.1**
	baz=353						
ILA				S	**Sb**	**13 33 22.0**	**+0.2**
	baz=353						
TEGC	**Jichi Village**	**0.55**	**198**	*e*P	**Pn**	**13 33 15.8**	**-0.8**
	baz=190						
NSK	**Sanguang**	**0.55**	**323**	⇓*i*P	**Pn**	**13 33 14.9**	**-1.9**
	baz=320						
NSK				S	**Sn**	**13 33 22.4**	**-3.3**
	baz=320						
TWA	**Mucha**	**0.76**	**350**	P	**Pn**	**13 33 18.5**	**-1.0**
	baz=348						
NSTT	**Nanjuang**	**0.77**	**301**	*e*P	**Pn**	**13 33 19.2**	**-0.5**
	baz=300						
NSTT				S	**Sn**	**13 33 29.4**	**-1.5**
	baz=300						
TWB1	**Santiao Chiao**	**0.81**	**17**	P	**Pb**	**13 33 18.8**	**-0.4**
	baz=14						
TWB1				S	**Sb**	**13 33 28.8**	**-1.1**
	baz=14						
EHY	**Hungye**	**0.81**	**207**	*e*P	**Pb**	**13 33 18.5**	**-0.8**
	baz=221						
EHY				*e*S	**Sn**	**13 33 31.6**	**-0.4**
	baz=221						
TAP1	**Taipei**	**0.82**	**347**	*e*P	**Pn**	**13 33 19.7**	**-0.7**
	baz=343						
TAP1				*e*S	**Sn**	**13 33 32.5**	**+0.2**
	baz=343						
TAP	**Taipei**	**0.83**	**346**	*e*P	**Pn**	**13 33 20.3**	**-0.2**
	baz=343						
TAP				*e*S	**Sn**	**13 33 32.7**	**+0.3**
	baz=343						
SMLT	**Sun Moon Lake**	**0.83**	**245**	P	**Pn**	**13 33 20.3**	**-0.3**
	baz=239						
SMLT				*e*S	**Sn**	**13 33 32.5**	**-0.1**
	baz=239						
NWF	**Wu-fen Shan**	**0.84**	**4**	P	**Pn**	**13 33 19.9**	**-0.8**
	baz=353						
NWF				*e*S	**Sg**	**13 33 30.5**	**-0.3**
	baz=353						
TYC	**Yuchr**	**0.86**	**248**	P	**Pn**	**13 33 20.7**	**-0.2**
	baz=242						
TYC				S	**Sn**	**13 33 31.8**	**-1.3**
	baz=242						
TWQ1	**Liyutan**	**0.88**	**278**	*e*P	**Pn**	**13 33 21.6**	**+0.5**
	baz=278						
TWQ1				*e*S	**Sn**	**13 33 34.8**	**+1.2**
	baz=278						
NCU	**National Centr**	**0.88**	**326**	*e*P	**Pn**	**13 33 21.9**	**+0.7**
	baz=324						
NCU				*e*S	**Sn**	**13 33 35.6**	**+1.9**
	baz=324						
HSN	**Hsinchu**	**0.89**	**310**	*e*P	**Pn**	**13 33 21.9**	**+0.5**
	baz=302						
HSN				*e*S	**Sn**	**13 33 36.0**	**+2.1**
	baz=302						
NSY	**Sanyi**	**0.90**	**282**	⇓*i*P	**Pn**	**13 33 22.5**	**+1.0**
	baz=282						
NSY				*e*S	**Sn**	**13 33 35.1**	**+0.9**
	baz=282						
TWS1	**Kuangyinshan**	**0.91**	**342**	*e*P	**Pn**	**13 33 21.8**	**+0.2**
	baz=340						
TCU	**Taichung**	**0.96**	**265**	⇓*i*P	**Pn**	**13 33 24.0**	**+1.7**
	baz=266						
TCU				S	**Sn**	**13 33 38.0**	**+2.3**
	baz=266						
TWF1	**Yuli**	**0.96**	**204**	*e*P	**Pb**	**13 33 20.6**	**-1.2**
	baz=218						
WNT	**Mingjian**	**1.01**	**250**	⇓P	**Pn**	**13 33 24.7**	**+1.6**
	baz=248						
WNT				S	**Sn**	**13 33 39.8**	**+2.8**
	baz=248						
YUS	**Yu-Shan**	**1.02**	**224**	⇓*i*P	**Pn**	**13 33 23.7**	**+0.1**
	baz=227						
YUS				S	**Sn**	**13 33 38.6**	**+0.7**
	baz=227						
TWY	**Chenhua**	**1.04**	**354**	*e*P	**Pg**	**13 33 24.6**	**+0.9**
	baz=336						
ALS	**Alishan**	**1.11**	**230**	⇓*i*P	**Pg**	**13 33 25.3**	**+0.4**
	baz=219						
ALS				*e*S	**Sn**	**13 33 41.0**	**+1.3**
	baz=219						
CHN5	**Tsauling**	**1.15**	**237**	⇓*i*P	**Pg**	**13 33 26.2**	**+0.5**
	baz=240						
CHN5				S	**Sg**	**13 33 43.6**	**+2.9**
	baz=240						
CHKT	**Chengkung**	**1.18**	**196**	*e*P	**Pn**	**13 33 24.3**	**-1.0**
	baz=186						
WGK	**Gukeng**	**1.19**	**243**	*e*P	**Pg**	**13 33 27.5**	**+0.9**
	baz=246						
WGK				*e*S	**Sg**	**13 33 45.0**	**+2.8**
	baz=246						
YOJ	**Yonaguni jima**	**1.20**	**79**	⇓*i*P	**Pn**	**13 33 25.1**	**-0.4**
	baz=66						
YOJ				*e*S	**Sb**	**13 33 41.4**	**+0.3**
	baz=66						
YOJ	**Yonaguni jima**	**1.20**	**79**	P	**Pn**	**13 33 25.2**	**-0.4**
YOJ				S	**Sb**	**13 33 41.8**	**+0.8**
ELDTW	**Lidau**	**1.23**	**212**	*e*P	**Pn**	**13 33 25.1**	**-0.9**
	baz=215						
CHN4	**Tsaushan**	**1.36**	**230**	⇑P	**Pg**	**13 33 29.6**	**0.0**
	baz=234						
CHN4				S	**Sg**	**13 33 50.0**	**+2.6**
	baz=234						
WTCT	**Ta-ch'eng**	**1.37**	**255**	*e*P	**Pg**	**13 33 29.4**	**-0.4**
	baz=257						
WTCT				S	**Sg**	**13 33 50.1**	**+2.4**
	baz=257						
STYT	**Tauyuan**	**1.39**	**220**	P	**Pg**	**13 33 29.1**	**-1.0**
	baz=223						
STYT				*e*S	**Sg**	**13 33 49.5**	**+1.2**
	baz=223						
CHY	**Chiayi**	**1.40**	**239**	*e*P	**Pg**	**13 33 30.3**	**-0.1**
	baz=242						
CHY				*e*S	**Sg**	**13 33 50.6**	**+2.0**
	baz=242						
WTP	**Ta-pu**	**1.41**	**226**	⇑*i*P	**Pg**	**13 33 30.6**	**-0.1**
	baz=230						
WTP				*e*S	**Sg**	**13 33 52.0**	**+2.9**
	baz=230						
PCYT	**Pengchaiyu**	**1.43**	**13**	*e*P	**Pb**	**13 33 29.6**	**-0.1**
	baz=9.0						
TWK	**Hsinying**	**1.49**	**230**	*e*P	**Pg**	**13 33 31.1**	**-1.0**
	baz=235						
TWK				*e*S	**Sg**	**13 33 52.2**	**+0.8**
	baz=235						
WSF	**Szhu**	**1.50**	**247**	*e*P	**Pg**	**13 33 31.5**	**-0.8**
	baz=259						
WSF				*e*S	**Sg**	**13 33 53.6**	**+1.8**
	baz=259						
CHN1	**Nanshi**	**1.51**	**227**	*e*P	**Pg**	**13 33 32.0**	**-0.6**
	baz=232						
CHN1				*e*S	**Sg**	**13 33 54.0**	**+1.7**
	baz=232						
TWG	**Pinlang**	**1.53**	**203**	*e*P	**Pn**	**13 33 28.9**	**-1.3**
	baz=192						
SGST	**Jiashian**	**1.55**	**223**	⇑P	**Pg**	**13 33 32.6**	**-0.8**
	baz=226						
SGST				*e*S	**Sg**	**13 33 55.3**	**+1.7**
	baz=226						
TTN	**Taitung**	**1.56**	**200**	*e*P	**Pb**	**13 33 31.4**	**-0.7**
	baz=204						
CHN3	**Shinhua**	**1.70**	**228**	*e*P	**Pg**	**13 33 35.7**	**-0.5**
	baz=235						
CHN3				*e*S	**Sg**	**13 33 59.8**	**+1.7**
	baz=235						
SCLT	**Jiali**	**1.75**	**233**	*e*P	**Pg**	**13 33 36.8**	**-0.4**
	baz=239						
SCLT				*e*S	**Sg**	**13 34 00.9**	**+0.9**
	baz=239						
ECL	**Taimali**	**1.77**	**204**	*e*P	**Pn**	**13 33 33.6**	**+0.1**
	baz=194						
TAI1	**Yung-k'ang**	**1.81**	**229**	*e*P	**Pg**	**13 33 36.4**	**-2.0**
	baz=234						
IRIF	**Iriomote-Funau**	**1.83**	**86**	P	**Pn**	**13 33 33.7**	**-0.6**
IRIF				*e*S	**Sn**	**13 33 57.9**	**+0.7**
TWM1	**Shoushan**	**1.84**	**221**	*e*P	**Pg**	**13 33 37.7**	**-1.2**
	baz=224						
SGLT	**Jiouru**	**1.88**	**217**	*e*P	**Pg**	**13 33 39.1**	**-0.5**
	baz=221						
HATJ	**Hateruma jima**	**1.91**	**95**	P	**Pn**	**13 33 34.7**	**-0.7**
HATJ				*e*S	**Sn**	**13 33 58.1**	**-1.0**
TAW	**Tawu**	**2.02**	**202**	*e*P	**Pb**	**13 33 38.6**	**-1.2**
	baz=194						
JKRS	**Kuro-shima**	**2.09**	**89**	P	**Pn**	**13 33 37.9**	**+0.1**
JKRS				S	**Sn**	**13 34 04.9**	**+1.4**
PNG	**Penghu**	**2.09**	**252**	*e*P	**Pb**	**13 33 38.9**	**-2.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**3.63**	**133**	P	Pn	13 53 33.6	-0.3
	baz=3.6,SNR=6.9						
LUWI	**Luwuk**	**8.00**	**40**	P	Pn	13 54 34.1	+0.7
	baz=8.0,SNR=3.8						
MTN	**Manton Dam**	**14.46**	**114**	P	Pn	13 55 59.5	-1.1
	baz=14,SNR=4.0						

*IDC **28** 13:52:40.5±5.2,8.72S×112.30E,h48km±46km,mb3.7/10, mb1 3.9/13,mb1mx3.8/24,mbtmp3.8/13,ML4.1/3,MS2.5/1, Ms1 2.5/1,ms1mx2.0/34,Error ellipse: s-maj=47.2km s-min=14.9km az=71.0*
*AUST **28** 13:52:42.7,8.94S×112.40E,h35km*
*ISCJB **28** 13:52:43.4±0.4,8.71S±0.06×112.48E±0.04,h91km, mb3.9/10,Error ellipse: s-maj=9.3km s-min=4.4km az=21.6*
*DJA **28** 13:52:43.0±0.8,9°S±7'×11°2E±°,h10km,M4.3/9,MLv4.3/9*
ISC 28 13:52:44.9±0.6,8.78S±0.08×112.45E±0.05,h91km,n36, σ1§45/36,mb3.9/10,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**0.98**	**319**	P	**Pn**	**13 53 02.7**	**-1.8**
PWJI				S	**Sn**	**13 53 16.8**	**-2.4**
GMJI	**Gumukmas**	**1.10**	**63**	P	**Pn**	**13 53 02.8**	**-3.0**
SJI	**Sawahan**	**1.24**	**327**	P	**Pn**	**13 53 06.4**	**-1.1**
PCJI	**Pacitan**	**1.39**	**295**	P	**Pn**	**13 53 08.2**	**-1.1**
PCJI				S	**Sn**	**13 53 26.1**	**-1.6**
BLJI	**Banyuglugur**	**1.53**	**48**	P	**Pn**	**13 53 09.8**	**-1.2**
WOJI	**Wonogiri, Jawa**	**1.78**	**302**	P	**Pn**	**13 53 13.8**	**-0.4**
UGM	**Wanagama**	**2.09**	**294**	P	**Pn**	**13 53 20.4**	**+2.0**
UGM	**Wanagama**	**2.09**	**294**	P	**Pn**	**13 53 18.3**	**-0.1**
	baz=2.1,SNR=78						
UGM				S	**Sn**	**13 53 43.7**	**-0.2**
	baz=2.1,SNR=7.7						
KMMI	**Kalianget**	**2.28**	**41**	P	**Pn**	**13 53 21.9**	**+1.1**
BJII	**Banjamegara**	**3.07**	**298**	P	**Pn**	**13 53 34.2**	**+2.7**
CISI	**Cisompet, Garu**	**4.75**	**284**	P	**Pn**	**13 53 54.3**	**+0.1**
	baz=4.7,SNR=27						
XMI	**Christmas Isla**	**6.87**	**255**	S	Sn	13 55 31.2	-8.7
	baz=6.8,SNR=3.8						
XMIS	**Christmas Isla**	**6.92**	**255**	P	**Pn**	**13 54 22.0**	**-1.7**
	baz=6.8,SNR=8.1						
XMIS				S	Sn	13 55 29.8	-11
	baz=6.8,SNR=4.3						
KAPI	**Kappang**	**8.15**	**63**	P	**Pn**	**13 54 39.4**	**-1.2**
	0.9nm,0.3s,baz=171,slow=12,SNR=6.9						
KAPI				LR	LR	13 58 34.9	
	comp=Z,36nm,21.4s,baz=281,slow=43						
BATI	**Baumata**	**11.15**	**98**	P	**Pn**	**13 55 19.4**	**-2.0**
	4.9nm,0.3s,baz=19,slow=3.2,SNR=6.0						
BATI				S	Sn	13 57 14.8	-9.5
	1.3nm,0.3s,baz=37,slow=17,SNR=2.1						
SOEI	**Soe**	**11.70**	**96**	P	**Pn**	**13 55 28.0**	**-1.0**
	baz=12,SNR=5.8						
FITZ	**Fitzroy Crossi**	**15.82**	**127**	P	**Pn**	**13 56 20.3**	**-2.1**
	0.4nm,0.3s,baz=305,slow=3.0,SNR=19						
FITZ				S	Sn	13 59 01.4	-16
	0.4nm,0.3s,baz=198,slow=19,SNR=5.9						
FITZ	**Fitzroy Crossi**	**15.82**	**127**	P	**Pn**	**13 56 20.0**	**-2.4**
	baz=16,SNR=7.4						
KNRA	**Kununurra**	**17.35**	**115**	P	**P**	**13 56 41.6**	**+0.3**
	baz=17,SNR=9.9						
MEEK	**Meekatharra**	**18.70**	**163**	P	**Pn**	**13 56 58.2**	**+0.6**
	baz=19,SNR=16						
MEEK				S	S	14 00 09.1	-15
	baz=19,SNR=7.0						
MTN	**Manton Dam**	**18.79**	**104**	P	**Pn**	**13 56 59.3**	**+0.6**
	baz=19,SNR=9.3						
KDU	**Kakadu**	**20.05**	**103**	P	Pn	13 57 12.2	-1.3
	baz=20,SNR=6.3						
MORW	**Morawa**	**20.47**	**171**	P	Pn	13 57 20.3	+2.0
	baz=20,SNR=3.2						
FAKI	**Fak Fak**	**20.53**	**75**	P	**P**	**13 57 16.8**	**+0.7**
	baz=21,SNR=5.3						
WRA	**Warramunga Arr**	**23.90**	**120**	P	**P**	**13 57 50.1**	**-0.4**
	1.9nm,0.5s,baz=298,slow=12,SNR=11						
ASAR	**Alice Springs**	**25.31**	**128**	P	**P**	**13 58 03.9**	**+0.6**
	1.3nm,0.5s,baz=304,slow=9.8,SNR=15						
PALU	**Palau**	**27.17**	**55**	P	P	13 58 36.8	+17
	baz=27,SNR=4.1						
STKA	**Stephens Creek**	**35.50**	**134**	P	**P**	**13 59 34.5**	**+1.5**
	8.3nm,0.5s,baz=311,slow=8.9,SNR=32						
STKA				PcP	**PcP**	**14 02 02.1**	**+1.5**
	1.0nm,0.4s,baz=328,slow=9.5,SNR=4.0						
STKA	**Stephens Creek**	**35.50**	**134**	P	**P**	**13 59 34.5**	**+1.5**
	baz=36,SNR=23						
KSRS	**Korea Array**	**48.22**	**17**	P	**P**	**14 01 16.6**	**+0.2**
	0.8nm,0.8s,baz=209,slow=8.2,SNR=5.3						
MJAR	**Matsushiro Arr**	**51.17**	**27**	P	**P**	**14 01 39.6**	**+0.7**
	0.7nm,0.5s,baz=176,slow=8.3,SNR=4.3						
USRK	**Ussuriysk Arra**	**55.62**	**17**	P	**P**	**14 02 11.1**	**-0.1**
	2.1nm,0.7s,baz=198,slow=5.7,SNR=7.6						
SONM	**Songino Array**	**56.62**	**355**	P	**P**	**14 02 18.1**	**-0.4**
	0.7nm,0.6s,baz=179,slow=8.4,SNR=4.5						
MKAR	**Makanchi Array**	**61.51**	**337**	P	**P**	**14 02 51.5**	**-0.7**
	0.6nm,0.5s,baz=147,slow=7.4,SNR=7.3						
ZALV	**Zalesovo Beam**	**66.71**	**343**	P	**P**	**14 03 25.0**	**-1.0**
	0.5nm,0.3s,baz=116,slow=3.4,SNR=3.4						
QSPA	**South Pole Qui**	**81.22**	**180**	P	**P**	**14 04 52.2**	**+1.5**
	1.3nm,0.7s,baz=200,slow=1.2,SNR=9.5						

*IDC **28** 14:08:58.8±1.3,10.31N×125.08E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.5/23,mbtmp3.5/4,MS3.2/4,Ms1 3.2/4, ms1mx2.9/30,Error ellipse: s-maj=86.1km s-min=22.1km az=76.0*
*MAN **28** 14:09:01,10.40N×125.10E,h2km,mb4.4,ML3.2,MS3.0*
ISC 28 14:08:59.7±1.6,10.33N±0.04×125.18E±0.06,h4km±12km, n20,σ1§29/19,mb3.5/4,2C-2D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.38**	**239**	*eP*	**Pb**	**14 09 09.3**	**+0.3**
MSLP				*eS*	**Sb**	**14 09 18.2**	**+3.0**
PLP	**Palo**	**0.85**	**346**	⇑*iP*	**Pg**	**14 09 16.6**	**+0.4**
PLP				*i* S	**Sb**	**14 09 29.3**	**+0.3**
OCLP	**Ormoc**	**0.91**	**322**	*eP*	**Pb**	**14 09 17.8**	**-0.4**
LLP	**Lapu-Lapu**	**1.20**	**270**	⇓*eP*	**Pb**	**14 09 22.6**	**-0.5**
LLP				*eS*	**Sn**	**14 09 40.6**	**+0.5**
TBP	**Tagbilaran**	**1.45**	**244**	*eP*	**Pg**	**14 09 27.8**	**+0.3**
TBP				*eS*	**Sg**	**14 09 45.1**	**-1.3**
CGP	**Cagayan de Oro**	**1.93**	**195**	⇓*iP*	**Pn**	**14 09 32.7**	**-0.6**
CGP				*i* S	**Sn**	**14 09 57.8**	**-0.3**
SNPH	**Sibulan**	**2.16**	**243**	⇑*iP*	Pn	14 09 23.3	-13
SNPH				*i* S	Sn	14 09 52.6	-11
BUKP	**Musuan**	**2.44**	**183**	*eP*	**Pb**	**14 09 43.7**	**-0.5**
GUIM	**Jordan**	**2.57**	**277**	*eP*	**Pn**	**14 09 43.9**	**+1.7**
PAGZ	**Pagadian**	**3.04**	**216**	*eP*	**Pb**	**14 09 52.3**	**-2.2**
DAV	**Davao City (W)**	**3.26**	**173**	LR	LR	14 11 23.8	
	comp=Z,356nm,21.7s,baz=356,slow=45						
MATI	**Mati**	**3.52**	**162**	*eP*	**Pb**	**14 10 04.6**	**+1.9**
IPIL	**Ipil**	**3.61**	**226**	*eP*	Pn	14 09 60.0	+3.4
KAPI	**Kappang**	**16.18**	**200**	LR	LR	14 19 38.1	
	comp=Z,48nm,19.7s,baz=217,slow=40						
BATI	**Baumata**	**20.46**	**184**	LR	LR	14 21 30.3	
	comp=Z,154nm,19.5s,baz=156,slow=37						
KSRS	**Korea Array**	**27.12**	**5**	P	**P**	**14 14 44.0**	**+0.1**
	0.8nm,0.8s,baz=191,slow=11,SNR=5.7						
WRA	**Warramunga Arr**	**31.40**	**163**	P	**P**	**14 15 21.3**	**-0.9**
	0.3nm,0.5s,baz=348,slow=9.2,SNR=2.4						
ASAR	**Alice Springs**	**34.85**	**166**	P	**P**	**14 15 52.3**	**+0.1**
	0.6nm,0.6s,baz=340,slow=7.5,SNR=8.7						
SONM	**Songino Array**	**40.60**	**341**	LR	LR	14 34 22.9	
	comp=Z,36nm,18.2s,baz=70,slow=38						
MKAR	**Makanchi Array**	**51.34**	**323**	P	**P**	**14 18 04.3**	**-1.1**
	0.2nm,0.5s,baz=118,slow=7.5,SNR=3.8						

MAN 28 14:11:21,10.35N×125.11E,h7km,mb4.4,ML3.2,MS3.0, 1C,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.32**	**229**	*eP*	Pb	14 11 29.2	+0.1
MSLP				*eS*	Sb	14 11 37.0	+2.4
PLP	**Palo**	**0.82**	**351**	⇑*iP*	Pg	14 11 36.4	-0.4
PLP				*i* S	Sb	14 11 48.5	-0.4
OCLP	**Ormoc**	**0.85**	**325**	*eP*	Pb	14 11 38.1	0.0
OCLP				*eS*	Sg	14 11 47.4	-1.1
LLP	**Lapu-Lapu**	**1.12**	**268**	*eP*	Pg	14 11 42.5	-0.1
LLP				*eS*	Sn	14 11 59.7	+0.9
TBP	**Tagbilaran**	**1.39**	**242**	*eP*	Pn	14 11 46.7	-0.1

*AUST **28** 14:13:52.7,25.32S×176.15W,h300km*
*ISCJB **28** 14:14:36.8±0.7,24.6S±0.2×179.8E±0.1,h517km, mb3.8/12,Error ellipse: s-maj=21.6km s-min=12.8km az=166.8*
*IDC **28** 14:14:36.5±2.8,24.57S×179.82E,h503km±29km, mb3.4/12,mb1 3.6/13,mb1mx3.4/22,mbtmp3.5/13,Error ellipse: s-maj=18.1km s-min=17.5km az=142.0*
ISC 28 14:14:37.5±0.8,24.5S±0.2×179.8E±0.1,h517km,n24, σ1§12/24,mb3.8/12,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.52**	**279**	P	**P**	**14 17 22.8**	**+1.1**
	1.6nm,0.3s,baz=270,slow=24,SNR=19						
LHI	**Lord Howe Isla**	**19.57**	**245**	S	S	14 22 12.3	+31
	baz=23,SNR=4.7						
RMQ	**Roma**	**28.05**	**259**	P	**P**	**14 19 48.6**	**+1.6**
	baz=32,SNR=4.9						
RMQ				S	S	14 24 08.3	+13
	baz=32,SNR=6.0						
CMSA	**Cobar Meteorol**	**30.81**	**249**	P	**P**	**14 20 11.2**	**+0.3**
	baz=34,SNR=7.6						
CTA	**Charters Tower**	**31.30**	**271**	P	**P**	**14 20 15.8**	**+0.6**
	18nm,0.5s,baz=96,slow=10,SNR=51						
MTSU	**Mount Surprise**	**33.59**	**274**	P	**P**	**14 20 35.4**	**+0.6**
	baz=37,SNR=30						
STKA	**Stephens Creek**	**34.32**	**249**	P	**P**	**14 20 40.6**	**0.0**
	2.2nm,0.5s,baz=91,slow=13,SNR=13						
STKA	**Stephens Creek**	**34.32**	**249**	P	**P**	**14 20 41.0**	**+0.3**
	baz=37,SNR=9.0						
PMG	**Port Moresby**	**34.53**	**290**	P	**P**	**14 20 42.7**	**0.0**
	17nm,0.8s,baz=239,slow=5.9,SNR=4.4						
ASAR	**Alice Springs**	**41.75**	**261**	P	**P**	**14 21 41.1**	**-0.3**
	2.0nm,0.7s,baz=98,slow=7.8,SNR=66						
WRA	**Warramunga Arr**	**42.19**	**267**	P	**P**	**14 21 44.3**	**-0.6**
	3.3nm,0.3s,baz=98,slow=8.4,SNR=21						
WRA				ScP	**ScP**	**14 26 31.6**	**+3.0**
	0.8nm,0.9s,baz=107,slow=3.8,SNR=4.8						
KDU	**Kakadu**	**46.17**	**276**	P	**P**	**14 22 14.9**	**-0.8**
	baz=50,SNR=4.3						
KNRA	**Kununurra**	**48.51**	**270**	P	**P**	**14 22 33.2**	**-0.1**
	baz=52,SNR=7.8						
FITZ	**Fitzroy Crossi**	**50.60**	**266**	P	**P**	**14 22 48.1**	**-0.7**
	2.5nm,0.6s,baz=203,slow=12,SNR=8.9						
QSPA	**South Pole Qui**	**65.55**	**180**	P	**P**	**14 24 29.5**	**+0.1**
	3.2nm,0.7s,baz=41,slow=3.3,SNR=27						
KKM	**Kota Kinabalu**	**68.92**	**287**	P	**P**	**14 24 48.0**	**-3.0**
	baz=73,SNR=3.7						
MAW	**Mawson**	**77.09**	**201**	P	**P**	**14 25 36.8**	**-0.1**
	0.6nm,0.5s,baz=140,slow=7.9,SNR=4.4						
PETK	**Petropavlovsk-**	**79.67**	**347**	P	**P**	**14 25 51.1**	**+0.3**
	0.7nm,0.5s,baz=123,slow=7.7,SNR=4.0						
NVAR	**Mina Array Bea**	**85.34**	**44**	P	**P**	**14 26 20.0**	**-0.1**
	0.6nm,0.7s,baz=226,slow=8.6,SNR=6.3						
TXAR	**Lajitas Array**	**90.92**	**58**	P	**P**	**14 26 47.0**	**+0.8**
	0.9nm,0.7s,baz=212,slow=5.8,SNR=9.9						
PDAR	**Pinedale Array**	**93.27**	**44**	P	**P**	**14 26 57.2**	**+0.2**
	0.3nm,0.8s,baz=191,slow=1.5,SNR=4.2						
ARCES	**ARCESS Array B**	**132.47**	**348**	PKP	**PKPdf**	**14 32 52.0**	**-0.1**
	3.1nm,0.9s,baz=46,slow=3.5,SNR=4.8						
BRTR	**Keskin Array B**	**147.81**	**306**	PKPbc	**PKPbc**	**14 33 23.8**	**-0.6**
	0.6nm,0.6s,baz=160,slow=5.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**168.53**	**189**	PKPab	**PKPab**	**14 34 57.8**	**-0.6**
	0.7nm,0.8s,baz=182,slow=2.9,SNR=4.0						

*IDC **28** 14:20:41.3±2.5,3.99S×130.76E,h0km,mb3.1/1, mb1 3.9/4,mb1mx3.5/20,mbtmp3.6/4,ML3.2/2,Error ellipse: s-maj=127.9km s-min=27.1km az=75.0*
*AUST **28** 14:20:45.8±1.6,3.91S×130.57E,h92km,Error ellipse: s-maj=2.1km s-min=0.8km az=294.0*
*ISCJB **28** 14:20:46.4±0.7,4.26S±0.05×130.95E±0.06,h33km, mb3.3/1,Error ellipse: s-maj=9.4km s-min=6.0km az=21.6*
ISC 28 14:20:46.1±0.9,4.12S±0.06×130.85E±0.07,h35km,n9, σ2§96/16,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.02**	**247**	P	**Pn**	**14 21 05.9**	**+1.9**
	baz=0.9,SNR=7.6						
BNDI				S	**Sn**	**14 21 20.0**	**+2.9**
	baz=0.9,SNR=4.3						
FAKI	**Fak Fak**	**1.83**	**50**	P	**Pn**	**14 21 18.4**	**+3.2**
	baz=1.9,SNR=14						
FAKI				S	**Sn**	**14 21 39.6**	**+2.3**
	baz=1.9,SNR=4.6						
SWI	**Sorong**	**3.26**	**7**	P	**Pn**	**14 21 35.5**	**+0.8**
	baz=3.1,SNR=3.7						
SWI				S	**Sn**	**14 22 08.8**	**-3.5**
	baz=3.1,SNR=5.8						
KDU	**Kakadu**	**8.67**	**169**	P	**Pn**	**14 22 51.1**	**+2.0**
	baz=9.0,SNR=4.6						
KDU				S	**Sn**	**14 24 25.4**	**-0.3**
	baz=9.0,SNR=5.1						
MTN	**Manton Dam**	**8.68**	**178**	P	**Pn**	**14 22 51.4**	**+2.2**
	baz=9.0,SNR=5.1						
MTN				S	**Sn**	**14 24 25.9**	**-0.1**
	baz=9.0,SNR=4.1						
FITZ	**Fitzroy Crossi**	**14.81**	**200**	Pn	**Pn**	**14 24 12.4**	**-0.7**
	0.1nm,0.3s,baz=34,slow=11,SNR=2.9						
FITZ				Sn	**Sn**	**14 26 51.5**	**-4.5**
	0.1nm,0.3s,baz=106,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**16.10**	**168**	Pn	**Pn**	**14 24 29.2**	**-0.7**
	0.1nm,0.3s,baz=350,slow=11,SNR=2.7						
WRA				Sn	**Sn**	**14 27 20.9**	**-6.6**
	0.1nm,0.3s,baz=358,slow=23,SNR=3.0						
ASAR	**Alice Springs**	**19.66**	**172**	P	**Pn**	**14 25 14.4**	**+0.7**
	1.2nm,0.3s,baz=350,slow=11,SNR=95						
MKAR	**Makanchi Array**	**66.31**	**326**	P	**P**	**14 31 30.7**	**-0.5**
	0.1nm,0.3s,baz=111,slow=7.9,SNR=2.5						

IDC 28 14:20:49.2±3.6,15.73S×178.76W,h0km,mb3.5/3, mb1 3.9/3,mb1mx3.5/19,mbtmp3.5/3,Error ellipse: s-maj=206.1km s-min=36.9km az=146.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.09**	**252**	P	P	14 29 07.4	-0.1
	0.2nm,0.3s,baz=87,slow=7.9,SNR=5.6						
ILAR	**Eielson Array**	**83.86**	**13**	P	P	14 33 20.1	-0.2
	0.2nm,0.4s,baz=216,slow=5.2,SNR=4.4						
PDAR	**Pinedale Array**	**86.02**	**44**	P	P	14 33 32.2	+0.2
	0.2nm,0.5s,baz=227,slow=3.7,SNR=3.5						

WEL 28 14:22:44.5±0.4,38.76S×175.38E,h265km±3km,ML3.8/8, 5C-5D,Error ellipse: s-maj=6.1km s-min=5.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WNVZ	**Wahianoa**	**0.59**	**164**	PN	Pn	14 23 19.5	0.0
WNVZ				SN	S	14 23 46.2	-1.0
MOVZ	**Moawhango**	**0.71**	**156**	⇑PN	Pn	14 23 19.3	-0.4
MOVZ				SN	S	14 23 46.9	-0.9
BHHZ	**Black Hill Sta**	**0.90**	**144**	⇑PN	Pn	14 23 20.4	-0.2
BHHZ				SN	S	14 23 47.6	-1.6
BKZ	**Black Stump Fm**	**0.95**	**115**	⇓PN	Pn	14 23 20.6	-0.3
BKZ				SN	S	14 23 49.2	-0.5
BKZ				AML	AML	14 23 51.4	
WAZ	**Wanganui**	**1.04**	**197**	PN	Pn	14 23 21.5	+0.3
WAZ				SN	S	14 23 50.9	+0.5
MCHZ	**McNeill Hill**	**1.23**	**124**	PN	Pn	14 23 22.6	+0.3
PNHZ	**Pukenui**	**1.31**	**151**	PN	Pn	14 23 22.8	-0.1
RAHZ	**Arahi**	**1.34**	**97**	PN	Pn	14 23 23.0	0.0
RAHZ				SN	S	14 23 53.7	+0.1
TSZ	**Takapari Road**	**1.37**	**161**	⇑PN	Pn	14 23 23.2	0.0
TSZ				AML	AML	14 23 56.1	
TSZ				AML	AML	14 23 56.8	
URZ	**Urewera**	**1.44**	**70**	⇓PN	Pn	14 23 21.8	-2.0
URZ				AML	AML	14 23 55.1	
KAHZ	**Kahuranaki**	**1.55**	**132**	PN	Pn	14 23 25.0	+0.4
DVHZ	**Dannevirke**	**1.65**	**159**	PN	Pn	14 23 25.0	-0.3
MWZ	**Matawai**	**1.73**	**76**	⇓PN	Pn	14 23 24.6	-1.4
KNZ	**Kokohu**	**1.81**	**99**	PN	Pn	14 23 26.5	0.0
ANWZ	**Angora Road**	**1.90**	**154**	PN	Pn	14 23 27.3	+0.2
MRZ	**Mangatainoka R**	**1.90**	**176**	PN	Pn	14 23 26.6	-0.7
MRZ				AML	AML	14 24 02.2	
MRZ				AML	AML	14 24 02.7	
OGWZ	**Otaki Gorge**	**2.06**	**185**	PN	Pn	14 23 28.0	-0.6
KIW	**Kapiti Island**	**2.13**	**190**	PN	Pn	14 23 28.4	-0.9
KIW				AML	AML	14 24 06.0	
KIW				AML	AML	14 24 06.1	
HOWZ	**Holdsworth Sta**	**2.14**	**177**	PN	Pn	14 23 28.5	-0.8
DUWZ	**D'Urville Isla**	**2.33**	**208**	PN	Pn	14 23 30.1	-1.0
CAW	**Cannon Point**	**2.36**	**186**	⇓PN	Pn	14 23 30.6	-0.8
CAW				AML	AML	14 24 09.9	
CAW				AML	AML	14 24 13.0	
PUZ	**Puketiti**	**2.36**	**74**	PN	Pn	14 23 29.6	-1.8
MTW	**Mount Morrison**	**2.40**	**178**	PN	Pn	14 23 30.8	-0.9
TCW	**Tory Channel**	**2.59**	**199**	PN	Pn	14 23 32.6	-1.0
TCW				AML	AML	14 24 12.0	
TCW				AML	AML	14 24 13.6	
MSWZ	**Moikau Station**	**2.65**	**182**	⇓PN	Pn	14 23 33.3	-0.9
PLWZ	**Palliser**	**2.81**	**182**	PN	Pn	14 23 34.8	-1.0
TUWZ	**Tuamarina**	**2.89**	**202**	PN	Pn	14 23 35.4	-1.2
TUWZ				AML	AML	14 24 17.4	
TUWZ				AML	AML	14 24 17.8	
NNZ	**Nelson**	**2.90**	**211**	PN	Pn	14 23 35.0	-1.7
BSWZ	**Blackbirch Sta**	**3.17**	**201**	PN	Pn	14 23 38.4	-1.1
THZ	**Tophouse**	**3.55**	**212**	⇑PN	Pn	14 23 41.7	-2.1
KHZ	**Kahutara**	**3.91**	**200**	⇑PN	Pn	14 23 46.1	-1.7
DSZ	**Denniston Nort**	**4.05**	**221**	PN	Pn	14 23 46.8	-2.6
LTZ	**Lake Taylor**	**4.66**	**209**	PN	Pn	14 23 53.9	-2.8
CRLZ	**Canterbury Las**	**5.24**	**203**	PN	Pn	14 24 00.3	-3.2
MQZ	**McQueen's Vall**	**5.35**	**202**	PN	Pn	14 24 01.7	-3.1
WVZ	**Waitaha Valley**	**5.56**	**218**	PN	Pn	14 24 04.0	-3.4
FOZ	**Fox Glacier**	**6.44**	**220**	PN	Pn	14 24 13.3	-4.9

IDC 28 14:23:15.3±8.0,10.45N×93.83E,h0km,mb3.6/4, mb1 3.7/4,mb1mx3.4/25,mbtmp3.6/4,Error ellipse: s-maj=425.6km s-min=23.5km az=60.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.53**	**347**	P	P	14 30 31.1	0.0
	0.6nm,0.7s,baz=162,slow=9.1,SNR=6.2						
ZALV	**Zalesovo Beam**	**43.98**	**352**	P	P	14 31 24.0	-0.2
	0.8nm,0.5s,baz=168,slow=9.1,SNR=3.7						
WRA	**Warramunga Arr**	**50.02**	**127**	P	P	14 32 11.8	-0.2
	0.5nm,0.6s,baz=307,slow=8.1,SNR=2.8						
ASAR	**Alice Springs**	**51.81**	**131**	P	P	14 32 25.4	0.0
	0.4nm,0.8s,baz=308,slow=6.4,SNR=4.0						

IDC 28 14:31:33.9±3.4,3.64S×144.29E,h45km±34km,mb3.6/9, mb1 3.8/11,mb1mx3.7/19,mbtmp3.6/11,ML3.3/2, MS3.4/4,Ms1 3.4/4,ms1mx2.9/21,Error ellipse: s-maj=26.2km s-min=19.1km az=69.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.40**	**154**	P	Pn	14 33 06.4	+0.8
	0.8nm,0.3s,baz=349,slow=10,SNR=3.6						
PMG				S	Sn	14 34 18.4	+1.1
	0.8nm,0.3s,baz=299,slow=19,SNR=2.1						
WRA	**Warramunga Arr**	**18.89**	**210**	P	P	14 35 50.4	-0.3
	0.3nm,0.3s,baz=30,slow=12,SNR=7.6						
ASAR	**Alice Springs**	**22.30**	**206**	P	P	14 36 26.6	-1.0
	0.8nm,0.7s,baz=32,slow=8.4,SNR=11						
ASAR				LR	LR	14 46 07.3	
	comp=Z,170nm,19.2s,baz=32,slow=39						
FITZ	**Fitzroy Crossi**	**23.24**	**230**	P	P	14 36 36.7	-0.7
	1.1nm,0.5s,baz=94,slow=15,SNR=9.0						
FITZ				LR	LR	14 46 46.8	
	comp=Z,72nm,22.0s,baz=60,slow=39						
STKA	**Stephens Creek**	**28.20**	**185**	LR	LR	14 49 21.2	
	comp=Z,127nm,19.0s,baz=24,slow=38						
KSRS	**Korea Array**	**43.63**	**341**	P	P	14 39 33.2	-0.7
	2.7nm,0.7s,baz=159,slow=8.5,SNR=12						
KSRS				LR	LR	14 55 25.7	
	comp=Z,23nm,19.6s,baz=116,slow=33						
CMAR	**Chiang Mai Arr**	**49.77**	**298**	P	P	14 40 22.9	+0.6
	0.9nm,0.4s,baz=114,slow=5.6,SNR=7.2						
SONM	**Songino Array**	**61.05**	**332**	P	P	14 41 45.0	+1.7
	0.2nm,0.3s,baz=161,slow=5.4,SNR=4.8						
MKAR	**Makanchi Array**	**73.97**	**321**	P	P	14 43 04.9	+0.2
	0.4nm,0.6s,baz=98,slow=6.2,SNR=5.4						
VNDA	**Vanda**	**74.42**	**176**	P	P	14 43 07.1	+0.3
	0.6nm,0.6s,baz=320,slow=4.5,SNR=3.9						
ZALV	**Zalesovo Beam**	**75.60**	**328**	P	P	14 43 13.5	-0.4
	1.5nm,0.8s,baz=108,slow=4.8,SNR=7.2						
ILAR	**Eielson Array**	**84.40**	**24**	P	P	14 43 59.7	-1.5
	1.1nm,0.8s,baz=256,slow=5.0,SNR=10						
SIV	**San Ignacio**	**148.22**	**129**	PKPbc	PKPbc	14 51 16.1	0.0
	2.9nm,0.6s,baz=265,slow=4.7,SNR=15						

GUC 28 14:42:22.8±0.7,32.61S×71.62W,h15km±3km,MD3.5, ML2.6,2C-4D,Near coast of central Chile

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

	baz=152,slow=28						
SPA0	**Spitsbergen Ar**	**1.41**	**314**	Pg	**Pb**	**15 37 06.5**	**+0.2**
	baz=153,slow=22						
SPA0				Lg	Lg	15 37 23.6	
	baz=152,slow=28						
SPA0	**Spitsbergen Ar**	**1.41**	**314**	Pg	**Pb**	**15 37 06.6**	**+0.2**
	baz=153,slow=21,SNR=92						
SPA0				Lg	Lg	15 37 23.6	
	baz=152,slow=23						
KBS	**Kingsbay**	**2.56**	**316**	Pn	**Pn**	**15 37 21.3**	**-0.3**
KBS				Pg	**Pb**	**15 37 27.1**	**+1.0**
KBS				Lg	Lg	15 37 56.7	
KBS	**Kingsbay**	**2.56**	**316**	⇑*iP*	**Pn**	**15 37 21.3**	**-0.3**
KBS				Pg	**Pb**	**15 37 27.1**	**+1.0**
KBS				Lg	Lg	15 37 56.7	
KBS				AML	AML	15 38 03.4	
	comp=Z,859nm,0.5s						
KBS	**Kingsbay**	**2.56**	**316**	⇑*iP*	**Pn**	**15 37 21.3**	**-0.3**
	SNR=55						
KBS	**Kingsbay**	**2.56**	**316**	Pg	**Pb**	**15 37 27.1**	**+1.0**
	SNR=91						
KBS				Lg	Lg	15 37 56.7	
	comp=Z,859nm,0.5s						
BJO	**Bjornoya**	**2.80**	**191**	*e*Pg	**Pb**	**15 37 31.0**	**+1.0**
BJO				*e*Sg	**Sb**	**15 38 05.1**	**+0.8**
BJO	**Bjornoya**	**2.80**	**191**	*e*Pg	**Pb**	**15 37 31.0**	**+1.0**
	SNR=91						
BJO				*e*Sg	**Sb**	**15 38 05.1**	**+0.8**
	SNR=91						
ARA0	**ARCESS Array S**	**7.84**	**169**	Pn	**Pn**	**15 38 34.7**	**+0.7**
	baz=349,slow=14						
ARA0				Sn	Sn	15 39 54.4	-8.3
	slow=22						
ARA0	**ARCESS Array S**	**7.84**	**169**	P	**Pn**	**15 38 34.7**	**+0.7**
	baz=349,slow=14						
ARA0				S	Sn	15 39 54.4	-8.3
	slow=22						
ARA0	**ARCESS Array S**	**7.84**	**169**	P	**Pn**	**15 38 34.7**	**+0.7**
	baz=349,slow=12,SNR=51						
ARCES	**ARCESS Array B**	**7.84**	**169**	Pn	**Pn**	**15 38 35.8**	**+1.8**
	comp=Z,0.8nm,0.3s,baz=357,slow=14,SNR=15						
ARCES				Sn	Sn	15 39 56.0	-6.6
	comp=Z,2.1nm,0.3s,baz=2.4,slow=24,SNR=5.6						
APA0	**Apatity Array**	**10.28**	**154**	Pn	**Pn**	**15 39 08.7**	**+1.3**
	baz=346,slow=8.6						
APA0	**Apatity Array**	**10.28**	**154**	P	**Pn**	**15 39 08.7**	**+1.3**
	baz=346,slow=8.6						
APA0	**Apatity Array**	**10.28**	**154**	P	**Pn**	**15 39 08.6**	**+1.3**
	baz=346,slow=8.0,SNR=51						
FIA0	**FINESS Array S**	**15.96**	**172**	P	**Pn**	**15 40 24.6**	**+0.4**
FIA0	**FINESS Array S**	**15.96**	**172**	Pn	**Pn**	**15 40 24.6**	**+0.4**
FIA0	**FINESS Array S**	**15.96**	**172**	Pn	**Pn**	**15 40 24.6**	**+0.4**
	SNR=55						
FINES	**FINESS Array B**	**15.96**	**172**	Pn	**Pn**	**15 40 25.8**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=359,slow=12,SNR=3.6						
FINES				Sn	**Sn**	**15 43 16.0**	**-4.9**
	comp=Z,0.1nm,0.3s,baz=10,slow=24,SNR=3.8						
HFS	**Hagfors**	**17.38**	**193**	P	**P**	**15 40 43.2**	**-0.4**
	baz=14,slow=18						
HFS	**Hagfors**	**17.38**	**193**	Pn	**P**	**15 40 43.2**	**-0.4**
	baz=14,slow=18						
HFS	**Hagfors**	**17.38**	**193**	P	**P**	**15 40 43.2**	**-0.4**
	baz=14,slow=16						
KSP	**Ksiaz**	**26.57**	**187**	*e*	**P**	**15 42 16.6**	**-1.2**
FRB	**Frobisher Bay**	**29.12**	**294**	LR	LR	15 55 18.2	
	comp=Z,52nm,18.6s,baz=228,slow=38						
ILAR	**Eielson Array**	**38.03**	**352**	P	P	15 44 05.7	+7.9
	comp=Z,0.2nm,0.6s,baz=356,slow=7.6,SNR=4.1						

*ISCJB **28** 15:41:50.3±0.7, 51°.44N±0°.03×16°.11E±0°.03, h0km, Error ellipse: s-maj=5.1km s-min=2.8km az=13.5*
*IPEC **28** 15:41:51.1±0.3, 51°.54N×16°.22E, h0km, ML2.5/4, Error ellipse: s-maj=2.0km s-min=1.5km az=33.0*
*IDC **28** 15:41:52.5±1.1, 51°.38N×16°.14E, h0km, mb1 3.6/3, mb1mx3.2/25, mbtmp3.4/3, ML2.9/3, Error ellipse: s-maj=18.4km s-min=9.4km az=105.0*
*WAR **28** 15:41:52.3, 51°.50N×16°.13E*
*CSEM **28** 15:41:52.3±0.4, 51°.43N×16°.08E, h2km, ML3.2/11, Error ellipse: s-maj=6.4km s-min=3.4km az=175.0*
*PRU **28** 15:41:53.2, 51°.43N×16°.08E, h0km*
*VIE **28** 15:41:54.5±0.6, 51°.24N×16°.14E, h0km, mb2.3/4, ML2.6/4, Error ellipse: s-maj=4.0km s-min=3.2km az=162.0 62 km WNW of Wroclaw Suspected Mining induced.*

ISC 28 15:41:51.0±0.8, 51°.55N±0°.04×16°.11E±0°.02, h0km, n32, σ0§96/60, 3C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.71**	**171**	*e*Pg	**Pg**	**15 42 04.7**	**+0.1**
KSP				*e*Sg	**Sg**	**15 42 13.1**	**-0.8**
KSP	**Ksiaz**	**0.71**	**171**	⇓*i*Pg	**Pg**	**15 42 04.8**	**+0.1**
KSP				*e*Sg	**Sg**	**15 42 13.3**	**-0.6**
DPC	**Dobruska-Polom**	**1.20**	**174**	*e*PG	**Pg**	**15 42 13.5**	**-0.6**
DPC				*e*SG	**Sg**	**15 42 27.9**	**-1.7**
DPC	**Dobruska-Polom**	**1.20**	**174**	Pg	**Pg**	**15 42 13.5**	**-0.6**
DPC				Sg	**Sg**	**15 42 27.9**	**-1.7**
PVCC	**Panska Ves**	**1.41**	**224**	*e*PG	**Pg**	**15 42 18.0**	**0.0**
PVCC				*e*SG	**Sg**	**15 42 35.8**	**-0.4**
	comp=Z,82nm,0.4s						
PVCC	**Panska Ves**	**1.41**	**224**	Pg	**Pg**	**15 42 18.0**	**0.0**
PVCC				Sg	**Sg**	**15 42 35.8**	**-0.4**
	82nm,0.4s						
BRG	**Berggiesshubel**	**1.52**	**245**	PN	**Pn**	**15 42 19.2**	**-0.2**
BRG				PG	**Pb**	**15 42 20.5**	**+0.4**
BRG				SG	**Sg**	**15 42 40.4**	**+0.6**
	49nm,0.5s						
PRU	**Pruhonice**	**1.85**	**213**	*e*PG	**Pn**	**15 42 24.7**	**+0.7**
PRU				*e*SG	**Sn**	**15 42 48.2**	**+0.2**
	comp=Z,19nm,0.4s						
PRU	**Pruhonice**	**1.85**	**213**	Pg	**Pn**	**15 42 24.7**	**+0.7**
PRU				Sg	**Sn**	**15 42 48.2**	**+0.2**
	19nm,0.4s						
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**15 42 25.0**	**-0.5**
CLL				*e*Pg	**Pb**	**15 42 28.0**	**+0.4**
CLL				*e*		15 42 31.0	
CLL				*i*		15 42 32.6	
CLL				*i*		15 42 43.4	
CLL				*e*Sg	**Sb**	**15 42 54.0**	**+1.5**
	comp=Z,24nm,0.9s						
MORC	**Moravsky Berou**	**1.99**	**152**	*e*Pn	**Pn**	**15 42 25.6**	**-0.4**
	baz=335						
MORC				*e*Sg	**Sb**	**15 42 52.7**	**-0.8**
	comp=Z,25nm,0.6s,baz=335						
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*PG	**Pb**	**15 42 31.3**	**+0.6**
OKC				*e*SG	**Sb**	**15 42 57.4**	**-0.4**
	comp=Z,30nm,0.6s						
OKC	**Ostrava-Krasne**	**2.15**	**142**	Pg	**Pb**	**15 42 31.3**	**+0.6**
OKC				Sg	**Sb**	**15 42 57.4**	**-0.4**
	comp=Z,30nm,0.6s						
VRAC	**Vranov**	**2.26**	**172**	Pg	**Pn**	**15 42 30.6**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=331,slow=11,SNR=6.9						
VRAC				Lg	Lg	15 43 00.5	
	comp=Z,2.5nm,0.3s,baz=76,slow=24,SNR=7.9						
VRAC	**Vranov**	**2.26**	**172**	*e*Pn	**Pn**	**15 42 29.8**	**+0.2**
VRAC				*e*Sg	**Sb**	**15 43 01.5**	**+0.3**
	comp=Z,16nm,0.6s,baz=354						
KRUC	**Moravsky**	**2.49**	**176**	*e*Sg	**Sb**	**15 43 08.8**	**+0.9**
	comp=Z,22nm,0.7s,baz=358						
NKC	**Novy Kostel**	**2.67**	**242**	*e*SG	**Sg**	**15 43 16.9**	**+0.3**
	comp=Z,21nm,0.3s						
NKC	**Novy Kostel**	**2.67**	**242**	Sg	**Sg**	**15 43 16.9**	**+0.3**
	comp=Z,21nm,0.3s						
OJC	**Ojcow**	**2.69**	**118**	*e*Pg	**Pg**	**15 42 43.6**	**+1.1**
OJC				*e*Sg	**Sg**	**15 43 18.1**	**+0.8**
OJC	**Ojcow**	**2.69**	**118**	*e*Pg	**Pg**	**15 42 43.6**	**+1.1**
OJC				*e*Sg	**Sg**	**15 43 18.1**	**+0.8**
JAVC	**Velka Javorina**	**2.87**	**159**	*e*Sg	**Sg**	**15 43 23.5**	**+0.3**
	comp=Z,23nm,1.2s						
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**15 42 38.7**	**+0.1**
KHC				*e*PG	**Pb**	**15 42 44.6**	**+0.8**
KHC				*e*SN	**Sn**	**15 43 13.5**	**-0.8**
KHC				*e*SG	**Sb**	**15 43 22.1**	**+2.2**
	comp=Z,12nm,0.5s						
KHC	**Kasperske Hory**	**2.91**	**215**	Pn	**Pn**	**15 42 38.7**	**+0.1**
GERES	**GERESS Array B**	**3.12**	**211**	Pn	**Pn**	**15 42 41.2**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=28,slow=12,SNR=20						
GERES				Pg	**Pb**	**15 42 48.0**	**+0.7**
	comp=Z,2.1nm,0.3s,baz=28,slow=17,SNR=35						
GERES				Lg	Lg	15 43 26.9	
	comp=Z,2.0nm,0.3s,baz=29,slow=28,SNR=7.3						
CONA	**Conrad Observa**	**3.62**	**183**	⇑*i*Pn	**Pn**	**15 42 48.3**	**-0.2**
CONA				⇓*i*Sg	**Sb**	**15 43 43.2**	**+2.7**
	comp=Z,10nm,0.4s						
MOA	**Molln**	**3.89**	**199**	⇑*i*Pn	**Pn**	**15 42 52.0**	**0.0**
MOA				⇑*i*Sg	**Sg**	**15 43 54.3**	**-1.6**
	comp=Z,8.1nm,0.5s						
MOA	**Molln**	**3.89**	**199**	Pn	**Pn**	**15 42 52.0**	**0.0**
MOA				Sg	**Sg**	**15 43 54.3**	**-1.6**
	comp=Z,8.1nm,0.5s						
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*PG	**Pg**	**15 43 06.2**	**+0.3**
STHS				*e*SG	**Sg**	**15 43 56.8**	**+0.2**
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*Pg	**Pg**	**15 43 06.2**	**+0.3**
STHS				*e*Sg	**Sg**	**15 43 56.8**	**+0.2**
FINES	**FINESS Array B**	**11.33**	**25**	Pn	**Pn**	**15 44 33.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=211,slow=9.7,SNR=3.1						
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn	**P**	**15 46 07.2**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=191,slow=14,SNR=5.9						

IDC 28 15:59:46.8±1.4, 13°.77S×170°.78E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.8/20, mbtmp3.9/5, ML3.1/1, MS3.4/3, Ms1 3.5/3, ms1mx2.9/26, Error ellipse: s-maj=79.8km s-min=25.4km az=136.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.23**	**206**	Pn	Pn	16 02 01.1	-0.3
	0.2nm,0.3s,baz=108,slow=20,SNR=3.3						
ASAR	**Alice Springs**	**36.19**	**249**	P	P	16 06 51.5	0.0
	2.6nm,1.0s,baz=75,slow=9.3,SNR=21						
ASAJ	**Asahikawa**	**63.08**	**338**	LR	LR	16 32 13.8	
	comp=Z,21nm,20.1s,baz=356,slow=31						
PETK	**Petropavlovsk-**	**67.55**	**352**	LR	LR	16 38 28.5	
	comp=Z,20nm,19.0s,baz=240,slow=34						
NVAR	**Mina Array Bea**	**84.08**	**48**	P	P	16 12 20.1	0.0
	0.2nm,0.3s,baz=253,slow=9.3,SNR=3.6						
ILAR	**Eielson Array**	**84.60**	**17**	P	P	16 12 21.4	-0.4
	0.6nm,0.7s,baz=229,slow=5.5,SNR=5.7						
ILAR				LR	LR	16 43 03.6	
	comp=Z,37nm,19.7s,baz=134,slow=31						
YKA	**Yellowknife Ar**	**95.15**	**27**	P	P	16 13 11.9	+0.2
	0.4nm,0.6s,baz=243,slow=4.1,SNR=2.9						

IDC 28 16:28:00.7±5.6, 11°.10N×94°.97E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/25, mbtmp3.7/5, MS3.0/1, Ms1 3.0/1, ms1mx2.4/28, Error ellipse: s-maj=334.7km s-min=22.0km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**9.13**	**154**	LR	LR	16 33 41.5	
	comp=Z,87nm,18.6s,baz=35,slow=37						
MKAR	**Makanchi Array**	**37.16**	**346**	P	P	16 35 13.5	+0.2
	0.8nm,0.9s,baz=177,slow=8.7,SNR=4.5						
ZALV	**Zalesovo Beam**	**43.49**	**351**	P	P	16 36 05.2	-0.5
	0.4nm,0.2s,baz=169,slow=8.1,SNR=3.8						
WRA	**Warramunga Arr**	**49.54**	**128**	P	P	16 36 53.3	-0.3
	0.6nm,0.8s,baz=301,slow=8.6,SNR=3.2						
ASAR	**Alice Springs**	**51.42**	**133**	P	P	16 37 07.3	-0.5
	1.0nm,0.9s,baz=302,slow=6.8,SNR=7.1						
STKA	**Stephens Creek**	**61.78**	**135**	P	P	16 38 21.9	+0.5
	2.3nm,1.1s,baz=322,slow=17,SNR=2.7						

WEL 28 16:53:20.3±0.5, 35°.09S×178°.09E, h33km, ML3.8/3, Error ellipse: s-maj=7.6km s-min=3.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**2.98**	**178**	PN	Pn	16 54 05.0	-0.3
PUZ				SN	Sn	16 54 37.3	-2.6
URZ	**Urewera**	**3.26**	**194**	P*	Pn	16 54 09.4	+0.3
URZ				S*	Sn	16 54 47.1	+0.3
MWZ	**Matawai**	**3.27**	**188**	P*	Pn	16 54 09.4	+0.1
MWZ				S*	Sn	16 54 46.8	-0.3
CNGZ	**Carnagh Statio**	**3.39**	**178**	PN	Pn	16 54 10.0	-0.9

*MOS **28** 17:38:46.5±1.3, 36°.07N×29°.85E, h10km, mb4.7/38, Error ellipse: s-maj=6.0km s-min=3.4km az=93.7*
*ISK **28** 17:38:48.2, 36°.08N×29°.67E, h12km, ML4.5*
*DDA **28** 17:38:49.9, 36°.13N×29°.59E, h36km, ML4.6*
*NIC **28** 17:38:50.6±0.3, 36°.38N×29°.74E, h55km, mb4.7, ML4.4, MW3.8*
*ATH **28** 17:38:50.3, 36°.20N×29°.69E, h38km±1km, MD4.1/32, ML4.5*
*NEIC **28** 17:38:51.7±1.5, 36°.14N×29°.72E, h35km±11km, mb4.5/20, ML4.5(ISK), Error ellipse: s-maj=5.7km s-min=4.5km az=192.0*
*CSEM **28** 17:38:51.8±0.1, 36°.11N×29°.72E, h30km, mb4.6/4, Ms3.3, Mw3.8, Error ellipse: s-maj=2.8km s-min=1.7km az=33.0*
*BJI **28** 17:38:52.3, 36°.10N×29°.70E, h60km, mB4.5/3, mb4.6/7, Ms4.6/2, Ms7 4.2/2*
*THE **28** 17:38:52.6, 36°.16N×29°.71E, h29km±38km, ML4.6/2, Error ellipse: s-maj=38.8km s-min=1.3km az=81.0*
*TEH **28** 17:38:53.2, 36°.03N×29°.69E, h60km, ML4.1*
*IDC **28** 17:38:53.1±1.4, 36°.13N×29°.85E, h47km±13km, mb4.0/28, mb1 4.1/34, mb1mx4.1/39, mbtmp4.0/34, ML4.1/7, MS3.6/20, Ms1 3.6/20, ms1mx3.4/41, Error ellipse: s-maj=9.8km s-min=9.2km az=123.0*
*HLW **28** 17:38:54.4, 35°.89N×29°.48E, h33km±49km, Md4.2, Ml4.6*

ISC 28 17:38:50.7±0.6, 36°.06N±0°.03×29°.72E±0°.02, h25km±4km, n812, σ1§53/844, mb4.5/74, MS3.6/14, 28C-16D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.14**	**308**	*e*PB	**Pn**	**17 38 56.9**	**-0.4**
AKAS	**Kas**	**0.20**	**331**	*i* P	**Pb**	**17 38 56.6**	**0.0**
AKAS				*i* S	**Sb**	**17 39 00.8**	**+0.3**
AKAS	**Kas**	**0.20**	**331**	*i* P	**Pb**	**17 38 56.6**	**0.0**
AKAS				*i* S	**Sb**	**17 39 00.8**	**+0.3**
KORT	**Korkueli**	**1.06**	**28**	*i* P	**Pn**	**17 39 09.7**	**-0.5**
KORT				*i* S	**Sb**	**17 39 25.3**	**+1.1**
KORT	**Korkueli**	**1.06**	**28**	*i* P	**Pn**	**17 39 09.7**	**-0.5**
KORT				*i* S	**Sb**	**17 39 25.3**	**+1.1**
GOLH	**Golhisar**	**1.18**	**354**	*i* P	**Pn**	**17 39 10.6**	**-1.1**
GOLH				*i* S	**Sn**	**17 39 26.7**	**-0.3**
GOLH	**Golhisar**	**1.18**	**354**	*i* P	**Pn**	**17 39 10.6**	**-1.1**
GOLH				*i* S	**Sn**	**17 39 26.7**	**-0.3**
TURN	**Turunc**	**1.21**	**312**	*i* P	**Pb**	**17 39 13.5**	**+0.5**
TURN				*i* S	**Sb**	**17 39 30.3**	**+2.0**
TURN	**Turunc**	**1.21**	**312**	*i* P	**Pb**	**17 39 13.5**	**+0.5**
TURN				*i* S	**Sb**	**17 39 30.3**	**+2.0**
ARG	**Arkhangelos**	**1.30**	**277**	P	**Pn**	**17 39 12.7**	**-0.5**
ARG	**Arkhangelos**	**1.30**	**277**	*e*PB	**Pn**	**17 39 12.8**	**-0.5**
ARG				*e*SN	**Sn**	**17 39 30.0**	**+0.1**
ARG	**Arkhangelos**	**1.30**	**277**	*e*Pb	**Pn**	**17 39 12.8**	**-0.5**
ARG				*e*Sn	**Sn**	**17 39 30.0**	**+0.1**
ISP	**Isparta**	**1.87**	**20**	*e*PN	**Pn**	**17 39 21.4**	**+0.2**
ISP				*e*SN	**Sn**	**17 39 44.7**	**+0.6**
ISP	**Isparta**	**1.87**	**20**	P	**Pn**	**17 39 21.4**	**+0.2**
ISP	**Isparta**	**1.87**	**20**	*e*P	**Pn**	**17 39 21.7**	**+0.5**
ISP	**Isparta**	**1.87**	**20**	*e*Pn	**Pn**	**17 39 21.7**	**+0.5**
ISP	**Isparta**	**1.87**	**20**	*e*P	**Pn**	**17 39 21.7**	**+0.5**
ISP				*e*Sn	**Sn**	**17 39 44.7**	**+0.6**
GAZI	**Gazipasa**	**2.10**	**85**	*i* P	**Pn**	**17 39 25.4**	**+1.0**
GAZI				*i* S	**Sn**	**17 39 49.4**	**-0.3**
GAZI	**Gazipasa**	**2.10**	**85**	*i* P	**Pn**	**17 39 25.4**	**+1.0**
GAZI				*i* S	**Sn**	**17 39 49.4**	**-0.3**
NIS1	**Nisyros Isl.**	**2.12**	**285**	P	**Pn**	**17 39 24.0**	**-0.6**
NIS1	**Nisyros Isl.**	**2.12**	**285**	*e*PN	**Pn**	**17 39 24.4**	**-0.2**
NIS1	**Nisyros Isl.**	**2.12**	**285**	P	**Pn**	**17 39 24.0**	**-0.6**
NIS1	**Nisyros Isl.**	**2.12**	**285**	*e*Pn	**Pn**	**17 39 24.4**	**-0.2**
KARP	**Karpathos**	**2.15**	**257**	P	**Pn**	**17 39 25.5**	**+0.6**
KARP				S	**Sn**	**17 39 50.5**	**-0.2**
KARP	**Karpathos**	**2.15**	**257**	*e*PN	**Pn**	**17 39 25.7**	**+0.8**
KARP				*e*SN	**Sn**	**17 39 50.8**	**+0.1**
KARP	**Karpathos**	**2.15**	**257**	*e*Pn	**Pn**	**17 39 25.7**	**+0.8**
KARP				S	**Sn**	**17 39 50.5**	**-0.2**
AYDN	**Tasoluk**	**2.18**	**318**	*i* P	**Pn**	**17 39 26.0**	**+0.6**
AYDN				*i* S	**Sn**	**17 39 51.8**	**+0.3**
AYDN	**Tasoluk**	**2.18**	**318**	*i* P	**Pn**	**17 39 26.0**	**+0.6**
AYDN				*i* S	**Sn**	**17 39 51.8**	**+0.3**
KHL	**Karahalli**	**2.26**	**356**	*e*PN	**Pn**	**17 39 26.4**	**-0.1**
KHL	**Karahalli**	**2.26**	**356**	*e*Pn	**Pn**	**17 39 26.5**	**-0.1**
AKMC	**Akamas**	**2.36**	**115**	P	**Pn**	**17 39 29.4**	**+1.5**
AKMC	**Akamas**	**2.36**	**115**	P	**Pn**	**17 39 29.4**	**+1.5**
PPCY	**Paphos**	**2.44**	**118**	P	**Pn**	**17 39 30.9**	**+2.0**
PPCY	**Paphos**	**2.44**	**118**	P	**Pn**	**17 39 30.9**	**+2.0**
ALFC	**Alevga**	**2.51**	**110**	P	**Pn**	**17 39 31.0**	**+1.1**
	52nm,0.3s						
ALFC				S	**Sn**	**17 40 02.1**	**+2.4**
ALFC	**Alevga**	**2.51**	**110**	P	**Pn**	**17 39 31.0**	**+1.1**
	52nm,0.3s						
ALFC				S	**Sn**	**17 40 02.1**	**+2.4**
SHUT	**Suhut-Afyon**	**2.57**	**15**	*e*PN	**Pn**	**17 39 30.9**	**0.0**
SHUT	**Suhut-Afyon**	**2.57**	**15**	*e*Pn	**Pn**	**17 39 30.9**	**0.0**
GCAM	**G?zelcaml?**	**2.58**	**310**	*i* P	**Pn**	**17 39 31.7**	**+0.8**
GCAM				*i* S	**Sn**	**17 40 00.5**	**-0.9**
GCAM	**G?zelcaml?**	**2.58**	**310**	*i* P	**Pn**	**17 39 31.7**	**+0.8**
GCAM				*i* S	**Sn**	**17 40 00.5**	**-0.9**
KULA	**Kula-Manisa**	**2.59**	**341**	*e*PN	**Pn**	**17 39 31.5**	**+0.4**
KULA	**Kula-Manisa**	**2.59**	**341**	*e*Pn	**Pn**	**17 39 31.5**	**+0.4**
ERMK	**Ermenek**	**2.64**	**76**	*i* P	**Pn**	**17 39 34.1**	**+2.2**
ERMK				*i* S	**Sb**	**17 40 07.6**	**-1.9**
ERMK	**Ermenek**	**2.64**	**76**	*i* P	**Pn**	**17 39 34.1**	**+2.2**
LEF	**Lefka**	**2.75**	**109**	*e*PN	**Pn**	**17 39 33.6**	**+0.5**
LEF	**Lefka**	**2.75**	**109**	*e*Pn	**Pn**	**17 39 33.6**	**+0.5**
KONT	**Konya--Tatoy**	**2.83**	**48**	*e*PN	**Pn**	**17 39 34.4**	**+0.1**
KONT	**Konya--Tatoy**	**2.83**	**48**	*e*Pn	**Pn**	**17 39 34.4**	**+0.1**
SMG	**Samos**	**2.84**	**306**	P	**Pn**	**17 39 33.5**	**-0.9**
SMG				S	**Sn**	**17 40 05.5**	**-2.3**
SMG	**Samos**	**2.84**	**306**	*e*PN	**Pn**	**17 39 33.5**	**-0.9**
SMG	**Samos**	**2.84**	**306**	P	**Pn**	**17 39 33.5**	**-0.9**
SMG				S	**Sn**	**17 40 05.5**	**-2.3**
SZAC	**Souni-Zanaja**	**2.89**	**116**	P	**Pn**	**17 39 37.0**	**+1.8**
SZAC	**Souni-Zanaja**	**2.89**	**116**	P	**Pn**	**17 39 37.0**	**+1.8**
MAMC	**Mammari**	**2.98**	**106**	P	**Pn**	**17 39 37.3**	**+0.9**
MAMC	**Mammari**	**2.98**	**106**	P	**Pn**	**17 39 37.3**	**+0.9**
LADK	**Ladik-KONYA**	**3.00**	**44**	*e*PN	**Pn**	**17 39 36.8**	**0.0**
LADK	**Ladik-KONYA**	**3.00**	**44**	*e*Pn	**Pn**	**17 39 36.8**	**0.0**
ALT	**Altintas**	**3.00**	**6**	*e*PN	**Pn**	**17 39 36.5**	**-0.3**
ALT	**Altintas**	**3.00**	**6**	*e*Pn	**Pn**	**17 39 36.5**	**-0.3**
ZKR	**Zakros**	**3.01**	**253**	P	**Pn**	**17 39 37.6**	**+0.8**
ZKR				S	**Sn**	**17 40 12.4**	**+0.4**
ZKR	**Zakros**	**3.01**	**253**	*e*PN	**Pn**	**17 39 38.1**	**+1.3**
ZKR	**Zakros**	**3.01**	**253**	P	**Pn**	**17 39 37.6**	**+0.8**
ZKR	**Zakros**	**3.01**	**253**	*e*Pn	**Pn**	**17 39 38.1**	**+1.3**
ZKR				S	**Sn**	**17 40 12.4**	**+0.4**
IZM	**Izmir**	**3.05**	**321**	*e*PN	**Pn**	**17 39 36.2**	**-1.1**
IZM	**Izmir**	**3.05**	**321**	*e*Pn	**Pn**	**17 39 36.2**	**-1.1**
CSS	**Prodhromos**	**3.14**	**109**	P	**Pn**	**17 39 39.2**	**+0.6**
	14nm,0.3s						
CSS				S	**Sn**	**17 40 18.4**	**+3.1**
CSS	**Prodhromos**	**3.14**	**109**	*e*PN	**Pn**	**17 39 40.0**	**+1.4**
CSS	**Prodhromos**	**3.14**	**109**	P	**Pn**	**17 39 38.7**	**+0.1**
CSS	**Prodhromos**	**3.14**	**109**	*e*Pn	**Pn**	**17 39 38.9**	**+0.3**
CSS	**Prodhromos**	**3.14**	**109**	P	**Pn**	**17 39 39.2**	**+0.6**
	14nm,0.3s						
CSS	**Prodhromos**	**3.14**	**109**	*e*Pn	**Pn**	**17 39 40.0**	**+1.4**
CSS				S	**Sn**	**17 40 18.4**	**+3.1**
LFK	**Lefkose**	**3.20**	**103**	*e*PN	**Pn**	**17 39 40.0**	**+0.6**
LFK	**Lefkose**	**3.20**	**103**	*e*Pn	**Pn**	**17 39 40.0**	**+0.6**
IKL	**Isikli**	**3.21**	**86**	*e*PN	**Pn**	**17 39 40.8**	**+1.3**
IKL	**Isikli**	**3.21**	**86**	*e*Pn	**Pn**	**17 39 40.8**	**+1.3**
KIZT	**Kizilcal**	**3.30**	**31**	*e*PN	**Pn**	**17 39 41.6**	**+0.8**
KIZT	**Kizilcal**	**3.30**	**31**	*e*Pn	**Pn**	**17 39 41.6**	**+0.8**
TVSB	**Tavsanli**	**3.39**	**357**	*e*PN	**Pn**	**17 39 42.0**	**-0.1**
TVSB	**Tavsanli**	**3.39**	**357**	*e*Pn	**Pn**	**17 39 42.0**	**-0.1**
NPS	**Neapolis**	**3.44**	**258**	P	**Pn**	**17 39 43.4**	**+0.7**
NPS				S	**Sn**	**17 40 22.5**	**-0.1**
NPS	**Neapolis**	**3.44**	**258**	*e*PN	**Pn**	**17 39 43.7**	**+1.0**
NPS				*e*SN	**Sn**	**17 40 22.6**	**-0.1**
NPS	**Neapolis**	**3.44**	**258**	P	**Pn**	**17 39 43.4**	**+0.7**
NPS	**Neapolis**	**3.44**	**258**	*e*Pn	**Pn**	**17 39 43.7**	**+1.0**
NPS				*e*Sn	**Sn**	**17 40 22.6**	**-0.1**
SANT	**Santorini**	**3.46**	**276**	P	**Pn**	**17 39 42.6**	**-0.4**
SANT	**Santorini**	**3.46**	**276**	*e*PN	**Pn**	**17 39 43.4**	**+0.4**
**SAN

| | | |

VSL **Villasalto** 16.44 288 *e*Pn **Pn** 17 42 40.8 +1.1
comp=E,13nm,0.8s
VSL **Villasalto** 16.44 288 *e*Pn **Pn** 17 42 40.8 +1.1
UMR **Umm Al-Rimmam** 16.45 108 *e*P **Pn** 17 42 38.9 -0.9
UMR AMb AMB 17 42 44.0
comp=Z,242nm,0.5s
UMR **Umm Al-Rimmam** 16.45 108 *e*P **Pn** 17 42 38.9 -0.9
comp=Z,242nm,0.5s
KEST **Kesra** 16.52 275 *e*Pn **Pn** 17 42 40.8 +0.1
KEST P **Pn** 17 42 41.5 +0.8
KEST **Kesra** 16.52 275 P **Pn** 17 42 41.5 +0.8
comp=Z,0.5nm,0.3s,baz=78,slow=2.1,SNR=15
KEST **Kesra** 16.52 275 *e*Pn **Pn** 17 42 40.8 +0.1
IGZV **Ghazvin** 16.55 83 *e*P **P** 17 42 43.4 -0.2
IGZV **Ghazvin** 16.55 83 *e*P **P** 17 42 43.4 -0.2
VSR **Storozhevoye** 16.60 21 *e*P **Pn** 17 42 41.1 -0.4
VSR pmax pmax
comp=Z,7.0nm,0.8s
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,7.0nm,0.7s
VSR **Storozhevoye** 16.60 21 *e*P **Pn** 17 42 41.1 -0.4
comp=E,7.0nm,0.8s
KBD **Kabd** 16.61 109 *e*P **Pn** 17 42 41.4 -0.4
KBD AMb AMB 17 42 46.3
comp=Z,135nm,0.9s
KBD **Kabd** 16.61 109 *e*P **Pn** 17 42 41.4 -0.4
comp=Z,135nm,0.9s
TREC **Trest** 16.83 326 *e*P **P** 17 42 45.5 -0.9
TREC MLR MLR
comp=Z,200nm,17.7s
TREC **Trest** 16.83 326 *e*P **P** 17 42 45.5 -0.9
TREC *ep*P **pP** 17 42 53.5 +0.2
TREC AMS AMS 17 49 40.0
comp=Z,200nm,17.7s
TREC **Trest** 16.83 326 *e*P **P** 17 42 45.5 -0.9
comp=Z,200nm,17.7s
DPC **Dobruska-Polom** 17.26 330 *e*P **Pn** 17 42 48.5 -1.4
DPC **Dobruska-Polom** 17.26 330 *e*P **Pn** 17 42 48.5 -1.4
DPC *ep*P **pP** 17 42 56.5 -1.7
DPC *e*S **S** 17 46 15.5 +5.8
DPC AMS AMS 17 49 40.0
DPC **Dobruska-Polom** 17.26 330 *e*P **Pn** 17 42 48.5 -1.4
PGF **Pioggiola** 17.28 298 *e*P **Pn** 17 42 47.4 -2.9
comp=Z,76nm,1.5s
GEC2 **GERESS Array S** 17.36 322 *e*P **Pn** 17 42 50.0 -1.2
comp=Z,37nm,1.4s
GEC2 **GERESS Array S** 17.36 322 *e*P **Pn** 17 42 50.0 -1.2
GEC2 pmax pmax
comp=Z,37nm,1.4s
GEC2 **GERESS Array S** 17.36 322 *e*P **Pn** 17 42 50.0 -1.2
comp=Z,37nm,1.4s
GERES **GERESS Array B** 17.36 322 P **Pn** 17 42 50.6 -0.5
GERES **GERESS Array B** 17.36 322 P **Pn** 17 42 50.6 -0.5
comp=Z,0.2nm,0.3s,baz=133,slow=13,SNR=18
GERES **GERESS Array B** 17.36 322 P **Pn** 17 42 50.7 -0.5
WTTA **Wattenberg** 17.50 315⇑ *i*P **Pn** 17 42 52.9 -0.1
comp=Z,4.5nm,0.7s
WTTA ⇑*i*P **pP** 17 43 02.8 +1.8
comp=Z,11nm,0.8s
WTTA **Wattenberg** 17.50 315 P **Pn** 17 42 52.9 -0.1
comp=Z,4.5nm,0.7s
KHC **Kasperske Hory** 17.61 323 *e*P **Pn** 17 42 54.6 +0.3
KHC *e*S **S** 17 46 13.5 -3.3
KHC MLR MLR
comp=Z,200nm,21.2s
KHC **Kasperske Hory** 17.61 323 *e*P **Pn** 17 42 54.6 +0.3
KHC *ep*P **pP** 17 43 00.7 -1.3
KHC *ex* x 17 43 04.5
KHC *e*S **S** 17 46 13.5 -3.3
KHC AMS AMS 17 49 50.0
comp=Z,200nm,21.2s
KHC **Kasperske Hory** 17.61 323 *e*Pn **Pn** 17 42 52.9 -1.3
comp=Z,7.9nm,0.8s
KHC **Kasperske Hory** 17.61 323 *e*Pn **Pn** 17 42 52.9 -1.3
comp=Z,7.9nm,0.8s
KHC **Kasperske Hory** 17.61 323 *e*P **Pn** 17 42 54.6 +0.3
comp=Z,200nm,21.2s
KHC S **S** 17 46 13.5 -3.3
KSP **Ksiaz** 17.66 331 *e*P P 17 43 05.5 +10
KSP *e*S **S** 17 46 15.0 -2.6
KSP **Ksiaz** 17.66 331 *e*P P 17 43 05.7 +10
PRU **Pruhonice** 17.75 326 *e*P **P** 17 42 58.4 +1.8
PRU MLR MLR
comp=Z,200nm,16.9s
PRU **Pruhonice** 17.75 326 *e*P **P** 17 42 58.4 +1.8
PRU *ep*P **pP** 17 43 03.4 -0.1
PRU *e*S **S** 17 46 25.1 +5.5
PRU AMS AMS 17 50 20.0
comp=Z,200nm,16.9s
IPIR **Pirpir** 17.79 95 *e*P **P** 17 42 58.0 +0.5
IPIR **Pirpir** 17.79 95 *e*P **P** 17 42 58.0 +0.5
WET **Wettzell** 17.97 322 *e*P **Pn** 17 42 56.7 -1.9
comp=Z,27nm,0.9s
WET **Wettzell** 17.97 322 *e*P **Pn** 17 42 56.7 -1.9
WET pmax pmax
comp=Z,27nm,0.9s
WET **Wettzell** 17.97 322 *e*P **Pn** 17 42 56.7 -1.9
comp=Z,27nm,0.9s
IDMV **Damavand** 18.10 85 *e*P **P** 17 43 01.9 +1.0
IDMV **Damavand** 18.10 85 *e*P **P** 17 43 01.9 +1.0
PVCC **Panska Ves** 18.13 328 *e*P **Pn** 17 43 00.2 -0.4
PVCC MLR MLR
comp=Z,200nm,13.3s
PVCC **Panska Ves** 18.13 328 *e*P **Pn** 17 43 00.2 -0.4
PVCC AMS AMS 17 50 40.0
comp=Z,200nm,13.3s
PVCC **Panska Ves** 18.13 328 *e*P **Pn** 17 43 00.2 -0.4
comp=Z,200nm,13.3s
IKLH **Kolahrood** 18.18 92 *e*P **P** 17 43 03.0 +1.3
IKLH **Kolahrood** 18.18 92 *e*P **P** 17 43 03.0 +1.3
FUR **Furstenfeldbru** 18.21 317 *e*P P 17 43 07.5 +5.8
comp=Z,28nm,0.8s
FUR **Furstenfeldbru** 18.21 317 *e*P P 17 43 07.5 +5.8
FUR pmax pmax
comp=Z,28nm,0.8s
IPRN **Peran** 18.26 83 *e*P **P** 17 43 04.5 +2.0
DAVOX **Davos/Dischmat** 18.28 312 P **P** 17 43 03.9 +1.2
DAVOX **Davos/Dischmat** 18.28 312 P **P** 17 43 03.9 +1.2
comp=Z,0.2nm,0.3s,baz=151,slow=17,SNR=4.1
DAVOX LR LR 17 51 22.8
comp=Z,408nm,18.3s,baz=88,slow=41
DAVOX **Davos/Dischmat** 18.28 312 P **P** 17 43 03.9 +1.2
comp=Z,408nm,18.3s
TUE **Stuetta** 18.46 311 *e*P **Pn** 17 43 06.0 +1.1
comp=Z,38nm,1.4s
MICGM **Minsk** 18.48 357 *e* **P** 17 43 02.0 -2.6
MNK **Minsk** 18.49 357 *e*P **P** 17 43 02.0 -2.6
MNK **Minsk** 18.49 357 *e*P **P** 17 43 02.0 -2.6
SUW **Suwalki** 18.52 348 *e*P **Pn** 17 43 06.3 +1.0
BRG **Berggiesshubel** 18.66 327 *e*P **Pn** 17 43 08.9 +1.9
comp=Z,3.5nm,0.9s
BRG *e* 17 43 14.1
comp=Z,8.7nm,0.7s
BRG S **S** 17 46 42.0 +4.5
BRG
comp=N,224nm,24.3s
BRG
comp=E,167nm,15.1s
BRG
comp=Z,261nm,13.0s
BRG **Berggiesshubel** 18.66 327 *e*P **Pn** 17 43 08.9 +1.9
BRG S **S** 17 46 42.0 +4.5
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG pmax pmax
comp=Z,9.0nm,0.7s
BRG MLR MLR
comp=N,224nm,24.3s
BRG MLR MLR
comp=E,167nm,15.1s
BRG MLR MLR
comp=Z,261nm,13.0s
BRG smax smax
comp=N,2.0nm,0.4s
BRG smax smax
comp=N,3.0nm,0.3s
IALA **Alasht** 18.66 83 *e*P **Pn** 17 43 08.7 +1.2
IFIR **Firoozkooh** 18.67 84 *e*P **Pn** 17 43 10.3 +2.7
SAOF **Saorge** 18.70 302 *e*P **Pn** 17 43 08.7 +1.1
SAOF **Saorge** 18.70 302 *e*P **Pn** 17 43 08.7 +1.1
ROTZ **Rotzenmuhle** 18.70 323 *e*P **P** 17 43 05.1 -2.0
comp=Z,29nm,1.6s
SBF **Sospel** 18.74 301 *e*P **P** 17 43 04.3 -3.3
comp=Z,68nm,1.0s
SBF **Sospel** 18.74 301 *e*P **P** 17 43 04.3 -3.3
comp=Z,34nm,1.0s
REVF **Revere** 18.75 301 *e*P **Pn** 17 43 09.2 +0.9
REVF **Revere** 18.75 301 *e*P **Pn** 17 43 09.2 +0.9
AUTN **L'Aution** 18.79 302 *e*P **Pn** 17 43 09.9 +1.0
AUTN **L'Aution** 18.79 302 *e*P **Pn** 17 43 09.9 +1.0
IGAR **Gharneh** 18.80 95 *e*P **Pn** 17 43 09.6 +0.4
ILAS **Lasjerd** 18.88 85 *e*P **Pn** 17 43 11.1 +1.1
IZEF **Zefreh** 18.90 93 *e*P **Pn** 17 43 10.9 +0.6
IZEF **Zefreh** 18.90 93 *e*P **Pn** 17 43 10.9 +0.6
TOUF **Mont Tournerai** 18.91 302 *e*P **Pn** 17 43 11.6 +1.2
TOUF **Mont Tournerai** 18.91 302 *e*P **Pn** 17 43 11.6 +1.2
MVIF **Mont Vial** 18.95 301 *e*P **Pn** 17 43 12.1 +1.4
MVIF **Mont Vial** 18.95 301 *e*P **Pn** 17 43 12.1 +1.4
NACGM **Naroch** 18.95 355 *e* **Pn** 17 43 12.0 +1.5
ISHM **Shahmirzad** 19.08 84 *e*P **Pn** 17 43 13.6 +1.0
CALN **Calern** 19.09 301 *e*P **Pn** 17 43 14.3 +1.9
CALN **Calern** 19.09 301 *e*P **Pn** 17 43 14.3 +1.9
GRA1 **Grafenberg Arr** 19.15 321 *e*P **P** 17 43 09.7 -2.3
comp=Z,200nm,21.1s
GRF **Grafenberg Arr** 19.15 321 *e*P **P** 17 43 09.7 -2.3
comp=Z,50nm,1.1s
GRF *e*L L 17 51 01.4
comp=Z,161nm,21.1s
GRF **Grafenberg Arr** 19.15 321 *e*P **P** 17 43 09.7 -2.3
GRF pmax pmax
comp=Z,50nm,1.1s
GRF MLR MLR
comp=Z,200nm,21.1s
GRFO **Grafenberg** 19.15 321 *e*P **P** 17 43 11.9 -0.1
GRFO pmax pmax
comp=Z,54nm,1.1s
GRFO **Grafenberg** 19.15 321 *e*P **P** 17 43 11.9 -0.1
comp=Z,54nm,1.1s
GRFO **Grafenberg** 19.15 321 *e*P **P** 17 43 11.9 -0.1
comp=Z,54nm,1.1s
FRF **La Foret Royal** 19.21 300 *e*P **P** 17 43 09.5 -3.2
comp=Z,16nm,0.7s
FRF **La Foret Royal** 19.21 300 *e*P **P** 17 43 09.5 -3.2
comp=Z,7.8nm,0.7s
LMR **La Mourre** 19.25 299 *e*P **P** 17 43 09.9 -3.2
comp=Z,40nm,1.2s
LMR **La Mourre** 19.25 299 *e*P **P** 17 43 09.9 -3.2
comp=Z,20nm,1.2s
IKIA **Kiasar** 19.35 82 *e*P **Pn** 17 43 15.6 -0.1
IKIA **Kiasar** 19.35 82 *e*P **Pn** 17 43 15.6 -0.1
IDID **Didziasalis** 19.37 355 *e*P **P** 17 43 14.4 +0.1
IDID AMB AMB 17 43 32.8
comp=Z,3.5nm,1.2s
IDID **Didziasalis** 19.37 355 *e*P **P** 17 43 14.4 +0.1
comp=Z,3.5nm,1.2s,SNR=34
CLL **Collm** 19.38 327 *e*P **P** 17 43 13.0 -1.5
CLL **Collm** 19.38 327 *e*P **P** 17 43 13.0 -1.5
CLL *i*pP **pP** 17 43 20.3 -1.1
CLL *e*PP **PnPn** 17 43 28.0 -1.0
CLL *e*PPP PPP 17 43 34.0
CLL *e*S **Sn** 17 46 54.0 +1.7
CLL LmV 17 53 00.0
comp=Z,100nm,19.5s
CLL **Collm** 19.38 327 *e*P **P** 17 43 13.0 -1.5
IIGN **Ignalina** 19.44 354 *e*P **P** 17 43 15.0 -0.1
IIGN AMB AMB 17 43 28.5
comp=Z,4.9nm,1.2s
IIGN **Ignalina** 19.44 354 *e*P **P** 17 43 15.0 -0.1
comp=Z,4.9nm,1.2s,SNR=34
MBDF **Montbardon** 19.46 303 *e*P **P** 17 43 13.3 -2.3
comp=Z,43nm,0.9s
MBDF **Montbardon** 19.46 303 *e*P **P** 17 43 13.3 -2.3
comp=Z,22nm,0.9s
MOX **Moxa** 19.57 324 *e*P **P** 17 43 14.7 -1.8
comp=Z,39nm,0.9s
MOX *e*L L 17 51 43.2
comp=Z,155nm,21.7s
MOX **Moxa** 19.57 324 *e*P **P** 17 43 14.7 -1.8
MOX pmax pmax
comp=Z,39nm,0.9s
MOX MLR MLR
comp=Z,200nm,21.7s
MOX **Moxa** 19.57 324 *e*P **P** 17 43 14.7 -1.8
comp=Z,200nm,21.7s
BNI **Bardonecchia** 19.63 304 *e*P **P** 17 43 16.5 -0.9
BNI pmax pmax
comp=Z,17nm,0.9s
BNI **Bardonecchia** 19.63 304 *e*P **P** 17 43 16.5 -0.9
comp=Z,17nm,0.9s
BNI **Bardonecchia** 19.63 304 *e*P **P** 17 43 16.5 -0.9
comp=Z,17nm,0.9s
OBN **Obninsk** 19.63 12⇑ *e*P **P** 17 43 15.8 -1.3
OBN pmax pmax
comp=Z,23nm,1.2s
OBN MLR MLR
comp=Z,100nm,16.0s
OBN **Obninsk** 19.63 12 *e*P **P** 17 43 15.8 -1.3
comp=Z,100nm,16.0s
ISAL **Salakas** 19.67 354 *e*P **P** 17 43 17.4 -0.1
ISAL AMB AMB 17 43 31.1
comp=Z,7.6nm,1.4s
ISAL **Salakas** 19.67 354 *e*P **P** 17 43 17.4 -0.1
comp=Z,7.6nm,1.4s,SNR=34
STU **Stuttgart** 19.70 317 P **P** 17 43 16.5 -1.5
STU pmax pmax
comp=Z,40nm,0.9s
STU **Stuttgart** 19.70 317 P **P** 17 43 16.5 -1.5
comp=Z,40nm,0.9s
STU **Stuttgart** 19.70 317 P **P** 17 43 16.5 -1.5
comp=Z,40nm,0.9s
LPG **La Plagne** 19.73 306 *e*P **P** 17 43 16.8 -1.9
comp=Z,43nm,0.8s
LPG **La Plagne** 19.73 306 *e*P **P** 17 43 16.8 -1.9
comp=Z,22nm,0.8s
LPL **La Plagne** 19.75 306 *e*P **P** 17 43 16.1 -2.7
comp=Z,60nm,1.1s
LPL **La Plagne** 19.75 306 *e*P **P** 17 43 16.1 -2.7
comp=Z,30nm,1.1s
FELD **Feldberg im Sc** 19.93 313 *e*P **Pn** 17 43 26.5 +4.1
BFO **Black Forest** 19.96 315 *e*P Pn 17 43 28.3 +5.6
comp=Z,20nm,1.2s
BFO **Black Forest** 19.96 315 *e*P Pn 17 43 28.3 +5.6
BFO pmax pmax
comp=Z,20nm,1.2s
BFO **Black Forest** 19.96 315 *e*P **P** 17 43 18.4 -2.5
comp=Z,12nm,0.9s
BFO **Black Forest** 19.96 315 *e*P **P** 17 43 18.4 -2.5
comp=Z,11nm,0.9s
SMRF **Simiane la Rot** 20.07 301 *e*P **P** 17 43 20.1 -2.0
comp=Z,22nm,1.0s
SMRF **Simiane la Rot** 20.07 301 *e*P **P** 17 43 20.1 -2.0
comp=Z,11nm,1.0s
ORIF **Oris-en-Rattie** 20.12 303 *e*P **P** 17 43 20.3 -2.4
comp=Z,35nm,1.0s
ORIF *e*R
comp=Z,169nm,20.5s
ORIF **Oris-en-Rattie** 20.12 303 *e*P **P** 17 43 20.3 -2.4
comp=Z,168nm,1.0s
LOMF **Lomont** 20.40 311 *e*P Pn 17 43 31.9 +3.9
LOMF **Lomont** 20.40 311 *e*P Pn 17 43 31.9 +3.9
MOS **Moscow** 20.41 13 *e*P Pn 17 43 29.4 +1.6
MOS *e* 17 43 48.2
MOS *e* 17 44 02.0
MOS pmax pmax
comp=Z,54nm,1.0s
CABF **La Chapelle** 20.57 308 *e*P **P** 17 43 26.2 -1.3
comp=Z,82nm,0.9s
CABF **La Chapelle** 20.57 308 *e*P **P** 17 43 26.2 -1.3
comp=Z,41nm,0.9s
ECH **Echery** 20.59 313 *e*P **P** 17 43 26.9 -0.8
ECH pmax pmax
comp=Z,7.0nm,0.8s
ECH **Echery** 20.59 313 *e*P **P** 17 43 26.9 -0.8
comp=Z,6.8nm,0.8s
ECH **Echery** 20.59 313 *e*P Pn 17 43 34.5 +4.4
LANF **Langenberg** 20.59 316 *e*P Pn 17 43 36.5 +6.5
LANF **Langenberg** 20.59 316 *e*P Pn 17 43 36.5 +6.5
HINF **Hinteralfeld** 20.59 312 *e*P **P** 17 43 25.6 -2.1
HINF **Hinteralfeld** 20.59 312 *e*P **P** 17 43 25.6 -2.1
CDF **Champ du Feu** 20.61 314 *e*P **P** 17 43 25.7 -2.3
CDF **Champ du Feu** 20.61 314 *e*P **P** 17 43 25.7 -2.3
ISRV **Sarvestan** 20.75 102 *e*P **P** 17 43 30.6 +0.7
ICHK **Chekchek** 20.76 93 *e*P **P** 17 43 30.2 +0.3
TNS **Taunus Mts** 20.91 319 *e*P **P** 17 43 31.6 +0.4
comp=Z,28nm,0.9s
TNS **Taunus Mts** 20.91 319 *e*P **P** 17 43 31.6 +0.4
TNS pmax pmax
comp=Z,28nm,0.9s
VIVF **Saint-Julien-l** 20.92 303 *e*P **P** 17 43 28.2 -3.2
comp=Z,50nm,0.8s
VIVF **Saint-Julien-l** 20.92 303 *e*P **P** 17 43 28.2 -3.2
comp=Z,25nm,0.8s
IMEH **Mehriz** 21.20 96 *e*P **P** 17 43 35.5 +0.8
LASF **Ste Croix** 21.29 300 *e*P **P** 17 43 32.3 -3.0
comp=Z,44nm,1.4s
THEF **They Montfort** 21.29 312 *e*P P 17 43 42.7 +7.4
PAGF **Fort de Pagny** 21.59 313 *e*P **P** 17 43 35.5 -3.0
comp=Z,11nm,1.1s
IBAF **Bafgh** 21.90 94 *e*P **P** 17 43 43.5 +1.4
LBL **Lubilhac** 22.00 303 *e*P P 17 43 51.2 +8.2
LBL **Lubilhac** 22.00 303 *e*P P 17 43 51.2 +8.2
SMF **Signal de Mont** 22.02 307 *e*P **P** 17 43 39.6 -3.6
comp=Z,53nm,1.0s
LOR **Lormes** 22.23 308 *e*P **P** 17 43 42.9 -2.4
comp=Z,34nm,1.1s
LOR *e*R
comp=Z,225nm,17.5s
PYM **Petit Puy Mans** 22.30 304 *e*P P 17 43 54.5 +8.3
PYM **Petit Puy Mans** 22.30 304 *e*P P 17 43 54.5 +8.3
AGO **Saint Agoulin** 22.31 305 *e*P P 17 43 54.5 +8.3
AGO **Saint Agoulin** 22.31 305 *e*P P 17 43 54.5 +8.3
MTLF **Montolieu** 22.31 297 *e*P **P** 17 43 43.1 -3.2
comp=Z,22nm,0.9s
SSF **Saint Saulge** 22.38 308 *e*P **P** 17 43 43.7 -3.3
comp=Z,30nm,0.9s
AVF **Avril sur Loir** 22.39 307 *e*P **P** 17 43 43.8 -3.2
comp=Z,29nm,0.9s
VSU **Vasula** 22.50 356 *e*P **P** 17 43 47.2 -0.9
VSU pmax pmax
comp=Z,29nm,1.0s
CAF **Calviac** 22.73 301 *e*P **P** 17 43 47.5 -3.3
comp=Z,7.2nm,0.7s
IKRD **Kardeh** 23.15 80 *e*P P 17 44 03.1 +7.7
BAIF **Baives** 23.16 315 *e*P **P** 17 43 51.2 -3.9
comp=Z,21nm,0.8s
IPAY **Payeh** 23.57 80 *e*P **P** 17 43 59.8 +0.2
IMOG **Moghan** 23.90 81 *e*P **P** 17 44 02.4 -0.3
ETSF **Etsaut** 24.26 296 *e*P **P** 17 44 02.6 -3.2
comp=Z,19nm,1.0s
IMYA **Miami** 24.47 80 *e*P **P** 17 44 08.2 +0.3
MFF **Saint Martin d** 24.64 305 *e*P **P** 17 44 04.9 -4.2
comp=Z,18nm,0.7s
SJPF **Ste Jean** 24.77 296 *e*P **P** 17 44 07.0 -3.4
TAM **Tamanrasset** 24.80 244 *e*P **P** 17 44 11.7 +0.8
TAM pmax pmax
comp=Z,21nm,1.1s
TAM **Tamanrasset** 24.80 244 *e*P **P** 17 44 11.7 +0.8
comp=Z,21nm,1.1s
AKTO **Aktyubinsk** 24.93 46 P **P** 17 44 10.9 -0.8
AKTO pmax pmax
comp=Z,10.0nm,0.4s
AKTO **Aktyubinsk** 24.93 46 P **P** 17 44 10.9 -0.8
AKTO **Aktyubinsk** 24.93 46 P **P** 17 44 10.9 -0.8
comp=Z,9.5nm,0.4s,baz=245,slow=9.2,SNR=25
LDF **La Druitiere** 25.20 309 *e*P **P** 17 44 10.4 -3.7
comp=Z,29nm,1.1s
FLN **La Foliniere** 25.48 309 *e*P **P** 17 44 13.6 -3.0
comp=Z,29nm,1.0s
FLN *e*R
comp=Z,257nm,18.2s
FINES **FINESS Array B** 25.51 356 P **P** 17 44 15.7 -1.0
FINES **FINESS Array B** 25.51 356 P **P** 17 44 15.7 -1.0
comp=Z,2.3nm,0.5s,baz=162,slow=11,SNR=15
FINES LR LR 17 54 39.4
comp=Z,69nm,22.0s,baz=178,slow=37
GRR **Gorron** 25.60 308 *e*P **P** 17 44 15.9 -1.8
comp=Z,58nm,1.3s
AB31 **Akbulak array** 25.65 50 *e*P **P** 17 44 17.0 -1.2
AB31 pmax pmax
comp=Z,7.0nm,0.3s
ABKAR **Akbulak array** 25.65 50 *e*P **P** 17 44 16.8 -1.3
comp=Z,19nm,0.6s
HFS **Hagfors** 26.21 342 P **P** 17 44 23.9 +0.7
HFS **Hagfors** 26.21 342 P **P** 17 44 23.9 +0.7
comp=Z,5.8nm,0.6s,baz=144,slow=10,SNR=6.3
HFS LR LR 17 56 23.9
comp=Z,208nm,19.7s,baz=148,slow=40
ESDC **Sonseca Array** 26.75 288 P **P** 17 44 26.6 -1.7
ESDC **Sonseca Array** 26.75 288 P **P** 17 44 26.6 -1.7
comp=Z,1.2nm,0.5s,baz=82,slow=9.5,SNR=10
PAB **San Pablo** 27.05 288 *e*P **P** 17 44 33.6 +2.5
PAB pmax pmax
comp=Z,21nm,1.4s
PAB **San Pablo** 27.05 288 *e*P **P** 17 44 33.6 +2.5
comp=Z,21nm,1.4s
NB2 **NORSAR Subarra** 27.64 341 P **P** 17 44 40.6 +4.6
comp=Z,5.4nm,1.0s,baz=146,slow=9.3
NOA **NORSAR Array B** 27.64 341 P **P** 17 44 34.9 -1.1
NOA **NORSAR Array B** 27.64 341 P **P** 17 44 34.9 -1.1
comp=Z,0.6nm,0.7s,baz=144,slow=8.7,SNR=2.8
NOA LR LR 17 57 16.4
comp=Z,136nm,20.2s,baz=150,slow=40
ARU **Arti** 28.16 35*d* *i*P **P** 17 44 41.3 +0.6
ARU 17 45 32.9
ARU S **S** 17 49 29.6 +5.2
ARU SS **SnSn** 17 50 45.5 +4.4
ARU pmax pmax
comp=Z,7.0nm,1.7s
MDT **Midelt** 28.42 274 P **P** 17 44 45.5 +2.1
MDT **Midelt** 28.42 274 P **P** 17 44 45.5 +2.1
comp=Z,1.6nm,0.6s,baz=68,slow=13,SNR=5.5
MDT LR LR 17 57 33.6
comp=Z,58nm,20.6s,baz=7.6,slow=39
PBAR **Barrancos** 29.27 285 *e*P P 17 44 55.0 +4.2
comp=Z,22nm,1.6s
PBAR **Barrancos** 29.27 285 *e*P P 17 44 55.0 +4.2
comp=Z,22nm,1.6s
SVE **Sverdlovsk** 29.34 35 *e*P P 17 45 07.7 +16
SVE pmax pmax
comp=Z,16nm,0.9s
PMRV **Marv??o** 29.41 288 *e*P P 17 44 58.2 +6.2
comp=Z,15nm,1.9s
PMRV **Marv??o** 29.41 288 *e*P P 17 44 58.2 +6.2
comp=Z,15nm,1.9s
MTE **Manteigas** 29.45 290 *e*P **P** 17 44 51.9 -0.5
comp=Z,17nm,1.9s
MTE **Manteigas** 29.45 290 *e*P **P** 17 44 51.9 -0.5
comp=Z,17nm,1.9s
EKA **Eskdalemuir Ar** 29.57 321 P **P** 17 44 54.1 +0.9
EKA **Eskdalemuir Ar** 29.57 321 P **P** 17 44 54.1 +0.9
comp=Z,2.0nm,0.8s,baz=112,slow=12,SNR=3.4
PVAQ **Vaqueiros** 29.91 284 *e*P **P** 17 44 56.6 +0.1
comp=Z,24nm,1.8s
PVAQ **Vaqueiros** 29.91 284 *e*P **P** 17 44 56.6 +0.1
comp=Z,24nm,1.8s
KK31 **Karatay Array** 31.97 65 *e*P **P** 17 45 14.3 -0.3
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KKAR **Karatay Array** 31.97 65 *e*P **P** 17 45 13.4 -1.2
KKAR pmax pmax
comp=Z,5.0nm,0.6s
KKAR **Karatay Array** 31.97 65 *e*P **P** 17 45 13.4 -1.2
comp=Z,4.8nm,0.6s
BRVK **Borovoye** 32.98 46 *e*P **P** 17 45 22.6 -0.7
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK **Borovoye** 32.98 46 *e*Pn **P** 17 45 22.6 -0.7
comp=Z,4.9nm,0.8s
BVAR **Borovoye Array** 33.04 46 P **P** 17 45 23.1 -0.7
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR MLR MLR
comp=Z,65nm,21.4s
BVAR **Borovoye Array** 33.04 46 P **P** 17 45 23.1 -0.7
BVAR **Borovoye Array** 33.04 46 P **P** 17 45 23.1 -0.7
comp=Z,1.7nm,0.6s,baz=270,slow=3.0,SNR=5.2
BVAR LR LR 18 02 01.0
comp=Z,65nm,21.4s,baz=54,slow=42
VOSK **Vostochnaya** 33.31 47 P **P** 17 45 25.2 -1.0
VOSK pmax pmax
comp=Z,10.0nm,0.9s
ARCES **ARCESS Array B** 33.61 357 P **P** 17 45 27.4 -1.2
ARCES **ARCESS Array B** 33.61 357 P **P** 17 45 27.4 -1.2
comp=Z,1.7nm,0.7s,baz=165,slow=10.0,SNR=8.3
TOA0 **Torodi Ar. Sit** 33.98 235 *e*P **P** 17 45 32.0 -0.4
TORD **Torodi Ar. Bea** 33.98 235 P **P** 17 45 32.3 -0.1
TORD **Torodi Ar. Bea** 33.98 235 P **P** 17 45 32.3 -0.1
comp=Z,22nm,0.8s,baz=32,slow=9.7,SNR=146
AAK **Ala-Archa** 34.91 65⇑ *e*P **P** 17 45 40.0 -0.5
AAK pmax pmax
comp=Z,6.0nm,0.6s
AAK **Ala-Archa** 34.91 65 P **P** 17 45 40.1 -0.3
AAK *e*Pn **P** 17 45 40.9 +0.4
AAK **Ala-Archa** 34.91 65 P **P** 17 45 40.1 -0.3

comp=Z,2.2nm,0.4s,baz=243,slow=6.8,SNR=3.5
AAK LR LR 18 02 32.0
comp=Z,126nm,18.1s,baz=94,slow=41
TKM2 Tokmak 2 35.70 65 *eP* **P 17 45 47.4 +0.2**
TKM2 pmax pmax
comp=Z,5.0nm,0.7s
TKM2 Tokmak 2 35.70 65 *eP* **P 17 45 47.4 +0.2**
comp=Z,5.2nm,0.7s
MBAR Mbarara 36.49 178 P **P 17 45 55.4 +1.3**
MBAR Mbarara 36.49 178 P **P 17 45 55.4 +1.3**
comp=Z,1.4nm,0.2s,baz=336,slow=20,SNR=3.5
KURBB Kurchatov Arra 37.66 52 P **P 17 46 01.9 -1.6**
comp=Z,4.2nm,0.5s,baz=271,slow=8.8,SNR=44
KURK Kurchatov 37.72 52 P **P 17 46 01.9 -2.1**
KURK pmax pmax
comp=Z,4.0nm,0.5s
KURK Kurchatov 37.72 52 P **P 17 46 01.9 -2.1**
MK31 Makanchi Array 40.16 58 *eP* **P 17 46 23.6 -1.0**
MK31 pmax pmax
comp=Z,11nm,0.6s
MKAR Makanchi Array 40.16 58 *eP* **P 17 46 23.5 -1.1**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 40.16 58 P **P 17 46 23.1 -1.5**
MKAR Makanchi Array 40.16 58 P **P 17 46 23.1 -1.5**
comp=Z,2.3nm,0.5s,baz=266,slow=8.0,SNR=34
MKAR LR LR 18 05 16.5
comp=Z,51nm,21.0s,baz=229,slow=40
NVS Novosibirsk 40.82 45 *eP* P 17 46 33.2 +3.3
NVS *e* 17 48 06.5
NVS pmax pmax
comp=Z,21nm,1.5s
NVS pmax pmax
comp=N,4.0nm,1.0s
NVS pmax pmax
comp=E,8.0nm,1.4s
ZAA0 Zalesovo Array 41.69 47 *eP* **P 17 46 35.4 -1.6**
ZALV Zalesovo Beam 41.69 47 *eP* **P 17 46 38.4 +1.4**
ZALV pmax pmax
comp=Z,3.0nm,0.3s
ZALV Zalesovo Beam 41.69 47 P **P 17 46 35.7 -1.4**
ZALV Zalesovo Beam 41.69 47 P **P 17 46 35.7 -1.4**
comp=Z,3.2nm,0.3s,baz=263,slow=10,SNR=16
ZALV LR LR 18 07 36.9
comp=Z,45nm,21.9s,baz=250,slow=42
DBIC Dimbokro 43.09 236 P **P 17 46 48.3 -0.6**
DBIC Dimbokro 43.09 236 P **P 17 46 48.3 -0.6**
comp=Z,9.9nm,0.5s,baz=24,slow=11,SNR=24
TIC Toumodi 43.22 236 *eP* **P 17 46 49.1 -0.8**
comp=Z,37nm,0.7s
KIC Kosan Boka 43.24 235 *eP* **P 17 46 49.5 -0.6**
comp=Z,42nm,0.6s
LIC Lamto 43.53 235 *eP* **P 17 46 51.8 -0.6**
comp=Z,33nm,0.7s
LIC *eR* 17 46 51.8 -0.6
comp=Z,106nm,22.2s
LIC Lamto 43.53 235 *eP* **P 17 46 51.8 -0.6**
comp=Z,54nm,0.7s
DANN Dangsing 45.87 84 *eP* **P 17 47 09.9 -1.5**
comp=Z,56nm,0.4s
KOLN Koldanda 45.98 84 *eP* **P 17 47 11.0 -1.1**
comp=Z,24nm,0.5s
BBTS Babate 46.40 255 P **P 17 47 15.1 -0.2**
BBTS Babate 46.40 255 P **P 17 47 15.1 -0.2**
comp=Z,8.1nm,0.3s,baz=71,slow=18,SNR=3.7
HVS Khovu-Aksy 47.23 50 *eP* **P 17 47 20.1 -1.4**
HVS pmax pmax
comp=Z,9.0nm,0.8s
DMN Daman 47.26 84 *eP* **P 17 47 21.2 -1.0**
comp=Z,67nm,0.8s
KKN Kakani 47.33 84 *eP* **P 17 47 22.0 -0.7**
comp=Z,23nm,0.5s
PKIN Phulchoki 47.51 84 *eP* **P 17 47 24.4 +0.2**
comp=Z,22nm,0.8s
PKI Pulchoki 47.52 84 *eP* **P 17 47 24.2 -0.2**
comp=Z,53nm,1.0s
GUN Gumba 47.76 83 *eP* **P 17 47 26.3 +0.1**
JIRN Jiri 48.11 83 *eP* **P 17 47 28.9 -0.1**
comp=Z,30nm,0.7s
RAMN Ramite 48.74 84 *eP* **P 17 47 35.1 +1.4**
comp=Z,41nm,0.8s
ODAN Odare 49.42 84 *eP* **P 17 47 41.4 +2.5**
comp=Z,33nm,0.9s
TAPN Taplejung 49.47 83 *eP* **P 17 47 41.4 +2.1**
LSZ Lusaka 51.08 182 P **P 17 47 52.6 +1.4**
LSZ Lusaka 51.08 182 P **P 17 47 52.6 +1.4**
comp=Z,2.7nm,0.6s,baz=10,slow=9.6,SNR=7.2
LSA Lhasa 51.24 78 P P 17 47 47.3 -5.6
LSA Lhasa 51.24 78 P **P 17 47 52.4 -0.5**
LSA pmax pmax
comp=Z,10.0nm,0.9s
LSA Lhasa 51.24 78 P **P 17 47 52.4 -0.5**
comp=Z,10nm,0.9s
MOY Mondy 51.64 49 *eP* P 17 48 03.9 +8.7
ZAK Zakamensk 53.34 50 *eP* P 17 48 03.8 -4.0
ZAK pmax pmax
comp=Z,5.0nm,1.4s
SONM Songino Array 56.02 52 P **P 17 48 27.0 -0.3**
SONM Songino Array 56.02 52 P **P 17 48 27.0 -0.3**
comp=Z,0.8nm,0.4s,baz=283,slow=7.7,SNR=11
SONM LR LR 18 15 36.8
comp=Z,94nm,21.2s,baz=291,slow=39
TSUM Tsumeb 56.15 194 *eP* **P 17 48 29.2 +0.9**
comp=Z,6.1nm,0.9s
ULN Ulaanbaatar 56.43 52 P **P 17 48 29.3 -0.9**
comp=Z,3.4nm,0.8s
CHTO Chiang Mai 62.60 86 *eP* **P 17 49 12.2 -0.8**
CHTO pmax pmax
comp=Z,5.0nm,0.7s
CHTO Chiang Mai 62.60 86 *eP* **P 17 49 12.2 -0.8**
comp=Z,4.8nm,0.7s
CMAR Chiang Mai Arr 62.79 86 P **P 17 49 13.1 -1.2**
CMAR Chiang Mai Arr 62.79 86 P **P 17 49 13.1 -1.2**
comp=Z,1.2nm,0.6s,baz=298,slow=8.4,SNR=8.3
CMAR LR LR 18 22 40.0
comp=Z,37nm,18.2s,baz=338,slow=42
BOSA Boshof 64.47 184 P **P 17 49 26.6 +1.5**
BOSA Boshof 64.47 184 P **P 17 49 26.6 +1.5**
comp=Z,1.4nm,0.6s,baz=11,slow=9.0,SNR=5.1
BOSA LR LR 18 20 28.1
comp=Z,55nm,18.3s,baz=162,slow=39
SCHQ Schefferville 64.88 321 P **P 17 49 27.4 -0.1**
SCHQ Schefferville 64.88 321 P **P 17 49 27.4 -0.1**
comp=Z,1.9nm,0.5s,baz=59,slow=9.0,SNR=5.8
ENH Enshi 65.26 70 P **P 17 49 30.2 -0.2**
comp=Z,4.0nm,0.6s
PSI Prapat 71.59 100 P **P 17 50 08.9 -1.4**
PSI Prapat 71.59 100 P **P 17 50 08.9 -1.4**
comp=Z,4.1nm,0.5s,baz=277,slow=16,SNR=2.5
USRK Ussuriysk Arra 73.55 47 P **P 17 50 19.6 -1.7**
comp=Z,1.9nm,0.7s,baz=308,slow=5.5,SNR=8.4
KSAR Wonju Array Be 74.74 55 P **P 17 50 26.6 -1.8**
KSRS Korea Array 74.76 55 P **P 17 50 26.6 -1.9**
comp=Z,1.7nm,0.6s,baz=307,slow=4.3,SNR=9.2
KSRS LR LR 18 26 48.6
comp=Z,67nm,18.2s,baz=312,slow=38
INK Inuvik 75.19 354 P **P 17 50 28.0 -2.4**
comp=Z,2.8nm,0.9s
YKA Yellowknife Ar 77.68 344 P **P 17 50 43.5 -1.1**
YKA Yellowknife Ar 77.68 344 P **P 17 50 43.5 -1.1**
comp=Z,0.6nm,0.6s,baz=37,slow=5.6,SNR=4.1
ILAR Eielson Array 79.46 359 P **P 17 50 55.1 +0.6**
ILAR Eielson Array 79.46 359 P **P 17 50 55.1 +0.6**
comp=Z,0.8nm,0.8s,baz=0.0,slow=2.7,SNR=3.3
ASAJ Asahikawa 79.65 42 P **P 17 50 57.0 +1.2**
ASAJ Asahikawa 79.65 42 P **P 17 50 57.0 +1.2**
comp=Z,2.9nm,0.9s,baz=338,slow=11,SNR=2.9
DAWY Dawson 79.83 355 P **P 17 50 56.1 -0.4**
PETK Petropavlovsk- 80.39 29 LR LR 18 31 19.1
comp=Z,40nm,19.4s,baz=101,slow=39
ULM Lac du Bonnet 81.57 328 LR LR 18 27 44.9
comp=Z,95nm,20.7s,baz=321,slow=36
MJAR Matsushiro Arr 81.92 50 P **P 17 51 07.5 -0.7**
MJAR Matsushiro Arr 81.92 50 P **P 17 51 07.5 -0.7**
comp=Z,3.2nm,1.0s,baz=306,slow=4.7,SNR=6.2
HYT Haines Junctio 82.89 354 P **P 17 51 12.5 -0.5**
PDAR Pinedale Array 93.19 331 P **P 17 52 02.5 -0.6**
PDAR Pinedale Array 93.19 331 P **P 17 52 02.5 -0.6**
comp=Z,0.3nm,0.8s,baz=30,slow=4.2,SNR=2.1
ASAR Alice Springs 114.58 102 PKP PKPdf 17 57 28.1 -0.8
ASAR Alice Springs 114.58 102 PKP PKPdf 17 57 28.1 -0.8
comp=Z,0.6nm,0.9s,baz=314,slow=1.4,SNR=4.1

IDC 28 17:46:03.0±2.5, 10°27'N×108°75'E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/23, mbtmp3.6/5, MS3.2/1, Ms1 3.2/1, ms1mx2.3/39, Error ellipse: s-maj=316.1km s-min=20.1km az=59.0, Vietnam

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**12.25**	**233**	LR	LR	17 54 35.8	
	comp=Z,106nm,19.6s,baz=79,slow=42						
CMAR	**Chiang Mai Arr**	**12.51**	**312**	Lg	Lg	17 52 31.8	
	0.1nm,0.3s,baz=144,slow=31,SNR=5.8						
WRA	**Warramunga Arr**	**39.19**	**140**	P	P	17 53 33.0	-0.1
	1.0nm,0.7s,baz=316,slow=8.9,SNR=2.3						
ASAR	**Alice Springs**	**41.74**	**144**	P	P	17 53 54.0	-0.2
	3.5nm,1.4s,baz=324,slow=7.5,SNR=7.2						
MKAR	**Makanchi Array**	**42.78**	**333**	P	P	17 54 02.0	-0.4
	0.7nm,0.8s,baz=143,slow=9.6,SNR=3.6						
KURBB	**Kurchatov Arra**	**47.30**	**334**	P	P	17 54 38.4	+0.1
	0.2nm,0.3s,baz=141,slow=8.0,SNR=4.0						
ZALV	**Zalesovo Beam**	**47.58**	**341**	P	P	17 54 40.4	-0.1
	1.0nm,0.5s,baz=147,slow=7.1,SNR=5.9						

FUNV 28 17:48:04.1, 9°71'N×73°84'W, h4km, MW3.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VIRV	**Villa del Rosa**	**1.61**	**61**	*eP*	Pn	17 48 32.4	-1.0
VIRV				*eS*	Sn	17 48 53.7	-0.9
CAPV	**Capacho**	**2.37**	**140**	*eP*	Pn	17 48 43.5	-0.6
CAPV				*eS*	Sn	17 49 12.3	-1.6
VIGV	**El Vigia**	**2.59**	**109**	*eP*	Pn	17 48 46.0	-0.8
VIGV				*eS*	Sn	17 49 17.2	-1.6
SOCV	**Socops**	**3.27**	**115**	*eP*	Pn	17 48 54.4	-1.8
SOCV				*eS*	Sn	17 49 32.6	-2.9
DABV	**Dabajuro**	**3.37**	**69**	*eP*	Pn	17 48 56.9	-0.6
CURV	**Curarigua**	**3.83**	**85**	*eP*	Pn	17 49 03.1	-0.8
CURV				*eS*	Sn	17 49 46.1	-3.5
SANV	**Sanarito**	**4.25**	**92**	*eP*	Pn	17 49 07.6	-2.1
SANV				*eS*	Sn	17 49 56.0	-3.9
MONV	**Montecano**	**4.41**	**59**	*eP*	Pn	17 49 11.1	-0.7
BAUV	**El Baul**	**5.77**	**97**	*eP*	Pn	17 49 28.5	-2.0
BAUV				*eS*	Sn	17 50 31.3	-5.9

IDC 28 17:58:52.0±1.9, 11°15'N×126°82'E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/24, mbtmp3.7/6, MS2.8/1, Ms1 2.8/1, ms1mx2.3/38, Error ellipse: s-maj=143.9km s-min=19.0km az=72.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**4.23**	**197**	LR	LR	18 01 47.9	
	comp=Z,98nm,18.7s,baz=189,slow=42						
FITZ	**Fitzroy Crossi**	**29.09**	**182**	P	P	18 04 55.5	+1.1
	3.3nm,1.0s,baz=350,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**31.77**	**166**	P	P	18 05 18.7	+0.5
	0.3nm,0.6s,baz=343,slow=8.2,SNR=2.2						
ASAR	**Alice Springs**	**35.29**	**169**	P	P	18 05 47.0	-1.8
	0.1nm,0.4s,baz=350,slow=7.2,SNR=5.9						
MKAR	**Makanchi Array**	**51.67**	**322**	P	P	18 08 00.8	+0.1
	0.5nm,0.7s,baz=122,slow=8.1,SNR=6.0						
ZALV	**Zalesovo Beam**	**54.13**	**331**	P	P	18 08 18.6	-0.1
	0.3nm,0.4s,baz=143,slow=11,SNR=2.6						
FINES	**FINESS Array B**	**85.38**	**332**	P	P	18 11 30.9	-0.2
	1.6nm,0.8s,baz=86,slow=5.7,SNR=5.3						

IDC 28 18:06:23.6±2.4, 6°25S×103°09E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/23, mbtmp3.7/7, Error ellipse: s-maj=94.8km s-min=19.1km az=51.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**20.73**	**102**	P	P	18 11 06.2	+0.3
	16nm,0.7s,baz=280,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**33.25**	**117**	P	P	18 13 01.7	-1.2
	0.5nm,0.8s,baz=307,slow=8.4,SNR=2.8						
ASAR	**Alice Springs**	**34.31**	**124**	P	P	18 13 12.6	+0.5
	0.3nm,0.9s,baz=304,slow=8.5,SNR=2.7						
STKA	**Stephens Creek**	**44.05**	**130**	P	P	18 14 33.6	+0.2
	1.7nm,0.8s,baz=315,slow=11,SNR=3.9						
SONM	**Songino Array**	**53.93**	**3**	P	P	18 15 49.3	+0.3
	0.7nm,0.7s,baz=182,slow=8.6,SNR=6.5						
SONM				PcP	PcP	18 16 54.6	+0.1
	0.2nm,0.6s,baz=158,slow=4.7,SNR=3.8						
MKAR	**Makanchi Array**	**55.95**	**343**	P	P	18 16 03.5	0.0
	0.3nm,0.5s,baz=150,slow=9.3,SNR=4.8						
ZALV	**Zalesovo Beam**	**61.92**	**348**	P	P	18 16 44.1	-0.7
	0.3nm,0.3s,baz=146,slow=6.7,SNR=4.0						

IDC 28 18:09:52.0±1.5, 28°18S×67°35W, h137km±14km, mb3.4/3, mb1 3.4/5, mb1mx3.3/19, mbtmp3.3/5, Error ellipse: s-maj=28.6km s-min=14.6km az=101.0, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**3.50**	**192**	P	Pn	18 10 46.2	+0.9
	0.2nm,0.3s,baz=7.5,slow=10,SNR=46						
CFAA				S	Sn	18 11 26.9	+0.1
	2.4nm,0.3s,baz=300,slow=18,SNR=23						
LVC	**Limon Verde**	**5.72**	**345**	P	Pn	18 11 15.0	-0.2
	2.4nm,0.3s,baz=165,slow=7.5,SNR=13						
LVC				S	Sn	18 12 18.2	-2.0
	0.8nm,0.3s,baz=287,slow=19,SNR=6.3						
CPUP	**Villa Florida**	**9.11**	**81**	P	Pn	18 12 00.1	-0.2
	0.4nm,0.3s,baz=247,slow=13,SNR=3.8						
LPAZ	**La Paz**	**11.86**	**356**	P	P	18 12 45.2	+0.2
	0.2nm,0.3s,baz=111,slow=9.0,SNR=3.7						
QSPA	**South Pole Qui**	**62.04**	**180**	P	P	18 19 57.9	+0.2
	1.3nm,1.1s,baz=203,slow=2.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**78.38**	**68**	P	P	18 21 37.3	-0.4
	1.0nm,0.6s,baz=268,slow=5.8,SNR=8.3						
PDAR	**Pinedale Array**	**80.58**	**330**	P	P	18 21 49.1	-0.2
	0.3nm,0.5s,baz=126,slow=9.1,SNR=3.3						
ASAR	**Alice Springs**	**124.53**	**204**	PKP	PKPdf	18 28 34.6	-1.1
	0.2nm,0.7s,baz=138,slow=1.8,SNR=7.1						
WRA	**Warramunga Arr**	**127.76**	**206**	PKP	PKPdf	18 28 41.3	-0.6
	0.8nm,0.9s,baz=165,slow=1.8,SNR=2.5						
KURBB	**Kurchatov Arra**	**145.86**	**40**	PKPbc	PKPbc	18 29 14.7	-0.2
	0.2nm,0.5s,baz=298,slow=3.0,SNR=4.8						
KURBB				pPKPbc	pPKPbc	18 29 53.0	+1.9
	0.6nm,0.8s,baz=289,slow=3.9,SNR=4.7						
ZALV	**Zalesovo Beam**	**147.18**	**31**	PKPbc	PKPbc	18 29 18.5	-0.1
	1.5nm,0.5s,baz=286,slow=3.2,SNR=7.8						
MKAR	**Makanchi Array**	**149.85**	**44**	PKPbc	PKPbc	18 29 25.7	0.0
	0.8nm,0.7s,baz=307,slow=2.3,SNR=5.8						

IDC 28 18:37:56.8±1.4, 10°58N×94°05E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/25, mbtmp3.6/5, Error ellipse: s-maj=74.3km s-min=21.3km az=53.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.45**	**347**	P	P	18 45 11.9	-0.1
	1.2nm,0.8s,baz=164,slow=6.9,SNR=8.5						
ZALV	**Zalesovo Beam**	**43.88**	**352**	P	P	18 46 04.8	-0.1
	0.9nm,0.7s,baz=156,slow=8.1,SNR=4.7						
WRA	**Warramunga Arr**	**49.93**	**127**	P	P	18 46 52.8	0.0
	0.9nm,1.1s,baz=308,slow=8.4,SNR=3.1						
ASAR	**Alice Springs**	**51.73**	**132**	P	P	18 47 06.2	-0.2
	0.3nm,0.8s,baz=309,slow=6.3,SNR=5.7						
BRTR	**Keskin Array B**	**60.63**	**310**	P	P	18 48 09.9	-0.1
	0.3nm,0.5s,baz=82,slow=10,SNR=3.0						

IDC ***28*** *18:45:19.0±1.7, 32°35S×178°88W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/20, mbtmp4.0/4, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/25, Error ellipse: s-maj=44.1km s-min=32.2km az=54.0*

ISCJB ***28*** *18:45:26.7±1.6, 32°77S±0°08×179°2W±0°3, h61km, mb3.8/3, Error ellipse: s-maj=32.5km s-min=10.1km az=9.5*

ISC 28 18:45:28.8±1.5, 32°7S±0°1×179°2W±0°2, h61km, n13, σ1°05/15, mb3.9/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.63**	**19**	LR	LR	18 46 45.5	
	comp=Z,261nm,18.7s,baz=63,slow=27						
PUZ	**Puketiti**	**5.73**	**200**	*e*PN	**Pn**	**18 46 50.6**	**-0.6**
PUZ				SN	**Sn**	**18 47 56.0**	**+0.4**
CNGZ	**Carnagh Statio**	**6.12**	**199**	PN	**Pn**	**18 46 55.6**	**-1.0**
CNGZ				*e*SN	**Sn**	**18 48 04.7**	**-0.6**
MWZ	**Matawai**	**6.20**	**204**	PN	**Pn**	**18 46 56.6**	**-1.1**
MWZ				*e*SN	**Sn**	**18 48 07.7**	**+0.5**
URZ	**Urewera**	**6.29**	**207**	Pn	**Pn**	**18 46 57.9**	**-0.9**
	1.3nm,0.3s,baz=50,slow=11,SNR=16						
URZ				Sn	**Sn**	**18 48 10.8**	**+1.6**
	2.1nm,0.3s,baz=192,slow=23,SNR=8.6						
URZ	**Urewera**	**6.29**	**207**	PN	**Pn**	**18 46 58.2**	**-0.6**
BKZ	**Black Stump Fm**	**7.31**	**207**	PN	**Pn**	**18 47 11.1**	**-1.9**
MRZ	**Mangatainoka R**	**8.96**	**206**	PN	Pn	18 47 30.8	-4.6
ASAR	**Alice Springs**	**41.99**	**270**	P	**P**	**18 53 14.7**	**+0.5**
	0.5nm,0.4s,baz=109,slow=7.8,SNR=28						
WRA	**Warramunga Arr**	**43.19**	**275**	P	**P**	**18 53 24.0**	**0.0**
	0.8nm,0.3s,baz=114,slow=8.1,SNR=16						
QSPA	**South Pole Qui**	**57.40**	**180**	P	**P**	**18 55 12.1**	**+1.3**
	0.8nm,0.7s,baz=155,slow=3.8,SNR=3.1						
FINES	**FINESS Array B**	**146.92**	**338**	PKPbc	**PKPdf**	**19 05 01.0**	**-0.6**
	1.1nm,0.4s,baz=57,slow=3.7,SNR=14						
TORD	**Torodi Ar. Bea**	**160.51**	**183**	PKPab	**PKPab**	**19 06 03.3**	**-0.2**
	0.3nm,0.7s,baz=168,slow=4.5,SNR=2.5						

IDC 28 18:49:55.2±1.0, 28°90S×178°87W, h211km±11km, mb3.2/4, mb1 3.4/5, mb1mx3.2/19, mbtmp3.3/5, Error ellipse: s-maj=33.5km s-min=23.3km az=57.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.91**	**113**	P	Pn	18 50 26.7	+1.3
	40nm,0.3s,baz=285,slow=20,SNR=5.4						
RAO				S	S	18 50 49.1	+0.2
	61nm,0.3s,baz=37,slow=20,SNR=4.3						
URZ	**Urewera**	**9.92**	**199**	P	Pn	18 52 13.4	+0.3
	0.2nm,0.3s,baz=0.0,slow=17,SNR=2.8						
URZ				S	S	18 54 04.1	-0.1
	0.4nm,0.3s,baz=62,slow=17,SNR=3.6						
STKA	**Stephens Creek**	**34.11**	**255**	P	P	18 56 20.3	+0.3
	1.7nm,1.0s,baz=95,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**42.45**	**266**	P	P	18 57 29.4	-0.2
	0.4nm,0.6s,baz=104,slow=6.8,SNR=14						
WRA	**Warramunga Arr**	**43.30**	**271**	P	P	18 57 35.8	-0.7
	0.8nm,0.5s,baz=107,slow=8.1,SNR=9.5						
QSPA	**South Pole Qui**	**61.21**	**180**	P	P	18 59 47.4	-0.1
	1.0nm,1.1s,baz=122,slow=15,SNR=4.5						

ROM 28 19:09:16.5±0.2, 42°61N×13°17E, h10km±1km, Md1.6/3, Ml0.9/2, Error ellipse: s-maj=1.2km s-min=0.7km az=172.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNSS	**Leonessa**	**0.10**	**265**	Pg	Pg	19 09 19.4	+0.2
LNSS				Sg	Sg	19 09 21.6	+0.5
	47nm,0.2s						
NRCA	**Norcia**	**0.23**	**350**	Pg	Pg	19 09 21.8	+0.5
NRCA				Sg	Sg	19 09 26.0	+1.5
	12nm,0.1s						

BJI ***28*** *19:14:04.0, 10°60N×93°83E, h3km, mB5.0/38, mb4.6/49, Ms4.7/50, Ms7 4.4/47*

IDC ***28*** *19:14:05.2±0.4, 10°63N×94°07E, h0km, mb4.4/23, mb1 4.5/24, mb1mx4.5/27, mbtmp4.4/24, ML3.9/1, MS4.1/30, Ms1 4.1/30, ms1mx4.0/41, Error ellipse: s-maj=16.7km s-min=11.7km az=61.0*

ISCJB ***28*** *19:14:07.8±1.0, 10°59N±0°03×94°06E±0°03, h29km±7km, mb4.7/92, MS4.2/49, Error ellipse: s-maj=5.2km s-min=4.5km az=36.5*

MOS ***28*** *19:14:08.4±0.9, 10°68N×94°17E, h33km, mb5.1/31, MS4.2/7, Error ellipse: s-maj=9.6km s-min=4.9km az=111.7*

SZGRF ***28*** *19:14:09.1, 10°49N×94°35E, h33km, mb4.6, Andaman Islands, India, region*

NEIC ***28*** *19:14:09.7±2.8, 10°64N×94°18E, h29km±20km, mb4.8/19, Error ellipse: s-maj=11.2km s-min=6.1km az=68.0*

GCMT ***28*** *19:14:10.4±0.2, 10°61N×94°23E, h12km, MW5.0, Moment Tensor Solution. s36,c44; s75,c124; Moment tensor: Scale 10¹⁶Nm; Mrr-3.98±.09; Mθθ1.79±.09; Mϕϕ2.20±.09; Mrθ0.34±.33; Mθϕ2.08±.07; Mrϕ0.03±.29; Best double couple: Ms4.10000×10¹⁶ NP1:ϕs39.00000°, δ43.00000°, λ-95.00000°. NP2:ϕs226.00000°, δ47.00000°, λ-85.00000°. Principal axes: T 4.0900, Plg2.0000°, Azm312.0000°; N -0.0800, Plg3.0000°, Azm42.0000°; P -4.0000, Plg86.0000°, Azm195.0000°; Data Used: II G IU CN IC.*

DJA ***28*** *19:14:11.8±1.8, 11°N±3°×9°4E±°, h23km±16km, M4.6/8, mB5.2/6, mb4.7/8, MLv4.7/1, Mw(mB)4.5/6*

BKK ***28*** *19:14:13.8±0.9, 11°N±3°×9°4E±1°2, h10km, M4.7/9, mB5.1/5, mb4.8/9, MLv4.7/2, Mw(mB)4.5/5*

ISC 28 19:14:08.3±0.4, 10°57N±0°04×94°09E±0°04, h18km±1km, h18km:pP-P, n277, σ1°79/315, mb4.8/92, MS4.2/50, 19C-10D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.71**	**309**	*e*P	Pn	19 14 37.4	+0.2
PBA				*e*S	Sn	19 14 57.1	-1.4
DGPR	**DIGLIPUR**	**2.83**	**336**	*e*P	**Pn**	**19 14 52.9**	**+0.3**
DGPR				AMB	AMB	19 15 09.1	
	comp=Z,914nm,2.9s						
CMBY	**CAMPBELL BAY**	**3.54**	**183**	*e*P	**Pn**	**19 15 04.0**	**+1.6**
PKDT	**Phuket**	**4.96**	**122**	P	Pn	19 15 26.6	+4.6
BSI	**Banda Aceh**	**5.18**	**167**	P	Pn	19 15 29.5	+4.5
	comp=Z,183nm,1.7s,comp=Z,3μmcomp=Z,0.6nm						
SKLT	**Songkhla**	**7.28**	**117**	P	**Pn**	**19 15 52.9**	**-0.9**
SKLT	**Songkhla**	**7.28**	**117**	P	Pn	19 16 00.3	+6.5
	comp=Z,37nm,1.0s,comp=Z,930nm						
KCSI	**Kotacane, Aceh**	**7.90**	**152**	P	Pn	19 16 08.9	+6.6
NAYO	**Nakonayok**	**7.98**	**61**	P	Pn	19 16 08.8	+5.4
	comp=Z,138nm,0.7s						
TSI	**Tuntungan**	**8.31**	**147**	P	Pn	19 16 14.6	+6.7
KULM	**Kulim**	**8.35**	**128**	*e*Pn	**Pn**	**19 16 05.9**	**-2.6**
	comp=Z,15nm,0.6s						
KULM				*e*Sn	Sn	19 17 36.0	-6.4
KULM	**Kulim**	**8.35**	**128**	P	Pn	19 16 14.8	+6.3
PBKT	**Sadao Pong**	**8.96**	**48**	P	**Pn**	**19 16 15.5**	**-1.3**
PSI	**Prapat**	**9.09**	**148**	Pn	Pn	19 16 23.9	+5.1
PSI	**Prapat**	**9.09**	**148**	Pn	Pn	19 16 23.9	+5.1
	comp=Z,1.7nm,0.3s,baz=337,slow=13,SNR=7.0						
PSI				LR	LR	19 20 30.4	
	comp=Z,4μm,18.2s,baz=301,slow=42						
CMAR	**Chiang Mai Arr**	**9.14**	**30**	Pn	**Pn**	**19 16 19.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**9.14**	**30**	Pn	**Pn**	**19 16 19.4**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=214,slow=15,SNR=15						
CMAR				LR	LR	19 19 56.6	
	comp=Z,545nm,18.7s,baz=352,slow=39						
IPM	**Ipoh**	**9.16**	**131**	*e*P	Pn	19 16 16.2	-3.5
	comp=Z,31nm,0.5s						
IPM	**Ipoh**	**9.16**	**131**	P	**Pn**	**19 16 17.8**	**-1.8**
IPM	**Ipoh**	**9.16**	**131**	P	**Pn**	**19 16 17.2**	**-2.4**
CHTO	**Chiang Mai**	**9.44**	**29**	*e*P	**Pn**	**19 16 23.0**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,11nm,0.9s						
CHTO	**Chiang Mai**	**9.44**	**29**	*e*P	**Pn**	**19 16 23.0**	**-0.5**
	comp=Z,11nm,0.9s					

HYB	**Hyderabad**	**16.54**	**296**	*e*P		**Pn**	**19 18 00.3**	**+0.8**	GTA		SS	**SnSn**	**19 26 32.5**	**+7.0**
HYB				AMB		AMB	19 18 06.3		GTA		pmax	pmax		
	comp=Z,75nm,1.5s									comp=Z,15nm,2.2s				
KMI	**Kunming**	**16.64**	**28**	P		**P**	**19 18 03.0**	**-0.3**	GTA		pmax	pmax		
KMI				PP		**PnPn**	**19 18 16.0**	**+5.6**		comp=Z,130nm,6.9s				
KMI				S		**Sn**	**19 21 07.8**	**+2.3**	GTA		LR	LR		
KMI				SS		**SnSn**	**19 21 27.0**	**+8.0**		comp=N,270nm,18.1s				
KMI				pmax		pmax			GTA		LR	LR		
	comp=Z,11nm,1.2s									comp=E,260nm,18.0s				
KMI				pmax		pmax			GTA		LR	LR		
	comp=Z,390nm,5.7s									comp=Z,230nm,20.9s				
KMI				LR		LR			**LUWI**	**Luwuk**	**30.77**	**110**	P	**P**	**19 20 25.6**	**+2.5**
	comp=N,870nm,11.7s									comp=Z,55nm,1.1s				
KMI				LR		LR			**DAV**	**Davao City (W)**	**31.30**	**94**	LR	LR	19 32 53.3	
	comp=E,1μm,8.0s									comp=Z,224nm,19.3s,baz=174,slow=36				
KMI				LR		LR			**NJ2**	**Nanjing**	**31.30**	**43**	*e*P	P	19 20 33.0	+5.5
	comp=Z,860nm,7.5s								NJ2				pmax	pmax		
TRD	**Trivandrum**	**17.02**	**265**	*ex*		Sn	19 21 26.4	+12		comp=Z,48nm,0.7s				
QIZ	**Qiongzhong**	**17.39**	**59**	P		**Pn**	**19 18 09.0**	**-1.1**	NJ2				pmax	pmax		
QIZ				S		**Sn**	**19 21 23.5**	**+0.2**		comp=Z,500nm,3.9s				
QIZ				LR		LR			NJ2				LR	LR		
	comp=N,2μm,8.3s									comp=N,590nm,20.7s				
QIZ				LR		LR			NJ2				LR	LR		
	comp=E,570nm,8.3s									comp=E,530nm,21.2s				
QIZ				LR		LR			NJ2				LR	LR		
	comp=Z,2μm,9.3s									comp=Z,670nm,19.6s				
ODAN	**Odare**	**17.39**	**340**	*e*P		**Pn**	**19 18 10.7**	**+0.3**	**KSH**	**Kashi**	**33.03**	**334**	P	**P**	**19 20 41.0**	**-1.8**
	comp=Z,131nm,0.9s								KSH				PP	**PnPn**	**19 21 49.0**	**-3.3**
TAPN	**Taplejung**	**17.74**	**341**	*e*P		**Pn**	**19 18 15.0**	**+0.2**	KSH				S	**S**	**19 25 57.8**	**-3.0**
	comp=Z,479nm,1.1s								KSH				pmax	pmax		
RAMN	**Ramite**	**17.76**	**338**	*e*P		**P**	**19 18 15.8**	**+0.1**		comp=Z,23nm,0.9s				
	comp=Z,295nm,0.9s								KSH				LR	LR		
KSM	**Kuching**	**18.47**	**118**	P		P	19 18 16.4	-7.0		comp=N,510nm,14.8s				
JIRN	**Jiri**	**18.55**	**337**	*e*P		**Pn**	**19 18 25.2**	**+0.4**	KSH				LR	LR		
	comp=Z,326nm,1.1s									comp=E,580nm,13.4s				
PKI	**Pulchoki**	**18.78**	**335**	*e*P		**Pn**	**19 18 28.0**	**+0.5**	KSH				LR	LR		
	comp=Z,489nm,1.1s									comp=Z,170nm,15.3s				
PKIN	**Phulchoki**	**18.79**	**335**	*e*P		**Pn**	**19 18 28.4**	**+0.8**	**WMQ**	**Urumqi**	**33.59**	**352**	P	**P**	**19 20 47.5**	**0.0**
	comp=Z,107nm,0.7s								WMQ				pP	**pP**	**19 20 51.8**	**-1.2**
GUN	**Gumba**	**18.90**	**337**	*e*P		**Pn**	**19 18 29.2**	**+0.2**	WMQ				sP	**sP**	**19 20 54.5**	**-0.7**
	comp=Z,682nm,1.4s								WMQ				PP	**PnPn**	**19 22 00.0**	**+0.7**
DMN	**Daman**	**18.94**	**335**	*e*P		**Pn**	**19 18 29.6**	**+0.2**	WMQ				PcP	**PcP**	**19 23 27.8**	**0.0**
	comp=Z,252nm,1.0s								WMQ				S	**S**	**19 26 08.5**	**-0.7**
KKN	**Kakani**	**19.03**	**335**	*e*P		**Pn**	**19 18 30.3**	**-0.1**	WMQ				sS	**sS**	**19 26 15.8**	**-2.5**
	comp=Z,204nm,1.1s								WMQ				ScP	**ScP**	**19 27 10.8**	**-0.9**
LSA	**Lhasa**	**19.23**	**352**	P		**P**	**19 18 31.8**	**-0.3**	WMQ				SS	**SnSn**	**19 28 12.5**	**-0.2**
LSA				S		Sn	19 22 00.3	-8.2	WMQ				ScS	**ScS**	**19 31 10.5**	**-2.4**
LSA				pmax		pmax			WMQ				pmax	pmax		
	comp=Z,70nm,1.0s									comp=Z,27nm,1.4s				
LSA	**Lhasa**	**19.23**	**352**	*e*P		**P**	**19 18 31.5**	**-0.6**	WMQ				pmax	pmax		
LSA				pmax		pmax				comp=Z,260nm,4.3s				
	comp=Z,83nm,1.0s								WMQ				LR	LR		
LSA	**Lhasa**	**19.23**	**352**	*e*P		**P**	**19 18 31.5**	**-0.6**		comp=N,240nm,19.5s				
	comp=Z,83nm,1.0s								WMQ				LR	LR		
SBUM	**Sibu**	**19.72**	**113**	P		**P**	**19 18 35.8**	**-1.4**		comp=E,180nm,15.9s				
SBUM	**Sibu**	**19.72**	**113**	P		**Pn**	**19 18 38.6**	**0.0**	WMQ				LR	LR		
	comp=Z,19nm,1.2s,comp=Z,729nm									comp=Z,340nm,29.0s				
KOLN	**Koldanda**	**19.75**	**331**	*e*P		**Pn**	**19 18 38.6**	**-0.5**	**BJI**	**Beijing**	**35.29**	**30**	P	**P**	**19 21 02.8**	**+0.6**
	comp=Z,236nm,0.7s								BJI				S	**S**	**19 26 39.0**	**+3.7**
GYA	**Guiyang**	**19.77**	**35**⇑	*i*P		**P**	**19 18 38.0**	**+0.3**	BJI		pmax	pmax		
GYA				PP		**PnPn**	**19 18 58.3**	**+5.1**		comp=Z,7.0nm,0.6s				
GYA				S		**S**	**19 22 17.3**	**-2.7**	BJI		pmax	pmax		
GYA				SS		**SnSn**	**19 22 44.5**	**+8.8**		comp=Z,220nm,5.0s				
GYA				pmax		pmax			BJI		LR	LR		
	comp=Z,20nm,1.0s									comp=N,480nm,21.1s				
GYA				pmax		pmax			BJI		LR	LR		
	comp=Z,120nm,5.0s									comp=E,470nm,22.8s				
GYA				LR		LR			BJI		LR	LR		
	comp=N,510nm,14.5s									comp=Z,170nm,21.9s				
GYA				LR		LR			**KZA**	**Kyzart**	**35.47**	**336**	*i* P	**P**	**19 21 04.8**	**+0.6**
	comp=E,480nm,10.9s								**KZA**	**Kyzart**	**35.47**	**336**	P	**P**	**19 21 04.8**	**+0.6**
GYA				LR		LR				SNR=6.3						
	comp=Z,680nm,13.6s								**TKM2**	**Tokmak 2**	**36.04**	**337**	P	**P**	**19 21 07.5**	**-1.4**
DANN	**Dangsing**	**20.17**	**333**	*e*P		**P**	**19 18 43.1**	**+0.9**	TKM2		pmax	pmax		
	comp=Z,565nm,0.9s									comp=Z,14nm,1.1s				
BTM	**Bintulu**	**20.21**	**110**	P		Pn	19 18 44.2	-0.2	**TKM2**	**Tokmak 2**	**36.04**	**337**	P	**P**	**19 21 08.9**	**+0.1**
BHPL	**Bhopal**	**20.30**	**310**	*e*P		**P**	**19 18 42.8**	**-0.5**		SNR=6.9						
BHPL				AMB		AMB	19 18 53.7		**TKM2**	**Tokmak 2**	**36.04**	**337**	*e*P	**P**	**19 21 08.1**	**-0.8**
	comp=Z,58nm,1.5s									comp=Z,17nm,1.2s				
PYUN	**Piuthan**	**20.32**	**331**	*e*P		**P**	**19 18 44.7**	**+1.0**	**KBK**	**Karagaybulak**	**36.07**	**336**	*i* P	**P**	**19 21 10.1**	**+1.0**
	comp=Z,213nm,0.7s								**KBK**	**Karagaybulak**	**36.07**	**336**	P	**P**	**19 21 10.1**	**+1.0**
POO	**Poona**	**21.11**	**294**	*e*P		**P**	**19 18 53.8**	**+1.6**		SNR=5.3						
POO				AMB		AMB	19 18 57.3		**AML**	**Almayashu**	**36.16**	**334**	*i* P	**P**	**19 21 10.7**	**+0.5**
	comp=Z,59nm,1.4s								**AML**	**Almayashu**	**36.16**	**334**	P	**P**	**19 21 10.7**	**+0.5**
POO				*ex*		x	19 22 55.0			SNR=28						
CD2	**Chengdu**	**22.14**	**23**	*e*P		**P**	**19 19 03.3**	**+0.1**	**AAK**	**Ala-Archa**	**36.24**	**335***c*	*i*P	**P**	**19 21 11.2**	**+0.7**
CD2				pP		**pP**	**19 19 07.5**	**-0.8**	AAK		pmax	pmax		
CD2				sP		**sP**	**19 19 10.3**	**-0.3**		comp=Z,78nm,1.5s				
CD2				PP		**PnPn**	**19 19 29.8**	**+4.2**	**AAK**	**Ala-Archa**	**36.24**	**335**	P	**P**	**19 21 11.6**	**+1.0**
CD2				S		**S**	**19 23 03.3**	**-3.3**		SNR=6.6						
CD2				sS		sS	19 23 09.0	-5.9	**AAK**	**Ala-Archa**	**36.24**	**335**	*e*P	**P**	**19 21 10.3**	**-0.3**
CD2				SS		**SnSn**	**19 23 42.5**	**+8.7**		comp=Z,32nm,1.3s						
CD2				pmax		pmax			**AAK**	**Ala-Archa**	**36.24**	**335**	LR	LR	19 37 43.7	
	comp=Z,50nm,1.1s									comp=Z,697nm,21.1s,baz=146,slow=39						
CD2				pmax		pmax			**FRU**	**Bishkek**	**36.35**	**336**⇓	*i*P	**P**	**19 21 12.0**	**+0.6**
	comp=Z,210nm,6.0s								FRU				*i*		19 22 38.0	
CD2				LR		LR			FRU		pmax	pmax				
	comp=E,1μm,9.6s									comp=Z,50nm,1.8s						
CD2				LR		LR			**CHMS**	**Chumysh**	**36.44**	**336**	*i* P	**P**	**19 21 12.1**	**0.0**
	comp=Z,1μm,11.8s								**CHMS**	**Chumysh**	**36.44**	**336**	P	**P**	**19 21 12.1**	**0.0**
KKM	**Kota Kinabalu**	**22.34**	**100**	P		P	19 19 24.0	+18		SNR=13						
NDI	**New Delhi**	**23.97**	**321**	*e*P		**P**	**19 19 20.0**	**-1.8**	**EKS2**	**Erkin-Say**	**36.56**	**335**	*e*P	**P**	**19 21 13.5**	**+0.3**
NDI				*ex*		x	19 23 44.0		EKS2		pmax	pmax				
ENH	**Enshi**	**24.28**	**34**	*e*P		**P**	**19 19 23.7**	**-1.1**		comp=Z,24nm,1.2s						
	comp=Z,25nm,1.0s								**EKS2**	**Erkin-Say**	**36.56**	**335**	P	**P**	**19 21 14.0**	**+0.7**
DDI	**Dehra Dun**	**24.68**	**325**	*ex*		x	19 19 24.0			SNR=7.3						
DDI				*e*P		**P**	**19 19 28.6**	**+0.2**	**EKS2**	**Erkin-Say**	**36.56**	**335**	*e*P	**P**	**19 21 13.5**	**+0.3**
MYLDM	**Lahad Datu**	**24.75**	**101**	P		**P**	**19 19 32.7**	**+3.6**		comp=Z,24nm,1.2s						
	comp=Z,48nm,1.4s								**USP**	**Ospenovka**	**36.76**	**336**	*i* P	**P**	**19 21 14.8**	**-0.1**
SMLA	**Simla**	**25.79**	**325**	*i* P		**P**	**19 19 38.8**	**+0.5**	**USP**	**Ospenovka**	**36.76**	**336**	P	**P**	**19 21 14.8**	**-0.1**
SMLA				*i* P		**pP**	**19 19 39.0**	**-4.8**		SNR=15						
SDNR	**Sundarnagar**	**26.18**	**325**	*ex*		x	19 19 44.0		**MK31**	**Makanchi Array**	**37.47**	**347**	*i* P	**P**	**19 21 19.9**	**-0.9**
LZH	**Lanzhou**	**26.90**	**18**	*e*P		**P**	**19 19 50.0**	**+1.5**	MK31		pmax	pmax				
LZH				pP		**pP**	**19 19 52.5**	**-1.5**		comp=Z,25nm,0.9s						
LZH				S		**S**	**19 24 23.0**	**-1.7**	**MKAR**	**Makanchi Array**	**37.47**	**347**	P	**P**	**19 21 19.7**	**-1.0**
LZH				sS		**sS**	**19 24 30.5**	**-3.2**	**MKAR**	**Makanchi Array**	**37.47**	**347**	P	**P**	**19 21 19.7**	**-1.0**
LZH				SS		**SnSn**	**19 25 37.5**	**+7.3**	**MKAR**	**Makanchi Array**	**37.47**	**347**	P	**P**	**19 21 19.7**	**-1.0**
LZH				pmax		pmax				comp=Z,13nm,0.7s,baz=164,slow=8.3,SNR=116						
	comp=Z,22nm,1.0s								MKAR				LR	LR	19 40 57.7	
LZH				pmax		pmax				comp=Z,239nm,19.3s,baz=165,slow=43						
	comp=Z,140nm,4.0s								**KK31**	**Karatay Array**	**38.36**	**332**	*i* P	**P**	**19 21 28.1**	**-0.3**
LZH				LR		LR			KK31		pmax	pmax				
	comp=N,550nm,8.2s									comp=Z,12nm,0.8s						
LZH				LR		LR			**KKAR**	**Karatay Array**	**38.36**	**332**	*e*P	**P**	**19 21 27.9**	**-0.5**
	comp=E,590nm,10.0s								KKAR		pmax	pmax				
LZH				LR		LR				comp=Z,10.0nm,0.9s						
	comp=Z,880nm,12.1s								**KKAR**	**Karatay Array**	**38.36**	**332**	*e*P	**P**	**19 21 27.9**	**-0.5**
XAN	**Xi'an**	**27.02**	**28**	P		**P**	**19 19 49.3**	**-0.2**		comp=Z,10nm,0.9s						
XAN				pP		**pP**	**19 19 59.3**	**+4.3**	**SONM**	**Songino Array**	**38.56**	**13**	P	**P**	**19 21 29.7**	**-0.4**
XAN				S		**S**	**19 24 25.0**	**-1.5**	**SONM**	**Songino Array**	**38.56**	**13**	P	**P**	**19 21 29.7**	**-0.4**
XAN				pmax		pmax				comp=Z,4.4nm,0.9s,baz=198,slow=8.2,SNR=28						
	comp=Z,3.0nm,1.2s								SONM				LR	LR	19 39 31.0	
XAN				pmax		pmax				comp=Z,368nm,19.8s,baz=194,slow=40						
	comp=Z,33nm,5.8s								**ULN**	**Ulaanbaatar**	**38.74**	**14**	*e*P	**P**	**19 21 31.1**	**-0.5**
XAN				LR		LR				comp=Z,16nm,1.4s						
	comp=N,480nm,11.0s								**ULN**	**Ulaanbaatar**	**38.74**	**14**	P	**P**	**19 21 31.8**	**+0.1**
XAN				LR		LR			**ZAK**	**Zakamensk**	**40.41**	**9**⇑	*i*P	**P**	**19 21 45.4**	**-0.1**
	comp=E,110nm,11.0s								ZAK				*e*		19 23 20.4	
XAN				LR		LR			ZAK		pmax	pmax				
	comp=Z,250nm,14.0s									comp=Z,4.0nm,1.8s						
DHRM	**DHARAMSHALA**	**27.11**	**325**	*e*P		**P**	**19 19 48.9**	**-1.7**	**HVS**	**Khovu-Aksy**	**40.45**	**360***c*	*i*P	**P**	**19 21 46.0**	**+0.3**
DHRM				AMB		AMB	19 19 50.9		HVS		pmax	pmax				
	comp=Z,43nm,1.9s									comp=Z,211nm,1.6s						
QZH	**Quanzhou**	**27.29**	**55**	*e*P		**P**	**19 19 51.5**	**-0.5**	**KSAR**	**Wonju Array Be**	**40.47**	**43**	P	**P**	**19 21 44.5**	**-1.6**
QZH				S		**S**	**19 24 29.8**	**-1.0**	**KSRS**	**Korea Array**	**40.50**	**43**	P	**P**	**19 21 44.5**	**-1.8**
QZH				LR		LR				comp=Z,2.4nm,0.6s,baz=246,slow=9.4,SNR=6.0						
	comp=N,1μm,10.2s								KSRS				LR	LR	19 41 02.1	
QZH				LR		LR				comp=Z,149nm,18.7s,baz=238,slow=40						
	comp=E,700nm,9.9s								**FITZ**	**Fitzroy Crossi**	**42.21**	**132**	P	**P**	**19 22 00.0**	**-0.5**
QZH				LR		LR			FITZ				PcP	**PcP**	**19 23 54.9**	**+0.3**
	comp=Z,1μm,11.3s								**FITZ**	**Fitzroy Crossi**	**42.21**	**132**	P	**P**	**19 22 00.0**	**-0.5**
WHN	**Wuhan**	**27.38**	**41**	⇓P		P	19 19 59.0	+6.3		comp=Z,6.6nm,1.0s,baz=312,slow=12,SNR=4.0						
WHN				S		**S**	**19 24 34.5**	**+2.4**	FITZ				PcP	**PcP**	**19 23 54.9**	**+0.3**
WHN				LR		LR				comp=Z,4.8nm,0.7s,baz=325,slow=5.9,SNR=5.2						
	comp=N,2μm,17.7s								FITZ				LR	LR	19 41 37.4	
WHN				LR		LR				comp=Z,302nm,18.3s,baz=307,slow=39						
	comp=E,2μm,13.6s								**CN2**	**Changchun**	**42.80**	**34**	*e*P	**P**	**19 22 07.3**	**+2.2**
WHN				LR		LR			CN2				*e*PP	**PP**	**19 23 49.0**	**+4.5**
	comp=Z,1μm,12.2s								CN2				*e*S	**S**	**19 28 32.0**	**+3.5**
DGAR	**Diego Garcia**	**27.99**	**231**	*e*P		**P**	**19 20 01.3**	**+3.0**	CN2		pmax	pmax				
GTA	**Gaotai**	**29.17**	**9**⇑	P		**P**	**19 20 09.0**	**+0.3**		comp=Z,10.0nm,0.8s						
GTA				pP		**pP**	**19 20 13.3**	**-0.9**	CN2		LR	LR				
GTA				sP		**sP**	**19 20 16.0**	**-0.4**		comp=N,300nm,12.0s						
GTA				S		**S**	**19 25 01.8**	**+1.5**	CN2		LR	LR				
GTA				sS		**sS**	**19 25 08.3**	**-1.1**		comp=E,300nm,12.0s						
									CN2		LR	LR				

	comp=Z,500nm,14.0s							
ZALV	**Zalesovo Beam**	**43.89**	**352**	P		**P**	**19 22 13.1**	**-0.6**
ZALV	**Zalesovo Beam**	**43.89**	**352**	P		**P**	**19 22 13.1**	**-0.6**
ZALV	**Zalesovo Beam**	**43.89**	**352**	P		**P**	**19 22 13.1**	**-0.6**
	comp=Z,15nm,0.8s,baz=174,slow=8.7,SNR=90							
ZALV				LR		LR	19 43 31.8	
	comp=Z,111nm,19.5s,baz=340,slow=40							
NVS	**Novosibirsk**	**44.99**	**351**	*e*P		P	19 22 18.8	-3.6
NVS				*e*S		**S**	**19 28 54.3**	**-5.7**
NVS				pmax		pmax		
	comp=Z,22nm,1.7s							
NVS				pmax		pmax		
	comp=N,11nm,1.2s							
NVS				smax		smax		
	comp=E,12nm,1.9s							
KRAR	**Krasnoyarsk**	**45.34**	**359**⇑	*i*P		**P**	**19 22 25.6**	**+0.4**
KRAR				pmax		pmax		
	comp=Z,72nm,1.7s							
MDJ	**Mudanjiang**	**45.63**	**35**	P		**P**	**19 22 28.0**	**+0.3**
MDJ				PcP		**PcP**	**19 24 06.0**	**+0.2**
MDJ				PP		**PP**	**19 24 13.3**	**-1.4**
MDJ				S		**S**	**19 29 11.8**	**+2.2**
MDJ				ScS		**ScS**	**19 32 23.5**	**+0.2**
MDJ				pmax		pmax		
	comp=Z,2.0nm,0.7s							
MDJ				pmax		pmax		
	comp=Z,78nm,5.0s							
MDJ				LR		LR		
	comp=N,170nm,12.7s							
MDJ				LR		LR		
	comp=E,230nm,14.0s							
MDJ				LR		LR		
	comp=Z,280nm,12.7s							
VOSK	**Vostochnaya**	**45.99**	**341**	P		**P**	**19 22 28.3**	**-2.2**
VOSK				pmax		pmax		
	comp=Z,19nm,1.0s							
VLA	**Vladivostok**	**46.13**	**38**	*e*P		**P**	**19 22 29.5**	**-2.2**
VLA				pmax		pmax		
	comp=Z,8.0nm,0.7s							
BVAR	**Borovoye Array**	**46.44**	**340**	P		**P**	**19 22 33.0**	**-1.0**
BVAR				S		**S**	**19 24 08.3**	
BVAR	**Borovoye Array**	**46.44**	**340**	P		**P**	**19 22 33.0**	**-1.0**
BVAR				PcP		**PcP**	**19 24 08.3**	**-0.2**
BVAR	**Borovoye Array**	**46.44**	**340**	P		**P**	**19 22 33.0**	**-1.0**
	comp=Z,5.1nm,0.8s,baz=140,slow=9.8,SNR=3.8							
BVAR				PcP		**PcP**	**19 24 08.3**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=129,slow=3.9,SNR=2.8							
BRVK	**Borovoye**	**46.51**	**340**⇑	*e*P		**P**	**19 22 33.8**	**-0.6**
BRVK				pmax		pmax		
	comp=Z,19nm,1.3s							
BRVK	**Borovoye**	**46.51**	**340**	*e*P		**P**	**19 22 33.3**	**-1.2**
	comp=Z,7.7nm,0.5s							
USRK	**Ussuriysk Arra**	**46.80**	**37**	P		**P**	**19 22 36.4**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=250,slow=7.5,SNR=4.6							
USRK				LR		LR	19 44 03.8	
	comp=Z,120nm,18.3s,baz=226,slow=38							
RDF	**Al-Radifah**	**47.11**	**300**	*e*P		**P**	**19 22 38.6**	**-1.0**
RDF				AMb		AMB	19 22 48.0	
	comp=Z,60nm,1.1s							
MAJO	**Matsushiro**	**47.43**	**50**	*e*P		**P**	**19 22 40.3**	**-1.7**
MAJO				pmax		pmax		
	comp=Z,13nm,2.5s							
MAT	**Matsushiro**	**47.43**	**50**	P		**P**	**19 22 42.2**	**+0.2**
MAT				S		**S**	**19 29 35.8**	**+0.2**
MJAR	**Matsushiro Arr**	**47.43**	**50**	P		**P**	**19 22 42.5**	**+0.5**
MJAR				PcP		**PcP**	**19 24 11.7**	**-0.7**
MJAR	**Matsushiro Arr**	**47.43**	**50**	P		**P**	**19 22 42.5**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=282,slow=5.7,SNR=3.7							
MJAR				PcP		**PcP**	**19 24 11.7**	**-0.7**
	comp=Z,4.4nm,0.9s,baz=248,slow=3.3,SNR=10							
MJAR				LR		LR	19 45 21.1	
	comp=Z,122nm,19.3s,baz=260,slow=40							
NAY	**Al-Naaiem**	**47.45**	**300**	*e*P		**P**	**19 22 41.0**	**-1.2**
NAY				AMb		AMB	19 22 51.7	
	comp=Z,31nm,1.3s							
MIB	**Mutribah**	**47.49**	**301**	*e*P		**P**	**19 22 41.6**	**-1.0**
MIB				AMb		AMB	19 22 45.0	
	comp=Z,30nm,0.9s							
AB31	**Akbulak array**	**47.87**	**330**	*i* P		**P**	**19 22 44.6**	**-0.5**
AB31				pmax		pmax		
	comp=Z,12nm,0.7s							
ABKAR	**Akbulak array**	**47.87**	**330**	*e*P		**P**	**19 22 44.5**	**-0.6**
	comp=Z,11nm,0.8s							
NWAO	**Narrogin (SRO)**	**48.56**	**154**	P		**P**	**19 22 50.9**	**+0.2**
AKTO	**Aktyubinsk**	**49.58**	**330**	*i* P		**P**	**19 22 57.2**	**-1.1**
AKTO				pmax		pmax		
	comp=Z,14nm,1.2s							
KLR	**Kul'dur**	**49.62**	**32**	*e*P		**P**	**19 22 57.0**	**-1.6**
WRA	**Warramunga Arr**	**49.89**	**127**	P		**P**	**19 23 00.6**	**-0.6**
WRA	**Warramunga Arr**	**49.89**	**127**	P		**P**	**19 23 00.6**	**-0.6**
	comp=Z,14nm,0.8s,baz=304,slow=8.6,SNR=45							
WRAB	**Tennant Creek**	**49.90**	**127**	*e*P		**P**	**19 22 59.8**	**-1.3**
WRAB				pmax		pmax		
	comp=Z,21nm,1.0s							
WRAB	**Tennant Creek**	**49.90**	**127**	*e*P		**P**	**19 22 59.8**	**-1.3**
	comp=Z,21nm,1.0s							
ASAR	**Alice Springs**	**51.70**	**132**	P		**P**	**19 23 14.1**	**-0.7**
ASAR				PcP		**PcP**	**19 24 28.1**	**-0.1**
ASAR	**Alice Springs**	**51.70**	**132**	P		**P**	**19 23 14.1**	**-0.7**
	comp=Z,11nm,0.8s,baz=307,slow=7.2,SNR=74							
ASAR				PcP		**PcP**	**19 24 28.1**	**-0.1**
	comp=Z,4.2nm,0.8s,baz=308,slow=4.2,SNR=7.4							
ASAR				LR		LR	19 48 37.4	
	comp=Z,216nm,18.3s,baz=304,slow=40							
GNI	**Garni**	**52.55**	**313**	*e*P		**P**	**19 23 22.2**	**+1.1**
	comp=Z,96nm,1.3s							
SVE	**Sverdlovsk**	**52.90**	**338**⇑	*i*P		**P**	**19 23 23.2**	**+0.1**
SVE				pmax		pmax		
	comp=Z,25nm,1.0s							
ARU	**Arti**	**53.41**	**336***c*	*i*P		**P**	**19 23 26.0**	**-0.8**
ARU				*i*			19 25 26.6	
ARU				S		**S**	**19 30 59.5**	**+1.3**
ARU				pmax		pmax		
	comp=Z,18nm,1.7s							
ARU				MLR		MLR		
	comp=Z,756nm,22.0s							
ASAJ	**Asahikawa**	**53.44**	**42**	P		**P**	**19 23 29.1**	**+1.8**
ASAJ	**Asahikawa**	**53.44**	**42**	P		**P**	**19 23 29.1**	**+1.8**
	comp=Z,3.6nm,0.9s,baz=242,slow=19,SNR=2.9							
ASAJ				LR		LR	19 49 09.1	
	comp=Z,151nm,19.2s,baz=249,slow=39							
ZEI	**Tsey**	**54.07**	**316**	*e*P		**P**	**19 23 32.3**	**+0.1**
ZEI				pmax		pmax		
	comp=Z,26nm,0.8s							
OPO	**Ambohidratompo**	**54.58**	**238**	P		**P**	**19 23 38.8**	**+2.6**
OPO	**Ambohidratompo**	**54.58**	**238**	P		**P**	**19 23 38.8**	**+2.6**
	comp=Z,2.8nm,0.6s,baz=54,slow=5.1,SNR=6.7							
KBZ	**Khabaz**	**55.09**	**316**	P		**P**	**19 23 39.5**	**+0.2**
KBZ	**Khabaz**	**55.09**	**316**	P		**P**	**19 23 39.5**	**+0.2**
KBZ	**Khabaz**	**55.09**	**316**	P		**P**	**19 23 39.5**	**+0.2**
	comp=Z,6.2nm,1.0s,baz=144,slow=8.1,SNR=5.3							
KBZ				LR		LR	19 50 34.8	
	comp=Z,252nm,21.7s,baz=250,slow=40							
KIV	**Kislovodsk**	**55.32**	**317**	*e*P		**P**	**19 23 41.3**	**+0.2**
KIV				*e*S		**S**	**19 31 25.2**	**+0.7**
KIV				pmax		pmax		
	comp=Z,40nm,1.0s							
KIV				pmax		pmax		
	comp=Z,17nm,3.6s							
KIV				MLR		MLR		
	comp=Z,108nm,16.0s							
YUK	**Yuzh-Kuril'sk**	**55.59**	**43***c*	*i*P		P	19 23 38.9	-4.0
YUK				*i* PPP		PPP	19 26 57.7	
YUK				S		S	19 31 21.8	-6.1
YUK				*e*SS		**SS**	**19 35 06.4**	**-6.7**
YUK				MLR		MLR		
	comp=N,104nm,21.0s							
YUK				MLR		MLR		
	comp=E,277nm,21.0s							
YUK				MLR		MLR		
	comp=Z,185nm,21.0s							
SOKR	**Solikamsk**	**56.29**	**338***d*	*i*P		**P**	**19

comp=E,6.0nm,1.6s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=Z,16nm,1.9s
YAK pmax pmax
comp=N,11nm,2.3s
YAK smax smax
comp=E,87nm,4.0s
YAK smax smax
comp=N,32nm,3.0s
YAK MLR MLR
comp=Z,185nm,15.0s
YAK MLR MLR
comp=N,143nm,18.0s
YAK MLR MLR
comp=E,126nm,19.0s
KMBO Kilima Mbogo 57.71 262 LR LR 19 44 15.5
comp=E,178nm,20.7s,baz=98,slow=31
ANN Anapa 59.15 316 *eP* **P 19 24 07.4 -0.6**
ANN pmax pmax
comp=Z,32nm,1.5s
CTAO Charters Tower 59.69 121 P **P 19 24 12.0 -0.2**
CTAO pmax pmax
comp=Z,15nm,1.0s
CTAO Charters Tower 59.69 121 P **P 19 24 12.0 -0.2**
comp=Z,15nm,1.0s
VORD Divnogorie 60.03 323 *eP* **P 19 24 11.6 -2.3**
VORD pmax pmax
comp=Z,10.0nm,0.4s
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.4s
VSR Storozhevoye 60.19 324 *eP* **P 19 24 13.1 -2.0**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,9.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.2s
BR131 Keskin Array S 60.66 310 *eP* **P 19 24 17.4 -1.3**
comp=E,5.8nm,0.8s
BRTR Keskin Array B 60.66 310 P **P 19 24 17.2 -1.5**
BRTR Keskin Array B 60.66 310 P **P 19 24 17.2 -1.5**
comp=E,5.9nm,0.8s,baz=119,slow=7.4,SNR=32
BRTR LR LR 19 53 07.2
comp=E,104nm,20.8s,baz=98,slow=39
SIM Simferopol' **61.47 316** *eP* **P 19 24 23.0 -0.9**
SIM pmax pmax
comp=Z,37nm,0.4s
SIM MLR MLR
comp=Z,160nm,21.5s
STKA Stephens Creek 62.01 135 P **P 19 24 27.9 +0.1**
STKA Stephens Creek 62.01 135 P **P 19 24 27.9 +0.1**
comp=Z,13nm,0.9s,baz=305,slow=8.0,SNR=13
STKA LR LR 19 49 50.7
comp=Z,416nm,21.6s,baz=108,slow=35
OBN Obninsk 63.09 327*c iP* **P 19 24 33.5 -1.1**
OBN *i* 19 24 40.8
OBN pmax pmax
comp=Z,29nm,2.1s
OBN MLR MLR
comp=Z,300nm,19.0s
TIRR Tirgusor 65.34 314 ⇓*P* **P 19 24 48.2 -1.3**
TIRR Tirgusor 65.34 314 ⇓*iP* **P 19 24 48.2 -1.3**
CFR Carcaliu 65.66 315 ⇑*P* **P 19 24 49.8 -1.8**
CFR Carcaliu 65.66 315 ⇑*iP* **P 19 24 49.8 -1.8**
VRI Vrincioaia 66.75 315 ⇓*P* **P 19 24 58.3 -0.3**
VRI Vrincioaia 66.75 315 ⇓*iP* **P 19 24 58.3 -0.3**
PLOR Plostina 66.80 315 ⇑*P* **P 19 24 58.6 -0.4**
PLOR Plostina 66.80 315 ⇑*iP* **P 19 24 58.6 -0.4**
TESR Tescani 66.90 316 ⇑*iP* **P 19 24 57.4 -2.2**
MLR Muntele Rosu 67.23 315 ⇑*iP* **P 19 25 02.3 +0.4**
BURAR Bucovina Array 68.04 317 ⇑*P* **P 19 25 06.6 -0.3**
BURAR Bucovina Array 68.04 317 ⇑*iP* **P 19 25 06.6 -0.3**
ARR Arges 68.13 315 ⇓*iP* **P 19 25 06.5 -1.0**
VTS Vitosha 68.86 312 ⇓*P* P 19 25 03.7 -8.5
VTS Vitosha 68.86 312 ⇓*iP* P 19 25 03.7 -8.5
UZH Uzhgorod 70.11 318 *eP* **P 19 25 18.3 -1.3**
LSZ Lusaka 70.14 250 *eP* **P 19 25 21.2 +0.7**
comp=Z,2.4nm,0.6s
FINES FINESS Array B 70.32 332 P **P 19 25 19.3 -1.3**
FINES FINESS Array B 70.32 332 P **P 19 25 19.3 -1.3**
comp=Z,3.8nm,0.8s,baz=111,slow=8.4,SNR=14
FINES LR LR 20 02 39.4
comp=Z,252nm,18.2s,baz=113,slow=42
STHS Stebnicka Huta 70.89 319 *eP* **P 19 25 24.2 -0.2**
STHS pmax pmax
comp=Z,1.0nm,0.9s
STHS Stebnicka Huta 70.89 319 *eP* **P 19 25 24.2 -0.2**
STHS *e*PCP **PcP 19 25 45.1 +0.2**
KECS Kecovo 71.29 318 *eP* P 19 25 23.6 -3.2
KECS pmax pmax
comp=Z,1.0nm,0.8s
KECS Kecovo 71.29 318 *eP* P 19 25 23.6 -3.2
NIE Niedzica 71.49 319 *eP* **P 19 25 28.1 +0.1**
NIE Niedzica 71.49 319 *eP* **P 19 25 28.1 +0.1**
OJC Ojcow 71.90 319 *eP* **P 19 25 29.6 -0.9**
OJC Ojcow 71.90 319 *eP* **P 19 25 29.5 -0.9**
VYHS Vyhne 72.39 318 *eP* **P 19 25 32.5 -0.9**
VYHS pmax pmax
comp=Z,2.0nm,1.3s
VYHS Vyhne 72.39 318 *eP* **P 19 25 32.5 -0.9**
ARCES ARCESS Array B 72.73 340 P **P 19 25 34.4 -0.6**
ARCES ARCESS Array B 72.73 340 P **P 19 25 34.4 -0.6**
comp=Z,2.1nm,0.6s,baz=79,slow=6.5,SNR=14
ARCES LR LR 20 00 35.4
comp=Z,426nm,20.6s,baz=110,slow=38
OKC Ostrava-Krasne 72.93 319 *eP* **P 19 25 36.3 -0.3**
OKC *e* 19 25 42.1
OKC Ostrava-Krasne 72.93 319 *eP* **P 19 25 36.3 -0.3**
OKC *e*pP **pP 19 25 42.1 -0.3**
MORC Moravsky Berou 73.32 319 *eP* **P 19 25 37.5 -1.4**
MORC pmax pmax
comp=Z,7.0nm,1.2s
MORC Moravsky Berou 73.32 319 *eP* **P 19 25 37.5 -1.4**
comp=Z,7.2nm,1.2s
TIP Timpagrande 73.61 308 P **P 19 25 40.4 -0.5**
comp=Z,14nm,1.2s
DPC Dobruska-Polom 74.13 319 *eP* **P 19 25 43.8 +0.1**
DPC *e* 19 25 50.2
DPC *e* 19 25 58.8
DPC Dobruska-Polom 74.13 319 *eP* **P 19 25 43.8 +0.1**
DPC *e*pP **pP 19 25 50.2 +0.6**
DPC *e*sP sP 19 25 58.8 +7.1
KSP Ksiaz 74.17 320 *eP* **P 19 25 42.9 -1.0**
KSP *e* 19 25 57.5
CEL Celeste 74.29 307 *eP* **P 19 25 44.4 -0.5**
comp=Z,21nm,1.1s
TREC Trest 74.64 318 AMS AMS 20 01 00.0
comp=Z,200nm,25.6s
BOJS Bojanci 74.73 314 *iP* **P 19 25 46.5 -0.7**
PRU Pruhonice 75.27 319 *eP* **P 19 25 50.2 0.0**
PRU *e* 19 25 56.7
PRU Pruhonice 75.27 319 *eP* **P 19 25 50.2 0.0**
PRU *e*pP **pP 19 25 56.7 +0.6**
CRNS Crni Vrh 75.42 315 *iP* **P 19 25 50.7 -0.6**
BRG Berggiesshubel 75.66 320 *eP* **P 19 25 51.9 -0.6**
comp=Z,4.5nm,0.9s
BRG *e* 19 25 58.8
comp=Z,7.1nm,1.0s
BRG S S 19 35 25.0 -8.1
BRG Berggiesshubel 75.66 320 *eP* **P 19 25 51.8 -0.7**
BRG *e* 19 25 58.8
BRG S S 19 35 25.0 -8.1
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG smax smax
comp=N,3.0nm,0.7s
GERES GERESS Array B 75.80 318 P **P 19 25 52.9 -0.6**
GERES GERESS Array B 75.80 318 P **P 19 25 52.9 -0.6**
comp=N,1.9nm,0.7s,baz=87,slow=5.5,SNR=20
GERES LR LR 20 02 24.6
comp=N,115nm,21.7s,baz=86,slow=38
KHC Kasperske Hory 75.88 318 *eP* **P 19 25 53.5 -0.3**
KHC *e* 19 25 59.7
KHC *e* 19 26 05.1
KHC MLR MLR
comp=Z,100nm,20.4s
KHC Kasperske Hory 75.88 318 *eP* **P 19 25 53.5 -0.3**
KHC *e*pP **pP 19 25 59.7 0.0**
KHC *e*sP **sP 19 26 05.1 +3.2**
KHC AMS AMS 20 04 00.0
comp=Z,100nm,20.4s
CLL Collm 76.26 320 *eP* P 19 26 06.0 +10
CLL *e*S **S 19 35 40.0 +0.4**
CLL Collm 76.26 320 *e*(pP) **pP 19 26 06.0 +4.2**
CLL *e*S **S 19 35 40.0 +0.4**
CLL *e*PPS PPS 19 36 30.0
CLL *e*SS SS 19 40 48.0 +15
CLL *e* 19 41 36.0
CLL *e* 19 44 54.0
CLL Lm MLR 20 03 00.0
comp=Z,100nm,21.2s
BOSA Boshof 76.98 237 P **P 19 26 00.8 +0.3**
BOSA Boshof 76.98 237 P **P 19 26 00.8 +0.3**
comp=Z,2.7nm,0.5s,baz=107,slow=6.0,SNR=8.9
BOSA LR LR 19 56 00.4
comp=Z,67nm,18.3s,baz=245,slow=33
NB2 NORSAR Subarra 77.38 330 P **P 19 26 00.7 -1.3**
comp=Z,0.2nm,0.8s,baz=89,slow=6.9
NOA NORSAR Array B 77.38 330 P **P 19 26 00.7 -1.3**
NOA NORSAR Array B 77.38 330 P **P 19 26 00.7 -1.3**
comp=Z,2.4nm,0.8s,baz=90,slow=5.9,SNR=6.8
NOA LR LR 20 03 17.9
comp=Z,205nm,21.9s,baz=90,slow=38
GRF Grafenberg Arr 77.42 319 *eP* **P 19 26 02.3 -0.2**
comp=Z,5.0nm,1.1s
GRF Grafenberg Arr 77.42 319 *eP* **P 19 26 02.3 -0.2**
GRF pmax pmax
comp=Z,5.0nm,1.1s
DZM Mont Dzumac 77.97 115 *e*LR LR 19 50 12.2
comp=Z,336nm,38.6s
KEST Kesra 79.67 305 P **P 19 26 14.8 -0.5**
KEST Kesra 79.67 305 P **P 19 26 14.8 -0.5**
comp=Z,1.8nm,0.8s,baz=16,slow=3.1,SNR=5.5
KEST LR LR 20 07 04.8
comp=Z,41nm,19.2s,baz=222,slow=40
LPG La Plagne 80.70 315 *eP* **P 19 26 20.4 -0.5**
comp=Z,24nm,1.0s
LPL La Plagne 80.71 315 *eP* **P 19 26 20.4 -0.5**
comp=Z,17nm,0.8s
MBDF Montbardon 80.76 314 *eP* **P 19 26 21.6 +0.6**
comp=Z,12nm,1.0s
BNI Bardonecchia 80.79 314 *eP* **P 19 26 23.3 +2.1**
BNI pmax pmax
comp=Z,5.0nm,0.8s
BNI Bardonecchia 80.79 314 *eP* **P 19 26 23.3 +2.1**
comp=Z,4.6nm,0.8s
TSUM Tsumeb 80.95 249 *eP* **P 19 26 23.6 +1.1**
comp=Z,2.5nm,1.0s
MAW Mawson 81.15 192 P **P 19 26 23.1 +0.9**
MAW Mawson 81.15 192 P **P 19 26 23.1 +0.9**
comp=Z,1.8nm,0.5s,baz=33,slow=4.4,SNR=4.6
MAW LR LR 19 56 20.6
comp=Z,73nm,18.3s,baz=273,slow=31
LOR Lormes 82.49 317 *eP* **P 19 26 29.2 -0.8**
comp=Z,12nm,1.1s
ESDC Sonseca Array 89.45 310 P **P 19 27 04.0 -0.6**
ESDC Sonseca Array 89.45 310 P **P 19 27 04.0 -0.6**
comp=Z,0.2nm,0.3s,baz=92,slow=6.4,SNR=4.2
ESDC LR LR 20 13 20.1
comp=Z,48nm,20.4s,baz=300,slow=40
TORD Torodi Ar. Bea 89.94 283 P **P 19 27 06.8 -0.5**
TORD PP **PP 19 30 41.7 +1.6**
TORD Torodi Ar. Bea 89.94 283 P **P 19 27 06.8 -0.5**
comp=Z,0.5nm,0.7s,baz=99,slow=4.4,SNR=6.4
TORD PP **PP 19 30 41.7 +1.6**
comp=Z,1.1nm,1.0s,baz=93,slow=8.3,SNR=5.4
TORD LR LR 20 03 36.0
comp=Z,135nm,21.9s,baz=100,slow=33
ILAR Eielson Array 92.28 22 P **P 19 27 14.3 -2.8**
ILAR PP **PP 19 30 57.6 +0.5**
ILAR Eielson Array 92.28 22 P **P 19 27 14.3 -2.8**
comp=Z,0.3nm,0.6s,baz=320,slow=3.9,SNR=3.5
ILAR PP **PP 19 30 57.6 +0.5**
comp=Z,0.4nm,0.7s,baz=332,slow=9.4,SNR=4.9
ILAR LR LR 20 08 32.8
comp=Z,66nm,21.3s,baz=322,slow=35
INK Inuvik 94.43 16 LR LR 20 10 05.0
comp=Z,77nm,20.8s,baz=2.8,slow=36
VNDA Vanda 95.56 168 P **P 19 27 32.4 +0.5**
VNDA Vanda 95.56 168 P **P 19 27 32.4 +0.5**
comp=Z,2.1nm,0.7s,baz=295,slow=6.3,SNR=10
VNDA LR LR 20 10 26.3
comp=Z,100nm,18.4s,baz=124,slow=35
DBIC Dimbokro 97.52 278 LR LR 20 13 40.9
comp=Z,58nm,18.4s,baz=64,slow=37
PPT2 Papeete2 118.08 104 *e*LR LR 20 08 45.8
comp=Z,161nm,24.2s
NVAR Mina Array Bea 122.63 30 PKP **PKPdf 19 33 03.7 0.0**
NVAR Mina Array Bea 122.63 30 PKP **PKPdf 19 33 03.7 0.0**
comp=Z,0.5nm,0.8s,baz=299,slow=1.5,SNR=3.8
PDAR Pinedale Array 122.68 21 PKP **PKPdf 19 33 03.0 -0.7**
PDAR Pinedale Array 122.68 21 PKP **PKPdf 19 33 03.0 -0.7**
comp=Z,0.8nm,0.9s,baz=306,slow=5.1,SNR=3.9
TXAR Lajitas Array 136.79 23 PKP **PKPdf 19 33 30.9 +0.2**
TXAR Lajitas Array 136.79 23 PKP **PKPdf 19 33 30.9 +0.2**
comp=Z,0.2nm,0.5s,baz=340,slow=2.1,SNR=3.1
PLCA Paso Flores 147.03 202 PKPbc **PKPbc 19 33 50.4 0.0**
PLCA Paso Flores 147.03 202 PKPbc **PKPbc 19 33 50.4 0.0**
comp=Z,5.0nm,0.8s,baz=138,slow=4.3,SNR=8.9
CPUP Villa Florida 148.79 236 PKPbc **PKPbc 19 33 55.2 -0.3**
CPUP Villa Florida 148.79 236 PKPbc **PKPbc 19 33 55.2 -0.3**
comp=Z,0.7nm,0.5s,baz=101,slow=5.2,SNR=3.4
LPAZ La Paz 161.80 250 PKP **PKPdf 19 34 10.0 -0.1**
LPAZ PKPab **PKPab 19 34 55.3 -0.4**
LPAZ La Paz 161.80 250 PKP **PKPdf 19 34 10.0 -0.1**
comp=Z,0.9nm,0.9s,baz=41,slow=9.8,SNR=4.7
LPAZ PKPab **PKPab 19 34 55.3 -0.4**
comp=Z,1.0nm,0.7s,baz=136,slow=2.5,SNR=4.0

IDC 28 19:32:19.1±4.8, 6.64S×148.74E, h95km±49km, mb3.4/3, mb1 3.6/5, mb1mx3.2/19, mbtmp3.3/5, MS3.8/1, Ms1 3.8/1, ms1mx2.8/19, Error ellipse: s-maj=98.9km s-min=30.6km az=134.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.17**	**210**	P		P	Pn	19 33 06.5	-0.5
	11nm,0.3s,baz=4.5,slow=7.4,SNR=40								
PMG				S		Sn		19 33 44.6	+0.7
	12nm,0.3s,baz=161,slow=22,SNR=8.9								
WRA	**Warramunga Arr**	**19.25**	**225**	P		P		19 36 36.0	-0.1
	0.2nm,0.3s,baz=51,slow=11,SNR=4.6								
ASAR	**Alice Springs**	**22.14**	**219**	P		P		19 37 07.7	+0.5
	0.9nm,0.6s,baz=55,slow=8.7,SNR=22								
FITZ	**Fitzroy Crossi**	**25.24**	**241**	P		P		19 37 35.8	-0.6
	2.4nm,0.7s,baz=50,slow=9.9,SNR=9.4								
PSI	**Prapat**	**50.61**	**279**	LR		LR		20 02 26.9	
	comp=Z,111nm,20.9s,baz=189,slow=36								
ILAR	**Eielson Array**	**85.39**	**23**	P		P		19 44 45.7	+0.1
	0.4nm,0.7s,baz=241,slow=5.6,SNR=3.7								
TORD	**Torodi Ar. Bea**	**146.92**	**284**	PKPbc		PKPbc		19 51 51.5	-0.1
	0.2nm,0.5s,baz=81,slow=2.0,SNR=4.7								

*IDC **28** 19:44:32.0±0.7, 3.96N×126.61E, h0km, mb4.1/14, mb1 4.2/14, mb1mx4.0/26, mbtmp4.1/14, MS3.5/9, Ms1 3.5/9, ms1mx3.2/35, Error ellipse: s-maj=56.4km s-min=12.2km az=75.0*

*ISCJB **28** 19:44:37.9±0.4, 3.92N±0.03×126.78E±0.05, h53km, mb4.1/15, MS3.5/7, Error ellipse: s-maj=6.9km s-min=4.2km az=168.8*

*DJA **28** 19:44:44.7±1.2, 4.1°N±10.1°×12.7°E±.1°, h84km±37km, M4.7/5, mB5.1/2, mb4.8/5, MLv4.6/3, Mw(mB)4.5/2*

*AUST **28** 19:44:44.2±1.6, 3.73N×126.85E, h95km, Error ellipse: s-maj=2.7km s-min=1.3km az=336.0*

ISC 28 19:44:39.7±0.5, 3.90N±0.04×126.69E±0.07, h53km, n49, σ1s20/44, mb4.0/15, MS3.5/7, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.77**	**321**	⇑*eP*		**Pn**		**19 45 21.8**	**-0.1**
GSPH				*i*	S	**Sn**		**19 45 55.4**	**+1.2**
MATI	**Mati**	**3.05**	**352**	*eP*		**Pn**		**19 45 26.8**	**+1.2**
MNI	**Manado**	**3.06**	**217**	P		**Pn**		**19 45 26.3**	**+0.6**
MNI				S		**Sn**		**19 46 02.7**	**+1.6**
TNTI	**Ternate**	**3.19**	**168**	P		**Pn**		**19 45 27.1**	**-0.2**
TNTI				S		**Sn**		**19 46 05.5**	**+1.4**
DAV	**Davao City (W)**	**3.33**	**341**	LR		LR		19 46 53.7	
	comp=Z,372nm,21.7s,baz=233,slow=44								
BUKP	**Musuan**	**4.27**	**338**	*eP*		**Pn**		**19 45 44.3**	**+2.0**
GTOI	**Gorontalo**	**4.90**	**229**	P		**Pn**		**19 45 51.4**	**+0.5**
GTOI				S		**Sn**		**19 46 46.2**	**-0.2**
PAGZ	**Pagadian**	**5.11**	**320**	*eP*		**Pn**		**19 45 55.8**	**+2.0**
BUTP	**Butuan**	**5.14**	**348**	*eP*		Pn		19 46 02.9	+8.8
IPIL	**Ipil**	**5.62**	**313**	*eP*		**Pn**		**19 46 03.7**	**+2.9**
MRSI	**Marisa**	**5.84**	**234**	P		**Pn**		**19 46 04.7**	**+1.0**
	132nm,0.9s,1μm								
MRSI				S		**Sn**		**19 47 08.6**	**-0.8**
	132nm,0.9s,1μm								
LUWI	**Luwuk**	**6.28**	**219**	P		Pn		19 46 13.5	+3.7
	269nm,0.9s,3μm								
LUWI	**Luwuk**	**6.28**	**219**	P		Pn		19 46 13.6	+3.7
	baz=6.3,SNR=19								
SWI	**Sorong**	**6.58**	**136**	P		**Pn**		**19 46 15.3**	**+1.4**
	59nm,1.0s								
SWI	**Sorong**	**6.58**	**136**	P		**Pn**		**19 46 15.5**	**+1.6**
	baz=6.4,SNR=4.4								
SKSI	**Soroako, Sulaw**	**8.33**	**220**	P		Pn		19 46 41.5	+3.5
	68nm,0.9s								
TTSI	**Tana Toraja**	**9.73**	**225**	P		**Pn**		**19 46 59.6**	**+2.5**
KAPI	**Kappang**	**11.25**	**218**	P		**Pn**		**19 47 19.2**	**+1.4**
	0.3nm,0.3s,baz=67,slow=13,SNR=2.1								
KAPI				LR		LR		19 52 08.4	
	comp=Z,326nm,19.1s,baz=234,slow=41								
SOEI	**Soe**	**13.78**	**190**	P		**P**		**19 47 59.4**	**-0.2**
	baz=14,SNR=4.0								
BATI	**Baumata**	**14.34**	**192**	Pn		**Pn**		**19 48 00.3**	**+0.4**
	1.2nm,0.3s,baz=40,slow=19,SNR=2.4								
MTN	**Manton Dam**	**17.21**	**165**	P		**Pn**		**19 48 34.9**	**-1.7**
	baz=17,SNR=10.0								
KDU	**Kakadu**	**17.46**	**161**	P		**Pn**		**19 48 38.7**	**-0.9**
	baz=17,SNR=9.0								
KNRA	**Kununurra**	**19.56**	**174**	P		**P**		**19 49 02.9**	**-0.4**
	baz=20,SNR=10								
FITZ	**Fitzroy Crossi**	**21.89**	**183**	P		**P**		**19 49 27.9**	**-0.5**
	3.2nm,0.5s,baz=4.5,slow=12,SNR=7.4								
FITZ	**Fitzroy Crossi**	**21.89**	**183**	P		**P**		**19 49 28.3**	**-0.1**
	baz=22,SNR=6.2								
WRA	**Warramunga Arr**	**24.86**	**163**	P		**P**		**19 49 56.6**	**-0.9**
	10nm,0.6s,baz=341,slow=10,SNR=21								
BKNI	**Bangkinang**	**25.87**	**263**	S		S		19 54 51.0	+18
	baz=26,SNR=5.4								
ASAR	**Alice Springs**	**28.29**	**166**	P		**P**		**19 50 28.0**	**-0.4**
	1.4nm,0.7s,baz=340,slow=6.5,SNR=13								
CMAR	**Chiang Mai Arr**	**30.75**	**300**	LR		LR		20 02 41.8	
	comp=Z,61nm,18.1s,baz=152,slow=36								
MEEK	**Meekatharra**	**31.35**	**194**	P		**P**		**19 50 55.1**	**-0.3**
	baz=31,SNR=3.4								
PATS	**Pohnpei**	**31.62**	**83**	P		**P**		**19 50 56.4**	**-1.6**
	baz=32,SNR=4.5								
KSRS	**Korea Array**	**33.41**	**2**	P		**P**		**19 51 12.1**	**-1.2**
	0.7nm,0.7s,baz=188,slow=9.6,SNR=3.6								
KSRS				LR		LR		20 04 02.5	
	comp=Z,42nm,18.9s,baz=160,slow=35								
BBOO	**Buckleboo**	**37.58**	**167**	P		**P**		**19 51 49.2**	**0.0**
	baz=38,SNR=7.3								
NWAO	**Narrogin (SRO)**	**37.71**	**193**	P		**P**		**19 51 49.9**	**-0.3**
	5.4nm,0.7s,baz=36,slow=8.7,SNR=5.2								
STKA	**Stephens Creek**	**38.31**	**159**	P		**P**		**19 51 55.4**	**+0.1**
	8.4nm,0.8s,baz=329,slow=7.1,SNR=18								
STKA	**Stephens Creek**	**38.31**	**159**	P		**P**		**19 51 55.9**	**+0.6**
	baz=38,SNR=12								
ARMA	**Armidale**	**41.63**	**147**	P		**P**		**19 52 24.8**	**+1.7**
	baz=42,SNR=6.1								
ARPS	**Mount Arapiles**	**42.86**	**162**	P		**P**		**19 52 33.9**	**+1.0**
	baz=43,SNR=5.4								
LHI	**Lord Howe Isla**	**46.81**	**141**	P		P		19 52 59.7	-4.6
	baz=47,SNR=4.1								
SONM	**Songino Array**	**47.12**	**341**	P		**P**		**19 53 06.1**	**-0.6**
	0.6nm,0.6s,baz=160,slow=8.7,SNR=6.6								
SONM				LR		LR		20 12 56.5	
	comp=Z,66nm,21.2s,baz=175,slow=36								
MKAR	**Makanchi Array**	**57.39**	**325**	P		**P**		**19 54 21.4**	**-1.4**
	0.5nm,0.4s,baz=118,slow=7.5,SNR=14								
MKAR				LR		LR		20 19 25.9	
	comp=Z,41nm,19.1s,baz=248,slow=36								
ZALV	**Zalesovo Beam**	**60.41**	**333**	P		**P**		**19 54 42.8**	**-0.8**
	0.3nm,0.3s,baz=123,slow=6.1,SNR=3.1								
ZALV				LR		LR		20 22 24.9	
	comp=Z,28nm,19.3s,baz=70,slow=38								
KURBB	**Kurchatov Arra**	**61.57**	**327**	P		**P**		**19 54 50.5**	**-0.9**
	1.4nm,0.6s,baz=127,slow=6.5,SNR=19								
BVAR	**Borovoye Array**	**67.15**	**327**	P		**P**		**19 55 27.0**	**-1.0**
	0.5nm,0.4s,baz=108,slow=4.7,SNR=4.2								
AKTO	**Aktyubinsk**	**73.50**	**322**	LR		LR		20 30 48.2	
	comp=Z,47nm,19.6s,baz=296,slow=38								
VNDA	**Vanda**	**83.60**	**173**	P		**P**		**19 57 02.0**	**+0.1**
	0.8nm,0.6s,baz=316,slow=7.5,SNR=3.3								
INK	**Inuvik**	**90.02**	**21**	P		P		19 57 36.5	+3.2
	1.6nm,0.9s,baz=207,slow=2.3,SNR=3.7								
ARCES	**ARCESS Array B**	**90.27**	**340**	P		**P**		**19 57 33.6**	**-0.9**
	3.0nm,0.9s,baz=79,slow=6.5,SNR=3.8								
FINES	**FINESS Array B**	**91.66**	**332**	P		**P**		**19 57 40.0**	**-1.0**
	0.5nm,0.6s,baz=102,slow=6.2,SNR=4.5								
FINES				LR		LR		20 42 13.5	
	comp=Z,39nm,18.9s,baz=179,slow=38								

IDC 28 20:02:43.9±1.8, 9.57S×126.30E, h0km, mb3.7/1, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, ML3.6/4, Error ellipse: s-maj=42.0km s-min=27.0km az=63.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.68**	**256**	Pn		Pn		20 03 28.6	+0.2
	4.6nm,0.3s,baz=102,slow=4.4,SNR=15								
BATI						Sn		20 03 57.7	-3.8
	4.0nm,0.3s,baz=18,slow=20,SNR=4.4								
FITZ	**Fitzroy Crossi**	**8.51**	**184**	Pn		Pn		20 04 48.9	+0.4
	0.5nm,0.3s,baz=8.6,slow=11,SNR=40								
FITZ						Sn		20 06 19.5	-5.8
	0.9nm,0.3s,baz=190,slow=17,SNR=7.0								
WRA	**Warramunga Arr**	**12.91**	**144**	Pn		Pn		20 05 48.1	-0.7
	0.5nm,0.3s,baz=317,slow=13,SNR=13								
WRA						Sn		20 08 06.3	-7.0
	0.2nm,0.3s,baz=323,slow=24,SNR=2.9								
ASAR	**Alice Springs**	**15.79**	**154**	Pn		Pn		20 06 27.9	0.0
	0.2nm,0.3s,baz=321,slow=11,SNR=23								
MKAR	**Makanchi Array**	**68.45**	**329**	P		P		20 13 47.8	-0.1
	0.3nm,0.4s,baz=126,slow=7.3,SNR=7.0								

IDC 28 20:06:51.2±1.0, 14.19N×145.81E, h68km±7km, mb3.7/12, mb1 3.8/12, mb1mx3.7/23, mbtmp3.7/12, MS3.3/1, Ms1 3.3/1, ms1mx2.4/25, Error ellipse: s-maj=28.2km s-min=13.6km az=96.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**23.27**	**344**	LR		LR		20 19 56.5	
	comp=Z,70nm,18.5s,baz=190,slow=34								
KSRS	**Korea Array**	**28.11**	**329**	P		P		20 12 36.1	-0.6
	0.5nm,0.4s,baz=134,slow=10,SNR=3.6								
WRA	**Warramunga Arr**	**35.75**	**199**	P		P		20 13 43.2	-0.5
	1.3nm,0.7s,baz=23,slow=9.6,SNR=5.0								
FITZ	**Fitzroy Crossi**	**37.76**	**212**	P		P		20 14 00.6	-0.2
	2.4nm,0.6s,baz=32,slow=12,SNR=10								
ASAR	**Alice Springs**	**39.39**	**197**	P		P		20 14 14.8	+0.3
	0.6nm,0.7s,baz=19,slow=10,SNR=12								
PETK	**Petropavlovsk-**	**39.95**	**11**	P		P		20 14 19.2	+0.4
	1.6nm,0.7s,baz=212,slow=5.1,SNR=3.7								
STKA	**Stephens Creek**	**45.98**	**185**	P		P		20 15 07.7	-0.1
	2.1nm,0.8s,baz=32,slow=11,SNR=3.2								
SONM	**Songino Array**	**46.78**	**324**	P		P		20 15 14.6	+0.6
	1.0nm,0.6s,baz=134,slow=8.0,SNR=12								
SONM				pP		pP		20 15 32.5	+1.4
	0.8nm,0.6s,baz=131,slow=9.3,SNR=3.8								
ZALV	**Zalesovo Beam**	**61.67**	**324**	P		P		20 17 02.0	-0.1
	1.5nm,0.7s,baz=102,slow=7.2,SNR=7.3								
MKAR	**Makanchi Array**	**61.70**	**316**	P		P		20 17 02.3	-0.1
	0.6nm,0.3s,baz=91,slow=8.6,SNR=13								
MKAR				pP		pP		20 17 19.4	-0.8
	0.3nm,0.4s,baz=96,slow=8.8,SNR=2.5								
ILAR	**Eielson Array**	**67.63**	**25**	P		P		20 17 40.5	-0.1
	1.0nm,0.5s,baz=250,slow=5.4,SNR=11								
YKA	**Yellowknife Ar**	**81.91**	**28**	P		P		20 19 03.6	+0.4
	0.8nm,0.5s,baz=286,slow=5.8,SNR=3.9								
YKA				pP		pP		20 19 21.1	-0.6
	0.4nm,0.3s,baz=281,slow=5.3,SNR=3.2								
NVAR	**Mina Array Bea**	**85.83**	**52**	pP		pP		20 19 42.7	0.0
	0.9nm,0.8s,baz=273,slow=5.1,SNR=7.1								
FINES	**FINESS Array B**	**91.00**	**335**	P		P		20 19 46.2	-1.6
	0.

east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**1.30**	**285**	*e*P	Pn	20 20 48.6	-0.8
NLC				*e*S	Sb	20 21 06.2	-0.3
SDLR	**Sedlovina**	**1.60**	**286**	*e*P	Pn	20 20 53.8	+0.1
UGLR	**Uglovaya**	**1.62**	**284**	*e*P	Pn	20 20 54.2	+0.3
SMAR	**Somma**	**1.64**	**285**	*e*P	Pn	20 20 54.4	0.0
KII	**Karymskiy**	**1.68**	**315**	*e*P	Pn	20 20 54.8	+0.1
AVH	**Avacha**	**1.68**	**285**	*e*P	Pn	20 20 55.3	+0.6
PET	**Petropavlovsk**	**1.69**	**277**	*e*P	Pn	20 20 54.8	0.0
PET				*e*S	Sn	20 21 16.5	-0.3
MKZ	**Mys Kozlova**	**1.71**	**6**	*e*P	Pn	20 20 54.2	-0.8
MKZ				*e*S	Sn	20 21 15.6	-1.5
KOK	**Koryaka**	**1.75**	**285**	*e*P	Pn	20 20 56.0	+0.3
RUS	**Russkaya**	**1.83**	**258**	*e*P	Pn	20 20 56.7	0.0
RUS				*e*S	Sn	20 21 19.5	-0.7
MTVR	**Mutnovka**	**2.02**	**261**	*e*P	Pn	20 20 59.5	0.0
MTVR				*e*S	Sn	20 21 24.9	-0.2
GRL	**Gorelyy**	**2.07**	**263**	*e*P	Pn	20 21 00.5	+0.3
ASAK	**Asacha**	**2.21**	**259**	*e*P	Pn	20 21 02.6	+0.6
ASAK				*e*S	Sn	20 21 30.2	+0.5
GNL	**Ganaly**	**2.26**	**293**	*e*P	Pn	20 21 03.6	+0.8
APC	**Apacha**	**2.59**	**273**	*e*P	Pn	20 21 08.5	+1.3
APC				*e*S	Sn	20 21 40.9	+1.9
KMNR	**Kamenistaya**	**2.99**	**347**	*e*P	Pn	20 21 14.1	+1.4
BZGR	**Bezymyannyi-Gr**	**3.12**	**352**	P	Pn	20 21 14.6	+0.1
BZWR	**Bezymyannyi-We**	**3.16**	**350**	*e*P	Pn	20 21 16.4	+1.2
KIRR	**Kirishev**	**3.17**	**349**	*e*P	Pn	20 21 16.5	+1.3
ZLN	**Zelenaya**	**3.19**	**354**	P	Pn	20 21 17.7	+2.3
KPT	**Kopyto**	**3.19**	**348**	P	Pn	20 21 18.4	+2.9
KOZ	**Kozyrevsk**	**3.33**	**345**	P	Pn	20 21 17.5	+0.1
ESO	**Esso**	**3.46**	**334**	*e*P	Pn	20 21 20.0	+0.8
BKI	**Bering**	**3.56**	**47**	*e*S	Sn	20 21 58.0	-4.7
SRDR	**Sredinnyy**	**3.61**	**345**	*e*P	Pn	20 21 21.7	+0.5
SRDR				*e*S	Sn	20 22 04.6	+0.5
BDR	**Baidarnaya**	**3.72**	**358**	*e*P	Pn	20 21 25.4	+2.7
SMKR	**Semkarok**	**3.73**	**0**	*e*P	Pn	20 21 25.3	+2.4
SMKR				*e*S	Sn	20 22 08.2	+1.0
SRKR	**Sorokina**	**3.81**	**358**	P	Pn	20 21 24.7	+0.8

GUC 28 20:31:05.5±0.4, 23°.96S×67°.56W, h184km±10km, ML3.6, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.83**	**317**	⇓*i*P	Pn	20 31 42.4	+0.9
LVC				*i* S	Sn	20 32 11.1	+1.7
PB04	**Plate Boundary**	**2.45**	**313**	⇑*i*P	Pn	20 31 54.9	+7.0
PB04				*i* S	Sn	20 32 32.2	+11
PB04				AML	AML	20 32 35.2	
	comp=N,85nm,0.4s						
ANCH	**Antofagasta**	**2.63**	**276**	⇑*i*P	Pn	20 31 51.4	+1.5
ANCH				*i* S	Sn	20 32 25.8	+1.3
PB09	**Plate Boundary**	**2.66**	**324**	⇑*i*P	Pn	20 31 52.1	+1.5
PB09				*i* S	Sn	20 32 27.5	+1.9
PB09				AML	AML	20 32 28.8	
	comp=E,121nm,0.5s						
PB10	**Plate Boundary**	**2.78**	**279**	⇑*i*P	Pn	20 31 53.4	+1.6
PB10				*e*S	Sn	20 32 29.5	+1.6
PB10				AML	AML	20 32 31.7	
	comp=N,136nm,0.5s						

ISCJB ***28*** *20:32:17.0±0.3, 23°.41N±0°.01×121°.41E±0°.02, h7km±2km, Error ellipse: s-maj=2.8km s-min=1.8km az=40.5*
TAP ***28*** *20:32:17.6, 23°.44N×121°.32E, h12km, ML3.6, B*
JMA ***28*** *20:32:17.6±0.3, 23°.49N×121°.32E, h100km, M2.5*
ISC 28 20:32:16.7±0.8, 23°.43N±0°.02×121°.36E±0°.02, h17km±4km, n67, σ1§29/113, 12C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHY	**Hungye**	**0.08**	**335**	⇓*i*P	**Pg**	**20 32 20.3**	**+0.1**
	baz=9.0						
EHY				*i* S	**Sg**	**20 32 21.8**	**-0.7**
	baz=9.0						
TWF1	**Yuli**	**0.10**	**216**	⇓*i*P	**Pb**	**20 32 20.5**	**+0.2**
	baz=187						
TWF1				S	**Sg**	**20 32 22.4**	**-0.3**
	baz=187						
CHKT	**Chengkung**	**0.33**	**179**	⇑P	**Pn**	**20 32 25.6**	**-1.1**
CHKT				*e*S	**Sb**	**20 32 32.7**	**+3.6**
	baz=159						
YUS	**Yu-Shan**	**0.38**	**279**	⇓*i*P	**Pb**	**20 32 25.3**	**+0.1**
	baz=277						
YUS				S	**Sb**	**20 32 29.9**	**-1.1**
	baz=277						
ESL	**Shilin**	**0.39**	**10**	⇓*i*P	**Pb**	**20 32 25.3**	**+0.2**
	baz=29						
ESL				S	**Sb**	**20 32 30.1**	**-0.6**
	baz=29						
ELDTW	**Lidau**	**0.40**	**233**	⇓*i*P	**Pb**	**20 32 25.0**	**-0.3**
	baz=226						
ELDTW				*e*S	**Sg**	**20 32 28.8**	**-1.7**
	baz=226						
ESF	**Shoufeng Towns**	**0.46**	**17**	*e*P	**Pn**	**20 32 26.9**	**-1.6**
	baz=24						
ESF				*e*S	**Sb**	**20 32 33.0**	**+0.2**
	baz=24						
ALS	**Alishan**	**0.52**	**279**	*i* P	**Pn**	**20 32 27.8**	**-1.7**
	baz=277						
ALS				S	**Sb**	**20 32 34.1**	**-0.7**
	baz=277						
HWA	**Hwalien**	**0.59**	**22**	*e*P	**Pn**	**20 32 30.0**	**-0.3**
	baz=18						
HWA				*e*S	**Sn**	**20 32 39.0**	**-0.4**
	baz=18						
STYT	**Tauyuan**	**0.61**	**244**	⇓*i*P	**Pn**	**20 32 29.4**	**-1.3**
	baz=235						
STYT				S	**Sb**	**20 32 36.8**	**-0.6**
	baz=235						
SMLT	**Sun Moon Lake**	**0.62**	**317**	⇑*i*P	**Pn**	**20 32 29.4**	**-1.4**
	baz=311						
SMLT				S	**Sb**	**20 32 36.7**	**-0.8**
	baz=311						
CHN5	**Tsauling**	**0.65**	**285**	⇑*i*P	**Pn**	**20 32 30.5**	**-0.6**
	baz=292						
CHN5				S	**Sn**	**20 32 38.9**	**-2.1**
	baz=292						
TYC	**Yuchr**	**0.66**	**316**	⇑*i*P	**Pn**	**20 32 30.0**	**-1.2**
	baz=318						
TYC				S	**Sb**	**20 32 38.0**	**-0.6**
	baz=318						
TWG	**Pinlang**	**0.66**	**204**	*e*P	**Pn**	**20 32 30.2**	**-1.1**
	baz=205						
TWG				*e*S	**Sb**	**20 32 38.8**	**+0.1**
	baz=205						
TWD	**Chiawan**	**0.68**	**19**	*e*P	**Pn**	**20 32 30.8**	**-0.8**
	baz=24						
TWD				S	**Sn**	**20 32 40.1**	**-1.7**
	baz=24						
TTN	**Taitung**	**0.70**	**196**	*e*P	**Pn**	**20 32 31.8**	**-0.1**
	baz=176						
CHN4	**Tsaushan**	**0.71**	**264**	⇓*i*P	**Pn**	**20 32 31.9**	**-0.1**
	baz=254						
CHN4				S	**Sn**	**20 32 40.9**	**-1.5**
	baz=254						
WTP	**Ta-pu**	**0.71**	**255**	⇓*i*P	**Pn**	**20 32 31.5**	**-0.4**
	baz=252						
WTP				S	**Sb**	**20 32 40.2**	**+0.1**
	baz=252						
WHF	**Hehuan Shan**	**0.71**	**353**	⇑*i*P	**Pn**	**20 32 31.3**	**-1.1**
	baz=358						
WHF				*e*S	**Sb**	**20 32 40.5**	**-0.2**
	baz=358						
WNT	**Mingjian**	**0.76**	**306**	⇑*i*P	**Pn**	**20 32 33.4**	**+0.8**
	baz=307						
WNT				S	**Sn**	**20 32 44.8**	**+1.0**
	baz=307						
WGK	**Gukeng**	**0.77**	**289**	⇑*i*P	**Pn**	**20 32 33.5**	**+0.6**
	baz=289						
WGK				S	**Sn**	**20 32 44.8**	**+0.7**
	baz=289						
SGST	**Jiashian**	**0.79**	**244**	⇓*i*P	**Pn**	**20 32 33.3**	**+0.2**
	baz=241						
SGST				S	**Sn**	**20 32 44.2**	**-0.3**
	baz=241						
CHN1	**Nanshi**	**0.80**	**252**	P	**Pn**	**20 32 33.4**	**+0.1**
	baz=250						
CHN1				S	**Sn**	**20 32 44.3**	**-0.5**
	baz=250						
TWK	**Hsinying**	**0.82**	**259**	*e*P	**Pn**	**20 32 33.6**	**+0.2**
	baz=256						
TWK				*e*S	**Sn**	**20 32 44.8**	**-0.4**
	baz=256						
TWT	**Tachien**	**0.83**	**348**	⇑*i*P	**Pn**	**20 32 33.5**	**-0.3**
	baz=351						
TWT				S	**Sb**	**20 32 43.6**	**-0.2**
	baz=351						
CHY	**Chiayi**	**0.86**	**275**	P	**Pn**	**20 32 34.8**	**+0.8**
	baz=287						
CHY				S	**Sn**	**20 32 46.6**	**+0.5**
	baz=287						
ECL	**Taimali**	**0.91**	**204**	⇓P	**Pn**	**20 32 34.5**	**-0.2**
	baz=190						
ECL				*e*S	**Sb**	**20 32 45.8**	**0.0**
	baz=190						
TCU	**Taichung**	**0.95**	**319**	⇑*i*P	**Pn**	**20 32 36.6**	**+1.4**
	baz=321						
TCU				S	**Sn**	**20 32 50.5**	**+2.1**
	baz=321						
CHN3	**Shinhua**	**0.98**	**249**	*e*P	Pn	20 32 38.2	+2.5
	baz=245						
CHN3				*e*S	**Sn**	**20 32 52.7**	**+3.6**
	baz=245						
NNS	**Nan Shan**	**1.00**	**1**	⇑*i*P	**Pn**	**20 32 36.7**	**+0.6**
	baz=357						
NNS				S	**Sn**	**20 32 49.8**	**-0.1**
	baz=357						
ENA	**Nanau**	**1.05**	**19**	*e*P	**Pn**	**20 32 37.5**	**+0.9**
	baz=25						
ENA				*e*S	**Sn**	**20 32 51.8**	**+0.9**
	baz=25						
TWM1	**Shoushan**	**1.05**	**235**	*e*P	**Pn**	**20 32 38.9**	**+2.2**
	baz=219						
TWQ1	**Liyutan**	**1.06**	**330**	⇑P	**Pn**	**20 32 38.5**	**+1.8**
	baz=333						
TWQ1				S	**Sn**	**20 32 53.7**	**+2.6**
	baz=333						
CHN8	**Yiju**	**1.06**	**266**	*e*P	**Pn**	**20 32 38.0**	**+1.3**
	baz=262						
CHN8				*e*S	**Sn**	**20 32 52.8**	**+1.8**
	baz=262						
WSF	**Szhu**	**1.06**	**281**	*e*P	**Pn**	**20 32 37.6**	**+0.8**
	baz=293						
WSF				*e*S	**Sn**	**20 32 52.5**	**+1.4**
	baz=293						
SGLT	**Jiouru**	**1.06**	**229**	*e*P	Pn	20 32 39.9	+3.0
	baz=223						
WTCT	**Ta-ch'eng**	**1.08**	**294**	*e*P	**Pn**	**20 32 39.0**	**+2.0**
	baz=294						
SCLT	**Jiali**	**1.10**	**257**	*e*P	**Pn**	**20 32 39.6**	**+2.3**
	baz=252						
SCLT				*e*S	**Sn**	**20 32 55.1**	**+3.0**
	baz=252						
TAI1	**Yung-k'ang**	**1.11**	**250**	*e*P	Pn	20 32 40.5	+3.1
	baz=246						
TAI1				*e*S	**Sn**	**20 32 56.0**	**+3.6**
	baz=246						
NSY	**Sanyi**	**1.12**	**331**	*i* P	Pn	20 32 40.1	+2.5
	baz=334						
NSY				*e*S	**Sn**	**20 32 56.5**	**+3.8**
	baz=334						
TAW	**Tawu**	**1.15**	**202**	*e*P	**Pg**	**20 32 39.2**	**+0.2**
	baz=183						
ENTT	**Nioudou**	**1.22**	**9**	P	**Pg**	**20 32 40.4**	**+0.1**
	baz=32						
ENTT				*e*S	**Sn**	**20 32 56.2**	**+1.2**
	baz=32						
NSK	**Sanguang**	**1.24**	**360**	P	**Pg**	**20 32 41.0**	**+0.3**
	baz=21						
NSK				*e*S	**Sn**	**20 32 56.5**	**+0.8**
	baz=21						
NSTT	**Nanjuang**	**1.24**	**345**	*e*P	**Pg**	**20 32 41.1**	**+0.5**
	baz=355						
NSTT				*e*S	**Sn**	**20 32 57.9**	**+2.3**
	baz=355						
TWC	**Suao**	**1.25**	**21**	*e*P	**Pg**	**20 32 40.8**	**-0.2**
	baz=27						
TWC				*e*S	**Sg**	**20 32 58.1**	**+0.7**
	baz=27						
SCZT	**Fangliau**	**1.26**	**213**	*e*P	**Pg**	**20 32 40.9**	**-0.1**
	baz=207						
TWE	**Neicheng**	**1.31**	**12**	*e*P	**Pg**	**20 32 41.8**	**-0.3**
	baz=33						
TWE				*e*S	**Sg**	**20 32 59.0**	**-0.3**
	baz=33						
LAY	**Lan-yu**	**1.40**	**173**	*e*P	**Pn**	**20 32 40.5**	**-0.9**
	baz=163						
TWP	**Hsiaoliuchiu**	**1.42**	**221**	*e*P	Pg	20 32 47.7	+3.6
	baz=212						
HEN	**Hengchun**	**1.53**	**202**	*e*P	**Pg**	**20 32 46.7**	**+0.5**
	baz=185						
TWA	**Mucha**	**1.56**	**8**	*e*P	**Pg**	**20 32 46.1**	**-0.6**
	baz=31						
TWA				*e*S	**Sg**	**20 33 06.2**	**-0.7**
	baz=31						
TWK1	**Hengchun**	**1.57**	**199**	*e*P	**Pg**	**20 32 45.3**	**-1.6**
	baz=183						
TSEB	**Hengchuen, Pin**	**1.58**	**196**	*e*P	**Pg**	**20 32 45.8**	**-1.4**
	baz=182						
TAP	**Taipei**	**1.61**	**5**	*e*P	**Pg**	**20 32 47.2**	**-0.4**
	baz=32						
TAP1	**Taipei**	**1.61**	**5**	*e*P	**Pg**	**20 32 48.0**	**+0.3**
	baz=31						
TAP1				*e*S	**Sg**	**20 33 09.2**	**+0.6**
	baz=31						
PNG	**Penghu**	**1.66**	**275**	*e*P	**Pb**	**20 32 46.2**	**-0.6**
	baz=272						
PNG				*e*S	**Sg**	**20 33 07.5**	**-2.8**
	baz=272						
TWS1	**Kuangyinshan**	**1.66**	**2**	*e*P	**Pg**	**20 32 47.4**	**-1.3**
	baz=32						
TWS1				*e*S	**Sg**	**20 33 10.4**	**+0.1**
	baz=32						
TWB1	**Santiao Chiao**	**1.67**	**20**	*e*P	**Pg**	**20 32 48.1**	**-0.8**
	baz=25						
NWF	**Wu-fen Shan**	**1.68**	**13**	*e*P	**Pg**	**20 32 48.0**	**-1.0**
	baz=34						
NWF				*e*S	**Sg**	**20 33 10.1**	**-0.7**
	baz=34						
YOJ	**Yonaguni jima**	**1.83**	**56**	⇑P	**Pb**	**20 32 48.5**	**-1.1**
	baz=54						
YOJ	**Yonaguni jima**	**1.83**	**56**	P	**Pb**	**20 32 48.3**	**-1.3**
YOJ				*e*S	**Sb**	**20 33 11.8**	**-0.4**
TWY	**Chenhua**	**1.85**	**7**	*e*P	**Pg**	**20 32 50.9**	**-1.4**
	baz=31						
HATJ	**Hateruma jima**	**2.33**	**74**	P	**Pn**	**20 32 55.1**	**+0.9**
HATJ				*e*S	**Sn**	**20 33 23.9**	**+1.6**
IRIF	**Iriomote-Funau**	**2.35**	**67**	P	**Pn**	**20 32 55.6**	**+1.1**
IRIF				*e*S	**Sn**	**20 33 23.5**	**+0.6**
JKRS	**Kuro-shima**	**2.56**	**71**	P	**Pn**	**20 32 58.5**	**+1.2**
JKRS				*e*S	**Sn**	**20 33 29.6**	**+1.6**
JIJ	**Ishigaki jima**	**2.71**	**69**	P	**Pn**	**20 33 00.1**	**+0.6**
JIJ				*e*S	**Sn**	**20 33 32.4**	**+0.5**
JTJ	**Tarama**	**3.28**	**68**	P	**Pn**	**20 33 08.2**	**+0.9**

WEL 28 20:51:38.6±0.6, 46°.36S×165°.54E, h33km, ML3.7/15, 1C-2D, Error ellipse: s-maj=6.6km s-min=2.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.43**	**53**	PN	Pn	20 52 01.7	-0.5
DCZ				AML	AML	20 52 21.7	
DCZ				AML	AML	20 52 22.1	
DCZ				AML	AML	20 52 22.1	
DCZ				AML	AML	20 52 22.1	
WHZ	**Wether Hill Ro**	**1.74**	**76**	PN	Pn	20 52 07.1	+0.6
WHZ				SN	Sn	20 52 28.9	+1.4
WHZ				AML	AML	20 52 39.9	
APZ	**The Paps**	**1.75**	**107**	⇑PN	Pn	20 52 06.4	-0.4
APZ				SN	Sn	20 52 26.9	-1.1
MLZ	**Mavora Lakes**	**2.10**	**62**	⇓PN	Pn	20 52 12.6	+1.1
MLZ				*e*SN	Sb	20 52 40.2	-1.6
MLZ				AML	AML	20 52 55.9	
SYZ	**Scrubby Hill**	**2.50**	**96**	PN	Pn	20 52 17.3	+0.5
SYZ				*e*SN	Sn	20 52 45.8	-0.3
EAZ	**Earnscleugh**	**2.87**	**68**	PN	Pn	20 52 23.2	+1.2
EAZ				AML	AML	20 53 12.6	
EAZ				AML	AML	20 53 14.4	
TUZ	**Tuapeka**	**2.87**	**83**	⇓PN	Pn	20 52 22.8	+0.7
TUZ				SN	Sn	20 52 55.8	+0.3
TUZ				AML	AML	20 53 10.4	
WKZ	**Wanaka**	**2.88**	**59**	PN	Pn	20 52 24.5	+2.3
WKZ				AML	AML	20 53 06.1	
WKZ				AML	AML	20 53 14.5	
JCZ	**Jackson Bay**	**3.22**	**46**	*e*PN	Pn	20 52 29.9	+2.9
JCZ				AML	AML	20 53 29.2	
JCZ				AML	AML	20 53 34.6	
ODZ	**Otahuna Downs**	**3.81**	**72**	PN	Pn	20 52 34.4	-0.5
ODZ				AML	AML	20 55 05.8	
LBZ	**Lake Benmore**	**3.82**	**61**	PN	Pn	20 52 35.8	+0.7
LBZ				AML	AML	20 55 07.1	

GUC ***28*** *21:30:35.0±0.8, 21°.13S×68°.86W, h129km±8km, ML3.8*
IDC ***28*** *21:30:36.5±0.9, 21°.18S×68°.33W, h109km±16km, mb3.3/1, mb1 3.4/3, mb1mx3.2/18, mbtmp3.4/3, Error ellipse: s-maj=46.6km s-min=10.4km az=100.0*
ISC 28 21:30:36.5±1.0, 21°.14S±0°.04×68°.9W±0°.1, h125km±10km, n14, σ0§75/19, 2C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.73**	**207**	⇑*i*P	**Pn**	**21 30 56.6**	**-0.2**
PB09				*i* S	**Sn**	**21 31 12.4**	**+0.3**
PB09				AML	AML	21 31 13.5	
	comp=N,4μm,0.6s						
PB04	**Plate Boundary**	**1.25**	**206**	⇓*i*P	Pn	21 31 06.7	+5.2
PB04				*i* S	Sn	21 31 29.8	+9.3
PB04				AML	AML	21 31 34.4	
	comp=N,468nm,0.2s						
HMBC	**Humberstone**	**1.27**	**312**	⇓*i*P	**Pn**	**21 31 01.7**	**-0.2**
HMBC				*i* S	**Sn**	**21 31 21.5**	**+0.4**
HMBC				AML	AML	21 31 24.8	
	comp=E,1μm,0.3s						
LVC	**Limon Verde**	**1.47**	**181**	⇑*i*P	**Pn**	**21 31 03.8**	**-0.4**
LVC				*i* S	**Sn**	**21 31 25.2**	**+0.1**
LVC	**Limon Verde**	**1.47**	**181**	P	**Pn**	**21 31 03.8**	**-0.4**
	comp=E,18nm,0.3s,baz=13,slow=10,SNR=159						
LVC				S	**Sn**	**21 31 24.6**	**-0.5**
	comp=E,28nm,0.3s,baz=94,slow=23,SNR=44						
PSGC	**Pisagua**	**1.92**	**323**	⇓*i*P	**Pn**	**21 31 08.6**	**-0.8**
PSGC				*i* S	**Sn**	**21 31 34.5**	**0.0**
PSGC				AML	AML	21 31 35.4	
	comp=E,317nm,0.4s						
MNMC	**Minimini**	**2.11**	**342**	⇓*i*P	**Pn**	**21 31 11.5**	**-0.3**
MNMC				*i* S	**Sn**	**21 31 39.0**	**+0.2**
MNMC				AML	AML	21 31 41.5	
	comp=N,2μm,0.2s						
PB10	**Plate Boundary**	**2.82**	**213**	*e*P	**Pn**	**21 31 20.1**	**-0.5**
PB10				AML	AML	21 31 55.5	
	comp=E,308nm,0.3s						
ANCH	**Antofagasta**	**2.89**	**209**	*e*P	**Pn**	**21 31 21.5**	**-0.1**
LPAZ	**La Paz**	**4.88**	**9**	P	**Pn**	**21 31 49.5**	**+0.9**
	comp=E,0.7nm,0.3s,baz=177,slow=8.1,SNR=17						
LPAZ				S	**Sn**	**21 32 43.6**	**-0.9**
	comp=E,0.3nm,0.3s,baz=40,slow=17,SNR=2.5						
SIV	**San Ignacio**	**9.01**	**57**	P	Pn	21 32 38.1	-5.7
	comp=E,3.1nm,0.3s,baz=257,slow=15,SNR=42						
PLCA	**Paso Flores**	**19.58**	**184**	P	**Pn**	**21 34 59.2**	**+1.8**
	comp=E,0.1nm,0.3s,baz=10,slow=14,SNR=3.9						
TORD	**Torodi Ar. Bea**	**77.22**	**70**	P	**P**	**21 42 16.1**	**-1.2**
	comp=E,0.6nm,0.9s,baz=256,slow=6.9,SNR=8.0						
MKAR	**Makanchi Array**	**145.33**	**36**	PKPbc	**PKPbc**	**21 50 00.1**	**+0.4**
	comp=E,0.4nm,0.7s,baz=316,slow=4.3,SNR=4.9						

IDC 28 21:36:51.4±3.5, 15°.00S×174°.13W, h62km±38km, mb3.5/4, mb1 3.9/5, mb1mx3.5/20, mbtmp3.6/5, ML6.1/1, Error ellipse: s-maj=85.7km s-min=19.8km az=146.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.53**	**65**	P	Pn	21 37 30.2	0.0
	35nm,0.3s,baz=309,slow=1.3,SNR=15						
AFI				S	Sn	21 37 56.5	-3.5
	88nm,0.3s,baz=227,slow=24,SNR=8.4						
RAO	**Raoul Island**	**14.61**	**193**	P	Pn	21 40 14.7	0.0
	92nm,0.3s,baz=18,slow=20,SNR=4.3						
WRA	**Warramunga Arr**	**49.25**	**256**	P	P	21 45 34.2	0.0
	0.3nm,0.3s,baz=91,slow=7.0,SNR=5.0						
ASAR	**Alice Springs**	**49.56**	**252**	P	P	21 45 36.4	-0.2
	2.3nm,0.6s,baz=85,slow=8.1,SNR=26						
NVAR	**Mina Array Bea**	**74.51**	**42**	P	P	21 48 23.9	+0.1
	0.4nm,0.6s,baz=230,slow=8.9,SNR=3.6						
PDAR	**Pinedale Array**	**82.44**	**42**	P	P	21 49 07.3	-0.1
	0.3nm,0.4s,baz=235,slow=3.2,SNR=3.2						

IDC 28 21:47:32.3±3.3, 4°.71S×152°.62E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/19, mbtmp3.6/3, Error ellipse: s-maj=125.6km s-min=38.5km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.37**	**228**	P	P	21 52 43.9	+1.1
	0.8nm,0.6s,baz=52,slow=9.9,SNR=6.3						
ASAR	**Alice Springs**	**26.10**	**222**	P	P	21 53 07.3	-0.8
	0.1nm,0.4s,baz=54,slow=8.5,SNR=3.6						
FITZ	**Fitzroy Crossi**	**29.55**	**241**	P	P	21 53 39.0	0.0
	1.4nm,0.5s,baz=63,slow=11,SNR=4.7						
TORD	**Torodi Ar. Bea**	**150.11**	**288**	PKPbc	PKPbc	22 07 25.6	-0.7
	0.2nm,0.4s,baz=66,slow=2.1,SNR=9.7						
TORD				PKPab	PKPab	22 07 31.8	-0.3
	0.4nm,0.6s,baz=68,slow=3.6,SNR=12						

IDC 28 22:02:29.8±2.1, 2°.47S×128°.31E, h0km, mb3.5/2, mb1 4.0/3, mb1mx3.5/20, mbtmp3.7/3, ML4.0/1, Error ellipse: s-maj=154.3km s-min=25.6km az=68.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.34**	**162**	P	Pn	22 06 45.8	0.0
	0.5nm,0.3s,baz=340,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**21.76**	**166**	P	P	22 07 22.6	-0.6
	1.9nm,0.3s,baz=347,slow=12,SNR=19						
MKAR	**Makanchi Array**	**63.54**	**326**	P	P	22 13 02.4	+0.3
	0.2nm,0.7s,baz=120,slow=5.2,SNR=2.5						

CSEM ***28*** *22:32:41.7±0.2, 45°.10N×14°.78E, h2km, ML3.5/7, Error ellipse: s-maj=3.6km s-min=2.7km az=38.0*
ROM ***28*** *22:32:41.8±0.2, 45°.11N×14°.85E, h6km, Ml2.9/21, Error ellipse: s-maj=4.6km s-min=2.2km az=69.0*
SZGRF ***28*** *22:32:41.1, 44°.87N×15°.09E, h10km, mb3.0, Northwestern Balkan Peninsula*
BGR ***28*** *22:32:41.1±0.9, 44°.87N×15°.09E, h10km, ML3.0/7, Error ellipse: s-maj=15.6km s-min=11.1km az=79.0*
LDG ***28*** *22:32:42.7±0.1, 45°.21N×14°.78E, h10km, Ml2.9/9, Error ellipse: s-maj=3.5km s-min=3.0km az=126.0*
VIE ***28*** *22:32:42.8±0.5, 45°.16N×14°.78E, h10km±1km, mb2.4/8, ML2.7/8, Error ellipse: s-maj=3.0km s-min=1.9km az=176.0 36 km SE of Rijeka*
GEN ***28*** *22:32:43.0, 45°.16N×14°.60E, h1km, ML3.1*
PRU ***28*** *22:32:44.7, 45°.23N×14°.95E, h8km*
ISC 28 22:32:42.2±0.8, 45°.11N±0°.02×14°.75E±0°.01, h16km±6km, n182, σ1§65/278, 33C-22D, Northwestern Balkan Peninsula

| Code | Station Name | Δ° | AZ° | Phase ID Op |

SKDS	**Skadanscina**	**0.68**	**310**	*i* Pg	**Pg**	**22 32 54.2**	**-1.2**
SKDS				*i* Sg	**Sg**	**22 33 05.4**	**+1.0**
SKDS	**Skadanscina**	**0.68**	**310**	*i* Pg	**Pg**	**22 32 54.2**	**-1.2**
SKDS				*i* Sg	**Sg**	**22 33 05.4**	**+1.0**
TRI	**Trieste**	**0.91**	**311⇑**	*e*Pg	**Pb**	**22 32 59.0**	**-0.8**
TRI				*e*Sg	**Sg**	**22 33 13.6**	**+1.6**
TRI	**Trieste**	**0.91**	**311**	Pg	**Pb**	**22 32 58.6**	**-1.1**
TRI				Sg	**Sg**	**22 33 13.8**	**+1.8**
	comp=Z,188nm,0.7s						
TRI	**Trieste**	**0.91**	**311⇑**	*e*Pg	**Pb**	**22 32 59.0**	**-0.8**
TRI				*e*Sg	**Sg**	**22 33 13.6**	**+1.6**
JAVS	**Javornik**	**0.92**	**329**	*e*Pg	**Pb**	**22 32 58.2**	**-1.7**
JAVS				*e*Sg	**Sb**	**22 33 13.2**	**+1.2**
JAVS	**Javornik**	**0.92**	**329**	*e*Pg	**Pb**	**22 32 58.2**	**-1.7**
JAVS				*e*Sg	**Sb**	**22 33 13.1**	**+1.2**
UDBI	**Udbina**	**0.93**	**129**	*e*Pg	**Pb**	**22 32 59.1**	**-1.0**
UDBI				Sg	**Sb**	**22 33 12.5**	**+0.2**
UDBI	**Udbina**	**0.93**	**129**	*e*Pg	**Pb**	**22 32 59.0**	**-1.0**
UDBI				Sg	**Sb**	**22 33 12.4**	**+0.2**
LJU	**Ljubljana**	**0.94**	**351**	*e*Pg	**Pb**	**22 33 00.0**	**-0.3**
LJU				*e*Sg	**Sb**	**22 33 13.5**	**+0.9**
CESS	**Cesta pri Krsk**	**1.00**	**30**	*e*Pg	**Pb**	**22 33 01.2**	**0.0**
CESS				*e*Sg	**Sb**	**22 33 13.9**	**-0.2**
CESS							
	comp=Z,83nm,0.2s						
CESS	**Cesta pri Krsk**	**1.00**	**30**	*e*Pg	**Pb**	**22 33 01.2**	**0.0**
CESS				*e*Sg	**Sb**	**22 33 13.9**	**-0.2**
	comp=Z,83nm,0.2s						
GOLS	**Golise**	**1.09**	**34**	*e*Pg	**Pb**	**22 33 03.0**	**+0.2**
GOLS				*e*Sg	**Sb**	**22 33 16.3**	**-0.5**
GOLS	**Golise**	**1.09**	**34**	*e*Pg	**Pb**	**22 33 03.0**	**+0.2**
GOLS				*e*Sg	**Sb**	**22 33 16.3**	**-0.5**
VOJS	**Vojsko**	**1.10**	**327**	*e*Pg	**Pb**	**22 33 01.7**	**-1.3**
VOJS				*e*Sg	**Sg**	**22 33 19.2**	**+1.3**
VOJS	**Vojsko**	**1.10**	**327**	*e*Pg	**Pb**	**22 33 01.7**	**-1.3**
VOJS				*e*Sg	**Sg**	**22 33 19.2**	**+1.3**
DOBS	**Dobrina**	**1.15**	**26**	*i* Pg	**Pb**	**22 33 03.4**	**-0.4**
DOBS				*e*Sg	**Sb**	**22 33 18.7**	**+0.1**
DOBS	**Dobrina**	**1.15**	**26**	*i* Pg	**Pb**	**22 33 03.4**	**-0.4**
DOBS				*e*Sg	**Sb**	**22 33 18.7**	**+0.1**
SABO	**M.te Sabotino**	**1.18**	**317⇑**	*e*Pg	**Pn**	**22 33 03.8**	**-0.4**
SABO				*e*Sg	**Sn**	**22 33 21.3**	**+1.2**
SABO	**M.te Sabotino**	**1.18**	**317**	Pg	**Pn**	**22 33 03.3**	**-0.9**
SABO				Sg	**Sg**	**22 33 21.9**	**+1.3**
	comp=Z,403nm,0.6s						
SABO	**M.te Sabotino**	**1.18**	**317⇑**	*e*Pg	**Pn**	**22 33 03.8**	**-0.4**
SABO				*e*Sg	**Sn**	**22 33 21.3**	**+1.2**
SISC	**Sisak**	**1.20**	**72**	*e*Pg	**Pn**	**22 33 04.5**	**+0.1**
SISC				Sg	**Sb**	**22 33 20.0**	**+0.1**
SISC	**Sisak**	**1.20**	**72**	*e*Pg	**Pn**	**22 33 04.5**	**+0.1**
SISC				Sg	**Sb**	**22 33 20.0**	**+0.1**
DRE	**Drenchia**	**1.31**	**324**	*e*Pg	**Pn**	**22 33 06.7**	**+0.7**
DRE				*e*Sg	**Sg**	**22 33 26.8**	**+2.1**
DRE	**Drenchia**	**1.31**	**324**	*e*Pg	**Pn**	**22 33 06.7**	**+0.7**
DRE				*e*Sg	**Sg**	**22 33 26.8**	**+2.1**
COLI	**Coloredo**	**1.40**	**317**	*e*Pg	**Pb**	**22 33 09.2**	**+1.1**
COLI				*e*Sg	**Sg**	**22 33 29.1**	**+1.6**
COLI	**Coloredo**	**1.40**	**317**	*e*Pg	**Pb**	**22 33 09.2**	**+1.1**
COLI				*e*Sg	**Sg**	**22 33 29.1**	**+1.6**
OBKA	**Obir**	**1.40**	**354**	*e*Pn	**Pn**	**22 33 08.4**	**+1.1**
OBKA				*e*Sn	**Sg**	**22 33 29.1**	**+1.6**
OBKA	**Obir**	**1.40**	**354**	*e*Pn	**Pn**	**22 33 08.4**	**+1.1**
OBKA				*e*Sn	**Sg**	**22 33 29.1**	**+1.6**
OBKA	**Obir**	**1.40**	**354⇑**	*e*Pn	**Pn**	**22 33 08.2**	**+0.9**
	SNR=22						
OBKA			⇑	*i*Sn	**Sb**	**22 33 27.0**	**+1.1**
OBKA			⇑	*i*Sg	**Sg**	**22 33 28.5**	**+1.0**
	comp=Z,77nm,0.4s						
OBKA	**Obir**	**1.40**	**354**	Pn	**Pn**	**22 33 08.4**	**+1.1**
OBKA				Sg	**Sg**	**22 33 28.5**	**+1.0**
	comp=Z,77nm,0.4s						
OBKA				Sn	**Sg**	**22 33 29.1**	**+1.6**
TLI	**Talmassons**	**1.41**	**306⇓**	*e*Pg	**Pb**	**22 33 09.4**	**+1.2**
TLI	**Talmassons**	**1.41**	**306⇓**	*e*Pg	**Pb**	**22 33 09.4**	**+1.2**
VINO	**Villanova**	**1.54**	**319⇓**	*e*Pg	**Pn**	**22 33 10.9**	**+1.8**
VINO				*e*Sg	**Sg**	**22 33 33.2**	**+1.4**
VINO	**Villanova**	**1.54**	**319**	Pg	**Pn**	**22 33 10.6**	**+1.5**
VINO				Sg	**Sg**	**22 33 33.4**	**+1.6**
	comp=Z,168nm,0.8s						
VINO	**Villanova**	**1.54**	**319⇓**	*e*Pg	**Pn**	**22 33 10.9**	**+1.8**
VINO				*e*Sg	**Sg**	**22 33 33.2**	**+1.4**
BAD	**Bernadia**	**1.54**	**317**	*e*Pg	**Pn**	**22 33 11.1**	**+1.9**
BAD				*e*Sg	**Sg**	**22 33 33.5**	**+1.6**
BAD	**Bernadia**	**1.54**	**317**	*e*Pg	**Pn**	**22 33 11.1**	**+1.9**
BAD				*e*Sg	**Sg**	**22 33 33.5**	**+1.6**
PERS	**Pernice**	**1.54**	**9**	*e*Pn	**Pn**	**22 33 10.1**	**+0.9**
PERS							
	comp=Z,68nm,0.3s						
PERS	**Pernice**	**1.54**	**9**	*e*Pg	**Pn**	**22 33 10.1**	**+0.9**
PERS				*e*Sg	**Sb**	**22 33 31.6**	**+1.7**
	comp=Z,68nm,0.3s						
SOKA	**Soboth**	**1.58**	**7⇓**	*i*Pn	**Pn**	**22 33 10.7**	**+1.0**
SOKA			⇓	*i*Sn	**Sn**	**22 33 31.0**	**+1.2**
SOKA	**Soboth**	**1.58**	**7⇓**	*i*Pn	**Pn**	**22 33 10.7**	**+1.0**
SOKA				*i* Sn	**Sn**	**22 33 31.0**	**+1.2**
BUA	**Buia**	**1.59**	**315⇑**	*e*Pg	**Pb**	**22 33 12.3**	**+1.0**
BUA	**Buia**	**1.59**	**315⇑**	*e*Pg	**Pb**	**22 33 12.3**	**+1.0**
LSR	**Lussari**	**1.61**	**328⇑**	*e*Pg	**Pn**	**22 33 11.7**	**+1.5**
LSR				*e*Sg	**Sg**	**22 33 36.5**	**+2.4**
LSR	**Lussari**	**1.61**	**328⇑**	*e*Pg	**Pn**	**22 33 11.7**	**+1.5**
LSR				*e*Sg	**Sg**	**22 33 36.5**	**+2.4**
PTCC	**Patocco-Chiusa**	**1.62**	**323**	Pg	**Pn**	**22 33 12.1**	**+1.8**
	comp=Z,2.0nm,0.7s						
PTCC	**Patocco-Chiusa**	**1.62**	**323**	Pg	**Pn**	**22 33 12.1**	**+1.8**
	comp=Z,2.0nm,0.7s						
BOO	**Bordano**	**1.67**	**317⇑**	*e*Pg	**Pn**	**22 33 12.6**	**+1.7**
BOO	**Bordano**	**1.67**	**317⇑**	*e*Pg	**Pn**	**22 33 12.6**	**+1.7**
MPRI	**Monte Prat**	**1.67**	**313⇑**	*e*Pg	**Pn**	**22 33 13.0**	**+2.0**
MPRI				*e*Sg	**Sg**	**22 33 37.9**	**+1.8**
MPRI	**Monte Prat**	**1.67**	**313⇑**	*e*Pg	**Pn**	**22 33 13.0**	**+2.0**
MPRI				*e*Sg	**Sg**	**22 33 37.9**	**+1.8**
ACOM	**Acomizza, Ital**	**1.68**	**329⇓**	*e*Pg	**Pb**	**22 33 13.5**	**+0.6**
ACOM				*e*Sg	**Sg**	**22 33 38.4**	**+2.2**
ACOM	**Acomizza, Ital**	**1.68**	**329**	Pg	**Pb**	**22 33 13.3**	**+0.5**
ACOM				Sg	**Sg**	**22 33 37.9**	**+1.7**
	comp=Z,225nm,0.6s						
ACOM	**Acomizza, Ital**	**1.68**	**329⇓**	*e*Pg	**Pb**	**22 33 13.5**	**+0.6**
ACOM				*e*Sg	**Sg**	**22 33 38.4**	**+2.2**
MYKA	**Terra Mystica**	**1.70**	**333⇓**	*i*Pn	**Pn**	**22 33 12.5**	**+1.1**
MYKA			⇓	*i*Sn	**Sn**	**22 33 34.9**	**+1.9**
MYKA			⇓	*i*Sg	**Sg**	**22 33 38.4**	**+1.3**
	comp=Z,44nm,0.4s						
MYKA	**Terra Mystica**	**1.70**	**333⇓**	*i*Pn	**Pn**	**22 33 12.5**	**+1.1**
MYKA				*i* Sn	**Sn**	**22 33 34.9**	**+1.9**
MYKA				Sg	**Sg**	**22 33 38.4**	**+1.3**
	comp=Z,44nm,0.4s						
AOI	**Ancona**	**1.77**	**208**	Pg	**Pn**	**22 33 14.3**	**+2.1**
	comp=Z,239nm,0.8s						
AOI	**Ancona**	**1.77**	**208**	Pg	**Pn**	**22 33 14.3**	**+2.1**
	comp=Z,239nm,0.8s						
BLY	**Banja Luka**	**1.77**	**101**	Pg	**Pn**	**22 33 12.9**	**+0.7**
	comp=Z,124nm,0.5s						
BLY	**Banja Luka**	**1.77**	**101**	Pg	**Pn**	**22 33 12.9**	**+0.7**
	comp=Z,124nm,0.5s						
FUSE	**Fusea**	**1.79**	**317⇓**	*e*Pn	**Pb**	**22 33 14.9**	**+0.2**
FUSE				*e*Sn	**Sg**	**22 33 39.9**	**+0.1**
FUSE	**Fusea**	**1.79**	**317⇓**	*e*Pn	**Pb**	**22 33 14.9**	**+0.2**
FUSE				*e*Sn	**Sg**	**22 33 39.8**	**+0.1**
PLRO	**Paularo**	**1.82**	**323**	*e*Pn	**Pb**	**22 33 15.8**	**+0.5**
PLRO				*e*Sn	**Sg**	**22 33 41.5**	**+0.6**
PLRO	**Paularo**	**1.82**	**323**	*e*Pn	**Pb**	**22 33 15.8**	**+0.5**
PLRO				*e*Sn	**Sg**	**22 33 41.5**	**+0.6**
MLNI	**Malnisio**	**1.82**	**305⇑**	*e*Pn	**Pn**	**22 33 15.2**	**+2.1**
MLNI				*e*Sn	**Sg**	**22 33 41.1**	**+0.1**
MLNI	**Malnisio**	**1.82**	**305⇑**	*e*Pn	**Pn**	**22 33 15.2**	**+2.1**
MLNI				*e*Sn	**Sg**	**22 33 41.1**	**+0.1**
POLC	**Polcenigo**	**1.82**	**301**	Pg	**Pn**	**22 33 15.4**	**+2.4**
	comp=Z,339nm,0.5s						
POLC				*e*Sn	**Sb**	**22 33 40.3**	**+2.4**
CAE	**Caneva**	**1.85**	**300⇓**	*e*Pn	**Pb**	**22 33 16.3**	**+0.5**
CAE	**Caneva**	**1.85**	**300⇓**	*e*Pn	**Pb**	**22 33 16.3**	**+0.5**
ZOU	**Zoufplan**	**1.90**	**320⇑**	*e*Pn	**Pn**	**22 33 16.3**	**+2.0**
ZOU	**Zoufplan**	**1.90**	**320**	*e*Pn	**Pn**	**22 33 16.3**	**+2.0**
ZOU				*e*Sn	**Sg**	**22 33 44.0**	**+0.5**
ZOU	**Zoufplan**	**1.90**	**320⇑**	*e*Pn	**Pn**	**22 33 16.3**	**+2.0**
ZOU				*e*Sn	**Sg**	**22 33 44.0**	**+0.5**
BEHE	**Becsehely**	**1.96**	**46**	*e*Pn	**Pg**	**22 33 22.0**	**+2.1**
BEHE				*e*Sn	**Sg**	**22 33 46.5**	**+1.1**
FSSB	**Fossombrone**	**2.00**	**226**	Pg	**Pn**	**22 33 17.4**	**+1.9**
FSSB				Sg	**Sb**	**22 33 45.2**	**+2.1**
	comp=Z,151nm,0.4s						

CIMO	**Cimolais**	**2.01**	**307⇑**	*e*Pn	**Pn**	**22 33 17.5**	**+1.9**
CIMO	**Cimolais**	**2.01**	**307⇑**	*e*Pn	**Pn**	**22 33 17.5**	**+1.9**
FVI	**Forni Avoltri**	**2.02**	**318**	Pg	**Pb**	**22 33 19.3**	**+0.6**
	comp=Z,96nm,0.7s						
FVI	**Forni Avoltri**	**2.02**	**318**	Pg	**Pb**	**22 33 19.3**	**+0.6**
	comp=Z,96nm,0.7s						
CSMI	**Casera Mimoias**	**2.03**	**314⇑**	*e*Pn	**Pn**	**22 33 17.8**	**+1.8**
CSMI	**Casera Mimoias**	**2.03**	**314⇑**	*e*Pn	**Pn**	**22 33 17.8**	**+1.8**
ARVD	**Arcevia**	**2.07**	**219**	Pg	**Pn**	**22 33 18.2**	**+1.8**
	comp=Z,40nm,0.6s						
KBA	**Koelnbreinsper**	**2.19**	**334**	*e*Pn	**Pn**	**22 33 20.6**	**+2.3**
KBA				*e*Sn	**Sb**	**22 33 49.5**	**+0.8**
KBA	**Koelnbreinsper**	**2.19**	**334**	*e*Pn	**Pn**	**22 33 20.6**	**+2.3**
KBA				*e*Sn	**Sb**	**22 33 49.5**	**+0.8**
KBA	**Koelnbreinsper**	**2.19**	**334⇓**	*e*Pn	**Pn**	**22 33 18.8**	**+0.5**
	SNR=12						
KBA			⇑	*i*Sn	**Sn**	**22 33 45.9**	**+0.7**
KBA	**Koelnbreinsper**	**2.19**	**334**	Pn	**Pn**	**22 33 20.6**	**+2.3**
KBA				*i* Sn	**Sn**	**22 33 45.9**	**+0.7**
ARSA	**Arzberg**	**2.21**	**14⇑**	*i*Pn	**Pn**	**22 33 19.2**	**+0.9**
ARSA			⇑	*i*Sn	**Sn**	**22 33 46.2**	**+1.0**
ARSA	**Arzberg**	**2.21**	**14⇑**	*i*Pn	**Pn**	**22 33 19.2**	**+0.9**
ARSA				*i* Sn	**Sn**	**22 33 46.2**	**+1.0**
CGRP	**Cima Grappa**	**2.21**	**291⇑**	*e*Pn	**Pn**	**22 33 20.6**	**+2.1**
CGRP	**Cima Grappa**	**2.21**	**291**	Pg	**Pn**	**22 33 20.4**	**+1.9**
CGRP	**Cima Grappa**	**2.21**	**291⇑**	*e*Pn	**Pn**	**22 33 20.6**	**+2.1**
PIEI	**Pieia**	**2.24**	**226**	Pg	**Pn**	**22 33 20.3**	**+1.6**
	comp=Z,75nm,0.4s						
SNTG	**Esanatoglia**	**2.27**	**216**	Pg	**Pn**	**22 33 20.8**	**+1.7**
	comp=Z,17nm,0.3s						
PARC	**Parchiule**	**2.32**	**232**	Pg	**Pn**	**22 33 21.4**	**+1.6**
	comp=Z,45nm,0.6s						
FDMO	**Fiordimonte**	**2.40**	**211**	Pg	**Pn**	**22 33 22.4**	**+1.5**
	comp=Z,48nm,0.8s						
MURB	**Monte Urbino**	**2.44**	**222**	Pg	**Pn**	**22 33 24.3**	**+2.7**
	comp=Z,138nm,0.4s						
MURB	**Monte Urbino**	**2.44**	**222**	Pg	**Pn**	**22 33 24.3**	**+2.7**
	comp=Z,138nm,0.4s						
CESI	**CESI - Serrava**	**2.49**	**213**	Pg	**Pn**	**22 33 23.8**	**+1.6**
	comp=Z,25nm,0.7s						
ASQU	**Asqua**	**2.49**	**239**	Pg	**Pn**	**22 33 24.3**	**+2.0**
	comp=Z,50nm,0.7s						
CRE	**Caprese Michel**	**2.50**	**234**	Pg	**Pn**	**22 33 24.7**	**+2.3**
	comp=Z,39nm,1.0s						
ASSB	**Assisi San Ben**	**2.56**	**217**	Pg	**Pn**	**22 33 25.1**	**+1.9**
	comp=Z,7.0nm,0.4s						
NRCA	**Norcia**	**2.57**	**208**	Pg	**Pn**	**22 33 24.7**	**+1.4**
	comp=Z,7.0nm,0.4s						
RISI	**Rein**	**2.61**	**316**	*e*Pn	**Pn**	**22 33 27.2**	**+3.2**
TERO	**Teramo**	**2.62**	**199**	Pg	**Pn**	**22 33 25.7**	**+1.7**
	comp=Z,49nm,0.7s						
KOSI	**Kohlern**	**2.72**	**301**	*e*Pn	Pn	22 33 29.1	+3.7
CAMP	**Campotosto**	**2.75**	**201**	Pg	**Pn**	**22 33 27.2**	**+1.3**
	comp=Z,37nm,0.6s						
MOA	**Molln**	**2.76**	**353**	*e*Pn	**Pn**	**22 33 28.9**	**+3.1**
MOA				*e*Sn	**Sb**	**22 34 03.0**	**-1.8**
MOA	**Molln**	**2.76**	**353**	*e*Pn	**Pn**	**22 33 28.9**	**+3.1**
MOA				*e*Sn	**Sb**	**22 34 03.0**	**-1.8**
MOA	**Molln**	**2.76**	**353⇓**	*i*Pn	**Pn**	**22 33 27.0**	**+1.1**
MOA	**Molln**	**2.76**	**353⇓**	*i*Pn	**Pn**	**22 33 27.0**	**+1.1**
MOA				Sn	**Sb**	**22 34 03.0**	**-1.8**
PKS9	**Tamasi**	**2.87**	**58**	*e*Pn	**Pg**	**22 33 36.6**	**-0.7**
PKS9				*e*Sn	**Sg**	**22 34 17.3**	**+2.8**
ABSI	**Aberstueckl**	**2.89**	**305⇓**	*e*Pn	**Pn**	**22 33 30.3**	**+2.5**
CONA	**Conrad Observa**	**2.92**	**15⇑**	*i*Pn	**Pn**	**22 33 29.0**	**+0.9**
CONA	**Conrad Observa**	**2.92**	**15⇑**	*i*Pn	**Pn**	**22 33 29.0**	**+0.9**
PKSM	**Moragy**	**2.94**	**67**	*e*Pn	**Pn**	**22 33 27.9**	**-0.5**
PKSM				*e*Sn	**Sg**	**22 34 14.8**	**-1.9**
PKSM	**Moragy**	**2.94**	**67**	*e*Pn	**Pn**	**22 33 27.9**	**-0.5**
RJOB	**Jochberg**	**2.95**	**333**	*e*Pn	**Pn**	**22 33 31.4**	**+2.8**
RJOB	**Jochberg**	**2.95**	**333**	*e*Pn	**Pn**	**22 33 31.4**	**+2.8**
RJOB	**Jochberg**	**2.95**	**333**	Pn	**Pn**	**22 33 31.4**	**+2.8**
RNI	**Roncone**	**3.01**	**288**	*e*Pn	Pn	22 33 33.2	+3.7
RNI	**Roncone**	**3.01**	**288**	*e*Pn	Pn	22 33 33.2	+3.7
WTTA	**Wattenberg**	**3.05**	**316**	*e*Pn	Pn	22 33 34.1	+4.1
WTTA	**Wattenberg**	**3.05**	**316**	*e*Pn	Pn	22 33 34.1	+4.1
WTTA	**Wattenberg**	**3.05**	**316⇑**	*i*Pn	**Pn**	**22 33 31.2**	**+1.2**
WTTA	**Wattenberg**	**3.05**	**316⇑**	*i*Pn	**Pn**	**22 33 31.2**	**+1.2**
STON	**Ston**	**3.09**	**135**	*i* Pn	Pn	22 33 34.2	+3.8
STON				Sn	**Sn**	**22 34 11.3**	**+4.3**
STON	**Ston**	**3.09**	**135**	*i* Pn	Pn	22 33 34.2	+3.8
STON				Sn	**Sn**	**22 34 11.3**	**+4.3**
SC2M	**Scurtabo**	**3.78**	**261**	P	**Pn**	**22 33 39.8**	**-0.1**
GEC2	**GERESS Array S**	**3.80**	**350**	*e*Pn	**Pn**	**22 33 42.4**	**+2.1**
GEC2				*e*Sn	**Sn**	**22 34 27.7**	**+3.0**
GEC2	**GERESS Array S**	**3.80**	**350**	*e*Pn	**Pn**	**22 33 42.4**	**+2.1**
GEC2				*e*Sn	**Sn**	**22 34 27.7**	**+3.0**
GEC2	**GERESS Array S**	**3.80**	**350**	Pn	**Pn**	**22 33 42.4**	**+2.1**
GEC2				Sn	**Sn**	**22 34 27.7**	**+3.0**
DIVS	**Divibare**	**3.88**	**103**	*e*Pn	**Pn**	**22 33 43.4**	**+2.1**
KHC	**Kasperske Hory**	**4.10**	**349**	*e*PN	**Pn**	**22 33 46.1**	**+1.8**
KHC				*e*SN	**Sn**	**22 34 32.5**	**+0.6**
KHC				*e*SG	Sg	22 35 01.0	+7.2
KHC	**Kasperske Hory**	**4.10**	**349**	Pn	**Pn**	**22 33 46.1**	**+1.8**
KHC				Sn	**Sn**	**22 34 32.5**	**+0.6**
WET	**Wettzell**	**4.23**	**343**	*e*Pn	**Pn**	**22 33 47.7**	**+1.6**
WET				*e*Sn	**Sn**	**22 34 36.3**	**+1.1**
WET	**Wettzell**	**4.23**	**343**	*e*Pn	**Pn**	**22 33 47.7**	**+1.6**
WET				*e*Sn	**Sn**	**22 34 36.3**	**+1.1**
WET	**Wettzell**	**4.23**	**343**	Pn	**Pn**	**22 33 47.7**	**+1.6**
WET				Sn	**Sn**	**22 34 36.3**	**+1.1**
GRUS	**Gruza**	**4.44**	**104**	*e*Pn	**Pn**	**22 33 51.3**	**+2.3**
PCP	**Piancastagn**	**4.45**	**265**	P	**Pn**	**22 33 49.8**	**+0.7**
PRU	**Pruhonice**	**4.88**	**358**	*e*PN	**Pn**	**22 33 56.5**	**+1.5**
PRU				*e*SN	**Sn**	**22 34 50.4**	**-0.7**
PRU	**Pruhonice**	**4.88**	**358**	Pn	**Pn**	**22 33 56.5**	**+1.5**
PRU				Sn	**Sn**	**22 34 50.4**	**-0.7**
PGF	**Pioggiola**	**4.88**	**240**	*e*Pn	**Pn**	**22 33 55.1**	**-0.1**
PGF				*e*Sn	**Sn**	**22 34 49.3**	**-2.2**
	comp=Z,2.7nm,0.4s						
PGF	**Pioggiola**	**4.88**	**240**	*e*Pn	**Pn**	**22 33 55.1**	**-0.1**
ROTZ	**Rotzenmuhle**	**4.96**	**341**	*e*Sn	**Sn**	**22 34 54.2**	**+0.9**
ROTZ	**Rotzenmuhle**	**4.96**	**341**	*e*Sn	**Sn**	**22 34 54.2**	**+0.9**
ROTZ	**Rotzenmuhle**	**4.96**	**341**	Sn	**Sn**	**22 34 54.2**	**+0.9**
MANZ	**Manzenberg**	**5.19**	**341**	*e*Pn	**Pn**	**22 34 02.0**	**+2.7**
MANZ	**Manzenberg**	**5.19**	**341**	*e*Pn	**Pn**	**22 34 02.0**	**+2.7**
MANZ	**Manzenberg**	**5.19**	**341**	Pn	**Pn**	**22 34 02.0**	**+2.7**
BOLS	**Boljevac**	**5.31**	**101**	*e*Pn	**Pn**	**22 34 01.8**	**+0.8**
BFO	**Black Forest**	**5.46**	**308**	*e*Sn	**Sn**	**22 35 06.4**	**+0.9**
BFO	**Black Forest**	**5.46**	**308**	*e*Sn	**Sn**	**22 35 06.4**	**+0.9**
PZZ	**Stroppo**	**5.46**	**266**	P	Pn	22 34 00.0	-3.2
BARS	**Barje**	**5.59**	**112**	*e*Pn	**Pn**	**22 34 06.4**	**+1.8**
LPG	**La Plagne**	**5.65**	**277**	*e*P	**Pn**	**22 34 08.6**	**+2.7**
LPG				*e*Sn	**Sn**	**22 35 06.5**	**-4.2**
	comp=Z,7.8nm,0.6s						
LPL	**La Plagne**	**5.67**	**277**	*e*P	**Pn**	**22 34 09.2**	**+3.2**
LPL				*e*Sn	**Sn**	**22 35 06.6**	**-4.3**
	comp=Z,3.4nm,0.3s						
MBDF	**Montbardon**	**5.68**	**269**	*e*Pn	**Pn**	**22 34 05.4**	**-0.7**
MBDF				*e*Sn	**Sn**	**22 35 06.9**	**-4.1**
	comp=Z,3.4nm,0.4s						
BRG	**Berggiesshubel**	**5.79**	**355**	SG	**Sn**	**22 35 11.7**	**-1.8**
	comp=Z,3.0nm,0.7s						
MOX	**Moxa**	**5.92**	**340**	*e*Pn	**Pn**	**22 34 10.4**	**+1.1**
MOX				*e*Sn	**Sn**	**22 35 16.5**	**-0.3**
MOX	**Moxa**	**5.92**	**340**	*e*Pn	**Pn**	**22 34 10.4**	**+1.1**
MOX				*e*Sn	**Sn**	**22 35 16.5**	**-0.3**
FRF	**La Foret Royal**	**6.01**	**258**	*e*Pn	**Pn**	**22 34 10.5**	**-0.1**
FRF				*e*Sn	**Sn**	**22 35 15.4**	**-3.7**
	comp=Z,1.6nm,0.3s						
HINF	**Hinteralfeld**	**6.09**	**299**	*e*P	**Pn**	**22 34 14.7**	**+3.1**
HINF				*e*Sn	Sn	22 35 15.5	-5.4
	comp=Z,4.9nm,0.5s						
CDF	**Champ du Feu**	**6.10**	**305**	*e*Pn	**Pn**	**22 34 10.4**	**-1.4**
CDF				*e*Sn	Sn	22 35 15.6	-5.8
	comp=Z,1.0nm,0.4s						
LMR	**La Mourre**	**6.18**	**256**	*e*Pn	**Pn**	**22 34 13.0**	**+0.1**
ORIF	**Oris-en-Rattie**	**6.29**	**271**	*e*Pn	**Pn**	**22 34 13.8**	**-0.7**
ORIF				*e*Sn	**Sn**	**22 35 22.0**	**-4.0**
	comp=Z,4.1nm,0.5s						
CLL	**Collm**	**6.31**	**350**	*e*Sg	**Sg**	**22 36 03.0**	**-1.5**
	comp=Z,9.0nm,1.0s						
HAU	**Haudompre**	**6.47**	**300**	*e*P	**Pn**	**22 34 19.7**	**+2.8**
HAU				*e*Sn	Sn	22 35 24.9	-5.5
	comp=Z,2.2nm,0.4s						
VIVF	**Saint-Julien-l**	**7.15**	**272**	*e*Pn	**Pn**	**22 34 24.9**	**-1.3**
LOR	**Lormes**	**7.86**	**290**	*e*Pn	**Pn**	**22 34 35.0**	**-0.9**
BGF	**Bois d'Agland**	**8.44**	**284**	*e*Pn	**Pn**	**22 34 42.5**	**-1.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.17**	**357⇑**	*i*P	Pg	22 42 51.5	+0.2
	baz=359						
ENA				S	Sg	22 42 54.4	+0.4
	baz=359						
TWD	**Chiawan**	**0.23**	**218⇑**	*i*P	Pg	22 42 52.5	0.0
	baz=217						
TWD				*i* S	Sg	22 42 56.2	+0.5
	baz=217						
HWA	**Hwalien**	**0.31**	**205**	*e*P	Pb	22 42 54.5	-0.4
	baz=212						
TWC	**Suao**	**0.36**	**14⇑**	*i*P	Pg	22 42 54.9	+0.2
	baz=7.0						
TWC				*i* S	Sg	22 42 59.8	+0.2
	baz=7.0						
NNS	**Nan Shan**	**0.39**	**297⇑**	*i*P	Pg	22 42 55.6	+0.2
	baz=298						
NNS				*i* S	Sg	22 43 00.9	+0.1
	baz=298						
ENTT	**Nioudou**	**0.41**	**336⇑**	*i*P	Pg	22 42 56.1	+0.3
	baz=336						
ENTT				S	Sg	22 43 01.8	+0.5
	baz=336						
ESF	**Shoufeng Towns**	**0.45**	**210**	*e*P	Pg	22 42 55.8	-0.6
	baz=219						
TWE	**Neicheng**	**0.46**	**350⇑**	*i*P	Pg	22 42 57.1	+0.4
	baz=352						
TWE				S	Sg	22 43 03.2	+0.3
	baz=352						
ILA	**Ilan**	**0.50**	**360**	*e*P	Pg	22 42 57.7	+0.3
	baz=354						
ILA				*e*S	Sb	22 43 04.9	-0.6
	baz=354						
TWT	**Tachien**	**0.53**	**269⇑**	*i*P	Pb	22 42 58.6	-0.2
	baz=269						
TWT				*i* S	Sg	22 43 05.6	+0.3
	baz=269						
ESL	**Shilin**	**0.53**	**213⇑**	*i*P	P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**37**⇑	*e*P	Pn	23 09 36.2	-1.0
CAPV				*e*S	Sn	23 09 57.0	-2.4
VIGV	**El Vigia**	**2.57**	**41**	*e*P	Pn	23 09 50.7	-0.8
VIGV				*e*S	Sn	23 10 21.3	-3.5
SOCV	**Socops**	**2.59**	**57**⇑	*i*P	Pn	23 09 50.8	-0.9
SOCV				*e*S	Sn	23 10 22.1	-3.1
VIRV	**Villa del Rosa**	**3.65**	**10**	*e*P	Pn	23 10 03.6	-1.4
VIRV				*e*S	Sn	23 10 44.2	-4.7
CURV	**Curarigua**	**4.36**	**44**	*e*P	Pn	23 10 12.7	-1.5
CURV				*e*S	Sn	23 10 59.8	-5.6
SIQV	**Siquisique**	**4.93**	**40**	*e*P	Pn	23 10 20.0	-1.5
BAUV	**El Baul**	**5.37**	**67**	*e*P	Pn	23 10 24.7	-2.6
BAUV				*e*S	Sn	23 11 22.3	-6.6
MAPV	**Macapo**	**5.41**	**57**	*e*P	Pn	23 10 26.2	-1.6
MONV	**Montecano**	**5.89**	**31**	*e*P	Pn	23 10 32.2	-1.8

*IDC **28** 23:22:14.0±8.0, 37°.79N×72°.47E, h190km±55km, mb3.0/1, mb1 3.0/6, mb1mx2.7/31, mbtmp3.0/6, Error ellipse: s-maj=75.3km s-min=47.5km az=179.0*
*NNC **28** 23:22:16.8±1.7, 38°.13N×70°.34E, h0km, mb4.3, mpv4.2, Error ellipse: s-maj=16.4km s-min=8.8km az=122.0*
ISC 28 23:22:09.4±2.4, 37°.7N±0°.2×71°.5E±0°.1, h109km, n17, α2^{s}42/18, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=35	**4.76**	**20**	P	**Pn**	**23 23 19.9**	**+0.6**
UCH	**Uchtor** SNR=8.3	**5.11**	**26**	P	**Sn**	**23 24 19.9**	**-2.1**
KZA	**Kyzart** SNR=8.0	**5.26**	**32**	P	**Pn**	**23 23 24.9**	**-1.2**
EKS2	**Erkin-Say** SNR=9.8	**5.28**	**19**	P	**Pn**	**23 23 26.9**	**+0.9**
AAK	**Ala-Archa** SNR=8.9	**5.46**	**24**	P	**Pn**	**23 23 29.2**	**+0.6**
AAK	**Ala-Archa** 3.6nm,0.3s,baz=186,slow=6.2,SNR=15	**5.46**	**24**	P	**Pn**	**23 23 29.1**	**+0.5**
AAK	5.3nm,0.3s,baz=310,slow=22,SNR=21			S	**Sn**	**23 24 29.3**	**-0.9**
KK31	**Karatay Array** 11nm,0.3s,baz=175,slow=13,SNR=548	**5.48**	**352**	⇑P	Pn	23 23 31.6	+3.0
KK31	7.5nm,0.4s,baz=175,slow=21			⇓S	**Sn**	**23 24 32.1**	**+1.9**
CHMS	**Chumysh** SNR=11	**5.87**	**24**	P	**Pn**	**23 23 34.1**	**+0.1**
USP	**Ospenovka** SNR=5.9	**6.04**	**21**	P	**Pn**	**23 23 36.2**	**-0.1**
THN	**Thein Dam**	**6.27**	**145**	*e*P	Pn	23 23 29.5	-10
THN				*e*S	Sn	23 24 30.0	-20
MKAR	**Makanchi Array** 0.0nm,0.3s,baz=203,slow=14,SNR=2.8	**12.12**	**38**	P	Pn	23 24 54.5	-3.8
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=203,slow=11,SNR=5.1	**13.89**	**19**	P	**Pn**	**23 25 23.0**	**+1.7**
AB31	**Akbulak array** 1.1nm,0.3s,baz=137,slow=14,SNR=61	**14.27**	**328**	P	**P**	**23 25 28.5**	**-1.7**
AB31	0.7nm,0.4s,baz=140,slow=23			⇑S	**Sn**	**23 27 58.9**	**-4.7**
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=163,slow=12,SNR=3.9	**15.37**	**357**	P	**Pn**	**23 25 39.5**	**-0.7**
BVAR	0.6nm,0.3s,baz=195,slow=39,SNR=6.9			S	**S**	**23 28 44.1**	**+5.5**
AKTO	**Aktyubinsk** 2.1nm,0.5s	**15.98**	**327**	⇓P	**P**	**23 25 51.6**	**+2.5**
AKTO	**Aktyubinsk** 0.8nm,0.3s,baz=137,slow=13,SNR=8.6	**15.98**	**327**	P	**P**	**23 25 52.5**	**+3.3**
FINES	**FINESS Array B** 0.3nm,0.3s,baz=122,slow=10,SNR=4.9	**36.74**	**325**	P	**P**	**23 29 05.5**	**-0.2**

JMA 28 23:22:41.7±0.2, 26°.20N×125°.25E, h132km, M3.6, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**1.38**	**178**	P	Pn	23 23 09.0	+0.4
JMJ				S	Sn	23 23 28.6	-0.5
JKE	**Kume jima 2**	**1.39**	**84**	P	Pn	23 23 09.1	+0.5
JKE				S	Sn	23 23 28.5	-0.7
JOGS	**Gusukube**	**1.44**	**174**	P	Pn	23 23 09.8	+0.5
JOGS				S	Sn	23 23 29.8	-0.5
JTJ	**Tarama**	**1.63**	**198**	P	Pn	23 23 11.6	+0.2
JTJ				S	Sn	23 23 32.8	-1.3
JAGN	**Aguni-jima**	**1.83**	**77**	P	Pn	23 23 13.8	+0.1
JAGN				S	Sn	23 23 37.1	-1.0
JIJ	**Ishigaki jima**	**2.08**	**209**	P	Pn	23 23 16.6	-0.2
JIJ				S	Sn	23 23 41.2	-2.5
JJT2	**Tamagusuku 2**	**2.25**	**91**	P	Pn	23 23 19.1	+0.3
JJT2				S	Sn	23 23 46.5	-0.7
JKRS	**Kuro-shima**	**2.25**	**210**	P	Pn	23 23 18.7	-0.2
JKRS				S	Sn	23 23 45.7	-1.7
IRIF	**Iriomote-Funau**	**2.31**	**217**	P	Pn	23 23 19.7	+0.1
IRIF				S	Sn	23 23 48.3	-0.4
HATJ	**Hateruma jima**	**2.50**	**212**	P	Pn	23 23 21.9	-0.1
HATJ				S	Sn	23 23 52.2	-0.8
JIH	**Iheya**	**2.57**	**71**	P	Pn	23 23 22.9	+0.1
JIH				S	Sn	23 23 52.9	-1.6
YOJ	**Yonaguni jima**	**2.67**	**230**	P	Pn	23 23 25.3	+1.2
YOJ				S	Sn	23 23 58.0	+1.3
JOW	**Kunigami**	**2.78**	**76**	P	Pn	23 23 25.0	-0.6
JOW				S	Sn	23 23 56.2	-3.2
JTK	**Tokunoshima**	**3.66**	**64**	P	Pn	23 23 36.2	-0.8
JTK				S	Sn	23 24 16.7	-3.1
JAMN	**Amaminishikomi**	**4.04**	**59**	P	Pn	23 23 40.8	-1.2
JAMN				S	Sn	23 24 25.7	-3.2
JAM	**Amami Oshima**	**4.46**	**59**	P	Pn	23 23 46.2	-1.3
JAM				S	Sn	23 24 35.0	-3.7
JMZ	**Minamidaito 2**	**5.39**	**93**	P	Pn	23 23 57.9	-2.1

*IDC **28** 23:34:52.6±1.0, 41°.42N×18°.78E, h0km, mb3.6/10, mb1 3.8/17, mb1mx3.8/34, mbtmp3.7/17, ML3.9/7, MS2.6/3, Ms1 2.7/3, ms1mx2.3/41, Error ellipse: s-maj=13.5km s-min=11.6km az=31.0*
*SZGRF **28** 23:34:52.3, 41°.09N×19°.01E, h10km, Albania*
*LDG **28** 23:34:53.8±0.1, 41°.36N×18°.93E, h10km, Ml4.2/15, Error ellipse: s-maj=3.7km s-min=2.5km az=23.0*
*BEO **28** 23:34:53.8±0.6, 41°.38N×18°.75E, h8km±3km, ML4.1/1*
*THE **28** 23:34:54.7, 41°.42N×18°.87E, h12km±2km, ML4.1/5, Error ellipse: s-maj=2.5km s-min=1.3km az=288.0*
*BJI **28** 23:34:54.6, 41°.40N×18°.90E, h44km, mB4.9/2, mb4.6/4*
*PDG **28** 23:34:54.9±0.3, 41°.40N×18°.84E, h20km, MD3.9/8, ML3.9/8, Error ellipse: s-maj=0.5km s-min=0.5km az=0.0*
*MOS **28** 23:34:54.2±1.0, 41°.31N×18°.68E, h33km, mb4.2/8, Error ellipse: s-maj=5.4km s-min=3.7km az=106.0*
*SKO **28** 23:34:55.0, 41°.28N×18°.88E, h11km, M3.6, ML4.0*
*ROM **28** 23:34:55.1±0.1, 41°.40N×18°.81E, h10km, Ml4.2/22, Error ellipse: s-maj=2.4km s-min=1.5km az=147.0*
*PRU **28** 23:34:55.8, 41°.36N×18°.87E, h12km, M4.2*
*TIR **28** 23:34:55.0, 41°.38N×18°.84E, h34km, ML3.9*
*CSEM **28** 23:34:56.9±0.1, 41°.38N×18°.85E, h40km, mb4.1/7, ML3.9/8, Error ellipse: s-maj=2.2km s-min=1.6km az=35.0*
*NEIC **28** 23:34:56.7, 41°.39N×18°.87E, h45km, mb4.2/2, After PDG.*
ISC 28 23:34:55.7±0.9, 41°.37N±0°.02×18°.86E±0°.02, h32km±7km, n583, σ1^{s}38/679, mb4.1/14, 46C-35D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.66**	**26**	*e*Pg	**Pb**	**23 35 07.7**	**-1.1**
ULC				*e*Sg	**Sb**	**23 35 17.5**	**-0.3**
ULC	**Ulcinj**	**0.66**	**26**	*e*Pg	**Pb**	**23 35 07.7**	**-1.1**
ULC				*e*Sg	**Sb**	**23 35 17.5**	**-0.3**
TIR	**Tirane**	**0.76**	**92**	*e*PG	**Pb**	**23 35 09.3**	**-1.1**
TIR	**Tirane**	**0.76**	**92**	P	**Pb**	**23 35 09.2**	**-1.3**
TIR				S	**Sb**	**23 35 19.3**	**-1.2**
TIR	**Tirane**	**0.76**	**92**	*e*P	**Pb**	**23 35 09.3**	**-1.1**
TIR				*e*		23 35 20.9	
TIR	**Tirane**	**0.76**	**92**	Pg	**Pb**	**23 35 09.4**	**-1.1**
TIR				Sg	**Sn**	**23 35 21.2**	**+0.7**
TIR	6µm,0.3s **Tirane**	**0.76**	**92**	*e*PB	**Pb**	**23 35 09.2**	**-1.3**
TIR	**Tirane**	**0.76**	**92**	*e*Pn	**Pb**	**23 35 09.3**	**-1.1**
TIR				*e*Sn	**Sb**	**23 35 20.9**	**+0.4**
TIR	**Tirane**	**0.76**	**92**⇑	*i*Pg	**Pb**	**23 35 09.2**	**-1.3**
TIR				*e*Sg	**Sn**	**23 35 21.1**	**+0.6**
TIR	**Tirane**	**0.76**	**92**	Pg	**Pb**	**23 35 09.4**	**-1.1**
TIR				*e*S	**Sb**	**23 35 20.9**	**+0.4**
TIR	6µm,0.3s			Sg	**Sn**	**23 35 21.2**	**+0.7**
BUM	**Brajici-Budva**	**0.93**	**2**⇑	*i*Pg	**Pb**	**23 35 12.7**	**-0.7**
BUM				*e*Sg	**Sn**	**23 35 26.1**	**+1.3**
BUM	**Brajici-Budva**	**0.93**	**2**⇑	*i*Pg	**Pb**	**23 35 12.7**	**-0.7**
BUM				*e*Sg	**Sn**	**23 35 26.1**	**+1.3**
PUK	**Puka**	**1.02**	**49**	*e*PN	**Pn**	**23 35 14.1**	**+0.2**
PUK				*i* SN	**Sn**	**23 35 28.9**	**+1.7**
PUK	**Puka**	**1.02**	**49**	*e*Pn	**Pn**	**23 35 14.1**	**+0.2**
PUK				*i* Sn	**Sn**	**23 35 28.9**	**+1.7**
MESG	**Mesagne**	**1.09**	**225**	Pg	**Pb**	**23 35 15.9**	**-0.2**
MESG				Sg	**Sb**	**23 35 30.2**	**+0.2**
MESG	7µm,0.3s **Mesagne**	**1.09**	**225**	Pg	**Pb**	**23 35 15.9**	**-0.2**
MESG				Sg	**Sb**	**23 35 30.2**	**+0.2**
PDG	7µm,0.3s **Podgorica**	**1.10**	**15**	P	**Pb**	**23 35 15.3**	**-0.9**
PDG				S	**Sn**	**23 35 29.0**	**+0.1**
PDG	**Podgorica**	**1.10**	**15**	Pg	**Pb**	**23 35 15.4**	**-0.7**
PDG				Sg	**Sb**	**23 35 30.7**	**+0.6**
PDG	2µm,0.4s **Podgorica**	**1.10**	**15**⇓	*i*Pg	**Pb**	**23 35 15.2**	**-0.9**
PDG				*e*Sg	**Sb**	**23 35 30.4**	**+0.3**
PDG	**Podgorica**	**1.10**	**15**	Pg	**Pb**	**23 35 15.4**	**-0.7**
PDG				S	**Sn**	**23 35 29.0**	**+0.1**
PDG				*e*Sg	**Sb**	**23 35 30.4**	**+0.3**
TTG	**Podgorica**	**1.10**	**15**⇑	*i*Pg	**Pb**	**23 35 15.0**	**+0.2**
TTG				*e*Sg	**Sb**	**23 35 31.7**	**+1.6**
HCY	**Herceg Novi**	**1.11**	**346**⇑	*i*Pg	**Pb**	**23 35 15.5**	**-0.9**
HCY				*e*Sg	**Sb**	**23 35 32.0**	**+1.5**
HCY	**Herceg Novi**	**1.11**	**346**⇑	*i*Pg	**Pb**	**23 35 15.5**	**-0.9**
HCY				*e*Sg	**Sb**	**23 35 32.0**	**+1.5**
PE1	**Pezze di Greco**	**1.23**	**243**	*e*Sn	**Sb**	**23 35 37.8**	**+4.0**
PHP	**Peshkopia**	**1.23**	**75**	*e*PN	**Pn**	**23 35 17.4**	**+0.7**
PHP				*i* SN	**Sb**	**23 35 34.1**	**+0.2**
PHP	**Peshkopia**	**1.23**	**75**	P	**Pn**	**23 35 16.3**	**-0.4**
PHP				S	**Sb**	**23 35 33.6**	**-0.3**
PHP	**Peshkopia**	**1.23**	**75**	P	**Pn**	**23 35 16.3**	**-0.4**
PHP	**Peshkopia**	**1.23**	**75**	*e*Pn	**Pn**	**23 35 17.4**	**+0.7**
PHP				S	**Sb**	**23 35 33.6**	**-0.3**
PHP				*i* Sn	**Sb**	**23 35 34.1**	**+0.2**
SCTE	**Santa Cesarea** 6µm,0.5s	**1.33**	**193**	Pg	**Pb**	**23 35 20.5**	**+0.4**
SCTE	**Santa Cesarea** 6µm,0.5s	**1.33**	**193**	Pg	**Pb**	**23 35 20.5**	**+0.4**
BCI	**Bajram Curri**	**1.34**	**42**	*e*PN	**Pb**	**23 35 19.5**	**-0.8**
BCI				*i* SN	**Sb**	**23 35 37.8**	**+0.7**
BCI	**Bajram Curri**	**1.34**	**42**	*e*Pn	**Pb**	**23 35 19.5**	**-0.8**
BCI				*i* Sn	**Sb**	**23 35 37.8**	**+0.7**
NKY	**Niksic**	**1.44**	**4**⇑	*i*Pg	**Pb**	**23 35 20.8**	**-1.3**
NKY				*e*Sg	**Sb**	**23 35 41.4**	**+1.3**
NKY	**Niksic**	**1.44**	**4**⇑	*i*Pg	**Pb**	**23 35 20.8**	**-1.3**
PVY	**Plav**	**1.47**	**33**⇑	*i*Pg	**Pb**	**23 35 21.9**	**-0.6**
PVY				*e*Sg	**Sb**	**23 35 41.6**	**+0.7**
PVY	**Plav**	**1.47**	**33**⇑	*i*Pg	**Pb**	**23 35 21.9**	**-0.6**
NOCI	**Noci** 4µm,0.3s	**1.48**	**247**	Pg	**Pb**	**23 35 21.5**	**-1.1**
NOCI	**Noci** 4µm,0.3s	**1.48**	**247**	Pg	**Pb**	**23 35 21.5**	**-1.1**
BAI	**Bari**	**1.52**	**261**⇑	*i*Pn	**Pb**	**23 35 21.9**	**-1.3**
BRY	**Bratogost**	**1.55**	**351**⇓	*i*Pg	**Pn**	**23 35 22.0**	**+0.8**
BRY				*e*Sg	**Sb**	**23 35 43.1**	**0.0**
BRY	**Bratogost**	**1.55**	**351**⇓	*i*Pg	**Pn**	**23 35 22.0**	**+0.8**
BRY				*e*Sg	**Sb**	**23 35 43.1**	**0.0**
KBN	**Korca**	**1.64**	**117**	*e*PG	**Pn**	**23 35 23.7**	**+1.3**
KBN				*i* SG	**Sb**	**23 35 46.4**	**+0.7**
KBN	**Korca**	**1.64**	**117**	P	**Pb**	**23 35 23.9**	**-1.4**
KBN				S	**Sb**	**23 35 46.2**	**+0.5**
KBN	**Korca**	**1.64**	**117**	*e*Pg	**Pn**	**23 35 23.7**	**+1.3**
KBN				S	**Sb**	**23 35 46.2**	**+0.5**
BEY	**Berane**	**1.68**	**27**⇑	*i*Pn	**Pb**	**23 35 24.4**	**-1.7**
IVA	**Berane**	**1.68**	**27**⇑	*i*Pn	**Pb**	**23 35 24.4**	**-1.7**
IVA				*e*Sn	**Sb**	**23 35 47.0**	**0.0**
SRN	**Sarande**	**1.73**	**149**	P	**Pn**	**23 35 24.3**	**+0.8**
SRN				S	**Sn**	**23 35 45.9**	**+1.5**
SRN	**Sarande**	**1.73**	**149**	P	**Pn**	**23 35 24.3**	**+0.8**
SRN				S	**Sn**	**23 35 45.9**	**+1.5**
STON	**Ston**	**1.73**	**330**	*i* Pn	**Pn**	**23 35 24.4**	**+0.9**
STON				Sn	**Sb**	**23 35 46.4**	**-1.8**
STON	**Ston**	**1.73**	**330**⇓	*i*Pg	**Pn**	**23 35 24.4**	**+0.9**
STON				*e*Sg	**Sb**	**23 35 46.4**	**-1.8**
STON	**Ston**	**1.73**	**330**⇓	*i*Pg	**Pn**	**23 35 24.4**	**+0.9**
STON				Sn	**Sb**	**23 35 46.3**	**-1.8**
AMUR	**Altamura** 1µm,0.3s	**1.77**	**255**	Pg	**Pb**	**23 35 25.4**	**-2.1**
AMUR	**Altamura** 1µm,0.3s	**1.77**	**255**	Pg	**Pb**	**23 35 25.4**	**-2.1**
MATE	**Matera** 2µm,0.4s	**1.79**	**247**	Pg	**Pb**	**23 35 26.6**	**-1.1**
MATE	**Matera** 2µm,0.4s	**1.79**	**247**	Pg	**Pb**	**23 35 26.6**	**-1.1**
KEK	**Kerkira**	**1.81**	**156**	P	**Pn**	**23 35 25.6**	**+1.0**
KEK				S	**Sb**	**23 35 49.0**	**-1.4**
KEK	**Kerkira** 2µm,0.3s	**1.81**	**156**	Pg	**Pb**	**23 35 27.8**	**-0.3**
KEK	**Kerkira**	**1.81**	**156**	*e*PN	**Pb**	**23 35 26.9**	**-1.2**
KEK	**Kerkira**	**1.81**	**156**	P	**Pn**	**23 35 25.6**	**+1.0**
KEK	**Kerkira** 2µm,0.3s	**1.81**	**156**	Pg	**Pb**	**23 35 27.8**	**-0.3**
KEK				S	**Sb**	**23 35 49.0**	**-1.4**
UPM	**Unac-Piva**	**1.83**	**1**⇓	*i*Pn	**Pn**	**23 35 26.2**	**+1.1**
UPM				*e*Sn	**Sb**	**23 35 50.2**	**-1.0**
UPM	**Unac-Piva**	**1.83**	**1**⇓	*i*Pn	**Pn**	**23 35 26.2**	**+1.1**
UPM				*e*Sn	**Sb**	**23 35 50.2**	**-1.0**
BIA	**Bitola**	**1.89**	**100**	P	**Pn**	**23 35 26.3**	**+0.5**
BIA				S	**Sn**	**23 35 50.8**	**+2.2**
BIA	**Bitola**	**1.89**	**100**	*e*Pn	**Pn**	**23 35 27.2**	**+1.4**
BIA	**Bitola**	**1.89**	**100**	P	**Pn**	**23 35 26.3**	**+0.5**
BIA	**Bitola**	**1.89**	**100**	*e*Pn	**Pn**	**23 35 27.2**	**+1.4**
BIA				S	**Sn**	**23 35 50.8**	**+2.2**
NEST	**Nestorio**	**1.92**	**119**	P	**Pn**	**23 35 27.7**	**+1.5**
NEST				S	**Sb**	**23 35 52.8**	**-0.8**
NEST	**Nestorio**	**1.92**	**119**	P	**Pn**	**23 35 27.7**	**+1.5**
NEST				S	**Sb**	**23 35 52.8**	**-0.8**
MIGL	**Miglionico** 7µm,0.8s	**1.99**	**248**	Pg	**Pb**	**23 35 29.0**	**-2.2**
MIGL	**Miglionico** 7µm,0.8s	**1.99**	**248**	Pg	**Pb**	**23 35 29.0**	**-2.2**
FNA	**Florina**	**1.99**	**106**	P	**Pn**	**23 35 28.1**	**+0.9**
FNA				S	**Sb**	**23 35 54.6**	**-1.1**
FNA	**Florina**	**1.99**	**106**	*e*PN	**Pn**	**23 35 28.2**	**+1.0**
FNA	**Florina**	**1.99**	**106**	P	**Pn**	**23 35 28.1**	**+0.9**
FNA				S	**Sb**	**23 35 54.6**	**-1.1**
SKO	**Skopje**	**2.02**	**72**	P	**Pn**	**23 35 29.7**	**+2.1**
SKO				S	**Sn**	**23 35 54.1**	**+2.4**
SKO	**Skopje**	**2.02**	**72**	*e*Pn	**Pn**	**23 35 30.1**	**-1.7**
SKO				*e*Sn	**Sb**	**23 35 55.8**	**-0.8**
SKO	comp=E,1µm,0.6s			*e*Lg	Lg	23 35 56.0	
SKO	comp=N,1µm,0.6s			*e*Lg	Lg	23 35 56.8	
SKO	**Skopje**	**2.02**	**72**	P	**Pn**	**23 35 29.7**	**+2.1**
SKO	**Skopje**	**2.02**	**72**	*e*Pn	**Pb**	**23 35 30.1**	**-1.7**
SKO				S	**Sn**	**23 35 54.1**	**+2.4**
SKO				*e*Sn	**Sb**	**23 35 55.7**	**-0.8**
SKO	comp=N,1µm,0.6s			*e*Lg	Lg	23 35 56.8	
MRVN	**Minervino Murg** comp=N,1µm,0.6s	**2.03**	**262**	Pg	**Pb**	**23 35 29.6**	**-2.4**
MRVN	**Minervino Murg** comp=N,1µm,0.6s	**2.03**	**262**	Pg	**Pb**	**23 35 29.6**	**-2.4**
SJES	**Sjenica**	**2.06**	**23**⇑	*i*Pn	**Pn**	**23 35 29.2**	**+1.0**
SJES				*e*Sg	**Sb**	**23 35 58.3**	**+0.5**
SJES	**Sjenica**	**2.06**	**23**⇑	*i*Pn	**Pn**	**23 35 29.2**	**+1.0**
CRAC	**Cracо** comp=N,3µm,0.5s	**2.10**	**242**	Pg	**Pb**	**23 35 30.3**	**-2.8**
CRAC	**Cracо** comp=N,3µm,0.5s	**2.10**	**242**	Pg	**Pb**	**23 35 30.3**	**-2.8**
MS1	**Monte Sant'Ang**	**2.22**	**280**⇑	*i*Pn	**Pn**	**23 35 31.8**	**+1.5**
PALZ	**Palazzo San Ge** comp=N,2µm,0.7s	**2.23**	**260**	Pg	**Pb**	**23 35 32.2**	**-3.2**
PALZ	**Palazzo San Ge** comp=N,2µm,0.7s	**2.23**	**260**	Pg	**Pb**	**23 35 32.2**	**-3.2**
MSAG	**Monte S. Angel** comp=N,2µm,0.6s	**2.24**	**280**	Pg	**Pn**	**23 35 31.8**	**+1.2**
MSAG	**Monte S. Angel** comp=N,2µm,0.6s	**2.24**	**280**	Pg	**Pn**	**23 35 31.8**	**+1.2**
ORI	**Oriolo Calabro** comp=N,3µm,0.4s	**2.25**	**235**	Pg	**Pn**	**23 35 32.2**	**+1.5**
ORI	**Oriolo Calabro** comp=N,3µm,0.4s	**2.25**	**235**	Pg	**Pn**	**23 35 32.2**	**+1.5**
ACER	**Acerenza** comp=N,2µm,0.4s	**2.28**	**256**	Pg	**Pb**	**23 35 33.3**	**-3.0**
ACER	**Acerenza** comp=N,2µm,0.4s	**2.28**	**256**	Pg	**Pb**	**23 35 33.3**	**-3.0**
JAN	**Janina**	**2.29**	**138**	P	**Pn**	**23 35 32.8**	**+1.5**
JAN				S	**Sn**	**23 36 00.9**	**+2.5**
JAN	**Janina**	**2.29**	**138**	*e*PB	**Pn**	**23 35 32.8**	**+1.5**
JAN	**Janina**	**2.29**	**138**	P	**Pn**	**23 35 32.8**	**+1.5**
JAN				S	**Sn**	**23 36 00.9**	**+2.5**
SGRT	**San Giovanni R** comp=N,623nm,0.7s	**2.37**	**280**	Pg	**Pn**	**23 35 33.5**	**+1.1**
SGRT	**San Giovanni R** comp=N,623nm,0.7s	**2.37**	**280**	Pg	**Pn**	**23 35 33.5**	**+1.1**
SCHR	**S. Chirico Rap** comp=N,372nm,0.4s	**2.42**	**242**	Pg	**Pn**	**23 35 34.6**	**+1.5**
SCHR	**S. Chirico Rap** comp=N,372nm,0.4s	**2.42**	**242**	Pg	**Pn**	**23 35 34.6**	**+1.5**
PZUN	**Potenza** comp=N,1µm,0.5s	**2.42**	**254**	Pg	**Pb**	**23 35 36.0**	**-2.6**
PZUN	**Potenza** comp=N,1µm,0.5s	**2.42**	**254**	Pg	**Pb**	**23 35 36.0**	**-2.6**
KZN	**Kozani**	**2.45**	**115**	P	**Pn**	**23 35 34.9**	**+1.4**
KZN				S	**Sn**	**23 36 04.9**	**+2.5**
KZN	**Kozani**	**2.45**	**115**	*e*PB	**Pn**	**23 35 34.5**	**+1.0**
KZN	**Kozani**	**2.45**	**115**	P	**Pn**	**23 35 34.9**	**+1.4**
KZN				S	**Sn**	**23 36 04.9**	**+2.5**
SELS	**Selova**	**2.49**	**41**	*e*Pn	**Pn**	**23 35 34.5**	**+0.4**
SIRI	**Monte Sirino -**	**2.56**	**243**	Pg	**Pn**	**23 35 36.3**	**+1.2**
SIRI	**Monte Sirino -**	**2.56**	**243**	Pg	**Pn**	**23 35 36.3**	**+1.2**
MTSN	**Montesano sull** comp=N,743nm,0.5s	**2.61**	**246**	Pg	**Pn**	**23 35 37.3**	**+1.6**
MTSN	**Montesano sull** comp=N,743nm,0.5s	**2.61**	**246**	Pg	**Pn**	**23 35 37.3**	**+1.6**
BARS	**Barje**	**2.63**	**56**	*e*Pn	**Pn**	**23 35 37.1**	**+1.2**
BARS				*e*Sn	**Sn**	**23 36 09.9**	**+3.2**
BARS	**Barje**	**2.63**	**56**	*e*Pn	**Pn**	**23 35 37.1**	**+1.2**
BARS				*e*Sn	**Sn**	**23 36 09.9**	**+3.2**
GRG	**Griva**	**2.71**	**98**	P	**Pn**	**23 35 37.7**	**+0.7**
GRG	**Griva**	**2.71**	**98**	*e*PN	**Pn**	**23 35 37.6**	**+0.6**
GRG	**Griva**	**2.71**	**98**	P	**Pn**	**23 35 37.7**	**+0.7**
TIP	**Timpagrande**	**2.72**	**217**	P	**Pn**	**23 35 38.3**	**+1.1**
TIP	**Timpagrande** comp=N,630nm,1.0s	**2.72**	**217**	Pg	**Pn**	**23 35 38.1**	**+0.9**
TIP	**Timpagrande**	**2.72**	**217**	*e*Pn	**Pn**	**23 35 37.9**	**+0.7**
TIP				*e*Sn	**Sn**	**23 36 08.4**	**-0.6**
TIP	**Timpagrande**	**2.72**	**217**	P	**Pn**	**23 35 38.3**	**+1.1**
TIP				*e*Sn	**Sn**	**23 36 08.4**	**-0.6**
CAFE	**Carife** comp=N,716nm,0.6s	**2.76**	**264**	Pg	**Pn**	**23 35 39.4**	**+1.7**
CAFE	**Carife** comp=N,716nm,0.6s	**2.76**	**264**	Pg	**Pn**	**23 35 39.4**	**+1.7**
VAY	**Valandovo**	**2.79**	**90**	P	**Pn**	**23 35 37.9**	**-0.2**
VAY	**Valandovo**	**2.79**	**90**	*e*Pn	**Pn**	**23 35 40.5**	**+2.4**
VAY	**Valandovo**	**2.79**	**90**	P	**Pn**	**23 35 37.9**	**-0.2**
VAY	**Valandovo**	**2.79**	**90**	*e*Pn	**Pn**	**23 35 40.5**	**+2.4**
DIVS	**Divibare**	**2.85**	**17**	P	**Pn**	**23 35 39.1**	**+0.1**
DIVS	**Divibare**	**2.85**	**17**	*e*Pn	**Pn**	**23 35 39.5**	**+0.5**
DIVS	**Divibare**	**2.85**	**17**	P	**Pn**	**23 35 39.1**	**+0.1**
DIVS	**Divibare**	**2.85**	**17**	*e*Pn	**Pn**	**23 35 39.5**	**+0.5**
MCRV	**Calabrutti - M** comp=N,531nm,0.5s	**2.85**	**259**	Pg	**Pn**	**23 35 40.3**	**+1.2**
MCRV	**Calabrutti - M** comp=N,531nm,0.5s	**2.85**	**259**	Pg	**Pn**	**23 35 40.3**	**+1.2**
GRUS	**Gruza**	**2.86**	**28**	*e*Pn	**Pn**	**23 35 39.9**	**+0.8**
GRUS				*e*Sn	**Sn**	**23 36 16.4**	**+4.0**
GRUS	**Gruza**	**2.86**	**28**	*e*Pn	**Pn**	**23 35 39.9**	**+0.8**
GRUS				*e*Sn	**Sn**	**23 36 16.4**	**+4.0**
LKD2	**Lefkada island**	**2.93**	**151**	P	**Pn**	**23 35 40.5**	**+0.5**
LKD2	**Lefkada island**	**2.93**	**151**	*e*PN	**Pn**	**23 35 40.6**	**+0.5**
LKD2	**Lefkada island**	**2.93**	**151**	P	**Pn**	**23 35 40.5**	**+0.5**
THL	**Klokotos Trika**	**3.01**	**126**	P	**Pn**	**23 35 42.4**	**+1.3**
THL	**Klokotos Trika**	**3.01**	**126**	*e*PN	**Pn**	**23 35 42.3**	**+1.2**
THL	**Klokotos Trika**	**3.01**	**126**	P	**Pn**	**23 35 42.4**	**+1.3**
LIT	**Litokhoron**	**3.04**	**114**	P	**Pn**	**23 35 42.1**	**+0.6**
LIT	**Litokhoron**	**3.04**	**114**	*e*PN	**Pn**	**23 35 41.9**	**+0.4**
LIT	**Litokhoron**	**3.04**	**114**	P	**Pn**	**23 35 42.1**	**+0.6**
KNT	**Kendrikon**	**3.05**	**93**	P	**Pn**	**23 35 41.9**	**+0.2**
KNT	**Kendrikon**

| | | |

LOR				*e*Sn		Sn	23 39 55.9	-7.2
	comp=Z,15nm,0.3s,SNR=1.0								
LOR	**Lormes**	**12.25**	**304**	*e*Pn		**Pn**	**23 37 46.6**	**-1.2**
LOR				*e*Sn		Sn	23 39 55.9	-7.2
LOR	**Lormes**	**12.25**	**304**	*e*Pn		**Pn**	**23 37 46.6**	**-1.2**
	baz=130,SNR=1.0								
SSF	**Saint Saulge**	**12.39**	**302**	*e*Pn		**Pn**	**23 37 48.4**	**-1.3**
	SNR=1.0								
SSF				*e*Sn		Sn	23 39 58.6	-8.0
	comp=Z,5.2nm,0.5s,SNR=1.0								
SSF	**Saint Saulge**	**12.39**	**302**	*e*P		**Pn**	**23 37 48.4**	**-1.3**
SSF				*e*			23 39 58.6	
SSF	**Saint Saulge**	**12.39**	**302**	*e*Pn		**Pn**	**23 37 48.4**	**-1.3**
SSF				*e*Sn		Sn	23 39 58.6	-8.0
SSF	**Saint Saulge**	**12.39**	**302**	*e*Pn		**Pn**	**23 37 48.4**	**-1.3**
	SNR=1.0								
AVF	**Avril sur Loir**	**12.39**	**301**	*e*Pn		**Pn**	**23 37 48.0**	**-1.7**
	SNR=1.0								
AVF	**Avril sur Loir**	**12.39**	**301**	*e*P		**Pn**	**23 37 48.0**	**-1.7**
AVF	**Avril sur Loir**	**12.39**	**301**	*e*Pn		**Pn**	**23 37 48.0**	**-1.7**
BGF	**Bois d'Agland**	**12.64**	**300**	*e*Pn		**Pn**	**23 37 52.0**	**-1.2**
	SNR=1.0								
BGF				*e*Sn		Sn	23 40 05.1	-7.7
	comp=Z,13nm,0.5s								
BGF	**Bois d'Agland**	**12.64**	**300**	*e*P		**Pn**	**23 37 52.0**	**-1.2**
BGF				*e*			23 40 05.1	
BGF	**Bois d'Agland**	**12.64**	**300**	*e*Pn		**Pn**	**23 37 52.0**	**-1.2**
BGF				*e*Sn		Sn	23 40 05.1	-7.7
BGF	**Bois d'Agland**	**12.64**	**300**	*e*Pn		**Pn**	**23 37 52.0**	**-1.2**
	SNR=1.0								
CSS	**Prodhromos**	**13.05**	**115**	*e*Pn		**Pn**	**23 37 58.5**	**-0.4**
CSS	**Prodhromos**	**13.05**	**115**	*e*Pn		**Pn**	**23 37 58.5**	**-0.4**
LFF	**La Frestale**	**13.70**	**291**	*e*Pn		**Pn**	**23 38 06.9**	**-0.7**
	SNR=1.0								
LFF	**La Frestale**	**13.70**	**291**	*e*P		**Pn**	**23 38 06.9**	**-0.7**
LFF	**La Frestale**	**13.70**	**291**	*e*Pn		**Pn**	**23 38 06.9**	**-0.7**
LFF	**La Frestale**	**13.70**	**291**	*e*Pn		**Pn**	**23 38 06.9**	**-0.7**
	SNR=1.0								
ANN	**Anapa**	**14.00**	**70**	*e*P		**P**	**23 38 19.2**	**0.0**
ANN				pmax		pmax		
	comp=Z,56nm,1.4s								
ANN	**Anapa**	**14.00**	**70**	*e*P		**P**	**23 38 19.2**	**0.0**
	comp=Z,56nm,1.4s								
SJPF	**Ste Jean**	**14.98**	**283**	*e*Pn		**Pn**	**23 38 23.6**	**-1.4**
	SNR=1.0								
SJPF	**Ste Jean**	**14.98**	**283**	*e*P		**Pn**	**23 38 23.6**	**-1.4**
SJPF	**Ste Jean**	**14.98**	**283**	*e*Pn		**Pn**	**23 38 23.6**	**-1.4**
SJPF	**Ste Jean**	**14.98**	**283**	*e*Pn		**Pn**	**23 38 23.6**	**-1.4**
	SNR=1.0								
ESDC	**Sonseca Array**	**17.43**	**272**	P		**P**	**23 38 57.3**	**-0.1**
ESDC	**Sonseca Array**	**17.43**	**272**	P		**P**	**23 38 57.3**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=74,slow=13,SNR=3.8								
ESDC	**Sonseca Array**	**17.43**	**272**	P		**P**	**23 38 57.3**	**-0.1**
KIV	**Kislovodsk**	**17.70**	**74**	*e*P		**P**	**23 39 02.1**	**+1.7**
KIV				pmax		pmax		
	comp=Z,9.0nm,1.0s								
KIV	**Kislovodsk**	**17.70**	**74**	*e*P		**P**	**23 39 02.1**	**+1.7**
	comp=Z,9.0nm,1.0s								
VSU	**Vasula**	**17.82**	**14**	*e*P		**P**	**23 39 02.3**	**+0.9**
VSU				pmax		pmax		
	comp=Z,22nm,1.1s								
VSU	**Vasula**	**17.82**	**14**	*e*P		**P**	**23 39 02.3**	**+0.9**
	comp=Z,22nm,1.1s								
OBN	**Obninsk**	**18.04**	**34**	*e*P		**Pn**	**23 39 01.7**	**-1.9**
OBN				pmax		pmax		
	comp=Z,6.0nm,0.5s								
HFS	**Hagfors**	**19.05**	**352**	P		**P**	**23 39 14.8**	**-0.2**
HFS	**Hagfors**	**19.05**	**352**	P		**P**	**23 39 14.8**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=168,slow=14,SNR=37								
HFS				LR		LR	23 47 30.5		
	comp=Z,23nm,20.1s,baz=311,slow=40								
HFS	**Hagfors**	**19.05**	**352**	P		**P**	**23 39 14.8**	**-0.2**
	comp=Z,23nm,20.1s								
GNI	**Garni**	**19.62**	**85**	*e*Pn		**P**	**23 39 22.6**	**+1.0**
	comp=Z,18nm,1.2s								
GNI	**Garni**	**19.62**	**85**	*i* P		**P**	**23 39 22.5**	**+0.9**
	comp=Z,9.0nm,1.0s								
EKA	**Eskdalemuir Ar**	**20.11**	**321**	P		Pn	23 39 28.4	-0.1
EKA	**Eskdalemuir Ar**	**20.11**	**321**	P		Pn	23 39 28.4	-0.1
	comp=Z,0.9nm,0.4s,baz=118,slow=10,SNR=6.9								
EKA	**Eskdalemuir Ar**	**20.11**	**321**	P		Pn	23 39 28.4	-0.1
	comp=Z,1.0nm,0.4s								
NOA	**NORSAR Array B**	**20.24**	**349**	P		**P**	**23 39 28.0**	**0.0**
NOA	**NORSAR Array B**	**20.24**	**349**	P		**P**	**23 39 28.0**	**0.0**
	comp=Z,1.1nm,0.6s,baz=153,slow=9.9,SNR=8.9								
NOA				LR		LR	23 48 35.7		
	comp=Z,16nm,18.4s,baz=170,slow=41								
NOA	**NORSAR Array B**	**20.24**	**349**	P		**P**	**23 39 28.0**	**0.0**
	comp=Z,16nm,18.4s								
FINES	**FINESS Array B**	**20.57**	**10**	P		**P**	**23 39 30.8**	**-0.7**
FINES	**FINESS Array B**	**20.57**	**10**	P		**P**	**23 39 30.8**	**-0.7**
	comp=Z,3.1nm,0.7s,baz=177,slow=11,SNR=12								
FINES	**FINESS Array B**	**20.57**	**10**	P		**P**	**23 39 30.8**	**-0.7**
	comp=Z,3.0nm,0.7s								
MIB	**Mutribah**	**25.76**	**108**	*e*P		**P**	**23 40 22.9**	**-0.5**
MIB				AMb		AMB	23 40 24.9	
	comp=Z,18nm,0.6s								
MIB	**Mutribah**	**25.76**	**108**	*e*P		**P**	**23 40 23.0**	**-0.5**
NAY	**Al-Naaiem**	**26.01**	**109**	*e*P		**P**	**23 40 24.1**	**-1.6**
NAY				AMb		AMB	23 40 28.0	
	comp=Z,6.5nm,0.7s								
NAY	**Al-Naaiem**	**26.01**	**109**	*e*P		**P**	**23 40 24.1**	**-1.6**
	comp=Z,6.5nm,0.7s								
ARCES	**ARCESS Array B**	**28.44**	**5**	LR		LR	23 52 10.4		
	comp=Z,12nm,21.3s,baz=314,slow=36								
TORD	**Torodi Ar. Bea**	**31.86**	**213**	P		**P**	**23 41 19.9**	**+2.0**
TORD	**Torodi Ar. Bea**	**31.86**	**213**	P		**P**	**23 41 19.9**	**+2.0**
	comp=Z,0.5nm,0.5s,baz=20,slow=9.8,SNR=12								
TORD	**Torodi Ar. Bea**	**31.86**	**213**	P		**P**	**23 41 19.9**	**+2.0**
BRVK	**Borovoye**	**36.07**	**53**	*e*P		**P**	**23 41 54.5**	**+0.4**
BRVK				pmax		pmax		
	comp=Z,1.0nm,0.5s								
BRVK	**Borovoye**	**36.07**	**53**	*e*P		**P**	**23 41 54.5**	**+0.4**
	comp=Z,1.0nm,0.5s								
AAK	**Ala-Archa**	**40.72**	**69**	*c i* P		**P**	**23 42 33.3**	**-0.2**
AAK				pmax		pmax		
	comp=Z,12nm,1.8s								
AAK	**Ala-Archa**	**40.72**	**69**	*i* P		**P**	**23 42 33.3**	**-0.2**
	comp=Z,12nm,1.8s								
ZALV	**Zalesovo Beam**	**44.57**	**50**	P		**P**	**23 43 05.4**	**+1.0**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.4s								
ZALV	**Zalesovo Beam**	**44.57**	**50**	P		**P**	**23 43 05.4**	**+1.0**
ZALV	**Zalesovo Beam**	**44.57**	**50**	P		**P**	**23 43 05.4**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=297,slow=9.5,SNR=2.4								
ZALV	**Zalesovo Beam**	**44.57**	**50**	P		**P**	**23 43 05.4**	**+1.0**
	comp=Z,1.0nm,0.4s								
MK31	**Makanchi Array**	**44.79**	**61**	*e*P		**P**	**23 43 06.9**	**+0.6**
MK31	**Makanchi Array**	**44.79**	**61**	*e*P		**P**	**23 43 06.9**	**+0.6**
MK31	**Makanchi Array**	**44.79**	**61**	*e*P		**P**	**23 43 06.9**	**+0.6**
MKAR	**Makanchi Array**	**44.79**	**61**	P		**P**	**23 43 06.7**	**+0.4**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.5s								
MKAR	**Makanchi Array**	**44.79**	**61**	P		**P**	**23 43 06.7**	**+0.4**
MKAR	**Makanchi Array**	**44.79**	**61**	P		**P**	**23 43 06.7**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=289,slow=7.3,SNR=9.0								
MKAR	**Makanchi Array**	**44.79**	**61**	P		**P**	**23 43 06.7**	**+0.4**
	comp=Z,1.0nm,0.5s								
WMQ	**Urumqi**	**49.38**	**63**	*e*P		**P**	**23 43 43.3**	**+1.1**
SONM	**Songino Array**	**59.44**	**51**	P		**P**	**23 44 55.6**	**+0.3**
SONM	**Songino Array**	**59.44**	**51**	P		**P**	**23 44 55.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=303,slow=8.0,SNR=2.9								
SONM	**Songino Array**	**59.44**	**51**	P		**P**	**23 44 55.6**	**+0.3**
ULN	**Ulaanbaatar**	**59.81**	**51**	*e*P		**P**	**23 44 57.8**	**-0.1**
	comp=Z,0.7nm,0.3s								
ULN	**Ulaanbaatar**	**59.81**	**51**	*e*P		**P**	**23 44 57.8**	**-0.1**
	comp=Z,0.7nm,0.3s								
CD2	**Chengdu**	**66.79**	**69**	*e*P		**P**	**23 45 42.8**	**-1.4**
GYA	**Guiyang**	**71.48**	**71**	*e*P		**P**	**23 46 13.0**	**-0.4**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s								
ILAR	**Eielson Array**	**73.60**	**354**	P		**P**	**23 46 26.6**	**+1.2**
ILAR	**Eielson Array**	**73.60**	**354**	P		**P**	**23 46 26.5**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=28,slow=4.1,SNR=3.9								
ILAR	**Eielson Array**	**73.60**	**354**	P		**P**	**23 46 26.5**	**+1.2**
MDJ	**Mudanjiang**	**74.30**	**44**	P		**P**	**23 46 28.0**	**-1.7**
MDJ				pmax		pmax		
	comp=Z,4.0nm,0.6s								
MDJ				pmax		pmax		
	comp=Z,44nm,3.9s								
PETK	**Petropavlovsk-**	**79.41**	**24**	P		**P**	**23 46 59.7**	**+1.3**
PETK				pmax		pmax		
	comp=Z,1.0nm,0.6s								
PETK	**Petropavlovsk-**	**79.41**	**24**	P		**P**	**23 46 59.7**	**+1.3**
PETK	**Petropavlovsk-**	**79.41**	**24**	P		**P**	**23 46 59.7**	**+1.3**
	comp=Z,1.4nm,0.6s,baz=311,slow=11,SNR=3.8								
PETK	**Petropavlovsk-**	**79.41**	**24**	P		**P**	**23 46 59.7**	**+1.3**
	comp=Z,1.0nm,0.6s								
TXAR	**Lajitas Array**	**91.86**	**313**	P		**P**	**23 48 03.2**	**+2.3**
TXAR	**Lajitas Array**	**91.86**	**313**	P		**P**	**23 48 03.2**	**+2.3**
	comp=Z,0.5nm,0.8s,baz=92,slow=3.0,SNR=5.4								
TXAR	**Lajitas Array**	**91.86**	**313**	P		**P**	**23 48 03.2**	**+2.3**
	comp=Z,1.0nm,0.8s								

ISCJB ***29*** *00:23:19.6±0.5, 12°.42N±0°.06×87°.75W±0°.06, h74km±6km, mb3.7/6, Error ellipse: s-maj=12.6km s-min=4.9km az=41.7*

CASC ***29*** *00:23:20.8±2.3, 12°.44N×87°.81W, h31km±9km, MD3.9*

IDC ***29*** *00:23:21.5±3.0, 12°.56N×87°.53W, h75km±32km, mb3.6/6, mb1 3.8/7, mb1mx3.5/24, mbtmp3.6/7, Error ellipse: s-maj=50.1km s-min=17.5km az=53.0*

ISC 29 00:23:20.4±1.1, 12°.45N±0°.07×87°.75W±0°.06, h68km±11km, n24, σ0°87/30, mb3.7/6, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CNCH	**Conchagua**	**0.83**	**355**	*e*P		**Pn**	**00 23 36.3**	**-0.5**
CNCH				*e*S		**Sn**	**00 23 49.4**	**+0.5**
CNGN	**Cerro Negro**	**1.03**	**87**	*e*P		**Pn**	**00 23 38.6**	**-0.6**
BLLM	**Bellamira**	**1.09**	**335**	*e*P		**Pn**	**00 23 39.7**	**-0.4**
BLLM				*e*S		**Sn**	**00 23 55.1**	**+0.4**
VSM	**San Miguel**	**1.10**	**333**	*e*P		**Pn**	**00 23 40.4**	**+0.1**
COPN	**Copaltepe**	**1.17**	**103**	*e*P		**Pn**	**00 23 40.2**	**-0.7**
CAHU	**Cacacuatique**	**1.39**	**341**	*e*P		**Pn**	**00 23 44.2**	**+0.1**
CAHU				*e*S		**Sn**	**00 24 03.1**	**+1.4**
HUEN		**1.55**	**94**	*e*P		**Pn**	**00 23 45.8**	**-0.2**
SNVI	**San Vicente**	**1.57**	**318**	*e*P		**Pn**	**00 23 46.2**	**-0.2**
SNVI				*e*S		**Sn**	**00 24 05.7**	**-0.2**
TGUH	**Tegucigalpa,Un**	**1.67**	**16**	*e*P		**Pn**	**00 23 48.4**	**+0.8**
TGUH				*e*S		**Sn**	**00 24 09.1**	**+1.1**
LFRS	**El Faro**	**1.73**	**313**	*e*P		**Pn**	**00 23 47.9**	**-0.6**
LFRS				*e*S		**Sn**	**00 24 09.3**	**-0.5**
LBRS	**Las Brisas**	**1.79**	**316**	*e*P		**Pn**	**00 23 49.5**	**+0.1**
BOQS	**Boqueron**	**1.96**	**311**	*e*P		**Pn**	**00 23 51.9**	**+0.2**
BOQS				*e*S		**Sn**	**00 24 16.6**	**+1.1**
SBLS	**San Blas**	**2.29**	**307**	*e*P		**Pn**	**00 23 56.4**	**+0.2**
JTS	**JuntasAbangare**	**3.48**	**128**	P		**Pn**	**00 24 12.8**	**+0.6**
	2.4nm,0.3s,baz=314,slow=19,SNR=12							
JTS				S		**Sn**	**00 24 51.3**	**-1.0**
	4.9nm,0.3s,baz=267,slow=17,SNR=3.6							
JCR	**Jicaral**	**3.66**	**135**	*e*P		**Pn**	**00 24 15.2**	**+0.5**
CGA2	**Cerro Gallo 2**	**4.03**	**127**	*e*P		Pn	00 24 24.7	+4.9
URSC	**Urasca**	**4.69**	**123**	*e*P		Pn	00 24 32.9	+4.0
URSC				*e*S		Sn	00 25 05.1	-17
BUS	**Buena Vista**	**4.86**	**126**	*e*P		**Pn**	**00 24 34.0**	**+2.5**
TXAR	**Lajitas Array**	**22.39**	**321**	P		**P**	**00 28 14.3**	**+0.9**
	1.8nm,0.7s,baz=141,slow=10,SNR=20							
TKL	**Tuckaleechee C**	**23.39**	**8**	P		**P**	**00 28 23.5**	**+0.2**
	1.5nm,0.6s,baz=185,slow=12,SNR=3.7							
PDAR	**Pinedale Array**	**35.63**	**332**	P		**P**	**00 30 12.8**	**+0.6**
	0.6nm,0.6s,baz=120,slow=8.8,SNR=4.6							
SIV	**San Ignacio**	**38.67**	**136**	P		**P**	**00 30 37.9**	**+0.1**
	2.7nm,0.8s,baz=321,slow=8.6,SNR=11							
SCHQ	**Schefferville**	**45.37**	**17**	P		**P**	**00 31 30.4**	**-1.5**
	2.8nm,0.6s,baz=193,slow=6.9,SNR=6.5							
ILAR	**Eielson Array**	**65.90**	**336**	P		**P**	**00 33 58.0**	**-0.9**
	0.3nm,0.7s,baz=111,slow=5.1,SNR=3.2							

IDC ***29*** *00:33:08.7±0.8, 31°.41N×104°.11E, h0km, mb4.1/13, mb1 4.2/14, mb1mx4.0/27, mbtmp4.0/14, ML3.2/1, MS2.8/3, Ms1 2.8/3, ms1mx2.4/35, Error ellipse: s-maj=28.2km s-min=15.0km az=52.0*

ISCJB ***29*** *00:33:09.0±0.3, 31°.44N±0°.03×104°.18E±0°.04, h14km, mb4.2/16, MS2.6/2, Error ellipse: s-maj=5.3km s-min=4.4km az=8.5*

BJI ***29*** *00:33:10.7, 31°.47N×103°.99E, h11km, mB4.3/1, mb4.5/3, ML3.8/17, Ms3.7/1, Ms7 3.3/1*

NEIC ***29*** *00:33:12.6±2.4, 31°.42N×104°.09E, h26km±17km, mb4.5/2, Error ellipse: s-maj=9.5km s-min=5.8km az=57.0*

ISC 29 00:33:10.8±0.5, 31°.40N±0°.04×104°.11E±0°.05, h14km, n46, σ1°13/52, mb4.3/16, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CD2	**Chengdu**	**0.57**	**212**	Pg		**Pg**	**00 33 22.3**	**+0.2**
CD2				Sg		**Sb**	**00 33 31.3**	**+0.6**
CD2				smax		smax		
	comp=E,4μm,0.6s							
LZH	**Lanzhou**	**4.68**	**357**	Pn		**Pn**	**00 34 23.5**	**+2.3**
LZH				Sn		**Sn**	**00 35 18.0**	**+2.5**
LZH				Sg		**Sg**	**00 35 40.8**	**-0.4**
LZH				smax		smax		
	comp=N,96nm,0.6s							
LZH				smax		smax		
	comp=E,110nm,0.7s							
LZH				LR		LR		
	comp=N,640nm,7.7s							
LZH				LR		LR		
	comp=E,850nm,10.5s							
LZH				LR		LR		
	comp=Z,390nm,10.6s							
ENH	**Enshi**	**4.76**	**102**	*e*Pn		**Pn**	**00 34 23.6**	**+1.4**
ENH				*e*Sn		**Sn**	**00 35 16.1**	**-1.1**
XAN	**Xi'an**	**4.83**	**56**	Pn		**Pn**	**00 34 23.0**	**-0.2**
XAN				Sn		**Sn**	**00 35 16.5**	**-2.6**
XAN				Sg		**Sb**	**00 35 37.3**	**+3.9**
XAN				smax		smax		
	comp=N,240nm,0.8s							
XAN				smax		smax		
	comp=E,240nm,0.8s							
GYA	**Guiyang**	**5.41**	**155**	Pn		Pn	00 34 34.8	+3.7
GYA				Sn		**Sn**	**00 35 34.5**	**+1.3**
GYA				Sg		**Sg**	**00 36 03.5**	**-0.9**
GYA				smax		smax		
	comp=N,130nm,0.8s							
GYA				smax		smax		
	comp=E,150nm,1.0s							
GTA	**Gaotai**	**8.73**	**338**	*e*P		**Pg**	**00 35 55.5**	**-2.4**
GTA				pP		pP	00 35 59.8	
GTA				sP		sP	00 36 02.5	
GTA				pmax		pmax		
	comp=Z,5.0nm,2.0s							
CHTO	**Chiang Mai**	**13.37**	**202**	*e*Pn		**Pn**	**00 36 20.4**	**+0.2**
SONM	**Songino Array**	**16.51**	**5**	Pn		**Pn**	**00 37 01.3**	**-0.7**
SONM	**Songino Array**	**16.51**	**5**	Pn		**Pn**	**00 37 01.3**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=190,slow=14,SNR=4.2							
SONM				LR		LR	00 44 12.6	
	comp=Z,43nm,21.6s,baz=68,slow=40							
WMQ	**Urumqi**	**17.93**	**318**	P		**P**	**00 37 20.8**	**+0.5**
KSAR	**Wonju Array Be**	**20.49**	**66**	P		**P**	**00 37 48.5**	**+0.1**
KSRS	**Korea Array**	**20.53**	**66**	P		**P**	**00 37 48.5**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=257,slow=9.0,SNR=6.5							
KSRS				LR		LR	00 45 24.2	
	comp=Z,20nm,18.4s,baz=225,slow=36							
CN2	**Changchun**	**20.89**	**48**	*e*P		Pn	00 37 54.3	-0.8
CN2				pmax		pmax		
	comp=Z,20nm,0.6s							
MK31	**Makanchi Array**	**22.76**	**319**	*e*P		**P**	**00 38 12.8**	**+0.1**
MKAR	**Makanchi Array**	**22.76**	**319**	P		**P**	**00 38 13.1**	**+0.4**
MKAR	**Makanchi Array**	**22.76**	**319**	P		**P**	**00 38 13.1**	**+0.4**
	comp=Z,3.9nm,0.9s,baz=116,slow=11,SNR=21							
USRK	**Ussuriysk Arra**	**25.34**	**52**	P		**P**	**00 38 37.6**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=259,slow=8.3,SNR=5.9							
ZAA0	**Zalesovo Array**	**26.46**	**334**	*e*P		**P**	**00 38 46.5**	**-0.7**
ZALV	**Zalesovo Beam**	**26.46**	**334**	P		**P**	**00 38 47.6**	**+0.4**
ZALV	**Zalesovo Beam**	**26.46**	**334**	P		**P**	**00 38 47.6**	**+0.4**
	comp=Z,5.6nm,0.7s,baz=132,slow=8.9,SNR=28							
ZALV				LR		LR	00 49 34.4	
	comp=Z,19nm,19.1s,baz=160,slow=37							
KURBB	**Kurchatov Arra**	**27.01**	**323**	P		**P**	**00 38 52.6**	**+0.4**
	comp=Z,0.7nm,0.2s,baz=129,slow=9.1,SNR=14							
KURK	**Kurchatov**	**27.02**	**323**	P		**P**	**00 38 52.6**	**+0.4**
JOF	**Joensuu**	**54.78**	**328**	*ep*		**P**	**00 42 39.2**	**-0.6**
	comp=Z,4.5nm,0.6s							
KEV	**Kevo**	**56.47**	**336**	*ep*		**P**	**00 42 50.4**	**-1.4**
	comp=Z,6.3nm,1.0s							
KEV	**Kevo**	**56.47**	**336**	*e*P		**P**	**00 42 51.0**	**-0.8**
	comp=Z,1.8nm,0.6s							
ARCES	**ARCESS Array B**	**56.99**	**336**	P		**P**	**00 42 55.5**	**0.0**
ARCES	**ARCESS Array B**	**56.99**	**336**	P		**P**	**00 42 55.5**	**0.0**
	comp=Z,2.9nm,0.8s,baz=89,slow=7.0,SNR=9.7							
KAF	**Kangasniemi**	**57.15**	**327**	*ep*		**P**	**00 42 56.0**	**-0.7**
	comp=Z,3.4nm,0.6s							
FINES	**FINESS Array B**	**57.33**	**326**	P		**P**	**00 42 57.8**	**-0.3**
FINES	**FINESS Array B**	**57.33**	**326**	P		**P**	**00 42 57.8**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=75,slow=7.4,SNR=25							
COEN	**Coen**	**58.64**	**134**	P		**P**	**00 43 08.2**	**+0.4**
WRAB	**Tennant Creek**	**58.71**	**146**	*e*P		**P**	**00 43 07.8**	**-0.4**
	comp=Z,4.5nm,0.7s							
WRA	**Warramunga Arr**	**58.71**	**146**	P		**P**	**00 43 09.1**	**+0.9**
WRA	**Warramunga Arr**	**58.71**	**146**	P		**P**	**00 43 09.1**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=324,slow=9.7,SNR=2.6							
ASAR	**Alice Springs**	**61.74**	**149**	P		**P**	**00 43 29.6**	**+0.7**
ASAR	**Alice Springs**	**61.74**	**149**	P		**P**	**00 43 29.6**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=346,slow=6.6,SNR=6.3							
NB2	**NORSAR Subarra**	**64.42**	**327**	P		**P**	**00 43 44.8**	**-1.5**
	comp=Z,1.1nm,0.6s,baz=72,slow=6.9							
NOA	**NORSAR Array B**	**64.42**	**327**	P		**P**	**00 43 45.3**	**-1.0**
NOA	**NORSAR Array B**	**64.42**	**327**	P		**P**	**00 43 45.3**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=72,slow=6.7,SNR=5.9							
GERES	**GERESS Array B**	**67.35**	**314**	P		**P**	**00 44 05.9**	**+0.5**
GERES	**GERESS Array B**	**67.35**	**314**	P		**P**	**00 44 05.9**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=86,slow=5.5,SNR=4.2							
TIP	**Timpagrande**	**69.09**	**304**	*e*P		**P**	**00 44 16.4**	**-0.2**
ILAR	**Eielson Array**	**69.57**	**26**	P		**P**	**00 44 18.6**	**-0.3**
ILAR	**Eielson Array**	**69.57**	**26**	P		**P**	**00 44 18.6**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=291,slow=6.2,SNR=6.5							
STKA	**Stephens Creek**	**72.25**	**147**	P		**P**	**00 44 34.5**	**-1.1**
STKA	**Stephens Creek**	**72.25**	**147**	P		**P**	**00 44 34.5**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=342,slow=9.6,SNR=3.6							

IDC ***29*** *00:39:47.7±1.4, 24°.02S×66°.99W, h178km±17km, mb3.0/1, mb1 3.0/7, mb1mx3.0/21, mbtmp2.9/7, Error ellipse: s-maj=23.2km s-min=21.8km az=40.0*

GUC ***29*** *00:39:47.1±0.5, 24°.10S×67°.60W, h219km±8km, ML4.1*

ISC 29 00:39:48.9±1.2, 24°.07S±0°.09×67°.5W±0°.2, h217km±16km, n15, σ1°13/22, 3C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
LVC	**Limon Verde**	**1.93**	**318**	⇓*i* P		**Pn**	**00 40 27.8**	**-0.6**
LVC				*i* S		**S**	**00 40 58.9**	**+0.1**
LVC	**Limon Verde**	**1.93**	**318**	P		**Pn**	**00 40 28.0**	**-0.4**
	5.3nm,0.3s,baz=149,slow=6.9,SNR=85							
LVC				S		**S**	**00 40 59.0**	**+0.1**
	23nm,0.3s,baz=105,slow=20,SNR=79							
ANCH	**Antofagasta**	**2.67**	**278**	⇑*i* P		**Pn**	**00 40 35.0**	**-0.7**
ANCH				*i* S		**S**	**00 41 10.9**	**-1.2**
ANCH				AML		AML	00 41 12.8	
	comp=E,283nm,0.2s							
PB09	**Plate Boundary**	**2.76**	**325**	⇑*i* P		**Pn**	**00 40 37.7**	**+0.7**
PB09				*i* S		**S**	**00 41 16.0**	**+1.6**
PB09				AML		AML	00 41 17.0	
	comp=N,512nm,0.5s							
PB10	**Plate Boundary**	**2.83**	**281**	⇓*i* P		**Pn**	**00 40 36.9**	**-0.7**
PB10				*i* S		**S**	**00 41 14.6**	**-0.8**
PB10				AML		AML	00 41 19.4	
	comp=E,342nm,0.3s							
PB07	**Plate Boundary**	**3.19**	**316**	⇑*i* P		**Pn**	**00 40 42.1**	**+0.2**
PB07				*i* S		**S**	**00 41 23.3**	**+0.2**
PB07				AML		AML	00 41 29.0	
	comp=E,194nm,0.5s							
PB01	**Plate Boundary**	**3.52**	**328**	*e*P		**Pn**	**00 40 46.0**	**+0.4**
PB01				*i*

	baz=311							
SGST	**Jiashian**	**1.01**	**287**	P		**Pb**	**01 36 11.3**	**+0.2**
	baz=294							
SCZT	**Fangliau**	**1.02**	**247**	*e*P		**Pb**	**01 36 10.1**	**-1.1**
	baz=252							
ESL	**Shilin**	**1.04**	**350**	*e*P		**Pb**	**01 36 11.3**	**-0.3**
ESL				*e*S		**Sb**	**01 36 24.1**	**-1.0**
WTP	**Ta-pu**	**1.05**	**296**	P		**Pb**	**01 36 11.6**	**-0.1**
	baz=304							
WTP				*e*S		**Sn**	**01 36 27.6**	**+1.3**
	baz=304							
ALS	**Alishan**	**1.05**	**314**	*e*P		**Pb**	**01 36 11.7**	**-0.3**
	baz=314							
ALS				*e*S		**Sb**	**01 36 25.5**	**-0.1**
	baz=314							
CHN1	**Nanshi**	**1.10**	**292**	*e*P		**Pb**	**01 36 12.8**	**+0.4**
	baz=298							
CHN1				*e*S		**Sn**	**01 36 29.3**	**+1.8**
	baz=298							
TSEB	**Hengchuen, Pin**	**1.11**	**218**	*e*P		**Pb**	**01 36 11.8**	**-0.8**
	baz=218							
CHN4	**Tsaushan**	**1.11**	**301**	⇑*i*P		**Pb**	**01 36 13.0**	**+0.2**
	baz=307							
CHN4				*e*S		**Sb**	**01 36 28.1**	**+1.0**
	baz=307							
TWM1	**Shoushan**	**1.12**	**272**	*e*P		**Pb**	**01 36 13.5**	**+0.7**
	baz=272							
HEN	**Hengchun**	**1.13**	**227**	*e*P		**Pb**	**01 36 13.5**	**+0.5**
	baz=226							
TWK1	**Hengchun**	**1.13**	**223**	*e*P		**Pb**	**01 36 11.9**	**-1.1**
	baz=221							
TWK	**Hsinying**	**1.16**	**295**	*e*P		**Pn**	**01 36 13.8**	**+0.3**
	baz=302							
TWK				*e*S		**Sb**	**01 36 28.5**	**+0.1**
	baz=302							
CHN5	**Tsauling**	**1.20**	**313**	*e*P		**Pb**	**01 36 14.7**	**+0.4**
	baz=313							
CHN5				*e*S		**Sb**	**01 36 30.3**	**+0.8**
	baz=313							
TWP	**Hsiaoliuchiu**	**1.25**	**250**	*e*P		**Pg**	**01 36 16.4**	**+0.5**
	baz=233							
SMLT	**Sun Moon Lake**	**1.29**	**329**	*e*P		**Pb**	**01 36 16.1**	**+0.3**
	baz=339							
SMLT				*e*S		**Sb**	**01 36 31.8**	**-0.4**
	baz=339							
TWD	**Chiawan**	**1.29**	**358**	*e*P		**Pn**	**01 36 13.3**	**-1.9**
	baz=10.0							
TWD				*e*S		**Sb**	**01 36 30.2**	**-2.0**
	baz=10.0							
CHY	**Chiayi**	**1.32**	**303**	*e*P		**Pb**	**01 36 16.8**	**+0.4**
	baz=304							
CHY				S		**Sg**	**01 36 34.7**	**+0.1**
	baz=304							
TYC	**Yuchr**	**1.33**	**328**	P		**Pb**	**01 36 16.9**	**+0.5**
	baz=339							
TYC				*e*S		**Sb**	**01 36 33.5**	**+0.3**
	baz=339							
WNT	**Mingjian**	**1.40**	**322**	*e*P		**Pb**	**01 36 18.1**	**+0.5**
	baz=322							
WHF	**Hehuan Shan**	**1.40**	**346**	*e*P		**Pn**	**01 36 16.8**	**-0.3**
	baz=347							
WHF				*e*S		**Sn**	**01 36 33.5**	**-2.0**
	baz=347							
ENA	**Nanau**	**1.64**	**3**	*e*P		**Pn**	**01 36 20.1**	**0.0**
	baz=4.0							
TWQ1	**Liyutan**	**1.75**	**333**	*e*P		**Pb**	**01 36 24.3**	**+0.7**
	baz=334							
TWQ1				*e*S		**Sb**	**01 36 46.2**	**+0.9**
	baz=334							
NSY	**Sanyi**	**1.81**	**334**	*e*P		**Pb**	**01 36 25.1**	**+0.4**
	baz=335							
NSY				*e*S		**Sb**	**01 36 48.6**	**+1.4**
	baz=335							
TWC	**Suao**	**1.83**	**6**	*e*P		**Pn**	**01 36 22.9**	**+0.2**
	baz=18							
TWC				*e*S		**Sn**	**01 36 45.7**	**+0.1**
	baz=18							
NSK	**Sanguang**	**1.90**	**352**	*e*P		**Pn**	**01 36 22.8**	**-0.9**
	baz=5.0							
NSTT	**Nanjuang**	**1.93**	**343**	*e*P		**Pb**	**01 36 26.6**	**-0.1**
	baz=353							
NSTT				*e*S		**Sb**	**01 36 50.6**	**0.0**
	baz=353							
TWE	**Neicheng**	**1.93**	**1**	*e*P		**Pn**	**01 36 24.6**	**+0.5**
	baz=2.0							
YOJ	**Yonaguni jima**	**2.10**	**37**	P		**Pn**	**01 36 27.0**	**+0.7**
YOJ				S		**Sn**	**01 36 51.6**	**-0.5**
HATJ	**Hateruma jima**	**2.37**	**57**	P		**Pn**	**01 36 30.8**	**+0.8**
HATJ				S		**Sn**	**01 36 57.8**	**-0.9**
IRIF	**Iriomote-Funau**	**2.47**	**51**	P		**Pn**	**01 36 32.8**	**+1.4**
IRIF				S		**Sn**	**01 37 01.0**	**-0.3**
JKRS	**Kuro-shima**	**2.62**	**56**	P		**Pn**	**01 36 34.7**	**+1.2**
JKRS				S		**Sn**	**01 37 04.7**	**-0.3**
JIJ	**Ishigaki jima**	**2.79**	**55**	P		**Pn**	**01 36 37.9**	**+2.0**
JIJ				S		**Sn**	**01 37 08.0**	**-1.2**
JTJ	**Tarama**	**3.37**	**56**	P		**Pn**	**01 36 45.4**	**+1.6**
JTJ				S		**Sn**	**01 37 23.2**	**-0.3**

*ISCJB **29** 01:53:25.2±0.8, 32°.63S±0°.03×72°.08W±0°.04, h22km±5km, mb4.3/24, MS3.7/2, Error ellipse: s-maj=6.6km s-min=4.2km az=155.6*

*NEIC **29** 01:53:26.6, 32°.67S×72°.02W, h15km, mb4.6/16, ML4.2(GUC), After GUC.*

*GUC **29** 01:53:26.6±0.9, 32°.67S×72°.02W, h15km±10km, MD4.3, ML4.2*

*IDC **29** 01:53:28.4±0.6, 32°.62S×71°.78W, h30km±3km, mb4.1/13, mb1 4.1/17, mb1mx4.1/22, mbtmp4.0/17, ML4.1/4, MS3.7/5, Ms1 3.7/5, ms1mx3.3/23, Error ellipse: s-maj=19.9km s-min=13.5km az=80.0*

ISC 29 01:53:28.0±0.5, 32°.69S±0°.03×71°.97W±0°.05, h30km±3km, h30km:pP-P, n101, σ1s23/137, mb4.5/24, 19C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.43**	**141**	⇑*i*P		**Pb**	**01 53 35.8**	**-1.6**
IHA				*i* S		**Sb**	**01 53 42.9**	**-0.9**
IHA	**Instituto Hidr**	**0.43**	**141**	⇑*i*P		**Pb**	**01 53 35.8**	**-1.6**
IHA				*i* S		**Sb**	**01 53 42.9**	**-0.9**
LCCH	**Las Cruces**	**0.85**	**157**	⇑*i*P		**Pb**	**01 53 42.6**	**-1.6**
LCCH	**Las Cruces**	**0.85**	**157**	⇑*i*P		**Pb**	**01 53 42.6**	**-1.6**
ROCH	**El Roble**	**0.85**	**109**	⇓*i*P		**Pb**	**01 53 42.9**	**-1.6**
ROCH				*i* S		**Sb**	**01 53 55.3**	**-0.4**
ROCH				AML		AML	01 53 57.6	
	comp=N,12μm,0.5s							
PTCH	**Petorca**	**0.98**	**64**	*e*P		**Pn**	**01 53 44.6**	**-1.0**
PTCH				*i* S		**Sb**	**01 53 58.0**	**-1.0**
PTCH	**Petorca**	**0.98**	**64**	*e*P		**Pn**	**01 53 44.6**	**-1.0**
PTCH				*i* S		**Sb**	**01 53 58.0**	**-1.0**
PTCH				AML		AML	01 54 04.9	
	comp=N,11μm,0.4s							
JACH	**Jahuel**	**1.16**	**90**	⇑*i*P		**Pn**	**01 53 47.5**	**-0.8**
JACH	**Jahuel**	**1.16**	**90**	⇑*i*P		**Pn**	**01 53 47.5**	**-0.8**
PEL	**Peldehue**	**1.17**	**113**	⇑*i*P		**Pn**	**01 53 48.1**	**-0.3**
PEL				*i* S		**Sn**	**01 54 04.0**	**+0.7**
PEL				AML		AML	01 54 08.4	
	comp=N,17μm,0.7s							
TACH	**Talagante**	**1.29**	**138**	⇑*i*P		**Pn**	**01 53 49.8**	**-0.2**
TACH				*i* S		**Sn**	**01 54 06.9**	**+0.6**
TACH	**Talagante**	**1.29**	**138**	⇑*i*P		**Pn**	**01 53 49.8**	**-0.2**
TACH				*i* S		**Sn**	**01 54 06.9**	**+0.6**
SAN	**Santiago**	**1.33**	**125**	⇑*i*P		**Pn**	**01 53 50.6**	**0.0**
SAN				*i* S		**Sn**	**01 54 08.8**	**+1.4**
SAN	**Santiago**	**1.33**	**125**	⇑*i*P		**Pn**	**01 53 50.6**	**0.0**
SAN				*i* S		**Sn**	**01 54 08.8**	**+1.4**
SAN				AML		AML	01 54 13.0	
	comp=N,7μm,0.5s							
STL	**Santa Lucia**	**1.34**	**124**	*e*P		**Pn**	**01 53 50.5**	**-0.1**
STL				*i* S		**Sn**	**01 54 08.7**	**+1.2**
CLCH	**Cerro Calan**	**1.39**	**121**	⇓*i*P		**Pn**	**01 53 51.5**	**+0.1**
CLCH				*i* S		**Sn**	**01 54 10.1**	**+1.2**
CLCH				AML		AML	01 54 14.5	
	comp=E,9μm,0.6s							
ANTU	**Antumapu**	**1.42**	**128**	*e*P		**Pn**	**01 53 52.4**	**+0.6**
ANTU				*i* S		**Sn**	**01 54 10.9**	**+1.4**
ANTU	**Antumapu**	**1.42**	**128**	*e*P		**Pn**	**01 53 52.4**	**+0.6**
ANTU				*i* S		**Sn**	**01 54 10.9**	**+1.4**
ANTU				AML		AML	01 54 18.9	
	comp=E,5μm,0.6s							
PCH	**Pirque**	**1.53**	**128**	⇑*i*P		**Pn**	**01 53 53.7**	**+0.3**
PCH	**Pirque**	**1.53**	**128**	⇑*i*P		**Pn**	**01 53 53.7**	**+0.3**
SJCH	**San Jose de Ma**	**1.65**	**125**	⇑*i*P		**Pn**	**01 53 55.0**	**0.0**
SJCH				*i* S		**Sn**	**01 54 17.2**	**+2.0**
SJCH	**San Jose de Ma**	**1.65**	**125**	⇑*i*P		**Pn**	**01 53 55.0**	**0.0**
SJCH				*i* S		**Sn**	**01 54 17.2**	**+2.0**
SJCH				AML		AML	01 54 25.6	
	comp=N,3μm,0.6s							
CMCH	**Combarbala**	**1.72**	**29**	⇓*i*P		**Pn**	**01 53 54.8**	**-1.1**
CMCH				*i* S		**Sn**	**01 54 17.4**	**+0.5**
CMCH	**Combarbala**	**1.72**	**29**	⇓*i*P		**Pn**	**01 53 54.8**	**-1.1**
CMCH				*i* S		**Sn**	**01 54 17.4**	**+0.5**
CACH	**El Canelo**	**1.83**	**142**	⇑*i*P		**Pn**	**01 53 58.4**	**+0.9**
CACH	**El Canelo**	**1.83**	**142**	⇑*i*P		**Pn**	**01 53 58.4**	**+0.9**
LMEL	**Las Melosas**	**1.88**	**128**	⇑*i*P		**Pn**	**01 53 58.9**	**+0.8**
LMEL				*i* S		**Sb**	**01 54 24.1**	**-0.7**
LMEL	**Las Melosas**	**1.88**	**128**	⇑*i*P		**Pn**	**01 53 58.9**	**+0.8**
LMEL				*i* S		**Sb**	**01 54 24.1**	**-0.7**
LMEL				AML		AML	01 54 31.6	
	comp=N,3μm,0.7s							
CFAA	**Coronel Fontan**	**3.34**	**72**	Pn		**Pn**	**01 54 19.9**	**+1.6**
CFAA				Lg		Lg	01 55 09.9	
CFAA	**Coronel Fontan**	**3.34**	**72**	Pn		**Pn**	**01 54 19.9**	**+1.6**
	comp=N,1.2nm,0.3s,baz=250,slow=12,SNR=35							
CFAA				Lg		Lg	01 55 09.9	
	comp=N,12nm,0.3s,baz=286,slow=20,SNR=6.2							
LCO	**Las Campanas**	**3.83**	**17**	*e*Pn		**Pn**	**01 54 23.5**	**-1.5**
LCO				*e*Sn		**Sn**	**01 55 07.0**	**-2.1**
PLCA	**Paso Flores**	**8.11**	**172**	*e*Pn		**Pn**	**01 55 23.9**	**+0.2**
PLCA	**Paso Flores**	**8.11**	**172**	Pn		**Pn**	**01 55 23.4**	**-0.2**
	comp=N,0.5nm,0.3s,baz=340,slow=12,SNR=12							
PLCA				LR		LR	01 58 46.1	
	comp=N,298nm,18.1s,baz=3.6,slow=39							
TRQA	**Tornquist**	**9.75**	**126**	*e*Pn		**Pn**	**01 55 48.1**	**+1.9**
	comp=N,8.8nm,0.7s							
LVC	**Limon Verde**	**10.40**	**16**	*e*Pn		Pn	01 55 51.6	-3.6
LVC				Sn		**Sn**	**01 57 56.4**	**+5.5**
LVC	**Limon Verde**	**10.40**	**16**	Pn		Pn	01 55 51.7	-3.6
	comp=N,0.6nm,0.3s,baz=172,slow=14,SNR=2.6							
LVC				Sn		**Sn**	**01 57 56.4**	**+5.5**
	comp=N,0.9nm,0.3s,baz=216,slow=7.9,SNR=3.6							
LVC				LR		LR	02 00 03.8	
	comp=N,372nm,18.1s,baz=210,slow=38							
CPUP	**Villa Florida**	**14.23**	**67**	Pn		**Pn**	**01 56 46.3**	**-1.1**
CPUP				Sn		**Sn**	**01 59 26.6**	**+2.4**
CPUP	**Villa Florida**	**14.23**	**67**	Pn		**Pn**	**01 56 46.3**	**-1.1**
	comp=N,0.2nm,0.3s,baz=246,slow=16,SNR=3.3							
CPUP				Sn		**Sn**	**01 59 26.6**	**+2.4**
	comp=N,0.4nm,0.3s,baz=270,slow=8.1,SNR=2.0							
LPAZ	**La Paz**	**16.70**	**13**	*e*P		**Pn**	**01 57 19.7**	**-0.6**
	comp=N,10.0nm,0.9s							
LPAZ	**La Paz**	**16.70**	**13**	Pn		**Pn**	**01 57 19.3**	**-1.0**
	comp=N,0.3nm,0.3s,baz=186,slow=8.5,SNR=13							
SIV	**San Ignacio**	**19.34**	**33**	P		**P**	**01 57 49.5**	**-1.5**
SIV				Lg		Lg	02 03 38.5	
SIV	**San Ignacio**	**19.34**	**33**	P		**P**	**01 57 49.5**	**-1.5**
	comp=N,0.3nm,0.3s,baz=227,slow=10,SNR=12							
SIV				Lg		Lg	02 03 38.5	
	comp=N,0.3nm,0.3s,baz=216,slow=18,SNR=3.6							
SIV				LR		LR	02 06 41.6	
	comp=N,246nm,18.5s,slow=41							
SAML	**Samuel**	**24.99**	**21**	*e*P		**P**	**01 58 48.1**	**-1.0**
	comp=N,9.1nm,1.0s							
BDFB	**Brasilia**	**27.57**	**58**	P		**P**	**01 59 11.1**	**-1.5**
BDFB	**Brasilia**	**27.57**	**58**	P		**P**	**01 59 11.1**	**-1.5**
	comp=N,6.0nm,0.9s,baz=218,slow=7.2,SNR=7.6							
BDFB				LR		LR	02 12 16.4	
	comp=N,113nm,18.4s,baz=29,slow=41							
PCRV	**Puerto La Cruz**	**43.20**	**11**	LR		LR	02 19 31.9	
	comp=N,163nm,19.4s,baz=64,slow=36							
SNAA	**Sanae**	**52.77**	**158**	*e*P		**P**	**02 02 40.0**	**+0.2**
	comp=N,9.1nm,1.2s							
SNAA	**Sanae**	**52.77**	**158**	P		**P**	**02 02 40.2**	**+0.4**
	comp=N,1.3nm,0.9s,baz=284,slow=6.1,SNR=21							
TEIG	**Tepich**	**54.88**	**341**	P		**P**	**02 02 55.2**	**-0.4**
TEIG	**Tepich**	**54.88**	**341**	P		**P**	**02 02 55.2**	**-0.4**
	comp=N,4.8nm,0.6s,baz=213,slow=0.5,SNR=3.8							
QSPA	**South Pole Qui**	**57.54**	**180**	*e*P		**P**	**02 03 15.1**	**+0.7**
	comp=N,6.6nm,0.9s							
QSPA				*e*pP		**pP**	**02 03 25.2**	**+1.5**
QSPA	**South Pole Qui**	**57.54**	**180**	P		**P**	**02 03 14.8**	**+0.4**
	comp=N,3.4nm,0.8s,baz=140,slow=3.6,SNR=13							
QSPA				pP		**pP**	**02 03 24.8**	**+1.1**
	comp=N,6.3nm,0.9s,baz=136,slow=4.5,SNR=9.0							
VNDA	**Vanda**	**65.39**	**191**	P		**P**	**02 04 08.2**	**+1.1**
VNDA	**Vanda**	**65.39**	**191**	P		**P**	**02 04 08.2**	**+1.1**
	comp=N,0.6nm,0.6s,baz=150,slow=3.6,SNR=2.8							
JCT	**Junction City**	**68.13**	**334**	*e*P		**P**	**02 04 25.8**	**+0.7**
	comp=N,4.7nm,0.7s							
TXAR	**Lajitas Array**	**68.62**	**330**	P		**P**	**02 04 28.6**	**+0.4**
TXAR				pP		**pP**	**02 04 38.8**	**+1.0**
TXAR	**Lajitas Array**	**68.62**	**330**	P		**P**	**02 04 28.6**	**+0.4**
	comp=N,0.8nm,0.7s,baz=149,slow=8.9,SNR=9.3							
TXAR				pP		**pP**	**02 04 38.8**	**+1.0**
	comp=N,0.7nm,0.6s,baz=148,slow=8.6,SNR=7.4							
WVT	**Waverly**	**70.06**	**346**	*e*P		**P**	**02 04 35.7**	**-1.1**
	comp=N,11nm,0.8s							
MNTX	**Cornudas Mount**	**71.40**	**330**	*e*P		**P**	**02 04 44.2**	**-0.9**
	comp=N,1.1nm,0.8s							
ANMO	**Albuquerque**	**74.67**	**331**	*e*P		**P**	**02 05 05.2**	**+0.6**
	comp=N,2.7nm,1.1s							
DBIC	**Dimbokro**	**74.71**	**72**	*e*P		**P**	**02 05 04.9**	**-0.3**
	comp=N,5.6nm,0.7s							
DBIC	**Dimbokro**	**74.71**	**72**	P		**P**	**02 05 03.8**	**-1.4**
	comp=N,2.8nm,0.6s,baz=283,slow=9.9,SNR=5.9							
SUR	**Sutherland**	**75.41**	**119**	P		**P**	**02 05 10.3**	**+1.0**
SUR	**Sutherland**	**75.41**	**119**	P		**P**	**02 05 10.3**	**+1.0**
	comp=N,5.2nm,0.8s,baz=248,slow=16,SNR=2.8							
ECSD	**ERS Data Cent**	**79.32**	**342**	*e*P		**P**	**02 05 30.1**	**-0.3**
	comp=N,4.1nm,1.0s							
ECSD				*e*pP		**pP**	**02 05 40.4**	**+0.3**
TSUM	**Tsumeb**	**79.52**	**106**	*e*P		**P**	**02 05 32.9**	**+0.6**
	comp=N,7.3nm,0.9s							
TSUM				*e*pP		**pP**	**02 05 45.0**	**+3.0**
TSUM	**Tsumeb**	**79.52**	**106**	P		**P**	**02 05 32.1**	**-0.2**
	comp=N,3.6nm,0.9s,baz=211,slow=6.2,SNR=7.7							
TSUM				pP		**pP**	**02 05 42.1**	**+0.1**
	comp=N,6.0nm,0.8s,baz=238,slow=5.1,SNR=8.8							
BOSA	**Boshof**	**80.63**	**118**	P		**P**	**02 05 38.0**	**-0.2**
BOSA				pP		**pP**	**02 05 48.0**	**+0.1**
BOSA	**Boshof**	**80.63**	**118**	P		**P**	**02 05 38.0**	**-0.2**
	comp=N,5.4nm,1.0s,baz=217,slow=5.8,SNR=5.8							
BOSA				pP		**pP**	**02 05 48.0**	**+0.1**
	comp=N,8.1nm,1.0s,baz=246,slow=7.0,SNR=5.6							
DUG	**Dugway**	**81.77**	**330**	*e*P		**P**	**02 05 44.3**	**+0.5**
	comp=N,1.2nm,0.6s							
PDAR	**Pinedale Array**	**82.62**	**333**	P		**P**	**02 05 49.1**	**+0.8**
PDAR	**Pinedale Array**	**82.62**	**333**	P		**P**	**02 05 49.1**	**+0.8**
	comp=N,0.4nm,0.7s,baz=158,slow=5.6,SNR=3.5							
LBTB	**Lobatse**	**82.80**	**115**	*e*P		**P**	**02 05 49.5**	**-0.2**
	comp=N,17nm,1.2s							
NVAR	**Mina Array Bea**	**82.84**	**325**	P		**P**	**02 05 51.1**	**+1.5**
NVAR	**Mina Array Bea**	**82.84**	**325**	P		**P**	**02 05 51.1**	**+1.5**
	comp=N,0.8nm,0.7s,baz=156,slow=4.6,SNR=3.1							
AGMN	**Agassiz Nation**	**83.41**	**344**	*e*P		**P**	**02 05 51.8**	**-0.2**
	comp=N,4.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**83.71**	**70**	P		**P**	**02 05 54.2**	**0.0**
TORD				pP		**pP**	**02 06 02.8**	**-1.2**
TORD	**Torodi Ar. Bea**	**83.71**	**70**	P		**P**	**02 05 54.2**	**0.0**
	comp=N,3.8nm,0.7s,baz=249,slow=5.1,SNR=31							
TORD				pP		**pP**	**02 06 02.8**	**-1.2**
	comp=N,7.1nm,0.9s,baz=276,slow=4.0,SNR=9.2							
HLID	**Hailey**	**85.23**	**331**	*e*P		**P**	**02 06 01.8**	**+0.3**
	comp=N,3.3nm,1.3s							
LSZ	**Lusaka**	**90.16**	**108**	*e*P		**P**	**02 06 25.9**	**0.0**
	comp=N,6.1nm,1.2s							
TAM	**Tamanrasset**	**92.21**	**64**	*e*P		**P**	**02 06 35.2**	**0.0**
GERES	**GERESS Array B**	**111.19**	**45**	PP		PP	02 12 37.5	-1.0
GERES	**GERESS Array B**	**111.19**	**45**	PP		PP	02 12 37.5	-1.0
	comp=N,0.1nm,0.4s,baz=217,slow=6.2,SNR=3.9							
HFS	**Hagfors**	**115.69**	**34**	PKP		**PKPdf**	**02 12 06.4**	**-0.1**
HFS	**Hagfors**	**115.69**	**34**	PKP		**PKPdf**	**02 12 06.4**	**-0.1**
	comp=N,2.2nm,0.8s,baz=251,slow=26,SNR=2.9							
PMG	**Port Moresby**	**123.93**	**229**	*e*PKPdf		**PKPdf**	**02 12 24.6**	**+0.8**
KAPI	**Kappang**	**140.88**	**199**	*e*PKPdf		**PKPdf**	**02 12 55.6**	**0.0**
BRVK	**Borovoye**	**146.20**	**42**	*e*PKPbc		**PKPdf**	**02 13 04.5**	**+0.8**
BVAR	**Borovoye Array**	**146.28**	**42**	PKPbc		**PKPbc**	**02 13 05.6**	**+0.6**
BVAR	**Borovoye Array**	**146.28**	**42**	PKPbc		**PKPbc**	**02 13 05.6**	**+0.6**
	comp=N,2.1nm,0.6s,baz=298,slow=3.2,SNR=12							
KKAR	**Karatay Array**	**148.85**	**60**	*e*PKPbc		**PKPbc**	**02 13 12.0**	**-0.4**
KKAR				*e*PKPab		**PKPab**	**02 13 15.6**	**-0.9**
AAK	**Ala-Archa**	**151.82**	**60**	*e*PKPbc		**PKPbc**	**02 13 20.6**	**+0.8**
AAK	**Ala-Archa**	**151.82**	**60**	PKPbc		**PKPbc**	**02 13 18.5**	**-1.2**
	comp=N,1.5nm,0.3s,baz=229,slow=12,SNR=6.4							
ZAA0	**Zalesovo Array**	**153.08**	**31**	*e*PKPbc		**PKPbc**	**02 13 22.0**	**0.0**
ZAA0				*e*PKPab		**PKPab**	**02 13 32.0**	**-1.6**
ZALV	**Zalesovo Beam**	**153.08**	**31**	PKPbc		**PKPbc**	**02 13 22.0**	**0.0**
ZALV				pPKPbc		**PKPab**	**02 13 31.5**	**-2.0**
ZALV	**Zalesovo Beam**	**153.08**	**31**	PKPbc		**PKPbc**	**02 13 22.0**	**0.0**
	comp=N,2.7nm,0.6s,baz=312,slow=3.4,SNR=11							
ZALV				pPKPbc		**PKPab**	**02 13 31.5**	**-2.0**
	comp=N,4.1nm,0.6s,baz=294,slow=3.3,SNR=4.7							
MK31	**Makanchi Array**	**155.84**	**47**	*e*PKPdf		**PKPdf**	**02 13 19.1**	**+0.4**
MK31				*e*PKPab		**PKPab**	**02 13 45.7**	**0.0**
MKAR	**Makanchi Array**	**155.84**	**47**	PKPab		**PKPab**	**02 13 45.4**	**-0.3**
MKAR	**Makanchi Array**	**155.84**	**47**	PKPab		**PKPab**	**02 13 45.4**	**-0.3**
	comp=N,1.9nm,0.7s,baz=301,slow=3.9,SNR=14							
SONM	**Songino Array**	**164.82**	**4**	PKPab		**PKPab**	**02 14 24.1**	**-0.5**
SONM	**Songino Array**	**164.82**	**4**	PKPab		**PKPab**	**02 14 24.1**	**-0.5**
	comp=N,0.4nm,0.6s,baz=90,slow=8.8,SNR=3.8							

MAN 29 02:01:59, 17°.97N×120°.94E, h71km, mb3.7, ML2.4, MS2.0, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
APYP	**Conner**	**0.31**	**111**	*e*P		Pn	02 02 12.1	+1.8
APYP				*e*S		Sn	02 02 24.6	+5.9
ABRA	**Dolores**	**0.39**	**214**	*e*P		Pn	02 02 12.7	+1.7
SIPP	**Brgy, Tapao**	**0.46**	**264**	⇓*i*P		Pn	02 02 14.2	+2.7
SIPP				*e*S		Sn	02 02 25.3	+4.6
PIP	**Pasuquin**	**0.47**	**319**	⇓*e*P		Pn	02 02 13.6	+1.9
PIP				*e*S		Sn	02 02 24.6	+3.7
CAUP	**Cauayan**	**1.32**	**140**	*e*P		Pn	02 02 23.9	+2.2
PALP	**Palanan**	**1.68**	**122**	*e*P		Pn	02 02 16.2	-10

IDC 29 02:09:49.1±2.5, 6°.94N×126°.53E, h121km±26km, mb3.2/5, mb1 3.4/5, mb1mx3.2/23, mbtmp3.2/5, Error ellipse: s-maj=70.1km s-min=20.2km az=72.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**0.96**	**278**	P		Pn	02 10 11.3	+0.4
	86nm,0.3s,baz=198,slow=9.6,SNR=4.0							
DAV				S		Sn	02 10 27.7	+0.4
	148nm,0.3s,baz=127,slow=20,SNR=15							
WRA	**Warramunga Arr**	**27.79**	**164**	P		P	02 15 25.7	-1.3
	0.4nm,0.4s,baz=341,slow=11,SNR=3.7							
ASAR	**Alice Springs**	**31.25**	**167**	P		P	02 15 57.7	+0.1
	0.3nm,0.3s,baz=337,slow=7.3,SNR=9.1							
STKA	**Stephens Creek**	**41.19**	**160**	P		P	02 17 22.9	+1.0
	0.8nm,0.4s,baz=336,slow=10.0,SNR=2.7							
MKAR	**Makanchi Array**	**54.84**	**324**	P		P	02 19 07.3	+0.4
	0.3nm,0.5s,baz=111,slow=9.3,SNR=3.6							
ILAR	**Eielson Array**	**82.31**	**26**	P		P	02 21 56.4	-0.7
	0.2nm,0.6s,baz=243,slow=6.4,SNR=4.5							

*IDC **29** 02:29:12.7±0.8, 13°.93N×56°.76E, h0km, mb3.9/16, mb1 4.1/16, mb1mx3.9/29, mbtmp3.9/16, MS3.5/15, Ms1 3.5/15, ms1mx3.3/33, Error ellipse: s-maj=23.1km s-min=18.2km az=29.0*

*ISCJB **29** 02:29:13.6±0.5, 14°.03N±0°.08×56°.79E±0°.07, h15km, mb4.2/30, MS3.5/15, Error ellipse: s-maj=12.7km s-min=8.3km az=29.1*

*CSEM **29** 02:29:14.7±0.2, 14°.05N×56°.81E, h10km, mb4.6/13, Error ellipse: s-maj=12.3km s-min=8.1km az=32.0*

*NEIC **29** 02:29:14.4±0.4, 14°.00N×56°.80E, h10km, mb4.6/11, Error ellipse: s-maj=10.8km s-min=8.0km az=213.0*

ISC 29 02:29:15.3±0.6, 14°.0N±0°.1×56°.80E±0°.09, h15km, n125, σ0s89/122, mb4.3/30, MS3.5/15, 10C-6D, Owen Fracture Zone region

| Code | Station Name | Δ° | AZ° | Phase | ID | |

TAM	Tamanrasset	49.23	288	*e*P	P	02 38 05.1	+1.3	
	2.1nm,1.0s							
GERES	GERESS Array B	49.54	324	P	P	02 38 03.9	-1.8	
GERES	GERESS Array B	49.54	324	P	P	02 38 03.9	-1.8	
	0.2nm,0.4s,baz=133,slow=7.2,SNR=3.4							
GERES				LR	LR	03 02 21.7		
	comp=Z,46nm,18.4s,baz=289,slow=40							
GERES	GERESS Array B	49.54	324	P	P	02 38 03.9	-1.8	
KHC	Kasperske Hory	49.75	324	*e*P	P	02 38 05.9	-1.3	
KHC					*e*pP	02 38 12.9	+0.9	
JOF	Joensuu	52.05	346	*e*p	P	02 38 22.9	-1.3	
	4.4nm,0.6s							
JOF	Joensuu	52.05	346	*e*P	P	02 38 22.9	-1.3	
	4.4nm,0.6s							
BOSA	Boshof	52.22	216	LR	LR	02 59 32.6		
	comp=Z,105nm,18.9s,baz=239,slow=35							
FINES	FINESS Array B	52.27	342	P	P	02 38 25.3	-0.5	
FINES	FINESS Array B	52.27	342	P	P	02 38 25.3	-0.5	
	2.4nm,0.5s,baz=136,slow=8.9,SNR=20							
FINES				LR	LR	03 03 05.3		
	comp=Z,55nm,18.7s,baz=49,slow=39							
FINES	FINESS Array B	52.27	342	P	P	02 38 25.3	-0.5	
BNI	Bardonecchia	52.34	317	*e*P	P	02 38 29.5	+2.6	
	5.4nm,1.1s							
KAF	Kangasniemi	52.72	343	*e*p	P	02 38 27.8	-1.4	
	8.6nm,1.1s							
KAF	Kangasniemi	52.72	343	*e*P	P	02 38 27.8	-1.4	
	8.6nm,1.1s							
SONM	Songino Array	53.01	40	P	P	02 38 32.4	+0.6	
SONM				PcP	PcP	02 39 40.6	+0.3	
SONM	Songino Array	53.01	40	P	P	02 38 32.4	+0.6	
	0.3nm,0.6s,baz=205,slow=6.4,SNR=3.2							
SONM				PcP	PcP	02 39 40.6	+0.3	
	0.2nm,0.4s,baz=232,slow=1.6,SNR=3.5							
SONM				LR	LR	03 03 36.7		
	comp=Z,59nm,18.9s,baz=356,slow=39							
SONM	Songino Array	53.01	40	P	P	02 38 32.4	+0.6	
SONM	Songino Array	53.01	40	PcP	PcP	02 39 40.6	+0.3	
TOA0	Torodi Ar. Sit	53.46	276	*e*P	P	02 38 35.6	+0.2	
TOA0	Torodi Ar. Sit	53.46	276	*e*P	P	02 38 35.7	+0.2	
TORD	Torodi Ar. Bea	53.46	276	P	P	02 38 35.3	-0.1	
TORD	Torodi Ar. Bea	53.46	276	P	P	02 38 35.3	-0.1	
	1.2nm,0.8s,baz=78,slow=5.2,SNR=13							
TORD				LR	LR	03 00 33.0		
	comp=Z,34nm,19.9s,baz=130,slow=35							
TORD	Torodi Ar. Bea	53.46	276	P	P	02 38 35.3	-0.1	
WLF	Walferdange	54.35	322	*e*P	P	02 38 40.5	-0.8	
	12nm,1.1s							
WLF	Walferdange	54.35	322	*e*P	P	02 38 40.5	-0.8	
	12nm,1.1s							
ESDC	Sonseca Array	58.74	308	P	P	02 39 12.0	-0.9	
ESDC	Sonseca Array	58.74	308	P	P	02 39 12.0	-0.9	
	0.8nm,0.5s,baz=88,slow=6.4,SNR=8.6							
ESDC	Sonseca Array	58.74	308	P	P	02 39 12.0	-0.9	
ARCES	ARCESS Array B	58.87	348	P	P	02 39 13.7	+0.4	
ARCES	ARCESS Array B	58.87	348	P	P	02 39 13.7	+0.4	
	1.3nm,0.7s,baz=138,slow=7.8,SNR=7.2							
ARCES	ARCESS Array B	58.87	348	P	P	02 39 13.6	+0.4	
KAPI	Kappang	65.24	102	*e*P	P	02 39 55.4	-1.5	
	26nm,1.1s							
KAPI	Kappang	65.24	102	*e*P	P	02 39 55.4	-1.5	
	26nm,1.1s							
KSRS	Korea Array	66.70	55	LR	LR	03 10 53.6		
	comp=Z,39nm,18.5s,baz=243,slow=38							
MJAR	Matsushiro Arr	74.97	56	LR	LR	03 13 22.7		
	comp=Z,29nm,20.5s,baz=90,slow=35							
WRA	Warramunga Arr	83.38	112	P	P	02 41 41.8	-0.8	
WRA	Warramunga Arr	83.38	112	P	P	02 41 41.8	-0.8	
	2.8nm,0.8s,baz=298,slow=4.3,SNR=10							
WRA	Warramunga Arr	83.38	112	P	P	02 41 41.8	-0.8	
WRAB	Tennant Creek	83.38	112	*e*P	P	02 41 41.8	-0.8	
	5.7nm,0.8s							
WRAB	Tennant Creek	83.38	112	*e*P	P	02 41 41.8	-0.8	
	5.7nm,0.8s							
AS31	Alice Springs	84.12	116	*e*P	P	02 41 45.8	-0.5	
AS31	Alice Springs	84.12	116	*e*P	P	02 41 45.8	-0.5	
ASAR	Alice Springs	84.12	116	P	P	02 41 45.7	-0.6	
ASAR	Alice Springs	84.12	116	P	P	02 41 45.7	-0.6	
	1.8nm,0.7s,baz=291,slow=5.1,SNR=17							
ASAR				LR	LR	03 12 04.9		
	comp=Z,78nm,18.7s,baz=169,slow=31							
ASAR	Alice Springs	84.12	116	P	P	02 41 45.7	-0.6	
SNAA	Sanae	94.19	196	*e*P	P	02 42 32.9	-0.4	
	8.5nm,1.6s							
SNAA	Sanae	94.19	196	*e*P	P	02 42 32.9	-0.4	
	8.5nm,1.6s							
PDAR	Pinedale Array	122.12	348	PKP	PKPdf	02 48 09.9	-0.2	
PDAR	Pinedale Array	122.12	348	PKP	PKPdf	02 48 09.9	-0.2	
	0.4nm,0.6s,baz=67,slow=3.9,SNR=3.5							
PDAR	Pinedale Array	122.12	348	PKIKP	PKPdf	02 48 09.9	-0.2	
LPAZ	La Paz	126.92	260	PKP	PKPdf	02 48 20.6	+0.2	
LPAZ	La Paz	126.92	260	PKP	PKPdf	02 48 20.6	+0.2	
	0.3nm,0.5s,baz=162,slow=3.2,SNR=2.4							
LPAZ	La Paz	126.92	260	PKIKP	PKPdf	02 48 20.6	+0.2	
NVAR	Mina Array Bea	127.63	355	PKP	PKPdf	02 48 22.2	+1.4	
NVAR	Mina Array Bea	127.63	355	PKP	PKPdf	02 48 22.2	+1.4	
	0.6nm,0.7s,baz=258,slow=0.7,SNR=4.4							
NVAR	Mina Array Bea	127.63	355	PKIKP	PKPdf	02 48 22.2	+1.4	
LVC	Limon Verde	127.99	252	*e*PKPdf	PKPdf	02 48 21.4	-0.5	
LVC	Limon Verde	127.99	252	*e*PKIKP	PKPdf	02 48 21.4	-0.5	
TXAR	Lajitas Array	132.95	336	PKP	PKPdf	02 48 31.6	+0.6	
TXAR	Lajitas Array	132.95	336	PKP	PKPdf	02 48 31.6	+0.6	
	0.3nm,0.9s,baz=61,slow=4.2,SNR=3.5							
TXAR	Lajitas Array	132.95	336	PKIKP	PKPdf	02 48 31.6	+0.6	

IDC 29 03:20:20.3±0.8, 28°.20N×43°.93W, h0km, mb3.9/14, mb1 4.1/14, mb1mx3.9/29, mbtmp3.9/14, MS3.6/16, Ms1 3.6/16, ms1mx3.3/35, Error ellipse: s-maj=23.0km s-min=17.7km az=163.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
BBTS	Babate	28.75	112	LR	LR	03 34 39.6		
	comp=Z,131nm,19.4s,baz=321,slow=30							
SCHQ	Schefferville	31.38	334	LR	LR	03 38 33.1		
	comp=Z,60nm,18.5s,baz=46,slow=35							
MDT	Midelt	34.05	72	LR	LR	03 37 25.8		
	comp=Z,138nm,21.2s,baz=190,slow=30							
DBIC	Dimbokro	42.70	113	LR	LR	03 43 13.2		
	comp=Z,128nm,19.1s,baz=296,slow=32							
BDFB	Brasilia	43.76	186	LR	LR	03 44 20.6		
	comp=Z,66nm,21.6s,baz=189,slow=33							
ULM	Lac du Bonnet	44.80	314	LR	LR	03 44 38.9		
	comp=Z,33nm,21.9s,baz=38,slow=33							
TORD	Torodi Ar. Bea	44.96	100	P	P	03 28 36.4	-1.1	
	0.9nm,0.9s,baz=296,slow=6.6,SNR=4.7							
TORD				LR	LR	03 45 30.8		
	comp=Z,118nm,20.5s,baz=295,slow=34							
KEST	Kesra	45.35	66	P	P	03 28 42.0	+1.4	
	1.6nm,1.0s,baz=206,slow=2.3,SNR=4.4							
DAVOX	Davos/Dischmat	45.60	51	LR	LR	03 44 15.5		
	comp=Z,56nm,20.7s,baz=264,slow=32							
SIV	San Ignacio	46.96	203	P	P	03 28 53.4	+0.2	
	1.1nm,0.8s,baz=52,slow=6.7,SNR=3.2							
JMIC	Jan Mayen	47.17	15	LR	LR	03 43 10.9		
	comp=Z,41nm,20.4s,baz=72,slow=29							
GERES	GERESS Array B	48.31	48	P	P	03 29 02.5	-1.0	
	0.6nm,0.8s,baz=273,slow=7.9,SNR=5.7							
GERES				LR	LR	03 44 56.1		
	comp=Z,35nm,20.3s,baz=19,slow=30							
LPAZ	La Paz	50.05	211	P	P	03 29 17.5	-0.3	
	1.7nm,0.7s,baz=13,slow=8.2,SNR=7.1							
LPAZ				LR	LR	03 48 06.4		
	comp=Z,45nm,21.6s,baz=57,slow=33							
TXAR	Lajitas Array	51.87	286	P	P	03 29 30.2	-0.7	
	0.3nm,0.9s,baz=92,slow=6.3,SNR=3.7							
TXAR				LR	LR	03 51 21.8		
	comp=Z,30nm,21.4s,baz=185,slow=36							
PDAR	Pinedale Array	54.12	304	P	P	03 29 47.6	+0.2	
	2.9nm,0.9s,baz=83,slow=8.1,SNR=20							
PDAR				LR	LR	03 51 17.5		
	comp=Z,102nm,18.1s,baz=76,slow=34							
FINES	FINESS Array B	56.13	33	P	P	03 30 01.3	0.0	
	2.3nm,0.8s,baz=291,slow=5.7,SNR=6.3							
YKA	Yellowknife Ar	56.51	328	P	P	03 30 03.3	-0.6	
	0.9nm,0.8s,baz=95,slow=8.4,SNR=4.8							
ARCES	ARCESS Array B	56.70	23	P	P	03 30 05.2	-0.1	
	3.8nm,0.9s,baz=268,slow=8.5,SNR=5.2							
NVAR	Mina Array Bea	61.47	301	P	P	03 30 39.5	+0.3	
	0.3nm,0.5s,baz=68,slow=9.8,SNR=2.9							
BRTR	Keskin Array B	63.53	57	P	P	03 30 53.0	+0.2	
	1.1nm,0.8s,baz=284,slow=6.1,SNR=5.9							
ILAR	Eielson Array	70.14	334	P	P	03 31 34.4	+0.1	
	1.6nm,0.8s,baz=68,slow=4.4,SNR=19							
ILAR				LR	LR	04 00 38.9		
	comp=Z,47nm,21.5s,baz=8.7,slow=34							
KMBO	Kilima Mbogo	82.75	95	LR	LR	04 09 56.4		
	comp=Z,129nm,20.4s,baz=281,slow=36							
MKAR	Makanchi Array	90.96	34	P	P	03 33 26.4	0.0	
	0.5nm,1.0s,baz=322,slow=5.9,SNR=3.8							
PETK	Petropavlovsk-	96.88	347	LR	LR	04 15 36.4		
	comp=Z,28nm,21.2s,baz=224,slow=34							

IDC 29 03:45:44.9±2.0, 14°.28N×120°.42E, h94km±22km, mb3.5/9, mb1 3.6/9, mb1mx3.4/25, mbtmp3.5/9, 1D, Error ellipse: s-maj=93.6km s-min=15.6km az=66.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
TGY	Tagaytay City	0.53	109	P	Pn	03 46 00.7		+0.3
	185nm,0.3s,baz=277,slow=2.7,SNR=13							
TGY				S	Sn	03 46 13.8		+1.9
	741nm,0.3s,baz=255,slow=4.1,SNR=24							
PPR	Puerto Princes	4.77	200	*e*P	Sn	03 47 42.9		-5.6
SONM	Songino Array	35.43	344	P	P	03 52 31.8		-0.3
	0.5nm,0.4s,baz=155,slow=9.5,SNR=5.2							
WRA	Warramunga Arr	36.66	158	P	P	03 52 42.2		-0.5
	0.5nm,0.3s,baz=339,slow=9.4,SNR=3.8							
ASAR	Alice Springs	39.95	161	P	P	03 53 10.4		+0.2
	1.6nm,0.6s,baz=336,slow=6.6,SNR=20							
MKAR	Makanchi Array	45.41	323	P	P	03 53 54.4		+0.1
	1.0nm,0.8s,baz=128,slow=9.4,SNR=9.7							
ZALV	Zalesovo Beam	48.42	333	P	P	03 54 16.8		-0.7
	0.8nm,0.3s,baz=133,slow=10.0,SNR=3.6							
KURBB	Kurchatov Arra	49.56	326	P	P	03 54 26.4		+0.2
	0.6nm,0.3s,baz=121,slow=8.0,SNR=7.2							
BVAR	Borovoye Array	55.15	326	P	P	03 55 07.9		+0.3
	0.8nm,0.6s,baz=125,slow=9.3,SNR=4.2							
ARCES	ARCESS Array B	78.45	339	P	P	03 57 35.4		+0.2
	2.3nm,0.5s,baz=78,slow=7.5,SNR=17							
FINES	FINESS Array B	79.65	331	P	P	03 57 41.9		0.0
	2.2nm,1.1s,baz=161,slow=5.6,SNR=2.4							
NOA	NORSAR Array B	86.63	333	P	P	03 58 17.2		-0.7
	0.8nm,0.7s,baz=116,slow=5.1,SNR=3.7							

*ISCJB **29** 03:49:12.9±0.4, 23°.46S±0°.06×179°.71W±0°.08, h536km, mb4.0/15, Error ellipse: s-maj=10.1km s-min=6.8km az=24.5*
*AUST **29** 03:49:14.6, 23°.58S×179°.08W, h600km*
*IDC **29** 03:49:14.8±3.2, 23°.53S×179°.72W, h552km±36km, mb3.6/15, mb1 3.8/16, mb1mx3.7/22, mbtmp3.6/16, Error ellipse: s-maj=18.9km s-min=17.3km az=62.0*
ISC 29 03:49:13.0±0.5, 23°.54S±0°.08×179°.67W±0°.09, h536km, n68, σ1°.30/76, mb4.0/15, 9C-5D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
RAO	Raoul Island	5.90	165	S	S	03 52 09.6		+0.4
	69nm,0.3s,baz=15,slow=20,SNR=2.7							
AFI	Afiamalu	12.15	39	S	S	03 54 02.1		-3.0
	3.5nm,0.3s,baz=211,slow=5.9,SNR=5.2							
URZ	Urewera	14.93	190	P	P	03 52 21.3		-0.5
	9.1nm,0.3s,baz=342,slow=3.2,SNR=25							
URZ				S	S	03 54 54.7		-2.7
	2.4nm,0.3s,baz=36,slow=23,SNR=9.4							
RPZ	Rata Peaks	21.53	199	P	P	03 53 24.2		+0.8
	67nm,0.6s,baz=33,slow=5.5,SNR=14							
ARMA	Armidale	26.43	249	P	P	03 54 09.6		+2.4
	baz=27,SNR=5.4							
MGCD	Mangrove Creek	27.38	243	P	P	03 54 18.1		+2.7
	baz=28,SNR=8.7							
CNB	Canberra Magne	29.29	239	P	P	03 54 34.9		+2.7
	baz=30,SNR=5.6							
YNG	Young	29.82	242	P	P	03 54 38.9		+2.2
	baz=30,SNR=5.1							
CMSA	Cobar Meteorol	31.63	248	P	P	03 54 53.7		+1.5
	baz=32,SNR=27							
TOO	Toolangi	32.90	237	P	P	03 55 04.9		+1.9
	baz=33,SNR=9.4							
MTSU	Mount Surprise	34.02	272	P	P	03 55 13.6		+0.9
	baz=34,SNR=6.6							
PMG	Port Moresby	34.66	288	P	P	03 55 18.1		0.0
	6.8nm,0.5s,baz=187,slow=16,SNR=3.7							
STKA	Stephens Creek	35.14	249	P	P	03 55 23.0		+1.2
	4.5nm,0.6s,baz=85,slow=10,SNR=15							
STKA				PcP	PcP	03 57 38.9		+0.7
	0.6nm,0.3s,baz=64,slow=6.4,SNR=3.2							
STKA	Stephens Creek	35.14	248	P	P	03 55 23.3		+1.5
	baz=36,SNR=11							
BBOO	Buckleboo	39.86	247	P	P	03 56 00.9		+0.5
	baz=40,SNR=8.9							
ASAR	Alice Springs	42.39	260	P	P	03 56 21.1		+0.4
	2.1nm,0.5s,baz=100,slow=6.5,SNR=24							
ASAR				PcP	PcP	03 58 00.8		-0.8
	0.9nm,0.6s,baz=99,slow=4.4,SNR=4.7							
ASAR				S	S	04 02 00.2		-3.4
	0.8nm,0.6s,baz=96,slow=15,SNR=8.3							
WRA	Warramunga Arr	42.73	266	P	P	03 56 23.1		-0.2
	4.0nm,0.4s,baz=102,slow=8.5,SNR=18							
WRA				S	S	04 02 03.4		-5.0
	0.4nm,0.3s,baz=96,slow=13,SNR=4.2							
KDU	Kakadu	46.56	275	P	P	03 56 52.4		-0.4
	baz=37,SNR=3.7							
KNRA	Kununurra	48.99	269	P	P	03 57 11.2		+0.2
	baz=50,SNR=8.5							
MEEK	Meekatharra	55.50	253	P	P	03 57 57.9		+0.2
	baz=56,SNR=4.0							
MJAR	Matsushiro Arr	71.77	325	P	P	03 59 39.8		-1.5
	1.2nm,0.6s,baz=152,slow=5.2,SNR=5.5							
ASAJ	Asahikawa	75.68	333	P	P	04 00 04.5		+1.3
	2.2nm,0.3s,baz=134,slow=3.6,SNR=6.1							
KSRS	Korea Array	78.16	320	P	P	04 00 17.7		+0.8
	1.9nm,0.8s,baz=132,slow=6.0,SNR=7.3							
PETK	Petropavlovsk-	78.82	346	P	P	04 00 19.9		-0.1
	5.5nm,0.7s,baz=142,slow=8.7,SNR=7.2							
USRK	Ussuriysk Arra	80.62	327	P	P	04 00 30.0		+0.3
	0.6nm,0.3s,baz=175,slow=4.8,SNR=8.8							
NVAR	Mina Array Bea	84.28	44	P	P	04 00 49.8		+1.1
	0.8nm,0.7s,baz=231,slow=7.9,SNR=5.7							
CMAR	Chiang Mai Arr	89.68	290	P	P	04 01 16.0		+1.6
	2.8nm,0.5s,baz=137,slow=6.3,SNR=12							
TXAR	Lajitas Array	89.99	58	P	P	04 01 17.5		+1.8
	1.8nm,0.8s,baz=212,slow=6.7,SNR=24							
ILAR	Eielson Array	91.61	13	P	P	04 01 20.9		-1.3
	0.3nm,0.6s,baz=220,slow=6.6,SNR=5.1							
PDAR	Pinedale Array	92.22	44	P	P	04 01 26.4		+0.6
	1.1nm,0.8s,baz=204,slow=3.3,SNR=8.6							
MKAR	Makanchi Array	112.13	313	PKiKP	PKiKP	04 06 46.3		-1.2
	0.7nm,0.6s,baz=78,slow=1.8,SNR=11							
ARCES	ARCESS Array B	131.59	348	PKP	PKPdf	04 07 23.5		-0.6
	2.1nm,0.5s,baz=49,slow=1.4,SNR=20							
FINES	FINESS Array B	138.20	342	PKhKP	PKPpre	04 07 26.6		
	0.6nm,0.3s,baz=48,slow=2.8,SNR=4.8							
NB2	NORSAR Subarra	141.77	351	PKP	PKPpre	04 07 37.9		
	comp=Z,1.4nm,0.5s,baz=14,slow=3.1							
NOA	NORSAR Array B	141.77	351	PKhKP	PKPpre	04 07 38.2		
	comp=Z,2.3nm,0.6s,baz=16,slow=4.7,SNR=12							
MALT	Malatya	144.42	303	⇑*i*P	PKPab	04 08 07.6		+19
DRWC	Darouich	146.16	301	*e*P	PKPbc	04 07 58.4		+2.6
ZALF	Zalf	146.23	294	*e*P	PKPbc	04 07 53.7		-0.1
ARNB	Al Arnab	146.87	300	*e*P	PKPbc	04 07 55.0		-0.6
BRBR	Barbar	147.31	296	*e*P	PKPbc	04 07 57.3		+0.3
BRTR	Keskin Array B	147.60	308	PKPbc	PKPbc	04 07 56.8		-0.7
	comp=Z,2.5nm,0.7s,baz=147,slow=5.2,SNR=15							
BRTR				PKPab	PKPab	04 08 01.5		-0.1
	comp=Z,3.7nm,0.7s,baz=89,slow=3.8,SNR=15							
KWP	Kalwaria Pacla	148.60	332	⇑*i*P	PKPbc	04 07 59.7		+0.2
BURAR	Bucovina Array	148.84	327	⇑*i*P	PKPbc	04 08 01.6		+1.4
TIRR	Tirgusor	148.98	319	⇑*i*P	PKPbc	04 08 00.4		-0.1
VRI	Vrincioaia	149.15	323	⇑*i*P	PKPbc	04 08 00.5		-0.4
KOLS	Kolonicke sedl	149.31	331	*e*	PKPbc	04 08 01.8		+0.6
STHS	Stebnicka Huta	149.38	333	*e*	PKPbc	04 08 01.9		+0.5
DOPR	Dopca	149.82	324	⇑*i*P	PKPbc	04 08 03.1		+0.6
OKC	Ostrava-Krasne	150.27	336	*e*PKPDF	PKPbc	04 08 03.6		+0.2
VOIR		150.34	323	⇓*i*P	PKPbc	04 08 04.4		+0.6
KECS	Kecovo	150.42	332	*e*	PKPbc	04 08 04.3		+0.5
DPC	Dobruska-Polom	150.47	339	*e*PKPDF	PKPbc	04 08 04.2		+0.3
DPC				*e*PKPAB	PKPab	04 08 13.4		+0.5
ISP	Isparta	150.54	306	⇑*i*P	PKPbc	04 08 03.5		-1.1
CLL	Collm	150.60	344	⇓*i*PKPbc	PKPbc	04 08 04.0		-0.1
	comp=Z,15nm,0.8s							
CLL				*i* PKPab	PKPab	04 08 12.9		-0.4
	comp=Z,6.0nm,0.6s							
ARR	Arges	150.61	324	⇑*i*P	PKPbc	04 08 05.3		+0.8
DRGR		150.65	328	⇓*i*P	PKPbc	04 08 04.3		-0.2
BRG	Berggiesshubel	150.74	342	*i* PKP	PKPbc	04 08 04.5		0.0
	comp=Z,12nm,0.5s							
BRG				*e*		04 08 11.3		
	comp=Z,3.8nm,1.0s							

PVCC	Panska Ves	150.87	341	*e*PKPDF	PKPbc	04 08 04.9	+0.1	
VYHS	Vyhne	151.10	334	*e*	PKPbc	04 08 05.3	-0.1	
PRU	Pruhonice	151.35	341	*e*PKPDF	PKPbc	04 08 05.7	-0.2	
PRU				*e*PKPAB	PKPab	04 08 16.9	+0.4	
BZS	Buzias	152.01	327	⇑*i*P	PKPbc	04 08 07.2	-0.3	
KHC	Kasperske Hory	152.40	341	*e*PKPDF	PKPbc	04 08 08.0	-0.3	
KHC				*e*PKPAB	PKPab	04 08 21.2	+0.1	
GERES	GERESS Array B	152.62	341	PKPbc	PKPbc	04 08 08.4	-0.5	
	comp=Z,0.8nm,0.5s,baz=60,slow=3.2,SNR=8.9							
GERES				PKPab	PKPab	04 08 21.5	-0.6	
	comp=Z,0.3nm,0.5s,baz=35,slow=4.9,SNR=3.8							
PKSM	Moragy	152.97	331	⇓*i*P	PKPbc	04 08 09.1	-0.5	
VTS	Vitosha	153.15	321	⇓*i*P	PKPbc	04 08 09.8	-0.5	
ESDC	Sonseca Array	163.51	12	PKPab	PKPab	04 09 09.2	-0.3	
	comp=Z,0.1nm,0.3s,baz=336,slow=3.3,SNR=4.0							
KEST	Kesra	165.55	329	PKPab	PKPab	04 09 18.6	-0.2	
	comp=Z,1.6nm,1.0s,baz=312,slow=20,SNR=4.0							
TORD	Torodi Ar. Bea	169.58	187	PKP	PKPdf	04 08 18.9	-0.8	
	comp=Z,1.5nm,1.0s,baz=276,slow=0.2,SNR=10.0							
TORD				PKPab	PKPab	04 09 36.1	-0.7	
	comp=Z,1.3nm,0.8s,baz=166,slow=4.9,SNR=9.5							

*ISCJB **29** 04:14:37.4±0.5, 13°.10N±0°.06×89°.16W±0°.05, h70km±4km, mb3.7/10, Error ellipse: s-maj=12.1km s-min=4.6km az=36.8*
*NEIC **29** 04:14:37.7, 13°.10N×89°.20W, h56km, mb3.8/2, MD4.3(SNET), After SNET.*
NEIC Felt [II] at San Salvador.
*CASC **29** 04:14:38.9±1.8, 13°.10N×89°.16W, h46km±15km, MD4.1, ML4.2*
*IDC **29** 04:14:40.6±2.7, 13°.14N×88°.84W, h92km±25km, mb3.4/9, mb1 3.7/11, mb1mx3.5/25, mbtmp3.5/11, MS3.0/6, Ms1 3.0/6, ms1mx2.7/21, Error ellipse: s-maj=44.1km s-min=11.8km az=55.0*
ISC 29 04:14:36.9±1.0, 13°.01N±0°.07×89°.19W±0°.05, h55km±8km, n54, σ1°.29/61, mb3.8/10, MS3.0/4, 3C-4D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
AIES	Las Flores	0.46	17	*e*P	Pn	04 14 48.0		-0.1
AIES				*e*S	Sn	04 14 56.2		+0.1
AIES				AML	AML	04 14 58.7		
	comp=Z,10μm,0.2s							
LFRS	El Faro	0.62	11	⇓*i*P	Pn	04 14 49.9		-0.1
LFRS	El Faro	0.62	11	⇓*i*P	Pn	04 14 49.9		-0.1
SNET	Serv Nac Est T	0.67	356	*e*P	Pn	04 14 50.7		+0.1
SNET				*e*S	Sn	04 15 00.7		+0.1
SNET				AML	AML	04 15 03.8		
	comp=Z,11μm,0.3s							
SNET	Serv Nac Est T	0.67	356	*e*P	Pn	04 14 50.7		+0.1
SNET				*e*S	Sn	04 15 00.7		+0.1
SNVI	San Vicente	0.68	30	*e*P	Pn	04 14 51.0		+0.1
BOQS	Boqueron	0.72	353	⇑*i*P	Pn	04 14 51.8		+0.3
BOQS				*e*S	Sn	04 15 03.3		+1.3
BOQS	Boqueron	0.72	353	⇑*i*P	Pn	04 14 51.8		+0.3
BOQS				*e*S	Sn	04 15 03.3		+1.3
LBRS	Las Brisas	0.73	11	⇓*i*P	Pn	04 14 51.7		+0.3
LBRS	Las Brisas	0.73	11	⇓*i*P	Pn	04 14 51.7		+0.3
LFU	La Fuente	0.73	5	*e*P	Pn	04 14 51.6		+0.2
LFU				*e*S	Sn	04 15 02.2		+0.2
LFU	La Fuente	0.73	5	*e*P	Pn	04 14 51.6		+0.2
LFU				*e*S	Sn	04 15 02.2		+0.2
SBLS	San Blas

CLCH	**Cerro Calan**	**2.62**	**145**	⇓*iP*	Pn	04 19 48.0	+0.8
CLCH				*eS*	Sn	04 20 20.9	+2.2
CLCH				AML	AML	04 20 38.0	
	comp=E,477nm,0.5s						
LCO	**Las Campanas**	**2.65**	**33**	*eP*	Pn	04 19 49.0	+1.2
LCO				AML	AML	04 20 35.1	
	comp=N,363nm,0.5s						
TACH	**Talagante**	**2.66**	**154**	⇓*iP*	Pn	04 19 48.9	+1.3
PCH	**Pirque**	**2.81**	**147**	*eP*	Pn	04 19 50.9	+1.0
LMEL	**Las Melosas**	**3.15**	**146**	*eP*	Pn	04 19 55.3	+0.8
LMEL				AML	AML	04 20 45.5	
	comp=E,154nm,0.6s						

IDC ***29*** *04:22:27.9±2.2,59°.20S×16°.22W,h0km,mb3.7/5, mb1 3.8/5,mb1mx3.7/19,mbtmp3.7/5,MS4.0/11, Ms1 3.9/11,ms1mx3.8/25,Error ellipse: s-maj=93.8km s-min=32.8km az=1.0*

ISCJB ***29*** *04:22:28.9±1.1,59°.0S±0°.1×16°.4W±0°.4,h10km,mb3.6/5, MS4.0/11,Error ellipse: s-maj=33.9km s-min=10.5km az=153.2*

ISC 29 04:22:30.0±0.9,58°.9S±0°.1×16°.2W±0°.2,h10km,n18, σ1°.44/9,mb3.7/5,MS4.0/11,East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.23**	**167**	*eP*	Pn	04 25 33.7	+10
SNAA	**Sanae**	**13.90**	**162**	*eP*	**P**	**04 25 53.6**	**-1.5**
SNAA	**Sanae**	**13.90**	**162**	*eS*	**Sn**	**04 28 22.9**	**+1.9**
MAW	**Mawson**	**34.16**	**138**	LR	LR	04 41 03.1	
	comp=Z,242nm,21.2s,baz=266,slow=33						
BOSA	**Boshof**	**41.47**	**61**	LR	LR	04 43 10.8	
	comp=Z,130nm,20.8s,baz=52,slow=30						
CPUP	**Villa Florida**	**43.31**	**301**	P	**P**	**04 30 32.1**	**+0.3**
	1.4nm,0.8s,baz=114,slow=10.0,SNR=3.6						
CPUP				LR	LR	04 47 56.3	
	comp=Z,166nm,18.6s,baz=143,slow=35						
VNDA	**Vanda**	**43.81**	**179**	LR	LR	04 48 10.4	
	comp=Z,101nm,19.2s,baz=184,slow=35						
CFAA	**Coronel Fontan**	**44.11**	**285**	P	**P**	**04 30 37.9**	**-0.5**
	0.2nm,0.6s,baz=145,slow=10,SNR=4.9						
BDFB	**Brasilia**	**49.18**	**318**	LR	LR	04 48 30.4	
	comp=Z,251nm,19.1s,baz=221,slow=32						
LVC	**Limon Verde**	**51.90**	**291**	P	**P**	**04 31 38.0**	**-0.9**
	1.6nm,0.7s,baz=188,slow=14,SNR=2.0						
LPAZ	**La Paz**	**56.95**	**296**	P	**P**	**04 32 17.3**	**+1.2**
	0.6nm,0.8s,baz=130,slow=7.9,SNR=3.5						
LPAZ				LR	LR	04 54 03.4	
	comp=Z,89nm,20.9s,baz=64,slow=33						
DBIC	**Dimbokro**	**66.01**	**12**	LR	LR	04 55 03.9	
	comp=Z,57nm,20.4s,baz=163,slow=30						
KMBO	**Kilima Mbogo**	**70.99**	**58**	LR	LR	05 00 47.2	
	comp=Z,95nm,18.7s,baz=269,slow=32						
TORD	**Torodi Ar. Bea**	**73.28**	**18**	P	**P**	**04 34 02.4**	**+1.1**
	0.4nm,0.8s,baz=195,slow=6.6,SNR=2.9						
TORD				LR	LR	04 58 36.4	
	comp=Z,81nm,21.7s,baz=320,slow=30						
STKA	**Stephens Creek**	**87.66**	**161**	LR	LR	05 09 57.1	
	comp=Z,180nm,20.8s,baz=205,slow=33						
ASAR	**Alice Springs**	**94.07**	**153**	LR	LR	05 18 23.1	
	comp=Z,78nm,18.8s,baz=176,slow=36						
FINES	**FINESS Array B**	**124.42**	**23**	PKP	**PKPdf**	**04 41 26.0**	**-1.7**
	1.7nm,0.9s,baz=228,slow=10,SNR=2.3						
SONM	**Songino Array**	**145.07**	**83**	PKPbc	**PKPab**	**04 42 06.0**	**-0.2**
	0.2nm,0.3s,baz=204,slow=3.2,SNR=2.4						

JMA 29 04:57:31.2±0.1,30°.20N×140°.39E,h176km,M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.94**	**351**	P	Pn	04 58 19.7	+0.8
JHJ2				*eS*	Sn	04 58 56.2	0.0
CBIJ	**Chichi jima**	**3.47**	**153**	P	Pn	04 58 25.7	+0.2
CBIJ				*eS*	Sn	04 59 08.2	+0.3
BSO1	**Boso 1**	**4.47**	**6**	*eS*	Sn	04 59 31.2	+1.7
BSO2	**Boso 2**	**4.55**	**4**	*eS*	Sn	04 59 34.1	+2.2
JIM2	**Oshima 3**	**4.58**	**350**	P	Pn	04 58 40.3	+0.7
BSO3	**Boso 3**	**4.59**	**1**	P	Pn	04 58 39.9	+0.6
BSO3				*eS*	Sn	04 59 32.2	-0.7
BSO4	**Boso 4**	**4.78**	**359**	*eS*	Sn	04 59 37.9	+0.3
JOD2	**Odawara 2**	**5.17**	**348**	P	Pn	04 58 48.3	+1.1
JOD2				*eS*	Sn	04 59 47.1	+0.1
JRY	**Ryogami san**	**5.93**	**348**	P	Pn	04 58 57.3	0.0
JAG	**Ashikaga**	**6.26**	**353**	P	Pn	04 58 59.7	-1.8
JAG				*eS*	Sn	05 00 07.2	-5.4
JHO	**Hitachi**	**6.40**	**1**	P	Pn	04 59 02.6	-0.7
JHO				*eS*	Sn	05 00 10.3	-5.6

IDC 29 04:59:19.9±1.9,17°.77S×174°.03W,h0km,mb3.8/5, mb1 4.1/5,mb1mx3.8/20,mbtmp3.8/5,Error ellipse: s-maj=118.0km s-min=27.1km az=148.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.36**	**242**	P	P	05 07 17.4	+1.4
	0.6nm,0.5s,baz=90,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**48.75**	**259**	P	P	05 08 06.2	-0.7
	0.8nm,0.5s,baz=96,slow=7.4,SNR=4.3						
ASAR	**Alice Springs**	**48.84**	**254**	P	P	05 08 06.6	-0.9
	1.2nm,0.6s,baz=95,slow=7.8,SNR=11						
TXAR	**Lajitas Array**	**82.43**	**56**	P	P	05 11 43.9	-0.6
	0.3nm,0.9s,baz=216,slow=4.5,SNR=4.2						
ILAR	**Eielson Array**	**84.87**	**11**	P	P	05 11 57.0	+0.8
	0.2nm,0.6s,baz=223,slow=7.3,SNR=4.8						

IDC 29 05:01:01.0±1.6,10°.10S×123°.94E,h0km,mb3.4/1, mb1 3.7/4,mb1mx3.5/20,mbtmp3.5/4,ML3.5/3,Error ellipse: s-maj=28.8km s-min=10.4km az=164.0,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.29**	**249**	Pg	Pg	05 01 07.2	+0.6
	5μm,0.3s,baz=76,slow=12,SNR=1684						
BATI				Lg	Lg	05 01 09.8	
	5μm,0.3s,baz=216,slow=19,SNR=169						
FITZ	**Fitzroy Crossi**	**8.12**	**168**	Pn	Pn	05 03 00.9	+0.6
	0.7nm,0.3s,baz=352,slow=11,SNR=18						
FITZ				Sn	Sn	05 04 27.3	-5.5
	0.5nm,0.3s,baz=22,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**14.01**	**135**	Pn	Pn	05 04 19.1	-1.9
	0.2nm,0.3s,baz=308,slow=15,SNR=4.8						
WRA				Sn	Sn	05 06 47.4	-10
	0.3nm,0.3s,baz=318,slow=25,SNR=3.0						
ASAR	**Alice Springs**	**16.50**	**146**	Pn	Pn	05 04 52.9	-1.3
	0.2nm,0.3s,baz=318,slow=12,SNR=18						
ASAR				Sn	Sn	05 07 48.2	-10
	0.1nm,0.3s,baz=320,slow=23,SNR=2.8						
MKAR	**Makanchi Array**	**67.73**	**330**	P	P	05 11 59.5	-0.9
	0.3nm,0.5s,baz=130,slow=7.9,SNR=3.5						

IDC 29 05:05:08.7±6.2,19°.97S×174°.39W,h0km,mb4.3/3, mb1 4.4/3,mb1mx3.8/21,mbtmp4.3/3,Error ellipse: s-maj=305.8km s-min=64.6km az=150.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.92**	**263**	P	P	05 12 20.7	+1.1
	2.9nm,0.5s,baz=90,slow=8.1,SNR=2.9						
ASAR	**Alice Springs**	**47.94**	**256**	P	P	05 13 49.2	-0.1
	1.1nm,0.4s,baz=90,slow=8.8,SNR=20						
WRA	**Warramunga Arr**	**48.03**	**261**	P	P	05 13 49.2	-0.8
	1.8nm,0.4s,baz=97,slow=8.5,SNR=17						
BRTR	**Keskin Array B**	**146.92**	**315**	PKPbc	PKPbc	05 24 58.3	-0.6
	0.7nm,0.6s,baz=122,slow=3.4,SNR=3.1						

IDC 29 05:17:43.1±3.4,16°.09S×176°.30W,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.8/19,mbtmp3.8/4,Error ellipse: s-maj=184.9km s-min=28.6km az=147.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.97**	**258**	P	P	05 26 15.4	-0.9
	0.6nm,0.3s,baz=96,slow=8.3,SNR=7.4						
ASAR	**Alice Springs**	**47.25**	**253**	P	P	05 26 19.1	+0.6
	25nm,0.5s,baz=85,slow=8.5,SNR=280						
FITZ	**Fitzroy Crossi**	**55.34**	**259**	P	P	05 27 19.1	-0.2
	3.7nm,0.9s,baz=104,slow=8.3,SNR=3.2						
ILAR	**Eielson Array**	**83.68**	**12**	P	P	05 30 13.2	-0.2
	0.3nm,0.7s,baz=218,slow=5.7,SNR=4.1						
PDAR	**Pinedale Array**	**84.65**	**43**	P	P	05 30 19.3	+0.2
	0.6nm,1.1s,baz=226,slow=2.4,SNR=2.9						

IDC 29 05:22:31.6±2.8,14°.69S×178°.97W,h368km±35km, mb3.3/7,mb1 3.7/8,mb1mx3.4/20,mbtmp3.4/8,Error ellipse: s-maj=72.5km s-min=13.2km az=153.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.02**	**85**	P	Pn	05 24 14.6	-0.3
	7.9nm,0.3s,baz=330,slow=16,SNR=7.2						
CTA	**Charters Tower**	**33.57**	**256**	P	P	05 28 39.1	+0.2
	3.4nm,0.6s,baz=97,slow=13,SNR=3.3						
STKA	**Stephens Creek**	**39.80**	**238**	P	P	05 29 30.6	0.0
	2.6nm,0.7s,baz=30,slow=8.6,SNR=4.4						
WRA	**Warramunga Arr**	**44.77**	**256**	P	P	05 30 10.0	-0.5
	0.4nm,0.4s,baz=91,slow=7.2,SNR=6.1						
ASAR	**Alice Springs**	**45.23**	**251**	P	P	05 30 13.9	-0.1
	15nm,0.3s,baz=84,slow=8.5,SNR=177						
NVAR	**Mina Array Bea**	**77.50**	**45**	P	P	05 33 48.2	+0.3
	0.8nm,0.7s,baz=222,slow=5.6,SNR=14						
ILAR	**Eielson Array**	**82.89**	**13**	P	P	05 34 15.6	+0.1
	0.8nm,0.5s,baz=230,slow=5.6,SNR=14						
TXAR	**Lajitas Array**	**84.75**	**58**	P	P	05 34 26.1	+0.3
	0.7nm,0.7s,baz=220,slow=6.2,SNR=12						
PDAR	**Pinedale Array**	**85.41**	**44**	P	P	05 34 28.4	-0.4
	0.6nm,0.5s,baz=207,slow=2.5,SNR=7.4						
ARCES	**ARCESS Array B**	**123.07**	**350**	PKP	PKPdf	05 40 43.0	-1.3
	1.8nm,0.8s,baz=52,slow=3.5,SNR=4.6						
FINES	**FINESS Array B**	**129.96**	**345**	PKP	PKPdf	05 40 57.0	-0.6
	0.3nm,0.4s,baz=21,slow=36,SNR=2.8						
GERES	**GERESS Array B**	**144.38**	**346**	PKP	PKPbc	05 41 24.1	+0.2
	0.7nm,0.4s,baz=8.5,slow=2.7,SNR=6.9						

CSEM ***29*** *05:22:54.1±0.2,45°.11N×14°.79E,h10km,ML3.5/13,Error ellipse: s-maj=3.8km s-min=3.1km az=50.0*

VIE ***29*** *05:22:54.1±0.5,45°.19N×14°.91E,h9km±2km,mb2.5/6, ML2.9/6,Error ellipse: s-maj=3.2km s-min=2.2km az=170.0 43 km ESE of Rijeka*

PRU ***29*** *05:22:56.3,45°.11N×14°.61E,h4km*

SZGRF ***29*** *05:22:57.3,45°.03N×14°.90E,h10km,mb2.8,Northwestern Balkan Peninsula*

ISC 29 05:22:54.1±1.1,45°.08N±0°.02×14°.83E±0°.02,h7km±9km, n74,σ0°.92/132,15C-9D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBRS	**Gornja Briga**	**0.45**	**358**	⇓*iPg*	**Pg**	**05 23 02.5**	**-0.3**
GBRS				*i Sg*	**Sg**	**05 23 08.9**	**+0.2**
	72nm,0.1s						
BOJS	**Bojanci**	**0.52**	**35**	*i* Pg	**Pg**	**05 23 04.0**	**0.0**
BOJS				*i* Sg	**Sg**	**05 23 11.4**	**+0.6**
BOJS							
	comp=Z,495nm,0.2s						
BOJS	**Bojanci**	**0.52**	**35**	*i* Pg	**Pg**	**05 23 04.0**	**0.0**
BOJS				*i* Sg	**Sg**	**05 23 11.4**	**+0.6**
	comp=Z,495nm,0.2s						
NVLJ	**Novalja**	**0.52**	**177**	*i* Pg	**Pg**	**05 23 04.8**	**+0.7**
NVLJ				Sg	**Sb**	**05 23 13.8**	**+0.6**
NVLJ	**Novalja**	**0.52**	**177**	*i* Pg	**Pg**	**05 23 04.7**	**+0.7**
NVLJ				Sg	**Sb**	**05 23 13.7**	**+0.6**
CEY	**Cerknica**	**0.72**	**337**	⇓*iPg*	**Pg**	**05 23 06.9**	**-0.9**
CEY				*i* Sg	**Sg**	**05 23 17.9**	**+0.7**
CEY	**Cerknica**	**0.72**	**337**	⇓*iPg*	**Pg**	**05 23 06.9**	**-0.9**
CEY				*i* Sg	**Sg**	**05 23 17.9**	**+0.7**
VISS	**Visnje**	**0.72**	**0**	⇓*iPg*	**Pg**	**05 23 07.0**	**-0.9**
VISS				*i* Sg	**Sg**	**05 23 16.8**	**-0.5**
VISS	**Visnje**	**0.72**	**0**	⇓*iPg*	**Pg**	**05 23 07.1**	**-0.9**
VISS				*i* Sg	**Sg**	**05 23 16.8**	**-0.5**
SKDS	**Skadanscina**	**0.74**	**309**	*i* Pg	**Pg**	**05 23 07.0**	**-1.3**
SKDS				*i* Sg	**Sg**	**05 23 18.1**	**+0.1**
SKDS	**Skadanscina**	**0.74**	**309**	*i* Pg	**Pg**	**05 23 07.0**	**-1.3**
SKDS				*i* Sg	**Sg**	**05 23 18.0**	**+0.1**
CRES	**Cresnjev**	**0.86**	**30**	⇑*iPg*	Pg	05 23 06.7	-4.0
CRES				*eSg*	**Sg**	**05 23 22.0**	**+0.1**
CRES	**Cresnjev**	**0.86**	**30**	*eSg*	**Sg**	**05 23 22.0**	**+0.1**
UDBI	**Udbina**	**0.86**	**129**	*ePg*	**Pb**	**05 23 11.8**	**+0.4**
UDBI				Sg	**Sn**	**05 23 25.2**	**-0.5**
UDBI	**Udbina**	**0.86**	**129**	*ePg*	**Pb**	**05 23 11.8**	**+0.4**
UDBI				Sg	**Sn**	**05 23 25.1**	**-0.5**
LEGS	**Legarje**	**0.93**	**21**	⇓*iPg*	Pg	05 23 06.3	-5.6
LEGS				*i* Sg	**Sg**	**05 23 25.0**	**-0.1**
LEGS	**Legarje**	**0.93**	**21**	*i* Sg	**Sg**	**05 23 25.0**	**-0.1**
GCIS	**Gornji Cirnik**	**0.96**	**35**	*i* Sg	**Sg**	**05 23 25.1**	**0.0**
GCIS							
	comp=Z,103nm,0.2s						
GCIS	**Gornji Cirnik**	**0.96**	**35**	*i* Sg	**Sg**	**05 23 25.1**	**0.0**
	comp=Z,103nm,0.2s						
JAVS	**Javornik**	**0.97**	**327**	*i* Pg	**Pg**	**05 23 11.0**	**-1.8**
JAVS				*i* Sg	**Sb**	**05 23 26.2**	**-0.2**
JAVS							
	comp=Z,70nm,0.3s						
JAVS	**Javornik**	**0.97**	**327**	*i* Pg	**Pg**	**05 23 11.0**	**-1.8**
JAVS				*i* Sg	**Sb**	**05 23 26.2**	**-0.2**
	comp=Z,70nm,0.3s						
LJU	**Ljubljana**	**0.98**	**348**	*i* Pg	**Pg**	**05 23 13.1**	**+0.1**
LJU				*eSg*	**Sb**	**05 23 26.3**	**-0.4**
LJU	**Ljubljana**	**0.98**	**348**	*i* Pg	**Pg**	**05 23 13.1**	**+0.1**
PDKS	**Podkum**	**0.99**	**7**	*i* Pg	**Pg**	**05 23 12.8**	**-0.2**
PDKS				*i* Sg	**Sb**	**05 23 26.4**	**-0.4**
PDKS							
	comp=Z,76nm,0.2s						
PDKS	**Podkum**	**0.99**	**7**	*i* Pg	**Pg**	**05 23 12.8**	**-0.2**
PDKS				*i* Sg	**Sb**	**05 23 26.4**	**-0.4**
	comp=Z,76nm,0.2s						
CESS	**Cesta pri Krsk**	**1.00**	**26**	*i* Sg	**Sg**	**05 23 26.3**	**+0.2**
CESS	**Cesta pri Krsk**	**1.00**	**26**	*i* Pg	**Pn**	**05 23 14.4**	**-0.1**
CESS				*i* Sg	**Sg**	**05 23 26.3**	**+0.2**
VNDS	**Vrh nad Dolski**	**1.02**	**355**	*i* Pg	**Pg**	**05 23 13.1**	**-0.6**
VNDS				*eSg*	**Sn**	**05 23 29.0**	**-0.5**
CRNS	**Crni Vrh**	**1.08**	**338**	*i* Pg	**Pg**	**05 23 13.7**	**-1.1**
GOLS	**Golise**	**1.08**	**31**	⇑*iPg*	**Pg**	**05 23 14.0**	**-0.9**
GOLS				*eSg*	**Sn**	**05 23 30.8**	**-0.2**
GOLS							
	comp=Z,152nm,0.3s						
GOLS	**Golise**	**1.08**	**31**	⇑*iPg*	**Pg**	**05 23 14.0**	**-0.9**
GOLS				*eSg*	**Sn**	**05 23 30.8**	**-0.2**
	comp=Z,152nm,0.3s						
SISC	**Sisak**	**1.16**	**70**	*ePg*	**Pn**	**05 23 16.9**	**+0.3**
SISC				Sg	**Sn**	**05 23 32.7**	**0.0**
SISC	**Sisak**	**1.16**	**70**	*ePg*	**Pn**	**05 23 16.9**	**+0.3**
SISC				Sg	**Sn**	**05 23 32.6**	**0.0**
VOJS	**Vojsko**	**1.16**	**325**	*i* Pg	**Pg**	**05 23 14.6**	**-1.7**
VOJS				*i* Sg	**Sb**	**05 23 32.2**	**+0.5**
VOJS	**Vojsko**	**1.16**	**325**	*i* Pg	**Pg**	**05 23 14.6**	**-1.7**
VOJS				*i* Sg	**Sb**	**05 23 32.2**	**+0.5**
MOZS	**Mozjanca**	**1.24**	**348**	*i* Pg	**Pb**	**05 23 17.6**	**-0.3**
MOZS				*i* Sg	**Sn**	**05 23 36.9**	**+2.0**
MOZS							
	comp=Z,24nm,0.2s						
MOZS	**Mozjanca**	**1.24**	**348**	*i* Pg	**Pb**	**05 23 17.6**	**-0.3**
GORS	**Gorjuse**	**1.37**	**335**	*i* Pg	**Pn**	**05 23 19.9**	**+0.3**
GORS				*i* Sg	**Sg**	**05 23 40.5**	**+2.5**
GORS	**Gorjuse**	**1.37**	**335**	*i* Pg	**Pn**	**05 23 19.9**	**+0.3**
CADS	**Cadrg**	**1.38**	**327**	*i* Pg	**Pn**	**05 23 19.6**	**-0.2**
CADS				*eSg*	**Sg**	**05 23 40.1**	**+1.7**
CADS	**Cadrg**	**1.38**	**327**	*i* Pg	**Pn**	**05 23 19.6**	**-0.2**
OBKA	**Obir**	**1.44**	**352**	*ePn*	**Pn**	**05 23 21.0**	**+0.3**
OBKA				*eSn*	**Sg**	**05 23 41.7**	**+1.3**
OBKA	**Obir**	**1.44**	**352**	⇑*ePg*	**Pn**	**05 23 20.8**	**+0.2**
	SNR=30						
OBKA				⇓*iSg*	**Sn**	**05 23 39.0**	**-0.9**
	comp=Z,70nm,0.3s						
OBKA	**Obir**	**1.44**	**352**	Pg	**Pn**	**05 23 20.8**	**+0.2**
	SNR=30						
OBKA				Sg	**Sn**	**05 23 39.0**	**-0.9**
	comp=Z,70nm,0.3s						
GROS	**Grobnik**	**1.46**	**19**	*i* Pg	**Pb**	**05 23 21.7**	**+0.2**
GROS				*eSg*	**Sg**	**05 23 41.1**	**+0.2**
GROS							
	comp=Z,36nm,0.2s						
GROS	**Grobnik**	**1.46**	**19**	*i* Pg	**Pb**	**05 23 21.7**	**+0.2**
GROS				*eSg*	**Sg**	**05 23 41.1**	**+0.2**
	comp=Z,36nm,0.2s						
ROBS	**Robic**	**1.49**	**322**	*i* Pg	**Pb**	**05 23 22.2**	**+0.2**
ROBS				*i* Sg	**Sg**	**05 23 43.2**	**+1.4**
ROBS	**Robic**	**1.49**	**322**	*i* Pg	**Pb**	**05 23 22.2**	**+0.2**
ROBS				*i* Sg	**Sg**	**05 23 43.2**	**+1.4**
PERS	**Pernice**	**1.57**	**7**	*e*Sg	**Sb**	**05 23 43.9**	**+0.4**
PERS	**Pernice**	**1.57**	**7**	*e*Sg	**Sb**	**05 23 43.9**	**+0.4**
SOKA	**Soboth**	**1.60**	**5**	⇑*iPg*	**Pn**	**05 23 22.7**	**-0.2**
SOKA				⇓*i*Sg	**Sn**	**05 23 43.5**	**-0.3**
	comp=Z,15nm,0.3s						
SOKA	**Soboth**	**1.60**	**5**	Pg	**Pn**	**05 23 22.7**	**-0.2**
SOKA				Sg	**Sn**	**05 23 43.5**	**-0.3**
	comp=Z,15nm,0.3s						
KOGS	**Kog**	**1.69**	**36**	*e*Sg	**Sg**	**05 23 48.4**	**+0.1**
KOGS	**Kog**	**1.69**	**36**	*e*Sg	**Sg**	**05 23 48.4**	**+0.1**
MYKA	**Terra Mystica**	**1.76**	**332**	⇑*iPn*	**Pn**	**05 23 23.9**	**-1.1**
MYKA				⇓*iPg*	**Pb**	**05 23 26.6**	**0.0**
MYKA				⇑*i*Sn	**Sn**	**05 23 47.0**	**-0.7**
MYKA				⇑*i*Sg	**Sg**	**05 23 50.1**	**-0.4**
	comp=Z,56nm,0.4s						
MYKA	**Terra Mystica**	**1.76**	**332**	Pn	**Pn**	**05 23 23.9**	**-1.1**
MYKA	**Terra Mystica**	**1.76**	**332**	Pg	**Pb**	**05 23 26.6**	**0.0**
MYKA				Sn	**Sn**	**05 23 47.0**	**-0.7**
MYKA				Sg	**Sg**	**05 23 50.1**	**-0.4**
	comp=Z,56nm,0.4s						
ARSA	**Arzberg**	**2.22**	**12**	⇑*ePg*	**Pb**	**05 23 34.9**	**+0.3**
	SNR=6.1						
ARSA				⇑*i*Sg	**Sb**	**05 24 03.6**	**+1.3**
	comp=Z,6.9nm,0.2s						
ARSA	**Arzberg**	**2.22**	**12**		**Sb**	**05 24 03.4**	**+1.1**
ARSA	**Arzberg**	**2.22**	**12**	Pg	**Pb**	**05 23 34.9**	**+0.3**
	SNR=6.1						
ARSA				Sg	**Sb**	**05 24 03.6**	**+1.3**
	comp=Z,6.9nm,0.2s						
KBA	**Koelnbreinsper**	**2.25**	**333**	*e*Pn	**Pn**	**05 23 33.3**	**+1.5**
KBA				*e*Sn	**Sb**	**05 24 03.0**	**-0.2**
KBA				*e*Sg	**Sg**	**05 24 09.5**	**+3.2**
KBA	**Koelnbreinsper**	**2.25**	**333**	⇑*ePn*	**Pn**	**05 23 30.9**	**-0.9**
	SNR=8.4						
KBA				⇑*i*Pg	**Pb**	**05 23 35.9**	**+0.8**
KBA				⇑*i*Sg	**Sg**	**05 24 06.6**	**+0.3**
	comp=Z,13nm,0.3s						
KBA	**Koelnbreinsper**	**2.25**	**333**	Pn	**Pn**	**05 23 30.9**	**-0.9**
	SNR=8.4						
ABTA	**Abfaltersbach**	**2.32**	**317**	⇑*i*Sn	**Sn**	**05 24 01.4**	**-0.2**
ABTA				⇑*i*Sg	**Sg**	**05 24 09.0**	**+0.4**
	comp=Z,58nm,0.6s						
ABTA	**Abfaltersbach**	**2.32**	**317**	Sn	**Sn**	**05 24 01.4**	**-0.2**
ABTA				Sg	**Sg**	**05 24 09.0**	**+0.4**
	comp=Z,58nm,0.6s						
MOA	**Molln**	**2.80**	**352**	*e*Pn	**Pn**	**05 23 41.4**	**+2.2**
MOA				*e*Sn	**Sn**	**05 24 15.8**	**+2.6**
STON	**Ston**	**3.03**	**136**	*i* Pn	**Pb**	**05 23 46.8**	**-1.5**
STON				Sn	**Sb**	**05 24 24.2**	**-1.3**
STON	**Ston**	**3.03**	**136**	*i* Pn	**Pb**	**05 23 46.7**	**-1.5**
STON				Sn	**Sb**	**05 24 24.1**	**-1.3**
WTTA	**Wattenberg**	**3.11**	**316**	*e*Pn	**Pb**	**05 23 48.5**	**-1.3**
GEC2	**GERESS Array S**	**3.84**	**349**	*e*Sn	**Sn**	**05 24 40.0**	**+0.9**
DAVA	**Damuels**	**4.08**	**304**	*e*Sg	**Sg**	**05 25 07.8**	**+2.6**
KHC	**Kasperske Hory**	**4.14**	**349**	*e*PN	**Pn**	**05 23 59.2**	**+1.5**
KHC				*e*SN	**Sn**	**05 24 46.4**	**+0.1**
KHC				*e*SG	**Sg**	**05 25 06.1**	**-0.9**
KHC	**Kasperske Hory**	**4.14**	**349**	Pn	**Pn**	**05 23 59.2**	**+1.5**
KHC				Sn	**Sn**	**05 24 46.4**	**+0.1**
KHC				Sg	**Sg**	**05 25 06.1**	**-0.9**
ROTZ	**Rotzenmuhle**	**5.01**	**340**	*e*Sn	**Sn**	**05 25 07.1**	**-0.7**

TAP 29 05:26:43.9,22°.86N×121°.43E,h101km,ML3.9,10C-3D,C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.24**	**347**	P	Pn	05 26 58.8	+0.5
	baz=339						
CHKT				S	Sn	05 27 09.9	+0.9
	baz=339						
TTN	**Taitung**	**0.28**	**247**	*e*P	Pn	05 26 59.1	+0.7
	baz=257						
TTN				*e*S	Sn	05 27 10.7	+1.4
	baz=257						
TWG	**Pinlang**	**0.33**	**263**	*i* P	Pn	05 26 58.9	+0.2
	baz=261						
TWG				*i* S	Sn	05 27 09.6	-0.2
	baz=261						
ELDTW	**Lidau**	**0.50**	**311**	⇑P	Pn	05 27 00.6	+0.7
	baz=307						
ELDTW				S	Sn	05 27 12.3	+0.5
	baz=307						
TWF1	**Yuli**	**0.50**	**346**	⇑*i*P	Pn	05 27 00.1	+0.3
	baz=343						
TWF1				S	Sn	05 27 11.6	-0.1
	baz=343						
ECL	**Taimali**	**0.51**	**239**	⇓P	Pn	05 26 59.8	0.0
	baz=243						
ECL				S	Sn	05 27 11.2	-0.5
	baz

	baz=209								
TWP	**Hsiaoliuchiu**	**1.11**	**243**	*e*P		Pn	05 27 06.6	+1.0	
	baz=241								
TWP				*e*S		Sn	05 27 23.3	+1.4	
	baz=241								
CHY	**Chiayi**	**1.12**	**305**	*e*P		Pn	05 27 06.0	+0.3	
	baz=303								
CHY				*e*S		Sn	05 27 21.9	-0.1	
	baz=303								
TAI1	**Yung-k'ang**	**1.12**	**279**	*e*P		Pn	05 27 05.9	+0.2	
	baz=278								
HWA	**Hwalien**	**1.12**	**8**	*e*P		Pn	05 27 06.0	+0.3	
	baz=4.0								
SMLT	**Sun Moon Lake**	**1.12**	**335**	⇑*i*P		Pn	05 27 06.4	+0.5	
	baz=325								
SMLT				*e*S		Sn	05 27 23.7	+1.2	
	baz=325								
WGK	**Gukeng**	**1.14**	**316**	*e*P		Pn	05 27 06.3	+0.4	
	baz=306								
TYC	**Yuchr**	**1.16**	**333**	⇑*i*P		Pn	05 27 06.6	+0.5	
	baz=325								
TYC				*e*S		Sn	05 27 24.2	+1.3	
	baz=325								
SCLT	**Jiali**	**1.18**	**285**	*e*P		Pn	05 27 06.8	+0.5	
	baz=284								
SCLT				*e*S		Sn	05 27 24.0	+0.8	
	baz=284								
WNT	**Mingjian**	**1.22**	**326**	⇑*i*P		Pn	05 27 07.7	+0.9	
	baz=325								
WNT				*e*S		Sn	05 27 25.0	+0.9	
	baz=325								
TWD	**Chiawan**	**1.22**	**7**	P		Pn	05 27 07.5	+0.6	
	baz=3.0								
TWD				*e*S		Sn	05 27 24.6	+0.4	
	baz=3.0								
WHF	**Hehuan Shan**	**1.28**	**353**	P		Pn	05 27 09.2	+1.1	
	baz=359								
WHF				*e*S		Sn	05 27 27.2	+0.7	
	baz=359								
WSF	**Szhu**	**1.35**	**305**	*e*P		Pn	05 27 08.1	-0.3	
	baz=303								
WSF				*e*S		Sn	05 27 26.5	-0.4	
	baz=303								
TWT	**Tachien**	**1.40**	**351**	*e*P		Pn	05 27 10.3	+1.1	
	baz=349								
TWT				*e*S		Sn	05 27 29.9	+1.5	
	baz=349								
WTCT	**Ta-ch'eng**	**1.45**	**314**	*e*P		Pn	05 27 09.7	+0.1	
	baz=307								
WTCT				*e*S		Sn	05 27 29.3	+0.3	
	baz=307								
TCU	**Taichung**	**1.45**	**332**	*e*P		Pn	05 27 10.1	+0.5	
	baz=321								
TCU				*e*S		Sn	05 27 30.4	+1.3	
	baz=321								
NNS	**Nan Shan**	**1.57**	**358**	*e*P		Pn	05 27 12.6	+1.3	
	baz=5.0								
NNS				*e*S		Sn	05 27 33.1	+1.1	
	baz=5.0								
ENA	**Nanau**	**1.58**	**10**	*e*P		Pn	05 27 11.8	+0.6	
	baz=2.0								
ENA				*e*S		Sn	05 27 32.6	+0.6	
	baz=2.0								
TWQ1	**Liyutan**	**1.59**	**338**	*e*P		Pn	05 27 11.8	+0.4	
	baz=337								
TWQ1				*e*S		Sn	05 27 33.4	+1.1	
	baz=337								
NSY	**Sanyi**	**1.66**	**339**	*e*P		Pn	05 27 13.0	+0.8	
	baz=338								
ENTT	**Nioudou**	**1.77**	**4**	*e*P		Pn	05 27 14.6	+0.9	
	baz=11								
ENTT				S		Sn	05 27 37.2	+1.0	
	baz=11								
TWC	**Suao**	**1.78**	**12**	*i*P		Pn	05 27 14.8	+1.1	
	baz=4.0								
TWC				S		Sn	05 27 37.4	+1.0	
	baz=4.0								
NSTT	**Nanjuang**	**1.80**	**348**	*e*P		Pn	05 27 14.4	+0.4	
	baz=337								
NSK	**Sanguang**	**1.81**	**358**	*e*P		Pn	05 27 15.4	+1.3	
	baz=5.0								
NSK				*e*S		Sn	05 27 38.5	+1.4	
	baz=5.0								
PNG	**Penghu**	**1.86**	**292**	*e*P		Pn	05 27 14.1	-0.6	
	baz=285								
PNG				*e*S		Sn	05 27 36.6	-1.5	
	baz=285								
TWE	**Neicheng**	**1.86**	**7**	*e*P		Pn	05 27 15.9	+1.2	
	baz=7.0								
TWE				*e*S		Sn	05 27 38.7	+0.5	
	baz=7.0								
TWA	**Mucha**	**2.11**	**4**	*e*P		Pn	05 27 18.9	+0.9	
	baz=5.0								
TWB1	**Santiao Chiao**	**2.20**	**13**	*e*P		Pn	05 27 19.4	+0.3	
	baz=15								
NWF	**Wu-fen Shan**	**2.22**	**8**	*e*P		Pn	05 27 19.8	+0.3	
	baz=358								

IDC 29 05:37:02.1±6.5, 10°27N×93°72E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/26, mbtmp3.6/5, MS3.3/2, Ms1 3.3/2, ms1mx2.7/31, Error ellipse: s-maj=354.5km s-min=20.6km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.04**	**145**	LR	LR	05 43 18.0	
	comp=Z,184nm,18.8s,baz=111,slow=41						
AAK	**Ala-Archa**	**36.36**	**336**	LR	LR	06 00 29.8	
	comp=Z,38nm,20.6s,baz=211,slow=39						
MKAR	**Makanchi Array**	**37.68**	**347**	P	P	05 44 19.0	-0.2
	0.5nm,0.7s,baz=176,slow=9.3,SNR=3.2						
KURBB	**Kurchatov Arra**	**42.14**	**346**	P	P	05 44 55.6	-0.5
	0.2nm,0.6s,baz=156,slow=7.7,SNR=2.9						
ZALV	**Zalesovo Beam**	**44.14**	**352**	P	P	05 45 12.6	+0.3
	0.4nm,0.4s,baz=182,slow=4.2,SNR=2.4						
WRA	**Warramunga Arr**	**50.00**	**127**	P	P	05 45 57.9	-0.7
	1.6nm,0.7s,baz=304,slow=8.9,SNR=7.5						
ASAR	**Alice Springs**	**51.77**	**121**	P	P	05 46 12.3	+0.4
	1.2nm,0.9s,baz=315,slow=6.9,SNR=8.0						

IDC 29 05:46:15.9±8.3, 16°69N×121°88W, h0km, mb3.4/7, mb1 3.8/7, mb1mx3.7/22, mbtmp3.5/7, MS3.2/2, Ms1 3.2/2, ms1mx2.6/16, Error ellipse: s-maj=144.7km s-min=50.1km az=1.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flat Ob**	**17.54**	**15**	LR	LR	05 55 47.7	
	comp=Z,71nm,18.2s,baz=197,slow=33						
TXAR	**Lajitas Array**	**20.92**	**50**	P	P	05 51 01.4	+1.1
	1.0nm,0.9s,baz=216,slow=12,SNR=8.8						
NVAR	**Mina Array Bea**	**21.88**	**8**	P	P	05 51 11.2	+0.4
	0.8nm,0.8s,baz=180,slow=8.4,SNR=6.4						
ANMO	**Albuquerque**	**22.82**	**34**	P	P	05 51 20.4	-0.4
	0.7nm,0.9s,baz=219,slow=9.1,SNR=4.0						
YBH	**Yreka Blue Hor**	**24.96**	**359**	LR	LR	05 58 40.1	
	comp=Z,47nm,21.3s,baz=302,slow=30						
PDAR	**Pinedale Array**	**28.04**	**20**	P	P	05 52 08.4	-0.7
	0.4nm,0.8s,baz=180,slow=8.1,SNR=4.6						
ULM	**Lac du Bonnet**	**39.48**	**26**	P	P	05 53 46.8	-1.2
	1.2nm,0.5s,baz=226,slow=11,SNR=2.3						
YKA	**Yellowknife Ar**	**46.03**	**5**	P	P	05 54 41.3	+0.3
	1.0nm,0.8s,baz=182,slow=8.6,SNR=7.9						
ILAR	**Eielson Array**	**50.94**	**347**	P	P	05 55 18.9	0.0
	0.3nm,0.7s,baz=147,slow=6.1,SNR=4.8						

*ISCJB **29** 06:18:43.5±0.5, 24°.58N±0°.03×122°.39E±0°.02, h75km±6km, Error ellipse: s-maj=5.8km s-min=3.0km az=173.1*
*TAP **29** 06:18:43.2, 24°.60N×122°.34E, h85km, ML3.6, C*
*JMA **29** 06:18:43.3±0.2, 24°.70N×122°.42E, h82km±2km, M2.5*

ISC 29 06:18:44.2±1.4, 24°56N±0°.04×122°38E±0°.03, h71km±11km, n38, σ0°976/73, 2C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.49**	**276**	⇓*i*P	**Pn**	**06 18 56.9**	**-0.1**
	baz=271						
TWC				S	**Sn**	**06 19 06.5**	**+0.1**
	baz=271						
TWB1	**Santiao Chiao**	**0.57**	**321**	P	**Pn**	**06 18 57.5**	**-0.4**
	baz=317						
TWB1				*i*S	**Sn**	**06 19 07.6**	**-0.2**
	baz=317						
YOJ	**Yonaguni jima**	**0.58**	**100**	P	**Pn**	**06 18 58.1**	**+0.1**
YOJ				S	**Sn**	**06 19 09.2**	**+1.1**
ENA	**Nanau**	**0.60**	**257**	⇓P	**Pn**	**06 18 58.3**	**+0.2**
	baz=252						
ENA				*e*S	**Sn**	**06 19 08.9**	**+0.6**
	baz=252						
ILA	**Ilan**	**0.61**	**289**	*e*P	**Pn**	**06 18 58.3**	**0.0**
	baz=287						
ILA				*e*S	**Sn**	**06 19 09.5**	**+1.0**
	baz=287						
TWE	**Neicheng**	**0.67**	**284**	P	**Pn**	**06 18 58.9**	**0.0**
	baz=281						
TWE				*e*S	**Sn**	**06 19 09.7**	**0.0**
	baz=281						
NWF	**Wu-fen Shan**	**0.74**	**313**	P	**Pn**	**06 18 59.6**	**-0.2**
	baz=306						
NWF				*e*S	**Sn**	**06 19 11.3**	**0.0**
	baz=306						
ENTT	**Nioudou**	**0.74**	**276**	*e*P	**Pn**	**06 18 60.0**	**+0.2**
	baz=273						
ENTT				*e*S	**Sn**	**06 19 11.9**	**+0.7**
	baz=273						
TWA	**Mucha**	**0.83**	**300**	*e*P	**Pn**	**06 19 00.2**	**-0.6**
	baz=292						
TWA				S	**Sn**	**06 19 12.4**	**-0.7**
	baz=292						
TWD	**Chiawan**	**0.86**	**236**	*e*P	**Pn**	**06 19 00.2**	**-0.9**
	baz=227						
TWD				*e*S	**Sn**	**06 19 13.8**	**+0.2**
	baz=227						
HWA	**Hwalien**	**0.92**	**231**	*e*P	**Pn**	**06 19 01.6**	**-0.1**
	baz=220						
NNS	**Nan Shan**	**0.93**	**263**	P	**Pn**	**06 19 01.8**	**-0.2**
	baz=253						
NNS				*e*S	**Sn**	**06 19 15.2**	**0.0**
	baz=253						
NSK	**Sanguang**	**0.94**	**277**	P	**Pn**	**06 19 02.0**	**0.0**
	baz=275						
NSK				S	**Sn**	**06 19 15.4**	**+0.1**
	baz=275						
TWY	**Chenhua**	**1.00**	**315**	P	**Pn**	**06 19 02.2**	**-0.6**
	baz=307						
TWY				*e*S	**Sn**	**06 19 16.3**	**-0.3**
	baz=307						
TWS1	**Kuangyinshan**	**1.02**	**302**	⇑*i*P	**Pn**	**06 19 02.6**	**-0.5**
	baz=306						
TWS1				S	**Sn**	**06 19 16.6**	**-0.5**
	baz=306						
WHF	**Hehuan Shan**	**1.10**	**248**	⇓*i*P	**Pn**	**06 19 04.1**	**-0.4**
	baz=245						
WHF				S	**Sn**	**06 19 19.1**	**-0.3**
	baz=245						
TWT	**Tachien**	**1.14**	**255**	*e*P	**Pn**	**06 19 04.9**	**+0.2**
	baz=252						
TWT				*e*S	**Sn**	**06 19 20.6**	**+0.5**
	baz=252						
ESL	**Shilin**	**1.14**	**229**	*e*P	**Pn**	**06 19 03.5**	**-1.1**
	baz=235						
ESL				*e*S	**Sn**	**06 19 18.5**	**-1.2**
	baz=235						
NCU	**National Centr**	**1.16**	**291**	*e*P	**Pn**	**06 19 04.4**	**-0.4**
	baz=289						
NCU				*e*S	**Sn**	**06 19 20.8**	**+0.7**
	baz=289						
IRIF	**Iriomote-Funau**	**1.25**	**100**	P	**Pn**	**06 19 05.5**	**-0.5**
IRIF				*e*S	**Sn**	**06 19 22.3**	**0.0**
NSTT	**Nanjuang**	**1.26**	**273**	*e*P	**Pn**	**06 19 05.9**	**-0.2**
	baz=271						
NSTT				*e*S	**Sn**	**06 19 22.3**	**-0.1**
	baz=271						
HATJ	**Hateruma jima**	**1.39**	**111**	P	**Pn**	**06 19 08.1**	**+0.3**
HATJ				*e*S	**Sn**	**06 19 26.5**	**+0.9**
EHY	**Hungye**	**1.43**	**223**	*e*P	**Pn**	**06 19 06.9**	**-1.5**
	baz=212						
EHY				*e*S	**Sn**	**06 19 24.5**	**-1.9**
	baz=212						
TWQ1	**Liyutan**	**1.48**	**262**	*e*P	**Pn**	**06 19 08.1**	**-0.9**
	baz=260						
NSY	**Sanyi**	**1.48**	**265**	*e*P	**Pn**	**06 19 08.8**	**-0.2**
	baz=262						
NSY				*e*S	**Sn**	**06 19 28.3**	**+0.6**
	baz=262						
SMLT	**Sun Moon Lake**	**1.51**	**244**	*e*P	**Pn**	**06 19 09.9**	**+0.4**
	baz=234						
SMLT				*e*S	**Sn**	**06 19 29.7**	**+1.2**
	baz=234						
JKRS	**Kuro-shima**	**1.52**	**102**	P	**Pn**	**06 19 09.4**	**-0.1**
JKRS				*e*S	**Sn**	**06 19 28.1**	**-0.4**
TYC	**Yuchr**	**1.54**	**245**	*e*P	**Pn**	**06 19 09.9**	**+0.2**
	baz=247						
TYC				*e*S	**Sn**	**06 19 29.9**	**+0.9**
	baz=247						
TWF1	**Yuli**	**1.56**	**220**	*e*P	**Pn**	**06 19 08.8**	**-1.3**
	baz=224						
TWF1				*e*S	**Sn**	**06 19 27.8**	**-1.7**
	baz=224						
JIJ	**Ishigaki jima**	**1.62**	**97**	P	**Pn**	**06 19 10.2**	**-0.6**
JIJ				S	**Sn**	**06 19 30.3**	**-0.6**
YUS	**Yu-Shan**	**1.69**	**231**	⇑P	**Pn**	**06 19 12.1**	**-0.1**
	baz=221						
YUS				*e*S	**Sn**	**06 19 32.7**	**-0.6**
	baz=221						
ALS	**Alishan**	**1.78**	**234**	*e*P	**Pn**	**06 19 13.7**	**+0.4**
	baz=225						
ALS				*e*S	**Sn**	**06 19 35.3**	**+0.1**
	baz=225						
CHN5	**Tsauling**	**1.83**	**239**	*e*P	**Pn**	**06 19 13.8**	**+0.1**
	baz=247						
CHN5				*e*S	**Sn**	**06 19 37.0**	**+1.0**
	baz=247						
ELDTW	**Lidau**	**1.85**	**223**	*e*P	**Pn**	**06 19 12.8**	**-1.2**
	baz=216						
CHN4	**Tsaushan**	**2.03**	**234**	*e*P	**Pn**	**06 19 16.9**	**+0.5**
	baz=231						
CHN4				*e*S	**Sn**	**06 19 42.7**	**+1.9**
	baz=231						
WTP	**Ta-pu**	**2.08**	**231**	*e*P	**Pn**	**06 19 17.6**	**+0.5**
	baz=229						
WTP				*e*S	**Sn**	**06 19 44.1**	**+2.0**
	baz=229						
JTJ	**Tarama**	**2.12**	**87**	P	**Pn**	**06 19 17.5**	**+0.1**
JTJ				*e*S	**Sn**	**06 19 43.3**	**+0.5**
CHN1	**Nanshi**	**2.18**	**231**	*e*P	**Pn**	**06 19 19.2**	**+0.8**
	baz=228						
CHN1				*e*S	**Sn**	**06 19 45.5**	**+1.1**
	baz=228						

*ISCJB **29** 06:30:30.7±1.2, 24°.28S±0°.06×71°.28W±0°.09, h55km±10km, mb4.6/15, MS3.6/3, Error ellipse: s-maj=14.3km s-min=9.3km az=5.4*
*IDC **29** 06:30:30.1±0.6, 24°.49S×71°.17W, h28km±3km, mb4.3/12, mb1 4.4/16, mb1mx4.3/22, mbtmp4.4/16, ML4.4/5, MS3.5/9, Ms1 3.5/9, ms1mx3.3/26, Error ellipse: s-maj=17.5km s-min=14.0km az=93.0*
*NEIC **29** 06:30:32.5, 23°.90S×71°.50W, h35km, ML5.0(GUC), After GUC.*
*GUC **29** 06:30:32.5±0.7, 23°.90S×71°.50W, h35km±14km, ML5.0*

ISC 29 06:30:30.5±0.9, 24°22S±0°.08×71°33W±0°.07, h29km±5km, n174, σ1§30/128, mb4.7/15, MS3.4/3, 17C-1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**1.00**	**58**	⇑*i*P	**Pn**	**06 30 48.7**	**+0.1**
ANCH				*i*S	**Sn**	**06 31 02.0**	**+0.3**
ANCH	**Antofagasta**	**1.00**	**58**	⇑*i*P	**Pn**	**06 30 48.7**	**+0.1**
ANCH				*i*S	**Sn**	**06 31 02.0**	**+0.3**
ANCH				AML	AML	06 31 03.5	
	comp=E,43μm,0.5s						
PB10	**Plate Boundary**	**1.00**	**46**	⇑*i*P	**Pn**	**06 30 49.1**	**+0.6**
PB10				*i*S	**Sn**	**06 31 02.7**	**+0.9**
PB10				AML	AML	06 31 03.9	
	comp=E,136μm,0.3s						
PB04	**Plate Boundary**	**2.58**	**41**	⇑*i*P	Pn	06 31 05.9	-4.4
PB04				*i*S	Sn	06 31 31.3	-9.4
PB04	**Plate Boundary**	**2.58**	**41**	⇑*i*P	Pn	06 31 05.9	-4.4
PB04				*i*S	Sn	06 31 31.3	-9.4
PB04				AML	AML	06 31 34.2	
	comp=E,8μm,0.4s						
LVC	**Limon Verde**	**2.74**	**55**	*e*Pn	**Pn**	**06 31 15.0**	**+2.2**
LVC				Sn	**Sn**	**06 31 47.1**	**+2.1**
LVC	**Limon Verde**	**2.74**	**55**	Pn	**Pn**	**06 31 14.7**	**+1.9**
	comp=E,113nm,0.3s,baz=221,slow=9.1,SNR=757						
LVC				Sn	**Sn**	**06 31 47.1**	**+2.1**
	comp=E,196nm,0.3s,baz=233,slow=20,SNR=6.4						
LVC				LR	LR	06 32 25.8	
	comp=E,2μm,19.7s,baz=225,slow=42						
PB07	**Plate Boundary**	**2.81**	**29**	⇑*i*P	**Pn**	**06 31 15.1**	**+1.4**
PB07				*i*S	**Sn**	**06 31 47.3**	**+0.5**
PB07	**Plate Boundary**	**2.81**	**29**	⇑*i*P	**Pn**	**06 31 15.1**	**+1.4**
PB07				*i*S	**Sn**	**06 31 47.3**	**+0.5**
PB07				AML	AML	06 31 51.8	
	comp=E,5μm,0.4s						
PB09	**Plate Boundary**	**3.08**	**39**	⇑*i*P	**Pn**	**06 31 19.6**	**+2.1**
PB09				*e*S	**Sn**	**06 31 54.9**	**+1.5**
PB09	**Plate Boundary**	**3.08**	**39**	⇑*i*P	**Pn**	**06 31 19.6**	**+2.1**
PB09				*e*S	**Sn**	**06 31 54.9**	**+1.5**
PB09				AML	AML	06 31 57.1	
	comp=N,17μm,0.4s						
PB01	**Plate Boundary**	**3.59**	**29**	⇑*i*P	Pn	06 31 26.1	+1.7
PB01				*i*S	**Sn**	**06 32 06.2**	**+0.3**
PB01	**Plate Boundary**	**3.59**	**29**	⇑*i*P	Pn	06 31 26.1	+1.7
PB01				*i*S	**Sn**	**06 32 06.2**	**+0.3**
PB01				AML	AML	06 32 07.5	
	comp=E,3μm,0.2s						
HMBC	**Humberstone**	**4.14**	**19**	⇑*i*P	Pn	06 31 33.0	+1.0
HMBC				*i*S	**Sn**	**06 32 18.7**	**-0.8**
HMBC	**Humberstone**	**4.14**	**19**	⇑*i*P	Pn	06 31 33.0	+1.0
HMBC				*i*S	**Sn**	**06 32 18.7**	**-0.8**
PSGC	**Pisagua**	**4.73**	**14**	⇑*i*P	Pn	06 31 41.0	+1.0
PSGC	**Pisagua**	**4.73**	**14**	⇑*i*P	Pn	06 31 41.0	+1.0
MNMC	**Minimini**	**5.31**	**18**	⇑*i*P	Pn	06 31 50.0	+1.8
MNMC				S	Sn	06 32 49.2	+0.6
MNMC	**Minimini**	**5.31**	**18**	⇑*i*P	Pn	06 31 50.0	+1.8
MNMC				*i*S	Sn	06 32 49.2	+0.6
CFAA	**Coronel Fontan**	**7.85**	**160**	Pn	Pn	06 32 18.4	-4.5
	comp=E,1.1nm,0.3s,baz=331,slow=14,SNR=75						
CFAA				Sn	Sn	06 33 38.5	-12
	comp=E,0.4nm,0.3s,baz=243,slow=21,SNR=2.5						
CFAA				LR	LR	06 35 24.0	
	comp=E,66nm,18.9s,baz=336,slow=39						
LPAZ	**La Paz**	**8.44**	**21**	*e*Pn	Pn	06 32 34.1	+2.6
	comp=E,43nm,0.7s						
LPAZ				Sn	Sn	06 34 13.9	+7.8
LPAZ	**La Paz**	**8.44**	**21**	Pn	Pn	06 32 35.2	+3.8
	comp=E,5.5nm,0.3s,baz=202,slow=7.2,SNR=244						
LPAZ				Sn	Sn	06 34 13.9	+7.8
	baz=85,slow=24,SNR=1.8						
SIV	**San Ignacio**	**12.64**	**52**	Pn	**Pn**	**06 33 27.0**	**-1.5**
SIV				Sn	Sn	06 35 41.0	-7.3
SIV	**San Ignacio**	**12.64**	**52**	Pn	**Pn**	**06 33 27.0**	**-1.5**
	comp=E,10nm,0.3s,baz=259,slow=12,SNR=181						
SIV				Sn	Sn	06 35 41.0	-7.3
	comp=E,1.3nm,0.3s,baz=139,slow=23,SNR=3.9						
CPUP	**Villa Florida**	**12.85**	**102**	Pn	Pn	06 33 26.8	-4.3
CPUP	**Villa Florida**	**12.85**	**102**	Pn	Pn	06 33 26.8	-4.3
	comp=E,0.1nm,0.3s,baz=260,slow=17,SNR=2.7						
CPUP				LR	LR	06 38 56.6	
	comp=E,675nm,18.7s,baz=262,slow=40						
NNA	**Nana**	**13.24**	**336**	Sn	**Sn**	**06 36 01.1**	**-2.0**
NNA	**Nana**	**13.24**	**336**	Sn	**Sn**	**06 36 01.1**	**-2.0**
	comp=E,3.0nm,0.3s,baz=255,slow=16,SNR=2.6						
NNA				LR	LR	06 38 10.0	
	comp=E,207nm,20.8s,baz=132,slow=34						
PLCA	**Paso Flores**	**16.48**	**178**	LR	LR	06 39 22.4	
	comp=E,97nm,21.5s,baz=171,slow=33						
SAML	**Samuel**	**17.06**	**29**	*e*Pn	**Pn**	**06 34 24.9**	**-2.2**
	comp=E,30nm,0.8s						
ATAH	**Atahualpa**	**18.29**	**337**	LR	LR	06 41 02.1	
	comp=E,147nm,19.7s,baz=286,slow=34						
BDFB	**Brasilia**	**23.50**	**73**	P	**P**	**06 35 36.1**	**-2.2**
BDFB	**Brasilia**	**23.50**	**73**	P	**P**	**06 35 36.1**	**-2.2**
	comp=E,14nm,0.7s,baz=237,slow=11,SNR=20						
BDFB				LR	LR	06 45 50.5	
	comp=E,146nm,19.8s,baz=37,slow=39						
ROSC	**El Rosal**	**29.05**	**354**	LR	LR	06 49 54.7	
	comp=E,66nm,18.5s,baz=19,slow=40						
USHA	**Ushuaia**	**30.65**	**177**	P	P	06 36 38.9	-3.3
USHA	**Ushuaia**	**30.65**	**177**	P	P	06 36 38.9	-3.3
	comp=E,13nm,0.8s,baz=340,slow=9.9,SNR=5.9						
PMSA	**Palmer Station**	**40.83**	**175**	P	P	06 38 07.3	-1.9
PMSA	**Palmer Station**	**40.83**	**175**	P	P	06 38 07.3	-1.9
	comp=E,18nm,1.0s,baz=329,slow=8.6,SNR=3.0						
RKT	**Rikitea**	**57.83**	**257**	*e*LR	LR	06 57 25.4	
	comp=E,359nm,27.8s						
VNA1	**Neumayer--Stat**	**58.51**	**160**	*e*P	P	06 40 22.3	-1.4
732A	**Laxson Ranch,**	**59.42**	**331**	P	P	06 40 32.4	+1.9
	baz=59						
632A	**Uvalde**	**60.01**	**331**	P	P	06 40 36.5	+1.9
	baz=60						
631A	**Perdido Creek**	**60.28**	**331**	P	P	06 40 38.0	+1.6
	baz=60						
SNAA	**Sanae**	**60.47**	**160**	*e*P	P	06 40 34.9	-2.5
JCT	**Junction City**	**60.86**	**332**	P	P	06 40 42.0	+1.6
	baz=61						
531A	**Rocksprings**	**60.91**	**331**	P	**P**	**06 40 42.1**	**+1.3**
	baz=61						
432A	**Menard**	**61.19**	**332**	P	**P**	**06 40 44.0**	**+1.3**
	baz=61						
530A	**J-C Ranch, Com**	**61.25**	**330**	P	**P**	**06 40 44.1**	**+1.0**
	baz=61						
431A	**Sonora**	**61.38**	**331**	P	P	06 40 45.6	+1.7
	baz=61						
627A	**Terlingua Ranc**	**61.62**	**328**	P	**P**	**06 40 47.0**	**+1.3**
	baz=62						
529A	**Stev Forest Ra**	**61.63**	**330**	P	P	06 40 47.5	+1.8
	baz=62						
TXAR	**Lajitas Array**	**61.65**	**328**	P	P	06 40 47.5	+1.6
TXAR				pP	pP	06 40 55.7	+0.9
TXAR	**Lajitas Array**	**61.65**	**328**	P	P	06 40 47.5	+1.6
	comp=E,0.8nm,0.8s,baz=148,slow=9.2,SNR=10						
TXAR				pP	pP	06 40 55.7	+0.9
	comp=E,0.4nm,0.7s,baz=150,slow=10,SNR=4.5						
331A	**San Angelo**	**61.84**	**332**	P	**P**	**06 40 48.4**	**+1.4**
	baz=62						
429A	**Davenport Ranc**	**61.91**	**330**	P	P	06 40 49.3	+1.7
	baz=62						
232A	**Coleman**	**62.01**	**333**	P	**P**	**06 40 49.6**	**+1.4**
	baz=62						
626A	**Big Bend Ranch**	**62.06**	**328**	P	P	06 40 50.9	+2.2
	baz=62						
330A	**Mertzon**	**62.25**	**331**	P	**P**	**06 40 51.2**	**+1.4**
	baz=62						
527A	**Woodward Ranch**	**62.30**	**329**	P	**P**	**06 40 51.7**	**+1.4**
	baz=62						
428A	**Kincaid Ranch,**	**62.35**	**330**	P	**P**	**06 40 51.8**	**+1.2**
	baz=62						
526A	**Mary Lane Ranc**	**62.46**	**328**	P	P	06 40 53.1	+1.7
	baz=62						
ABTX	**Abilene, Hawle**	**62.65**	**333**	P	P	06 40 54.0	+1.6
	baz=63						
329A	**Wagon Wheel Ra**	**62.67**	**331**	P	**P**	**06 40 54.1**	**+1.4**
	baz=63						
131A	**Roby**	**63.00**	**333**	P	**P**	**06 40 54.8**	**0.0**
	baz=63						
326A	**Ca

Z20A	**Nine Sixteen R**	**67.17**	**327**	P		P	06 41 23.9 +1.9
	baz=67						
V25A	**Rancho No Teng**	**67.52**	**331**	P		**P**	**06 41 25.4 +1.1**
	baz=67						
U26A	**Atchley Ranch,**	**67.61**	**332**	P		**P**	**06 41 25.9 +1.1**
	baz=68						
W23A	**Werner Place,**	**67.65**	**330**	P		**P**	**06 41 26.5 +1.4**
	baz=68						
V24A	**Rampart Ranch,**	**67.72**	**331**	P		**P**	**06 41 26.8 +1.3**
	baz=68						
T27A	**Campo**	**67.75**	**333**	P		**P**	**06 41 27.0 +1.4**
	baz=68						
S28A	**Manter**	**67.87**	**334**	P		**P**	**06 41 27.7 +1.4**
	baz=68						
V23A	**Ortiz Mt. (NFS**	**68.14**	**330**	P		P	06 41 30.1 +1.9
	baz=68						
S26A	**Kim**	**68.54**	**333**	P		**P**	**06 41 32.1 +1.6**
	baz=68						
W20A	**Ramah**	**68.73**	**328**	P		**P**	**06 41 33.5 +1.6**
	baz=69						
S25A	**Robets Cordova**	**68.97**	**332**	P		**P**	**06 41 34.5 +1.2**
	baz=69						
SADO	**Sadowa**	**69.02**	**354**	P		**P**	**06 41 33.8 +0.6**
SADO	**Sadowa**	**69.02**	**354**	P		**P**	**06 41 33.8 +0.6**
	comp=E,2.6nm,0.7s,baz=173,slow=5.9,SNR=3.8						
R26A	**Arlington**	**69.11**	**333**	P		**P**	**06 41 35.4 +1.4**
	baz=69						
T23A	**Casias Ranch,**	**69.15**	**331**	P		**P**	**06 41 35.6 +1.2**
	baz=69						
P29A	**Atwood**	**69.25**	**336**	P		**P**	06 41 36.5 +1.7
	baz=69						
S24A	**Houchin Ranch,**	**69.29**	**332**	P		**P**	**06 41 37.0 +1.6**
	baz=69						
R25A	**Fountain Ranch**	**69.32**	**333**	P		P	06 41 37.1 +1.7
	baz=69						
U21A	**Nageezi**	**69.39**	**329**	P		**P**	**06 41 37.5 +1.6**
	baz=69						
R20A	**Redvale**	**71.15**	**330**	P		P	06 41 49.0 +2.4
	baz=71						
BC3	**Big Chuckawall**	**71.23**	**322**	P		P	06 41 49.1 +1.9
	baz=71						
ISCO	**Idaho Springs**	**71.27**	**333**	P		**P**	**06 41 49.0 +1.5**
	baz=71						
LIC	**Lamto**	**71.28**	**74**	*e*P		**P**	**06 41 46.6 -1.2**
	comp=E,21nm,0.8s						
W13A	**Hualapai Mount**	**71.46**	**324**	P		P	06 41 50.4 +1.8
	baz=71						
TIC	**Toumodi**	**71.49**	**74**	*e*P		**P**	**06 41 47.8 -1.2**
	comp=E,132nm,2.0s						
KIC	**Kosan Boka**	**71.60**	**74**	*e*P		**P**	**06 41 48.7 -1.0**
	comp=E,309nm,2.0s						
DBIC	**Dimbokro**	**71.64**	**74**	P		**P**	**06 41 49.1 -0.8**
DBIC	**Dimbokro**	**71.64**	**74**	P		**P**	**06 41 49.1 -0.8**
	comp=E,14nm,0.8s,baz=224,slow=6.2,SNR=18						
DBIC					LR	LR	07 11 40.2
	comp=E,104nm,18.6s,baz=218,slow=34						
U15A	**North Rim**	**71.64**	**326**	P		P	06 41 51.9 +2.1
	baz=72						
O23A	**Lake Granby, G**	**71.74**	**333**	P		P	06 41 52.1 +1.8
	baz=72						
N22A	**Wattenberg Ran**	**72.46**	**333**	P		P	06 41 56.3 +1.8
	baz=72						
PPT2	**Papeete2**	**72.55**	**258**	*e*LR		LR	07 04 14.8
	comp=E,244nm,27.0s						
VNDA	**Vanda**	**73.79**	**190**	P		P	06 42 00.6 -1.1
VNDA	**Vanda**	**73.79**	**190**	P		P	06 42 00.6 -1.1
	comp=E,0.7nm,0.8s,baz=187,slow=2.4,SNR=4.9						
L21A	**Rawlins**	**73.81**	**333**	P		**P**	**06 42 03.8 +1.4**
	baz=74						
K21A	**Alcova**	**74.31**	**333**	P		**P**	**06 42 06.9 +1.5**
	baz=74						
ISA	**Isabella**	**74.40**	**322**	P		**P**	**06 42 07.1 +1.2**
	baz=74						
SYO	**Syowa Base**	**74.75**	**160**	*e*P		P	06 42 04.0 -3.3
L19A	**Farson**	**74.77**	**332**	P		**P**	**06 42 09.7 +1.7**
	baz=75						
K20A	**Yellowstone Ra**	**74.79**	**333**	P		**P**	**06 42 09.4 +1.3**
	baz=75						
I21A	**Big Trails, Te**	**75.31**	**334**	P		**P**	**06 42 12.2 +1.2**
	baz=75						
F26A	**Lodgepole**	**75.33**	**338**	P		**P**	**06 42 12.3 +1.3**
	baz=75						
PDAR	**Pinedale Array**	**75.39**	**332**	P		**P**	**06 42 12.7 +1.0**
PDAR	**Pinedale Array**	**75.39**	**332**	P		**P**	**06 42 12.7 +1.0**
	comp=E,0.3nm,0.5s,baz=132,slow=7.4,SNR=4.8						
I19A	**Meeteetse**	**76.19**	**333**	P		**P**	**06 42 17.4 +1.3**
	baz=76						
I18A	**Diamond G Ranc**	**76.26**	**332**	P		**P**	**06 42 17.8 +1.1**
	baz=76						
NVAR	**Mina Array Bea**	**76.30**	**324**	P		**P**	**06 42 18.7 +1.8**
NVAR	**Mina Array Bea**	**76.30**	**324**	P		**P**	**06 42 18.7 +1.8**
	comp=E,0.6nm,0.7s,baz=167,slow=5.8,SNR=5.7						
H18A	**Shoshone NF, C**	**76.99**	**333**	P		**P**	**06 42 21.8 +1.1**
	baz=77						
C24A	**Savage**	**77.39**	**338**	P		**P**	**06 42 23.7 +1.1**
	baz=77						
G18A	**Lazy EL Ranch,**	**77.47**	**333**	P		**P**	**06 42 24.0 +0.8**
	baz=77						
E20A	**Meyer Farm, Mu**	**77.88**	**335**	P		**P**	**06 42 25.8 +0.4**
	baz=78						
D21A	**La Casta Ranch**	**77.91**	**336**	P		**P**	**06 42 25.8 +0.2**
	baz=78						
F18A	**Big Timber**	**78.01**	**334**	P		**P**	**06 42 27.4 +1.1**
	baz=78						
E19A	**Rath Farm, Rou**	**78.10**	**335**	P		**P**	**06 42 28.1 +1.4**
	baz=78						
DGMT	**Dagmar**	**78.12**	**338**	P		**P**	**06 42 28.1 +1.5**
	baz=78						
HLID	**Hailey**	**78.19**	**330**	P		P	06 42 29.2 +1.9
	baz=78						
D20A	**Manuel Ranch,**	**78.36**	**335**	P		**P**	**06 42 29.5 +1.4**
	baz=78						
F17A	**Fitzpatrick Pl**	**78.40**	**333**	P		**P**	**06 42 30.1 +1.7**
	baz=78						
C21A	**Desert Coulee**	**78.59**	**336**	P		**P**	**06 42 31.0 +1.7**
	baz=78						
E17A	**Martinsdale**	**78.93**	**333**	P		**P**	**06 42 32.5 +1.2**
	baz=79						
D18A	**Linhart Farms,**	**79.10**	**334**	P		**P**	**06 42 33.9 +1.8**
	baz=79						
D17A	**Six Diamond Ra**	**79.42**	**334**	P		**P**	**06 42 35.3 +1.4**
	baz=79						
C17A	**Wharram Farm,**	**79.83**	**334**	P		**P**	**06 42 37.3 +1.2**
	baz=80						
B18A	**Beardsley Farm**	**80.07**	**335**	P		**P**	**06 42 38.6 +1.3**
	baz=80						
TORD	**Torodi Ar. Bea**	**80.36**	**71**	P		**P**	**06 42 38.8 -0.8**
TORD				sP		**sP**	**06 42 52.5 +0.5**
TORD	**Torodi Ar. Bea**	**80.36**	**71**	P		**P**	**06 42 38.8 -0.8**
	comp=E,18nm,0.5s,baz=257,slow=5.0,SNR=286						
TORD				sP		**sP**	**06 42 52.5 +0.5**
	comp=E,7.5nm,0.5s,baz=256,slow=5.3,SNR=10						
A18A	**Metzger Ranch,**	**80.52**	**335**	P		**P**	**06 42 41.0 +1.2**
	baz=80						
C15A	**Salmond Ranch,**	**80.69**	**333**	P		**P**	**06 42 42.5 +1.6**
	baz=81						
A17A	**Triple J Farms**	**80.87**	**335**	P		**P**	**06 42 43.1 +1.4**
	baz=81						
B15A	**Bradely Ranch,**	**81.10**	**334**	P		**P**	**06 42 44.2 +1.2**
	baz=81						
A16A	**West Butte Ran**	**81.22**	**334**	P		**P**	**06 42 45.1 +1.5**
	baz=81						
B13A	**Whitefish**	**81.94**	**333**	P		**P**	**06 42 48.7 +1.4**
	baz=82						
A14A	**Double T Ranch**	**81.97**	**334**	P		**P**	**06 42 48.8 +1.2**
	baz=82						
A13A	**Flathead Natio**	**82.35**	**333**	P		**P**	**06 42 51.0 +1.5**
	baz=82						
MAW	**Mawson**	**82.37**	**164**	P		P	06 42 47.2 -2.1
MAW	**Mawson**	**82.37**	**164**	P		P	06 42 47.2 -2.1
	comp=E,5.2nm,0.7s,baz=213,slow=7.7,SNR=16						
BOSA	**Boshof**	**84.13**	**119**	P		P	06 42 57.1 -2.3
BOSA	**Boshof**	**84.13**	**119**	P		P	06 42 57.1 -2.3
	comp=E,5.1nm,0.9s,baz=268,slow=4.2,SNR=6.8						
YKA	**Yellowknife Ar**	**93.02**	**341**	sP		sP	06 43 55.8 +2.5
YKA	**Yellowknife Ar**	**93.02**	**341**	sP		sP	06 43 55.7 +2.5
	comp=E,0.7nm,0.7s,baz=149,slow=3.5,SNR=4.5						
BRTR	**Keskin Array B**	**116.20**	**56**	PKP		**PKPdf**	**06 49 10.6 -0.8**
BRTR	**Keskin Array B**	**116.20**	**56**	PKP		**PKPdf**	**06 49 10.6 -0.8**
	comp=E,0.5nm,0.6s,baz=268,slow=1.4,SNR=2.6						
ASAR	**Alice Springs**	**126.47**	**209**	PKP		**PKPdf**	**06 49 30.3 -1.2**
ASAR				sPKP			06 49 45.2
ASAR	**Alice Springs**	**126.47**	**209**	PKP		**PKPdf**	**06 49 30.3 -1.2**
	comp=E,0.5nm,0.7s,baz=129,slow=2.4,SNR=4.0						
ASAR				sPKP			06 49 45.2
	comp=E,1.6nm,0.8s,baz=142,slow=1.6,SNR=11						
WRA	**Warramunga Arr**	**129.48**	**212**	PKP		**PKPdf**	**06 49 36.5 -0.8**
WRA				sPKP			06 49 51.8
WRA	**Warramunga Arr**	**129.48**	**212**	PKP		**PKPdf**	**06 49 36.5 -0.8**
	comp=E,0.7nm,0.8s,baz=171,slow=1.6,SNR=3.8						
WRA				sPKP			06 49 51.8
	comp=E,2.1nm,0.7s,baz=153,slow=2.0,SNR=7.4						
ZALV	**Zalesovo Beam**	**145.35**	**25**	PKPbc		**PKPdf**	**06 50 05.6 +0.4**
ZALV				pPKPbc		pPKPbc	06 50 13.9 -0.7
ZALV	**Zalesovo Beam**	**145.35**	**25**	PKPbc		**PKPdf**	**06 50 05.6 +0.4**
	comp=E,22nm,0.7s,baz=322,slow=4.4,SNR=61						
ZALV				pPKPbc		pPKPbc	06 50 13.9 -0.7
	comp=E,30nm,0.8s,baz=315,slow=4.5,SNR=17						
MKAR	**Makanchi Array**	**149.13**	**37**	PKPbc		**PKPbc**	**06 50 15.9 -0.1**
MKAR				pPKPbc		**pPKPbc**	**06 50 24.7 -0.8**
MKAR	**Makanchi Array**	**149.13**	**37**	PKPbc		**PKPbc**	**06 50 15.9 -0.1**
	comp=E,5.7nm,0.8s,baz=326,slow=2.6,SNR=26						
MKAR				pPKPbc		**pPKPbc**	**06 50 24.7 -0.8**
	comp=E,5.6nm,0.8s,baz=9.5,slow=1.5,SNR=15						

*IDC **29** 06:48:04.1±0.7,35.75S×104.33W,h0km,mb4.4/14, mb1 4.6/14,mb1mx4.4/20,mbtmp4.4/14,MS4.4/15, Ms1 4.4/15,ms1mx4.3/19,Error ellipse: s-maj=21.8km s-min=17.2km az=14.0*

*ISCJB **29** 06:48:09.6±0.6,35.7S±0.1×103.4W±0.1,h10km,mb4.5/48, MS4.5/15,Error ellipse: s-maj=17.4km s-min=10.6km az=37.3*

*NEIC **29** 06:48:11.2±0.6,35.67S×103.33W,h10km,mb4.7/31, Error ellipse: s-maj=18.0km s-min=10.7km az=219.0*

*GCMT **29** 06:48:11.8±0.1,35.68S×104.02W,h19km,MW5.3, Moment Tensor Solution. s69,c109; s99,c177; Moment tensor: Scale 10¹⁶Nm; Mrr-0.70±.17; Mθθ-2.85±.16; Mϕϕ3.54±.17; Mrθ-0.73±.32; Mrϕ-8.99±.15; Mθϕ-1.84±.34; Best double couple: M0:9.80000×10¹⁶ NP1:ϕs100.00000°, δ78.00000°,λ-177.00000°. NP2:ϕs9.00000°,δ87.00000°, λ-12.00000°. Principal axes: T 10.0000, Plg6.0000°, Azm55.0000°; N -0.5000, Plg78.0000°, Azm173.0000°; P -9.5000, Plg11.0000°, Azm324.0000°; Data Used: IU II IC G CN. Surface waves from 101 sta.*

ISC 29 06:48:11.2±0.7,35.6S±0.1×103.4W±0.1,h10km,n94, σ1°44/70,mb4.6/48,MS4.4/15,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLCA	**Paso Flores**	**26.22**	**111**	P		**P**	**06 53 47.8**	**+1.4**
PLCA	**Paso Flores**	**26.22**	**111**	P		**P**	**06 53 47.8**	**+1.4**
	2.6nm,0.8s,baz=293,slow=7.7,SNR=3.7							
PLCA					LR	LR	07 01 35.1	
	comp=Z,707nm,18.0s,baz=166,slow=30							
CFAA	**Coronel Fontan**	**29.45**	**92**	P		**P**	**06 54 16.2**	**+0.9**
CFAA	**Coronel Fontan**	**29.45**	**92**	P		**P**	**06 54 16.2**	**+0.9**
	1.1nm,0.7s,baz=258,slow=8.9,SNR=18							
CFAA					LR	LR	07 03 25.7	
	comp=Z,139nm,19.2s,baz=254,slow=30							
RKT	**Rikitea**	**30.08**	**286**	*e*LQ		LQ	07 00 28.5	
	1μm,31.2s							
RKT				*e*LR		LR	07 01 46.7	
	275nm,27.2s							
USHA	**Ushuaia**	**30.76**	**140**	LR		LR	07 03 55.9	
	comp=Z,2μm,20.0s,baz=66,slow=30							
NNA	**Nana**	**33.62**	**52**	*e*P		**P**	**06 54 51.4**	**-0.7**
ATAH	**Atahualpa**	**36.46**	**45**	P		**P**	**06 55 17.7**	**+0.7**
ATAH	**Atahualpa**	**36.46**	**45**	P		**P**	**06 55 17.7**	**+0.7**
	5.7nm,1.0s,baz=207,slow=6.8,SNR=2.7							
LPAZ	**La Paz**	**36.82**	**68**	P		**P**	**06 55 21.1**	**+0.7**
LPAZ	**La Paz**	**36.82**	**68**	P		**P**	**06 55 21.1**	**+0.7**
	7.8nm,0.8s,baz=227,slow=5.4,SNR=26							
LPAZ					LR	LR	07 07 45.2	
	comp=Z,549nm,18.1s,baz=276,slow=31							
PMSA	**Palmer Station**	**37.44**	**153**	LR		LR	07 06 29.1	
	comp=Z,930nm,20.5s,baz=126,slow=29							
CPUP	**Villa Florida**	**40.26**	**90**	P		**P**	**06 55 48.7**	**+0.3**
CPUP	**Villa Florida**	**40.26**	**90**	P		**P**	**06 55 48.7**	**+0.3**
	4.8nm,0.8s,baz=224,slow=8.9,SNR=9.6							
CPUP					LR	LR	07 09 32.6	
	comp=Z,579nm,20.4s,baz=232,slow=31							
TBI	**Tubuai**	**41.58**	**274**	*e*LQ		LQ	07 05 14.5	
	2μm,33.8s							
TBI				*e*LR		LR	07 07 01.3	
	658nm,25.2s							
SIV	**San Ignacio**	**42.43**	**74**	P		**P**	**06 56 05.8**	**-0.5**
SIV	**San Ignacio**	**42.43**	**74**	P		**P**	**06 56 05.8**	**-0.5**
	9.0nm,0.7s,baz=246,slow=7.4,SNR=30							
OTAV	**Otavalo**	**42.58**	**39**	*e*P		**P**	**06 56 07.4**	**-0.7**
	11nm,1.3s							
PPT2	**Papeete2**	**44.59**	**281**	*e*LR		LR	07 08 22.2	
	352nm,25.2s							
SAML	**Samuel**	**45.23**	**64**	*e*P		**P**	**06 56 27.0**	**-1.8**
	4.1nm,0.8s							
ROSC	**El Rosal**	**48.64**	**40**	*e*P		**P**	**06 56 56.1**	**+0.1**
ROSC	**El Rosal**	**48.64**	**40**	P		**P**	**06 56 54.9**	**-1.0**
	8.5nm,0.7s,baz=90,slow=23,SNR=6.2							
ROSC					LR	LR	07 14 05.3	
	comp=Z,663nm,19.8s,baz=14,slow=32							
BCIP	**Isla Barro Col**	**49.79**	**31**	P		**P**	**06 57 02.8**	**-1.4**
RAR	**Rarotonga**	**50.99**	**270**	P		P	06 57 00.3	-13
RAR	**Rarotonga**	**50.99**	**270**	P		P	06 57 00.3	-13
	14nm,0.6s,baz=90,slow=6.9,SNR=3.3							
BDFB	**Brasilia**	**53.03**	**83**	P		**P**	**06 57 27.9**	**-0.9**
BDFB	**Brasilia**	**53.03**	**83**	P		**P**	**06 57 27.9**	**-0.9**
	5.0nm,0.7s,baz=248,slow=9.1,SNR=11							
BDFB					LR	LR	07 19 01.6	
	comp=Z,519nm,19.8s,baz=28,slow=34							
SDV	**Santo Domingo**	**53.99**	**41**	*e*P		**P**	**06 57 34.8**	**-1.1**
	6.8nm,0.8s							
QSPA	**South Pole Qui**	**54.58**	**180**	P		P	06 57 33.6	-5.9
QSPA	**South Pole Qui**	**54.58**	**180**	P		P	06 57 33.6	-5.9
	2.4nm,0.9s,baz=37,slow=0.9,SNR=6.5							
VNDA	**Vanda**	**56.54**	**195**	LR		LR	07 17 13.9	
	comp=Z,289nm,18.2s,baz=97,slow=31							
SNAA	**Sanae**	**59.80**	**159**	*e*P		**P**	**06 58 15.8**	**-0.4**
	64nm,2.5s							
TXAR	**Lajitas Array**	**64.62**	**360**	P		P	06 58 44.5	-4.5
TXAR	**Lajitas Array**	**64.62**	**360**	P		P	06 58 44.5	-4.5
	1.7nm,0.7s,baz=182,slow=8.5,SNR=20							
TXAR					LR	LR	07 21 27.2	
	comp=Z,148nm,18.9s,baz=250,slow=31							
JCT	**Junction City**	**65.85**	**3**	*e*P		**P**	**06 58 56.0**	**-0.9**
	8.0nm,0.9s							
WMOK	**Wichita Mounta**	**70.14**	**4**	*e*P		**P**	**06 59 25.4**	**+1.6**
	2.0nm,0.8s							
LDFC	**Landfair**	**71.19**	**350**	*e*P		**P**	**06 59 29.6**	**-0.6**
	16nm,1.2s							
LDFC				*e*pP		pP	06 59 39.3	+5.7
MVCO	**Mesa Verde**	**72.63**	**356**	*e*P		**P**	**06 59 38.5**	**-0.5**
	17nm,1.4s							
SDCO	**Great Sand Dun**	**73.03**	**358**	*e*P		**P**	**06 59 40.5**	**-1.0**
	2.2nm,0.9s							
CCUT	**Cedar City**	**73.40**	**352**	*e*P		**P**	**06 59 42.9**	**-0.7**
	13nm,1.5s							
PV01	**Paradox Valley**	**73.55**	**356**	*e*P		**P**	**06 59 45.2**	**+0.8**
	573nm,1.2s							
PV04	**Paradox Valley**	**73.83**	**355**	*e*P		**P**	**06 59 46.7**	**+0.7**
MSU	**Marysvale**	**74.22**	**353**	*e*P		**P**	**06 59 50.0**	**+1.6**
MSU				*e*pP		**PcP**	**06 59 58.4**	**-4.8**
SMCO	**Snowmass**	**74.51**	**357**	*e*P		**P**	**06 59 52.2**	**+1.9**
	11nm,1.4s							
SMCO				*e*pP		**PcP**	**07 00 07.8**	**+3.1**
SRU	**San Rafael**	**74.66**	**354**	*e*P		**P**	**06 59 50.0**	**-0.9**
	4.9nm,1.0s							
CMB	**Columbia Colle**	**74.97**	**346**	*e*P		**P**	**06 59 51.4**	**-1.1**
	11nm,1.3s							
NVAR	**Mina Array Bea**	**74.97**	**348**	P		P	06 59 47.4	-5.3
NVAR	**Mina Array Bea**	**74.97**	**348**	P		P	06 59 47.4	-5.3
	2.2nm,0.8s,baz=178,slow=8.2,SNR=13							
ISCO	**Idaho Springs**	**75.09**	**358**	*e*P		**P**	**06 59 55.7**	**+2.3**
	4.4nm,1.3s							
DAU	**Daniels Canyon**	**76.02**	**354**	*e*P		P	06 59 54.5	-4.3
JLU	**Jordanelle**	**76.22**	**354**	*e*P		**P**	**07 00 01.0**	**+1.1**
	27nm,1.9s							
JLU				*e*pP		**PcP**	**07 00 14.4**	**+2.6**
MAW	**Mawson**	**76.56**	**175**	P		**P**	**07 00 00.1**	**-1.2**
MAW	**Mawson**	**76.56**	**175**	P		**P**	**07 00 00.1**	**-1.2**
	2.3nm,0.8s,baz=194,slow=4.7,SNR=6.2							
MAW					LR	LR	07 29 58.1	
	comp=Z,173nm,19.6s,baz=25,slow=33							
BGU	**Big Grassy Mou**	**76.70**	**353**	*e*P		**P**	**07 00 03.9**	**+1.4**
	6.1nm,1.3s							
DZM	**Mont Dzumac**	**77.61**	**252**	*e*S		S	07 09 46.2	-14
	160nm,25.9s							
DZM	**Mont Dzumac**	**77.61**	**252**	*e*LR		LR	07 23 40.6	
	806nm,27.9s							
BW06	**Boulder Array**	**78.23**	**355**	*e*P		**P**	**07 00 09.0**	**-2.1**
	11nm,1.3s							
PDAR	**Pinedale Array**	**78.23**	**355**	P		P	07 00 05.9	-5.2
PDAR	**Pinedale Array**	**78.23**	**355**	P		P	07 00 05.9	-5.2
	1.6nm,0.7s,baz=159,slow=5.9,SNR=9.6							
REDW	**Red Top Meadow**	**78.91**	**354**	*e*P		**P**	**07 00 17.0**	**+2.2**
	19nm,1.5s							
WVOR	**Wild Horse Val**	**78.93**	**349**	*e*P		**P**	**07 00 15.1**	**+0.3**
	7.0nm,1.2s							
RRI2	**Red Ridge**	**78.94**	**354**	*e*P		**P**	**07 00 14.6**	**-0.4**
RRI2				*e*pP		**PcP**	**07 00 24.9**	**+1.3**
SNOW	**Snow King Moun**	**79.00**	**355**	*e*P		**P**	**07 00 15.0**	**-0.3**
	8.7nm,1.3s							
TPAW	**Teton Pass**	**79.05**	**354**	*e*P		**P**	**07 00 14.7**	**-0.9**
	5.7nm,0.9s							
LOHW	**Long Hollow**	**79.14**	**355**	*e*P		**P**	**07 00 17.9**	**+1.9**
	5.5nm,1.2s							
ECSD	**EROS Data Cent**	**79.23**	**5**	*e*P		**P**	**07 00 16.4**	**+0.2**
	8.6nm,0.8s							
RSSD	**Black Hills**	**79.38**	**360**	*e*P		**P**	**07 00 18.0**	**+0.7**
	11nm,1.6s							
RSSD				*e*pP		PcP	07 00 32.5	+7.1
IMW	**Indian Meadow**	**79.45**	**354**	*e*P		**P**	**07 00 18.1**	**+0.3**
	15nm,1.7s							
IMW				*e*pP		PcP	07 00 31.2	+5.4
HLID	**Hailey**	**79.45**	**352**	*e*P		**P**	**07 00 16.3**	**-1.4**
	7.2nm,0.9s							
RLMT	**Red Lodge**	**80.55**	**356**	*e*P		**P**	**07 00 24.7**	**+1.1**
	3.8nm,1.0s							
BOZ	**Bozeman (W)**	**81.24**	**354**	*e*P		**P**	**07 00 27.9**	**+0.7**
	5.9nm,1.7s							
SADO	**Sadowa**	**82.99**	**17**	P		P	07 00 32.4	-3.9
SADO	**Sadowa**	**82.99**	**17**	P		P	07 00 32.4	-3.9
	3.2nm,0.7s,baz=207,slow=6.2,SNR=2.4							
DGMT	**Dagmar**	**83.73**	**359**	*e*P		**P**	**07 00 39.5**	**-0.5**
AGMN	**Agassiz Nation**	**83.83**	**5**	*e*P		**P**	**07 00 42.0**	**+1.5**
	4.8nm,0.9s							
LONY	**Lake Ozonia**	**84.04**	**20**	*e*P		**P**	**07 00 42.8**	**+1.1**
	7.7nm,1.0s							
NEW	**Newport**	**84.42**	**351**	*e*P		**P**	**07 00 42.9**	**-0.6**
	8.5nm,1.3s							
ULM	**Lac du Bonnet**	**85.77**	**5**	P		**P**	**07 00 49.2**	**-1.0**
ULM	**Lac du Bonnet**	**85.77**	**5**	P		**P**	**07 00 49.2**	**-1.0**
	1.2nm,0.6s,baz=216,slow=9.0,SNR=2.2							
ULM					LR	LR	07 38 49.2	
	comp=Z,84nm,19.2s,baz=34,slow=35							
STKA	**Stephens Creek**	**89.33**	**230**	LR		LR	07 32 30.9	
	comp=Z,441nm,19.4s,baz=300,slow=30							
SCHQ	**Schefferville**	**95.42**	**20**	LR		LR	07 39 32.6	
	comp=Z,196nm,21.6s,baz=276,slow=32							
ASAR	**Alice Springs**	**99.91**	**232**	LR		LR	07 40 23.0	
	comp=Z,418nm,18.2s,baz=163,slow=32							
TORD	**Torodi Ar. Bea**	**109.73**	**88**	PP		PP	07 07 13.1	-1.6
TORD	**Torodi Ar. Bea**	**109.73**	**88**	PP		PP	07 07 13.1	-1.6
	2.2nm,1.1s,baz=248,slow=6.9,SNR=6.4							
BRTR	**Keskin Array B**	**145.99**	**70**	PKPbc		**PKPdf**	**07 07 48.2**	**-2.2**
BRTR	**Keskin Array B**	**145.99**	**70**	PKPbc		**PKPdf**	**07 07 48.3**	**-2.2**
	2.9nm,0.9s,baz=270,slow=2.9,SNR=7.8							
KBZ	**Khabaz**	**152.97**	**62**	PKPbc		**PKPbc**	**07 08 08.3**	**-0.2**
KBZ	**Khabaz**	**152.97**	**62**	PKPbc		**PKPbc**	**07 08 08.3**	**-0.2**
	3.5nm,1.1s,baz=230,slow=7.9,SNR=2.7							
CMAR	**Chiang Mai Arr**	**153.87**	**235**	PKPbc		**PKPdf**	**07 08 04.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**153.87**	**235**	PKPbc		**PKPdf**	**07 08 04.0**	**+0.7**
	0.7nm,0.3s,baz=211,slow=1.1,SNR=3.8							
SONM	**Songino Array**	**154.81**	**308**	PKPbc		**PKPdf**	**07 08 06.9**	**+3.0**
SONM	**Songino Array**	**154.81**	**308**	PKPbc		**PKPdf**	**07 08 06.9**	**+3.0**
	1.3nm,0.8s,baz=70,slow=1.7,SNR=3.0							
KURK	**Kurchatov**	**164.85**	**355**	PKPab		PKPab	07 09 04.5	-6.4
KURBB	**Kurchatov Arra**	**164.95**	**355**	PKPab		PKPab	07 09 04.5	-6.9
	0.4nm,0.8s,baz=6.3,slow=3.7,SNR=3.4							

ISC 29 06:52:28.1±3.6,23.2N±0.2×92.89E±0.09,h10km,n13, σ0.93/20,India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IMP	**Imphal**	**1.84**	**31**	*e*P		**Pn**	**06 53 00.0**	**+0.2**
SHL	**Shillong**	**2.52**	**339**	*e*PN		Pn	06 53 08.5	-0.8
SHL				*e*SN		**Sn**	**06 53 39.0**	**-1.2**
ODAN	**Odare**	**6.17**	**307**	*e*Pn		**Pn**	**06 54 00.2**	**+0.6**
ODAN				*e*Sn		**Sn**	**06 55 12.0**	**+1.7**
	106nm,0.3s							
TAPN	**Taplejung**	**6.24**	**312**	*e*Pn		**Pn**	**06 54 00

KALE				S	**Sb**	**06 58 41.3**	**+1.0**
KALE	**Kalithea**	**0.56**	**54**	*e*PN	**Pb**	**06 58 32.4**	**-0.2**
KALE	**Kalithea**	**0.56**	**54**	P	**Pb**	**06 58 32.4**	**-0.2**
KALE				S	**Sb**	**06 58 41.3**	**+1.0**
GUR	**Goura**	**0.62**	**101**	P	**Pg**	**06 58 33.2**	**-0.5**
GUR				S	**Sb**	**06 58 42.9**	**+0.7**
GUR	**Goura**	**0.62**	**101**	*e*PB	**Pg**	**06 58 33.3**	**-0.5**
GUR				*e*SN	**Sb**	**06 58 42.9**	**+0.7**
GUR	**Goura**	**0.62**	**101**	*e*Pb	**Pg**	**06 58 33.3**	**-0.5**
GUR				S	**Sb**	**06 58 42.9**	**+0.7**
VLS	**Valsamata**	**0.78**	**279**	*e*PN	**Pg**	**06 58 35.4**	**-1.2**
VLS				*e*SN	**Sb**	**06 58 47.8**	**+1.2**
VLS	**Valsamata**	**0.78**	**279**	*e*Pn	**Pg**	**06 58 35.4**	**-1.2**
VLS				*e*Sn	**Sb**	**06 58 47.8**	**+1.2**
ITM	**Ithomi**	**0.93**	**162**	P	**Pn**	**06 58 39.7**	**+0.2**
ITM	**Ithomi**	**0.93**	**162**	*e*PN	**Pb**	**06 58 38.1**	**-0.8**
ITM	**Ithomi**	**0.93**	**162**	*e*Pn	**Pb**	**06 58 38.1**	**-0.8**
ITM	**Ithomi**	**0.93**	**162**	P	**Pn**	**06 58 39.7**	**+0.2**

TAP 29 07:03:33.1, 24°.66N × 121°.81E, h72km, ML3.7, 5C-6D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.06**	**147**	⇓*i* P	Pn	07 03 44.3	+0.7
	baz=128						
TWC				S	Sn	07 03 52.5	+1.3
	baz=128						
ILA	**Ilan**	**0.12**	**331**	*e*P	Pn	07 03 44.5	+0.7
	baz=333						
ILA				*e*S	Sn	07 03 53.1	+1.6
	baz=333						
TWE	**Neicheng**	**0.15**	**295**	⇓*i* P	Pn	07 03 44.6	+0.8
	baz=288						
TWE				S	Sn	07 03 52.8	+1.1
	baz=288						
ENTT	**Nioudou**	**0.23**	**266**	⇑*i* P	Pn	07 03 44.9	+0.8
	baz=264						
ENTT				*i* S	Sn	07 03 53.3	+1.0
	baz=264						
ENA	**Nanau**	**0.24**	**196**	P	Pn	07 03 45.0	+0.7
	baz=194						
ENA				S	Sn	07 03 53.8	+1.5
	baz=194						
TWA	**Mucha**	**0.38**	**327**	⇓*i* P	Pn	07 03 45.7	+0.5
	baz=321						
TWA				S	Sn	07 03 54.6	+0.6
	baz=321						
TWB1	**Santiao Chiao**	**0.38**	**24**	⇓*i* P	Pn	07 03 45.6	+0.4
	baz=32						
TWB1				*i* S	Sn	07 03 54.2	+0.1
	baz=32						
NWF	**Wu-fen Shan**	**0.41**	**356**	⇓*i* P	Pn	07 03 46.0	+0.4
	baz=2.0						
NWF				S	Sn	07 03 55.5	+0.9
	baz=2.0						
NSK	**Sanguang**	**0.41**	**273**	⇑*i* P	Pn	07 03 45.7	+0.2
	baz=272						
NSK				S	Sn	07 03 54.4	-0.3
	baz=272						
NNS	**Nan Shan**	**0.46**	**242**	P	Pn	07 03 46.6	+0.6
	baz=247						
NNS				*e*S	Sn	07 03 55.9	+0.5
	baz=247						
TAP1	**Taipei**	**0.46**	**325**	P	Pn	07 03 46.4	+0.5
	baz=318						
TAP1				*i* S	Sn	07 03 55.6	+0.5
	baz=318						
TAP	**Taipei**	**0.47**	**324**	P	Pn	07 03 46.4	+0.4
	baz=317						
TAP				*e*S	Sn	07 03 55.9	+0.6
	baz=317						
TWS1	**Kuangyinshan**	**0.57**	**321**	⇑*i* P	Pn	07 03 47.5	+0.7
	baz=312						
TWS1				S	Sn	07 03 57.9	+0.9
	baz=312						
TWD	**Chiawan**	**0.61**	**199**	*e*P	Pn	07 03 47.0	-0.3
	baz=207						
TWD				*e*S	Sn	07 03 57.2	-0.5
	baz=207						
TWY	**Chenhua**	**0.65**	**342**	⇓P	Pn	07 03 48.2	+0.6
	baz=334						
TWY				*e*S	Sn	07 03 58.9	+0.6
	baz=334						
NCU	**National Centr**	**0.65**	**299**	*e*P	Pn	07 03 48.1	+0.4
	baz=290						
NCU				S	Sn	07 03 59.1	+0.7
	baz=290						
HWA	**Hwalien**	**0.70**	**196**	*e*P	Pn	07 03 48.9	+0.6
	baz=204						
HWA				*e*S	Sn	07 04 01.6	+2.2
	baz=204						
TWT	**Tachien**	**0.71**	**235**	*e*P	Pn	07 03 49.8	+1.3
	baz=229						
TWT				*e*S	Sn	07 04 01.1	+1.2
	baz=229						
WHF	**Hehuan Shan**	**0.71**	**225**	P	Pn	07 03 49.5	+0.6
	baz=217						
WHF				S	Sn	07 04 01.2	+0.6
	baz=217						
NSTT	**Nanjuang**	**0.74**	**268**	⇑*i* P	Pn	07 03 49.1	+0.4
	baz=266						
NSTT				S	Sn	07 04 00.4	+0.2
	baz=266						
ESL	**Shilin**	**0.91**	**203**	*e*P	Pn	07 03 50.0	-0.6
	baz=202						
NSY	**Sanyi**	**0.99**	**256**	⇑*i* P	Pn	07 03 52.7	+1.0
	baz=254						
NSY				S	Sn	07 04 06.7	+1.3
	baz=254						
PCYT	**Pengchaiyu**	**0.99**	**13**	P	Pn	07 03 52.2	+0.5
	baz=8.0						
PCYT				*e*S	Sn	07 04 06.1	+0.6
	baz=8.0						
TWQ1	**Liyutan**	**1.00**	**252**	P	Pn	07 03 52.4	+0.6
	baz=250						
TWQ1				*e*S	Sn	07 04 06.4	+0.8
	baz=250						
SMLT	**Sun Moon Lake**	**1.14**	**227**	*e*P	Pn	07 03 54.8	+1.1
	baz=235						
SMLT				*e*S	Sn	07 04 10.7	+1.8
	baz=235						
TYC	**Yuchr**	**1.15**	**230**	*e*P	Pn	07 03 54.9	+1.2
	baz=236						
TYC				S	Sn	07 04 10.7	+1.7
	baz=236						
EHY	**Hungye**	**1.23**	**202**	*e*P	Pn	07 03 55.8	+1.0
	baz=195						
WNT	**Mingjian**	**1.29**	**233**	*e*P	Pn	07 03 56.5	+1.0
	baz=242						
WNT				*e*S	Sn	07 04 13.9	+1.7
	baz=242						
TWF1	**Yuli**	**1.38**	**200**	*e*P	Pn	07 03 56.1	-0.6
	baz=200						
YUS	**Yu-Shan**	**1.41**	**214**	*e*P	Pn	07 03 58.9	+1.3
	baz=208						
ALS	**Alishan**	**1.47**	**219**	P	Pn	07 03 60.0	+1.8
	baz=227						
ALS				*e*S	Sn	07 04 19.4	+2.4
	baz=227						
CHN5	**Tsauling**	**1.48**	**225**	*e*P	Pn	07 03 59.0	+0.9
	baz=232						
CHN5				S	Sn	07 04 18.2	+1.4
	baz=232						
ELDTW	**Lidau**	**1.63**	**207**	*e*P	Pn	07 04 00.8	+0.7
	baz=198						
ELDTW				*e*S	Sn	07 04 21.6	+1.1
	baz=198						
CHN4	**Tsaushan**	**1.71**	**221**	*e*P	Pn	07 04 02.2	+1.2
	baz=219						
CHN4				*e*S	Sn	07 04 25.2	+3.0
	baz=219						
STYT	**Tauyuan**	**1.77**	**213**	*e*P	Pn	07 04 03.6	+1.6
	baz=222						
STYT				*e*S	Sn	07 04 26.9	+3.1
	baz=222						
TWK	**Hsinying**	**1.84**	**221**	*e*P	Pn	07 04 04.7	+1.9
	baz=221						
CHN1	**Nanshi**	**1.88**	**219**	*e*P	Pn	07 04 04.6	+1.3
	baz=230						

NIED ***29*** *07:06:00, 25°.80N × 125°.20E, h98km, Mw4.4 Best double couple: M0 4.40000×10^15 NP1: φ 126.00000°, δ 90.00000°, λ -139.00000°. NP2: φ 35.00000°, δ 49.00000°, λ 0.00000°.*
MOS ***29*** *07:06:09.9±1.1, 25°.76N × 125°.19E, h72km, mb4.5/6, Error ellipse: s-maj=15.5km s-min=9.2km az=89.2*
ISCJB ***29*** *07:06:13.7±0.2, 25°.70N±0°.04 × 125°.29E±0°.03, h109km±3km, mb4.2/32, Error ellipse: s-maj=8.3km s-min=2.9km az=147.6*
BJI ***29*** *07:06:13.7, 25°.64N × 125°.33E, h105km, mB4.4/3, mb4.1/10*
IDC ***29*** *07:06:15.3±0.6, 25°.77N × 125°.24E, h108km±5km, mb3.9/16, mb1 4.0/18, mb1mx3.9/28, mbtmp3.8/18, MS2.7/4, Ms1 2.8/4, ms1mx2.5/29, Error ellipse: s-maj=16.6km s-min=10.8km az=78.0*
NEIC ***29*** *07:06:15.7±0.6, 25°.65N × 125°.22E, h112km±6km, mb4.6/10, MW4.4(NIED), Error ellipse: s-maj=10.4km s-min=5.8km az=139.0*
JMA ***29*** *07:06:15.1±0.1, 25°.79N × 125°.18E, h96km, M4.4*

ISC 29 07:06:15.3±0.5, 25°.73N±0°.05 × 125°.30E±0°.04, h109km±4km, h109km: pP-P, n105, σ 1933/137, mb4.3/32, 4C-3D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.91**	**180**	P	**Pn**	**07 06 35.1**	**-0.4**
JMJ				S	**Sn**	**07 06 49.4**	**-1.3**
JOGS	**Gusukube**	**0.97**	**174**	P	**Pn**	**07 06 35.9**	**-0.2**
JOGS				S	**Sn**	**07 06 50.8**	**-1.0**
JTJ	**Tarama**	**1.21**	**206**	P	**Pn**	**07 06 37.9**	**-0.8**
JTJ				S	**Sn**	**07 06 54.5**	**-1.8**
JKE	**Kume jima 2**	**1.47**	**66**	P	**Pn**	**07 06 41.8**	**+0.2**
JKE				S	**Sn**	**07 07 01.4**	**-0.2**
JIJ	**Ishigaki jima**	**1.72**	**218**	P	**Pn**	**07 06 43.6**	**-1.1**
JIJ				S	**Sn**	**07 07 03.9**	**-3.1**
JKRS	**Kuro-shima**	**1.89**	**218**	P	**Pn**	**07 06 45.9**	**-0.9**
JKRS				S	**Sn**	**07 07 09.1**	**-1.8**
JAGN	**Aguni-jima**	**1.95**	**64**	P	**Pn**	**07 06 47.9**	**+0.4**
JAGN				S	**Sn**	**07 07 10.4**	**-1.7**
IRIF	**Iriomote-Funau**	**1.99**	**226**	P	**Pn**	**07 06 47.2**	**-0.8**
IRIF				S	**Sn**	**07 07 11.2**	**-1.9**
HATJ	**Hateruma jima**	**2.15**	**219**	P	**Pn**	**07 06 49.6**	**-0.5**
HATJ				S	**Sn**	**07 07 14.8**	**-1.9**
JJT2	**Tamagusuku 2**	**2.25**	**79**	P	**Pn**	**07 06 51.7**	**+0.4**
JJT2				*e*S	**Sn**	**07 07 19.2**	**+0.2**
YOJ	**Yonaguni jima**	**2.43**	**239**	P	**Pn**	**07 06 53.7**	**0.0**
YOJ				S	**Sn**	**07 07 21.8**	**-1.4**
JIH	**Iheya**	**2.73**	**61**	P	**Pn**	**07 06 58.1**	**+0.5**
JIH				S	**Sn**	**07 07 28.8**	**-1.4**
JOW	**Kunigami**	**2.89**	**67**	*e*Pn	**Pn**	**07 06 59.3**	**-0.5**
JOW				*e*Sn	**Sn**	**07 07 32.9**	**-1.1**
JOW	**Kunigami**	**2.89**	**67**	P	**Pn**	**07 06 59.6**	**-0.2**
JOW				S	**Sn**	**07 07 31.7**	**-2.4**
TATO	**Taipei**	**3.53**	**259**	*e*Pn	**Pn**	**07 07 09.3**	**+1.1**
NACB	**Ninganchiao**	**3.70**	**246**	*e*Pn	**Pn**	**07 07 09.7**	**-0.8**
NACB				*e*Sn	**Sn**	**07 07 51.7**	**-1.7**
YHNB	**Yeheng**	**3.71**	**254**	*e*Pn	**Pn**	**07 07 11.7**	**+1.0**
JTK	**Tokunoshima**	**3.86**	**57**	P	**Pn**	**07 07 11.8**	**-0.8**
JTK				S	**Sn**	**07 07 54.2**	**-2.9**
JAMN	**Amaminishikomi**	**4.27**	**53**	P	**Pn**	**07 07 17.0**	**-1.2**
JAMN				S	**Sn**	**07 08 04.4**	**-2.7**
YULB	**Yu-li**	**4.32**	**238**	*e*Pn	**Pn**	**07 07 16.6**	**-2.4**
SSLB	**Suanglung**	**4.39**	**245**	*e*Pn	**Pn**	**07 07 19.2**	**-0.8**
SSLB				*e*Sn	**Sn**	**07 08 07.5**	**-2.7**
JAM	**Amami Oshima**	**4.68**	**54**	P	**Pn**	**07 07 23.2**	**-0.5**
JAM				S	**Sn**	**07 08 13.9**	**-3.0**
TWG	**Pinlang**	**4.82**	**234**	*e*Pn	**Pn**	**07 07 22.8**	**-2.9**
TWG				*e*Sn	Sn	07 08 12.8	-7.7
TPUB	**Ta-pu**	**4.89**	**241**	*e*Pn	**Pn**	**07 07 25.9**	**-0.8**
TPUB				*e*Sn	**Sn**	**07 08 19.7**	**-2.4**
JZK	**Kikaishima**	**4.90**	**57**	P	**Pn**	**07 07 25.9**	**-0.8**
JZK				S	**Sn**	**07 08 19.8**	**-2.5**
JMZ	**Minamidaito 2**	**5.34**	**88**	P	**Pn**	**07 07 30.0**	**-2.7**
JMZ				S	Sn	07 08 24.3	-8.7
QZH	**Quanzhou**	**6.12**	**264**	⇓*i* P	**Pn**	**07 07 43.5**	**+0.3**
JNU	**Nakatsue**	**8.83**	**32**	P	**Pn**	**07 08 21.0**	**+1.1**
JNU	**Nakatsue**	**8.83**	**32**	P	**Pn**	**07 08 21.0**	**+1.1**
	0.7nm,0.3s,baz=225,slow=16,SNR=3.9						
WHN	**Wuhan**	**10.78**	**299**	⇓P	**Pn**	**07 08 49.0**	**+2.5**
KSAR	**Wonju Array Be**	**11.88**	**10**	P	Pn	07 09 04.3	+3.2
KSRS	**Korea Array**	**11.90**	**10**	P	**Pn**	**07 09 04.3**	**+3.0**
	0.5nm,0.3s,baz=190,slow=13,SNR=27						
MAJO	**Matsushiro**	**15.42**	**43**	*e*P	**P**	**07 09 50.0**	**+1.0**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MAJO	**Matsushiro**	**15.42**	**43**	*e*P	**P**	**07 09 50.0**	**+1.0**
	comp=Z,9.2nm,0.8s						
MAT	**Matsushiro**	**15.42**	**43**	P	**P**	**07 09 50.0**	**+1.0**
MJAR	**Matsushiro Arr**	**15.42**	**43**	P	**P**	**07 09 50.6**	**+1.6**
MJAR	**Matsushiro Arr**	**15.42**	**43**	P	**P**	**07 09 50.6**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=228,slow=10,SNR=29						
MJAR				LR	LR	07 16 11.0	
	comp=Z,22nm,19.2s,baz=245,slow=39						
SNY	**Shenyang**	**16.12**	**355**	⇑P	**P**	**07 09 58.3**	**+1.7**
SNY				pmax	pmax		
	comp=Z,17nm,0.9s						
USRK	**Ussuriysk Arra**	**19.21**	**15**	P	**Pn**	**07 10 31.9**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=194,slow=11,SNR=11						
ERM	**Erimo**	**21.92**	**38**	*ce*P	**P**	**07 11 00.5**	**+0.8**
ERM				pmax	pmax		
	comp=Z,41nm,1.2s						
ASAJ	**Asahikawa**	**23.10**	**33**	P	**P**	**07 11 11.2**	**-0.4**
ASAJ	**Asahikawa**	**23.10**	**33**	P	**P**	**07 11 11.2**	**-0.4**
	comp=Z,5.7nm,0.5s,baz=209,slow=13,SNR=5.1						
ASAJ				LR	LR	07 20 04.7	
	comp=Z,23nm,18.8s,baz=142,slow=36						
KLR	**Kul'dur**	**23.99**	**10**	*e*P	**P**	**07 11 17.2**	**-2.4**
YSS	**Yuzh-Sakhalins**	**25.31**	**29**	*e*P	**P**	**07 11 31.9**	**+0.3**
GTA	**Gaotai**	**25.34**	**309**	*e*P	**P**	**07 11 35.3**	**+3.2**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**25.44**	**259**	P	**P**	**07 11 33.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**25.44**	**259**	P	**P**	**07 11 33.7**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=59,slow=8.7,SNR=8.0						
CMAR				LR	LR	07 20 51.0	
	comp=Z,26nm,21.8s,baz=220,slow=34						
SONM	**Songino Array**	**26.62**	**331**	P	**P**	**07 11 43.7**	**+0.1**
SONM				sP	**sP**	**07 12 17.9**	**-2.2**
SONM	**Songino Array**	**26.62**	**331**	P	**P**	**07 11 43.7**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=136,slow=9.6,SNR=14						
SONM				sP	**sP**	**07 12 17.9**	**-2.2**
	comp=Z,1.2nm,0.6s,baz=149,slow=10,SNR=3.6						
PETK	**Petropavlovsk-**	**36.52**	**33**	P	**P**	**07 13 10.1**	**0.0**
PETK	**Petropavlovsk-**	**36.52**	**33**	P	**P**	**07 13 10.1**	**0.0**
PETK	**Petropavlovsk-**	**36.52**	**33**	P	**P**	**07 13 10.1**	**0.0**
	comp=Z,3.3nm,0.6s,baz=204,slow=6.3,SNR=4.2						
PETK				LR	LR	07 29 21.2	
	comp=Z,10nm,18.6s,baz=14,slow=38						
PET	**Petropavlovsk**	**36.95**	**34**	*e*P	**P**	**07 13 13.6**	**0.0**
PET				pmax	pmax		
	comp=Z,37nm,0.6s						
MKAR	**Makanchi Array**	**39.92**	**313**	P	**P**	**07 13 38.5**	**-0.2**
MKAR				*PP	**pP**	**07 14 03.0**	**-0.5**
MKAR	**Makanchi Array**	**39.92**	**313**	P	**P**	**07 13 38.5**	**-0.2**
MKAR				pP	**pP**	**07 14 03.0**	**-0.5**
MKAR				ScP	**ScP**	**07 19 21.0**	**-0.2**
MKAR	**Makanchi Array**	**39.92**	**313**	P	**P**	**07 13 38.5**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=105,slow=9.6,SNR=8.5						
MKAR				pP	**pP**	**07 14 03.0**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=106,slow=8.9,SNR=3.5						
MKAR				ScP	**ScP**	**07 19 21.0**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=101,slow=2.6,SNR=4.4						
ZALV	**Zalesovo Beam**	**41.08**	**324**	P	**P**	**07 13 47.4**	**-0.6**
ZALV	**Zalesovo Beam**	**41.08**	**324**	P	**P**	**07 13 47.4**	**-0.6**
ZALV	**Zalesovo Beam**	**41.08**	**324**	P	**P**	**07 13 47.4**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=102,slow=8.5,SNR=8.6						
KURK	**Kurchatov**	**43.39**	**318**	P	**P**	**07 14 06.8**	**0.0**
KURK	**Kurchatov**	**43.39**	**318**	P	**P**	**07 14 06.8**	**0.0**
KURBB	**Kurchatov Arra**	**43.41**	**318**	P	**P**	**07 14 06.8**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=108,slow=8.3,SNR=4.7						
TIXI	**Tiksi**	**46.00**	**2**	*ce*P	**P**	**07 14 26.3**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.5s						
WRA	**Warramunga Arr**	**46.24**	**168**	P	**P**	**07 14 29.8**	**0.0**
WRA				pP	**pP**	**07 14 54.8**	**-0.4**
WRA	**Warramunga Arr**	**46.24**	**168**	P	**P**	**07 14 29.8**	**0.0**
	comp=Z,4.7nm,0.6s,baz=350,slow=8.4,SNR=18						
WRA				pP	**pP**	**07 14 54.8**	**-0.4**
	comp=Z,6.1nm,0.9s,baz=350,slow=8.4,SNR=9.2						
BRVK	**Borovoye**	**48.97**	**319**	*ce*P	**P**	**07 14 50.8**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,8.0nm,2.3s						
AS31	**Alice Springs**	**49.81**	**170**	*e*P	**P**	**07 14 56.8**	**-0.4**
ASAR	**Alice Springs**	**49.81**	**170**	P	**P**	**07 14 57.4**	**+0.2**
ASAR				pP	**pP**	**07 15 23.6**	**+0.7**
ASAR	**Alice Springs**	**49.81**	**170**	P	**P**	**07 14 57.4**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=355,slow=10,SNR=33						
ASAR				pP	**pP**	**07 15 23.6**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=357,slow=14,SNR=3.8						
ABKAR	**Akbulak array**	**55.06**	**313**	*e*P	**P**	**07 15 35.5**	**-0.2**
	comp=Z,1.6nm,0.6s						
ARU	**Arti**	**56.16**	**322**	*d i*P	**P**	**07 15 43.2**	**-0.2**
ARU						07 17 46.8	
ARU				S	**S**	**07 23 19.4**	**-4.6**
ARU				pmax	pmax		
	comp=Z,14nm,1.7s						
STKA	**Stephens Creek**	**59.36**	**164**	P	**P**	**07 16 06.2**	**+0.2**
STKA				pP	**pP**	**07 16 34.5**	**+2.0**
STKA	**Stephens Creek**	**59.36**	**164**	P	**P**	**07 16 06.2**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=352,slow=8.0,SNR=4.6						
STKA				pP	**pP**	**07 16 34.5**	**+2.0**
	comp=Z,2.2nm,0.9s,baz=145,slow=7.2,SNR=2.1						
PPLA	**Purkeypile**	**64.05**	**30**	*e*P	**P**	**07 16 37.8**	**+0.5**
	comp=Z,10.0nm,0.9s						
COLD	**Coldfoot**	**64.45**	**25**	*e*P	**P**	**07 16 40.8**	**+1.1**
	comp=Z,7.7nm,0.9s						
MCK	**McKinley**	**65.40**	**29**	*e*P	**P**	**07 16 46.6**	**+0.6**
MCK				pmax	pmax		
	comp=Z,22nm,1.1s						
MCK	**McKinley**	**65.40**	**29**	*e*P	**P**	**07 16 46.6**	**+0.6**
	comp=Z,22nm,1.1s						
SML	**Sawmill**	**65.98**	**31**	*e*P	**P**	**07 16 50.1**	**+0.4**
SML				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SML	**Sawmill**	**65.98**	**31**	*e*P	**P**	**07 16 50.1**	**+0.4**
	comp=Z,1.5nm,0.7s						
ILAR	**Eielson Array**	**66.12**	**28**	P	**P**	**07 16 50.3**	**-0.3**
ILAR	**Eielson Array**	**66.12**	**28**	P	**P**	**07 16 50.3**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=257,slow=5.2,SNR=33						
MENT	**Mentasta**	**67.86**	**30**	*e*P	**P**	**07 17 02.5**	**+0.9**
EGAK	**Eagle**	**68.52**	**27**	*e*P	**P**	**07 17 06.3**	**+0.7**
	comp=Z,12nm,0.9s						
OBN	**Obninsk**	**68.60**	**322**	*e*P	**P**	**07 17 05.5**	**-0.8**
OBN				*e*		07 17 28.8	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
DAWY	**Dawson**	**69.45**	**28**	*e*P	**P**	**07 17 11.8**	**+0.3**
INK	**Inuvik**	**70.38**	**23**	*e*P	**P**	**07 17 17.5**	**+0.5**
	comp=Z,16nm,1.0s						
HYT	**Haines Junctio**	**71.28**	**31**	*e*P	**P**	**07 17 22.3**	**-0.5**
FINES	**FINESS Array B**	**71.99**	**330**	P	**P**	**07 17 26.2**	**-0.6**
FINES	**FINESS Array B**	**71.99**	**330**	P	**P**	**07 17 26.2**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=134,slow=5.5,SNR=6.2						
SKAG	**Skagway**	**72.77**	**32**	*e*P	**P**	**07 17 33.0**	**+1.5**
	comp=Z,7.5nm,0.8s						
BRTR	**Keskin Array B**	**75.24**	**307**	P	**P**	**07 17 45.3**	**-1.2**
BRTR	**Keskin Array B**	**75.24**	**307**	P	**P**	**07 17 45.3**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=64,slow=8.4,SNR=2.6						
NB2	**NORSAR Subarra**	**78.58**	**333**	P	**P**	**07 18 04.0**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=58,slow=6.2						
NOA	**NORSAR Array B**	**78.58**	**333**	P	**P**	**07 18 03.7**	**-1.0**
NOA	**NORSAR Array B**	**78.58**	**333**	P	**P**	**07 18 03.7**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=58,slow=5.7,SNR=5.1						
YKA	**Yellowknife Ar**	**80.07**	**24**	P	**P**	**07 18 13.0**	**+0.3**
YKA	**Yellowknife Ar**	**80.07**	**24**	P	**P**	**07 18 13.0**	**+0.3**
	comp=Z,8.2nm,0.8s,baz=308,slow=5.1,SNR=40						
GERES	**GERESS Array B**	**83.98**	**322**	LR	LR	08 03 24.9	
	comp=Z,130nm,19.5s,baz=13,slow=41						
EDM	**Edmonton**	**86.40**	**31**	*e*P	**P**	**07 18 46.7**	**+1.3**
EDM	**Edmonton**	**86.40**	**31**	*e*P	**P**	**07 18 46.7**	**+1.3**
KMBO	**Kilima Mbogo**	**88.72**	**268**	LR	LR	07 57 34.3	
	comp=Z,196nm,18.5s,baz=93,slow=35						
FFC	**Flin Flon**	**90.19**	**25**	*i* P	**P**	**07 19 04.9**	**+1.6**
HLID	**Hailey**	**91.96**	**39**	*e*P	**P**	**07 19 13.8**	**+1.8**
	comp=Z,2.5nm,0.8s						
NVAR	**Mina Array Bea**	**92.74**	**45**	P	**P**	**07 19 16.1**	**+0.4**
NVAR	**Mina Array Bea**	**92.74**	**45**	P	**P**	**07 19 16.1**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=311,slow=3.4,SNR=5.1						

IDC ***29*** *07:20:45.6±1.6, 10°.48S × 123°.65E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=49.1km s-min=8.3km az=88.0*
AUST ***29*** *07:20:52.8±1.4, 10°.54S × 124°.00E, h0km, Error ellipse: s-maj=1.3km s-min=0.9km az=43.0*

ISC 29 07:20:46.6±1.9, 10°.09S±0°.08 × 123°.86E±0°.09, h10km±14km, n13, σ 2s 11/12, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.22**	**240**	Pg	**Pg**	**07 20 51.3**	**+0.1**
	3μm,0.3s,baz=70,slow=3.8,SNR=1311						
BATI				Lg	Lg	07 20 54.4	
	2μm,0.3s,baz=62,slow=22,SNR=261						
SOEI	**Soe**	**0.52**	**50**	P	Pn	07 21 04.1	+3.9
	baz=0.8,SNR=24						
WSI	**Waingapu**	**3.53**	**277**	P	**Pb**	**07 21 49.1**	**-0.1**
	baz=3.7,SNR=3.8						
KNRA	**Kununurra**	**7.32**	**140**	P	**Pn**	**07 22 35.4**	**+1.7**
	baz=6.9,SNR=6.3						
KNRA				S	**Sn**	**07 23 58.9**	**+2.0**
	baz=6.9,SNR=4.5						
MTN	**Manton Dam**	**7.63**	**112**	P	**Pn**	**07 22 39.9**	**+2.0**
	baz=7.4,SNR=4.0						
FITZ	**Fitzroy Crossi**	**8.15**	**168**	P	**Pn**	**07 22 44.9**	**0.0**
	baz=7.7,SNR=9.3						
FITZ				S	**Sn**	**07 24 17.1**	**0.0**
	baz=7.7,SNR=3.7						
KDU	**Kakad

CRPR	**Cabo Rojo, PR**	**1.86**	**206**	⇓*e*P	Pn	07 23 30.0	-1.3
CRPR				*e*S	Sn	07 23 51.9	-1.8

*ISCJB **29** 07:33:32.4±0.5,51.˝44N±0.˝03×16.˝05E±0.˝03, h0km, Error ellipse: s-maj=4.1km s-min=2.0km az=20.3*
*IPEC **29** 07:33:32.9±0.3,51.˝55N×16.˝21E, h0km, ML2.4/3, Error ellipse: s-maj=1.9km s-min=1.5km az=41.0*
*CSEM **29** 07:33:33.0±0.2,51.˝51N×16.˝10E, h2km, ML3.5/9, Error ellipse: s-maj=3.4km s-min=1.9km az=21.0*
*VIE **29** 07:33:34.9±0.4,51.˝31N×16.˝16E, h0km, mb2.5/4, ML3.0/4, Error ellipse: s-maj=2.8km s-min=2.4km az=177.0 64 km WNW of Wroclaw Suspected Mining induced.*
*BGR **29** 07:33:34.6±0.5,51.˝50N×16.˝08E, h1km, ML3.2/16, Error ellipse: s-maj=4.4km s-min=2.2km az=19.0*
*WAR **29** 07:33:34.6,51.˝50N×16.˝13E*
*PRU **29** 07:33:34.7,51.˝47N×16.˝08E, h0km*

ISC 29 07:33:33.1±0.8, 51.˝55N±0.˝03×16.˝10E±0.˝02, h0km, n79, σ0s97/142, 2C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**170**	*e*Pg	**Pg**	**07 33 47.0**	**+0.2**
KSP				*e*Sg	**Sg**	**07 33 56.4**	**+0.3**
KSP	**Ksiaz**	**0.71**	**170**	*e*Pg	**Pg**	**07 33 47.0**	**+0.2**
KSP				*e*Sg	**Sg**	**07 33 56.4**	**+0.3**
KSP	**Ksiaz**	**0.71**	**170**	Pg	**Pg**	**07 33 47.0**	**+0.2**
KSP				Sg	**Sg**	**07 33 56.4**	**+0.3**
DPC	**Dobruska-Polom**	**1.21**	**173**	*e*Pg	**Pg**	**07 33 55.8**	**-0.4**
DPC				*e*Sg	**Sg**	**07 34 11.4**	**-0.4**
DPC	**Dobruska-Polom**	**1.21**	**173**	*e*PG	**Pg**	**07 33 55.9**	**-0.4**
DPC				*e*SG	**Sg**	**07 34 11.1**	**-0.8**
DPC	**Dobruska-Polom**	**1.21**	**173**	Pg	**Pg**	**07 33 55.8**	**-0.4**
DPC				Sg	**Sg**	**07 34 11.1**	**-0.8**
PVCC	**Panska Ves**	**1.41**	**224**	*e*PG	**Pn**	**07 33 59.5**	**-0.5**
PVCC				*e*SG	**Sg**	**07 34 18.5**	**+0.2**
	comp=Z,245nm,0.2s						
PVCC	**Panska Ves**	**1.41**	**224**	Pg	**Pn**	**07 33 59.5**	**-0.5**
PVCC				Sg	**Sg**	**07 34 18.5**	**+0.2**
	245nm,0.2s						
BRG	**Berggiesshubel**	**1.52**	**244**	PN	**Pn**	**07 34 00.2**	**-1.3**
BRG				PG	**Pb**	**07 34 01.9**	**-0.2**
BRG				SG	**Sn**	**07 34 22.4**	**+0.5**
	165nm,0.5s						
KRLC	**Kraliky**	**1.54**	**163**	*e*PG	**Pn**	**07 34 01.2**	**-0.6**
KRLC				*e*SG	**Sg**	**07 34 21.2**	**-1.2**
KRLC	**Kraliky**	**1.54**	**163**	Pg	**Pn**	**07 34 01.2**	**-0.6**
KRLC				Sg	**Sg**	**07 34 21.2**	**-1.2**
FBE	**Freiberg**	**1.84**	**251**	*e*Pg	**Pb**	**07 34 07.8**	**+0.2**
FBE				*e*Sg	**Sb**	**07 34 31.9**	**+0.8**
FBE	**Freiberg**	**1.84**	**251**	Pg	**Pb**	**07 34 07.8**	**+0.2**
FBE				Sg	**Sb**	**07 34 31.9**	**+0.8**
PRU	**Pruhonice**	**1.85**	**213**	*e*PN	**Pn**	**07 34 06.0**	**-0.1**
PRU				*e*PG	**Pb**	**07 34 07.4**	**-0.4**
PRU				*e*SG	**Sb**	**07 34 31.2**	**-0.2**
	comp=Z,77nm,0.6s						
PRU	**Pruhonice**	**1.85**	**213**	Pn	**Pn**	**07 34 06.0**	**-0.1**
CLL	**Collm**	**1.95**	**264**	*e*Pn	**Pn**	**07 34 06.6**	**-0.9**
CLL				*e*Pg	**Pb**	**07 34 10.0**	**+0.4**
CLL				*e*Sg	**Sb**	**07 34 35.8**	**+1.3**
CLL	**Collm**	**1.95**	**264**	*e*Pn	**Pn**	**07 34 07.0**	**-0.5**
CLL				*e*Pg	**Pb**	**07 34 10.0**	**+0.4**
CLL				*e*		07 34 13.0	
CLL				*e*Sg	**Sb**	**07 34 36.0**	**+1.5**
	comp=Z,41nm,0.7s						
CLL	**Collm**	**1.95**	**264**	Pn	**Pn**	**07 34 06.6**	**-0.9**
MORC	**Moravsky Berou**	**2.00**	**152**	*e*Pn	**Pn**	**07 34 07.4**	**-0.7**
MORC	**Moravsky Berou**	**2.00**	**152**	Pn	**Pn**	**07 34 07.4**	**-0.7**
MORC				*e*Sg	**Sb**	**07 34 34.6**	**-1.1**
	comp=Z,29nm,0.3s,baz=335						
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*PG	**Pb**	**07 34 13.2**	**+0.3**
OKC				*e*SG	**Sg**	**07 34 41.3**	**-0.9**
OKC	**Ostrava-Krasne**	**2.15**	**142**	Pg	**Pb**	**07 34 13.2**	**+0.3**
OKC				Sg	**Sg**	**07 34 41.3**	**-0.9**
VRAC	**Vranov**	**2.26**	**172**	*e*Pn	**Pn**	**07 34 11.8**	**0.0**
	baz=354						
VRAC				*e*Sg	**Sb**	**07 34 43.5**	**+0.1**
	comp=Z,12nm,0.2s,baz=354						
TREC	**Trest**	**2.29**	**190**	*e*PG	**Pb**	**07 34 15.5**	**+0.2**
TREC				*e*SG	**Sb**	**07 34 45.2**	**+1.1**
	comp=Z,32nm,0.3s						
TREC	**Trest**	**2.29**	**190**	Pg	**Pb**	**07 34 15.5**	**+0.2**
TREC				Sg	**Sb**	**07 34 45.2**	**+1.1**
	comp=Z,32nm,0.3s						
SCHF	**Schoenfels**	**2.49**	**251**	*e*Pg	**Pg**	**07 34 21.1**	**+0.3**
SCHF				*e*Sg	**Sb**	**07 34 52.2**	**+2.4**
SCHF	**Schoenfels**	**2.49**	**251**	Pg	**Pg**	**07 34 21.1**	**+0.3**
SCHF				Sg	**Sb**	**07 34 52.2**	**+2.4**
KRUC	**Moravsky**	**2.50**	**176**	*e*Pn	**Pn**	**07 34 14.8**	**-0.2**
	baz=357						
KRUC				*e*Sg	**Sb**	**07 34 51.3**	**+1.3**
	comp=Z,17nm,0.4s,baz=357						
HKWD	**Heukewalde**	**2.52**	**255**	*e*Pg	**Pg**	**07 34 21.3**	**0.0**
HKWD				*e*Sg	**Sg**	**07 34 53.4**	**-0.5**
HKWD	**Heukewalde**	**2.52**	**255**	Pg	**Pg**	**07 34 21.3**	**0.0**
HKWD				Sg	**Sg**	**07 34 53.4**	**-0.5**
TANN	**Tannenbergstha**	**2.56**	**245**	*e*Pn	**Pn**	**07 34 15.9**	**-0.1**
TANN				*e*Sg	**Sg**	**07 34 55.0**	**-0.5**
TANN	**Tannenbergstha**	**2.56**	**245**	Pn	**Pn**	**07 34 15.9**	**-0.1**
TANN				Sg	**Sg**	**07 34 55.0**	**-0.5**
MULD	**Muldenberg**	**2.60**	**246**	*e*Sg	**Sg**	**07 34 56.0**	**-0.6**
MULD	**Muldenberg**	**2.60**	**246**	Sg	**Sg**	**07 34 56.0**	**-0.6**
WERD	**Werda**	**2.64**	**247**	*e*Pn	**Pn**	**07 34 17.0**	**0.0**
WERD				*e*Sg	**Sb**	**07 34 56.5**	**+2.3**
WERD	**Werda**	**2.64**	**247**	Pn	**Pn**	**07 34 17.0**	**0.0**
WERD				Sg	**Sb**	**07 34 56.5**	**+2.3**
NKC	**Novy Kostel**	**2.66**	**242**	*e*Pn	**Pn**	**07 34 17.3**	**0.0**
NKC				*e*Sg	**Sg**	**07 34 58.9**	**+0.3**
NKC	**Novy Kostel**	**2.66**	**242**	*e*PN	**Pn**	**07 34 17.6**	**+0.3**
NKC				*e*PG	**Pb**	**07 34 23.3**	**+1.6**
NKC				*e*SG	**Sg**	**07 34 59.7**	**+1.1**
	comp=Z,73nm,0.3s						
NKC	**Novy Kostel**	**2.66**	**242**	Pn	**Pn**	**07 34 17.3**	**0.0**
NKC	**Novy Kostel**	**2.66**	**242**	Pg	**Pb**	**07 34 23.3**	**+1.6**
NKC				Sg	**Sg**	**07 34 58.9**	**+0.3**
WERN	**Wernitzgruen**	**2.67**	**243**	*e*Pn	**Pn**	**07 34 17.8**	**+0.3**
WERN	**Wernitzgruen**	**2.67**	**243**	Pn	**Pn**	**07 34 17.8**	**+0.3**
OJC	**Ojcow**	**2.69**	**118**	*e*Pg	**Pg**	**07 34 24.7**	**0.0**
OJC				*e*Sg	**Sg**	**07 35 00.0**	**+0.4**
OJC	**Ojcow**	**2.69**	**118**	*e*Pg	**Pg**	**07 34 24.7**	**0.0**
OJC				*e*Sg	**Sg**	**07 35 00.0**	**+0.4**
PLN	**Plauen**	**2.71**	**248**	*e*Sg	**Sg**	**07 34 59.9**	**-0.2**
PLN	**Plauen**	**2.71**	**248**	Sg	**Sg**	**07 34 59.9**	**-0.2**
NEUB	**Neuenburg**	**2.73**	**265**	*e*Sg	**Sg**	**07 35 01.7**	**+0.8**
NEUB	**Neuenburg**	**2.73**	**265**	Sg	**Sg**	**07 35 01.7**	**+0.8**
ROHR	**Rohrbach**	**2.73**	**243**	*e*Pn	**Pn**	**07 34 17.8**	**-0.5**
ROHR	**Rohrbach**	**2.73**	**243**	Pn	**Pn**	**07 34 17.8**	**-0.5**
TRIB	**Obertriebel**	**2.78**	**246**	*e*Pn	**Pn**	**07 34 18.8**	**-0.1**
TRIB				*e*Sg	**Sg**	**07 35 01.3**	**-1.0**
TRIB	**Obertriebel**	**2.78**	**246**	Pn	**Pn**	**07 34 18.8**	**-0.1**
TRIB				Sg	**Sg**	**07 35 01.3**	**-1.0**
WIMM	**Wimmelburg**	**2.87**	**271**	*e*Sg	**Sg**	**07 35 05.4**	**+0.1**
WIMM	**Wimmelburg**	**2.87**	**271**	Sg	**Sg**	**07 35 05.4**	**+0.1**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**07 34 20.2**	**-0.5**
KHC				*e*PG	**Pb**	**07 34 26.5**	**+0.6**
KHC				*e*SN	**Sn**	**07 34 56.0**	**-0.4**
KHC				*e*SG	**Sg**	**07 35 05.2**	**-1.3**
	comp=Z,18nm,0.5s						
KHC	**Kasperske Hory**	**2.91**	**215**	Pn	**Pn**	**07 34 20.2**	**-0.5**
MOX	**Moxa**	**2.97**	**254**	*e*Pg	**Pg**	**07 34 29.4**	**-0.6**
MOX				*e*Sg	**Sg**	**07 35 07.9**	**-0.6**
MOX	**Moxa**	**2.97**	**254**	Pg	**Pg**	**07 34 29.4**	**-0.6**
MOX				Sg	**Sg**	**07 35 07.9**	**-0.6**
MANZ	**Manzenberg**	**2.98**	**240**	*e*Pn	**Pn**	**07 34 22.4**	**+0.7**
MANZ	**Manzenberg**	**2.98**	**240**	Pn	**Pn**	**07 34 22.4**	**+0.7**
ROTZ	**Rotzenmuhle**	**3.05**	**236**	*e*Pn	**Pn**	**07 34 22.6**	**0.0**
ROTZ				*e*Sg	**Sg**	**07 35 10.1**	**-1.0**
ROTZ	**Rotzenmuhle**	**3.05**	**236**	Pn	**Pn**	**07 34 22.6**	**0.0**
ROTZ				Sg	**Sg**	**07 35 10.1**	**-1.0**
GEC2	**GERESS Array S**	**3.11**	**211**	*e*Pn	**Pn**	**07 34 24.0**	**+0.4**
GEC2	**GERESS Array S**	**3.11**	**211**	Pn	**Pn**	**07 34 24.0**	**+0.4**
SCHD	**Schmiedefeld**	**3.25**	**254**	*e*Pg	**Pg**	**07 34 35.1**	**-0.3**
SCHD				*e*Sg	**Sg**	**07 35 17.0**	**-0.4**
SCHD	**Schmiedefeld**	**3.25**	**254**	Pg	**Pg**	**07 34 35.1**	**-0.3**
SCHD				Sg	**Sg**	**07 35 17.0**	**-0.4**
NIE	**Niedzica**	**3.43**	**127**	*e*P	**Pg**	**07 34 41.3**	**+2.4**
NIE				*e*S	**Sg**	**07 35 26.2**	**+2.9**
VYHS	**Vyhne**	**3.53**	**149**	*e*PG	**Pb**	**07 34 36.5**	**+0.1**
VYHS				*e*SG	**Sg**	**07 35 26.1**	**-0.3**
VYHS	**Vyhne**	**3.53**	**149**	*e*Pg	**Pb**	**07 34 36.5**	**+0.1**
VYHS				*e*Sg	**Sg**	**07 35 26.2**	**-0.2**
GRA1	**Grafenberg Arr**	**3.62**	**241**	Sg	**Sg**	**07 35 29.5**	**+0.1**
GRF	**Grafenberg Arr**	**3.62**	**241**	*e*Sg	**Sg**	**07 35 29.5**	**+0.1**
CONA	**Conrad Observa**	**3.63**	**183**	⇑*i*Pn	**Pn**	**07 34 29.0**	**-1.6**
CONA				⇑*i*Sg	**Sg**	**07 35 27.8**	**-1.7**
	comp=Z,33nm,0.6s						
CONA	**Conrad Observa**	**3.63**	**183**	Pn	**Pn**	**07 34 29.0**	**-1.6**
CONA				Sg	**Sg**	**07 35 27.8**	**-1.7**
	comp=Z,33nm,0.6s						
BSD	**Bornholm Skovb**	**3.64**	**349**	*i* P	**Pn**	**07 34 29.2**	**-1.5**
BSD				*i* S	**Sn**	**07 35 11.7**	**-2.7**
BSD	**Bornholm Skovb**	**3.64**	**349**	*i* P	**Pn**	**07 34 29.2**	**-1.5**
BSD				*i* S	**Sn**	**07 35 11.7**	**-2.7**
MOA	**Molln**	**3.89**	**199**	⇓*i*Pn	**Pn**	**07 34 33.0**	**-1.1**
MOA				⇓*i*Sg	**Sg**	**07 35 36.3**	**-1.7**
	comp=Z,24nm,0.5s						
MOA	**Molln**	**3.89**	**199**	Pn	**Pn**	**07 34 33.0**	**-1.1**
MOA				Sg	**Sg**	**07 35 36.3**	**-1.7**
	comp=Z,24nm,0.5s						
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*PG	**Pb**	**07 34 45.4**	**+2.4**
STHS				*e*SG	**Sg**	**07 35 38.5**	**-0.4**
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*Pg	**Pb**	**07 34 45.4**	**+2.4**
STHS				*e*Sg	**Sg**	**07 35 38.5**	**-0.4**

GUC 29 07:57:36.0±0.7, 32.˝41S×70.˝91W, h82km±3km, MD3.5, ML3.0,6C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCH	**Petorca**	**0.14**	**352**	⇓*i*P	Pn	07 57 48.0	+0.2
PTCH				*i* S	Sn	07 57 56.9	+0.3
PTCH				AML	AML	07 57 58.1	
	comp=N,3μm,0.1s						
JACH	**Jahuel**	**0.38**	**136**	⇑*i*P	Pn	07 57 48.8	-0.4
JACH				*i* S	Sn	07 57 58.4	-0.5
ROCH	**El Roble**	**0.57**	**189**	⇓*i*P	Pn	07 57 50.6	-0.3
ROCH				*i* S	Sn	07 58 01.7	-0.2
ROCH				AML	AML	07 58 02.2	
	comp=N,1μm,0.3s						
PEL	**Peldehue**	**0.76**	**166**	⇑*i*P	Pn	07 57 52.3	-0.2
PEL				*i* S	Sn	07 58 04.6	-0.2
PEL				AML	AML	07 58 05.8	
	comp=E,1μm,0.3s						
IHA	**Instituto Hidr**	**0.88**	**225**	*e*P	Pn	07 57 54.0	+0.3
IHA				*e*S	Sn	07 58 06.7	-0.2
CLCH	**Cerro Calan**	**1.03**	**163**	⇓*i*P	Pn	07 57 55.3	-0.4
CLCH				*i* S	Sn	07 58 10.7	+0.3
CLCH				AML	AML	07 58 15.8	
	comp=E,340nm,0.9s						
STL	**Santa Lucia**	**1.05**	**168**	*e*P	Pn	07 57 55.7	-0.2
STL				*i* S	Sn	07 58 10.8	+0.1
STL				AML	AML	07 58 11.2	
	comp=N,139nm,0.4s						
SAN	**Santiago**	**1.06**	**169**	*e*P	Pn	07 57 55.9	-0.1
SAN				*i* S	Sn	07 58 11.1	+0.2
SAN				AML	AML	07 58 11.7	
	comp=N,215nm,0.3s						
LACH	**Col Las Americ**	**1.09**	**163**	⇓*i*P	Pn	07 57 56.1	-0.2
LACH				*i* S	Sn	07 58 11.7	+0.2
LACH				AML	AML	07 58 21.0	
	comp=N,124nm,0.3s						
ANTU	**Antumapu**	**1.18**	**169**	⇓*i*P	Pn	07 57 57.2	-0.2
ANTU				*i* S	Sn	07 58 13.4	-0.1
ANTU				AML	AML	07 58 14.7	
	comp=E,504nm,0.2s						
CMCH	**Combarbala**	**1.23**	**356**	⇑*i*P	Pn	07 57 58.1	-0.1
CMCH				*i* S	Sn	07 58 15.0	+0.3
CMCH				AML	AML	07 58 16.2	
	comp=N,2μm,0.1s						
TACH	**Talagante**	**1.24**	**181**	⇑*i*P	Pn	07 57 58.0	-0.2
TACH				*i* S	Sn	07 58 14.6	-0.2
PCH	**Pirque**	**1.25**	**165**	⇓*i*P	Pn	07 57 58.2	-0.2
PCH				*e*S	Sn	07 58 15.3	+0.1
SJCH	**San Jose de Ma**	**1.31**	**159**	*e*P	Pn	07 57 58.2	-1.0
SJCH				*i* S	Sn	07 58 16.0	-0.6
SJCH				AML	AML	07 58 17.6	
	comp=N,368nm,0.3s						
CHCH	**Chadas Angostu**	**1.54**	**172**	⇑*i*P	Pn	07 58 01.8	-0.2
CHCH				*i* S	Sn	07 58 21.7	+0.1
LMEL	**Las Melosas**	**1.55**	**158**	⇓*i*P	Pn	07 58 02.6	+0.3
LMEL				*i* S	Sn	07 58 22.9	+0.7
LMEL				AML	AML	07 58 25.6	
	comp=N,526nm,0.3s						
CACH	**El Canelo**	**1.72**	**172**	⇑*i*P	Pn	07 58 04.9	+0.4
CACH				*i* S	Sn	07 58 27.7	+1.6
TLL	**Tololo Astrono**	**2.23**	**2**	*e*P	Pn	07 58 14.6	+3.1
TLL				*i* S	Sn	07 58 41.8	+3.3
TLL				AML	AML	07 58 47.3	
	comp=N,90nm,0.4s						

IDC 29 08:02:57.3±0.9, 62.˝75S×163.˝13W, h0km, mb3.9/5, mb1 4.1/6, mb1mx4.0/13, mbtmp3.9/6, ML3.8/1, MS3.9/9, Ms1 3.9/9, ms1mx3.7/24, Error ellipse: s-maj=38.6km s-min=24.3km az=26.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**18.47**	**203**	P	Pn	08 07 15.7	+1.5
	0.3nm,0.3s,baz=66,slow=16,SNR=7.8						
VNDA				LR	LR	08 12 48.6	
	comp=Z,193nm,18.1s,baz=348,slow=32						
TBI	**Tubuai**	**40.45**	**20**	*e*LR	LR	08 21 47.4	
	171nm,27.0s						
RKT	**Rikitea**	**43.93**	**39**	*e*T	T	08 57 51.0	
	3.8nm,0.2s						
SNAA	**Sanae**	**45.17**	**171**	P	P	08 11 13.6	-1.5
	0.9nm,1.0s,baz=185,slow=5.4,SNR=4.2						
MAW	**Mawson**	**45.78**	**203**	LR	LR	08 28 05.6	
	comp=Z,85nm,21.2s,baz=324,slow=33						
TVO	**Taravao**	**45.95**	**19**	*e*T	T	09 00 28.3	
	10nm,0.4s						
MEH	**Mehetia**	**46.04**	**20**	*e*T	T	09 00 34.3	
	73nm,0.3s						
PPT2	**Papeete2**	**46.09**	**18**	*e*LR	LR	08 24 06.0	
	146nm,27.8s						
PPT2	**Papeete2**	**46.09**	**18**	*e*T	T	09 00 39.0	
	4.8nm,0.3s						
PPT	**Papeete**	**46.12**	**18**	LR	LR	08 25 55.7	
	comp=Z,177nm,19.4s,baz=175,slow=30						
TIAR	**Tiarei**	**46.16**	**18**	*e*T	T	09 00 43.6	
	7.8nm,0.3s						
STKA	**Stephens Creek**	**46.40**	**285**	LR	LR	08 28 15.1	
	comp=Z,190nm,21.5s,baz=206,slow=33						
PMOR	**Pomariorio Ree**	**48.89**	**20**	*e*T	T	09 04 07.7	
	1.6nm,0.3s						
PLCA	**Paso Flores**	**55.85**	**113**	LR	LR	08 29 51.0	
	comp=Z,142nm,19.2s,baz=182,slow=29						
ASAR	**Alice Springs**	**56.89**	**283**	P	P	08 12 44.1	+0.3
	1.8nm,0.8s,baz=154,slow=7.1,SNR=19						
ASAR				LR	LR	08 33 03.0	
	comp=Z,194nm,20.7s,baz=157,slow=32						
WRA	**Warramunga Arr**	**59.95**	**285**	P	P	08 13 05.1	-0.1
	1.4nm,0.8s,baz=156,slow=6.2,SNR=4.6						
CPUP	**Villa Florida**	**73.79**	**116**	P	P	08 14 33.5	+0.3
	0.8nm,0.7s,baz=264,slow=6.9,SNR=3.3						
CPUP				LR	LR	08 42 24.0	
	comp=Z,86nm,18.2s,baz=168,slow=32						
LPAZ	**La Paz**	**77.94**	**102**	P	P	08 14 58.8	+1.0
	1.3nm,0.9s,baz=124,slow=1.7,SNR=4.4						
LPAZ				LR	LR	08 41 44.4	
	comp=Z,41nm,18.9s,baz=156,slow=30						
BDFB	**Brasilia**	**87.16**	**119**	LR	LR	08 52 19.2	
	comp=Z,114nm,19.6s,baz=50,slow=34						
ILAR	**Eielson Array**	**127.78**	**9**	PKP	PKPdf	08 22 02.1	-0.8
	0.4nm,0.8s,baz=218,slow=2.5,SNR=5.2						
TORD	**Torodi Ar. Bea**	**129.30**	**161**	PKhKP	PKPpre	08 22 01.8	
	0.7nm,1.0s,baz=119,slow=1.8,SNR=3.1						
ZALV	**Zalesovo Beam**	**144.91**	**288**	PKP	PKPab	08 22 32.4	-1.6
	0.8nm,0.4s,baz=116,slow=3.4,SNR=2.8						
KURBB	**Kurchatov Arra**	**145.44**	**279**	PKPbc	PKPdf	08 22 35.0	-0.8
	0.3nm,0.3s,baz=129,slow=2.7,SNR=5.9						

*NIED **29** 08:14:00, 27.˝90N×142.˝70E, h5km, Mw3.9 Best double couple: M0 6.91000×10^14 NP1:ϕs 351.00000°, δ 47.00000°, λ 84.00000°; NP2:ϕs 180.00000°, δ 43.00000°, λ 96.00000°.*
*IDC **29** 08:14:39.5±0.8, 27.˝56N×142.˝77E, h0km, mb3.8/12, mb1 4.0/15, mb1mx3.9/27, mbtmp3.8/15, ML3.3/3, Error ellipse: s-maj=25.0km s-min=17.8km az=75.0*
*JMA **29** 08:14:41.2, 27.˝91N×142.˝72E, h0km, M4.4*
*ISCJB **29** 08:14:43.4±0.7, 27.˝86N±0.˝04×142.˝81E±0.˝10, h27km, mb3.8/12, Error ellipse: s-maj=12.7km s-min=5.9km az=13.6*

ISC 29 08:14:44.2±0.8, 27.˝71N±0.˝07×142.˝9E±0.˝1, h27km, n19, σ1s27/21, mb3.8/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.87**	**225**	P	**Pn**	**08 14 59.8**	**-0.9**
CBIJ				*e*S	**Sn**	**08 15 12.7**	**+0.2**
JHHJ	**Haha-jima-NKT**	**1.25**	**210**	*e*S	**Sb**	**08 15 25.8**	**+3.1**
JRY	**Ryogami san**	**8.94**	**339**	P	**Pn**	**08 16 51.5**	**-0.1**
MJAR	**Matsushiro Arr**	**9.65**	**337**	Pn	**Pn**	**08 17 01.1**	**-0.3**
	1.2nm,0.3s,baz=154,slow=9.4,SNR=9.8						
MJAR				Sn	**Sn**	**08 18 50.0**	**+1.2**
	0.2nm,0.3s,baz=142,slow=24,SNR=3.3						
MAT	**Matsushiro**	**9.65**	**337**	P	**Pn**	**08 17 00.4**	**-1.0**
KSRS	**Korea Array**	**15.90**	**311**	Pn	**Pn**	**08 18 25.3**	**-0.7**
	0.2nm,0.3s,baz=126,slow=12,SNR=2.8						
USRK	**Ussuriysk Arra**	**18.63**	**335**	P	**P**	**08 18 59.6**	**-0.1**
	0.2nm,0.3s,baz=166,slow=13,SNR=7.8						
SONM	**Songino Array**	**34.71**	**315**	P	**P**	**08 21 31.2**	**-0.7**
	0.9nm,0.7s,baz=111,slow=7.9,SNR=3.5						
WRA	**Warramunga Arr**	**48.09**	**191**	P	**P**	**08 23 19.9**	**-1.8**
	4.7nm,1.0s,baz=12,slow=8.2,SNR=9.4						
ZALV	**Zalesovo Beam**	**49.43**	**319**	P	**P**	**08 23 32.3**	**+0.6**
	0.8nm,0.3s,baz=91,slow=8.9,SNR=2.8						
MKAR	**Makanchi Array**	**50.56**	**309**	P	**P**	**08 23 40.0**	**-0.4**
	0.3nm,0.4s,baz=90,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**51.81**	**190**	P	**P**	**08 23 47.5**	**-2.4**
	0.8nm,0.8s,baz=10,slow=8.1,SNR=7.5						
KURBB	**Kurchatov Arra**	**53.05**	**314**	P	**P**	**08 23 58.9**	**0.0**
	3.9nm,0.7s,baz=91,slow=7.8,SNR=38						
ILAR	**Eielson Array**	**56.88**	**29**	P	**P**	**08 24 26.6**	**+0.3**
	0.3nm,0.7s,baz=260,slow=4.7,SNR=4.5						
INK	**Inuvik**	**62.22**	**25**	P	**P**	**08 25 03.5**	**+0.5**
	0.7nm,0.6s,baz=250,slow=7.8,SNR=4.9						
FINES	**FINESS Array B**	**77.67**	**334**	P	**P**	**08 26 37.8**	**-0.2**
	0.5nm,0.4s,baz=62,slow=4.4,SNR=6.4						
NVAR	**Mina Array Bea**	**79.65**	**52**	P	**P**	**08 26 49.9**	**+0.2**
	0.3nm,0.6s,baz=278,slow=5.2,SNR=4.0						
PDAR	**Pinedale Array**	**83.34**	**45**	P	**P**	**08 27 11.4**	**+2.2**
	0.1nm,0.4s,baz=328,slow=3.3,SNR=2.7						
TXAR	**Lajitas Array**	**94.74**	**53**	P	**P**	**08 28 04.2**	**+0.6**
	0.2nm,0.8s,baz=263,slow=3.6,SNR=2.8						

*IDC **29** 08:15:01.4±1.2, 45.˝93S×166.˝30E, h0km, mb3.9/3, mb1 4.2/5, mb1mx3.9/17, mbtmp4.0/5, ML4.0/2, Error ellipse: s-maj=28.3km s-min=24.4km az=168.0*
*AUST **29** 08:15:01.3±1.6, 46.˝03S×166.˝20E, h0km, Error ellipse: s-maj=1.7km s-min=1.1km az=22.0*
*ISCJB **29** 08:15:02.5±0.6, 45.˝83S±0.˝04×166.˝16E±0.˝05, h14km, mb3.7/3, Error ellipse: s-maj=6.3km s-min=5.4km az=13.6*
*NEIC **29** 08:15:05.8, 45.˝92S×166.˝33E, h16km, ML4.5(WEL), After WEL.*
NEIC Felt at Manapouri.
*WEL **29** 08:15:05.0±0.1, 45.˝93S×166.˝32E, h33km, ML4.5/21, Error ellipse: s-maj=1.7km s-min=0.5km az=90.0*
WEL Felt in the Fiordland region, maximum reported intensity MM 3.

ISC 29 08:15:03.6±0.7, 45.˝91S±0.˝04×166.˝27E±0.˝05, h14km, n57, σ1s34/64, mb3.7/3, 1C-3D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.38**	**132**	P*	**Pb**	**08 15 12.9**	**+0.7**
PYZ				S*	**Sb**	**08 15 19.0**	**+1.0**
PYZ	**Puysegur Point**	**0.38**	**132**	⇓P*	**Pb**	**08 15 13.3**	**+1.1**
PYZ				S*	**Sb**	**08 15 19.0**	**+1.0**
DCZ	**Deep Cove**	**0.76**	**55**	P*	**Pg**	**08 15 18.8**	**+0.5**
DCZ				S*	**Sb**	**08 15 29.4**	**+0.7**
DCZ	**Deep Cove**	**0.76**	**55**	⇓PN	**Pg**	**08 15 18.8**	**+0.5**
DCZ				SN	**Sb**	**08 15 29.4**	**+0.7**
DCZ				AML	AML	08

0.5nm,0.3s,baz=225,slow=10.0,SNR=3.5
URZ Sn **Sn** **08 19 41.1 -4.5**
0.6nm,0.3s,baz=210,slow=20,SNR=5.3
MILA **Mila** **15.56 299** P **Pn** **08 18 41.5 -1.0**
baz=16,SNR=8.1
ASAR **Alice Springs** **34.26 299** P **P** **08 21 49.5 +0.2**
ASAR **Alice Springs** **34.26 299** P **P** **08 21 49.5 +0.2**
1.5nm,0.8s,baz=127,slow=8.6,SNR=12
WRA **Warramunga Arr** **36.85 304** P **P** **08 22 11.4 -0.1**
WRA **Warramunga Arr** **36.85 304** P **P** **08 22 11.4 -0.1**
0.7nm,0.7s,baz=137,slow=7.6,SNR=7.0
QSPA **South Pole Qui** **44.21 180** P **P** **08 23 11.9 -0.1**
QSPA **South Pole Qui** **44.21 180** P **P** **08 23 11.9 -0.1**
1.0nm,0.8s,baz=350,slow=12,SNR=2.4
TORD **Torodi Ar. Bea** **144.83 207** PKP **PKPab** **08 34 39.0 -0.3**
TORD **Torodi Ar. Bea** **144.83 207** PKP **PKPab** **08 34 39.0 -0.3**
1.5nm,0.8s,baz=169,slow=2.1,SNR=8.9

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*ISCJB **29** 08:40:40.7±0.5,6˚.10S±0˚.03×130˚.58E±0˚.04,h148km±4km, mb4.7/52, Error ellipse: s-maj=5.9km s-min=5.4km az=179.6*
*BJI **29** 08:40:40.7,6˚.89S×130˚.42E,h188km, mB4.7/18, mb4.6/28*
*IDC **29** 08:40:41.8±1.7,6˚.08S×130˚.34E,h139km±15km, mb4.3/20, mb1 4.4/23, mb1mx4.4/25, mbtmp4.4/23, MS3.3/7, Ms1 3.3/7, ms1mx3.0/42, Error ellipse: s-maj=14.9km s-min=9.2km az=77.0*
*NEIC **29** 08:40:42.8±1.0,6˚.09S×130˚.42E,h151km±10km, mb4.8/17, Error ellipse: s-maj=8.4km s-min=5.8km az=51.0*
*BKK **29** 08:40:42.4±0.4,6˚.S±4˚×13˚.0E±˚,h137km±5km, mb4.3/20, mB5.5/8, mb5.2/24, MLv5.4/2, Mw(mB)4.9/8*
*DJA **29** 08:40:43.8±0.3,6˚.S±3˚×13˚.1E±˚,h143km±5km, M5.3/27, mB5.7/16, mb5.1/27, MLv5.6/11, Mw(mB)5.2/16*

ISC 29 08:40:41.1±0.5,**6˚.15S**±0˚.04×**130˚.52E**±0˚.05,**h139**km±4km, **n190**,σt=**49**/217,**mb4.8**/59,**1C-1D**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNDI	**Bandanaira**	**1.73**	**339**	P		**Pn**	**08 41 13.7**	**+1.2**
BNDI				S		**Sn**	**08 41 40.0**	**+3.5**
MSAI	**Masohi**	**3.21**	**330**	P		**Pn**	**08 41 30.5**	**-0.3**
MSAI				S		**Sn**	**08 42 07.2**	**-2.0**
AAI	**Ambon**	**3.37**	**316**	P		**Pn**	**08 41 34.2**	**+1.3**
AAI				S		**Sn**	**08 42 13.7**	**+0.7**
FAKI	**Fak Fak**	**3.65**	**28**	P		**Pn**	**08 41 35.7**	**-0.8**
FAKI				S		**Sn**	**08 42 15.4**	**-4.0**
SWI	**Sorong**	**5.31**	**8**	P		**Pn**	**08 41 57.1**	**-1.4**
	1μm,0.6s,44μm9.7nm							
SWI				S		Sn	08 42 52.3	-6.5
	1μm,0.6s,44μm9.7nm							
RKPI	**Ransiki, Papua**	**5.88**	**38**	P		**Pn**	**08 42 06.5**	**+0.3**
	2μm,0.5s,66μm21nm							
RKPI				S		**Sn**	**08 43 09.3**	**-3.3**
	2μm,0.5s,66μm21nm							
LBMI	**Labuha**	**6.25**	**331**	P		**Pn**	**08 42 10.7**	**-0.5**
	561nm,0.7s,8μm2.1nm							
LBMI				S		**Sn**	**08 43 15.7**	**-5.9**
	561nm,0.7s,8μm2.1nm							
SOEI	**Soe**	**7.15**	**240**	P		Pn	08 42 27.5	+4.2
	268nm,0.6s,3μm4.7nm							
BAKI	**Biak**	**7.44**	**49**	P		Pn	08 42 28.9	+1.8
	2μm,0.9s,12μm5.3nm							
TNTI	**Ternate**	**7.57**	**335**	P		**Pn**	**08 42 28.1**	**-0.7**
	446nm,0.8s,4μm1.3nm							
BATI	**Baumata**	**7.89**	**239**	P		**Pn**	**08 42 33.7**	**+0.5**
BATI				S		**Sn**	**08 43 58.2**	**-2.9**
BATI	**Baumata**	**7.89**	**239**	P		**Pn**	**08 42 34.7**	**+1.5**
	130nm,0.5s,3μm1.2nm							
BATI	**Baumata**	**7.89**	**239**	P		**Pn**	**08 42 33.7**	**+0.5**
	55nm,0.3s,baz=96,slow=2.0,SNR=19							
BATI				S		**Sn**	**08 43 58.2**	**-2.9**
	111nm,0.3s,baz=289,slow=20,SNR=9.3							
BATI				LR		LR	08 45 41.6	
	comp=Z,353nm,19.0s,baz=229,slow=38							
WAMI	**Wamena**	**8.46**	**75**	P		Pn	08 42 51.4	+11
SKSI	**Soroako, Sulaw**	**9.84**	**291**	P		Pn	08 43 03.3	+4.0
	58nm,1.1s							
BKSI	**Bulukumba**	**10.38**	**274**	P		Pn	08 43 18.8	+12
KAPI	**Kappang**	**10.78**	**275**	*e*Pn		**Pn**	**08 43 12.6**	**+0.9**
KAPI	**Kappang**	**10.78**	**275**	LR		LR	08 47 23.7	
	comp=Z,107nm,19.4s,baz=29,slow=38							
MRSI	**Marisa**	**10.80**	**307**	P		**Pn**	**08 43 13.1**	**+1.0**
	67nm,0.7s,1μm							
SPSI	**Sidrap Palu**	**10.93**	**281**	P		Pn	08 43 17.4	+3.7
	60nm,0.7s							
TTSI	**Tana Toraja**	**11.10**	**286**	P		**P**	**08 43 22.4**	**-2.4**
FITZ	**Fitzroy Crossi**	**12.80**	**201**	P		**Pn**	**08 43 35.3**	**-2.8**
FITZ				S		Sn	08 45 52.1	-7.4
FITZ	**Fitzroy Crossi**	**12.80**	**201**	P		**Pn**	**08 43 35.3**	**-2.8**
	24nm,0.3s,baz=35,slow=10.0,SNR=164							
FITZ				S		Sn	08 45 52.1	-7.4
	18nm,0.3s,baz=95,slow=22,SNR=7.3							
FITZ				LR		LR	08 48 21.3	
	comp=Z,103nm,19.5s,baz=11,slow=36							
WRAB	**Tennant Creek**	**14.19**	**165**	*e*Pn		**Pn**	**08 43 54.1**	**-1.9**
	80nm,0.5s							
WRAB				*e*S		Sn	08 46 24.1	-9.1
WRA	**Warramunga Arr**	**14.20**	**165**	P		**Pn**	**08 43 53.0**	**-3.1**
WRA				S		Sn	08 46 22.2	-11
WRA	**Warramunga Arr**	**14.20**	**165**	P		**Pn**	**08 43 53.0**	**-3.1**
	11nm,0.3s,baz=348,slow=13,SNR=79							
WRA				S		Sn	08 46 22.2	-11
	10nm,0.3s,baz=348,slow=22,SNR=10							
COEN	**Coen**	**14.67**	**123**	*e*Pn		**P**	**08 44 04.1**	**-0.5**
MTKI	**Muara Teweh, K**	**16.43**	**288**	P		**P**	**08 44 26.3**	**+2.3**
	144nm,1.0s,7μm							
KMMI	**Kalianget**	**16.47**	**266**	P		P	08 44 29.8	+5.3
PMG	**Port Moresby**	**16.80**	**102**	P		**Pn**	**08 44 31.4**	**+3.1**
PMG	**Port Moresby**	**16.80**	**102**	P		**Pn**	**08 44 31.4**	**+3.1**
	1.2nm,0.3s,baz=295,slow=14,SNR=4.1							
BLJI	**Banyuglugur**	**16.88**	**264**	P		**Pn**	**08 44 31.3**	**+2.1**
	316nm,0.8s,3μm							
GMJI	**Gumukmas**	**17.07**	**262**	P		**Pn**	**08 44 34.6**	**+3.0**
	78nm,0.9s							
ASAR	**Alice Springs**	**17.71**	**170**	P		**Pn**	**08 44 40.3**	**+1.0**
ASAR				S		**S**	**08 47 54.7**	**-0.5**
ASAR	**Alice Springs**	**17.71**	**170**	P		**Pn**	**08 44 40.3**	**+1.0**
	14nm,0.3s,baz=342,slow=9.5,SNR=594							
ASAR				S		**S**	**08 47 54.7**	**-0.5**
	3.5nm,0.3s,baz=350,slow=22,SNR=7.3							
ASAR				LR		LR	08 51 49.6	
	comp=Z,107nm,20.9s,baz=81,slow=38							
SDKM	**Sandakan**	**17.73**	**311**	P		**Pn**	**08 44 41.0**	**+1.5**
KRKI	**Karangkates**	**18.04**	**263**	P		**Pn**	**08 44 44.6**	**+1.5**
	282nm,0.8s							
MBWA	**Marble Bar**	**18.21**	**214**	*e*P		**P**	**08 44 44.5**	**+0.9**
	517nm,2.8s							
MBWA				*e*S		S	08 47 55.6	-9.4
PWJI	**Pagerwojo**	**18.67**	**263**	P		**P**	**08 44 49.9**	**+1.3**
	76nm,0.7s,13μm							
SJI	**Sawahan**	**18.68**	**264**	P		**P**	**08 44 50.3**	**+1.4**
	77nm,1.0s,7μm							
KKM	**Kota Kinabalu**	**18.73**	**310**	*e*P		**P**	**08 44 49.6**	**+0.2**
	95nm,1.0s							
KKM	**Kota Kinabalu**	**18.73**	**310**	P		**P**	**08 44 50.0**	**+0.6**
KKM	**Kota Kinabalu**	**18.73**	**310**	P		**P**	**08 44 49.8**	**+0.4**
	101nm,0.8s,1μm							
STKI	**Sintang**	**19.99**	**287**	P		**P**	**08 45 04.5**	**+1.6**
	58nm,0.9s,39μm							
SBUM	**Sibu**	**20.17**	**295**	P		**P**	**08 45 05.6**	**+0.6**
SBUM	**Sibu**	**20.17**	**295**	P		**P**	**08 45 05.1**	**+0.2**
	66nm,1.2s,614nm							
CTA	**Charters Tower**	**20.62**	**134**	P		**P**	**08 45 10.4**	**+0.7**
CTA				S		Sn	08 49 06.8	-0.5
CTA	**Charters Tower**	**20.62**	**134**	P		**P**	**08 45 10.4**	**+0.7**
	5.6nm,0.6s,baz=324,slow=14,SNR=6.3							
CTA				S		Sn	08 49 06.8	-0.5
	6.2nm,0.9s,baz=6.9,slow=20,SNR=2.3							
BJII	**Banjamegara**	**20.70**	**266**	P		Pn	08 45 15.2	+0.6
	61nm,1.1s							
KSM	**Kuching**	**21.56**	**290**	*e*P		**P**	**08 45 19.3**	**-0.5**
	41nm,0.9s							
KSM	**Kuching**	**21.56**	**290**	P		**P**	**08 45 22.0**	**+2.2**
KSM	**Kuching**	**21.56**	**290**	P		**P**	**08 45 21.5**	**+1.7**
	48nm,0.9s							
CISI	**Cisompet, Garu**	**22.59**	**265**	P		**P**	**08 45 29.9**	**-0.3**
	339nm,1.0s,3μm							
LEM	**Lembang**	**22.77**	**267**	P		**P**	**08 45 33.5**	**+1.4**
	124nm,0.9s							
DBJI	**Dramaga**	**23.63**	**268**	P		**P**	**08 45 41.3**	**+1.4**
FORT	**Forrest**	**24.61**	**185**	*e*P		**P**	**08 45 49.7**	**+1.2**
	92nm,0.6s							
KLSI		**25.71**	**272**	P		P	08 46 04.0	+5.2
STKA	**Stephens Creek**	**27.61**	**159**	P		**P**	**08 46 16.9**	**+1.4**
STKA				pP		**pP**	**08 46 44.4**	**-0.7**
STKA	**Stephens Creek**	**27.61**	**159**	P		**P**	**08 46 16.9**	**+1.4**
	5.3nm,0.4s,baz=339,slow=7.7,SNR=43							
STKA				pP		**pP**	**08 46 44.4**	**-0.7**
	9.5nm,0.7s,baz=329,slow=10,SNR=5.5							
STKA				LR		LR	08 57 57.4	
	comp=Z,68nm,20.6s,baz=206,slow=37							
NWAO	**Narrogin (SRO)**	**29.37**	**203**	P		**P**	**08 46 31.6**	**+0.5**
NWAO	**Narrogin (SRO)**	**29.37**	**203**	P		**P**	**08 46 31.6**	**+0.5**
	9.9nm,0.6s,baz=42,slow=11,SNR=14							
NWAO				LR		LR	08 59 45.6	
	comp=Z,67nm,19.0s,baz=24,slow=39							
KULM	**Kulim**	**31.91**	**290**	*e*P		**P**	**08 46 52.3**	**-1.5**
	20nm,0.7s							
QIZ	**Qiongzhong**	**32.27**	**321**	P		**P**	**08 46 57.0**	**+0.2**
QIZ				S		**S**	**08 52 00.8**	**+0.6**
QIZ				pmax		pmax		
	comp=Z,12nm,1.6s							
UBPT	**Khong Chiam**	**32.71**	**311**	P		**P**	**08 47 00.5**	**-0.1**
	comp=Z,48nm,0.9s,comp=Z,3μm							
PSI	**Prapat**	**32.78**	**285**	P		**P**	**08 46 59.2**	**-2.3**
PSI	**Prapat**	**32.78**	**285**	P		**P**	**08 46 59.2**	**-2.3**
	comp=Z,41nm,0.9s,baz=148,slow=6.1,SNR=12							
CHAI	**Chaiyaphum**	**35.75**	**308**	P		**P**	**08 47 26.0**	**-0.9**
	comp=Z,28nm,0.5s,comp=Z,365nm							
PBKT	**Sadao Pong**	**36.93**	**308**	P		**P**	**08 47 36.3**	**-0.6**
	comp=Z,23nm,0.8s							
LOEI	**Loei**	**37.26**	**310**	P		**P**	**08 47 36.6**	**-3.1**
	comp=Z,43nm,1.0s							
LAMP	**Lampang**	**39.10**	**309**	P		**P**	**08 47 55.3**	**+0.2**
	comp=Z,12nm,0.8s							
NJ2	**Nanjing**	**39.59**	**344**	*e*P		P	08 48 02.3	+3.4
NJ2				pmax		pmax		
	comp=Z,10.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**39.60**	**309**	P		**P**	**08 47 56.7**	**-2.5**
CMAR				PcP		**PcP**	**08 50 05.0**	**+1.2**
CMAR				ScP		**ScP**	**08 53 39.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**39.60**	**309**	P		**P**	**08 47 56.7**	**-2.5**
	comp=Z,14nm,0.8s,baz=142,slow=7.1,SNR=60							
CMAR				PcP		**PcP**	**08 50 05.0**	**+1.2**
	comp=Z,3.5nm,0.7s,baz=160,slow=2.8,SNR=7.5							
CMAR				ScP		**ScP**	**08 53 39.0**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=143,slow=3.1,SNR=4.3							
CMMT	**Chiang Mai**	**39.80**	**309**	P		**P**	**08 48 00.5**	**-0.4**
	comp=Z,39nm,0.9s							
CHTO	**Chiang Mai**	**39.80**	**309**	*e*P		**P**	**08 48 00.1**	**-0.9**
	comp=Z,31nm,0.9s							
CHTO	**Chiang Mai**	**39.80**	**309**	P		**P**	**08 48 00.7**	**-0.2**
	comp=Z,44nm,0.9s							
GYA	**Guiyang**	**39.83**	**326**	P		**P**	**08 48 03.8**	**+2.6**
GYA				pP		pP	08 48 44.3	+12
GYA				PP		**PnPn**	**08 49 42.0**	**+1.7**
GYA				PcP		**PcP**	**08 50 05.0**	**+0.4**
GYA				ScP		**ScP**	**08 53 35.5**	**-5.2**
GYA				PcS		**PcS**	**08 53 55.0**	**-0.1**
GYA				S		**S**	**08 53 56.0**	**+0.5**
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,110nm,4.8s							
CMAI	**Chiengmai2**	**40.38**	**311**	P		**P**	**08 48 05.9**	**0.0**
	comp=Z,30nm,0.9s,comp=Z,4μm							
KMI	**Kunming**	**41.19**	**320**	P		**P**	**08 48 14.0**	**+1.4**
KMI				pmax		pmax		
	comp=Z,12nm,0.7s							
ENH	**Enshi**	**41.46**	**332**	*e*P		**P**	**08 48 13.3**	**-1.1**
	comp=Z,5.5nm,0.6s							
MAJO	**Matsushiro**	**43.08**	**9**	*e*P		**P**	**08 48 28.2**	**+0.8**
	comp=Z,13nm,1.1s							
MAT	**Matsushiro**	**43.08**	**9**	P		**P**	**08 48 25.9**	**-1.5**
MJAR	**Matsushiro Arr**	**43.08**	**9**	P		**P**	**08 48 26.5**	**-0.9**
MJAR	**Matsushiro Arr**	**43.08**	**9**	P		**P**	**08 48 26.5**	**-0.9**
	comp=Z,2.6nm,0.7s,baz=180,slow=9.5,SNR=12							
KSAR	**Wonju Array Be**	**43.44**	**357**	P		**P**	**08 48 29.8**	**-0.4**
KSAR				PcP		**PcP**	**08 50 16.5**	**+0.5**
KSRS	**Korea Array**	**43.45**	**357**	P		**P**	**08 48 29.8**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=172,slow=9.1,SNR=3.7							
KSRS				PcP		**PcP**	**08 50 16.5**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=195,slow=3.9,SNR=4.6							
CD2	**Chengdu**	**44.88**	**327**	*e*P		**P**	**08 48 44.8**	**+2.9**
CD2				pP		pP	08 49 26.0	+13
CD2				sP		sP	08 49 47.3	+18
CD2				PP		**PP**	**08 50 33.5**	**+3.9**
CD2				S		**S**	**08 55 08.8**	**-0.5**
CD2				sS		sS	08 56 21.0	+17
CD2				SS		**ScS**	**08 58 28.5**	**+3.4**
CD2				pmax		pmax		
	comp=Z,10.0nm,1.2s							
CD2				pmax		pmax		
	comp=Z,80nm,6.2s							
LZH	**Lanzhou**	**48.91**	**331**	*e*P		P	08 49 17.3	+4.0
LZH				pP		pP	08 49 58.8	+14
LZH				sP		sP	08 50 20.0	+19
LZH				pmax		pmax		
	comp=Z,14nm,1.0s							
HHC	**Hu-ho-hao-te**	**49.91**	**341**	*e*P		P	08 49 24.3	+3.6
HHC				sP		sP	08 50 27.8	+20
HHC				PP		PP	08 51 22.0	+5.0
HHC				S		**S**	**08 56 19.0**	**-1.4**
HHC				sS		sS	08 57 34.0	+18
HHC				pmax		pmax		
	comp=Z,79nm,1.2s							
HHC				pmax		pmax		
	comp=Z,310nm,8.4s							
CN2	**Changchun**	**49.93**	**355**	*e*P		P	08 49 24.3	+3.6
USRK	**Ussuriysk Arra**	**50.14**	**1**	P		**P**	**08 49 22.6**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=193,slow=7.3,SNR=5.5							
MDJ	**Mudanjiang**	**50.54**	**359**	P		P	08 49 28.5	+3.2
MDJ				S		**S**	**08 56 29.8**	**+1.0**
MDJ				pmax		pmax		
	comp=Z,3.0nm,0.6s							
MDJ				pmax		pmax		
	comp=Z,27nm,3.8s							
ASAJ	**Asahikawa**	**51.21**	**11**	LR		LR	09 09 27.8	
	comp=Z,41nm,19.4s,baz=136,slow=34							
LSA	**Lhasa**	**51.95**	**316**	P		**P**	**08 49 37.0**	**+0.3**
LSA				pmax		pmax		
	comp=Z,20nm,0.6s							
LSA	**Lhasa**	**51.95**	**316**	*e*P		**P**	**08 49 36.7**	**0.0**
	comp=Z,8.3nm,0.6s							
ODAN	**Odare**	**53.10**	**310**	*e*P		**P**	**08 49 44.4**	**-0.5**
	comp=Z,41nm,0.6s							
TAPN	**Taplejung**	**53.12**	**311**	*e*P		**P**	**08 49 44.7**	**-0.4**
	comp=Z,32nm,0.4s							
RAMN	**Ramite**	**53.75**	**310**	*e*P		**P**	**08 49 49.5**	**-0.1**
	comp=Z,130nm,0.6s							
JIRN	**Jiri**	**54.43**	**310**	*e*P		**P**	**08 49 54.3**	**-0.4**
GUN	**Gumba**	**54.79**	**310**	*e*P		**P**	**08 49 56.9**	**-0.4**
	comp=Z,87nm,0.6s							
PKI	**Pulchoki**	**54.98**	**310**	*e*P		**P**	**08 49 57.8**	**-0.8**
	comp=Z,17nm,0.4s							
PKIN	**Phulchoki**	**54.99**	**310**	*e*P		**P**	**08 49 58.2**	**-0.4**
	comp=Z,5.1nm,0.3s							
KKN	**Kakani**	**55.19**	**310**	*e*P		**P**	**08 49 59.4**	**-0.6**
DMN	**Daman**	**55.23**	**310**	*e*P		**P**	**08 49 59.9**	**-0.4**
	comp=Z,39nm,0.7s							
KOLN	**Koldanda**	**56.47**	**309**	*e*P		**P**	**08 50 08.8**	**-0.3**
	comp=Z,41nm,0.6s							
DANN	**Dangsing**	**56.63**	**310**	*e*P		**P**	**08 50 09.8**	**-0.5**
ULN	**Ulaanbaatar**	**57.63**	**341**	*e*P		**P**	**08 50 17.1**	**+0.3**
	comp=Z,10nm,0.8s							
SONM	**Songino Array**	**57.81**	**341**	P		**P**	**08 50 18.6**	**+0.6**
SONM				PcP		**PcP**	**08 51 09.5**	**+0.4**
SONM	**Songino Array**	**57.81**	**341**	P		**P**	**08 50 18.6**	**+0.6**
	comp=Z,3.9nm,0.6s,baz=164,slow=6.5,SNR=18							
SONM				PcP		**PcP**	**08 51 09.5**	**+0.4**
	comp=Z,2.6nm,0.5s,baz=158,slow=4.7,SNR=5.5							
WMQ	**Urumqi**	**62.98**	**326**	P		**P**	**08 50 55.0**	**+1.9**
PETK	**Petropavlovsk-**	**63.36**	**18**	P		**P**	**08 50 56.1**	**+0.6**
PETK				PcP		**PcP**	**08 51 31.2**	**0.0**
PETK	**Petropavlovsk-**	**63.36**	**18**	P		**P**	**08 50 56.1**	**+0.6**
	comp=Z,3.1nm,0.6s,baz=175,slow=3.6,SNR=7.6							
PETK				PcP		**PcP**	**08 51 31.2**	**0.0**
	comp=Z,2.0nm,0.5s,baz=189,slow=5.0,SNR=4.4							
KSH	**Kashi**	**67.75**	**317**	P		**P**	**08 51 25.0**	**+0.9**
KSH				sP		sP	08 52 30.8	+18
KSH				PP		**PP**	**08 53 58.5**	**+3.1**
KSH				PcS			08 55 53.3	
KSH				S		**S**	**09 00 06.8**	**-4.2**
KSH				sS		ScS	09 01 23.8	+14
KSH				SS		**SS**	**09 04 32.8**	**-2.4**
KSH				pmax		pmax		
	comp=Z,9.0nm,0.9s							
KSH				pmax		pmax		
	comp=Z,130nm,5.8s							
KSH				LR		LR		
	comp=N,290nm,13.3s							
KSH				LR		LR		
	comp=E,110nm,9.2s							
KSH				LR		LR		
	comp=Z,160nm,6.0s							
MKAR	**Makanchi Array**	**67.81**	**326**	P		**P**	**08 51 24.6**	**+0.4**
MKAR	**Makanchi Array**	**67.81**	**326**	P		**P**	**08 51 24.6**	**+0.4**
	comp=Z,36nm,0.4s,baz=114,slow=8.0,SNR=529							
KZA	**Kyzart**	**69.47**	**319**	P		**P**	**08 51 36.3**	**+1.2**
	SNR=16							
TKM2	**Tokmak 2**	**69.67**	**320**	P		**P**	**08 51 36.6**	**+0.7**
	SNR=15							
TKM2	**Tokmak 2**	**69.67**	**320**	*e*P		**P**	**08 51 36.3**	**+0.3**
	comp=Z,18nm,0.8s							
KBK	**Karagaybulak**	**69.95**	**320**	P		**P**	**08 51 38.5**	**+0.9**
	SNR=7.7							
AAK	**Ala-Archa**	**70.23**	**319**	P		**P**	**08 51 40.4**	**+0.9**
	SNR=7.3							
AAK	**Ala-Archa**	**70.23**	**319**	*e*P		**P**	**08 51 40.3**	**+0.9**
AAK	**Ala-Archa**	**70.23**	**319**	P		**P**	**08 51 40.1**	**+0.7**
	comp=Z,9.1nm,0.4s,baz=112,slow=5.0,SNR=14							
AML	**Almayashu**	**70.52**	**319**	P		**P**	**08 51 42.4**	**+1.0**
	SNR=22							
USP	**Ospenovka**	**70.54**	**320**	P		**P**	**08 51 41.7**	**+0.6**
	SNR=24							
EKS2	**Erkin-Say**	**70.71**	**319**	P		**P**	**08 51 43.1**	**+0.8**
	SNR=13							
EKS2	**Erkin-Say**	**70.71**	**319**	*e*P		**P**	**08 51 42.6**	**+0.3**
	comp=Z,17nm,0.8s							
ZALV	**Zalesovo Beam**	**71.06**	**333**	P		**P**	**08 51 43.4**	**-0.5**
ZALV	**Zalesovo Beam**	**71.06**	**333**	P		**P**	**08 51 43.4**	**-0.5**
	comp=Z,8.9nm,0.5s,baz=121,slow=5.3,SNR=22							
KURBB	**Kurchatov Arra**	**72.07**	**328**	P		**P**	**08 51 50.0**	**0.0**
	comp=Z,20nm,0.7s,baz=131,slow=4.9,SNR=9.2							
KURK	**Kurchatov**	**72.07**	**328**	P		**P**	**08 51 50.0**	**-0.1**
KKAR	**Karatay Array**	**73.05**	**318**	*e*P		**P**	**08 51 56.3**	**+0.2**
	comp=Z,9.8nm,0.8s							
VNDA	**Vanda**	**73.22**	**173**	P		**P**	**08 51 57.5**	**+1.1**
VNDA	**Vanda**	**73.22**	**173**	P		**P**	**08 51 57.5**	**+1.1**
	comp=Z,3.1nm,0.8s,baz=317,slow=6.2,SNR=17							
MAW	**Mawson**	**75.92**	**201**	P		**P**	**08 52 13.4**	**+1.3**
MAW	**Mawson**	**75.92**	**201**	P		**P**	**08 52 13.4**	**+1.3**
	comp=Z,6.5nm,0.5s,baz=81,slow=6.3,SNR=29							
BVAR	**Borovoye Array**	**77.63**	**328**	P		**P**	**08 52 21.8**	**-0.1**
BVAR	**Borovoye Array**	**77.63**	**328**	P		**P**	**08 52 21.8**	**-0.1**
	comp=Z,7.1nm,0.5s,baz=131,slow=6.1,SNR=36							
BRVK	**Borovoye**	**77.70**	**328**	*e*P		**P**	**08 52 22.2**	**-0.2**
	comp=Z,13nm,0.8s							
TBI	**Tubuai**	**78.44**	**112**	*e*T		T	08 53 35.9	
	comp=Z,24nm,0.3s							
AKTO	**Aktyubinsk**	**83.72**	**322**	P		**P**	**08 52 54.1**	**-0.3**
AKTO	**Aktyubinsk**	**83.72**	**322**	P		**P**	**08 52 54.1**	**-0.3**
	comp=Z,5.2nm,0.7s,baz=105,slow=7.5,SNR=19							
SYO	**Syowa Base**	**84.63**	**201**	‖*e*P		**P**	**08 52 57.0**	**-1.7**
SYO	**Syowa Base**	**84.63**	**201**	‖*e*PcP		**P**	**08 53 01.0**	**+2.3**
RAYN	**Ar Rayn**	**87.88**	**294**	*e*P		**P**	**08 53 15.5**	**-0.1**
COLD	**Coldfoot**	**91.49**	**22**	*e*P		**P**	**08 53 31.5**	**0.0**
	comp=Z,5.5nm,0.9s							
ILAR	**Eielson Array**	**92.36**	**25**	P		**P**	**08 53 33.8**	**-1.8**
ILAR				pP		**pP**	**08 54 08.4**	**-2.6**
ILAR	**Eielson Array**	**92.36**	**25**	P		**P**	**08 53 33.8**	**-1.8**
	comp=Z,1.9nm,0.7s,baz=270,slow=4.2,SNR=29							
ILAR				pP		**pP**	**08 54 08.4**	**-2.6**
	comp=Z,0.2nm,0.5s,baz=248,slow=4.5,SNR=1.2							
KMBO	**Kilima Mbogo**	**93.13**	**269**	P		**P**	**08 53 40.7**	**+0.2**
KMBO	**Kilima Mbogo**	**93.13**	**269**	P		**P**	**08 53 40.7**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=182,slow=22,SNR=4.3							
EGAK	**Eagle**	**94.80**	**25**	*e*P		**P**	**08 53 46.0**	**-0.8**
	comp=Z,3.8nm,0.9s							
DAWY	**Dawson**	**95.53**	**26**	*e*P		**P**	**08 53 49.8**	**-0.3**
BRTR	**Keskin Array B**	**99.19**	**309**	P		**Pdif**	**08 54 06.2**	**-1.1**
BRTR	**Keskin Array B**	**99.19**	**309**	P		**Pdif**	**08 54 06.2**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=120,slow=5.6,SNR=4.1							
ARCES	**ARCESS Array B**	**100.97**	**340**	P		**Pdif**	**08 54 13.3**	**-1.0**
**

WRA	Warramunga Arr	50.23	127	P		P	09 14 46.9	-0.6
	1.3nm,0.8s,baz=304,slow=8.9,SNR=7.6							
ASAR	Alice Springs	51.98	131	P		P	09 15 01.0	+0.4
	1.5nm,0.8s,baz=310,slow=7.2,SNR=9.3							

IDC 29 09:06:22.2±5.6, 10°09'N×93°32'E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/26, mbtmp4.0/5, MS3.3/1, Ms1 3.3/1, ms1mx2.4/46, Error ellipse: s-maj=296.3km s-min=21.0km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	37.77	348	P	P	09 13 39.7	-0.3
	1.0nm,0.9s,baz=164,slow=8.1,SNR=3.7						
KURBB	Kurchatov Arra	42.22	346	P	P	09 14 16.9	0.0
	0.6nm,0.2s,baz=165,slow=7.7,SNR=3.4						
ZALV	Zalesovo Beam	44.27	353	P	P	09 14 33.2	-0.2
	0.6nm,0.4s,baz=188,slow=9.9,SNR=2.7						
BVAR	Borovoye Array	46.65	341	LR	LR	09 37 31.5	
	comp=Z,38nm,20.2s,baz=12,slow=40						
WRA	Warramunga Arr	50.21	127	P	P	09 15 19.9	-0.4
	2.0nm,0.8s,baz=304,slow=9.1,SNR=6.7						
ASAR	Alice Springs	51.95	131	P	P	09 15 33.6	+0.2
	3.1nm,1.0s,baz=309,slow=7.6,SNR=8.8						

*IDC **29** 09:09:55.6±0.5, 10°.84S×164°.92E, h0km, mb4.5/25, mb1 4.7/27, mb1mx4.6/31, mbtmp4.6/27, ML5.1/2, MS4.3/14, Ms1 4.3/14, ms1mx4.0/38, Error ellipse: s-maj=15.7km s-min=12.7km az=108.0*

*NEIC **29** 09:09:57.2±0.2, 10°.80S×164°.95E, h10km, mb5.0/22, Error ellipse: s-maj=6.6km s-min=5.1km az=150.0*

*ISCJB **29** 09:09:58.9±0.2, 10°.85S±0°.04×164°.96E±0°.04, h31km, mb4.8/55, MS4.5/21, Error ellipse: s-maj=5.3km s-min=5.1km az=152.9*

*BJI **29** 09:09:58.9, 10°.46S×164°.59E, h10km, mB5.1/24, mb4.9/35, Ms5.2/18, Ms7 4.8/18*

*GCMT **29** 09:09:59.4±0.2, 10°.76S×164°.88E, h13km±1km, MW5.0, Moment Tensor Solution. s41,c55; s69,c109; Moment tensor: Scale 10^{16}Nm; M_{rr}0.76±.12; $M_{\theta\theta}$0.87±.10; $M_{\phi\phi}$-1.63±.11; $M_{r\theta}$-0.37±.25; $M_{\theta\phi}$3.18±.12; $M_{\phi r}$-1.69±.34; Best double couple: M_o3.90000×10^{16} NP1:ϕ_s282.00000°, δ62.00000°, λ.8.00000°. NP2:ϕ_s188.00000°, δ83.00000°, λ151.00000°. Principal axes: T 3.6300, Plg25.0000°, Azm141.0000°; N 0.4700, Plg61.0000°, Azm355.0000°; P -4.1000, Plg14.0000°, Azm238.0000°; Data Used: II IU IC G CN.*

*AUST **29** 09:10:01.1±1.4, 10°.55S×164°.88E, h42km Error ellipse: s-maj=1.6km s-min=1.0km az=3.0*

ISC 29 09:10:00.5±0.3, 10°.85S±0°.05×165°.00E±0°.05, h31km, n170, σ1§51/191, mb4.8/55, MS4.5/21, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.17	285	ePn	Pn	09 11 15.2	-0.5
HNR				Sn	Sn	09 12 14.9	+0.4
HNR	Honiara	5.17	285	Pn	Pn	09 11 15.4	-0.4
	44nm,0.3s,baz=96,slow=9.2,SNR=26						
HNR				Sn	Sn	09 12 14.9	+0.4
	15nm,0.3s,baz=342,slow=10,SNR=3.6						
DZM	Mont Dzumac	11.24	173	ePn	Pn	09 12 39.9	+0.8
	60nm,0.3s						
DZM				eLR	LR	09 15 12.8	
	2μm,23.4s						
DZM	Mont Dzumac	11.24	173	eP	Pn	09 12 39.5	+0.3
DZM	Mont Dzumac	11.24	173	ePn	Pn	09 12 39.8	+0.6
	68nm,0.5s						
DZM				eSn	Sn	09 14 40.4	-3.4
DZM				Sn	Sn	09 14 45.2	+1.3
DZM	Mont Dzumac	11.24	173	Pn	Pn	09 12 40.0	+0.8
	22nm,0.3s,baz=360,slow=14,SNR=155						
DZM				Sn	Sn	09 14 45.2	+1.4
	baz=82,slow=22,SNR=3.2						
DZM				LR	LR	09 16 11.7	
	comp=Z,2μm,19.8s,baz=180,slow=33						
NOUC	Port Laguerre	11.25	174	eP	Pn	09 12 41.1	+1.9
FUNA	Funafuti	14.18	82	ePn	Pn	09 13 18.8	-0.5
MSVF	Nonsavu	14.37	120	ePn	Pn	09 13 22.2	+0.2
TARA	Tarawa	14.46	33	ePn	Pn	09 13 22.1	-1.0
EIDS	Eidsvold	19.55	221	ePn	Pn	09 14 28.2	+1.0
	25nm,0.8s						
EIDS	Eidsvold	19.55	221	P	Pn	09 14 28.7	+1.4
	baz=20,SNR=7.5						
CTA	Charters Tower	20.25	241	P	P	09 14 32.5	-1.0
CTA	Charters Tower	20.25	241	P	P	09 14 32.5	-1.0
	33nm,0.9s,baz=58,slow=13,SNR=13						
CTA				LR	LR	09 21 04.8	
	comp=Z,807nm,20.3s,baz=338,slow=33						
CTAO	Charters Tower	20.25	241	eP	P	09 14 33.1	-0.3
MTSU	Mount Surprise	21.28	248	P	P	09 14 44.2	-0.4
	baz=21,SNR=7.0						
COEN	Coen	21.54	260	eP	P	09 14 45.7	-1.6
	192nm,1.1s						
RMQ	Roma	21.84	222	P	P	09 14 52.0	+1.5
	baz=22,SNR=25						
AFI	Afiamalu	22.88	100	eP	P	09 15 00.2	-1.6
	97nm,1.2s						
AFI	Afiamalu	22.88	100	LR	LR	09 22 01.7	
	comp=Z,754nm,21.2s,baz=259,slow=32						
ARMA	Armidale	23.10	211	P	P	09 15 05.5	+1.6
	baz=23,SNR=6.6						
MGCD	Mangrove Creek	25.65	208	P	P	09 15 29.9	+2.4
	baz=26,SNR=8.1						
CMSA	Cobar Meteorol	27.26	218	P	P	09 15 42.8	+0.8
	baz=28,SNR=18						
URZ	Urewera	29.37	160	P	P	09 16 02.4	+1.6
URZ	Urewera	29.37	160	P	P	09 16 02.4	+1.6
	8.9nm,0.7s,baz=328,slow=11,SNR=7.9						
URZ				LR	LR	09 26 42.6	
	comp=Z,1μm,18.1s,baz=171,slow=34						
WAKE	Wake Island	29.99	3	eP	P	09 16 06.8	+0.4
	861nm,2.2s						
STKA	Stephens Creek	30.08	222	P	P	09 16 07.8	+0.5
STKA	Stephens Creek	30.08	222	P	P	09 16 07.8	+0.5
	23nm,0.8s,baz=35,slow=10.0,SNR=38						
STKA				LR	LR	09 27 31.6	
	comp=Z,610nm,18.6s,baz=37,slow=35						
STKA	Stephens Creek	30.08	222	P	P	09 16 07.9	+0.7
	baz=30,SNR=36						
WRAB	Tennant Creek	30.85	249	P	P	09 16 09.9	-4.3
	9.3nm,0.8s						
WRA	Warramunga Arr	30.86	249	P	P	09 16 11.9	-2.4
WRA	Warramunga Arr	30.86	249	P	P	09 16 11.9	-2.4
	3.2nm,0.5s,baz=79,slow=9.6,SNR=28						
WRA				LR	LR	09 27 24.0	
	comp=Z,740nm,20.7s,baz=70,slow=34						
ASAR	Alice Springs	32.23	243	P	P	09 16 23.9	-2.4
ASAR	Alice Springs	32.23	243	P	P	09 16 23.9	-2.4
	3.7nm,0.9s,baz=73,slow=9.6,SNR=20						
ASAR				LR	LR	09 28 56.8	
	comp=Z,668nm,18.1s,baz=66,slow=36						
RPZ	Rata Peaks	33.16	172	LR	LR	09 28 54.7	
	comp=Z,747nm,18.4s,baz=142,slow=34						
BBOO	Buckleboo	34.43	226	eP	P	09 16 45.8	+0.5
	443nm,0.8s						
BBOO	Buckleboo	34.43	226	P	P	09 16 45.4	+0.1
	baz=35,SNR=17						
KNRA	Kununurra	35.56	258	P	P	09 16 52.8	-2.5
	baz=36,SNR=6.6						
FITZ	Fitzroy Crossi	38.73	255	P	P	09 17 19.3	-2.8
	6.6nm,0.9s						
FITZ	Fitzroy Crossi	38.73	255	P	P	09 17 19.3	-2.8
	5.5nm,0.7s,baz=81,slow=4.9,SNR=13						
FITZ				LR	LR	09 32 22.1	
	comp=Z,700nm,19.6s,baz=78,slow=35						
FITZ	Fitzroy Crossi	38.73	255	P	P	09 17 19.6	-2.5
	baz=39,SNR=7.3						
FORT	Forrest	39.56	234	eP	P	09 17 32.3	+3.4
	46nm,0.9s						
LUWI	Luwuk	43.06	280	S	S	09 24 22.9	+0.8
	baz=43,SNR=3.8						
PPT	Papeete	44.45	104	LR	LR	09 32 40.8	
	comp=Z,329nm,22.0s,baz=161,slow=31						
PPT2	Papeete2	44.45	104	eS	S	09 24 47.6	+5.1
	77nm,24.5s						
PPT2				eLQ	LQ	09 28 39.5	
	756nm,27.0s						
PPT2				eLR	LR	09 30 35.6	
	438nm,24.0s						
TBI	Tubuai	45.08	112	eLQ	LQ	09 28 58.5	
	1μm,30.2s						
TBI				eLR	LR	09 30 48.7	
	269nm,28.2s						
MEEK	Meekatharra	46.38	244	P	P	09 18 23.5	-0.8
	baz=46,SNR=4.9						
KKM	Kota Kinabalu	51.38	287	eP	P	09 19 01.3	-1.7
MJAR	Matsushiro Arr	53.47	333	P	P	09 19 17.3	-0.6
MJAR	Matsushiro Arr	53.47	333	P	P	09 19 17.3	-0.6
	1.7nm,0.8s,baz=161,slow=9.1,SNR=5.0						
MAT	Matsushiro	53.47	333	P	P	09 19 17.3	-0.6
MAT				S	S	09 26 48.6	0.0
JNU	Nakatsue	54.50	325	P	P	09 19 25.7	+0.2
JNU	Nakatsue	54.50	325	P	P	09 19 25.7	+0.2
	7.8nm,0.9s,baz=124,slow=6.2,SNR=4.9						
TPUB	Ta-pu	55.11	308	eP	P	09 19 28.5	-1.6
	14nm,0.8s						
RKT	Rikitea	58.34	110	eLQ	LQ	09 34 30.3	
	423nm,32.2s						
RKT				eLR	LR	09 36 55.1	
	261nm,24.2s						
ASAJ	Asahikawa	58.38	341	P	P	09 19 54.0	+1.2
ASAJ	Asahikawa	58.38	341	P	P	09 19 54.0	+1.2
	8.5nm,0.8s,baz=239,slow=9.5,SNR=6.7						
ASAJ				LR	LR	09 41 43.4	
	comp=Z,187nm,19.6s,baz=350,slow=33						
KSRS	Korea Array	59.31	326	P	P	09 19 59.8	+0.3
	1.6nm,0.9s,baz=139,slow=7.8,SNR=5.9						
KSAR	Wonju Array Be	59.32	326	P	P	09 19 59.8	+0.2
NJ2	Nanjing	61.37	316	eP	P	09 20 15.3	+1.6
NJ2				pmax	pmax		
	comp=Z,30nm,1.2s						
QIZ	Qiongzhong	61.95	298	P	P	09 20 18.3	+0.5
QIZ				S	S	09 28 43.5	+3.2
USRK	Ussuriysk Arra	62.45	334	P	P	09 20 21.0	+0.4
	comp=Z,2.0nm,0.9s,baz=134,slow=5.5,SNR=17						
MDJ	Mudanjiang	63.84	333	P	P	09 20 30.3	+0.4
MDJ				pP	pP	09 20 33.3	-6.2
MDJ				sP	sP	09 20 35.0	-8.2
MDJ				PcP	PcP	09 21 03.8	-1.7
MDJ				PP	PP	09 22 50.3	-0.4
MDJ				S	S	09 29 09.5	+6.3
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,59nm,3.8s						
MDJ				LR	LR		
	comp=N,210nm,21.9s						
MDJ				LR	LR		
	comp=E,190nm,19.3s						
MDJ				LR	LR		
	comp=Z,310nm,10.3s						
FX1	Attu Island--F	63.87	6	P	P	09 20 29.9	0.0
FX1	Attu Island--F	63.87	6	P	P	09 20 29.9	0.0
	comp=Z,9.1nm,0.7s,baz=180,slow=3.0,SNR=5.9						
ADK	Adak	64.45	12	eP	P	09 20 30.3	-3.5
	comp=Z,75nm,1.3s						
CN2	Changchun	65.20	329	eP	P	09 20 39.3	+0.5
CN2				eS	S	09 29 24.0	+4.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CN2				LR	LR		
	comp=N,100nm,18.0s						
CN2				LR	LR		
	comp=E,200nm,18.0s						
CN2				LR	LR		
	comp=Z,400nm,25.0s						
VNDA	Vanda	66.67	181	P	P	09 20 49.2	+1.4
VNDA	Vanda	66.67	181	P	P	09 20 49.2	+1.4
	comp=Z,12nm,1.1s,baz=359,slow=6.7,SNR=29						
SBA	Scott Base	67.00	180	eP	P	09 20 52.2	+2.4
	comp=Z,24nm,0.9s						
ENH	Enshi	67.21	309	eP	P	09 20 50.9	-1.1
	comp=Z,5.1nm,0.4s						
GYA	Guiyang	67.71	304	eP	P	09 20 55.8	+0.4
GYA				PP	PP	09 23 27.5	+2.4
GYA				ScP		09 25 26.0	
GYA				S	S	09 29 52.3	+1.0
GYA				SKS	SKiKP	09 30 49.8	-1.2
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,110nm,5.4s						
GYA				LR	LR		
	comp=N,440nm,19.6s						
GYA				LR	LR		
	comp=E,320nm,20.3s						
GYA				LR	LR		
	comp=Z,400nm,18.9s						
KMI	Kunming	70.40	302	P	P	09 21 13.3	+1.0
KMI				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC	Hu-ho-hao-te	71.21	320	eP	P	09 21 18.0	+1.2
HHC				S	S	09 30 33.0	+0.9
HHC				sS	sS	09 30 40.0	-8.1
HHC				SS	SS	09 35 08.0	+1.3
HHC				pmax	pmax		
	comp=Z,89nm,1.2s						
HHC				pmax	pmax		
	comp=Z,280nm,4.5s						
HHC				LR	LR		
	comp=N,440nm,15.0s						
HHC				LR	LR		
	comp=E,500nm,16.2s						
HHC				LR	LR		
	comp=Z,600nm,16.5s						
CMAR	Chiang Mai Arr	71.37	294	P	P	09 21 18.1	+0.1
CMAR	Chiang Mai Arr	71.37	294	P	P	09 21 18.1	+0.1
	comp=Z,2.1nm,0.3s,baz=124,slow=5.0,SNR=8.5						
CD2	Chengdu	71.91	308	eP	P	09 21 22.0	+0.9
CD2				pP	pP	09 21 27.0	-3.8
CD2				sP	sP	09 21 29.3	-5.1
CD2				PcP	PcP	09 21 41.0	+1.3
CD2				PP	PP	09 24 03.5	+2.3
CD2				S	S	09 30 42.5	+2.2
CD2				sS	sS	09 30 49.8	-6.6
CD2				ScS	ScS	09 31 24.8	-0.2
CD2				pmax	pmax		
	comp=Z,30nm,1.0s						
CD2				pmax	pmax		
	comp=Z,120nm,5.2s						
LZH	Lanzhou	74.09	312	eP	P	09 21 35.8	+1.8
LZH				pP	pP	09 21 39.3	-4.5
LZH				sP	sP	09 21 42.5	-4.9
LZH				eS	SKiKP	09 31 00.3	+0.1
LZH				sS	sS	09 31 14.0	-7.3
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,5.7s						
LZH				LR	LR		
	comp=N,1μm,16.3s						
LZH				LR	LR		
	comp=E,580nm,10.1s						
LZH				LR	LR		
	comp=Z,520nm,19.2s						
KDAK	Kodiak Island	76.67	22	LR	LR	09 49 28.9	
	comp=Z,99nm,21.4s,baz=108,slow=31						
ULN	Ulaanbaatar	77.72	324	eP	P	09 21 55.1	+0.6
	comp=Z,8.9nm,0.9s						
SONM	Songino Array	78.08	324	P	P	09 21 56.6	+0.1
SONM	Songino Array	78.08	324	P	P	09 21 56.6	+0.1
	comp=Z,3.3nm,0.8s,baz=134,slow=6.4,SNR=10						
GTA	Gaotai	78.40	314	P	P	09 21 59.0	+0.6
GTA				pP	PcP	09 22 03.8	-3.8
GTA				sP	sP	09 22 06.3	-5.5
GTA				S	S	09 31 54.5	+2.1
GTA				sS	sS	09 32 01.5	-7.1
GTA				SKS	SKSac	09 32 07.5	-3.7
GTA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,91nm,5.2s						
GTA				LR	LR		
	comp=N,860nm,18.0s						
GTA				LR	LR		
	comp=E,2μm,19.2s						
GTA				LR	LR		
	comp=Z,1μm,20.4s						
SHL	Shillong	79.78	299	ex	P	09 22 08.0	+1.6
BMRM	Bremner River	81.83	22	eP	P	09 22 15.7	-0.6
	comp=Z,21nm,1.4s						
DIB	Dawson Inlet,	82.92	33	T	T	10 53 43.7	
	SNR=13						
COLA	College	83.33	18	eP	P	09 22 23.2	-0.8
	comp=Z,20nm,1.0s						
ILAR	Eielson Array	83.56	19	P	P	09 22 24.9	-0.3
ILAR	Eielson Array	83.56	19	P	P	09 22 24.9	-0.3
	comp=Z,1.3nm,0.8s,baz=225,slow=6.0,SNR=14						
YBH	Yreka Blue Hor	84.28	46	P	P	09 22 29.8	+0.3
	comp=Z,0.5nm,1.3s						
YBH	Yreka Blue Hor	84.28	46	P	P	09 22 29.8	+0.3
	comp=Z,2.2nm,0.8s,baz=175,slow=4.4,SNR=12						
COLD	Coldfoot	84.32	16	eP	P	09 22 30.5	+1.5
HUMO	Hull Mountain	84.41	45	eP	P	09 22 30.8	+0.7
MAW	Mawson	84.62	202	P	P	09 22 29.0	-1.7
MAW	Mawson	84.62	202	P	P	09 22 29.0	-1.7
	comp=Z,9.0nm,0.8s,baz=85,slow=7.8,SNR=5.0						
MAW	Mawson	84.62	202	P	P	09 22 32.3	+1.7
	baz=85,SNR=6.1						
CMB	Columbia Colle	84.78	50	eP	P	09 22 31.6	-0.5
EGAK	Eagle	85.45	20	eP	P	09 22 35.0	+0.3
	comp=Z,14nm,1.0s						
WAKR	Walker	85.63	50	eP	P	09 22 37.1	+0.6
EDW2	Edwards Air Fo	85.69	53	P	P	09 22 36.7	-0.1
	baz=86						
BFSC	Mount Baldy Ra	85.78	54	P	P	09 22 37.0	-0.3
	baz=86						
PAHR	Pah Rah Range	86.03	49	eP	P	09 22 38.7	+0.3
CWC	Cottonwood Cre	86.06	52	P	P	09 22 38.3	-0.4
	baz=86						
LRMC	Laurel Mountai	86.10	53	P	P	09 22 38.7	-0.1
	baz=86						
NVAR	Mina Array Bea	86.46	50	P	P	09 22 40.4	-0.2
NVAR	Mina Array Bea	86.46	50	P	P	09 22 40.4	-0.2
	comp=Z,2.6nm,0.9s,baz=231,slow=8.0,SNR=16						
PFO	Pinyon Flat Ob	86.57	55	P	P	09 22 40.7	-0.5
PFO	Pinyon Flat Ob	86.57	55	P	P	09 22 40.7	-0.5
	comp=Z,1.8nm,0.7s,baz=266,slow=6.1,SNR=3.7						
PFO	Pinyon Flat Ob	86.57	55	P	P	09 22 40.8	-0.5
	baz=87						
GRAC	Grapevine Rang	86.77	52	P	P	09 22 41.8	-0.1
	baz=87						
FURC	Furnace Creek,	87.02	52	P	P	09 22 43.0	-0.1
	baz=87						
BELC	Belle Mtn. Jos	87.04	55	P	P	09 22 43.1	-0.4
	baz=87						
WVOR	Wild Horse Val	87.38	46	eP	P	09 22 44.7	-0.2
	comp=Z,10.0nm,1.3s						
WMQ	Urumqi	88.44	315	P	P	09 22 50.8	+0.9
WMQ				pP	pP	09 22 55.5	-4.3
WMQ				sP	sP	09 22 57.8	-5.6
WMQ				PP	PP	09 26 21.5	+3.3
WMQ				SKS	SKSac	09 33 17.0	+0.2
WMQ				S	S	09 33 34.5	+0.9
WMQ				sS	ScS	09 33 42.5	+3.2
WMQ				pmax	pmax		
	comp=Z,12nm,0.4s						
WMQ				pmax	pmax		
	comp=Z,120nm,6.0s						
WMQ				LR	LR		
	comp=N,890nm,14.0s						
WMQ				LR	LR		
	comp=E,840nm,15.9s						
WMQ				LR	LR		
	comp=Z,670nm,21.4s						
R11A	Troy Canyon, C	88.49	51	P	P	09 22 50.0	-0.4
	baz=89						
BMO	Blue Mountains	89.00	44	eP	P	09 22 51.9	-0.6
	comp=Z,1.9nm,0.9s						
MFID	Camas Ranch	89.64	46	P	P	09 22 56.0	+0.5
	baz=90						
ARUT	Antelope Range	89.99	52	eP	P	09 22 57.6	+0.2
	comp=Z,5.4nm,1.1s						
CCUT	Cedar City	90.00	52	eP	P	09 22 58.1	+0.6
U15A	North Rim	90.58	53	P	P	09 23 00.5	+0.2
	baz=91						
HLID	Hailey	90.67	46	eP	P	09 23 00.7	+0.3
HLID	Hailey	90.67	46	P	P	09 23 00.6	+0.1
	baz=91						
DUG	Dugway	91.03	49	P	P	09 23 02.1	0.0
	baz=91						
BGU	Big Grassy Mou	91.04	49	eP	P	09 23 02.6	+0.4
MVU	Marysvale	91.10	51	eP	P	09 23 02.5	-0.2
	comp=Z,4.8nm,1.1s						
MSU	Marysvale	91.13	51	eP	P	09 23 03.6	+0.8
HVU	Hansel Valley	91.42	48	eP	P	09 23 04.2	+0.3
I14A	Mackay	91.43	46	P	P	09 23 04.1	+0.1
	baz=92						
MCMT	McKenzie Canyo	92.06	45	eP	P	09 23 07.0	+0.1
	comp=Z,1.7nm,1.0s						
CHMT	Chamberlain Mo	92.27	43	eP	P	09 23 07.6	-0.3
DLMT	Dillon	92.36	44	eP	P	09 23 08.1	-0.1
	comp=Z,11nm,1.1s						
LRM	Limekiln Ridge	92.56	44	eP	P	09 23 09.0	-0.2
A14A	Double T Ranch	92.63	41	P	P	09 23 09.5	+0.2
	baz=93						
I16A	Newdale	92.81	46	P	P	09 23 10.7	+0.4
	baz=93						
MKAR	Makanchi Array	92.88	317	P	P	09 23 10.1	-0.4
MKAR	Makanchi Array	92.88	317	P	P	09 23 10.1	-0.4
	comp=Z,6nm,0.8s,baz=98,slow=5.9,SNR=22						
C15A	Salmond Ranch,	92.89	42	P	P	09 23 09.7	-0.9
	baz=93						
ZALV	Zalesovo Beam	92.97	324	P	P	09 23 09.1	-1.6
ZALV	Zalesovo Beam	92.97	324	P	P	09 23 09.1	-1.6
	comp=Z,1.7nm,0.6s,baz=134,slow=4.3,SNR=6.1						
A15A	Johnson Ranch,	93.07	41	P	P	09 23 10.8	-0.6
	baz=93						
BOZ	Bozeman (W)	93.08	44	eP	P	09 23 11.3	-0.2
	comp=Z,4.7nm,1.2s						
C16A	Fuhringer Ranc	93.46	42	P	P	09 23 13.0	-0.2
	baz=94						
F17A	Fitzpatrick Pl	93.80	44	P	P	09 23 15.3	+0.5
	baz=94						
PDAR	Pinedale Array	93.96	47	P	P	09 23 14.9	-0.9
PDAR	Pinedale Array	93.96	47	P	P	09 23 14.9	-0.9
	comp=Z,1.2nm,0.9s,baz=258,slow=2.3,SNR=11						
PDAR				LR	LR	09 58 42.5	
	comp=Z,74nm,19.4s,baz=66,slow=31						
C17A	Wharram Farm,	94.08	42	P	P	09 23 15.8	-0.2
	baz=94						
V21A	Milan	94.14	55	P	P	09 23 16.1	-0.7
	baz=94						
B17A	L&G Farms, Che	94.18	42	P	P	09 23 16.5	0.0
	baz=94						
Q20A	Ridgley Place,	94.19	51	P	P	09 23 16.7	-0.2
	baz=94						
U21A	Nageezi	94.23	54	P	P	09 23 17.3	+0.1
	baz=94						
A17A	Triple J Farms	94.38	41	P	P	09 23 17.3	0.0
	baz=94						
ANMO	Albuquerque	94.94	56	P	P	09 23 19.3	-1.1
ANMO	Albuquerque	94.94	56	P	P	09 23 19.3	-1.1
	comp=Z,0.3nm,0.3s,baz=269,slow=6.5,SNR=4.0						
D19A	Cripps Ranch,	95.24	43	P	P	09 23 21.2	-0.2
	baz=95						
E20A	Meyer Farm, Mu	95.64	44	P	P	09 23 23.1	0.0
	baz=96						
C20A	Veseth Ranch,	95.92	43	P	P	09 23 23.9	-0.5
	baz=96						
KURK	Kurchatov	96.03	320	P	P	09 23 25.2	+0.5
KSH	Kashi	96.07	309	eP	P	09 23 28.8	+3.5
KSH				SKS	SKSac	09 34 03.8	+3.9
KSH				S	ScS	09 34 45.5	+2.4
KSH				sS	sS	09 34 53.5	-5.6
KSH				pmax	pmax		
	comp=Z,120nm,6.1s						
KSH				LR	LR		
	comp=N,410nm,11.7s						
KSH				LR	LR		
	comp=E,750nm,15.6s						
KSH				LR	LR		
	comp=Z,770nm,21.5s						
KURBB	Kurchatov Arra	96.07	320	P	P	09 23 25.2	+0.3
	comp=Z,0.6nm,0.2s,baz=110,slow=3.9,SNR=3.5						
TXAR	Lajitas Array	96.38	61	LR	LR	10 05 36.5	
	comp=Z,155nm,18.4s,baz=5.0,slow=35						
A21A	Bergtoll Ranch	96.83	42	P	P	09 23 28.2	-0.3
	baz=97						
D22A	Cohagen	97.06	43	P	P	09 23 29.3	-0.3
	baz=97				

IDC 29 09:17:06.6±1.8, 7.69S×119.34E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.5/22, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=58.2km s-min=21.5km az=67.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**2.69**	**9**	Pn	Pn	09 17 51.2	0.0
	1.8nm,0.3s,baz=188,slow=7.1,SNR=10						
KAPI				Sn	Sn	09 18 25.1	+0.6
	4.2nm,0.3s,baz=216,slow=19,SNR=4.2						
WRA	**Warramunga Arr**	**18.97**	**131**	P	P	09 21 29.7	-0.1
	0.2nm,0.3s,baz=305,slow=12,SNR=9.6						
ASAR	**Alice Springs**	**21.16**	**140**	P	P	09 21 53.6	0.0
	1.0nm,0.3s,baz=315,slow=9.1,SNR=18						
MKAR	**Makanchi Array**	**63.45**	**332**	P	P	09 27 38.4	0.0
	0.3nm,0.8s,baz=144,slow=5.4,SNR=2.1						

*IDC **29** 09:17:45.4±1.8, 53.60N×158.91W, h0km, mb3.6/2, mb1 3.7/5, mb1mx3.5/30, mbtmp3.6/5, ML3.4/3, Error ellipse: s-maj=45.3km s-min=21.5km az=172.0*
*ISCJB **29** 09:17:58.9±1.8, 54.85N±0.08×159.7W±0.1, h21km±12km, mb3.6/2, Error ellipse: s-maj=15.4km s-min=5.9km az=146.2*
*NEIC **29** 09:18:04.0, 55.04N×160.04W, h24km, ML3.5(AEIC), After AEIC.*

ISC 29 09:17:59.1±2.7, 54.9N±0.1×159.88W±0.09, h6km±15km, n21, σ0.975/20, South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**0.54**	**321**	*e*Pg	**Pb**	**09 18 12.0**	**+1.1**
SDPT				*e*Sg	**Sb**	**09 18 19.2**	**+0.3**
DOL	**Dolgoi Island**	**1.16**	**281**	P	**Pg**	**09 18 21.3**	**0.0**
PVV	**Pavlof Volcano**	**1.18**	**293**	P	**Pg**	**09 18 21.3**	**-0.3**
PS4A	**Pavlof South-4**	**1.21**	**291**	P	**Pb**	**09 18 21.8**	**-0.6**
VNWF	**Veniaminof 8**	**1.23**	**8**	P	**Pn**	**09 18 22.8**	**0.0**
VNHG	**Veniaminof 1**	**1.35**	**17**	P	**Pn**	**09 18 24.7**	**+0.1**
VNHG				S	**Sb**	**09 18 42.2**	**-0.2**
VNFG	**Veniaminof 2**	**1.36**	**8**	P	**Pn**	**09 18 25.3**	**+0.5**
DRIA	**Deer Island**	**1.37**	**272**	P	**Pn**	**09 18 24.4**	**-0.5**
DRIA				S	**Sb**	**09 18 41.6**	**-1.4**
DTNA	**Dutton South F**	**1.38**	**280**	P	**Pn**	**09 18 24.6**	**-0.3**
DT1	**Dutton Round H**	**1.39**	**278**	P	**Pn**	**09 18 24.6**	**-0.5**
CHGN	**Chignik**	**1.60**	**31**	*e*Pn	Pn	09 18 26.9	-1.0
CHGN				*e*Sn	**Sn**	**09 18 48.0**	**-0.9**
FALS	**False Pass**	**2.04**	**269**	P	**Pn**	**09 18 35.0**	**+1.0**
FALS				S	**Sn**	**09 19 00.0**	**+0.3**
SSLS	**Shishaldin Sou**	**2.39**	**266**	P	**Pn**	**09 18 39.8**	**+1.0**
WESN	**West Dahl Nort**	**2.75**	**264**	P	**Pn**	**09 18 44.9**	**+1.1**
AKSA	**Akutan Strait**	**3.48**	**259**	P	**Pn**	**09 18 54.4**	**+0.6**
KDAK	**Kodiak Island**	**4.96**	**52**	Pn	Pn	09 19 11.7	-2.3
	0.8nm,0.3s,baz=206,slow=5.6,SNR=7.0						
KDAK				Sn	Sn	09 20 02.1	-10
	baz=295,slow=19,SNR=1.6						
ILAR	**Eielson Array**	**11.80**	**28**	Pn	Pn	09 20 43.7	-4.0
	0.1nm,0.3s,baz=220,slow=14,SNR=6.2						
FX1	**Attu Island--F**	**15.98**	**274**	Pn	**Pn**	**09 21 44.3**	**+0.1**
	0.3nm,0.3s,baz=74,slow=20,SNR=4.0						
INK	**Inuvik**	**18.12**	**32**	P	Pn	09 22 07.5	-3.6
	0.1nm,0.3s,baz=225,slow=12,SNR=3.8						
PETK	**Petropavlovsk**	**24.71**	**283**	P	P	09 23 16.3	-4.5
	1.7nm,0.5s,baz=81,slow=11,SNR=11						
PDAR	**Pinedale Array**	**34.53**	**89**	P	P	09 24 30.7	-18
	0.3nm,0.6s,baz=311,slow=5.5,SNR=2.2						

*CSEM **29** 09:25:18.4, 60.94N×29.11E, h0km, ML1.8, Mining explosion. After HEL*
*HEL **29** 09:25:18.4±0.8, 60.94N×29.11E, h0km, ML1.8, Explosion*
*IDC **29** 09:25:20.0±1.8, 60.91N×28.87E, h0km, mb1 3.1/3, mb1mx2.9/27, mbtmp3.1/3, ML2.8/3, Error ellipse: s-maj=16.1km s-min=11.3km az=164.0*

ISC 29 09:25:15.3±2.3, 60.90N±0.07×29.3E±0.1, h0km, n22, σ1.371/37, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**0.94**	**248**	PG	**Pg**	**09 25 33.6**	**+0.2**
VJF				SG	**Sg**	**09 25 43.0**	**-2.6**
VJF	**Virojoki**	**0.94**	**248**	Pg	**Pg**	**09 25 33.5**	**+0.2**
VJF				Sg	**Sg**	**09 25 43.0**	**-2.6**
FIA0	**FINESS Array S**	**1.67**	**290**	PG	**Pn**	**09 25 45.0**	**-0.7**
	baz=112						
FIA0				SG	**Sn**	**09 26 05.9**	**-1.9**
FIA0				MSG		09 26 05.9	
	comp=Z,11nm,0.3s						
FIA0				RG	Rg	09 26 14.5	
FIA0	**FINESS Array S**	**1.67**	**290**	Pg	**Pn**	**09 25 45.0**	**-0.7**
FIA0				Sg	**Sn**	**09 26 05.9**	**-1.9**
FINES	**FINESS Array B**	**1.67**	**290**	Pg	**Pn**	**09 25 45.2**	**-0.5**
	comp=Z,1.7nm,0.3s,baz=114,slow=16,SNR=37						
FINES				Lg	Lg	09 26 05.9	
	comp=Z,3.9nm,0.3s,baz=122,slow=32,SNR=33						
FINES				Rg	Rg	09 26 13.1	
	comp=Z,21nm,0.7s,baz=113,slow=32,SNR=33						
PVF	**Pernaja**	**1.74**	**260**	PG	**Pn**	**09 25 47.0**	**+0.3**
PVF				SG	**Sn**	**09 26 10.1**	**+0.5**
PVF				MSG		09 26 10.1	
	comp=Z,5.0nm,0.1s						
PVF	**Pernaja**	**1.74**	**260**	Pg	**Pn**	**09 25 47.0**	**+0.3**
PVF				Sg	**Sn**	**09 26 10.1**	**+0.5**
KAF	**Kangasniemi**	**1.89**	**311**	PG	**Pn**	**09 25 50.4**	**+1.6**
KAF				SG	**Sn**	**09 26 12.6**	**-0.8**
KAF				MSG		09 26 12.6	
	comp=Z,4.1nm,0.2s						
KAF	**Kangasniemi**	**1.89**	**311**	Pg	**Pn**	**09 25 50.4**	**+1.6**
KAF				Sg	**Sn**	**09 26 12.5**	**-0.8**
SUF	**Sumiainen**	**2.37**	**322**	PN	**Pb**	**09 25 58.4**	**-0.3**
SUF				SG	**Sb**	**09 26 27.6**	**-0.9**
SUF				MSG		09 26 27.6	
	comp=Z,5.3nm,0.2s						
SUF	**Sumiainen**	**2.37**	**322**	Pn	**Pb**	**09 25 58.4**	**-0.3**
SUF				Sg	**Sb**	**09 26 27.5**	**-0.9**
KEF	**Keuruu**	**2.48**	**303**	PN	**Pn**	**09 25 59.3**	**+2.4**
KEF				SG	**Sn**	**09 26 29.3**	**+1.4**
KEF				MSG		09 26 29.3	
	comp=Z,5.3nm,0.4s						
KEF	**Keuruu**	**2.48**	**303**	Pn	**Pn**	**09 25 59.3**	**+2.4**
KEF				Sg	**Sn**	**09 26 29.3**	**+1.4**
MEF	**Metsahovi**	**2.53**	**256**	PN	**Pn**	**09 26 00.5**	**+2.9**
MEF				SG	**Sb**	**09 26 33.8**	**+0.6**
MEF				MSG		09 26 33.8	
	comp=Z,3.7nm,0.4s						
MEF	**Metsahovi**	**2.53**	**256**	Pn	**Pn**	**09 26 00.5**	**+2.9**
MEF				Sg	**Sb**	**09 26 33.8**	**+0.6**
RAF	**Rauma**	**3.69**	**275**	SG	**Sb**	**09 27 08.6**	**+2.1**
RAF				MSG		09 27 08.6	
	comp=Z,1.8nm,0.4s						
RAF	**Rauma**	**3.69**	**275**	Sg	**Sb**	**09 27 08.6**	**+2.1**
VAF	**Ylistaro**	**3.81**	**307**	SG	**Sb**	**09 27 12.2**	**+2.4**
VAF				MSG		09 27 12.2	
	comp=Z,2.0nm,0.4s						
VAF	**Ylistaro**	**3.81**	**307**	Sg	**Sb**	**09 27 12.2**	**+2.4**
HFS	**Hagfors**	**7.75**	**271**	Pn	**Pn**	**09 27 09.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=94,slow=12,SNR=4.3						
HFS				Sn	Sn	09 28 31.8	-5.9
	comp=Z,0.2nm,0.3s,baz=76,slow=24,SNR=3.2						
HFS				Lg	Lg	09 29 15.0	
	comp=Z,0.3nm,0.3s,baz=78,slow=28,SNR=3.7						
NOA	**NORSAR Array B**	**8.81**	**279**	Pn	**Pn**	**09 27 23.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=73,slow=14,SNR=3.5						
NOA				Lg	Lg	09 29 51.0	
	comp=Z,0.2nm,0.3s,baz=121,slow=20,SNR=2.9						
ARCES	**ARCESS Array B**	**8.81**	**351**	Pn	**Pn**	**09 27 25.9**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=173,slow=13,SNR=5.4						
ARCES				Sn	**Sn**	**09 29 00.5**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=166,slow=23,SNR=2.6						

IDC 29 09:27:06.0±2.7, 21.75S×175.65W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/20, mbtmp4.1/5, MS4.3/2, Ms1 4.3/2, ms1mx3.3/34, Error ellipse: s-maj=158.7km s-min=27.9km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.56**	**266**	P	P	09 34 07.1	+1.8
	2.5nm,0.6s,baz=89,slow=12,SNR=5.4						
STKA	**Stephens Creek**	**39.25**	**246**	P	P	09 34 34.9	-1.6
	1.8nm,0.9s,baz=100,slow=12,SNR=2.9						

ASAR	**Alice Springs**	**46.38**	**258**	P	P	09 35 33.7	-0.8
	1.3nm,0.9s,baz=98,slow=7.4,SNR=9.6						
ASAR				LR	LR	09 54 26.3	
	comp=Z,1μm,21.0s,baz=296,slow=35						
WRA	**Warramunga Arr**	**46.61**	**263**	P	P	09 35 35.9	-0.4
	2.1nm,0.3s,baz=92,slow=8.4,SNR=76						
NVAR	**Mina Array Bea**	**80.45**	**42**	P	P	09 39 19.8	-0.2
	0.8nm,0.9s,baz=220,slow=7.3,SNR=4.8						
INK	**Inuvik**	**94.92**	**14**	LR	LR	10 17 45.9	
	comp=Z,45nm,20.2s,baz=280,slow=32						
BRTR	**Keskin Array B**	**149.30**	**312**	PKPbc	PKPbc	09 46 57.2	+0.1
	0.4nm,0.6s,baz=76,slow=6.1,SNR=2.2						

*CSEM **29** 09:27:42.8±0.2, 36.13N×50.40E, h2km, ML4.0, Error ellipse: s-maj=5.1km s-min=3.7km az=40.0*
*THR **29** 09:27:42.7±1.2, 36.17N×50.43E, h15km±9km, ML4.0*
*TEH **29** 09:27:44.0, 36.17N×50.43E, h5km, ML4.0*

ISC 29 09:27:42.9±1.0, 36.11N±0.03×50.39E±0.02, h10km±9km, n70, σ1.945/91, 2C-2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGZV	**Ghazvin**	**0.31**	**333**	*e*Pg	**Pg**	**09 27 49.0**	**-0.1**
IGZV				*e*Sg	**Sg**	**09 27 53.5**	**+0.2**
IGZV				*e*		09 27 54.1	
	comp=Z,80μm,0.2s						
IGZV	**Ghazvin**	**0.31**	**333**	*e*Pg	**Pg**	**09 27 49.0**	**-0.1**
IGZV				*e*Sg	**Sg**	**09 27 53.5**	**+0.2**
THKV	**Tehran--Karaj**	**0.44**	**116**	*e*Pg	**Pg**	**09 27 51.9**	**+0.2**
THKV	**Tehran--Karaj**	**0.44**	**116**	*e*Pg	**Pg**	**09 27 51.8**	**+0.2**
IMHD	**Mahdasht**	**0.48**	**152**	*e*Pg	**Pb**	**09 27 53.2**	**-0.3**
IMHD				*e*Sg	**Sb**	**09 28 00.5**	**-0.2**
IMHD				*e*		09 28 02.4	
	comp=Z,50μm,0.1s						
IMHD	**Mahdasht**	**0.48**	**152**	*e*Pg	**Pb**	**09 27 53.2**	**-0.3**
IMHD				*e*Sg	**Sb**	**09 28 00.5**	**-0.2**
IRAZ	**Razeghan**	**0.80**	**208**	*e*Pg	**Pb**	**09 27 59.1**	**+0.1**
IRAZ				*e*Sg	**Sb**	**09 28 11.1**	**+1.1**
IRAZ				*e*		09 28 15.3	
	comp=Z,34μm,0.1s						
IRAZ	**Razeghan**	**0.80**	**208**	*e*Pg	**Pb**	**09 27 59.1**	**+0.1**
IRAZ				*e*Sg	**Sb**	**09 28 11.1**	**+1.1**
IR3	**Iran Long-Peri**	**0.82**	**141**	*e*Pg	**Pg**	**09 27 58.6**	**-0.1**
IR3	**Iran Long-Peri**	**0.82**	**141**	*e*Pg	**Pg**	**09 27 58.6**	**-0.1**
IR5	**Iran Long-Peri**	**0.91**	**170**	*e*Pg	**Pb**	**09 28 00.8**	**-0.1**
IR5				*e*Sg	**Sb**	**09 28 13.5**	**+0.4**
IR5	**Iran Long-Peri**	**0.91**	**170**	*e*Pg	**Pb**	**09 28 00.8**	**-0.1**
IR5				*e*Sg	**Sb**	**09 28 13.5**	**+0.4**
IAFJ	**Afjeh**	**1.10**	**103**	*e*		09 28 20.3	
	comp=Z,1μm,0.0s						
IAFJ				*e*Pg	**Pg**	**09 28 03.4**	**-0.7**
DAMV	**Damavand**	**1.37**	**110**	*e*Pg	**Pn**	**09 28 07.7**	**-0.6**
DAMV				AML	AML	09 28 26.2	
	comp=N,2μm,0.1s						
DAMV	**Damavand**	**1.37**	**110**	*e*Pg	**Pn**	**09 28 07.7**	**-0.6**
IDMV	**Damavand**	**1.44**	**111**	*e*Sg	**Sg**	**09 28 27.9**	**-1.2**
IDMV				*e*Pn	**Pn**	**09 28 09.0**	**-0.2**
IDMV				*e*		09 28 32.5	
	comp=Z,34μm,0.1s						
ZNJK	**Zanjan**	**1.48**	**292**	*e*Pg	**Pn**	**09 28 09.9**	**0.0**
ZNJK	**Zanjan**	**1.48**	**292**	*e*Pn	**Pn**	**09 28 09.9**	**0.0**
IVRN	**Varamin**	**1.56**	**135**	*e*Pn	**Pn**	**09 28 11.3**	**+0.6**
IVRN				*e*Sg	**Sg**	**09 28 33.2**	**+0.2**
IVRN				*e*		09 28 37.0	
	comp=Z,63μm,0.1s						
IVRN	**Varamin**	**1.56**	**135**	*e*Pn	**Pn**	**09 28 11.3**	**+0.6**
IVRN				*e*Sg	**Sg**	**09 28 33.2**	**+0.2**
IPRN	**Peran**	**1.58**	**85**	*e*Pn	**Pn**	**09 28 11.2**	**+0.1**
IPRN				*e*Sg	**Sb**	**09 28 32.5**	**+0.2**
IPRN				*e*		09 28 37.2	
	comp=Z,23μm,0.1s						
ASAO	**Ashtian**	**1.59**	**191**	*e*Pg	**Pb**	**09 28 12.8**	**+0.3**
ASAO	**Ashtian**	**1.59**	**191**	*e*Pg	**Pb**	**09 28 12.8**	**+0.3**
GHVR	**GHOM**	**1.79**	**155**	*e*Pg	**Pb**	**09 28 15.6**	**-0.2**
GHVR				AML	AML	09 28 43.0	
	comp=N,2μm,0.5s						
GHVR				AML	AML	09 28 47.6	
	comp=E,2μm,0.3s						
GHVR	**GHOM**	**1.79**	**155**	*e*Pg	**Pb**	**09 28 15.6**	**-0.2**
IALA	**Alasht**	**1.96**	**90**	*e*Pn	**Pb**	**09 28 18.0**	**-0.8**
IALA				*e*Sg	**Sb**	**09 28 44.7**	**+1.3**
IALA				*e*		09 28 48.8	
	comp=Z,11μm,0.2s						
IALA	**Alasht**	**1.96**	**90**	*e*Pn	**Pb**	**09 28 18.0**	**-0.8**
IALA				*e*Sg	**Sb**	**09 28 44.7**	**+1.3**
IFIR	**Firoozkooh**	**1.98**	**103**	*e*Pn	**Pb**	**09 28 18.8**	**-0.3**
IFIR				*e*		09 28 52.2	
	comp=Z,19μm,0.1s						
IFIR	**Firoozkooh**	**1.98**	**103**	*e*Pn	**Pb**	**09 28 18.8**	**-0.3**
ILAS	**Lasjerd**	**2.21**	**109**	*e*Pn	**Pb**	**09 28 22.0**	**-1.1**
ILAS				*e*Sg	**Sb**	**09 28 52.1**	**+1.5**
ILAS				*e*		09 28 58.1	
	comp=Z,8μm,0.2s						
ILAS	**Lasjerd**	**2.21**	**109**	*e*Pn	**Pb**	**09 28 22.0**	**-1.1**
ILAS				*e*Sg	**Sb**	**09 28 52.1**	**+1.5**
ISFB	**Sefidab**	**2.32**	**139**	*e*Pn	**Pn**	**09 28 22.6**	**+1.4**
ISFB				*e*		09 28 58.7	
	comp=Z,16μm,0.1s						
ISFB	**Sefidab**	**2.32**	**139**	*e*Pn	**Pn**	**09 28 22.6**	**+1.4**
ISHM	**Shahmirzad**	**2.37**	**97**	*e*Pn	**Pn**	**09 28 23.7**	**+1.6**
ISHM				*e*		09 29 00.4	
	comp=Z,8μm,0.1s						
ISHM	**Shahmirzad**	**2.37**	**97**	*e*Pn	**Pn**	**09 28 23.7**	**+1.6**
KHMZ	**Khomeyn**	**2.40**	**189**	*e*Pn	**Pb**	**09 28 25.2**	**-1.0**
KHMZ	**Khomeyn**	**2.40**	**189**	*e*Pn	**Pb**	**09 28 25.2**	**-1.0**
IKIA	**Kiasar**	**2.67**	**87**	*e*Pn	**Pn**	**09 28 27.7**	**+1.6**
IKIA				*e*Sg	**Sb**	**09 29 05.4**	**+1.7**
IKIA				*e*		09 29 07.7	
	comp=Z,3μm,0.3s						
IKIA	**Kiasar**	**2.67**	**87**	*e*Pn	**Pn**	**09 28 27.7**	**+1.6**
IKIA				*e*Sg	**Sb**	**09 29 05.4**	**+1.7**
ISRB	**Sarab**	**2.77**	**309**	*e*Pn	**Pn**	**09 28 28.9**	**+1.4**
ISRB				*e*Sg	**Sb**	**09 29 09.1**	**+2.4**
ISRB				*e*		09 29 19.2	
	comp=Z,5μm,0.3s						
ISRB	**Sarab**	**2.77**	**309**	*e*Pn	**Pn**	**09 28 28.9**	**+1.4**
ISRB				*e*Sg	**Sb**	**09 29 09.1**	**+2.4**
IGLO	**Ghaloghah**	**2.80**	**81**	*e*Pn	**Pn**	**09 28 29.3**	**+1.3**
IGLO				*e*Sg	**Sg**	**09 29 10.2**	**-2.8**
IGLO				*e*		09 29 18.5	
	comp=Z,7μm,0.3s						
IANJ	**Anjilo**	**2.94**	**102**	*e*Pn	**Pn**	**09 28 31.4**	**+1.6**
IANJ				*e*		09 29 23.1	
	comp=Z,3μm,0.2s						
IANJ	**Anjilo**	**2.94**	**102**	*e*Pn	**Pn**	**09 28 31.4**	**+1.6**
IKLH	**Kolahrood**	**2.95**	**160**	*e*Pn	**Pn**	**09 28 32.2**	**+2.1**
IKLH				*e*		09 29 19.9	
	comp=Z,6μm,0.1s						
IKLH	**Kolahrood**	**2.95**	**160**	*e*Pn	**Pn**	**09 28 32.2**	**+2.1**
GRMI	**Germi**	**3.34**	**324**	*e*Pn	**Pn**	**09 28 36.8**	**+1.5**
GRMI	**Germi**	**3.34**	**324**	*e*Pn	**Pn**	**09 28 36.8**	**+1.5**
IPIR	**Pirpir**	**3.45**	**173**	*e*Pn	**Pn**	**09 28 39.2**	**+2.3**
IPIR				*e*		09 29 39.4	
	comp=E,2μm,0.2s						
IPIR	**Pirpir**	**3.45**	**173**	*e*Pn	**Pn**	**09 28 39.2**	**+2.3**
IHRS	**Heris**	**3.46**	**310**	*e*Sg	**Sg**	**09 29 33.0**	**-1.1**
IHRS	**Heris**	**3.46**	**310**	*e*Sg	**Sg**	**09 29 33.0**	**-1.1**
IZEF	**Zefreh**	**3.59**	**153**	*e*	**Pb**	**09 28 48.2**	**+1.6**
	comp=Z,2μm,0.2s						
NASN	**Na'in**	**3.86**	**148**	*e*Pn	**Pn**	**09 28 44.5**	**+1.9**
NASN	**Na'in**	**3.86**	**148**	*e*Pn	**Pn**	**09 28 44.5**	**+1.9**
IGAR	**Gharneh**	**3.94**	**159**	*e*Pn	**Pn**	**09 28 45.9**	**+2.2**
ISHB	**Shabestar**	**4.38**	**301**	*e*Sg	**Sg**	**09 30 00.0**	**-3.7**
ISHB	**Shabestar**	**4.38**	**301**	*e*Sg	**Sg**	**09 30 00.0**	**-3.7**
IBDR	**Badra**	**4.75**	**232**	*e*Pn	**Pn**	**09 28 52.0**	**-2.4**
IBDR				*e*Sn	Sn	09 29 42.0	-7.5
ISAD	**Sadrabad**	**5.00**	**146**	*e*Pn	**Pn**	**09 29 00.0**	**+1.7**
ISAD				*e*		09 34 10.5	
	comp=Z,1μm,0.0s						
ISAD	**Sadrabad**	**5.00**	**146**	*e*Pn	**Pn**	**09 29 00.0**	**+1.7**
BHD	**Baghdad**	**5.71**	**242**	*e*Pn	Pn	09 29 04.0	-3.6
BHD				*e*Sn	**Sn**	**09 30 09.0**	**-4.2**
IMEH	**Mehriz**	**5.88**	**142**	*e*Pn	**Pn**	**09 29 11.5**	**+1.3**
IMEH				*e*		09 30 54.2	
	comp=Z,288nm,0.2s						
IMEH	**Mehriz**	**5.88**	**142**	*e*Pn	**Pn**	**09 29 11.5**	**+1.3**
IBAF	**Bafgh**	**6.24**	**135**	*e*Pn	**Pn**	**09 29 16.8**	**+1.7**
IBAF	**Bafgh**	**6.24**	**135**	*e*Pn	**Pn**	**09 29 16.8**	**+1.7**
IPAR	**Pars**	**6.64**	**160**	*e*Pn	**Pn**	**09 29 22.2**	**+1.4**
IPAR				*e*		09 30 03.1	
	comp=Z,77nm,0.3s						
IPAR	**Pars**	**6.64**	**160**	*e*Pn	**Pn**	**09 29 22.2**	**+1.4**
IKOO	**Kooshah**	**8.02**	**115**	*e*Pn	**Pn**	**09 29 40.5**	**+0.8**
IKOO	**Kooshah**	**8.02**	**115**	*e*Pn	**Pn**	**09 29 40.5**	**+0.8**

MEX 29 09:29:12.4±0.5, 18.18N×103.08W, h72km±6km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.27**	**293**	*e*P	Pn	09 29 22.2	-1.4
MMIG				*i* S	Sn	09 29 30.0	-1.8
R15V		**1.30**	**319**	*e*P	Pn	09 29 33.6	-1.3
R15V				*i* S	Sn	09 29 50.4	-1.4
EZ5V		**1.38**	**339**	*e*P	Pn	09 29 34.5	-1.8
EZ5V				*i* S	Sn	09 29 51.5	-2.6
ZIIG	**Zihuatanejo**	**1.64**	**110**	*i* P	Pn	09 29 37.8	-1.5
ZIIG				*i* S	Sn	09 29 58.7	-1.0
ARIG	**Puente Sto Nin**	**2.60**	**87**	*i* P	Pn	09 29 51.2	-1.1
ARIG				*i* S	Sn	09 30 20.7	-2.2
IGIG	**Irapuato, Guan**	**3.05**	**33**	*i* P	Pn	09 29 57.0	-1.5
IGIG				*i* S	Sn	09 30 32.5	-1.6

*IDC **29** 09:31:06.5±0.3, 5.46S×101.72E, h0km, mb4.9/38, mb1 5.0/40, mb1mx5.0/40, mbtmp4.9/40, ML4.4/1, MS4.6/24, Ms1 4.7/24, ms1mx4.5/39, Error ellipse: s-maj=12.6km s-min=8.1km az=41.0*
*AUST **29** 09:31:06.1, 5.81S×101.41E, h0km*
*NEIC **29** 09:31:07.1±1.8, 5.52S×101.58E, h4km±10km, mb5.4/43, Error ellipse: s-maj=5.5km s-min=4.0km az=54.0*
*ISCJB **29** 09:31:08.9±0.8, 5.48S±0.02×101.63E±0.02, h24km±5km, mb5.3/151, MS4.8/55, Error ellipse: s-maj=4.4km s-min=3.5km az=135.5*
*GCMT **29** 09:31:09.6±0.2, 5.74S×101.63E, h12km, MW5.2, Moment Tensor Solution. s53,c74; s83,c143; Moment tensor: Scale 10^16Nm; Mrr5.50±.13; Mθθ-4.20±.11; Mφφ-1.30±.15; Mrθ4.78±.33; Mrφ2.89±.10; Mθφ1.44±.39; Best double couple: M0 7.60000×10^16 NP1:φ323.00000°, δ34.00000°, λ132.00000°. NP2:φ95.00000°, δ66.00000°, λ66.00000°. Principal axes: T 8.1100, Plg61.0000°, Azm327.0000°; N -1.1000, Plg22.0000°, Azm106.0000°; P -7.0100, Plg17.0000°, Azm203.0000°; Data Used: II IU IC G CN.*
*BKK **29** 09:31:09.9±0.2, 6.52S±2.10^21E±1, h10km, MS.3/40, mB5.7/29, mb5.2/40, MLv5.7/7, Mw(mB)5.2/29, Mwp5.1/1*
*MOS **29** 09:31:10.8±1.1, 5.32S×101.72E, h33km, mb5.6/57, MS4.7/10, Error ellipse: s-maj=8.5km s-min=4.5km az=111.8*
*BJI **29** 09:31:10.5, 5.40S×101.60E, h30km, mB5.6/47, mb5.2/59, Ms5.4/65, Ms7 5.1/59*
*DJA **29** 09:31:10.8±0.3, 5.52S±2.10^21E±1, h20km, M5.3/24, mB5.7/21, mb5.4/24, MLv5.6/19, Mw(mB)5.3/21, Mwp5.4/1*

ISC 29 09:31:11.2±0.3, 5.56S±0.03×101.59E±0.04, h31km±1km, h31km:pP-P, n793, σ1.933/830, mb5.3/158, MS4.8/56, 50C-20D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**1.81**	**49**	P	**Pn**	**09 31 39.3**	**-1.0**
MNAI				S	**Sn**	**09 32 01.9**	**-0.3**
MNAI	**Manna**	**1.81**	**49**	P	**Pn**	**09 31 39.8**	**-0.5**
	baz=2.1,SNR=13						
KSI	**Kapahiang**	**2.15**	**28**	P	**Pn**	**09 31 44.2**	**-0.7**
KSI				S	**Sn**	**09 32 06.4**	**-4.2**
MASI	**Maura Aman, Be**	**2.49**	**15**	P	**Pn**	**09 31 48.5**	**-1.2**
LWLI	**Liwa**	**2.52**	**78**	P	**Pn**	**09 31 49.7**	**-0.4**
LWLI				S	**Sn**	**09 32 21.8**	**+2.0**
KASI	**Kota Agung**	**2.89**	**89**	P	**Pn**	**09 31 54.6**	**-0.6**
KLSI		**3.25**	**75**	P	**Pn**	**09 31 59.9**	**-0.1**
BLSI	**Bandar Lampung**	**3.64**	**87**	P	**Pn**	**09 32 05.5**	**0.0**
PMBI	**Palembang**	**4.12**	**51**	P	**Pn**	**09 32 14.2**	**+2.2**
SBJI	**Serang**	**4.55**	**97**	P	**Pn**	**09 32 19.7**	**+1.7**
TNG	**Tangerang**	**5.07**	**97**	P	Pb	09 32 32.5	-6.7
SKJI	**Sukabumi**	**5.14**	**106**	P	**Pn**	**09 32 25.4**	**-0.7**
	866nm,0.7s,12μm4.6nm						
PPI	**Padang Panjang**	**5.21**	**347**	P	**Pn**	**09 32 25.0**	**-2.0**
	796nm,1.0s,8μm3.4nm						
PPI	**Padang Panjang**	**5.21**	**347**	P	**Pn**	**09 32 25.7**	**-1.3**
	baz=5.5,SNR=18						
DBJI	**Dramaga**	**5.22**	**101**	P	**Pn**	**09 32 27.0**	**-0.3**
	968nm,0.6s,13μm4.4nm						
RGRI	**Rengat**	**5.23**	**8**	P	Pn

SKLT	Songkhla	12.69	356	P		Pn	09 34 08.6	-1.0	
	62nm,0.8s,1µm								
SBUM	Sibu	13.27	53	P		Pn	09 34 20.8	+3.2	
SBUM	Sibu	13.27	53	P		Pn	09 34 20.5	+2.9	
	90nm,1.6s,3µm								
SRBI	Singaraja	13.76	101	P		Pn	09 34 27.4	+3.2	
	192nm,0.7s,2µm								
IGBI	Denpasar	13.83	104	P		P	09 34 36.9	+3.7	
MTKI	Muara Teweh, K	14.05	71	P		P	09 34 36.0	+0.3	
BTM	Bintulu	14.41	53	P		Pn	09 34 34.6	+1.4	
SURA	Surathani	14.76	352	P		P	09 34 51.4	+7.8	
KAPI	Kappang	18.09	89	*e*Pn		Pn	09 35 20.0	-0.3	
KAPI	Kappang	18.09	89	P		Pn	09 35 17.3	-3.1	
	baz=275,slow=11								
KAPI				LR		LR	09 42 05.8		
	comp=Z,1µm,20.7s,baz=277,slow=37								
SPSI	Sidrap Palu	18.19	86	P		Pn	09 35 20.8	-0.7	
	145nm,2.0s,2µm								
CHBT	CHBT	18.21	2	P		P	09 35 24.3	+2.5	
	90nm,1.2s,6µm								
CHBT	CHBT	18.21	2	P		P	09 35 24.3	+2.5	
	90nm,1.2s,6µm								
TTSI	Tana Toraja	18.35	83	P		Pn	09 35 24.2	+0.7	
	195nm,2.5s,5µm								
BKSI	Bulukumba	18.45	90	P		P	09 35 22.9	-1.6	
KKM	Kota Kinabalu	18.60	52	*e*P		P	09 35 26.0	-0.2	
	143nm,1.2s								
KKM	Kota Kinabalu	18.60	52	P		P	09 35 26.1	-0.2	
KKM	Kota Kinabalu	18.60	52	P		P	09 35 26.1	-0.2	
	baz=19,SNR=4.7								
TSM	Tawau	18.98	59	P		P	09 35 27.6	-2.8	
WSI	Waingapu	18.98	104	S		S	09 39 15.9	+12	
	baz=19,SNR=3.0								
SDKM	Sandakan	19.15	55	P		P	09 35 32.5	+0.3	
KDM	Kudat	19.62	51	P		P	09 35 36.4	-0.9	
NAYO	Nakonayok	19.75	359	P		Pn	09 35 40.2	-0.1	
	45nm,1.8s,1µm								
MYLDM	Lahad Datu	19.98	58	P		Pn	09 35 42.8	-0.2	
UBPT	Khong Chiam	21.06	10	P		P	09 35 51.1	-1.8	
	205nm,1.5s,3µm								
PBKT	Sadao Pong	22.00	358	P		P	09 36 01.7	-1.2	
	50nm,1.5s,1µm								
BATI	Baumata	22.34	103	P		P	09 36 05.7	-1.1	
BATI				S		S	09 40 08.3	-2.5	
BATI	Baumata	22.34	103	P		P	09 36 05.7	-1.1	
	373nm,0.7s,baz=291,slow=10,SNR=30								
BATI				S		S	09 40 08.3	-2.5	
	42nm,0.5s,baz=299,slow=23,SNR=3.9								
SOEI	Soe	22.85	102	P		P	09 36 13.7	+1.4	
	baz=23,SNR=11								
LOEI	Loei	22.93	359	P		P	09 36 10.7	-2.2	
	185nm,1.3s,2µm								
MBWA	Marble Bar	23.45	133	*e*P		P	09 36 17.9	-0.2	
	213nm,1.7s								
CMAR	Chiang Mai Arr	24.01	354	P		P	09 36 22.4	-1.0	
CMAR	Chiang Mai Arr	24.01	354	P		P	09 36 22.4	-1.0	
	41nm,0.8s,baz=186,slow=8.3,SNR=110								
CMAR				LR		LR	09 46 22.4		
	comp=Z,2µm,18.3s,baz=179,slow=38								
LAMP	Lampang	24.01	355	P		P	09 36 23.2	-0.2	
	42nm,1.2s,437nm								
CMMT	Chiang Mai	24.36	354	P		P	09 36 25.6	-1.1	
	116nm,1.8s,3µm								
CHTO	Chiang Mai	24.36	354	*e*P		P	09 36 25.7	-1.0	
CHTO				pmax		pmax			
	comp=Z,263nm,1.5s								
CHTO	Chiang Mai	24.36	354	P		P	09 36 27.0	+0.3	
	SNR=29								
CHTO	Chiang Mai	24.36	354	*e*P		P	09 36 25.7	-1.0	
	comp=Z,263nm,1.5s								
CHTO	Chiang Mai	24.36	354	P		P	09 36 26.0	-0.7	
	comp=Z,129nm,1.8s,comp=Z,3µm								
PALK	Pallekele	24.43	301	*e*P		P	09 36 28.7	+1.3	
	comp=Z,492nm,2.2s								
CMAI	Chiengmai2	25.46	354	P		P	09 36 44.5	+7.7	
QIZ	Qiongzhong	25.75	18	P		P	09 36 41.5	+2.2	
QIZ				pP		pP	09 36 49.8	+1.5	
QIZ				sP		sP	09 36 54.0	+1.9	
QIZ				S		S	09 41 10.3	+3.8	
QIZ				PcS		PcS	09 43 49.5	-0.3	
QIZ				LR		LR			
	comp=N,4µm,14.0s								
QIZ				LR		LR			
	comp=E,1µm,12.6s								
QIZ				LR		LR			
	comp=Z,3µm,13.3s								
QIZ	Qiongzhong	25.75	18	P		P	09 36 32.6	-6.7	
	comp=Z,45nm,1.1s								
MEEK	Meekatharra	26.52	144	P		P	09 36 47.0	+0.8	
	baz=26,SNR=5.5								
FITZ	Fitzroy Crossi	26.59	120	P		P	09 36 46.7	-0.2	
FITZ	Fitzroy Crossi	26.59	120	P		P	09 36 46.7	-0.2	
	comp=Z,86nm,0.8s,baz=285,slow=5.6,SNR=119								
FITZ	Fitzroy Crossi	26.59	120	P		P	09 36 46.6	-0.2	
	baz=27,SNR=57								
DAV	Davao City (W)	27.03	63	*e*P		P	09 36 52.2	+1.3	
	comp=Z,160nm,0.5s								
DAV	Davao City (W)	27.03	63	LR		LR	09 48 41.1		
	comp=Z,1µm,20.3s,baz=326,slow=39								
TGY	Tagaytay City	27.39	44	LR		LR	09 48 35.8		
	comp=Z,5.6nm,18.3s,baz=66,slow=38								
KNRA	Kununurra	28.50	113	P		P	09 37 03.3	-0.7	
	baz=29,SNR=19								
MTN	Manton Dam	30.02	106	S		S	09 42 21.7	+7.7	
	baz=30,SNR=4.2								
KMI	Kunming	30.52	2	P		P	09 37 23.5	+1.4	
KMI				pP		pP	09 37 34.5	+3.3	
KMI				sP		sP	09 37 39.3	+4.3	
KMI				S		S	09 42 26.3	+4.4	
KMI				pmax		pmax			
	comp=Z,37nm,1.3s								
KMI				pmax		pmax			
	comp=Z,450nm,6.0s								
KMI				LR		LR			
	comp=N,4µm,11.7s								
KMI				LR		LR			
	comp=E,3µm,12.1s								
KMI				LR		LR			
	comp=Z,4µm,11.7s								
NWAO	Narrogin (SRO)	30.88	154	P		P	09 37 27.2	+2.2	
NWAO	Narrogin (SRO)	30.88	154	P		P	09 37 27.2	+2.2	
	comp=Z,14nm,0.9s,baz=302,slow=11,SNR=4.2								
NWAO				LR		LR	09 47 12.0		
	comp=Z,2µm,20.2s,baz=325,slow=31								
KDU	Kakadu	31.28	105	P		P	09 37 27.2	-1.5	
	baz=31,SNR=12								
GYA	Guiyang	32.21	9	P		P	09 37 39.8	+3.0	
GYA				pP		pP	09 37 49.5	+3.6	
GYA				PP		PP	09 38 48.3	-1.7	
GYA				PcP		PcP	09 40 27.0	+1.8	
GYA				S		S	09 42 51.3	+3.2	
GYA				ScP		ScP	09 44 06.5	-0.2	
GYA				PcS		PcS	09 44 11.5	+1.2	
GYA				ScS		ScS	09 48 04.5	-1.4	
GYA				pmax		pmax			
	comp=Z,40nm,0.8s								
GYA				pmax		pmax			
	comp=Z,150nm,4.8s								
GYA				LR		LR			
	comp=N,840nm,17.6s								
GYA				LR		LR			
	comp=E,720nm,18.3s								
GYA				LR		LR			
	comp=Z,900nm,17.9s								
HYB	Hyderabad	32.24	316	*i* P		P	09 37 36.0	-1.1	
SHL	Shillong	32.35	343	*e*P		P	09 37 37.0	-1.1	
SHL				*e*S		S	09 42 33.0	-17	
TWG	Pinlang	34.04	33	*e*P		P	09 37 52.4	-0.3	
	comp=Z,44nm,0.4s								
TPUB	Ta-pu	34.19	32	*e*P		P	09 37 53.6	-0.4	
	comp=Z,40nm,0.9s								
QZH	Quanzhou	34.54	28⇑	*i* P		P	09 37 55.0	-2.0	
QZH				S		S	09 43 21.0	-3.1	
QZH				pmax		pmax			
	comp=Z,390nm,4.4s								
QZH				LR		LR			
	comp=N,3µm,13.8s								
QZH				LR		LR			
	comp=E,4µm,14.4s								
QZH				LR		LR			
	comp=Z,3µm,9.4s								
YULB	Yu-li	34.62	33	*e*P		P	09 37 58.3	+0.5	
	comp=Z,22nm,1.0s								
SSLB	Suanglung	34.76	32	*e*P		P	09 37 58.2	-0.7	
	comp=Z,26nm,0.9s								
WRA	Warramunga Arr	34.90	117	P		P	09 37 59.9	-0.3	
	comp=Z,42nm,0.8s,baz=290,slow=10,SNR=82								
WRAB	Tennant Creek	34.90	117	P		P	09 38 00.6	+0.3	
	comp=Z,416nm,0.7s,SNR=26								
WRAB	Tennant Creek	34.90	117	*e*P		P	09 38 00.0	-0.3	
WRAB				pmax		pmax			
	comp=Z,65nm,0.9s								
WRAB	Tennant Creek	34.90	117	*e*P		P	09 37 60.0	-0.3	
	comp=Z,65nm,0.9s								
ODAN	Odare	35.04	338	*e*P		P	09 38 02.4	+0.8	
	comp=Z,527nm,1.0s								
TAPN	Taplejung	35.37	338	*e*P		P	09 38 05.6	+1.1	
	comp=Z,646nm,0.9s								
RAMN	Ramite	35.43	337	*e*P		P	09 38 06.1	+1.1	
YHNB	Yeheng	35.70	32	*e*P		P	09 38 07.8	+0.7	
	comp=Z,55nm,1.1s								
ASAR	Alice Springs	35.93	123	P		P	09 38 09.1	-0.1	
ASAR	Alice Springs	35.93	123	P		P	09 38 09.1	-0.1	
	comp=Z,28nm,0.9s,baz=298,slow=7.7,SNR=199								
JIRN	Jiri	36.23	337	*e*P		P	09 38 13.0	+1.1	
	comp=Z,255nm,0.7s								
CD2	Chengdu	36.33	3⇑	*i* P		P	09 38 11.8	-0.6	
CD2				PP		PP	09 39 35.8	+0.4	
CD2				PcP		PcP	09 40 36.0	-0.8	
CD2				S		S	09 43 53.8	+2.3	
CD2				sS		sS	09 44 00.3	-6.3	
CD2				SS		SnSn	09 46 19.3	-1.1	
CD2				ScS		ScS	09 48 27.0	-0.4	
CD2				pmax		pmax			
	comp=Z,80nm,1.1s								
CD2				pmax		pmax			
	comp=Z,580nm,5.8s								
CD2				LR		LR			
	comp=E,6µm,15.6s								
CD2				LR		LR			
	comp=Z,3µm,11.8s								
ENH	Enshi	36.43	12	*e*P		P	09 38 12.2	-1.0	
	comp=Z,23nm,0.7s								
PKI	Pulchoki	36.46	335	*e*P		P	09 38 14.4	+0.5	
LSA	Lhasa	36.47	345	*e*P		P	09 38 14.6	+0.5	
LSA				pmax		pmax			
	comp=Z,89nm,1.1s								
LSA	Lhasa	36.47	345	*e*P		P	09 38 14.6	+0.5	
	comp=Z,89nm,1.1s								
PKIN	Phulchoki	36.47	335	*e*P		P	09 38 14.8	+0.9	
GUN	Gumba	36.57	336	*e*P		P	09 38 15.8	+0.9	
DMN	Daman	36.62	335	*e*P		P	09 38 15.7	+0.5	
	comp=Z,76nm,1.0s								
KKN	Kakani	36.71	335	*e*P		P	09 38 16.6	+0.7	
KOLN	Koldanda	37.42	333	*e*P		P	09 38 22.6	+0.7	
	comp=Z,102nm,0.8s								
DANN	Dangsing	37.85	334	*e*P		P	09 38 26.3	+0.7	
	comp=Z,395nm,1.1s								
WHN	Wuhan	37.92	18⇓	P		P	09 38 25.5	-0.4	
WHN				pP		pP	09 38 33.0	-2.1	
WHN				PP		PnPn	09 39 57.5	+3.1	
WHN				S		S	09 44 13.0	-2.7	
WHN				pmax		pmax			
	comp=Z,400nm,2.2s								
WHN				LR		LR			
	comp=N,6µm,12.7s								
WHN				LR		LR			
	comp=E,4µm,10.7s								
WHN				LR		LR			
	comp=Z,6µm,14.5s								
JAY	Jayapura	39.13	87	P		P	09 38 34.3	-2.1	
	baz=39,SNR=5.0								
XAN	Xi'an	39.99	9	P		P	09 38 42.0	-1.2	
XAN				pP		pP	09 38 52.3	-0.2	
XAN				sP		sP	09 38 55.5	-0.8	
XAN				S		S	09 44 47.0	+0.1	
XAN				pmax		pmax			
	comp=Z,14nm,1.6s								
XAN				pmax		pmax			
	comp=Z,14nm,1.6s								
XAN				LR		LR			
	comp=N,3µm,13.4s								
XAN				LR		LR			
	comp=E,980nm,12.8s								
XAN				LR		LR			
	comp=Z,1µm,12.2s								
NJ2	Nanjing	40.86	23	*e*P		P	09 38 51.0	+0.6	
NJ2				pP		pP	09 39 03.0	+3.4	
NJ2				sP		sP	09 39 06.8	+3.4	
NJ2				S		S	09 45 05.0	+5.2	
NJ2				pmax		pmax			
	comp=Z,7.0nm,0.5s								
NJ2				LR		LR			
	comp=N,970nm,19.6s								
NJ2				LR		LR			
	comp=E,900nm,20.2s								
NJ2				LR		LR			
	comp=Z,970nm,19.6s								
SSE	Sheshan	40.98	26	P		P	09 38 53.0	+1.6	
SSE				pP		pP	09 38 58.8	-1.8	
SSE				sP		sP	09 39 04.5	+0.1	
SSE				S		S	09 45 06.0	+4.4	
SSE				sS		sS	09 45 16.3	-0.6	
SSE				pmax		pmax			
	comp=Z,33nm,0.8s								
SSE				pmax		pmax			
	comp=Z,150nm,5.4s								
SSE				LR		LR			
	comp=N,680nm,12.5s								
SSE				LR		LR			
	comp=E,2µm,12.5s								
SSE				LR		LR			
	comp=Z,3µm,12.5s								
JOW	Kunigami	41.29	37	*e*P		P	09 38 53.2	-0.7	
	comp=Z,20nm,1.0s								
NDI	New Delhi	41.36	327	*ex*		x	09 38 47.0		
LZH	Lanzhou	41.48	3⇑	P		P	09 38 56.0	+0.4	
LZH				pP		pP	09 39 06.3	+1.4	
LZH				sP		sP	09 39 10.5	+1.8	
LZH				S		S	09 45 12.0	+2.7	
LZH				sS		sS	09 45 26.0	+1.4	
LZH				SS		SS	09 48 09.5	-5.1	
LZH				pmax		pmax			
	comp=Z,98nm,1.2s								
LZH				pmax		pmax			
	comp=Z,550nm,4.0s								
LZH				LR		LR			
	comp=N,2µm,11.1s								
LZH				LR		LR			
	comp=E,3µm,12.0s								
LZH				LR		LR			
	comp=Z,4µm,15.7s								
COEN	Coen	41.77	105	*e*P		P	09 38 58.1	0.0	
	comp=Z,746nm,1.5s								
COEN	Coen	41.77	105	P		P	09 38 58.2	+0.1	
	baz=42,SNR=11								
BBOO	Buckleboo	42.01	135	P		P	09 38 59.5	-0.4	
	baz=42,SNR=8.6								
MTSU	Mount Surprise	43.52	110	P		P	09 39 12.9	+0.5	
	baz=44,SNR=17								
SDNR	Sundarnagar	43.71	329	*ex*		x	09 39 14.0		
TIA	Tai'an	44.03	18⇑	P		P	09 39 15.0	-1.1	
TIA				S		S	09 45 44.0	-2.5	
TIA				LR		LR			
	comp=N,2µm,18.6s								
TIA				LR		LR			
	comp=E,2µm,16.7s								
TIA				LR		LR			
	comp=Z,2µm,17.6s								
GTA	Gaotai	44.78	358⇑	P		P	09 39 22.5	+0.3	
GTA				pP		pP	09 39 32.3	+0.8	
GTA				sP		sP	09 39 36.3	+1.0	
GTA				PcP		PcP	09 41 04.0	0.0	
GTA				S		S	09 45 58.3	+0.9	
GTA				sS		sS	09 46 14.5	+1.7	
GTA				SS		ScS	09 49 11.5	-6.2	
GTA				pmax		pmax			
	comp=Z,46nm,2.0s								
GTA				pmax		pmax			
	comp=Z,580nm,5.2s								
GTA				LR		LR			
	comp=N,2µm,14.0s								
GTA				LR		LR			
	comp=E,3µm,14.7s								
GTA				LR		LR			
	comp=Z,2µm,14.0s								
PMG	Port Moresby	45.32	98	*e*P		P	09 39 26.7	0.0	
	comp=Z,340nm,1.8s								
PMG	Port Moresby	45.32	98	P		P	09 39 26.7	0.0	
	comp=Z,25nm,0.6s,baz=252,slow=6.6,SNR=10								
STKA	Stephens Creek	45.63	130	P		P	09 39 29.2	+0.2	
	comp=Z,16nm,0.5s,baz=305,slow=8.9,SNR=96								
STKA				LR		LR	09 59 57.1		
	comp=Z,830nm,18.6s,baz=131,slow=38								
STKA	Stephens Creek	45.63	130	P		P	09 39 29.4	+0.4	
	baz=46,SNR=47								
CTA	Charters Tower	45.71	113	P		P	09 39 30.1	+0.2	
CTA	Charters Tower	45.71	113	P		P	09 39 30.1	+0.2	
	comp=Z,19nm,0.7s,baz=300,slow=6.9,SNR=7.4								
CTAO	Charters Tower	45.71	113	*e*P		P	09 39 30.4	+0.6	
CTAO				pmax		pmax			
	comp=Z,166nm,1.5s								
CTAO	Charters Tower	45.71	113	*e*P		P	09 39 30.4	+0.6	
	comp=Z,166nm,1.5s								
BTO	Baotou	46.59	9	*e*P		P	09 39 36.3	-0.2	
HHC	Hu-ho-hao-te	47.09	10	*e*P		P	09 39 43.3	+3.0	
HHC				S		S	09 46 33.0	+2.5	
HHC				pmax		pmax			
	comp=Z,100nm,1.0s								
HHC				pmax		pmax			
	comp=Z,300nm,8.5s								
HHC				LR		LR			
	comp=N,480nm,16.0s								
HHC				LR		LR			
	comp=E,500nm,15.0s								
HHC				LR		LR			
	comp=Z,600nm,15.1s								
BJT	Baijiatuau	47.30	15	*e*P		P	09 39 42.1	+0.2	
	comp=Z,19nm,0.6s								
JNU	Nakatsue	47.46	34	*e*P		P	09 39 43.5	+0.2	
JNU	Nakatsue	47.46	34	P		P	09 39 42.0	-1.3	
	comp=Z,36nm,1.1s,baz=200,slow=7.2,SNR=6.0								
DL2	Dalian	47.98	21	P		P	09 39 46.5	-0.7	
DL2				S		S	09 46 41.5	-1.6	
DL2				pmax		pmax			
	comp=Z,33nm,1.8s								
DL2				pmax		pmax			
	comp=Z,240nm,4.4s								
DL2				LR		LR			
	comp=N,1µm,13.2s								
DL2				LR		LR			
	comp=E,750nm,14.2s								
DL2				LR		LR			
	comp=Z,1µm,14.7s								
CMSA	Cobar Meteorol	48.67	128	P		P	09 39 53.4	+0.7	
	baz=49,SNR=98								
KSAR	Wonju Array Be	49.31	28	P		P	09 39 57.2	-0.2	
KSRS	Korea Array	49.34	28	P		P	09 39 57.2	-0.4	
	comp=Z,17nm,0.7s,baz=219,slow=7.2,SNR=54								
RMQ	Roma	49.52	120	P		P	09 40 00.6	+1.2	
	baz=50,SNR=15								
KSH	Kashi	50.71	334	P		P	09 40 06.8	-1.4	
KSH				sP		sP	09 40 19.3	-2.1	
KSH				PcS		PcS	09 45 20.8	-1.8	
KSH				S		S	09 47 15.5	-6.2	
KSH				sS		sS	09 47 31.0	-6.2	
KSH				pmax		pmax			
	comp=Z,17nm,0.7s								
KSH				pmax		pmax			
	comp=Z,340nm,4.5s								
KSH				LR		LR			
	comp=N,880nm,8.8s								
KSH				LR		LR			
	comp=E,550nm,11.4s								
KSH				LR		LR			
	comp=Z,610nm,16.1s								
WMQ	Urumqi	50.73	347	P		P	09 40 09.5	+1.3	
WMQ				pP		pP	09 40 14.0	-3.7	
WMQ				PcP		PcP	09 41 26.8	+1.7	
WMQ				PP		PP	09 42 06.5	+1.9	
WMQ				ScP		ScP	09 45 21.0	+1.8	
WMQ				S		S	09 47 22.8	+1.1	
WMQ				ScS		ScS	09 49 56.8	-0.1	
WMQ				SS		SS	09 50 54.5	-2.2	
WMQ				pmax		pmax			
	comp=Z,160nm,1.1s								
WMQ				pmax		pmax			
	comp=Z,700nm,3.8s								
WMQ				LR		LR			
	comp=N,890nm,13.9s								
WMQ				LR		LR			
	comp=E,850nm,15.8s								
WMQ				LR		LR			
	comp=Z,680nm,22.0s								
EIDS	Eidsvold	51.25	118	*e*P		P	09 40 13.2	+0.8	
	comp=Z,68nm,1.5s								
SNY	Shenyang	51.26	21⇓	P		P	09 40 10.3	-1.8	
SNY				S		S	09 47 26.8	-2.0	
SNY				pmax		pmax			
	comp=Z,25nm,1.9s								
SNY				pmax		pmax			
	comp=Z,390nm,5.5s								
SNY				LR		LR			
	comp=N,760nm,16.8s								
SNY				LR		LR			
	comp=E,280nm,12.2s								
SNY				LR		LR			
	comp=Z,710nm,28.0s								
BSY	Bisya	51.71	305	P		P	09 40 17.5	+1.6	
	SNR=5.8								
YNG	Young	51.83	130	P		P	09 40 17.4	+0.7	
	baz=52,SNR=29								
CAN	Canberra	52.68	131	*e*P		P	09 40 23.5	+0.5	
CAN				pmax		pmax			
	comp=Z,70nm,1.4s								
CAN	Canberra	52.68	131	*e*P		P	09 40 23.5	+0.5	
	comp=Z,70nm,1.4s								
ARMA	Armidale	53.08	124	P		P	09 40 27.6	+1.6	
	baz=53,SNR=8.1								
KZA	Kyzart	53.15	336	*i* P		P	09 40 27.5	+0.8	
KZA	Kyzart	53.15	336	P		P	09 40 27.5	+0.8	
	SNR=13								
SONM	Songino Array	53.34	4	P		P	09 40 28.2	+0.6	
SONM	Songino Array	53.34	4	P		P	09 40 28.2	+0.6	
	comp=Z,53nm,0.8s,baz=184,slow=9.0,SNR=149								
SONM				LR		LR	10 03 34.1		
	comp=Z,989nm,20.4s,baz=216,slow=37								
ULN	Ulaanbaatar	53.42	5	P		P	09 40 29.0	+0.8	
	SNR=47								
ULN	Ulaanbaatar	53.42	5	*e*P		P	09 40 28.6	+0.4	
	comp=Z,72nm,1.1s								
MGCD	Mangrove Creek	53.54	128	P		P	09 40 30.8	+1.5	
	baz=54,SNR=9.0								
CN2	Changchun	53.65	21	*e*P		P	09 40 28.5	-1.3	
CN2				*ep*P		pP	09 40 38.8	-0.5	
CN2				*es*P		sP	09 40 42.5	-0.6	
CN2				*e*S		S	09 48 00.8	-0.7	
CN2				pmax		pmax			
	comp=Z,30nm,0.9s								
CN2				LR		LR			
	comp=N,700nm,21.0s								
CN2				LR		LR			
	comp=E,800nm,21.0s								
CN2				LR		LR			
	comp=Z,600nm,26.0s								
TKM2	Tokmak 2	53.71	336	*i* P		P	09 40 30.5	-0.1	
TKM2	Tokmak 2	53.71	336	P		P	09 40 30.5	-0.1	
	SNR=25								
KBK	Karagaybulak	53.75	336	*i* P		P	09 40 31.3	+0.5	
KBK	Karagaybulak	53.75	336	P		P	09 40 31.3	+0.5	
	SNR=16								
AML	Almayashu	53.84	334	*i* P		P	09 40 31.6	-0.2	
AML	Almayashu	53.84	334	P		P	09 40 31.6	-0.2	
	SNR=7.8								
AAK	Ala-Archa	53.92	335	P		P	09 40 32.9	+0.9	
	comp=Z,128nm,1.0s,SNR=11								
AAK	Ala-Archa	53.92	335*c*	*i* P		P	09 40 32.1	+0.1	
AAK				pmax		pmax			
	comp=Z,148nm,2.5s								
AAK	Ala-Archa	53.92	335	P		P	09 40 32.6	+0.5	
	SNR=21								
AAK	Ala-Archa	53.92	335	*e*P		P	09 40 32.1	+0.1	
	comp=Z,30nm,1.1s								
AAK	Ala-Archa	53.92	335	P		P	09 40 32.1	+0.1	
	comp=Z,6.3nm,0.7s,baz=159,slow=4.9,SNR=22								
FRU	Bishkek	54.03	336⇑	*i* P		P	09 40 32.5	-0.2	
FRU				pmax		pmax			
	comp=

MJAR	**Matsushiro Arr**	**54.11**	**36**	P		**P**	**09 40 32.6**	**-0.7**	
	comp=Z,5.6nm,0.7s,baz=221,slow=7.1,SNR=16								
EKS2	**Erkin-Say**	**54.24**	**335**	*i* P		**P**	**09 40 34.7**	**+0.4**	
EKS2	**Erkin-Say**	**54.24**	**335**	P		**P**	**09 40 34.7**	**+0.4**	
	SNR=41								
USP	**Ospenovka**	**54.44**	**336**	*i* P		**P**	**09 40 35.6**	**-0.1**	
USP	**Ospenovka**	**54.44**	**336**	P		**P**	**09 40 35.6**	**-0.1**	
	SNR=23								
MK31	**Makanchi Array**	**54.87**	**344**	*i* P		**P**	**09 40 38.3**	**-0.4**	
MK31				pmax		pmax			
	comp=Z,30nm,0.6s								
MKAR	**Makanchi Array**	**54.87**	**344**	*c i* P		P	09 40 30.6	-8.1	
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
MKAR				pmax		pmax			
	comp=Z,39nm,0.8s								
MKAR	**Makanchi Array**	**54.87**	**344**	P		**P**	**09 40 38.4**	**-0.3**	
MKAR	**Makanchi Array**	**54.87**	**344**	P		**P**	**09 40 38.4**	**-0.3**	
	comp=Z,39nm,0.8s,baz=152,slow=8.0,SNR=168								
MKAR				LR		LR	10 06 38.5		
	comp=Z,300nm,21.9s,baz=147,slow=39								
VLA	**Vladivostok**	**55.69**	**27**⇑	*i* P		**P**	**09 40 43.4**	**-1.2**	
VLA				*i*			09 41 42.4		
VLA				*i*			09 42 45.5		
VLA				*i* S		**S**	**09 48 28.3**	**-0.6**	
VLA				pmax		pmax			
	comp=Z,29nm,0.7s								
VLA				MLR		MLR			
	comp=E,26μm,16.0s								
ZAK	**Zakamensk**	**55.74**	**1**	*e* P		**P**	**09 40 44.5**	**-0.5**	
ZAK				*e*			09 41 48.4		
ZAK				pmax		pmax			
	comp=Z,18nm,1.1s								
MDJ	**Mudanjiang**	**55.93**	**24**	P		**P**	**09 40 45.5**	**-0.8**	
MDJ				PcP		**PcP**	**09 41 45.3**	**+0.6**	
MDJ				PP		**PP**	**09 42 50.0**	**-1.4**	
MDJ				ScP		**ScP**	**09 45 44.5**	**+2.8**	
MDJ				S		**S**	**09 48 35.8**	**+3.7**	
MDJ				ScS		**ScS**	**09 50 35.3**	**+2.0**	
MDJ				SS		**SS**	**09 52 20.5**	**+1.9**	
MDJ				pmax		pmax			
	comp=Z,23nm,0.8s								
MDJ				pmax		pmax			
	comp=Z,300nm,6.1s								
MDJ				LR		LR			
	comp=N,2μm,16.9s								
MDJ				LR		LR			
	comp=E,870nm,15.7s								
MDJ				LR		LR			
	comp=Z,2μm,14.5s								
MDJ	**Mudanjiang**	**55.93**	**24**	*e* P		**P**	**09 40 45.6**	**-0.7**	
	comp=Z,30nm,1.0s								
KK31	**Karatay Array**	**56.03**	**333**	*i* P		**P**	**09 40 46.1**	**-1.0**	
KK31				pmax		pmax			
	comp=Z,12nm,0.8s								
KKAR	**Karatay Array**	**56.03**	**333**	*e* P		**P**	**09 40 46.1**	**-1.0**	
KKAR				pmax		pmax			
	comp=Z,8.0nm,0.8s								
KKAR	**Karatay Array**	**56.03**	**333**	*e* P		**P**	**09 40 46.1**	**-1.0**	
	comp=Z,8.0nm,0.8s								
USRK	**Ussuriysk Arra**	**56.59**	**26**	P		**P**	**09 40 50.4**	**-0.7**	
	comp=Z,55nm,0.7s,baz=222,slow=6.2,SNR=109								
USRK				LR		LR	10 10 33.7		
	comp=Z,865nm,18.1s,baz=42,slow=42								
HIA	**Hailar**	**56.85**	**14**	*e* P		**P**	**09 40 51.9**	**-0.9**	
	comp=Z,31nm,1.0s								
MOY	**Mondy**	**57.01**	**360**	*e* P		**P**	**09 40 54.0**	**0.0**	
MOY				pmax		pmax			
	comp=Z,89nm,3.7s								
TLY	**Talaya**	**57.05**	**2**	*c i* P		**P**	**09 40 54.8**	**+0.6**	
TLY				*e*S		**S**	**09 48 51.2**	**+4.5**	
TLY				pmax		pmax			
	comp=Z,87nm,1.5s								
TLY				MLR		MLR			
	comp=Z,2μm,14.0s								
TLY	**Talaya**	**57.05**	**2**	P		**P**	**09 40 55.9**	**+1.7**	
	comp=Z,263nm,1.0s,SNR=12								
IRK	**Irkutsk**	**57.63**	**2**⇑	*i* P		**P**	**09 40 58.1**	**-0.1**	
IRK				pmax		pmax			
	comp=Z,113nm,2.0s								
KURBB	**Kurchatov Arra**	**59.40**	**343**	P		**P**	**09 41 10.2**	**-0.4**	
	comp=Z,21nm,0.8s,baz=154,slow=6.8,SNR=100								
KURK	**Kurchatov**	**59.45**	**343**	P		**P**	**09 41 09.0**	**-1.9**	
KURK				pmax		pmax			
	comp=Z,349nm,2.5s								
KURK	**Kurchatov**	**59.45**	**343**	P		**P**	**09 41 10.2**	**-0.8**	
KLR	**Kul'dur**	**60.56**	**22**	*e* P		P	09 41 14.3	-4.3	
KLR				*e*S		S	09 49 25.5	-7.0	
KLR				*e*			09 51 06.0		
KLR				pmax		pmax			
	comp=Z,70nm,1.8s								
ERM	**Erimo**	**60.61**	**35**	*e* P		**P**	**09 41 18.7**	**-0.3**	
ERM				pmax		pmax			
	comp=Z,14nm,0.8s								
ERM	**Erimo**	**60.61**	**35**	*e* P		**P**	**09 41 18.7**	**-0.3**	
	comp=Z,14nm,0.8s								
ATD	**Arta Tunnel**	**60.85**	**286**	LR		LR	10 03 30.9		
	comp=Z,189nm,20.6s,baz=286,slow=32								
ZALV	**Zalesovo Beam**	**60.95**	**349**	P		**P**	**09 41 20.7**	**-0.4**	
ZALV	**Zalesovo Beam**	**60.95**	**349**	P		**P**	**09 41 20.7**	**-0.4**	
ZALV				P'P'			10 10 45.8		
ZALV	**Zalesovo Beam**	**60.95**	**349**	P		**P**	**09 41 20.7**	**-0.4**	
	comp=Z,46nm,0.8s,baz=170,slow=4.5,SNR=66								
ZALV				LR		LR	10 08 33.7		
	comp=Z,635nm,20.6s,baz=340,slow=37								
ZALV				PKPPKP		P'P'df	10 10 45.8	+9.0	
	comp=Z,0.4nm,0.3s,baz=281,slow=2.4,SNR=3.9								
ASAJ	**Asahikawa**	**61.69**	**32**	*e* P		**P**	**09 41 26.0**	**-0.4**	
ASAJ	**Asahikawa**	**61.69**	**32**	P		**P**	**09 41 25.9**	**-0.5**	
	comp=Z,8.4nm,0.7s,baz=238,slow=7.8,SNR=11								
KRAR	**Krasnoyarsk**	**61.78**	**354**⇓	*i* P		**P**	**09 41 26.9**	**+0.2**	
KRAR				pmax		pmax			
	comp=Z,132nm,1.6s								
RAYN	**Ar Rayn**	**61.87**	**300**	P		**P**	**09 41 28.3**	**+0.3**	
	comp=Z,124nm,1.6s,SNR=9.2								
NVS	**Novosibirsk**	**62.10**	**348**⇑	*i* P		**P**	**09 41 27.0**	**-1.9**	
NVS				*e*S		**S**	**09 49 50.8**	**-0.9**	
NVS				pmax		pmax			
	comp=N,49nm,1.7s								
NVS				pmax		pmax			
	comp=Z,85nm,1.7s								
NVS				pmax		pmax			
	comp=E,33nm,1.4s								
NVS				smax		smax			
	comp=E,36nm,2.1s								
KBD	**Kabd**	**62.21**	**307**	*e* P		**P**	**09 41 30.3**	**+0.1**	
KBD				AMb		AMB	09 41 39.3		
	comp=Z,72nm,1.3s								
UMR	**Umm Al-Rimmam**	**62.35**	**307**	*e* P		**P**	**09 41 31.1**	**0.0**	
UMR				AMb		AMB	09 41 34.6		
	comp=Z,100nm,1.2s								
NAY	**Al-Naaiem**	**62.60**	**307**	*e* P		**P**	**09 41 32.6**	**-0.2**	
NAY				AMb		AMB	09 41 41.5		
	comp=Z,42nm,1.4s								
YUK	**Yuzh-Kuril'sk**	**63.43**	**34**	*c i* P		**P**	**09 41 36.7**	**-1.2**	
YUK				*i*			09 42 11.5		
YUK				*i*			09 43 52.9		
YUK				*i* S		**S**	**09 50 05.1**	**-3.7**	
YUK				*i*			09 51 23.4		
YUK				*i* SS		**SS**	**09 54 16.3**	**0.0**	
YUK				MLR		MLR			
	comp=Z,449nm,15.0s								
YUK				MLR		MLR			
	comp=E,550nm,15.0s								
VOSK	**Vostochnaya**	**63.60**	**340**	P		**P**	**09 41 37.4**	**-1.6**	
VOSK				pmax		pmax			
	comp=Z,59nm,1.3s								
YSS	**Yuzh-Sakhalins**	**63.70**	**30**	*e* P		**P**	**09 41 39.2**	**-0.5**	
BVA0	**Borovoye Array**	**64.05**	**340**	*i* P		**P**	**09 41 40.9**	**-1.0**	
BVA0				pmax		pmax			
	comp=Z,96nm,1.3s								
BVAR	**Borovoye Array**	**64.05**	**340**	P		**P**	**09 41 41.1**	**-0.8**	
BVAR	**Borovoye Array**	**64.05**	**340**	P		**P**	**09 41 41.1**	**-0.8**	
BVAR	**Borovoye Array**	**64.05**	**340**	P		**P**	**09 41 41.1**	**-0.8**	
	comp=Z,12nm,0.6s,baz=146,slow=8.2,SNR=50								
BVAR				LR		LR	10 12 27.5		
	comp=Z,228nm,20.7s,baz=140,slow=39								
BRVK	**Borovoye**	**64.12**	**340**	P		**P**	**09 41 41.0**	**-1.3**	
	comp=Z,186nm,1.2s,SNR=8.8								
BRVK	**Borovoye**	**64.12**	**340**	*c i* P		**P**	**09 41 41.5**	**-0.9**	
BRVK				pmax		pmax			
	comp=Z,44nm,1.7s								
BRVK	**Borovoye**	**64.12**	**340**	P		**P**	**09 41 42.0**	**-0.4**	
	SNR=18								
BRVK	**Borovoye**	**64.12**	**340**	*e* P		**P**	**09 41 41.5**	**-0.9**	
	comp=Z,86nm,1.4s								
KMBO	**Kilima Mbogo**	**64.35**	**271**	P		**P**	**09 41 46.6**	**+1.6**	
	SNR=7.2								
KMBO	**Kilima Mbogo**	**64.35**	**271**	*e* P		**P**	**09 41 45.6**	**+0.7**	
	comp=Z,109nm,1.9s								
KMBO	**Kilima Mbogo**	**64.35**	**271**	P		**P**	**09 41 45.7**	**+0.7**	
	comp=Z,3.6nm,0.6s,baz=70,slow=7.7,SNR=11								
KMBO				LR		LR	10 04 17.6		
	comp=Z,406nm,20.7s,baz=96,slow=31								
DZM	**Mont Dzumac**	**64.64**	**112**	*e* P		**P**	**09 41 46.5**	**0.0**	
	comp=Z,60nm,1.6s								
DZM	**Mont Dzumac**	**64.64**	**112**	*e* LR		LR	10 01 08.9		
	comp=Z,777nm,22.5s								
DZM	**Mont Dzumac**	**64.64**	**112**	P		**P**	**09 41 45.9**	**-0.6**	
DZM	**Mont Dzumac**	**64.64**	**112**	P		**P**	**09 41 45.9**	**-0.6**	
	comp=Z,6.5nm,0.9s,baz=288,slow=6.4,SNR=3.5								
CLNS	**Chul'man**	**65.04**	**14**	*e* P		**P**	**09 41 47.4**	**-0.9**	
CLNS				pmax		pmax			
	comp=Z,14nm,1.2s								
CLNS				pmax		pmax			
	comp=E,7.0nm,1.1s								
CLNS				pmax		pmax			
	comp=N,9.0nm,1.1s								
IBDR	**Badra**	**65.24**	**310**	*i* P		P	09 41 45.0	-5.0	
IBDR				*i* S		S	09 50 25.0	-6.6	
AB31	**Akbulak array**	**65.51**	**331**	*i* P		**P**	**09 41 51.0**	**-0.5**	
AB31				pmax		pmax			
	comp=Z,43nm,0.7s								
ABKAR	**Akbulak array**	**65.51**	**331**	*e* P		**P**	**09 41 50.9**	**-0.6**	
	comp=Z,81nm,1.0s								
BHD	**Baghdad**	**66.48**	**310**	*e* P		P	09 41 51.0	-7.1	
BHD				*e*S		S	09 50 37.0	-10	
DRV	**Dumont d'Urvil**	**66.48**	**164**	S		**S**	**09 50 42.0**	**-3.7**	
DRV				L		L	09 58 00.0		
DRV				R			10 01 00.0		
AKTO	**Aktyubinsk**	**67.22**	**331**	P		**P**	**09 42 01.8**	**-0.7**	
AKTO	**Aktyubinsk**	**67.22**	**331**	P		**P**	**09 42 01.8**	**-0.7**	
AKTO	**Aktyubinsk**	**67.22**	**331**	P		**P**	**09 42 01.8**	**-0.7**	
	comp=Z,8.0nm,1.0s,baz=127,slow=6.8,SNR=25								
MAW	**Mawson**	**67.26**	**195**	P		**P**	**09 42 03.0**	**+0.6**	
MAW				*e*			10 10 29.2		
MAW	**Mawson**	**67.26**	**195**	P		**P**	**09 42 03.0**	**+0.6**	
	comp=Z,10.0nm,1.1s,baz=48,slow=7.6,SNR=9.4								
MAW				LR		LR	10 05 40.7		
	comp=Z,2μm,19.8s,baz=23,slow=31								
MAW				PKP2bc			10 10 29.2		
	comp=Z,1.3nm,0.8s,baz=239,slow=6.9,SNR=3.7								
MAW	**Mawson**	**67.26**	**195**	P		**P**	**09 42 03.4**	**+1.0**	
	baz=67,SNR=6.8								
KWAJ	**Kwajalein Atol**	**67.35**	**78**	*i* P		P	09 42 09.5	+5.6	
GNI	**Garni**	**69.19**	**317**	*e* P		**P**	**09 42 15.7**	**+0.5**	
	comp=Z,56nm,1.4s								
GNI	**Garni**	**69.19**	**317**	P		**P**	**09 42 15.6**	**+0.5**	
	comp=Z,3.4nm,0.3s,baz=94,slow=3.3,SNR=4.8								
DGRG	**David-gareji**	**69.36**	**318**	P		**P**	**09 42 16.8**	**+0.7**	
TBLG	**Delisi**	**69.91**	**318**	*e* P		**P**	**09 42 19.5**	**+0.1**	
TBLG	**Delisi**	**69.91**	**318**	P		**P**	**09 42 19.5**	**+0.1**	
KZR	**Kazreti**	**69.96**	**318**	P		**P**	**09 42 19.1**	**-0.7**	
SVE	**Sverdlovsk**	**70.56**	**338**	*de* P		**P**	**09 42 23.3**	**+0.3**	
SVE				pmax		pmax			
	comp=Z,143nm,1.4s								
YAK	**Yakutsk**	**70.79**	**14**	*c i* P		**P**	**09 42 22.9**	**-1.4**	
YAK				*e*			09 42 45.8		
YAK				*e*			09 44 58.1		
YAK				*e* PPP		PPP	09 46 41.0		
YAK				*e*S		**S**	**09 51 33.9**	**-2.9**	
YAK				*e*			09 52 23.3		
YAK				*e*SS		**SS**	**09 56 06.0**	**-3.7**	
YAK				pmax		pmax			
	comp=Z,47nm,1.1s								
YAK				pmax		pmax			
	comp=N,17nm,1.3s								
YAK				pmax		pmax			
	comp=E,16nm,1.5s								
YAK				pmax		pmax			
	comp=Z,109nm,3.0s								
YAK				pmax		pmax			
	comp=N,40nm,2.3s								
YAK				pmax		pmax			
	comp=E,68nm,3.3s								
YAK				smax		smax			
	comp=N,54nm,2.6s								
YAK				smax		smax			
	comp=E,20nm,1.8s								
ZEI	**Tsey**	**70.94**	**319**	*e* P		**P**	**09 42 25.9**	**-0.1**	
ZEI				pmax		pmax			
	comp=Z,56nm,1.5s								
SFNV	**Sufian**	**70.95**	**311**	*e* P		P	09 42 20.3	-5.6	
ARU	**Arti**	**71.09**	**336**	*c i* P		**P**	**09 42 25.8**	**-0.5**	
ARU							09 42 47.1		
ARU							09 44 59.7		
ARU				PPP		PPP	09 46 49.3		
ARU				S		**S**	**09 51 41.3**	**+0.8**	
ARU				SS		SS	09 56 06.8	-7.7	
ARU				pmax		pmax			
	comp=Z,72nm,1.7s								
ARU				MLR		MLR			
	comp=Z,481nm,19.0s								
ARU	**Arti**	**71.09**	**336**	P		**P**	**09 42 26.4**	**+0.1**	
	comp=Z,304nm,1.3s,SNR=14								
ONI	**Oni**	**71.15**	**318**	P		**P**	**09 42 27.4**	**+0.4**	
RPZ	**Rata Peaks**	**71.37**	**134**	LR		LR	10 11 21.2		
	comp=Z,744nm,20.4s,baz=268,slow=34								
ZALF	**Zalf**	**71.85**	**307**	*e* P		**P**	**09 42 32.5**	**+1.1**	
KBZ	**Khabaz**	**72.02**	**319**	P		**P**	**09 42 32.4**	**+0.2**	
KBZ	**Khabaz**	**72.02**	**319**	P		**P**	**09 42 32.4**	**+0.2**	
KBZ	**Khabaz**	**72.02**	**319**	P		**P**	**09 42 32.4**	**+0.2**	
	comp=Z,12nm,0.9s,baz=115,slow=5.6,SNR=17								
CHVG	**Ch'k'valeri**	**72.11**	**318**	P		P	09 42 23.7	-9.1	
SALA	**Sala**	**72.26**	**307**	*e* P		**P**	**09 42 34.9**	**+0.8**	
KIV	**Kislovodsk**	**72.26**	**320**	*e* P		**P**	**09 42 33.8**	**+0.1**	
KIV				*e*S		**S**	**09 51 54.7**	**-0.1**	
KIV				pmax		pmax			
	comp=Z,41nm,1.1s								
EIL	**Elat**	**72.78**	**303**	P		**P**	**09 42 37.8**	**+0.8**	
EIL	**Elat**	**72.78**	**303**	P		**P**	**09 42 37.8**	**+0.8**	
	comp=Z,18nm,0.8s,baz=126,slow=4.6,SNR=20								
EIL	**Elat**	**72.78**	**303**	P		**P**	**09 42 37.8**	**+0.8**	
	baz=73,SNR=12								
MARH	**Ras Al Marh**	**72.88**	**308**	*e* P		**P**	**09 42 36.5**	**-1.5**	
BRBR	**Barbar**	**73.10**	**307**	*e* P		**P**	**09 42 39.9**	**+0.8**	
BIDA	**Albida**	**73.33**	**309**	*e* P		P	09 42 33.4	-6.9	
MMAI	**Mount Meron Ar**	**73.42**	**307**	P		**P**	**09 42 41.5**	**+0.6**	
MMAI	**Mount Meron Ar**	**73.42**	**307**	P		**P**	**09 42 41.4**	**+0.6**	
	comp=Z,6.6nm,0.6s,baz=92,slow=7.5,SNR=9.5								
ARNB	**Al Arnab**	**73.88**	**310**	*e* P		**P**	**09 42 43.1**	**-0.4**	
SOKR	**Solikamsk**	**73.96**	**338**	*c i* P		**P**	**09 42 43.3**	**+0.1**	
SOKR				pmax		pmax			
	comp=Z,60nm,1.7s								
SOC	**Sochi**	**74.05**	**318**	*c i* P		**P**	**09 42 43.2**	**-1.0**	
SOC				*e*SP		**sP**	**09 42 55.5**	**-2.2**	
SOC				*e*			09 45 27.1		
SOC				*e*PPP		PPP	09 47 16.8		
SOC				*e*S		**S**	**09 52 14.1**	**-0.8**	
SOC				pmax		pmax			
	comp=Z,45nm,1.1s								
LBTB	**Lobatse**	**74.98**	**246**	*e* P		**P**	**09 42 51.0**	**+0.9**	
	comp=Z,63nm,1.9s								
SYO	**Syowa Base**	**75.03**	**199**⇑	*e* P		**P**	**09 42 49.4**	**0.0**	
SYO	**Syowa Base**	**75.03**	**199**⇓	*e* pP		**P**	**09 42 51.8**	**+2.4**	
PETK	**Petropavlovsk-**	**75.06**	**31**	P		**P**	**09 42 47.7**	**-2.1**	
PETK	**Petropavlovsk-**	**75.06**	**31**	P		**P**	**09 42 47.7**	**-2.1**	
PETK	**Petropavlovsk-**	**75.06**	**31**	P		**P**	**09 42 47.7**	**-2.1**	
	comp=Z,5.2nm,0.8s,baz=195,slow=4.6,SNR=6.3								
PETK				LR		LR	10 21 16.6		
	comp=Z,285nm,18.2s,baz=227,slow=40								
URZ	**Urewera**	**75.21**	**128**	P		**P**	**09 42 51.0**	**-0.1**	
URZ	**Urewera**	**75.21**	**128**	P		**P**	**09 42 51.0**	**-0.1**	
	comp=Z,12nm,0.6s,baz=258,slow=2.1,SNR=12								
URZ				LR		LR	10 18 44.1		
	comp=Z,581nm,18.9s,baz=104,slow=38								
BOSA	**Boshof**	**75.37**	**242**	*e* P		**P**	**09 42 52.5**	**+0.2**	
	comp=Z,130nm,2.0s								
BOSA	**Boshof**	**75.37**	**242**	P		**P**	**09 42 52.9**	**+0.5**	
	comp=Z,4.0nm,0.6s,baz=78,slow=5.6,SNR=15								
BOSA				LR		LR	10 10 41.7		
	comp=Z,930nm,19.4s,baz=139,slow=31								
PET	**Petropavlovsk**	**75.51**	**32**	*e* P		**P**	**09 42 52.2**	**-0.2**	
PET				*e*S		**S**	**09 52 27.9**	**-2.9**	
PET				pmax		pmax			
	comp=Z,200nm,12.4s								
PET				pmax		pmax			
	comp=Z,400nm,10.9s								
PET				pmax		pmax			
	comp=Z,53nm,0.9s								
PET				MLR		MLR			
	comp=Z,300nm,18.0s								
PET				MLR		MLR			
	comp=Z,300nm,13.0s								
ANN	**Anapa**	**76.04**	**319**	*e* P		**P**	**09 42 53.6**	**-2.0**	
ANN				*e**PP		**pP**	**09 43 03.3**	**-2.2**	
ANN				*e*			09 45 44.0		
ANN				*e*PPP		PPP	09 47 30.5		
ANN				*e*S		**S**	**09 52 34.1**	**-2.8**	
ANN				pmax		pmax			
	comp=Z,34nm,1.0s								
BRTR	**Keskin Array B**	**76.89**	**313**	P		**P**	**09 42 59.9**	**-0.9**	
BRTR	**Keskin Array B**	**76.89**	**313**	P		**P**	**09 42 59.9**	**-0.9**	
	comp=Z,7.1nm,0.8s,baz=130,slow=7.1,SNR=37								
BRTR				LR		LR	10 19 59.6		
	comp=Z,213nm,20.1s,baz=267,slow=38								
VORD	**Divnogorie**	**77.41**	**325**	*e* P		P	09 42 59.8	-3.4	
VORD				*e**PP		pP	09 43 08.5	-4.6	
VORD				pmax		pmax			
	comp=Z,6.0nm,0.9s								
VORD				pmax		pmax			
	comp=N,90nm,0.5s								
VORD				pmax		pmax			
	comp=E,60nm,0.6s								
VSR	**Storozhevoye**	**77.59**	**325**	*e* P		**P**	**09 43 02.8**	**-1.4**	
VSR				*e**PP		**pP**	**09 43 10.3**	**-3.8**	
VSR				pmax		pmax			
	comp=Z,20nm,1.2s								
VSR				pmax		pmax			
	comp=N,4.0nm,0.4s								
VSR				pmax		pmax			
	comp=E,10.0nm,0.7s								
SIM	**Simferopol'**	**78.29**	**318**	*e* P		**P**	**09 43 08.4**	**+0.1**	
SIM				*e*			09 53 08.4		
SIM				pmax		pmax			
	comp=Z,34nm,1.1s								
SEY	**Seymchan**	**78.33**	**21**	*ce* P		**P**	**09 43 09.3**	**+1.2**	
SEY	**Seymchan**	**78.33**	**21**	P		**P**	**09 43 06.3**	**-1.8**	
SEY	**Seymchan**	**78.33**	**21**	P		**P**	**09 43 06.3**	**-1.8**	
	comp=Z,251nm,0.4s,baz=270,slow=23,SNR=6.0								
VNDA	**Vanda**	**78.38**	**169**	P		**P**	**09 43 08.5**	**+0.3**	
	comp=Z,6.8nm,1.1s								
VNDA	**Vanda**	**78.38**	**169**	P		**P**	**09 43 08.5**	**+0.3**	
	comp=Z,3.4nm,0.6s,baz=314,slow=5.4,SNR=24								
VNDA				LR		LR	10 14 55.2		
	comp=Z,256nm,18.2s,baz=309,slow=34								
TIXI	**Tiksi**	**79.11**	**9**	*ce* P		**P**	**09 43 10.8**	**-1.4**	
TIXI				pmax		pmax			
	comp=Z,78nm,2.5s								
SBA	**Scott Base**	**79.47**	**169**	*e* P		**P**	**09 43 15.0**	**+0.8**	
SBA				pmax		pmax			
	comp=Z,102nm,2.0s								
SBA	**Scott Base**	**79.47**	**169**	*e* P		**P**	**09 43 15.0**	**+0.8**	
	comp=Z,102nm,2.0s								
MOS	**Moscow**	**80.35**	**329**	*e* P		**P**	**09 43 16.4**	**-2.8**	
MOS				*e*			09 43 24.3		
MOS				*e*			09 46 19.5		
MOS				*e*S		**S**	**09 53 20.3**	**-2.5**	
MOS				pmax		pmax			
	comp=Z,188nm,1.7s								
MOS				pmax		pmax			
	comp=Z,400nm,2.1s								
OBN	**Obninsk**	**80.64**	**328**	*c i* P		**P**	**09 43 20.8**	**0.0**	
OBN				*e*			09 43 28.1		
OBN				*e*			09 46 23.9		
OBN				*e*SS		SS	09 58 38.4	-0.8	
OBN				pmax		pmax			
	comp=Z,136nm,1.7s								
OBN				MLR		MLR			
	comp=Z,400nm,21.0s								
TIRR	**Tirgusor**	**82.01**	**316**	⇓P		**P**	**09 43 28.2**	**-0.1**	
TIRR	**Tirgusor**	**82.01**	**316**	*e* P		**P**	**09 43 28.1**	**-0.2**	
	comp=Z,49nm,1.2s								
TIRR	**Tirgusor**	**82.01**	**316**	⇓*i* P		**P**	**09 43 28.2**	**-0.1**	
CFR	**Carcaliu**	**82.39**	**317**	⇑P		**P**	**09 43 30.2**	**-0.1**	
CFR	**Carcaliu**	**82.39**	**317**	⇑*i* P		**P**	**09 43 30.2**	**-0.1**	
KIS	**Kishinev**	**82.44**	**319**	*e* P		**P**	**09 43 30.0**	**-0.5**	
KIS	**Kishinev**	**82.44**	**319**	*e* P		**P**	**09 43 30.0**	**-0.5**	
KIS				*e*			09 43 37.0		
TSUM	**Tsumeb**	**82.55**	**251**	*e* P		**P**	**09 43 31.9**	**-0.1**	
	comp=Z,13nm,1.1s								
KIEV	**Kiev**	**83.26**	**322**	*e* P		**P**	**09 43 33.9**	**-0.8**	
KIEV				pmax		pmax			
	comp=Z,28nm,1.3s								
KIEV	**Kiev**	**83.26**	**322**	*e* P		**P**	**09 43 33.9**	**-0.8**	
	comp=Z,28nm,1.3s								
FX1	**Attu Island--F**	**83.45**	**35**	*e* P		**P**	**09 43 35.5**	**-0.1**	
VRI	**Vrincioaia**	**83.53**	**317**	⇓P		**P**	**09 43 36.9**	**+0.6**	
VRI	**Vrincioaia**	**83.53**	**317**	⇓*i* P		**P**	**09 43 36.9**	**+0.6**	
PLOR	**Plostina**	**83.58**	**317**	⇑P		**P**	**09 43 37.1**	**+0.6**	
PLOR	**Plostina**	**83.58**	**317**	⇑*i* P		**P**	**09 43 37.1**	**+0.6**	
TESR	**Tescani**	**83.75**	**318**	⇑*i* P		**P**	**09 43 37.8**	**+0.5**	
TMCR	**Tamitsa**	**83.82**	**337**	*e* P		**P**	**09 43 38.1**	**+0.8**	
TMCR				pmax		pmax			
	comp=Z,87nm,1.4s								
MLR	**Muntele Rosu**	**83.97**	**317**	P		**P**	**09 43 39.0**	**+0.4**	
MLR	**Muntele Rosu**	**83.97**	**317**	⇑*i* P		**P**	**09 43 39.0**	**+0.4**	
MLR	**Muntele Rosu**	**83.97**	**317**	P		**P**	**09 43 39.0**	**+0.4**	
	comp=Z,6.8nm,1.2s,baz=95,slow=2.6,SNR=25								
VOIR		**84.56**	**317**	⇓P		**P**	**09 43 41.4**	**-0.2**	
VOIR		**84.56**	**317**	⇓*i* P		**P**	**09 43 41.4**	**-0.2**

NIE Niedzica 88.53 320 eP P 09 44 03.4 +2.5
NIE Niedzica 88.53 320 eP P 09 44 03.4 +2.5
PKS6 Bocsa 88.54 317⇓ eP P 09 44 02.6 +1.7
PSZ Piszkesteto 88.54 318 ⇑P P 09 44 01.3 +0.3
PSZ Piszkesteto 88.54 318 eP P 09 44 00.5 -0.5
comp=Z,93nm,1.8s
PSZ Piszkesteto 88.54 318⇑ iP P 09 44 01.3 +0.3
PSZ Piszkesteto 88.54 318⇑ eP P 09 44 01.7 +0.7
BEL Belsk 88.67 322 eP P 09 44 02.2 +0.8
PKS2 Kecel 88.76 317⇓ eP P 09 44 03.4 +1.4
PKS7 Kunszentmiklos 88.89 317⇓ eP P 09 44 03.7 +1.2
OJC Ojcow 89.00 321 eP P 09 44 03.3 +0.3
OJC Ojcow 89.00 321 eP P 09 44 03.3 +0.3
BUD Budapest 89.05 318⇑ eP P 09 44 04.1 +0.8
PKSM Moragy 89.11 316 ⇑P P 09 44 03.7 +0.1
PKSM Moragy 89.11 316⇑ iP P 09 44 03.7 +0.1
PKSM Moragy 89.11 316⇑ eP P 09 44 03.9 +0.3
ADK Adak 89.24 38 eP P 09 44 03.8 -0.3
ADK pmax pmax
comp=Z,313nm,1.5s
ADK Adak 89.24 38 eP P 09 44 03.8 -0.3
comp=Z,313nm,1.5s
SNAA Sanae 89.26 198 eP P 09 44 05.5 +1.6
SNAA Sanae 89.26 198 eP P 09 44 05.6 +1.6
comp=Z,48nm,1.3s
VYHS Vyhne 89.33 319 eP P 09 44 04.8 +0.1
VYHS pmax pmax
comp=Z,41nm,2.3s
VYHS Vyhne 89.33 319 eP P 09 44 04.8 +0.1
PKS9 Tamasi 89.41 317⇓ eP P 09 44 06.2 +1.2
PKSG 89.46 318⇓ eP P 09 44 06.6 +1.4
TIP Timpagrande 89.48 309 eP P 09 44 06.5 +0.8
comp=Z,43nm,1.4s
CSKK Cs˙ˇtkako 89.54 318⇑ eP P 09 44 05.8 +0.2
PKST T˙ˇs 89.68 317 eP P 09 44 06.9 +0.6
OKC Ostrava-Krasne 89.99 320 eP P 09 44 08.7 +1.1
OKC e 09 44 16.0
OKC e 09 55 01.2
OKC MLR MLR
comp=Z,200nm,20.1s
OKC Ostrava-Krasne 89.99 320 eP P 09 44 08.7 +1.1
OKC ex x 09 44 16.0
OKC eS S 09 55 01.2 +2.8
OKC AMS AMS 10 33 20.0
comp=Z,200nm,20.1s
CEL Celeste 90.03 308 eP P 09 44 08.2 -0.1
comp=Z,82nm,1.3s
ARCES ARCESS Array B 90.34 340 P P 09 44 09.1 +0.2
ARCES ARCESS Array B 90.34 340 P P 09 44 09.1 +0.2
comp=Z,9.2nm,0.8s,baz=92,slow=3.8,SNR=16
ARCES LR LR 10 31 03.0
comp=Z,575nm,18.3s,baz=94,slow=40
MORC Moravsky Berou 90.37 320 eP P 09 44 09.7 +0.2
MORC pmax pmax
comp=Z,29nm,1.3s
MORC Moravsky Berou 90.37 320 eP P 09 44 09.7 +0.2
comp=Z,30nm,1.3s
BEHE Becsehely 90.42 316⇑ eP P 09 44 11.1 +1.3
KOGS Kog 90.78 316 iP P 09 44 11.9 +0.5
DPC Dobruska-Polom 91.22 320 eP P 09 44 14.1 +0.6
DPC e 09 44 21.8
DPC e 09 55 10.4
DPC Dobruska-Polom 91.22 320 eP P 09 44 14.1 +0.6
DPC ex x 09 44 21.8
DPC eS S 09 55 10.4 +0.5
DPC AMS AMS 10 34 50.0
CONA Conrad Observa 91.23 318⇑ iP P 09 44 13.6 0.0
comp=Z,8.5nm,1.4s
VNA1 Neumayer--Stat 91.25 198 eP P 09 44 15.5 +2.4
KSP Ksiaz 91.30 321⇑ eP P 09 44 14.4 +0.7
KSP e*PP pP 09 44 21.1 -2.7
KSP Ksiaz 91.30 321 eP P 09 44 14.5 +0.7
ARSA Arzberg 91.38 317⇑ iPcP PcP 09 44 14.9 -0.2
comp=Z,14nm,1.4s
PERS Pernice 91.58 317 iP P 09 44 15.5 +0.2
TREC Trest 91.63 319 eP P 09 44 15.8 +0.4
TREC MLR MLR
comp=Z,200nm,20.0s
TREC Trest 91.63 319 eP P 09 44 15.8 +0.4
TREC AMS AMS 10 36 50.0
comp=Z,200nm,20.0s
SOKA Soboth 91.64 317⇑ iPcP PcP 09 44 16.0 -0.4
comp=Z,18nm,1.3s
LJU Ljubljana 91.92 316 iP P 09 44 17.0 +0.2
OBKA Obir 91.96 316⇑ iPcP PcP 09 44 17.8 -0.1
comp=Z,12nm,1.3s
MOA Molln 92.29 318⇑ iP P 09 44 18.4 0.0
comp=Z,6.4nm,1.2s
PRU Pruhonice 92.32 320 eP P 09 44 20.5 +2.0
PRU e 09 44 26.0
PRU e 09 55 15.2
PRU MLR MLR
comp=Z,300nm,17.3s
PRU Pruhonice 92.32 320 eP P 09 44 20.5 +2.0
PRU ex x 09 44 26.0
PRU eS S 09 55 15.2 -4.5
PRU AMS AMS 10 35 20.0
comp=Z,300nm,17.3s
PVCC Panska Ves 92.36 320 AMS AMS 10 32 40.0
comp=Z,300nm,16.8s
PRA Prague 92.40 320 P P 09 44 21.0 +2.2
PRA AMS AMS 10 35 30.0
MYKA Terra Mystica 92.59 316⇑ iP P 09 44 19.7 -0.2
comp=Z,14nm,1.5s
GEC2 GERESS Array S 92.75 319 eP P 09 44 21.3 +0.6
comp=Z,37nm,1.9s
GEC2 GERESS Array S 92.75 319 eP P 09 44 21.3 +0.6
GEC2 pmax pmax
comp=Z,37nm,1.9s
GERES GERESS Array B 92.75 319 P P 09 44 21.2 +0.6
GERES GERESS Array B 92.75 319 P P 09 44 21.2 +0.6
comp=Z,0.7nm,0.4s,baz=90,slow=4.0,SNR=11
GERES LR LR 10 34 13.2
comp=Z,148nm,18.4s,baz=158,slow=41
BRG Berggiesshubel 92.79 321 eP P 09 44 21.5 +0.9
comp=Z,18nm,1.4s
BRG S S 09 55 25.0 +1.2
BRG
comp=N,213nm,15.2s
BRG
comp=E,217nm,16.4s
BRG
comp=Z,305nm,17.3s
BRG Berggiesshubel 92.79 321 eP P 09 44 21.5 +0.9
BRG S S 09 55 25.0 +1.2
BRG pmax pmax
comp=Z,18nm,1.4s
BRG MLR MLR
comp=N,213nm,15.2s
BRG MLR MLR
comp=E,217nm,16.4s
BRG MLR MLR
comp=Z,305nm,17.3s
KHC Kasperske Hory 92.86 319 eP P 09 44 20.8 -0.3
KHC e 09 44 28.3
KHC MLR MLR
comp=Z,200nm,15.1s
KHC Kasperske Hory 92.86 319 eP P 09 44 20.8 -0.3
KHC ex x 09 44 28.3
KHC ex x 09 55 39.1
KHC AMS AMS 10 36 40.0
comp=Z,200nm,15.1s
WET Wettzell 93.32 319 eP P 09 44 23.7 +0.5
comp=Z,39nm,2.1s
WET Wettzell 93.32 319 eP P 09 44 23.7 +0.5
WET pmax pmax
comp=Z,39nm,2.1s
CLL Collm 93.42 321 eP P 09 44 23.8 +0.3
comp=Z,44nm,2.2s
CLL Collm 93.42 321 eP P 09 44 24.0 +0.5
CLL e 09 44 31.0
CLL MLR MLR
comp=Z,200nm,20.5s
CLL Collm 93.42 321 eP P 09 44 24.0 +0.5
CLL e 09 44 31.0
CLL eSSS SSS 10 05 48.0
CLL LV 10 32 00.0
comp=Z,200nm,20.5s
TANN Tannenbergstha 93.69 320 eP P 09 44 25.5 +0.6
WERN Wernitzgruen 93.73 320 eP P 09 44 25.9 +0.8
WERD Werda 93.79 320 eP P 09 44 25.9 +0.6
comp=Z,13nm,1.6s
ROTZ Rotzenmuhle 93.81 319 eP P 09 44 26.5 +1.1
comp=Z,19nm,1.7s

MOX Moxa 94.24 320 eP P 09 44 27.9 +0.5
comp=Z,21nm,1.7s
MOX eL L 10 33 06.1
comp=Z,191nm,20.6s
MOX Moxa 94.24 320 eP P 09 44 27.9 +0.5
MOX pmax pmax
comp=Z,21nm,1.7s
GRF Grafenberg Arr 94.44 319 eP P 09 44 28.8 +0.5
comp=Z,16nm,1.6s
GRF eL L 10 34 36.1
comp=Z,232nm,22.0s
GRF Grafenberg Arr 94.44 319 eP P 09 44 28.8 +0.5
GRF pmax pmax
comp=Z,16nm,1.6s
NOA NORSAR Array B 95.01 331 P P 09 44 31.0 +0.4
NOA NORSAR Array B 95.01 331 P P 09 44 31.0 +0.4
comp=Z,0.3nm,0.3s,baz=96,slow=4.8,SNR=2.8
NOA LR LR 10 32 19.1
comp=Z,204nm,21.3s,baz=100,slow=39
KEST Kesra 95.03 305 eP P 09 44 32.0 +0.6
KEST Kesra 95.03 305 P P 09 44 32.2 +0.8
comp=Z,1.7nm,0.9s,baz=55,slow=7.6,SNR=4.2
NRDL Niedersach Rie 95.28 322 eP P 09 44 32.8 +0.9
TNS Taunus Mts 96.25 320 eP P 09 44 38.2 +1.6
TNS Taunus Mts 96.25 320 eP P 09 44 38.2 +1.6
TORD Torodi Ar. Bea 100.86 282 P Pdif 09 44 57.8 -0.1
TORD Torodi Ar. Bea 100.86 282 P Pdif 09 44 57.8 -0.1
comp=Z,0.4nm,0.7s,baz=94,slow=5.4,SNR=4.3
ILAR Eielson Array 104.09 24 PP PP 09 49 27.2 -1.7
ILAR PKKPbc **PKKPbc 10 00 60.0 -2.7**
ILAR Eielson Array 104.09 24 PP PP 09 49 27.2 -1.7
comp=Z,1.5nm,1.1s,baz=273,slow=6.4,SNR=7.7
ILAR PKKPbc **PKKPbc 10 00 60.0 -2.7**
comp=Z,0.3nm,0.6s,baz=110,slow=1.7,SNR=6.4
TBI Tubuai 105.02 116 eLR LR 10 19 55.1
comp=Z,253nm,27.0s
ESDC Sonseca Array 105.50 310 PP PP 09 49 53.7 +13
comp=Z,0.5nm,0.4s,baz=99,slow=8.4,SNR=4.9
PPT2 Papeete2 106.11 110 eLR LR 10 20 27.1
comp=Z,182nm,22.5s
YKA Yellowknife Ar 117.27 18 PKP PKPdf 09 49 52.7 -0.4
YKA Yellowknife Ar 117.27 18 PKP PKPdf 09 49 52.7 -0.4
comp=Z,0.7nm,0.6s,baz=340,slow=2.2,SNR=5.9
RKT Rikitea 117.86 120 eLR LR 10 25 50.2
comp=Z,312nm,27.0s
EDM Edmonton 124.58 25 ePKIKP PKPdf 09 50 07.6 +0.1
EDM Edmonton 124.58 25 ePKPdf PKPdf 09 50 07.6 +0.1
HUMO Hull Mountain 126.06 40 ePKPdf PKPdf 09 50 11.5 +0.8
B12A Libby 126.85 30 P PKPdf 09 50 12.6 +0.6
baz=127
A13A Flathead Natio 127.11 29 P PKPdf 09 50 13.3 +0.7
baz=127
WALA Waterton Lakes 127.27 29 ePKPdf PKPdf 09 50 13.5 +0.5
FFC Flin Flon 127.42 17 i PKIKP PKPdf 09 50 21.2 +8.3
B13A Whitefish 127.47 30 P PKPdf 09 50 13.7 +0.4
baz=127
A14A Double T Ranch 127.56 28 P PKPdf 09 50 13.8 +0.2
baz=127
BSMT Bassoo Peak 127.66 30 ePKPdf PKPdf 09 50 13.7 -0.2
A15A Johnson Ranch, 127.88 28 P PKPdf 09 50 14.2 0.0
baz=128
B14A Marquette Ranc 128.06 29 P PKPdf 09 50 14.9 +0.4
baz=128
C14A Swan Lake 128.23 30 P PKPdf 09 50 15.3 +0.5
baz=128
SWMT Swartz Lake 128.28 30 ePKPdf PKPdf 09 50 14.8 -0.2
A16A West Butte Ran 128.43 27 P PKPdf 09 50 15.4 +0.2
baz=128
B15A Bradely Ranch, 128.43 29 P PKPdf 09 50 15.5 +0.3
baz=128
SLMT Seeley Lake 128.72 30 ePKPdf PKPdf 09 50 14.5 -1.3
C15A Salmond Ranch, 128.78 29 P PKPdf 09 50 16.3 +0.4
baz=129
A17A Triple J Farms 128.84 27 P PKPdf 09 50 16.3 +0.4
baz=129
WVOR Wild Horse Val 128.85 38 ePKIKP PKPdf 09 50 16.6 +0.4
WVOR Wild Horse Val 128.85 38 ePKPdf PKPdf 09 50 16.6 +0.4
CHMT Chamberlain Mo 129.06 30 ePKPdf PKPdf 09 50 16.4 -0.2
BEKR Beckworth 129.14 42 ePKPdf PKPdf 09 50 18.2 +1.3
C16A Fuhringer Ranc 129.18 29 P PKPdf 09 50 16.5 -0.1
baz=129
A18A Metzger Ranch, 129.24 26 P PKPdf 09 50 16.3 -0.3
baz=129
B17A LKG Farms, Che 129.27 28 P PKPdf 09 50 16.8 +0.1
baz=129
B18A Beardsley Farm 129.66 27 P PKPdf 09 50 17.4 -0.1
baz=130
A19A Klindworth Far 129.72 26 P PKPdf 09 50 17.3 -0.2
baz=130
C17A Wharram Farm, 129.76 28 P PKPdf 09 50 17.5 -0.2
baz=130
PAHR Pah Rah Range 129.87 41 ePKPdf PKPdf 09 50 18.3 +0.1
HRY Holter Researc 129.91 30 ePKPdf PKPdf 09 50 18.3 +0.2
MFID Camas Ranch 129.94 35 ePKPdf PKPdf 09 50 19.4 +1.2
MFID Camas Ranch 129.94 35 P PKPdf 09 50 18.9 +0.7
baz=130
EGMT Eagleton 129.94 27 ePKPdf PKPdf 09 50 18.7 +0.7
EGMT Eagleton 129.94 27 P PKPdf 09 50 18.1 +0.1
baz=130
B19A Brinkman Farms 129.99 26 P PKPdf 09 50 18.8 +0.7
baz=130
SCHQ Schefferville 129.99 351 PKP PKPdf 09 50 18.5 +0.7
SCHQ Schefferville 129.99 351 PKP PKPdf 09 50 18.5 +0.7
comp=Z,2.2nm,0.6s,baz=38,slow=5.2,SNR=5.8
CMB Columbia Colle 130.05 44 ePKIKP PKPdf 09 50 19.3 +0.8
CMB Columbia Colle 130.05 44 ePKPdf PKPdf 09 50 19.3 +0.8
A20A Cobblestone Ra 130.10 25 P PKPdf 09 50 18.5 +0.2
baz=130
D17A Six Diamond Ra 130.15 28 P PKPdf 09 50 18.7 +0.2
baz=130
B20A Solberg Farm, 130.40 26 P PKPdf 09 50 19.2 +0.3
baz=130
A21A Bergtoll Ranch 130.43 24 P PKPdf 09 50 19.2 +0.3
baz=130
DLMT Dillon 130.45 31 ePKPdf PKPdf 09 50 20.0 +0.8
WAKR Walker 130.46 43 ePKPdf PKPdf 09 50 20.6 +1.1
D18A Linhart Farms, 130.53 28 P PKPdf 09 50 19.3 +0.1
baz=130
E17A Martinsdale 130.56 29 P PKPdf 09 50 19.7 +0.3
baz=130
HLID Hailey 130.65 34 ePKPdf PKPdf 09 50 20.4 +0.8
HLID ePP PP 09 52 35.7 +1.4
HLID eSKPbc **SKPab 09 53 44.8 +3.4**
MCMT McKenzie Canyo 130.68 32 ePKPdf PKPdf 09 50 20.0 +0.2
BOZ Bozeman (W) 130.75 30 ePKIKP PKPdf 09 50 20.1 +0.3
BOZ Bozeman (W) 130.75 30 ePKPdf PKPdf 09 50 20.1 +0.3
E18A Harlowton 130.94 29 P PKPdf 09 50 20.3 +0.2
baz=131
C20A Veseth Ranch, 130.96 26 P PKPdf 09 50 20.0 +0.1
baz=131
F17A Fitzpatrick Pl 131.05 30 P PKPdf 09 50 20.4 +0.1
baz=131
NVAR Mina Array Bea 131.25 42 PKP PKPdf 09 50 22.4 +1.4
NVAR SKPbc **SKPab 09 53 47.0 +2.9**
NVAR Mina Array Bea 131.25 42 PKP PKPdf 09 50 22.4 +1.4
comp=Z,0.8nm,0.5s,baz=263,slow=2.9,SNR=10
NVAR SKPbc **SKPab 09 53 47.0 +2.9**
comp=Z,0.9nm,0.9s,baz=299,slow=4.0,SNR=4.8
C21A Desert Coulee 131.27 25 P PKPdf 09 50 21.0 +0.5
baz=131
D20A Manuel Ranch, 131.37 27 P PKPdf 09 50 21.3 +0.5
baz=131
QLMT Earthquake Lak 131.42 31 ePKPdf PKPdf 09 50 22.6 +1.5
GCMT Greycliff 131.62 29 ePKPdf PKPdf 09 50 21.9 +0.6
B23A Brockton 131.63 23 P PKPdf 09 50 22.0 +0.8
baz=132
A24A Westby 131.64 22 P PKPdf 09 50 22.1 +0.9
baz=132
YMR Madison River 131.77 31 ePKPdf PKPdf 09 50 24.4 +2.6
E20A Meyer Farm, Mu 131.81 27 P PKPdf 09 50 22.2 +0.6
baz=132
C22A Vida 131.84 25 P PKPdf 09 50 22.5 +0.9
baz=132
D21A La Casta Ranch 131.90 26 P PKPdf 09 50 22.7 +0.9
baz=132
DGMT Dagmar 131.94 23 ePKPdf PKPdf 09 50 23.3 +1.6
YFT Old Faithful 131.99 31 ePKPdf PKPdf 09 50 24.6 +2.3
LKWY Lake 132.13 31 ePKIKP PKPdf 09 50 25.9 +3.4
LKWY Lake 132.13 31 ePKPdf PKPdf 09 50 25.9 +3.4
D22A Cohagen 132.18 25 P PKPdf 09 50 23.5 +1.2
baz=132
IMW Indian Meadow 132.31 32 ePKPdf PKPdf 09 50 21.9 -1.0
H18A Shoshone NF, C 132.42 30 P PKPdf 09 50 23.8 +0.8
baz=132
MOOW Moose Ponds 132.52 32 ePKPdf PKPdf 09 50 24.7 +1.4
D23A Lindsay 132.57 25 P PKPdf 09 50 24.3 +1.3
baz=132
TPAW Teton Pass 132.59 32 ePKPdf PKPdf 09 50 23.9 +0.5
LOHW Long Hollow 132.69 32 ePKPdf PKPdf 09 50 24.3 +0.7
SNOW Snow King Moun 132.71 32 ePKPdf PKPdf 09 50 24.9 +1.2
HVU Hansel Valley 132.72 35 ePKIKP PKPdf 09 50 24.9 +1.3
HVU e 09 52 50.0
HVU Hansel Valley 132.72 35 ePKPdf PKPdf 09 50 24.9 +1.3
HVU ePP PP 09 52 50.0 +2.4
REDW Red Top Meadow 132.73 32 ePKPdf PKPdf 09 50 22.2 -1.4
E22A Miles City 132.84 26 P PKPdf 09 50 25.0 +1.4
baz=133
D24A Glendive 132.98 24 P PKPdf 09 50 24.4 +0.6
baz=133
AHID Auburn Hatcher 133.00 33 ePKPdf PKPdf 09 50 25.7 +1.6
MPMC Manual Prospec 133.04 44 P PKPdf 09 50 25.3 +0.9
baz=133
R11A Troy Canyon, C 133.09 41 P PKPdf 09 50 25.5 +1.1
baz=133
ULM Lac du Bonnet 133.11 15 PKP PKPdf 09 50 24.1 +0.3
ULM Lac du Bonnet 133.11 15 PKP PKPdf 09 50 24.1 +0.3
comp=Z,2.3nm,0.5s,baz=39,slow=1.1,SNR=5.1
BGU Big Grassy Mou 133.12 36 ePKPdf PKPdf 09 50 24.7 +0.3
EDW2 Edwards Air Fo 133.28 46 P PKPdf 09 50 25.7 +1.0
baz=133
H20A Greybull 133.38 29 P PKPdf 09 50 25.2 +0.6
baz=133
E24A Baker 133.44 25 P PKPdf 09 50 25.6 +0.9
baz=133
HWUT Hardware Ranch 133.52 34 ePKPdf PKPdf 09 50 25.6 +0.5
G22A Birney 133.63 27 P PKPdf 09 50 25.3 +0.2
baz=134
DUG Dugway 133.71 37 ePKIKP PKPdf 09 50 26.9 +1.4
DUG Dugway 133.71 37 ePKPdf PKPdf 09 50 26.9 +1.4
DUG eSKPbc **SKPab 09 53 55.0 +0.5**
DUG Dugway 133.71 37 P PKPdf 09 50 26.2 +0.8
baz=134
I20A Worland 133.71 30 P PKPdf 09 50 26.1 +0.7
baz=134
BW06 Boulder Array 133.82 32 ePKPdf PKPdf 09 50 26.0 +0.2
PDAR Pinedale Array 133.82 32 PKP PKPdf 09 50 26.1 +0.4
PDAR Pinedale Array 133.82 32 PKP PKPdf 09 50 26.1 +0.4
comp=Z,1.1nm,0.6s,baz=98,slow=1.0,SNR=11
E25A Miller Ranch, 133.85 24 P PKPdf 09 50 26.4 +1.0
baz=134
GSC Goldstone 133.91 45 ePKIKP PKPdf 09 50 27.4 +1.5
GSC Goldstone 133.91 45 ePKPdf PKPdf 09 50 27.4 +1.5
F24A Ekalaka 133.95 25 P PKPdf 09 50 25.9 +0.2
baz=134
M17A Scullys Gap (B 134.11 34 P PKPdf 09 50 26.4 +0.1
baz=134
MDND Maddock 134.13 20 P PKPdf 09 50 26.0 +0.1
baz=134
J20A Shoshoni 134.16 30 P PKPdf 09 50 27.0 +0.8
baz=134
I21A Big Trails, Te 134.22 29 P PKPdf 09 50 26.8 +0.5
baz=134
JLU Jordanelle 134.25 35 ePKPdf PKPdf 09 50 27.5 +0.9
DAU Daniels Canyon 134.48 35 ePKIKP PKPdf 09 50 28.9 +1.7
DAU Daniels Canyon 134.48 35 ePKPdf PKPdf 09 50 28.9 +1.7
I22A 9 Mile Ranch, 134.54 29 P PKPdf 09 50 27.5 +0.5
baz=134
F26A Lodgepole 134.68 24 P PKPdf 09 50 28.0 +1.0
baz=134
H24A Parks Ranch, A 134.77 26 P PKPdf 09 50 27.5 +0.2
baz=135
AGMN Agassiz Nation 134.89 16 ePKPdf PKPdf 09 50 26.5 -0.7
J22A Midwest 134.91 29 P PKPdf 09 50 27.8 +0.1
baz=135
MVU Marysvale 135.12 38 ePKPdf PKPdf 09 50 29.1 +0.8
MSU Marysvale 135.14 38 ePKIKP PKPdf 09 50 30.4 +2.1
MSU Marysvale 135.14 38 ePKPdf PKPdf 09 50 30.4 +2.1
TMUT Trail Mountain 135.23 37 ePKPdf PKPdf 09 50 28.6 0.0
G27A Dupree 135.36 24 P PKPdf 09 50 28.9 +0.6
baz=135
RSSD Black Hills 135.49 26 ePKIKP PKPdf 09 50 27.4 -1.4
RSSD Black Hills 135.49 26 ePKPdf PKPdf 09 50 27.4 -1.4
L21A Rawlins 135.53 31 P PKPdf 09 50 28.8 -0.1
baz=135
SRU San Rafael 135.76 36 ePKIKP PKPdf 09 50 28.9 -0.5
SRU San Rafael 135.76 36 ePKPdf PKPdf 09 50 28.9 -0.5
O19A Miners Draw (B 135.77 34 P PKPdf 09 50 29.7 +0.3
baz=136
RWWY Rawlins 135.81 31 ePKPdf PKPdf 09 50 29.8 +0.2
J24A Dixon Ranch, L 135.83 28 P PKPdf 09 50 28.6 -0.7
baz=136
P19A Cripple Cowboy 136.30 35 P PKPdf 09 50 29.6 -0.9
baz=136
M22A Cedar Creek Ra 136.34 31 P PKPdf 09 50 30.4 -0.1
baz=136
O20A White River Ci 136.37 34 P PKPdf 09 50 31.4 +0.9
baz=136
K26A Motz Farm, Whi 137.00 27 P PKPdf 09 50 31.1 -0.3
baz=137
Q20A Ridgley Place, 137.15 35 P PKPdf 09 50 32.1 +0.1
baz=137
M24A Cheyenne 137.18 29 P PKPdf 09 50 33.2 +1.3
baz=137
WUAZ Wupatki 137.47 41 ePKPdf PKPdf 09 50 35.1 +2.4
PV01 Paradox Valley 137.55 36 ePKPdf PKPdf 09 50 32.7 -0.1
SMCO Snowmass 137.74 34 ePKPdf PKPdf 09 50 31.4 -1.9
R21A Cimarron 137.98 35 P PKPdf 09 50 33.6 0.0
baz=138
MVCO Mesa Verde 138.21 37 PKPdf PKPdf 09 50 35.1 +1.0
S21A Coal Bank Pass 138.32 36 P PKPdf 09 50 35.8 +1.4
baz=138
R22A Saguache, Gunn 138.53 34 P PKPdf 09 50 33.7 -1.0
baz=138
ECSD EROS Data Cent 138.74 20 ePKPdf PKPdf 09 50 28.0 -6.5
R23A Moffat 139.07 34 P PKPdf 09 50 35.8 +0.2
baz=139
V20A Brimhall 139.15 38 P PKPdf 09 50 36.4 +0.7
baz=139
W20A Ramah 139.56 39 P PKPdf 09 50 36.8 +0.2
baz=139
V22A San Miguel Ran 140.03 37 P PKPdf 09 50 37.4 0.0
baz=140
R26A Arlington 140.26 31 P PKPdf 09 50 37.7 +0.1
baz=140
Y20A Horse Springs, 140.41 41 P PKPdf 09 50 39.3 +1.1
baz=140
X21A Alamocita Cree 140.45 40 P PKPdf 09 50 39.3 +1.1
baz=140
T25A Trinidad 140.61 34 P PKPdf 09 50 39.4 +1.0
baz=140
R27A Eads 140.61 31 P PKPdf 09 50 36.7 -1.6
baz=140
LAZ Ladron 140.88 39 ePKPdf PKPdf 09 50 40.1 +1.2
ANMO Albuquerque 140.95 38 ePKPdf PKPdf 09 50 38.4 -0.6
Q29A Oakley 141.03 28 P PKPdf 09 50 40.5 +1.5
baz=141
R28A Tribune 141.06 30 P PKPdf 09 50 40.0 +1.0
baz=141
120A U Bar Ranch, L 141.07 43 P PKPdf 09 50 40.9 +1.6
baz=141
V24A Rampart Ranch, 141.12 36 P PKPdf 09 50 40.6 +1.2
baz=141
U25A Circle Dot Ran 141.14 34 P PKPdf 09 50 40.1 +0.7
baz=141
P31A Stockton 141.26 26 P PKPdf 09 50 35.4 -3.8
baz=141
Q30A Quinter 141.32 28 P PKPdf 09 50 34.4 -5.0
baz=141
R29A Marienthal 141.32 29 P PKPdf 09 50 34.2 -5.3
baz=141
BNM Barren Site 141.37 39 ePKPdf PKPdf 09 50 37.9 -2.0
U26A Atchley Ranch, 141.51 34 P PKPdf 09 50 34.4 -5.7
baz=141
S28A Manter 141.60 31 P PKPdf 09 50 34.5 -5.5
baz=142
T28A Walsh 141.85 31 P PKPdf 09 50 36.3 -4.2
baz=142
R30A Dighton 141.85 28 P PKPdf 09 50 36.1 -4.3
baz=142
R31A Burdett 142.19 28 P PKPdf 09 50 37.5 -3.5
baz=142
Y24A Capitan 142.26 38 P PKPdf 09 50 38.2 -3.2
baz=142
CPUP Villa Florida 142.28 212 PKPpre PKPpre 09 50 37.6
CPUP Villa Florida 142.28 212 PKhKP PKPpre 09 50 37.6
comp=Z,1.1nm,0.5s,baz=163,slow=5.1,SNR=7.7
X25A Clemmons Ranch 142.31 37 P PKPdf 09 50 38.7 -2.8
baz=142
KSU1 Kansas State U 142.77 24 ePKPdf PKPdf 09 50 38.5 -3.5
W27A Bowe Ranch, En 142.86 35 P PKPdf 09 50 40.3 -2.1
baz=143
U30A WK&E Inc. Balk 143.05 30 P PKPbc 09 50 39.7 +0.3

	baz=143								
124A	**Stringfield Ra**	**143.06**	**40**	P		PKPbc	09 50 40.9	+1.1	
	baz=143								
T31A	**Randall Ranch,**	**143.08**	**29**	P		PKPbc	09 50 39.7	+0.3	
	baz=143								
Z25A	**Roswell**	**143.13**	**38**	P		PKPbc	09 50 40.3	+0.5	
	baz=143								
BDFB	**Brasilia**	**143.26**	**235**	PKP		**PKPdf**	**09 50 43.2**	**-0.3**	
BDFB	**Brasilia**	**143.26**	**235**	PKP		**PKPdf**	**09 50 43.2**	**-0.3**	
	comp=Z,1.3nm,0.3s,baz=22,slow=1.4,SNR=3.6								
224A	**Cornudas Mount**	**143.42**	**40**	P		PKPbc	09 50 41.4	+0.8	
	baz=143								
U31A	**Nine Bar Ranch**	**143.57**	**30**	P		PKPbc	09 50 41.5	+0.6	
	baz=143								
125A	**Gardner Draw,**	**143.59**	**39**	P		PKPbc	09 50 42.0	+0.9	
	baz=144								
Z26A	**Caprock**	**143.59**	**38**	P		PKPbc	09 50 41.9	+0.8	
	baz=144								
Y27A	**Causey**	**143.65**	**36**	P		PKPbc	09 50 41.2	0.0	
	baz=144								
X28A	**Dimmitt**	**143.74**	**34**	P		PKPbc	09 50 41.5	0.0	
	baz=144								
MNTX	**Cornudas Mount**	**143.76**	**41**	*e*PKPdf		PKPbc	09 50 42.1	+0.7	
MSTX	**Muleshoe**	**143.81**	**35**	P		PKPbc	09 50 42.9	+1.2	
	baz=144								
225A	**Deer Hill, Car**	**143.85**	**40**	P		**PKPdf**	**09 50 43.3**	**-1.0**	
	baz=144								
324A	**Moseley Ranch,**	**143.85**	**41**	P		**PKPdf**	**09 50 43.2**	**-1.0**	
	baz=144								
126A	**Clayton Basin,**	**143.99**	**38**	P		PKPbc	09 50 42.3	0.0	
	baz=144								
ALLY	**Alegheny Colle**	**144.03**	**2**	*e*PKPdf		**PKPab**	**09 50 41.5**	**+0.1**	
V31A	**Spring Creek L**	**144.05**	**30**	P		PKPbc	09 50 42.5	+0.3	
	baz=144								
X29A	**Tulia**	**144.07**	**34**	P		PKPbc	09 50 43.4	+0.9	
	baz=144								
GDL2	**Guadalupe Moun**	**144.08**	**39**	*e*PKPdf		PKPbc	09 50 43.5	+0.9	
Y28A	**McKinney Farm,**	**144.16**	**35**	P		PKPbc	09 50 42.9	+0.2	
	baz=144								
226B	**Tecolote Peak,**	**144.29**	**39**	P		**PKPdf**	**09 50 44.2**	**-0.7**	
	baz=144								
W31A	**Holland Ranch,**	**144.45**	**31**	P		PKPbc	09 50 43.7	+0.1	
	baz=144								
SFIN	**Scholer Farm**	**144.47**	**11**	P		PKPbc	09 50 43.7	+0.4	
	baz=144								
Y29A	**Porterfield Fa**	**144.52**	**34**	P		PKPbc	09 50 44.4	+0.5	
	baz=144								
Z28A	**Tucker Farm, M**	**144.53**	**36**	P		PKPbc	09 50 44.2	+0.3	
	baz=144								
X30A	**Coker Ranch, T**	**144.53**	**33**	P		**PKPab**	**09 50 43.6**	**0.0**	
	baz=144								
425A	**Indio Mountain**	**144.60**	**42**	P		**PKPdf**	**09 50 45.1**	**-0.4**	
	baz=144								
CPNY	**Central Park**	**144.70**	**354**	*e*PKPdf		PKPbc	09 50 44.1	+0.1	
X31A	**McDonald Ranch**	**144.86**	**32**	P		PKPbc	09 50 45.2	+0.3	
	baz=145								
227A	**Bennet, Jal**	**144.88**	**38**	P		**PKPdf**	**09 50 45.5**	**-0.4**	
	baz=145								
326A	**Caldwell Ranch**	**144.91**	**40**	P		PKPbc	09 50 45.6	+0.4	
	baz=145								
Z29A	**Hungry Hill Ra**	**144.94**	**35**	P		PKPbc	09 50 45.4	+0.2	
	baz=145								
128A	**Castleberry Fa**	**144.94**	**37**	P		PKPbc	09 50 45.5	+0.2	
	baz=145								
Y30A	**Stafford Cattl**	**144.94**	**34**	P		PKPbc	09 50 45.3	+0.1	
	baz=145								
327A	**Balmorhea Ranc**	**145.19**	**39**	P		**PKPdf**	**09 50 46.8**	**+0.4**	
	baz=145								
Y31A	**Rekieta Farm,**	**145.22**	**33**	P		**PKPbc**	**09 50 45.8**	**-0.2**	
	baz=145								
228A	**UT Block 9, Go**	**145.23**	**38**	P		**PKPdf**	**09 50 46.6**	**+0.1**	
	baz=145								
Z30A	**Sanderson Ranc**	**145.25**	**35**	P		**PKPbc**	**09 50 46.1**	**-0.1**	
	baz=145								
129A	**Stewart Farms,**	**145.30**	**36**	P		**PKPab**	**09 50 46.5**	**0.0**	
	baz=145								
426A	**McDonald Obser**	**145.30**	**41**	P		**PKPdf**	**09 50 47.0**	**+0.1**	
	baz=145								
SLM	**Saint Louis**	**145.37**	**16**	*e*PKIKP		**PKPbc**	**09 50 46.0**	**-0.3**	
SLM	**Saint Louis**	**145.37**	**16**	*e*PKPbc		**PKPbc**	**09 50 46.0**	**-0.3**	
WMOK	**Wichita Mounta**	**145.40**	**30**	*e*PKIKP		**PKPbc**	**09 50 46.2**	**-0.4**	
WMOK	**Wichita Mounta**	**145.40**	**30**	*e*PKPbc		**PKPbc**	**09 50 46.2**	**-0.4**	
427A	**Hayter Ranch,**	**145.59**	**40**	P		**PKPab**	**09 50 47.9**	**+0.2**	
	baz=146								
328A	**Wristen Ranch,**	**145.60**	**39**	P		**PKPab**	**09 50 47.7**	**0.0**	
	baz=146								
Y32A	**R-V Farms, Ver**	**145.63**	**32**	P		**PKPdf**	**09 50 46.9**	**-0.2**	
	baz=146								
526A	**Mary Lane Ranc**	**145.66**	**42**	P		**PKPab**	**09 50 48.7**	**+0.7**	
	baz=146								
BLO	**Bloomington**	**145.75**	**11**	*e*PKIKP		**PKPbc**	**09 50 47.5**	**0.0**	
BLO	**Bloomington**	**145.75**	**11**	*e*PKPbc		**PKPbc**	**09 50 47.5**	**0.0**	
Z31A	**Sharp Cattle R**	**145.78**	**33**	P		**PKPbc**	**09 50 47.9**	**+0.1**	
	baz=146								
229A	**Bryant Ranch,**	**145.81**	**37**	P		**PKPab**	**09 50 48.2**	**-0.2**	
	baz=146								
TUL1	**Tulsa**	**145.83**	**26**	P		**PKPdf**	**09 50 47.4**	**+0.1**	
	baz=146								
130A	**Snyder**	**145.85**	**35**	P		**PKPbc**	**09 50 48.2**	**+0.1**	
	baz=146								
527A	**Woodward Ranch**	**145.92**	**41**	P		**PKPab**	**09 50 49.4**	**+0.4**	
	baz=146								
626A	**Big Bend Ranch**	**145.95**	**42**	P		**PKPab**	**09 50 49.4**	**+0.3**	
	baz=146								
329A	**Wagon Wheel Ra**	**146.04**	**38**	P		**PKPab**	**09 50 49.2**	**-0.1**	
	baz=146								
131A	**Roby**	**146.12**	**34**	P		**PKPab**	**09 50 49.4**	**-0.1**	
	baz=146								
428A	**Kincaid Ranch,**	**146.13**	**39**	P		**PKPab**	**09 50 50.5**	**+0.8**	
	baz=146								
Z32A	**Haskell**	**146.15**	**33**	P		**PKPbc**	**09 50 48.7**	**-0.3**	
	baz=146								
SDMD	**Soldier's Deli**	**146.28**	**358**	*e*PKPdf		**PKPbc**	**09 50 48.6**	**-0.5**	
SDMD				*e*PKPbc		**PKPab**	**09 50 50.4**	**+0.6**	
230A	**Sterling City**	**146.28**	**36**	P		**PKPab**	**09 50 49.8**	**-0.4**	
	baz=146								
TXAR	**Lajitas Array**	**146.41**	**42**	PKPbc		**PKPbc**	**09 50 49.8**	**-0.2**	
TXAR	**Lajitas Array**	**146.41**	**42**	PKPbc		**PKPbc**	**09 50 49.8**	**-0.2**	
	comp=Z,13nm,0.5s,baz=283,slow=1.1,SNR=56								
528A	**Cox Ranch, San**	**146.44**	**40**	P		**PKPab**	**09 50 50.8**	**-0.2**	
	baz=146								
627A	**Terlingua Ranc**	**146.51**	**42**	P		**PKPab**	**09 50 51.0**	**-0.2**	
	baz=146								
SIUC	**Southern Illin**	**146.51**	**16**	*e*PKPdf		**PKPdf**	**09 50 49.0**	**+0.5**	
SIUC				*e*PKPbc		**PKPab**	**09 50 51.0**	**+0.2**	
ABTX	**Abilene, Hawle**	**146.57**	**34**	P		**PKPbc**	**09 50 50.5**	**+0.2**	
	baz=146								
330A	**Mertzon**	**146.59**	**37**	P		**PKPbc**	**09 50 50.3**	**-0.1**	
	baz=146								
USIN	**University of**	**146.66**	**13**	*e*PKPbc		**PKPab**	**09 50 51.6**	**+0.2**	
429A	**Davenport Ranc**	**146.69**	**39**	P		**PKPbc**	**09 50 50.9**	**+0.2**	
	baz=147								
WCI	**Wyandotte Cave**	**146.70**	**11**	*e*PKP2		**PKPbc**	**09 50 50.2**	**-0.2**	
WCI	**Wyandotte Cave**	**146.70**	**11**	*e*PKPbc		**PKPbc**	**09 50 50.2**	**-0.2**	
231A	**Bronte**	**146.71**	**35**	P		**PKPbc**	**09 50 50.8**	**+0.1**	
	baz=147								
628A	**Black Gap, Mar**	**146.82**	**41**	P		**PKPbc**	**09 50 51.7**	**+0.6**	
	baz=147								
529A	**Stev Forest Ra**	**146.83**	**40**	P		**PKPbc**	**09 50 51.6**	**+0.5**	
	baz=147								
430A	**Baggett Ranch,**	**146.99**	**38**	P		**PKPbc**	**09 50 51.8**	**+0.3**	
	baz=147								
331A	**San Angelo**	**147.10**	**36**	P		**PKPbc**	**09 50 51.9**	**+0.1**	
	baz=147								
232A	**Coleman**	**147.12**	**35**	P		**PKPbc**	**09 50 52.1**	**+0.3**	
	baz=147								
PARMO	**Parma**	**147.35**	**17**	*e*PKPdf		**PKPdf**	**09 50 50.7**	**+0.8**	
530A	**J-C Ranch, Com**	**147.37**	**39**	P		**PKPbc**	**09 50 53.4**	**+0.8**	
	baz=147								
431A	**Sonora**	**147.44**	**37**	P		**PKPbc**	**09 50 52.9**	**+0.1**	
	baz=147								
332A	**Millersview**	**147.44**	**35**	P		**PKPbc**	**09 50 53.1**	**+0.4**	
	baz=147								
CBN	**Corbin**	**147.50**	**358**	*e*PKPbc		**PKPbc**	**09 50 52.7**	**+0.1**	
432A	**Menard**	**147.79**	**36**	P		**PKPbc**	**09 50 53.9**	**+0.1**	
	baz=148								
531A	**Rocksprings**	**147.85**	**38**	P		**PKPbc**	**09 50 54.2**	**+0.3**	
	baz=148								
GLAT	**Glass**	**147.85**	**17**	*e*PKPbc		**PKPbc**	**09 50 54.5**	**+0.8**	
GNAR	**Gosnell**	**147.92**	**18**	*e*PKPdf		**PKPdf**	**09 50 50.8**	**0.0**	
MIAR	**Mount Ida**	**147.93**	**24**	*e*PKIKP		**PKPdf**	**09 50 51.3**	**+0.4**	
MIAR				*e*			09 50 54.2		
MIAR	**Mount Ida**	**147.93**	**24**	*e*PKPdf		**PKPdf**	**09 50 51.2**	**+0.4**	
MIAR				*e*PKPbc		**PKPbc**	**09 50 54.2**	**+0.3**	
JSRW	**J. Sargeant Re**	**148.01**	**359**	*e*PKPbc		**PKPbc**	**09 50 53.9**	**-0.1**	
JCT	**Junction City**	**148.07**	**37**	*e*PKP2		**PKPbc**	**09 50 55.0**	**+0.5**	
JCT	**Junction City**	**148.07**	**37**	*e*PKIKP		**PKPbc**	**09 50 55.0**	**+0.5**	
JCT	**Junction City**	**148.07**	**37**	P		**PKPbc**	**09 50 54.6**	**+0.1**	
	baz=148								
HBAR	**Harrisburg**	**148.09**	**19**	*e*PKPbc		**PKPbc**	**09 50 54.2**	**-0.1**	
HALT	**Halls**	**148.17**	**17**	*e*PKPbc		**PKPbc**	**09 50 54.2**	**-0.2**	
UALR	**University of**	**148.20**	**22**	*e*PKPbc		**PKPbc**	**09 50 54.3**	**-0.3**	
WHTX	**Lake Whitney**	**148.24**	**32**	P		**PKPbc**	**09 50 54.9**	**+0.1**	
	baz=148								
532A	**Rocksprings**	**148.26**	**37**	P		**PKPbc**	**09 50 55.0**	**0.0**	
	baz=148								
631A	**Perdido Creek**	**148.36**	**39**	P		**PKPbc**	**09 50 55.2**	**0.0**	
	baz=148								
WVT	**Waverly**	**148.37**	**15**	*e*PKIKP		**PKPdf**	**09 50 51.2**	**-0.4**	
WVT				*e*			09 50 55.3		
WVT	**Waverly**	**148.37**	**15**	*e*PKPdf		**PKPdf**	**09 50 51.2**	**-0.4**	
WVT				*e*PKPbc		**PKPbc**	**09 50 55.3**	**+0.2**	
BLA	**Blacksburg**	**148.45**	**3**	*e*PKIKP		**PKPdf**	**09 50 52.6**	**+0.9**	
BLA				*e*			09 50 56.2		
BLA	**Blacksburg**	**148.45**	**3**	*e*PKPdf		**PKPdf**	**09 50 52.6**	**+0.9**	
BLA				*e*PKPbc		**PKiKP**	**09 50 56.2**	**-0.7**	
MET	**Memphis--Engin**	**148.72**	**18**	*e*PKPbc		**PKPab**	**09 50 58.3**	**-1.3**	
632A	**Uvalde**	**148.78**	**38**	P		**PKPbc**	**09 50 56.5**	**+0.1**	
	baz=149								
TZTN	**Tazewell**	**148.81**	**8**	*e*PKPbc		**PKPbc**	**09 50 56.0**	**-0.2**	
732A	**Laxson Ranch,**	**149.21**	**39**	P		**PKPbc**	**09 50 58.1**	**+0.7**	
	baz=149								
OXF	**Oxford**	**149.45**	**18**	*e*PKHKP		**PKPdf**	**09 50 52.9**	**-0.4**	
OXF	**Oxford**	**149.45**	**18**	*e*PKPdf		**PKPdf**	**09 50 52.9**	**-0.4**	
TKL	**Tuckaleechee C**	**149.65**	**9**	*e*PKPdf		**PKPdf**	**09 50 54.2**	**+0.6**	
TKL				*e*PKPbc		**PKPbc**	**09 50 58.3**	**0.0**	
CPCT	**Cooper Cave**	**149.73**	**10**	*e*PKPbc		**PKPbc**	**09 50 58.1**	**-0.3**	
BBSR	**BB Station**	**150.41**	**336**	*e*PKPbc		**PKPbc**	**09 51 00.5**	**+0.3**	
BBSR				*e*PKPab		**PKPab**	**09 51 07.6**	**+1.1**	
KMSC	**Kings Mountain**	**150.44**	**5**	P		**PKPbc**	**09 50 59.8**	**-0.4**	
	baz=150								
LVC	**Limon Verde**	**150.50**	**198**	*e*PKPbc		**PKPbc**	**09 51 02.5**	**+1.4**	
LVC				*e*PKPab		**PKPab**	**09 51 09.6**	**+2.1**	
LRAL	**Lakeview Retre**	**151.52**	**15**	*e*PKPdf		**PKPdf**	**09 50 56.6**	**0.0**	
LRAL				*e*PKPbc		**PKPbc**	**09 51 02.8**	**0.0**	
LRAL				*e*PKPab		**PKPab**	**09 51 10.1**	**-1.0**	
BRAL	**Brewton**	**153.41**	**17**	*e*PKPbc		**PKPbc**	**09 51 08.2**	**+1.1**	
LPAZ	**La Paz**	**156.02**	**205**	*e*PKPdf		**PKPdf**	**09 51 04.3**	**+0.1**	
LPAZ				PKP		PKP	09 51 04.5		
LPAZ				*e*PKPab		**PKPab**	**09 51 32.6**	**+1.3**	
LPAZ	**La Paz**	**156.02**	**205**	PKP		**PKPdf**	**09 51 04.5**	**+0.2**	
	comp=Z,2.9nm,1.2s,baz=164,slow=0.9,SNR=6.2								
LPAZ				PKPab		**PKPab**	**09 51 32.7**	**+1.3**	
	comp=Z,11nm,1.2s,baz=150,slow=3.9,SNR=7.1								
SAML	**Samuel**	**159.06**	**227**	*e*PKPdf		**PKPdf**	**09 51 07.4**	**0.0**	
SAML				*e*PKPab		**PKPab**	**09 51 43.8**	**0.0**	

ISCJB ***29*** *09:59:12.1±1.9, 64°.69N±0°.05×30°.8E±0°.3, h0km, Error ellipse: s-maj=19.6km s-min=4.7km az=19.1*

CSEM ***29*** *09:59:13.9, 64°.69N×30°.74E, h0km, ML1.9, Mining explosion. After HEL*

HEL ***29*** *09:59:13.9±0.2, 64°.69N×30°.74E, h0km, ML1.9, Explosion*

IDC ***29*** *09:59:17.8±3.2, 64°.88N×30°.79E, h0km, mb1 2.9/4, mb1mx2.8/29, mbtmp2.8/4, ML2.3/4, Error ellipse: s-maj=44.7km s-min=12.1km az=94.0*

ISC 29 09:59:12.6±1.7, 64°.70N±0°.04×30°.7E±0°.1, h0km, n18, σ1§30/28, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.37**	**346**	*e*P		**Pg**		**09 59 38.9**	**0.0**
KU6				*e*S		**Sg**		**09 59 56.6**	**0.0**
KU6	**Riekki**	**1.37**	**346**	P		**Pg**		**09 59 38.8**	**0.0**
KU6				S		**Sg**		**09 59 56.5**	**0.0**
MSF	**Maaselka**	**1.40**	**331**	*e*P		**Pn**		**09 59 39.2**	**-0.1**
MSF				*e*S		**Sg**		**09 59 57.5**	**0.0**
MSF	**Maaselka**	**1.40**	**331**	P		**Pn**		**09 59 39.2**	**-0.1**
MSF				S		**Sg**		**09 59 57.4**	**0.0**
KJN	**Kajaani**	**1.43**	**246**	*e*P		**Pn**		**09 59 39.9**	**+0.1**
KJN				*e*S		**Sg**		**09 59 58.7**	**+0.1**
KJN	**Kajaani**	**1.43**	**246**	P		**Pn**		**09 59 39.8**	**+0.1**
KJN				S		**Sg**		**09 59 58.6**	**+0.1**
OUL	**Oulu**	**2.08**	**283**	*e*P		**Pb**		**09 59 50.7**	**-0.4**
OUL	**Oulu**	**2.08**	**283**	P		**Pb**		**09 59 50.7**	**-0.4**
RNF	**Rovaniemi**	**2.72**	**317**	*e*P		**Pb**		**10 00 00.4**	**-1.7**
RNF	**Rovaniemi**	**2.72**	**317**	P		**Pb**		**10 00 00.4**	**-1.7**
SUF	**Sumiainen**	**2.83**	**227**	*e*SB		**Sb**		**10 00 38.8**	**-0.3**
SUF				*e*SG		**Sg**		**10 00 41.2**	**-2.3**
SUF				MSG				10 00 43.4	
	comp=Z,3.1nm,0.1s								
SUF	**Sumiainen**	**2.83**	**227**	Sb		**Sb**		**10 00 38.8**	**-0.3**
SUF				Sg		**Sg**		**10 00 41.2**	**-2.3**
KEF	**Keuruu**	**3.65**	**228**	*e*SB		**Sb**		**10 01 03.2**	**+0.7**
KEF				MSG				10 01 06.8	
	comp=Z,1.9nm,0.1s								
KEF	**Keuruu**	**3.65**	**228**	Sb		**Sb**		**10 01 03.2**	**+0.7**
FINES	**FINESS Array B**	**3.88**	**215**	Pn		**Pb**		**10 00 20.6**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=36,slow=13,SNR=1.1								
FINES				Sn		**Sb**		**10 01 12.7**	**+3.4**
	comp=Z,0.4nm,0.3s,baz=37,slow=26,SNR=5.5								
ARCES	**ARCESS Array B**	**5.26**	**340**	Pn		**Pn**		**10 00 33.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=149,slow=12,SNR=2.1								
ARCES				Sn		**Sn**		**10 01 33.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=153,slow=22,SNR=1.9								
ARCES				Lg		Lg		10 01 55.1	
	comp=Z,0.3nm,0.3s,baz=155,slow=28,SNR=2.5								
HFS	**Hagfors**	**9.10**	**248**	Pn		**Pn**		**10 01 26.9**	**+1.9**
	comp=Z,0.0nm,0.3s,baz=54,slow=14,SNR=1.3								
HFS				Lg		Lg		10 03 56.3	
	comp=Z,0.2nm,0.3s,baz=58,slow=32,SNR=3.0								
NOA	**NORSAR Array B**	**9.60**	**256**	Pn		**Pn**		**10 01 34.5**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=62,slow=16,SNR=2.4								

ISCJB ***29*** *10:00:35.5±0.2, 36°.85N±0°.02×104°.79W±0°.03, h10km, mb4.0/7, Error ellipse: s-maj=3.0km s-min=2.5km az=157.9*

IDC ***29*** *10:00:36.6±0.7, 36°.87N×104°.89W, h0km, mb4.1/7, mb1 4.1/13, mb1mx3.9/33, mbtmp4.0/13, ML4.0/5, MS3.2/5, Ms1 3.2/5, ms1mx3.0/40, Error ellipse: s-maj=16.0km s-min=9.6km az=82.0*

NEIC ***29*** *10:00:36.7±0.3, 36°.80N×104°.83W, h5km, mb4.0/1, ML3.9, MW4.1(USGS), Error ellipse: s-maj=4.4km s-min=3.5km az=67.0*

NEIC Felt [II] at Raton. Also felt at Eagle Nest and Maxwell. Felt at Trinidad, Colorado.

ISC 29 10:00:36.4±0.5, 36°.80N±0°.02×104°.83W±0°.02, h10km, n133, σ1§60/161, mb4.2/7, 29C-27D, New Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.48**	**45**	*e*P		**Pg**		**10 00 44.9**	**-0.9**
T25A	**Trinidad**	**0.48**	**45**	⇓P		**Pg**		**10 00 44.6**	**-1.2**
	baz=0.5								
T25A				⇑S		**Sg**		**10 00 51.1**	**-1.1**
	baz=0.5								
U25A	**Circle Dot Ran**	**0.53**	**139**	⇑*i*P		**Pg**		**10 00 46.9**	**+0.1**
U25A				S		**Sg**		**10 00 54.5**	**+0.7**
U25A	**Circle Dot Ran**	**0.53**	**139**	⇓P		**Pg**		**10 00 46.8**	**0.0**
	baz=0.5								
U25A				⇑S		**Sg**		**10 00 54.0**	**+0.2**
	baz=0.5								
U24A	**Moreno Valley**	**0.53**	**222**	⇑*i*P		**Pg**		**10 00 46.8**	**0.0**
U24A				*e*S		**Sg**		**10 00 54.1**	**+0.3**
U24A	**Moreno Valley**	**0.53**	**222**	⇑P		**Pg**		**10 00 46.5**	**-0.3**
	baz=0.5								
U24A				⇓S		**Sg**		**10 00 53.7**	**-0.2**
	baz=0.5								
S24A	**Houchin Ranch,**	**0.89**	**340**	⇓*e*P		**Pg**		**10 00 52.5**	**-1.2**
S24A	**Houchin Ranch,**	**0.89**	**340**	⇑P		**Pg**		**10 00 52.4**	**-1.2**
	baz=0.9								
S25A	**Robets Cordova**	**0.91**	**20**	*e*P		**Pg**		**10 00 53.8**	**-0.3**
U26A	**Atchley Ranch,**	**0.97**	**115**	⇑*i*P		**Pg**		**10 00 54.6**	**-0.5**
U26A	**Atchley Ranch,**	**0.97**	**115**	⇓P		**Pg**		**10 00 54.6**	**-0.5**
	baz=1.0								
U26A				⇑S		**Sg**		**10 01 07.3**	**-0.4**
	baz=1.0								
V25A	**Rancho No Teng**	**0.98**	**170**	⇑*i*P		**Pb**		**10 00 55.2**	**-0.4**
V25A				*i* S		**Sg**		**10 01 08.2**	**+0.1**
V25A	**Rancho No Teng**	**0.98**	**170**	⇓P		**Pg**		**10 00 55.1**	**-0.2**
	baz=1.0								
V25A				⇑S		**Sg**		**10 01 07.8**	**-0.2**
	baz=1.0								
T23A	**Casias Ranch,**	**0.99**	**284**	⇑*e*P		**Pg**		**10 00 54.8**	**-0.8**
T23A	**Casias Ranch,**	**0.99**	**284**	⇓P		**Pg**		**10 00 54.4**	**-1.1**
	baz=1.0								
T23A				⇓S		**Sg**		**10 01 07.6**	**-0.9**
	baz=1.0								

T26A	**Comanche Natio**	**1.06**	**69**	⇑P		**Pg**		**10 00 55.8**	**-1.1**
	baz=1.1								
T26A				⇓S		**Sg**		**10 01 10.0**	**-0.7**
	baz=1.1								
SDCO	**Great Sand Dun**	**1.08**	**331**	*e*Pg		**Pb**		**10 00 55.8**	**-1.7**
SDCO				*e*Sg		**Sg**		**10 01 09.1**	**-2.2**
V24A	**Rampart Ranch,**	**1.13**	**198**	*e*P		**Pb**		**10 00 57.8**	**-0.4**
V24A	**Rampart Ranch,**	**1.13**	**198**	⇑P		**Pb**		**10 00 57.6**	**-0.6**
	baz=1.1								
V24A				⇓S		**Sb**		**10 01 12.4**	**-0.7**
	baz=1.1								
U23A	**El Rito**	**1.19**	**247**	⇑*i*P		**Pb**		**10 00 58.5**	**-0.8**
U23A				*e*S		**Sb**		**10 01 14.6**	**-0.2**
U23A	**El Rito**	**1.19**	**247**	⇑P		**Pb**		**10 00 58.5**	**-0.8**
	baz=1.2								
U23A				⇓S		**Sb**		**10 01 14.4**	**-0.4**
	baz=1.2								
S23A	**Nye Farm, Mont**	**1.30**	**314**	⇓P		**Pn**		**10 01 00.0**	**-0.9**
	baz=1.3								
V26A	**Tequesquite Ra**	**1.31**	**140**	⇑*i*P		**Pb**		**10 01 00.8**	**-0.5**
V26A	**Tequesquite Ra**	**1.31**	**140**	⇑P		**Pb**		**10 01 00.9**	**-0.3**
	baz=1.3								
V26A				⇑S		**Sn**		**10 01 18.3**	**-0.4**
	baz=1.3								
S26A	**Kim**	**1.36**	**53**	⇓P		**Pn**		**10 01 01.2**	**-0.4**
	baz=1.4								
R25A	**Fountain Ranch**	**1.41**	**18**	⇓*e*P		**Pn**		**10 01 01.8**	**-0.5**
R25A	**Fountain Ranch**	**1.41**	**18**	⇑P		**Pn**		**10 01 01.9**	**-0.5**
	baz=1.4								
R24A	**Sanders Place,**	**1.44**	**351**	⇓P		**Pn**		**10 01 02.2**	**-0.6**
	baz=1.4								
W25A	**X Bar L Ranch,**	**1.61**	**169**	⇑*e*P		**Pg**		**10 01 06.7**	**-0.7**
W25A	**X Bar L Ranch,**	**1.61**	**169**	⇓Sb		**Sg**		**10 01 27.9**	**-0.3**
	baz=1.6								
W24A	**Lazy 6 Ranch,**	**1.66**	**196**	⇑Sb		**Sg**		**10 01 29.3**	**-0.4**
	baz=1.7								
U27A	**Thompson Grove**	**1.66**	**103**	⇓Sb		**Sg**		**10 01 29.5**	**-0.3**
	baz=1.7								
T22A	**Edith**	**1.67**	**278**	⇑*e*P		**Pb**		**10 01 06.9**	**-0.5**
U22A	**Llaves**	**1.68**	**256**	⇑*i*P		**Pb**		**10 01 07.7**	**+0.1**
U22A	**Llaves**	**1.68**	**256**	⇓Sb		**Sb**		**10 01 29.4**	**+0.5**
	baz=1.7								
T27A	**Campo**	**1.71**	**81**	⇓Sb		**Sg**		**10 01 31.0**	**-0.5**
	baz=1.7								
S27A	**Las Animas**	**1.78**	**60**	⇓Sb		**Sg**		**10 01 32.7**	**-0.9**
	baz=1.8								
S22A	**4UR Ranch, Cre**	**1.85**	**301**	⇓*e*P		**Pb**		**10 01 10.4**	**-0.1**
R26A	**Arlington**	**1.86**	**36**	⇓Sb		**Sb**		**10 01 34.8**	**+0.9**
	baz=1.9								
V22A	**San Miguel Ran**	**1.90**	**243**	⇑*i*P		**Pb**		**10 01 11.3**	**0.0**
V22A	**San Miguel Ran**	**1.90**	**243**	⇓Sb		**Sb**		**10 01 35.9**	**+0.7**
	baz=1.9								
W26A	**Owens Ranch, T**	**1.92**	**153**	⇑*e*P		**Pg**		**10 01 12.2**	**-1.1**
**W26A

TXAR	**Lajitas Array**	**7.51**	**172**	Pn	Pn	10 02 29.0	+2.9
TXAR				Pg	Pb	10 02 53.0	+6.0
TXAR				Lg	Lg	10 04 30.3	
TXAR	**Lajitas Array**	**7.51**	**172**	Pn	Pn	10 02 29.0	+2.9
	0.9nm,0.3s,baz=3.4,slow=11,SNR=17						
TXAR				Pg	Pb	10 02 53.0	+6.0
	2.9nm,0.3s,baz=347,slow=16,SNR=13						
TXAR				Lg	Lg	10 04 30.3	
	6.3nm,0.3s,baz=4.1,slow=26,SNR=5.9						
JCT	**Junction City**	**7.57**	**145**	*e*Pn	**Pn**	**10 02 28.4**	**+1.4**
JCT				*e*Pg	Pg	10 02 56.7	-4.8
AHID	**Auburn Hatcher**	**7.66**	**323**	*e*Pb	**Pb**	**10 02 49.1**	**-0.4**
SNOW	**Snow King Moun**	**8.05**	**328**	Pn	**Pn**	**10 02 32.1**	**-1.5**
	25nm,0.9s						
LOHW	**Long Hollow**	**8.11**	**329**	Pn	**Pn**	**10 02 35.5**	**+1.1**
LOHW				*e*Pb	Pb	10 03 01.3	+4.2
TPAW	**Teton Pass**	**8.16**	**327**	*e*Pn	**Pn**	**10 02 37.8**	**+2.7**
IMW	**Indian Meadow**	**8.48**	**329**	Pn	**Pn**	**10 02 41.0**	**+1.5**
RLMT	**Red Lodge**	**8.96**	**339**	Pn	Pn	10 02 49.1	+3.0
ECSD	**EROS Data Cent**	**9.34**	**40**	*e*Pn	**Pn**	**10 02 51.8**	**+0.6**
	29nm,0.8s						
MIAR	**Mount Ida**	**9.44**	**100**	*e*Pn	**Pn**	**10 02 52.0**	**-0.4**
PFO	**Pinyon Flat Ob**	**10.03**	**255**	Pg	Pn	10 03 48.1	+47
PFO				Lg	Lg	10 05 52.0	
PFO	**Pinyon Flat Ob**	**10.03**	**255**	Pg	Pn	10 03 48.1	+47
	0.2nm,0.3s,baz=60,slow=7.5,SNR=4.3						
PFO				Lg	Lg	10 05 52.0	
	0.2nm,0.3s,baz=16,slow=1.9,SNR=4.8						
PFO				LR	LR	10 07 13.1	
	comp=Z,223nm,21.3s,baz=132,slow=40						
SCIA	**State Center**	**10.34**	**57**	Pn	**Pn**	**10 03 06.1**	**+1.4**
UALR	**University of**	**10.35**	**98**	*e*Pn	**Pn**	**10 03 05.1**	**+0.2**
NVAR	**Mina Array Bea**	**10.81**	**283**	Pg	Pn	10 03 56.6	+45
NVAR				Lg	Lg	10 06 10.1	
NVAR	**Mina Array Bea**	**10.81**	**283**	Pg	Pn	10 03 56.6	+45
	0.4nm,0.3s,baz=104,slow=17,SNR=10						
NVAR				Lg	Lg	10 06 10.1	
	0.1nm,0.3s,baz=92,slow=21,SNR=2.5						
EGMT	**Eagleton**	**11.79**	**344**	*e*Pn	**Pn**	**10 03 26.1**	**+1.5**
AGMN	**Agassiz Nation**	**13.24**	**27**	*e*Pn	**Pn**	**10 03 43.3**	**-1.2**
AGMN				Sn	**Sn**	**10 06 10.2**	**-1.5**
YBH	**Yreka Blue Hor**	**14.69**	**295**	*e*Pn	**Pn**	**10 04 03.1**	**-1.2**
	2.3nm,0.6s						
YBH	**Yreka Blue Hor**	**14.69**	**295**	Pn	**P**	**10 04 10.5**	**-0.1**
	0.3nm,0.3s,baz=101,slow=14,SNR=10						
YBH				LR	LR	10 10 25.3	
	comp=Z,82nm,20.1s,baz=84,slow=40						
WCI	**Wyandotte Cave**	**14.79**	**79**	*e*Pn	**Pn**	**10 04 02.7**	**-2.9**
WCI				*e*Lg	Lg	10 08 16.7	
ULM	**Lac du Bonnet**	**14.91**	**23**	Pn	**Pn**	**10 04 06.1**	**-1.1**
ULM				Lg	Lg	10 08 16.6	
ULM	**Lac du Bonnet**	**14.91**	**23**	Pn	**Pn**	**10 04 06.1**	**-1.1**
	0.3nm,0.3s,baz=198,slow=13,SNR=2.3						
ULM				Lg	Lg	10 08 16.6	
	0.6nm,0.3s,baz=287,slow=20,SNR=4.2						
ULM				LR	LR	10 09 02.4	
	comp=Z,66nm,18.9s,baz=241,slow=34						
CPCT	**Cooper Cave**	**16.47**	**89**	*e*Pn	**Pn**	**10 04 28.0**	**+0.4**
TKL	**Tuckaleechee C**	**17.03**	**88**	Pn	**Pn**	**10 04 35.1**	**+0.4**
TKL				Lg	Lg	10 09 28.3	
TKL	**Tuckaleechee C**	**17.03**	**88**	Pn	**Pn**	**10 04 35.1**	**+0.4**
	0.3nm,0.3s,baz=170,slow=3.4,SNR=4.2						
TKL				Lg	Lg	10 09 28.3	
	0.5nm,0.3s,baz=21,slow=18,SNR=5.6						
TKL				LR	LR	10 10 51.0	
	comp=Z,173nm,20.3s,baz=279,slow=36						
TZTN	**Tazewell**	**17.08**	**84**	*e*P	**P**	**10 04 36.1**	**-0.9**
	12nm,1.1s						
SADO	**Sadowa**	**20.96**	**60**	Lg	Lg	10 11 30.5	
	6.6nm,0.8s,baz=15,slow=22,SNR=5.9						
YKA	**Yellowknife Ar**	**26.42**	**350**	P	**P**	**10 06 13.4**	**+0.4**
YKA	**Yellowknife Ar**	**26.42**	**350**	P	**P**	**10 06 13.4**	**+0.4**
	0.6nm,0.8s,baz=159,slow=9.1,SNR=3.0						
INK	**Inuvik**	**35.36**	**342**	P	**P**	**10 07 34.0**	**+2.3**
INK	**Inuvik**	**35.36**	**342**	P	**P**	**10 07 34.0**	**+2.3**
	2.3nm,1.0s,baz=130,slow=6.7,SNR=3.9						
ILAR	**Eielson Array**	**37.41**	**332**	P	**P**	**10 07 51.8**	**+2.5**
ILAR	**Eielson Array**	**37.41**	**332**	P	**P**	**10 07 51.8**	**+2.5**
	1.5nm,0.9s,baz=136,slow=6.8,SNR=21						
PETK	**Petropavlovsk-**	**65.61**	**319**	P	**P**	**10 11 21.7**	**+1.4**
PETK	**Petropavlovsk-**	**65.61**	**319**	P	**P**	**10 11 21.7**	**+1.4**
	1.9nm,0.8s,baz=63,slow=9.9,SNR=2.8						
CPUP	**Villa Florida**	**77.09**	**137**	P	P	10 12 33.1	+3.2
CPUP	**Villa Florida**	**77.09**	**137**	P	P	10 12 33.1	+3.2
	1.5nm,0.7s,baz=319,slow=6.4,SNR=5.7						
ZALV	**Zalesovo Beam**	**89.23**	**354**	P	**P**	**10 13 33.0**	**+0.6**
ZALV	**Zalesovo Beam**	**89.23**	**354**	P	**P**	**10 13 33.0**	**+0.6**
	1.2nm,0.7s,baz=5.7,slow=4.3,SNR=4.1						
MKAR	**Makanchi Array**	**96.53**	**355**	P	**P**	**10 14 06.7**	**+0.5**
MKAR	**Makanchi Array**	**96.53**	**355**	P	**P**	**10 14 06.7**	**+0.5**
	0.7nm,0.8s,baz=356,slow=3.1,SNR=5.3						
MAW	**Mawson**	**148.37**	**171**	PKPbc	**PKPab**	**10 20 24.0**	**-1.2**
MAW	**Mawson**	**148.37**	**171**	PKPbc	**PKPab**	**10 20 24.0**	**-1.2**
	2.1nm,0.9s,baz=122,slow=3.5,SNR=3.7						

*ISCJB **29** 10:01:12.3±0.4, 16°.63S±0°.09×179°.69W±0°.06, h500km, mb4.2/24, Error ellipse: s-maj=11.5km s-min=8.1km az=172.3*
*IDC **29** 10:01:13.9±1.4, 16°.66S×179°.67W, h508km±17km, mb3.7/19, mb1 3.8/21, mb1mx3.8/26, mbtmp3.7/21, Error ellipse: s-maj=13.9km s-min=9.9km az=142.0*
ISC 29 10:01:13.3±0.5, 16°.6S±0°.1×179°.75W±0°.08, h500km, n37, σ0s94/37, mb4.2/24, 3C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.15**	**72**	P		**P**		**10 03 11.7**	**+0.2**
	7.1nm,0.3s,baz=92,slow=23,SNR=5.8								
AFI				S		**S**		**10 04 49.8**	**+1.5**
	1.9nm,0.3s,baz=202,slow=19,SNR=2.5								
DZM	**Mont Dzumac**	**14.11**	**245**	P		**P**		**10 04 16.0**	**+1.8**
	1.7nm,0.3s,baz=81,slow=21,SNR=17								
HNR	**Honiara**	**21.03**	**287**	P		**P**		**10 05 23.0**	**+1.5**
	95nm,0.7s,baz=162,slow=1.7,SNR=4.6								
URZ	**Urewera**	**21.72**	**187**	P		**P**		**10 05 26.8**	**-0.5**
	11nm,0.6s,baz=356,slow=6.7,SNR=10								
PAE	**Paea**	**28.83**	**96**	*e*P		**P**		**10 06 30.5**	**-0.1**
	9.2nm,0.8s								
PPT2	**Papeete2**	**28.84**	**96**	*e*P		**P**		**10 06 30.9**	**+0.1**
	28nm,0.7s								
PPT	**Papeete**	**28.84**	**96**	P		**P**		**10 06 30.2**	**-0.6**
	33nm,0.6s,baz=53,slow=23,SNR=3.7								
TIAR	**Tiarei**	**29.06**	**96**	*e*P		**P**		**10 06 32.7**	**0.0**
	23nm,0.7s								
TVO	**Taravao**	**29.14**	**97**	*e*P		**P**		**10 06 33.6**	**+0.2**
	51nm,0.7s								
PMOR	**Pomariorio Ree**	**30.67**	**91**	*e*P		**P**		**10 06 46.9**	**+0.3**
	37nm,0.9s								
STKA	**Stephens Creek**	**38.15**	**239**	P		**P**		**10 07 50.0**	**+0.7**
	7.5nm,0.8s,baz=64,slow=9.0,SNR=14								
WRA	**Warramunga Arr**	**43.62**	**258**	P		**P**		**10 08 32.8**	**-0.4**
	1.1nm,0.5s,baz=91,slow=7.1,SNR=18								
ASAR	**Alice Springs**	**43.92**	**253**	P		**P**		**10 08 35.5**	**0.0**
	11nm,0.5s,baz=85,slow=8.5,SNR=228								
ASAR				ScP		**ScP**		**10 13 14.7**	**0.0**
	1.6nm,0.8s,baz=92,slow=4.6,SNR=8.5								
ASAR				S		**S**		**10 14 27.6**	**-2.8**
	0.7nm,0.9s,baz=90,slow=14,SNR=5.2								
VNDA	**Vanda**	**61.60**	**184**	P		**P**		**10 10 41.6**	**+0.5**
	2.1nm,0.7s,baz=7.2,slow=8.4,SNR=11								
MJAR	**Matsushiro Arr**	**66.13**	**324**	P		**P**		**10 11 10.4**	**-0.3**
	2.9nm,0.6s,baz=157,slow=5.7,SNR=9.6								
MAT	**Matsushiro**	**66.13**	**324**	P		**P**		**10 11 10.5**	**-0.2**
PETK	**Petropavlovsk-**	**72.14**	**346**	P		**P**		**10 11 46.6**	**+0.1**
	6.1nm,0.8s,baz=119,slow=9.3,SNR=8.7								
KSRS	**Korea Array**	**72.91**	**319**	P		**P**		**10 11 52.5**	**+1.3**
	1.6nm,0.8s,baz=142,slow=6.2,SNR=5.9								
USRK	**Ussuriysk Arra**	**74.85**	**326**	P		**P**		**10 12 03.5**	**+1.5**
	1.8nm,0.9s,baz=151,slow=4.4,SNR=6.1								
YBH	**Yreka Blue Hor**	**78.36**	**40**	P		**P**		**10 12 21.6**	**-0.1**
	5.3nm,1.1s,baz=314,slow=2.2,SNR=7.8								
NVAR	**Mina Array Bea**	**79.41**	**45**	P		**P**		**10 12 27.4**	**0.0**
	2.5nm,0.8s,baz=226,slow=8.6,SNR=21								
MAW	**Mawson**	**84.62**	**200**	P		**P**		**10 12 53.5**	**+0.3**
	4.8nm,0.6s,baz=138,slow=6.8,SNR=10.0								
ILAR	**Eielson Array**	**84.95**	**13**	P		**P**		**10 12 53.3**	**-1.4**
	2.7nm,0.6s,baz=220,slow=5.3,SNR=42								
DLBC	**Dease Lake**	**85.18**	**24**	P		**P**		**10 12 56.3**	**+0.2**
	3.9nm,0.8s,baz=243,slow=3.9,SNR=8.5								
PDAR	**Pinedale Array**	**87.32**	**44**	P		**P**		**10 13 06.4**	**-0.5**
	1.2nm,0.6s,baz=224,slow=3.8,SNR=9.2								
INK	**Inuvik**	**91.01**	**16**	P		**P**		**10 13 21.9**	**-1.2**
	2.0nm,1.0s,baz=197,slow=4.7,SNR=3.7								
SNAA	**Sanae**	**91.89**	**179**	*e*P		**P**		**10 13 26.7**	**-0.7**
VNA1	**Neumayer--Stat**	**92.74**	**177**	*e*P		**P**		**10 13 31.2**	**0.0**
YKA	**Yellowknife Ar**	**93.72**	**25**	P		**P**		**10 13 34.8**	**-0.9**
	1.2nm,0.7s,baz=252,slow=4.6,SNR=6.3								
FINES	**FINESS Array B**	**131.62**	**344**	SKPbc		**SKPbc**		**10 22 06.2**	**-0.9**
	5.6nm,1.0s,baz=11,slow=1.4,SNR=7.8								
BRTR	**Keskin Array B**	**142.99**	**315**	PKP		PKPbc		10 19 48.0	
	1.6nm,0.9s,baz=186,slow=1.3,SNR=6.8								
CLL	**Collm**	**143.94**	**346**	⇑*i*PKP		PKPab		10 19 50.3	-0.1
	comp=Z,11nm,0.9s								
BRG	**Berggiesshubel**	**144.12**	**345**	*e*PKP		**PKPab**		**10 19 51.0**	**-0.2**
	comp=Z,9.9nm,1.1s								
GERES	**GERESS Array B**	**146.05**	**344**	PKPbc		**PKPbc**		**10 19 56.8**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=19,slow=3.3,SNR=6.3								
CONA	**Conrad Observa**	**146.26**	**341**	⇑*i*pPKPdf		pPKPdf		10 22 00.0	+5.6
	comp=Z,5.2nm,0.9s								
FETA	**Feichten**	**148.48**	**346**	⇑*i*pPKiKP		pPKiKP		10 22 07.8	+4.8
	comp=Z,2.2nm,0.9s								
TORD	**Torodi Ar. Bea**	**176.26**	**202**	PKP		**PKPdf**		**10 20 25.0**	**-1.6**
	comp=Z,0.9nm,0.9s,baz=153,slow=1.6,SNR=3.7								
TORD				PKPab		**PKPab**		**10 22 10.1**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=170,slow=2.1,SNR=4.2								

*JMA **29** 10:16:21.1±0.4, 24°.07N×121°.61E, h32km, M3.1*
*ISCJB **29** 10:16:22.4±0.4, 24°.23N±0°.02×121°.83E±0°.02, h3km±3km, Error ellipse: s-maj=3.1km s-min=2.2km az=38.6*
*TAP **29** 10:16:22.7, 24°.25N×121°.78E, h15km, ML3.9, B*
ISC 29 10:16:22.8±0.8, 24°.24N±0°.02×121°.79E±0°.02, h13km±6km, n58, σ0s63/99, 11C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.09**	**328**	*i* P		**Pg**		**10 16 25.6**	**0.0**
	baz=337								
EHP				S		**Sg**		**10 16 27.9**	**+0.2**
	baz=337								
ENA	**Nanau**	**0.20**	**347**	⇑*i* P		**Pg**		**10 16 27.1**	**-0.1**
	baz=351								
ENA				*e*S		**Sg**		**10 16 30.3**	**+0.1**
	baz=351								
TWD	**Chiawan**	**0.24**	**229**	⇑P		**Pg**		**10 16 28.0**	**+0.1**
	baz=230								
TWD				*i* S		**Sb**		**10 16 31.8**	**-1.3**
	baz=230								
HWA	**Hwalien**	**0.31**	**213**	*e*P		**Pb**		**10 16 30.1**	**-0.2**
	baz=218								
TWC	**Suao**	**0.37**	**8**	⇑*i* P		**Pg**		**10 16 30.2**	**-0.1**
	baz=7.0								
TWC				S		**Sg**		**10 16 35.5**	**+0.1**
	baz=7.0								
NNS	**Nan Shan**	**0.43**	**298**	⇑*i* P		**Pg**		**10 16 31.3**	**-0.1**
	baz=298								
NNS				S		**Sg**		**10 16 36.8**	**-0.4**
	baz=298								
ESF	**Shoufeng Towns**	**0.45**	**215**	*e*P		**Pb**		**10 16 32.3**	**-0.3**
	baz=223								
ENTT	**Nioudou**	**0.45**	**333**	⇑*i* P		**Pg**		**10 16 31.7**	**0.0**
	baz=333								
ENTT				S		**Sg**		**10 16 37.7**	**-0.1**
	baz=333								
WHF	**Hehuan Shan**	**0.49**	**259**	⇑*i* P		**Pg**		**10 16 32.4**	**-0.2**
	baz=259								
WHF				S		**Sg**		**10 16 39.3**	**+0.1**
	baz=259								
TWE	**Neicheng**	**0.49**	**347**	⇑*i* P		**Pg**		**10 16 32.5**	**-0.1**
	baz=348								
TWE				*i* S		**Sg**		**10 16 39.2**	**0.0**
	baz=348								
ILA	**Ilan**	**0.53**	**356**	⇑*i* P		**Pb**		**10 16 33.5**	**-0.5**
	baz=351								
ILA				S		**Sb**		**10 16 41.1**	**-0.4**
	baz=351								
ESL	**Shilin**	**0.53**	**218**	⇑P		**Pb**		**10 16 33.3**	**-0.8**
	baz=223								
ESL				*e*S		**Sb**		**10 16 40.5**	**-1.1**
	baz=223								
TWT	**Tachien**	**0.56**	**272**	P		**Pb**		**10 16 34.4**	**-0.3**
	baz=271								
TWT				S		**Sg**		**10 16 41.5**	**+0.2**
	baz=271								
NSK	**Sanguang**	**0.59**	**318**	⇑P		**Pg**		**10 16 34.2**	**-0.1**
	baz=318								
NSK				S		**Sg**		**10 16 41.9**	**-0.3**
	baz=318								
TWA	**Mucha**	**0.76**	**346**	*e*P		**Pb**		**10 16 38.0**	**0.0**
	baz=346								
TWB1	**Santiao Chiao**	**0.79**	**13**	⇑P		**Pg**		**10 16 37.8**	**-0.4**
	baz=8.0								
NSTT	**Nanjuang**	**0.82**	**299**	P		**Pb**		**10 16 38.9**	**0.0**
	baz=299								
NSTT				S		**Sg**		**10 16 49.2**	**-0.3**
	baz=299								
NWF	**Wu-fen Shan**	**0.83**	**359**	*e*P		**Pb**		**10 16 39.1**	**-0.1**
	baz=351								
NWF				*e*S		**Sg**		**10 16 49.4**	**-0.5**
	baz=351								
TAP1	**Taipei**	**0.83**	**343**	*e*P		**Pb**		**10 16 39.3**	**+0.1**
	baz=342								
TAP1				S		**Sb**		**10 16 50.4**	**+0.1**
	baz=342								
TAP	**Taipei**	**0.84**	**342**	*e*P		**Pn**		**10 16 40.2**	**-0.1**
	baz=342								
TAP				*e*S		**Sb**		**10 16 50.2**	**-0.3**
	baz=342								
EHY	**Hungye**	**0.84**	**211**	*e*P		**Pg**		**10 16 38.8**	**-0.4**
	baz=223								
SMLT	**Sun Moon Lake**	**0.89**	**247**	P		**Pg**		**10 16 40.1**	**+0.1**
	baz=240								
SMLT				S		**Sg**		**10 16 51.9**	**+0.3**
	baz=240								
NCU	**National Centr**	**0.91**	**323**	*e*P		**Pn**		**10 16 41.8**	**+0.4**
	baz=322								
NCU				S		**Sn**		**10 16 54.6**	**+0.1**
	baz=322								
TYC	**Yuchr**	**0.92**	**249**	P		**Pg**		**10 16 40.2**	**-0.3**
	baz=243								
TYC				S		**Sb**		**10 16 52.0**	**-0.7**
	baz=243								
TWS1	**Kuangyinshan**	**0.92**	**339**	*e*P		**Pn**		**10 16 41.1**	**-0.4**
	baz=338								
TWS1				*e*S		**Sg**		**10 16 53.2**	**+0.4**
	baz=338								
TWQ1	**Liyutan**	**0.94**	**277**	*e*P		**Pn**		**10 16 41.4**	**-0.3**
	baz=277								
TWQ1				*e*S		**Sg**		**10 16 53.7**	**+0.5**
	baz=277								
HSN	**Hsinchu**	**0.94**	**307**	*e*P		**Pn**		**10 16 41.6**	**-0.1**
	baz=301								
HSN				*e*S		**Sn**		**10 16 54.9**	**0.0**
	baz=301								
NSY	**Sanyi**	**0.96**	**281**	P		**Pn**		**10 16 42.3**	**+0.3**
	baz=281								
NSY				*e*S		**Sg**		**10 16 54.2**	**+0.4**
	baz=281								
TWF1	**Yuli**	**0.99**	**207**	*e*P		**Pb**		**10 16 40.4**	**-1.4**
	baz=220								
TCU	**Taichung**	**1.02**	**265**	*e*P		**Pn**		**10 16 43.6**	**+0.7**
	baz=266								
TCU				*e*S		**Sn**		**10 16 58.2**	**+1.1**
	baz=266								
TWY	**Chenhua**	**1.05**	**351**	*e*P		**Pn**		**10 16 42.7**	**-0.5**
	baz=335								
YUS	**Yu-Shan**	**1.07**	**226**	P		**Pb**		**10 16 43.3**	**-0.2**
	baz=228								
YUS				*e*S		**Sb**		**10 16 57.8**	**+0.2**
	baz=228								
WNT	**Mingjian**	**1.07**	**251**	*e*P		**Pg**		**10 16 44.1**	**+0.6**
	baz=248								
WNT				*e*S		**Sn**		**10 16 59.9**	**+1.5**
	baz=248								
YOJ	**Yonaguni jima**	**1.14**	**78**	*i* P		**Pg**		**10 16 44.2**	**-0.5**
	baz=66								
YOJ				S		**Sg**		**10 17 00.8**	**+1.3**
	baz=66								
YOJ	**Yonaguni jima**	**1.14**	**78**	P		**Pg**		**10 16 44.3**	**-0.4**
YOJ				*e*S		**Sg**		**10 17 01.1**	**+1.6**
ALS	**Alishan**	**1.16**	**231**	*e*P		**Pg**		**10 16 44.9**	**-0.2**
	baz=220								
ALS				*e*S		**Sg**		**10 17 01.1**	**+0.9**
	baz=220								
CHKT	**Chengkung**	**1.20**	**199**	*e*P		**Pn**		**10 16 43.4**	**-1.9**
	baz=188								
CHN5	**Tsauling**	**1.20**	**238**	*e*P		**Pg**		**10 16 46.1**	**+0.2**
	baz=241								
CHN5				S		**Sg**		**10 17 03.5**	**+1.9**
	baz=241								
WGK	**Gukeng**	**1.25**	**244**	*e*P		**Pn**		**10 16 45.6**	**-0.4**
	baz=247								
ELDTW	**Lidau**	**1.26**	**214**	*e*P		**Pn**		**10 16 45.6**	**-0.7**
	baz=202								
CHN4	**Tsaushan**	**1.41**	**231**	*e*P		**Pg**		**10 16 49.5**	**-0.4**
	baz=235								
CHN4				*e*S		**Sg**		**10 17 08.7**	**+0.5**
	baz=235								
STYT	**Tauyuan**	**1.43**	**222**	*e*P		**Pb**		**10 16 49.1**	**-0.3**
	baz=225								
STYT				*e*S		**Sg**		**10 17 08.8**	**0.0**
	baz=225								
CHY	**Chiayi**	**1.45**	**240**	*e*P		**Pg**		**10 16 50.2**	**-0.5**
	baz=243								
CHY				*e*S		**Sg**		**10 17 10.4**	**+0.8**
	baz=243								
WTP	**Ta-pu**	**1.46**	**228**	*e*P		**Pg**		**10 16 50.2**	**-0.8**
	baz=232								
WTP				*e*S		**Sg**		**10 17 10.3**	**+0.4**
	baz=232								
TWK	**Hsinying**	**1.54**	**231**	*e*P		**Pg**		**10 16 51.5**	**-0.8**
	baz=236								
TWK				*e*S		**Sg**		**10 17 12.6**	**+0.3**
	baz=236								
WSF	**Szhu**	**1.55**	**248**	*e*P		**Pb**		**10 16 51.3**	**-0.2**
	baz=260								
WSF				*e*S		**Sg**		**10 17 13.4**	**+0.5**
	baz=260								
TWG	**Pinlang**	**1.56**	**205**	*e*P		**Pn**		**10 16 49.7**	**-0.6**
	baz=193								
CHN1	**Nanshi**	**1.56**	**228**	*e*P		**Pg**		**10 16 52.0**	**-0.9**
	baz=233								
CHN1				*e*S		**Sg**		**10 17 13.6**	**+0.5**
	baz=233								
SGST	**Jiashian**	**1.60**	**224**	*e*P		**Pb**		**10 16 52.1**	**-0.1**
	baz=227								
SGST				*e*S		**Sg**		**10 17 15.1**	**+0.8**
	baz=227								
IRIF	**Iriomote-Funau**	**1.77**	**86**	P		**Pn**		**10 16 53.0**	**-0.2**
IRIF				*e*S		**Sb**		**10 17 16.8**	**-0.5**
TWM1	**Shoushan**	**1.89**	**222**	*e*P		**Pb**		**10 16 57.5**	**+0.3**
	baz=225								
JKRS	**Kuro-shima**	**2.02**	**90**	P		**Pn**		**10 16 57.2**	**+0.5**
JKRS				*e*S		**Sb**		**10 17 24.0**	**-0.6**
SCZT	**Fangliau**	**2.15**	**210**	*e*P		**Pn**		**10 16 59.4**	**+1.0**
	baz=199								
JIJ	**Ishigaki jima**	**2.15**	**86**	P		**Pn**		**10 16 58.3**	**-0.1**
JIJ				*e*S		**Sn**		**10 17 25.0**	**+0.1**
PNG	**Penghu**	**2.15**	**252**	*e*P		**Pn**		**10 16 58.4**	**-0.1**
	baz=256								
WDGT	**Dungji**	**2.18**	**244**	*e*P		**Pn**		**10 16 59.4**	**+0.6**
	baz=248								
TWK1	**Hengchun**	**2.46**	**202**	*e*P		**Pn**		**10 17 04.0**	**+1.4**
	baz=193								
JTJ	**Tarama**	**2.68**	**81**	P		**Pn**		**10 17 06.9**	**+1.2**

*ISCJB **29** 10:21:00.3±0.6, 45°.83S±0°.05×165°.82E±0°.06, h10km, mb3.7/3, MS3.6/3, Error ellipse: s-maj=7.6km s-min=5.5km az=4.0*
*IDC **29** 10:21:00.3±0.9, 45°.80S×165°.89E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/16, mbtmp3.8/4, ML4.0/1, MS3.6/3, Ms1 3.6/3, ms1mx3.2/25, Error ellipse: s-maj=29.1km s-min=26.6km az=9.0*
*WEL **29** 10:21:01.2±0.3, 45°.91S×165°.76E, h12km, ML4.6/21, Error ellipse: s-maj=2.8km s-min=1.7km az=90.0*
*AUST **29** 10:21:01.2±1.7, 45°.97S×166°.00E, h0km, Error ellipse: s-maj=1.9km s-min=0.9km az=17.0*
*NEIC **29** 10:21:02.7, 45°.89S×165°.87E, h12km, ML4.6(WEL), After WEL.*
ISC 29 10:21:01.6±0.6, 45°.87S±0°.05×165°.87E±0°.05, h10km, n63, σ0s75/67, mb3.6/3, MS3.5/3, 2C-2D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.64**	**118**	P*		**Pg**		**10 21 14.4**	**+0.5**
PYZ				S*		**Sg**		**10 21 23.5**	**+1.2**
PYZ	**Puysegur Point**	**0.64**	**118**	⇑P*		**Pg**		**10 21 14.3**	**+0.5**
PYZ				S*		**Sg**		**10 21 23.5**	**+1.2**
DCZ	**Deep Cove**	**0.98**	**67**	P*		**Pg**		**10 21 19.8**	**-0.6**
DCZ				S*		**Sg**		**10 21 34.0**	**+0.9**
DCZ	**Deep Cove**	**0.98**	**67**	P*		**Pg**		**10 21 20.1**	**-0.4**
DCZ				S*		**Sg**		**10 21 34.0**	**+0.9**
DCZ				AML	AML			10 21 34.3	
DCZ				AML	AML			10 21 34.8	
DCZ				AML	AML			10 21 40.4	
WHZ	**Wether Hill Ro**	**1.45**

TOO	**Toolangi**	**17.30**	**291**	P	P	10 25 08.4	+3.8
	baz=17,SNR=4.2						
STKA	**Stephens Creek**	**23.39**	**298**	LR	LR	10 34 17.1	
	comp=Z,99nm,22.0s,baz=204,slow=34						
ASAR	**Alice Springs**	**34.00**	**300**	P	**P**	**10 27 45.5**	**-0.1**
ASAR				PcP	**PcP**	**10 30 23.3**	**-0.1**
ASAR	**Alice Springs**	**34.00**	**300**	P	**P**	**10 27 45.5**	**-0.1**
	0.7nm,0.9s,baz=130,slow=8.7,SNR=4.7						
ASAR				PcP	**PcP**	**10 30 23.3**	**-0.1**
	0.4nm,0.8s,baz=137,slow=4.3,SNR=4.4						
ASAR				LR	LR	10 39 22.8	
	comp=Z,79nm,19.2s,baz=256,slow=32						
WRA	**Warramunga Arr**	**36.60**	**304**	P	**P**	**10 28 07.3**	**-0.6**
WRA	**Warramunga Arr**	**36.60**	**304**	P	**P**	**10 28 07.3**	**-0.6**
	0.5nm,0.8s,baz=140,slow=7.6,SNR=3.0						
QSPA	**South Pole Qui**	**44.25**	**180**	P	**P**	**10 29 11.7**	**+0.8**
QSPA	**South Pole Qui**	**44.25**	**180**	P	**P**	**10 29 11.7**	**+0.8**
	3.3nm,0.9s,baz=3.7,slow=2.1,SNR=14						
SNAA	**Sanae**	**62.49**	**184**	*e*P	**P**	**10 31 24.8**	**+0.1**
SNAA	**Sanae**	**62.49**	**184**	*e*	P	10 31 31.5	+6.8
VNA1	**Neumayer--Stat**	**63.71**	**182**	*e*P	**P**	**10 31 33.4**	**+0.7**
VNA1	**Neumayer--Stat**	**63.71**	**182**	*e*	P	10 31 40.7	+8.0
ASAJ	**Asahikawa**	**91.95**	**343**	LR	LR	11 09 30.4	
	comp=Z,66nm,19.0s,baz=162,slow=32						
TORD	**Torodi Ar. Bea**	**144.74**	**207**	PKP	**PKPdf**	**10 40 37.7**	**-1.2**
TORD	**Torodi Ar. Bea**	**144.74**	**207**	PKP	**PKPdf**	**10 40 37.7**	**-1.2**
	4.4nm,0.9s,baz=155,slow=1.6,SNR=21						
BRTR	**Keskin Array B**	**144.85**	**277**	PKP	**PKPdf**	**10 40 38.4**	**-0.1**
BRTR	**Keskin Array B**	**144.85**	**277**	PKP	**PKPdf**	**10 40 38.4**	**-0.1**
	3.4nm,0.9s,baz=143,slow=4.3,SNR=16						
SCHQ	**Schefferville**	**145.94**	**55**	PKPbc	**PKPbc**	**10 40 39.8**	**-0.7**
SCHQ	**Schefferville**	**145.94**	**55**	PKPbc	**PKPbc**	**10 40 39.8**	**-0.7**
	1.3nm,0.7s,baz=292,slow=5.9,SNR=4.3						
ARCES	**ARCESS Array B**	**149.20**	**334**	PKPbc	**PKPbc**	**10 40 49.4**	**+0.4**
ARCES	**ARCESS Array B**	**149.20**	**334**	PKPbc	**PKPbc**	**10 40 49.4**	**+0.4**
	5.8nm,0.8s,baz=68,slow=2.4,SNR=10						
FINES	**FINESS Array B**	**152.11**	**318**	PKPbc	**PKPbc**	**10 40 56.5**	**+0.5**
FINES	**FINESS Array B**	**152.11**	**318**	PKPbc	**PKPbc**	**10 40 56.5**	**+0.5**
	0.9nm,0.6s,baz=66,slow=3.4,SNR=4.8						

NIED **29** *10:41:00,41.˙40N×145.˙20E,h5km,Mw3.7 Best double couple: M◎3.83000×10^14 NP1:φs248.00000°,δ51.00000°, λ-100.00000°. NP2:φs83.00000°,δ40.00000°, λ-78.00000°.*

JMA **29** *10:41:35.8±0.2,41.˙35N×145.˙18E,h51km±2km,M4.2*

MOS **29** *10:41:38.7±2.5,41.˙54N×144.˙59E,h33km,mb4.1/3,Error ellipse: s-maj=35.1km s-min=16.7km az=70.7*

IDC **29** *10:41:38.4±2.5,41.˙60N×144.˙23E,h0km,mb3.7/5, mb1 3.8/6,mb1mx3.6/24,mbtmp3.6/6,ML3.2/1,MS3.4/1, Ms1 3.6/1,ms1mx2.4/41,Error ellipse: s-maj=60.8km s-min=30.3km az=145.0*

ISC 29 10:41:36.0±3.1,41.˙54N±0.˙08×145.˙00E±0.˙08,h8km±16km, n18,σ0.98/25,mb3.5/5,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.46**	**290**	P	**Pb**	**10 42 03.5**	**+0.2**
JAK	**Akkeshi**	**1.48**	**351**	P	**Pb**	**10 42 03.5**	**-0.2**
JAK				*e*S	**Sg**	**10 42 23.5**	**0.0**
JOB	**Onbets**	**1.62**	**328**	P	**Pb**	**10 42 06.1**	**0.0**
JOB				*e*S	**Sg**	**10 42 28.1**	**+0.1**
JCH	**Churui**	**1.63**	**312**	P	**Pb**	**10 42 05.9**	**-0.3**
JCH				*e*S	**Sb**	**10 42 26.8**	**-0.1**
JNBK	**Urakawa-nobuka**	**1.83**	**295**	P	**Pb**	**10 42 09.2**	**-0.5**
JNBK				*e*S	**Sb**	**10 42 33.6**	**+0.8**
NEM2	**Nemuro 2**	**1.91**	**17**	P	**Pn**	**10 42 08.7**	**-0.1**
NEM2				*e*S	**Sn**	**10 42 32.2**	**-0.8**
JAR	**Ashorobuto**	**1.98**	**333**	P	**Pn**	**10 42 10.6**	**+0.8**
JAR				*e*S	**Sb**	**10 42 35.8**	**-1.3**
JNK	**Nakash**	**2.06**	**354**	P	**Pn**	**10 42 11.0**	**+0.1**
JNK				*e*S	**Sn**	**10 42 36.5**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**2.58**	**14**	*i* P	**Pn**	**10 42 18.3**	**+0.3**
YUK				*i* S	**Sn**	**10 42 48.1**	**-1.4**
YUK				pmax	pmax		
	comp=N,21nm,0.2s						
YUK				pmax	pmax		
	comp=Z,47nm,0.2s						
YUK				pmax	pmax		
	comp=E,30nm,0.1s						
YUK				smax	smax		
	comp=N,386nm,0.4s						
YUK				smax	smax		
	comp=E,292nm,0.3s						
KUR	**Kuril'sk**	**4.25**	**29**	*e*P	**Pn**	**10 42 42.2**	**+1.3**
KUR				*e*S	**Sn**	**10 43 29.2**	**-1.4**
KUR				pmax	pmax		
	comp=N,6.0nm,0.1s						
KUR				pmax	pmax		
	comp=E,2.0nm,0.1s						
KUR				pmax	pmax		
	comp=Z,23nm,0.1s						
KUR				smax	smax		
	comp=N,55nm,0.2s						
KUR				smax	smax		
	comp=E,30nm,0.2s						
MJAR	**Matsushiro Arr**	**7.26**	**229**	Pn	**Pn**	**10 43 20.0**	**-2.4**
	comp=E,0.5nm,0.3s,baz=34,slow=14,SNR=5.5						
SONM	**Songino Array**	**27.94**	**296**	P	**P**	**10 47 26.6**	**-0.2**
	comp=E,0.5nm,0.5s,baz=86,slow=7.4,SNR=3.1						
ILAR	**Eielson Array**	**44.21**	**35**	P	P	10 49 51.8	+6.6
	comp=E,0.3nm,0.7s,baz=253,slow=5.4,SNR=5.9						
MKAR	**Makanchi Array**	**44.23**	**299**	P	**P**	**10 49 45.7**	**+0.1**
MKAR	**Makanchi Array**	**44.23**	**299**	P	**P**	**10 49 45.7**	**+0.1**
	comp=E,0.3nm,0.6s,baz=91,slow=9.1,SNR=4.2						
CMAR	**Chiang Mai Arr**	**45.38**	**254**	LR	LR	11 10 26.4	
	comp=E,47nm,20.8s,baz=166,slow=38						
FINES	**FINESS Array B**	**66.12**	**333**	P	**P**	**10 52 23.5**	**+0.2**
	comp=E,1.4nm,0.5s,baz=46,slow=8.0,SNR=9.4						
NOA	**NORSAR Array B**	**71.08**	**338**	P	**P**	**10 52 56.4**	**+2.1**
	comp=E,1.1nm,0.9s,baz=35,slow=6.2,SNR=2.9						

KRSC 29 10:56:26.5±1.5,50.˙16N×156.˙93E,h82km±81km,ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.74**	**316**	*e*P	Pn	10 56 44.5	+1.8
SKR				*i* S	Sn	10 56 57.4	+2.7
PAU	**Pauzhetka**	**1.31**	**357**	*e*P	Pn	10 56 51.6	+2.2
PAU				*i* S	Sn	10 57 10.1	+3.4
ASAK	**Asacha**	**2.31**	**15**	*e*P	Pn	10 57 05.2	+2.6
MTVR	**Mutnovka**	**2.46**	**18**	*e*P	Pn	10 57 07.0	+2.3
MTVR				*i* S	Sn	10 57 36.5	+2.6
RUS	**Russkaya**	**2.48**	**23**	*e*P	Pn	10 57 06.8	+2.0
RUS				*e*S	Sn	10 57 36.1	+1.9
GRL	**Gorelyy**	**2.50**	**16**	*e*P	Pn	10 57 08.2	+2.9
APC	**Apacha**	**2.77**	**3**	*e*P	Pn	10 57 10.0	+1.3
UGLR	**Uglovaya**	**3.27**	**20**	*e*P	Pn	10 57 18.4	+2.7
AVH	**Avacha**	**3.31**	**19**	*e*P	Pn	10 57 19.4	+3.3
KOK	**Koryaka**	**3.31**	**18**	*e*P	Pn	10 57 19.2	+3.0
SMAR	**Somma**	**3.32**	**20**	P	Pn	10 57 18.4	+2.0
KRER	**Koryakskii**	**3.35**	**19**	P	Pn	10 57 18.9	+2.1
SDLR	**Sedlovina**	**3.35**	**21**	*e*P	Pn	10 57 18.9	+2.2
GNL	**Ganaly**	**3.60**	**10**	*e*P	Pn	10 57 21.4	+1.4

NIED **29** *11:03:00,43.˙40N×147.˙10E,h50km,Mw4.4 Best double couple: M◎4.66000×10^15 NP1:φs230.00000°,δ62.00000°, λ86.00000°. NP2:φs58.00000°,δ28.00000°,λ97.00000°.*

MOS **29** *11:03:28.6±1.2,43.˙36N×147.˙24E,h50km,mb4.8/50,Error ellipse: s-maj=8.1km s-min=6.3km az=93.9*

MOS Felt (IV) at Malokuril'skoye, (II) at Yuzhno-Kuril'sk.

ISCJB **29** *11:03:29.2±0.5,43.˙42N±0.˙03×147.˙19E±0.˙03,h52km±3km, mb4.6/105,MS3.7/19,Error ellipse: s-maj=5.9km s-min=3.5km az=157.9*

JMA **29** *11:03:29.9±0.2,43.˙31N×147.˙13E,h49km±4km,M4.4*

JMA Felt II J1.

SKHL **29** *11:03:30.7±0.2,43.˙37N×147.˙14E,h64km±4km,mb4.9/5*

SKHL Felt (IV) at Malokurilskoe, (II) at Yuchno-Kurilsk.

BJI **29** *11:03:30.0,43.˙66N×147.˙21E,h59km,mB4.8/20,mb4.7/32, Ms4.2/18,Ms7 3.8/17*

IDC **29** *11:03:31.8±0.7,43.˙41N×147.˙13E,h68km±6km,mb4.3/22, mb1 4.4/28,mb1mx4.3/32,mbtmp4.2/28,MS3.5/18, Ms1 3.5/18,ms1mx3.3/43,Error ellipse: s-maj=13.0km s-min=10.2km az=153.0*

NEIC **29** *11:03:32.1±0.2,43.˙41N×147.˙15E,mb4.6/44,Error ellipse: s-maj=6.8km s-min=3.5km az=157.0*

NEIC Felt [IV] on Shikotan and [II] at Yuzhno-Kuril'sk. Recorded [2 JMA] in eastern Hokkaido.

ISC 29 11:03:31.6±0.4,43.˙41N±0.˙04×147.˙17E±0.˙03,h62km±2km, h62km:pP-P,n519,σ1.9/12/569,mb4.6/105,143C-146D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.04**	**268**	P	**Pn**	**11 03 48.0**	**-2.1**
NEM2				*e*S	**Sn**	**11 04 01.5**	**-2.4**
YUK	**Yuzh-Kuril'sk**	**1.13**	**304**	*i* PN	**Pn**	**11 03 49.7**	**-1.6**
YUK				*i* S	**Sn**	**11 04 04.3**	**-1.8**
YUK				pmax	pmax		
	comp=N,342nm,0.2s						
YUK				pmax	pmax		
	comp=E,574nm,0.2s						
YUK				pmax	pmax		
	comp=Z,5μm,0.2s						
YUK				smax	smax		
	comp=E,28μm,0.6s						
YUK				smax	smax		
	comp=N,8μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.13**	**304**	⇓*i* P	**Pn**	**11 03 49.8**	**-1.6**
YUK				AMB	AMB	11 03 50.1	
	comp=N,342nm,0.2s						
YUK				AMB	AMB	11 03 50.1	
	comp=N,574nm,0.2s						
YUK				*i* S	**Sn**	**11 04 04.3**	**-1.8**
YUK				A	A	11 04 05.8	
	comp=N,8μm,0.6s						
YUK				A	A	11 04 05.8	
	comp=N,28μm,0.6s						
JRA	**Rausu**	**1.57**	**290**	P	**Pn**	**11 03 56.1**	**-1.1**
JRA				*e*S	**Sn**	**11 04 15.7**	**-0.9**
JNK	**Nakash**	**1.79**	**276**	P	**Pn**	**11 03 58.5**	**-1.7**
JNK				*e*S	**Sn**	**11 04 20.0**	**-1.9**
JAK	**Akkeshi**	**1.85**	**258**	P	**Pn**	**11 03 59.1**	**-1.9**
JAK				*e*S	**Sn**	**11 04 21.1**	**-2.3**
KUR	**Kuril'sk**	**1.89**	**15**	*c i* PN	**Pn**	**11 04 00.4**	**-1.1**
KUR				*e*S	**Sn**	**11 04 22.7**	**-1.6**
KUR				pmax	pmax		
	comp=E,333nm,0.4s						
KUR				pmax	pmax		
	comp=Z,318nm,0.4s						
KUR				pmax	pmax		
	comp=N,223nm,0.2s						
KUR				pmax	pmax		
	comp=Z,976nm,1.0s						
KUR				smax	smax		
	comp=N,2μm,0.3s						
KUR				smax	smax		
	comp=E,821nm,0.3s						
KUR	**Kuril'sk**	**1.89**	**15**	⇑*i* P	**Pn**	**11 04 00.5**	**-1.1**
KUR				AMB	AMB	11 04 08.0	
	comp=E,900nm,0.3s						
KUR				*e*S	**Sn**	**11 04 22.7**	**-1.6**
KUR				A	A	11 04 24.9	
	comp=E,5μm,0.5s						
KUR				A	A	11 04 24.9	
	comp=E,3μm,0.5s						
KUR				A	A	11 04 28.6	
	comp=E,6μm,1.8s						
KUR				A	A	11 04 28.6	
	comp=E,6μm,2.0s						
JTKR	**Abashiri--Toko**	**2.43**	**284**	P	**Pn**	**11 04 08.6**	**-0.2**
JTKR				*e*S	**Sn**	**11 04 37.3**	**-0.1**
JAR	**Ashorobuto**	**2.48**	**268**	P	**Pn**	**11 04 08.5**	**-1.1**
JAR				*e*S	**Sn**	**11 04 37.2**	**-1.5**
JOB	**Onbets**	**2.49**	**259**	P	**Pn**	**11 04 08.3**	**-1.4**
JMP	**Maruseppu**	**2.82**	**283**	P	**Pn**	**11 04 14.2**	**-0.1**
JMP				*e*S	**Sn**	**11 04 46.3**	**-0.8**
JCH	**Churui**	**2.90**	**255**	P	**Pn**	**11 04 13.6**	**-1.7**
JCH				*e*S	**Sn**	**11 04 46.9**	**-2.1**
JKK2	**Kamakawa 2**	**3.24**	**280**	P	**Pn**	**11 04 20.2**	**+0.3**
ERM	**Erimo**	**3.27**	**246**	*e*PN	**Pn**	**11 04 20.2**	**-0.1**
ERM	**Erimo**	**3.27**	**246**	*e*Pn	**Pn**	**11 04 20.2**	**-0.1**
JEM	**Erimo**	**3.27**	**246**	P	**Pn**	**11 04 20.3**	**0.0**
JFR	**Furan**	**3.35**	**267**	P	**Pn**	**11 04 21.1**	**-0.3**
JFR				*e*S	**Sn**	**11 04 58.8**	**-1.1**
ASAJ	**Asahikawa**	**3.38**	**284**	*e*Pn	**Pn**	**11 04 22.4**	**+0.5**
ASAJ				S	**Sn**	**11 05 06.1**	**+5.3**
ASAJ	**Asahikawa**	**3.38**	**284**	P	**Pn**	**11 04 22.3**	**+0.4**
ASAJ	**Asahikawa**	**3.38**	**284**	P	**Pn**	**11 04 22.4**	**+0.5**
	comp=E,19nm,0.3s,baz=98,slow=11,SNR=159						
ASAJ				S	**Sn**	**11 05 06.1**	**+5.3**
	comp=E,38nm,0.3s,baz=326,slow=18,SNR=4.5						
JNBK	**Urakawa-nobuka**	**3.44**	**252**	P	**Pn**	**11 04 21.1**	**-1.5**
JNBK				*e*S	**Sn**	**11 04 58.0**	**-4.1**
JBT2	**Biratori 2**	**3.57**	**261**	P	**Pn**	**11 04 23.4**	**-1.1**
JAB	**Ashibetsu**	**3.60**	**273**	P	**Pn**	**11 04 26.2**	**+1.4**
JSE	**Soyaes**	**3.64**	**297**	P	**Pn**	**11 04 25.3**	**-0.1**
YSS	**Yuzh-Sakhalins**	**4.72**	**320**	⇓*i* PN	**Pn**	**11 04 40.8**	**+0.7**
YSS				*e*S	**Sn**	**11 05 33.0**	**-0.5**
YSS				pmax	pmax		
	comp=N,160nm,0.9s						
YSS				pmax	pmax		
	comp=E,200nm,0.9s						
YSS				pmax	pmax		
	comp=Z,260nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.72**	**320**	⇓*i* P	**Pn**	**11 04 40.8**	**+0.7**
YSS				AMB	AMB	11 04 41.3	
	comp=Z,160nm,0.9s						
YSS				AMB	AMB	11 04 41.3	
	comp=Z,200nm,0.9s						
YSS				AMB	AMB	11 04 41.3	
	comp=Z,260nm,0.9s						
YSS				*ep*P		11 04 56.6	
YSS				*e*S	**Sn**	**11 05 33.0**	**-0.5**
UGL	**Uglegorsk**	**6.68**	**330**	*e*P	**Pn**	**11 05 08.0**	**+1.1**
UGL				AMB	AMB	11 05 09.8	
	comp=Z,82nm,0.9s						
TEY	**Ternei**	**7.76**	**286**	*e*P	**Pn**	**11 05 21.5**	**-0.2**
TYV	**Tymovskoe**	**8.06**	**339**	*e*P	**Pn**	**11 05 26.5**	**+0.7**
TYV				AMB	AMB	11 05 31.0	
	comp=Z,13nm,0.8s						
TYV				AMB	AMB	11 05 31.0	
	comp=Z,22nm,0.8s						
SKR	**Severo-Kuril's**	**9.49**	**37**	*e*PN	Pn	11 05 37.6	-7.8
SKR				pmax	pmax		
	comp=Z,100nm,0.5s						
MJAR	**Matsushiro Arr**	**9.71**	**228**	P	**Pn**	**11 05 49.7**	**+1.2**
MJAR				S	Sn	11 07 42.1	+6.2
MJAR	**Matsushiro Arr**	**9.71**	**228**	P	**Pn**	**11 05 49.7**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=27,slow=14,SNR=5.7						
MJAR				S	Sn	11 07 42.1	+6.2
	comp=Z,0.9nm,0.3s,baz=332,slow=19,SNR=3.6						
MJAR				LR	LR	11 10 15.3	
	comp=Z,81nm,18.2s,baz=350,slow=42						
MAJO	**Matsushiro**	**9.71**	**228**	*e*PN	**Pn**	**11 05 49.4**	**+0.9**
MAJO	**Matsushiro**	**9.71**	**228**	*e*Pn	**Pn**	**11 05 49.4**	**+0.9**
MAT	**Matsushiro**	**9.71**	**228**	P	**Pn**	**11 05 48.9**	**+0.4**
MAT				*e*S	**Sn**	**11 07 40.0**	**+4.1**
USRK	**Ussuriysk Arra**	**11.00**	**279**	P	**Pn**	**11 06 04.9**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=83,slow=13,SNR=18						
USRK				LR	LR	11 10 25.3	
	comp=Z,164nm,20.8s,baz=78,slow=38						
PETK	**Petropavlovsk-**	**11.96**	**32**	PN	**Pn**	**11 06 17.0**	**-2.1**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**11.96**	**32**	P	**Pn**	**11 06 17.0**	**-2.1**
PETK	**Petropavlovsk-**	**11.96**	**32**	P	**Pn**	**11 06 17.0**	**-2.1**
	comp=Z,0.8nm,0.3s,baz=198,slow=14,SNR=6.1						
KLR	**Kul'dur**	**12.13**	**304**	*e*PN	Pn	11 06 17.0	-4.5
MDJ	**Mudanjiang**	**12.71**	**281**	P	**Pn**	**11 06 28.8**	**-0.6**
MDJ				S	**Sn**	**11 08 48.5**	**-0.6**
MDJ				PcP	**PcP**	**11 12 01.5**	**-0.1**
MDJ				PcS	**PcS**	**11 15 36.5**	**+0.7**
MDJ				ScS	**ScS**	**11 19 06.5**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,12nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,56nm,5.6s						
MDJ				LR	LR		
	comp=N,45nm,10.6s						
MDJ				LR	LR		
	comp=E,120nm,14.3s						
MDJ				LR	LR		
	comp=Z,170nm,24.3s						
CN2	**Changchun**	**15.73**	**279**	*e*P	**Pn**	**11 07 05.5**	**-3.7**
CN2				*e*S	**Sn**	**11 10 00.8**	**-1.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CN2				LR	LR		
	comp=N,80nm,20.0s						
CN2				LR	LR		
	comp=E,90nm,20.0s						
CN2				LR	LR		
	comp=Z,200nm,18.0s						
KSRS	**Korea Array**	**15.80**	**254**	P	**Pn**	**11 07 08.2**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=53,slow=12,SNR=7.0						
KSRS				LR	LR	11 12 16.9	
	comp=Z,100nm,19.5s,baz=341,slow=33						
KSAR	**Wonju Array Be**	**15.83**	**254**	P	**Pn**	**11 07 08.2**	**-2.3**
JNU	**Nakatsue**	**16.38**	**237**	LR	LR	11 13 58.4	
	comp=Z,119nm,19.6s,baz=273,slow=38						
ZEA	**Zeya**	**16.69**	**315**	*e*P	**Pn**	**11 07 17.5**	**-3.6**
ZEA				AMB	AMB	11 07 17.7	
	comp=Z,17nm,0.5s						
FX1	**Attu Island--F**	**19.67**	**52**	P	**P**	**11 07 55.9**	**+0.7**
FX1	**Attu Island--F**	**19.67**	**52**	P	**P**	**11 07 55.9**	**+0.7**
	comp=Z,5.8nm,0.3s,baz=315,slow=2.5,SNR=32						
FX1				LR	LR	11 13 52.1	
	comp=Z,76nm,21.7s,baz=124,slow=32						
YAK	**Yakutsk**	**21.31**	**337**	*e*P	**P**	**11 08 09.1**	**-3.8**
YAK				*e*PP	**pP**	**11 08 27.4**	**+1.1**
YAK				*e*S	S	11 11 56.9	-9.0
YAK				*e*		11 12 14.7	
YAK				*e*		11 19 25.7	
YAK				pmax	pmax		
	comp=Z,29nm,0.8s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.3s						
YAK				smax	smax		
	comp=N,30nm,1.4s						
YAK				smax	smax		
	comp=E,19nm,1.3s						
JOW	**Kunigami**	**22.55**	**229**	*e*P	**P**	**11 08 25.9**	**-0.5**
	comp=E,5.8nm,0.7s						
BJI	**Beijing**	**23.30**	**272**	P	**P**	**11 08 34.3**	**+0.3**
BJI				S	**S**	**11 12 43.5**	**+1.9**
BJI				pmax	pmax		
	comp=Z,18nm,0.6s						
BJI				pmax	pmax		
	comp=Z,51nm,3.7s						
BJI				LR	LR		
	comp=N,100nm,24.5s						
BJI				LR	LR		
	comp=E,85nm,24.8s						
BJI				LR	LR		
	comp=Z,87nm,27.8s						
NJ2	**Nanjing**	**24.98**	**252**	*e*P	**P**	**11 08 51.5**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,60nm,0.7s						
HHC	**Hu-ho-hao-te**	**26.41**	**277**	*e*P	**P**	**11 09 02.8**	**+0.5**
HHC				S	**S**	**11 13 30.0**	**-1.3**
HHC				pmax	pmax		
	comp=Z,58nm,0.8s						
HHC				pmax	pmax		
	comp=Z,200nm,4.8s						
HHC				LR	LR		
	comp=N,320nm,10.2s						
HHC				LR	LR		
	comp=E,810nm,12.0s						
HHC				LR	LR		
	comp=Z,800nm,11.0s						
ULN	**Ulaanbaatar**	**28.17**	**293**	*e*P	**P**	**11 09 17.9**	**-0.2**
	comp=Z,14nm,1.1s						
SONM	**Songino Array**	**28.61**	**293**	P	**P**	**11 09 21.9**	**-0.1**
SONM	**Songino Array**	**28.61**	**293**	P	**P**	**11 09 21.9**	**-0.1**
	comp=Z,7.3nm,0.6s,baz=90,slow=8.8,SNR=38						
SONM				LR	LR	11 21 17.3	
	comp=Z,148nm,21.5s,baz=62,slow=37						
TIXI	**Tiksi**	**29.69**	**348**	*ce*P	**P**	**11 09 30.0**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LZH	**Lanzhou**	**33.80**	**272**	*e*P	**P**	**11 10 09.5**	**+1.8**
LZH				pP	**pP**	**11 10 23.5**	**+0.5**
LZH				sP	**sP**	**11 10 30.5**	**+0.2**
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
LZH				LR	LR		
	comp=N,210nm,14.0s						
LZH				LR	LR		
	comp=E,170nm,13.7s						
LZH				LR	LR		
	comp=Z,110nm,12.8s						
GTA	**Gaotai**	**35.36**	**280**	*e*P	P	11 10 27.8	+6.6
GTA				pP	pP	11 10 39.8	+3.2
GTA				sP	sP	11 10 44.8	+1.0
GTA				pmax	pmax		
	comp=Z,5.0nm,1.4s						
CD2	**Chengdu**	**36.38**	**265**	*e*P	**P**	**11 10 30.5**	**+0.6**
CD2				pP	**pP**	**11 10 45.3**	**0.0**
CD2				sP	**sP**	**11 10 50.0**	**-2.6**
CD2				PP	**PnPn**	**11 11 55.3**	**+1.6**
CD2				S	**S**	**11 16 06.8**	**0.0**
CD2				sS	**sS**	**11 16 32.0**	**-1.0**
CD2				SS	**SnSn**	**11 18 33.8**	**-5.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,30nm,4.8s						
CD2				LR	LR		
	comp=E,140nm,13.2s						
CD2				LR	LR		
	comp=Z,200nm,18.2s						
GYA	**Guiyang**	**36.85**	**256**	*e*P	**P**	**11 10 36.0**	**+2.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KDAK	**Kodiak Island**	**39.47**	**47**	*e*P	**P**	**11 10 54.7**	**-0.8**
KDAK	**Kodiak Island**	**39.47**	**47**	P	**P**	**11 10 54.4**	**-1.0**
	comp=Z,28nm,1.2s,baz=269,slow=6.2,SNR=5.6						
QIZ	**Qiongzhong**	**39.63**	**244**	P	**P**	**11 10 58.8**	**+1.6**
QIZ				S	**S**	**11 16 59.0**	**+3.1**
QIZ				pmax	pmax		
	comp=Z,15nm,1.5s						
COLD	**Coldfoot**	**40.43**	**32**	*e*P	**P**	**11 11 03.4**	**+0.1**
	comp=Z,6.4nm,0.9s						
ZAA0	**Zalesovo Array**	**41.21**	**307**	*e*P	**P**	**11 11 09.4**	**-0.5**
ZALV	**Zalesovo Beam**	**41.21**	**307**	*i* P	**P**	**11 11 09.3**	**-0.6**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ZALV	**Zalesovo Beam**	**41.21**	**307**	P	**P**	**11 11 08.7**	**-1.2**
ZALV	**Zalesovo Beam**	**41.21**	**307**	P	**P**	**11 11 08.7**	**-1.2**
	comp=Z,4.2nm,0.5s,baz=77,slow=6.5,SNR=11						
ZALV				LR	LR	11 28 26.7	
	comp=Z,53nm,19.0s,baz=69,slow=36						
SML	**Sawmill**	**41.27**	**41**	*e*P	**P**	**11 11 10.3**	**-0.1**
SML				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SML	**Sawmill**	**41.27**	**41**	*e*P	**P**	**11 11 10.2**	**-0.1**
	comp=Z,3.6nm,0.9s						
COLA	**College**	**41.34

MK31 Makanchi Array 44.75 298 *ce* P **P 11 11 38.3 -0.4**
MK31 pmax pmax
comp=Z,20nm,0.6s
MKAR Makanchi Array 44.75 298 P **P 11 11 38.6 -0.1**
MKAR pmax pmax
comp=Z,14nm,0.7s
MKAR MLR MLR
comp=Z,63nm,19.0s
MKAR Makanchi Array 44.75 298 *e*P **P 11 11 38.6 -0.1**
MKAR Makanchi Array 44.75 298 P **P 11 11 38.5 -0.1**
comp=Z,14nm,0.7s,baz=80,slow=8.4,SNR=126
MKAR LR LR 11 30 55.9
comp=Z,63nm,19.0s,baz=2.7,slow=37
DAWY Dawson 45.06 37 *e*P **P 11 11 40.7 -0.2**
KURK Kurchatov 45.73 304 P **P 11 11 46.7 +0.4**
KURK pmax pmax
comp=Z,9.0nm,0.5s
KURK Kurchatov 45.73 304 P **P 11 11 46.4 +0.1**
KURBB Kurchatov Arra 45.81 304 P **P 11 11 46.4 -0.5**
comp=Z,6.3nm,0.4s,baz=75,slow=8.7,SNR=38
HYT Haines Junctio 46.58 41 *e*P **P 11 11 54.2 +1.2**
INK Inuvik 46.69 30 *e*P **P 11 11 53.8 +0.2**
comp=Z,5.2nm,0.5s
INK Inuvik 46.69 30 P **P 11 11 53.7 +0.2**
comp=Z,7.1nm,0.7s,baz=295,slow=6.6,SNR=39
CMAR Chiang Mai Arr 47.44 254 LR LR 11 32 57.3
comp=Z,31nm,21.8s,baz=210,slow=37
BVAR Borovoye Array 49.73 310 LR LR 11 35 02.6
comp=Z,53nm,19.5s,baz=89,slow=38
BRVK Borovoye 49.77 310 *di*P **P 11 12 17.1 -0.4**
BRVK pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 49.77 310 *e*P **P 11 12 17.3 -0.2**
comp=Z,22nm,1.3s
TKM2 Tokmak 2 50.66 296 *e*P **P 11 12 24.9 +0.2**
TKM2 pmax pmax
comp=Z,16nm,1.0s
TKM2 Tokmak 2 50.66 296 *e*P **P 11 12 24.9 +0.2**
comp=Z,16nm,1.0s
AAK Ala-Archa 51.52 296 ⇓ *i*P **P 11 12 32.0 +1.0**
AAK pmax pmax
comp=Z,10.0nm,1.2s
AAK Ala-Archa 51.52 296 LR LR 11 33 29.3
comp=Z,42nm,21.0s,baz=89,slow=35
EKS2 Erkin-Say 51.97 296 *e*P **P 11 12 34.8 +0.4**
EKS2 pmax pmax
comp=Z,6.0nm,0.6s
EKS2 Erkin-Say 51.97 296 *e*P **P 11 12 34.8 +0.4**
comp=Z,6.1nm,0.6s
KSH Kashi 51.99 292 *e*P **P 11 12 36.3 +1.7**
KSH sP **sP 11 12 59.5 +1.7**
KSH PcS **PcS 11 17 45.5 +1.0**
KSH S **S 11 19 54.5 +1.1**
KSH sS **sS 11 20 21.3 +0.6**
KSH SS **SS 11 23 30.0 -0.6**
KSH pmax pmax
comp=Z,230nm,5.2s
KSH LR LR
comp=N,370nm,7.2s
KSH LR LR
comp=E,300nm,7.2s
KSH LR LR
comp=Z,210nm,6.9s
SVE Sverdlovsk 53.40 317 ⇑ *e*P **P 11 12 44.9 +0.4**
SVE pmax pmax
comp=Z,19nm,0.9s
KK31 Karatay Array 53.88 298 *ce*P **P 11 12 48.2 -0.1**
KK31 pmax pmax
comp=Z,2.0nm,0.3s
KKAR Karatay Array 53.88 298 *e*P **P 11 12 48.4 +0.1**
KKAR Karatay Array 53.88 298 *e*P **P 11 12 48.4 +0.1**
ARU Arti 54.60 317 *di*P **P 11 12 52.5 -0.8**
ARU *PP **pP 11 13 07.6 -1.9**
ARU 11 13 53.4
ARU S **S 11 20 28.0 0.0**
ARU SS **SS 11 24 16.1 +5.4**
ARU pmax pmax
comp=Z,8.0nm,0.6s
YKA Yellowknife Ar 56.08 34 P **P 11 13 03.5 -0.3**
YKA pP **pP 11 13 21.1 +1.0**
YKA Yellowknife Ar 56.08 34 P **P 11 13 03.5 -0.3**
comp=Z,3.4nm,0.6s,baz=296,slow=6.6,SNR=15
YKA pP **pP 11 13 21.1 +1.0**
comp=Z,1.6nm,0.7s,baz=301,slow=6.7,SNR=4.5
AB31 Akbulak array 57.28 309 *ce*P **P 11 13 12.8 +0.2**
AB31 pmax pmax
comp=Z,11nm,0.3s
ABKAR Akbulak array 57.28 309 *e*P **P 11 13 12.8 +0.3**
AKTO Aktyubinsk 57.77 311 LR LR 11 39 06.2
comp=Z,46nm,20.7s,baz=262,slow=37
KEV Kevo 59.03 339 *ep* **P 11 13 21.7 -2.7**
comp=Z,1.7nm,0.3s
KEV Kevo 59.03 339 *e*P **P 11 13 21.7 -2.7**
KEV pmax pmax
comp=Z,2.0nm,0.3s
ARCES ARCESS Array B 59.57 340 P **P 11 13 26.9 -1.3**
ARCES ARCESS Array B 59.57 340 P **P 11 13 26.9 -1.3**
comp=Z,1.2nm,0.4s,baz=50,slow=6.0,SNR=13
NEW Newport 62.55 49 *e*P **P 11 13 48.6 -0.2**
comp=Z,3.9nm,0.8s
NEW Newport 62.55 49 ⇑ P **P 11 13 48.4 -0.3**
baz=62
A12A Yaak River Ran 62.95 47 ⇑ P **P 11 13 51.7 +0.2**
baz=63
A13A Flathead Natio 63.61 47 ⇓ P **P 11 13 55.8 0.0**
baz=63
C12B Naegeli Ranch, 63.77 48 ⇓ P **P 11 13 56.9 0.0**
baz=64
WALA Waterton Lakes 63.80 46 *e*P **P 11 13 57.0 -0.2**
comp=Z,0.1nm,0.8s
B13A Whitefish 63.92 47 ⇓ P **P 11 13 58.1 +0.3**
baz=64,SNR=7.0
BSMT Bassoo Peak 64.06 48 *e*P **P 11 13 59.1 +0.2**
comp=Z,1.4nm,0.6s
A14A Double T Ranch 64.11 46 ⇓ P **P 11 13 58.8 -0.4**
baz=64
WRA Warramunga Arr 64.13 193 P **P 11 13 58.1 -1.3**
WRA pP **pP 11 14 15.8 -0.2**
WRA Warramunga Arr 64.13 193 P **P 11 13 58.1 -1.3**
comp=Z,3.6nm,0.7s,baz=12,slow=6.7,SNR=22
WRA pP **pP 11 14 15.8 -0.2**
comp=Z,2.0nm,0.8s,baz=11,slow=6.8,SNR=3.9
SUMG Summit 64.25 2 *e*P **P 11 14 00.1 +0.1**
SUMG pmax pmax
comp=Z,49nm,1.8s
SUMG Summit 64.25 2 *e*P **P 11 14 00.1 +0.1**
comp=Z,49nm,1.8s
C13A Hot Springs 64.28 48 ⇑ P **P 11 14 00.3 +0.1**
baz=64
BMO Blue Mountains 64.44 52 *e*P **P 11 13 58.7 -2.7**
comp=Z,0.6nm,0.6s
A15A Johnson Ranch, 64.47 46 ⇑ P **P 11 14 00.6 -0.9**
baz=64,SNR=5.2
B14A Marquette Ranc 64.56 47 ⇓ P **P 11 14 02.0 -0.2**
baz=64
SWMT Swartz Lake 64.69 48 *e*P **P 11 14 03.4 +0.5**
B15A Bradely Ranch, 64.97 46 ⇓ P **P 11 14 04.4 -0.3**
baz=65
SLMT Seeley Lake 65.12 48 *e*P **P 11 14 05.9 +0.1**
FINES FINESS Array B 65.18 333 P **P 11 14 04.6 -1.1**
FINES FINESS Array B 65.18 333 P **P 11 14 04.6 -1.1**
comp=Z,4.8nm,0.5s,baz=42,slow=6.5,SNR=28
FINES LR LR 11 44 51.8
comp=Z,56nm,18.7s,baz=178,slow=38
OHCM Honcut 65.23 59 *e*P **P 11 14 06.6 +0.2**
C15A Salmond Ranch, 65.27 47 ⇑ P **P 11 14 07.0 +0.3**
baz=65,SNR=12
B16A M & M Farms, S 65.36 46 ⇓ P **P 11 14 06.9 -0.3**
baz=65
A17A Triple J Farms 65.55 45 ⇓ P **P 11 14 08.0 -0.5**
baz=65,SNR=7.1
OBN Obninsk 65.59 324 *e*P **P 11 14 09.1 +0.7**
OBN *e* 11 14 19.5
OBN *e*SS SS 11 27 03.2 +0.5
OBN pmax pmax
comp=Z,15nm,1.2s
C16A Fuhringer Ranc 65.71 47 ⇓ P **P 11 14 09.6 +0.1**
baz=66,SNR=20
B17A L&G Farms, Che 65.91 46 ⇓ P **P 11 14 10.5 -0.3**
baz=66,SNR=5.6
FFC Flin Flon 65.96 36 *i*P **P 11 14 11.1 +0.2**
FFC Flin Flon 65.96 36 *e*P **P 11 14 10.8 -0.1**
comp=Z,11nm,1.0s
A18A Metzger Ranch, 66.00 45 ⇓ P **P 11 14 10.8 -0.6**
baz=66,SNR=6.1
MFID Camas Ranch 66.16 52 ⇓ P **P 11 14 12.2 -0.3**
baz=66
PAHR Pah Rah Range 66.30 57 *e*P **P 11 14 13.4 -0.1**
comp=Z,8.6nm,1.2s
C17A Wharram Farm, 66.34 46 ⇓ P **P 11 14 13.0 -0.5**
baz=66,SNR=8.2
HRY Holter Researc 66.35 48 *e*P **P 11 14 13.9 +0.3**
B18A Beardsley Farm 66.37 45 ⇓ P **P 11 14 13.6 -0.1**
baz=66,SNR=5.5
A19A Klindworth Far 66.56 44 ⇓ P **P 11 14 14.6 -0.3**
baz=66,SNR=5.3
LRM Limekiln Ridge 66.57 49 *e*P **P 11 14 15.3 +0.1**
EGMT Eagleton 66.62 45 *e*P **P 11 14 15.2 -0.2**
comp=Z,8.7nm,0.8s
EGMT Eagleton 66.62 45 ⇑ P **P 11 14 15.0 -0.3**
baz=66,SNR=7.5
D17A Six Diamond Ra 66.68 47 ⇓ P **P 11 14 15.6 -0.2**
baz=66
CMB Columbia Colle 66.70 59 *e*P **P 11 14 16.0 0.0**
CMB pmax pmax
comp=Z,4.0nm,0.8s
CMB Columbia Colle 66.70 59 *e*P **P 11 14 16.0 0.0**
comp=Z,4.2nm,0.8s
B19A Brinkman Farms 66.76 45 ⇓ P **P 11 14 16.1 -0.1**
baz=66,SNR=6.6
DLMT Dillon 66.77 49 *e*P **P 11 14 17.3 +0.9**
comp=Z,4.3nm,1.0s
HLID Hailey 66.88 51 *e*P **P 11 14 17.2 +0.1**
comp=Z,1.7nm,0.8s
HLID Hailey 66.88 51 ⇓ P **P 11 14 17.2 +0.1**
baz=67
MCMT McKenzie Canyo 66.97 50 *e*P **P 11 14 17.4 -0.4**
comp=Z,0.4nm,0.5s
VSR Storozhevoye 67.00 319 *e*P **P 11 14 17.4 -0.1**
VSR pmax pmax
comp=Z,20nm,1.1s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.0s
WAKR Walker 67.00 58 *e*P **P 11 14 18.7 +0.6**
A20A Cobblestone Ra 67.01 44 ⇓ P **P 11 14 17.8 +0.1**
baz=67
E17A Martinsdale 67.03 47 ⇓ P **P 11 14 18.4 +0.3**
baz=67,SNR=6.7
D18A Linhart Farms, 67.12 46 ⇑ P **P 11 14 18.8 +0.2**
baz=67,SNR=6.0
C19A Slack Wire Ran 67.17 45 ⇓ P **P 11 14 19.2 +0.3**
baz=67
I14A Mackay 67.19 51 ⇓ P **P 11 14 19.4 +0.2**
baz=67,SNR=5.1
B20A Solberg Farm, 67.24 44 ⇑ P **P 11 14 19.3 +0.1**
baz=67
A21A Bergtoll Ranch 67.44 43 ⇑ P **P 11 14 20.5 +0.1**
baz=67
E18A Harlowton 67.46 47 ⇑ P **P 11 14 20.7 -0.1**
baz=67
F17A Fitzpatrick Pl 67.49 48 ⇓ P **P 11 14 21.0 +0.1**
baz=67
D19A Cripps Ranch, 67.62 46 ⇑ P **P 11 14 21.6 -0.1**
baz=67,SNR=5.2
C20A Veseth Ranch, 67.72 45 ⇓ P **P 11 14 22.5 +0.3**
baz=68,SNR=9.8
NVAR Mina Array Bea 67.75 58 P **P 11 14 23.0 +0.2**
NVAR pP **pP 11 14 41.4 +1.8**
NVAR Mina Array Bea 67.75 58 P **P 11 14 23.0 +0.2**
comp=E,3.8nm,0.6s,baz=297,slow=7.6,SNR=48
NVAR pP **pP 11 14 41.4 +1.8**
comp=E,2.3nm,0.8s,baz=290,slow=6.7,SNR=5.6
G17A Pierce Place, 67.81 48 ⇓ P **P 11 14 23.3 +0.2**
baz=68,SNR=5.8
ASAR Alice Springs 67.85 193 P **P 11 14 22.8 -0.4**
ASAR Alice Springs 67.85 193 P **P 11 14 22.8 -0.4**
comp=E,2.5nm,0.8s,baz=8.6,slow=6.7,SNR=23
A22A Carney Farms, 67.94 43 ⇓ P **P 11 14 23.2 -0.4**
baz=68,SNR=6.0
F18A Big Timber 67.99 47 ⇑ P **P 11 14 24.2 +0.1**
baz=68,SNR=7.8
D20A Manuel Ranch, 68.06 45 ⇑ P **P 11 14 24.5 +0.1**
baz=68,SNR=8.7
C21A Desert Coulee 68.11 44 ⇑ P **P 11 14 24.6 -0.1**
baz=68
E19A Rath Farm, Rou 68.13 46 ⇑ P **P 11 14 25.0 +0.1**
baz=68,SNR=6.1
I16A Newdale 68.33 50 ⇑ P **P 11 14 26.7 +0.4**
baz=68
B22A Reddig Ranch S 68.36 43 ⇑ P **P 11 14 26.1 -0.1**
baz=68
F19A Roth Farm, Mol 68.44 47 ⇑ P **P 11 14 26.9 0.0**
baz=68,SNR=8.3
G18A Lazy EL Ranch, 68.45 48 ⇑ P **P 11 14 26.9 -0.2**
baz=68
A23A Redstone 68.47 42 ⇓ P **P 11 14 27.2 +0.2**
baz=68
IMW Indian Meadow 68.62 49 *e*P **P 11 14 29.1 +0.8**
comp=E,3.5nm,0.8s
D21A La Casta Ranch 68.66 45 ⇓ P **P 11 14 28.2 0.0**
baz=68
B23A Brockton 68.75 43 ⇓ P **P 11 14 28.4 -0.3**
baz=68,SNR=7.9
RRI2 Red Ridge 68.76 50 *e*P **P 11 14 29.3 +0.1**
comp=E,8.4nm,1.0s
C22A Vida 68.78 44 ⇑ P **P 11 14 28.6 -0.3**
baz=68
H18A Shoshone NF, C 68.81 48 ⇓ P **P 11 14 29.6 +0.2**
baz=69
TPAW Teton Pass 68.87 50 *e*P **P 11 14 30.3 +0.5**
comp=E,5.6nm,0.9s
A24A Westby 68.93 42 ⇑ P **P 11 14 29.5 -0.3**
baz=69
LOHW Long Hollow 68.99 50 *e*P **P 11 14 31.4 +0.9**
comp=E,2.4nm,0.8s
REDW Red Top Meadow 69.01 50 *e*P **P 11 14 31.2 +0.6**
comp=E,11nm,1.5s
C23A Lambert 69.09 43 ⇑ P **P 11 14 30.5 -0.4**
baz=69
CWC Cottonwood Cre 69.13 59 ⇑ P **P 11 14 31.1 -0.2**
baz=69
DGMT Dagmar 69.14 42 *e*P **P 11 14 30.9 -0.2**
comp=E,15nm,0.7s
DGMT Dagmar 69.14 42 ⇓ P **P 11 14 30.7 -0.4**
baz=69,SNR=5.6
GRAC Grapevine Rang 69.22 58 ⇑ P **P 11 14 32.0 +0.3**
baz=69,SNR=8.4
G20A Bridger 69.24 47 ⇑ P **P 11 14 31.4 -0.4**
baz=69
ISA Isabella 69.37 60 ⇓ P **P 11 14 32.6 -0.1**
baz=69
IDID Didziasalis 69.46 328 *e*P **P 11 14 33.5 +0.7**
R11A Troy Canyon, C 69.46 56 ⇑ P **P 11 14 33.4 0.0**
baz=69,SNR=7.8
ARVC Arvin 69.48 61 ⇓ P **P 11 14 33.5 +0.1**
baz=69
ISAL Salakas 69.50 329 *e*P **P 11 14 33.8 +0.7**
D23A Lindsay 69.50 44 ⇑ P **P 11 14 33.4 0.0**
baz=69
I19A Meeteetse 69.60 48 ⇑ P **P 11 14 34.4 +0.2**
baz=69
E22A Miles City 69.62 45 ⇑ P **P 11 14 34.3 +0.2**
baz=69
IIGN Ignalina 69.63 328 *e*P **P 11 14 34.6 +0.7**
MPMC Manuel Prospec 69.74 59 ⇑ P **P 11 14 35.1 -0.1**
baz=70,SNR=8.1
H20A Greybull 69.84 47 ⇑ P **P 11 14 35.5 0.0**
baz=70
FURC Furnace Creek, 69.87 59 ⇓ P **P 11 14 35.9 +0.3**
baz=70,SNR=6.0
F22A Rosebud 69.90 46 ⇓ P **P 11 14 35.8 0.0**
baz=70
E23A Ismay 69.91 45 ⇓ P **P 11 14 36.0 +0.1**
baz=70,SNR=6.3
NB2 NORSAR Subarra 69.92 339 P **P 11 14 34.8 -0.9**
comp=Z,4.4nm,0.5s,baz=32,slow=6.5
NOA NORSAR Array B 69.92 339 P **P 11 14 35.0 -0.7**
NOA NORSAR Array B 69.92 339 P **P 11 14 35.0 -0.7**
comp=Z,7.5nm,0.8s,baz=33,slow=6.2,SNR=22
NOA LR LR 11 47 34.1
comp=Z,32nm,20.5s,baz=40,slow=38
DUG Dugway 69.93 53 *e*P **P 11 14 36.7 +0.4**
DUG pmax pmax
comp=Z,3.0nm,0.6s
DUG Dugway 69.93 53 *e*P **P 11 14 36.6 +0.4**
comp=Z,3.1nm,0.6s
DUG Dugway 69.93 53 ⇑ P **P 11 14 36.4 +0.2**
baz=70,SNR=5.7
LRMC Laurel Mountai 69.98 60 ⇑ P **P 11 14 36.6 0.0**
baz=70
KIV Kislovodsk 70.00 312 *e*P **P 11 14 38.0 +1.5**
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,56nm,18.0s
HFS Hagfors 70.00 337 LR LR 11 48 38.3
comp=Z,51nm,18.8s,baz=322,slow=39
KBZ Khabaz 70.03 312 P **P 11 14 36.8 +0.2**
KBZ pmax pmax
comp=Z,6.0nm,0.5s
KBZ MLR MLR
comp=Z,51nm,20.1s
KBZ Khabaz 70.03 312 P **P 11 14 36.8 +0.2**
KBZ Khabaz 70.03 312 P **P 11 14 36.8 +0.2**
comp=Z,5.7nm,0.5s,baz=55,slow=4.3,SNR=15
KBZ LR LR 11 50 07.7
comp=Z,51nm,20.1s,baz=277,slow=40
J19A Crowheart 70.07 49 ⇓ P **P 11 14 37.4 +0.3**
baz=70
BW06 Boulder Array 70.12 50 *e*P **P 11 14 37.4 -0.1**
comp=Z,1.1nm,0.4s
PDAR Pinedale Array 70.12 50 P **P 11 14 37.0 -0.4**
PDAR Pinedale Array 70.12 50 P **P 11 14 37.0 -0.4**
comp=Z,2.3nm,0.6s,baz=306,slow=2.1,SNR=24
I20A Worland 70.12 48 ⇑ P **P 11 14 37.6 +0.2**
baz=70
EDW2 Edwards Air Fo 70.17 61 ⇑ P **P 11 14 37.8 +0.1**
baz=70
G22A Birney 70.26 46 ⇑ P **P 11 14 37.8 -0.3**
baz=70
M17A Scullys Gap (B 70.34 51 ⇑ P **P 11 14 38.7 -0.1**
baz=70
F23A Volborg 70.38 45 ⇑ P **P 11 14 38.7 -0.1**
baz=70
L18A Fontenelle, Gr 70.40 51 ⇓ P **P 11 14 39.3 +0.1**
baz=70
K19A Absolon Red Bu 70.47 49 ⇓ P **P 11 14 39.6 0.0**
baz=70
J20A Shoshoni 70.54 48 ⇑ P **P 11 14 40.2 +0.3**
baz=70
SHOC Shoshone 70.59 59 ⇑ P **P 11 14 40.7 +0.4**
baz=70
GSC Goldstone 70.65 60 *e*P **P 11 14 40.5 -0.1**
GSC pmax pmax
comp=Z,6.0nm,1.1s
GSC Goldstone 70.65 60 *e*P **P 11 14 40.5 -0.1**
comp=Z,5.5nm,1.1s
GSC Goldstone 70.65 60 ⇑ P **P 11 14 40.8 +0.2**
baz=70
I21A Big Trails, Te 70.67 48 ⇓ P **P 11 14 40.6 -0.1**
baz=70,SNR=5.7
G23A Biddle 70.74 46 ⇓ P **P 11 14 40.5 -0.5**
baz=70
BFSC Mount Baldy Ra 70.79 61 ⇑ P **P 11 14 41.7 +0.2**
baz=71
F24A Ekalaka 70.79 45 ⇓ P **P 11 14 40.9 -0.4**
baz=70,SNR=5.7
K20A Yellowstone Ra 70.86 49 ⇑ P **P 11 14 41.5 -0.5**
baz=71
E25A Miller Ranch, 70.87 44 ⇓ P **P 11 14 41.4 -0.3**
baz=71
J21A Lysite 70.89 48 ⇑ P **P 11 14 41.7 -0.5**
baz=71
I22A 9 Mile Ranch, 71.05 47 ⇓ P **P 11 14 42.7 -0.3**
baz=71
TUQ Turquoise Moun 71.11 59 ⇓ P **P 11 14 43.6 0.0**
baz=71
BBRC Big Bear Solar 71.24 60 ⇓ P **P 11 14 44.4 0.0**
baz=71
HEC Hector,Ludlow 71.25 60 ⇑ P **P 11 14 44.4 +0.2**
baz=71
L20A Wamsutter 71.30 50 ⇓ P **P 11 14 44.5 -0.2**
baz=71
CCUT Cedar City 71.32 56 *e*P **P 11 14 45.1 +0.3**
comp=Z,2.7nm,0.9s
J22A Midwest 71.37 48 ⇑ P **P 11 14 44.7 -0.3**
baz=71
K21A Alcova 71.48 49 ⇓ P **P 11 14 45.4 -0.3**
baz=71
H24A Dirks Ranch, A 71.48 46 ⇓ P **P 11 14 45.1 -0.5**
baz=71
MURC Murrieta 71.49 61 ⇑ P **P 11 14 44.9 -0.7**
baz=71
F26A Lodgepole 71.69 44 ⇓ P **P 11 14 46.2 -0.5**
baz=71
GMRC Granite Mounta 71.70 59 ⇑ P **P 11 14 47.2 +0.1**
baz=72
M20A Sweetwater, Wa 71.73 50 ⇓ P **P 11 14 47.3 0.0**
baz=72
ULM Lac du Bonnet 71.76 37 P **P 11 14 45.8 -1.2**
ULM Lac du Bonnet 71.76 37 P **P 11 14 45.8 -1.2**
comp=Z,2.4nm,0.5s,baz=326,slow=5.8,SNR=6.1
MDND Maddock 71.79 41 ⇑ P **P 11 14 47.3 +0.1**
baz=72
LDFC Landfair 71.85 59 *e*P **P 11 14 47.8 -0.1**
comp=Z,9.4nm,0.8s
K22A Casper 71.86 48 ⇑ P **P 11 14 47.8 -0.1**
baz=72
L21A Rawlins 71.86 49 ⇓ P **P 11 14 47.8 -0.3**
baz=72
KIEV Kiev 71.87 324 *e*P **P 11 14 47.8 +0.2**
KIEV pmax pmax
comp=Z,28nm,1.5s
KIEV Kiev 71.87 324 *e*P **P 11 14 47.8 +0.2**
comp=Z,28nm,1.5s
PFO Pinyon Flat Ob 71.96 61 ⇓ P **P 11 14 48.8 +0.2**
baz=72
SRU San Rafael 71.98 53 *e*P **P 11 14 48.8 +0.1**
SRU pmax pmax
comp=Z,5.0nm,1.0s
SRU San Rafael 71.98 53 *e*P **P 11 14 48.8 +0.1**
comp=Z,5.0nm,1.0s
BELC Belle Mtn. Jos 71.99 60 ⇑ P **P 11 14 48.6 -0.3**
baz=72
109C Camp Elliot, M 72.01 62 ⇑ P **P 11 14 48.8 +0.1**
baz=72
M21A Separation Pea 72.11 49 ⇑ P **P 11 14 49.2 -0.3**
baz=72
G26A Maurine 72.11 44 ⇑ P **P 11 14 48.9 -0.3**
baz=72
N20A Spence Gulch, 72.12 50 ⇑ P **P 11 14 49.6 0.0**
baz=72
RSSD Black Hills 72.18 46 *e*P **P 11 14 48.7 -1.2**
RSSD pmax pmax
comp=Z,4.0nm,0.7s
RSSD Black Hills 72.18 46 *e*P **P 11 14 48.7 -1.2**
comp=Z,3.6nm,0.7s
K23A Bowen Ranch, D 72.28 48 ⇓ P **P 11 14 48.7 -1.7**
baz=72
L22A Ellis Ranch, M 72.33 49 ⇓ P **P 11 14 50.6 -0.2**
baz=72
I25A Rochford 72.41 46 ⇓ P **P 11 14 50.4 -0.9**
baz=72
IRM Iron Mountain 72.42 60 ⇓ P **P 11 14 50.9 -0.4**
baz=72
H26A Fairpoint 72.49 45 ⇓ P **P 11 14 51.0 -0.6**
baz=72
P19A Cripple Cowboy 72.52 52 ⇓ P **P 11 14 51.6 -0.4**
baz=72
BC3 Big Chuckawall 72.56 60 ⇓ P **P 11 14 52.2 0.0**
baz=72
N21A Black Mountain 72.59 50 ⇓ P **P 11 14 52.1 -0.3**
baz=72
W13A Hualapai Mount 72.60 58 ⇑ P **P 11 14 52.2 -0.3**
baz=72
O20A White River Ci 72.61 51 ⇑ P **P 11 14 52.6 +0.1**
baz=72
M22A Cedar Creek Ra 72.67 49 ⇓ P **P 11 14 52.5 -0.4**
baz=72
L23A Garrett 72.67 48 ⇓ P **P 11 14 51.7 -1.1**
baz=72
U15A North Rim 72.70 56 ⇑ P **P 11 14 53.3 +0.1**
baz=72,SNR=7.1
J25A Sunshine Ranch 72.81 46 ⇓ P **P 11 14 52.6 -0.9**
baz=73
PDMCI Parker Dam,Lak 72.97 59 ⇑ P **P 11 14 54.1 -0.3**
baz=73
Y12C Blythe 73.09 60 ⇑ P **P 11 14 55.3 +0.1**
baz=73
N22A Wattenberg Ran 73.16 50 ⇓ P **P 11 14 55.7 -0.1**
baz=73
AGMN Agassiz Nation 73.20 38 *e*P **P 11 14 54.4 -1.2**
comp=Z,3.1nm,0.3s
I27A Quinn 73.25 45 ⇓ P **P 11 14 55.4 -0.6**
baz=73
H28A Mission Ridge 73.34 44 ⇓ P **P 11 14 56.4 -0.2**
baz=73
GLA Glamis 73.35 60 ⇓ P **P 11 14 56.5 -0.3**
baz=73
Q20A Ridgley Place, 73.37 52 ⇑ P **P 11 14 56.8 -0.2**

	baz=73								
N23A	**Red Feather La**	**73.38**	**49**	⇓P		**P**		**11 14 57.1**	**0.0**
	baz=73								
P21A	**Newcastle**	**73.47**	**51**	⇑P		**P**		**11 14 57.0**	**-0.6**
	baz=73								
O22A	**Kremmling**	**73.54**	**50**	⇑P		**P**		**11 14 57.8**	**-0.3**
	baz=73								
M24A	**Cheyenne**	**73.59**	**48**	⇑P		**P**		**11 14 58.1**	**-0.2**
	baz=73								
PV01	**Paradox Valley**	**73.77**	**53**	*eP*		**P**		**11 14 59.2**	**-0.2**
	comp=Z,210nm,0.9s								
P22A	**Eagle**	**73.81**	**51**	⇑P		**P**		**11 14 59.7**	**+0.1**
	baz=74								
WUAZ	**Wupatki**	**73.86**	**56**	⇓P		**P**		**11 15 00.3**	**+0.4**
	baz=74								
Q21A	**Lamborn Mesa,**	**73.87**	**52**	⇓P		**P**		**11 14 59.5**	**-0.4**
	baz=74								
Y14A	**Wickenburg**	**73.91**	**58**	⇑P		**P**		**11 15 00.1**	**0.0**
	baz=74								
S20A	**Disappointment**	**74.10**	**53**	⇓P		**P**		**11 15 01.2**	**-0.2**
	baz=74								
J28A	**Allard Ranch,**	**74.12**	**45**	⇑P		**P**		**11 15 01.0**	**-0.1**
	baz=74,SNR=5.7								
R21A	**Cimarron**	**74.20**	**52**	⇓P		**P**		**11 15 02.0**	**+0.1**
	baz=74								
113A	**Mohawk Valley,**	**74.21**	**60**	⇑P		**P**		**11 15 01.6**	**-0.1**
	baz=74								
Q22A	**Crested Butte,**	**74.23**	**51**	⇑P		**P**		**11 15 02.1**	**0.0**
	baz=74								
ISCO	**Idaho Springs**	**74.31**	**50**	*eP*		**P**		**11 15 02.9**	**+0.3**
ISCO				pmax	pmax				
	comp=Z,2.0nm,0.9s								
ISCO	**Idaho Springs**	**74.31**	**50**	*eP*		**P**		**11 15 02.9**	**+0.3**
	comp=Z,2.2nm,0.9s								
ISCO	**Idaho Springs**	**74.31**	**50**	⇑P		**P**		**11 15 02.7**	**+0.1**
	baz=74								
O24A	**Longmont**	**74.39**	**49**	⇑P		**P**		**11 15 03.0**	**+0.2**
	baz=74								
MVCO	**Mesa Verde**	**74.44**	**53**	*eP*		**P**		**11 15 03.4**	**+0.1**
	comp=Z,5.2nm,1.0s								
MVCO	**Mesa Verde**	**74.44**	**53**	⇓P		**P**		**11 15 03.2**	**-0.1**
	baz=74								
N25A	**Grover**	**74.45**	**48**	⇑P		**P**		**11 15 03.2**	**0.0**
	baz=74								
P23A	**Jefferson**	**74.48**	**50**	⇑P		**P**		**11 15 03.8**	**+0.2**
	baz=74								
S21A	**Coal Bank Pass**	**74.54**	**53**	⇑P		**P**		**11 15 04.4**	**+0.4**
	baz=74								
X16A	**Lo Mia Camp, P**	**74.56**	**57**	⇑P		**P**		**11 15 04.3**	**+0.3**
	baz=74,SNR=7.9								
R22A	**Saguache, Gunn**	**74.75**	**52**	⇓P		**P**		**11 15 05.3**	**+0.1**
	baz=74								
S22A	**4UR Ranch, Cre**	**75.04**	**52**	⇓P		**P**		**11 15 06.9**	**0.0**
	baz=75								
STKA	**Stephens Creek**	**75.10**	**185**	P		**P**		**11 15 06.5**	**-0.1**
STKA	**Stephens Creek**	**75.10**	**185**	P		**P**		**11 15 06.5**	**-0.1**
	comp=Z,3.9nm,1.0s,baz=15,slow=9.8,SNR=4.2								
T21A	**Navajo Lake**	**75.15**	**53**	⇓P		**P**		**11 15 07.3**	**-0.1**
	baz=75								
O26A	**Horse Wrangler**	**75.27**	**48**	⇑P		**P**		**11 15 07.5**	**-0.5**
	baz=75								
N27A	**Anderson Farm,**	**75.29**	**47**	⇓P		**P**		**11 15 08.0**	**-0.1**
	baz=75								
R23A	**Moffat**	**75.30**	**51**	⇑P		**P**		**11 15 08.6**	**+0.3**
	baz=75								
P25A	**Willow Gulch B**	**75.31**	**49**	⇓P		**P**		**11 15 08.3**	**0.0**
	baz=75								
X18A	**Snowflake**	**75.39**	**56**	⇓P		**P**		**11 15 09.0**	**+0.2**
	baz=75								
V20A	**Brimhall**	**75.42**	**54**	⇓P		**P**		**11 15 09.2**	**+0.3**
	baz=75								
OGNE	**Ogallala**	**75.46**	**47**	⇑P		**P**		**11 15 08.7**	**-0.3**
	baz=75								
U21A	**Nageezi**	**75.46**	**54**	⇓P		**P**		**11 15 09.4**	**+0.1**
	baz=75								
T22A	**Edith**	**75.50**	**53**	⇑P		**P**		**11 15 09.7**	**+0.2**
	baz=75								
R24A	**Sanders Place,**	**75.68**	**51**	⇑P		**P**		**11 15 10.3**	**-0.1**
	baz=75								
Q25A	**Bedland, Calha**	**75.69**	**50**	⇓P		**P**		**11 15 10.3**	**-0.2**
	baz=75								
W20A	**Ramah**	**75.86**	**55**	⇓P		**P**		**11 15 11.0**	**-0.5**
	baz=76								
N28A	**Pribbeno Ranch**	**75.91**	**47**	⇑P		**P**		**11 15 10.8**	**-0.7**
	baz=76								
OJC	**Ojcow**	**76.07**	**328**	*eP*		**P**		**11 15 14.2**	**+2.1**
OJC				pmax	pmax				
	comp=Z,18nm,1.2s								
OJC	**Ojcow**	**76.07**	**328**	*eP*		**P**		**11 15 14.2**	**+2.1**
	comp=Z,18nm,1.2s								
OJC	**Ojcow**	**76.07**	**328**	*eP*		**P**		**11 15 14.1**	**+1.9**
KOLS	**Kolonicke sedl**	**76.12**	**326**	*eP*		**P**		**11 15 13.9**	**+1.4**
KOLS				pmax	pmax				
	comp=Z,6.0nm,1.0s								
KOLS	**Kolonicke sedl**	**76.12**	**326**	*eP*		**P**		**11 15 13.9**	**+1.4**
STHS	**Stebnicka Huta**	**76.15**	**327**	*eP*		**P**		**11 15 15.0**	**+2.4**
STHS				pmax	pmax				
	comp=Z,6.0nm,0.5s								
STHS	**Stebnicka Huta**	**76.15**	**327**	*eP*		**P**		**11 15 15.0**	**+2.4**
ECSD	**EROS Data Cent**	**76.21**	**42**	*eP*		**P**		**11 15 12.3**	**-0.8**
	comp=Z,5.4nm,1.1s								
V22A	**San Miguel Ran**	**76.25**	**53**	⇓P		**P**		**11 15 13.5**	**-0.3**
	baz=76								
U23A	**El Rito**	**76.39**	**53**	⇓P		**P**		**11 15 14.9**	**+0.4**
	baz=76,SNR=7.6								
CFR	**Carcaliu**	**76.47**	**320**	⇓P		P		11 15 20.8	+6.4
CFR	**Carcaliu**	**76.47**	**320**	⇓*i*P		P		11 15 20.8	+6.4
R26A	**Arlington**	**76.56**	**50**	⇓P		**P**		**11 15 14.6**	**-0.7**
	baz=76								
VRI	**Vrincioaia**	**76.59**	**322**	⇑P		P		11 15 18.8	+3.6
VRI	**Vrincioaia**	**76.59**	**322**	⇑*i*P		P		11 15 18.8	+3.6
TRPA	**Tarpa**	**76.64**	**325**	⇓*i*P		**P**		**11 15 17.5**	**+2.1**
X21A	**Alamocita Cree**	**76.75**	**55**	⇓P		**P**		**11 15 16.9**	**+0.3**
	baz=76								
Y20A	**Horse Springs,**	**76.76**	**56**	⇑P		**P**		**11 15 17.2**	**+0.5**
	baz=76,SNR=6.1								
V23A	**Ortiz Mt. (NFS**	**76.80**	**53**	⇓P		**P**		**11 15 16.8**	**0.0**
	baz=77								
T25A	**Trinidad**	**76.84**	**51**	⇓P		**P**		**11 15 17.2**	**+0.1**
	baz=77								
U24A	**Moreno Valley**	**76.86**	**52**	⇓P		**P**		**11 15 17.9**	**+0.7**
	baz=77								
TIRR	**Tirgusor**	**76.88**	**320**	*eP*		**P**		**11 15 18.9**	**+2.1**
TIRR				pmax	pmax				
	comp=Z,4.0nm,0.8s								
TIRR	**Tirgusor**	**76.88**	**320**	*eP*		**P**		**11 15 18.9**	**+2.1**
	comp=Z,3.9nm,0.8s								
R27A	**Eads**	**76.94**	**49**	⇓P		**P**		**11 15 17.4**	**0.0**
	baz=77								
S26A	**Kim**	**77.03**	**50**	⇓P		**P**		**11 15 17.7**	**-0.3**
	baz=77								
Y21A	**Point of Rocks**	**77.12**	**55**	⇑P		**P**		**11 15 19.2**	**+0.6**
	baz=77								
KECS	**Kecovo**	**77.20**	**327**	*eP*		**P**		**11 15 20.6**	**+2.1**
KECS				pmax	pmax				
	comp=Z,2.0nm,0.8s								
KECS	**Kecovo**	**77.20**	**327**	*eP*		**P**		**11 15 20.6**	**+2.1**
W23A	**Werner Place,**	**77.22**	**54**	⇓P		**P**		**11 15 19.6**	**+0.4**
	baz=77								
MLR	**Muntele Rosu**	**77.23**	**322**	⇓*i*P		**P**		**11 15 21.1**	**+2.2**
DPC	**Dobruska-Polom**	**77.26**	**330**	*eP*		**P**		**11 15 21.3**	**+2.4**
DPC				*e*				11 15 40.2	
DPC	**Dobruska-Polom**	**77.26**	**330**	*eP*		**P**		**11 15 21.3**	**+2.4**
DPC				*ep*P		**pP**		**11 15 40.2**	**+4.2**
DPC	**Dobruska-Polom**	**77.26**	**330**	*eP*		**P**		**11 15 19.0**	**+0.1**
	comp=Z,63nm,1.4s								
T26A	**Comanche Natio**	**77.28**	**51**	⇓P		**P**		**11 15 19.1**	**-0.4**
	baz=77								
MORC	**Moravsky Berou**	**77.28**	**329**	*eP*		**P**		**11 15 19.3**	**+0.3**
MORC				pmax	pmax				
	comp=Z,5.0nm,0.8s								
MORC	**Moravsky Berou**	**77.28**	**329**	*eP*		**P**		**11 15 19.3**	**+0.3**
	comp=Z,4.6nm,0.8s								
V24A	**Rampart Ranch,**	**77.34**	**53**	⇑P		**P**		**11 15 20.3**	**+0.4**
	baz=77								
U25A	**Circle Dot Ran**	**77.36**	**52**	⇓P		**P**		**11 15 19.5**	**-0.5**
	baz=77								
P30A	**Selden**	**77.42**	**47**	⇑P		**P**		**11 15 20.3**	**+0.3**
	baz=77								
120A	**U Bar Ranch, L**	**77.55**	**57**	⇓P		**P**		**11 15 21.1**	**+0.2**
	baz=77								
Y22A	**Socorro**	**77.59**	**55**	⇓P		**P**		**11 15 21.0**	**-0.3**
	baz=77								
Z21A	**St. Cloud Mine**	**77.60**	**56**	⇓P		**P**		**11 15 22.0**	**+0.6**
	baz=77,SNR=7.6								
CLL	**Collm**	**77.62**	**333**	⇑*i*P		**P**		**11 15 21.8**	**+1.0**
CLL				*e*				11 15 39.0	
CLL					pmax	pmax			
	comp=Z,7.0nm,0.6s								
CLL	**Collm**	**77.62**	**333**	⇑*i*P		**P**		**11 15 21.8**	**+1.0**
	comp=Z,7.0nm,0.6s								
CLL				*ep*P		**pP**		**11 15 39.0**	**+1.1**
W24A	**Lazy 6 Ranch,**	**77.62**	**53**	⇑P		**P**		**11 15 21.7**	**+0.3**
	baz=77,SNR=7.2								
DRGR		**77.63**	**325**	⇑P		**P**		**11 15 23.6**	**+2.5**
DRGR		**77.63**	**325**	⇑*i*P		**P**		**11 15 23.6**	**+2.5**
V25A	**Rancho No Teng**	**77.64**	**52**	⇓P		**P**		**11 15 20.8**	**-0.7**
	baz=77								
BRG	**Berggiesshubel**	**77.67**	**332**	*eP*		**P**		**11 15 22.3**	**+1.2**
	comp=Z,7.8nm,1.5s								
BRG	**Berggiesshubel**	**77.67**	**332**	*eP*		**P**		**11 15 22.3**	**+1.2**
BRG				pmax	pmax				
	comp=Z,8.0nm,1.5s								
VOIR		**77.67**	**322**	⇑P		**P**		**11 15 22.4**	**+1.1**
VOIR		**77.67**	**322**	⇑*i*P		**P**		**11 15 22.4**	**+1.1**
R29A	**Marienthal**	**77.75**	**48**	⇑P		**P**		**11 15 21.4**	**-0.5**
	baz=78								
BRTR	**Keskin Array B**	**77.78**	**314**	P		**P**		**11 15 22.7**	**+0.5**
BRTR	**Keskin Array B**	**77.78**	**314**	P		**P**		**11 15 22.7**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=73,slow=2.9,SNR=14								
VYHS	**Vyhne**	**77.84**	**328**	*eP*		**P**		**11 15 24.0**	**+1.9**
VYHS				pmax	pmax				
	comp=Z,4.0nm,1.2s								
VYHS	**Vyhne**	**77.84**	**328**	*eP*		**P**		**11 15 24.0**	**+1.9**
Q30A	**Quinter**	**77.84**	**47**	⇑P		**P**		**11 15 21.0**	**-1.4**
	baz=78								
PSZ	**Piszkesteto**	**77.89**	**327**	⇓P		**P**		**11 15 25.0**	**+2.5**
PSZ	**Piszkesteto**	**77.89**	**327**	⇓*i*P		**P**		**11 15 25.0**	**+2.5**
P31A	**Stockton**	**77.90**	**47**	⇓P		**P**		**11 15 21.3**	**-1.4**
	baz=78								
ARR	**Arges**	**77.91**	**323**	⇑*i*P		**P**		**11 15 24.7**	**+2.0**
S28A	**Manter**	**77.93**	**49**	⇓P		**P**		**11 15 22.8**	**-0.1**
	baz=78								
SCHQ	**Schefferville**	**77.94**	**19**	P		**P**		**11 15 22.2**	**-0.3**
SCHQ	**Schefferville**	**77.94**	**19**	P		**P**		**11 15 22.2**	**-0.3**
	comp=Z,4.7nm,0.7s,baz=334,slow=7.9,SNR=6.4								
319A	**Douglas**	**77.95**	**58**	⇑P		**P**		**11 15 23.5**	**+0.3**
	baz=78								
VRAC	**Vranov**	**78.02**	**329**	LR		LR		11 51 57.6	
	comp=Z,55nm,19.1s,baz=68,slow=37								
220A	**Playas Peak, P**	**78.05**	**57**	⇓P		**P**		**11 15 24.0**	**+0.2**
	baz=78								
Z22A	**Elephant Butte**	**78.07**	**55**	⇑P		**P**		**11 15 24.1**	**+0.3**
	baz=78,SNR=5.3								
121A	**Cookes Peak, D**	**78.07**	**56**	⇑P		**P**		**11 15 24.6**	**+0.7**
	baz=78								
Y23A	**Lovelace Mesa,**	**78.14**	**54**	⇓P		**P**		**11 15 24.3**	**+0.1**
	baz=78,SNR=5.7								
V26A	**Tequesquite Ra**	**78.14**	**52**	⇓P		**P**		**11 15 23.7**	**-0.5**
	baz=78								
W25A	**X Bar L Ranch,**	**78.17**	**53**	⇓P		**P**		**11 15 24.5**	**+0.1**
	baz=78,SNR=6.5								
Y24A	**Capitan**	**78.51**	**54**	⇑P		**P**		**11 15 26.1**	**-0.2**
	baz=78								
222A	**Williams Famil**	**78.78**	**56**	⇓P		**P**		**11 15 27.6**	**-0.2**
	baz=79								
Y25A	**Mesa, Roswell**	**78.95**	**54**	⇓P		**P**		**11 15 28.8**	**+0.2**
	baz=79								
Z24A	**Sheeppen Canyo**	**78.97**	**54**	⇑P		**P**		**11 15 29.1**	**+0.2**
	baz=79								
X26A	**CR and CF Fran**	**79.02**	**53**	⇑P		**P**		**11 15 28.9**	**-0.1**
	baz=79								
KHC	**Kasperske Hory**	**79.26**	**331**	*eP*		**P**		**11 15 30.2**	**+0.2**
KHC				*e*				11 15 32.3	
KHC				*e*				11 15 51.6	
KHC	**Kasperske Hory**	**79.26**	**331**	*eP*		**P**		**11 15 30.2**	**+0.2**
KHC				*ex*		x		11 15 32.3	
KHC				*ep*P		**pP**		**11 15 51.6**	**+4.5**
KHC	**Kasperske Hory**	**79.26**	**331**	*eP*		**P**		**11 15 30.3**	**+0.4**
	comp=Z,5.4nm,0.9s								
GERES	**GERESS Array B**	**79.46**	**331**	P		**P**		**11 15 30.4**	**-0.7**
GERES	**GERESS Array B**	**79.46**	**331**	P		**P**		**11 15 30.4**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=19,slow=6.2,SNR=9.3								
GERES				LR		LR		11 52 05.6	
	comp=Z,42nm,18.2s,baz=271,slow=37								
T31A	**Randall Ranch,**	**79.50**	**48**	⇓P		**P**		**11 15 30.8**	**-0.7**
	baz=79								
224A	**Cornudas Mount**	**79.76**	**55**	⇑P		**P**		**11 15 33.4**	**+0.3**
	baz=80								
Z26A	**Caprock**	**79.83**	**54**	⇑P		**P**		**11 15 33.4**	**0.0**
	baz=80,SNR=5.7								
125A	**Gardner Draw,**	**79.86**	**55**	⇑P		**P**		**11 15 33.7**	**+0.1**
	baz=80								
Y27A	**Causey**	**79.87**	**53**	⇓P		**P**		**11 15 33.5**	**-0.1**
	baz=80								
MNTX	**Cornudas Mount**	**80.11**	**56**	*eP*		**P**		**11 15 34.8**	**0.0**
	comp=Z,2.6nm,0.8s								
225A	**Deer Hill, Car**	**80.15**	**55**	⇑P		**P**		**11 15 35.4**	**+0.1**
	baz=80								
324A	**Moseley Ranch,**	**80.23**	**56**	⇓P		**P**		**11 15 35.3**	**-0.3**
	baz=80								
126A	**Clayton Basin,**	**80.25**	**54**	⇑P		**P**		**11 15 35.8**	**+0.1**
	baz=80								
X29A	**Tulia**	**80.30**	**51**	⇑P		**P**		**11 15 36.1**	**+0.2**
	baz=80								
GDL2	**Guadalupe Moun**	**80.36**	**55**	*eP*		**P**		**11 15 36.7**	**+0.4**
	comp=Z,2.3nm,0.5s								
V31A	**Spring Creek L**	**80.38**	**49**	⇑P		**P**		**11 15 36.4**	**+0.1**
	baz=80								
226B	**Tecolote Peak,**	**80.57**	**55**	⇑P		**P**		**11 15 37.3**	**-0.1**
	baz=80,SNR=8.9								
VTS	**Vitosha**	**80.72**	**322**	⇑P		**P**		**11 15 40.1**	**+2.0**
VTS	**Vitosha**	**80.72**	**322**	⇑*i*P		**P**		**11 15 40.1**	**+2.0**
Z28A	**Tucker Farm, M**	**80.74**	**53**	⇓P		**P**		**11 15 37.8**	**-0.6**
	baz=80								
W31A	**Holland Ranch,**	**80.75**	**50**	⇓P		**P**		**11 15 38.4**	**+0.1**
	baz=80								
SOKA	**Soboth**	**80.79**	**329**	⇑*i*P		**P**		**11 15 38.3**	**-0.1**
	comp=Z,4.0nm,0.6s								
425A	**Indio Mountain**	**80.99**	**56**	⇓P		**P**		**11 15 39.6**	**-0.1**
	baz=81,SNR=7.9								
KBA	**Koelnbreinsper**	**81.08**	**330**	⇑*i*P		**P**		**11 15 38.9**	**-1.1**
	comp=Z,11nm,1.2s								
Z29A	**Hungry Hill Ra**	**81.16**	**52**	⇑P		**P**		**11 15 39.4**	**-1.1**
	baz=81								
128A	**Castleberry Fa**	**81.17**	**53**	⇑P		**P**		**11 15 40.2**	**-0.4**
	baz=81								
326A	**Caldwell Ranch**	**81.22**	**55**	⇓P		**P**		**11 15 40.6**	**-0.3**
	baz=81,SNR=10								
228A	**UT Block 9, Go**	**81.47**	**54**	⇑P		**P**		**11 15 42.4**	**+0.2**
	baz=81								
Y31A	**Rekieta Farm,**	**81.47**	**51**	⇑P		**P**		**11 15 41.8**	**-0.3**
	baz=81								
Z30A	**Sanderson Ranc**	**81.47**	**52**	⇑P		**P**		**11 15 41.9**	**-0.3**
	baz=81								
426A	**McDonald Obser**	**81.65**	**56**	⇑P		**P**		**11 15 43.0**	**-0.4**
	baz=81,SNR=5.9								
328A	**Wristen Ranch,**	**81.87**	**54**	⇑P		**P**		**11 15 44.1**	**-0.2**
	baz=82,SNR=13								
427A	**Hayter Ranch,**	**81.90**	**55**	⇑P		**P**		**11 15 44.2**	**-0.3**
	baz=82,SNR=8.4								
CDF	**Champ du Feu**	**81.99**	**334**	*eP*		**P**		**11 15 46.4**	**+1.8**
Z31A	**Sharp Cattle R**	**82.01**	**51**	⇑P		**P**		**11 15 44.7**	**-0.3**
	baz=82								
229A	**Bryant Ranch,**	**82.03**	**53**	⇑P		**P**		**11 15 45.1**	**0.0**
	baz=82								
526A	**Mary Lane Ranc**	**82.05**	**56**	⇓P		**P**		**11 15 45.3**	**-0.1**
	baz=82,SNR=11								
527A	**Woodward Ranch**	**82.28**	**56**	⇓P		**P**		**11 15 46.4**	**-0.2**
	baz=82,SNR=7.7								
329A	**Wagon Wheel Ra**	**82.28**	**54**	⇓P		**P**		**11 15 46.3**	**-0.1**
	baz=82,SNR=9.1								
626A	**Big Bend Ranch**	**82.39**	**56**	⇓P		**P**		**11 15 46.9**	**-0.1**
	baz=82,SNR=6.9								
Z32A	**Haskell**	**82.39**	**51**	⇓P		**P**		**11 15 47.2**	**+0.3**
	baz=82								
428A	**Kincaid Ranch,**	**82.42**	**55**	⇓P		**P**		**11 15 47.4**	**+0.2**
	baz=82,SNR=6.0								
230A	**Sterling City**	**82.50**	**53**	⇓P		**P**		**11 15 47.3**	**-0.3**
	baz=82								
528A	**Cox Ranch, San**	**82.76**	**55**	⇑P		**P**		**11 15 49.1**	**+0.1**
	baz=82,SNR=7.8								
ABTX	**Abilene, Hawle**	**82.80**	**51**	⇑P		**P**		**11 15 48.2**	**-0.9**
	baz=83								
330A	**Mertzon**	**82.81**	**53**	⇑P		**P**		**11 15 48.7**	**-0.5**
	baz=83								
TXAR	**Lajitas Array**	**82.83**	**56**	P		**P**		**11 15 49.3**	**0.0**
TXAR	**Lajitas Array**	**82.83**	**56**	P		**P**		**11 15 49.3**	**0.0**
	comp=Z,6.1nm,0.7s,baz=300,slow=4.0,SNR=26								
627A	**Terlingua Ranc**	**82.91**	**56**	⇓P		**P**		**11 15 49.7**	**-0.1**
	baz=83,SNR=6.2								
231A	**Bronte**	**82.92**	**52**	⇑P		**P**		**11 15 49.1**	**-0.6**
	baz=83								
429A	**Davenport Ranc**	**82.96**	**54**	⇑P		**P**		**11 15 49.6**	**-0.4**
	baz=83								
529A	**Stev Forest Ra**	**83.13**	**55**	⇓P		**P**		**11 15 50.8**	**-0.1**
	baz=83,SNR=11								
628A	**Black Gap, Mar**	**83.19**	**56**	⇓P		**P**		**11 15 51.0**	**-0.2**
	baz=83								
430A	**Baggett Ranch,**	**83.23**	**54**	⇓P		**P**		**11 15 51.0**	**-0.4**
	baz=83								
331A	**San Angelo**	**83.32**	**53**	⇓P		**P**		**11 15 51.4**	**-0.4**
	baz=83								
232A	**Coleman**	**83.34**	**52**	⇓P		**P**		**11 15 51.7**	**-0.3**
	baz=83,SNR=5.5								
530A	**J-C Ranch, Com**	**83.63**	**54**	⇓P		**P**		**11 15 53.4**	**0.0**
	baz=83,SNR=5.4								
332A	**Millersview**	**83.66**	**52**	⇑P		**P**		**11 15 53.4**	**-0.1**
	baz=83,SNR=5.7								
431A	**Sonora**	**83.67**	**53**	⇑P		**P**		**11 15 53.1**	**-0.5**
	baz=83								
432A	**Menard**	**84.00**	**53**	⇓P		**P**		**11 15 54.9**	**-0.4**
	baz=84,SNR=10								
531A	**Rocksprings**	**84.09**	**54**	⇓P		**P**		**11 15 55.4**	**-0.4**
	baz=84								
JCT	**Junction City**	**84.29**	**53**	*eP*		**P**		**11 15 56.8**	**0.0**
JCT				pmax	pmax				
	comp=Z,11nm,1.0s								
JCT	**Junction City**	**84.29**	**53**	*eP*		**P**		**11 15 56.8**	**0.0**
	comp=Z,11nm,1.0s								
JCT	**Junction City**	**84.29**	**53**	⇓P		**P**		**11 15 56.4**	**-0.4**
	baz=84								
532A	**Rocksprings**	**84.49**	**53**	⇑P		**P**		**11 15 57.3**	**-0.5**
	baz=84,SNR=9.1								
WHTX	**Lake Whitney**	**84.51**	**50**	⇑P		**P**		**11 15 57.3**	**-0.5**
	baz=84								
631A	**Perdido Creek**	**84.62**	**54**	⇑P		**P**		**11 15 58.0**	**-0.4**
	baz=84								
MIAR	**Mount Ida**	**84.69**	**46**	*eP*		**P**		**11 15 58.7**	**0.0**
MIAR				pmax	pmax				
	comp=Z,5.0nm,0.8s								
MIAR	**Mount Ida**	**84.69**	**46**	*eP*		**P**		**11 15 58.7**	**0.0**
	comp=Z,4.7nm,0.8s								
LPG	**La Plagne**	**84.73**	**333**	*eP*		**P**		**11 16 01.4**	**+2.4**
632A	**Uvalde**	**85.02**	**54**	⇑P		**P**		**11 16 00.4**	**-0.1**
	baz=85								
732A	**Laxson Ranch,**	**85.48**	**54**	⇓P		**P**		**11 16 02.6**	**-0.1**
	baz=85								
ORIF	**Oris-en-Rattie**	**85.53**	**334**	*eP*		**P**		**11 16 05.2**	**+2.4**
	comp=Z,3.6nm,0.4s								
PGF	**Pioggiola**	**86.55**	**330**	*eP*		**P**		**11 16 08.5**	**+0.6**
	comp=Z,9.1nm,0.9s								
BCIP	**Isla Barro Col**	**112.48**	**51**	*e*PKPdf		PKiKP		11 22 13.3	+12
TORD	**Torodi Ar. Bea**	**115.47**	**322**	PKP		**PKPdf**		**11 22 05.1**	**-1.7**
TORD	**Torodi Ar. Bea**	**115.47**	**322**	PKP		**PKPdf**		**11 22 05.1**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=15,slow=2.2,SNR=5.1								
SNAA	**Sanae**	**148.14**	**197**	*eP*		**PKPbc**		**11 23 08.7**	**-0.3**
SNAA	**Sanae**	**148.14**	**197**	*e*PKPbc		**PKPbc**		**11 23 08.6**	**-0.5**
BDFB	**Brasilia**	**149.44**	**30**	PKPbc		**PKPbc**		**11 23 13.6**	**-0.4**
BDFB	**Brasilia**	**149.44**	**30**	PKPbc		**PKPbc**		**11 23 13.6**	**-0.4**
	comp=Z,6.9nm,0.8s,baz=319,slow=2.6,SNR=8.2								
VNA1	**Neumayer--Stat**	**150.06**	**196**	*eP*		**PKPbc**		**11 23 13.8**	**+0.1**
PLCA	**Paso Flores**	**152.03**	**98**	PKPbc		**PKPbc**		**11 23 19.4**	**0.0**
PLCA	**Paso Flores**	**152.03**	**98**	PKPbc		**PKPbc**		**11 23 19.4**	**0.0**
	comp=Z,5.3nm,1.2s,baz=297,slow=2.3,SNR=2.7								
CPUP	**Villa Florida**	**153.80**	**57**	PKPbc		**PKPbc**		**11 23 22.9**	**-0.7**
CPUP				PKPab		**PKPab**		**11 23 36.3**	**-0.4**
CPUP	**Villa Florida**	**153.80**	**57**	PKPbc		**PKPbc**		**11 23 22.9**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=288,slow=3.2,SNR=5.0								
CPUP				PKPab		**PKPab**		**11 23 36.3**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=309,slow=5.7,SNR=3.0								

IDC 29 11:17:40.8±2.2,1°27N×121°63E,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.5/22,mbtmp3.7/4,Error ellipse: s-maj=229.5km s-min=26.3km az=69.0,Minahassa Peninsula, Sulawesi

| Code

ABRA	**Dolores**	**1.48**	**200**	*e*P	**Pn**	**12 02 37.1**	**-0.5**
CAUP	**Cauayan**	**2.16**	**165**	*e*P	**Pn**	**12 02 48.3**	**+1.3**
PALP	**Palanan**	**2.26**	**150**‖	*e*P	**Pn**	**12 02 49.0**	**+0.5**
BALP	**Baler**	**3.30**	**175**	*e*P	**Pn**	**12 03 02.1**	**-0.6**
SCZP	**Santa Cruz**	**3.49**	**202**	*e*P	Pn	12 03 15.3	+10
KSRS	**Korea Array**	**19.25**	**16**	P	**P**	**12 06 33.8**	**-0.8**
	0.1nm,0.3s,baz=196,slow=12,SNR=4.7						
SONM	**Songino Array**	**31.16**	**341**	P	**P**	**12 08 29.1**	**+0.2**
	0.7nm,0.7s,baz=151,slow=9.1,SNR=3.3						
WRA	**Warramunga Arr**	**40.81**	**161**	P	P	12 09 43.3	-8.1
	0.9nm,0.9s,baz=341,slow=9.6,SNR=3.8						
MKAR	**Makanchi Array**	**42.18**	**320**	P	**P**	**12 10 02.6**	**+0.2**
	0.4nm,0.5s,baz=113,slow=10.0,SNR=5.1						
ASAR	**Alice Springs**	**44.21**	**163**	P	P	12 10 12.0	-7.0
	0.2nm,0.3s,baz=348,slow=6.9,SNR=14						

BGS **29** *12:22:40.8±1.8, 42˚.34N×148˚.72E, h40km, mb5.0*
MOS **29** *12:22:45.5±0.9, 43˚.32N×146˚.80E, h32km, mb5.1/56, Error ellipse: s-maj=7.6km s-min=5.4km az=101.4*
MOS Felt (IV) at Malokuril'skoye, (II) at Yuzhno-Kuril'sk.
JMA **29** *12:22:47.8±0.2, 43˚.27N×146˚.93E, h47km±3km, M4.4*
JMA Felt II J1.
BJI **29** *12:22:47.5, 43˚.51N×146˚.97E, h55km, mB4.9/23, mb4.8/42, Ms4.2/22, Ms7 3.7/23*
SZGRF **29** *12:22:47.9, 43˚.78N×147˚.47E, h33km, mb5.0, Kuril Islands, Russia*
NEIC **29** *12:22:48.8±0.6, 43˚.36N×146˚.83E, h45km±5km, mb4.8/49, Error ellipse: s-maj=6.6km s-min=3.7km az=155.0*
NEIC Felt [IV] on Shikotan and [II] at Yuzhno-Kuril'sk. Recorded [2 JMA] in eastern Hokkaido.
ISCJB **29** *12:22:48.4±0.5, 43˚.36N±0˚.04×146˚.87E±0˚.03, h55km±3km, mb4.9/179, MS3.9/25, Error ellipse: s-maj=6.3km s-min=3.5km az=159.3*
SKHL **29** *12:22:48.7±0.0, 43˚.29N×146˚.93E, h50km±20km, mb5.1/6, Ms3.8/1, msh5.4/1*
SKHL Felt (IV) at Malokurilskoe, (II) at Yuchno-Kurilsk.
IDC **29** *12:22:48.6±0.7, 43˚.38N×146˚.82E, h45km±5km, mb4.5/23, mb1 4.6/28, mb1mx4.6/29, mbtmp4.4/28, ML4.3/4, MS3.7/21, Ms1 3.7/21, ms1mx3.6/35, Error ellipse: s-maj=13.9km s-min=11.3km az=148.0*
NIED **29** *12:23:00, 43˚.30N×146˚.80E, h41km, Mw4.6 Best double couple: M0 7.61000×10^15 NP1:φ=70.00000°, δ=82.00000°, λ=74.00000°. NP2:φ=314.00000°, δ=18.00000°, λ=152.00000°.*

ISC 29 12:22:48.6±0.4, 43˚.33N±0˚.05×146˚.92E±0˚.03, h45km±2km, h45km:pP-P,n616, σ0=994/667, mb4.9/184, MS3.9/27, 158C-113D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.86**	**273**	P		**Pn**	**12 23 04.0**	**-0.2**
NEM2				*e*S		**Sn**	**12 23 15.8**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**1.04**	**313**	*i* PN		**Pn**	**12 23 06.5**	**-0.2**
YUK				*i* S		**Sn**	**12 23 19.9**	**-0.2**
YUK				pmax	pmax			
	comp=N,943nm,0.4s							
YUK				pmax	pmax			
	comp=E,1μm,0.4s							
YUK				pmax	pmax			
	comp=Z,8μm,0.4s							
YUK				smax	smax			
	comp=N,43μm,0.4s							
YUK				smax	smax			
	comp=E,46μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.04**	**313**	⇑*i* P		**Pn**	**12 23 06.6**	**-0.2**
YUK				AMB	AMB		12 23 07.1	
	comp=E,943nm,0.4s							
YUK				AMB	AMB		12 23 07.1	
	comp=E,1μm,0.4s							
YUK				AMB	AMB		12 23 07.1	
	comp=E,8μm,0.4s							
YUK				*i* S		**Sn**	**12 23 20.0**	**-0.2**
YUK				A	A		12 23 20.8	
	comp=E,43μm,0.4s							
YUK				A	A		12 23 20.8	
	comp=E,46μm,0.4s							
JRA	**Rausu**	**1.44**	**296**	P		**Pn**	**12 23 12.4**	**+0.3**
JRA				*e*S		**Sn**	**12 23 30.9**	**+1.1**
JNK	**Nakash**	**1.62**	**280**	P		**Pn**	**12 23 14.5**	**-0.1**
JNK				*e*S		**Sn**	**12 23 34.3**	**0.0**
JAK	**Akkeshi**	**1.66**	**259**	P		**Pn**	**12 23 14.9**	**-0.2**
KUR	**Kuril'sk**	**2.02**	**19**	*e*PN		**Pn**	**12 23 20.3**	**+0.1**
KUR				*i* S		**Sn**	**12 23 44.2**	**0.0**
KUR				pmax	pmax			
	comp=Z,260nm,0.3s							
KUR				pmax	pmax			
	comp=Z,1μm,1.0s							
KUR				smax	smax			
	comp=N,1μm,0.4s							
KUR				smax	smax			
	comp=E,2μm,0.4s							
KUR	**Kuril'sk**	**2.02**	**19**	*e*P		**Pn**	**12 23 20.4**	**+0.2**
KUR				AMB	AMB		12 23 38.5	
	comp=E,3μm,1.0s							
KUR				*i* S		**Sn**	**12 23 44.2**	**0.0**
KUR				A	A		12 23 54.0	
	comp=E,11μm,2.0s							
KUR				A	A		12 23 54.0	
	comp=E,8μm,2.0s							
JTKR	**Abashiri--Toko**	**2.28**	**287**	P		**Pn**	**12 23 24.9**	**+1.3**
JOB	**Onbets**	**2.30**	**260**	P		**Pn**	**12 23 24.1**	**+0.2**
JAR	**Ashorobuto**	**2.30**	**270**	P		**Pn**	**12 23 24.4**	**+0.5**
JAR				*e*S		**Sn**	**12 23 51.9**	**+0.9**
JMP	**Maruseppu**	**2.67**	**286**	P		**Pn**	**12 23 30.5**	**+1.5**
JCH	**Churui**	**2.70**	**256**	P		**Pn**	**12 23 29.7**	**+0.2**
JCH				*e*S		**Sn**	**12 24 01.7**	**+0.7**
JEM	**Erimo**	**3.07**	**246**	P		**Pn**	**12 23 35.3**	**+0.8**
ERM	**Erimo**	**3.07**	**246**	*ce*PN		**Pn**	**12 23 35.9**	**+1.4**
ERM				pmax	pmax			
	comp=Z,165nm,1.2s							
ERM	**Erimo**	**3.07**	**246**	*e*Pn		**Pn**	**12 23 34.7**	**+0.2**
JKK2	**Kamakawa 2**	**3.08**	**282**	P		**Pn**	**12 23 36.3**	**+1.7**
JFR	**Furan**	**3.16**	**269**	P		**Pn**	**12 23 37.2**	**+1.4**
ASAJ	**Asahikawa**	**3.23**	**286**	*e*Pn		**Pn**	**12 23 38.7**	**+2.0**
ASAJ	**Asahikawa**	**3.23**	**286**	P		**Pn**	**12 23 38.7**	**+2.0**
	comp=Z,30nm,0.3s,baz=106,slow=11,SNR=253							
ASAJ				LR	LR		12 25 11.1	
	comp=Z,1μm,21.4s,baz=111,slow=45							
YSS	**Yuzh-Sakhalins**	**4.67**	**322**	⇑*i* PN		**Pn**	**12 23 58.0**	**+1.5**
YSS				*e*S		**Sn**	**12 24 49.2**	**-0.1**
YSS				pmax	pmax			
	comp=Z,40nm,0.7s							
YSS				MLR	MLR			
	comp=N,700nm,16.0s							
YSS				MLR	MLR			
	comp=E,900nm,16.0s							
YSS				MLR	MLR			
	comp=Z,1μm,16.0s							
YSS	**Yuzh-Sakhalins**	**4.67**	**322**	⇑*i* P		**Pn**	**12 23 58.0**	**+1.5**
YSS				AMB	AMB		12 23 59.0	
	comp=Z,40nm,0.7s							
YSS				*e*S		**Sn**	**12 24 49.2**	**-0.1**
YSS				*e*LR	LR		12 25 14.0	
YSS				AMS	AMS		12 25 50.0	
	comp=Z,700nm,16.0s							
YSS				AMS	AMS		12 25 50.0	
	comp=Z,900nm,16.0s							
YSS				AMS	AMS		12 25 50.0	
	comp=Z,1μm,16.0s							
UGL	**Uglegorsk**	**6.66**	**331**	*e*P		**Pn**	**12 24 26.5**	**+2.7**
UGL				AMB	AMB		12 24 27.7	
	comp=Z,78nm,1.0s							
UGL				*e*L	L		12 26 12.0	
UGL				AMS	AMS		12 26 48.0	
	comp=Z,500nm,20.0s							
TYV	**Tymovskoe**	**8.08**	**340**	*e*P		**Pn**	**12 24 45.0**	**+1.8**
TYV				AMB	AMB		12 24 54.0	
	comp=Z,13nm,0.8s							
TYV				AMB	AMB		12 24 54.0	
	comp=Z,22nm,0.8s							
MJAR	**Matsushiro Arr**	**9.52**	**228**	P		**Pn**	**12 25 01.5**	**-1.4**
MJAR				S		**Sn**	**12 26 45.9**	**-2.6**
MJAR	**Matsushiro Arr**	**9.52**	**228**	P		**Pn**	**12 25 01.5**	**-1.4**
	comp=Z,2.0nm,0.3s,baz=27,slow=15,SNR=22							
MJAR				S		**Sn**	**12 26 45.9**	**-2.6**
	comp=Z,1.0nm,0.3s,baz=42,slow=25,SNR=3.1							
MJAR				LR	LR		12 29 29.7	
	comp=Z,162nm,18.8s,baz=50,slow=42							
MAJO	**Matsushiro**	**9.52**	**228**	*e*PN		**Pn**	**12 25 02.4**	**-0.6**
MAJO				pmax	pmax			
	comp=Z,21nm,0.6s							
MAJO	**Matsushiro**	**9.52**	**228**	*e*Pn		**Pn**	**12 25 02.4**	**-0.6**
	comp=Z,21nm,0.6s							
MAT	**Matsushiro**	**9.52**	**228**	P		**Pn**	**12 25 02.1**	**-0.9**
MAT				*e*S		**Sn**	**12 26 45.2**	**-3.3**
SKR	**Severo-Kuril's**	**9.67**	**37**	*e*PN		Pn	12 24 58.9	-6.0
SKR				pmax	pmax			
	comp=N,50nm,0.4s							
SKR				pmax	pmax			
	comp=E,50nm,0.4s							
SKR				pmax	pmax			
	comp=Z,70nm,0.4s							
USRK	**Ussuriysk Arra**	**10.84**	**280**	P		**Pn**	**12 25 18.1**	**-2.8**
	comp=Z,0.9nm,0.3s,baz=84,slow=15,SNR=13							
USRK				LR	LR		12 29 43.8	
	comp=Z,223nm,19.3s,baz=49,slow=39							
VLA	**Vladivostok**	**10.97**	**274**	⇑*i* PN		**Pn**	**12 25 24.9**	**+2.1**
VLA				*e*S		**Sn**	**12 27 28.5**	**+4.4**
VLA				pmax	pmax			
	comp=Z,25nm,1.0s							
KLR	**Kul'dur**	**12.03**	**305**	*e*PN		**Pn**	**12 25 37.9**	**+0.6**
KLR				pmax	pmax			
	comp=E,64nm,1.8s							
KLR				pmax	pmax			
	comp=Z,60nm,1.8s							
PETK	**Petropavlovsk-**	**12.13**	**32**	PN		**Pn**	**12 25 36.4**	**-2.2**
PETK				pmax	pmax			
	comp=Z,2.0nm,0.3s							
PETK				MLR	MLR			
	comp=Z,120nm,18.3s							
PETK	**Petropavlovsk-**	**12.13**	**32**	P		**Pn**	**12 25 36.4**	**-2.2**
PETK	**Petropavlovsk-**	**12.13**	**32**	P		**Pn**	**12 25 36.4**	**-2.2**
	comp=Z,1.5nm,0.3s,baz=190,slow=14,SNR=45							
PETK				LR	LR		12 30 58.1	
	comp=Z,120nm,18.3s,baz=73,slow=40							
MDJ	**Mudanjiang**	**12.55**	**282**	P		**Pn**	**12 25 44.5**	**+0.1**
MDJ				S		**Sn**	**12 28 01.8**	**-0.8**
MDJ				ScP		**ScP**	**12 34 46.5**	**-3.1**
MDJ				PcS		**PcS**	**12 34 56.5**	**+1.9**
MDJ				ScS		**ScS**	**12 38 26.3**	**+0.6**
MDJ				pmax	pmax			
	comp=Z,17nm,0.8s							
MDJ				pmax	pmax			
	comp=Z,54nm,4.4s							
MDJ				LR	LR			
	comp=N,83nm,21.3s							
MDJ				LR	LR			
	comp=E,130nm,22.4s							
MDJ				LR	LR			
	comp=Z,200nm,19.0s							
MDJ	**Mudanjiang**	**12.55**	**282**	*e*Pn		**Pn**	**12 25 44.5**	**+0.1**
	comp=Z,16nm,0.8s							
CN2	**Changchun**	**15.57**	**279**	*e*P		**Pn**	**12 26 25.8**	**+1.0**
CN2				*e*S		**Sn**	**12 29 15.3**	**-0.8**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.3s							
CN2				LR	LR			
	comp=Z,300nm,19.0s							
KSRS	**Korea Array**	**15.60**	**254**	P		**Pn**	**12 26 23.7**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=56,slow=13,SNR=9.3							
KSRS				LR	LR		12 32 01.5	
	comp=Z,56nm,21.2s,baz=60,slow=36							
KSAR	**Wonju Array Be**	**15.64**	**254**	P		**Pn**	**12 26 23.7**	**-2.0**
ZEA	**Zeya**	**16.62**	**316**	*e*P		**P**	**12 26 41.2**	**+1.2**
ZEA				AMB	AMB		12 26 45.5	
	comp=Z,46nm,1.4s							
SNY	**Shenyang**	**17.25**	**273**	⇓P		**P**	**12 26 47.5**	**+0.5**
SNY				pmax	pmax			
	comp=Z,32nm,0.7s							
SNY				pmax	pmax			
	comp=Z,240nm,3.7s							
SNY				LR	LR			
	comp=N,160nm,3.4s							
SNY				LR	LR			
	comp=E,210nm,3.6s							
SNY				LR	LR			
	comp=Z,110nm,15.9s							
DL2	**Dalian**	**19.53**	**266**	⇓P		**P**	**12 27 12.5**	**+0.4**
DL2				pmax	pmax			
	comp=Z,64nm,0.9s							
FX1	**Attu Island--F**	**19.86**	**52**	P		**Pn**	**12 27 16.9**	**-0.6**
FX1	**Attu Island--F**	**19.86**	**52**	P		**Pn**	**12 27 16.9**	**-0.6**
	comp=Z,8.2nm,0.3s,baz=296,slow=2.6,SNR=47							
FX1				LR	LR		12 34 17.4	
	comp=Z,42nm,19.8s,baz=86,slow=35							
YAK	**Yakutsk**	**21.32**	**337**	*e*P		**P**	**12 27 28.0**	**-3.2**
YAK				pmax	pmax			
	comp=Z,17nm,0.9s							
JOW	**Kunigami**	**22.36**	**229**	*e*P		**P**	**12 27 43.5**	**+0.8**
	comp=Z,11nm,1.2s							
BJI	**Beijing**	**23.13**	**272**	P		**P**	**12 27 49.0**	**-1.6**
BJI				S		**S**	**12 31 59.5**	**+1.0**
BJI				pmax	pmax			
	comp=Z,22nm,0.6s							
BJI				pmax	pmax			
	comp=Z,100nm,4.1s							
BJI				LR	LR			
	comp=N,110nm,26.3s							
BJI				LR	LR			
	comp=E,71nm,25.9s							
BJI				LR	LR			
	comp=Z,82nm,28.6s							
NJ2	**Nanjing**	**24.78**	**252**	*e*P		**P**	**12 28 07.3**	**+1.3**
NJ2				pmax	pmax			
	comp=Z,30nm,0.8s							
ADK	**Adak**	**25.76**	**58**	*e*P		**P**	**12 28 16.0**	**+1.3**
ADK				pmax	pmax			
	comp=Z,79nm,1.2s							
ADK	**Adak**	**25.76**	**58**	*e*P		**P**	**12 28 16.0**	**+1.3**
	comp=Z,79nm,1.2s							
HHC	**Hu-ho-hao-te**	**26.23**	**277**	*e*P		**P**	**12 28 20.5**	**+1.2**
HHC				S		**S**	**12 32 48.0**	**-0.5**
HHC				pmax	pmax			
	comp=Z,35nm,1.0s							
HHC				pmax	pmax			
	comp=Z,250nm,5.2s							
HHC				LR	LR			
	comp=N,310nm,9.5s							
HHC				LR	LR			
	comp=E,730nm,8.6s							
HHC				LR	LR			
	comp=Z,700nm,8.9s							
ULN	**Ulaanbaatar**	**28.04**	**293**	*e*P		**P**	**12 28 35.1**	**-0.4**
	comp=Z,15nm,0.8s							
SONM	**Songino Array**	**28.48**	**293**	P		**P**	**12 28 39.0**	**-0.4**
SONM	**Songino Array**	**28.48**	**293**	P		**P**	**12 28 39.0**	**-0.4**
	comp=Z,16nm,0.4s,baz=89,slow=8.4,SNR=96							
SONM				LR	LR		12 41 08.9	
	comp=Z,258nm,18.5s,baz=83,slow=39							
TNA	**Tin City**	**33.30**	**33**	*e*P		**P**	**12 29 21.6**	**+0.2**
	comp=Z,27nm,0.9s							
LZH	**Lanzhou**	**33.62**	**272**	*e*P		**P**	**12 29 25.0**	**+0.2**
LZH				pP		**pP**	**12 29 38.0**	**+1.1**
LZH				sP		**sP**	**12 29 42.5**	**+0.3**
LZH				*e*S		**S**	**12 34 44.3**	**0.0**
LZH				sS		**sS**	**12 35 03.0**	**-1.6**
LZH				SS		**SnSn**	**12 36 48.5**	**-1.9**
LZH				pmax	pmax			
	comp=Z,23nm,1.0s							
LZH				pmax	pmax			
	comp=Z,93nm,4.0s							
LZH				LR	LR			
	comp=N,430nm,14.3s							
LZH				LR	LR			
	comp=E,160nm,12.0s							
LZH				LR	LR			
	comp=Z,500nm,15.7s							
GTA	**Gaotai**	**35.20**	**280**	⇓P		**P**	**12 29 39.0**	**+0.6**
GTA				pP		**pP**	**12 29 51.0**	**+0.5**
GTA				sP		**sP**	**12 29 56.3**	**+0.4**
GTA				S		**S**	**12 35 07.5**	**-1.1**
GTA				sS		**sS**	**12 35 27.5**	**-1.4**
GTA				SS		**SnSn**	**12 37 23.5**	**-5.1**
GTA				pmax	pmax			
	comp=Z,11nm,1.1s							
GTA				pmax	pmax			
	comp=Z,45nm,5.5s							
GTA				LR	LR			
	comp=N,42nm,16.2s							
GTA				LR	LR			
	comp=E,98nm,17.6s							
GTA				LR	LR			
	comp=Z,110nm,17.3s							
CD2	**Chengdu**	**36.20**	**265**	*e*P		**P**	**12 29 47.0**	**+0.1**
CD2				pP		**pP**	**12 30 00.0**	**+1.0**
CD2				sP		**sP**	**12 30 06.0**	**+1.6**
CD2				PP		**PP**	**12 31 10.8**	**+1.1**
CD2				S		**S**	**12 35 22.8**	**-1.0**
CD2				sS		**sS**	**12 35 44.0**	**-0.2**
CD2				SS		**SnSn**	**12 37 47.8**	**-5.0**
CD2				pmax	pmax			
	comp=Z,40nm,0.6s							
CD2				pmax	pmax			
	comp=Z,100nm,5.2s							
CD2				LR	LR			
	comp=E,130nm,14.2s							
CD2				LR	LR			
	comp=Z,110nm,10.8s							
GYA	**Guiyang**	**36.65**	**256**	*e*P		**P**	**12 29 53.3**	**+2.4**
GYA				pP		**pP**	**12 30 05.5**	**+2.4**
GYA				sP		**sP**	**12 30 11.3**	**+2.9**
GYA				PP		**PnPn**	**12 31 17.8**	**+2.8**
GYA				S		**S**	**12 35 32.5**	**+1.5**
GYA				sS		**ScP**	**12 35 54.0**	**-1.9**
GYA				SS		**SnSn**	**12 37 59.5**	**-4.6**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
GYA				pmax	pmax			
	comp=Z,80nm,4.8s							
GYA				LR	LR			
	comp=N,460nm,17.8s							
GYA				LR	LR			
	comp=E,420nm,18.0s							
GYA				LR	LR			
	comp=Z,480nm,17.5s							
QIZ	**Qiongzhong**	**39.43**	**244**	P		**P**	**12 30 14.0**	**-0.2**
QIZ				S		**S**	**12 36 15.5**	**+2.6**
QIZ				pmax	pmax			
	comp=Z,20nm,2.4s							
COLD	**Coldfoot**	**40.60**	**32**	*e*P		**P**	**12 30 23.8**	**+0.4**
	comp=Z,13nm,0.5s							
MCK	**McKinley**	**41.07**	**38**	*e*P		**P**	**12 30 28.2**	**+0.8**
MCK				pmax	pmax			
	comp=Z,38nm,1.5s							
MCK	**McKinley**	**41.07**	**38**	*e*P		**P**	**12 30 28.1**	**+0.8**
	comp=Z,38nm,1.5s							
PMR	**Palmer**	**41.09**	**41**	*e*P		P	12 30 23.9	-3.5
PMR				pmax	pmax			
	comp=Z,85nm,2.1s							
PMR	**Palmer**	**41.09**	**41**	*e*P		P	12 30 23.9	-3.5
	comp=Z,85nm,2.1s							
ZALV	**Zalesovo Beam**	**41.12**	**307**	P		**P**	**12 30 26.9**	**-0.9**
ZALV							12 32 26.5	
ZALV							12 32 40.2	
ZALV				pmax	pmax			
	comp=Z,5.0nm,0.4s							
ZALV				MLR	MLR			
	comp=Z,75nm,18.8s							
ZALV	**Zalesovo Beam**	**41.12**	**307**	P		**P**	**12 30 26.9**	**-0.9**
ZALV				PcP		**PcP**	**12 32 26.5**	**+0.1**
ZALV				pPcP			12 32 40.2	
ZALV	**Zalesovo Beam**	**41.12**	**307**	P		**P**	**12 30 26.9**	**-0.9**
	comp=Z,5.2nm,0.4s,baz=88,slow=8.1,SNR=21							
ZALV				PcP		**PcP**	**12 32 26.5**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=73,slow=4.0,SNR=5.1							
ZALV				pPcP			12 32 40.2	
	comp=Z,10nm,0.7s,baz=84,slow=3.2,SNR=21							
ZALV				LR	LR		12 49 14.4	
	comp=Z,75nm,18.8s,baz=339,slow=39							
SML	**Sawmill**	**41.45**	**40**	*e*P		**P**	**12 30 30.6**	**+0.1**
SML				pmax	pmax			
	comp=Z,12nm,1.0s							
SML	**Sawmill**	**41.45**	**40**	*e*P		**P**	**12 30 30.6**	**+0.1**
	comp=Z,12nm,1.0s							
COLA	**College**	**41.51**	**36**	*e*P		**P**	**12 30 31.9**	**+1.0**
COLA				pmax	pmax			
	comp=Z,96nm,0.9s							
COLA	**College**	**41.51**	**36**	*e*P		**P**	**12 30 31.9**	**+1.0**
	comp=Z,96nm,0.9s							
NVS	**Novosibirsk**	**41.85**	**309**	*e*P		**P**	**12 30 31.2**	**-2.6**
ILAR	**Eielson Array**	**41.93**	**36**	P		**P**	**12 30 34.0**	**-0.4**
ILAR	**Eielson Array**	**41.93**	**36**	P		**P**	**12 30 34.0**	**-0.4**
	comp=Z,3.4nm,0.5s,baz=254,slow=4.7,SNR=58							
ILAR				LR	LR		12 47 15.4	
	comp=Z,43nm,19.5s,baz=300,slow=35							
WMQ	**Urumqi**	**42.09**	**292**	P		**P**	**12 30 37.0**	**+1.0**
WMQ				pmax	pmax			
	comp=Z,26nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,71nm,5.0s							
WMQ				LR	LR			
	comp=N,82nm,5.6s							
WMQ				LR	LR			
	comp=E,130nm,12.8s							
WMQ				LR	LR			
	comp=Z,130nm,18.4s							
PAX	**Paxson**	**42.68**	**39**	P		**P**	**12 30 41.0**	**+0.5**
PAX				pmax	pmax			
	comp=Z,5.0nm,0.6s							
PAX	**Paxson**	**42.68**	**39**	P		**P**	**12 30 41.0**	**+0.5**
	comp=Z,5.3nm,0.6s							
BMRM	**Bremner River**	**43.33**	**41**	*e*P		**P**	**12 30 46.9**	**+1.1**
	comp=Z,24nm,0.8s							
MENT	**Mentasta**	**43.48**	**38**	*e*P		**P**	**12 30 47.2**	**+0.2**
EGAK	**Eagle**	**44.37**	**36**	*e*P		**P**	**12 30 53.8**	**-0.2**
	comp=Z,19nm,1.3s							
MKAR	**Makanchi Array**	**44.63**	**298**	*i* P		**P**	**12 30 56.0**	**-0.4**
MKAR				pmax	pmax			
	comp=Z,12nm,0.4s							
MKAR	**Makanchi Array**	**44.63**	**298**	P		**P**	**12 30 56.0**	**-0.4**
MKAR				pPcP			12 32 52.1	
MKAR	**Makanchi Array**	**44.63**	**298**	P		**P**	**12 30 56.0**	**-0.4**
	comp=Z,12nm,0.5s,baz=82,slow=9.7,SNR=193							
MKAR				pPcP			12 32 52.1	
	comp=Z,3.3nm,0.7s,baz=46,slow=5.2,SNR=5.1							
MKAR				LR	LR		12 50 41.0	
	comp=Z,84nm,20.8s,baz=69,slow=38							
DAWY	**Dawson**	**45.24**	**36**	*e*P		**P**	**12 31 00.6**	**-0.4**
KURK	**Kurchatov**	**45.63**	**304**	P		**P**	**12 31 03.8**	**-0.3**
KURK							12 32 55.4	
KURK				pmax	pmax			
	comp=Z,11nm,0.5s							
KURK				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KURK	**Kurchatov**	**45.63**	**304**	P		**P**	**12 31 03.8**	**-0.3**
KURK				pPcP			12 32 55.4	
KURBB	**Kurchatov Arra**	**45.71**	**304**	P		**P**	**12 31 03.8**	**-1.0**
	comp=Z,11nm,0.5s,baz=68,slow=8.8,SNR=78							
KURBB				pPcP			12 32 55.4	
	comp=Z,5.9nm,0.7s,baz=78,slow=3.9,SNR=13							
LSA	**Lhasa**	**46.03**	**272**	P		**P**	**12 31 08.3**	**+0.1**
HYT	**Haines Junctio**	**46.76**	**41**	*e*P		**P**	**12 31 14.7**	**+1.6**
INK	**Inuvik**	**46.85**	**30**	*e*P		**P**	**12 31 14.1**	**+0.5**
	comp=Z,27nm,0.7s							
CMAR	**Chiang Mai Arr**	**47.24**	**254**	P		**P**	**12 31 18.1**	**+0.9**
CMAR				pPcP			12 33 02.8	
CMAR	**Chiang Mai Arr**	**47.24**	**254**	P		**P**	**12 31 18.1**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=42,slow=8.6,SNR=4.3							
CMAR				pPcP			12 33 02.8	
	comp=Z,1.7nm,0.9s,baz=356,slow=3.7,SNR=4.6							
VOSK	**Vostochnaya**	**49.42**	**309**	P		**P**	**12 31 32.2**	**-1.4**
VOSK				pmax	pmax			
	comp=Z,6.0nm,0.9s							
BRVK	**Borovoye**	**49.69**	**310**	*ce*P		**P**	**12 31 35.8**	**+0.2**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.7s							
TAPN	**Taplejung**	**49.85**	**272**	*e*P		**P**	**12 31 38.0**	**+0.4**
	comp=Z,17nm,0.5s							
ODAN	**Odare**	**50.37**	**271**	*e*P		**P**	**12 31 41.8**	**+0.4**
	comp=Z,18nm,0.7s	

SNR=31
KKN Kakani 51.37 274 *e*P **P 12 31 49.3 +0.3**
comp=Z,32nm,0.7s
AAK Ala-Archa 51.39 296 *i* P **P 12 31 48.7 -0.1**
AAK Ala-Archa 51.39 296 P **P 12 31 48.8 -0.1**
SNR=9.2
AAK Ala-Archa 51.39 296 *e*P **P 12 31 48.7 -0.1**
comp=Z,11nm,0.5s
PKI Pulchoki 51.41 273 *e*P **P 12 31 49.2 -0.1**
PKIN Phulchoki 51.41 273 *e*P **P 12 31 49.1 -0.2**
DMN Daman 51.60 274 *e*P **P 12 31 51.0 +0.3**
EKS2 Erkin-Say 51.85 296 *e*P **P 12 31 52.2 0.0**
EKS2 pmax pmax
comp=Z,22nm,0.6s
EKS2 Erkin-Say 51.85 296 P **P 12 31 52.5 +0.3**
SNR=17
EKS2 Erkin-Say 51.85 296 *e*P **P 12 31 52.2 0.0**
comp=Z,22nm,0.6s
KSH Kashi 51.86 292 P P 12 31 56.0 +3.7
KSH pP pP 12 32 10.3 +5.3
KSH sP sP 12 32 17.8 +7.6
KSH PP **PP 12 33 54.5 +4.3**
KSH PcS **PcS 12 37 03.8 +0.9**
KSH S **S 12 39 12.3 +0.7**
KSH sS sS 12 39 39.0 +6.3
KSH SS **SS 12 42 48.5 +0.2**
KSH pmax pmax
comp=Z,9.0nm,0.6s
KSH pmax pmax
comp=Z,94nm,5.6s
KSH LR LR
comp=N,130nm,6.0s
KSH LR LR
comp=E,190nm,13.2s
KSH LR LR
comp=Z,200nm,5.8s
AML Almayashu 52.15 296 *i* P **P 12 31 55.1 +0.4**
AML Almayashu 52.15 296 P **P 12 31 55.1 +0.4**
SNR=14
DANN Dangsing 52.16 275 *e*P **P 12 31 55.5 +0.6**
KOLN Koldanda 52.61 275 *e*P **P 12 31 57.9 -0.2**
comp=Z,24nm,0.5s
SVE Sverdlovsk 53.33 317 *e*P **P 12 32 00.8 -2.0**
SVE pmax pmax
comp=Z,15nm,0.8s
KK31 Karatay Array 53.76 298 *i* P **P 12 32 05.8 -0.4**
KK31 pmax pmax
comp=Z,13nm,0.3s
KKAR Karatay Array 53.76 298 *e*P **P 12 32 05.7 -0.5**
KKAR Karatay Array 53.76 298 *e*P **P 12 32 05.7 -0.5**
ARU Arti 54.54 317 *d i*P **P 12 32 10.3 -1.3**
ARU *PP **pP 12 32 23.4 -0.9**
ARU 12 33 11.4
ARU S **S 12 39 46.5 -0.8**
ARU SS **SS 12 43 32.7 +3.1**
ARU pmax pmax
comp=Z,9.0nm,0.6s
ARU MLR MLR
comp=Z,145nm,17.0s
YKA Yellowknife Ar 56.25 34 P **P 12 32 23.7 -0.1**
YKA Yellowknife Ar 56.25 34 P **P 12 32 23.7 -0.1**
comp=Z,4.9nm,0.6s,baz=302,slow=7.0,SNR=19
AB31 Akbulak array 57.20 309 *i* P **P 12 32 30.5 -0.2**
AB31 pmax pmax
comp=Z,15nm,0.3s
ABKAR Akbulak array 57.20 309 *e*P **P 12 32 30.5 -0.3**
AKTO Aktyubinsk 57.68 311 P **P 12 32 33.0 -1.1**
AKTO pmax pmax
comp=Z,8.0nm,0.8s
APA Apatity 58.69 336 ⇑ *i*P **P 12 32 39.4 -1.5**
APA pmax pmax
comp=Z,14nm,0.6s
APA MLR MLR
comp=Z,100nm,19.0s
KEV Kevo 59.05 339 *e*p **P 12 32 41.4 -1.9**
comp=Z,16nm,0.5s
KEV Kevo 59.05 339 *e*P **P 12 32 41.4 -1.9**
KEV pmax pmax
comp=Z,16nm,0.5s
TMCR Tamitsa 59.26 331 *e*P **P 12 32 43.9 -1.0**
TMCR *e* 12 33 32.0
TMCR pmax pmax
comp=Z,53nm,0.7s
ARCES ARCESS Array B 59.58 340 P **P 12 32 46.4 -0.7**
ARCES ARCESS Array B 59.58 340 P **P 12 32 46.4 -0.7**
comp=Z,7.9nm,0.4s,baz=49,slow=7.0,SNR=81
ARCES LR LR 13 03 59.4
comp=Z,60nm,18.3s,baz=27,slow=42
ARE0 ARCESS Array S 59.58 340 *e*P **P 12 32 46.5 -0.6**
DAG Danmarks Havn 59.83 356 *i* P **P 12 32 46.6 -2.0**
DAG pmax pmax
comp=Z,3.0nm,0.7s
DAG Danmarks Havn 59.83 356 *i* P **P 12 32 46.6 -2.0**
comp=Z,5.0nm,0.7s
KTK1 Kautokeino 60.53 340 *e*P **P 12 32 52.6 -0.9**
TRO Tromso 61.11 342 *e*P **P 12 32 55.6 -1.8**
EDM Edmonton 61.83 42 *e*P **P 12 33 02.4 -0.2**
EDM Edmonton 61.83 42 *e*P **P 12 33 02.4 -0.2**
NEW Newport 62.74 48 *e*P **P 12 33 09.4 +0.6**
comp=Z,6.3nm,0.8s
NEW Newport 62.74 48 ⇑P **P 12 33 09.1 +0.2**
baz=62
STEI Steigen 63.28 342 *e*P **P 12 33 10.7 -1.3**
WALA Waterton Lakes 63.99 46 *e*P **P 12 33 17.6 +0.4**
comp=Z,0.2nm,0.7s
WRA Warramunga Arr 64.01 193 P **P 12 33 16.8 -0.5**
WRA Warramunga Arr 64.01 193 P **P 12 33 16.8 -0.5**
comp=Z,3.7nm,0.7s,baz=9.0,slow=6.7,SNR=22
B13A Whitefish 64.11 47 ⇑P **P 12 33 18.6 +0.7**
baz=64,SNR=5.3
BSMT Bassoo Peak 64.25 48 *e*P **P 12 33 19.2 +0.3**
A14A Double T Ranch 64.30 46 ⇓P **P 12 33 19.4 +0.2**
baz=64
SUMG Summit 64.34 2 *e*P **P 12 33 19.1 -0.3**
SUMG pmax pmax
comp=Z,31nm,0.7s
SUMG Summit 64.34 2 *e*P **P 12 33 19.1 -0.3**
comp=Z,31nm,0.7s
SUMG Summit 64.34 2 *i* P **P 12 33 19.2 -0.2**
comp=Z,30nm,0.9s
C13A Hot Springs 64.47 48 ⇓P **P 12 33 20.7 +0.5**
baz=64
KAF Kangasniemi 64.61 333 *e*p **P 12 33 18.2 -2.6**
comp=Z,30nm,0.6s
KAF Kangasniemi 64.61 333 *e*P **P 12 33 18.2 -2.6**
KAF pmax pmax
comp=Z,30nm,0.6s
BMO Blue Mountains 64.64 52 *e*P **P 12 33 21.8 +0.3**
comp=Z,5.2nm,1.4s
A15A Johnson Ranch, 64.66 46 ⇓P **P 12 33 21.3 -0.3**
baz=64,SNR=5.5
B14A Marquette Ranc 64.75 47 ⇓P **P 12 33 22.6 +0.4**
baz=64
MOR8 Moi Rana 64.88 341 *e*P **P 12 33 20.0 -2.6**
MOR8 AMB AMB 12 33 21.1
comp=Z,126nm,0.6s
SWMT Swartz Lake 64.88 48 *e*P **P 12 33 23.9 +0.9**
FLOS Flostrand 65.00 341 *e*P **P 12 33 22.2 -1.1**
STOK Stokkvaagen 65.08 341 *e*P **P 12 33 23.1 -0.7**
B15A Bradely Ranch, 65.16 46 ⇑P **P 12 33 24.9 +0.2**
baz=65
FINES FINESS Array B 65.17 333 P **P 12 33 23.5 -1.0**
FINES FINESS Array B 65.17 333 P **P 12 33 23.5 -1.0**
comp=Z,48nm,0.6s,baz=46,slow=8.2,SNR=178
FINES LR LR 13 03 52.1
comp=Z,64nm,18.2s,baz=194,slow=38
SLMT Seeley Lake 65.32 48 *e*P **P 12 33 26.5 +0.6**
C15A Salmond Ranch, 65.46 47 ⇑P **P 12 33 27.5 +0.7**
baz=65,SNR=9.0
B16A M & M Farms, S 65.55 46 ⇓P **P 12 33 27.5 +0.2**
baz=65
OBN Obninsk 65.56 324 ⇓ *i*P **P 12 33 26.6 -0.4**
OBN *e* 12 33 58.5
OBN *e*S **S 12 42 09.0 +0.4**
OBN pmax pmax
comp=Z,35nm,1.2s
OBN MLR MLR
comp=Z,100nm,17.0s
A17A Triple J Farms 65.74 45 ⇑P **P 12 33 28.5 0.0**
baz=66,SNR=7.1
VRHR Novokhopersk 65.84 318 *e*P **P 12 33 26.4 -2.6**
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=N,50nm,1.2s
VRHR pmax pmax
comp=E,20nm,0.7s
C16A Fuhringer Ranc 65.91 46 ⇓P **P 12 33 30.0 +0.4**
baz=66,SNR=18
B17A L&G Farms, Che 66.09 46 ⇓P **P 12 33 31.0 +0.3**
baz=66
FFC Flin Flon 66.14 36 *i* P **P 12 33 31.6 +0.7**
FFC Flin Flon 66.14 36 *e*P **P 12 33 31.2 +0.4**
comp=E,18nm,0.6s
A18A Metzger Ranch, 66.19 45 ⇓P **P 12 33 31.3 -0.1**
baz=66
MFID Camas Ranch 66.35 52 *e*P **P 12 33 33.4 +0.8**
comp=E,2.8nm,0.9s
MFID Camas Ranch 66.35 52 ⇓P **P 12 33 32.9 +0.3**
baz=66
C17A Wharram Farm, 66.53 46 ⇑P **P 12 33 33.6 0.0**
baz=66,SNR=6.9
B18A Beardsley Farm 66.56 45 ⇓P **P 12 33 34.0 +0.2**
baz=66,SNR=7.7
A19A Klindworth Far 66.75 44 ⇓P **P 12 33 35.2 +0.3**
baz=66
LRM Limekiln Ridge 66.76 48 *e*P **P 12 33 36.0 +0.8**
EGMT Eagleton 66.81 45 *e*P **P 12 33 35.8 +0.4**
comp=E,16nm,0.7s
EGMT Eagleton 66.81 45 ⇑P **P 12 33 35.6 +0.2**
baz=67,SNR=5.6
NSS Namsos 66.82 341 *e*P **P 12 33 34.0 -1.1**
D17A Six Diamond Ra 66.87 46 ⇑P **P 12 33 36.0 +0.1**
baz=67
CMB Columbia Colle 66.90 59 *e*P **P 12 33 36.9 +0.9**
CMB pmax pmax
comp=Z,4.0nm,0.8s
CMB Columbia Colle 66.90 59 *e*P **P 12 33 36.9 +0.9**
comp=Z,3.9nm,0.8s
VSR Storozhevoye 66.94 319 *e*P **P 12 33 35.4 -0.6**
VSR pmax pmax
comp=Z,70nm,1.1s
VSR pmax pmax
comp=N,30nm,0.9s
VSR pmax pmax
comp=E,30nm,1.0s
B19A Brinkman Farms 66.95 45 ⇓P **P 12 33 36.5 +0.3**
baz=67
VORD Divnogorie 67.05 319 *e*P **P 12 33 35.1 -1.6**
VORD pmax pmax
comp=N,30nm,0.6s
VORD pmax pmax
comp=Z,20nm,0.6s
VORD pmax pmax
comp=E,20nm,0.5s
HLID Hailey 67.07 51 *e*P **P 12 33 37.9 +0.6**
comp=E,3.2nm,0.9s
HLID Hailey 67.07 51 ⇑P **P 12 33 37.6 +0.3**
baz=67
A20A Cobblestone Ra 67.19 44 ⇑P **P 12 33 38.2 +0.4**
baz=67
WAKR Walker 67.20 58 *e*P **P 12 33 38.0 -0.2**
comp=E,3.4nm,1.1s
E17A Martinsdale 67.22 47 ⇓P **P 12 33 38.7 +0.6**
baz=67,SNR=6.5
D18A Linhart Farms, 67.31 46 ⇓P **P 12 33 39.1 +0.5**
baz=67
C19A Slack Wire Ran 67.36 45 ⇑P **P 12 33 39.6 +0.8**
baz=67,SNR=5.3
I14A Mackay 67.39 51 ⇓P **P 12 33 40.0 +0.8**
baz=67
A21A Bergtoll Ranch 67.62 43 ⇑P **P 12 33 40.9 +0.4**
baz=67,SNR=5.3
E18A Harlowton 67.65 47 ⇑P **P 12 33 41.4 +0.6**
baz=67
F17A Fitzpatrick Pl 67.68 47 ⇓P **P 12 33 41.5 +0.5**
baz=67
ASAR Alice Springs 67.73 193 P **P 12 33 41.7 +0.5**
ASAR Alice Springs 67.73 193 P **P 12 33 41.7 +0.5**
comp=E,4.5nm,0.8s,baz=12,slow=7.1,SNR=66
ASAR LR LR 13 03 43.0
comp=E,3.8nm,19.5s,baz=89,slow=36
D19A Cripps Ranch, 67.81 46 ⇑P **P 12 33 42.2 +0.4**
baz=68
C20A Veseth Ranch, 67.91 45 ⇑P **P 12 33 42.8 +0.5**
baz=68,SNR=6.6
B21A Ellsworth Farm 67.95 44 ⇓P **P 12 33 43.0 +0.6**
baz=68
NVAR Mina Array Bea 67.95 58 P **P 12 33 43.6 +0.7**
NVAR Mina Array Bea 67.95 58 P **P 12 33 43.6 +0.7**
comp=E,3.2nm,0.7s,baz=295,slow=7.1,SNR=31
G17A Pierce Place, 68.01 48 ⇑P **P 12 33 43.5 +0.5**
baz=68
A22A Carney Farms, 68.12 43 ⇓P **P 12 33 43.8 +0.2**
baz=68,SNR=7.0
F18A Big Timber 68.18 47 ⇓P **P 12 33 44.6 +0.5**
baz=68,SNR=6.1
D20A Manuel Ranch, 68.25 45 ⇑P **P 12 33 45.1 +0.7**
baz=68
C21A Desert Coulee 68.30 44 ⇑P **P 12 33 45.1 +0.4**
baz=68
E19A Rath Farm, Rou 68.32 46 ⇓P **P 12 33 45.5 +0.5**
baz=68
I16A Newdale 68.52 50 ⇓P **P 12 33 47.3 +0.9**
baz=68
B22A Reddig Ranch S 68.54 43 ⇑P **P 12 33 46.4 +0.1**
baz=68
F19A Roth Farm, Mol 68.63 47 ⇑P **P 12 33 47.5 +0.6**
baz=68,SNR=5.1
IMW Indian Meadow 68.81 49 *e*P **P 12 33 49.2 +0.9**
comp=E,5.7nm,0.7s
D21A La Casta Ranch 68.85 45 ⇓P **P 12 33 48.4 +0.2**
baz=69
B23A Brockton 68.93 43 ⇓P **P 12 33 48.9 +0.2**
baz=69,SNR=7.6
RRI2 Red Ridge 68.95 50 *e*P **P 12 33 50.6 +1.4**
comp=E,13nm,0.8s
H18A Shoshone NF, C 69.01 48 ⇑P **P 12 33 49.7 +0.3**
baz=69
MOOW Moose Ponds 69.02 49 *e*P **P 12 33 50.7 +1.2**
comp=E,5.4nm,0.9s
TPAW Teton Pass 69.07 50 *e*P **P 12 33 50.9 +1.0**
comp=E,8.9nm,0.8s
A24A Westby 69.11 42 ⇑P **P 12 33 49.9 +0.2**
baz=69
LOHW Long Hollow 69.18 49 *e*P **P 12 33 51.9 +1.4**
comp=E,3.3nm,0.8s
SFJD Kangerlussuaq 69.19 7 LR LR 13 04 42.0
comp=E,64nm,18.2s,baz=325,slow=36
REDW Red Top Meadow 69.20 50 *e*P **P 12 33 51.9 +1.2**
comp=E,6.5nm,0.8s
D22A Cohagen 69.21 44 ⇓P **P 12 33 50.7 +0.2**
baz=69
C23A Lambert 69.28 43 ⇓P **P 12 33 51.0 +0.2**
baz=69
IZAR Zarasai 69.30 329 *e*P **P 12 33 50.7 0.0**
IZAR AMB AMB 12 33 51.6
comp=Z,12nm,0.6s
DGMT Dagmar 69.32 42 *e*P **P 12 33 51.3 +0.2**
comp=Z,27nm,0.6s
DGMT Dagmar 69.32 42 ⇑P **P 12 33 51.2 +0.2**
baz=69
GRAC Grapevine Rang 69.42 58 ⇑P **P 12 33 52.5 +0.6**
baz=69
G20A Bridger 69.43 47 ⇓P **P 12 33 51.9 0.0**
baz=69
IDID Didziasalis 69.43 328 *e*P **P 12 33 51.5 0.0**
IDID AMB AMB 12 33 52.8
comp=Z,21nm,0.8s
ISAL Salakas 69.48 329 *e*P **P 12 33 51.7 -0.1**
ISAL AMB AMB 12 33 53.1
comp=Z,21nm,0.9s
ISA Isabella 69.57 60 ⇑P **P 12 33 52.8 0.0**
baz=69
IIGN Ignalina 69.61 328 *e*P **P 12 33 52.5 -0.1**
IIGN AMB AMB 12 33 53.8
comp=Z,32nm,0.7s
FRB Frobisher Bay 69.63 16 LR LR 13 07 02.9
comp=Z,73nm,19.9s,baz=278,slow=38
R11A Troy Canyon, C 69.66 56 ⇓P **P 12 33 54.1 +0.6**
baz=70
D23A Lindsay 69.69 44 ⇓P **P 12 33 54.0 +0.6**
baz=69
I19A Meeteetse 69.79 48 ⇑P **P 12 33 54.6 +0.4**
baz=70
E22A Miles City 69.81 45 ⇑P **P 12 33 54.4 +0.3**
baz=70
KIV Kislovodsk 69.92 312 *e*P **P 12 33 55.7 +0.8**
KIV *e* 12 34 16.1
KIV *e*S **S 12 43 03.3 +1.9**
KIV *e*SS **SS 12 47 34.6 +4.4**
KIV pmax pmax
comp=Z,44nm,1.1s
KIV MLR MLR
comp=Z,127nm,18.0s
NB2 NORSAR Subarra 69.94 339 P **P 12 33 54.0 -0.7**
comp=Z,65nm,0.8s,baz=32,slow=6.5
NOA NORSAR Array B 69.94 339 P **P 12 33 53.9 -0.7**
NOA NORSAR Array B 69.94 339 P **P 12 33 53.9 -0.7**
comp=Z,48nm,0.7s,baz=34,slow=6.2,SNR=159
NOA LR LR 13 08 08.4
comp=Z,68nm,19.7s,baz=345,slow=39
MPMC Manual Prospec 69.94 59 ⇑P **P 12 33 55.6 +0.3**
baz=70
KBZ Khabaz 69.95 312 P **P 12 33 55.6 +0.7**
KBZ pmax pmax
comp=Z,16nm,0.8s
KBZ MLR MLR
comp=Z,121nm,18.1s
KBZ Khabaz 69.95 312 P **P 12 33 55.6 +0.7**
KBZ Khabaz 69.95 312 P **P 12 33 55.6 +0.7**
comp=Z,16nm,0.8s,baz=65,slow=4.0,SNR=24
KBZ LR LR 13 09 46.8
comp=Z,121nm,18.1s,baz=211,slow=40
G21A Lodge Grass 69.96 46 ⇓P **P 12 33 55.4 +0.2**
baz=70
HFS Hagfors 70.01 337 LR LR 13 08 21.5
comp=Z,86nm,18.3s,baz=220,slow=39
ZEI Tsey 70.02 310 *e*P **P 12 33 54.6 -1.0**
ZEI pmax pmax
comp=Z,29nm,1.1s
FURC Furnace Creek, 70.07 58 ⇓P **P 12 33 56.6 +0.8**
baz=70
F22A Rosebud 70.09 45 ⇑P **P 12 33 56.4 +0.5**
baz=70
E23A Ismay 70.10 44 ⇓P **P 12 33 56.4 +0.5**
baz=70
NC602 NORSAR Array S 70.11 338 *e*P **P 12 33 54.6 -1.0**
DUG Dugway 70.13 53 *e*P **P 12 33 57.3 +1.0**
DUG pmax pmax
comp=Z,5.0nm,0.6s
DUG Dugway 70.13 53 *e*P **P 12 33 57.2 +1.0**
comp=Z,4.9nm,0.6s
DUG Dugway 70.13 53 ⇑P **P 12 33 56.8 +0.5**
baz=70
LRMC Laurel Mountai 70.18 60 ⇓P **P 12 33 57.5 +0.8**
baz=70
J19A Crowheart 70.26 49 ⇑P **P 12 33 57.8 +0.7**
baz=70
PDAR Pinedale Array 70.31 50 P **P 12 33 57.4 -0.1**
PDAR pP **pP 12 34 11.1 +0.5**
PDAR Pinedale Array 70.31 50 P **P 12 33 57.4 -0.1**
comp=Z,1.8nm,0.5s,baz=325,slow=1.1,SNR=21
PDAR pP **pP 12 34 11.1 +0.5**
comp=Z,4.7nm,0.7s,baz=292,slow=1.7,SNR=19
EDW2 Edwards Air Fo 70.37 60 ⇑P **P 12 33 58.1 +0.4**
baz=70
G22A Birney 70.45 46 ⇓P **P 12 33 58.1 0.0**
baz=70
M17A Scullys Gap (B 70.54 51 ⇓P **P 12 33 58.7 -0.2**
baz=70
F23A Volborg 70.57 45 ⇑P **P 12 33 59.0 +0.1**
baz=70
K19A Absolon Red Bu 70.67 49 ⇓P **P 12 33 59.5 -0.1**
baz=70
GSC Goldstone 70.85 59 ⇓P **P 12 34 01.0 +0.3**
baz=71
I21A Big Trails, Te 70.86 48 ⇓P **P 12 34 01.2 +0.5**
baz=71,SNR=6.4
L19A Farson 70.86 50 ⇓P **P 12 34 00.8 0.0**
baz=71
DAU Daniels Canyon 70.89 52 *e*P **P 12 34 01.1 -0.1**
DAU Daniels Canyon 70.89 52 *e*P **P 12 34 01.1 -0.1**
G23A Biddle 70.93 45 ⇓P **P 12 34 01.2 +0.2**
baz=71
BFSC Mount Baldy Ra 70.99 61 ⇓P **P 12 34 01.9 +0.3**
baz=71
K20A Yellowstone Ra 71.06 49 ⇑P **P 12 34 01.9 -0.1**
baz=71
E25A Miller Ranch, 71.06 43 ⇓P **P 12 34 02.1 +0.4**
baz=71
HYA Hoyanger 71.09 341 *e*P **P 12 34 01.7 +0.2**
J21A Lysite 71.09 48 ⇑P **P 12 34 02.3 +0.2**
baz=71
I22A 9 Mile Ranch, 71.24 47 ⇑P **P 12 34 03.3 +0.3**
baz=71
HEC Hector,Ludlow 71.45 60 ⇓P **P 12 34 04.9 +0.6**
baz=71
L20A Wamsutter 71.49 49 ⇑P **P 12 34 04.7 0.0**
baz=71
CCUT Cedar City 71.52 56 *e*P **P 12 34 06.0 +1.1**
comp=Z,2.3nm,0.8s
E26A Carlson Angus 71.55 43 ⇑P **P 12 34 04.8 +0.1**
baz=71
J22A Midwest 71.56 47 ⇑P **P 12 34 05.1 +0.2**
baz=71
MSU Marysvale 71.60 54 *e*P **P 12 34 06.1 +0.7**
MSU Marysvale 71.60 54 *e*P **P 12 34 06.1 +0.7**
K21A Alcova 71.67 48 ⇑P **P 12 34 05.7 0.0**
baz=71
H24A Dirks Ranch, A 71.67 45 ⇑P **P 12 34 05.4 -0.2**
baz=71
SUW Suwalki 71.78 329 *e*P **P 12 34 05.2 -0.6**
GMRC Granite Mounta 71.90 59 ⇑P **P 12 34 07.5 +0.3**
baz=72
ULM Lac du Bonnet 71.94 37 P **P 12 34 06.3 -0.6**
ULM pP **pP 12 34 19.4 -0.7**
ULM Lac du Bonnet 71.94 37 P **P 12 34 06.3 -0.6**
comp=Z,1.9nm,0.4s,baz=316,slow=7.4,SNR=3.3
ULM pP **pP 12 34 19.4 -0.7**
comp=Z,5.6nm,0.5s,baz=316,slow=5.4,SNR=6.9
K22A Casper 72.06 48 ⇓P **P 12 34 08.0 +0.1**
baz=72
L21A Rawlins 72.06 49 ⇓P **P 12 34 08.0 0.0**
baz=72
ANN Anapa 72.13 315 *e*P P 12 34 00.0 -8.1
ANN *e**PP pP 12 34 14.9 -6.4
ANN *e* 12 34 21.0
ANN pmax pmax
comp=Z,40nm,0.9s
SRU San Rafael 72.17 53 *e*P **P 12 34 09.6 +0.8**
SRU pmax pmax
comp=Z,10.0nm,1.0s
SRU San Rafael 72.17 53 *e*P **P 12 34 09.6 +0.8**
comp=Z,10nm,1.0s
O19A Miners Draw (B 72.19 51 ⇑P **P 12 34 08.7 -0.1**
baz=72
BELC Belle Mtn. Jos 72.19 60 ⇓P **P 12 34 09.1 +0.2**
baz=72
G26A Maurine 72.30 44 ⇑P **P 12 34 09.3 +0.1**
baz=72
M21A Separation Pea 72.30 49 ⇓P **P 12 34 09.5 -0.1**
baz=72
N20A Spence Gulch, 72.32 50 ⇑P **P 12 34 09.8 +0.2**
baz=72
RSSD Black Hills 72.37 46 *e*P **P 12 34 09.8 -0.1**
RSSD pmax pmax
comp=Z,6.0nm,0.7s
RSSD Black Hills 72.37 46 *e*P **P 12 34 09.8 -0.1**
comp=Z,6.0nm,0.7s
L22A Ellis Ranch, M 72.52 48 ⇑P **P 12 34 11.2 +0.4**
baz=72
G27A Dupree 72.58 44 ⇑P **P 12 34 10.7 -0.2**
baz=72
I25A Rochford 72.60 46 ⇑P **P 12 34 11.2 -0.1**
baz=72
IRM Iron Mountain 72.62 59 ⇓P **P 12 34 12.0 +0.7**
baz=72
MONP Monument Peak 72.65 61 ⇑P **P 12 34 12.1 +0.4**
baz=72
P19A Cripple Cowboy 72.72 52 ⇓P **P 12 34 12.3 +0.2**
baz=72
BC3 Big Chuckawall 72.76 60 ⇓P **P 12 34 12.7 +0.5**
baz=73
M22A Cedar Creek Ra 72.86 49 ⇓P **P 12 34 13.3 +0.4**
baz=73
L23A Garrett 72.87 48 ⇓P **P 12 34 12.7 -0.1**
baz=73
U15A North Rim 72.90 56 ⇓P **P 12 34 13.8 +0.5**
baz=73
AGMN Agassiz Nation 73.38 38 *e*P **P 12 34 14.1 -1.4**
comp=Z,7.5nm,0.8s
GLA Glamis 73.55 60 ⇑P **P 12 34 17.6 +0.8**
baz=73
Q20A Ridgley Place, 73.57 52 ⇓P **P 12 34 17.5 +0.5**
baz=73
N23A Red Feather La 73.57 49 ⇑P **P 12 34 17.6 +0.5**
baz=73
PV04 Paradox Valley 73.59 53 *e*P **P 12 34 17.9 +0.7**
P21A Newcastle 73.66 51 ⇓P **P 12 34 18.1 +0.5**

O22A **Kremmling** 73.74 50 ⇑P P 12 34 18.7 +0.5
baz=74
L25A **Engebretsen Ra** 73.77 47 ⇑P P 12 34 18.6 +0.6
baz=74
M24A **Cheyenne** 73.79 48 ⇑P P 12 34 18.5 +0.3
baz=74
BSD **Bornholm Skovb** 73.80 334⇑*i*P P 12 34 17.2 -0.6
BSD pmax pmax
comp=Z,20nm,0.8s
BSD **Bornholm Skovb** 73.80 334⇑*i*P P 12 34 17.2 -0.6
comp=Z,20nm,0.8s
O23A **Lake Granby, G** 74.05 50 ⇓P P 12 34 20.8 +0.9
baz=74,SNR=5.7
WUAZ **Wupatki** 74.06 56 ⇑P P 12 34 20.9 +1.0
baz=74
Q21A **Lamborn Mesa,** 74.06 52 ⇓P P 12 34 20.5 +0.6
baz=74
COP **Copenhagen** 74.10 335 *i* P P 12 34 19.3 -0.2
COP pmax pmax
comp=Z,16nm,0.6s
COP **Copenhagen** 74.10 335 *i* P P 12 34 19.3 -0.2
comp=Z,16nm,0.6s
M25A **Palm-Egli Farm** 74.22 48 ⇓P P 12 34 21.4 +0.6
baz=74
S20A **Disappointment** 74.29 53 ⇑P P 12 34 21.4 +0.1
baz=74
R21A **Cimarron** 74.39 52 ⇑P P 12 34 22.6 +0.7
baz=74
ISCO **Idaho Springs** 74.51 50 *e*P P 12 34 23.7 +1.1
ISCO pmax pmax
comp=Z,3.0nm,0.6s
ISCO **Idaho Springs** 74.51 50 *e*P P 12 34 23.7 +1.1
comp=Z,3.5nm,0.6s
ISCO **Idaho Springs** 74.51 50 ⇓P P 12 34 22.9 +0.3
baz=74
MVCO **Mesa Verde** 74.63 53 *e*P P 12 34 24.1 +0.8
comp=Z,4.7nm,0.8s
MVCO **Mesa Verde** 74.63 53 ⇓P P 12 34 24.2 +0.8
baz=74
P23A **Jefferson** 74.67 50 ⇓P P 12 34 24.1 +0.4
baz=74
LVV **L'vov** 74.68 326 *e*P P 12 34 22.7 -0.3
S21A **Coal Bank Pass** 74.74 53 ⇑P P 12 34 24.4 +0.4
baz=74
K28A **Ten Mile Ranch** 74.75 45 ⇓P P 12 34 23.9 +0.2
baz=74
X16A **Lo Mia Camp, P** 74.75 57 ⇓P P 12 34 25.1 +1.1
baz=75
STKA **Stephens Creek** 75.00 185 P P 12 34 25.1 +0.2
STKA **Stephens Creek** 75.00 185 P P 12 34 25.1 +0.2
comp=Z,5.0nm,0.8s,baz=347,slow=7.2,SNR=11
O25A **Wiggins** 75.11 49 ⇓P P 12 34 26.4 +0.5
baz=75
S22A **4UR Ranch, Cre** 75.23 52 ⇑P P 12 34 27.5 +0.7
baz=75
KWP **Kalwaria Pacla** 75.36 326 *e*P P 12 34 27.5 +0.5
N27A **Anderson Farm,** 75.48 47 ⇓P P 12 34 28.7 +0.7
baz=75
R23A **Moffat** 75.50 51 ⇑P P 12 34 29.0 +0.7
baz=75
P25A **Willow Gulch B** 75.51 49 ⇓P P 12 34 28.9 +0.7
baz=75
V20A **Brimhall** 75.61 54 ⇓P P 12 34 29.6 +0.6
baz=75
OGNE **Ogallala** 75.65 47 ⇑P P 12 34 29.5 +0.6
baz=75
U21A **Nageezi** 75.66 53 ⇓P P 12 34 29.9 +0.7
baz=75
T22A **Edith** 75.70 52 ⇓P P 12 34 30.3 +0.8
baz=76
BURAR **Bucovina Array** 75.88 324 ⇑P P 12 34 30.1 0.0
BURAR **Bucovina Array** 75.88 324⇑*i*P P 12 34 30.1 0.0
R24A **Sanders Place,** 75.88 51 ⇓P P 12 34 31.3 +0.8
baz=76
Q25A **Bedland, Calha** 75.88 50 ⇑P P 12 34 31.2 +0.8
baz=76
OJC **Ojcow** 76.05 328 *e*P P 12 34 31.0 +0.1
OJC **Ojcow** 76.05 328 *e*P P 12 34 31.0 +0.1
KOLS **Kolonicke sedl** 76.09 326 *e*P P 12 34 30.8 -0.4
KOLS pmax pmax
comp=Z,8.0nm,1.0s
KOLS **Kolonicke sedl** 76.09 326 *e*P P 12 34 30.8 -0.4
TESR **Tescani** 76.09 322⇑*i*P P 12 34 31.3 +0.1
TLCR 76.09 320 ⇑P P 12 34 31.6 +0.4
TLCR 76.09 320⇑*i*P P 12 34 31.6 +0.4
STHS **Stebnicka Huta** 76.12 327 *e*P P 12 34 32.4 +1.0
STHS pmax pmax
comp=Z,17nm,1.3s
STHS **Stebnicka Huta** 76.12 327 *e*P P 12 34 32.4 +1.0
BSEG **Bad Segeberg** 76.24 335 *e*P P 12 34 32.4 +0.5
comp=Z,26nm,0.8s
BSEG **Bad Segeberg** 76.24 335 *e*P P 12 34 32.4 +0.5
BSEG pmax pmax
comp=Z,26nm,0.8s
Q26A **Hugo** 76.28 49 ⇓P P 12 34 32.9 +0.3
baz=76
UZH **Uzhgorod** 76.32 326 *e*P P 12 34 31.9 -0.5
ECSD **EROS Data Cent** 76.39 42 *e*P P 12 34 32.9 -0.2
comp=Z,9.8nm,0.9s
R25A **Fountain Ranch** 76.40 50 ⇓P P 12 34 33.7 +0.4
baz=76
CFR **Carcaliu** 76.42 320 ⇓P P 12 34 33.1 +0.1
CFR **Carcaliu** 76.42 320⇓*i*P P 12 34 33.1 +0.1
NIE **Niedzica** 76.49 327 *e*P P 12 34 35.8 +2.3
NIE **Niedzica** 76.49 327 *e*P P 12 34 35.8 +2.3
VRI **Vrincioaia** 76.54 322 ⇑P P 12 34 34.7 +0.9
VRI **Vrincioaia** 76.54 322⇑*i*P P 12 34 34.7 +0.9
MIB **Mutribah** 76.55 298 *e*P P 12 34 32.8 -1.3
MIB AMb AMB 12 34 34.3
comp=Z,14nm,0.8s
U23A **El Rito** 76.58 53 ⇑P P 12 34 35.0 +0.5
baz=76
S25A **Robets Cordova** 76.66 51 ⇑P P 12 34 35.4 +0.6
baz=76
R26A **Arlington** 76.76 50 ⇓P P 12 34 35.6 +0.3
baz=76
KSP **Ksiaz** 76.85 330⇑*e*P P 12 34 35.5 +0.1
KSP *e**PP pP 12 34 47.6 -1.1
KSP **Ksiaz** 76.85 330 *e*P P 12 34 35.5 +0.1
KAC **Achnashellach** 76.88 345 *e*P P 12 34 35.8 +0.3
O29A **4D Ranch, Culb** 76.90 47 ⇓P P 12 34 36.3 +0.3
baz=77
X21A **Alamocita Cree** 76.95 55 ⇑P P 12 34 37.3 +0.7
baz=77
Y20A **Horse Springs,** 76.96 56 ⇑P P 12 34 37.3 +0.6
baz=77
NAY **Al-Naaiem** 76.99 298 *e*P P 12 34 35.9 -0.7
NAY AMb AMB 12 34 38.0
comp=Z,14nm,1.4s
OKC **Ostrava-Krasne** 76.99 329 *e*P P 12 34 36.5 +0.3
OKC **Ostrava-Krasne** 76.99 329⇑*e*P P 12 34 36.5 +0.3
RDF **Al-Radifah** 77.00 297 *e*P P 12 34 36.1 -0.6
RDF AMb AMB 12 34 37.5
comp=Z,38nm,0.8s
T25A **Trinidad** 77.04 51 ⇑P P 12 34 37.3 +0.3
baz=77
R27A **Eads** 77.13 49 ⇑P P 12 34 37.5 +0.1
baz=77
KECS **Kecovo** 77.17 327 *e*P P 12 34 36.7 -0.6
KECS pmax pmax
comp=Z,4.0nm,1.0s
KECS **Kecovo** 77.17 327 *e*P P 12 34 36.7 -0.6
KSB **Sheil Bridge** 77.18 345 *e*P P 12 34 36.9 -0.2
MLR **Muntele Rosu** 77.18 322⇑*i*P P 12 34 37.7 +0.1
DPC **Dobruska-Polom** 77.24 330⇑*i*P P 12 34 38.1 +0.4
DPC *e* 12 34 50.8
DPC **Dobruska-Polom** 77.24 330⇑*i*P P 12 34 38.1 +0.4
DPC *e*pP pP 12 34 50.8 -0.2
ANMO **Albuquerque** 77.39 54 *e*P P 12 34 39.8 +0.8
comp=Z,1.5nm,0.6s
T26A **Comanche Natio** 77.47 50 ⇓P P 12 34 39.3 -0.1
baz=77
V24A **Rampart Ranch,** 77.54 53 ⇑P P 12 34 40.4 +0.5
baz=77
NRDL **Niedersach Rie** 77.54 335 *e*P P 12 34 39.4 +0.2
comp=Z,8.0nm,0.8s
CLL **Collm** 77.61 332 *e*P P 12 34 39.5 -0.2
comp=Z,25nm,0.7s
CLL **Collm** 77.61 332⇑*i*P P 12 34 39.2 -0.5
CLL *i* *PP pP 12 34 52.0 -0.9
CLL pmax pmax
comp=Z,25nm,0.7s
CLL **Collm** 77.61 332⇑*i*P P 12 34 39.2 -0.5
comp=Z,25nm,0.7s
CLL *i* pP pP 12 34 52.0 -0.9
VOIR 77.63 322 ⇓P P 12 34 40.2 +0.2
VOIR 77.63 322⇓*i*P P 12 34 40.2 +0.2
R28A **Tribune** 77.63 49 ⇑P P 12 34 40.8 +0.7
baz=77
BRG **Berggiesshubel** 77.66 332 *e*P P 12 34 39.6 -0.3
comp=Z,6.3nm,0.8s
BRG **Berggiesshubel** 77.66 332 *e*P P 12 34 39.6 -0.3
BRG pmax pmax
comp=Z,6.0nm,0.8s
BRTR **Keskin Array B** 77.71 314 P P 12 34 40.2 -0.4
BRTR **Keskin Array B** 77.71 314 P P 12 34 40.2 -0.4
comp=Z,3.8nm,0.8s,baz=73,slow=4.8,SNR=18
BRTR LR LR 13 15 45.2
comp=Z,48nm,18.7s,baz=87,slow=41
PVCC **Panska Ves** 77.72 331 *e*P P 12 34 40.8 +0.5
PVCC **Panska Ves** 77.72 331⇑*e*P P 12 34 40.8 +0.5
120A **U Bar Ranch, L** 77.74 57 ⇑P P 12 34 41.6 +0.7
baz=78
Y22A **Socorro** 77.79 55 ⇑P P 12 34 41.8 +0.5
baz=78
X23A **Hourglass Bar** 77.80 54 ⇓P P 12 34 42.0 +0.7
baz=78
Z21A **St. Cloud Mine** 77.80 56 ⇑P P 12 34 42.0 +0.7
baz=78
VYHS **Vyhne** 77.81 328 *e*P P 12 34 41.2 +0.3
VYHS pmax pmax
comp=Z,3.0nm,0.7s
VYHS **Vyhne** 77.81 328 *e*P P 12 34 41.2 +0.3
W24A **Lazy 6 Ranch,** 77.82 53 ⇓P P 12 34 42.0 +0.6
baz=78
ESY **Stoneypath** 77.82 343 *e*P P 12 34 40.5 -0.2
PSZ **Piszkesteto** 77.86 327 *e*P P 12 34 41.4 +0.2
PSZ pmax pmax
comp=Z,4.0nm,0.6s
PSZ **Piszkesteto** 77.86 327 *e*P P 12 34 41.4 +0.2
comp=Z,4.3nm,0.6s
PSZ **Piszkesteto** 77.86 327⇑*i*P P 12 34 34.0 -7.2
ARR **Arges** 77.87 322⇓*i*P P 12 34 42.7 +1.4
SCHQ **Schefferville** 78.08 19 P P 12 34 42.0 -0.2
SCHQ **Schefferville** 78.08 19 P P 12 34 42.0 -0.2
comp=Z,5.1nm,0.6s,baz=316,slow=6.9,SNR=11
SCHQ LR LR 13 10 36.4
comp=Z,72nm,18.6s,baz=52,slow=37
319A **Douglas** 78.15 58 ⇑P P 12 34 44.0 +0.8
baz=78
PRU **Pruhonice** 78.19 331 *i* P P 12 34 43.1 +0.2
PRU **Pruhonice** 78.19 331⇑*i*P P 12 34 43.1 +0.2
220A **Playas Peak, P** 78.25 57 ⇑P P 12 34 44.5 +0.7
baz=78
X24A **Lazy VL Ranch,** 78.25 53 ⇓P P 12 34 44.5 +0.7
baz=78
Z22A **Elephant Butte** 78.26 55 ⇓P P 12 34 44.7 +0.9
baz=78
121A **Cookes Peak, D** 78.27 56 ⇓P P 12 34 44.6 +0.6
baz=78
Y23A **Lovelace Mesa,** 78.33 54 ⇓P P 12 34 44.9 +0.7
baz=78
W25A **X Bar L Ranch,** 78.36 52 ⇓P P 12 34 44.7 +0.4
baz=78
IBBN **Ibbenburen** 78.42 336 *e*P P 12 34 44.3 +0.2
comp=Z,41nm,0.5s
U27A **Thompson Grove** 78.44 51 ⇑P P 12 34 44.7 -0.1
baz=78
ESK **Eskdalemuir** 78.50 343 *e*P P 12 34 44.2 -0.3
ESK **Eskdalemuir** 78.50 343 *i* P P 12 34 45.1 +0.6
TANN **Tannenbergstha** 78.55 332 *e*P P 12 34 45.0 0.0
comp=Z,6.0nm,0.8s
ECK **Cauldkaine Hil** 78.61 343 *e*P P 12 34 44.9 -0.2
MOX **Moxa** 78.64 333 *e*P P 12 34 45.5 +0.1
comp=Z,8.0nm,0.7s
MOX **Moxa** 78.64 333 *e*P P 12 34 45.5 +0.1
MOX pmax pmax
comp=Z,8.0nm,0.7s
Y24A **Capitan** 78.70 54 ⇑P P 12 34 46.7 +0.4
baz=78
NKC **Novy Kostel** 78.71 332 *i* P P 12 34 45.9 +0.1
NKC **Novy Kostel** 78.71 332⇑*i*P P 12 34 45.9 +0.1
Y25A **Mesa, Roswell** 79.14 53 ⇓P P 12 34 48.8 +0.2
baz=79
ROTZ **Rotzenmuhle** 79.19 332 *e*P P 12 34 48.9 +0.5
comp=Z,8.0nm,1.0s
GAL1 **Galloway** 79.24 344 *e*P P 12 34 48.1 -0.5
GAL1 AMB AMB 12 34 55.2
comp=Z,58nm,3.9s
KHC **Kasperske Hory** 79.25 331⇑*i*P P 12 34 48.9 +0.1
KHC *e* 12 35 01.7
KHC **Kasperske Hory** 79.25 331⇑*i*P P 12 34 48.9 +0.1
KHC *e*pP pP 12 35 01.7 -0.4
KHC AMS AMS 13 14 00.0
KHC **Kasperske Hory** 79.25 331 *e*P P 12 34 48.9 +0.1
comp=Z,15nm,0.6s
BUG **Bochum--Univer** 79.33 336 *e*P P 12 34 49.2 +0.1
comp=Z,18nm,0.8s
HPK **Haverah Park** 79.42 342 *e*P P 12 34 49.5 0.0
HPK AMB AMB 12 34 50.9
comp=Z,46nm,0.8s
SCIA **State Center** 79.42 41 *e*P P 12 34 49.5 -0.3
comp=Z,31nm,0.9s
CONA **Conrad Observa** 79.42 329⇑*i*P P 12 34 50.2 +0.4
comp=Z,6.2nm,0.7s
GEC2 **GERESS Array S** 79.44 331 *e*P P 12 34 49.9 -0.1
comp=Z,5.0nm,0.8s
GEC2 **GERESS Array S** 79.44 331 *e*P P 12 34 49.9 -0.1
GEC2 pmax pmax
comp=Z,5.0nm,0.8s
GERES **GERESS Array B** 79.44 331 P P 12 34 49.4 -0.5
GERES **GERESS Array B** 79.44 331 P P 12 34 49.4 -0.5
comp=Z,2.4nm,0.4s,baz=28,slow=6.0,SNR=24
GERES LR LR 13 11 19.0
comp=Z,73nm,19.4s,baz=276,slow=37
WET **Wettzell** 79.48 331 *e*P P 12 34 50.6 +0.5
comp=Z,14nm,1.0s
WET **Wettzell** 79.48 331 *e*P P 12 34 50.6 +0.5
WET pmax pmax
comp=Z,14nm,1.0s
124A **Stringfield Ra** 79.56 55 ⇓P P 12 34 51.6 +0.5
baz=79
Z25A **Roswell** 79.58 54 ⇑P P 12 34 51.5 +0.5
baz=79
GRF **Grafenberg Arr** 79.58 333 *e*P P 12 34 51.2 +0.6
comp=Z,20nm,0.8s
GRF **Grafenberg Arr** 79.58 333 *e*P P 12 34 51.2 +0.6
GRF pmax pmax
comp=Z,20nm,0.8s
224A **Cornudas Mount** 79.95 55 ⇓P P 12 34 53.8 +0.7
baz=80
Z26A **Caprock** 80.02 53 ⇑P P 12 34 53.7 +0.3
baz=80,SNR=6.3
TNS **Taunus Mts** 80.03 334 *e*P P 12 34 53.2 +0.1
comp=Z,9.0nm,0.7s
TNS **Taunus Mts** 80.03 334 *e*P P 12 34 53.2 +0.1
TNS pmax pmax
comp=Z,9.0nm,0.7s
KBI1 **Birley Grange** 80.04 341 *e*P P 12 34 52.8 -0.1
Y27A **Causey** 80.06 53 ⇓P P 12 34 54.2 +0.6
baz=80
MOA **Molln** 80.08 330⇑*i*P P 12 34 52.6 -0.7
comp=Z,5.6nm,0.7s
GMM **Mts of Mourne** 80.08 344 *e*P P 12 34 52.4 -0.7
225A **Deer Hill, Car** 80.35 55 ⇑P P 12 34 55.7 +0.5
baz=80
324A **Moseley Ranch,** 80.43 56 ⇑P P 12 34 55.9 +0.2
baz=80
MEM **Membach** 80.44 336 P P 12 34 55.2 +0.1
comp=Z,4.6nm,0.8s
126A **Clayton Basin,** 80.44 54 ⇑P P 12 34 55.9 +0.3
baz=80
GDL2 **Guadalupe Moun** 80.56 54 *e*P P 12 34 57.1 +0.8
VTS **Vitosha** 80.68 321 ⇑P P 12 34 57.2 +0.4
VTS **Vitosha** 80.68 321⇑*i*P P 12 34 57.2 +0.4
RJOB **Jochberg** 80.70 331 *e*P P 12 34 57.3 +0.6
comp=Z,9.0nm,0.8s
FOEL **Foel Wylfa** 80.76 342 AMB AMB 12 34 56.0
comp=Z,44nm,3.9s
FOEL *e*P P 12 34 56.6 -0.3
226B **Tecolote Peak,** 80.76 54 ⇑P P 12 34 57.6 +0.2
baz=81
SOKA **Soboth** 80.77 329⇑*i*P P 12 34 57.1 -0.1
comp=Z,8.6nm,0.6s
HLM1 **Long Mynd** 81.04 342 *e*P P 12 34 58.3 0.0
HLM1 AMB AMB 12 35 04.5
comp=Z,24nm,1.9s
KBA **Koelnbreinsper** 81.06 330⇑*i*P P 12 34 57.8 -1.0
comp=Z,15nm,0.7s
OBKA **Obir** 81.09 329⇑*i*P P 12 34 58.5 -0.4
comp=Z,5.7nm,0.6s
GOLS **Golise** 81.10 328 *i*P P 12 34 58.5 -0.3
425A **Indio Mountain** 81.19 56 ⇑P P 12 35 00.3 +0.5
baz=81
MYKA **Terra Mystica** 81.33 330⇑*i*P P 12 34 59.4 -0.7
comp=Z,4.3nm,0.6s
Z29A **Hungry Hill Ra** 81.35 52 ⇓P P 12 35 00.8 +0.3
baz=81
128A **Castleberry Fa** 81.36 53 ⇑P P 12 35 01.1 +0.5
baz=81
BAIF **Baives** 81.46 337 *e*P P 12 35 00.1 -0.5
WATA **Walderalm** 81.48 331⇑*i*P P 12 35 00.9 -0.1
comp=Z,9.1nm,0.5s
WTTA **Wattenberg** 81.52 331⇓*i*P P 12 35 01.2 0.0
comp=Z,14nm,0.5s
MCH1 **Michaelchurch** 81.55 342 *e*P P 12 35 00.1 -0.9
MCH1 AMB AMB 12 35 01.8
comp=Z,34nm,1.9s
MOTA **Moosalm** 81.64 331⇑*i*P P 12 35 01.7 -0.1
comp=Z,20nm,1.0s
Z30A **Sanderson Ranc** 81.67 52 ⇓P P 12 35 02.4 +0.3
baz=81
BFO **Black Forest** 81.72 334 *e*P P 12 35 02.0 -0.1
comp=Z,7.0nm,0.7s
BFO **Black Forest** 81.72 334 *e*P P 12 35 02.0 -0.1
BFO pmax pmax
comp=Z,7.0nm,0.7s
WOL **Wolverton** 81.76 340 *e*P P 12 35 01.9 -0.2
WOL AMB AMB 12 35 10.9
comp=Z,94nm,1.4s
426A **McDonald Obser** 81.85 55 ⇓P P 12 35 03.6 +0.3
baz=82
WMOK **Wichita Mounta** 81.92 49 *e*P P 12 35 03.5 +0.1
WMOK pmax pmax
comp=Z,6.0nm,1.4s
WMOK **Wichita Mounta** 81.92 49 *e*P P 12 35 03.5 +0.1
comp=Z,6.1nm,1.4s
CDF **Champ du Feu** 81.99 334⇑*i*P P 12 35 03.1 -0.4
comp=Z,25nm,0.9s
RAYN **Ar Rayn** 82.02 295 *e*P P 12 35 04.6 +0.5
comp=Z,5.2nm,0.8s
FETA **Feichten** 82.05 331⇓*i*P P 12 35 03.9 -0.1
comp=Z,6.5nm,1.0s
328A **Wristen Ranch,** 82.07 54 ⇓P P 12 35 04.5 +0.3
baz=82,SNR=7.5
427A **Hayter Ranch,** 82.10 55 ⇓P P 12 35 05.2 +0.8
baz=82
DAVA **Damuels** 82.11 332⇑*i*P P 12 35 01.3 -3.0
comp=Z,8.3nm,0.5s
Z31A **Sharp Cattle R** 82.20 51 ⇑P P 12 35 05.8 +0.9
baz=82
229A **Bryant Ranch,** 82.23 53 ⇓P P 12 35 06.0 +0.9
baz=82
526A **Mary Lane Ranc** 82.25 56 ⇓P P 12 35 05.9 +0.6
baz=82
PAGF **Fort de Pagny** 82.35 335⇑*i*P P 12 35 05.3 0.0
comp=Z,9.1nm,0.6s
527A **Woodward Ranch** 82.48 55 ⇑P P 12 35 07.0 +0.5
baz=82
329A **Wagon Wheel Ra** 82.48 54 ⇓P P 12 35 06.8 +0.4
baz=82
626A **Big Bend Ranch** 82.58 56 ⇑P P 12 35 07.6 +0.6
baz=82
Z32A **Haskell** 82.59 51 ⇑P P 12 35 07.6 +0.7
baz=82
HEX **Exmoor** 82.60 342 *e*P P 12 35 06.5 -0.1
MEZF **Maizieres J'vi** 82.60 336 *e*P P 12 35 06.4 -0.2
428A **Kincaid Ranch,** 82.61 54 ⇓P P 12 35 07.9 +0.7
baz=82
HAU **Haudompre** 82.64 335⇑*i*P P 12 35 06.2 -0.7
comp=Z,7.6nm,0.5s
HAU *e*R
comp=Z,101nm,22.5s
SFTF **Sexfontaines** 82.87 335 *e*P P 12 35 07.6 -0.4
528A **Cox Ranch, San** 82.96 55 ⇑P P 12 35 09.3 +0.3
baz=83
TUE **Stuetta** 83.00 332 *e*P P 12 35 08.6 -0.4
comp=Z,5.4nm,0.6s
TXAR **Lajitas Array** 83.03 56 P P 12 35 09.8 +0.5
TXAR pP pP 12 35 23.8 +1.1
TXAR **Lajitas Array** 83.03 56 P P 12 35 09.8 +0.5
comp=Z,4.2nm,0.8s,baz=303,slow=4.1,SNR=22
TXAR pP pP 12 35 23.8 +1.1
comp=Z,3.6nm,0.6s,baz=305,slow=3.5,SNR=12
PMOR **Pomariorio Ree** 83.11 118 *e*T T 14 06 44.4
comp=Z,32nm,0.2s
627A **Terlingua Ranc** 83.11 56 ⇑P P 12 35 10.4 +0.6
baz=83
231A **Bronte** 83.12 52 ⇓P P 12 35 09.9 +0.2
baz=83
429A **Davenport Ranc** 83.16 54 ⇑P P 12 35 10.0 +0.1
baz=83
628A **Black Gap, Mar** 83.39 55 ⇑P P 12 35 11.6 +0.5
baz=83
430A **Baggett Ranch,** 83.42 54 ⇓P P 12 35 11.8 +0.5
baz=83
SFIN **Scholer Farm** 83.47 38 ⇑P P 12 35 11.0 -0.2
baz=83
232A **Coleman** 83.54 52 ⇑P P 12 35 12.1 +0.2
baz=83
530A **J-C Ranch, Com** 83.83 54 ⇓P P 12 35 14.0 +0.6
baz=84
FLN **La Foliniere** 83.92 339⇑*i*P P 12 35 13.0 -0.4
comp=Z,15nm,0.6s
FLN *e*R
comp=Z,61nm,21.8s
PPT **Papeete** 83.95 121 LR LR 13 14 59.3
comp=Z,222nm,18.2s,baz=309,slow=37
CABF **La Chapelle** 83.96 334 *e*P P 12 35 13.4 -0.4
PPT2 **Papeete2** 83.97 121 *e*LR LR 13 01 46.7
comp=Z,96nm,23.5s
LDF **La Druitiere** 83.98 339 *e*P P 12 35 12.9 -0.8
comp=Z,16nm,0.6s
LOR **Lormes** 84.06 336⇑*i*P P 12 35 13.7 -0.5
comp=Z,21nm,0.7s
LOR *e*R
comp=Z,78nm,18.5s
TIAR **Tiarei** 84.08 121 *e*T T 14 07 57.8
comp=Z,11nm,0.3s
432A **Menard** 84.20 53 ⇑P P 12 35 15.5 +0.3
baz=84
531A **Rocksprings** 84.28 54 ⇓P P 12 35 16.1 +0.4
baz=84
SSF **Saint Saulge** 84.35 336⇑*i*P P 12 35 15.2 -0.5
comp=Z,12nm,0.6s
GRR **Gorron** 84.37 339 *e*P P 12 35 15.5 -0.2
comp=Z,23nm,0.6s
JCT **Junction City** 84.49 53 *e*P P 12 35 17.2 +0.5
JCT pmax pmax
comp=Z,8.0nm,0.9s
JCT **Junction City** 84.49 53 *e*P P 12 35 17.2 +0.5
comp=Z,7.7nm,0.9s
JCT **Junction City** 84.49 53 ⇑P P 12 35 16.9 +0.2
baz=84
SMF **Signal de Mont** 84.63 335⇑*i*P P 12 35 16.8 -0.3
comp=Z,29nm,0.7s
AVF **Avril sur Loir** 84.64 336⇑*i*P P 12 35 16.9 -0.2
comp=Z,24nm,0.7s
532A **Rocksprings** 84.69 53 ⇓P P 12 35 17.9 +0.2
baz=84
LPL **La Plagne** 84.72 333⇑*i*P P 12 35 17.8 0.0
comp=Z,13nm,0.7s
LPG **La Plagne** 84.73 333⇑*i*P P 12 35 18.0 +0.1
comp=Z,14nm,0.6s
631A **Perdido Creek** 84.82 54 ⇓P P 12 35 18.8 +0.4
baz=85
MIAR **Mount Ida** 84.88 46 *e*P P 12 35 18.3 -0.2
MIAR pmax pmax
comp=Z,10.0nm,1.0s
MIAR **Mount Ida** 84.88 46 *e*P P 12 35 18.3 -0.2
comp=Z,9.6nm,1.0s
SGMF **Saint Gilles** 84.92 340 *e*P P 12 35 18.0 -0.5
comp=Z,29nm,0.7s
ROSF **Rostrenen** 85.02 341 *e*P P 12 35 18.5 -0.5
comp=Z,67nm,1.0s
632A **Uvalde** 85.21 53 ⇓P P 12 35 21.0 +0.7
baz=85
QUIF **Quistinic** 85.39 340⇑*i*P P 12 35 20.8 0.0
comp=Z,43nm,0.9s
MBDF **Montbardon** 85.40 333⇑*i*P P 12 35 20.5 -0.7
comp=Z,7.2nm,0.4s
TCF **Toulx Ste Croi** 85.44 336⇑*i*P P 12 35 21.3 +0.2
comp=Z,16nm,0.8s
ORIF **Oris-en-Rattie** 85.53 333⇑*i*P P 12 35 21.7 0.0
comp=Z,14nm,0.7s
ORIF *e*R
comp=Z,83nm,21.2s
MFF **Saint Martin d** 85.82 338⇑*i*P P 12 35 23.2 +0.2

	comp=Z,20nm,0.6s							
SBF	**Sospel**	**85.94**	**332**	⇑	*i*P	**P**	**12 35 22.8**	**-0.9**
	comp=Z,20nm,0.5s							
VIVF	**Saint-Julien-l**	**85.97**	**334**	⇑	*i*P	**P**	**12 35 24.0**	**+0.2**
	comp=Z,13nm,0.8s							
SMRF	**Simiane la Rot**	**86.46**	**333**		*e*P	**P**	**12 35 26.5**	**+0.2**
	comp=Z,7.5nm,0.7s							
RJF	**Les Rejaudoux**	**86.53**	**336**	⇑	*i*P	**P**	**12 35 26.7**	**+0.1**
	comp=Z,10.0nm,0.7s							
RJF					*e*R			
	comp=Z,61nm,21.2s							
PGF	**Pioggiola**	**86.54**	**330**		*e*P	**P**	**12 35 25.8**	**-1.0**
	comp=Z,12nm,0.7s							
CAF	**Calviac**	**86.71**	**336**	⇑	*i*P	**P**	**12 35 28.0**	**+0.5**
	comp=Z,26nm,0.9s							
LMR	**La Mourre**	**86.72**	**332**	⇑	*i*P	**P**	**12 35 27.0**	**-0.5**
	comp=Z,23nm,0.7s							
LASF	**Ste Croix**	**86.93**	**334**	⇑	*i*P	**P**	**12 35 28.0**	**-0.5**
	comp=Z,13nm,0.9s							
LFF	**La Frestale**	**87.09**	**337**		*e*P	**P**	**12 35 29.1**	**-0.2**
	comp=Z,16nm,0.6s							
MTLF	**Montolieu**	**88.10**	**335**		*e*P	**P**	**12 35 33.8**	**-0.4**
	comp=Z,5.7nm,0.6s							
EPF	**Esparros**	**88.95**	**336**		*e*P	**P**	**12 35 37.7**	**-0.5**
	comp=Z,7.1nm,0.5s							
ETSF	**Etsaut**	**89.34**	**337**		*e*P	**P**	**12 35 39.6**	**-0.5**
	comp=Z,8.1nm,0.7s							
KEST	**Kesra**	**92.33**	**327**		P	**P**	**12 35 53.5**	**-0.7**
KEST	**Kesra**	**92.33**	**327**		P	**P**	**12 35 53.5**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=45,slow=1.4,SNR=4.4							
ESDC	**Sonseca Array**	**93.28**	**338**		P	**P**	**12 35 57.5**	**-1.0**
ESDC	**Sonseca Array**	**93.28**	**338**		P	**P**	**12 35 57.5**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=20,slow=4.1,SNR=6.9							
TORD	**Torodi Ar. Bea**	**115.43**	**322**		PKP	**PKPdf**	**12 41 24.2**	**-1.5**
TORD	**Torodi Ar. Bea**	**115.43**	**322**		PKP	**PKPdf**	**12 41 24.2**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=28,slow=2.2,SNR=4.7							
SNAA	**Sanae**	**148.00**	**198**		*e*PKP	**PKPbc**	**12 42 28.0**	**+0.3**
SNAA	**Sanae**	**148.00**	**198**		*e*pPKPdf	pPKPdf	12 42 39.9	+1.4
SNAA	**Sanae**	**148.00**	**198**		*e*pPKiKP	pPKPbc	12 42 44.7	+3.1
SNAA	**Sanae**	**148.00**	**198**		*e*sPKPbc	sPKPbc	12 42 47.7	+1.1
SNAA	**Sanae**	**148.00**	**198**		*e*PKPbc	**PKPbc**	**12 42 28.5**	**+0.8**
BDFB	**Brasilia**	**149.60**	**29**		PKPbc	**PKPbc**	**12 42 33.4**	**-0.1**
BDFB	**Brasilia**	**149.60**	**29**		PKPbc	**PKPbc**	**12 42 33.4**	**-0.1**
	comp=Z,4.6nm,0.6s,baz=297,slow=2.3,SNR=6.8							
VNA1	**Neumayer--Stat**	**149.93**	**196**		*e*pPKiKP	pPKPbc	12 42 48.3	+1.9

*JMA **29** 13:00:48.1±0.5,24.2′21N×121.2′57E,h60km,M3.0*
*TAP **29** 13:00:49.5,24.2′25N×121.2′78E,h14km,ML3.7,B*
ISC 29 13:00:49.7±0.9,24.2′23N±0.′02×121.2′81E±0.′02,h10km±6km, n61,σ0s76/104,9C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.10**	**320**	*i*	P		**Pg**	**13 00 52.4**	**0.0**
	baz=337								
EHP					S		**Sg**	**13 00 54.7**	**+0.5**
	baz=337								
ENA	**Nanau**	**0.20**	**342**	⇑	*i*P		**Pg**	**13 00 53.8**	**-0.2**
	baz=352								
ENA					*e*S		**Sg**	**13 00 56.6**	**-0.3**
	baz=352								
TWD	**Chiawan**	**0.25**	**232**	*i*	P		**Pg**	**13 00 54.8**	**0.0**
	baz=229								
TWD					*i* S		**Sg**	**13 00 58.5**	**+0.3**
	baz=229								
HWA	**Hwalien**	**0.32**	**216**		*e*P		**Pg**	**13 00 56.7**	**+0.7**
	baz=217								
TWC	**Suao**	**0.38**	**5**	⇑	*i*P		**Pg**	**13 00 57.0**	**-0.1**
	baz=7.0								
TWC					*i* S		**Sg**	**13 01 02.2**	**0.0**
	baz=7.0								
NNS	**Nan Shan**	**0.45**	**297**	⇑	*i*P		**Pg**	**13 00 58.1**	**-0.5**
	baz=298								
NNS					*i* S		**Sg**	**13 01 03.6**	**-0.9**
	baz=298								
ENTT	**Nioudou**	**0.46**	**331**	⇑	*i*P		**Pg**	**13 00 58.5**	**-0.3**
	baz=334								
ENTT					*i* S		**Sg**	**13 01 04.6**	**-0.3**
	baz=334								
TWE	**Neicheng**	**0.50**	**345**	⇑	*i*P		**Pg**	**13 00 59.3**	**-0.2**
	baz=349								
TWE					*i* S		**Sg**	**13 01 05.9**	**-0.3**
	baz=349								
WHF	**Hehuan Shan**	**0.51**	**260**		*e*S		**Sg**	**13 01 05.7**	**-0.8**
	baz=258								
ILA	**Ilan**	**0.53**	**354**		P		**Pg**	**13 01 00.0**	**-0.1**
	baz=351								
ILA					S		**Sg**	**13 01 07.5**	**+0.3**
	baz=351								
ESL	**Shilin**	**0.54**	**220**		P		**Pg**	**13 01 00.0**	**-0.3**
	baz=224								
TWT	**Tachien**	**0.58**	**272**	*i*	P		**Pg**	**13 01 00.8**	**-0.2**
	baz=270								
TWT					S		**Sg**	**13 01 08.4**	**-0.3**
	baz=270								
NSK	**Sanguang**	**0.60**	**317**	⇑	*i*P		**Pg**	**13 01 01.0**	**-0.5**
	baz=318								
NSK					S		**Sg**	**13 01 08.6**	**-0.8**
	baz=318								
TWA	**Mucha**	**0.77**	**345**		*e*P		**Pg**	**13 01 04.9**	**+0.2**
	baz=346								
TWB1	**Santiao Chiao**	**0.79**	**12**	⇑	P		**Pg**	**13 01 04.6**	**-0.4**
	baz=13								
TWB1					*e*S		**Sg**	**13 01 14.7**	**-0.6**
	baz=13								
NWF	**Wu-fen Shan**	**0.83**	**358**		P		**Pg**	**13 01 05.6**	**-0.3**
	baz=352								
NWF					S		**Sg**	**13 01 16.1**	**-0.6**
	baz=352								
NSTT	**Nanjuang**	**0.84**	**298**	⇑	P		**Pg**	**13 01 05.7**	**-0.2**
	baz=298								
NSTT					S		**Sg**	**13 01 16.4**	**-0.4**
	baz=298								
TAP1	**Taipei**	**0.84**	**342**		*e*P		**Pb**	**13 01 06.3**	**-0.2**
	baz=342								
TAP1					*e*S		**Sg**	**13 01 15.7**	**-1.3**
	baz=342								
TAP	**Taipei**	**0.85**	**341**		*e*P		**Pb**	**13 01 06.8**	**+0.2**
	baz=333								
EHY	**Hungye**	**0.85**	**212**		*e*P		**Pg**	**13 01 05.2**	**-0.9**
	baz=222								
SMLT	**Sun Moon Lake**	**0.90**	**247**		*e*P		**Pg**	**13 01 06.8**	**-0.3**
	baz=240								
SMLT					*e*S		**Sg**	**13 01 18.9**	**0.0**
	baz=240								
NCU	**National Centr**	**0.93**	**322**		*e*P		**Pb**	**13 01 08.2**	**+0.2**
	baz=318								
NCU					*e*S		**Sn**	**13 01 21.3**	**-1.0**
	baz=318								
TYC	**Yuchr**	**0.93**	**250**		P		**Pg**	**13 01 07.1**	**-0.6**
	baz=242								
TYC					*e*S		**Sg**	**13 01 18.9**	**-0.9**
	baz=242								
TWS1	**Kuangyinshan**	**0.94**	**338**		*e*P		**Pg**	**13 01 07.7**	**-0.1**
	baz=338								
TWS1					*e*S		**Sb**	**13 01 21.3**	**+0.7**
	baz=338								
HSN	**Hsinchu**	**0.95**	**307**		*e*P		**Pb**	**13 01 08.5**	**+0.2**
	baz=301								
HSN					*e*S		**Sb**	**13 01 20.9**	**-0.1**
	baz=301								
TWQ1	**Liyutan**	**0.95**	**277**		P		**Pb**	**13 01 08.9**	**+0.5**
	baz=277								
TWQ1					*e*S		**Sb**	**13 01 21.0**	**-0.1**
	baz=277								
NSY	**Sanyi**	**0.97**	**281**		P		**Pn**	**13 01 09.4**	**-0.2**
	baz=281								
NSY					*e*S		**Sn**	**13 01 22.7**	**-0.7**
	baz=281								
TWF1	**Yuli**	**0.99**	**208**		*e*P		**Pg**	**13 01 07.6**	**-1.3**
	baz=220								
TCU	**Taichung**	**1.04**	**266**		*e*P		**Pb**	**13 01 10.2**	**+0.4**
	baz=266								
TCU					*e*S		**Sn**	**13 01 24.5**	**-0.5**
	baz=266								
TWY	**Chenhua**	**1.05**	**350**		*e*P		**Pg**	**13 01 09.5**	**-0.5**
	baz=335								
YUS	**Yu-Shan**	**1.08**	**227**	⇑	P		**Pg**	**13 01 10.2**	**-0.3**
	baz=227								
YUS					*e*S		**Sg**	**13 01 24.4**	**-0.2**
	baz=227								
WNT	**Mingjian**	**1.09**	**251**		*e*P		**Pg**	**13 01 10.7**	**0.0**
	baz=248								
WNT					*e*S		**Sn**	**13 01 26.6**	**+0.3**
	baz=248								
YOJ	**Yonaguni jima**	**1.12**	**78**	⇓	*i*P		**Pb**	**13 01 11.1**	**-0.1**
	baz=66								
YOJ					S		**Sn**	**13 01 27.4**	**+0.4**
	baz=66								
YOJ	**Yonaguni jima**	**1.12**	**78**		P		**Pb**	**13 01 11.0**	**-0.1**
YOJ					*e*S		**Sn**	**13 01 28.0**	**+1.1**
ALS	**Alishan**	**1.17**	**232**		*e*P		**Pb**	**13 01 11.6**	**-0.7**
	baz=220								
ALS					*e*S		**Sb**	**13 01 27.9**	**+0.3**
	baz=220								
CHKT	**Chengkung**	**1.20**	**200**		*e*P		**Pn**	**13 01 10.2**	**-2.4**
	baz=188								
CHN5	**Tsauling**	**1.22**	**239**		*e*P		**Pn**	**13 01 13.1**	**+0.2**
	baz=241								
CHN5					S		**Sn**	**13 01 31.0**	**+1.5**
	baz=241								
ELDTW	**Lidau**	**1.27**	**215**		*e*P		**Pn**	**13 01 11.8**	**-1.9**
	baz=202								
PCYT	**Pengchaiyu**	**1.41**	**10**		*e*P		**Pn**	**13 01 15.3**	**-0.2**
	baz=7.0								
PCYT					*e*S		**Sg**	**13 01 35.6**	**+0.5**
	baz=7.0								
CHN4	**Tsaushan**	**1.42**	**232**		*e*P		**Pb**	**13 01 16.5**	**+0.2**
	baz=235								
CHN4					*e*S		**Sg**	**13 01 36.8**	**+1.4**
	baz=235								
STYT	**Tauyuan**	**1.44**	**222**		*e*P		**Pn**	**13 01 15.8**	**-0.2**
	baz=224								
STYT					*e*S		**Sb**	**13 01 35.7**	**+0.6**
	baz=224								
WTCT	**Ta-ch'eng**	**1.45**	**256**		*e*P		**Pn**	**13 01 16.1**	**+0.1**
	baz=257								
WTCT					*e*S		**Sg**	**13 01 36.3**	**+0.1**
	baz=257								
CHY	**Chiayi**	**1.47**	**240**		*e*P		**Pg**	**13 01 18.7**	**+0.8**
	baz=242								
CHY					*e*S		**Sg**	**13 01 36.9**	**0.0**
	baz=242								
WTP	**Ta-pu**	**1.47**	**228**		*e*P		**Pn**	**13 01 16.9**	**+0.5**
	baz=231								
WTP					*e*S		**Sg**	**13 01 37.2**	**+0.1**
	baz=231								
TWK	**Hsinying**	**1.55**	**232**		*e*P		**Pn**	**13 01 17.7**	**+0.3**
	baz=236								
TWK					*e*S		**Sg**	**13 01 39.8**	**+0.3**
	baz=236								
TWG	**Pinlang**	**1.56**	**206**		*e*P		**Pn**	**13 01 15.0**	**-2.6**
	baz=193								
WSF	**Szhu**	**1.57**	**248**		*e*P		**Pn**	**13 01 18.0**	**+0.4**
	baz=259								
WSF					*e*S		**Sg**	**13 01 40.0**	**-0.2**
	baz=259								
CHN1	**Nanshi**	**1.57**	**229**		*e*P		**Pb**	**13 01 18.9**	**-0.1**
	baz=233								
CHN1					*e*S		**Sg**	**13 01 41.1**	**+0.7**
	baz=233								
SGST	**Jiashian**	**1.61**	**225**		*e*P		**Pb**	**13 01 19.4**	**-0.2**
	baz=227								
SGST					*e*S		**Sg**	**13 01 42.0**	**+0.5**
	baz=227								
CHN8	**Yiju**	**1.71**	**239**		*e*P		**Pn**	**13 01 20.3**	**+0.6**
	baz=228								
CHN8					*e*S		**Sg**	**13 01 44.4**	**-0.3**
	baz=228								
IRIF	**Iriomote-Funau**	**1.75**	**86**		P		**Pn**	**13 01 19.6**	**-0.6**
IRIF					*e*S		**Sn**	**13 01 43.5**	**+0.9**
ECL	**Taimali**	**1.81**	**206**		*e*P		**Pn**	**13 01 20.7**	**-0.3**
	baz=196								
HATJ	**Hateruma jima**	**1.83**	**95**		P		**Pn**	**13 01 21.1**	**-0.2**
TWM1	**Shoushan**	**1.90**	**223**		*e*P		**Pn**	**13 01 23.6**	**+1.4**
	baz=225								
JKRS	**Kuro-shima**	**2.01**	**89**		P		**Pn**	**13 01 23.8**	**+0.1**
JKRS					*e*S		**Sn**	**13 01 50.5**	**+1.6**
JIJ	**Ishigaki jima**	**2.13**	**86**		P		**Pn**	**13 01 24.7**	**-0.7**
JIJ					*e*S		**Sn**	**13 01 51.8**	**-0.2**
SCZT	**Fangliau**	**2.15**	**211**		*e*P		**Pn**	**13 01 26.6**	**+0.9**
	baz=199								
PNG	**Penghu**	**2.17**	**253**		*e*P		**Pn**	**13 01 26.7**	**+0.8**
	baz=256								
WDGT	**Dungji**	**2.20**	**244**		*e*P		**Pn**	**13 01 25.6**	**-0.7**
	baz=251								
WDGT					*e*S		**Sn**	**13 01 55.0**	**+1.4**
	baz=251								
TWK1	**Hengchun**	**2.46**	**202**		*e*P		**Pn**	**13 01 27.3**	**-2.7**
	baz=193								
JTJ	**Tarama**	**2.67**	**81**		P		**Pn**	**13 01 33.8**	**+1.0**

*AUST **29** 13:07:48.3,7.′00N×126.′52E,h100km*
*ISCJB **29** 13:07:55.3±0.9,5.′70N±0.′05×126.′47E±0.′08,h60km±10km, mb4.2/10, Error ellipse: s-maj=14.0km s-min=8.6km az=167.2*
*IDC **29** 13:07:55.9±3.2,5.′81N×126.′79E,h56km±28km,mb3.9/10, mb1 4.1/10,mb1mx3.8/24,mbtmp3.9/10,MS3.5/2, Ms1 3.5/2,ms1mx2.7/31,Error ellipse: s-maj=47.6km s-min=12.1km az=70.0*
*MAN **29** 13:07:55,5.′77N×126.′56E,h26km,mb4.7,ML3.6,MS3.5*
ISC 29 13:07:56.1±1.4,5.′71N±0.′08×126.′5E±0.′1,h53km±13km, n39,σ1s02/36,mb4.3/10,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.25**	**349**		*e*P		**Pn**	**13 08 16.6**	**-0.7**
MATI					*e*S		**Sn**	**13 08 32.2**	**-0.9**
GSPH	**General Santos**	**1.57**	**284**	⇑	*i*P		Pn	13 08 19.0	-2.9
GSPH					*i* S		**Sn**	**13 08 37.8**	**-3.4**
DAV	**Davao City (W)**	**1.62**	**326**		P		**Pn**	**13 08 22.4**	**0.0**
	338nm,0.3s,baz=238,slow=2.0,SNR=29								
DAV					S		**Sn**	**13 08 45.1**	**+2.9**
	160nm,0.3s,baz=107,slow=19,SNR=8.2								
BUKP	**Musuan**	**2.58**	**327**		*e*P		**Pn**	**13 08 35.4**	**0.0**
CTBH	**Cotabato--PC H**	**2.69**	**304**		*e*P		**Pn**	**13 08 37.8**	**+0.9**
CTBH					*i* S		**Sn**	**13 09 08.0**	**-0.2**
CGP	**Cagayan de Oro**	**3.25**	**327**		*e*P		**Pn**	**13 08 43.9**	**-0.9**
CGP					*i* S		**Sn**	**13 09 22.7**	**+0.5**
BUTP	**Butuan**	**3.35**	**345**		*e*P		Pn	13 08 48.0	+2.0
PAGZ	**Pagadian**	**3.74**	**305**		*e*P		**Pn**	**13 08 52.8**	**+1.4**
MSLP	**Maasin**	**4.68**	**340**		*e*P		Pn	13 09 06.3	+2.0
GUIM	**Jordan**	**6.22**	**322**		*e*P		Pn	13 09 45.9	+20
LUWI	**Luwuk**	**7.67**	**209**		P		Pn	13 09 49.7	+4.4
	baz=8.9,SNR=6.7								
SOEI	**Soe**	**15.52**	**188**		P		P	13 11 40.4	+5.1
	baz=17,SNR=4.8								
BATI	**Baumata**	**16.06**	**190**		LR		LR	13 17 25.6	
	comp=Z,170nm,21.1s,baz=145,slow=35								
MTN	**Manton Dam**	**19.00**	**166**		P		**P**	**13 12 13.4**	**-0.3**
	baz=20,SNR=9.1								
KDU	**Kakadu**	**19.22**	**162**		P		**P**	**13 12 16.5**	**+0.5**
	baz=21,SNR=3.5								
KNRA	**Kununurra**	**21.37**	**174**		P		**P**	**13 12 40.1**	**+0.8**
	baz=23,SNR=41								
FITZ	**Fitzroy Crossi**	**23.68**	**182**		P		**P**	**13 13 03.7**	**+0.6**
	5.0nm,0.5s,baz=356,slow=12,SNR=22								
FITZ	**Fitzroy Crossi**	**23.68**	**182**		P		**P**	**13 13 03.7**	**+0.6**
	baz=25,SNR=15								
MNAI	**Manna**	**25.54**	**247**		P		P	13 13 10.5	-10
	baz=26,SNR=3.2								
WRA	**Warramunga Arr**	**26.64**	**163**		P		**P**	**13 13 29.4**	**-0.6**
	4.9nm,0.8s,baz=336,slow=11,SNR=19								
CMAR	**Chiang Mai Arr**	**29.70**	**298**		ScP		**ScP**	**13 20 38.1**	**-0.3**
	1.0nm,0.6s,baz=117,slow=1.6,SNR=5.8								
ASAR	**Alice Springs**	**30.08**	**166**		P		**P**	**13 14 00.4**	**-0.3**
	2.6nm,0.6s,baz=346,slow=7.1,SNR=44								
ASAR					PcP		**PcP**	**13 17 01.0**	**-0.6**
	0.9nm,0.4s,baz=345,slow=2.4,SNR=13								
MEEK	**Meekatharra**	**33.05**	**193**		P		**P**	**13 14 26.4**	**-0.4**
	baz=34,SNR=13								
MORW	**Morawa**	**36.01**	**196**		P		**P**	**13 14 52.1**	**-0.2**
	baz=37,SNR=5.0								
FORT	**Forrest**	**36.32**	**178**		P		**P**	**13 14 55.4**	**+0.5**
	baz=38,SNR=8.2								
BLDU	**Baliliu**	**37.31**	**194**		P		**P**	**13 15 03.1**	**-0.2**
	baz=39,SNR=10.0								
KLBR	**Kellerberrin**	**38.02**	**192**		P		**P**	**13 15 09.6**	**+0.3**
	baz=40,SNR=4.4								
BBOO	**Buckleboo**	**39.38**	**167**		P		**P**	**13 15 21.2**	**+0.5**
	baz=41,SNR=22								
NWAO	**Narrogin (SRO)**	**39.42**	**192**		P		**P**	**13 15 21.3**	**+0.3**
	6.0nm,0.6s,baz=23,slow=9.0,SNR=8.1								
STKA	**Stephens Creek**	**40.06**	**160**		P		**P**	**13 15 26.5**	**+0.1**
	4.5nm,0.6s,baz=332,slow=8.9,SNR=18								
STKA					PcP		**PcP**	**13 17 30.2**	**-0.2**
	1.7nm,0.7s,baz=299,slow=6.8,SNR=2.9								
STKA	**Stephens Creek**	**40.06**	**160**		P		**P**	**13 15 27.0**	**+0.6**
	baz=42,SNR=12								
ARPS	**Mount Arapiles**	**44.63**	**162**		P		**P**	**13 16 04.8**	**+1.3**
	baz=46,SNR=12								
KURBB	**Kurchatov Arra**	**59.95**	**327**		P		**P**	**13 17 57.7**	**+0.8**
	0.9nm,0.3s,baz=122,slow=7.1,SNR=5.4								
AKTO	**Aktyubinsk**	**71.97**	**321**		LR		LR	13 57 21.2	
	comp=Z,30nm,18.7s,baz=22,slow=41								
ILAR	**Eielson Array**	**83.43**	**26**		P		P	13 20 15.8	-1.9
	0.2nm,0.5s,baz=258,slow=4.5,SNR=6.1								
VNDA	**Vanda**	**85.41**	**173**		P		**P**	**13 20 27.3**	**-0.1**
	1.1nm,0.5s,baz=312,slow=5.5,SNR=6.0								
ARCES	**ARCESS Array B**	**88.52**	**340**		P		**P**	**13 20 42.1**	**-0.6**
	1.3nm,0.7s,baz=62,slow=6.3,SNR=3.6								
FINES	**FINESS Array B**	**89.98**	**332**		P		**P**	**13 20 49.1**	**-0.6**
	0.6nm,0.5s,baz=89,slow=6.0,SNR=2.6								
TORD	**Torodi Ar. Bea**	**122.06**	**289**		PKP		**PKPdf**	**13 26 44.5**	**-1.3**
	0.8nm,0.5s,baz=67,slow=1.6,SNR=15								

TAP 29 13:09:26.1,24.′28N×121.′76E,h14km,ML2.2,1C,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.03**	**336**		*e*P		Pg	13 09 28.5	-0.2
	baz=347								
ENA	**Nanau**	**0.15**	**355**	⇑	*i*P		Pg	13 09 30.1	+0.1
	baz=357								
ENA					*i* S		Sg	13 09 32.8	+0.3
	baz=357								
TWD	**Chiawan**	**0.25**	**216**		P		Pg	13 09 31.5	0.0
	baz=216								
TWD					*e*S		Sg	13 09 35.2	+0.1
	baz=216								
TWC	**Suao**	**0.34**	**14**		*e*P		Pg	13 09 33.2	+0.1
	baz=11								
TWC					*e*S		Sg	13 09 37.9	0.0
	baz=11								
NNS	**Nan Shan**	**0.38**	**295**		P		Pg	13 09 34.3	+0.2
	baz=295								
NNS					*e*S		Sg	13 09 39.6	+0.1
	baz=295								
ENTT	**Nioudou**	**0.40**	**334**		*i* P		Pg	13 09 34.5	+0.3
	baz=334								
ENTT					*i* S		Sg	13 09 40.2	+0.5
	baz=334								
WHF	**Hehuan Shan**	**0.47**	**254**		*e*P		Pb	13 09 36.7	-0.1
	baz=253								
NSK	**Sanguang**	**0.54**	**318**		*e*P		Pg	13 09 36.4	-0.5
	baz=318								

*NIED **29** 13:09:00,24.′10N×121.′40E,h29km,Mw4.4 Best double couple: M0 5.25000×10^15 NP1:φ=64.00000°,δ77.00000°, λ89.00000°. NP2:φ=249.00000°,δ13.00000°,λ95.00000°.*
*JMA **29** 13:09:41.4±0.3,24.′07N×121.′36E,h24km,M4.7*
*ISCJB **29** 13:09:46.9±0.3,24.′27N±0.′01×121.′87E±0.′02,h18km±2km, mb4.0/19,MS3.8/12,Error ellipse: s-maj=3.2km s-min=1.9km az=25.6*
*TAP **29** 13:09:46.8,24.′25N×121.′78E,h14km,ML4.7,B*
*BJI **29** 13:09:46.3,24.′40N×121.′75E,h10km,mB4.6/14,mb4.3/23, ML4.2/6,Ms4.5/24,Ms7 4.4/21*
*IDC **29** 13:09:51.0±4.5,24.′30N×121.′86E,h53km±41km,mb3.8/18, mb1 4.0/19,mb1mx3.9/28,mbtmp3.8/19,ML3.7/1,MS3.7/14, Ms1 3.7/14,ms1mx3.4/36,Error ellipse: s-maj=19.9km s-min=14.2km az=69.0*
ISC 29 13:09:47.6±0.5,24.′25N±0.′01×121.′78E±0.′02,h19km±1km, n114,σ1s04/167,mb4.0/19,MS3.8/12,17C-17D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.07**	**328**	⇓	*i*P		**Pg**	**13 09 49.8**	**-1.5**
	baz=334								
EHP					S		**Sg**	**13 09 52.0**	**-1.6**
	baz=334								
ENA	**Nanau**	**0.18**	**349**	⇑	*i*P		**Pb**	**13 09 51.1**	**-0.2**
	baz=351								
ENA					S		**Sb**	**13 09 54.2**	**+0.5**
	baz=351								
TWD	**Chiawan**	**0.24**	**224**	⇑	*i*P		**Pb**	**13 09 52.2**	**-1.0**
	baz=229								
TWD					*i* S		**Sb**	**13 09 55.9**	**-0.8**
	baz=229								
HWA	**Hwalien**	**0.32**	**210**		*e*P		**Pg**	**13 09 54.1**	**-0.5**
	baz=217								
TWC	**Suao**	**0.36**	**10**	⇑	*i*P		**Pg**	**13 09 54.4**	**-0.9**
	baz=16								
NNS	**Nan Shan**	**0.41**	**297**	⇑	*i*P		**Pg**	**13 09 55.4**	**-0.9**
	baz=297								
NNS					S		**Sg**	**13 10 01.2**	**-0.9**
	baz=297								
ENTT	**Nioudou**	**0.43**	**333**	⇑	*i*P		**Pg**	**13 09 55.8**	**-0.7**
	baz=333								
ESF	**Shoufeng Towns**	**0.46**	**213**		*e*P		**Pg**	**13 09 56.3**	**-0.7**
	baz=221								
ESF					*e*S		**Sg**	**13 10 02.7**	**-0.5**
	baz=221								
TWE	**Neicheng**	**0.48**	**348**	⇑	*i*P		**Pg**	**13 09 56.6**	**-0.7**
	baz=349								
WHF	**Hehuan Shan**	**0.48**	**257**	⇑	*i*P		**Pg**	**13 09 56.5**	**-1.2**
	baz=257								
ILA	**Ilan**	**0.51**	**357**	⇑	*i*P		**Pb**	**13 09 57.5**	**-0.5**
	baz=351								
ILA					S		**Sg**	**13 10 04.7**	**-0.2**
	baz=351								
ESL	**Shilin**	**0.54**	**216**	⇑	*i*P		**Pb**	**13 09 57.4**	**-1.1**
	baz=222								
ESL					*e*S		**Sb**	**13 10 05.2**	**-0.7**
	baz=222								
**T

	baz=277									
TWQ1					*e*S		**Sg**	**13 10 17.9**	**+0.1**	
	baz=277									
NSY	**Sanyi**	**0.94**	**280**	*e*P			**Pg**	**13 10 06.1**	**+0.1**	
	baz=281									
NSY					S		**Sn**	**13 10 18.9**	**0.0**	
	baz=281									
TWF1	**Yuli**	**1.00**	**206**	*e*P			**Pb**	**13 10 04.4**	**-2.0**	
	baz=225									
TWF1					*e*S		**Sg**	**13 10 20.6**	**+0.2**	
	baz=225									
TCU	**Taichung**	**1.01**	**264**	⇓*i*P			**Pg**	**13 10 07.7**	**+0.3**	
	baz=266									
TCU					S		**Sg**	**13 10 21.8**	**+1.0**	
	baz=266									
TWY	**Chenhua**	**1.03**	**351**	⇓P			**Pn**	**13 10 07.2**	**+0.1**	
	baz=344									
TWY					*e*S		**Sg**	**13 10 21.2**	**-0.1**	
	baz=344									
WNT	**Mingjian**	**1.07**	**250**	⇓P			**Pg**	**13 10 08.3**	**-0.1**	
	baz=248									
WNT					S		**Sg**	**13 10 23.7**	**+1.2**	
	baz=248									
YUS	**Yu-Shan**	**1.07**	**225**	⇑*e*P			**Pb**	**13 10 07.4**	**-0.5**	
	baz=228									
YUS					S		**Sn**	**13 10 22.6**	**-0.1**	
	baz=228									
YOJ	**Yonaguni jima**	**1.14**	**79**	⇓*i*P			**Pn**	**13 10 08.4**	**-0.2**	
	baz=66									
YOJ					S		**Sg**	**13 10 24.7**	**-0.1**	
	baz=66									
YOJ	**Yonaguni jima**	**1.14**	**79**	P			**Pn**	**13 10 08.4**	**-0.2**	
YOJ					S		**Sg**	**13 10 27.5**	**+2.7**	
ALS	**Alishan**	**1.16**	**230**	⇓*e*P			**Pb**	**13 10 09.1**	**-0.1**	
	baz=220									
ALS					*e*S		**Sn**	**13 10 24.9**	**+0.3**	
	baz=220									
CHN5	**Tsauling**	**1.20**	**237**	*e*P			**Pb**	**13 10 10.0**	**+0.2**	
	baz=241									
CHN5					S		**Sg**	**13 10 27.4**	**+0.6**	
	baz=241									
CHKT	**Chengkung**	**1.21**	**198**	*e*P			**Pn**	**13 10 07.9**	**-1.6**	
	baz=220									
CHKT					*e*S		**Sg**	**13 10 26.4**	**-0.6**	
	baz=220									
ELDTW	**Lidau**	**1.27**	**214**	*e*P			**Pn**	**13 10 09.0**	**-1.5**	
	baz=202									
PCYT	**Pengchaiyu**	**1.40**	**11**	*e*P			**Pn**	**13 10 12.2**	**+0.1**	
	baz=8.0									
CHN4	**Tsaushan**	**1.41**	**231**	⇓*i*P			**Pb**	**13 10 13.9**	**+0.5**	
	baz=235									
CHN4					*e*S		**Sg**	**13 10 34.2**	**+0.9**	
	baz=235									
WTCT	**Ta-ch'eng**	**1.42**	**254**	P			**Pb**	**13 10 13.6**	**0.0**	
	baz=257									
WTCT					*i* S		**Sg**	**13 10 33.6**	**-0.1**	
	baz=257									
STYT	**Tauyuan**	**1.44**	**221**	⇓*i*P			**Pb**	**13 10 13.2**	**-0.6**	
	baz=225									
STYT					S		**Sb**	**13 10 32.8**	**+1.0**	
	baz=225									
CHY	**Chiayi**	**1.45**	**239**	*e*P			**Pb**	**13 10 14.4**	**+0.3**	
	baz=243									
CHY					S		**Sg**	**13 10 34.4**	**-0.2**	
	baz=243									
WTP	**Ta-pu**	**1.47**	**227**	⇑P			**Pb**	**13 10 14.0**	**-0.3**	
	baz=231									
WTP					*e*S		**Sg**	**13 10 35.0**	**-0.1**	
	baz=231									
TWK	**Hsinying**	**1.54**	**231**	*e*P			**Pb**	**13 10 15.6**	**0.0**	
	baz=236									
TWK					*e*S		**Sg**	**13 10 37.3**	**-0.1**	
	baz=236									
WSF	**Szhu**	**1.55**	**247**	P			**Pb**	**13 10 15.4**	**-0.3**	
	baz=259									
WSF					S		**Sg**	**13 10 37.4**	**-0.4**	
	baz=259									
CHN1	**Nanshi**	**1.56**	**227**	⇓*e*P			**Pb**	**13 10 15.9**	**-0.1**	
	baz=233									
CHN1					*e*S		**Sg**	**13 10 37.9**	**-0.4**	
	baz=233									
TWG	**Pinlang**	**1.57**	**205**	*e*P			**Pn**	**13 10 12.4**	**-2.0**	
	baz=193									
SGST	**Jiashian**	**1.60**	**223**	*e*P			**Pb**	**13 10 16.4**	**-0.2**	
	baz=227									
SGST					S		**Sg**	**13 10 39.6**	**+0.1**	
	baz=227									
TTN	**Taitung**	**1.60**	**201**	*e*P			**Pn**	**13 10 15.2**	**+0.3**	
	baz=205									
CHN8	**Yiju**	**1.70**	**238**	*e*P			**Pb**	**13 10 18.1**	**-0.1**	
	baz=228									
CHN8					*e*S		**Sg**	**13 10 41.3**	**-1.2**	
	baz=228									
CHN3	**Shinhua**	**1.75**	**228**	*e*P			**Pb**	**13 10 18.8**	**-0.3**	
	baz=235									
CHN3					*e*S		**Sg**	**13 10 44.5**	**+0.4**	
	baz=235									
IRIF	**Iriomote-Funau**	**1.78**	**87**	P			**Pn**	**13 10 17.0**	**-0.4**	
IRIF					S		**Sg**	**13 10 43.9**	**-1.2**	
SCLT	**Jiali**	**1.81**	**234**	*e*P			**Pb**	**13 10 19.9**	**-0.3**	
	baz=240									
SCLT					*e*S		**Sg**	**13 10 44.3**	**-1.6**	
	baz=240									
ECL	**Taimali**	**1.82**	**205**	*e*P			**Pn**	**13 10 16.1**	**-1.8**	
	baz=196									
HATJ	**Hateruma jima**	**1.86**	**96**	P			**Pn**	**13 10 18.1**	**-0.4**	
HATJ					*e*S		**Sb**	**13 10 45.5**	**+1.6**	
TAI1	**Yung-k'ang**	**1.87**	**230**	*e*P			**Pb**	**13 10 20.5**	**-0.6**	
	baz=235									
TWM1	**Shoushan**	**1.89**	**221**	*e*P			**Pb**	**13 10 21.5**	**-0.1**	
	baz=225									
SGLT	**Jiouru**	**1.93**	**218**	*e*P			**Pb**	**13 10 22.1**	**-0.1**	
	baz=222									
JKRS	**Kuro-shima**	**2.04**	**90**	P			**Pn**	**13 10 21.1**	**+0.2**	
JKRS					S		**Sb**	**13 10 50.7**	**+1.7**	
TAW	**Tawu**	**2.06**	**203**	*e*P			**Pn**	**13 10 22.6**	**+1.4**	
	baz=195									
PNG	**Penghu**	**2.15**	**252**	⇓*e*P			**Pn**	**13 10 22.3**	**-0.1**	
	baz=257									
PNG					*e*S		**Sn**	**13 10 49.7**	**+1.2**	
	baz=257									
SCZT	**Fangliau**	**2.16**	**210**	*e*P			**Pn**	**13 10 23.7**	**+1.1**	
	baz=199									
JIJ	**Ishigaki jima**	**2.16**	**87**	P			**Pn**	**13 10 22.4**	**-0.2**	
JIJ					*e*S		**Sb**	**13 10 53.7**	**+1.2**	
WDGT	**Dungji**	**2.18**	**243**	*e*P			**Pn**	**13 10 23.1**	**+0.3**	
	baz=251									
WDGT					*e*S		**Sb**	**13 10 51.5**	**-1.6**	
	baz=251									
LAY	**Lan-yu**	**2.21**	**185**	*e*P			**Pn**	**13 10 20.9**	**-2.5**	
	baz=190									
TWP	**Hsiaoliuchiu**	**2.30**	**215**	*e*P			**Pb**	**13 10 28.2**	**-0.3**	
	baz=238									
HEN	**Hengchun**	**2.44**	**203**	*e*P			**Pn**	**13 10 28.1**	**+1.7**	
	baz=198									
TWK1	**Hengchun**	**2.47**	**201**	*e*P			**Pn**	**13 10 26.3**	**-0.6**	
	baz=193									
TSEB	**Hengchuen, Pin**	**2.48**	**199**	*e*P			**Pn**	**13 10 27.7**	**+0.7**	
	baz=193									
JTJ	**Tarama**	**2.69**	**81**	P			**Pn**	**13 10 30.2**	**+0.3**	
JTJ					S		**Sb**	**13 11 07.0**	**-0.8**	
QZH	**Quanzhou**	**2.98**	**284**	⇑*i*Pn			**Pn**	**13 10 32.5**	**-1.4**	
QZH					Sn		**Sn**	**13 11 07.0**	**-2.2**	
QZH					smax		smax			
	comp=N,2μm,0.8s									
QZH					smax		smax			
	comp=E,2μm,1.1s									
KNM	**Kinmen**	**3.06**	**274**	*e*P			**Pn**	**13 10 37.4**	**+2.4**	
	baz=274									
JOGS	**Gusukube**	**3.34**	**81**	P			**Pn**	**13 10 40.6**	**+1.7**	
JKE	**Kume jima 2**	**4.98**	**64**	P			**Pn**	**13 11 02.7**	**+1.3**	
JAGN	**Aguni-jima**	**5.46**	**64**	P			**Pn**	**13 11 08.8**	**+0.8**	
JIH	**Iheya**	**6.23**	**62**	P			Pn	13 11 24.9	+6.3	
JOW	**Kunigami**	**6.40**	**65**	*e*P			**Pn**	**13 11 20.4**	**-0.6**	
	baz=64									
JOW	**Kunigami**	**6.40**	**65**	P			**Pn**	**13 11 20.2**	**-0.8**	
JTK	**Tokunoshima**	**7.35**	**60**	P			**Pn**	**13 11 33.1**	**-0.8**	
GZH	**Guangzhou**	**7.82**	**263**	P			Pn	13 11 35.8	-4.6	
GZH					S		Sn	13 12 54.8	-14	
GZH					smax		smax			
	comp=N,250nm,1.1s									
GZH					smax		smax			
	comp=E,230nm,1.3s									
NJ2	**Nanjing**	**8.19**	**342**	*e*P			**Pn**	**13 11 44.3**	**-1.1**	
NJ2					pP		Pb	13 11 47.5	-21	
NJ2					sP			13 11 50.3		
NJ2					S		**Sn**	**13 13 20.0**	**+2.6**	
NJ2					sS		Sb	13 13 25.0	-21	
NJ2					pmax		pmax			
	comp=Z,7.0nm,0.8s									
NJ2					LR		LR			
	comp=N,970nm,9.6s									
NJ2					LR		LR			
	comp=E,900nm,10.2s									
NJ2					LR		LR			
	comp=Z,970nm,9.6s									
WHN	**Wuhan**	**9.10**	**315**	*e*P			Pn	13 12 00.5	+2.5	
WHN					S		**Sn**	**13 13 40.3**	**+0.4**	
WHN					pmax		pmax			
	comp=Z,24nm,0.5s									
WHN					LR		LR			
	comp=N,5μm,10.0s									
WHN					LR		LR			
	comp=E,4μm,7.8s									
WHN					LR		LR			
	comp=Z,7μm,9.4s									
GYA	**Guiyang**	**13.84**	**282**	⇑*i*P			**Pn**	**13 13 03.8**	**+0.8**	
GYA					pmax		pmax			
	comp=Z,20nm,0.7s									
KSRS	**Korea Array**	**14.17**	**20**	P			**Pn**	**13 13 08.0**	**+0.7**	
	comp=Z,0.3nm,0.3s,baz=204,slow=14,SNR=7.2									
KSRS					LR		LR	13 18 47.1		
	comp=Z,58nm,18.0s,baz=182,slow=38									
DAV	**Davao City (W)**	**17.47**	**167**	LR			LR	13 20 31.0		
	comp=Z,244nm,18.6s,baz=352,slow=37									
MJAR	**Matsushiro Arr**	**18.70**	**45**	LR			LR	13 22 00.5		
	comp=Z,170nm,20.1s,baz=225,slow=39									
LZH	**Lanzhou**	**19.45**	**311**	*e*P			**Pn**	**13 14 16.3**	**+1.8**	
LZH					pP		**pP**	**13 14 20.0**	**+1.3**	
LZH					sP		sP	13 14 23.5	+2.4	
LZH					pmax		pmax			
	comp=Z,14nm,1.0s									
LZH					pmax		pmax			
	comp=Z,120nm,4.4s									
LZH					LR		LR			
	comp=N,950nm,11.4s									
LZH					LR		LR			
	comp=E,900nm,11.9s									
LZH					LR		LR			
	comp=Z,1μm,11.0s									
CN2	**Changchun**	**19.73**	**8**	*e*P			**Pn**	**13 14 20.5**	**+2.9**	
CN2					*e*S		**S**	**13 17 54.8**	**-2.9**	
CN2					pmax		pmax			
	comp=Z,10.0nm,0.6s									
CN2					LR		LR			
	comp=N,800nm,15.0s									
CN2					LR		LR			
	comp=E,200nm,15.0s									
CN2					LR		LR			
	comp=Z,700nm,19.0s									
USRK	**Ussuriysk Arra**	**21.58**	**20**	P			**P**	**13 14 35.8**	**-0.4**	
	comp=Z,2.4nm,0.6s,baz=200,slow=11,SNR=9.3									
USRK					LR		LR	13 23 33.5		
	comp=Z,138nm,18.6s,baz=332,slow=38									
CMAR	**Chiang Mai Arr**	**22.02**	**259**	P			**P**	**13 14 42.3**	**+1.1**	
	comp=Z,2.0nm,0.9s,baz=77,slow=8.7,SNR=8.5									
CMAR					LR		LR	13 23 15.0		
	comp=Z,88nm,18.1s,baz=60,slow=36									
GTA	**Gaotai**	**23.92**	**314**	⇓P			**P**	**13 15 01.0**	**+0.4**	
GTA					pP		**pP**	**13 15 06.5**	**+0.1**	
GTA					sP		**sP**	**13 15 09.8**	**+1.0**	
GTA					S		**S**	**13 19 20.0**	**+3.8**	
GTA					sS		**sS**	**13 19 27.5**	**+1.8**	
GTA					pmax		pmax			
	comp=Z,5.0nm,1.4s									
GTA					pmax		pmax			
	comp=Z,77nm,5.0s									
GTA					LR		LR			
	comp=N,220nm,13.5s									
GTA					LR		LR			
	comp=E,710nm,12.6s									
GTA					LR		LR			
	comp=Z,870nm,11.9s									
ASAJ	**Asahikawa**	**26.12**	**36**	LR			LR	13 26 42.5		
	comp=Z,175nm,18.1s,baz=186,slow=39									
SONM	**Songino Array**	**26.52**	**336**	P			**P**	**13 15 23.7**	**-0.4**	
	comp=Z,2.2nm,0.7s,baz=156,slow=9.4,SNR=10									
SONM					LR		LR	13 26 23.1		
	comp=Z,181nm,21.7s,baz=140,slow=37									
MKAR	**Makanchi Array**	**38.67**	**316**	P			**P**	**13 17 09.7**	**-0.3**	
	comp=Z,1.1nm,0.5s,baz=109,slow=10,SNR=10									
MKAR					LR		LR	13 34 20.1		
	comp=Z,171nm,18.9s,baz=98,slow=38									
PETK	**Petropavlovsk-**	**39.51**	**34**	LR			LR	13 35 02.9		
	comp=Z,78nm,18.4s,baz=78,slow=38									
ZALV	**Zalesovo Beam**	**40.48**	**327**	P			**P**	**13 17 23.6**	**-1.4**	
	comp=Z,3.7nm,0.6s,baz=111,slow=8.5,SNR=16									
ZALV					LR		LR	13 35 12.3		
	comp=Z,176nm,18.4s,baz=160,slow=38									
KURBB	**Kurchatov Arra**	**42.41**	**320**	P			**P**	**13 17 40.0**	**-0.8**	
	comp=Z,1.4nm,0.5s,baz=106,slow=8.5,SNR=6.0									
WRA	**Warramunga Arr**	**45.60**	**163**	P			**P**	**13 18 05.6**	**-1.2**	
	comp=Z,1.9nm,0.5s,baz=344,slow=8.6,SNR=9.5									
BVAR	**Borovoye Array**	**47.96**	**321**	P			**P**	**13 18 24.0**	**-1.0**	
	comp=Z,1.9nm,0.6s,baz=106,slow=9.2,SNR=9.5									
ASAR	**Alice Springs**	**49.07**	**165**	P			**P**	**13 18 34.1**	**+0.3**	
	comp=Z,1.1nm,0.7s,baz=336,slow=6.6,SNR=7.7									
STKA	**Stephens Creek**	**58.94**	**160**	P			**P**	**13 19 44.1**	**-1.6**	
	comp=Z,1.9nm,1.0s,baz=337,slow=7.7,SNR=3.1									
KBZ	**Khabaz**	**65.86**	**309**	P			**P**	**13 20 31.5**	**-0.5**	
	comp=Z,5.3nm,0.8s,baz=117,slow=4.5,SNR=9.2									
ILAR	**Eielson Array**	**68.90**	**27**	P			**P**	**13 20 49.2**	**-1.7**	
	comp=Z,0.3nm,0.5s,baz=274,slow=5.0,SNR=8.0									
ARCES	**ARCESS Array B**	**69.68**	**338**	LR			LR	13 53 41.0		
	comp=Z,44nm,20.0s,baz=144,slow=38									
FINES	**FINESS Array B**	**71.66**	**330**	P			**P**	**13 21 06.7**	**-1.1**	
	comp=Z,2.7nm,0.8s,baz=76,slow=5.9,SNR=7.5									
FINES					LR		LR	13 55 27.6		
	comp=Z,165nm,18.8s,baz=269,slow=38									
INK	**Inuvik**	**72.96**	**22**	P			**P**	**13 21 13.9**	**-1.5**	
	comp=Z,2.2nm,0.8s,baz=290,slow=5.0,SNR=7.0									
BRTR	**Keskin Array B**	**73.57**	**307**	P			**P**	**13 21 19.6**	**-0.2**	
	comp=Z,3.7nm,0.8s,baz=103,slow=5.9,SNR=19									
NOA	**NORSAR Array B**	**78.42**	**332**	LR			LR	13 59 38.5		
	comp=Z,100nm,20.6s,baz=0.0,slow=38									
YKA	**Yellowknife Ar**	**82.69**	**23**	P			**P**	**13 22 08.3**	**-1.5**	
	comp=Z,1.0nm,0.5s,baz=311,slow=4.9,SNR=7.8									
GERES	**GERESS Array B**	**83.13**	**321**	P			**P**	**13 22 11.1**	**-1.4**	
	comp=Z,0.2nm,0.5s,baz=64,slow=3.1,SNR=4.9									
GERES					LR		LR	14 03 59.8		
	comp=Z,42nm,18.7s,baz=270,slow=39									
NVAR	**Mina Array Bea**	**96.01**	**43**	P			**P**	**13 23 14.1**	**-0.1**	
	comp=Z,0.3nm,0.6s,baz=313,slow=5.9,SNR=3.8									

*ISCJB **29** 13:49:16.1±0.6, 7.°74S×0.°05×128.°48E×0.°05, h150km, mb3.6/4, Error ellipse: s-maj=7.3km s-min=5.6km az=42.4*
*IDC **29** 13:49:16.7±7.7, 7.°68S×128.°42E, h137km±80km, mb3.5/4, mb1 3.7/8, mb1mx3.4/23, mbtmp3.6/8, Error ellipse: s-maj=73.8km s-min=24.0km az=35.0*
*AUST **29** 13:49:19.4, 7.°98S×128.°54E, h200km*
ISC 29 13:49:17.4±0.8, 7.°78S±0.°07×128.°45E±0.°06, h150km, n18, σ1s60/21, mb3.7/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.58**	**244**	P		**Pn**	**Pn**	**13 50 26.5**	**+1.2**
	baz=4.6,SNR=12								
BATI	**Baumata**	**5.31**	**243**	P		**Pn**	**Pn**	**13 50 35.5**	**+0.6**
	14nm,0.3s,baz=75,slow=2.3,SNR=14								
BATI				S		**Sn**	**Sn**	**13 51 35.0**	**-0.5**
	22nm,0.3s,baz=90,slow=20,SNR=13								
MTN	**Manton Dam**	**5.68**	**153**	P		**Pn**	**Pn**	**13 50 41.9**	**+2.1**
	baz=5.5,SNR=8.7								
MTN				S		**Sn**	**Sn**	**13 51 44.9**	**+0.6**
	baz=5.5,SNR=6.5								
FAKI	**Fak Fak**	**6.13**	**38**	P		**Pn**	**Pn**	**13 50 44.0**	**-1.9**
	baz=6.3,SNR=6.4								
KDU	**Kakadu**	**6.28**	**141**	P		**Pn**	**Pn**	**13 50 49.8**	**+2.0**
	baz=6.1,SNR=61								
KDU				S		**Sn**	**Sn**	**13 51 58.2**	**-0.5**
	baz=6.1,SNR=10								
KNRA	**Kununurra**	**7.86**	**178**	P		**Pn**	**Pn**	**13 51 10.3**	**+1.5**
	baz=7.7,SNR=92								
KNRA				S		**Sn**	**Sn**	**13 52 33.8**	**-2.7**
	baz=7.7,SNR=6.7								
WSI	**Waingapu**	**8.28**	**256**	S		**Sn**	**Sn**	**13 52 48.0**	**+1.3**
	baz=8.3,SNR=3.2								
FITZ	**Fitzroy Crossi**	**10.62**	**195**	P		**Pn**	**Pn**	**13 51 45.4**	**-0.2**
	0.5nm,0.3s,baz=21,slow=12,SNR=3.3								
FITZ				S		**Sn**	**Sn**	**13 53 39.8**	**-3.3**
	2.0nm,0.3s,baz=52,slow=19,SNR=8.0								
FITZ	**Fitzroy Crossi**	**10.62**	**195**	P		**Pn**	**Pn**	**13 51 46.3**	**+0.7**
	baz=10,SNR=5.8								
WRA	**Warramunga Arr**	**13.37**	**155**	P		**Pn**	**Pn**	**13 52 21.5**	**+0.1**
	0.5nm,0.3s,baz=335,slow=15,SNR=13								
WRA				S		Sn	Sn	13 54 43.7	-5.8
	2.3nm,0.3s,baz=333,slow=22,SNR=16								
ASAR	**Alice Springs**	**16.64**	**162**	P		**Pn**	**Pn**	**13 53 04.7**	**+2.7**
	0.4nm,0.3s,baz=341,slow=11,SNR=33								
ASAR				S		S	S	13 56 00.9	-6.1
	0.6nm,0.3s,baz=345,slow=25,SNR=6.1								
CISI	**Cisompet, Garu**	**20.45**	**269**	S		Sn	Sn	13 57 44.7	+5.4
	baz=20,SNR=3.9								
LHI	**Lord Howe Isla**	**37.03**	**134**	P		**P**	**P**	**13 56 11.9**	**-0.9**
	baz=37,SNR=3.3								
NFK	**Norfolk Island**	**42.73**	**125**	P		P	P	13 56 56.1	-3.8
	baz=43,SNR=4.1								
MKAR	**Makanchi Array**	**68.05**	**328**	P		**P**	**P**	**14 00 00.6**	**0.0**
	0.5nm,0.4s,baz=131,slow=6.1,SNR=4.9								
ZALV	**Zalesovo Beam**	**71.61**	**335**	P		**P**	**P**	**14 00 21.6**	**-0.6**
	0.6nm,0.4s,baz=141,slow=5.9,SNR=3.2								
KURBB	**Kurchatov Arra**	**72.38**	**329**	P		**P**	**P**	**14 00 27.3**	**+0.5**
	1.3nm,0.5s,baz=131,slow=5.0,SNR=14								
BVAR	**Borovoye Array**	**77.91**	**328**	P		**P**	**P**	**14 00 59.0**	**+0.5**
	0.4nm,0.5s,baz=142,slow=7.3,SNR=3.9								

*IDC **29** 13:49:59.7±1.6, 35.°98N×65.°55E, h0km, mb3.9/4, mb1 3.9/9, mb1mx3.6/30, mbtmp3.8/9, ML3.7/5, MS2.6/1, Ms1 2.6/1, ms1mx2.2/42, Error ellipse: s-maj=23.8km s-min=19.8km az=176.0*
*NNC **29** 13:50:03.3±3.9, 36.°65N×65.°33E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=32.1km s-min=21.9km az=5.0*
*ISCJB **29** 13:50:04.2±1.2, 36.°48N±0.°09×65.°47E±0.°08, h33km, mb3.7/4, Error ellipse: s-maj=12.5km s-min=8.9km az=164.0*
ISC 29 13:50:04.8±1.3, 36.°38N±0.°10×65.°40E±0.°09, h35km, n14, σ2s30/21, mb3.7/4, 8C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**7.78**	**29**	⇑Pn		**Pn**	**Pn**	**13 51 55.9**	**+0.4**
	1.9nm,0.3s,baz=216,slow=13,SNR=45								
KK31				⇓Sn		**Sn**	**Sn**	**13 53 24.5**	**+2.2**
	2.9nm,0.3s,baz=217,slow=26,SNR=5.0								
KK31				⇓Lg		Lg	Lg	13 54 07.3	
	10nm,0.7s,baz=210,slow=30,SNR=4.8								
AAK	**Ala-Archa**	**9.40**	**46**	Pn		**Pn**	**Pn**	**13 52 17.6**	**-0.1**
	1.6nm,0.3s,baz=201,slow=8.6,SNR=6.1								
AAK				Sn		**Sn**	**Sn**	**13 54 05.9**	**+3.6**
	0.7nm,0.3s,baz=347,slow=19,SNR=5.7								
AAK				LR		LR	LR	13 57 04.1	
	comp=Z,34nm,19.0s,baz=263,slow=44								
TKM2	**Tokmak 2**	**10.22**	**47**	⇑Pn		**Pn**	**Pn**	**13 52 27.0**	**-2.0**
	2.7nm,0.4s								
TKM2				⇑Sn		**Sn**	**Sn**	**13 54 24.0**	**+1.6**
	3.8nm,0.8s								
AB31	**Akbulak array**	**13.47**	**344**	⇑Pn		**Pn**	**Pn**	**13 53 13.1**	**-0.1**
	0.4nm,0.4s,baz=157,slow=12,SNR=4.0								
AB31				⇓Sn		**Sn**	**Sn**	**13 55 40.4**	**-1.1**
	0.6nm,0.5s								
AKTO	**Aktyubinsk**	**15.02**	**342**	⇑Pn		**Pn**	**Pn**	**13 53 35.6**	**+1.2**
	1.8nm,0.7s								
AKTO				⇑Sn		**Sn**	**Sn**	**13 56 14.3**	**-5.2**
	2.0nm,0.8s								
AKTO	**Aktyubinsk**	**15.02**	**342**	Pn		**P**	**P**	**13 53 36.8**	**-2.5**
	0.3nm,0.3s,baz=157,slow=13,SNR=3.4								
AKTO				Sn		**Sn**	**Sn**	**13 56 20.7**	**+1.3**
	0.2nm,0.3s,baz=301,slow=18,SNR=3.4								
MKAR	**Makanchi Array**	**16.33**	**45**	Pn		**Pn**	**Pn**	**13 53 49.9**	**-1.4**
	0.1nm,0.3s,baz=238,slow=8.0,SNR=4.0								
VOSK	**Vostochnaya**	**16.81**	**12**	⇑Pn		**Pn**	**Pn**	**13 53 57.1**	**-0.1**
	1.7nm,0.9s								
VOSK				⇑Sn		**Sn**	**Sn**	**13 56 59.8**	**-2.9**
	0.9nm,0.7s								
BVAR	**Borovoye Array**	**17.01**	**10**	Pn		**P**	**P**	**13 54 00.6**	**-0.7**
	0.6nm,0.3s,baz=194,slow=11,SNR=5.3								
KURBB	**Kurchatov Arra**	**17.09**	**30**	Pn		**Pn**	**Pn**	**13 53 58.2**	**-2.5**
	0.0nm,0.3s,baz=219,slow=12,SNR=5.3								
ZALV	**Zalesovo Beam**	**22.15**	**31**	P		**P**	**P**	**13 54 58.0**	**+0.8**
	1.5nm,0.6s,baz=221,slow=11,SNR=9.0								
BRTR	**Keskin Array B**	**25.16**	**287**	P		**P**	**P**	**13 55 29.7**	**+2.9**
	1.1nm,0.7s,baz=96,slow=9.1,SNR=5.8								
CMAR	**Chiang Mai Arr**	**34.49**	**112**	P		**P**	**P**	**13 56 47.7**	**-1.8**
	1.1nm,0.8s,baz=303,slow=8.5,SNR=5.0								
ARCES	**ARCESS Array B**	**39.59**	**339**	P		**P**	**P**	**13 57 34.2**	**+1.9**
	1.8nm,0.7s,baz=121,slow=8.7,SNR=6.4								

*TAP **29

WTP					*e*S		Sn	13 55 33.6	-1.1
	baz=357								
TWK	**Hsinying**	**1.75**	**7**	*e*P			Pn	13 55 13.6	+0.1
	baz=4.0								
ELDTW	**Lidau**	**1.80**	**22**⇑	*i*P			Pn	13 55 15.1	+0.9
	baz=12								
ELDTW					*e*S		Sn	13 55 34.7	-1.3
	baz=12								
CHN8	**Yiju**	**1.82**	**358**	*e*P			Pn	13 55 15.0	+0.6
	baz=355								
CHN8					*e*S		Sn	13 55 35.7	-0.6
	baz=355								
WDGT	**Dungji**	**1.82**	**342**	*e*P			Pn	13 55 14.6	+0.2
	baz=347								
WDGT					*e*S		Sn	13 55 35.1	-1.4
	baz=347								
CHN4	**Tsaushan**	**1.85**	**9**⇑	*i*P			Pn	13 55 15.2	+0.4
	baz=7.0								
CHN4					*e*S		Sn	13 55 36.3	-0.8
	baz=7.0								
CHKT	**Chengkung**	**1.87**	**33**	P			Pn	13 55 16.3	+1.2
	baz=33								
CHKT					*e*S		Sn	13 55 38.0	+0.5
	baz=33								
CHY	**Chiayi**	**1.98**	**4**	*e*P			Pn	13 55 17.2	+0.7
	baz=2.0								
CHY					*e*S		Sn	13 55 38.7	-1.4
	baz=2.0								
ALS	**Alishan**	**2.04**	**14**⇑	*i*P			Pn	13 55 18.4	+0.7
	baz=3.0								
TWF1	**Yuli**	**2.06**	**27**	*i* P			Pn	13 55 18.6	+0.9
	baz=40								
TWF1					S		Sn	13 55 41.6	-0.5
	baz=40								
YUS	**Yu-Shan**	**2.06**	**18**⇑	*i*P			Pn	13 55 19.1	+1.0
	baz=17								
CHN5	**Tsauling**	**2.10**	**10**	*e*P			Pn	13 55 18.7	+0.3
	baz=359								
CHN5					*e*S		Sn	13 55 42.6	-0.8
	baz=359								
WSF	**Szhu**	**2.11**	**359**	*e*P			Pn	13 55 18.7	+0.4
	baz=356								
WSF					*e*S		Sn	13 55 42.1	-1.3
	baz=356								
PNG	**Penghu**	**2.15**	**342**	*e*P			Pn	13 55 19.2	+0.4
	baz=346								
PNG					*e*S		Sn	13 55 43.1	-1.1
	baz=346								
WGK	**Gukeng**	**2.18**	**7**	*e*P			Pn	13 55 19.5	+0.3
	baz=5.0								
WGK					*e*S		Sn	13 55 44.6	-0.4
	baz=5.0								
EHY	**Hungye**	**2.21**	**26**	*e*P			Pn	13 55 20.6	+1.0
	baz=26								
EHY					S		Sn	13 55 45.0	-0.8
	baz=26								
WNT	**Mingjian**	**2.38**	**9**	*e*P			Pn	13 55 21.7	-0.3
	baz=8.0								
SMLT	**Sun Moon Lake**	**2.43**	**14**	P			Pn	13 55 23.3	+0.6
	baz=4.0								
SMLT					*e*S		Sn	13 55 50.6	-0.7
	baz=4.0								
TYC	**Yuchr**	**2.44**	**13**	*e*P			Pn	13 55 23.8	+1.0
	baz=3.0								
TYC					*e*S		Sn	13 55 50.3	-1.1
	baz=3.0								
ESL	**Shilin**	**2.53**	**25**	*e*P			Pn	13 55 24.8	+0.8
	baz=17								
ESL					*e*S		Sn	13 55 52.7	-0.9
	baz=17								
TCU	**Taichung**	**2.65**	**8**	*e*P			Pn	13 55 26.1	+0.4
	baz=7.0								
WHF	**Hehuan Shan**	**2.77**	**19**	*e*P			Pn	13 55 29.2	+1.4
	baz=19								
TWD	**Chiawan**	**2.83**	**25**	*e*P			Pn	13 55 29.6	+1.4
	baz=25								
TWT	**Tachien**	**2.85**	**17**	*e*P			Pn	13 55 29.4	+0.8
	baz=7.0								
TWT					*e*S		Sn	13 56 00.5	-1.3
	baz=7.0								
TWQ1	**Liyutan**	**2.86**	**9**	*e*P			Pn	13 55 29.8	+1.3
	baz=8.0								
TWQ1					*e*S		Sn	13 56 00.7	-1.0
	baz=8.0								
NSY	**Sanyi**	**2.92**	**9**	*e*P			Pn	13 55 29.5	+0.1
	baz=8.0								
NSY					*e*S		Sn	13 56 02.8	-0.5
	baz=8.0								
NNS	**Nan Shan**	**3.08**	**19**⇓	*i*P			Pn	13 55 33.8	+2.1
	baz=9.0								
NSTT	**Nanjuang**	**3.17**	**12**	P			Pn	13 55 33.7	+0.9
	baz=11								
NSTT					*e*S		Sn	13 56 08.0	-1.5
	baz=11								
ENA	**Nanau**	**3.20**	**25**	*e*P			Pn	13 55 33.4	+0.2
	baz=25								
NSK	**Sanguang**	**3.30**	**17**	*e*P			Pn	13 55 36.1	+1.4
	baz=17								
NSK					*e*S		Sn	13 56 11.6	-1.1
	baz=17								
ENTT	**Nioudou**	**3.33**	**21**	*e*P			Pn	13 55 36.3	+1.3
	baz=10.0								
ENTT					*e*S		Sn	13 56 12.4	-1.0
	baz=10.0								
TWC	**Suao**	**3.40**	**25**	*e*P			Pn	13 55 36.9	+0.9
	baz=25								
TWE	**Neicheng**	**3.44**	**22**	*e*P			Pn	13 55 38.2	+1.7
	baz=32								
TWE					*e*S		Sn	13 56 15.7	-0.3
	baz=32								
TWB1	**Santiao Chiao**	**3.82**	**24**	*e*P			Pn	13 55 43.5	+1.8
	baz=33								
YOJ	**Yonaguni jima**	**3.87**	**40**	P			Pn	13 55 44.6	+2.2
YOJ					S		Sn	13 56 26.5	-0.1
HATJ	**Hateruma jima**	**4.13**	**52**	P			Pn	13 55 47.5	+1.6
HATJ					*e*S		Sn	13 56 31.5	-1.4
IRIF	**Iriomote-Funau**	**4.25**	**48**	P			Pn	13 55 49.1	+1.6
IRIF					S		Sn	13 56 34.9	-0.9
JKRS	**Kuro-shima**	**4.38**	**51**	P			Pn	13 55 50.2	+0.8
JKRS					*e*S		Sn	13 56 37.8	-1.4
JIJ	**Ishigaki jima**	**4.56**	**51**	P			Pn	13 55 53.1	+1.3
JIJ					S		Sn	13 56 40.9	-2.6
JTJ	**Tarama**	**5.13**	**52**	P			Pn	13 56 00.9	+1.3
JTJ					*e*S		Sn	13 56 55.2	-2.4

IDC ***29*** *13:56:06.0±1.3,9˚.81N×126˚.54E, h0km, mb4.0/9, mb1 1.4/9, mb1mx3.8/25, mbtmp4.0/9, Error ellipse: s-maj=117.8km s-min=16.5km az=71.0*
ISCJB ***29*** *13:56:10.0±0.6, 9˚.76N±0˚.06×126˚.76E±0˚.05, h43km, mb4.0/10, Error ellipse: s-maj=8.7km s-min=6.9km az=29.4*
MAN ***29*** *13:56:11, 9˚.67N×126˚.60E, h19km, mb4.7, ML3.6, MS3.5*
ISC 29 13:56:12.2±0.9,**9˚.68N**±0˚.06×**126˚.64E**±0˚.09,**h43km, n21,**
σ1§37/24, mb4.0/10,**1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.23**	**235**	*e*P	**Pn**	**13 56 32.0**	**-0.9**
BUTP				*e*S	**Sn**	**13 56 45.4**	**-3.1**
MSLP	**Maasin**	**1.81**	**284**	*e*P	**Pn**	**13 56 40.7**	**-0.2**
MSLP				*e*S	**Sn**	**13 57 05.0**	**+2.2**
CGP	**Cagayan de Oro**	**2.28**	**238**	*e*P	**Pn**	**13 56 47.0**	**-0.3**
CGP				*i* S	**Sn**	**13 57 15.2**	**+1.0**
BUKP	**Musuan**	**2.38**	**221**	*e*P	**Pn**	**13 56 50.5**	**+1.7**
OCLP	**Ormoc**	**2.42**	**304**	*e*P	**Pn**	**13 56 50.0**	**+0.7**
LLP	**Lapu-Lapu**	**2.71**	**284**	*e*P	**Pn**	**13 56 54.0**	**+0.8**
LLP				*e*S	**Sn**	**13 57 26.8**	**+2.0**
TBP	**Tagbilaran**	**2.74**	**270**	*e*P	**Pn**	**13 56 52.8**	**-0.9**
MATI	**Mati**	**2.75**	**188**	*e*P	**Pn**	**13 56 54.5**	**+0.7**
SNPH	**Sibulan**	**3.38**	**265**⇑	*i*P	Pn	13 56 51.1	-11
PAGZ	**Pagadian**	**3.70**	**241**	*e*P	**Pn**	**13 57 08.3**	**+1.3**
GUIM	**Jordan**	**4.10**	**284**	*e*P	**Pn**	**13 57 12.9**	**+0.6**
FITZ	**Fitzroy Crossi**	**27.63**	**182**	P	**P**	**14 01 56.9**	**+1.1**
	5.7nm,0.9s,baz=2.3,slow=9.4,SNR=8.7						
WRA	**Warramunga Arr**	**30.40**	**166**	P	**P**	**14 02 21.0**	**+0.4**
	0.2nm,0.4s,baz=342,slow=9.0,SNR=2.9						
ASAR	**Alice Springs**	**33.90**	**168**	P	**P**	**14 02 51.5**	**+0.3**
	0.3nm,0.3s,baz=340,slow=7.4,SNR=3.6						
STKA	**Stephens Creek**	**43.73**	**161**	P	**P**	**14 04 14.3**	**+0.9**
	0.6nm,0.4s,baz=342,slow=9.6,SNR=4.3						
MKAR	**Makanchi Array**	**52.71**	**323**	P	**P**	**14 05 21.5**	**-1.1**
	0.5nm,0.4s,baz=125,slow=7.9,SNR=7.1						
ZALV	**Zalesovo Beam**	**55.31**	**331**	P	**P**	**14 05 39.5**	**-1.9**
	0.6nm,0.3s,baz=134,slow=8.4,SNR=4.2						
KURBB	**Kurchatov Arra**	**56.76**	**325**	P	**P**	**14 05 50.0**	**-1.7**
	0.5nm,0.4s,baz=124,slow=6.7,SNR=5.6						
ARCES	**ARCESS Array B**	**84.87**	**340**	P	**P**	**14 08 42.4**	**+0.2**
	4.1nm,0.9s,baz=79,slow=6.5,SNR=10						
KAF	**Kangasniemi**	**86.31**	**332**	*e*p	**P**	**14 08 48.2**	**-1.2**
	1.7nm,0.4s						
FINES	**FINESS Array B**	**86.58**	**332**	P	**P**	**14 08 50.1**	**-0.6**
	1.2nm,0.4s,baz=70,slow=4.4,SNR=20						

IDC ***29*** *14:03:50.5±0.9, 9˚.77N×126˚.43E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/24, mbtmp3.8/7, Error ellipse: s-maj=68.8km s-min=17.6km az=69.0*
ISCJB ***29*** *14:03:55.0±0.7, 9˚.75N±0˚.06×126˚.59E±0˚.05, h43km, mb3.9/8, Error ellipse: s-maj=8.0km s-min=7.7km az=164.9*
MAN ***29*** *14:03:55, 9˚.75N×126˚.53E, h22km, mb4.4, ML3.2, MS3.1*
ISC 29 14:03:56.6±0.9,**9.73N**±0˚.06×**126˚.53E**±0˚.09,**h43km, n18,**
σ1§09/20, mb3.8/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.18**	**230**	*e*P	**Pn**	**14 04 15.7**	**-1.0**
BUTP				*e*S	**Sn**	**14 04 30.3**	**-1.2**
MSLP	**Maasin**	**1.70**	**284**	*e*P	**Pn**	**14 04 24.9**	**+1.1**
MSLP				*e*S	**Sn**	**14 04 42.5**	**-1.8**
CGP	**Cagayan de Oro**	**2.21**	**235**	*e*P	**Pn**	**14 04 30.8**	**-0.1**
CGP				*i* S	**Sn**	**14 04 58.8**	**+1.7**
OCLP	**Ormoc**	**2.30**	**305**	*e*P	**Pn**	**14 04 33.6**	**+1.5**
BUKP	**Musuan**	**2.34**	**218**	*e*P	**Pn**	**14 04 34.4**	**+1.6**
TBP	**Tagbilaran**	**2.63**	**269**	*e*P	**Pn**	**14 04 37.4**	**+0.7**
MATI	**Mati**	**2.78**	**186**	*e*P	**Pn**	**14 04 38.7**	**0.0**
PAGZ	**Pagadian**	**3.63**	**239**	*e*P	**Pn**	**14 04 52.1**	**+1.7**
GUIM	**Jordan**	**3.98**	**283**	*e*P	**Pn**	**14 04 55.1**	**-0.1**
IPIL	**Ipil**	**4.37**	**244**	*e*P	Pn	14 04 56.7	-3.8
FITZ	**Fitzroy Crossi**	**27.67**	**182**	P	**P**	**14 09 40.7**	**0.0**
	1.8nm,0.5s,baz=353,slow=11,SNR=7.6						
PMG	**Port Moresby**	**27.98**	**132**	P	**P**	**14 09 44.0**	**+0.4**
	35nm,1.1s,baz=249,slow=5.6,SNR=3.1						
WRA	**Warramunga Arr**	**30.47**	**165**	P	**P**	**14 10 06.3**	**+0.7**
	0.7nm,0.9s,baz=347,slow=10.0,SNR=3.0						
ASAR	**Alice Springs**	**33.97**	**168**	P	**P**	**14 10 35.9**	**-0.3**
	0.2nm,0.4s,baz=351,slow=7.0,SNR=4.8						
SONM	**Songino Array**	**41.61**	**340**	P	**P**	**14 11 40.8**	**+0.1**
	0.2nm,0.4s,baz=173,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**52.61**	**323**	P	**P**	**14 13 05.5**	**-0.8**
	0.3nm,0.4s,baz=129,slow=7.6,SNR=3.7						
ARCES	**ARCESS Array B**	**84.79**	**340**	P	**P**	**14 16 25.8**	**-0.3**
	4.6nm,1.0s,baz=72,slow=7.8,SNR=5.1						
FINES	**FINESS Array B**	**86.48**	**332**	P	**P**	**14 16 34.1**	**-0.6**
	0.8nm,0.4s,baz=66,slow=4.9,SNR=12						

ISCJB ***29*** *14:16:21.9±0.6, 38˚.12N±0˚.02×20˚.56E±0˚.03, h5km±3km, Error ellipse: s-maj=4.8km s-min=3.1km az=145.0*
ATH ***29*** *14:16:21.3, 38˚.06N×20˚.53E, h17km±1km, MD3.5/30*
CSEM ***29*** *14:16:22.3±0.2, 38˚.11N×20˚.60E, h2km, ML3.3, Error ellipse: s-maj=5.4km s-min=3.2km az=49.0*
THE ***29*** *14:16:23.7, 38˚.14N×20˚.68E, h2km±2km, ML3.1/5, Error ellipse: s-maj=2.0km s-min=0.8km az=108.0*
ISC 29 14:16:22.8±0.8,**38˚.13N**±0˚.02×**20˚.58E**±0˚.03,**h15km±4km,**
n132, σ1§09/191, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.05**	**9**	P	**Pg**	**14 16 25.5**	**-0.1**
VLS				S	**Sg**	**14 16 27.3**	**-0.2**
VLS	**Valsamata**	**0.05**	**9**	*e*PB	**Pg**	**14 16 25.8**	**+0.2**
VLS				*e*SB	**Sg**	**14 16 28.6**	**+1.1**
VLS	**Valsamata**	**0.05**	**9**	P	**Pg**	**14 16 25.5**	**-0.1**
VLS	**Valsamata**	**0.05**	**9**	*e*Pb	**Pg**	**14 16 25.8**	**+0.2**
VLS				S	**Sg**	**14 16 27.3**	**-0.2**
VLS				*e*Sb	**Sg**	**14 16 28.6**	**+1.1**
KFL	**Anninata**	**0.17**	**96**	P	**Pg**	**14 16 26.3**	**-0.6**
KFL				S	**Sg**	**14 16 27.2**	**-2.4**
KFL	**Anninata**	**0.17**	**96**	P	**Pg**	**14 16 26.3**	**-0.6**
KFL				S	**Sg**	**14 16 29.0**	**-0.6**
AXS	**Araxos**	**0.63**	**84**	P	**Pg**	**14 16 34.0**	**-1.1**
AXS				S	**Sg**	**14 16 42.3**	**-1.2**
AXS	**Araxos**	**0.63**	**84**	P	**Pg**	**14 16 34.0**	**-1.1**
AXS				S	**Sg**	**14 16 42.3**	**-1.2**
LKD2	**Lefkada island**	**0.66**	**5**	P	**Pg**	**14 16 35.2**	**-0.5**
LKD2				S	**Sb**	**14 16 45.8**	**+0.7**
LKD2	**Lefkada island**	**0.66**	**5**	*e*PN	**Pg**	**14 16 35.3**	**-0.5**
LKD2				*e*SN	**Sb**	**14 16 46.0**	**+0.8**
LKD2	**Lefkada island**	**0.66**	**5**	*e*Pn	**Pg**	**14 16 35.3**	**-0.5**
LKD2				S	**Sb**	**14 16 45.8**	**+0.7**
RLS	**Riolos of Patr**	**0.70**	**95**	P	**Pg**	**14 16 35.3**	**-1.2**
RLS				S	**Sg**	**14 16 44.2**	**-1.6**
RLS	**Riolos of Patr**	**0.70**	**95**	*e*PN	**Pg**	**14 16 35.3**	**-1.2**
RLS				*e*SN	**Sg**	**14 16 45.8**	**0.0**
RLS	**Riolos of Patr**	**0.70**	**95**	P	**Pg**	**14 16 35.3**	**-1.2**
RLS				S	**Sg**	**14 16 45.2**	**-0.6**
SFD	**Strofades**	**0.94**	**158**	P	**Pg**	**14 16 40.8**	**-0.2**
SFD				S	**Sn**	**14 16 54.3**	**-0.4**
SFD	**Strofades**	**0.94**	**158**	P	**Pb**	**14 16 40.1**	**-0.7**
SFD				S	**Sn**	**14 16 54.2**	**-0.4**
AMT	**Artemida-Makis**	**1.07**	**123**	P	**Pg**	**14 16 44.0**	**+0.5**
AMT				S	**Sn**	**14 16 57.9**	**-0.1**
AMT	**Artemida-Makis**	**1.07**	**123**	*e*PN	**Pb**	**14 16 42.5**	**-0.6**
AMT	**Artemida-Makis**	**1.07**	**123**	*e*Pn	**Pb**	**14 16 42.5**	**-0.6**
AMT	**Artemida-Makis**	**1.07**	**123**	P	**Pg**	**14 16 43.5**	**0.0**
AMT				S	**Sg**	**14 16 57.7**	**+0.2**
EFP	**Efpalio**	**1.09**	**74**	P	**Pb**	**14 16 42.1**	**-1.2**
EFP				S	**Sb**	**14 16 57.3**	**+0.1**
EFP	**Efpalio**	**1.09**	**74**	*e*PB	**Pb**	**14 16 42.1**	**-1.2**
EFP				*e*SN	**Sn**	**14 16 59.3**	**+1.1**
EFP	**Efpalio**	**1.09**	**74**	P	**Pb**	**14 16 42.1**	**-1.2**
EFP				S	**Sb**	**14 16 57.3**	**+0.1**
EFP				*e*Sn	**Sn**	**14 16 59.3**	**+1.1**
LAKA	**Lakka**	**1.11**	**84**	P	**Pb**	**14 16 42.3**	**-1.4**
LAKA				S	**Sb**	**14 16 57.7**	**-0.2**
LAKA	**Lakka**	**1.11**	**84**	*e*PB	**Pb**	**14 16 42.4**	**-1.3**
LAKA				*e*SN	**Sn**	**14 16 59.5**	**+0.7**
LAKA	**Lakka**	**1.11**	**84**	*e*Pb	**Pb**	**14 16 42.4**	**-1.3**
LAKA				S	**Sb**	**14 16 57.7**	**-0.2**
LAKA				*e*Sn	**Sn**	**14 16 59.5**	**+0.7**
TRIZ	**Trizonia**	**1.20**	**78**	P	**Pn**	**14 16 43.9**	**-1.1**
TRIZ				S	**Sg**	**14 17 01.4**	**-0.1**
TRIZ	**Trizonia**	**1.20**	**78**	*e*PB	**Pn**	**14 16 43.8**	**-1.2**
TRIZ				*e*SN	**Sg**	**14 17 02.8**	**+1.3**
TRIZ	**Trizonia**	**1.20**	**78**	P	**Pn**	**14 16 43.9**	**-1.1**
TRIZ				S	**Sn**	**14 17 01.3**	**+0.3**
TRIZ				*e*Sn	**Sg**	**14 17 02.8**	**+1.3**
KLV	**Kalavryta, Ach**	**1.24**	**93**	P	**Pn**	**14 16 44.5**	**-1.2**
KLV				S	**Sg**	**14 17 03.0**	**+0.1**
KLV	**Kalavryta, Ach**	**1.24**	**93**	*e*PN	**Pn**	**14 16 44.8**	**-0.9**
KLV				*e*SN	**Sg**	**14 17 03.2**	**+0.3**
KLV	**Kalavryta, Ach**	**1.24**	**93**	P	**Pn**	**14 16 44.5**	**-1.2**
KLV	**Kalavryta, Ach**	**1.24**	**93**	*e*Pn	**Pn**	**14 16 44.8**	**-0.9**
KLV				S	**Sb**	**14 17 02.1**	**+0.3**
KLV				*e*Sn	**Sg**	**14 17 03.2**	**+0.3**
EVR	**Evrytania**	**1.25**	**50**	P	**Pn**	**14 16 45.9**	**+0.1**
EVR	**Evrytania**	**1.25**	**50**	*e*PN	**Pn**	**14 16 45.4**	**-0.4**
EVR	**Evrytania**	**1.25**	**50**	*e*Pn	**Pn**	**14 16 45.4**	**-0.4**
EVR	**Evrytania**	**1.25**	**50**	P	**Pn**	**14 16 45.9**	**+0.1**
KALE	**Kalithea**	**1.26**	**77**	P	**Pn**	**14 16 44.7**	**-1.1**
KALE				S	**Sb**	**14 17 02.5**	**+0.3**
KALE	**Kalithea**	**1.26**	**77**	*e*PB	**Pn**	**14 16 44.9**	**-1.0**
KALE				*e*SN	**Sg**	**14 17 05.0**	**+1.6**
KALE	**Kalithea**	**1.26**	**77**	P	**Pn**	**14 16 44.8**	**-1.1**
KALE				S	**Sb**	**14 17 02.5**	**+0.3**
KALE				*e*Sn	**Sg**	**14 17 05.0**	**+1.6**
GUR	**Goura**	**1.41**	**97**	P	**Pn**	**14 16 47.3**	**-0.7**
GUR				S	**Sb**	**14 17 07.1**	**+0.6**
GUR	**Goura**	**1.41**	**97**	*e*PB	**Pn**	**14 16 47.3**	**-0.7**
GUR	**Goura**	**1.41**	**97**	P	**Pn**	**14 16 47.3**	**-0.7**
GUR				S	**Sb**	**14 17 07.1**	**+0.6**
IGT	**Igoumenitsa**	**1.42**	**352**	P	**Pb**	**14 16 49.0**	**+0.1**
IGT				S	**Sg**	**14 17 10.3**	**+1.8**
IGT	**Igoumenitsa**	**1.42**	**352**	P	**Pb**	**14 16 49.0**	**+0.1**
IGT				S	**Sg**	**14 17 10.3**	**+1.8**
ITM	**Ithomi**	**1.43**	**131**	P	**Pn**	**14 16 47.9**	**-0.3**
ITM				S	**Sg**	**14 17 10.3**	**+1.5**
ITM	**Ithomi**	**1.43**	**131**	*e*PN	**Pb**	**14 16 48.8**	**-0.3**
ITM	**Ithomi**	**1.43**	**131**	P	**Pn**	**14 16 48.3**	**+0.1**
ITM	**Ithomi**	**1.43**	**131**	*e*Pn	**Pb**	**14 16 48.8**	**-0.3**
ITM				S	**Sg**	**14 17 08.3**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.50**	**54**	P	**Pb**	**14 16 50.8**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.50**	**54**	P	**Pb**	**14 16 50.7**	**+0.3**
PYL	**PYLOS**	**1.54**	**143**	P	**Pn**	**14 16 48.9**	**-0.8**
PYL	**PYLOS**	**1.54**	**143**	*e*PN	**Pn**	**14 16 48.9**	**-0.8**
PYL	**PYLOS**	**1.54**	**143**	P	**Pn**	**14 16 48.9**	**-0.8**
JAN	**Janina**	**1.54**	**8**	P	**Pg**	**14 16 52.7**	**+0.3**
JAN	**Janina**	**1.54**	**8**	*e*PN	**Pb**	**14 16 51.3**	**+0.2**
JAN	**Janina**	**1.54**	**8**	*e*Pn	**Pb**	**14 16 51.3**	**+0.2**
JAN	**Janina**	**1.54**	**8**	P	**Pg**	**14 16 52.7**	**+0.3**
DSF	**Desfina**	**1.56**	**79**	P	**Pn**	**14 16 49.8**	**-0.2**
DSF	**Desfina**	**1.56**	**79**	P	**Pn**	**14 16 49.8**	**-0.2**
VLX	**Vlachokerasia**	**1.61**	**117**	P	**Pg**	**14 16 54.0**	**+0.2**
VLX				S	**Sg**	**14 17 16.5**	**+1.7**
VLX	**Vlachokerasia**	**1.61**	**117**	*e*PN	**Pb**	**14 16 52.1**	**-0.2**
VLX	**Vlachokerasia**	**1.61**	**117**	*e*Pn	**Pb**	**14 16 52.1**	**-0.2**
VLX	**Vlachokerasia**	**1.61**	**117**	P	**Pg**	**14 16 54.0**	**+0.2**
VLX				S	**Sg**	**14 17 16.5**	**+1.7**
AGG	**Agios Georgios**	**1.64**	**56**	P	**Pb**	**14 16 52.1**	**-0.6**
AGG	**Agios Georgios**	**1.64**	**56**	*e*PN	**Pb**	**14 16 53.3**	**+0.6**
AGG	**Agios Georgios**	**1.64**	**56**	P	**Pb**	**14 16 52.1**	**-0.6**
AGG	**Agios Georgios**	**1.64**	**56**	*e*Pn	**Pb**	**14 16 53.3**	**+0.6**
THAL	**Thalero**	**1.65**	**93**	P	**Pn**	**14 16 51.6**	**+0.4**
THAL	**Thalero**	**1.65**	**93**	P	**Pn**	**14 16 51.6**	**+0.4**
KEK	**Kerkira**	**1.70**	**339**	P	**Pn**	**14 16 52.7**	**+0.8**
KEK	**Kerkira**	**1.70**	**339**	*e*PN	**Pn**	**14 16 52.7**	**+0.8**
KEK	**Kerkira**	**1.70**	**339**	P	**Pn**	**14 16 52.7**	**+0.8**
AXAR	**Agios Charalam**	**1.75**	**68**	P	**Pb**	**14 16 55.0**	**+0.3**
AXAR	**Agios Charalam**	**1.75**	**68**	P	**Pb**	**14 16 55.0**	**+0.3**
SRN	**Sarande**	**1.81**	**346**	P	**Pn**	**14 16 54.4**	**+1.0**
SRN	**Sarande**	**1.81**	**346**	P	**Pn**	**14 16 54.4**	**+1.0**
THL	**Klokotos Trika**	**1.82**	**38**	P	**Pb**	**14 16 55.7**	**-0.1**
THL	**Klokotos Trika**	**1.82**	**38**	*e*PN	**Pb**	**14 16 55.9**	**+0.1**
THL				*e*SN	**Sg**	**14 17 20.7**	**-0.7**
THL	**Klokotos Trika**	**1.82**	**38**	P	**Pb**	**14 16 55.7**	**-0.1**
THL				*e*Sn	**Sg**	**14 17 20.7**	**-0.7**
LTK	**Loutraki**	**1.89**	**92**	P	**Pn**	**14 16 55.7**	**+1.2**
LTK	**Loutraki**	**1.89**	**92**	*e*PN	**Pn**	**14 16 55.3**	**+0.8**
LTK	**Loutraki**	**1.89**	**92**	*e*Pn	**Pn**	**14 16 55.3**	**+0.8**
LTK	**Loutraki**	**1.89**	**92**	P	**Pn**	**14 16 55.7**	**+1.2**
DYR	**Agios Nikonas**	**1.95**	**134**	P	**Pg**	**14 16 59.4**	**-0.8**
DYR				S	**Sb**	**14 17 23.4**	**+1.2**
DYR	**Agios Nikonas**	**1.95**	**134**	*e*PN	**Pn**	**14 16 56.4**	**+1.0**
DYR	**Agios Nikonas**	**1.95**	**134**	*e*Pn	**Pn**	**14 16 56.4**	**+1.0**
DYR	**Agios Nikonas**	**1.95**	**134**	P	**Pg**	**14 16 59.4**	**-0.8**
DYR				S	**Sb**	**14 17 23.4**	**+1.2**
LKR	**Lokris**	**1.97**	**74**	*e*PN	**Pn**	**14 16 57.0**	**+1.4**
LKR	**Lokris**	**1.97**	**74**	*e*Pn	**Pn**	**14 16 57.0**	**+1.4**
DIDY	**Didyma**	**2.18**	**107**	P	**Pb**	**14 17 00.8**	**-1.2**
DIDY				S	**Sb**	**14 17 30.0**	**+1.0**
DIDY	**Didyma**	**2.18**	**107**	P	**Pb**	**14 17 00.8**	**-1.2**
DIDY				S	**Sb**	**14 17 30.0**	**+1.0**
DID	**Didima**	**2.19**	**106**	P	**Pb**	**14 17 02.3**	**+0.1**
DID	**Didima**	**2.19**	**106**	*e*PN	**Pn**	**14 17 00.1**	**+1.4**
DID	**Didima**	**2.19**	**106**	*e*Pn	**Pn**	**14 17 00.1**	**+1.4**
DID	**Didima**	**2.19**	**106**	P	**Pb**	**14 17 02.3**	**+0.1**
NEST	**Nestorio**	**2.31**	**9**	P	**Pb**	**14 17 03.1**	**-1.2**
NEST	**Nestorio**	**2.31**	**9**	P	**Pb**	**14 17 03.1**	**-1.2**
VLI	**Veliai**	**2.34**	**126**	*e*PN	**Pn**	**14 17 01.5**	**+0.7**
VLI	**Veliai**	**2.34**	**126**	*e*Pn	**Pn**	**14 17 01.5**	**+0.7**
KZN	**Kozani**	**2.37**	**23**	*e*PN	**Pb**	**14 17 03.3**	**-1.8**
KZN				*e*SN	**Sb**	**14 17 33.2**	**-1.0**
KZN	**Kozani**	**2.37**	**23**	*e*Pn	**Pb**	**14 17 03.3**	**-1.8**
KZN				*e*Sn	**Sb**	**14 17 33.2**	**-1.0**
NEO	**Neokhori**	**2.38**	**60**	P	**Pn**	**14 17 02.9**	**+1.6**
**NEO

NMHZ	**Naumai**	**1.99 239**	PN	Pn	14 29 20.7	+0.2
BKZ	**Black Stump Fm**	**2.23 241**	⇓PN	Pn	14 29 23.6	-0.3
BKZ			AML	AML	14 29 51.4	
MCHZ	**McNeill Hill**	**2.24 233**	PN	Pn	14 29 23.6	-0.4
KAHZ	**Kahuranaki**	**2.37 224**	PN	Pn	14 29 24.7	-1.0
BHHZ	**Black Hill Sta**	**2.68 238**	PN	Pn	14 29 29.5	-0.6
KUZ	**Kuaotunu**	**2.94 296**	PN	Pn	14 29 32.9	-0.6
TSZ	**Takapari Road**	**3.07 229**	PN	Pn	14 29 33.0	-2.3
MTW	**Mount Morrison**	**4.08 220**	PN	Pn	14 29 45.4	-3.8

BKK ***29*** *14:51:52.7±0.6,23˚N±6˚×14˚4E±˚,h10km,M5.5/37, mB5.9/23,mb5.6/37,Mw(mB)5.5/23*

NIED ***29*** *14:52:00,23˚10N×143˚80E,h83km,Mw5.5 Best double couple: M₀1.77000×10¹⁷ NP1:ϕs179.00000°,δ56.00000°, λ96.00000°. NP2:ϕs348.00000°,δ35.00000°,λ81.00000°.*

MOS ***29*** *14:52:03.1±1.0,22˚60N×143˚21E,h106km,mb5.4/82, MS4.5/12,Error ellipse: s-maj=7.3km s-min=4.4km az=104.5*

ISCJB ***29*** *14:52:05.1±0.5,22˚63N±0˚02×143˚26E±0˚02, h121km±4km,mb5.3/309,Error ellipse: s-maj=3.5km s-min=2.9km az=32.5*

IDC ***29*** *14:52:05.2-0.4,22˚54N×143˚27E,h116km±3km,mb4.9/48, mb1 5.0/50,mb1mx5.0/52,mbtmp4.9/50,MS4.3/25, Ms1 4.3/25,ms1mx4.1/42,Error ellipse: s-maj=9.0km s-min=6.7km az=93.0*

BJI ***29*** *14:52:06.6,22˚66N×143˚37E,h141km,mB5.2/34, mb5.3/61*

JMA ***29*** *14:52:08.9±0.2,23˚05N×143˚80E,h168km±2km,M5.8*

NEIC ***29*** *14:52:08.3±0.1,22˚57N×143˚26E,mb5.2/147,MW5.4, MW5.4(NIED),Error ellipse: s-maj=3.6km s-min=2.9km az=148.0,Moment Tensor Solution. s31 Moment tensor: Scale 10¹⁷Nm; Mrr1.69; Mθθ-1.11; Mϕϕ-0.57; Mrθ-0.69; Mθϕ-0.41; Mϕr-0.07; Best double couple: M₀1.70000×10¹⁷ NP1:ϕs56.00000°,δ34.00000°,λ79.00000°. NP2: ϕs250.00000°,δ57.00000°,λ97.00000°. Principal axes: T 1.8500, Plg76.0000°, Azm182.0000°; N -0.3800, Plg6.0000°, Azm65.0000°; P -1.4700, Plg11.0000°, Azm334.0000°;*

GCMT ***29*** *14:52:09.6±0.1,22˚70N×143˚24E,h128km,MW5.5, Moment Tensor Solution. s98,c161; s8,c9; Moment tensor: Scale 10¹⁷Nm; Mrr1.59±.02; Mθθ-1.13±.03; Mϕϕ-0.46±.03; Mrθ-0.78±.02; Mθϕ-1.05±.02; Mϕr0.15±.02; Best double couple: M₀1.90000×10¹⁷ NP1:ϕs34.00000°, δ40.00000°,λ59.00000°. NP2:ϕs253.00000°,δ57.00000°, λ113.00000°. Principal axes: T 1.8800, Plg68.0000°, Azm213.0000°; N 0.1000, Plg19.0000°, Azm59.0000°; P -1.9800, Plg9.0000°, Azm326.0000°; Data Used: II IU IC G CN. Surface waves: sta=107, comp=216, per= 50.*

DJA ***29*** *14:52:11.9±1.3,23˚N±6˚×14˚3E±˚,h170km±11km,M5.4/68, mb5.4/68,mB5.8/44,Mw(mB)5.4/44,Mwp6.6/2*

ISC 29 14:52:07.5±0.2,22˚66N±0˚03×143˚31E±0˚03,h137km±1km, h136km:pP-P,n1122,σ1§57/1322,mb5.2/315,255C-218D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**4.09**	**346**	P	**Pn**	**14 53 08.5**	**0.0**
JHHJ				S	**Sn**	**14 53 54.0**	**-2.0**
CBIJ	**Chichi jima**	**4.54**	**347**	⇓P	**Pn**	**14 53 13.8**	**-0.7**
CBIJ				S	**Sn**	**14 54 04.7**	**-1.9**
GUMO	**Guam**	**9.14**	**170**	*e*P	**Pn**	**14 54 18.2**	**+1.9**
	2μm,1.3s						
GUMO	**Guam**	**9.14**	**170**	LR	LR	14 56 46.6	
	comp=Z,8μm,19.9s,baz=135,slow=31						
JHJ2	**Mitsune**	**10.86**	**344**	P	**Pn**	**14 54 37.2**	**-1.9**
JHJ2				S	**Sn**	**14 56 36.2**	**-2.8**
JMZ	**Minamidaito 2**	**11.47**	**288**	P	**Pn**	**14 54 47.2**	**0.0**
JKO	**Kozu shima**	**12.06**	**343**	P	**Pn**	**14 54 53.8**	**-1.1**
JKO				*e*S	**Sn**	**14 57 03.1**	**-4.7**
BSO3	**Boso 3**	**12.35**	**349**	P	**Pn**	**14 54 56.2**	**-2.2**
BSO3				*e*S	**Sn**	**14 57 12.6**	**-1.8**
BSO4	**Boso 4**	**12.56**	**349**	P	Pn	14 54 57.0	-4.3
BSO4				S	**Sn**	**14 57 14.2**	**-5.6**
JWZ	**Kozaga**	**12.73**	**330**	P	**Pn**	**14 55 03.3**	**-0.4**
JKN2	**Miekihoku**	**13.09**	**333**	P	**Pn**	**14 55 07.1**	**-1.1**
HMMJ	**Hamamatsu 2**	**13.10**	**339**	P	**Pn**	**14 55 07.1**	**-1.3**
JHU	**Hanno**	**13.61**	**346**	P	**Pn**	**14 55 12.2**	**-2.7**
JAM	**Amami Oshima**	**13.63**	**298**	P	**P**	**14 55 18.4**	**-1.0**
JAO	**Obara**	**13.63**	**339**	P	**Pn**	**14 55 14.0**	**-1.2**
JTO	**Tosashimizu**	**13.77**	**320**	P	**Pn**	**14 55 17.9**	**+0.9**
JYT	**Yasato**	**13.79**	**349**	P	**Pn**	**14 55 15.8**	**-1.4**
JYT				S	Sn	14 57 41.6	-8.0
JMN	**Monobe**	**13.80**	**325**	P	**Pn**	**14 55 18.3**	**+0.9**
JAJ2	**Tsuna**	**13.85**	**330**	P	**Pn**	**14 55 18.3**	**+0.3**
JHO	**Hitachi**	**14.11**	**351**	P	**Pn**	**14 55 19.3**	**-2.0**
JHO				S	Sn	14 57 51.0	-6.3
JAG	**Ashikaga**	**14.12**	**347**	P	Pn	14 55 18.1	-3.3
JAG				*e*S	Sn	14 57 48.0	-10
JOW	**Kunigami**	**14.28**	**290**	*e*P	**Pn**	**14 55 24.5**	**+1.1**
JOW	**Kunigami**	**14.28**	**290**	P	**Pn**	**14 55 21.4**	**-2.1**
	baz=135,slow=15,SNR=0.7						
MJAR	**Matsushiro Arr**	**14.53**	**343**	P	**Pn**	**14 55 23.5**	**-3.1**
MJAR				S	Sn	14 58 00.5	-6.8
MJAR	**Matsushiro Arr**	**14.53**	**343**	P	**Pn**	**14 55 23.5**	**-3.1**
	6.8nm,0.3s,baz=178,slow=13,SNR=78						
MJAR				S	Sn	14 58 00.5	-6.8
	2.0nm,0.3s,baz=164,slow=19,SNR=4.3						
MAJO	**Matsushiro**	**14.53**	**343**	*e*P	**Pn**	**14 55 23.8**	**-2.8**
MAJO				pmax	pmax		
	comp=Z,246nm,0.8s						
MAJO	**Matsushiro**	**14.53**	**343**	*e*P	**Pn**	**14 55 23.8**	**-2.8**
	comp=Z,246nm,0.8s						
MAT	**Matsushiro**	**14.53**	**343**	P	Pn	14 55 23.1	-3.5
MAT				S	Sn	14 58 00.8	-6.6
ONAJ	**Iwakimizuishiy**	**14.56**	**352**	P	**Pn**	**14 55 25.2**	**-1.8**
ONAJ				S	Sn	14 57 56.8	-11
JNU	**Nakatsue**	**15.13**	**316**	*e*P	**P**	**14 55 36.4**	**+0.2**
JNU	**Nakatsue**	**15.13**	**316**	P	**Pn**	**14 55 35.1**	**+0.9**
	comp=Z,3.5nm,0.3s,baz=122,slow=6.8,SNR=52						
JNU				LR	LR	15 01 06.1	
	comp=Z,966nm,18.5s,baz=151,slow=36						
YOJ	**Yonaguni jima**	**18.69**	**280**	P	**Pn**	**14 56 17.1**	**-0.2**
ERM	**Erimo**	**19.30**	**360**	Pn	**Pn**	**14 56 25.2**	**+0.9**
	comp=Z,2μm,0.8s,SNR=16						
ERM	**Erimo**	**19.30**	**360**	*c i*P	**Pn**	**14 56 25.0**	**+0.8**
ERM				pmax	pmax		
	comp=Z,135nm,0.9s						
ERM	**Erimo**	**19.30**	**360**	*e*P	**P**	**14 56 22.9**	**+1.1**
	comp=Z,299nm,0.8s						
KSRS	**Korea Array**	**19.83**	**322**	P	**P**	**14 56 27.4**	**-0.2**
	comp=Z,1.9nm,0.3s,baz=130,slow=11,SNR=156						
KSRS				S	**Sn**	**15 00 11.2**	**-3.2**
	baz=153,slow=15,SNR=14						
KSRS				PcP	**PcP**	**15 00 40.0**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=281,slow=2.2,SNR=4.1						
KSRS				LR	LR	15 03 38.1	
	comp=Z,2μm,20.1s,baz=141,slow=35						
KSRS				ScP	**ScP**	**15 04 03.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=146,slow=2.6,SNR=12						
KSAR	**Wonju Array Be**	**19.84**	**321**	P	**P**	**14 56 27.4**	**-0.3**
KSAR				S	**Sn**	**15 00 11.2**	**-3.6**
KSAR				PcP	**PcP**	**15 00 40.0**	**+0.5**
KSAR				ScP	**ScP**	**15 04 03.1**	**0.0**
NACB	**Ninganchiao**	**19.98**	**279**	*e*P	**P**	**14 56 30.4**	**+1.0**
	comp=Z,60nm,0.5s						
TATO	**Taipei**	**20.09**	**281**	*e*P	Pn	14 56 33.2	-0.5
	comp=Z,64nm,0.6s						
YHNB	**Yeheng**	**20.19**	**280**	*e*P	**P**	**14 56 31.9**	**+0.3**
	comp=Z,150nm,0.7s						
YULB	**Yu-li**	**20.27**	**276**	*e*P	**P**	**14 56 33.7**	**+1.3**
	comp=Z,61nm,0.6s						
TWG	**Pinlang**	**20.51**	**275**	*e*P	**P**	**14 56 36.0**	**+1.0**
	comp=Z,243nm,0.8s						
SSLB	**Suanglung**	**20.57**	**278**	*e*P	Pn	14 56 37.7	-1.7
	comp=Z,214nm,0.8s						
INCN	**Inchon**	**20.61**	**320**	P	**P**	**14 56 32.7**	**-3.2**
	SNR=7.6						
INCN	**Inchon**	**20.61**	**320**	*e*P	**P**	**14 56 34.7**	**-1.2**
	comp=Z,220nm,0.7s						
TPUB	**Ta-pu**	**20.89**	**276**	*e*P	**P**	**14 56 40.5**	**+1.5**
	comp=Z,75nm,0.8s						
ASAJ	**Asahikawa**	**21.41**	**359**	*e*P	**P**	**14 56 46.7**	**+2.3**
ASAJ	**Asahikawa**	**21.41**	**359**	P	**P**	**14 56 45.8**	**+1.4**
	comp=Z,28nm,0.7s,baz=223,slow=14,SNR=25						
SSE	**Sheshan**	**21.42**	**298**	P	**P**	**14 56 45.0**	**+0.3**
SSE				S	**S**	**15 00 28.5**	**-5.7**
SSE				pmax	pmax		
	comp=Z,250nm,0.9s						
SSE				pmax	pmax		
	comp=Z,250nm,3.6s						
SSE				LR	LR		
	comp=N,170nm,13.6s						
SSE				LR	LR		
	comp=E,690nm,13.6s						
SSE				LR	LR		
	comp=Z,580nm,15.8s						
YUK	**Yuzh-Kuril'sk**	**21.43**	**5**	*d i*P	**P**	**14 56 41.1**	**-3.5**
YUK				*i* *PP	pP	14 57 21.3	+12
YUK				*i* S	**S**	**15 00 32.2**	**-1.8**
YUK				*i* *SS	**sS**	**15 01 12.8**	**-3.2**
YUK				pmax	pmax		
	comp=Z,451nm,1.0s						
YUK				pmax	pmax		
	comp=N,240nm,1.0s						
YUK				pmax	pmax		
	comp=E,146nm,1.0s						
YUK				pmax	pmax		
	comp=Z,1μm,1.7s						
YUK				MLR	MLR		
	comp=Z,534nm,19.0s						
VLA	**Vladivostok**	**22.50**	**338**	*d i*P	**P**	**14 56 56.6**	**+1.0**
VLA				*i* S	**S**	**15 00 55.5**	**+3.1**
VLA				pmax	pmax		
	comp=Z,2μm,1.4s						
QZH	**Quanzhou**	**22.72**	**281**	⇑ *i*P	**P**	**14 56 58.5**	**+0.6**
QZH				pP	**pP**	**14 57 24.0**	**+0.4**
QZH				S	**S**	**15 00 52.0**	**-4.2**
QZH				pmax	pmax		
	comp=Z,190nm,0.6s						
QZH				LR	LR		
	comp=N,1μm,9.9s						
QZH				LR	LR		
	comp=E,2μm,16.7s						
QZH				LR	LR		
	comp=Z,3μm,14.6s						
KUR	**Kuril'sk**	**22.83**	**8**	*c i*P	**P**	**14 56 59.1**	**+0.4**
KUR				*i* S	**S**	**15 00 57.1**	**-0.4**
KUR				pmax	pmax		
	comp=Z,285nm,1.0s						
KUR				pmax	pmax		
	comp=N,19nm,0.5s						
KUR				pmax	pmax		
	comp=E,115nm,1.0s						
KUR				pmax	pmax		
	comp=Z,2μm,3.7s						
KUR				MLR	MLR		
	comp=Z,681nm,19.0s						
KUR				MLR	MLR		
	comp=N,660nm,18.0s						
KUR				MLR	MLR		
	comp=E,449nm,13.0s						
TGY	**Tagaytay City**	**22.85**	**252**	P	**P**	**14 56 58.8**	**-0.4**
TGY	**Tagaytay City**	**22.85**	**252**	P	**P**	**14 56 58.8**	**-0.4**
	comp=E,138nm,0.4s,baz=164,slow=6.3,SNR=5.3						
DAV	**Davao City (W)**	**23.06**	**230**	P	**P**	**14 57 01.2**	**+0.1**
DAV	**Davao City (W)**	**23.06**	**230**	P	**P**	**14 57 01.2**	**+0.1**
	comp=E,101nm,0.4s,baz=75,slow=11,SNR=3.8						
DAV				LR	LR	15 04 24.8	
	comp=E,248nm,20.7s,baz=352,slow=32						
USRK	**Ussuriysk Arra**	**23.43**	**339**	P	**P**	**14 57 05.9**	**+1.7**
	comp=E,216nm,0.7s,baz=162,slow=9.8,SNR=355						
USRK				ScP	**ScP**	**15 04 11.9**	**-0.2**
	comp=E,2.1nm,0.7s,baz=184,slow=3.5,SNR=6.0						
USRK				P3KPbc		15 30 28.2	
	comp=E,1.7nm,0.8s,baz=358,slow=4.2,SNR=5.7						
NJ2	**Nanjing**	**23.61**	**299**	*e*P	**P**	**14 57 06.3**	**+0.3**
NJ2				PcP	**PcP**	**15 00 47.0**	**-0.1**
NJ2				S	**S**	**15 01 11.5**	**+1.2**
NJ2				ScP	**ScP**	**15 04 12.8**	**0.0**
NJ2				PcS	**PcS**	**15 04 26.0**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,53nm,0.9s						
NJ2				LR	LR		
	comp=N,230nm,15.6s						
NJ2				LR	LR		
	comp=E,230nm,14.5s						
NJ2				LR	LR		
	comp=Z,530nm,13.0s						
YSS	**Yuzh-Sakhalins**	**24.25**	**359**	⇓ *i*P	**P**	**14 57 14.0**	**+2.4**
YSS				*e**PP	**pP**	**14 57 35.5**	**-4.1**
YSS				*e*		14 57 45.0	
YSS				*e*PPP	PPP	14 57 58.0	
YSS				*e*S	**S**	**15 01 22.0**	**+1.8**
YSS				pmax	pmax		
	comp=Z,80nm,0.9s						
YSS				smax	smax		
	comp=N,1μm,12.0s						
YSS				MLR	MLR		
	comp=Z,700nm,14.0s						
DL2	**Dalian**	**24.59**	**316**	P	**P**	**14 57 15.3**	**+0.5**
DL2				S	**S**	**15 01 24.5**	**-1.4**
DL2				LR	LR		
	comp=N,2μm,7.0s						
DL2				LR	LR		
	comp=E,4μm,7.3s						
DL2				LR	LR		
	comp=Z,1μm,10.8s						
MDJ	**Mudanjiang**	**24.63**	**336**	P	**P**	**14 57 16.8**	**+1.6**
MDJ				pP	**pP**	**14 57 45.0**	**+1.3**
MDJ				sP	**sP**	**14 58 01.8**	**+1.9**
MDJ				S	**S**	**15 01 29.0**	**+2.5**
MDJ				ScP	**ScP**	**15 04 11.5**	**-3.8**
MDJ				PcS	**PcS**	**15 04 28.3**	**-0.8**
MDJ				ScS	**ScS**	**15 08 04.5**	**+1.3**
MDJ				pmax	pmax		
	comp=Z,82nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,780nm,5.7s						
MDJ				LR	LR		
	comp=N,560nm,35.9s						
MDJ				LR	LR		
	comp=E,440nm,21.2s						
MDJ				LR	LR		
	comp=Z,790nm,27.8s						
MDJ	**Mudanjiang**	**24.63**	**336**	*e*P	**P**	**14 57 16.6**	**+1.5**
	comp=Z,90nm,1.0s						
JAY	**Jayapura**	**25.15**	**186**	P	**P**	**14 57 20.7**	**+0.5**
	comp=Z,23nm,1.4s						
SNY	**Shenyang**	**25.27**	**324**	⇓P	**P**	**14 57 21.0**	**0.0**
SNY				S	**S**	**15 01 33.8**	**-2.8**
SNY				pmax	pmax		
	comp=Z,34nm,0.8s						
SNY				pmax	pmax		
	comp=Z,880nm,3.5s						
SNY				LR	LR		
	comp=N,400nm,17.7s						
SNY				LR	LR		
	comp=E,800nm,11.2s						
SNY				LR	LR		
	comp=Z,1μm,10.6s						
CN2	**Changchun**	**25.74**	**329**	*e*P	**P**	**14 57 28.0**	**+2.8**
CN2				*e*pP	**pP**	**14 57 57.3**	**+3.2**
CN2				*e*sP	**sP**	**14 58 14.0**	**+4.1**
CN2				*e*S	**S**	**15 01 44.5**	**+0.5**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
CN2				LR	LR		
	comp=N,700nm,19.0s						
CN2				LR	LR		
	comp=E,800nm,19.0s						
CN2				LR	LR		
	comp=Z,900nm,19.0s						
SWI	**Sorong**	**26.16**	**208**	P	**P**	**14 57 29.5**	**+0.2**
	comp=Z,73nm,0.8s,comp=Z,1μm						
TIA	**Tai'an**	**26.40**	**307**	*e*P	**P**	**14 57 34.8**	**+3.5**
TIA				S	**S**	**15 01 58.5**	**+3.8**
TIA				LR	LR		
	comp=N,1μm,12.7s						
TIA				LR	LR		
	comp=E,2μm,12.3s						
TIA				LR	LR		
	comp=Z,1μm,11.3s						
TNTI	**Ternate**	**26.71**	**218**	P	**P**	**14 57 34.0**	**-0.3**
	comp=Z,129nm,2.1s						
WHN	**Wuhan**	**27.00**	**293**	⇑P	**P**	**14 57 41.0**	**+4.3**
WHN				pP	**pP**	**14 58 07.3**	**+1.6**
WHN				S	**S**	**15 02 01.0**	**-3.2**
WHN				pmax	pmax		
	comp=Z,190nm,0.6s						
WHN				LR	LR		
	comp=Z,2μm,23.5s						
MNI	**Manado**	**27.69**	**223**	P	**P**	**14 57 43.7**	**+0.7**
	comp=Z,187nm,1.5s,comp=Z,3μm						
LBMI	**Labuha**	**27.81**	**216**	P	**P**	**14 57 44.0**	**0.0**
	comp=Z,172nm,1.5s,comp=Z,3μm						
KLR	**Kul'dur**	**28.05**	**344**	⇑ *e*P	**P**	**14 57 44.5**	**-1.4**
KLR				*e*S	**S**	**15 02 18.5**	**-1.9**
KLR				*e*		15 08 14.0	
KLR				pmax	pmax		
	comp=N,28nm,0.9s						
KLR				pmax	pmax		
	comp=E,86nm,0.9s						
KLR				pmax	pmax		
	comp=Z,170nm,0.9s						
KLR				smax	smax		
	comp=N,1μm,9.0s						
KLR				smax	smax		
	comp=E,700nm,9.0s						
BJT	**Baijiatuao**	**28.76**	**313**	*e*P	**P**	**14 57 50.4**	**-1.9**
	comp=E,93nm,0.7s						
BJI	**Beijing**	**28.77**	**313**	P	**P**	**14 57 52.8**	**+0.5**
BJI				S	**S**	**15 02 26.5**	**-5.3**
BJI				pmax	pmax		
	comp=Z,35nm,0.9s						
BJI				pmax	pmax		
	comp=Z,200nm,3.7s						
BJI				LR	LR		
	comp=N,570nm,12.9s						
BJI				LR	LR		
	comp=E,750nm,10.9s						
BJI				LR	LR		
	comp=Z,870nm,23.3s						
KMSI	**Cibinong**	**28.90**	**223**	P	**P**	**14 57 54.1**	**+0.4**
	comp=Z,189nm,1.2s,comp=Z,3μm						
GTOI	**Gorontalo**	**29.48**	**225**	P	**P**	**14 57 58.8**	**0.0**
	comp=Z,219nm,1.2s,comp=Z,3μm						
MYLDM	**Lahad Datu**	**29.60**	**238**	P	**P**	**14 58 03.0**	**+3.0**
MYLDM	**Lahad Datu**	**29.60**	**238**	P	**P**	**14 58 02.2**	**+2.2**
	comp=Z,266nm,1.4s,comp=Z,3μm						
SKR	**Severo-Kuril's**	**29.71**	**17**	P	pP	14 58 20.0	-10
SKR				*e*		14 58 48.0	
SKR				*e*PPP	PPP	14 59 10.0	
SKR				*e*S	S	15 02 40.0	-6.3
SKR				pmax	pmax		
	comp=Z,220nm,1.0s						
SKR				pmax	pmax		
	comp=N,800nm,4.0s						
SKR				pmax	pmax		
	comp=Z,1μm,4.0s						
SKR				pmax	pmax		
	comp=E,1μm,2.0s						
SKR				smax	smax		
	comp=N,1μm,10.0s						
SKR				smax	smax		
	comp=E,1μm,10.0s						
KDM	**Kudat**	**29.92**	**243**	P	**P**	**14 58 04.6**	**+1.9**
MRSI	**Marisa**	**30.30**	**226**	P	**P**	**14 58 06.4**	**+0.3**
	comp=E,272nm,1.0s,comp=E,3μm						
SDKM	**Sandakan**	**30.36**	**240**	P	**P**	**14 58 08.2**	**+1.5**
TSM	**Tawau**	**30.64**	**237**	P	**P**	**14 58 10.0**	**+0.9**
LUWI	**Luwuk**	**30.91**	**223**	P	**P**	**14 58 10.4**	**-1.1**
	comp=E,186nm,1.2s,comp=E,2μm						
KKM	**Kota Kinabalu**	**30.91**	**242**	*e*P	**P**	**14 58 12.9**	**+1.3**
	comp=E,49nm,0.8s						
KKM	**Kota Kinabalu**	**30.91**	**242**	P	**P**	**14 58 13.1**	**+1.5**
KKM	**Kota Kinabalu**	**30.91**	**242**	P	**P**	**14 58 10.4**	**-1.3**
	comp=E,115nm,1.1s,comp=E,2μm						
ENH	**Enshi**	**31.13**	**291**	*e*P	**P**	**14 58 13.4**	**+0.1**
	comp=E,18nm,0.8s						
QIZ	**Qiongzhong**	**31.44**	**270**	P	**P**	**14 58 15.3**	**-0.9**
QIZ				S	**S**	**15 03 13.5**	**-0.7**
QIZ				LR	LR		
	comp=N,480nm,14.8s						
QIZ				LR	LR		
	comp=E,200nm,16.0s						
QIZ				LR	LR		
	comp=Z,650nm,19.4s						
PMG	**Port Moresby**	**32.09**	**173**	*e*P	**P**	**14 58 20.6**	**-1.2**
	comp=Z,46nm,0.8s						
PMG	**Port Moresby**	**32.09**	**173**	P	**P**	**14 58 21.5**	**-0.3**
	comp=Z,52nm,0.6s,baz=35,slow=4.9,SNR=26						
XAN	**Xi'an**	**32.17**	**298**	P	**P**	**14 58 22.8**	**+0.3**
XAN				S	**S**	**15 03 20.3**	**-5.0**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
XAN				LR	LR		
	comp=N,640nm,16.5s						
XAN				LR	LR		
	comp=E,230nm,15.7s						
XAN				LR	LR		
	comp=Z,160nm,14.0s						
PETK	**Petropavlovsk-**	**32.33**	**16**	P	**P**	**14 58 24.1**	**+0.6**
PETK						15 01 08.5	
PETK	**Petropavlovsk-**	**32.33**	**16**	P	**P**	**14 58 24.1**	**+0.6**
PETK				PcP	**PcP**	**15 01 08.5**	**+0.3**
PETK	**Petropavlovsk-**	**32.33**	**16**	P	**P**	**14 58 24.1**	**+0.6**
	comp=Z,4.7nm,1.0s,baz=190,slow=16,SNR=3.7						
PETK				PcP	**PcP**	**15 01 08.5**	**+0.3**
	comp=Z,4.6nm,0.6s,baz=184,slow=4.3,SNR=4.5						
PETK				LR	LR	15 09 06.3	
	comp=Z,365nm,21.0s,baz=202,slow=32						
HIA	**Hailar**	**32.43**	**331**	*e*P	**P**	**14 58 25.4**	**+0.9**
	comp=Z,77nm,0.8s						
PET	**Petropavlovsk**	**32.51**	**17**	*e*P	**P**	**14 58 25.7**	**+0.7**
PET				*e*		14 59 34.1	
PET				*e*S	**S**	**15 03 30.0**	**+0.2**
PET				pmax	pmax		
	comp=Z,15nm,1.1s						
PET				pmax	pmax		
	comp=Z,200nm,7.9s						
PET				pmax	pmax		
	comp=Z,100nm,8.1s						
PET				MLR	MLR		
	comp=Z,400nm,15.0s						
PET				MLR	MLR		
	comp=Z,400nm,18.0s						
SKSI	**Soroako, Sulaw**	**32.96**	**223**	P	**P**	**14 58 30.3**	**+0.8**
	comp=Z,56nm,1.9s,comp=Z,1μm						
BTO	**Baotou**	**33.26**	**310**	*e*P	**P**	**14 58 32.5**	**+0.6**
GYA	**Guiyang**	**33.47**	**284**	⇓ *i*P	**P**	**14 58 35.0**	**+1.0**
GYA				pP	**pP**	**14 59 06.3**	**+2.8**
GYA				sP	**sP**	**14 59 22.5**	**+3.3**
GYA				PP	**PP**	**14 59 51.3**	**-1.1**
GYA				PcP	**PcP**	**15 01 12.8**	**+0.8**
GYA				S	**S**	**15 03 45.0**	**-0.8**
GYA				sS	**sS**	**15 04 38.8**	**+1.4**
GYA				ScP	**ScP**	**15 04 44.8**	**+0.9**
GYA				PcS	**PcS**	**15 04 58.5**	**+0.3**
GYA				ScS	**ScS**	**15 08 43.0**	**-2.5**
GYA				pmax	pmax		
	comp=Z,20nm,0.7s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
TTSI	**Tana Toraja**	**34.33**	**225**	P	**P**	**14 58 41.7**	**+0.4**
	comp=Z,112nm,1.3s,comp=Z,2μm						
BBSI	**Bau Bau**	**34.55**	**218**	P	**P**	**14 58 44.0**	**+0.8**
	comp=Z,118nm,1.2s,comp=Z,2μm						
BKB	**Balikpapan**	**35.04**	**231**	P	**P**	**14 58 48.3**	**+0.9**
	comp=Z,702nm,0.8s,comp=Z,8μm						
SPSI	**Sidrap Palu**	**35.06**	**224**	P	**P**	**14 58 48.0**	**+0.5**
	comp=Z,221nm,1.2s,comp=Z,3μm						
BTM	**Bintulu**	**35.10**	**241**	P	**P**	**14 58 49.6**	**+1.6**
KAPI	**Kappang**	**35.87**	**223**	P	**P**	**14 58 54.8**	**+0.3**
	comp=Z,648nm,0.7s,SNR=7.2						
KAPI	**Kappang**	**35.87**	**223**	P	**P**	**14 58 54.9**	**+0.4**
	SNR=9.1						
KAPI	**Kappang**	**35.87**	**223**	*e*P	**P**	**14 58 54.2**	**-0.2**
	comp=Z,347nm,1.6s						
KAPI	**Kappang**	**35.87**	**223**	P	**P**	**14 58 54.3**	**-0.2**
	comp=Z,150nm,1.3s,comp=Z,2μm						
BKSI	**Bulukumba**	**35.88**	**222**	P	**P**	**14 58 54.2**	**-0.4**
	comp=Z,51nm,0.9s,comp=Z,804nm						
CD2	**Chengdu**	**36.10**	**292**	P	**P**	**14 58 57.5**	**+1.1**
CD2				pP	**p

SBUM Sibu 36.23 241 P **P** **14 58 58.8 +1.2**
comp=Z,124nm,1.1s,comp=Z,2µm
COEN Coen 36.39 180 *e*P **P** **14 58 59.1 +0.2**
comp=Z,312nm,0.7s
LZH Lanzhou 36.65 300 P **P** **14 59 02.5 +1.3**
LZH pP **pP** **14 59 32.5 +1.5**
LZH sP **sP** **14 59 48.3 +1.7**
LZH S **S** **15 04 33.5 -0.9**
LZH SS **SnSn** **15 07 12.5 -7.7**
LZH pmax pmax
comp=Z,62nm,1.0s
LZH pmax pmax
comp=Z,280nm,5.1s
LZH LR LR
comp=N,570nm,14.8s
LZH LR LR
comp=E,440nm,14.0s
LZH LR LR
comp=Z,740nm,15.9s
CLNS Chul'man 36.71 343 *e*P **P** **14 59 02.4 +1.2**
CLNS *e**PP **pP** **14 59 27.6 -3.5**
CLNS *e* 15 00 28.2
CLNS *e* 15 01 22.5
CLNS *e*S **S** **15 04 35.2 +0.8**
CLNS *e**SS sS 15 05 18.4 -8.2
CLNS pmax pmax
comp=Z,42nm,0.9s
CLNS pmax pmax
comp=N,25nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS pmax pmax
comp=Z,10.0nm,0.7s
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=E,12nm,0.9s
CLNS smax smax
comp=E,268nm,11.7s
CLNS smax smax
comp=N,458nm,12.6s
PANO Nakornpanom 36.72 269 P **P** **14 59 04.3 +2.6**
comp=N,163nm,0.7s
KMI Kunming 37.08 282 P **P** **14 59 06.0 +1.0**
KMI pP **pP** **14 59 38.3 +3.4**
KMI PP **PnPn** **15 00 35.5 +1.2**
KMI S **S** **15 04 38.5 -2.7**
KMI ScP **ScP** **15 04 57.0 -0.2**
KMI sS **sS** **15 05 34.5 +1.1**
KMI SS **SS** **15 07 20.3 -8.9**
KMI pmax pmax
comp=Z,21nm,0.8s
KMI pmax pmax
comp=Z,120nm,5.9s
KMI LR LR
comp=N,430nm,11.8s
KMI LR LR
comp=E,190nm,8.7s
KMI LR LR
comp=Z,560nm,20.5s
CIT Chita 37.18 330 *e*P **P** **14 59 05.8 +0.5**
CIT *e* 14 59 29.2
CIT *e* 15 00 35.1
CIT S **S** **15 04 43.0 +1.2**
CIT pmax pmax
comp=Z,115nm,0.9s
SOEI Soe 37.23 212 P **P** **14 59 03.7 -2.4**
comp=Z,102nm,0.5s
MMRI Maumere 37.33 216 P **P** **14 59 07.6 +0.8**
comp=Z,194nm,1.1s,comp=Z,4µm
FX1 Attu Island--F 37.80 29 P **P** **14 59 11.9 +1.5**
FX1 Attu Island--F 37.80 29 P **P** **14 59 11.9 +1.5**
comp=Z,66nm,0.6s,baz=228,slow=2.9,SNR=92
BATI Baumata 37.91 213 P **P** **14 59 10.7 -1.1**
comp=Z,124nm,0.6s
STKI Sintang 38.26 238 P **P** **14 59 15.1 +0.4**
comp=Z,162nm,0.7s,comp=Z,4µm
ULN Ulaanbaatar 38.30 320 P **P** **14 59 15.9 +1.0**
SNR=27
ULN Ulaanbaatar 38.30 320 *e*P **P** **14 59 15.9 +1.0**
comp=Z,36nm,0.8s
ULN *e*PcP **PcP** **15 01 26.5 +0.5**
ULN Ulaanbaatar 38.30 320 P **P** **14 59 15.6 +0.7**
comp=Z,55nm,1.0s,comp=Z,546nm
KSM Kuching 38.35 241 *e*P **P** **14 59 15.2 -0.3**
comp=Z,44nm,1.2s
KSM Kuching 38.35 241 P **P** **14 59 15.3 -0.1**
KSM Kuching 38.35 241 P **P** **14 59 15.4 -0.1**
comp=Z,38nm,1.3s,comp=Z,606nm
SONM Songino Array 38.68 320 P **P** **14 59 19.1 +1.1**
SONM PcP **PcP** **15 01 27.8 +0.6**
SONM ScP **S** **15 05 04.0 -0.7**
SONM Songino Array 38.68 320 P **P** **14 59 19.1 +1.1**
comp=Z,20nm,0.6s,baz=126,slow=7.0,SNR=98
SONM PcP **PcP** **15 01 27.8 +0.6**
comp=Z,7.8nm,0.6s,baz=110,slow=3.1,SNR=3.7
SONM ScP **S** **15 05 04.0 -0.7**
comp=Z,4.5nm,1.0s,baz=164,slow=2.8,SNR=9.0
SONM LR LR 15 16 07.8
comp=Z,780nm,18.1s,baz=86,slow=37
BASI Baing, Sumba 39.54 217 P **P** **14 59 24.1 -1.2**
comp=Z,726nm,1.4s,comp=Z,8µm
LOEI Loei 39.72 270 P **P** **14 59 26.0 -0.9**
comp=Z,43nm,0.9s,comp=Z,4µm
WBSI Waikabubak, Su 39.74 219 P **P** **14 59 24.9 -2.1**
comp=Z,121nm,0.7s
PBKI Pangkalan Bun 39.86 235 P **P** **14 59 27.7 -0.3**
comp=Z,442nm,0.6s,comp=Z,4µm
PBKT Sadao Pong 40.24 269 P **P** **14 59 32.5 +1.4**
comp=Z,16nm,2.1s,comp=Z,1µm
PBKT Sadao Pong 40.24 269 P **P** **14 59 33.0 +1.9**
comp=Z,29nm,1.5s,comp=Z,1µm
GTA Gaotai 40.42 305 ⇓P **P** **14 59 33.5 +1.0**
GTA pP **pP** **15 00 04.8 +2.0**
GTA sP **sP** **15 00 20.8 +2.5**
GTA PP **PnPn** **15 01 12.0 -1.4**
GTA PcP **PcP** **15 01 33.8 +0.9**
GTA ScP **ScP** **15 05 10.5 +0.9**
GTA S **S** **15 05 31.0 +0.2**
GTA sS **sS** **15 06 26.3 +2.8**
GTA ScS **ScS** **15 09 23.3 -0.9**
GTA pmax pmax
comp=Z,26nm,1.4s
GTA pmax pmax
comp=Z,88nm,5.5s
GTA LR LR
comp=N,460nm,16.2s
GTA LR LR
comp=E,450nm,15.7s
GTA LR LR
comp=Z,480nm,17.3s
YAK Yakutsk 40.45 350 *e*P **P** **14 59 32.2 0.0**
YAK *e**PP **pP** **14 59 58.5 -4.0**
YAK *e* 15 01 04.4
YAK *e* 15 01 37.2
YAK *e*S **S** **15 05 28.3 -2.0**
YAK *e**SS sS 15 06 14.2 -8.8
YAK *e* 15 09 17.0
YAK pmax pmax
comp=Z,63nm,0.9s
YAK pmax pmax
comp=N,25nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=N,24nm,2.1s
YAK pmax pmax
comp=E,21nm,1.0s
YAK smax smax
comp=N,297nm,1.9s
YAK smax smax
comp=E,160nm,1.6s
NAYO Nakonayok 40.56 266 P **P** **14 59 36.0 +2.2**
comp=E,352nm,0.8s
LAMP Lampang 40.99 273 P **P** **14 59 39.7 +2.4**
comp=E,4.5nm,0.9s
KMMI Kalianget 41.19 228 P **P** **14 59 40.5 +1.6**
comp=E,718nm,1.2s,comp=E,6µm
CMAI Chiengmai2 41.22 275 P **P** **14 59 41.2 +1.8**
comp=E,76nm,1.1s
CMMT Chiang Mai 41.55 273 P **P** **14 59 41.9 0.0**
comp=E,19nm,1.1s,comp=E,485nm
CMMT Chiang Mai 41.55 273 P **P** **14 59 42.4 +0.5**
comp=E,19nm,1.1s,comp=E,487nm
CHTO Chiang Mai 41.55 273 *e*P **P** **14 59 41.6 -0.4**
CHTO pmax pmax
comp=Z,22nm,1.1s
CHTO Chiang Mai 41.55 273 *e*P **P** **14 59 41.6 -0.4**
comp=Z,22nm,1.1s
CHTO Chiang Mai 41.55 273 P **P** **14 59 42.6 +0.7**
comp=Z,22nm,1.2s
CHTO Chiang Mai 41.55 273 P **P** **14 59 42.6 +0.7**
comp=Z,22nm,1.2s
CMAR Chiang Mai Arr 41.64 273 P **P** **14 59 42.7 +0.1**
CMAR PcP **PcP** **15 01 39.6 +2.5**
CMAR ScP **ScP** **15 05 14.6 -0.1**
CMAR Chiang Mai Arr 41.64 273 P **P** **14 59 42.7 +0.1**
comp=Z,5.5nm,0.6s,baz=57,slow=8.3,SNR=30
CMAR PcP **PcP** **15 01 39.6 +2.5**
comp=Z,3.4nm,0.9s,baz=52,slow=2.8,SNR=5.2
CMAR ScP **ScP** **15 05 14.6 -0.1**
comp=Z,3.7nm,0.7s,baz=66,slow=2.6,SNR=9.5
CMAR LR LR 15 15 32.3
comp=Z,246nm,19.4s,baz=83,slow=34
ZAK Zakamensk 41.66 322 *e*P **P** **14 59 43.3 +0.8**
ZAK pmax pmax
comp=Z,32nm,1.0s
BLJI Banyuglugur 41.94 227 P **P** **14 59 45.9 +0.8**
comp=Z,588nm,1.4s,comp=Z,6µm
IRK Irkutsk 41.99 325 *e*P **P** **14 59 45.6 +0.6**
IRK pmax pmax
comp=Z,55nm,1.3s
TLY Talaya 42.06 324 *d i*P **P** **14 59 46.9 +1.3**
TLY *e* 15 01 26.6
TLY eS **S** **15 05 56.0 +1.5**
TLY pmax pmax
comp=Z,25nm,0.7s
TLY MLR MLR
comp=Z,405nm,18.0s
TLY Talaya 42.06 324 P **P** **14 59 47.6 +2.0**
comp=Z,202nm,0.7s,SNR=5.7
ADK Adak 42.34 36 *e*P **P** **14 59 47.6 -0.2**
ADK pmax pmax
comp=Z,70nm,0.6s
ADK Adak 42.34 36 *e*P **P** **14 59 47.6 -0.2**
comp=Z,70nm,0.6s
GMJI Gumukmas 42.43 227 P **P** **14 59 49.3 +0.3**
comp=Z,126nm,1.3s
PHET Kaeng Krachan 42.57 264 P P 14 59 59.5 +9.3
CTA Charters Tower 42.58 176 P **P** **14 59 49.1 -1.0**
CTA Charters Tower 42.58 176 P **P** **14 59 49.1 -1.0**
comp=Z,28nm,0.6s,baz=358,slow=9.2,SNR=37
CTAO Charters Tower 42.58 176 *e*P **P** **14 59 49.2 -0.9**
CTAO *PP **pP** **15 00 18.8 -1.9**
CTAO pmax pmax
comp=Z,28nm,0.8s
CTAO Charters Tower 42.58 176 *e*P **P** **14 59 49.2 -1.0**
comp=Z,28nm,0.8s
CTAO pP **pP** **15 00 18.8 -1.9**
TPI Tanjungpandan 42.99 239 P **P** **14 59 52.7 -0.9**
comp=Z,48nm,1.4s,comp=Z,595nm
SJI Sawahan 43.20 229 P **P** **14 59 55.4 +0.1**
comp=Z,163nm,1.5s,comp=Z,3µmcomp=Z,30µm
WRAB Tennant Creek 43.23 192 P **P** **14 59 54.6 -0.7**
comp=Z,587nm,0.6s,SNR=63
WRAB Tennant Creek 43.23 192 *e*P **P** **14 59 54.2 -1.1**
WRAB pmax pmax
comp=Z,53nm,0.6s
WRAB Tennant Creek 43.23 192 *e*P **P** **14 59 54.1 -1.1**
comp=Z,53nm,0.6s
WRA Warramunga Arr 43.24 192 P **P** **14 59 54.4 -1.0**
WRA PcP **PcP** **15 01 42.3 0.0**
WRA ScP **ScP** **15 05 21.8 +0.9**
WRA S **S** **15 06 09.8 -2.5**
WRA PKiKP **PKiKP** **15 08 44.7 -0.5**
WRA Warramunga Arr 43.24 192 P **P** **14 59 54.4 -1.0**
comp=Z,44nm,0.6s,baz=13,slow=8.7,SNR=159
WRA PcP **PcP** **15 01 42.3 0.0**
comp=Z,14nm,0.7s,baz=7.6,slow=3.6,SNR=7.2
WRA ScP **ScP** **15 05 21.8 +0.9**
comp=Z,13nm,1.0s,baz=12,slow=4.4,SNR=11
WRA S **S** **15 06 09.8 -2.5**
comp=Z,6.0nm,1.0s,baz=13,slow=14,SNR=5.5
WRA PKiKP **PKiKP** **15 08 44.7 -0.5**
comp=Z,1.1nm,0.6s,baz=205,slow=2.4,SNR=6.8
MOY Mondy 43.52 322 *e*P **P** **14 59 58.4 +0.9**
MOY pmax pmax
comp=Z,25nm,1.6s
MYKOM **Kota Tinggi 43.55 247** P **P** **14 59 58.0 -0.1**
MYKOM **Kota Tinggi 43.55 247** P **P** **14 59 58.7 +0.6**
comp=Z,51nm,1.6s,comp=Z,839nm
KGM Kluang 43.89 248 P **P** **15 00 03.2 +2.4**
PCJI Pacitan 43.93 229 P **P** **15 00 00.0 -1.1**
comp=Z,239nm,1.6s,comp=Z,4µm
BJII Banjamegara 44.38 232 P **P** **15 00 04.6 -0.2**
comp=Z,137nm,1.2s,comp=Z,2µm
KULM Kulim 44.64 254 *e*P **P** **15 00 08.0 +1.3**
comp=Z,132nm,1.4s
KULM *e*pP **pP** **15 00 36.7 -0.8**
KULM Kulim 44.64 254 P **P** **15 00 08.4 +1.7**
KULM Kulim 44.64 254 P **P** **15 00 07.9 +1.1**
comp=Z,65nm,1.4s,comp=Z,905nm
IPM Ipoh 44.68 253 *e*P **P** **15 00 07.8 +0.7**
comp=Z,118nm,1.4s
IPM Ipoh 44.68 253 P **P** **15 00 08.3 +1.2**
IPM Ipoh 44.68 253 P **P** **15 00 08.2 +1.1**
comp=Z,57nm,1.5s,comp=Z,906nm
FRIM Kepong 44.74 251 P **P** **15 00 09.4 +1.8**
LEM Lembang 45.59 234 P **P** **15 00 14.8 +0.4**
comp=Z,343nm,1.5s,comp=Z,4µm
CISI Cisompet, Garu 45.92 233 P **P** **15 00 14.0 -2.9**
comp=Z,148nm,1.5s,comp=Z,2µm
DBJI Dramaga 46.07 235 P **P** **15 00 18.1 +0.1**
comp=Z,427nm,1.6s,comp=Z,7µm
SBJI Serang 46.27 236 P **P** **15 00 19.9 +0.4**
comp=Z,275nm,1.5s,comp=Z,5µmcomp=Z,311µm
KLSI 46.48 239 P **P** **15 00 20.5 -0.7**
comp=Z,58nm,1.5s
BKNI Bangkinang 46.71 248 P **P** **15 00 24.0 +1.0**
comp=Z,179nm,1.5s,comp=Z,2µm
SHL Shillong 46.79 284 *e*P **P** **15 00 25.0 +1.2**
SHL eS **ScP** **15 05 36.0 +0.1**
ASAR Alice Springs 46.95 192 P **P** **15 00 23.4 -1.3**
ASAR PcP **PcP** **15 01 55.5 +0.4**
ASAR ScP **ScP** **15 05 35.7 -0.4**
ASAR S **S** **15 07 02.4 -3.2**
ASAR PKiKP **PKiKP** **15 08 47.4 -1.3**
ASAR Alice Springs 46.95 192 P **P** **15 00 23.4 -1.3**
comp=Z,22nm,0.6s,baz=14,slow=11,SNR=109
ASAR PcP **PcP** **15 01 55.5 +0.4**
comp=Z,6.8nm,0.7s,baz=29,slow=3.4,SNR=6.0
ASAR ScP **ScP** **15 05 35.7 -0.4**
comp=Z,7.2nm,0.9s,baz=13,slow=3.8,SNR=12
ASAR S **S** **15 07 02.4 -3.2**
comp=Z,6.2nm,1.0s,baz=19,slow=18,SNR=15
ASAR PKiKP **PKiKP** **15 08 47.4 -1.3**
comp=Z,0.8nm,0.7s,baz=4.3,slow=0.9,SNR=5.8
LSA Lhasa 47.01 290 *e*P **P** **15 00 27.6 +1.8**
LSA pmax pmax
comp=Z,24nm,0.6s
LSA Lhasa 47.01 290 *e*P **P** **15 00 27.6 +1.8**
comp=Z,24nm,0.6s
PSI Prapat 47.31 252 P **P** **15 00 27.9 0.0**
PSI ScP **ScP** **15 05 37.1 -1.1**
PSI Prapat 47.31 252 P **P** **15 00 27.9 0.0**
comp=Z,18nm,0.5s,baz=54,slow=3.8,SNR=18
PSI ScP **ScP** **15 05 37.1 -1.1**
comp=Z,4.7nm,0.4s,baz=58,slow=2.5,SNR=5.2
PSI LR LR 15 16 57.4
comp=Z,267nm,21.2s,baz=250,slow=32
MASI Maura Aman, Be 47.58 243 P **P** **15 00 30.2 +0.4**
comp=Z,465nm,1.5s,comp=Z,5µm
KSI Kapahiang 47.58 242 P **P** **15 00 28.7 -1.2**
comp=Z,190nm,1.1s
PPI Padang Panjang 47.66 247 P **P** **15 00 31.4 +1.0**
comp=Z,110nm,1.6s,comp=Z,2µm
EIDS Eidsvold 48.33 171 *e*P **P** **15 00 34.2 -1.1**
comp=Z,12nm,0.4s
UNV Unalaska Valle 48.78 37 *e*P **P** **15 00 39.4 +1.0**
comp=Z,96nm,1.2s
MBWA Marble Bar 49.25 210 *e*P **P** **15 00 42.3 -0.1**
comp=Z,22nm,0.6s
AKUT Akutan 49.28 37 *e*P **P** **15 00 43.3 +1.1**
comp=Z,120nm,0.8s
TIXI Tiksi 49.71 354 *d i*P **P** **15 00 46.1 +0.9**
TIXI pmax pmax
comp=Z,19nm,0.7s
DZM Mont Dzumac 49.85 152 *e*P **P** **15 00 45.8 -1.2**
comp=Z,144nm,1.4s
DZM eS S 15 07 38.6 -8.0
comp=Z,911nm,26.4s
DZM eLR LR 15 15 09.3
comp=Z,1µm,32.1s
DZM Mont Dzumac 49.85 152 *e*P **P** **15 00 45.8 -1.2**
DZM Mont Dzumac 49.85 152 LR LR 15 20 47.0
comp=Z,97nm,19.7s,baz=32,slow=35
WMQ Urumqi 50.06 309 P **P** **15 00 51.0 +2.5**
WMQ pP **pP** **15 01 23.5 +3.6**
WMQ sP **sP** **15 01 39.3 +4.2**
WMQ PcP **PcP** **15 02 08.8 +2.6**
WMQ PP **PP** **15 02 49.3 +4.6**
WMQ ScP **ScP** **15 05 50.0 +0.7**
WMQ S **S** **15 07 50.3 +1.0**
WMQ sS **sS** **15 08 46.8 +3.1**
WMQ ScS **ScS** **15 10 24.8 -1.2**
WMQ SS **SS** **15 11 22.3 -1.6**
WMQ pmax pmax
comp=Z,71nm,1.4s
WMQ pmax pmax
comp=Z,190nm,3.8s
WMQ LR LR
comp=N,390nm,13.7s
WMQ LR LR
comp=E,340nm,15.0s
WMQ LR LR
comp=Z,460nm,29.9s
TAPN Taplejung 50.26 287 *e*P **P** **15 00 51.6 +1.1**
ODAN Odare 50.61 287 *e*P **P** **15 00 53.9 +0.9**
comp=Z,198nm,1.0s
RAMN Ramite 51.30 287 *e*P **P** **15 00 59.0 +0.8**
comp=Z,65nm,0.6s
JIRN Jiri 51.56 288 *e*P **P** **15 01 01.6 +1.3**
comp=Z,126nm,0.7s
GUN Gumba 51.80 288 *e*P **P** **15 01 03.3 +1.3**
PKI Pulchoki 52.26 288 *e*P **P** **15 01 06.0 +0.6**
comp=Z,72nm,0.8s
PKIN Phulchoki 52.27 288 *e*P **P** **15 01 06.7 +1.3**
comp=Z,7.2nm,0.3s
KKN Kakani 52.34 288 *e*P **P** **15 01 06.7 +0.8**
DMN Daman 52.52 288 *e*P **P** **15 01 07.8 +0.6**
SDPT Sand Point 52.57 37 *e*P **P** **15 01 07.1 +0.3**
comp=Z,153nm,0.6s
MSVF Nonsavu 52.59 137 P **P** **15 01 09.6 +2.1**
comp=Z,413nm,1.2s,SNR=9.0
MSVF Nonsavu 52.59 137 *e*P **P** **15 01 09.1 +1.6**
MSVF pmax pmax
comp=Z,74nm,1.3s
MSVF Nonsavu 52.59 137 *e*P **P** **15 01 09.1 +1.6**
comp=Z,74nm,1.3s
ARMA Armidale 53.37 171 *e*P **P** **15 01 12.7 -0.4**
comp=Z,53nm,1.4s
ZALV Zalesovo Beam 53.53 321 *i*P **P** **15 01 14.3 +0.4**
ZALV pmax pmax
comp=Z,25nm,0.5s
ZALV Zalesovo Beam 53.53 321 P **P** **15 01 14.3 +0.4**
ZALV PcP **PcP** **15 02 18.6 -0.3**
ZALV ScP **ScP** **15 06 03.2 -0.8**
ZALV Zalesovo Beam 53.53 321 P **P** **15 01 14.3 +0.4**
comp=Z,25nm,0.5s,baz=106,slow=7.7,SNR=88
ZALV PcP **PcP** **15 02 18.6 -0.3**
comp=Z,25nm,0.5s,baz=116,slow=3.5,SNR=14
ZALV ScP **ScP** **15 06 03.2 -0.8**
comp=Z,2.6nm,0.6s,baz=114,slow=4.0,SNR=3.5
ZALV LR LR 15 26 02.4
comp=Z,307nm,18.8s,baz=250,slow=38
DANN Dangsing 53.59 289 *e*P **P** **15 01 16.5 +1.4**
comp=Z,475nm,0.6s
KOLN Koldanda 53.81 289 *e*P **P** **15 01 17.5 +0.8**
comp=Z,79nm,0.7s
CHGN Chignik 53.93 36 *e*P **P** **15 01 17.0 +0.2**
MKAR Makanchi Array 54.14 312 P **P** **15 01 19.8 +1.3**
MKAR 15 02 21.9
MKAR S **S** **15 08 46.0 +1.3**
MKAR Makanchi Array 54.14 312 P **P** **15 01 19.8 +1.3**
MKAR PcP **PcP** **15 02 21.9 +0.5**
MKAR ScP **ScP** **15 06 07.1 +0.2**
MKAR S **S** **15 08 46.0 +1.3**
MKAR ⇑*e* 15 31 42.0
MKAR Makanchi Array 54.14 312 P **P** **15 01 19.8 +1.3**
comp=Z,47nm,0.6s,baz=91,slow=9.0,SNR=536
MKAR PcP **PcP** **15 02 21.9 +0.5**
comp=Z,13nm,0.6s,baz=85,slow=3.1,SNR=6.0
MKAR ScP **ScP** **15 06 07.1 +0.2**
comp=Z,5.5nm,0.8s,baz=85,slow=4.6,SNR=5.8
MKAR S **S** **15 08 46.0 +1.3**
comp=Z,5.0nm,0.8s,baz=93,slow=19,SNR=12
MKAR LR LR 15 25 36.7
comp=Z,314nm,18.4s,baz=96,slow=37
MKAR PKP2bc 15 31 42.0
comp=Z,0.5nm,0.7s,baz=275,slow=2.8,SNR=4.3
STKA Stephens Creek 54.25 182 P **P** **15 01 18.9 -0.4**
STKA Stephens Creek 54.25 182 P **P** **15 01 18.9 -0.4**
comp=Z,45nm,0.4s,baz=4.6,slow=6.9,SNR=304
NVS Novosibirsk 54.62 322 ⇓*i*P **P** **15 01 21.3 -0.4**
NVS *i* *PP **pP** **15 01 50.2 -3.5**
NVS *i* 15 02 21.9
NVS *i* 15 04 42.0
NVS *i* S **S** **15 08 48.5 -2.3**
NVS *e* 15 10 51.0
NVS pmax pmax
comp=Z,76nm,2.0s
NVS pmax pmax
comp=N,29nm,2.2s
NVS pmax pmax
comp=E,53nm,2.0s
NVS smax smax
comp=N,78nm,2.9s
NVS smax smax
comp=E,90nm,2.7s
FORT Forrest 55.11 196 *e*P **P** **15 01 24.4 -1.1**
comp=E,192nm,0.6s
BBOO Buckleboo 55.59 187 *e*P **P** **15 01 28.5 -0.4**
comp=E,615nm,0.8s
KURK Kurchatov 56.86 317 P **P** **15 01 38.9 +1.1**
KURK Kurchatov 56.86 317 P **P** **15 01 38.9 +1.1**
KURK P'P' 15 31 29.7
KURK ⇑*e* 15 31 35.9
KURBB Kurchatov Arra 56.91 317 P **P** **15 01 38.9 +0.8**
comp=E,82nm,0.7s,baz=94,slow=7.6,SNR=892
KURBB PKPPKP **P'P'df** **15 31 29.7 -0.5**
comp=E,0.6nm,0.3s,baz=278,slow=3.2,SNR=8.8
KURBB PKP2bc 15 31 35.9
comp=E,0.8nm,0.3s,baz=292,slow=2.9,SNR=7.4
RSO Redoubt South 57.74 32 *e*P **P** **15 01 45.1 +1.0**
comp=E,64nm,0.9s
CAN Canberra 57.91 175 *e*P **P** **15 01 45.3 0.0**
CAN pmax pmax
comp=Z,52nm,1.2s
CAN Canberra 57.91 175 *e*P **P** **15 01 45.3 0.0**
comp=Z,52nm,1.2s
ULHL Ulahol 58.41 307 *i*P **P** **15 01 51.1 +2.0**
ULHL Ulahol 58.41 307 P **P** **15 01 51.1 +2.0**
SNR=5.2
KSH Kashi 58.80 303 P P 15 01 56.0 +4.3
KSH pP pP 15 02 29.8 +5.7
KSH sP sP 15 02 45.5 +6.5
KSH ScP **ScP** **15 06 28.5 +0.8**
KSH PcS **PcS** **15 06 43.8 +1.9**
KSH S **S** **15 09 51.5 +5.0**
KSH sS sS 15 10 49.0 +6.6
KSH SS **SS** **15 13 48.5 +6.7**
KSH pmax pmax
comp=Z,29nm,0.8s
KSH pmax pmax
comp=Z,170nm,4.6s
KSH LR LR
comp=N,490nm,10.7s
KSH LR LR
comp=E,440nm,14.2s
KSH LR LR
comp=Z,490nm,16.2s
SMLA Simla 58.84 294 *i*x **P** **15 01 52.5 +0.6**
TKM2 Tokmak 2 58.85 307 *i*P **P** **15 01 53.7 +1.6**
TKM2 Tokmak 2 58.85 307 P **P** **15 01 53.8 +1.6**
SNR=52
SDNR Sundarnagar 58.95 294 *ex* **P** **15 01 54.0 +1.2**
KZA Kyzart 59.16 306 *i*P **P** **15 01 56.9 +2.4**
KZA Kyzart 59.16 306 P **P** **15 01 57.0 +2.4**
SNR=41
KBK Karagaybulak 59.34 307 *i*P **P** **15 01 57.2 +1.7**
KBK Karagaybulak 59.34 307 P **P** **15 01 57.2 +1.7**
SNR=21
CHMS Chumysh 59.47 308 *i*P **P** **15 01 58.1 +1.9**
CHMS Chumysh 59.47 308 P **P** **15 01 58.1 +1.9**
SNR=12

FRU	**Bishkek**	**59.58**	**307**	*i* P		**P**	**15 01 59.0 +2.1**
FRU				*e*			15 02 26.0	
FRU				*i* S		**S**	**15 09 59.5 +3.2**
FRU					pmax	pmax	
	comp=Z,50nm,1.6s						
USP	**Ospenovka**	**59.63**	**308**	*i* P		**P**	**15 01 58.5 +1.2**
USP	**Ospenovka**	**59.63**	**308**	P		**P**	**15 01 58.5 +1.2**
	SNR=17						
PMR	**Palmer**	**59.67**	**31**	*e*P		**P**	**15 01 57.3 +0.2**
PMR					pmax	pmax	
	comp=Z,84nm,0.8s						
PMR	**Palmer**	**59.67**	**31**	*e*P		**P**	**15 01 57.3 +0.2**
	comp=Z,84nm,0.8s						
AAK	**Ala-Archa**	**59.68**	**307**	*c i*P		**P**	**15 01 59.1 +1.3**
AAK					pmax	pmax	
	comp=Z,93nm,1.7s						
AAK	**Ala-Archa**	**59.68**	**307**	P		**P**	**15 01 59.5 +1.7**
	SNR=8.7						
AAK	**Ala-Archa**	**59.68**	**307**	*e*P		**P**	**15 01 59.0 +1.3**
AAK	**Ala-Archa**	**59.68**	**307**	P		**P**	**15 01 58.9 +1.1**
	comp=Z,14nm,0.5s,baz=106,slow=6.1,SNR=13						
AAK					LR	LR	15 29 50.6	
	comp=Z,229nm,18.4s,baz=84,slow=38						
UCH	**Uchtor**	**59.69**	**307**	*i* P		**P**	**15 02 00.7 +2.5**
UCH	**Uchtor**	**59.69**	**307**	P		**P**	**15 02 00.7 +2.5**
	SNR=8.0						
SML	**Sawmill**	**60.08**	**31**	*e*P		**P**	**15 02 00.6 +0.6**
SML					pmax	pmax	
	comp=Z,32nm,0.8s						
SML	**Sawmill**	**60.08**	**31**	*e*P		**P**	**15 02 00.6 +0.6**
	comp=Z,32nm,0.8s						
MCK	**McKinley**	**60.09**	**28**	*e*P		**P**	**15 02 00.0 0.0**
MCK				*e**PP		**pP**	**15 02 34.6 +2.1**
MCK					pmax	pmax	
	comp=Z,75nm,0.9s						
MCK	**McKinley**	**60.09**	**28**	*e*P		**P**	**15 02 00.0 0.0**
	comp=Z,75nm,0.9s						
MCK				*e*pP		**pP**	**15 02 34.6 +2.1**
EKS2	**Erkin-Say**	**60.20**	**307**	*i* P		**P**	**15 02 02.8 +1.5**
EKS2	**Erkin-Say**	**60.20**	**307**	P		**P**	**15 02 02.8 +1.5**
	SNR=16						
COLD	**Coldfoot**	**60.25**	**24**	*e*P		**P**	**15 02 02.8 +1.7**
	comp=Z,119nm,1.6s						
COLD				*e*pP		**pP**	**15 02 31.6 -1.9**
AML	**Almayashu**	**60.31**	**307**	*i* P		**P**	**15 02 04.4 +2.0**
AML	**Almayashu**	**60.31**	**307**	P		**P**	**15 02 04.4 +2.0**
	SNR=33						
NWAO	**Narrogin (SRO)**	**60.62**	**205**	P		**P**	**15 02 04.0 +0.1**
NWAO	**Narrogin (SRO)**	**60.62**	**205**	P		**P**	**15 02 04.0 +0.1**
	comp=Z,10nm,0.5s,baz=34,slow=8.9,SNR=12						
HYB	**Hyderabad**	**60.65**	**278**	*i* P		**P**	**15 02 05.0 +0.4**
HYB				*e*sP		**sP**	**15 02 56.0 +3.9**
HYB				*e*S		**S**	**15 10 08.0 -2.7**
COLA	**College**	**60.74**	**27**	*e*P		**P**	**15 02 05.3 +0.9**
COLA					pmax	pmax	
	comp=Z,70nm,0.6s						
COLA	**College**	**60.74**	**27**	*e*P		**P**	**15 02 05.3 +0.9**
	comp=Z,70nm,0.6s						
XMAS	**Kiritimati**	**60.95**	**101**	*e*P		**P**	**15 02 08.2 +1.6**
ILAR	**Eielson Array**	**61.14**	**27**	P		**P**	**15 02 07.0 -0.1**
ILAR	**Eielson Array**	**61.14**	**27**	P		**P**	**15 02 07.0 -0.1**
	comp=Z,18nm,0.6s,baz=258,slow=5.4,SNR=180						
DIV	**Divide**	**61.22**	**32**	*e*P		**P**	**15 02 08.9 +1.2**
	comp=Z,26nm,0.7s						
PAX	**Paxson**	**61.54**	**29**	*e*P		**P**	**15 02 10.9 +1.0**
PAX					pmax	pmax	
	comp=Z,16nm,0.7s						
PAX	**Paxson**	**61.54**	**29**	*e*P		**P**	**15 02 10.9 +1.0**
	comp=Z,16nm,0.7s						
BMRM	**Bremner River**	**61.77**	**32**	*e*P		**P**	**15 02 12.6 +1.1**
	comp=Z,56nm,0.9s						
PALK	**Pallekele**	**61.98**	**266**	*e*P		**P**	**15 02 14.1 +0.5**
	comp=Z,50nm,1.6s						
BVA0	**Borovoye Array**	**62.02**	**319**	P		**P**	**15 02 14.2 +1.0**
BVA0					pmax	pmax	
	comp=Z,198nm,1.0s						
BVAR	**Borovoye Array**	**62.02**	**319**	P		**P**	**15 02 14.3 +1.1**
BVAR	**Borovoye Array**	**62.02**	**319**	P		**P**	**15 02 14.3 +1.1**
BVAR				⇑*e*			15 31 22.6	
BVAR	**Borovoye Array**	**62.02**	**319**	P		**P**	**15 02 14.3 +1.1**
	comp=Z,104nm,0.9s,baz=92,slow=7.4,SNR=353						
BVAR					LR	LR	15 27 14.3	
	comp=Z,321nm,21.1s,baz=88,slow=34						
BVAR					PKP2bc		15 31 22.6	
	comp=Z,1.0nm,0.8s,baz=251,slow=4.5,SNR=5.5						
BRVK	**Borovoye**	**62.09**	**319**	P		**P**	**15 02 14.3 +0.7**
	comp=Z,676nm,0.9s,SNR=64						
BRVK	**Borovoye**	**62.09**	**319**	*d i*P		**P**	**15 02 14.6 +1.0**
BRVK					pmax	pmax	
	comp=Z,207nm,1.3s						
BRVK	**Borovoye**	**62.09**	**319**	P		**P**	**15 02 15.3 +1.7**
	SNR=72						
BRVK	**Borovoye**	**62.09**	**319**	*e*P		**P**	**15 02 15.0 +1.3**
	comp=Z,165nm,1.1s						
MENT	**Mentasta**	**62.33**	**30**	*e*P		**P**	**15 02 14.5 -0.7**
KK31	**Karatay Array**	**62.55**	**308**	*ce*P		**P**	**15 02 17.9 +0.9**
KK31					pmax	pmax	
	comp=Z,60nm,0.9s						
KKAR	**Karatay Array**	**62.55**	**308**	*e*P		**P**	**15 02 18.0 +1.0**
KKAR					pmax	pmax	
	comp=Z,71nm,1.0s						
KKAR	**Karatay Array**	**62.55**	**308**	*e*P		**P**	**15 02 18.0 +1.0**
	comp=Z,71nm,1.0s						
EGAK	**Eagle**	**63.58**	**28**	*e*P		**P**	**15 02 23.8 +0.5**
	comp=Z,22nm,0.8s						
PNL	**Peninsula**	**64.33**	**33**	*e*P		**P**	**15 02 29.8 +1.4**
	comp=Z,21nm,0.6s						
HYT	**Haines Junctio**	**65.24**	**32**	*e*P		**P**	**15 02 36.2 +1.8**
SKAG	**Skagway**	**66.41**	**33**	*e*P		**P**	**15 02 43.3 +1.6**
	comp=Z,30nm,0.8s						
INK	**Inuvik**	**66.65**	**24**	*e*P		**P**	**15 02 43.8 +0.8**
INK				*e*pP		**pP**	**15 03 19.1 +3.0**
INK	**Inuvik**	**66.65**	**24**	P		**P**	**15 02 43.7 +0.7**
	comp=Z,18nm,0.7s,baz=282,slow=2.9,SNR=19						
SVE	**Sverdlovsk**	**67.37**	**324**	*de*P		**P**	**15 02 49.0 +1.2**
SVE				*e*S		**S**	**15 11 30.0 -2.4**
SVE					pmax	pmax	
	comp=Z,91nm,1.0s						
WRAK	**Wrangell Islan**	**68.35**	**37**	*e*P		**P**	**15 02 55.5 +1.6**
	comp=Z,24nm,0.2s						
URZ	**Urewera**	**68.40**	**152**	*e*P		**P**	**15 02 53.5 -0.9**
	comp=Z,414nm,1.8s						
ARU	**Arti**	**68.56**	**324**	*c i*P		**P**	**15 02 55.7 +0.4**
ARU							15 03 17.7	
ARU					*PP	**pP**	**15 03 24.5 -4.0**
ARU							15 05 24.0	
ARU					PPP	PPP	15 07 02.8	
ARU					S	**S**	**15 11 46.3 -0.2**
ARU							15 12 32.5	
ARU					SSS	SSS	15 19 25.0	
ARU					pmax	pmax	
	comp=Z,119nm,1.2s						
ARU	**Arti**	**68.56**	**324**	P		**P**	**15 02 56.0 +0.7**
	comp=Z,568nm,0.5s,SNR=22						
AB31	**Akbulak array**	**68.94**	**316**	*ce*P		**P**	**15 02 58.2 +0.4**
AB31					pmax	pmax	
	comp=Z,46nm,0.4s						
SOKR	**Solikamsk**	**69.00**	**327**	*c i*P		**P**	**15 02 58.7 +0.8**
SOKR					pmax	pmax	
	comp=Z,60nm,1.2s						
SOKR					MLR	MLR	
	comp=Z,380nm,21.0s						
DLBC	**Dease Lake**	**69.27**	**34**	*e*P		**P**	**15 03 01.7 +2.0**
DLBC	**Dease Lake**	**69.27**	**34**	P		**P**	**15 03 01.4 +1.7**
	comp=Z,20nm,0.8s,baz=316,slow=6.7,SNR=9.5						
AKTO	**Aktyubinsk**	**69.94**	**317**	P		**P**	**15 03 04.7 +0.8**
AKTO	**Aktyubinsk**	**69.94**	**317**	P		**P**	**15 03 04.7 +0.8**
AKTO	**Aktyubinsk**	**69.94**	**317**	P		**P**	**15 03 04.7 +0.8**
	comp=Z,18nm,0.7s,baz=93,slow=8.5,SNR=20						
AKTO					LR	LR	15 35 32.6	
	comp=Z,218nm,18.7s,baz=252,slow=37						
SNZO	**South Karori**	**70.00**	**155**	*e*P		**P**	**15 03 02.8 -1.3**
	comp=Z,52nm,0.6s						
KHZ	**Kahutara**	**70.51**	**157**	*e*P		**P**	**15 03 05.4 -1.9**
	comp=Z,41nm,0.7s						
BBB	**Bella Bella**	**71.58**	**40**	P		**P**	**15 03 13.8 +0.1**
BBB	**Bella Bella**	**71.58**	**40**	P		**P**	**15 03 13.8 +0.1**
	comp=Z,15nm,0.7s,baz=270,slow=4.0,SNR=6.0						
ALE	**Alert**	**74.31**	**3**	P		**P**	**15 03 30.0 +0.6**
	comp=Z,170nm,0.8s,SNR=5.9						
SPITS	**Spitsbergen Ar**	**74.91**	**350**	P		**P**	**15 03 33.6 +0.8**
SPITS	**Spitsbergen Ar**	**74.91**	**350**	P		**P**	**15 03 33.6 +0.8**
	comp=Z,4.4nm,0.7s,baz=76,slow=7.0,SNR=6.6						
KBS	**Kingsbay**	**75.06**	**351**	*e*P		**P**	**15 03 34.3 +0.6**
KBS					pmax	pmax	
	comp=Z,18nm,0.8s						
KBS	**Kingsbay**	**75.06**	**351**	*e*P		**P**	**15 03 34.2 +0.6**
	comp=Z,18nm,0.8s						
PGC	**Sidney**	**75.40**	**43**	*e*P		**P**	**15 03 37.5 +1.4**
	comp=Z,0.8nm,0.6s						
NLWA	**Neilton Lookou**	**75.52**	**44**	*e*P		**P**	**15 03 38.9 +1.9**
	comp=Z,39nm,1.1s						
YKA	**Yellowknife Ar**	**75.56**	**28**	P		**P**	**15 03 37.6 +0.8**
YKA	**Yellowknife Ar**	**75.56**	**28**	P		**P**	**15 03 37.6 +0.8**
	comp=Z,27nm,0.5s,baz=292,slow=5.9,SNR=101						
TMCR	**Tamitsa**	**76.25**	**334**	*e*P		**P**	**15 03 40.4 -0.3**
TMCR				*e*			15 03 50.3	
TMCR					pmax	pmax	
	comp=Z,91nm,0.8s						
JCW	**Jim Creek**	**76.51**	**43**	P		**P**	**15 03 44.3 +1.8**
APA	**Apatity**	**76.53**	**338**	⇑*i*P		**P**	**15 03 42.4 +0.2**
APA				*i* *PP		**pP**	**15 04 18.0 +1.9**
APA				*i* S		**S**	**15 13 16.0 -0.6**
APA					pmax	pmax	
	comp=Z,60nm,1.0s						
KEBM	**Edson Butte**	**76.60**	**49**	*e*P		**P**	**15 03 45.1 +1.9**
	comp=Z,126nm,1.5s						
PPT	**Papeete**	**76.83**	**116**	LR		LR	15 33 39.7	
	comp=Z,50nm,19.5s,baz=192,slow=32						
PPT2	**Papeete2**	**76.85**	**116**	*e*S		**S**	**15 13 17.0 -4.7**
	comp=Z,279nm,27.5s						
PPT2	**Papeete2**	**76.85**	**116**	*e*LR		LR	15 27 25.3	
	comp=Z,1µm,36.0s						
TDL	**Tradedollar La**	**76.92**	**45**	P		**P**	**15 03 46.8 +1.8**
PMOR	**Pomariorio Ree**	**77.04**	**112**	*e*P		**P**	**15 03 47.4 +1.5**
	comp=Z,189nm,1.3s						
LON	**Longmire**	**77.05**	**45**	*e*P		**P**	**15 03 46.7 +1.0**
LON					pmax	pmax	
	comp=Z,16nm,0.9s						
LON	**Longmire**	**77.05**	**45**	*e*P		**P**	**15 03 46.7 +1.0**
	comp=Z,16nm,0.9s						
WPW	**White Pass**	**77.24**	**45**	P		**P**	**15 03 48.2 +1.4**
KRMB	**Red Mountain**	**77.33**	**50**	*e*P		**P**	**15 03 49.2 +1.8**
H04A	**Detroit Lake**	**77.49**	**47**	P		**P**	**15 03 49.4 +1.3**
KEV	**Kevo**	**77.49**	**341**	*e*p		**P**	**15 03 47.4 -0.1**
	comp=Z,16nm,0.6s						
KEV	**Kevo**	**77.49**	**341**	*e*P		**P**	**15 03 47.4 -0.1**
KEV					pmax	pmax	
	comp=Z,16nm,0.6s						
VLL	**Laurance Lake**	**77.57**	**46**	P		**P**	**15 03 50.3 +1.7**
HUMO	**Hull Mountain**	**77.65**	**49**	*e*P		**P**	**15 03 50.5 +1.5**
	comp=Z,13nm,0.7s						
KHMM	**Horse Mountain**	**77.67**	**51**	*e*P		**P**	**15 03 51.0 +1.7**
	comp=Z,24nm,0.7s						
TBM	**Table Mountain**	**77.70**	**44**	P		**P**	**15 03 50.6 +1.3**
VFP	**Flag Point**	**77.76**	**46**	P		**P**	**15 03 51.3 +1.5**
HOQ	**Hoqain**	**77.79**	**291**	P		**P**	**15 03 50.9 +0.8**
	SNR=7.9						
HOQ	**Hoqain**	**77.79**	**291**	P		**P**	**15 03 50.7 +0.6**
	SNR=11						
BANOM	**Banah**	**77.88**	**293**	⇓P		**P**	**15 03 51.8 +1.2**
ARCES	**ARCESS Array B**	**78.05**	**341**	P		**P**	**15 03 51.8 +1.1**
ARCES				pP		**pP**	**15 04 20.5 -4.2**
ARCES				PKKPbc		**PKKPbc**	**15 22 48.7 -2.5**
ARCES	**ARCESS Array B**	**78.05**	**341**	P		**P**	**15 03 51.8 +1.1**
	comp=Z,19nm,0.6s,baz=71,slow=8.6,SNR=64						
ARCES				pP		**pP**	**15 04 20.5 -4.2**
	comp=Z,22nm,0.7s,baz=64,slow=8.2,SNR=6.5						
ARCES				PKKPbc		**PKKPbc**	**15 22 48.7 -2.5**
	comp=Z,1.0nm,0.6s,baz=323,slow=1.8,SNR=7.7						
MXC	**Moxie City**	**78.10**	**44**	P		**P**	**15 03 53.0 +1.6**
YBH	**Yreka Blue Hor**	**78.11**	**50**	*e*P		**P**	**15 03 53.4 +1.7**
YBH	**Yreka Blue Hor**	**78.11**	**50**	P		**P**	**15 03 52.3 +0.6**
	comp=Z,14nm,0.6s,baz=266,slow=1.0						
BSY	**Bisya**	**78.16**	**290**	⇑P		**P**	**15 03 52.7 +0.5**
	SNR=6.3						
KCPM	**Cahto Peak**	**78.17**	**52**	*e*P		**P**	**15 03 53.9 +1.8**
	comp=Z,27nm,0.7s						
ASHO	**Ashiyiah**	**78.50**	**292**	P		**P**	**15 03 55.5 +1.4**
	SNR=5.3						
ARQ	**Araqi**	**78.55**	**291**	P		**P**	**15 03 55.7 +1.4**
	SNR=5.3						
WDC	**Whiskeytown Da**	**78.62**	**51**	*e*P		**P**	**15 03 55.8 +1.4**
WDC					pmax	pmax	
	comp=Z,44nm,1.3s						
WDC	**Whiskeytown Da**	**78.62**	**51**	*e*P		**P**	**15 03 55.8 +1.4**
	comp=Z,44nm,1.3s						
MAK	**Makhachkala**	**78.96**	**312**	*e*P		P	15 04 04.2 +8.1
MAK				*e*			15 07 00.0	
MAK				*e*S		S	15 13 56.9 +13
MAK				*e*			15 14 28.4	
MAK					pmax	pmax	
	comp=Z,164nm,1.4s						
MAK					MLR	MLR	
	comp=Z,660nm,19.0s						
NEW	**Newport**	**79.49**	**42**	*e*P		**P**	**15 04 00.2 +1.2**
NEW				*e*pP		**pP**	**15 04 34.7 +1.6**
NEW	**Newport**	**79.49**	**42**	P		**P**	**15 04 00.1 +1.0**
	comp=Z,19nm,0.7s,baz=278,slow=4.5,SNR=7.6						
NEW	**Newport**	**79.49**	**42**	⇓P		**P**	**15 03 60.0 +0.9**
	baz=79,SNR=16						
VRHR	**Novokhopersk**	**79.67**	**321**	*e*P		**P**	**15 03 59.5 -0.3**
VRHR				*e**PP		**pP**	**15 04 29.2 -4.8**
VRHR				*e*S		**S**	**15 13 47.5 -3.3**
VRHR					pmax	pmax	
	comp=Z,90nm,0.8s						
VRHR					pmax	pmax	
	comp=N,10.0nm,0.5s						
VRHR					pmax	pmax	
	comp=E,10.0nm,0.5s						
VRHR					smax	smax	
	comp=E,80nm,1.3s						
VRHR					smax	smax	
	comp=Z,40nm,1.6s						
VRHR					smax	smax	
	comp=N,60nm,0.8s						
EDM	**Edmonton**	**79.75**	**36**	*e*P		**P**	**15 04 01.4 +1.0**
EDM	**Edmonton**	**79.75**	**36**	*e*P		**P**	**15 04 01.4 +1.0**
EDM				*e*pP		**pP**	**15 04 35.4 +0.9**
TBI	**Tubuai**	**79.77**	**121**	*e*S		**S**	**15 13 49.6 -3.0**
	comp=N,640nm,29.0s						
TBI	**Tubuai**	**79.77**	**121**	*e*LR		LR	15 28 36.0	
	comp=N,397nm,37.8s						
MOS	**Moscow**	**79.94**	**326**	*e*P		**P**	**15 04 00.0 -1.2**
MOS				*e*			15 04 30.4	
MOS				*e*			15 04 42.0	
MOS				*e*			15 07 08.5	
MOS				*e*S		**S**	**15 13 50.3 -3.2**
MOS				*e**SS		sS	15 14 42.4 -10	
MOS					pmax	pmax	
	comp=Z,64nm,1.3s						
MOS					pmax	pmax	
	comp=Z,200nm,2.1s						
MOS					smax	smax	
	comp=N,500nm,3.1s						
MOS					smax	smax	
	comp=E,300nm,2.5s						
A12A	**Yaak River Ran**	**80.14**	**41**	⇑P		**P**	**15 04 04.1 +1.6**
	baz=80,SNR=5.9						
DAG	**Danmarks Havn**	**80.19**	**356**	*e*P		**P**	**15 04 02.8 +0.6**
DAG					pmax	pmax	
	comp=Z,4.0nm,0.8s						
DAG	**Danmarks Havn**	**80.19**	**356**	*i* P		**P**	**15 04 02.8 +0.6**
	comp=Z,5.3nm,0.8s						
DAG	**Danmarks Havn**	**80.19**	**356**	*i* P		pP	15 04 32.5 -3.8
	comp=Z,23nm,0.9s						
B12A	**Libby**	**80.36**	**41**	⇑P		**P**	**15 04 05.1 +1.4**
	baz=80						
BEKR	**Beckworth**	**80.44**	**51**	*e*P		**P**	**15 04 05.2 +0.8**
	comp=Z,23nm,0.8s						
BMO	**Blue Mountains**	**80.67**	**45**	*e*P		**P**	**15 04 06.6 +1.1**
BMO					pmax	pmax	
	comp=Z,23nm,0.8s						
BMO	**Blue Mountains**	**80.67**	**45**	*e*P		**P**	**15 04 06.5 +1.1**
	comp=Z,23nm,0.8s						
WVOR	**Wild Horse Val**	**80.70**	**48**	*e*P		**P**	**15 04 06.7 +1.0**
WVOR				*e**PP		**pP**	**15 04 41.8 +1.9**
WVOR					pmax	pmax	
	comp=Z,27nm,1.0s						
WVOR	**Wild Horse Val**	**80.70**	**48**	*e*P		**P**	**15 04 06.7 +1.0**
	comp=Z,27nm,1.0s						
WVOR				*e*pP		**pP**	**15 04 41.8 +1.9**
C12B	**Naegeli Ranch,**	**80.73**	**42**	⇓P		**P**	**15 04 06.4 +0.7**
	baz=81						
OBN	**Obninsk**	**80.76**	**326**	*c i*P		**P**	**15 04 05.7 +0.2**
OBN				*e**PP		**pP**	**15 04 36.0 -3.8**
OBN				*e*			15 14 02.0	
OBN					pmax	pmax	
	comp=Z,87nm,2.2s						
OBN					MLR	MLR	
	comp=Z,400nm,19.0s						
SAO	**San Andreas Ge**	**80.77**	**54**	*e*P		**P**	**15 04 07.1 +1.1**
SAO					pmax	pmax	
	comp=Z,10.0nm,0.6s						
SAO	**San Andreas Ge**	**80.77**	**54**	*e*P		**P**	**15 04 07.1 +1.1**
	comp=Z,10nm,0.6s						
A13A	**Flathead Natio**	**80.89**	**41**	⇑P		**P**	**15 04 07.9 +1.3**
	baz=81						
DGRG	**David-gareji**	**80.98**	**311**	P		**P**	**15 04 08.6 +1.5**
VSR	**Storozhevoye**	**81.03**	**322**	*e*P		**P**	**15 04 07.5 +0.4**
VSR				*e**PP		**pP**	**15 04 37.1 -4.3**
VSR				*e*S		**S**	**15 14 02.4 -2.7**
VSR					pmax	pmax	
	comp=Z,110nm,1.3s						
VSR					pmax	pmax	
	comp=N,30nm,0.9s						
VSR					pmax	pmax	
	comp=E,80nm,1.1s						
VSR					smax	smax	
	comp=N,150nm,1.9s						
VSR					smax	smax	
	comp=Z,10.0nm,1.4s						
VSR					smax	smax	
	comp=E,30nm,1.2s						
VORD	**Divnogorie**	**81.07**	**322**	*e*P		**P**	**15 04 07.6 +0.3**
VORD				*e**PP		**pP**	**15 04 37.2 -4.3**
VORD				*e*S		**S**	**15 14 03.1 -2.3**
VORD					pmax	pmax	
	comp=Z,70nm,1.3s						
VORD					pmax	pmax	
	comp=N,10.0nm,0.8s						
VORD					pmax	pmax	
	comp=E,30nm,0.8s						
VORD					smax	smax	
	comp=N,80nm,1.2s						
VORD					smax	smax	
	comp=Z,7.0nm,0.6s						
VORD					smax	smax	
	comp=E,50nm,1.8s						
CMB	**Columbia Colle**	**81.09**	**53**	*e*P		**P**	**15 04 09.0 +1.2**
CMB					pmax	pmax	
	comp=Z,40nm,0.6s						
CMB	**Columbia Colle**	**81.09**	**53**	*e*P		**P**	**15 04 09.0 +1.2**
	comp=Z,40nm,0.6s						
BSMT	**Bassoo Peak**	**81.10**	**42**	*e*P		**P**	**15 04 09.1 +1.2**
	comp=Z,17nm,0.8s						
WALA	**Waterton Lakes**	**81.14**	**40**	*e*P		**P**	**15 04 09.4 +1.5**
	comp=Z,1.1nm,0.8s						
WALA				*e*pP		**pP**	**15 04 45.1 +2.9**
PAHR	**Pah Rah Range**	**81.19**	**51**	*e*P		**P**	**15 04 09.4 +1.0**
	comp=Z,65nm,1.7s						
DUS	**Dusheti**	**81.20**	**312**	P		**P**	**15 04 11.2 +2.9**
BLMT	**Blacktail Moun**	**81.29**	**42**	*e*P		**P**	**15 04 10.0 +1.1**
	comp=Z,25nm,0.8s						
C13A	**Hot Springs**	**81.30**	**42**	⇓P		**P**	**15 04 09.8 +1.1**
	baz=81,SNR=13						
C13A					⇓SKSac	**S**	**15 14 08.9 +0.8**
	baz=81						
C13A					⇓SKSac	**S**	**15 14 08.9 +0.8**
	baz=81						
TBLG	**Delisi**	**81.32**	**312**	P		**P**	**15 04 10.0 +1.1**
TBLG	**Delisi**	**81.32**	**312**	P		**P**	**15 04 10.0 +1.1**
JTMT	**Jette**	**81.45**	**42**	*e*P		**P**	**15 04 10.6 +1.0**
	comp=Z,20nm,0.8s						
JTMT				*e*pP		**pP**	**15 04 46.6 +2.7**
A14A	**Double T Ranch**	**81.47**	**40**	⇑P		**P**	**15 04 11.1 +1.4**
	baz=81,SNR=25						
ZEI	**Tsey**	**81.48**	**313**	*e*P		**P**	**15 04 09.2 -0.8**
ZEI					pmax	pmax	
	comp=Z,45nm,0.8s						
WAKR	**Walker**	**81.61**	**52**	*e*P		**P**	**15 04 12.0 +1.3**
	comp=Z,24nm,0.9s						
KZR	**Kazreti**	**81.67**	**311**	P		**P**	**15 04 10.2 -0.6**
SWMT	**Swartz Lake**	**81.72**	**42**	*e*P		**P**	**15 04 11.7 +0.7**
	comp=Z,15nm,0.9s						
KBZ	**Khabaz**	**81.79**	**314**	P		**P**	**15 04 12.5 +1.2**
KBZ	**Khabaz**	**81.79**	**314**	P		**P**	**15 04 12.4 +1.2**
KBZ	**Khabaz**	**81.79**	**314**	P		**P**	**15 04 12.4 +1.2**
	comp=Z,87nm,0.8s,baz=112,slow=3.5,SNR=93						
KBZ					LR	LR	15 43 44.5	
	comp=Z,308nm,18.7s,baz=59,slow=38						
B14A	**Marquette Ranc**	**81.81**	**41**	⇑P		**P**	**15 04 12.9 +1.3**
	baz=82,SNR=21						
KIV	**Kislovodsk**	**81.84**	**314**	*e*P		**P**	**15 04 12.6 +0.9**
KIV				*e**PP		**pP**	**15 04 43.7 -2.3**
KIV				*e*S		**S**	**15 14 13.5 -0.4**
KIV				*e*SS		**SS**	**15 19 35.3 +0.9**
KIV					pmax	pmax	
	comp=Z,67nm,1.0s						
KIV					MLR	MLR	
	comp=Z,331nm,19.0s						
KIV	**Kislovodsk**	**81.84**	**314**	P		**P**	**15 04 12.1 +0.4**
	comp=Z,371nm,0.9s,SNR=13						
ONI	**Oni**	**81.86**	**313**	P		**P**	**15 04 13.4 +1.6**
A15A	**Johnson Ranch,**	**81.88**	**40**	⇑P		**P**	**15 04 12.9 +1.2**
	baz=82,SNR=32						
KAF	**Kangasniemi**	**81.90**	**335**	*e*p		**P**	**15 04 10.6 -0.9**
	comp=Z,17nm,0.5s						
KAF	**Kangasniemi**	**81.90**	**335**	*e*P		**P**	**15 04 10.6 -0.9**
KAF					pmax	pmax	
	comp=Z,17nm,0.5s						
GNI	**Garni**	**81.92**	**310**	P		**P**	**15 04 14.1 +1.8**
	SNR=15						
GNI	**Garni**	**81.92**	**310**	*e*P		**P**	**15 04 13.8 +1.5**
GNI	**Garni**	**81.92**	**310**	P		**P**	**15 04 13.3 +1.0**
	comp=Z,7.4nm,0.4s,baz=94,slow=3.5,SNR=8.3						
SLMT	**Seeley Lake**	**82.15**	**42**	*e*P		**P**	**15 04 13.7 +0.4**
	comp=Z,16nm,0.8s						
MFID	**Camas Ranch**	**82.22**	**46**	*e*P		**P**	**15 04 14.9 +1.2**
	comp=Z,33nm,0.8s						
MFID	**Camas Ranch**	**82.22**	**46**	⇓P		**P**	**15 04 14.9 +1.2**
	baz=82,SNR=27						
B15A	**Bradely Ranch,**	**82.26**	**41**	⇓P		**P**	**15 04 14.6 +0.8**
	baz=82,SNR=30						
AKH	**Akhalkalaki**	**82.30**	**312**	P		**P**	**15 04 15.7 +1.4**
FINES	**FINESS Array B**

ARVC **Arvin** 83.35 55 ⇑P P 15 04 20.3 +0.7
baz=83
CWC **Cottonwood Cre** 83.40 53 ⇓P P 15 04 20.8 +0.8
baz=83
HRY **Holter Researc** 83.40 42 *e*P P 15 04 20.9 +1.1
comp=Z,19nm,0.5s
LRM **Limekiln Ridge** 83.40 43 *e*P P 15 04 20.8 +0.9
comp=Z,225nm,0.8s
ISA **Isabella** 83.41 54 *e*P P 15 04 20.1 +0.2
ISA *PP **pP** 15 04 55.4 +1.0
ISA pmax pmax
comp=Z,18nm,1.2s
ISA **Isabella** 83.41 54 *e*P P 15 04 20.1 +0.2
comp=Z,18nm,1.2s
ISA pP **pP** 15 04 55.4 +1.0
ISA **Isabella** 83.41 54 ⇓P P 15 04 20.3 +0.4
baz=83,SNR=12
ABTO **Aybut** 83.49 286 ⇑P P 15 04 18.8 -1.8
SNR=11
DLMT **Dillon** 83.51 43 *e*P P 15 04 20.8 +0.5
comp=Z,11nm,0.8s
BLG **Laguna Peak** 83.57 56 ⇑P P 15 04 21.3 +0.6
baz=84
I14A **Mackay** 83.57 45 ⇑P P 15 04 22.0 +1.2
baz=84,SNR=19
MCMT **McKenzie Canyo** 83.58 44 *e*P P 15 04 21.3 +0.5
comp=Z,3.9nm,0.8s
A18A **Metzger Ranch,** 83.61 39 ⇑P P 15 04 21.9 +1.2
baz=84
OSI **Osito Adit** 83.63 55 *e*P P 15 04 22.0 +1.0
comp=Z,22nm,0.5s
OSI **Osito Adit** 83.63 55 ⇓P P 15 04 22.3 +1.3
baz=84
C17A **Wharram Farm,** 83.65 41 ⇑P P 15 04 21.4 +0.5
baz=84,SNR=19
GRAC **Grapevine Rang** 83.70 53 ⇓P P 15 04 22.5 +1.1
baz=84,SNR=9.4
UMR **Umm Al-Rimmam** 83.71 299 *e*P P 15 04 22.0 +0.5
UMR AMb AMB 15 04 24.2
comp=Z,196nm,1.8s
IBDR **Badra** 83.76 303 *e*P P 15 04 19.0 -2.7
IBDR *e*S S 15 14 26.0 -7.5
VSU **Vasula** 83.76 332*c i*P P 15 04 20.9 -0.2
VSU pmax pmax
comp=Z,163nm,0.7s
KBD **Kabd** 83.87 299 *e*P P 15 04 22.8 +0.5
KBD AMb AMB 15 04 25.1
comp=Z,95nm,1.1s
B18A **Beardsley Farm** 83.89 40 ⇑P P 15 04 23.2 +1.0
baz=84,SNR=22
D17A **Six Diamond Ra** 83.91 41 ⇑P P 15 04 23.5 +1.2
baz=84,SNR=29
SOC **Sochi** 83.95 315*c i*P P 15 04 22.1 -0.3
SOC *e**PP **pP** 15 04 54.0 -2.9
SOC *e* 15 07 36.7
SOC *e*S **S** 15 14 32.7 -2.3
SOC *e**SS sS 15 15 27.0 -7.5
SOC *e*SS **SS** 15 20 10.9 +5.5
SOC pmax pmax
comp=Z,77nm,1.1s
MPMC **Manual Prospec** 83.99 54 ⇑P P 15 04 24.0 +1.0
baz=84,SNR=37
BOZ **Bozeman (W)** 84.00 43 *e*P P 15 04 23.3 +0.5
BOZ *PP **pP** 15 04 59.5 +2.2
BOZ pmax pmax
comp=Z,10.0nm,0.7s
BOZ **Bozeman (W)** 84.00 43 *e*P P 15 04 23.3 +0.5
comp=Z,9.6nm,0.7s
BOZ pP **pP** 15 04 59.5 +2.2
LRMC **Laurel Mountai** 84.07 54 ⇑P P 15 04 24.6 +1.2
baz=84,SNR=55
DECC **Green Verdugo** 84.07 55 ⇑P P 15 04 23.7 +0.4
baz=84
EGMT **Eagleton** 84.08 40 *e*P P 15 04 23.7 +0.6
comp=Z,17nm,1.0s
EGMT **Eagleton** 84.08 40 ⇓P P 15 04 24.0 +0.9
baz=84,SNR=10
EDW2 **Edwards Air Fo** 84.08 55 ⇑P P 15 04 24.5 +1.1
baz=84,SNR=8.5
E17A **Martinsdale** 84.11 42 ⇓P P 15 04 24.4 +1.0
baz=84,SNR=20
NAY **Al-Naaiem** 84.21 299 *e*P P 15 04 24.5 +0.5
NAY AMb AMB 15 04 26.6
comp=Z,204nm,0.9s
A19A **Klindworth Far** 84.25 39 ⇑P P 15 04 25.2 +1.3
baz=84,SNR=30
FURC **Furnace Creek,** 84.29 53 ⇑P P 15 04 25.2 +0.9
baz=84,SNR=6.2
MWC **Mount Wilson** 84.29 55 *e*P P 15 04 25.2 +0.6
MWC pmax pmax
comp=Z,9.0nm,0.7s
MWC **Mount Wilson** 84.29 55 *e*P P 15 04 25.2 +0.6
comp=Z,9.4nm,0.7s
FMP **Fort Macarthur** 84.31 56 ⇓P P 15 04 25.3 +0.9
baz=84
CIS **Catalina Islan** 84.35 56 ⇑P P 15 04 25.5 +0.8
baz=84
B19A **Brinkman Farms** 84.36 40 ⇑P P 15 04 25.7 +1.3
baz=84,SNR=18
SCI **San Clemente I** 84.41 57 ⇓P P 15 04 25.3 +0.3
baz=84
D18A **Linhart Farms,** 84.43 41 ⇓P P 15 04 26.0 +1.1
baz=84,SNR=14
R11A **Troy Canyon, C** 84.45 51 ⇓P P 15 04 26.2 +0.9
baz=84,SNR=35
QLMT **Earthquake Lak** 84.49 44 *e*P P 15 04 26.9 +1.5
comp=Z,4.3nm,0.8s
QLMT *epP **pP** 15 05 02.7 +2.8
F17A **Fitzpatrick Pl** 84.49 42 ⇑P P 15 04 26.2 +0.9
baz=84,SNR=12
BFSC **Mount Baldy Ra** 84.59 55 ⇓P P 15 04 26.7 +0.7
baz=84
C19A **Slack Wire Ran** 84.63 40 ⇑P P 15 04 27.3 +1.4
baz=84,SNR=26
E18A **Harlowton** 84.65 42 ⇑P P 15 04 27.5 +1.4
baz=84,SNR=39
H16A **Russell Place,** 84.66 44 ⇓P P 15 04 27.6 +1.3
baz=85,SNR=14
G17A **Pierce Place,** 84.70 43 ⇓P P 15 04 27.6 +1.2
baz=85
A20A **Cobblestone Ra** 84.75 39 ⇑P P 15 04 27.7 +1.3
baz=85
GSC **Goldstone** 84.80 54 *e*P P 15 04 28.0 +1.0
GSC pmax pmax
comp=Z,13nm,0.6s
GSC **Goldstone** 84.80 54 *e*P P 15 04 28.0 +1.0
comp=Z,13nm,0.6s
GSC **Goldstone** 84.80 54 ⇑P P 15 04 28.0 +1.0
baz=85,SNR=18
RRX **Edison Barstow** 84.83 54 ⇓P P 15 04 28.5 +1.4
baz=85
YMR **Madison River** 84.86 44 *e*P P 15 04 29.1 +1.8
comp=Z,53nm,0.8s
I16A **Newdale** 84.88 44 ⇓P P 15 04 28.9 +1.6
baz=85
ANN **Anapa** 84.89 317 *e*P P 15 04 23.7 -3.4
ANN *e**PP pP 15 04 56.2 -5.4
ANN *e* 15 07 39.8
ANN *ePPP PPP 15 09 36.8
ANN *eS S 15 14 33.0 -11
ANN pmax pmax
comp=Z,92nm,1.4s
BHD **Baghdad** 84.89 304 *e*P P 15 04 26.0 -1.4
BHD *eS S 15 14 35.0 -10
B20A **Solberg Farm,** 84.91 39 ⇑P P 15 04 28.1 +0.9
baz=85,SNR=22
HVU **Hansel Valley** 84.95 47 *e*P P 15 04 29.1 +1.4
HVU pmax pmax
comp=Z,19nm,0.9s
HVU **Hansel Valley** 84.95 47 *e*P P 15 04 29.1 +1.4
comp=Z,19nm,0.9s
SHOC **Shoshone** 84.95 53 ⇓P P 15 04 28.9 +1.2
baz=85
FFC **Flin Flon** 84.95 32 P P 15 04 28.1 +0.8
comp=Z,431nm,0.7s,SNR=20
FFC **Flin Flon** 84.95 32 *i*P P 15 04 28.4 +1.1
FFC **Flin Flon** 84.95 32 *e*P P 15 04 28.1 +0.8
comp=Z,47nm,0.7s
D19A **Cripps Ranch,** 85.00 41 ⇑P P 15 04 28.8 +1.1
baz=85,SNR=37
SUMG **Summit** 85.01 1 *i*P P 15 04 29.9 +2.2
SUMG pmax pmax
comp=Z,11nm,0.7s
SUMG **Summit** 85.01 1 *e*P P 15 04 28.5 +0.8
comp=Z,11nm,0.6s
SUMG **Summit** 85.01 1 *i*P P 15 04 29.9 +2.2
comp=Z,11nm,0.7s
SUMG **Summit** 85.01 1 *i*P pP 15 04 59.6 -2.6
comp=Z,20nm,0.8s
YNR **Norris Junctio** 85.02 43 *e*P P 15 04 30.3 +2.1
comp=Z,34nm,1.1s
YFT **Old Faithful** 85.03 44 *e*P P 15 04 31.3 +3.1
comp=Z,20nm,0.8s
F18A **Big Timber** 85.08 42 ⇓P P 15 04 29.0 +0.8
baz=85,SNR=39
BBRC **Big Bear Solar** 85.14 55 ⇑P P 15 04 29.3 +0.4
baz=85
BGU **Big Grassy Mou** 85.15 48 *e*P P 15 04 29.7 +1.0
comp=Z,12nm,0.6s
GCMT **Greycliff** 85.16 42 *e*P P 15 04 29.9 +1.3
comp=Z,15nm,0.8s
MURC **Murrieta** 85.19 56 ⇑P P 15 04 29.5 +0.5
baz=85,SNR=6.0
IMW **Indian Meadow** 85.22 44 *e*P P 15 04 30.6 +1.4
comp=Z,21nm,0.8s
RRI2 **Red Ridge** 85.22 45 *e*P P 15 04 30.6 +1.4
comp=Z,25nm,0.9s
H17A **Grant Village** 85.23 44 ⇑P P 15 04 32.4 +3.2
baz=85
LKWY **Lake** 85.26 44 *e*P P 15 04 32.3 +2.9
LKWY pmax pmax
comp=Z,54nm,1.3s
LKWY **Lake** 85.26 44 *e*P P 15 04 32.3 +2.9
comp=Z,54nm,1.3s
C20A **Veseth Ranch,** 85.26 40 ⇑P P 15 04 30.5 +1.5
baz=85,SNR=19
A21A **Bergtoll Ranch** 85.27 38 ⇓P P 15 04 30.3 +1.3
baz=85,SNR=18
FLWY **Flagg Ranch** 85.29 44 *e*P P 15 04 31.2 +1.8
comp=Z,35nm,0.9s
HEC **Hector,Ludlow** 85.35 54 ⇓P P 15 04 30.7 +0.9
baz=85,SNR=13
E19A **Rath Farm, Rou** 85.39 41 ⇓P P 15 04 30.8 +1.1
baz=85,SNR=29
TPAW **Teton Pass** 85.40 45 *e*P P 15 04 31.4 +1.4
comp=Z,22nm,1.0s
TUQ **Turquoise Moun** 85.40 54 ⇓P P 15 04 31.1 +1.0
baz=85
MOOW **Moose Ponds** 85.41 44 *e*P P 15 04 31.5 +1.4
comp=Z,29nm,1.5s
MICGM **Minsk** 85.42 328 *e*P P 15 04 29.0 -0.6
G18A **Lazy EL Ranch,** 85.44 43 ⇓P P 15 04 31.1 +0.9
baz=85,SNR=12
I17A **Pilgrim Ck.** 85.44 44 ⇓P P 15 04 32.2 +2.0
baz=85
MNK **Minsk** 85.45 328 *e*P P 15 04 29.0 -0.7
D20A **Manuel Ranch,** 85.48 41 ⇑P P 15 04 31.2 +1.1
baz=85,SNR=67
B21A **Ellsworth Farm** 85.50 39 ⇑P P 15 04 31.5 +1.4
baz=85,SNR=19
IZAR **Zarasai** 85.51 330 *e*P P 15 04 30.0 0.0
IZAR AMB AMB 15 05 01.0
comp=Z,35nm,0.9s
REDW **Red Top Meadow** 85.52 45 *e*P P 15 04 31.6 +0.9
comp=Z,43nm,1.5s
REDW *epP **pP** 15 05 07.5 +2.3
IDID **Didziasalis** 85.52 329 *e*P P 15 04 30.1 +0.1
IDID AMB AMB 15 05 01.1
comp=Z,29nm,0.9s
109C **Camp Elliot, M** 85.55 56 ⇑P P 15 04 31.1 +0.4
baz=86
LOHW **Long Hollow** 85.56 44 *e*P P 15 04 32.1 +1.3
comp=Z,4.9nm,0.6s
F19A **Roth Farm, Mol** 85.58 42 ⇓P P 15 04 31.6 +0.9
baz=86,SNR=9.6
DUG **Dugway** 85.61 48 *e*P P 15 04 32.1 +1.1
DUG *e**PP **pP** 15 05 07.4 +1.8
DUG pmax pmax
comp=Z,37nm,0.6s
DUG **Dugway** 85.61 48 *e*P P 15 04 32.1 +1.1
comp=Z,37nm,0.6s
DUG *epP **pP** 15 05 07.4 +1.8
DUG **Dugway** 85.61 48 ⇑P P 15 04 32.3 +1.3
baz=86,SNR=30
AHID **Auburn Hatcher** 85.62 45 P P 15 04 30.9 -0.3
comp=Z,8.8nm,0.7s
ISAL **Salakas** 85.67 330 *e*P P 15 04 30.8 +0.1
H18A **Shoshone NF, C** 85.68 43 ⇓P P 15 04 33.1 +1.7
baz=86,SNR=18
RLMT **Red Lodge** 85.72 43 *e*P P 15 04 33.4 +1.8
comp=Z,51nm,0.7s
NACGM **Naroch** 85.73 329 *e* P 15 04 28.0 -3.1
C21A **Desert Coulee** 85.74 40 ⇓P P 15 04 32.6 +1.2
baz=86,SNR=36
IIGN **Ignalina** 85.75 329 *e*P P 15 04 31.1 0.0
IIGN AMB AMB 15 05 02.1
comp=Z,17nm,0.8s
PFO **Pinyon Flat Ob** 85.76 55 P P 15 04 32.0 +0.1
comp=Z,140nm,0.7s,SNR=9.1
PFO **Pinyon Flat Ob** 85.76 55 *e*P P 15 04 32.6 +0.8
PFO **Pinyon Flat Ob** 85.76 55 P P 15 04 32.0 +0.1
comp=Z,15nm,0.7s,baz=285,slow=4.0
PFO **Pinyon Flat Ob** 85.76 55 ⇑P P 15 04 32.6 +0.8
baz=86,SNR=8
E20A **Meyer Farm, Mu** 85.77 41 ⇓P P 15 04 32.6 +1.1
baz=86,SNR=8.9
HWUT **Hardware Ranch** 85.84 47 *e*P P 15 04 33.2 +1.1
comp=Z,37nm,0.9s
HWUT *epP **pP** 15 05 09.0 +2.2
A22A **Carney Farms,** 85.85 38 ⇓P P 15 04 32.5 +0.6
baz=86
GMRC **Granite Mounta** 85.87 54 ⇑P P 15 04 33.4 +1.0
baz=86,SNR=21
BELC **Belle Mtn. Jos** 85.94 55 ⇓P P 15 04 33.3 +0.5
baz=86,SNR=21
BAR **Barrett** 85.97 56 *e*P P 15 04 33.3 +0.5
comp=Z,51nm,1.6s
I18A **Diamond G Ranc** 86.03 44 ⇓P P 15 04 34.4 +1.2
baz=86,SNR=7.4
MONP **Monument Peak** 86.08 56 ⇓P P 15 04 34.2 +0.6
baz=86,SNR=17
F20A **Billings** 86.09 42 ⇑P P 15 04 33.7 +0.5
baz=86
H19A **Powell** 86.11 43 ⇑P P 15 04 35.1 +1.7
baz=86
B22A **Reddig Ranch S** 86.15 39 ⇑P P 15 04 34.3 +0.9
baz=86,SNR=23
LDFC **Landfair** 86.16 54 *e*P P 15 04 34.8 +1.0
comp=Z,72nm,1.3s
D21A **La Casta Ranch** 86.18 40 ⇑P P 15 04 34.5 +1.0
baz=86,SNR=22
ARUT **Antelope Range** 86.22 51 *e*P P 15 04 35.2 +1.1
ARUT pmax pmax
comp=Z,19nm,0.6s
ARUT **Antelope Range** 86.22 51 *e*P P 15 04 35.2 +1.1
comp=Z,19nm,0.6s
NLU **North Lily Min** 86.23 48 *e*P P 15 04 35.0 +0.9
comp=Z,8.9nm,0.6s
G20A **Bridger** 86.33 42 ⇓P P 15 04 35.2 +0.7
baz=86,SNR=17
JLU **Jordanelle** 86.37 47 *e*P P 15 04 35.8 +0.9
comp=Z,35nm,0.8s
CCUT **Cedar City** 86.38 51 *e*P P 15 04 36.2 +1.3
comp=Z,11nm,0.6s
E21A **Keefer Ranch,** 86.39 41 ⇑P P 15 04 35.5 +1.0
baz=86,SNR=9.0
I19A **Meeteetse** 86.40 44 ⇑P P 15 04 36.1 +1.2
baz=86,SNR=8.0
DVTC **Desert V Tower** 86.42 56 ⇑P P 15 04 36.0 +0.9
baz=86
A23A **Redstone** 86.46 38 ⇑P P 15 04 35.5 +0.6
baz=86
C22A **Vida** 86.49 39 ⇑P P 15 04 35.6 +0.5
baz=86,SNR=12
BC3 **Big Chuckawall** 86.50 55 ⇑P P 15 04 36.6 +1.1
baz=86,SNR=23
M17A **Scullys Gap (B** 86.50 46 ⇑P P 15 04 36.4 +0.9
baz=86
MPU **Maple Canyon** 86.50 48 *e*P P 15 04 36.4 +0.9
comp=Z,27nm,1.1s
IRM **Iron Mountain** 86.51 54 ⇑P P 15 04 36.3 +0.9
baz=86,SNR=15
SWSC **Sam W. Stewart** 86.53 56 ⇓P P 15 04 36.2 +0.7
baz=86,SNR=7.5
DAU **Daniels Canyon** 86.58 48 *e*P P 15 04 37.0 +1.0
DAU *e**PP **pP** 15 05 12.1 +1.5
DAU pmax pmax
comp=Z,34nm,0.7s
DAU **Daniels Canyon** 86.58 48 *e*P P 15 04 37.0 +1.0
comp=Z,34nm,0.7s
DAU *epP **pP** 15 05 12.1 +1.5
D22A **Cohagen** 86.62 40 ⇑P P 15 04 36.9 +1.2
baz=86,SNR=15
BW06 **Boulder Array** 86.63 45 *e*P P 15 04 36.4 +0.2
comp=Z,7.1nm,0.8s
BW06 *epP **pP** 15 05 12.2 +1.4
PDAR **Pinedale Array** 86.63 45 P P 15 04 36.5 +0.4
PDAR **Pinedale Array** 86.63 45 P P 15 04 36.5 +0.4
comp=Z,5.8nm,0.8s,baz=266,slow=2.8,SNR=37
PDAR LR LR 15 39 03.6
comp=Z,174nm,19.6s,baz=298,slow=32
B23A **Brockton** 86.65 38 ⇓P P 15 04 36.7 +0.9
baz=86,SNR=8.4
NEE2 **Needles Airpor** 86.66 54 ⇑P P 15 04 37.4 +1.3
baz=87
F21A **Absaloka Mine,** 86.71 41 ⇑P P 15 04 36.8 +0.5
baz=87
L18A **Fontenelle, Gr** 86.71 46 ⇓P P 15 04 37.4 +0.9
baz=87,SNR=9.1
J19A **Crowheart** 86.73 44 ⇓P P 15 04 37.4 +0.9
baz=87,SNR=15
MVU **Marysvale** 86.78 50 *e*P P 15 04 38.2 +1.3
comp=Z,17nm,0.8s
MSU **Marysvale** 86.80 50 *e*P P 15 04 38.3 +1.3
MSU pmax pmax
comp=Z,15nm,0.6s
MSU **Marysvale** 86.80 50 *e*P P 15 04 38.3 +1.3
comp=Z,15nm,0.6s
KIEV **Kiev** 86.81 324 *e*P P 15 04 35.0 -1.4
KIEV pmax pmax
comp=Z,15nm,0.6s
KIEV **Kiev** 86.81 324 *e*P P 15 04 35.0 -1.4
comp=Z,15nm,0.6s
H20A **Greybull** 86.81 43 ⇓P P 15 04 37.7 +0.9
baz=87
C23A **Lambert** 86.87 39 ⇓P P 15 04 37.9 +1.0
baz=87,SNR=10
SIM **Simferopol'** 86.90 318 *e*P P 15 04 35.0 -2.0
SIM *eS S 15 14 50.0 -14
SIM pmax pmax
comp=Z,27nm,0.8s
G21A **Lodge Grass** 86.95 42 ⇓P P 15 04 38.4 +1.0
baz=87,SNR=5.2
I20A **Worland** 86.99 43 ⇑P P 15 04 38.5 +0.8
baz=87,SNR=7.5
W13A **Hualapai Mount** 87.06 53 ⇑P P 15 04 39.2 +0.9
baz=87,SNR=24
K19A **Absolon Red Bu** 87.07 45 ⇓P P 15 04 38.3 +0.1
baz=87,SNR=12
L19A **Farson** 87.08 45 ⇑P P 15 04 39.2 +0.9
baz=87,SNR=6.4
DGMT **Dagmar** 87.10 38 *e*P P 15 04 38.3 +0.4
comp=Z,14nm,0.7s
DGMT **Dagmar** 87.10 38 ⇑P P 15 04 38.3 +0.4
baz=87
E22A **Miles City** 87.11 40 ⇑P P 15 04 39.1 +0.9
baz=87,SNR=14
TMUT **Trail Mountain** 87.12 48 *e*P P 15 04 39.5 +0.8
comp=Z,15nm,0.8s
Y12C **Blythe** 87.16 55 ⇑P P 15 04 39.6 +1.0
baz=87
D23A **Lindsay** 87.18 39 ⇓P P 15 04 39.8 +1.3
baz=87,SNR=8.3
PDMCI **Parker Dam,Lak** 87.21 54 ⇓P P 15 04 39.8 +1.0
baz=87,SNR=9.7
GLA **Glamis** 87.23 55 *e*P P 15 04 40.1 +1.2
GLA pmax pmax
comp=Z,34nm,0.6s
GLA **Glamis** 87.23 55 *e*P P 15 04 40.1 +1.2
comp=Z,34nm,0.6s
GLA **Glamis** 87.23 55 ⇑P P 15 04 40.3 +1.3
baz=87,SNR=13
F22A **Rosebud** 87.26 41 ⇑P P 15 04 39.6 +0.8
baz=87
J20A **Shoshoni** 87.31 44 ⇓P P 15 04 40.4 +1.2
baz=87
Q16A **Castle Valley** 87.32 49 ⇓P P 15 04 40.6 +1.2
baz=87,SNR=26
C24A **Savage** 87.45 39 ⇑P P 15 04 40.9 +1.2
baz=87
E23A **Ismay** 87.47 40 ⇓P P 15 04 40.7 +0.9
baz=87,SNR=10
K20A **Yellowstone Ra** 87.47 44 ⇓P P 15 04 40.5 +0.4
baz=87,SNR=11
M19A **Rock Springs** 87.49 46 ⇓P P 15 04 40.7 +0.4
baz=87
G22A **Birney** 87.51 42 ⇓P P 15 04 40.5 +0.4
baz=87
I21A **Big Trails, Te** 87.59 43 ⇑P P 15 04 41.2 +0.6
baz=88,SNR=6.7
U15A **North Rim** 87.64 51 ⇓P P 15 04 42.2 +1.0
baz=88,SNR=36
SRU **San Rafael** 87.68 48 *e*P P 15 04 41.9 +0.7
SRU pmax pmax
comp=Z,23nm,0.6s
SRU **San Rafael** 87.68 48 *e*P P 15 04 41.9 +0.7
comp=Z,23nm,0.6s
J21A **Lysite** 87.72 44 ⇓P P 15 04 42.0 +0.7
baz=88
L20A **Wamsutter** 87.79 45 ⇑P P 15 04 42.7 +1.0
baz=88
H22A **Clearmont** 87.79 42 ⇑P P 15 04 42.7 +1.2
baz=88
F23A **Volborg** 87.80 41 ⇑P P 15 04 41.8 +0.4
baz=88,SNR=12
RAYN **Ar Rayn** 87.89 294 P P 15 04 42.5 +0.3
comp=Z,295nm,0.7s,SNR=30
HFS **Hagfors** 87.89 337 P P 15 04 40.2 -1.3
HFS pP pP 15 05 10.5 -5.7
HFS PKKPbc **PKKPbc** 15 22 25.5 -2.9
HFS **Hagfors** 87.89 337 P P 15 04 40.2 -1.3
comp=Z,20nm,0.5s,baz=72,slow=4.7,SNR=26
HFS pP pP 15 05 10.5 -5.7
comp=Z,14nm,0.7s,baz=78,slow=3.6,SNR=5.5
HFS PKKPbc **PKKPbc** 15 22 25.5 -2.9
comp=Z,1.3nm,0.4s,baz=149,slow=3.1,SNR=12
HFS LR LR 15 43 01.4
comp=Z,213nm,19.4s,baz=36,slow=35
SUW **Suwalki** 87.96 329 *e*P P 15 04 41.0 -0.9
SUW pmax pmax
comp=Z,126nm,1.2s
SUW **Suwalki** 87.96 329 *e*P P 15 04 41.0 -0.9
comp=Z,126nm,1.2s
SUW **Suwalki** 87.96 329 *e*P P 15 04 41.3 -0.6
SUW *epP pP 15 05 11.3 -5.4
SUW LMZ LR 15 37 43.2
E24A **Baker** 88.02 40 ⇑P P 15 04 43.5 +1.0
baz=88
C25A **Freed Ranch, W** 88.03 38 ⇑P P 15 04 43.5 +1.1
baz=88
I22A **9 Mile Ranch,** 88.06 43 ⇓P P 15 04 43.4 +0.7
baz=88,SNR=8.0
G23A **Biddle** 88.07 41 ⇓P P 15 04 43.5 +0.7
baz=88
A26A **Wade Farm, Ken** 88.08 37 ⇓P P 15 04 43.4 +0.7
baz=88
O19A **Miners Draw (B** 88.08 47 ⇓P P 15 04 43.7 +0.7
baz=88,SNR=6.4
NB2 **NORSAR Subarra** 88.10 339 P P 15 04 41.3 -1.2
comp=Z,30nm,1.1s,baz=55,slow=5.1
NOA **NORSAR Array B** 88.10 339 P P 15 04 41.3 -1.2
NOA pP pP 15 05 11.4 -5.8
NOA PP **PP** 15 08 11.8 +1.4
NOA PKKPbc **PKKPbc** 15 22 26.9 -1.1
NOA **NORSAR Array B** 88.10 339 P P 15 04 41.3 -1.2
comp=Z,14nm,0.8s,baz=45,slow=4.4,SNR=52
NOA pP pP 15 05 11.4 -5.8
comp=Z,23nm,0.8s,baz=48,slow=4.8,SNR=14
NOA PP **PP** 15 08 11.8 +1.4
comp=Z,5.2nm,1.0s,baz=38,slow=7.9,SNR=3.8
NOA PKKPbc **PKKPbc** 15 22 26.9 -1.1
comp=Z,0.6nm,0.6s,baz=225,slow=2.7,SNR=5.4
NOA LR LR 15 43 20.8
comp=Z,170nm,21.1s,baz=35,slow=35
M20A **Sweetwater, Wa** 88.14 45 ⇓P P 15 04 44.6 +1.3
baz=88,SNR=6.4
113A **Mohawk Valley,** 88.15 55 ⇑P P 15 04 44.3 +1.0
baz=88,SNR=12
K21A **Alcova** 88.19 44 ⇑P P 15 04 44.1 +0.6
baz=88,SNR=7.2
Y14A **Wickenburg** 88.22 54 ⇓P P 15 04 44.6 +0.9
baz=88
J22A **Midwest** 88.30 43 ⇑P P 15 04 44.6 +0.6
baz=88,SNR=9.5
F24A **Ekalaka** 88.31 40 ⇑P P 15 04 44.7 +0.9
baz=88
H23A **Clabaugh Cattl** 88.39 42 ⇑P P 15 04 44.6 +0.3
baz=88
N20A **Spence Gulch,** 88.40 46 ⇑P P 15 04 45.3 +0.7
baz=88,SNR=10
L21A **Rawlins** 88.44 45 ⇑P P 15 04 45.8 +1.0

baz=88,SNR=9.6
P19A **Cripple Cowboy** 88.49 47 ⇑P P 15 04 45.9 +0.9
baz=88,SNR=38
Z14A **Wintersburg** 88.51 54 ⇓P P 15 04 46.2 +1.2
baz=88
E25A **Miller Ranch,** 88.59 39 ⇓P P 15 04 45.9 +0.8
baz=88
G24A **Alzada** 88.60 41 ⇓P P 15 04 45.6 +0.3
baz=88
M21A **Separation Pea** 88.62 45 ⇓P P 15 04 46.2 +0.6
baz=88,SNR=8.5
K22A **Casper** 88.65 44 ⇓P P 15 04 46.2 +0.6
baz=88,SNR=5.3
I23A **Meade Ranch, G** 88.66 42 ⇑P P 15 04 46.4 +0.8
baz=89
RWWY **Rawlins** 88.68 45 *e*P P 15 04 46.6 +0.6
comp=Z,96nm,1.9s
WUAZ **Wupatki** 88.72 52 *e*P P 15 04 47.4 +1.3
comp=Z,43nm,1.3s
WUAZ **Wupatki** 88.72 52 ⇓P P 15 04 46.9 +0.8
baz=89
O20A **White River Ci** 88.75 47 ⇓P P 15 04 46.9 +0.7
baz=89
H24A **Dirks Ranch, A** 88.82 41 ⇓P P 15 04 46.7 +0.5
baz=89
J23A **Dilts Ranch, B** 88.89 43 ⇑P P 15 04 46.8 +0.1
baz=89
N21A **Black Mountain** 88.93 46 ⇑P P 15 04 48.1 +1.0
baz=89
L22A **Ellis Ranch, M** 89.02 44 ⇓P P 15 04 48.2 +0.8
baz=89,SNR=8.8
C27A **Sayler Ranch,** 89.03 38 ⇓P P 15 04 48.3 +1.2
baz=89
DRV **Dumont d'Urvil** 89.08 181 S PS 15 16 57.0 +11
DRV SS SS 15 21 11.0 -10
DRV L L 15 28 00.0
DRV R 15 35 00.0
PV04 **Paradox Valley** 89.13 48 *e*P P 15 04 48.5 +0.5
E26A **Carlson Angus** 89.15 39 ⇑P P 15 04 48.7 +0.9
baz=89,SNR=13
X16A **Lo Mia Camp, P** 89.16 53 ⇑P P 15 04 49.1 +0.9
baz=89
K23A **Bowen Ranch, D** 89.17 43 ⇓P P 15 04 48.3 +0.2
baz=89
M22A **Cedar Creek Ra** 89.22 45 ⇓P P 15 04 49.7 +1.2
baz=89
O21A **Pagoda** 89.23 46 ⇓P P 15 04 49.1 +0.6
baz=89
I24A **Kuemmerle Ranc** 89.23 42 ⇑P P 15 04 48.6 +0.3
baz=89
214A **Organ Pipe Nat** 89.23 56 ⇓P P 15 04 49.5 +1.1
baz=89
G25A **Newell** 89.27 41 ⇓P P 15 04 48.7 +0.4
baz=89
Q20A **Ridgley Place,** 89.28 48 ⇑P P 15 04 49.5 +0.8
baz=89,SNR=36
F26A **Lodgepole** 89.36 40 ⇓P P 15 04 49.4 +0.6
baz=89,SNR=5.1
L23A **Garrett** 89.44 44 ⇑P P 15 04 49.9 +0.5
baz=89,SNR=11
RSSD **Black Hills** 89.46 42 *e*P P 15 04 49.7 +0.2
RSSD pmax pmax
comp=Z,19nm,1.1s
RSSD **Black Hills** 89.46 42 *e*P P 15 04 49.7 +0.2
comp=Z,18nm,1.1s
H25A **Fruitdale** 89.46 41 ⇓P P 15 04 50.0 +0.7
baz=89,SNR=6.1
J24A **Dixon Ranch, L** 89.48 43 ⇓P P 15 04 49.9 +0.4
baz=89
PV01 **Paradox Valley** 89.49 49 *e*P P 15 04 50.4 +0.6
comp=Z,1μm,0.7s
P21A **Newcastle** 89.58 47 ⇓P P 15 04 50.9 +0.7
baz=90
R20A **Redvale** 89.59 48 ⇓P P 15 04 50.8 +0.6
baz=90,SNR=8.7
N22A **Wattenberg Ran** 89.61 45 ⇓P P 15 04 51.4 +1.0
baz=90
I25A **Rochford** 89.70 42 ⇓P P 15 04 50.9 +0.3
baz=90,SNR=12
K24A **Anderson Ranch** 89.70 43 ⇑P P 15 04 51.6 +1.1
baz=90
G26A **Maurine** 89.71 40 ⇑P P 15 04 51.4 +1.0
baz=90,SNR=19
BRTR **Keskin Array B** 89.77 313 P P 15 04 50.1 -0.8
BRTR pP pP 15 05 20.2 -5.5
BRTR PKKPbc **PKKPbc** 15 22 23.2 -0.1
BRTR **Keskin Array B** 89.77 313 P P 15 04 50.1 -0.8
comp=Z,11nm,0.7s,baz=89,slow=3.2,SNR=53
BRTR pP pP 15 05 20.2 -5.5
comp=Z,19nm,0.9s,baz=94,slow=3.7,SNR=11
BRTR PKKPbc **PKKPbc** 15 22 23.2 -0.1
comp=Z,1.0nm,0.6s,baz=242,slow=2.7,SNR=4.1
BRTR LR LR 15 49 13.5
comp=Z,84nm,19.0s,baz=148,slow=38
S20A **Disappointment** 89.78 49 ⇑P P 15 04 51.9 +0.8
baz=90,SNR=9.4
Q21A **Lamborn Mesa,** 89.83 48 ⇓P P 15 04 52.8 +1.5
baz=90,SNR=21
O22A **Kremmling** 89.87 46 ⇑P P 15 04 52.2 +0.6
baz=90,SNR=11
N23A **Red Feather La** 89.90 45 ⇑P P 15 04 53.1 +1.4
baz=90,SNR=12
H26A **Fairpoint** 89.96 41 ⇑P P 15 04 52.7 +1.1
baz=90,SNR=15
L24A **Wheatland** 89.97 44 ⇑P P 15 04 52.9 +1.1
baz=90
MVCO **Mesa Verde** 89.98 49 *e*P P 15 04 52.8 +0.7
comp=Z,8.6nm,0.8s
MVCO **Mesa Verde** 89.98 49 ⇑P P 15 04 53.1 +1.1
baz=90,SNR=5.8
J25A **Sunshine Ranch** 89.98 42 ⇓P P 15 04 52.1 +0.3
baz=90
TLCR 90.00 320 ⇑*i*P P 15 04 51.7 +0.1
SFJD **Kangerlussuaq** 90.01 5 P P 15 04 50.6 -0.6
SFJD pP pP 15 05 21.5 -4.6
SFJD **Kangerlussuaq** 90.01 5 *i*P P 15 04 50.0 -1.2
comp=Z,7.2nm,0.8s
SFJD **Kangerlussuaq** 90.01 5 *i*P pP 15 05 27.6 +1.5
comp=Z,36nm,0.9s
SFJD **Kangerlussuaq** 90.01 5 P P 15 04 50.6 -0.6
comp=Z,8.2nm,0.8s,baz=31,slow=6.1,SNR=3.5
SFJD pP pP 15 05 21.5 -4.6
comp=Z,17nm,1.0s,baz=334,slow=6.0,SNR=3.5
P22A **Eagle** 90.01 47 ⇓P P 15 04 53.4 +1.2
baz=90,SNR=20
MDND **Maddock** 90.01 37 ⇑P P 15 04 52.5 +0.8
baz=90
PHWY **Pilot Hill** 90.01 45 *e*P P 15 04 53.1 +0.9
comp=Z,44nm,1.5s
G27A **Dupree** 90.06 40 ⇑P P 15 04 52.9 +0.9
baz=90,SNR=34
SMCO **Snowmass** 90.07 47 *e*P P 15 04 53.6 +0.9
comp=Z,16nm,0.6s
R21A **Cimarron** 90.08 48 ⇑P P 15 04 53.9 +1.4
baz=90,SNR=29
W18A **Petrified Fore** 90.09 52 ⇑P P 15 04 53.3 +0.7
baz=90
X18A **Snowflake** 90.20 52 ⇓P P 15 04 54.4 +1.3
baz=90,SNR=6.6
I26A **New Underwood** 90.23 41 ⇑P P 15 04 53.8 +0.9
baz=90
S21A **Coal Bank Pass** 90.25 49 ⇑P P 15 04 54.5 +1.1
baz=90,SNR=24
O23A **Lake Granby, G** 90.26 46 ⇑P P 15 04 54.8 +1.4
baz=90,SNR=10
Q22A **Crested Butte,** 90.27 47 ⇓P P 15 04 54.8 +1.3
baz=90,SNR=18
FRB **Frobisher Bay** 90.34 14 P P 15 04 52.9 +0.1
FRB pP pP 15 05 23.8 -3.8
FRB **Frobisher Bay** 90.34 14 P P 15 04 52.9 +0.1
comp=Z,27nm,0.6s,baz=335,slow=6.2,SNR=15
FRB pP pP 15 05 23.8 -3.8
comp=Z,25nm,0.7s,baz=331,slow=5.7,SNR=6.7
M24A **Cheyenne** 90.34 44 ⇑P P 15 04 55.1 +1.5
baz=90,SNR=6.3
K25A **Mack Ranch, Ha** 90.35 43 ⇓P P 15 04 54.4 +0.8
baz=90
U20A **Newcomb** 90.36 50 ⇓P P 15 04 54.7 +0.9
baz=90
BEL **Belsk** 90.44 328 *e*P P 15 04 52.3 -1.3
BEL epP pP 15 05 23.8 -4.6
BEL LMZ LR 15 41 38.6
TESR **Tescani** 90.53 322 ⇑*i*P P 15 04 53.7 -0.4
L25A **Engebretsen Ra** 90.53 43 ⇓P P 15 04 55.2 +0.8
baz=90
ULM **Lac du Bonnet** 90.58 33 P P 15 04 54.0 -0.2
ULM pP pP 15 05 25.8 -3.3
comp=Z,6.5nm,0.6s,baz=289,slow=6.0,SNR=2.9
ULM pP pP 15 05 25.8 -3.3
comp=Z,5.4nm,0.6s,baz=329,slow=7.2,SNR=2.9
ULM LR LR 15 41 12.6
comp=Z,147nm,21.0s,baz=278,slow=32
TUC **Tucson** 90.61 55 *e*P P 15 04 56.5 +1.6
TUC pmax pmax
comp=Z,40nm,1.6s
TUC **Tucson** 90.61 55 *e*P P 15 04 56.5 +1.6
comp=Z,40nm,1.6s
N24A **Carr** 90.63 45 ⇓P P 15 04 56.0 +1.0
baz=90
TIRR **Tirgusor** 90.64 319 *e*P P 15 04 53.8 -0.8
TIRR pmax pmax
comp=Z,21nm,1.4s
TIRR **Tirgusor** 90.64 319 *e*P P 15 04 53.8 -0.8
comp=Z,20nm,1.4s
TIRR **Tirgusor** 90.64 319 ⇓*i*P P 15 04 54.1 -0.5
ISCO **Idaho Springs** 90.67 46 *e*P P 15 04 56.5 +1.1
ISCO pmax pmax
comp=Z,29nm,1.4s
ISCO **Idaho Springs** 90.67 46 *e*P P 15 04 56.5 +1.1
comp=Z,29nm,1.4s
ISCO **Idaho Springs** 90.67 46 ⇑P P 15 04 56.4 +1.1
baz=91,SNR=13
V20A **Brimhall** 90.68 51 ⇓P P 15 04 56.2 +1.0
baz=91,SNR=16
R22A **Saguache, Gunn** 90.69 48 ⇓P P 15 04 56.9 +1.4
baz=91,SNR=6.7
I27A **Quinn** 90.70 41 ⇓P P 15 04 56.2 +1.2
baz=91,SNR=10
BURAR **Bucovina Array** 90.70 323 ⇑*i*P P 15 04 54.8 -0.2
K26A **Motz Farm, Whi** 90.74 43 ⇓P P 15 04 55.8 +0.5
baz=91,SNR=16
P23A **Jefferson** 90.74 46 ⇑P P 15 04 57.3 +1.7
baz=91,SNR=25
T21A **Navajo Lake** 90.76 49 ⇑P P 15 04 57.4 +1.7
baz=91
G28A **Parade** 90.82 40 ⇑P P 15 04 56.5 +1.0
baz=91
KWP **Kalwaria Pacla** 90.84 326 *e*P P 15 04 55.5 0.0
KWP epP pP 15 05 25.5 -4.9
KWP LMZ LR 15 41 31.7
VRI **Vrincioaia** 90.85 321 ⇑*i*P P 15 04 56.5 +0.9
M25A **Palm-Egli Farm** 90.85 44 ⇓P P 15 04 56.8 +0.9
baz=91
O24A **Longmont** 90.87 45 ⇑P P 15 04 57.7 +1.7
baz=91
S22A **4UR Ranch, Cre** 90.88 48 ⇑P P 15 04 57.6 +1.3
baz=91,SNR=25
PLOR **Plostina** 90.90 321 ⇑*i*P P 15 04 58.0 +2.1
BSD **Bornholm Skovb** 90.92 333 *e*P P 15 04 55.2 -0.5
BSD pmax pmax
comp=Z,12nm,0.8s
BSD **Bornholm Skovb** 90.92 333 *i*P P 15 04 55.2 -0.5
comp=Z,12nm,0.8s
BSD **Bornholm Skovb** 90.92 333 *i*P pP 15 05 23.5 -7.1
comp=Z,15nm,0.8s
U21A **Nagezi** 90.95 50 ⇑P P 15 04 57.4 +0.8
baz=91,SNR=12
W20A **Ramah** 90.97 51 ⇓P P 15 04 57.8 +1.0
baz=91,SNR=5.3
Q23A **Hartsel** 90.98 47 ⇑P P 15 04 57.8 +1.1
baz=91
H28A **Mission Ridge** 90.98 40 ⇓P P 15 04 57.0 +0.7
baz=91
ASF **Jabal al Asfar** 91.05 306 P P 15 04 56.8 -0.2
ASF **Jabal al Asfar** 91.05 306 P P 15 04 56.8 -0.2
comp=Z,5.2nm,0.9s
L26A **Underwood Farm** 91.15 43 ⇓P P 15 04 58.5 +1.2
baz=91
N25A **Grover** 91.15 44 ⇓P P 15 04 58.9 +1.5
baz=91
T22A **Edith** 91.19 49 ⇑P P 15 04 58.6 +0.9
baz=91,SNR=27
V21A **Milan** 91.26 50 ⇑P P 15 04 59.2 +1.2
baz=91
I28A **Midland** 91.27 41 ⇑P P 15 04 57.9 +0.2
baz=91,SNR=10
P24A **Kohler Place,** 91.29 46 ⇑P P 15 04 59.5 +1.5
baz=91
K27A **Flueckinger Fa** 91.32 42 ⇑P P 15 04 58.5 +0.5
baz=91,SNR=7.5
R23A **Moffat** 91.34 47 ⇑P P 15 04 59.8 +1.3
baz=91,SNR=23
Q24A **Divide** 91.41 46 ⇑P P 15 04 59.7 +0.9
baz=91,SNR=12
M26A **McRoberts Ranc** 91.42 44 ⇑P P 15 04 59.6 +1.1
baz=91
S23A **Nye Farm, Mont** 91.47 48 ⇓P P 15 05 00.6 +1.6
baz=91
KOLS **Kolonicke sedl** 91.50 326 *e*P P 15 04 58.8 +0.2
KOLS pmax pmax
comp=Z,8.0nm,1.3s
KOLS **Kolonicke sedl** 91.50 326 *e*P P 15 04 58.8 +0.2
KOLS epP pP 15 05 28.9 -4.5
O25A **Wiggins** 91.50 45 ⇑P P 15 04 59.8 +0.9
baz=91
COP **Copenhagen** 91.53 335 *i*P pP 15 05 27.9 -5.5
comp=Z,18nm,0.8s
U22A **Llaves** 91.54 49 ⇑P P 15 05 00.3 +1.0
baz=91,SNR=7.8
J28A **Allard Ranch,** 91.54 41 ⇑P P 15 04 59.5 +0.6
baz=91,SNR=17
RKT **Rikitea** 91.55 114 *e*LR LR 15 34 01.6
comp=Z,602nm,38.0s
W21A **San Fidel** 91.59 51 ⇑P P 15 05 00.8 +1.3
baz=92
L27A **T5 Ranch, Ells** 91.61 43 ⇓P P 15 05 00.1 +0.7
baz=92
Y20A **Horse Springs,** 91.65 52 ⇑P P 15 05 01.2 +1.4
baz=92,SNR=26
UZH **Uzhgorod** 91.67 325 *e*P P 15 04 57.0 -2.3
UZH *e* 15 05 29.1
UZH *e* 15 05 39.5
UZH *e* 15 15 16.0
UZH *e*S S 15 15 40.0 -8.1
N26A **Koester Ranch,** 91.70 44 ⇑P P 15 05 00.5 +0.7
baz=92
V22A **San Miguel Ran** 91.73 50 ⇓P P 15 05 01.0 +0.8
baz=92,SNR=8.4
STHS **Stebnicka Huta** 91.73 326 *e*P P 15 05 00.3 +0.7
STHS pmax pmax
comp=Z,5.0nm,0.7s
STHS **Stebnicka Huta** 91.73 326 *e*P P 15 05 00.3 +0.7
STHS epP pP 15 05 30.9 -3.6
AGMN **Agassiz Nation** 91.78 35 *e*P P 15 05 00.2 +0.3
comp=Z,23nm,1.1s
P25A **Willow Gulch B** 91.78 46 ⇑P P 15 05 01.5 +1.2
baz=92,SNR=10
T23A **Casias Ranch,** 91.78 49 ⇓P P 15 05 01.4 +1.0
baz=92
SDCO **Great Sand Dun** 91.79 48 *e*P P 15 05 01.5 +0.9
comp=Z,9.8nm,0.6s
R24A **Sanders Place,** 91.81 47 ⇓P P 15 05 01.7 +1.2
baz=92,SNR=51
X21A **Alamocita Cree** 91.82 51 ⇑P P 15 05 02.1 +1.5
baz=92,SNR=13
TRPA **Tarpa** 91.85 325 ⇑*i*P P 15 05 00.1 0.0
TRPA **Tarpa** 91.85 325 ⇓*e*P P 15 05 00.5 +0.4
TRPA *e*P pP 15 05 30.7 -4.3
K28A **Ten Mile Ranch** 91.86 42 ⇑P P 15 05 01.2 +0.8
baz=92,SNR=7.5
M27A **Reverse DX Ran** 91.86 43 ⇓P P 15 05 01.1 +0.6
baz=92
OJC **Ojcow** 91.95 328 *e*P P 15 05 00.8 +0.2
OJC *e**PP pP 15 05 30.5 -5.0
OJC **Ojcow** 91.95 328 *e*P P 15 05 00.8 +0.2
OJC epP pP 15 05 30.5 -5.0
O26A **Horse Wrangler** 91.95 45 ⇑P P 15 05 01.8 +0.8
baz=92
U23A **El Rito** 92.03 49 ⇓P P 15 05 03.1 +1.5
baz=92
Q25A **Bedland, Calha** 92.04 46 ⇓P P 15 05 02.3 +0.8
baz=92,SNR=14
S24A **Houchin Ranch,** 92.04 48 ⇑P P 15 05 02.9 +1.2
baz=92,SNR=15
120A **U Bar Ranch, L** 92.11 53 ⇑P P 15 05 03.5 +1.6
baz=92,SNR=22
Y21A **Point of Rocks** 92.11 52 ⇑P P 15 05 03.7 +1.7
baz=92,SNR=16
L28A **Connealy Angus** 92.15 42 ⇓P P 15 05 02.6 +0.7
baz=92
N27A **Anderson Farm,** 92.16 44 ⇑P P 15 05 02.5 +0.6
baz=92
W22A **Albuquerque** 92.17 51 ⇑P P 15 05 03.5 +1.3
baz=92
319A **Douglas** 92.18 55 ⇑P P 15 05 03.6 +1.4
baz=92,SNR=6.9
NIE **Niedzica** 92.20 327 *e*P P 15 05 03.5 +1.7
NIE *e**PP pP 15 05 33.9 -2.8
NIE **Niedzica** 92.20 327 *e*P P 15 05 03.5 +1.7
NIE epP pP 15 05 33.9 -2.8
MUD **Monsted U'grnd** 92.21 336 *i*P pP 15 05 31.1 -5.4
comp=Z,14nm,0.9s
P26A **Davis Ranch, A** 92.29 45 ⇓P P 15 05 03.6 +1.0
baz=92,SNR=7.8
LAZ **Ladron** 92.31 51 *e*P P 15 05 04.0 +1.1
comp=Z,9.8nm,1.2s
V23A **Ortiz Mt. (NFS** 92.32 50 ⇓P P 15 05 04.6 +1.6
baz=92
BRSD **Miller** 92.33 39 ⇑P P 15 05 02.9 +0.3
baz=92
ARR **Arges** 92.34 322 ⇓*i*P P 15 05 02.7 +0.1
X22A **Bernardo** 92.35 51 ⇓P P 15 05 04.2 +1.2
baz=92
OGNE **Ogallala** 92.40 44 P P 15 05 02.9 -0.1
comp=Z,65nm,1.2s
OGNE **Ogallala** 92.40 44 ⇑P P 15 05 03.1 +0.1
baz=92
R25A **Fountain Ranch** 92.41 47 ⇑P P 15 05 04.1 +0.9
baz=92,SNR=7.6
Z21A **St. Cloud Mine** 92.45 52 ⇑P P 15 05 05.2 +1.6
baz=92,SNR=7.0
K29A **Lazy Trails An** 92.47 41 ⇑P P 15 05 03.8 +0.5
baz=92
220A **Playas Peak, P** 92.49 54 ⇑P P 15 05 04.9 +1.2
baz=92,SNR=14
Q26A **Hugo** 92.52 46 ⇓P P 15 05 04.5 +0.9
baz=92,SNR=5.3
O27A **Beecher Island** 92.52 44 ⇑P P 15 05 04.1 +0.4
baz=92
ANMO **Albuquerque** 92.53 50 *e*P P 15 05 04.8 +1.0
ANMO **Albuquerque** 92.53 50 P P 15 05 03.9 +0.1
comp=Z,6.0nm,0.8s,baz=294,slow=5.1
S25A **Robets Cordova** 92.56 47 ⇑P P 15 05 04.6 +0.7
baz=92,SNR=11
DRGR 92.56 324 ⇓*i*P P 15 05 03.8 +0.2
M28A **Bar X Bar Ranc** 92.58 43 ⇑P P 15 05 04.3 +0.5
baz=92
U24A **Moreno Valley** 92.62 49 ⇓P P 15 05 06.0 +1.7
baz=92
Y22D **IRIS PASSCAL I** 92.62 51 ⇑P P 15 05 06.1 +1.8
baz=92
W23A **Werner Place,** 92.64 50 ⇑P P 15 05 05.4 +1.0
baz=92,SNR=5.7
Y22A **Socorro** 92.66 52 ⇓P P 15 05 05.4 +0.9
baz=93
KECS **Kecovo** 92.70 326 *e*P P 15 05 04.1 -0.1
KECS pmax pmax
comp=Z,4.0nm,1.0s
KECS **Kecovo** 92.70 326 *e*P P 15 05 04.0 -0.1
KECS epP pP 15 05 34.2 -4.8
LPM **Los Pinos Moun** 92.72 51 *e*P P 15 05 05.8 +1.1
comp=Z,21nm,1.5s
121A **Cookes Peak, D** 92.74 53 ⇓P P 15 05 06.3 +1.4
baz=93,SNR=11
320A **Kipp Ranch, An** 92.76 54 ⇑P P 15 05 06.5 +1.6
baz=93,SNR=5.9
L29A **Maesberg Ranch** 92.76 42 ⇑P P 15 05 05.1 +0.5
baz=93,SNR=6.1
BNM **Barren Site** 92.80 51 *e*P P 15 05 06.3 +1.1
comp=Z,26nm,1.8s
P27A **Ficken Ranch,** 92.80 45 ⇑P P 15 05 05.2 +0.3
baz=93
T25A **Trinidad** 92.84 48 ⇓P P 15 05 06.1 +0.8
baz=93,SNR=9.3
N28A **Pribbeno Ranch** 92.86 44 ⇓P P 15 05 05.2 +0.1
baz=93
R26A **Arlington** 92.89 46 ⇓P P 15 05 05.9 +0.5
baz=93,SNR=30
X23A **Hourglass Bar** 92.90 51 ⇓P P 15 05 06.4 +0.8
baz=93
V24A **Rampart Ranch,** 92.97 49 ⇑P P 15 05 07.2 +1.2
baz=93,SNR=12
M29A **Burnside Ranch** 92.98 43 ⇑P P 15 05 06.0 +0.4
baz=93
Z22A **Elephant Butte** 92.99 52 ⇓P P 15 05 07.2 +1.2
baz=93,SNR=10
221A **Mesquite Ranch** 93.00 54 ⇓P P 15 05 07.2 +1.2
baz=93
OKC **Ostrava-Krasne** 93.01 328 *e*P P 15 05 05.1 -0.4
OKC *e* 15 05 35.6
OKC *e* 15 15 26.7
OKC *e*SS SS 15 22 18.1 +1.9
OKC MLR MLR
comp=Z,300nm,19.4s
OKC **Ostrava-Krasne** 93.01 328 *e*P P 15 05 05.1 -0.4
OKC *ex* x 15 05 15.2
OKC *ep*P **pP** 15 05 35.6 -4.8
OKC *e*SKS **SKSac** 15 15 26.7 0.0
OKC *e*XS **sS** 15 17 02.7 +2.0
OKC *e*SS **SS** 15 22 18.1 +1.9
OKC AMS AMS 15 50 30.0
comp=Z,300nm,19.4s
O28A **Krutsinger Ran** 93.01 44 ⇑P P 15 05 06.1 +0.2
baz=93
KSCO **Kaye Shedlock'** 93.06 45 ⇓P P 15 05 07.1 +1.0
baz=93
W24A **Lazy 6 Ranch,** 93.14 50 ⇑P P 15 05 07.9 +1.3
baz=93,SNR=12
U25A **Circle Dot Ran** 93.23 48 ⇓P P 15 05 08.2 +1.1
baz=93,SNR=6.8
KSP **Ksiaz** 93.23 330 ⇑*e*P P 15 05 06.2 -0.3
KSP *e**PP pP 15 05 36.1 -5.3
KSP *e* 15 15 23.8
KSP **Ksiaz** 93.23 330 *e*P P 15 05 06.1 -0.4
KSP *ep*P pP 15 05 35.9 -5.5
KSP LMZ LR 15 40 29.6
S26A **Kim** 93.23 47 ⇑P P 15 05 07.7 +0.7
baz=93,SNR=14
122A **Conniff Cattle** 93.24 53 ⇓P P 15 05 08.8 +1.7
baz=93,SNR=5.6
Y23A **Lovelace Mesa,** 93.32 51 ⇑P P 15 05 08.7 +1.1
baz=93,SNR=5.1
P28A **Saint Francis** 93.33 45 ⇑P P 15 05 07.6 +0.3
baz=93
R27A **Eads** 93.33 46 ⇓P P 15 05 08.0 +0.6
baz=93,SNR=11
N29A **Votaw Ranch, W** 93.36 43 ⇑P P 15 05 07.4 0.0
baz=93
PSZ **Piszkesteto** 93.37 326 *e*P P 15 05 07.5 +0.3
PSZ pmax pmax
comp=Z,12nm,1.3s
PSZ **Piszkesteto** 93.37 326 *e*P P 15 05 07.5 +0.3
comp=Z,12nm,1.3s
PSZ **Piszkesteto** 93.37 326 ⇓*e*P P 15 05 07.6 +0.3
PSZ *e*P pP 15 05 37.1 -5.1
V25A **Rancho No Teng** 93.37 49 ⇑P P 15 05 08.8 +1.0
baz=93,SNR=13
T26A **Comanche Natio** 93.38 47 ⇓P P 15 05 08.4 +0.7
baz=93,SNR=32
M30A **Dale-Ortello V** 93.43 42 ⇑P P 15 05 08.1 +0.4
baz=93
X24A **Lazy VL Ranch,** 93.44 50 ⇑P P 15 05 09.0 +0.9
baz=93
222A **Williams Famil** 93.46 53 ⇑P P 15 05 09.3 +1.2
baz=93
KRLC **Kraliky** 93.52 329 *e*P P 15 05 08.2 +0.3
KRLC *e* 15 05 37.6
KRLC **Kraliky** 93.52 329 *e*P P 15 05 08.2 +0.3
KRLC *ex* x 15 05 17.7
KRLC *ep*P pP 15 05 37.6 -5.2
Z23A **Rita Site, Whi** 93.52 52 ⇑P P 15 05 09.2 +0.8
baz=93
VYHS **Vyhne** 93.54 327 *e*P P 15 05 07.7 -0.3
VYHS pmax pmax
comp=Z,25nm,1.8s
VYHS **Vyhne** 93.54 327 *e*P P 15 05 07.7 -0.3
VYHS *ep*P **pP** 15 05 38.1 -4.8
DPC **Dobruska-Polom** 93.55 329 *e*P P 15 05 07.1 -0.9
DPC *e* 15 05 37.7
DPC *e* 15 15 27.3
DPC *e*SS SS 15 22 27.9 +3.9
DPC MLR MLR
comp=Z,800nm,15.8s
DPC **Dobruska-Polom** 93.55 329 *e*P P 15 05 07.1 -0.9
DPC *ex* x 15 05 18.0
DPC *ep*P pP 15 05 37.7 -5.2
DPC *e*SKS **SKSac** 15 15 27.3 -2.5
DPC *ex* x 15 17 11.0
DPC *e*SS **SS** 15 22 27.9 +3.9

DPC AMS AMS 15 51 20.0
Q28A Sharon Springs 93.55 45 ⇑P P 15 05 08.9 +0.5
baz=93
S27A Las Animas 93.58 47 ⇑P P 15 05 09.2 +0.6
baz=94
O29A 4D Ranch, Culb 93.64 44 ⇓P P 15 05 09.3 +0.6
baz=94
U26A Atchley Ranch, 93.69 48 ⇑P P 15 05 10.2 +1.0
baz=94,SNR=9.9
EIL Elat 93.70 304 P P 15 05 08.4 -0.7
EIL Elat 93.70 304 P P 15 05 08.4 -0.7
comp=Z,7.9nm,0.9s,baz=137,slow=4.8,SNR=3.9
N30A Hueftle Ranch, 93.71 43 ⇑P P 15 05 09.1 +0.1
baz=94
Y24A Capitan 93.77 51 ⇑P P 15 05 09.8 +0.2
baz=94
W25A X Bar L Ranch, 93.80 49 ⇓P P 15 05 10.2 +0.6
baz=94,SNR=10
123A Bell Site, Whi 93.81 52 ⇑P P 15 05 11.2 +1.5
baz=94
P29A Atwood 93.84 44 ⇓P P 15 05 09.7 +0.1
baz=94
BZS Buzias 93.89 323 ⇓*i*P P 15 05 09.0 -0.6
R28A Tribune 93.96 46 ⇑P P 15 05 10.6 +0.4
baz=94,SNR=9.0
V26A Tequesquite Ra 93.97 49 ⇑P P 15 05 11.2 +0.8
baz=94
223A Chaparral, Ant 94.00 53 ⇓P P 15 05 11.2 +0.6
baz=94
X25A Clemmons Ranch 94.01 50 ⇑P P 15 05 11.8 +1.2
baz=94
T27A Campo 94.03 47 ⇓P P 15 05 11.6 +1.0
baz=94
O30A MW Ranch, Wils 94.08 43 ⇑P P 15 05 10.8 +0.1
baz=94
ECSD EROS Data Cent 94.11 39 *e*P P 15 05 10.7 0.0
comp=Z,34nm,1.5s
Z24A Sheeppen Canyo 94.12 51 ⇓P P 15 05 11.8 +0.6
baz=94,SNR=6.0
VRAC Vranov 94.12 328 P P 15 05 09.9 -0.7
VRAC pP pP 15 05 39.8 -5.8
VRAC Vranov 94.12 328 P P 15 05 09.9 -0.7
comp=Z,4.0nm,0.7s,baz=65,slow=5.4,SNR=6.3
VRAC pP pP 15 05 39.8 -5.8
comp=Z,8.9nm,0.9s,baz=9.2,slow=5.6,SNR=4.2
PVCC Panska Ves 94.25 330 *e*P P 15 05 11.2 0.0
PVCC *e* 15 05 41.0
PVCC MLR MLR
comp=Z,300nm,18.8s
PVCC Panska Ves 94.25 330 *e*P P 15 05 11.2 0.0
PVCC *e*pP **pP 15 05 41.0 -5.1**
PVCC AMS AMS 15 50 20.0
comp=Z,300nm,18.8s
BRG Berggiesshubel 94.29 331 *e*P P 15 05 10.6 -0.8
comp=Z,13nm,1.3s
BRG *e*pP pP 15 05 40.5 -5.8
comp=Z,11nm,1.2s
BRG *e*PP **PP 15 09 01.1 +1.7**
comp=Z,19nm,1.8s
BRG *e* 15 09 36.8
comp=Z,9.9nm,1.4s
BRG SKS **SKSac 15 15 32.0 -1.7**
BRG SS **SS 15 22 37.0 +2.6**
BRG
comp=N,194nm,20.1s
BRG
comp=E,119nm,14.4s
BRG
comp=Z,220nm,25.5s
BRG Berggiesshubel 94.29 331 *e*P P 15 05 10.6 -0.8
BRG *e**PP pP 15 05 40.5 -5.8
BRG *e* 15 09 01.1
BRG 15 15 32.0
BRG SS SS 15 22 37.0 +2.6
BRG pmax pmax
comp=Z,13nm,1.3s
BRG pmax pmax
comp=Z,11nm,1.2s
BRG pmax pmax
comp=Z,19nm,1.8s
BRG pmax pmax
comp=Z,10.0nm,1.4s
BRG MLR MLR
comp=N,194nm,20.1s
BRG MLR MLR
comp=E,119nm,14.4s
BRG MLR MLR
comp=Z,220nm,25.5s
Y25A Mesa, Roswell 94.30 51 ⇑P P 15 05 12.5 +0.6
baz=94
U27A Thompson Grove 94.31 48 ⇑P P 15 05 13.0 +1.1
baz=94,SNR=7.7
S28A Manter 94.31 46 ⇑P P 15 05 12.6 +0.8
baz=94,SNR=7.3
P30A Selden 94.31 44 ⇓P P 15 05 12.1 +0.3
baz=94
W26A Owens Ranch, T 94.35 49 ⇑P P 15 05 13.0 +0.8
baz=94
R29A Marienthal 94.36 45 ⇑P P 15 05 12.8 +0.8
baz=94
124A Stringfield Ra 94.37 52 ⇓P P 15 05 13.2 +0.8
baz=94,SNR=8.5
CLL Collm 94.41 331 ⇓*i*P P 15 05 11.9 0.0
CLL *i**PP pP 15 05 41.3 -5.5
CLL *e* 15 15 34.0
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL Collm 94.41 331 ⇓*i*P P 15 05 11.9 0.0
comp=Z,10.0nm,1.1s
CLL *i* 15 05 41.3
comp=Z,18nm,1.0s
CLL *e*PP **PP 15 09 01.0 +0.8**
CLL *e*SKSac **SKSac 15 15 34.0 -0.3**
CLL *e*SP **SP 15 17 28.0 +0.6**
CLL *e*SS **SS 15 22 40.0 +4.0**
CLL *e*SS 15 23 30.0
CLL *e*SSS SSS 15 26 30.0
CLL *e* 15 27 48.0
CLL *e*SSSS 15 29 00.0
CLL LmV 15 50 00.0
comp=Z,200nm,19.4s
T28A Walsh 94.41 47 ⇑P P 15 05 13.2 +0.9
baz=94,SNR=6.5
BGNE Belgrade 94.57 42 ⇑P P 15 05 12.6 -0.3
baz=94
X26A CR and CF Fran 94.60 50 ⇓P P 15 05 14.0 +0.7
baz=94,SNR=5.8
Z25A Roswell 94.61 51 ⇑P P 15 05 14.6 +1.2
baz=94,SNR=6.1
PRA Prague 94.63 330 P P 15 05 12.0 -0.9
PRA pP **pP 15 05 44.0 -3.8**
224A Cornudas Mount 94.63 53 ⇑P P 15 05 14.7 +1.1
baz=94,SNR=12
PRU Pruhonice 94.63 330 *e*P P 15 05 11.8 -1.1
PRU *e* 15 05 42.9
PRU *e* 15 15 33.8
PRU *e* 15 17 28.5
PRU MLR MLR
comp=Z,300nm,16.1s
PRU Pruhonice 94.63 330 *e*P P 15 05 11.8 -1.1
PRU *ex* x 15 05 22.6
PRU *e*pP **pP 15 05 42.9 -5.0**
PRU *e*SKS **SKSac 15 15 33.8 -1.8**
PRU *e*SP **SP 15 17 28.5 -1.4**
PRU *e*SS **SS 15 22 35.1 -4.1**
PRU AMS AMS 15 51 50.0
comp=Z,300nm,16.1s
Q30A Quinter 94.65 44 ⇑P P 15 05 13.8 +0.4
baz=94
V27A Dan Oppiter Fa 94.65 48 ⇑P P 15 05 13.9 +0.5
baz=94
TREC Trest 94.66 329 *e*P P 15 05 12.8 -0.3
TREC *e* 15 05 42.9
TREC MLR MLR
comp=Z,300nm,17.6s
TREC Trest 94.66 329 *e*P P 15 05 12.8 -0.3
TREC *ex* x 15 05 22.9
TREC *e*pP pP 15 05 42.9 -5.2
TREC AMS AMS 15 51 30.0
comp=Z,300nm,17.6s
U28A Mallet 94.74 47 ⇓P P 15 05 14.8 +1.0
baz=95
VTS Vitosha 94.81 320 ⇓*i*P P 15 05 13.9 -0.2
S29A Ulysses 94.81 46 ⇓P P 15 05 14.9 +0.8
baz=95
W27A Bowe Ranch, En 94.86 49 ⇓P P 15 05 15.3 +0.8
baz=95,SNR=6.2
P31A Stockton 94.88 44 ⇓P P 15 05 14.1 -0.3
baz=95
Y26A Elida 94.92 50 ⇑P P 15 05 14.9 +0.2
baz=95
MNTX Cornudas Mount 94.93 53 *e*P P 15 05 15.7 +0.9
comp=Z,20nm,1.4s
T29A Hugoton 94.94 46 ⇑P P 15 05 14.9 +0.1
baz=95
125A Gardner Draw, 94.97 52 ⇓P P 15 05 16.1 +1.1
baz=95,SNR=6.8
324A Moseley Ranch, 94.98 53 ⇓P P 15 05 15.9 +0.8
baz=95,SNR=6.2
R30A Dighton 95.00 45 ⇓P P 15 05 15.4 +0.4
baz=95
X27A F and S Farms, 95.05 49 ⇓P P 15 05 15.7 +0.3
baz=95
V28A Channing 95.07 48 ⇓P P 15 05 16.5 +1.1
baz=95
PKSM Moragy 95.12 325 ⇓*e*P P 15 05 15.3 +0.1
PKSM *e*P **pP 15 05 45.1 -5.1**
225A Deer Hill, Car 95.13 52 ⇓P P 15 05 16.8 +1.0
baz=95
Z26A Caprock 95.14 51 ⇑P P 15 05 16.7 +0.9
baz=95,SNR=9.2
SOP Sopron 95.23 327 *e*P P 15 05 22.9 +7.2
S30A Montezuma 95.23 46 ⇓P P 15 05 16.6 +0.5
baz=95
SPMN St. Paul 95.34 36 ⇑P P 15 05 17.0 +0.8
baz=95
U29A Oasis Ranch, S 95.34 47 ⇑P P 15 05 17.3 +0.7
baz=95
W28A Vega 95.35 48 ⇑P P 15 05 17.6 +0.9
baz=95
Y27A Causey 95.41 50 ⇑P P 15 05 17.3 +0.3
baz=95
CSNA Conrad Observa 95.41 328 ⇓*i*P P 15 05 15.5 -1.1
comp=Z,11nm,1.6s
NKC Novy Kostel 95.42 331 *e*P P 15 05 16.3 -0.3
NKC *e* 15 05 46.2
NKC Novy Kostel 95.42 331 *e*P P 15 05 16.3 -0.3
NKC *ex* x 15 05 26.4
NKC *e*pP pP 15 05 46.2 -5.3
126A Clayton Basin, 95.44 51 ⇑P P 15 05 17.4 +0.3
baz=95
R31A Burdett 95.48 45 ⇑P P 15 05 17.6 +0.4
baz=95
V29A Stinnett 95.49 48 ⇓P P 15 05 17.9 +0.6
baz=95
T30A Plains 95.51 46 ⇓P P 15 05 18.1 +0.8
baz=95
226B Tecolote Peak, 95.62 52 ⇓P P 15 05 18.7 +0.7
baz=96
MSTX Muleshoe 95.64 50 ⇓P P 15 05 18.7 +0.7
baz=96
425A Indio Mountain 95.68 53 ⇓P P 15 05 19.3 +1.0
baz=96,SNR=14
KHC Kasperske Hory 95.68 329 *e*P P 15 05 17.1 -0.7
KHC *e* 15 05 47.3
KHC *e* 15 15 39.2
KHC *e*SS SS 15 22 55.8 +1.6
KHC MLR MLR
comp=Z,300nm,14.5s
KHC Kasperske Hory 95.68 329 *e*P P 15 05 17.1 -0.7
KHC *ex* x 15 05 27.2
KHC *e*pP pP 15 05 47.3 -5.5
KHC *e*SKS **SKSac 15 15 39.2 -2.1**
KHC *ex* x 15 17 35.5
KHC *e*SS **SS 15 22 55.8 +1.6**
KHC AMS AMS 15 52 30.0
comp=Z,300nm,14.5s
KHC Kasperske Hory 95.68 329 *e*P P 15 05 17.0 -0.8
comp=Z,8.2nm,1.3s
U30A WK&E Inc. Balk 95.72 47 ⇑P P 15 05 19.0 +0.7
baz=96
X28A Dimmitt 95.75 49 ⇓P P 15 05 18.9 +0.4
baz=96
W29A Amarillo 95.81 48 ⇓P P 15 05 19.3 +0.6
baz=96
GERES GERESS Array B 95.82 329 P P 15 05 17.4 -1.1
GERES pP pP 15 05 47.3 -6.2
GERES PKKPbc **PKKPdf 15 22 06.5 -0.9**
GERES GERESS Array B 95.82 329 P P 15 05 17.4 -1.1
comp=Z,1.5nm,0.5s,baz=42,slow=5.2,SNR=14
GERES pP pP 15 05 47.3 -6.2
comp=Z,3.7nm,0.8s,baz=40,slow=5.2,SNR=7.7
GERES PKKPbc **PKKPdf 15 22 06.5 -0.9**
comp=Z,0.3nm,0.4s,baz=204,slow=2.9,SNR=5.0
GERES LR LR 15 50 08.3
comp=Z,205nm,20.1s,baz=52,slow=36
S31A Mullinville 95.89 45 ⇑P P 15 05 19.4 +0.4
baz=96
127A Arkansas Junct 95.90 51 ⇑P P 15 05 19.5 +0.3
baz=96
T31A Randall Ranch, 96.05 46 ⇓P P 15 05 20.0 +0.3
baz=96
V30A Spur Ranch, Mi 96.11 47 ⇑P P 15 05 21.2 +1.1
baz=96
X29A Tulia 96.14 49 ⇓P P 15 05 20.9 +0.7
baz=96,SNR=11
326A Caldwell Ranch 96.15 53 ⇑P P 15 05 21.1 +0.7
baz=96,SNR=9.1
Z28A Tucker Farm, M 96.27 50 ⇓P P 15 05 21.6 +0.7
baz=96
227A Bennet, Jal 96.29 52 ⇓P P 15 05 21.7 +0.7
baz=96
U31A Nine Bar Ranch 96.34 46 ⇓P P 15 05 22.3 +1.2
baz=96
426A McDonald Obser 96.45 53 ⇓P P 15 05 22.5 +0.6
baz=96,SNR=10
Y29A Porterfield Fa 96.47 49 ⇑P P 15 05 22.3 +0.5
baz=96
W30A Crocket Farms 96.51 48 ⇑P P 15 05 22.7 +0.8
baz=96
128A Castleberry Fa 96.56 51 ⇓P P 15 05 22.7 +0.5
baz=96
X30A Coker Ranch, T 96.71 49 ⇑P P 15 05 23.1 +0.3
baz=97
526A Mary Lane Ranc 96.71 54 ⇓P P 15 05 24.0 +0.9
baz=97,SNR=5.7
228A UT Block 9, Go 96.74 51 ⇑P P 15 05 23.9 +0.9
baz=97
Z29A Hungry Hill Ra 96.77 50 ⇓P P 15 05 23.5 +0.4
baz=97
427A Hayter Ranch, 96.82 53 ⇓P P 15 05 24.2 +0.7
baz=97
626A Big Bend Ranch 96.94 54 ⇓P P 15 05 25.0 +1.0
baz=97,SNR=5.4
W31A Holland Ranch, 96.94 47 ⇑P P 15 05 24.5 +0.7
baz=97
328A Wristen Ranch, 96.97 52 ⇓P P 15 05 24.6 +0.5
baz=97
129A Stewart Farms, 96.99 50 ⇓P P 15 05 24.4 +0.3
baz=97
Y30A Stafford Cattl 97.00 49 ⇑P Pdif 15 05 25.2 +1.0
baz=97
527A Woodward Ranch 97.03 53 ⇑P Pdif 15 05 25.0 +0.5
baz=97
Z30A Sanderson Ranc 97.16 50 ⇓P Pdif 15 05 25.2 +0.2
baz=97
EKA Eskdalemuir Ar 97.22 341 pP pP 15 05 53.7 -5.8
EKA Eskdalemuir Ar 97.22 341 pP pP 15 05 53.7 -5.8
comp=Z,2.8nm,0.8s,baz=32,slow=4.9,SNR=4.3
X31A McDonald Ranch 97.22 48 ⇑P Pdif 15 05 25.6 +0.4
baz=97
229A Bryant Ranch, 97.39 51 ⇓P Pdif 15 05 26.4 +0.5
baz=97
Y31A Rekieta Farm, 97.40 49 ⇓P Pdif 15 05 26.6 +0.6
baz=97
TXAR Lajitas Array 97.40 54 P Pdif 15 05 27.1 +0.9
TXAR Lajitas Array 97.40 54 P Pdif 15 05 27.1 +0.9
comp=Z,1.6nm,0.5s,baz=301,slow=3.0,SNR=14
TXAR LR LR 15 50 06.1
comp=Z,91nm,18.8s,baz=335,slow=36
428A Kincaid Ranch, 97.41 52 ⇓P Pdif 15 05 27.2 +1.0
baz=97,SNR=6.7
329A Wagon Wheel Ra 97.52 52 ⇑P Pdif 15 05 27.3 +0.7
baz=97,SNR=6.1
627A Terlingua Ranc 97.55 54 ⇑P Pdif 15 05 27.9 +1.1
baz=98,SNR=11
528A Cox Ranch, San 97.63 53 ⇓P Pdif 15 05 27.8 +0.6
baz=98
130A Snyder 97.65 50 ⇑P Pdif 15 05 27.6 +0.5
baz=98
Z31A Sharp Cattle R 97.83 49 ⇑P Pdif 15 05 28.7 +0.8
baz=98
628A Black Gap, Mar 97.90 54 ⇑P Pdif 15 05 28.9 +0.6
baz=98
230A Sterling City 97.93 51 ⇓P P 15 05 28.6 +0.2
baz=98
Y32A R-V Farms, Ver 97.94 48 ⇓P Pdif 15 05 28.9 +0.5
baz=98
WMOK Wichita Mounta 97.98 47 *e*P P 15 05 28.2 -0.3
WMOK pmax pmax
comp=Z,5.0nm,1.2s
WMOK Wichita Mounta 97.98 47 *e*P P 15 05 28.2 -0.3
comp=Z,4.7nm,1.2s
131A Roby 98.02 50 ⇓P Pdif 15 05 29.0 +0.2
baz=98
429A Davenport Ranc 98.04 52 ⇑P Pdif 15 05 29.4 +0.4
baz=98
529A Stev Forest Ra 98.06 53 ⇑P Pdif 15 05 29.6 +0.6
baz=98
330A Mertzon 98.14 51 ⇑Pdiff Pdif 15 05 29.8 +0.5
baz=98
Z32A Haskell 98.31 49 ⇑Pdiff Pdif 15 05 30.6 +0.6
baz=98
430A Baggett Ranch, 98.43 52 ⇓Pdiff Pdif 15 05 31.2 +0.6
baz=98
231A Bronte 98.47 50 ⇓Pdiff Pdif 15 05 31.4 +0.6
baz=98
ABTX Abilene, Hawle 98.57 49 ⇓Pdiff Pdif 15 05 31.9 +0.7
baz=98
530A J-C Ranch, Com 98.70 52 ⇑Pdiff Pdif 15 05 32.5 +0.7
baz=99
331A San Angelo 98.73 51 ⇓Pdiff Pdif 15 05 32.3 +0.3
baz=99
431A Sonora 98.94 52 ⇓Pdiff Pdif 15 05 33.4 +0.4
baz=99
232A Coleman 98.97 50 ⇓Pdiff Pdif 15 05 33.4 +0.3
baz=99
332A Millersview 99.18 51 ⇓Pdiff Pdif 15 05 34.4 +0.5
baz=99
531A Rocksprings 99.27 52 ⇓Pdiff Pdif 15 05 35.1 +0.7
baz=99
TUL1 Tulsa 99.29 45 ⇑Pdiff Pdif 15 05 34.4 +0.2
baz=99
432A Menard 99.42 51 ⇓Pdiff Pdif 15 05 35.1 +0.1
baz=99
JCT Junction City 99.64 51 *e*P Pdif 15 05 36.9 +0.9
JCT pmax pmax
comp=Z,5.0nm,0.6s
JCT Junction City 99.64 51 *e*Pdif Pdif 15 05 36.9 +0.9
comp=Z,4.6nm,0.6s
JCT Junction City 99.64 51 ⇑Pdiff Pdif 15 05 36.4 +0.5
baz=100
532A Rocksprings 99.75 52 ⇓Pdiff Pdif 15 05 37.0 +0.4
baz=100
WHTX Lake Whitney 100.45 49 ⇑Pdiff Pdif 15 05 40.0 +0.5
baz=100
SFIN Scholer Farm 101.69 37 ⇑Pdiff Pdif 15 05 45.1 +0.3
baz=102
CEL Celeste 101.87 320 *e*Pdif Pdif 15 05 45.5 -0.2
comp=Z,16nm,0.9s
TKL Tuckaleechee C 106.86 39 PKiKP PKiKP 15 10 16.9 -0.4
TKL Tuckaleechee C 106.86 39 PKiKP PKiKP 15 10 16.9 -0.4
comp=Z,4.1nm,0.5s,baz=154,slow=5.5,SNR=10
MAW Mawson 107.16 203 PKiKP PKiKP 15 10 16.5 -0.1
MAW Mawson 107.16 203 PKiKP PKiKP 15 10 16.5 -0.1
comp=Z,1.0nm,0.5s,baz=110,slow=6.6,SNR=7.0
ESDC Sonseca Array 110.87 333 PP PP 15 11 07.3 +4.0
ESDC Sonseca Array 110.87 333 PP PP 15 11 07.3 +4.0
comp=Z,0.8nm,0.4s,baz=38,slow=7.5,SNR=4.3
SYO Syowa Base 115.86 203 ⇓*e*P PKPdf 15 10 31.5 -1.6
LSZ Lusaka 118.60 264 PKP PKPdf 15 10 40.7 +0.6
LSZ Lusaka 118.60 264 PKP PKPdf 15 10 40.7 +0.6
comp=Z,8.1nm,0.6s,baz=42,slow=7.1
TAM Tamanrasset 118.94 315 *e*PKiKP PKPdf 15 10 41.5 +0.7
TAM Tamanrasset 118.94 315 *e*PKPdf PKPdf 15 10 41.5 +0.7
MATP Matopo 119.76 259 PKP PKPdf 15 10 41.5 -0.8
MATP Matopo 119.76 259 PKP PKPdf 15 10 41.5 -0.8
baz=73,slow=2.5
JTS JuntasAbangare 122.50 61 PKP PKPdf 15 10 46.5 -1.2
JTS JuntasAbangare 122.50 61 PKP PKPdf 15 10 46.5 -1.2
comp=Z,5.0nm,0.5s,baz=283,slow=24,SNR=5.6
LBTB Lobatse 123.42 254 PKP PKPdf 15 10 49.3 +0.1
LBTB Lobatse 123.42 254 PKP PKPdf 15 10 49.3 +0.1
baz=97,slow=5.8
BOSA Boshof 124.36 250 PKP PKPdf 15 10 51.4 +0.4
BOSA PKKPbc **PKKPbc 15 20 36.0 +1.2**
BOSA Boshof 124.36 250 PKP PKPdf 15 10 51.4 +0.4
comp=Z,3.5nm,0.6s,baz=166,slow=2.6,SNR=6.5
BOSA PKKPbc **PKKPbc 15 20 36.0 +1.2**
comp=Z,3.4nm,1.1s,baz=195,slow=6.7,SNR=3.1
SNAA Sanae 127.30 193 *e*PKP PKPdf 15 10 55.0 -0.2
SNAA Sanae 127.30 193 *e*P SKPdf 15 14 00.9 -17
SNAA Sanae 127.30 193 *e*PKPdf PKPdf 15 10 54.5 -0.7
TORD Torodi Ar. Bea 128.22 310 PKP PKPdf 15 10 58.1 -0.5
TORD PP **PP 15 13 01.8 -1.5**
TORD SKPbc SKiKP 15 14 04.8 -18
TORD PKKPbc PKKPdf 15 20 17.8 -49
TORD SKKPbc **SKKPbc 15 24 03.3 +5.8**
TORD Torodi Ar. Bea 128.22 310 PKP PKPdf 15 10 58.1 -0.5
comp=Z,8.4nm,0.6s,baz=20,slow=0.7,SNR=8.8
TORD PP **PP 15 13 01.8 -1.5**
comp=Z,2.6nm,0.9s,baz=42,slow=5.9,SNR=4.2
TORD SKPbc SKiKP 15 14 04.8 -18
comp=Z,3.4nm,0.9s,baz=44,slow=5.2,SNR=4.5
TORD PKKPbc PKKPdf 15 20 17.8 -49
comp=Z,0.3nm,0.6s,baz=228,slow=2.7,SNR=4.5
TORD SKKPbc **SKKPbc 15 24 03.3 +5.8**
comp=Z,0.9nm,0.8s,baz=249,slow=3.6,SNR=3.8
VNA1 Neumayer--Stat 129.19 192 *e*PKP PKPdf 15 10 59.1 +0.4
VNA1 Neumayer--Stat 129.19 192 *e*P SKPab 15 14 07.6 +1.0
TSUM Tsumeb 129.41 263 *e*PKPdf PKPdf 15 11 00.1 -0.7
TSUM PKP **PKPdf 15 11 00.9 +0.1**
TSUM SKPbc SKPab 15 14 08.9 -0.5
TSUM Tsumeb 129.41 263 PKP PKPdf 15 11 00.9 +0.1
comp=Z,3.7nm,0.8s,baz=68,slow=2.9
TSUM SKPbc SKPab 15 14 08.9 -0.5
comp=Z,7.1nm,0.8s,baz=68,slow=4.4,SNR=13
ROSC El Rosal 134.16 58 PKP PKPdf 15 11 10.6 +0.3
ROSC El Rosal 134.16 58 PKP PKPdf 15 11 10.6 +0.3
comp=Z,6.5nm,0.3s,baz=107,slow=24,SNR=3.5
ATAH Atahualpa 137.03 76 PKPpre PKPpre 15 11 10.0
ATAH Atahualpa 137.03 76 PKhKP PKPpre 15 11 10.0
comp=Z,6.9nm,0.8s,baz=262,slow=11,SNR=4.0
DBIC Dimbokro 137.34 309 PKPpre PKPpre 15 11 08.4
DBIC PKP **PKPdf 15 11 15.6 -0.2**
DBIC Dimbokro 137.34 309 PKhKP PKPpre 15 11 08.4
comp=Z,2.8nm,0.6s,baz=343,slow=2.0,SNR=4.6
DBIC PKP **PKPdf 15 11 15.6 -0.2**
comp=Z,18nm,0.7s,baz=25,slow=3.0,SNR=17
KIC Kosan Boka 137.47 309 *e*P PKPdf 15 11 15.4 -0.6
comp=Z,41nm,0.7s
TIC Toumodi 137.47 310 *e*P PKPdf 15 11 15.9 -0.1
comp=Z,26nm,0.6s
LIC Lamto 137.76 309 *e*P PKPdf 15 11 17.9 +1.4
comp=Z,55nm,0.6s
NNA Nana 140.35 81 PKPpre PKPpre 15 11 15.1
NNA Nana 140.35 81 PKhKP PKPpre 15 11 15.1
comp=Z,7.8nm,0.7s,baz=183,slow=2.2,SNR=5.1
FUTA Futaleufœ 144.44 134 *i*P PKPab 15 11 22.5 -3.8
FUTA Futaleufœ 144.44 134 *i*P PKPab 15 11 22.5 -3.8
PLCA Paso Flores 146.29 130 PKPbc PKPbc 15 11 32.1 -0.3
PLCA Paso Flores 146.29 130 PKPbc PKPbc 15 11 32.1 -0.3
comp=Z,65nm,0.5s,baz=236,slow=3.4,SNR=261
EFI East Falkland 146.65 156 *e*PKP2 PKPbc 15 11 33.0 +0.1
EFI East Falkland 146.65 156 *e*PKPdf PKPbc 15 11 33.0 +0.1
TLL Tololo Astrono 148.63 111 ⇑*i*PKP2 PKPab 15 11 42.3 -1.0
TLL Tololo Astrono 148.63 111 ⇑*i*P PKPab 15 11 42.3 -1.0
TLL Tololo Astrono 148.63 111 ⇑*i*P PKPab 15 11 42.3 -1.0
LCO Las Campanas 148.82 109 PKPdf PKPdf 15 11 36.1 +0.3
LCO *e*PKPbc **PKPbc 15 11 40.5 +0.7**
LCO Las Campanas 148.82 109 *e*P PKPbc 15 11 39.8 0.0
LPAZ La Paz 149.73 84 PKP PKPdf 15 11 38.6 +0.7
LPAZ PKPbc **PKPbc 15 11 43.3 +0.5**
LPAZ La Paz 149.73 84 PKP PKPdf 15 11 38.6 +0.7
comp=Z,28nm,1.2s,baz=345,slow=1.7,SNR=35
LPAZ PKPbc **PKPbc 15 11 43.3 +0.5**
comp=Z,43nm,0.6s,baz=283,slow=2.3,SNR=128
LVC Limon Verde 150.29 96 *e*PKPdf PKPdf 15 11 38.9 +0.6
LVC *e*PKPbc **PKiKP 15 11 44.6 +0.3**
CFAA Coronel Fontan 150.63 114 PKPbc PKPbc 15 11 44.2 +0.3
CFAA Coronel Fontan 150.63 114 PKPbc PKPbc 15 11 44.2 +0.3
comp=Z,6.0nm,0.7s,baz=262,slow=2.6,SNR=10
SAML Samuel 151.16 66 *e*PKPdf PKPdf 15 11 39.8 +0.3
SAML *e*PKPbc **PKPbc 15 11 45.7 +0.1**
SAML *e*PKPab **PKPab 15 11 53.2 -0.6**
TRQA Tornquist 153.44 131 *e*PKPbc PKPbc 15 11 49.6 -0.3
SIV San Ignacio 156.08 78 PKP PKPdf 15 11 46.9 +0.4
SIV San Ignacio 156.08 78 PKP PKPdf 15 11 46.9 +0.4

baz=294,slow=4.3

CPUP	**Villa Florida**	**160.87**	**105**	PKP	**PKPdf**	**15 11 52.1**	**+0.2**
CPUP				PKPab	**PKPab**	**15 12 35.2**	**0.0**
CPUP	**Villa Florida**	**160.87**	**105**	PKP	**PKPdf**	**15 11 52.1**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=48,slow=0.1,SNR=3.9						
CPUP				PKPab	**PKPab**	**15 12 35.2**	**0.0**
	comp=Z,7.7nm,0.6s,baz=266,slow=3.7,SNR=14						
BDFB	**Brasilia**	**167.23**	**59**	PKP	**PKPdf**	**15 11 58.5**	**+0.4**
BDFB	**Brasilia**	**167.23**	**59**	PKP	**PKPdf**	**15 11 58.5**	**+0.4**
	comp=Z,3.9nm,0.6s,baz=247,slow=6.8,SNR=4.2						

*DJA **29** 15:10:30.7±2.4, 7°N±23°×12°9E±°, h103km±17km, M4.7/8, mb4.9/8, mB5.1/6, MLv4.8/8, Mw(mB)4.4/6*
*ISCJB **29** 15:10:31.9±0.4, 3°12N±0°04×128°43E±0°05, h33km, mb4.2/16, Error ellipse: s-maj=7.5km s-min=6.4km az=168.3*
*IDC **29** 15:10:35.9±0.6, 2°97N×128°29E, h58km±5km, mb3.9/16, mb1 4.0/16, mb1mx3.9/24, mbtmp3.9/16, Error ellipse: s-maj=25.5km s-min=10.4km az=78.0*
*AUST **29** 15:11:00.6, 0°00N×128°00E, h35km*
ISC 29 15:10:34.7±0.5, 3°04N±0°07×128°38E±0°09, h35km, n39, σ1§94/35, mb4.2/16, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.47**	**204**	P	Pn	15 11 16.6	+4.1
LBMI	**Labuha**	**3.76**	**193**	P	Pn	15 11 37.0	+6.7
MNI	**Manado**	**3.88**	**246**	P	**Pn**	**15 11 32.7**	**+0.9**
SWI	**Sorong**	**4.83**	**143**	P	**Pn**	**15 11 46.6**	**+1.6**
	45nm,0.7s,1µm0.2nm						
SWI	**Sorong**	**4.83**	**143**	P	**Pn**	**15 11 47.3**	**+2.3**
	baz=3.4,SNR=12						
SWI				S	**Sn**	**15 12 40.5**	**+0.7**
	baz=3.4,SNR=8.6						
KMSI	**Cibinong**	**5.03**	**241**	P	**Pn**	**15 11 49.2**	**+1.5**
	331nm,0.9s,4µm1.7nm						
GTOI	**Gorontalo**	**5.87**	**246**	P	**Pn**	**15 12 01.0**	**+1.7**
	114nm,0.6s,1µm0.5nm						
LUWI	**Luwuk**	**6.92**	**234**	P	Pn	15 12 16.4	+2.7
	79nm,0.7s,2µm0.4nm						
LUWI	**Luwuk**	**6.92**	**234**	P	Pn	15 12 16.4	+2.7
	baz=5.3,SNR=6.8						
MRSI	**Marisa**	**6.92**	**248**	P	**Pn**	**15 12 15.5**	**+1.8**
	146nm,0.5s,2µm0.6nm						
FAKI	**Fak Fak**	**7.08**	**147**	P	**Pn**	**15 12 18.1**	**+2.3**
	baz=5.2,SNR=8.2						
SKSI	**Soroako, Sulaw**	**8.95**	**232**	P	**Pn**	**15 12 42.3**	**+0.6**
	46nm,0.7s,1µm						
TTSI	**Tana Toraja**	**10.48**	**235**	P	**Pn**	**15 13 01.6**	**-0.9**
	32nm,0.6s						
SPSI	**Sidrap Palu**	**11.07**	**231**	P	**Pn**	**15 13 11.9**	**+1.3**
MTN	**Manton Dam**	**16.02**	**170**	P	Pn	15 14 08.1	-9.4
	baz=13,SNR=11						
MTN				S	Sn	15 16 30.8	-43
	baz=13,SNR=4.4						
KDU	**Kakadu**	**16.15**	**165**	P	Pn	15 14 13.1	-6.0
	baz=13,SNR=5.0						
KDU				S	Sn	15 16 46.4	-31
	baz=13,SNR=16						
WRA	**Warramunga Arr**	**23.58**	**166**	P	**P**	**15 15 41.5**	**-0.9**
	5.3nm,0.3s,baz=344,slow=10,SNR=36						
ASAR	**Alice Springs**	**27.09**	**169**	P	**P**	**15 16 12.4**	**-2.0**
	0.8nm,0.6s,baz=351,slow=7.8,SNR=17						
ASAR				pP	**pP**	**15 16 27.8**	**+3.4**
	1.1nm,0.7s,baz=345,slow=9.9,SNR=4.0						
ASAR				sP	sP	15 16 33.8	+5.2
	1.4nm,0.6s,baz=2.3,slow=14,SNR=6.2						
ASAR				PcP	**PcP**	**15 19 33.8**	**-1.1**
	0.7nm,0.6s,baz=352,slow=2.0,SNR=9.7						
ASAR				pPcP		15 19 50.2	
	0.6nm,0.6s,baz=355,slow=1.7,SNR=4.8						
PPI	**Padang Panjang**	**28.18**	**263**	P	P	15 16 44.6	+20
	baz=28,SNR=3.0						
MEEK	**Meekatharra**	**30.98**	**197**	P	**P**	**15 16 49.5**	**+0.6**
	baz=28,SNR=5.1						
CMAR	**Chiang Mai Arr**	**32.63**	**300**	P	**P**	**15 17 02.9**	**-0.7**
	2.9nm,0.7s,baz=118,slow=7.5,SNR=12						
KSRS	**Korea Array**	**34.25**	**359**	P	**P**	**15 17 17.2**	**0.0**
	0.7nm,0.6s,baz=180,slow=9.5,SNR=6.1						
MJAR	**Matsushiro Arr**	**34.55**	**14**	P	**P**	**15 17 18.8**	**-1.2**
	2.6nm,0.7s,baz=185,slow=9.4,SNR=9.5						
RMQ	**Roma**	**35.36**	**147**	P	P	15 17 37.8	+11
	baz=33,SNR=8.8						
EIDS	**Eidsvold**	**35.81**	**143**	S	S	15 22 37.4	-29
	baz=34,SNR=5.0						
BBOO	**Buckleboo**	**36.40**	**169**	P	**P**	**15 17 34.7**	**-1.1**
	baz=34,SNR=8.9						
STKA	**Stephens Creek**	**36.93**	**161**	P	**P**	**15 17 38.7**	**-1.7**
	3.6nm,0.3s,baz=333,slow=8.7,SNR=34						
STKA	**Stephens Creek**	**36.93**	**161**	P	**P**	**15 17 40.0**	**-0.4**
	baz=34,SNR=30						
USRK	**Ussuriysk Arra**	**41.11**	**4**	P	**P**	**15 18 14.9**	**-0.3**
	4.0nm,0.7s,baz=197,slow=7.1,SNR=16						
ASAJ	**Asahikawa**	**42.79**	**15**	P	**P**	**15 18 29.1**	**+0.1**
	2.0nm,0.4s,baz=213,slow=20,SNR=5.7						
SONM	**Songino Array**	**48.48**	**340**	P	**P**	**15 19 13.4**	**-0.7**
	0.5nm,0.5s,baz=134,slow=12,SNR=2.8						
SONM				pP	**pP**	**15 19 28.7**	**+4.2**
	0.9nm,0.5s,baz=147,slow=8.9,SNR=3.7						
PETK	**Petropavlovsk-**	**55.46**	**21**	P	**P**	**15 20 05.0**	**-0.8**
	3.2nm,0.7s,baz=185,slow=5.2,SNR=8.7						
PETK				pP	**pP**	**15 20 21.5**	**+5.1**
	1.3nm,0.6s,baz=202,slow=1.6,SNR=1.8						
MKAR	**Makanchi Array**	**59.06**	**325**	P	**P**	**15 20 30.5**	**-0.9**
	2.6nm,0.5s,baz=118,slow=8.3,SNR=27						
ZALV	**Zalesovo Beam**	**61.95**	**333**	P	**P**	**15 20 49.4**	**-1.5**
	0.3nm,0.3s,baz=98,slow=10,SNR=2.9						
ZALV				pP	**pP**	**15 21 04.9**	**+3.3**
	1.0nm,0.7s,baz=108,slow=4.8,SNR=2.8						
KURBB	**Kurchatov Arra**	**63.20**	**327**	P	P	15 20 56.5	-2.8
	2.1nm,0.5s,baz=125,slow=6.4,SNR=8.2						
BVAR	**Borovoye Array**	**68.79**	**327**	P	**P**	**15 21 33.6**	**-1.6**
	1.4nm,0.6s,baz=136,slow=9.2,SNR=8.6						
VNDA	**Vanda**	**82.55**	**173**	P	**P**	**15 22 51.0**	**-2.5**
	1.3nm,0.7s,baz=317,slow=7.6,SNR=6.1						
ILAR	**Eielson Array**	**85.01**	**25**	P	**P**	**15 23 04.8**	**-1.5**
	0.3nm,0.5s,baz=240,slow=5.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**124.69**	**288**	PKP	**PKPdf**	**15 29 30.4**	**-1.3**
	0.3nm,0.4s,baz=78,slow=1.6,SNR=7.7						

IDC 29 15:24:20.6±0.9, 0°34S×132°12E, h0km, mb4.1/8, mb1 4.3/11, mb1mx4.0/23, mbtmp4.1/11, ML4.0/3, Error ellipse: s-maj=46.4km s-min=15.3km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**12.92**	**220**	Pn	Pn	15 27 26.5	+0.7
	1.5nm,0.3s,baz=131,slow=11,SNR=2.6						
FITZ	**Fitzroy Crossi**	**18.77**	**200**	P	P	15 28 40.1	-1.4
	0.3nm,0.3s,baz=32,slow=18,SNR=7.8						
WRA	**Warramunga Arr**	**19.60**	**174**	P	P	15 28 50.8	0.0
	0.4nm,0.3s,baz=353,slow=12,SNR=14						
ASAR	**Alice Springs**	**23.25**	**176**	P	P	15 29 30.4	+0.4
	25nm,1.1s,baz=354,slow=9.7,SNR=74						
STKA	**Stephens Creek**	**32.62**	**165**	P	P	15 30 53.7	-0.6
	3.4nm,1.0s,baz=340,slow=6.2,SNR=4.7						
SONM	**Songino Array**	**52.94**	**338**	P	P	15 33 37.6	-1.4
	0.4nm,0.5s,baz=147,slow=8.1,SNR=3.1						
MKAR	**Makanchi Array**	**63.97**	**324**	P	P	15 34 56.2	+0.4
	0.9nm,0.5s,baz=114,slow=8.6,SNR=21						
ZALV	**Zalesovo Beam**	**66.67**	**332**	P	P	15 35 12.8	-0.3
	0.5nm,0.3s,baz=122,slow=10,SNR=2.4						
KURBB	**Kurchatov Arra**	**68.07**	**326**	P	P	15 35 23.0	+0.9
	0.7nm,0.5s,baz=122,slow=5.5,SNR=5.5						
VNDA	**Vanda**	**78.78**	**174**	P	P	15 36 25.1	+0.3
	0.9nm,0.8s,baz=313,slow=6.3,SNR=4.0						
ILAR	**Eielson Array**	**86.46**	**25**	P	P	15 37 05.3	+0.3
	0.4nm,0.9s,baz=266,slow=5.4,SNR=3.9						

IDC 29 15:28:45.6±3.7, 0°15S×132°73E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, ML3.0/1, Error ellipse: s-maj=211.9km s-min=28.0km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.74**	**176**	P	P	15 33 17.3	+0.1
	0.1nm,0.3s,baz=355,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**23.41**	**177**	P	P	15 33 56.4	-0.1
	3.8nm,1.0s,baz=352,slow=9.9,SNR=8.9						
MKAR	**Makanchi Array**	**64.17**	**324**	P	P	15 39 22.1	0.0
	0.1nm,0.3s,baz=117,slow=7.6,SNR=4.3						

*ISCJB **29** 15:34:16.1±1.9, 46°22S±0°07×165°83E±0°08, h7km±14km, mb3.5/2, Error ellipse: s-maj=11.8km s-min=9.3km az=2.1*
*WEL **29** 15:34:17.0±0.4, 46°20S×165°79E, h12km, ML4.2/18, Error ellipse: s-maj=4.4km s-min=2.4km az=90.0*
*IDC **29** 15:34:16.9±2.0, 46°09S×165°96E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/15, mbtmp3.6/3, ML3.9/1, Error ellipse: s-maj=62.8km s-min=27.7km az=173.0*
ISC 29 15:34:16.1±3.8, 46°16S±0°08×165°89E±0°07, h3km±24km, n20, σ1§32/25, 1C-1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.12**	**53**	P*	**Pn**	**15 34 38.0**	**-0.6**
DCZ				S*	**Sb**	**15 34 52.9**	**-0.1**
DCZ				AML	AML	15 34 54.7	
DCZ				AML	AML	15 35 04.1	
DCZ				AML	AML	15 35 04.2	
WHZ	**Wether Hill Ro**	**1.46**	**80**	PN	**Pn**	**15 34 43.6**	**+0.3**
WHZ				SN	**Sb**	**15 35 04.6**	**+1.8**
WHZ				AML	AML	15 35 07.0	
APZ	**The Paps**	**1.60**	**116**	⇓PN	**Pn**	**15 34 45.1**	**-0.2**
APZ				SN	**Sn**	**15 35 05.8**	**-0.6**
MLZ	**Mavora Lakes**	**1.80**	**64**	PN	**Pb**	**15 34 49.1**	**-0.5**
MLZ				SN	**Sb**	**15 35 13.1**	**+0.6**
MLZ				AML	AML	15 35 18.4	
MSZ	**Milford Sound**	**2.07**	**45**	PN	**Pb**	**15 34 53.2**	**-1.1**
MSZ				AML	AML	15 35 38.5	
MSZ				AML	AML	15 35 38.5	
MSZ				AML	AML	15 35 42.4	
MSZ				AML	AML	15 35 42.5	
SYZ	**Scrubby Hill**	**2.28**	**101**	PN	**Pn**	**15 34 55.3**	**+0.7**
SYZ				SN	**Sn**	**15 35 23.6**	**+0.5**
EAZ	**Earnscleugh**	**2.57**	**70**	PN	**Pn**	**15 35 00.8**	**+2.3**
EAZ				AML	AML	15 35 36.6	
EAZ				AML	AML	15 35 36.7	
EAZ				AML	AML	15 35 44.7	
EAZ				AML	AML	15 35 44.8	
WKZ	**Wanaka**	**2.58**	**60**	PN	**Pb**	**15 35 01.5**	**-1.4**
WKZ				AML	AML	15 35 45.7	
WKZ				AML	AML	15 35 45.7	
WKZ				AML	AML	15 35 48.7	
TUZ	**Tuapeka**	**2.62**	**87**	PN	**Pn**	**15 35 00.6**	**+1.4**
TUZ				AML	AML	15 35 35.0	
TUZ				AML	AML	15 35 45.0	
JCZ	**Jackson Bay**	**2.91**	**45**	PN	**Pn**	**15 35 05.7**	**+2.3**
JCZ				AML	AML	15 35 59.7	
JCZ				AML	AML	15 36 03.9	
LBZ	**Lake Benmore**	**3.52**	**61**	PN	**Pn**	**15 35 12.6**	**+1.0**
LBZ				AML	AML	15 36 24.5	
LBZ				AML	AML	15 36 30.2	
ODZ	**Otahua Downs**	**3.52**	**73**	⇑PN	**Pn**	**15 35 12.1**	**+0.4**
ODZ				AML	AML	15 36 19.0	
ODZ				AML	AML	15 36 20.8	
FOZ	**Fox Glacier**	**3.75**	**47**	AML	AML	15 36 23.1	
FOZ				AML	AML	15 36 28.6	
RPZ	**Rata Peaks**	**4.41**	**58**	Pn	**Pn**	**15 35 24.3**	**+0.4**
	7.2nm,0.3s,baz=331,slow=23,SNR=27						
RPZ				Sn	**Sn**	**15 36 14.1**	**-1.6**
	8.6nm,0.3s,baz=72,slow=20,SNR=8.3						
WVZ	**Waitaha Valley**	**4.64**	**50**	PN	**Pn**	**15 35 28.0**	**+1.0**
WVZ				AML	AML	15 37 59.5	
ASAR	**Alice Springs**	**34.16**	**300**	P	**P**	**15 41 03.6**	**+1.2**
	0.5nm,1.0s,baz=135,slow=8.9,SNR=3.4						
WRA	**Warramunga Arr**	**36.78**	**305**	P	**P**	**15 41 25.9**	**+1.0**
	0.7nm,0.8s,baz=135,slow=8.0,SNR=2.6						
TORD	**Torodi Ar. Bea**	**144.48**	**207**	PKP	**PKPdf**	**15 53 53.8**	**-0.3**
	1.3nm,0.7s,baz=165,slow=1.9,SNR=8.6						
BRTR	**Keskin Array B**	**144.89**	**277**	PKP	**PKPdf**	**15 53 54.9**	**+0.7**
	2.0nm,0.8s,baz=144,slow=4.6,SNR=9.2						
ARCES	**ARCESS Array B**	**149.47**	**334**	PKPbc	**PKPab**	**15 54 07.4**	**-2.8**
	2.8nm,0.8s,baz=52,slow=5.8,SNR=4.6						

*ISCJB **29** 15:40:09.5±0.5, 5°00S±0°03×129°49E±0°05, h182km, mb3.8/6, Error ellipse: s-maj=7.4km s-min=4.0km az=4.1*
*AUST **29** 15:40:09.3, 4°99S×129°52E, h200km*
*IDC **29** 15:40:15.9±2.7, 5°04S×129°36E, h260km±28km, mb3.5/6, mb1 3.6/10, mb1mx3.4/23, mbtmp3.5/10, Error ellipse: s-maj=28.9km s-min=9.7km az=73.0*
*DJA **29** 15:40:15.4±0.9, 5°S±7°×13°0E±°, h184km±9km, M4.2/4, mb5.6/1, mB6.0/1, MLv3.5/4, Mw(mB)5.6/1*
ISC 29 15:40:09.3±0.6, 5°04S±0°03×129°53E±0°05, h182km, n27, σ1§96/30, mb3.8/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.64**	**36**	P	Pn	15 40 41.0	+6.0
BNDI	**Bandanaira**	**0.64**	**36**	P	Pn	15 40 41.0	+6.0
	baz=0.6,SNR=17						
MSAI	**Masohi**	**1.79**	**340**	P	**Pn**	**15 40 46.6**	**+2.3**
MSAI				S	**Sn**	**15 41 11.7**	**+0.1**
FAKI	**Fak Fak**	**3.43**	**52**	P	Pn	15 41 06.0	+2.6
FAKI				S	**Sn**	**15 41 46.3**	**+0.5**
FAKI	**Fak Fak**	**3.43**	**52**	P	Pn	15 41 06.2	+2.7
	baz=3.4,SNR=112						
FAKI				S	**Sn**	**15 41 46.2**	**+0.5**
	baz=3.4,SNR=18						
SWI	**Sorong**	**4.50**	**23**	P	**Pn**	**15 41 17.8**	**+0.9**
SWI				S	**Sn**	**15 42 07.0**	**-2.9**
SWI	**Sorong**	**4.50**	**23**	P	**Pn**	**15 41 17.8**	**+0.9**
	baz=4.5,SNR=25						
SWI				S	**Sn**	**15 42 06.9**	**-2.9**
	baz=4.5,SNR=24						
LBMI	**Labuha**	**4.82**	**335**	P	**Pn**	**15 41 21.4**	**+0.3**
RKPI	**Ransiki, Papua**	**5.81**	**53**	P	Pn	15 41 36.6	+2.6
RKPI				S	**Sn**	**15 42 40.3**	**-0.4**
SOEI	**Soe**	**7.01**	**228**	P	Pn	15 41 55.2	+5.4
	baz=7.1,SNR=4.1						
BATI	**Baumata**	**7.75**	**228**	P	Pn	15 42 04.0	+4.5
	7.4nm,0.3s,baz=97,slow=2.5,SNR=14						
BATI				S	Sn	15 43 32.9	+6.1
	3.3nm,0.3s,baz=342,slow=21,SNR=5.8						
MTN	**Manton Dam**	**7.91**	**169**	P	**Pn**	**15 42 04.6**	**+3.1**
	baz=8.0,SNR=45						
MTN				S	**Sn**	**15 43 30.8**	**+0.3**
	baz=8.0,SNR=10						
KDU	**Kakadu**	**8.13**	**159**	P	Pn	15 42 07.7	+3.3
	baz=8.2,SNR=111						
KDU				S	**Sn**	**15 43 35.2**	**-0.5**
	baz=8.2,SNR=12						
KNRA	**Kununurra**	**10.60**	**184**	P	**Pn**	**15 42 38.8**	**+2.2**
	baz=11,SNR=54						
KNRA				S	**Sn**	**15 44 34.8**	**+0.2**
	baz=11,SNR=5.1						
FITZ	**Fitzroy Crossi**	**13.53**	**196**	P	**P**	**15 43 16.6**	**-0.5**
	1.0nm,0.3s,baz=30,slow=11,SNR=26						
FITZ	**Fitzroy Crossi**	**13.53**	**196**	P	**P**	**15 43 16.6**	**-0.5**
	baz=14,SNR=15						
WRA	**Warramunga Arr**	**15.53**	**163**	P	**P**	**15 43 40.8**	**+1.4**
	1.5nm,0.3s,baz=339,slow=13,SNR=43						
WRA				S	**S**	**15 46 27.8**	**-4.6**
	1.5nm,0.3s,baz=334,slow=24,SNR=7.6						
COEN	**Coen**	**16.10**	**124**	P	Pn	15 43 54.6	+8.8
	baz=16,SNR=7.3						
COEN				S	**S**	**15 46 41.6**	**-2.7**
	baz=16,SNR=5.7						
ASAR	**Alice Springs**	**18.99**	**168**	P	**Pn**	**15 44 20.2**	**+0.1**
	1.1nm,0.3s,baz=349,slow=12,SNR=135						
ASAR				S	**S**	**15 47 40.9**	**-2.4**
	0.3nm,0.3s,baz=349,slow=20,SNR=20						
CISI	**Cisompet, Garu**	**21.73**	**262**	P	**P**	**15 44 44.3**	**-2.2**
	baz=22,SNR=4.5						
MEEK	**Meekatharra**	**23.88**	**205**	P	**P**	**15 45 06.1**	**-0.2**
	baz=24,SNR=4.0						
CMAR	**Chiang Mai Arr**	**38.14**	**309**	P	**P**	**15 47 08.5**	**-2.7**
	1.1nm,0.5s,baz=128,slow=6.4,SNR=6.4						
KSRS	**Korea Array**	**42.30**	**358**	P	**P**	**15 47 43.9**	**-1.2**
	0.6nm,0.7s,baz=178,slow=10.0,SNR=4.1						
USRK	**Ussuriysk Arra**	**49.07**	**2**	P	**P**	**15 48 35.8**	**-2.2**
	1.0nm,0.5s,baz=184,slow=7.8,SNR=5.4						
MKAR	**Makanchi Array**	**66.34**	**327**	P	**P**	**15 50 36.7**	**-1.8**
	1.4nm,0.4s,baz=114,slow=8.2,SNR=28						
ZALV	**Zalesovo Beam**	**69.63**	**334**	P	**P**	**15 50 56.7**	**-2.1**
	0.6nm,0.3s,baz=143,slow=5.0,SNR=3.2						
KURBB	**Kurchatov Arra**	**70.61**	**328**	P	**P**	**15 51 03.3**	**-1.4**
	1.3nm,0.5s,baz=130,slow=5.5,SNR=9.4						

*ISCJB **29** 16:47:53.6±0.4, 9°79N±0°04×126°70E±0°05, h43km, mb4.0/14, Error ellipse: s-maj=6.7km s-min=6.0km az=137.4*

*MAN **29** 16:47:54, 9°67N×126°57E, h20km, mb4.8, ML3.7, MS3.7*
*IDC **29** 16:48:03.0±2.9, 9°70N×126°69E, h125km±28km, mb3.7/14, mb1 3.8/15, mb1mx3.7/26, mbtmp3.7/15, MS3.2/1, Ms1 3.2/1, ms1mx2.6/38, Error ellipse: s-maj=30.2km s-min=11.2km az=76.0*
*AUST **29** 16:49:04.8, 5°49N×128°51E, h450km*
ISC 29 16:47:54.8±0.6, 9.73N±0°06×126.70E±0°08, h43km, n42, σ1§33/39, mb4.1/14, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.30**	**235**	*eP*	**Pn**	**16 48 14.7**	**-1.8**
MSLP	**Maasin**	**1.85**	**283**	*eP*	**Pn**	**16 48 24.1**	**0.0**
CGP	**Cagayan de Oro**	**2.35**	**238**	*eP*	**Pn**	**16 48 29.9**	**-1.0**
CGP				*i* S	**Sn**	**16 48 58.3**	**-0.2**
OCLP	**Ormoc**	**2.44**	**303**	*eP*	**Pn**	**16 48 33.0**	**+0.9**
BUKP	**Musuan**	**2.45**	**221**	*eP*	**Pn**	**16 48 33.6**	**+1.3**
LLP	**Lapu-Lapu**	**2.75**	**282**	*eP*	**Pn**	**16 48 37.0**	**+0.6**
LLP				*eS*	**Sn**	**16 49 09.1**	**+0.7**
TBP	**Tagbilaran**	**2.79**	**269**	*eP*	**Pn**	**16 48 36.8**	**-0.2**
MATI	**Mati**	**2.80**	**189**	*eP*	**Pn**	**16 48 37.9**	**+0.8**
DAV	**Davao City (W)**	**2.86**	**203**	P	Pn	16 48 47.3	+9.4
	78nm,0.3s,baz=299,slow=4.2,SNR=4.1						
DAV				S	Sn	16 49 25.2	+14
	32nm,0.3s,baz=287,slow=19,SNR=6.6						
DAV				LR	LR	16 50 01.9	
	comp=Z,441nm,20.6s,baz=187,slow=42						
SNPH	**Sibulan**	**3.43**	**264**	⇑*eP*	Pn	16 48 32.2	-14
DCPH	**Dipolog City**	**3.49**	**251**	*eP*	**Pn**	**16 48 46.6**	**0.0**
PAGZ	**Pagadian**	**3.77**	**241**	*eP*	**Pn**	**16 48 51.4**	**+0.9**
GUIM	**Jordan**	**4.14**	**283**	*eP*	**Pn**	**16 48 56.2**	**+0.8**
IPIL	**Ipil**	**4.51**	**245**	*eP*	**Pn**	**16 49 01.4**	**+0.8**
SWI	**Sorong**	**11.46**	**156**	S	Sn	16 52 30.6	-12
	baz=6.9,SNR=6.1						
FAKI	**Fak Fak**	**13.73**	**156**	P	**P**	**16 51 12.2**	**-2.5**
	baz=9.2,SNR=3.3						
BATI	**Baumata**	**20.03**	**189**	P	Pn	16 52 27.6	+1.2
	30nm,0.4s,baz=338,slow=2.3,SNR=21						
WSI	**Waingapu**	**20.30**	**198**	P	Pn	16 52 41.0	+12
	baz=17,SNR=4.2						
MTN	**Manton Dam**	**22.86**	**169**	P	**P**	**16 52 56.7**	**+2.1**
	baz=18,SNR=15						
KDU	**Kakadu**	**23.00**	**165**	P	**P**	**16 52 57.7**	**+1.7**
	baz=19,SNR=8.6						
KNRA	**Kununurra**	**25.33**	**175**	P	**P**	**16 53 21.1**	**+3.4**
	baz=21,SNR=12						
KSRS	**Korea Array**	**27.62**	**2**	P	**P**	**16 53 38.6**	**+0.4**
	0.2nm,0.4s,baz=158,slow=10,SNR=2.8						
FITZ	**Fitzroy Crossi**	**27.67**	**182**	P	**P**	**16 53 39.8**	**+1.0**
	7.5nm,0.7s,baz=29,slow=7.6,SNR=12						
FITZ	**Fitzroy Crossi**	**27.67**	**182**	P	**P**	**16 53 40.1**	**+1.3**
	baz=24,SNR=12						
CMAR	**Chiang Mai Arr**	**28.25**	**291**	P	**P**	**16 53 42.8**	**-1.3**
	0.3nm,0.3s,baz=95,slow=8.0,SNR=4.3						
WRA	**Warramunga Arr**	**30.43**	**166**	P	**P**	**16 54 02.1**	**-1.3**
	0.5nm,0.5s,baz=350,slow=9.3,SNR=2.8						
ASAR	**Alice Springs**	**33.93**	**168**	P	**P**	**16 54 34.1**	**+0.1**
	0.4nm,0.4s,baz=351,slow=7.1,SNR=25						
USRK	**Ussuriysk Arra**	**34.65**	**7**	P	**P**	**16 54 41.7**	**+1.7**
	1.8nm,0.7s,baz=140,slow=3.3,SNR=6.9						
MEEK	**Meekatharra**	**36.99**	**192**	P	**P**	**16 55 01.0**	**+0.6**
	baz=34,SNR=6.7						
MORW	**Morawa**	**39.92**	**195**	P	**P**	**16 55 25.7**	**+0.9**
	baz=37,SNR=4.5						
SONM	**Songino Array**	**41.67**	**339**	P	**P**	**16 55 40.2**	**+0.9**
	0.8nm,0.5s,baz=162,slow=9.5,SNR=5.0						
KLBR	**Kellerberrin**	**41.97**	**191**	P	**P**	**16 55 42.6**	**+0.9**
	baz=38,SNR=5.7						
BBOO	**Buckleboo**	**43.23**	**168**	P	**P**	**16 55 53.1**	**+1.1**
	baz=39,SNR=8.9						
STKA	**Stephens Creek**	**43.76**	**162**	P	**P**	**16 55 56.0**	**-0.1**
	1.5nm,0.4s,baz=92,slow=21,SNR=11						
STKA	**Stephens Creek**	**43.76**	**162**	P	**P**	**16 55 57.4**	**+1.2**
	baz=39,SNR=10						
RKGY	**Rocky Gully**	**45.05**	**191**	P	**P**	**16 56 08.8**	**+2.4**
	baz=42,SNR=4.7						
MKAR	**Makanchi Array**	**52.71**	**323**	P	**P**	**16 57 04.7**	**-0.4**
	1.2nm,0.6s,baz=127,slow=8.0,SNR=22						
ZALV	**Zalesovo Beam**	**55.30**	**331**	P	**P**	**16 57 23.0**	**-0.9**
	0.6nm,0.3s,baz=113,slow=6.2,SNR=4.5						
ILAR	**Eielson Array**	**79.74**	**26**	P	**P**	**16 59 55.7**	**-2.3**
	0.3nm,0.7s,baz=260,slow=5.4,SNR=2.4						
ARCES	**ARCESS Array B**	**84.84**	**340**	P	**P**	**17 00 23.9**	**-0.7**
	4.4nm,0.9s,baz=74,slow=6.1,SNR=14						
KAF	**Kangasniemi**	**86.30**	**332**	*ep*	**P**	**17 00 31.3**	**-0.6**
	2.2nm,0.5s						
FINES	**FINESS Array B**	**86.56**	**332**

	baz=30										
TSEB	**Hengchuen, Pin**	**0.41**	**107**	⇓	*i*	P		**Pn**	**16 53 16.0**	**-0.1**
	baz=118										
TAW	**Tawu**	**0.51**	**50**	⇓		P		**Pn**	**16 53 17.7**	**+0.2**
	baz=42										
TAW						S		**Sn**	**16 53 25.6**	**-0.2**
	baz=42										
KAU	**Kaohsiung**	**0.56**	**344**	⇑	*i*	P		**Pn**	**16 53 18.2**	**0.0**
	baz=343										
SGLT	**Jiouru**	**0.70**	**1**	⇑	*i*	P		**Pn**	**16 53 20.9**	**+0.8**
	baz=2.0										
SGLT						S		**Sn**	**16 53 31.2**	**+0.9**
	baz=2.0										
ECL	**Taimali**	**0.72**	**38**	⇓	*i*	P		**Pn**	**16 53 20.5**	**+0.1**
	baz=35										
TWM1	**Shoushan**	**0.80**	**357**	⇑	*i*	P		**Pn**	**16 53 21.9**	**+0.4**
	baz=357										
TTN	**Taitung**	**0.96**	**40**	⇓	*e*	P		**Pg**	**16 53 24.5**	**+0.7**
	baz=53										
TWG	**Pinlang**	**0.97**	**35**	⇓		P		**Pn**	**16 53 23.9**	**+0.2**
	baz=36										
TWG						S		**Sn**	**16 53 37.8**	**+0.8**
	baz=36										
TWG	**Pinlang**	**0.97**	**35**		*e*	P		**Pn**	**16 53 24.0**	**+0.2**
LAY	**Lan-yu**	**1.00**	**89**	⇓		P		**Pb**	**16 53 23.6**	**-0.3**
	baz=91										
TAI1	**Yung-k'ang**	**1.04**	**347**	⇑		P		**Pb**	**16 53 24.2**	**-0.3**
	baz=348										
TAI1						S		**Sb**	**16 53 37.7**	**0.0**
	baz=348										
CHN3	**Shinhua**	**1.05**	**354**	⇑	*i*	P		**Pn**	**16 53 25.3**	**+0.4**
	baz=354										
CHN3						S		**Sg**	**16 53 39.6**	**+0.1**
	baz=354										
SGST	**Jiashian**	**1.06**	**5**	⇓		P		**Pn**	**16 53 25.1**	**0.0**
	baz=355										
CHN1	**Nanshi**	**1.16**	**2**	⇑		P		**Pn**	**16 53 26.2**	**-0.2**
	baz=2.0										
STYT	**Tauyuan**	**1.16**	**13**			P		**Pn**	**16 53 26.3**	**-0.2**
	baz=13										
SCLT	**Jiali**	**1.17**	**347**	⇑	*e*	P		**Pn**	**16 53 26.0**	**-0.6**
	baz=348										
SCLT						S		**Sb**	**16 53 41.6**	**-0.1**
	baz=348										
WTP	**Ta-pu**	**1.22**	**6**		*e*	P		**Pn**	**16 53 26.9**	**-0.5**
	baz=354										
TWK	**Hsinying**	**1.24**	**1**	⇓		P		**Pn**	**16 53 27.3**	**-0.2**
	baz=1.0										
TWK						S		**Sb**	**16 53 42.5**	**-1.1**
	baz=1.0										
ELDTW	**Lidau**	**1.26**	**23**			P		**Pn**	**16 53 28.2**	**+0.3**
	baz=13										
TPUB	**Ta-pu**	**1.28**	**6**		*e*	P		**Pn**	**16 53 27.4**	**-0.7**
CHN4	**Tsaushan**	**1.32**	**5**	⇑		P		**Pn**	**16 53 28.2**	**-0.5**
	baz=352										
CHN8	**Yiju**	**1.34**	**350**	⇑		P		**Pn**	**16 53 28.0**	**-0.8**
	baz=350										
CHN8						S		**Sn**	**16 53 45.4**	**-0.7**
	baz=350										
CHKT	**Chengkung**	**1.35**	**37**	⇓	*e*	P		**Pn**	**16 53 29.4**	**+0.4**
	baz=38										
CHKT						S		**Sn**	**16 53 45.8**	**-0.7**
	baz=38										
WDGT	**Dungji**	**1.44**	**329**		*e*	P		**Pn**	**16 53 28.2**	**-2.1**
	baz=328										
CHY	**Chiayi**	**1.47**	**358**	⇑		P		**Pn**	**16 53 30.1**	**-0.5**
	baz=358										
ALS	**Alishan**	**1.51**	**12**	⇓	*i*	P		**Pn**	**16 53 31.6**	**+0.1**
	baz=3.0										
ALS						S		**Sn**	**16 53 51.3**	**+0.4**
	baz=3.0										
YUS	**Yu-Shan**	**1.52**	**17**	⇓	*i*	P		**Pn**	**16 53 32.1**	**+0.3**
	baz=17										
TWF1	**Yuli**	**1.52**	**30**	⇓	*e*	P		**Pn**	**16 53 31.7**	**+0.3**
	baz=30										
TWF1						S		**Sb**	**16 53 51.9**	**0.0**
	baz=30										
YULB	**Yu-li**	**1.56**	**29**		*e*	P		**Pn**	**16 53 32.2**	**+0.3**
CHN5	**Tsauling**	**1.58**	**7**	⇓		P		**Pn**	**16 53 31.9**	**-0.4**
	baz=355										
WSF	**Szhu**	**1.62**	**352**	⇑	*i*	P		**Pn**	**16 53 31.8**	**-0.9**
	baz=352										
WSF						S		**Sn**	**16 53 51.6**	**-1.6**
	baz=352										
EHY	**Hungye**	**1.67**	**28**	⇓	*i*	P		**Pn**	**16 53 34.0**	**+0.6**
	baz=16										
EHY						S		**Sn**	**16 53 54.2**	**-0.1**
	baz=16										
PNG	**Penghu**	**1.75**	**331**	⇑	*i*	P		**Pn**	**16 53 32.5**	**-2.0**
	baz=332										
PNG						S		**Sn**	**16 53 53.3**	**-3.1**
	baz=332										
SSLB	**Suanglung**	**1.81**	**14**		*e*	P		**Pn**	**16 53 35.3**	**-0.1**
WTCT	**Ta-ch'eng**	**1.84**	**354**			P		**Pn**	**16 53 34.8**	**-1.0**
	baz=5.0										
WTCT						S		**Sn**	**16 53 57.0**	**-1.5**
	baz=5.0										
WNT	**Mingjian**	**1.85**	**6**		*e*	P		**Pn**	**16 53 35.7**	**-0.3**
	baz=7.0										
WNT						S		**Sn**	**16 53 57.7**	**-1.2**
	baz=7.0										
SMLT	**Sun Moon Lake**	**1.89**	**12**	⇓	*e*	P		**Pn**	**16 53 36.7**	**+0.2**
	baz=1.0										
SMLT						S		**Sn**	**16 53 59.2**	**-0.8**
	baz=1.0										
TYC	**Yuchr**	**1.90**	**11**			P		**Pn**	**16 53 36.9**	**+0.2**
TEGC	**Jichi Village**	**1.94**	**30**		*e*	P		**Pn**	**16 53 37.9**	**+0.7**
	baz=30										
TEGC						S		**Sn**	**16 54 02.1**	**+1.0**
	baz=30										
ESL	**Shilin**	**1.99**	**26**	⇓	*e*	P		**Pn**	**16 53 38.2**	**+0.4**
	baz=27										
ESL						S		**Sn**	**16 54 01.7**	**-0.5**
	baz=27										
ESF	**Shoufeng Towns**	**2.07**	**27**		*e*	P		**Pb**	**16 53 41.2**	**-0.9**
	baz=16										
ESF						S		**Sb**	**16 54 06.1**	**-1.4**
	baz=16										
TCU	**Taichung**	**2.12**	**5**		*e*	P		**Pn**	**16 53 39.5**	**-0.2**
	baz=6.0										
TCU						S		**Sn**	**16 54 04.7**	**-0.8**
	baz=6.0										
HWA	**Hwalien**	**2.21**	**28**		*e*	P		**Pn**	**16 53 42.2**	**+1.4**
	baz=18										
HWA						S		**Sn**	**16 54 07.0**	**-0.5**
	baz=18										
WHF	**Hehuan Shan**	**2.23**	**19**	⇓	*e*	P		**Pn**	**16 53 42.0**	**+0.4**
	baz=19										
WHF						S		**Sn**	**16 54 10.4**	**+1.6**
	baz=19										
TWD	**Chiawan**	**2.29**	**27**		*e*	P		**Pn**	**16 53 42.5**	**+0.5**
	baz=17										
TWD						S		**Sn**	**16 54 10.3**	**+0.6**
	baz=17										
TWT	**Tachien**	**2.31**	**16**		*e*	P		**Pn**	**16 53 42.5**	**+0.1**
	baz=7.0										
TWT						S		**Sn**	**16 54 09.2**	**-1.2**
	baz=7.0										
TWQ1	**Liyutan**	**2.33**	**7**		*e*	P		**Pn**	**16 53 42.7**	**+0.2**
	baz=7.0										
TWQ1						S		**Sn**	**16 54 09.9**	**-0.8**
	baz=7.0										
NACB	**Ninganchiao**	**2.38**	**26**		*e*	P		**Pn**	**16 53 43.5**	**+0.3**
NSY	**Sanyi**	**2.40**	**6**		*e*	P		**Pn**	**16 53 43.8**	**+0.4**
	baz=7.0										
NSY						S		**Sn**	**16 54 12.2**	**-0.1**
	baz=7.0										
NNS	**Nan Shan**	**2.54**	**19**		*e*	P		**Pn**	**16 53 46.5**	**+0.9**
	baz=19										
NNS						S		**Sn**	**16 54 16.2**	**+0.1**
	baz=19										
NSTT	**Nanjuang**	**2.64**	**10**		*e*	P		**Pn**	**16 53 46.6**	**-0.2**
NSTT						S		**Sn**	**16 54 16.4**	**-1.9**
ENA	**Nanau**	**2.66**	**26**		*e*	P		**Pn**	**16 53 47.5**	**+0.4**
	baz=25										
YHNB	**Yeheng**	**2.76**	**17**		*e*	P		**Pn**	**16 53 49.2**	**+0.7**
NSK	**Sanguang**	**2.76**	**17**	⇓	*e*	P		**Pn**	**16 53 49.2**	**+0.7**
	baz=18										
NSK						S		**Sn**	**16 54 21.5**	**+0.2**
	baz=18										
ENTT	**Nioudou**	**2.79**	**21**		*e*	P		**Pn**	**16 53 50.2**	**+1.4**
	baz=10.0										
ENTT						S		**Sn**	**16 54 22.6**	**+0.6**
	baz=10.0										
HSN	**Hsinchu**	**2.80**	**9**		*e*	P		**Pn**	**16 53 50.1**	**+1.1**
HSN						S		**Sn**	**16 54 22.7**	**+0.4**
TWC	**Suao**	**2.87**	**26**		*e*	P		**Pn**	**16 53 50.8**	**+0.9**
	baz=26										
TWE	**Neicheng**	**2.90**	**22**		*e*	P		**Pn**	**16 53 51.6**	**+1.3**
	baz=36										
ILA	**Ilan**	**2.97**	**23**		*e*	P		**Pn**	**16 53 52.8**	**+1.5**
	baz=35										
NCU	**National Centr**	**3.00**	**12**		*e*	P		**Pn**	**16 53 52.5**	**+0.7**
	baz=2.0										
NCU						S		**Sn**	**16 54 25.7**	**-1.6**
	baz=2.0										
KNM	**Kinmen**	**3.03**	**322**		*e*	P		**Pn**	**16 53 51.7**	**-0.5**
	baz=320										
TATO	**Taipei**	**3.08**	**17**			P		**Pn**	**16 53 53.9**	**+1.1**
	SNR=54										
TATO	**Taipei**	**3.08**	**17**		*e*	P		**Pn**	**16 53 53.8**	**+1.0**
TWA	**Mucha**	**3.11**	**19**		*e*	P		**Pn**	**16 53 54.4**	**+1.1**
	baz=6.0										
TAP	**Taipei**	**3.15**	**17**		*e*	P		**Pn**	**16 53 54.3**	**+0.6**
	baz=5.0										
TAP1	**Taipei**	**3.15**	**18**		*e*	P		**Pn**	**16 53 53.8**	**0.0**
	baz=5.0										
TWS1	**Kuangyinshan**	**3.18**	**16**		*e*	P		**Pn**	**16 53 54.7**	**+0.5**
	baz=4.0										
TWS1						S		**Sn**	**16 54 30.8**	**-0.9**
	baz=4.0										
NWF	**Wu-fen Shan**	**3.26**	**21**		*e*	P		**Pn**	**16 53 56.8**	**+1.4**
	baz=9.0										
NWF						S		**Sn**	**16 54 33.5**	**-0.2**
	baz=9.0										
TWB1	**Santiao Chiao**	**3.28**	**25**		*e*	P		**Pn**	**16 53 57.0**	**+1.4**
	baz=24										
YOJ	**Yonaguni jima**	**3.37**	**43**	⇑	*i*	P		**Pn**	**16 53 58.1**	**+1.4**
	baz=35										
YOJ						S		**Sn**	**16 54 36.4**	**+0.2**
	baz=35										
YOJ	**Yonaguni jima**	**3.37**	**43**			P		**Pn**	**16 53 57.8**	**+1.1**
YOJ						S		**Sn**	**16 54 38.8**	**+2.6**
QZH	**Quanzhou**	**3.38**	**330**	⇓	*i*	Pn		**Pn**	**16 53 54.0**	**-2.9**
QZH						Sn		**Sn**	**16 54 32.5**	**-4.0**
QZH						smax	smax			
	comp=N,4μm,1.0s									
QZH						smax	smax			
	comp=E,3μm,1.0s									
QZH						LR	LR			
	comp=N,62μm,11.8s									
QZH						LR	LR			
	comp=E,52μm,12.6s									
QZH						LR	LR			
	comp=Z,60μm,9.5s									
TWY	**Chenhua**	**3.40**	**17**		*e*	P		**Pn**	**16 53 57.6**	**+0.4**
	baz=7.0									
HATJ	**Hateruma jima**	**3.67**	**56**			P		**Pn**	**16 54 01.5**	**+0.5**
HATJ						S		**Sn**	**16 54 44.8**	**+1.0**
IRIF	**Iriomote-Funau**	**3.78**	**52**			P		**Pn**	**16 54 03.2**	**+0.8**
IRIF						S		**Sn**	**16 54 47.7**	**+1.4**
PCYT	**Pengchaiyu**	**3.88**	**22**		*e*	P		**Pn**	**16 54 04.5**	**+0.8**
	baz=21									
JKRS	**Kuro-shima**	**3.93**	**55**			P		**Pn**	**16 54 05.5**	**+1.0**
JKRS						S		**Sn**	**16 54 52.0**	**+1.9**
JIJ	**Ishigaki jima**	**4.10**	**55**			P		**Pn**	**16 54 07.0**	**+0.2**
JIJ						S		**Sn**	**16 54 53.9**	**-0.4**
CVP	**Callao Caves**	**4.48**	**163**	⇑	*e*	P		**Pn**	**16 54 14.5**	**+2.4**
CVP						eS		**Sn**	**16 55 03.9**	**+0.1**
JTJ	**Tarama**	**4.68**	**55**			P		**Pn**	**16 54 15.4**	**+0.6**
JTJ						S		**Sn**	**16 55 08.7**	**+0.2**
JMJ	**Miyako jima 2**	**5.22**	**57**		*e*	P		**Pn**	**16 54 22.9**	**+0.6**
	baz=46									
JMJ						eS		**Sn**	**16 55 21.3**	**-0.8**
	baz=46									
JMJ	**Miyako jima 2**	**5.22**	**57**			P		**Pn**	**16 54 23.5**	**+1.2**
JMJ						S		**Sn**	**16 55 22.4**	**+0.3**
JOGS	**Gusukube**	**5.29**	**58**			P		**Pn**	**16 54 24.2**	**+1.1**
JOGS						S		**Sn**	**16 55 23.7**	**+0.1**
GZH	**Guangzhou**	**6.67**	**280**			Pn		Pn	16 54 38.3	-3.9
GZH						smax	smax			
	comp=N,1μm,0.7s									
GZH						smax	smax			
	comp=E,940nm,0.7s									
JKE	**Kume jima 2**	**7.18**	**52**			P		**Pn**	**16 54 49.3**	**+0.1**
JAGN	**Aguni-jima**	**7.66**	**52**			P		**Pn**	**16 54 56.0**	**+0.2**
JIH	**Iheya**	**8.45**	**52**			P		**Pn**	**16 55 06.3**	**-0.3**
JOW	**Kunigami**	**8.57**	**54**		*e*	P		**Pn**	**16 55 07.1**	**-1.2**
	baz=57									
JOW	**Kunigami**	**8.57**	**54**		*e*	P		**Pn**	**16 55 06.9**	**-1.3**
	comp=E,20nm,0.8s									
JOW	**Kunigami**	**8.57**	**54**			P		**Pn**	**16 55 06.9**	**-1.3**
SSE	**Sheshan**	**9.06**	**4**			P		**Pn**	**16 55 16.0**	**+1.1**
SSE						S		**Sn**	**16 57 00.5**	**+4.1**
SSE						pmax	pmax			
	comp=Z,57nm,0.6s									
SSE						pmax	pmax			
	comp=Z,63nm,4.4s									
SSE						LR	LR			
	comp=N,16μm,13.5s									
SSE						LR	LR			
	comp=E,24μm,13.8s									
SSE						LR	LR			
	comp=Z,31μm,14.6s									
JTK	**Tokunoshima**	**9.59**	**52**			P		**Pn**	**16 55 20.3**	**-2.0**
JAMN	**Amaminishikomi**	**10.02**	**50**			P		**Pn**	**16 55 27.1**	**-1.0**
NJ2	**Nanjing**	**10.09**	**352**		*e*	P		**Pn**	**16 55 30.3**	**+1.2**
NJ2						pP			16 55 33.5	
NJ2						sP			16 55 36.5	
NJ2						PP		**PnPn**	**16 55 38.5**	**+1.5**
NJ2						S		**Sn**	**16 57 16.5**	**-5.3**
NJ2						pmax	pmax			
	comp=Z,23nm,0.6s									
WHN	**Wuhan**	**10.11**	**328**	⇓		P		**Pn**	**16 55 27.5**	**-1.8**
WHN						pP			16 55 35.0	
WHN						LR	LR			
	comp=N,27μm,15.4s									
WHN						LR	LR			
	comp=E,38μm,8.7s									
WHN						LR	LR			
	comp=Z,29μm,17.7s									
QIZ	**Qiongzhong**	**10.40**	**255**			P		**Pn**	**16 55 32.0**	**-1.3**
QIZ						S		**Sn**	**16 57 30.0**	**+0.6**
QIZ						pmax	pmax			
	comp=Z,57nm,0.9s									
QIZ						LR	LR			
	comp=N,11μm,16.5s									
QIZ						LR	LR			
	comp=E,9μm,15.2s									
QIZ						LR	LR			
	comp=Z,32μm,15.6s									
QIZ	**Qiongzhong**	**10.40**	**255**		*e*	P		**Pn**	**16 55 32.1**	**-1.3**
	comp=Z,63nm,0.8s									
JAM	**Amami Oshima**	**10.43**	**51**			P		**Pn**	**16 55 32.4**	**-1.3**
JAM						eS		**Sn**	**16 57 28.3**	**-1.7**
JMZ	**Minamidaito 2**	**10.53**	**67**			eS		Sn	16 57 26.3	-6.3
ENH	**Enshi**	**12.83**	**312**			eP		**Pn**	**16 56 06.5**	**-0.2**
	comp=Z,36nm,1.0s									
GYA	**Guiyang**	**13.35**	**292**	⇑	*i*	P		**Pn**	**16 56 12.5**	**-1.3**
GYA						PP		**P**	**16 56 25.0**	**+1.7**
GYA						SS		**S**	**16 59 01.3**	**-4.5**
GYA						pmax	pmax			
	comp=Z,70nm,1.0s									
GYA						pmax	pmax			
	comp=Z,170nm,4.8s									
GYA						LR	LR			
	comp=N,13μm,13.6s									
GYA						LR	LR			
	comp=E,29μm,14.3s									
GYA						LR	LR			
	comp=Z,31μm,14.9s									
JNU	**Nakatsue**	**14.39**	**38**		*e*	P		**Pn**	**16 56 27.9**	**0.0**
	comp=Z,20nm,1.0s									
JNU	**Nakatsue**	**14.39**	**38**			Pn		**Pn**	**16 56 28.3**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=83,slow=5.8,SNR=4.0									
TIA	**Tai'an**	**14.44**	**349**	⇑		P		**Pn**	**16 56 31.0**	**+2.5**
TIA						S		Sn	16 59 13.8	+5.7
TIA						pmax	pmax			
	comp=Z,450nm,2.3s									
TIA						pmax	pmax			
	comp=Z,350nm,7.3s									
TIA						LR	LR			
	comp=N,22μm,12.7s									
TIA						LR	LR			
	comp=E,22μm,14.7s									
TIA						LR	LR			
	comp=Z,24μm,14.7s									
DAV	**Davao City (W)**	**15.66**	**161**			LR		LR	17 04 17.2	
	comp=Z,9μm,18.2s,baz=339,slow=43									
PANO	**Nakornpanom**	**15.71**	**255**			P		**Pn**	**16 56 47.4**	**+1.8**
	comp=Z,702nm,1.1s,comp=Z,34μm									
UBPT	**Khong Chiam**	**15.71**	**247**			P		**Pn**	**16 56 47.2**	**+1.6**
	comp=Z,54nm,1.2s,comp=Z,2μm									
UBPT	**Khong Chiam**	**15.71**	**247**			P		**P**	**16 56 48.7**	**-0.8**
	comp=Z,76nm,1.5s,comp=Z,2μm									
INCN	**Inchon**	**16.30**	**18**		*e*	P		**Pn**	**16 56 53.5**	**+0.4**
KKM	**Kota Kinabalu**	**16.41**	**195**		*e*	P		**P**	**16 56 56.2**	**-1.1**
	comp=Z,128nm,1.3s									
KKM	**Kota Kinabalu**	**16.41**	**195**			P		**Pn**	**16 56 54.8**	**+0.1**
KKM	**Kota Kinabalu**	**16.41**	**195**			P		**P**	**16 56 57.6**	**+0.2**
	comp=Z,101nm,1.4s,comp=Z,2μm									
KMI	**Kunming**	**16.55**	**284**			P		**Pn**	**16 56 57.0**	**+0.5**
KMI						S		**Sn**	**17 00 02.5**	**+2.6**
KMI						pmax	pmax			
	comp=Z,18nm,1.5s									
KMI						pmax	pmax			
	comp=Z,790nm,7.5s									
KMI						LR	LR			
	comp=N,17μm,12.9s									
KMI						LR	LR			
	comp=E,13μm,12.0s									
KMI						LR	LR			
	comp=Z,16μm,12.9s									
SDKM	**Sandakan**	**16.59**	**192**			P		**Pn**	**16 56 57.0**	**0.0**
KSAR	**Wonju Array Be**	**16.65**	**21**			Pn		**Pn**	**16 56 57.8**	**+0.3**
KSRS	**Korea Array**	**16.67**	**21**			Pn		**Pn**	**16 56 57.8**	**0.0**
	comp=Z,0.3nm,0.3s,baz=205,slow=13,SNR=25									
KSRS						LR		LR	17 04 31.6	
	comp=Z,12μm,18.1s,baz=206,slow=41									
MYLDM	**Lahad Datu**	**16.85**	**187**			P		**P**	**16 57 04.1**	**+1.9**
MYLDM	**Lahad Datu**	**16.85**	**187**			P		**P**	**16 57 03.7**	**+1.5**
	comp=Z,158nm,1.3s,comp=Z,3μm									
DL2	**Dalian**	**16.86**	**3**			P		**Pn**	**16 57 00.8**	**+0.7**
DL2						S		**Sn**	**17 00 09.8**	**+2.9**
DL2						pmax	pmax			
	comp=Z,58nm,1.2s									
DL2						pmax	pmax			
	comp=Z,710nm,6.1s									
DL2						LR	LR			
	comp=N,14μm,15.7s									
DL2						LR	LR			
	comp=Z,16μm,16.5s									
TIY	**Taiyuan**	**17.11**	**338**		*e*	P		**P**	**16 57 05.0**	**+0.1**
TIY						pP		**pP**	**16 57 08.5**	**-1.8**
TIY						sP		**sP**	**16 57 12.0**	**-0.8**
TIY						S		**Sn**	**17 00 13.0**	**-0.1**
TIY						sS		**S**	**17 00 20.5**	**-2.0**
TIY						LR	LR			
	comp=N,13μm,11.6s									
TIY						LR	LR			
	comp=E,5μm,15.3s									
TIY						LR	LR			
	comp=Z,15μm,14.0s									
CD2	**Chengdu**	**17.37**	**304**			P		**P**	**16 57 07.3**	**-0.6**
CD2						pP		**pP**	**16 57 11.0**	**-2.3**
CD2						sP		**sP**	**16 57 14.5**	**-1.3**
CD2						PP		**PnPn**	**16 57 22.0**	**+5.1**
CD2						S		**Sn**	**17 00 19.0**	**-0.6**
CD2						sS		**S**	**17 00 25.0**	**-2.9**
CD2						SS		**SnSn**	**17 00 40.5**	**+7.4**
CD2						pmax	pmax			
	comp=Z,180nm,1.2s									
CD2						pmax	pmax			
	comp=Z,1μm,4.2s									
CD2						LR	LR			
	comp=E,20μm,11.3s									
CD2						LR	LR			
	comp=Z,14μm,9.5s									
TSM	**Tawau**	**17.80**	**189**			P		**P**	**16 57 13.2**	**+0.5**
BJT	**Baijiatuau**	**18.31**	**349**		*e*	P		**P**	**16 57 21.8**	**+3.7**
	comp=Z,55nm,0.7s									
BJI	**Beijing**	**18.33**	**349**			P		**P**	**16 57 18.8**	**+0.5**
BJI						S		**Sn**	**17 00 43.8**	**+1.3**
BJI						pmax	pmax			
	comp=Z,58nm,1.4s									
BJI						pmax	pmax			
	comp=Z,1μm,6.3s									
BJI						LR	LR			
	comp=N,14μm,14.1s									
BJI						LR	LR			
	comp=E,17μm,19.2s									
BJI						LR	LR			
	comp=Z,18μm,21.8s									
CHAI	**Chaiyaphum**	**18.51**	**254**			P		**Pn**	**16 57 21.2**	**+0.5**
	comp=Z,12nm,1.1s,comp=Z,137nm									
JWT	**Wachi**	**18.57**	**41**			P		**Pn**	**16 57 23.6**	**+2.3**
LOEI	**Loei**	**18.63**	**259**			P		**P**	**16 57 18.8**	**-3.0**
	comp=Z,121nm,1.3s									
CRAI	**Chiangrai**	**18.84**	**268**			P		**P**	**16 57 20.6**	**-3.5**
	comp=Z,50μm,1.6s									
PBKT	**Sadao Pong**	**19.19**	**257**			P		**Pn**	**16 57 29.1**	**+0.2**
	comp=Z,52nm,2.2s,comp=Z,2μm									
PBKT	**Sadao Pong**	**19.19**	**257**			P		**Pn**	**16 57 29.3**	**+0.4**
	comp=Z,75nm,0.9s,comp=Z,2μm									
CHBT	**CHBT**	**19.60**	**245**			P		**Pn**	**16 57 33.8**	**0.0**
NAYO	**Nakonayok**	**19.73**	**250**			P		**Pn**	**16 57 35.6**	**+0.1**
	comp=Z,88nm,0.7s									
LAMP	**Lampang**	**19.86**	**264**			P		**Pn**	**16 57 37.5**	**+0.6**
	comp=Z,11nm,0.8s									
SNY	**Shenyang**	**19.92**	**7**	⇓		P		**P**	**16 57 36.5**	**+0.8**
SNY						S		**S**	**17 01 18.8**	**-0.2**
SNY						pmax	pmax			
	comp=Z,20nm,1.2s									
SNY						pmax	pmax			
	comp=Z,580nm,6.1s									
SNY						LR	LR			
	comp=N,8μm,19.2s									
SNY						LR	LR			
	comp=E,18μm,19.3s									
SNY						LR	LR			
	comp=Z,17μm,15.4s									
JGF	**Kuroka**	**20.00**	**44**			P		Pn	16 57 39.1	+0.5
JSG	**Sagara**	**20.01**	**47**			P		Pn	16 57 42

MNI Manado 20.89 168 P Pn 16 57 48.1 -1.0
comp=Z,232nm,0.8s,comp=Z,3µm
JOD2 Odawara 2 20.95 47 P Pn 16 57 49.2 -0.4
SBUM Sibu 21.05 204 P **P** **16 57 48.8 +0.6**
SBUM Sibu 21.05 204 P **P** **16 57 48.4 +0.2**
comp=Z,33nm,1.7s,comp=Z,2µmcomp=Z,7µm
MAJO Matsushiro 21.13 43 *eP* **P** **16 57 48.8 -0.1**
MAJO pmax pmax
comp=Z,159nm,1.4s
MAJO Matsushiro 21.13 43 *eP* **P** **16 57 48.8 -0.1**
comp=Z,159nm,1.4s
MAT Matsushiro 21.13 43 P **P** **16 57 48.1 -0.8**
MAT S **S** **17 01 45.0 +1.8**
MAT Matsushiro 21.13 43 P **P** **16 57 49.0 +0.1**
MJAR Matsushiro Arr 21.13 43 P **P** **16 57 48.2 -0.7**
MJAR Matsushiro Arr 21.13 43 P **P** **16 57 48.2 -0.7**
comp=Z,24nm,0.8s,baz=230,slow=9.7,SNR=32
JRY Ryogami san 21.26 45 P **P** **16 57 51.8 +1.5**
GTOI Gorontalo 21.40 173 P **P** **16 57 52.6 +0.6**
comp=Z,181nm,2.1s,comp=Z,3µm
MRSI Marisa 21.46 176 P **P** **16 57 55.9 +3.3**
comp=Z,136nm,0.8s,comp=Z,2µm
KMSI Cibinong 21.59 170 P **P** **16 57 57.7 +3.7**
comp=Z,564nm,1.0s,comp=Z,6µm
PHET Kaeng Krachan 21.83 249 P **P** **16 57 58.9 +2.3**
comp=Z,154nm,1.0s
CN2 Changchun 22.11 10 *eP* **P** **16 58 00.8 +1.5**
CN2 *eS* **S** **17 01 58.5 -3.7**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,400nm,6.0s
CN2 LR LR
comp=N,8µm,21.0s
CN2 LR LR
comp=E,16µm,21.0s
CN2 LR LR
comp=Z,20µm,15.0s
JSD Sado 22.11 40 P **P** **16 58 00.7 +1.2**
TNTI Ternate 22.16 161 P **P** **16 58 02.6 +2.4**
comp=Z,332nm,1.2s,comp=Z,4µm
KSM Kuching 22.70 207 *eP* **P** **16 58 04.4 -1.5**
comp=Z,70nm,1.1s
KSM Kuching 22.70 207 P **P** **16 58 05.3 -0.6**
KSM Kuching 22.70 207 P **P** **16 58 05.5 -0.4**
comp=Z,44nm,1.4s,comp=Z,918nm
LUWI Luwuk 23.04 174 P **P** **16 58 11.5 +2.1**
comp=Z,150nm,1.6s,comp=Z,4µm
VLA Vladivostok 23.09 22 ⇓ *iP* **P** **16 58 10.5 +0.8**
VLA *e* 16 58 34.8
VLA *i* 17 01 57.7
VLA *eS* **S** **17 02 20.3 +0.5**
VLA pmax pmax
comp=Z,32nm,1.2s
VLA MLR MLR
comp=E,179µm,19.0s
JYA Atsumi 23.34 41 P **P** **16 58 12.3 -0.1**
BKB Balikpapan 23.41 189 P P 16 58 26.4 +13
STKI Sintang 23.52 203 P **P** **16 58 15.6 +1.3**
comp=E,46nm,1.2s,comp=E,1µm
LBMI Labuha 23.55 162 P **P** **16 58 16.8 +2.3**
comp=E,278nm,1.1s,comp=E,4µm
JMM Marumori 23.57 43 P **P** **16 58 13.0 -1.6**
KTGM Kuala Trenggan 23.60 228 P **P** **16 58 14.5 -0.6**
MDJ Mudanjiang 23.75 16 P **P** **16 58 16.8 +0.5**
MDJ pP **pP** **16 58 19.8 -2.2**
MDJ sP **sP** **16 58 20.8 -3.6**
MDJ S **S** **17 02 34.3 +3.6**
MDJ ScP **ScP** **17 05 38.8 +1.6**
MDJ pmax pmax
comp=Z,34nm,0.9s
MDJ pmax pmax
comp=Z,460nm,8.5s
MDJ LR LR
comp=N,12µm,17.4s
MDJ LR LR
comp=E,9µm,16.0s
MDJ LR LR
comp=Z,17µm,17.4s
MDJ Mudanjiang 23.75 16 *eP* **P** **16 58 16.0 -0.3**
comp=Z,32nm,0.9s
USRK Ussuriysk Arra 24.08 21 P **P** **16 58 19.0 -0.4**
comp=Z,13nm,0.7s,baz=207,slow=10,SNR=36
USRK LR LR 17 08 40.2
comp=Z,5µm,20.1s,baz=345,slow=39
SKSI Soroako, Sulaw 24.42 178 P **P** **16 58 24.4 +1.6**
comp=Z,106nm,1.0s,comp=Z,3µm
GTA Gaotai 24.72 319 ⇓ P **P** **16 58 25.5 +0.1**
GTA pP **pP** **16 58 29.8 -1.5**
GTA sP **sP** **16 58 32.5 -1.1**
GTA PcP **PcP** **17 02 01.3 -0.9**
GTA S **S** **17 02 48.3 +1.7**
GTA sS **sS** **17 02 54.8 -1.3**
GTA pmax pmax
comp=Z,95nm,1.9s
GTA pmax pmax
comp=Z,940nm,5.5s
GTA LR LR
comp=N,4µm,17.8s
GTA LR LR
comp=E,6µm,19.5s
GTA LR LR
comp=Z,6µm,19.5s
JOM Ohasama 24.85 41 P **P** **16 58 25.4 -1.1**
TTSI Tana Toraja 24.92 182 P **P** **16 58 30.2 +2.9**
comp=Z,62nm,0.9s,comp=Z,993nm
SWI Sorong 25.07 154 P **P** **16 58 30.6 +2.0**
comp=Z,77nm,0.8s,comp=Z,1µm
KULM Kulim 25.39 232 *eP* **P** **16 58 30.9 -0.7**
comp=Z,43nm,1.3s
KULM Kulim 25.39 232 P **P** **16 58 30.7 -0.9**
KULM Kulim 25.39 232 P **P** **16 58 32.9 +1.3**
comp=Z,33nm,0.8s,comp=Z,796nm
JTM Tenmabayashi 25.56 38 P **P** **16 58 33.7 +0.9**
IPM Ipoh 25.68 230 *eP* **P** **16 58 33.1 -1.1**
comp=Z,39nm,0.8s
IPM Ipoh 25.68 230 P **P** **16 58 33.6 -0.6**
IPM Ipoh 25.68 230 P **P** **16 58 34.1 -0.1**
comp=Z,57nm,1.0s
MYKOM Kota Tinggi 25.81 221 P **P** **16 58 36.6 +1.3**
MYKOM Kota Tinggi 25.81 221 P **P** **16 58 36.5 +1.2**
comp=Z,77nm,1.1s,comp=Z,1µm
KGM Kluang 25.96 222 P **P** **16 58 36.1 -0.6**
FRIM Kepong 26.15 227 P **P** **16 58 38.3 -0.1**
JSH Shimam 26.27 34 P **P** **16 58 38.9 -0.3**
SHL Shillong 26.38 283 *i* P **P** **16 58 41.0 +0.3**
SHL *eS* **S** **17 03 20.0 +6.7**
MSAI Masohi 26.54 161 P P 16 58 47.2 +5.3
comp=Z,45nm,0.9s
KAPI Kappang 26.88 182 *eP* **P** **16 58 44.5 -0.5**
comp=Z,75nm,1.2s
KAPI Kappang 26.88 182 LR LR 17 12 32.5
comp=Z,2µm,18.4s,baz=213,slow=44
JEW Eniwo 27.14 35 P **P** **16 58 48.2 +1.0**
HIA Hailar 27.19 359 *eP* **P** **16 58 46.0 -1.6**
comp=Z,85nm,1.0s
LSA Lhasa 27.42 292 P **P** **16 58 51.0 +0.7**
LSA S **S** **17 03 33.5 +3.3**
LSA pmax pmax
comp=Z,50nm,1.0s
LSA LR LR
comp=N,3µm,13.7s
LSA LR LR
comp=E,6µm,13.7s
LSA LR LR
comp=Z,11µm,14.0s
LSA Lhasa 27.42 292 *eP* **P** **16 58 51.1 +0.7**
LSA pmax pmax
comp=Z,44nm,0.8s
LSA Lhasa 27.42 292 *eP* **P** **16 58 51.0 +0.7**
comp=Z,44nm,0.8s
ERM Erimo 27.55 38 P **P** **16 58 52.8 +2.0**
comp=Z,276nm,0.9s,SNR=7.3
ERM Erimo 27.55 38 *ceP* **P** **16 58 51.9 +1.1**
ERM pmax pmax
comp=Z,34nm,0.7s
ERM Erimo 27.55 38 *eP* **P** **16 58 52.7 +1.9**
comp=Z,97nm,1.0s
JEM Erimo 27.55 38 P **P** **16 58 52.0 +1.2**
ULN Ulaanbaatar 27.95 341 P **P** **16 58 55.0 +0.5**
SNR=30
ULN Ulaanbaatar 27.95 341 *eP* **P** **16 58 54.5 +0.1**
comp=Z,67nm,1.3s
ULN Ulaanbaatar 27.95 341 P **P** **16 58 54.6 +0.1**
comp=Z,39nm,1.3s,comp=Z,540nm
SONM Songino Array 28.13 340 P **P** **16 58 56.2 +0.1**
comp=Z,24nm,0.8s,baz=160,slow=9.5,SNR=97
SONM LR LR 17 11 48.7
comp=Z,6µm,18.4s,baz=57,slow=40
PSI Prapat 28.34 231 P **P** **16 58 58.0 -0.3**
PSI Prapat 28.34 231 P **P** **16 58 58.0 -0.3**
comp=Z,5.6nm,0.4s,baz=57,slow=10,SNR=7.5
PSI LR LR 17 10 14.9
comp=Z,4µm,18.7s,baz=135,slow=36
KLR Kul'dur 28.59 16 *eP* **P** **16 58 57.1 -2.9**
KLR *eS* **S** **17 03 43.0 -4.3**
KLR MLR MLR
comp=N,10µm,15.0s
KLR MLR MLR
comp=Z,12µm,15.0s
ASAJ Asahikawa 28.63 34 *eP* **P** **16 58 59.5 -0.9**
comp=Z,14nm,0.8s
ASAJ Asahikawa 28.63 34 P **P** **16 59 00.3 -0.1**
ASAJ Asahikawa 28.63 34 P **P** **16 59 01.4 +0.9**
comp=Z,35nm,0.9s,baz=248,slow=16,SNR=22
ASAJ LR LR 17 12 01.2
comp=Z,8µm,19.1s,baz=233,slow=40
JMP Maruseppu 28.96 35 P **P** **16 59 03.6 +0.2**
JWK2 Keihoku 29.11 32 P **P** **16 59 06.8 +2.1**
PPI Padang Panjang 29.71 224 P **P** **16 59 10.5 +0.2**
TAPN Taplejung 30.18 287 *eP* **P** **16 59 14.9 +0.1**
YUK Yuzh-Kuril'sk 30.36 38 *c iP* **P** **16 59 15.5 -0.2**
YUK *i* 17 00 09.7
YUK *i* S **S** **17 04 15.6 +0.4**
YUK pmax pmax
comp=Z,358nm,1.3s
YUK pmax pmax
comp=E,244nm,1.3s
YUK pmax pmax
comp=N,74nm,0.7s
YUK MLR MLR
comp=E,3µm,17.0s
YUK MLR MLR
comp=Z,2µm,17.0s
YUK MLR MLR
comp=N,594nm,17.0s
CIT Chita 30.42 352 *eP* **P** **16 59 15.7 -0.6**
CIT *e* 16 59 27.0
CIT *e* 17 00 21.2
CIT *e* 17 02 14.5
ODAN Odare 30.45 286 *eP* **P** **16 59 17.2 +0.1**
YSS Yuzh-Sakhalins 30.71 31 *eP* **P** **16 59 19.0 +0.2**
YSS pmax pmax
comp=Z,50nm,1.0s
YSS MLR MLR
comp=N,5µm,18.0s
YSS MLR MLR
comp=Z,3µm,18.0s
RAMN Ramite 31.16 286 *eP* **P** **16 59 23.6 +0.3**
comp=Z,168nm,1.1s
ZAK Zakamensk 31.36 339 *eP* **P** **16 59 24.4 -0.3**
ZAK pmax pmax
comp=Z,14nm,1.0s
JIRN Jiri 31.55 287 *eP* **P** **16 59 27.2 +0.3**
comp=Z,187nm,1.1s
GUN Gumba 31.83 288 *eP* **P** **16 59 29.6 +0.2**
comp=Z,158nm,0.9s
BATI Baumata 32.18 174 P **P** **16 59 32.1 0.0**
BATI Baumata 32.18 174 P **P** **16 59 32.1 0.0**
comp=Z,65nm,0.9s,baz=259,slow=4.0,SNR=8.7
BATI LR LR 17 12 59.1
comp=Z,2µm,20.6s,baz=184,slow=37
KUR Kuril'sk 32.23 38 *eP* **P** **16 59 29.3 -2.9**
KUR S **S** **17 04 46.3 +2.0**
KUR pmax pmax
comp=Z,146nm,1.2s
KUR MLR MLR
comp=N,2µm,15.0s
KUR MLR MLR
comp=E,2µm,15.0s
KUR MLR MLR
comp=Z,3µm,15.0s
PKI Pulchoki 32.24 287 *eP* **P** **16 59 32.4 -0.5**
PKIN Phulchoki 32.25 287 *eP* **P** **16 59 33.2 +0.3**
TLY Talaya 32.36 340 *d iP* **P** **16 59 33.2 -0.1**
TLY *e* 17 00 58.6
TLY pmax pmax
comp=Z,32nm,0.8s
TLY MLR MLR
comp=Z,5µm,17.0s
KKN Kakani 32.36 287 *eP* **P** **16 59 33.4 -0.5**
comp=Z,111nm,1.0s
DMN Daman 32.51 287 *eP* **P** **16 59 34.8 -0.4**
comp=Z,144nm,1.0s
IRK Irkutsk 32.66 341 *eP* **P** **16 59 35.1 -0.8**
IRK pmax pmax
comp=Z,50nm,1.2s
MOY Mondy 33.23 338 *eP* **P** **16 59 40.7 -0.3**
MOY pmax pmax
comp=Z,89nm,2.9s
DANN Dangsing 33.72 288 *eP* **P** **16 59 45.7 -0.2**
comp=Z,164nm,1.1s
KOLN Koldanda 33.85 287 *eP* **P** **16 59 46.5 -0.3**
comp=Z,102nm,0.9s
PYUN Piuthan 34.39 288 *eP* **P** **16 59 51.5 -0.1**
comp=Z,207nm,1.0s
WMQ Urumqi 34.72 317 P **P** **16 59 55.3 +1.2**
WMQ pP **pP** **16 59 59.8 -0.1**
WMQ sP **sP** **17 00 02.3 0.0**
WMQ PP **PP** **17 01 12.3 +0.5**
WMQ PcP **PcP** **17 02 29.3 +1.6**
WMQ S **S** **17 05 24.0 +0.7**
WMQ sS **sS** **17 05 31.0 -2.0**
WMQ ScP **ScP** **17 06 13.0 +0.8**
WMQ SS **SnSn** **17 07 36.5 -0.2**
WMQ ScS **ScS** **17 10 14.8 -0.5**
WMQ pmax pmax
comp=Z,79nm,1.5s
WMQ pmax pmax
comp=Z,500nm,4.0s
WMQ LR LR
comp=N,550nm,22.1s
WMQ LR LR
comp=E,510nm,17.3s
WMQ LR LR
comp=Z,910nm,26.0s
NGP Nagpur 38.45 277 *eP* P 17 00 21.6 -4.5
NGP AMP 17 00 23.3
comp=Z,80nm,1.4s
NGP *eS* **S** **17 06 23.8 +3.2**
NGP *ex* x 17 20 30.0
comp=Z,1µm,17.2s
MKAR Makanchi Array 39.47 318 *i* P **P** **17 00 34.4 +0.1**
MKAR pmax pmax
comp=Z,49nm,0.8s
MKAR Makanchi Array 39.47 318 P **P** **17 00 34.4 +0.1**
MKAR Makanchi Array 39.47 318 P **P** **17 00 34.4 +0.1**
comp=Z,49nm,0.8s,baz=112,slow=8.9,SNR=197
MKAR LR LR 17 18 33.9
comp=Z,4µm,18.3s,baz=112,slow=39
SMLA Simla 39.57 293 *i x* **P** **17 00 35.8 +0.5**
HYB Hyderabad 39.64 271 *i* P **P** **17 00 36.0 -0.1**
HYB *eS* **S** **17 06 40.0 +1.3**
SDNR Sundarnagar 39.76 293 *ex* **P** **17 00 38.0 +1.1**
SKR Severo-Kuril's 39.88 35 P P 17 00 33.0 -4.6
SKR *e*PPP PPP 17 02 08.0
SKR *eS* S 17 06 30.0 -11
SKR pmax pmax
comp=Z,1µm,6.0s
SKR smax smax
comp=N,1µm,10.0s
SKR smax smax
comp=E,1µm,10.0s
SKR MLR MLR
comp=N,3µm,18.0s
SKR MLR MLR
comp=E,3µm,18.0s
SKR MLR MLR
comp=Z,3µm,18.0s
FITZ Fitzroy Crossi 40.20 172 P **P** **17 00 39.5 -1.0**
FITZ Fitzroy Crossi 40.20 172 P **P** **17 00 39.5 -1.0**
comp=Z,7.4nm,0.9s,baz=245,slow=2.0,SNR=9.9
YAK Yakutsk 40.48 7 *c iP* **P** **17 00 42.1 -0.3**
YAK *e**PP **pP** **17 00 50.4 +2.1**
YAK *e* 17 02 14.3
YAK *e* 17 02 45.6
YAK *eS* **S** **17 06 47.6 -2.4**
YAK *eSS* **SS** **17 09 46.8 -2.8**
YAK *e* 17 10 44.7
YAK pmax pmax
comp=Z,26nm,0.7s
YAK pmax pmax
comp=N,25nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK pmax pmax
comp=Z,108nm,5.7s
YAK pmax pmax
comp=N,32nm,3.1s
YAK pmax pmax
comp=E,45nm,2.1s
YAK smax smax
comp=N,450nm,4.2s
YAK smax smax
comp=E,143nm,3.8s
YAK MLR MLR
comp=Z,9µm,17.0s
YAK MLR MLR
comp=N,6µm,17.0s
YAK MLR MLR
comp=E,1µm,15.0s
PMG Port Moresby 40.75 137 P **P** **17 00 44.2 -1.0**
PMG Port Moresby 40.75 137 P **P** **17 00 44.2 -1.0**
comp=E,14nm,0.8s,baz=251,slow=4.5,SNR=3.7
PMG LR LR 17 18 11.9
comp=E,971nm,18.4s,baz=135,slow=37
KSH Kashi 41.56 305 P P 17 00 55.0 +3.1
KSH sP sP 17 01 01.5 +1.3
KSH PP **PnPn** **17 02 34.3 +1.5**
KSH S **S** **17 07 11.3 +4.2**
KSH sS sS 17 07 18.5 +1.6
KSH SS **SS** **17 10 11.5 -0.6**
KSH pmax pmax
comp=Z,36nm,1.0s
KSH pmax pmax
comp=Z,410nm,3.7s
KSH LR LR
comp=N,2µm,14.0s
KSH LR LR
comp=E,2µm,11.6s
KSH LR LR
comp=Z,4µm,18.7s
ZAA0 Zalesovo Array 41.72 329 *eP* **P** **17 00 52.0 -0.7**
ZALV Zalesovo Beam 41.72 329 *i* P **P** **17 00 52.4 -0.3**
ZALV pmax pmax
comp=Z,61nm,0.9s
ZALV Zalesovo Beam 41.72 329 P **P** **17 00 52.4 -0.3**
ZALV PcP **PcP** **17 02 48.8 -0.2**
ZALV Zalesovo Beam 41.72 329 P **P** **17 00 52.4 -0.3**
comp=Z,61nm,0.9s,baz=118,slow=6.9,SNR=164
ZALV PcP **PcP** **17 02 48.8 -0.2**
comp=Z,5.0nm,0.5s,baz=107,slow=4.6,SNR=6.6
ZALV LR LR 17 19 46.4
comp=Z,2µm,18.2s,baz=250,slow=38
ULHL Ulahol 41.98 309 P **P** **17 00 56.4 +1.0**
SNR=52
PETK Petropavlovsk- 42.02 33 P **P** **17 00 55.3 0.0**
PETK Petropavlovsk- 42.02 33 P **P** **17 00 55.3 0.0**
PETK Petropavlovsk- 42.02 33 P **P** **17 00 55.3 0.0**
comp=Z,4.7nm,0.7s,baz=119,slow=0.5,SNR=10
PETK LR LR 17 19 35.4
comp=Z,3µm,19.8s,baz=232,slow=38
COEN Coen 42.12 146 *eP* **P** **17 00 55.7 -0.8**
comp=Z,560nm,1.0s
PET Petropavlovsk 42.46 34 *eP* **P** **17 00 57.9 -0.9**
PET *eS* **S** **17 07 15.7 -3.9**
PET pmax pmax
comp=Z,200nm,7.4s
PET pmax pmax
comp=Z,51nm,1.1s
PET MLR MLR
comp=Z,3µm,21.0s
PET MLR MLR
comp=Z,2µm,19.0s
TKM2 Tokmak 2 42.61 310 *i* P **P** **17 01 01.0 +0.5**
TKM2 Tokmak 2 42.61 310 P **P** **17 01 01.0 +0.5**
SNR=42
KZA Kyzart 42.65 309 P **P** **17 01 02.5 +1.5**
SNR=30
NVS Novosibirsk 42.99 329 ⇓ *iP* **P** **17 01 01.8 -1.3**
NVS *e**PP **pP** **17 01 14.1 +5.0**
NVS *e* 17 02 44.5
NVS *eS* **S** **17 07 25.0 -2.4**
NVS pmax pmax
comp=N,46nm,1.4s
NVS pmax pmax
comp=E,52nm,1.4s
NVS pmax pmax
comp=Z,98nm,1.4s
NVS smax smax
comp=N,71nm,3.7s
NVS smax smax
comp=E,49nm,2.6s
KBK Karagaybulak 43.01 309 P **P** **17 01 05.4 +1.7**
SNR=13
UCH Uchtor 43.22 309 P **P** **17 01 07.8 +2.1**
SNR=12
CHMS Chumysh 43.23 310 P **P** **17 01 06.0 +0.7**
SNR=24
FRU Bishkek 43.29 310 *eP* **P** **17 01 06.0 +0.3**
FRU pmax pmax
comp=Z,350nm,3.2s
AAK Ala-Archa 43.33 309 *eP* **P** **17 01 07.3 +1.1**
AAK pmax pmax
comp=Z,20nm,1.0s
AAK Ala-Archa 43.33 309 P **P** **17 01 07.4 +1.1**
SNR=10
AAK Ala-Archa 43.33 309 P **P** **17 01 07.7 +1.4**
SNR=6.8
AAK Ala-Archa 43.33 309 *eP* **P** **17 01 07.2 +1.1**
comp=Z,20nm,1.0s
KURK Kurchatov 43.35 322 P **P** **17 01 05.6 -0.5**
KURK pmax pmax
comp=Z,192nm,1.5s
USP Ospenovka 43.48 310 P **P** **17 01 08.3 +1.1**
SNR=11
AML Almayashu 43.79 308 P **P** **17 01 11.5 +1.2**
SNR=66
EKS2 Erkin-Say 43.85 309 P **P** **17 01 11.4 +1.0**
SNR=14
WRAB Tennant Creek 43.85 161 P **P** **17 01 09.2 -1.2**
comp=Z,334nm,0.8s,SNR=15
WRAB Tennant Creek 43.85 161 *eP* **P** **17 01 08.8 -1.6**
WRAB pmax pmax
comp=Z,45nm,0.8s
WRAB Tennant Creek 43.85 161 *eP* **P** **17 01 08.8 -1.6**
comp=Z,45nm,0.8s
WRA Warramunga Arr 43.86 161 P **P** **17 01 09.1 -1.4**
WRA S **S** **17 07 39.0 -1.8**
WRA Warramunga Arr 43.86 161 P **P** **17 01 09.1 -1.4**
comp=Z,35nm,0.8s,baz=343,slow=9.0,SNR=86
WRA S **S** **17 07 39.0 -1.8**
comp=Z,4.2nm,1.0s,baz=340,slow=15,SNR=8.3
KK31 Karatay Array 46.29 309 *i* P **P** **17 01 29.5 -0.1**
KK31 pmax pmax
comp=Z,35nm,0.9s
KKAR Karatay Array 46.29 309 *eP* **P** **17 01 30.0 +0.3**
KKAR pmax pmax
comp=Z,40nm,1.0s
KKAR Karatay Array 46.29 309 *eP* **P** **17 01 30.0 +0.3**
comp=Z,40nm,1.0s
KBL Kabul 46.53 297 *eP* **P** **17 01 32.4 +0.5**
KBL pmax pmax
comp=Z,78nm,1.3s
KBL Kabul 46.53 297 *eP* **P** **17 01 32.4 +0.5**
comp=Z,78nm,1.3s
AS31 Alice Springs 47.26 163 *eP* **P** **17 01 36.6 -0.8**
ASAR Alice Springs 47.26 163 P **P** **17 01 36.5 -0.8**
ASAR PcP **PcP** **17 03 08.6 +0.1**
ASAR S **S** **17 08 30.1 +0.3**
ASAR Alice Springs 47.26 163 P **P** **17 01 36.5 -0.8**
comp=Z,8.1nm,0.3s,baz=344,slow=6.9,SNR=266
ASAR PcP **PcP** **17 03 08.6 +0.1**
comp=Z,2.1nm,0.6s,baz=331,slow=2.9,SNR=4.2
ASAR S **S** **17 08 30.1 +0.3**
comp=Z,1.3nm,1.0s,baz=2.5,slow=26,SNR=3.9
VOSK Vostochnaya 48.51 322 P **P** **17 01 45.4 -1.3**
VOSK pmax pmax
comp=Z,32nm,1.2s
CTA Charters Tower 48.85 147 P **P** **17 01 48.9 -0.8**
CTA Charters Tower 48.85 147 P **P** **17 01 48.9 -0.8**
comp=Z,19nm,0.8s,baz=336,slow=11,SNR=12
CTAO Charters Tower 48.85 147 *eP* **P** **17 01 50.0 +0.3**
CTAO pmax pmax
comp=Z,47nm,0.9s
CTAO Charters Tower 48.85 147 *eP* **P** **17 01 50.0 +0.3**

comp=Z,47nm,0.9s
BVA0 Borovoye Array 48.95 322 P **P** **17 01 48.9 -1.2**
BVA0 pmax pmax
comp=Z,107nm,1.7s
BRVK Borovoye 49.02 322 P **P** **17 01 51.6 +1.0**
comp=Z,228nm,1.2s,SNR=11
BRVK Borovoye 49.02 322*d iP* **P** **17 01 50.9 +0.2**
BRVK pmax pmax
comp=Z,58nm,1.2s
BRVK Borovoye 49.02 322 P **P** **17 01 51.2 +0.5**
SNR=19
BRVK Borovoye 49.02 322 *eP* **P** **17 01 50.8 +0.2**
comp=Z,53nm,1.1s
HNR Honiara 49.76 125 LR LR 17 22 31.3
comp=Z,888nm,18.7s,baz=126,slow=36
TIXI Tiksi 49.88 3*c iP* **P** **17 01 55.9 -1.0**
TIXI pmax pmax
comp=Z,45nm,1.2s
FX1 Attu Island--F 50.40 39 P **P** **17 02 01.0 -0.1**
FX1 Attu Island--F 50.40 39 P **P** **17 02 01.0 -0.1**
comp=Z,4.6nm,0.5s,baz=16,slow=3.4,SNR=8.9
FORT Forrest 53.00 172 *eP* **P** **17 02 20.1 -0.7**
comp=Z,61nm,0.8s
AB31 Akbulak array 54.50 316 *i* P **P** **17 02 31.7 +0.1**
AB31 pmax pmax
comp=Z,10.0nm,0.7s
SVE Sverdlovsk 55.41 325*c eP* **P** **17 02 38.4 +0.3**
SVE *eS* **S** **17 10 20.6 -1.0**
SVE pmax pmax
comp=Z,98nm,1.4s
SVE MLR MLR
comp=Z,3μm,19.0s
EIDS Eidsvold 55.69 146 *eP* **P** **17 02 39.9 -0.6**
comp=Z,13nm,0.9s
AKTO Aktyubinsk 55.87 317 *i* P **P** **17 02 39.4 -2.1**
AKTO pmax pmax
comp=Z,32nm,1.5s
ARU Arti 56.45 324*d iP* **P** **17 02 45.2 -0.3**
ARU 17 03 41.7
ARU 17 04 51.7
ARU S **S** **17 10 35.3 -0.2**
ARU 17 12 27.4
ARU SS **SS** **17 14 20.5 -1.9**
ARU SSS SSS 17 16 33.2
ARU pmax pmax
comp=Z,64nm,1.2s
ARU MLR MLR
comp=Z,1μm,16.0s
ARU Arti 56.45 324 P **P** **17 02 45.1 -0.4**
comp=Z,211nm,0.9s,SNR=10
BBOO Buckleboo 56.52 164 *eP* **P** **17 02 45.9 -0.4**
comp=Z,1μm,1.0s
STKA Stephens Creek 57.28 159 P **P** **17 02 51.4 -0.3**
STKA Stephens Creek 57.28 159 P **P** **17 02 51.4 -0.3**
comp=Z,7.5nm,0.7s,baz=336,slow=6.8,SNR=24
STKA LR LR 17 27 18.4
comp=Z,592nm,19.4s,baz=252,slow=36
HOQ Hoqain 57.82 285 P **P** **17 02 56.4 +0.6**
SNR=6.9
SOKR Solikamsk 57.98 327*d iP* **P** **17 02 56.2 0.0**
SOKR pmax pmax
comp=Z,30nm,1.0s
SOKR MLR MLR
comp=Z,4μm,16.0s
ARMA Armidale 60.12 149 *eP* **P** **17 03 12.2 +0.5**
comp=Z,39nm,1.0s
DZM Mont Dzumac 62.68 131 *eS* **S** **17 11 54.2 -2.7**
comp=Z,1μm,27.9s
DZM Mont Dzumac 62.68 131 *e*LR LR 17 22 06.3
comp=Z,2μm,22.4s
DZM Mont Dzumac 62.68 131 LR LR 17 27 36.2
comp=Z,1μm,19.6s,baz=359,slow=33
MAK Makhachkala 63.09 308 *eP* **P** **17 03 28.3 -3.1**
MAK *e* 17 04 04.3
MAK *e* 17 05 49.9
MAK *e*PPP PPP 17 07 17.6
MAK *eS* **S** **17 11 58.5 -2.9**
MAK *e*SS **SS** **17 16 09.6 +2.6**
MAK pmax pmax
comp=Z,81nm,0.8s
MAK MLR MLR
comp=Z,2μm,17.0s
CAN Canberra 63.12 154 *eP* **P** **17 03 30.2 -1.5**
CAN pmax pmax
comp=Z,19nm,0.8s
CAN Canberra 63.12 154 *eP* **P** **17 03 30.2 -1.5**
comp=Z,19nm,0.8s
DGRG David-gareji 64.84 307 P **P** **17 03 43.9 +0.8**
DUS Dusheti 65.25 307 P PcP 17 04 09.2 -8.9
TBLG Delisi 65.27 307 P **P** **17 03 46.3 +0.4**
TBLG Delisi 65.27 307 P **P** **17 03 46.3 +0.4**
MIB Mutribah 65.27 294 *eP* **P** **17 03 45.3 -0.7**
MIB AMb AMB 17 03 46.8
comp=Z,48nm,0.8s
RDF Al-Radifah 65.28 293 *eP* **P** **17 03 45.6 -0.4**
RDF AMb AMB 17 03 47.2
comp=Z,77nm,0.8s
NAY Al-Naaiem 65.47 293 *eP* **P** **17 03 46.1 -1.2**
NAY AMb AMB 17 03 48.0
comp=Z,36nm,0.8s
GNI Garni 65.50 305 P **P** **17 03 49.7 +2.1**
SNR=9.3
GNI Garni 65.50 305 *eP* **P** **17 03 48.8 +1.2**
comp=Z,63nm,1.4s
KZR Kazreti 65.56 307 P **P** **17 03 49.0 +1.3**
ZEI Tsey 65.73 308 *eP* **P** **17 03 47.8 -1.3**
ZEI pmax pmax
comp=Z,56nm,1.3s
IBDR Badra 65.78 297 *eP* P 17 03 40.0 -9.3
IBDR *eS* S 17 12 20.0 -15
ONI Oni 66.09 308 P **P** **17 03 52.1 +0.9**
AKH Akhalkalaki 66.24 307 P **P** **17 03 53.7 +1.3**
VRHR Novokhopersk 66.26 317 *eP* **P** **17 03 51.0 -1.0**
VRHR pmax pmax
comp=Z,60nm,0.8s
VRHR pmax pmax
comp=N,50nm,1.5s
VRHR pmax pmax
comp=E,80nm,1.3s
VRHR MLR MLR
comp=Z,1μm,18.0s
VRHR MLR MLR
comp=N,100nm,16.0s
VRHR MLR MLR
comp=E,550nm,18.0s
KBZ Khabaz 66.33 309 P **P** **17 03 53.0 +0.5**
KBZ Khabaz 66.33 309 P **P** **17 03 53.0 +0.5**
KBZ Khabaz 66.33 309 P **P** **17 03 53.0 +0.5**
comp=E,27nm,1.0s,baz=80,slow=4.7,SNR=29
KBZ LR LR 17 35 25.3
comp=E,1μm,19.6s,baz=68,slow=38
KIV Kislovodsk 66.44 310*d iP* **P** **17 03 54.0 +0.5**
KIV *e* 17 04 24.3
KIV *eS* **S** **17 12 42.6 -0.4**
KIV *e*SS **SS** **17 16 58.9 -0.7**
KIV pmax pmax
comp=Z,73nm,1.0s
KIV pmax pmax
comp=Z,60nm,2.7s
KIV MLR MLR
comp=Z,2μm,18.0s
KIV Kislovodsk 66.44 310 P **P** **17 03 54.7 +1.2**
comp=Z,416nm,0.9s,SNR=12
HAKT HAKKARI 66.73 303 *i* P **P** **17 03 55.6 0.0**
BHD Baghdad 67.02 298 *eP* P 17 03 49.0 -8.2
BHD *eS* S 17 12 37.0 -13
CHVG Ch'k'valeri 67.07 308 P **P** **17 03 59.0 +1.6**
TMCR Tamitsa 67.13 332 *eP* **P** **17 03 55.7 -1.6**
TMCR *e* 17 04 22.7
TMCR pmax pmax
comp=Z,107nm,1.3s
DAGI Agillar 67.47 307 *i* P **P** **17 04 00.5 +0.4**
DBAD Bademkaya 67.64 307 *i* P **P** **17 04 01.9 +0.7**
VORD Divnogorie 67.74 318 *eP* **P** **17 04 00.3 -1.1**
VORD pmax pmax
comp=Z,20nm,1.1s
VORD pmax pmax
comp=N,5.0nm,0.7s
VORD pmax pmax
comp=E,20nm,1.1s
VSR Storozhevoye 67.79 318 *eP* **P** **17 04 00.8 -0.9**
VSR pmax pmax
comp=Z,40nm,1.1s
VSR pmax pmax
comp=N,20nm,1.2s
VSR pmax pmax
comp=E,40nm,1.0s
VSR MLR MLR
comp=Z,960nm,16.0s
VSR MLR MLR
comp=N,420nm,24.0s
VSR MLR MLR
comp=E,550nm,13.0s
MOS Moscow 68.11 323 *eP* P 17 04 00.3 -3.4
MOS *e* 17 04 27.4
MOS *eS* **S** **17 12 59.5 -2.9**
MOS pmax pmax
comp=Z,76nm,1.3s
MOS MLR MLR
comp=Z,2μm,18.0s
RAYN Ar Rayn 68.36 288 P **P** **17 04 05.7 -0.2**
comp=Z,214nm,1.1s,SNR=19
SOC Sochi 68.63 310 *eP* **P** **17 04 06.2 -0.9**
SOC *e**PP **pP** **17 04 16.8 +3.4**
SOC *e* 17 06 41.2
SOC *eS* **S** **17 13 09.9 +0.9**
SOC pmax pmax
comp=Z,34nm,1.0s
SOC MLR MLR
comp=Z,1μm,20.0s
APA Apatity 68.75 336⇑ *iP* **P** **17 04 09.0 +1.6**
APA *i* 17 04 26.2
APA *i* S **S** **17 13 10.0 +0.4**
APA *i* PS **PnS** **17 13 32.0 -2.7**
APA *i* SS **SS** **17 17 32.0 -1.9**
APA pmax pmax
comp=Z,49nm,1.0s
APA MLR MLR
comp=Z,2μm,18.0s
OBN Obninsk 68.79 322*d iP* **P** **17 04 07.3 -0.6**
OBN *e* 17 04 32.8
OBN pmax pmax
comp=Z,57nm,1.2s
OBN MLR MLR
comp=Z,2μm,19.0s
MSVF Nonsavu 68.82 120 P **P** **17 04 08.1 -0.6**
MSVF pmax pmax
comp=Z,71nm,1.1s
MSVF Nonsavu 68.82 120 P **P** **17 04 08.1 -0.6**
comp=Z,71nm,1.1s
MARD Mardin 69.06 303 *i* P **P** **17 04 10.7 +0.5**
MZRK Al-Mazaregh 69.48 301 *eP* **P** **17 04 14.5 +1.9**
MZRK Al-Mazaregh 69.48 301 *eP* **P** **17 04 14.5 +1.9**
SNR=92
KELT Kelkit 69.63 306 *i* P **P** **17 04 12.3 -1.5**
COLD Coldfoot 69.65 25 *eP* **P** **17 04 13.7 +0.6**
comp=Z,19nm,1.1s
ANN Anapa 70.01 311 *eP* P 17 04 06.9 -8.8
ANN *e**PP pP 17 04 15.8 -6.1
ANN pmax pmax
comp=Z,60nm,1.5s
KDAK Kodiak Island 70.04 35 P **P** **17 04 16.0 +0.4**
comp=Z,242nm,0.8s,SNR=6.4
KDAK Kodiak Island 70.04 35 P **P** **17 04 15.6 0.0**
KDAK Kodiak Island 70.04 35 P **P** **17 04 15.6 0.0**
comp=Z,25nm,0.7s,baz=232,slow=7.7,SNR=14
KEMA Kemaliye 70.40 305 *i* P **P** **17 04 18.6 +0.3**
MALT Malatya 70.66 304⇓ *iP* P 17 04 39.2 +19
KEV Kevo 70.73 338 *ep* **P** **17 04 19.7 +0.1**
comp=Z,20nm,0.7s
KEV Kevo 70.73 338 *eP* **P** **17 04 19.7 +0.1**
KEV pmax pmax
comp=Z,20nm,0.7s
ARCES ARCESS Array B 71.29 338 P **P** **17 04 22.8 -0.3**
ARCES ARCESS Array B 71.29 338 P **P** **17 04 22.8 -0.3**
comp=Z,5.7nm,0.6s,baz=67,slow=7.6,SNR=16
ARCES LR LR 17 39 16.3
comp=Z,2μm,19.4s,baz=189,slow=39
ILAR Eielson Array 71.42 27 P **P** **17 04 23.1 -0.9**
ILAR Eielson Array 71.42 27 P **P** **17 04 23.1 -0.9**
comp=Z,2.7nm,0.6s,baz=275,slow=5.4,SNR=26
ILAR LR LR 17 39 37.8
comp=Z,1μm,19.7s,baz=217,slow=39
SLMH Al Salmeh 71.54 302 *eP* P 17 04 21.1 -4.1
SLMH Al Salmeh 71.54 302 *eP* P 17 04 21.1 -4.1
SNR=46
GZT Gaziantep 71.55 304 *i* P **P** **17 04 26.0 +0.6**
AYKD Aykdinkavak 72.12 304 *i* P **P** **17 04 28.3 -0.4**
SIM Simferopol' **72.28 312** *eP* **P** **17 04 27.6 -1.8**
SIM *eS* S 17 13 42.0 -10
SIM pmax pmax
comp=Z,45nm,1.0s
SIM MLR MLR
comp=Z,200nm,12.0s
DRWC Darouich 72.42 303 *eP* P 17 04 35.5 +4.9
DRWC Darouich 72.42 303 *eP* P 17 04 35.5 +4.9
SNR=46
KAF Kangasniemi 72.70 331 *ep* **P** **17 04 31.7 +0.1**
comp=Z,15nm,0.6s
KAF Kangasniemi 72.70 331 *eP* **P** **17 04 31.7 +0.1**
KAF pmax pmax
comp=Z,15nm,0.6s
BTCH Batrach 72.73 302 *eP* **P** **17 04 32.1 -0.3**
BTCH Batrach 72.73 302 *eP* **P** **17 04 32.1 -0.3**
SNR=46
DIV Divide 72.75 30 *eP* **P** **17 04 32.6 +0.6**
comp=Z,49nm,1.4s
CTKT Corum 72.85 307 *i* P **P** **17 04 33.4 +0.2**
ZALF Zalf 72.85 299 *eP* **P** **17 04 33.9 +0.8**
ZALF Zalf 72.85 299 *eP* **P** **17 04 33.9 +0.8**
SNR=46
FINES FINESS Array B 72.97 330 P **P** **17 04 32.6 -0.7**
FINES FINESS Array B 72.97 330 P **P** **17 04 32.6 -0.7**
comp=Z,20nm,0.8s,baz=52,slow=5.4,SNR=44
FINES LR LR 17 40 27.4
comp=Z,1μm,20.9s,baz=60,slow=39
SLNF Slenfeh 73.03 302 *eP* P 17 04 21.2 -13
SLNF Slenfeh 73.03 302 *eP* P 17 04 21.2 -13
SNR=46
HAWK Haweek 73.17 301 *eP* **P** **17 04 35.4 +0.2**
HAWK Haweek 73.17 301 *eP* **P** **17 04 35.3 +0.2**
SNR=46
MARH Ras Al Marh 73.24 300 *eP* **P** **17 04 36.3 +0.5**
MARH Ras Al Marh 73.24 300 *eP* **P** **17 04 36.3 +0.5**
SNR=46
CDAG Cicekdag 73.41 306 *i* P **P** **17 04 36.0 -0.4**
VSU Vasula 73.42 327*d iP* **P** **17 04 35.5 -0.4**
VSU pmax pmax
comp=Z,157nm,1.1s
MICGM Minsk 73.84 323 *eP* **P** **17 04 37.0 -1.5**
MNK Minsk 73.86 323 *eP* **P** **17 04 37.0 -1.6**
MNK pmax pmax
comp=Z,110nm,1.0s
MNK MLR MLR
comp=Z,5μm,14.0s
BRTR Keskin Array B 73.93 307 P **P** **17 04 38.7 -0.8**
BRTR Keskin Array B 73.93 307 P **P** **17 04 38.7 -0.8**
comp=Z,23nm,1.1s,baz=113,slow=5.8,SNR=66
BRTR LR LR 17 45 06.4
comp=Z,494nm,18.2s,baz=213,slow=42
TCHB Talchebab 74.02 299 *eP* **P** **17 04 41.0 +1.0**
TCHB Talchebab 74.02 299 *eP* **P** **17 04 41.0 +1.0**
SNR=46
KIEV Kiev 74.06 319 *eP* **P** **17 04 37.7 -2.1**
KIEV pmax pmax
comp=Z,22nm,1.0s
KIEV Kiev 74.06 319 *eP* **P** **17 04 37.7 -2.1**
comp=Z,22nm,1.0s
IDID Didziasalis 74.25 324 *eP* **P** **17 04 41.3 +0.4**
IDID AMB AMB 17 04 43.5
comp=Z,18nm,1.0s
NACGM Naroch 74.35 323 *eP* P 17 04 38.0 -3.4
IZAR Zarasai 74.41 324 *eP* **P** **17 04 42.1 +0.4**
IZAR AMB AMB 17 04 43.3
comp=Z,16nm,1.0s
ISAL Salakas 74.52 324 *eP* **P** **17 04 42.8 +0.4**
ISAL AMB AMB 17 04 43.9
comp=Z,11nm,1.2s
IIGN Ignalina 74.53 324 *eP* **P** **17 04 42.8 +0.3**
IIGN AMB AMB 17 04 44.0
comp=Z,13nm,1.6s
KIS Kishinev 75.32 315 *eP* **P** **17 04 45.0 -2.2**
KIS LRM MLR 17 42 50.0
comp=Z,1μm,20.0s
KIS Kishinev 75.32 315 *eP* **P** **17 04 45.0 -2.2**
KIS *e* 17 14 20.0
KIS *e* 17 14 42.0
KIS *e* 17 15 16.0
KIS MLR MLR
comp=Z,500nm,17.0s
KIS MLR MLR
comp=E,600nm,20.0s
KIS MLR MLR
comp=Z,1μm,20.0s
KDHN Kadinhani 75.40 306 *i* P **P** **17 04 46.8 -1.2**
INK Inuvik 75.46 22 P **P** **17 04 47.6 0.0**
INK Inuvik 75.46 22 P **P** **17 04 47.6 0.0**
comp=Z,17nm,0.7s,baz=308,slow=6.5,SNR=61
CSS Prodhromos 75.48 302 P **P** **17 04 46.3 -2.1**
CSS Prodhromos 75.48 302 *eP* **P** **17 04 46.1 -2.3**
comp=Z,40nm,0.9s
TLCR 75.84 313⇑ P **P** **17 04 50.4 +0.2**
TLCR 75.84 313⇑ *iP* **P** **17 04 50.4 +0.2**
SEYT Eskypehyr 76.05 307 *i* P **P** **17 04 50.9 -0.8**
PNL Peninsula 76.21 31 *eP* **P** **17 04 52.7 +0.6**
comp=Z,28nm,1.0s
CFR Carcaliu 76.30 313⇓ P **P** **17 04 52.7 -0.1**
CFR Carcaliu 76.30 313⇓ *iP* **P** **17 04 52.7 -0.1**
TIRR Tirgusor 76.33 313⇓ P **P** **17 04 53.0 0.0**
TIRR Tirgusor 76.33 313 *eP* **P** **17 04 52.7 -0.3**
comp=Z,28nm,1.1s
TIRR Tirgusor 76.33 313⇓ *iP* **P** **17 04 53.0 0.0**
HARR Harsova 76.59 313⇑ P **P** **17 04 55.2 +0.7**
HARR Harsova 76.59 313⇑ *iP* **P** **17 04 55.2 +0.7**
SUW Suwalki 76.62 323 *eP* **P** **17 04 53.8 -0.7**
SUW *e* 17 05 04.6
SUW pmax pmax
comp=Z,143nm,1.0s
SUW Suwalki 76.62 323 *eP* **P** **17 04 53.8 -0.7**
comp=Z,143nm,1.0s
SUW *e* **PcP** **17 05 04.6 -1.3**
HYT Haines Junctio 76.68 30 *eP* **P** **17 04 55.6 +0.7**
ALT Altintas 76.74 307 P **P** **17 04 55.9 +0.3**
ISP Isparta 76.80 306 P **P** **17 04 56.2 +0.2**
TESR Tescani 76.89 315⇑ P **P** **17 04 56.5 +0.3**
VRI Vrincioaia 77.03 314⇓ P **P** **17 04 57.6 +0.6**
VRI Vrincioaia 77.03 314⇓ *iP* **P** **17 04 57.6 +0.6**
GDZ Gediz 77.20 307 *i* P **P** **17 04 57.1 -1.1**
BURAR Bucovina Array 77.47 316⇓ P **P** **17 04 58.7 -0.8**
BURAR Bucovina Array 77.47 316⇓ *iP* **P** **17 04 58.7 -0.8**
LVV L'vov 77.49 319 *eP* **P** **17 04 58.9 -0.6**
LVV *e* 17 05 02.5
LVV MLR MLR
comp=N,400nm,16.0s
LVV MLR MLR
comp=E,400nm,16.0s
MLR Muntele Rosu 77.67 314⇓ *iP* **P** **17 05 00.9 +0.1**
GOLH Golhisar 77.71 305 *i* P **P** **17 04 59.4 -1.7**
SKAG Skagway 78.21 30 *eP* **P** **17 05 04.1 +0.8**
comp=E,46nm,1.0s
VOIR 78.29 314⇑ P **P** **17 05 04.0 -0.1**
VOIR 78.29 314⇑ *iP* **P** **17 05 04.0 -0.1**
EDRB Edirne 78.31 310 P **P** **17 05 04.5 +0.3**
DAG Danmarks Havn 78.39 351 *i* P **P** **17 05 04.7 +0.7**
DAG *i* 17 05 16.6
DAG pmax pmax
comp=Z,7.0nm,0.9s
DAG MLR MLR
comp=Z,970nm,18.0s
DAG Danmarks Havn 78.39 351 *i* P **P** **17 05 04.7 +0.7**
comp=Z,8.1nm,0.9s
DAG *i* 17 05 16.6
DAG
comp=Z,940nm,18.0s
ARR Arges 78.59 314⇓ *iP* **P** **17 05 06.0 +0.2**
KOLS Kolonicke sedl 78.87 318 *eP* **P** **17 05 05.6 -1.6**
KOLS pmax pmax
comp=Z,6.0nm,0.7s
KOLS Kolonicke sedl 78.87 318 *eP* **P** **17 05 05.6 -1.6**
UZH Uzhgorod 78.97 318 *eP* **P** **17 05 05.0 -2.7**
UZH *eS* S 17 14 59.0 -6.4
UZH *i* 17 15 22.0
UZH *e* 17 20 08.2
UZH *e* 17 23 35.0
TRPA Tarpa 78.99 317⇓ *iP* **P** **17 05 08.0 +0.2**
ARG Arkhangelos 79.13 305 P **P** **17 05 07.2 -1.6**
ARG Arkhangelos 79.13 305 *eP* P 17 05 00.1 -8.7
LOT Lotru 79.13 315⇑ *iP* **P** **17 05 08.9 +0.1**
SIT Sitka 79.17 33 *eP* **P** **17 05 09.5 +0.9**
SIT pmax pmax
comp=Z,27nm,0.9s
SIT Sitka 79.17 33 *eP* **P** **17 05 09.4 +0.9**
comp=Z,27nm,0.9s
STHS Stebnicka Huta 79.33 319 *eP* **P** **17 05 10.2 +0.5**
STHS pmax pmax
comp=Z,8.0nm,1.0s
STHS Stebnicka Huta 79.33 319 *eP* **P** **17 05 10.2 +0.5**
DRGR 79.35 316⇓ P **P** **17 05 10.2 +0.3**
DRGR 79.35 316⇓ *iP* **P** **17 05 10.2 +0.3**
RDO Rodhopi 79.39 310 P **P** **17 05 09.5 -0.6**
RDO Rodhopi 79.39 310 *eP* **P** **17 05 10.3 +0.2**
PRK Paraskevi 79.51 308 P **P** **17 05 10.8 0.0**
PRK Paraskevi 79.51 308 *eP* **P** **17 05 11.1 +0.3**
SMTH Samothraki Isl 79.63 309 *eP* **P** **17 05 11.8 +0.3**
PLD Plovdiv 79.65 311 P **P** **17 05 11.9 +0.3**
NB2 NORSAR Subarra 79.82 332 P **P** **17 05 11.3 -0.9**
comp=Z,15nm,0.9s,baz=62,slow=5.9
NOA NORSAR Array B 79.82 332 P **P** **17 05 11.2 -0.9**
NOA PP **PP** **17 08 14.2 +1.2**
NOA NORSAR Array B 79.82 332 P **P** **17 05 11.2 -0.9**
comp=Z,7.9nm,0.8s,baz=63,slow=5.4,SNR=22
NOA PP **PP** **17 08 14.2 +1.2**
comp=Z,3.6nm,1.0s,baz=68,slow=8.2,SNR=4.1
NOA LR LR 17 43 55.9
comp=Z,3μm,18.9s,baz=60,slow=38
NIE Niedzica 79.89 319 *eP* P 17 05 25.2 +12
NIE *e**PP P 17 05 25.2 +12
NIE Niedzica 79.89 319 *eP* **P** **17 05 15.1 +2.3**
NIE *ep*P **PcP** **17 05 25.2 +4.9**
OJC Ojcow 79.90 320 *eP* **P** **17 05 12.8 0.0**
OJC *e**PP **PcP** **17 05 22.6 +2.3**
OJC *e* 17 15 34.6
OJC Ojcow 79.90 320 *eP* **P** **17 05 12.8 0.0**
OJC *ep*P **PcP** **17 05 22.6 +2.3**
OJC *eS*cS **SKSac** **17 15 34.6 +5.6**
KARP Karpathos 80.09 304 *eP* **P** **17 05 14.4 +0.3**
KECS Kecovo 80.14 318 *eP* **P** **17 05 14.6 +0.5**
KECS pmax pmax
comp=Z,10.0nm,1.2s
KECS Kecovo 80.14 318 *eP* **P** **17 05 14.6 +0.5**
RPZ Rata Peaks 80.18 145 P **P** **17 05 14.3 +0.1**
RPZ Rata Peaks 80.18 145 P **P** **17 05 14.3 +0.1**
comp=Z,31nm,0.8s,baz=113,slow=1.4,SNR=10
BZS Buzias 80.48 315⇓ P **P** **17 05 15.4 -0.6**
BZS Buzias 80.48 315⇓ *iP* **P** **17 05 15.4 -0.6**
NVR Nevrokopi 80.51 311 P **P** **17 05 15.9 -0.4**
NVR Nevrokopi 80.51 311 *eP* **P** **17 05 15.8 -0.5**
VTS Vitosha 80.52 312 P **P** **17 05 16.6 +0.2**
VTS Vitosha 80.52 312⇑ P **P** **17 05 16.9 +0.5**
VTS Vitosha 80.52 312⇑ *iP* **P** **17 05 16.9 +0.5**
BSD Bornholm Skovb 80.67 326⇓ *iP* **P** **17 05 16.2 -0.5**
BSD *i* 17 15 22.5
BSD pmax pmax
comp=Z,20nm,1.1s
BSD MLR MLR
comp=Z,2μm,17.0s
BSD Bornholm Skovb 80.67 326⇓ *iP* **P** **17 05 16.2 -0.5**
comp=Z,20nm,1.1s
BSD *i* 17 15 22.5
BSD
comp=Z,2μm,16.0s
PSZ Piszkesteto 80.72 318 ⇓P **P** **17 05 17.4 +0.1**
PSZ Piszkesteto 80.72 318 *eP* **P** **17 05 16.9 -0.4**
comp=Z,19nm,1.3s
PSZ Piszkesteto 80.72 318⇓ *iP* **P** **17 05 17.4 +0.1**
PSZ Piszkesteto 80.72 318⇓ *eP* **P** **17 05 17.6 +0.3**
SRS Serrai 80.78 311 P **P** **17 05 16.4 -1.3**
OUR Ouranopolis 80.78 310 P **P** **17 05 18.0 +0.3**
OKC Ostrava-Krasne 81.03 320 *eP* **P** **17 05 19.0 +0.2**
OKC *e* 17 05 29.6
OKC *eS* **S** **17 15 23.6 -3.6**
OKC MLR MLR
comp=Z,1μm,14.2s
OKC Ostrava-Krasne 81.03 320 *eP* **P** **17 05 19.0 +0.2**
OKC *ex* x 17 05 29.6
OKC *eS* **S** **17 15 23.6 -3.6**
OKC AMS AMS 17 48 50.0
comp=Z,1μm,14.2s
PKSN Nyarlorinc 81.13 317⇑ *eP* **P** **17 05 20.6 +1.2**
DLBC Dease Lake 81.13 30 P **P** **17 05 20.4 +1.1**
DLBC Dease Lake 81.13 30 P **P** **17 05 20.4 +1.1**
comp=Z,7.8nm,0.8s,baz=307,slow=7.2,SNR=17
PAIG Paliouri 81.15 309 P **P** **17 05 18.6 -1.0**

PAIG Paliouri 81.15 309 *e*P **P 17 05 19.3 -0.3**
VYHS Vyhne 81.15 319 *e*P **P 17 05 19.9 +0.4**
VYHS pmax pmax
comp=Z,20nm,1.1s
VYHS Vyhne 81.15 319 *e*P **P 17 05 19.9 +0.4**
PLG Polygyros 81.15 310 P **P 17 05 19.2 -0.5**
PLG Polygyros 81.15 310 *e*P **P 17 05 19.3 -0.5**
MORC Moravsky Berou 81.42 320 *e*P **P 17 05 20.5 -0.5**
MORC pmax pmax
comp=Z,25nm,1.1s
MORC Moravsky Berou 81.42 320 *e*P **P 17 05 20.5 -0.5**
comp=Z,25nm,1.1s
VAY Valandovo 81.42 311 P **P 17 05 19.5 -1.6**
BUD Budapest 81.43 318‖ *e*P **P 17 05 21.4 +0.4**
PKS7 Kunszentmiklos 81.52 317‖ *e*P **P 17 05 21.3 -0.1**
LAST Lasithi 81.52 304 P **P 17 05 22.5 +0.7**
LAST Lasithi 81.52 304 *e*P **P 17 05 21.9 +0.1**
GRG Griva 81.68 311 P **P 17 05 20.3 -2.2**
GRG Griva 81.68 311 *e*P **P 17 05 22.1 -0.4**
PKS2 Kecel 81.70 317⇑ *e*P **P 17 05 23.4 +1.0**
KSP Ksiaz 81.71 322‖ *e*P **P 17 05 22.8 +0.4**
KSP *e**PP **pP 17 05 32.4 +3.7**
KSP *e*S **S 17 15 33.0 -1.2**
KSP MLR MLR
comp=Z,3µm,19.3s
KRLC Kraliky 81.74 321 *e*P **P 17 05 22.9 +0.2**
KRLC *e* 17 05 29.3
KRLC *e* 17 05 36.2
KRLC Kraliky 81.74 321 *e*P **P 17 05 22.9 +0.2**
KRLC *e*pP **pP 17 05 29.3 +0.3**
KRLC *e*x x 17 05 36.2
ATH Athens Observa 81.83 308 *e*P P 17 05 14.6 -8.7
PKSG 81.86 318‖ *e*P **P 17 05 23.8 +0.5**
DPC Dobruska-Polom 81.90 321 *e*P **P 17 05 23.3 -0.2**
DPC *e* 17 05 34.7
DPC *e*S **S 17 15 33.0 -3.3**
DPC Dobruska-Polom 81.90 321 *e*P **P 17 05 23.3 -0.2**
DPC *e*pP **PcP 17 05 29.5 +0.4**
DPC *e*x x 17 05 34.7
DPC *e*S **S 17 15 33.0 -3.3**
DPC AMS AMS 17 47 20.0
CSKK Cs˘ˇtkako 81.95 318⇑ *e*P **P 17 05 24.6 +0.8**
SIVA Sivas 82.08 304 *e*P **P 17 05 25.1 +0.4**
LKR Lokris 82.10 308 *e*P **P 17 05 23.1 -1.6**
DIVS Divibare 82.13 314 P **P 17 05 24.3 -0.6**
PKST T˘ˇs 82.14 318⇑ *e*P **P 17 05 25.5 +0.7**
PKSM Moragy 82.17 317 ‖*i*P **P 17 05 25.1 +0.2**
PKSM Moragy 82.17 317‖ *i*P **P 17 05 25.1 +0.2**
PKSM Moragy 82.17 317‖ *e*P **P 17 05 25.3 +0.4**
PKS9 Tamasi 82.25 317⇑ *e*P **P 17 05 26.1 +0.8**
KZN Kozani 82.36 310 *e*P **P 17 05 24.8 -1.4**
VAM Vamos 82.40 305 *e*P **P 17 05 27.2 +0.8**
AGG Agios Georgios 82.45 309 *e*P **P 17 05 25.1 -1.5**
FNA Florina 82.46 311 *e*P **P 17 05 26.1 -0.5**
THL Klokotos Trika 82.47 310 P **P 17 05 24.8 -1.8**
KARN Karanos 82.62 305 *e*P **P 17 05 27.3 -0.2**
PHP Peshkopia 82.77 312 P **P 17 05 27.7 -0.5**
PVCC Panska Ves 82.83 322 *e*P **P 17 05 28.8 +0.5**
PVCC MLR MLR
comp=Z,2µm,17.1s
PVCC Panska Ves 82.83 322 *e*P **P 17 05 28.8 +0.5**
PVCC AMS AMS 17 43 00.0
comp=Z,2µm,17.1s
TREC Trest 82.83 320 *e*P **P 17 05 28.6 +0.2**
TREC *e* 17 05 42.6
TREC MLR MLR
comp=Z,2µm,17.2s
TREC Trest 82.83 320 *e*P **P 17 05 28.6 +0.2**
TREC *e*x x 17 05 42.6
TREC AMS AMS 17 47 50.0
comp=Z,2µm,17.2s
GUR Goura 82.85 308 *e*P **P 17 05 27.0 -1.8**
EVR Evrytania 82.87 309 P **P 17 05 27.6 -1.2**
EVR Evrytania 82.87 309 *e*P **P 17 05 28.6 -0.2**
MUD Monsted U'grnd 82.94 329 *e*P **P 17 05 30.5 +1.8**
MUD *i* 17 15 50.3
MUD pmax pmax
comp=Z,14nm,0.9s
MUD MLR MLR
comp=Z,3µm,15.0s
MUD Monsted U'grnd 82.94 329 *i* P **P 17 05 30.5 +1.8**
comp=Z,14nm,0.9s
MUD *i* 17 15 50.3
MUD
comp=Z,3µm,14.0s
KLV Kalavryta, Ach 82.95 308 *e*P **P 17 05 27.5 -1.7**
EFP Efpalio 82.98 309 *e*P **P 17 05 29.5 +0.2**
LAKA Lakka 83.00 308 P **P 17 05 29.1 -0.4**
LAKA Lakka 83.00 308 *e*P **P 17 05 28.4 -1.1**
VLX Vlachokerasia 83.04 307 P P 17 05 22.2 -7.6
VLX Vlachokerasia 83.04 307 *e*P P 17 05 20.6 -9.2
BRG Berggiesshubel 83.04 322 *e*P **P 17 05 29.6 +0.2**
comp=Z,30nm,1.2s
BRG SKS **S 17 15 46.0 -1.8**
BRG S **ScS 17 16 04.0 +1.9**
BRG SS SS 17 21 33.0 +22
BRG
comp=N,1µm,18.2s
BRG
comp=E,2µm,15.7s
BRG
comp=Z,2µm,16.8s
BRG Berggiesshubel 83.04 322 *e*P **P 17 05 29.6 +0.2**
BRG 17 15 46.0
BRG pmax pmax
comp=Z,30nm,1.2s
BRG MLR MLR
comp=N,1µm,18.2s
BRG MLR MLR
comp=E,2µm,15.7s
BRG MLR MLR
comp=Z,2µm,16.8s
PRU Pruhonice 83.09 321 *e*P **P 17 05 29.4 -0.2**
PRU *e* 17 05 40.5
PRU *e*S **S 17 15 46.8 -1.5**
PRU MLR MLR
comp=Z,1µm,17.0s
PRU Pruhonice 83.09 321 *e*P **P 17 05 29.4 -0.2**
PRU *e*x x 17 05 40.5
PRU *e*S **S 17 15 46.8 -1.5**
PRU *e*x x 17 21 33.5
PRU AMS AMS 17 43 10.0
comp=Z,1µm,17.0s
PRA Prague 83.11 321 P **P 17 05 30.0 +0.3**
PRA AMS AMS 17 43 30.0
CONA Conrad Observa 83.19 319⇑ *i*P **P 17 05 29.6 -0.7**
comp=Z,27nm,1.4s,SNR=14
JAN Janina 83.27 310 *e*P **P 17 05 30.1 -0.7**
DYR Agios Nikonas 83.30 307 P **P 17 05 30.1 -0.9**
DYR Agios Nikonas 83.30 307 *e*P **P 17 05 30.4 -0.6**
CLL Collm 83.38 323 *e*P **P 17 05 30.7 -0.4**
comp=Z,37nm,1.1s
CLL Collm 83.38 323‖ *i*P **P 17 05 30.9 -0.2**
CLL *e* 17 05 41.0
CLL *e*S **S 17 15 52.0 +0.8**
CLL pmax pmax
comp=Z,37nm,1.1s
CLL MLR MLR
comp=Z,2µm,18.1s
CLL Collm 83.38 323‖ *i*P **P 17 05 30.9 -0.2**
comp=Z,37nm,1.1s
CLL *e* 17 05 41.0
CLL *e*PP **PP 17 08 42.0 -0.5**
CLL *e*S **S 17 15 52.0 +0.8**
CLL *e*PS **PnS 17 16 48.0 +4.6**
CLL *e*SS SS 17 21 30.0 +14
CLL *e* 17 26 36.0
CLL LmH 17 48 00.0
comp=N,800nm,18.0s
CLL LmH 17 48 00.0
comp=E,2µm,19.5s
CLL LmV 17 50 00.0
comp=Z,2µm,18.1s
ITM Ithomi 83.44 307 *e*P **P 17 05 30.9 -0.9**
RLS Riolos of Patr 83.44 308 *e*P **P 17 05 31.2 -0.5**
KOGS Kog 83.59 318 *i* P **P 17 05 32.2 -0.1**
KOGS Kog 83.59 318 P **P 17 05 32.2 -0.1**
BSEG Bad Segeberg 83.59 326 *e*P **P 17 05 32.2 +0.1**
comp=Z,46nm,1.3s
BSEG *e*pP **pP 17 05 42.7 +4.3**
BSEG Bad Segeberg 83.59 326 *e*P **P 17 05 32.2 +0.1**
BSEG *e**PP **pP 17 05 42.7 +4.3**
BSEG pmax pmax
comp=Z,46nm,1.3s
IGT Igoumenitsa 83.68 310 P **P 17 05 30.5 -2.4**
PYL PYLOS 83.69 307 P **P 17 05 30.3 -2.7**
PYL PYLOS 83.69 307 *e*P **P 17 05 31.5 -1.5**
ARSA Arzberg 83.69 319‖ *i*P **P 17 05 33.2 +0.4**
comp=Z,14nm,1.2s,SNR=8.4
LKD2 Lefkada island 83.74 309 *e*P **P 17 05 32.6 -0.7**
KFL Anninata 83.92 309 P **P 17 05 33.2 -0.9**
KEK Kerkira 83.99 310 P **P 17 05 34.3 -0.2**
KEK Kerkira 83.99 310 *e*P **P 17 05 34.0 -0.5**
KHC Kasperske Hory 84.03 321 *e*P **P 17 05 34.7 +0.1**
KHC *e* 17 05 44.8
KHC *e*S **S 17 15 58.6 +0.6**
KHC MLR MLR
comp=Z,2µm,17.5s
KHC Kasperske Hory 84.03 321 *e*P **P 17 05 34.7 +0.1**
KHC *e*pP **pP 17 05 39.9 -1.0**
KHC *e*x x 17 05 44.8
KHC *e*S **S 17 15 58.6 +0.6**
KHC *e*x x 17 21 46.7
KHC AMS AMS 17 48 30.0
comp=Z,2µm,17.5s
KHC Kasperske Hory 84.03 321 *e*P **P 17 05 33.7 -0.9**
comp=Z,29nm,1.2s
VLS Valsamata 84.03 309 P **P 17 05 33.7 -1.0**
VLS Valsamata 84.03 309 *e*P **P 17 05 33.8 -1.0**
GEC2 GERESS Array S 84.09 321 *e*P **P 17 05 34.8 -0.1**
comp=Z,31nm,1.1s
GEC2 *e*pP **pP 17 05 45.5 +4.2**
GEC2 GERESS Array S 84.09 321 *e*P **P 17 05 34.8 -0.1**
GEC2 *e**PP **pP 17 05 45.5 +4.2**
GEC2 pmax pmax
comp=Z,31nm,1.1s
GERES GERESS Array B 84.09 321 P **P 17 05 34.6 -0.3**
GERES GERESS Array B 84.09 321 P **P 17 05 34.6 -0.3**
comp=Z,12nm,0.8s,baz=57,slow=4.9,SNR=77
TANN Tannenbergstha 84.09 322 *e*P **P 17 05 34.7 -0.1**
comp=Z,29nm,1.3s
KMBO Kilima Mbogo 84.13 266 P **P 17 05 37.8 +1.9**
SNR=8.7
KMBO Kilima Mbogo 84.13 266 *e*P **P 17 05 37.1 +1.2**
KMBO Kilima Mbogo 84.13 266 P **P 17 05 36.4 +0.5**
comp=Z,32nm,1.2s,baz=41,slow=7.4,SNR=22
KMBO LR LR 17 45 29.9
comp=Z,441nm,18.5s,baz=96,slow=37
NKC Novy Kostel 84.18 322 *e*P **P 17 05 35.3 0.0**
NKC *e* 17 05 41.7
NKC Novy Kostel 84.18 322 *e*P **P 17 05 35.3 0.0**
NKC *e*pP **pP 17 05 41.7 +0.1**
MOA Molln 84.20 319‖ *i*P **P 17 05 35.2 -0.2**
comp=Z,40nm,1.2s,SNR=22
PERS Pernice 84.21 318 *e*P **P 17 05 35.3 -0.2**
PERS Pernice 84.21 318 *e*P **P 17 05 35.3 -0.2**
SOKA Soboth 84.25 318‖ *i*P **P 17 05 34.0 -1.8**
comp=Z,25nm,1.1s
NRDL Niedersach Rie 84.40 325 *e*P **P 17 05 36.5 +0.3**
comp=Z,37nm,1.2s
WET Wettzell 84.44 321 *e*P **P 17 05 36.7 +0.1**
comp=Z,36nm,1.4s
WET Wettzell 84.44 321 *e*P **P 17 05 36.7 +0.1**
WET pmax pmax
comp=Z,36nm,1.4s
MOX Moxa 84.46 323 *e*P **P 17 05 36.5 -0.2**
comp=Z,31nm,1.2s
MOX *e*L L 17 47 07.5
comp=Z,2µm,19.8s
MOX Moxa 84.46 323 *e*P **P 17 05 36.5 -0.2**
MOX pmax pmax
comp=Z,31nm,1.2s
MOX MLR MLR
comp=Z,2µm,19.8s
ROTZ Rotzenmuhle 84.53 322 *e*P **P 17 05 37.4 +0.3**
comp=Z,42nm,1.1s
ROTZ *e*pP **pP 17 05 47.6 +4.2**
SUMG Summit 84.57 354 *i* P **P 17 05 37.5 +0.3**
SUMG *i* 17 05 50.6
SUMG *i* 17 16 08.6
SUMG pmax pmax
comp=Z,12nm,0.9s
SUMG MLR MLR
comp=Z,2µm,16.0s
SUMG Summit 84.57 354 *e*P **P 17 05 37.6 +0.3**
SUMG *e* 17 05 50.5
SUMG pmax pmax
comp=Z,26nm,0.9s
SUMG Summit 84.57 354 *e*P **P 17 05 37.6 +0.3**
comp=Z,26nm,0.9s
SUMG *e* pP 17 05 50.5 +6.9
SUMG Summit 84.57 354 *i* P **P 17 05 37.5 +0.3**
comp=Z,12nm,0.9s
SUMG *i* 17 05 50.6
SUMG *i* 17 16 08.6
SUMG
comp=Z,2µm,15.0s
OBKA Obir 84.62 318⇑ *i*P **P 17 05 37.3 -0.4**
comp=Z,24nm,0.9s,SNR=12
LJU Ljubljana 84.84 318 *i* P **P 17 05 38.7 0.0**
LJU Ljubljana 84.84 318 *i* P **P 17 05 38.7 0.0**
KBA Koelnbreinsper 85.10 319⇑ *i*P **P 17 05 39.8 -0.4**
comp=Z,32nm,1.4s,SNR=12
MYKA Terra Mystica 85.12 319⇑ *i*P **P 17 05 39.1 -1.0**
comp=Z,18nm,1.1s
RJOB Jochberg 85.13 320 *e*P **P 17 05 40.0 -0.2**
comp=Z,23nm,1.0s
RJOB *e*pP **pP 17 05 50.2 +3.7**
GRF Grafenberg Arr 85.14 322 *e*P **P 17 05 40.3 +0.2**
comp=Z,63nm,1.4s
GRF *e*L L 17 46 15.1
comp=Z,1µm,21.1s
GRF Grafenberg Arr 85.14 322 *e*P **P 17 05 40.3 +0.2**
GRF pmax pmax
comp=Z,63nm,1.4s
GRF MLR MLR
comp=Z,1µm,21.1s
GRFO Grafenberg 85.14 322 *e*P **P 17 05 40.8 +0.7**
GRFO pmax pmax
comp=Z,12nm,0.8s
GRFO Grafenberg 85.14 322 *e*P **P 17 05 40.8 +0.7**
comp=Z,12nm,0.8s
JAVS Javornik 85.19 318 *e*P **P 17 05 39.9 -0.7**
JAVS Javornik 85.19 318 *e*P **P 17 05 39.9 -0.7**
YKA Yellowknife Ar 85.20 22 P **P 17 05 40.1 0.0**
YKA Yellowknife Ar 85.20 22 P **P 17 05 40.1 0.0**
comp=Z,11nm,0.9s,baz=316,slow=4.9,SNR=23
VOY Vojsko 85.24 318 *e*P **P 17 05 40.1 -0.7**
VOY *e* 17 05 50.0
VOY *e* 17 05 59.6
VOY Vojsko 85.24 318 *e*P **P 17 05 40.1 -0.7**
CADS Cadrg 85.25 318 *e*P **P 17 05 40.0 -0.8**
CADS Cadrg 85.25 318 *e*P **P 17 05 40.0 -0.8**
UBBA Unterbreizbach 85.28 323 *e*P **P 17 05 40.6 0.0**
comp=Z,37nm,1.5s
IBBN Ibbenburen 85.74 325 *e*P **P 17 05 42.8 -0.2**
ABTA Abfaltersbach 85.76 319‖ *i*P **P 17 05 42.2 -1.2**
comp=Z,45nm,1.3s,SNR=18
FUR Furstenfeldbru 85.83 321 *e*P **P 17 05 43.8 +0.2**
comp=Z,115nm,1.4s
FUR Furstenfeldbru 85.83 321 *e*P **P 17 05 43.8 +0.2**
FUR pmax pmax
comp=Z,115nm,1.4s
WTTA Wattenberg 86.05 320‖ *i*P **P 17 05 44.5 -0.4**
comp=Z,37nm,0.8s,SNR=15
WATA Walderalm 86.05 320⇑ *i*P **P 17 05 44.2 -0.6**
comp=Z,24nm,1.1s
MOTA Moosalm 86.33 320‖ *i*P **P 17 05 45.7 -0.6**
comp=Z,26nm,1.1s
TIP Timpagrande 86.36 311 P **P 17 05 46.2 -0.2**
TIP Timpagrande 86.36 311 *e*P **P 17 05 46.3 -0.2**
comp=Z,79nm,1.4s
TNS Taunus Mts 86.43 323 *e*P **P 17 05 46.5 -0.1**
comp=Z,33nm,1.7s
TNS Taunus Mts 86.43 323 *e*P **P 17 05 46.5 -0.1**
TNS pmax pmax
comp=Z,33nm,1.7s
BUG Bochum--Univer 86.45 325 *e*P **P 17 05 46.2 -0.3**
comp=Z,40nm,1.2s
RETA Reutte 86.46 320‖ *i*P **P 17 05 46.5 -0.3**
comp=Z,12nm,1.0s
FETA Feichten 86.71 320⇑ *i*P **P 17 05 47.5 -0.6**
comp=Z,31nm,1.1s,SNR=18
STU Stuttgart 86.74 322 *e*P **P 17 05 47.7 -0.4**
DAVA Damuels 87.08 320‖ *i*P **P 17 05 49.6 -0.4**
comp=Z,18nm,1.3s
AQU L'Aquila 87.23 315 *e*P **P 17 05 50.9 +0.2**
comp=Z,48nm,1.1s
CEL Celeste 87.36 310 *e*P **P 17 05 51.3 0.0**
comp=Z,115nm,1.3s
BFO Black Forest 87.46 322 *e*P **P 17 05 50.9 -0.7**
BFO Black Forest 87.46 322 *e*P **P 17 05 50.9 -0.7**
TUE Stuetta 87.81 320 *e*P **P 17 05 53.1 -0.4**
comp=Z,33nm,1.3s
WLF Walferdange 87.99 324 P **P 17 05 54.4 +0.4**
comp=Z,16nm,1.6s
WLF Walferdange 87.99 324 *e*P **P 17 05 54.2 +0.2**
comp=Z,28nm,1.3s
CDF Champ du Feu 88.02 322 *e*P **P 17 05 53.3 -1.0**
comp=Z,56nm,1.4s
ECH Echery 88.19 322 *e*P **P 17 05 54.0 -1.1**
ECH pmax pmax
comp=Z,10.0nm,1.3s
ECH Echery 88.19 322 *e*P **P 17 05 54.0 -1.1**
comp=Z,10nm,1.3s
GIVF Givet 88.48 325 *e*P **P 17 05 56.7 +0.4**
comp=Z,89nm,1.6s
HINF Hinteralfeld 88.58 322 *e*P **P 17 05 56.7 -0.2**
comp=Z,32nm,1.5s
DOU Dourbes 88.60 325 P **P 17 05 57.4 +0.5**
comp=Z,8.9nm,1.6s
HAU Haudompre 88.77 322 *e*P **P 17 05 57.5 -0.3**
HAU *e*R
comp=Z,2µm,19.0s
PAGF Fort de Pagny 88.82 323 *e*P **P 17 05 57.4 -0.6**
BAIF Baives 88.83 325 *e*P **P 17 05 58.3 +0.3**
comp=Z,35nm,1.2s
MEZF Maizieres J'vi 89.23 323 *e*P **P 17 06 00.3 +0.4**
SFTF Sexfontaines 89.40 323 *e*P **P 17 06 00.9 +0.2**
PGC Sidney 89.51 37 *e*P **P 17 06 02.1 +0.9**
comp=Z,1.0nm,1.1s
DRV Dumont d'Urvil 89.64 172 PP PP 17 09 16.0 -17
DRV S S 17 17 20.0 +29
DRV SS SS 17 22 57.0 +9.0
DRV L L 17 31 00.0
DRV R 17 36 00.0
OSD Olympics--Snow 89.83 37 P **P 17 06 05.0 +2.0**
MCW Mount Constitu 89.83 36 P **P 17 06 05.3 +2.5**
MCW Mount Constitu 89.83 36 P **P 17 06 05.3 +2.5**
LPG La Plagne 89.86 320 *e*P **P 17 06 04.0 +0.7**
comp=Z,50nm,0.9s
LPL La Plagne 89.86 320 *e*P **P 17 06 03.9 +0.7**
comp=Z,48nm,1.0s
PGF Pioggiola 89.99 317 *e*P **P 17 06 03.2 -0.5**
comp=Z,68nm,0.9s
BLN Blyn Mountain 90.13 37 P **P 17 06 05.8 +1.6**
BNI Bardonecchia 90.14 320 *e*P **P 17 06 04.3 -0.1**
BNI pmax pmax
comp=Z,26nm,1.1s
BNI Bardonecchia 90.14 320 *e*P **P 17 06 04.3 -0.1**
comp=Z,26nm,1.1s
MBDF Montbardon 90.25 319 *e*P **P 17 06 04.7 -0.3**
comp=Z,22nm,1.0s
MBW Mount Baker 90.28 36 P **P 17 06 06.1 +1.0**
SBF Sospel 90.30 318 *e*P **P 17 06 05.2 +0.1**
comp=Z,51nm,0.9s
CMW Cultus Mountai 90.37 36 P **P 17 06 06.1 +0.7**
LOR Lormes 90.58 322 *e*P **P 17 06 06.3 0.0**
comp=Z,38nm,1.1s
LOR *e*R
comp=Z,2µm,17.5s
JCW Jim Creek 90.60 36 P **P 17 06 07.8 +1.4**
ORIF Oris-en-Rattie 90.69 320 *e*P **P 17 06 07.5 +0.6**
comp=Z,30nm,1.1s
ORIF *e*R
comp=Z,2µm,19.0s
SSF Saint Saulge 90.89 322 *e*P **P 17 06 07.9 +0.2**
SMF Signal de Mont 90.94 322 *e*P **P 17 06 08.2 +0.3**
comp=Z,70nm,1.4s
FRF La Foret Royal 90.94 318 *e*P **P 17 06 07.2 -0.8**
comp=Z,45nm,1.1s
SFJD Kangerlussuaq 91.00 357 *e*P **P 17 06 06.6 -1.1**
comp=Z,60nm,1.4s
SFJD Kangerlussuaq 91.00 357 *i* P **P 17 06 08.3 +0.5**
comp=Z,15nm,0.8s
SFJD
comp=Z,1µm,20.0s
AVF Avril sur Loir 91.13 322 *e*P **P 17 06 09.0 +0.2**
comp=Z,31nm,0.9s
LMR La Mourre 91.15 318 *e*P **P 17 06 09.5 +0.5**
comp=Z,81nm,1.2s
VSL Villasalto 91.28 314 P **P 17 06 09.6 -0.1**
comp=Z,21nm,1.0s
SMRF Simiane la Rot 91.38 319 *e*P **P 17 06 10.8 +0.7**
comp=Z,56nm,1.3s
VIVF Saint-Julien-l 91.44 320 *e*P **P 17 06 10.7 +0.3**
comp=Z,57nm,1.4s
BGF Bois d'Agland 91.55 322 *e*P **P 17 06 11.1 +0.3**
EDM Edmonton 91.80 29 *e*P **P 17 06 11.3 -0.6**
EDM Edmonton 91.80 29 *e*P **P 17 06 11.3 -0.6**
ASR Mount Adams--S 91.96 38 P **P 17 06 15.1 +2.3**
TCF Toul-Ste Croi 92.07 322 *e*P **P 17 06 12.4 -0.8**
comp=Z,78nm,1.5s
LASF Ste Croix 92.36 320 *e*P **P 17 06 15.3 +0.7**
comp=Z,48nm,1.4s
CAF Calviac 92.94 321 *e*P **P 17 06 18.2 +0.9**
comp=Z,88nm,1.8s
RJF Les Rejaudoux 93.03 322 *e*P **P 17 06 18.7 +1.0**
comp=Z,75nm,1.3s
RJF *e*R
comp=Z,2µm,17.8s
NEW Newport 93.14 34 P **P 17 06 17.6 -0.6**
comp=Z,11nm,1.1s
NEW Newport 93.14 34 P **P 17 06 17.8 -0.4**
baz=93
KEST Kesra 93.17 311 *e*P **P 17 06 18.7 +0.1**
KEST Kesra 93.17 311 P **P 17 06 19.0 +0.4**
comp=Z,2.5nm,0.9s,baz=340,slow=3.6,SNR=5.4
MFF Saint Martin d 93.20 324 *e*P **P 17 06 18.8 +0.4**
comp=Z,29nm,1.0s
YBH Yreka Blue Hor 93.79 42 LR LR 17 50 22.8
comp=Z,402nm,18.8s,baz=342,slow=37
WALA Waterton Lakes 94.28 32 *e*P **P 17 06 24.8 +1.4**
comp=Z,0.5nm,1.2s
A14A Double T Ranch 94.58 32 P **P 17 06 25.4 +0.6**
baz=94
BSMT Bassoo Peak 94.62 34 *e*P **P 17 06 25.2 0.0**
comp=Z,8.7nm,1.3s
B14A Marquette Ranc 95.06 33 P **P 17 06 28.2 +1.2**
baz=95
BMO Blue Mountains 95.15 37 *e*P **P 17 06 28.1 +0.6**
BMO pmax pmax
comp=Z,2.0nm,0.8s
BMO Blue Mountains 95.15 37 *e*P **P 17 06 28.1 +0.6**
comp=Z,2.3nm,0.8s
FFC Flin Flon 95.36 23 *e*P **P 17 06 27.7 -0.4**
FFC pmax pmax
comp=Z,8.0nm,0.8s
FFC Flin Flon 95.36 23 *e*P **P 17 06 27.7 -0.4**
comp=Z,8.2nm,0.8s
A16A West Butte Ran 95.49 31 P **P 17 06 29.2 +0.2**
baz=95
SLMT Seeley Lake 95.68 34 *e*P **P 17 06 31.2 +1.2**
comp=Z,20nm,1.2s
CHMT Chamberlain Mo 96.02 34 *e*P **P 17 06 31.8 +0.2**
comp=Z,2.9nm,1.2s
PPT Papeete 96.38 106 LR LR 17 48 46.2
comp=Z,443nm,18.6s,baz=319,slow=35
PPT2 Papeete2 96.38 106 *e*SP SP 17 19 08.1 -4.9
comp=Z,348nm,29.5s
PPT2 *e*SS **SS 17 24 20.2 -6.7**
comp=Z,284nm,26.5s
PPT2 Papeete2 96.38 106 *e*LR LR 17 37 34.4
comp=Z,790nm,27.2s,baz=288
B20A Solberg Farm, 97.55 30 P Pdif 17 06 38.7 +0.3
baz=97
F17A Fitzpatrick Pl 98.03 33 P **P 17 06 40.1 -0.5**
baz=98
NVAR Mina Array Bea 98.45 43 P Pdif 17 06 43.8 +1.0
NVAR Mina Array Bea 98.45 43 P Pdif 17 06 43.8 +1.0
comp=Z,0.8nm,0.7s,baz=242,slow=3.2,SNR=7.3
TBI Tubuai 98.50 112 *e*SP SP 17 19 31.7 -4.1
comp=Z,162nm,34.0s
TBI Tubuai 98.50 112 *e*LR LR 17 38 25.0
comp=Z,531nm,31.8s,baz=293
MAW Mawson 98.85 199 LR LR 17 46 07.4
comp=Z,139nm,21.0s,baz=45,slow=32
TORD Torodi Ar. Bea 110.54 294 PKKPbc PKKPbc 17 22 37.9 +1.8
TORD Torodi Ar. Bea 110.54 294 PKKPbc PKKPbc 17 22 37.9 +1.8
comp=Z,0.6nm,0.6s,baz=273,slow=3.0,SNR=3.7
RKT Rikitea 111.11 107 *e*LR LR 17 44 24.5
comp=Z,572nm,28.5s
TXAR Lajitas Array 113.56 42 PKiKP **PKiKP 17 11 43.0 +0.2**
TXAR Lajitas Array 113.56 42 PKiKP **PKiKP 17 11 43.0 +0.2**
comp=Z,1.2nm,0.7s,baz=251,slow=0.8,SNR=8.3

LIC	**Lamto**	**119.71**	**291**	*e*PKIKP	**PKPdf**	**17 11 53.5**	**-1.4**
LIC				*e*R				
	comp=Z,535nm,23.0s							
SNAA	**Sanae**	**120.99**	**198**	*e*PKP	**PKPdf**	**17 11 54.3**	**-1.4**
VNA1	**Neumayer--Stat**	**123.03**	**198**	*e*PKP	**PKPdf**	**17 11 58.9**	**-0.6**
BCIP	**Isla Barro Col**	**143.15**	**35**	*e*PKPpre	PKPpre	17 12 35.4		
SDV	**Santo Domingo**	**147.41**	**21**	*e*PKPdf	**PKPdf**	**17 12 46.5**	**0.0**
ROSC	**El Rosal**	**149.60**	**30**	*e*PKPbc	**PKPbc**	**17 12 56.2**	**+1.3**
ROSC	**El Rosal**	**149.60**	**30**	PKPbc	**PKPbc**	**17 12 56.2**	**+1.3**
	comp=Z,23nm,0.5s,baz=107,slow=7.3,SNR=15							
ATAH	**Atahualpa**	**156.54**	**54**	PKP	**PKPdf**	**17 13 01.4**	**+1.1**
ATAH	**Atahualpa**	**156.54**	**54**	PKP	**PKPdf**	**17 13 01.4**	**+1.1**
	comp=Z,2.3nm,0.6s,baz=137,slow=19,SNR=4.3							
SAML	**Samuel**	**166.53**	**16**	*e*PKPdf	**PKPdf**	**17 13 10.2**	**-0.1**
LPAZ	**La Paz**	**170.07**	**56**	PKP	**PKPdf**	**17 13 14.1**	**+0.8**
LPAZ				PKPab	**PKPab**	**17 14 26.6**	**-2.0**
LPAZ	**La Paz**	**170.07**	**56**	PKP	**PKPdf**	**17 13 14.1**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=315,slow=2.3,SNR=7.1							
LPAZ				PKPab	**PKPab**	**17 14 26.6**	**-2.0**
	comp=Z,3.1nm,1.1s,baz=342,slow=6.9,SNR=2.4							
LVC	**Limon Verde**	**171.29**	**96**	PKPab	**PKPab**	**17 14 32.1**	**-1.5**
LVC	**Limon Verde**	**171.29**	**96**	PKPab	**PKPab**	**17 14 32.1**	**-1.5**
	comp=Z,2.8nm,0.7s,baz=143,slow=5.1,SNR=2.5							
SIV	**San Ignacio**	**173.82**	**14**	PKP	**PKPdf**	**17 13 14.4**	**+0.1**
SIV				PKPab	**PKPab**	**17 14 43.7**	**-0.5**
SIV	**San Ignacio**	**173.82**	**14**	PKP	**PKPdf**	**17 13 14.4**	**+0.1**
	comp=Z,5.6nm,1.1s,baz=43,slow=1.7,SNR=8.6							
SIV				PKPab	**PKPab**	**17 14 43.7**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=69,slow=4.3,SNR=5.5							

GUC 29 16:59:48.5±0.8, 32.68S×71.05W, h1km±3km, MD3.6, ML2.4, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.29**	**174**	↑*i*	*i*P	Pg	16 59 54.9	+0.4
ROCH					*i* S	Sg	16 59 60.0	+1.4
ROCH					AML	AML	17 00 06.1	
	comp=E,281nm,0.5s							
PEL	**Peldehue**	**0.56**	**147**	↑*i*	*e*P	Pg	16 59 59.8	+0.5
PEL					*e*S	Sb	17 00 08.6	-1.1
PEL					AML	AML	17 00 15.8	
	comp=N,349nm,0.6s							
FCH	**Farellones**	**0.91**	**136**	↑*i*	*e*P	Pg	17 00 04.8	-1.7
CHCH	**Chadas Angostu**	**1.29**	**165**	*e*S		Sb	17 00 30.9	-0.1
LMEL	**Las Melosas**	**1.36**	**149**	↑*i*	*e*P	Pg	17 00 13.6	-1.4
LMEL					*i* S	Sb	17 00 33.1	-0.1
LMEL					AML	AML	17 00 36.3	
	comp=N,131nm,0.3s							
CACH	**El Canelo**	**1.48**	**165**	↓*i*	*e*P	Pn	17 00 16.2	-0.3
CACH					*e*S	Sn	17 00 37.4	+0.7
TLL	**Tololo Astrono**	**2.51**	**5**	*e*	*e*P	Pb	17 00 34.0	-0.8
TLL					*i* S	Sb	17 01 07.8	+1.4
TLL					AML	AML	17 01 17.1	
	comp=N,106nm,0.6s							

IDC 29 17:02:55.1±2.0, 32.44S×178.80W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.8/19, mbtmp3.9/4, ML3.6/1, MS4.8/1, Ms1 4.8/1, ms1mx3.1/34, Error ellipse: s-maj=48.4km s-min=35.5km az=65.0

ISC 29 17:03:03.8±1.7, 32.7S±0.1×179.1W±0.3, h61km, n13, σ1§41/15, mb3.8/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**5.84**	**201**	PN	**Pn**	**17 04 26.5**	**-1.2**
PUZ				SN	**Sn**	**17 05 34.3**	**+1.0**
CNGZ	**Carnagh Statio**	**6.23**	**200**	PN	**Pn**	**17 04 31.9**	**-1.2**
MWZ	**Matawai**	**6.32**	**205**	PN	**Pn**	**17 04 31.9**	**-2.4**
MWZ				SN	**Sn**	**17 05 45.7**	**+0.6**
URZ	**Urewera**	**6.41**	**208**	Pn	**Pn**	**17 04 33.3**	**-2.2**
	1.1nm,0.3s,baz=87,slow=18,SNR=21							
URZ				Sn	**Sn**	**17 05 47.4**	**+0.2**
	2.7nm,0.3s,baz=232,slow=24,SNR=7.7							
URZ	**Urewera**	**6.41**	**208**	PN	**Pn**	**17 04 35.1**	**-0.4**
URZ				SN	**Sn**	**17 05 48.1**	**+0.8**
OUZ	**Omahuta**	**6.62**	**245**	PN	Pn	17 04 43.7	+5.2
KNZ	**Kokohu**	**6.89**	**202**	PN	**Pn**	**17 04 41.6**	**-0.5**
BKZ	**Black Stump Fm**	**7.44**	**208**	PN	**Pn**	**17 04 47.9**	**-1.7**
CTA	**Charters Tower**	**33.35**	**283**	LR	LR	17 21 56.4	
	comp=Z,2µm,21.1s,baz=334,slow=34							
ASAR	**Alice Springs**	**42.14**	**270**	P	**P**	**17 10 51.3**	**+0.9**
	0.5nm,0.5s,baz=110,slow=7.8,SNR=11							
WRA	**Warramunga Arr**	**43.34**	**275**	P	**P**	**17 11 00.8**	**+0.8**
	0.9nm,0.5s,baz=114,slow=7.7,SNR=6.7							
QSPA	**South Pole Qui**	**57.47**	**180**	P	**P**	**17 12 47.4**	**+1.2**
	3.7nm,1.1s,baz=7.1,slow=5.7,SNR=4.0							
FINES	**FINESS Array B**	**146.92**	**338**	PKPbc	**PKPbc**	**17 22 37.2**	**-1.3**
	0.7nm,0.6s,baz=41,slow=3.5,SNR=6.7							

CSEM 29 17:07:18.9, 46.26N×15.51E, h0km, ML1.3, After LJU

LJU 29 17:07:18.9, 46.26N×15.51E, h8km, ML1.3, 2C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOBS	**Dobrina**	**0.11**	**193**	↓*i*	Pg	Pg	17 07 21.8	+0.2
DOBS					*i* Sg	Sg	17 07 23.5	+0.2
DOBS								
	comp=Z,51nm,0.1s							
DOBS	**Dobrina**	**0.11**	**193**	↓*i*	Pg	Pg	17 07 21.8	+0.3
DOBS					*i* Sg	Sg	17 07 23.5	+0.1
	comp=Z,51nm,0.1s							
GROS	**Grobnik**	**0.20**	**359**	↓*i*	Pg	Pg	17 07 23.5	+0.3
GROS					*i* Sg	Sg	17 07 26.6	+0.4
GROS								
	comp=Z,11nm,0.1s							
GROS	**Grobnik**	**0.20**	**359**	↓*i*	Pg	Pg	17 07 23.5	+0.3
GROS					*i* Sg	Sg	17 07 26.5	+0.4
	comp=Z,11nm,0.1s							
GOLS	**Golise**	**0.26**	**161**	*i*	Pg	Pg	17 07 24.3	+0.1
GOLS					*i* Sg	Sg	17 07 27.9	+0.1
GOLS								
	comp=Z,6.0nm,0.1s							
GOLS	**Golise**	**0.26**	**161**	*i*	Pg	Pg	17 07 24.3	+0.1
GOLS					*i* Sg	Sg	17 07 27.9	+0.2
	comp=Z,6.0nm,0.1s							
CESS	**Cesta pri Krsk**	**0.29**	**186**	*i*	Pg	Pg	17 07 24.9	+0.3
CESS					*i* Sg	Sg	17 07 28.9	+0.4
CESS	**Cesta pri Krsk**	**0.29**	**186**	*i*	Pg	Pg	17 07 25.0	+0.4
CESS					*i* Sg	Sg	17 07 28.9	+0.4
LEGS	**Legarje**	**0.34**	**203**	*i*	Pg	Pg	17 07 25.9	+0.4
LEGS					*i* Sg	Sg	17 07 30.3	+0.2
LEGS	**Legarje**	**0.34**	**203**	*i*	Pg	Pg	17 07 25.9	+0.3
LEGS					*i* Sg	Sg	17 07 30.3	+0.3
CRES	**Cresnjev**	**0.43**	**184**	↑*i*	Pg	Pg	17 07 27.4	+0.1
CRES					*i* Sg	Sg	17 07 33.6	+0.5
CRES	**Cresnjev**	**0.43**	**184**	↑*i*	Pg	Pg	17 07 27.5	+0.1
CRES					*i* Sg	Sg	17 07 33.6	+0.5
PERS	**Pernice**	**0.46**	**325**	*i*	Pg	Pg	17 07 28.2	+0.2
PERS					*i* Sg	Sg	17 07 34.5	+0.3
PERS								
	comp=Z,3.0nm,0.1s							
PERS	**Pernice**	**0.46**	**325**	*i*	Pg	Pg	17 07 28.2	+0.1
PERS					*i* Sg	Sg	17 07 34.5	+0.3
	comp=Z,3.0nm,0.1s							
BISS	**Bistriski jare**	**0.47**	**326**	*i*	Pg	Pg	17 07 28.3	+0.2
BISS					*i* Sg	Sg	17 07 34.7	+0.3
BISS								
	comp=Z,23nm,0.1s							
BISS	**Bistriski jare**	**0.47**	**326**	*i*	Pg	Pg	17 07 28.3	+0.2
BISS					*i* Sg	Sg	17 07 34.7	+0.4
	comp=Z,23nm,0.1s							
MOZS	**Mozjanca**	**0.74**	**273**	*i*	Pg	Pg	17 07 33.3	+0.1
MOZS	**Mozjanca**	**0.74**	**273**	*i*	Pg	Pg	17 07 33.3	+0.1

IDC 29 17:34:30.4±1.4, 6.29N×125.11E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/23, mbtmp3.4/3, Error ellipse: s-maj=33.6km s-min=11.2km az=113.0

ISCJB 29 17:34:33.5±0.8, 6.60N±0.07×126.07E±0.07, h53km, mb3.3/3, Error ellipse: s-maj=11.7km s-min=8.7km az=42.9

MAN 29 17:34:34, 6.79N×126.11E, h31km, mb4.2, ML3.0, MS2.8

ISC 29 17:34:34.4±1.1, 6.61N±0.09×126.12E±0.09, h53km, n10, σ2§30/11, mb3.2/3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.36**	**22**	*e*P	**Pn**	**17 34 42.8**	**-1.6**
MATI				*e*S	**Sn**	**17 34 48.4**	**-3.1**
DAV	**Davao City (W)**	**0.71**	**310**	Pg	**Pn**	**17 34 48.4**	**0.0**
	128nm,0.3s,baz=351,slow=1.8,SNR=6.2						
DAV				Lg	Lg	17 35 00.2	
	166nm,0.3s,baz=100,slow=22,SNR=21						
GSPH	**General Santos**	**1.28**	**246**	↑*i*	P	**Pn**	**17 34 53.8**	**-2.2**
GSPH					*i* S	**Sn**	**17 35 09.1**	**-3.1**
BUKP	**Musuan**	**1.64**	**320**	*e*	P	**Pn**	**17 35 00.1**	**-0.9**
BUTP	**Butuan**	**2.40**	**348**	*e*	P	Pn	17 35 12.6	+1.4
PAGZ	**Pagadian**	**2.98**	**295**	*e*	P	**Pn**	**17 35 19.8**	**+0.6**
IPIL	**Ipil**	**3.71**	**289**	*e*	P	**Pn**	**17 35 30.1**	**+0.9**
WRA	**Warramunga Arr**	**27.60**	**163**	P		**P**	**17 40 20.2**	**+3.4**
	0.2nm,0.6s,baz=338,slow=11,SNR=2.9							
ASAR	**Alice Springs**	**31.04**	**166**	P		**P**	**17 40 48.9**	**+1.5**
	0.5nm,0.9s,baz=340,slow=7.1,SNR=5.8							
MKAR	**Makanchi Array**	**54.87**	**324**	P		**P**	**17 44 00.2**	**+0.8**
	0.3nm,0.5s,baz=111,slow=8.4,SNR=7.1							

ISCJB 29 18:04:16.4±0.1, 43.76N±0.01×105.31W±0.02, h0km, mb4.1/2, MS3.7/1, Error ellipse: s-maj=1.8km s-min=1.6km az=151.5

NEIC 29 18:04:17.1±0.4, 43.79N×105.20W, h0km, ML3.3, Error ellipse: s-maj=4.7km s-min=4.5km az=95.0, Suspected Mining explosion.

NEIC 60 km [40 miles] SSE of Gillette.

IDC 29 18:04:18.1±0.9, 44.09N×105.73W, h0km, mb4.0/2, mb1 4.0/6, mb1mx3.6/29, mbtmp3.7/6, ML3.5/4, MS3.4/2, Ms1 3.4/2, ms1mx2.8/47, Error ellipse: s-maj=27.2km s-min=8.1km az=145.0

ISC 29 18:04:17.2±0.6, 43.75N±0.02×105.31W±0.01, h0km, n311, σ0§81/348, 136C-128D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I23A	**Meade Ranch, G**	**0.24**	**333**	P		**Pg**	**18 04 23.1**	**+1.2**
	baz=0.3,SNR=416							
I23A				↑S		Sg	18 04 26.3	+1.3
	baz=0.3							
I23A	**Meade Ranch, G**	**0.24**	**333**	P		**Pg**	**18 04 23.1**	**+1.2**
	baz=0.3,SNR=416							
I23A				↑S		Sg	18 04 26.3	+1.3
	baz=0.3							
J23A	**Dilts Ranch, B**	**0.38**	**207**	P		**Pg**	**18 04 25.3**	**+0.7**
	baz=0.5,SNR=128							
J23A				↑S		Sg	18 04 29.8	+0.3
	baz=0.5							
J23A	**Dilts Ranch, B**	**0.38**	**207**	P		**Pg**	**18 04 25.3**	**+0.7**
	baz=0.5,SNR=128							
J23A				↑S		Sg	18 04 29.8	+0.3
	baz=0.5							
I24A	**Kuemmerle Ranc**	**0.51**	**77**	P		**Pg**	**18 04 27.3**	**+0.3**
	baz=0.4,SNR=260							
I24A				↑S		Sg	18 04 34.7	+1.1
	baz=0.4							
I24A	**Kuemmerle Ranc**	**0.51**	**77**	P		**Pg**	**18 04 27.3**	**+0.3**
	baz=0.4,SNR=260							
I24A				↑S		Sg	18 04 34.7	+1.1
	baz=0.4							
J24A	**Dixon Ranch, L**	**0.63**	**131**	↑P		**Pg**	**18 04 29.4**	**+0.1**
	baz=0.6,SNR=88							
J24A				↑S		Sg	18 04 38.6	+1.2
	baz=0.6							
J24A	**Dixon Ranch, L**	**0.63**	**131**	↑P		**Pg**	**18 04 29.4**	**+0.1**
	baz=0.6,SNR=88							
J24A				↑S		Sg	18 04 38.6	+1.2
	baz=0.6							
H23A	**Clabaugh Cattl**	**0.82**	**356**	↑P		**Pg**	**18 04 32.9**	**0.0**
	baz=0.8,SNR=52							
H23A				↓S		Sg	18 04 44.7	+1.2
	baz=0.8							
H23A	**Clabaugh Cattl**	**0.82**	**356**	↑P		**Pg**	**18 04 32.9**	**0.0**
	baz=0.8,SNR=52							
H23A				↓S		Sg	18 04 44.7	+1.2
	baz=0.8							
I22A	**9 Mile Ranch,**	**0.86**	**280**	P		**Pg**	**18 04 34.0**	**+0.3**
	baz=0.9,SNR=444							
I22A				↑S		Sg	18 04 44.9	+0.1
	baz=0.9							
I22A	**9 Mile Ranch,**	**0.86**	**280**	P		**Pg**	**18 04 34.0**	**+0.3**
	baz=0.9,SNR=444							
I22A				↑S		Sg	18 04 44.9	+0.1
	baz=0.9							
J22A	**Midwest**	**0.91**	**249**	P		**Pg**	**18 04 34.4**	**-0.3**
	baz=1.0,SNR=136							
J22A	**Midwest**	**0.91**	**249**	P		**Pg**	**18 04 34.4**	**-0.3**
	baz=1.0,SNR=136							
RSSD	**Black Hills**	**1.00**	**67**	*e*P		**Pg**	**18 04 35.6**	**-0.7**
K23A	**Bowen Ranch, D**	**1.02**	**193**	↑P		**Pg**	**18 04 36.1**	**-0.6**
	baz=1.1,SNR=15							
K23A	**Bowen Ranch, D**	**1.02**	**193**	↑P		**Pg**	**18 04 36.1**	**-0.6**
	baz=1.1,SNR=15							
K24A	**Anderson Ranch**	**1.09**	**160**	P		**Pg**	**18 04 37.5**	**-0.5**
	baz=1.1,SNR=221							
K24A	**Anderson Ranch**	**1.09**	**160**	P		**Pg**	**18 04 37.5**	**-0.5**
	baz=1.1,SNR=221							
H22A	**Clearmont**	**1.13**	**319**	↑P		**Pg**	**18 04 38.8**	**-0.1**
	baz=1.2,SNR=79							
H22A	**Clearmont**	**1.13**	**319**	↑P		**Pg**	**18 04 38.8**	**-0.1**
	baz=1.2,SNR=79							
H24A	**Dirks Ranch, A**	**1.14**	**28**	↑P		**Pg**	**18 04 38.3**	**-0.8**
	baz=1.1							
H24A	**Dirks Ranch, A**	**1.14**	**28**	↑P		**Pg**	**18 04 38.3**	**-0.8**
	baz=1.1							
J25A	**Sunshine Ranch**	**1.15**	**107**	↑P		**Pg**	**18 04 38.8**	**-0.5**
	baz=1.1,SNR=171							
J25A	**Sunshine Ranch**	**1.15**	**107**	↑P		**Pg**	**18 04 38.8**	**-0.5**
	baz=1.1,SNR=171							
I25A	**Rochford**	**1.18**	**76**	P		**Pg**	**18 04 39.0**	**-0.7**
	baz=1.1,SNR=128							
I25A	**Rochford**	**1.18**	**76**	P		**Pg**	**18 04 39.0**	**-0.7**
	baz=1.1,SNR=128							
K22A	**Casper**	**1.41**	**219**	P		**Pn**	**18 04 43.3**	**-1.0**
	baz=1.5,SNR=231							
K22A	**Casper**	**1.41**	**219**	P		**Pn**	**18 04 43.3**	**-1.0**
	baz=1.5,SNR=231							
I21A	**Big Trails, Te**	**1.44**	**273**	↑P		**Pn**	**18 04 43.0**	**-1.7**
	baz=1.5,SNR=289							
I21A	**Big Trails, Te**	**1.44**	**273**	↑P		**Pn**	**18 04 43.0**	**-1.7**
	baz=1.5,SNR=289							
G23A	**Biddle**	**1.46**	**358**	P		**Pn**	**18 04 44.2**	**-0.7**
	baz=1.4,SNR=306							
G23A	**Biddle**	**1.46**	**358**	P		**Pn**	**18 04 44.2**	**-0.7**
	baz=1.4,SNR=306							
H25A	**Fruitdale**	**1.51**	**54**	↑P		**Pn**	**18 04 45.2**	**-0.4**
	baz=1.4,SNR=80							
H25A				↑S		Sn	18 05 07.3	+1.2
	baz=1.4							
H25A	**Fruitdale**	**1.51**	**54**	↑P		**Pn**	**18 04 45.2**	**-0.4**
	baz=1.4,SNR=80							
H25A				↑S		Sn	18 05 07.3	+1.2
	baz=1.4							
H21A	**Big Horn, Sher**	**1.52**	**306**	P		**Pn**	**18 04 45.9**	**0.0**
	baz=1.6							
H21A	**Big Horn, Sher**	**1.52**	**306**	P		**Pn**	**18 04 45.9**	**0.0**
	baz=1.6							
K25A	**Mack Ranch, Ha**	**1.55**	**137**	↑P		**Pn**	**18 04 46.4**	**+0.2**
	baz=1.5,SNR=117							
K25A				↓S		Sg	18 05 07.9	+0.9
	baz=1.5							
K25A	**Mack Ranch, Ha**	**1.55**	**137**	↑P		**Pn**	**18 04 46.4**	**+0.2**
	baz=1.5,SNR=117							
K25A				↓S		Sg	18 05 07.9	+0.9
	baz=1.5							
J21A	**Lysite**	**1.60**	**256**	P		**Pn**	**18 04 46.2**	**-0.7**
	baz=1.7,SNR=204							
J21A				↑S		Sn	18 05 08.6	+0.1
	baz=1.7							
J21A	**Lysite**	**1.60**	**256**	P		**Pn**	**18 04 46.2**	**-0.7**
	baz=1.7,SNR=204							
J21A				↑S		Sn	18 05 08.6	+0.1
	baz=1.7							
G22A	**Birney**	**1.63**	**335**	↓P		**Pn**	**18 04 47.6**	**+0.3**
	baz=1.6,SNR=97							
G22A	**Birney**	**1.63**	**335**	↓P		**Pn**	**18 04 47.6**	**+0.3**
	baz=1.6,SNR=97							
L23A	**Garrett**	**1.66**	**190**	↑P		**Pn**	**18 04 47.4**	**-0.4**
	baz=1.7,SNR=877							
L23A				↓Sb		Sg	18 05 11.1	+0.7
	baz=1.7							
L23A	**Garrett**	**1.66**	**190**	↑P		**Pn**	**18 04 47.4**	**-0.4**
	baz=1.7,SNR=877							
L23A				↓Sb		Sg	18 05 11.1	+0.7
	baz=1.7							
G24A	**Alzada**	**1.71**	**22**	↓P		**Pn**	**18 04 48.6**	**+0.2**
	baz=1.6,SNR=178							
G24A	**Alzada**	**1.71**	**22**	↓P		**Pn**	**18 04 48.6**	**+0.2**
	baz=1.6,SNR=178							
L24A	**Wheatland**	**1.73**	**171**	↓P		**Pn**	**18 04 48.7**	**0.0**
	baz=1.8,SNR=43							
L24A	**Wheatland**	**1.73**	**171**	↓P		**Pn**	**18 04 48.7**	**0.0**
	baz=1.8,SNR=43							
I26A	**New Underwood**	**1.80**	**80**	↑P		**Pn**	**18 04 50.0**	**+0.5**
	baz=1.7							
I26A	**New Underwood**	**1.80**	**80**	↑P		**Pn**	**18 04 50.0**	**+0.5**
	baz=1.7							
K21A	**Alcova**	**1.80**	**233**	↑P		**Pn**	**18 04 50.1**	**+0.3**
	baz=1.9,SNR=356							
K21A				↓Sb		Sb	18 05 15.4	+1.0
	baz=1.9							
K21A	**Alcova**	**1.80**	**233**	↑P		**Pn**	**18 04 50.1**	**+0.3**
	baz=1.9,SNR=356							
K21A				↓Sb		Sb	18 05 15.4	+1.0
	baz=1.9							
L25A	**Engebretsen Ra**	**1.87**	**148**	↓Pb		**Pn**	**18 04 51.8**	**+1.1**
	baz=1.9,SNR=227							
L25A				↓Sb		Sg	18 05 17.6	+0.2
	baz=1.9							
L25A	**Engebretsen Ra**	**1.87**	**148**	↓Pb		**Pn**	**18 04 51.8**	**+1.1**
	baz=1.9,SNR=227							
L25A				↓Sb		Sg	18 05 17.6	+0.2
	baz=1.9							
K26A	**Motz Farm, Whi**	**1.88**	**123**	↑P		**Pn**	**18 04 50.9**	**+0.2**
	baz=1.8,SNR=31							
K26A	**Motz Farm, Whi**	**1.88**	**123**	↑P		**Pn**	**18 04 50.9**	**+0.2**
	baz=1.8,SNR=31							
L22A	**Ellis Ranch, M**	**1.90**	**206**	↑P		**Pn**	**18 04 51.2**	**+0.1**
	baz=2.0,SNR=310							
L22A				↑Sb		Sb	18 05 18.3	+1.0
	baz=2.0							
L22A	**Ellis Ranch, M**	**1.90**	**206**	↑P		**Pn**	**18 04 51.2**	**+0.1**
	baz=2.0,SNR=310							
L22A				↑Sb		Sb	18 05 18.3	+1.0
	baz=2.0							
F23A	**Volborg**	**1.98**	**358**	P		**Pn**	**18 04 52.4**	**+0.3**
	baz=1.9,SNR=220							
F23A	**Volborg**	**1.98**	**358**	P		**Pn**	**18 04 52.4**	**+0.3**
	baz=1.9,SNR=220							
G25A	**Newell**	**1.98**	**42**	↓P		**Pn**	**18 04 53.0**	**+0.8**
	baz=1.9,SNR=132							
G25A				↑Sb		Sg	18 05 21.3	+0.3
	baz=1.9							
G25A	**Newell**	**1.98**	**42**	↓P		**Pn**	**18 04 53.0**	**+0.8**
	baz=1.9,SNR=132							
G25A				↑Sb		Sg	18 05 21.3	+0.3
	baz=1.9							
G21A	**Lodge Grass**	**2.01**	**318**	↑P		**Pn**	**18 04 52.8**	**+0.3**
	baz=2.0,SNR=86							
G21A	**Lodge Grass**	**2.01**	**318**	↑P		**Pn**	**18 04 52.8**	**+0.3**
	baz=2.0,SNR=86							
H26A	**Fairpoint**	**2.02**	**64**	↑P		**Pb**	**18 04 54.0**	**-1.0**
	baz=1.9,SNR=98							
H26A	**Fairpoint**	**2.02**	**64**	↑P		**Pb**	**18 04 54.0**	**-1.0**
	baz=1.9,SNR=98							
I20A	**Worland**	**2.05**	**277**	↓P		**Pn**	**18 04 53.7**	**+0.7**
	baz=2.1,SNR=156							
I20A	**Worland**	**2.05**	**277**	↓P		**Pn**	**18 04 53.7**	**+0.7**
	baz=2.1,SNR=156							
J20A	**Shoshoni**	**2.05**	**260**	↑Pb		**Pb**	**18 04 55.0**	**-0.5**
	baz=2.1							
J20A				↑Sb		Sb	18 05 23.0	+1.4
	baz=2.1							
J20A	**Shoshoni**	**2.05**	**260**	↑Pb		**Pb**	**18 04 55.0**	**-0.5**
	baz=2.1							
J20A				↑Sb		Sb	18 05 23.0	+1.4
	baz=2.1							
H20A	**Greybull**	**2.07**	**292**	↓P		**Pn**	**18 04 53.5**	**+0.1**
	baz=2.1,SNR=56							
H20A	**Greybull**	**2.07**	**292**	↓P		**Pn**	**18 04 53.5**	**+0.1**
	baz=2.1,SNR=56							
F22A	**Rosebud**	**2.14**	**342**	↑P		**Pn**	**18 04 54.0**	**-0.3**
	baz=2.1,SNR=398							
F22A	**Rosebud**	**2.14**	**342**	↑P		**Pn**	**18 04 54.0**	**-0.3**
	baz=2.1,SNR=398							
M24A	**Cheyenne**	**2.31**	**171**	↓P		**Pn**	**18 04 57.7**	**+1.1**
	baz=2.3							
M24A	**Cheyenne**	**2.31**	**171**	↓P		**Pn**	**18 04 57.7**	**+1.1**
	baz=2.3							
L21A	**Rawlins**	**2.34**	**221**	↑P		**Pn**	**18 04 57.9**	**+0.8**
	baz=2.4,SNR=96							
L21A	**Rawlins**	**2.34**	**221**	↑P		**Pn**	**18 04 57.9**	**+0.8**
	baz=2.4,SNR=96							
F21A	**Absaloka Mine,**	**2.44**	**329**	↑P		**Pn**	**18 04 57.7**	**-0.7**
	baz=2.4,SNR=23							
F21A	**Absaloka Mine,**	**2.44**	**329**	↑P		**Pn**	**18 04 57.7**	**-0.7**
	baz=2.4,SNR=23							
PHWY	**Hot Hill**	**2.44**	**183**	*e*P		**Pn**	**18 04 58.8**	**+0.2**
K20A	**Yellowstone Ra**	**2.47**	**245**	↑Sb		**Sb**	**18 05 34.6**	**+1.1**
	baz=2.6							
K20A	**Yellowstone Ra**	**2.47**	**245**	↑Sb		**Sb**	**18 05 34.6**	**+1.1**
	baz=2.6							
K27A	**Flueckinger Fa**	**2.48**	**114**	↑S		**Sn**	**18 05 31.1**	**+1.2**
	baz=2.4							
K27A	**Flueckinger Fa**	**2.48**	**114**

PDAR	Pinedale Array	3.25	254	Pn	Pn	18 05 10.7	+1.0		
	6.4nm,0.3s,baz=72,slow=16,SNR=53								
PDAR				Lg	Lg	18 05 55.3			
	15nm,0.3s,baz=73,slow=34,SNR=9.7								
PDAR				LR	LR	18 06 21.7			
	comp=Z,342nm,21.6s,baz=184,slow=40								
H18A	Shoshone NF, C	3.26	288	⇓P	Pn	18 05 09.8	-0.1		
	baz=3.3,SNR=18								
H18A	Shoshone NF, C	3.26	288	⇓P	Pn	18 05 09.8	-0.1		
	baz=3.3,SNR=18								
N26A	Koester Ranch,	3.30	151	⇓P	Pn	18 05 10.5	+0.2		
	baz=3.3								
N26A	Koester Ranch,	3.30	151	⇓P	Pn	18 05 10.5	+0.2		
	baz=3.3								
F19A	Roth Farm, Mol	3.33	310	⇓P	Pn	18 05 11.1	+0.4		
	baz=3.4,SNR=84								
F19A				⇓S	Sn	18 05 51.9	+0.8		
	baz=3.4								
F19A	Roth Farm, Mol	3.33	310	⇓P	Pn	18 05 11.1	+0.4		
	baz=3.4,SNR=84								
F19A				⇓S	Sn	18 05 51.9	+0.8		
	baz=3.4								
E26A	Carlson Angus	3.39	36	⇑P	Pn	18 05 12.0	+0.6		
	baz=3.3								
E26A	Carlson Angus	3.39	36	⇑P	Pn	18 05 12.0	+0.6		
	baz=3.3								
E20A	Meyer Farm, Mu	3.40	325	⇓P	Pn	18 05 10.7	-1.0		
	baz=3.4								
E20A	Meyer Farm, Mu	3.40	325	⇓P	Pn	18 05 10.7	-1.0		
	baz=3.4								
G28A	Parade	3.42	66	⇑Pb	Pb	18 05 18.5	-0.2		
	baz=3.3								
G28A	Parade	3.42	66	⇑Pb	Pb	18 05 18.5	-0.2		
	baz=3.3								
G18A	Lazy EL Ranch,	3.42	299	⇑P	Pn	18 05 12.3	+0.3		
	baz=3.5,SNR=39								
G18A				⇑S	Sn	18 05 53.9	+0.6		
	baz=3.5								
G18A	Lazy EL Ranch,	3.42	299	⇑P	Pn	18 05 12.3	+0.3		
	baz=3.5,SNR=39								
G18A				⇑S	Sn	18 05 53.9	+0.6		
	baz=3.5								
D23A	Lindsay	3.43	1	⇓P	Pn	18 05 12.4	+0.4		
	baz=3.4,SNR=41								
D23A	Lindsay	3.43	1	⇓P	Pn	18 05 12.4	+0.4		
	baz=3.4,SNR=41								
D22A	Cohagen	3.46	350	⇓P	Pn	18 05 12.4	0.0		
	baz=3.4								
D22A	Cohagen	3.46	350	⇓P	Pn	18 05 12.4	0.0		
	baz=3.4								
D21A	La Casta Ranch	3.52	341	⇑P	Pn	18 05 13.3	0.0		
	baz=3.5								
D21A	La Casta Ranch	3.52	341	⇑P	Pn	18 05 13.3	0.0		
	baz=3.5								
E19A	Rath Farm, Rou	3.66	319	⇓P	Pn	18 05 14.8	-0.4		
	baz=3.7,SNR=52								
E19A				⇓S	Sn	18 05 59.9	+0.8		
	baz=3.7								
E19A	Rath Farm, Rou	3.66	319	⇓P	Pn	18 05 14.8	-0.4		
	baz=3.7,SNR=52								
E19A				⇓S	Sn	18 05 59.9	+0.8		
	baz=3.7								
O22A	Kremmling	3.70	195	⇓Sb	Sb	18 06 11.7	+2.6		
	baz=3.8								
O22A	Kremmling	3.70	195	⇓Sb	Sb	18 06 11.7	+2.6		
	baz=3.8								
OGNE	Ogallala	3.71	138	eP	Pn	18 05 16.3	+0.4		
GCMT	Greycliff	3.71	305	eP	Pn	18 05 16.2	+0.2		
M28A	Bar X Bar Ranc	3.74	128	⇓P	Pn	18 05 16.8	+0.5		
	baz=3.7,SNR=7.8								
M28A	Bar X Bar Ranc	3.74	128	⇓P	Pn	18 05 16.8	+0.5		
	baz=3.7,SNR=7.8								
LKWY	Lake	3.75	284	eP	Pn	18 05 18.3	+1.7		
F18A	Big Timber	3.80	306	⇓P	Pn	18 05 17.8	+0.6		
	baz=3.8,SNR=43								
F18A	Big Timber	3.80	306	⇓P	Pn	18 05 17.8	+0.6		
	baz=3.8,SNR=43								
C24A	Savage	3.83	9	⇓P	Pn	18 05 18.4	+0.8		
	baz=3.8,SNR=22								
C24A	Savage	3.83	9	⇓P	Pn	18 05 18.4	+0.8		
	baz=3.8,SNR=22								
LOHW	Long Hollow	3.84	270	eP	Pn	18 05 19.1	+1.3		
D20A	Manuel Ranch,	3.89	330	⇑P	Pn	18 05 17.9	-0.4		
	baz=3.9,SNR=30								
D20A	Manuel Ranch,	3.89	330	⇑P	Pn	18 05 17.9	-0.4		
	baz=3.9,SNR=30								
MOOW	Moose Ponds	3.94	272	eP	Pn	18 05 20.7	+1.6		
ISCO	Idaho Springs	3.95	183	eP	Pn	18 05 16.9	-2.5		
SNOW	Snow King Moun	3.96	268	eP	Pn	18 05 20.2	+0.7		
C22A	Vida	4.02	354	⇓P	Pn	18 05 21.0	+0.9		
	baz=4.0,SNR=13								
C22A	Vida	4.02	354	⇓P	Pn	18 05 21.0	+0.9		
	baz=4.0,SNR=13								
YFT	Old Faithful	4.04	282	P	Pn	18 05 24.1	+3.6		
REDW	Red Top Meadow	4.04	266	eP	Pn	18 05 21.8	+1.2		
C23A	Lambert	4.06	1	⇑P	Pn	18 05 21.2	+0.6		
	baz=4.0,SNR=20								
C23A	Lambert	4.06	1	⇑P	Pn	18 05 21.2	+0.6		
	baz=4.0,SNR=20								
IMW	Indian Meadow	4.07	274	eP	Pn	18 05 21.2	+0.1		
TPAW	Teton Pass	4.10	268	eP	Pn	18 05 22.8	+1.4		
O27A	Beecher Island	4.13	148	⇓P	Pn	18 05 22.1	+0.4		
	baz=4.1,SNR=5.2								
O27A	Beecher Island	4.13	148	⇓P	Pn	18 05 22.1	+0.4		
	baz=4.1,SNR=5.2								
O20A	White River Ci	4.22	212	⇓P	Pn	18 05 23.9	+0.9		
	baz=4.3								
O20A	White River Ci	4.22	212	⇓P	Pn	18 05 23.9	+0.9		
	baz=4.3								
C25A	Freed Ranch, W	4.22	19	⇓P	Pn	18 05 23.8	+0.9		
	baz=4.2,SNR=15								
C25A	Freed Ranch, W	4.22	19	⇓P	Pn	18 05 23.8	+0.9		
	baz=4.2,SNR=15								
E18A	Harlowton	4.31	313	⇑P	Pn	18 05 24.6	+0.5		
	baz=4.3,SNR=24								
E18A	Harlowton	4.31	313	⇑P	Pn	18 05 24.6	+0.5		
	baz=4.3,SNR=24								
P25A	Willow Gulch B	4.32	168	⇓P	Pn	18 05 24.9	+0.6		
	baz=4.3								
P25A	Willow Gulch B	4.32	168	⇓P	Pn	18 05 24.9	+0.6		
	baz=4.3								
AHID	Auburn Hatcher	4.34	259	eP	Pn	18 05 25.1	+0.4		
H16A	Russell Place,	4.37	285	⇑P	Pn	18 05 25.4	+0.3		
	baz=4.4								
H16A	Russell Place,	4.37	285	⇑P	Pn	18 05 25.4	+0.3		
	baz=4.4								
F17A	Fitzpatrick Pl	4.37	301	⇓P	Pn	18 05 26.0	+0.9		
	baz=4.4,SNR=20								
F17A	Fitzpatrick Pl	4.37	301	⇓P	Pn	18 05 26.0	+0.9		
	baz=4.4,SNR=20								
RRI2	Red Ridge	4.38	267	eP	Pn	18 05 25.7	+0.4		
P23A	Jefferson	4.39	185	⇑P	Pn	18 05 26.3	+0.9		
	baz=4.4								
P23A	Jefferson	4.39	185	⇑P	Pn	18 05 26.3	+0.9		
	baz=4.4								
C20A	Veseth Ranch,	4.39	336	⇓P	Pn	18 05 25.4	+0.2		
	baz=4.4								
C20A	Veseth Ranch,	4.39	336	⇓P	Pn	18 05 25.4	+0.2		
	baz=4.4								
P26A	Davis Ranch, A	4.43	160	⇓P	Pn	18 05 26.3	+0.5		
	baz=4.5								
P26A	Davis Ranch, A	4.43	160	⇓P	Pn	18 05 26.3	+0.5		
	baz=4.5								
O19A	Miners Draw (B	4.46	221	⇑P	Pn	18 05 26.7	+0.4		
	baz=4.5								
O19A	Miners Draw (B	4.46	221	⇑P	Pn	18 05 26.7	+0.4		
	baz=4.5								
O28A	Krutsinger Ran	4.48	143	⇓P	Pn	18 05 26.6	+0.2		
	baz=4.5								
O28A	Krutsinger Ran	4.48	143	⇓P	Pn	18 05 26.6	+0.2		
	baz=4.5								
QLMT	Earthquake Lak	4.52	286	P	Pn	18 05 26.4	-0.7		
P27A	Ficken Ranch,	4.66	153	⇑P	Pn	18 05 29.1	+0.2		
	baz=4.7								
P27A	Ficken Ranch,	4.66	153	⇑P	Pn	18 05 29.1	+0.2		
	baz=4.7								
D18A	Linhart Farms,	4.68	319	⇓P	Pn	18 05 29.6	+0.5		
	baz=4.7								
D18A	Linhart Farms,	4.68	319	⇓P	Pn	18 05 29.6	+0.5		
	baz=4.7								
B23A	Brockton	4.72	3	⇑P	Pn	18 05 30.5	+0.7		
	baz=4.7								
B23A	Brockton	4.72	3	⇑P	Pn	18 05 30.5	+0.7		
	baz=4.7								
SMCO	Snowmass	4.73	196	eP	Pn	18 05 31.2	+1.0		
C19A	Slack Wire Ran	4.77	328	⇑P	Pn	18 05 30.6	+0.2		
	baz=4.8								
C19A	Slack Wire Ran	4.77	328	⇑P	Pn	18 05 30.6	+0.2		
	baz=4.8								
E17A	Martinsdale	4.77	307	⇑P	Pn	18 05 31.1	+0.6		
	baz=4.8,SNR=21								
E17A	Martinsdale	4.77	307	⇑P	Pn	18 05 31.1	+0.6		
	baz=4.8,SNR=21								
C27A	Sayler Ranch,	4.78	33	⇓P	Pn	18 05 30.6	+0.1		
	baz=4.7								
C27A	Sayler Ranch,	4.78	33	⇓P	Pn	18 05 30.6	+0.1		
	baz=4.7								
DGMT	Dagmar	4.79	9	⇓P	Pn	18 05 31.0	+0.4		
	baz=4.7								
DGMT	Dagmar	4.79	9	⇓P	Pn	18 05 31.0	+0.4		
	baz=4.7								
B21A	Ellsworth Farm	4.83	346	⇓P	Pn	18 05 31.2	0.0		
	baz=4.8								
B21A	Ellsworth Farm	4.83	346	⇓P	Pn	18 05 31.2	0.0		
	baz=4.8								
BOZ	Bozeman (W)	4.89	295	eP	Pn	18 05 31.9	-0.2		
Q25A	Bedland, Calha	4.89	170	⇓P	Pn	18 05 32.5	+0.2		
	baz=4.9								
Q25A	Bedland, Calha	4.89	170	⇓P	Pn	18 05 32.5	+0.2		
	baz=4.9								
P28A	Saint Francis	4.95	146	⇓P	Pn	18 05 32.9	0.0		
	baz=4.9,SNR=12								
P28A	Saint Francis	4.95	146	⇓P	Pn	18 05 32.9	0.0		
	baz=4.9,SNR=12								
Q26A	Hugo	5.00	164	⇑P	Pn	18 05 33.9	+0.2		
	baz=5.0,SNR=5.6								
Q26A	Hugo	5.00	164	⇑P	Pn	18 05 33.9	+0.2		
	baz=5.0,SNR=5.6								
HWUT	Hardware Ranch	5.08	247	eP	Pn	18 05 35.2	+0.4		
	14nm,0.4s								
D17A	Six Diamond Ra	5.09	314	⇓P	Pn	18 05 34.7	-0.1		
	baz=5.1,SNR=46								
D17A	Six Diamond Ra	5.09	314	⇓P	Pn	18 05 34.7	-0.1		
	baz=5.1,SNR=46								
KSCO	Kaye Shedlock'	5.14	156	⇓P	Pn	18 05 35.8	+0.2		
	baz=5.2								
KSCO	Kaye Shedlock'	5.14	156	⇓P	Pn	18 05 35.8	+0.2		
	baz=5.2								
A23A	Redstone	5.22	3	⇑P	Pn	18 05 37.3	+0.7		
	baz=5.2								
A23A	Redstone	5.22	3	⇑P	Pn	18 05 37.3	+0.7		
	baz=5.2								
A22A	Carney Farms,	5.26	356	⇑P	Pn	18 05 37.3	+0.1		
	baz=5.2								
A22A	Carney Farms,	5.26	356	⇑P	Pn	18 05 37.3	+0.1		
	baz=5.2								
P29A	Atwood	5.28	140	⇑P	Pn	18 05 37.4	0.0		
	baz=5.3								
P29A	Atwood	5.28	140	⇑P	Pn	18 05 37.4	0.0		
	baz=5.3								
EGMT	Eagleton	5.28	326	eP	Pn	18 05 36.8	-0.6		
	29nm,0.5s								
EGMT	Eagleton	5.28	326	⇓P	Pn	18 05 37.1	-0.3		
	baz=5.3,SNR=6.6								
EGMT	Eagleton	5.28	326	⇓P	Pn	18 05 37.1	-0.3		
	baz=5.3,SNR=6.6								
Q28A	Sharon Springs	5.36	150	⇑P	Pn	18 05 38.3	-0.2		
	baz=5.4								
Q28A	Sharon Springs	5.36	150	⇑P	Pn	18 05 38.3	-0.2		
	baz=5.4								
C17A	Wharram Farm,	5.45	317	⇓P	Pn	18 05 39.1	-0.6		
	baz=5.5,SNR=12								
C17A	Wharram Farm,	5.45	317	⇓P	Pn	18 05 39.1	-0.6		
	baz=5.5,SNR=12								
DLMT	Dillon	5.45	290	eP	Pn	18 05 40.9	+1.1		
	5.7nm,0.4s								
HRY	Holter Researc	5.47	305	eP	Pn	18 05 40.7	+0.5		
	373nm,0.6s								
LRM	Limekiln Ridge	5.49	295	eP	Pn	18 05 40.3	-0.2		
	31nm,0.4s								
R24A	Sanders Place,	5.51	178	⇑P	Pn	18 05 41.4	+0.7		
	baz=5.6								
R24A	Sanders Place,	5.51	178	⇑P	Pn	18 05 41.4	+0.7		
	baz=5.6								
MCMT	McKenzie Canyo	5.52	284	eP	Pn	18 05 44.2	+3.4		
	3.2nm,0.4s								
DAU	Daniels Canyon	5.54	235	eP	Pn	18 05 41.6	+0.5		
	11nm,0.4s								
JLU	Jordanelle	5.54	238	eP	Pn	18 05 41.9	+0.8		
	12nm,0.5s								
R26A	Arlington	5.62	165	⇓P	Pn	18 05 42.0	-0.2		
	baz=5.6,SNR=26								
R26A	Arlington	5.62	165	⇓P	Pn	18 05 42.0	-0.2		
	baz=5.6,SNR=26								
A26A	Wade Farm, Ken	5.63	23	⇓P	Pn	18 05 41.9	-0.3		
	baz=5.6								
A26A	Wade Farm, Ken	5.63	23	⇓P	Pn	18 05 41.9	-0.3		
	baz=5.6								
R25A	Fountain Ranch	5.65	172	⇓P	Pn	18 05 42.5	0.0		
	baz=5.7								
R25A	Fountain Ranch	5.65	172	⇓P	Pn	18 05 42.5	0.0		
	baz=5.7								
MDND	Maddock	5.72	42	⇑P	Pn	18 05 42.6	-0.8		
	baz=5.6								
MDND	Maddock	5.72	42	⇑P	Pn	18 05 42.6	-0.8		
	baz=5.6								
R27A	Eads	5.78	160	⇓P	Pn	18 05 44.3	0.0		
	baz=5.8,SNR=7.3								
R27A	Eads	5.78	160	⇓P	Pn	18 05 44.3	0.0		
	baz=5.8,SNR=7.3								
HVU	Hansel Valley	5.83	253	eP	Pn	18 05 45.8	+0.7		
	6.4nm,0.5s								
B17A	L&G Farms, Che	5.94	322	⇑P	Pn	18 05 46.2	-0.2		
	baz=5.9								
B17A	L&G Farms, Che	5.94	322	⇑P	Pn	18 05 46.2	-0.2		
	baz=5.9								
PV04	Paradox Valley	6.00	208	eP	Pn	18 05 48.0	+0.6		
SDCO	Great Sand Dun	6.00	181	eP	Pn	18 05 48.7	+1.2		
	1.1nm,0.5s								
R28A	Tribune	6.01	153	⇑P	Pn	18 05 46.9	-0.6		
	baz=6.0,SNR=11								
R28A	Tribune	6.01	153	⇑P	Pn	18 05 46.9	-0.6		
	baz=6.0,SNR=11								
C16A	Fuhringer Ranc	6.06	314	⇑P	Pn	18 05 47.5	-0.6		
	baz=6.1,SNR=5.3								
C16A	Fuhringer Ranc	6.06	314	⇑P	Pn	18 05 47.5	-0.6		
	baz=6.1,SNR=5.3								
SRU	San Rafael	6.06	222	eP	Pn	18 05 47.4	-0.9		
	16nm,0.6s								
PV01	Paradox Valley	6.12	205	eP	Pn	18 05 50.5	+1.4		
	430nm,0.6s								
R29A	Marienthal	6.18	148	⇓P	Pn	18 05 49.0	-0.8		
	baz=6.2								
R29A	Marienthal	6.18	148	⇓P	Pn	18 05 49.0	-0.8		
	baz=6.2								
TMUT	Trail Mountain	6.27	227	eP	Pn	18 05 52.5	+1.2		
	12nm,0.4s								
S26A	Kim	6.28	167	⇓P	Pn	18 05 50.8	-0.4		
	baz=6.3								
S26A	Kim	6.28	167	⇓P	Pn	18 05 50.8	-0.4		
	baz=6.3								
ECSD	EROS Data Cent	6.30	87	eP	Pn	18 05 51.1	-0.3		
	7.5nm,0.5s								
NLU	North Lily Min	6.31	235	eP	Pn	18 05 52.0	+0.3		
BGU	Big Grassy Mou	6.38	246	eP	Pn	18 05 52.8	+0.3		
A17A	Triple J Farms	6.40	326	⇑P	Pn	18 05 52.2	-0.5		
	baz=6.4								
A17A	Triple J Farms	6.40	326	⇑P	Pn	18 05 52.2	-0.5		
	baz=6.4								
CHMT	Chamberlain Mo	6.43	302	eP	Pn	18 05 53.6	+0.2		
	2.6nm,0.4s								
B16A	M & M Farms, S	6.45	319	⇑P	Pn	18 05 53.0	-0.4		
	baz=6.5,SNR=8.6								
B16A	M & M Farms, S	6.45	319	⇑P	Pn	18 05 53.0	-0.4		
	baz=6.5,SNR=8.6								
C15A	Salmond Ranch,	6.50	311	⇓P	Pn	18 05 53.3	-0.9		
	baz=6.5								
C15A	Salmond Ranch,	6.50	311	⇓P	Pn	18 05 53.3	-0.9		
	baz=6.5								
HLID	Hailey	6.61	272	eP	Pn	18 05 58.0	+2.2		
	1.9nm,0.5s								
DUG	Dugway	6.62	240	eP	Pn	18 05 55.9	+0.1		
	4.0nm,0.4s								
DUG	Dugway	6.62	240	⇑P	Pn	18 05 55.3	-0.6		
	baz=6.7,SNR=11								
DUG	Dugway	6.62	240	⇑P	Pn	18 05 55.3	-0.6		
	baz=6.7,SNR=11								
SLMT	Seeley Lake	6.73	304	eP	Pn	18 05 57.3	-0.1		
	5.2nm,0.5s								
B15A	Bradely Ranch,	6.80	315	⇓P	Pn	18 05 57.4	-0.9		
	baz=6.8,SNR=16								
B15A	Bradely Ranch,	6.80	315	⇓P	Pn	18 05 57.4	-0.9		
	baz=6.8,SNR=16								
T28A	Walsh	7.05	159	⇑P	Pn	18 06 01.3	-0.5		
	baz=7.1								
T28A	Walsh	7.05	159	⇑P	Pn	18 06 01.3	-0.5		
	baz=7.1								
SWMT	Swartz Lake	7.16	305	eP	Pn	18 06 03.3	+0.1		
	3.2nm,0.4s								
A15A	Johnson Ranch,	7.33	318	⇑P	Pn	18 06 04.5	-1.1		
	baz=7.3,SNR=7.2								
A15A	Johnson Ranch,	7.33	318	⇑P	Pn	18 06 04.5	-1.1		
	baz=7.3,SNR=7.2								
MSU	Marysvale	7.36	227	eP	Pn	18 06 07.1	+1.0		
	4.3nm,0.4s								
JTMT	Jette	7.44	306	eP	Pn	18 06 07.7	+0.6		
A14A	Double T Ranch	7.67	316	⇑P	Pn	18 06 09.0	-1.2		
	baz=7.7,SNR=10								
A14A	Double T Ranch	7.67	316	⇑P	Pn	18 06 09.0	-1.2		
	baz=7.7,SNR=10								
U28A	Mallet	7.73	161	⇓P	Pn	18 06 10.4	-0.7		
	baz=7.8,SNR=8.5								
U28A	Mallet	7.73	161	⇓P	Pn	18 06 10.4	-0.7		
	baz=7.8,SNR=8.5								
WALA	Waterton Lakes	7.97	315	eP	Pn	18 06 13.4	-0.9		
	0.1nm,0.5s								
CCUT	Cedar City	8.70	227	eP	Pn	18 06 26.0	+1.5		
	2.3nm,0.6s								
ULM	Lac du Bonnet	9.15	41	Pn	Pn	18 06 28.8	-1.7		
ULM				Pg		18 07 03.9			
ULM				Lg	Lg	18 09 01.6			
ULM	Lac du Bonnet	9.15	41	Pn	Pn	18 06 28.8	-1.7		
	1.7nm,0.3s,baz=229,slow=10,SNR=9.9								
ULM				Pg		18 07 03.9			
	1.8nm,0.3s,baz=221,slow=15,SNR=6.3								
ULM				Lg	Lg	18 09 01.6			
	0.6nm,0.3s,baz=315,slow=20,SNR=2.7								
NVAR	Mina Array Bea	11.15	246	Pn	Pn	18 07 00.5	+2.5		
NVAR	Mina Array Bea	11.15	246	Pn	Pn	18 07 00.5	+2.5		
	0.2nm,0.3s,baz=54,slow=11,SNR=6.1								
FFC	Flin Flon	11.20	10	eP	Pn	18 06 55.6	-2.8		
	3.5nm,0.5s								
TXAR	Lajitas Array	14.44	174	Pn	P	18 07 50.4	+0.3		
TXAR	Lajitas Array	14.44	174	Pn	P	18 07 50.4	+0.3		
	0.0nm,0.3s,baz=349,slow=9.4,SNR=3.7								
KDAK	Kodiak Island	32.30	313	LR	LR	18 24 03.7			
	comp=Z,142nm,19.6s,baz=55,slow=37								
ARCES	ARCESS Array B	61.42	18	P	P	18 14 33.0	-1.7		
ARCES	ARCESS Array B	61.42	18	P	P	18 14 33.0	-1.7		
	2.5nm,1.0s,baz=350,slow=6.2,SNR=5.1								
MKAR	Makanchi Array	89.59	355	P	P	18 17 16.0	-0.5		
MKAR	Makanchi Array	89.59	355	P	P	18 17 16.0	-0.5		
	0.4nm,0.6s,baz=25,slow=5.2,SNR=5.2								

IDC ***29*** *18:09:35.9±1.3,28°.23N×57°.58E,h0km,mb3.7/12, mb1 3.7/13,mb1mx3.6/32,mbtmp3.7/13,ML3.7/1,Error ellipse: s-maj=28.4km s-min=19.6km az=165.0*
ISCJB ***29*** *18:09:37.5±0.5,28°.44N±0°.04×57°.69E±0°.06,h10km, mb3.5/12,Error ellipse: s-maj=8.6km s-min=3.9km az=25.6*
TEH ***29*** *18:09:37.4,28°.32N×57°.89E,h14km,ML3.8*
CSEM ***29*** *18:09:38.7±0.4,28°.31N×57°.74E,h2km,ML3.8,Error ellipse: s-maj=12.1km s-min=5.8km az=109.0*
THR ***29*** *18:09:40.8±0.5,28°.48N×57°.44E,h14km±5km,ML3.8*
ISC 29 18:09:37.7±0.6,28°.34N±0°.04×57°.84E±0°.05,h10km,n52,
σ1§67/56,mb3.6/12,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IBND	Bandar-abas	1.45	233			eSg	Sg	18 10 27.2	+2.9
IBND						ePn	Pg	18 10 05.7	+0.2
IBND						e		18 10 38.5	
	comp=Z,38μm,0.2s								
BNDS	Bandar-Abbas	1.74	238			ePg	Pb	18 10 09.6	-0.3
BNDS						eSg	Sn	18 10 30.3	-0.3
BNDS						AML	AML	18 10 41.1	
	comp=E,2μm,0.4s								
BNDS						AML	AML	18 10 43.8	
	comp=N,1μm,0.4s								
BNDS	Bandar-Abbas	1.74	238			ePg	Pb	18 10 09.6	-0.3
BNDS						eSg	Sn	18 10 30.3	-0.3
KRBR	Kerman	1.89	330			ePg	Pn	18 10 10.4	0.0
KRBR						AML	AML	18 10 36.3	
	comp=E,1μm,0.5s								
KRBR						AML	AML	18 10 44.9	
	comp=N,1μm,0.4s								
KRBR	Kerman	1.89	330			ePg	Pn	18 10 10.4	0.0
BANOM	Banah	2.77	210			P	Pn	18 10 22.9	+0.7
BANOM						S	Sb	18 11 00.0	-1.3
ZHSF	Zahedan	2.87	63			ePn	Pg	18 10 31.8	-1.0
ZHSF	Zahedan	2.87	63			ePn	Pg	18 10 31.8	-1.0
IBAF	Bafgh	3.79	329			ePn	Pn	18 10 39.7	+3.3
IBAF						e		18 11 39.7	
	comp=Z,1μm,0.2s								
IBAF	Bafgh	3.79	329			ePn	Pn	18 10 39.7	+3.3
HATD	Hatta, Dubai	3.81	204			P	Pn	18 10 38.1	+1.5
NA

comp=Z,1.4nm,0.7s,baz=63,slow=7.0,SNR=14
ASAR **Alice Springs** **89.65 117** P **P** **18 22 36.7 +0.5**
comp=Z,0.3nm,1.0s,baz=318,slow=5.1,SNR=3.1

TAP 29 18:28:04.2, 24.26N×121.78E, h14km, ML3.5, 8C-7D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
EHP	**Heping Village** baz=328	**0.07**	**324**	*i* P		Pg	18 28 07.2	+0.1
EHP				*i* S		Sg	18 28 09.3	+0.3
ENA	**Nanau** baz=349	**0.18**	**347**	⇑*i*P		Pg	18 28 08.5	+0.1
ENA				S		Sg	18 28 11.7	+0.4
TWD	**Chiawan** baz=229	**0.24**	**224**	*i* P		Pg	18 28 09.6	+0.1
TWD				S		Sg	18 28 13.6	+0.5
HWA	**Hwalien** baz=218	**0.32**	**211**	*e*P		Pb	18 28 11.7	-0.1
TWC	**Suao** baz=6.0	**0.36**	**10**	⇑*i*P		Pg	18 28 11.6	+0.1
TWC				*i* S		Sg	18 28 16.7	+0.2
NNS	**Nan Shan** baz=296	**0.42**	**296**	⇑*i*P		Pg	18 28 12.9	+0.1
NNS				S		Sg	18 28 18.4	-0.2
ENTT	**Nioudou** baz=332	**0.43**	**333**	⇑*i*P		Pg	18 28 13.2	+0.3
ENTT				S		Sb	18 28 19.4	-0.6
ESF	**Shoufeng Towns** baz=223	**0.46**	**214**	*e*P		Pb	18 28 14.5	+0.4
TWE	**Neicheng** baz=347	**0.47**	**347**	⇑*i*P		Pg	18 28 13.9	+0.3
TWE				*i* S		Sb	18 28 20.7	-0.5
WHF	**Hehuan Shan** baz=258	**0.49**	**257**	⇓*i*P		Pg	18 28 14.0	-0.4
WHF				S		Sg	18 28 20.8	-0.6
ILA	**Ilan** baz=350	**0.51**	**356**	*e*P		Pg	18 28 14.5	+0.2
ILA				S		Sb	18 28 22.6	+0.5
ESL	**Shilin** baz=224	**0.55**	**216**	P		Pg	18 28 14.9	-0.1
TWT	**Tachien** baz=270	**0.56**	**270**	⇓*i*P		Pb	18 28 15.8	-0.1
TWT				S		Sg	18 28 23.0	0.0
NSK	**Sanguang** baz=317	**0.57**	**317**	⇓*i*P		Pg	18 28 15.7	+0.2
NSK				S		Sg	18 28 23.2	-0.1
TWA	**Mucha** baz=346	**0.74**	**346**	*e*P		Pg	18 28 18.4	-0.3
TWB1	**Santiao Chiao** baz=14	**0.77**	**14**	⇑P		Pg	18 28 19.0	-0.3
NSTT	**Nanjuang** baz=298	**0.81**	**298**	⇓*e*P		Pb	18 28 20.1	+0.2
NSTT				*e*S		Sb	18 28 31.1	+0.4
NWF	**Wu-fen Shan** baz=351	**0.81**	**360**	P		Pb	18 28 20.2	0.0
NWF				S		Sb	18 28 31.1	0.0
TAP1	**Taipei** baz=341	**0.81**	**343**	*e*P		Pn	18 28 21.0	-0.2
TAP1				*e*S		Sb	18 28 31.1	+0.1
TAP	**Taipei** baz=341	**0.82**	**342**	*e*P		Pn	18 28 21.4	+0.1
TAP				*e*S		Sb	18 28 31.9	+0.8
EHY	**Hungye** baz=223	**0.86**	**210**	*e*P		Pg	18 28 19.6	-1.3
SMLT	**Sun Moon Lake** baz=240	**0.89**	**246**	⇑P		Pg	18 28 21.7	+0.1
SMLT				*e*S		Sg	18 28 33.9	+0.5
NCU	**National Centr** baz=317	**0.90**	**323**	*e*P		Pn	18 28 22.9	+0.6
NCU				*e*S		Sn	18 28 35.6	+0.5
TWS1	**Kuangyinshan** baz=338	**0.91**	**338**	*e*P		Pg	18 28 22.0	+0.2
TWS1				*e*S		Sn	18 28 36.3	+1.0
TYC	**Yuchr** baz=242	**0.92**	**248**	⇑P		Pg	18 28 22.1	+0.1
TYC				*e*S		Sg	18 28 34.5	+0.6
HSN	**Hsinchu** baz=299	**0.92**	**306**	*e*P		Pg	18 28 22.4	+0.3
TWQ1	**Liyutan** baz=277	**0.93**	**276**	*e*P		Pn	18 28 22.9	+0.1
TWQ1				*e*S		Sn	18 28 37.0	+1.0
NSY	**Sanyi** baz=281	**0.95**	**280**	*e*P		Pn	18 28 23.7	+0.6
NSY				*e*S		Sn	18 28 37.1	+0.7
TWF1	**Yuli** baz=220	**1.00**	**206**	*e*P		Pb	18 28 21.7	-1.7
TCU	**Taichung** baz=265	**1.02**	**264**	⇓*i*P		Pn	18 28 25.1	+1.1
TCU				*e*S		Sn	18 28 41.1	+3.0
TWY	**Chenhua** baz=343	**1.03**	**351**	*e*P		Pn	18 28 24.5	+0.3
TWY				*e*S		Sn	18 28 39.2	+0.8
WNT	**Mingjian** baz=248	**1.07**	**250**	*e*P		Pg	18 28 25.0	0.0
WNT				*e*S		Sn	18 28 41.5	+2.0
YUS	**Yu-Shan** baz=227	**1.08**	**225**	⇓P		Pb	18 28 25.1	-0.1
YOJ	**Yonaguni jima** baz=77	**1.14**	**79**	⇓*e*P		Pn	18 28 25.7	0.0
YOJ				*e*S		Sn	18 28 42.8	+1.7
ALS	**Alishan** baz=233	**1.16**	**231**	P		Pb	18 28 26.6	+0.1
ALS				S		Sg	18 28 43.3	+0.7
CHN5	**Tsauling** baz=240	**1.21**	**237**	*e*P		Pg	18 28 27.7	+0.1
CHN5				S		Sg	18 28 46.1	+2.7
CHKT	**Chengkung** baz=184	**1.21**	**199**	*e*P		Pn	18 28 24.8	-1.9
WGK	**Gukeng** baz=245	**1.25**	**243**	*e*P		Pg	18 28 28.3	-0.1
ELDTW	**Lidau** baz=202	**1.27**	**214**	*e*P		Pn	18 28 26.4	-1.3
PCYT	**Pengchaiyu** baz=8.0	**1.39**	**11**	*e*P		Pn	18 28 29.1	-0.1
CHN4	**Tsaushan** baz=228	**1.42**	**231**	*e*P		Pg	18 28 31.5	0.0
CHN4				*e*S		Sg	18 28 52.1	+2.2
WTCT	**Ta-ch'eng** baz=257	**1.43**	**254**	*e*P		Pg	18 28 31.2	-0.4
STYT	**Tauyuan** baz=224	**1.44**	**221**	*e*P		Pb	18 28 30.6	-0.3
CHY	**Chiayi** baz=229	**1.46**	**239**	*e*P		Pb	18 28 30.7	-0.3
WTP	**Ta-pu** baz=232	**1.47**	**227**	*e*P		Pb	18 28 31.9	+0.5
WTP				*e*S		Sg	18 28 52.3	+0.5
TWK	**Hsinying** baz=234	**1.54**	**231**	*e*P		Pb	18 28 32.4	-0.2
WSF	**Szhu** baz=259	**1.56**	**247**	*e*P		Pb	18 28 32.9	+0.2
WSF				*e*S		Sg	18 28 54.4	0.0
CHN1	**Nanshi** baz=225	**1.57**	**227**	*e*P		Pb	18 28 33.6	+0.5
CHN1				*e*S		Sg	18 28 55.1	+0.2
TWG	**Pinlang** baz=193	**1.57**	**205**	*e*P		Pn	18 28 30.5	-1.2
SGST	**Jiashian** baz=227	**1.61**	**224**	*e*P		Pb	18 28 33.0	-0.6
CHN8	**Yiju** baz=243	**1.70**	**238**	*e*P		Pn	18 28 34.0	+0.6
ECL	**Taimali** baz=196	**1.82**	**205**	*e*P		Pn	18 28 35.2	+0.2
TWM1	**Shoushan** baz=225	**1.90**	**221**	*e*P		Pb	18 28 38.4	-0.3
EAST	**Anshuo** baz=197	**2.05**	**205**	*e*P		Pn	18 28 39.2	+0.8
PNG	**Penghu** baz=256	**2.15**	**252**	*e*P		Pn	18 28 40.0	+0.4
SCZT	**Fangliau** baz=198	**2.16**	**210**	*e*P		Pn	18 28 40.6	+0.9
WDGT	**Dungji** baz=248	**2.18**	**243**	*e*P		Pn	18 28 40.5	+0.4
LAY	**Lan-yu** baz=190	**2.22**	**186**	*e*P		Pn	18 28 38.4	-2.2

TAP 29 18:31:54.3, 22.07N×120.38E, h39km, ML3.5, 4D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
HEN	**Hengchun** baz=101	**0.34**	**100**	⇓*i*P		Pn	18 32 03.5	+0.6
HEN				*i* S		Sn	18 32 11.1	+1.8
SCZT	**Fangliau** baz=38	**0.38**	**36**	⇓*i*P		Pn	18 32 03.9	+0.6
SCZT				*i* S		Sn	18 32 10.8	+0.9
TWK1	**Hengchun** baz=108	**0.41**	**107**	⇓*i*P		Pn	18 32 04.5	+0.7
TWK1				*i* S		Sn	18 32 12.3	+1.7
KAU	**Kaohsiung** baz=345	**0.50**	**353**	*e*P		Pn	18 32 06.4	+1.4
TSEB	**Hengchuen, Pin** baz=111	**0.51**	**109**	*i* P		Pn	18 32 05.3	+0.1
TSEB				*i* S		Sn	18 32 13.7	+0.9
TAW	**Tawu** baz=59	**0.56**	**59**	P		Pn	18 32 06.5	+0.7
TAW				S		Sn	18 32 15.0	+1.0
SGLT	**Jiouru** baz=21	**0.66**	**9**	*e*P		Pn	18 32 07.8	+0.6
SGLT				*e*S		Sn	18 32 20.0	+3.5
ECL	**Taimali** baz=46	**0.75**	**45**	⇓*i*P		Pn	18 32 09.1	+0.7
ECL				*e*S		Sn	18 32 18.8	+0.3
TWM1	**Shoushan** baz=4.0	**0.75**	**3**	*e*P		Pn	18 32 09.5	+1.0
TWM1				*e*S		Sn	18 32 20.1	+1.4
TTN	**Taitung** baz=46	**0.99**	**46**	*e*P		Pn	18 32 13.2	+1.5
TTN				*e*S		Sn	18 32 26.9	+2.5
TWG	**Pinlang** baz=52	**0.99**	**40**	*i* P		Pn	18 32 12.9	+1.3
TWG				S		Sn	18 32 25.1	+0.7
CHN3	**Shinhua** baz=360	**1.00**	**359**	*e*P		Pn	18 32 12.2	+0.3
CHN3				*e*S		Sn	18 32 26.8	+2.0
SGST	**Jiashian** baz=357	**1.03**	**11**	P		Pn	18 32 13.1	+0.9
SGST				*e*S		Sn	18 32 26.8	+1.3
LAY	**Lan-yu** baz=92	**1.09**	**91**	*e*P		Pn	18 32 12.7	-0.3
SCLT	**Jiali** baz=352	**1.11**	**351**	*e*P		Pn	18 32 16.1	+2.6
SCLT				*e*S		Sn	18 32 30.0	+2.5
CHN1	**Nanshi** baz=7.0	**1.12**	**7**	*e*P		Pn	18 32 14.1	+0.5
STYT	**Tauyuan** baz=18	**1.15**	**18**	*e*P		Pn	18 32 14.7	+0.7
STYT				S		Sn	18 32 29.9	+1.4
WTP	**Ta-pu** baz=11	**1.19**	**10**	*e*P		Pn	18 32 15.3	+0.7
WTP				*e*S		Sn	18 32 31.2	+1.6
TWK	**Hsinying** baz=6.0	**1.20**	**5**	*e*P		Pn	18 32 15.7	+1.1
TWK				*e*S		Sn	18 32 30.6	+0.8
ELDTW	**Lidau** baz=28	**1.26**	**28**	*e*P		Pn	18 32 17.0	+1.4
ELDTW				*e*S		Sn	18 32 32.8	+1.3
CHN4	**Tsaushan** baz=9.0	**1.29**	**9**	*e*P		Pn	18 32 16.9	+1.0
CHN4				*e*S		Sn	18 32 33.4	+1.4
WDGT	**Dungji** baz=332	**1.36**	**331**	*e*P		Pn	18 32 17.1	+0.3
WDGT				*e*S		Sn	18 32 33.6	+0.1
CHKT	**Chengkung** baz=51	**1.37**	**41**	*e*P		Pn	18 32 18.2	+1.3
CHKT				*e*S		Sn	18 32 36.0	+2.1
ALS	**Alishan** baz=3.0	**1.49**	**15**	*e*P		Pn	18 32 19.9	+0.9
ALS				*e*S		Sn	18 32 38.5	+1.1
YUS	**Yu-Shan** baz=8.0	**1.51**	**20**	*e*P		Pn	18 32 20.5	+1.0
YUS				*e*S		Sn	18 32 39.3	+0.9
TWF1	**Yuli** baz=22	**1.53**	**33**	P		Pn	18 32 20.9	+1.7
TWF1				S		Sn	18 32 39.9	+1.9
CHN5	**Tsauling** baz=11	**1.55**	**10**	P		Pn	18 32 20.1	+0.6
CHN5				S		Sn	18 32 39.8	+1.4
WSF	**Szhu** baz=355	**1.57**	**355**	*e*P		Pn	18 32 19.8	+0.2
WSF				*e*S		Sn	18 32 39.6	+0.9
WGK	**Gukeng** baz=7.0	**1.62**	**6**	*e*P		Pn	18 32 20.8	+0.4
WGK				*e*S		Sn	18 32 41.6	+1.6
PNG	**Penghu** baz=334	**1.67**	**333**	*e*P		Pn	18 32 20.6	-0.5
PNG				*e*S		Sn	18 32 41.6	+0.3
EHY	**Hungye** baz=22	**1.68**	**31**	*e*P		Pn	18 32 22.9	+1.8
EHY				S		Sn	18 32 43.2	+1.7
WNT	**Mingjian** baz=10.0	**1.82**	**9**	*e*P		Pn	18 32 23.4	+0.2
WNT				*e*S		Sn	18 32 46.6	+1.6
SMLT	**Sun Moon Lake** baz=4.0	**1.87**	**15**	*e*P		Pn	18 32 25.2	+1.3
SMLT				*e*S		Sn	18 32 47.6	+1.2
TYC	**Yuchr** baz=14	**1.88**	**13**	P		Pn	18 32 24.8	+0.8
TYC				S		Sn	18 32 48.6	+2.2
ESL	**Shilin** baz=29	**1.99**	**29**	*e*P		Pn	18 32 26.2	+0.8
ESL				*e*S		Sn	18 32 50.5	+1.3
TCU	**Taichung** baz=8.0	**2.09**	**7**	*e*P		Pn	18 32 27.6	+0.9
TCU				*e*S		Sn	18 32 53.4	+1.8
WHF	**Hehuan Shan** baz=10.0	**2.22**	**21**	*e*P		Pn	18 32 30.3	+1.1
WHF				*e*S		Sn	18 32 56.9	+1.1
TWD	**Chiawan** baz=29	**2.29**	**29**	*e*P		Pn	18 32 31.2	+1.6
TWD				*e*S		Sn	18 32 59.0	+2.3
TWT	**Tachien** baz=9.0	**2.30**	**18**	*e*P		Pn	18 32 31.7	+1.8
TWT				*e*S		Sn	18 32 58.5	+1.4
TWQ1	**Liyutan** baz=10.0	**2.30**	**9**	*e*P		Pn	18 32 31.7	+1.9
TWQ1				*e*S		Sn	18 32 58.3	+1.5
NSY	**Sanyi** baz=9.0	**2.36**	**8**	*e*P		Pn	18 32 31.3	+0.7
NSY				*e*S		Sn	18 33 00.0	+1.6
NNS	**Nan Shan** baz=11	**2.53**	**21**	*e*P		Pn	18 32 34.9	+1.8
NNS				*e*S		Sn	18 33 04.1	+1.3
NSTT	**Nanjuang** baz=13	**2.62**	**13**	*e*P		Pn	18 32 34.5	+0.5
NSTT				*e*S		Sn	18 33 05.9	+1.4
ENA	**Nanau** baz=39	**2.66**	**28**	*e*P		Pn	18 32 37.6	+2.9
ENA				*e*S		Sn	18 33 08.0	+2.2
NSK	**Sanguang** baz=20	**2.75**	**19**	*e*P		Pn	18 32 38.0	+2.0
NSK				*e*S		Sn	18 33 09.2	+1.2
ENTT	**Nioudou** baz=13	**2.78**	**23**	*e*P		Pn	18 32 38.2	+1.8
ENTT				*e*S		Sn	18 33 11.4	+2.6
TWC	**Suao** baz=28	**2.87**	**28**	*e*P		Pn	18 32 37.6	+0.1
TWE	**Neicheng** baz=37	**2.89**	**24**	*e*P		Pn	18 32 39.9	+2.0
TWE				*e*S		Sn	18 33 14.0	+2.6

IDC ***29*** *18:56:48.5±0.8, 2.73S×136.89E, h0km, mb3.8/8, mb1 4.2/11, mb1mx4.0/20, mbtmp4.0/11, ML3.7/3, MS3.8/5, Ms1 3.8/5, ms1mx3.2/27, Error ellipse: s-maj=32.0km s-min=12.1km az=80.0*
ISCJB ***29*** *18:56:52.5±0.6, 2.69S±0.05×136.72E±0.06, h34km, mb3.8/8, MS3.7/4, Error ellipse: s-maj=9.2km s-min=6.6km az=147.4*
AUST ***29*** *18:56:54.4, 2.95S×136.52E, h0km*
ISC 29 18:56:54.4±0.8, 2.79S±0.07×136.68E±0.09, h34km, n24, σ2.38/25, mb3.8/7, MS3.8/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
FAKI	**Fak Fak** baz=4.3,SNR=23	**4.43**	**268**	P		**Pn**	**18 58 00.7**	**+1.4**
SWI	**Sorong** baz=5.7,SNR=12	**5.75**	**289**	P		**Pn**	**18 58 18.9**	**+1.5**
SWI				S		**Sn**	**18 59 22.5**	**+0.4**
MMPI	**Merauke** baz=6.7,SNR=5.0	**6.73**	**147**	P		Pn	18 58 34.6	+3.7
MMPI				S		Sn	18 59 55.1	+8.6
KDU	**Kakadu** baz=10,SNR=30	**10.68**	**203**	P		**Pn**	**18 59 26.5**	**+1.5**
MTN	**Manton Dam** baz=11,SNR=138	**11.39**	**208**	P		**Pn**	**18 59 37.6**	**+2.7**
PMG	**Port Moresby** 0.2nm,0.3s,baz=261,slow=13,SNR=2.5	**12.31**	**123**	Pn		Pn	18 59 42.2	-5.3
COEN	**Coen** baz=13,SNR=22	**12.81**	**150**	P		**Pn**	**18 59 55.9**	**+1.5**
SOEI	**Soe** baz=14,SNR=6.6	**14.14**	**240**	P		**P**	**19 00 17.1**	**-2.6**
KNRA	**Kununurra** baz=15,SNR=43	**14.99**	**211**	P		**Pn**	**19 00 24.6**	**+0.7**
KNRA				S		**Sn**	**19 03 10.3**	**+1.4**
MTSU	**Mount Surprise** baz=15,SNR=6.1	**16.98**	**154**	P		**P**	**19 00 50.9**	**-0.3**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=3.9,slow=13,SNR=4.5	**17.20**	**187**	Pn		Pn	19 00 46.5	-5.7
WRA	0.9nm,0.3s,baz=14,slow=23,SNR=6.1			Sn		**Sn**	**19 03 57.1**	**-5.5**
WRA	comp=Z,790nm,19.4s,baz=10.0,slow=39			LR		LR	19 08 10.3	
FITZ	**Fitzroy Crossi** 0.8nm,0.3s,baz=43,slow=12,SNR=19	**18.67**	**215**	P		**Pn**	**19 01 11.9**	**+1.6**
FITZ	0.3nm,0.3s,baz=148,slow=18,SNR=3.7			S		**Sn**	**19 04 31.6**	**-6.6**
FITZ	**Fitzroy Crossi** baz=18,SNR=19	**18.67**	**215**	P		**Pn**	**19 01 13.4**	**+3.1**
FITZ	baz=18,SNR=3.7			S		**Sn**	**19 04 37.9**	**-0.3**
CTA	**Charters Tower** 0.3nm,0.3s,baz=332,slow=11,SNR=3.8	**19.57**	**152**	P		**Pn**	**19 01 19.5**	**-1.6**
ASAR	**Alice Springs** 23nm,0.9s,baz=11,slow=11,SNR=74	**20.92**	**187**	P		Pn	19 01 35.1	-1.9
ASAR	4.2nm,1.0s,baz=11,slow=27,SNR=5.2			S		**S**	**19 05 27.5**	**+1.6**
ASAR	comp=Z,436nm,19.5s,baz=10.0,slow=38			LR		LR	19 10 16.9	
STKA	**Stephens Creek** 1.0nm,0.5s,baz=350,slow=12,SNR=4.2	**29.30**	**171**	P		**P**	**19 02 54.5**	**+0.7**
KSRS	**Korea Array** 0.2nm,0.3s,baz=153,slow=11,SNR=3.0	**40.86**	**349**	P		**P**	**19 04 31.4**	**-1.7**
KSRS	comp=Z,31nm,18.7s,baz=341,slow=34			LR		LR	19 19 55.6	
CMAR	**Chiang Mai Arr** 0.6nm,0.7s,baz=121,slow=6.8,SNR=3.7	**42.73**	**301**	P		**P**	**19 04 49.5**	**+0.7**
SONM	**Songino Array** 0.3nm,0.6s,baz=145,slow=5.3,SNR=2.5	**56.95**	**336**	P		**P**	**19 06 35.7**	**-0.9**
SONM	comp=Z,62nm,19.2s,baz=34,slow=35			LR		LR	19 30 04.8	
MKAR	**Makanchi Array** 0.6nm,0.5s,baz=108,slow=7.7,SNR=4.8	**68.63**	**323**	P		**P**	**19 07 54.3**	**0.0**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=116,slow=6.6,SNR=3.1	**71.00**	**331**	P		**P**	**19 08 07.5**	**-1.2**
VNDA	**Vanda** 1.5nm,0.7s,baz=313,slow=6.6,SNR=9.4	**75.88**	**175**	P		**P**	**19 08 37.4**	**+0.3**
ARCES	**ARCESS Array B** comp=Z,33nm,18.6s,baz=251,slow=37	**99.92**	**341**	LR		LR	19 58 12.9	
LPAZ	**La Paz** 1.3nm,0.8s,baz=342,slow=0.8,SNR=3.5	**149.01**	**129**	PKPbc		**PKPdf**	**19 16 38.0**	**+1.3**

KRSC 29 19:23:59.6±0.8, 52.61N×160.74E, h11km±10km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.65**	**319**	S		Sb	19 24 21.7	-0.5
NLC	**Nalytchevo**	**1.01**	**304**	*e*P		Pn	19 24 19.9	+0.2
NLC				*e*S		Sn	19 24 34.7	+0.7
UGLR	**Uglovaya**	**1.31**	**298**	*e*P		Pg	19 24 25.0	+0.1
UGLR				*e*S		Sg	19 24 43.3	+1.3
SDLR	**Sedlovina**	**1.31**	**302**	*e*P		Pb	19 24 24.5	+0.2
SDLR				*e*S		Sg	19 24 42.4	+0.4
PET	**Petropavlovsk**	**1.33**	**289**	*e*P		Pb	19 24 24.8	+0.2
PET				*e*S		Sg	19 24 43.0	+0.5
SMAR	**Somma**	**1.34**	**300**	P		Pn	19 24 24.6	0.0
RUS	**Russkaya**	**1.37**	**263**	*e*P		Pn	19 24 24.5	-0.1
RUS				*e*S		Sb	19 24 42.5	-0.3
AVH	**Avacha**	**1.38**	**299**	*e*P		Pg	19 24 26.0	-0.2
AVH				S		Sg	19 24 45.2	+1.0
KRER	**Koryakskii**	**1.39**	**301**	*e*P		Pb	19 24 26.2	+0.3
KOK	**Koryaka**	**1.45**	**299**	*e*P		Pg	19 24 27.5	0.0
KOK				S		Sg	19 24 47.7	+1.4
MTVR	**Mutnovka**	**1.57**	**266**	*e*P		Pn	19 24 27.9	+0.3
MTVR				*e*S		Sn	19 24 48.2	+0.2
KII	**Karymskiy**	**1.62**	**332**	P		Pb	19 24 30.1	+0.4
KII				S		Sg	19 24 52.1	0.0
GRL	**Gorelyy**	**1.63**	**269**	P		Pn	19 24 28.4	0.0
GRL				*e*S		Sn	19 24 49.2	-0.2
ASAK	**Asacha**	**1.75**	**264**	*e*P		Pn	19 24 30.4	+0.4
ASAK				*e*S		Sb	19 24 53.2	-0.7
GNL	**Ganaly**	**2.00**	**304**	*e*P		Pb	19 24 35.8	-0.4
GNL				*e*S		Sb	19 25 02.1	+0.8
MKZ	**Mys Kozlova**	**2.04**	**16**	*e*P		Pn	19 24 33.7	-0.1
MKZ				*e*S		Sn	19 24 58.4	-0.8
APC	**Apacha**	**2.20**	**280**	P		Pb	19 24 38.0	-1.3
APC				S		Sb	19 25 05.6	-1.0
MIPR	**Malaya Ipel'ka**	**2.46**	**264**	P		Pn	19 24 41.4	+1.8

BJI ***29*** *19:59:39.9, 46˚.51S× 166˚.32E, h13km, mB5.3/6, mb5.3/13, Ms5.3/3, Ms7 4.9/1*
IDC ***29*** *19:59:40.1±0.6, 46˚.10S× 166˚.19E, h0km, mb4.8/15, mb1 4.9/17, mb1mx4.8/22, mbtmp4.8/17, ML4.9/2, MS4.2/19, Ms1 4.2/19, ms1mx4.0/30, Error ellipse: s-maj=19.4km s-min=15.5km az=71.0*
ISCJB ***29*** *19:59:40.6±1.3, 46˚.07S±0˚.04× 166˚.19E±0˚.03, h9km±8km, mb4.9/25, MS4.2/20, Error ellipse: s-maj=6.7km s-min=3.5km az=174.7*
WEL ***29*** *19:59:43.5±0.5, 46˚.05S× 166˚.16E, h33km, ML5.2/35, Error ellipse: s-maj=6.7km s-min=2.1km az=90.0*
WEL Felt from Otago to Southland, maximum reported intensity MM 5.
NEIC ***29*** *19:59:44.1, 46˚.05S× 166˚.31E, h12km, mb4.8/6, ML5.1(WEL), After WEL.*
NEIC Felt at Tuatapere.
AUST ***29*** *19:59:46.9, 45˚.96S× 166˚.47E, h60km*
DJA ***29*** *19:59:50.7±3.3, 46˚S±12˚× 16˚6E±2˚2, h65km±26km, M5.0/11, mb5.0/11*
ISC 29 19:59:42.7±0.6, 46˚.14S±0˚.04× 166˚.36E±0˚.04, h16km±3km, n212, σ1$43/208, mb5.0/25, MS4.3/21, 7C-10D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
DCZ	**Deep Cove**	**0.87**	**40**	P*		**Pb**	**19 59 58.8**	**-0.5**
DCZ				S*		**Sb**	**20 00 07.3**	**-3.4**
DCZ	**Deep Cove**	**0.87**	**40**	⇑PN		**Pb**	**19 59 59.3**	**0.0**
DCZ				SN		**Sg**	**20 00 11.1**	**+0.3**
DCZ				AML	AML		20 00 11.6	
DCZ				AML	AML		20 00 11.6	
DCZ				AML	AML		20 00 12.1	
WHZ	**Wether Hill Ro**	**1.13**	**78**	P*		**Pg**	**20 00 04.4**	**-0.1**
WHZ				S*		**Sg**	**20 00 21.2**	**+1.8**
WHZ	**Wether Hill Ro**	**1.13**	**78**	⇑PN		**Pg**	**20 00 05.0**	**+0.5**
WHZ				SN		**Sg**	**20 00 21.2**	**+1.8**
WHZ				AML	AML		20 00 27.8	
APZ	**The Paps**	**1.32**	**122**	Pn		**Pb**	**20 00 07.1**	**-0.1**
APZ				Sn		**Sg**	**20 00 26.8**	**+1.5**
APZ	**The Paps**	**1.32**	**122**	⇓PN		**Pb**	**20 00 07.5**	**+0.3**
APZ				SN		**Sg**	**20 00 26.3**	**+0.9**
MLZ	**Mavora Lakes**	**1.50**	**59**	Pn		**Pb**	**20 00 10.0**	**-0.2**
MLZ				Sn		**Sg**	**20 00 31.1**	**+0.1**
MLZ	**Mavora Lakes**	**1.50**	**59**	⇓PN		**Pb**	**20 00 10.1**	**0.0**
MLZ				AML	AML		20 00 35.4	
MLZ				AML	AML		20 00 35.8	
MSZ	**Milford Sound**	**1.84**	**38**	Pn		**Pn**	**20 00 13.6**	**+0.1**
MSZ	**Milford Sound**	**1.84**	**38**	⇓PN		**Pn**	**20 00 13.6**	**+0.1**
MSZ				AML	AML		20 00 48.0	
MSZ				AML	AML		20 00 48.0	
MSZ				AML	AML		20 00 57.3	
MSZ				AML	AML		20 00 57.3	
SYZ	**Scrubby Hill**	**1.97**	**103**	Pn		**Pb**	**20 00 17.2**	**-0.8**
SYZ	**Scrubby Hill**	**1.97**	**103**	PN		**Pb**	**20 00 17.2**	**-0.8**
EAZ	**Earnscleugh**	**2.26**	**67**	Pn		**Pb**	**20 00 22.1**	**-0.9**
EAZ	**Earnscleugh**	**2.26**	**67**	⇓PN		**Pb**	**20 00 21.9**	**-1.1**
EAZ				AML	AML		20 00 55.7	
EAZ				AML	AML		20 00 55.7	
EAZ				AML	AML		20 01 04.6	
EAZ				AML	AML		20 01 04.6	
WKZ	**Wanaka**	**2.29**	**56**	Pn		**Pb**	**20 00 22.8**	**-0.8**
WKZ	**Wanaka**	**2.29**	**56**	⇓PN		**Pb**	**20 00 22.7**	**-0.8**
WKZ				AML	AML		20 01 00.4	
WKZ				AML	AML		20 01 05.0	
WKZ				AML	AML		20 01 05.0	
TUZ	**Tuapeka**	**2.29**	**87**	Pn		**Pn**	**20 00 21.8**	**+2.0**
TUZ	**Tuapeka**	**2.29**	**87**	PN		**Pb**	**20 00 21.9**	**-1.6**
TUZ				AML	AML		20 00 53.1	
TUZ				AML	AML		20 00 54.9	
JCZ	**Jackson Bay**	**2.67**	**40**	Pn		**Pn**	**20 00 27.6**	**+2.4**
JCZ	**Jackson Bay**	**2.67**	**40**	PN		**Pn**	**20 00 27.6**	**+2.4**
JCZ				AML	AML		20 01 13.9	
JCZ				AML	AML		20 01 16.0	
HHSZ	**Highcliff Hill**	**2.96**	**87**	PN		**Pn**	**20 00 31.4**	**+2.3**
ODZ	**Otahua Downs**	**3.20**	**72**	*e*Pn		**Pn**	**20 00 32.9**	**+0.5**
ODZ	**Otahua Downs**	**3.20**	**72**	PN		**Pn**	**20 00 33.2**	**+0.9**
ODZ				AML	AML		20 01 33.6	
ODZ				AML	AML		20 01 33.6	
ODZ				AML	AML		20 01 39.2	
ODZ				AML	AML		20 01 39.2	
LBZ	**Lake Benmore**	**3.22**	**58**	Pn	Pn		20 00 26.3	-6.3
LBZ	**Lake Benmore**	**3.22**	**58**	AML	AML		20 01 15.2	
LBZ				AML	AML		20 01 15.2	
LBZ				AML	AML		20 01 37.2	
FOZ	**Fox Glacier**	**3.50**	**44**	Pn		**Pn**	**20 00 39.3**	**+2.9**
FOZ	**Fox Glacier**	**3.50**	**44**	AML	AML		20 01 52.3	
FOZ				AML	AML		20 01 53.8	
FOZ				AML	AML		20 01 53.8	
FOZ				AML	AML		20 01 58.1	
RPZ	**Rata Peaks**	**4.12**	**56**	*e*Pn		**Pn**	**20 00 45.2**	**+0.1**
RPZ				Sn		**Sn**	**20 01 33.2**	**+0.3**
RPZ	**Rata Peaks**	**4.12**	**56**	Pn		**Pn**	**20 00 45.8**	**+0.8**
	106nm,0.3s,baz=223,slow=5.5,SNR=138							
RPZ				Sn		**Sn**	**20 01 33.2**	**+0.3**
	280nm,0.3s,baz=9.7,slow=21,SNR=12							
RPZ	**Rata Peaks**	**4.12**	**56**	PN		**Pn**	**20 00 45.6**	**+0.6**
RPZ				AML	AML		20 02 04.0	
RPZ				AML	AML		20 02 06.2	
WVZ	**Waitaha Valley**	**4.38**	**47**	Pn		**Pn**	**20 00 49.2**	**+0.8**
WVZ	**Waitaha Valley**	**4.38**	**47**	PN		**Pn**	**20 00 49.2**	**+0.8**
WVZ				AML	AML		20 02 00.8	
WVZ				AML	AML		20 02 16.7	
OXZ	**Oxford**	**4.93**	**57**	PN		**Pn**	**20 00 56.6**	**+0.5**
MQZ	**McQueen's Vall**	**5.09**	**64**	Pn		**Pn**	**20 00 59.0**	**+0.8**
MQZ	**McQueen's Vall**	**5.09**	**64**	PN		**Pn**	**20 00 59.0**	**+0.8**
MQZ				AML	AML		20 02 40.2	
MQZ				AML	AML		20 02 41.0	
LTZ	**Lake Taylor**	**5.40**	**54**	Pn		**Pn**	**20 01 02.5**	**0.0**
LTZ	**Lake Taylor**	**5.40**	**54**	AML	AML		20 02 09.9	
LTZ				AML	AML		20 02 25.9	
DSZ	**Denniston Nort**	**5.89**	**44**	Pn		**Pn**	**20 01 09.5**	**+0.1**
KHZ	**Kahutara**	**6.36**	**57**	*e*P		**Pn**	**20 01 15.8**	**+0.2**
	105nm,0.6s							
KHZ	**Kahutara**	**6.36**	**57**	AML	AML		20 03 25.9	
KHZ				AML	AML		20 03 28.6	
THZ	**Tophouse**	**6.44**	**50**	Pn		**Pn**	**20 01 16.7**	**-0.2**
THZ	**Tophouse**	**6.44**	**50**	AML	AML		20 02 35.3	
THZ				AML	AML		20 02 43.9	
NNZ	**Nelson**	**7.08**	**48**	Pn		**Pn**	**20 01 28.0**	**+2.4**
NNZ	**Nelson**	**7.08**	**48**	AML	AML		20 03 01.0	
NNZ				AML	AML		20 03 01.8	
TUWZ	**Tuamarina**	**7.23**	**52**	Pn		**Pn**	**20 01 29.7**	**+2.0**
TUWZ	**Tuamarina**	**7.23**	**52**	AML	AML		20 02 58.5	
TUWZ				AML	AML		20 02 58.6	
TCW	**Tory Channel**	**7.56**	**52**	Pn		**Pn**	**20 01 34.1**	**+1.9**
TCW	**Tory Channel**	**7.56**	**52**	AML	AML		20 03 04.8	
TCW				AML	AML		20 03 06.4	
DUWZ	**D'Urville Isla**	**7.66**	**49**	Pn		**Pn**	**20 01 36.0**	**+2.4**
DUWZ	**D'Urville Isla**	**7.66**	**49**	AML	AML		20 03 13.8	
DUWZ				AML	AML		20 03 20.1	
SNZO	**South Karori**	**7.73**	**54**	*e*P		**Pn**	**20 01 36.2**	**+1.6**
	112nm,0.6s							
KIW	**Kapiti Island**	**8.15**	**53**	Pn		**Pn**	**20 01 41.5**	**+1.2**
KIW	**Kapiti Island**	**8.15**	**53**	AML	AML		20 01 45.3	
KIW				AML	AML		20 02 05.6	
DFE	**Dawson Falls**	**8.88**	**43**	Pn		**Pn**	**20 01 53.3**	**+2.9**
PKE	**Pukeiti**	**8.93**	**42**	Pn		**Pn**	**20 01 52.2**	**+1.2**
PKE	**Pukeiti**	**8.93**	**42**	AML	AML		20 02 02.4	
PKE				AML	AML		20 02 05.1	
RAEZ	**Rainy Point**	**9.04**	**44**	Pn		Pn	20 01 56.6	+4.0
VRZ	**Vera Road**	**9.35**	**44**	Pn		**Pn**	**20 01 58.4**	**+1.7**
VRZ	**Vera Road**	**9.35**	**44**	AML	AML		20 02 16.3	
VRZ				AML	AML		20 03 05.7	
NGZ	**Ngauruhoe**	**9.73**	**48**	Pn		Pn	20 02 05.3	+3.2
NGZ	**Ngauruhoe**	**9.73**	**48**	AML	AML		20 02 27.3	
NGZ				AML	AML		20 02 42.9	
HIZ	**Hauiti**	**9.88**	**43**	Pn		**Pn**	**20 02 04.8**	**+0.8**
HIZ	**Hauiti**	**9.88**	**43**	AML	AML		20 04 09.4	
HIZ				AML	AML		20 04 25.8	
WTAZ	**Waiatarua**	**11.06**	**37**	Pn		**Pn**	**20 02 21.9**	**+1.7**
MKAZ	**Moumakai**	**11.17**	**39**	Pn		**Pn**	**20 02 22.4**	**+0.7**
MKAZ	**Moumakai**	**11.17**	**39**	AML	AML		20 04 27.6	
MKAZ				AML	AML		20 05 06.8	
URZ	**Urewera**	**11.20**	**49**	*e*P		**Pn**	**20 02 21.6**	**-0.4**
	44nm,0.6s							
URZ				Sn		Sn	20 04 19.3	-7.6
URZ	**Urewera**	**11.20**	**49**	Pn		**Pn**	**20 02 21.9**	**-0.1**
	5.5nm,0.3s,baz=238,slow=9.0,SNR=14							
URZ				Sn		Sn	20 04 19.3	-7.6
	3.2nm,0.3s,baz=86,slow=19,SNR=4.2							
WCZ	**Waipu Caves**	**11.83**	**33**	AML		AML	20 02 41.4	
OUZ	**Omahuta**	**12.21**	**29**	*e*P		**Pn**	**20 02 36.7**	**+0.9**
	73nm,0.7s							
OUZ	**Omahuta**	**12.21**	**29**	AML		AML	20 02 45.8	
MOO	**Moorlands**	**14.21**	**278**	P		Pn	20 02 59.3	-3.9
	baz=14,SNR=17							
MILA	**Mila**	**15.72**	**299**	P		**Pn**	**20 03 20.4**	**-3.1**
	baz=16,SNR=70							
MILA				S		Sn	20 06 03.0	-14
	baz=16,SNR=8.4							
CNB	**Canberra Magne**	**16.78**	**304**	P		**Pn**	**20 03 35.7**	**-1.4**
	baz=17,SNR=17							
CAN	**Canberra**	**16.99**	**303**	*e*P		**Pn**	**20 03 36.8**	**-2.8**
	20nm,0.8s							
MGCD	**Mangrove Creek**	**17.41**	**313**	P		**Pn**	**20 03 43.9**	**-1.0**
	baz=17,SNR=15							
TOO	**Toolangi**	**17.71**	**291**	P		**Pn**	**20 03 47.9**	**-0.7**
	baz=18,SNR=74							
YNG	**Young**	**18.07**	**305**	P		**Pn**	**20 03 52.8**	**-0.2**
	baz=18,SNR=15							
ARMA	**Armidale**	**19.45**	**319**	*e*P		**Pn**	**20 04 09.7**	**-0.1**
	17nm,1.0s							
ARMA	**Armidale**	**19.45**	**319**	P		**Pn**	**20 04 10.3**	**+0.4**
	baz=19,SNR=6.7							
ARPS	**Mount Arapiles**	**20.56**	**288**	P		**P**	**20 04 21.1**	**+0.5**
	baz=20,SNR=5.8							
CMSA	**Cobar Meteorol**	**21.63**	**305**	P		**P**	**20 04 32.2**	**0.0**
	baz=22,SNR=26							
STKA	**Stephens Creek**	**23.82**	**298**	*e*P		**P**	**20 04 54.8**	**-0.1**
	7.2nm,1.0s							
STKA	**Stephens Creek**	**23.82**	**298**	P		**P**	**20 04 52.2**	**-2.6**
	24nm,0.9s,baz=129,slow=11,SNR=30							
STKA				LR		LR	20 12 43.2	
	comp=Z,696nm,20.0s,baz=100,slow=33							
STKA	**Stephens Creek**	**23.82**	**298**	P		**P**	**20 04 55.1**	**+0.3**
	baz=24,SNR=15							
DZM	**Mont Dzumac**	**24.01**	**0**	*e*LR		LR	20 10 46.4	
	321nm,26.8s							
DZM	**Mont Dzumac**	**24.01**	**0**	P		**P**	**20 04 56.3**	**-0.5**
DZM	**Mont Dzumac**	**24.01**	**0**	P		**P**	**20 04 56.3**	**-0.5**
	8.9nm,0.4s,baz=90,slow=24,SNR=6.2							
DZM				LR		LR	20 13 13.2	
	comp=Z,246nm,18.0s,baz=180,slow=34							
EIDS	**Eidsvold**	**24.07**	**324**	*e*P		**P**	**20 04 57.8**	**+0.5**
	89nm,1.0s							
EIDS	**Eidsvold**	**24.07**	**324**	P		**P**	**20 04 57.9**	**+0.6**
	baz=24,SNR=26							
RMQ	**Roma**	**24.11**	**318**	P		**P**	**20 04 57.6**	**0.0**
	baz=24,SNR=25							
BBOO	**Buckleboo**	**26.73**	**289**	*e*P		**P**	**20 05 20.9**	**-0.5**
	582nm,1.2s							
BBOO	**Buckleboo**	**26.73**	**289**	P		**P**	**20 05 21.2**	**-0.2**
	baz=27,SNR=6.4							
CTA	**Charters Tower**	**30.79**	**321**	P		**P**	**20 05 55.6**	**-1.9**
CTA	**Charters Tower**	**30.79**	**321**	P		**P**	**20 05 55.6**	**-1.9**
	5.1nm,0.8s,baz=156,slow=11,SNR=5.5							
VNDA	**Vanda**	**31.54**	**182**	P		**P**	**20 06 03.6**	**0.0**
VNDA	**Vanda**	**31.54**	**182**	P		**P**	**20 06 03.6**	**0.0**
	0.7nm,0.8s,baz=349,slow=11,SNR=3.5							
VNDA				LR		LR	20 16 43.1	
	comp=Z,356nm,18.1s,baz=17,slow=32							
ASAR	**Alice Springs**	**34.43**	**300**	P		**P**	**20 06 28.2**	**-1.2**
ASAR				PcP		**PcP**	**20 09 03.6**	**-1.1**
ASAR	**Alice Springs**	**34.43**	**300**	P		**P**	**20 06 28.2**	**-1.2**
	20nm,0.7s,baz=133,slow=8.1,SNR=196							
ASAR				PcP		**PcP**	**20 09 03.6**	**-1.1**
	0.8nm,0.5s,baz=144,slow=4.1,SNR=4.5							
ASAR				LR		LR	20 20 14.6	
	comp=Z,574nm,19.5s,baz=143,slow=36							
HNR	**Honiara**	**36.99**	**349**	LR		LR	20 20 14.9	
	comp=Z,578nm,19.7s,baz=148,slow=33							
WRA	**Warramunga Arr**	**37.03**	**304**	P		**P**	**20 06 50.3**	**-1.6**
WRA	**Warramunga Arr**	**37.03**	**304**	P		**P**	**20 06 50.3**	**-1.6**
	30nm,0.8s,baz=137,slow=7.9,SNR=74							
WRAB	**Tennant Creek**	**37.03**	**304**	*e*P		**P**	**20 06 50.0**	**-1.9**
	41nm,0.9s							
COEN	**Coen**	**37.55**	**321**	P		**P**	**20 06 56.6**	**+0.4**
	baz=38,SNR=4.2							
KLBR	**Kellerberrin**	**39.91**	**274**	P		**P**	**20 07 14.9**	**-1.0**
	baz=40,SNR=7.7							
PMG	**Port Moresby**	**40.13**	**330**	P		**P**	**20 07 17.2**	**-0.6**
PMG	**Port Moresby**	**40.13**	**330**	P		**P**	**20 07 17.2**	**-0.6**
	37nm,0.9s,baz=243,slow=4.0,SNR=5.0							
PMG				LR		LR	20 21 18.3	
	comp=Z,276nm,18.2s,baz=90,slow=32							
TBI	**Tubuai**	**42.14**	**73**	*e*LR		LR	20 19 18.9	
	463nm,32.2s							
MEEK	**Meekatharra**	**42.36**	**280**	P		**P**	**20 07 34.8**	**-1.3**
	baz=42,SNR=7.4							
MORW	**Morawa**	**42.60**	**276**	P		**P**	**20 07 37.2**	**-0.8**
	baz=43,SNR=3.8							
KNRA	**Kununurra**	**43.64**	**302**	P		**P**	**20 07 45.5**	**-1.1**
	baz=44,SNR=18							
FITZ	**Fitzroy Crossi**	**43.68**	**296**	P		**P**	**20 07 45.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**43.68**	**296**	P		**P**	**20 07 45.8**	**-1.1**
	12nm,0.7s,baz=161,slow=8.6,SNR=46							
FITZ				LR		LR	20 27 01.8	
	comp=Z,339nm,19.0s,baz=150,slow=38							
FITZ	**Fitzroy Crossi**	**43.68**	**296**	P		**P**	**20 07 45.8**	**-1.1**
	baz=44,SNR=20							
KDU	**Kakadu**	**43.94**	**308**	P		**P**	**20 07 48.2**	**-0.7**
	baz=44,SNR=5.8							
QSPA	**South Pole Qui**	**43.98**	**180**	P		**P**	**20 07 49.7**	**+0.8**
QSPA	**South Pole Qui**	**43.98**	**180**	P		**P**	**20 07 49.7**	**+0.8**
	18nm,1.0s,baz=19,slow=3.1,SNR=52							
QSPA				LR		LR	20 23 15.5	
	comp=Z,211nm,18.9s,baz=25,slow=32							
MTN	**Manton Dam**	**44.55**	**307**	P		**P**	**20 07 53.1**	**-0.7**
	baz=44,SNR=16							
PPT2	**Papeete2**	**46.18**	**67**	*e*LR		LR	20 21 14.1	
	426nm,25.8s							
PPT	**Papeete**	**46.19**	**67**	LR		LR	20 23 34.5	
	comp=Z,326nm,20.1s,baz=193,slow=31							
BATI	**Baumata**	**50.98**	**301**	LR		LR	20 30 30.0	
	comp=Z,329nm,18.3s,baz=271,slow=36							
RKT	**Rikitea**	**52.16**	**85**	*e*LR		LR	20 24 02.6	
	752nm,25.0s							
MAW	**Mawson**	**53.01**	**208**	P		**P**	**20 08 57.7**	**-0.5**
MAW	**Mawson**	**53.01**	**208**	P		**P**	**20 08 57.7**	**-0.5**
	1.9nm,0.7s,baz=113,slow=9.3,SNR=4.8							
MAW				LR		LR	20 30 01.2	
	comp=Z,468nm,18.1s,baz=108,slow=34							
KAPI	**Kappang**	**57.44**	**301**	P		**P**	**20 09 30.0**	**-0.7**
KAPI	**Kappang**	**57.44**	**301**	P		**P**	**20 09 29.6**	**-1.2**
	36nm,1.4s							
KAPI	**Kappang**	**57.44**	**301**	P		**P**	**20 09 30.0**	**-0.7**
	22nm,1.0s,baz=276,slow=22,SNR=5.7							
KAPI				LR		LR	20 34 07.3	
	comp=Z,197nm,19.8s,baz=153,slow=36							
SYO	**Syowa Base**	**58.63**	**200**	⇑*e*P		**P**	**20 09 36.8**	**-1.6**
SNAA	**Sanae**	**62.24**	**184**	*e*P		**P**	**20 10 03.5**	**+0.3**
SNAA	**Sanae**	**62.24**	**184**	*e*P		**P**	**20 10 02.8**	**-0.4**
	38nm,1.4s							
VNA1	**Neumayer--Stat**	**63.46**	**182**	*e*P		**P**	**20 10 11.6**	**+0.5**
PSI	**Prapat**	**76.61**	**289**	P		**P**	**20 11 31.3**	**-1.6**
	baz=77,SNR=3.5							
PLCA	**Paso Flores**	**79.70**	**140**	LR		LR	20 41 46.8	
	comp=Z,141nm,19.2s,baz=182,slow=32							
QIZ	**Qiongzhong**	**82.53**	**307**	P		**P**	**20 12 06.3**	**+1.6**
QIZ				S		**S**	**20 22 24.5**	**+3.5**
QIZ				pmax		pmax		
	comp=Z,12nm,1.6s							
JNU	**Nakatsue**	**85.17**	**331**	P		**P**	**20 12 18.5**	**+0.6**
JNU	**Nakatsue**	**85.17**	**331**	P		**P**	**20 12 18.5**	**+0.6**
	comp=Z,9.3nm,0.9s,baz=0.6,slow=7.9,SNR=3.8							
MJAR	**Matsushiro Arr**	**86.12**	**338**	P		**P**	**20 12 23.1**	**+0.6**
MJAR	**Matsushiro Arr**	**86.12**	**338**	P		**P**	**20 12 23.1**	**+0.6**
	comp=Z,4.0nm,1.1s,baz=174,slow=7.0,SNR=6.0							
MAT	**Matsushiro**	**86.12**	**338**	P		**P**	**20 12 22.3**	**-0.2**
CFAA	**Coronel Fontan**	**88.22**	**136**	LR		LR	20 45 12.4	
	comp=Z,17nm,20.0s,baz=249,slow=31							
CMAR	**Chiang Mai Arr**	**88.44**	**299**	P		**P**	**20 12 34.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**88.44**	**299**	P		**P**	**20 12 34.5**	**+0.3**
	comp=Z,7.7nm,1.0s,baz=159,slow=3.4,SNR=29							
CMAR				LR		LR	20 53 57.6	
	comp=Z,71nm,18.3s,baz=331,slow=37							
NJ2	**Nanjing**	**88.90**	**321**	*e*P		**P**	**20 12 38.5**	**+2.6**
NJ2				pmax		pmax		
	comp=Z,60nm,0.7s							
WHN	**Wuhan**	**89.67**	**317**	P		**P**	**20 12 40.3**	**+0.7**
KSRS	**Korea Array**	**90.10**	**330**	P		**P**	**20 12 42.4**	**+1.0**
	comp=Z,7.7nm,1.0s,baz=155,slow=6.3,SNR=9.1							
KSAR	**Wonju Array Be**	**90.11**	**330**	P		**P**	**20 12 42.4**	**+0.9**
GYA	**Guiyang**	**90.23**	**309**	*e*P		**P**	**20 12 44.0**	**+1.5**
GYA				PP		**PP**	**20 16 21.5**	**+4.7**
GYA				SKS		**SKSac**	**20 23 12.8**	**-0.2**
GYA				S		**S**	**20 23 37.5**	**+1.6**
GYA				SS		**SS**	**20 29 41.8**	**+5.7**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
GYA				pmax		pmax		
	comp=Z,90nm,5.0s							
GYA				LR		LR		
	comp=N,480nm,20.8s							
GYA				LR		LR		
	comp=E,450nm,21.0s							
GYA				LR		LR		
	comp=Z,460nm,20.5s							
USRK	**Ussuriysk Arra**	**94.96**	**336**	P		**P**	**20 13 04.2**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=134,slow=5.5,SNR=4.5							
CD2	**Chengdu**	**95.30**	**310**	*e*P		**P**	**20 13 06.8**	**+1.1**
CD2				pP		**pP**	**20 13 11.8**	**+0.8**
CD2				sP		**sP**	**20 13 14.0**	**+1.2**
CD2				PP		**PP**	**20 17 00.3**	**+3.8**
CD2				SKS		**SKSac**	**20 23 41.3**	**+0.5**
CD2				S		**S**	**20 24 20.3**	**-0.5**
CD2				sS		**sS**	**20 24 28.0**	**-1.4**
CD2				SS		**SS**	**20 30 52.5**	**+3.8**
CD2				pmax		pmax		
	comp=Z,10.0nm,1.4s							
CD2				pmax		pmax		
	comp=Z,120nm,6.8s							
CD2				LR		LR		
	comp=E,120nm,16.2s							
SUR	**Sutherland**	**95.86**	**209**	LR		LR	20 55 08.9	
	comp=E,133nm,20.2s,baz=1.0,slow=35							
CN2	**Changchun**	**96.62**	**331**	*e*P		**P**	**20 13 14.5**	**+3.2**
BOSA	**Boshof**	**97.66**	**214**	LR		LR	20 50 15.5	
	comp=E,93nm,20.6s,baz=347,slow=31							
CPUP	**Villa Florida**	**97.71**	**141**	LR		LR	20 51 48.2	
	comp=E,86nm,18.4s,baz=84,slow=32							
NNA	**Nana**	**99.11**	**118**	LR		LR	20 50 22.0	
	comp=E,63nm,21.5s,baz=323,slow=31							
HHC	**Hu-ho-hao-te**	**99.45**	**321**	*e*P		**Pdif**	**20 13 26.0**	**+1.7**
HHC				PP		**PP**	**20 17 33.0**	**+4.6**
HHC				S		**S**	**20 24 56.0**	**+0.1**
HHC				pmax		pmax		
	comp=Z,23nm,1.2s							
HHC				pmax		pmax		
	comp=Z,320nm,8.2s							
SAML	**Samuel**	**109.55**	**127**	*e*P		**Pdif**	**20 14 09.6**	**-0.3**
WMQ	**Urumqi**	**113.39**	**309**	PKP		**PKiKP**	**20 18 18.8**	**-0.5**
ILAR	**Eielson Array**	**116.44**	**20**	PKP		**PKPdf**	**20 18 23.2**	**-1.2**
ILAR				PKKPbc		**PKKPbc**	**20 28 52.8**	**-0.7**
ILAR	**Eielson Array**	**116.44**	**20**	PKP		**PKPdf**	**20 18 23.2**	**-1.2**
	comp=Z,0.8nm,0.9s,baz=259,slow=2.6,SNR=6.3							
ILAR				PKKPbc		**PKKPbc**	**20 28 52.8**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=10,slow=3.4,SNR=4.2							
KSH	**Kashi**	**117.33**	**299**	*e*PKP		**PKPdf**	**20 18 27.5**	**+0.4**
KSH				PP		**PP**	**20 19 41.8**	**+2.9**
KSH				PKS		**PKSdf**	**20 22 03.8**	**0.0**
KSH				SKS		**SKSdf**	**20 25 38.8**	**+0.4**
KSH				SKKS		**SKKSac**	**20 26 34.0**	**-4.3**
KSH				AMB		AMB		
	comp=Z,26nm,4.0s							
KSH				LR		LR		
	comp=N,110nm,5.3s							
KSH				LR		LR		
	comp=E,94nm,5.7s							
MKAR	**Makanchi Array**	**118.22**	**309**	PKP		**PKPdf**	**20 18 27.2**	**-1.1**
MKAR	**Makanchi Array**	**118.22**	**309**	PKP		**PKPdf**	**20 18 27.2**	**-1.1**
	comp=E,0.8nm,0.5s,baz=199,slow=1.7,SNR=22							
ZALV	**Zalesovo Beam**	**121.28**	**317**	PKP		**PKPdf**	**20 18 31.9**	**-2.0**
ZALV	**Zalesovo Beam**	**121.28**	**317**	PKP		**PKPdf**	**20 18 31.9**	**-2.0**
	comp=E,0.7nm,0.6s,baz=96,slow=4.3,SNR=3.4							
INK	**Inuvik**	**122.58**	**22**	PKP		**PKPdf**	**20 18 34.1**	**-1.9**
INK	**Inuvik**	**122.58**	**22**	PKP		**PKPdf**	**20 18 34.1**	**-1.9**
	comp=E,2.2nm,1.0s,baz=141,slow=5.9,SNR=3.1							
KKAR	**Karatay Array**	**122.77**	**300**	*e*P		**PKPdf**	**20 18 36.8**	**-0.4**
ECSD	**EROS Data Cent**	**123.83**	**60**	*e*P		**PKPdf**	**20 18 38.0**	**-1.2**
TKL	**Tuckaleechee C**	**127.56**	**75**	PKP

	comp=N,7μm,0.2s							
JACH	**Jahuel**	**1.23**	**89**	⇑*iP*	**Pn**	**20 09 09.2**	**-1.2**
PEL	**Peldehue**	**1.23**	**111**	⇑*iP*	**Pn**	**20 09 09.8**	**-0.6**
PEL				*i* S	**Sb**	**20 09 25.3**	**-1.9**
PEL				AML	AML	20 09 30.1	
	comp=N,10μm,0.6s						
TACH	**Talagante**	**1.33**	**136**	⇑*iP*	**Pn**	**20 09 11.6**	**-0.1**
TACH				*e*S	**Sn**	**20 09 28.2**	**-0.3**
LNV	**Longovilo**	**1.36**	**157**	*e*P	**Pn**	**20 09 12.2**	**0.0**
LNV				*i* S	**Sb**	**20 09 30.2**	**-0.7**
SAN	**Santiago**	**1.38**	**123**	*e*P	**Pn**	**20 09 12.2**	**-0.3**
SAN				*i* S	**Sn**	**20 09 29.8**	**-0.1**
SAN				AML	AML	20 09 36.0	
	comp=N,4μm,0.6s						
STL	**Santa Lucia**	**1.39**	**122**	*e*P	**Pn**	**20 09 12.2**	**-0.5**
STL				*e*S	**Sn**	**20 09 30.0**	**0.0**
STL				AML	AML	20 09 34.7	
	comp=E,792nm,0.6s						
CLCH	**Cerro Calan**	**1.44**	**119**	⇓*iP*	**Pn**	**20 09 13.2**	**-0.2**
CLCH				*e*S	**Sn**	**20 09 31.6**	**+0.1**
CLCH				AML	AML	20 09 38.9	
	comp=E,6μm,0.5s						
ANTU	**Antumapu**	**1.47**	**126**	*e*P	**Pn**	**20 09 13.9**	**+0.2**
ANTU				*i* S	**Sn**	**20 09 32.3**	**+0.3**
ANTU				AML	AML	20 09 39.9	
	comp=E,4μm,0.6s						
PCH	**Pirque**	**1.58**	**126**	⇑*iP*	**Pn**	**20 09 15.6**	**+0.3**
SJCH	**San Jose de Ma**	**1.70**	**124**	*e*P	**Pn**	**20 09 16.9**	**-0.1**
SJCH				*i* S	**Sb**	**20 09 38.8**	**-2.0**
SJCH				AML	AML	20 09 46.6	
	comp=N,2μm,0.6s						
CMCH	**Combarbala**	**1.77**	**30**	⇓*iP*	**Pn**	**20 09 16.9**	**-0.9**
CMCH				*i* S	**Sn**	**20 09 39.4**	**0.0**
CACH	**El Canelo**	**1.86**	**140**	⇑*iP*	**Pn**	**20 09 20.1**	**+1.0**
LMEL	**Las Melosas**	**1.92**	**127**	⇑*iP*	**Pn**	**20 09 20.7**	**+0.7**
LMEL				*i* S	**Sb**	**20 09 45.6**	**-1.6**
LMEL				AML	AML	20 09 53.3	
	comp=N,3μm,0.6s						
TLL	**Tololo Astrono**	**2.74**	**23**	⇑*iP*	**Pn**	**20 09 33.2**	**+1.7**
TLL				AML	AML	20 10 17.4	
	comp=E,3μm,0.4s						
CFAA	**Coronel Fontan**	**3.41**	**72**	P	**Pn**	**20 09 42.0**	**+1.6**
	comp=E,1.2nm,0.3s,baz=250,slow=13,SNR=42						
CFAA				S	**Sb**	**20 10 31.8**	**+1.9**
	comp=E,3.4nm,0.3s,baz=24,slow=18,SNR=7.5						
PLCA	**Paso Flores**	**8.10**	**172**	P	**Pn**	**20 10 46.1**	**+1.3**
	comp=E,0.3nm,0.3s,baz=330,slow=12,SNR=3.7						
PLCA				LR	LR	20 13 59.2	
	comp=E,185nm,19.2s,baz=339,slow=38						
CPUP	**Villa Florida**	**14.29**	**67**	P	**Pn**	**20 12 12.3**	**+2.7**
	comp=E,0.4nm,0.3s,baz=201,slow=12,SNR=2.7						
CPUP				S	**Sn**	**20 14 51.2**	**+4.1**
	comp=E,0.3nm,0.3s,baz=174,slow=15,SNR=3.1						
LPAZ	**La Paz**	**16.73**	**13**	P	**Pn**	**20 12 41.4**	**-0.6**
	comp=E,0.2nm,0.3s,baz=188,slow=8.1,SNR=19						
LPAZ				pP	**pP**	**20 12 50.5**	**-1.4**
	comp=E,0.2nm,0.3s,baz=231,slow=13,SNR=3.9						
SIV	**San Ignacio**	**19.39**	**33**	P	**P**	**20 13 12.1**	**-0.8**
	comp=E,0.2nm,0.3s,baz=228,slow=10,SNR=11						
SIV				LR	LR	20 22 03.5	
	comp=E,139nm,19.6s,slow=41						
SNAA	**Sanae**	**52.78**	**158**	P	**P**	**20 18 01.8**	**+0.5**
	comp=E,0.4nm,0.7s,baz=313,slow=9.1,SNR=9.3						
TEIG	**Tepich**	**54.87**	**341**	P	**P**	**20 18 16.9**	**0.0**
	comp=E,4.1nm,0.6s,baz=140,slow=16,SNR=2.9						
VNDA	**Vanda**	**65.37**	**191**	P	**P**	**20 19 28.4**	**+0.2**
	comp=E,0.3nm,0.5s,baz=121,slow=5.9,SNR=3.4						
TXAR	**Lajitas Array**	**68.61**	**331**	P	**P**	**20 19 50.0**	**+0.5**
	comp=E,0.6nm,0.8s,baz=152,slow=7.8,SNR=4.8						
TXAR				pP	pP	20 20 01.7	+3.0
	comp=E,0.2nm,0.5s,baz=174,slow=3.6,SNR=2.7						
DBIC	**Dimbokro**	**74.77**	**72**	P	**P**	**20 20 26.5**	**-0.4**
	comp=E,4.5nm,0.9s,baz=191,slow=5.2,SNR=3.6						
BOSA	**Boshof**	**80.68**	**118**	P	**P**	**20 20 59.9**	**0.0**
	comp=E,2.3nm,1.0s,baz=151,slow=7.9,SNR=3.8						
BOSA				pP	**pP**	**20 21 12.3**	**+3.2**
	comp=E,3.5nm,0.9s,baz=176,slow=4.6,SNR=3.7						
NVAR	**Mina Array Bea**	**82.82**	**325**	P	**P**	**20 21 10.1**	**-0.7**
	comp=E,0.2nm,0.4s,baz=134,slow=7.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**83.78**	**70**	P	**P**	**20 21 15.5**	**-0.5**
	comp=E,2.1nm,0.7s,baz=255,slow=4.5,SNR=5.1						
TORD				pP	pP	20 21 28.1	+2.8
	comp=E,3.9nm,0.9s,baz=266,slow=4.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**153.13**	**31**	PKPbc	**PKPbc**	**20 28 43.2**	**-0.2**
	comp=E,2.3nm,0.7s,baz=287,slow=3.3,SNR=7.9						
ZALV				PKPab	**PKPab**	**20 28 53.5**	**-1.6**
	comp=E,5.5nm,0.9s,baz=310,slow=3.1,SNR=11						
MKAR	**Makanchi Array**	**155.90**	**47**	PKPab	**PKPab**	**20 29 07.0**	**-0.2**
	comp=E,1.0nm,0.7s,baz=306,slow=4.2,SNR=12						
MKAR				pPKPab	**pPKPab**	**20 29 19.1**	**+2.4**
	comp=E,0.7nm,0.7s,baz=295,slow=4.1,SNR=5.7						
SONM	**Songino Array**	**164.84**	**4**	PKPab	**PKPab**	**20 29 45.0**	**-1.1**
	comp=E,1.0nm,0.6s,baz=0.0,slow=3.0,SNR=5.0						

IDC 29 20:36:54.8±7.7, 19°.77S×177°.95W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/18, mbtmp3.5/2, Error ellipse: s-maj=349.5km s-min=63.3km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.73**	**256**	P	P	20 45 09.8	-0.4
	0.5nm,0.6s,baz=100,slow=8.0,SNR=10						
WRA	**Warramunga Arr**	**44.75**	**261**	P	P	20 45 10.6	+0.2
	0.3nm,0.3s,baz=95,slow=8.3,SNR=4.7						
BRTR	**Keskin Array B**	**146.38**	**313**	PKPbc	PKPdf	20 56 37.3	+0.4
	0.2nm,0.4s,baz=126,slow=2.0,SNR=2.6						

*IDC **29** 20:42:56.4±0.7, 46°.17S×166°.11E, h0km, mb3.9/6, mb1 4.1/8, mb1mx4.0/18, mbtmp4.0/8, ML4.3/2, MS4.2/9, Ms1 4.2/9, ms1mx3.8/23, Error ellipse: s-maj=24.8km s-min=20.9km az=57.0*

*AUST **29** 20:42:57.6±9.6, 46°.34S×165°.90E, h12km, Error ellipse: s-maj=1.8km s-min=0.7km az=359.0*

*ISCJB **29** 20:42:57.1±0.5, 46°.18S±0°.05×165°.99E±0°.04, h12km, mb3.9/6, MS4.2/8, Error ellipse: s-maj=7.5km s-min=4.2km az=177.1*

*WEL **29** 20:42:59.4±0.3, 46°.17S×165°.90E, h33km, ML5.0/22, Error ellipse: s-maj=3.7km s-min=1.9km az=90.0*

WEL Felt from Fiordland to Southland, maximum reported intensity MM 4.

*NEIC **29** 20:43:00.9, 46°.25S×165°.96E, h33km, ML5.0(WEL), After WEL.*

*GCMT **29** 20:43:02.5±0.4, 46°.21S×165°.67E, h29km±1km, MW5.0, Moment Tensor Solution. s29,c36; s61,c83; Moment tensor: Scale 10^16 Nm; Mrr 2.87±.20; Mθθ 0.06±.13; Mϕϕ -2.93±.13; Mrθ 0.70±.21; Mrϕ 0.01±.11; Mθϕ -2.26±.17; Best double couple: Mo 3.70000×10^16 NP1:ϕs 10.00000°, δ 27.00000°, λ 109.00000°. NP2:ϕs 169.00000°, δ 65.00000°, λ 81.00000°. Principal axes: T 3.7700, Plg69.0000°, Azm61.0000°; N -0.0500, Plg8.0000°, Azm173.0000°; P -3.7200, Plg19.0000°, Azm266.0000°; Data Used: IU II IC CN G.*

ISC 29 20:42:58.2±0.5, 46°.22S±0°.05×166°.08E±0°.05, h12km, n101, σ1§11/100, mb4.0/6, MS4.2/8, 1C-4D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**1.06**	**46**	Pn	**Pb**	**20 43 18.0**	**-0.4**
DCZ				Sn	**Sg**	**20 43 32.8**	**+0.4**
DCZ	**Deep Cove**	**1.06**	**46**	⇑PN	**Pb**	**20 43 18.0**	**-0.4**
DCZ				SN	**Sg**	**20 43 32.8**	**+0.4**
DCZ				AML	AML	20 43 34.4	
DCZ				AML	AML	20 43 37.4	
DCZ				AML	AML	20 43 37.4	
WHZ	**Wether Hill Ro**	**1.34**	**77**	Pn	**Pn**	**20 43 23.3**	**+0.5**
WHZ	**Wether Hill Ro**	**1.34**	**77**	⇓PN	**Pb**	**20 43 23.6**	**+0.3**
WHZ				*e*SN	**Sg**	**20 43 41.8**	**+0.3**
WHZ				AML	AML	20 43 47.9	
APZ	**The Paps**	**1.46**	**116**	Pn	**Pn**	**20 43 24.5**	**+0.2**
APZ				Sn	**Sn**	**20 43 43.4**	**0.0**
APZ	**The Paps**	**1.46**	**116**	PN	**Pn**	**20 43 24.6**	**+0.2**
APZ				SN	**Sn**	**20 43 43.4**	**0.0**
MLZ	**Mavora Lakes**	**1.71**	**60**	Pn	**Pn**	**20 43 28.9**	**+1.1**
MLZ	**Mavora Lakes**	**1.71**	**60**	PN	**Pn**	**20 43 28.9**	**+1.1**
MLZ				AML	AML	20 43 59.5	
MLZ				AML	AML	20 44 02.2	
MSZ	**Milford Sound**	**2.02**	**41**	Pn	**Pn**	**20 43 32.7**	**+0.6**
MSZ	**Milford Sound**	**2.02**	**41**	⇓PN	**Pn**	**20 43 32.7**	**+0.6**
MSZ				AML	AML	20 44 18.3	
MSZ				AML	AML	20 44 18.3	
MSZ				AML	AML	20 44 19.5	
MSZ				AML	AML	20 44 19.5	
SYZ	**Scrubby Hill**	**2.14**	**100**	Pn	**Pn**	**20 43 34.7**	**+1.0**
SYZ	**Scrubby Hill**	**2.14**	**100**	PN	**Pn**	**20 43 34.7**	**+1.0**
EAZ	**Earnscleugh**	**2.47**	**68**	Pn	**Pn**	**20 43 40.6**	**+2.3**
EAZ	**Earnscleugh**	**2.47**	**68**	PN	**Pn**	**20 43 40.4**	**+2.2**
EAZ				AML	AML	20 44 20.7	
EAZ				AML	AML	20 44 20.7	
EAZ				AML	AML	20 44 22.8	
EAZ				AML	AML	20 44 22.9	
TUZ	**Tuapeka**	**2.49**	**85**	Pn	**Pn**	**20 43 40.1**	**+1.6**
TUZ	**Tuapeka**	**2.49**	**85**	PN	**Pn**	**20 43 40.1**	**+1.6**
TUZ				AML	AML	20 44 16.9	
TUZ				AML	AML	20 44 24.8	
WKZ	**Wanaka**	**2.49**	**57**	Pn	**Pn**	**20 43 40.8**	**+2.2**
WKZ	**Wanaka**	**2.49**	**57**	⇓PN	**Pn**	**20 43 40.8**	**+2.2**
WKZ				AML	AML	20 44 22.8	
WKZ				AML	AML	20 44 22.8	
WKZ				AML	AML	20 44 26.3	
WKZ				AML	AML	20 44 26.3	
JCZ	**Jackson Bay**	**2.87**	**42**	Pn	**Pn**	**20 43 45.4**	**+1.6**
JCZ	**Jackson Bay**	**2.87**	**42**	PN	**Pn**	**20 43 45.3**	**+1.6**
JCZ				AML	AML	20 44 38.9	
JCZ				AML	AML	20 44 40.0	
HHSZ	**Highcliff Hill**	**3.17**	**86**	PN	**Pn**	**20 43 49.5**	**+1.7**
ODZ	**Otahua Downs**	**3.41**	**71**	Pn	**Pn**	**20 43 51.5**	**+0.3**
ODZ	**Otahua Downs**	**3.41**	**71**	PN	**Pn**	**20 43 51.5**	**+0.3**
ODZ				AML	AML	20 44 57.0	
ODZ				AML	AML	20 44 57.0	
ODZ				AML	AML	20 45 00.1	
ODZ				AML	AML	20 45 00.1	
LBZ	**Lake Benmore**	**3.43**	**59**	Pn	**Pn**	**20 43 52.6**	**+1.1**
LBZ	**Lake Benmore**	**3.43**	**59**	PN	**Pn**	**20 43 52.6**	**+1.1**
LBZ				AML	AML	20 44 40.1	
LBZ				AML	AML	20 44 42.9	
LBZ				AML	AML	20 44 54.7	
LBZ				AML	AML	20 45 00.8	
FOZ	**Fox Glacier**	**3.69**	**45**	Pn	**Pn**	**20 43 57.2**	**+2.1**
FOZ	**Fox Glacier**	**3.69**	**45**	PN	**Pn**	**20 43 57.2**	**+2.1**
FOZ				AML	AML	20 45 09.9	
FOZ				AML	AML	20 45 09.9	
FOZ				AML	AML	20 45 10.6	
FOZ				AML	AML	20 45 10.6	
RPZ	**Rata Peaks**	**4.33**	**56**	Sn	**Sn**	**20 44 55.1**	**+0.8**
RPZ	**Rata Peaks**	**4.33**	**56**	Pn	**Pn**	**20 44 04.2**	**+0.3**
	23nm,0.3s,baz=217,slow=6.7,SNR=64						
RPZ				Sn	**Sn**	**20 44 55.1**	**+0.8**
	51nm,0.3s,baz=14,slow=16,SNR=7.4						
RPZ				LR	LR	20 45 06.0	
	comp=Z,1μm,19.6s,baz=222,slow=30						
RPZ	**Rata Peaks**	**4.33**	**56**	PN	**Pn**	**20 44 04.0**	**+0.2**
RPZ				AML	AML	20 45 24.8	
RPZ				AML	AML	20 45 29.8	
WVZ	**Waitaha Valley**	**4.58**	**48**	Pn	**Pn**	**20 44 06.8**	**-0.4**
WVZ	**Waitaha Valley**	**4.58**	**48**	PN	**Pn**	**20 44 06.8**	**-0.4**
WVZ				AML	AML	20 45 17.8	
WVZ				AML	AML	20 45 40.9	
OXZ	**Oxford**	**5.14**	**58**	PN	**Pn**	**20 44 14.5**	**-0.5**
MQZ	**McQueen's Vall**	**5.30**	**64**	Pn	**Pn**	**20 44 17.5**	**+0.4**
MQZ	**McQueen's Vall**	**5.30**	**64**	PN	**Pn**	**20 44 17.5**	**+0.4**
LTZ	**Lake Taylor**	**5.61**	**54**	Pn	**Pn**	**20 44 20.8**	**-0.6**
LTZ	**Lake Taylor**	**5.61**	**54**	PN	**Pn**	**20 44 20.8**	**-0.6**
LTZ				AML	AML	20 45 32.2	
LTZ				AML	AML	20 46 12.6	
DSZ	**Denniston Nort**	**6.09**	**45**	Pn	**Pn**	**20 44 28.0**	**0.0**
DSZ	**Denniston Nort**	**6.09**	**45**	PN	**Pn**	**20 44 28.0**	**0.0**
KHZ	**Kahutara**	**6.56**	**57**	Pn	**Pn**	**20 44 34.8**	**+0.3**
KHZ	**Kahutara**	**6.56**	**57**	PN	**Pn**	**20 44 34.8**	**+0.3**
KHZ				AML	AML	20 46 48.0	
KHZ				AML	AML	20 46 49.5	
THZ	**Tophouse**	**6.64**	**50**	Pn	**Pn**	**20 44 35.2**	**-0.4**
THZ	**Tophouse**	**6.64**	**50**	⇓PN	**Pn**	**20 44 35.2**	**-0.4**
THZ				AML	AML	20 46 11.4	
THZ				AML	AML	20 46 13.0	
HIZ	**Hauiti**	**10.07**	**43**	Pn	**Pn**	**20 45 24.0**	**+1.4**
URZ	**Urewera**	**11.40**	**50**	Pn	**Pn**	**20 45 40.0**	**-0.8**
URZ				Sn	**Sn**	**20 47 45.1**	**-2.9**
URZ	**Urewera**	**11.40**	**50**	Pn	**Pn**	**20 45 40.0**	**-0.8**
	1.2nm,0.3s,baz=210,slow=11,SNR=3.5						
URZ				Sn	**Sn**	**20 47 45.1**	**-2.9**
	0.8nm,0.3s,baz=120,slow=20,SNR=3.1						
MOO	**Moorlands**	**14.03**	**279**	P	**Pn**	**20 46 15.4**	**-1.3**
	baz=14,SNR=6.3						
MILA	**Mila**	**15.59**	**300**	P	**Pn**	**20 46 35.8**	**-2.0**
	baz=16,SNR=27						
MILA				S	Sn	20 49 15.9	-15
	baz=16,SNR=9.4						
CNB	**Canberra Magne**	**16.67**	**305**	P	**Pn**	**20 46 52.5**	**+0.9**
	baz=17,SNR=6.0						
MGCD	**Mangrove Creek**	**17.32**	**313**	P	**Pn**	**20 47 00.4**	**+0.6**
	baz=17,SNR=7.8						
TOO	**Toolangi**	**17.56**	**292**	P	Pn	20 46 55.7	-7.0
	baz=18,SNR=3.7						
YNG	**Young**	**17.95**	**305**	P	**Pn**	**20 47 07.9**	**+0.3**
	baz=18,SNR=14						
CMSA	**Cobar Meteorol**	**21.52**	**306**	P	P	20 47 54.7	+7.7
	baz=22,SNR=6.6						
STKA	**Stephens Creek**	**23.68**	**299**	P	**P**	**20 48 11.2**	**+1.6**
STKA	**Stephens Creek**	**23.68**	**299**	P	**P**	**20 48 11.2**	**+1.6**
	1.6nm,0.8s,baz=132,slow=8.3,SNR=2.8						
STKA				LR	LR	20 55 26.7	
	comp=Z,548nm,21.4s,baz=298,slow=32						
DZM	**Mont Dzumac**	**24.09**	**1**	*e*LR	LR	20 54 01.0	
	291nm,25.8s						
VNDA	**Vanda**	**31.45**	**182**	LR	LR	20 59 43.7	
	comp=Z,395nm,19.2s,baz=22,slow=32						
ASAR	**Alice Springs**	**34.30**	**300**	P	**P**	**20 49 43.9**	**-0.5**
ASAR	**Alice Springs**	**34.30**	**300**	P	**P**	**20 49 43.9**	**-0.5**
	0.8nm,0.6s,baz=131,slow=8.4,SNR=13						
ASAR				LR	LR	21 02 07.8	
	comp=Z,437nm,18.1s,baz=146,slow=34						
WRA	**Warramunga Arr**	**36.92**	**305**	P	**P**	**20 50 05.8**	**-1.2**
WRA	**Warramunga Arr**	**36.92**	**305**	P	**P**	**20 50 05.8**	**-1.2**
	1.3nm,0.8s,baz=136,slow=7.9,SNR=5.2						
HNR	**Honiara**	**37.03**	**350**	LR	LR	21 04 00.9	
	comp=Z,356nm,18.2s,baz=120,slow=34						
FITZ	**Fitzroy Crossi**	**43.54**	**296**	LR	LR	21 08 38.3	
	comp=Z,330nm,19.4s,baz=139,slow=35						
QSPA	**South Pole Qui**	**43.90**	**180**	P	**P**	**20 51 05.5**	**+1.1**
QSPA	**South Pole Qui**	**43.90**	**180**	P	**P**	**20 51 05.5**	**+1.1**
	4.6nm,1.1s,baz=324,slow=3.5,SNR=7.2						
MTN	**Manton Dam**	**44.44**	**307**	P	**P**	**20 51 09.8**	**+0.8**
	baz=44,SNR=3.1						
PPT2	**Papeete2**	**46.39**	**67**	*e*LR	LR	21 04 26.6	
	449nm,31.0s						
PPT	**Papeete**	**46.41**	**67**	LR	LR	21 09 49.5	
	comp=Z,309nm,18.1s,baz=186,slow=35						
BATI	**Baumata**	**50.85**	**301**	LR	LR	21 12 24.9	
	comp=Z,243nm,18.8s,baz=144,slow=35						
SOEI	**Soe**	**50.86**	**302**	P	P	20 52 06.1	+7.0
	baz=51,SNR=4.6						
MAW	**Mawson**	**52.84**	**208**	LR	LR	21 11 44.8	
	comp=Z,277nm,20.4s,baz=108,slow=33						
SNAA	**Sanae**	**62.15**	**184**	*e*P	**P**	**20 53 18.6**	**-0.1**
SNAA	**Sanae**	**62.15**	**184**	P	**P**	**20 53 18.9**	**+0.2**
SNAA	**Sanae**	**62.15**	**184**	P	**P**	**20 53 18.9**	**+0.2**
	1.4nm,1.0s,baz=181,slow=7.5,SNR=9.9						
VNA1	**Neumayer--Stat**	**63.37**	**182**	*e*P	**P**	**20 53 24.5**	**-2.2**
CMAR	**Chiang Mai Arr**	**88.30**	**299**	P	**P**	**20 55 50.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**88.30**	**299**	P	**P**	**20 55 50.6**	**+1.0**
	0.3nm,0.3s,baz=176,slow=2.6,SNR=3.5						
MKAR	**Makanchi Array**	**118.12**	**309**	PKP	**PKPdf**	**21 01 43.1**	**-1.3**
MKAR	**Makanchi Array**	**118.12**	**309**	PKP	**PKPdf**	**21 01 43.1**	**-1.3**
	0.4nm,0.9s,baz=48,slow=2.1,SNR=3.2						
KURBB	**Kurchatov Arra**	**122.40**	**311**	PKP	**PKPdf**	**21 01 51.4**	**-1.0**
	0.4nm,0.7s,baz=113,slow=2.0,SNR=6.0						
KURK	**Kurchatov**	**122.41**	**311**	PKP	**PKPdf**	**21 01 51.4**	**-1.0**
BVAR	**Borovoye Array**	**127.96**	**310**	PKP	**PKPdf**	**21 02 03.2**	**+0.3**
BVAR	**Borovoye Array**	**127.96**	**310**	PKP	**PKPdf**	**21 02 03.2**	**+0.3**
	0.4nm,0.6s,baz=115,slow=2.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**144.49**	**207**	PKP	**PKPab**	**21 02 32.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**144.49**	**207**	PKP	**PKPab**	**21 02 32.9**	**-0.1**
	2.3nm,0.8s,baz=162,slow=2.0,SNR=13						
BRTR	**Keskin Array B**	**145.03**	**277**	PKPbc	**PKPbc**	**21 02 34.4**	**-0.1**
BRTR	**Keskin Array B**	**145.03**	**277**	PKPbc	**PKPbc**	**21 02 34.4**	**-0.1**
	3.2nm,0.9s,baz=134,slow=5.3,SNR=19						
SPITS	**Spitsbergen Ar**	**145.88**	**349**	PKPbc	**PKPdf**	**21 02 35.6**	**+0.4**
SPITS	**Spitsbergen Ar**	**145.88**	**349**	PKPbc	**PKPdf**	**21 02 35.6**	**+0.4**
	3.3nm,0.5s,baz=81,slow=6.8,SNR=7.6						
SCHQ	**Schefferville**	**146.02**	**56**	PKPbc	**PKPdf**	**21 02 35.8**	**-0.3**
SCHQ	**Schefferville**	**146.02**	**56**	PKPbc	**PKPdf**	**21 02 35.8**	**-0.3**
	5.9nm,0.8s,baz=276,slow=1.9,SNR=8.5						
ARCES	**ARCESS Array B**	**149.58**	**334**	PKPbc	**PKPbc**	**21 02 46.3**	**+0.2**
ARCES	**ARCESS Array B**	**149.58**	**334**	PKPbc	**PKPbc**	**21 02 46.3**	**+0.2**
	7.2nm,0.8s,baz=58,slow=3.0,SNR=9.8						
MLR	**Muntele Rosu**	**152.42**	**283**	PKPbc	**PKPbc**	**21 02 53.9**	**+0.2**
MLR	**Muntele Rosu**	**152.42**	**283**	PKPbc	**PKPbc**	**21 02 53.9**	**+0.2**
	0.5nm,0.9s,baz=230,slow=2.5,SNR=5.8						
FINES	**FINESS Array B**	**152.46**	**318**	PKPbc	**PKPbc**	**21 02 53.0**	**0.0**
FINES				PKPab	**PKPab**	**21 03 01.2**	**-2.2**
FINES	**FINESS Array B**	**152.46**	**318**	PKPbc	**PKPbc**	**21 02 53.0**	**0.0**
	0.9nm,0.7s,baz=132,slow=2.1,SNR=3.8						
FINES				PKPab	**PKPab**	**21 03 01.2**	**-2.2**
	3.9nm,1.0s,baz=85,slow=1.5,SNR=5.7						
NOA	**NORSAR Array B**	**159.16**	**324**	PKPab	**PKPab**	**21 03 32.4**	**+0.1**
NOA	**NORSAR Array B**	**159.16**	**324**	PKPab	**PKPab**	**21 03 32.4**	**+0.1**
	0.8nm,0.7s,baz=94,slow=5.8,SNR=3.5						
GERES	**GERESS Array B**	**161.20**	**288**	PKPab	**PKPab**	**21 03 43.1**	**+1.5**
GERES	**GERESS Array B**	**161.20**	**288**	PKPab	**PKPab**	**21 03 43.1**	**+1.5**
	0.2nm,0.5s,baz=72,slow=3.2,SNR=2.8						

*CSEM **29** 20:49:53.6, 36°.53N×58°.51E, h4km, ML3.5, After TEH*

TEH 29 20:49:53.6, 36°.53N×58°.51E, h4km, ML3.5, 2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKRD	**Kardeh**	**0.24**	**0**	*e*Sg	Sg	20 50 19.9	+18
IKRD				*e*Pg	Pg	20 50 09.3	+11
IKRD				*e*		20 50 24.8	
	comp=Z,17μm,0.1s						
IPAY	**Payeh**	**0.40**	**102**	*e*Pg	Pg	20 50 00.8	-0.8
IPAY				*e*Sg	Sg	20 50 06.3	-0.7
IPAY				*e*		20 50 07.5	
	comp=Z,8μm,0.1s						
IPAY	**Payeh**	**0.40**	**102**	*e*Pg	Pg	20 50 00.8	-0.8
IPAY				*e*Sg	Sg	20 50 06.3	-0.7
IMOG	**Moghan**	**0.79**	**122**	*e*Sg	Sg	20 50 17.9	-1.8
IMOG				*e*Pg	Pg	20 50 07.0	-2.2
IMOG				*e*		20 50 23.0	
	comp=Z,23μm,0.0s						
ISRO	**Mashad**	**0.80**	**106**	*e*Sg	Sg	20 50 18.2	-1.5
ISRO				⇓*e*Pg	Pg	20 50 07.7	-1.5
ISRO	**Mashad**	**0.80**	**106**	⇓*e*Pg	Pg	20 50 07.7	-1.5
ISRO				*e*Sg	Sg	20 50 18.2	-1.5
MHI	**Mashad**	**0.80**	**106**	*e*Sg	Sg	20 50 19.3	-0.4
MHI				*e*Pg	Pg	20 50 08.1	-1.1
MHI				*e*		20 50 20.8	
	comp=Z,89μm,0.0s						
IMYA	**Miami**	**1.29**	**98**	*e*Pg	Pg	20 50 16.5	-2.2
IMYA				*e*		20 50 17.5	
	comp=Z,9μm,0.0s						
IMYA				*e*Sg	Sg	20 50 33.7	-2.0
IMYA	**Miami**	**1.29**	**98**	*e*Pg	Pg	20 50 16.5	-2.2
IMYA				*e*Sg	Sg	20 50 33.7	-2.0
IMND	**Minoodasht**	**2.59**	**287**	*e*Pn	Pb	20 50 40.4	-0.3
IMND	**Minoodasht**	**2.59**	**287**	*e*Pn	Pb	20 50 40.4	-0.3
IMON	**Monand**	**3.46**	**164**	*e*Pn	Pn	20 50 48.2	-0.5
IMON				*e*		20 50 59.9	
	comp=Z,692nm,0.1s						
IMON	**Monand**	**3.46**	**164**	*e*Pn	Pn	20 50 48.2	-0.5
ITEG	**Tejag**	**3.63**	**177**	*e*Pn	Pn	20 50 50.1	-0.8
ITEG				*e*		20 52 39.8	
	comp=Z,356nm,0.0s						
ITEG	**Tejag**	**3.63**	**177**	*e*Pn	Pn	20 50 50.1	-0.8
ISHM	**Shahmirzad**	**4.29**	**262**	*e*Pn	Pn	20 50 59.5	-0.6
ISHM				*e*		20 51 20.9	
	comp=Z,133nm,0.2s						
ISHM	**Shahmirzad**	**4.29**	**262**	*e*Pn	Pn	20 50 59.5	-0.6
IFIR	**Firoozkooh**	**4.75**	**261**	*e*		20 51 12.2	
	comp=Z,110n

west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**1.12**	**53**	PN	Pn	21 24 11.5	-0.6
DCZ				SN	Sb	21 24 27.6	-0.4
DCZ				AML	AML	21 24 27.6	
DCZ				AML	AML	21 24 27.6	
DCZ				AML	AML	21 24 28.5	
WHZ	**Wether Hill Ro**	**1.46**	**80**	PN	Pn	21 24 17.1	+0.3
WHZ				SN	Sn	21 24 34.9	0.0
WHZ				AML	AML	21 24 41.3	
APZ	**The Paps**	**1.60**	**115**	PN	Pn	21 24 17.9	-0.8
APZ				SN	Sn	21 24 37.6	-0.7
MLZ	**Mavora Lakes**	**1.80**	**64**	PN	Pn	21 24 22.7	+1.2
MLZ				AML	AML	21 24 53.4	
MLZ				AML	AML	21 24 56.0	
MSZ	**Milford Sound**	**2.08**	**45**	PN	Pn	21 24 26.3	+1.1
MSZ				AML	AML	21 25 05.6	
MSZ				AML	AML	21 25 05.6	
MSZ				AML	AML	21 25 09.6	
MSZ				AML	AML	21 25 09.7	
SYZ	**Scrubby Hill**	**2.28**	**101**	PN	Pn	21 24 28.3	+0.2
EAZ	**Earnscleugh**	**2.58**	**70**	PN	Pn	21 24 33.9	+1.9
EAZ				AML	AML	21 25 09.0	
EAZ				AML	AML	21 25 09.7	
WKZ	**Wanaka**	**2.58**	**60**	PN	Pn	21 24 34.8	+2.6
WKZ				AML	AML	21 25 13.3	
WKZ				AML	AML	21 25 17.1	
TUZ	**Tuapeka**	**2.62**	**87**	PN	Pn	21 24 33.4	+0.7
TUZ				AML	AML	21 25 08.9	
TUZ				AML	AML	21 25 17.0	
HHSZ	**Highcliff Hill**	**3.29**	**87**	PN	Pn	21 24 42.8	+0.7
LBZ	**Lake Benmore**	**3.52**	**61**	PN	Pn	21 24 46.2	+1.1
LBZ				AML	AML	21 24 54.1	
LBZ				AML	AML	21 25 46.8	
ODZ	**Otahua Downs**	**3.52**	**73**	PN	Pn	21 24 44.9	-0.2
ODZ				AML	AML	21 25 49.3	
ODZ				AML	AML	21 27 16.0	
FOZ	**Fox Glacier**	**3.75**	**47**	PN	Pn	21 24 51.2	+3.0
RPZ	**Rata Peaks**	**4.41**	**58**	PN	Pn	21 24 57.8	+0.4
RPZ				AML	AML	21 25 47.0	
RPZ				AML	AML	21 26 03.0	
WVZ	**Waitaha Valley**	**4.64**	**50**	PN	Pn	21 25 02.6	+2.1

IDC ***29*** *21:32:59.3±0.4, 5.°09S×152.°71E, h0km, mb4.8/29, mb1 4.9/32, mb1mx4.9/33, mbtmp4.8/32, ML4.0/3, MS4.9/22, Ms1 4.9/22, ms1mx4.8/29, Error ellipse: s-maj=14.1km s-min=10.2km az=98.0*

BKK ***29*** *21:33:01.7±1.2, 5.°S±6.°×15.°3E±1.°9, h10km, M5.7/16, mB5.6/4, mb5.1/16, MLv6.1/1, Mw(mB)5.1/4*

MOS ***29*** *21:33:03.5±1.0, 4.°99S×152.°60E, h33km, mb5.3/27, MS5.0/15, Error ellipse: s-maj=9.5km s-min=6.8km az=88.9*

ISCJB ***29*** *21:33:03.8±0.2, 5.°15S±0.°03×152.°66E±0.°04, h40km, mb5.0/106, MS5.0/54, Error ellipse: s-maj=5.2km s-min=4.3km az=15.4*

BJI ***29*** *21:33:03.8, 4.°85S×152.°93E, h42km, mB5.3/39, mb5.0/52, Ms5.1/56, MS7 5.0/51*

NEIC ***29*** *21:33:05.7±0.8, 5.°13S×152.°63E, h43km±7km, mb5.2/50, MW5.3, Error ellipse: s-maj=4.8km s-min=4.4km az=99.0, Moment Tensor Solution. s30 Moment tensor: Scale 10^{17}Nm; M_{rr}0.86; $M_{\theta\theta}$-0.18; $M_{\phi\phi}$-0.68; $M_{r\theta}$1.05; $M_{\theta\phi}$0.34; $M_{\phi r}$-0.04; Best double couple: $M_0$1.30000×10^{17} NP1: ϕ_s348.00000°, δ30.00000°, λ139.00000°. NP2: ϕ_s115.00000°, δ71.00000°, λ66.00000°. Principal axes: T 1.5200, Plg57.0000°, Azm353.0000°; N -0.4400, Plg22.0000°, Azm122.0000°; P -1.0800, Plg22.0000°, Azm222.0000°;*

AUST ***29*** *21:33:06.3, 5.°17S×152.°60E, h30km*

GCMT ***29*** *21:33:08.2±0.1, 5.°42S×152.°75E, h30km, MW5.5, Moment Tensor Solution. s93,c178; s94,c174; Moment tensor: Scale 10^{17}Nm; M_{rr}1.29±.03; $M_{\theta\theta}$-1.35±.02; $M_{\phi\phi}$0.07±.02; $M_{r\theta}$1.38±.04; $M_{\theta\phi}$-0.24±.02; $M_{\phi r}$0.17±.03; Best double couple: $M_0$1.90000×10^{17} NP1:ϕ_{s}259.00000°, δ22.00000°, λ87.00000°. NP2:ϕ_{s}82.00000°, δ68.00000°, λ91.00000°. Principal axes: T 1.8800, Plg67.0000°, Azm355.0000°; N 0.1000, Plg1.0000°, Azm262.0000°; P -1.9800, Plg23.0000°, Azm171.0000°; Data Used: II IU CN IC G.*

DJA ***29*** *21:33:15.5±3.2, 5.°S±15.°×15.°2E±1.°9, h81km±19km, MS.5/17, mB5.6/5, mb5.0/17, MLv5.9/1, Mw(mB)5.2/5*

ISC 29 21:33:05.5±0.3, 5.°12S±0.°03×152.°70E±0.°04, h42km±2km, h41km:pP-P, n397, σ1§56/497, mb5.0/106, MS5.0/56, 18C-6D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.07**	**330**	P	**Pn**	**21 33 25.3**	**+1.2**
	baz=1.1,SNR=537						
RABL				S	Sn	21 33 44.1	+6.2
	baz=1.1,SNR=6.3						
PMG	**Port Moresby**	**6.95**	**232**	*e*Pn	**Pn**	**21 34 44.3**	**-0.6**
PMG				*e*Sn	Sn	21 35 55.1	-7.7
PMG	**Port Moresby**	**6.95**	**232**	P	**Pn**	**21 34 47.0**	**+2.1**
	410nm,1.1s,14μm5.1nm						
PMG	**Port Moresby**	**6.95**	**232**	Pn	**Pn**	**21 34 44.6**	**-0.4**
	8.8nm,0.3s,baz=54,slow=9.5,SNR=34						
PMG				Sn	**Sn**	**21 36 02.0**	**-0.8**
	43nm,0.3s,baz=145,slow=20,SNR=13						
HNR	**Honiara**	**8.36**	**121**	*e*Pn	**Pn**	**21 35 06.0**	**+1.7**
HNR				*e*Pg		21 35 41.0	
HNR	**Honiara**	**8.36**	**121**	Pn	**Pn**	**21 35 03.7**	**-0.6**
	5.9nm,0.3s,baz=214,slow=5.6,SNR=4.6						
COEN	**Coen**	**12.85**	**226**	*e*Pn	**Pn**	**21 36 05.0**	**-0.8**
PATS	**Pohnpei**	**13.13**	**25**	S	Sn	21 38 41.0	+6.5
	baz=13,SNR=3.6						
MTSU	**Mount Surprise**	**15.31**	**212**	P	**P**	**21 36 42.3**	**-0.8**
	baz=15,SNR=20						
CTA	**Charters Tower**	**16.14**	**202**	Pn	**Pn**	**21 36 49.6**	**0.0**
CTA	**Charters Tower**	**16.14**	**202**	Pn	**Pn**	**21 36 49.6**	**0.0**
	0.3nm,0.3s,baz=36,slow=14,SNR=5.2						
CTA				LR	LR	21 42 02.8	
	comp=Z,6μm,21.9s,baz=243,slow=34						
CTAO	**Charters Tower**	**16.14**	**202**	*e*P	**Pn**	**21 36 49.4**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,133nm,1.4s						
CTAO	**Charters Tower**	**16.14**	**202**	*e*Pn	**Pn**	**21 36 49.4**	**-0.2**
	comp=Z,133nm,1.4s						
GUMO	**Guam**	**20.15**	**337**	*e*P	**P**	**21 37 36.1**	**-0.3**
	comp=Z,613nm,1.4s						
EIDS	**Eidsvold**	**20.19**	**184**	*e*P	**P**	**21 37 36.0**	**-0.8**
	comp=Z,416nm,2.0s						
EIDS	**Eidsvold**	**20.19**	**184**	P	**P**	**21 37 36.3**	**-0.5**
	baz=20,SNR=5.2						
FAKI	**Fak Fak**	**20.52**	**275**	P	Pn	21 37 44.9	+1.9
	baz=20,SNR=6.1						
KDU	**Kakadu**	**21.34**	**248**	P	**P**	**21 37 48.7**	**-0.6**
	baz=21,SNR=57						
NOUC	**Port Laguerre**	**21.41**	**143**	*e*P	**P**	**21 37 49.9**	**-0.1**
DZM	**Mont Dzumac**	**21.47**	**143**	*e*P	**P**	**21 37 53.1**	**+2.4**
	comp=Z,165nm,0.9s						
DZM				*e*LQ	LQ	21 42 13.3	
	comp=Z,4μm,27.9s						
DZM				*e*LR	LR	21 43 06.5	
	comp=Z,7μm,23.6s						
DZM	**Mont Dzumac**	**21.47**	**143**	*e*P	**P**	**21 37 50.5**	**-0.2**
DZM	**Mont Dzumac**	**21.47**	**143**	P	**P**	**21 37 50.7**	**0.0**
DZM	**Mont Dzumac**	**21.47**	**143**	P	**P**	**21 37 50.7**	**0.0**
	comp=Z,28nm,0.7s,baz=360,slow=6.0,SNR=14						
RMQ	**Roma**	**21.57**	**190**	P	**P**	**21 37 51.6**	**-0.1**
	baz=22,SNR=6.2						
SWI	**Sorong**	**21.82**	**280**	P	**P**	**21 37 56.6**	**+2.1**
	baz=22,SNR=3.9						
MTN	**Manton Dam**	**22.63**	**249**	P	**P**	**21 38 05.3**	**+2.1**
	baz=22,SNR=7.2						
MTN				S	**S**	**21 42 07.0**	**-1.4**
	baz=22,SNR=6.5						
WRAB	**Tennant Creek**	**23.15**	**229**	P	**P**	**21 38 08.9**	**+0.5**
	comp=Z,306nm,0.9s,SNR=6.2						
WRAB	**Tennant Creek**	**23.15**	**229**	*e*P	**P**	**21 38 08.1**	**-0.4**
WRAB				*e*S	**S**	**21 42 15.8**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,111nm,1.0s						
WRAB	**Tennant Creek**	**23.15**	**229**	*e*P	**P**	**21 38 08.1**	**-0.4**
	comp=Z,111nm,1.0s						
WRAB				*e*S	**S**	**21 42 15.8**	**-1.3**
WRA	**Warramunga Arr**	**23.16**	**229**	P	**P**	**21 38 08.0**	**-0.6**
WRA				S	**S**	**21 42 17.6**	**+0.2**
WRA				ScP	**ScP**	**21 45 37.1**	**+6.0**
WRA	**Warramunga Arr**	**23.16**	**229**	P	**P**	**21 38 08.0**	**-0.6**
	comp=Z,26nm,0.9s,baz=53,slow=10.0,SNR=40						
WRA				S	**S**	**21 42 17.6**	**+0.2**
	comp=Z,46nm,1.3s,baz=54,slow=18,SNR=12						
WRA				ScP	**ScP**	**21 45 37.1**	**+6.0**
	comp=Z,2.8nm,1.1s,baz=51,slow=2.8,SNR=3.9						
WRA				LR	LR	21 47 24.4	
	comp=Z,3μm,20.7s,baz=55,slow=37						
ARMA	**Armidale**	**25.18**	**182**	*e*P	**P**	**21 38 27.4**	**0.0**
	comp=Z,155nm,2.0s						
ARMA	**Armidale**	**25.18**	**182**	P	**P**	**21 38 27.8**	**+0.4**
	baz=25,SNR=5.7						
ARMA				S	S	21 43 00.3	+10
	baz=25,SNR=4.7						
KNRA	**Kununurra**	**25.74**	**244**	P	**P**	**21 38 33.3**	**+0.9**
	baz=26,SNR=25						
KNRA				S	S	21 43 08.3	+9.4
	baz=26,SNR=5.7						
ASAR	**Alice Springs**	**25.85**	**223**	P	**P**	**21 38 32.9**	**-0.5**
ASAR				ScP	**ScP**	**21 45 44.8**	**+6.2**
ASAR	**Alice Springs**	**25.85**	**223**	P	**P**	**21 38 32.9**	**-0.5**
	comp=Z,23nm,0.8s,baz=60,slow=8.4,SNR=68						
ASAR				ScP	**ScP**	**21 45 44.8**	**+6.2**
	comp=Z,0.8nm,0.6s,baz=42,slow=4.3,SNR=4.3						
ASAR				LR	LR	21 48 12.3	
	comp=Z,3μm,21.6s,baz=188,slow=35						
CMSA	**Cobar Meteorol**	**27.09**	**193**	P	**P**	**21 38 42.8**	**-1.6**
	baz=27,SNR=13						
STKA	**Stephens Creek**	**28.58**	**200**	*e*P	**P**	**21 38 56.4**	**-1.4**
	comp=Z,16nm,1.7s						
STKA	**Stephens Creek**	**28.58**	**200**	P	**P**	**21 38 56.3**	**-1.4**
	comp=Z,8.0nm,0.8s,baz=6.1,slow=8.6,SNR=17						
STKA				LR	LR	21 50 55.7	
	comp=Z,4μm,18.9s,baz=15,slow=38						
STKA	**Stephens Creek**	**28.58**	**200**	P	**P**	**21 38 56.0**	**-1.7**
	baz=29,SNR=13						
BATI	**Baumata**	**29.21**	**258**	P	**P**	**21 39 04.3**	**+0.7**
BATI	**Baumata**	**29.21**	**258**	P	**P**	**21 39 04.3**	**+0.7**
	comp=Z,13nm,0.6s,baz=146,slow=3.6,SNR=2.6						
FITZ	**Fitzroy Crossi**	**29.42**	**242**	*e*P	**P**	**21 39 04.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**29.42**	**242**	P	**P**	**21 39 04.0**	**-1.4**
	comp=Z,22nm,0.7s,baz=60,slow=6.3,SNR=31						
FITZ	**Fitzroy Crossi**	**29.42**	**242**	P	**P**	**21 39 04.3**	**-1.1**
	baz=29,SNR=13						
FITZ				S	**S**	**21 43 59.5**	**+2.7**
	baz=29,SNR=3.7						
DAV	**Davao City (W)**	**29.66**	**294**	LR	LR	21 50 22.4	
	comp=Z,2μm,20.6s,baz=98,slow=35						
BBOO	**Buckleboo**	**31.62**	**207**	*e*P	**P**	**21 39 22.6**	**-2.1**
	comp=Z,1μm,1.5s						
FORT	**Forrest**	**34.48**	**219**	*e*P	**P**	**21 39 49.8**	**+0.2**
	comp=Z,57nm,0.8s						
MYLDM	**Lahad Datu**	**35.66**	**286**	P	P	21 40 03.9	+3.9
	comp=Z,47nm,1.6s						
MBWA	**Marble Bar**	**35.73**	**240**	*e*P	**P**	**21 40 00.2**	**-0.4**
	comp=Z,220nm,2.1s						
AFI	**Afiamalu**	**36.06**	**107**	LR	LR	21 53 59.7	
	comp=Z,2μm,18.0s,baz=256,slow=35						
MEEK	**Meekatharra**	**38.93**	**233**	P	**P**	**21 40 26.7**	**-1.0**
	baz=39,SNR=37						
MEEK				S	S	21 46 30.3	+6.7
	baz=39,SNR=4.0						
JOW	**Kunigami**	**39.60**	**325**	*e*P	**P**	**21 40 33.6**	**+0.4**
	comp=Z,54nm,1.8s						
URZ	**Urewera**	**39.76**	**149**	*e*P	**P**	**21 40 33.9**	**-0.4**
	comp=Z,223nm,2.0s						
URZ	**Urewera**	**39.76**	**149**	P	**P**	**21 40 33.9**	**-0.4**
	comp=Z,9.2nm,0.7s,baz=90,slow=4.1,SNR=4.0						
SBUM	**Sibu**	**41.14**	**280**	P	**P**	**21 40 48.6**	**+2.5**
	comp=Z,16nm,1.9s						
YULB	**Yu-li**	**41.75**	**314**	*e*P	**P**	**21 40 50.5**	**-0.5**
	comp=Z,14nm,0.8s						
KLBR	**Kellerberrin**	**42.02**	**227**	P	P	21 40 59.1	+6.0
	baz=42,SNR=5.7						
MORW	**Morawa**	**42.07**	**231**	P	**P**	**21 40 54.0**	**+0.5**
	baz=42,SNR=9.1						
TPUB	**Ta-pu**	**42.17**	**313**	*e*P	**P**	**21 40 54.0**	**-0.5**
	comp=Z,20nm,1.1s						
SSLB	**Suanglung**	**42.24**	**314**	*e*P	**P**	**21 40 54.3**	**-0.8**
	comp=Z,14nm,1.0s						
YHNB	**Yeheng**	**42.50**	**316**	*e*P	**P**	**21 40 56.6**	**-0.6**
	comp=Z,28nm,0.9s						
KSM	**Kuching**	**42.85**	**278**	*e*P	**P**	**21 40 59.3**	**-0.8**
	comp=Z,24nm,1.1s						
KSM	**Kuching**	**42.85**	**278**	P	**P**	**21 41 00.5**	**+0.4**
	comp=Z,21nm,1.3s,comp=Z,464nm						
KSM	**Kuching**	**42.85**	**278**	P	**P**	**21 41 00.5**	**+0.4**
	baz=43,SNR=5.1						
NWAO	**Narrogin (SRO)**	**43.09**	**226**	P	**P**	**21 41 03.1**	**+1.3**
NWAO	**Narrogin (SRO)**	**43.09**	**226**	P	**P**	**21 41 03.1**	**+1.3**
	comp=Z,2.8nm,0.5s,baz=87,slow=18,SNR=2.5						
JNU	**Nakatsue**	**43.30**	**333**	*e*P	**P**	**21 41 03.7**	**+0.2**
JNU	**Nakatsue**	**43.30**	**333**	P	**P**	**21 41 03.0**	**-0.5**
	comp=Z,30nm,0.9s,baz=99,slow=5.3,SNR=9.7						
MJAR	**Matsushiro Arr**	**43.61**	**343**	P	**P**	**21 41 03.8**	**-2.1**
MJAR				PcP	**PcP**	**21 42 52.8**	**0.0**
MJAR	**Matsushiro Arr**	**43.61**	**343**	P	**P**	**21 41 03.8**	**-2.1**
	comp=Z,8.2nm,1.3s,baz=162,slow=9.8,SNR=7.2						
MJAR				PcP	**PcP**	**21 42 52.8**	**0.0**
	comp=Z,7.1nm,1.1s,baz=169,slow=4.6,SNR=5.2						
MJAR				LR	LR	21 57 31.4	
	comp=Z,1μm,21.6s,baz=200,slow=34						
QZH	**Quanzhou**	**44.65**	**314**	*i*P	**P**	**21 41 14.0**	**-0.3**
QZH				S	**S**	**21 47 46.3**	**-1.6**
QZH				LR	LR		
	comp=N,1μm,17.2s						
QZH				LR	LR		
	comp=E,2μm,17.7s						
QZH				LR	LR		
	comp=Z,3μm,20.5s						
CISI	**Cisompet, Garu**	**44.66**	**264**	P	**P**	**21 41 13.5**	**-1.3**
	baz=45,SNR=3.5						
SSE	**Sheshan**	**46.94**	**322**	P	**P**	**21 41 32.5**	**+0.2**
SSE				pP	**pP**	**21 41 46.5**	**+2.4**
SSE				PP	**PP**	**21 43 25.5**	**+2.3**
SSE				pmax	pmax		
	comp=Z,19nm,0.7s						
SSE				pmax	pmax		
	comp=Z,160nm,5.2s						
SSE				LR	LR		
	comp=N,820nm,17.3s						
SSE				LR	LR		
	comp=E,710nm,17.3s						
SSE				LR	LR		
	comp=Z,1μm,19.1s						
KSRS	**Korea Array**	**48.24**	**333**	P	**P**	**21 41 42.0**	**-0.4**
	comp=Z,4.3nm,0.7s,baz=150,slow=7.6,SNR=22						
KSRS				LR	LR	22 01 13.9	
	comp=Z,743nm,19.4s,baz=79,slow=35						
KSAR	**Wonju Array Be**	**48.25**	**333**	P	**P**	**21 41 42.0**	**-0.5**
QIZ	**Qiongzhong**	**48.55**	**301**	P	**P**	**21 41 45.0**	**-0.1**
QIZ				pP	**pP**	**21 41 55.8**	**-1.1**
QIZ				sP	**sP**	**21 42 02.5**	**+0.7**
QIZ				PP	**PP**	**21 43 35.3**	**-3.0**
QIZ				S	**S**	**21 48 43.8**	**-0.2**
QIZ				sS	**sS**	**21 49 01.0**	**-2.7**
QIZ				pmax	pmax		
	comp=Z,31nm,1.9s						
QIZ				LR	LR		
	comp=N,670nm,22.8s						
QIZ				LR	LR		
	comp=E,400nm,25.0s						
QIZ				LR	LR		
	comp=Z,2μm,23.0s						
RAR	**Rarotonga**	**48.74**	**114**	LR	LR	21 59 02.3	
	comp=Z,1μm,20.4s,baz=278,slow=32						
NJ2	**Nanjing**	**49.03**	**321**	*e*P	**P**	**21 41 49.5**	**+1.0**
NJ2				PcP	**PcP**	**21 43 12.0**	**0.0**
NJ2				ScP	**ScP**	**21 47 04.8**	**+0.8**
NJ2				PcS	**PcS**	**21 47 09.0**	**+0.6**
NJ2				S	**S**	**21 48 54.5**	**+4.1**
NJ2				pmax	pmax		
	comp=Z,12nm,0.8s						
NJ2				LR	LR		
	comp=N,140nm,24.2s						
NJ2				LR	LR		
	comp=E,640nm,25.2s						
NJ2				LR	LR		
	comp=Z,340nm,21.3s						
MYKOM	**Kota Tinggi**	**49.28**	**277**	P	**P**	**21 41 51.9**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**49.32**	**353**	*c*P	**P**	**21 41 49.4**	**-1.1**
YUK				*i*		21 43 08.4	
YUK				*i*		21 43 40.3	
YUK				*i*	PPP	PPP	21 44 35.3
YUK				*i*	S	**S**	**21 48 56.8**	**+2.8**
YUK				*i*	SS	**SS**	**21 52 25.4**	**-0.8**
YUK				*i*	SSS	SSS	21 53 50.2
ASAJ	**Asahikawa**	**49.85**	**350**	*e*P	**P**	**21 41 54.5**	**0.0**
	comp=Z,8.6nm,0.9s						
ASAJ	**Asahikawa**	**49.85**	**350**	P	**P**	**21 41 54.6**	**0.0**
	comp=Z,13nm,0.7s,baz=212,slow=9.2,SNR=14						
ASAJ				LR	LR	22 02 43.1	
	comp=Z,912nm,20.3s,baz=170,slow=36						
KUR	**Kuril'sk**	**50.32**	**356**	*e*P	**P**	**21 41 56.0**	**-2.0**
KUR				*e*S	S	21 49 17.0	+9.1
WHN	**Wuhan**	**51.02**	**316**	P	**P**	**21 42 04.8**	**+1.2**
WHN				S	**S**	**21 49 18.5**	**+0.3**
WHN				LR	LR		
	comp=N,2μm,22.1s						
WHN				LR	LR		
	comp=E,3μm,17.9s						
WHN				LR	LR		
	comp=Z,4μm,23.3s						
USRK	**Ussuriysk Arra**	**52.52**	**341**	P	**P**	**21 42 14.2**	**-0.4**
	comp=Z,4.6nm,0.7s,baz=160,slow=7.9,SNR=29						
USRK				LR	LR	22 02 40.5	
	comp=Z,487nm,20.4s,baz=146,slow=34						
YSS	**Yuzh-Sakhalins**	**52.59**	**351**	*e*P	**P**	**21 42 15.0**	**0.0**
YSS				*e*		21 42 32.0	
YSS				*e*		21 49 52.0	
YSS				MLR	MLR		
	comp=N,1μm,20.0s						
YSS				MLR	MLR		
	comp=E,700nm,20.0s						
YSS				MLR	MLR		
	comp=Z,1μm,20.0s						
KULM	**Kulim**	**53.00**	**280**	*e*P	**P**	**21 42 17.4**	**-1.3**
MDJ	**Mudanjiang**	**53.69**	**340**	P	**P**	**21 42 23.0**	**-0.2**
MDJ				pP	**pP**	**21 42 34.0**	**-1.1**
MDJ				sP	**sP**	**21 42 39.5**	**-0.5**
MDJ				S	**S**	**21 49 58.0**	**+3.8**
MDJ				ScS	**ScS**	**21 52 02.5**	**-6.7**
MDJ				SS	**SKiKP**	**21 53 28.3**	**-6.3**
MDJ				pmax	pmax		
	comp=Z,15nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,140nm,8.8s						
MDJ				LR	LR		
	comp=N,240nm,31.4s						
MDJ				LR	LR		
	comp=E,420nm,23.0s						
MDJ				LR	LR		
	comp=Z,660nm,27.2s						
MDJ	**Mudanjiang**	**53.69**	**340**	*e*P	**P**	**21 42 22.9**	**-0.3**
	comp=Z,2.8nm,0.4s						
PSI	**Prapat**	**54.30**	**277**	P	**P**	**21 42 27.3**	**-1.1**
	baz=54,SNR=5.4						
ENH	**Enshi**	**54.30**	**313**	*e*P	**P**	**21 42 27.6**	**-0.4**
	comp=Z,39nm,1.2s						
CHAI	**Chaiyaphum**	**54.36**	**294**	P	**P**	**21 42 25.8**	**-2.8**
	comp=Z,3.0nm,1.2s						
NAYO	**Nakonayok**	**54.49**	**292**	P	**P**	**21 42 30.9**	**+1.3**
	comp=Z,142nm,0.8s						
GYA	**Guiyang**	**54.51**	**308**	⇑*i*P	**P**	**21 42 30.3**	**+0.6**
GYA				pP	**pP**	**21 42 44.0**	**+2.3**
GYA				sP	**sP**	**21 42 50.5**	**+3.9**
GYA				PP	**PP**	**21 44 35.3**	**+2.9**
GYA				ScP	**ScP**	**21 47 25.5**	**-2.5**
GYA				S	**S**	**21 50 04.3**	**-2.0**
GYA				SS	**SS**	**21 53 48.0**	**-1.5**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,5.3s						
GYA				LR	LR		
	comp=N,690nm,19.8s						
GYA				LR	LR		
	comp=E,550nm,20.0s						
GYA				LR	LR		
	comp=Z,760nm,18.5s						
CN2	**Changchun**	**54.55**	**336**	*e*P	P	21 42 33.8	+4.3
CN2				*e*pP	pP	21 42 46.3	+4.8
CN2				*e*S	**S**	**21 50 09.0**	**+3.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.3s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,500nm,20.2s						
CN2				LR	LR		
	comp=E,400nm,20.2s						
CN2				LR	LR		
	comp=Z,600nm,19.0s						
PBKT	**Sadao Pong**	**55.50**	**294**	P	**P**	**21 42 38.0**	**+1.2**
	comp=Z,16nm,1.5s						
LOEI	**Loei**	**55.53**	**295**	P	**P**	**21 42 35.1**	**-2.0**
	comp=Z,173nm,0.7s						
BJI	**Beijing**	**56.11**	**327**	P	**P**	**21 42 41.3**	**+0.6**
BJI				S	**S**	**21 50 31.5**	**+4.7**
BJI				pmax	pmax		
	comp=Z,13nm,1.1s						
BJI				pmax	pmax		
	comp=Z,280nm,5.9s						
BJI				LR	LR		
	comp=N,800nm,20.8s						
BJI				LR	LR		
	comp=E,770nm,21.6s						
BJI				LR	LR		
	comp=Z,960nm,28.9s						
XAN	**Xi'an**	**56.79**	**317**	P	**P**	**21 42 45.5**	**-0.3**
XAN				pP	**pP**	**21 42 55.5**	**-2.4**
XAN				sP	**sP**	**21 43 00.0**	**-2.7**
XAN				S	S	21 50 42.5	+6.3
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XAN				LR	LR		
	comp=N,450nm,20.1s						
XAN				LR	LR		
	comp=E,390nm,20.3s						
XAN				LR	LR		
	comp=Z,450nm,20.1s						
KMI	**Kunming**	**57.09**	**304**	P	**P**	**21 42 49.0**	**+0.7**
KMI				pP	**pP**	**21 42 59.0**	**-1.4**
KMI				sP	**sP**	**21 43 04.0**	**-1.2**
KMI				PP	**PP**	**21 44 56.3**	**+0.8**
KMI				S	**S**	**21 50 41.0**	**+0.2**
KMI				sS	**sS**	**21 50 59.0**	**-1.9**
KMI				SS	**SS**	**21 54 33.5**	**+3.2**
KMI				pmax	pmax		
	comp=Z,21nm,1.5s						
KMI				pmax	pmax		
	comp=Z,140nm,5.1s						
KMI				LR	LR		
	comp=N,210nm,17.8s						
KMI				LR	LR		
	comp=E,900nm,17.8s						
KMI				LR	LR		
	comp=Z,940nm,17.1s						
KLR	**Kul'dur**	**57.13**	**344**	*e*P	P	21 42 43.8	-4.0
KLR				*e*S	S	21 50 54.0	+14
KLR				pmax	pmax		
	comp=E,35nm,1.8s						
KLR				pmax	pmax		
	comp=Z,110nm,1.8s						
PPT	**Papeete**	**57.72**	**107**	LR	LR	22 04 25.0	
	comp=Z,737nm,19.9s,baz=186,slow=33						
PPT2	**Papeete2

PET pmax pmax
comp=Z,21nm,1.7s
PET pmax pmax
comp=Z,400nm,5.8s
PET MLR MLR
comp=Z,800nm,21.0s
PET MLR MLR
comp=Z,700nm,18.0s
PETK Petropavlovsk- 58.17 4 P **P** **21 42 55.2 +0.1**
PETK Petropavlovsk- 58.17 4 P **P** **21 42 55.2 +0.1**
PETK Petropavlovsk- 58.17 4 P **P** **21 42 55.2 +0.1**
comp=Z,6.4nm,0.5s,baz=166,slow=7.6,SNR=19
PETK LR LR 22 04 30.9
comp=Z,766nm,21.4s,baz=210,slow=32
TBI Tubuai 58.51 114 *e*S **S** **21 51 00.9 +1.8**
comp=Z,632nm,26.4s
TBI *e*LQ LQ 21 57 50.3
comp=Z,2µm,33.8s
TBI *e*LR LR 22 00 18.1
comp=Z,2µm,27.8s,baz=287
CD2 Chengdu 58.87 311 *e*P **P** **21 43 01.0 +0.5**
CD2 pP **pP** **21 43 14.8 +2.2**
CD2 sP **sP** **21 43 20.3 +2.8**
CD2 PcP **PcP** **21 43 50.0 +0.4**
CD2 PP **PP** **21 45 13.5 +2.4**
CD2 S **S** **21 51 02.0 -1.6**
CD2 sS **sS** **21 51 24.5 +0.7**
CD2 ScS **ScS** **21 52 43.3 -4.2**
CD2 SS **SS** **21 54 58.0 +0.1**
CD2 pmax pmax
comp=Z,70nm,1.2s
CD2 pmax pmax
comp=Z,500nm,6.0s
CD2 LR LR
comp=E,1µm,17.8s
CD2 LR LR
comp=Z,2µm,19.0s
HHC Hu-ho-hao-te 59.25 324 *e*P **P** **21 43 05.3 +2.3**
HHC S **S** **21 51 09.3 +1.0**
HHC pmax pmax
comp=Z,15nm,1.4s
HHC pmax pmax
comp=Z,380nm,8.6s
HHC LR LR
comp=N,680nm,15.0s
HHC LR LR
comp=E,780nm,16.2s
HHC LR LR
comp=Z,790nm,16.0s
FX1 Attu Island--F 60.33 14 *e*P **P** **21 43 10.6 +0.6**
FX1 Attu Island--F 60.33 14 P **P** **21 43 10.3 +0.3**
comp=Z,26nm,0.6s,baz=177,slow=3.1,SNR=40
LZH Lanzhou 61.39 316 *e*P **P** **21 43 18.8 +1.0**
LZH sP **sP** **21 43 36.5 +1.7**
LZH *e*S **S** **21 51 39.0 +2.9**
LZH sS **sS** **21 51 58.0 +1.7**
LZH SS **SS** **21 55 36.5 -1.0**
LZH pmax pmax
comp=Z,89nm,1.5s
LZH pmax pmax
comp=Z,240nm,5.8s
LZH LR LR
comp=N,660nm,18.6s
LZH LR LR
comp=E,950nm,17.1s
LZH LR LR
comp=Z,950nm,19.1s
DRV Dumont d'Urvil 62.07 186 P P 21 43 09.0 -13
DRV S S 21 51 32.0 -11
DRV SS **SS** **21 55 51.0 +4.6**
DRV L L 21 58 00.0
DRV R 22 02 00.0
ADK Adak 62.50 21 *e*P **P** **21 43 25.0 +0.3**
ADK pmax pmax
comp=Z,185nm,0.8s
ADK Adak 62.50 21 *e*P **P** **21 43 24.9 +0.3**
comp=Z,184nm,0.8s
CLNS Chul'man 65.79 344 *e*P **P** **21 43 45.0 -1.3**
CLNS *e**PP **pP** **21 43 54.9 -3.6**
CLNS pmax pmax
comp=Z,28nm,1.8s
CLNS pmax pmax
comp=N,20nm,1.6s
CLNS pmax pmax
comp=E,5.0nm,1.5s
CLNS pmax pmax
comp=Z,10.0nm,1.4s
CLNS pmax pmax
comp=N,10.0nm,2.0s
CLNS pmax pmax
comp=E,4.0nm,1.1s
CLNS MLR MLR
comp=N,265nm,19.0s
CLNS MLR MLR
comp=Z,409nm,17.0s
CLNS MLR MLR
comp=E,231nm,18.0s
GTA Gaotai 65.83 317 ⇑P **P** **21 43 47.5 +0.5**
GTA pP **pP** **21 44 00.5 +1.2**
GTA sP **sP** **21 44 06.0 +1.9**
GTA S **S** **21 52 31.5 +0.4**
GTA sS **sS** **21 52 53.5 +2.0**
GTA SS **SS** **21 56 49.5 +3.0**
GTA pmax pmax
comp=Z,22nm,1.7s
GTA pmax pmax
comp=Z,270nm,5.0s
GTA LR LR
comp=N,440nm,20.9s
GTA LR LR
comp=E,770nm,19.0s
GTA LR LR
comp=Z,1µm,19.5s
ULN Ulaanbaatar 66.22 328 *e*P **P** **21 43 49.8 +0.4**
comp=Z,30nm,1.5s
SHL Shillong 66.39 301 *e*P **P** **21 43 52.0 +1.1**
SONM Songino Array 66.55 328 P **P** **21 43 51.6 +0.2**
SONM Songino Array 66.55 328 P **P** **21 43 51.6 +0.2**
comp=Z,4.2nm,0.9s,baz=145,slow=4.6,SNR=17
SONM LR LR 22 10 54.4
comp=Z,1µm,21.0s,baz=141,slow=34
LSA Lhasa 68.34 305 P **P** **21 44 04.0 +0.4**
LSA sP **sP** **21 44 20.0 -0.7**
LSA S **S** **21 52 59.8 -2.6**
LSA LR LR
comp=E,730nm,27.5s
LSA LR LR
comp=Z,940nm,20.8s
LSA Lhasa 68.34 305 *e*P **P** **21 44 03.6 0.0**
LSA pmax pmax
comp=Z,19nm,0.8s
LSA Lhasa 68.34 305 *e*P **P** **21 44 03.6 0.0**
comp=Z,19nm,0.8s
YAK Yakutsk 69.27 349 *e*P **P** **21 44 07.7 -0.3**
YAK *e**PP **PcP** **21 44 32.5 +1.0**
YAK *e* 21 46 41.3
YAK *e*PPP PPP 21 48 24.7
YAK *e*S **S** **21 53 07.9 -3.3**
YAK *e**SS **SKiKP** **21 53 51.7 -2.9**
YAK *e*SSS SSS 22 00 42.7
YAK pmax pmax
comp=Z,17nm,1.3s
YAK pmax pmax
comp=N,14nm,1.6s
YAK pmax pmax
comp=Z,34nm,1.9s
YAK pmax pmax
comp=N,33nm,3.7s
YAK pmax pmax
comp=E,43nm,4.2s
YAK smax smax
comp=N,176nm,15.6s
YAK smax smax
comp=E,53nm,18.0s
ZAK Zakamensk 69.72 329 *e*P **P** **21 44 10.6 -0.6**
ZAK pmax pmax
comp=Z,15nm,1.5s
TLY Talaya 70.31 330 *e*P **P** **21 44 15.9 +1.2**
TLY *e*S S 21 53 14.6 -9.3
TLY *e*SS **SS** **21 57 52.1 -3.1**
TLY pmax pmax
comp=Z,15nm,1.9s
TLY MLR MLR
comp=Z,571nm,17.0s
IRK Irkutsk 70.34 331 ⇑*i*P **P** **21 44 13.8 -1.1**
IRK pmax pmax
comp=Z,39nm,2.2s
MOY Mondy 71.64 329 *e*P **P** **21 44 22.8 -0.1**
MOY pmax pmax
comp=Z,63nm,2.1s
RKT Rikitea 71.75 113 *e*LR LR 22 06 22.5
comp=Z,1µm,23.5s
VNDA Vanda 72.51 178 *e*P **P** **21 44 28.0 +0.4**
VNDA Vanda 72.51 178 P **P** **21 44 27.8 +0.2**
comp=Z,1.9nm,0.7s,baz=328,slow=7.2,SNR=16
VNDA LR LR 22 13 05.4
comp=Z,440nm,18.1s,baz=6.2,slow=33
SBA Scott Base 73.06 177 *e*P P 21 44 35.2 +4.4
SBA pmax pmax
comp=Z,34nm,1.7s
SBA Scott Base 73.06 177 *e*P P 21 44 35.2 +4.4
comp=Z,34nm,1.7s
WMQ Urumqi 75.91 317 P **P** **21 44 49.0 +0.9**
WMQ pP **pP** **21 45 02.0 +1.4**
WMQ sP **sP** **21 45 07.5 +2.2**
WMQ PP **PP** **21 47 41.5 +2.6**
WMQ S **S** **21 54 26.8 -1.1**
WMQ sS **sS** **21 54 49.0 +0.3**
WMQ SKS **SKSac** **21 54 50.5 -5.0**
WMQ ScS **SKKSac** **21 54 56.3 +0.4**
WMQ SS **SS** **21 59 22.5 +1.3**
WMQ pmax pmax
comp=Z,12nm,1.0s
WMQ pmax pmax
comp=Z,63nm,4.1s
WMQ LR LR
comp=N,75nm,7.0s
WMQ LR LR
comp=E,61nm,13.6s
KDAK Kodiak Island 76.51 27 P **P** **21 44 51.1 +0.1**
KDAK Kodiak Island 76.51 27 P **P** **21 44 51.1 +0.1**
comp=E,18nm,0.9s,baz=135,slow=6.1,SNR=4.6
SVW2 Sparrevohn 77.16 23 *e*P **P** **21 44 55.9 +1.2**
TIXI Tiksi 78.20 352 ⇓*i*P **P** **21 45 00.0 -0.2**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
PPLA Purkeypile 79.51 22 *e*P **P** **21 45 10.6 +2.8**
comp=Z,104nm,1.8s
PMR Palmer 80.02 24 *e*P **P** **21 45 10.0 -0.3**
PMR pmax pmax
comp=Z,25nm,1.0s
PMR Palmer 80.02 24 *e*P **P** **21 45 10.0 -0.3**
comp=Z,25nm,1.0s
SML Sawmill 80.46 24 *e*P **P** **21 45 12.9 +0.1**
SML pmax pmax
comp=Z,12nm,0.8s
SML Sawmill 80.46 24 *e*P **P** **21 45 12.9 +0.1**
comp=Z,12nm,0.8s
MKAR Makanchi Array 80.50 319 *ce*P **P** **21 45 13.3 -0.1**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR Makanchi Array 80.50 319 P **P** **21 45 13.3 -0.1**
MKAR Makanchi Array 80.50 319 P **P** **21 45 13.3 -0.1**
comp=Z,3.1nm,0.9s,baz=95,slow=6.7,SNR=29
MKAR LR LR 22 20 38.7
comp=Z,788nm,19.7s,baz=104,slow=36
MCK McKinley 81.20 23 *e*P **P** **21 45 16.0 -0.7**
MCK pmax pmax
comp=Z,64nm,0.9s
MCK McKinley 81.20 23 *e*P **P** **21 45 16.0 -0.7**
comp=Z,64nm,0.9s
DIV Divide 81.20 26 *e*P **P** **21 45 17.5 +0.6**
comp=Z,65nm,1.4s
RAGM Ragged Mountai 81.34 26 *e*P **P** **21 45 18.4 +0.8**
comp=Z,533nm,3.0s
ZAA0 Zalesovo Array 81.37 326 *e*P **P** **21 45 16.7 -1.0**
ZALV Zalesovo Beam 81.37 326 *i*P **P** **21 45 16.8 -1.0**
ZALV pmax pmax
comp=Z,7.0nm,0.6s
ZALV Zalesovo Beam 81.37 326 P **P** **21 45 16.8 -1.0**
ZALV Zalesovo Beam 81.37 326 P **P** **21 45 16.8 -1.0**
comp=Z,7.0nm,0.6s,baz=112,slow=6.0,SNR=31
ZALV LR LR 22 19 39.0
comp=Z,673nm,21.4s,baz=70,slow=34
BMRM Bremner River 81.64 26 *e*P **P** **21 45 19.5 +0.4**
comp=Z,49nm,1.3s
COLA College 82.19 22 *e*P **P** **21 45 21.4 -0.4**
COLA pmax pmax
comp=Z,163nm,0.8s
COLA College 82.19 22 *e*P **P** **21 45 21.4 -0.4**
comp=Z,163nm,0.8s
ILAR Eielson Array 82.49 22 P **P** **21 45 22.1 -1.3**
ILAR Eielson Array 82.49 22 P **P** **21 45 22.1 -1.3**
comp=Z,15nm,0.8s,baz=253,slow=5.1,SNR=120
ILAR LR LR 22 20 23.0
comp=Z,879nm,19.4s,baz=241,slow=34
NVS Novosibirsk 82.55 327 ⇑*i*P **P** **21 45 22.2 -1.7**
NVS *e* 21 48 35.8
NVS *e*S **S** **21 55 35.5 -2.2**
NVS pmax pmax
comp=N,24nm,1.9s
NVS pmax pmax
comp=E,47nm,1.9s
NVS pmax pmax
comp=Z,88nm,1.9s
NVS pmax pmax
comp=Z,14nm,1.8s
NVS pmax pmax
comp=N,7.0nm,2.0s
NVS smax smax
comp=N,39nm,3.8s
NVS smax smax
comp=E,73nm,3.6s
COLD Coldfoot 82.59 19 *e*P **P** **21 45 24.8 +0.9**
comp=E,60nm,1.4s
KSH Kashi 83.07 311 ⇑*i*P **P** **21 45 29.3 +2.1**
KSH pP **pP** **21 45 39.5 -0.3**
KSH sP **sP** **21 45 43.5 -1.0**
KSH PP **PP** **21 48 41.8 +3.1**
KSH S **S** **21 55 45.0 +1.0**
KSH sS **ScS** **21 56 01.5 +3.4**
KSH SS **SS** **22 01 11.5 +2.7**
KSH pmax pmax
comp=Z,130nm,1.8s
KSH pmax pmax
comp=Z,380nm,3.8s
KSH LR LR
comp=N,160nm,7.8s
KSH LR LR
comp=E,140nm,13.8s
KSH LR LR
comp=Z,520nm,18.0s
PNL Peninsula 83.47 28 *e*P **P** **21 45 29.2 +0.5**
comp=Z,28nm,0.8s
ULHL Ulahol 83.47 313 P **P** **21 45 30.7 +1.4**
SNR=10.0
KURK Kurchatov 83.96 322 P **P** **21 45 30.9 -0.5**
KURK Kurchatov 83.96 322 P **P** **21 45 30.9 -0.5**
KURBB Kurchatov Arra 83.99 322 P **P** **21 45 30.9 -0.6**
comp=Z,4.0nm,0.8s,baz=108,slow=4.1,SNR=39
TKM2 Tokmak 2 84.08 314 *e*P **P** **21 45 32.9 +0.5**
TKM2 pmax pmax
comp=Z,130nm,1.7s
TKM2 Tokmak 2 84.08 314 P **P** **21 45 33.4 +0.9**
SNR=29
TKM2 Tokmak 2 84.08 314 *e*P **P** **21 45 32.9 +0.5**
comp=Z,130nm,1.7s
KZA Kyzart 84.15 313 P **P** **21 45 35.1 +2.1**
SNR=25
KBK Karagaybulak 84.49 314 P **P** **21 45 35.8 +1.3**
SNR=9.2
EGAK Eagle 84.69 23 *e*P **P** **21 45 35.1 +0.3**
comp=Z,56nm,1.4s
CHMS Chumysh 84.71 314 P **P** **21 45 36.4 +1.1**
SNR=23
UCH Uchtor 84.72 313 P **P** **21 45 37.6 +1.6**
SNR=7.9
HYT Haines Junctio 84.76 28 *e*P **P** **21 45 36.1 +0.8**
AAK Ala-Archa 84.82 314 P **P** **21 45 36.0 -0.1**
comp=Z,152nm,1.3s,SNR=8.6
AAK Ala-Archa 84.82 314 *c i*P **P** **21 45 36.8 +0.7**
AAK pmax pmax
comp=Z,109nm,1.4s
AAK Ala-Archa 84.82 314 P **P** **21 45 37.4 +1.3**
SNR=7.7
AAK Ala-Archa 84.82 314 *e*P **P** **21 45 36.8 +0.7**
comp=Z,115nm,1.8s
QSPA South Pole Qui 84.84 180 *e*P **P** **21 45 35.2 -0.5**
comp=Z,16nm,0.9s
USP Ospenovka 84.94 314 P **P** **21 45 37.7 +1.2**
SNR=40
DIB Dawson Inlet, 85.06 36 T T 23 19 02.7
SNR=27
DAWY Dawson 85.12 24 *e*P **P** **21 45 37.4 +0.4**
MAW Mawson 85.24 203 *e*P **P** **21 45 36.9 -0.5**
MAW Mawson 85.24 203 P **P** **21 45 36.3 -1.1**
comp=Z,5.3nm,1.0s,baz=77,slow=5.2,SNR=7.7
MAW LR LR 22 20 45.8
comp=Z,1µm,21.0s,baz=88,slow=34
MAW Mawson 85.24 203 P **P** **21 45 37.6 +0.1**
baz=85,SNR=6.0
AML Almayashu 85.30 313 P **P** **21 45 39.8 +1.0**
SNR=74
EKS2 Erkin-Say 85.34 313 *e*P **P** **21 45 39.1 +0.4**
EKS2 *e* 21 48 56.5
EKS2 pmax pmax
comp=Z,108nm,1.6s
EKS2 Erkin-Say 85.34 313 P **P** **21 45 39.5 +0.8**
SNR=44
EKS2 Erkin-Say 85.34 313 *e*P **P** **21 45 39.1 +0.4**
comp=Z,108nm,1.6s
EKS2 *e*PP **PP** **21 48 56.5 -0.6**
KBL Kabul 87.67 305 *e*P **P** **21 45 48.9 -1.4**
KBL pmax pmax
comp=Z,8.0nm,0.8s
KBL Kabul 87.67 305 *e*P **P** **21 45 48.9 -1.4**
comp=Z,8.3nm,0.8s
DLBC Dease Lake 87.71 31 P **P** **21 45 49.8 0.0**
comp=Z,7.1nm,1.3s
DLBC Dease Lake 87.71 31 P **P** **21 45 49.8 0.0**
comp=Z,7.2nm,1.0s,baz=277,slow=5.1,SNR=9.9
KKAR Karatay Array 87.78 313 *e*P **P** **21 45 50.2 -0.3**
KKAR Karatay Array 87.78 313 *e*P **P** **21 45 50.2 -0.3**
INK Inuvik 88.79 21 *e*P **P** **21 45 54.1 -0.5**
comp=Z,47nm,1.4s
INK Inuvik 88.79 21 P **P** **21 45 54.4 -0.2**
comp=Z,14nm,1.0s,baz=250,slow=6.1,SNR=22
HUMO Hull Mountain 89.27 47 *e*P **P** **21 46 00.4 +2.9**
comp=Z,16nm,1.4s
BRVK Borovoye 89.51 323 P **P** **21 45 57.1 -1.2**
comp=Z,58nm,0.8s,SNR=9.4
BRVK Borovoye 89.51 323 *c i*P **P** **21 45 57.6 -0.7**
BRVK pmax pmax
comp=Z,27nm,1.7s
BRVK Borovoye 89.51 323 *e*P **P** **21 45 57.4 -1.0**
comp=Z,12nm,0.9s
PKM Peak Mountain 90.83 55 P **P** **21 46 05.8 +0.6**
baz=91
PAHR Pah Rah Range 91.63 50 *e*P **P** **21 46 10.1 +1.3**
comp=Z,7.6nm,1.1s
ISA Isabella 92.00 55 P **P** **21 46 11.0 +0.5**
baz=92
MWC Mount Wilson 92.22 56 *e*P **P** **21 46 12.8 +1.2**
MWC pmax pmax
comp=Z,17nm,1.1s
MWC Mount Wilson 92.22 56 *e*P **P** **21 46 12.8 +1.2**
comp=Z,17nm,1.1s
EDW2 Edwards Air Fo 92.33 55 P **P** **21 46 12.6 +0.7**
baz=92
NVAR Mina Array Bea 92.36 52 P **P** **21 46 12.1 -0.1**
NVAR Mina Array Bea 92.36 52 P **P** **21 46 12.1 -0.1**
comp=Z,4.4nm,0.8s,baz=258,slow=6.6,SNR=28
NVAR LR LR 22 21 08.8
comp=Z,2µm,20.5s,baz=105,slow=31
WVOR Wild Horse Val 92.43 48 *e*P **P** **21 46 11.9 -0.4**
WVOR pmax pmax
comp=Z,5.0nm,1.1s
WVOR Wild Horse Val 92.43 48 *e*P **P** **21 46 11.9 -0.4**
comp=Z,5.3nm,1.1s
MPMC Manual Prospec 92.82 54 P **P** **21 46 14.5 +0.1**
baz=93
GSC Goldstone 93.33 55 *e*P **P** **21 46 17.2 +0.6**
GSC pmax pmax
comp=Z,18nm,1.8s
GSC Goldstone 93.33 55 *e*P **P** **21 46 17.1 +0.6**
comp=Z,18nm,1.8s
GSC Goldstone 93.33 55 P **P** **21 46 17.0 +0.4**
baz=93
SYO Syowa Base 93.33 199 ⇓*eX* pP 21 46 25.0 -3.5
FURC Furnace Creek, 93.36 54 P **P** **21 46 17.0 +0.4**
baz=94
MONP Monument Peak 93.48 57 P **P** **21 46 18.0 +0.5**
baz=94
BMO Blue Mountains 93.57 45 *e*P **P** **21 46 16.6 -0.9**
BMO pmax pmax
comp=Z,4.0nm,0.9s
BMO Blue Mountains 93.57 45 *e*P **P** **21 46 16.6 -0.9**
comp=Z,3.9nm,0.9s
HEC Hector,Ludlow 93.68 56 P **P** **21 46 18.7 +0.4**
baz=94
NEW Newport 93.90 42 *e*P **P** **21 46 19.1 +0.2**
comp=Z,5.6nm,1.0s
NEW Newport 93.90 42 P **P** **21 46 19.1 +0.2**
baz=94
BELC Belle Mtn. Jos 93.91 56 P **P** **21 46 19.3 0.0**
baz=94
GMRC Granite Mounta 94.23 56 P **P** **21 46 21.8 +1.0**
baz=94
BC3 Big Chuckawall 94.34 57 P **P** **21 46 22.1 +0.8**
baz=94
R11A Troy Canyon, C 94.48 52 P **P** **21 46 22.0 +0.1**
baz=95
MFID Camas Ranch 94.55 47 P **P** **21 46 22.6 +0.5**
baz=95
A12A Yaak River Ran 94.91 41 P **P** **21 46 24.3 +0.7**
baz=95
SVE Sverdlovsk 95.39 327 *e*P P 21 46 21.5 -3.9
SVE *e* 21 50 13.9
SVE pmax pmax
comp=Z,22nm,2.0s
SVE MLR MLR
comp=Z,743nm,22.0s
BSMT Bassoo Peak 95.45 43 *e*P **P** **21 46 25.9 -0.2**
HLID Hailey 95.59 47 *e*P **P** **21 46 28.2 +1.3**
comp=Z,24nm,2.4s
HLID Hailey 95.59 47 P **P** **21 46 27.3 +0.4**
baz=96
YKA Yellowknife Ar 95.75 28 P **P** **21 46 26.9 -0.1**
YKA Yellowknife Ar 95.75 28 P **P** **21 46 26.9 -0.1**
comp=Z,4.5nm,0.8s,baz=273,slow=4.9,SNR=12
WALA Waterton Lakes 96.06 41 *e*P **P** **21 46 28.9 +0.1**
comp=Z,0.2nm,0.9s
CCUT Cedar City 96.21 53 *e*P **P** **21 46 31.3 +1.3**
comp=Z,3.9nm,0.9s
A14A Double T Ranch 96.38 41 P **P** **21 46 30.6 +0.3**
baz=96
EDM Edmonton 96.44 37 *e*P **P** **21 46 31.1 +0.7**
EDM Edmonton 96.44 37 *e*P **P** **21 46 31.1 +0.7**
B14A Marquette Ranc 96.47 42 P **P** **21 46 30.4 -0.4**
baz=97
ARU Arti 96.53 326 *c i*P **P** **21 46 28.4 -2.2**
ARU 21 50 22.0
ARU S **SKSac** **21 57 02.2 -1.8**
ARU PS **PS** **21 59 13.5 -0.3**
ARU pmax pmax
comp=Z,20nm,1.7s
ARU MLR MLR
comp=Z,875nm,19.0s
A15A Johnson Ranch, 96.83 41 P **P** **21 46 32.1 -0.3**
baz=97
C15A Salmond Ranch, 96.92 43 P **P** **21 46 32.4 -0.4**
baz=97
U15A North Rim 97.04 54 P Pdif 21 46 34.3 +0.4
baz=97
C16A Fuhringer Ranc 97.50 43 P **P** **21 46 34.9 -0.5**
baz=98
I16A Newdale 97.71 47 P Pdif 21 46 37.1 +0.5
baz=98
WUAZ Wupatki 97.77 55 P Pdif 21 46 38.2 +1.2
baz=98
C17A Wharram Farm, 98.16 43 P **P** **21 46 37.9 -0.4**
baz=98
F17A Fitzpatrick Pl 98.27 44 P Pdif 21 46 39.3 +0.3
baz=98
F18A Big Timber 98.93 44 P Pdif 21 46 42.0 +0.1
baz=99
G18A Lazy EL Ranch, 99.06 45 P **Pdif** **21 46 42.4 -0.1**
baz=99
PDAR Pinedale Array 99.14 48 P **Pdif** **21 46 42.0 -1.1**
PDAR PP **PP** **21 50 43.4 -2.5**
PDAR Pinedale Array 99.14 48 P **Pdif** **21 46 42.0 -1.1**
comp=Z,1.4nm,0.9s,baz=267,slow=1.8,SNR=7.4
PDAR PP **PP** **21 50 43.4 -2.5**
comp=Z,1.1nm,1.0s,baz=249,slow=6.7,SNR=4.4
PDAR LR LR 22 27 45.8
comp=Z,2µm,18.9s,baz=80,slow=33
C19A Slack Wire Ran 99.32 43 P **Pdif** **21 46 43.9 +0.4**
baz=99

D19A	**Cripps Ranch,** baz=100	**99.46**	**43**	P		**Pdif**	**21 46 44.6**	**+0.4**
F19A	**Roth Farm, Mol** baz=100	**99.47**	**45**	P		**Pdif**	**21 46 44.4**	**+0.1**
E19A	**Rath Farm, Rou** baz=100	**99.56**	**44**	P		**Pdif**	**21 46 44.7**	**+0.1**
S21A	**Coal Bank Pass** baz=101	**100.63**	**53**	P		**Pdif**	**21 46 49.8**	**-0.1**
A21A	**Bergtoll Ranch** baz=101	**100.65**	**41**	P		**Pdif**	**21 46 49.8**	**+0.5**
J21A	**Lysite** baz=101	**100.66**	**47**	P		**Pdif**	**21 46 50.0**	**+0.3**
Q21A	**Lamborn Mesa,** baz=101	**100.77**	**52**	P		**Pdif**	**21 46 50.4**	**+0.1**
TXAR	**Lajitas Array**	**104.37**	**61**	PKiKP		**PKiKP**	**21 51 22.2**	**-0.7**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.8s,baz=264,slow=3.8,SNR=3.4	**104.37**	**61**	PKiKP		**PKiKP**	**21 51 22.2**	**-0.7**
ARCES	**ARCESS Array B**	**107.15 343**		PKiKP		**PKiKP**	**21 51 27.8**	**+1.1**
ARCES	**ARCESS Array B** comp=Z,1.4nm,0.8s,baz=73,slow=4.0,SNR=4.1	**107.15 343**		PKiKP		**PKiKP**	**21 51 27.8**	**+1.1**
MOS	**Moscow**	**108.17 327**		*e*P		**Pdif**	**21 47 20.7**	**-1.8**
MOS	comp=Z,30nm,1.0s			pmax		pmax		
MOS	comp=Z,1μm,23.0s			MLR		MLR		
OBN	**Obninsk**	**108.95 327**		*e*P		**Pdif**	**21 47 25.1**	**-0.9**
OBN				*e*			21 51 58.0	
OBN				*e*PS		**PS**	**22 01 23.4**	**-1.3**
OBN	comp=Z,4.0nm,0.9s			pmax		pmax		
OBN	comp=Z,700nm,20.0s			MLR		MLR		
FINES	**FINES Array B**	**111.31 336**		Pdif		**Pdif**	**21 47 35.0**	**-1.3**
FINES				PKiKP		**PKiKP**	**21 51 35.2**	**+0.5**
FINES	**FINES Array B** comp=Z,1.4nm,0.6s,baz=63,slow=4.1,SNR=7.6	**111.31 336**		Pdiff		**Pdif**	**21 47 35.0**	**-1.3**
FINES	comp=Z,2.4nm,0.9s,baz=132,slow=3.9,SNR=3.4			PKiKP		**PKiKP**	**21 51 35.2**	**+0.5**
SIM	**Simferopol'**	**113.64 317**		*e*PKiKP		PKiKP	21 51 47.4	+7.8
SIM				*e*			22 02 04.0	
BRTR	**Keskin Array B**	**115.44 312**		PKP		**PKPdf**	**21 51 42.5**	**-1.0**
BRTR				PKKPbc		**PKKPbc**	**22 02 17.6**	**-0.7**
BRTR	**Keskin Array B** comp=Z,0.8nm,0.7s,baz=135,slow=2.9,SNR=5.5	**115.44 312**		PKP		**PKPdf**	**21 51 42.5**	**-1.0**
BRTR	comp=Z,0.7nm,0.9s,baz=200,slow=2.5,SNR=4.0			PKKPbc		**PKKPbc**	**22 02 17.6**	**-0.7**
NB2	**NORSAR Subarra** comp=Z,1.3nm,0.8s,baz=44,slow=1.9	**117.18 340**		PKPdf		**PKPdf**	**21 51 47.5**	**+1.4**
NOA	**NORSAR Array B**	**117.18 340**		PKP		**PKPdf**	**21 51 47.3**	**+1.3**
NOA	**NORSAR Array B** comp=Z,0.6nm,0.7s,baz=51,slow=1.9,SNR=3.2	**117.18 340**		PKP		**PKPdf**	**21 51 47.3**	**+1.3**
BURAR	**Bucovina Array**	**118.39 322**		*j* /P		**PKPdf**	**21 51 50.2**	**+1.3**
MLR	**Muntele Rosu**	**118.84 320**		⇑ /P		**PKPdf**	**21 51 49.9**	**+0.1**
KWP	**Kalwaria Pacla**	**118.92 325**		*e*PKP		**PKPdf**	**21 51 49.9**	**+0.2**
DRGR		**120.28 322**		⇑ /P		**PKPdf**	**21 51 52.8**	**+0.3**
OKC	**Ostrava-Krasne**	**121.34 327**		*e*PKiKP		**PKPdf**	**21 51 56.9**	**+2.6**
OKC				*e*PS		**PS**	**22 03 17.3**	**-1.3**
OKC	comp=Z,400nm,16.9s			MLR		MLR		
OKC	**Ostrava-Krasne**	**121.34 327**		*e*PKPdf		**PKPdf**	**21 51 56.9**	**+2.6**
OKC				*ex*		x	21 53 39.0	
OKC				*e*PS		**PS**	**22 03 17.3**	**-1.3**
OKC				*e*PKPPKP		P'P'df	22 10 47.1	+6.3
OKC	comp=Z,400nm,16.9s			AMS		AMS	22 44 10.0	
BZS	**Buzias**	**121.51 322**		⇑ /P		**PKPdf**	**21 51 54.4**	**-0.4**
KSP	**Ksiaz**	**121.73 329**		*e*PKP		PKPdf	21 51 44.1	-11
KRLC	**Kraliky**	**121.93 328**		*e*PKiKP		**PKPdf**	**21 51 55.8**	**+0.3**
KRLC				*e*			21 52 06.2	
KRLC	**Kraliky**	**121.93 328**		*e*PKPdf		**PKPdf**	**21 51 55.8**	**+0.3**
KRLC				*ep*PKP		**pPKPdf**	**21 52 06.2**	**-2.4**
DPC	**Dobruska-Polom**	**122.01 329**		*e*PKiKP		**PKPdf**	**21 51 57.3**	**+1.6**
DPC				*e*			21 52 07.2	
DPC				*e*			21 52 11.3	
DPC				*e*			21 53 32.9	
DPC				*e*PS		**PS**	**22 03 28.5**	**+3.9**
DPC				*e*			22 04 48.5	
DPC	**Dobruska-Polom**	**122.01 329**		*e*PKPdf		**PKPdf**	**21 51 57.3**	**+1.6**
DPC				*ep*PKP		**pPKPdf**	**21 52 07.2**	**-1.6**
DPC				*ex*		x	21 52 11.3	
DPC				*e*PP		**PP**	**21 53 32.9**	**+3.1**
DPC				*e*PS		**PS**	**22 03 28.5**	**+3.9**
DPC				*ex*		x	22 04 48.5	
DPC				AMS		AMS	22 47 40.0	
BSEG	**Bad Segeberg**	**122.55 335**		*e*PKPdf		**PKPdf**	**21 51 57.0**	**+0.5**
BSEG	**Bad Segeberg**	**122.55 335**		*e*PKiKP		**PKPdf**	**21 51 57.0**	**+0.5**
PVCC	**Panska Ves**	**122.80 330**		*e*PKiKP		**PKPdf**	**21 51 58.1**	**+1.0**
PVCC	comp=Z,600nm,18.0s			MLR		MLR		
PVCC	**Panska Ves**	**122.80 330**		*e*PKPdf		**PKPdf**	**21 51 58.1**	**+1.0**
PVCC	comp=Z,600nm,18.0s			AMS		AMS	22 49 10.0	
BRG	**Berggiesshubel** comp=Z,7.0nm,1.0s	**122.90 330**		*e*PKP		**PKPdf**	**21 51 57.5**	**+0.2**
BRG	comp=Z,4.4nm,0.8s			*e*			21 52 09.2	
BRG	**Berggiesshubel**	**122.90 330**		*e*PKiKP		**PKPdf**	**21 51 57.5**	**+0.2**
BRG				*e*			21 52 09.2	
BRG	comp=Z,7.0nm,1.0s			pmax		pmax		
BRG	comp=Z,4.0nm,0.8s			pmax		pmax		
TREC	**Trest**	**123.07 328**		*e*PKiKP		**PKPdf**	**21 51 57.4**	**-0.3**
TREC				*e*			21 52 08.9	
TREC	comp=Z,700nm,18.9s			MLR		MLR		
TREC	**Trest**	**123.07 328**		*e*PKPdf		**PKPdf**	**21 51 57.4**	**-0.3**
TREC				*ep*PKP		**pPKPdf**	**21 52 08.9**	**-1.9**
TREC				*ex*		x	21 53 48.8	
TREC	comp=Z,700nm,18.9s			AMS		AMS	22 45 10.0	
CLL	**Collm**	**123.09 331**		*e*PKPdf		**PKPdf**	**21 51 57.8**	**+0.2**
CLL	**Collm**	**123.09 331**		*i* PKiKP		**PKPdf**	**21 51 57.5**	**-0.1**
CLL	comp=Z,6.0nm,0.8s			pmax		pmax		
CLL	comp=Z,400nm,19.4s			MLR		MLR		
CLL	**Collm** comp=Z,6.0nm,0.8s	**123.09 331**		*i* PKPdf		**PKPdf**	**21 51 57.5**	**-0.1**
CLL				*e*PP		**PP**	**21 53 42.0**	**+5.1**
CLL				*e*(PKSdf)			21 55 45.0	
CLL				*e*PS		**PS**	**22 03 31.0**	**-2.9**
CLL				*e*PPS		PPS	22 04 59.0	
CLL				*e*SS		SS	22 10 42.0	+24
CLL				*e*			22 11 00.0	
CLL				*e*SSS		SSS	22 15 06.0	
CLL				*e*			22 16 30.0	
CLL	comp=Z,400nm,19.4s			LmV			22 51 00.0	
PRU	**Pruhonice**	**123.14 329**		*e*PKiKP		**PKPdf**	**21 51 57.7**	**-0.1**
PRU				*e*			21 52 08.8	
PRU				*e*			21 53 36.5	
PRU				*e*PS		**PS**	**22 03 30.5**	**-4.0**
PRU				*e*			22 04 53.9	
PRU	comp=Z,500nm,16.7s			MLR		MLR		
PRU	**Pruhonice**	**123.14 329**		*e*PKPdf		**PKPdf**	**21 51 57.7**	**-0.1**
PRU				*ep*PKP		**pPKPdf**	**21 52 08.8**	**-2.1**
PRU				*e*PP		**PP**	**21 53 36.5**	**-0.9**
PRU				*e*PS		**PS**	**22 03 30.5**	**-4.0**
PRU				*ex*		x	22 04 53.9	
PRU				*ex*		x	22 11 01.9	
PRU	comp=Z,500nm,16.7s			AMS		AMS	22 48 30.0	
PRA	**Prague**	**123.15 329**		PKPdf		**PKPdf**	**21 51 58.0**	**+0.2**
PRA				PP		**PP**	**21 53 37.0**	**-0.4**
NRDL	**Niedersach Rie**	**123.64 334**		*e*PKPdf		**PKPdf**	**21 51 59.1**	**+0.6**
CONA	**Conrad Observa** comp=Z,4.8nm,0.7s	**123.66 326**		*j* /PKiKP		**PKPdf**	**21 51 58.9**	**0.0**
TANN	**Tannenbergstha**	**123.92 330**		*e*PKPdf		**PKPdf**	**21 51 59.7**	**+0.4**
NKC	**Novy Kostel**	**124.05 330**		*e*PKiKP		**PKPdf**	**21 51 59.9**	**+0.4**
NKC				*e*			21 52 12.6	
NKC				*e*			21 53 52.4	
NKC	comp=Z,400nm,22.3s			MLR		MLR		
NKC	**Novy Kostel**	**124.05 330**		*e*PKPdf		**PKPdf**	**21 51 59.9**	**+0.4**
NKC				*ep*PKP		**pPKPdf**	**21 52 12.6**	**-0.1**
NKC				*e*PP		PP	21 53 52.4	+9.0
NKC	comp=Z,400nm,22.3s			AMS		AMS	22 48 20.0	
KHC	**Kasperske Hory**	**124.17 329**		*e*PKiKP		**PKPdf**	**21 51 59.6**	**-0.2**
KHC				*e*			21 52 10.9	
KHC				*e*			21 53 46.3	
KHC				*e*PS		**PS**	**22 03 35.6**	**-8.1**
KHC				*e*			22 05 04.0	
KHC	comp=Z,500nm,21.7s			MLR		MLR		
KHC	**Kasperske Hory**	**124.17 329**		*e*PKPdf		**PKPdf**	**21 51 59.6**	**-0.2**
KHC				*ep*PKP		**pPKPdf**	**21 52 10.9**	**-2.1**
KHC				*e*PP		**PP**	**21 53 46.3**	**+2.0**
KHC				*e*SP		SP	22 03 35.6	-2.0
KHC				*ex*		x	22 05 04.0	
KHC				*ex*		x	22 11 17.6	
KHC	comp=Z,500nm,21.7s			AMS		AMS	22 45 30.0	
KHC	**Kasperske Hory**	**124.17 329**		*e*PKPdf		**PKPdf**	**21 51 59.8**	**0.0**
MOX	**Moxa**	**124.18 331**		*e*PKPdf		**PKPdf**	**21 51 59.9**	**+0.1**
MOX				*e*L		L	22 52 36.8	
MOX	**Moxa** comp=Z,426nm,19.2s	**124.18 331**		*e*PKiKP		**PKPdf**	**21 51 59.9**	**+0.1**
MOX	comp=Z,400nm,19.2s			MLR		MLR		
GEC2	**GERESS Array S**	**124.28 328**		*e*PKPdf		**PKPdf**	**21 52 00.1**	**0.0**
GEC2	**GERESS Array S**	**124.28 328**		*e*PKiKP		**PKPdf**	**21 52 00.1**	**0.0**
GERES	**GERESS Array B**	**124.28 328**		PKP		**PKPdf**	**21 52 00.3**	**+0.2**
GERES	**GERESS Array B** comp=Z,3.0nm,0.6s,baz=74,slow=1.6,SNR=46	**124.28 328**		PKP		**PKPdf**	**21 52 00.3**	**+0.2**
ROTZ	**Rotzenmuhle**	**124.46 330**		*e*PKPdf		**PKPdf**	**21 52 01.0**	**+0.7**
WET	**Wettzell**	**124.52 329**		*e*PKPdf		**PKPdf**	**21 52 00.9**	**+0.4**
WET	**Wettzell**	**124.52 329**		*e*PKiKP		**PKPdf**	**21 52 00.9**	**+0.4**
IBBN	**Ibbenburen**	**124.80 335**		*e*PKPdf		**PKPdf**	**21 52 01.6**	**+0.8**
UBBA	**Unterbreizbach**	**124.83 332**		*e*PKPdf		**PKPdf**	**21 52 01.4**	**+0.6**
SOKA	**Soboth** comp=Z,6.5nm,1.3s	**124.84 326**		⇓ *i* PKiKP		**PKPdf**	**21 52 00.6**	**-0.6**
GRF	**Grafenberg Arr**	**125.00 330**		*e*PKPdf		**PKPdf**	**21 52 01.8**	**+0.4**
GRF				*e*L		L	22 51 54.4	
GRF	**Grafenberg Arr** comp=Z,631nm,19.7s	**125.00 330**		*e*PKiKP		**PKPdf**	**21 52 01.8**	**+0.4**
GRF	comp=Z,600nm,19.7s			MLR		MLR		
PDKS	**Podkum**	**125.22 325**		*e*PKPdf		**PKPdf**	**21 52 01.7**	**-0.3**
BOJS	**Bojanci**	**125.39 324**		*i* PKPdf		**PKPdf**	**21 52 02.2**	**0.0**
LJU	**Ljubljana**	**125.50 325**		*e*PKPdf		**PKPdf**	**21 52 02.5**	**+0.1**
BUG	**Bochum--Univer**	**125.63 334**		*e*PKPdf		**PKPdf**	**21 52 03.0**	**+0.5**
PQI	**Presque Isle**	**125.75 34**		*e*PKPdf		**PKPdf**	**21 52 03.0**	**+0.2**
CADS	**Cadrg**	**125.83 326**		*i* PKPdf		**PKPdf**	**21 52 02.3**	**-0.8**
ABTA	**Abfaltersbach** comp=Z,8.0nm,1.2s	**126.20 327**		⇑ *i* PKiKP		**PKPdf**	**21 52 03.2**	**-0.7**
WTTA	**Wattenberg** comp=Z,19nm,1.1s	**126.35 328**		⇑ *i* PKiKP		**PKPdf**	**21 52 04.1**	**-0.2**
CFAA	**Coronel Fontan**	**126.56 136**		PKP		**PKPdf**	**21 52 04.6**	**-0.4**
CFAA	**Coronel Fontan** comp=Z,0.7nm,0.7s,baz=255,slow=4.4,SNR=12	**126.56 136**		PKP		**PKPdf**	**21 52 04.6**	**-0.4**
FETA	**Feichten** comp=Z,12nm,1.7s	**126.98 328**		⇓ *i* PKiKP		**PKPdf**	**21 52 04.9**	**-0.5**
DAVA	**Damuels** comp=Z,8.1nm,1.0s	**127.25 329**		⇑ *i* PKiKP		**PKPdf**	**21 52 05.6**	**-0.3**
WLF	**Walferdange**	**127.41 333**		*e*PKPdf		**PKPdf**	**21 52 07.1**	**+1.1**
ATAH	**Atahualpa**	**127.58 103**		PKP		**PKPdf**	**21 52 08.6**	**+0.7**
ATAH	**Atahualpa** comp=Z,5.7nm,0.8s,baz=200,slow=4.3,SNR=4.0	**127.58 103**		PKP		**PKPdf**	**21 52 08.6**	**+0.7**
GIVF	**Givet**	**127.67 334**		*e*PKiKP		**PKPdf**	**21 52 07.0**	**+0.6**
TUE	**Stuetta**	**128.06 328**		*e*PKPdf		**PKPdf**	**21 52 06.8**	**-0.8**
HINF	**Hinteralfeld**	**128.40 331**		*e*PKiKP		**PKPdf**	**21 52 08.1**	**+0.1**
HAU	**Haudompre**	**128.50 332**		*e*PKiKP		**PKPdf**	**21 52 08.4**	**+0.3**
MEZF	**Maizieres J'vi** comp=Z,14nm,0.8s	**128.75 333**		*e*PKiKP		**PKPdf**	**21 52 09.4**	**+0.9**
SFTF	**Sexfontaines**	**128.97 333**		*e*PKiKP		**PKPdf**	**21 52 10.0**	**+1.0**
LPL	**La Plagne** comp=Z,6.6nm,0.8s	**130.05 329**		*e*PKiKP		**PKPdf**	**21 52 12.2**	**+0.8**
LPG	**La Plagne** comp=Z,8.1nm,0.8s	**130.06 329**		*e*PKiKP		**PKPdf**	**21 52 12.1**	**+0.6**
LOR	**Lormes** comp=Z,25nm,1.1s	**130.20 333**		*e*PKiKP		**PKPdf**	**21 52 12.0**	**+0.6**
BNI	**Bardonecchia**	**130.40 329**		*e*PKiKP		**PKPdf**	**21 52 11.7**	**-0.3**
BNI	**Bardonecchia**	**130.40 329**		*e*PKPdf		**PKPdf**	**21 52 11.7**	**-0.3**
SSF	**Saint Saulge** comp=Z,17nm,1.1s	**130.51 333**		*e*PKiKP		**PKPdf**	**21 52 12.7**	**+0.7**
MBDF	**Montbardon**	**130.57 328**		*e*PKiKP		**PKPdf**	**21 52 12.5**	**+0.2**
PGF	**Pioggiola** comp=Z,21nm,0.9s	**130.77 325**		*e*PKiKP		**PKPdf**	**21 52 13.0**	**+0.3**
AVF	**Avril sur Loir**	**130.79 332**		*e*PKiKP		**PKPdf**	**21 52 13.0**	**+0.5**
ORIF	**Oris-en-Rattie** comp=Z,12nm,0.9s	**130.90 329**		*e*PKiKP		**PKPdf**	**21 52 13.3**	**+0.4**
BGF	**Bois d'Agland**	**131.19 333**		*e*PKiKP		**PKPdf**	**21 52 14.1**	**+0.8**
FRF	**La Foret Royal** comp=Z,16nm,1.0s	**131.42 327**		*e*PKiKP		**PKPdf**	**21 52 14.1**	**+0.3**
LMR	**La Mourre** comp=Z,7.2nm,0.9s	**131.65 327**		*e*PKiKP		**PKPdf**	**21 52 14.7**	**+0.5**
TCF	**Toulx Ste Croi** comp=Z,15nm,0.9s	**131.69 333**		*e*PKiKP		**PKPdf**	**21 52 15.1**	**+0.8**
SMRF	**Simiane la Rot**	**131.71 328**		*e*PKiKP		**PKPdf**	**21 52 12.9**	**-1.5**
LASF	**Ste Croix**	**132.52 330**		*e*PKiKP		**PKPdf**	**21 52 14.9**	**-1.0**
LPAZ	**La Paz**	**134.35 119**		PKP		**PKPdf**	**21 52 20.7**	**-0.2**
LPAZ	**La Paz** comp=Z,2.9nm,0.8s,baz=221,slow=0.4,SNR=12	**134.35 119**		PKP		**PKPdf**	**21 52 20.7**	**-0.2**
KEST	**Kesra**	**134.57 317**		PKP		**PKPdf**	**21 52 18.5**	**-1.6**
KEST	**Kesra** comp=Z,0.6nm,0.7s,baz=135,slow=7.1,SNR=2.0	**134.57 317**		PKP		**PKPdf**	**21 52 18.5**	**-1.6**
SDV	**Santo Domingo**	**136.84 83**		*e*PKPdf		**PKPdf**	**21 52 26.2**	**+1.2**
CPUP	**Villa Florida**	**137.29 139**		PKP		**PKPdf**	**21 52 25.8**	**+0.5**
CPUP	**Villa Florida** comp=Z,1.5nm,0.6s,baz=237,slow=5.5,SNR=5.0	**137.29 139**		PKP		**PKPdf**	**21 52 25.8**	**+0.5**
ESDC	**Sonseca Array**	**139.67 332**		PKP		**PKPdf**	**21 52 31.7**	**+2.4**
ESDC	**Sonseca Array** comp=Z,0.3nm,0.5s,baz=353,slow=3.7,SNR=3.8	**139.67 332**		PKP		**PKPdf**	**21 52 31.7**	**+2.4**
SIV	**San Ignacio**	**140.54 123**		PKPpre		PKPpre	21 52 24.1	
SIV				PKP		**PKPdf**	**21 52 30.6**	**-0.9**
SIV				SKP			21 56 07.5	
SIV	**San Ignacio** comp=Z,1.9nm,0.9s,baz=286,slow=3.8,SNR=7.6	**140.54 123**		PKhKP		PKPpre	21 52 24.1	
SIV				PKP		**PKPdf**	**21 52 30.6**	**-0.9**
SIV	comp=Z,1.5nm,0.6s,baz=240,slow=6.6,SNR=5.1			SKP			21 56 07.5	
SAML	**Samuel**	**141.59 111**		*e*PKPpre		PKPpre	21 52 27.2	
SAML				*e*PKPdf		**PKPdf**	**21 52 33.5**	**0.0**
TAM	**Tamanrasset**	**143.77 302**		*e*PKiKP		PKPbc	21 52 35.2	+0.3
TAM	**Tamanrasset**	**143.77 302**		*e*PKPdf		PKPbc	21 52 35.2	+0.3
TOA0	**Torodi Ar. Sit**	**150.31 288**		*e*PKPdf		**PKPdf**	**21 52 49.0**	**+0.8**
TOA0				*e*PKPdf		**PKPbc**	**21 52 52.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**150.31 288**		PKPbc		**PKPbc**	**21 52 52.7**	**-0.7**
TORD				PKPab		**PKPab**	**21 52 58.0**	**-1.8**
TORD	**Torodi Ar. Bea** comp=Z,10nm,1.0s,baz=83,slow=1.4,SNR=60	**150.31 288**		PKPbc		**PKPbc**	**21 52 52.7**	**-0.7**
TORD	comp=Z,22nm,0.8s,baz=68,slow=2.1,SNR=34			PKPab		**PKPab**	**21 52 58.0**	**-1.8**
BDFB	**Brasilia**	**150.91 136**		PKPbc		**PKPbc**	**21 52 55.0**	**+0.1**
BDFB				PKPab		**PKPab**	**21 53 02.2**	**0.0**
BDFB	**Brasilia** comp=Z,17nm,0.8s,baz=214,slow=3.3,SNR=17	**150.91 136**		PKPbc		**PKPbc**	**21 52 55.0**	**+0.1**
BDFB	comp=Z,18nm,0.8s,baz=220,slow=2.0,SNR=6.5			PKPab		**PKPab**	**21 53 02.2**	**0.0**
KIC	**Kosan Boka** comp=Z,27nm,0.9s	**157.52 274**		*e*PKP2		**PKPab**	**21 53 29.7**	**-0.7**
DBIC	**Dimbokro**	**157.63 275**		PKPab		**PKPab**	**21 53 30.6**	**-0.3**
DBIC	**Dimbokro** comp=Z,8.7nm,0.7s,baz=96,slow=7.5,SNR=14	**157.63 275**		PKPab		**PKPab**	**21 53 30.6**	**-0.3**
TIC	**Toumodi** comp=Z,99nm,1.3s	**157.79 275**		*e*PKP2		**PKPab**	**21 53 31.0**	**-0.6**
LIC	**Lamto** comp=Z,16nm,0.7s	**157.81 274**		*e*PKP2		**PKPab**	**21 53 31.0**	**-0.7**
LIC	**Lamto** comp=Z,26nm,0.7s	**157.81 274**		*e*PKP2		**PKPab**	**21 53 30.9**	**-0.7**

KRSC 29 21:36:08.3±1.0, 52.85N×162.71E, h44km±44km, ML3.8,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.81**	**342**	*e*P	Pn	21 36 37.7	+0.8
MKZ				*i* S	Sn	21 36 58.9	+0.4
NLC	**Nalytchevo**	**2.06**	**280**	*e*P	Pn	21 36 41.5	+1.2
NLC				*i* S	Sn	21 37 05.9	+1.2
KII	**Karymskiy**	**2.28**	**303**	*e*P	Pn	21 36 45.1	+1.5
KII				*i* S	Sn	21 37 11.6	+1.1
SDLR	**Sedlovina**	**2.35**	**282**	*i* P	Pn	21 36 46.0	+1.5
SDLR				*i* S	Sn	21 37 13.5	+1.3
UGLR	**Uglovaya**	**2.37**	**280**	*i* P	Pn	21 36 46.7	+1.8
UGLR				*i* S	Sn	21 37 15.0	+2.2
SMAR	**Somma**	**2.40**	**282**	*e*P	Pn	21 36 46.8	+1.5
SMAR				*i* S	Sn	21 37 14.7	+1.1
KRER	**Koryakskii**	**2.43**	**282**	*i* P	Pn	21 36 47.7	+1.9
KRER				*i* S	Sn	21 37 16.2	+1.7
AVH	**Avacha**	**2.43**	**281**	P	Pn	21 36 47.6	+2.0
AVH				*i* S	Sn	21 37 16.5	+2.3
PET	**Petropavlovsk**	**2.46**	**276**	*e*P	Pn	21 36 47.4	+1.5
PET				*i* S	Sn	21 37 16.3	+1.6
KOK	**Koryaka**	**2.50**	**282**	P	Pn	21 36 48.4	+1.9
KOK				*i* S	Sn	21 37 17.4	+1.6
RUS	**Russkaya**	**2.59**	**262**	P	Pn	21 36 48.8	+1.1
RUS				*i* S	Sn	21 37 18.4	+0.5
MTVR	**Mutnovka**	**2.78**	**264**	*i* P	Pn	21 36 51.7	+1.2
MTVR				*i* S	Sn	21 37 23.5	+0.6
GRL	**Gorelyy**	**2.84**	**266**	*e*P	Pn	21 36 52.6	+1.4
ASAK	**Asacha**	**2.97**	**263**	P	Pn	21 36 54.8	+1.8
ASAK				*i* S	Sn	21 37 28.8	+1.4
GNL	**Ganaly**	**2.99**	**288**	*e*P	Pn	21 36 55.7	+2.4
GNL				*i* S	Sn	21 37 30.2	+2.3
BKI	**Bering**	**3.04**	**38**	*e*P	Pn	21 36 52.7	-1.1
BKI				*i* S	Sn	21 37 24.8	-4.2
KMNR	**Kamenistaya**	**3.25**	**335**	*e*P	Pn	21 36 59.5	+2.6
BZGR	**Bezymyannyi-Gr**	**3.31**	**340**	*e*P	Pn	21 36 59.6	+1.9
BZGR				*e*S	Sn	21 37 36.9	+1.0
BZMR	**Bezymyannaya**	**3.35**	**338**	P	Pn	21 37 00.5	+2.2
ZLN	**Zelenaya**	**3.36**	**341**	P	Pn	21 37 01.0	+2.6
ZLN				*i* S	Sn	21 37 39.4	+2.2
APC	**Apacha**	**3.36**	**273**	*i* P	Pn	21 37 01.1	+2.8
APC				*i* S	Sn	21 37 39.5	+2.6
BZWR	**Bezymyannyi-We**	**3.38**	**338**	P	Pn	21 37 01.0	+2.3
KIRR	**Kirishev**	**3.40**	**337**	P	Pn	21 37 01.8	+2.8
KIRR				*i* S	Sn	21 37 40.4	+2.1
KBG	**Krutoberegovo**	**3.41**	**360**	P	Pn	21 37 00.5	+1.6
KBG				*i* S	Sn	21 37 38.4	+0.3
KPT	**Kopyto**	**3.44**	**336**	P	Pn	21 37 01.9	+2.4
KPT				*i* S	Sn	21 37 41.3	+2.2
LGNR	**Loginova**	**3.45**	**341**	*e*P	Pn	21 37 02.2	+2.4
LGNR				*i* S	Sn	21 37 41.7	+2.1
KLY	**Klyuchi**	**3.67**	**342**	P	Pn	21 37 04.8	+2.3
MIPR	**Malaya Ipel'ka**	**3.68**	**263**	*e*P	Pn	21 37 05.1	+2.5
SMKR	**Semkarok**	**3.81**	**350**	*e*P	Pn	21 37 06.0	+1.5
BDR	**Baidarnaya**	**3.83**	**347**	*e*P	Pn	21 37 07.3	+2.6
SRDR	**Sredinnyy**	**3.89**	**335**	*e*P	Pn	21 37 07.5	+2.0
PAU	**Pauzhetka**	**3.89**	**251**	P	Pn	21 37 07.0	+1.5
SRKR	**Sorokina**	**3.92**	**347**	P	Pn	21 37 07.7	+1.8
SRKR				*i* S	Sn	21 37 51.5	+0.8
SKR	**Severo-Kuril's**	**4.63**	**245**	P	Pn	21 37 16.2	+0.5

*IDC **29** 21:36:23.3±0.7, 5.05S×152.67E, h0km, mb4.4/12, mb1 4.6/13, mb1mx4.4/23, mbtmp4.4/13, ML3.1/1, MS5.2/1, Ms1 5.2/1, ms1mx3.9/30, Error ellipse: s-maj=26.6km s-min=16.6km az=125.0*

*NEIC **29** 21:36:28.7±1.7, 5.09S×152.63E, h38km±15km, mb4.5/5, Error ellipse: s-maj=10.2km s-min=9.4km az=88.0*

*ISCJB **29** 21:36:29.0±0.5, 5.12S±0.07×152.54E±0.08, h55km, mb4.4/16, MS5.1/1, Error ellipse: s-maj=14.0km s-min=7.7km az=37.4*

ISC 29 21:36:30.6±0.6, 5.12S±0.09×152.58E±0.10, h55km, n48, σ0.80/49, mb4.5/16, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.85**	**231**	Pn	**Pn**	**21 38 08.0**	**-0.6**
PMG				Sn	**Sn**	**21 39 24.8**	**-0.5**
PMG	**Port Moresby**	**6.85**	**231**	Pn	**Pn**	**21 38 08.0**	**-0.6**
PMG	2.2nm,0.3s,baz=39,slow=6.5,SNR=3.0			Sn	**Sn**	**21 39 24.8**	**-0.5**
DZM	**Mont Dzumac** 6.9nm,0.3s,baz=144,slow=19,SNR=5.1	**21.55**	**143**	*e*P	**P**	**21 41 15.1**	**-0.5**
DZM	**Mont Dzumac** 8.0nm,0.8s	**21.55**	**143**	P	**P**	**21 41 16.0**	**+0.4**
WRAB	**Tennant Creek** 8.3nm,0.8s,baz=299,slow=19,SNR=3.6	**23.05**	**229**	*e*P	**P**	**21 41 31.1**	**-0.4**
WRA	**Warramunga Arr** 11nm,0.7s	**23.07**	**229**

KNT	**Kendrikon**	**0.23**	**128**	P	**Pg**	**21 37 26.5**	**+0.2**
KNT				S	**Sg**	**21 37 29.4**	**+0.1**
KNT	**Kendrikon**	**0.23**	**128**	P	**Pg**	**21 37 26.5**	**+0.2**
KNT				S	**Sg**	**21 37 29.4**	**+0.1**
GRG	**Griva**	**0.40**	**210**	P	**Pg**	**21 37 29.8**	**+0.3**
GRG				S	**Sg**	**21 37 35.3**	**+0.7**
GRG	**Griva**	**0.40**	**210**	*e*PB	**Pg**	**21 37 29.8**	**+0.3**
GRG				*e*SB	**Sg**	**21 37 35.6**	**+1.0**
GRG	**Griva**	**0.40**	**210**	P	**Pg**	**21 37 29.8**	**+0.3**
GRG				S	**Sg**	**21 37 35.3**	**+0.7**
SRS	**Serrai**	**0.73**	**104**	P	**Pg**	**21 37 35.5**	**-0.2**
SRS				S	**Sg**	**21 37 45.4**	**+0.2**
SRS	**Serrai**	**0.73**	**104**	P	**Pg**	**21 37 35.5**	**-0.2**
SRS				S	**Sg**	**21 37 45.4**	**+0.2**
NVR	**Nevrokopi**	**0.91**	**86**	P	**Pg**	**21 37 39.0**	**-0.2**
NVR				S	**Sg**	**21 37 51.4**	**+0.4**
NVR	**Nevrokopi**	**0.91**	**86**	*e*PN	**Pg**	**21 37 39.2**	**0.0**
NVR				*e*SN	**Sg**	**21 37 51.4**	**+0.4**
NVR	**Nevrokopi**	**0.91**	**86**	P	**Pg**	**21 37 39.0**	**-0.2**
NVR				S	**Sg**	**21 37 51.4**	**+0.4**
FNA	**Florina**	**1.10**	**242**	P	**Pg**	**21 37 42.5**	**-0.4**
FNA				S	**Sb**	**21 37 58.1**	**+0.4**
FNA	**Florina**	**1.10**	**242**	*e*PN	**Pg**	**21 37 42.5**	**-0.4**
FNA				*e*SN	**Sb**	**21 37 57.9**	**+0.2**
FNA	**Florina**	**1.10**	**242**	P	**Pg**	**21 37 42.5**	**-0.4**
FNA				S	**Sb**	**21 37 58.1**	**+0.4**
PLG	**Polygyros**	**1.10**	**147**	*e*PN	**Pg**	**21 37 42.1**	**-0.8**
PLG				*e*SN	**Sg**	**21 37 57.5**	**+0.3**
PLG	**Polygyros**	**1.10**	**147**	*e*Pn	**Pg**	**21 37 42.1**	**-0.8**
PLG				*e*Sn	**Sg**	**21 37 57.5**	**+0.3**
VTS	**Vitosha**	**1.35**	**17**	P	**Pg**	**21 37 47.8**	**+0.1**
VTS				S	**Sg**	**21 38 06.5**	**+1.2**
VTS	**Vitosha**	**1.35**	**17**	*e*Sg	**Sn**	**21 38 05.4**	**-0.2**
VTS	**Vitosha**	**1.35**	**17**	P	**Pg**	**21 37 47.8**	**+0.1**
VTS				*e*Sg	**Sn**	**21 38 05.4**	**-0.2**
VTS				S	**Sg**	**21 38 06.5**	**+1.2**
PAIG	**Paliouri**	**1.58**	**150**	*e*PN	**Pb**	**21 37 50.9**	**-0.3**
PAIG	**Paliouri**	**1.58**	**150**	*e*Pn	**Pb**	**21 37 50.9**	**-0.3**
BARS	**Barje**	**1.64**	**338**	*e*Pg	**Pb**	**21 37 51.9**	**-0.5**
BARS				*e*Sg	**Sg**	**21 38 14.0**	**-0.5**
BARS	**Barje**	**1.64**	**338**	*e*Pg	**Pb**	**21 37 51.9**	**-0.5**
BARS				*e*Sg	**Sg**	**21 38 14.0**	**-0.5**
ZAPS	**Zavoj**	**1.97**	**359**	*e*Pg	**Pg**	**21 37 59.7**	**+0.1**
ZAPS				*e*Sg	**Sg**	**21 38 26.1**	**+1.0**

WEL 29 21:37:23.1±0.3,**46°20S**×**165°93E**,**h33**km,**ML4.3**/18,**2C,**
Error ellipse: s-maj=3.6km s-min=1.6km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.12**	**50**	⇑PN	Pn	21 37 42.0	-0.4
DCZ				SN	Sn	21 37 56.8	+0.3
DCZ				AML	AML	21 38 02.2	
DCZ				AML	AML	21 38 17.4	
APZ	**The Paps**	**1.56**	**115**	PN	Pn	21 37 48.3	-0.2
APZ				SN	Sn	21 38 06.8	-0.8
MLZ	**Mavora Lakes**	**1.78**	**62**	PN	Pn	21 37 53.1	+1.5
MLZ				SN	Sn	21 38 13.9	+0.7
MLZ				AML	AML	21 38 22.9	
MSZ	**Milford Sound**	**2.07**	**43**	PN	Pn	21 37 56.5	+1.0
MSZ				AML	AML	21 38 39.5	
MSZ				AML	AML	21 38 39.8	
MSZ				AML	AML	21 38 41.1	
MSZ				AML	AML	21 38 41.1	
SYZ	**Scrubby Hill**	**2.25**	**100**	PN	Pn	21 37 58.6	+0.7
SYZ				SN	Sn	21 38 26.3	+1.8
EAZ	**Earnscleugh**	**2.56**	**69**	PN	Pn	21 38 04.4	+2.3
EAZ				AML	AML	21 38 41.6	
EAZ				AML	AML	21 38 41.6	
EAZ				AML	AML	21 38 51.4	
WKZ	**Wanaka**	**2.57**	**59**	PN	Pn	21 38 05.1	+2.8
WKZ				AML	AML	21 38 45.9	
WKZ				AML	AML	21 38 45.9	
WKZ				AML	AML	21 38 51.5	
TUZ	**Tuapeka**	**2.59**	**86**	PN	Pn	21 38 04.1	+1.5
TUZ				AML	AML	21 38 41.0	
TUZ				AML	AML	21 38 41.0	
JCZ	**Jackson Bay**	**2.92**	**44**	PN	Pn	21 38 09.7	+2.5
JCZ				AML	AML	21 39 02.6	
JCZ				AML	AML	21 39 03.2	
HHSZ	**Highcliff Hill**	**3.27**	**86**	PN	Pn	21 38 13.7	+1.7
ODZ	**Otahua Downs**	**3.50**	**73**	⇑PN	Pn	21 38 15.2	+0.1
ODZ				AML	AML	21 39 13.7	
ODZ				AML	AML	21 39 17.3	
ODZ				AML	AML	21 39 17.4	
ODZ				AML	AML	21 40 46.3	
LBZ	**Lake Benmore**	**3.50**	**60**	AML	AML	21 39 02.5	
LBZ				AML	AML	21 39 20.3	
FOZ	**Fox Glacier**	**3.75**	**47**	PN	Pn	21 38 21.7	+3.1
FOZ				AML	AML	21 39 31.6	
FOZ				AML	AML	21 39 33.1	
RPZ	**Rata Peaks**	**4.40**	**58**	PN	Pn	21 38 27.9	+0.4
RPZ				AML	AML	21 39 25.7	
RPZ				AML	AML	21 39 59.8	
WVZ	**Waitaha Valley**	**4.64**	**49**	PN	Pn	21 38 32.2	+1.5
WVZ				AML	AML	21 39 41.9	
WVZ				AML	AML	21 41 03.9	
LTZ	**Lake Taylor**	**5.67**	**55**	PN	Pn	21 38 47.7	+2.6
DSZ	**Denniston Nort**	**6.14**	**46**	PN	Pn	21 38 53.1	+1.6
THZ	**Tophouse**	**6.70**	**51**	PN	Pn	21 39 01.1	+1.9

CASC 29 21:45:57.2±1.5,**13°51N**×**90°51W**,**h29**km±4km,**MD3.6,**
ML3.9,1C-3D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.66**	**4**	*e*P	Pb	21 46 10.6	+0.1
IXG				*e*S	Sn	21 46 21.0	+0.4
PCG	**Pacaya**	**0.89**	**354**	⇓*e*P	Pn	21 46 13.6	-0.5
SBLS	**San Blas**	**0.92**	**69**	*e*P	Pn	21 46 14.5	-0.1
SBLS				*e*S	Sn	21 46 27.2	+0.1
RTR	**El Retiro**	**0.92**	**65**	*e*P	Pn	21 46 14.6	+0.1
RTR				*e*S	Sb	21 46 26.2	-0.7
SNJE	**San Jose**	**0.95**	**68**	*e*P	Pn	21 46 14.8	-0.1
SNJE				*e*S	Sn	21 46 27.2	-0.4
FUG	**Fuego 3**	**0.99**	**341**	⇓*e*P	Pn	21 46 14.4	-1.0
NBG	**Las Nubes**	**1.08**	**8**	⇓*e*P	Pn	21 46 16.8	-0.1
NBG				*e*S	Sb	21 46 32.5	+0.7
BOQS	**Boqueron**	**1.22**	**79**	*e*P	Pn	21 46 18.7	+1.1
BOQS				*e*S	Sb	21 46 35.6	+0.2
SNET	**Serv Nac Est T**	**1.25**	**82**	*e*P	Pn	21 46 19.0	0.0
SNET				*e*S	Sb	21 46 36.0	-0.2
SNET				AML	AML	21 46 38.1	
	comp=Z,2μm,0.2s						
JAT	**Jato**	**1.36**	**306**	⇑*e*P	Pn	21 46 19.8	-0.5
LFU	**La Fuente**	**1.38**	**80**	*e*P	Pn	21 46 20.7	+0.1
LFRS	**El Faro**	**1.41**	**85**	*e*P	Pn	21 46 21.8	+0.7
LBRS	**Las Brisas**	**1.44**	**81**	*e*P	Pn	21 46 21.4	-0.2
LBRS				*e*S	Sn	21 46 40.6	+1.0
SNVI	**San Vicente**	**1.63**	**86**	*e*P	Pn	21 46 24.8	+0.6
SNVI				*e*S	Sn	21 46 45.2	+0.9
MRL	**Marmol**	**1.74**	**27**	*e*P	Pn	21 46 25.6	-0.1
VSM	**San Miguel**	**2.17**	**92**	*e*P	Pn	21 46 32.5	+0.6
CNCH	**Conchagua**	**2.61**	**95**	*e*P	Pn	21 46 37.9	+0.2
CNCH				*e*S	Sn	21 47 09.5	+0.9

IDC ***29*** *21:57:42.3*±*0.6,5°11S*×*152°69E,h0*km*,mb4.4/17, mb1 4.5/17,mb1mx4.5/20,mbtmp4.4/17,MS4.3/10, Ms1 4.3/10,ms1mx3.9/32,Error ellipse: s-maj=20.4km s-min=13.8km az=95.0*

BJI ***29*** *21:57:45.2,4°84S*×*152°84E,h22*km*,mB5.1/4,mb4.6/24, Ms4.6/6,Ms7 4.3/5*

ISCJB ***29*** *21:57:47.3*±*0.3,5°16S*±*0°04*×*152°70E*±*0°06,h43*km*, mb4.6/46,MS4.3/12,Error ellipse: s-maj=9.1km s-min=5.6km az=24.8*

NEIC ***29*** *21:57:48.9*±*1.4,5°13S*×*152°66E,h44*km±*12*km*,mb4.7/27, Error ellipse: s-maj=9.3km s-min=7.6km az=82.0*

AUST ***29*** *21:57:51.3,5°17S*×*152°60E,h35*km

ISC 29 21:57:48.6±0.4,**5°15S**±0°05×**152°73E**±0°07,**h43**km,**n115,**
σ**1**§**45**/122,**mb4.7**/46,**MS4.2**/12,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.10**	**330**	P	**Pn**	**21 58 08.7**	**+1.0**
	baz=1.1,SNR=436						
PMG	**Port Moresby**	**6.95**	**232**	Pn	**Pn**	**21 59 28.2**	**+0.1**
PMG				Sn	**Sn**	**22 00 45.1**	**-0.8**
PMG	**Port Moresby**	**6.95**	**232**	Pn	**Pn**	**21 59 28.2**	**+0.1**
	10nm,0.3s,baz=42,slow=12,SNR=21						
PMG				Sn	**Sn**	**22 00 45.1**	**-0.8**
	21nm,0.3s,baz=253,slow=18,SNR=10.0						
HNR	**Honiara**	**8.33**	**121**	*e*Pn	Pn	21 59 44.5	-2.4
COEN	**Coen**	**12.85**	**226**	*e*Pn	**Pn**	**22 00 50.0**	**+1.2**
MTSU	**Mount Surprise**	**15.30**	**212**	P	**P**	**22 01 27.6**	**+1.7**
	baz=15,SNR=6.9						
CTAO	**Charters Tower**	**16.13**	**202**	*e*Pn	**Pn**	**22 01 32.0**	**-0.4**
	29nm,1.4s						
EIDS	**Eidsvold**	**20.17**	**184**	*e*Pn	Pn	22 02 26.1	+4.4
	34nm,1.4s						
FAKI	**Fak Fak**	**20.54**	**275**	P	Pn	22 02 29.7	+3.4
	baz=20,SNR=3.8						
KDU	**Kakadu**	**21.35**	**248**	P	**P**	**22 02 32.3**	**-0.1**
	baz=21,SNR=18						
DZM	**Mont Dzumac**	**21.43**	**143**	*e*P	**P**	**22 02 32.5**	**-0.8**
	73nm,1.4s						
DZM	**Mont Dzumac**	**21.43**	**143**	P	**P**	**22 02 33.0**	**-0.3**
	15nm,0.7s,baz=32,slow=8.6,SNR=8.8						
DZM				LR	LR	22 09 38.2	
	comp=Z,1μm,20.4s,baz=181,slow=33						
RMQ	**Roma**	**21.55**	**190**	P	**P**	**22 02 34.9**	**+0.4**
	baz=22,SNR=17						
MTN	**Manton Dam**	**22.64**	**249**	P	**P**	**22 02 48.2**	**+1.9**
	baz=22,SNR=3.6						
WRAB	**Tennant Creek**	**23.14**	**229**	*e*P	**P**	**22 02 52.0**	**+0.6**
	28nm,1.1s						
WRA	**Warramunga Arr**	**23.16**	**229**	P	**P**	**22 02 50.1**	**-1.5**
WRA	**Warramunga Arr**	**23.16**	**229**	P	**P**	**22 02 50.1**	**-1.5**
	4.0nm,0.7s,baz=53,slow=10,SNR=19						
ARMA	**Armidale**	**25.16**	**182**	*e*P	P	22 03 15.4	+5.3
	16nm,1.3s						
KNRA	**Kununurra**	**25.75**	**244**	P	**P**	**22 03 18.2**	**+2.7**
	baz=26,SNR=7.6						
ASAR	**Alice Springs**	**25.84**	**223**	P	**P**	**22 03 15.9**	**-0.4**
ASAR	**Alice Springs**	**25.84**	**223**	P	**P**	**22 03 15.9**	**-0.4**
	2.9nm,0.5s,baz=57,slow=8.8,SNR=28						
ASAR				LR	LR	22 13 03.7	
	comp=Z,522nm,19.1s,baz=188,slow=36						
LHI	**Lord Howe Isla**	**26.90**	**168**	S	S	22 08 07.5	+7.9
	baz=27,SNR=3.7						
STKA	**Stephens Creek**	**28.56**	**200**	*e*P	**P**	**22 03 40.0**	**-0.6**
	3.3nm,1.3s						
STKA	**Stephens Creek**	**28.56**	**200**	P	**P**	**22 03 40.1**	**-0.5**
	3.1nm,0.8s,baz=23,slow=7.3,SNR=5.1						
STKA				LR	LR	22 15 47.6	
	comp=Z,678nm,19.4s,baz=20,slow=38						
STKA	**Stephens Creek**	**28.56**	**200**	P	**P**	**22 03 41.8**	**+1.2**
	baz=29,SNR=4.7						
FITZ	**Fitzroy Crossi**	**29.43**	**242**	P	**P**	**22 03 47.7**	**-0.8**
	4.9nm,0.4s,baz=102,slow=7.7,SNR=18						
FITZ	**Fitzroy Crossi**	**29.43**	**242**	P	**P**	**22 03 50.0**	**+1.6**
	baz=29,SNR=4.4						
WSI	**Waingapu**	**32.46**	**260**	S	**S**	**22 09 31.4**	**+4.0**
	baz=32,SNR=4.9						
KAPI	**Kappang**	**32.84**	**269**	*e*P	**P**	**22 04 18.4**	**-0.2**
MEEK	**Meekatharra**	**38.93**	**233**	P	**P**	**22 05 10.3**	**-0.3**
	baz=39,SNR=23						
MORW	**Morawa**	**42.07**	**231**	P	P	22 05 40.0	+3.5
	baz=42,SNR=4.4						
SSLB	**Suanglung**	**42.28**	**314**	*e*P	**P**	**22 05 36.0**	**-2.2**
	51nm,2.2s						
BLDU	**Balliduu**	**42.29**	**229**	P	P	22 05 43.1	+4.8
	baz=42,SNR=4.9						
JNU	**Nakatsue**	**43.34**	**333**	*e*P	**P**	**22 05 46.6**	**-0.1**
	10nm,0.9s						
JNU	**Nakatsue**	**43.34**	**333**	LR	LR	22 19 31.5	
	comp=Z,240nm,20.6s,baz=53,slow=30						
MJAR	**Matsushiro Arr**	**43.64**	**343**	P	**P**	**22 05 47.5**	**-1.6**
MJAR	**Matsushiro Arr**	**43.64**	**343**	P	**P**	**22 05 47.5**	**-1.6**
	1.3nm,0.5s,baz=166,slow=9.1,SNR=6.0						
MJAR				LR	LR	22 20 29.6	
	comp=Z,311nm,21.3s,baz=150,slow=31						
MAJO	**Matsushiro**	**43.64**	**343**	*e*P	**P**	**22 05 47.5**	**-1.7**
KSRS	**Korea Array**	**48.28**	**333**	P	**P**	**22 06 25.5**	**-0.1**
	2.7nm,0.7s,baz=151,slow=7.8,SNR=12						
KSRS				LR	LR	22 26 06.1	
	comp=Z,223nm,18.1s,baz=180,slow=35						
KSAR	**Wonju Array Be**	**48.28**	**333**	P	**P**	**22 06 25.5**	**-0.1**
QIZ	**Qiongzhong**	**48.58**	**301**	P	**P**	**22 06 28.0**	**-0.3**
QIZ				S	**S**	**22 13 28.3**	**+1.0**
QIZ				pmax	pmax		
	comp=Z,18nm,2.4s						
QIZ	**Qiongzhong**	**48.58**	**301**	*e*P	**P**	**22 06 27.5**	**-0.8**
	comp=Z,7.2nm,0.7s						
NJ2	**Nanjing**	**49.07**	**321**	*e*P	**P**	**22 06 33.8**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ASAJ	**Asahikawa**	**49.88**	**350**	*e*P	**P**	**22 06 38.0**	**+0.3**
	comp=Z,2.7nm,0.6s						
PPI	**Padang Panjang**	**52.45**	**273**	P	P	22 07 05.4	+7.8
	baz=52,SNR=3.1						
USRK	**Ussuriysk Arra**	**52.55**	**341**	P	**P**	**22 06 56.2**	**-1.5**
	comp=Z,4.1nm,0.9s,baz=165,slow=8.8,SNR=17						
MDJ	**Mudanjiang**	**53.72**	**340**	P	**P**	**22 07 07.3**	**+0.9**
MDJ				pP	**pP**	**22 07 13.8**	**-4.8**
MDJ				sP	sP	22 07 16.5	-7.1
MDJ				PcP	**PcP**	**22 08 14.0**	**+1.9**
MDJ				S	**S**	**22 14 41.0**	**+3.5**
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MDJ	**Mudanjiang**	**53.72**	**340**	P	**P**	**22 07 05.4**	**-1.0**
ENH	**Enshi**	**54.34**	**313**	*e*P	**P**	**22 07 11.2**	**-0.1**
	comp=Z,9.5nm,1.1s						
GYA	**Guiyang**	**54.55**	**308**	*e*P	**P**	**22 07 14.0**	**+1.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI	**Kunming**	**57.12**	**304**	P	**P**	**22 07 33.3**	**+1.8**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.4s						
CM31	**Chiang Mai Arr**	**57.96**	**295**	*e*P	**P**	**22 07 36.2**	**-1.0**
CMAR	**Chiang Mai Arr**	**57.96**	**295**	P	**P**	**22 07 37.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**57.96**	**295**	P	**P**	**22 07 37.7**	**+0.5**
	comp=Z,4.6nm,0.8s,baz=110,slow=5.2,SNR=25						
CHTO	**Chiang Mai**	**58.07**	**296**	*e*P	**P**	**22 07 38.2**	**+0.1**
	comp=Z,7.4nm,1.1s						
PETK	**Petropavlovsk-**	**58.19**	**4**	P	**P**	**22 07 38.5**	**+0.3**
PETK	**Petropavlovsk-**	**58.19**	**4**	P	**P**	**22 07 38.5**	**+0.3**
	comp=Z,4.9nm,0.4s,baz=169,slow=8.0,SNR=12						
PETK				LR	LR	22 32 58.1	
	comp=Z,158nm,18.4s,baz=172,slow=36						
CD2	**Chengdu**	**58.91**	**311**	*e*P	**P**	**22 07 44.8**	**+1.1**
CD2				pP	**pP**	**22 07 53.3**	**-2.8**
CD2				sP	**sP**	**22 07 56.8**	**-4.2**
CD2				PP	**PP**	**22 09 56.3**	**+1.9**
CD2				S	**S**	**22 15 46.0**	**-0.9**
CD2				SS	**SS**	**22 19 40.0**	**-1.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,120nm,6.2s						
CD2				LR	LR		
	comp=E,180nm,12.6s						
CD2				LR	LR		
	comp=Z,150nm,16.2s						
FX1	**Attu Island--F**	**60.35**	**14**	*e*P	**P**	**22 07 54.3**	**+1.2**
GTA	**Gaotai**	**65.86**	**317**	P	**P**	**22 08 31.0**	**+0.8**
GTA				pP	**pP**	**22 08 38.3**	**-4.4**
GTA				sP	sP	22 08 41.5	-6.1
GTA				pmax	pmax		
	comp=Z,5.0nm,1.5s						
ULN	**Ulaanbaatar**	**66.25**	**328**	*e*P	**P**	**22 08 31.9**	**-0.6**
	comp=Z,4.6nm,1.1s						
SONM	**Songino Array**	**66.58**	**328**	P	**P**	**22 08 33.6**	**-0.9**
SONM	**Songino Array**	**66.58**	**328**	P	**P**	**22 08 33.6**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=131,slow=6.1,SNR=9.4						
SONM				LR	LR	22 35 37.1	
	comp=Z,276nm,18.5s,baz=58,slow=34						
UNV	**Unalaska Valle**	**67.97**	**25**	*e*P	**P**	**22 08 42.5**	**-0.5**
	comp=Z,7.8nm,0.4s						
LSA	**Lhasa**	**68.37**	**305**	P	P	22 08 39.5	-7.2
LSA	**Lhasa**	**68.37**	**305**	*e*P	**P**	**22 08 46.6**	**-0.1**
	comp=Z,3.7nm,0.7s						
VNDA	**Vanda**	**72.48**	**178**	*e*P	P	22 09 15.7	+5.3
	comp=Z,6.6nm,1.3s						
VNDA	**Vanda**	**72.48**	**178**	P	**P**	**22 09 10.2**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=345,slow=6.0,SNR=7.6						
WMQ	**Urumqi**	**75.95**	**317**	P	**P**	**22 09 32.5**	**+1.3**
WMQ				pP	**PcP**	**22 09 40.3**	**-3.2**
WMQ				sP	sP	22 09 43.5	-5.4
WMQ				PcP	**pP**	**22 09 45.8**	**+1.8**
WMQ				PP	**PP**	**22 12 24.0**	**+1.8**
WMQ				S	**S**	**22 19 10.5**	**-0.6**
WMQ				sS	sS	22 19 23.8	-8.6
WMQ				SKS	**SKSac**	**22 19 35.8**	**-2.8**
WMQ				ScS	**ScS**	**22 19 41.0**	**-1.5**
WMQ				SS	**SS**	**22 24 04.5**	**0.0**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,110nm,4.0s						
WMQ				LR	LR		
	comp=N,130nm,25.4s						
WMQ				LR	LR		
	comp=E,140nm,20.9s						
WMQ				LR	LR		
	comp=Z,130nm,20.9s						
SML	**Sawmill**	**80.47**	**24**	*e*P	**P**	**22 09 56.3**	**+0.4**
	comp=Z,4.5nm,0.7s						
MKAR	**Makanchi Array**	**80.54**	**319**	P	**P**	**22 09 56.9**	**+0.4**
MKAR	**Makanchi Array**	**80.54**	**319**	P	**P**	**22 09 56.9**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=94,slow=7.8,SNR=38						
MCK	**McKinley**	**81.21**	**23**	*e*P	**P**	**22 09 59.5**	**-0.2**
	comp=Z,36nm,1.2s						
ZALV	**Zalesovo Beam**	**81.40**	**326**	P	**P**	**22 10 00.1**	**-0.7**
ZALV	**Zalesovo Beam**	**81.40**	**326**	P	**P**	**22 10 00.1**	**-0.7**
	comp=Z,4.2nm,0.6s,baz=104,slow=6.3,SNR=24						
ZALV				LR	LR	22 43 49.4	
	comp=Z,197nm,19.8s,baz=339,slow=34						
ILAR	**Eielson Array**	**82.51**	**22**	P	**P**	**22 10 05.4**	**-1.1**
ILAR	**Eielson Array**	**82.51**	**22**	P	**P**	**22 10 05.4**	**-1.1**
	comp=Z,5.9nm,0.8s,baz=253,slow=5.3,SNR=36						
COLD	**Coldfoot**	**82.61**	**19**	*e*P	**P**	**22 10 08.5**	**+1.5**
	comp=Z,3nm,1.8s						
TKM2	**Tokmak 2**	**84.12**	**314**	P	**P**	**22 10 16.4**	**+0.9**
	SNR=9.3						
TKM2	**Tokmak 2**	**84.12**	**314**	*e*P	**P**	**22 10 15.6**	**0.0**
	comp=Z,9.0nm,0.9s						
KZA	**Kyzart**	**84.19**	**313**	P	**P**	**22 10 18.2**	**+2.0**
	SNR=14						
EGAK	**Eagle**	**84.71**	**23**	*e*P	**P**	**22 10 18.7**	**+0.9**
	comp=Z,6.8nm,0.9s						
CHMS	**Chumnysh**	**84.74**	**314**	P	**P**	**22 10 20.2**	**+1.7**
	SNR=10						
HYT	**Haines Junctio**	**84.78**	**27**	*e*P	**P**	**22 10 19.9**	**+1.6**
QSPA	**South Pole Qui**	**84.81**	**180**	*e*P	**P**	**22 10 18.7**	**+0.2**
	comp=Z,15nm,1.2s						
AAK	**Ala-Archa**	**84.85**	**314**	*e*P	**P**	**22 10 20.6**	**+1.3**
	comp=Z,36nm,1.8s						
USP	**Ospenovka**	**84.98**	**314**	P	**P**	**22 10 20.8**	**+1.1**
	SNR=14						
AML	**Almayashu**	**85.33**	**313**	P	**P**	**22 10 23.1**	**+1.2**
	SNR=22						
EKS2	**Erkin-Say**	**85.38**	**313**	P	**P**	**22 10 23.2**	**+1.5**
	SNR=14						
EKS2	**Erkin-Say**	**85.38**	**313**	*e*P	**P**	**22 10 20.8**	**-1.0**
	comp=Z,22nm,1.3s						
KBL	**Kabul**	**87.70**	**305**	*e*P	**P**	**22 10 33.5**	**0.0**
	comp=Z,3.4nm,0.6s						
KKAR	**Karatay Array**	**87.81**	**313**	*e*P	**P**	**22 10 33.7**	**+0.1**
BRVK	**Borovoye**	**89.54**	**323**	*e*P	**P**	**22 10 40.9**	**-0.6**
	comp=Z,3.9nm,0.7s						
NVAR	**Mina Array Bea**	**92.36**	**52**	P	**P**	**22 10 55.5**	**+0.4**
NVAR	**Mina Array Bea**	**92.36**	**52**	P	**P**	**22 10 55.5**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=253,slow=6.3,SNR=6.5						
YKA	**Yellowknife Ar**	**95.77**	**28**	P	**P**	**22 11 10.6**	**+0.6**
YKA	**Yellowknife Ar**	**95.77**	**28**	P	**P**	**22 11 10.6**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=280,slow=4.7,SNR=4.5						
DLMT	**Dillon**	**96.92**	**45**	*e*P	P	22 11 22.1	+6.3
	comp=Z,4.2nm,0.8s						
AKTO	**Aktyubinsk**	**96.94**	**320**	LR	LR	22 57 53.9	
	comp=Z,223nm,18.6s,baz=181,slow=37						
IMW	**Indian Meadow**	**98.11**	**47**	*e*P	Pdif	22 11 22.5	+1.1
ARCES	**ARCESS Array B**	**107.18**	**343**	Pdif	**Pdif**	**22 11 58.4**	**-2.5**
ARCES	**ARCESS Array B**	**107.18**	**343**	Pdiff	**Pdif**	**22 11 58.4**	**-2.5**
	comp=Z,1.4nm,0.9s,baz=56,slow=8.8,SNR=3.0						
FINES	**FINESS Array B**	**111.34**	**336**	Pdif	**Pdif**	**22 12 18.4**	**-1.1**
FINES	**FINESS Array B**	**111.34**	**336**	Pdiff	**Pdif**	**22 12 18.4**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=70,slow=4.9,SNR=15						
GERES	**GERESS Array B**	**124.31**	**328**	PKP	**PKPdf**	**22 16 43.0**	**-0.1**
GERES	**GERESS Array B**	**124.31**	**328**	PKP	**PKPdf**	**22 16 43.0**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=78,slow=1.8,SNR=19						
LPAZ	**La Paz**	**134.32**	**119**	PKP	**PKPdf**	**22 17 04.9**	**+1.2**
LPAZ				SKPbc	**SKPab**	**22 20 35.0**	**+1.8**
LPAZ	**La Paz**	**134.32**	**119**	PKP	**PKPdf**	**22 17 04.9**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=141,slow=2.5,SNR=5.8						
LPAZ				SKPbc	**SKPab**	**22 20 35.0**	**+1.8**
	comp=Z,3.6nm,1.2s,baz=179,slow=3.6,SNR=7.2						
TAM	**Tamanrasset**	**143.80**	**302**	*e*PKPdf	**PKPdf**	**22 17 20.9**	**+0.6**

IDC 29 22:33:02.7±1.9,7.77S×127.54E,h0km,mb3.3/1, mb1 3.5/4,mb1mx3.4/20,mbtmp3.4/4,ML3.4/3,Error ellipse: s-maj=51.1km s-min=31.3km az=72.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.53**	**237**	Pn	Pn	22 34 13.5	+0.9
	2.0nm,0.3s,baz=81,slow=5.5,SNR=2.4						
BATI				Sn	Sn	22 35 10.0	+3.9
	1.8nm,0.3s,baz=270,slow=20,SNR=2.5						
WRA	**Warramunga Arr**	**13.78**	**152**	Pn	Pn	22 36 18.7	-0.9
	0.2nm,0.3s,baz=323,slow=14,SNR=4.2						
WRA				Sn	Sn	22 38 47.2	-6.3
	0.1nm,0.3s,baz=321,slow=26,SNR=2.6						
ASAR	**Alice Springs**	**16.95**	**160**	Pn	Pn	22 37 01.6	+0.2
	0.1nm,0.3s,baz=332,slow=10,SNR=6.8						
MKAR	**Makanchi Array**	**67.55**	**328**	P	P	22 44 00.9	-0.1
	0.2nm,0.6s,baz=138,slow=5.5,SNR=2.6						

IDC 29 22:35:39.5±7.3,6.32S×147.99E,h100km±66km,mb2.7/1, mb1 3.1/3,mb1mx2.9/18,mbtmp2.9/3,ML2.4/2,Error ellipse: s-maj=119.9km s-min=56.6km az=117.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.17**	**195**	P	Pn	22 36 26.3	-1.3
	2.5nm,0.3s,baz=37,slow=3.8,SNR=5.2						
PMG				S	Sn	22 37 06.0	+1.2
	1.5nm,0.3s,baz=257,slow=18,SNR=2.8						
WRA	**Warramunga Arr**	**18.95**	**223**	P	P	22 39 52.5	-0.5
	0.0nm,0.3s,baz=50,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**21.93**	**217**	P	P	22 40 24.2	-0.9
	0.4nm,0.7s,baz=52,slow=8.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**146.12**	**284**	PKPbc	PKPbc	22 55 09.1	-0.2
	0.3nm,0.8s,baz=64,slow=3.4,SNR=2.3						

IDC 29 22:54:01.7±1.2,34.04N×25.26E,h0km,mb3.6/5, mb1 3.8/10,mb1mx3.6/30,mbtmp3.6/10,ML3.9/5,Error ellipse: s-maj=26.3km s-min=19.4km az=6.0,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMAI	**Mount Meron Ar**	**8.53**	**94**	Pn	Pn	22 56 04.9	-1.7
	0.3nm,0.3s,baz=308,slow=16,SNR=2.9						
MMAI				Sn	Sn	22 57 38.8	-5.0
	0.3nm,0.3s,baz=302,slow=22,SNR=2.9						
EIL	**Elat**	**9.32**	**115**	Pn	Pn	22 56 17.9	+0.5
	0.4nm,0.3s,baz=342,slow=20,SNR=5.8						
EIL				Sn	Sn	22 58 01.4	-1.6
	0.3nm,0.3s,baz=351,slow=19,SNR=2.6						
VRAC	**Vranov**	**16.55**	**340**	Pn	P	22 57 57.6	-0.2
	0.1nm,0.3s,baz=155,slow=14,SNR=3.8						
GERES	**GERESS Array B**	**17.11**	**333**	P	P	22 58 04.2	+0.1
	0.7nm,0.3s,baz=152,slow=12,SNR=25						
DAVOX	**Davos/Dischmat**	**17.25**	**322**	P	Pn	22 58 03.0	-1.2
	0.2nm,0.3s,baz=102,slow=20,SNR=3.1						
ESDC	**Sonseca Array**	**23.99**	**292**	P	P	22 59 17.3	-0.7
	0.3nm,0.5s,baz=73,slow=9.8,SNR=4.3						
EKA	**Eskdalemuir Ar**	**29.00**	**326**	P	P	23 00 03.0	0.0
	1.7nm,0.8s,baz=130,slow=14,SNR=4.4						
TORD	**Torodi Ar. Bea**	**29.85**	**231**	P	P	23 00 11.1	+0.2
	0.5nm,0.5s,baz=33,slow=8.3,SNR=12						
MKAR	**Makanchi Array**	**44.33**	**56**	P	P	23 02 14.0	+0.5
	0.6nm,0.7s,baz=276,slow=6.3,SNR=5.2						
ZALV	**Zalesovo Beam**	**45.72**	**45**	P	P	23 02 23.9	-0.5
	0.4nm,0.4s,baz=262,slow=12,SNR=2.6						

*NNC **29** 22:57:45.0±6.7,38.76N×73.10E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=53.7km s-min=32.0km az=172.0*
*IDC **29** 22:57:47.4±6.8,38.65N×73.46E,h153km±62km,mb3.2/1, mb1 3.0/5,mb1mx2.8/30,mbtmp3.0/5,Error ellipse: s-maj=67.7km s-min=46.0km az=164.0*
ISC 29 22:57:41.4±1.1,38.24N±0.07×73.4E±0.1,h140km,n17, σ2s13/19,2C-2D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.90**	**3**	P	Pn	22 58 40.7	+0.3
	SNR=144						
UCH	**Uchtor**	**4.08**	**12**	P	Sn	22 59 27.2	-3.1
	SNR=6.4						
KZA	**Kyzart**	**4.09**	**20**	P	Pn	22 58 43.2	+0.3
	SNR=8.4						
EKS2	**Erkin-Say**	**4.43**	**4**	P	Pn	22 58 48.1	+1.0
	SNR=33						
AAK	**Ala-Archa**	**4.47**	**10**	P	Pn	22 58 49.7	+2.0
	SNR=9.5						
AAK	**Ala-Archa**	**4.47**	**10**	P	Pn	22 58 49.5	+1.8
	3.9nm,0.3s,baz=173,slow=4.8,SNR=11						
AAK				S	Sn	22 59 36.4	-2.9
	1.2nm,0.3s,baz=327,slow=19,SNR=12						
ULHL	**Ulahol**	**4.56**	**28**	P	Pn	22 58 50.0	+1.1
	SNR=10						
TKM2	**Tokmak 2**	**4.97**	**19**	⇓P	Pn	22 58 54.7	+0.3
	2.8nm,0.4s						
TKM2				⇑S	Sn	22 59 51.6	+0.4
	2.6nm,0.5s						
TKM2	**Tokmak 2**	**4.97**	**19**	P	Pn	22 58 55.2	+0.8
	SNR=8.8						
KK31	**Karatay Array**	**5.33**	**337**	⇑P	Pn	22 58 59.5	+0.5
	0.6nm,0.2s,baz=149,slow=13						
KK31				⇓S	Sn	22 59 54.6	-5.0
	15nm,0.6s,baz=154,slow=23,SNR=32						
DLH	**Dalhousie**	**6.06**	**159**	*e*P	Sn	23 00 18.0	+0.6
SMLA	**Simla**	**7.74**	**155**	*i* P	Sn	23 00 54.2	-3.3
MKAR	**Makanchi Array**	**10.77**	**35**	P	Pn	23 00 12.2	+0.4
	0.1nm,0.3s,baz=224,slow=12,SNR=4.0						
AB31	**Akbulak array**	**14.66**	**323**	P	Pn	23 01 02.5	+0.6
	0.6nm,0.4s,baz=132,slow=14,SNR=16						
AKTO	**Aktyubinsk**	**16.38**	**323**	P	P	23 01 25.8	+2.5
	0.2nm,0.3s,baz=110,slow=15,SNR=2.9						
ZALV	**Zalesovo Beam**	**17.56**	**23**	P	Pn	23 01 38.1	+0.9
	0.4nm,0.3s,baz=216,slow=12,SNR=9.7						
TORD	**Torodi Ar. Bea**	**67.65**	**269**	P	P	23 08 28.3	+4.8
	0.3nm,0.4s,baz=48,slow=5.6,SNR=8.5						

*ISCJB **29** 22:58:02.1±0.5,21.07S±0.04×68.7W±0.1,h138km±8km, mb3.8/4,Error ellipse: s-maj=20.0km s-min=6.4km az=179.3*
*GUC **29** 22:58:02.1±0.7,21.06S×68.68W,h128km±5km,ML4.1*
*IDC **29** 22:58:03.3±2.4,21.09S×68.10W,h115km±24km,mb3.7/4, mb1 3.7/7,mb1mx3.5/19,mbtmp3.7/7,Error ellipse: s-maj=31.2km s-min=19.1km az=106.0*
ISC 29 22:58:02.8±0.9,21.06S±0.04×68.7W±0.1,h131km±10km, n18,σ0s70/22,mb4.0/4,7C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**Plate Boundary**	**0.73**	**271**	⇑*i*P	Pn	22 58 23.3	-0.3
PB01				*i* S	Sn	22 58 39.1	-0.3
PB01				AML	AML	22 58 42.0	
	comp=N,4μm,0.3s						
PB09	**Plate Boundary**	**0.89**	**215**	⇑*i*P	Pn	22 58 25.3	+0.3
PB09				*e*S	Sn	22 58 42.0	+0.3
PB09				AML	AML	22 58 44.1	
	comp=E,9μm,0.5s						
PB07	**Plate Boundary**	**1.29**	**239**	⇑*i*P	Pn	22 58 29.0	+0.2
PB07				*i* S	Sn	22 58 49.1	+0.5
PB07				AML	AML	22 58 51.4	
	comp=E,2μm,0.6s						
HMBC	**Humberstone**	**1.36**	**305**	⇑*i*P	Pn	22 58 29.4	-0.1
HMBC				*i* S	Sn	22 58 50.3	+0.5
HMBC				AML	AML	22 58 51.4	
	comp=N,6μm,0.2s						
PB04	**Plate Boundary**	**1.40**	**211**	*e*P	Pn	22 58 35.7	+5.9
PB04				*i* S	Sn	22 59 00.4	+10
PB04				AML	AML	22 59 06.7	
	comp=N,1μm,0.3s						
LVC	**Limon Verde**	**1.55**	**187**	⇑*i*P	Pn	22 58 31.8	0.0
LVC				*i* S	Sn	22 58 54.6	+0.7
PSGC	**Pisagua**	**1.98**	**317**	⇑*i*P	Pn	22 58 36.3	-0.3
PSGC				AML	AML	22 59 04.3	
	comp=E,1μm,0.6s						
MNMC	**Minimini**	**2.10**	**336**	⇑*i*P	Pn	22 58 38.6	+0.3
MNMC				*i* S	Sn	22 59 06.1	+0.6
MNMC				AML	AML	22 59 08.6	
	comp=E,3μm,0.3s						
ANCH	**Antofagasta**	**3.05**	**211**	*e*P	Pn	22 58 50.7	+0.7
LPAZ	**La Paz**	**4.78**	**7**	P	Pn	22 59 14.4	+0.8
	comp=E,2.5nm,0.3s,baz=192,slow=6.3,SNR=68						
LPAZ				S	Sn	23 00 08.8	+0.3
	comp=E,0.4nm,0.3s,baz=141,slow=14,SNR=2.1						
SIV	**San Ignacio**	**8.82**	**56**	P	Pn	23 00 02.2	-5.1
	comp=E,5.1nm,0.3s,baz=258,slow=12,SNR=58						
SIV				S	Sn	23 01 34.8	-10
	comp=E,0.1nm,0.3s,baz=334,slow=18,SNR=3.9						
CFAA	**Coronel Fontan**	**10.51**	**178**	P	Pn	23 00 26.0	-3.9
	comp=E,0.1nm,0.3s,baz=347,slow=15,SNR=8.5						
CFAA				S	Sn	23 02 10.9	-15
	comp=E,0.1nm,0.3s,baz=215,slow=16,SNR=2.8						
PLCA	**Paso Flores**	**19.67**	**184**	P	**Pn**	**23 02 22.9**	**-1.3**
	comp=E,0.3nm,0.3s,baz=356,slow=14,SNR=3.7						
SNAA	**Sanae**	**62.63**	**161**	P	**P**	**23 08 13.9**	**+1.0**
	comp=E,0.4nm,0.7s,baz=270,slow=7.8,SNR=10						
DBIC	**Dimbokro**	**68.42**	**73**	P	**P**	**23 08 50.2**	**-0.8**
	comp=E,1.7nm,0.6s,baz=231,slow=13,SNR=3.5						
TORD	**Torodi Ar. Bea**	**77.03**	**70**	P	**P**	**23 09 41.0**	**-0.8**
	comp=E,2.4nm,0.5s,baz=252,slow=5.5,SNR=26						
BOSA	**Boshof**	**83.48**	**118**	P	**P**	**23 10 16.3**	**-0.1**
	comp=E,2.2nm,1.0s,baz=233,slow=5.1,SNR=2.6						
MKAR	**Makanchi Array**	**145.17**	**36**	PKP	**PKPdf**	**23 17 26.0**	**+1.1**
	comp=E,0.6nm,0.4s,baz=345,slow=2.4,SNR=13						

*ISCJB **29** 23:00:46.2±1.7,21.50S±0.05×71.03W±0.07,h18km±11km, mb3.6/3,Error ellipse: s-maj=11.0km s-min=8.1km az=157.9*
*GUC **29** 23:00:46.9±0.6,21.49S×70.97W,h36km±2km,ML4.1*
*IDC **29** 23:00:56.7±3.0,21.42S×70.72W,h90km±25km,mb3.3/3, mb1 3.5/7,mb1mx3.4/21,mbtmp3.3/7,Error ellipse: s-maj=36.9km s-min=20.7km az=82.0*
ISC 29 23:00:49.4±3.5,21.48S±0.06×70.9W±0.1,h28km±23km, n17,σ1s18/19,mb3.7/3,3C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB07	**Plate Boundary**	**0.98**	**105**	⇑*i*P	Pn	23 01 05.7	-1.8
PB07				*i* S	Sn	23 01 19.9	-0.8
PB07				AML	AML	23 01 22.0	
	comp=E,6μm,0.5s						
PB01	**Plate Boundary**	**1.39**	**72**	⇑*i*P	Pn	23 01 12.0	-1.0
PB01				*i* S	Sn	23 01 31.1	+0.5
PB01				AML	AML	23 01 36.8	
	comp=N,4μm,0.5s						
HMBC	**Humberstone**	**1.53**	**39**	*e*P	Pn	23 01 14.0	-0.9
HMBC				*e*S	Sn	23 01 35.0	+1.1
HMBC				AML	AML	23 01 49.0	
	comp=N,3μm,0.6s						
PB04	**Plate Boundary**	**1.54**	**121**	⇓*i*P	Pn	23 01 06.9	-8.0
PB04				*i* S	Sn	23 01 22.7	-11
PB04				AML	AML	23 01 29.1	
	comp=E,6μm,0.5s						
PB09	**Plate Boundary**	**1.58**	**102**	⇑*i*P	Pn	23 01 15.7	-0.1
PB09				*i* S	Sb	23 01 36.9	-0.9
PB09				AML	AML	23 01 44.0	
	comp=N,11μm,0.5s						
PSGC	**Pisagua**	**2.01**	**22**	*e*P	Pn	23 01 20.8	-0.8
PSGC				AML	AML	23 02 01.2	
	comp=N,1μm,0.5s						
LVC	**Limon Verde**	**2.17**	**122**	*e*P	Pn	23 01 23.7	-0.2
LVC				*e*S	Sn	23 01 51.2	+1.2
MNMC	**Minimini**	**2.64**	**28**	*e*P	Pn	23 01 30.0	-0.4
MNMC				*e*S	Sn	23 02 02.5	+0.9
MNMC				AML	AML	23 02 19.6	
	comp=E,1μm,0.7s						
LPAZ	**La Paz**	**5.79**	**27**	P	Pn	23 02 18.9	+4.9
	comp=E,1.0nm,0.3s,baz=205,slow=12,SNR=6.1						
LPAZ				S	Sb	23 03 30.7	-8.6
	comp=E,0.2nm,0.3s,baz=263,slow=16,SNR=1.3						
CFAA	**Coronel Fontan**	**10.37**	**167**	P	Pn	23 03 24.1	+7.8
	comp=E,0.0nm,0.3s,baz=312,slow=12,SNR=2.7						
CFAA				S	Sn	23 05 31.9	+20
	comp=E,0.0nm,0.3s,baz=61,slow=19,SNR=2.1						
SIV	**San Ignacio**	**10.79**	**61**	P	Pn	23 03 25.4	+3.2
	comp=E,1.0nm,0.3s,baz=262,slow=9.5,SNR=8.7						
CPUP	**Villa Florida**	**13.32**	**114**	P	**Pn**	**23 03 59.0**	**+2.3**
	comp=E,0.3nm,0.3s,baz=265,slow=19,SNR=3.3						
TXAR	**Lajitas Array**	**59.57**	**327**	P	**P**	**23 10 51.4**	**+0.7**
	comp=E,0.2nm,0.4s,baz=152,slow=9.7,SNR=5.5						
SNAA	**Sanae**	**62.91**	**161**	P	**P**	**23 11 12.7**	**-0.1**
	comp=E,0.6nm,0.9s,baz=268,slow=6.3,SNR=9.8						
TORD	**Torodi Ar. Bea**	**79.11**	**71**	P	**P**	**23 12 51.5**	**-0.4**
	comp=E,0.6nm,0.8s,baz=255,slow=5.2,SNR=5.9						
MKAR	**Makanchi Array**	**146.68**	**34**	PKPbc	**PKPbc**	**23 20 28.1**	**-0.5**
	comp=E,0.7nm,0.6s,baz=332,slow=3.2,SNR=7.3						
SONM	**Songino Array**	**153.61**	**4**	PKPbc	**PKPbc**	**23 20 43.7**	**-1.9**
	comp=E,0.9nm,0.5s,baz=50,slow=2.5,SNR=3.3						

*ISCJB **29** 23:14:17.0±0.6,6.84N±0.07×72.96W±0.07,h168km±6km, mb3.5/4,Error ellipse: s-maj=14.6km s-min=7.6km az=136.2*
*IDC **29** 23:14:18.1±1.8,6.66N×72.94W,h173km±18km,mb3.3/5, mb1 3.6/6,mb1mx3.3/22,mbtmp3.4/6,Error ellipse: s-maj=26.9km s-min=19.7km az=61.0*
*FUNV **29** 23:14:22.9,7.07N×72.82W,h154km,MW3.6*
ISC 29 23:14:17.6±0.9,6.91N±0.07×72.94W±0.07,h162km±8km, n28,σ1s69/32,mb3.4/4,10C-1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.13**	**33**	⇑*e*P	Pn	23 14 46.9	+2.0
CAPV				*e*S	Sn	23 15 05.6	-0.3
ROSC	**El Rosal**	**2.46**	**214**	P	Pn	23 14 58.7	-0.6
	96nm,0.3s,baz=287,slow=14,SNR=151						
ROSC				S	Sn	23 15 29.4	-2.1
	176nm,0.3s,baz=85,slow=17,SNR=14						
VIGV	**El Vigia**	**2.47**	**39**	⇑*i*P	Pn	23 15 01.2	+2.2
VIGV				*e*S	Sn	23 15 28.8	-2.3
SOCV	**Socops**	**2.48**	**56**	⇑*e*P	Pn	23 15 01.0	+2.0
SOCV				*e*S	Sn	23 15 28.3	-2.9
ELOV	**Elorza**	**3.44**	**88**	⇓*e*P	Pn	23 15 12.8	+1.8
VIRV	**Villa del Rosa**	**3.61**	**8**	⇑*i*P	Pn	23 15 13.8	+0.6
VIRV				*e*S	Sn	23 15 52.3	-4.2
SANV	**Sanarito**	**4.24**	**52**	*e*P	Pn	23 15 22.3	+0.9
CURV	**Curarigua**	**4.26**	**44**	⇓*e*P	Pn	23 15 23.4	+1.7
DABV	**Dabajuro**	**4.59**	**30**	⇓*e*P	Pn	23 15 27.5	+1.6
TEPV	**Terepaima**	**4.79**	**50**	⇓*e*P	Pn	23 15 30.0	+1.5
SIQV	**Siquisique**	**4.83**	**40**	⇑*i*P	Pn	23 15 30.6	+1.5
BAUV	**El Baul**	**5.26**	**67**	⇓*e*P	Pn	23 15 35.0	+0.4
MAPV	**Maapo**	**5.30**	**57**	⇑*e*P	Pn	23 15 36.1	+0.9
IMOV	**Isla Los Monje**	**5.77**	**20**	*e*P	Pn	23 15 42.5	+1.1
MONV	**Montecano**	**5.80**	**30**	*e*P	Pn	23 15 42.6	+0.8
TURV	**Turiamo**	**6.15**	**55**	*e*P	Pn	23 15 47.3	+0.9
BIRV	**Birongo**	**7.49**	**61**	*e*P	Pn	23 16 04.6	+0.4
CUPV	**Cœpira**	**7.74**	**66**	*e*P	Pn	23 16 08.0	+0.4
JTS	**JuntasAbangare**	**12.34**	**287**	P	P	23 17 12.7	-0.9
	0.7nm,0.3s,baz=138,slow=14,SNR=4.9						
TEIG	**Tepich**	**19.91**	**313**	P	**P**	**23 18 38.6**	**+1.8**
	4.7nm,0.4s,baz=102,slow=2.2,SNR=6.7						
LPAZ	**La Paz**	**23.54**	**168**	pP	pP	23 19 44.8	-0.3
	1.0nm,0.8s,baz=340,slow=6.9,SNR=3.9						
TXAR	**Lajitas Array**	**36.53**	**311**	P	**P**	**23 21 08.5**	**+0.6**
	0.7nm,0.6s,baz=126,slow=8.5,SNR=9.8						
SCHQ	**Schefferville**	**48.04**	**5**	P	**P**	**23 22 42.3**	**+2.0**
	2.8nm,0.5s,baz=191,slow=7.0,SNR=9.3						
PDAR	**Pinedale Array**	**48.11**	**324**	P	**P**	**23 22 41.6**	**+0.2**
	0.4nm,0.5s,baz=116,slow=8.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**73.55**	**78**	P	**P**	**23 25 32.5**	**-1.0**
	0.3nm,0.7s,baz=283,slow=6.6,SNR=7.5						
MKAR	**Makanchi Array**	**122.18**	**20**	PKP	**PKPdf**	**23 32 53.3**	**-0.1**
	0.1nm,0.3s,baz=2.3,slow=1.2,SNR=4.1						
ASAR	**Alice Springs**	**149.31**	**234**	PKPbc	**PKPbc**	**23 33 46.6**	**-1.5**
	0.6nm,0.8s,baz=108,slow=3.0,SNR=3.7						
WRA	**Warramunga Arr**	**150.54**	**241**	PKPbc	**PKPbc**	**23 33 50.1**	**-1.1**
	0.4nm,0.3s,baz=103,slow=2.3,SNR=3.4						

*BJI **29** 23:16:49.0,47.70N×155.53E,h33km,mB4.5/3,mb4.2/4, Ms3.9/3,Ms7 3.9/3*
*MOS **29** 23:16:52.5±1.7,47.73N×154.67E,h35km,mb4.3/17,Error ellipse: s-maj=11.0km s-min=7.1km az=71.6*
*ISCJB **29** 23:16:53.9±0.5,47.74N±0.07×154.61E±0.09,h42km, mb4.0/22,MS3.5/2,Error ellipse: s-maj=12.2km s-min=6.2km az=144.6*
*IDC **29** 23:16:56.4±0.9,47.82N×154.41E,h46km±7km,mb3.7/17, mb1 4.0/19,mb1mx3.9/28,mbtmp3.8/19,ML3.3/2,MS3.3/6, Ms1 3.3/6,ms1mx3.1/33,Error ellipse: s-maj=18.2km s-min=12.3km az=157.0*

ISC 29 23:16:55.8±0.7,47.81N±0.09×154.53E±0.09,h42km,n59, σ1s36/60,mb4.2/22,4C-6D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.06**	**19**	*e*PN	Pn	23 17 35.9	-5.6
SKR				*e*S	**Sn**	**23 18 13.9**	**-2.9**
SKR				pmax	pmax		
	comp=Z,90nm,0.6s						
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				smax	smax		
	comp=N,160nm,0.6s						
SKR				smax	smax		
	comp=E,90nm,0.5s						
SKR				MLR	MLR		
	comp=Z,800nm,12.0s						
KUR	**Kuril'sk**	**5.27**	**243**	*d* iPN	**Pn**	**23 18 13.6**	**+1.6**
KUR				pmax	pmax		
	comp=Z,83nm,0.5s						
KUR				pmax	pmax		
	comp=N,17nm,0.5s						
KUR				pmax	pmax		
	comp=E,20nm,0.5s						
PETK	**Petropavlovsk-**	**5.68**	**20**	*e*PN	**Pn**	**23 18 18.0**	**+0.5**
PETK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PETK	**Petropavlovsk-**	**5.68**	**20**	P	**Pn**	**23 18 18.0**	**+0.5**
	comp=Z,4.6nm,0.3s,baz=184,slow=16,SNR=23						
PETK				S	Sn	23 19 33.4	+12
	baz=167,slow=27,SNR=1.9						
PETK				LR	LR	23 20 41.5	
	comp=Z,113nm,18.7s,baz=199,slow=40						
PET	**Petropavlovsk**	**5.85**	**25**	*e*PN	**Pn**	**23 18 18.1**	**-1.7**
PET				MLR	MLR		
	comp=Z,200nm,12.0s						
PET				MLR	MLR		
	comp=Z,100nm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.04**	**268**	⇑*e*PN	Pn	23 18 53.0	+3.1
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				MLR	MLR		
	comp=E,200nm,17.0s						
YSS				MLR	MLR		
	comp=Z,300nm,17.0s						
ASAJ	**Asahikawa**	**9.10**	**250**	P	**Pn**	**23 19 06.5**	**+2.1**
	comp=Z,0.9nm,0.3s,baz=68,slow=14,SNR=6.3						
ASAJ				LR	LR	23 22 29.2	
	comp=Z,228nm,18.3s,baz=168,slow=37						
ERM	**Erimo**	**9.93**	**238**	*i* PN	**Pn**	**23 19 14.7**	**-1.1**
FX1	**Attu Island--F**	**12.93**	**60**	P	Pn	23 19 53.9	-2.8
	comp=Z,1.6nm,0.3s,baz=282,slow=4.7,SNR=16						
FX1				S	Sn	23 22 05.3	-14
	comp=Z,1.4nm,0.3s,baz=83,slow=17,SNR=5.4						
FX1				LR	LR	23 24 24.7	
	comp=Z,41nm,19.2s,baz=59,slow=34						
KLR	**Kul'dur**	**15.16**	**284**	*e*P	**Pn**	**23 20 27.3**	**+0.5**
KLR				pmax	pmax		
	comp=Z,40nm,1.6s						
SEY	**Seymchan**	**15.21**	**356**	*c*eP	**Pn**	**23 20 28.7**	**+1.4**
USRK	**Ussuriysk Arra**	**16.05**	**265**	P	**Pn**	**23 20 38.5**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=70,slow=13,SNR=17						
USRK				LR	LR	23 26 38.7	
	comp=Z,99nm,19.4s,baz=301,slow=36						
MJA0	**Matsu Arr-Jizo**	**16.47**	**233**	*e*P	**Pn**	**23 20 39.9**	**-3.8**
MJAR	**Matsushiro Arr**	**16.49**	**233**	P	**Pn**	**23 20 40.4**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=36,slow=12,SNR=7.4						
YAK	**Yakutsk**	**19.98**	**325**	*i* P	**Pn**	**23 21 27.8**	**+1.6**
CLNS	**Chul'man**	**20.10**	**308**	*e*P	Pn	23 21 27.6	-0.1
CLNS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CLNS				pmax	pmax		
	comp=N,9.0nm,1.2s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.5s						
KSRS	**Korea Array**	**22.04**	**252**	P	**P**	**23 21 46.9**	**+0.3**
	comp=E,9.3nm,0.9s,baz=56,slow=10,SNR=20						
SONM	**Songino Array**	**31.91**	**288**	LR	LR	23 36 30.1	
	comp=E,96nm,20.5s,baz=77,slow=37						
COLA	**College**	**34.70**	**39**	*i* P	**P**	**23 23 41.6**	**+0.5**
ILAR	**Eielson Array**	**35.12**	**39**	P	**P**	**23 23 44.5**	**-0.2**
	comp=E,1.1nm,0.7s,baz=251,slow=7.0,SNR=11						
INK	**Inuvik**	**40.24**	**33**	P	**P**	**23 24 28.9**	**+1.1**
	comp=E,0.8nm,0.4s,baz=310,slow=9.8,SNR=3.0						
ZALV	**Zalesovo Beam**	**42.78**	**305**	P	**P**	**23 24 48.3**	**-0.6**
ZALV						23 26 41.0	
ZALV				MLR	MLR		
	comp=Z,72nm,20.4s						
ZALV	**Zalesovo Beam**	**42.78**	**305**	P	**P**	**23 24 48.3**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=70,slow=5.4,SNR=2.9						
ZALV				PcP	**PcP**	**23 26 41.0**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=64,slow=3.4,SNR=3.5						
ZALV				LR	LR	23 42 53.5	
	comp=Z,72nm,20.4s,baz=69,slow=36						
MKAR	**Makanchi Array**	**47.31**	**297**	P	**P**	**23 25 23.8**	**-1.2**
MKAR						23 26 55.0	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**47.31**	**297**	P	**P**	**23 25 23.8**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=69,slow=7.5,SNR=6.5						
MKAR				PcP	**PcP**	**23 26 55.0**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=64,slow=3.4,SNR=3.3

BZS	**Buzias**	**78.23**	**328**	⇑*i*P		**P**	**23 28 50.9**	**+0.2**
BRTR	**Keskin Array B**	**78.27**	**317**	P		**P**	**23 28 51.4**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=64,slow=4.4,SNR=9.6							
BRTR				pP		**pP**	**23 29 04.2**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=73,slow=4.1,SNR=3.0							
VTS	**Vitosha**	**80.25**	**326**	⇓*i*P		**P**	**23 29 02.3**	**+0.3**

*IDC **29** 23:22:49.8±0.7, 45˙.51S×166˙.74E, h0km, mb4.0/7, mb1 4.2/9, mb1mx4.1/18, mbtmp4.1/9, ML4.2/2, MS3.9/8, Ms1 3.9/8, ms1mx3.6/21, Error ellipse: s-maj=24.5km s-min=19.3km az=45.0*

*AUST **29** 23:22:50.4±1.0, 45˙.68S×166˙.51E, h0km, Error ellipse: s-maj=1.3km s-min=0.7km az=9.0*

*ISCJB **29** 23:22:51.8±0.8, 45˙.48S±0˙.04×166˙.64E±0˙.04, h21km±6km, mb4.3/9, MS3.8/8, Error ellipse: s-maj=7.4km s-min=4.5km az=170.2*

*WEL **29** 23:22:52.3±0.2, 45˙.55S×166˙.63E, h21km±1km, ML5.1/24, Error ellipse: s-maj=2.2km s-min=1.0km az=90.0*

WEL Felt from Otago to Southland, maximum reported intensity MM 4.

*NEIC **29** 23:22:53.2, 45˙.57S×166˙.71E, h9km, mb4.9/3, ML5.0(WEL), After WEL.*

ISC 29 23:22:52.1±1.5, 45˙.59S±0˙.04×166˙.68E±0˙.05, h15km±9km, n110, σ1≥35/106, mb4.2/9, MS3.9/8, 3C-3D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.35**	**73**	Pg	**Pb**	**23 23 00.1**	**+0.1**
DCZ				**Sg**	**Sg**	**23 23 00.4**	**+0.7**
DCZ	**Deep Cove**	**0.35**	**73**	P*	**Pb**	**23 23 00.1**	**+0.1**
DCZ				S*	**Sg**	**23 23 04.8**	**+0.7**
DCZ				AML	AML	23 23 05.3	
DCZ				AML	AML	23 23 05.3	
DCZ				AML	AML	23 23 05.5	
MLZ	**Mavora Lakes**	**1.08**	**78**	P*	**Pb**	**23 23 11.0**	**-1.5**
MLZ				S*	**Sb**	**23 23 25.1**	**-1.3**
MLZ	**Mavora Lakes**	**1.08**	**78**	⇓PN	**Pb**	**23 23 11.6**	**-0.9**
MLZ				SN	**Sb**	**23 23 25.1**	**-1.3**
MLZ				AML	AML	23 23 32.7	
MSZ	**Milford Sound**	**1.27**	**45**	P*	**Pn**	**23 23 13.2**	**-2.1**
MSZ	**Milford Sound**	**1.27**	**45**	PN	**Pn**	**23 23 13.2**	**-2.1**
MSZ				SN	**Sg**	**23 23 34.6**	**+1.6**
MSZ				AML	AML	23 23 35.1	
MSZ				AML	AML	23 23 44.4	
MSZ				AML	AML	23 23 44.5	
APZ	**The Paps**	**1.55**	**144**	Pn	**Pn**	**23 23 19.6**	**+0.5**
APZ	**The Paps**	**1.55**	**144**	PN	**Pn**	**23 23 20.0**	**-0.4**
WKZ	**Wanaka**	**1.82**	**66**	Pn	**Pn**	**23 23 23.5**	**+0.6**
WKZ	**Wanaka**	**1.82**	**66**	⇑PN	**Pn**	**23 23 23.5**	**+0.6**
WKZ				AML	AML	23 23 53.9	
WKZ				AML	AML	23 23 53.9	
WKZ				AML	AML	23 23 58.6	
WKZ				AML	AML	23 23 58.6	
EAZ	**Earnscleugh**	**1.89**	**80**	Pn	**Pn**	**23 23 24.8**	**+1.0**
EAZ	**Earnscleugh**	**1.89**	**80**	⇑PN	**Pn**	**23 23 24.8**	**+1.0**
EAZ				AML	AML	23 23 55.1	
EAZ				AML	AML	23 23 55.1	
EAZ				AML	AML	23 23 56.3	
SYZ	**Scrubby Hill**	**1.96**	**120**	Pn	**Pb**	**23 23 26.8**	**-0.7**
SYZ	**Scrubby Hill**	**1.96**	**120**	⇓PN	**Pb**	**23 23 26.9**	**-0.7**
TUZ	**Tuapeka**	**2.10**	**101**	Pn	**Pb**	**23 23 28.5**	**-1.4**
TUZ	**Tuapeka**	**2.10**	**101**	PN	**Pb**	**23 23 28.5**	**-1.4**
TUZ				AML	AML	23 24 01.4	
TUZ				AML	AML	23 24 03.1	
JCZ	**Jackson Bay**	**2.12**	**45**	Pn	**Pn**	**23 23 27.8**	**+0.7**
JCZ	**Jackson Bay**	**2.12**	**45**	PN	**Pn**	**23 23 27.7**	**+0.7**
JCZ				AML	AML	23 24 04.0	
JCZ				AML	AML	23 24 16.0	
HHSZ	**Highcliff Hill**	**2.76**	**98**	PN	**Pn**	**23 23 37.5**	**+1.6**
LBZ	**Lake Benmore**	**2.76**	**66**	Pn	**Pn**	**23 23 35.6**	**-0.2**
LBZ	**Lake Benmore**	**2.76**	**66**	AML	AML	23 24 23.5	
LBZ				AML	AML	23 24 23.5	
LBZ				AML	AML	23 24 27.1	
LBZ				AML	AML	23 24 27.1	
ODZ	**Otahua Downs**	**2.85**	**80**	*e*Pn	**Pn**	**23 23 37.2**	**+0.2**
ODZ				*e*Sn	**Sn**	**23 24 10.9**	**-0.2**
ODZ	**Otahua Downs**	**2.85**	**80**	⇑PN	**Pn**	**23 23 37.0**	**0.0**
ODZ				AML	AML	23 24 18.3	
ODZ				AML	AML	23 24 18.3	
ODZ				AML	AML	23 24 29.8	
ODZ				AML	AML	23 24 29.8	
FOZ	**Fox Glacier**	**2.95**	**48**	Pn	**Pn**	**23 23 40.3**	**+1.9**
FOZ	**Fox Glacier**	**2.95**	**48**	PN	**Pn**	**23 23 40.3**	**+1.9**
FOZ				AML	AML	23 24 35.0	
FOZ				AML	AML	23 24 35.0	
FOZ				AML	AML	23 24 36.3	
FOZ				AML	AML	23 24 36.3	
RPZ	**Rata Peaks**	**3.64**	**61**	*e*Pn	**Pn**	**23 23 46.3**	**-1.6**
RPZ				*e*Sn	**Sn**	**23 24 32.1**	**+1.5**
RPZ	**Rata Peaks**	**3.64**	**61**	Pn	**Pn**	**23 23 47.7**	**-0.2**
	65nm,0.3s,baz=229,slow=4.6,SNR=170						
RPZ				Sn	**Sn**	**23 24 33.6**	**+3.0**
	93nm,0.3s,baz=226,slow=17,SNR=3.7						
WVZ	**Waitaha Valley**	**3.84**	**51**	Pn	**Pn**	**23 23 51.1**	**+0.5**
WVZ	**Waitaha Valley**	**3.84**	**51**	PN	**Pn**	**23 23 51.1**	**+0.5**
WVZ				AML	AML	23 25 02.7	
WVZ				AML	AML	23 25 05.4	
MQZ	**McQueen's Vall**	**4.66**	**68**	Pn	**Pn**	**23 24 00.5**	**-1.4**
MQZ	**McQueen's Vall**	**4.66**	**68**	AML	AML	23 25 24.2	
MQZ				AML	AML	23 25 36.5	
LTZ	**Lake Taylor**	**4.90**	**57**	Pn	**Pn**	**23 24 03.9**	**-1.4**
LTZ	**Lake Taylor**	**4.90**	**57**	PN	**Pn**	**23 24 03.8**	**-1.4**
LTZ				AML	AML	23 25 12.2	
LTZ				AML	AML	23 25 17.1	
DSZ	**Denniston Nort**	**5.34**	**46**	Pn	**Pn**	**23 24 12.0**	**+0.7**
DSZ	**Denniston Nort**	**5.34**	**46**	PN	**Pn**	**23 24 12.0**	**+0.7**
KHZ	**Kahutara**	**5.88**	**60**	*e*Pn	**Pn**	**23 24 19.9**	**+1.3**
KHZ				*e*Sn	**Sn**	**23 25 26.3**	**+0.6**
KHZ	**Kahutara**	**5.88**	**60**	PN	**Pn**	**23 24 18.7**	**+0.1**
KHZ				AML	AML	23 25 33.1	
KHZ				AML	AML	23 25 40.5	
THZ	**Tophouse**	**5.91**	**52**	Pn	**Pn**	**23 24 20.0**	**+0.8**
THZ	**Tophouse**	**5.91**	**52**	PN	**Pn**	**23 24 19.5**	**+0.3**
THZ				AML	AML	23 25 37.3	
THZ				AML	AML	23 25 37.6	
NNZ	**Nelson**	**6.55**	**51**	Pn	**Pn**	**23 24 29.5**	**+1.7**
NNZ	**Nelson**	**6.55**	**51**	AML	AML	23 25 54.7	
NNZ				AML	AML	23 25 55.0	
TUWZ	**Tuamarina**	**6.72**	**54**	Pn	**Pn**	**23 24 33.0**	**+2.8**
TUWZ	**Tuamarina**	**6.72**	**54**	AML	AML	23 25 51.5	
TCW	**Tory Channel**	**7.05**	**54**	Pn	**Pn**	**23 24 37.8**	**+3.1**
TCW	**Tory Channel**	**7.05**	**54**	AML	AML	23 26 08.1	
TCW				AML	AML	23 26 08.1	
DUWZ	**D'Urville Isla**	**7.13**	**50**	Pn	**Pn**	**23 24 39.0**	**+3.1**
DUWZ	**D'Urville Isla**	**7.13**	**50**	AML	AML	23 26 04.8	
SNZO	**South Karori**	**7.24**	**57**	*e*Pn	**Pn**	**23 24 38.1**	**+0.8**
	202nm,0.8s						
SNZO				*e*Sn	**Sn**	**23 26 00.6**	**+1.5**
URZ	**Urewera**	**10.67**	**50**	*e*Pn	**Pn**	**23 25 25.3**	**+0.9**
URZ				*e*Sn	**Sn**	**23 27 23.8**	**+0.3**
URZ	**Urewera**	**10.67**	**50**	Pn	**Pn**	**23 25 22.6**	**-1.8**
	0.5nm,0.3s,baz=225,slow=5.7,SNR=2.3						
URZ				Sn	**Sn**	**23 27 18.1**	**-5.4**
	1.2nm,0.3s,baz=97,slow=19,SNR=2.9						
WCZ	**Waipu Caves**	**11.24**	**34**	Pn	**Pn**	**23 25 32.1**	**-0.1**
OUZ	**Omahuta**	**11.61**	**29**	*e*Pn	**Pn**	**23 25 37.6**	**+0.4**
	19nm,0.5s						
OUZ				*e*Sn	**Sn**	**23 27 46.1**	**-0.5**
TAU	**Tasmania Unive**	**14.13**	**274**	*e*Pn	Pn	23 26 07.2	-4.4
TAU				*e*Sn	Sn	23 28 36.6	-11
MOO	**Moorlands**	**14.37**	**276**	P	**Pn**	**23 26 12.8**	**-2.1**
	baz=14,SNR=5.1						
MILA	**Mila**	**15.66**	**297**	P	**Pn**	**23 26 29.3**	**-2.9**
	baz=16,SNR=26						
CNB	**Canberra Magne**	**16.67**	**302**	P	**Pn**	**23 26 44.2**	**-0.9**
	baz=17,SNR=4.9						
CAN	**Canberra**	**16.88**	**301**	*e*Pn	**Pn**	**23 26 46.4**	**-1.4**
TOO	**Toolangi**	**17.72**	**289**	P	**P**	**23 26 58.2**	**-0.9**
	baz=18,SNR=6.4						
YNG	**Young**	**17.94**	**303**	P	**P**	**23 27 01.2**	**-0.4**
	baz=18,SNR=4.5						
ARMA	**Armidale**	**19.18**	**317**	*e*P	**Pn**	**23 27 17.2**	**+1.0**
RAO	**Raoul Island**	**20.33**	**42**	LR	LR	23 34 57.4	
	comp=Z,426nm,19.6s,baz=250,slow=36						
ARPS	**Mount Arapiles**	**20.60**	**287**	P	Pn	23 27 38.8	+5.9
	baz=20,SNR=4.7						
CMSA	**Cobar Meteorol**	**21.50**	**303**	P	P	23 27 44.9	+4.6
	baz=21,SNR=5.2						
STKA	**Stephens Creek**	**23.76**	**296**	P	**P**	**23 28 04.5**	**+0.6**
STKA	**Stephens Creek**	**23.76**	**296**	P	**P**	**23 28 04.5**	**+0.6**
	3.0nm,0.7s,baz=154,slow=8.7,SNR=5.9						
STKA				LR	LR	23 35 49.9	
	comp=Z,193nm,21.9s,baz=209,slow=33						
STKA	**Stephens Creek**	**23.76**	**296**	P	**P**	**23 28 05.5**	**+1.6**
	baz=24,SNR=4.8						
MSVF	**Nonsavu**	**29.35**	**23**	*e*P	**P**	**23 28 54.9**	**+0.4**
VNDA	**Vanda**	**32.10**	**182**	LR	LR	23 40 01.0	
	comp=Z,224nm,19.2s,baz=12,slow=32						
ASAR	**Alice Springs**	**34.35**	**298**	P	**P**	**23 29 37.9**	**-0.6**
ASAR	**Alice Springs**	**34.35**	**298**	P	**P**	**23 29 37.9**	**-0.6**
	1.2nm,0.8s,baz=135,slow=7.8,SNR=7.3						
ASAR				LR	LR	23 43 36.5	
	comp=Z,188nm,18.4s,baz=150,slow=36						
WRA	**Warramunga Arr**	**36.91**	**303**	P	**P**	**23 29 59.7**	**-0.7**
WRA	**Warramunga Arr**	**36.91**	**303**	P	**P**	**23 29 59.7**	**-0.7**
	2.3nm,1.0s,baz=137,slow=8.0,SNR=2.6						
WRAB	**Tennant Creek**	**36.91**	**303**	*e*P	**P**	**23 30 02.2**	**+1.9**
	6.2nm,0.9s						
TBI	**Tubuai**	**41.76**	**73**	*e*LR	LR	23 42 12.6	
	240nm,41.2s						
QSPA	**South Pole Qui**	**44.54**	**180**	*e*P	**P**	**23 31 04.9**	**+1.9**
QSPA	**South Pole Qui**	**44.54**	**180**	P	**P**	**23 31 04.2**	**+1.2**
	1.7nm,0.7s,baz=298,slow=1.7,SNR=6.9						
QSPA				LR	LR	23 47 41.9	
	comp=Z,152nm,19.8s,baz=34,slow=33						
PPT2	**Papeete2**	**45.76**	**67**	*e*LR	LR	23 44 05.1	
	228nm,24.2s						
PPT	**Papeete**	**45.77**	**67**	LR	LR	23 45 34.0	
	comp=Z,198nm,18.8s,baz=193,slow=30						
MAW	**Mawson**	**53.60**	**208**	P	**P**	**23 32 10.3**	**-1.8**
	baz=53,SNR=7.6						
SYO	**Syowa Base**	**59.23**	**200**	⇓*e*P	**P**	**23 32 51.0**	**-1.2**
GUMO	**Guam**	**62.11**	**336**	*e*P	**P**	**23 33 14.5**	**+2.1**
SNAA	**Sanae**	**62.81**	**184**	*e*P	**P**	**23 33 16.9**	**+0.3**
	10nm,1.4s						
SNAA	**Sanae**	**62.81**	**184**	P	**P**	**23 33 16.9**	**+0.3**
	1.0nm,1.0s,baz=199,slow=4.7,SNR=9.2						
COCO	**West Island**	**67.30**	**276**	*e*P	**P**	**23 33 46.4**	**0.0**
	48nm,0.7s						
KKM	**Kota Kinabalu**	**68.28**	**304**	*e*P	**P**	**23 33 54.5**	**+1.9**
PLCA	**Paso Flores**	**79.98**	**140**	P	**P**	**23 35 00.7**	**-0.1**
PLCA	**Paso Flores**	**79.98**	**140**	P	**P**	**23 35 00.7**	**-0.1**
	2.5nm,0.8s,baz=212,slow=11,SNR=3.5						
CMAR	**Chiang Mai Arr**	**88.36**	**299**	P	**P**	**23 35 44.3**	**+0.9**
CMAR	**Chiang Mai Arr**	**88.36**	**299**	P	**P**	**23 35 44.3**	**+0.9**
	0.6nm,0.3s,baz=168,slow=3.8,SNR=6.9						
CMAR				LR	LR	00 17 38.1	
	comp=Z,53nm,18.5s,baz=342,slow=37						
KSRS	**Korea Array**	**89.73**	**330**	LR	LR	00 14 21.8	
	comp=Z,22nm,18.7s,baz=20,slow=34						
MKAR	**Makanchi Array**	**118.04**	**309**	PKP	**PKPdf**	**23 41 37.0**	**-0.7**
MKAR	**Makanchi Array**	**118.04**	**309**	PKP	**PKPdf**	**23 41 37.0**	**-0.7**
	0.6nm,0.7s,baz=204,slow=1.2,SNR=5.8						
ZALV	**Zalesovo Beam**	**121.03**	**317**	PKPpre	PKPpre	23 41 40.1	
ZALV	**Zalesovo Beam**	**121.03**	**317**	PKhKP	PKPpre	23 41 40.1	
	0.2nm,0.3s,baz=200,slow=2.9,SNR=2.7						
DBIC	**Dimbokro**	**140.54**	**193**	PKP	**PKPdf**	**23 42 22.1**	**+0.9**
DBIC	**Dimbokro**	**140.54**	**193**	PKP	**PKPdf**	**23 42 22.1**	**+0.9**
	3.2nm,0.7s,baz=212,slow=1.9,SNR=4.4						
TORD	**Torodi Ar. Bea**	**145.25**	**206**	PKPbc	**PKPbc**	**23 42 28.6**	**-0.5**
TORD	**Torodi Ar. Bea**	**145.25**	**206**	PKPbc	**PKPbc**	**23 42 28.6**	**-0.5**
	14nm,0.7s,baz=146,slow=2.2,SNR=123						
SCHQ	**Schefferville**	**145.31**	**55**	PKPbc	**PKPbc**	**23 42 26.5**	**-1.7**
SCHQ	**Schefferville**	**145.31**	**55**	PKPbc	**PKPbc**	**23 42 26.5**	**-1.7**
	3.4nm,0.8s,baz=250,slow=5.3,SNR=5.0						
BRTR	**Keskin Array B**	**145.37**	**277**	PKPbc	**PKPbc**	**23 42 28.7**	**-0.4**
BRTR	**Keskin Array B**	**145.37**	**277**	PKPbc	**PKPbc**	**23 42 28.7**	**-0.4**
	3.3nm,1.0s,baz=131,slow=3.8,SNR=15						
KEV	**Kevo**	**148.62**	**334**	*e*p	**PKPbc**	**23 42 36.6**	**-0.6**
	3.0nm,0.6s						
ARCES	**ARCESS Array B**	**149.19**	**334**	PKPbc	**PKPbc**	**23 42 38.3**	**-0.3**
ARCES	**ARCESS Array B**	**149.19**	**334**	PKPbc	**PKPbc**	**23 42 38.3**	**-0.3**
	6.3nm,0.7s,baz=67,slow=3.4,SNR=19						
KAF	**Kangasniemi**	**151.96**	**320**	*e*p	**PKPbc**	**23 42 44.3**	**-1.1**
	9.4nm,0.8s						
FINES	**FINESS Array B**	**152.26**	**319**	PKPbc	**PKPbc**	**23 42 45.7**	**-0.3**
FINES	**FINESS Array B**	**152.26**	**319**	PKPbc	**PKPbc**	**23 42 45.7**	**-0.3**
	4.9nm,0.7s,baz=91,slow=3.7,SNR=24						
GERES	**GERESS Array B**	**161.39**	**290**	PKPab	**PKPab**	**23 43 36.3**	**+0.3**
GERES	**GERESS Array B**	**161.39**	**290**	PKPab	**PKPab**	**23 43 36.3**	**+0.3**
	0.5nm,0.9s,baz=114,slow=3.3,SNR=3.8						

ROM 29 23:26:34.6±0.2, 42˙.50N×13˙.33E, h16km±3km, MI1.1/4, Error ellipse: s-maj=2.5km s-min=1.6km az=128.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TERO	**Teramo**	**0.24**	**59**	Pg	Pg	23 26 40.3	+0.3
TERO				Sg	Sg	23 26 44.0	+0.3
	14nm,0.1s						
NRCA	**Norcia**	**0.37**	**334**	Pg	Pg	23 26 42.6	+0.2
NRCA				Sg	Sb	23 26 48.2	-0.3
	19nm,0.1s						
MNS	**Montasola**	**0.49**	**257**	Pg	Pg	23 26 43.7	-0.9
MNS				Sg	Sb	23 26 51.9	-0.1

*OMAN **29** 23:35:36.1±99.0, 28˙.94N×57˙.41E, h6km, Error ellipse: s-maj=265.7km s-min=19.6km az=3.0*

*IDC **29** 23:35:39.1±2.9, 28˙.34N×57˙.10E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.3/26, mbtmp3.3/4, MS3.2/1, Ms1 3.1/1, ms1mx2.7/15, Error ellipse: s-maj=67.8km s-min=32.6km az=161.0*

*ISCJB **29** 23:35:43.9±0.7, 28˙.44N±0˙.04×57˙.3E±0˙.1, h31km, mb3.2/4, Error ellipse: s-maj=14.0km s-min=6.4km az=1.1*

*CSEM **29** 23:35:44.2±0.5, 28˙.45N×57˙.14E, h15km, ML3.3, Error ellipse: s-maj=23.1km s-min=10.1km az=88.0*

ISC 29 23:35:44.1±1.0, 28˙.49N±0˙.05×57˙.22E±0˙.09, h31km±6km, n24, σ1≥26/23, mb3.2/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**1.43**	**221**	*e*Pg	**Pb**	**23 36 09.9**	**-0.3**
KRBR	**Kerman**	**1.54**	**345**	*e*Pg	**Pb**	**23 36 12.2**	**0.0**
BANOM	**Banah**	**2.68**	**198**	P	**Pn**	**23 36 26.0**	**+0.8**
	SNR=51						
BANOM	**Banah**	**2.68**	**198**	P	**Pn**	**23 36 26.1**	**+0.8**
	SNR=6.7						
BANOM				S	**Sn**	**23 36 55.8**	**-0.9**
GHIR	**Ghir-Karzin**	**3.73**	**268**	*e*Pn	**Pn**	**23 36 41.0**	**+1.3**
NAZ	**Nazwa, Dubai**	**3.75**	**202**	P	**Pn**	**23 36 40.2**	**+0.3**
HATD	**Hatta, Dubai**	**3.77**	**195**	P	**Pn**	**23 36 42.2**	**+2.0**
ASHO	**Ashiyiah**	**3.93**	**196**	P	**Pn**	**23 36 44.5**	**+2.1**
	SNR=15						
ASHO	**Ashiyiah**	**3.93**	**196**	P	**Pn**	**23 36 44.4**	**+2.1**
	SNR=15						
FAQ	**Al Faqa, Dubai**	**4.00**	**202**	P	**Pn**	**23 36 44.6**	**+1.3**
HOQ	**Hoqain**	**4.89**	**179**	P	**Pn**	**23 36 55.6**	**+0.1**
	SNR=7.3						
HOQ	**Hoqain**	**4.89**	**179**	P	**Pn**	**23 36 55.6**	**+0.1**
	SNR=7.3						
TABS	**Tabas**	**5.14**	**359**	*e*Pn	Pn	23 37 03.8	+4.7
ARQ	**Araqi**	**5.17**	**187**	P	**Pn**	**23 37 01.3**	**+1.9**
	SNR=11						
ARQ	**Araqi**	**5.17**	**187**	P	**Pn**	**23 37 01.3**	**+1.9**
	SNR=11						
SMDO	**Samad**	**5.46**	**172**	P	**Pn**	**23 37 04.6**	**+1.1**
	SNR=7.7						
SMDO	**Samad**	**5.46**	**172**	P	**Pn**	**23 37 04.6**	**+1.1**
	SNR=7.7						
WBK	**Wadi Bani Khal**	**6.06**	**164**	P	**Pn**	**23 37 12.1**	**+0.4**
	SNR=19						
WBK	**Wadi Bani Khal**	**6.06**	**164**	P	**Pn**	**23 37 12.1**	**+0.4**
	SNR=19						
KBZ	**Khabaz**	**19.06**	**327**	LR	LR	23 49 15.2	
	comp=Z,64nm,18.6s,baz=341,slow=43						
BRTR	**Keskin Array B**	**22.44**	**306**	P	**P**	**23 40 40.4**	**-0.2**
	0.6nm,0.8s,baz=128,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**26.80**	**40**	P	**P**	**23 41 22.6**	**+1.1**
	0.2nm,0.5s,baz=228,slow=7.3,SNR=4.2						
GERES	**GERESS Array B**	**38.93**	**314**	P	**P**	**23 43 06.4**	**-0.8**
	0.3nm,0.6s,baz=95,slow=9.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**53.65**	**266**	P	**P**	**23 45 02.0**	**-1.1**
	0.3nm,0.4s,baz=61,slow=7.5,SNR=6.5						

MEX 29 23:46:59.6±0.7, 17˙.70N×101˙.57W, h25km±18km, MD3.8, Near coast of Guerrero

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

ZIIG	**Zihuatanejo**	**0.13**	**134**	*i* P		Pb	23 47 03.1	-1.5
ZIIG				*i* S		Sb	23 47 06.9	-1.0
ARIG	**Puente Sto Nin**	**1.30**	**63**	*e*P		Pn	23 47 19.3	-2.9
ARIG				*i* S		Sn	23 47 35.0	-3.8
MMIG	**Aquila**	**1.79**	**289**	*i* P		Pn	23 47 26.7	-2.2
MMIG				*i* S		Sn	23 47 48.6	-2.3
PLIG	**Platanillo**	**2.08**	**70**	*i* P		Pn	23 47 31.8	-1.3
PLIG				*i* S		Sn	23 47 55.2	-3.0
YAIG	**Yautepec**	**2.64**	**64**	*i* P		Pn	23 47 39.7	-1.2
YAIG				*i* S		Sn	23 48 09.2	-3.0

IDC 29 23:54:22.9±4.3, 2˙.19S×152˙.71E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.5/18, mbtmp3.8/2, Error ellipse: s-maj=186.8km s-min=50.7km az=113.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.18**	**224**	P	P	23 59 50.7	+0.4
	1.0nm,0.5s,baz=48,slow=9.3,SNR=5.3						
ASAR	**Alice Springs**	**28.06**	**219**	P	P	00 00 15.8	-0.5
	0.6nm,0.3s,baz=51,slow=8.8,SNR=8.7						
TORD	**Torodi Ar. Bea**	**149.33**	**292**	PKPbc	PKPbc	00 14 14.5	-0.4
	0.3nm,0.6s,baz=58,slow=1.7,SNR=6.1						

WEL 30 00:02:37.3±0.2, 45˙.54S×166˙.65E, h21km±1km, ML4.0/17, 1C-2D, Error ellipse: s-maj=2.2km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.36**	**81**	⇑P*	Pb	00 02 44.7	-0.2
DCZ				S*	Sb	00 02 49.7	-0.4
DCZ				AML	AML	00 02 50.1	
DCZ				AML	AML	00 02 50.2	
DCZ				AML	AML	00 02 50.5	
MLZ	**Mavora Lakes**	**1.09**	**80**	⇓PN	Pn	00 02 56.5	-0.9
MLZ				SN	Sb	00 03 09.6	-1.8
MLZ				AML	AML	00 03 12.0	
MSZ	**Milford Sound**	**1.25**	**47**	SN	Sb	00 03 19.1	+3.2
MSZ				AML	AML	00 03 19.7	
MSZ				AML	AML	00 03 19.7	
MSZ				AML	AML	00 03 19.8	
APZ	**The Paps**	**1.60**	**145**	PN	Pn	00 03 05.1	+0.8
APZ				SN	Sb	00 03 26.5	+0.7
WKZ	**Wanaka**	**1.82**	**68**	PN	Pb	00 03 08.8	-1.1
WKZ				AML	AML	00 03 38.0	
WKZ				AML	AML	00 03 38.0	
WKZ				AML	AML	00 03 38.4	
WKZ				AML	AML	00 03 38.4	
EAZ	**Earnscleugh**	**1.90**	**82**	⇓PN	Pb	00 03 10.2	-1.0
EAZ				AML	AML	00 03 39.8	
EAZ				AML	AML	00 03 39.9	
EAZ				AML	AML	00 03 41.4	
SYZ	**Scrubby Hill**	**2.00**	**121**	PN	Pb	00 03 12.1	-0.9
JCZ	**Jackson Bay**	**2.10**	**47**	PN	Pb	00 03 13.8	-0.9
JCZ				AML	AML	00 03 48.7	
JCZ				AML	AML	00 03 50.9	
TUZ	**Tuapeka**	**2.13**	**102**	PN	Pb	00 03 13.7	-1.4
TUZ				AML	AML	00 03 46.3	
TUZ				AML	AML	00 03 46.6	
LBZ	**Lake Benmore**	**2.76**	**67**	PN	Pn	00 03 22.8	+2.4
LBZ				AML	AML	00 04 00.2	
LBZ				AML	AML	00 04 04.2	
HHSZ	**Highcliff Hill**	**2.79**	**99**	PN	Pn	00 03 23.0	+2.3
ODZ	**Otahua Downs**	**2.86**	**81**	PN	Pn	00 03 22.2	+0.5
ODZ				AML	AML	00 04 05.1	
ODZ				AML	AML	00 05 52.8	
FOZ	**Fox Glacier**	**2.94**	**49**	PN	Pb	00 03 25.9	-3.0
FOZ				AML	AML	00 04 20.4	
FOZ				AML	AML	00 04 21.0	
WVZ	**Waitaha Valley**	**3.83**	**51**	PN	Pn	00 03 36.8	+1.8
WVZ				AML	AML	00 04 34.9	
OXZ	**Oxford**	**4.45**	**62**	PN	Pn	00 03 44.2	+0.7
MQZ	**McQueen's Vall**	**4.66**	**69**	PN	Pn	00 03 47.4	+1.1
LTZ	**Lake Taylor**	**4.89**	**58**	PN	Pn	00 03 50.6	+0.9
DSZ	**Denniston Nort**	**5.33**	**46**	PN	Pn	00 03 56.5	+0.9

*ISCJB **30** 00:10:54.4±1.1, 34˙.92N±0˙.06×25˙.38E±0˙.03, h13km±5km, Error ellipse: s-maj=10.6km s-min=4.3km az=169.9*

*CSEM **30** 00:10:54.5±0.5, 34˙.92N×25˙.38E, h15km, MD3.5, Error ellipse: s-maj=12.1km s-min=4.1km az=173.0*

*

comp=Z,2µm,20.4s,baz=286,slow=28
RKT Rikitea 43.04 38 eT T 01 04 54.1
3.5nm,0.3s
PPT2 Papeete2 45.27 17 eLR LR 00 32 09.1
320nm,24.8s
DZM Mont Dzumac 45.45 317 eLR LR 00 32 14.2
193nm,24.9s
MAW Mawson 46.62 202 LR LR 00 37 10.6
comp=Z,131nm,21.1s,baz=331,slow=33
STKA Stephens Creek 46.77 283 LR LR 00 36 50.3
comp=Z,175nm,19.2s,baz=206,slow=33
PLCA Paso Flores 55.61 113 P P 00 20 48.9 -0.1
2.2nm,0.9s,baz=250,slow=4.9,SNR=4.0
PLCA LR LR 00 38 47.9
comp=Z,106nm,20.5s,baz=175,slow=30
ASAR Alice Springs 57.30 281 P P 00 21 01.1 0.0
1.0nm,0.8s,baz=144,slow=6.9,SNR=7.2
ASAR LR LR 00 41 13.1
comp=Z,231nm,19.1s,baz=172,slow=31
CPUP Villa Florida 73.58 115 LR LR 00 49 08.0
comp=Z,72nm,20.3s,baz=56,slow=31
LPAZ La Paz 77.53 101 LR LR 00 50 03.0
comp=Z,42nm,20.6s,baz=303,slow=30
SUR Sutherland 85.86 182 LR LR 00 56 17.3
comp=Z,92nm,20.9s,baz=293,slow=32
BDFB Brasilia 86.99 118 LR LR 00 59 44.9
comp=Z,106nm,18.0s,baz=46,slow=34
BOSA Boshof 89.46 186 LR LR 01 00 31.3
comp=Z,157nm,18.6s,baz=161,slow=33
LBTB Lobatse 93.02 187 LR LR 01 02 37.6
comp=Z,115nm,19.4s,baz=142,slow=33
ZALV Zalesovo Beam 145.23 288 PKPbc PKPbc 00 30 48.6 -0.9
0.2nm,0.3s,baz=143,slow=5.0,SNR=2.1

IDC 30 00:15:02.2±2.2, 6.79S×129.84E, h0km, mb3.3/1, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, ML3.8/2, Error ellipse: s-maj=144.7km s-min=31.7km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	13.78	162	Pn	Pn	00 18 19.1	0.0
	0.6nm,0.3s,baz=345,slow=14,SNR=6.1						
WRA				Sn	Sn	00 20 41.2	-12
	0.6nm,0.3s,baz=331,slow=22,SNR=3.7						
ASAR	Alice Springs	17.23	167	P	Pn	00 19 04.4	-0.1
	0.2nm,0.3s,baz=338,slow=9.4,SNR=8.1						
MKAR	Makanchi Array	67.97	327	P	P	00 26 03.2	0.0
	0.2nm,0.4s,baz=109,slow=6.8,SNR=3.3						

*IDC **30** 00:20:23.9±2.1, 27.42S×70.99W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/17, mbtmp3.7/3, ML3.9/1, Error ellipse: s-maj=69.2km s-min=48.7km az=41.0*
*ISCJB **30** 00:20:26.7±0.8, 27.37S±0.04×71.19W±0.08, h32km, mb3.6/2, Error ellipse: s-maj=10.4km s-min=5.8km az=10.7*
*GUC **30** 00:20:26.8±0.7, 27.42S×70.90W, h59km±6km, ML3.8*

ISC 30 00:20:26.6±0.9, 27.54S±0.05×71.1W±0.1, h32km, n10, σ1§28/14, 2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	Caldera	0.55	31	eP	Pb	00 20 37.3	-0.6
CDCH				i S	Sn	00 20 45.4	-0.9
CDCH				AML	AML	00 20 46.1	
	comp=E,4µm,0.2s						
CPCH	Copiapo	0.72	75	eP	Pb	00 20 40.8	0.0
CPCH				i S	Sn	00 20 50.0	-0.6
CPCH				AML	AML	00 20 53.2	
	comp=N,27µm,0.1s						
LCO	Las Campanas	1.51	165	⇓ iP	Pb	00 20 54.1	-0.2
LCO				i S	Sb	00 21 14.0	+0.7
LCO				AML	AML	00 21 17.8	
	comp=E,2µm,0.5s						
TLL	Tololo Astrono	2.63	174	eP	Pb	00 21 11.8	-1.5
TLL				i S	Sb	00 21 44.4	-0.8
TLL				AML	AML	00 22 03.6	
	comp=E,336nm,0.6s						
ANCH	Antofagasta	3.90	10	⇓ iP	Pn	00 21 22.6	-1.7
LPAZ	La Paz	11.54	15	Pn	Pn	00 23 08.8	-1.0
	comp=E,0.3nm,0.3s,baz=208,slow=8.1,SNR=14						
TXAR	Lajitas Array	64.56	329	P	P	00 31 02.6	+1.7
	comp=E,0.2nm,0.6s,baz=140,slow=7.1,SNR=3.3						
TORD	Torodi Ar. Bea	81.30	70	P	P	00 32 41.5	+1.3
	comp=E,1.1nm,0.7s,baz=258,slow=4.9,SNR=8.3						
ZALV	Zalesovo Beam	148.25	27	PKPbc	PKPab	00 40 10.9	-1.2
	comp=E,1.6nm,0.7s,baz=306,slow=3.4,SNR=8.8						
MKAR	Makanchi Array	151.62	40	PKPbc	PKPbc	00 40 19.4	+1.9
	comp=E,0.7nm,0.7s,baz=306,slow=1.2,SNR=6.2						

*ISCJB **30** 00:43:54.8±0.5, 31.46N±0.03×104.08E±0.09, h14km, mb3.5/5, MS3.7/1, Error ellipse: s-maj=10.6km s-min=4.8km az=3.3*
*IDC **30** 00:43:54.5±1.5, 31.39N×103.97E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/26, mbtmp3.6/7, MS3.7/1, Ms1 3.7/1, ms1mx2.4/32, Error ellipse: s-maj=37.3km s-min=22.7km az=40.0*
*BJI **30** 00:43:57.1, 31.45N×103.95E, h5km, ML3.4/12, Ms7 3.3/1*

ISC 30 00:43:56.6±0.7, 31.38N±0.04×104.03E±0.10, h14km, n11, σ0§93/15, mb3.6/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	Chengdu	0.52	207	Pg	Pb	00 44 07.3	-0.3
CD2				Sg	Sb	00 44 15.8	+0.8
CD2				smax	smax		
	comp=E,4µm,0.8s						
LZH	Lanzhou	4.70	358	ePg	Pg	00 45 27.0	+0.4
LZH				Sg	Sg	00 46 26.8	-0.6
LZH				smax	smax		
	comp=N,86nm,0.8s						
LZH				smax	smax		
	comp=E,97nm,0.6s						
LZH				LR	LR		
	comp=N,220nm,5.0s						
LZH				LR	LR		
	comp=E,230nm,5.2s						
LZH				LR	LR		
	comp=Z,360nm,6.1s						
GYA	Guiyang	5.42	154	Pn	Pn	00 45 18.3	+1.2
GYA				Pg	Pg	00 45 38.8	-1.6
GYA				Sn	Sn	00 46 20.3	+0.9
GYA				Sg	Sg	00 46 49.8	-0.8
GYA				smax	smax		
	comp=N,50nm,0.7s						
GYA				smax	smax		
	comp=E,90nm,0.9s						
SONM	Songino Array	16.53	6	Pn	Pn	00 47 48.2	+0.1
	baz=198,slow=14,SNR=2.3						
KSRS	Korea Array	20.59	66	P	P	00 48 35.7	+0.5
	comp=E,1.2nm,0.6s,baz=257,slow=10,SNR=6.8						
MKAR	Makanchi Array	22.73	319	P	P	00 48 56.4	-1.7
	comp=E,0.3nm,0.5s,baz=126,slow=12,SNR=4.6						
USRK	Ussuriysk Arra	25.40	52	P	P	00 49 23.2	-0.3
	comp=E,0.8nm,0.5s,baz=270,slow=5.9,SNR=4.4						
ZALV	Zalesovo Beam	26.45	334	P	P	00 49 33.1	+0.3
	comp=E,1.7nm,0.6s,baz=128,slow=11,SNR=9.4						
KURBB	Kurchatov Arra	26.98	323	P	P	00 49 38.0	+0.3
	comp=E,0.1nm,0.3s,baz=130,slow=9.2,SNR=4.3						
FITZ	Fitzroy Crossi	53.40	154	LR	LR	01 15 51.1	
	comp=E,76nm,21.9s,baz=34,slow=36						
WRA	Warramunga Arr	58.74	146	P	P	00 53 54.6	+0.4
	comp=E,1.0nm,0.4s,baz=335,slow=7.9,SNR=4.6						

IDC 30 01:01:06.9±2.1, 11.04N×85.92W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/21, mbtmp3.9/3, Error ellipse: s-maj=70.3km s-min=38.8km az=29.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	Lajitas Array	24.61	320	P	P	01 06 28.4	-0.7
	2.0nm,0.7s,baz=136,slow=10.0,SNR=30						
TXAR				PcP	PcP	01 10 08.4	+1.3
	0.4nm,0.8s,baz=116,slow=4.1,SNR=4.9						
SCHQ	Schefferville	46.22	15	P	P	01 09 34.1	+0.5
	1.8nm,0.7s,baz=207,slow=9.2,SNR=5.3						
TORD	Torodi Ar. Bea	85.25	78	P	P	01 13 45.6	-0.7
	0.6nm,1.2s,baz=288,slow=7.0,SNR=2.5						
CMAR	Chiang Mai Arr	150.30	351	PKPbc	PKPbc	01 21 00.2	-0.9
	0.7nm,0.3s,baz=328,slow=3.2,SNR=4.1						

IDC 30 01:09:59.4±2.8, 10.38N×93.76E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/26, mbtmp3.9/6, MS3.3/2, Ms1 3.3/2, ms1mx2.6/36, Error ellipse: s-maj=125.7km s-min=20.3km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	9.11	145	LR	LR	01 15 48.1	
	comp=Z,145nm,19.6s,baz=212,slow=38						
MKAR	Makanchi Array	37.57	347	P	P	01 17 15.6	-0.1
	0.4nm,0.8s,baz=151,slow=9.2,SNR=3.0						
SONM	Songino Array	38.82	14	P	P	01 17 25.7	-0.6
	0.5nm,0.4s,baz=199,slow=7.6,SNR=3.3						
KURBB	Kurchatov Arra	42.04	346	P	P	01 17 52.5	-0.2
	0.6nm,0.2s,baz=158,slow=7.9,SNR=2.7						
ZALV	Zalesovo Beam	44.03	352	P	P	01 18 08.9	+0.1
	0.4nm,0.6s,baz=188,slow=8.7,SNR=2.9						
WRA	Warramunga Arr	50.04	127	P	P	01 18 55.6	-0.7
	1.4nm,0.7s,baz=303,slow=8.5,SNR=4.4						
ASAR	Alice Springs	51.82	131	P	P	01 19 10.0	+0.3
	1.7nm,0.8s,baz=303,slow=7.0,SNR=12						
ASAJ	Asahikawa	53.80	42	LR	LR	01 41 34.4	
	comp=Z,320nm,19.1s,baz=329,slow=35						

*DDA **30** 01:27:20.1, 39.48N×26.79E, h7km, MD2.8*
*ISK **30** 01:27:20.1, 39.51N×26.66E, h5km, MD2.8*
*CSEM **30** 01:27:21.2±0.4, 39.51N×26.70E, h2km, MD2.8, Error ellipse: s-maj=8.5km s-min=5.7km az=41.0*

ISC 30 01:27:20.6±1.0, 39.50N±0.03×26.71E±0.03, h9km±10km, n34, σ0§75/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AYVA	Ayvalik	0.19	185	i P	Pg	01 27 24.4	-0.1
AYVA				i S	Sg	01 27 27.4	+0.2
AYVA	Ayvalik	0.19	185	i P	Pg	01 27 24.4	-0.1
AYVA				i S	Sg	01 27 27.4	+0.2
EZN	Ezine	0.44	318	ePG	Pg	01 27 29.4	+0.2
EZN				eSG	Sb	01 27 36.2	-1.1
EZN	Ezine	0.44	318	ePg	Pg	01 27 29.4	+0.2
EZN				eSg	Sb	01 27 36.2	-1.1
BALY	Balya	0.74	71	eP	Pg	01 27 33.2	-1.7
BALY				i S	Sg	01 27 43.8	-0.7
BALY	Balya	0.74	71	eP	Pg	01 27 33.2	-1.7
BALY				i S	Sg	01 27 43.8	-0.7
LPK	Lapseki	0.87	2	ePG	Pb	01 27 37.6	-0.3
LPK				eSG	Sn	01 27 50.9	-1.0
LPK	Lapseki	0.87	2	ePg	Pb	01 27 37.6	-0.3
LPK				eSg	Sn	01 27 50.9	-1.0
BALB	Balikesir	0.91	81	ePG	Pb	01 27 39.1	+0.5
BALB	Balikesir	0.91	81	ePg	Pb	01 27 39.1	+0.5
GELI	Tayfur-Gelibol	0.92	349	ePG	Pg	01 27 38.2	+0.1
GELI	Tayfur-Gelibol	0.92	349	ePg	Pg	01 27 38.3	+0.1
GONE	Gonen-Balikesi	0.93	54	ePG	Pb	01 27 39.3	+0.5
GONE	Gonen-Balikesi	0.93	54	ePg	Pb	01 27 39.3	+0.5
KRBG	Karabiga-Canak	1.00	27	ePG	Pg	01 27 39.9	+0.1
KRBG	Karabiga-Canak	1.00	27	ePg	Pg	01 27 39.9	+0.1
RKY	Sarkoy-Tekirda	1.24	17	ePN	Pg	01 27 45.3	+0.9
RKY	Sarkoy-Tekirda	1.24	17	ePn	Pg	01 27 45.3	+0.9
ENEZ	Enez	1.31	341	ePN	Pg	01 27 45.5	-0.2
ENEZ	Enez	1.31	341	ePn	Pg	01 27 45.5	-0.2
DST	Dursunbey	1.48	85	ePN	Pg	01 27 50.0	+1.0
DST	Dursunbey	1.48	85	ePn	Pg	01 27 50.0	+1.0
KCTX	Karacabey (Bur	1.48	58	ePN	Pg	01 27 49.3	+0.4
KCTX	Karacabey (Bur	1.48	58	ePn	Pg	01 27 49.3	+0.4
KULA	Kula-Manisa	1.81	122	ePN	Pb	01 27 53.7	-0.2
KULA	Kula-Manisa	1.81	122	ePn	Pb	01 27 53.7	-0.2
MDNY	Mudanya-Bursa	1.88	62	ePN	Pb	01 27 55.5	+0.4
MDNY	Mudanya-Bursa	1.88	62	ePn	Pb	01 27 55.5	+0.4
ARMT	Armutlu	1.96	56	ePN	Pb	01 27 56.9	+0.3
ARMT	Armutlu	1.96	56	ePn	Pb	01 27 56.9	+0.3
TVSB	Tavsanli	2.13	90	ePN	Pb	01 27 59.2	-0.2
TVSB	Tavsanli	2.13	90	ePn	Pb	01 27 59.2	-0.2
EDRB	Edirne	2.34	1	ePN	Pn	01 28 00.7	+1.4
EDRB	Edirne	2.34	1	ePn	Pn	01 28 00.7	+1.4

*IDC **30** 01:32:53.2±1.0, 3.92S×34.83E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.8/28, mbtmp3.9/10, ML5.2/2, MS3.3/4, Ms1 3.2/4, ms1mx2.8/34, Error ellipse: s-maj=19.9km s-min=14.4km az=129.0*
*NEIC **30** 01:32:54.5±0.6, 3.95S×34.81E, h10km, mb4.2/2, Error ellipse: s-maj=15.7km s-min=9.1km az=110.0*

ISC 30 01:32:54.8±1.4, 3.85S±0.04×34.81E±0.04, h8km±10km, n29, σ1§35/37, mb4.0/9, MS3.2/3, Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBAT	Babati	0.70	113	i P	Pn	01 33 10.6	-0.6
BBAT				i S	Sn	01 33 22.7	+0.3
SINGT	Sing	0.73	210	i P	Pn	01 33 10.8	-1.0
SINGT				i S	Sn	01 33 23.2	-0.1
KOND	KOND	0.96	136	i P	Pn	01 33 18.5	+3.7
KOND				i S	Sn	01 33 35.8	+7.0
MANYT	Many	1.62	191	i P	Pg	01 33 26.6	+0.7
MANYT				i S	Sg	01 33 50.4	+3.5
KIBA	KIBA	2.02	131	i P	Sg	01 33 32.7	-1.0
KIBA				i S	Sg	01 33 59.9	0.0
KMBO	Kilima Mbogo	3.64	42	ePn	Pn	01 33 51.4	-0.3
KMBO				eSn	Sn	01 34 37.5	+2.5
KMBO				eSg	Sg	01 34 51.2	-0.6
KMBO	Kilima Mbogo	3.64	42	Pn	Pn	01 33 51.4	-0.3
	5.5nm,0.3s,baz=225,slow=18,SNR=32						
KMBO				Pg	Pb	01 33 59.7	+0.1
	25nm,0.3s,baz=216,slow=19,SNR=41						
KMBO				Sn	Sn	01 34 35.4	+0.3
	39nm,0.3s,baz=61,slow=23,SNR=7.1						
KMBO				Lg	Lg	01 34 48.9	
	67nm,0.3s,baz=119,slow=22,SNR=8.4						
MBAR	Mbarara	5.19	308	Pn	Pn	01 34 12.1	-1.0
MBAR				Sn	Sn	01 35 12.9	-0.4
MBAR				Lg	Lg	01 35 37.8	
MBAR	Mbarara	5.19	308	Pn	Pn	01 34 12.1	-1.0
	114nm,0.3s,baz=120,slow=18,SNR=211						
MBAR				Sn	Sn	01 35 12.9	-0.4
	131nm,0.3s,baz=94,slow=21,SNR=9.4						
MBAR				Lg	Lg	01 35 37.8	
	144nm,0.3s,baz=62,slow=22,SNR=15						
MBAR				LR	LR	01 36 04.1	
	comp=Z,170nm,18.2s,baz=142,slow=36						
LSZ	Lusaka	13.10	209	Pn	Pn	01 35 59.4	-2.1
LSZ				Sn	Sn	01 38 14.8	-13
LSZ				Lg	Lg	01 39 38.8	
LSZ	Lusaka	13.10	209	Pn	Pn	01 35 59.4	-2.1
	1.8nm,0.3s,baz=34,slow=10,SNR=14						
LSZ				Sn	Sn	01 38 14.8	-13
	0.8nm,0.3s,baz=40,slow=15,SNR=3.6						
LSZ				Lg	Lg	01 39 38.8	
	4.2nm,0.3s,baz=111,slow=20,SNR=16						
TSUM	Tsumeb	22.72	226	P	P	01 38 00.1	+2.5
	6.1nm,0.8s						
TSUM	Tsumeb	22.72	226	P	P	01 38 07.7	+10
	2.5nm,0.7s,baz=50,slow=9.7,SNR=8.1						
TSUM				LR	LR	01 47 16.6	
	comp=Z,45nm,19.5s,baz=159,slow=38						
LBTB	Lobatse	22.84	202	eP	P	01 37 56.3	-2.5
	13nm,1.4s						
LBTB	Lobatse	22.84	202	P	P	01 37 56.2	-2.6
	2.3nm,0.8s,baz=14,slow=15,SNR=3.0						
LBTB				LR	LR	01 47 09.0	
	comp=Z,88nm,18.3s,baz=42,slow=38						
BOSA	Boshof	26.25	199	P	P	01 38 29.9	-0.9
BOSA	Boshof	26.25	199	P	P	01 38 29.9	-0.9
	0.9nm,0.5s,baz=26,slow=14,SNR=2.7						
BOSA				LR	LR	01 48 45.4	
	comp=Z,93nm,18.4s,baz=170,slow=36						
TORD	Torodi Ar. Bea	36.97	298	P	P	01 40 05.3	+0.2
TORD	Torodi Ar. Bea	36.97	298	P	P	01 40 05.3	+0.2
	1.5nm,0.9s,baz=105,slow=7.5,SNR=8.6						
BRTR	Keskin Array B	43.37	359	P	P	01 40 59.4	+1.4
BRTR	Keskin Array B	43.37	359	P	P	01 40 59.4	+1.4
	0.5nm,0.8s,baz=183,slow=7.2,SNR=4.0						
GERES	GERESS Array B	55.61	343	P	P	01 42 31.8	+0.6
GERES	GERESS Array B	55.61	343	P	P	01 42 31.8	+0.6
	1.1nm,0.8s,baz=164,slow=6.8,SNR=10						
ESDC	Sonseca Array	56.08	324	P	P	01 42 35.5	+0.7
ESDC	Sonseca Array	56.08	324	P	P	01 42 35.5	+0.7
	1.4nm,0.7s,baz=136,slow=7.1,SNR=7.6						
FINES	FINESS Array B	65.45	355	P	P	01 43 37.6	-0.5
FINES	FINESS Array B	65.45	355	P	P	01 43 37.6	-0.5
	2.1nm,0.9s,baz=172,slow=13,SNR=3.9						

MKAR Makanchi Array 65.48 34 P P 01 43 38.6 0.0
MKAR Makanchi Array 65.48 34 P P 01 43 38.6 0.0
0.7nm,0.7s,baz=236,slow=5.3,SNR=5.9

IDC 30 01:39:15.2±4.7, 12.07S×75.33W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/21, mbtmp3.4/3, ML3.3/1, MS2.9/1, Ms1 3.0/1, ms1mx2.7/18, Error ellipse: s-maj=192.7km s-min=24.3km az=37.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	8.14	122	Pn	Pn	01 41 16.8	+1.5
	0.2nm,0.3s,baz=307,slow=10,SNR=6.1						
LPAZ				Pg	Pb	01 41 40.5	+2.9
	0.1nm,0.3s,baz=310,slow=16,SNR=4.5						
LPAZ				Lg	Lg	01 43 30.4	
	0.1nm,0.3s,baz=7.2,slow=19,SNR=2.1						
LPAZ				LR	LR	01 44 43.5	
	comp=Z,75nm,18.8s,baz=210,slow=40						
TXAR	Lajitas Array	49.42	327	P	P	01 48 06.7	-0.6
	0.1nm,0.5s,baz=148,slow=10,SNR=2.8						
TORD	Torodi Ar. Bea	80.39	74	P	P	01 51 29.5	+0.3
	0.9nm,0.7s,baz=242,slow=4.2,SNR=18						

MEX 30 01:52:30.2±0.8, 18.81N×104.40W, h5km, MD3.6, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
R15V		0.53	48	eP	Pg	01 52 39.4	-1.1
R15V				i S	Sg	01 52 47.9	+0.3
CJM	Chamela	0.91	318	eP	Pg	01 52 45.5	-2.2
CJM				i S	Sg	01 52 57.9	-1.7
EZ5V		1.00	49	eP	Pg	01 52 48.0	-1.8
EZ5V				i S	Sg	01 53 00.0	-3.2
MMIG	Aquila	1.13	117	i P	Pg	01 52 48.5	-3.4
MMIG				i S	Sg	01 53 03.0	-3.2
SFJM	Santa Fe	2.10	37	i P	Pn	01 53 03.0	-3.4
SFJM				i S	Sn	01 53 28.8	-4.2
ANIG	Ahuacatlan	2.23	357	i P	Pn	01 53 04.8	-3.2
ANIG				i S	Sn	01 53 32.6	-3.5

*IDC **30** 02:06:43.1±0.6, 45.64S×166.42E, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.2/18, mbtmp4.2/12, ML4.4/2, MS4.2/9, Ms1 4.2/9, ms1mx4.0/20, Error ellipse: s-maj=19.5km s-min=16.1km az=73.0*
*ISCJB **30** 02:06:44.1±0.9, 45.59S±0.04×166.33E±0.05, h17km±7km, mb4.3/14, MS4.2/9, Error ellipse: s-maj=6.9km s-min=5.3km az=168.6*
*WEL **30** 02:06:46.5±0.2, 45.62S×166.42E, h23km, ML5.0/23, Error ellipse: s-maj=1.8km s-min=0.7km az=90.0*
WEL Felt from Otago to Southland, maximum reported intensity MM 4.
*NEIC **30** 02:06:48.9, 45.75S×166.67E, h12km, mb4.5/5, ML5.0(WEL), After WEL.*

ISC 30 02:06:45.5±1.3, 45.63S±0.04×166.45E±0.04, h17km±8km, n103, σ1§42/106, mb4.4/14, MS4.2/9, 3C-1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	Deep Cove	0.52	73	P*	Pg	02 06 55.8	0.0
DCZ				S*	Sb	02 07 03.3	0.0
DCZ	Deep Cove	0.52	73	P*	Pg	02 06 55.8	0.0
DCZ				S*	Sb	02 07 03.3	0.0
DCZ				AML	AML	02 07 03.9	
DCZ				AML	AML	02 07 03.9	
DCZ				AML	AML	02 07 04.8	
WHZ	Wether Hill Ro	1.08	105	ePg	Pg	02 07 06.3	-0.1
WHZ				eSg	Sg	02 07 21.3	+0.6
MLZ	Mavora Lakes	1.25	78	P*	Pn	02 07 07.7	-0.5
MLZ				S*	Sb	02 07 23.8	-0.5
MLZ	Mavora Lakes	1.25	78	PN	Pn	02 07 07.7	-0.5
MLZ				SN	Sb	02 07 23.8	-0.5
MLZ				AML	AML	02 07 25.2	
MSZ	Milford Sound	1.42	48	Pn	Pn	02 07 10.3	-0.2
MSZ	Milford Sound	1.42	48	PN	Pn	02 07 10.3	-0.2
MSZ				SN	Sg	02 07 32.2	+1.0
MSZ				AML	AML	02 07 38.6	
MSZ				AML	AML	02 07 38.7	
MSZ				AML	AML	02 07 38.7	
APZ	The Paps	1.61	139	Pn	Pn	02 07 13.4	+0.2
APZ	The Paps	1.61	139	PN	Pn	02 07 13.4	+0.2
APZ				SN	Sn	02 07 34.1	+0.5
WKZ	Wanaka	1.99	67	Pn	Pb	02 07 20.5	-0.7
WKZ	Wanaka	1.99	67	PN	Pb	02 07 20.0	-1.2
WKZ				SN	Sb	02 07 44.4	-1.2
WKZ				AML	AML	02 07 52.1	
WKZ				AML	AML	02 07 53.6	
WKZ				AML	AML	02 07 53.7	
EAZ	Earnscleugh	2.05	80	Pn	Pb	02 07 21.5	-0.8
EAZ	Earnscleugh	2.05	80	PN	Pb	02 07 21.0	-1.3
EAZ				AML	AML	02 07 54.9	
EAZ				AML	AML	02 07 58.2	
EAZ				AML	AML	02 07 58.3	
SYZ	Scrubby Hill	2.08	117	Pn	Pn	02 07 21.0	+1.4
SYZ	Scrubby Hill	2.08	117	⇓ PN	Pn	02 07 21.0	+1.4
TUZ	Tuapeka	2.25	99	Pn	Pn	02 07 23.5	+1.6
TUZ	Tuapeka	2.25	99	PN	Pn	02 07 23.5	+1.6
TUZ				AML	AML	02 07 56.1	
TUZ				AML	AML	02 07 56.3	
JCZ	Jackson Bay	2.26	47	Pn	Pn	02 07 23.8	+1.6
JCZ	Jackson Bay	2.26	47	PN	Pb	02 07 25.3	-0.6
JCZ				AML	AML	02 08 03.4	
JCZ				AML	AML	02 08 07.4	
HHSZ	Highcliff Hill	2.92	97	PN	Pn	02 07 32.7	+1.7
LBZ	Lake Benmore	2.93	66	Pn	Pn	02 07 32.1	+0.9
LBZ	Lake Benmore	2.93	66	PN	Pn	02 07 32.1	+0.9
LBZ				AML	AML	02 08 24.9	
LBZ				AML	AML	02 08 24.9	
LBZ				AML	AML	02 08 37.3	
LBZ				AML	AML	02 08 37.3	
ODZ	Otahua Downs	3.02	80	ePn	Pn	02 07 33.4	+0.9
ODZ				eS	Sg	02 08 22.4	+0.1
ODZ	Otahua Downs	3.02	80	⇑ PN	Pn	02 07 33.4	+0.9
ODZ				AML	AML	02 08 15.5	
ODZ				AML	AML	02 08 15.5	
ODZ				AML	AML	02 08 25.6	
ODZ				AML	AML	02 08 31.8	
FOZ	Fox Glacier	3.10	49	Pn	Pn	02 07 36.0	+2.4
FOZ	Fox Glacier	3.10	49	PN	Pn	02 07 36.0	+2.4
FOZ				AML	AML	02 08 31.9	
FOZ				AML	AML	02 08 31.9	
FOZ				AML	AML	02 08 34.3	
FOZ				AML	AML	02 08 34.3	
RPZ	Rata Peaks	3.80	61	ePn	Pn	02 07 42.8	-0.5
RPZ				eS	Sn	02 08 31.0	+3.4
RPZ	Rata Peaks	3.80	61	Pn	Pn	02 07 43.5	+0.3
	75nm,0.3s,baz=228,slow=4.3,SNR=133						
RPZ				Sn	Sn	02 08 29.2	+1.6
	108nm,0.3s,baz=357,slow=19,SNR=3.9						
WVZ	Waitaha Valley	4.00

SNZO	**South Karori**	**7.40**	**57**	*e*Pn	Pn	02 08 28.6	-3.9		
SNZO				*e*S	**Sn**	**02 09 50.7**	**-5.3**		
DFE	**Dawson Falls**	**8.46**	**45**	Pn	Pb	02 09 00.4	-11		
NEZ	**North Egmont**	**8.50**	**44**	Pn	**Pn**	**02 08 50.0**	**+2.2**		
HIZ	**Hauiti**	**9.46**	**44**	Pn	**Pn**	**02 09 02.0**	**+1.0**		
HIZ	**Hauiti**	**9.46**	**44**	AML	AML	02 10 56.0			
HIZ				AML	AML	02 11 35.8			
URZ	**Urewera**	**10.82**	**51**	*e*Pn	**Pn**	**02 09 19.1**	**-0.5**		
URZ				*e*S	Sn	02 11 13.8	-6.5		
URZ	**Urewera**	**10.82**	**51**	Pn	**Pn**	**02 09 19.4**	**-0.2**		
	1.1nm,0.3s,baz=209,slow=13,SNR=4.2								
URZ				Sn	**Sn**	**02 11 14.8**	**-5.4**		
	1.7nm,0.3s,baz=156,slow=20,SNR=3.3								
OUZ	**Omahuta**	**11.73**	**30**	*e*Pn	**Pn**	**02 09 32.8**	**+0.8**		
OUZ				*e*S	**Sn**	**02 11 38.9**	**-3.5**		
TAU	**Tasmania Unive**	**13.97**	**274**	*e*Pn	**Pn**	**02 09 59.4**	**-3.1**		
TAU				*e*S	Sn	02 12 25.9	-11		
CAN	**Canberra**	**16.77**	**302**	*e*Pn	**Pn**	**02 10 38.9**	**-0.5**		
	11nm,0.6s								
DZM	**Mont Dzumac**	**23.50**	**360**	*e*LR	LR	02 17 46.0			
	232nm,27.6s								
DZM	**Mont Dzumac**	**23.50**	**360**	P	**P**	**02 11 56.8**	**+2.2**		
DZM	**Mont Dzumac**	**23.50**	**360**	P	**P**	**02 11 56.7**	**+2.2**		
	13nm,1.0s,baz=102,slow=14,SNR=3.2								
STKA	**Stephens Creek**	**23.63**	**297**	*e*P	**P**	**02 11 57.7**	**+2.0**		
STKA	**Stephens Creek**	**23.63**	**297**	P	**P**	**02 11 56.7**	**+1.0**		
	6.1nm,0.8s,baz=138,slow=9.9,SNR=8.6								
STKA				LR	LR	02 20 15.8			
	comp=Z,817nm,18.4s,baz=108,slow=34								
EIDS	**Eidsvold**	**23.69**	**323**	*e*P	**P**	**02 11 57.1**	**+0.8**		
	26nm,0.9s								
BBOO	**Buckleboo**	**26.62**	**288**	P	**P**	**02 12 22.4**	**-0.6**		
	183nm,1.0s								
VNDA	**Vanda**	**32.05**	**182**	P	**P**	**02 13 11.5**	**+0.8**		
VNDA	**Vanda**	**32.05**	**182**	P	**P**	**02 13 11.5**	**+0.8**		
	0.5nm,0.9s,baz=343,slow=6.6,SNR=4.3								
ASAR	**Alice Springs**	**34.23**	**299**	P	**P**	**02 13 30.2**	**-0.1**		
ASAR	**Alice Springs**	**34.23**	**299**	P	**P**	**02 13 30.2**	**-0.1**		
	4.7nm,0.9s,baz=135,slow=8.3,SNR=27								
ASAR				LR	LR	02 27 17.1			
	comp=Z,632nm,19.1s,baz=141,slow=36								
WRA	**Warramunga Arr**	**36.80**	**303**	P	**P**	**02 13 51.4**	**-1.1**		
WRA	**Warramunga Arr**	**36.80**	**303**	P	**P**	**02 13 51.4**	**-1.1**		
	8.2nm,0.9s,baz=138,slow=8.3,SNR=19								
WRA				LR	LR	02 28 36.6			
	comp=Z,440nm,19.4s,baz=155,slow=36								
WRAB	**Tennant Creek**	**36.80**	**303**	*e*P	**P**	**02 13 51.5**	**-0.9**		
	16nm,1.2s								
TBI	**Tubuai**	**41.93**	**73**	*e*LQ	LQ	02 24 26.7			
	535nm,32.8s								
TBI				*e*LR	LR	02 26 09.5			
	338nm,29.8s								
QSPA	**South Pole Qui**	**44.50**	**180**	P	**P**	**02 14 56.3**	**+0.6**		
QSPA	**South Pole Qui**	**44.50**	**180**	P	**P**	**02 14 56.3**	**+0.6**		
	1.8nm,0.9s,baz=0.9,slow=4.4,SNR=8.6								
QSPA				LR	LR	02 29 53.4			
	comp=Z,229nm,21.9s,baz=33,slow=31								
PPT2	**Papeete2**	**45.92**	**67**	*e*S	**S**	**02 21 51.6**	**+0.3**		
	75nm,25.8s								
PPT2				*e*LR	LR	02 28 04.9			
	349nm,23.8s								
PPT	**Papeete**	**45.94**	**67**	LR	LR	02 29 46.6			
	comp=Z,241nm,21.6s,baz=341,slow=30								
RKT	**Rikitea**	**52.05**	**85**	*e*LR	LR	02 30 52.5			
	620nm,22.8s								
MAW	**Mawson**	**53.49**	**208**	*e*P	**P**	**02 16 04.6**	**+0.3**		
	0.9nm,1.1s								
MAW	**Mawson**	**53.49**	**208**	P	**P**	**02 16 04.5**	**+0.3**		
	1.0nm,0.8s,baz=0.0,slow=1.0,SNR=2.5								
MAW				LR	LR	02 37 00.3			
	comp=Z,148nm,19.5s,baz=120,slow=34								
SYO	**Syowa Base**	**59.14**	**200**	*e*X	**P**	**02 16 43.4**	**-1.1**		
SYO	**Syowa Base**	**59.14**	**200**	*e*P	P	02 16 50.0	+5.5		
SNAA	**Sanae**	**62.76**	**184**	*e*P	**P**	**02 17 08.9**	**-0.3**		
	5.9nm,1.1s								
SNAA	**Sanae**	**62.76**	**184**	P	**P**	**02 17 09.2**	**0.0**		
	1.0nm,0.9s,baz=157,slow=5.1,SNR=7.7								
PLCA	**Paso Flores**	**80.06**	**140**	P	**P**	**02 18 54.7**	**+0.6**		
PLCA	**Paso Flores**	**80.06**	**140**	P	**P**	**02 18 54.7**	**+0.6**		
	1.3nm,0.9s,baz=314,slow=7.6,SNR=4.0								
PLCA				LR	LR	02 48 09.2			
	comp=Z,112nm,19.1s,baz=180,slow=31								
MJAR	**Matsushiro Arr**	**85.67**	**338**	P	**P**	**02 19 23.9**	**+1.0**		
MJAR	**Matsushiro Arr**	**85.67**	**338**	P	**P**	**02 19 23.9**	**+1.0**		
	0.4nm,0.3s,baz=141,slow=4.1,SNR=3.3								
CMAR	**Chiang Mai Arr**	**88.24**	**299**	P	**P**	**02 19 36.7**	**+0.9**		
CMAR	**Chiang Mai Arr**	**88.24**	**299**	P	**P**	**02 19 36.7**	**+0.9**		
	1.0nm,0.3s,baz=150,slow=3.8,SNR=5.6								
CPUP	**Villa Florida**	**98.07**	**141**	LR	LR	03 00 14.5			
	comp=Z,118nm,18.6s,baz=8.3,slow=33								
BOSA	**Boshof**	**98.12**	**214**	LR	LR	03 00 41.7			
	comp=Z,81nm,18.0s,baz=348,slow=33								
ILAR	**Eielson Array**	**115.94**	**20**	PKP	**PKPdf**	**02 25 25.0**	**-1.0**		
ILAR	**Eielson Array**	**115.94**	**20**	PKP	**PKPdf**	**02 25 25.0**	**-1.0**		
	0.5nm,0.6s,baz=297,slow=3.3,SNR=8.4								
DBIC	**Dimbokro**	**140.46**	**194**	PKPpre	PKPpre	02 26 05.4			
DBIC	**Dimbokro**	**140.46**	**194**	PKhKP	PKPpre	02 26 05.4			
	2.7nm,0.9s,baz=159,slow=6.0,SNR=5.1								
TORD	**Torodi Ar. Bea**	**145.13**	**207**	PKPbc	**PKPbc**	**02 26 21.2**	**-0.5**		
TORD	**Torodi Ar. Bea**	**145.13**	**207**	PKPbc	**PKPbc**	**02 26 21.2**	**-0.5**		
	5.2nm,0.7s,baz=144,slow=2.6,SNR=86								
BRTR	**Keskin Array B**	**145.21**	**277**	PKPbc	**PKPbc**	**02 26 21.6**	**+0.1**		
BRTR	**Keskin Array B**	**145.21**	**277**	PKPbc	**PKPbc**	**02 26 21.6**	**+0.1**		
	1.9nm,0.9s,baz=145,slow=4.1,SNR=3.3								
SCHQ	**Schefferville**	**145.47**	**55**	PKPbc	**PKPdf**	**02 26 20.8**	**-0.8**		
SCHQ	**Schefferville**	**145.47**	**55**	PKPbc	**PKPdf**	**02 26 20.8**	**-0.8**		
	2.3nm,0.5s,baz=290,slow=4.0,SNR=11								
KEV	**Kevo**	**148.59**	**334**	*e*pkp	**PKPbc**	**02 26 30.2**	**+0.1**		
	3.4nm,0.7s								
ARCES	**ARCESS Array B**	**149.16**	**334**	PKPbc	**PKPbc**	**02 26 31.9**	**+0.4**		
ARCES	**ARCESS Array B**	**149.16**	**334**	PKPbc	**PKPbc**	**02 26 31.9**	**+0.4**		
	3.7nm,0.7s,baz=64,slow=3.3,SNR=17								
KAF	**Kangasniemi**	**151.89**	**320**	*e*pkp	**PKPbc**	**02 26 38.3**	**+0.1**		
	3.0nm,0.5s								
FINES	**FINESS Array B**	**152.19**	**319**	PKPbc	**PKPbc**	**02 26 39.4**	**+0.5**		
FINES	**FINESS Array B**	**152.19**	**319**	PKPbc	**PKPbc**	**02 26 39.4**	**+0.5**		
	1.2nm,0.5s,baz=92,slow=4.3,SNR=19								
GERES	**GERESS Array B**	**161.25**	**290**	PKPab	**PKPab**	**02 27 28.2**	**-0.2**		
GERES	**GERESS Array B**	**161.25**	**290**	PKPab	**PKPab**	**02 27 28.2**	**-0.2**		
	0.5nm,1.0s,baz=120,slow=5.8,SNR=3.0								

*IDC **30** 02:13:42.3±1.2, 45.48S×166.31E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.8/15, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=36.8km s-min=32.7km az=6.0*
*ISCJB **30** 02:13:43.4±0.7, 45.63S±0.05×166.30E±0.06, h15km, mb3.8/3, Error ellipse: s-maj=7.6km s-min=6.1km az=177.8*
*NEIC **30** 02:13:46.7, 45.66S×166.51E, h12km, ML4.3(WEL), After WEL.*
*WEL **30** 02:13:46.0±0.2, 45.63S×166.43E, h20km±1km, ML4.3/16, Error ellipse: s-maj=2.5km s-min=0.9km az=90.0*
WEL Felt in the Otago region, maximum reported intensity MM 4.

ISC 30 02:13:44.5±0.8, 45°67S±0°05×166°37E±0°05, h15km, n43, σ1§30/51, mb3.7/3, 2C-1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.58**	**71**	P*	**Pg**	**02 13 55.9**	**0.0**
DCZ				S*	**Sg**	**02 14 02.6**	**-1.1**
DCZ	**Deep Cove**	**0.58**	**71**	⇑P*	**Pg**	**02 13 55.9**	**0.0**
DCZ				S*	**Sg**	**02 14 02.6**	**-1.1**
DCZ				AML	AML	02 14 03.2	
DCZ				AML	AML	02 14 03.3	
DCZ				AML	AML	02 14 03.3	
MLZ	**Mavora Lakes**	**1.31**	**76**	P*	**Pn**	**02 14 07.5**	**-0.7**
MLZ				S*	**Sb**	**02 14 23.5**	**-1.8**
MLZ	**Mavora Lakes**	**1.31**	**76**	⇑PN	**Pn**	**02 14 07.5**	**-0.7**
MLZ				SN	**Sb**	**02 14 23.5**	**-1.8**
MLZ				AML	AML	02 14 24.7	
MSZ	**Milford Sound**	**1.48**	**48**	Pn	**Pn**	**02 14 10.5**	**-0.1**
MSZ	**Milford Sound**	**1.48**	**48**	PN	**Pn**	**02 14 10.5**	**-0.1**
MSZ				AML	AML	02 14 36.1	
MSZ				AML	AML	02 14 36.1	
MSZ				AML	AML	02 14 42.0	
MSZ				AML	AML	02 14 42.7	
APZ	**The Paps**	**1.62**	**137**	Pn	**Pn**	**02 14 12.9**	**+0.4**
APZ	**The Paps**	**1.62**	**137**	PN	**Pn**	**02 14 12.9**	**+0.4**
APZ				SN	**Sn**	**02 14 33.6**	**+0.5**
WKZ	**Wanaka**	**2.05**	**67**	Pn	**Pn**	**02 14 20.0**	**+1.6**
WKZ	**Wanaka**	**2.05**	**67**	PN	**Pn**	**02 14 20.0**	**+1.6**
WKZ				AML	AML	02 14 51.4	
WKZ				AML	AML	02 14 51.5	
WKZ				AML	AML	02 14 56.2	
WKZ				AML	AML	02 14 56.2	
EAZ	**Earnscleugh**	**2.11**	**79**	Pn	**Pn**	**02 14 20.9**	**+1.7**
EAZ	**Earnscleugh**	**2.11**	**79**	PN	**Pn**	**02 14 20.9**	**+1.7**
EAZ				SN	**Sn**	**02 14 46.9**	**+1.6**
EAZ				AML	AML	02 14 50.0	
EAZ				AML	AML	02 14 50.8	
EAZ				AML	AML	02 14 50.8	
SYZ	**Scrubby Hill**	**2.11**	**115**	Pn	**Pn**	**02 14 20.2**	**+1.0**
SYZ	**Scrubby Hill**	**2.11**	**115**	PN	**Pn**	**02 14 20.2**	**+1.0**
SYZ				SN	**Sn**	**02 14 45.9**	**+0.7**
TUZ	**Tuapeka**	**2.30**	**98**	Pn	**Pn**	**02 14 23.3**	**+1.5**
TUZ	**Tuapeka**	**2.30**	**98**	PN	**Pn**	**02 14 23.3**	**+1.5**
TUZ				AML	AML	02 14 52.3	
TUZ				AML	AML	02 14 53.6	
JCZ	**Jackson Bay**	**2.33**	**48**	Pn	**Pn**	**02 14 23.7**	**+1.4**
JCZ	**Jackson Bay**	**2.33**	**48**	PN	**Pn**	**02 14 23.7**	**+1.4**
JCZ				AML	AML	02 15 07.6	
JCZ				AML	AML	02 15 08.3	
HHSZ	**Highcliff Hill**	**2.96**	**96**	PN	**Pn**	**02 14 32.3**	**+1.3**
LBZ	**Lake Benmore**	**2.99**	**66**	Pn	**Pn**	**02 14 31.7**	**+0.4**
LBZ	**Lake Benmore**	**2.99**	**66**	PN	**Pn**	**02 14 31.7**	**+0.4**
LBZ				AML	AML	02 15 25.8	
LBZ				AML	AML	02 17 02.2	
LBZ				AML	AML	02 17 02.2	
ODZ	**Otahua Downs**	**3.08**	**80**	*e*Pn	**Pn**	**02 14 32.8**	**+0.3**
ODZ	**Otahua Downs**	**3.08**	**80**	⇓PN	**Pn**	**02 14 32.7**	**+0.3**
ODZ				AML	AML	02 15 10.0	
ODZ				AML	AML	02 15 25.1	
ODZ				AML	AML	02 15 32.6	
ODZ				AML	AML	02 17 03.6	
FOZ	**Fox Glacier**	**3.17**	**50**	Pn	**Pn**	**02 14 35.1**	**+1.4**
FOZ	**Fox Glacier**	**3.17**	**50**	PN	**Pn**	**02 14 35.1**	**+1.4**
FOZ				AML	AML	02 15 27.7	
FOZ				AML	AML	02 15 34.7	
RPZ	**Rata Peaks**	**3.87**	**61**	*e*Pn	**Pn**	**02 14 42.8**	**-0.6**
RPZ				*e*S	**Sn**	**02 15 33.2**	**+4.7**
RPZ	**Rata Peaks**	**3.87**	**61**	Pn	**Pn**	**02 14 42.9**	**-0.6**
	4.1nm,0.3s,baz=217,slow=4.9,SNR=14						
OXZ	**Oxford**	**4.68**	**62**	PN	**Pn**	**02 14 54.5**	**-0.1**
MQZ	**McQueen's Vall**	**4.89**	**69**	Pn	**Pn**	**02 14 56.4**	**-1.0**
MQZ	**McQueen's Vall**	**4.89**	**69**	PN	**Pn**	**02 14 56.3**	**-1.0**
THZ	**Tophouse**	**6.13**	**53**	Pn	**Pn**	**02 15 16.4**	**+1.8**
ASAR	**Alice Springs**	**34.21**	**299**	P	**P**	**02 20 28.6**	**-0.9**
ASAR	**Alice Springs**	**34.21**	**299**	P	**P**	**02 20 28.6**	**-0.9**
	0.4nm,0.5s,baz=130,slow=8.4,SNR=6.4						
WRA	**Warramunga Arr**	**36.78**	**304**	P	**P**	**02 20 50.5**	**-1.1**
WRA	**Warramunga Arr**	**36.78**	**304**	P	**P**	**02 20 50.5**	**-1.1**
	1.3nm,0.9s,baz=141,slow=8.5,SNR=3.0						
MAW	**Mawson**	**53.43**	**208**	P	**P**	**02 23 04.9**	**+1.7**
MAW	**Mawson**	**53.43**	**208**	P	**P**	**02 23 04.9**	**+1.7**
	1.8nm,0.9s,baz=36,slow=14,SNR=3.4						
TORD	**Torodi Ar. Bea**	**145.08**	**207**	PKPbc	**PKPbc**	**02 33 20.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**145.08**	**207**	PKPbc	**PKPbc**	**02 33 20.4**	**-0.4**
	1.3nm,0.8s,baz=160,slow=1.5,SNR=15						
BRTR	**Keskin Array B**	**145.17**	**277**	PKPbc	**PKPbc**	**02 33 20.0**	**-0.7**
BRTR	**Keskin Array B**	**145.17**	**277**	PKPbc	**PKPbc**	**02 33 20.0**	**-0.7**
	0.6nm,0.7s,baz=176,slow=7.1,SNR=3.9						
FINES	**FINESS Array B**	**152.19**	**319**	PKPbc	**PKPbc**	**02 33 37.6**	**-0.6**
FINES	**FINESS Array B**	**152.19**	**319**	PKPbc	**PKPbc**	**02 33 37.6**	**-0.6**
	2.0nm,1.0s,baz=83,slow=4.5,SNR=4.6						

CASC 30 02:16:54.3±4.3, 10°09N×84°88W, h27km±15km, MD3.6, 4C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCR	**Jicaral**	**0.33**	**225**	⇓*i*P	Pb	02 17 01.9	-0.1
CHPA	**Chiripa**	**0.36**	**355**	*i* P	Pn	02 17 03.4	-0.6
CHPA				*i* S	Sn	02 17 11.0	+0.7
CGA2	**Cerro Gallo 2**	**0.41**	**100**	⇑*e*P	Pb	02 17 03.6	+0.3
CEDE	**Laguna Cede¯o**	**0.43**	**23**	*i* P	Pn	02 17 04.7	-0.2
A494	**Palo Verde**	**0.54**	**299**	⇓*i*P	Pb	02 17 04.8	-0.3
A494				*i* S	Sb	02 17 13.3	+0.7
PTEN	**Parque Tenorio**	**0.64**	**350**	*i* P	Pn	02 17 07.7	0.0
CUI	**Cuipilapa**	**0.64**	**333**	*i* P	Pb	02 17 06.7	-0.3
CUI				*i* S	Sn	02 17 16.8	-0.2
COLC	**Colonia**	**0.66**	**331**	*i* P	Pb	02 17 07.0	-0.3
COLC				*i* S	Sn	02 17 17.3	-0.3
HORNC	**Hornillas**	**0.69**	**334**	*i* P	Pb	02 17 07.5	-0.5
HORNC				*i* S	Sn	02 17 18.0	-0.5
GUAB	**Guayabo de Bag**	**0.71**	**331**	*i* P	Pb	02 17 07.5	-0.7
GUAB				*i* S	Sn	02 17 18.4	-0.5
MESS	**Mesas**	**0.72**	**334**	*i* P	Pb	02 17 08.1	-0.4
VCR	**Vista de Mar**	**0.75**	**273**	⇓*e*P	Pb	02 17 07.3	-1.5
SJS	**Escuela Geolog**	**0.82**	**100**	⇓*e*P	Pb	02 17 09.6	-0.6
SJS				*e*S	Sn	02 17 22.4	+0.7
GPS3	**Bodega del ICE**	**0.82**	**324**	*i* P	Pb	02 17 09.6	-0.5
GPS3				*i* S	Sn	02 17 21.7	+0.1
GPS1	**Guardaparques**	**0.83**	**326**	*i* P	Pb	02 17 09.7	-0.6
GPS1				*i* S	Sn	02 17 21.7	-0.2
NY14	**Universidad de**	**0.86**	**311**	*i* P	Pb	02 17 09.9	-0.7
NY14				*i* S	Sn	02 17 22.9	+0.6
LAPC	**Finca la Perla**	**0.87**	**321**	⇑*i*P	Pn	02 17 10.0	-0.9
LAPC				*i* S	Sb	02 17 22.1	-0.2
BUEV	**Buena Vista**	**0.88**	**324**	*i* P	Pn	02 17 10.5	-0.6
GB1A	**Borinquen Arri**	**0.89**	**325**	*i* P	Pn	02 17 10.5	-0.8
GB1A				*i* S	Sb	02 17 23.1	+0.1
GBS3	**Finca Las Im¯¡**	**0.90**	**321**	*i* P	Pn	02 17 10.4	-0.9
QCR	**Quepos**	**0.96**	**133**	⇑*e*P	Pn	02 17 10.3	-1.8
QCR				*e*S	Sb	02 17 24.7	+0.1
URSC	**Urasca**	**1.11**	**103**	⇓*e*P	Pn	02 17 14.2	-0.1
BUS	**Buena Vista**	**1.22**	**115**	⇑*e*P	Pn	02 17 15.4	-0.8
BUS				*e*S	Sb	02 17 33.6	+0.5
ACR	**Cerro Adams**	**2.21**	**130**	*e*P	Pn	02 17 30.7	+1.4
ACR				*e*S	Sn	02 17 57.5	+1.8
BRU2	**Volcan**	**2.51**	**121**	*e*P	Pn	02 17 32.8	-0.8
TBS2		**2.54**	**120**	*e*P	Pn	02 17 32.0	-2.0
TBS2				*e*S	Sn	02 18 03.1	-1.1

*IDC **30** 02:33:22.9±0.7, 1.35N×121.93E, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.2/23, mbtmp4.3/11, ML4.3/1, MS3.8/7, Ms1 3.8/7, ms1mx3.4/29, Error ellipse: s-maj=41.3km s-min=13.6km az=76.0*
*ISCJB **30** 02:33:23.0±0.4, 1.49N±0.04×121.95E±0.06, h10km, mb4.3/15, MS3.8/4, Error ellipse: s-maj=8.2km s-min=5.3km az=177.7*
*DJA **30** 02:33:25.4±0.5, 2°N±5'×12°2E±', h10km, M4.8/9, mb4.8/3, mB4.9/3, MLv4.9/9, Mw(mB)4.2/3*
*NEIC **30** 02:33:28.6±1.0, 1.33N×121.80E, h43km±10km, mb4.4/7, Error ellipse: s-maj=13.8km s-min=6.9km az=77.0*

ISC 30 02:33:24.6±0.5, 1°49N±0°05×121°89E±0°06, h10km, n46, σ1§70/48, mb4.3/15, MS3.7/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI	**Toli-Toli**	**1.16**	**251**	P	**Pb**	**02 33 45.4**	**-1.3**
GTOI	**Gorontalo**	**1.41**	**127**	P	**Pn**	**02 33 48.6**	**-1.7**
KMSI	**Cibinong**	**2.28**	**114**	P	**Pg**	**02 34 09.8**	**+1.5**
LUWI	**Luwuk**	**2.67**	**161**	P	**Pn**	**02 34 10.8**	**+3.2**
MNI	**Manado**	**2.95**	**91**	P	**Pn**	**02 34 11.4**	**-0.1**
SKSI	**Soroako, Sulaw**	**4.03**	**188**	P	**Pn**	**02 34 29.0**	**+2.5**
TTSI	**Tana Toraja**	**4.96**	**205**	P	**Pn**	**02 34 41.3**	**+2.1**
MYLDM	**Lahad Datu**	**4.99**	**317**	P	**Pn**	**02 34 40.8**	**+1.3**
SPSI	**Sidrap Palu**	**5.82**	**201**	P	**Pn**	**02 34 53.3**	**+2.3**
	131nm,0.7s,2μm						
DAV	**Davao City (W)**	**6.65**	**33**	Pn	Pn	02 35 06.7	+4.3
DAV	**Davao City (W)**	**6.65**	**33**	Pn	Pn	02 35 06.6	+4.3
	60nm,0.3s,baz=275,slow=15,SNR=3.9						
DAV				LR	LR	02 37 49.6	
	comp=Z,558nm,19.3s,baz=176,slow=40						
KAPI	**Kappang**	**6.81**	**198**	*e*Pn	**Pn**	**02 35 03.5**	**-1.1**
	57nm,0.9s						
KAPI				Sn	**Sn**	**02 36 19.2**	**-3.1**
KAPI				*e*S	**Sn**	**02 36 25.2**	**+3.0**
KAPI	**Kappang**	**6.81**	**198**	P	**Pn**	**02 35 06.4**	**+1.8**
	62nm,1.3s,657nm0.2nm						
KAPI	**Kappang**	**6.81**	**198**	Pn	**Pn**	**02 35 05.4**	**+0.8**
	2.3nm,0.3s,baz=359,slow=15,SNR=5.7						
KAPI				Sn	**Sn**	**02 36 19.2**	**-3.1**
	baz=18,slow=20,SNR=1.9						
BKSI	**Bulukumba**	**7.00**	**195**	P	**Pn**	**02 35 09.5**	**+2.3**
BKSI				S	**Sn**	**02 36 28.6**	**+1.7**
KKM	**Kota Kinabalu**	**7.25**	**309**	*e*Pn	**Pn**	**02 35 12.4**	**+1.7**
KKM				*e*S	**Sn**	**02 36 31.5**	**-1.7**
BATI	**Baumata**	**11.76**	**171**	LR	LR	02 41 39.3	
	comp=Z,641nm,19.1s,baz=106,slow=43						
FITZ	**Fitzroy Crossi**	**19.82**	**169**	*e*P	**P**	**02 37 54.5**	**-1.0**
	44nm,1.2s						
FITZ	**Fitzroy Crossi**	**19.82**	**169**	P	**P**	**02 37 54.2**	**-1.3**
	0.7nm,0.3s,baz=7.4,slow=8.7,SNR=13						
FITZ				LR	LR	02 46 41.0	
	comp=Z,267nm,18.8s,baz=344,slow=41						
WRAB	**Tennant Creek**	**24.55**	**151**	*e*P	**P**	**02 38 43.5**	**-1.2**
	40nm,1.4s						
WRA	**Warramunga Arr**	**24.55**	**151**	P	**P**	**02 38 43.0**	**-1.8**
WRA	**Warramunga Arr**	**24.55**	**151**	P	**P**	**02 38 43.0**	**-1.8**
	11nm,0.9s,baz=330,slow=10,SNR=20						
ASAR	**Alice Springs**	**27.60**	**156**	P	**P**	**02 39 11.0**	**-1.4**
ASAR	**Alice Springs**	**27.60**	**156**	P	**P**	**02 39 11.0**	**-1.4**
	1.3nm,0.5s,baz=344,slow=16,SNR=26						
ASAR				LR	LR	02 51 05.5	
	comp=Z,255nm,19.9s,baz=98,slow=39						
ENH	**Enshi**	**30.95**	**339**	*e*P	**P**	**02 39 43.4**	**+1.4**
MJAR	**Matsushiro Arr**	**38.00**	**22**	P	**P**	**02 40 42.2**	**-0.7**
MJAR	**Matsushiro Arr**	**38.00**	**22**	P	**P**	**02 40 42.2**	**-0.7**
	2.0nm,0.8s,baz=195,slow=8.8,SNR=4.6						
MJAR				LR	LR	02 54 20.5	
	comp=Z,106nm,21.4s,baz=220,slow=33						
STKA	**Stephens Creek**	**38.09**	**152**	P	**P**	**02 40 42.8**	**-0.9**
STKA	**Stephens Creek**	**38.09**	**152**	P	**P**	**02 40 42.8**	**-0.9**
	11nm,0.8s,baz=313,slow=8.4,SNR=17						
USRK	**Ussuriysk Arra**	**43.46**	**11**	P	**P**	**02 41 28.8**	**+1.0**
	3.0nm,0.8s,baz=182,slow=7.5,SNR=10						
USRK				LR	LR	02 58 52.3	
	comp=Z,70nm,19.9s,baz=275,slow=35						
ULN	**Ulaanbaatar**	**47.95**	**347**	*e*P	**P**	**02 42 05.0**	**+1.5**
	8.6nm,1.2s						
SONM	**Songino Array**	**48.07**	**346**	P	**P**	**02 42 06.0**	**+1.5**
SONM	**Songino Array**	**48.07**	**346**	P	**P**	**02 42 06.0**	**+1.5**
	6.7nm,1.0s,baz=165,slow=9.3,SNR=23						
MKAR	**Makanchi Array**	**56.77**	**328**	P	**P**	**02 43 10.0**	**+1.1**
MKAR	**Makanchi Array**	**56.77**	**328**	P	**P**	**02 43 10.0**	**+1.1**
	2.1nm,0.9s,baz=120,slow=9.0,SNR=12						
TKM2	**Tokmak 2**	**58.34**	**321**	*e*P	**P**	**02 43 19.1**	**-1.2**
	1.1nm,0.5s						
PETK	**Petropavlovsk-**	**59.37**	**24**	P	**P**	**02 43 28.9**	**+1.9**
PETK	**Petropavlovsk-**	**59.37**	**24**	P	**P**	**02 43 28.9**	**+1.9**
	2.2nm,0.8s,baz=227,slow=7.7,SNR=2.1						
ZALV	**Zalesovo Beam**	**60.51**	**336**	P	**P**	**02 43 34.9**	**+0.1**
ZALV	**Zalesovo Beam**	**60.51**	**336**	P	**P**	**02 43 34.9**	**+0.1**
	1.0nm,0.6s,baz=127,slow=5.9,SNR=5.0						
BRVK	**Borovoye**	**66.71**	**329**	*e*P	**P**	**02 44 16.4**	**+0.6**
	1.6nm,0.5s						
ABKAR	**Akbulak array**	**70.88**	**322**	P	**P**	**02 44 39.7**	**-2.1**
	3.1nm,0.9s						
VNDA	**Vanda**	**81.87**	**172**	*e*P	**P**	**02 45 41.9**	**-1.8**
	2.4nm,0.8s						
VNDA	**Vanda**	**81.87**	**172**	P	**P**	**02 45 42.4**	**-1.3**
	1.0nm,0.8s,baz=315,slow=7.2,SNR=6.2						
VNDA				LR	LR	03 19 41.1	
	comp=

PLWZ	**Palliser**	**4.00**	**191**	PN	Pn	03 05 52.8	-4.0
TUWZ	**Tuamarina**	**4.18**	**205**	PN	Pn	03 05 56.0	-3.1
KHZ	**Kahutara**	**5.20**	**203**	AML	AML	03 07 24.0	

IDC 30 03:11:22.1±1.9,0.69S×132.96E,h0km,mb3.9/3, mb1 4.1/5,mb1mx3.7/21,mbtmp3.9/5,ML3.9/2,Error ellipse: s-maj=83.8km s-min=23.5km az=75.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.74**	**202**	P	P	03 15 42.4	-0.2
	0.2nm,0.3s,baz=36,slow=14,SNR=5.5						
WRA	**Warramunga Arr**	**19.18**	**176**	P	Pn	03 15 48.4	+0.1
	0.4nm,0.3s,baz=354,slow=11,SNR=13						
WRA				S	Sn	03 19 11.8	-12
	baz=358,slow=22,SNR=3.5						
ASAR	**Alice Springs**	**22.86**	**178**	P	P	03 16 27.7	+0.5
	2.0nm,0.4s,baz=357,slow=11,SNR=28						
ASAR				S	S	03 20 30.7	-7.4
	0.1nm,0.3s,baz=355,slow=30,SNR=2.9						
STKA	**Stephens Creek**	**32.08**	**166**	P	P	03 17 49.9	-1.0
	2.8nm,1.0s,baz=333,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**64.74**	**324**	P	P	03 22 02.4	0.0
	0.5nm,0.6s,baz=112,slow=7.4,SNR=7.0						

IDC 30 03:26:39.5±1.5,24.23S×67.04W,h158km±15km,mb3.4/5, mb1 3.5/10,mb1mx3.4/20,mbtmp3.4/10,Error ellipse: s-maj=21.1km s-min=12.0km az=93.0,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.43**	**188**	P	Pn	03 28 26.3	+1.0
	0.1nm,0.3s,baz=42,slow=15,SNR=17						
CFAA				S	Sn	03 29 45.6	-2.9
	0.3nm,0.3s,baz=113,slow=23,SNR=9.8						
LPAZ	**La Paz**	**7.96**	**352**	P	Pn	03 28 34.8	+1.5
	2.1nm,0.3s,baz=154,slow=5.4,SNR=59						
LPAZ				S	Sn	03 30 02.1	-0.7
	0.2nm,0.3s,baz=344,slow=19,SNR=9.8						
CPUP	**Villa Florida**	**9.03**	**105**	P	Pn	03 28 46.9	+0.3
	0.1nm,0.3s,baz=222,slow=12,SNR=3.4						
SIV	**San Ignacio**	**9.92**	**35**	P	Pn	03 28 58.5	0.0
	1.0nm,0.3s,baz=250,slow=11,SNR=18						
SIV				S	Sn	03 30 46.7	-2.0
	baz=256,slow=12,SNR=3.2						
PLCA	**Paso Flores**	**16.72**	**189**	P	Pn	03 30 25.7	+1.1
	0.2nm,0.3s,baz=358,slow=9.3,SNR=3.6						
BDFB	**Brasilia**	**19.80**	**68**	P	P	03 30 58.7	+0.6
	0.3nm,0.3s,baz=231,slow=20,SNR=4.3						
TXAR	**Lajitas Array**	**63.84**	**325**	P	P	03 36 55.5	+0.2
	0.1nm,0.6s,baz=137,slow=6.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**76.68**	**69**	P	P	03 38 13.2	-0.4
	0.2nm,0.5s,baz=258,slow=5.5,SNR=7.3						
ULM	**Lac du Bonnet**	**78.43**	**342**	P	P	03 38 21.5	-1.0
	2.2nm,0.7s,baz=80,slow=5.2,SNR=3.4						
BOSA	**Boshof**	**80.66**	**117**	P	P	03 38 35.5	+0.1
	0.7nm,0.4s,baz=248,slow=4.7,SNR=8.5						
MAW	**Mawson**	**81.23**	**163**	P	P	03 38 37.9	+0.5
	1.2nm,0.5s,baz=236,slow=11,SNR=3.7						

KRSC 30 03:29:01.1±0.2,59.87N×160.84E,h2km±2km,ML4.2, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALN	**Palana**	**0.90**	**210**	*i* P	Pb	03 29 18.9	-0.5
PALN				*i* S	Sb	03 29 31.3	-0.5
TILK	**Tilichiki**	**2.71**	**75**	*e*P	Pn	03 29 46.7	+1.1
TILK				*e*S	Sn	03 30 18.8	-0.2
KRSR	**Krestovskiy**	**3.67**	**182**	S	Sn	03 30 43.3	+0.5
KOZ	**Kozyrevsk**	**3.86**	**188**	*e*S	Sn	03 30 47.2	-0.1
KPT	**Kopyto**	**3.93**	**185**	S	Sn	03 30 51.2	+2.0
ESO	**Esso**	**4.12**	**197**	*e*P	Pn	03 30 06.3	+1.3
ESO				*e*S	Sn	03 30 55.1	+1.4
KMNR	**Kamenistaya**	**4.14**	**185**	*e*S	Sn	03 30 53.3	-1.1

RSPR 30 03:35:03.4,17.61N×68.70W,h95km±3km,MD3.6/3,4C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**1.40**	**56**↑	*e*P	Pn	03 35 27.7	-0.5
CRPR	**Cabo Rojo, PR**	**1.56**	**75**↓	*e*P	Pn	03 35 28.8	-1.4
CRPR	**Cabo Rojo, PR**	**1.56**	**75**	*e*S	Sn	03 35 50.1	-0.4
LSP	**Las Mesas**	**1.63**	**70**↑	*e*P	Pn	03 35 30.8	-0.3
LSP	**Las Mesas**	**1.63**	**70**	*e*S	Sn	03 35 52.2	-0.1
AGPR	**Aguadilla, PR**	**1.73**	**60**↑	*e*P	Pn	03 35 31.8	-0.5
AOPR	**Arecibo Observ**	**1.99**	**68**↑	*e*P	Pn	03 35 35.1	-0.6
AOPR	**Arecibo Observ**	**1.99**	**68**	*e*S	Sn	03 35 59.9	-0.5
CBYP	**Canovanas**	**2.78**	**76**	*e*S	Sn	03 36 19.2	0.0
MTP	**Monte Pirata**	**3.03**	**80**↓	*e*P	Pn	03 35 49.4	-0.1
MTP	**Monte Pirata**	**3.03**	**80**	*e*S	Sn	03 36 25.2	+0.2

IDC 30 03:38:38.8±8.9,21.10S×68.35W,h117km±62km,mb3.5/2, mb1 3.4/4,mb1mx3.2/18,mbtmp3.4/4,Error ellipse: s-maj=100.9km s-min=36.1km az=9.0,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.79**	**2**	P	Pn	03 39 50.5	+0.7
	0.9nm,0.3s,baz=209,slow=5.3,SNR=45						
SIV	**San Ignacio**	**8.57**	**55**	P	Pn	03 40 39.5	-0.6
	1.9nm,0.3s,baz=256,slow=12,SNR=29						
SIV				S	Sn	03 42 12.9	-2.2
	0.1nm,0.3s,baz=225,slow=16,SNR=3.0						
BDFB	**Brasilia**	**20.04**	**78**	P	Pn	03 43 04.4	-1.4
	1.8nm,0.4s,baz=249,slow=8.2,SNR=7.7						
TORD	**Torodi Ar. Bea**	**76.73**	**70**	P	P	03 50 17.4	-0.3
	1.0nm,0.8s,baz=250,slow=5.6,SNR=20						
MKAR	**Makanchi Array**	**145.00**	**36**	PKPbc	PKPbc	03 58 01.0	-0.8
	0.4nm,0.5s,baz=308,slow=3.5,SNR=5.1						

NDI 30 03:43:40.0±3.3,31.67N×77.54E,h15km±999km,ML3.6, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLA	**Simla**	**0.62**	**211**	*i* P	Pb	03 43 52.9	+0.3
SMLA				*i* S	Sb	03 44 01.4	+0.2
SMLA				*i* S	Sg	03 44 02.1	+1.6
SMLA				AML	AML	03 44 02.8	
	comp=E,4μm,0.2s						
SMLA				AML	AML	03 44 03.2	
	comp=N,3μm,0.2s						
THN	**Thein Dam**	**1.73**	**297**	*e*P	Pn	03 44 08.4	-1.1
THN				*e*S	Sb	03 44 33.0	0.0
JMU	**Jammu**	**2.47**	**296**	*e*P	Pg	03 45 13.5	+46
JMU				*e*S	Sg	03 45 40.5	+41
AYAN	**Aya Nagar**	**3.19**	**187**	*ex*	x	03 44 58.9	
KHET	**Khetri**	**3.88**	**203**	*ex*	x	03 45 21.8	
KHET				AML	AML	03 45 38.9	
	comp=N,200nm,0.1s						
KHET				AML	AML	03 45 39.0	
	comp=E,109nm,0.1s						

IDC 30 03:51:50.8±2.1,17.33S×177.60W,h0km,mb3.6/4, mb1 3.9/4,mb1mx3.7/19,mbtmp3.6/4,Error ellipse: s-maj=140.4km s-min=31.3km az=152.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.70**	**254**	P	P	04 00 13.8	-0.1
	0.5nm,0.5s,baz=90,slow=8.0,SNR=8.3						
NVAR	**Mina Array Bea**	**78.47**	**44**	P	P	04 03 54.6	+0.5
	0.4nm,0.7s,baz=214,slow=9.5,SNR=4.2						
TXAR	**Lajitas Array**	**85.03**	**57**	P	P	04 04 28.7	-0.1
	0.5nm,0.8s,baz=222,slow=7.7,SNR=5.9						
ILAR	**Eielson Array**	**85.15**	**13**	P	P	04 04 28.0	-0.5
	0.1nm,0.4s,baz=221,slow=4.9,SNR=4.6						

WEL 30 03:58:38.5±0.2,45.68S×166.58E,h22km±1km,ML3.7/15, 1C,Error ellipse: s-maj=2.4km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.45**	**64**	↑P*	Pb	03 58 47.3	-0.4
DCZ				S*	Sb	03 58 52.7	-1.3
DCZ				AML	AML	03 58 53.4	
DCZ				AML	AML	03 58 53.5	
DCZ				AML	AML	03 58 53.9	
WHZ	**Wether Hill Ro**	**0.98**	**103**	PN	Pb	03 58 56.6	-0.3
WHZ				S*	Sn	03 59 09.8	-0.4
WHZ				AML	AML	03 59 18.9	
MLZ	**Mavora Lakes**	**1.17**	**74**	PN	Pn	03 58 58.7	-0.9
MLZ				SN	Sb	03 59 13.0	-1.8
MLZ				AML	AML	03 59 20.2	
MSZ	**Milford Sound**	**1.39**	**44**	PN	Pb	03 59 04.3	+0.7
MSZ				SN	Sb	03 59 22.2	+1.4
MSZ				AML	AML	03 59 28.0	
MSZ				AML	AML	03 59 28.0	
MSZ				AML	AML	03 59 30.2	
APZ	**The Paps**	**1.52**	**140**	PN	Pn	03 59 04.4	0.0
APZ				SN	Sn	03 59 23.0	-0.5
WKZ	**Wanaka**	**1.92**	**65**	PN	Pb	03 59 12.9	0.0
WKZ				SN	Sb	03 59 36.2	-0.2
WKZ				AML	AML	03 59 50.8	
EAZ	**Earnscleugh**	**1.97**	**78**	PN	Pb	03 59 13.6	-0.1
EAZ				SN	Sb	03 59 38.2	+0.4
EAZ				AML	AML	03 59 39.7	
EAZ				AML	AML	03 59 39.8	
EAZ				AML	AML	03 59 39.8	
SYZ	**Scrubby Hill**	**1.98**	**117**	PN	Pb	03 59 12.8	-0.9
TUZ	**Tuapeka**	**2.15**	**99**	PN	Pb	03 59 15.9	-0.9
TUZ				SN	Sb	03 59 42.8	-0.2
JCZ	**Jackson Bay**	**2.23**	**45**	PN	Pb	03 59 19.5	+1.4
JCZ				AML	AML	03 59 55.1	
JCZ				AML	AML	03 59 55.7	
LBZ	**Lake Benmore**	**2.86**	**65**	PN	Pn	03 59 25.5	+2.7
ODZ	**Otahua Downs**	**2.94**	**79**	PN	Pn	03 59 25.3	+1.6
ODZ				SN	Sn	04 00 00.1	+1.8
ODZ				AML	AML	04 00 52.0	

*BYKL **30** 04:06:13.5±0.3,53.73N×108.22E*
MOS 30 04:06:13.1±3.0,53.71N×108.21E,h10km,mb4.3/1,5C, Error ellipse: s-maj=23.9km s-min=14.6km az=45.7, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGRR	**Ongureny**	**0.37**	**260**↑	*i*Pg	Pb	04 06 21.6	-0.2
OGRR				*e*Sg	Sb	04 06 26.9	-0.8
OGRR				Pmax			
	145nm,0.2s						
OGRR				Smax			
	2μm,0.1s						
OGRR	**Ongureny**	**0.37**	**260**	*e*PG	Pb	04 06 21.6	-0.2
OGRR				*e*		04 06 26.9	
OGRR				pmax	pmax		
	comp=Z,307nm,0.1s						
OGRR				smax	smax		
	comp=E,2μm,0.1s						
MXMB	**Maximikha**	**0.55**	**144**↑	*i*Pg	Pg	04 06 23.9	0.0
MXMB				*e*Sg	Sg	04 06 31.4	+0.3
MXMB				*e*Sb	Sn	04 06 37.2	+0.9
MXMB				Pmax			
	comp=E,451nm,0.2s						
MXMB				Smax			
	comp=E,2μm,0.4s						
SYVR	**Suvo**	**1.06**	**92**↑	*i*Pg	Pg	04 06 32.6	-1.0
SYVR				*e*Sg	Sg	04 06 46.5	-1.0
SYVR				*e*Sb	Sn	04 06 51.1	+2.1
SYVR				Pmax			
	comp=E,70nm,0.1s						
SYVR				max			
	comp=E,538nm,0.3s						
SYVR	**Suvo**	**1.06**	**92**	*e*PG	Pg	04 06 32.5	-1.1
SYVR				*e*		04 06 46.5	
SYVR				pmax	pmax		
	comp=Z,90nm,0.3s						
SYVR				smax	smax		
	comp=N,747nm,0.6s						
ZRHB	**Zarechye**	**1.32**	**209**↑	*i*Pg	Pg	04 06 38.8	+0.3
ZRHB				*e*Sg	Sg	04 06 56.6	+0.9
ZRHB				Pmax			
	comp=N,337nm,0.3s						
ZRHB				Smax			
	comp=N,2μm,0.8s						
TRG	**Tyrgan**	**1.47**	**230**↑	*i*Pg	Pb	04 06 40.3	-0.3
TRG				*e*Sg	Sb	04 06 59.4	0.0
TRG				Pmax			
	comp=N,181nm,0.1s						
TRG				Smax			
	comp=N,1μm,0.2s						
TRG	**Tyrgan**	**1.47**	**230**	*e*PG	Pb	04 06 40.2	-0.4
TRG				*e*		04 06 59.6	
TRG				pmax	pmax		
	comp=Z,197nm,0.3s						
TRG				smax	smax		
	comp=N,1μm,0.3s						
UUDB	**Ulan-Yde**	**1.88**	**190**	*e*Pn	Pb	04 06 46.8	-0.7
UUDB				*e*Pg	Pg	04 06 47.9	-1.2
UUDB				*e*Sg	Sg	04 07 12.3	-1.2
UUDB				Pmax			
	comp=N,183nm,0.4s						
UUDB				Smax			
	comp=N,626nm,0.6s						
YLYR	**Ulyunkhan**	**2.09**	**55**	*e*Pg	Pb	04 06 51.0	-0.1
YLYR				*e*Sg	Sb	04 07 17.9	+0.8
YLYR				Pmax			
	comp=N,57nm,0.3s						
YLYR				Smax			
	comp=N,302nm,0.4s						
YLYR	**Ulyunkhan**	**2.09**	**55**	*e*PN	Pb	04 06 51.4	+0.3
YLYR				*e*		04 06 53.3	
YLYR				*e*		04 07 18.4	
YLYR				pmax	pmax		
	comp=Z,57nm,0.3s						
YLYR				smax	smax		
	comp=N,304nm,0.4s						
NIZ	**Nizh Angarsk**	**2.21**	**20**	*e*Pg	Pb	04 06 52.4	-0.8
NIZ				*e*Sg	Sb	04 07 21.3	+0.7
NIZ				Pmax			
	comp=N,47nm,0.2s						
NIZ				Smax			
	comp=N,356nm,0.6s						
HRMR	**Khuramsha**	**2.22**	**201**	*e*Pn	Pb	04 06 52.0	-1.4
HRMR				*e*Pg	Pg	04 06 54.0	-1.7
HRMR				*e*Sg	Sg	04 07 23.5	-1.1
HRMR				Pmax			
	comp=N,239nm,0.3s						
HRMR				Smax			
	comp=N,3μm,0.2s						
LSTR	**Listvyanka**	**2.76**	**229**	*e*Pn	Pn	04 06 59.4	+2.0
LSTR				*e*Pg	Pb	04 07 02.7	+0.2
LSTR				*e*Sn	Sn	04 07 30.9	+0.1
LSTR				*e*Sg	Sb	04 07 37.9	+1.5
LSTR				Pmax			
	comp=N,23nm,0.2s						
LSTR				Smax			
	comp=N,206nm,0.5s						
KMO	**Kumora**	**2.79**	**37**	*e*Pn	Pn	04 06 58.2	+0.5
KMO				*e*Pg	Pb	04 07 03.2	+0.2
KMO				*e*Sg	Sb	04 07 39.2	+2.1
KMO				Pmax			
	comp=N,53nm,0.4s						
KMO				Smax			
	comp=N,251nm,1.1s						
KMO	**Kumora**	**2.79**	**37**	*e*PN	Pb	04 07 03.9	+0.9
KMO				*e*		04 07 37.3	
KMO				pmax	pmax		
	comp=Z,33nm,0.4s						
KMO				smax	smax		
	comp=N,237nm,0.8s						
IRK	**Irkutsk**	**2.80**	**240**	*e*Sg	Sb	04 07 40.1	+2.6
IRK				Smax			
	comp=N,1μm,0.2s						
IRK	**Irkutsk**	**2.80**	**240**	*e*PN	Pb	04 07 04.6	+1.4
IRK				*e*		04 07 39.0	
IRK				pmax	pmax		
	comp=Z,58nm,0.1s						
IRK				smax	smax		
	comp=N,1μm,0.2s						
TLY	**Talaya**	**3.44**	**236**	*e*Pn	Pn	04 07 08.8	+2.0
TLY				*e*		04 07 10.3	
TLY				*e*Pg	Pb	04 07 15.1	+0.9
TLY				*e*Sg	Sb	04 07 58.3	+2.2
TLY				Pmax			
	comp=N,25nm,0.5s						
TLY				Smax			
	comp=N,177nm,0.4s						
TLY	**Talaya**	**3.44**	**236**	*e*PN	Pb	04 07 15.3	+1.1
TLY				*e*		04 07 58.3	
TLY				pmax	pmax		
	comp=Z,25nm,0.5s						
TLY				smax	smax		
	comp=E,194nm,0.3s						
CIT	**Chita**	**3.65**	**115**	*e*Sg	Sb	04 08 06.2	+4.0
CIT				Smax			
	comp=E,269nm,0.4s						
CIT	**Chita**	**3.65**	**115**	*e*PN	Pb	04 07 19.7	+1.9
ARS	**Arshan**	**3.94**	**245**	*e*Pn	Pn	04 07 17.2	+3.5
ARS				*e*Pg	Pb	04 07 24.5	+1.7
ARS				*e*Sg	Sb	04 08 14.4	+3.8
ARS				Pmax			
	comp=E,61nm,0.4s						
ARS				Smax			
	comp=E,581nm,0.5s						
ARS	**Arshan**	**3.94**	**245**	*e*PN	Pb	04 07 18.5	-4.3
ARS				*e*		04 07 25.2	
ARS				*e*S	Sn	04 08 03.7	+3.6
ARS				*e*		04 08 14.4	
ARS				pmax	pmax		
	comp=Z,37nm,0.1s						
ARS				smax	smax		
	comp=E,181nm,0.5s						
ZAK	**Zakamensk**	**4.51**	**224**	*e*Pn	Pn	04 07 23.4	+1.8
ZAK				*e*Pg	Pb	04 07 35.3	+2.8
ZAK				*e*Sn	Sn	04 08 14.3	+0.1
ZAK				*e*Sg	Sg	04 08 33.4	-4.8
ZAK				Pmax			
	comp=E,6.0nm,0.2s						
ZAK				Smax			
	comp=E,30nm,0.4s						
KPC	**Khapcheranga**	**4.78**	**145**	*e*Pn	Pn	04 07 25.1	-0.1
KPC				*e*Pg	Pb	04 07 39.2	+2.2
KPC				*e*Sn	Sn	04 08 18.7	-1.9
KPC				*e*Sg	Sg	04 08 41.0	-5.6
KPC				Pmax			
	comp=E,17nm,0.5s						
KPC				Smax			
	comp=E,78nm,0.8s						
KPC	**Khapcheranga**	**4.78**	**145**	*e*PN	Pb	04 07 39.2	+2.2
KPC				*e*		04 08 41.0	
KPC				pmax	pmax		
	comp=Z,17nm,0.5s						
KPC				smax	smax		
	comp=E,77nm,0.9s						
MOY	**Mondy**	**4.84**	**248**	*e*Pn	Pn	04 07 30.0	+3.8
MOY				*e*		04 08 24.9	
MOY				*e*Sg	Sg	04 08 43.1	-5.8
MOY				*e*		04 08 53.5	
MOY				max			
	comp=E,143nm,0.7s						
ULN	**Ulaanbaatar**	**5.90**	**188**	*e*Sg	Sg	04 09 16.6	-6.2
TUP	**Tupik**	**6.95**	**79**	*e*Pn	Pn	04 07 56.0	+1.0
TUP				*e*Sg	Sg	04 09 47.3	-8.9
TUP				Smax			
	comp=E,75nm,0.8s						
TUP	**Tupik**	**6.95**	**79**	*e*PG	Pb	04 08 17.5	+3.6
TUP				*e*		04 09 48.0	
TUP				pmax	pmax		
	comp=Z,2.0nm,0.2s						
TUP				smax	smax		
	comp=N,75nm,0.9s						

MAN 30 04:09:27,18.47N×120.95E,h17km,mb4.4,ML3.3,MS3.2, 3D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.35**	**246**↓	*i*P	Pn	04 09 36.0	-1.3
PIP				*e*S	Sn	04 09 42.6	-1.2
APYP	**Conner**	**0.66**	**155**	*e*P	Pb	04 09 40.6	+0.5
APYP				*e*S	Sb	04 09 50.0	+0.9
SIPP	**Brgy, Tapao**	**0.72**	**221**↓	*i*P	Pn	04 09 42.5	+0.1
SIPP				*e*S	Sn	04 09 54.1	+1.1
ABRA	**Dolores**	**0.85**	**196**	*e*P	Pb	04 09 42.9	-0.3
ABRA				*e*S	Sb	04 09 51.7	-2.6
CVP	**Callao Caves**	**1.12**	**132**↓	*i*P	Pn	04 09 47.6	-0.4
CAUP	**Cauayan**	**1.73**	**151**	*e*P	Pb	04 09 59.0	+0.6
PALP	**Palanan**	**1.98**	**135**	*e*P	Pb	04 10 01.9	-0.7

IDC 30 04:18:10.1±1.0,56.65N×34.61W,h0km,mb3.7/7, mb1 4.0/8,mb1mx3.7/31,mbtmp3.7/8,ML2.2/1,MS3.4/15, Ms1 3.4/15,ms1mx3.2/46,Error ellipse: s-maj=32.6km s-min=19.6km az=5.0,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.14**	**278**	P	P	04 22 24.4	+0.8
	0.1nm,0.3s,baz=66,slow=13,SNR=3.9						
SCHQ				LR	LR	04 28 02.2	
	comp=Z,151nm,19.7s,baz=62,slow=33						
JMIC	**Jan Mayen**	**18.17**	**28**	LR	LR	04 27 23.8	
	comp=Z,55nm,20.2s,baz=257,slow=30						
NOA	**NORSAR Array B**	**23.71**	**60**	LR	LR	04 31 03.3	
	comp=Z,40nm,20.2s,baz=275,slow=33						
HFS	**Hagfors**	**25.10**	**62**	LR	LR	04 31 09.0	
	comp=Z,60nm,21.1s,baz=294,slow=31						
ARCES	**ARCESS Array B**	**28.70**	**39**	P	P	04 24 10.0	+1.7
	1.6nm,0.9s,baz=268,slow=7.9,SNR=4.7						
ARCES				LR	LR	04 33 02.3	
	comp=Z,34nm,20.0s,baz=1.1,slow=31						
DAVOX	**Davos/Dischmat**	**28.79**	**91**	LR	LR	04 35 10.9	
	comp=Z,125nm,18.4s,baz=159,slow=36						
GERES	**GERESS Array B**	**29.71**	**84**	LR	LR	04 35 05.5	
	comp=Z,55nm,20.0s,baz=284,slow=34						
SADO	**Sadowa**	**30.05**	**266**	LR	LR	04 35 02.5	
	comp=Z,123nm,19.7s,baz=101,slow=34						
FINES	**FINESS Array B**	**30.57**	**55**	LR	LR	04 34 41.7	
	comp=Z,39nm,21.0s,baz=105,slow=32						
ULM	**Lac du Bonnet**	**35.94**	**286**	LR	LR	04 38 29.5	
	comp=Z,66nm,20.0s,baz=46,slow=34						
TKL	**Tuckaleechee C**	**38.93**	**259**	LR	LR	04 40 49.6	
	comp=Z,82nm,18.1s,baz=260,slow=35						
BRTR	**Keskin Array B**	**46.49**	**81**	P	P	04 26 40.2	+1.3
	0.5nm,0.8s,baz=318,slow=7.6,SNR=3.6						
PDAR	**Pinedale Array**	**47.96**	**287**	P	P	04 26 50.1	-0.3
	0.3nm,0.7s,baz=46,slow=7.7,SNR=3.3						
PDAR				LR	LR	04 45 21.4	
	comp=Z,114nm,19.1s,baz=75,slow=34						
ILAR	**Eielson Array**	**48.44**	**328**	P	P	04 26 53.3	-0.2
	1.9nm,1.0s,baz=37,slow=5.9,SNR=16						
KBZ	**Khabaz**	**48.64**	**71**	LR	LR	04 49 32.0	
	comp=Z,42nm,19.2s,baz=35,slow=39						
TORD	**Torodi Ar. Bea**	**51.54**	**133**	P	P	04 27 17.2	-0.4
	1.5nm,0.9s,baz=342,slow=4.9,SNR=8.2						
ANMO	**Albuquerque**	**51.92**	**277**	LR	LR	04 48 37.7	
	comp=Z,56nm,19.9s,baz=24,slow=35						
TXAR	**Lajitas Array**	**54.64**	**271**	P	P	04 27 41.1	+0.6
	0.7nm,1.0s,baz=59,slow=7.5,SNR=5.8						
TXAR				LR	LR	04 50 45.1	
	comp=Z,76nm,18.6s,baz=5.0,slow=36						
MKAR	**Makanchi Array**	**64.28**	**43**	P	P	04 28 45.7	-1.1
	0.6nm,0.8s,baz=325,slow=5.3,SNR=2.8						
ASAR	**Alice Springs**	**146.00**	**19**	PKPbc	PKPdf	04 37 48.8	-1.9
	1.0nm,1.1s,baz=359,slow=4.7,SNR=5.2						

*NIED **30** 04:30:00,39.90N×143.60E,h14km,Mw3.8 Best double couple: M0 5.03000×10^14 NP1:φ 339.00000°,δ71.00000°, λ111.00000°. NP2:φ 170.00000°,δ28.00000°,λ45.00000°.*
*JMA **30** 04:30:34.9±0.2,39.91N×143.58E,h24km,M3.5*
*IDC **30** 04:30:40.2±2.3,40.22N×142.51E,h0km,mb3.5/3, mb1 3.5/5,mb1mx3.4/25,mbtmp3.4/5,ML3.1/2,MS2.7/1, Ms1 2.7/1,ms1mx2.0/38,Error ellipse: s-maj=51.1km s-min=27.6km az=139.0*
ISC 30 04:30:36.2±3.4,40.02N±0.08×143.3E±0.2,h11km±15km, n16,σ1.947/20,mb3.4/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.09**	**266**	P	**Pn**	**04 30 58.0**	**+0.5**
MIYJ	**Miyakonagasawa**	**1.21**	**249**	P	**Pn**	**04 30 59.4**	**+0.3**
MIYJ				*e*S	**Sn**	**04 31 16.9**	**+1.4

JOM				*e*S	**Sg**	**04 31 29.4**	**+0.8**
JMK	**Ichinoseki**	**1.92**	**237**	P	**Pn**	**04 31 08.9**	**0.0**
JMK				*e*S	**Sb**	**04 31 34.2**	**-1.0**
JNBK	**Urakawa-nobuka**	**2.29**	**350**	P	**Pn**	**04 31 16.1**	**+2.1**
JNBK				*e*S	**Sb**	**04 31 46.4**	**+0.5**
JYK	**Kaneyama**	**2.52**	**245**	P	**Pn**	**04 31 18.3**	**+1.2**
JCH	**Churui**	**2.59**	**1**	P	**Pn**	**04 31 18.4**	**+0.3**
JCH				*e*S	**Sn**	**04 31 49.1**	**-0.5**
ASAJ	**Asahikawa**	**4.12**	**353**	Pn	**Pn**	**04 31 40.0**	**+0.8**
	0.8nm,0.3s,baz=247,slow=15,SNR=2.6						
ASAJ				Sn	**Sb**	**04 32 34.3**	**-4.4**
	1.7nm,0.3s,baz=162,slow=19,SNR=3.4						
MJAR	**Matsushiro Arr**	**5.29**	**231**	Pn	**Pn**	**04 31 55.4**	**+0.2**
	1.2nm,0.3s,baz=44,slow=12,SNR=11						
MAT	**Matsushiro**	**5.29**	**231**	P	**Pn**	**04 31 55.9**	**+0.6**
MAT				*e*S	**Sn**	**04 32 54.4**	**-1.8**
USRK	**Ussuriysk Arra**	**9.37**	**300**	Pn	Pn	04 32 54.7	+3.6
	0.1nm,0.3s,baz=119,slow=14,SNR=7.2						
KSRS	**Korea Array**	**12.27**	**263**	LR	LR	04 37 52.8	
	comp=Z,35nm,20.4s,baz=50,slow=37						
SONM	**Songino Array**	**27.48**	**299**	P	**P**	**04 36 22.9**	**+0.4**
	0.9nm,0.7s,baz=80,slow=9.0,SNR=5.0						
MKAR	**Makanchi Array**	**43.84**	**300**	P	**P**	**04 38 43.1**	**+0.8**
	0.3nm,0.8s,baz=72,slow=6.2,SNR=5.4						
ILAR	**Eielson Array**	**46.20**	**34**	P	P	04 39 07.9	+7.1
	0.4nm,0.9s,baz=279,slow=6.3,SNR=4.0						

*IDC **30** 04:43:09.2±2.5, 9.°75S×113.°48E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/21, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=135.2km s-min=23.7km az=46.0*
*ISCJB **30** 04:43:14.2±0.7, 9.°46S±0.°08×114.°01E±0.°07, h31km, mb3.3/3, Error ellipse: s-maj=13.8km s-min=7.1km az=35.8*
*DJA **30** 04:43:14.5±1.4, 9.°5S±8.°×11.°4E±.°, h19km±18km, M4.0/7, MLv4.0/7*

ISC 30 04:43:14.6±0.9, 9.°38S±0.°09×114.°10E±0.°06, h31km, n12, σ2s09/13, mb3.4/3, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGBI	**Denpasar**	**1.18**	**62**	P	**Pn**	**04 43 35.7**	**+0.8**
GMJI	**Gumukmas**	**1.27**	**329**	P	**Pb**	**04 43 36.9**	**-1.1**
GMJI				S	**Sb**	**04 43 53.3**	**-0.7**
SRBI	**Singaraja**	**1.69**	**41**	P	**Pb**	**04 43 44.5**	**-0.6**
BLJI	**Banyuglugur**	**1.70**	**343**	P	Pb	04 43 48.6	+3.4
PWJI	**Pagerwojo**	**2.64**	**301**	P	**Pn**	**04 43 55.0**	**0.0**
SJI	**Sawahan**	**2.82**	**305**	P	**Pn**	**04 43 58.4**	**+0.7**
WOJI	**Wonogiri, Jawa**	**3.49**	**296**	P	**Pn**	**04 44 07.4**	**+0.6**
UGM	**Wanagama**	**3.82**	**292**	P	**Pn**	**04 44 12.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**14.17**	**129**	Pn	**Pn**	**04 46 34.9**	**+1.6**
	0.1nm,0.3s,baz=302,slow=11,SNR=3.7						
FITZ				Sn	**Sn**	**04 49 04.0**	**-5.4**
	0.1nm,0.3s,baz=3.5,slow=19,SNR=3.4						
WRA	**Warramunga Arr**	**22.19**	**120**	P	**P**	**04 48 11.1**	**+2.5**
	0.4nm,0.5s,baz=293,slow=12,SNR=2.3						
ASAR	**Alice Springs**	**23.67**	**129**	P	**P**	**04 48 24.7**	**+1.1**
	0.5nm,0.4s,baz=306,slow=9.1,SNR=9.7						
MKAR	**Makanchi Array**	**62.70**	**336**	P	**P**	**04 53 36.6**	**+0.1**
	0.2nm,0.5s,baz=148,slow=6.9,SNR=3.9						

IDC 30 04:47:27.0±5.2, 7.°13S×129.°26E, h159km±44km, mb3.3/3, mb1 3.7/7, mb1mx3.5/21, mbtmp3.6/7, Error ellipse: s-maj=48.1km s-min=18.9km az=50.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.32**	**241**	P	Pn	04 48 59.9	+1.8
	44nm,0.3s,baz=81,slow=5.9,SNR=21						
BATI				S	Sn	04 50 09.7	+0.1
	23nm,0.3s,baz=76,slow=23,SNR=7.5						
FITZ	**Fitzroy Crossi**	**11.47**	**198**	P	Pn	04 50 04.8	-1.3
	0.7nm,0.3s,baz=26,slow=12,SNR=13						
FITZ				S	Sn	04 52 05.6	-7.5
	2.4nm,0.3s,baz=0.0,slow=20,SNR=9.6						
WRA	**Warramunga Arr**	**13.66**	**159**	P	Pn	04 50 32.3	-2.0
	3.2nm,0.3s,baz=342,slow=12,SNR=14						
WRA				S	Sn	04 52 58.2	-7.7
	1.7nm,0.3s,baz=332,slow=23,SNR=10						
ASAR	**Alice Springs**	**17.04**	**165**	P	Pn	04 51 16.4	+0.4
	3.8nm,0.3s,baz=342,slow=10,SNR=228						
ASAR				S	S	04 54 19.2	-5.6
	0.5nm,0.3s,baz=350,slow=26,SNR=5.1						
STKA	**Stephens Creek**	**27.18**	**157**	P	P	04 52 55.5	-0.2
	1.7nm,0.5s,baz=329,slow=10.0,SNR=4.8						
MKAR	**Makanchi Array**	**67.93**	**327**	P	P	04 58 08.2	-0.3
	0.1nm,0.3s,baz=128,slow=7.5,SNR=4.3						
VNDA	**Vanda**	**72.41**	**173**	P	P	04 58 35.1	-0.1
	0.6nm,0.8s,baz=298,slow=7.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**128.11**	**281**	PKP	PKPdf	05 06 14.3	-0.9
	0.3nm,0.9s,baz=92,slow=1.4,SNR=2.5						
LPAZ	**La Paz**	**151.06**	**144**	PKPbc	PKPbc	05 07 02.9	0.0
	0.5nm,0.3s,baz=184,slow=5.1,SNR=8.1						
LPAZ				PKPab	PKPab	05 07 11.8	+0.9
	0.9nm,0.5s,baz=165,slow=5.8,SNR=4.9						

*ISCJB **30** 04:47:38.0±0.4, 24.°24N±0.°02×121.°84E±0.°02, h4km±3km, Error ellipse: s-maj=3.1km s-min=2.2km az=42.8*
*JMA **30** 04:47:37.1±0.4, 23.°95N×121.°71E, h21km, M3.4*
*TAP **30** 04:47:38.5, 24.°26N×121.°77E, h15km, ML4.0, B*

ISC 30 04:47:38.5±0.8, 24.°24N±0.°02×121.°80E±0.°02, h13km±5km, n64, σ0s71/104, 8C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.08**	**324**	↓*i*P	**Pg**	**04 47 41.5**	**+0.1**
	baz=336						
EHP				*i* S	**Sg**	**04 47 43.6**	**+0.2**
	baz=336						
ENA	**Nanau**	**0.19**	**345**	↑*i*P	**Pg**	**04 47 42.8**	**-0.1**
	baz=352						
TWD	**Chiawan**	**0.24**	**228**	↑*i*P	**Pg**	**04 47 43.9**	**+0.2**
	baz=227						
TWD				*i* S	**Sg**	**04 47 47.7**	**+0.5**
	baz=227						
HWA	**Hwalien**	**0.32**	**213**	*e*P	**Pb**	**04 47 45.9**	**-0.2**
	baz=216						
TWC	**Suao**	**0.37**	**8**	↑*i*P	**Pg**	**04 47 46.0**	**0.0**
	baz=8.0						
TWC				*i* S	**Sg**	**04 47 51.0**	**0.0**
	baz=8.0						
NNS	**Nan Shan**	**0.43**	**297**	↑*i*P	**Pg**	**04 47 47.1**	**-0.1**
	baz=297						
NNS				*i* S	**Sg**	**04 47 52.6**	**-0.4**
	baz=297						
ENTT	**Nioudou**	**0.45**	**332**	↑*i*P	**Pg**	**04 47 47.4**	**0.0**
	baz=333						
ENTT				S	**Sg**	**04 47 53.4**	**0.0**
	baz=333						
ESF	**Shoufeng Towns**	**0.45**	**216**	*e*P	**Pb**	**04 47 48.0**	**-0.4**
	baz=222						
TWE	**Neicheng**	**0.49**	**346**	↑*i*P	**Pg**	**04 47 48.2**	**0.0**
	baz=348						
TWE				*i* S	**Sg**	**04 47 54.7**	**-0.1**
	baz=348						
WHF	**Hehuan Shan**	**0.49**	**259**	↑*i*P	**Pg**	**04 47 48.2**	**-0.2**
	baz=257						
WHF				S	**Sg**	**04 47 55.0**	**-0.1**
	baz=257						
ILA	**Ilan**	**0.52**	**355**	*i* P	**Pg**	**04 47 48.8**	**0.0**
	baz=351						
ILA				*i* S	**Sb**	**04 47 56.5**	**-0.5**
	baz=351						
ESL	**Shilin**	**0.54**	**218**	*e*P	**Pg**	**04 47 49.2**	**+0.1**
	baz=224						
TWT	**Tachien**	**0.57**	**271**	P	**Pb**	**04 47 50.1**	**-0.3**
	baz=270						
TWT				*i* S	**Sg**	**04 47 57.3**	**+0.1**
	baz=270						
TEGC	**Jichi Village**	**0.58**	**204**	*e*P	**Pg**	**04 47 49.3**	**-0.6**
	baz=191						
NSK	**Sanguang**	**0.59**	**317**	↓*i*P	**Pg**	**04 47 50.0**	**-0.1**
	baz=317						
NSK				S	**Sg**	**04 47 57.4**	**-0.5**
	baz=317						
TWA	**Mucha**	**0.76**	**345**	*e*P	**Pb**	**04 47 53.6**	**0.0**
	baz=346						
TWB1	**Santiao Chiao**	**0.78**	**13**	*e*P	**Pg**	**04 47 53.3**	**-0.4**
	baz=8.0						
NSTT	**Nanjuang**	**0.82**	**298**	*e*P	**Pb**	**04 47 54.5**	**-0.1**
	baz=298						
NSTT				S	**Sb**	**04 48 05.4**	**-0.2**
	baz=298						
NWF	**Wu-fen Shan**	**0.82**	**359**	↑*i*P	**Pg**	**04 47 54.6**	**+0.1**
	baz=351						
NWF				S	**Sg**	**04 48 04.6**	**-0.8**
	baz=351						
TAP1	**Taipei**	**0.83**	**343**	*e*P	**Pb**	**04 47 54.8**	**0.0**
	baz=342						
TAP1				*e*S	**Sg**	**04 48 05.0**	**-0.6**
	baz=342						
TAP	**Taipei**	**0.84**	**342**	*e*P	**Pb**	**04 47 55.1**	**+0.2**
	baz=333						
EHY	**Hungye**	**0.85**	**211**	*e*P	**Pg**	**04 47 54.3**	**-0.7**
	baz=221						
EHY				*e*S	**Sn**	**04 48 07.9**	**-0.6**
	baz=221						
SMLT	**Sun Moon Lake**	**0.89**	**247**	↓P	**Pb**	**04 47 55.8**	**-0.2**
	baz=240						
SMLT				S	**Sb**	**04 48 07.6**	**-0.2**
	baz=240						
NCU	**National Centr**	**0.91**	**323**	P	**Pn**	**04 47 57.0**	**0.0**
	baz=317						
NCU				*e*S	**Sn**	**04 48 09.1**	**-0.9**
	baz=317						
TWS1	**Kuangyinshan**	**0.92**	**338**	*e*P	**Pn**	**04 47 56.7**	**-0.5**
	baz=338						
TYC	**Yuchr**	**0.92**	**249**	*e*P	**Pg**	**04 47 56.1**	**-0.2**
	baz=242						
TYC				*e*S	**Sg**	**04 48 07.6**	**-0.8**
	baz=242						
HSN	**Hsinchu**	**0.94**	**307**	*e*P	**Pn**	**04 47 57.7**	**+0.3**
	baz=301						
HSN				*e*S	**Sn**	**04 48 10.2**	**-0.4**
	baz=301						
TWQ1	**Liyutan**	**0.94**	**277**	*e*P	**Pn**	**04 47 57.2**	**-0.2**
	baz=276						
NSY	**Sanyi**	**0.96**	**281**	*e*P	**Pn**	**04 47 58.2**	**+0.5**
	baz=280						
NSY				*e*S	**Sn**	**04 48 11.0**	**-0.3**
	baz=280						
TWF1	**Yuli**	**1.00**	**207**	*e*P	**Pb**	**04 47 56.3**	**-1.3**
	baz=219						
TWF1				*e*S	**Sb**	**04 48 10.3**	**-0.4**
	baz=219						
TCU	**Taichung**	**1.03**	**265**	*e*P	**Pn**	**04 47 58.7**	**+0.1**
	baz=266						
TCU				*e*S	**Sn**	**04 48 13.6**	**+0.8**
	baz=266						
TWY	**Chenhua**	**1.04**	**350**	*e*P	**Pn**	**04 47 59.0**	**+0.2**
	baz=335						
YUS	**Yu-Shan**	**1.08**	**226**	*e*P	**Pb**	**04 47 59.3**	**0.0**
	baz=228						
YUS				*e*S	**Sb**	**04 48 13.2**	**-0.3**
	baz=228						
WNT	**Mingjian**	**1.08**	**251**	*e*P	**Pg**	**04 48 00.1**	**+0.8**
	baz=248						
WNT				*e*S	**Sn**	**04 48 15.9**	**+1.7**
	baz=248						
YOJ	**Yonaguni jima**	**1.13**	**79**	↓*i*P		**04 48 00.0**	**+0.1**
	baz=66						
YOJ				*e*S	**Sn**	**04 48 16.4**	**+1.0**
	baz=66						
YOJ	**Yonaguni jima**	**1.13**	**79**	P	**Pn**	**04 48 00.1**	**+0.1**
YOJ				*e*S	**Sn**	**04 48 16.9**	**+1.5**
ALS	**Alishan**	**1.16**	**231**	*e*P	**Pg**	**04 48 00.9**	**-0.1**
	baz=220						
ALS				*e*S	**Sn**	**04 48 17.8**	**+1.1**
	baz=220						
CHKT	**Chengkung**	**1.20**	**199**	*e*P	**Pn**	**04 47 59.5**	**-1.6**
	baz=188						
CHN5	**Tsauling**	**1.21**	**238**	*e*P	**Pg**	**04 48 01.7**	**-0.1**
	baz=241						
CHN5				*e*S	**Sg**	**04 48 19.3**	**+1.8**
	baz=241						
ELDTW	**Lidau**	**1.27**	**214**	*e*P	**Pn**	**04 48 00.7**	**-1.4**
	baz=202						
CHN2	**Minshiung**	**1.40**	**240**	*e*P	**Pg**	**04 48 05.3**	**-0.1**
	baz=228						
PCYT	**Pengchaiyu**	**1.40**	**10**	*e*P	**Pn**	**04 48 03.8**	**0.0**
	baz=8.0						
CHN4	**Tsaushan**	**1.41**	**231**	*e*P	**Pb**	**04 48 05.0**	**+0.2**
	baz=235						
CHN4				*e*S	**Sg**	**04 48 26.8**	**+2.7**
	baz=235						
STYT	**Tauyuan**	**1.44**	**222**	*e*P	**Pb**	**04 48 04.7**	**-0.5**
	baz=225						
STYT				*e*S	**Sg**	**04 48 25.9**	**+1.1**
	baz=225						
WTCT	**Ta-ch'eng**	**1.44**	**255**	*e*P	**Pb**	**04 48 05.1**	**0.0**
	baz=256						
WTCT				*e*S	**Sg**	**04 48 25.1**	**+0.4**
	baz=256						
CHY	**Chiayi**	**1.46**	**240**	*e*P	**Pb**	**04 48 05.7**	**+0.2**
	baz=242						
CHY				*e*S	**Sg**	**04 48 26.6**	**+1.1**
	baz=242						
WTP	**Ta-pu**	**1.47**	**228**	*e*P	**Pb**	**04 48 06.0**	**+0.2**
	baz=232						
WTP				*e*S	**Sg**	**04 48 26.7**	**+0.9**
	baz=232						
TWK	**Hsinying**	**1.54**	**231**	*e*P	**Pb**	**04 48 06.7**	**-0.3**
	baz=236						
TWK				*e*S	**Sg**	**04 48 28.8**	**+0.6**
	baz=236						
WSF	**Szhu**	**1.56**	**248**	*e*P	**Pb**	**04 48 06.6**	**-0.6**
	baz=259						
WSF				*e*S	**Sg**	**04 48 28.8**	**+0.1**
	baz=259						
TWG	**Pinlang**	**1.56**	**205**	*e*P	**Pn**	**04 48 03.8**	**-2.2**
	baz=193						
CHN1	**Nanshi**	**1.57**	**228**	*e*P	**Pb**	**04 48 07.5**	**+0.1**
	baz=233						
CHN1				*e*S	**Sg**	**04 48 28.9**	**-0.1**
	baz=233						
SGST	**Jiashian**	**1.60**	**224**	*e*P	**Pb**	**04 48 08.3**	**+0.3**
	baz=227						
SGST				*e*S	**Sg**	**04 48 31.3**	**+1.1**
	baz=227						
IRIF	**Iriomote-Funau**	**1.77**	**87**	P	**Pn**	**04 48 08.6**	**-0.2**
IRIF				*e*S	**Sb**	**04 48 32.1**	**-0.8**
ECL	**Taimali**	**1.81**	**205**	*e*P	**Pn**	**04 48 08.2**	**-1.2**
	baz=196						
HATJ	**Hateruma jima**	**1.84**	**95**	P	**Pn**	**04 48 09.4**	**-0.5**
TWM1	**Shoushan**	**1.89**	**222**	*e*P	**Pb**	**04 48 12.7**	**-0.3**
	baz=225						
JKRS	**Kuro-shima**	**2.02**	**90**	P	**Pn**	**04 48 12.9**	**+0.6**
JKRS				*e*S	**Sn**	**04 48 38.0**	**+0.6**
TAW	**Tawu**	**2.05**	**204**	*e*P	**Pn**	**04 48 13.8**	**+1.1**
	baz=195						
JIJ	**Ishigaki jima**	**2.15**	**86**	P	**Pn**	**04 48 14.0**	**0.0**
JIJ				*e*S	**Sn**	**04 48 41.0**	**+0.5**
SCZT	**Fangliau**	**2.15**	**210**	*e*P	**Pb**	**04 48 16.2**	**-1.1**
	baz=199						
PNG	**Penghu**	**2.16**	**252**	*e*P	**Pn**	**04 48 14.3**	**+0.1**
	baz=256						
PNG				*e*S	**Sn**	**04 48 40.9**	**+0.1**
	baz=256						
WDGT	**Dungji**	**2.19**	**244**	*e*P	**Pn**	**04 48 15.1**	**+0.5**
	baz=247						
TWK1	**Hengchun**	**2.46**	**202**	*e*P	**Pn**	**04 48 18.2**	**-0.2**
	baz=194						
JTJ	**Tarama**	**2.68**	**81**	P	**Pn**	**04 48 22.8**	**+1.5**

JMA 30 04:56:57.2±0.1, 28.°55N×129.°39E, h37km±2km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAM	**Amami Oshima**	**0.23**	**126**	P	Pn	04 57 04.2	-1.6
JAM				*e*S	Sn	04 57 09.1	-4.9
JAMN	**Amaminishikomi**	**0.36**	**212**	P	Pn	04 57 05.9	+0.2
JAMN				S	Sn	04 57 11.8	-0.7
JZK	**Kikaishima**	**0.56**	**114**	P	Pn	04 57 08.6	-0.2
JZK				*e*S	Sn	04 57 17.3	+0.4
JTK	**Tokunoshima**	**0.85**	**207**	P	Pn	04 57 12.0	-0.7
JTK				*e*S	Sn	04 57 23.1	-0.9
JNN	**Nakanoshima**	**1.35**	**18**	P	Pn	04 57 19.9	+0.3
JNN				*e*S	Sn	04 57 37.2	+0.9
JIH	**Iheya**	**1.97**	**220**	P	Pn	04 57 27.5	-0.5
JIH				*e*S	Sn	04 57 50.2	-1.2
JOW	**Kunigami**	**1.98**	**210**	P	Pn	04 57 27.6	-0.5
JKC	**Kuchinoerabu**	**2.03**	**20**	P	Pn	04 57 29.6	+0.8
JKC				*e*S	Sn	04 57 54.1	+1.2
JTN	**Tanegashima 3**	**2.51**	**33**	P	Pn	04 57 36.6	+1.1
JTN				*e*S	Sn	04 58 07.1	+2.2
JAGN	**Aguni-jima**	**2.73**	**225**	P	Pn	04 57 39.9	+1.5
JAGN				*e*S	Sn	04 58 10.6	+0.4
JKE	**Kume jima 2**	**3.20**	**227**	P	Pn	04 57 44.9	-0.1
JKE				*e*S	Sn	04 58 21.8	-0.1

IDC 30 04:58:20.9±5.2, 8.°11S×128.°21E, h202km±54km, mb2.9/1, mb1 3.3/5, mb1mx3.1/21, mbtmp3.1/5, Error ellipse: s-maj=56.5km s-min=20.1km az=51.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.95**	**245**	P	Pn	04 59 34.3	-0.5
	12nm,0.3s,baz=198,slow=13,SNR=18						
BATI				S	S	05 00 34.1	+1.5
	11nm,0.3s,baz=53,slow=20,SNR=7.0						
FITZ	**Fitzroy Crossi**	**10.24**	**194**	P	Pn	05 00 42.9	-0.4
	2.0nm,0.3s,baz=27,slow=12,SNR=33						
FITZ				S	S	05 02 38.2	0.0
	1.3nm,0.3s,baz=120,slow=14,SNR=5.5						
WRA	**Warramunga Arr**	**13.17**	**154**	P	Pn	05 01 19.4	-1.3
	0.4nm,0.3s,baz=330,slow=13,SNR=5.8						
WRA				S	S	05 03 40.6	-6.8
	1.2nm,0.3s,baz=328,slow=23,SNR=8.4						
ASAR	**Alice Springs**	**16.40**	**161**	P	Pn	05 02 00.4	+0.2
	0.1nm,0.3s,baz=340,slow=11,SNR=2.8						
ASAR				S	S	05 05 01.7	+0.9
	0.3nm,0.3s,baz=321,slow=19,SNR=5.7						
MKAR	**Makanchi Array**	**68.20**	**328**	P	P	05 08 59.7	+0.1
	0.2nm,0.4s,baz=120,slow=5.7,SNR=4.9						

WEL 30 05:15:28.8±0.4, 44.°59S×175.°54E, h33km, ML3.6/17, 2C-1D, Error ellipse: s-maj=4.0km s-min=3.0km az=90.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**2.26**	**292**	PN	Pn	05 16 02.3	-1.5
MQZ				SN	Sn	05 16 27.3	-3.2
KHZ	**Kahutara**	**2.61**	**325**	PN	Pn	05 16 08.4	-0.3
KHZ				SN	Sn	05 16 38.3	-0.9
LTZ	**Lake Taylor**	**2.98**	**306**	PN	Pn	05 16 12.9	-1.0
LTZ				SN	Sn	05 16 45.8	-2.7
LTZ				AML	AML	05 16 46.7	
PLWZ	**Palliser**	**3.02**	**356**	PN	Pn	05 16 13.3	-1.1
SNZO	**South Karori**	**3.33**	**349**	PN	Pn	05 16 17.7	-0.9
TUWZ	**Tuamarina**	**3.37**	**339**	PN	Pn	05 16 18.3	-0.7
THZ	**Tophouse**	**3.42**	**325**	↑PN	Pn	05 16 20.0	+0.1
THZ				AML	AML	05 17 02.2	
MTW	**Mount Morrison**	**3.43**	**360**	PN	Pn	05 16 18.2	-1.7
TMWZ	**Te Maipa**	**3.49**	**4**	*e*PN	Pn	05 16 19.6	-1.2
CAW	**Cannon Point**	**3.49**	**354**	PN	Pn	05 16 20.2	-0.7
TCW	**Tory Channel**	**3.50**	**344**	PN	Pn	05 16 20.4	-0.4
ODZ	**Otahua Downs**	**3.52**	**261**	PN	Pn	05 16 20.4	-0.7
ODZ				AML	AML	05 18 24.3	
HOWZ	**Holdsworth Sta**	**3.69**	**360**	PN	Pn	05 16 21.9	-1.7
NNZ	**Nelson**	**3.72**	**334**	PN	Pn	05 16 23.7	-0.2
KIW	**Kapiti Island**	**3.75**	**353**	PN	Pn	05 16 23.9	-0.5
OGWZ	**Otaki Gorge**	**3.78**	**356**	PN	Pn	05 16 23.9	-0.9
TIWZ	**Tintock**	**3.81**	**4**	PN	Pn	05 16 23.9	-1.5
LBZ	**Lake Benmore**	**3.84**	**271**	↓PN	Pn	05 16 25.3	-0.4
LBZ				AML	AML	05 17 59.9	
MRZ	**Mangatainoka R**	**3.92**	**0**	PN	Pn	05 16 25.4	-1.3
DUWZ	**D'Urville Isla**	**3.96**	**342**	PN	Pn	05 16 27.2	-0.1
ANWZ	**Angora Road**	**4.18**	**10**	PN	Pn	05 16 28.8	-1.5
POWZ	**Post Office Ro**	**4.19**	**2**	PN	Pn	05 16 29.6	-0.8
TUZ	**Tuapeka**	**4.39**	**250**	PN	Pn	05 16 32.4	-0.7
TUZ				AML	AML	05 16 34.9	
TUZ				AML	AML	05 17 33.5	
EAZ	**Earnscleugh**	**4.47**	**260**	↑PN	Pn	05 16 34.5	+0.2
EAZ				AML	AML	05 17 57.6	
PXZ	**Pawanui**	**4.66**	**13**	PN	Pn	05 16 35.1	-1.7
WKZ	**Wanaka**	**4.66**	**265**	PN	Pn	05 16 37.1	+0.3
JCZ	**Jackson Bay**	**4.89**	**274**	AML	AML	05 16 51.7	

*NEIC **30** 05:29:13.5, 45.°61S×166.°43E, h8km, ML4.8(WEL), After WEL.*
*IDC **30** 05:29:13.2±1.3, 45.°64S×166.°39E, h0km, mb3.5/2, mb1 4.0/3, mb1mx3.7/15, mbtmp3.8/3, ML4.7/1, MS3.7/2, Ms1 3.7/2, ms1mx3.1/17, Error ellipse: s-maj=51.4km s-min=32.2km az=4.0*
*ISCJB **30** 05:29:14.0±0.7, 45.°62S±0.°06×166.°49E±0.°06, h15km, mb3.5/2, MS3.6/2, Error ellipse: s-maj=9.2km s-min=6.0km az=176.0*
*WEL **30** 05:29:14.1±0.2, 45.°66S×166.°46E, h19km±1km, ML4.8/20, Error ellipse: s-maj=2.8km s-min=1.1km az=90.0*

ISC 30 05:29:14.6±0.8, 45.°62S±0.°05×166.°55E±0.°06, h15km, n47, σ1s12/53, 2C-2D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.45**	**72**	P*	**Pb**	**05 29 23.9**	**-0.3**
DCZ				Sg	**Sb**	**05 29 30.8**	**+0.1**
DCZ	**Deep Cove**	**0.45**	**72**	P*	**Pb**	**05 29 23.8**	**-0.3**
DCZ				S*	**Sb**	**05 29 30.7**	**+0.1**
DCZ				AML	AML	05 29 31.2	
DCZ				AML	AML	05 29 31.5	
DCZ				AML	AML	05 29 36.8	
WHZ	**Wether Hill Ro**	**1.02**	**106**	P*	**Pb**	**05 29 33.5**	**-0.3**
WHZ				S*	**Sn**	**05 29 48.9**	**+0.6**
WHZ	**Wether Hill Ro**	**1.02**	**106**	PN	**Pb**	**05 29 33.5**	**-0.3**
WHZ				S*	**Sb**	**05 29 46.3**	**-0.7**
WHZ				AML	AML	05 29 55.4	
MLZ	**Mavora Lakes**	**1.18**	**77**	P*	**Pn**	**05 29 35.5**	**-1.0**
MLZ				S*	**Sb**	**05 29 50.8**	**-0.9**
MLZ	**Mavora Lakes**	**1.18**	**77**	PN	**Pn**	**05 29 35.5**	**-1.0**
MLZ				SN	**Sb**	**05 29 50.8**	**-0.9**
MLZ				AML	AML	05 29 52.0	
MSZ	**Milford Sound**	**1.36**	**46**	Pn	**Pn**	**05 29 38.1**	**-0.9**
MSZ	**Milford Sound**	**1.36**	**46**	↑PN	**Pn**	**05 29 38.1**	**-0.9**
MSZ				AML	AML	05 30 03.1	
MSZ				AML	AML	05 30 03.1	
MSZ				AML	AML	05 30 03.3	
MSZ				AML	AML	05 30 03.3	
APZ	**The Paps**	**1.57**	**141**	Pn	**Pn**	**05 29 41.0**	**-0.9**
APZ	**The Paps**	**1.57**	**141**	PN	**Pn**	**05 29 41.0**	**-0.9**
WKZ	**Wanaka**	**1.92**	**66**	PN	**Pb**	**05

WVZ				AML	AML	05 31 32.6	
OXZ	**Oxford**	**4.55**	**62**	PN	**Pn**	**05 30 24.1**	**+1.3**
MQZ	**McQueen's Vall**	**4.76**	**68**	Pn	**Pn**	**05 30 27.0**	**+1.4**
MQZ	**McQueen's Vall**	**4.76**	**68**	PN	**Pn**	**05 30 27.0**	**+1.4**
MQZ				AML	AML	05 31 25.3	
MQZ				AML	AML	05 32 58.6	
VNDA	**Vanda**	**32.06**	**182**	LR	LR	05 46 45.5	
	comp=Z,101nm,19.8s,baz=143,slow=33						
ASAR	**Alice Springs**	**34.29**	**299**	P	**P**	**05 36 00.5**	**+0.2**
ASAR	**Alice Springs**	**34.29**	**299**	P	**P**	**05 36 00.5**	**+0.2**
	0.4nm,0.8s,baz=137,slow=8.4,SNR=4.7						
AFI	**Afiamalu**	**36.54**	**37**	LR	LR	05 48 41.8	
	comp=Z,128nm,19.8s,baz=125,slow=32						
WRA	**Warramunga Arr**	**36.85**	**303**	P	**P**	**05 36 22.2**	**-0.1**
WRA	**Warramunga Arr**	**36.85**	**303**	P	**P**	**05 36 22.2**	**-0.1**
	0.7nm,0.7s,baz=139,slow=8.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**145.17**	**206**	PKPbc	**PKPbc**	**05 48 51.2**	**0.0**
TORD	**Torodi Ar. Bea**	**145.17**	**206**	PKPbc	**PKPbc**	**05 48 51.2**	**0.0**
	2.7nm,0.7s,baz=163,slow=1.9,SNR=20						
BRTR	**Keskin Array B**	**145.28**	**277**	PKPbc	**PKPab**	**05 48 51.8**	**+0.4**
BRTR	**Keskin Array B**	**145.28**	**277**	PKPbc	**PKPab**	**05 48 51.8**	**+0.4**
	1.0nm,0.8s,baz=134,slow=3.6,SNR=5.6						
ARCES	**ARCESS Array B**	**149.18**	**334**	PKPbc	**PKPbc**	**05 49 01.4**	**+0.4**
ARCES	**ARCESS Array B**	**149.18**	**334**	PKPbc	**PKPbc**	**05 49 01.4**	**+0.4**
	1.5nm,0.7s,baz=66,slow=4.1,SNR=6.5						
FINES	**FINESS Array B**	**152.23**	**319**	PKPbc	**PKPbc**	**05 49 08.9**	**+0.5**
FINES	**FINESS Array B**	**152.23**	**319**	PKPbc	**PKPbc**	**05 49 08.9**	**+0.5**
	2.2nm,0.9s,baz=112,slow=2.1,SNR=6.4						

DJA 30 05:35:05.4±0.8, 1°N±5°×12°2E±°, h10km, M3.7/4, MLv3.7/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.75**	**199**	P	Pg	05 35 16.6	-3.3
MRSI				S	Sb	05 35 30.7	-0.1
GTOI	**Gorontalo**	**1.00**	**124**	P	Pg	05 35 21.7	-2.9
GTOI				S	Sn	05 35 39.4	-0.2
TOLI	**Toli-Toli**	**1.39**	**267**	P	Pb	05 35 31.4	0.0
KMSI	**Cibinong**	**1.90**	**109**	P	Sg	05 36 09.7	+3.1
LUWI	**Luwuk**	**2.29**	**165**	P	Pb	05 35 46.5	-0.4

TAP 30 05:51:58.6, 22°49N×120°93E, h45km, ML3.6, 2C-1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECL	**Taimali**	**0.11**	**11**	*i* P	Pn	05 52 06.2	+0.3
	baz=15						
ECL				S	Sn	05 52 11.6	+0.6
	baz=15						
TAW	**Tawu**	**0.14**	**194**	P	Pn	05 52 06.4	+0.3
	baz=191						
TAW				*i* S	Sn	05 52 11.9	+0.6
	baz=191						
SCZT	**Fangliau**	**0.31**	**248**	⇓ *i* P	Pn	05 52 07.9	+0.5
	baz=246						
SCZT				*i* S	Sn	05 52 14.3	+0.7
	baz=246						
TTN	**Taitung**	**0.33**	**37**	*e*P	Pn	05 52 08.4	+0.9
	baz=39						
TTN				*e*S	Sn	05 52 15.9	+2.0
	baz=39						
TWG	**Pinlang**	**0.35**	**21**	⇑P	Pn	05 52 07.8	-0.1
	baz=30						
TWG				*i* S	Sn	05 52 14.8	+0.4
	baz=30						
SGLT	**Jiouru**	**0.47**	**300**	*e*P	Pn	05 52 11.0	+1.8
	baz=300						
HEN	**Hengchun**	**0.52**	**200**	*e*P	Pn	05 52 10.9	+1.1
	baz=205						
HEN				*e*S	Sn	05 52 19.5	+1.8
	baz=205						
TWP	**Hsiaoliuchiu**	**0.55**	**255**	*e*P	Pn	05 52 11.9	+1.7
	baz=254						
TWK1	**Hengchun**	**0.56**	**192**	P	Pn	05 52 10.9	+0.6
	baz=188						
TWK1				*e*S	Sn	05 52 20.1	+1.4
	baz=188						
TWM1	**Shoushan**	**0.57**	**305**	*e*P	Pn	05 52 12.5	+1.9
	baz=305						
TSEB	**Hengchuen, Pin**	**0.59**	**183**	P	Pn	05 52 11.7	+0.9
	baz=184						
TSEB				*e*S	Sn	05 52 21.3	+1.9
	baz=184						
SGST	**Jiashian**	**0.67**	**331**	*i* P	Pn	05 52 12.9	+1.1
	baz=332						
SGST				S	Sn	05 52 23.6	+2.2
	baz=332						
STYT	**Tauyuan**	**0.69**	**346**	⇑ *i* P	Pn	05 52 13.0	+0.9
	baz=347						
STYT				*e*S	Sn	05 52 23.7	+1.9
	baz=347						
ELDTW	**Lidau**	**0.70**	**6**	P	Pn	05 52 13.5	+1.1
	baz=14						
ELDTW				*e*S	Sn	05 52 24.1	+1.8
	baz=14						
CHKT	**Chengkung**	**0.72**	**33**	*e*P	Pn	05 52 12.6	+0.1
	baz=35						
CHKT				S	Sn	05 52 23.0	+0.5
	baz=35						
LAY	**Lan-yu**	**0.73**	**128**	*e*P	Pn	05 52 11.4	-1.2
	baz=128						
LAY				*e*S	Sn	05 52 21.5	-1.2
	baz=128						
CHN3	**Shinhua**	**0.78**	**318**	*e*P	Pn	05 52 15.1	+1.8
	baz=318						
CHN3				*e*S	Sn	05 52 27.9	+4.0
	baz=318						
CHN1	**Nanshi**	**0.78**	**332**	*e*P	Pn	05 52 14.1	+0.8
	baz=332						
CHN1				S	Sn	05 52 25.9	+1.8
	baz=332						
WTP	**Ta-pu**	**0.81**	**339**	P	Pn	05 52 14.4	+0.7
	baz=339						
WTP				S	Sn	05 52 26.6	+1.9
	baz=339						
TAI1	**Yung-k'ang**	**0.85**	**310**	*e*P	Pn	05 52 15.0	+0.9
	baz=310						
TAI1				*e*S	Sn	05 52 27.6	+2.1
	baz=310						
TWK	**Hsinying**	**0.87**	**332**	P	Pn	05 52 15.6	+1.0
	baz=333						
TWK				S	Sn	05 52 27.9	+1.6
	baz=333						
CHN4	**Tsaushan**	**0.91**	**340**	P	Pn	05 52 15.6	+0.5
	baz=340						
CHN4				*e*S	Sn	05 52 29.9	+2.8
	baz=340						
TWF1	**Yuli**	**0.92**	**21**	*e*P	Pn	05 52 15.4	+0.2
	baz=34						
TWF1				*e*S	Sn	05 52 29.6	+2.3
	baz=34						
SCLT	**Jiali**	**0.96**	**315**	*e*P	Pn	05 52 17.3	+1.6
	baz=315						
SCLT				S	Sn	05 52 30.2	+1.9
	baz=315						
YUS	**Yu-Shan**	**0.99**	**1**	*i* P	Pn	05 52 17.8	+1.0
	baz=2.0						
YUS				*e*S	Sn	05 52 32.2	+2.1
	baz=2.0						
ALS	**Alishan**	**1.02**	**353**	*e*P	Pn	05 52 17.8	+0.9
	baz=340						
ALS				*e*S	Sn	05 52 33.0	+2.6
	baz=340						
EHY	**Hungye**	**1.07**	**19**	*e*P	Pn	05 52 19.8	+2.5
	baz=30						
EHY				S	Sn	05 52 32.6	+1.6
	baz=30						
CHY	**Chiayi**	**1.10**	**335**	*e*P	Pn	05 52 18.3	+0.6
	baz=335						
CHY				*e*S	Sn	05 52 33.6	+1.8
	baz=335						
CHN2	**Minshiung**	**1.12**	**338**	*e*P	Pn	05 52 19.2	+1.4
	baz=338						
CHN2				*e*S	Sn	05 52 34.2	+2.2
	baz=338						
CHN5	**Tsauling**	**1.12**	**348**	*e*P	Pn	05 52 18.9	+0.8
	baz=349						
CHN5				S	Sn	05 52 34.8	+2.3
	baz=349						
SMLT	**Sun Moon Lake**	**1.39**	**359**	*e*P	Pn	05 52 22.6	+0.9
	baz=1.0						
SMLT				*e*S	Sn	05 52 43.3	+4.4
	baz=1.0						
ESL	**Shilin**	**1.39**	**19**	*e*P	Pn	05 52 23.3	+1.6
	baz=33						
ESL				*e*S	Sn	05 52 41.8	+3.0
	baz=33						
WNT	**Mingjian**	**1.40**	**351**	*e*P	Pn	05 52 22.9	+1.2
	baz=338						
WDGT	**Dungji**	**1.40**	**303**	*e*P	Pn	05 52 21.4	-0.2
	baz=302						
WDGT				*e*S	Sn	05 52 38.1	-0.9
	baz=302						
TYC	**Yuchr**	**1.41**	**357**	P	Pn	05 52 22.7	+0.9
	baz=346						
TYC				*e*S	Sn	05 52 42.9	+3.8
	baz=346						
PNG	**Penghu**	**1.66**	**310**	*e*P	Pn	05 52 24.3	-0.9
	baz=310						
WHF	**Hehuan Shan**	**1.67**	**10**	*e*P	Pn	05 52 27.4	+1.4
	baz=13						
WHF				*e*S	Sn	05 52 49.0	+2.3
	baz=13						
TWD	**Chiawan**	**1.69**	**21**	*e*P	Pn	05 52 27.7	+2.0
	baz=24						
TWD				*e*S	Sn	05 52 47.9	+1.7
	baz=24						
TWQ1	**Liyutan**	**1.85**	**355**	*e*P	Pn	05 52 29.1	+1.2
	baz=345						
TWQ1				*e*S	Sn	05 52 52.7	+2.5
	baz=345						
NSTT	**Nanjuang**	**2.13**	**2**	*e*P	Pn	05 52 33.9	+2.2
	baz=351						
NSK	**Sanguang**	**2.21**	**10**	*e*P	Pn	05 52 35.4	+2.5
	baz=14						
NSK				*e*S	Sn	05 53 00.5	+1.5
	baz=14						
ENTT	**Nioudou**	**2.22**	**15**	*e*P	Pn	05 52 36.4	+3.5
	baz=30						
TWC	**Suao**	**2.27**	**22**	*e*P	Pn	05 52 35.4	+1.8
	baz=26						
TWC				*e*S	Sn	05 53 02.3	+1.9
	baz=26						

NNC 30 06:18:26.8±14.0, 54°05N×86°64E, h0km, mb3.7, mpv3.2, 6C-2D, Error ellipse: s-maj=114.9km s-min=64.0km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**6.04**	**239**	⇓Pn	Pn	06 20 01.6	+4.3
	2.3nm,0.7s,baz=53,slow=13						
KURBB				⇑Sn	Sn	06 21 13.5	+6.3
	15nm,0.7s,baz=52,slow=21						
KURBB				⇑Lg	Lg	06 21 43.2	
	21nm,0.7s,baz=43,slow=29						
MK31	**Makanchi Array**	**7.78**	**203**	⇑Pn	Pn	06 20 23.8	+2.5
	0.6nm,0.6s,baz=30,slow=14,SNR=12						
MK31				⇑Sn	Sn	06 21 53.0	+2.9
	1.4nm,0.8s,baz=197,slow=8.9,SNR=6.8						
MK31				⇑Lg	Lg	06 22 32.4	
	5.3nm,0.8s,baz=31,slow=31,SNR=3.0						
VOSK	**Vostochnaya**	**9.46**	**268**	⇓Pn	Pn	06 20 47.3	+3.1
	3.2nm,1.1s						
VOSK				⇑Sn	Sn	06 22 35.1	+4.0
	8.7nm,0.8s						

FUNV 30 06:27:06.5, 10°27N×69°46W, h2km, MW3.5, 3D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEPV	**Terepaima**	**0.40**	**139**	⇓ *e*P	Pg	06 27 14.3	0.0
TEPV				*e*S	Sg	06 27 20.2	+0.6
SIQV	**Siquisique**	**0.51**	**318**	⇓ *e*P	Pg	06 27 16.1	-0.2
SIQV				*e*S	Sg	06 27 23.9	+0.9
CURV	**Curarigua**	**0.56**	**243**	*e*P	Pg	06 27 16.8	-0.5
CURV				*e*S	Sg	06 27 25.4	+0.7
JACV	**Jacura**	**1.02**	**37**	*e*P	Pg	06 27 26.0	-0.1
JACV				*e*S	Sb	06 27 40.3	-0.6
QARV	**Quebrada Arrib**	**1.05**	**267**	*e*P	Pg	06 27 26.7	-0.1
MAPV	**Macapo**	**1.08**	**114**	*e*P	Pg	06 27 26.6	-0.7
MAPV				*e*S	Sg	06 27 41.5	+0.2
DABV	**Dabajuro**	**1.32**	**299**	*e*P	Pg	06 27 31.7	-0.2
DABV				*e*S	Sb	06 27 49.7	0.0
MONV	**Montecano**	**1.75**	**343**	⇓ *e*P	Sn	06 27 36.8	-1.1
MONV				*e*S	Sn	06 27 59.7	-1.1
BAUV	**El Baul**	**1.92**	**133**	*e*P	Pn	06 27 40.3	-0.1
BAUV				*e*S	Sn	06 28 04.0	-1.2
VIGV	**El Vigia**	**2.36**	**233**	*e*P	Pn	06 27 45.8	-0.6
SOCV	**Socops**	**2.41**	**215**	*e*P	Pn	06 27 46.9	-0.2
SOCV				*e*S	Sn	06 28 15.8	-1.4
FUNV	**FUNVISIS**	**2.61**	**85**	*e*P	Pn	06 27 49.6	-0.4
VIRV	**Villa del Rosa**	**2.91**	**275**	*e*P	Pn	06 27 53.4	-0.5
VIRV				*e*S	Sn	06 28 27.1	-2.4
BIRV	**Birongo**	**3.15**	**86**	*e*P	Pn	06 27 56.0	-1.2
ELOV	**Elorza**	**3.25**	**180**	*e*P	Pn	06 27 58.1	-0.5
CUPV	**Cœpira**	**3.62**	**93**	*e*P	Pn	06 28 03.2	-0.6
CAPV	**Capacho**	**3.70**	**230**	*e*P	Pn	06 28 03.6	-1.5
PCRV	**Puerto La Cruz**	**4.75**	**91**	*e*P	Pn	06 28 18.1	-1.2

*ISCJB **30** 06:38:43.9±0.6, 11°.68S±0°.08×75°.04W±0°.06, h9km, mb3.8/6, MS3.6/2, Error ellipse: s-maj=11.0km s-min=8.6km az=7.3*
*IDC **30** 06:38:44.0±0.8, 11°.64S×75°.12W, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.8/21, mbtmp3.8/8, ML3.8/2, MS3.4/3, Ms1 3.4/3, ms1mx2.9/25, Error ellipse: s-maj=21.1km s-min=12.1km az=4.0*
*NEIC **30** 06:38:49.1±0.5, 11°.76S×75°.14W, h35km, mb4.1/2, ML4.0(ARE), Error ellipse: s-maj=11.6km s-min=7.6km az=47.0*
NEIC Felt [III] at Huancayo.

ISC 30 06:38:45.5±0.7, 11°.68S±0°.10×75°.12W±0°.08, h9km, n25, σ0°75/23, mb3.9/6, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.71**	**260**	Pn	**Pn**	**06 39 15.2**	**-0.3**
NNA				Lg	Lg	06 39 38.5	
NNA	**Nana**	**1.71**	**260**	Pn	**Pn**	**06 39 15.2**	**-0.3**
	42nm,0.3s,baz=82,slow=15,SNR=183						
NNA				Lg	Lg	06 39 38.5	
	180nm,0.3s,baz=230,slow=9.8,SNR=32						
NNA				LR	LR	06 39 39.5	
	comp=Z,425nm,20.1s,baz=138,slow=32						
ATAH	**Atahualpa**	**5.55**	**324**	Pn	Pn	06 40 12.9	+4.1
ATAH	**Atahualpa**	**5.55**	**324**	Pn	Pn	06 40 12.9	+4.1
	9.4nm,0.3s,baz=158,slow=5.7,SNR=58						
LPAZ	**La Paz**	**8.19**	**125**	Pn	**Pn**	**06 40 45.4**	**+0.3**
LPAZ				Lg	Lg	06 43 03.4	
LPAZ	**La Paz**	**8.19**	**125**	Pn	**Pn**	**06 40 45.4**	**+0.3**
	0.5nm,0.3s,baz=293,slow=8.2,SNR=26						
LPAZ				Lg	Lg	06 43 03.4	
	0.3nm,0.3s,baz=18,slow=19,SNR=3.6						
SAML	**Samuel**	**12.06**	**78**	*e*Pn	Pn	06 41 32.9	-4.7
	6.8nm,0.6s						
SAML				*e*Sn	**Sn**	**06 43 51.6**	**-0.8**
SIV	**San Ignacio**	**14.30**	**109**	Pn	**Pn**	**06 42 08.7**	**+0.3**
SIV	**San Ignacio**	**14.30**	**109**	Pn	**Pn**	**06 42 08.7**	**+0.3**
	0.2nm,0.3s,baz=310,slow=16,SNR=4.0						
SIV				LR	LR	06 47 35.3	
	comp=Z,66nm,19.5s,slow=37						
LCO	**Las Campanas**	**17.73**	**167**	*e*Pn	**Pn**	**06 42 51.8**	**-1.2**
	23nm,1.3s						
CFAA	**Coronel Fontan**	**20.82**	**163**	P	**P**	**06 43 27.8**	**+0.4**
CFAA	**Coronel Fontan**	**20.82**	**163**	P	**P**	**06 43 27.8**	**+0.4**
	0.2nm,1.0s,baz=343,slow=16,SNR=3.9						
SDV	**Santo Domingo**	**20.92**	**13**	*e*P	**P**	**06 43 29.9**	**+1.1**
	7.5nm,0.9s						
BDFB	**Brasilia**	**26.62**	**102**	P	**P**	**06 44 25.6**	**+0.9**
BDFB	**Brasilia**	**26.62**	**102**	P	**P**	**06 44 25.6**	**+0.9**
	2.1nm,0.8s,baz=207,slow=4.5,SNR=3.2						
BDFB				LR	LR	06 55 39.8	
	comp=Z,205nm,20.4s,baz=67,slow=38						
PLCA	**Paso Flores**	**29.21**	**173**	P	**P**	**06 44 48.2**	**+0.6**
PLCA	**Paso Flores**	**29.21**	**173**	P	**P**	**06 44 48.2**	**+0.6**
	1.5nm,0.7s,baz=0.0,slow=10,SNR=3.0						
TXAR	**Lajitas Array**	**49.21**	**327**	P	**P**	**06 47 34.6**	**+0.2**
TXAR	**Lajitas Array**	**49.21**	**327**	P	**P**	**06 47 34.6**	**+0.2**
	0.2nm,0.5s,baz=152,slow=9.0,SNR=6.1						
PDAR	**Pinedale Array**	**62.69**	**332**	P	**P**	**06 49 10.9**	**-0.1**
PDAR	**Pinedale Array**	**62.69**	**332**	P	**P**	**06 49 10.9**	**-0.1**
	0.2nm,0.5s,baz=126,slow=7.7,SNR=4.6						
DBIC	**Dimbokro**	**72.22**	**79**	P	**P**	**06 50 11.7**	**+0.1**
DBIC	**Dimbokro**	**72.22**	**79**	P	**P**	**06 50 11.7**	**+0.1**
	5.0nm,1.0s,baz=231,slow=1.5,SNR=4.3						
DBIC				LR	LR	07 22 27.0	
	comp=Z,28nm,20.1s,baz=36,slow=36						
TORD	**Torodi Ar. Bea**	**80.09**	**74**	P	**P**	**06 50 54.9**	**-1.5**
TORD	**Torodi Ar. Bea**	**80.09**	**74**	P	**P**	**06 50 54.9**	**-1.5**
	1.2nm,0.7s,baz=261,slow=5.1,SNR=5.4						

MEX 30 06:46:57.4±0.8, 17°.04N×100°.13W, h5km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.13**	**272**	*e*P	Pg	06 46 59.4	-0.8
CAIG				*i* S	Sg	06 47 02.4	+0.4
ACX	**Acapulco**	**0.31**	**124**	*e*P	Pg	06 47 02.3	-1.2
ACX				*i* S	Sg	06 47 06.1	-1.5
ARIG	**Puente Sto Nin**	**1.25**	**350**	*e*P	Pg	06 47 17.1	-4.3
ARIG				*i* S	Sg	06 47 33.8	-3.9
ZIIG	**Zihuatanejo**	**1.40**	**294**	*i* P	Pn	06 47 20.0	-3.5
ZIIG				*e*S	Sb	06 47 37.7	-4.4
PLIG	**Platanillo**	**1.47**	**24**	*e*P	Pn	06 47 20.4	-4.2
PLIG				*i* S	Sn	06 47 39.5	-4.9
PNIG	**Pinotepa**	**2.02**	**108**	*i* P	Pn	06 47 29.7	-2.5
PNIG				*i* S	Sn	06 47 54.3	-3.6
YAIG	**Yautepec**	**2.07**	**29**	*i* P	Pn	06 47 29.8	-3.3
YAIG				*i* S	Sn	06 47 55.3	-4.1
PPM	**Popocatepetl**	**2.47**	**35**	*e*P	Pn	06 47 36.4	-2.6
PPM				*i* S	Sn	06 48 04.6	-5.4
MMIG	**Aquila**	**3.31**	**292**	*i* P	Pn	06 47 50.4	+0.5

*ISCJB **30** 06:51:14.2±0.2, 61°.73N±0°.02×149°.98W±0°.04, h60km±3km, mb3.9/18, Error ellipse: s-maj=3.4km s-min=2.6km az=144.9*
*IDC **30** 06:51:14.9±1.3, 61°.78N×150°.23W, h56km±12km, mb3.6/14, mb1 3.9/19, mb1mx3.7/30, mbtmp3.7/19, MS3.1/8, Ms1 3.1/8, ms1mx2.8/41, Error ellipse: s-maj=12.6km s-min=8.6km az=107.0*
*NEIC **30** 06:51:15.7, 61°.73N×149°.97W, h38km, mb3.8/2, ML4.0(AEIC), After AEIC.*
NEIC Felt [II] at Anchorage, Chugiak, Eagle River, Palmer and Wasilla. Also felt at Fort Richardson, Girdwood, Moose Pass, Talkeetna and Willow.
*PGC **30** 06:51:19.8±19.0, 61°.64N×149°.06W, h10km, ML4.2/1, 64km Ene of Anchorage, Ak Southern Alaska*

ISC 30 06:51:14.9±0.4, 61°.71N±0°.02×150°.01W±0°.02, h50km±5km, n149, σ0°85/147, mb3.9/18, MS2.9/4, 4D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.43**	**235**	P	**Pn**	**06 51 25.2**	**-0.3**
PMR	**Palmer**	**0.43**	**106**	P	**Pn**	**06 51 24.3**	**-1.1**
PMR				S	**Sn**	**06 51 32.2**	**-0.6**
SKT	**Skwentna**	**0.77**	**291**	P	**Pn**	**06 51 28.8**	**-0.8**
SML	**Sawmill**	**0.80**	**82**	P	**Pn**	**06 51 29.1**	**-1.0**
SML				S	**Sn**	**06 51 41.4**	**+0.3**
STLK	**Strandline Lak**	**0.90**	**257**	P	**Pn**	**06 51 31.2**	**-0.2**
SPU	**Mount Spurr**	**1.12**	**243**	P	**Pn**	**06 51 34.4**	**+0.1**
SLKM	**Skilak Lake**	**1.21**	**185**	P	**Pn**	**06 51 35.5**	**0.0**
BGL	**Barrier Glacie**	**1.23**	**250**	P	**Pn**	**06 51 36.3**	**+0.4**
CKL	**Chakachamna La**	**1.23**	**246**	P	**Pn**	**06 51 36.1**	**+0.2**
SCM	**Sheep Creek Mo**	**1.28**	**83**	P	**Pn**	**06 51 36.3**	**-0.1**
SCM				S	**Sn**	**06 51 53.6**	**+1.0**
HUR	**Hurricane**	**1.28**	**8**	P	**Pn**	**06 51 36.6**	**+0.1**
BGRM	**Barrier Glacie**	**1.51**	**232**	P	**Pn**	**06 51 40.1**	**+0.5**
PPLA	**Purkeypile**	**1.57**	**320**	P	**Pn**	**06 51 40.3**	**-0.2**
PPLA				S	**Sn**	**06 51 59.9**	**+0.2**
RDT	**Redoubt**	**1.63**	**227**	P	**Pn**	**06 51 42.0**	**+0.8**
GLI	**Glacier Island**	**1.63**	**119**	P	**Pn**	**06 51 41.3**	**+0.1**
DFR	**Drift River**	**1.72**	**230**	P	**Pn**	**06 51 43.4**	**+0.9**
TRF	**Thorofare Moun**	**1.75**	**356**	P	**Pn**	**06 51 42.6**	**-0.4**
JPK	**Jack Peak**	**1.77**	**110**	P	**Pn**	**06 51 43.3**	**+0.2**
RND	**Reindeer**	**1.78**	**17**	P	**Pn**	**06 51 43.5**	**+0.1**
RND				S	**Sn**	**06 52 06.2**	**+1.3**
NCT	**North Crescent**	**1.83**	**232**	P	**Pn**	**06 51 45.0**	**+1.1**
RSO	**Redoubt South**	**1.83**	**228**	*e*Pn	**Pn**	**06 51 45.1**	**+1.0**
DHY	**Denali Highway**	**1.84**	**41**	P	**Pn**	**06 51 44.2**	**0.0**
DHY				S	**Sn**	**06 52 07.4**	**+1.0**
RDWB	**Redoubt West**	**1.84**	**230**	P	**Pn**	**06 51 45.5**	**+1.2**
VLZ	**Valdez**	**1.86**	**107**	P	**Pn**	**06 51 44.2**	**-0.1**
KTH	**Kantishna Hill**	**1.90**	**348**	P	**Pn**	**06 51 45.4**	**+0.5**
FID	**Port Fidalgo**	**1.96**	**118**	P	**Pn**	**06 51 45.4**	**-0.3**
KLU	**Klutina**	**1.96**	**95**	P	**Pn**	**06 51 46.0**	**+0.2**
CAST	**Castle Rocks**	**1.97**	**332**	P	**Pn**	**06 51 45.9**	**+0.1**
BRLK	**Bradley Lake**	**2.00**	**193**	P	**Pn**	**06 51 46.4**	**+0.1**
MCK	**McKinley**	**2.09**	**13**	P	**Pn**	**06 51 48.2**	**+0.7**
DIV	**Divide**	**2.12**	**104**	P	**Pn**	**06 51 47.8**	**-0.1**
HOM	**Homer**	**2.21**	**202**	P	**Pn**	**06 51 50.2**	**+1.1**
IVE	**Iliamna Volcan**	**2.25**	**222**	P	**Pn**	**06 51 51.0**	**+1.2**
CNPM	**China Poot**	**2.27**	**196**	P	**Pn**	**06 51 50.1**	**+0.1**
EYAK	**Cordova Ski Ar**	**2.37**	**118**	P	**Pn**	**06 51 51.3**	**0.0**
HARP	**HAARP**	**2.39**	**71**	P	**Pn**	**06 51 52.6**	**+1.1**
PAX	**Paxson**	**2.46**	**57**	P	**Pn**	**06 51 53.8**	**+1.2**
OPT	**Oil Point**	**2.60**	**219**	P	**Pn**	**06 51 55.9**	**+1.3**
BMRM	**Bremner River**	**2.71**	**104**	P	Pn	06 51 57.4	+1.4
SVW2	**Sparrevohn**	**2.75**	**260**	P	**Pn**	**06 51 56.7**	**+0.2**
GOAT	**Goat Mountain**	**2.80**	**112**	P	**Pn**	**06 51 56.9**	**-0.3**
AUE	**Augustine Isla**	**2.89**	**217**	P	**Pn**	**06 51 59.9**	**+1.5**
AUNW	**Augustine NWes**	**2.90**	**218**	P	**Pn**	**06 52 00.0**	**+1.5**
WRH	**Wood River Hil**	**2.91**	**17**	P	**Pn**	**06 51 59.0**	**+0.4**
AUW	**Augustine West**	**2.91**	**218**	P	Pn	06 52 00.6	+1.9
NEA	**Nenana**	**2.91**	**8**	P	**Pn**	**06 51 58.7**	**+0.1**
RAGM	**Ragged Mountai**	**2.91**	**115**	P	**Pn**	**06 51 58.6**	**-0.2**
MID	**Middleton Isla**	**2.92**	**140**	*e*Pn	**Pn**	**06 51 59.8**	**+1.0**
HDA	**Harding Lake**	**3.04**	**26**	P	**Pn**	**06 52 01.1**	**+0.7**
TTG	**Tatalina**	**3.05**	**296**	P	**Pn**	**06 52 00.1**	**-0.2**
MENT	**Mentasta**	**3.18**	**64**	*e*Pn	**Pn**	**06 52 03.0**	**+0.5**
VRDI	**Verde Repeater**	**3.18**	**96**	P	**Pn**	**06 52 02.2**	**-0.4**
NICHA	**Nichawak Mount**	**3.29**	**114**	P	**Pn**	**06 52 03.5**	**-0.4**
**MCN

BM3	**Burnt Mountain**	**6.18**	**20**	P		**Pn**	**06 52 44.0**	**+0.5**
WHY	**Whitehorse**	**7.39**	**92**	⇑Pn		**Pn**	**06 52 59.4**	**-0.7**
WHY				⇑Sn		**Sn**	**06 54 18.8**	**-3.6**
WHY	**Whitehorse**	**7.39**	**92**	P		**Pn**	**06 53 00.7**	**+0.6**
SKAG	**Skagway**	**7.57**	**101**	P		**Pn**	**06 53 01.9**	**-0.6**
INK	**Inuvik**	**9.58**	**39**	⇑Pn		Pn	06 53 31.4	+1.5
INK				⇑Sn		**Sn**	**06 55 16.2**	**+0.2**
INK	**Inuvik**	**9.58**	**39**	P		**Pn**	**06 53 30.1**	**+0.1**
INK	**Inuvik**	**9.58**	**39**	P		**Pn**	**06 53 30.6**	**+0.6**
	1.2nm,0.3s,baz=232,slow=17,SNR=26							
INK				S		**Sn**	**06 55 16.8**	**+0.8**
	2.1nm,0.3s,baz=278,slow=17,SNR=7.0							
INK				LR		LR	06 57 28.6	
	comp=Z,130nm,18.4s,baz=251,slow=39							
DLBC	**Dease Lake**	**10.49**	**99**	⇑Pn		**Pn**	**06 53 43.5**	**+1.0**
DLBC	**Dease Lake**	**10.49**	**99**	P		Pn	06 53 45.1	+2.6
DLBC	**Dease Lake**	**10.49**	**99**	P		Pn	06 53 45.1	+2.6
	0.3nm,0.3s,baz=355,slow=9.7,SNR=6.0							
DLBC				LR		LR	06 57 56.3	
	comp=Z,150nm,21.2s,baz=133,slow=38							
FNBB	**Fort Nelson**	**13.63**	**90**	⇓P		**Pn**	**06 54 24.8**	**-0.5**
RQMN	**Roman Lake**	**14.66**	**66**	⇑P		**Pn**	**06 54 38.4**	**-0.6**
GALN	**Gameti Lake**	**14.99**	**66**	⇑P		Pn	06 54 45.1	+1.9
BBB	**Bella Bella**	**15.21**	**119**	LR		LR	07 00 46.5	
	comp=Z,82nm,18.1s,baz=169,slow=37							
CTLN	**Castor Lake**	**15.52**	**65**	⇓P		**Pn**	**06 54 50.4**	**+0.2**
YKA	**Yellowknife Ar**	**16.46**	**72**	P		**Pn**	**06 55 01.9**	**-0.2**
YKA	**Yellowknife Ar**	**16.46**	**72**	P		**Pn**	**06 55 01.9**	**-0.2**
	0.2nm,0.3s,baz=278,slow=10.0,SNR=5.1							
EDM	**Edmonton**	**21.20**	**97**	*eP*		**P**	**06 55 57.8**	**+1.8**
FX1	**Attu Island--F**	**21.49**	**263**	*eP*		**P**	**06 56 00.4**	**+1.3**
FX1	**Attu Island--F**	**21.49**	**263**	P		**P**	**06 55 58.9**	**-0.1**
	1.2nm,0.3s,baz=308,slow=1.9,SNR=14							
NEW	**Newport**	**22.86**	**111**	P		**P**	**06 56 13.4**	**-0.3**
NEW	**Newport**	**22.86**	**111**	P		**P**	**06 56 13.4**	**-0.3**
	1.1nm,0.5s,baz=325,slow=7.7,SNR=3.8							
NEW				LR		LR	07 05 44.0	
	comp=Z,40nm,18.5s,baz=294,slow=38							
BMO	**Blue Mountains**	**25.42**	**116**	*eP*		**P**	**06 56 38.7**	**+1.1**
	2.1nm,0.8s							
YBH	**Yreka Blue Hor**	**25.85**	**128**	P		**P**	**06 56 42.5**	**+1.0**
YBH	**Yreka Blue Hor**	**25.85**	**128**	P		**P**	**06 56 42.5**	**+1.0**
	0.9nm,0.6s,baz=331,slow=4.0,SNR=4.8							
YBH				LR		LR	07 04 52.7	
	comp=Z,35nm,20.2s,baz=16,slow=32							
MFID	**Camas Ranch**	**27.21**	**116**	*eP*		**P**	**06 56 55.2**	**+1.4**
	2.0nm,0.9s							
PETK	**Petropavlovsk-**	**28.70**	**277**	LR		LR	07 07 48.4	
	comp=Z,24nm,20.3s,baz=235,slow=35							
NVAR	**Mina Array Bea**	**30.39**	**125**	P		**P**	**06 57 23.3**	**+1.0**
NVAR				PcP		**PcP**	**07 00 19.9**	**-0.9**
NVAR	**Mina Array Bea**	**30.39**	**125**	P		**P**	**06 57 23.3**	**+1.0**
	2.0nm,0.8s,baz=305,slow=8.7,SNR=19							
NVAR				PcP		**PcP**	**07 00 19.9**	**-0.9**
	0.4nm,0.7s,baz=301,slow=0.9,SNR=4.0							
PDAR	**Pinedale Array**	**30.48**	**110**	P		**P**	**06 57 24.4**	**+1.4**
PDAR				PcP		**PcP**	**07 00 19.5**	**-1.5**
PDAR	**Pinedale Array**	**30.48**	**110**	P		**P**	**06 57 24.4**	**+1.4**
	0.2nm,0.5s,baz=345,slow=5.1,SNR=3.7							
PDAR				PcP		**PcP**	**07 00 19.5**	**-1.5**
	0.5nm,0.4s,baz=132,slow=2.0,SNR=6.9							
TXAR	**Lajitas Array**	**44.30**	**115**	P		**P**	**06 59 19.4**	**-0.2**
TXAR				PcP		**PP**	**07 01 02.8**	**-0.7**
TXAR	**Lajitas Array**	**44.30**	**115**	P		**P**	**06 59 19.4**	**-0.2**
	0.3nm,0.6s,baz=304,slow=5.8,SNR=3.9							
TXAR				PcP		**PP**	**07 01 02.8**	**-0.7**
	0.4nm,0.5s,baz=107,slow=1.3,SNR=9.9							
ARCES	**ARCESS Array B**	**49.00**	**2**	PcP		**PcP**	**07 01 17.2**	**-1.8**
ARCES	**ARCESS Array B**	**49.00**	**2**	PcP		**PcP**	**07 01 17.2**	**-1.8**
	0.8nm,0.6s,baz=353,slow=4.9,SNR=4.4							
CN2	**Changchun**	**50.27**	**290**	*eP*		P	07 00 09.0	+3.2
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
KSRS	**Korea Array**	**54.22**	**284**	P		**P**	**07 00 33.7**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=30,slow=7.6,SNR=4.2							
KSRS				LR		LR	07 27 31.6	
	comp=Z,11nm,19.0s,baz=240,slow=40							
KSAR	**Wonju Array Be**	**54.24**	**284**	P		**P**	**07 00 33.7**	**-1.6**
SONM	**Songino Array**	**54.95**	**307**	P		**P**	**07 00 39.8**	**-0.7**
SONM	**Songino Array**	**54.95**	**307**	P		**P**	**07 00 39.8**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=15,slow=8.0,SNR=4.7							
ZALV	**Zalesovo Beam**	**56.84**	**325**	P		P	07 00 51.0	-2.7
ZALV	**Zalesovo Beam**	**56.84**	**325**	P		P	07 00 51.0	-2.7
	comp=Z,1.3nm,0.3s,baz=5.7,slow=6.0,SNR=4.1							
FINES	**FINESS Array B**	**57.13**	**2**	P		P	07 00 53.3	-2.4
FINES	**FINESS Array B**	**57.13**	**2**	P		P	07 00 53.3	-2.4
	comp=Z,0.7nm,0.6s,baz=1.1,slow=9.5,SNR=3.8							
MKAR	**Makanchi Array**	**63.98**	**323**	P		P	07 01 40.5	-2.1
MKAR	**Makanchi Array**	**63.98**	**323**	P		P	07 01 40.5	-2.1
	comp=Z,0.9nm,0.5s,baz=39,slow=6.7,SNR=18							
WMQ	**Urumqi**	**65.01**	**318**	*eP*		P	07 01 54.8	+5.4
LZH	**Lanzhou**	**65.90**	**302**	*eP*		P	07 01 59.3	+3.9
LZH				pP		pP	07 02 04.0	-5.4
LZH				sP		sP	07 02 06.3	-8.8
LZH				pmax		pmax		
	comp=Z,10.0nm,1.0s							
ESDC	**Sonseca Array**	**75.28**	**26**	P		**P**	**07 02 51.7**	**-0.6**
ESDC	**Sonseca Array**	**75.28**	**26**	P		**P**	**07 02 51.7**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=340,slow=6.8,SNR=3.5							
BRTR	**Keskin Array B**	**78.87**	**357**	P		**P**	**07 03 10.9**	**-1.6**
BRTR	**Keskin Array B**	**78.87**	**357**	P		**P**	**07 03 10.9**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=21,slow=0.7,SNR=3.8							
CMAR	**Chiang Mai Arr**	**83.44**	**297**	P		**P**	**07 03 36.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**83.44**	**297**	P		**P**	**07 03 36.1**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=14,slow=5.3,SNR=5.2							
BOSA	**Boshof**	**146.75**	**8**	PKPbc		**PKPdf**	**07 10 49.9**	**+0.8**
BOSA	**Boshof**	**146.75**	**8**	PKPbc		**PKPdf**	**07 10 49.9**	**+0.8**
	comp=Z,2.4nm,0.6s,baz=329,slow=3.0,SNR=8.5							

NNC 30 06:51:32.8±4.9, 54.03N×86.45E, h0km, mb3.7, mpv3.3, 4C-2D, Error ellipse: s-maj=42.8km s-min=32.3km az=77.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**5.93**	**238**	⇑Pn	Pn	06 52 59.8	-2.0
	2.8nm,0.5s						
KURBB				⇑Sn	Sn	06 54 13.8	+3.3
	4.8nm,0.7s						
KURBB				⇓Lg	Lg	06 54 42.3	
	8.1nm,0.7s						
MK31	**Makanchi Array**	**7.72**	**202**	⇑Pn	Pn	06 53 30.1	+3.8
	0.4nm,0.5s,baz=29,slow=12,SNR=12						
MK31				Sn	Sn	06 54 59.9	+5.4
	0.6nm,0.7s,baz=26,slow=26,SNR=3.2						
MK31				Lg	Lg	06 55 37.0	
	2.3nm,0.8s,baz=31,slow=30,SNR=3.6						
VOSK	**Vostochnaya**	**9.34**	**268**	⇑Pn	Pn	06 53 45.5	-3.0
	1.0nm,0.4s						
VOSK				⇓Sn	Sn	06 55 26.4	-7.9
	3.4nm,0.7s						

*NEIC **30** 07:15:19.1, 30.70S×71.29W, h42km, MD4.2(GUC), After GUC.*

GUC 30 07:15:19.1±0.5, 30.70S×71.29W, h42km±2km, MD4.2, ML3.9, 8C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.54**	**153**	⇑*i*P	Pn	07 15 30.7	+0.1
CMCH				*i* S	Sn	07 15 39.4	+0.8
CMCH	**Combarbala**	**0.54**	**153**	⇑*i*P	Pn	07 15 30.7	+0.1
CMCH				*i* S	Sn	07 15 39.4	+0.8
CMCH				AML	AML	07 15 40.5	
	comp=E,29μm,0.7s						
TLL	**Tololo Astrono**	**0.67**	**38**	⇓*i*P	Pn	07 15 36.3	+3.7
TLL				*i* S	Sn	07 15 47.0	+4.8
TLL	**Tololo Astrono**	**0.67**	**38**	⇓*i*P	Pn	07 15 36.3	+3.7
TLL				*i* S	Sn	07 15 47.0	+4.8
TLL				AML	AML	07 15 48.8	
	comp=N,2μm,0.4s						
PTCH	**Petorca**	**1.59**	**169**	*eP*	Pn	07 15 45.6	+0.8
PTCH				*eS*	Sn	07 16 05.9	+1.6
PTCH	**Petorca**	**1.59**	**169**	*eP*	Pn	07 15 45.6	+0.8
PTCH				*eS*	Sn	07 16 05.9	+1.6
PTCH				AML	AML	07 16 11.0	
	comp=E,3μm,0.7s						
LCO	**Las Campanas**	**1.75**	**17**	*e*Pn	Pn	07 15 48.4	+1.0
LCO				*e*Sn	Sn	07 16 11.7	+2.9
LCO	**Las Campanas**	**1.75**	**17**	⇓*i*P	Pn	07 15 48.5	+1.1
LCO				*i* S	Sn	07 16 10.9	+2.2
LCO				AML	AML	07 16 13.8	
	comp=E,806nm,0.4s						
JACH	**Jahuel**	**2.07**	**164**	*eP*	Pn	07 15 52.9	+1.4
JACH	**Jahuel**	**2.07**	**164**	*eP*	Pn	07 15 52.9	+1.4
PEL	**Peldehue**	**2.49**	**168**	⇑*i*P	Pn	07 15 58.4	+1.1
PEL				AML	AML	07 16 41.1	
	comp=N,872nm,0.3s						
CLCH	**Cerro Calan**	**2.77**	**167**	*eP*	Pn	07 16 02.3	+1.2
CLCH				AML	AML	07 16 48.7	
	comp=N,743nm,0.6s						
ANTU	**Antumapu**	**2.92**	**169**	*eP*	Pn	07 16 04.1	+1.0
ANTU				*i* S	Sn	07 16 38.1	+1.1
ANTU	**Antumapu**	**2.92**	**169**	*eP*	Pn	07 16 04.1	+1.0
ANTU				*i* S	Sn	07 16 38.1	+1.1
ANTU				AML	AML	07 16 53.8	
	comp=E,359nm,0.6s						
TACH	**Talagante**	**2.96**	**174**	⇑*i*P	Pn	07 16 04.5	+0.8
TACH				*i* S	Sn	07 16 39.0	+1.0
TACH	**Talagante**	**2.96**	**174**	⇑*i*P	Pn	07 16 04.5	+0.8
TACH				*i* S	Sn	07 16 39.0	+1.0
PCH	**Pirque**	**2.99**	**168**	⇑*i*P	Pn	07 16 05.6	+1.4
PCH				*eS*	Sn	07 16 40.1	+1.3
PCH	**Pirque**	**2.99**	**168**	⇑*i*P	Pn	07 16 05.6	+1.4
PCH				*eS*	Sn	07 16 40.1	+1.3
LMEL	**Las Melosas**	**3.27**	**164**	P	Pn	07 16 10.2	+2.0
LMEL	**Las Melosas**	**3.27**	**164**	⇑*i*P	Pn	07 16 10.2	+2.0
LMEL				AML	AML	07 17 04.4	
	comp=N,307nm,0.2s						
CPCH	**Copiapo**	**3.42**	**14**	*eP*	Pn	07 16 10.9	+0.9
CPCH	**Copiapo**	**3.42**	**14**	*eP*	Pn	07 16 10.9	+0.9
CACH	**El Canelo**	**3.46**	**171**	*eP*	Pn	07 16 12.3	+1.6
CACH	**El Canelo**	**3.46**	**171**	*eP*	Pn	07 16 12.3	+1.6

WEL 30 07:15:51.7±0.2, 45.59S×166.56E, h20km, ML3.6/16, 2C-1D, Error ellipse: s-maj=1.8km s-min=0.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.44**	**75**	⇑P*	Pg	07 16 00.2	-0.5
DCZ				S*	Sg	07 16 05.2	-1.5
DCZ				AML	AML	07 16 06.2	
DCZ				AML	AML	07 16 06.5	
DCZ				AML	AML	07 16 06.5	
WHZ	**Wether Hill Ro**	**1.02**	**108**	P*	Pb	07 16 10.5	-0.2
WHZ				S*	Sb	07 16 23.3	-0.4
WHZ				AML	AML	07 16 31.2	
MLZ	**Mavora Lakes**	**1.16**	**79**	⇓PN	Pn	07 16 11.9	-1.1
MLZ				SN	Sb	07 16 26.6	-1.4
MLZ				AML	AML	07 16 27.1	
MSZ	**Milford Sound**	**1.34**	**47**	PN	Pn	07 16 14.7	-0.6
MSZ				SN	Sg	07 16 34.8	-0.2
MSZ				AML	AML	07 16 36.3	
MSZ				AML	AML	07 16 40.1	
MSZ				AML	AML	07 16 40.1	
APZ	**The Paps**	**1.59**	**142**	PN	Pn	07 16 18.6	-0.3
APZ				SN	Sn	07 16 39.3	+0.4
WKZ	**Wanaka**	**1.90**	**67**	PN	Pb	07 16 24.7	-1.1
WKZ				AML	AML	07 16 53.9	
WKZ				AML	AML	07 17 02.0	
EAZ	**Earnscleugh**	**1.97**	**81**	⇑PN	Pb	07 16 25.7	-1.2
EAZ				AML	AML	07 16 55.4	
EAZ				AML	AML	07 16 58.4	
EAZ				AML	AML	07 16 59.7	
SYZ	**Scrubby Hill**	**2.03**	**119**	PN	Pb	07 16 27.6	-0.4
JCZ	**Jackson Bay**	**2.18**	**47**	PN	Pb	07 16 29.7	-1.0
JCZ				AML	AML	07 17 07.2	
JCZ				AML	AML	07 17 08.1	
TUZ	**Tuapeka**	**2.18**	**101**	PN	Pb	07 16 29.5	-1.0
TUZ				AML	AML	07 16 59.8	
TUZ				AML	AML	07 17 01.5	
LBZ	**Lake Benmore**	**2.84**	**66**	PN	Pn	07 16 38.1	+2.1
LBZ				AML	AML	07 16 46.9	
ODZ	**Otahua Downs**	**2.94**	**81**	PN	Pn	07 16 37.2	0.0
ODZ				AML	AML	07 17 33.3	
FOZ	**Fox Glacier**	**3.02**	**49**	PN	Pb	07 16 41.8	-3.0

WEL 30 07:18:42.0±0.5, 46.05S×165.90E, h27km±2km, ML3.6/16, Error ellipse: s-maj=5.1km s-min=2.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.04**	**57**	PN	Pn	07 19 00.1	-0.7
DCZ				AML	AML	07 19 14.8	
DCZ				AML	AML	07 19 14.9	
DCZ				AML	AML	07 19 15.9	
DCZ				AML	AML	07 19 16.0	
WHZ	**Wether Hill Ro**	**1.43**	**85**	PN	Pn	07 19 06.6	+0.4
WHZ				SN	Sb	07 19 25.1	-0.8
WHZ				AML	AML	07 19 30.9	
APZ	**The Paps**	**1.64**	**119**	PN	Pn	07 19 08.5	-0.6
APZ				SN	Sn	07 19 27.7	-1.7
MLZ	**Mavora Lakes**	**1.74**	**67**	PN	Pn	07 19 11.4	+0.9
MLZ				*e*SN	Sn	07 19 32.9	+1.2
MLZ				AML	AML	07 19 41.8	
MSZ	**Milford Sound**	**1.98**	**47**	*e*PN	Pn	07 19 14.5	+0.8
MSZ				AML	AML	07 19 57.2	
MSZ				AML	AML	07 19 57.2	
MSZ				AML	AML	07 20 00.5	
WKZ	**Wanaka**	**2.51**	**62**	PN	Pn	07 19 23.6	+2.5
WKZ				AML	AML	07 20 15.8	
WKZ				AML	AML	07 20 16.7	
EAZ	**Earnscleugh**	**2.52**	**72**	PN	Pn	07 19 23.4	+2.2
EAZ				AML	AML	07 20 02.5	
EAZ				AML	AML	07 20 04.1	
TUZ	**Tuapeka**	**2.60**	**89**	PN	Pn	07 19 23.6	+1.4
TUZ				AML	AML	07 19 59.3	
TUZ				AML	AML	07 20 05.1	
JCZ	**Jackson Bay**	**2.82**	**47**	PN	Pn	07 19 27.8	+2.3
JCZ				AML	AML	07 20 17.3	
JCZ				AML	AML	07 20 20.0	
LBZ	**Lake Benmore**	**3.45**	**63**	PN	Pn	07 19 35.1	+1.2
LBZ				AML	AML	07 21 23.4	
ODZ	**Otahua Downs**	**3.48**	**75**	AML	AML	07 20 38.4	
ODZ				AML	AML	07 20 38.5	
WVZ	**Waitaha Valley**	**4.55**	**51**	PN	Pn	07 19 49.6	+0.5
DSZ	**Denniston Nort**	**6.05**	**47**	PN	Pn	07 20 10.4	+0.6

NNC 30 07:30:22.1±2.6, 53.96N×86.90E, h0km, mb3.8, mpv3.4, 5C-2D, Error ellipse: s-maj=22.6km s-min=17.0km az=80.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**6.13**	**240**	⇑Pn	Pn	07 31 54.0	+0.2
	4.4nm,0.5s						
KURBB				⇓Sn	Sn	07 33 06.6	+2.1
	4.0nm,0.4s						
KURBB				⇑Lg	Lg	07 33 36.7	
	20nm,0.8s						
MK31	**Makanchi Array**	**7.75**	**204**	⇓Pn	Pn	07 32 19.3	+3.1
	0.3nm,0.5s,baz=26,slow=14,SNR=31						
MK31				Sn	Sn	07 33 50.7	+6.0
	0.7nm,0.5s,baz=31,slow=14,SNR=9.3						
MK31				⇑Lg	Lg	07 34 26.1	
	8.6nm,0.9s,baz=26,slow=32,SNR=3.8						
VOSK	**Vostochnaya**	**9.61**	**269**	⇑Pn	Pn	07 32 39.2	-2.3
	1.3nm,0.6s						
VOSK				⇑Sn	Sn	07 34 22.4	-7.8
	7.1nm,1.1s						

*ISCJB **30** 07:34:00.2±0.4, 6.57N±0.06×123.80E±0.08, h550km, mb4.4/17, Error ellipse: s-maj=11.3km s-min=6.9km az=149.4*

*NEIC **30** 07:34:02.5±0.9, 6.56N×123.72E, h567km±12km, mb4.6/7, Error ellipse: s-maj=16.8km s-min=7.7km az=63.0*

*IDC **30** 07:34:03.1±1.2, 6.56N×123.76E, h577km±14km, mb3.8/12, mb1 3.9/13, mb1mx3.5/29, mbtmp3.8/13, Error ellipse: s-maj=24.6km s-min=7.8km az=66.0*

ISC 30 07:34:01.0±0.5, 6.49N±0.07×123.73E±0.10, h550km, n52, σ1s49/68, mb4.4/17, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**8.05**	**340**	P	**P**	**07 35 59.9**	**+0.6**
TGY	**Tagaytay City**	**8.05**	**340**	P	**P**	**07 35 59.9**	**+0.6**
	54nm,0.3s,baz=176,slow=5.2,SNR=7.3						
KSM	**Kuching**	**14.28**	**250**	*eP*	**P**	**07 37 05.0**	**+1.8**
	46nm,0.8s						
KSM				*eS*	**S**	**07 39 30.3**	**-3.0**
FITZ	**Fitzroy Crossi**	**24.50**	**176**	*eP*	**P**	**07 38 38.3**	**+0.9**
	2.3nm,0.3s						
FITZ				ScP	**ScP**	**07 44 41.2**	**-2.8**
FITZ	**Fitzroy Crossi**	**24.50**	**176**	P	**P**	**07 38 38.7**	**+1.2**
	2.3nm,0.4s,baz=28,slow=9.0,SNR=15						
FITZ				ScP	**ScP**	**07 44 41.2**	**-2.8**
	1.9nm,0.7s,baz=206,slow=17,SNR=5.9						
PSI	**Prapat**	**24.99**	**263**	P	**P**	**07 38 43.5**	**+1.5**
PSI	**Prapat**	**24.99**	**263**	P	**P**	**07 38 43.5**	**+1.5**
	16nm,0.7s,baz=102,slow=2.0,SNR=16						
CMAR	**Chiang Mai Arr**	**26.93**	**298**	P	**P**	**07 38 59.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**26.93**	**298**	P	**P**	**07 38 59.1**	**+0.3**
	2.8nm,0.6s,baz=113,slow=7.0,SNR=17						
WRAB	**Tennant Creek**	**28.26**	**159**	*eP*	**P**	**07 39 11.1**	**+0.6**
	20nm,0.6s						
WRA	**Warramunga Arr**	**28.26**	**159**	P	**P**	**07 39 11.2**	**+0.8**
WRA				S	**S**	**07 43 14.4**	**-4.0**
WRA				ScP	**ScP**	**07 44 52.5**	**-2.8**
WRA	**Warramunga Arr**	**28.26**	**159**	P	**P**	**07 39 11.2**	**+0.8**
	18nm,0.5s,baz=341,slow=9.2,SNR=220						
WRA				S	**S**	**07 43 14.4**	**-4.0**
	1.5nm,0.6s,baz=337,slow=15,SNR=6.3						
WRA				ScP	**ScP**	**07 44 52.5**	**-2.8**
	1.8nm,0.6s,baz=340,slow=2.9,SNR=14						
ASAR	**Alice Springs**	**31.57**	**162**	P	**P**	**07 39 40.5**	**+1.5**
ASAR				S	**S**	**07 44 09.1**	**-0.3**
ASAR				ScP	**ScP**	**07 45 03.2**	**-2.9**
ASAR	**Alice Springs**	**31.57**	**162**	P	**P**	**07 39 40.5**	**+1.5**
	14nm,0.3s,baz=339,slow=7.4,SNR=291						
ASAR				S	**S**	**07 44 09.1**	**-0.3**
	6.5nm,0.8s,baz=352,slow=23,SNR=22						
ASAR				ScP	**ScP**	**07 45 03.2**	**-2.9**
	1.5nm,0.5s,baz=339,slow=3.2,SNR=10						
CTAO	**Charters Tower**	**34.47**	**140**	*eP*	**P**	**07 40 05.7**	**+2.1**
	7.9nm,0.5s						
TAPN	**Taplejung**	**39.99**	**306**	*eP*	**P**	**07 40 49.5**	**+0.5**
	24nm,0.4s						
ODAN	**Odare**	**40.05**	**305**	*eP*	**P**	**07 40 49.9**	**+0.5**
	29nm,0.4s						
RAMN	**Ramite**	**40.73**	**304**	*eP*	**P**	**07 40 55.7**	**+0.8**
	31nm,0.7s						
JIRN	**Jiri**	**41.35**	**305**	*eP*	**P**	**07 41 00.4**	**+0.5**
	16nm,0.3s						
GUN	**Gumba**	**41.70**	**305**	*eP*	**P**	**07 41 03.0**	**+0.4**
	34nm,0.4s						
STKA	**Stephens Creek**	**41.78**	**157**	P	**P**	**07 41 04.3**	**+1.6**
STKA	**Stephens Creek**	**41.78**	**157**	P	**P**	**07 41 04.3**	**+1.6**
	11nm,0.4s,baz=334,slow=7.4,SNR=18						
PKI	**Pulchoki**	**41.95**	**305**	*eP*	**P**	**07 41 04.4**	**-0.2**
	8.7nm,0.3s						
PKIN	**Phulchoki**	**41.97**	**305**	*eP*	**P**	**07 41 04.5**	**-0.1**
	8.8nm,0.5s						
KKN	**Kakani**	**42.14**	**305**	*eP*	**P**	**07 41 05.9**	**-0.1**
	16nm,0.4s						
DMN	**Daman**	**42.22**	**304**	*eP*	**P**	**07 41 06.7**	**+0.1**
	14nm,0.6s						
KOLN	**Koldanda**	**43.51**	**304**	*eP*	**P**	**07 41 17.1**	**+0.5**
	41nm,0.3s						
DANN	**Dangsing**	**43.60**	**305**	*eP*	**P**	**07 41 17.8**	**+0.4**
	75nm,0.5s						
SONM	**Songino Array**	**43.78**	**343**	P	**P**	**07 41 18.8**	**+0.5**
SONM				PcP	**PcP**	**07 42 51.6**	**-1.1**
SONM	**Songino Array**	**43.78**	**343**	P	**P**	**07 41 18.8**	**+0.5**
	2.0nm,0.6s,baz=161,slow=8.1,SNR=11						
SONM				PcP	**PcP**	**07 42 51.6**	**-1.1**
	0.4nm,0.4s,baz=156,slow=3.9,SNR=4.0						
PYUN	**Piuthan**	**44.14**	**304**	*eP*	**P**	**07 41 22.1**	**+0.6**
	44nm,0.6s						
MKAR	**Makanchi Array**	**53.61**	**326**	P	**P**	**07 42 31.3**	**+0.3**
MKAR				PcP	**PcP**	**07 43 27.6**	**-1.1**
MKAR	**Makanchi Array**	**53.61**	**326**	P	**P**	**07 42 31.3**	**+0.3**
	10nm,0.5s,baz=121,slow=7.9,SNR=208						
MKAR				PcP	**PcP**	**07 43 27.6**	**-1.1**
	1.2nm,0.5s,baz=123,slow=4.1,SNR=5.3						
ULHL	**Ulahol**	**54.99**	**318**	P	**P**	**07 42 41.7**	**+0.7**
	SNR=5.1						
KZA	**Kyzart**	**55.58**	**317**	P	**P**	**07 42 46.5**	**+1.2**
	SNR=6.1						
TKM2	**Tokmak 2**	**55.72**	**319**	P	**P**	**07 42 46.6**	**+0.5**
	SNR=14						
TKM2	**Tokmak 2**	**55.72**	**319**	*eP*	**P**	**07 42 46.4**	**+0.4**
	4.0nm,0.3s						
TKM2				*eS*	**S**	**07 49 50.7**	**-0.7**
USP	**Ospenovka**	**56.59**	**318**	P	**P**	**07 42 52.3**	**+0.4**
	SNR=6.9						
AML	**Almayashu**	**56.65**	**317**	P	**P**	**07 42 53.6**	**+0.9**
	SNR=6.7						
ZALV	**Zalesovo Beam**	**56.80**	**334**	P	**P**	**07 42 52.1**	**-0.9**
ZALV	**Zalesovo Beam**	**56.80**	**334**	P	**P**	**07 42 52.1**	**-0.9**
	1.6nm,0.5s,baz=130,slow=4.4,SNR=4.7						
EKS2	**Erkin-Say**	**56.81**	**318**	P	**P**	**07 42 54.3**	**+0.8**

KELT	**Kelkit**	**0.68**	**326**	*i* P	**Pg**	**07 38 03.5**	**-2.6**
KELT				*i* S	**Sg**	**07 38 14.6**	**-0.5**
KELT	**Kelkit**	**0.68**	**326**	*i* P	**Pg**	**07 38 03.5**	**-2.6**
KELT				*i* S	**Sg**	**07 38 14.6**	**-0.5**
KOPT	**Kop Dagi**	**0.72**	**53**	*i* P	**Pg**	**07 38 04.3**	**-2.6**
KOPT				*i* S	**Sg**	**07 38 15.7**	**-0.8**
KOPT	**Kop Dagi**	**0.72**	**53**	*i* P	**Pg**	**07 38 04.3**	**-2.6**
PTK	**Pertek**	**0.75**	**202**	PG	**Pg**	**07 38 04.8**	**-2.6**
PTK				*e*SG	**Sg**	**07 38 16.9**	**-0.3**
PTK	**Pertek**	**0.75**	**202**	*i* Pg	**Pg**	**07 38 04.8**	**-2.6**
PTK				*e*Sg	**Sg**	**07 38 16.9**	**-0.3**
BAYT	**Ayd¯–ntepe-Bay**	**0.86**	**20**	PG	**Pg**	**07 38 06.6**	**-3.0**
BAYT	**Ayd¯–ntepe-Bay**	**0.86**	**20**	*i* Pg	**Pg**	**07 38 06.6**	**-3.0**
GUMT	**Gumushane**	**0.90**	**347**	*e*PG	**Pg**	**07 38 07.4**	**-2.9**
GUMT	**Gumushane**	**0.90**	**347**	*e*Pg	**Pg**	**07 38 07.4**	**-2.9**
BINT	**Bingol**	**0.91**	**141**	*e*Pg	**Pg**	**07 38 08.3**	**-2.2**
ILIC	**ilic-Erzincan**	**0.92**	**262**	*e*PG	**Pg**	**07 38 08.2**	**-2.5**
ILIC				*e*SG	**Sg**	**07 38 21.9**	**-0.9**
ILIC	**ilic-Erzincan**	**0.92**	**262**	*e*Pg	**Pg**	**07 38 08.2**	**-2.5**
ILIC				*e*Sg	**Sg**	**07 38 21.9**	**-0.9**
BNGB	**Bing¨ll**	**0.94**	**129**	*e*PG	**Pg**	**07 38 08.3**	**-2.6**
KEMA	**Kemaliye**	**1.02**	**252**	*i* P	Pb	07 38 08.8	-3.6
KEMA				*i* S	**Sb**	**07 38 24.4**	**-1.4**
ELZG	**Elazig**	**1.24**	**209**	*i* P	**Pn**	**07 38 13.3**	**-2.6**
ELZG				*i* S	**Sn**	**07 38 32.5**	**-0.1**
BNGL	**BINGOL**	**1.26**	**120**	*i* P	**Pn**	**07 38 14.2**	**-2.0**
BNGL				*i* S	**Sb**	**07 38 32.9**	**+0.2**
EZM	**Erzurum**	**1.28**	**75**	*e*PN	**Pn**	**07 38 14.6**	**-2.1**
ERZM	**Erzurum**	**1.29**	**75**	*i* P	**Pn**	**07 38 14.4**	**-2.3**
ERZM				*e*S	**Sb**	**07 38 31.4**	**-2.2**
ERZM	**Erzurum**	**1.29**	**75**	*i* P	**Pn**	**07 38 14.4**	**-2.3**
ERZM				*e*S	**Sb**	**07 38 31.4**	**-2.2**
SUSE	**Susehri**	**1.34**	**298**	*i* P	**Pn**	**07 38 15.3**	**-2.0**
SUSE				*i* S	**Sb**	**07 38 34.3**	**-0.8**
SUSE	**Susehri**	**1.34**	**298**	*i* P	**Pn**	**07 38 15.3**	**-2.0**
SUSE				*i* S	**Sb**	**07 38 34.3**	**-0.8**
MACK	**Trabzon**	**1.36**	**1**	*i* P	**Pn**	**07 38 15.7**	**-1.8**
MACK				*i* S	**Sn**	**07 38 34.5**	**-0.8**
MACK	**Trabzon**	**1.36**	**1**	*i* P	**Pn**	**07 38 15.7**	**-1.8**
MACK				*i* S	**Sn**	**07 38 34.5**	**-0.8**
ESPY	**Espiye-Giresun**	**1.54**	**330**	*e*PN	**Pn**	**07 38 19.0**	**-1.0**
ESPY	**Espiye-Giresun**	**1.54**	**330**	*e*Pn	**Pn**	**07 38 19.0**	**-1.0**
MYA	**Malataya**	**1.63**	**220**	*e*PN	**Pn**	**07 38 19.9**	**-1.3**
MYA	**Malataya**	**1.63**	**220**	*e*Pn	**Pn**	**07 38 19.9**	**-1.3**
HOMI	**Horasan**	**1.72**	**74**	*i* P	**Pn**	**07 38 22.1**	**-0.6**
HOMI				*i* S	**Sg**	**07 38 48.6**	**+0.2**
DIY	**Diyarbakir**	**1.73**	**167**	*e*PN	**Pn**	**07 38 22.8**	**+0.2**
DIY	**Diyarbakir**	**1.73**	**167**	*e*Pn	**Pn**	**07 38 22.8**	**+0.2**
PZAR	**Pazar-Rize**	**1.82**	**29**	*e*PN	**Pn**	**07 38 23.1**	**-0.7**
PZAR	**Pazar-Rize**	**1.82**	**29**	*e*Pn	**Pn**	**07 38 23.1**	**-0.7**
RSDY	**Resadiye-TOKAT**	**2.03**	**294**	*e*PN	**Pn**	**07 38 26.4**	**-0.3**
RSDY	**Resadiye-TOKAT**	**2.03**	**294**	*e*Pn	**Pn**	**07 38 26.4**	**-0.3**
DARE	**Darende-Malaty**	**2.03**	**241**	*e*PN	**Pn**	**07 38 26.7**	**-0.1**
SCER	**sogukcermik**	**2.04**	**279**	*i* P	**Pn**	**07 38 26.9**	**0.0**
SCER				*i* S	**Sb**	**07 38 55.1**	**0.0**
SCER	**sogukcermik**	**2.04**	**279**	*i* P	**Pn**	**07 38 26.9**	**0.0**
SCER				*i* S	**Sb**	**07 38 55.1**	**0.0**
BEST	**Besiri**	**2.07**	**144**	*i* P	**Pn**	**07 38 28.6**	**+1.3**
BEST				*i* S	**Sb**	**07 38 57.4**	**+1.6**
SVSK	**Karacayir**	**2.15**	**280**	*e*PN	**Pn**	**07 38 28.2**	**0.0**
SVSK	**Karacayir**	**2.15**	**280**	*e*Pn	**Pn**	**07 38 28.2**	**0.0**
MAZI	**Mazidag**	**2.19**	**165**	*e*PN	**Pn**	**07 38 28.5**	**-0.5**
MAZI	**Mazidag**	**2.19**	**165**	*e*Pn	**Pn**	**07 38 28.5**	**-0.5**
DAGI	**Agillar**	**2.23**	**47**	*i* P	**Pn**	**07 38 29.5**	**0.0**
DAGI				*i* S	**Sb**	**07 39 00.8**	**+0.3**
TATV	**Tatvan**	**2.24**	**118**	*i* P	**Pn**	**07 38 29.9**	**+0.2**
TATV				*i* S	**Sb**	**07 39 01.8**	**+1.0**
TATV	**Tatvan**	**2.24**	**118**	*i* P	**Pn**	**07 38 29.9**	**+0.2**
URFA	**Urfa**	**2.26**	**199**	*e*PN	**Pn**	**07 38 30.0**	**+0.1**
URFA	**Urfa**	**2.26**	**199**	*e*Pn	**Pn**	**07 38 30.0**	**+0.1**
DBOC	**Borcka**	**2.29**	**39**	*i* P	**Pn**	**07 38 30.2**	**0.0**
DBOC				*i* S	**Sb**	**07 39 01.9**	**-0.2**
DBOC	**Borcka**	**2.29**	**39**	*i* P	**Pn**	**07 38 30.2**	**0.0**
ARTV	**Artvin**	**2.31**	**45**	*i* P	**Pn**	**07 38 30.5**	**-0.2**
ARTV				*i* S	**Sb**	**07 39 01.8**	**-1.1**
ARTV	**Artvin**	**2.31**	**45**	*i* P	**Pn**	**07 38 30.5**	**-0.2**
BCA	**Borcka**	**2.34**	**37**	*e*PN	**Pn**	**07 38 30.0**	**-1.0**
BCA	**Borcka**	**2.34**	**37**	*e*Pn	**Pn**	**07 38 30.0**	**-1.0**
TUTA	**Tutak**	**2.38**	**93**	*i* P	**Pn**	**07 38 31.4**	**-0.3**
TUTA				*i* S	**Sb**	**07 39 07.0**	**+2.1**
TUTA	**Tutak**	**2.38**	**93**	*i* P	**Pn**	**07 38 31.4**	**-0.3**
ATAB	**Bozova**	**2.40**	**209**	*i* P	**Pn**	**07 38 31.9**	**+0.1**
ATAB				*i* S	**Sb**	**07 39 03.5**	**-1.9**
ATAB	**Bozova**	**2.40**	**209**	*i* P	**Pn**	**07 38 31.9**	**+0.1**
ATAB				*i* S	**Sb**	**07 39 03.5**	**-1.9**
MARD	**Mardin**	**2.41**	**160**	*i* P	**Pn**	**07 38 31.4**	**-0.6**
MARD				*i* S	**Sb**	**07 39 03.9**	**-1.7**
AGRB	**Hanur-Agry**	**2.51**	**89**	*e*PN	**Pn**	**07 38 33.6**	**+0.2**
AGRB	**Hanur-Agry**	**2.51**	**89**	*e*Pn	**Pn**	**07 38 33.6**	**+0.2**
ERBA	**Erbaa**	**2.54**	**296**	*i* P	**Pn**	**07 38 33.8**	**0.0**
ERBA				*i* S	**Sb**	**07 39 10.4**	**+0.9**
ERBA	**Erbaa**	**2.54**	**296**	*i* P	**Pn**	**07 38 33.8**	**0.0**
TOKT	**Tokat**	**2.57**	**288**	*e*PN	**Pn**	**07 38 34.7**	**+0.6**
TOKT	**Tokat**	**2.57**	**288**	*e*Pn	**Pn**	**07 38 34.7**	**+0.6**
TOKA	**Tokat**	**2.62**	**287**	*i* P	**Pn**	**07 38 35.3**	**+0.5**
TOKA				*i* S	**Sg**	**07 39 15.5**	**-1.5**
TOKA	**Tokat**	**2.62**	**287**	*i* P	**Pn**	**07 38 35.3**	**+0.5**
KBSD	**Kabsdagh**	**2.66**	**166**	*e*P	**Pn**	**07 38 36.0**	**+0.7**
KBSD				*e*S	**Sb**	**07 39 11.1**	**-1.6**
KBSD				AML	AML	07 39 20.5	
	comp=Z,3µm,0.5s						
KBSD	**Kabsdagh**	**2.66**	**166**	*e*P	**Pn**	**07 38 33.6**	**-1.7**
KBSD				*e*S	**Sn**	**07 39 06.5**	**-0.8**
KBSD	**Kabsdagh**	**2.66**	**166**	*e*P	**Pn**	**07 38 36.0**	**+0.7**
	SNR=117						
KBSD				*e*S	**Sb**	**07 39 11.1**	**-1.6**
	comp=Z,3µm,0.5s,SNR=117						
SARI	**SarD1z-Kayseri**	**2.85**	**247**	*e*PN	**Pn**	**07 38 38.2**	**+0.1**
GEVA	**Gevas**	**2.88**	**115**	*i* P	**Pn**	**07 38 38.7**	**+0.2**
GEVA				*e*S	**Sb**	**07 39 22.4**	**+3.1**
GEVA	**Gevas**	**2.88**	**115**	*i* P	**Pn**	**07 38 38.7**	**+0.2**
SIRN	**S¨–rnak**	**2.95**	**134**	*i* P	**Pn**	**07 38 38.7**	**-0.7**
SIRN				*i* S	**Sg**	**07 39 24.6**	**-3.1**
SIRN	**S¨–rnak**	**2.95**	**134**	*i* P	**Pn**	**07 38 38.7**	**-0.7**
SIRT	**Sirnak**	**2.96**	**134**	*e*PN	**Pn**	**07 38 40.1**	**+0.5**
SIRT	**Sirnak**	**2.96**	**134**	*e*Pn	**Pn**	**07 38 40.1**	**+0.5**
KMRS	**Kahramanmaras**	**3.05**	**228**	*e*PN	**Pn**	**07 38 41.8**	**+1.1**
KMRS	**Kahramanmaras**	**3.05**	**228**	*e*Pn	**Pn**	**07 38 41.8**	**+1.1**
BNN	**Bunyan**	**3.12**	**258**	*e*PN	**Pn**	**07 38 42.2**	**+0.5**
BNN	**Bunyan**	**3.12**	**258**	*e*Pn	**Pn**	**07 38 42.2**	**+0.5**
AYKD	**Aykdinkavak**	**3.17**	**228**	*i* P	**Pn**	**07 38 41.8**	**-0.6**
AYKD				*i* S	**Sg**	**07 39 33.5**	**-1.1**
SFNV	**Sufian**	**3.17**	**175**	*e*P	**Pn**	**07 38 43.8**	**+1.3**
SFNV				*e*S	**Sb**	**07 39 25.7**	**-2.0**
SFNV				AML	AML	07 39 44.3	
	comp=Z,3µm,0.6s						
SFNV	**Sufian**	**3.17**	**175**	*e*P	**Pn**	**07 38 43.8**	**+1.3**
	SNR=113						
SFNV				*e*S	**Sb**	**07 39 25.7**	**-2.0**
	comp=Z,3µm,0.6s,SNR=113						
KVT	**Kavak**	**3.20**	**299**	*e*PN	**Pn**	**07 38 43.7**	**+0.9**
KVT	**Kavak**	**3.20**	**299**	*e*Pn	**Pn**	**07 38 43.7**	**+0.9**
CLDR	**Caldiran**	**3.26**	**96**	*e*PN	**Pn**	**07 38 44.2**	**+0.4**
CLDR	**Caldiran**	**3.26**	**96**	*e*Pn	**Pn**	**07 38 44.2**	**+0.4**
AKH	**Akhalkalaki**	**3.39**	**56**	P	**Pn**	**07 38 46.9**	**+1.4**
AKH				S	**Sb**	**07 39 30.4**	**-3.5**
AKH	**Akhalkalaki**	**3.39**	**56**	P	**Pn**	**07 38 46.9**	**+1.4**
HAVZ	**Havza**	**3.42**	**297**	*e*P	**Pb**	**07 38 50.5**	**-2.8**
HAVZ				*i* S	**Sb**	**07 39 38.0**	**+3.3**
YOZ	**Yozgat**	**3.42**	**272**	*e*PN	**Pn**	**07 38 46.4**	**+0.5**
YOZ	**Yozgat**	**3.42**	**272**	*e*Pn	**Pn**	**07 38 46.4**	**+0.5**
KUZU	**Kuzuini**	**3.51**	**218**	*i* P	**Pn**	**07 38 46.6**	**-0.5**
KUZU				*i* S	**Sg**	**07 39 44.1**	**-1.4**
KUZU	**Kuzuini**	**3.51**	**218**	*i* P	**Pn**	**07 38 46.6**	**-0.5**
CHVG	**Ch'k'valeri**	**3.59**	**29**	P	**Pn**	**07 38 48.4**	**+0.3**
CHVG				S	**Sn**	**07 39 34.2**	**+3.8**
CHVG	**Ch'k'valeri**	**3.59**	**29**	P	**Pn**	**07 38 48.4**	**+0.3**
KOZT	**Kozan**	**3.73**	**237**	*e*PN	**Pn**	**07 38 51.0**	**+1.0**
KOZT	**Kozan**	**3.73**	**237**	*e*Pn	**Pn**	**07 38 51.0**	**+1.0**
MZRK	**Al-Mazaregh**	**3.82**	**169**	*e*P	**Pn**	**07 38 51.1**	**-0.2**
MZRK				AML	AML	07 39 57.9	
	comp=N,2µm,0.6s						
MZRK	**Al-Mazaregh**	**3.82**	**169**	*e*P	**Pn**	**07 38 51.1**	**-0.2**
	SNR=110						
CUKT	**Cukurca**	**3.83**	**126**	*e*PN	**Pn**	**07 38 52.5**	**+1.0**
CUKT	**Cukurca**	**3.83**	**126**	*e*Pn	**Pn**	**07 38 52.5**	**+1.0**
GNI	**Garni**	**3.88**	**80**	*e*PN	**Pn**	**07 38 53.0**	**+0.8**
GNI	**Garni**	**3.88**	**80**	Pn	**Pn**	**07 38 53.3**	**+1.2**
	SNR=157						
GNI	**Garni**	**3.88**	**80**	Pn	**Pn**	**07 38 53.3**	**+1.0**
GNI				Pg	**Pb**	**07 39 02.3**	**+1.0**
GNI				*e*Sn	**Sn**	**07 39 36.2**	**-1.6**
GNI				Lg	Lg	07 39 57.1	
GNI	**Garni**	**3.88**	**80**	Pn	**Pn**	**07 38 53.3**	**+1.0**
	comp=N,1.0nm,0.3s,baz=3.4,slow=5.7,SNR=7.7						
GNI				Pg	**Pb**	**07 39 02.3**	**+1.0**
	comp=N,6.1nm,0.3s,baz=254,slow=4.5,SNR=38						
GNI				Lg	Lg	07 39 57.1	
	comp=N,3.6nm,0.3s,baz=220,slow=8.1,SNR=3.3						
GNI	**Garni**	**3.88**	**80**	*e*Pn	**Pn**	**07 38 53.1**	**+0.8**
GNI	**Garni**	**3.88**	**80**	P	**Pn**	**07 38 53.3**	**+1.0**
	comp=N,6.0nm,0.3s						
GNI	**Garni**	**3.88**	**80**	Pg	**Pb**	**07 39 02.3**	**+1.0**
CTKT	**Corum**	**3.94**	**287**	*i* P	**Pn**	**07 38 54.4**	**+1.3**
CTKT				*i* S	**Sg**	**07 39 57.4**	**-2.0**
CTKT	**Corum**	**3.94**	**287**	*i* P	**Pn**	**07 38 54.4**	**+1.3**
CORM	**Corum**	**3.98**	**280**	*e*PN	**Pn**	**07 38 54.8**	**+1.2**
CORM	**Corum**	**3.98**	**280**	*e*Pn	**Pn**	**07 38 54.8**	**+1.2**
KZR	**Kazreti**	**3.99**	**62**	P	**Pb**	**07 39 04.0**	**+1.1**
DIKM	**Dikmen**	**3.99**	**303**	*e*PN	**Pn**	**07 38 54.5**	**+0.9**
DIKM	**Dikmen**	**3.99**	**303**	*e*Pn	**Pn**	**07 38 54.5**	**+0.9**
SOC	**Sochi**	**4.00**	**360**	*d* iP	**Pn**	**07 38 53.1**	**-0.6**
SOC				*i*		07 39 41.4	
SOC				pmax	pmax		
	comp=Z,282nm,0.6s						
SOC				smax	smax		
	comp=N,1µm,0.6s						
SOC				smax	smax		
	comp=E,2µm,0.9s						
SOC				MLR	MLR		
	comp=Z,2µm,7.0s						
SOC				MLR	MLR		
	comp=N,1µm,7.0s						
SOC				MLR	MLR		
	comp=E,627nm,7.0s						
SOC	**Sochi**	**4.00**	**360**	*i* P	**Pn**	**07 38 53.1**	**-0.6**
	comp=E,1µm,0.6s						
SOC				*i* S	**Sn**	**07 39 41.4**	**+1.1**
	comp=E,1µm,7.0s						
JHLN	**Al Jahlan**	**4.04**	**195**	*e*P	**Pn**	**07 38 54.9**	**+0.5**
JHLN	**Al Jahlan**	**4.04**	**195**	*e*P	**Pn**	**07 38 54.9**	**+0.5**
	SNR=90						
CEYT	**Ceyhan**	**4.06**	**232**	*e*PN	**Pn**	**07 38 56.1**	**+1.5**
CEYT	**Ceyhan**	**4.06**	**232**	*e*Pn	**Pn**	**07 38 56.1**	**+1.5**
ONI	**Oni**	**4.10**	**42**	P	Sn	07 39 55.7	+13
ONI				S	**Sg**	**07 40 02.0**	**-2.6**
CDAG	**Cicekdag**	**4.15**	**272**	*i* P	**Pn**	**07 38 56.1**	**+0.1**
CDAG				*i* S	**Sg**	**07 40 02.4**	**-3.8**
CDAG	**Cicekdag**	**4.15**	**272**	*i* P	**Pn**	**07 38 56.1**	**+0.1**
BYBT	**Boyabat**	**4.24**	**298**	*e*PN	**Pn**	**07 38 58.1**	**+1.2**
BYBT	**Boyabat**	**4.24**	**298**	*e*Pn	**Pn**	**07 38 58.2**	**+1.2**
NIG	**Nigde**	**4.27**	**251**	*e*PN	**Pn**	**07 38 59.0**	**+1.3**
NIG	**Nigde**	**4.27**	**251**	*e*Pn	**Pn**	**07 38 59.0**	**+1.3**
KARA	**Karaisali**	**4.36**	**239**	*e*PN	**Pn**	**07 38 59.8**	**+1.1**
KARA	**Karaisali**	**4.36**	**239**	*e*Pn	**Pn**	**07 38 59.8**	**+1.1**
TBLG	**Delisi**	**4.36**	**59**	P	**Pn**	**07 38 59.4**	**+0.7**
TBLG	**Delisi**	**4.36**	**59**	P	**Pn**	**07 38 59.4**	**+0.7**
TBLG				S	**Sg**	**07 40 15.9**	**+3.1**
TBLG	**Delisi**	**4.36**	**59**	P	**Pn**	**07 38 59.4**	**+0.7**
BTCH	**Batrach**	**4.40**	**217**	*e*P	**Pn**	**07 38 59.5**	**+0.2**
BTCH				*e*S	**Sn**	**07 39 50.3**	**0.0**
BTCH	**Batrach**	**4.40**	**217**	*e*P	**Pn**	**07 38 59.5**	**+0.2**
	SNR=90						
BTCH				*e*S	**Sn**	**07 39 50.3**	**0.0**
	SNR=90						
ZEI	**Tsey**	**4.48**	**43**	*e*P	**Pn**	**07 39 00.6**	**+0.1**
ZEI				pmax	pmax		
	comp=Z,238nm,0.8s						
ZEI	**Tsey**	**4.48**	**43**	*e*P	**Pn**	**07 39 00.6**	**+0.1**
	comp=Z,238nm,0.8s						
HTY	**Hatay**	**4.49**	**221**	*e*PN	**Pn**	**07 39 01.4**	**+1.0**
HTY	**Hatay**	**4.49**	**221**	*e*Pn	**Pn**	**07 39 01.4**	**+1.0**
DUS	**Dusheti**	**4.51**	**55**	P	Pb	07 39 06.9	-5.1
KRTS	**Karatas**	**4.58**	**230**	*e*PN	**Pn**	**07 39 03.0**	**+1.3**
KRTS	**Karatas**	**4.58**	**230**	*e*Pn	**Pn**	**07 39 03.0**	**+1.3**
TOS	**Tosya**	**4.61**	**290**	*e*PN	**Pn**	**07 39 03.4**	**+1.2**
TOS	**Tosya**	**4.61**	**290**	*e*Pn	**Pn**	**07 39 03.4**	**+1.2**
DGRG	**David-gareji**	**4.67**	**65**	P	**Pn**	**07 39 05.1**	**+2.1**
DGRG				S	Sg	07 40 31.3	+8.4
DGRG	**David-gareji**	**4.67**	**65**	P	**Pn**	**07 39 05.1**	**+2.1**
KAMT	**Kaman**	**4.67**	**269**	*e*PN	**Pn**	**07 39 04.6**	**+1.5**
KAMT	**Kaman**	**4.67**	**269**	*e*Pn	**Pn**	**07 39 04.6**	**+1.5**
IMRD	**Marand**	**4.71**	**99**	*e*P	Pn	07 39 07.6	+3.9
IMRD	**Marand**	**4.71**	**99**	*e*P	Pn	07 39 07.6	+3.9
BRTR	**Keskin Array B**	**4.72**	**274**	Pn	**Pn**	**07 39 04.1**	**+0.4**
BRTR				Lg	Lg	07 40 29.4	
BRTR	**Keskin Array B**	**4.72**	**274**	Pn	**Pn**	**07 39 04.1**	**+0.4**
	comp=Z,6.0nm,0.3s,baz=104,slow=14,SNR=150						
BRTR				Lg	Lg	07 40 29.4	
	comp=Z,13nm,0.3s,baz=101,slow=26,SNR=6.3						
BRTR	**Keskin Array B**	**4.72**	**274**	P	**Pn**	**07 39 04.1**	**+0.4**
	comp=Z,6.0nm,0.3s						
ISHB	**Shabestar**	**4.76**	**104**	*e*P	**Pn**	**07 39 07.5**	**+3.1**
ISHB	**Shabestar**	**4.76**	**104**	*e*P	**Pn**	**07 39 07.5**	**+3.1**
KBZ	**Khabaz**	**4.76**	**29**	P	**Pn**	**07 39 05.2**	**+1.0**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KBZ				MLR	MLR		
	comp=Z,7µm,19.8s						
KBZ	**Khabaz**	**4.76**	**29**	Pn	**Pn**	**07 39 05.2**	**+1.0**
KBZ	**Khabaz**	**4.76**	**29**	Pn	**Pn**	**07 39 05.2**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=219,slow=12,SNR=22						
KBZ				LR	LR	07 41 13.7	
	comp=Z,7µm,19.8s,baz=328,slow=43						
KBZ	**Khabaz**	**4.76**	**29**	P	**Pn**	**07 39 05.2**	**+1.0**
	comp=Z,7µm,19.8s						
CANT	**Cankiri**	**4.81**	**284**	*e*PN	**Pn**	**07 39 06.2**	**+1.3**
ILGA	**Ilgaz**	**4.84**	**290**	*i* P	**Pn**	**07 39 07.2**	**+1.7**
ILGA				*e*S	**Sb**	**07 40 21.3**	**+5.6**
ILGA	**Ilgaz**	**4.84**	**290**	*i* P	**Pn**	**07 39 07.2**	**+1.7**
SLNF	**Sienfeh**	**4.87**	**216**	AML	AML	07 40 19.8	
	comp=E,209nm,0.7s						
SLNF				AML	AML	07 40 36.6	
	comp=N,646nm,0.7s						
KIV	**Kislovodsk**	**4.89**	**26**	*e*P	**Pn**	**07 39 07.1**	**+1.1**
KIV				*e*S	**Sn**	**07 40 02.8**	**+0.4**
KIV				pmax	pmax		
	comp=Z,158nm,1.1s						
KIV				MLR	MLR		
	comp=Z,1µm,8.0s						
KIV	**Kislovodsk**	**4.89**	**26**	*e*P	**Pn**	**07 39 07.1**	**+1.1**
	comp=Z,158nm,1.1s						
KIV				*e*S	**Sn**	**07 40 02.8**	**+0.4**
	comp=Z,1µm,8.0s						
BBAL	**Bala**	**5.12**	**272**	*i* P	**Pn**	**07 39 10.1**	**+0.8**
BBAL				*i* S	Sg	07 40 30.8	-6.4
BBAL	**Bala**	**5.12**	**272**	*i* P	**Pn**	**07 39 10.1**	**+0.8**
AFSR	**Af¨ar-Bala (A**	**5.17**	**271**	*e*PN	**Pn**	**07 39 10.8**	**+1.0**
AFSR	**Af¨ar-Bala (A**	**5.17**	**271**	*e*Pn	**Pn**	**07 39 10.8**	**+1.0**
IAZR	**Azarshahr**	**5.24**	**109**	*e*P	Pg	07 39 29.4	-3.8
ANTO	**Ankara**	**5.37**	**275**	*e*P	**Pn**	**07 39 10.0**	**-2.6**
ANTO				*e*		07 40 06.3	
ANTO				pmax	pmax		
	comp=Z,387nm,1.0s						
ANTO	**Ankara**	**5.37**	**275**	*e*Pn	**Pn**	**07 39 10.0**	**-2.6**
	comp=Z,387nm,1.0s						
ANTO				*e*Sn	Sn	07 40 06.3	-8.0
LOD	**Lodumlu**	**5.39**	**275**	*e*PN	**Pn**	**07 39 15.2**	**+2.3**
LOD	**Lodumlu**	**5.39**	**275**	*e*Pn	**Pn**	**07 39 15.2**	**+2.3**
ANN	**Anapa**	**5.49**	**342**	*e*P	**Pn**	**07 39 14.0**	**-0.1**
ANN				*e*S	**Sn**	**07 40 20.3**	**+3.3**
ANN				pmax	pmax		
	comp=Z,163nm,1.5s						
ANN				MLR	MLR		
	comp=Z,889nm,8.0s						
ANN	**Anapa**	**5.49**	**342**	*e*P	**Pn**	**07 39 14.0**	**-0.1**
	comp=Z,163nm,1.5s						
SAFT	**Safranbolu**	**5.64**	**289**	*e*PN	**Pn**	**07 39 18.7**	**+2.4**
SAFT	**Safranbolu**	**5.64**	**289**	*e*Pn	**Pn**	**07 39 18.7**	**+2.4**
IHRS	**Heris**	**5.82**	**100**	*e*P	Pn	07 39 22.9	+3.9
IKL	**Isikli**	**5.84**	**237**	*e*PN	**Pn**	**07 39 21.1**	**+2.0**
IKL	**Isikli**	**5.84**	**237**	*e*Pn	**Pn**	**07 39 21.1**	**+2.0**
LADK	**Ladik-KONYA**	**5.92**	**259**	*e*PN	**Pn**	**07 39 22.7**	**+2.4**
LADK	**Ladik-KONYA**	**5.92**	**259**	*e*Pn	**Pn**	**07 39 22.7**	**+2.4**
KONT	**Konya--Tatoy**	**6.00**	**256**	*e*PN	**Pn**	**07 39 23.5**	**+2.2**
KONT	**Konya--Tatoy**	**6.00**	**256**	*e*Pn	**Pn**	**07 39 23.5**	**+2.2**
HWQ	**Hawqa**	**6.11**	**211**	*e*P	**Pn**	**07 39 22.7**	**-0.1**
MARH	**Ras Al Marh**	**6.14**	**206**	*e*P	**Pn**	**07 39 24.3**	**+0.9**
KIZT	**Kizilcal**	**6.15**	**266**	*e*PN	**Pn**	**07 39 25.5**	**+2.1**
KIZT	**Kizilcal**	**6.15**	**266**	*e*Pn	**Pn**	**07 39 25.5**	**+2.1**
KERU	**Kerch**	**6.22**	**338**	*e*P	Pn	07 39 31.0	+6.9
SVRH	**Sivrihisar-ESK**	**6.36**	**271**	*e*PN	**Pn**	**07 39 28.3**	**+2.0**
SVRH	**Sivrihisar-ESK**	**6.36**	**271**	*e*Pn	**Pn**	**07 39 28.3**	**+2.0**
SUDU	**Sudak**	**6.36**	**328**	*e*P	**Pn**	**07 39 28.3**	**+2.1**
SUDU				*e*S	**Sn**	**07 40 40.4**	**+1.8**
SUDU	**Sudak**	**6.36**	**328**	*e*P	**Pn**	**07 39 28.3**	**+2.1**
SUDU				*e*S	**Sn**	**07 40 40.4**	**+1.8**
YAL	**Yalta**	**6.43**	**321**	*e*P	**Pn**	**07 39 29.8**	**+2.7**
YAL				*e*S	**Sn**	**07 40 44.6**	**+4.4**
LFK	**Lefkose**	**6.55**	**231**	*e*PN	**Pn**	**07 39 31.5**	**+2.7**
LFK	**Lefkose**	**6.55**	**231**	*e*Pn	**Pn**	**07 39 31.5**	**+2.7**
BHL	**Bhannes**	**6.55**	**211**	*e*P	**Pn**	**07 39 30.4**	**+1.5**
MDUB	**Mudurnu**	**6.62**	**280**	*e*PN	**Pn**	**07 39 32.3**	**+2.5**
MDUB	**Mudurnu**	**6.62**	**280**	*e*Pn	**Pn**	**07 39 32.3**	**+2.5**
SEV	**Sevastopol'**	**6.71**	**320**	*e*P	Pn	07 39 34.3	+3.4
SEV				*e*S	**Sn**	**07 40 51.5**	**+4.4**
MAK	**Makhachkala**	**6.75**	**58**	*e*P	**Pn**	**07 39 30.5**	**-0.9**
MAK				*e*S	**Sn**	**07 40 47.3**	**-0.7**
MAK				pmax	pmax		
	comp=Z,21nm,0.3s						
MAK				MLR	MLR		
	comp=Z,4µm,8.0s						
MAK	**Makhachkala**	**6.75**	**58**	*e*P	**Pn**	**07 39 30.5**	**-0.9**
	comp=Z,4µm,8.0s						
TOTH	**TOTAH**	**6.76**	**204**	*e*P	**Pn**	**07 39 33.8**	**+2.0**
TOTH				AML	AML	07 41 47.3	
	comp=N,104nm,0.8s						
TOTH				AML	AML	07 42 03.3	
	comp=E,129nm,0.9s						
TOTH	**TOTAH**	**6.76**	**204**	*e*P	**Pn**	**07 39 33.8**	**+2.0**
	SNR=101						
SIM	**Simferopol'**	**6.79**	**324**	P	Pn	07 39 37.6	+5.5
SIM				*e*S	Sn	07 40 56.6	+7.3
SIM				pmax	pmax		
	comp=Z,89nm

VSR MLR MLR
comp=Z,760nm,14.0s
VSR MLR MLR
comp=N,770nm,13.0s
VSR MLR MLR
comp=E,540nm,12.0s
VSR Storozhevoye 11.64 358 *e*P **Pn 07 40 35.3 -3.1**
comp=E,770nm,13.0s
MLR Muntele Rosu 11.76 305 Pn **Pn 07 40 42.4 +2.1**
MLR Muntele Rosu 11.76 305 ⇓*i*P Pn 07 40 43.7 +3.4
MLR Muntele Rosu 11.76 305 Pn **Pn 07 40 42.4 +2.1**
comp=E,0.0nm,0.3s,baz=108,slow=6.4,SNR=4.5
MLR Muntele Rosu 11.76 305 Pn **Pn 07 40 42.4 +2.1**
TESR Tescani 11.81 310 ⇓*i*P **Pn 07 40 43.1 +2.2**
IZEF Zefreh 12.15 119 *e*P **P 07 40 56.3 -2.2**
VOIR 12.31 303 ⇓*i*P **Pn 07 40 50.6 +2.8**
VOIR 12.31 303 ⇓*i*P Pn **07 40 50.6 +2.8**
ARR Arges 12.56 302 ⇓*i*P Pn 07 40 54.6 +3.5
LOT Lotru 13.15 302 ⇓*i*P **Pn 07 41 02.4 +3.1**
BURAR Bucovina Array 13.22 312 ⇑P **Pn 07 41 02.3 +2.0**
BURAR Bucovina Array 13.22 312 ⇑*i*P **Pn 07 41 02.3 +2.0**
BURAR Bucovina Array 13.22 312 ⇑*i*P **Pn 07 41 02.3 +2.0**
BUR08 Bucovina Ar. S 13.25 312 *e*Pn **Pn 07 40 57.9 -2.7**
BUR08 *e*Sn **Sn 07 43 23.6 -4.2**
KIEV Kiev 13.35 330 *e*P **Pn 07 40 59.3 -2.5**
KIEV *e* 07 43 28.4
KIEV Kiev 13.35 330 *e*Pn **Pn 07 40 59.3 -2.5**
KIEV *e*Sn **Sn 07 43 28.4 -1.6**
KIEV Kiev 13.35 330 *e*P **Pn 07 40 59.3 -2.5**
RLS Riolos of Patr 14.34 270 P **P 07 41 22.9 +0.5**
RLS Riolos of Patr 14.34 270 P **P 07 41 22.9 +0.5**
DRGR 14.35 306 ⇑P **Pn 07 41 18.4 +2.8**
DRGR 14.35 306 ⇑*i*P **Pn 07 41 18.4 +2.8**
AXS Araxos 14.38 270 P P 07 41 27.8 +4.9
SVIS Svilajnac 14.56 295 *e*Pn **Pn 07 41 21.0 +2.6**
IMEH Mehriz 14.60 119 *e*P **Pn 07 41 20.7 +1.5**
IPAR Pars 14.62 128 *e*P **Pn 07 41 18.1 -1.5**
BZS Buzias 14.64 300 ⇑P **P 07 41 22.8 -3.0**
BZS Buzias 14.64 300 ⇑*i*P **P 07 41 22.8 -3.0**
PHP Peshkopia 14.81 284 P **P 07 41 26.1 -1.7**
PHP Peshkopia 14.81 284 P **P 07 41 26.1 -1.7**
LKD2 Lefkada island 14.83 273 P **P 07 41 28.2 +0.2**
LKD2 Lefkada island 14.83 273 P **P 07 41 28.2 +0.2**
ISRV Sarvestan 14.98 129 *e*P **Pn 07 41 24.4 -0.2**
VLS Valsamata 14.99 271 P **P 07 41 30.5 +0.8**
VLS Valsamata 14.99 271 P **P 07 41 30.5 +0.8**
LVV L'vov 15.12 318 *e*P **P 07 41 30.0 -1.1**
LVV L'vov 15.12 318 *e*P **P 07 41 30.0 -1.1**
DIVS Divibare 15.39 293 P **Pn 07 41 30.1 +0.5**
DIVS Divibare 15.39 293 *e*Pn **Pn 07 41 29.4 -0.2**
UZH Uzhgorod 15.43 312 *e*P **Pn 07 41 29.0 -1.0**
UZH *e*S **Sn 07 44 20.2 -0.4**
UZH MLR MLR
comp=N,290nm,12.0s
UZH MLR MLR
comp=E,350nm,12.0s
UZH MLR MLR
comp=Z,280nm,12.0s
KOLS Kolonicke sedl 15.59 313 *e*P **P 07 41 37.3 +1.0**
KOLS pmax pmax
comp=Z,13nm,1.0s
KOLS Kolonicke sedl 15.59 313 *e*P **P 07 41 37.3 +1.0**
KOLS Kolonicke sedl 15.59 313 *e*P **P 07 41 37.3 +1.0**
comp=Z,13nm,1.0s
OBN Obninsk 15.68 353*c i*P **Pn 07 41 31.8 -1.4**
OBN *e*S **Sn 07 44 26.6 -0.1**
OBN pmax pmax
comp=Z,52nm,1.7s
OBN MLR MLR
comp=Z,600nm,21.0s
FGSL Fruska Gora 15.74 297 ⇑*i*Pn **Pn 07 41 35.7 +1.6**
BBLS Lazići 15.77 292 *e*Pn **Pn 07 41 34.7 +0.1**
ISRO Mashad 15.90 96 *e*P **Pn 07 41 36.9 +0.6**
PKSN Nyarlorinc 16.20 303 ⇑*e*Pn **P 07 41 46.1 +3.0**
MOS Moscow 16.22 356 *e*P **Pn 07 41 36.5 -3.7**
MOS *e*S **Sn 07 44 34.5 -5.3**
MOS pmax pmax
comp=Z,81nm,0.8s
MOS MLR MLR
comp=Z,700nm,13.0s
MOS pmax pmax
comp=Z,104nm,1.0s
PKS6 Bocsa 16.30 302 ⇑*e*Pn **P 07 41 47.0 +2.8**
PKS6 Bocsa 16.30 302 ⇑*e*P **P 07 41 47.0 +2.8**
STHS Stebnicka Huta 16.42 313 *e*P **P 07 41 46.6 +1.1**
STHS pmax pmax
comp=Z,86nm,2.7s
STHS Stebnicka Huta 16.42 313 *e*P **P 07 41 46.6 +1.1**
STHS Stebnicka Huta 16.42 313 *e*P **P 07 41 46.6 +1.1**
comp=Z,86nm,2.7s
KECS Kecovo 16.43 309 *e*P **P 07 41 46.2 +0.6**
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo 16.43 309 *e*P **P 07 41 46.2 +0.6**
KECS Kecovo 16.43 309 *e*P **P 07 41 46.2 +0.6**
comp=Z,2.0nm,0.9s
PKS2 Kecel 16.50 301 ⇑*e*Pn **P 07 41 49.2 +2.8**
PKS2 Kecel 16.50 301 ⇑*e*P **P 07 41 49.2 +2.8**
PSZ Piszkesteto 16.55 307 ⇓P **P 07 41 47.1 0.0**
PSZ Piszkesteto 16.55 307 *e*Pn **Pn 07 41 41.9 -2.6**
comp=Z,18nm,1.0s
PSZ Piszkesteto 16.55 307 ⇓*i*P **P 07 41 47.0 0.0**
PSZ Piszkesteto 16.55 307 ⇑*e*Pn **P 07 41 46.9 -0.2**
PSZ Piszkesteto 16.55 307 P **P 07 41 47.1 0.0**
PKS7 Kunszentmiklos 16.71 303 ⇑*e*Pn **P 07 41 48.7 0.0**
PKS7 Kunszentmiklos 16.71 303 ⇑*e*P **P 07 41 48.7 0.0**
RAYN Ar Rayn 16.74 161 *e*Pn **Pn 07 41 45.9 -1.1**
comp=Z,26nm,1.4s
RAYN Ar Rayn 16.74 161 *e*Pn **Pn 07 41 45.9 -1.1**
comp=Z,26nm,1.4s
PKSM Moragy 16.80 300 ⇑P **P 07 41 50.6 +0.9**
PKSM Moragy 16.80 300 ⇑*i*P **P 07 41 50.6 +0.9**
PKSM Moragy 16.80 300 ⇓*e*Pn **P 07 41 51.4 +1.7**
PKSM Moragy 16.80 300 P **P 07 41 50.6 +0.9**
AKTO Aktyubinsk 16.82 44 P **Pn 07 41 45.4 -2.5**
AKTO MLR MLR
comp=Z,982nm,19.0s
AKTO Aktyubinsk 16.82 44 Pn **Pn 07 41 45.4 -2.5**
AKTO Aktyubinsk 16.82 44 Pn **Pn 07 41 45.4 -2.5**
comp=Z,0.2nm,0.3s,baz=238,slow=14,SNR=13
AKTO LR LR 07 50 01.1
comp=Z,982nm,19.0s,baz=97,slow=43
AKTO Aktyubinsk 16.82 44 Pn **Pn 07 41 45.4 -2.5**
BUD Budapest 16.94 305 ⇓*e*Pn **P 07 41 52.9 +1.6**
BUD Budapest 16.94 305 ⇓*e*P **P 07 41 52.9 +1.6**
MNK Minsk 16.95 336 *e*P Pn 07 41 44.0 -5.4
NIE Niedzica 16.95 312 *e*P **P 07 41 50.7 -0.7**
NIE Niedzica 16.95 312 *e*P **P 07 41 50.7 -0.7**
NIE *e* 07 45 14.1
NIE Niedzica 16.95 312 *e*P **P 07 41 50.7 -0.7**
PKS9 Tamasi 17.14 301 ⇑*e*Pn **P 07 41 55.8 +2.3**
PKS9 Tamasi 17.14 301 ⇑*e*P **P 07 41 55.8 +2.3**
PKSG 17.32 304 ⇑*e*Pn **P 07 41 57.9 +2.5**
PKSG 17.32 304 ⇑*e*P **P 07 41 57.9 +2.5**
AB31 Akbulak array 17.32 49 *i*P **Pn 07 41 51.9 -2.2**
AB31 pmax pmax
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 17.32 49 *e*Pn **Pn 07 41 51.3 -2.8**
ABKAR Akbulak array 17.32 49 *e*Pn **Pn 07 41 51.3 -2.8**
CSKK Cs'‡kako 17.39 304 ⇓*e*Pn **P 07 41 59.5 +3.2**
VYHS Vyhne 17.43 308 *e*P **P 07 41 56.4 -0.3**
VYHS pmax pmax
comp=Z,15nm,1.5s
VYHS Vyhne 17.43 308 *e*P **P 07 41 56.4 -0.3**
VYHS Vyhne 17.43 308 *e*P **P 07 41 56.4 -0.3**
comp=Z,15nm,1.5s
PKST T"'s 17.50 303 *e*Pn **P 07 41 58.6 +1.1**
PKST T"'s 17.50 303 *e*P **P 07 41 58.6 +1.1**
NACGM Naroch 17.62 335 *e*P Pn 07 41 52.0 -5.8
OJC Ojcow 17.63 314 *e*P **Pn 07 41 55.8 -2.1**
OJC Ojcow 17.63 314 *e*P **P 07 42 02.8 +3.9**
comp=Z,16nm,1.1s
OJC Ojcow 17.63 314 *e*P **Pn 07 41 55.8 -2.1**
OJC *e* 07 45 24.5
TIP Timpagrande 17.77 276 *e*P **Pn 07 41 58.2 -1.7**
comp=Z,44nm,1.0s
IDID Didziasalis 17.98 335 *e*P **Pn 07 42 00.8 -1.4**
IDID AMB AMB 07 42 04.1
comp=Z,24nm,0.9s
IDID Didziasalis 17.98 335 *e*P **Pn 07 42 00.8 -1.4**
comp=Z,24nm,0.9s,SNR=35
BEHE Becsehely 18.11 300 *e*Sdiff **P 07 42 06.5 +2.2**
BEHE Becsehely 18.11 300 *e*P **P 07 42 06.5 +2.2**

IIGN Ignalina 18.18 335 *e*P **Pn 07 42 02.5 -2.1**
IIGN AMB AMB 07 42 06.3
comp=Z,18nm,1.1s
IIGN Ignalina 18.18 335 *e*P **Pn 07 42 02.5 -2.1**
comp=Z,18nm,1.1s,SNR=35
ISAL Salakas 18.39 335 *e*P **P 07 42 05.1 -2.1**
ISAL AMB AMB 07 42 08.2
comp=Z,9.6nm,0.9s
ISAL Salakas 18.39 335 *e*P **P 07 42 05.1 -2.1**
comp=Z,9.6nm,0.9s,SNR=35
OKC Ostrava-Krasne 18.40 311 *e*S **S 07 45 40.2 +3.1**
OKC AMS AMS 07 53 20.0
comp=Z,300nm,13.2s
OKC Ostrava-Krasne 18.40 311 S **S 07 45 40.2 +3.1**
IZAR Zarasai 18.50 335 *e*P **P 07 42 06.3 -2.1**
IZAR Zarasai 18.50 335 *e*P **P 07 42 06.3 -2.1**
SNR=34
CEL Celeste 18.60 274 *e*P **P 07 42 09.5 -0.2**
comp=Z,32nm,0.9s
CEL Celeste 18.60 274 *e*P **P 07 42 09.5 -0.2**
comp=Z,32nm,0.9s
MORC Moravsky Berou 18.73 310 *e*P **P 07 42 08.2 -2.8**
MORC pmax pmax
comp=Z,83nm,2.5s
MORC Moravsky Berou 18.73 310 *e*P **P 07 42 08.2 -2.8**
comp=Z,83nm,2.5s
MORC Moravsky Berou 18.73 310 *e*P **P 07 42 11.1 +0.1**
VRAC Vranov 19.11 308 P **P 07 42 13.8 -1.4**
VRAC Vranov 19.11 308 P **P 07 42 13.8 -1.4**
baz=122,slow=6.6,SNR=4.9
VRAC LR LR 07 51 24.1
comp=Z,184nm,19.0s,baz=120,slow=42
VRAC Vranov 19.11 308 P **P 07 42 13.8 -1.4**
comp=Z,184nm,19.0s
BANOM Banah 19.43 130 P **Pn 07 42 19.6 -0.5**
OBKA Obir 19.62 299 ⇑*i*pP **Pn 07 42 22.8 +0.5**
comp=Z,9.7nm,1.1s
OBKA Obir 19.62 299 P **Pn 07 42 22.8 +0.5**
comp=Z,9.7nm,1.1s
DPC Dobruska-Polom 19.68 311 *e*P **Pn 07 42 23.1 +0.2**
DPC *e*S **Sn 07 46 05.6 +2.0**
DPC Dobruska-Polom 19.68 311 *e*P **Pn 07 42 23.1 +0.2**
DPC *e*pP **pP 07 42 27.9 +2.6**
DPC *e*S **Sn 07 46 05.6 +2.0**
DPC AMS AMS 07 54 00.0
DPC Dobruska-Polom 19.68 311 *e*Pn **Pn 07 42 23.3 +0.4**
comp=Z,137nm,1.4s
DPC Dobruska-Polom 19.68 311 *e*Pn **Pn 07 42 23.3 +0.4**
comp=Z,137nm,1.4s
DPC S **Sn 07 46 05.6 +2.0**
NAZ Nazwa, Dubai 19.77 133 P **Pn 07 42 23.4 -0.7**
TREC Trest 19.78 307 *e*P **Pn 07 42 23.4 -0.7**
TREC MLR MLR
comp=Z,600nm,15.8s
TREC Trest 19.78 307 *e*P **Pn 07 42 23.4 -0.7**
TREC AMS AMS 07 52 10.0
comp=Z,600nm,15.8s
TREC Trest 19.78 307 *e*P **Pn 07 42 23.4 -0.7**
comp=Z,600nm,15.8s
ASUD Al Ashush, Dub 19.87 134 P **Pn 07 42 25.0 -0.3**
KSP Ksiaz 19.90 312 ⇑*e*P **P 07 42 24.4 +0.6**
KSP *e*S **Sn 07 46 09.0 +0.1**
KSP Ksiaz 19.90 312 *e*P **Pn 07 42 25.5 0.0**
KSP Ksiaz 19.90 312 *e*P **P 07 42 24.4 +0.6**
KSP *e*S **Sn 07 46 09.0 +0.1**
FAQ Al Faqa, Dubai 19.93 133 P **Pn 07 42 26.0 +0.1**
VOY Vojsko 19.98 297 *e*P **Pn 07 42 25.7 -0.9**
AQU L'Aquila 20.06 286 *e*P **P 07 42 23.6 -2.0**
comp=Z,109nm,1.2s
MOA Molln 20.12 303 ⇑*i*Pn Pn 07 42 27.2 -1.0
comp=Z,24nm,1.0s
MOA Molln 20.12 303 P Pn 07 42 27.2 -0.9
comp=Z,24nm,1.0s
HATD Hatta, Dubai 20.17 132 P **P 07 42 27.6 +0.7**
ASHO Ashiyiah 20.24 132 P **P 07 42 28.3 +0.6**
WDD Wield Dalam 20.27 267 *e*P **P 07 42 24.8 -3.1**
comp=Z,80nm,0.8s
KBA Koelnbreinsper 20.55 300 ⇑*i*Pn **P 07 42 32.0 +0.9**
comp=Z,55nm,0.9s
KBA Koelnbreinsper 20.55 300 P **P 07 42 32.0 +0.9**
comp=Z,55nm,0.9s
PRU Pruhonice 20.60 309 *e*P **P 07 42 32.0 +0.6**
PRU *e*S Sn 07 46 25.4 -0.3
PRU MLR MLR
comp=Z,500nm,12.8s
PRU Pruhonice 20.60 309 *e*P **P 07 42 32.0 +0.6**
PRU *e*S Sn 07 46 25.4 -0.3
PRU AMS AMS 07 52 40.0
comp=Z,500nm,12.8s
PRU Pruhonice 20.60 309 *e*P **P 07 42 32.0 +0.6**
comp=Z,500nm,12.8s
VSU Vasula 20.66 340 *e*P **P 07 42 31.9 -0.1**
VSU pmax pmax
comp=Z,60nm,0.9s
VSU Vasula 20.66 340 *e*P **P 07 42 31.9 -0.1**
comp=Z,60nm,0.9s
GEC2 GERESS Array S 20.75 305 *e*P **P 07 42 33.5 +0.3**
comp=Z,15nm,1.1s
GEC2 GERESS Array S 20.75 305 *e*P **P 07 42 33.5 +0.3**
GEC2 pmax pmax
comp=Z,15nm,1.1s
GEC2 GERESS Array S 20.75 305 *e*P **P 07 42 33.5 +0.3**
comp=Z,15nm,1.1s
GERES GERESS Array B 20.75 305 P **P 07 42 32.5 -0.7**
GERES PcP **PcP 07 46 41.8 -0.4**
GERES GERESS Array B 20.75 305 P **P 07 42 32.5 -0.7**
comp=Z,5.4nm,0.8s,baz=106,slow=9.8,SNR=23
GERES PcP **PcP 07 46 41.8 -0.4**
comp=Z,0.3nm,0.2s,baz=318,slow=1.8,SNR=3.5
GERES LR LR 07 51 33.7
comp=Z,324nm,20.1s,baz=112,slow=40
GERES GERESS Array B 20.75 305 P **P 07 42 32.5 -0.7**
comp=Z,5.0nm,0.8s
PVCC Panska Ves 20.78 310 *e*P **P 07 42 34.1 +0.7**
PVCC MLR MLR
comp=Z,400nm,10.3s
PVCC Panska Ves 20.78 310 *e*P **P 07 42 34.1 +0.7**
PVCC AMS AMS 07 53 10.0
comp=Z,400nm,10.3s
PVCC Panska Ves 20.78 310 *e*P **P 07 42 34.1 +0.7**
comp=Z,400nm,10.3s
KHC Kasperske Hory 20.91 306 *e*P **P 07 42 34.9 0.0**
KHC *e*S Sn 07 46 32.5 -0.9
KHC MLR MLR
comp=Z,400nm,12.4s
KHC Kasperske Hory 20.91 306 *e*P **P 07 42 34.9 0.0**
KHC *e*S Sn 07 46 32.5 -0.9
KHC AMS AMS 07 52 40.0
comp=Z,400nm,12.4s
KHC Kasperske Hory 20.91 306 *e*P **P 07 42 32.7 -2.2**
comp=Z,15nm,0.9s
KHC Kasperske Hory 20.91 306 *e*P **P 07 42 34.9 0.0**
comp=Z,400nm,12.4s
ARU Arti 20.92 30*d i*P **P 07 42 33.8 -1.0**
ARU PPP PPP 07 42 59.1
ARU S **S 07 46 27.5 +0.1**
ARU SS **SnSn 07 46 45.4 -2.6**
ARU SSS SSS 07 46 59.3
ARU pmax pmax
comp=Z,36nm,1.0s
ARU MLR MLR
comp=Z,874nm,16.0s
ARU Arti 20.92 30 *i*P **P 07 42 33.8 -1.0**
comp=Z,36nm,1.0s
RJOB Jochberg 21.05 302 *e*P **P 07 42 36.8 +0.4**
comp=Z,31nm,1.1s
PUL Pulkovo 21.06 347 *e*P **P 07 42 36.4 +0.1**
PUL pmax pmax
comp=Z,101nm,0.8s
PUL Pulkovo 21.06 347 *e*P **P 07 42 36.4 +0.1**
comp=Z,101nm,0.8s
BRG Berggiesshubel 21.28 311 *e*P **P 07 42 39.1 +0.4**
comp=Z,17nm,1.0s
BRG S Sn 07 46 41.0 -1.0
BRG
comp=N,375nm,16.6s
BRG
comp=E,609nm,19.2s
BRG
comp=Z,362nm,16.5s
BRG Berggiesshubel 21.28 311 *e*P **P 07 42 39.1 +0.4**
BRG S Sn 07 46 41.0 -1.0
BRG pmax pmax
comp=Z,17nm,1.0s
BRG MLR MLR
comp=N,375nm,16.6s
BRG MLR MLR
comp=E,609nm,19.2s
BRG MLR MLR
comp=Z,362nm,16.5s
BRG Berggiesshubel 21.28 311 *e*P **P 07 42 39.1 +0.4**
comp=Z,17nm,1.0s
BRVK Borovoye 24.80 47*d i*P **P 07 43 14.2 0.0**
BRVK pmax pmax
comp=Z,49nm,1.0s
BRVK Borovoye 24.80 47 P **P 07 43 14.7 +0.5**
SNR=19
BRVK Borovoye 24.80 47 *e*P **P 07 43 11.2 -3.0**
comp=Z,35nm,0.8s
CDF Champ du Feu 24.82 302 *e*P **P 07 43 13.7 -0.9**

comp=Z,42nm,1.3s
CDF Champ du Feu 24.82 302 *e*P **P 07 43 13.7 -0.9**
comp=Z,21nm,1.3s
MOF Molkenrain 24.83 300 *e*P **P 07 43 14.8 +0.1**
MOF Molkenrain 24.83 300 *e*P **P 07 43 14.8 +0.1**
BVAR Borovoye Array 24.85 47 P **P 07 43 14.7 0.0**
BVAR 07 46 50.8
BVAR pmax pmax
comp=Z,33nm,0.8s
BVAR pmax pmax
comp=Z,3.0nm,1.0s
BVAR MLR MLR
comp=Z,511nm,20.5s
BVAR Borovoye Array 24.85 47 P **P 07 43 14.7 0.0**
BVAR PcP **PcP 07 46 50.8 +0.4**
BVAR Borovoye Array 24.85 47 P **P 07 43 14.7 0.0**
comp=Z,32nm,0.8s,baz=235,slow=5.2,SNR=140
BVAR PcP **PcP 07 46 50.8 +0.4**
comp=Z,3.4nm,0.9s,baz=251,slow=4.5,SNR=4.0
BVAR LR LR 07 54 43.5
comp=Z,511nm,20.5s,baz=239,slow=41
ECH Echery 24.86 301 *e*P **P 07 43 14.5 -0.4**
ECH pmax pmax
comp=Z,19nm,1.1s
ECH Echery 24.86 301 *e*P **P 07 43 14.5 -0.4**
comp=Z,19nm,1.1s
ECH Echery 24.86 301 *e*P **P 07 43 15.0 +0.1**
ECH Echery 24.86 301 *e*P **P 07 43 15.0 +0.1**
MBDF Montbardon 24.87 293 *e*P **P 07 43 13.3 -1.9**
comp=Z,66nm,1.1s
MBDF Montbardon 24.87 293 *e*P **P 07 43 13.3 -1.9**
comp=Z,33nm,1.1s
LPG La Plagne 24.90 295 *e*P **P 07 43 15.2 -0.4**
comp=Z,30nm,0.8s
LPG La Plagne 24.90 295 *e*P **P 07 43 15.2 -0.4**
comp=Z,15nm,0.8s
LPL La Plagne 24.92 295 *e*P **P 07 43 15.8 +0.1**
comp=Z,40nm,1.0s
LPL La Plagne 24.92 295 *e*P **P 07 43 15.8 +0.1**
comp=Z,20nm,1.0s
BNI Bardonecchia 24.94 293 *e*P **P 07 43 13.2 -2.6**
BNI pmax pmax
comp=Z,34nm,1.1s
BNI Bardonecchia 24.94 293 *e*P **P 07 43 13.2 -2.6**
comp=Z,34nm,1.1s
LOMF Lomont 24.98 299 *e*P **P 07 43 16.7 +0.7**
LOMF Lomont 24.98 299 *e*P **P 07 43 16.7 +0.7**
FRF La Foret Royal 24.98 290 *e*P **P 07 43 15.2 -0.8**
comp=Z,20nm,0.8s
FRF La Foret Royal 24.98 290 *e*P **P 07 43 15.2 -0.8**
comp=Z,10nm,0.8s
RSL Roselend 25.00 295 *e*P **P 07 43 15.8 -0.5**
RSL Roselend 25.00 295 *e*P **P 07 43 15.8 -0.5**
HINF Hinteralfeld 25.02 300 *e*P **P 07 43 15.7 -0.6**
comp=Z,18nm,0.9s
HINF Hinteralfeld 25.02 300 *e*P **P 07 43 15.7 -0.6**
comp=Z,9.1nm,0.9s
VOSK Vostochnaya 25.08 48 P **P 07 43 16.4 -0.4**
VOSK pmax pmax
comp=Z,30nm,1.0s
LMR La Mourre 25.09 289 *e*P **P 07 43 16.0 -1.0**
comp=Z,66nm,1.4s
LMR La Mourre 25.09 289 *e*P **P 07 43 16.0 -1.0**
comp=Z,33nm,1.4s
HAU Haudompre 25.38 300 *e*P **P 07 43 20.1 +0.6**
HAU *e*R
comp=Z,405nm,19.2s
HAU Haudompre 25.38 300 *e*P **P 07 43 20.1 +0.6**
CABF La Chapelle 25.42 297 *e*P **P 07 43 19.2 -0.8**
comp=Z,76nm,1.1s
CABF La Chapelle 25.42 297 *e*P **P 07 43 19.2 -0.8**
comp=Z,38nm,1.1s
ORIF Oris-en-Rattie 25.51 293 *e*P **P 07 43 19.4 -1.5**
comp=Z,46nm,1.2s
ORIF *e*R
comp=Z,396nm,22.2s
ORIF Oris-en-Rattie 25.51 293 *e*P **P 07 43 19.4 -1.5**
comp=Z,23nm,1.2s
EKS2 Erkin-Say 25.72 72 *e*P **P 07 43 20.4 -2.4**
EKS2 pmax pmax
comp=Z,30nm,1.0s
EKS2 Erkin-Say 25.72 72 *e*P **P 07 43 20.4 -2.4**
comp=Z,30nm,1.0s
SMRF Simiane la Rot 25.74 291 *e*P **P 07 43 21.9 -1.1**
comp=Z,30nm,1.0s
SMRF Simiane la Rot 25.74 291 *e*P **P 07 43 21.9 -1.1**
comp=Z,15nm,1.0s
WLF Walferdange 25.75 304 P **P 07 43 23.7 +0.8**
comp=Z,9.4nm,1.1s
WLF Walferdange 25.75 304 P **P 07 43 23.7 +0.8**
comp=Z,9.4nm,1.1s
PAGF Fort de Pagny 25.86 302 *e*P **P 07 43 23.0 -0.9**
comp=Z,8.3nm,0.8s
PAGF Fort de Pagny 25.86 302 *e*P **P 07 43 23.0 -0.9**
comp=Z,4.2nm,0.8s
WTSB Winterswijk 25.86 310 *e*P **P 07 43 25.7 +1.9**
MEM Membach 26.02 306 P **P 07 43 28.2 +2.8**
MEM Membach 26.02 306 P **P 07 43 28.1 +2.8**
HGN Heimansgroeve 26.10 307 *e*P **P 07 43 28.3 +2.3**
comp=Z,51nm,1.0s
HGN *e*S S 07 48 16.9 +20
HGN *e*L L 07 56 04.3
comp=Z,272nm,20.6s
HFS Hagfors 26.24 330 P **P 07 43 27.3 +0.1**
HFS Hagfors 26.24 330 P **P 07 43 27.3 +0.1**
comp=Z,23nm,0.9s,baz=119,slow=9.2,SNR=22
HFS LR LR 07 56 11.6
comp=Z,246nm,18.6s,baz=135,slow=42
AAK Ala-Archa 26.25 72*d i*P **P 07 43 28.9 +1.2**
AAK pmax pmax
comp=Z,67nm,1.3s
AAK Ala-Archa 26.25 72 P **P 07 43 29.3 +1.7**
SNR=10
AAK Ala-Archa 26.25 72 *e*P **P 07 43 29.3 +1.7**
AAK Ala-Archa 26.25 72 P **P 07 43 29.0 +1.3**
comp=Z,18nm,1.0s,baz=241,slow=6.6,SNR=20
AAK LR LR 07 55 39.1
comp=Z,1μm,18.1s,baz=268,slow=41
FRU Bishkek 26.32 72 *e*P **P 07 43 29.0 +0.8**
FRU pmax pmax
comp=Z,120nm,2.0s
VIVF Saint-Julien-l 26.37 293 *e*P **P 07 43 28.1 -0.5**
comp=Z,31nm,1.2s
VIVF Saint-Julien-l 26.37 293 *e*P **P 07 43 28.1 -0.5**
comp=Z,15nm,1.2s
GIVF Givet 26.67 305 *e*P **P 07 43 30.9 -0.3**
GIVF Givet 26.67 305 *e*P **P 07 43 30.9 -0.3**
SMF Signal de Mont 26.97 297 *e*P **P 07 43 33.5 -0.5**
comp=Z,52nm,1.3s
SMF Signal de Mont 26.97 297 *e*P **P 07 43 33.5 -0.5**
comp=Z,26nm,1.3s
LASF Ste Croix 26.98 291 *e*P **P 07 43 33.3 -0.8**
comp=Z,32nm,1.1s
LASF Ste Croix 26.98 291 *e*P **P 07 43 33.3 -0.8**
comp=Z,16nm,1.1s
LOR Lormes 26.99 298 *e*P **P 07 43 33.8 -0.3**
comp=Z,30nm,1.1s
LOR *e*R
comp=Z,383nm,17.2s
LOR Lormes 26.99 298 *e*P **P 07 43 33.8 -0.3**
comp=Z,15nm,1.1s
TKM2 Tokmak 2 27.03 71 *i*P **P 07 43 36.0 +1.2**
TKM2 Tokmak 2 27.03 71 *e*P **P 07 43 33.3 -1.5**
comp=Z,24nm,1.2s
BAIF Baives 27.06 305 *e*P **P 07 43 34.3 -0.4**
BAIF Baives 27.06 305 *e*P **P 07 43 34.3 -0.4**
SSF Saint Saulge 27.22 298 *e*P **P 07 43 36.2 0.0**
comp=Z,15nm,1.0s
SSF Saint Saulge 27.22 298 *e*P **P 07 43 36.2 0.0**
comp=Z,7.4nm,1.0s
AVF Avril sur Loir 27.31 297 *e*P **P 07 43 36.0 -1.0**
comp=Z,32nm,1.0s
AVF Avril sur Loir 27.31 297 *e*P **P 07 43 36.0 -1.0**
comp=Z,16nm,1.0s
NB2 NORSAR Subarra 27.77 330 P **P 07 43 39.8 -1.2**
comp=Z,4.8nm,1.1s,baz=127,slow=9.3
NB2 NORSAR Subarra 27.77 330 P **P 07 43 39.8 -1.2**
comp=Z,4.8nm,1.1s,SNR=6.0
NOA NORSAR Array B 27.77 330 P **P 07 43 40.3 -0.7**
NOA NORSAR Array B 27.77 330 P **P 07 43 40.3 -0.7**
comp=Z,1.5nm,0.9s,baz=126,slow=9.1,SNR=3.3
NOA LR LR 07 56 01.8
comp=Z,201nm,21.5s,baz=125,slow=39
KSH Kashi 27.82 78 P **P 07 43 41.5 -0.3**
KSH sP **sP 07 43 48.8 +1.2**
KSH PP **PnPn 07 44 29.3 +1.4**
KSH S **S 07 48 21.5 -2.9**
KSH sS **sS 07 48 27.3 -4.0**
KSH PcS **PcS 07 50 39.5 -0.3**
KSH pmax pmax
comp=Z,7.0nm,1.1s
KSH pmax pmax
comp=Z,150nm,4.6s
KSH LR LR
comp=N,510nm,14.5s
KSH LR LR
comp=E,460nm,16.5s
KSH LR LR
comp=Z,350nm,16.4s
ATD Arta Tunnel 28.08 174 LR LR 07 54 44.6
comp=Z,569nm,18.2s,baz=14,slow=36
TCF Toulx Ste Croi 28.09 296 *e*P **P 07 43 43.7 -0.3**
comp=Z,30nm,1.3s
TCF Toulx Ste Croi 28.09 296 *e*P **P 07 43 43.7 -0.3**
comp=Z,15nm,1.3s
MTLF Montolieu 28.22 290 *e*P **P 07 43 45.1 -0.1**
MTLF Montolieu 28.22 290 *e*P **P 07 43 45.1 -0.1**
APA Apatity 28.26 355⇓ *i*P **P 07 43 45.6 +0.4**
APA *i* 07 44 34.6
APA *e*S **S 07 48 28.0 -2.5**
APA pmax pmax
comp=Z,39nm,1.2s
APA MLR MLR
comp=Z,500nm,11.0s
KURBB Kurchatov Arra 29.19 55 P **P 07 43 53.8 0.0**
comp=Z,11nm,1.0s,baz=272,slow=9.3,SNR=15
KURBB PcP **PcP 07 47 00.8 +0.1**
comp=Z,6.1nm,0.9s,baz=266,slow=3.2,SNR=15
KURK Kurchatov 29.26 55 P **P 07 43 53.8 -0.6**
KURK 07 47 00.9
KURK pmax pmax
comp=Z,11nm,1.0s
KURK pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 29.26 55 P **P 07 43 53.8 -0.6**
KURK PcP **PcP 07 47 00.8 0.0**
ETSF Etsaut 30.29 290 *e*P **P 07 44 03.7 +0.1**
comp=Z,20nm,0.9s
ETSF Etsaut 30.29 290 *e*P **P 07 44 03.7 +0.1**
comp=Z,9.9nm,0.9s
SJPF Ste Jean 30.74 290 *e*P **P 07 44 07.6 0.0**
comp=Z,43nm,1.4s
SJPF Ste Jean 30.74 290 *e*P **P 07 44 07.6 0.0**
comp=Z,22nm,1.4s
ARCES ARCESS Array B 30.96 350 P **P 07 44 09.4 +0.3**
ARCES ARCESS Array B 30.96 350 P **P 07 44 09.4 +0.3**
comp=Z,10nm,0.9s,baz=159,slow=7.3,SNR=29
ARCES LR LR 07 57 05.0
comp=Z,458nm,18.6s,baz=124,slow=37
KEV Kevo 30.98 351 *e*p **P 07 44 09.4 +0.1**
comp=Z,9.8nm,1.0s
KEV Kevo 30.98 351 *e*P **P 07 44 09.4 +0.1**
KEV pmax pmax
comp=Z,10.0nm,1.0s
KEV Kevo 30.98 351 *e*P **P 07 44 09.4 +0.1**
comp=Z,9.8nm,1.0s
SGMF Saint Gilles 31.34 300 *e*P **P 07 44 12.7 -0.1**
comp=Z,52nm,1.2s
SGMF Saint Gilles 31.34 300 *e*P **P 07 44 12.7 -0.1**
comp=Z,26nm,1.2s
MKAR Makanchi Array 31.53 63 P **P 07 44 15.1 +0.6**
MKAR 07 47 07.1
MKAR pmax pmax
comp=Z,14nm,0.8s
MKAR pmax pmax
comp=Z,4.0nm,0.9s
MKAR MLR MLR
comp=Z,811nm,18.7s
MKAR Makanchi Array 31.53 63 P **P 07 44 15.1 +0.6**
MKAR PcP **PcP 07 47 07.1 +0.1**
MKAR Makanchi Array 31.53 63 P **P 07 44 15.1 +0.6**
comp=Z,14nm,0.8s,baz=280,slow=6.9,SNR=58
MKAR PcP **PcP 07 47 07.1 +0.1**
comp=Z,4.0nm,0.9s,baz=299,slow=1.2,SNR=7.2
MKAR LR LR 07 58 57.6
comp=Z,811nm,18.7s,baz=272,slow=40
EKA Eskdalemuir Ar 32.40 313 P **P 07 44 22.4 +0.4**
EKA Eskdalemuir Ar 32.40 313 P **P 07 44 22.4 +0.4**
comp=Z,12nm,0.9s,baz=101,slow=9.6,SNR=17
NVS Novosibirsk 32.64 48 *i*P **P 07 44 24.0 -0.1**
NVS pmax pmax
comp=Z,62nm,1.1s
NVS pmax pmax
comp=N,11nm,1.2s
NVS pmax pmax
comp=E,34nm,1.2s
ESDC Sonseca Array 33.42 284 P **P 07 44 30.7 -0.5**
ESDC PcP **PcP 07 47 13.1 +0.8**
ESDC Sonseca Array 33.42 284 P **P 07 44 30.7 -0.5**
comp=E,3.5nm,0.7s,baz=67,slow=9.1,SNR=18
ESDC PcP **PcP 07 47 13.1 +0.8**
comp=E,0.2nm,0.3s,baz=60,slow=3.9,SNR=5.4
ESDC LR LR 07 58 56.1
comp=E,259nm,21.8s,baz=85,slow=38
ZALV Zalesovo Beam 33.43 49 P **P 07 44 30.9 -0.1**
ZALV pmax pmax
comp=Z,18nm,0.8s
ZALV MLR MLR
comp=Z,323nm,21.0s
ZALV Zalesovo Beam 33.43 49 P **P 07 44 30.9 -0.1**
ZALV Zalesovo Beam 33.43 49 P **P 07 44 30.9 -0.1**
comp=Z,18nm,0.8s,baz=269,slow=8.9,SNR=24
ZALV LR LR 08 00 30.5
comp=Z,323nm,21.0s,baz=70,slow=41
TAM Tamanrasset 33.48 250 *e*P **P 07 44 33.6 +1.7**
TAM pmax pmax
comp=Z,9.0nm,1.0s
TAM Tamanrasset 33.48 250 *e*P **P 07 44 33.6 +1.7**
comp=Z,8.5nm,1.0s
PAB San Pablo 33.74 284 *e*P **P 07 44 33.5 -0.5**
PAB pmax pmax
comp=Z,10.0nm,1.0s
PAB San Pablo 33.74 284 *e*P **P 07 44 33.5 -0.5**
comp=Z,10.0nm,1.0s
MVO Moncorvo 35.34 288 *e*P **P 07 44 48.5 +0.7**
comp=Z,19nm,1.6s
MVO *e*LR LR 07 54 16.4
comp=Z,204nm,18.0s
MVO Moncorvo 35.34 288 *e*P **P 07 44 48.5 +0.7**
comp=Z,19nm,1.6s
WMQ Urumqi 35.65 67 P **P 07 44 53.0 +2.6**
WMQ pP **pP 07 44 55.0 +0.4**
WMQ sP **sP 07 44 57.3 +1.0**
WMQ PP **PP 07 46 13.0 +1.7**
WMQ PcP **PcP 07 47 22.0 +3.3**
WMQ S **S 07 50 29.3 +2.9**
WMQ ScP **ScP 07 51 08.3 +4.0**
WMQ SS **SnSn 07 52 47.5 +0.1**
WMQ ScS **ScS 07 55 11.5 +2.4**
WMQ pmax pmax
comp=Z,27nm,0.9s
WMQ pmax pmax
comp=Z,180nm,5.0s
WMQ LR LR
comp=N,1μm,13.8s
WMQ LR LR
comp=E,890nm,15.4s
WMQ LR LR
comp=Z,750nm,17.7s
MTE Manteigas 35.90 287 *e*P **P 07 44 52.8 +0.2**
comp=Z,35nm,1.5s
MTE *e*LR LR 07 54 14.7
comp=Z,218nm,18.0s
MTE Manteigas 35.90 287 *e*P **P 07 44 52.8 +0.2**
comp=Z,35nm,1.5s
PMRV Marv??o 36.04 285 *e*P **P 07 44 53.0 -0.8**
comp=Z,21nm,1.5s
PMRV Marv??o 36.04 285 *e*LR LR 07 55 06.6
comp=Z,233nm,22.0s
PMRV Marv??o 36.04 285 *e*P **P 07 44 53.0 -0.8**
comp=Z,21nm,1.5s
PGAV Gavieira, Arco 36.07 290 *e*LR LR 07 56 04.5
comp=Z,275nm,20.0s
MDT Midelt 36.14 273 P **P 07 44 54.1 -0.7**
MDT Midelt 36.14 273 P **P 07 44 54.1 -0.7**
comp=Z,1.9nm,1.0s,baz=322,slow=9.7,SNR=3.5
PESTR Estremoz 36.34 284 *e*P **P 07 44 55.9 -0.5**
comp=Z,24nm,1.2s
PESTR Estremoz 36.34 284 *e*P **P 07 44 55.9 -0.5**
comp=Z,24nm,1.2s
EVO Evora 36.76 284 *e*P **P 07 45 02.4 +2.5**
comp=Z,17nm,1.0s
EVO *e*R
comp=Z,405nm,18.5s
PBEJ Beja 36.80 283 *e*P **P 07 44 57.1 -3.1**
PBEJ Beja 36.80 283 *e*P **P 07 44 57.1 -3.1**
EVOP Sao Brissos 36.84 284 *e*P **P 07 45 02.4 +1.8**
comp=Z,8.4nm,1.0s
PVAQ Vaqueiros 36.88 282 *e*LR LR 07 54 20.5
comp=Z,112nm,22.0s
PCVE Castro Verde 37.05 283 *e*P **P 07 45 02.2 -0.2**
comp=Z,18nm,1.4s
PCVE Castro Verde 37.05 283 *e*P **P 07 45 02.2 -0.2**
comp=Z,18nm,1.4s
PYUN Piuthan 37.37 94 *e*P **P 07 45 05.8 +0.3**
DANN Dangsing 37.84 93 *e*P **P 07 45 10.5 +1.0**
comp=Z,81nm,1.0s
KOLN Koldanda 38.00 94 *e*P **P 07 45 11.2 +0.4**
comp=Z,38nm,1.1s
DMN Daman 39.24 94 *e*P **P 07 45 22.0 +0.7**
comp=Z,135nm,1.2s
KKN Kakani 39.29 93 *e*P **P 07 45 21.9 +0.3**
comp=Z,46nm,1.1s
PKIN Phulchoki 39.48 93 *e*P **P 07 45 23.6 +0.3**
comp=Z,83nm,1.2s
PKI Pulchoki 39.50 93 *e*P **P 07 45 23.8 +0.3**
GUN Gumba 39.69 93 *e*P **P 07 45 25.4 +0.3**
comp=Z,162nm,1.1s
JMIC Jan Mayen 39.80 338 LR LR 08 03 19.1
comp=Z,133nm,19.1s,baz=86,slow=38
SPITS Spitsbergen Ar 39.89 353 P **P 07 45 25.8 +0.1**
SPITS Spitsbergen Ar 39.89 353 P **P 07 45 25.8 +0.1**
comp=Z,72nm,0.9s,baz=144,slow=22,SNR=45
JIRN Jiri 40.06 93 *e*P **P 07 45 28.7 +0.5**
comp=Z,85nm,1.1s
KMBO Kilima Mbogo 40.58 184 *e*P **P 07 45 31.6 -0.7**
comp=Z,8.4nm,1.3s
KMBO PcP **PcP 07 47 35.3 +0.8**
KMBO Kilima Mbogo 40.58 184 P **P 07 45 33.2 +0.9**
comp=Z,3.1nm,0.8s,baz=222,slow=23,SNR=7.4
KMBO PcP **PcP 07 47 35.3 +0.8**
comp=Z,1.5nm,0.7s,baz=222,slow=23,SNR=4.5
KMBO LR LR 08 01 47.9
comp=Z,363nm,18.5s,baz=312,slow=35
RAMN Ramite 40.72 93 *e*P **P 07 45 33.7 +0.1**
comp=Z,114nm,1.2s
MBAR Mbarara 40.84 194 P **P 07 45 34.5 0.0**
MBAR Mbarara 40.84 194 P **P 07 45 34.5 0.0**
comp=Z,2.2nm,0.2s,baz=159,slow=21,SNR=4.0
KBS Kingsbay 40.99 352*d i*P **P 07 45 35.2 +0.4**
KBS pmax pmax
comp=Z,26nm,1.0s
KBS Kingsbay 40.99 352 *e*P **P 07 45 33.0 -1.8**
comp=Z,26nm,0.9s
ODAN Odare 41.38 93 *e*P **P 07 45 39.4 +0.5**
comp=Z,138nm,1.2s
TAPN Taplejung 41.38 92 *e*P **P 07 45 39.5 +0.5**
comp=Z,67nm,1.1s
TORD Torodi Ar. Bea 42.59 243 P **P 07 45 47.5 -1.2**
TORD PcP **PcP 07 47 39.6 -1.3**
TORD Torodi Ar. Bea 42.59 243 P **P 07 45 47.5 -1.2**
comp=Z,21nm,0.9s,baz=40,slow=6.8,SNR=101
TORD PcP **PcP 07 47 39.6 -1.3**
comp=Z,2.0nm,0.9s,baz=37,slow=5.9,SNR=3.8
TORD LR LR 08 07 28.8
comp=Z,153nm,18.9s,baz=70,slow=42
LSA Lhasa 42.92 87 P **P 07 45 51.5 -0.2**
LSA Lhasa 42.92 87 *e*P **P 07 45 50.1 -1.6**
LSA pmax pmax
comp=Z,13nm,0.8s
LSA Lhasa 42.92 87 *e*P **P 07 45 50.1 -1.6**
comp=Z,13nm,0.8s
DAG Danmarks Havn 44.69 344 *i*P **P 07 46 03.7 -1.1**
DAG pmax pmax
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 44.69 344 *i*P **P 07 46 03.7 -1.1**
comp=Z,6.3nm,0.9s
TLY Talaya 44.90 52 *e*P **P 07 46 09.0 +2.1**
TLY *e* 07 52 43.3
TLY pmax pmax
comp=Z,28nm,1.0s
TLY MLR MLR
comp=Z,219nm,15.0s
ZAK Zakamensk 44.92 54 *e*P **P 07 46 07.7 +0.5**
ZAK *e* 07 47 48.8
ZAK pmax pmax
comp=Z,10.0nm,1.1s
SHL Shillong 45.51 92 *e*x **P 07 46 12.0 -0.2**
GTA Gaotai 45.57 70 P **P 07 46 13.5 +1.0**
GTA pP **pP 07 46 20.5 +3.7**
GTA sP sP 07 46 24.3 +5.9
GTA PP **PP 07 48 03.0 +4.0**
GTA S **S 07 52 57.8 +3.4**
GTA pmax pmax
comp=Z,31nm,1.1s
GTA pmax pmax
comp=Z,160nm,4.8s
GTA LR LR
comp=N,420nm,18.1s
GTA LR LR
comp=E,380nm,20.0s
GTA LR LR
comp=Z,530nm,18.5s
SONM Songino Array 47.52 57 P **P 07 46 27.2 -0.5**
SONM PcP **PcP 07 47 57.9 +0.3**
SONM Songino Array 47.52 57 P **P 07 46 27.2 -0.5**
comp=Z,5.7nm,0.8s,baz=288,slow=7.9,SNR=26
SONM PcP **PcP 07 47 57.9 +0.3**
comp=Z,4.1nm,0.9s,baz=252,slow=4.0,SNR=9.5
SONM LR LR 08 08 46.3
comp=Z,3μm,18.7s,baz=292,slow=39
ULN Ulaanbaatar 47.93 57 P **P 07 46 32.1 +1.1**
SNR=21
ULN Ulaanbaatar 47.93 57 *e*P **P 07 46 31.8 +0.9**
comp=Z,44nm,1.0s
ULN Ulaanbaatar 47.93 57 P **P 07 46 32.0 +1.1**
comp=Z,45nm,1.1s,comp=Z,429nm
SUMG Summit 49.25 337 *e*P **P 07 46 40.3 -0.7**
SUMG pmax pmax
comp=Z,10.0nm,1.0s
SUMG Summit 49.25 337 *e*P **P 07 46 40.3 -0.7**
comp=Z,9.5nm,1.0s
SUMG Summit 49.25 337 *i*P **P 07 46 40.2 -0.7**
comp=Z,6.2nm,0.9s
SUMG Summit 49.25 337 *i*P **P 07 46 40.2 -0.7**
comp=Z,6.2nm,0.9s
LZH Lanzhou 49.78 73⇑ P **P 07 46 46.8 +1.5**
LZH pP **pP 07 46 51.5 +1.9**
LZH sP **sP 07 46 53.8 +2.5**
LZH PP **PP 07 48 44.0 +4.2**
LZH *e*S **S 07 53 53.0 -1.4**
LZH sS **sS 07 54 02.0 +0.5**
LZH SS **SS 07 57 21.0 -5.7**
LZH pmax pmax
comp=Z,62nm,1.1s
LZH pmax pmax
comp=Z,200nm,4.0s
LZH LR LR
comp=N,340nm,13.7s
LZH LR LR
comp=E,350nm,15.5s
LZH LR LR
comp=Z,670nm,16.6s
DBIC Dimbokro 51.70 243 P **P 07 46 59.0 -0.7**
DBIC Dimbokro 51.70 243 P **P 07 46 59.0 -0.7**
comp=Z,23nm,1.0s,baz=28,slow=8.6,SNR=15
DBIC LR LR 08 13 21.8
comp=Z,229nm,18.1s,baz=34,slow=41
TIC Toumodi 51.83 243 *e*P **P 07 46 59.4 -1.3**
comp=Z,86nm,1.1s
KIC Kosan Boka 51.85 242 *e*P **P 07 46 59.7 -1.1**
comp=Z,64nm,0.9s
CD2 Chengdu 52.01 79 *e*P **P 07 47 02.5 +0.5**
CD2 pP **pP 07 47 07.3 +1.0**
CD2 sP **sP 07 47 10.0 +2.0**
CD2 PP **PP 07 49 01.3 +1.3**
CD2 S **S 07 54 23.5 -1.7**
CD2 sS **sS 07 54 30.8 -1.5**
CD2 SS **SS 07 57 58.3 -3.7**
CD2 pmax pmax
comp=Z,20nm,1.2s
CD2 pmax pmax
comp=Z,100nm,5.8s
CD2 LR LR
comp=E,440nm,21.2s
CD2 LR LR
comp=Z,410nm,17.8s
LIC Lamto 52.14 242⇑ *i*P **P 07 47 02.4 -0.6**

comp=Z,63nm,0.9s
LIC *e*R
comp=Z,252nm,20.0s
LIC Lamto 52.14 242 *e*P **P 07 47 01.5 -1.5**
comp=Z,92nm,0.9s
LIC Lamto 52.14 242 ⇑*i*P **P 07 47 02.4 -0.6**
comp=Z,32nm,0.9s
TIXI Tiksi 52.72 23 *e*P **P 07 47 08.7 +2.2**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
TIXI MLR MLR
comp=Z,295nm,25.0s
HHC Hu-ho-hao-te 53.38 64 *e*P **P 07 47 12.8 +0.7**
HHC pP **pP 07 47 17.3 +0.9**
HHC sP **sP 07 47 20.3 +2.2**
HHC PP **PP 07 49 14.5 +2.3**
HHC S **S 07 54 40.3 -3.5**
HHC sS **sS 07 54 48.5 -2.4**
HHC SS **SS 07 58 19.3 -4.1**
HHC pmax pmax
comp=Z,120nm,1.3s
HHC pmax pmax
comp=Z,370nm,5.0s
HHC LR LR
comp=N,280nm,11.2s
HHC LR LR
comp=E,800nm,15.7s
HHC LR LR
comp=Z,920nm,15.5s
XAN Xi'an 54.42 73 P **P 07 47 20.0 +0.3**
XAN pP pP 07 47 29.3 +5.2
XAN sP sP 07 47 33.3 +7.6
XAN pmax pmax
comp=Z,11nm,1.2s
XAN pmax pmax
comp=Z,29nm,5.0s
XAN LR LR
comp=N,280nm,19.6s
XAN LR LR
comp=E,150nm,19.6s
CHTO Chiang Mai 54.67 94 P **P 07 47 22.1 +0.5**
SNR=5.6
CHTO Chiang Mai 54.67 94 P **P 07 47 21.5 -0.1**
comp=E,24nm,1.8s,comp=E,533nm
CHTO Chiang Mai 54.67 94 P **P 07 47 21.7 +0.1**
comp=E,24nm,1.8s,comp=E,534nm
CMMT Chiang Mai 54.67 94 P **P 07 47 21.3 -0.3**
comp=E,22nm,1.7s
CMMT Chiang Mai 54.67 94 P **P 07 47 21.4 -0.2**
comp=E,24nm,1.1s
CMAR Chiang Mai Arr 54.87 95 P **P 07 47 22.9 -0.2**
CMAR Chiang Mai Arr 54.87 95 P **P 07 47 22.9 -0.2**
comp=E,14nm,1.0s,baz=300,slow=8.4,SNR=37
CMAR LR LR 08 13 12.4
comp=E,78nm,18.4s,baz=148,slow=39
LAMP Lampang 55.37 94 P **P 07 47 27.2 +0.6**
comp=E,8.5nm,1.1s
GYA Guiyang 56.44 82 *e*P **P 07 47 34.8 +0.4**
GYA PP **PP 07 49 42.5 +2.6**
GYA S **S 07 55 24.0 -1.1**
GYA SS **SS 07 59 11.0 -1.0**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,80nm,5.1s
GYA LR LR
comp=N,490nm,20.8s
GYA LR LR
comp=E,350nm,21.0s
GYA LR LR
comp=Z,460nm,20.5s
ENH Enshi 56.64 76 *e*P **P 07 47 36.0 +0.3**
comp=Z,13nm,0.9s
BJI Beijing 56.91 63 P **P 07 47 37.3 -0.1**
BJI S **S 07 55 29.0 -1.8**
BJI SS **SS 07 59 18.3 -0.4**
BJI pmax pmax
comp=Z,20nm,1.2s
BJI pmax pmax
comp=Z,91nm,3.8s
BJI LR LR
comp=N,360nm,20.7s
BJI LR LR
comp=E,220nm,22.5s
BJI LR LR
comp=Z,190nm,28.4s
PBKT Sadao Pong 57.54 95 P **P 07 47 42.4 +0.3**
comp=Z,36nm,1.1s
PBKT Sadao Pong 57.54 95 P **P 07 47 42.3 +0.2**
comp=Z,36nm,1.1s
WHN Wuhan 60.13 74 ⇑P **P 07 48 00.5 +0.5**
WHN pmax pmax
comp=Z,58nm,0.7s
CN2 Changchun 61.33 55 *e*P **P 07 48 07.5 -0.5**
CN2 *ep*P **pP 07 48 12.0 -0.4**
CN2 *e*S **S 07 56 23.5 -4.5**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,400nm,15.0s
CN2 LR LR
comp=E,600nm,15.0s
CN2 LR LR
comp=Z,400nm,15.0s
KLR Kul'dur 62.51 48 *e*P P 07 48 12.4 -3.4
KLR pmax pmax
comp=Z,38nm,1.4s
NJ2 Nanjing 62.66 70 *e*P **P 07 48 16.3 -0.8**
NJ2 pmax pmax
comp=Z,20nm,0.5s
QIZ Qiongzhong 62.96 87 P **P 07 48 18.8 -0.5**
QIZ S **S 07 56 48.5 -0.7**
QIZ pmax pmax
comp=Z,18nm,1.5s
PSI Prapat 64.77 109 P **P 07 48 29.9 -1.4**
PSI Prapat 64.77 109 P **P 07 48 29.9 -1.4**
comp=Z,12nm,0.8s,baz=284,slow=5.1,SNR=11
PSI LR LR 08 17 03.9
comp=Z,215nm,18.3s,baz=118,slow=36
USRK Ussurisk Arra 65.22 52 P **P 07 48 32.9 -0.8**
comp=Z,5.9nm,1.0s,baz=278,slow=5.6,SNR=15
USRK LR LR 08 22 23.4
comp=Z,357nm,18.4s,baz=114,slow=41
KSAR Wonju Array Be 66.16 60 P **P 07 48 39.0 -0.9**
KSRS Korea Array 66.18 60 P **P 07 48 39.0 -1.1**
comp=Z,15nm,0.9s,baz=297,slow=5.8,SNR=53
KSRS LR LR 08 20 54.5
comp=Z,560nm,18.2s,baz=311,slow=39
SCHQ Schefferville 67.04 323 P **P 07 48 45.3 0.0**
SCHQ Schefferville 67.04 323 P **P 07 48 45.3 0.0**
comp=Z,6.2nm,1.1s,baz=49,slow=9.2,SNR=4.7
YHNB Yeheng 68.54 75 *e*P **P 07 48 52.5 -2.8**
comp=Z,40nm,1.1s
BOSA Boshof 69.18 194 P **P 07 48 57.7 -1.3**
BOSA Boshof 69.18 194 P **P 07 48 57.7 -1.3**
comp=Z,9.5nm,0.9s,baz=17,slow=5.9,SNR=11
BOSA LR LR 08 20 25.1
comp=Z,334nm,19.0s,baz=271,slow=37
YULB Yu-li 69.21 76 *e*P **P 07 48 58.7 -0.7**
comp=Z,13nm,1.0s
YSS Yuzh-Sakhalins 69.93 45 *e*P **P 07 49 04.2 +0.8**
YSS pmax pmax
comp=Z,20nm,1.0s
JNU Nakatsue 70.59 63 LR LR 08 24 05.9
comp=Z,318nm,19.2s,baz=86,slow=39
ASAJ Asahikawa 71.55 48 P **P 07 49 13.4 0.0**
ASAJ Asahikawa 71.55 48 P **P 07 49 13.4 0.0**
comp=Z,9.9nm,0.9s,baz=290,slow=11,SNR=6.8
ASAJ LR LR 08 25 20.8
comp=Z,185nm,18.1s,baz=352,slow=40
INK Inuvik 72.31 357 P **P 07 49 17.1 -0.4**
INK Inuvik 72.31 357 P **P 07 49 17.1 -0.4**
comp=Z,4.1nm,0.9s,baz=346,slow=9.6,SNR=4.1
PQI Presque Isle 72.67 317 *e*P **P 07 49 20.6 +0.6**
comp=Z,30nm,0.9s
COLD Coldfoot 73.24 4 *e*P **P 07 49 23.5 +0.4**
comp=Z,8.5nm,0.9s
PETK Petropavlovsk- 73.26 34 P **P 07 49 22.5 -0.9**
PETK pmax pmax
comp=Z,4.0nm,0.9s
PETK MLR MLR
comp=Z,132nm,21.1s
PETK Petropavlovsk- 73.26 34 P **P 07 49 22.5 -0.9**
PETK Petropavlovsk- 73.26 34 P **P 07 49 22.5 -0.9**
comp=Z,3.5nm,0.9s,baz=337,slow=6.4,SNR=4.2
PETK LR LR 08 24 28.3
comp=Z,132nm,21.1s,baz=141,slow=38
YUK Yuzh-Kuril'sk 73.44 46 P **P 07 49 23.7 -0.9**
YUK S **S 07 58 53.0 -0.5**
MAT Matsushiro 73.46 56 P **P 07 49 24.0 -0.9**
MAT *e*S **SKiKP 07 58 55.6 +0.4**
MJAR Matsushiro Arr 73.46 56 P **P 07 49 24.2 -0.7**
MJAR Matsushiro Arr 73.46 56 P **P 07 49 24.2 -0.7**
comp=Z,4.4nm,0.9s,baz=316,slow=5.1,SNR=13
MJAR LR LR 08 24 41.4
comp=Z,479nm,18.7s,baz=295,slow=38
SBUM Sibu 74.96 99 P **P 07 49 34.5 +0.6**
comp=Z,22nm,1.1s
COLA College 75.71 3 *e*P **P 07 49 37.1 -0.3**
COLA pmax pmax
comp=Z,43nm,0.9s
COLA College 75.71 3 *e*P **P 07 49 37.1 -0.3**
comp=Z,43nm,0.9s
ILAR Eielson Array 75.85 3 P **P 07 49 37.2 -1.1**
ILAR PP **PP 07 52 29.6 +1.9**
ILAR Eielson Array 75.85 3 P **P 07 49 37.2 -1.1**
comp=Z,1.4nm,0.9s,baz=315,slow=3.6,SNR=15
ILAR PP **PP 07 52 29.6 +1.9**
comp=Z,1.1nm,1.0s,baz=353,slow=7.5,SNR=8.5
ILAR LR LR 08 27 22.6
comp=Z,74nm,18.5s,baz=328,slow=39
EGAK Eagle 75.97 0 *e*P **P 07 49 39.3 +0.4**
comp=Z,5.5nm,0.9s
YKA Yellowknife Ar 76.19 348 P **P 07 49 40.1 -0.1**
YKA Yellowknife Ar 76.19 348 P **P 07 49 40.1 -0.1**
comp=Z,11nm,0.8s,baz=21,slow=6.2,SNR=22
DAWY Dawson 76.69 360 *e*P **P 07 49 43.5 +0.4**
LONY Lake Ozonia 77.47 318 *e*P **P 07 49 48.3 +0.5**
comp=Z,11nm,1.0s
HYT Haines Junctio 79.92 359 *e*P **P 07 50 01.6 +0.5**
FFC Flin Flon 80.50 339 *e*P **P 07 50 04.6 +0.4**
FFC pmax pmax
comp=Z,8.0nm,0.9s
FFC Flin Flon 80.50 339 *e*P **P 07 50 04.6 +0.4**
comp=Z,7.6nm,0.9s
SKAG Skagway 81.23 357 *e*P **P 07 50 08.4 +0.5**
comp=Z,8.4nm,1.0s
DAV Davao City (W) 82.34 87 LR LR 08 32 05.4
comp=Z,147nm,21.6s,baz=319,slow=40
ULM Lac du Bonnet 82.41 333 P **P 07 50 13.9 -0.4**
ULM Lac du Bonnet 82.41 333 P **P 07 50 13.9 -0.4**
comp=Z,7.2nm,0.9s,baz=44,slow=6.1,SNR=7.5
ULM LR LR 08 30 35.7
comp=Z,103nm,18.0s,baz=41,slow=38
COWI Conover 83.21 327 *e*P **P 07 50 18.9 +0.3**
comp=Z,11nm,1.0s
AGMN Agassiz Nation 84.05 332 *e*P **P 07 50 21.7 -1.2**
comp=Z,5.0nm,1.0s
EDM Edmonton 84.68 344 *e*P **P 07 50 26.3 +0.2**
EDM Edmonton 84.68 344 *e*P **P 07 50 26.2 +0.2**
SPMN St. Paul 85.43 329 ⇑P **P 07 50 29.9 0.0**
baz=85
KAPI Kappang 85.50 100 *e*P **P 07 50 30.3 -0.3**
KAPI Kappang 85.50 100 P **P 07 50 30.3 -0.3**
KAPI Kappang 85.50 100 P **P 07 50 30.1 -0.6**
comp=Z,20nm,1.0s,baz=313,slow=4.7,SNR=5.5
A26A Wade Farm, Ken 85.63 336 ⇑P **P 07 50 29.9 -1.0**
baz=85,SNR=5.5
A23A Redstone 86.44 338 ⇓P **P 07 50 35.1 +0.2**
baz=86
DGMT Dagmar 86.68 337 ⇓P **P 07 50 36.3 +0.2**
baz=86
A22A Carney Farms, 86.72 338 ⇓P **P 07 50 36.1 -0.2**
baz=86,SNR=6.6
B23A Brockton 86.92 337 ⇑P **P 07 50 37.4 +0.1**
baz=87
A21A Bergtoll Ranch 87.00 339 ⇓P **P 07 50 38.1 +0.4**
baz=87
C25A Freed Ranch, W 87.06 336 ⇓P **P 07 50 38.7 +0.7**
baz=87
B22A Reddig Ranch S 87.36 338 ⇑P **P 07 50 39.1 -0.3**
baz=87
A20A Cobblestone Ra 87.38 339 ⇑P **P 07 50 39.8 +0.3**
baz=87
B21A Ellsworth Farm 87.54 339 ⇑P **P 07 50 40.9 +0.6**
baz=87
A19A Klindworth Far 87.56 340 ⇓P **P 07 50 40.2 -0.2**
baz=87,SNR=22
C23A Lambert 87.57 337 ⇑P **P 07 50 41.1 +0.7**
baz=87
C24A Savage 87.58 337 ⇑P **P 07 50 41.1 +0.6**
baz=87
C22A Vida 87.83 338 ⇑P **P 07 50 41.3 -0.4**
baz=88,SNR=5.3
A18A Metzger Ranch, 87.86 340 ⇑P **P 07 50 41.3 -0.4**
baz=88
B19A Brinkman Farms 88.05 340 ⇑P **P 07 50 42.5 -0.2**
baz=88,SNR=16
A17A Triple J Farms 88.05 341 ⇑P **P 07 50 42.5 -0.2**
baz=88
C21A Desert Coulee 88.11 338 ⇑P **P 07 50 43.3 +0.3**
baz=88
D23A Lindsay 88.14 337 ⇑P **P 07 50 43.2 -0.1**
baz=88
E25A Miller Ranch, 88.18 336 ⇑P **P 07 50 43.6 +0.2**
baz=88
A16A West Butte Ran 88.27 342 ⇑P **P 07 50 43.3 -0.6**
baz=88,SNR=19
B18A Beardsley Farm 88.32 340 ⇑P **P 07 50 43.8 -0.2**
baz=88
BRSD Miller 88.45 332 ⇓P **P 07 50 44.6 -0.1**
baz=88
D22A Cohagen 88.45 338 ⇓P **P 07 50 44.9 +0.2**
baz=88,SNR=6.2
C20A Veseth Ranch, 88.47 339 ⇑P **P 07 50 44.7 -0.1**
baz=88,SNR=5.7
A15A Johnson Ranch, 88.52 342 ⇓P **P 07 50 44.3 -0.7**
baz=88,SNR=20
F26A Lodgepole 88.52 335 ⇓P **P 07 50 45.1 +0.1**
baz=88
G28A Parade 88.60 333 ⇓P **P 07 50 45.5 +0.1**
baz=88
EGMT Eagleton 88.66 340 *e*P **P 07 50 44.7 -1.0**
comp=Z,1.5nm,0.6s
EGMT Eagleton 88.66 340 ⇓P **P 07 50 45.5 -0.1**
baz=88
A14A Double T Ranch 88.68 343 ⇑P **P 07 50 45.5 -0.3**
baz=88,SNR=12
WALA Waterton Lakes 88.71 343 *e*P **P 07 50 46.0 +0.1**
comp=Z,0.2nm,0.9s
C19A Slack Wire Ran 88.74 340 ⇓P **P 07 50 46.3 +0.3**
baz=88
D21A La Casta Ranch 88.77 338 ⇑P **P 07 50 46.3 +0.2**
baz=88,SNR=7.4
E23A Ismay 88.78 337 ⇑P **P 07 50 46.7 +0.5**
baz=88
B16A M & M Farms, S 88.80 341 ⇓P **P 07 50 45.5 -0.8**
baz=88,SNR=5.8
A13A Flathead Natio 88.94 343 ⇓P **P 07 50 46.8 -0.2**
baz=89
G26A Maurine 88.98 334 ⇑P **P 07 50 47.1 -0.1**
baz=89
D20A Manuel Ranch, 89.07 339 ⇓P **P 07 50 47.4 -0.2**
baz=89
B15A Bradely Ranch, 89.10 342 ⇑P **P 07 50 47.1 -0.7**
baz=89,SNR=5.4
A12A Yaak River Ran 89.21 344 ⇑P **P 07 50 48.4 +0.2**
baz=89
D19A Cripps Ranch, 89.21 339 ⇑P **P 07 50 48.4 +0.1**
baz=89
B14A Marquette Ranc 89.22 342 ⇑P **P 07 50 48.5 +0.1**
baz=89
C17A Wharram Farm, 89.28 341 ⇑P **P 07 50 48.2 -0.4**
baz=89
G25A Newell 89.34 335 ⇓P **P 07 50 48.9 0.0**
baz=89
H27A Howes 89.39 334 ⇓P **P 07 50 48.6 -0.5**
baz=89
D18A Linhart Farms, 89.43 340 ⇑P **P 07 50 49.1 -0.3**
baz=89
B13A Whitefish 89.48 343 ⇑P **P 07 50 49.2 -0.3**
baz=89,SNR=5.9
F23A Volborg 89.51 336 ⇑P **P 07 50 49.3 -0.3**
baz=89,SNR=5.7
C15A Salmond Ranch, 89.61 342 ⇓P **P 07 50 49.8 -0.3**
baz=89
D17A Six Diamond Ra 89.71 340 ⇑P **P 07 50 50.3 -0.3**
baz=89
F22A Rosebud 89.71 337 ⇓P **P 07 50 50.7 +0.1**
baz=89
E19A Rath Farm, Rou 89.83 339 ⇓P **P 07 50 51.2 0.0**
baz=90
C14A Swan Lake 89.89 342 ⇑P **P 07 50 51.3 -0.2**
baz=90
G23A Biddle 89.97 336 ⇓P **P 07 50 51.8 -0.1**
baz=90
E18A Harlowton 90.04 340 ⇑P **P 07 50 52.0 -0.2**
baz=90
H24A Dirks Ranch, A 90.11 335 ⇓P **P 07 50 51.3 -1.2**
baz=90
NEW Newport 90.15 345 *e*P **P 07 50 53.5 +0.9**
comp=Z,14nm,1.0s
NEW Newport 90.15 345 ⇑P **P 07 50 52.6 0.0**
baz=90,SNR=17
SWMT Swartz Lake 90.19 343 *e*P **P 07 50 53.5 +0.7**
comp=Z,3.0nm,1.0s
G22A Birney 90.23 337 ⇓P **P 07 50 53.2 +0.1**
baz=90
F20A Billings 90.25 338 ⇓P **P 07 50 53.0 -0.1**
baz=90
SLMT Seeley Lake 90.32 342 *e*P **P 07 50 53.9 +0.4**
comp=Z,12nm,1.1s
C12B Naegeli Ranch, 90.33 344 ⇓P **P 07 50 53.6 +0.1**
baz=90
E17A Martinsdale 90.39 340 ⇑P **P 07 50 54.3 +0.3**
baz=90
HRY Holter Researc 90.41 341 *e*P **P 07 50 54.4 +0.5**
comp=Z,2.4nm,0.8s
F19A Roth Farm, Mol 90.43 339 ⇑P **P 07 50 54.4 +0.3**
baz=90
I25A Rochford 90.49 335 ⇑P **P 07 50 54.7 +0.3**
baz=90
CHMT Chamberlain Mo 90.57 342 *e*P **P 07 50 54.6 -0.2**
comp=Z,5.0nm,1.1s
F18A Big Timber 90.60 339 ⇓P **P 07 50 54.9 +0.1**
baz=90
GCMT Greycliff 90.69 339 *e*P **P 07 50 56.1 +0.8**
comp=Z,1.2nm,0.9s
BGNE Belgrade 90.75 330 ⇓P **P 07 50 55.4 -0.1**
baz=90
G20A Bridger 90.80 338 ⇓P **P 07 50 56.2 +0.4**
baz=90
H22A Clearmont 90.81 337 ⇑P **P 07 50 56.3 +0.5**
baz=90
F17A Fitzpatrick Pl 90.85 340 ⇓P **P 07 50 55.9 -0.1**
baz=90,SNR=8.3
I24A Kuemmerle Ranc 90.92 335 ⇑P **P 07 50 56.2 -0.1**
baz=91
H21A Big Horn, Sher 90.99 337 ⇑P **P 07 50 56.9 +0.2**
baz=91
BOZ Bozeman (W) 91.35 340 *e*P **P 07 50 58.8 +0.4**
BOZ pmax pmax
comp=Z,1.0nm,0.9s
BOZ Bozeman (W) 91.35 340 *e*P **P 07 50 58.8 +0.4**
comp=Z,1.5nm,0.9s
LRM Limekiln Ridge 91.39 341 *e*P **P 07 50 58.5 -0.2**
comp=Z,4.1nm,1.0s
H20A Greybull 91.41 338 ⇑P **P 07 50 58.7 +0.1**
baz=91
I22A 9 Mile Ranch, 91.49 336 ⇑P **P 07 50 58.8 -0.2**
baz=91
H19A Powell 91.53 338 ⇓P **P 07 50 59.5 +0.3**
baz=91
H18A Shoshone NF, C 91.71 339 ⇑P **P 07 50 59.9 -0.2**
baz=91
I21A Big Trails, Te 91.81 337 ⇓P **P 07 51 00.0 -0.5**
baz=92
DLMT Dillon 91.86 341 *e*P **P 07 50 59.6 -1.1**
comp=Z,4.3nm,1.2s
J22A Midwest 91.92 336 ⇑P **P 07 51 00.6 -0.5**
baz=92
I20A Worland 91.93 337 ⇓P **P 07 51 01.2 +0.2**
baz=92
J20A Shoshoni 92.47 337 ⇓P **P 07 51 03.8 +0.3**
baz=92
K22A Casper 92.62 336 ⇑P **P 07 51 04.1 -0.2**
baz=92
IMW Indian Meadow 92.78 339 *e*P **P 07 51 06.4 +1.2**
comp=Z,2.9nm,1.0s
J19A Crowheart 92.83 338 ⇑P **P 07 51 05.4 +0.1**
baz=92
L23A Garrett 92.84 335 ⇑P **P 07 51 04.6 -0.8**
baz=92
P31A Stockton 92.85 330 ⇑P **P 07 51 05.6 +0.4**
baz=92
I16A Newdale 92.95 340 ⇑P **P 07 51 06.8 +0.9**
baz=93
K19A Absolon Red Bu 93.17 337 ⇑P **P 07 51 06.2 -0.7**
baz=93
K20A Yellowstone Ra 93.18 337 ⇓P **P 07 51 06.5 -0.4**
baz=93
Q31A Ellis 93.30 329 ⇑P **P 07 51 07.5 +0.1**
baz=93
I14A Mackay 93.42 341 ⇓P **P 07 51 08.1 +0.1**
baz=93
PDAR Pinedale Array 93.44 338 P **P 07 51 06.3 -1.8**
PDAR PKKPbc **PKKPbc 08 08 13.6 -0.1**
PDAR Pinedale Array 93.44 338 P **P 07 51 06.3 -1.8**
comp=Z,0.7nm,0.9s,baz=38,slow=2.6,SNR=6.1
PDAR PKKPbc **PKKPbc 08 08 13.6 -0.1**
comp=Z,0.4nm,0.8s,baz=215,slow=7.2,SNR=3.8
PDAR LR LR 08 35 39.5
comp=Z,92nm,21.2s,baz=44,slow=37
BMO Blue Mountains 93.44 344 *e*P **P 07 51 07.1 -0.8**
comp=Z,3.4nm,1.0s
Q30A Quinter 93.65 330 ⇑P **P 07 51 08.7 -0.3**
baz=93
O26A Horse Wrangler 93.69 333 ⇓P **P 07 51 08.8 -0.4**
baz=93
HLID Hailey 94.00 341 ⇑P **P 07 51 10.2 -0.5**
baz=94
N23A Red Feather La 94.01 335 ⇑P **P 07 51 10.9 0.0**
baz=94
Q29A Oakley 94.02 330 ⇓P **P 07 51 10.0 -0.7**
baz=94
P26A Davis Ranch, A 94.31 332 ⇓P **P 07 51 11.5 -0.6**
baz=94
MFID Camas Ranch 94.48 342 *e*P **P 07 51 13.2 +0.4**
comp=Z,3.5nm,1.0s
MFID Camas Ranch 94.48 342 ⇓P **P 07 51 12.6 -0.2**
baz=94
O23A Lake Granby, G 94.62 334 ⇑P **P 07 51 12.9 -0.8**
baz=94
R28A Tribune 94.81 331 ⇓P **P 07 51 13.9 -0.5**
baz=94
P23A Jefferson 95.34 334 ⇓P **P 07 51 16.7 -0.4**
baz=95
Q24A Divide 95.47 333 ⇓P **P 07 51 16.8 -0.8**
baz=95
WVOR Wild Horse Val 96.04 344 *e*P **P 07 51 16.8 -3.1**
WVOR pmax pmax
comp=Z,2.0nm,1.0s
WVOR Wild Horse Val 96.04 344 *e*P **P 07 51 16.8 -3.1**
comp=Z,2.0nm,1.0s
P19A Cripple Cowboy 96.13 336 ⇑P **P 07 51 19.9 -0.7**
baz=96
Q22A Crested Butte, 96.17 334 ⇑P **P 07 51 20.8 0.0**
baz=96
R20A Redvale 97.26 335 ⇑P **P 07 51 24.7 -0.9**
baz=97
S20A Disappointment 97.58 335 ⇑P **P 07 51 26.7 -0.5**
baz=97
FITZ Fitzroy Crossi 98.24 107 P **P 07 51 28.8 -1.2**
FITZ Fitzroy Crossi 98.24 107 P **P 07 51 28.8 -1.2**
comp=Z,1.8nm,0.8s,baz=294,slow=5.9,SNR=4.0
FITZ LR LR 08 37 21.2
comp=Z,82nm,20.1s,baz=297,slow=36
NVAR Mina Array Bea 99.79 343 P **Pdif 07 51 37.3 +0.3**
NVAR PP **PP 07 55 40.5 +0.2**
NVAR PKKPbc **PKKPbc 08 07 56.6 +0.1**
NVAR Mina Array Bea 99.79 343 P **Pdif 07 51 37.3 +0.3**
comp=Z,0.7nm,1.0s,baz=34,slow=5.6,SNR=3.7
NVAR PP **PP 07 55 40.5 +0.2**
comp=Z,0.6nm,0.9s,baz=40,slow=5.7,SNR=3.7
NVAR PKKPbc **PKKPbc 08 07 56.6 +0.1**
comp=Z,0.8nm,0.9s,baz=198,slow=5.9,SNR=4.4
PLCA Paso Flores 128.04 245 PKP **PKPdf 07 56 57.1 -1.2**
PLCA Paso Flores 128.04 245 PKP **PKPdf 07 56 57.1 -1.2**
comp=Z,3.9nm,1.0s,baz=107,slow=4.5,SNR=3.9
URZ Urewera 147.03 102 PKPbc **PKPdf 07 57 32.6 -0.3**
URZ Urewera 147.03 102 PKPbc **PKPdf 07 57 32.6 -0.3**
comp=Z,22nm,0.9s,baz=112,slow=1.1,SNR=6.2

CSEM ***30*** *07:39:57.8±0.2,39.57N×39.78E,h5km,MD3.1,Error ellipse: s-maj=4.1km s-min=3.3km az=122.0*
ISK ***30*** *07:39:57.0,39.59N×39.81E,h8km,MD2.8*
DDA ***30*** *07:39:58.5,39.59N×39.72E,h10km,MD3.1*
ISC 30 07:39:57.7±0.8,**39.59N**±0.02×**39.79E**±0.02,**h10**km±6km,

n46.$_{\sigma}$0^{s}79/63, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERZN	**Erzincan**	**0.05**	**270**	*e*PG	**Pg**	**07 39 59.2**	**-0.7**
EUZM	**Uzumlu**	**0.14**	**329**	*i* P	**Pg**	**07 40 01.8**	**+0.8**
EUZM				*i* S	**Sg**	**07 40 03.8**	**+0.4**
EUZM	**Uzumlu**	**0.14**	**329**	*i* P	**Pg**	**07 40 01.8**	**+0.8**
EUZM				*i* S	**Sg**	**07 40 03.8**	**+0.4**
EZC	**Erzincan**	**0.38**	**296**	*e*PG	**Pg**	**07 40 05.2**	**0.0**
EZC	**Erzincan**	**0.38**	**296**	*e*Pg	**Pg**	**07 40 05.2**	**0.0**
KOPT	**Kop Dagi**	**0.69**	**51**	*i* P	**Pn**	**07 40 12.9**	**-0.9**
KOPT				*i* S	**Sn**	**07 40 23.4**	**-1.4**
KOPT	**Kop Dagi**	**0.69**	**51**	*i* P	**Pn**	**07 40 12.9**	**-0.9**
KELT	**Kelkit**	**0.70**	**324**	*i* P	**Pg**	**07 40 11.3**	**+0.1**
KELT	**Kelkit**	**0.70**	**324**	*i* P	**Pg**	**07 40 11.3**	**+0.1**
PTK	**Pertek**	**0.76**	**204**	*e*PG	**Pg**	**07 40 12.3**	**0.0**
PTK				*e*SG	**Sb**	**07 40 23.5**	**0.0**
PTK	**Pertek**	**0.76**	**204**	*e*Pg	**Pg**	**07 40 12.3**	**0.0**
PTK				*e*Sg	**Sb**	**07 40 23.5**	**0.0**
BAYT	**Ayd¯–ntepe-Bay**	**0.85**	**18**	*e*PG	**Pb**	**07 40 13.9**	**-0.7**
BAYT				*e*SG	**Sb**	**07 40 26.1**	**0.0**
BAYT	**Ayd¯–ntepe-Bay**	**0.85**	**18**	*e*Pg	**Pb**	**07 40 13.9**	**-0.7**
BAYT				*e*Sg	**Sb**	**07 40 26.2**	**0.0**
BINT	**Bingol**	**0.89**	**142**	*e*Pg	**Pb**	**07 40 14.7**	**-0.6**
GUMT	**Gumushane**	**0.91**	**345**	*e*PG	**Pb**	**07 40 15.1**	**-0.5**
GUMT	**Gumushane**	**0.91**	**345**	*e*Pg	**Pb**	**07 40 15.1**	**-0.5**
BNGB	**Bing¯¶l**	**0.91**	**130**	*e*PG	**Pg**	**07 40 14.7**	**-0.5**
ILIC	**ilic-Erzincan**	**0.96**	**262**	*e*PG	**Pg**	**07 40 16.1**	**0.0**
ILIC	**ilic-Erzincan**	**0.96**	**262**	*e*Pg	**Pg**	**07 40 16.1**	**0.0**
KEMA	**Kemaliye**	**1.05**	**253**	*i* P	**Pg**	**07 40 17.6**	**-0.4**
KEMA				*i* S	**Sb**	**07 40 32.6**	**+0.7**
KEMA	**Kemaliye**	**1.05**	**253**	*i* P	**Pg**	**07 40 17.6**	**-0.4**
KEMA				*i* S	**Sb**	**07 40 32.6**	**+0.7**
BNGL	**BINGOL**	**1.23**	**121**	*i* P	**Pg**	**07 40 22.2**	**+0.9**
BNGL				*i* S	**Sn**	**07 40 41.9**	**+4.0**
EZM	**Erzurum**	**1.25**	**75**	*e*PN	**Pn**	**07 40 20.5**	**-0.9**
ELZG	**Elazig**	**1.25**	**210**	*i* P	**Pg**	**07 40 21.7**	**-0.1**
ELZG				*i* S	**Sn**	**07 40 39.0**	**+0.6**
ELZG	**Elazig**	**1.25**	**210**	*i* P	**Pg**	**07 40 21.7**	**-0.1**
ELZG				*i* S	**Sn**	**07 40 39.0**	**+0.6**
ERZM	**Erzurum**	**1.25**	**75**	*i* P	**Pg**	**07 40 22.0**	**+0.2**
ERZM	**Erzurum**	**1.25**	**75**	*i* P	**Pg**	**07 40 22.0**	**+0.2**
MACK	**Trabzon**	**1.36**	**359**	*i* P	**Pg**	**07 40 24.1**	**+0.4**
MACK	**Trabzon**	**1.36**	**359**	*i* P	**Pg**	**07 40 24.1**	**+0.4**
SUSE	**Susehri**	**1.37**	**297**	*i* P	**Pg**	**07 40 24.3**	**+0.3**
SUSE				*i* S	**Sn**	**07 40 41.5**	**+0.2**
SUSE	**Susehri**	**1.37**	**297**	*i* P	**Pg**	**07 40 24.3**	**+0.3**
SUSE				*i* S	**Sn**	**07 40 41.5**	**+0.2**
ESPY	**Espiye-Giresun**	**1.56**	**329**	*e*PN	**Pn**	**07 40 25.0**	**-0.4**
ESPY	**Espiye-Giresun**	**1.56**	**329**	*e*Pn	**Pn**	**07 40 25.0**	**-0.4**
MYA	**Malataya**	**1.65**	**221**	*e*PN	**Pn**	**07 40 27.1**	**+0.4**
MYA	**Malataya**	**1.65**	**221**	*e*Pn	**Pn**	**07 40 27.1**	**+0.4**
DIY	**Diyarbakir**	**1.72**	**168**	*e*PN	**Pb**	**07 40 28.4**	**-1.0**
DIY	**Diyarbakir**	**1.72**	**168**	*e*Pn	**Pb**	**07 40 28.4**	**-1.0**
GRSN	**GIRESUNGRSN**	**1.77**	**319**	*i* P	**Pg**	**07 40 30.8**	**-0.9**
GRSN	**GIRESUNGRSN**	**1.77**	**319**	*i* P	**Pg**	**07 40 30.8**	**-0.9**
PZAR	**Pazar-Rize**	**1.80**	**28**	*e*PN	**Pn**	**07 40 28.6**	**-0.2**
PZAR	**Pazar-Rize**	**1.80**	**28**	*e*Pn	**Pn**	**07 40 28.6**	**-0.2**
BEST	**Besiri**	**2.05**	**145**	*e*P	**Pg**	**07 40 36.5**	**-0.5**
BEST				*i* S	**Sg**	**07 41 02.6**	**-0.9**
DAGI	**Agillar**	**2.20**	**47**	*i* P	**Pb**	**07 40 38.1**	**+0.5**
DBOC	**Borcka**	**2.27**	**39**	*i* P	**Pb**	**07 40 37.8**	**-0.9**
DBOC				*i* S	**Sg**	**07 41 11.4**	**+0.9**
DBOC	**Borcka**	**2.27**	**39**	*i* P	**Pb**	**07 40 37.8**	**-0.9**
MARD	**Mardin**	**2.40**	**161**	*i* P	**Pb**	**07 40 41.7**	**+0.8**
MARD				*i* S	**Sb**	**07 41 10.3**	**-0.3**

KRSC 30 07:46:32.0±1.5, 53°.98N×158°.02E, h312^{km}±51^{km}, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GNL	**Ganaly**	**0.29**	**189**	*e*P	Pn	07 47 11.8	0.0
KOK	**Koryaka**	**0.78**	**152**	*e*P	Pn	07 47 14.2	+1.2
KRER	**Koryakskii**	**0.80**	**147**	*e*P	Pn	07 47 15.0	+1.8
SDLR	**Sedlovina**	**0.87**	**143**	*e*P	Pn	07 47 14.1	+0.8
NLC	**Nalytchevo**	**1.13**	**135**	*e*P	Pn	07 47 15.4	+1.1
NLC				*i* S	S	07 47 47.3	-0.7
RUS	**Russkaya**	**1.58**	**169**	*e*P	Pn	07 47 17.5	+0.6
RUS				*i* S	S	07 47 50.8	-1.8
MIPR	**Malaya Ipel'ka**	**1.87**	**205**	*e*P	Pn	07 47 19.1	+0.2
MKZ	**Mys Kozlova**	**2.25**	**74**	*e*P	Pn	07 47 22.5	+0.8
MKZ				*i* S	S	07 47 58.9	-2.5

IDC 30 07:48:12.5±2.3, 5°.51S×129°.18E, h0^{km}, mb3.3/1, mb1 3.6/3, mb1mx3.4/20, mbtmp3.4/3, ML3.4/2, MS4.2/1, Ms1 4.2/1, ms1mx2.6/19, Error ellipse: s-maj=166.3km s-min=30.0km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.20**	**161**	Pn	Pn	07 51 50.3	+1.6
	0.1nm,0.3s,baz=343,slow=13,SNR=6.0						
ASAR	**Alice Springs**	**18.62**	**166**	P	P	07 52 30.9	-0.9
	0.2nm,0.3s,baz=350,slow=11,SNR=11						
URZ	**Urewera**	**54.28**	**134**	LR	LR	08 18 49.7	
	comp=Z,237nm,19.4s,baz=210,slow=34						
MKAR	**Makanchi Array**	**66.54**	**327**	P	P	07 59 04.4	0.0
	0.3nm,0.7s,baz=111,slow=7.9,SNR=3.7						

IDC 30 07:55:33.7±4.1, 7°.60S×119°.67E, h327^{km}±50^{km}, mb3.0/4, mb1 3.3/6, mb1mx3.0/23, mbtmp3.1/6, Error ellipse: s-maj=103.2km s-min=12.2km az=50.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.95**	**151**	P	Pn	07 58 13.0	-2.2
	0.2nm,0.3s,baz=331,slow=13,SNR=5.7						
FITZ				S	S	08 00 27.8	-0.7
	0.7nm,0.3s,baz=179,slow=18,SNR=7.3						
WRA	**Warramunga Arr**	**18.78**	**132**	P	P	07 59 30.8	+0.4
	0.7nm,0.3s,baz=305,slow=12,SNR=63						
WRA				S	S	08 02 46.5	-0.3
	0.1nm,0.3s,baz=304,slow=20,SNR=2.8						
ASAR	**Alice Springs**	**21.02**	**141**	P	P	07 59 53.2	+0.3
	2.3nm,0.4s,baz=314,slow=8.7,SNR=45						
STKA	**Stephens Creek**	**31.63**	**143**	P	P	08 01 28.6	+1.3
	1.3nm,0.8s,baz=332,slow=9.3,SNR=4.9						
MKAR	**Makanchi Array**	**63.53**	**332**	P	P	08 05 29.9	-0.1
	0.4nm,0.5s,baz=145,slow=6.3,SNR=6.1						
KURBB	**Kurchatov Arra**	**68.02**	**333**	P	P	08 05 58.0	-0.3
	0.1nm,0.3s,baz=147,slow=5.9,SNR=2.4						

*NEIC **30** 08:06:53.1±1.2, 7°.13S×129°.42E, h66^{km}±12^{km}, mb4.4/12, Error ellipse: s-maj=12.3km s-min=7.6km az=46.0*
*IDC **30** 08:06:54.5±3.5, 7°.22S×129°.13E, h74^{km}±32^{km}, mb4.0/10, mb1 4.1/12, mb1mx4.0/19, mbtmp4.0/12, MS3.5/3, Ms1 3.5/3, ms1mx2.8/35, Error ellipse: s-maj=31.8km s-min=13.8km az=69.0*
*ISCJB **30** 08:06:57.1±0.3, 7°.31S±0°.03×129°.67E±0°.04, h139^{km}, mb4.2/20, Error ellipse: s-maj=5.8km s-min=4.6km az=8.1*
*DJA **30** 08:06:58.5±0.3, 7°.5S×13°.0E±°, h104^{km}±7^{km}, M5.1/17, mB5.5/13, mb5.0/17, MLv5.5/7, Mw(mB)5.0/13*

ISC 30 08:06:59.1±0.5, 7°.23S±0°.06×129°.67E±0°.06, h139^{km}, n80, $_{\sigma}$1^{s}50/65, mb4.7/32, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**3.93**	**349**	P	Pn	08 08 03.4	+5.2
FAKI	**Fak Fak**	**5.00**	**31**	P	**Pn**	**08 08 12.7**	**+0.3**
FAKI				S	**Sn**	**08 09 07.9**	**-1.5**
SOEI	**Soe**	**5.90**	**244**	P	**Pn**	**08 08 22.8**	**-1.7**
	248nm,0.6s,10μm4.9nm						
SWI	**Sorong**	**6.53**	**14**	P	**Pn**	**08 08 31.2**	**-1.6**
	137nm,1.0s,3μm0.7nm						
SWI				S	**Sn**	**08 09 43.7**	**-2.4**
	137nm,1.0s,3μm0.7nm						
BATI	**Baumata**	**6.63**	**243**	P	**Pn**	**08 08 31.2**	**-3.0**
	127nm,0.6s,5μm1.8nm						
BATI				S	Sn	08 09 39.5	-9.1
	127nm,0.6s,5μm1.8nm						
RKPI	**Ransiki, Papua**	**7.25**	**39**	P	**Pn**	**08 08 42.9**	**+0.4**
	584nm,0.4s,10μm2.8nm						
RKPI				S	**Sn**	**08 10 01.9**	**-1.6**
	584nm,0.4s,10μm2.8nm						
BBSI	**Bau Bau**	**7.26**	**283**	P	**Pn**	**08 08 42.8**	**+0.1**
	182nm,1.1s,2μm0.5nm						
BAKI	**Biak**	**8.79**	**47**	P	Pn	08 09 07.4	+4.2
BASI	**Baing, Sumba**	**9.46**	**251**	P	**Pn**	**08 09 11.0**	**-1.1**
	227nm,1.0s						
SKSI	**Soroako, Sulaw**	**9.53**	**299**	P	**Pn**	**08 09 13.4**	**+0.3**
	37nm,1.0s,3μm						
BKSI	**Bulukumba**	**9.68**	**281**	P	**Pn**	**08 09 12.1**	**-2.9**
	30nm,1.0s,494nm						
KAPI	**Kappang**	**10.10**	**282**	Pn	Pn	08 09 10.7	-10
	18nm,1.2s						
KAPI	**Kappang**	**10.10**	**282**	LR	LR	08 12 34.6	
	comp=Z,141nm,21.3s,baz=113,slow=36						
WBSI	**Waikabubak, Su**	**10.44**	**256**	P	**Pn**	**08 09 25.0**	**-0.3**
	138nm,0.7s,3μm						
MRSI	**Marisa**	**10.87**	**315**	P	**Pn**	**08 09 31.5**	**+0.6**
	66nm,1.1s,898nm						
FITZ	**Fitzroy Crossi**	**11.49**	**200**	P	Pn	08 09 35.2	-3.9
FITZ				S	Sn	08 11 32.8	-13
FITZ	**Fitzroy Crossi**	**11.49**	**200**	P	Pn	08 09 35.2	-3.9
	12nm,0.3s,baz=32,slow=11,SNR=212						
FITZ				S	Sn	08 11 32.8	-13
	12nm,0.3s,baz=74,slow=14,SNR=7.4						
WRAB	**Tennant Creek**	**13.42**	**161**	*e*Pn	**Pn**	**08 10 02.9**	**-1.2**
	20nm,0.5s						
WRAB				*e*Sn	Sn	08 12 24.2	-8.3
WRA	**Warramunga Arr**	**13.42**	**161**	P	**Pn**	**08 10 02.7**	**-1.5**
WRA				S	Sn	08 12 24.4	-8.1
WRA	**Warramunga Arr**	**13.42**	**161**	P	**Pn**	**08 10 02.7**	**-1.5**
	4.3nm,0.3s,baz=340,slow=13,SNR=97						
WRA				S	Sn	08 12 24.4	-8.1
	14nm,0.3s,baz=341,slow=22,SNR=12						
COEN	**Coen**	**14.86**	**118**	*e*Pn	**P**	**08 10 24.5**	**-0.2**
	121nm,0.5s						
MYLDM	**Lahad Datu**	**16.62**	**318**	P	P	08 10 58.0	+14
ASAR	**Alice Springs**	**16.84**	**166**	P	**Pn**	**08 10 47.3**	**+0.6**
ASAR				S	Sn	08 13 43.9	-11
ASAR	**Alice Springs**	**16.84**	**166**	P	**Pn**	**08 10 47.3**	**+0.6**
	1.5nm,0.3s,baz=348,slow=13,SNR=55						
ASAR				S	Sn	08 13 43.9	-11
	2.6nm,0.3s,baz=320,slow=17,SNR=6.0						
MBWA	**Marble Bar**	**16.85**	**214**	*e*P	**P**	**08 10 45.2**	**-1.3**
	11nm,0.5s						
PMG	**Port Moresby**	**17.44**	**98**	*e*P	**Pn**	**08 10 53.5**	**-0.5**
	25nm,0.8s						
PMG	**Port Moresby**	**17.44**	**98**	LR	LR	08 18 49.1	
	comp=Z,82nm,18.6s,baz=215,slow=40						
SJI	**Sawahan**	**17.75**	**267**	P	**Pn**	**08 11 00.8**	**+3.0**
	39nm,0.2s,12μm						
SBUM	**Sibu**	**19.89**	**298**	P	**P**	**08 11 20.2**	**+0.4**
	75nm,1.1s,678nm						
KSM	**Kuching**	**21.16**	**293**	*e*P	**P**	**08 11 31.1**	**-2.5**
	13nm,0.6s						
KSM	**Kuching**	**21.16**	**293**	P	**P**	**08 11 36.8**	**+3.3**
	20nm,0.9s						
PPBI	**Pangkal Pinang**	**23.98**	**281**	P	**P**	**08 12 01.5**	**+0.5**
STKA	**Stephens Creek**	**26.93**	**157**	P	**P**	**08 12 30.2**	**+2.8**
STKA	**Stephens Creek**	**26.93**	**157**	P	**P**	**08 12 30.2**	**+2.8**
	2.7nm,0.5s,baz=339,slow=6.9,SNR=9.8						
NWAO	**Narrogin (SRO)**	**28.05**	**203**	*e*P	**P**	**08 12 36.9**	**-0.6**
	41nm,0.6s						
PSI	**Prapat**	**32.26**	**287**	P	P	08 13 11.3	-3.6
PSI	**Prapat**	**32.26**	**287**	P	P	08 13 11.3	-3.6
	20nm,0.8s,baz=95,slow=6.5,SNR=15						
CMAR	**Chiang Mai Arr**	**39.63**	**311**	P	**P**	**08 14 16.2**	**-1.2**
CMAR	**Chiang Mai Arr**	**39.63**	**311**	P	**P**	**08 14 16.2**	**-1.2**
	2.0nm,0.5s,baz=143,slow=7.5,SNR=8.4						
CHTO	**Chiang Mai**	**39.84**	**311**	*e*P	**P**	**08 14 19.0**	**-0.3**
	3.6nm,0.8s						
KSAR	**Wonju Array Be**	**44.47**	**358**	P	P	08 14 59.1	+2.7
KSRS	**Korea Array**	**44.48**	**358**	P	P	08 14 59.1	+2.6
	0.7nm,0.5s,baz=183,slow=7.5,SNR=4.2						
USRK	**Ussuriysk Arra**	**51.24**	**2**	P	P	08 15 50.9	+2.5
	0.9nm,0.6s,baz=160,slow=7.3,SNR=5.7						
LSA	**Lhasa**	**52.14**	**317**	*e*P	**P**	**08 15 57.5**	**+1.5**
	7.4nm,0.4s						
URZ	**Urewera**	**52.74**	**133**	LR	LR	08 35 29.6	
	comp=Z,178nm,19.9s,baz=205,slow=32						
ODAN	**Odare**	**53.16**	**311**	*e*P	**P**	**08 16 02.8**	**-0.5**
	44nm,0.5s						
TAPN	**Taplejung**	**53.19**	**312**	*e*P	**P**	**08 16 02.7**	**-0.9**
	45nm,0.4s						
RAMN	**Ramite**	**53.80**	**311**	*e*P	**P**	**08 16 07.4**	**-0.5**
	104nm,0.6s						
JIRN	**Jiri**	**54.49**	**311**	*e*P	**P**	**08 16 13.0**	**-0.1**
	39nm,0.6s						
GUN	**Gumba**	**54.86**	**312**	*e*P	**P**	**08 16 15.5**	**-0.2**
	88nm,0.6s						
PKI	**Pulchoki**	**55.03**	**311**	*e*P	**P**	**08 16 16.7**	**-0.2**
	29nm,0.6s						
PKIN	**Phulchoki**	**55.04**	**311**	*e*P	**P**	**08 16 16.9**	**0.0**
	22nm,0.6s						
KKN	**Kakani**	**55.24**	**311**	*e*P	**P**	**08 16 18.2**	**-0.1**
	28nm,0.6s						
DMN	**Daman**	**55.27**	**311**	*e*P	**P**	**08 16 17.6**	**-1.0**
	38nm,0.7s						
KOLN	**Koldanda**	**56.49**	**310**	*e*P	**P**	**08 16 26.9**	**-0.3**
	34nm,0.7s						
DANN	**Dangsing**	**56.67**	**311**	*e*P	**P**	**08 16 27.4**	**-1.2**
	18nm,0.6s						
PYUN	**Piuthan**	**57.13**	**310**	*e*P	**P**	**08 16 30.9**	**-0.8**
	76nm,0.9s						
SONM	**Songino Array**	**58.56**	**342**	P	**P**	**08 16 42.0**	**+0.8**
SONM	**Songino Array**	**58.56**	**342**	P	**P**	**08 16 42.0**	**+0.8**
	1.7nm,0.6s,baz=150,slow=7.0,SNR=12						
MKAR	**Makanchi Array**	**68.24**	**327**	P	**P**	**08 17 45.2**	**+0.4**
MKAR	**Makanchi Array**	**68.24**	**327**	P	**P**	**08 17 45.2**	**+0.4**
	8.0nm,0.5s,baz=122,slow=7.7,SNR=106						
TKM2	**Tokmak 2**	**69.95**	**321**	*e*P	**P**	**08 17 56.3**	**+0.6**
	4.7nm,0.6s						
EKS2	**Erkin-Say**	**70.98**	**320**	*e*P	**P**	**08 18 03.4**	**+1.5**
	4.9nm,0.8s						
ZALV	**Zalesovo Beam**	**71.64**	**334**	P	**P**	**08 18 05.4**	**0.0**
ZALV	**Zalesovo Beam**	**71.64**	**334**	P	**P**	**08 18 05.4**	**0.0**
	1.3nm,0.4s,baz=173,slow=3.5,SNR=4.4						
VNDA	**Vanda**	**72.26**	**173**	P	P	08 18 11.7	+3.0
VNDA	**Vanda**	**72.26**	**173**	P	P	08 18 11.7	+3.0
	0.8nm,0.8s,baz=310,slow=7.0,SNR=4.0						
KKAR	**Karatay Array**	**73.30**	**319**	*e*P	**P**	**08 18 16.6**	**+1.1**
	1.1nm,0.5s						
MAW	**Mawson**	**74.61**	**201**	P	P	08 18 25.2	+2.6
MAW	**Mawson**	**74.61**	**201**	P	P	08 18 25.2	+2.6
	3.9nm,1.2s,baz=67,slow=5.5,SNR=4.4						
BRVK	**Borovoye**	**78.16**	**328**	*e*P	**P**	**08 18 44.4**	**+1.5**
	2.7nm,0.6s						
ABKAR	**Akbulak array**	**82.48**	**322**	*e*P	**P**	**08 19 06.3**	**+0.2**
	2.7nm,0.6s						
ILAR	**Eielson Array**	**93.70**	**25**	P	**P**	**08 20 00.3**	**+0.6**
ILAR	**Eielson Array**	**93.70**	**25**	P	**P**	**08 20 00.3**	**+0.6**
	0.3nm,0.7s,baz=255,slow=3.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**128.53**	**281**	PKP	**PKPdf**	**08 25 52.0**	**+1.4**
TORD				SKPbc	SKiKP	08 29 01.7	-13
TORD	**Torodi Ar. Bea**	**128.53**	**281**	PKP	**PKPdf**	**08 25 52.0**	**+1.4**
	0.6nm,0.6s,baz=94,slow=2.2,SNR=4.3						
TORD				SKPbc	SKiKP	08 29 01.7	-13
	0.5nm,0.7s,baz=49,slow=3.0,SNR=4.1						
CPUP	**Villa Florida**	**145.95**	**169**	PKPbc	**PKPab**	**08 26 26.5**	**+2.7**
CPUP	**Villa Florida**	**145.95**	**169**	PKPbc	**PKPab**	**08 26 26.5**	**+2.7**
	1.2nm,0.6s,baz=178,slow=5.4,SNR=4.9						
LPAZ	**La Paz**	**150.74**	**143**	PKPbc	**PKPab**	**08 26 41.2**	**-2.9**
LPAZ	**La Paz**	**150.74**	**143**	PKPbc	**PKPab**	**08 26 41.2**	**-2.9**
	1.1nm,0.4s,baz=55,slow=2.2,SNR=9.1						

*KRSC **30** 08:29:27.6±0.9, 53°.14N×156°.65E, h327^{km}±37^{km}, ML4.1*
*MOS **30** 08:29:28.7±1.0, 53°.39N×156°.30E, h308^{km}, mb3.4/4, Error ellipse: s-maj=17.9km s-min=9.8km az=60.2*
*ISCJB **30** 08:29:29.3±0.3, 53°.24N±0°.05×156°.4E±0°.1, h309^{km}±4^{km}, mb3.3/11, Error ellipse: s-maj=12.6km s-min=6.1km az=32.5*
*IDC **30** 08:29:29.8±0.5, 53°.31N×156°.24E, h302^{km}±4^{km}, mb3.1/10, mb1 3.4/12, mb1mx3.2/29, mbtmp3.2/12, Error ellipse: s-maj=18.0km s-min=11.5km az=163.0*

ISC 30 08:29:29.9±0.6, 53°.27N±0°.06×156°.45E±0°.07, h303^{km}±6^{km}, n70, $_{\sigma}$1^{s}08/86, mb3.3/11, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APC	**Apacha**	**0.55**	**128**	*e*P	**Pn**	**08 30 09.6**	**+0.5**
APC				*i* S	**S**	**08 30 39.6**	**-0.6**
PETK	**Petropavlovsk-**	**0.77**	**101**	*e*PN	**Pn**	**08 30 10.1**	**+0.4**
PETK				pmax	pmax		
	comp=Z,11nm,0.3s						
PETK	**Petropavlovsk-**	**0.77**	**101**	P	**Pn**	**08 30 10.1**	**+0.4**
	comp=Z,11nm,0.3s,baz=101,slow=3.6,SNR=109						
PETK				S	**S**	**08 30 42.1**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=196,slow=24,SNR=2.3						
GNL	**Ganaly**	**0.99**	**64**	*e*P	**Pn**	**08 30 11.4**	**+0.7**
GNL				*i* S	**S**	**08 30 43.9**	**+0.7**
MIPR	**Malaya Ipel'ka**	**1.01**	**169**	*e*P	**Pn**	**08 30 11.4**	**+0.6**
ASAK	**Asacha**	**1.25**	**135**	*e*P	**Pn**	**08 30 12.4**	**+0.3**
ASAK				*i* S	**S**	**08 30 45.6**	**0.0**
MTVR	**Mutnovka**	**1.31**	**126**	*e*P	**Pn**	**08 30 13.0**	**+0.5**
KOK	**Koryaka**	**1.31**	**88**	*e*P	**Pn**	**08 30 13.1**	**+0.7**
KOK				*i* S	**S**	**08 30 46.6**	**+0.4**
PET	**Petropavlovsk**	**1.35**	**100**	*e*PN	**Pn**	**08 30 12.3**	**-0.2**
PET				*e*S	**S**	**08 30 44.9**	**-1.4**
PET				pmax	pmax		
	comp=Z,73nm,0.9s						
PET				smax	smax		
	comp=E,131nm,0.6s						
PET				smax	smax		
	comp=N,74nm,0.5s						
PET	**Petropavlovsk**	**1.35**	**100**	*e*P	**Pn**	**08 30 12.7**	**+0.2**
PET				*i* S	**S**	**08 30 45.5**	**-0.8**
AVH	**Avacha**	**1.38**	**89**	*e*P	**Pn**	**08 30 12.8**	**+0.1**
AVH				*i* S	**S**	**08 30 45.9**	**-0.9**
KRER	**Koryakskii**	**1.38**	**88**	*e*P	**Pn**	**08 30 13.6**	**+0.7**
KRER				*i* S	**S**	**08 30 47.2**	**+0.1**
SMAR	**Somma**	**1.41**	**89**	*e*P	**Pn**	**08 30 13.7**	**+0.6**
SMAR				*i* S	**S**	**08 30 47.6**	**+0.1**
UGLR	**Uglovaya**	**1.43**	**91**	*e*P	**Pn**	**08 30 13.8**	**+0.7**
UGLR				*i* S	**S**	**08 30 47.7**	**+0.3**
SDLR	**Sedlovina**	**1.46**	**89**	*e*P	**Pn**	**08 30 13.5**	**+0.2**
SDLR				*i* S	**S**	**08 30 47.1**	**-0.7**
RUS	**Russkaya**	**1.50**	**123**	PN	**Pn**	**08 30 12.8**	**-0.6**
RUS				S	**S**	**08 30 46.1**	**-2.0**
RUS	**Russkaya**	**1.50**	**123**	*e*P	**Pn**	**08 30 12.8**	**-0.6**
RUS				*i* S	**S**	**08 30 46.1**	**-2.0**
NLC	**Nalytchevo**	**1.74**	**92**	PN	**Pn**	**08 30 15.3**	**+0.3**
NLC				S	**S**	**08 30 49.5**	**-1.4**
NLC	**Nalytchevo**	**1.74**	**92**	*e*P	**Pn**	**08 30 15.3**	**+0.3**
NLC				*i* S	**S**	**08 30 49.5**	**-1.4**
PAU	**Pauzhetka**	**1.82**	**173**	PN	**Pn**	**08 30 16.0**	**+0.3**
PAU	**Pauzhetka**	**1.82**	**173**	*e*P	**Pn**	**08 30 16.0**	**+0.3**
SKR	**Severo-Kuril's**	**2.60**	**185**	*e*PN	Pn	08 30 28.5	+6.4
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
ESO	**Esso**	**2.97**	**25**	PN	**Pn**	**08 30 26.2**	**+0.7**
ESO	**Esso**	**2.97**	**25**	*e*P	**Pn**	**08 30 26.2**	**+0.7**
KMNR	**Kamenistaya**	**3.33**	**40**	*e*P	**Pn**	**08 30 30.9**	**+1.7**
MKZ	**Mys Kozlova**	**3.38**	**65**	PN	**Pn**	**08 30 28.3**	**-1.3**
MKZ	**Mys Kozlova**	**3.38**	**65**	*e*P	**Pn**	**08 30 28.3**	**-1.3**
MKZ				*i* S	S	08 31 11.7	-5.6
KOZ	**Kozyrevsk**	**3.43**	**34**	*e*P	**Pn**	**08 30 30.7**	**+0.6**
KOZR	**Kozyr**	**3.45**	**34**	PN	**Pn**	**08 30 30.7**	**+0.4**
KPT	**Kopyto**	**3.48**	**38**	*e*P	**Pn**	**08 30 31.6**	**+0.8**
KIRR	**Kirishev**	**3.52**	**38**	*e*P	**Pn**	**08 30 31.5**	**+0.3**
BZMR	**Bezymyannaya**	**3.56**	**40**	*e*P	**Pn**	**08 30 32.6**	**+1.0**
BZWR	**Bezymyannyi-We**	**3.58**	**39**	*e*P	**Pn**	**08 30 33.0**	**+1.1**
SRDR	**Sredinnyy**	**3.59**	**30**	*e*P	**Pn**	**08 30 32.3**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**3.64**	**41**	*e*P	**Pn**	**08 30 33.2**	**+0.7**
ZLN	**Zelenaya**	**3.74**	**41**	*e*P	**Pn**	**08 30 35.0**	**+1.

BOSA	**Boshof**	**35.27**	**107**	P		**P**	**08 41 37.5**	**-0.4**
	14nm,1.1s,baz=236,slow=6.4,SNR=11							
BOSA				LR		LR	08 53 36.7	
	comp=Z,556nm,18.1s,baz=270,slow=32							
LBTB	**Lobatse**	**35.73**	**101**	*e*P		**P**	**08 41 41.5**	**-0.6**
LBTB	**Lobatse**	**35.73**	**101**	P		**P**	**08 41 41.2**	**-0.8**
	4.5nm,0.7s,baz=283,slow=11,SNR=10.0							
TORD	**Torodi Ar. Bea**	**38.97**	**24**	P		**P**	**08 42 07.6**	**-1.6**
TORD	**Torodi Ar. Bea**	**38.97**	**24**	P		**P**	**08 42 07.6**	**-1.6**
	11nm,0.6s,baz=200,slow=8.8,SNR=97							
TORD				LR		LR	08 54 48.0	
	comp=Z,554nm,21.3s,baz=195,slow=31							
CPUP	**Villa Florida**	**39.76**	**256**	P		**P**	**08 42 14.9**	**-1.0**
CPUP	**Villa Florida**	**39.76**	**256**	P		**P**	**08 42 14.9**	**-1.0**
	7.2nm,0.9s,baz=72,slow=8.4,SNR=11							
CPUP				LR		LR	08 57 02.7	
	comp=Z,177nm,18.2s,baz=85,slow=34							
LSZ	**Lusaka**	**40.08**	**87**	*e*P		**P**	**08 42 19.2**	**+0.3**
LSZ	**Lusaka**	**40.08**	**87**	P		**P**	**08 42 18.2**	**-0.6**
	3.2nm,0.7s,baz=273,slow=7.5,SNR=10							
TRQA	**Tornquist**	**43.81**	**239**	*e*P		**P**	**08 42 49.9**	**+0.9**
	12nm,0.9s							
SIV	**San Ignacio**	**45.17**	**270**	P		**P**	**08 43 00.2**	**0.0**
SIV	**San Ignacio**	**45.17**	**270**	P		**P**	**08 43 00.2**	**0.0**
	3.7nm,0.9s,baz=115,slow=11,SNR=8.1							
SNAA	**Sanae**	**49.02**	**176**	*e*P		**P**	**08 43 29.9**	**+0.5**
SNAA	**Sanae**	**49.02**	**176**	*e*P		**P**	**08 43 30.9**	**+1.4**
SNAA	**Sanae**	**49.02**	**176**	P		**P**	**08 43 29.1**	**-0.3**
	0.9nm,0.9s,baz=344,slow=8.4,SNR=7.9							
TAM	**Tamanrasset**	**49.22**	**23**	*e*P		**P**	**08 43 32.0**	**+0.4**
	12nm,1.2s							
SAML	**Samuel**	**49.48**	**278**	*e*P		**P**	**08 43 34.4**	**+0.7**
	15nm,1.2s							
PLCA	**Paso Flores**	**50.62**	**236**	P		**P**	**08 43 41.9**	**-0.2**
PLCA	**Paso Flores**	**50.62**	**236**	P		**P**	**08 43 41.9**	**-0.2**
	4.7nm,1.1s,baz=75,slow=6.0,SNR=4.7							
PLCA				LR		LR	09 00 50.5	
	comp=Z,124nm,20.9s,baz=6.2,slow=31							
LCO	**Las Campanas**	**51.27**	**251**	*e*P		**P**	**08 43 47.7**	**+0.3**
	38nm,1.1s							
LPAZ	**La Paz**	**51.58**	**267**	*e*P		**P**	**08 43 49.5**	**-0.8**
LPAZ	**La Paz**	**51.58**	**267**	P		**P**	**08 43 49.1**	**-1.2**
	2.9nm,0.8s,baz=98,slow=5.9,SNR=11							
LPAZ				LR		LR	09 05 45.5	
	comp=Z,155nm,18.7s,baz=283,slow=36							
KMBO	**Kilima Mbogo**	**53.88**	**74**	LR		LR	09 03 51.4	
	comp=Z,121nm,19.5s,baz=96,slow=32							
SYO	**Syowa Base**	**55.78**	**160**	*e*P		**P**	**08 44 19.4**	**-0.1**
EVO	**Evora**	**61.49**	**5**	*e*P		**P**	**08 45 00.2**	**+0.6**
	18nm,0.9s							
KEST	**Kesra**	**62.37**	**21**	P		**P**	**08 45 05.9**	**+0.2**
KEST	**Kesra**	**62.37**	**21**	P		**P**	**08 45 05.9**	**+0.2**
	4.1nm,1.0s,baz=154,slow=9.2,SNR=7.6							
KEST				LR		LR	09 10 08.4	
	comp=Z,64nm,19.0s,baz=185,slow=34							
ESDC	**Sonseca Array**	**63.05**	**8**	P		**P**	**08 45 10.2**	**+0.1**
ESDC	**Sonseca Array**	**63.05**	**8**	P		**P**	**08 45 10.2**	**+0.1**
	0.5nm,0.5s,baz=212,slow=7.1,SNR=6.2							
ESDC				LR		LR	09 09 32.7	
	comp=Z,81nm,21.6s,baz=245,slow=33							
MTE	**Manteigas**	**63.38**	**5**	*e*P		**P**	**08 45 15.2**	**+2.9**
	27nm,1.6s							
MAW	**Mawson**	**63.73**	**155**	*e*P		P	08 45 18.8	+4.5
MAW	**Mawson**	**63.73**	**155**	P		**P**	**08 45 15.5**	**+1.2**
	3.6nm,0.7s,baz=278,slow=10,SNR=5.4							
MAW				LR		LR	09 05 57.0	
	comp=Z,167nm,19.3s,baz=101,slow=29							
MVO	**Moncorvo**	**64.19**	**5**	*e*P		**P**	**08 45 19.8**	**+2.2**
	28nm,1.6s							
SDV	**Santo Domingo**	**64.22**	**293**	*e*P		**P**	**08 45 18.5**	**-0.1**
	20nm,0.8s							
PCAB	**Cabril**	**64.65**	**5**	*e*P		**P**	**08 45 22.7**	**+2.1**
	30nm,1.7s							
PBRG	**Braganca**	**64.85**	**6**	*e*P		**P**	**08 45 23.2**	**+1.3**
	20nm,1.6s							
ROSC	**El Rosal**	**65.45**	**287**	*e*P		**P**	**08 45 27.1**	**+0.2**
ROSC	**El Rosal**	**65.45**	**287**	P		**P**	**08 45 27.4**	**+0.5**
	5.1nm,0.6s,baz=105,slow=2.6,SNR=8.5							
ROSC				LR		LR	09 12 54.3	
	comp=Z,304nm,19.3s,baz=140,slow=35							
ETSF	**Etsaut**	**66.72**	**10**	*e*P		**P**	**08 45 34.1**	**+0.1**
	68nm,1.7s							
SJPF	**Ste Jean**	**66.82**	**10**	*e*P		**P**	**08 45 34.4**	**-0.1**
TIP	**Timpagrande**	**68.11**	**25**	*e*P		**P**	**08 45 43.5**	**+0.6**
PGF	**Pioggiola**	**68.53**	**18**	*e*P		**P**	**08 45 45.1**	**-0.3**
	24nm,1.2s							
LMR	**La Mourre**	**68.60**	**16**	*e*P		**P**	**08 45 45.7**	**0.0**
	30nm,1.1s							
LASF	**Ste Croix**	**68.69**	**13**	*e*P		**P**	**08 45 46.9**	**+0.6**
LFF	**La Frestale**	**68.92**	**11**	*e*P		**P**	**08 45 47.3**	**-0.4**
	97nm,1.4s							
CAF	**Calviac**	**69.15**	**12**	*e*P		**P**	**08 45 49.1**	**-0.1**
	47nm,1.4s							
RJF	**Les Rejaudoux**	**69.41**	**11**	*e*P		**P**	**08 45 50.5**	**-0.3**
ORIF	**Oris-en-Rattie**	**69.94**	**15**	*e*P		**P**	**08 45 54.1**	**-0.1**
	28nm,1.2s							
TCF	**Toulx Ste Croi**	**70.49**	**12**	*e*P		**P**	**08 45 57.1**	**-0.3**
	22nm,1.1s							
SMF	**Signal de Mont**	**71.15**	**13**	*e*P		**P**	**08 46 01.2**	**-0.2**
AVF	**Avril sur Loir**	**71.19**	**12**	*e*P		**P**	**08 46 00.8**	**-0.8**
SSF	**Saint Saulge**	**71.48**	**12**	*e*P		**P**	**08 46 02.3**	**-1.1**
CABF	**La Chapelle**	**71.59**	**14**	*e*P		**P**	**08 46 03.7**	**-0.5**
	14nm,0.7s							
TUE	**Stuetta**	**72.25**	**16**	*e*P		**P**	**08 46 08.2**	**-0.1**
	4.4nm,0.8s							
TUE				*e*PcP		**PcP**	**08 46 25.5**	**-0.9**
FETA	**Feichten**	**73.13**	**17**⇑	*i*P		**P**	**08 46 10.5**	**-2.9**
	8.5nm,1.0s							
DAVA	**Damuels**	**73.15**	**16**⇑	*i*P		**P**	**08 46 13.3**	**-0.2**
	17nm,0.9s							
WTTA	**Wattenberg**	**73.60**	**18**⇓	*i*P		**P**	**08 46 17.2**	**+1.0**
	12nm,1.0s							
SOKA	**Soboth**	**74.08**	**20**⇑	*i*P		**P**	**08 46 19.0**	**+0.1**
	9.9nm,1.0s							
BAIF	**Baives**	**74.49**	**12**	*e*P		**P**	**08 46 20.4**	**-0.7**
ARSA	**Arzberg**	**74.74**	**20**⇑	*i*P		**P**	**08 46 24.2**	**+1.5**
	12nm,1.1s							
MOA	**Molln**	**74.89**	**19**⇓	*i*P		**P**	**08 46 22.4**	**-1.1**
	10nm,1.0s							
GERES	**GERESS Array B**	**75.62**	**18**	P		**P**	**08 46 26.5**	**-1.3**
GERES	**GERESS Array B**	**75.62**	**18**	P		**P**	**08 46 26.5**	**-1.3**
	1.7nm,0.7s,baz=165,slow=5.5,SNR=6.9							
GERES				LR		LR	09 19 12.7	
	comp=Z,76nm,18.8s,baz=265,slow=35							
KHC	**Kasperske Hory**	**75.84**	**18**	*e*P		**P**	**08 46 31.3**	**+2.3**
KHC				*e*pP		**pP**	**08 46 34.7**	**+2.4**
BR131	**Keskin Array S**	**76.43**	**36**	*e*P		**P**	**08 46 33.2**	**+0.5**
	3.9nm,0.7s							
BRTR	**Keskin Array B**	**76.43**	**36**	P		**P**	**08 46 32.6**	**-0.1**
BRTR	**Keskin Array B**	**76.43**	**36**	P		**P**	**08 46 32.6**	**-0.1**
	2.7nm,0.9s,baz=198,slow=6.5,SNR=8.1							
BRTR				LR		LR	09 20 05.7	
	comp=Z,39nm,20.6s,baz=269,slow=36							
VOIR		**76.70**	**27**⇑	*i*P		**P**	**08 46 33.0**	**-1.0**
PSZ	**Piszkesteto**	**76.78**	**22**	*e*P		**P**	**08 46 36.0**	**+1.6**
	12nm,1.1s							
PSZ	**Piszkesteto**	**76.78**	**22**⇓	*i*P		**P**	**08 46 35.2**	**+0.8**
PRU	**Pruhonice**	**76.89**	**18**	*e*P		**P**	**08 46 37.4**	**+2.6**
VYHS	**Vyhne**	**76.91**	**21**	*e*P		**P**	**08 46 35.5**	**+0.4**
MLR	**Muntele Rosu**	**77.12**	**27**⇓	*i*P		**P**	**08 46 37.8**	**+1.4**
KECS	**Kecovo**	**77.47**	**22**	*e*P		**P**	**08 46 39.7**	**+1.5**
CLL	**Collm**	**77.65**	**17**	*e*P		**P**	**08 46 41.0**	**+1.9**
	comp=Z,37nm,2.2s							
CLL				LmV			09 19 00.0	
	comp=Z,100nm,21.5s							
PLOR	**Plostina**	**77.70**	**28**⇑	*i*P		**P**	**08 46 40.1**	**+0.5**
DPC	**Dobruska-Polom**	**77.73**	**19**	*e*P		**P**	**08 46 42.4**	**+2.7**
VRI	**Vrincioaia**	**77.75**	**28**⇓	*i*P		**P**	**08 46 40.0**	**+0.2**
SBA	**Scott Base**	**79.30**	**180**	*e*P		**P**	**08 46 51.0**	**+2.9**
	comp=Z,4.5nm,1.0s							
VNDA	**Vanda**	**79.60**	**179**	P		**P**	**08 46 51.1**	**+1.5**
VNDA	**Vanda**	**79.60**	**179**	P		**P**	**08 46 51.1**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=222,slow=3.3,SNR=4.9							
VNDA				LR		LR	09 15 45.5	
	comp=Z,126nm,19.2s,baz=180,slow=31							
KBZ	**Khabaz**	**84.23**	**37**	P		**P**	**08 47 12.8**	**-1.5**
KBZ	**Khabaz**	**84.23**	**37**	P		**P**	**08 47 12.8**	**-1.5**
	comp=Z,1.5nm,0.3s,baz=279,slow=3.1,SNR=5.3							
NB2	**NORSAR Subarra**	**86.17**	**12**	P		**P**	**08 47 24.3**	**+0.5**
	comp=Z,5.2nm,1.1s,baz=202,slow=5.3							
NOA	**NORSAR Array B**	**86.17**	**12**	P		**P**	**08 47 24.1**	**+0.2**
NOA	**NORSAR Array B**	**86.17**	**12**	P		**P**	**08 47 24.1**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=200,slow=5.2,SNR=3.6							
NOA				LR		LR	09 26 15.4	
	comp=Z,33nm,19.8s,baz=215,slow=36							
SCHQ	**Schefferville**	**89.94**	**332**	P		**P**	**08 47 41.3**	**-0.6**
	comp=Z,4.0nm,0.8s,baz=168,slow=7.7,SNR=4.1							
SCHQ				LR		LR	09 22 27.0	
	comp=Z,220nm,18.3s,baz=103,slow=32							
FINES	**FINESS Array B**	**90.05**	**18**	P		**P**	**08 47 41.9**	**-0.3**
FINES	**FINESS Array B**	**90.05**	**18**	P		**P**	**08 47 41.9**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=140,slow=6.5,SNR=7.6							
FINES				LR		LR	09 29 09.0	
	comp=Z,89nm,18.0s,baz=38,slow=36							
ARCES	**ARCESS Array B**	**96.50**	**13**	LR		LR	09 30 17.6	
	comp=Z,57nm,20.5s,baz=98,slow=35							
WMQ	**Urumqi**	**113.51**	**51**	PKP			08 53 21.5	
ASAR	**Alice Springs**	**123.81**	**144**	PKP		**PKPdf**	**08 53 39.8**	**-1.9**
ASAR	**Alice Springs**	**123.81**	**144**	PKP		**PKPdf**	**08 53 39.8**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=188,slow=4.7,SNR=3.6							
CD2	**Chengdu**	**124.22**	**67**	*e*PKP		**PKPdf**	**08 53 42.3**	**+0.1**
LZH	**Lanzhou**	**124.88**	**61**	*e*PKP		**PKPdf**	**08 53 44.0**	**+0.5**
LZH				LR		LR		
	comp=N,100nm,18.0s							
LZH				LR		LR		
	comp=E,98nm,17.5s							
LZH				LR		LR		
	comp=Z,130nm,19.6s							
GYA	**Guiyang**	**126.03**	**73**	*e*Pdif		**Pdif**	**08 50 23.5**	**-1.0**
GYA				PP		**PP**	**08 55 42.8**	**+3.0**
GYA				AMB		AMB		
	comp=Z,80nm,7.5s							
QIZ	**Qiongzhong**	**127.30**	**83**	PKP		**PKPdf**	**08 53 47.5**	**-0.9**
QIZ				PP		**PP**	**08 55 48.0**	**-0.2**
QIZ				SS		SS	09 12 58.3	-0.2
ILAR	**Eielson Array**	**128.52**	**337**	PKP		**PKPdf**	**08 53 49.0**	**-0.3**
ILAR	**Eielson Array**	**128.52**	**337**	PKP		**PKPdf**	**08 53 49.0**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=331,slow=0.8,SNR=16							
CN2	**Changchun**	**140.54**	**48**	*e*PKP		**PKPdf**	**08 54 08.5**	**-3.9**
KSAR	**Wonju Array Be**	**144.01**	**58**	PKP		PKPbc	08 54 17.2	+0.6
KSRS	**Korea Array**	**144.03**	**58**	PKP		PKPbc	08 54 17.2	+0.5
	comp=Z,1.0nm,0.6s,baz=307,slow=3.0,SNR=4.2							
USRK	**Ussuriysk Arra**	**144.78**	**45**	PKP		**PKPab**	**08 54 17.8**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=261,slow=1.4,SNR=12							
MJAR	**Matsushiro Arr**	**152.18**	**55**	PKPbc		**PKPbc**	**08 54 39.8**	**+0.9**
MJAR	**Matsushiro Arr**	**152.18**	**55**	PKPbc		**PKPbc**	**08 54 39.8**	**+0.9**
	comp=Z,2.1nm,0.8s,baz=267,slow=1.5,SNR=6.3							

GUC 30 08:49:34.3±0.7, 32°.95S×69°.88W, h130km±4km, MD3.5, ML3.5, 8C-7D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**0.65**	**294**	⇑	*i*P		Pn	08 49 54.1	-0.4
JACH					*i* S		Sn	08 50 09.7	0.0
PEL	**Peldehue**	**0.70**	**253**	⇓	*i*P		Pn	08 49 54.4	-0.3
PEL					*i* S		Sn	08 50 09.3	-0.8
PEL					AML		AML	08 50 11.4	
	comp=E,3μm,0.3s								
CLCH	**Cerro Calan**	**0.71**	**230**	⇑	*i*P		Pn	08 49 54.5	-0.3
CLCH					*i* S		Sn	08 50 09.7	-0.7
CLCH					AML		AML	08 50 11.6	
	comp=N,1μm,0.4s								
LACH	**Col Las Americ**	**0.74**	**227**	⇓	*i*P		Pn	08 49 54.7	-0.3
LACH					*i* S		Sn	08 50 10.3	-0.5
LACH					AML		AML	08 50 13.3	
	comp=N,571nm,0.3s								
SJCH	**San Jose de Ma**	**0.80**	**209**	⇑	*i*P		Pn	08 49 54.4	-1.2
SJCH					*i* S		Sn	08 50 10.4	-1.3
SJCH					AML		AML	08 50 11.2	
	comp=E,808nm,0.5s								
STL	**Santa Lucia**	**0.80**	**232**		*e*P		Pn	08 49 55.1	-0.4
STL					*i* S		Sn	08 50 10.9	-0.7
SAN	**Santiago**	**0.83**	**232**	⇓	*i*P		Pn	08 49 55.5	-0.2
SAN					*i* S		Sn	08 50 11.4	-0.6
SAN					AML		AML	08 50 12.0	
	comp=N,2μm,0.4s								
PCH	**Pirque**	**0.86**	**218**	⇓	*i*P		Pn	08 49 55.9	-0.1
PCH					*i* S		Sn	08 50 11.9	-0.6
ANTU	**Antumapu**	**0.89**	**225**	⇑	*i*P		Pn	08 49 56.0	-0.2
ANTU					*i* S		Sn	08 50 12.2	-0.6
ANTU					AML		AML	08 50 13.7	
	comp=E,2μm,0.4s								
LMEL	**Las Melosas**	**0.94**	**196**	⇑	*i*P		Pn	08 49 56.4	-0.4
LMEL					AML		AML	08 50 19.1	
	comp=N,758nm,0.2s								
ROCH	**El Roble**	**0.95**	**268**	⇑	*i*P		Pn	08 49 56.8	-0.2
ROCH					*i* S		Sn	08 50 14.0	-0.2
ROCH					AML		AML	08 50 15.1	
	comp=N,1μm,0.3s								
PTCH	**Petorca**	**1.11**	**307**		*e*P		Pn	08 49 58.4	0.0
PTCH					*e*S		Sn	08 50 16.3	-0.2
PTCH					AML		AML	08 50 18.3	
	comp=N,3μm,0.2s								
TACH	**Talagante**	**1.13**	**231**	⇓	*i*P		Pn	08 49 58.2	-0.2
TACH					*i* S		Sn	08 50 16.3	-0.5
CHCH	**Chadas Angostu**	**1.18**	**213**		*e*P		Pn	08 49 59.2	+0.2
CACH	**El Canelo**	**1.31**	**207**	⇓	*i*P		Pn	08 50 00.9	+0.4
CACH					*i* S		Sn	08 50 20.9	+0.4
IHA	**Instituto Hidr**	**1.48**	**266**	⇓	*i*P		Pn	08 50 01.9	-0.2
IHA					*i* S		Sn	08 50 23.3	0.0
LNV	**Longovilo**	**1.63**	**231**	⇑	*i*P		Pn	08 50 03.5	-0.2
LNV					*i* S		Sn	08 50 25.6	-0.7
CMCH	**Combarbala**	**2.00**	**331**		*e*P		Pn	08 50 08.8	+0.3
CMCH					*i* S		Sn	08 50 34.6	+0.1
TLL	**Tololo Astrono**	**2.88**	**344**		*e*P		Pn	08 50 23.0	+3.3
TLL					*e*S		Sn	08 50 57.2	+2.5
TLL					AML		AML	08 51 02.9	
	comp=E,110nm,0.3s								
LCO	**Las Campanas**	**3.98**	**350**	⇑	*i*P		Pn	08 50 34.4	+0.2
LCO					*i* S		Sn	08 51 18.4	-2.3

*ISCJB **30** 09:04:07.8±0.3, 23°.87N±0°.02×121°.79E±0°.02, h49km±5km, Error ellipse: s-maj=4.1km s-min=2.5km az=135.2*
*TAP **30** 09:04:07.6, 23°.90N×121°.75E, h54km, ML3.1, C*
*JMA **30** 09:04:08.4±0.3, 23°.79N×121°.89E, h30km, M2.5*

ISC 30 09:04:08.4±1.2, 23°.88N±0°.03×121°.77E±0°.03, h47km±7km, n44, σ0°.62/82, 3C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.18**	**303**		*e*P		**Pn**	**09 04 16.1**	**-0.1**
	baz=301								
HWA					S		**Sn**	**09 04 22.7**	**+1.0**
	baz=301								
TWD	**Chiawan**	**0.26**	**322**	⇓	*i*P		**Pn**	**09 04 16.7**	**-0.1**
	baz=324								
TWD					*i* S		**Sn**	**09 04 23.4**	**+0.6**
	baz=324								
TEGC	**Jichi Village**	**0.27**	**232**		*e*P		**Pn**	**09 04 17.2**	**+0.3**
	baz=225								
ESL	**Shilin**	**0.32**	**259**	⇑	*i*P		**Pn**	**09 04 17.2**	**-0.2**
	baz=263								
ESL					*e*S		**Sn**	**09 04 23.7**	**0.0**
	baz=263								
EHP	**Heping Village**	**0.43**	**356**		*e*P		**Pn**	**09 04 18.1**	**-0.6**
	baz=359								
WHF	**Hehuan Shan**	**0.54**	**300**	⇓	*i*P		**Pn**	**09 04 19.7**	**-0.6**
	baz=294								
WHF					*e*S		**Sn**	**09 04 28.3**	**-0.5**
	baz=294								
ENA	**Nanau**	**0.55**	**357**		P		**Pn**	**09 04 19.6**	**-0.4**
	baz=5.0								
ENA					S		**Sn**	**09 04 28.6**	**+0.2**
	baz=5.0								
EHY	**Hungye**	**0.55**	**228**	⇑	*i*P		**Pn**	**09 04 19.3**	**-0.8**
	baz=224								
EHY					*e*S		**Sn**	**09 04 27.9**	**-0.6**
	baz=224								
TWT	**Tachien**	**0.66**	**305**		*e*P		**Pn**	**09 04 21.5**	**-0.2**
	baz=296								
TWT					*e*S		**Sn**	**09 04 31.3**	**+0.1**
	baz=296								
NNS	**Nan Shan**	**0.67**	**327**		*e*P		**Pn**	**09 04 20.8**	**-0.9**
	baz=328								
NNS					*e*S		**Sn**	**09 04 30.8**	**-0.5**
	baz=328								
TWF1	**Yuli**	**0.68**	**220**	⇑	P		**Pn**	**09 04 21.0**	**-0.7**
	baz=224								
TWF1					*e*S		**Sn**	**09 04 30.5**	**-0.9**
	baz=224								
TWC	**Suao**	**0.73**	**5**		P		**Pn**	**09 04 22.3**	**-0.1**
	baz=8.0								
TWC					S		**Sn**	**09 04 32.9**	**+0.3**
	baz=8.0								
ENTT	**Nioudou**	**0.78**	**346**		*e*P		**Pn**	**09 04 22.6**	**-0.5**
	baz=348								
ENTT					*e*S		**Sn**	**09 04 33.4**	**-0.5**
	baz=348								
SMLT	**Sun Moon Lake**	**0.80**	**271**		*e*P		**Pn**	**09 04 23.2**	**-0.2**
	baz=268								
SMLT					*e*S		**Sn**	**09 04 34.9**	**+0.5**
	baz=268								
TYC	**Yuchr**	**0.84**	**272**		P		**Pn**	**09 04 23.8**	**0.0**
	baz=272								
TYC					*e*S		**Sn**	**09 04 35.3**	**+0.2**
	baz=272								
YUS	**Yu-Shan**	**0.84**	**243**		P		**Pn**	**09 04 24.3**	**0.0**
	baz=234								
YUS					*e*S		**Sn**	**09 04 35.7**	**-0.3**
	baz=234								
TWE	**Neicheng**	**0.85**	**353**		*e*P		**Pn**	**09 04 23.8**	**-0.2**
	baz=348								
TWE					*e*S		**Sn**	**09 04 35.6**	**+0.3**
	baz=348								
CHKT	**Chengkung**	**0.86**	**206**		P		**Pn**	**09 04 23.4**	**-0.7**
	baz=197								
CHKT					S		**Sn**	**09 04 35.3**	**-0.3**
	baz=197								
NSK	**Sanguang**	**0.88**	**335**		P		**Pn**	**09 04 23.9**	**-0.6**
	baz=336								
NSK					*e*S		**Sn**	**09 04 35.0**	**-1.2**
	baz=336								
ALS	**Alishan**	**0.96**	**248**		*e*P		**Pn**	**09 04 25.8**	**+0.1**
	baz=240								
ALS					*e*S		**Sn**	**09 04 38.5**	**+0.1**
	baz=240								
ELDTW	**Lidau**	**0.97**	**226**		*e*P		**Pn**	**09 04 24.9**	**-0.8**
	baz=219								
ELDTW					*e*S		**Sn**	**09 04 37.3**	**-1.2**
	baz=219								
WNT	**Mingjian**	**1.00**	**270**		*e*P		**Pn**	**09 04 26.3**	**+0.3**
	baz=268								
WNT					*e*S		**Sn**	**09 04 39.6**	**+0.6**
	baz=268								
TWQ1	**Liyutan**	**1.03**	**297**		*e*P		**Pn**	**09 04 26.3**	**-0.1**
	baz=296								
TWQ1					*e*S		**Sn**	**09 04 40.0**	**+0.3**
	baz=296								
NSTT	**Nanjuang**	**1.03**	**317**		*e*P		**Pn**	**09 04 26.2**	**-0.2**
	baz=305								
NSTT					*e*S		**Sn**	**09 04 39.5**	**-0.2**
	baz=305								
TCU	**Taichung**	**1.04**	**285**		*e*P		**Pn**	**09 04 26.0**	**-0.6**
	baz=284								
CHN5	**Tsauling**	**1.04**	**255**		*e*P		**Pn**	**09 04 26.6**	**0.0**
	baz=252								
CHN5					*e*S		**Sn**	**09 04 41.0**	**+0.9**
	baz=252								
TWA	**Mucha**	**1.11**	**351**		*e*P		**Pn**	**09 04 27.1**	**-0.5**
	baz=341								
TWA					*e*S		**Sn**	**09 04 41.7**	**-0.1**
	baz=341								
TWB1	**Santiao Chiao**	**1.15**	**10**		P		**Pn**	**09 04 27.7**	**-0.2**
	baz=11								
TWB1					S		**Sn**	**09 04 42.4**	**-0.2**
	baz=11								
STYT	**Tauyuan**	**1.17**	**233**		*e*P		**Pn**	**09 04 28.0**	**-0.4**
	baz=239								
STYT					*e*S		**Sn**	**09 04 43.6**	**+0.3**
	baz=239								
NWF	**Wu-fen Shan**	**1.19**	**0**		*e*P		**Pn**	**09 04 28.5**	**-0.2**
	baz=352								
NWF					*e*S		**Sn**	**09 04 44.1**	**+0.3**
	baz=352								
CHN4	**Tsaushan**	**1.20**	**244**		*e*P		**Pn**	**09 04 28.7**	**0.0**
	baz=234								
CHN4					*e*S		**Sn**	**09 04 46.0**	**+2.0**
	baz=234								
TWG	**Pinlang**	**1.23**	**212**		*e*P		**Pn**	**09 04 27.4**	**-1.8**
	baz=209								
TWG					*e*S		**Sn**	**09 04 43.7**	**-1.0**
	baz=209								
WTP	**Ta-pu**	**1.23**	**240**		*e*P		**Pn**	**09 04 29.6**	**+0.3**
	baz=236								
WTP					*e*S		**Sn**	**09 04 46.1**	**+1.3**
	baz=236								
TWS1	**Kuangyinshan**	**1.26**	**345**		*e*P		**Pn**	**09 04 29.6**	**0.0**
	baz=346								
YOJ	**Yonaguni jima**	**1.27**	**62**		P		**Pn**	**09 04 29.9**	**+0.2**
YOJ					*e*S		**Sn**	**09

*IDC **30** 10:00:07.9±0.8, 25°.40N×96°.92E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.8/29, mbtmp3.8/11, ML3.8/1, MS3.2/4, Ms1 3.3/4, ms1mx2.8/43, Error ellipse: s-maj=31.1km s-min=13.9km az=63.0*

*ISCJB **30** 10:00:09.1±0.6, 25°.27N±0°.08×96°.61E±0°.05, h25km, mb3.8/10, MS3.0/3, Error ellipse: s-maj=11.3km s-min=6.9km az=5.2*

ISC 30 10:00:11.3±0.8, 25°.3N±0°.1×96°.65E±0°.08, h25km, n22, σ1°39/22, mb3.9/10, MS3.0/3, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**2.52**	**259**	*e*PN	**Pn**	**10 00 50.0**	**-0.7**
IMP				*ex*	x	10 01 02.0	
IMP				*e*SN	**Sn**	**10 01 18.0**	**-2.6**
SHL	**Shillong**	**4.32**	**275**	*e*P	**Pn**	**10 01 16.0**	**+0.4**
SHL				*e*S	**Sn**	**10 02 06.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**7.12**	**162**	Pn	**Pn**	**10 01 54.9**	**+1.0**
	0.5nm,0.3s,baz=338,slow=14,SNR=6.1						
CMAR				Pg	Pb	10 02 19.4	+5.2
	0.6nm,0.3s,baz=341,slow=18,SNR=14						
CMAR				Lg	Lg	10 03 55.8	
	baz=294,slow=38,SNR=1.3						
CMAR				LR	LR	10 05 10.2	
	comp=Z,209nm,18.2s,baz=335,slow=42						
TAPN	**Taplejung**	**8.29**	**286**	*e*P	**Pn**	**10 02 08.7**	**-1.5**
	15nm,0.3s						
ODAN	**Odare**	**8.48**	**283**	*e*P	**Pn**	**10 02 11.0**	**-1.8**
	92nm,0.7s						
RAMN	**Ramite**	**9.19**	**283**	*e*P	**Pn**	**10 02 21.3**	**-1.2**
	51nm,0.6s						
JIRN	**Jiri**	**9.67**	**286**	*e*P	**Pn**	**10 02 28.7**	**-0.5**
	18nm,0.3s						
GUN	**Gumba**	**9.99**	**288**	*e*P	**Pn**	**10 02 33.1**	**-0.5**
KKN	**Kakani**	**10.49**	**286**	*e*P	**Pn**	**10 02 39.4**	**-0.9**
	24nm,0.6s						
DMN	**Daman**	**10.61**	**285**	*e*P	**Pn**	**10 02 41.0**	**-0.9**
SONM	**Songino Array**	**23.79**	**16**	P	**P**	**10 05 21.9**	**-0.2**
	0.6nm,0.6s,baz=193,slow=10,SNR=2.4						
SONM				LR	LR	10 15 38.4	
	comp=Z,96nm,19.5s,baz=37,slow=39						
MKAR	**Makanchi Array**	**24.33**	**336**	P	**P**	**10 05 25.7**	**-1.4**
	3.6nm,0.7s,baz=142,slow=8.9,SNR=33						
AAK	**Ala-Archa**	**25.13**	**319**	LR	LR	10 15 49.5	
	comp=Z,44nm,18.6s,baz=116,slow=37						
KURBB	**Kurchatov Arra**	**28.90**	**336**	P	**P**	**10 06 08.2**	**+0.2**
	1.4nm,0.7s,baz=145,slow=9.5,SNR=8.6						
KSRS	**Korea Array**	**29.19**	**58**	LR	LR	10 18 17.9	
	comp=Z,24nm,19.2s,baz=65,slow=38						
BVAR	**Borovoye Array**	**34.02**	**331**	P	**P**	**10 06 54.2**	**+1.2**
	1.3nm,0.6s,baz=114,slow=9.6,SNR=5.2						
USRK	**Ussuriysk Arra**	**34.29**	**48**	P	**P**	**10 06 53.3**	**-2.2**
	1.2nm,0.8s,baz=249,slow=10.0,SNR=5.0						
BRTR	**Keskin Array B**	**54.04**	**302**	P	**P**	**10 09 35.8**	**+1.9**
	0.8nm,0.7s,baz=113,slow=9.6,SNR=4.5						
WRA	**Warramunga Arr**	**57.99**	**137**	P	**P**	**10 10 01.9**	**-0.2**
	0.7nm,0.5s,baz=321,slow=7.5,SNR=9.8						
ASAR	**Alice Springs**	**60.58**	**140**	P	**P**	**10 10 19.8**	**-0.2**
	1.2nm,0.7s,baz=320,slow=6.1,SNR=14						
GERES	**GERESS Array B**	**66.91**	**315**	P	**P**	**10 11 04.2**	**+2.7**
	0.4nm,0.4s,baz=97,slow=6.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**88.87**	**284**	P	**P**	**10 13 03.9**	**0.0**
	0.5nm,1.0s,baz=42,slow=4.5,SNR=2.7						

IDC 30 10:00:27.6±1.0, 29°.47N×101°.09E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/25, mbtmp3.7/7, ML3.5/1, Error ellipse: s-maj=32.8km s-min=21.5km az=58.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**18.79**	**11**	P	Pn	10 04 49.4	+0.3
	0.1nm,0.3s,baz=195,slow=13,SNR=3.5						
KSRS	**Korea Array**	**23.71**	**63**	P	P	10 05 41.8	+0.6
	0.6nm,0.5s,baz=241,slow=9.9,SNR=4.4						
BRTR	**Keskin Array B**	**55.28**	**300**	P	P	10 10 03.4	+0.3
	0.7nm,0.7s,baz=101,slow=7.8,SNR=2.4						
FINES	**FINESS Array B**	**57.48**	**327**	P	P	10 10 18.0	-0.2
	1.3nm,0.6s,baz=79,slow=9.1,SNR=4.3						
WRA	**Warramunga Arr**	**58.66**	**143**	P	P	10 10 26.7	-0.3
	2.2nm,0.7s,baz=332,slow=7.8,SNR=8.7						
ASAR	**Alice Springs**	**61.54**	**146**	P	P	10 10 46.9	+0.2
	0.5nm,0.8s,baz=324,slow=6.5,SNR=3.0						
ILAR	**Eielson Array**	**72.42**	**25**	P	P	10 11 54.5	-0.9
	0.3nm,0.9s,baz=293,slow=4.6,SNR=3.6						

*CSEM **30** 10:03:22.7±0.5, 39°.31N×40°.64E, h0km±5km, MD2.8, Error ellipse: s-maj=9.3km s-min=6.9km az=123.0*

*ISK **30** 10:03:22.9, 39°.36N×40°.77E, h18km, MD2.8*

*DDA **30** 10:03:24.3, 39°.37N×40°.72E, h6km, MD3.0*

ISC 30 10:03:23.4±1.1, 39°.35N±0°.02×40°.72E±0°.02, h7km±10km, n30, σ1°42/46, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BINT	**Bingol**	**0.51**	**201**	*e*Pg	**Pg**	**10 03 30.9**	**-2.3**
BINT				*e*Sg	**Sg**	**10 03 36.9**	**-2.9**
BNGL	**BINGOL**	**0.52**	**140**	*i* P	**Pb**	**10 03 35.0**	**+0.1**
BNGL				*i* S	**Sb**	**10 03 43.1**	**+0.3**
KOPT	**Kop Dagi**	**0.69**	**346**	*i* P	**Pb**	**10 03 37.3**	**-0.6**
KOPT				*i* S	**Sb**	**10 03 48.1**	**+0.3**
KOPT	**Kop Dagi**	**0.69**	**346**	*i* P	**Pb**	**10 03 37.3**	**-0.6**
EZM	**Erzurum**	**0.75**	**42**	*e*PG	**Pg**	**10 03 37.3**	**-0.5**
EZM				*e*SG	**Sg**	**10 03 47.6**	**+0.1**
ERZM	**Erzurum**	**0.75**	**42**	*i* P	**Pb**	**10 03 38.1**	**-0.8**
ERZM				*i* S	**Sb**	**10 03 49.3**	**-0.2**
ERZM	**Erzurum**	**0.75**	**42**	*i* P	**Pb**	**10 03 38.1**	**-0.8**
ERZM				*i* S	**Sb**	**10 03 49.3**	**-0.2**
ERZN	**Erzincan**	**0.81**	**287**	*e*PG	**Pn**	**10 03 40.3**	**-1.0**
PTK	**Pertek**	**1.13**	**247**	*e*PN	**Pg**	**10 03 45.0**	**-0.1**
PTK	**Pertek**	**1.13**	**247**	*e*Pn	**Pg**	**10 03 45.0**	**-0.1**
EZC	**Erzincan**	**1.13**	**291**	*e*PN	**Pg**	**10 03 44.7**	**-0.4**
EZC	**Erzincan**	**1.13**	**291**	*e*Pn	**Pg**	**10 03 44.7**	**-0.4**
BAYT	**Ayd¯–ntepe-Bay**	**1.13**	**337**	*e*PN	**Pg**	**10 03 44.1**	**-1.1**
BAYT	**Ayd¯–ntepe-Bay**	**1.13**	**337**	*e*Pn	**Pg**	**10 03 44.1**	**-1.1**
HOMI	**Horasan**	**1.15**	**52**	*i* P	**Pn**	**10 03 45.7**	**-0.5**
HOMI				*i* S	**Sn**	**10 04 03.6**	**+1.4**
KELT	**Kelkit**	**1.38**	**306**	*i* P	**Pg**	**10 03 50.2**	**+0.3**
KELT				*i* S	**Sg**	**10 04 09.7**	**+1.8**
KELT	**Kelkit**	**1.38**	**306**	*i* P	**Pg**	**10 03 50.2**	**+0.3**
KELT				*i* S	**Sg**	**10 04 09.7**	**+1.8**
GUMT	**Gumushane**	**1.46**	**320**	*e*PN	**Pn**	**10 03 49.6**	**-0.7**
GUMT	**Gumushane**	**1.46**	**320**	*e*Pn	**Pn**	**10 03 49.7**	**-0.7**
ELZG	**Elazig**	**1.60**	**238**	*i* P	**Pg**	**10 03 55.0**	**+1.0**
ELZG				*i* S	**Sg**	**10 04 20.4**	**+5.6**
ELZG	**Elazig**	**1.60**	**238**	*i* P	**Pg**	**10 03 55.0**	**+1.0**
TUTA	**Tutak**	**1.62**	**87**	*i* P	**Pg**	**10 03 54.7**	**+0.1**
TUTA				*i* S	**Sg**	**10 04 17.7**	**+2.0**
TUTA	**Tutak**	**1.62**	**87**	*i* P	**Pg**	**10 03 54.8**	**+0.2**
TUTA				*i* S	**Sg**	**10 04 18.5**	**+2.8**
TUTA	**Tutak**	**1.62**	**87**	*i* P	**Pg**	**10 03 54.8**	**+0.2**
TUTA				*i* S	**Sg**	**10 04 17.7**	**+2.0**
KEMA	**Kemaliye**	**1.73**	**268**	*i* P	**Pb**	**10 03 55.5**	**0.0**
KEMA				*i* S	**Sn**	**10 04 15.3**	**-1.0**
KEMA	**Kemaliye**	**1.73**	**268**	*i* P	**Pb**	**10 03 55.5**	**0.0**
KEMA				*i* S	**Sn**	**10 04 15.3**	**-1.0**
MAZI	**Mazidag**	**1.90**	**187**	*e*PN	**Pn**	**10 03 55.6**	**-0.7**
MAZI	**Mazidag**	**1.90**	**187**	*e*Pn	**Pn**	**10 03 55.6**	**-0.7**
DAGI	**Agillar**	**1.96**	**28**	*i* P	**Pn**	**10 03 57.7**	**+0.6**
DAGI				*i* S	**Sg**	**10 04 25.0**	**-1.3**
MARD	**Mardin**	**2.03**	**179**	*i* P	**Pg**	**10 04 01.6**	**-0.8**

*ISK **30** 10:05:20.5, 39°.62N×39°.77E, h4km, MD2.8*

*CSEM **30** 10:05:21.3±0.2, 39°.58N×39°.75E, h2km, MD3.1, Error ellipse: s-maj=4.7km s-min=3.8km az=132.0*

*DDA **30** 10:05:21.7, 39°.58N×39°.73E, h7km, MD3.1*

ISC 30 10:05:21.5±1.1, 39°.58N±0°.02×39°.75E±0°.02, h2km±8km, n35, σ0°77/49, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERZN	**Erzincan**	**0.03**	**285**	*e*PG	**Pg**	**10 05 21.9**	**-0.3**
EUZM	**Uzumlu**	**0.13**	**341**	*i* P	**Pg**	**10 05 24.5**	**+0.4**
EUZM				*i* S	**Sg**	**10 05 27.5**	**+1.6**
EUZM	**Uzumlu**	**0.13**	**341**	*i* P	**Pg**	**10 05 24.5**	**+0.4**
EUZM				*i* S	**Sg**	**10 05 27.5**	**+1.6**
EZC	**Erzincan**	**0.35**	**299**	*e*PG	**Pg**	**10 05 28.2**	**-0.1**
EZC	**Erzincan**	**0.35**	**299**	*e*Pg	**Pg**	**10 05 28.2**	**-0.1**
KELT	**Kelkit**	**0.69**	**326**	*i* P	**Pg**	**10 05 35.1**	**+0.5**
KELT	**Kelkit**	**0.69**	**326**	*i* P	**Pg**	**10 05 35.1**	**+0.5**
KOPT	**Kop Dagi**	**0.72**	**52**	*i* P	**Pg**	**10 05 36.0**	**+0.7**
KOPT				*i* S	**Sn**	**10 05 48.9**	**-1.8**
KOPT	**Kop Dagi**	**0.72**	**52**	*i* P	**Pg**	**10 05 36.0**	**+0.7**
PTK	**Pertek**	**0.74**	**202**	*e*PG	**Pg**	**10 05 35.4**	**-0.3**
PTK				*e*SG	**Sb**	**10 05 47.8**	**0.0**
PTK	**Pertek**	**0.74**	**202**	*e*Pg	**Pg**	**10 05 35.4**	**-0.3**
BAYT	**Ayd¯–ntepe-Bay**	**0.86**	**20**	*e*PG	**Pg**	**10 05 37.4**	**-0.7**
BAYT				*e*SG	**Sg**	**10 05 48.6**	**-0.7**
BAYT	**Ayd¯–ntepe-Bay**	**0.86**	**20**	*e*Pg	**Pg**	**10 05 37.4**	**-0.7**
BAYT				*e*Sg	**Sg**	**10 05 48.6**	**-0.7**
GUMT	**Gumushane**	**0.90**	**347**	*e*PG	**Pg**	**10 05 38.0**	**-0.8**
GUMT	**Gumushane**	**0.90**	**347**	*e*Pg	**Pg**	**10 05 38.0**	**-0.8**
ILIC	**ilic-Erzincan**	**0.93**	**262**	*e*PG	**Pg**	**10 05 39.1**	**-0.1**
ILIC	**ilic-Erzincan**	**0.93**	**262**	*e*Pg	**Pg**	**10 05 39.1**	**-0.1**
KEMA	**Kemaliye**	**1.02**	**253**	*i* P	**Pg**	**10 05 40.3**	**-0.8**
KEMA				*i* S	**Sb**	**10 05 56.1**	**+0.2**
KEMA	**Kemaliye**	**1.02**	**253**	*i* P	**Pg**	**10 05 40.3**	**-0.8**
KEMA				*i* S	**Sb**	**10 05 56.1**	**+0.2**
ELZG	**Elazig**	**1.23**	**209**	*i* P	**Pb**	**10 05 45.4**	**-0.2**
ELZG				*i* S	**Sn**	**10 06 03.5**	**+0.3**
ELZG	**Elazig**	**1.23**	**209**	*i* P	**Pb**	**10 05 45.4**	**-0.2**
EZM	**Erzurum**	**1.28**	**75**	*e*PN	**Pg**	**10 05 45.2**	**-0.9**
ERZM	**Erzurum**	**1.28**	**75**	*i* P	**Pb**	**10 05 46.5**	**0.0**
ERZM				*i* S	**Sn**	**10 06 06.5**	**+1.8**
ERZM	**Erzurum**	**1.28**	**75**	*i* P	**Pb**	**10 05 46.5**	**0.0**
SUSE	**Susehri**	**1.35**	**298**	*i* P	**Pn**	**10 05 47.1**	**-0.4**
SUSE				*i* S	**Sn**	**10 06 07.1**	**+1.1**
SUSE	**Susehri**	**1.35**	**298**	*i* P	**Pn**	**10 05 47.1**	**-0.4**
SUSE				*i* S	**Sn**	**10 06 07.1**	**+1.1**
ESPY	**Espiye-Giresun**	**1.55**	**330**	*e*PN	**Pn**	**10 05 49.0**	**-1.1**
ESPY	**Espiye-Giresun**	**1.55**	**330**	*e*Pn	**Pn**	**10 05 49.0**	**-1.1**
MYA	**Malataya**	**1.62**	**220**	*e*PN	**Pn**	**10 05 50.4**	**-0.8**
MYA	**Malataya**	**1.62**	**220**	*e*Pn	**Pn**	**10 05 50.4**	**-0.8**
GRSN	**GIRESUNGRSN**	**1.76**	**320**	*i* P	**Pb**	**10 05 54.2**	**-0.3**
GRSN				*i* S	**Sb**	**10 06 16.9**	**-0.1**
GRSN	**GIRESUNGRSN**	**1.76**	**320**	*i* P	**Pb**	**10 05 54.2**	**-0.3**
GRSN				*i* S	**Sb**	**10 06 16.9**	**-0.1**
SVSK	**Karacayir**	**2.15**	**280**	*e*PN	**Pn**	**10 05 58.2**	**-0.1**
MAZI	**Mazidag**	**2.19**	**165**	*e*PN	**Pn**	**10 05 59.7**	**+0.8**
MAZI	**Mazidag**	**2.19**	**165**	*e*Pn	**Pn**	**10 05 59.7**	**+0.8**

*ISCJB **30** 10:18:37.0±0.5, 16°.09N±0°.05×94°.93W±0°.03, h49km, mb3.2/3, MS2.6/1, Error ellipse: s-maj=6.9km s-min=3.8km az=1.8*

*MEX **30** 10:18:39.4±0.8, 16°.02N×94°.95W, h18km±18km, MD4.0*

*NEIC **30** 10:18:39.4, 16°.02N×94°.95W, h18km, MD4.0(MEX), After MEX.*

*IDC **30** 10:18:45.1±4.5, 16°.40N×94°.34W, h108km±53km, mb3.0/3, mb1 3.5/6, mb1mx3.3/25, mbtmp3.2/6, MS2.8/1, Ms1 2.8/1, ms1mx2.1/13, Error ellipse: s-maj=41.3km s-min=33.9km az=55.0*

ISC 30 10:18:38.9±0.9, 16°.06N±0°.05×94°.95W±0°.03, h49km, n26, σ1°60/38, mb3.2/3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.15**	**256**	*e*P	**Pn**	**10 18 56.8**	**-1.8**
HUIG				*i* S	**Sn**	**10 19 11.2**	**-2.2**
HUIG	**Huatulco**	**1.15**	**256**	*e*P	**Pn**	**10 18 56.8**	**-1.8**
HUIG				*i* S	**Sn**	**10 19 11.2**	**-2.2**
TGIG		**1.89**	**68**	*e*P	**Pn**	**10 19 08.4**	**-0.4**
TGIG				*i* S	**Sn**	**10 19 30.4**	**-1.2**
TGIG		**1.89**	**68**	*e*P	**Pn**	**10 19 08.4**	**-0.4**
TGIG				*i* S	**Sn**	**10 19 30.4**	**-1.2**
OXX	**Oaxaca**	**1.98**	**301**	*i* P	**Pn**	**10 19 07.6**	**-2.6**
OXX	**Oaxaca**	**1.98**	**301**	*i* P	**Pn**	**10 19 07.6**	**-2.6**
TUIG	**Tuzandepetl**	**2.03**	**14**	*i* P	Pn	10 19 07.4	-3.2
TUIG				*i* S	**Sn**	**10 19 31.7**	**-3.1**
TUIG	**Tuzandepetl**	**2.03**	**14**	*i* P	Pn	10 19 07.4	-3.2
TUIG				*i* S	**Sn**	**10 19 31.7**	**-3.1**
CCIG	**Comitan**	**2.71**	**85**	*i* P	**Pn**	**10 19 19.1**	**-1.1**
CCIG				*i* S	**Sn**	**10 19 51.8**	**0.0**
CCIG	**Comitan**	**2.71**	**85**	*i* P	**Pn**	**10 19 19.1**	**-1.1**
CCIG				*i* S	**Sn**	**10 19 51.8**	**0.0**
THIG		**2.83**	**113**	*i* P	**Pn**	**10 19 20.2**	**-1.4**
THIG				*i* S	**Sn**	**10 19 53.8**	**-0.7**
THIG		**2.83**	**113**	*i* P	**Pn**	**10 19 20.2**	**-1.4**
THIG				*i* S	**Sn**	**10 19 53.8**	**-0.7**
PNIG	**Pinotepa**	**3.07**	**277**	*i* P	**Pn**	**10 19 24.5**	**-0.5**
PNIG				*i* S	**Sn**	**10 20 00.1**	**-0.4**
PNIG	**Pinotepa**	**3.07**	**277**	*i* P	**Pn**	**10 19 24.5**	**-0.5**
PNIG				*i* S	**Sn**	**10 20 00.1**	**-0.4**
TPIG	**Tehuac#an**	**3.29**	**316**	*i* P	**Pn**	**10 19 28.8**	**+0.7**
TPIG				*i* S	**Sn**	**10 20 06.3**	**+0.2**
TPIG	**Tehuac#an**	**3.29**	**316**	*i* P	**Pn**	**10 19 28.8**	**+0.7**
TPIG				*i* S	**Sn**	**10 20 06.3**	**+0.2**
SCIG	**Sabancuy**	**4.61**	**51**	*i* P	**Pn**	**10 19 44.6**	**-1.5**
SCIG				*i* S	**Sn**	**10 20 36.8**	**-1.6**
SCIG	**Sabancuy**	**4.61**	**51**	*i* P	**Pn**	**10 19 44.6**	**-1.5**
SCIG				*i* S	**Sn**	**10 20 36.8**	**-1.6**
TEIG	**Tepich**	**7.58**	**56**	*e*Pn	**Pn**	**10 20 24.4**	**-2.4**
	23nm,0.4s						
TEIG	**Tepich**	**7.58**	**56**	P	Pn	10 20 24.0	-2.8
	5.9nm,0.3s,baz=263,slow=3.8,SNR=118						
TEIG				S	Sn	10 21 41.2	-10
	1.6nm,0.3s,baz=228,slow=19,SNR=1.2						
JTS	**JuntasAbangare**	**11.29**	**119**	P	**Pn**	**10 21 19.1**	**+1.4**
	0.5nm,0.3s,baz=318,slow=19,SNR=5.2						
TXAR	**Lajitas Array**	**15.46**	**330**	P	**Pn**	**10 22 15.8**	**+2.0**
	0.0nm,0.3s,baz=152,slow=14,SNR=6.6						
ANMO	**Albuquerque**	**21.45**	**333**	P	**P**	**10 23 25.5**	**+2.2**
	0.8nm,0.8s,baz=133,slow=11,SNR=4.8						
TKL	**Tuckaleechee C**	**21.92**	**25**	LR	LR	10 33 20.5	
	comp=Z,220nm,19.3s,baz=83,slow=41						
NVAR	**Mina Array Bea**	**30.30**	**322**	P	**P**	**10 24 47.4**	**+1.6**
	0.5nm,0.7s,baz=141,slow=10,SNR=4.8						
ILAR	**Eielson Array**	**59.84**	**337**	P	**P**	**10 28 38.2**	**-0.9**
	0.1nm,0.5s,baz=128,slow=6.4,SNR=5.1						

*IDC **30** 10:32:28.6±0.8, 5°.22S×153°.60E, h0km, mb4.0/12, mb1 4.2/12, mb1mx4.0/22, mbtmp4.1/12, MS3.4/4, Ms1 3.5/4, ms1mx2.9/31, Error ellipse: s-maj=26.2km s-min=18.0km az=84.0*

*ISCJB **30** 10:32:33.1±0.6, 5°.29S±0°.08×153°.66E±0°.08, h43km, mb3.9/12, MS3.5/3, Error ellipse: s-maj=13.9km s-min=9.5km az=135.1*

*NEIC **30** 10:32:38.1±2.2, 5°.33S×153°.58E, h74km±19km, mb4.2/1, Error ellipse: s-maj=15.9km s-min=11.9km az=53.0*

ISC 30 10:32:34.6±0.7, 5°.2S±0°.1×153°.70E±0°.10, h43km, n32, σ0°93/37, mb3.8/12, MS3.4/3, 1C-1D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.71**	**237**	Pn	**Pn**	**10 34 25.7**	**+1.3**
PMG				Sn	**Sn**	**10 35 50.7**	**+0.2**
PMG	**Port Moresby**	**7.71**	**237**	Pn	**Pn**	**10 34 25.7**	**+1.3**
	3.8nm,0.3s,baz=56,slow=6.1,SNR=10.0						
PMG				Sn	**Sn**	**10 35 50.7**	**+0.2**
	5.3nm,0.3s,baz=199,slow=22,SNR=7.9						
PMG				LR	LR	10 37 14.5	
	comp=Z,178nm,21.4s,baz=72,slow=38						
DZM	**Mont Dzumac**	**20.81**	**145**	P	**P**	**10 37 13.8**	**+1.2**
DZM	**Mont Dzumac**	**20.81**	**145**	P	**P**	**10 37 13.8**	**+1.2**
	9.8nm,0.5s,baz=42,slow=12,SNR=17						
WRAB	**Tennant Creek**	**23.85**	**230**	*e*P	**P**	**10 37 42.9**	**-1.3**
WRA	**Warramunga Arr**	**23.86**	**230**	P	**P**	**10 37 43.0**	**-1.3**
WRA	**Warramunga Arr**	**23.86**	**230**	P	**P**	**10 37 43.0**	**-1.3**
	1.0nm,0.4s,baz=54,slow=9.8,SNR=15						
ASAR	**Alice Springs**	**26.47**	**224**	P	**P**	**10 38 06.8**	**-1.1**
ASAR				PcP	**PcP**	**10 41 33.2**	**+0.7**
ASAR	**Alice Springs**	**26.47**	**224**	P	**P**	**10 38 06.8**	**-1.1**
	1.7nm,0.7s,baz=56,slow=9.2,SNR=45						
ASAR				PcP	**PcP**	**10 41 33.2**	**+0.7**
	1.2nm,0.8s,baz=48,slow=3.0,SNR=6.5						
ASAR				LR	LR	10 48 02.1	
	comp=Z,78nm,20.6s,baz=228,slow=35						
STKA	**Stephens Creek**	**28.85**	**202**	P	**P**	**10 38 27.6**	**-1.6**
STKA	**Stephens Creek**	**28.85**	**202**	P	**P**	**10 38 27.6**	**-1.6**
	0.8nm,0.5s,baz=38,slow=14,SNR=3.9						
FITZ	**Fitzroy Crossi**	**30.26**	**243**	P	**P**	**10 38 40.7**	**-1.1**
FITZ	**Fitzroy Crossi**	**30.26**	**243**	P	**P**	**10 38 40.7**	**-1.1**
	1.7nm,0.4s,baz=62,slow=9.0,SNR=20						
FITZ				LR	LR	10 51 34.9	
	comp=Z,88nm,21.8s,baz=63,slow=38						
URZ	**Urewera**	**39.19**	**150**	P	**P**	**10 39 58.6**	**+0.1**
URZ	**Urewera**	**39.19**	**150**	P	**P**	**10 39 58.6**	**+0.1**
	4.7nm,0.6s,baz=330,slow=6.0,SNR=2.9						
SONM	**Songino Array**	**67.15**	**327**	P	**P**	**10 43 24.8**	**+0.6**
SONM	**Songino Array**	**67.15**	**327**	P	**P**	**10 43 24.8**	**+0.6**
	0.2nm,0.3s,baz=137,slow=7.2,SNR=3.6						
VNDA	**Vanda**	**72.39**	**178**	P	**P**	**10 43 56.4**	**+0.5**
VNDA	**Vanda**	**72.39**	**178**	P	**P**	**10 43 56.4**	**+0.5**
	0.7nm,0.6s,baz=338,slow=4.1,SNR=5.5						
MKAR	**Makanchi Array**	**81.22**	**319**	P	**P**	**10 44 47.0**	**+0.8**
MKAR	**Makanchi Array**	**81.22**	**319**	P	**P**	**10 44 47.0**	**+0.8**
	1.2nm,0.7s,baz=99,slow=5.8,SNR=14						
ZALV	**Zalesovo Beam**	**81.99**	**326**	P	**P**	**10 44 50.1**	**+0.1**
ZALV	**Zalesovo Beam**	**81.99**	**326**	P	**P**	**10 44 50.1**	**+0.1**
	0.4nm,0.3s,baz=123,slow=7.1,SNR=1.9						
ILAR	**Eielson Array**	**82.20**	**22**	P	**P**	**10 44 49.7**	**-1.2**
ILAR	**Eielson Array**	**82.20**	**22**	P	**P**	**10 44 49.7**	**-1.2**
	0.2nm,0.8s,baz=237,slow=3.1,SNR=3.1						
KURK	**Kurchatov**	**84.64**	**322**	P	**P**	**10 45 04.2**	**+0.5**
KURBB	**Kurchatov Arra**	**84.67**	**322**	P	**P**	**10 45 04.2**	**+0.3**
	0.7nm,0.6s,baz=104,slow=3.8,SNR=7.6						
TKM2	**Tokmak 2**	**84.86**	**314**	⇑Pn	**P**	**10 45 06.0**	**+0.7**
	4.1nm,0.8s						
TKM2				⇓Lg	Lg	10 46 14.5	
	4.3nm,0.8s						
TKM2	**Tokmak 2**	**84.86**	**314**	*e*P	**P**	**10 45 05.8**	**+0.6**
	1.2nm,0.5s						
PDAR	**Pinedale Array**	**98.46**	**48**	LR	LR	11 26 49.6	
	comp=Z,35nm,18.0s,baz=82,slow=33						
TORD	**Torodi Ar. Bea**	**151.28**	**288**	PKPbc	**PKPbc**	**10 52 24.3**	**-0.3**
TORD				PKPab	**PKPab**	**10 52 32.9**	**+0.3**
TORD	**Torodi Ar. Bea**	**151.28**	**288**	PKPbc	**PKPbc**	**10 52 24.3**	**-0.3**
	0.9nm,0.4s,baz=78,slow=2.2,SNR=12						
TORD				PKPab	**PKPab**	**10 52 32.9**	**+0.3**
	1.2nm,0.7s,baz=69,slow=3.3,SNR=5.9						

IDC 30 10:36:07.9±2.4, 2°.15N×126°.63E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/21, mbtmp3.8/6, Error ellipse: s-maj=305.9km s-min=19.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.22**	**161**	P	P	10 41 16.5	-0.3
	1.7nm,0.5s,baz=342,slow=11,SNR=9.4						
ASAR	**Alice Springs**	**26.62**	**165**	P	P	10 41 48.4	+0.1
	0.3nm,0.5s,baz=343,slow=7.5,SNR=7.5						
ASAR				PcP	PcP	10 45 12.6	-0.2
	0.3nm,0.6s,baz=355,slow=1.9,SNR=5.1						
STKA	**Stephens Creek**	**36.70**	**158**	P	P	10 43 16.6	-0.1
	0.8nm,0.3s,baz=346,slow=9.0,SNR=7.2						
MKAR	**Makanchi Array**	**58.79**	**326**	P	P	10 46 08.0	-0.1
	0.8nm,0.6s,baz=122,slow=6.8,SNR=6.1						
KURBB	**Kurchatov Arra**	**63.01**	**328**	P	P	10 46 36.6	0.0
	0.6nm,0.5s,baz=128,slow=5.5,SNR=6.0						
VNDA	**Vanda**	**81.88**	**173**	P	P	10 48 29.1	+0.4
	0.3nm,0.5s,baz=280,slow=6.1,SNR=2.4						
TORD	**Torodi Ar. Bea**	**123.30**	**287**	PKP	PKPdf	10 55 07.4	-0.6
	0.2nm,0.4s,baz=144,slow=1.4,SNR=2.3						

**IDC 30 10:41:00.8±1.2, 31°.64N×104°.33E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/27, mbtmp3.6/6, ML3.5/1, Error ellipse:

LVC			*e*Sn		**S**	11 54 24.4	-0.4
PB09	**Plate Boundary**	**1.48 283**	⇑*i*P		**Pn**	11 54 02.3	+0.2
PB09	**Plate Boundary**	**1.48 283**	⇑*i*P		**Pn**	11 54 02.3	+0.2
PB09			AML	AML		11 54 35.4	
	comp=E,459nm,0.3s						
PB01	**Plate Boundary**	**2.00 303**	⇑*i*P		**Pn**	11 54 06.9	+0.1
PB01			*i* S		**S**	11 54 37.3	+0.6
PB01	**Plate Boundary**	**2.00 303**	⇑*i*P		**Pn**	11 54 06.9	+0.1
PB01			*i* S		**S**	11 54 37.3	+0.6
PB01			AML	AML		11 54 38.5	
	comp=N,335nm,0.2s						
PB07	**Plate Boundary**	**2.08 281**	⇑*i*P		**Pn**	11 54 08.1	+0.3
PB07			*i* S		**S**	11 54 38.6	+0.4
PB07	**Plate Boundary**	**2.08 281**	⇑*i*P		**Pn**	11 54 08.1	+0.3
PB07			*i* S		**S**	11 54 38.6	+0.4
PB07			AML	AML		11 54 41.0	
	comp=N,524nm,0.2s						
HMBC	**Humberstone**	**2.76 312**	⇓*i*P		**Pn**	11 54 15.0	-0.2
HMBC			*i* S		**S**	11 54 51.8	+0.2
HMBC	**Humberstone**	**2.76 312**	⇓*i*P		**Pn**	11 54 15.0	-0.2
HMBC			*i* S		**S**	11 54 51.8	+0.2
HMBC			AML	AML		11 54 54.9	
	comp=N,564nm,0.8s						
ANCH	**Antofagasta**	**2.94 238**	*e*P		**Pn**	11 54 17.4	+0.4
ANCH			*i* S		**S**	11 54 54.4	-0.5
ANCH	**Antofagasta**	**2.94 238**	*e*P		**Pn**	11 54 17.4	+0.4
ANCH			*i* S		**S**	11 54 54.4	-0.5
ANCH			AML	AML		11 54 56.6	
	comp=E,518nm,0.1s						
PB10	**Plate Boundary**	**2.97 242**	*e*P		**Pn**	11 54 17.3	-0.1
PB10			*e*S		**S**	11 54 55.0	-0.7
PB10			AML	AML		11 54 56.0	
	comp=N,461nm,0.3s						
PSGC	**Pisagua**	**3.40 318**	*e*P		**Pn**	11 54 21.9	-0.8
PSGC			*e*S		**S**	11 55 03.9	-1.2
PSGC	**Pisagua**	**3.40 318**	*e*P		**Pn**	11 54 21.9	-0.8
PSGC			*e*S		**S**	11 55 03.9	-1.2
PSGC			AML	AML		11 55 06.0	
	comp=E,214nm,0.4s						
MNMC	**Minimini**	**3.49 329**	⇓*i*P		**Pn**	11 54 24.1	+0.2
MNMC			*i* S		**S**	11 55 07.7	+0.5
MNMC	**Minimini**	**3.49 329**	⇓*i*P		**Pn**	11 54 24.1	+0.2
MNMC			*i* S		**S**	11 55 07.7	+0.5
LPAZ	**La Paz**	**5.84 356**	P		**Pn**	11 54 54.0	+0.2
LPAZ			S		**S**	11 56 01.2	-0.2
LPAZ	**La Paz**	**5.84 356**	P		**Pn**	11 54 54.0	+0.2
	comp=E,5.5nm,0.3s,baz=141,slow=6.1,SNR=136						
LPAZ			S		**S**	11 56 01.2	-0.2
	baz=32,slow=19,SNR=0.7						
PLCA	**Paso Flores**	**18.69 187**	P		**Pn**	11 57 34.6	+1.0
PLCA	**Paso Flores**	**18.69 187**	P		**Pn**	11 57 34.6	+1.0
	comp=E,0.2nm,0.3s,baz=355,slow=11,SNR=3.2						
TORD	**Torodi Ar. Bea**	**76.51 70**	P		**P**	12 04 55.1	-0.6
TORD	**Torodi Ar. Bea**	**76.51 70**	P		**P**	12 04 55.1	-0.6
	comp=E,5.9nm,0.5s,baz=256,slow=5.6,SNR=95						
BOSA	**Boshof**	**82.15 118**	P		**P**	12 05 26.3	+0.1
BOSA	**Boshof**	**82.15 118**	P		**P**	12 05 26.3	+0.1
	comp=E,3.4nm,0.9s,baz=254,slow=4.8,SNR=5.8						
MKAR	**Makanchi Array**	**145.47 37**	PKPbc		**PKPab**	12 12 42.3	-0.1
MKAR	**Makanchi Array**	**145.47 37**	PKPbc		**PKPab**	12 12 42.3	-0.1
	comp=E,0.3nm,0.6s,baz=329,slow=1.7,SNR=3.5						

MEX 30 12:03:35.0±0.9, 16°06'N×97°87'W, h5km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.41**	**323**	*i* P	Pg	12 03 41.7	-1.3
PNIG				*i* S	Sg	12 03 48.9	+0.5
PLIG	**Platanillo**	**2.79**	**326**	*i* P	Pn	12 04 18.3	-2.3
PLIG				*i* S	Sn	12 04 50.9	-3.9
YAIG	**Yautepec**	**3.01**	**338**	*i* P	Pn	12 04 21.5	-2.0
YAIG				*i* S	Sn	12 04 56.5	-3.8
ARIG	**Puente Sto Nin**	**3.23**	**313**	*i* P	Pn	12 04 24.3	-2.3
ARIG				*i* S	Sn	12 05 01.8	-3.7

IDC 30 12:22:41.1±9.3, 4°59'S×152°18'E, h148km±62km, mb2.8/2, mb1 3.1/3, mb1mx2.9/19, mbtmp3.0/3, Error ellipse: s-maj=146.4km s-min=59.6km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.91**	**226**	P	Pn	12 24 19.3	-0.7
	1.0nm,0.3s,baz=199,slow=18,SNR=3.7						
PMG				S	Sn	12 25 39.8	+2.3
	1.8nm,0.3s,baz=294,slow=20,SNR=1.6						
WRA	**Warramunga Arr**	**23.13**	**227**	P	P	12 27 32.6	-1.7
	0.5nm,0.4s,baz=53,slow=10.0,SNR=5.6						
ASAR	**Alice Springs**	**25.89**	**221**	P	P	12 28 00.1	+0.7
	0.5nm,0.7s,baz=55,slow=8.9,SNR=5.0						
TORD	**Torodi Ar. Bea**	**149.65**	**288**	PKPbc	PKPbc	12 42 14.5	+0.2
	0.4nm,0.6s,baz=63,slow=2.5,SNR=5.1						

IDC 30 12:25:28.8±0.9, 73°54'N×148°28'E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.6/30, mbtmp3.6/8, MS3.3/2, Ms1 3.4/2, ms1mx2.6/31, Error ellipse: s-maj=33.4km s-min=20.0km az=154.0, Eastern Siberian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**20.89**	**164**	P	Pn	12 30 13.6	-1.1
	7.8nm,0.9s,baz=15,slow=6.2,SNR=11						
ILAR	**Eielson Array**	**23.37**	**78**	P	P	12 30 37.8	-0.7
	0.5nm,0.9s,baz=319,slow=10,SNR=6.5						
SONM	**Songino Array**	**31.65**	**239**	P	P	12 31 54.6	+1.2
	0.8nm,0.4s,baz=21,slow=9.7,SNR=3.5						
SONM				LR	LR	12 46 44.9	
	comp=Z,40nm,18.0s,baz=355,slow=40						
KSRS	**Korea Array**	**37.52**	**207**	P	P	12 32 43.1	-0.9
	0.8nm,0.5s,baz=12,slow=7.9,SNR=5.1						
MKAR	**Makanchi Array**	**39.09**	**264**	P	P	12 32 57.0	-0.2
	0.2nm,0.4s,baz=39,slow=9.4,SNR=1.6						
NVAR	**Mina Array Bea**	**54.55**	**74**	P	P	12 34 59.6	+1.2
	0.3nm,0.6s,baz=318,slow=7.5,SNR=3.6						
NVAR				LR	LR	12 59 33.8	
	comp=Z,37nm,20.4s,baz=20,slow=38						
TXAR	**Lajitas Array**	**77.04**	**64**	P	P	12 36 23.1	-0.4
	0.2nm,0.7s,baz=334,slow=6.0,SNR=3.1						
TORD	**Torodi Ar. Bea**	**90.87**	**328**	P	P	12 38 34.6	+0.6
	0.4nm,0.8s,baz=356,slow=4.5,SNR=3.2						
VNDA	**Vanda**	**151.08**	**174**	PKPbc	PKPbc	12 45 19.9	-1.5
	0.6nm,0.6s,baz=330,slow=6.6,SNR=6.2						
MAW	**Mawson**	**151.23**	**233**	PKPbc	PKPbc	12 45 21.5	-0.5
	0.9nm,0.6s,baz=187,slow=0.8,SNR=6.0						

IDC 30 12:27:24.1±1.7, 33°97'N×25°69'E, h0km, mb3.6/3, mb1 3.6/5, mb1mx3.4/26, mbtmp3.5/5, ML3.8/2, Error ellipse: s-maj=57.7km s-min=27.0km az=143.0, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**8.58**	**46**	Pn	Pn	12 29 31.9	+2.1
	0.1nm,0.3s,baz=226,slow=14,SNR=3.4						
GERES	**GERESS Array B**	**17.34**	**333**	P	Pn	12 31 27.2	-0.4
	0.4nm,0.3s,baz=137,slow=10,SNR=3.4						
TORD	**Torodi Ar. Bea**	**30.08**	**232**	P	P	12 33 35.6	+0.3
	0.3nm,0.8s,baz=26,slow=9.1,SNR=2.4						
MKAR	**Makanchi Array**	**44.08**	**56**	P	P	12 35 33.4	-0.5
	0.7nm,0.7s,baz=271,slow=6.3,SNR=7.6						
ZALV	**Zalesovo Beam**	**45.52**	**45**	P	P	12 35 44.7	-0.5
	0.8nm,0.6s,baz=267,slow=8.1,SNR=3.6						

*ISCJB **30** 12:27:56.7±0.2, 52°29N±0°06×178°01E±0°03, h166km±2km, mb4.4/75, Error ellipse: s-maj=9.4km s-min=3.2km az=173.8*

*MOS **30** 12:27:56.3±0.9, 52°38N×178°00E, h160km, mb4.4/34, Error ellipse: s-maj=10.1km s-min=8.5km az=137.5*

*NEIC **30** 12:27:57.9±0.2, 52°28N×178°04E, h162km±1km, mb4.4/37, Error ellipse: s-maj=5.2km s-min=2.5km az=169.0*

*BJI **30** 12:27:58.6, 52°60N×177°41E, h165km, mB4.7/21, mb4.7/29*

*IDC **30** 12:27:59.3±0.7, 52°36N×177°99E, h172km±5km, mb4.1/25, mb1 4.2/27, mb1mx4.1/33, mbtmp4.1/27, MS2.9/2, Ms1 2.9/2, ms1mx2.6/32, Error ellipse: s-maj=14.1km s-min=7.4km az=161.0*

ISC 30 12:27:58.1±0.3, 52°27N±0°07×177°94E±0°03, h165km±2km, h164km:pP-P, n419, σ1°06/486, mb4.5/86, 109C-99D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.47**	**130**	P	**Pn**	12 28 20.0	-1.0
LSSA	**Little Sitkin**	**0.48**	**132**	P	**Pn**	12 28 20.2	-1.0
LSPA	**Little Sitkin**	**0.50**	**129**	P	**Pn**	12 28 20.4	-0.8
LSPA				S	**Sn**	12 28 39.0	+0.1
LSSE	**Little Sitkin**	**0.52**	**131**	P	**Pn**	12 28 20.2	-1.1
CETU	**Semis' Tuman**	**1.01**	**107**	P	**Pn**	12 28 23.7	-0.6
CEAP	**Semis' Anvil P**	**1.04**	**104**	P	**Pn**	12 28 24.1	-0.6
CESW	**Semis' Southwe**	**1.07**	**110**	P	**Pn**	12 28 23.8	-1.1
CERAA	**Semis' Rag'd T**	**1.14**	**108**	P	**Pn**	12 28 24.4	-1.0
AMKA	**Amchitka**	**1.23**	**136**	P	**Pn**	12 28 24.7	-1.6
AMKA				S	**Sn**	12 28 45.3	-2.5
GANE	**Gareloi Northe**	**2.08**	**101**	P	**Pn**	12 28 33.8	-1.2
GALAA	**Gareloi Lava P**	**2.10**	**103**	P	**Pn**	12 28 34.2	-1.0
GAEA	**Gareloi East**	**2.10**	**102**	P	**Pn**	12 28 34.2	-1.1
SMY	**Shemya**	**2.39**	**283**	P	**Pn**	12 28 36.9	-1.7
SMY				S	**Sn**	12 29 08.5	-1.5
SMY	**Shemya**	**2.39**	**283**	P	**Pn**	12 28 36.9	-1.7
SMY				S	**Sn**	12 29 08.5	-1.5
TANO	**Tanaga North**	**2.46**	**97**	P	**Pn**	12 28 38.9	-0.5
TASE	**Tanaga Southea**	**2.52**	**98**	P	**Pn**	12 28 39.4	-0.9
TAFP	**Tanaga Falls P**	**2.54**	**97**	P	**Pn**	12 28 39.4	-1.1
TAFP				S	**Sn**	12 29 11.6	-1.7
TAPA	**Tanaga Point A**	**2.66**	**98**	P	**Pn**	12 28 40.6	-1.3
FX1	**Attu Island--F**	**2.98**	**284**	P	**Pn**	12 28 43.6	-2.1
	65nm,0.3s,baz=111,slow=1.6,SNR=396						
FX1				S	**Sn**	12 29 17.6	-5.1
	654nm,0.3s,baz=296,slow=22,SNR=64						
KICM	**Kanaga Island**	**3.02**	**95**	P	**Pn**	12 28 45.7	-0.6
KIKV	**Kanaga Island**	**3.04**	**96**	P	**Pn**	12 28 45.6	-1.0
KINC	**Kanaga Island**	**3.06**	**94**	P	**Pn**	12 28 45.9	-0.9
ADK	**Adak**	**3.34**	**95**	*e*P	**Pn**	12 28 48.8	-1.4
ADK				*e*		12 29 28.3	
ADK	**Adak**	**3.34**	**95**	*e*Pn	**Pn**	12 28 48.8	-1.4
ADK				*e*Sn	**Sn**	12 29 28.3	-2.5
ETKA	**Kagalaska Isla**	**3.51**	**95**	P	**Pn**	12 28 50.6	-1.9
GSCK	**Great Sitkin C**	**3.64**	**92**	P	**Pn**	12 28 53.5	-0.6
GSTD	**Great Sitkin T**	**3.65**	**91**	P	**Pn**	12 28 53.3	-0.9
GSTD				S	**Sn**	12 29 36.4	-1.6
GSMY	**Great Sitkin M**	**3.70**	**91**	P	**Pn**	12 28 53.4	-1.5
KOWE	**Korovin West**	**4.79**	**86**	P	**Pn**	12 29 09.0	0.0
ATKA	**Atka Island**	**4.83**	**88**	P	**Pn**	12 29 08.3	-1.2
ATKA				S	**Sn**	12 30 02.5	-2.9
NIKH	**Nikolski High**	**8.07**	**80**	P	**Pn**	12 29 51.5	-0.8
OKSP	**Okmok Steeple**	**8.41**	**78**	P	**Pn**	12 29 56.2	-0.6
OKTU	**Okmok Mt. Tuli**	**8.56**	**77**	P	**Pn**	12 29 57.6	-1.2
MREP	**Makushin Rep't**	**9.36**	**74**	P	**Pn**	12 30 08.3	-1.0
UNV	**Unalaska Valle**	**9.50**	**74**	P	**Pn**	12 30 10.2	-0.9
FALS	**False Pass**	**11.38**	**70**	*e*Pn	**Pn**	12 30 37.0	+1.3
PET	**Petropavlovsk**	**11.74**	**281**	*e*P	**Pn**	12 30 42.6	+2.2
PET				*e*S	Sn	12 32 42.1	-8.2
PET				smax	smax		
	comp=E,51nm,0.7s						
PET				smax	smax		
	comp=N,55nm,0.6s						
PET				MLR	MLR		
	comp=Z,200nm,6.0s						
PETK	**Petropavlovsk-**	**12.31**	**282**	P	**Pn**	12 30 48.2	+0.5
PETK				S	Sn	12 32 57.7	-6.3
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				smax	smax		
	comp=N,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**12.31**	**282**	P	**Pn**	12 30 48.2	+0.5
PETK				S	Sn	12 32 57.7	-6.3
PETK	**Petropavlovsk-**	**12.31**	**282**	P	**Pn**	12 30 48.2	+0.5
	comp=N,1.0nm,0.3s,baz=95,slow=15,SNR=25						
PETK				S	Sn	12 32 57.7	-6.3
	comp=N,1.3nm,0.3s,baz=103,slow=20,SNR=3.7						
CHGN	**Chignik**	**14.36**	**64**	*e*Pn	**Pn**	12 31 12.2	-1.3
SVW2	**Sparrevohn**	**16.91**	**48**	*e*Pn	**Pn**	12 31 44.8	+0.1
	comp=N,23nm,0.8s						
OHAK	**Old Harbor**	**17.25**	**62**	*e*P	**P**	12 31 45.9	-1.9
KDAK	**Kodiak Island**	**17.68**	**60**	*e*P	**P**	12 31 51.3	-1.2
KDAK	**Kodiak Island**	**17.68**	**60**	P	**P**	12 31 50.7	-1.8
	comp=N,2.6nm,0.3s,baz=252,slow=4.5,SNR=22						
RSO	**Redoubt South**	**18.05**	**52**	*e*P	**Pn**	12 31 56.8	-1.7
SPU	**Mount Spurr**	**18.56**	**50**	*e*Pn	**Pn**	12 32 03.5	-0.9
PPLA	**Purkeypile**	**19.03**	**44**	*e*Pn	**Pn**	12 32 09.6	-0.3
	comp=N,32nm,0.8s						
TRF	**Thorofare Moun**	**20.02**	**44**	*e*P	**P**	12 32 18.0	0.0
	comp=N,24nm,0.9s						
PMR	**Palmer**	**20.03**	**49**	*e*P	**P**	12 32 18.2	+0.4
PMR	**Palmer**	**20.03**	**49**	*e*P	**P**	12 32 18.2	+0.4
SML	**Sawmill**	**20.45**	**49**	*e*P	**P**	12 32 21.5	-0.9
SML	**Sawmill**	**20.45**	**49**	*e*P	**P**	12 32 21.5	-0.9
MCK	**McKinley**	**20.69**	**43**	*e*P	**P**	12 32 24.4	-0.5
MCK				pmax	pmax		
	comp=Z,20nm,1.2s						
MCK	**McKinley**	**20.69**	**43**	*e*P	**P**	12 32 24.4	-0.5
	comp=Z,20nm,1.2s						
COLA	**College**	**21.50**	**41**	*e*P	**P**	12 32 33.2	-0.3
COLA				pmax	pmax		
	comp=Z,41nm,0.8s						
COLA	**College**	**21.50**	**41**	*e*P	**P**	12 32 33.2	-0.3
	comp=Z,41nm,0.8s						
DIV	**Divide**	**21.54**	**51**	*e*P	**P**	12 32 33.1	-0.9
	comp=Z,52nm,0.7s						
COLD	**Coldfoot**	**21.58**	**34**	*e*P	**P**	12 32 34.9	+0.5
	comp=Z,5.6nm,1.1s						
ILAR	**Eielson Array**	**21.86**	**42**	P	**P**	12 32 34.5	-2.8
ILAR				pP	**pP**	12 33 07.0	+0.6
ILAR				ScP	**ScP**	12 39 49.0	-2.0
ILAR	**Eielson Array**	**21.86**	**42**	P	**P**	12 32 34.5	-2.8
	comp=Z,6.1nm,0.8s,baz=240,slow=9.7,SNR=54						
ILAR				pP	**pP**	12 33 07.0	+0.6
	comp=Z,2.5nm,0.9s,baz=251,slow=11,SNR=3.5						
ILAR				ScP	**ScP**	12 39 49.0	-2.0
	comp=Z,0.4nm,0.7s,baz=292,slow=3.7,SNR=4.8						
RAGM	**Ragged Mountai**	**21.99**	**54**	*e*P	**P**	12 32 38.6	-0.1
	comp=Z,76nm,1.0s						
PAX	**Paxson**	**22.00**	**47**	*e*P	**P**	12 32 38.1	-0.7
PAX				pmax	pmax		
	comp=Z,25nm,0.9s						
PAX	**Paxson**	**22.00**	**47**	*e*P	**P**	12 32 38.0	-0.7
	comp=Z,25nm,0.9s						
BMRM	**Bremner River**	**22.08**	**52**	*e*P	**P**	12 32 39.2	-0.4
	comp=Z,42nm,0.8s						
MENT	**Mentasta**	**22.78**	**47**	*e*P	**P**	12 32 46.3	+0.2
YSS	**Yuzh-Sakhalins**	**23.25**	**271**	⇓*e*P	**P**	12 32 53.1	+2.6
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
PNL	**Peninsula**	**24.62**	**56**	*e*P	**P**	12 33 02.2	-0.6
	comp=Z,30nm,0.8s						
ASAJ	**Asahikawa**	**24.73**	**265**	*e*P	**P**	12 33 04.6	+0.7
	comp=Z,15nm,0.7s						
ASAJ	**Asahikawa**	**24.73**	**265**	P	**P**	12 33 05.3	+1.3
	comp=Z,39nm,0.8s,baz=56,slow=6.7,SNR=48						
ASAJ				LR	LR	12 42 54.6	
	comp=Z,22nm,18.6s,baz=350,slow=36						
DAWY	**Dawson**	**24.87**	**45**	*e*P	**P**	12 33 05.4	+0.3
HYT	**Haines Junctio**	**25.54**	**53**	*e*P	**P**	12 33 11.9	+0.6
ERM	**Erimo**	**25.55**	**260**	*d*P	**P**	12 33 13.0	+1.6
ERM				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ERM	**Erimo**	**25.55**	**260**	*e*P	**P**	12 33 13.1	+1.6
	comp=Z,17nm,0.8s						
HABR	**Khabarovsk**	**27.32**	**279**	*e*P	**P**	12 33 26.1	-1.0
HABR				*e**PP	**pP**	12 33 59.2	-2.1
HABR				*e**SP	**sP**	12 34 18.1	-2.3
HABR				*e*		12 34 20.0	
HABR				*e*		12 36 40.8	
HABR				*e*S	**S**	12 37 54.9	+0.7
HABR				*e**SS	**sS**	12 38 54.7	-0.2
HABR				*e*		12 43 57.6	
HABR				pmax	pmax		
	comp=E,18nm,1.4s						
HABR				pmax	pmax		
	comp=Z,16nm,1.9s						
HABR				pmax	pmax		
	comp=N,6.0nm,1.1s						
HABR				MLR	MLR		
	comp=Z,43nm,17.0s						
INK	**Inuvik**	**27.91**	**37**	P	**P**	12 33 32.2	0.0
INK	**Inuvik**	**27.91**	**37**	P	**P**	12 33 32.2	0.0
	comp=Z,6.1nm,0.7s,baz=248,slow=8.1,SNR=12						
DLBC	**Dease Lake**	**29.56**	**57**	P	**P**	12 33 48.4	+1.4
DLBC	**Dease Lake**	**29.56**	**57**	P	**P**	12 33 48.4	+1.4
	comp=Z,3.6nm,0.6s,baz=278,slow=7.6,SNR=9.5						
USRK	**Ussuriysk Arra**	**31.20**	**274**	P	**P**	12 34 01.4	0.0
	comp=Z,6.6nm,0.6s,baz=53,slow=7.0,SNR=22						

VLA	**Vladivostok**	**31.84**	**272**	*e*P	**P**	12 34 06.6	-0.4
VLA				pmax	pmax		
	comp=Z,11nm,0.9s						
MJAR	**Matsushiro Arr**	**31.98**	**256**	P	**P**	12 34 09.2	+0.9
MJAR	**Matsushiro Arr**	**31.98**	**256**	P	**P**	12 34 09.2	+0.9
	comp=Z,4.2nm,0.7s,baz=48,slow=7.3,SNR=16						
MAJO	**Matsushiro**	**31.98**	**256**	*e*P	**P**	12 34 09.3	+0.9
MAJO	**Matsushiro**	**31.98**	**256**	*e*P	**P**	12 34 09.3	+0.9
MAT	**Matsushiro**	**31.98**	**256**	P	**P**	12 34 09.6	+1.2
CN2	**Changchun**	**35.41**	**278**	*e*P	**P**	12 34 37.5	-0.4
CN2				*e*S	**S**	12 39 59.0	-1.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,100nm,9.0s						
CN2				LR	LR		
	comp=E,100nm,9.0s						
CN2				LR	LR		
	comp=Z,200nm,9.0s						
YKA	**Yellowknife Ar**	**36.09**	**47**	P	**P**	12 34 44.1	+0.6
YKA				pP	**pP**	12 35 21.4	+2.8
YKA	**Yellowknife Ar**	**36.09**	**47**	P	**P**	12 34 44.1	+0.6
	comp=Z,16nm,0.6s,baz=280,slow=8.7,SNR=67						
YKA				pP	**pP**	12 35 21.4	+2.8
	comp=Z,2.2nm,0.7s,baz=288,slow=8.9,SNR=2.1						
KSRS	**Korea Array**	**37.63**	**267**	P	**P**	12 34 58.5	+1.8
	comp=Z,6.4nm,0.8s,baz=54,slow=8.4,SNR=33						
KSRS				LR	LR	12 48 39.9	
	comp=Z,19nm,20.1s,baz=210,slow=33						
KSAR	**Wonju Array Be**	**37.66**	**267**	P	**P**	12 34 58.5	+1.5
EDM	**Edmonton**	**40.13**	**60**	*e*P	**P**	12 35 17.2	-0.2
EDM	**Edmonton**	**40.13**	**60**	*e*P	**P**	12 35 17.2	-0.2
NEW	**Newport**	**40.46**	**69**	*e*P	**P**	12 35 19.4	-0.8
	comp=Z,8.4nm,0.9s						
NEW	**Newport**	**40.46**	**69**	⇑P	**P**	12 35 19.2	-0.9
	baz=40,SNR=8.0						
C12B	**Naegeli Ranch,**	**41.69**	**69**	⇓P	**P**	12 35 29.3	-0.9
	baz=42,SNR=5.6						
WALA	**Waterton Lakes**	**41.87**	**66**	*e*P	**P**	12 35 31.0	-0.8
	comp=Z,0.6nm,1.0s						
B13A	**Whitefish**	**41.91**	**67**	⇑P	**P**	12 35 31.1	-1.0
	baz=42						
BSMT	**Bassoo Peak**	**42.01**	**68**	*e*P	**P**	12 35 32.1	-1.0
BMO	**Blue Mountains**	**42.19**	**73**	*e*P	**P**	12 35 33.4	-1.0
	comp=Z,2.8nm,0.8s						
A14A	**Double T Ranch**	**42.19**	**66**	⇑P	**P**	12 35 33.5	-0.8
	baz=42,SNR=12						
C13A	**Hot Springs**	**42.22**	**68**	⇑P	**P**	12 35 34.2	-0.4
	baz=42						
A15A	**Johnson Ranch,**	**42.57**	**66**	⇓P	**P**	12 35 36.4	-1.1
	baz=42						
B14A	**Marquette Ranc**	**42.60**	**67**	⇓P	**P**	12 35 36.8	-0.9
	baz=42,SNR=5.7						
WVOR	**Wild Horse Val**	**42.78**	**77**	*e*P	**P**	12 35 38.1	-1.2
WVOR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WVOR	**Wild Horse Val**	**42.78**	**77**	*e*P	**P**	12 35 38.0	-1.2
	comp=Z,4.0nm,0.9s						
OHCM	**Honcut**	**42.93**	**83**	*e*P	**P**	12 35 40.2	0.0
B15A	**Bradely Ranch,**	**43.02**	**66**	⇓P	**P**	12 35 39.7	-1.3
	baz=43,SNR=8.6						
SLMT	**Seeley Lake**	**43.08**	**68**	*e*P	**P**	12 35 40.9	-0.7
BEKR	**Beckworth**	**43.29**	**81**	*e*P	**P**	12 35 42.9	-0.5
	comp=Z,1.3nm,0.8s						
C15A	**Salmond Ranch,**	**43.29**	**67**	⇓P	**P**	12 35 42.8	-0.5
	baz=43,SNR=20						
CHMT	**Chamberlain Mo**	**43.39**	**68**	*e*P	**P**	12 35 43.1	-1.1
A17A	**Triple J Farms**	**43.72**	**65**	⇑P	**P**	12 35 45.3	-1.4
	baz=44,SNR=12						
C16A	**Fuhringer Ranc**	**43.76**	**67**	⇓P	**P**	12 35 46.0	-1.0
	baz=44,SNR=6.0						
MFID	**Camas Ranch**	**43.88**	**74**	⇑P	**P**	12 35 47.4	-0.6
	baz=44						
B17A	**L&G Farms, Che**	**44.02**	**66**	⇑P	**P**	12 35 47.9	-1.1
	baz=44						
ULN	**Ulaanbaatar**	**44.05**	**294**	*e*P	**P**	12 35 49.8	+0.5
HRY	**Holter Researc**	**44.32**	**68**	*e*P	**P**	12 35 50.1	-1.3
C17A	**Wharram Farm,**	**44.41**	**66**	⇑P	**P**	12 35 50.8	-1.3
	baz=44,SNR=7.7						
CMB	**Columbia Colle**	**44.41**	**83**	*e*P	**P**	12 35 51.9	-0.3
CMB	**Columbia Colle**	**44.41**	**83**	*e*P	**P**	12 35 51.9	-0.3
SONM	**Songino Array**	**44.43**	**294**	P	**P**	12 35 53.1	+0.7
SONM				pP	**pP**	12 36 31.5	+2.8

E19A **Rath Farm, Rou** 46.19 67 ⇓P P 12 36 05.3 -0.8
baz=46
D20A **Manuel Ranch,** 46.19 65 ⇑P P 12 36 05.3 -0.8
baz=46
A22A **Carney Farms,** 46.33 62 ⇓P P 12 36 06.2 -0.9
baz=46
C21A **Desert Coulee** 46.34 64 ⇓P P 12 36 06.3 -0.9
baz=46
IMW **Indian Meadow** 46.46 71 *e*P P 12 36 07.8 -0.8
comp=Z,2.9nm,0.8s
VES **Vestal, Richgr** 46.62 85 ⇑P P 12 36 08.9 -0.6
baz=46
RLMT **Red Lodge** 46.70 68 *e*P P 12 36 09.6 -0.7
comp=Z,8.6nm,0.9s
NJ2 **Nanjing** 46.79 268 *e*P P
NJ2 pmax pmax 12 36 10.3 -0.5
comp=Z,50nm,0.6s
F20A **Billings** 46.93 67 ⇑P P 12 36 11.0 -0.9
baz=47
ISA **Isabella** 47.12 84 ⇑P P 12 36 12.5 -0.9
baz=47
H19A **Powell** 47.12 69 ⇑P P 12 36 13.0 -0.5
baz=47
B23A **Brockton** 47.13 62 ⇓P P 12 36 12.4 -1.0
baz=47
R11A **Troy Canyon, C** 47.13 80 ⇓P P 12 36 12.9 -0.8
baz=47,SNR=12
G20A **Bridger** 47.24 68 ⇑P P 12 36 13.2 -1.1
baz=47,SNR=12
D22A **Cohagen** 47.24 64 ⇑P P 12 36 13.6 -0.6
baz=47,SNR=7.6
C23A **Lambert** 47.41 63 ⇓P P 12 36 14.7 -0.8
baz=47
MPMC **Manual Prospec** 47.46 83 ⇓P P 12 36 15.7 -0.6
baz=47
DGMT **Dagmar** 47.56 62 ⇓P P 12 36 15.8 -0.8
baz=47
FURC **Furnace Creek,** 47.57 82 ⇑P P 12 36 16.5 -0.3
baz=47,SNR=6.8
DUG **Dugway** 47.63 76 ⇑P P 12 36 16.9 -0.5
baz=47
D23A **Lindsay** 47.77 64 ⇑P P 12 36 17.9 -0.4
baz=48
EDW2 **Edwards Air Fo** 47.93 85 ⇓P P 12 36 19.7 0.0
baz=48
J19A **Crowheart** 47.94 70 ⇑P P 12 36 19.2 -0.6
baz=48
BW06 **Boulder Array** 47.95 71 *e*P P 12 36 18.5 -1.4
comp=Z,6.6nm,0.9s
PDAR **Pinedale Array** 47.95 71 P P 12 36 19.0 -1.0
PDAR **Pinedale Array** 47.95 71 P P 12 36 19.0 -1.0
comp=Z,6.5nm,0.8s,baz=311,slow=3.6,SNR=48
F22A **Rosebud** 48.01 66 ⇑P P 12 36 19.3 -0.8
baz=48
I20A **Worland** 48.05 69 ⇓P P 12 36 20.1 -0.5
baz=48
E23A **Ismay** 48.11 65 ⇑P P 12 36 20.4 -0.5
baz=48
L18A **Fontenelle, Gr** 48.19 72 ⇑P P 12 36 21.0 -0.8
baz=48
H21A **Big Horn, Sher** 48.26 68 ⇓P P 12 36 21.3 -0.9
baz=48
SHOC **Shoshone** 48.30 83 ⇑P P 12 36 22.3 -0.2
baz=48
K19A **Absolon Red Bu** 48.32 71 ⇓P P 12 36 21.1 -1.7
baz=48,SNR=6.8
G22A **Birney** 48.33 67 ⇓P P 12 36 21.6 -1.1
baz=48
GSC **Goldstone** 48.37 84 ⇓P P 12 36 22.5 -0.6
baz=48,SNR=7.9
DAU **Daniels Canyon** 48.41 75 *e*P P 12 36 22.5 -1.1
DAU **Daniels Canyon** 48.41 75 *e*P P 12 36 22.5 -1.1
J20A **Shoshoni** 48.44 70 ⇑P P 12 36 22.9 -0.7
baz=48
A26A **Wade Farm, Ken** 48.47 60 ⇓P P 12 36 22.6 -1.0
baz=48,SNR=5.5
F23A **Volborg** 48.52 65 ⇓P P 12 36 22.9 -1.2
baz=48,SNR=5.0
I21A **Big Trails, Te** 48.61 69 ⇑P P 12 36 23.5 -1.5
baz=48,SNR=5.8
E24A **Baker** 48.62 64 ⇑P P 12 36 24.2 -0.7
baz=48
K20A **Yellowstone Ra** 48.72 70 ⇓P P 12 36 24.4 -1.4
baz=48
TUQ **Turquoise Moun** 48.82 83 ⇑P P 12 36 26.3 -0.3
baz=49
G23A **Biddle** 48.84 66 ⇓P P 12 36 25.8 -0.7
baz=49
HEC **Hector,Ludlow** 48.98 84 ⇑P P 12 36 27.5 -0.3
baz=49
F24A **Ekalaka** 48.98 65 ⇓P P 12 36 26.8 -0.9
baz=49
I22A **9 Mile Ranch,** 49.02 68 ⇓P P 12 36 27.6 -0.4
baz=49
SPITS **Spitsbergen Ar** 49.32 355 P P 12 36 29.3 -0.4
SPITS **Spitsbergen Ar** 49.32 355 P P 12 36 29.3 -0.4
comp=Z,2.9nm,0.4s,baz=17,slow=6.1,SNR=11
J22A **Midwest** 49.32 69 ⇓P P 12 36 29.4 -0.9
baz=49,SNR=8.4
HVS **Khovu-Aksy** 49.34 304 *e*P P
HVS pmax pmax 12 36 30.6 +0.3
comp=Z,32nm,1.2s
K21A **Alcova** 49.37 70 ⇓P P 12 36 29.4 -1.3
baz=49
GMRC **Granite Mounta** 49.42 83 ⇑P P 12 36 31.1 -0.1
baz=49
SRU **San Rafael** 49.68 75 *e*P P
SRU pmax pmax 12 36 32.6 -0.5
comp=Z,8.0nm,0.8s
SRU **San Rafael** 49.68 75 *e*P P 12 36 32.6 -0.5
comp=Z,7.9nm,0.8s
BELC **Belle Mtn. Jos** 49.74 84 ⇑P P 12 36 32.9 -0.6
baz=50
O19A **Miners Draw (B** 49.75 73 ⇑P P 12 36 32.8 -0.8
baz=50,SNR=10.0
K22A **Casper** 49.77 69 ⇓P P 12 36 32.9 -0.9
baz=50
N20A **Spence Gulch,** 49.91 72 ⇓P P 12 36 34.1 -0.9
baz=50
M21A **Separation Pea** 49.95 71 ⇑P P 12 36 34.2 -1.0
baz=50
IRM **Iron Mountain** 50.15 84 ⇓P P 12 36 36.2 -0.4
baz=50
L22A **Ellis Ranch, M** 50.22 70 ⇓P P 12 36 36.2 -1.0
baz=50
MONP **Monument Peak** 50.23 86 ⇓P P 12 36 36.9 -0.5
baz=50
P19A **Cripple Cowboy** 50.26 74 ⇓P P 12 36 36.7 -0.8
baz=50,SNR=7.5
W13A **Hualapai Mount** 50.29 82 ⇑P P 12 36 37.3 -0.6
baz=50
G26A **Maurine** 50.34 64 ⇑P P 12 36 37.4 -0.5
baz=50
O20A **White River Ci** 50.37 73 ⇑P P 12 36 37.1 -1.2
baz=50
U15A **North Rim** 50.37 79 ⇓P P 12 36 38.4 -0.1
baz=50,SNR=10
N21A **Black Mountain** 50.39 72 ⇑P P 12 36 37.2 -1.3
baz=50
MDND **Maddock** 50.40 60 ⇓P P 12 36 37.6 -0.6
baz=50
J24A **Dixon Ranch, L** 50.41 68 ⇑P P 12 36 37.6 -0.9
baz=50
L23A **Garrett** 50.58 69 ⇓P P 12 36 38.8 -1.2
baz=50,SNR=6.9
G27A **Dupree** 50.66 64 ⇑P P 12 36 39.5 -0.7
baz=50
ULM **Lac du Bonnet** 50.87 56 P P 12 36 41.1 -0.5
ULM **Lac du Bonnet** 50.87 56 P P 12 36 41.1 -0.5
comp=Z,7.9nm,0.5s,baz=305,slow=8.2,SNR=13
GLA **Glamis** 51.10 84 ⇓P P 12 36 43.3 -0.4
baz=51
Q20A **Ridgley Place,** 51.10 74 ⇑P P 12 36 42.6 -1.2
baz=51
N23A **Red Feather La** 51.22 71 ⇓P P 12 36 44.0 -0.8
baz=51
P21A **Newcastle** 51.23 73 ⇑P P 12 36 44.2 -0.6
baz=51
I27A **Quinn** 51.41 65 ⇓P P 12 36 45.2 -0.7
baz=51
H28A **Mission Ridge** 51.60 64 ⇓P P 12 36 46.5 -0.8
baz=51
Y14A **Wickenburg** 51.61 82 ⇑P P 12 36 47.0 -0.4
baz=51
O23A **Lake Granby, G** 51.68 71 ⇓P P 12 36 47.7 -0.5
baz=51,SNR=6.2
S20A **Disappointment** 51.80 75 ⇑P P 12 36 48.2 -0.9
baz=52,SNR=6.9

R21A **Cimarron** 51.92 74 ⇑P P 12 36 49.3 -0.7
baz=52
ZALV **Zalesovo Beam** 51.93 311 P P 12 36 48.7 -0.8
ZALV 12 38 00.4
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV **Zalesovo Beam** 51.93 311 P P 12 36 48.7 -0.8
ZALV PcP PcP 12 38 00.4 +0.8
ZALV ScP ScP 12 41 42.5 +1.9
ZALV **Zalesovo Beam** 51.93 311 P P 12 36 48.7 -0.8
comp=Z,0.8nm,0.4s,baz=65,slow=7.0,SNR=4.5
ZALV PcP PcP 12 38 00.4 +0.8
comp=Z,0.7nm,0.5s,baz=32,slow=3.9,SNR=4.1
ZALV ScP ScP 12 41 42.5 +1.9
comp=Z,0.3nm,0.4s,baz=32,slow=5.8,SNR=2.7
113A **Mohawk Valley,** 51.94 84 ⇓P P 12 36 49.9 0.0
baz=52
I28A **Midland** 51.95 65 ⇑P P 12 36 49.1 -0.7
baz=52,SNR=5.3
AGMN **Agassiz Nation** 52.09 58 *e*P P 12 36 50.0 -0.7
comp=Z,21nm,1.0s
ISCO **Idaho Springs** 52.12 72 *e*P P
ISCO pmax pmax 12 36 51.7 +0.1
comp=Z,2.0nm,0.9s
ISCO **Idaho Springs** 52.12 72 *e*P P 12 36 51.6 +0.1
comp=Z,2.1nm,0.9s
ISCO **Idaho Springs** 52.12 72 ⇓P P 12 36 50.9 -0.6
baz=52
MVCO **Mesa Verde** 52.13 76 ⇓P P 12 36 50.9 -0.6
baz=52
X16A **Lo Mia Camp, P** 52.23 81 ⇑P P 12 36 52.2 -0.1
baz=52
S21A **Coal Bank Pass** 52.25 75 ⇑P P 12 36 51.9 -0.6
baz=52,SNR=6.6
J28A **Allard Ranch,** 52.28 65 ⇑P P 12 36 51.7 -0.6
baz=52
S22A **4UR Ranch, Cre** 52.76 74 ⇑P P 12 36 56.0 -0.2
baz=52
X18A **Snowflake** 53.06 79 ⇓P P 12 36 58.1 -0.2
baz=53,SNR=5.2
214A **Organ Pipe Nat** 53.09 84 ⇓P P 12 36 57.1 -1.3
baz=53
V20A **Brimhall** 53.09 77 ⇑P P 12 36 58.1 -0.5
baz=53
U21A **Nageezi** 53.15 76 ⇑P P 12 36 58.5 -0.5
baz=53,SNR=5.1
P25A **Willow Gulch B** 53.15 71 ⇓P P 12 36 58.9 -0.1
baz=53,SNR=5.4
LZH **Lanzhou** 53.20 283 *e*P P 12 37 00.3 +1.0
LZH pP pP 12 37 35.5 -1.3
LZH pmax pmax
comp=Z,20nm,1.0s
T22A **Edith** 53.21 75 ⇓P P 12 36 59.2 -0.2
baz=53,SNR=5.5
GTA **Gaotai** 53.36 289 *e*P P 12 37 01.3 +0.9
GTA pP pP 12 37 41.0 +3.1
GTA sP sP 12 37 58.0 +1.9
GTA pmax pmax
comp=Z,22nm,0.5s
R24A **Sanders Place,** 53.45 73 ⇑P P 12 37 00.6 -0.6
baz=53
Q25A **Bedland, Calha** 53.50 72 ⇑P P 12 37 01.2 -0.4
baz=53
SDCO **Great Sand Dun** 53.55 73 *e*P P 12 37 01.2 -0.8
comp=Z,5.0nm,1.1s
P26A **Davis Ranch, A** 53.60 70 ⇓P P 12 37 01.6 -0.5
baz=53
V22A **San Miguel Ran** 53.95 76 ⇑P P 12 37 03.9 -0.9
baz=54
R25A **Fountain Ranch** 53.99 72 ⇓P P 12 37 04.6 -0.4
baz=54,SNR=6.2
U23A **El Rito** 54.09 75 ⇓P P 12 37 05.6 -0.2
baz=54,SNR=10
O28A **Krutsinger Ran** 54.13 69 ⇓P P 12 37 05.4 -0.5
baz=54
S25A **Robets Cordova** 54.23 73 ⇑P P 12 37 06.3 -0.5
baz=54
R26A **Arlington** 54.38 72 ⇓P P 12 37 07.4 -0.3
baz=54
X21A **Alamocita Cree** 54.42 78 ⇑P P 12 37 08.4 +0.1
baz=54,SNR=9.2
Y20A **Horse Springs,** 54.43 79 ⇓P P 12 37 08.3 0.0
baz=54
V23A **Ortiz Mt. (NFS** 54.49 76 ⇑P P 12 37 09.1 +0.4
baz=54
EYMN **Ely** 54.55 56 *e*P P 12 37 08.1 -0.6
comp=Z,14nm,0.8s
T25A **Trinidad** 54.60 73 ⇓P P 12 37 09.2 -0.3
baz=54,SNR=7.0
ECSD **EROS Data Cent** 54.63 62 *e*P P 12 37 08.0 -1.4
comp=Z,2.5nm,0.8s
R27A **Eads** 54.77 71 ⇑P P 12 37 10.4 -0.1
baz=54,SNR=5.1
S26A **Kim** 54.82 72 ⇓P P 12 37 10.8 -0.2
baz=55
X22A **Bernardo** 54.84 77 ⇑P P 12 37 11.4 +0.2
baz=55
Z20A **Nine Sixteen R** 54.85 80 ⇓P P 12 37 11.3 0.0
baz=55,SNR=5.3
P29A **Atwood** 54.96 69 ⇑P P 12 37 11.8 -0.1
baz=55
V24A **Rampart Ranch,** 55.05 75 ⇑P P 12 37 13.0 +0.2
baz=55,SNR=6.6
T26A **Comanche Natio** 55.05 73 ⇑P P 12 37 12.2 -0.5
baz=55
U25A **Circle Dot Ran** 55.10 74 ⇑P P 12 37 12.7 -0.4
baz=55,SNR=5.6
S27A **Las Animas** 55.12 72 ⇑P P 12 37 12.5 -0.6
baz=55
Y22A **Socorro** 55.26 78 ⇓P P 12 37 13.8 -0.4
baz=55
X23A **Hourglass Bar** 55.28 77 ⇑P P 12 37 14.0 -0.5
baz=55
W24A **Lazy 6 Ranch,** 55.32 76 ⇓P P 12 37 14.5 -0.2
baz=55,SNR=6.6
V25A **Rancho No Teng** 55.36 75 ⇓P P 12 37 14.6 -0.4
baz=55
Q29A **Oakley** 55.41 69 ⇑P P 12 37 14.7 -0.4
baz=55
U26A **Atchley Ranch,** 55.49 73 ⇓P P 12 37 15.2 -0.7
baz=55
R29A **Mahenthal** 55.64 70 ⇓P P 12 37 16.1 -0.6
baz=55
319A **Douglas** 55.64 82 ⇓P P 12 37 16.9 0.0
baz=55
220A **Playas Peak, P** 55.73 81 ⇑P P 12 37 17.3 -0.3
baz=56,SNR=5.7
Z22A **Elephant Butte** 55.73 78 ⇓P P 12 37 17.2 -0.4
baz=56
121A **Cooks Peak, D** 55.74 80 ⇑P P 12 37 17.3 -0.4
baz=56
S28A **Manter** 55.76 71 ⇓P P 12 37 17.3 -0.3
baz=56,SNR=5.6
Q30A **Quinter** 55.79 69 ⇓P P 12 37 17.5 -0.3
baz=56
Y23A **Lovelace Mesa,** 55.81 77 ⇓P P 12 37 18.1 0.0
baz=56,SNR=6.8
W25A **X Bar L Ranch,** 55.88 75 ⇓P P 12 37 18.4 -0.2
baz=56
T28A **Walsh** 55.96 72 ⇑P P 12 37 18.4 -0.6
baz=56,SNR=5.2
U27A **Thompson Grove** 56.02 73 ⇓P P 12 37 18.9 -0.6
baz=56
Y24A **Capitan** 56.19 77 ⇓P P 12 37 20.5 -0.3
baz=56,SNR=10
U28A **Mallet** 56.40 72 ⇑P P 12 37 21.6 -0.6
baz=56
Y25A **Mesa, Roswell** 56.63 76 ⇑P P 12 37 23.5 -0.4
baz=56,SNR=5.4
Z24A **Sheppen Canyo** 56.64 77 ⇑P P 12 37 23.5 -0.5
baz=56
X26A **CR and CF Fran** 56.72 75 ⇑P P 12 37 24.3 -0.3
baz=56
CD2 **Chengdu** 56.82 279 *e*P P 12 37 26.0 +0.8
CD2 pP pP 12 38 02.5 -0.7
CD2 sP sP 12 38 20.0 -1.3
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,120nm,6.2s
ARCES **ARCESS Array B** 56.84 349 P P 12 37 24.4 -0.2
ARCES **ARCESS Array B** 56.84 349 P P 12 37 24.4 -0.2
comp=Z,1.7nm,0.7s,baz=16,slow=6.3,SNR=8.1
WMQ **Urumqi** 57.15 301 P P 12 37 29.5 +2.2
224A **Cornudas Mount** 57.43 78 ⇓P P 12 37 29.2 -0.3
baz=57

Z26A **Caprock** 57.51 76 ⇑P P 12 37 29.8 -0.3
baz=57
125A **Gardner Draw,** 57.54 77 ⇑P P 12 37 30.2 -0.1
baz=57
Y27A **Causey** 57.57 75 ⇑P P 12 37 30.4 -0.1
baz=57
SCIA **State Center** 57.71 62 *e*P P 12 37 30.8 -0.4
comp=Z,31nm,1.0s
MNTX **Cornudas Mount** 57.78 79 *e*P P 12 37 31.5 -0.3
comp=Z,3.8nm,1.0s
MKAR **Makanchi Array** 57.88 306 P P 12 37 31.6 -0.8
MKAR *PP pP 12 38 11.0 +0.5
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR **Makanchi Array** 57.88 306 P P 12 37 31.6 -0.8
MKAR pP pP 12 38 11.0 +0.5
MKAR **Makanchi Array** 57.88 306 P P 12 37 31.6 -0.8
comp=Z,3.5nm,0.6s,baz=49,slow=6.7,SNR=36
MKAR pP pP 12 38 11.0 +0.5
comp=Z,1.6nm,0.7s,baz=48,slow=7.3,SNR=4.6
GYA **Guiyang** 58.23 273 *e*P P 12 37 35.5 +0.3
GYA pP pP 12 38 12.5 -0.9
GYA sP sP 12 38 31.0 -0.4
GYA PP PP 12 39 47.5 +1.8
GYA ScP ScP 12 42 08.5 -0.4
GYA PcS PcS 12 42 26.0 -0.6
GYA S S 12 45 22.8 -1.3
GYA sS sS 12 46 28.0 -2.3
GYA pmax pmax
comp=Z,10.0nm,1.0s
226B **Tecolote Peak,** 58.24 77 ⇓P P 12 37 34.4 -0.7
baz=58
X30A **Coker Ranch, T** 58.53 73 ⇓P P 12 37 36.6 -0.5
baz=58
425A **Indio Mountain** 58.66 79 ⇑P P 12 37 38.2 +0.1
baz=58
128A **Castleberry Fa** 58.86 76 ⇑P P 12 37 38.8 -0.6
baz=59
Z29A **Hungry Hill Ra** 58.87 75 ⇑P P 12 37 38.8 -0.7
baz=59
BRVK **Borovoye** 58.90 318 *d*/P P 12 37 39.6 +0.4
BRVK pmax pmax
comp=Z,8.0nm,1.3s
BRVK **Borovoye** 58.90 318 *e*P P 12 37 39.5 +0.2
comp=Z,6.3nm,0.6s
X31A **McDonald Ranch** 58.93 72 ⇑P P 12 37 39.6 -0.1
baz=59
426A **McDonald Obser** 59.32 79 ⇑P P 12 37 42.1 -0.7
baz=59
328A **Wristen Ranch,** 59.55 77 ⇑P P 12 37 43.5 -0.6
baz=59
WMOK **Wichita Mounta** 59.55 72 *e*P P 12 37 43.4 -0.6
WMOK pmax pmax
comp=Z,5.0nm,0.9s
WMOK **Wichita Mounta** 59.55 72 *e*P P 12 37 43.4 -0.6
comp=Z,4.9nm,0.9s
427A **Hayter Ranch,** 59.57 78 ⇑P P 12 37 43.6 -0.7
baz=59
Y32A **R-V Farms, Ver** 59.68 73 ⇓P P 12 37 44.4 -0.5
baz=59,SNR=5.0
526A **Mary Lane Ranc** 59.72 79 ⇑P P 12 37 45.1 -0.2
baz=60
Z31A **Sharp Cattle R** 59.76 74 ⇑P P 12 37 45.0 -0.4
baz=60
130A **Snyder** 59.78 75 ⇓P P 12 37 45.4 -0.3
baz=60
527A **Woodward Ranch** 59.95 79 ⇓P P 12 37 46.1 -0.8
baz=60
626A **Big Bend Ranch** 60.06 80 ⇓P P 12 37 47.0 -0.6
baz=60,SNR=5.7
428A **Kincaid Ranch,** 60.09 78 ⇑P P 12 37 47.9 0.0
baz=60
Z32A **Haskell** 60.16 73 ⇓P P 12 37 47.8 -0.4
baz=60
230A **Sterling City** 60.20 75 ⇑P P 12 37 48.2 -0.3
baz=60
528A **Cox Ranch, San** 60.43 78 ⇓P P 12 37 49.8 -0.4
baz=60
TXAR **Lajitas Array** 60.50 79 P P 12 37 50.2 -0.4
TXAR **Lajitas Array** 60.50 79 P P 12 37 50.2 -0.4
comp=Z,2.4nm,0.8s,baz=305,slow=4.4,SNR=22
330A **Mertzon** 60.51 76 ⇓P P 12 37 50.0 -0.6
baz=60
SCHQ **Schefferville** 60.53 37 P P 12 37 50.0 -0.4
SCHQ **Schefferville** 60.53 37 P P 12 37 50.0 -0.4
comp=Z,9.0nm,0.8s,baz=337,slow=8.4,SNR=9.3
ABTX **Abilene, Hawle** 60.55 74 ⇑P P 12 37 50.5 -0.3
baz=60,SNR=6.6
627A **Terlingua Ranc** 60.58 79 ⇓P P 12 37 50.6 -0.6
baz=60,SNR=5.9
429A **Davenport Ranc** 60.63 77 ⇓P P 12 37 50.5 -1.1
baz=60
231A **Bronte** 60.64 75 ⇓P P 12 37 51.0 -0.5
baz=60
ARU **Arti** 60.76 326 *d*/P P 12 37 52.4 +0.6
ARU 12 38 33.0
ARU 12 40 03.7
ARU S S 12 45 58.8 +3.5
ARU SS SS 12 49 55.9 0.0
ARU pmax pmax
comp=Z,6.0nm,0.7s
529A **Stev Forest Ra** 60.80 78 ⇓P P 12 37 52.0 -0.6
baz=61
628A **Black Gap, Mar** 60.86 79 ⇑P P 12 37 52.7 -0.3
baz=61
430A **Baggett Ranch,** 60.91 76 ⇑P P 12 37 52.7 -0.7
baz=61
232A **Coleman** 61.07 74 ⇑P P 12 37 53.8 -0.6
baz=61
530A **J-C Ranch, Com** 61.31 77 ⇑P P 12 37 55.5 -0.5
baz=61,SNR=6.8
431A **Sonora** 61.36 76 ⇓P P 12 37 55.9 -0.5
baz=61
332A **Millersview** 61.37 75 ⇑P P 12 37 55.8 -0.6
baz=61
531A **Rocksprings** 61.77 76 ⇓P P 12 37 58.9 -0.2
baz=62
QIZ **Qiongzhong** 61.80 265 P P 12 37 58.8 -0.6
QIZ S S 12 46 11.0 +1.5
QIZ pmax pmax
comp=Z,19nm,1.9s
SFIN **Scholer Farm** 62.06 59 ⇓P P 12 38 00.3 -0.6
baz=62
532A **Rocksprings** 62.18 76 ⇑P P 12 38 01.1 -0.8
baz=62
WHTX **Lake Whitney** 62.29 73 ⇑P P 12 38 02.1 -0.3
baz=62
632A **Uvalde** 62.70 76 ⇑P P 12 38 05.3 0.0
baz=62
FINES **FINESS Array B** 64.43 345 P P 12 38 15.7 -0.3
FINES pP pP 12 38 55.5 +0.5
FINES **FINESS Array B** 64.43 345 P P 12 38 15.7 -0.3
comp=Z,1.5nm,0.5s,baz=35,slow=7.0,SNR=11
FINES pP pP 12 38 55.5 +0.5
comp=Z,1.3nm,0.8s,baz=52,slow=2.3,SNR=2.8
AAK **Ala-Archa** 64.72 307 *e*P P 12 38 18.9 +0.4
AAK pmax pmax
comp=Z,13nm,0.8s
WVT **Waverly** 64.76 63 *e*P P 12 38 17.9 -0.7
WVT pmax pmax
comp=Z,5.0nm,0.9s
WVT **Waverly** 64.76 63 *e*P P 12 38 17.9 -0.7
comp=Z,5.0nm,0.9s
EKS2 **Erkin-Say** 65.05 308 *e*P P 12 38 21.2 +0.6
EKS2 pmax pmax
comp=Z,2.0nm,0.5s
EKS2 **Erkin-Say** 65.05 308 *e*P P 12 38 21.2 +0.6
comp=Z,2.1nm,0.5s
ABKAR **Akbulak array** 65.98 321 *e*P P 12 38 26.8 +0.5
comp=Z,1.6nm,0.5s
KKAR **Karatay Array** 66.27 310 *e*P P 12 38 28.2 -0.1
KKAR pmax pmax
comp=Z,4.0nm,0.6s
KKAR **Karatay Array** 66.27 310 *e*P P 12 38 28.2 -0.1
comp=Z,4.1nm,0.6s
KSH **Kashi** 66.33 304 *e*P P 12 38 30.5 +1.7
KSH sP sP 12 39 25.8 0.0
KSH PcS 12 43 02.0
KSH S S 12 47 06.5 +1.4
KSH sS sS 12 48 12.5 -0.4
KSH pmax pmax
comp=Z,69nm,4.0s
KSH LR LR
comp=N,110nm,9.3s

KSH				LR	LR			
	comp=E,83nm,8.8s							
KSH				LR	LR			
	comp=Z,130nm,5.5s							
NB2	**NORSAR Subarra**	**66.54**	**353**	P	**P**	**12**	**38**	**30.1 +0.5**
	comp=Z,0.8nm,0.7s,baz=11,slow=6.5							
NOA	**NORSAR Array B**	**66.54**	**353**	P	**P**	**12**	**38**	**30.1 +0.5**
NOA				pP	**pP**	**12**	**39**	**11.6 +2.8**
NOA	**NORSAR Array B**	**66.54**	**353**	P	**P**	**12**	**38**	**30.1 +0.5**
	comp=Z,1.1nm,0.6s,baz=11,slow=6.5,SNR=4.4							
NOA				pP	**pP**	**12**	**39**	**11.6 +2.8**
	comp=Z,2.1nm,0.8s,baz=9.5,slow=6.4,SNR=4.2							
OBN	**Obninsk**	**68.29**	**337**	*e*P	**P**	**12**	**38**	**41.6 +1.0**
OBN				*e**P	**pP**	**12**	**39**	**20.3 +0.3**
OBN				*eS*	**S**	**12**	**47**	**24.3 -3.2**
OBN				pmax	pmax			
	comp=Z,6.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**68.92**	**273**	P	**P**	**12**	**38**	**45.9 +0.7**
CMAR				pP	**pP**	**12**	**39**	**25.9 +1.3**
CMAR	**Chiang Mai Arr**	**68.92**	**273**	P	**P**	**12**	**38**	**45.9 +0.7**
	comp=Z,3.4nm,0.7s,baz=26,slow=7.2,SNR=16							
CMAR				pP	**pP**	**12**	**39**	**25.9 +1.3**
	comp=Z,0.5nm,0.4s,baz=32,slow=7.4,SNR=1.3							
KMSC	**Kings Mountain**	**69.00**	**60**	⇑P	**P**	**12**	**38**	**45.2 -0.2**
	baz=69							
TAPN	**Taplejung**	**69.00**	**288**	*e*P	**P**	**12**	**38**	**46.5 +0.6**
	comp=Z,36nm,0.7s							
ODAN	**Odare**	**69.56**	**288**	*e*P	**P**	**12**	**38**	**49.2 -0.1**
	comp=Z,10nm,0.6s							
GUN	**Gumba**	**69.65**	**289**	*e*P	**P**	**12**	**38**	**50.6 +0.7**
	comp=Z,61nm,0.5s							
JIRN	**Jiri**	**69.66**	**289**	*e*P	**P**	**12**	**38**	**51.2 +1.2**
	comp=Z,51nm,0.7s							
RAMN	**Ramite**	**69.95**	**288**	*e*P	**P**	**12**	**38**	**52.4 +0.7**
	comp=Z,86nm,0.9s							
KKN	**Kakani**	**70.08**	**290**	*e*P	**P**	**12**	**38**	**53.3 +0.8**
	comp=Z,31nm,0.6s							
PKI	**Pulchoki**	**70.17**	**289**	*e*P	**P**	**12**	**38**	**53.8 +0.7**
	comp=Z,35nm,0.6s							
PKIN	**Phulchoki**	**70.18**	**290**	*e*P	**P**	**12**	**38**	**53.4 +0.3**
	comp=Z,26nm,0.5s							
DMN	**Daman**	**70.32**	**290**	*e*P	**P**	**12**	**38**	**54.9 +0.9**
	comp=Z,20nm,0.7s							
DANN	**Dangsing**	**70.54**	**291**	*e*P	**P**	**12**	**38**	**56.0 +0.7**
	comp=Z,54nm,0.8s							
KOLN	**Koldanda**	**71.07**	**291**	*e*P	**P**	**12**	**38**	**58.8 +0.4**
	comp=Z,17nm,0.7s							
PYUN	**Piuthan**	**71.17**	**292**	*e*P	**P**	**12**	**38**	**59.0 0.0**
KBZ	**Khabaz**	**76.81**	**328**	P	**P**	**12**	**39**	**32.5 +1.3**
KBZ				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KBZ	**Khabaz**	**76.81**	**328**	P	**P**	**12**	**39**	**32.5 +1.3**
KBZ	**Khabaz**	**76.81**	**328**	P	**P**	**12**	**39**	**32.5 +1.3**
	comp=Z,3.3nm,1.0s,baz=63,slow=5.7,SNR=4.4							
WRA	**Warramunga Arr**	**81.31**	**221**	P	**P**	**12**	**39**	**56.3 +0.5**
WRA	**Warramunga Arr**	**81.31**	**221**	P	**P**	**12**	**39**	**56.3 +0.5**
	comp=Z,4.2nm,0.7s,baz=35,slow=6.2,SNR=19							
FITZ	**Fitzroy Crossi**	**83.47**	**229**	P	**P**	**12**	**40**	**07.0 -0.1**
FITZ	**Fitzroy Crossi**	**83.47**	**229**	P	**P**	**12**	**40**	**07.0 -0.1**
	comp=Z,5.0nm,0.7s,baz=101,slow=5.6,SNR=7.8							
ASAR	**Alice Springs**	**84.83**	**220**	P	**P**	**12**	**40**	**14.9 +1.1**
ASAR	**Alice Springs**	**84.83**	**220**	P	**P**	**12**	**40**	**14.9 +1.1**
	comp=Z,1.4nm,0.7s,baz=23,slow=5.0,SNR=31							
STKA	**Stephens Creek**	**89.63**	**210**	P	**P**	**12**	**40**	**38.2 +1.5**
STKA	**Stephens Creek**	**89.63**	**210**	P	**P**	**12**	**40**	**38.2 +1.5**
	comp=Z,6.5nm,0.8s,baz=344,slow=7.9,SNR=6.3							
VNDA	**Vanda**	**129.91**	**185**	SKPbc	SKPbc	12	49	55.2 +2.2
	comp=Z,1.0nm,0.8s,baz=320,slow=4.0,SNR=7.8							
CPUP	**Villa Florida**	**131.47**	**80**	SKPbc	**SKPbc**	**12**	**49**	**59.4 -0.8**
CPUP	**Villa Florida**	**131.47**	**80**	SKPbc	**SKPbc**	**12**	**49**	**59.4 -0.8**
	comp=Z,1.5nm,0.7s,baz=277,slow=19,SNR=3.6							
PLCA	**Paso Flores**	**133.16**	**104**	SKPbc	**SKPbc**	**12**	**50**	**05.5 -0.3**
PLCA	**Paso Flores**	**133.16**	**104**	SKPbc	**SKPbc**	**12**	**50**	**05.5 -0.3**
	comp=Z,1.3nm,0.6s,baz=197,slow=1.7,SNR=5.9							
MAW	**Mawson**	**145.94**	**218**	PKPbc	**PKPab**	**12**	**47**	**17.5 -0.1**
MAW	**Mawson**	**145.94**	**218**	PKPbc	**PKPab**	**12**	**47**	**17.5 -0.1**
	comp=Z,6.3nm,0.8s,baz=93,slow=3.5,SNR=16							
BOSA	**Boshof**	**148.86**	**309**	PKPbc	**PKPbc**	**12**	**47**	**26.7 +0.7**
BOSA	**Boshof**	**148.86**	**309**	PKPbc	**PKPbc**	**12**	**47**	**26.7 +0.7**
	comp=Z,2.2nm,0.4s,baz=350,slow=5.0,SNR=8.3							

*ATH **30** 12:38:44.8, 38.72N×22.72E, h21km±1km, MD3.0/9*
*ISCJB **30** 12:38:45.1±0.4, 38.70N±0.02×22.71E±0.03, h11km±3km, Error ellipse: s-maj=4.3km s-min=3.5km az=142.4*
*CSEM **30** 12:38:45.5±0.1, 38.69N×22.71E, h2km, ML2.0/3, Error ellipse: s-maj=2.9km s-min=2.3km az=142.0*
*THE **30** 12:38:45.7, 38.69N×22.72E, h1km±1km, ML2.0/3, Error ellipse: s-maj=1.7km s-min=0.4km az=97.0*

ISC 30 12:38:45.6±1.0, 38.69N±0.02×22.70E±0.02, h8km±7km, n40, σ0.52/69, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AXAR	**Agios Charalam**	**0.08**	**335**	P	**Pg**	**12**	**38**	**47.4 -0.4**
AXAR				S	**Sg**	**12**	**38**	**48.9 -0.4**
AXAR	**Agios Charalam**	**0.08**	**335**	P	**Pg**	**12**	**38**	**47.4 -0.4**
LKR	**Lokris**	**0.24**	**100**	*e*PB	**Pg**	**12**	**38**	**50.4 0.0**
LKR				*e*SB	**Sg**	**12**	**38**	**54.6 +1.0**
LKR	**Lokris**	**0.24**	**100**	*e*Pb	**Pg**	**12**	**38**	**50.4 0.0**
LKR				*e*Sb	**Sg**	**12**	**38**	**54.6 +1.0**
DSF	**Desfina**	**0.31**	**206**	P	**Pg**	**12**	**38**	**51.5 -0.3**
DSF				S	**Sg**	**12**	**38**	**56.9 +0.9**
DSF	**Desfina**	**0.31**	**206**	P	**Pg**	**12**	**38**	**51.5 -0.3**
DSF				S	**Sg**	**12**	**38**	**56.9 +0.9**
SMIA	**Simia**	**0.44**	**65**	P	**Pg**	**12**	**38**	**54.0 -0.1**
SMIA				S	**Sg**	**12**	**39**	**00.1 +0.2**
SMIA	**Simia**	**0.44**	**65**	P	**Pg**	**12**	**38**	**54.0 -0.1**
SMIA				S	**Sg**	**12**	**39**	**00.1 +0.2**
AGG	**Agios Georgios**	**0.44**	**319**	P	**Pg**	**12**	**38**	**53.9 -0.3**
AGG				S	**Sg**	**12**	**39**	**01.0 +1.0**
AGG	**Agios Georgios**	**0.44**	**319**	*e*PB	**Pg**	**12**	**38**	**53.9 -0.3**
AGG				*e*SB	**Sg**	**12**	**39**	**00.3 +0.3**
AGG	**Agios Georgios**	**0.44**	**319**	P	**Pg**	**12**	**38**	**53.9 -0.3**
AGG				*e*Sb	**Sg**	**12**	**39**	**00.3 +0.3**
AGG				S	**Sg**	**12**	**39**	**01.0 +1.0**
KALE	**Kalithea**	**0.53**	**236**	P	**Pg**	**12**	**38**	**55.5 -0.5**
KALE				S	**Sg**	**12**	**39**	**03.7 +0.7**
KALE	**Kalithea**	**0.53**	**236**	*e*PN	**Pg**	**12**	**38**	**55.5 -0.5**
KALE	**Kalithea**	**0.53**	**236**	P	**Pg**	**12**	**38**	**55.5 -0.5**
KALE				S	**Sg**	**12**	**39**	**03.7 +0.7**
MAKR	**Makrakomi, Fth**	**0.55**	**306**	P	**Pg**	**12**	**38**	**56.1 -0.1**
MAKR				S	**Sg**	**12**	**39**	**04.5 +1.1**
MAKR	**Makrakomi, Fth**	**0.55**	**306**	P	**Pg**	**12**	**38**	**56.1 -0.1**
MAKR				S	**Sg**	**12**	**39**	**04.5 +1.1**
TRIZ	**Trizonia**	**0.59**	**237**	P	**Pg**	**12**	**38**	**56.6 -0.4**
TRIZ				S	**Sb**	**12**	**39**	**06.5 -0.2**
TRIZ	**Trizonia**	**0.59**	**237**	*e*PB	**Pg**	**12**	**38**	**56.3 -0.7**
TRIZ				*e*SN	**Sb**	**12**	**39**	**06.1 -0.6**
TRIZ	**Trizonia**	**0.59**	**237**	*e*Pb	**Pg**	**12**	**38**	**56.3 -0.7**
TRIZ	**Trizonia**	**0.59**	**237**	P	**Pg**	**12**	**38**	**56.6 -0.4**
TRIZ				*e*Sn	**Sb**	**12**	**39**	**06.1 -0.6**
EFP	**Efpalio**	**0.68**	**247**	P	**Pg**	**12**	**38**	**58.6 -0.1**
EFP				S	**Sb**	**12**	**39**	**09.1 -0.1**
EFP	**Efpalio**	**0.68**	**247**	*e*PN	**Pg**	**12**	**38**	**58.3 -0.4**
EFP				*e*SN	**Sb**	**12**	**39**	**09.1 -0.1**
EFP	**Efpalio**	**0.68**	**247**	*e*Pn	**Pg**	**12**	**38**	**58.3 -0.4**
EFP	**Efpalio**	**0.68**	**247**	P	**Pg**	**12**	**38**	**58.6 -0.1**
EFP				S	**Sb**	**12**	**39**	**09.1 -0.1**
LTK	**Loutraki**	**0.70**	**163**	P	**Pg**	**12**	**38**	**59.0 -0.1**
LTK				S	**Sb**	**12**	**39**	**09.3 -0.5**
LTK	**Loutraki**	**0.70**	**163**	*e*PN	**Pg**	**12**	**38**	**59.0 -0.1**
LTK	**Loutraki**	**0.70**	**163**	P	**Pg**	**12**	**38**	**59.0 -0.1**
LTK				S	**Sb**	**12**	**39**	**09.3 -0.5**
LAKA	**Lakka**	**0.73**	**232**	P	**Pg**	**12**	**38**	**59.7 +0.1**
LAKA				S	**Sb**	**12**	**39**	**10.7 +0.1**
LAKA	**Lakka**	**0.73**	**232**	*e*PN	**Pg**	**12**	**38**	**59.4 -0.2**
LAKA	**Lakka**	**0.73**	**232**	*e*Pn	**Pg**	**12**	**38**	**59.4 -0.2**
LAKA	**Lakka**	**0.73**	**232**	P	**Pg**	**12**	**38**	**59.7 +0.1**
LAKA				S	**Sb**	**12**	**39**	**10.7 +0.1**
XOR	**Xorichti**	**0.77**	**29**	P	**Pg**	**12**	**39**	**00.0 -0.5**
XOR				S	**Sb**	**12**	**39**	**11.6 -0.4**
XOR	**Xorichti**	**0.77**	**29**	P	**Pg**	**12**	**39**	**00.0 -0.5**
XOR				S	**Sb**	**12**	**39**	**11.6 -0.4**
KLV	**Kalavryta, Ach**	**0.78**	**214**	P	**Pg**	**12**	**38**	**59.9 -0.7**
KLV	**Kalavryta, Ach**	**0.78**	**214**	P	**Pg**	**12**	**38**	**59.9 -0.7**
GUR	**Goura**	**0.81**	**201**	P	**Pg**	**12**	**39**	**00.8 -0.4**
GUR				S	**Sg**	**12**	**39**	**11.9 +0.3**
GUR	**Goura**	**0.81**	**201**	*e*PN	**Pg**	**12**	**39**	**00.7 -0.4**
GUR	**Goura**	**0.81**	**201**	P	**Pg**	**12**	**39**	**00.8 -0.4**
GUR				S	**Sg**	**12**	**39**	**11.9 +0.3**
DID	**Didima**	**1.26**	**160**	*e*PN	**Pg**	**12**	**39**	**09.2 -0.5**
DID	**Didima**	**1.26**	**160**	*e*Pn	**Pg**	**12**	**39**	**09.2 -0.5**

WEL 30 12:40:30.3±0.3, 45.62S×166.47E, h20km±1km, ML3.7/16, 1C-2D, Error ellipse: s-maj=2.7km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.50**	**74**	⇓P*	Pb	12	40	39.7 -0.7
DCZ				S*	Sg	12	40	46.6 -0.6
DCZ				AML	AML	12	40	46.7
DCZ				AML	AML	12	40	46.8
DCZ				AML	AML	12	40	46.8
WHZ	**Wether Hill Ro**	**1.07**	**106**	PN	Pb	12	40	49.5 -0.7
WHZ				SN	Sn	12	41	04.3 -0.2
WHZ				AML	AML	12	41	09.4
MLZ	**Mavora Lakes**	**1.23**	**78**	PN	Pn	12	40	51.2 -1.2
MLZ				SN	Sb	12	41	07.0 -1.4
MLZ				AML	AML	12	41	08.4
MSZ	**Milford Sound**	**1.40**	**48**	⇑PN	Pn	12	40	54.8 +0.1
MSZ				SN	Sn	12	41	12.2 -0.4
MSZ				AML	AML	12	41	19.5
MSZ				AML	AML	12	41	21.1
MSZ				AML	AML	12	41	21.1
APZ	**The Paps**	**1.61**	**140**	PN	Pn	12	40	57.7 0.0
APZ				SN	Sn	12	41	17.6 -0.4
WKZ	**Wanaka**	**1.97**	**67**	PN	Pn	12	41	03.8 +1.3
WKZ				AML	AML	12	41	35.0
WKZ				AML	AML	12	41	35.7
EAZ	**Earnscleugh**	**2.04**	**80**	PN	Pn	12	41	04.7 +1.2
EAZ				AML	AML	12	41	33.3
EAZ				AML	AML	12	41	34.9
EAZ				AML	AML	12	41	34.9
SYZ	**Scrubby Hill**	**2.07**	**117**	PN	Pn	12	41	04.4 +0.4
SYZ				SN	Sn	12	41	30.5 +1.2
TUZ	**Tuapeka**	**2.24**	**100**	PN	Pn	12	41	07.1 +0.8
TUZ				AML	AML	12	41	39.2
TUZ				AML	AML	12	41	39.8
JCZ	**Jackson Bay**	**2.24**	**47**	AML	AML	12	41	46.0
JCZ				AML	AML	12	41	49.7
LBZ	**Lake Benmore**	**2.91**	**66**	PN	Pn	12	41	16.1 +0.6
LBZ				AML	AML	12	42	09.6
ODZ	**Otahua Downs**	**3.00**	**80**	⇓PN	Pn	12	41	16.7 -0.1
ODZ				AML	AML	12	41	51.7
ODZ				AML	AML	12	42	03.9

IDC 30 13:16:00.6±9.2, 0.08N×123.11E, h197km±90km, mb3.2/5, mb1 3.5/6, mb1mx3.1/22, mbtmp3.3/6, Error ellipse: s-maj=106.4km s-min=16.5km az=55.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.23**	**172**	P	P	13	19	58.1 -1.1
	1.1nm,0.3s,baz=349,slow=8.2,SNR=32							
WRA	**Warramunga Arr**	**22.74**	**152**	P	P	13	20	45.4 -0.6
	0.8nm,0.3s,baz=337,slow=8.6,SNR=18							
ASAR	**Alice Springs**	**25.83**	**157**	P	P	13	21	14.8 +0.9
	0.5nm,0.5s,baz=345,slow=14,SNR=8.0							
CMAR	**Chiang Mai Arr**	**29.95**	**309**	P	P	13	21	51.2 +0.6
	1.0nm,0.7s,baz=136,slow=7.0,SNR=5.8							
STKA	**Stephens Creek**	**36.28**	**153**	P	P	13	22	45.6 +0.4
	2.5nm,0.8s,baz=342,slow=8.7,SNR=5.0							
MKAR	**Makanchi Array**	**58.60**	**328**	P	P	13	25	36.7 -0.3
	0.4nm,0.4s,baz=120,slow=7.8,SNR=3.7							
TORD	**Torodi Ar. Bea**	**120.49**	**285**	PKP	PKPdf	13	34	28.8 -1.0
	0.2nm,0.4s,baz=72,slow=2.0,SNR=4.2							

IDC 30 13:34:12.1±1.8, 16.43S×165.61E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/19, mbtmp3.9/4, MS3.4/2, Ms1 3.4/2, ms1mx2.9/28, Error ellipse: s-maj=119.5km s-min=30.1km az=151.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**19.80**	**133**	LR	LR	13	44	20.7
	comp=Z,187nm,19.5s,baz=218,slow=31							
STKA	**Stephens Creek**	**26.68**	**230**	P	P	13	39	52.9 -0.1
	4.0nm,0.9s,baz=58,slow=11,SNR=3.6							
WRA	**Warramunga Arr**	**29.89**	**259**	P	P	13	40	22.1 +0.4
	1.0nm,0.9s,baz=89,slow=9.4,SNR=3.2							
ASAR	**Alice Springs**	**30.59**	**251**	P	P	13	40	27.8 -0.2
	1.1nm,0.6s,baz=78,slow=8.8,SNR=21							
ASAR				LR	LR	13	53	13.4
	comp=Z,44nm,20.9s,baz=254,slow=37							
NVAR	**Mina Array Bea**	**89.59**	**50**	P	P	13	47	12.0 0.0
	0.1nm,0.4s,baz=232,slow=5.5,SNR=2.3							

MEX 30 13:42:50.0±0.3, 16.29N×98.60W, h10km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.47**	**77**	*e*P	Pg	13	42	58.6 -0.6
PNIG				*i* S	Sg	13	43	05.4 -0.1
ACX	**Acapulco**	**1.34**	**296**	*i* P	Pg	13	43	19.6 +3.9
OXX	**Oaxaca**	**1.97**	**66**	*i* P	Pb	13	43	25.3 -1.0
TPIG	**Tehuac#an**	**2.43**	**29**	*i* P	Pn	13	43	27.5 -2.5
TPIG				*i* S	Sn	13	43	55.7 -4.4
HUIG	**Huatulco**	**2.45**	**102**	*i* P	Pn	13	43	27.5 -2.7
HUIG				*i* S	Sn	13	43	56.4 -3.8

IDC 30 13:44:41.8±2.6, 3.94S×154.03E, h404km±25km, mb3.3/6, mb1 3.6/8, mb1mx3.2/20, mbtmp3.4/8, Error ellipse: s-maj=44.7km s-min=18.4km az=121.0, North of Solomon Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.72**	**231**	P	P	13	46	47.1 +1.9
	2.7nm,0.3s,baz=47,slow=4.9,SNR=9.4							
PMG				S	S	13	48	37.6 +11
	0.7nm,0.3s,baz=201,slow=17,SNR=1.9							
CTA	**Charters Tower**	**17.75**	**205**	P	P	13	48	24.6 +1.0
	1.5nm,0.3s,baz=29,slow=11,SNR=18							
WRA	**Warramunga Arr**	**24.93**	**229**	P	P	13	49	30.2 -0.6
	2.5nm,0.4s,baz=52,slow=9.5,SNR=18							
ASAR	**Alice Springs**	**27.61**	**223**	P	P	13	49	53.6 -0.9
	2.2nm,0.3s,baz=54,slow=9.0,SNR=170							
ASAR				ScP	ScP	13	56	03.2 +1.4
	0.3nm,0.7s,baz=40,slow=3.6,SNR=4.8							
STKA	**Stephens Creek**	**30.15**	**201**	P	P	13	50	16.4 -0.2
	1.2nm,0.7s,baz=29,slow=13,SNR=2.8							
MKAR	**Makanchi Array**	**80.49**	**319**	P	P	13	56	11.1 +0.8
	0.4nm,0.5s,baz=102,slow=6.3,SNR=4.5							
ILAR	**Eielson Array**	**80.91**	**22**	P	P	13	56	11.7 -0.4
	1.0nm,0.6s,baz=243,slow=5.2,SNR=18							
NVAR	**Mina Array Bea**	**90.59**	**52**	P	P	13	57	00.4 +0.3
	0.4nm,0.6s,baz=237,slow=3.1,SNR=4.4							
TORD	**Torodi Ar. Bea**	**151.18**	**290**	PKPbc	PKPbc	14	03	48.9 -0.3
	0.5nm,0.4s,baz=69,slow=1.6,SNR=11							

IDC 30 13:49:32.9±2.3, 54.77S×29.86W, h0km, mb3.6/1, mb1 3.6/1, mb1mx3.4/15, mbtmp3.6/1, Error ellipse: s-maj=121.0km s-min=78.7km az=145.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**72.74**	**32**	P	P	14	01	02.7 0.0
	0.4nm,0.6s,baz=200,slow=6.1,SNR=4.6							
ILAR	**Eielson Array**	**148.12**	**314**	PKPbc	PKPbc	14	09	18.4 -0.7
	0.3nm,0.5s,baz=130,slow=3.6,SNR=7.2							
SONM	**Songino Array**	**152.17**	**86**	PKPbc	PKPbc	14	09	29.4 -0.2
	0.2nm,0.4s,baz=247,slow=3.0,SNR=2.2							

MEX 30 13:56:17.7±0.6, 16.30N×98.48W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.35**	**75**	*e*P	Pg	13	56	23.9 -0.6
PNIG				*i* S	Sg	13	56	29.9 +0.7
ACX	**Acapulco**	**1.44**	**293**	*i* P	Pn	13	56	42.1 -2.4
ACX				*i* S	Sb	13	56	59.6 -4.2
OXX	**Oaxaca**	**1.85**	**65**	*i* P	Pn	13	56	47.8 -2.6
OXX				*e*S	Sn	13	57	10.1 -4.3
HUIG	**Huatulco**	**2.34**	**103**	*i* P	Pn	13	56	54.5 -2.4
HUIG				*i* S	Sn	13	57	21.4 -4.6
TPIG	**Tehuac#an**	**2.36**	**27**	*e*P	Pn	13	56	55.7 -1.7
TPIG				*e*S	Sn	13	57	22.8 -4.2

*IDC **30** 14:05:17.3±1.6, 40.37N×36.42E, h0km, mb3.3/2, mb1 3.5/5, mb1mx3.3/27, mbtmp3.5/5, ML3.4/3, Error ellipse: s-maj=47.0km s-min=15.9km az=150.0*
*DDA **30** 14:05:18.8, 40.85N×35.93E, h4km, MD3.4*
*CSEM **30** 14:05:19.7±0.1, 40.86N×35.94E, h2km, MD3.4, Error ellipse: s-maj=3.9km s-min=2.5km az=23.0*
*ISK **30** 14:05:19.0, 40.86N×35.93E, h5km, MD3.4*

ISC 30 14:05:19.6±1.1, 40.84N±0.02×35.93E±0.02, h2km±9km, n86, σ0.86/115, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KVT	**Kavak**	**0.25**	**20**	*e*PG	**Pg**	**14**	**05**	**24.4 -0.1**
KVT				*e*SG	**Sg**	**14**	**05**	**27.9 +0.1**
KVT	**Kavak**	**0.25**	**20**	*e*Pg	**Pg**	**14**	**05**	**24.4 -0.1**
KVT				*e*Sg	**Sg**	**14**	**05**	**27.9 +0.1**
HAVZ	**Havza**	**0.28**	**325**	*i* P	**Pg**	**14**	**05**	**25.0 0.0**
HAVZ				*i* S	**Sg**	**14**	**05**	**29.7 +1.0**
HAVZ	**Havza**	**0.28**	**325**	*i* P	**Pg**	**14**	**05**	**25.0 0.0**
HAVZ				*i* S	**Sg**	**14**	**05**	**29.7 +1.0**
ERBA	**Erbaa**	**0.65**	**104**	*i* P	**Pg**	**14**	**05**	**31.3 -0.6**
ERBA				*i* S	**Sg**	**14**	**05**	**40.5 +0.2**
ERBA	**Erbaa**	**0.65**	**104**	*i* P	**Pg**	**14**	**05**	**31.3 -0.6**
ERBA				*i* S	**Sg**	**14**	**05**	**40.5 +0.2**
TOKA	**Tokat**	**0.67**	**141**	*i* P	**Pb**	**14**	**05**	**33.1 -0.8**
TOKA				*i* S	**Sb**	**14**	**05**	**42.4 -1.2**
TOKA	**Tokat**	**0.67**	**141**	*i* P	**Pb**	**14**	**05**	**33.1 -0.8**
TOKA				*i* S	**Sb**	**14**	**05**	**42.4 -1.2**
TOKT	**Tokat**	**0.70**	**138**	*e*PG	**Pg**	**14**	**05**	**33.2 +0.2**
TOKT				*e*SG	**Sg**	**14**	**05**	**43.3 +1.2**
TOKT	**Tokat**	**0.70**	**138**	*e*Pg	**Pg**	**14**	**05**	**33.2 +0.2**
TOKT				*e*Sg	**Sg**	**14**	**05**	**43.3 +1.2**
CTKT	**Corum**	**0.90**	**256**	*i* P	**Pg**	**14**	**05**	**35.9 -0.9**
CTKT				*i* S	**Sg**	**14**	**05**	**49.3 +0.9**
CTKT	**Corum**	**0.90**	**256**	*i* P	**Pg**	**14**	**05**	**35.9 -0.9**
CTKT				*i* S	**Sg**	**14**	**05**	**49.3 +0.9**
DIKM	**Dikmen**	**0.95**	**328**	*e*PG	**Pg**	**14**	**05**	**37.4 -0.5**
DIKM	**Dikmen**	**0.95**	**328**	*e*Pg	**Pg**	**14**	**05**	**37.4 -0.5**
BOYT	**Boyabat**	**0.97**	**307**	*i* P	**Pn**	**14**	**05**	**39.9 -0.3**
BOYT				*i* S	**Sg**	**14**	**05**	**51.2 +0.5**
BOYT	**Boyabat**	**0.97**	**307**	*i* P	**Pn**	**14**	**05**	**39.9 -0.3**
BOYT				*i* S	**Sg**	**14**	**05**	**51.2 +0.5**
BYBT	**Boyabat**	**1.08**	**306**	*e*PG	**Pg**	**14**	**05**	**39.9 -0.4**
BYBT	**Boyabat**	**1.08**	**306**	*e*Pg	**Pg**	**14**	**05**	**39.9 -0.4**
RSDY	**Resadiye-TOKAT**	**1.15**	**112**	*e*PN	**Pb**	**14**	**05**	**41.7 -0.5**
RSDY	**Resadiye-TOKAT**	**1.15**	**112**	*e*Pn	**Pb**	**14**	**05**	**41.7 -0.5**
CORM	**Corum**	**1.19**	**237**	*e*PN	**Pg**	**14**	**05**	**42.0 -0.4**
CORM	**Corum**	**1.19**	**237**	*e*Pn	**Pg**	**14**	**05**	**42.0 -0.4**
SVSK	**Karacayir**	**1.23**	**138**	*e*PN	**Pb**	**14**	**05**	**43.5 0.0**
SVSK	**Karacayir**	**1.23**	**138**	*e*Pn	**Pb**	**14**	**05**	**43.5 0.0**
YOZ	**Yozgat**	**1.29**	**202**	*e*PN	**Pg**	**14**	**05**	**44.1 -0.2**
YOZ	**Yozgat**	**1.29**	**202**	*e*Pn	**Pg**	**14**	**05**	**44.1 -0.2**
SCER	**sogukcermik**	**1.34**	**137**	*i* P	**Pg**	**14**	**05**	**44.8 -0.5**
SCER				*i* S	**Sn**	**14**	**06**	**03.9 0.0**
SCER	**sogukcermik**	**1.34**	**137**	*i* P	**Pg**	**14**	**05**	**44.8 -0.5**
SCER				*i* S	**Sn**	**14**	**06**	**03.9 0.0**
TOS	**Tosya**	**1.46**	**278**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.79**	**266**	P	P	14 35 14.2	+0.7
	3.5nm,0.3s,baz=93,slow=11,SNR=15						
STKA	**Stephens Creek**	**41.12**	**247**	P	P	14 35 40.2	-1.0
	4.0nm,1.2s,baz=94,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**48.48**	**258**	P	P	14 36 39.6	-0.6
	0.4nm,0.3s,baz=95,slow=6.8,SNR=5.5						
WRA	**Warramunga Arr**	**48.79**	**263**	P	P	14 36 42.6	+0.1
	1.0nm,0.3s,baz=98,slow=8.5,SNR=17						

IDC 30 14:29:58.9±29.0, 22.04S×173.01W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/22, mbtmp3.8/4, Error ellipse: s-maj=531.5km s-min=165.2km az=76.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.98**	**265**	P	P	14 37 19.6	+0.8
	1.3nm,0.3s,baz=87,slow=10,SNR=6.4						
STKA	**Stephens Creek**	**41.37**	**246**	P	P	14 37 45.4	-1.6
	0.8nm,0.5s,baz=117,slow=9.0,SNR=2.9						
ASAR	**Alice Springs**	**48.71**	**257**	P	P	14 38 45.2	-0.3
	0.2nm,0.4s,baz=94,slow=6.8,SNR=3.4						
WRA	**Warramunga Arr**	**49.00**	**262**	P	P	14 38 48.0	+0.3
	0.4nm,0.3s,baz=96,slow=8.3,SNR=7.1						

*ISCJB **30** 14:48:04.6±0.4, 1.35N±0.04×30.51E±0.09, h10km, mb4.2/16, MS3.7/16, Error ellipse: s-maj=13.2km s-min=6.3km az=175.5*

*IDC **30** 14:48:04.9±0.6, 1.34N×30.51E, h0km, mb4.1/13, mb1 4.2/15, mb1mx4.0/28, mbtmp4.1/15, ML4.4/2, MS3.7/19, Ms1 3.7/19, ms1mx3.5/38, Error ellipse: s-maj=21.7km s-min=13.9km az=93.0*

*NEIC **30** 14:48:06.5±0.3, 1.29N×30.50E, h10km, mb4.6/3, Error ellipse: s-maj=10.8km s-min=6.5km az=88.0*

ISC 30 14:48:06.3±0.5, 1.29N±0.06×30.57E±0.07, h10km, n50, σ0§95/48, mb4.3/16, MS3.7/16, Uganda

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**1.89**	**175**	*e*Pn	**Pn**	**14 48 38.3**	**-0.4**
MBAR				Lg	Lg	14 49 01.6	
MBAR				*e*Sn	**Sn**	**14 49 03.1**	**+0.4**
MBAR	**Mbarara**	**1.89**	**175**	Pn	**Pn**	**14 48 39.2**	**+0.5**
	238nm,0.3s,baz=357,slow=22,SNR=165						
MBAR				Lg	Lg	14 49 01.6	
	3µm,0.3s,baz=226,slow=22,SNR=14						
KMBO	**Kilima Mbogo**	**7.10**	**110**	*e*Pn	**Pn**	**14 49 51.5**	**+0.9**
KMBO				Sn	**Sn**	**14 51 09.2**	**-2.3**
KMBO				Lg	Lg	14 51 46.6	
KMBO	**Kilima Mbogo**	**7.10**	**110**	Pn	**Pn**	**14 49 51.9**	**+1.4**
	5.6nm,0.3s,baz=274,slow=18,SNR=39						
KMBO				Sn	**Sn**	**14 51 09.2**	**-2.3**
	11nm,0.3s,baz=247,slow=20,SNR=4.5						
KMBO				Lg	Lg	14 51 46.6	
	13nm,0.3s,baz=243,slow=20,SNR=3.8						
KMBO				LR	LR	14 52 51.7	
	comp=Z,1µm,18.4s,baz=277,slow=40						
ATD	**Arta Tunnel**	**15.87**	**50**	LR	LR	14 58 09.6	
	comp=Z,439nm,21.1s,baz=207,slow=38						
LSZ	**Lusaka**	**16.63**	**188**	Pn	**Pn**	**14 52 00.3**	**+0.5**
LSZ				Sn	Sn	14 54 57.1	-7.5
LSZ				Lg	Lg	14 56 48.3	
LSZ				*e*PcP	**PcP**	**14 56 49.6**	**-0.5**
LSZ	**Lusaka**	**16.63**	**188**	Pn	**Pn**	**14 52 00.3**	**+0.5**
	0.3nm,0.3s,baz=24,slow=10,SNR=7.9						
LSZ				Sn	Sn	14 54 57.1	-7.5
	0.4nm,0.3s,baz=51,slow=13,SNR=2.6						
LSZ				Lg	Lg	14 56 48.3	
	1.0nm,0.3s,baz=110,slow=19,SNR=6.3						
LSZ				LR	LR	14 58 17.8	
	comp=Z,218nm,18.5s,baz=128,slow=37						
TSUM	**Tsumeb**	**24.03**	**211**	P	**P**	**14 53 20.3**	**-1.5**
TSUM	**Tsumeb**	**24.03**	**211**	P	**P**	**14 53 20.3**	**-1.5**
	1.3nm,0.7s,baz=36,slow=12,SNR=3.2						
TSUM				LR	LR	15 03 33.2	
	comp=Z,121nm,19.9s,baz=338,slow=39						
LBTB	**Lobatse**	**26.59**	**190**	P	**P**	**14 53 46.1**	**+1.1**
LBTB	**Lobatse**	**26.59**	**190**	P	**P**	**14 53 46.1**	**+1.1**
	2.9nm,0.9s,baz=46,slow=9.4,SNR=4.0						
LBTB				LR	LR	15 04 38.4	
	comp=Z,182nm,21.0s,baz=206,slow=37						
BOSA	**Boshof**	**30.17**	**189**	P	**P**	**14 54 18.1**	**+1.2**
BOSA	**Boshof**	**30.17**	**189**	P	**P**	**14 54 18.1**	**+1.2**
	4.9nm,1.0s,baz=3.1,slow=11,SNR=4.6						
BOSA				LR	LR	15 06 52.5	
	comp=Z,78nm,19.5s,baz=352,slow=37						
TORD	**Torodi Ar. Bea**	**30.93**	**294**	P	**P**	**14 54 22.9**	**-0.7**
TORD				PcP	**PcP**	**14 57 20.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**30.93**	**294**	P	**P**	**14 54 22.9**	**-0.7**
	1.1nm,0.6s,baz=105,slow=8.4,SNR=11						
TORD				PcP	**PcP**	**14 57 20.4**	**+0.1**
	1.0nm,0.6s,baz=88,slow=2.3,SNR=4.4						
DBIC	**Dimbokro**	**35.73**	**280**	P	**P**	**14 55 05.0**	**-0.6**
DBIC	**Dimbokro**	**35.73**	**280**	P	**P**	**14 55 05.0**	**-0.6**
	3.9nm,0.5s,baz=90,slow=8.2,SNR=8.3						
DBIC				LR	LR	15 10 24.9	
	comp=Z,79nm,18.4s,baz=90,slow=38						
MALT	**Malatya**	**37.55**	**10**	*e*P	**P**	**14 55 22.6**	**+1.8**
	13nm,1.0s						
BRTR	**Keskin Array B**	**38.36**	**4**	P	**P**	**14 55 29.2**	**+1.5**
BRTR	**Keskin Array B**	**38.36**	**4**	P	**P**	**14 55 29.2**	**+1.5**
	1.3nm,0.8s,baz=182,slow=9.4,SNR=5.7						
KBZ	**Khabaz**	**43.66**	**13**	LR	LR	15 15 22.0	
	comp=Z,46nm,19.7s,baz=221,slow=38						
MDT	**Midelt**	**45.57**	**317**	LR	LR	15 17 33.8	
	comp=Z,146nm,19.6s,baz=1.8,slow=39						
PSZ	**Piszkesteto**	**47.36**	**350**	*e*P	**P**	**14 56 41.0**	**+0.5**
	6.2nm,0.8s						
BBTS	**Babate**	**48.38**	**288**	LR	LR	15 17 38.0	
	comp=Z,150nm,19.3s,baz=110,slow=37						
DAVOX	**Davos/Dischmat**	**48.78**	**341**	LR	LR	15 17 36.8	
	comp=Z,50nm,18.9s,baz=96,slow=36						
ESDC	**Sonseca Array**	**49.47**	**325**	P	**P**	**14 56 57.1**	**+0.1**
ESDC	**Sonseca Array**	**49.47**	**325**	P	**P**	**14 56 57.1**	**+0.1**
	1.0nm,0.6s,baz=128,slow=6.9,SNR=9.2						
ESDC				LR	LR	15 20 01.5	
	comp=Z,161nm,19.1s,baz=145,slow=39						
GERES	**GERESS Array B**	**49.55**	**345**	P	**P**	**14 56 57.1**	**-0.3**
GERES	**GERESS Array B**	**49.55**	**345**	P	**P**	**14 56 57.1**	**-0.3**
	1.3nm,0.7s,baz=157,slow=7.2,SNR=11						
GERES				LR	LR	15 18 17.7	
	comp=Z,26nm,18.7s,baz=106,slow=37						
KHC	**Kasperske Hory**	**49.85**	**345**	*e*P	**P**	**14 56 59.1**	**-0.5**
	4.7nm,0.8s						
KKAR	**Karatay Array**	**54.79**	**35**	*e*P	**P**	**14 57 37.2**	**+0.8**
FINES	**FINESS Array B**	**60.10**	**358**	P	**P**	**14 58 13.4**	**-0.1**
FINES	**FINESS Array B**	**60.10**	**358**	P	**P**	**14 58 13.4**	**-0.1**
	2.3nm,0.9s,baz=143,slow=4.1,SNR=5.8						
NOA	**NORSAR Array B**	**61.41**	**349**	P	**P**	**14 58 21.8**	**-0.7**
NOA	**NORSAR Array B**	**61.41**	**349**	P	**P**	**14 58 21.8**	**-0.7**
	2.5nm,0.9s,baz=159,slow=6.9,SNR=7.0						
NOA				LR	LR	15 25 46.8	
	comp=Z,17nm,18.2s,baz=35,slow=37						
MKAR	**Makanchi Array**	**63.78**	**37**	*e*P	**P**	**14 58 38.6**	**-0.1**
MKAR	**Makanchi Array**	**63.78**	**37**	P	**P**	**14 58 38.4**	**-0.2**
	1.1nm,0.7s,baz=239,slow=7.0,SNR=13						
MKAR				LR	LR	15 29 11.5	
	comp=Z,55nm,20.2s,baz=348,slow=39						
ARCES	**ARCESS Array B**	**68.21**	**358**	P	**P**	**14 59 05.9**	**-0.8**
ARCES	**ARCESS Array B**	**68.21**	**358**	P	**P**	**14 59 05.9**	**-0.8**
	2.1nm,0.8s,baz=180,slow=7.0,SNR=6.2						
ZALV	**Zalesovo Beam**	**68.70**	**31**	P	**P**	**14 59 09.3**	**-0.7**
ZALV	**Zalesovo Beam**	**68.70**	**31**	P	**P**	**14 59 09.3**	**-0.7**
	2.6nm,0.9s,baz=251,slow=4.5,SNR=5.3						
ZALV				LR	LR	15 31 51.2	
	comp=Z,52nm,18.1s,baz=159,slow=38						
BDFB	**Brasilia**	**79.36**	**254**	LR	LR	15 32 11.8	
	comp=Z,76nm,19.1s,baz=41,slow=33						
CPUP	**Villa Florida**	**88.68**	**244**	LR	LR	15 35 27.0	
	comp=Z,80nm,21.3s,baz=252,slow=32						
VNDA	**Vanda**	**99.51**	**170**	LR	LR	15 47 15.3	
	comp=Z,77nm,21.2s,baz=283,slow=36						
PDAR	**Pinedale Array**	**123.36**	**326**	PKP	**PKPdf**	**15 07 04.2**	**-0.2**
PDAR	**Pinedale Array**	**123.36**	**326**	PKP	**PKPdf**	**15 07 04.2**	**-0.2**
	0.6nm,0.9s,baz=29,slow=2.1,SNR=3.2						
TXAR	**Lajitas Array**	**126.74**	**309**	PKP	**PKPdf**	**15 07 11.9**	**+0.9**
TXAR	**Lajitas Array**	**126.74**	**309**	PKP	**PKPdf**	**15 07 12.0**	**+0.9**
	0.2nm,0.5s,baz=90,slow=3.8,SNR=3.6						
NVAR	**Mina Array Bea**	**131.17**	**327**	PKP	**PKPdf**	**15 07 20.0**	**+0.6**
NVAR	**Mina Array Bea**	**131.17**	**327**	PKP	**PKPdf**	**15 07 20.0**	**+0.6**
	0.6nm,0.7s,baz=96,slow=1.4,SNR=5.8						

NNC 30 15:05:02.2±1.8, 40.49N×77.04E, h0km, mb3.5, mpv3.1, 4C-2D, Error ellipse: s-maj=17.1km s-min=13.9km az=105.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**2.66**	**337**	⇑Pn	Pn	15 05 46.7	0.0
	3.6nm,0.5s						
TKM2				⇓Lg	Lg	15 06 27.5	
	7.0nm,0.3s						
KNDC	**Almaty**	**2.73**	**359**	⇑Pn	Pn	15 05 47.5	+0.1
	17nm,0.5s						
KNDC				⇑Lg	Lg	15 06 28.5	
	44nm,0.4s						
KK31	**Karatay Array**	**5.54**	**300**	⇓Pg	Pb	15 06 41.6	+1.8
	0.5nm,0.5s,baz=116,slow=16,SNR=4.6						
KK31				⇑Lg	Lg	15 07 57.6	
	0.5nm,0.5s,baz=115,slow=26						

IDC 30 15:06:36.5±15.0, 23.80S×179.82E, h623km±187km, mb3.2/5, mb1 3.4/5, mb1mx3.0/19, mbtmp3.2/5, Error ellipse: s-maj=101.0km s-min=41.6km az=134.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.31**	**270**	P	P	15 12 08.4	0.0
	6.0nm,0.3s,baz=96,slow=10,SNR=9.2						
ASAR	**Alice Springs**	**41.89**	**261**	P	P	15 13 34.5	-0.1
	1.1nm,0.8s,baz=95,slow=7.8,SNR=13						
WRA	**Warramunga Arr**	**42.25**	**266**	P	P	15 13 36.9	-0.6
	1.6nm,0.4s,baz=93,slow=8.5,SNR=17						
FITZ	**Fitzroy Crossi**	**50.67**	**266**	P	P	15 14 41.6	+0.9
	2.3nm,0.9s,baz=98,slow=7.1,SNR=4.4						
TXAR	**Lajitas Array**	**90.51**	**58**	P	P	15 18 34.1	+0.3
	0.1nm,0.3s,baz=208,slow=7.7,SNR=6.8						
HFS	**Hagfors**	**142.41**	**349**	PKhKP	PKPpre	15 24 56.0	
	0.4nm,0.3s,baz=70,slow=4.7,SNR=5.8						
TORD	**Torodi Ar. Bea**	**169.26**	**190**	PKPab	PKPab	15 26 49.8	-1.1
	0.3nm,0.8s,baz=176,slow=5.0,SNR=3.2						

*ISCJB **30** 15:06:59.5±0.8, 43.83N±0.06×147.75E±0.08, h86km±7km, mb3.5/8, Error ellipse: s-maj=11.9km s-min=6.0km az=42.3*

*MOS **30** 15:07:00.2±1.4, 43.91N×147.68E, h91km, mb3.7/6, Error ellipse: s-maj=15.1km s-min=11.4km az=83.0*

*JMA **30** 15:07:00.1±0.2, 43.66N×147.73E, h31km, M4.3*

*SKHL **30** 15:07:00.7±0.1, 43.79N×147.82E, h41km±9km, mb4.3/2*

*NIED **30** 15:07:00, 43.70N×147.70E, h80km, Mw3.8 Best double couple: M0 6.42000×10^14 NP1:φs=277.00000°, δ66.00000°, λ=-108.00000°. NP2:φs=137.00000°, δ30.00000°, λ=-55.00000°.*

*IDC **30** 15:07:01.6±3.7, 43.85N×147.67E, h85km±32km, mb3.3/7, mb1 3.4/9, mb1mx3.3/26, mbtmp3.3/9, Error ellipse: s-maj=34.1km s-min=18.1km az=94.0*

ISC 30 15:06:59.7±1.3, 43.81N±0.06×147.82E±0.08, h72km±10km, n37, σ1§42/53, mb3.6/8, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.42**	**1**	*c*iPN	**Pn**	**15 07 24.1**	**+0.4**
KUR				*e*S	**Sn**	**15 07 41.7**	**0.0**
KUR				pmax	pmax		
	comp=Z,38nm,0.3s						
KUR				pmax	pmax		
	comp=N,12nm,0.2s						
KUR				pmax	pmax		
	comp=E,28nm,0.3s						
KUR				smax	smax		
	comp=N,603nm,0.2s						
KUR				smax	smax		
	comp=E,336nm,0.2s						
KUR	**Kuril'sk**	**1.42**	**1**	*i*P	**Pn**	**15 07 24.2**	**+0.5**
KUR				AMB	AMB	15 07 26.4	
	comp=E,10.0nm,0.2s						
KUR				AMB	AMB	15 07 26.4	
	comp=E,30nm,0.2s						
KUR				AMB	AMB	15 07 26.4	
	comp=E,40nm,0.2s						
KUR				*e*S	**Sn**	**15 07 41.7**	**0.0**
KUR				A	A	15 07 42.0	
	comp=E,3µm,1.6s						
KUR				A	A	15 07 42.0	
	comp=E,2µm,2.0s						
KUR				A	A	15 07 44.1	
	comp=E,600nm,0.2s						
KUR				A	A	15 07 44.1	
	comp=E,340nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.43**	**280**	*i* PN	**Pn**	**15 07 23.8**	**0.0**
YUK				*i* S	**Sn**	**15 07 41.1**	**-0.8**
YUK				pmax	pmax		
	comp=E,31nm,0.3s						
YUK				pmax	pmax		
	comp=Z,154nm,0.3s						
YUK				pmax	pmax		
	comp=N,14nm,0.1s						
YUK				smax	smax		
	comp=N,555nm,0.2s						
YUK				smax	smax		
	comp=E,2µm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.43**	**280**	⇓*i*P	**Pn**	**15 07 23.8**	**0.0**
YUK				AMB	AMB	15 07 24.4	
	comp=E,10.0nm,0.3s						
YUK				AMB	AMB	15 07 24.4	
	comp=E,30nm,0.3s						
YUK				AMB	AMB	15 07 24.4	
	comp=E,150nm,0.3s						
YUK				*i* S	**Sn**	**15 07 41.2**	**-0.7**
YUK				A	A	15 07 42.4	
	comp=E,560nm,0.2s						
YUK				A	A	15 07 42.4	
	comp=E,2µm,0.2s						
NEM2	**Nemuro 2**	**1.57**	**254**	P	**Pn**	**15 07 25.4**	**-0.2**
NEM2				*e*S	**Sn**	**15 07 43.9**	**-1.4**
JRA	**Rausu**	**1.95**	**275**	P	**Pn**	**15 07 31.5**	**+0.8**
JRA				*e*S	**Sn**	**15 07 54.7**	**+0.4**
JNK	**Nakash**	**2.26**	**265**	P	**Pn**	**15 07 35.2**	**+0.3**
JNK				*e*S	**Sn**	**15 08 01.5**	**-0.2**
JAK	**Akkeshi**	**2.42**	**251**	P	**Pn**	**15 07 36.8**	**-0.2**
JAK				*e*S	**Sn**	**15 08 04.0**	**-1.5**
JTKR	**Abashiri--Toko**	**2.83**	**275**	P	**Pn**	**15 07 43.7**	**+1.1**
JTKR				*e*S	**Sn**	**15 08 17.4**	**+1.8**
JAR	**Ashorobuto**	**2.99**	**261**	P	**Pn**	**15 07 45.6**	**+0.9**
JAR				*e*S	**Sn**	**15 08 19.4**	**0.0**
JOB	**Onbets**	**3.04**	**254**	P	**Pn**	**15 07 46.0**	**+0.5**
JOB				*e*S	**Sn**	**15 08 20.1**	**-0.7**
JMP	**Maruseppu**	**3.23**	**275**	P	**Pn**	**15 07 49.5**	**+1.5**
JCH	**Churui**	**3.47**	**251**	P	**Pn**	**15 07 51.5**	**+0.2**
JCH				*e*S	**Sn**	**15 08 29.9**	**-1.3**
JKK2	**Kamakawa 2**	**3.67**	**273**	P	**Pn**	**15 07 55.8**	**+1.8**
ASAJ	**Asahikawa**	**3.78**	**276**	P	**Pn**	**15 07 56.9**	**+1.3**
	comp=E,0.7nm,0.3s,baz=73,slow=16,SNR=11						
ASAJ				S	Sn	15 08 47.8	+9.0
	comp=E,3.9nm,0.3s,baz=33,slow=24,SNR=7.3						
JFR	**Furan**	**3.86**	**262**	P	**Pn**	**15 07 58.4**	**+1.8**
JFR				*e*S	**Sn**	**15 08 40.7**	**0.0**
ERM	**Erimo**	**3.87**	**244**	*e*Pn	**Pn**	**15 07 58.6**	**+1.9**
ERM	**Erimo**	**3.87**	**244**	*e*P	**Pn**	**15 07 58.6**	**+1.9**
JSE	**Soyaes**	**3.92**	**289**	P	**Pn**	**15 07 58.9**	**+1.5**
JNBK	**Urakawa-nobuka**	**4.02**	**249**	P	**Pn**	**15 07 58.6**	**-0.1**
JNBK				*e*S	**Sn**	**15 08 42.3**	**-2.2**
JWK2	**Keihoku**	**4.49**	**292**	P	**Pn**	**15 08 08.0**	**+2.8**
JEW	**Eniwo**	**4.75**	**260**	*e*S	**Sn**	**15 09 05.0**	**+2.6**
YSS	**Yuzh-Sakhalins**	**4.75**	**313**	*e*Pn	**Pn**	**15 08 10.8**	**+2.1**
YSS				*e*S	**Sn**	**15 09 00.5**	**-2.0**
YSS				smax	smax		
	comp=E,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**4.75**	**313**	*e*P	**Pn**	**15 08 10.8**	**+2.1**
YSS				*e*S	**Sn**	**15 09 00.5**	**-2.0**
YSS				A	A	15 09 04.3	
	comp=E,20nm,0.8s						
MJAR	**Matsushiro Arr**	**10.33**	**229**	P	**Pn**	**15 09 24.6**	**-0.4**
	comp=E,0.2nm,0.3s,baz=34,slow=12,SNR=3.6						
MAJO	**Matsushiro**	**10.33**	**229**	*e*Pn	**Pn**	**15 09 27.9**	**+2.9**
YAK	**Yakutsk**	**21.14**	**336**	*e*P	**P**	**15 11 35.4**	**-2.9**
TIXI	**Tiksi**	**29.40**	**348**	*e*P	**P**	**15 12 54.5**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ILAR	**Eielson Array**	**41.15**	**36**	P	**P**	**15 14 37.6**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=272,slow=9.3,SNR=7.8						
MKAR	**Makanchi Array**	**44.98**	**298**	*e*P	**P**	**15 15 09.5**	**+1.9**
MKAR	**Makanchi Array**	**44.98**	**298**	P	**P**	**15 15 08.0**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=84,slow=7.5,SNR=5.0						
ARU	**Arti**	**54.63**	**317**	*e*P	**P**	**15 16 18.7**	**-1.9**
ARCES	**ARCESS Array B**	**59.36**	**340**	P	**P**	**15 16 53.7**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=52,slow=9.3,SNR=3.2						
WRA	**Warramunga Arr**	**64.64**	**194**	P	**P**	**15 17 29.7**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=14,slow=7.1,SNR=2.8						
FINES	**FINESS Array B**	**65.04**	**333**	P	**P**	**15 17 31.2**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=53,slow=7.8,SNR=9.5						
ASAR	**Alice Springs**	**68.35**	**194**	P	**P**	**15 17 54.6**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=14,slow=6.5,SNR=3.4						
HFS	**Hagfors**	**69.82**	**337**	P	**P**	**15 18 01.8**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=34,slow=6.1,SNR=6.9						

*IDC **30** 15:35:02.3±1.8, 38.57N×70.84E, h0km, mb3.6/3, mb1 3.5/8, mb1mx3.4/32, mbtmp3.5/8, ML3.1/5, Error ellipse: s-maj=28.4km s-min=15.4km az=151.0*

*NNC **30** 15:35:03.5±3.3, 38.78N×70.52E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=28.6km s-min=19.6km az=41.0*

*ISCJB **30** 15:35:05.7±1.2, 38.88N±0.09×70.33E±0.06, h17km, mb3.5/3, Error ellipse: s-maj=13.1km s-min=7.2km az=177.4*

ISC 30 15:35:08.7±1.5, 38.9N±0.1×70.38E±0.09, h17km, n18, σ1§82/20, mb3.8/3, 2C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.07**	**37**	P	**Pn**	**15 36 07.9**	**-2.6**
	SNR=13						
KK31	**Karatay Array**	**4.16**	**1**	Pn	**Pn**	**15 36 14.2**	**+2.9**
	3.4nm,0.3s,baz=191,slow=14,SNR=131						
KK31				⇓Sn	**Sb**	**15 37 07.6**	**-3.8**
	5.3nm,0.5s						
KK31				⇓Lg	Lg	15 37 20.4	
	12nm,0.5s,baz=184,slow=30,SNR=4.4						
EKS2	**Erkin-Say**	**4.52**	**34**	P	**Pn**	**15 36 18.9**	**+2.4**
	SNR=6.1						
AAK	**Ala-Archa**	**4.83**	**39**	Pn	**Pn**	**15 36 20.9**	**+0.2**
	1.3nm,0.3s,baz=195,slow=8.8,SNR=9.7						
AAK				Sn	**Sn**	**15 37 17.5**	**+1.1**
	0.5nm,0.3s,baz=213,slow=22,SNR=1.6						
KZA	**Kyzart**	**4.86**	**48**	P	**Pn**	**15 36 22.3**	**+1.0**
	SNR=5.7						
KBK	**Karagaybulak**	**5.08**	**42**	P	Pn	15 36 27.4	+3.2
	SNR=5.4						
CHMS	**Chumysh**	**5.23**	**38**	P	**Pn**	**15 36 26.6**	**+0.5**
	SNR=6.7						
TKM2	**Tokmak 2**	**5.60**	**43**	⇓Pn	**Pn**	**15 36 30.5**	**-0.9**
	4.4nm,0.6s						
TKM2				⇓Sn	**Sn**	**15 37 37.6**	**+2.1**
	9.0nm,1.0s						
TKM2				⇓Lg	Lg	15 38 00.8	
	5.0nm,0.8s						
TKM2	**Tokmak 2**	**5.60**	**43**	P	**Pn**	**15 36 33.6**	**+2.2**
	SNR=8.0						
MK31	**Makanchi Array**	**11.73**	**44**	⇑Pn	**Pn**	**15 37 53.7**	**-1.5**
	1.3nm,0.9s,baz=231,slow=12,SNR=7.4						
MKAR	**Makanchi Array**	**11.73**	**44**	Pn	**Pn**	**15 37 54.1**	**-1.2**
	0.1nm,0.3s,baz=233,slow=13,SNR=8.1						
AB31	**Akbulak array**	**12.73**	**327**	Pn	**Pn**	**15 38 09.7**	**+0.8**
	0.9nm,0.5s,baz=153,slow=11,SNR=22						
AB31				⇑Sn	**Sn**	**15 40 30.8**	**+0.7**
	0.8nm,0.5s,baz=153,slow=22,SNR=8.2						
KURBB	**Kurchatov Arra**	**13.02**	**24**	Pn	Pn	15 38 09.1	-3.7
	0.0nm,0.3s,baz=217,slow=13,SNR=5.1						
AKTO	**Aktyubinsk**	**14.44**	**327**	Pn	**Pn**	**15 38 32.9**	**+0.7**
	0.2nm,0.3s,baz=140,slow=7.9,SNR=2.5						
AKTO				Sn	**Sn**	**15 41 12.4**	**+0.5**
	0.2nm,0.3s,baz=294,slow=20,SNR=2.0						
ZALV	**Zalesovo Beam**	**17.95**	**29**	P	**Pn**	**15 39 15.8**	**-1.5**
	0.0nm,0.3s,baz=214,slow=7.0,SNR=2.8						
HFS	**Hagfors**	**40.86**	**320**	P	**P**	**15 42 49.2**	**-0.1**
	1.2nm,0.6s,baz=98,slow=11,SNR=3.9						
TORD	**Torodi Ar. Bea**	**65.31**	**267**	P	**P**	**15 45 48.9**	**-1.2**
	0.5nm,0.7s,baz=62,slow=5.4,SNR=4.4						
ILAR	**Eielson Array**	**72.57**	**16**	P	P	15 46 30.7	-3.7
	0.2nm,0.5s,baz=320,slow=4.0,SNR=3.6						

*MOS **30** 15:59:59.1±1.7, 53.46N×159.29E, h136km, mb3.8/6, Error ellipse: s-maj=15.5km s-min=7.7km az=75.5*

*KRSC **30** 15:59:59.8±0.5, 53.43N×159.59E, h130km±30km, ML4.1*

*ISCJB **30** 16:00:00.3±0.3, 53.46N±0.03×159.49E±0.07, h132km±2km, mb3.5/12, Error ellipse: s-maj=7.5km s-min=3.5km az=33.7*

*IDC **30** 16:00:02.7±0.8, 53.68N×158.98E, h137km±8km, mb3.3/10, mb1 3.5/10, mb1mx3.3/25, mbtmp3.3/10, Error ellipse: s-maj=22.7km s-min=19.9km az=164.0*

ISC 30 15:59:59.2±0.6, 53.42N±0.03×159.55E±0.04, h131km±5km, n71, σ1§73/102, mb3.6/12, 2C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.28**	**206**	PN	**Pn**	**16 00 18.5**	**+1.2**
NLC				S	Sn	**16 00 32.1**	**+1.2**
NLC	**Nalytchevo**	**0.28**	**206**	*e*P	**Pn**	**16 00 18.5**	**+1.2**
NLC				*i* S	**Sn**	**16 00 32.1**	**+1.2**
SDLR	**Sedlovina**	**0.42**	**251**	*e*P	**Pn**	**16 00 19.2**	**+1.1**
SDLR				*i* S	**Sn**	**16 00 32.8**	**+0.5**
SPN	**M

PAU				S		Sn	16 01 13.6 +1.7
PAU	**Pauzhetka**	**2.57**	**222**	*e*P		Pn	16 00 42.6 +2.3
PAU				*i* S		Sn	16 01 13.6 +1.7
BZMR	**Bezymyannaya**	**2.58**	**12**	*e*P		Pn	16 00 42.8 +2.3
KIRR	**Kirishev**	**2.58**	**10**	*e*P		Pn	16 00 42.8 +2.3
KPT	**Kopyto**	**2.58**	**8**	*e*P		Pn	16 00 42.9 +2.4
BZWR	**Bezymyannyi-We**	**2.61**	**12**	*e*P		Pn	16 00 43.4 +2.5
BZGR	**Bezymyannyi-Gr**	**2.61**	**14**	*e*P		Pn	16 00 43.8 +2.9
KOZ	**Kozyrevsk**	**2.65**	**4**	*e*P		Pn	16 00 43.1 +1.8
KOZR	**Kozyr**	**2.66**	**4**	PN		Pn	16 00 43.1 +1.7
ZLN	**Zelenaya**	**2.71**	**15**	*e*P		Pn	16 00 45.2 +3.2
LGNR	**Loginova**	**2.75**	**13**	*e*P		Pn	16 00 46.6 +3.8
KRSR	**Krestovskiy**	**2.87**	**11**	*e*P		Pn	16 00 47.6 +3.5
SRDR	**Sredinnyy**	**2.91**	**2**	*e*P		Pn	**16 00 46.3 +1.7**
KLY	**Klyuchi**	**2.97**	**12**	PN		Pn	**16 00 48.0 +2.7**
KLY	**Klyuchi**	**2.97**	**12**	*e*P		Pn	**16 00 48.0 +2.7**
BDR	**Baidarnaya**	**3.30**	**16**	*e*P		Pn	**16 00 52.3 +2.6**
SMKR	**Semkarok**	**3.36**	**18**	*e*P		Pn	**16 00 52.5 +2.0**
SRKR	**Sorokina**	**3.38**	**15**	*e*P		Pn	**16 00 52.9 +2.2**
SRKR				*i* S		Sn	**16 01 31.3 +0.8**
KBG	**Krutoberegovo**	**3.38**	**31**	PN		Pn	**16 00 52.6 +2.0**
KBG				S		Sn	**16 01 30.1 -0.4**
KBG	**Krutoberegovo**	**3.38**	**31**	*e*P		Pn	**16 00 52.6 +2.0**
KBG				*i* S		Sn	**16 01 30.1 -0.4**
SKR	**Severo-Kuril's**	**3.46**	**219**	⇑*i*PN		Pn	16 00 48.5 -3.3
SKR				*e*S		Sn	**16 01 27.9 -4.5**
SKR				pmax	pmax		
	comp=E,40nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax	smax		
	comp=N,150nm,0.5s						
SKR				smax	smax		
	comp=E,110nm,0.3s						
SKR	**Severo-Kuril's**	**3.46**	**219**	*e*P		Pn	**16 00 54.1 +2.3**
BKI	**Bering**	**4.17**	**62**	PN		Pn	**16 01 02.6 +1.6**
BKI				S		Sn	**16 01 48.9 -0.1**
BKI	**Bering**	**4.17**	**62**	*e*P		Pn	**16 01 02.6 +1.6**
BKI				*i* S		Sn	**16 01 48.9 -0.1**
FX1	**Attu Island--F**	**8.21**	**88**	P		Pn	**16 01 58.3 +3.1**
	comp=E,1.4nm,0.3s,baz=321,slow=6.8,SNR=21						
FX1				S		Sn	**16 03 24.7 -1.6**
	comp=E,12nm,0.3s,baz=290,slow=10,SNR=20						
ASAJ	**Asahikawa**	**14.51**	**237**	P		Pn	**16 03 16.5 -1.7**
	comp=E,0.3nm,0.3s,baz=27,slow=18,SNR=2.6						
ERM	**Erimo**	**15.82**	**230**	*e*P		Pn	**16 03 32.5 -2.0**
YAK	**Yakutsk**	**17.98**	**310**	*i* P		P	**16 03 58.9 -0.2**
MJAR	**Matsushiro Arr**	**22.50**	**230**	P		P	**16 04 49.6 +2.0**
	comp=E,1.1nm,0.5s,baz=29,slow=8.6,SNR=5.1						
TIXI	**Tiksi**	**22.65**	**335**	*e*P		P	**16 04 48.7 -0.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ZALV	**Zalesovo Beam**	**42.33**	**302**	P		P	**16 07 37.7 -1.9**
ZALV	**Zalesovo Beam**	**42.33**	**302**	P		P	**16 07 37.7 -1.9**
	comp=Z,0.3nm,0.4s,baz=69,slow=7.9,SNR=3.0						
MKAR	**Makanchi Array**	**47.72**	**295**	*e*P		P	**16 08 22.3 -0.1**
MKAR	**Makanchi Array**	**47.72**	**295**	P		P	**16 08 22.2 -0.1**
	comp=Z,0.3nm,0.4s,baz=51,slow=7.2,SNR=12						
ARCES	**ARCESS Array B**	**52.88**	**342**	P		P	**16 09 00.4 -0.4**
	comp=Z,1.0nm,0.8s,baz=18,slow=9.8,SNR=3.8						
ARU	**Arti**	**52.94**	**317**	*c i*P		P	**16 09 01.5 +0.1**
ARU				S		S	**16 16 19.7 -0.4**
ARU				SS		SS	16 19 52.1 -7.9
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PDAR	**Pinedale Array**	**57.65**	**61**	P		P	16 09 39.9 +4.2
	comp=Z,0.2nm,0.5s,baz=341,slow=3.1,SNR=4.8						
FINES	**FINESS Array B**	**59.69**	**336**	P		P	**16 09 49.5 +0.3**
	comp=Z,0.7nm,0.5s,baz=36,slow=7.3,SNR=10						
NB2	**NORSAR Subarra**	**63.14**	**343**	P		P	**16 10 13.0 +0.6**
	comp=Z,0.8nm,0.5s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**63.14**	**343**	P		P	**16 10 13.0 +0.6**
	comp=Z,1.5nm,0.9s,baz=14,slow=5.4,SNR=4.8						
TXAR	**Lajitas Array**	**70.81**	**67**	P		P	16 11 05.3 +3.9
	comp=Z,0.3nm,0.4s,baz=299,slow=5.4,SNR=8.4						
TXAR				pP		pP	16 11 35.1 +1.5
	comp=Z,0.4nm,0.7s,baz=270,slow=2.5,SNR=3.5						
ASAR	**Alice Springs**	**79.92**	**204**	P		P	16 11 56.7 +3.4
	comp=Z,0.3nm,0.9s,baz=12,slow=4.9,SNR=5.4						
ESDC	**Sonseca Array**	**86.19**	**347**	P		P	**16 12 27.9 +2.4**
	comp=Z,0.3nm,0.3s,baz=8.9,slow=5.6,SNR=4.7						

*TAP **30** 16:01:36.8,24.°07N×122.°72E, h45km±2km, ML2.9, C*
*JMA **30** 16:01:36.6±0.2, 25.°02N×122.°83E, h12km*
*ISCJB **30** 16:01:37.6±0.7, 24.°06N±0.°05×122.°65E±0.°03, h30km±6km, Error ellipse: s-maj=8.5km s-min=3.8km az=172.3*
ISC 30 16:01:38.3±1.3, 24.°13N±0.°05×122.°64E±0.°03, h33km±5km, n29, σ0°98/40, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
YOJ	**Yonaguni jima**	**0.47**	**46**	P			**Pb**	**16 01 47.6**	**-0.9**
YOJ				*e*S			**Sn**	**16 01 55.3**	**-0.7**
TWC	**Suao**	**0.86**	**304**	*e*P			**Pn**	**16 01 53.8**	**-0.4**
	baz=304								
TWC				*e*S			**Sn**	**16 02 06.6**	**+0.9**
	baz=304								
ENA	**Nanau**	**0.87**	**290**	P		Pn		16 01 54.1	-0.2
	baz=292								
ENA				*e*S			**Sn**	**16 02 07.6**	**+1.7**
	baz=292								
TWD	**Chiawan**	**0.96**	**267**	*e*P			**Pn**	**16 01 54.9**	**-0.5**
	baz=270								
TWD				*e*S			**Sn**	**16 02 08.0**	**+0.1**
	baz=270								
IRIF	**Iriomote-Funau**	**1.01**	**78**	P			**Pb**	**16 01 56.4**	**-1.0**
IRIF				*e*S			**Sb**	**16 02 10.4**	**-0.1**
TWB1	**Santiao Chiao**	**1.06**	**326**	*e*P			**Pb**	**16 01 57.1**	**-1.0**
	baz=325								
TWE	**Neicheng**	**1.06**	**304**	*e*P			**Pb**	**16 01 57.5**	**-0.8**
	baz=304								
TWE				*e*S			**Sb**	**16 02 12.9**	**+1.0**
	baz=304								
HATJ	**Hateruma jima**	**1.07**	**94**	P			**Pb**	**16 02 00.6**	**+2.3**
ENTT	**Nioudou**	**1.10**	**298**	*e*P			**Pn**	**16 01 57.9**	**+0.4**
	baz=299								
ESL	**Shilin**	**1.15**	**254**	*e*P			**Pn**	**16 01 55.7**	**-2.4**
	baz=251								
ESL				*e*S			**Sn**	**16 02 11.8**	**-0.9**
	baz=251								
NNS	**Nan Shan**	**1.20**	**285**	*e*P			**Pn**	**16 01 59.4**	**+0.5**
	baz=287								
NWF	**Wu-fen Shan**	**1.22**	**320**	*e*P			**Pn**	**16 01 59.3**	**+0.2**
	baz=319								
JKRS	**Kuro-shima**	**1.25**	**85**	P			**Pb**	**16 02 00.1**	**-1.4**
JKRS				*e*S			**Sb**	**16 02 18.9**	**+1.6**
WHF	**Hehuan Shan**	**1.26**	**271**	*e*P			**Pn**	**16 01 59.1**	**-0.9**
	baz=273								
WHF				*e*S			**Sn**	**16 02 15.9**	**0.0**
	baz=273								
TWA	**Mucha**	**1.28**	**311**	*e*P			**Pn**	**16 01 59.9**	**0.0**
	baz=311								
NSK	**Sanguang**	**1.29**	**295**	*e*P			**Pn**	**16 02 00.4**	**+0.3**
	baz=285								
TWT	**Tachien**	**1.34**	**275**	*e*P			**Pn**	**16 02 00.7**	**-0.2**
	baz=268								
EHY	**Hungye**	**1.36**	**243**	*e*P			Pn	16 01 58.0	-3.1
	baz=246								
JIJ	**Ishigaki jima**	**1.39**	**80**	P			**Pb**	**16 02 01.1**	**-0.3**
JIJ				*e*S			**Sn**	**16 02 18.3**	**-0.4**
TWF1	**Yuli**	**1.46**	**238**	*e*P			**Pn**	**16 02 01.4**	**-0.9**
	baz=232								
TWF1				*e*S			**Sn**	**16 02 19.0**	**-1.4**
	baz=232								
NSTT	**Nanjuang**	**1.58**	**289**	*e*P			**Pn**	**16 02 04.2**	**+0.2**
	baz=289								
SMLT	**Sun Moon Lake**	**1.61**	**262**	*e*P			**Pn**	**16 02 04.9**	**+0.3**
	baz=263								
TYC	**Yuchr**	**1.65**	**262**	*e*P			**Pn**	**16 02 05.4**	**+0.4**
	baz=264								
ALS	**Alishan**	**1.79**	**250**	*e*P			**Pn**	**16 02 07.2**	**-0.1**
	baz=252								
CHN5	**Tsauling**	**1.87**	**254**	*e*P			**Pn**	**16 02 08.8**	**+0.7**
	baz=247								
CHN5				*e*S			**Sn**	**16 02 32.0**	**+1.2**
	baz=247								
STYT	**Tauyuan**	**1.98**	**241**	*e*P			**Pn**	**16 02 10.2**	**+0.6**
	baz=234								
CHN4	**Tsaushan**	**2.03**	**248**	*e*P			**Pn**	**16 02 11.6**	**+1.3**
	baz=249								
WTP	**Ta-pu**	**2.06**	**245**	*e*P			**Pn**	**16 02 11.1**	**+0.5**
	baz=238								
CHN1	**Nanshi**	**2.15**	**244**	*e*P			**Pn**	**16 02 11.5**	**-0.5**
	baz=246								

IDC 30 16:04:25.7±24.0, 16.°94S×172.°78W, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.8/22, mbtmp4.3/4, Error ellipse: s-maj=448.8km s-min=153.2km az=72.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CTA	**Charters Tower**	**38.91**	**259**	P		P	P	16 11 53.8	+0.4
	4.9nm,0.6s,baz=92,slow=13,SNR=7.4								
STKA	**Stephens Creek**	**43.81**	**241**	P		P	P	16 12 34.2	+0.6
	1.3nm,0.6s,baz=81,slow=7.3,SNR=7.0								
WRA	**Warramunga Arr**	**50.09**	**258**	P		P	P	16 13 22.4	-0.5
	2.2nm,0.4s,baz=97,slow=7.5,SNR=32								
ASAR	**Alice Springs**	**50.22**	**253**	P		P	P	16 13 23.2	-0.7
	4.0nm,0.8s,baz=88,slow=8.0,SNR=78								

*ISCJB **30** 16:08:40.0±0.4, 11.°52N±0.°08×86.°03W±0.°08, h138km±4km, mb4.0/14, Error ellipse: s-maj=17.5km s-min=7.0km az=137.0*
*IDC **30** 16:08:41.0±0.8, 11.°66N×85.°77W, h130km±9km, mb3.8/15, mb1 3.9/15, mb1mx3.8/26, mbtmp3.8/15, Error ellipse: s-maj=28.6km s-min=10.6km az=62.0*
*CASC **30** 16:08:43.1±2.1, 11.°27N×85.°97W, h133km±7km, MD3.9*
ISC 30 16:08:41.0±0.7, 11.°47N±0.°08×86.°06W±0.°10, h137km±6km, n41, σ1°27/60, mb4.1/14, 3C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
GBS3	**Finca Las Im¯¡**	**0.90**	**139**	*i* P			**Pn**	**16 09 03.3**	**-0.5**
GBS3				*i* S			**Sn**	**16 09 19.6**	**-1.4**
BUEV	**Buena Vista**	**0.92**	**136**	*i* P			**Pn**	**16 09 04.1**	**+0.1**
LAPC	**Finca la Perla**	**0.93**	**139**	⇑*i*P			**Pn**	**16 09 03.4**	**-0.5**
LAPC				*i* S			**Sn**	**16 09 19.4**	**-2.0**
NY14	**Universidad de**	**0.96**	**148**	*i* P			**Pn**	**16 09 04.7**	**+0.5**
NY14				*i* S			**Sn**	**16 09 21.6**	**-0.2**
GPS1	**Guardaparques**	**0.98**	**135**	*i* P			**Pn**	**16 09 04.6**	**+0.1**
GPS1				*i* S			**Sn**	**16 09 21.4**	**-0.8**
GPS2	**Hotel Rinc¯‡n**	**0.99**	**136**	*i* P			**Pn**	**16 09 04.4**	**-0.1**
LIM1	**Limonal**	**1.10**	**134**	*i* P			**Pn**	**16 09 05.7**	**+0.2**
LIM1				*i* S			**Sn**	**16 09 23.3**	**-0.9**
MESS	**Mesas**	**1.11**	**130**	*i* P			**Pn**	**16 09 05.6**	**-0.1**
HORNC	**Hornillas**	**1.15**	**131**	*i* P			**Pn**	**16 09 06.0**	**0.0**
COLC	**Colonia**	**1.16**	**134**	*i* P			**Pn**	**16 09 05.8**	**-0.3**
CUI	**Cuipilapa**	**1.19**	**133**	*i* P			**Pn**	**16 09 06.4**	**0.0**
PTEN	**Parque Tenorio**	**1.29**	**125**	*i* P			**Pn**	**16 09 08.3**	**+0.9**
PTEN				*i* S			**Sn**	**16 09 27.5**	**-0.1**
AMAS	**Alto Masis**	**1.35**	**129**	*i* P			**Pn**	**16 09 08.1**	**0.0**
AMAS				*i* S			**Sn**	**16 09 27.3**	**-1.4**
VCR	**Vista de Mar**	**1.40**	**163**	⇑*i*P			**Pn**	**16 09 08.6**	**-0.1**
VCR				*e*S			**Sn**	**16 09 27.9**	**-1.8**
JTS	**JuntasAbangare**	**1.60**	**137**	P			**Pn**	**16 09 10.3**	**-0.4**
	71nm,0.3s,baz=307,slow=20,SNR=103								
JTS				S			**Sn**	**16 09 32.1**	**-1.2**
	517nm,0.3s,baz=288,slow=19,SNR=30								
JCR	**Jicaral**	**1.86**	**150**	⇑*e*P			**Pn**	**16 09 14.2**	**+0.5**
JCR				*e*S			**Sn**	**16 09 36.4**	**-2.5**
CGA2	**Cerro Gallo 2**	**2.13**	**133**	*e*P			**Pn**	**16 09 17.3**	**+0.2**
CGA2				*e*S			**Sn**	**16 09 45.0**	**+0.3**
SJS	**Escuela Geolog**	**2.49**	**127**	*e*P			**Pn**	**16 09 21.6**	**+0.2**
SJS				*e*S			**Sn**	**16 09 53.6**	**+0.9**
URSC	**Urasca**	**2.77**	**126**	⇓*e*P			**Pn**	**16 09 25.9**	**+0.8**
URSC				*e*S			**Sn**	**16 10 02.0**	**+3.0**
BUS	**Buena Vista**	**2.96**	**130**	*e*P			**Pn**	**16 09 28.7**	**+1.0**
BUS				*e*S			**Sn**	**16 10 04.8**	**+1.1**
ACR	**Cerro Adams**	**3.99**	**134**	*e*P			**Pn**	**16 09 41.7**	**+0.8**
ACR				*e*S			**Sn**	**16 10 26.3**	**-1.1**
BRU2	**Volcan**	**4.25**	**128**	*e*P			**Pn**	**16 09 45.4**	**+1.0**
BRU2				*e*S			**Sn**	**16 10 31.8**	**-1.8**
TBS2		**4.28**	**128**	*e*P			Pn	16 09 32.0	-13
TBS2				*e*S			**Sn**	**16 10 33.0**	**-1.3**
ATAH	**Atahualpa**	**19.99**	**157**	P			**Pn**	**16 13 06.0**	**-0.5**
	6.8nm,0.7s,baz=311,slow=1.9,SNR=3.8								
TKL	**Tuckaleechee C**	**24.17**	**5**	P			**P**	**16 13 44.8**	**+0.2**
	3.6nm,0.5s,baz=179,slow=8.8,SNR=4.7								
TXAR	**Lajitas Array**	**24.20**	**320**	P			**P**	**16 13 46.4**	**+1.4**
	4.0nm,0.6s,baz=146,slow=10,SNR=54								
TXAR				pP			**pP**	**16 14 17.4**	**+4.5**
	0.9nm,0.5s,baz=135,slow=9.3,SNR=4.0								
TXAR				PcP			**PcP**	**16 17 22.8**	**+0.6**
	0.5nm,0.8s,baz=140,slow=5.7,SNR=4.7								
ANMO	**Albuquerque**	**29.84**	**325**	P			**P**	**16 14 35.7**	**+0.2**
	1.4nm,0.2s,baz=80,slow=1.7,SNR=7.0								
LPAZ	**La Paz**	**32.79**	**147**	P			**P**	**16 15 03.1**	**+1.0**
	0.7nm,0.4s,baz=23,slow=4.6,SNR=5.1								
SADO	**Sadowa**	**33.71**	**9**	P			**P**	**16 15 08.7**	**-0.4**
	5.7nm,0.5s,baz=206,slow=8.1,SNR=8.4								
SIV	**San Ignacio**	**36.82**	**137**	P			**P**	**16 15 36.3**	**+0.2**
	10nm,0.8s,baz=325,slow=8.9,SNR=48								
PDAR	**Pinedale Array**	**37.28**	**331**	P			**P**	**16 15 39.1**	**-0.8**
	0.5nm,0.7s,baz=134,slow=11,SNR=4.7								
NVAR	**Mina Array Bea**	**39.33**	**319**	P			**P**	**16 15 59.5**	**+2.4**
	2.6nm,0.6s,baz=128,slow=7.4,SNR=27								
NVAR				PcP			**PcP**	**16 18 04.4**	**+1.3**
	1.0nm,0.6s,baz=133,slow=4.2,SNR=8.7								
ULM	**Lac du Bonnet**	**39.50**	**350**	P			**P**	**16 15 55.9**	**-2.2**
	1.6nm,0.3s,baz=208,slow=3.6,SNR=3.2								
SCHQ	**Schefferville**	**45.84**	**15**	P			**P**	**16 16 48.0**	**-1.2**
	4.3nm,0.5s,baz=217,slow=8.1,SNR=11								
BDFB	**Brasilia**	**46.30**	**125**	P			**P**	**16 16 52.2**	**-1.3**
	1.3nm,0.4s,baz=316,slow=5.6,SNR=3.0								
PLCA	**Paso Flores**	**53.88**	**165**	P			**P**	**16 17 51.2**	**+1.0**
	2.4nm,1.0s,baz=326,slow=10.0,SNR=4.1								
YKA	**Yellowknife Ar**	**54.91**	**344**	P			**P**	**16 17 55.5**	**-1.7**
	0.5nm,0.6s,baz=139,slow=7.2,SNR=3.0								
ILAR	**Eielson Array**	**67.46**	**336**	P			**P**	**16 19 20.6**	**-1.2**
	0.4nm,0.7s,baz=100,slow=4.7,SNR=3.9								
ASAR	**Alice Springs**	**140.15**	**247**	PKhKP		PKPpre		16 27 47.0	
	0.5nm,0.6s,baz=106,slow=3.6,SNR=13								
ASAR				PKP			**PKPdf**	**16 27 54.9**	**+0.5**
	0.5nm,0.5s,baz=102,slow=2.2,SNR=10								
WRA	**Warramunga Arr**	**140.29**	**253**	PKhKP		PKPpre		16 27 46.5	
	0.3nm,0.5s,baz=94,slow=2.8,SNR=4.9								
WRA				PKP			**PKPdf**	**16 27 55.7**	**+1.1**
	0.7nm,0.6s,baz=93,slow=2.6,SNR=6.5								
CMAR	**Chiang Mai Arr**	**149.86**	**351**	PKPbc			**PKPbc**	**16 28 15.7**	**-0.3**
	0.3nm,0.5s,baz=350,slow=3.8,SNR=3.3								

IDC 30 16:15:52.9±3.9, 2.°30S×135.°87E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.2/18, mbtmp3.2/3, ML3.0/1, Error ellipse: s-maj=177.8km s-min=28.2km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**17.60**	**185**	P			Pn	16 19 59.8	0.0
	0.1nm,0.3s,baz=4.2,slow=13,SNR=2.5								
ASAR	**Alice Springs**	**21.32**	**185**	P			P	16 20 41.8	+0.1
	0.7nm,0.6s,baz=6.5,slow=12,SNR=11								
MKAR	**Makanchi Array**	**67.75**	**323**	P			P	16 26 52.5	0.0
	0.1nm,0.5s,baz=116,slow=7.1,SNR=3.0								

IDC 30 16:17:23.1±3.9, 2.°40S×135.°27E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.2/18, mbtmp3.2/3, ML2.9/1, Error ellipse: s-maj=185.8km s-min=29.0km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**17.46**	**183**	P			Pn	16 21 28.8	+0.5
	0.0nm,0.3s,baz=2.9,slow=14,SNR=2.9								
ASAR	**Alice Springs**	**21.18**	**183**	P			P	16 22 10.6	+0.2
	0.7nm,0.8s,baz=6.0,slow=12,SNR=5.0								
MKAR	**Makanchi Array**	**67.47**	**324**	P			P	16 28 20.8	-0.2
	0.1nm,0.3s,baz=134,slow=6.2,SNR=2.4								

IDC 30 16:25:58.2±2.2, 0.°93N×126.°44E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/20, mbtmp3.5/4, Error ellipse: s-maj=221.0km s-min=27.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**22.14**	**160**	P			P	16 30 55.9	+0.2
	0.5nm,0.3s,baz=338,slow=11,SNR=3.5								
ASAR	**Alice Springs**	**25.50**	**164**	P			P	16 31 28.9	+0.5
	0.4nm,0.3s,baz=344,slow=11,SNR=18								
STKA	**Stephens Creek**	**35.65**	**158**	P			P	16 32 57.3	-0.8
	2.0nm,0.9s,baz=318,slow=15,SNR=2.8								
MKAR	**Makanchi Array**	**59.69**	**326**	P			P	16 36 04.6	0.0
	0.1nm,0.4s,baz=111,slow=9.3,SNR=3.0								

*ISCJB **30** 16:30:15.1±1.1, 22.°16S±0.°06×67.°5W±0.°1, h196km±10km, mb3.3/3, Error ellipse: s-maj=21.2km s-min=9.0km az=13.9*
*GUC **30** 16:30:15.2±0.7, 22.°19S×67.°70W, h206km±7km, ML3.9*
*IDC **30** 16:30:20.2±9.5, 21.°72S×66.°99W, h213km±66km, mb3.1/3, mb1 3.3/4, mb1mx3.2/16, mbtmp3.0/4, Error ellipse: s-maj=104.5km s-min=30.4km az=19.0*
ISC 30 16:30:15.4±1.5, 22.°14S±0.°07×67.°6W±0.°2, h206km±16km, n12, σ0°66/17, mb3.1/3, 5C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
LVC	**Limon Verde**	**1.33**	**249**	⇑*i*P			**Pn**	**16 30 48.3**	**-0.2**
LVC				*i* S			**S**	**16 31 13.6**	**-0.2**
PB09	**Plate Boundary**	**1.59**	**282**	⇑*i*P			**Pn**	**16 30 50.7**	**+0.1**
PB09				*e*S			**S**	**16 31 17.7**	**+0.3**
PB09				AML		AML	AML	16 31 24.4	
	comp=N,368nm,0.2s								
PB04	**Plate Boundary**	**1.78**	**266**	*e*P			Pn	16 30 59.1	+7.0
PB04				*i* S			S	16 31 31.8	+12
PB04				AML		AML	AML	16 31 37.7	
	comp=E,212nm,0.3s								
PB01	**Plate Boundary**	**2.09**	**301**	⇑*i*P			**Pn**	**16 30 55.5**	**+0.1**
PB01				*i* S			**S**	**16 31 26.6**	**+0.6**
PB01				AML		AML	AML	16 31 28.5	
	comp=N,278nm,0.3s								
PB07	**Plate Boundary**	**2.19**	**280**	⇑*i*P			**Pn**	**16 30 56.8**	**+0.3**
PB07				*i* S			**S**	**16 31 28.2**	**+0.3**
PB07				AML		AML	AML	16 31 28.9	
	comp=N,261nm,0.1s								
HMBC	**Humberstone**	**2.85**	**310**	⇑*i*P			**Pn**	**16 31 03.5**	**-0.3**
HMBC				*i* S			**S**	**16 31 40.4**	**-0.5**
HMBC				AML		AML	AML	16 31 43.7	
	comp=E,330nm,0.4s								
ANCH	**Antofagasta**	**3.04**	**239**	*e*P			**Pn**	**16 31 05.0**	**-0.7**
ANCH				*i* S			**S**	**16 31 44.1**	**-0.4**
ANCH				AML		AML	AML	16 31 45.9	
	comp=E,360nm,0.1s								
PB10	**Plate Boundary**	**3.07**	**243**	*e*P			**Pn**	**16 31 06.4**	**+0.2**
PB10				*i* S			**S**	**16 31 45.2**	**-0.2**
PB10				AML		AML	AML	16 31 46.2	
	comp=E,458nm,0.3s								
LPAZ	**La Paz**	**5.84**	**355**	P			**Pn**	**16 31 42.1**	**+0.7**
	comp=E,0.5nm,0.3s,baz=154,slow=4.4,SNR=10								
LPAZ				S			**S**	**16 32 47.3**	**-1.8**
	comp=E,0.2nm,0.3s,baz=109,slow=13,SNR=2.3								
TXAR	**Lajitas Array**	**61.87**	**324**	P			P	16 40 17.2	+4.0
	comp=E,0.1nm,0.4s,baz=138,slow=8.2,SNR=2.3								
TORD	**Torodi Ar. Bea**	**76.41**	**70**	P			**P**	**16 41 43.0**	**+0.3**
	comp=E,2.8nm,0.6s,baz=252,slow=5.4,SNR=30								
NVAR	**Mina Array Bea**	**76.76**	**321**	P			P	16 41 48.3	+3.9
	comp=E,0.2nm,0.5s,baz=114,slow=9.0,SNR=2.6								

WEL 30 16:41:54.3±0.1, 41.°03S×174.°77E, h31km, ML3.8/45, 11C-10, Error ellipse: s-maj=0.7km s-min=0.6km az=90.0, reported intensity MM 5., Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
KIW	**Kapiti Island**	**0.20**	**34**	⇓P*			Pb	16 42 00.7	0.0
KIW				S*			Sb	16 42 04.9	0.0
KIW				AML		AML	AML	16 42 05.5	
CAW	**Cannon Point**	**0.24**	**110**	⇓P*			Pb	16 42 01.1	-0.1
CAW				S*			Sn	16 42 06.6	-0.1
CAW				AML		AML	AML	16 42 07.8	
WEL	**Wellington**	**0.26**	**180**	P*			Pb	16 42 01.3	-0.1
WEL				S*			Sb	16 42 06.4	+0.3
SNZO	**South Karori**	**0.29**	**189**	P*			Pb	16 42 01.5	-0.2
SNZO				S*			Sb	16 42 07.1	+0.3
SNZO				AML		AML	AML	16 42 08

DREZ	**Durham Road**	**1.88**	**346**	PN	Pn	16 42 26.1	+1.8		
VRZ	**Vera Road**	**1.90**	**360**	⇓PN	Pn	16 42 26.2	+1.7		
VRZ				AML	AML	16 42 53.1			
VRZ				AML	AML	16 42 55.0			
WPVZ	**Whakapapa**	**1.91**	**18**	PN	Pn	16 42 26.2	+1.2		
WPVZ				AML	AML	16 42 58.5			
WPVZ				AML	AML	16 43 00.3			
PKE	**Pukeiti**	**1.92**	**342**	PN	Pn	16 42 26.4	+1.5		
PKE				AML	AML	16 42 56.6			
PKE				AML	AML	16 42 59.5			
NGZ	**Ngauruhoe**	**1.95**	**19**	PN	Pn	16 42 26.6	+1.1		
NGZ				AML	AML	16 43 09.4			
NGZ				AML	AML	16 43 10.2			
MHEZ	**Mangahewa**	**1.97**	**350**	PN	Pb	16 42 27.7	-1.9		
OTVZ	**Oturere**	**1.98**	**21**	AML	AML	16 43 10.3			
OTVZ				AML	AML	16 43 13.9			
WTVZ	**West Tongariro**	**2.01**	**19**	PN	Pn	16 42 27.6	+1.3		
WTVZ				AML	AML	16 42 36.9			
WTVZ				AML	AML	16 43 13.0			
TWVZ	**Taurewa**	**2.02**	**15**	PN	Pn	16 42 27.1	+0.8		
TWVZ				AML	AML	16 43 04.4			
TWVZ				AML	AML	16 43 12.9			
KAHZ	**Kahuranaki**	**2.02**	**53**	PN	Pn	16 42 25.0	-1.4		
KRVZ	**Karewarewa**	**2.04**	**19**	AML	AML	16 43 11.8			
KRVZ				AML	AML	16 43 16.2			
KATZ	**Kakaramea**	**2.17**	**19**	AML	AML	16 43 15.2			
RITZ	**Rihia Road**	**2.21**	**23**	AML	AML	16 43 18.8			
RITZ				AML	AML	16 43 21.4			
BKZ	**Black Stump Fm**	**2.28**	**36**	PN	Pn	16 42 28.8	-1.1		
BKZ				AML	AML	16 43 13.9			
BKZ				AML	AML	16 43 20.5			
RATZ	**Rangitukua**	**2.29**	**20**	AML	AML	16 43 16.8			
RATZ				AML	AML	16 43 16.8			
DSZ	**Denniston Nort**	**2.34**	**251**	PN	Pn	16 42 30.7	0.0		
DSZ				AML	AML	16 43 03.8			
DSZ				AML	AML	16 43 05.3			
WATZ	**Wairara**	**2.43**	**18**	AML	AML	16 43 27.7			
HIZ	**Hauiti**	**2.51**	**2**	⇑PN	Pn	16 42 34.5	+1.5		
HIZ				AML	AML	16 43 16.4			
HIZ				AML	AML	16 43 25.8			
LTZ	**Lake Taylor**	**2.56**	**226**	PN	Pn	16 42 32.6	-1.2		
LTZ				AML	AML	16 43 22.1			
CRLZ	**Canterbury Las**	**3.01**	**211**	PN	Pn	16 42 37.3	-2.4		
MQZ	**McQueen's Vall**	**3.11**	**210**	PN	Pn	16 42 38.1	-3.0		
WVZ	**Waitaha Valley**	**3.63**	**234**	AML	AML	16 43 30.6			
TUZ	**Tuapeka**	**6.18**	**215**	AML	AML	16 45 27.5			

IDC 30 17:04:11.1±1.9, 16°.73N×94°.46E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/26, mbtmp3.5/5, ML4.2/1, Error ellipse: s-maj=42.3km s-min=24.1km az=70.0, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**4.61**	**67**	Pn	Pn	17 05 22.2	+0.1
	2.6nm,0.3s,baz=251,slow=15,SNR=30						
CMAR				Sn	Sn	17 06 16.8	+0.4
	1.4nm,0.3s,baz=250,slow=28,SNR=8.4						
SONM	**Songino Array**	**32.54**	**15**	P	P	17 10 44.2	+0.2
	0.2nm,0.3s,baz=231,slow=9.1,SNR=2.8						
ZALV	**Zalesovo Beam**	**37.89**	**351**	P	P	17 11 29.4	-0.4
	1.1nm,0.7s,baz=164,slow=9.3,SNR=2.0						
WRA	**Warramunga Arr**	**53.50**	**131**	P	P	17 13 33.3	-0.4
	0.2nm,0.4s,baz=314,slow=7.3,SNR=2.6						
ASAR	**Alice Springs**	**55.65**	**135**	P	P	17 13 49.6	+0.3
	0.3nm,0.6s,baz=312,slow=6.4,SNR=4.7						

*NEIC **30** 17:10:35.2±0.9, 6°.70S×106°.02E, h72km±9km, mb4.6/6, Error ellipse: s-maj=13.3km s-min=5.5km az=50.0*
*BJI **30** 17:10:36.0, 6°.94S×106°.10E, h124km, mB4.7/7, mb4.8/13*
*ISCJB **30** 17:10:38.6±0.5, 6°.91S±0°.05×105°.91E±0°.04, h129km±3km, mb4.3/26, Error ellipse: s-maj=10.4km s-min=4.1km az=35.5*
*IDC **30** 17:10:38.2±2.4, 6°.63S×106°.09E, h97km±20km, mb4.0/17, mb1 4.1/19, mb1mx4.0/26, mbtmp4.1/19, MS3.1/2, Ms1 3.1/2, ms1mx2.7/35, Error ellipse: s-maj=26.0km s-min=9.4km az=48.0*
*DJA **30** 17:10:39.2±0.2, 7°.S±2°×10°.6E±°, h76km±8km, M5.0/21, mb5.2/8, mB5.5/5, MLv4.9/21, Mw(mB)5.0/5*
ISC 30 17:10:38.7±0.8, 6°.99S±0°.06×105°.92E±0°.05, h114km±6km, n134, σ1°32/148, mb4.5/36, 17C-13D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**0.63**	**92**	P	**Pn**	**17 10 56.2**	**-0.7**
DBJI	**Dramaga**	**0.93**	**63**	P	**Pn**	**17 10 59.9**	**+0.4**
DBJI				S	**Sn**	**17 11 15.0**	**-0.3**
TNG	**Tangerang**	**1.08**	**42**	P	**Pn**	**17 11 02.1**	**+1.0**
TNG	**Tangerang**	**1.08**	**42**	P	**Sn**	**17 11 19.9**	**+1.9**
LEM	**Lembang**	**1.69**	**85**	P	**Pn**	**17 11 09.5**	**+1.3**
BLSI	**Bandar Lampung**	**1.74**	**337**	P	**Pn**	**17 11 09.6**	**+0.9**
BLSI				S	**Sn**	**17 11 32.1**	**+0.5**
CISI	**Cisompet, Garu**	**1.96**	**107**	P	**Pn**	**17 11 11.6**	**+0.1**
CISI				S	**Sn**	**17 11 35.5**	**-1.0**
KASI	**Kota Agung**	**2.03**	**316**	P	**Pn**	**17 11 13.9**	**+1.7**
KASI				S	**Sn**	**17 11 38.1**	**+0.2**
KLSI		**2.57**	**332**	P	**Pn**	**17 11 20.7**	**+1.5**
KLSI				S	**Sn**	**17 11 51.7**	**+1.4**
LWLI	**Liwa**	**2.69**	**316**	P	**Pn**	**17 11 22.8**	**+1.9**
CLJI	**Cilicap**	**3.15**	**104**	P	**Pn**	**17 11 29.8**	**+3.0**
XMIS	**Christmas Isla**	**3.48**	**184**	*e*P	**Pn**	**17 11 30.1**	**-1.2**
BJII	**Banjamegara**	**3.77**	**95**	P	**Pn**	**17 11 36.5**	**+1.3**
MNAI	**Manna**	**3.94**	**311**	P	**Pn**	**17 11 38.8**	**+1.5**
TPI	**Tanjungpandan**	**4.54**	**22**	P	**Pn**	**17 11 45.2**	**-0.2**
UGM	**Wanagama**	**4.66**	**102**	P	**Pn**	**17 11 47.7**	**+0.7**
KSI	**Kapahiang**	**4.69**	**315**	P	**Pn**	**17 11 49.2**	**+1.8**
PPBI	**Pangkal Pinang**	**4.80**	**3**	P	**Pn**	**17 11 50.3**	**+1.4**
WOJI	**Wonogiri, Jawa**	**5.03**	**100**	P	**Pn**	**17 11 53.2**	**+1.2**
	171nm,0.8s,4μm0.9nm						
PWJI	**Pagerwojo**	**5.92**	**100**	P	**Pn**	**17 12 05.4**	**+1.3**
	240nm,0.7s,6μm1.1nm						
KRKI	**Karangkates**	**6.58**	**101**	P	**Pn**	**17 12 15.5**	**+2.6**
	258nm,0.4s,10μm						
GMJI	**Gumukmas**	**7.57**	**100**	P	**Pn**	**17 12 28.6**	**+2.3**
	107nm,1.0s,2μm0.5nm						
BLJI	**Banyuglugur**	**7.65**	**96**	P	**Pn**	**17 12 29.8**	**+2.4**
	224nm,0.4s,4μm1.2nm						
PPI	**Padang Panjang**	**8.51**	**319**	P	**Pn**	**17 12 38.0**	**-1.1**
	72nm,0.6s						
BKNI	**Bangkinang**	**8.74**	**326**	P	**Pn**	**17 12 42.6**	**+0.3**
	156nm,1.1s						
KSM	**Kuching**	**9.47**	**28**	P	**Pn**	**17 12 52.3**	**+0.1**
KSM	**Kuching**	**9.47**	**28**	P	**Pn**	**17 12 51.2**	**-1.0**
SBUM	**Sibu**	**11.29**	**34**	P	**Pn**	**17 13 18.3**	**+1.6**
PSI	**Prapat**	**11.97**	**324**	P	Pn	17 13 20.6	-5.3
PSI	**Prapat**	**11.97**	**324**	P	Pn	17 13 20.6	-5.3
	2.6nm,0.3s,baz=163,slow=20,SNR=6.5						
KAPI	**Kappang**	**13.89**	**83**	LR	LR	17 20 20.1	
	comp=Z,34nm,18.1s,baz=45,slow=42						
KKM	**Kota Kinabalu**	**16.52**	**39**	P	**P**	**17 14 24.8**	**+0.3**
SDKM	**Sandakan**	**16.85**	**42**	P	**P**	**17 14 28.3**	**+0.2**
MYLDM	**Lahad Datu**	**17.43**	**46**	P	**Pn**	**17 14 36.4**	**+1.6**
KDM	**Kudat**	**17.58**	**38**	P	**Pn**	**17 14 36.9**	**+0.2**
BATI	**Baumata**	**17.83**	**102**	P	**P**	**17 14 37.5**	**-1.4**
BATI				S	**S**	**17 17 54.6**	**-3.7**
BATI	**Baumata**	**17.83**	**102**	P	**P**	**17 14 37.5**	**-1.4**
	8.5nm,0.3s,baz=260,slow=8.4,SNR=11						
BATI				S	**S**	**17 17 54.6**	**-3.7**
	4.0nm,0.3s,baz=336,slow=20,SNR=5.8						
MBWA	**Marble Bar**	**19.42**	**138**	*e*P	**Pn**	**17 14 58.1**	**-0.3**
	16nm,0.5s						
FITZ	**Fitzroy Crossi**	**22.16**	**122**	P	**P**	**17 15 26.3**	**+0.7**
FITZ				pP	pP	17 15 42.3	-4.9
FITZ				S	**S**	**17 19 26.1**	**+3.7**
FITZ	**Fitzroy Crossi**	**22.16**	**122**	P	**P**	**17 15 26.3**	**+0.7**
	3.2nm,0.7s,baz=306,slow=5.0,SNR=9.9						
FITZ				pP	pP	17 15 42.3	-4.9
	5.4nm,0.4s,baz=312,slow=11,SNR=6.5						
FITZ				S	**S**	**17 19 26.1**	**+3.7**
	1.7nm,0.7s,baz=308,slow=17,SNR=2.9						
QIZ	**Qiongzhong**	**26.14**	**8**	P	**P**	**17 15 58.8**	**-3.5**
QIZ				S	**S**	**17 20 26.8**	**+1.1**
QIZ				pmax	pmax		
	comp=Z,6.0nm,1.7s						
CMAR	**Chiang Mai Arr**	**26.20**	**345**	P	**P**	**17 16 01.1**	**-1.8**
CMAR	**Chiang Mai Arr**	**26.20**	**345**	P	**P**	**17 16 01.1**	**-1.8**
	comp=Z,2.4nm,0.6s,baz=181,slow=8.4,SNR=18						
WRA	**Warramunga Arr**	**30.42**	**118**	P	**P**	**17 16 42.0**	**+1.4**
WRA				PP	PnPn	17 17 28.3	-16
WRA				PcP	**PcP**	**17 19 39.3**	**+1.6**
WRA	**Warramunga Arr**	**30.42**	**118**	P	**P**	**17 16 42.0**	**+1.4**
	comp=Z,1.2nm,0.5s,baz=291,slow=10,SNR=11						
WRA				PP	PnPn	17 17 28.3	-16
	comp=Z,2.5nm,0.7s,baz=290,slow=14,SNR=6.0						
WRA				PcP	**PcP**	**17 19 39.3**	**+1.6**
	comp=Z,1.6nm,0.5s,baz=304,slow=2.1,SNR=7.7						
WRAB	**Tennant Creek**	**30.43**	**118**	*e*P	**P**	**17 16 41.5**	**+0.8**
	comp=Z,4.8nm,1.0s						
ASAR	**Alice Springs**	**31.57**	**125**	P	**P**	**17 16 52.4**	**+1.7**
ASAR				PP	PnPn	17 17 49.0	-10
ASAR				PcP	**PcP**	**17 19 42.5**	**+1.7**
ASAR				S	**S**	**17 21 50.8**	**-0.4**
ASAR	**Alice Springs**	**31.57**	**125**	P	**P**	**17 16 52.4**	**+1.7**
	comp=Z,1.1nm,0.7s,baz=297,slow=7.8,SNR=32						
ASAR				PP	PnPn	17 17 49.0	-10
	comp=Z,1.9nm,0.6s,baz=302,slow=11,SNR=5.3						
ASAR				PcP	**PcP**	**17 19 42.5**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=297,slow=3.4,SNR=4.7						
ASAR				S	**S**	**17 21 50.8**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=292,slow=15,SNR=10						
ODAN	**Odare**	**38.14**	**333**	*e*P	**P**	**17 17 46.1**	**-1.1**
	comp=Z,17nm,0.4s						
TAPN	**Taplejung**	**38.42**	**333**	*e*P	**P**	**17 17 48.3**	**-1.3**
	comp=Z,13nm,0.4s						
RAMN	**Ramite**	**38.58**	**332**	*e*P	**P**	**17 17 50.3**	**-0.7**
	comp=Z,9.7nm,0.4s						
LSA	**Lhasa**	**39.14**	**339**	P	**P**	**17 17 54.3**	**-1.5**
LSA	**Lhasa**	**39.14**	**339**	*e*P	**P**	**17 17 55.1**	**-0.7**
	comp=Z,3.8nm,0.5s						
JIRN	**Jiri**	**39.38**	**332**	*e*P	**P**	**17 17 56.6**	**-1.1**
	comp=Z,16nm,0.4s						
PKIN	**Phulchoki**	**39.68**	**331**	*e*P	**P**	**17 17 58.5**	**-1.6**
	comp=Z,2.1nm,0.3s						
GUN	**Gumba**	**39.73**	**332**	*e*P	**P**	**17 17 59.4**	**-1.2**
	comp=Z,33nm,0.6s						
DMN	**Daman**	**39.85**	**331**	*e*P	**P**	**17 18 00.3**	**-1.2**
KKN	**Kakani**	**39.92**	**331**	*e*P	**P**	**17 18 00.7**	**-1.3**
	comp=Z,6.0nm,0.4s						
KOLN	**Koldanda**	**40.74**	**329**	*e*P	**P**	**17 18 07.9**	**-0.9**
	comp=Z,27nm,0.5s						
PMG	**Port Moresby**	**40.87**	**96**	P	**P**	**17 18 10.3**	**+0.4**
PMG	**Port Moresby**	**40.87**	**96**	P	**P**	**17 18 10.3**	**+0.4**
	comp=Z,18nm,0.8s,baz=271,slow=9.9,SNR=3.9						
DANN	**Dangsing**	**41.13**	**330**	*e*P	**P**	**17 18 10.7**	**-1.4**
	comp=Z,27nm,0.5s						
PYUN	**Piuthan**	**41.32**	**329**	*e*P	**P**	**17 18 12.2**	**-1.3**
	comp=Z,37nm,0.6s						
STKA	**Stephens Creek**	**41.45**	**131**	P	**P**	**17 18 16.9**	**+2.5**
STKA	**Stephens Creek**	**41.45**	**131**	P	**P**	**17 18 16.9**	**+2.5**
	comp=Z,3.2nm,0.5s,baz=298,slow=5.9,SNR=25						
GTA	**Gaotai**	**46.51**	**353**	*e*P	**P**	**17 18 54.5**	**-0.2**
GTA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KSAR	**Wonju Array Be**	**48.73**	**23**	P	**P**	**17 19 11.1**	**-0.7**
KSAR				PcP	**PcP**	**17 20 35.9**	**+0.7**
KSRS	**Korea Array**	**48.76**	**23**	P	**P**	**17 19 11.1**	**-0.8**
	comp=Z,5.7nm,0.6s,baz=217,slow=7.8,SNR=35						
KSRS				PcP	**PcP**	**17 20 35.9**	**+0.6**
	comp=Z,2.3nm,0.9s,baz=202,slow=2.8,SNR=11						
MJAR	**Matsushiro Arr**	**52.83**	**33**	P	**P**	**17 19 39.5**	**-3.1**
MJAR	**Matsushiro Arr**	**52.83**	**33**	P	**P**	**17 19 39.5**	**-3.1**
	comp=Z,1.4nm,0.6s,baz=212,slow=8.3,SNR=6.4						
CN2	**Changchun**	**53.55**	**18**	*e*P	**P**	**17 19 46.3**	**-1.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SONM	**Songino Array**	**54.58**	**0**	P	**P**	**17 19 54.8**	**-0.5**
SONM				PcP	**PcP**	**17 20 57.4**	**+0.3**
SONM				ScP	**ScP**	**17 24 44.5**	**-0.6**
SONM	**Songino Array**	**54.58**	**0**	P	**P**	**17 19 54.8**	**-0.5**
	comp=Z,3.5nm,0.6s,baz=180,slow=9.3,SNR=36						
SONM				PcP	**PcP**	**17 20 57.4**	**+0.3**
	comp=Z,4.4nm,0.7s,baz=175,slow=3.5,SNR=18						
SONM				ScP	**ScP**	**17 24 44.5**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=184,slow=2.9,SNR=3.2						
ULN	**Ulaanbaatar**	**54.62**	**1**	*e*P	**P**	**17 19 54.9**	**-0.7**
	comp=Z,3.7nm,0.8s						
MDJ	**Mudanjiang**	**55.62**	**20**	P	**P**	**17 20 01.0**	**-1.6**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,40nm,5.4s						
USRK	**Ussuriysk Arra**	**56.12**	**22**	P	**P**	**17 20 04.8**	**-1.4**
	comp=Z,2.8nm,0.5s,baz=206,slow=6.3,SNR=15						
TKM2	**Tokmak 2**	**56.81**	**334**	*e*P	**P**	**17 20 10.4**	**-1.0**
	comp=Z,8.0nm,0.7s						
MKAR	**Makanchi Array**	**57.52**	**341**	P	**P**	**17 20 14.9**	**-1.2**
MKAR	**Makanchi Array**	**57.52**	**341**	P	**P**	**17 20 14.9**	**-1.2**
	comp=Z,4.9nm,0.7s,baz=141,slow=7.7,SNR=69						
ZALV	**Zalesovo Beam**	**63.26**	**346**	P	**P**	**17 20 53.8**	**-1.2**
ZALV	**Zalesovo Beam**	**63.26**	**346**	P	**P**	**17 20 53.8**	**-1.2**
	comp=Z,1.8nm,0.3s,baz=151,slow=5.6,SNR=11						
BRVK	**Borovoye**	**67.01**	**338**	*e*P	**P**	**17 21 18.7**	**-0.5**
ABKAR	**Akbulak array**	**68.86**	**330**	*e*P	**P**	**17 21 30.9**	**0.0**
	comp=Z,22nm,0.6s						
AKTO	**Aktyubinsk**	**70.57**	**330**	LR	LR	17 55 14.5	
	comp=Z,25nm,19.6s,baz=350,slow=38						
PETK	**Petropavlovsk-**	**74.10**	**30**	P	**P**	**17 22 01.5**	**-0.8**
PETK	**Petropavlovsk-**	**74.10**	**30**	P	**P**	**17 22 01.5**	**-0.8**
	comp=Z,4.2nm,0.7s,baz=194,slow=8.6,SNR=9.0						
KBZ	**Khabaz**	**75.92**	**318**	P	**P**	**17 22 14.1**	**+1.1**
KBZ	**Khabaz**	**75.92**	**318**	P	**P**	**17 22 14.1**	**+1.1**
	comp=Z,4.3nm,0.9s,baz=136,slow=5.1,SNR=8.4						
BRTR	**Keskin Array B**	**81.02**	**312**	P	**P**	**17 22 42.0**	**+0.8**
BRTR	**Keskin Array B**	**81.02**	**312**	P	**P**	**17 22 42.0**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=130,slow=6.9,SNR=11						
FINES	**FINESS Array B**	**91.25**	**332**	P	**P**	**17 23 31.3**	**+0.4**
FINES	**FINESS Array B**	**91.25**	**332**	P	**P**	**17 23 31.3**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=116,slow=8.7,SNR=11						
ARCES	**ARCESS Array B**	**93.15**	**340**	P	**P**	**17 23 39.3**	**-0.2**
ARCES	**ARCESS Array B**	**93.15**	**340**	P	**P**	**17 23 39.3**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=93,slow=5.5,SNR=16						
PDAR	**Pinedale Array**	**132.61**	**36**	PKP	**PKPdf**	**17 29 41.5**	**+0.9**
PDAR	**Pinedale Array**	**132.61**	**36**	PKP	**PKPdf**	**17 29 41.5**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=4.1,slow=2.1,SNR=3.9						
526A	**Mary Lane Ranc**	**143.65**	**47**	⇓P	PKPbc	17 29 59.7	+0.9
	baz=143						
328A	**Wristen Ranch,**	**143.81**	**44**	⇓P	PKPbc	17 29 59.7	+0.6
	baz=144						
626A	**Big Bend Ranch**	**143.89**	**48**	⇑P	**PKPdf**	**17 30 00.7**	**-0.8**
	baz=144						
527A	**Woodward Ranch**	**143.95**	**47**	⇓P	**PKPdf**	**17 30 01.1**	**-0.5**
	baz=144						
428A	**Kincaid Ranch,**	**144.28**	**45**	⇑P	**PKPdf**	**17 30 02.8**	**+0.7**
	baz=144						
329A	**Wagon Wheel Ra**	**144.32**	**43**	⇑P	**PKPdf**	**17 30 01.5**	**-0.7**
	baz=144						
Y32A	**R-V Farms, Ver**	**144.33**	**38**	⇓P	PKPbc	17 30 00.9	+0.3
	baz=144						
TXAR	**Lajitas Array**	**144.35**	**48**	PKP	**PKPdf**	**17 30 02.4**	**+0.1**
TXAR	**Lajitas Array**	**144.35**	**48**	PKP	**PKPdf**	**17 30 02.4**	**+0.1**
	comp=Z,3.9nm,0.6s,baz=290,slow=0.9,SNR=43						
Z31A	**Sharp Cattle R**	**144.36**	**39**	⇓P	PKPbc	17 30 01.0	+0.3
	baz=144,SNR=6.0						
627A	**Terlingua Ranc**	**144.49**	**47**	⇑P	**PKPdf**	**17 30 02.1**	**-0.4**
	baz=144,SNR=8.2						
528A	**Cox Ranch, San**	**144.53**	**46**	⇑P	**PKPdf**	**17 30 03.1**	**+0.6**
	baz=144						
131A	**Roby**	**144.63**	**40**	⇓P	**PKPdf**	**17 30 02.0**	**-0.5**
	baz=144,SNR=6.7						
230A	**Sterling City**	**144.66**	**42**	⇓P	**PKPdf**	**17 30 02.4**	**-0.3**
	baz=144,SNR=5.7						
Z32A	**Haskell**	**144.78**	**39**	⇓P	**PKPdf**	**17 30 02.7**	**-0.1**
	baz=144,SNR=38						
628A	**Black Gap, Mar**	**144.84**	**47**	⇑P	**PKPdf**	**17 30 03.6**	**+0.6**
	baz=144						
429A	**Davenport Ranc**	**144.89**	**44**	⇑P	**PKPdf**	**17 30 02.8**	**-0.3**
	baz=144,SNR=8.1						
330A	**Mertzon**	**144.91**	**43**	⇑P	**PKPdf**	**17 30 02.8**	**-0.3**
	baz=145,SNR=10						
529A	**Stev Forest Ra**	**144.96**	**45**	⇓P	**PKPdf**	**17 30 04.2**	**+0.9**
	baz=145						
231A	**Bronte**	**145.15**	**41**	⇓P	**PKPab**	**17 30 03.3**	**-0.1**
	baz=145,SNR=5.2						
430A	**Baggett Ranch,**	**145.25**	**44**	⇑P	**PKPab**	**17 30 04.2**	**+0.4**
	baz=145,SNR=7.4						
331A	**San Angelo**	**145.47**	**42**	⇓P	**PKPab**	**17 30 04.5**	**-0.1**
	baz=145,SNR=8.5						
530A	**J-C Ranch, Com**	**145.56**	**45**	⇑P	**PKPab**	**17 30 05.9**	**+0.9**
	baz=145,SNR=59						
232A	**Coleman**	**145.62**	**41**	⇓P	**PKPab**	**17 30 05.3**	**+0.2**
	baz=145,SNR=10						
431A	**Sonora**	**145.74**	**43**	⇓P	**PKPab**	**17 30 05.7**	**+0.1**
	baz=145,SNR=9.4						
332A	**Millersview**	**145.88**	**41**	⇑P	**PKPab**	**17 30 06.7**	**+0.6**
	baz=146,SNR=28						
BLO	**Bloomington**	**146.05**	**17**	*e*PKPdf	**PKPab**	**17 30 06.2**	**-0.2**
531A	**Rocksprings**	**146.10**	**44**	⇑P	**PKPab**	**17 30 07.0**	**0.0**
	baz=146,SNR=5.6						
432A	**Menard**	**146.17**	**42**	⇑P	**PKPbc**	**17 30 06.7**	**+0.3**
	baz=146						
JCT	**Junction City**	**146.41**	**43**	*e*PKPdf	**PKPab**	**17 30 07.8**	**-0.4**
JCT	**Junction City**	**146.41**	**43**	⇑P	**PKPab**	**17 30 08.4**	**+0.2**
	baz=146						
SIUC	**Southern Illin**	**146.46**	**22**	*e*PKPdf	**PKPab**	**17 30 07.8**	**-0.3**
631A	**Perdido Creek**	**146.53**	**45**	⇑P	**PKPab**	**17 30 08.7**	**0.0**
	baz=146						
WHTX	**Lake Whitney**	**146.93**	**38**	⇑P	**PKPab**	**17 30 09.6**	**-0.4**
	baz=147						
WCI	**Wyandotte Cave**	**146.99**	**18**	*e*PKPdf	**PKPbc**	**17 30 08.7**	**+0.2**
632A	**Uvalde**	**147.02**	**44**	⇑P	**PKPab**	**17 30 10.2**	**-0.4**
	baz=147						
WVT	**Waverly**	**148.38**	**22**	*e*PKPbc	**PKPbc**	**17 30 12.5**	**+0.2**
CPCT	**Cooper Cave**	**150.09**	**17**	*e*PKPbc	**PKPbc**	**17 30 16.6**	**+0.1**

IDC 30 17:17:17.6±7.8, 31°.55S×178°.97W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/18, mbtmp3.5/2, Error ellipse: s-maj=337.7km s-min=58.0km az=158.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.24**	**269**	P	P	17 25 12.8	+0.1
	0.3nm,0.6s,baz=107,slow=7.3,SNR=4.5						
WRA	**Warramunga Arr**	**43.33**	**274**	P	P	17 25 21.3	-0.3
	0.4nm,0.3s,baz=116,slow=8.4,SNR=5.5						
FINES	**FINESS Array B**	**145.92**	**339**	PKPbc	PKPdf	17 36 57.4	-0.3
	0.7nm,0.7s,baz=64,slow=4.4,SNR=8.1						

IDC 30 17:32:32.3±62.0, 22°.13S×175°.34W, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=1158.0km s-min=188.6km az=86.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.36**	**246**	P	P	17 40 02.6	-1.1
	2.9nm,1.2s,baz=113,slow=7.7,SNR=3.8						
ASAR	**Alice Springs**	**46.58**	**258**	P	P	17 41 02.2	-0.1
	0.1nm,0.3s,baz=93,slow=6.6,SNR=10						
WRA	**Warramunga Arr**	**46.85**	**263**	P	P	17 41 05.1	+0.7
	0.2nm,0.4s,baz=97,slow=8.3,SNR=5.2						

*BYKL **30** 17:36:55.1±0.3, 56°.39N×112°.68E*
MOS 30 17:36:54.3±0.9, 56°.30N×112°.74E, h10km, mb4.4/1, 4D, Error ellipse: s-maj=30.3km s-min=15.2km az=50.3, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMO	**Kumora**	**0.96**	**245**	*e*Pg	Pb	17 37 13.2	+0.2
KMO				*e*Pb	Pn	17 37 14.6	+0.8
KMO				*e*Sg	Sb	17 37 26.1	+0.3
KMO				max			
	96nm,0.3s						
KMO				Smax			
	801nm,0.6s						
KMO	**Kumora**	**0.96**	**245**	*e*PG	Pb	17 37 13.3	+0.3
KMO				*e*		17 37 26.4	
KMO				pmax	pmax		
	comp=Z,89nm,0.2s						
KMO				smax	smax		
	comp=E,796nm,0.7s						
NLYR	**Nelyaty**	**1.66**	**82**	⇓*i*Pg	Pb	17 37 24.8	-0.2
NLYR				*e*Sg	Sg	17 37 47.2	-0.5
NLYR				Pmax			
	comp=E,30nm,0.3s						
NLYR				Smax			
	comp=E,654nm,0.7s						
NLYR	**Nelyaty**	**1.66**	**82**	*e*PN	Pb	17 37 24.7	-0.3
NLYR

	comp=N,243nm,0.4s						
TUP	**Tupik**	**4.52**	**112**	*e*Pn	Pn	17 38 04.2	+1.4
TUP				*e*Pg	Pg	17 38 17.6	-3.4
TUP				*e*Sn	Sn	17 38 54.6	-0.9
TUP				*e*Sg	Sg	17 39 17.7	-1.9
TUP				Pmax			
	comp=N,7.0nm,0.4s						
TUP				Smax			
	comp=N,158nm,1.1s						
TUP	**Tupik**	**4.52**	**112**	*e*PN	Pn	17 38 04.2	+1.4
TUP				*e*		17 38 17.4	
TUP				*e*		17 39 17.8	
TUP				pmax	pmax		
	comp=Z,7.0nm,0.4s						
TUP				smax	smax		
	comp=N,116nm,1.1s						
TRG	**Tyrgan**	**5.14**	**229**	*e*Pn	Pn	17 38 11.9	+0.6
TRG				*e*Sg	Sg	17 39 35.3	-4.1
TRG				Smax			
	comp=N,33nm,0.4s						
UUDB	**Ulan-Yde**	**5.35**	**216**	*e*Sg	Sg	17 39 42.0	-4.2
UUDB				Smax			
	comp=N,99nm,1.0s						
HRMR	**Khuramsha**	**5.79**	**219**	*e*Pg	Pb	17 38 40.2	+4.8
HRMR				*e*Sg	Sg	17 39 55.1	-5.2
HRMR				Pmax			
	comp=N,13nm,0.6s						
HRMR				Smax			
	comp=N,155nm,0.9s						
LSTR	**Listvyanka**	**6.43**	**230**	*e*Sg	Sg	17 40 15.3	-5.3
LSTR				Smax			
	comp=N,61nm,1.7s						
KPC	**Khapcheranga**	**6.61**	**182**	*e*Pn	Pn	17 38 32.6	+1.0
KPC				*e*Pg	Pg	17 38 57.4	-3.5
KPC				*e*Sg	Sg	17 40 23.4	-3.2
KPC				Pmax			
	comp=N,5.0nm,0.6s						
KPC				Smax			
	comp=N,102nm,0.9s						
CLNS	**Chul'man**	**6.74**	**80**	*e*Sg	Sg	17 40 24.8	-5.8
ARS	**Arshan**	**7.48**	**238**	*e*Sn	Sn	17 40 07.7	-0.7
ARS				*e*Sg	Sg	17 40 47.4	-7.1
ARS				Smax			
	comp=N,113nm,0.8s						
ZAK	**Zakamensk**	**8.19**	**228**	*e*Sg	Sg	17 41 09.3	-8.0
ZAK				Smax			
	comp=N,12nm,1.0s						
MOY	**Mondy**	**8.33**	**241**	*e*Pn	Pn	17 38 56.2	+1.0
MOY				*e*Pg	Pb	17 39 26.1	+7.4
MOY				*e*Sn	Sn	17 40 26.6	-2.8
MOY				*e*Sg	Sg	17 41 14.1	-7.7
MOY				Pmax			
	comp=N,14nm,1.0s						
MOY				Smax			
	comp=N,40nm,1.2s						

GUC 30 17:38:38.3±0.4, 22°.90S×67°.25W, h228km±5km, ML3.5, 4C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.56**	**280**	↑*i*P	Pn	17 39 16.5	+1.1
LVC				*i* S	S	17 39 46.0	+1.8
PB04	**Plate Boundary**	**2.17**	**286**	↑*i*P	Pn	17 39 28.8	+8.2
PB04				*e*S	S	17 40 06.9	+13
PB04				AML	AML	17 40 10.6	
	comp=N,63nm,0.3s						
PB07	**Plate Boundary**	**2.71**	**295**	↑*i*P	Pn	17 39 28.4	+1.9
PB07				*i* S	S	17 40 06.2	+2.0
PB07				AML	AML	17 40 06.7	
	comp=N,101nm,0.2s						
PB01	**Plate Boundary**	**2.78**	**311**	*e*P	Pn	17 39 29.1	+1.9
PB01				*i* S	S	17 40 07.6	+2.2
PB01				AML	AML	17 40 09.6	
	comp=N,63nm,0.2s						
ANCH	**Antofagasta**	**3.01**	**254**	↑*i*P	Pn	17 39 31.4	+1.9
ANCH				*i* S	S	17 40 11.9	+2.2
PSGC	**Pisagua**	**4.24**	**320**	*e*P	Pn	17 39 44.9	+0.6
PSGC				*e*S	S	17 40 36.7	+0.4
MNMC	**Minimini**	**4.34**	**329**	*e*P	Pn	17 39 47.1	+1.4
MNMC				*e*S	S	17 40 40.8	+1.8

IDC 30 17:40:43.6±1.9, 2°.78N×126°.05E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.7/4, Error ellipse: s-maj=174.6km s-min=24.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.00**	**161**	P	P	17 46 00.3	+0.1
	1.7nm,0.3s,baz=340,slow=10,SNR=9.5						
ASAR	**Alice Springs**	**27.37**	**164**	P	P	17 46 30.8	-0.1
	0.3nm,0.4s,baz=343,slow=7.7,SNR=8.3						
STKA	**Stephens Creek**	**37.49**	**158**	P	P	17 47 59.4	+0.1
	2.4nm,1.0s,baz=335,slow=10,SNR=6.7						
MKAR	**Makanchi Array**	**57.95**	**326**	P	P	17 50 37.6	-0.4
	0.2nm,0.5s,baz=124,slow=7.0,SNR=5.2						

*ISCJB **30** 17:41:34.2±1.1, 8°.8S±0°.1×123°.15E±0°.06, h100km, mb3.4/3, Error ellipse: s-maj=16.5km s-min=8.2km az=2.2*
*IDC **30** 17:41:36.4±2.5, 9°.04S×122°.51E, h126km±23km, mb3.3/3, mb1 3.2/6, mb1mx3.1/20, mbtmp3.1/6, Error ellipse: s-maj=92.0km s-min=24.2km az=61.0*
*DJA **30** 17:41:40.7±1.8, 9°.5S±12°×12°.3E±°, h55km±28km, M3.5/5, MLv3.5/5*

ISC 30 17:41:35.7±1.2, 8°.7S±0°.1×123°.06E±0°.08, h100km, n12, σ1s91/14, mb3.5/3, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**0.82**	**273**	P	**Pn**	**17 41 56.1**	**+1.8**
SOEI	**Soe**	**1.60**	**132**	P	**Pn**	**17 42 05.6**	**+2.2**
BATI	**Baumata**	**1.64**	**159**	P	**Pn**	**17 42 05.0**	**+1.3**
BATI	**Baumata**	**1.64**	**159**	P	**Pn**	**17 42 05.7**	**+2.0**
	7.0nm,0.3s,baz=295,slow=4.8,SNR=13						
BATI				S		**Sn**	**17 42 28.1**	**+3.1**
	29nm,0.3s,baz=333,slow=19,SNR=9.8						
BASI	**Baing, Sumba**	**2.89**	**238**	P	**Pn**	**17 42 21.2**	**+1.1**
BASI				S	**Sn**	**17 42 53.5**	**-0.8**
WSI	**Waingapu**	**2.91**	**250**	P	**Pn**	**17 42 21.8**	**+1.6**
WSI				S	**Sn**	**17 42 54.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**9.70**	**165**	P	**Pn**	**17 43 49.4**	**-3.1**
	0.1nm,0.3s,baz=356,slow=11,SNR=13						
FITZ				S	Sn	17 45 29.7	-10
	0.9nm,0.3s,baz=300,slow=20,SNR=10						
WRA	**Warramunga Arr**	**15.64**	**137**	P	**Pn**	**17 45 10.5**	**-0.1**
	0.1nm,0.3s,baz=308,slow=12,SNR=3.5						
WRA				S	Sn	17 47 49.1	-15
	0.1nm,0.3s,baz=318,slow=17,SNR=2.9						
ASAR	**Alice Springs**	**18.17**	**146**	P	**P**	**17 45 40.1**	**-0.4**
	0.1nm,0.3s,baz=325,slow=12,SNR=20						
ASAR				S	S	17 48 49.5	-14
	0.0nm,0.3s,baz=315,slow=22,SNR=4.1						
STKA	**Stephens Creek**	**28.80**	**146**	P	**P**	**17 47 22.9**	**-1.5**
	1.6nm,0.8s,baz=325,slow=9.7,SNR=4.0						
MKAR	**Makanchi Array**	**66.07**	**331**	P	**P**	**17 52 11.5**	**-0.5**
	0.1nm,0.6s,baz=138,slow=7.6,SNR=2.3						
ZALV	**Zalesovo Beam**	**70.23**	**337**	P	P	17 52 34.9	-2.9
	0.3nm,0.4s,baz=123,slow=7.1,SNR=2.8						

IDC 30 17:43:18.8±1.6, 23°.69S×115°.29W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.8/18, mbtmp3.7/5, MS4.0/10, Ms1 4.0/10, ms1mx3.7/30, Error ellipse: s-maj=71.6km s-min=29.9km az=40.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPT	**Papeete**	**32.60**	**274**	LR	LR	17 58 51.0	
	comp=Z,229nm,21.4s,baz=156,slow=29						
PLCA	**Paso Flores**	**41.02**	**125**	P	P	17 51 03.7	-0.2
	2.2nm,1.1s,baz=305,slow=12,SNR=2.9						
PLCA				LR	LR	18 03 38.7	
	comp=Z,336nm,19.6s,baz=180,slow=30						
LPAZ	**La Paz**	**44.77**	**90**	P		17 51 34.5	-0.8
	1.5nm,0.8s,baz=243,slow=1.8,SNR=6.5						
LPAZ				LR	LR	18 06 29.2	
	comp=Z,100nm,18.0s,baz=243,slow=31						
CPUP	**Villa Florida**	**52.22**	**106**	LR	LR	18 10 28.1	
	comp=Z,147nm,20.5s,baz=250,slow=31						
BDFB	**Brasilia**	**63.37**	**96**	LR	LR	18 17 18.4	
	comp=Z,122nm,21.4s,baz=43,slow=32						
VNDA	**Vanda**	**65.49**	**194**	LR	LR	18 15 24.0	
	comp=Z,110nm,18.5s,baz=80,slow=29						
PDAR	**Pinedale Array**	**66.34**	**5**	P	P	17 54 09.8	+0.3
	0.4nm,0.8s,baz=170,slow=6.0,SNR=3.7						
QSPA	**South Pole Qui**	**66.46**	**180**	LR	LR	18 18 46.4	
	comp=Z,85nm,19.6s,baz=288,slow=32						
YKA	**Yellowknife Ar**	**85.89**	**0**	P	P	17 55 59.9	-0.1
	0.5nm,0.7s,baz=175,slow=5.7,SNR=3.8						
SCHQ	**Schefferville**	**88.52**	**26**	LR	LR	18 30 58.8	
	comp=Z,82nm,20.2s,baz=269,slow=32						
MAW	**Mawson**	**88.97**	**179**	LR	LR	18 31 51.4	
	comp=Z,80nm,18.1s,baz=58,slow=33						
ILAR	**Eielson Array**	**91.51**	**347**	P	P	17 56 26.1	-0.6
	0.2nm,0.5s,baz=111,slow=2.2,SNR=2.9						
PMG	**Port Moresby**	**93.09**	**258**	LR	LR	18 32 19.8	
	comp=Z,73nm,20.6s,baz=238,slow=32						
ZALV	**Zalesovo Beam**	**146.21**	**339**	PKPbc	PKPdf	18 02 58.4	-1.4
	0.3nm,0.4s,baz=29,slow=3.3,SNR=3.8						
BRTR	**Keskin Array B**	**149.31**	**51**	PKPbc	PKPbc	18 03 11.4	+1.5
	0.6nm,0.8s,baz=298,slow=3.1,SNR=3.5						
BVAR	**Borovoye Array**	**150.39**	**353**	PKPbc	PKPbc	18 03 11.8	-0.2
	0.4nm,0.6s,baz=29,slow=3.3,SNR=2.7						
KURBB	**Kurchatov Arra**	**151.05**	**342**	PKPbc	PKPbc	18 03 12.4	-1.1
	0.7nm,0.8s,baz=30,slow=1.8,SNR=3.7						
MKAR	**Makanchi Array**	**152.97**	**333**	PKPbc	PKPbc	18 03 19.6	+1.5
	0.4nm,0.8s,baz=31,slow=3.4,SNR=2.9						

MEX 30 17:54:58.1±1.1, 18°.83N×104°.38W, h10km, MD3.6, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
R15V		**0.50**	**48**	*i* P	Pg	17 55 06.4	-1.7
R15V				*i* S	Sg	17 55 13.9	-0.9
CJM	**Chamela**	**0.91**	**317**	*e*P	Pg	17 55 12.5	-3.2
CJM				*i* S	Sg	17 55 25.4	-2.2
EZ5V		**0.98**	**49**	*e*P	Pg	17 55 14.6	-2.7
EZ5V				*i* S	Sg	17 55 27.7	-2.6
MMIG	**Aquila**	**1.12**	**119**	*i* P	Pb	17 55 15.9	-3.7
MMIG				*i* S	Sb	17 55 30.6	-3.7

IDC 30 18:01:00.9±0.8, 38°.90S×137°.21E, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.1/16, mbtmp4.1/8, ML4.4/1, MS3.7/3, Ms1 3.6/3, ms1mx3.2/21, Error ellipse: s-maj=38.1km s-min=20.8km az=83.0, Off south coast of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**7.87**	**28**	Pn	Pn	18 02 55.3	-1.4
	3.2nm,0.3s,baz=191,slow=13,SNR=157						
STKA				Sn	Sn	18 04 18.2	-8.3
	7.1nm,0.3s,baz=300,slow=23,SNR=7.0						
STKA				LR	LR	18 06 10.3	
	comp=Z,178nm,21.6s,baz=200,slow=39						
ASAR	**Alice Springs**	**15.45**	**349**	Pn	Pn	18 04 35.0	-5.2
	0.2nm,0.3s,baz=163,slow=11,SNR=23						
ASAR				Sn	Sn	18 07 17.9	-14
	0.2nm,0.3s,baz=169,slow=22,SNR=4.2						
WRA	**Warramunga Arr**	**19.06**	**352**	P	P	18 05 21.1	-3.7
	0.6nm,0.3s,baz=173,slow=11,SNR=30						
WRA				S	Sn	18 08 42.9	-17
	0.1nm,0.3s,baz=176,slow=23,SNR=4.0						
CTA	**Charters Tower**	**20.31**	**25**	P	P	18 05 38.5	0.0
	2.6nm,0.4s,baz=192,slow=14,SNR=2.4						
FITZ	**Fitzroy Crossi**	**23.04**	**331**	P	P	18 06 06.8	-1.0
	7.8nm,0.9s,baz=148,slow=11,SNR=12						
VNDA	**Vanda**	**40.12**	**172**	P	P	18 08 37.3	-0.5
	1.1nm,0.5s,baz=325,slow=8.1,SNR=14						
CMAR	**Chiang Mai Arr**	**67.38**	**320**	P	P	18 11 58.5	+0.5
	0.7nm,0.6s,baz=157,slow=6.3,SNR=5.5						
KSRS	**Korea Array**	**76.46**	**352**	P	P	18 12 52.5	+0.4
	1.1nm,0.8s,baz=171,slow=6.5,SNR=6.2						
KSRS				LR	LR	18 44 24.5	
	comp=Z,68nm,19.9s,baz=275,slow=34						
USRK	**Ussuriysk Arra**	**82.86**	**356**	P	P	18 13 27.0	+0.3
	2.1nm,0.7s,baz=160,slow=4.6,SNR=7.6						
SONM	**Songino Array**	**90.61**	**340**	P	P	18 14 04.9	+0.1
	0.8nm,0.9s,baz=143,slow=5.0,SNR=3.5						
SONM				LR	LR	18 57 22.7	
	comp=Z,60nm,18.1s,baz=298,slow=37						
TXAR	**Lajitas Array**	**129.53**	**81**	PKP	PKPdf	18 20 12.4	+0.5
	0.3nm,0.5s,baz=224,slow=2.5,SNR=3.8						
PDAR	**Pinedale Array**	**130.53**	**63**	PKP	PKPdf	18 20 14.3	+0.8
	0.2nm,0.5s,baz=291,slow=0.8,SNR=2.7						
YKA	**Yellowknife Ar**	**131.84**	**36**	PKP	PKPdf	18 20 14.9	-0.1
	0.7nm,0.8s,baz=273,slow=5.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**133.13**	**249**	PKP	PKPdf	18 20 18.3	-0.6
	0.5nm,0.9s,baz=132,slow=2.1,SNR=2.7						
FINES	**FINESS Array B**	**133.13**	**322**	PKP	PKPdf	18 20 17.4	-0.1
	1.8nm,0.9s,baz=160,slow=4.4,SNR=3.9						
TKL	**Tuckaleechee C**	**147.42**	**83**	PKPbc	PKPdf	18 20 45.0	+0.8
	4.1nm,0.9s,baz=225,slow=4.3,SNR=3.1						
MDT	**Mica Array**	**148.63**	**271**	PKPbc	PKPbc	18 20 48.6	-1.5
	1.5nm,0.7s,baz=41,slow=2.2,SNR=3.2						
ESDC	**Sonseca Array**	**150.09**	**284**	PKPbc	PKPbc	18 20 53.1	-0.3
	0.3nm,0.3s,baz=101,slow=2.6,SNR=3.8						

IDC 30 18:04:34.4±3.5, 49°.10N×91°.24E, h0km, mb3.6/1, mb1 3.3/4, mb1mx3.1/29, mbtmp3.2/4, ML3.0/3, 1D, Error ellipse: s-maj=40.9km s-min=25.3km az=121.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**6.29**	**323**	Pn	Pn	18 06 09.3	+0.8
	0.1nm,0.3s,baz=142,slow=14,SNR=3.1						
ZALV				Pg	Pg	18 06 30.9	-4.0
	0.9nm,0.3s,baz=146,slow=14,SNR=17						
ZALV				Lg	Lg	18 07 50.6	
	1.0nm,0.3s,baz=149,slow=28,SNR=3.8						
MK31	**Makanchi Array**	**6.44**	**252**	Pn	Pn	18 06 11.9	+1.4
	0.4nm,0.3s,baz=75,slow=16,SNR=17						
MK31				Pg	Pg	18 06 36.5	-1.3
	2.8nm,0.5s,baz=73,slow=16,SNR=14						
MK31				||Lg	Lg	18 07 55.8	
	7.8nm,0.6s,baz=84,slow=34,SNR=4.5						
MKAR	**Makanchi Array**	**6.44**	**252**	Pn	Pn	18 06 12.0	+1.5
	0.4nm,0.3s,baz=79,slow=15,SNR=16						
MKAR				Lg	Lg	18 07 59.6	
	2.0nm,0.3s,baz=71,slow=32,SNR=4.0						
KURBB	**Kurchatov Arra**	**8.35**	**285**	Pn	Pn	18 06 35.9	-0.8
	0.2nm,0.3s,baz=94,slow=15,SNR=11						
KURBB				Lg	Lg	18 09 00.4	
	0.3nm,0.3s,baz=88,slow=32,SNR=12						
SONM	**Songino Array**	**10.15**	**91**	Lg	Lg	18 09 56.4	
	0.2nm,0.3s,baz=279,slow=27,SNR=6.1						
BVAR	**Borovoye Array**	**13.68**	**295**	Pn	Pn	18 07 51.9	+2.4
	0.2nm,0.3s,baz=101,slow=15,SNR=3.9						
FINES	**FINESS Array B**	**37.48**	**314**	P	P	18 11 49.3	+0.1
	0.4nm,0.4s,baz=112,slow=14,SNR=3.5						

*IDC **30** 18:06:11.4±1.7, 43°.31N×105°.10W, h0km, mb3.6/6, mb1 3.8/10, mb1mx3.6/30, mbtmp3.6/10, ML3.5/4, MS3.2/4, Ms1 3.2/4, ms1mx2.6/42, Error ellipse: s-maj=44.1km s-min=8.6km az=154.0*
*ISCJB **30** 18:06:13.5±0.2, 43°.71N±0°.01×105°.31W±0°.02, h0km, mb3.9/5, MS3.8/1, Error ellipse: s-maj=1.9km s-min=1.8km az=145.9*
*NEIC **30** 18:06:14.1±0.4, 43°.75N×105°.25W, h0km, ML3.3, Error ellipse: s-maj=6.4km s-min=5.2km az=147.0, Suspected Mining explosion.*
NEIC 60 km [40 miles] SSE of Gillette.

ISC 30 18:06:13.7±0.5, 43°.73N±0°.01×105°.29W±0°.01, h0km, n236, σ0s80/274, mb3.9/5, 106C-96D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I23A	**Meade Ranch, G**	**0.27**	**332**	P	**Pg**	**18 06 20.3**	**+1.4**
	baz=0.3,SNR=119						
I23A	**Meade Ranch, G**	**0.27**	**332**	P	**Pg**	**18 06 20.3**	**+1.4**
	baz=0.3,SNR=119						
J23A	**Dilts Ranch, B**	**0.37**	**211**	P	**Pg**	**18 06 21.6**	**+0.7**
	baz=0.4,SNR=551						
J23A				||S	**Sg**	**18 06 25.8**	**+0.1**
	baz=0.4						
J23A	**Dilts Ranch, B**	**0.37**	**211**	P	**Pg**	**18 06 21.6**	**+0.7**
	baz=0.4,SNR=551						
J23A				||S	**Sg**	**18 06 25.8**	**+0.1**
	baz=0.4						
I24A	**Kuemmerle Ranc**	**0.50**	**74**	P	**Pb**	**18 06 24.5**	**-1.0**
	baz=0.5,SNR=444						
I24A	**Kuemmerle Ranc**	**0.50**	**74**	P	**Pb**	**18 06 24.5**	**-1.0**
	baz=0.5,SNR=444						
J24A	**Dixon Ranch, L**	**0.60**	**131**	P	**Pg**	**18 06 26.0**	**+0.7**
	baz=0.6,SNR=91						
J24A				⇑S	**Sg**	**18 06 34.0**	**+0.9**
	baz=0.6						
J24A	**Dixon Ranch, L**	**0.60**	**131**	P	**Pg**	**18 06 26.0**	**+0.7**
	baz=0.6,SNR=91						
J24A				⇑S	**Sg**	**18 06 34.0**	**+0.9**
	baz=0.6						
H23A	**Clabaugh Cattl**	**0.84**	**355**	⇑P	**Pg**	**18 06 30.1**	**+0.3**
	baz=0.8,SNR=25						
H23A	**Clabaugh Cattl**	**0.84**	**355**	⇑P	**Pg**	**18 06 30.1**	**+0.3**
	baz=0.8,SNR=25						
I22A	**9 Mile Ranch,**	**0.88**	**281**	⇓P	**Pg**	**18 06 30.7**	**+0.1**
	baz=0.9,SNR=503						
I22A				⇑S	**Sg**	**18 06 42.8**	**+0.8**
	baz=0.9						
I22A	**9 Mile Ranch,**	**0.88**	**281**	⇓P	**Pg**	**18 06 30.7**	**+0.1**
	baz=0.9,SNR=503						
I22A				⇑S	**Sg**	**18 06 42.8**	**+0.8**
	baz=0.9						
J22A	**Midwest**	**0.92**	**251**	P	**Pg**	**18 06 30.9**	**-0.4**
	baz=1.0,SNR=240						
J22A				⇑S	**Sg**	**18 06 43.7**	**+0.5**
	baz=1.0						
J22A	**Midwest**	**0.92**	**251**	P	**Pg**	**18 06 30.9**	**-0.4**
	baz=1.0,SNR=240						
J22A				⇑S	**Sg**	**18 06 43.7**	**+0.5**
	baz=1.0						
RSSD	**Black Hills**	**0.99**	**66**	*e*P	**Pg**	**18 06 32.9**	**+0.2**
K23A	**Bowen Ranch, D**	**1.00**	**194**	⇓P	**Pg**	**18 06 32.8**	**-0.1**
	baz=1.0,SNR=12						
K23A				⇓S	**Sg**	**18 06 46.4**	**+0.5**
	baz=1.0						
K23A	**Bowen Ranch, D**	**1.00**	**194**	⇓P	**Pg**	**18 06 32.8**	**-0.1**
	baz=1.0,SNR=12						
K23A				⇓S	**Sg**	**18 06 46.4**	**+0.5**
	baz=1.0						
K24A	**Anderson Ranch**	**1.06**	**161**	P	**Pg**	**18 06 34.0**	**-0.1**
	baz=1.1,SNR=170						
K24A	**Anderson Ranch**	**1.06**	**161**	P	**Pg**	**18 06 34.0**	**-0.1**
	baz=1.1,SNR=170						
J25A	**Sunshine Ranch**	**1.13**	**107**	⇑P	**Pg**	**18 06 35.5**	**+0.1**
	baz=1.1,SNR=236						
J25A	**Sunshine Ranch**	**1.13**	**107**	⇑P	**Pg**	**18 06 35.5**	**+0.1**
	baz=1.1,SNR=236						
H24A	**Dirks Ranch, A**	**1.15**	**27**	P	**Pg**	**18 06 35.7**	**-0.1**
	baz=1.1,SNR=165						
H24A				⇑S	**Sb**	**18 06 52.0**	**-0.2**
	baz=1.1						
H24A	**Dirks Ranch, A**	**1.15**	**27**	P	**Pg**	**18 06 35.7**	**-0.1**
	baz=1.1,SNR=165						
H24A				⇑S	**Sb**	**18 06 52.0**	**-0.2**
	baz=1.1						
H22A	**Clearmont**	**1.16**	**319**	⇑P	**Pg**	**18 06 35.7**	**-0.2**
	baz=1.2,SNR=85						
H22A	**Clearmont**	**1.16**	**319**	⇑P	**Pg**	**18 06 35.7**	**-0.2**
	baz=1.2,SNR=85						
I25A	**Rochford**	**1.16**	**75**	P	**Pg**	**18 06 36.2**	**+0.2**
	baz=1.1,SNR=78						
I25A				⇓S	**Sb**	**18 06 53.1**	**+0.5**
	baz=1.1						
I25A	**Rochford**	**1.16**	**75**	P	**Pg**	**18 06 36.2**	**+0.2**
	baz=1.1,SNR=78						
I25A				⇓S	**Sb**	**18 06 53.1**	**+0.5**
	baz=1.1						
K22A	**Casper**	**1.40**	**220**	⇓P	**Pn**	**18 06 39.5**	**-1.2**
	baz=1.4,SNR=122						
K22A	**Casper**	**1.40**	**220**	⇓P	**Pn**	**18 06 39.5**	**-1.2**
	baz=1.4,SNR=122						
I21A	**Big Trails, Te**	**1.45**	**274**	⇑P	**Pn**	**18 06 39.7**	**-1.7**
	baz=1.5						
I21A				⇑S	**Sg**	**18 07 00.6**	**+0.2**
	baz=1.5						
I21A	**Big Trails, Te**	**1.45**	**274**	⇑P	**Pn**	**18 06 39.7**	**-1.7**
	baz=1.5						
I21A				⇑S	**Sg**	**18 07 00.6**	**+0.2**
	baz=1.5						
G23A	**Biddle**	**1.48**	**357**	⇑P	**Pn**	**18 06 41.5**	**-0.2**
	baz=1.5,SNR=155						
G23A	**Biddle**	**1.48**	**357**	⇑P	**Pn**	**18 06 41.5**	**-0.2**
	baz=1.5,SNR=155						
H25A	**Fruitdale**	**1.51**	**53**	⇓P	**Pn**	**18 06 42.1**	**0.0**
	baz=1.5,SNR=17						
H25A	**Fruitdale**	**1.51**	**53**	⇓P	**Pn**	**18 06 42.1**	**0.0**
	baz=1.5,SNR=17						
K25A	**Mack Ranch, Ha**	**1.52**	**136**	⇑Pb	**Pg**	**18 06 43.2**	**+0.3**
	baz=1.5,SNR=81						
K25A				⇓S	**Sn**	**18 07 02.9**	**0.0**
	baz=1.5						
K25A	**Mack Ranch, Ha**	**1.52**	**136**	⇑Pb	**Pg**	**18 06 43.2**	**+0.3**
	baz=1.5,SNR=81						
K25A				⇓S	**Sn**	**18 07 02.9**	**0.0**
	baz=1.5						
H21A	**Big Horn, Sher**	**1.55**	**306**	⇑P	**Pn**	**18 06 42.3**	**-0.4**
	baz=1.6,SNR=22						
H21A				⇑S	**Sn**	**18 07 03.3**	**-0.3**
	baz=1.6						
H21A	**Big Horn, Sher**	**1.55**	**306**	⇑P	**Pn**	**18 06 42.3**	**-0.4**
	baz=1.6,SNR=22						
H21A				⇑S	**Sn**	**18 07 03.3**	**-0.3**
	baz=1.6						
J21A	**Lysite**	**1.61**	**257**	P	**Pn**	**18 06 42.8**	**-0.8**
	baz=1.6,SNR=113						
J21A				⇑S	**Sn**	**18 07 04.8**	**-0.5**
	baz=1.6						
J21A	**Lysite**	**1.61**	**257**	P	**Pn**	**18 06 42.8**	**-0.8**
	baz=1.6,SNR=113						
J21A				⇑S	**Sn**	**18 07 04.8**	**-0.5**
	baz=1.6						
L23A	**Garrett**	**1.64**	**191**	⇓P	**Pn**	**18 06 43.6**	**-0.4**
	baz=1.7,SNR=537						
L23A	**Garrett**	**1.64**	**191**	⇓P	**Pn**	**18 06 43.6**	**-0.4**
	baz=1.7,SNR=537						
G22A	**Birney**	**1.66**	**335**	⇑Pb	**Pn**	**18 06 45.0**	**+0.8**
	baz=1.6,SNR=7.4						
G22A	**Birney**	**1.66**	**335**	⇑Pb	**Pn**	**18 06 45.0**	**+0.8**
	baz=1.6,SNR=7.4						

F23A				⇑Sb		Sg	18 07 17.8 -0.1
	baz=2.0						
H26A	Fairpoint	2.02	63	⇓Pb		Pb	18 06 51.4 +0.1
	baz=2.0						
H26A	Fairpoint	2.02	63	⇓Pb		Pb	18 06 51.4 +0.1
	baz=2.0						
G21A	Lodge Grass	2.03	318	⇓P		Pn	18 06 49.7 +0.3
	baz=2.0,SNR=47						
G21A				⇑Sb		Sb	18 07 18.1 +0.6
	baz=2.0						
G21A	Lodge Grass	2.03	318	⇓P		Pn	18 06 49.7 +0.3
	baz=2.0,SNR=47						
G21A				⇑Sb		Sb	18 07 18.1 +0.6
	baz=2.0						
I20A	Worland	2.07	277	⇓P		Pn	18 06 50.2 +0.4
	baz=2.1,SNR=178						
I20A				⇓Sb		Sb	18 07 18.9 +0.4
	baz=2.1						
I20A	Worland	2.07	277	⇓P		Pn	18 06 50.2 +0.4
	baz=2.1,SNR=178						
I20A				⇓Sb		Sb	18 07 18.9 +0.4
	baz=2.1						
J20A	Shoshoni	2.07	261	⇑Pb		Pb	18 06 51.6 -0.6
	baz=2.1						
J20A				⇑Sb		Sb	18 07 19.1 +0.6
	baz=2.1						
J20A	Shoshoni	2.07	261	⇑Pb		Pb	18 06 51.6 -0.6
	baz=2.1						
J20A				⇑Sb		Sb	18 07 19.1 +0.6
	baz=2.1						
H20A	Greybull	2.10	292	⇓P		Pn	18 06 50.4 +0.2
	baz=2.1,SNR=24						
H20A	Greybull	2.10	292	⇓P		Pn	18 06 50.4 +0.2
	baz=2.1,SNR=24						
F22A	Rosebud	2.17	342	⇑P		Pn	18 06 51.5 +0.3
	baz=2.1,SNR=38						
F22A				⇓Sb		Sb	18 07 22.9 +1.6
	baz=2.1						
F22A	Rosebud	2.17	342	⇑P		Pn	18 06 51.5 +0.3
	baz=2.1,SNR=38						
F22A				⇓Sb		Sb	18 07 22.9 +1.6
	baz=2.1						
F24A	Ekalaka	2.20	16	⇓Pb		Pb	18 06 54.3 -0.2
	baz=2.2						
F24A				⇓Sb		Sg	18 07 24.2 -0.3
	baz=2.2						
F24A	Ekalaka	2.20	16	⇓Pb		Pb	18 06 54.3 -0.2
	baz=2.2						
F24A				⇓Sb		Sg	18 07 24.2 -0.3
	baz=2.2						
M24A	Cheyenne	2.28	171	⇑P		Pb	18 06 54.4 -1.5
	baz=2.3,SNR=235						
M24A	Cheyenne	2.28	171	⇑P		Pb	18 06 54.4 -1.5
	baz=2.3,SNR=235						
L21A	Rawlins	2.33	222	⇓P		Pn	18 06 53.7 +0.1
	baz=2.4						
L21A	Rawlins	2.33	222	⇓P		Pn	18 06 53.7 +0.1
	baz=2.4						
L26A	Underwood Farm	2.34	135	⇓P		Pn	18 06 54.7 +1.1
	baz=2.3						
L26A	Underwood Farm	2.34	135	⇓P		Pn	18 06 54.7 +1.1
	baz=2.3						
I27A	Quinn	2.37	81	⇑P		Pb	18 06 56.7 -0.5
	baz=2.3						
I27A	Quinn	2.37	81	⇑P		Pb	18 06 56.7 -0.5
	baz=2.3						
PHWY	Pilot Hill	2.42	183	eP		Pn	18 06 55.9 +1.0
K27A	Flueckinger Fa	2.45	114	⇓P		Pn	18 06 56.7 +1.6
	baz=2.4						
K27A				⇓Sb		Sg	18 07 31.4 -1.1
	baz=2.4						
K27A	Flueckinger Fa	2.45	114	⇓P		Pn	18 06 56.7 +1.6
	baz=2.4						
K27A				⇓Sb		Sg	18 07 31.4 -1.1
	baz=2.4						
M25A	Palm-Egli Farm	2.46	158	⇓P		Pn	18 06 55.7 +0.4
	baz=2.5						
M25A	Palm-Egli Farm	2.46	158	⇓P		Pn	18 06 55.7 +0.4
	baz=2.5						
F21A	Absaloka Mine,	2.47	329	⇑P		Pn	18 06 54.9 -0.4
	baz=2.5						
F21A	Absaloka Mine,	2.47	329	⇑P		Pn	18 06 54.9 -0.4
	baz=2.5						
K20A	Yellowstone Ra	2.47	246	⇑P		Pn	18 06 56.4 +0.9
	baz=2.5,SNR=103						
K20A				⇓Sb		Sb	18 07 30.7 +0.4
	baz=2.5						
K20A	Yellowstone Ra	2.47	246	⇑P		Pn	18 06 56.4 +0.9
	baz=2.5,SNR=103						
K20A				⇓Sb		Sb	18 07 30.7 +0.4
	baz=2.5						
RWWY	Rawlins	2.48	215	eP		Pn	18 06 57.2 +1.6
G26A	Maurine	2.48	50	⇑P		Pn	18 06 56.0 +0.5
	baz=2.4,SNR=18						
G26A	Maurine	2.48	50	⇑P		Pn	18 06 56.0 +0.5
	baz=2.4,SNR=18						
M22A	Cedar Creek Ra	2.51	203	⇑P		Pn	18 06 57.8 +1.7
	baz=2.6						
M22A				⇑Sb		Sb	18 07 32.8 +1.3
	baz=2.6						
M22A	Cedar Creek Ra	2.51	203	⇑P		Pn	18 06 57.8 +1.7
	baz=2.6						
M22A				⇑Sb		Sb	18 07 32.8 +1.3
	baz=2.6						
G20A	Bridger	2.57	307	⇑P		Pn	18 06 56.6 -0.1
	baz=2.6,SNR=60						
G20A	Bridger	2.57	307	⇑P		Pn	18 06 56.6 -0.1
	baz=2.6,SNR=60						
M21A	Separation Pea	2.61	217	⇑P		Pn	18 06 59.2 +1.8
	baz=2.7						
M21A	Separation Pea	2.61	217	⇑P		Pn	18 06 59.2 +1.8
	baz=2.7						
I19A	Meeteetse	2.70	278	⇓P		Pn	18 06 59.3 +0.8
	baz=2.7,SNR=48						
I19A	Meeteetse	2.70	278	⇓P		Pn	18 06 59.3 +0.8
	baz=2.7,SNR=48						
K19A	Absolon Red Bu	2.75	252	⇑P		Pn	18 06 60.0 +0.7
	baz=2.8,SNR=102						
K19A	Absolon Red Bu	2.75	252	⇑P		Pn	18 06 60.0 +0.7
	baz=2.8,SNR=102						
E22A	Miles City	2.75	350	⇓P		Pn	18 06 59.1 -0.1
	baz=2.7,SNR=5.7						
E22A	Miles City	2.75	350	⇓P		Pn	18 06 59.1 -0.1
	baz=2.7,SNR=5.7						
E23A	Ismay	2.77	360	⇓P		Pn	18 06 59.9 +0.5
	baz=2.7,SNR=12						
E23A	Ismay	2.77	360	⇓P		Pn	18 06 59.9 +0.5
	baz=2.7,SNR=12						
H19A	Powell	2.82	291	⇑P		Pn	18 07 01.0 +0.8
	baz=2.8,SNR=15						
H19A	Powell	2.82	291	⇑P		Pn	18 07 01.0 +0.8
	baz=2.8,SNR=15						
N23A	Red Feather La	2.87	190	⇑P		Pn	18 07 02.2 +1.3
	baz=2.9,SNR=56						
N23A	Red Feather La	2.87	190	⇑P		Pn	18 07 02.2 +1.3
	baz=2.9,SNR=56						
F20A	Billings	2.91	317	⇓P		Pn	18 07 01.2 -0.2
	baz=2.9,SNR=25						
F20A	Billings	2.91	317	⇓P		Pn	18 07 01.2 -0.2
	baz=2.9,SNR=25						
G27A	Dupree	2.92	54	⇑P		Pn	18 07 02.6 +1.2
	baz=2.9						
G27A	Dupree	2.92	54	⇑P		Pn	18 07 02.6 +1.2
	baz=2.9						
E24A	Baker	2.92	13	⇓P		Pn	18 07 02.4 +0.9
	baz=2.9,SNR=23						
E24A	Baker	2.92	13	⇓P		Pn	18 07 02.4 +0.9
	baz=2.9,SNR=23						
E21A	Keefer Ranch,	3.09	336	⇑P		Pn	18 07 03.2 -0.5
	baz=3.1						
E21A	Keefer Ranch,	3.09	336	⇑P		Pn	18 07 03.2 -0.5
	baz=3.1						
RLMT	Red Lodge	3.17	297	eP		Pn	18 07 04.5 -0.7
PDAR	Pinedale Array	3.26	254	Pn		Pn	18 07 07.0 +0.7
PDAR				Lg		Lg	18 07 55.0
PDAR	Pinedale Array	3.26	254	Pn		Pn	18 07 07.0 +0.7
	3.6nm,0.3s,baz=74,slow=11,SNR=74						
PDAR				Lg		Lg	18 07 55.0
	16nm,0.3s,baz=63,slow=30,SNR=12						
BW06	Boulder Array	3.26	254	eP		Pn	18 07 06.9 +0.5
H18A	Shoshone NF, C	3.29	288	⇓P		Pn	18 07 06.5 -0.2
	baz=3.3,SNR=10.0						
H18A	Shoshone NF, C	3.29	288	⇓P		Pn	18 07 06.5 -0.2
	baz=3.3,SNR=10.0						
F19A	Roth Farm, Mol	3.36	311	⇓P		Pn	18 07 08.2 +0.6
	baz=3.4,SNR=27						
F19A	Roth Farm, Mol	3.36	311	⇓P		Pn	18 07 08.2 +0.6
	baz=3.4,SNR=27						
G18A	Lazy EL Ranch,	3.45	299	⇑P		Pn	18 07 09.2 +0.4
	baz=3.5,SNR=18						
G18A	Lazy EL Ranch,	3.45	299	⇑P		Pn	18 07 09.2 +0.4
	baz=3.5,SNR=18						
D23A	Lindsay	3.45	1	⇑P		Pn	18 07 08.8 +0.1
	baz=3.4,SNR=18						
D23A	Lindsay	3.45	1	⇑P		Pn	18 07 08.8 +0.1
	baz=3.4,SNR=18						
D22A	Cohagen	3.48	350	⇑P		Pn	18 07 09.4 +0.2
	baz=3.5						
D22A	Cohagen	3.48	350	⇑P		Pn	18 07 09.4 +0.2
	baz=3.5						
N27A	Anderson Farm,	3.56	144	⇑P		Pn	18 07 11.5 +1.2
	baz=3.6,SNR=37						
N27A	Anderson Farm,	3.56	144	⇑P		Pn	18 07 11.5 +1.2
	baz=3.6,SNR=37						
N20A	Spence Gulch,	3.63	218	⇓P		Pn	18 07 12.5 +1.0
	baz=3.7,SNR=18						
N20A	Spence Gulch,	3.63	218	⇓P		Pn	18 07 12.5 +1.0
	baz=3.7,SNR=18						
OGNE	Ogallala	3.68	138	eP		Pn	18 07 12.6 +0.6
E19A	Rath Farm, Rou	3.69	319	⇓P		Pn	18 07 11.7 -0.3
	baz=3.7,SNR=17						
E19A	Rath Farm, Rou	3.69	319	⇓P		Pn	18 07 11.7 -0.3
	baz=3.7,SNR=17						
GCMT	Greycliff	3.74	305	eP		Pn	18 07 13.7 +0.9
LOHW	Long Hollow	3.86	270	eP		Pn	18 07 15.7 +1.1
FLWY	Flagg Ranch	3.93	277	eP		Pb	18 07 26.5 +2.6
L18A	Fontenelle, Gr	3.93	244	⇑P		Pn	18 07 16.2 +0.7
	baz=4.0,SNR=9.9						
L18A	Fontenelle, Gr	3.93	244	⇑P		Pn	18 07 16.2 +0.7
	baz=4.0,SNR=9.9						
ISCO	Idaho Springs	3.93	184	eP		Pn	18 07 16.5 +0.9
MOOW	Moose Ponds	3.95	272	eP		Pn	18 07 17.6 +1.8
SNOW	Snow King Moun	3.98	268	eP		Pb	18 07 23.9 -0.9
REDW	Red Top Meadow	4.06	267	eP		Pn	18 07 18.1 +0.8
YFT	Old Faithful	4.06	282	P		Pn	18 07 20.3 +2.9
IMW	Indian Meadow	4.09	274	eP		Pn	18 07 20.0 +2.2
O27A	Beecher Island	4.11	148	⇓P		Pn	18 07 18.9 +1.1
	baz=4.1,SNR=16						
O27A	Beecher Island	4.11	148	⇓P		Pn	18 07 18.9 +1.1
	baz=4.1,SNR=16						
TPAW	Teton Pass	4.12	269	eP		Pn	18 07 20.3 +2.1
E18A	Harlowton	4.33	313	⇑P		Pn	18 07 21.4 +0.4
	baz=4.3,SNR=19						
E18A	Harlowton	4.33	313	⇑P		Pn	18 07 21.4 +0.4
	baz=4.3,SNR=19						
RRI2	Red Ridge	4.40	267	eP		Pn	18 07 22.4 +0.4
P26A	Davis Ranch, A	4.41	160	⇓P		Pn	18 07 22.5 +0.5
	baz=4.4,SNR=29						
P26A	Davis Ranch, A	4.41	160	⇓P		Pn	18 07 22.5 +0.5
	baz=4.4,SNR=29						
O28A	Krutsinger Ran	4.45	143	⇑P		Pn	18 07 23.1 +0.6
	baz=4.5,SNR=19						
O28A	Krutsinger Ran	4.45	143	⇑P		Pn	18 07 23.1 +0.6
	baz=4.5,SNR=19						
P27A	Ficken Ranch,	4.63	153	⇓P		Pn	18 07 25.8 +0.7
	baz=4.6,SNR=20						
P27A	Ficken Ranch,	4.63	153	⇓P		Pn	18 07 25.8 +0.7
	baz=4.6,SNR=20						
E17A	Martinsdale	4.80	307	⇓P		Pn	18 07 28.2 +0.8
	baz=4.8,SNR=7.9						
E17A	Martinsdale	4.80	307	⇓P		Pn	18 07 28.2 +0.8
	baz=4.8,SNR=7.9						
DGMT	Dagmar	4.81	9	eP		Pn	18 07 28.9 +1.5
Q25A	Bedland, Calha	4.87	170	⇑P		Pn	18 07 28.9 +0.5
	baz=4.9,SNR=9.3						
Q25A	Bedland, Calha	4.87	170	⇑P		Pn	18 07 28.9 +0.5
	baz=4.9,SNR=9.3						
BOZ	Bozeman (W)	4.91	295	eP		Pn	18 07 26.7 -2.2
P28A	Saint Francis	4.92	146	⇑P		Pn	18 07 29.5 +0.5
	baz=4.9,SNR=9.0						
P28A	Saint Francis	4.92	146	⇑P		Pn	18 07 29.5 +0.5
	baz=4.9,SNR=9.0						
Q26A	Hugo	4.98	164	⇓P		Pn	18 07 30.4 +0.5
	baz=5.0,SNR=7.3						
Q26A	Hugo	4.98	164	⇓P		Pn	18 07 30.4 +0.5
	baz=5.0,SNR=7.3						
HWUT	Hardware Ranch	5.09	248	eP		Pn	18 07 30.9 -0.5
	18nm,0.5s						
D17A	Six Diamond Ra	5.12	314	⇓P		Pn	18 07 31.7 0.0
	baz=5.1,SNR=30						
D17A	Six Diamond Ra	5.12	314	⇓P		Pn	18 07 31.7 0.0
	baz=5.1,SNR=30						
EGMT	Eagleton	5.31	326	eP		Pn	18 07 33.3 -1.0
	17nm,0.7s						
DLMT	Dillon	5.47	290	P		Pn	18 07 34.8 -1.9
	3.7nm,0.7s						
HRY	Holter Researc	5.50	305	eP		Pn	18 07 36.6 -0.4
	14nm,0.5s						
DAU	Daniels Canyon	5.54	235	eP		Pn	18 07 36.8 -0.9
	17nm,0.6s						
MCMT	McKenzie Canyo	5.54	284	P		Pn	18 07 41.5 +3.8
	1.2nm,0.4s						
R26A	Arlington	5.59	165	⇑P		Pn	18 07 38.7 +0.4
	baz=5.6,SNR=29						
R26A	Arlington	5.59	165	⇑P		Pn	18 07 38.7 +0.4
	baz=5.6,SNR=29						
SPUT	South Promonto	5.82	248	eP		Pn	18 07 41.5 +0.1
	9.7nm,0.6s						
HVU	Hansel Valley	5.84	253	eP		Pn	18 07 41.0 -0.7
	11nm,0.7s						
PV04	Paradox Valley	5.99	208	eP		Pn	18 07 45.1 +1.4
R28A	Tribune	5.99	153	⇓P		Pn	18 07 43.7 +0.1
	baz=6.0,SNR=22						
R28A	Tribune	5.99	153	⇓P		Pn	18 07 43.7 +0.1
	baz=6.0,SNR=22						
MPU	Maple Canyon	6.01	234	P		Pn	18 07 45.2 +1.1
	13nm,0.7s						
SRU	San Rafael	6.06	222	P		Pn	18 07 40.9 -3.8
	18nm,0.5s						
S25A	Robets Cordova	6.09	174	⇓P		Pn	18 07 45.1 -0.1
	baz=6.1,SNR=14						
S25A	Robets Cordova	6.09	174	⇓P		Pn	18 07 45.1 -0.1
	baz=6.1,SNR=14						
PV01	Paradox Valley	6.11	205	eP		Pn	18 07 47.3 +1.7
	641nm,0.5s						
S26A	Kim	6.25	167	⇓P		Pn	18 07 47.5 +0.2
	baz=6.3,SNR=5.7						
S26A	Kim	6.25	167	⇓P		Pn	18 07 47.5 +0.2
	baz=6.3,SNR=5.7						
TMUT	Trail Mountain	6.27	227	eP		Pn	18 07 48.8 +1.0
	7.9nm,0.5s						
ECSD	EROS Data Cent	6.29	87	eP		Pn	18 07 45.9 -1.8
	6.6nm,0.4s						
BGU	Big Grassy Mou	6.38	247	eP		Pn	18 07 49.0 -0.2
	2.9nm,0.6s						
CHMT	Chamberlain Mo	6.46	302	eP		Pn	18 07 50.6 +0.4
	1.9nm,0.5s						
HLID	Hailey	6.62	272	eP		Pn	18 07 52.5 0.0
	3.2nm,0.8s						
DUG	Dugway	6.62	240	eP		Pn	18 07 53.3 +0.9
	4.9nm,0.4s						
S28A	Manter	6.65	156	⇑P		Pn	18 07 52.7 0.0
	baz=6.7,SNR=5.4						
S28A	Manter	6.65	156	⇑P		Pn	18 07 52.7 0.0
	baz=6.7,SNR=5.4						
T27A	Campo	6.94	163	⇑P		Pn	18 07 56.8 0.0
	baz=7.0,SNR=8.4						
T27A	Campo	6.94	163	⇑P		Pn	18 07 56.8 0.0
	baz=7.0,SNR=8.4						
T28A	Walsh	7.03	159	⇓P		Pn	18 07 57.8 -0.2
	baz=7.0,SNR=7.1						
T28A	Walsh	7.03	159	⇓P		Pn	18 07 57.8 -0.2
	baz=7.0,SNR=7.1						
MSU	Marysvale	7.36	227	eP		Pn	18 08 03.4 +0.8
	9.1nm,0.6s						
U28A	Mallet	7.70	161	⇑P		Pn	18 08 07.3 0.0
	baz=7.7,SNR=7.1						
U28A	Mallet	7.70	161	⇑P		Pn	18 08 07.3 0.0
	baz=7.7,SNR=7.1						
ULM	Lac du Bonnet	9.16	41	Pn		Pn	18 08 26.2 -0.8
ULM				Lg		Lg	18 10 59.9
ULM	Lac du Bonnet	9.16	41	Pn		Pn	18 08 26.2 -0.8
	1.0nm,0.3s,baz=235,slow=11,SNR=4.5						
ULM				Lg		Lg	18 10 59.9
	0.5nm,0.3s,baz=319,slow=19,SNR=2.4						
ULM				LR		LR	18 12 04.4
	comp=Z,60nm,21.0s,baz=41,slow=38						
NEW	Newport	9.40	303	Lg		Lg	18 11 09.9
	0.3nm,0.3s,baz=139,slow=12,SNR=2.8						
NVAR	Mina Array Bea	11.15	246	Pn		Pn	18 08 55.3 +0.7
NVAR	Mina Array Bea	11.15	246	Pn		Pn	18 08 55.3 +0.7
	0.1nm,0.3s,baz=53,slow=11,SNR=4.0						
YBH	Yreka Blue Hor	12.96	267	Pn		Pn	18 09 23.5 +4.2
YBH	Yreka Blue Hor	12.96	267	Pn		Pn	18 09 23.5 +4.2
	0.1nm,0.3s,baz=63,slow=9.0,SNR=4.6						
PFO	Pinyon Flat Ob	13.33	224	LR		LR	18 14 43.1
	comp=Z,88nm,19.2s,baz=319,slow=39						
BBB	Bella Bella	17.42	307	LR		LR	18 17 34.5
	comp=Z,88nm,19.1s,baz=135,slow=38						
YKA	Yellowknife Ar	19.58	347	P		Pn	18 10 45.5 +1.3
YKA	Yellowknife Ar	19.58	347	P		Pn	18 10 45.5 +1.3
	0.1nm,0.3s,baz=154,slow=12,SNR=3.3						
ARCES	ARCESS Array B	61.43	18	P		P	18 16 30.8 -0.5
ARCES	ARCESS Array B	61.43	18	P		P	18 16 30.8 -0.5
	0.7nm,0.6s,baz=340,slow=6.6,SNR=7.1						
FINES	FINESS Array B	68.05	23	P		P	18 17 14.2 -0.3
FINES	FINESS Array B	68.05	23	P		P	18 17 14.2 -0.3
	0.9nm,0.9s,baz=319,slow=6.1,SNR=3.2						
MDT	Midelt	75.02	59	LR		LR	18 46 50.7
	comp=Z,46nm,18.9s,baz=312,slow=32						
ZALV	Zalesovo Beam	82.32	354	P		P	18 18 36.0 -0.9
ZALV	Zalesovo Beam	82.32	354	P		P	18 18 36.0 -0.9
	0.6nm,0.6s,baz=20,slow=4.6,SNR=3.5						
SONM	Songino Array	84.64	339	P		P	18 18 49.5 +0.3
SONM	Songino Array	84.64	339	P		P	18 18 49.5 +0.3
	0.3nm,0.6s,baz=31,slow=3.4,SNR=2.8						
MKAR	Makanchi Array	89.62	355	P		P	18 19 12.5 -0.7
MKAR	Makanchi Array	89.62	355	P		P	18 19 12.5 -0.7
	0.5nm,0.7s,baz=9.8,slow=4.0,SNR=6.2						

IDC 30 18:08:43.5±10.0, 37.85S×136.96E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.4/17, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=138.2km s-min=47.5km az=163.0, Off south coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
STKA	Stephens Creek	7.07	34	Pn Pn	18 10 27.8	-0.5
	0.5nm,0.3s,baz=216,slow=15,SNR=6.9					
STKA				Sn Sn	18 11 50.6	+1.3
	1.4nm,0.3s,baz=312,slow=16,SNR=7.7					
ASAR	Alice Springs	14.38	349	Pn Pn	18 12 09.4	+1.0
	0.1nm,0.3s,baz=166,slow=10.0,SNR=5.0					
WRA	Warramunga Arr	17.99	352	P Pn	18 12 55.4	+0.3
	0.1nm,0.3s,baz=180,slow=13,SNR=3.6					
FITZ	Fitzroy Crossi	22.03	330	P P	18 13 39.5	-0.2
	1.7nm,1.0s,baz=148,slow=9.5,SNR=2.5					

*TIR **30** 18:27:18.7, 38.09N×20.15E, h60km*
*IDC **30** 18:27:18.5±0.6, 38.29N×20.37E, h0km, mb4.1/18, mb1 4.1/28, mb1mx4.1/41, mbtmp4.0/28, ML4.0/9, MS3.3/4, Ms1 3.3/4, ms1mx2.6/39, Error ellipse: s-maj=13.1km s-min=11.6km az=118.0*
*ISCJB **30** 18:27:19.7±0.4, 38.26N±0.02×20.12E±0.02, h19km±3km, mb4.2/28, MS3.4/4, Error ellipse: s-maj=3.1km s-min=1.8km az=39.3*
*ATH **30** 18:27:20.0, 38.22N×20.24E, h19km, MD3.8/40, ML4.0*
*SKO **30** 18:27:20.9, 38.17N×20.14E, h19km*
*PDG **30** 18:27:20.4±0.7, 38.25N×20.21E, h17km±1km, ML4.3/9, Error ellipse: s-maj=1.1km s-min=1.2km az=0.0*
*CSEM **30** 18:27:20.2±0.1, 38.22N×20.17E, h10km, mb4.2/23, Error ellipse: s-maj=3.6km s-min=1.9km az=44.0*
*THE **30** 18:27:21.4, 38.23N×20.30E, h4km, ML4.0/8, Error ellipse: s-maj=1.0km s-min=0.5km az=224.0*
*PRU **30** 18:27:22.6, 38.18N×20.29E, h26km*
*MOS **30** 18:27:22.1±1.2, 38.38N×20.19E, h34km, mb4.3/22, Error ellipse: s-maj=9.7km s-min=4.3km az=78.6*
*HLW **30** 18:27:22.9, 38.17N×20.99E, h30km±30km, Md4.4, Ml4.1*

ISC 30 18:27:20.6±0.9, 38.24N±0.02×20.26E±0.02, h14km±6km, n442, σ1°28/553, mb4.3/28, MS3.3/4, 29C-36D, Greece

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
VLS	Valsamata	0.27	103	P Pg	18 27 25.9	-0.3
VLS				S Sg	18 27 29.5	-0.5
VLS	Valsamata	0.27	103	ePB Pg	18 27 26.0	-0.3
VLS	Valsamata	0.27	103	ePb Pg	18 27 26.0	-0.3
KFL	Anninata	0.43	107	P Pg	18 27 28.7	-0.5
KFL				S Sg	18 27 34.7	-0.4
KFL	Anninata	0.43	107	P Pg	18 27 28.7	-0.5
KFL				S Sg	18 27 33.9	-1.2
LKD2	Lefkada island	0.63	29	P Pg	18 27 32.5	-0.5
LKD2				S Sb	18 27 42.7	+0.5
LKD2	Lefkada island	0.63	29	ePB Pg	18 27 32.5	-0.5
LKD2				eSN Sb	18 27 42.3	+0.1
LKD2	Lefkada island	0.63	29	P Pg	18 27 32.5	-0.5
LKD2				eSn Sb	18 27 42.3	+0.1
AXS	Araxos	0.88	92	P Pb	18 27 36.5	-1.1
AXS				S Sn	18 27 50.6	-0.5
AXS	Araxos	0.88	92	P Pb	18 27 36.3	-1.3
AXS				S Sn	18 27 50.6	-0.5
RLS	Riolos of Patr	0.97	100	P Pb	18 27 38.8	-0.4
RLS				S Sn	18 27 53.2	-0.1
RLS	Riolos of Patr	0.97	100	ePN Pb	18 27 38.7	-0.4
RLS				eSN Sn	18 27 53.1	-0.2
RLS	Riolos of Patr	0.97	100	P Pb	18 27 38.8	-0.4
RLS				eSn Sn	18 27 53.1	-0.2
RLS				S Sg	18 27 54.4	+2.5
SFD	Strofades	1.15	149	P Pb	18 27 42.5	+0.2
SFD				S Sg	18 27 58.6	+0.8
SFD	Strofades	1.15	149	P Pb	18 27 42.5	+0.2
SFD				S Sg	18 27 58.6	+0.8
PSA1	Psathopyrgos	1.28	86	ePN Pb	18 27 45.0	+0.6
PSA1				eSN Sg	18 28 01.9	+0.1
IGT	Igoumenitsa	1.29	2	P Pb	18 27 45.0	+0.3
IGT				S Sg	18 28 04.5	+2.2
IGT	Igoumenitsa	1.29	2	P Pb	18 27 45.0	+0.3
EFP	Efpalio	1.31	81	P Pg	18 27 45.7	0.0
EFP				S Sg	18 28 03.4	+0.7
EFP	Efpalio	1.31	81	ePN Pg	18 27 45.7	0.0
EFP				eSN Sg	18 28 03.4	+0.7
EFP	Efpalio	1.31	81	P Pg	18 27 45.7	0.0
EFP				S Sg	18 28 03.5	+0

KEK eSn Sb 18 28 08.8 +1.2
SRN Sarande 1.65 353 ePN Pb 18 27 50.4 -0.4
SRN iSN Sg 18 28 13.7 -0.1
SRN Sarande 1.65 353 P Pb 18 27 50.4 -0.4
SRN S Sg 18 28 13.4 -0.4
SRN Sarande 1.65 353 P Pb 18 27 50.4 -0.4
SRN iSn Sg 18 28 13.7 -0.1
MAKR Makrakomi, Fth 1.66 62 P Pb 18 27 50.8 -0.1
MAKR Makrakomi, Fth 1.66 62 P Pb 18 27 50.8 -0.1
GUR Goura 1.67 100 P Pn 18 27 49.7 +0.2
GUR S Sb 18 28 12.3 +0.2
GUR Goura 1.67 100 ePN Pn 18 27 50.3 +0.8
GUR eSN Sb 18 28 13.1 +1.0
GUR Goura 1.67 100 P Pn 18 27 49.8 +0.2
GUR Goura 1.67 100 ePn Pn 18 27 50.3 +0.8
GUR S Sb 18 28 12.3 +0.2
GUR eSn Sb 18 28 13.1 +1.0
ITM Ithomi 1.69 128 P Pn 18 27 50.4 +0.6
ITM S Sb 18 28 12.9 +0.2
ITM Ithomi 1.69 128 ePN Pn 18 27 50.7 +0.9
ITM eSN Sg 18 28 14.0 -1.0
ITM Ithomi 1.69 128 P Pn 18 27 50.4 +0.6
ITM Ithomi 1.69 128 ePn Pn 18 27 50.7 +0.9
ITM S Sb 18 28 12.9 +0.2
ITM eSn Sg 18 28 14.0 -1.0
PYL PYLOS 1.78 138 P Pn 18 27 51.3 +0.3
PYL PYLOS 1.78 138 ePB Pn 18 27 51.2 +0.3
PYL eSN Sb 18 28 14.9 -0.4
PYL PYLOS 1.78 138 P Pn 18 27 51.3 +0.3
PYL eSn Sb 18 28 14.9 -0.4
DSF Desfina 1.79 84 P Pn 18 27 52.0 +0.9
DSF S Sb 18 28 15.6 +0.1
DSF Desfina 1.79 84 P Pn 18 27 52.5 +0.4
DSF S Sb 18 28 15.6 +0.1
AGG Agios Georgios 1.80 64 P Pn 18 27 52.3 +1.0
AGG Agios Georgios 1.80 64 ePN Pb 18 27 53.3 0.0
AGG eSN Sb 18 28 16.4 +0.6
AGG Agios Georgios 1.80 64 P Pn 18 27 52.3 +1.0
AGG Agios Georgios 1.80 64 ePn Pb 18 27 53.3 0.0
AGG eSn Sb 18 28 16.4 +0.6
VLX Vlachokerasia 1.89 117 P Pb 18 27 56.1 +1.2
VLX Vlachokerasia 1.89 117 ePN Pb 18 27 54.4 -0.5
VLX Vlachokerasia 1.89 117 ePn Pb 18 27 54.4 -0.5
THAL Thalero 1.90 95 P Pb 18 27 54.6 -0.5
THAL Thalero 1.90 95 P Pb 18 27 54.6 -0.5
THL Klokotos Trika 1.90 45 P Pb 18 27 55.0 -0.2
THL S Sb 18 28 18.9 +0.2
THL Klokotos Trika 1.90 45 ePN Pb 18 27 54.9 -0.2
THL eSN Sb 18 28 19.1 +0.4
THL Klokotos Trika 1.90 45 ePn Pb 18 27 54.9 -0.2
THL S Sb 18 28 18.9 +0.2
AXAR Agios Charalam 1.95 74 P Pb 18 27 55.5 -0.5
AXAR S Sb 18 28 20.8 +0.6
AXAR Agios Charalam 1.95 74 P Pb 18 27 55.5 -0.5
AXAR S Sb 18 28 20.5 +0.3
LTK Loutraki 2.14 95 P Pn 18 27 57.0 +1.1
LTK Loutraki 2.14 95 ePN Pn 18 27 57.1 +1.1
LTK Loutraki 2.14 95 ePn Pn 18 27 57.1 +1.1
LKR Lokris 2.19 78 ePN Pn 18 27 57.9 +1.3
LKR Lokris 2.19 78 ePn Pn 18 27 57.9 +1.3
DYR Agios Nikonas 2.21 131 P Pn 18 27 58.5 +1.6
DYR Agios Nikonas 2.21 131 ePN Pb 18 27 58.8 -1.6
DYR Agios Nikonas 2.21 131 P Pn 18 27 58.5 +1.6
DYR Agios Nikonas 2.21 131 ePn Pb 18 27 58.8 -1.6
NEST Nestorio 2.26 15 P Pn 18 27 58.8 +1.2
NEST Nestorio 2.26 15 P Pn 18 27 58.8 +1.2
KZN Kozani 2.37 29 P Pn 18 28 01.2 +2.0
KZN Kozani 2.37 29 ePB Pn 18 28 01.3 +2.0
KZN Kozani 2.37 29 P Pn 18 28 01.2 +2.0
SMIA Simia 2.40 74 P Pn 18 28 01.0 +1.5
SMIA Simia 2.40 74 P Pn 18 28 01.0 +1.5
KBN Korca 2.42 10 P Pn 18 28 01.8 +2.0
KBN Korca 2.42 10 P Pn 18 28 01.8 +2.0
DIDY Didyma 2.46 107 P Pn 18 28 00.9 +0.6
DIDY S Sn 18 28 32.5 +2.3
DIDY Didyma 2.46 107 P Pn 18 28 00.9 +0.6
DIDY S Sn 18 28 32.5 +2.3
DID Didima 2.46 106 P Pn 18 28 01.9 +1.5
DID Didima 2.46 106 ePB Pn 18 28 02.2 +1.8
DID eSN Sn 18 28 31.5 +1.2
DID Didima 2.46 106 P Pn 18 28 01.9 +1.5
DID Didima 2.46 106 ePb Pn 18 28 02.2 +1.8
DID eSn Sn 18 28 31.5 +1.2
LIT Litokhoron 2.54 42 P Pn 18 28 03.1 +1.7
LIT Litokhoron 2.54 42 P Pn 18 28 03.1 +1.7
NEO Neokhori 2.55 64 P Pn 18 28 03.0 +1.4
NEO Neokhori 2.55 64 ePN Pn 18 28 03.2 +1.6
NEO Neokhori 2.55 64 P Pn 18 28 03.0 +1.4
XOR Xorichti 2.55 63 P Pn 18 28 02.7 +1.1
XOR Xorichti 2.55 63 P Pn 18 28 02.7 +1.1
NAIG Nisos Aigina 2.59 100 ePN Pn 18 28 03.7 +1.6
NAIG Nisos Aigina 2.59 100 ePn Pn 18 28 03.7 +1.6
VLI Veliai 2.61 125 P Pn 18 28 04.1 +1.7
VLI Veliai 2.61 125 ePB Pn 18 28 04.6 +2.2
VLI Veliai 2.61 125 P Pn 18 28 04.1 +1.7
VLI Veliai 2.61 125 ePb Pn 18 28 04.6 +2.2
MRKA Markates 2.65 79 P Pn 18 28 03.6 +0.6
MRKA Markates 2.65 79 P Pn 18 28 03.6 +0.6
SKIA Skiathos 2.67 69 P Pn 18 28 04.5 +1.3
SKIA Skiathos 2.67 69 P Pn 18 28 04.5 +1.3
FNA Florina 2.68 18 P Pn 18 28 05.2 +1.8
FNA Florina 2.68 18 P Pn 18 28 05.2 +1.8
ATH Athens Observa 2.74 95 P Pn 18 28 05.5 +1.3
ATH Athens Observa 2.74 95 ePN Pn 18 28 05.4 +1.3
ATH eSN Sn 18 28 38.9 +1.9
ATH Athens Observa 2.74 95 ePn Pn 18 28 05.4 +1.3
ATH eSn Sn 18 28 38.9 +1.9
ATHU Athens Univers 2.79 95 P Pn 18 28 05.9 +1.0
ATHU S Sn 18 28 39.7 +1.3
ATHU Athens Univers 2.79 95 P Pn 18 28 05.9 +1.0
ATHU S Sn 18 28 39.7 +1.3
PTL Penteli 2.85 93 P Pn 18 28 06.9 +1.2
PTL S Sn 18 28 41.3 +1.5
PTL Penteli 2.85 93 ePN Pn 18 28 06.9 +1.2
PTL Penteli 2.85 93 P Pn 18 28 06.9 +1.2
PTL S Sn 18 28 41.3 +1.5
BIA Bitola 2.90 16 P Pn 18 28 08.1 +1.7
BIA Bitola 2.90 16 ePn Pn 18 28 08.4 +2.0
BIA Bitola 2.90 16 P Pn 18 28 08.1 +1.7
TIP Timpagrande 2.90 290 P Pn 18 28 08.6 +2.1
TIP S Sn 18 28 42.8 +1.7
KYTH Kithira 2.95 131 P Pn 18 28 09.9 +2.8
KYTH Kithira 2.95 131 ePN Pn 18 28 08.1 +1.0
KYTH Kithira 2.95 131 ePn Pn 18 28 08.1 +1.0
KYTH Kithira 2.95 131 P Pn 18 28 09.9 +2.8
AOS Alonnisos 2.98 71 P Pn 18 28 08.6 +1.2
AOS S Sn 18 28 44.0 +1.0
AOS Alonnisos 2.98 71 ePN Pn 18 28 08.3 +0.9
AOS Alonnisos 2.98 71 ePn Pn 18 28 08.3 +0.9
AOS Alonnisos 2.98 71 P Pn 18 28 08.6 +1.2
AOS S Sn 18 28 44.0 +1.0
TIR Tirane 3.12 354 P Pn 18 28 11.0 +1.6
TIR Tirane 3.12 354 P Pn 18 28 11.0 +1.6
PAIG Paliouri 3.15 57 P Pn 18 28 10.3 +0.5
PAIG Paliouri 3.15 57 ePN Pn 18 28 10.4 +0.6
PAIG Paliouri 3.15 57 ePn Pn 18 28 10.4 +0.6
THE Thessaloniki 3.18 40 P Pn 18 28 11.5 +1.4
THE Thessaloniki 3.18 40 P Pn 18 28 11.5 +1.4
GRG Griva 3.18 31 P Pn 18 28 11.1 +0.9
GRG Griva 3.18 31 ePN Pn 18 28 10.9 +0.7
GRG Griva 3.18 31 P Pn 18 28 11.1 +0.9
HORT Hortiatis 3.22 42 P Pn 18 28 11.9 +1.0
HORT Hortiatis 3.22 42 P Pn 18 28 11.9 +1.0
PLG Polygyros 3.26 48 P Pn 18 28 12.6 +1.2
PLG Polygyros 3.26 48 ePN Pn 18 28 12.5 +1.2
PLG Polygyros 3.26 48 P Pn 18 28 12.6 +1.2
ANKY Antikythira Is 3.39 133 ePN Pn 18 28 15.1 +2.0
ANKY Antikythira Is 3.39 133 ePn Pn 18 28 15.1 +2.0
PHP Peshkopia 3.44 2 ePN Pn 18 28 15.3 +1.4
PHP iSN Sn 18 28 57.1 +2.6
PHP Peshkopia 3.44 2 P Pn 18 28 15.6 +1.7
PHP S Sn 18 28 57.6 +3.1
PHP Peshkopia 3.44 2 ePn Pn 18 28 15.3 +1.4
PHP Peshkopia 3.44 2 P Pn 18 28 15.6 +1.7
PHP iSn Sn 18 28 57.2 +2.6
SOH Sokhos 3.52 42 P Pn 18 28 16.3 +1.4
SOH Sokhos 3.52 42 ePN Pn 18 28 16.4 +1.5
SOH Sokhos 3.52 42 P Pn 18 28 16.3 +1.4
VAY Valandovo 3.55 29 P Pn 18 28 17.3 +1.9

VAY Valandovo 3.55 29 ePn Pn 18 28 17.4 +2.1
VAY Valandovo 3.55 29 P Pn 18 28 17.3 +1.9
KNT Kendrikon 3.56 34 P Pn 18 28 16.2 +0.8
KNT Kendrikon 3.56 34 P Pn 18 28 16.2 +0.8
OUR Ouranopolis 3.56 53 P Pn 18 28 16.8 +1.3
OUR Ouranopolis 3.56 53 P Pn 18 28 16.8 +1.3
ULC Ulcinj 3.80 348 ⇓iPn Pn 18 28 18.6 -0.2
ULC eSn Sn 18 29 03.1 -0.2
ULC Ulcinj 3.80 348 ⇓iPn Pn 18 28 18.6 -0.2
ULC eSn Sn 18 29 03.1 -0.2
PUK Puka 3.81 356 ePN Pn 18 28 19.9 +1.0
PUK iSN Pg 18 28 30.8 -2.7
PUK Puka 3.81 356 ePn Pn 18 28 19.9 +1.0
SKO Skopje 3.84 13 P Pn 18 28 21.0 +1.8
SKO Skopje 3.84 13 ePn Pn 18 28 21.2 +2.0
SKO Skopje 3.84 13 P Pn 18 28 21.0 +1.8
SRS Serrai 3.85 41 P Pn 18 28 20.3 +0.8
SRS Serrai 3.85 41 P Pn 18 28 20.3 +0.8
KARN Karanos 4.08 133 P Pn 18 28 23.9 +1.3
KARN S Sn 18 29 11.0 +0.9
KARN Karanos 4.08 133 P Pn 18 28 23.9 +1.3
KARN S Sn 18 29 11.0 +0.9
NVR Nevrokopi 4.16 41 P Pn 18 28 24.8 +1.0
NVR Nevrokopi 4.16 41 ePN Pn 18 28 25.2 +1.4
NVR Nevrokopi 4.16 41 P Pn 18 28 24.8 +1.0
NVR Nevrokopi 4.16 41 ePn Pn 18 28 25.2 +1.4
LIA Limnos Island 4.17 65 P Pn 18 28 25.0 +1.2
LIA Limnos Island 4.17 65 ePN Pn 18 28 25.2 +1.4
LIA Limnos Island 4.17 65 ePn Pn 18 28 25.2 +1.4
BUM Brajici-Budva 4.19 346 ⇓iPn Pn 18 28 24.5 +0.3
BUM eSn Sn 18 29 12.9 0.0
BUM Brajici-Budva 4.19 346 ⇓iPn Pn 18 28 24.5 +0.3
BUM eSn Sn 18 29 12.9 0.0
PDG Podgorica 4.26 350 P Pn 18 28 25.6 +0.6
PDG S Sn 18 29 14.9 +0.4
PDG Podgorica 4.26 350 ⇑iPn Pn 18 28 25.3 +0.3
PDG Podgorica 4.26 350 P Pn 18 28 25.6 +0.6
PDG eSn Sn 18 29 14.7 +0.2
TTG Podgorica 4.26 350 ⇑iPn Pn 18 28 25.3 +0.3
TTG eSn Sn 18 29 14.7 +0.2
KAVA Kavala 4.29 49 P Pn 18 28 26.5 +1.1
KAVA Kavala 4.29 49 P Pn 18 28 26.5 +1.1
APE Apeiranthos 4.34 104 eP Pn 18 28 30.3 +4.1
APE Apeiranthos 4.34 104 ePN Pn 18 28 29.3 +3.1
APE Apeiranthos 4.34 104 ePn Pn 18 28 29.3 +3.1
APE Apeiranthos 4.34 104 eP Pn 18 28 30.3 +4.1
PVY Plav 4.36 357 ⇑iPn Pn 18 28 27.7 +1.2
PVY eSn Sn 18 29 17.0 -0.1
PVY Plav 4.36 357 ⇑iPn Pn 18 28 27.7 +1.2
PVY eSn Sn 18 29 17.0 -0.1
HCY Herceg Novi 4.42 343 ⇓iPn Pn 18 28 27.0 -0.2
HCY eSn Sn 18 29 18.1 -0.3
HCY Herceg Novi 4.42 343 ⇓iPn Pn 18 28 27.0 -0.2
HCY eSn Sn 18 29 18.1 -0.3
CHOS Chios island 4.56 86 ePN Pn 18 28 31.0 +1.8
CHOS Chios island 4.56 86 ePn Pn 18 28 31.0 +1.8
BEY Berane 4.64 357 ⇓iPn Pn 18 28 31.6 +1.3
BEY eSn Sn 18 29 24.1 +0.1
IVA Berane 4.64 357 ⇓iPn Pn 18 28 31.6 +1.3
IVA eSn Sn 18 29 24.1 +0.1
SMTH Samothraki Isl 4.65 60 ePN Pn 18 28 32.0 +1.5
SMTH Samothraki Isl 4.65 60 ePn Pn 18 28 32.0 +1.5
NKY Niksic 4.67 348 ⇑iPn Pn 18 28 31.4 +0.6
NKY eSn Sn 18 29 24.2 -0.6
NKY Niksic 4.67 348 ⇑iPn Pn 18 28 31.4 +0.6
NKY eSn Sn 18 29 24.2 -0.6
BARJS Barje 4.72 14 ⇑iPn Pn 18 28 29.9 +0.5
PRK Paraskevi 4.80 76 ePN Pn 18 28 35.6 +3.1
PRK Paraskevi 4.80 76 ePn Pn 18 28 35.6 +3.1
BRY Bratogost 4.84 345 ⇓iPn Pn 18 28 33.0 -0.1
BRY eSn Sn 18 29 28.8 -0.2
BRY Bratogost 4.84 345 ⇓iPn Pn 18 28 33.0 -0.1
BRY eSn Sn 18 29 28.8 -0.2
VTS Vitosha 4.89 26 P Pn 18 28 35.4 +1.5
VTS Vitosha 4.89 26 ⇑P Pn 18 28 35.2 +1.3
VTS S Sn 18 29 30.2 -0.2
VTS Vitosha 4.89 26 ⇑iP Pn 18 28 35.2 +1.3
VTS Vitosha 4.89 26 P Pn 18 28 35.2 +1.3
VTS S Sn 18 29 30.2 -0.2
RDO Rodhopi 5.00 53 P Pn 18 28 36.4 +1.2
RDO Rodhopi 5.00 53 ePN Pn 18 28 36.4 +1.2
RDO Rodhopi 5.00 53 P Pn 18 28 36.4 +1.2
SJES Sjenica 5.02 358 ⇓iPn Pn 18 28 35.5 -0.1
STON Ston 5.02 338 ePn Pn 18 28 34.8 -0.7
STON S Sn 18 29 30.3 -3.0
STON Ston 5.02 338 ePn Pn 18 28 34.8 -0.7
STON S Sn 18 29 30.3 -3.0
UPM Unac-Piva 5.07 349 ⇑iPn Pn 18 28 36.7 +0.4
UPM eSn Sn 18 29 33.6 -1.1
UPM Unac-Piva 5.07 349 ⇑iPn Pn 18 28 36.7 +0.4
UPM eSn Sn 18 29 33.6 -1.1
PLE Pljevlja 5.13 353 ⇑iPn Pn 18 28 38.3 +1.2
PLE eSn Sn 18 29 35.5 -0.7
PLE Pljevlja 5.13 353 ⇑iPn Pn 18 28 38.3 +1.2
PLE eSn Sn 18 29 35.5 -0.7
SMG Samos 5.22 94 ePN Pn 18 28 39.6 +1.3
SMG Samos 5.22 94 ePn Pn 18 28 39.6 +1.3
DIVS Divibare 5.86 358 P Pn 18 28 47.3 +0.2
DIVS S Sn 18 29 51.9 -2.2
DIVS Divibare 5.86 358 P Pn 18 28 47.3 +0.2
DIVS S Sn 18 29 51.9 -2.2
EDRB Edirne 6.14 52 P Pn 18 28 51.9 +1.0
EDRB Edirne 6.14 52 P Pn 18 28 51.9 +1.0
LTBQ Tobruq 6.86 153 iP Pn 18 29 01.6 +0.8
SNR=34
UDBI Udbina 7.13 333 ePn Pn 18 29 06.3 +1.6
UDBI Sn Sn 18 30 23.1 -2.3
UDBI Udbina 7.13 333 ePn Pn 18 29 06.2 +1.6
UDBI Sn Sn 18 30 23.1 -2.3
NVLJ Novalja 7.50 329 iPn Pn 18 29 10.4 +0.9
NVLJ Sn Sn 18 30 31.5 -2.9
NVLJ Novalja 7.50 329 iPn Pn 18 29 10.4 +0.9
NVLJ Sn Sn 18 30 31.5 -2.9
VOIR 8.03 25 ⇓P Pn 18 29 18.7 +1.8
VOIR 8.03 25 ⇓iP Pn 18 29 18.7 +1.8
VOIR 8.03 25 P Pn 18 29 18.7 +1.8
PKSM Moragy 8.06 352 ⇓P Pn 18 29 15.1 -2.1
PKSM Moragy 8.06 352 ⇓iP Pn 18 29 15.2 -2.1
PKSM Moragy 8.06 352 ie Pn 18 29 16.2 -1.0
PKSM e 18 30 41.8
PKSM Moragy 8.06 352 P Pn 18 29 15.1 -2.1
BOJS Bojanci 8.16 334 iPn Pn 18 29 19.2 +0.6
MLR Muntele Rosu 8.39 29 ⇑iP Pn 18 29 24.3 +2.4
MLR Muntele Rosu 8.39 29 Pn Pn 18 29 23.6 +1.7
0.2nm,0.3s,baz=221,slow=4.7,SNR=21
MLR Muntele Rosu 8.39 29 P Pn 18 29 24.3 +2.4
PKS9 Tamasi 8.47 351 ⇓e Pn 18 29 22.2 -0.6
PKS9 e 18 30 53.3
PKS9 Tamasi 8.47 351 ⇓eP Pn 18 29 22.2 -0.6
VISS Visnje 8.57 334 iPn Pn 18 29 24.6 +0.4
SKDS Skadanscina 8.66 329 iPn Pn 18 29 25.3 -0.1
DRGR 8.74 11 ⇓P Pn 18 29 26.3 -0.3
DRGR 8.74 11 ⇓iP Pn 18 29 26.3 -0.3
DRGR 8.74 11 P Pn 18 29 26.3 -0.3
PDKS Podkum 8.74 335 iPn Pn 18 29 26.8 +0.2
LJU Ljubljana 8.88 333 ePn Pn 18 29 29.0 +0.5
LJU eSn Sn 18 31 06.8 -1.6
PLOR Plostina 8.96 30 ⇓P Pn 18 29 31.7 +2.0
PLOR Plostina 8.96 30 ⇓iP Pn 18 29 31.7 +2.0
PLOR Plostina 8.96 30 P Pn 18 29 31.7 +2.0
VRI Vrincioaia 9.01 30 ⇓P Pn 18 29 31.8 +1.6
VRI Vrincioaia 9.01 30 ⇓iP Pn 18 29 31.8 +1.6
VRI Vrincioaia 9.01 30 P Pn 18 29 31.8 +1.6
KEST Kesra 9.09 257 Pn Pn 18 29 32.3 +0.9
0.2nm,0.3s,baz=121,slow=12,SNR=4.5
KEST Sn Sn 18 31 13.6 0.0
0.1nm,0.3s,baz=61,slow=19,SNR=2.9
VOY Vojsko 9.11 331 ⇓ePn Pn 18 29 31.9 +0.2
VOY eSn Sn 18 31 08.7 -5.3
PKSG 9.25 352 e Sn 18 31 15.7 -1.6
PKSG 9.25 352 eS Sn 18 31 15.7 -1.6
SOKA Soboth 9.27 337 ⇓iPn Pn 18 29 33.2 -0.7
SNR=29
SOKA ⇓iSn Sn 18 31 12.1 -6.0
SOKA Soboth 9.27 337 Pn Pn 18 29 33.2 -0.7
SNR=29
OBKA Obir 9.28 335 ⇓iPn Pn 18 29 34.3 +0.2
SNR=15
OBKA ⇓iSn Sn 18 31 11.9 -6.4
OBKA Obir 9.28 335 Pn Pn 18 29 34.3 +0.2
SNR=15
PGF Pioggiola 9.61 300 eP Pn 18 29 39.6 +1.0
36nm,1.2s
PGF Pioggiola 9.61 300 eP Pn 18 29 39.6 +1.0
35nm,1.2s
ARSA Arzberg 9.65 340 ⇑iPn Pn 18 29 38.2 -0.9
SNR=6.9
ARSA ⇑iSn Sn 18 31 21.0 -6.4
ARSA Arzberg 9.65 340 Pn Pn 18 29 38.2 -0.9
SNR=6.9
PSZ Piszkesteto 9.68 359 ⇓e Pn 18 29 39.2 -0.3
PSZ e 18 31 21.5
PSZ Piszkesteto 9.68 359 ⇓eP Pn 18 29 39.2 -0.3
MYKA Terra Mystica 9.71 332 ⇓iPn Pn 18 29 40.3 +0.5
MYKA ⇑iSn Sn 18 31 23.9 -4.7
MYKA Terra Mystica 9.71 332 Pn Pn 18 29 40.3 +0.5
SWA2 9.96 153 S Sn 18 31 25.1 -10
baz=156
SWA2 AMP 18 31 00.0
comp=E,70µm,0.5s,logA/T=5.2,baz=156
SWA2 9.96 153 P Pn 18 29 40.8 -2.5
SWA2 S Sn 18 31 25.1 -10
BURAR Bucovina Array 10.05 20 ⇑P Pn 18 29 46.1 +1.6
BURAR Bucovina Array 10.05 20 ⇑iP Pn 18 29 46.1 +1.6
KBA Koelnbreinsper 10.19 332 ⇓iPn Pn 18 29 46.8 +0.2
KBA ⇑iSn Sn 18 31 36.3 -4.5
KBA Koelnbreinsper 10.19 332 Pn Pn 18 29 46.8 +0.2
KECS Kecovo 10.24 1 eP Pn 18 29 47.3 +0.2
KECS e 18 31 35.6
KECS Kecovo 10.24 1 ePN Pn 18 29 47.3 +0.2
KECS eSN Sn 18 31 35.6 -6.1
KECS Kecovo 10.24 1 eP Pn 18 29 47.3 +0.2
ABTA Abfaltersbach 10.24 329 ⇑iPn Pn 18 29 47.6 +0.4
ABTA ⇑iSn Sn 18 31 35.9 -6.0
ABTA Abfaltersbach 10.24 329 Pn Pn 18 29 47.6 +0.4
VYHS Vyhne 10.30 355 eP Pn 18 29 48.1 +0.1
VYHS e 18 31 34.8
VYHS Vyhne 10.30 355 ePN Pn 18 29 48.1 +0.1
VYHS eSN Sn 18 31 34.8 -8.4
VYHS Vyhne 10.30 355 eP Pn 18 29 48.1 +0.1
BRTR Keskin Array B 10.52 78 Pn Pn 18 29 49.4 -1.7
comp=E,0.1nm,0.3s,baz=268,slow=12,SNR=2.6
MOA Molln 10.56 337 ⇓iPn Pn 18 29 51.2 -0.3
SNR=9.7
MOA ⇓iSn Sn 18 31 44.8 -4.7
MOA Molln 10.56 337 Pn Pn 18 29 51.2 -0.3
SNR=9.7
KOLS Kolonicke sedl 10.79 7 eP Pn 18 29 55.5 +0.9
KOLS e 18 31 50.7
KOLS Kolonicke sedl 10.79 7 ePN Pn 18 29 55.5 +0.9
KOLS eSN Sn 18 31 50.7 -4.4
KOLS Kolonicke sedl 10.79 7 eP Pn 18 29 55.5 +0.9
WTTA Wattenberg 11.02 328 ⇑iPn Pn 18 29 58.0 +0.1
SNR=7.2
WTTA ⇑iSn Sn 18 31 57.0 -4.0
WTTA Wattenberg 11.02 328 Pn Pn 18 29 58.0 +0.1
SNR=7.2
WATA Walderalm 11.10 328 ⇓iPn Pn 18 29 59.3 +0.3
SNR=14
WATA Walderalm 11.10 328 Pn Pn 18 29 59.3 +0.3
SNR=14
SBF Sospel 11.19 304 eP Pn 18 29 58.5 -1.7
comp=E,14nm,0.7s
SBF Sospel 11.19 304 eP Pn 18 29 58.5 -1.7
comp=E,14nm,0.7s
STHS Stebnicka Huta 11.20 3 eP Pn 18 30 00.6 +0.4
STHS e 18 31 59.5
STHS Stebnicka Huta 11.20 3 ePN Pn 18 30 00.6 +0.4
STHS eSN Sn 18 31 59.5 -5.6
STHS Stebnicka Huta 11.20 3 eP Pn 18 30 00.6 +0.4
MOTA Moosalm 11.31 326 ⇑iPn Pn 18 30 01.5 -0.3
SNR=10
MOTA ⇑iSn Sn 18 32 02.3 -5.8
MOTA Moosalm 11.31 326 Pn Pn 18 30 01.5 -0.3
SNR=10
VRAC Vranov 11.38 348 Pn Pn 18 30 02.7 +0.1
comp=E,0.1nm,0.3s,baz=184,slow=16,SNR=2.7
VRAC Vranov 11.38 348 P Pn 18 30 02.7 +0.1
DAVOX Davos/Dischmat 11.46 321 Pn Pn 18 30 05.3 +1.3
comp=E,1.0nm,0.3s,baz=114,slow=15,SNR=7.2
DAVOX Sn Sn 18 32 06.8 -5.1
comp=E,1.4nm,0.3s,baz=223,slow=19,SNR=5.0
DAVOX Davos/Dischmat 11.46 321 P Pn 18 30 05.3 +1.3
comp=E,1.0nm,0.3s
TREC Trest 11.57 344 AMS AMS 18 35 20.0
comp=E,100nm,11.3s
GERES GERESS Array B 11.62 338 Pn Pn 18 30 05.2 -0.8
comp=E,1.0nm,0.3s,baz=158,slow=14,SNR=9.4
GERES Sn Sn 18 32 08.0 -7.5
comp=E,1.5nm,0.3s,baz=150,slow=23,SNR=8.4
GERES GERESS Array B 11.62 338 P Pn 18 30 05.2 -0.8
comp=E,1.0nm,0.3s
OKC Ostrava-Krasne 11.69 353 AMS AMS 18 35 30.0
comp=E,100nm,11.8s
KHC Kasperske Hory 11.91 338 eP Pn 18 30 09.1 -0.8
KHC e 18 32 16.7
KHC MLR MLR
comp=Z,100nm,10.8s
KHC Kasperske Hory 11.91 338 eP Pn 18 30 09.1 -0.8
KHC eS Sn 18 32 16.7 -5.9
KHC AMS AMS 18 35 50.0
comp=Z,100nm,10.8s
KHC Kasperske Hory 11.91 338 Pn Pn 18 30 09.1 -0.8
MBDF Montbardon 12.01 307 eP Pn 18 30 14.8 +3.4
AWBH 12.24 141 P Pn 18 30 11.8 -2.7
baz=143
AWBH 12.24 141 P Pn 18 30 11.9 -2.7
LPG La Plagne 12.40 310 eP Pn 18 30 16.8 -0.1
comp=Z,2.7nm,0.3s
LPG La Plagne 12.40 310 eP Pn 18 30 16.8 -0.1
comp=Z,2.0nm,0.3s
LPL La Plagne 12.42 310 eP Pn 18 30 17.5 +0.3
comp=Z,3.7nm,0.4s
LPL La Plagne 12.42 310 eP Pn 18 30 17.5 +0.3
comp=Z,3.0nm,0.4s
DPC Dobruska-Polom 12.43 348 eP Pn 18 30 18.6 +1.5
DPC Dobruska-Polom 12.43 348 eP Pn 18 30 18.6 +1.5
DPC AMS AMS 18 36 10.0
DPC Dobruska-Polom 12.43 348 Pn Pn 18 30 18.6 +1.5
PRU Pruhonice 12.44 343 eP Pn 18 30 16.8 -0.3
PRU MLR MLR
comp=Z,100nm,7.8s
PRU Pruhonice 12.44 343 eP Pn 18 30 16.8 -0.3
PRU AMS AMS 18 35 50.0
comp=Z,100nm,7.8s
PRU Pruhonice 12.44 343 Pn Pn 18 30 16.8 -0.3
HFRF Wahat Farafira 12.96 146 P Pn 18 30 21.0 -3.4
baz=148
HFRF Wahat Farafira 12.96 146 P Pn 18 30 21.0 -3.4
AMAG Maghara 13.09 122 P Pn 18 30 22.0 -4.2
baz=123
AMAG Maghara 13.09 122 P Pn 18 30 22.0 -4.2
MMAI Mount Meron Ar 13.37 108 Pn Pn 18 30 27.8 -2.2
comp=Z,0.8nm,0.3s,baz=300,slow=15,SNR=6.5
CABF La Chapelle 13.39 313 eP Pn 18 30 29.5 -0.7
comp=Z,5.5nm,0.5s
CABF La Chapelle 13.39 313 eP Pn 18 30 29.5 -0.7
comp=Z,5.0nm,0.5s
BRG Berggiesshubel 13.40 342 e(P) P 18 30 41.9 +2.1
comp=Z,3.4nm,0.7s
BRG Berggiesshubel 13.40 342 eP P 18 30 41.9 +2.1
BRG pmax pmax
comp=Z,3.0nm,0.7s
HINF Hinteralfeld 13.69 319 eP Pn 18 30 32.5 -1.7
comp=Z,2.9nm,0.2s
HINF Hinteralfeld 13.69 319 eP Pn 18 30 32.5 -1.7
comp=Z,2.0nm,0.2s
CDF Champ du Feu 13.86 321 eP Pn 18 30 36.4 -0.3
KIEV Kiev 13.98 24 eP Pn 18 30 38.0 -0.2
CLL Collm 14.04 341 eP P 18 30 46.0 -0.8
CLL Collm 14.04 341 ePP P 18 30 46.0 -0.8
CLL i sPP 18 30 49.1
CLL Collm 14.04 341 eP P 18 30 46.0 -0.8
EIL Elat 14.87 121 Pn Pn 18 30 47.9 -2.6
comp=Z,0.3nm,0.3s,baz=14,slow=17,SNR=4.3
EIL Sn Sn 18 33 23.6 -11
comp=Z,0.3nm,0.3s,baz=254,slow=7.4,SNR=2.9
LOR Lormes 15.03 312 eP Pn 18 30 51.9 -0.6
comp=Z,1.7nm,0.3s
NACGM Naroch 17.24 13 e Pn 18 31 19.0 -1.8
KIV Kislovodsk 17.82 64 eP Pn 18 31 28.3 +0.1
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,17nm,13.0s

KIV	**Kislovodsk**	17.82	64	*e*P		Pn	18 31 28.3	+0.1
	comp=Z,17nm,13.0s							
KBZ	**Khabaz**	17.93	65	P		P	18 31 31.2	+1.3
KBZ	**Khabaz**	17.93	65	Pn		P	18 31 31.2	+1.3
	comp=Z,0.3nm,0.3s,baz=273,slow=7.9,SNR=5.1							
KBZ	**Khabaz**	17.93	65	P		P	18 31 31.2	+1.3
VORD	**Divnogorie**	18.52	40	*e*P		P	18 31 34.8	-1.6
VORD				pmax	pmax			
	comp=Z,10.0nm,0.8s							
VORD				pmax	pmax			
	comp=N,40nm,0.9s							
VORD				pmax	pmax			
	comp=E,20nm,0.9s							
VORD	**Divnogorie**	18.52	40	*e*P		P	18 31 34.8	-1.6
	comp=E,10.0nm,0.8s							
VSR	**Storozhevoye**	18.60	40	*e*P		P	18 31 35.1	-2.2
VSR				pmax	pmax			
	comp=Z,8.0nm,0.9s							
VSR				pmax	pmax			
	comp=N,20nm,1.1s							
VSR				pmax	pmax			
	comp=E,20nm,1.0s							
ESDC	**Sonseca Array**	18.89	282	P		Pn	18 31 42.1	+0.9
	comp=E,0.5nm,0.3s,baz=85,slow=11,SNR=6.4							
GNI	**Garni**	19.06	77	P		P	18 31 42.0	-0.6
GNI				LR		LR	18 39 09.6	
	comp=E,43nm,20.7s,baz=267,slow=38							
GNI	**Garni**	19.06	77	*e*P		Pn	18 31 43.6	+0.2
	comp=E,29nm,1.7s							
VRHR	**Novokhopersk**	19.81	43	*e*P		Pn	18 31 52.4	+0.3
VRHR				pmax	pmax			
	comp=Z,10.0nm,1.1s							
VRHR				pmax	pmax			
	comp=N,10.0nm,1.0s							
VRHR				pmax	pmax			
	comp=E,10.0nm,0.9s							
VRHR	**Novokhopersk**	19.81	43	*e*P		Pn	18 31 52.4	+0.3
	comp=E,10.0nm,1.0s							
OBN	**Obninsk**	20.16	28	*i*P		P	18 31 54.9	+0.6
OBN				*e*S		S	18 35 38.6	-1.6
OBN				pmax	pmax			
	comp=Z,23nm,1.0s							
OBN				MLR	MLR			
	comp=Z,100nm,16.0s							
OBN	**Obninsk**	20.16	28	*i*P		P	18 31 54.9	+0.6
	comp=Z,23nm,1.0s							
VSU	**Vasula**	20.67	10	*e*P		P	18 31 59.9	+0.1
VSU				pmax	pmax			
	comp=Z,160nm,0.8s							
VSU	**Vasula**	20.67	10	*e*P		P	18 31 59.9	+0.1
	comp=Z,160nm,0.8s							
MDT	**Midelt**	20.93	263	P		P	18 32 04.0	+1.0
	comp=Z,3.4nm,0.8s,baz=118,slow=3.0,SNR=5.7							
HFS	**Hagfors**	22.31	351	P		P	18 32 16.9	-0.5
	comp=Z,9.3nm,0.5s,baz=150,slow=12,SNR=34							
HFS	**Hagfors**	22.31	351	P		P	18 32 17.0	-0.5
	comp=Z,9.0nm,0.5s							
EKA	**Eskdalemuir Ar**	23.26	325	P		P	18 32 27.9	+0.5
	comp=Z,2.7nm,0.6s,baz=132,slow=8.0,SNR=7.0							
EKA	**Eskdalemuir Ar**	23.26	325	P		P	18 32 28.0	+0.5
	comp=Z,3.0nm,0.6s							
FINES	**FINESS Array B**	23.51	7	P		P	18 32 28.5	-1.3
	comp=Z,3.8nm,0.4s,baz=171,slow=9.9,SNR=48							
FINES				LR		LR	18 42 52.7	
	comp=Z,90nm,19.1s,baz=124,slow=40							
FINES	**FINESS Array B**	23.51	7	P		P	18 32 28.5	-1.3
	comp=Z,90nm,19.1s							
NB2	**NORSAR Subarra**	23.52	349	P		P	18 32 29.9	-0.1
	comp=Z,4.0nm,0.6s,baz=160,slow=10							
NB2	**NORSAR Subarra**	23.52	349	P		P	18 32 29.9	-0.1
	comp=Z,4.0nm,0.6s,baz=160,slow=10,SNR=7.5							
NOA	**NORSAR Array B**	23.52	349	P		P	18 32 29.4	-0.6
	comp=Z,2.7nm,0.6s,baz=154,slow=11,SNR=17							
NOA	**NORSAR Array B**	23.52	349	P		P	18 32 29.4	-0.6
	comp=Z,3.0nm,0.6s							
KAF	**Kangasniemi**	24.19	7	*e*p		P	18 32 35.6	-0.7
	comp=Z,7.8nm,0.7s							
KAF	**Kangasniemi**	24.19	7	*e*P		P	18 32 35.6	-0.7
KAF				pmax	pmax			
	comp=Z,8.0nm,0.7s							
KAF	**Kangasniemi**	24.19	7	*e*P		P	18 32 35.6	-0.7
	comp=Z,8.0nm,0.7s							
AKTK	**Aktyubinsk**	29.31	53	P		P	18 33 21.0	-1.5
	comp=Z,1.0nm,0.4s							
AKTO	**Aktyubinsk**	29.31	53	P		P	18 33 21.0	-1.5
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKTO	**Aktyubinsk**	29.31	53	P		P	18 33 21.0	-1.5
	comp=Z,0.8nm,0.4s,baz=251,slow=6.8,SNR=4.7							
TORD	**Torodi Ar. Bea**	29.95	218	P		P	18 33 29.3	+0.8
	comp=Z,4.1nm,0.7s,baz=31,slow=9.4,SNR=30							
TORD				LR		LR	18 45 55.6	
	comp=Z,96nm,20.4s,baz=250,slow=37							
ARU	**Arti**	31.15	42	*e*P		P	18 33 37.8	-0.9
ARU	**Arti**	31.15	42	*e*P		P	18 33 37.8	-0.9
ARCES	**ARCESS Array B**	31.48	4	P		P	18 33 40.7	-0.8
	comp=Z,1.0nm,0.4s,baz=189,slow=10,SNR=19							
ARCES	**ARCESS Array B**	31.48	4	P		P	18 33 40.7	-0.8
	comp=Z,1.0nm,0.4s							
KEV	**Kevo**	31.79	4	*e*p		P	18 33 43.5	-0.6
	comp=Z,1.6nm,0.4s							
KEV	**Kevo**	31.79	4	*e*P		P	18 33 43.5	-0.6
KEV				pmax	pmax			
	comp=Z,2.0nm,0.4s							
KEV	**Kevo**	31.79	4	*e*P		P	18 33 43.5	-0.6
	comp=Z,2.0nm,0.4s							
SVE	**Sverdlovsk**	32.36	42	⇓*e*P		P	18 33 48.4	-1.0
SVE				pmax	pmax			
	comp=Z,7.0nm,0.9s							
SVE	**Sverdlovsk**	32.36	42	*e*P		P	18 33 48.4	-1.0
	comp=Z,7.0nm,0.9s							
BRVK	**Borovoye**	37.17	50	*e*P		P	18 34 33.6	+2.6
BRVK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
BRVK	**Borovoye**	37.17	50	*e*P		P	18 34 33.6	+2.6
	comp=Z,3.0nm,1.0s							
DBIC	**Dimbokro**	38.80	222	P		P	18 34 45.3	+0.3
	comp=Z,8.6nm,1.0s,baz=43,slow=7.2,SNR=6.8							
DBIC	**Dimbokro**	38.80	222	P		P	18 34 45.3	+0.3
	comp=Z,9.0nm,1.0s							
TIC	**Toumodi**	38.91	222	*e*P		P	18 34 46.5	+0.5
	comp=Z,186nm,2.1s							
KIC	**Kosan Boka**	39.00	222	*e*P		P	18 34 47.3	+0.6
	comp=Z,18nm,0.9s							
LIC	**Lamto**	39.27	222	*e*P		P	18 34 49.4	+0.5
	comp=Z,14nm,0.6s							
LIC	**Lamto**	39.27	222	*e*P		P	18 34 49.5	+0.5
	comp=Z,24nm,0.6s							
AAK	**Ala-Archa**	40.92	66	*ce*P		P	18 35 03.2	+0.5
AAK				pmax	pmax			
	comp=Z,15nm,2.5s							
AAK	**Ala-Archa**	40.92	66	*e*P		P	18 35 03.2	+0.5
	comp=Z,15nm,2.5s							
NVS	**Novosibirsk**	44.78	47	*e*P		P	18 35 32.2	-1.4
NVS	**Novosibirsk**	44.78	47	*e*P		P	18 35 32.2	-1.4
MKAR	**Makanchi Array**	45.44	58	P		P	18 35 38.0	-1.0
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.4s							
MKAR	**Makanchi Array**	45.44	58	P		P	18 35 38.0	-1.0
	comp=Z,1.5nm,0.4s,baz=272,slow=7.5,SNR=8.9							
MKAR	**Makanchi Array**	45.44	58	P		P	18 35 38.0	-1.0
	comp=Z,2.0nm,0.4s							
ZALV	**Zalesovo Beam**	45.80	48	*i*P		P	18 35 40.5	-1.1
ZALV				pmax	pmax			
	comp=Z,5.0nm,0.4s							
ZALV	**Zalesovo Beam**	45.80	48	P		P	18 35 40.6	-1.1
	comp=Z,5.4nm,0.4s,baz=273,slow=8.8,SNR=26							
ZALV	**Zalesovo Beam**	45.80	48	*i*P		P	18 35 40.5	-1.1
	comp=Z,5.0nm,0.4s							
KRAR	**Krasnoyarsk**	50.05	44	*e*P		P	18 36 15.2	+0.7
KRAR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KRAR	**Krasnoyarsk**	50.05	44	*e*P		P	18 36 15.2	+0.7
	comp=Z,3.0nm,0.8s							
LSZ	**Lusaka**	53.75	171	P		P	18 36 44.0	+1.4
	comp=Z,0.6nm,0.3s,baz=45,slow=2.9,SNR=3.5							
LSZ	**Lusaka**	53.75	171	P		P	18 36 44.0	+1.4
	comp=Z,1.0nm,0.4s							
TIXI	**Tiksi**	59.66	20	*e*P		P	18 37 24.3	+0.4
TIXI				pmax	pmax			
	comp=Z,2.0nm,1.2s							
TIXI	**Tiksi**	59.66	20	*e*P		P	18 37 24.3	+0.4
	comp=Z,2.0nm,1.2s							
SONM	**Songino Array**	60.58	51	P		P	18 37 29.9	-0.8
	comp=Z,0.9nm,0.6s,baz=285,slow=7.7,SNR=7.6							
SONM	**Songino Array**	60.58	51	P		P	18 37 29.9	-0.8
	comp=Z,1.0nm,0.6s							
ULN	**Ulaanbaatar**	60.96	50	*e*P		P	18 37 35.0	+1.6
BOSA	**Boshof**	66.67	175	P		P	18 38 11.5	+0.6
	comp=Z,2.7nm,1.1s,baz=57,slow=21,SNR=3.6							
BOSA	**Boshof**	66.67	175	P		P	18 38 11.5	+0.6
	comp=Z,3.0nm,1.2s							
CMAR	**Chiang Mai Arr**	70.08	82	P		P	18 38 32.0	-0.6
	comp=Z,0.6nm,0.4s,baz=305,slow=7.9,SNR=3.7							
CMAR	**Chiang Mai Arr**	70.08	82	P		P	18 38 32.0	-0.6
	comp=Z,1.0nm,0.4s							
USRK	**Ussuriysk Arra**	77.38	43	P		P	18 39 14.9	-0.1
	comp=Z,1.8nm,0.6s,baz=282,slow=4.6,SNR=7.8							
KSRS	**Korea Array**	79.45	50	P		P	18 39 24.8	-1.7
	comp=Z,0.5nm,0.6s,baz=309,slow=5.6,SNR=3.9							
KSRS	**Korea Array**	79.45	50	P		P	18 39 24.8	-1.7
	comp=Z,1.0nm,0.6s							
PETK	**Petropavlovsk-**	81.83	24	LR		LR	19 15 50.4	
	comp=Z,20nm,21.2s,baz=240,slow=36							
MJAR	**Matsushiro Arr**	86.09	45	P		P	18 40 03.0	+1.8
	comp=Z,0.5nm,0.7s,baz=331,slow=3.9,SNR=2.9							
MJAR	**Matsushiro Arr**	86.09	45	P		P	18 40 03.0	+1.8
	comp=Z,1.0nm,0.7s							
ASAR	**Alice Springs**	122.38	96	PKP		PKPdf	18 46 15.0	-0.7
	comp=Z,0.3nm,0.9s,baz=303,slow=1.5,SNR=5.1							

*TIR **30** 18:43:33.6, 40.10N×19.78E, h0km*
*SKO **30** 18:43:33.9, 40.11N×19.59E, h0km*
*ATH **30** 18:43:34.3, 40.13N×19.71E, h18km±2km, MD3.6/15*
*CSEM **30** 18:43:35.4±0.3, 40.11N×19.79E, h2km, ML2.7/9, Error ellipse: s-maj=6.5km s-min=2.8km az=109.0*
*THE **30** 18:43:36.3, 40.09N×19.86E, h0km±2km, ML2.7/9, Error ellipse: s-maj=2.4km s-min=0.8km az=285.0*

ISC 30 18:43:36.1±1.2, **40.09N**±0.02×**19.83E**±0.03, **h3**km±9km, **n74**,σ0**s73**/108, **Albania**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SRN	**Sarande**	0.25	149	*e*PG		Pg	18 43 40.2	-0.7
SRN				*i* SG		Sg	18 43 45.1	+1.0
SRN	**Sarande**	0.25	149	P		Pg	18 43 40.2	-0.7
SRN				S		Sg	18 43 44.6	+0.5
SRN	**Sarande**	0.25	149	P		Pg	18 43 40.2	-0.7
SRN				S		Sg	18 43 44.6	+0.5
SRN				*i* Sg		Sg	18 43 45.1	+1.0
KEK	**Kerkira**	0.38	184	P		Pg	18 43 43.5	+0.1
KEK				S		Sg	18 43 49.4	+1.1
KEK	**Kerkira**	0.38	184	*e*PB		Pg	18 43 42.8	-0.6
KEK				*e*SB		Sb	18 43 50.1	-1.7
KEK	**Kerkira**	0.38	184	*e*Pb		Pg	18 43 42.8	-0.6
KEK	**Kerkira**	0.38	184	P		Pg	18 43 43.5	+0.1
KEK				S		Sg	18 43 49.4	+1.1
KEK				*e*Sb		Sb	18 43 50.1	-1.7
IGT	**Igoumenitsa**	0.68	145	P		Pg	18 43 48.1	-1.0
IGT				S		Sg	18 43 58.3	+0.4
IGT	**Igoumenitsa**	0.68	145	P		Pg	18 43 48.1	-1.0
IGT				S		Sg	18 43 58.3	+0.4
JAN	**Janina**	0.90	119	P		Pg	18 43 52.9	-0.4
JAN				S		Sg	18 44 05.7	+0.8
JAN	**Janina**	0.90	119	*e*PB		Pg	18 43 52.4	-0.9
JAN	**Janina**	0.90	119	*e*Pb		Pg	18 43 52.4	-0.9
JAN	**Janina**	0.90	119	P		Pg	18 43 52.9	-0.4
JAN				S		Sg	18 44 05.7	+0.8
KBN	**Korca**	0.90	54	*e*PG		Pg	18 43 53.1	-0.2
KBN				*i* SG		Sb	18 44 07.4	+0.5
KBN	**Korca**	0.90	54	P		Pg	18 43 53.4	0.0
KBN				S		Sb	18 44 06.4	-0.5
KBN	**Korca**	0.90	54	P		Pg	18 43 53.4	0.0
KBN				S		Sb	18 44 06.4	-0.5
KBN				*i* Sg		Sb	18 44 07.4	+0.5
NEST	**Nestorio**	0.98	71	P		Pg	18 43 54.0	-1.0
NEST				S		Sb	18 44 08.7	-0.6
NEST	**Nestorio**	0.98	71	P		Pg	18 43 54.0	-1.0
NEST				S		Sb	18 44 08.7	-0.6
FNA	**Florina**	1.36	59	P		Pn	18 44 00.7	-1.4
FNA				S		Sn	18 44 21.5	+0.8
FNA	**Florina**	1.36	59	*e*PN		Pn	18 44 00.6	-1.5
FNA				*e*SN		Sn	18 44 21.8	+1.1
FNA	**Florina**	1.36	59	P		Pn	18 44 00.7	-1.4
FNA				S		Sn	18 44 21.5	+0.8
LKD2	**Lefkada island**	1.45	154	P		Pn	18 44 02.9	-0.3
LKD2				S		Sb	18 44 22.4	-0.2
LKD2	**Lefkada island**	1.45	154	*e*PN		Pb	18 44 03.7	0.0
LKD2				*e*SN		Sn	18 44 24.1	+1.3
LKD2	**Lefkada island**	1.45	154	P		Pn	18 44 02.9	-0.3
LKD2	**Lefkada island**	1.45	154	*e*Pn		Pb	18 44 03.7	0.0
LKD2				S		Sb	18 44 22.4	-0.2
LKD2				*e*Sn		Sn	18 44 24.1	+1.3
BIA	**Bitola**	1.47	50	P		Pn	18 44 01.7	-1.8
BIA				S		Sg	18 44 23.8	+0.6
BIA	**Bitola**	1.47	50	*e*Pg		Pn	18 44 01.8	-1.8
BIA				*e*Sg		Sg	18 44 24.5	+1.3
BIA				*e*Lg		Lg	18 44 24.8	
	comp=E,111nm,0.6s							
BIA				*e*Lg		Lg	18 44 24.8	
	comp=N,42nm,0.5s							
BIA	**Bitola**	1.47	50	P		Pn	18 44 01.7	-1.8
BIA				S		Sg	18 44 23.8	+0.6
BIA				*e*Sg		Sg	18 44 24.4	+1.3
BIA				*e*Lg		Lg	18 44 24.7	
	comp=N,42nm,0.5s							
KZN	**Kozani**	1.50	81	P		Pn	18 44 03.5	-0.5
KZN				S		Sg	18 44 25.0	+0.7
KZN	**Kozani**	1.50	81	*e*PN		Pn	18 44 03.5	-0.5
KZN	**Kozani**	1.50	81	P		Pn	18 44 03.5	-0.5
KZN				S		Sg	18 44 25.0	+0.7
PHP	**Peshkopia**	1.66	16	P		Pn	18 44 05.9	-0.2
PHP	**Peshkopia**	1.66	16	P		Pn	18 44 05.9	-0.2
THL	**Klokotos Trika**	1.76	107	P		Pn	18 44 07.6	+0.1
THL				S		Sn	18 44 30.8	+0.4
THL	**Klokotos Trika**	1.76	107	*e*PN		Pn	18 44 07.9	+0.4
THL	**Klokotos Trika**	1.76	107	P		Pn	18 44 07.6	+0.1
THL	**Klokotos Trika**	1.76	107	*e*Pn		Pn	18 44 07.9	+0.4
THL				S		Sn	18 44 30.8	+0.4
EVR	**Evrytania**	1.93	127	P		Pn	18 44 09.8	-0.1
EVR				S		Sn	18 44 35.0	+0.3
EVR	**Evrytania**	1.93	127	P		Pn	18 44 09.8	-0.1
EVR				S		Sn	18 44 35.0	+0.3
PUK	**Puka**	1.95	1	*e*PN		Sg	18 44 47.2	+8.5
PE1	**Pezze di Greco**	1.97	292	*e*Pn		Pg	18 44 13.5	-0.4
MAKR	**Makrakomi, Fth**	2.08	121	P		Pn	18 44 12.4	+0.5
MAKR	**Makrakomi, Fth**	2.08	121	P		Pn	18 44 12.4	+0.5
GRG	**Griva**	2.14	65	P		Pn	18 44 12.9	+0.2
GRG	**Griva**	2.14	65	*e*PN		Pn	18 44 13.1	+0.4
GRG	**Griva**	2.14	65	P		Pn	18 44 12.9	+0.2
AGG	**Agios Georgios**	2.21	118	P		Pn	18 44 13.7	0.0
AGG	**Agios Georgios**	2.21	118	*e*PB		Pn	18 44 13.7	0.0
AGG	**Agios Georgios**	2.21	118	P		Pn	18 44 13.7	0.0
EFP	**Efpalio**	2.31	135	P		Pn	18 44 15.4	+0.3
EFP	**Efpalio**	2.31	135	*e*PB		Pn	18 44 15.3	+0.2
EFP	**Efpalio**	2.31	135	P		Pn	18 44 15.4	+0.3
TRIZ	**Trizonia**	2.45	134	P		Pn	18 44 17.4	+0.5
TRIZ	**Trizonia**	2.45	134	*e*PN		Pn	18 44 17.1	+0.2
TRIZ	**Trizonia**	2.45	134	*e*Pn		Pn	18 44 17.1	+0.2
TRIZ	**Trizonia**	2.45	134	P		Pn	18 44 17.4	+0.5
KALE	**Kalithea**	2.47	133	P		Pn	18 44 17.8	+0.5
KALE	**Kalithea**	2.47	133	*e*PB		Pn	18 44 17.7	+0.5
KALE	**Kalithea**	2.47	133	P		Pn	18 44 17.8	+0.5
LAKA	**Lakka**	2.49	137	P		Pn	18 44 17.4	-0.2
LAKA	**Lakka**	2.49	137	P		Pn	18 44 17.4	-0.2
DSF	**Desfina**	2.68	128	P		Pn	18 44 20.2	0.0
DSF	**Desfina**	2.68	128	P		Pn	18 44 20.2	0.0
XOR	**Xorichti**	2.69	105	P		Pn	18 44 19.7	-0.6
XOR	**Xorichti**	2.69	105	P		Pn	18 44 19.7	-0.6
KLV	**Kalavryta, Ach**	2.73	138	P		Pn	18 44 20.8	0.0
KLV	**Kalavryta, Ach**	2.73	138	*e*PN		Pn	18 44 20.8	0.0
KLV	**Kalavryta, Ach**	2.73	138	P		Pn	18 44 20.8	0.0
GUR	**Goura**	2.91	137	*e*PN		Pn	18 44 23.2	-0.2
GUR	**Goura**	2.91	137	*e*Pn		Pn	18 44 23.2	-0.2
PAIG	**Paliouri**	2.96	92	*e*PN		Pn	18 44 23.0	-0.9
PAIG	**Paliouri**	2.96	92	*e*Pn		Pn	18 44 23.0	-0.9
AOS	**Alonnisos**	3.26	105	*e*PN		Pn	18 44 27.5	-0.6
AOS	**Alonnisos**	3.26	105	*e*Pn		Pn	18 44 27.5	-0.6

*IDC **30** 19:00:53.3±8.9, 23.76S×67.55W, h99km±63km, mb3.5/3, mb1 3.6/5, mb1mx3.4/18, mbtmp3.4/5, ML3.5/2, Error ellipse: s-maj=84.5km s-min=32.8km az=11.0*
*GUC **30** 19:00:56.0±0.5, 23.62S×68.12W, h158km±6km, ML4.0*

ISC 30 19:00:54.5±1.4, **23.72S**±0.09×**67.8W**±0.1, **h140**km±17km, **n14**,σ1**s52**/20, **5C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LVC	**Limon Verde**	1.48	318	⇓*i*P		Pn	19 01 24.7	+1.3
LVC				*i* S		Sn	19 01 46.6	+1.3
PB04	**Plate Boundary**	2.10	313	⇑*i*P		Pn	19 01 36.2	+6.0
PB04				*i* S		Sn	19 02 06.3	+8.8
PB04				AML		AML	19 02 08.2	
	comp=E,580nm,0.7s							
PB09	**Plate Boundary**	2.31	326	*e*P		Pn	19 01 34.7	+1.8
PB09				*i* S		Sn	19 02 03.8	+1.3
PB09				AML		AML	19 02 08.1	
	comp=N,2μm,0.5s							
ANCH	**Antofagasta**	2.36	270	⇑*i*P		Pn	19 01 33.6	+0.3
ANCH				*i* S		Sn	19 02 01.9	-1.2
PB10	**Plate Boundary**	2.50	274	⇑*i*P		Pn	19 01 34.4	-0.7
PB10				*i* S		Sn	19 02 04.5	-1.9
PB10				AML		AML	19 02 06.9	
	comp=E,564nm,0.4s							
PB07	**Plate Boundary**	2.74	316	⇑*i*P		Pn	19 01 39.2	+0.9
PB07				*i* S		Sn	19 02 11.3	-0.8
PB07				AML		AML	19 02 12.9	
	comp=N,554nm,0.2s							
PB01	**Plate Boundary**	3.07	330	⇑*i*P		Pn	19 01 43.4	+1.0
PB01				*i* S		Sn	19 02 19.2	-0.3
PB01				AML		AML	19 02 23.1	
	comp=E,320nm,0.6s							
HMBC	**Humberstone**	3.92	331	*e*P		Pn	19 01 53.0	-0.5
HMBC				*e*S		Sn	19 02 37.8	-1.5
MNMC	**Minimini**	4.85	340	*e*P		Pn	19 02 06.3	+0.2
MNMC				*i* S		Sn	19 03 01.4	-0.3
LPAZ	**La Paz**	7.40	358	P		Pn	19 02 39.8	-0.7
	comp=E,0.1nm,0.3s,baz=231,slow=7.7,SNR=3.6							
SIV	**San Ignacio**	9.98	41	P		Pn	19 03 11.5	-3.0
	comp=E,1.3nm,0.3s,baz=259,slow=13,SNR=17							
SIV				S		Sn	19 05 01.1	-3.8
	comp=E,0.1nm,0.3s,baz=107,slow=19,SNR=3.2							
BDFB	**Brasilia**	20.31	70	P		P	19 05 20.5	+0.7
	comp=E,5.5nm,0.6s,baz=237,slow=13,SNR=7.0							
PDAR	**Pinedale Array**	76.52	330	P		P	19 12 34.2	+4.9
	comp=E,0.2nm,0.3s,baz=123,slow=6.6,SNR=2.8							
TORD	**Torodi Ar. Bea**	77.19	69	P		P	19 12 35.0	+1.6
	comp=E,0.8nm,0.6s,baz=256,slow=5.7,SNR=12							

*WEL **30** 19:21:12.4±0.5, 36.57S×178.09E, h94km±3km, ML4.3/15, Error ellipse: s-maj=4.1km s-min=3.4km az=0.0*
*NEIC **30** 19:21:12.0, 36.46S×177.91E, h81km, mb4.1/1, ML4.4(WEL), After WEL.*
*IDC **30** 19:21:12.8±4.7, 36.72S×178.17E, h99km±38km, mb3.5/2, mb1 3.8/2, mb1mx3.4/16, mbtmp3.5/2, Error ellipse: s-maj=49.7km s-min=34.8km az=41.0*
*ISCJB **30** 19:21:13.1±1.0, 36.94S±0.07×178.17E±0.09, h133km±6km, mb3.7/3, Error ellipse: s-maj=13.3km s-min=10.2km az=36.6*

ISC 30 19:21:14.7±1.0, **36.92S**±0.07×**178.12E**±0.06, **h120**km±5km, **n108**,σ1**s58**/105, **mb3.9**/3, **3D, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	0.66	167	P*		Pn	19 21 32.6	-1.1
MXZ	**Matakaoa Point**	0.66	167	P*		Pn	19 21 32.6	-1.1
MXZ				S*		Sn	19 21 47.4	-0.6
WIZ	**White Island**	0.95	230	P*		Pn	19 21 35.0	-1.2
WIZ				S*		Sn	19 21 49.4	-3.1
WIZ	**White Island**	0.95	230	P*		Pn	19 21 35.0	-1.2
WIZ				S*		Sn	19 21 49.4	-3.1
PUZ	**Puketiti**	1.16	174	Pn		Pn	19 21 38.3	+0.1
PUZ				Sn		Sn	19 22 02.4	+6.2
PUZ	**Puketiti**	1.16	174	⇓PN		Pn	19 21 38.3	+0.1
PUZ				SN		Sn	19 21 59.3	+3.2
PUZ				AML		AML	19 22 03.5	
MWZ	**Matawai**	1.49	198	Pn		Pn	19 21 42.2	+0.2
MWZ				Sn		Sn	19 22 04.0	+1.3
MWZ	**Matawai**	1.49	198	PN		Pn	19 21 42.2	+0.2
MWZ				AML		AML	19 22 05.4	
MWZ				AML		AML	19 22 05.7	
MWZ				AML		AML	19 22 05.7	
OPRZ	**Ohinepanea**	1.55	233	P*		Pn	19 21 41.8	-0.8
OPRZ	**Ohinepanea**	1.55	233	P*		Pn	19 21 41.8	-0.8
OPRZ				S*		Sn	19 22 04.8	+0.9
URZ	**Urewera**	1.56	211	*e*Pn		Pn	19 21 42.9	+0.2
UR

BFZ				AML	AML	19 23 02.9	
BFZ				AML	AML	19 23 07.0	
BFZ				AML	AML	19 23 07.0	
BFZ				AML	AML	19 23 09.5	
HOWZ	**Holdsworth Sta**	**4.46 206**		Pn	**Pn**	**19 22 17.5**	**-2.9**
HOWZ	**Holdsworth Sta**	**4.46 206**		PN	**Pn**	**19 22 17.5**	**-2.9**
OGWZ	**Otaki Gorge**	**4.52 210**		Pn	**Pn**	**19 22 18.7**	**-2.4**
OGWZ	**Otaki Gorge**	**4.52 210**		PN	**Pn**	**19 22 18.7**	**-2.4**
TMWZ	**Te Maipa**	**4.53 202**		Pn	**Pn**	**19 22 18.3**	**-2.9**
TMWZ	**Te Maipa**	**4.53 202**		PN	**Pn**	**19 22 18.3**	**-2.9**
KIW	**Kapiti Island**	**4.66 211**		Pn	**Pn**	**19 22 20.3**	**-2.7**
KIW	**Kapiti Island**	**4.66 211**		PN	**Pn**	**19 22 20.3**	**-2.7**
KIW				AML	AML	19 23 22.3	
KIW				AML	AML	19 23 31.5	
MTW	**Mount Morrison**	**4.69 205**		Pn	Pn	19 22 20.4	-3.1
CAW	**Cannon Point**	**4.81 209**		Pn	**Pn**	**19 22 22.2**	**-2.8**
CAW	**Cannon Point**	**4.81 209**		PN	**Pn**	**19 22 22.2**	**-2.8**
CAW				AML	AML	19 23 39.9	
CAW				AML	AML	19 23 42.0	
TRWZ	**Traveller**	**4.85 202**		Pn	**Pn**	**19 22 22.8**	**-2.8**
TRWZ	**Traveller**	**4.85 202**		AML	AML	19 23 25.0	
TRWZ				AML	AML	19 23 25.2	
MSWZ	**Moikau Station**	**5.01 206**		AML	AML	19 23 27.8	
SNZO	**South Karori**	**5.12 210**	*e*Pn	**Pn**	**19 22 30.5**	**+1.3**	
PLWZ	**Palliser**	**5.14 205**		Pn	Pn	19 22 26.1	-3.5
TCW	**Tory Channel**	**5.22 214**		Pn	Pn	19 22 27.2	-3.3
TCW	**Tory Channel**	**5.22 214**		PN	Pn	19 22 27.2	-3.3
TCW				AML	AML	19 23 31.1	
TCW				AML	AML	19 23 31.6	
TUWZ	**Tuamarina**	**5.55 214**		Pn	**Pn**	**19 22 32.5**	**-2.5**
TUWZ	**Tuamarina**	**5.55 214**		PN	**Pn**	**19 22 32.5**	**-2.5**
TUWZ				AML	AML	19 23 39.3	
NNZ	**Nelson**	**5.66 219**		Pn	**Pn**	**19 22 34.7**	**-1.7**
NNZ	**Nelson**	**5.66 219**		PN	**Pn**	**19 22 34.7**	**-1.7**
BSWZ	**Blackbirch Sta**	**5.80 213**		Pn	**Pn**	**19 22 35.4**	**-3.1**
THZ	**Tophouse**	**6.30 218**		Pn	**Pn**	**19 22 43.0**	**-2.2**
KHZ	**Kahutara**	**6.52 211**		Pn	Pn	19 22 44.5	-3.6
KHZ	**Kahutara**	**6.52 211**		PN	Pn	19 22 44.5	-3.6
CTZ	**Chatham Island**	**7.90 151**		Pn	**Pn**	**19 23 07.3**	**+0.6**
ODZ	**Otahua Downs**	**9.88 212**		Pn	Pn	19 23 29.2	-4.2
ASAR	**Alice Springs**	**40.05 277**		P	**P**	**19 28 38.7**	**+0.3**
	0.6nm,0.4s,baz=120,slow=8.2,SNR=15						
WRA	**Warramunga Arr**	**41.65 282**		P	**P**	**19 28 51.2**	**-0.2**
	0.9nm,0.4s,baz=123,slow=7.5,SNR=11						
CASY	**Casey**	**47.88 210**		*e*P	P	19 29 43.9	+3.7
QSPA	**South Pole Qui**	**53.20 180**		*e*P	P	19 30 25.0	+4.6
	1.2nm,0.6s						
FINES	**FINESS Array B**	**149.85 333**		PKPbc	**PKPbc**	**19 40 49.5**	**-0.4**
	0.2nm,0.4s,baz=75,slow=5.9,SNR=2.7						
FINES				PKPab	**PKPab**	**19 40 54.6**	**-1.1**
	1.0nm,0.8s,baz=79,slow=4.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**156.11 189**		PKPbc	PKPdf	19 41 08.0	+13
	0.2nm,0.6s,baz=150,slow=1.9,SNR=5.6						
TORD				PKPab	**PKPab**	**19 41 24.4**	**+1.1**
	0.2nm,0.5s,baz=164,slow=2.7,SNR=4.4						

*ISCJB **30** 19:30:24.6±1.0,44°.2N±0°.1×146°.7E±0°.1,h159km±10km, mb3.2/4, Error ellipse: s-maj=18.3km s-min=15.0km az=3.5*

*JMA **30** 19:30:26.2±0.4,44°.37N×146°.71E,h130km±3km,M3.3*

*IDC **30** 19:30:30.5±6.1,45°.74N×146°.15E,h122km±107km, mb3.0/4,mb1 3.1/5,mb1mx2.9/25,mbtmp3.0/5,ML2.2/1, Error ellipse: s-maj=299.4km s-min=30.9km az=167.0*

ISC 30 19:30:25.3±1.5,44°.3N±0°.1×146°.7E±0°.1,h148km±13km, n17,σ1°05/23,mb3.2/4,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.17 218**		P	**Pn**	**19 30 51.2**	**-0.1**
NEM2				*e*S	**Sn**	**19 31 10.3**	**-0.9**
JRA	**Rausu**	**1.21 253**		P	**Pn**	**19 30 51.4**	**-0.3**
JAK	**Akkeshi**	**1.96 229**		P	**Pn**	**19 31 00.2**	**+0.4**
JAK				*e*S	**Sn**	**19 31 26.2**	**0.0**
JTKR	**Abashiri--Toko**	**2.06 262**		P	**Pn**	**19 31 00.7**	**-0.1**
JTKR				*e*S	**Sn**	**19 31 27.5**	**-0.7**
JAR	**Ashorobuto**	**2.36 246**		P	**Pn**	**19 31 09.9**	**+1.3**
JAR				*e*S	**Sn**	**19 31 36.6**	**+1.8**
JOB	**Onbets**	**2.52 238**		P	**Pn**	**19 31 07.7**	**+1.2**
JKK2	**Kamakawa 2**	**2.90 263**		P	**Pn**	**19 31 11.9**	**+0.7**
JKK2				*e*S	**Sn**	**19 31 47.7**	**+1.0**
JCH	**Churui**	**2.97 237**		P	**Pn**	**19 31 13.0**	**+0.9**
JCH				*e*S	**Sn**	**19 31 47.7**	**-0.6**
ASAJ	**Asahikawa**	**2.98 268**		P	**Pn**	**19 31 12.8**	**+0.6**
JSE	**Soyaes**	**3.03 284**		P	**Pn**	**19 31 12.4**	**-0.5**
JNBK	**Urakawa-nobuka**	**3.53 237**		P	**Pn**	**19 31 19.5**	**+0.2**
JNBK				*e*S	**Sn**	**19 31 58.4**	**-2.8**
JWK2	**Keihoku**	**3.59 288**		P	**Pn**	**19 31 20.9**	**+0.9**
USRK	**Ussuriysk Arra**	**10.57 275**		P	**Pn**	**19 32 52.7**	**-0.1**
	0.2nm,0.3s,baz=82,slow=13,SNR=5.2						
ILAR	**Eielson Array**	**41.24 32**		P	**P**	**19 37 55.6**	**+0.4**
	0.5nm,0.8s,baz=254,slow=6.9,SNR=4.7						
MKAR	**Makanchi Array**	**44.06 297**		P	**P**	**19 38 18.3**	**0.0**
	0.2nm,0.5s,baz=84,slow=9.3,SNR=4.7						
KURBB	**Kurchatov Arra**	**45.06 303**		P	**P**	**19 38 25.0**	**-1.0**
	0.2nm,0.4s,baz=76,slow=8.5,SNR=3.3						
FINES	**FINESS Array B**	**64.25 333**		P	P	19 40 41.8	-2.3
	0.4nm,0.7s,baz=51,slow=11,SNR=2.5						

IDC 30 19:32:15.4±1.2,2°.98N×126°.50E,h0km,mb3.7/8, mb1 3.8/8,mb1mx3.6/23,mbtmp3.7/8,MS3.8/2,Ms1 3.8/2, ms1mx3.0/35,Error ellipse: s-maj=118.5km s-min=16.7km az=70.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.96 182**		P	P	19 37 00.5	+0.4
	1.0nm,0.6s,baz=6.3,slow=16,SNR=4.3						
WRA	**Warramunga Arr**	**24.04 162**		P	P	19 37 31.1	-1.3
	0.6nm,0.6s,baz=339,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**27.45 165**		P	P	19 38 04.5	+1.3
	0.2nm,0.5s,baz=340,slow=7.5,SNR=4.4						
MJAR	**Matsushiro Arr**	**35.11 17**		LR	LR	19 50 54.0	
	comp=Z,40nm,19.9s,baz=210,slow=32						
HNR	**Honiara**	**35.53 111**		LR	LR	19 51 33.0	
	comp=Z,636nm,19.1s,baz=12,slow=33						
STKA	**Stephens Creek**	**37.51 159**		P	P	19 39 30.7	-0.5
	2.7nm,1.0s,baz=324,slow=8.7,SNR=3.5						
SONM	**Songino Array**	**47.94 342**		P	P	19 40 56.2	+0.4
	0.5nm,0.9s,baz=157,slow=9.6,SNR=3.6						
MKAR	**Makanchi Array**	**58.04 326**		P	P	19 42 09.8	-0.5
	0.4nm,0.4s,baz=125,slow=6.7,SNR=9.3						
ZALV	**Zalesovo Beam**	**61.15 333**		P	P	19 42 32.3	+0.7
	0.5nm,0.6s,baz=116,slow=3.4,SNR=2.1						
KURBB	**Kurchatov Arra**	**62.25 328**		P	P	19 42 38.5	-0.5
	0.3nm,0.3s,baz=122,slow=5.5,SNR=6.2						

KRSC 30 19:48:24.4±0.6,51°.12N×158°.19E,h40km±40km,ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.93 292**		*e*P	Pn	19 48 41.2	+0.2
PAU				*i* S	Sn	19 48 54.3	+1.1
ASAK	**Asacha**	**1.28 352**		*e*P	Pn	19 48 47.1	+1.2
ASAK				*i* S	Sn	19 49 03.9	+2.0
RUS	**Russkaya**	**1.33 9**		*i* P	Pn	19 48 47.3	+0.8
RUS				*i* S	Sn	19 49 04.7	+1.8
MTVR	**Mutnovka**	**1.36 360**		*i* P	Pn	19 48 48.5	+1.3
MTVR				*i* S	Sn	19 49 06.2	+2.0
SKR	**Severo-Kuril's**	**1.38 252**		*e*P	Pn	19 48 46.6	-0.6
SKR				*i* S	Sn	19 49 03.0	-1.2
GRL	**Gorelyy**	**1.44 357**		*e*P	Pn	19 48 49.8	+1.7
GRL				*i* S	Sn	19 49 08.3	+2.4
MIPR	**Malaya Ipel'ka**	**1.46 323**		*e*P	Pn	19 48 49.7	+1.4
MIPR				*i* S	Sn	19 49 08.6	+2.4
APC	**Apacha**	**1.92 341**		*e*P	Pn	19 48 57.0	+2.5
APC				*i* S	Sn	19 49 21.2	+3.8
PET	**Petropavlovsk**	**1.93 8**		*e*P	Pn	19 48 56.3	+1.6
PET				*i* S	Sn	19 49 20.1	+2.5
UGLR	**Uglovaya**	**2.13 10**		*e*P	Pn	19 48 59.7	+2.1
UGLR				*i* S	Sn	19 49 24.9	+2.0
NLC	**Nalytchevo**	**2.17 19**		*e*P	Pn	19 48 58.6	+0.6
AVH	**Avacha**	**2.17 9**		*e*P	Pn	19 49 00.7	+2.5
AVH				*i* S	Sn	19 49 26.4	+2.4
SMAR	**Somma**	**2.18 10**		*e*P	Pn	19 49 00.2	+1.8
KOK	**Koryaka**	**2.19 7**		*e*P	Pn	19 49 01.0	+2.5
KOK				*i* S	Sn	19 49 27.7	+3.3
SDLR	**Sedlovina**	**2.20 11**		*e*P	Pn	19 49 00.1	+1.5
KRER	**Koryakskii**	**2.21 9**		*e*P	Pn	19 49 00.8	+1.9
GNL	**Ganaly**	**2.58 357**		*e*P	Pn	19 49 06.1	+2.3
GNL				*i* S	Sn	19 49 36.2	+2.1
MKZ	**Mys Kozlova**	**4.06 31**		*e*P	Pn	19 49 25.4	+1.6
MKZ				*i* S	Sn	19 50 10.9	+0.9

IDC 30 19:56:30.2±3.3,21°.62N×143°.05E,h311km±33km, mb3.5/21,mb1 3.6/23,mb1mx3.6/31,mbtmp3.4/23,Error ellipse: s-maj=16.3km s-min=9.7km az=85.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**15.45 345**		P	P	19 59 50.6	-1.0
	0.4nm,0.3s,baz=170,slow=10,SNR=5.0						
MJAR				S	S	20 02 34.7	-4.0
	0.3nm,0.3s,baz=152,slow=20,SNR=4.0						
JNU	**Nakatsue**	**15.73 319**		P	Pn	19 59 56.0	-0.8
	0.4nm,0.3s,baz=63,slow=11,SNR=3.2						
KSRS	**Korea Array**	**20.50 324**		P	P	20 00 45.4	0.0
	5.1nm,0.6s,baz=146,slow=8.9,SNR=41						
ASAJ	**Asahikawa**	**22.43 359**		P	P	20 01 03.6	+0.5
	1.4nm,0.6s,baz=145,slow=12,SNR=2.8						
USRK	**Ussuriysk Arra**	**24.30 340**		P	P	20 01 20.6	+0.6
	2.1nm,0.5s,baz=153,slow=7.9,SNR=9.8						
SONM	**Songino Array**	**39.32 321**		P	P	20 03 29.8	-0.2
	0.7nm,0.5s,baz=137,slow=7.8,SNR=12						
CMAR	**Chiang Mai Arr**	**41.46 274**		P	P	20 03 47.8	+0.2
	0.7nm,0.6s,baz=88,slow=6.1,SNR=6.1						
WRA	**Warramunga Arr**	**42.18 192**		P	P	20 03 53.5	+0.2
	1.9nm,0.5s,baz=17,slow=8.7,SNR=22						
ASAR	**Alice Springs**	**45.89 192**		P	P	20 04 22.1	-0.5
	0.6nm,0.4s,baz=13,slow=6.7,SNR=19						
STKA	**Stephens Creek**	**53.22 182**		P	P	20 05 16.6	-0.7
	1.2nm,0.5s,baz=336,slow=19,SNR=9.1						
ZALV	**Zalesovo Beam**	**54.19 322**		P	P	20 05 23.9	-0.2
	1.9nm,0.6s,baz=96,slow=7.8,SNR=7.6						
ZALV				PcP	PcP	20 06 23.1	-1.0
	1.6nm,0.5s,baz=125,slow=5.5,SNR=5.6						
MKAR	**Makanchi Array**	**54.66 313**		P	P	20 05 27.8	+0.2
	1.2nm,0.6s,baz=92,slow=9.0,SNR=18						
MKAR				PcP	PcP	20 06 26.1	-0.1
	0.5nm,0.4s,baz=70,slow=4.6,SNR=7.3						
ILAR	**Eielson Array**	**62.16 27**		P	P	20 06 17.9	-0.9
	1.7nm,0.6s,baz=259,slow=5.1,SNR=21						
INK	**Inuvik**	**67.69 24**		P	P	20 06 53.4	-0.5
	1.6nm,0.7s,baz=224,slow=16,SNR=2.7						
AKTO	**Aktyubinsk**	**70.34 317**		P	P	20 07 11.5	-0.3
	0.9nm,0.4s,baz=79,slow=12,SNR=6.4						
YKA	**Yellowknife Ar**	**76.58 28**		P	P	20 07 46.4	0.0
	2.2nm,0.5s,baz=292,slow=6.0,SNR=11						
KEV	**Kevo**	**78.39 341**		*ep*	P	20 07 56.6	+0.3
	3.7nm,0.5s						
ARCES	**ARCESS Array B**	**78.95 341**		P	P	20 07 59.8	+0.4
	3.7nm,0.5s,baz=73,slow=8.8,SNR=39						
NEW	**Newport**	**80.42 42**		P	P	20 08 08.0	+0.3
	0.8nm,0.4s,baz=89,slow=13,SNR=3.5						
KBZ	**Khabaz**	**82.33 314**		P	P	20 08 18.3	+0.7
	3.1nm,0.8s,baz=72,slow=5.4,SNR=8.4						
KAF	**Kangasniemi**	**82.73 335**		*ep*	P	20 08 18.2	-1.1
	1.7nm,0.4s						
FINES	**FINESS Array B**	**83.19 334**		P	P	20 08 20.8	-0.9
	3.3nm,0.4s,baz=63,slow=4.8,SNR=45						
NVAR	**Mina Array Bea**	**83.28 51**		P	P	20 08 23.1	+0.1
	1.5nm,0.7s,baz=276,slow=5.4,SNR=12						
MIB	**Mutribah**	**84.22 300**		*i* P	P	20 08 27.4	-0.2
MIB				AMb	AMB	20 08 28.5	
	comp=Z,12nm,0.7s						
RDF	**Al-Radifah**	**84.37 299**		*i* P	P	20 08 28.0	-0.3
RDF				AMb	AMB	20 08 29.1	
	comp=Z,4.3nm,0.6s						
NAY	**Al-Naaiem**	**84.50 299**		*i* P	P	20 08 28.4	-0.5
NAY				AMb	AMB	20 08 29.5	
	comp=Z,5.5nm,0.7s						
NOA	**NORSAR Array B**	**88.97 339**		P	P	20 08 48.7	-1.0
	comp=Z,0.7nm,0.8s,baz=39,slow=5.1,SNR=2.5						
BRTR	**Keskin Array B**	**90.30 313**		P	P	20 08 55.5	-1.1
	comp=Z,0.2nm,0.3s,baz=64,slow=5.6,SNR=3.8						
LPAZ	**La Paz**	**150.07 85**		PKPbc	PKPbc	20 15 46.7	+0.9
	comp=Z,1.3nm,0.6s,baz=11,slow=2.2,SNR=7.2						
LPAZ				PKPab	PKPab	20 15 53.8	+1.0
	comp=Z,1.3nm,0.5s,baz=30,slow=3.9,SNR=6.1						

IDC 30 20:05:06.9±0.7,40°.13S×45°.58E,h0km,mb4.0/13, mb1 4.1/13,mb1mx4.0/28,mbtmp4.0/13,MS4.0/6, Ms1 4.0/6,ms1mx3.8/29,Error ellipse: s-maj=23.5km s-min=16.3km az=43.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**20.28 298**		P	Pn	20 09 45.4	-0.8
	12nm,1.2s,baz=134,slow=8.6,SNR=6.0						
BOSA				LR	LR	20 16 15.0	
	comp=Z,269nm,18.6s,baz=137,slow=33						
SUR	**Sutherland**	**21.38 283**		P	P	20 09 56.9	+0.7
	11nm,0.8s,baz=106,slow=7.4,SNR=5.3						
OPO	**Ambohidratompo**	**21.53 4**		P	P	20 09 58.4	+0.5
	4.7nm,0.9s,baz=148,slow=5.6,SNR=3.7						
OPO				LR	LR	20 16 48.7	
	comp=Z,224nm,20.9s,baz=192,slow=33						
LBTB	**Lobatse**	**22.53 306**		P	P	20 10 09.3	+0.8
	11nm,1.2s,baz=151,slow=10.0,SNR=5.6						
LBTB				LR	LR	20 17 43.1	
	comp=Z,356nm,18.1s,baz=143,slow=34						
LSZ	**Lusaka**	**29.05 324**		P	P	20 11 08.5	-0.6
	0.4nm,0.3s,baz=90,slow=12,SNR=3.2						
LSZ				LR	LR	20 21 36.0	
	comp=Z,392nm,18.8s,baz=129,slow=34						
MAW	**Mawson**	**29.13 166**		LR	LR	20 20 37.4	
	comp=Z,344nm,18.2s,baz=181,slow=32						
TSUM	**Tsumeb**	**31.83 303**		P	P	20 11 33.6	0.0
	1.5nm,0.8s,baz=153,slow=18,SNR=2.1						
KMBO	**Kilima Mbogo**	**39.56 347**		LR	LR	20 26 46.8	
	comp=Z,364nm,18.8s,baz=95,slow=33						
SNAA	**Sanae**	**39.64 202**		P	P	20 12 40.1	0.0
	1.3nm,1.2s,baz=32,slow=3.5,SNR=4.4						
QSPA	**South Pole Qui**	**50.07 180**		P	P	20 14 02.6	-0.7
	7.2nm,1.0s,baz=277,slow=0.6,SNR=11						
TORD	**Torodi Ar. Bea**	**66.85 313**		P	P	20 15 59.8	-1.0
	1.3nm,0.8s,baz=142,slow=5.0,SNR=8.8						
ASAR	**Alice Springs**	**73.93 107**		P	P	20 16 44.6	+0.4
	1.3nm,0.7s,baz=236,slow=6.6,SNR=2.4						
WRA	**Warramunga Arr**	**76.51 105**		P	P	20 16 59.3	+0.2
	1.7nm,0.7s,baz=224,slow=5.2,SNR=2.8						
CMAR	**Chiang Mai Arr**	**76.57 52**		P	P	20 16 59.8	+0.5
	0.4nm,0.4s,baz=220,slow=7.5,SNR=5.4						
BRTR	**Keskin Array B**	**80.22 351**		P	P	20 17 18.1	-1.1
	0.3nm,0.6s,baz=155,slow=4.8,SNR=2.9						
TXAR	**Lajitas Array**	**152.65 256**		PKPbc	PKPbc	20 25 06.0	+0.4
	1.1nm,0.7s,baz=134,slow=4.9,SNR=9.9						
TXAR	**Lajitas Array**	**152.65 256**		PKPbc	PKPbc	20 25 06.0	+0.4

*BJI **30** 20:05:34.9,20°.20S×173°.82W,h10km,mB6.3/55, mb5.5/43,Ms5.7/62,Ms7 5.4/55*

*NEIC **30** 20:05:35.6±0.1,20°.85S×174°.26W,h14km,mb5.8/125, ME6.0,MS5.7/134,MW5.8,Error ellipse: s-maj=5.0km s-min=3.6km az=144.0 Broadband fault plane solution: P waves. NP1:φs=30.00000°,δ85.00000°,λ90.00000°. NP2:φs210.00000°,δ5.00000°,λ.90.00000°. Principal axes: T Plg50.0000°, Azm300.0000°; N Plg0.0000°, Azm0.0000°; P Plg40.0000°, Azm120.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

*ISCJB **30** 20:05:35.4±1.4,20°.83S±0°.04×174°.25W±0°.03,h20km±9km, mb5.5/211,MS5.7/229 Error ellipse: s-maj=6.4km s-min=4.3km az=161.1*

*DJA **30** 20:05:36.7±0.3,21°.5S±1°.5W±1°,h10km,M6.1/62, mb5.5/62,mB6.4/49,Mw(mB)6.2/49*

*MOS **30** 20:05:37.7±1.2,20°.76S×174°.30W,h33km,mb5.9/47, MS5.6/70,Error ellipse: s-maj=9.0km s-min=7.2km az=68.2*

*GCMT **30** 20:05:37.9±0.1,21°.07S×173°.40W,h12km,MW5.7, Moment Tensor Solution. s92,c175; s67,c73; Moment tensor: Scale 10^17^Nm; Mrr3.09±.02; Mθθ-1.02±.02; Mφφ-2.07±.02; Mrθ1.34±.07; Mθφ-1.55±.02; Mφr2.52±.07; Best double couple: M₀4.20000×10^17^ NP1:φs221.00000°, δ24.00000°,λ.100.00000°. NP2:φs30.00000°,δ66.00000°, λ86.00000°. Principal axes: T 4.2100, Plg69.0000°, Azm292.0000°; N 0.0700, Plg4.0000°, Azm32.0000°; P -4.2700, Plg21.0000°, Azm124.0000°; Data Used: II IU*

CN IC G. Surface waves: sta=113, comp=235, per= 50.

*BKK **30** 20:05:38.5±0.6,21°.5S×97°.×17°.4W±1°.2,h10km,M6.2/34, mb5.8/34,mB6.5/28,Mw(mB)6.2/28*

*IDC **30** 20:05:38.3±3.7,20°.82S×174°.19W,h31km±25km,mb4.8/29, mb1 4.9/30,mb1mx4.9/31,mbtmp4.8/30,ML4.8/1,MS5.5/29, Ms1 5.5/29,ms1mx5.4/39,Error ellipse: s-maj=13.0km s-min=10.9km az=116.0*

*NEIC **30** 20:05:49.9±0.0,20°.57S×173°.52W,h14km,Moment Tensor Solution. s136 Moment tensor: Scale 10^17^Nm; Mrr3.62; Mθθ-1.29; Mφφ-2.33; Mrθ2.09; Mθφ-1.53; Mφr5.17; Best double couple: M₀6.60000×10^17^ NP1:φs24.00000°, δ74.00000°,λ.84.00000°. NP2:φs224.00000°,δ17.00000°, λ109.00000°. Principal axes: T 6.7500, Plg60.0000°, Azm286.0000°; N -0.3200, Plg5.0000°, Azm25.0000°; P -6.4300, Plg28.0000°, Azm118.0000°;*

ISC 30 20:05:36.0±0.3,20°.83S±0°.04×174°.15W±0°.03,h17km±1km, h17km:pP-P,n1397,σ1°41/1445,mb5.7/210,MS5.7/233, 260C-254D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.25**	**19**	*e*Pn	Pn	20 07 17.0	-4.3
AFI				*e*Sn	Sn	20 08 30.5	-13
AFI				Sn	Sb	20 08 31.6	-36
AFI	**Afiamalu**	**7.25**	**19**	Pn	Pn	20 07 17.0	-4.3
	44nm,0.3s,baz=340,slow=6.7,SNR=18						
AFI				Sn	Sn	20 08 31.6	-12
	37nm,0.3s,baz=180,slow=20,SNR=3.2						
MSVF	**Nonsavu**	**7.99 291**		Pn	Pn	20 07 39.0	+7.6
	6μm,1.1s						
MSVF	**Nonsavu**	**7.99 291**		*e*P	Pn	20 07 39.2	+7.8
MSVF	**Nonsavu**	**7.99 291**		*e*Pn	Pn	20 07 39.2	+7.8
RAO	**Raoul Island**	**9.05 201**		*e*Pn	**Pn**	**20 07 44.6**	**-1.3**
	1μm,0.9s						
RAO				*e*Sn	Sn	20 09 16.9	-11
RAO	**Raoul Island**	**9.05 201**		Pn	**Pn**	**20 07 44.0**	**-1.9**
	116nm,0.3s,baz=77,slow=22,SNR=9.6						
RAO				Sn	**Sn**	**20 09 24.1**	**-3.4**
	52nm,0.3s,baz=273,slow=23,SNR=6.4						
RAO				LR	LR	20 10 45.3	
	comp=Z,8μm,20.7s,baz=37,slow=34						
RAR	**Rarotonga**	**13.43**	**94**	*e*Pn	Pn	20 08 34.5	-11
RAR	**Rarotonga**	**13.43**	**94**	Pn	Pn	20 08 34.8	-11
	15nm,0.3s,baz=252,slow=6.3,SNR=18						
RAR				LR	LR	20 13 01.8	
	comp=Z,21μm,19.8s,baz=275,slow=33						
FUNA	**Funafuti**	**13.82 331**		*e*Pn	**Pn**	**20 08 49.7**	**-1.6**
OUZ	**Omahuta**	**17.93 214**		*e*Pn	**P**	**20 09 45.0**	**-0.1**
	90nm,1.9s						
DZM	**Mont Dzumac**	**18.11 263**		*e*P	**P**	**20 09 50.1**	**+2.8**
	369nm,1.4s						
DZM				*e*LR	LR	20 14 01.7	
	16μm,21.2s						
DZM	**Mont Dzumac**	**18.11 263**		*e*P	**P**	**20 09 48.5**	**+1.2**
DZM	**Mont Dzumac**	**18.11 263**		P	**P**	**20 09 49.5**	**+2.2**
DZM				S	**S**	**20 13 16.4**	**+2.0**
DZM	**Mont Dzumac**	**18.11 263**		P	**P**	**20 09 49.5**	**+2.2**
	4.4nm,0.3s,baz=89,slow=22,SNR=18						
DZM				S	**S**	**20 13 16.4**	**+2.0**
	0.1nm,0.3s,baz=253,slow=19,SNR=2.1						
NOUC	**Port Laguerre**	**18.24 262**		*e*P	**P**	**20 09 51.7**	**+3.1**
URZ	**Urewera**	**18.94 202**		*e*P	**P**	**20 09 56.5**	**+0.4**
	88nm,0.9s						
URZ				S	Sn	20 13 15.4	-13
URZ	**Urewera**	**18.94 202**		P	**P**	**20 09 55.6**	**-0.6**
	3.2nm,0.3s,baz=33,slow=5.8,SNR=20						
URZ				S	Sn	20 13 15.4	-13
	1.0nm,0.3s,baz=12,slow=19,SNR=4.0						
SNZO	**South Karori**	**22.50 202**		PFAKE		20 10 40.0	+5.4
SNZO				LR	LR		
	comp=Z,14μm,20.0s						
TBI	**Tubuai**	**23.01 101**		*e*P	**P**	**20 10 36.2**	**-4.0**
	comp=Z,612nm,1.3s						
TBI				*e*S	**S**	**20 14 46.1**	**-4.1**
	comp=Z,20μm,26.8s						
TBI				*e*LR	LR	20 16 14.5	
	comp=Z,13μm,22.2s,baz=271						
PAE	**Paea**	**23.41 86**		*e*P	**P**	**20 10 41.1**	**-3.2**
	comp=Z,32nm,1.2s						
PPT2	**Papeete2**	**23.42 86**		*e*P	**P**	**20 10 40.4**	**-4.2**
	comp=Z,190nm,1.3s						
PPT2				*e*S	S	20 14 50.4	-6.9
	comp=Z,22μm,26.0s						
PPT2				*e*LR	LR	20 16 22.3	
	comp=Z,12μm,21.2s,baz=257						
PPT	**Papeete**	**23.43 86**		P	**P**	**20 10 40.9**	**-3.

comp=Z,8µm,20.0s
POHA Pohakuloa 44.27 26 *e*P **P 20 13 46.8 +1.6**
comp=Z,163nm,1.1s
KIP Kipapa 44.86 22 *e*P **P 20 13 50.4 +0.8**
KIP *e*S **S 20 20 25.3 -1.3**
KIP MLR MLR
comp=Z,4µm,19.0s
KIP Kipapa 44.86 22 *e*P **P 20 13 50.4 +0.8**
KIP *e*S **S 20 20 25.3 -1.3**
KIP LR LR
comp=Z,4µm,19.0s
BBOO Buckleboo 45.63 244 *e*P **P 20 13 54.3 -1.5**
comp=Z,117nm,1.4s
JAY Jayapura 47.58 286 P **P 20 14 10.0 -1.3**
comp=Z,162nm,2.9s,comp=Z,6µm
ASAR Alice Springs 47.95 256 P **P 20 14 12.7 -1.4**
ASAR PcP **PcP 20 15 42.2 -0.1**
ASAR S **S 20 21 08.6 -2.7**
ASAR Alice Springs 47.95 256 P **P 20 14 12.7 -1.4**
comp=Z,71nm,1.1s,baz=91,slow=7.4,SNR=65
ASAR PcP **PcP 20 15 42.2 -0.1**
comp=Z,8.7nm,0.8s,baz=94,slow=3.4,SNR=3.2
ASAR S **S 20 21 08.6 -2.7**
comp=Z,2.2nm,1.0s,baz=93,slow=14,SNR=5.9
ASAR LR LR 20 33 49.6
comp=Z,5µm,18.9s,baz=99,slow=35
WRAB Tennant Creek 48.11 262 P **P 20 14 13.1 -2.2**
comp=Z,235nm,1.0s,SNR=7.8
WRAB Tennant Creek 48.11 262 *e*P **P 20 14 13.1 -2.2**
WRAB *e* 20 15 42.9
WRAB pmax pmax
comp=Z,62nm,1.2s
WRAB MLR MLR
comp=Z,3µm,19.0s
WRAB Tennant Creek 48.11 262 *e*P **P 20 14 13.1 -2.2**
comp=Z,62nm,1.2s
WRAB *e*PcP **PcP 20 15 42.9 -0.1**
WRAB LR LR
comp=Z,3µm,19.0s
WRA Warramunga Arr 48.12 261 P **P 20 14 13.1 -2.4**
WRA PcP **PcP 20 15 45.1 +2.1**
WRA S **S 20 21 09.2 -4.6**
WRA Warramunga Arr 48.12 261 P **P 20 14 13.1 -2.4**
comp=Z,29nm,1.0s,baz=101,slow=7.7,SNR=30
WRA PcP **PcP 20 15 45.1 +2.1**
comp=Z,6.8nm,0.8s,baz=98,slow=3.0,SNR=4.7
WRA S **S 20 21 09.2 -4.6**
comp=Z,2.0nm,1.1s,baz=99,slow=11,SNR=4.7
MIDW Midway 48.86 356 *e*P **P 20 14 21.1 +0.4**
MIDW *e*S **S 20 21 21.9 -1.7**
MIDW LR LR
comp=Z,5µm,19.0s
FORT Forrest 52.47 247 *e*P **P 20 14 46.5 -1.7**
comp=Z,101nm,0.7s
GUMO Guam 52.84 307 *e*P **P 20 14 50.6 -0.4**
GUMO *e*S **S 20 22 16.1 -3.1**
RKPI Ransiki, Papua 53.90 284 P P 20 14 48.5 -10
comp=Z,273nm,0.7s,comp=Z,5µm
DRV Dumont d'Urvil 54.27 201 P P 20 14 51.0 -10
DRV S S 20 22 00.0 -37
DRV SS SKiKP 20 25 59.0 -12
DRV L L 20 28 00.0
DRV R 20 32 00.0
FAKI Fak Fak 55.09 281 P **P 20 15 06.9 -0.7**
FITZ Fitzroy Crossi 56.55 262 S **S 20 23 06.4 -2.9**
comp=Z,3.2nm,1.1s,baz=112,slow=19,SNR=2.0
SWI Sorong 56.82 283 P **P 20 15 19.0 -1.0**
comp=Z,269nm,1.0s,comp=Z,5µm
SBA Scott Base 57.80 185 *e*P **P 20 15 27.9 +1.9**
SBA pmax pmax
comp=Z,1µm,3.0s
SBA MLR MLR
comp=Z,5µm,20.0s
SBA Scott Base 57.80 185 *e*P **P 20 15 27.9 +1.9**
comp=Z,1µm,3.0s
SBA LR LR
comp=Z,5µm,20.0s
VNDA Vanda 57.93 186 *e*P **P 20 15 28.4 +1.5**
VNDA PcP **PcP 20 16 21.8 +2.8**
VNDA Vanda 57.93 186 P **P 20 15 28.1 +1.3**
comp=Z,13nm,1.0s,baz=10,slow=7.4,SNR=50
VNDA PcP **PcP 20 16 21.8 +2.8**
comp=Z,9.1nm,1.0s,baz=358,slow=4.8,SNR=3.6
VNDA LR LR 20 36 10.6
comp=Z,4µm,18.3s,baz=359,slow=32
RPN Rapa Nui 59.00 110 *e*P **P 20 15 35.9 +0.8**
RPN *e*S **S 20 23 40.5 -0.7**
RPN LR LR
comp=Z,8µm,19.0s
SOEI Soe 60.11 271 P **P 20 15 43.3 +0.2**
BATI Baumata 60.53 270 P **P 20 15 45.9 0.0**
comp=Z,63nm,1.3s,comp=Z,2µm
BATI Baumata 60.53 270 LR LR 20 40 30.1
comp=Z,2µm,20.8s,baz=131,slow=35
TNTI Ternate 61.04 283 P **P 20 15 49.5 +0.2**
MBWA Marble Bar 61.29 257 *e*P **P 20 15 50.6 -0.3**
comp=Z,53nm,0.8s
MBWA LR LR
comp=Z,6µm,20.0s
NWAO Narrogin (SRO) 61.44 243 *e*P **P 20 15 51.4 -0.3**
comp=Z,125nm,1.4s
NWAO LR LR
comp=Z,3µm,19.0s
NWAO Narrogin (SRO) 61.44 243 P **P 20 15 51.7 -0.1**
comp=Z,34nm,1.1s,baz=93,slow=7.3,SNR=9.1
BBSI Bau Bau 63.11 274 P **P 20 16 03.6 +0.4**
comp=Z,115nm,1.8s,comp=Z,2µm
BASI Baing, Sumba 63.42 269 P **P 20 16 05.3 +0.1**
comp=Z,306nm,1.7s,comp=Z,4µm
MNI Manado 63.62 283 P **P 20 16 05.5 -1.1**
comp=Z,138nm,1.1s,comp=Z,3µm
WSI Waingapu 63.85 269 P **P 20 16 08.0 -0.1**
comp=Z,252nm,2.0s,comp=Z,5µm
KKSI Kolaka, Sulawe 64.43 275 P **P 20 16 10.6 -1.3**
comp=Z,38nm,1.5s,comp=Z,1µm
LUWI Luwuk 64.54 279 P **P 20 16 11.3 -1.4**
GTOI Gorontalo 64.97 281 P **P 20 16 16.0 +0.6**
comp=Z,187nm,1.4s,comp=Z,3µm
CASY Casey 65.21 206 *e*P **P 20 16 19.0 +2.8**
comp=Z,95nm,1.3s
CASY LR LR
comp=Z,2µm,19.0s
DAV Davao City (W) 65.34 289 *e*P **P 20 16 17.3 -0.6**
DAV *e*S **S 20 24 58.0 -3.6**
DAV LR LR
comp=Z,2µm,19.0s
MRSI Marisa 65.89 280 P **P 20 16 19.9 -1.5**
comp=Z,60nm,1.2s,comp=Z,2µm
KAPI Kappang 65.90 274 P **P 20 16 21.8 +0.3**
comp=Z,139nm,1.6s,SNR=6.7
KAPI Kappang 65.90 274 *e*P **P 20 16 20.2 -1.3**
comp=Z,22nm,1.5s
KAPI LR LR
comp=Z,1µm,21.0s
KAPI Kappang 65.90 274 P **P 20 16 21.2 -0.3**
comp=Z,42nm,2.5s,comp=Z,2µm
TTSI Tana Toraja 66.54 276 P **P 20 16 24.3 -1.3**
comp=Z,30nm,1.3s,comp=Z,908nm
QSPA South Pole Qui 69.24 180 *e*P **P 20 16 41.8 -0.1**
QSPA *e*S **S 20 25 44.3 -2.9**
QSPA LR LR
comp=Z,6µm,19.0s
QSPA South Pole Qui 69.24 180 P **P 20 16 42.2 +0.3**
comp=Z,61nm,0.9s,baz=48,slow=2.1,SNR=92
MYLDM Lahad Datu 70.91 283 P **P 20 16 55.0 +2.2**
comp=Z,98nm,1.1s,comp=Z,5µm
BBKI Banjar Baru 71.03 274 P **P 20 16 54.6 +1.0**
comp=Z,95nm,2.1s,comp=Z,4µm
TSM Tawau 71.12 282 P **P 20 16 56.4 +2.2**
AMKA Amchitka 72.13 356 *e*P **P 20 16 59.8 +0.5**
comp=Z,19nm,1.0s
MIR Mirnyy 72.21 205⇓ *i*P **P 20 17 02.5 +2.8**
MIR *e* 20 17 22.0
MIR *e*S **S 20 26 24.0 +2.6**
MIR *e*PS PnS 20 27 04.0 +12
MIR *e*SS **SS 20 31 04.0 +5.5**
MIR pmax pmax
comp=Z,94nm,1.5s
MIR MLR MLR
comp=N,2µm,18.0s
MIR MLR MLR
comp=E,3µm,18.0s
MIR MLR MLR
comp=Z,4µm,18.0s
SDKM Sandakan 72.28 283 P **P 20 17 02.1 +0.9**
PWJI Pagerwojo 72.32 268 P **P 20 17 02.3 +0.9**
comp=Z,53nm,1.6s,comp=Z,17µm
ADK Adak 72.44 358 *e*P **P 20 17 01.4 +0.2**
ADK pmax pmax
comp=Z,483nm,1.2s
ADK MLR MLR
comp=Z,7µm,20.0s
ADK Adak 72.44 358 *e*P **P 20 17 01.4 +0.2**
comp=Z,121nm,1.2s
ADK LR LR
comp=Z,7µm,20.0s
SJI Sawahan 72.45 268 P **P 20 17 02.2 -0.1**
comp=Z,87nm,2.3s,comp=Z,3µm
MJAR Matsushiro Arr 72.67 321 P **P 20 17 02.7 -0.2**
MJAR Matsushiro Arr 72.67 321 P **P 20 17 02.7 -0.2**
comp=Z,6.8nm,0.6s,baz=155,slow=6.2,SNR=26
MJAR LR LR 20 43 21.8
comp=Z,1µm,20.5s,baz=105,slow=31
MAJO Matsushiro 72.67 321 *e*P **P 20 17 02.9 0.0**
MAJO pmax pmax
comp=Z,203nm,1.9s
MAJO MLR MLR
comp=Z,2µm,19.0s
MAJO Matsushiro 72.67 321 *e*P **P 20 17 02.9 0.0**
comp=Z,34nm,1.9s
MAJO LR LR
comp=Z,1µm,19.0s
MAT Matsushiro 72.67 321 P **P 20 17 02.3 -0.6**
MAT S **S 20 26 26.2 -1.3**
ATKA Atka Island 72.72 360 *e*P **P 20 17 02.9 +0.1**
comp=Z,201nm,1.4s
JOW Kunigami 73.18 308 *e*P **P 20 17 07.1 +1.0**
comp=Z,57nm,1.2s
KKM Kota Kinabalu 73.34 283 *e*P **P 20 17 08.6 +1.1**
comp=Z,136nm,1.3s
KKM LR LR
comp=Z,1µm,21.0s
KKM Kota Kinabalu 73.34 283 P **P 20 17 08.1 +0.6**
comp=Z,110nm,1.2s,comp=Z,3µm
ERM Erimo 73.94 328 *e*P **P 20 17 10.2 -0.1**
ERM *e*S **SKiKP 20 26 38.6 +0.1**
ERM MLR MLR
comp=Z,4µm,19.0s
ERM Erimo 73.94 328 *e*P **P 20 17 10.2 -0.1**
ERM *e*S **SKiKP 20 26 38.5 +0.1**
ERM LR LR
comp=Z,4µm,19.0s
SMY Shemya 73.96 353 *e*P **P 20 17 10.6 +0.5**
SMY pmax pmax
comp=Z,936nm,2.5s
SMY Shemya 73.96 353 *e*P **P 20 17 10.6 +0.5**
comp=Z,936nm,2.5s
YUK Yuzh-Kuril'sk 74.22 331 *i*P **P 20 17 12.0 +0.2**
YUK *i* 20 19 56.0
YUK *i* PPP PPP 20 21 45.6
YUK *e*S **S 20 26 44.7 +0.1**
YUK *e*SS **SS 20 31 32.5 +1.7**
YUK pmax pmax
comp=E,83nm,1.4s
YUK pmax pmax
comp=N,84nm,1.4s
YUK pmax pmax
comp=Z,193nm,1.4s
YUK pmax pmax
comp=Z,2µm,3.6s
FX1 Attu Island--F 74.23 352 *e*P **P 20 17 10.6 -1.1**
PBKI Pangkalan Bun 74.26 273 P **P 20 17 14.0 +1.2**
KUR Kuril'sk 74.29 333*c* *i*P P 20 17 06.2 -6.0
KUR *i*S **S 20 26 45.0 -0.3**
KUR pmax pmax
comp=Z,276nm,2.5s
KUR pmax pmax
comp=N,23nm,1.3s
KUR pmax pmax
comp=E,68nm,1.3s
KUR pmax pmax
comp=Z,2µm,5.4s
KUR MLR MLR
comp=N,4µm,19.0s
KUR MLR MLR
comp=E,2µm,19.0s
KUR MLR MLR
comp=Z,3µm,19.0s
BJII Banjamegara 74.51 268 P **P 20 17 14.9 +0.5**
comp=Z,86nm,2.5s,comp=Z,4µm
UNV Unalaska Valle 74.66 5 *e*P **P 20 17 14.4 +0.3**
comp=Z,586nm,2.9s
CLJI Cilicap 75.03 267 P **P 20 17 16.0 -1.3**
comp=Z,64nm,0.8s,comp=Z,7µm
JNU Nakatsue 75.03 315 *e*P **P 20 17 17.2 +0.3**
comp=Z,87nm,1.7s
BTM Bintulu 75.10 279 P **P 20 17 20.3 +2.6**
TGJI Tegal 75.21 268 P **P 20 17 18.9 +0.6**
comp=Z,81nm,2.6s,comp=Z,4µm
SCI San Clemente I 75.37 46⇓ P **P 20 17 19.2 +0.4**
baz=76
SCI ⇑S **S 20 27 03.0 +5.1**
baz=76
SCI ⇑S **S 20 27 03.0 +5.1**
baz=76
SCI ⇑S **S 20 27 03.0 +5.1**
baz=76
SBC Santa Barbara 75.49 44⇓ P **P 20 17 20.4 +1.0**
baz=76
SBUM Sibu 75.62 278 P **P 20 17 22.1 +1.5**
SBUM Sibu 75.62 278 P **P 20 17 21.2 +0.5**
comp=Z,56nm,4.0s,comp=Z,3µm
PKM Peak Mountain 75.70 44⇓ P **P 20 17 21.6 +0.7**
baz=76,SNR=6.6
BLG Laguna Peak 75.71 45⇑ P **P 20 17 21.5 +0.8**
baz=76
CIS Catalina Islan 75.72 46⇓ P **P 20 17 21.5 +0.7**
baz=76
ASAJ Asahikawa 75.79 329 *e*P **P 20 17 22.1 +1.2**
comp=Z,150nm,2.5s
ASAJ Asahikawa 75.79 329 P **P 20 17 20.9 -0.1**
comp=Z,10nm,0.7s,baz=205,slow=6.3,SNR=10
SMMC Simmler 75.84 43⇑ P **P 20 17 22.7 +1.2**
baz=76
SAO San Andreas Ge 75.85 41 *e*P **P 20 17 22.4 +0.9**
SAO pmax pmax
comp=Z,539nm,2.6s
SAO San Andreas Ge 75.85 41 *e*P **P 20 17 22.4 +0.9**
comp=Z,137nm,2.6s
SKR Severo-Kuril's 75.88 341⇑ *i*P P 20 17 15.0 -6.3
SKR *e* 20 17 24.0
SKR *e*S **S 20 27 01.2 -1.6**
SKR *e*PS **PnS 20 27 34.0 -6.7**
SKR *e*SSS SSS 20 35 06.0
SKR pmax pmax
comp=N,1µm,4.0s
SKR pmax pmax
comp=E,2µm,4.0s
SKR pmax pmax
comp=Z,2µm,4.0s
SKR pmax pmax
comp=N,500nm,6.0s
SKR pmax pmax
comp=E,500nm,6.0s
SKR pmax pmax
comp=Z,600nm,6.0s
SKR smax smax
comp=N,3µm,12.0s
SKR smax smax
comp=E,2µm,12.0s
SKR pmax pmax
comp=N,3µm,26.0s
SKR pmax pmax
comp=E,2µm,24.0s
SKR MLR MLR
comp=N,2µm,18.0s
SKR MLR MLR
comp=E,1µm,18.0s
SKR MLR MLR
comp=Z,2µm,18.0s
FMP Fort Macarthur 75.98 45⇓ P **P 20 17 23.1 +0.8**
baz=76
OSI Osito Adit 76.24 44⇓ P **P 20 17 24.6 +0.7**
baz=76
DECC Green Verdugo 76.28 45⇓ P **P 20 17 24.4 +0.4**
baz=77
109C Camp Elliot, M 76.29 47⇓ P **P 20 17 24.7 +0.6**
baz=77
HOPS Hopland 76.33 39 *e*P **P 20 17 24.4 +0.2**
comp=Z,55nm,2.0s
PASC Pasadena Art C 76.33 45 *e*P **P 20 17 24.6 +0.3**
MWC Mount Wilson 76.44 45 *e*P **P 20 17 25.9 +0.8**
MWC pmax pmax
comp=Z,362nm,2.6s
MWC Mount Wilson 76.44 45 *e*P **P 20 17 25.9 +0.8**
comp=Z,362nm,2.6s
BAR Barrett 76.46 47 *e*P **P 20 17 26.4 +1.3**
comp=Z,20nm,1.7s
ARVC Arvin 76.48 44⇓ P **P 20 17 25.8 +0.7**
baz=77
KCPM Cahto Peak 76.49 38 *e*P **P 20 17 25.3 +0.1**
comp=Z,57nm,1.6s
TWG Pinlang 76.62 301 *e*P **P 20 17 24.1 -2.1**
comp=Z,89nm,0.6s
KIPM Iron Peak 76.63 38 *e*P **P 20 17 26.6 +0.5**
comp=Z,153nm,1.9s
MURC Murrieta 76.64 46⇓ P **P 20 17 27.1 +1.0**
baz=77
BFSC Mount Baldy Ra 76.72 45⇓ P **P 20 17 27.1 +0.5**
baz=77
YULB Yu-li 76.72 302 *e*P **P 20 17 25.8 -0.9**
comp=Z,70nm,1.4s
MONP Monument Peak 76.76 47⇓ P **P 20 17 27.8 +0.8**
baz=77
VES Vestal, Richgr 76.76 43⇓ P **P 20 17 26.9 +0.2**
baz=77,SNR=5.0
SDPT Sand Point 76.77 8 *e*P **P 20 17 24.9 -1.3**
comp=Z,93nm,1.2s
DVTC Desert V Tower 76.84 47⇑ P **P 20 17 28.0 +0.7**
baz=77
NACB Ninganchiao 76.87 302 *e*P **P 20 17 26.9 -0.7**
comp=Z,252nm,1.5s
EDW2 Edwards Air Fo 76.88 45⇑ P **P 20 17 27.7 +0.2**
baz=77,SNR=19
RCTC Rector, Farmer 76.95 43⇓ P **P 20 17 28.7 +1.0**
baz=77
KSM Kuching 77.03 277 *e*P **P 20 17 28.9 +0.3**
comp=Z,515nm,2.1s
KSM LR LR
comp=Z,1µm,22.0s
KSM Kuching 77.03 277 P **P 20 17 30.5 +1.8**
KSM Kuching 77.03 277 P **P 20 17 29.5 +0.8**
comp=Z,95nm,2.4s,comp=Z,4µm
ISA Isabella 77.04 44 *e*P **P 20 17 28.5 +0.2**
ISA pmax pmax
comp=Z,444nm,2.5s
ISA Isabella 77.04 44 *e*P **P 20 17 28.5 +0.2**
comp=Z,108nm,2.5s
ISA Isabella 77.04 44⇑ P **P 20 17 28.6 +0.2**
baz=77,SNR=17
PFO Pinyon Flat Ob 77.15 46 P **P 20 17 29.3 +0.3**
comp=Z,94nm,1.3s,SNR=9.5
PFO Pinyon Flat Ob 77.15 46 *e*P **P 20 17 29.4 +0.3**
comp=Z,342nm,2.6s
PFO Pinyon Flat Ob 77.15 46 LR LR 20 44 42.3
comp=Z,2µm,18.5s,baz=244,slow=30
PFO Pinyon Flat Ob 77.15 46⇓ P **P 20 17 29.4 +0.3**
baz=77,SNR=7.3
SSLB Suanglung 77.19 302 *e*P **P 20 17 28.2 -1.2**
comp=Z,26nm,0.7s
KHMM Horse Mountain 77.20 37 *e*P **P 20 17 31.4 +2.2**
comp=Z,331nm,2.6s
TPUB Ta-pu 77.21 301 *e*P **P 20 17 27.8 -1.7**
comp=Z,419nm,2.0s
SWSC Sam W. Stewart 77.21 47⇓ P **P 20 17 29.9 +0.6**
baz=78
BBRC Big Bear Solar 77.22 46⇓ P **P 20 17 30.2 +0.6**
baz=78
PET Petropavlovsk 77.24 344 *e*P **P 20 17 28.7 -0.2**
PET *e* 20 17 41.0
PET *e* 20 20 23.4
PET *e*PPP PPP 20 22 09.9
PET *e*S **S 20 27 17.4 -0.3**
PET *e*PS PnS 20 27 45.3 -13
PET *e*PPS PPS 20 28 17.3
PET *e*SS **SS 20 32 20.0 +3.6**
PET pmax pmax
comp=Z,1µm,3.9s
PET pmax pmax
comp=Z,800nm,6.6s
PET pmax pmax
comp=Z,43nm,2.4s
PET pmax pmax
comp=Z,300nm,8.0s
PET MLR MLR
comp=Z,4µm,19.0s
PET MLR MLR
comp=Z,3µm,20.0s
YHNB Yeheng 77.29 303 *e*P **P 20 17 28.8 -1.2**
comp=Z,57nm,1.1s
YHNB LR LR
comp=Z,1µm,19.0s
CMB Columbia Colle 77.31 41 *e*P **P 20 17 28.7 -1.1**
CMB pmax pmax
comp=Z,403nm,2.5s
CMB Columbia Colle 77.31 41 *e*P **P 20 17 28.7 -1.1**
comp=Z,403nm,2.5s
TATO Taipei 77.36 303 *e*P **P 20 17 29.8 -0.4**
comp=Z,46nm,1.3s
TATO LR LR
comp=Z,1µm,19.0s
LRMC Laurel Mountai 77.44 44⇑ P **P 20 17 31.3 +0.7**
baz=78,SNR=7.4
OHCM Honcut 77.48 39 *e*P **P 20 17 32.3 +1.7**
RRX Edison Barstow 77.53 45⇑ P **P 20 17 31.7 +0.6**
baz=78
KRMB Red Mountain 77.54 36 *e*P **P 20 17 33.6 +2.6**
comp=Z,370nm,3.0s
PETK Petropavlovsk- 77.58 343 P **P 20 17 30.4 -0.4**
PETK 20 27 49.9
PETK Petropavlovsk- 77.58 343 P **P 20 17 30.4 -0.4**
PETK ScS **SKSac 20 27 49.9 +6.7**
PETK Petropavlovsk- 77.58 343 P **P 20 17 30.4 -0.4**
comp=Z,12nm,0.7s,baz=145,slow=8.4,SNR=17
PETK ScS **SKSac 20 27 49.9 +6.7**
comp=Z,2.0nm,0.5s,baz=186,slow=12,SNR=4.4
PETK LR LR 20 52 10.6
comp=Z,1µm,19.0s,baz=159,slow=36
WDC Whiskeytown Da 77.68 38 *e*P **P 20 17 31.6 -0.1**
WDC pmax pmax
comp=Z,71nm,1.6s
WDC Whiskeytown Da 77.68 38 *e*P **P 20 17 31.6 -0.1**
comp=Z,71nm,1.6s
BELC Belle Mtn. Jos 77.69 46⇑ P **P 20 17 32.5 +0.4**
baz=78,SNR=16
CWC Cottonwood Cre 77.77 43⇓ P **P 20 17 33.0 +0.5**
baz=78,SNR=7.9
SPIA Saint Paul Isl 77.78 2 *e*P **P 20 17 34.7 +2.9**
comp=Z,262nm,1.3s
BC3 Big Chuckawall 77.86 47⇓ P **P 20 17 33.5 +0.5**
baz=78,SNR=7.0
YSS Yuzh-Sakhalins 77.86 331⇑ *e*P **P 20 17 34.0 +1.5**
YSS *e* 20 17 47.0
YSS *e* 20 20 30.0
YSS *e*S **S 20 27 28.0 +3.4**
YSS *e*PPS PPS 20 28 16.0
YSS pmax pmax
comp=Z,130nm,1.5s
YSS pmax pmax
comp=Z,1µm,5.0s
YSS smax smax
comp=N,2µm,12.0s
YSS smax smax
comp=E,1µm,9.0s
YSS MLR MLR
comp=N,2µm,18.0s
YSS MLR MLR
comp=E,1µm,18.0s
YSS MLR MLR
comp=Z,2µm,18.0s
GSC Goldstone 77.91 45 *e*P **P 20 17 33.7 +0.4**
GSC pmax pmax
comp=Z,471nm,2.8s
GSC Goldstone 77.91 45 *e*P **P 20 17 33.7 +0.4**
comp=Z,113nm,2.8s
GSC Goldstone 77.91 45⇓ P **P 20 17 33.9 +0.7**
baz=78,SNR=8.5
MPMC Manual Prospec 77.92 44⇓ P **P 20 17 33.8 +0.4**
baz=78,SNR=38
GLA Glamis 77.94 48 *e*P **P 20 17 35.4 +2.0**
GLA pmax pmax
comp=Z,303nm,2.3s
GLA Glamis 77.94 48 *e*P **P 20 17 35.4 +2.0**
comp=Z,75nm,2.3s
GLA Glamis 77.94 48⇓ P **P 20 17 34.5 +1.1**
baz=78
HEC Hector,Ludlow 77.95 45⇓ P **P 20 17 33.3 -0.1**
baz=78,SNR=19
CHGN Chignik 77.98 9 *e*P **P 20 17 33.8 +0.8**
MLAC Mammoth Lakes 78.02 42⇓ P **P 20 17 34.9 +0.9**

baz=78
TIN Tinemaha 78.05 43 ⇑P P 20 17 35.2 +1.2
baz=78
WAKR Walker 78.19 41 eP P 20 17 34.5 -0.3
YBH Yreka Blue Hor 78.35 37 eP P 20 17 35.1 -0.5
comp=Z,203nm,2.1s
YBH Yreka Blue Hor 78.35 37 P P 20 17 35.3 -0.2
baz=252,slow=6.4
YBH LR LR 20 45 38.2
comp=Z,5µm,19.9s,baz=221,slow=31
IRM Iron Mountain 78.36 47 ⇑P P 20 17 35.7 +0.1
baz=79,SNR=18
GMRC Granite Mounta 78.37 46 ⇑P P 20 17 36.3 +0.5
baz=79,SNR=17
BEKR Beckworth 78.49 39 eP P 20 17 36.4 -0.1
comp=Z,50nm,1.6s
113A Mohawk Valley, 78.52 48 ⇑P P 20 17 37.1 +0.6
baz=79
Y12C Blythe 78.55 47 ⇓P P 20 17 37.6 +1.0
baz=79
GRAC Grapevine Rang 78.56 43 ⇓P P 20 17 37.7 +1.0
baz=79,SNR=19
FURC Furnace Creek, 78.57 44 ⇑P P 20 17 37.9 +1.2
baz=79
TUQ Turquoise Moun 78.57 45 ⇓P P 20 17 37.6 +0.6
baz=79,SNR=13
SHOC Shoshone 78.61 45 ⇑P P 20 17 38.0 +1.0
baz=79
214A Organ Pipe Nat 78.75 50 ⇑P P 20 17 38.8 +0.9
baz=79
HUMO Hull Mountain 78.80 36 eP P 20 17 40.0 +2.1
comp=Z,344nm,2.5s
NVAR Mina Array Bea 78.84 41 P P 20 17 37.4 -1.0
NVAR Mina Array Bea 78.84 41 P P 20 17 37.4 -1.0
comp=Z,25nm,0.8s,baz=224,slow=9.4,SNR=50
NVAR LR LR 20 47 01.7
comp=Z,5µm,18.8s,baz=119,slow=32
PAHR Pah Rah Range 78.97 40 eP P 20 17 38.9 -0.2
comp=Z,556nm,2.4s
NEE2 Needles Airpor 79.06 46 ⇑P P 20 17 40.6 +1.1
baz=79
PDMCI Parker Dam,Lak 79.12 47 ⇓P P 20 17 40.9 +1.1
baz=79
TPH Tonopah 79.30 42 PFAKE 20 17 50.0 +9.0
TPH LR LR
comp=Z,4µm,20.0s
Z14A Wintersburg 79.42 48 ⇑P P 20 17 42.8 +1.3
baz=80
PMSA Palmer Station 79.53 156 eP P 20 17 41.8 +0.3
PMSA eS **S 20 27 39.5 -2.7**
PMSA LR LR
comp=Z,3µm,20.0s
PMSA Palmer Station 79.53 156 P P 20 17 41.3 -0.2
comp=Z,6.8nm,0.9s,baz=270,slow=13,SNR=2.6
KSRS Korea Array 79.56 317 P P 20 17 43.5 +1.4
comp=Z,12nm,1.2s,baz=130,slow=6.2,SNR=22
KSRS LR LR 20 47 21.9
comp=Z,1µm,22.0s,baz=126,slow=32
KSAR Wonju Array Be 79.58 317 P P 20 17 43.5 +1.3
QZH Quanzhou 79.63 302 ⇑i P P 20 17 43.3 +0.5
QZH S **S 20 27 42.0 -2.5**
QZH pmax pmax
comp=Z,220nm,1.2s
QZH pmax pmax
comp=Z,3µm,5.2s
QZH LR LR
comp=N,880nm,12.5s
QZH LR LR
comp=E,2µm,18.2s
QZH LR LR
comp=Z,3µm,20.0s
Y14A Wickenburg 79.70 48 ⇓P P 20 17 43.9 +0.8
baz=80,SNR=10
W13A Hualapai Mount 79.75 46 ⇑P P 20 17 44.5 +1.0
baz=80,SNR=11
KDAK Kodiak Island 80.36 12 eP P 20 17 48.6 +2.7
KDAK LR LR
comp=Z,4µm,20.0s
KDAK Kodiak Island 80.36 12 P P 20 17 47.2 +1.3
comp=Z,18nm,1.0s,baz=282,slow=2.9,SNR=5.8
TUC Tucson 80.39 50 eP P 20 17 47.6 +0.7
TUC pmax pmax
comp=Z,1µm,2.4s
TUC MLR MLR
comp=Z,5µm,19.0s
TUC Tucson 80.39 50 eP P 20 17 47.5 +0.7
comp=Z,1µm,2.4s
TUC LR LR
comp=Z,5µm,19.0s
INCN Inchon 80.41 316 eP P 20 17 47.4 +0.7
comp=Z,8.6nm,0.9s
INCN LR LR
comp=Z,2µm,21.0s
R11A Troy Canyon, C 80.50 43 ⇑P P 20 17 48.4 +0.9
baz=81
VLA Vladivostok 80.67 323 ⇑i P P 20 17 48.6 +0.6
VLA e 20 17 54.6
VLA e 20 20 53.4
VLA i S **S 20 27 55.8 +1.1**
VLA pmax pmax
comp=Z,52nm,2.2s
VLA MLR MLR
comp=E,45µm,18.0s
SSE Sheshan 80.69 308 ⇑P P 20 17 49.3 +0.9
SSE S **S 20 27 56.5 +1.1**
SSE sS **sS 20 28 01.3 -3.5**
SSE pmax pmax
comp=Z,47nm,1.3s
SSE pmax pmax
comp=Z,910nm,10.1s
SSE LR LR
comp=N,470nm,22.1s
SSE LR LR
comp=E,660nm,22.2s
SSE LR LR
comp=Z,630nm,17.1s
BMN Battle Mountai 80.72 40 eP P 20 17 50.5 +1.9
BMN Battle Mountai 80.72 40 eP P 20 17 50.5 +1.9
319A Douglas 80.99 52 ⇓P P 20 17 50.9 +0.7
baz=81
X16A Lo Mia Camp, P 81.05 48 ⇓P P 20 17 51.7 +1.2
baz=81,SNR=6.4
WVOR Wild Horse Val 81.12 38 eP P 20 17 50.7 +0.1
WVOR e 20 20 57.0
WVOR pmax pmax
comp=Z,44nm,1.1s
WVOR MLR MLR
comp=Z,4µm,19.0s
WVOR Wild Horse Val 81.12 38 eP P 20 17 50.7 +0.1
comp=Z,44nm,1.1s
WVOR ePP **PP 20 20 57.0 +0.9**
WVOR LR LR
comp=Z,4µm,19.0s
USRK Ussuriysk Arra 81.31 324 P P 20 17 52.9 +1.5
comp=Z,18nm,1.2s,baz=116,slow=4.4,SNR=21
USRK LR LR 20 50 37.4
comp=Z,6µm,20.0s,baz=119,slow=33
VFP Flag Point 81.40 35 P P 20 17 52.5 +0.4
CCUT Cedar City 81.47 45 eP P 20 17 53.6 +0.9
comp=Z,311nm,2.6s
FL2 Flat Top 2 81.52 33 P P 20 17 53.9 +1.3
320A Kipp Ranch, An 81.53 52 ⇓P P 20 17 54.0 +0.9
baz=82,SNR=7.8
U15A North Rim 81.56 46 ⇑P P 20 17 54.2 +0.9
baz=82,SNR=19
NLWA Neilton Lookou 81.56 32 eP P 20 17 55.7 +3.0
comp=Z,184nm,2.1s
NLWA LR LR
comp=Z,6µm,20.0s
WUAZ Wupatki 81.69 47 eP P 20 17 54.6 +0.8
comp=Z,223nm,2.2s
WUAZ LR LR
comp=Z,2µm,19.0s
WUAZ Wupatki 81.69 47 ⇓P P 20 17 55.1 +1.3
baz=82,SNR=6.2
TDL Tradedollar La 81.69 33 P P 20 17 54.2 +0.6
220A Playas Peak, P 81.81 52 ⇓P P 20 17 56.0 +1.4
baz=82,SNR=18
USHA Ushuaia 81.85 146 P P 20 17 54.6 +0.4
USHA Ushuaia 81.85 146 P P 20 17 54.6 +0.4
comp=Z,5.5nm,0.7s,baz=268,slow=4.7,SNR=6.9
120A U Bar Ranch, L 82.06 51 ⇓P P 20 17 57.0 +1.2
baz=82
X18A Snowflake 82.15 49 ⇓P P 20 17 57.3 +1.0
baz=82
LON Longmire 82.17 33 eP P 20 17 56.8 +0.8
LON pmax pmax
comp=Z,168nm,2.4s
LON Longmire 82.17 33 eP P 20 17 56.8 +0.8
comp=Z,168nm,2.4s
GNW Green Mountain 82.20 32 P P 20 17 57.0 +1.0
Z20A Nine Sixteen R 82.38 50 ⇓P P 20 17 58.7 +1.2
baz=83,SNR=13
221A Mesquite Ranch 82.42 52 ⇑P P 20 17 58.7 +1.1
baz=83
MAW Mawson 82.44 199 P P 20 17 58.2 +1.1
MAW Mawson 82.44 199 P P 20 17 58.2 +1.1
comp=Z,22nm,0.9s,baz=130,slow=6.6,SNR=20
MAW LR LR 20 53 16.2
comp=Z,5µm,18.7s,baz=117,slow=35
HABR Khabarovsk 82.56 329 i P P 20 17 58.0 +0.2
HABR e*PP **pP 20 18 07.7 +4.2**
HABR e*SP sP 20 18 11.7 +6.1
HABR e 20 21 06.8
HABR eS **S 20 28 14.2 +0.3**
HABR eSS **SS 20 33 36.8 +0.6**
HABR eSSS SSS 20 37 05.5
HABR pmax pmax
comp=N,38nm,2.2s
HABR pmax pmax
comp=Z,197nm,2.2s
HABR pmax pmax
comp=E,66nm,2.2s
HABR pmax pmax
comp=Z,1µm,4.4s
HABR MLR MLR
comp=Z,2µm,18.0s
W18A Petrified Fore 82.61 48 ⇑P P 20 18 00.2 +1.5
baz=83
121A Cookes Peak, D 82.67 51 ⇓P P 20 18 00.3 +1.3
baz=83,SNR=13
MVU Marysvale 82.76 44 eP P 20 18 01.2 +1.7
comp=Z,67nm,1.5s
MVU LR LR
comp=Z,3µm,20.0s
MSU Marysvale 82.79 44 eP P 20 18 00.5 +0.9
MSU Marysvale 82.79 44 eP P 20 18 00.5 +0.9
RSO Redoubt South 82.85 10 eP P 20 18 00.8 +1.4
NJ2 Nanjing 82.89 308 eP P 20 18 02.0 +2.0
NJ2 pP **PcP 20 18 05.3 +0.6**
NJ2 sP **sP 20 18 06.5 -1.2**
NJ2 PP **PP 20 21 12.0 +1.2**
NJ2 S **SKSac 20 28 23.0 +1.9**
NJ2 sS **sS 20 28 27.0 -0.5**
NJ2 pmax pmax
comp=Z,1µm,6.2s
NJ2 LR LR
comp=N,1µm,21.4s
NJ2 LR LR
comp=E,740nm,26.0s
NJ2 LR LR
comp=Z,1µm,19.8s
MDJ Mudanjiang 82.90 323 P P 20 18 00.5 +0.8
MDJ pP **PcP 20 18 03.8 -0.7**
MDJ sP **sP 20 18 04.8 -2.7**
MDJ S **SKSac 20 28 21.0 +0.4**
MDJ pmax pmax
comp=Z,50nm,1.4s
MDJ pmax pmax
comp=Z,2µm,6.1s
MDJ LR LR
comp=N,2µm,19.5s
MDJ LR LR
comp=E,2µm,18.3s
MDJ LR LR
comp=Z,4µm,18.3s
MDJ Mudanjiang 82.90 323 eP P 20 17 59.6 -0.1
comp=Z,325nm,2.1s
MDJ LR LR
comp=Z,4µm,20.0s
Y20A Horse Springs, 82.94 50 ⇓P P 20 18 01.9 +1.3
baz=83,SNR=6.4
222A Williams Famil 82.96 52 ⇑P P 20 18 01.6 +1.0
baz=83,SNR=9.2
SVW2 Sparrevohn 83.01 9 eP P 20 18 00.9 +1.0
comp=Z,156nm,2.5s
BBB Bella Bella 83.04 27 LR LR 20 52 32.9
comp=Z,2µm,18.2s,baz=224,slow=34
GZH Guangzhou 83.05 298 P P 20 18 02.3 +1.4
GZH S S 20 28 28.5 +8.5
GZH SS **SS 20 33 47.0 +2.6**
GZH pmax pmax
comp=Z,2µm,8.1s
GZH LR LR
comp=N,620nm,16.7s
GZH LR LR
comp=E,960nm,16.7s
Z21A St. Cloud Mine 83.15 51 ⇑P P 20 18 02.9 +1.3
baz=83
MYKOM Kota Tinggi 83.16 275 P P 20 18 03.0 +1.2
MYKOM Kota Tinggi 83.16 275 P P 20 18 02.0 +0.2
comp=E,149nm,1.6s,comp=E,4µm
X20A Quemado 83.18 49 P P 20 18 03.0 +1.3
baz=83
DUG Dugway 83.32 43 eP P 20 18 03.7 +1.5
DUG pmax pmax
comp=Z,264nm,2.8s
DUG MLR MLR
comp=Z,3µm,20.0s
DUG Dugway 83.32 43 eP P 20 18 03.7 +1.5
comp=Z,264nm,2.8s
DUG LR LR
comp=Z,3µm,20.0s
DUG Dugway 83.32 43 ⇓P P 20 18 02.6 +0.4
baz=84
122A Conniff Cattle 83.33 51 ⇑P P 20 18 03.8 +1.4
baz=84
MFID Camas Ranch 83.35 39 eP P 20 18 02.3 0.0
comp=Z,40nm,1.1s
MFID Camas Ranch 83.35 39 ⇓P P 20 18 03.0 +0.7
baz=84
BMO Blue Mountains 83.38 37 eP P 20 18 00.4 -2.0
BMO pmax pmax
comp=Z,61nm,1.5s
BMO MLR MLR
comp=Z,4µm,20.0s
BMO Blue Mountains 83.38 37 eP P 20 18 00.3 -2.0
comp=Z,61nm,1.5s
BMO ePP **PP 20 21 11.2 -3.4**
BMO LR LR
comp=Z,4µm,20.0s
223A Chaparral, Ant 83.41 52 ⇓P P 20 18 03.5 +0.7
baz=84
W20A Ramah 83.48 49 ⇓P P 20 18 04.9 +1.6
baz=84,SNR=13
Y21A Point of Rocks 83.50 50 ⇑P P 20 18 04.2 +0.8
baz=84,SNR=12
BGU Big Grassy Mou 83.59 42 eP P 20 18 05.1 +1.4
comp=Z,365nm,2.4s
Z22A Elephant Butte 83.63 51 ⇑P P 20 18 05.0 +1.0
baz=84,SNR=34
X21A Alamocita Cree 83.64 50 ⇓P P 20 18 05.2 +1.1
baz=84,SNR=14
SPU Mount Spurr 83.65 11 eP P 20 18 02.9 -0.3
NLU North Lily Min 83.65 43 eP P 20 18 06.7 +2.6
comp=Z,114nm,2.1s
Q16A Castle Valley 83.67 44 ⇑P P 20 18 05.8 +1.7
baz=84
KGM Kluang 83.73 275 P P 20 18 05.3 +0.5
123A Bell Site, Whi 83.84 52 ⇑P P 20 18 06.2 +1.2
baz=84
324A Moseley Ranch, 83.84 53 ⇓P P 20 18 05.1 0.0
baz=84,SNR=13
V20A Brimhall 83.85 48 ⇓P P 20 18 06.3 +1.2
baz=84
TMUT Trail Mountain 83.85 44 eP P 20 18 06.5 +1.3
comp=Z,850nm,2.6s
425A Indio Mountain 83.90 54 ⇓P P 20 18 05.6 +0.2
baz=84,SNR=19
MPU Maple Canyon 83.97 43 eP P 20 18 07.8 +2.2
comp=Z,282nm,2.6s
Y22A Socorro 83.97 50 ⇓P P 20 18 06.7 +1.0
baz=84,SNR=8.5
626A Big Bend Ranch 83.97 55 ⇑P P 20 18 05.9 +0.2
baz=84,SNR=13
PAYG Puerto Ayora 84.03 88 eP P 20 18 06.9 +0.6
PAYG eS **S 20 28 28.4 -2.0**
PAYG LR LR
comp=Z,5µm,19.0s
MNTX Cornudas Mount 84.04 53 eP P 20 18 05.3 -0.7
comp=Z,67nm,1.8s
MNTX LR LR
comp=Z,4µm,20.0s
Y22D IRIS PASSCAL I 84.07 50 ⇑P P 20 18 07.7 +1.5
baz=84
W21A San Fidel 84.07 49 ⇑P P 20 18 07.4 +1.1
baz=84
LAZ Ladron 84.08 50 eP P 20 18 06.8 +0.5
comp=Z,5.5nm,0.7s
LENM Lemitar 84.08 50 eP P 20 18 07.5 +1.3
U20A Newcomb 84.11 48 ⇓P P 20 18 07.5 +1.1
baz=84
224A Cornudas Mount 84.12 53 ⇑P P 20 18 07.0 +0.5
baz=84,SNR=9.5
Z23A Rita Site, Whi 84.17 51 ⇑P P 20 18 08.0 +1.3
baz=84
SPUT South Promonto 84.17 42 eP P 20 18 07.3 +0.7
comp=Z,186nm,2.1s
SRU San Rafael 84.20 44 eP P 20 18 07.2 +0.4
SRU pmax pmax
comp=Z,159nm,1.8s
SRU San Rafael 84.20 44 eP P 20 18 07.2 +0.4
comp=Z,159nm,1.8s
OD2 Odessa Site #2 84.20 34 P P 20 18 06.4 +0.1
X22A Bernardo 84.22 50 ⇑P P 20 18 08.0 +1.0
baz=84
TXAR Lajitas Array 84.23 56 P P 20 18 05.9 -1.2
TXAR Lajitas Array 84.23 56 P P 20 18 05.9 -1.2
comp=Z,4.1nm,0.9s,baz=216,slow=6.5,SNR=21
TXAR LR LR 20 49 15.5
comp=Z,5µm,19.2s,baz=90,slow=31
HVU Hansel Valley 84.23 41 eP P 20 18 07.0 +0.1
HVU pmax pmax
comp=Z,347nm,2.5s
HVU Hansel Valley 84.23 41 eP P 20 18 07.0 +0.1
comp=Z,288nm,2.5s
526A Mary Lane Ranc 84.24 55 ⇑P P 20 18 07.6 +0.4
baz=84
HLID Hailey 84.27 39 eP P 20 18 06.2 -0.9
comp=Z,33nm,0.9s
HLID LR LR
comp=Z,2µm,19.0s
HLID Hailey 84.27 39 ⇑P P 20 18 08.2 +1.2
baz=84
QIZ Qiongzhong 84.30 293 P P 20 18 08.3 +0.8
QIZ pP **PcP 20 18 11.3 +0.1**
QIZ sP **sP 20 18 14.3 -0.9**
QIZ S **S 20 28 34.0 +1.2**
QIZ sS **sS 20 28 40.0 -2.2**
QIZ pmax pmax
comp=Z,37nm,2.4s
QIZ pmax pmax
comp=Z,970nm,8.5s
QIZ LR LR
comp=Z,800nm,20.2s
QIZ Qiongzhong 84.30 293 eP P 20 18 06.7 -0.8
QIZ eS **S 20 28 29.3 -3.5**
QIZ LR LR
comp=Z,814nm,19.0s
BNM Barren Site 84.32 50 eP P 20 18 07.8 +0.2
comp=Z,329nm,2.6s
LPM Los Pinos Moun 84.39 50 eP P 20 18 09.7 +1.8
RAGM Ragged Mountai 84.40 14 eP P 20 18 07.4 +0.3
comp=Z,303nm,2.5s
JLU Jordanelle 84.41 43 eP P 20 18 09.3 +1.4
comp=Z,244nm,2.4s
V21A Milan 84.43 49 ⇓P P 20 18 09.3 +1.2
baz=85,SNR=5.7
DAU Daniels Canyon 84.43 43 eP P 20 18 09.8 +1.7
DAU Daniels Canyon 84.43 43 eP P 20 18 09.8 +1.7
124A Stringfield Ra 84.47 52 ⇑P P 20 18 09.1 +0.7
baz=85,SNR=7.2
DL2 Dalian 84.48 315 P P 20 18 08.5 +0.6
DL2 S **S 20 28 32.3 -1.5**
DL2 pmax pmax
comp=Z,69nm,2.2s
DL2 pmax pmax
comp=Z,1µm,5.2s
DL2 LR LR
comp=N,380nm,15.3s
DL2 LR LR
comp=E,460nm,19.5s
DL2 LR LR
comp=Z,520nm,18.4s
627A Terlingua Ranc 84.50 56 ⇓P P 20 18 09.1 +0.6
baz=85,SNR=18
MVCO Mesa Verde 84.55 47 eP P 20 18 09.5 +0.8
comp=Z,43nm,1.5s
MVCO LR LR
comp=Z,2µm,20.0s
MVCO Mesa Verde 84.55 47 ⇑P P 20 18 09.5 +0.8
baz=85
PMR Palmer 84.56 12 eP P 20 18 09.7 +1.9
PMR pmax pmax
comp=Z,458nm,2.6s
PMR Palmer 84.56 12 eP P 20 18 09.7 +1.9
comp=Z,458nm,2.6s
426A McDonald Obser 84.57 54 ⇓P P 20 18 09.4 +0.4
baz=85,SNR=14
W22A Albuquerque 84.60 49 ⇓P P 20 18 10.6 +1.6
baz=85
Y23A Lovelace Mesa, 84.62 51 ⇑P P 20 18 09.8 +0.7
baz=85,SNR=18
WRAK Wrangell Islan 84.64 22 eP P 20 18 08.8 +0.6
WRAK eS **S 20 28 33.3 -1.2**
WRAK LR LR
comp=Z,2µm,19.0s
527A Woodward Ranch 84.65 55 ⇓P P 20 18 09.6 +0.4
baz=85,SNR=8.4
225A Deer Hill, Car 84.65 53 ⇑P P 20 18 10.0 +0.8
baz=85,SNR=6.5
KLR Kul'dur 84.69 328 eP P 20 18 06.0 -2.8
KLR e 20 21 21.5
KLR eS **S 20 28 31.0 -4.5**
KLR pmax pmax
comp=Z,2µm,10.0s
KLR smax smax
comp=N,4µm,10.0s
KLR smax smax
comp=E,2µm,10.0s
U21A Nageezi 84.73 48 ⇓P P 20 18 10.3 +0.7
baz=85,SNR=27
CN2 Changchun 84.80 321 eP P 20 18 11.0 +1.6
CN2 epP **pP 20 18 15.5 +0.3**
CN2 PP **PP 20 21 28.5 +2.4**
CN2 eS **S 20 28 36.8 0.0**
CN2 pmax pmax
comp=Z,70nm,1.8s
CN2 pmax pmax
comp=Z,3µm,5.0s
CN2 LR LR
comp=N,2µm,17.0s
CN2 LR LR
comp=E,700nm,17.0s
CN2 LR LR
comp=Z,2µm,21.0s
SNY Shenyang 84.81 318 ⇑P P 20 18 10.0 +0.4
SNY S **S 20 28 35.3 -1.7**
SNY pmax pmax
comp=Z,1µm,4.7s
SNY LR LR
comp=N,870nm,17.4s
SNY LR LR
comp=E,810nm,16.8s
SNY LR LR
comp=Z,2µm,18.6s
DIV Divide 84.82 13 eP P 20 18 11.8 +2.5
comp=Z,487nm,2.6s
ANMO Albuquerque 84.83 50 eP P 20 18 10.8 +0.7
comp=Z,439nm,2.7s
ANMO Albuquerque 84.83 50 LR LR 20 49 08.3
comp=Z,4µm,19.6s,baz=252,slow=31
Z24A Sheeppen Canyo 84.84 52 ⇑P P 20 18 11.1 +0.9
baz=85,SNR=6.2
COCO West Island 84.84 259 PFAKE 20 18 20.0 +10
COCO LR LR
comp=Z,4µm,20.0s
X23A Hourglass Bar 84.85 50 ⇑P P 20 18 11.0 +0.8
baz=85
PV04 Paradox Valley 84.89 46 eP P 20 18 12.1 +1.8
HWUT Hardware Ranch 84.89 42 eP P 20 18 09.8 -0.4
comp=Z,156nm,2.2s
HWUT LR LR
comp=Z,5µm,20.0s
628A Black Gap, Mar 84.90 56 ⇓P P 20 18 10.4 0.0
baz=85,SNR=13
SML Sawmill 84.91 12 eP P 20 18 12.1 +2.4
SML pmax pmax
comp=Z,29nm,1.7s
SML Sawmill 84.91 12 eP P 20 18 12.1 +2.4
comp=Z,29nm,1.7s

326A	**Caldwell Ranch**	84.91	54	P		P		20 18 10.8	+0.3
	baz=85								
BMRM	**Bremner River**	84.94	14	*e*P		P		20 18 09.4	-0.4
	comp=Z,707nm,2.7s								
S20A	**Disappointment**	84.96	46	⇑P		P		20 18 11.4	+0.6
	baz=85,SNR=17								
PV01	**Paradox Valley**	84.98	46	*e*P		P		20 18 12.0	+1.2
	comp=Z,8µm,1.9s								
V22A	**San Miguel Ran**	84.99	49	⇓P		P		20 18 11.7	+0.7
	baz=85								
125A	**Gardner Draw,**	85.04	52	⇑P		P		20 18 11.7	+0.6
	baz=85,SNR=13								
GDL2	**Guadalupe Moun**	85.04	53	*e*P		P		20 18 12.1	+0.9
I14A	**Mackay**	85.05	39	⇑P		P		20 18 12.1	+1.2
	baz=85								
Y24A	**Capitan**	85.07	51	⇓P		P		20 18 12.5	+1.2
	baz=85,SNR=34								
PNL	**Peninsula**	85.10	17	*e*P		P		20 18 11.4	+0.7
	comp=Z,57nm,1.1s								
T21A	**Navajo Lake**	85.10	48	⇑P		P		20 18 12.5	+1.0
	baz=85								
226B	**Tecolote Peak,**	85.13	53	⇑P		P		20 18 12.0	+0.5
	baz=85,SNR=11								
427A	**Hayter Ranch,**	85.13	55	⇑P		P		20 18 12.2	+0.6
	baz=85,SNR=22								
R20A	**Redvale**	85.14	46	⇑P		P		20 18 12.3	+0.7
	baz=85								
W23A	**Werner Place,**	85.16	50	⇓P		P		20 18 12.6	+0.8
	baz=85								
PPLA	**Purkeypile**	85.24	10	*e*P		P		20 18 13.8	+2.5
	comp=Z,260nm,2.9s								
U22A	**Llaves**	85.26	48	⇑P		P		20 18 13.1	+0.8
	baz=86								
S21A	**Coal Bank Pass**	85.27	47	⇑P		P		20 18 13.4	+1.0
	baz=86,SNR=14								
Z25A	**Roswell**	85.29	52	⇓P		P		20 18 13.2	+0.9
	baz=86,SNR=8.8								
528A	**Cox Ranch, San**	85.29	55	⇑P		P		20 18 12.8	+0.4
	baz=86								
327A	**Balmorhea Ranc**	85.31	54	⇑P		P		20 18 12.8	+0.4
	baz=86								
M17A	**Scullys Gap (B**	85.38	42	⇓P		P		20 18 13.2	+0.4
	baz=86								
X24A	**Lazy VL Ranch,**	85.38	50	⇓P		P		20 18 13.2	+0.3
	baz=86								
V23A	**Ortiz Mt. (NFS**	85.42	49	⇓P		P		20 18 14.8	+1.7
	baz=86								
P19A	**Cripple Cowboy**	85.49	45	⇑P		P		20 18 14.0	+0.7
	baz=86								
126A	**Clayton Basin,**	85.50	53	⇑P		P		20 18 13.9	+0.5
	baz=86								
T22A	**Edith**	85.55	48	⇑P		P		20 18 14.4	+0.7
	baz=86								
WHN	**Wuhan**	85.57	305	⇑P		P		20 18 15.3	+1.7
WHN				S		S		20 28 46.0	+1.0
WHN				pmax		pmax			
	comp=Z,1µm,2.3s								
WHN				LR		LR			
	comp=N,2µm,14.8s								
WHN				LR		LR			
	comp=E,1µm,15.2s								
WHN				LR		LR			
	comp=Z,2µm,14.8s								
NEW	**Newport**	85.58	34	*e*P		P		20 18 13.7	+0.4
	comp=Z,199nm,2.6s								
NEW				LR		LR			
	comp=Z,9µm,20.0s								
NEW	**Newport**	85.58	34	P		P		20 18 10.8	-2.6
	comp=Z,3.8nm,0.8s,baz=210,slow=6.4,SNR=14								
NEW	**Newport**	85.58	34	⇑P		P		20 18 13.9	+0.6
	baz=86								
Q20A	**Ridgley Place,**	85.59	46	⇓P		P		20 18 14.3	+0.5
	baz=86								
Y25A	**Mesa, Roswell**	85.61	51	⇓P		P		20 18 14.6	+0.6
	baz=86,SNR=20								
428A	**Kincaid Ranch,**	85.63	55	⇓P		P		20 18 14.9	+0.8
	baz=86,SNR=5.7								
U23A	**El Rito**	85.70	49	⇑P		P		20 18 15.4	+1.0
	baz=86								
529A	**Stev Forest Ra**	85.71	56	⇑P		P		20 18 13.8	-0.7
	baz=86,SNR=7.7								
W24A	**Lazy 6 Ranch,**	85.71	50	⇑P		P		20 18 15.0	+0.4
	baz=86,SNR=16								
O19A	**Miners Draw (B**	85.74	44	⇓P		P		20 18 14.8	+0.3
	baz=86,SNR=5.9								
FRIM	**Kepong**	85.75	275	P		P		20 18 16.0	+1.1
227A	**Bennet, Jal**	85.75	54	⇑P		P		20 18 15.0	+0.4
	baz=86								
R21A	**Cimarron**	85.79	46	⇑P		P		20 18 16.0	+1.1
	baz=86								
AHID	**Auburn Hatcher**	85.81	41	*e*P		P		20 18 15.0	+0.2
AHID				*e*S		S		20 28 45.9	-1.5
AHID				LR		LR			
	comp=Z,4µm,19.0s								
Z26A	**Caprock**	85.83	52	⇓P		P		20 18 15.5	+0.5
	baz=86,SNR=14								
328A	**Wristen Ranch,**	85.83	54	⇓P		P		20 18 15.2	+0.2
	baz=86,SNR=8.3								
MCMT	**McKenzie Canyo**	85.92	39	*e*P		P		20 18 15.2	-0.1
	comp=Z,11nm,1.2s								
X25A	**Clemmons Ranch**	85.92	51	⇓P		P		20 18 15.6	+0.1
	baz=86,SNR=5.5								
S22A	**4UR Ranch, Cre**	85.97	47	⇑P		P		20 18 16.4	+0.5
	baz=86,SNR=12								
Q21A	**Lamborn Mesa,**	86.01	46	⇓P		P		20 18 16.5	+0.6
	baz=86								
127A	**Arkansas Junct**	86.01	53	⇑P		P		20 18 16.3	+0.3
	baz=86								
L18A	**Fontenelle, Gr**	86.02	42	⇓P		P		20 18 16.3	+0.4
	baz=86								
V24A	**Rampart Ranch,**	86.06	50	⇑P		P		20 18 16.6	+0.3
	baz=86,SNR=10								
TRF	**Thorofare Moun**	86.07	10	*e*P		P		20 18 13.4	-2.1
	comp=Z,677nm,2.3s								
SKAG	**Skagway**	86.09	19	*e*P		P		20 18 15.9	+0.4
C12B	**Naegeli Ranch,**	86.12	35	⇑P		P		20 18 17.0	+0.9
	baz=86								
T23A	**Casias Ranch,**	86.16	48	⇓P		P		20 18 17.7	+0.9
	baz=86								
TIA	**Tai'an**	86.19	311	⇑P		P		20 18 17.3	+0.7
TIA				S		S		20 28 46.5	-4.3
TIA				pmax		pmax			
	comp=Z,2µm,5.9s								
TIA				LR		LR			
	comp=N,1µm,21.6s								
TIA				LR		LR			
	comp=E,3µm,21.6s								
TIA				LR		LR			
	comp=Z,2µm,16.7s								
429A	**Davenport Ranc**	86.19	55	⇑P		P		20 18 16.7	-0.1
	baz=86,SNR=20								
I16A	**Newdale**	86.19	40	⇓P		P		20 18 18.2	+1.5
	baz=86								
O20A	**White River Ci**	86.23	45	⇑P		P		20 18 17.8	+0.9
	baz=86								
Y26A	**Elida**	86.25	52	⇑P		P		20 18 17.5	+0.3
	baz=86,SNR=11								
R22A	**Saguache, Gunn**	86.26	47	⇓P		P		20 18 18.3	+1.0
	baz=86								
REDW	**Red Top Meadow**	86.29	41	*e*P		P		20 18 18.0	+0.8
	comp=Z,37nm,1.3s								
TPAW	**Teton Pass**	86.30	41	*e*P		P		20 18 18.1	+0.8
	comp=Z,170nm,2.4s								
228A	**UT Block 9, Go**	86.33	54	⇓P		P		20 18 17.8	+0.3
	baz=87								
M19A	**Rock Springs**	86.36	43	⇓P		P		20 18 18.1	+0.5
	baz=87								
U24A	**Moreno Valley**	86.39	49	⇓P		P		20 18 19.2	+1.2
	baz=87								
W25A	**X Bar L Ranch,**	86.40	50	⇑P		P		20 18 18.1	+0.2
	baz=87								
530A	**J-C Ranch, Com**	86.40	56	⇓P		P		20 18 17.9	+0.1
	baz=87,SNR=9.3								
PLCA	**Paso Flores**	86.41	132	*e*P		P		20 18 17.1	-0.7
PLCA				PKKPbc		PKKPbc		20 36 15.4	+0.2
PLCA	**Paso Flores**	86.41	132	P		P		20 18 14.0	-3.8
	comp=Z,5.0nm,1.0s,baz=234,slow=8.7,SNR=3.4								
PLCA				PKKPbc		PKKPbc		20 36 15.4	+0.2
	comp=Z,2.1nm,0.9s,baz=143,slow=5.1,SNR=3.2								
PLCA				LR		LR		20 51 03.4	
	comp=Z,4µm,18.7s,baz=216,slow=32								
Z27A	**Tatum**	86.42	52	P		P		20 18 17.8	-0.1
	baz=87								
P21A	**Newcastle**	86.44	45	⇑P		P		20 18 18.6	+0.5
	baz=87								
Q22A	**Crested Butte,**	86.47	46	⇓P		P		20 18 19.1	+0.8
	baz=87								
329A	**Wagon Wheel Ra**	86.51	55	⇓P		P		20 18 17.8	-0.5
	baz=87,SNR=7.8								
B12A	**Libby**	86.52	35	⇑P		P		20 18 18.8	+0.8
	baz=87								
S23A	**Nye Farm, Mont**	86.52	48	⇓P		P		20 18 18.7	+0.2
	baz=87								
IMW	**Indian Meadow**	86.53	40	*e*P		P		20 18 19.3	+0.8
	comp=Z,106nm,2.2s								
PAX	**Paxson**	86.54	13	*e*P		P		20 18 17.0	-0.8
PAX				pmax		pmax			
	comp=Z,410nm,2.7s								
PAX	**Paxson**	86.54	13	*e*P		P		20 18 16.9	-0.8
	comp=Z,410nm,2.7s								
L19A	**Farson**	86.54	42	⇓P		P		20 18 19.0	+0.5
	baz=87,SNR=8.7								
X26A	**CR and CF Fran**	86.55	51	⇓P		P		20 18 18.6	0.0
	baz=87,SNR=9.1								
MCK	**McKinley**	86.57	11	*e*P		P		20 18 16.8	-1.0
MCK				pmax		pmax			
	comp=Z,146nm,1.3s								
MCK	**McKinley**	86.57	11	*e*P		P		20 18 16.8	-1.0
	comp=Z,146nm,1.3s								
MOOW	**Moose Ponds**	86.57	40	*e*P		P		20 18 19.6	+1.1
	comp=Z,144nm,2.5s								
BSMT	**Bassoo Peak**	86.58	35	*e*P		P		20 18 18.7	+0.2
N20A	**Spence Gulch,**	86.58	44	⇓P		P		20 18 18.9	+0.2
	baz=87,SNR=13								
V25A	**Rancho No Teng**	86.58	50	⇓P		P		20 18 19.0	+0.2
	baz=87								
LOHW	**Long Hollow**	86.58	41	*e*P		P		20 18 19.2	+0.6
	comp=Z,106nm,2.1s								
HYT	**Haines Junctio**	86.59	17	*e*P		P		20 18 20.4	+2.3
C13A	**Hot Springs**	86.59	36	⇑P		P		20 18 18.7	+0.3
	baz=87								
128A	**Castleberry Fa**	86.64	53	⇑P		P		20 18 19.1	+0.1
	baz=87,SNR=13								
UBPT	**Khong Chiam**	86.66	288	P		P		20 18 19.5	+0.2
	comp=Z,63nm,2.8s								
UBPT	**Khong Chiam**	86.66	288	P		P		20 18 23.7	+4.4
	comp=Z,178nm,1.3s								
631A	**Perdido Creek**	86.67	57	⇑P		P		20 18 19.0	-0.2
	baz=87,SNR=16								
LRM	**Limekiln Ridge**	86.71	38	*e*P		P		20 18 20.5	+1.3
Y27A	**Causey**	86.72	52	⇓P		P		20 18 19.5	+0.1
	baz=87,SNR=16								
IPM	**Ipoh**	86.75	276	*e*P		P		20 18 20.6	+0.8
	comp=Z,101nm,1.0s								
IPM	**Ipoh**	86.75	276	P		P		20 18 21.1	+1.2
IPM	**Ipoh**	86.75	276	P		P		20 18 20.2	+0.3
	comp=Z,135nm,1.3s,comp=Z,4µm								
QLMT	**Earthquake Lak**	86.75	39	*e*P		P		20 18 20.8	+1.4
A12A	**Yaak River Ran**	86.76	34	⇑P		P		20 18 20.4	+1.2
	baz=87								
430A	**Baggett Ranch,**	86.77	55	⇓P		P		20 18 19.3	-0.3
	baz=87								
I17A	**Pilgrim Ck.**	86.77	40	⇓P		P		20 18 20.8	+1.3
	baz=87								
BW06	**Boulder Array**	86.77	42	*e*P		P		20 18 18.8	-0.8
	comp=Z,11nm,1.0s								
PDAR	**Pinedale Array**	86.77	42	P		P		20 18 18.2	-1.4
PDAR				PKKPbc		PKKPbc		20 36 17.4	+1.8
PDAR	**Pinedale Array**	86.77	42	P		P		20 18 18.2	-1.4
	comp=Z,7.2nm,0.9s,baz=220,slow=2.5,SNR=31								
PDAR				PKKPbc		PKKPbc		20 36 17.4	+1.8
	comp=Z,0.4nm,0.8s,baz=89,slow=4.8,SNR=3.7								
PDAR				LR		LR		20 52 41.9	
	comp=Z,3µm,18.8s,baz=243,slow=32								
FLWY	**Flagg Ranch**	86.78	40	*e*P		P		20 18 20.3	+0.7
	comp=Z,168nm,2.1s								
O21A	**Pagoda**	86.78	45	⇓P		P		20 18 19.9	+0.1
	baz=87								
H16A	**Russell Place,**	86.79	39	⇓P		P		20 18 21.0	+1.3
	baz=87,SNR=7.3								
SWMT	**Swartz Lake**	86.81	36	*e*P		P		20 18 19.9	+0.4
W26A	**Owens Ranch, T**	86.84	51	⇓P		P		20 18 20.2	+0.2
	baz=87								
229A	**Bryant Ranch,**	86.85	54	⇓P		P		20 18 20.1	+0.1
	baz=87								
732A	**Laxson Ranch,**	86.85	58	⇓P		P		20 18 19.6	-0.4
	baz=87								
R23A	**Moffat**	86.87	47	⇑P		P		20 18 20.9	+0.6
	baz=87								
MENT	**Mentasta**	86.88	13	*e*P		P		20 18 18.7	-0.7
CHMT	**Chamberlain Mo**	86.88	37	*e*P		P		20 18 19.4	-0.5
SDCO	**Great Sand Dun**	86.88	48	*e*P		P		20 18 20.3	0.0
	comp=Z,191nm,2.8s								
SDCO				LR		LR			
	comp=Z,2µm,20.0s								
P22A	**Eagle**	86.94	46	⇓P		P		20 18 21.1	+0.6
	baz=87								
M20A	**Sweetwater, Wa**	86.97	43	⇓P		P		20 18 21.2	+0.6
	baz=87								
DLBC	**Dease Lake**	86.99	22	*e*P		P		20 18 19.5	-0.6
	comp=Z,150nm,2.1s								
DLBC	**Dease Lake**	86.99	22	LR		LR		20 53 05.7	
	comp=Z,2µm,19.4s,baz=229,slow=33								
U25A	**Circle Dot Ran**	87.00	49	⇓P		P		20 18 21.3	+0.4
	baz=87								
Z28A	**Tucker Farm, M**	87.02	53	⇓P		P		20 18 21.1	+0.2
	baz=87								
H17A	**Grant Village**	87.03	40	⇑P		P		20 18 22.8	+2.0
	baz=87								
531A	**Rocksprings**	87.03	56	⇓P		P		20 18 21.1	+0.2
	baz=87								
N21A	**Black Mountain**	87.03	44	⇑P		P		20 18 21.4	+0.5
	baz=87								
S24A	**Houchin Ranch,**	87.03	48	⇓P		P		20 18 21.9	+0.8
	baz=87								
MSTX	**Muleshoe**	87.04	52	⇓P		P		20 18 21.1	+0.1
	baz=87,SNR=6.0								
B13A	**Whitefish**	87.06	35	⇑P		P		20 18 21.0	+0.4
	baz=87								
330A	**Mertzon**	87.09	55	⇓P		P		20 18 20.9	-0.3
	baz=87								
BOZ	**Bozeman (W)**	87.09	39	*e*P		P		20 18 21.0	0.0
BOZ				pmax		pmax			
	comp=Z,45nm,1.7s								
BOZ				MLR		MLR			
	comp=Z,3µm,20.0s								
BOZ	**Bozeman (W)**	87.09	39	*e*P		P		20 18 21.0	0.0
	comp=Z,50nm,1.7s								
BOZ				LR		LR			
	comp=Z,2µm,20.0s								
C14A	**Swan Lake**	87.10	36	⇓P		P		20 18 21.0	+0.1
	baz=87								
129A	**Stewart Farms,**	87.11	54	⇑P		P		20 18 21.6	+0.3
	baz=87								
I18A	**Diamond G Ranc**	87.11	41	⇑P		P		20 18 21.6	+0.4
	baz=87								
X27A	**F and S Farms,**	87.12	51	⇓P		P		20 18 21.7	+0.3
	baz=87								
L20A	**Wamsutter**	87.14	43	⇑P		P		20 18 22.0	+0.6
	baz=87,SNR=6.1								
V26A	**Tequesquite Ra**	87.16	50	⇓P		P		20 18 21.3	-0.2
	baz=87								
SYO	**Syowa Base**	87.16	192	‖*e*P		P		20 18 19.2	-1.6
SYO	**Syowa Base**	87.16	192	‖*e*sP		sP		20 18 25.6	-3.0
431A	**Sonora**	87.20	56	⇓P		P		20 18 21.3	-0.5
	baz=87								
Q23A	**Hartsel**	87.22	47	⇓P		P		20 18 22.4	+0.4
	baz=88								
LKWY	**Lake**	87.22	40	*e*P		P		20 18 22.2	+0.4
LKWY				*e*S		S		20 28 59.6	-1.5
LKWY				MLR		MLR			
	comp=Z,4µm,19.0s								
LKWY	**Lake**	87.22	40	*e*P		P		20 18 22.2	+0.4
LKWY				*e*S		S		20 28 59.6	-1.5
LKWY				LR		LR			
	comp=Z,4µm,19.0s								
K19A	**Absolon Red Bu**	87.25	42	⇓P		P		20 18 21.6	-0.2
	baz=88								
632A	**Uvalde**	87.33	57	⇓P		P		20 18 22.5	+0.2
	baz=88,SNR=8.9								
W27A	**Bowe Ranch, En**	87.34	51	⇑P		P		20 18 22.7	+0.4
	baz=88								
T25A	**Trinidad**	87.35	49	⇓P		P		20 18 22.6	+0.1
	baz=88								
230A	**Sterling City**	87.35	55	⇑P		P		20 18 22.3	-0.2
	baz=88								
J19A	**Crowheart**	87.35	42	⇓P		P		20 18 22.3	-0.1
	baz=88,SNR=7.8								
O22A	**Kremmling**	87.36	45	⇑P		P		20 18 22.9	+0.3
	baz=88								
KULM	**Kulim**	87.39	277	*e*P		P		20 18 23.9	+0.9
	comp=Z,991nm,2.7s								
KULM				LR		LR			
	comp=Z,1µm,20.0s								
KULM	**Kulim**	87.39	277	P		P		20 18 24.5	+1.5
	comp=Z,110nm,2.1s,comp=Z,4µm								
R24A	**Sanders Place,**	87.39	47	⇑P		P		20 18 23.4	+0.7
	baz=88								
Y28A	**McKinney Farm,**	87.40	52	⇑P		P		20 18 22.7	0.0
	baz=88								
A13A	**Flathead Natio**	87.42	35	P		P		20 18 22.8	+0.4
	baz=88								
G17A	**Pierce Place,**	87.43	39	⇓P		P		20 18 23.9	+1.3
	baz=88								
P23A	**Jefferson**	87.45	46	⇑P		P		20 18 23.9	+0.8
	baz=88								
U26A	**Atchley Ranch,**	87.47	50	⇑P		P		20 18 23.1	0.0
	baz=88								
K20A	**Yellowstone Ra**	87.48	42	⇓P		P		20 18 22.6	-0.3
	baz=88								
532A	**Rocksprings**	87.51	57	⇓P		P		20 18 22.4	-0.9
	baz=88,SNR=15								
Z29A	**Hungry Hill Ra**	87.51	53	⇑P		P		20 18 22.7	-0.5
	baz=88								
SNAA	**Sanae**	87.54	177	*e*P		P		20 18 22.6	-0.2
SNAA	**Sanae**	87.54	177	*e*PcP		PcP		20 18 24.3	-0.4
SNAA	**Sanae**	87.54	177	*e*pP		pP		20 18 26.7	-1.8
SNAA	**Sanae**	87.54	177	*e*P		P		20 18 22.2	-0.6
	comp=Z,249nm,2.2s								
SNAA	**Sanae**	87.54	177	P		P		20 18 22.5	-0.3
	comp=Z,5.4nm,0.8s,baz=202,slow=5.2,SNR=51								
M21A	**Separation Pea**	87.56	44	⇑P		P		20 18 23.5	0.0
	baz=88,SNR=6.4								
HRY	**Holter Researc**	87.57	38	*e*P		P		20 18 24.7	+1.5
S25A	**Robets Cordova**	87.58	48	⇑P		P		20 18 23.8	+0.2
	baz=88								
331A	**San Angelo**	87.62	55	⇓P		P		20 18 23.4	-0.3
	baz=88								
B14A	**Marquette Ranc**	87.70	36	⇑P		P		20 18 23.8	0.0
	baz=88,SNR=9.7								
Q24A	**Divide**	87.72	47	⇑P		P		20 18 24.7	+0.3
	baz=88								
X28A	**Dimmitt**	87.72	52	⇑P		P		20 18 24.2	0.0
	baz=88								
H18A	**Shoshone NF, C**	87.73	40	⇓P		P		20 18 24.7	+0.5
	baz=88								
C15A	**Salmond Ranch,**	87.73	36	⇓P		P		20 18 24.0	0.0
	baz=88,SNR=13								
L21A	**Rawlins**	87.74	43	⇓P		P		20 18 24.2	-0.1
	baz=88								
JCT	**Junction City**	87.74	56	*e*P		P		20 18 24.6	+0.3
JCT				pmax		pmax			
	comp=Z,209nm,2.6s								
JCT				MLR		MLR			
	comp=Z,6µm,20.0s								
JCT	**Junction City**	87.74	56	*e*P		P		20 18 24.6	+0.3
	comp=Z,209nm,2.6s								
JCT				LR		LR			
	comp=Z,6µm,20.0s								
JCT	**Junction City**	87.74	56	⇓P		P		20 18 23.5	-0.8
	baz=88								
N22A	**Wattenberg Ran**	87.75	45	⇑P		P		20 18 24.6	+0.2
	baz=88								
WALA	**Waterton Lakes**	87.76	35	*e*P		P		20 18 23.8	-0.3
	comp=Z,40nm,1.4s								
130A	**Snyder**	87.77	54	⇓P		P		20 18 24.3	-0.2
	baz=88								
I19A	**Meeteetse**	87.79	41	⇓P		P		20 18 25.2	+0.8
	baz=88								
F17A	**Fitzpatrick Pl**	87.80	39	⇑P		P		20 18 25.4	+1.0
	baz=88								
COLA	**College**	87.81	11	*e*P		P		20 18 25.5	+1.8
COLA				pmax		pmax			
	comp=Z,749nm,1.5s								
COLA				MLR		MLR			
	comp=Z,3µm,20.0s								
COLA	**College**	87.81	11	*e*P		P		20 18 25.5	+1.8
	comp=Z,200nm,1.5s								
COLA				LR		LR			
	comp=Z,3µm,20.0s								
O23A	**Lake Granby, G**	87.81	45	⇓P		P		20 18 25.0	+0.3
	baz=88								
ISCO	**Idaho Springs**	87.81	46	*e*P		P		20 18 25.1	+0.3
ISCO				*e*S		S		20 29 05.7	-1.4
ISCO				MLR		MLR			
	comp=Z,2µm,20.0s								
ISCO	**Idaho Springs**	87.81	46	*e*P		P		20 18 25.1	+0.3
ISCO				*e*S		S		20 29 05.7	-1.4
ISCO				LR		LR			
	comp=Z,2µm,20.0s								
ISCO	**Idaho Springs**	87.81	46	⇑P		P		20 18 25.3	+0.5
	baz=88								
Y29A	**Porterfield Fa**	87.81	53	⇓P		P		20 18 24.2	-0.4
	baz=88								
V27A	**Dan Oppiter Fa**	87.82	50	⇑P		P		20 18 24.8	+0.1
	baz=88								
ILAR	**Eielson Array**	87.89	11	P		P		20 18 22.8	-1.4
ILAR	**Eielson Array**	87.89	11	P		P		20 18 22.8	-1.4
	comp=Z,4.2nm,0.8s,baz=224,slow=4.2,SNR=19								
R25A	**Fountain Ranch**	87.92	48	⇑P		P		20 18 25.4	+0.3
	baz=88								
432A	**Menard**	87.92	56	⇓P		P		20 18 24.7	-0.5
	baz=88								
T26A	**Comanche Natio**	87.94	49	⇓P		P		20 18 25.4	0.0
	baz=88								
M22A	**Cedar Creek Ra**	87.95	44	⇓P		P		20 18 25.5	+0.1
	baz=88								
Z30A	**Sanderson Ranc**	87.96	53	⇓P		P		20 18 25.2	-0.2
	baz=88								
A14A	**Double T Ranch**	87.97	35	⇓P		P		20 18 25.2	+0.1
	baz=88,SNR=19								
231A	**Bronte**	87.98	55	⇓P		P		20 18 24.6	-0.8
	baz=88								
E17A	**Martinsdale**	87.99	38	⇓P		P		20 18 25.8

Y30A	Stafford Cattl	88.39	53	⇓P		P	20 18 27.1	-0.3	
	baz=89								
J21A	Lysite	88.39	42	⇓P		P	20 18 27.4	+0.1	
	baz=89,SNR=9.2								
W29A	Amraillo	88.39	51	⇑P		P	20 18 27.4	0.0	
	baz=89								
D17A	Six Diamond Ra	88.47	38	⇑P		P	20 18 28.4	+0.9	
	baz=89,SNR=13								
232A	Coleman	88.47	55	⇓P		P	20 18 27.4	-0.3	
	baz=89								
T27A	Campo	88.50	49	⇓P		P	20 18 27.8	-0.1	
	baz=89								
CHBT	CHBT	88.54	284		P	P	20 18 29.6	+1.2	
	comp=Z,69nm,2.5s,comp=Z,3µm								
CHBT	CHBT	88.54	284		P	P	20 18 31.6	+3.2	
	comp=Z,69nm,2.5s,comp=Z,3µm								
U28A	Mallet	88.55	50	⇑P		P	20 18 28.0	-0.1	
	baz=89								
R26A	Arlington	88.57	48	⇑P		P	20 18 27.7	-0.5	
	baz=89								
B16A	M & M Farms, S	88.59	36	⇑P		P	20 18 28.0	0.0	
	baz=89								
E18A	Harlowton	88.59	38	⇓P		P	20 18 29.0	+0.9	
	baz=89,SNR=13								
K22A	Casper	88.62	43	⇑P		P	20 18 28.9	+0.5	
	baz=89								
H20A	Greybull	88.64	41	⇓P		P	20 18 28.5	+0.1	
	baz=89								
P25A	Willow Gulch B	88.65	47	⇑P		P	20 18 29.0	+0.4	
	baz=89								
X30A	Coker Ranch, T	88.66	52	⇑P		P	20 18 28.2	-0.4	
	baz=89								
S27A	Las Animas	88.67	49	⇑P		P	20 18 28.5	-0.1	
	baz=89								
BJT	Baijiatuau	88.68	314	⇑	*iP*	P	20 18 28.2	-0.3	
BJT					*eS*	S	20 29 11.2	-3.4	
BJT					LR	LR			
	comp=Z,1µm,22.0s								
C17A	Wharram Farm,	88.69	37	⇓P		P	20 18 28.8	+0.4	
	baz=89,SNR=18								
BJI	Beijing	88.69	314		P	P	20 18 30.5	+2.0	
BJI					SS	SS	20 35 09.5	+2.7	
BJI					pmax	pmax			
	comp=Z,2µm,4.6s								
BJI					LR	LR			
	comp=N,640nm,25.4s								
BJI					LR	LR			
	comp=E,1µm,21.1s								
BJI					LR	LR			
	comp=Z,1µm,22.0s								
Z31A	Sharp Cattle R	88.71	54	⇓P		P	20 18 28.7	-0.1	
	baz=89								
I21A	Big Trails, Te	88.73	42	⇑P		P	20 18 28.8	-0.1	
	baz=89,SNR=7.8								
F19A	Roth Farm, Mol	88.78	39	⇑P		P	20 18 29.5	+0.5	
	baz=89								
ABTX	Abilene, Hawle	88.79	54	⇑P		P	20 18 29.2	0.0	
	baz=89								
N24A	Carr	88.80	45	⇑P		P	20 18 29.7	+0.4	
	baz=89								
Q26A	Hugo	88.81	47	⇑P		P	20 18 29.4	0.0	
	baz=89								
EFI	East Falkland	88.82	146		*eP*	P	20 18 29.2	+0.1	
EFI					*eS*	S	20 29 13.2	-2.6	
EFI					MLR	MLR			
	comp=Z,2µm,19.0s								
EFI	East Falkland	88.82	146		*eP*	P	20 18 29.2	+0.1	
EFI					*eS*	S	20 29 13.2	-2.6	
EFI					LR	LR			
	comp=Z,3µm,19.0s								
V29A	Stinnett	88.82	51	⇓P		P	20 18 29.4	0.0	
	baz=89								
DAWY	Dawson	88.83	15	*eP*		P	20 18 28.1	-0.6	
	comp=Z,66nm,1.3s								
G20A	Bridger	88.89	40	⇓P		P	20 18 30.0	+0.5	
	baz=89								
L23A	Garrett	88.89	44	⇑P		P	20 18 29.6	-0.1	
	baz=89,SNR=8.3								
Y31A	Rekieta Farm,	88.90	53	⇑P		P	20 18 29.8	0.0	
	baz=89								
A16A	West Butte Ran	88.95	36		P	P	20 18 30.1	+0.3	
	baz=89								
T28A	Walsh	88.96	50	⇑P		P	20 18 29.7	-0.4	
	baz=89								
O25A	Wiggins	88.96	46	⇑P		P	20 18 30.2	+0.2	
	baz=89								
D18A	Linhart Farms,	89.00	38	⇓P		P	20 18 30.9	+1.0	
	baz=89								
R27A	Eads	89.02	48	⇓P		P	20 18 30.1	-0.2	
	baz=89								
B17A	L&G Farms, Che	89.03	37	⇑P		P	20 18 30.3	+0.3	
	baz=89								
J22A	Midwest	89.04	42	⇑P		P	20 18 30.3	0.0	
	baz=89,SNR=8.0								
EGAK	Eagle	89.04	13	*eP*		P	20 18 29.0	-0.6	
	comp=Z,609nm,2.8s								
EGAK					LR	LR			
	comp=Z,4µm,19.0s								
M24A	Cheyenne	89.14	45	⇑P		P	20 18 31.4	+0.5	
	baz=89								
E19A	Rath Farm, Rou	89.20	39	⇓P		P	20 18 31.8	+1.0	
	baz=90,SNR=6.9								
W30A	Crocket Farms	89.21	52	⇓P		P	20 18 31.3	+0.1	
	baz=89								
Z32A	Haskell	89.21	54	⇓P		P	20 18 31.2	0.0	
	baz=89								
F20A	Billings	89.23	40	⇓P		P	20 18 31.4	+0.3	
	baz=90								
ENH	Enshi	89.23	303		*eP*	P	20 18 31.7	+0.3	
	comp=Z,104nm,1.5s								
P26A	Davis Ranch, A	89.23	47	⇑P		P	20 18 31.4	+0.1	
	baz=90								
K23A	Bowen Ranch, D	89.25	43	⇓P		P	20 18 31.6	+0.2	
	baz=90								
U29A	Oasis Ranch, S	89.27	50	⇓P		P	20 18 31.6	+0.1	
	baz=90								
I22A	9 Mile Ranch,	89.27	42	⇓P		P	20 18 31.9	+0.6	
	baz=90								
H21A	Big Horn, Sher	89.30	41	⇑P		P	20 18 32.1	+0.6	
	baz=90								
N25A	Grover	89.32	46	⇓P		P	20 18 32.1	+0.4	
	baz=90								
S28A	Manter	89.33	49	⇑P		P	20 18 31.5	-0.2	
	baz=90								
L24A	Wheatland	89.35	44	⇑P		P	20 18 32.3	+0.5	
	baz=90								
V30A	Spur Ranch, Mi	89.38	51	⇓P		P	20 18 32.4	+0.4	
	baz=90								
X31A	McDonald Ranch	89.41	53	⇑P		P	20 18 31.6	-0.5	
	baz=90								
A17A	Triple J Farms	89.44	36	⇓P		P	20 18 32.5	+0.5	
	baz=90								
EGMT	Eagleton	89.47	37	*eP*		P	20 18 33.2	+1.1	
	comp=Z,199nm,2.5s								
EGMT					LR	LR			
	comp=Z,5µm,20.0s								
EGMT	Eagleton	89.47	37	⇓P		P	20 18 32.7	+0.6	
	baz=90								
KSCO	Kaye Shedlock'	89.47	48	⇓P		P	20 18 32.6	+0.1	
	baz=90								
G21A	Lodge Grass	89.50	41	⇑P		P	20 18 33.0	+0.6	
	baz=90								
D19A	Cripps Ranch,	89.51	38	⇑P		P	20 18 33.2	+0.8	
	baz=90,SNR=5.6								
Y32A	R-V Farms, Ver	89.54	53	⇑P		P	20 18 32.7	0.0	
	baz=90								
T29A	Hugoton	89.56	50	⇓P		P	20 18 32.1	-0.7	
	baz=90								
O26A	Horse Wrangler	89.57	46	⇑P		P	20 18 33.2	+0.3	
	baz=90								
COLD	Coldfoot	89.59	9	*eP*		P	20 18 34.6	+2.5	
	comp=Z,132nm,2.0s								
E20A	Meyer Farm, Mu	89.60	39	⇓P		P	20 18 33.5	+0.7	
	baz=90								
J23A	Dilts Ranch, B	89.62	43	⇑P		P	20 18 33.2	+0.1	
	baz=90								
M25A	Palm-Egli Farm	89.64	45	⇑P		P	20 18 33.0	-0.2	
	baz=90								
B18A	Beardsley Farm	89.65	37	⇑P		P	20 18 33.6	+0.6	
	baz=90								
W31A	Holland Ranch,	89.67	52	⇑P		P	20 18 33.2	-0.1	
	baz=90								
H22A	Clearmont	89.71	41	⇑P		P	20 18 33.6	+0.2	
	baz=90								
C19A	Slack Wire Ran	89.72	38	⇑P		P	20 18 34.5	+1.2	
	baz=90,SNR=13								
R28A	Tribune	89.73	49	⇓P		P	20 18 33.9	+0.3	
	baz=90								
U30A	WK&E Inc. Balk	89.75	51	⇑P		P	20 18 33.7	0.0	
	baz=90								
P27A	Ficken Ranch,	89.75	47	⇑P		P	20 18 33.6	-0.1	
	baz=90								
K24A	Anderson Ranch	89.76	44	⇑P		P	20 18 34.3	+0.6	
	baz=90								
F21A	Absaloka Mine,	89.86	40	⇑P		P	20 18 35.3	+1.3	
	baz=90								
S29A	Ulysses	89.89	49	⇓P		P	20 18 34.5	+0.2	
	baz=90								
A18A	Metzger Ranch,	89.90	36	⇑P		P	20 18 34.5	+0.4	
	baz=90								
D20A	Manuel Ranch,	89.91	39	⇑P		P	20 18 35.0	+0.9	
	baz=90								
N26A	Koester Ranch,	89.91	46	⇑P		P	20 18 34.6	+0.2	
	baz=90								
I23A	Meade Ranch, G	89.95	42	⇓P		P	20 18 35.1	+0.5	
	baz=90								
GYA	Guiyang	89.96	298	⇑	*iP*	P	20 18 37.0	+2.0	
GYA					PP	PP	20 22 11.3	+3.0	
GYA					SKS	SKSac	20 29 05.3	-0.3	
GYA					S	S	20 29 28.0	+0.5	
GYA					SS	SS	20 35 29.3	+3.2	
GYA					pmax	pmax			
	comp=Z,40nm,1.0s								
GYA					pmax	pmax			
	comp=Z,160nm,6.2s								
GYA					LR	LR			
	comp=N,4µm,22.8s								
GYA					LR	LR			
	comp=E,2µm,23.0s								
GYA					LR	LR			
	comp=Z,5µm,21.5s								
CHAI	Chaiyaphum	90.00	287		P	P	20 18 38.0	+2.8	
	comp=Z,9.0nm,1.4s,comp=Z,142nm								
V31A	Spring Creek L	90.00	52	⇑P		P	20 18 35.6	+0.8	
	baz=90								
NAYO	Nakonayok	90.02	285		P	P	20 18 38.1	+2.8	
	comp=Z,628nm,0.7s,comp=Z,32µm								
L25A	Engebretsen Ra	90.04	44	⇓P		P	20 18 35.6	+0.6	
	baz=90								
Q28A	Sharon Springs	90.04	48	⇓P		P	20 18 35.1	0.0	
	baz=90								
G22A	Birney	90.06	41	⇑P		P	20 18 35.5	+0.5	
	baz=90								
T30A	Plains	90.07	50	⇑P		P	20 18 34.8	-0.3	
	baz=90								
O27A	Beecher Island	90.11	47	⇑P		P	20 18 35.8	+0.4	
	baz=90								
J24A	Dixon Ranch, L	90.15	43	⇓P		P	20 18 35.5	0.0	
	baz=90								
B19A	Brinkman Farms	90.16	37	⇑P		P	20 18 35.9	+0.7	
	baz=90								
WHTX	Lake Whitney	90.20	56	⇓P		P	20 18 35.5	-0.3	
	baz=90								
TIY	Taiyuan	90.21	311		*eP*	P	20 18 35.5	-0.3	
TIY					sP	sP	20 18 43.5	-0.1	
TIY					SKS	SKSac	20 29 06.0	-0.4	
TIY					S	S	20 29 29.3	+0.1	
TIY					pmax	pmax			
	comp=Z,1µm,5.8s								
TIY					LR	LR			
	comp=N,190nm,9.6s								
TIY					LR	LR			
	comp=E,410nm,13.6s								
TIY					LR	LR			
	comp=Z,1µm,26.3s								
R29A	Marienthal	90.24	49	⇑P		P	20 18 36.0	0.0	
	baz=90								
E21A	Keefer Ranch,	90.25	39	⇑P		P	20 18 37.0	+1.2	
	baz=90								
M26A	McRoberts Ranc	90.26	45	⇑P		P	20 18 35.9	-0.2	
	baz=90								
U31A	Nine Bar Ranch	90.26	51	⇓P		P	20 18 36.2	+0.1	
	baz=90								
H23A	Clabaugh Cattl	90.28	42	⇑P		P	20 18 35.8	-0.3	
	baz=90								
C20A	Veseth Ranch,	90.31	38	⇑P		P	20 18 37.1	+1.1	
	baz=91,SNR=10.0								
K25A	Mack Ranch, Ha	90.32	44	⇑P		P	20 18 37.1	+0.9	
	baz=91								
P28A	Saint Francis	90.33	47	⇓P		P	20 18 36.7	+0.3	
	baz=91								
WMOK	Wichita Mounta	90.34	53		*eP*	P	20 18 36.9	+0.4	
WMOK					*eS*	S	20 29 29.1	-1.3	
WMOK					MLR	MLR			
	comp=Z,4µm,20.0s								
WMOK	Wichita Mounta	90.34	53		*eP*	P	20 18 36.9	+0.4	
WMOK					*eS*	S	20 29 29.1	-1.3	
WMOK					LR	LR			
	comp=Z,4µm,20.0s								
N27A	Anderson Farm,	90.36	46	⇓P		P	20 18 36.6	+0.1	
	baz=91								
F22A	Rosebud	90.36	40	⇑P		P	20 18 36.7	+0.4	
	baz=91								
S30A	Montezuma	90.37	50	⇓P		P	20 18 36.6	0.0	
	baz=91								
I24A	Kuemmerle Ranc	90.43	43	⇑P		P	20 18 36.4	-0.3	
	baz=91								
EDM	Edmonton	90.47	32		*eP*	P	20 18 38.1	+1.5	
EDM	Edmonton	90.47	32		*eP*	P	20 18 38.1	+1.5	
A19A	Klindworth Far	90.52	37	⇓	P	P	20 18 37.8	+0.8	
	baz=91,SNR=9.8								
Q29A	Oakley	90.56	48	⇑P		P	20 18 37.5	+0.1	
	baz=91								
D21A	La Casta Ranch	90.56	39	⇑P		P	20 18 38.1	+0.8	
	baz=91								
L26A	Underwood Farm	90.56	45	⇓P		P	20 18 38.2	+0.7	
	baz=91								
O28A	Krutsinger Ran	90.56	47	⇓P		P	20 18 37.7	+0.2	
	baz=91								
G23A	Biddle	90.60	41	⇑P		P	20 18 37.8	+0.3	
	baz=91								
B20A	Solberg Farm,	90.67	38	⇑P		P	20 18 38.6	+0.9	
	baz=91								
T31A	Randall Ranch,	90.70	50	⇓P		P	20 18 38.2	+0.2	
	baz=91								
J25A	Sunshine Ranch	90.73	43		P	P	20 18 38.2	+0.1	
	baz=91								
OGNE	Ogallala	90.76	46		*eP*	P	20 18 38.8	+0.5	
OGNE					*eS*	S	20 29 32.7	-1.5	
OGNE					LR	LR			
	comp=Z,2µm,20.0s								
OGNE	Ogallala	90.76	46	⇑P		P	20 18 38.7	+0.3	
	baz=91								
R30A	Dighton	90.78	49	⇓P		P	20 18 38.7	+0.2	
	baz=91								
M27A	Reverse DX Ran	90.79	45	⇓P		P	20 18 38.6	+0.1	
	baz=91								
K26A	Motz Farm, Whi	90.81	44	⇑P		P	20 18 39.2	+0.6	
	baz=91								
F23A	Volborg	90.85	41	⇓P		P	20 18 39.1	+0.5	
	baz=91								
E22A	Miles City	90.87	40	⇓P		P	20 18 39.4	+0.7	
	baz=91								
C21A	Desert Coulee	90.89	38	⇑P		P	20 18 39.2	+0.5	
	baz=91								
H24A	Dirks Ranch, A	90.90	42	⇑P		P	20 18 39.0	+0.1	
	baz=91								
P29A	Atwood	90.91	48	⇓P		P	20 18 39.2	+0.2	
	baz=91								
RSSD	Black Hills	90.93	43		*eP*	P	20 18 39.8	+0.6	
RSSD					pmax	pmax			
	comp=Z,12nm,1.1s								
RSSD	Black Hills	90.93	43		*eP*	P	20 18 39.8	+0.6	
	comp=Z,3.0nm,1.1s								
A20A	Cobblestone Ra	90.95	37	⇓P		P	20 18 39.8	+0.8	
	baz=91,SNR=9.7								
N28A	Pribbeno Ranch	90.98	47	⇑P		P	20 18 39.1	-0.3	
	baz=91								
PHET	Kaeng Krachan	91.05	283		P	P	20 18 44.8	+4.7	
	comp=Z,106nm,1.0s								
S31A	Mullinville	91.06	50	⇑P		P	20 18 39.2	-0.6	
	baz=91								
I25A	Rochford	91.07	43	⇓P		P	20 18 39.8	-0.1	
	baz=91								
D22A	Cohagen	91.09	39	⇑P		P	20 18 40.7	+1.1	
	baz=91								
HIA	Hailar	91.09	323		PFAKE		20 18 50.0	+10	
HIA					LR	LR			
	comp=Z,6µm,20.0s								
L27A	T5 Ranch, Ells	91.09	45	⇑P		P	20 18 40.0	+0.1	
	baz=91								
Q30A	Quinter	91.13	49	⇓P		P	20 18 40.4	+0.3	
	baz=91								
LCO	Las Campanas	91.14	122		*eP*	P	20 18 39.4	-1.4	
	comp=Z,187nm,2.2s								
LCO					LR	LR			
	comp=Z,4µm,19.0s								
PBKT	Sadao Pong	91.15	287		P	P	20 18 42.8	+2.3	
	comp=Z,73nm,1.5s,comp=Z,3µm								
PBKT	Sadao Pong	91.15	287		P	P	20 18 43.2	+2.7	
	comp=Z,73nm,1.4s,comp=Z,3µm								
XAN	Xi'an	91.22	306		P	P	20 18 41.8	+1.2	
XAN					pP	pP	20 18 51.3	+5.0	
XAN					sP	sP	20 18 55.0	+6.6	
XAN					pmax	pmax			
	comp=Z,16nm,2.3s								
XAN					pmax	pmax			
	comp=Z,270nm,8.5s								
XAN					LR	LR			
	comp=N,2µm,11.4s								
XAN					LR	LR			
	comp=E,1µm,11.4s								
XAN					LR	LR			
	comp=Z,310nm,16.7s								
LOEI	Loei	91.23	288		P	P	20 18 41.5	+0.6	
	comp=Z,179nm,1.4s								
O29A	4D Ranch, Culb	91.23	47	⇓P		P	20 18 40.5	0.0	
	baz=92								
B21A	Ellsworth Farm	91.24	38	⇑P		P	20 18 41.1	+0.8	
	baz=92								
G24A	Alzada	91.26	41	⇓P		P	20 18 40.9	+0.3	
	baz=92								
E23A	Ismay	91.29	40	⇑P		P	20 18 41.3	+0.7	
	baz=92								
R31A	Burdett	91.32	49	⇑P		P	20 18 40.6	-0.3	
	baz=92								
P30A	Selden	91.36	48	⇑P		P	20 18 40.9	-0.2	
	baz=92								
M28A	Bar X Bar Ranc	91.41	46	⇑P		P	20 18 41.4	+0.1	
	baz=92								
K27A	Flueckinger Fa	91.43	45	⇑P		P	20 18 41.7	+0.2	
	baz=92								
H25A	Fruitdale	91.44	42	⇑P		P	20 18 41.9	+0.5	
	baz=92								
F24A	Ekalaka	91.49	41	⇑P		P	20 18 41.9	+0.2	
	baz=92								
C22A	Vida	91.56	39	⇓P		P	20 18 42.5	+0.7	
	baz=92								
A21A	Bergtoll Ranch	91.58	37	⇑P		P	20 18 42.8	+0.9	
	baz=92								
L28A	Connealy Angus	91.58	45	⇑P		P	20 18 42.7	+0.6	
	baz=92								
I26A	New Underwood	91.63	43	⇓P		P	20 18 42.1	-0.2	
	baz=92								
N29A	Votaw Ranch, W	91.66	47	⇑P		P	20 18 42.5	0.0	
	baz=92								
D23A	Lindsay	91.67	40	⇓P		P	20 18 43.4	+1.0	
	baz=92								
Q31A	Ellis	91.72	49	⇓P		P	20 18 42.7	-0.1	
	baz=92								
B22A	Reddig Ranch S	91.77	38	⇓P		P	20 18 43.4	+0.6	
	baz=92								
O30A	MW Ranch, Wils	91.77	47	⇓P		P	20 18 43.0	0.0	
	baz=92								
G25A	Newell	91.82	42	⇓P		P	20 18 43.1	0.0	
	baz=92								
M29A	Burnside Ranch	91.89	46	⇓P		P	20 18 43.9	+0.3	
	baz=92								
E24A	Baker	91.92	40	⇓P		P	20 18 44.2	+0.6	
	baz=92								
P31A	Stockton	91.95	48	⇓P		P	20 18 44.3	+0.5	
	baz=92								
H26A	Fairpoint	91.96	43	⇓P		P	20 18 44.4	+0.6	
	baz=92								
CFAA	Coronel Fontan	91.97	125		P	P	20 18 42.9	-1.4	
CFAA	Coronel Fontan	91.97	125		P	P	20 18 42.9	-1.4	
	comp=Z,1.1nm,1.0s,baz=247,slow=2.9								
C23A	Lambert	92.00	39	⇑	P	P	20 18 45.3	+1.5	
	baz=92								
K28A	Ten Mile Ranch	92.00	45	⇑P		P	20 18 44.4	+0.4	
	baz=92								
N30A	Hueftle Ranch,	92.00	47	⇑P		P	20 18 44.7	+0.6	
	baz=92								
TGUH	Tegucigalpa,Un	92.06	76		*eP*	P	20 18 45.1	+0.3	
TGUH					LR	LR			
	comp=Z,3µm,20.0s								
A22A	Carney Farms,	92.16	38	⇑P		P	20 18 45.5	+1.0	
	baz=92								
I27A	Quinn	92.17	43	⇑P		P	20 18 45.1	+0.3	
	baz=92								
D24A	Glendive	92.17	40	⇑P		P	20 18 45.1	+0.4	
	baz=92								
HHC	Hu-ho-hao-te	92.19	313		*eP*	P	20 18 46.8	+1.8	
HHC					pP	pP	20 18 51.5	+0.8	
HHC					sP	sP	20 18 53.8	+1.0	
HHC					PP	PP	20 22 29.8	+4.2	
HHC					SKS	SKSac	20 29 17.8	+0.2	
HHC					S	S	20 29 46.5	-0.6	
HHC					sS	sS	20 29 54.3	-2.4	
HHC					SS	SS	20 35 59.8	+2.1	
HHC					pmax	pmax			
	comp=Z,94nm,1.7s								
HHC					pmax	pmax			
	comp=Z,1µm,5.7s								
HHC					LR	LR			
	comp=N,1µm,16.7s								
HHC					LR	LR			
	comp=E,1µm,16.7s								
HHC					LR	LR			
	comp=Z,2µm,19.0s								
L29A	Maesberg Ranch	92.30	46	⇓P		P	20 18 46.1	+0.6	
	baz=93								
C24A	Savage	92.31	40	⇓P		P	20 18 46.1	+0.8	
	baz=93								
G26A	Maurine	92.38	42	⇓P		P	20 18 45.8	+0.1	
	baz=93								
J28A	Allard Ranch,	92.41	44	⇑P		P	20 18 45.9	0.0	
	baz=93								
H27A	Howes	92.41	43		P	P	20 18 46.2	+0.4	
	baz=93								
B23A	Brockton	92.43	39	⇑P		P	20 18 47.3	+1.5	
	baz=93								
E25A	Miller Ranch,	92.44	41	⇑P		P	20 18 46.7	+0.8	
	baz=93								
M30A	Dale-Ortello V	92.48	46	⇓P		P	20 18 46.9	+0.6	
	baz=93								
NNA	Nana	92.49	104		*eP*	P	20 18 47.5	+0.5	
NNA					*eS*	S	20 29 49.3	-1.6	
NNA					LR	LR			
	comp=Z,2µm,20.0s								
F26A	Lodgepole	92.59	42	⇑P		P	20 18 47.3	+0.6	
	baz=93								
CLNS	Chul'man	92.62	331		*c iP*	P	20 18 47.6	+1.1	
CLNS					*e**PP	pP	20 19 02.9	+11	
CLNS					*e*		20 22 31.7		
CLNS					*eS*	SKSac	20 29 21.7	+2.5	
CLNS					pmax	pmax			
	comp=Z,60nm,2.0s								
CLNS					pmax	pmax			
	comp=E,20nm,1.9s								
CLNS					pmax	pmax			
	comp=N,21nm,1.6s								
CLNS					pmax	pmax			
	comp=Z,5.0nm,0.8s								
CLNS					smax	smax			
	comp=E,445nm,14.8s								
CLNS					smax	smax			
	comp=N,342nm,14.0s								
CLNS					MLR	MLR			
	comp=N,1µm,18.0s								
CLNS					MLR	MLR			
	comp=E,1µm,17.0s								
CLNS					MLR	MLR			
	comp=Z,2µm,19.0s								
I28A	Midland	92.70	44		P	P	20 18 47.6	+0.3	
	baz=93								
K29A	Lazy Trails An	92.72	45	⇓P		P	20 18 47.7	+0.4	
	baz=93	

KMI comp=E,2µm,21.0s LR LR

A23A Redstone 92.73 38 ⇓P **P** 20 18 48.3 +1.1
baz=93
comp=Z,2µm,21.8s

ATAH Atahualpa 92.84 99 P **P**
ATAH Atahualpa 92.84 99 P **P** 20 18 50.6 +1.6
comp=Z,3.9nm,0.9s,baz=304,slow=11,SNR=5.5

G27A Dupree 92.84 42 ⇑P **P** 20 18 50.6 +1.6
baz=93

JTS JuntasAbangare 92.86 80 P **P** 20 18 47.9 +0.1
JTS JuntasAbangare 92.86 80 P **P** 20 18 48.9 +0.3
comp=E,14nm,0.8s,baz=291,slow=7.3,SNR=6.5

DGMT Dagmar 92.90 39 *e*P **P** 20 18 48.3 +0.4
comp=Z,70nm,1.0s

DGMT LR LR

comp=Z,3µm,20.0s

DGMT Dagmar 92.90 39 ⇓P **P** 20 18 48.9 +1.0
baz=93

E26A Carlson Angus 93.00 41 P **P** 20 18 49.2 +0.7
baz=93

LAMP Lampang 93.04 289 P **P** 20 18 52.4 +3.1
comp=Z,14nm,0.9s,comp=Z,147nm

TUL1 Tulsa 93.05 53 ⇓P **P** 20 18 48.9 0.0
baz=93

C25A Freed Ranch, W 93.10 40 ⇑P **P** 20 18 50.0 +1.0
baz=93

H28A Mission Ridge 93.10 43 ⇑P **P** 20 18 49.5 +0.5
baz=93

BTO Baotou 93.14 312 *e*P **P** 20 18 50.8 +1.4
A24A Westby 93.22 38 ⇑P **P** 20 18 50.1 +0.6
baz=94

G28A Parade 93.34 43 ⇑P **P** 20 18 50.3 +0.2
baz=94

TEIG Tepich 93.34 70 *e*P **P** 20 18 51.3 +0.6
TEIG *e*S **S** 20 29 56.8 -1.2
TEIG Tepich 93.34 70 P **P** 20 18 51.4 +0.8
comp=Z,8.1nm,0.8s,baz=254,slow=7.4,SNR=2.8

TEIG LR LR 20 56 29.1

comp=Z,3µm,18.1s,baz=18,slow=33

B25A Knox Farm, Ray 93.41 39 P **P** 20 18 51.5 +1.1
baz=94

TRQA Tornquist 93.53 133 *e*P **P** 20 18 51.5 +0.1
TRQA *e*S **S** 20 29 57.6 -1.7
TRQA LR LR

comp=Z,3µm,20.0s

BGNE Belgrade 93.60 47 ⇓P **P** 20 18 51.9 +0.5
baz=94

CMAR Chiang Mai Arr 93.63 288 P **P** 20 18 53.5 +1.5
CMAR Chiang Mai Arr 93.63 288 P **P** 20 18 53.5 +1.5
comp=Z,13nm,1.1s,baz=114,slow=2.9,SNR=24

CMAR LR LR 21 02 57.8

comp=Z,706nm,18.6s,baz=295,slow=37

INK Inuvik 93.69 14 *e*P **P** 20 18 51.0 -0.1
comp=Z,36nm,1.3s

INK Inuvik 93.69 14 P **P** 20 18 51.8 +0.8
baz=207,slow=4.8

INK LR LR 21 00 05.6

comp=Z,4µm,18.7s,baz=235,slow=35

KSU1 Kansas State U 93.73 50 *e*P **P** 20 18 51.9 -0.1
KSU1 LR LR

comp=Z,4µm,20.0s

A25A Svangstu Ranch 93.75 39 P **P** 20 18 53.1 +1.2
baz=94

CMMT Chiang Mai 93.75 289 P **P** 20 18 53.9 +1.3
comp=Z,38nm,2.5s,comp=Z,1µm

CMMT Chiang Mai 93.75 289 P **P** 20 18 54.6 +2.0
comp=Z,96nm,2.1s,comp=Z,1µm

YAK Yakutsk 93.80 337 *e*P **P** 20 18 50.6 -1.1
YAK *e* 20 22 34.0
YAK *e*S **SKSac** 20 29 24.8 -0.4
YAK *e**SS **S** 20 30 00.7 +0.5
YAK *e*SS SS 20 36 27.8 +8.3
YAK pmax pmax

comp=Z,9.0nm,1.0s

YAK smax smax

comp=N,357nm,4.1s

YAK smax smax

comp=E,470nm,7.1s

YAK MLR MLR

comp=E,765nm,16.0s

YAK MLR MLR

comp=Z,2µm,22.0s

YAK MLR MLR

comp=N,780nm,17.0s

C26A Wahner Farm, P 93.84 40 P **P** 20 18 53.4 +1.0
baz=94

B26A Jensen Ranch, 94.01 39 P **P** 20 18 54.0 +0.9
baz=94

CD2 Chengdu 94.02 301 *e*P **P** 20 18 54.8 +1.2
CD2 pP **pP** 20 18 59.5 +0.2
CD2 sP **sP** 20 19 01.8 +0.4
CD2 PP **PP** 20 22 43.8 +3.7
CD2 SKS **SKSac** 20 29 28.0 -0.1
CD2 S **S** 20 30 02.5 -1.2
CD2 sS **sS** 20 30 10.0 -3.2
CD2 SS **SS** 20 36 26.3 +2.1
CD2 pmax pmax

comp=Z,20nm,2.0s

CD2 pmax pmax

comp=Z,1µm,7.1s

CD2 LR LR

comp=E,970nm,20.2s

CD2 LR LR

comp=E,970nm,15.5s

C27A Sayler Ranch, 94.15 40 P **P** 20 18 54.7 +0.9
baz=94

BRSD Miller 94.33 44 ⇑P **P** 20 18 54.7 +0.1
baz=95

A26A Wade Farm, Ken 94.36 39 ⇑P **P** 20 18 55.4 +0.7
baz=95

LVC Limon Verde 95.28 116 *e*P **P** 20 19 00.7 +0.8
comp=E,113nm,2.3s

LVC LR LR

comp=Z,3µm,21.0s

YKA Yellowknife Ar 95.34 24 P **P** 20 18 57.5 -1.3
YKA PKKP **PKKPdf** 20 35 55.9 +1.0
YKA Yellowknife Ar 95.34 24 P **P** 20 18 57.5 -1.3
comp=Z,6.4nm,0.9s,baz=236,slow=4.1,SNR=17

YKA PKKP **PKKPdf** 20 35 55.9 +1.0

comp=Z,0.5nm,0.7s,baz=65,slow=3.4,SNR=3.8

MDND Maddock 95.36 41 ⇓P **P** 20 18 59.3 0.0
baz=96

OTAV Otavalo 95.42 92 PFAKE 20 19 10.0 +9.1
OTAV LR LR

comp=Z,2µm,20.0s

ECSD EROS Data Cent 95.58 45 *e*P **P** 20 19 00.0 -0.4
comp=Z,340nm,2.9s

ECSD LR LR

comp=Z,2µm,19.0s

VBMS Vicksburg 95.72 58 PFAKE 20 19 10.0 +8.7
VBMS LR LR

comp=Z,4µm,19.0s

LZH Lanzhou 95.85 306 ⇑P **P** 20 19 04.0 +2.0
LZH pP **pP** 20 19 09.3 +1.5
LZH sP **sP** 20 19 11.0 +1.2
LZH PP **PP** 20 22 56.0 +1.6
LZH SKS **SKSac** 20 29 40.3 +2.4
LZH S **S** 20 30 16.3 -3.3
LZH sS **sS** 20 30 25.0 -4.2
LZH SS **SS** 20 36 51.0 +0.7
LZH pmax pmax

comp=Z,23nm,1.2s

LZH pmax pmax

comp=Z,300nm,4.1s

LZH LR LR

comp=N,550nm,14.8s

LZH LR LR

comp=E,940nm,16.0s

LZH LR LR

comp=Z,1µm,16.0s

FFC Flin Flon 97.00 34 PFAKE 20 19 20.0 +13
FFC LR LR

comp=Z,9µm,20.0s

SCIA State Center 97.20 48 *e*P **P** 20 19 08.0 +0.3
SCIA LR LR

comp=Z,3µm,20.0s

BCIP Isla Barro Col 97.21 83 PFAKE 20 19 20.0 +11
BCIP LR LR

comp=Z,2µm,19.0s

OXF Oxford 97.39 56 PFAKE 20 19 20.0 +11
OXF LR LR

comp=Z,8µm,20.0s

AGMN Agassiz Nation 97.84 41 PFAKE 20 19 20.0 +9.4
AGMN LR LR

comp=Z,2µm,19.0s

ULN Ulaanbaatar 97.99 318 *e*P Pdif 20 19 12.0 +0.6
comp=Z,18nm,1.6s

ULN LR LR

comp=Z,933nm,20.0s

ULN Ulaanbaatar 97.99 318 P Pdif 20 19 13.0 +1.5
SONM Songino Array 98.39 318 P Pdif 20 19 13.6 +0.4
SONM PP **PP** 20 23 14.2 +0.6
SONM Songino Array 98.39 318 P Pdif 20 19 13.6 +0.4
comp=Z,2.9nm,1.1s,baz=128,slow=3.8,SNR=13

SONM PP **PP** 20 23 14.2 +0.6

comp=Z,1.4nm,0.9s,baz=106,slow=9.1,SNR=4.4

SONM LR LR 21 01 23.7

comp=Z,1µm,20.6s,baz=115,slow=34

ULM Lac du Bonnet 98.57 39 LR LR 20 58 07.0
comp=Z,4µm,19.7s,baz=242,slow=32

LPAZ La Paz 98.59 111 *e*P **P** 20 19 15.3 -0.1
LPAZ La Paz 98.59 111 P **P** 20 19 14.6 -0.8
comp=Z,1.5nm,0.9s,baz=236,slow=4.2,SNR=5.3

LPAZ LR LR 20 56 53.4

comp=Z,3µm,18.2s,baz=311,slow=31

SPMN St. Paul 98.67 45 ⇑Pdiff Pdif 20 19 14.5 +0.2
baz=99

LRAL Lakeview Retre 98.79 58 PFAKE 20 19 30.0 +15
LRAL LR LR

comp=Z,4µm,20.0s

HDIL Hopedale 99.50 50 PFAKE 20 19 30.0 +12
HDIL LR LR

comp=Z,86µm,20.0s

GTA Gaotai 99.99 308 *e*P **Pdif** 20 19 22.5 +2.0
GTA pP **pP** 20 19 26.8 +0.5
GTA sP **sP** 20 19 29.3 +1.0
GTA SKS **SKSac** 20 29 59.0 +0.2
GTA S **Sdif** 20 30 53.5 -1.1
GTA SS **SS** 20 37 52.0 +3.7
GTA pmax pmax

comp=Z,7.0nm,2.2s

GTA pmax pmax

comp=Z,340nm,4.8s

GTA LR LR

comp=N,250nm,24.7s

GTA LR LR

comp=E,540nm,24.7s

GTA LR LR

comp=Z,870nm,27.6s

TIXI Tiksi 100.02 344 *e*P **Pdif** 20 19 20.8 +1.1
TIXI pmax pmax

comp=Z,3.0nm,1.0s

TIXI MLR MLR

comp=Z,1µm,15.0s

EYMN Ely 100.45 43 PFAKE 20 19 30.0 +7.8
EYMN LR LR

comp=Z,3µm,20.0s

TIGA Tifton 101.03 61 ⇑Pdiff **Pdif** 20 19 26.8 +1.7
baz=101

SFIN Scholer Farm 101.04 51 ⇑Pdiff **Pdif** 20 19 26.2 +1.3
baz=101

ZAK Zakamensk 101.20 320 *e*P **Pdif** 20 19 25.0 -0.6
ZAK pmax pmax

comp=Z,2.0nm,2.3s

COWI Conover 101.38 45 PFAKE 20 19 40.0 +14
COWI LR LR

comp=Z,2µm,19.0s

SHL Shillong 102.13 293 *e*P **Pdif** 20 19 35.0 +4.6
SHL *ex* x 20 23 45.0
KMSC Kings Mountain 103.90 57 ⇓Pdiff **Pdif** 20 19 39.7 +1.8
baz=104

GLMI Grayling 104.06 47 PFAKE 20 19 50.0 +12
GLMI LR LR

comp=Z,3µm,20.0s

SIV San Ignacio 104.83 114 PKKPbc PKKPbc 20 35 25.7 +0.4
SIV San Ignacio 104.83 114 PKKPbc PKKPbc 20 35 25.7 +0.4
comp=Z,1.9nm,0.8s,baz=112,slow=5.4,SNR=5.0

GTBY Guantanamo Bay 104.96 74 PFAKE 20 24 10.0
GTBY LR LR

comp=Z,1µm,19.0s

BLA Blacksburg 105.16 56 PFAKE 20 24 10.0
BLA LR LR

comp=Z,4µm,20.0s

SAML Samuel 106.03 106 PFAKE 20 24 10.0
SAML LR LR

comp=Z,2µm,19.0s

CBN Corbin 107.74 55 PFAKE 20 24 10.0
CBN LR LR

comp=Z,5µm,20.0s

SDDR Presa de Saban 108.14 76 PFAKE 20 24 10.0
SDDR LR LR

comp=Z,2µm,21.0s

DGAR Diego Garcia 108.85 254 PFAKE 20 24 20.0
DGAR LR LR

comp=Z,3µm,21.0s

GRTK Grand Turk 108.97 74 PFAKE 20 24 20.0
GRTK LR LR

comp=Z,2µm,19.0s

WMQ Urumqi 109.88 310 Pdif **Pdif** 20 20 05.0 +0.7
WMQ PP **PP** 20 24 43.3 +4.1
WMQ SKS **SKSdf** 20 31 13.5 -4.4
WMQ SS **SS** 20 40 02.0 -1.4
WMQ AMB AMB

comp=Z,78nm,13.6s

WMQ LR LR

comp=N,330nm,21.4s

WMQ LR LR

comp=E,690nm,24.6s

WMQ LR LR

comp=Z,840nm,27.7s

LONY Lake Ozonia 111.01 49 PFAKE 20 24 20.0
LONY LR LR

comp=Z,3µm,19.0s

NCB Newcomb 111.17 50 PFAKE 20 24 20.0
NCB LR LR

comp=Z,4µm,20.0s

SJG San Juan 112.59 78 PFAKE 20 24 20.0
SJG LR LR

comp=Z,1µm,19.0s

ZALV Zalesovo Beam 113.02 321 PKIKP **PKiKP** 20 24 11.3 -0.7
ZALV Zalesovo Beam 113.02 321 PKiKP **PKiKP** 20 24 11.3 -0.7
ZALV Zalesovo Beam 113.02 321 PKiKP **PKiKP** 20 24 11.3 -0.7
comp=Z,2.7nm,0.6s,baz=106,slow=0.4,SNR=12

NVS Novosibirsk 113.99 322 *e*PKIKP **PKiKP** 20 24 12.2 -1.6
NVS *i* 20 31 01.3
NVS pmax pmax

comp=Z,27nm,1.9s

NVS pmax pmax

comp=N,4.0nm,1.3s

NVS pmax pmax

comp=E,3.0nm,1.3s

NVS pmax pmax

comp=Z,44nm,2.2s

NVS pmax pmax

comp=N,6.0nm,1.7s

NVS pmax pmax

comp=E,16nm,1.7s

NVS pmax pmax

comp=E,86nm,3.6s

MKAR Makanchi Array 114.05 313 PKIKP PKPdf 20 24 12.9 -1.4
MKAR Makanchi Array 114.05 313 PKP PKPdf 20 24 12.9 -1.4
MKAR PKKPbc **PKKPbc** 20 34 55.1 -1.4
MKAR Makanchi Array 114.05 313 PKP PKPdf 20 24 12.9 -1.4
comp=E,2.6nm,0.8s,baz=182,slow=0.7,SNR=16

MKAR PKKPbc **PKKPbc** 20 34 55.1 -1.4

comp=E,0.4nm,0.7s,baz=258,slow=2.4,SNR=4.1

GRGR Grenville 115.08 86 PFAKE 20 24 30.0 +13
GRGR LR LR

comp=Z,1µm,19.0s

BDFB Brasilia 115.89 120 PKKPab PKKPab 20 34 55.1 -0.9
BDFB Brasilia 115.89 120 PKKPab PKKPab 20 34 55.1 -0.9
comp=Z,1.4nm,0.5s,baz=22,slow=5.4,SNR=3.1

FDF Fort de France 116.30 83 PFAKE 20 24 30.0 +11
FDF LR LR

comp=Z,1µm,20.0s

ANWB Willy Bob 116.49 80 PFAKE 20 24 30.0 +10
ANWB LR LR

comp=Z,976nm,20.0s

BBSR BB Station 116.88 63 PFAKE 20 24 30.0 +10
BBSR LR LR

comp=Z,1µm,20.0s

BBGH Gun Hill 117.33 86 PFAKE 20 24 30.0 +8.6
BBGH LR LR

comp=Z,2µm,19.0s

KSH Kashi 118.04 304 *e*PKP **PKPdf** 20 24 22.5 +0.2
KSH PKS **PKSdf** 20 27 57.3 -1.8
KSH SKS **SKSdf** 20 31 33.5 -0.4
KSH SKKS SKKSac 20 32 28.8 -8.3
KSH AMB AMB

comp=Z,300nm,7.8s

KSH LR LR

comp=N,540nm,15.5s

KSH LR LR

comp=E,840nm,17.3s

KSH LR LR

comp=Z,990nm,22.0s

FRU Bishkek 119.26 308 *e*PKIKP **PKPdf** 20 24 24.0 -0.4
FRU *e* 20 25 43.0
FRU pmax pmax

comp=Z,110nm,2.5s

AAK Ala-Archa 119.34 308 *i* PKIKP **PKPdf** 20 24 25.3 +0.5
AAK pmax pmax

comp=Z,26nm,1.7s

AAK Ala-Archa 119.34 308 PFAKE 20 24 30.0 +5.2
AAK LR LR

comp=Z,1µm,20.0s

BRVK Borovoye 121.71 320 *e*PKIKP **PKPdf** 20 24 28.0 -0.8
BRVK *e* 20 25 59.1
BRVK MLR MLR

comp=Z,3µm,21.0s

BRVK Borovoye 121.71 320 *e*PKPdf **PKPdf** 20 24 28.0 -0.8
BRVK *e*PP **PP** 20 25 59.1 -2.7
BRVK LR LR

comp=Z,3µm,21.0s

KBS Kingsbay 121.78 359 *e*PP PP 20 25 59.5 -2.0
KBS *e*SS SS 20 42 41.6 +4.7
KBS AMS AMS 21 19 00.6

comp=Z,786nm,19.7s

KBS Kingsbay 121.78 359 *e*PKIKP **PKPdf** 20 24 28.0 -0.3
KBS *e* 20 26 01.5
KBS MLR MLR

comp=Z,869nm,20.0s

KBS Kingsbay 121.78 359 *e*PKPdf **PKPdf** 20 24 27.9 -0.3
KBS *e*PP **PP** 20 26 01.5 +0.1
KBS LR LR

comp=Z,869nm,20.0s

SFJD Kangerlussuaq 121.88 23 PFAKE 20 24 40.0 +11
SFJD LR LR

comp=Z,2µm,19.0s

SFJD Kangerlussuaq 121.88 23 *i* P PKPdf 20 24 37.7 +9.1
SFJD *i* 20 34 06.0
SFJD

comp=Z,1µm,19.0s

KKAR Karatay Array 122.27 308 *e*PKIKP **PKPdf** 20 24 28.8 -1.4
KKAR *e* 20 26 05.8
KKAR Karatay Array 122.27 308 *e*PKPdf **PKPdf** 20 24 28.8 -1.4
KKAR *e*PP **PP** 20 26 05.8 -0.2
SPA0 Spitsbergen Ar 122.39 357 *e* PP 20 25 57.4 -8.2
SUMG Summit 122.60 14 *e*PKIKP **PKPdf** 20 24 31.0 +0.5
SUMG MLR MLR

comp=Z,2µm,18.0s

SUMG Summit 122.60 14 *e*PKPdf **PKPdf** 20 24 29.9 -0.6
SUMG Summit 122.60 14 *i* P **PKPdf** 20 24 31.0 +0.5
SUMG

comp=Z,2µm,18.0s

DAG Danmarks Havn 122.69 7 *e*PKIKP **PKPdf** 20 24 29.3 -0.7
DAG MLR MLR

comp=Z,2µm,19.0s

DAG Danmarks Havn 122.69 7 *i* P **PKPdf** 20 24 29.3 -0.7
DAG

comp=Z,1µm,18.0s

MSEY Mahe Island 125.12 248 PFAKE 20 24 50.0 +13
MSEY LR LR

comp=Z,2µm,20.0s

SUR Sutherland 125.18 196 PKP **PKPdf** 20 24 37.4 +0.9
SUR LR LR

comp=Z,3µm,19.0s

SUR Sutherland 125.18 196 PKP **PKPdf** 20 24 37.4 +0.9
comp=Z,10nm,1.0s,baz=338,slow=11,SNR=3.4

SVE Sverdlovsk 126.29 326 *i* PKIKP **PKPdf** 20 24 36.8 -0.6
SVE *e* 20 26 30.4
SVE *e*PPP PPP 20 29 16.6
SVE *e* 20 31 40.7
SVE *e*SP SP 20 36 27.7 -4.7
SVE *e*PS **PS** 20 36 35.6 0.0
SVE *e*SS **SS** 20 43 35.0 +0.1
SVE pmax pmax

comp=Z,46nm,1.4s

SVE MLR MLR

comp=Z,3µm,20.0s

SVE MLR MLR

comp=E,2µm,20.0s

SOKR Solikamsk 127.17 330*d* *i* PKIKP **PKPdf** 20 24 39.2 +0.2
SOKR pmax pmax

comp=Z,30nm,1.0s

BOSA Boshof 127.39 202 PKP **PKPdf** 20 24 41.5 +0.8
BOSA Boshof 127.39 202 PKP **PKPdf** 20 24 41.5 +0.8
comp=Z,7.6nm,0.9s,baz=187,slow=2.4,SNR=7.4

ARU Arti 127.50 326 *i* PKIKP **PKPdf** 20 24 39.6 -0.1
ARU 20 26 36.5
ARU 20 31 41.2
ARU PS **PS** 20 36 42.2 -4.1
ARU MLR MLR

comp=Z,3µm,20.0s

ABKAR Akbulak array 128.79 317 *e*PKPdf **PKPdf** 20 24 41.9 -0.5
ABKAR *e*PP **PP** 20 26 48.9 -0.3
JMIC Jan Mayen 129.13 6 *e*PP PP 20 26 50.7 +0.3
JMIC *e*SS SS 20 44 13.7 +4.7
KEV Kevo 129.43 351 PFAKE 20 24 50.0 +7.0
KEV LR LR

comp=Z,1µm,20.0s

AKTO Aktyubinsk 129.70 319 PKIKP **PKPdf** 20 24 43.5 -0.7
AKTO Aktyubinsk 129.70 319 PKP **PKPdf** 20 24 43.5 -0.7
AKTO Aktyubinsk 129.70 319 PKP **PKPdf** 20 24 43.5 -0.7
comp=Z,2.3nm,0.8s,baz=110,slow=3.7,SNR=7.5

ARCES ARCESS Array B 129.85 351 PKP **PKPdf** 20 24 43.7 -0.2
ARCES ARCESS Array B 129.85 351 PKP **PKPdf** 20 24 43.7 -0.2
comp=Z,14nm,1.0s,baz=37,slow=0.9,SNR=22

APA Apatity 130.15 347 ⇑ *i* PKIKP **PKPdf** 20 24 49.0 +4.5
APA *i* 20 31 56.0
APA *i* PS **PS** 20 37 00.0 -8.8
APA *i* PPS PPS 20 38 50.0
APA MLR MLR

comp=Z,2µm,21.0s

LBTB Lobatse 130.55 204 PKP **PKPdf** 20 24 46.5 -0.3
LBTB Lobatse 130.55 204 PKP **PKPdf** 20 24 46.5 -0.3
comp=Z,2.3nm,0.9s,baz=45,slow=7.1,SNR=3.8

TRO Tromso 130.56 354 *e*PP PP 20 26 57.1 -2.6
TRO *e*SS SS 20 44 26.4 -0.2
TRO AMS AMS 21 16 36.1

comp=Z,798nm,24.4s

BORG Borgarnes 132.56 15 PFAKE 20 25 00.0 +11
BORG LR LR

comp=Z,2µm,19.0s

FINES FINESS Array B 137.04 346 PKPpre PKPpre 20 24 54.0
FINES PKP **PKiKP** 20 24 59.2 -0.2
FINES FINESS Array B 137.04 346 PKhKP PKPpre 20 24 54.0
comp=Z,1.9nm,0.7s,baz=56,slow=3.4,SNR=5.1

FINES PKP **PKiKP** 20 24 59.2 -0.2

comp=Z,4.7nm,0.8s,baz=49,slow=6.4,SNR=10

MOS Moscow 137.84 334 *e*PKIKP **PKPdf** 20 24 56.7 -2.5
LSZ Lusaka 137.94 213 *e*PKPdf **PKPdf** 20 25 01.2 +0.4
LSZ *e*PP **PP** 20 27 46.8 -0.5
LSZ LR LR

comp=Z,1µm,19.0s

TSUM Tsumeb 138.58 197 PFAKE 20 25 10.0 +8.0
TSUM LR LR

comp=Z,2µm,20.0s

OBN Obninsk 138.71 334 ⇑ *i* PKIKP **PKPdf** 20 24 58.8 -2.0
OBN *e* 20 27 47.8
OBN *i* SS SS 20 46 09.7 +4.4
OBN pmax pmax

comp=Z,57nm,1.7s

VRHR Novokhopersk 138.85 326 *e*PKIKP **PKPdf** 20 25 04.1 +2.9
VRHR pmax pmax

comp=Z,10.0nm,0.8s

VRHR pmax pmax

comp=N,10.0nm,1.3s

VRHR pmax pmax

comp=E,20nm,1.6s

MAK Makhachkala 138.86 312 *i* P **Pdif** 20 22 11.6 -1.5
MAK *i* 20 25 01.1
MAK *e*PPP PPP 20 30 57.8
MAK *e*SS SS 20 46 10.8 +2.3
MAK *e*SSS SSS 20 51 20.7
MAK pmax pmax

comp=Z,233nm,1.5s

MAK MLR MLR

comp=Z,1µm,21.0s

NB2 NORSAR Subarra 139.65 356 PKP PKPpre 20 24 57.1
comp=Z,42nm,2.0s,baz=17,slow=2.6

NOA NORSAR Array B 139.65 356 PKPpre PKPpre 20 24 56.4
NOA PKP **PKPdf** 20 25 00.1 -2.3
NOA NORSAR Array B 139.65 356 PKhKP PKPpre 20 24 56.4

comp=Z,2.8nm,0.9s,baz=10,slow=2.4,SNR=6.5
NOA PKP **PKPdf 20 25 00.1 -2.3**
comp=Z,3.3nm,0.9s,baz=20,slow=2.6,SNR=5.6
NC602 NORSAR Array S 139.93 356 *e* **PKPdf 20 24 58.3 -4.7**
NC602 *e*PP **PP 20 27 59.0 +0.1**
VSR Storozhevoye 140.04 327 *e*PKIKP **PKPdf 20 25 06.7 +3.3**
VSR pmax pmax
comp=Z,50nm,1.3s
VSR pmax pmax
comp=N,10.0nm,1.6s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR MLR MLR
comp=Z,3μm,20.0s
VSR MLR MLR
comp=N,1μm,24.0s
VSR MLR MLR
comp=E,2μm,22.0s
VORD Divnogorie 140.13 327 *e*PKIKP **PKPdf 20 25 07.2 +3.7**
VORD pmax pmax
comp=Z,30nm,1.4s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.6s
VORD MLR MLR
comp=Z,2μm,21.0s
VORD MLR MLR
comp=N,1μm,20.0s
VORD MLR MLR
comp=E,1μm,20.0s
BER Bergen 140.49 0 *e* PKPdf 20 24 58.0 -5.8
BER *e*PP **PP 20 28 00.7 -1.5**
KONO Kongsberg 141.13 357 *e* PKPdf 20 24 58.0 -7.1
KONO *e*PP **PP 20 28 05.8 -0.4**
KONO Kongsberg 141.13 357 PFAKE 20 25 20.0 +15
KONO LR LR
comp=Z,1μm,19.0s
ZEI Tsey 141.40 313 *e*PKHKP PKPpre 20 24 54.6
ZEI pmax pmax
comp=Z,4.0nm,0.4s
RDF Al-Radifah 141.48 291 *e*P PKPdf 20 25 01.1 -5.6
RDF AMb AMB 20 25 12.9
comp=Z,78nm,2.0s
MIB Mutribah 141.62 292 *e*P PKPdf 20 25 01.3 -5.6
MIB AMb AMB 20 25 08.0
comp=Z,50nm,0.9s
KBZ Khabaz 141.70 315 PKHKP PKPpre 20 25 01.6
KBZ 20 25 06.3
KBZ Khabaz 141.70 315 PKPpre PKPpre 20 25 01.6
KBZ PKP **PKPdf 20 25 06.3 -0.3**
KBZ Khabaz 141.70 315 PKHKP PKPpre 20 25 01.6
comp=Z,4.6nm,1.0s,baz=74,slow=3.9,SNR=2.6
KBZ PKP **PKPdf 20 25 06.3 -0.3**
comp=Z,4.5nm,0.9s,baz=98,slow=3.9,SNR=5.8
SHEL Horse Pasture 141.71 162 PFAKE 20 25 20.0 +12
SHEL LR LR
comp=Z,2μm,19.0s
NAY Al-Naaiem 141.73 291 *e*P PKPdf 20 25 01.6 -5.5
NAY AMb AMB 20 25 08.6
comp=Z,13nm,1.6s
GNI Garni 141.73 309 PFAKE 20 25 20.0 +13
GNI LR LR
comp=Z,851nm,19.0s
KIV Kislovodsk 141.74 316 *i* PKIKP **PKPdf 20 25 05.8 -1.0**
KIV *e* 20 28 07.4
KIV *e* 20 32 09.3
KIV *e*SS SS 20 46 40.3 -2.0
KIV *e*SSS SSS 20 51 58.3
KIV pmax pmax
comp=Z,7.0nm,0.8s
KMBO Kilima Mbogo 142.31 238 *e*PKPdf **PKPdf 20 25 07.5 -1.5**
KMBO PKP **PKPdf 20 25 08.2 -0.7**
KMBO Kilima Mbogo 142.31 238 PKP **PKPdf 20 25 08.2 -0.7**
comp=Z,4.9nm,0.9s,baz=41,slow=3.4,SNR=6.1
IBDR Badra 142.46 298 *i* PKP PKPdf 20 25 02.0 -6.3
IBDR *i* PP **PP 20 28 11.0 -4.9**
IBDR *i* SKP 20 28 47.0
MICGM Minsk 142.46 339⇓ *e*PKP **PKPdf 20 25 03.0 -4.6**
MNK Minsk 142.48 339⇓ *e*PKHKP **PKPdf 20 25 03.0 -4.7**
MNK *e* 20 25 04.0
MNK *e* 20 28 12.0
MNK MLR MLR
comp=Z,5μm,20.0s
NACGM Naroch 142.49 340 *e*PKP PKPdf 20 25 02.0 -5.7
KPL Plockton 142.57 10 AMS AMS 21 34 58.1
comp=Z,2μm,17.2s
DIGO Kars 142.63 310 *i* P PKPdf 20 25 02.2 -6.5
HAKT HAKKARI 143.28 305 *i* P PKPab 20 25 04.4 -1.4
ARTV Artvin 143.37 312 *i* P PKPab 20 25 04.4 -1.6
TUTA Tutak 143.38 309 *i* P PKPab 20 25 05.9 -0.2
DAGI Agillar 143.43 312 *i* P PKPab 20 25 05.2 -0.9
DBOC Borcka 143.49 312 *i* P PKPab 20 25 06.7 +0.4
DBAD Bademkaya 143.60 312 *i* P PKPab 20 25 06.7 -0.1
BHD Baghdad 143.72 298 *i* PKP PKPab 20 25 05.0 -2.3
BHD *i* PP PP 20 28 14.0 -9.5
BHD *i* SKP 20 28 49.0
HOMI Horasan 143.81 310 *i* P PKPab 20 25 06.7 -1.2
SOC Sochi 143.83 317 *e*PKIKP PKPbc 20 25 07.9 -0.2
SOC *i* 20 25 12.7
SOC *e* 20 28 20.7
SOC *e*PPP PPP 20 31 30.6
SOC *e*SS SS 20 47 01.6 -4.5
SOC pmax pmax
comp=Z,25nm,0.6s
SOC pmax pmax
comp=Z,56nm,0.9s
TATV Tatvan 144.08 307 *i* P **PKPab 20 25 08.9 +0.1**
PGBU Glenifferbraes 144.23 10 AMS AMS 21 29 43.2
comp=Z,1μm,20.5s
SIRN S¨–rnak 144.28 306 *i* P **PKPab 20 25 09.6 +0.2**
SUW Suwalki 144.33 342 *e*PKIKP **PKPab 20 25 08.8 -0.1**
SUW Suwalki 144.33 342 *e*PKPdf **PKPab 20 25 08.8 -0.1**
SUW Suwalki 144.33 342 *e*PKPdf PKPbc 20 25 09.3 0.0
SUW LMZ LR 21 29 02.7
MUD Monsted U'grnd 144.34 357 *i* PKIKP PKPbc 20 25 09.6 +0.4
MUD MLR MLR
comp=Z,2μm,16.0s
MUD Monsted U'grnd 144.34 357 *i* P PKPbc 20 25 09.6 +0.4
MUD
comp=Z,2μm,15.0s
ANN Anapa 144.65 320*c i*PKIKP **PKPab 20 25 09.6 -0.8**
ANN *i* 20 25 14.4
ANN *e* 20 32 16.4
ANN *e*SS SS 20 47 14.5 -0.7
ANN pmax pmax
comp=Z,154nm,1.4s
ANN pmax pmax
comp=Z,248nm,1.0s
ANN MLR MLR
comp=Z,1μm,21.0s
BNGL BINGOL 144.75 309 *i* P PKPbc 20 25 11.8 +0.4
KOPT Kop Dagi 144.83 311 *i* P PKPbc 20 25 11.8 +0.1
COP Copenhagen 144.85 354 *i* PKIKP PKPbc 20 25 11.0 +0.2
COP MLR MLR
comp=Z,520nm,21.0s
COP Copenhagen 144.85 354 *i* P PKPbc 20 25 11.0 +0.2
COP
comp=Z,510nm,20.0s
ESK Eskdalemuir 144.90 9 AMS AMS 21 36 43.3
comp=Z,2μm,18.1s
ESK Eskdalemuir 144.90 9 *e*PKIKP **PKPdf 20 25 12.3 +0.4**
ESK MLR MLR
comp=Z,2μm,19.0s
ESK Eskdalemuir 144.90 9 *e*PKPdf **PKPdf 20 25 12.3 +0.4**
ESK LR LR
comp=Z,2μm,19.0s
MACK Trabzon 144.97 313 *i* P **PKPab 20 25 10.3 -1.5**
KIEV Kiev 144.99 334 *e*PKIKP **PKPab 20 25 10.2 -1.3**
KIEV MLR MLR
comp=Z,2μm,19.0s
KIEV Kiev 144.99 334 *e*PKPdf **PKPab 20 25 10.2 -1.3**
KIEV LR LR
comp=Z,2μm,19.0s
GAL1 Galloway 145.09 11 *e*P **PKPbc 20 25 10.1 -1.6**
GAL1 AMS AMS 21 36 24.8
comp=Z,2μm,16.2s
BSD Bornholm Skovb 145.09 351 *i* PKP2 **PKPbc 20 25 10.6 -1.1**
BSD MLR MLR
comp=Z,1μm,19.0s
BSD Bornholm Skovb 145.09 351 *i* P **PKPbc 20 25 10.6 -1.1**
BSD
comp=Z,1μm,18.0s
ASCN Ascension 145.19 143 PFAKE 20 25 20.0 +6.3
ASCN LR LR
comp=Z,2μm,19.0s
LLD Lille Linde 145.22 354 *i* PKIKP **PKPdf 20 25 13.0 +0.6**
LLD Lille Linde 145.22 354 *i* P **PKPdf 20 25 13.0 +0.6**
GCD Castle Douglas 145.22 10 *e*P **PKPbc 20 25 10.8 -1.3**
GMM Mts of Mourne 145.46 12 *e*P **PKPbc 20 25 12.2 -0.7**
WNDE Wendo Genet 145.47 251 *i* P **PKPab 20 25 15.5 +0.9**
EUZM Uzumlu 145.52 311 *i* P **PKPdf 20 25 13.3 -0.3**
MARD Mardin 145.57 306 *i* P **PKPdf 20 25 12.6 -1.3**
KESW Keswick, Cumbr 145.62 9 *e*P **PKPdf 20 25 12.7 -0.5**
KESW AMS AMS 21 30 19.5
comp=Z,2μm,19.1s
KELT Kelkit 145.65 312 *i* P **PKPab 20 25 14.8 +0.2**
ROSA Rosais 145.72 51 *e*PKP **PKPab 20 25 16.5 +1.9**
PGRA Graciosa 145.79 50 *e*PKP **PKPab 20 25 15.7 +0.9**
SUSE Susehri 146.36 312 *i* P **PKPdf 20 25 14.0 -1.1**
HPK Haverah Park 146.44 8 *e*P **PKPbc 20 25 16.4 +0.4**
HPK AMS AMS 21 34 39.1
comp=Z,2μm,18.4s
GKP Gorka Klasztor 146.46 348 *e*PKPdf **PKPdf 20 25 14.7 +0.1**
GKP LMZ LR 21 34 15.3
ELZG Elazig 146.49 309 *i* P **PKPab 20 25 17.7 0.0**
SIM Simferopol' 146.51 322*d i*PKP2 **PKPbc 20 25 15.9 -0.5**
SIM *e* 20 28 43.0
KEMA Kemaliye 146.54 311 *i* P **PKPbc 20 25 16.3 -0.6**
WME Myndd Eilian 146.57 11 *e*P **PKPdf 20 25 14.9 +0.1**
WLF1 Llynfaes 146.66 11 AMS AMS 21 32 39.0
comp=Z,2μm,19.0s
YRC Rhoscolyn 146.66 11 *e*P **PKPdf 20 25 14.6 -0.4**
WPM1 Penmaenmawr 146.77 11 *e*P **PKPdf 20 25 15.8 +0.7**
BSEG Bad Segeberg 146.78 355 *e*SS SS 20 47 37.3 -0.5
BEL Belsk 146.94 343 *e*PKPdf **PKPbc 20 25 17.6 +0.2**
BEL *e*PKiKP **PKiKP 20 25 22.4 +2.4**
BEL LMZ LR 21 32 05.8
MALT Malatya 146.97 309 PFAKE 20 25 30.0 +10
MALT LR LR
comp=Z,1μm,19.0s
MALT Malatya 146.97 309⇓ *i*P PKPab 20 25 36.9 +17
KBI1 Birley Grange 147.14 8 *e*P **PKPdf 20 25 16.9 +1.1**
STNC Stoke 147.21 9 AMS AMS 21 33 47.5
comp=Z,2μm,16.7s
FOEL Foel Wylfa 147.25 10 *e*P **PKPdf 20 25 15.7 -0.3**
FOEL AMS AMS 21 33 29.6
comp=Z,2μm,18.8s
SCER sogukcermik 147.25 312 *i* P **PKPdf 20 25 17.7 +1.1**
ATAB Bozova 147.38 308 *i* P **PKPdf 20 25 17.0 +0.2**
TOKA Tokat 147.49 314 *i* P **PKPdf 20 25 17.7 +0.9**
HAVZ Havza 147.64 315 *i* P **PKPdf 20 25 17.0 -0.1**
MBAR Mbarara 147.65 232 PFAKE 20 25 30.0 +7.0
MBAR LR LR
comp=Z,572nm,19.0s
LVV L'vov 147.67 338 *i* PKP2 **PKPdf 20 25 18.1 +1.3**
LVV *e* 20 28 44.3
LVV MLR MLR
comp=N,500nm,22.0s
LVV MLR MLR
comp=Z,800nm,22.0s
LVV MLR MLR
comp=E,600nm,21.0s
LPW Lampeter 147.84 12 AMS AMS 21 36 13.0
comp=Z,16μm,18.8s
PSET Sete Cidades 147.89 51 *e*PKP **PKPab 20 25 26.0 +2.9**
KIS Kishinev 147.92 330 *e*PKIKP **PKPdf 20 25 16.0 -1.3**
KIS Kishinev 147.92 330 *e*PP PP 20 28 48.0 +0.7
KIS Kishinev 147.92 330 *e*PKKP PKKPdf 20 34 24.0 +10
KIS *e*SKKS **SKKSac 20 35 38.0 -0.5**
KIS *e*SKSP 20 39 08.0
KIS Kishinev 147.92 330 *i* PKIKP **PKPdf 20 25 16.0 -1.3**
KIS *i* 20 25 20.0
KIS *i* 20 25 31.0
KIS *e* 20 28 48.0
KIS *e*PPP PPP 20 32 04.0
KIS MLR MLR
comp=Z,1μm,22.0s
KIS MLR MLR
comp=N,2μm,20.0s
KIS MLR MLR
comp=E,600nm,20.0s
KIS MLR MLR
comp=Z,2μm,22.0s
KIS Kishinev 147.92 330⇑ *i*P **PKPab 20 25 22.8 0.0**
CMLA Cha da Macela 148.06 51 *e*PKP **PKPab 20 25 26.7 +3.0**
CMLA Cha da Macela 148.06 51 PFAKE 20 25 30.0 +6.3
CMLA LR LR
comp=Z,8μm,20.0s
MCH1 Michaelchurch 148.14 10 *e*P **PKPdf 20 25 18.4 +0.9**
PINB Pinarbasi 148.27 311 *i* P **PKPdf 20 25 18.5 0.0**
KWP Kalwaria Pacla 148.29 339⇓ PKP2 **PKPbc 20 25 21.8 +0.6**
KWP Kalwaria Pacla 148.29 339 PFAKE 20 25 30.0 +5.7
KWP LR LR
comp=Z,2μm,19.0s
KWP Kalwaria Pacla 148.29 339⇓ *i*P **PKPbc 20 25 21.8 +0.6**
IAS Iasi 148.35 331⇑ PKP2 **PKPbc 20 25 21.8 +0.4**
IAS Iasi 148.35 331⇑ *i*P **PKPbc 20 25 21.8 +0.4**
CTKT Corum 148.47 315 *i* P **PKPbc 20 25 20.7 -1.5**
AYKD Aykdinkavak 148.50 308 *i* P **PKPdf 20 25 19.2 +0.6**
KUZU Kuzuini 148.54 307 *i* P **PKPdf 20 25 19.2 +0.5**
IBBN Ibbenburen 148.55 358 *e*SS SS 20 47 58.1 +0.3
LEOM Leova 148.57 330⇓ PKP2 **PKPbc 20 25 21.8 -0.2**
LEOM Leova 148.57 330⇓ *i*P **PKPbc 20 25 21.8 -0.2**
OJC Ojcow 148.66 343 *e*PKIKP **PKPdf 20 25 18.2 -0.2**
OJC *e*SS SS 20 48 03.0 +3.5
OJC Ojcow 148.66 343 *e*PKPdf **PKPdf 20 25 18.2 -0.2**
OJC *e*SS SS 20 48 03.0 +3.5
PSMN Pico do Norte, 148.69 52 *e*PKP **PKPab 20 25 29.4 +3.1**
SWN1 Swindon 148.80 9 AMS AMS 21 37 40.6
comp=Z,2μm,14.9s
PRAR RASCA 148.81 333⇓ *i*P **PKPbc 20 25 21.7 -0.9**
HTL Hartland 148.82 13 AMS AMS 21 31 32.1
comp=Z,2μm,19.5s
WTSB Winterswijk 148.92 359 *e*PKP **PKPbc 20 25 21.2 -1.5**
comp=Z,894nm,2.4s
KSP Ksiaz 148.94 347 *e*PKP2 **PKPbc 20 25 22.7 -0.1**
KSP *e*SS SS 20 48 03.0 +0.5
KSP MLR MLR
comp=Z,4μm,19.0s
KSP Ksiaz 148.94 347 *e*PKPdf **PKPdf 20 25 20.2 +1.4**
KSP *e*PKiKP **PKiKP 20 25 24.7 +0.5**
KSP LMZ LR 21 42 15.9
ILGA Ilgaz 148.95 317 *i* P **PKPdf 20 25 19.2 -0.3**
STHS Stebnicka Huta 148.95 340 *e*PKP2 **PKPbc 20 25 23.1 +0.2**
STHS Stebnicka Huta 148.95 340 *e*PKP **PKPbc 20 25 23.1 +0.2**
BURAR Bucovina Array 149.03 334⇑ PKP2 **PKPbc 20 25 24.1 +0.8**
BURAR Bucovina Array 149.03 334⇑ *i*P **PKPbc 20 25 24.1 +0.8**
KOLS Kolonicke sedl 149.03 339 *e*PKP2 **PKPbc 20 25 23.6 +0.5**
KOLS Kolonicke sedl 149.03 339 *e*PKP **PKPbc 20 25 23.6 +0.5**
CLL Collm 149.07 351 *e*SS SS 20 48 05.1 +1.3
CLL Collm 149.07 351⇑ *e*PKIKP **PKPdf 20 25 21.0 +2.0**
CLL *i* 20 25 25.5
CLL *i* 20 25 35.1
CLL pmax pmax
comp=Z,37nm,1.2s
CLL pmax pmax
comp=Z,47nm,2.6s
CLL MLR MLR
comp=Z,1μm,19.7s
CLL Collm 149.07 351 *e*PKPdf **PKPdf 20 25 21.0 +2.0**
comp=Z,47nm,1.2s
CLL ⇑ *i*PKPbc **PKiKP 20 25 25.5 +1.1**
comp=Z,1μm,2.6s
CLL *i* pPKPab **pPKPab 20 25 35.1 +2.0**
comp=Z,263nm,1.6s
CLL *e*PP **PP 20 28 52.0 -1.5**
CLL *e*PPP PPP 20 32 16.0
CLL *e*SKKSac SKKSac 20 35 45.0 +0.3
CLL *e*PSKS 20 39 10.0
CLL *e*PPS PPS 20 41 42.0
CLL *e* 20 42 06.0
CLL *e*PSS PSS 20 48 52.0
CLL *e*PSPS 20 49 12.0
CLL *e*SSS SSS 20 53 42.0
CLL *e* 20 59 30.0
CLL *e* 21 02 18.0
CLL Lm MLR 21 39 00.0
comp=N,600nm,19.9s
CLL Lm MLR 21 39 00.0
comp=E,2μm,19.7s
CLL Lm MLR 21 39 00.0
comp=Z,1μm,19.7s
WOL Wolverton 149.08 9 *e*P **PKPdf 20 25 20.8 +1.8**
WOL AMS AMS 21 33 54.6
comp=Z,2μm,19.4s
TLCR 149.21 327⇓ PKP2 **PKPbc 20 25 22.4 -1.3**
TLCR 149.21 327⇓ *i*P **PKPbc 20 25 22.4 -1.3**
NIE Niedzica 149.24 341 *e*PKIKP **PKPdf 20 25 21.6 +2.2**
NIE *e* 20 28 54.9
NIE Niedzica 149.24 341 *e*PKPdf **PKPdf 20 25 21.6 +2.2**
NIE *e*PP **PP 20 28 54.9 +0.2**
NIE *e*SS SS 20 48 13.1 +7.1
CDAG Cicekdag 149.25 314 *i* P **PKPdf 20 25 19.2 -0.6**
TESR Tescani 149.28 331⇓ *i*P **PKPbc 20 25 22.1 -1.7**
UZH Uzhgorod 149.29 338 *e*PKIKP **PKPdf 20 25 21.4 +2.0**
UZH *e* 20 25 31.9
UZH *e* 20 32 21.4
UZH *e* 20 32 26.4
BRG Berggiesshubel 149.35 350 *e*PKP **PKPdf 20 25 20.6 +1.1**
comp=Z,89nm,1.9s
BRG *i* 20 25 26.2
comp=Z,309nm,2.0s
BRG *i* 20 25 37.0
comp=Z,367nm,2.0s
BRG SS SS 20 48 00.0 -6.9
BRG
comp=N,1μm,17.8s
BRG
comp=E,1μm,18.5s
BRG
comp=Z,2μm,19.1s
BRG Berggiesshubel 149.35 350 *e*PKHKP **PKPdf 20 25 20.6 +1.1**
BRG *i* 20 25 26.2
BRG SS SS 20 48 00.0 -6.9
BRG pmax pmax
comp=Z,89nm,1.9s
BRG pmax pmax
comp=Z,309nm,2.0s
BRG pmax pmax
comp=Z,367nm,2.0s
BRG MLR MLR
comp=N,1μm,17.8s
BRG MLR MLR
comp=E,1μm,18.5s
BRG MLR MLR
comp=Z,2μm,19.1s
DPC Dobruska-Polom 149.40 347 *e*PKHKP **PKPdf 20 25 21.9 +2.2**
DPC *e* 20 25 25.5
DPC *e* 20 28 55.0
DPC *e*SS SS 20 48 01.5 -6.2
DPC Dobruska-Polom 149.40 347⇑ *e*PKP **PKPdf 20 25 21.9 +2.2**
DPC *e*PKPAB **PKiKP 20 25 25.5 +0.3**
DPC *ex* x 20 25 37.4
DPC *e*PP **PP 20 28 55.0 -0.6**
DPC *e*SKKS 20 35 36.9
DPC *ex* x 20 39 12.5
DPC *e*SS **SS 20 48 01.5 -6.2**
DPC AMS AMS 21 42 40.0
ELDT Eldivan 149.43 316 *i* P **PKPdf 20 25 22.2 +2.0**
OKC Ostrava-Krasne 149.45 344 *e*PKHKP **PKPdf 20 25 22.0 +2.3**
OKC *e* 20 25 26.9
OKC *e* 20 28 55.3
OKC *e*SS SS 20 48 04.4 -3.8
OKC MLR MLR
comp=Z,1μm,19.1s
OKC Ostrava-Krasne 149.45 344⇑ *e*PKP **PKPdf 20 25 22.0 +2.3**
OKC *e*PKPAB **PKiKP 20 25 26.9 +1.7**
OKC *ex* x 20 25 37.3
OKC *e*PP **PP 20 28 55.3 -0.5**
OKC *ex* x 20 35 36.3
OKC *e*SS SS 20 48 04.4 -3.8
OKC AMS AMS 21 41 20.0
comp=Z,1μm,19.1s
DYA Yadsworthy 149.47 12 AMS AMS 21 30 00.2
comp=Z,2μm,19.4s
YAYL Yayladag 149.54 306 *i* P **PKPdf 20 25 20.0 -0.5**
CFR Carcaliu 149.56 328⇑ PKHKP **PKPdf 20 25 22.5 +2.5**
CFR Carcaliu 149.56 328⇑ *i*P **PKPdf 20 25 22.5 +2.5**
KRLC Kraliky 149.56 346 *e*PKHKP **PKPdf 20 25 22.2 +2.3**
KRLC *e* 20 25 25.6
KRLC Kraliky 149.56 346⇑ *e*PKP **PKPdf 20 25 22.2 +2.3**
KRLC *e*PKPAB **PKiKP 20 25 25.6 +0.1**
KRLC *ex* x 20 25 37.8
PVCC Panska Ves 149.58 349 *e*PKHKP **PKPdf 20 25 22.2 +2.3**
PVCC *e* 20 25 25.8
PVCC MLR MLR
comp=Z,3μm,19.3s
PVCC Panska Ves 149.58 349⇑ *e*PKP **PKPdf 20 25 22.2 +2.3**
PVCC *e*PKPAB **PKiKP 20 25 25.8 +0.3**
PVCC *ex* x 20 25 37.6
PVCC *ex* x 20 28 45.7
PVCC AMS AMS 21 40 00.0
comp=Z,3μm,19.3s
TRPA Tarpa 149.63 338⇓ *i*P **PKPbc 20 25 24.7 +0.1**
TRPA Tarpa 149.63 338 *e*PKPdf **PKPdf 20 25 20.3 +0.3**
MORC Moravsky Berou 149.66 345 *e*PKHKP **PKPdf 20 25 20.7 +0.6**
MORC Moravsky Berou 149.66 345 *e*PKPdf **PKPdf 20 25 20.7 +0.6**
BR131 Keskin Array S 149.69 315 *e*PKPdf **PKPdf 20 25 21.1 +0.5**
BRTR Keskin Array B 149.69 315 PKPbc **PKPbc 20 25 24.6 -0.7**
BRTR Keskin Array B 149.69 315 PKPbc **PKPbc 20 25 24.6 -0.7**
comp=Z,11nm,0.9s,baz=106,slow=1.8,SNR=28
HMNX Herstmonceux 149.72 7 AMS AMS 21 33 47.4
comp=Z,3μm,20.3s
VRI Vrincioaia 149.73 330⇓ PKP2 **PKPbc 20 25 24.3 -0.7**
VRI Vrincioaia 149.73 330⇓ *i*P **PKPbc 20 25 24.3 -0.7**
PLOR Plostina 149.77 330⇓ PKP2 **PKPbc 20 25 24.7 -0.4**
PLOR Plostina 149.77 330⇓ *i*P **PKPbc 20 25 24.6 -0.5**
UBBA Unterbreizbach 149.90 355 *e*PKP **PKPbc 20 25 26.1 +1.1**
UBBA *e*SS SS 20 48 12.5 -0.2
MOX Moxa 149.90 353 *e*PKPdf **PKPdf 20 25 20.0 -0.4**
MOX *e*PKP **PKiKP 20 25 25.9 -0.3**
MOX *e*L L 21 40 01.7
comp=Z,3μm,18.9s
MOX Moxa 149.90 353 *e*PKHKP **PKPdf 20 25 20.0 -0.4**
TIRR Tirgusor 149.93 327⇑ PKP2 **PKPbc 20 25 26.8 +1.4**
TIRR Tirgusor 149.93 327 *e*PKPbc **PKPbc 20 25 25.3 -0.2**
TIRR Tirgusor 149.93 327⇑ *i*P **PKPbc 20 25 26.8 +1.4**
GRER 149.97 329⇓ *i*P **PKPbc 20 25 26.6 +1.0**
HARR Harsova 150.01 328⇓ PKHKP **PKPdf 20 25 24.5 +3.8**
HARR Harsova 150.01 328⇓ *i*P **PKPdf 20 25 24.5 +3.8**
KECS Kecovo 150.01 340 *e*PKP2 **PKPbc 20 25 27.0 +1.4**
KECS Kecovo 150.01 340 *e*PKP **PKPbc 20 25 27.0 +1.4**
TANN Tannenbergstha 150.02 352 *e*PKPdf **PKPdf 20 25 20.7 0.0**
TANN *e*PKP **PKiKP 20 25 26.9 +0.4**
TANN *e*SS SS 20 48 18.4 +3.9
GULE Gulek 150.03 309 *i* P **PKPdf 20 25 21.4 +0.2**
PRA Prague 150.04 349⇑ PKP **PKPdf 20 25 23.0 +2.4**
PRA PKPAB **PKiKP 20 25 27.0 +0.6**
PRA AMS AMS 21 43 00.0
PRU Pruhonice 150.10 349 *e*PKHKP **PKPdf 20 25 22.5 +1.8**
PRU MLR MLR
comp=Z,2μm,18.0s
PRU Pruhonice 150.10 349⇑ *e*PKP **PKPdf 20 25 22.5 +1.8**
PRU *e*PKPAB **PKiKP 20 25 26.4 -0.2**
PRU *ep*PKP PKPab 20 25 38.0 +6.4
PRU *e*SKKS 20 35 51.2
PRU *ex* x 20 39 13.6
PRU *ex* x 20 48 04.0
PRU AMS AMS 21 42 30.0
comp=Z,2μm,18.0s
BBAL Bala 150.12 315 *i* P **PKPdf 20 25 19.2 -2.0**
HGN Heimansgroeve 150.13 360 *e*PKP **PKPbc 20 25 26.4 +0.7**
comp=Z,895nm,2.9s
NKC Novy Kostel 150.20 351 *e*PKIKP **PKPdf 20 25 22.9 +2.0**
NKC *e* 20 25 28.6
NKC *e* 20 25 38.4
NKC MLR MLR
comp=Z,1μm,18.9s
NKC Novy Kostel 150.20 351⇑ *e*PKP **PKPdf 20 25 22.9 +2.0**
NKC *e*PKPAB **PKiKP 20 25 28.6 +1.8**
NKC *ep*PKP PKPab 20 25 38.4 +6.4
NKC *e*SKKS 20 35 46.1
NKC *ex* x 20 39 14.9
NKC AMS AMS 21 39 50.0
comp=Z,1μm,18.9s
DOPR Dopca 150.25 332⇓ *i*P **PKPbc 20 25 27.3 +1.0**
HWQ Hawqa 150.27 303 *e*P **PKPdf 20 25 21.1 -0.5**
MEM Membach 150.29 360 PKP **PKPdf 20 25 23.2 +2.3**
MLR Muntele Rosu 150.37 331⇓ *i*P **PKPdf 20 25 22.6 +1.1**
ISR Istrita 150.37 330⇑ PKIKP **PKPbc 20 25 24.8 -1.8**
ISR Istrita 150.37 330⇑ *i*P **PKPbc 20 25 24.8 -1.8**
CJR Cluj-Napoca 150.41 335⇓ *i*P **PKPbc 20 25 29.5 +2.9**
VYHS Vyhne 150.50 342 *e*PKIKP **PKPbc 20 25 26.6 -0.1**
VYHS Vyhne 150.50 342 *e*PKP **PKPbc 20 25 26.6 -0.1**
TREC Trest 150.58 347 *e*PKIKP **PKPdf 20 25 23.6 +2.1**
TREC *e* 20 25 29.6
TREC *e* 20 25 39.6
TREC MLR MLR

comp=Z,2µm,20.2s
TREC Trest 150.58 347 ⇑*e*PKP **PKPdf** **20 25 23.6 +2.1**
TREC *e*PKPAB **PKiKP** **20 25 29.6 +2.0**
TREC *e*pPKP PKPab 20 25 39.6 +6.0
TREC *e*x x 20 39 04.8
TREC AMS AMS 21 38 30.0
comp=Z,2µm,20.2s
TNS Taunus Mts 150.60 357 *e*PKPdf **PKPdf** **20 25 21.2 -0.4**
TNS *e*PKP **PKiKP** **20 25 27.8 +0.1**
TNS *e*PKPab **PKPab** **20 25 33.3 -0.4**
TNS Taunus Mts 150.60 357 *e*PKIKP **PKPdf** **20 25 21.2 -0.4**
BHL Bhannes 150.62 303 *e*P **PKPdf** **20 25 21.6 -0.6**
DRGR 150.69 336 ⇓PKIKP **PKPbc** **20 25 25.3 -2.0**
DRGR 150.69 336 ⇓*i*P **PKPbc** **20 25 25.3 -2.0**
ROTZ Rotzenmuhle 150.69 352 *e*PKPdf **PKPdf** **20 25 21.7 +0.1**
ROTZ *e*PKP **PKiKP** **20 25 28.3 +0.5**
ROTZ *e*PKPab **PKPab** **20 25 34.5 +0.5**
ROTZ *e*SS SS 20 48 25.9 +4.1
PSZ Piszkesteto 150.70 341 ⇓PKIKP **PKPdf** **20 25 24.5 +2.7**
PSZ Piszkesteto 150.70 341 *e*PKPdf **PKPdf** **20 25 22.1 +0.3**
PSZ LR LR
comp=Z,3µm,20.0s
PSZ Piszkesteto 150.70 341 ⇓*i*P **PKPdf** **20 25 24.5 +2.7**
PSZ Piszkesteto 150.70 341 *e*PKPdf **PKPdf** **20 25 23.0 +1.2**
DOU Dourbes 150.78 2 PKP **PKPdf** **20 25 23.8 +2.1**
DOU PKPbc **PKiKP** **20 25 29.7 +1.7**
VOIR 150.81 332 ⇓PKIKP **PKPbc** **20 25 26.0 -1.7**
VOIR 150.81 332 ⇓*i*P **PKPbc** **20 25 26.0 -1.7**
SULR 150.84 329 ⇓*i*P **PKPbc** **20 25 26.6 -1.0**
SMOL Smolenice 150.86 344 *e*PKIKP **PKPbc** **20 25 28.8 +1.2**
SMOL Smolenice 150.86 344 *e*PKP **PKPbc** **20 25 28.8 +1.2**
GRF Grafenberg Arr 150.89 353 *e*PKPdf **PKPdf** **20 25 21.8 -0.2**
GRF *e*PKP **PKiKP** **20 25 29.1 +0.9**
GRF *e*PKPab **PKPab** **20 25 35.1 +0.3**
GRF *e*SS SS 20 48 25.9 +1.9
GRF *e*L L 21 38 34.7
comp=Z,2µm,20.1s
GRF Grafenberg Arr 150.89 353 *e*PKIKP **PKPdf** **20 25 21.8 -0.2**
GRFO Grafenberg 150.89 353 *e*PKIKP **PKPdf** **20 25 22.7 +0.7**
GRFO Grafenberg 150.89 353 *e*PKPdf **PKPdf** **20 25 22.7 +0.7**
JSA Saint Aubin 150.99 11 AMS AMS 21 32 14.0
comp=Z,2µm,16.9s
ARR Arges 151.05 332 ⇓*i*P **PKPdf** **20 25 25.4 +3.0**
KHC Kasperske Hory 151.10 349 *e*PKIKP **PKPdf** **20 25 23.7 +1.4**
KHC *e* 20 25 28.8
KHC *e* 20 25 40.4
KHC *e*SS SS 20 48 20.1 -6.4
KHC MLR MLR
comp=Z,2µm,19.0s
KHC Kasperske Hory 151.10 349 *e*PKPDF **PKPdf** **20 25 23.7 +1.4**
KHC ⇑*e*PKP **PKiKP** **20 25 28.8 +0.1**
KHC *e*pPKP **PKPab** **20 25 40.4 +4.6**
KHC *e*SKKS 20 36 01.1
KHC *e*x x 20 39 35.2
KHC *e*SS **SS** **20 48 20.1 -6.4**
KHC AMS AMS 21 39 40.0
comp=Z,2µm,19.0s
KHC Kasperske Hory 151.10 349 *e*PKPdf **PKPdf** **20 25 23.0 +0.6**
WET Wettzell 151.20 350 *e*PKPdf **PKPdf** **20 25 22.4 -0.1**
WET *e*PKP **PKiKP** **20 25 29.4 +0.5**
WET *e*SS SS 20 48 30.1 +2.6
WET Wettzell 151.20 350 *e*PKIKP **PKPdf** **20 25 22.4 -0.1**
WLF Walferdange 151.23 360 PKP **PKPdf** **20 25 24.0 +1.5**
WLF PKPbc **PKiKP** **20 25 29.1 +0.2**
WLF Walferdange 151.23 360 *e*PKPdf **PKPdf** **20 25 22.8 +0.4**
WLF *e*PKP **PKiKP** **20 25 29.6 +0.7**
WLF *e*PKPab **PKPab** **20 25 37.0 +0.8**
WLF Walferdange 151.23 360 *e*PKIKP **PKPdf** **20 25 22.9 +0.4**
WLF *e* 20 25 29.3
WLF MLR MLR
comp=Z,3µm,20.0s
WLF Walferdange 151.23 360 *e*PKPdf **PKPdf** **20 25 22.9 +0.4**
WLF *e*PKPbc **PKiKP** **20 25 29.3 +0.4**
WLF LR LR
comp=Z,3µm,20.0s
BUD Budapest 151.35 341 *e*PKPdf **PKPdf** **20 25 24.4 +1.7**
GEC2 GERESS Array S 151.35 349 *e*PKPdf **PKPdf** **20 25 22.3 -0.5**
GEC2 *e*PKP **PKiKP** **20 25 30.0 +0.7**
GEC2 *e*PKPab **PKPab** **20 25 37.4 +0.5**
GEC2 *e*SS SS 20 48 32.3 +2.9
GEC2 GERESS Array S 151.35 349 *e*PKIKP **PKPdf** **20 25 22.3 -0.5**
GERES GERESS Array B 151.35 349 PKP **PKPdf** **20 25 23.5 +0.7**
GERES PKPbc **PKiKP** **20 25 28.4 -0.4**
GERES GERESS Array B 151.35 349 PKP **PKPdf** **20 25 23.5 +0.7**
comp=Z,1.6nm,0.8s,baz=343,slow=3.1,SNR=9.7
GERES PKPbc **PKPbc** **20 25 28.5 -0.4**
comp=Z,5.9nm,0.8s,baz=348,slow=1.9,SNR=12
PKSN Nyarlorinc 151.61 340 *e*PKPdf **PKPdf** **20 25 23.8 +0.7**
PKSG 151.62 342 *e*PKPdf **PKPdf** **20 25 24.9 +1.8**
ERMK Ermenek 151.65 310 *i*P **PKPdf** **20 25 21.4 -2.4**
BORA Eskisehir 151.67 318 *i*P **PKPdf** **20 25 22.2 -1.4**
CSKK Cs¸ˇtkako 151.68 342 *e*PKPdf **PKPbc** **20 25 29.0 -0.5**
PKS7 Kunszentmiklos 151.70 341 *e*PKPdf **PKPdf** **20 25 25.3 +2.1**
CONA Conrad Observa 151.79 346 ⇑*i*PKPdf **PKPdf** **20 25 23.0 -0.5**
comp=Z,103nm,1.8s,SNR=8.9
ISK Istanbul-Kandi 151.82 321 P **PKPdf** **20 25 23.7 +0.1**
PKST T¨os 151.84 342 *e* **PKPdf** **20 25 23.7 +0.2**
LANF Langenberg 151.87 357 PKP **PKPdf** **20 25 25.0 +1.5**
BUY Buyukada 151.91 320 *i*P **PKPdf** **20 25 20.0 -3.8**
STU Stuttgart 152.00 355 *e*PKPdf **PKPdf** **20 25 23.5 -0.2**
STU *e*PKP **PKiKP** **20 25 31.1 +0.6**
STU Stuttgart 152.00 355 *e*PKIKP **PKPbc** **20 25 30.6 +0.4**
STU Stuttgart 152.00 355 *e*PKPbc **PKPbc** **20 25 30.6 +0.4**
CSS Prodhromos 152.04 306 P **PKPdf** **20 25 22.5 -1.7**
CSS Prodhromos 152.04 306 *e*PKPdf **PKPdf** **20 25 24.6 +0.4**
CSS LR LR
comp=Z,402nm,20.0s
BZS Buzias 152.09 336 ⇑PKIKP **PKPbc** **20 25 27.5 -3.0**
BZS Buzias 152.09 336 ⇑*i*P **PKPbc** **20 25 27.5 -3.0**
ELBA Catalca 152.13 322 *i*P **PKPdf** **20 25 21.4 -2.7**
PKS2 Kecel 152.18 340 *e*PKPdf **PKPdf** **20 25 23.7 -0.3**
MOA Molln 152.20 348 ⇑*i*PKPdf **PKPdf** **20 25 23.3 -0.7**
comp=Z,18nm,1.0s
GAZI Gazipasa 152.26 309 *i*P **PKPdf** **20 25 22.2 -2.3**
JMB Yambol 152.27 326 P **PKPdf** **20 25 24.8 +0.5**
ALT Altintas 152.36 316 P **PKPdf** **20 25 22.9 -1.7**
PKS9 Tamasi 152.38 341 *e*PKPdf **PKPdf** **20 25 25.4 +1.1**
FUR Furstenfeldbru 152.38 352 *e*PKPdf **PKPdf** **20 25 24.0 -0.3**
FUR *e*PKP **PKiKP** **20 25 31.9 +0.5**
FUR *e*PKPab **PKPab** **20 25 41.6 +0.5**
FUR Furstenfeldbru 152.38 352 *e*PKIKP **PKPdf** **20 25 24.0 -0.3**
BFO Black Forest 152.50 356 *e*PKPdf **PKPdf** **20 25 23.9 -0.6**
BFO *e*PKP **PKiKP** **20 25 32.1 +0.5**
BFO *e*PKPab **PKPab** **20 25 41.9 +0.3**
BFO Black Forest 152.50 356 *e*PKIKP **PKPdf** **20 25 23.9 -0.6**
BFO Black Forest 152.50 356 *e*PKPdf **PKPdf** **20 25 23.9 -0.6**
BFO *e*PKPbc **PKPbc** **20 25 31.6 +0.2**
BFO LR LR
comp=Z,1µm,20.0s
RJOB Jochberg 152.58 350 *e*PKPdf **PKPdf** **20 25 24.3 -0.3**
RJOB *e*PKP **PKiKP** **20 25 32.4 +0.5**
RJOB *e*PKPab **PKPab** **20 25 42.7 +0.7**
RJOB *e*SS SS 20 48 48.3 +5.5
PKSM Moragy 152.61 340 ⇓PKIKP **PKPdf** **20 25 26.9 +2.3**
PKSM Moragy 152.61 340 ⇓*i*P **PKPdf** **20 25 26.9 +2.3**
PKSM Moragy 152.61 340 *e*PKPdf **PKPdf** **20 25 23.8 -0.8**
EDRB Edirne 152.62 325 P **PKPdf** **20 25 23.5 -1.3**
ECH Echery 152.66 358 *e*PKIKP **PKPbc** **20 25 31.3 -0.4**
ECH MLR MLR
comp=Z,2µm,20.0s
ECH Echery 152.66 358 *e*PKPbc **PKPbc** **20 25 31.3 -0.4**
ECH LR LR
comp=Z,2µm,20.0s
ECH Echery 152.66 358 PKP **PKPdf** **20 25 25.4 +0.7**
THEF They Montfort 152.67 360 PKP **PKPdf** **20 25 25.6 +0.9**
GDZ Gediz 152.74 317 *i*P **PKPdf** **20 25 24.4 -0.9**
ISP Isparta 152.75 314 P **PKPdf** **20 25 25.1 -0.2**
ISP Isparta 152.75 314 PFAKE 20 25 40.0 -3.2
ISP LR LR
comp=Z,1µm,20.0s
BEHE Becsehely 152.91 343 *e*PKPdf **PKPdf** **20 25 22.8 -2.3**
MOF Molkenrain 153.03 358 PKP **PKPdf** **20 25 25.6 +0.3**
DURS Dursunbey 153.07 319 *i*P **PKPdf** **20 25 24.4 -1.3**
KHAL Karahalli 153.14 316 *i*P **PKPdf** **20 25 21.4 -4.4**
SOKA Soboth 153.15 346 ⇓*i*PKPdf **PKPdf** **20 25 25.1 -0.4**
comp=Z,24nm,1.1s
MOTA Moosalm 153.21 352 ⇑*i*pPKPdf **PKPdf** **20 25 27.2 +1.5**
comp=Z,15nm,0.8s,SNR=9.0
WTTA Wattenberg 153.22 351 *i*PKPbc **PKPbc** **20 25 32.4 -0.8**
SNR=11
KORT Korkueli 153.29 312 *i*P **PKPdf** **20 25 25.1 -1.0**

DAVA Damuels 153.41 354 ⇑*i*PKPdf **PKPdf** **20 25 25.6 -0.4**
comp=Z,23nm,1.0s
PLD Plovdiv 153.50 327 P **PKPdf** **20 25 25.4 -0.7**
BALY Balya 153.50 320 *i*P **PKPdf** **20 25 24.4 -1.8**
LOMF Lomont 153.54 359 PKP **PKPdf** **20 25 26.0 -0.1**
FETA Feichten 153.58 352 ⇑*i*PKPdf **PKPdf** **20 25 25.9 -0.4**
comp=Z,34nm,1.2s,SNR=5.4
ABTA Abfaltersbach 153.59 350 ⇓*i*PKPdf **PKPdf** **20 25 24.4 -1.8**
comp=Z,30nm,0.9s,SNR=8.0
KULA Kula-Manisa 153.60 317 P **PKPdf** **20 25 24.9 -1.5**
RDO Rodhopi 153.75 325 P **PKPdf** **20 25 25.0 -1.4**
VTS Vitosha 153.86 330 P **PKPdf** **20 25 25.9 -0.9**
VTS Vitosha 153.86 330 ⇓PKIKP **PKPdf** **20 25 26.6 -0.2**
VTS Vitosha 153.86 330 ⇓*i*P **PKPdf** **20 25 26.6 -0.2**
LJU Ljubljana 153.87 346 *e*PKPdf **PKPdf** **20 25 25.5 -1.0**
AKHS Akhisar 153.91 318 *i*P **PKPdf** **20 25 27.3 +0.5**
DIVS Divibare 153.99 336 P **PKPdf** **20 25 25.9 -0.9**
VOY Vojsko 154.01 347 *e*PKPdf **PKPdf** **20 25 26.8 0.0**
VOY *e* 20 25 35.7
AKAS Kas 154.19 312 *i*P **PKPdf** **20 25 24.4 -3.0**
SMTH Samothraki Isl 154.23 324 P **PKPdf** **20 25 27.0 -0.2**
TUE Stuetta 154.27 354 *e*PKPdf **PKPdf** **20 25 28.0 +0.7**
TUE *e*PKPbc **PKiKP** **20 25 36.5 +0.9**
TUE LR LR
comp=Z,3µm,20.0s
TRI Trieste 154.35 347 *e*PKIKP **PKPdf** **20 25 26.7 -0.4**
TRI *e* 20 25 35.9
TRI Trieste 154.35 347 *e*PKPdf **PKPdf** **20 25 26.7 -0.4**
TRI *e*PKPbc **PKiKP** **20 25 35.9 +0.4**
KAVA Kavala 154.40 326 P **PKPdf** **20 25 27.0 -0.4**
NVR Nevrokopi 154.48 327 P **PKPdf** **20 25 25.3 -2.2**
AYDN Tasoluk 154.59 316 *i*P **PKPdf** **20 25 27.3 -0.5**
AGO Saint Agoulin 154.75 4 PKP **PKPdf** **20 25 29.1 +1.4**
SRS Serrai 154.79 327 P **PKPdf** **20 25 27.0 -0.9**
LIA Limnos Island 154.81 323 P **PKPdf** **20 25 26.1 -1.9**
PYM Petit Puy Mans 155.04 5 PKP **PKPdf** **20 25 29.3 +1.1**
KNT Kendrikon 155.10 328 P **PKPdf** **20 25 26.5 -1.9**
VAY Valandovo 155.14 329 P **PKPdf** **20 25 27.0 -1.4**
SKO Skopje 155.16 332 P **PKPdf** **20 25 29.8 +1.4**
OUR Ouranopolis 155.16 326 P **PKPdf** **20 25 25.7 -2.7**
CHOS Chios island 155.30 319 P **PKPdf** **20 25 26.9 -1.9**
PLG Polygyros 155.41 326 P **PKPdf** **20 25 27.1 -1.8**
HORT Hortiatis 155.43 327 P **PKPdf** **20 25 28.3 -0.6**
GRG Griva 155.50 329 P **PKPdf** **20 25 27.7 -1.3**
SSB Saint Sauveur 155.60 2 *e*PKIKP PKPdf 20 25 38.6 +10
SSB MLR MLR
comp=Z,2µm,20.0s
SSB Saint Sauveur 155.60 2 *e*PKPdf PKPdf 20 25 38.6 +10
SSB LR LR
comp=Z,2µm,20.0s
PAIG Paliouri 155.61 325 P **PKPdf** **20 25 28.6 -0.5**
PDG Podgorica 155.69 335 P **PKPdf** **20 25 29.4 +0.3**
PGAV Gavieira, Arco 155.79 26 *e*PKPdf **PKPdf** **20 25 27.0 -2.4**
PGAV Gavieira, Arco 155.79 26 *e*PP PP 20 29 56.6 +24
PGAV Gavieira, Arco 155.79 26 *e*SS SS 20 49 27.5 +8.9
PGAV Gavieira, Arco 155.79 26 *e*LR LR 21 27 03.8
comp=Z,2µm,18.0s
PHP Peshkopia 155.83 333 P **PKPdf** **20 25 29.2 -0.2**
BNI Bardonecchia 155.84 359 *e*PKIKP **PKPdf** **20 25 29.6 +0.2**
BNI *e* 20 29 33.2
BNI MLR MLR
comp=Z,2µm,20.0s
BNI Bardonecchia 155.84 359 *e*PKPdf **PKPdf** **20 25 29.6 +0.2**
BNI *e*PP **PP** **20 29 33.2 +1.2**
BNI LR LR
comp=Z,2µm,20.0s
FNA Florina 156.13 330 P **PKPdf** **20 25 28.0 -1.8**
XOR Xorichti 156.28 325 P **PKPdf** **20 25 29.3 -0.7**
NEO Neokhori 156.31 325 P **PKPdf** **20 25 29.4 -0.7**
KZN Kozani 156.31 329 P **PKPdf** **20 25 29.1 -1.0**
TIR Tirane 156.35 333 *e*PKIKP **PKPdf** **20 25 29.8 -0.2**
TIR MLR MLR
comp=Z,2µm,20.0s
TIR Tirane 156.35 333 *e*PKPdf **PKPdf** **20 25 29.8 -0.2**
TIR LR LR
comp=Z,2µm,20.0s
VLC Villacollemand 156.44 352 PFAKE 20 25 40.0 +10
VLC LR LR
comp=Z,2µm,20.0s
POLO Lamas de Olo 156.48 26 *e*PKPdf **PKPdf** **20 25 31.8 +1.5**
POLO Lamas de Olo 156.48 26 *e*PKPab **PKPab** **20 25 58.6 -0.3**
POLO Lamas de Olo 156.48 26 PP PP 20 29 57.9 +22
POLO Lamas de Olo 156.48 26 *e*SS SS 20 49 34.0 +8.0
KBN Korca 156.53 330 P **PKPdf** **20 25 30.8 +0.4**
MRKA Markates 156.53 323 P **PKPdf** **20 25 29.2 -1.2**
PBRG Braganca 156.54 24 *e*PKPdf **PKPdf** **20 25 31.5 +1.2**
PBRG Braganca 156.54 24 *e*PKPab **PKPab** **20 25 58.9 -0.1**
PBRG Braganca 156.54 24 *e*PP PP 20 29 59.1 +23
PBRG Braganca 156.54 24 *e*SS SS 20 49 30.1 +3.7
NEST Nestorio 156.57 330 P **PKPdf** **20 25 28.5 -2.0**
THL Klokotos Trika 156.75 327 P **PKPdf** **20 25 29.6 -1.0**
TOUF Mont Tournerai 156.86 357 PKP **PKPdf** **20 25 31.6 +0.8**
AUTN L'Aution 156.87 357 PKP **PKPdf** **20 25 31.3 +0.4**
SAOF Saorge 156.87 357 PKP **PKPdf** **20 25 31.0 +0.3**
SANT Santorini 156.92 316 P **PKPdf** **20 25 29.4 -1.6**
SANT Santorini 156.92 316 PFAKE 20 25 40.0 +9.0
SANT LR LR
comp=Z,1µm,20.0s
LUCF Luceram 156.97 357 PKP **PKPdf** **20 25 31.0 +0.1**
MVO Moncorvo 156.97 25 *e*PKPdf **PKPdf** **20 25 32.8 +1.9**
MVO Moncorvo 156.97 25 *e*PKPab **PKPab** **20 26 02.4 +1.4**
MVO Moncorvo 156.97 25 *e*SS SS 20 49 37.9 +6.7
MVO Moncorvo 156.97 25 *e*LR LR 21 25 37.7
comp=Z,2µm,20.0s
AGG Agios Georgios 156.99 326 P **PKPdf** **20 25 30.6 -0.4**
MAKR Makrakomi, Fth 157.10 326 P **PKPdf** **20 25 31.3 +0.2**
REVF Revere 157.12 357 PKP **PKPdf** **20 25 30.8 -0.2**
ZKR Zakros 157.13 313 P **PKPdf** **20 25 33.7 +2.5**
CALN Calern 157.13 358 PKP **PKPdf** **20 25 31.8 +0.7**
JAN Janina 157.26 329 P **PKPdf** **20 25 32.0 +0.7**
DSF Desfina 157.33 324 P **PKPdf** **20 25 30.8 -0.6**
EVR Evrytania 157.34 326 P **PKPdf** **20 25 33.0 +1.5**
LTK Loutraki 157.36 323 P **PKPdf** **20 25 31.3 -0.1**
MTE Manteigas 157.40 27 *e*PKPdf **PKPdf** **20 25 33.2 +1.7**
MTE Manteigas 157.40 27 *e*PP PP 20 30 03.3 +22
MTE Manteigas 157.40 27 *e*SS SS 20 49 41.5 +5.7
MTE Manteigas 157.40 27 *e*LR LR 21 26 46.4
comp=Z,2µm,20.0s
MTE Manteigas 157.40 27 *e*PKPdf **PKPdf** **20 25 31.9 +0.4**
MTE LR LR
comp=Z,2µm,20.0s
SRN Sarande 157.48 331 P **PKPdf** **20 25 30.6 -0.9**
KALE Kalithea 157.55 325 P **PKPdf** **20 25 31.5 -0.2**
DID Didima 157.56 322 P **PKPdf** **20 25 32.2 +0.5**
TRIZ Trizonia 157.60 325 P **PKPdf** **20 25 32.2 +0.5**
AQU L'Aquila 157.62 345 PFAKE 20 25 40.0 +8.3
AQU LR LR
comp=Z,2µm,20.0s
PTOM Tomar 157.64 30 *e*PKPdf **PKPdf** **20 25 32.1 +0.4**
PTOM Tomar 157.64 30 *e*PKPab **PKPab** **20 26 03.4 -0.4**
EFP Efpalio 157.65 325 P **PKPdf** **20 25 32.3 +0.6**
KEK Kerkira 157.71 331 P **PKPdf** **20 25 30.1 -1.7**
PMAFR Mafra 157.74 32 *e*SS SS 20 49 53.7 +14
LAKA Lakka 157.75 325 P **PKPdf** **20 25 30.3 -1.6**
GUR Goura 157.77 324 P **PKPdf** **20 25 31.2 -0.9**
KLV Kalavryta, Ach 157.80 324 P **PKPdf** **20 25 32.1 +0.1**
PCBR Castelo Branco 157.89 28 *e*PKPab **PKPab** **20 26 03.8 -1.0**
IDI Anoyia 157.93 315 P PKPdf 20 25 27.2 -5.1
LIS Lisbon 157.98 33 *e*P **PKPdf** **20 25 30.5 -1.6**
LIS AMS AMS 21 33 47.7
comp=Z,2µm,17.2s
LIS Lisbon 157.98 33 *e*P **PKPdf** **20 25 30.5 -1.6**
LIS Lisbon 157.98 33 A A 21 33 47.7
comp=Z,2µm,17.2s
LIS Lisbon 157.98 33 *e*PKIKP **PKPdf** **20 25 30.5 -1.6**
LKD2 Lefkada island 158.02 328 P **PKPdf** **20 25 31.2 -1.1**
VLX Vlachokerasia 158.14 322 P **PKPdf** **20 25 33.0 +0.5**
RLS Riolos of Patr 158.16 325 P **PKPdf** **20 25 31.9 -0.5**
PMTG Montargil 158.16 31 *e*PKPdf **PKPdf** **20 25 33.0 +0.6**
PMTG Montargil 158.16 31 *e*PP PP 20 30 10.1 +25
PMRV Marv??o 158.26 29 *e*PKPdf **PKPdf** **20 25 33.3 +0.8**
PMRV Marv??o 158.26 29 *e*PKPab **PKPab** **20 26 05.3 -1.2**
PMRV Marv??o 158.26 29 PP PP 20 30 08.9 +23
PMRV Marv??o 158.26 29 *e*LR LR 21 26 40.4
comp=Z,2µm,18.0s
VLI Veliai 158.26 320 P **PKPdf** **20 25 30.2 -2.4**
KARN Karanos 158.50 316 P **PKPdf** **20 25 32.0 -0.9**
VLS Valsamata 158.53 327 P **PKPdf** **20 25 32.8 -0.1**
DYR Agios Nikonas 158.59 321 P **PKPdf** **20 25 32.9 -0.1**
PESTR Estremoz 158.62 30 *e*PKPdf **PKPdf** **20 25 33.6 +0.6**
PESTR Estremoz 158.62 30 *e*PKPab **PKPab** **20 26 07.2 -0.9**

PESTR Estremoz 158.62 30 PP PP 20 30 05.4 +18
EVO Evora 158.69 31 *e*PKPdf **PKPdf** **20 25 34.6 +1.6**
PNCL Nicolau / Gran 158.76 33 *e*PKPdf **PKPdf** **20 25 35.0 +1.9**
PNCL Nicolau / Gran 158.76 33 *e*PP PP 20 30 13.6 +25
PNCL Nicolau / Gran 158.76 33 *e*SS SS 20 49 58.9 +8.4
PTEO Sao Teotonio 159.09 34 *e*PKPdf **PKPdf** **20 25 34.9 +1.4**
PBEJ Beja 159.16 32 *e*PKPdf **PKPdf** **20 25 35.1 +1.5**
MORF Marmelete 159.31 34 *e*PKPdf **PKPdf** **20 25 35.0 +1.1**
MORF Marmelete 159.31 34 *e*PKPab **PKPab** **20 26 11.7 +0.5**
MORF Marmelete 159.31 34 *e*PKIKP **PKPdf** **20 25 33.9 0.0**
PCVE Castro Verde 159.38 33 *e*PKPdf **PKPdf** **20 25 33.5 -0.4**
PCVE Castro Verde 159.38 33 PP PP 20 30 07.3 +15
PAB San Pablo 159.40 23 PFAKE 20 25 40.0 +6.0
PAB LR LR
comp=Z,2µm,20.0s
ESDC Sonseca Array 159.42 22 PKP **PKPdf** **20 25 34.5 +0.6**
ESDC PKPab **PKPab** **20 26 12.7 +1.1**
ESDC Sonseca Array 159.42 22 PKP **PKPdf** **20 25 34.5 +0.6**
comp=Z,0.8nm,0.8s,baz=355,slow=3.1,SNR=9.3
ESDC PKPab **PKPab** **20 26 12.7 +1.1**
comp=Z,3.8nm,0.8s,baz=316,slow=3.9,SNR=9.7
PBAR Barrancos 159.44 30 *e*PKPdf **PKPdf** **20 25 34.9 +1.0**
PBAR Barrancos 159.44 30 *e*PKPab **PKPab** **20 26 12.6 +1.0**
PBAR Barrancos 159.44 30 PP PP 20 30 06.6 +14
PBAR Barrancos 159.44 30 *e*SS SS 20 50 05.4 +7.9
TIP Timpagrande 159.45 335 PFAKE 20 25 40.0 +6.0
TIP LR LR
comp=Z,1µm,20.0s
PVAQ Vaqueiros 159.72 33 *e*PKPdf **PKPdf** **20 25 35.8 +1.5**
PVAQ Vaqueiros 159.72 33 PP PP 20 30 20.0 +26
PVAQ Vaqueiros 159.72 33 *e*SS SS 20 50 13.4 +13
PVAQ Vaqueiros 159.72 33 *e*LR LR 21 26 13.7
comp=Z,2µm,18.0s
PBDV Barranco-do-Ve 159.73 33 *e*PKPdf **PKPdf** **20 25 37.0 +2.7**
PBDV Barranco-do-Ve 159.73 33 PP PP 20 30 15.8 +22
PBDV Barranco-do-Ve 159.73 33 *e*SS SS 20 50 11.3 +10
CEL Celeste 160.58 336 PFAKE 20 25 50.0 +15
CEL LR LR
comp=Z,2µm,21.0s
VSL Villasalto 161.15 352 PFAKE 20 25 50.0 +14
VSL LR LR
comp=Z,1µm,19.0s
DBIC Dimbokro 162.51 142 PKP **PKPdf** **20 25 38.4 +0.5**
DBIC PKPab **PKPab** **20 26 25.5 -0.1**
DBIC Dimbokro 162.51 142 PKP **PKPdf** **20 25 38.4 +0.5**
comp=Z,3.6nm,0.8s,baz=137,slow=1.5,SNR=3.5
DBIC PKPab **PKPab** **20 26 25.5 -0.1**
comp=Z,4.6nm,1.0s,baz=158,slow=9.0,SNR=3.9
WDD Wield Dalam 163.20 335 PFAKE 20 25 50.0 +12
WDD LR LR
comp=Z,2µm,19.0s
KEST Kesra 164.84 349 *e*PKPdf **PKPdf** **20 25 39.7 +0.1**
KEST PKP PKP 20 25 40.2
KEST PKPab **PKPab** **20 26 35.4 0.0**
KEST Kesra 164.84 349 PKP **PKPdf** **20 25 40.2 +0.6**
comp=Z,1.3nm,1.1s,baz=337,slow=1.9,SNR=2.9
KEST PKPab **PKPab** **20 26 35.4 0.0**
comp=Z,0.9nm,0.6s,baz=20,slow=3.2,SNR=2.9
MDT Midelt 164.86 36 PKP **PKPdf** **20 25 38.8 -1.0**
MDT PKPab **PKPab** **20 26 37.3 +1.6**
MDT Midelt 164.86 36 PKP **PKPdf** **20 25 38.8 -1.0**
comp=Z,2.2nm,0.9s,baz=305,slow=0.9,SNR=7.9
MDT PKPab **PKPab** **20 26 37.3 +1.6**
comp=Z,3.3nm,1.0s,baz=344,slow=9.7,SNR=3.6
TORD Torodi Ar. Bea 171.39 152 PKP **PKPdf** **20 25 43.4 -1.1**
TORD PKPab **PKPab** **20 27 04.3 -0.3**
TORD PP **PP** **20 30 55.5 +1.1**
TORD Torodi Ar. Bea 171.39 152 PKP **PKPdf** **20 25 43.4 -1.1**
comp=Z,2.2nm,0.9s,baz=171,slow=0.3,SNR=10.0
TORD PKPab **PKPab** **20 27 04.3 -0.3**
comp=Z,7.1nm,1.0s,baz=218,slow=1.1,SNR=15
TORD PP **PP** **20 30 55.5 +1.1**
comp=Z,1.6nm,1.0s,baz=149,slow=3.5,SNR=4.3
TAM Tamanrasset 178.03 9 *e*PKIKP **PKPdf** **20 25 46.4 -0.1**
TAM *e* 20 27 35.0
TAM MLR MLR
comp=Z,2µm,19.0s
TAM Tamanrasset 178.03 9 *e*PKPdf **PKPdf** **20 25 46.4 -0.1**
TAM *e*PKPab 20 27 35.0
TAM LR LR
comp=Z,2µm,19.0s

GUC 30 20:28:04.7±0.5, 21°18S×69°91W, h10km±7km, ML3.5, 2C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**Plate Boundary**	**0.87**	**135**	⇓*i*P	Pb	20 28 22.2	0.0
PB09				*i* S	Sb	20 28 34.1	0.0
PB09				AML	AML	20 28 35.8	
comp=E,3µm,0.6s							
HMBC	**Humberstone**	**0.90**	**1**	⇓*i*P	Pg	20 28 21.6	-0.7
HMBC				*i* S	Sg	20 28 33.2	-0.9
HMBC				AML	AML	20 28 36.2	
comp=N,1µm,0.4s							
PB04	**Plate Boundary**	**1.15**	**160**	⇓*i*P	Pb	20 28 24.9	-1.7
PB04				*i* S	Sb	20 28 40.3	-1.3
PB04				AML	AML	20 28 40.9	
comp=E,3µm,0.4s							
PSGC	**Pisagua**	**1.59**	**353**	⇓*i*P	Pn	20 28 31.8	-1.3
PSGC				*i* S	Sn	20 28 52.6	-1.2
LVC	**Limon Verde**	**1.70**	**147**	⇑*i*P	Pn	20 28 35.3	+0.5
LVC				*i* S	Sn	20 28 57.4	+0.6
MNMC	**Minimini**	**2.06**	**8**	⇓*i*P	Pn	20 28 40.0	+0.2
MNMC				*i* S	Sn	20 29 06.8	+0.9
MNMC				AML	AML	20 29 20.4	
comp=E,865nm,0.6s							
PB10	**Plate Boundary**	**2.40**	**194**	*i* S	Sb	20 29 15.8	-1.8
PB10				AML	AML	20 29 23.8	
comp=E,574nm,0.4s							
ANCH	**Antofagasta**	**2.53**	**190**	⇑*i*P	Pn	20 28 47.4	+1.5
ANCH				*i* S	Sb	20 29 19.8	-1.7

*IDC **30** 20:56:37.9±0.9, 1°51N×66°73E, h0km, mb3.9/12, mb1 4.1/12, mb1mx3.9/27, mbtmp3.9/12, Error ellipse: s-maj=24.8km s-min=21.0km az=55.0*
*ISCJB **30** 20:56:38.4±0.5, 1°48N±0°08×66°69E±0°08, h18km, mb4.1/19, Error ellipse: s-maj=12.6km s-min=10.6km az=43.2*
*NEIC **30** 20:56:39.3±0.3, 1°50N×66°70E, h10km, mb4.3/8, Error ellipse: s-maj=8.2km s-min=6.9km az=138.0*

ISC 30 20:56:40.6±0.6, 1°5N±0°1×66°7E±0°1, h18km, n37, σ0.61/39, mb4.2/19, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSEY	**Mahe Island**	**12.77**	**241**	Pn	**Pn**	**20 59 41.1**	**-0.4**
PALK	**Pallekele**	**15.10**	**67**	*e*P	**Pn**	**21 00 12.3**	**-0.9**
9.6nm,0.8s							
OPO	**Ambohidratompo**	**27.67**	**223**	P	**P**	**21 02 28.1**	**+0.2**
OPO	**Ambohidratompo**	**27.67**	**223**	P	**P**	**21 02 28.1**	**+0.2**
4.5nm,1.1s,baz=45,slow=5.7,SNR=2.2							
CMAR	**Chiang Mai Arr**	**35.84**	**60**	P	**P**	**21 03 39.1**	**-0.4**
CMAR				PcP	**PcP**	**21 06 07.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**35.84**	**60**	P	**P**	**21 03 39.1**	**-0.4**
1.4nm,1.1s,baz=260,slow=9.3,SNR=5.3							
CMAR				PcP	**PcP**	**21 06 07.6**	**+0.6**
0.8nm,0.8s,baz=251,slow=4.5,SNR=4.3							
LSA	**Lhasa**	**36.44**	**37**	*e*P	**P**	**21 03 45.6**	**+0.6**
7.7nm,0.9s							
EKS2	**Erkin-

BRVK	Borovoye	51.48	3	*e*P	P		21 05 44.5	-0.4
	1.0nm,0.3s							
ZALV	Zalesovo Beam	54.38	13	P	P		21 06 05.4	-0.8
ZALV	Zalesovo Beam	54.38	13	P	P		21 06 05.4	-0.8
	1.9nm,0.6s,baz=216,slow=7.3,SNR=12							
SONM	Songino Array	57.50	31	P	P		21 06 29.6	+0.7
SONM	Songino Array	57.50	31	P	P		21 06 29.6	+0.7
	0.9nm,0.8s,baz=232,slow=7.0,SNR=9.0							
WRA	Warramunga Arr	69.58	112	P	P		21 07 49.0	-0.1
WRA	Warramunga Arr	69.58	112	P	P		21 07 49.0	-0.1
	1.8nm,0.8s,baz=288,slow=5.9,SNR=6.3							
WRAB	Tennant Creek	69.58	112	*e*P	P		21 07 49.2	+0.1
	14nm,1.3s							
ASAR	Alice Springs	69.83	116	P	P		21 07 50.5	-0.1
ASAR	Alice Springs	69.83	116	P	P		21 07 50.5	-0.1
	0.8nm,0.8s,baz=286,slow=7.2,SNR=6.1							
ARCES	ARCESS Array B	73.22	346	P	P		21 08 10.5	+0.3
ARCES	ARCESS Array B	73.22	346	P	P		21 08 10.5	+0.3
	1.6nm,0.8s,baz=154,slow=6.7,SNR=5.1							
ESDC	Sonseca Array	74.22	311	P	P		21 08 16.9	+0.2
ESDC	Sonseca Array	74.22	311	P	P		21 08 16.9	+0.2
	0.3nm,0.4s,baz=87,slow=5.4,SNR=5.1							
CASY	Casey	74.45	163	*e*P	P		21 08 17.3	-0.1
TXAR	Lajitas Array	147.99	344	PKPbc	PKPbc		21 16 26.4	+0.6
TXAR	Lajitas Array	147.99	344	PKPbc	PKPbc		21 16 26.4	+0.6
	1.8nm,0.7s,baz=46,slow=3.6,SNR=13							

WEL 30 20:58:48.1±0.5, 46.17S×165.95E, h29km±2km, ML4.3/16, 1C-2D, Error ellipse: s-maj=5.3km s-min=2.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	Deep Cove	1.09	51	⇓P	Pn	20 59 07.0	-0.4
DCZ				SN	Sn	20 59 21.3	-0.1
DCZ				AML	AML	20 59 24.3	
DCZ				AML	AML	20 59 24.3	
WHZ	Wether Hill Ro	1.42	80	PN	Pn	20 59 12.3	+0.3
WHZ				SN	Sn	20 59 30.3	+0.6
WHZ				AML	AML	20 59 34.0	
APZ	The Paps	1.56	116	⇓PN	Pn	20 59 13.0	-0.9
APZ				SN	Sn	20 59 31.8	-1.4
MLZ	Mavora Lakes	1.76	63	PN	Pn	20 59 18.6	+1.2
MLZ				AML	AML	20 59 51.5	
MLZ				AML	AML	20 59 55.6	
MSZ	Milford Sound	2.04	44	AML	AML	21 00 01.0	
MSZ				AML	AML	21 00 08.2	
SYZ	Scrubby Hill	2.24	101	PN	Pn	20 59 23.2	0.0
EAZ	Earnscleugh	2.53	70	PN	Pn	20 59 29.1	+1.9
EAZ				AML	AML	21 00 04.3	
EAZ				AML	AML	21 00 04.4	
EAZ				AML	AML	21 00 10.9	
EAZ				AML	AML	21 00 10.9	
WKZ	Wanaka	2.54	59	PN	Pn	20 59 29.9	+2.5
WKZ				AML	AML	21 00 11.4	
WKZ				AML	AML	21 00 11.4	
WKZ				AML	AML	21 00 16.2	
TUZ	Tuapeka	2.57	87	PN	Pn	20 59 28.5	+0.7
TUZ				AML	AML	21 00 07.1	
TUZ				AML	AML	21 00 10.0	
ODZ	Otahua Downs	3.48	73	⇑PN	Pn	20 59 40.1	-0.2
ODZ				AML	AML	21 00 36.1	
ODZ				AML	AML	21 00 38.8	
FOZ	Fox Glacier	3.72	47	AML	AML	20 59 19.3	
FOZ				AML	AML	20 59 19.9	
WVZ	Waitaha Valley	4.61	50	AML	AML	20 57 33.4	
THZ	Tophouse	6.67	51	PN	Pn	21 00 25.8	+1.5

IDC 30 21:12:18.5±3.4, 22.14S×173.53W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/20, mbtmp3.8/4, Error ellipse: s-maj=227.7km s-min=26.1km az=151.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	40.90	246	P	P	21 20 02.5	-0.1
	1.5nm,0.6s,baz=96,slow=14,SNR=5.3						
ASAR	Alice Springs	48.22	258	P	P	21 21 01.1	-0.2
	0.9nm,0.7s,baz=102,slow=7.7,SNR=11						
WRA	Warramunga Arr	48.52	262	P	P	21 21 02.6	-1.0
	1.0nm,0.6s,baz=100,slow=8.8,SNR=9.1						
NVAR	Mina Array Bea	79.43	41	P	P	21 24 25.9	-1.1
	0.5nm,0.6s,baz=218,slow=12,SNR=3.5						
BRTR	Keskin Array B	151.01	313	PKPbc	PKPbc	21 32 14.2	+0.4
	0.6nm,0.7s,baz=125,slow=4.8,SNR=4.2						
GERES	GERESS Array B	152.74	350	PKPbc	PKPbc	21 32 19.0	+1.7
	0.2nm,0.4s,baz=42,slow=1.6,SNR=3.4						

IDC 30 21:23:40.4±19.0, 12.15S×166.66E, h174km±174km, mb3.4/5, mb1 3.6/5, mb1mx3.3/19, mbtmp3.5/5, MS4.0/1, Ms1 4.0/1, ms1mx3.0/24, Error ellipse: s-maj=90.4km s-min=56.8km az=132.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	30.29	226	P	P	21 29 35.6	+0.3
	2.8nm,1.1s,baz=37,slow=10,SNR=3.7						
WRA	Warramunga Arr	31.97	252	P	P	21 29 49.9	-0.4
	0.4nm,0.3s,baz=85,slow=9.2,SNR=3.3						
ASAR	Alice Springs	33.12	245	P	P	21 30 00.3	0.0
	0.4nm,0.5s,baz=74,slow=9.8,SNR=6.2						
JNU	Nakatsue	56.50	324	LR	LR	21 54 38.9	
	comp=Z,131nm,18.0s,baz=71,slow=33						
ILAR	Eielson Array	84.28	18	P	P	21 35 52.1	0.0
	1.3nm,0.6s,baz=230,slow=6.7,SNR=6.3						
MKAR	Makanchi Array	94.94	317	P	P	21 36 43.5	+0.6
	0.3nm,0.8s,baz=93,slow=4.7,SNR=3.5						
ARCES	ARCESS Array B	117.62	346	PKP	PKPdf	21 42 04.6	-0.5
	0.3nm,0.3s,baz=69,slow=2.0,SNR=13						

*IDC **30** 21:29:25.2±0.9, 45.58S×166.17E, h0km, mb4.0/4, mb1 4.3/6, mb1mx4.0/17, mbtmp4.1/6, ML4.2/2, MS4.0/3, Ms1 4.1/3, ms1mx3.6/23, Error ellipse: s-maj=28.7km s-min=24.5km az=30.0*

*ISCJB **30** 21:29:26.7±0.6, 45.59S±0.06×166.38E±0.05, h15km, mb3.9/5, MS4.1/2, Error ellipse: s-maj=8.0km s-min=5.4km az=4.6*

*WEL **30** 21:29:28.6±0.2, 45.65S×166.45E, h22km±1km, ML4.7/21, Error ellipse: s-maj=2.4km s-min=0.9km az=90.0*

WEL Felt between Fiordland, Southland and Otago, maximum reported intensity MM 4.

*NEIC **30** 21:29:28.8, 45.66S×166.48E, h12km, ML4.7(WEL), After WEL.*

ISC 30 21:29:27.3±0.6, 45.61S±0.05×166.43E±0.05, h15km, n61, σ1§09/64, mb4.0/5, 4C-2D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	Deep Cove	0.52	75	P*	Pb	21 29 38.1	-0.1
DCZ				S*	Sg	21 29 44.6	0.0
DCZ	Deep Cove	0.52	75	P*	Pb	21 29 38.4	+0.3
DCZ				S*	Sg	21 29 44.6	0.0
DCZ				AML	AML	21 29 45.8	
DCZ				AML	AML	21 29 46.5	
DCZ				AML	AML	21 29 46.5	
WHZ	Wether Hill Ro	1.10	105	P*	Pb	21 29 47.6	-0.3
WHZ				S*	Sn	21 30 02.9	0.0
WHZ	Wether Hill Ro	1.10	105	PN	Pb	21 29 47.6	-0.3
WHZ				SN	Sn	21 30 02.9	0.0
WHZ				AML	AML	21 30 09.0	
MLZ	Mavora Lakes	1.25	78	P*	Pn	21 29 49.6	-0.7
MLZ	Mavora Lakes	1.25	78	PN	Pn	21 29 49.6	-0.7
MLZ				SN	Sb	21 30 06.1	-0.4
MLZ				AML	AML	21 30 12.6	
MSZ	Milford Sound	1.42	49	Pn	Pn	21 29 52.6	+0.2
MSZ	Milford Sound	1.42	49	PN	Pn	21 29 52.6	+0.2
MSZ				AML	AML	21 30 22.6	
MSZ				AML	AML	21 30 22.6	
MSZ				AML	AML	21 30 23.9	
MSZ				AML	AML	21 30 24.1	
APZ	The Paps	1.63	139	Pn	Pn	21 29 55.3	-0.2
APZ	The Paps	1.63	139	⇑PN	Pn	21 29 55.3	-0.2
WKZ	Wanaka	1.99	68	Pn	Pb	21 30 02.3	-0.9
WKZ	Wanaka	1.99	68	⇓PN	Pb	21 30 02.3	-0.9
WKZ				AML	AML	21 30 34.6	
WKZ				AML	AML	21 30 34.6	
WKZ				AML	AML	21 30 34.9	
WKZ				AML	AML	21 30 34.9	
EAZ	Earnscleugh	2.06	80	Pn	Pb	21 30 03.4	-0.9
EAZ	Earnscleugh	2.06	80	⇑PN	Pb	21 30 03.4	-0.9
EAZ				AML	AML	21 30 32.6	
EAZ				AML	AML	21 30 37.2	
EAZ				AML	AML	21 30 37.2	
EAZ				AML	AML	21 30 37.8	
SYZ	Scrubby Hill	2.10	117	Pn	Pn	21 30 02.8	+0.9
SYZ	Scrubby Hill	2.10	117	⇓PN	Pn	21 30 02.8	+0.9
JCZ	Jackson Bay	2.26	48	Pn	Pb	21 30 07.5	-0.3
JCZ	Jackson Bay	2.26	48	PN	Pb	21 30 07.5	-0.3
JCZ				AML	AML	21 30 46.4	
JCZ				AML	AML	21 30 48.7	
TUZ	Tuapeka	2.26	100	Pn	Pn	21 30 05.5	+1.4
TUZ	Tuapeka	2.26	100	⇑PN	Pn	21 30 05.5	+1.4
TUZ				AML	AML	21 30 37.0	
TUZ				AML	AML	21 30 37.6	
HHSZ	Highcliff Hill	2.93	97	PN	Pn	21 30 14.8	+1.5
LBZ	Lake Benmore	2.93	67	Pn	Pn	21 30 14.0	+0.7
LBZ	Lake Benmore	2.93	67	PN	Pn	21 30 14.0	+0.7
LBZ				AML	AML	21 30 55.1	
LBZ				AML	AML	21 30 55.1	
LBZ				AML	AML	21 30 55.5	
LBZ				AML	AML	21 30 55.5	
ODZ	Otahua Downs	3.02	81	*e*Pn	Pn	21 30 15.1	+0.6
ODZ				*e*Sn	Sn	21 30 50.2	-0.3
ODZ	Otahua Downs	3.02	81	⇑PN	Pn	21 30 15.3	+0.7
ODZ				AML	AML	21 31 04.9	
ODZ				AML	AML	21 31 04.9	
ODZ				AML	AML	21 31 11.4	
ODZ				AML	AML	21 31 11.4	
FOZ	Fox Glacier	3.10	50	Pn	Pb	21 30 19.4	-2.7
FOZ	Fox Glacier	3.10	50	AML	AML	21 31 14.6	
FOZ				AML	AML	21 31 14.7	
FOZ				AML	AML	21 31 14.7	
FOZ				AML	AML	21 31 20.4	
RPZ	Rata Peaks	3.80	62	*e*Pn	Pn	21 30 26.5	+1.2
RPZ				Sn	Sn	21 31 10.5	+0.7
RPZ	Rata Peaks	3.80	62	Pn	Pn	21 30 26.8	+1.5
	76nm,0.3s,baz=212,slow=4.5,SNR=48						
RPZ				Sn	Sn	21 31 10.5	+0.7
	54nm,0.3s,baz=162,slow=23,SNR=8.3						
RPZ				LR	LR	21 32 07.3	
	comp=Z,1μm,18.5s,baz=347,slow=41						
RPZ	Rata Peaks	3.80	62	AML	AML	21 31 17.1	
RPZ				AML	AML	21 31 17.2	
WVZ	Waitaha Valley	4.00	52	Pn	Pn	21 30 28.5	+0.6
WVZ	Waitaha Valley	4.00	52	AML	AML	21 31 26.6	
WVZ				AML	AML	21 31 27.4	
OXZ	Oxford	4.62	62	PN	Pn	21 30 37.2	+0.7
LTZ	Lake Taylor	5.06	58	Pn	Pn	21 30 45.1	+2.5
LTZ	Lake Taylor	5.06	58	AML	AML	21 31 18.4	
DSZ	Denniston Nort	5.49	47	Pn	Pn	21 30 50.8	+2.3
THZ	Tophouse	6.07	53	Pn	Pn	21 30 58.5	+2.0
THZ	Tophouse	6.07	53	AML	AML	21 32 19.2	
THZ				AML	AML	21 32 24.4	
NNZ	Nelson	6.70	51	Pn	Pn	21 31 11.2	+6.1
URZ	Urewera	10.82	51	Pn	Pn	21 32 03.1	+1.5
URZ				Sn	Sn	21 34 02.3	0.0
URZ	Urewera	10.82	51	Pn	Pn	21 32 03.1	+1.5
	0.4nm,0.3s,baz=287,slow=11,SNR=2.1						
URZ				Sn	Sn	21 34 02.3	0.0
	0.6nm,0.3s,baz=305,slow=12,SNR=3.2						
STKA	Stephens Creek	23.62	297	P	P	21 34 38.8	+1.2
STKA	Stephens Creek	23.62	297	P	P	21 34 38.8	+1.2
	3.7nm,0.9s,baz=83,slow=6.5,SNR=4.0						
ASAR	Alice Springs	34.22	299	P	P	21 36 11.3	-1.1
ASAR	Alice Springs	34.22	299	P	P	21 36 11.3	-1.1
	1.7nm,0.9s,baz=144,slow=9.3,SNR=10						
ASAR				LR	LR	21 50 14.3	
	comp=Z,265nm,18.7s,baz=197,slow=37						
WRA	Warramunga Arr	36.78	303	P	P	21 36 31.4	-3.0
WRA	Warramunga Arr	36.78	303	P	P	21 36 31.4	-3.0
	3.0nm,0.9s,baz=142,slow=8.5,SNR=8.8						
FITZ	Fitzroy Crossi	43.50	295	P	P	21 37 29.9	-0.2
FITZ	Fitzroy Crossi	43.50	295	P	P	21 37 29.9	-0.2
	3.4nm,1.0s,baz=132,slow=12,SNR=3.2						
QSPA	South Pole Qui	44.51	180	P	P	21 37 38.2	+0.3
	1.2nm,0.8s,baz=2.7,slow=3.1,SNR=18						
CMAR	Chiang Mai Arr	88.23	299	LR	LR	22 29 15.8	
	comp=Z,84nm,18.1s,baz=270,slow=41						
TORD	Torodi Ar. Bea	145.15	207	PKPbc	PKPbc	21 49 02.9	-1.0
TORD	Torodi Ar. Bea	145.15	207	PKPbc	PKPbc	21 49 02.9	-1.0
	2.2nm,0.7s,baz=144,slow=2.5,SNR=17						
BRTR	Keskin Array B	145.20	277	PKPbc	PKPdf	21 49 03.9	-0.1
BRTR	Keskin Array B	145.20	277	PKPbc	PKPdf	21 49 03.9	-0.1
	0.7nm,0.9s,baz=99,slow=2.7,SNR=3.4						
ARCES	ARCESS Array B	149.14	334	PKPbc	PKPbc	21 49 13.9	+0.3
ARCES	ARCESS Array B	149.14	334	PKPbc	PKPbc	21 49 13.9	+0.3
	1.7nm,0.7s,baz=54,slow=2.1,SNR=5.1						
FINES	FINESS Array B	152.18	319	PKPbc	PKPbc	21 49 20.9	-0.1
FINES	FINESS Array B	152.18	319	PKPbc	PKPbc	21 49 20.9	-0.1
	1.5nm,0.9s,baz=67,slow=2.6,SNR=5.6						
NOA	NORSAR Array B	158.81	326	PKPab	PKPab	21 49 58.7	-0.6
NOA	NORSAR Array B	158.81	326	PKPab	PKPab	21 49 58.7	-0.6
	1.3nm,0.8s,baz=40,slow=1.7,SNR=3.3						

*DDA **30** 21:41:22.5, 39.60N×39.71E, h12km, MD3.5*
*ISK **30** 21:41:22.5, 39.62N×39.74E, h5km, MD3.0*
*CSEM **30** 21:41:23.0±0.1, 39.61N×39.72E, h2km, MD3.5, Error ellipse: s-maj=3.1km s-min=2.7km az=132.0*

ISC 30 21:41:23.3±0.9, 39.61N±0.02×39.71E±0.02, h5km±6km, n64, σ0§92/86, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERZN	Erzincan	0.03	164	*e*PG	Pg	21 41 23.8	-0.7
EUZM	Uzumlu	0.10	353	*i* P	Pg	21 41 25.5	+0.1
EUZM	Uzumlu	0.10	353	*i* P	Pg	21 41 25.5	+0.1
EZC	Erzincan	0.31	297	*e*PG	Pg	21 41 29.4	0.0
EZC				*e*SG	Sg	21 41 34.2	+0.7
EZC	Erzincan	0.31	297	*e*Pg	Pg	21 41 29.4	0.0
EZC				*e*Sg	Sg	21 41 34.2	+0.7
KELT	Kelkit	0.64	327	*i* P	Pg	21 41 35.4	-0.3
KELT				*i* S	Sb	21 41 47.7	+1.3
KELT	Kelkit	0.64	327	*i* P	Pg	21 41 35.4	-0.3
KOPT	Kop Dagi	0.73	56	*i* P	Pg	21 41 36.6	-0.7
KOPT				*i* S	Sb	21 41 49.4	+0.5
KOPT	Kop Dagi	0.73	56	*i* P	Pg	21 41 36.6	-0.7
PTK	Pertek	0.76	199	*e*PG	Pg	21 41 37.8	-0.1
PTK				*e*SG	Sg	21 41 48.1	+0.4
PTK	Pertek	0.76	199	*e*Pg	Pg	21 41 37.8	-0.1
PTK				*e*Sg	Sg	21 41 48.2	+0.4
BAYT	Ayd¯–ntepe-Bay	0.85	23	*e*PG	Pg	21 41 38.8	-0.8
BAYT	Ayd¯–ntepe-Bay	0.85	23	*e*Pg	Pg	21 41 38.8	-0.8
GUMT	Gumushane	0.86	348	*e*PG	Pg	21 41 39.4	-0.5
GUMT	Gumushane	0.86	348	*e*Pg	Pg	21 41 39.4	-0.5
ILIC	ilic-Erzincan	0.90	260	*e*PG	Pg	21 41 40.9	+0.3
ILIC	ilic-Erzincan	0.90	260	*e*Pg	Pg	21 41 40.9	+0.3
BINT	Bingol	0.95	140	*e*Pg	Pg	21 41 41.5	-0.1
BNGB	Bing¯‖	0.97	129	*e*PG	Pg	21 41 41.5	-0.4
KEMA	Kemaliye	1.00	250	*i* P	Pg	21 41 40.9	-1.7
KEMA				*i* S	Sb	21 41 56.6	-0.2
KEMA	Kemaliye	1.00	250	*i* P	Pg	21 41 40.9	-1.7
KEMA				*i* S	Sb	21 41 56.6	-0.2
ELZG	Elazig	1.25	207	*i* P	Pn	21 41 45.6	-2.0
ELZG				*i* S	Sn	21 42 04.4	-0.4
ELZG	Elazig	1.25	207	*i* P	Pn	21 41 45.6	-2.0
ELZG				*i* S	Sn	21 42 04.4	-0.4
BNGL	BINGOL	1.30	120	*i* P	Pn	21 41 46.9	-1.3
BNGL				*i* S	Sn	21 42 07.8	+1.8
EZM	Erzurum	1.30	77	*e*PN	Pn	21 41 47.2	-1.2
SUSE	Susehri	1.30	298	*i* P	Pn	21 41 48.0	-0.3
SUSE				*i* S	Sn	21 42 07.4	+1.2
SUSE	Susehri	1.30	298	*i* P	Pn	21 41 48.0	-0.3
SUSE				*i* S	Sn	21 42 07.4	+1.2
ERZM	Erzurum	1.31	77	*i* P	Pn	21 41 47.2	-1.3
ERZM				*i* S	Sn	21 42 06.2	-0.2
ERZM	Erzurum	1.31	77	*i* P	Pn	21 41 47.2	-1.3
ERZM				*i* S	Sn	21 42 06.2	-0.2
MACK	Trabzon	1.33	2	*i* P	Pn	21 41 47.6	-1.0
MACK				*i* S	Sb	21 42 04.9	-1.2
MACK	Trabzon	1.33	2	*i* P	Pn	21 41 47.6	-1.0
MACK				*i* S	Sb	21 42 04.9	-1.2
ESPY	Espiye-Giresun	1.50	330	*e*PN	Pn	21 41 50.6	-0.3
ESPY	Espiye-Giresun	1.50	330	*e*Pn	Pn	21 41 50.6	-0.3
MYA	Malataya	1.63	218	*e*PN	Pn	21 41 52.5	-0.2
MYA	Malataya	1.63	218	*e*Pn	Pn	21 41 52.5	-0.2
GRSN	GIRESUNGRSN	1.71	320	*i* P	Pb	21 41 54.6	-0.7
GRSN				*i* S	Sn	21 42 13.4	-2.7
GRSN	GIRESUNGRSN	1.71	320	*i* P	Pb	21 41 54.6	-0.7
HOMI	Horasan	1.74	75	*i* P	Pb	21 41 55.9	0.0
HOMI				*i* S	Sg	21 42 21.7	+2.4
DIY	Diyarbakir	1.76	167	*e*PN	Pn	21 41 54.9	+0.4
DIY	Diyarbakir	1.76	167	*e*Pn	Pn	21 41 54.9	+0.4
PZAR	Pazar-Rize	1.81	30	*e*PN	Pn	21 41 55.1	0.0
PZAR	Pazar-Rize	1.81	30	*e*Pn	Pn	21 41 55.1	0.0
RSDY	Resadiye-TOKAT	1.99	294	*e*PN	Pn	21 41 58.3	+0.7
RSDY	Resadiye-TOKAT	1.99	294	*e*Pn	Pn	21 41 58.3	+0.7
DARE	Darende-Malaty	2.02	240	*e*PN	Pn	21 41 59.1	+1.0
BEST	Besiri	2.11	144	*i* P	Pn	21 41 59.7	+0.4
BEST				*i* S	Sg	21 42 30.3	-0.6
SVSK	Karacayir	2.11	279	*e*PN	Pn	21 42 00.2	+0.9
SVSK	Karacayir	2.11	279	*e*Pn	Pn	21 42 00.2	+0.9
MAZI	Mazidag	2.23	165	*e*PN	Pn	21 42 01.8	+0.9
MAZI	Mazidag	2.23	165	*e*Pn	Pn	21 42 01.8	+0.9
DAGI	Agillar	2.23	48	*i* P	Pn	21 42 01.9	+0.9
DAGI				*i* S	Sb	21 42 32.3	+0.3
URFA	Urfa	2.28	198	*e*PN	Pn	21 42 02.3	+0.7
URFA	Urfa	2.28	198	*e*Pn	Pn	21 42 02.3	+0.7
DBOC	Borcka	2.28	40	*i* P	Pn	21 42 02.7	+1.0
DBOC	Borcka	2.28	40	*i* P	Pn	21 42 02.7	+1.0
ARTV	Artvin	2.31	46	*i* P	Pn	21 42 03.3	+1.1
ARTV				*i* S	Sn	21 42 21.0	-10
ARTV	Artvin	2.31	46	*i* P	Pn	21 42 03.3	+1.1
BCA	Borcka	2.34	38	*e*PN	Pn	21 42 02.4	0.0
BCA	Borcka	2.34	38	*e*Pn	Pn	21 42 02.4	0.0
TUTA	Tutak	2.41	94	*i* P	Pb	21 42 07.5	+0.3
MARD	Mardin	2.44	160	*i* P	Pb	21 42 06.7	-1.1
MARD				*i* S	Sb	21 42 39.7	+1.5
AGRB	Hanur-Agry	2.53	90	*e*PN	Pn	21 42 04.9	-0.3
AGRB	Hanur-Agry	2.53	90	*e*Pn	Pn	21 42 04.9	-0.3
TOKT	Tokat	2.54	287	*e*PN	Pn	21 42 06.2	+1.0

IDC 30 21:43:39.2±13.0, 0.75S×132.32E, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.5/21, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=205.9km s-min=104.3km az=159.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	18.45	200	P	P	21 47 56.8	+0.2
	0.1nm,0.3s,baz=15,slow=16,SNR=2.6						
FITZ				S	Sn	21 51 17.3	-6.1
	0.1nm,0.3s,baz=180,slow=20,SNR=3.6						
WRA	Warramunga Arr	19.18	174	P	P	21 48 04.8	+0.2
	0.2nm,0.3s,baz=352,slow=12,SNR=6.6						
WRA				S	Sn	21 51 36.6	-4.5
	0.1nm,0.3s,baz=358,slow=20,SNR=4.0						
ASAR	Alice Springs	22.83	176	P	P	21 48 44.0	-0.1
	0.9nm,0.7s,baz=358,slow=10,SNR=8.7						
STKA	Stephens Creek	32.18	165	P	P	21 50 08.6	-0.4
	1.7nm,1.0s,baz=336,slow=10.0,SNR=2.1						

IDC 30 21:50:20.9±1.2, 5.00N×126.70E, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.6/24, mbtmp3.8/7, ML3.7/1, Error ellipse: s-maj=60.3km s-min=19.6km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	Kappang	12.12	215	Pn	Pn	21 53 16.5	+1.3
	0.5nm,0.3s,baz=33,slow=17,SNR=4.2						
FITZ	Fitzroy Crossi	22.98	183	P	P	21 55 26.6	-0.7
	3.2nm,0.8s,baz=360,slow=12,SNR=5.6						
WRA	Warramunga Arr	25.89	163	P	P	21 55 56.6	+1.8
	1.7nm,0.4s,baz=341,slow=10,SNR=10						
ASAR	Alice Springs	29.34	166	P	P	21 56 23.9	-1.8
	0.3nm,0.5s,baz=347,slow=6.5,SNR=4.5						
STKA	Stephens Creek	39.32	160	P	P	21 57 51.8	-0.2
	1.5nm,0.7s,baz=0.0,slow=8.1,SNR=4.9						
MKAR	Makanchi Array	56.51	325	P	P	22 00 05.3	+0.3
	0.2nm,0.5s,baz=134,slow=7.5,SNR=4.9						
MKAR				PcP	PcP	22 01 01.0	-0.8
	0.2nm,0.8s,baz=122,slow=4.0,SNR=2.5						
ARCES	ARCESS Array B	89.26	340	P	P	22 03 18.7	+0.1
	0.7nm,0.6s,baz=74,slow=6.7,SNR=3.5						

*IDC **30** 22:23:56.8±0.5, 20.84S×174.08W, h0km, mb4.2/15, mb1 4.4/16, mb1mx4.4/24, mbtmp4.3/16, ML4.5/1, MS3.5/2, Ms1 3.5/2, ms1mx3.2/29, Error ellipse: s-maj=22.7km s-min=15.8km az=113.0*

*NEIC **30** 22:23:57.8±0.4, 21.05S×173.98W, h10km, mb4.5/4, Error ellipse: s-maj=16.4km s-min=8.3km az=120.0*

ISC 30 22:24:00.6±0.5, 20.64S±0.08×174.0W±0.1, h27km, n81, σ1§73/73, mb4.3/18, 3C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	7.01	18	Pn	Pn	22 25 40.9	-0.8
AFI				Sn	Sn	22 26 55.7	-5.0
AFI	Afiamalu	7.01	18	Pn	Pn	22 25 40.9	-0.8
	10nm,0.3s,baz=88,slow=21,SNR=7.1						
AFI				Sn	Sn	22 26 55.7	-5.0
	8.9nm,0.3

DAWY	Dawson	88.61	14	*e*P		P	22 36 52.2	+1.4	
YKA	Yellowknife Ar	95.10	24	P		P	22 37 22.4	+1.6	
YKA	Yellowknife Ar	95.10	24	P		P	22 37 22.4	+1.6	
	0.7nm,0.6s,baz=240,slow=4.9,SNR=3.8								
ZALV	Zalesovo Beam	112.97	321	PKiKP		PKiKP	22 42 34.2	-0.7	
ZALV	Zalesovo Beam	112.97	321	PKiKP		PKiKP	22 42 34.2	-0.7	
	0.8nm,0.6s,baz=120,slow=2.0,SNR=4.5								
MKAR	Makanchi Array	114.04	313	PKP	PKPdf		22 42 36.9	-0.4	
MKAR	Makanchi Array	114.04	313	PKP	PKPdf		22 42 36.9	-0.4	
	0.2nm,0.5s,baz=47,slow=2.1,SNR=3.7								
ARCES	ARCESS Array B	129.69	351	PKP		PKPdf	22 43 08.6	+2.0	
ARCES	ARCESS Array B	129.69	351	PKP		PKPdf	22 43 08.6	+2.0	
	2.1nm,0.6s,baz=323,slow=1.8,SNR=12								
FINES	FINESS Array B	136.89	346	PKP		PKPdf	22 43 22.1	+1.7	
FINES	FINESS Array B	136.89	346	PKP		PKPdf	22 43 22.1	+1.7	
	1.2nm,0.8s,baz=17,slow=1.5,SNR=5.7								
KIEV	Kiev	144.88	334	*e*PKPbc	PKPbc		22 43 34.3	+0.1	
MALT	Malatya	146.97	309	⇑*i*P	PKPab		22 44 00.6	+18	
DPC	Dobruska-Polom	149.25	347	*e*PKP		PKPab	22 43 49.1	-2.1	
DPC				*ex*	x		22 43 59.5		
KRLC	Kraliky	149.41	346	*e*PKP		PKPbc	22 43 48.7	+1.5	
KRLC				*ex*	x		22 43 59.8		
PVCC	Panska Ves	149.42	349	*e*PKP		PKPab	22 43 49.3	-2.5	
PVCC				*ep*PKP	pPKPdf		22 44 00.3	+8.6	
MORC	Moravsky Berou	149.52	345	*e*PKPbc		PKPbc	22 43 47.2	-0.2	
VRI	Vrincioaia	149.64	331	⇑*i*P		PKPbc	22 43 50.1	+2.3	
BR131	Keskin Array S	149.67	315	*e*PKPbc		PKPbc	22 43 49.0	+0.8	
BRTR	Keskin Array B	149.67	315	PKPbc		PKPbc	22 43 49.2	+1.0	
BRTR	Keskin Array B	149.67	315	PKPbc		PKPbc	22 43 49.2	+1.0	
	2.4nm,0.7s,baz=128,slow=3.6,SNR=14								
PLOR	Plostina	149.69	331	⇑*i*P		PKPab	22 43 53.3	+0.1	
PRU	Pruhonice	149.94	349	*e*PKP		PKPbc	22 43 49.8	+1.4	
PRU				*ep*PKP	PKPab		22 44 00.3	+6.3	
ANTO	Ankara	150.15	316	*e*PKPbc		PKPbc	22 43 50.0	+0.7	
MLR	Muntele Rosu	150.28	331	⇓*i*P		PKPbc	22 43 51.5	+2.0	
TREC	Trest	150.43	347	*e*PKP		PKPbc	22 43 50.9	+1.3	
VOIR		150.72	332	⇓*i*P		PKPbc	22 43 52.6	+2.1	
KHC	Kasperske Hory	150.94	350	*e*PKP		PKPbc	22 43 51.9	+1.0	
KHC				*ep*PKP		PKPab	22 43 56.2	-2.0	
KHC				*ex*	x		22 44 03.2		
KHC	Kasperske Hory	150.94	350	*e*PKPbc		PKPbc	22 43 52.1	+1.3	
ARR	Arges	150.96	332	⇓*i*P		PKPbc	22 43 53.2	+2.1	
GERES	GERESS Array B	151.19	349	PKPbc		PKPbc	22 43 52.5	+1.0	
GERES	GERESS Array B	151.19	349	PKPbc		PKPbc	22 43 52.5	+1.0	
	1.4nm,0.6s,baz=4.2,slow=2.0,SNR=16								
BZS	Buzias	151.98	336	⇓*i*P		PKPbc	22 43 54.4	+1.1	
ESDC	Sonseca Array	159.18	22	PKPab		PKPab	22 44 34.9	+1.3	
ESDC	Sonseca Array	159.18	22	PKPab		PKPab	22 44 34.9	+1.3	
	0.3nm,0.4s,baz=314,slow=4.4,SNR=5.0								
TORD	Torodi Ar. Bea	171.47	150	PKPab		PKPab	22 45 28.3	+0.1	
TORD	Torodi Ar. Bea	171.47	150	PKPab		PKPab	22 45 28.3	+0.1	
	0.5nm,0.8s,baz=204,slow=3.4,SNR=3.0								

ISCJB ***30*** *22:25:28.7±0.4,33.°95S±0.°09×56.°08E±0.°09,h10km, mb4.3/25,MS3.9/6,Error ellipse: s-maj=12.9km s-min=10.7km az=32.2*

IDC ***30*** *22:25:28.9±0.6,33.°89S×56.°12E,h0km,mb4.2/15, mb1 4.4/16,mb1mx4.2/27,mbtmp4.3/16,ML4.4/1,MS3.9/7, Ms1 3.9/7,ms1mx3.7/31,Error ellipse: s-maj=12.9km s-min=16.5km az=14.0*

NEIC ***30*** *22:25:30.4±0.3,33.°93S×56.°08E,h10km,mb4.5/12,Error ellipse: s-maj=9.6km s-min=8.1km az=212.0*

ISC 30 22:25:30.8±0.5, 33.°76S±0.°09×56.°0E±0.°1, h10km, n59, σ1§37/59, mb4.4/25, MS3.8/6, 4C-1D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABPO	Ambohimpanom	16.64	330	*e*Pn	Pn	22 29 24.9	+0.6
	5.0nm,0.6s						
OPO	Ambohidratompo	17.06	330	Pn	P	22 29 33.1	+1.8
OPO				Sn	Sn	22 32 34.2	-5.1
OPO	Ambohidratompo	17.06	330	Pn	P	22 29 33.1	+1.8
	1.4nm,0.3s,baz=138,slow=9.2,SNR=14						
OPO				Sn	Sn	22 32 34.2	-5.1
	0.1nm,0.3s,baz=282,slow=19,SNR=2.6						
OPO				LR	LR	22 34 32.0	
	comp=Z,487nm,18.8s,baz=183,slow=32						
BOSA	Boshof	26.75	273	P	P	22 31 09.7	-1.1
BOSA	Boshof	26.75	273	P	P	22 31 09.7	-1.1
	2.8nm,1.0s,baz=85,slow=12,SNR=2.1						
BOSA				LR	LR	22 38 54.8	
	comp=Z,148nm,20.4s,baz=186,slow=30						
LBTB	Lobatse	27.81	280	P	P	22 31 19.8	-0.6
LBTB	Lobatse	27.81	280	P	P	22 31 19.8	-0.6
	2.4nm,0.8s,baz=96,slow=10,SNR=2.8						
LBTB				LR	LR	22 40 18.4	
	comp=Z,218nm,18.7s,baz=175,slow=32						
MAW	Mawson	34.12	175	P	P	22 32 13.9	-1.5
MAW	Mawson	34.12	175	P	P	22 32 13.9	-1.5
	1.8nm,0.3s,baz=56,slow=11,SNR=2.1						
MAW				LR	LR	22 41 57.9	
	comp=Z,242nm,20.8s,baz=324,slow=29						
KMBO	Kilima Mbogo	36.91	328	*e*P	P	22 32 40.8	+0.6
	2.5nm,0.9s						
KMBO	Kilima Mbogo	36.91	328	LR	LR	22 47 59.2	
	comp=Z,102nm,18.2s,baz=98,slow=36						
TSUM	Tsumeb	37.09	283	P	P	22 32 42.4	+0.8
TSUM	Tsumeb	37.09	283	P	P	22 32 42.4	+0.8
	1.6nm,0.7s,baz=165,slow=5.7,SNR=5.5						
SNAA	Sanae	48.62	201	*e*P	P	22 34 13.8	-0.6
	4.5nm,1.0s						
SNAA				PcP	PcP	22 35 39.3	-0.3
SNAA	Sanae	48.62	201	P	P	22 34 14.0	-0.3
	1.1nm,0.9s,baz=94,slow=5.9,SNR=12						
SNAA				PcP	PcP	22 35 39.3	-0.3
	1.0nm,1.1s,baz=69,slow=6.8,SNR=3.9						
VNDA	Vanda	60.64	166	LR	LR	22 59 58.3	
	comp=Z,256nm,18.7s,baz=198,slow=34						
CM31	Chiang Mai Arr	66.11	45	*e*P	P	22 36 18.4	0.0
	5.9nm,0.8s						
CMAR	Chiang Mai Arr	66.11	45	P	P	22 36 18.8	+0.5
CMAR	Chiang Mai Arr	66.11	45	P	P	22 36 18.8	+0.5
	8.3nm,0.8s,baz=232,slow=7.1,SNR=30						
CMAR				LR	LR	23 00 02.6	
	comp=Z,95nm,18.1s,baz=154,slow=31						
ASAR	Alice Springs	67.61	104	P	P	22 36 26.9	-1.1
ASAR	Alice Springs	67.61	104	P	P	22 36 26.9	-1.1
	2.0nm,0.8s,baz=236,slow=6.6,SNR=14						
TORD	Torodi Ar. Bea	69.61	302	P	P	22 36 41.5	+1.0
TORD	Torodi Ar. Bea	69.61	302	P	P	22 36 41.5	+1.0
	1.2nm,0.9s,baz=127,slow=5.6,SNR=6.6						
WRA	Warramunga Arr	69.75	101	P	P	22 36 40.1	-1.3
WRA	Warramunga Arr	69.75	101	P	P	22 36 40.1	-1.3
	5.3nm,0.9s,baz=239,slow=5.3,SNR=16						
WRAB	Tennant Creek	69.77	101	*e*P	P	22 36 40.5	-1.0
DBIC	Dimbokro	70.18	293	P	P	22 36 45.6	+1.7
DBIC	Dimbokro	70.18	293	P	P	22 36 45.6	+1.7
	8.0nm,1.1s,baz=162,slow=7.3,SNR=3.1						
LSA	Lhasa	71.33	32	*e*P	P	22 36 51.3	+0.1
	12nm,1.0s						
BRTR	Keskin Array B	75.99	342	P	P	22 37 18.3	+0.3
BRTR	Keskin Array B	75.99	342	P	P	22 37 18.3	+0.3
	1.7nm,0.8s,baz=175,slow=8.5,SNR=11						
KKAR	Karatay Array	77.63	11	*e*P	P	22 37 28.0	+1.0
	3.4nm,1.0s						
EKS2	Erkin-Say	77.77	13	*e*P	P	22 37 29.0	+1.0
	6.0nm,0.9s						
AAK	Ala-Archa	77.89	14	*e*P	P	22 37 29.9	+1.3
	4.2nm,0.9s						
KBZ	Khabaz	78.04	350	P	P	22 37 31.0	+1.9
KBZ	Khabaz	78.04	350	P	P	22 37 31.0	+1.9
	1.2nm,0.7s,baz=198,slow=4.6,SNR=2.9						
TKM2	Tokmak 2	78.39	15	*e*P	P	22 37 32.0	+0.5
	2.8nm,0.7s						
ENH	Enshi	81.29	45	*e*P	P	22 37 47.5	+0.2
	7.4nm,0.8s						
CFR	Carcaliu	82.54	341	⇑*i*P	P	22 37 54.0	+0.6
ABKAR	Akbulak array	82.72	3	*e*P	P	22 37 54.5	+0.3
	2.9nm,0.8s						
MLR	Muntele Rosu	83.45	339	⇑*i*P	P	22 37 58.7	+0.4
VRI	Vrincioaia	83.56	340	⇓*i*P	P	22 37 59.1	+0.4
PLOR	Plostina	83.57	340	⇑*i*P	P	22 37 59.3	+0.5
MKAR	Makanchi Array	83.61	18	P	P	22 37 59.3	+0.3
MKAR	Makanchi Array	83.61	18	P	P	22 37 59.3	+0.3
	2.0nm,0.8s,baz=197,slow=3.8,SNR=13						
VOIR		83.67	339	⇑*i*P	P	22 37 59.5	+0.1
KECS	Kecovo	87.81	337	*e*PKP		22 43 51.0	
ZALV	Zalesovo Beam	90.84	17	P	P	22 38 32.9	-0.9
ZALV	Zalesovo Beam	90.84	17	P	P	22 38 32.9	-0.9
	1.2nm,0.7s,baz=213,slow=4.7,SNR=7.3						
SONM	Songino Array	92.91	31	P	P	22 38 43.4	-0.4
	1.2nm,0.8s,baz=205,slow=3.4,SNR=8.5						
ULN	Ulaanbaatar	93.22	32	*e*P	P	22 38 45.0	-0.3
	2.1nm,0.8s						
NOA	NORSAR Array B	101.27	340	P	Pdif	22 39 19.2	-1.9
NOA	NORSAR Array B	101.27	340	P	Pdif	22 39 19.2	-1.9
	1.5nm,1.0s,baz=143,slow=4.3,SNR=2.9						
BLA	Blacksburg	144.58	288	*e*PKPdf	PKPbc	22 45 06.3	0.0
ILAR	Eielson Array	145.96	17	PKPbc	PKPbc	22 45 09.3	-0.5
ILAR	Eielson Array	145.96	17	PKPbc	PKPbc	22 45 09.3	-0.5
	6.2nm,0.8s,baz=339,slow=4.8,SNR=2.9						
YKA	Yellowknife Ar	150.63	351	PKPbc	PKPbc	22 45 22.3	+0.2
YKA	Yellowknife Ar	150.63	351	PKPbc	PKPbc	22 45 22.3	+0.2
	7.2nm,0.7s,baz=11,slow=2.2,SNR=10						

CSEM ***30*** *22:27:06.6,42.°58N×13.°20E,h10km,MD1.9/8,After ROM*

ROM 30 22:27:06.6±0.1, 42.°58N×13.°20E, h10km, Md1.9/8, Ml1.5/7, Error ellipse: s-maj=1.2km s-min=0.8km az=71.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	Leonessa	0.12	282	Pg	Pg	22 27 10.1	+0.4
LNSS				Sg	Sg	22 27 12.3	+0.5
	342nm,0.1s						
LNSS	Leonessa	0.12	282	Pg	Pg	22 27 10.1	+0.4
LNSS				Sg	Sg	22 27 12.3	+0.5
	342nm,0.1s						
NRCA	Norcia	0.26	347	Pg	Pg	22 27 12.5	+0.4
NRCA				Sg	Sg	22 27 16.8	+1.0
	70nm,0.1s						
NRCA	Norcia	0.26	347	Pg	Pg	22 27 12.5	+0.4
NRCA				Sg	Sg	22 27 16.8	+1.0
	70nm,0.1s						
AQU	L'Aquila	0.27	146	Pg	Pg	22 27 12.9	+0.7
AQU				Sg	Sb	22 27 18.1	-0.3
	32nm,0.3s						
AQU	L'Aquila	0.27	146	Pg	Pg	22 27 12.9	+0.7
AQU				Sg	Sb	22 27 18.1	-0.3
	32nm,0.3s						
TERO	Teramo	0.30	82	Pg	Pg	22 27 13.2	+0.4
TERO				Sg	Sg	22 27 17.9	+0.9
	43nm,0.2s						
TERO	Teramo	0.30	82	Pg	Pg	22 27 13.2	+0.4
TERO				Sg	Sg	22 27 17.9	+0.9
	43nm,0.2s						
FIAM	Fiamignano	0.32	191	Pg	Pg	22 27 13.5	+0.4
FIAM				Sg	Sg	22 27 18.3	+0.9
	28nm,0.3s						
FIAM	Fiamignano	0.32	191	Pg	Pg	22 27 13.5	+0.4
FIAM				Sg	Sg	22 27 18.3	+0.9
	28nm,0.3s						
FDMO	Fiordimonte	0.46	350	Pg	Pg	22 27 16.1	+0.3
FDMO				Sg	Sb	22 27 23.8	-0.1
	9.0nm,0.1s						
FDMO	Fiordimonte	0.46	350	Pg	Pg	22 27 16.1	+0.3
FDMO				Sg	Sb	22 27 23.8	-0.1
	9.0nm,0.1s						

IDC ***30*** *22:31:23.5±4.4,32.°34S×179.°80E,h345km±35km,mb3.8/4, mb1 3.9/5,mb1mx3.5/18,mbtmp3.8/5,Error ellipse: s-maj=47.6km s-min=18.8km az=43.0*

ISCJB ***30*** *22:31:26.8±1.3,32.°58S±0.°07×179.°4E±0.°2,h372km, mb3.8/5,Error ellipse: s-maj=26.2km s-min=8.7km az=170.7*

ISC 30 22:31:28.6±1.5, 32.°69S±0.°10×179.°3E±0.°2, h372km, n25, σ1§00/31, mb3.9/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	5.44	189	PN	Pn	22 32 55.3	+1.4
PUZ				SN	S	22 34 01.9	-1.3
MWZ	Matawai	5.82	194	PN	Pn	22 32 58.4	+0.4
MWZ				SN	S	22 34 10.9	+0.1
URZ	Urewera	5.84	197	P	Pn	22 32 59.2	+1.0
	10nm,0.3s,baz=30,slow=3.2,SNR=61						
URZ				S	S	22 34 11.7	+0.6
	16nm,0.3s,baz=77,slow=23,SNR=13						
URZ	Urewera	5.84	197	PN	Pn	22 32 58.6	+0.4
URZ				SN	S	22 34 10.2	-1.0
CNGZ	Carnagh Statio	5.85	189	PN	Pn	22 32 59.2	+0.9
CNGZ				SN	S	22 34 13.3	+1.9
KNZ	Kokohu	6.46	191	PN	Pn	22 33 06.7	+1.6
MHGZ	Mahia Peninsul	6.55	190	PN	P	22 33 07.5	+0.2
BKZ	Black Stump Fm	6.86	199	PN	P	22 33 10.3	-0.6
BKZ				SN	S	22 34 31.6	-0.6
MCHZ	McNeill Hill	7.06	197	PN	P	22 33 13.2	0.0
KAHZ	Kahuranaki	7.36	195	PN	P	22 33 16.7	+0.1
PXZ	Pawanui	7.59	194	PN	Pn	22 33 18.3	+0.2
PNHZ	Pukenui	7.63	198	PN	Pn	22 33 18.5	-0.2
WPHZ	Waipukurau	7.71	197	PN	Pn	22 33 19.5	-0.1
TSZ	Takapari Road	7.83	199	PN	Pn	22 33 20.5	-0.6
HOWZ	Holdsworth Sta	8.74	199	PN	Pn	22 33 30.4	-1.1
OGWZ	Otaki Gorge	8.76	201	PN	Pn	22 33 30.9	-1.0
KIW	Kapiti Island	8.88	202	PN	Pn	22 33 32.5	-0.8
TCW	Tory Channel	9.41	204	PN	Pn	22 33 38.7	-0.7
STKA	Stephens Creek	31.79	261	P	P	22 37 22.1	+2.2
	2.6nm,0.5s,baz=90,slow=11,SNR=12						
CTA	Charters Tower	32.02	285	P	P	22 37 22.6	+0.5
	2.6nm,0.5s,baz=105,slow=11,SNR=3.6						
ASAR	Alice Springs	40.77	271	P	P	22 38 35.0	-0.2
	2.5nm,0.4s,baz=106,slow=7.6,SNR=29						
WRA	Warramunga Arr	41.97	276	P	P	22 38 44.1	-0.8
	7.8nm,0.3s,baz=112,slow=8.0,SNR=63						
SNAA	Sanae	75.92	179	P	P	22 42 34.6	-0.3
	0.2nm,0.4s,baz=204,slow=7.5,SNR=9.6						
FINES	FINESS Array B	146.43	337	PKPbc	PKPdf	22 50 22.0	-1.7
	1.0nm,0.5s,baz=69,slow=4.6,SNR=2.1						
TORD	Torodi Ar. Bea	160.43	187	PKPab	PKPab	22 51 26.7	-1.2
	0.4nm,0.8s,baz=175,slow=4.8,SNR=3.1						

IDC 30 22:34:36.9±57.0, 15.°34S×175.°20W, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.8/19, mbtmp4.3/3, Error ellipse: s-maj=1083.0km s-min=178.6km az=77.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	42.57	239	P	P	22 42 34.8	0.0
	1.0nm,0.4s,baz=90,slow=8.1,SNR=4.7						
WRA	Warramunga Arr	48.17	257	P	P	22 43 19.4	0.0
	1.8nm,0.6s,baz=92,slow=7.2,SNR=10						
ASAR	Alice Springs	48.48	252	P	P	22 43 21.5	-0.3
	3.9nm,0.4s,baz=87,slow=7.9,SNR=83						

MOS ***30*** *22:39:02.3±1.1,59.°95N×151.°50W,h10km,mb4.8/32, Error ellipse: s-maj=11.7km s-min=5.4km az=86.1*

BJI ***30*** *22:39:07.9,60.°00N×151.°10W,h44km,mB5.0/11, mb4.8/17,Ms4.8/5,Ms7 4.5/6*

ISCJB ***30*** *22:39:08.3±0.2,59.°93N±0.°02×151.°07W±0.°03,h54km±1km, mb4.6/118,MS3.9/8,Error ellipse: s-maj=3.0km s-min=2.3km az=163.8*

SZGRF ***30*** *22:39:09.8,59.°93N×150.°20W,h51km,mb5.0,Kenai Peninsula, Alaska, United States*

IDC ***30*** *22:39:10.7±0.5,60.°07N×151.°29W,h58km±3km,mb3.9/24, mb1 4.2/27,mb1mx4.2/31,mbtmp4.0/27,MS3.7/7, Ms1 3.7/7,ms1mx3.4/33,Error ellipse: s-maj=12.8km s-min=8.9km az=9.0*

NEIC ***30*** *22:39:10.3,59.°93N×151.°09W,h44km,mb4.6/33, ML4.6(AEIC),After AEIC.*

NEIC Felt [IV] at Homer and Ninilchik; [III] at Anchor Point, Kenai, Moose Pass, Seward, Soldotna and Sterling; [II] at Anchorage and Kasilof. Also felt at Clam Gulch, Cooper Landing and Eagle River.

ISC 30 22:39:09.7±0.3, 59.°92N±0.°03×151.°10W±0.°03, h51km±2km, h51km:pP-P, n653, σ1§30/703, mb4.6/118, MS3.9/8, 141C-139D, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNL	Ninilchik	0.15	321	P	Pn	22 39 18.1	+0.2
BRLK	Bradley Lake	0.19	146	P	Pn	22 39 17.4	-0.8
BRLK				S	Sn	22 39 23.9	-0.4
HOM	Homer	0.38	226	P	Pn	22 39 19.6	-0.1
HOM				S	Sn	22 39 27.4	+0.5
CNPM	China Poot	0.40	190	P	Pn	22 39 19.6	-0.4
CNPM				S	Sn	22 39 27.0	-0.4

SLKM	Skilak Lake	0.73	36	P		Pn	22 39 23.6	-0.4	
SLKM	Skilak Lake	0.73	36	P		Pn	22 39 23.6	-0.4	
RDT	Redoubt	0.92	316	P		Pn	22 39 25.9	-0.6	
ILIM	Iliamna	0.95	280	P		Pn	22 39 26.1	-0.7	
RSO	Redoubt South	0.99	304	*e*Pn		Pn	22 39 26.6	-0.9	
DFR	Drift River	1.04	311	P		Pn	22 39 27.3	-0.8	
RDWB	Redoubt West	1.04	304	P		Pn	22 39 27.3	-0.8	
RDWB				S		Sn	22 39 40.7	-0.9	
BGRM	Barrier Glacie	1.06	323	P		Pn	22 39 27.8	-0.6	
RDJH	Redoubt Jeurge	1.08	309	P		Pn	22 39 28.2	-0.5	
RDJH				S		Sn	22 39 42.6	-0.1	
OPT	Oil Point	1.11	257	P		Pn	22 39 28.7	-0.3	
NCT	North Crescent	1.11	306	P		Pn	22 39 28.4	-0.7	
AUE	Augustine Isla	1.28	245	P		Pn	22 39 31.5	+0.2	
AUNW	Augustine NWes	1.32	247	P		Pn	22 39 32.1	+0.3	
AUW	Augustine West	1.32	246	P		Pn	22 39 32.2	+0.3	
SPU	Mount Spurr	1.35	340	P		Pn	22 39 32.0	-0.2	
CKL	Chakachamna La	1.42	335	P		Pn	22 39 33.0	-0.1	
SPBG	Spurr Blockage	1.48	336	P		Pn	22 39 34.2	+0.1	
SPBG				S		Sn	22 39 53.3	+1.0	
BGL	Barrier Glacie	1.49	335	P		Pn	22 39 34.3	+0.2	
SUA	Susitna One	1.56	6	P		Pn	22 39 35.7	+0.6	
PDB	Pedro Bay	1.57	266	P		Pn	22 39 35.0	-0.1	
PDB	Pedro Bay	1.57	266	P		Pn	22 39 35.0	-0.1	
STLK	Strandline Lak	1.62	347	P		Pn	22 39 36.4	+0.4	
LTI	Latouche	1.64	84	P		Pn	22 39 35.5	-0.5	
MCNL	McNeil River	1.81	247	P		Pn	22 39 38.9	+0.5	
PMR	Palmer	1.93	29	P		Pn	22 39 40.3	+0.2	
PMR	Palmer	1.93	29	P		Pn	22 39 40.3	+0.2	
SKT	Skwentna	2.08	354	P		Pn	22 39 43.0	+0.9	
KAPH	Katmai Pasha	2.13	233	P		Pn	22 39 43.2	+0.3	
GLI	Glacier Island	2.21	63	P		Pn	22 39 42.6	-1.2	
KDAK	Kodiak Island	2.28	200	*e*Pn		Pn	22 39 45.0	+0.2	
KDAK				*e*Sn		Sn	22 40 18.6	+6.9	
KDAK	Kodiak Island	2.28	200	P		Pn	22 39 44.1	-0.7	
	268nm,0.3s,baz=34,slow=11,SNR=1382								
KDAK				S		Sn	22 40 19.9	+8.2	
	504nm,0.3s,baz=300,slow=22,SNR=15								
KDAK				LR		LR	22 40 51.7		
	comp=Z,2μm,20.6s,baz=50,slow=42								
SML	Sawmill	2.33	34	P		Pn	22 39 45.7	+0.2	
SML	Sawmill	2.33	34	P		Pn	22 39 45.7	+0.2	
KAHC	Katmai Hardscr	2.38	239	P		Pn	22 39 46.6	+0.3	
FID	Fort Fidalgo	2.44	68	P		Pn	22 39 45.5	-1.6	
MID	Middleton Isla	2.47	100	P		Pn	22 39 46.3	-1.0	
MID	Middleton Isla	2.47	100	P		Pn	22 39 46.3	-1.0	
JPK	Jack Peak	2.50	61	P		Pn	22 39 47.2	-0.7	
SVW2	Sparrevohn	2.51	300	P		Pn	22 39 47.6	-0.5	
KAKN	Katmai Knife C	2.61	233	P		Pn	22 39 49.5	-0.1	
VLZ	Valdez	2.65	61	P		Pn	22 39 49.3	-0.6	
SCM	Sheep Creek Mo	2.66	42	P		Pn	22 39 50.8	+0.7	
SCM	Sheep Creek Mo	2.66	42	P		Pn	22 39 50.8	+0.7	
KABR	Katmai Barrier	2.69	230	P		Pn	22 39 50.5	-0.1	
KABU	Katmai Buttres	2.72	234	P		Pn	22 39 51.3	+0.3	
EYAK	Cordova Ski Ar	2.74	74	P		Pn	22 39 50.0	-1.2	
KELA	Mount Kelaz	2.81	240	P		Pn	22 39 52.3	+0.1	
CAHL	Cahill	2.87	231	P		Pn	22 39 53.4	+0.3	
DIV	Divide	2.90	63	P		Pn	22 39 52.8	-0.6	
OHAK	Old Harbor	2.94	204	P		Pn	22 39 52.7	-1.2	
KJL	Kejulik	2.98	233	P		Pn	22 39 55.1	+0.7	
KLU	Klutina	2.99	56	P		Pn	22 39 54.6	-0.1	
PPLA	Purkeypile	3.03	351	P		Pn	22 39 55.5	+0.6	
GOAT	Goat Mountain	3.25	76	P		Pn	22 39 56.9	-1.2	
RAGM	Ragged Mountai	3.25	79	P		Pn	22 39 56.6	-1.6	
BMRM	Bremner River	3.39	69	*e*Pn		Pn	22 39 58.8	-1.3	
CAST	Castle Rocks	3.54	353	P		Pn	22 40 02.5	+0.4	
PLK5	Peulik 5	3.56	240	P		Pn	22 40 02.1	-0.2	
TRF	Thorofare Moun	3.56	6	*e*Pn		Pn	22 40 03.5	+0.9	
TRF				*e*Sn		Sn	22 40 41.0	-2.4	
PLK1	Peulik 1	3.56	236	P		Pn	22 40 03.1	+0.6	
NICHA	Nichawak Mount	3.59	82	P		Pn	22 40 01.3	-1.5	
DHY	Denali Highway	3.63	28	P		Pn	22 40 04.4	+0.8	
RND	Reindeer	3.66	16	P		Pn	22 40 04.5	+0.7	
RND	Reindeer	3.66	16	P		Pn	22 40 04.5	+0.7	
PLBL	Peulik Blue Cr	3.72	236	P		Pn	22 40 05.3	+0.7	
BERG	Berg Lake	3.73	80	P		Pn	22 40 03.0	-1.7

ATKA Atka Island 14.97 249 *e*Pn Pn 22 42 39.0 +1.1
ADK Adak 16.36 252 *e*P Pn 22 42 55.4 -0.2
ADK pmax pmax
comp=Z,125nm,0.8s
ADK Adak 16.36 252 *e*Pn Pn 22 42 55.4 -0.2
comp=Z,125nm,0.8s
YKA Yellowknife Ar 17.61 66 P Pn 22 43 10.6 -0.5
YKA Yellowknife Ar 17.61 66 P Pn 22 43 10.5 -0.5
comp=Z,3.1nm,0.3s,baz=278,slow=12,SNR=88
AMKA Amchitka 18.62 256 *e*P P 22 43 21.1 -1.5
comp=Z,28nm,0.6s
NLWA Neilton Lookou 20.26 116 *e*P P 22 43 40.0 -0.6
comp=Z,22nm,1.3s
JCW Jim Creek 20.56 112 P Pn 22 43 46.7 +0.1
FX1 Attu Island--F 20.78 266 P P 22 43 45.2 -1.0
FX1 Attu Island--F 20.78 266 P P 22 43 45.2 -1.0
comp=Z,25nm,0.5s,baz=286,slow=3.6,SNR=38
BMW Boistfort Moun 21.24 117 P P 22 43 53.1 +1.9
BMW Boistfort Moun 21.24 117 P P 22 43 53.1 +1.9
RVC Mount Rainier- 21.46 114 P P 22 43 56.1 +2.6
EDM Edmonton 21.61 91 *e*P P 22 43 55.8 +0.8
EDM Edmonton 21.61 91 *e*P P 22 43 55.8 +0.8
LON Longmire 21.67 114 *e*P P 22 43 57.6 +1.8
LON pmax pmax
comp=Z,8.0nm,1.0s
LON Longmire 21.67 114 *e*P P 22 43 57.6 +1.8
comp=Z,7.9nm,1.0s
ETW Entiat 21.73 111 P P 22 43 59.1 +2.5
WPW White Pass 21.83 114 P P 22 44 00.3 +2.7
TBM Table Mountain 21.93 112 P P 22 44 00.8 +2.2
NEW Newport 22.81 106 *e*P P 22 44 08.3 +0.4
comp=Z,11nm,1.1s
NEW Newport 22.81 106 P P 22 44 08.2 +0.4
comp=Z,4.3nm,0.8s,baz=317,slow=11,SNR=9.4
NEW Newport 22.81 106 ⇓P P 22 44 09.8 +1.9
baz=23
A12A Yaak River Ran 23.07 103 ⇑P P 22 44 12.4 +1.8
baz=23
CROR Criterion Ridg 23.39 116 P P 22 44 15.6 +1.9
B12A Libby 23.41 103 ⇓P P 22 44 15.5 +1.6
baz=23
WALA Waterton Lakes 23.85 100 *e*P P 22 44 18.4 +0.3
comp=Z,0.2nm,0.7s
C12B Naegeli Ranch, 23.99 105 ⇑P P 22 44 20.4 +1.1
baz=24
B13A Whitefish 24.03 102 ⇓P P 22 44 20.7 +1.0
baz=24
A14A Double T Ranch 24.15 100 ⇑P P 22 44 21.6 +0.8
baz=24,SNR=11
BSMT Bassoo Peak 24.23 104 *e*P P 22 44 19.1 -2.5
HUMO Hull Mountain 24.41 123 *e*P P 22 44 25.5 +2.4
comp=Z,19nm,1.5s
C13A Hot Springs 24.45 104 ⇑P P 22 44 24.5 +0.9
baz=24
A15A Johnson Ranch, 24.49 99 ⇓P P 22 44 24.0 +0.2
baz=24,SNR=6.0
B14A Marquette Ranc 24.63 101 ⇑P P 22 44 25.9 +0.7
baz=24,SNR=13
C14A Swan Lake 24.80 103 ⇑P P 22 44 27.5 +0.9
baz=25,SNR=8.6
SWMT Swartz Lake 24.85 103 *e*P P 22 44 28.5 +1.3
B15A Bradely Ranch, 25.01 100 ⇓P P 22 44 29.0 +0.4
baz=25,SNR=10
YBH Yreka Blue Hor 25.24 123 P P 22 44 33.9 +3.2
YBH Yreka Blue Hor 25.24 123 P P 22 44 33.9 +3.2
comp=Z,1.7nm,0.5s,baz=323,slow=4.8,SNR=4.7
C15A Salmond Ranch, 25.35 101 ⇑P P 22 44 32.7 +0.9
baz=25,SNR=14
B16A M & M Farms, S 25.37 99 ⇓P P 22 44 32.5 +0.6
baz=25
A17A Triple J Farms 25.52 97 ⇓P P 22 44 33.6 +0.4
baz=25
CHMT Chamberlain Mo 25.63 103 *e*P P 22 44 34.2 -0.2
B17A L&G Farms, Che 25.90 99 ⇓P P 22 44 37.1 +0.5
baz=26
B18A Beardsley Farm 26.34 97 ⇓P P 22 44 41.1 +0.5
baz=26
C17A Wharram Farm, 26.36 100 ⇓P P 22 44 41.7 +0.9
baz=26
WVOR Wild Horse Val 26.44 117 *e*P P 22 44 41.6 0.0
WVOR Wild Horse Val 26.44 117 *e*P P 22 44 41.6 0.0
HRY Holter Researc 26.47 102 *e*P P 22 44 43.0 +1.1
FFC Flin Flon 26.50 79 *e*P P 22 44 46.6 +4.7
FFC Flin Flon 26.50 79 *e*P P 22 44 42.4 +0.5
comp=Z,17nm,1.2s
A19A Klindworth Far 26.51 95 ⇑P P 22 44 42.4 +0.3
baz=26,SNR=6.0
EGMT Eagleton 26.60 98 *e*P P 22 44 42.8 -0.2
comp=Z,15nm,0.9s
EGMT Eagleton 26.60 98 ⇑P P 22 44 43.4 +0.5
baz=26,SNR=5.9
B19A Brinkman Farms 26.72 96 ⇓P P 22 44 44.5 +0.5
baz=27,SNR=7.7
D17A Six Diamond Ra 26.73 100 ⇓P P 22 44 44.5 +0.3
baz=27
LRM Limekiln Ridge 26.80 104 *e*P P 22 44 46.5 +1.6
A20A Cobblestone Ra 26.95 95 ⇓P P 22 44 46.6 +0.5
baz=27,SNR=5.7
MFID Camas Ranch 26.97 112 ⇑P P 22 44 48.0 +1.6
baz=27
DLMT Dillon 27.06 105 *e*P P 22 44 47.5 +0.4
comp=Z,5.8nm,0.9s
E17A Martinsdale 27.12 102 ⇓P P 22 44 48.5 +0.7
baz=27
C19A Slack Wire Ran 27.15 98 ⇑P P 22 44 48.7 +0.8
baz=27,SNR=6.8
B20A Solberg Farm, 27.19 96 ⇓P P 22 44 49.0 +0.8
baz=27
A21A Bergtoll Ranch 27.38 94 ⇑P P 22 44 50.2 +0.2
baz=27
E18A Harlowton 27.52 100 ⇑P P 22 44 52.6 +1.3
HLID Hailey 27.52 110 ⇓P P 22 44 53.1 +1.8
baz=27
F17A Fitzpatrick Pl 27.61 102 ⇑P P 22 44 53.5 +1.4
baz=28,SNR=6.5
D19A Cripps Ranch, 27.62 98 ⇑P P 22 44 52.9 +0.8
baz=28
C20A Veseth Ranch, 27.68 97 ⇑P P 22 44 53.1 +0.5
baz=28,SNR=5.9
I14A Mackay 27.70 108 ⇓P P 22 44 54.8 +1.8
baz=28
QLMT Earthquake Lak 28.01 105 *e*P P 22 44 57.9 +2.2
D20A Manuel Ranch, 28.04 98 ⇓P P 22 44 57.3 +1.4
baz=28
C21A Desert Coulee 28.06 96 ⇓P P 22 44 56.8 +0.7
baz=28
F18A Big Timber 28.08 101 ⇓P P 22 44 58.1 +1.8
baz=28
E19A Rath Farm, Rou 28.15 99 ⇓P P 22 44 57.9 +1.0
baz=28,SNR=6.1
H16A Russell Place, 28.19 105 ⇓P P 22 44 59.1 +1.7
baz=28
FCC Fort Churchill 28.33 67 *e*P P 22 44 58.6 +0.4
FCC pmax pmax
comp=Z,1.0nm,1.0s
FCC Fort Churchill 28.33 67 *e*P P 22 44 58.6 +0.4
comp=Z,0.8nm,1.0s
PETK Petropavlovsk- 28.42 279 P P 22 44 57.1 -1.9
PETK Petropavlovsk- 28.42 279 P P 22 44 57.1 -1.9
PETK pP pP 22 45 12.4 +0.3
PETK Petropavlovsk- 28.42 279 P P 22 44 57.1 -1.9
comp=Z,1.2nm,0.4s,baz=81,slow=9.3,SNR=3.8
PETK pP pP 22 45 12.4 +0.3
comp=Z,2.9nm,0.5s,baz=83,slow=12,SNR=5.2
PETK LR LR 22 55 22.9
comp=Z,164nm,19.7s,baz=263,slow=34
E20A Meyer Farm, Mu 28.45 99 ⇓P P 22 45 00.4 +1.0
baz=28
F19A Roth Farm, Mol 28.50 101 ⇑P P 22 45 01.3 +1.3
baz=28,SNR=5.6
G18A Lazy EL Ranch, 28.57 102 ⇓P P 22 45 02.1 +1.4
baz=28
D21A La Casta Ranch 28.63 97 ⇓P P 22 45 02.3 +1.3
baz=28
I16A Newdale 28.69 106 ⇑P P 22 45 04.3 +2.5
baz=29
C22A Vida 28.73 95 ⇑P P 22 45 02.6 +0.7
baz=29
RLMT Red Lodge 28.86 102 *e*P P 22 45 04.6 +1.2
comp=Z,27nm,1.3s
A24A Westby 28.90 91 ⇓P P 22 45 04.0 +0.6
baz=29
FLWY Flagg Ranch 28.91 105 *e*P P 22 45 06.0 +2.2
comp=Z,5.5nm,0.8s
F20A Billings 28.93 100 ⇑P P 22 45 05.0 +1.2
baz=29
IMW Indian Meadow 28.93 105 *e*P P 22 45 05.8 +1.7
comp=Z,21nm,1.1s
E21A Keefer Ranch, 28.95 98 ⇓P P 22 45 05.0 +1.1
baz=29
D22A Cohagen 28.98 96 ⇑P P 22 45 05.2 +1.0
baz=29
H18A Shoshone NF, C 28.99 103 ⇑P P 22 45 06.2 +1.7
baz=29
C23A Lambert 29.04 94 ⇑P P 22 45 06.0 +1.3
baz=29
DGMT Dagmar 29.09 92 ⇑P P 22 45 05.5 +0.4
baz=29
G20A Bridger 29.31 101 ⇑P P 22 45 08.2 +1.0
baz=29,SNR=5.3
WAKR Walker 29.31 123 *e*P P 22 45 09.1 +1.8
H19A Powell 29.32 102 ⇑P P 22 45 09.2 +1.8
baz=29
D23A Lindsay 29.45 95 ⇓P P 22 45 09.5 +1.1
baz=29
E22A Miles City 29.58 97 ⇑P P 22 45 10.9 +1.4
baz=30
I18A Diamond G Ranc 29.63 105 ⇓P P 22 45 12.4 +2.2
baz=30
I19A Meeteetse 29.78 103 ⇑P P 22 45 13.7 +2.3
baz=30
G21A Lodge Grass 29.80 100 ⇓P P 22 45 13.0 +1.4
baz=30
NVAR Mina Array Bea 29.86 121 P P 22 45 14.4 +2.2
NVAR pP pP 22 45 28.0 +2.6
NVAR Mina Array Bea 29.86 121 P P 22 45 14.4 +2.2
comp=Z,1.7nm,0.7s,baz=308,slow=8.8,SNR=13
NVAR pP pP 22 45 28.0 +2.6
comp=Z,1.9nm,0.7s,baz=316,slow=9.6,SNR=7.9
F22A Rosebud 29.89 98 ⇓P P 22 45 13.3 +1.1
baz=30
A26A Wade Farm, Ken 29.90 89 ⇑P P 22 45 12.5 +0.2
baz=30
G22A Birney 30.26 99 ⇓P P 22 45 16.8 +1.1
baz=30
I20A Worland 30.27 102 ⇑P P 22 45 17.5 +1.8
baz=30
E24A Baker 30.32 95 ⇑P P 22 45 17.4 +1.4
baz=30
F23A Volborg 30.35 97 ⇑P P 22 45 17.5 +1.1
baz=30
PDAR Pinedale Array 30.45 105 P P 22 45 19.5 +2.1
PDAR Pinedale Array 30.45 105 P P 22 45 19.5 +2.1
comp=Z,3.5nm,0.8s,baz=334,slow=5.3,SNR=6.3
J20A Shoshoni 30.73 103 ⇓P P 22 45 22.2 +2.4
baz=31
I21A Big Trails, Te 30.78 102 ⇑P P 22 45 22.1 +1.8
baz=31
E25A Miller Ranch, 30.82 94 ⇑P P 22 45 22.1 +1.6
baz=31
J21A Lysite 31.05 102 ⇓P P 22 45 23.9 +1.2
baz=31,SNR=5.7
I22A 9 Mile Ranch, 31.12 101 ⇓P P 22 45 25.0 +1.7
baz=31
H24A Dirks Ranch, A 31.47 98 ⇓P P 22 45 27.6 +1.4
baz=31
J22A Midwest 31.48 101 ⇓P P 22 45 27.4 +1.1
baz=31,SNR=7.1
M19A Rock Springs 31.60 107 ⇓P P 22 45 29.0 +1.5
baz=32
L20A Wamsutter 31.61 105 ⇓P P 22 45 29.6 +2.0
baz=32
K21A Alcova 31.68 103 ⇓P P 22 45 29.3 +1.1
baz=32
G25A Newell 31.72 96 ⇓P P 22 45 29.7 +1.3
baz=32
K22A Casper 32.02 102 ⇓P P 22 45 32.9 +1.7
baz=32
H25A Fruitdale 32.03 97 ⇓P P 22 45 32.1 +1.0
baz=32
I24A Kuemmerle Ranc 32.07 99 ⇑P P 22 45 32.5 +1.0
baz=32,SNR=5.0
M20A Sweetwater, Wa 32.08 106 ⇓P P 22 45 33.6 +1.9
baz=32
L21A Rawlins 32.12 104 ⇓P P 22 45 34.1 +2.0
baz=32
ULM Lac du Bonnet 32.14 82 *e*P P 22 45 32.2 +0.3
comp=Z,5.7nm,0.8s
ULM Lac du Bonnet 32.14 82 P P 22 45 32.6 +0.7
comp=Z,4.5nm,0.4s,baz=309,slow=9.1,SNR=8.3
ULM LR LR 22 58 51.8
comp=Z,178nm,18.6s,baz=7.1,slow=37
RSSD Black Hills 32.17 98 *e*P P 22 45 33.9 +1.3
RSSD pmax pmax
comp=Z,13nm,1.0s
RSSD Black Hills 32.17 98 *e*P P 22 45 33.9 +1.3
comp=Z,13nm,1.0s
G27A Dupree 32.33 94 ⇓P P 22 45 34.8 +1.1
baz=32
K23A Bowen Ranch, D 32.38 101 ⇑P P 22 45 35.6 +1.3
baz=32
M21A Separation Pea 32.39 105 ⇓P P 22 45 35.8 +1.3
baz=32
I25A Rochford 32.40 98 ⇓P P 22 45 36.0 +1.5
baz=32
RWWY Rawlins 32.41 104 *e*P P 22 45 35.4 +0.7
comp=Z,11nm,0.9s
H26A Fairpoint 32.45 96 ⇑P P 22 45 35.8 +1.0
baz=32
MVU Marysvale 32.52 114 *e*P P 22 45 38.1 +2.5
comp=Z,4.3nm,0.9s
L22A Ellis Ranch, M 32.53 103 ⇑P P 22 45 37.2 +1.6
baz=32
N20A Spence Gulch, 32.55 106 ⇓P P 22 45 38.0 +2.1
baz=32,SNR=6.4
O19A Miners Draw (B 32.55 108 ⇑P P 22 45 37.4 +1.6
baz=32
L23A Garrett 32.83 102 ⇓P P 22 45 39.3 +1.1
baz=33,SNR=6.6
N21A Black Mountain 32.96 106 ⇓P P 22 45 41.2 +1.7
baz=33
O20A White River Ci 33.10 107 ⇑P P 22 45 42.4 +1.7
baz=33
AGMN Agassiz Nation 33.40 85 *e*P P 22 45 43.0 +0.1
comp=Z,12nm,1.0s
O21A Pagoda 33.41 106 ⇑P P 22 45 45.1 +1.7
baz=33
N22A Wattenberg Ran 33.45 105 ⇑P P 22 45 45.3 +1.5
baz=33
N23A Red Feather La 33.63 104 ⇑P P 22 45 46.9 +1.5
baz=34
K26A Motz Farm, Whi 33.64 99 ⇓P P 22 45 46.2 +1.0
baz=34
I28A Midland 33.70 95 ⇓P P 22 45 46.6 +1.0
baz=34
HEC Hector,Ludlow 33.74 122 ⇓P P 22 45 49.5 +3.4
baz=34
M24A Cheyenne 33.74 102 ⇑P P 22 45 47.6 +1.4
baz=34
O22A Kremmling 33.90 105 ⇑P P 22 45 48.7 +1.0
baz=34
P21A Newcastle 33.96 107 ⇓P P 22 45 50.2 +2.1
baz=34
Q20A Ridgley Place, 34.00 109 ⇑P P 22 45 50.5 +2.0
baz=34
J28A Allard Ranch, 34.08 96 ⇑P P 22 45 50.0 +1.1
baz=34
CIS Catalina Islan 34.11 126 ⇓P P 22 45 53.0 +3.7
baz=34
M25A Palm-Egli Farm 34.15 101 ⇓P P 22 45 51.0 +1.3
baz=34
O23A Lake Granby, G 34.17 105 ⇑P P 22 45 51.6 +1.6
baz=34,SNR=5.0
U15A North Rim 34.18 116 ⇓P P 22 45 52.5 +2.3
baz=34
Q21A Lamborn Mesa, 34.44 108 ⇑P P 22 45 54.3 +2.0
baz=34
PV01 Paradox Valley 34.52 110 *e*P P 22 45 54.4 +1.3
comp=Z,1μm,0.9s
R20A Redvale 34.57 110 ⇑P P 22 45 55.5 +2.0
baz=34
BELC Belle Mtn. Jos 34.59 123 ⇓P P 22 45 56.5 +2.9
baz=34
IRM Iron Mountain 34.82 122 ⇑P P 22 45 58.4 +2.9
baz=35
P23A Jefferson 34.85 106 ⇓P P 22 45 58.0 +2.0
baz=35
S20A Disappointment 34.86 110 ⇑P P 22 45 57.9 +1.9
baz=35
S21A Coal Bank Pass 35.27 109 ⇑P P 22 46 01.6 +2.1
baz=35,SNR=5.1
MVCO Mesa Verde 35.29 111 ⇑P P 22 46 01.4 +1.7
baz=35
R22A Saguache, Gunn 35.31 108 ⇑P P 22 46 01.9 +2.0
baz=35
WUAZ Wupatki 35.35 116 *e*P P 22 46 01.8 +1.7
comp=Z,7.0nm,0.8s
WUAZ Wupatki 35.35 116 ⇑P P 22 46 02.4 +2.3
baz=35,SNR=6.5
N27A Anderson Farm, 35.37 101 ⇑P P 22 46 01.4 +1.2
baz=35
MONP Monument Peak 35.37 124 ⇓P P 22 46 03.4 +3.0
baz=35
Q24A Divide 35.51 105 ⇓P P 22 46 03.2 +1.5
baz=35
P25A Willow Gulch B 35.56 104 ⇓P P 22 46 03.8 +1.9
baz=35
S22A 4UR Ranch, Cre 35.66 108 ⇑P P 22 46 04.5 +1.6
baz=36
R23A Moffat 35.79 107 ⇑P P 22 46 05.7 +1.7
baz=36
EYMN Ely 35.82 82 *e*P P 22 46 04.3 +0.4
comp=Z,17nm,0.6s
O27A Beecher Island 35.87 101 ⇓P P 22 46 05.5 +1.0
baz=36
T21A Navajo Lake 35.93 110 ⇑P P 22 46 07.1 +2.0
baz=36
Q25A Bedland, Calha 35.98 104 ⇓P P 22 46 07.1 +1.5
baz=36
R24A Sanders Place, 36.10 106 ⇓P P 22 46 08.3 +1.7
baz=36
T22A Edith 36.21 109 ⇑P P 22 46 10.2 +2.7
baz=36
YAK Yakutsk 36.27 308 *e*P pP 22 46 22.0 +1.2
YAK pmax pmax
comp=Z,15nm,0.8s
YAK pmax pmax
comp=N,2.0nm,0.7s
SDCO Great Sand Dun 36.30 107 *e*P P 22 46 09.4 +1.0
comp=N,11nm,1.1s
P27A Ficken Ranch, 36.31 102 ⇓P P 22 46 09.7 +1.5
baz=36
U21A Nageezi 36.32 111 ⇓P P 22 46 10.4 +1.9
baz=36,SNR=5.5
Q26A Hugo 36.33 104 ⇑P P 22 46 10.1 +1.6
baz=36,SNR=5.3
V20A Brimhall 36.45 112 ⇓P P 22 46 11.6 +1.9
baz=36
S24A Houchin Ranch, 36.52 107 ⇑P P 22 46 12.3 +2.0
baz=36,SNR=5.8
R25A Fountain Ranch 36.57 105 ⇑P P 22 46 12.3 +1.8
baz=36,SNR=16
P28A Saint Francis 36.70 101 ⇑P P 22 46 12.8 +1.2
baz=37
KSCO Kaye Shedlock' 36.70 103 ⇑P P 22 46 13.3 +1.6
baz=37
U22A Llaves 36.74 110 ⇑P P 22 46 14.4 +2.3
baz=37
X18A Snowflake 36.82 115 ⇓P P 22 46 15.4 +2.8
baz=37
V21A Milan 36.84 111 ⇓P P 22 46 15.0 +2.1
baz=37
R26A Arlington 36.85 104 ⇓P P 22 46 14.2 +1.3
baz=37,SNR=6.1
S25A Robets Cordova 36.88 106 ⇓P P 22 46 14.9 +1.7
baz=37,SNR=9.3
W20A Ramah 36.99 113 ⇑P P 22 46 16.3 +2.0
baz=37,SNR=13
SPMN St. Paul 37.03 87 ⇑P P 22 46 14.3 0.0
baz=37
P29A Atwood 37.09 100 ⇓P P 22 46 15.7 +0.9
baz=37
V22A San Miguel Ran 37.09 110 ⇓P P 22 46 16.9 +1.9
baz=37,SNR=8.8
U23A El Rito 37.10 109 ⇑P P 22 46 17.4 +2.2
baz=37
R27A Eads 37.18 104 ⇓P P 22 46 17.3 +1.6
baz=37
T25A Trinidad 37.30 106 ⇑P P 22 46 18.5 +1.7
baz=37
S26A Kim 37.38 105 ⇑P P 22 46 18.8 +1.4
baz=37,SNR=13
V23A Ortiz Mt. (NFS 37.57 110 ⇓P P 22 46 21.4 +2.3
baz=38
Q29A Oakley 37.61 101 ⇓P P 22 46 20.2 +0.9
baz=38
T26A Comanche Natio 37.67 105 ⇓P P 22 46 21.0 +1.1
baz=38,SNR=8.0
X21A Alamocita Cree 37.88 113 ⇓P P 22 46 24.0 +2.2
baz=38,SNR=9.9
R29A Marienthal 37.89 102 ⇑P P 22 46 22.9 +1.3
baz=38
U25A Circle Dot Ran 37.89 107 ⇓P P 22 46 23.7 +1.9
baz=38,SNR=8.5
P31A Stockton 37.92 99 ⇓P P 22 46 22.6 +0.8
baz=38
V24A Rampart Ranch, 38.02 109 ⇑P P 22 46 25.1 +2.1
baz=38,SNR=5.0
W23A Werner Place, 38.06 110 ⇓P P 22 46 25.2 +1.9
baz=38
ANMO Albuquerque 38.09 111 P P 22 46 25.2 +1.7
ANMO Albuquerque 38.09 111 P P 22 46 25.2 +1.7
comp=N,0.8nm,0.4s,baz=324,slow=7.9,SNR=3.6
S28A Manter 38.17 103 ⇑P P 22 46 25.3 +1.3
baz=38
T27A Campo 38.18 105 ⇑P P 22 46 25.7 +1.6
baz=38
U26A Atchley Ranch, 38.22 106 ⇑P P 22 46 26.2 +1.7
baz=38,SNR=12
V25A Rancho No Teng 38.24 108 ⇓P P 22 46 26.6 +1.8
baz=38,SNR=7.9
Y21A Point of Rocks 38.30 113 ⇓P P 22 46 27.8 +2.6
baz=38
W24A Lazy 6 Ranch, 38.38 109 ⇑P P 22 46 28.1 +2.2
baz=38
R30A Dighton 38.43 101 ⇓P P 22 46 27.4 +1.3
baz=38
T28A Walsh 38.43 104 ⇓P P 22 46 28.0 +1.8
baz=38
X23A Hourglass Bar 38.52 111 ⇓P P 22 46 29.2 +2.1
baz=38
S29A Ulysses 38.53 103 ⇓P P 22 46 28.5 +1.5
baz=38
U27A Thompson Grove 38.64 105 ⇓P P 22 46 29.4 +1.4
baz=38,SNR=5.0
V26A Tequesquite Ra 38.68 107 ⇓P P 22 46 30.2 +1.9
baz=39,SNR=10
Y22A Socorro 38.68 112 ⇑P P 22 46 30.6 +2.1
baz=39
R31A Burdett 38.79 100 ⇑P P 22 46 30.1 +1.0
baz=39
W25A X Bar L Ranch, 38.82 108 ⇑P P 22 46 31.9 +2.3
baz=39
U28A Mallet 38.97 105 ⇑P P 22 46 32.7 +2.0
baz=39
Y23A Lovelace Mesa, 39.12 111 ⇓P P 22 46 34.2 +2.1
baz=39
Z22A Elephant Butte 39.25 113 ⇑P P 22 46 35.8 +2.6
baz=39
W26A Owens Ranch, T 39.26 108 ⇑P P 22 46 35.0 +1.8
baz=39
V28A Channing 39.47 105 ⇓P P 22 46 36.5 +1.6
baz=39
U30A WK&E Inc. Balk 39.62 103 ⇑P P 22 46 37.6 +1.5
baz=40
220A Playas Peak, P 39.66 116 ⇑P P 22 46 39.3 +2.7
baz=40
X26A CR and CF Fran 39.67 108 ⇑P P 22 46 38.8 +2.1
baz=40
V29A Stinnett 39.71 105 ⇑P P 22 46 38.6 +1.7
baz=40
Y25A Mesa, Roswell 39.77 110 ⇓P P 22 46 39.4 +2.0
baz=40
W28A Vega 39.87 106 ⇓P P 22 46 40.1 +1.8
baz=40
Z24A Sheeppen Canyo 39.94 111 ⇓P P 22 46 40.8 +1.8
baz=40,SNR=5.1
SUMG Summit 40.06 26 ⇑*i*P P 22 46 40.1 +0.3
SUMG pmax pmax
comp=Z,16nm,0.6s
SUMG Summit 40.06 26 *e*P P 22 46 39.6 -0.2
comp=Z,21nm,0.7s
SUMG Summit 40.06 26 ⇑*i*P P 22 46 40.1 +0.3
comp=Z,16nm,0.6s
Z25A Roswell 40.28 110 ⇑P P 22 46 44.0 +2.4
baz=40
DAG Danmarks Havn 40.33 15 ⇑*i*P P 22 46 40.6 -0.8
DAG pmax pmax
comp=Z,7.0nm,0.8s
DAG Danmarks Havn 40.33 15 ⇑*i*P P 22 46 40.6 -0.8
comp=Z,8.7nm,0.8s
124A Stringfield Ra 40.41 112 ⇓P P 22 46 44.9 +1.9

baz=40
Y27A Causey 40.53 108 ⇑P **P 22 46 45.1 +1.4**
baz=40,SNR=7.2
MSTX Muleshoe 40.64 108 ⇓P **P 22 46 46.0 +1.4**
baz=40
X29A Tulia 40.77 106 ⇓P **P 22 46 47.2 +1.5**
baz=41
125A Gardner Draw, 40.82 111 ⇑P **P 22 46 47.9 +1.7**
baz=41,SNR=6.7
224A Cornudas Mount 40.90 112 ⇑P **P 22 46 48.4 +1.5**
baz=41
Y28A McKinney Farm, 40.95 107 ⇑P **P 22 46 48.2 +1.1**
baz=41
Z27A Tatum 40.97 109 ⇓P **P 22 46 48.9 +1.6**
baz=41
W31A Holland Ranch, 41.03 104 ⇓P **P 22 46 48.8 +1.0**
baz=41
X30A Coker Ranch, T 41.17 105 ⇑P **P 22 46 50.0 +1.1**
baz=41,SNR=5.9
225A Deer Hill, Car 41.20 111 ⇑P **P 22 46 51.4 +2.1**
baz=41
Y29A Porterfield Fa 41.26 107 ⇓P **P 22 46 51.0 +1.3**
baz=41
324A Moseley Ranch, 41.45 113 ⇑P **P 22 46 53.3 +2.0**
baz=41
X31A McDonald Ranch 41.46 104 ⇑P **P 22 46 52.6 +1.3**
baz=41
226B Tecolote Peak, 41.54 111 ⇑P **P 22 46 53.8 +1.8**
baz=41
Y30A Stafford Cattl 41.62 106 ⇓P **P 22 46 54.1 +1.5**
baz=42
Z29A Hungry Hill Ra 41.73 107 ⇓P **P 22 46 54.7 +1.1**
baz=42,SNR=9.2
Y31A Rekieta Farm, 41.86 105 ⇓P **P 22 46 55.7 +1.1**
baz=42
128A Castleberry Fa 41.88 108 ⇓P **P 22 46 56.0 +1.2**
baz=42
WMOK Wichita Mounta 41.96 103 *e*P **P 22 46 56.0 +0.6**
WMOK pmax pmax
comp=Z,11nm,1.1s
WMOK Wichita Mounta 41.96 103 *e*P **P 22 46 56.0 +0.6**
comp=Z,11nm,1.1s
Z30A Sanderson Ranc 41.99 107 ⇑P **P 22 46 56.4 +0.7**
baz=42,SNR=6.0
425A Indio Mountain 42.23 113 ⇑P **P 22 46 59.8 +2.1**
baz=42,SNR=6.0
HABR Khabarovsk 42.43 289 *e*P P 22 46 55.9 -3.1
HABR pmax pmax
comp=N,20nm,1.9s
HABR pmax pmax
comp=E,22nm,1.9s
HABR pmax pmax
comp=Z,25nm,1.9s
HABR MLR MLR
comp=Z,190nm,17.0s
Z31A Sharp Cattle R 42.44 105 ⇓P **P 22 47 00.1 +0.8**
baz=42
130A Snyder 42.63 107 ⇑P **P 22 47 02.3 +1.4**
baz=42
426A McDonald Obser 42.77 112 ⇑P **P 22 47 04.1 +1.9**
baz=43
Z32A Haskell 42.77 105 ⇑P **P 22 47 02.5 +0.5**
baz=43,SNR=5.6
SCHQ Schefferville 42.80 58 P **P 22 47 01.9 0.0**
SCHQ Scheffferville 42.80 58 P **P 22 47 01.9 0.0**
comp=Z,4.1nm,0.4s,baz=299,slow=5.8,SNR=15
SCHQ LR LR 23 06 54.2
comp=Z,64nm,19.1s,baz=270,slow=39
427A Hayter Ranch, 42.92 111 ⇓P **P 22 47 04.9 +1.7**
baz=43
329A Wagon Wheel Ra 43.06 109 ⇓P **P 22 47 06.1 +1.8**
baz=43
230A Sterling City 43.15 108 ⇓P **P 22 47 05.8 +0.8**
baz=43,SNR=6.3
ABTX Abilene, Hawle 43.25 106 ⇓P **P 22 47 06.9 +1.0**
baz=43
526A Mary Lane Ranc 43.26 112 ⇓P **P 22 47 08.0 +2.0**
baz=43
428A Kincaid Ranch, 43.36 110 ⇓P **P 22 47 08.6 +1.8**
baz=43,SNR=5.4
527A Woodward Ranch 43.41 112 ⇓P **P 22 47 08.6 +1.4**
baz=43
KLR Kul'dur 43.46 292 *e*P P 22 47 16.1 +8.8
231A Bronte 43.49 107 ⇑P **P 22 47 08.5 +0.7**
baz=43
330A Mertzon 43.51 108 ⇓P **P 22 47 08.9 +0.9**
baz=43,SNR=8.8
528A Cox Ranch, San 43.78 111 ⇑P **P 22 47 12.0 +1.7**
baz=44
429A Davenport Ranc 43.82 110 ⇑P **P 22 47 11.6 +1.1**
baz=44
232A Coleman 43.85 106 ⇓P **P 22 47 11.4 +0.7**
baz=44,SNR=8.6
430A Baggett Ranch, 44.00 109 ⇓P **P 22 47 12.9 +1.0**
baz=44,SNR=6.0
529A Stev Forest Ra 44.08 110 ⇓P **P 22 47 14.4 +1.9**
baz=44
332A Millersview 44.22 107 ⇓P **P 22 47 14.7 +1.1**
baz=44
431A Sonora 44.38 108 ⇑P **P 22 47 16.0 +1.0**
baz=44,SNR=7.0
530A J-C Ranch, Com 44.48 109 ⇑P **P 22 47 17.5 +1.8**
baz=44
531A Rocksprings 44.84 108 ⇓P **P 22 47 19.5 +0.9**
baz=45,SNR=5.6
JCT Junction City 44.94 107 *e*P **P 22 47 20.6 +1.2**
JCT pmax pmax
comp=Z,32nm,1.0s
JCT Junction City 44.94 107 *e*P **P 22 47 20.6 +1.2**
comp=Z,32nm,1.0s
JCT Junction City 44.94 107 ⇑P **P 22 47 20.5 +1.1**
baz=45,SNR=12
532A Rocksprings 45.18 108 ⇑P **P 22 47 22.2 +0.9**
baz=45,SNR=7.4
631A Perdido Creek 45.45 109 ⇓P **P 22 47 23.9 +0.5**
baz=45,SNR=7.2
632A Uvalde 45.75 108 ⇑P **P 22 47 26.9 +1.1**
baz=46
732A Laxson Ranch, 46.31 109 ⇓P **P 22 47 31.7 +1.5**
baz=46
USRK Ussuriysk Arra 46.98 287 P **P 22 47 34.3 -0.9**
comp=Z,0.6nm,0.5s,baz=49,slow=8.6,SNR=3.0
USRK pP **pP 22 47 47.9 -1.0**
comp=Z,1.9nm,0.7s,baz=66,slow=9.8,SNR=4.9
PLAL Pickwick Lake 47.10 93 *e*P **P 22 47 36.5 +0.2**
comp=Z,19nm,1.1s
BINY Binghamton 47.60 77 *e*P **P 22 47 39.7 -0.4**
comp=Z,19nm,1.2s
TKL Tuckaleechee C 48.74 88 *e*P **P 22 47 49.1 +0.1**
MJAR Matsushiro Arr 49.74 275 P **P 22 47 55.9 -0.7**
MJAR pP **pP 22 48 10.8 +0.4**
MJAR Matsushiro Arr 49.74 275 P **P 22 47 55.9 -0.7**
comp=Z,0.4nm,0.3s,baz=28,slow=5.5,SNR=3.4
MJAR pP **pP 22 48 10.8 +0.4**
comp=Z,3.0nm,1.0s,baz=8.5,slow=7.4,SNR=5.5
JSRW J. Sargeant Re 50.11 82 *e*P **P 22 47 57.5 -1.8**
CN2 Changchun 50.40 291 *e*P **P 22 48 02.8 +1.4**
CN2 *e*pP **pP 22 48 15.0 -0.3**
CN2 *es*P **sP 22 48 20.8 -0.4**
CN2 *e*S **S 22 55 10.0 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,13.0s
CN2 LR LR
comp=E,200nm,13.0s
CN2 LR LR
comp=Z,200nm,14.0s
KEV Kevo 50.61 1 *e*pkp **P 22 48 00.9 -1.7**
comp=Z,2.7nm,0.5s
KEV Kevo 50.61 1 *e*P **P 22 48 00.9 -1.7**
KEV pmax pmax
comp=Z,3.0nm,0.5s
ARCES ARCESS Array B 50.81 2 P **P 22 48 02.3 -1.9**
ARCES pP **pP 22 48 19.7 +1.6**
ARCES ARCESS Array B 50.81 2 P **P 22 48 02.3 -1.9**
comp=Z,2.4nm,0.6s,baz=3.5,slow=7.1,SNR=20
ARCES pP **pP 22 48 19.7 +1.6**
comp=Z,3.4nm,0.7s,baz=5.8,slow=6.9,SNR=5.0
KSRS Korea Array 54.13 284 P **P 22 48 27.4 -1.8**
comp=Z,1.2nm,0.5s,baz=40,slow=6.8,SNR=8.2
KSRS pP **pP 22 48 44.8 +1.7**
comp=Z,7.1nm,0.9s,baz=38,slow=7.2,SNR=10
KSAR Wonju Array Be 54.16 284 P **P 22 48 27.4 -2.0**
KSAR pP **pP 22 48 44.8 +1.4**

SONM Songino Array 55.60 307 P **P 22 48 40.5 +0.6**
SONM pP **pP 22 48 56.1 +2.2**
SONM Songino Array 55.60 307 P **P 22 48 40.5 +0.6**
comp=Z,1.6nm,0.8s,baz=35,slow=6.5,SNR=16
SONM pP **pP 22 48 56.1 +2.2**
comp=Z,5.8nm,0.6s,baz=47,slow=5.3,SNR=14
TMCR Tamitsa 56.04 355 *e*P **P 22 48 41.2 -1.3**
TMCR *e* 22 49 37.5
TMCR *e* 22 50 46.2
TMCR pmax pmax
comp=Z,26nm,1.3s
HVS Khovu-Aksy 57.60 318 *e*P **P 22 48 53.5 -0.5**
HVS pmax pmax
comp=Z,13nm,1.2s
ZALV Zalesovo Beam 58.00 325 *i* P **P 22 48 58.0 +1.5**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 58.00 325 P **P 22 48 55.5 -1.0**
ZALV pP **pP 22 49 12.3 +1.7**
ZALV Zalesovo Beam 58.00 325 P **P 22 48 55.5 -1.0**
comp=Z,1.1nm,0.4s,baz=31,slow=7.9,SNR=6.4
ZALV pP **pP 22 49 12.3 +1.7**
comp=Z,2.7nm,0.4s,baz=31,slow=6.9,SNR=8.6
KAF Kangasniemi 58.27 1 *e*pkp **P 22 48 57.5 -0.9**
comp=Z,1.6nm,0.4s
KAF Kangasniemi 58.27 1 *e*P **P 22 48 57.5 -0.9**
KAF pmax pmax
comp=Z,2.0nm,0.4s
NB2 NORSAR Subarra 58.59 10 P **P 22 48 59.3 -1.4**
comp=Z,21nm,2.0s,baz=348,slow=6.9
NOA NORSAR Array B 58.59 10 P **P 22 48 59.9 -0.8**
NOA NORSAR Array B 58.59 10 P **P 22 48 59.9 -0.8**
comp=Z,1.8nm,1.0s,baz=347,slow=7.1,SNR=3.1
NOA LR LR 23 14 09.5
comp=Z,31nm,18.4s,baz=0.0,slow=36
FINES FINESS Array B 58.94 2 P **P 22 49 02.0 -1.0**
FINES FINESS Array B 58.94 2 P **P 22 49 02.0 -1.0**
comp=Z,3.6nm,0.5s,baz=358,slow=9.1,SNR=33
HHC Hu-ho-hao-te 59.06 299 *e*P **P**
HHC pP **pP 22 49 06.0 +1.7**
HHC sP **sP 22 49 19.0 +0.6**
HHC PP **PP 22 49 24.5 +0.2**
HHC S **S 22 51 18.5 +3.7**
HHC sS **sS 22 57 06.0 -1.2**
HHC SS **SS 22 57 27.8 -3.1**
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,280nm,5.4s
HHC LR LR
comp=N,170nm,16.7s
HHC LR LR
comp=E,230nm,16.7s
HHC LR LR
comp=Z,260nm,13.1s
SVE Sverdlovsk 60.91 341 ⇓*e*P **pP 22 49 30.9 +0.2**
SVE pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 61.63 342 *c i*P **P 22 49 19.8 -1.6**
ARU S **S 22 57 39.4 0.0**
ARU pmax pmax
comp=Z,6.0nm,0.8s
VSU Vasula 61.94 1 *e*P **P 22 49 23.2 -0.3**
VSU pmax pmax
comp=Z,45nm,1.0s
BRVK Borovoye 62.57 333 *e*P **P 22 49 25.3 -2.5**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
NJ2 Nanjing 62.88 287 *e*P **P 22 49 31.0 +0.9**
NJ2 pmax pmax
comp=Z,20nm,0.5s
MKAR Makanchi Array 65.08 323 P **P 22 49 43.1 -1.4**
MKAR Makanchi Array 65.08 323 P **P 22 49 43.1 -1.4**
MKAR pP **pP 22 49 57.9 -0.9**
MKAR Makanchi Array 65.08 323 P **P 22 49 43.1 -1.4**
comp=Z,0.7nm,0.7s,baz=36,slow=6.4,SNR=8.6
MKAR pP **pP 22 49 57.9 -0.9**
comp=Z,1.1nm,0.6s,baz=38,slow=6.1,SNR=5.6
OBN Obninsk 65.15 355 ⇓*e*P **P 22 49 44.1 -0.5**
OBN *e* 22 52 07.5
OBN *e*S **S 22 58 19.1 -4.0**
OBN *e*SS **SS 23 02 39.5 +4.5**
OBN pmax pmax
comp=Z,10.0nm,0.8s
OBN MLR MLR
comp=Z,100nm,18.0s
GTA Gaotai 65.25 306 *e*P **P 22 49 46.8 +1.0**
GTA pP **pP 22 49 57.0 -3.1**
GTA sP **sP 22 50 01.3 -4.6**
GTA pmax pmax
comp=Z,3.0nm,0.5s
WMQ Urumqi 65.97 317 P **P 22 49 51.5 +1.2**
SUW Suwalki 66.32 4 *e*P **P 22 49 51.6 -0.7**
SUW pmax pmax
comp=Z,33nm,1.0s
SUW Suwalki 66.32 4 *e*P **P 22 49 51.6 -0.7**
comp=Z,32nm,1.0s
SUW Suwalki 66.32 4 *e*P **P 22 49 51.3 -0.9**
LZH Lanzhou 66.38 301 *e*P **P 22 49 54.5 +1.3**
LZH pP **pP 22 50 06.5 -1.0**
LZH sP **sP 22 50 11.5 -1.8**
LZH pmax pmax
comp=Z,12nm,1.0s
NRDL Niedersach Rie 66.92 12 *e*P **P 22 49 55.7 -0.3**
comp=Z,7.0nm,0.9s
BUG Bochum--Univer 67.62 14 *e*P **P 22 50 00.1 -0.4**
comp=Z,17nm,0.8s
ABKAR Akbulak array 68.29 339 *e*P **P 22 50 03.4 -1.4**
comp=Z,4.0nm,0.6s
CLL Collm 68.38 11 *e*P **P 22 50 04.6 -0.7**
comp=Z,5.0nm,0.6s
CLL Collm 68.38 11 *i* P **P 22 50 04.7 -0.6**
CLL pmax pmax
comp=Z,9.0nm,0.7s
CLL Collm 68.38 11 *i* P **P 22 50 04.7 -0.6**
comp=Z,5.0nm,0.7s
GIVF Givet 68.61 16 *e*P **P 22 50 06.3 -0.4**
FBE Freiberg 68.80 10 *e*P **P 22 50 07.9 0.0**
comp=Z,8.0nm,1.0s
BRG Berggiesshubel 68.90 10 *e* **P 22 50 08.3 -0.3**
comp=Z,7.3nm,1.1s
BRG Berggiesshubel 68.90 10 *e*P **P 22 50 08.2 -0.3**
comp=Z,7.3nm,1.1s
BRG Berggiesshubel 68.90 10 *e*P **P 22 50 08.2 -0.3**
BRG pmax pmax
comp=Z,7.0nm,1.1s
MOX Moxa 68.90 12 *e*P **P 22 50 08.3 -0.3**
comp=Z,14nm,1.1s
MOX Moxa 68.90 12 *e*P **P 22 50 08.3 -0.3**
MOX pmax pmax
comp=Z,14nm,1.1s
FLN La Foliniere 69.06 20 *e*P **P 22 50 08.8 -0.8**
FLN *e*R
comp=Z,86nm,23.0s
PLN Plauen 69.11 11 *e*P **P 22 50 09.7 -0.2**
comp=Z,28nm,0.7s
KSP Ksiaz 69.12 9 *e*P **P 22 50 10.2 +0.3**
WERD Werda 69.17 11 *e*P **P 22 50 10.0 -0.3**
comp=Z,7.0nm,1.3s
TANN Tannenbergstha 69.21 11 *e*P **P 22 50 10.6 0.0**
comp=Z,6.0nm,0.9s
GUNZ Gunzen 69.25 11 *e*P **P 22 50 10.6 -0.2**
comp=Z,8.0nm,1.1s
LDF La Druitiere 69.29 20 *e*P **P 22 50 10.1 -0.9**
PVCC Panska Ves 69.29 10 *e*P **P 22 50 11.0 0.0**
PVCC Panska Ves 69.29 10⇑*e*P **P 22 50 11.0 0.0**
WERN Wernitzgruen 69.33 11 *e*P **P 22 50 11.3 0.0**
comp=Z,13nm,1.4s
GRR Gorron 69.36 21 *e*P **P 22 50 10.7 -0.7**
NKC Novy Kostel 69.39 11 *e*P **P 22 50 11.4 -0.3**
NKC Novy Kostel 69.39 11⇑*e*P **P 22 50 11.4 -0.3**
DPC Dobruska-Polom 69.61 9⇑*i*P **P 22 50 13.2 +0.2**
DPC *e* 22 50 37.1
DPC Dobruska-Polom 69.61 9⇑*i*P **P 22 50 13.2 +0.2**
DPC *ep*P **pP 22 50 26.6 -0.8**
DPC *e*PCP **PcP 22 50 37.1 +1.4**
KIEV Kiev 69.74 360 *e*P **P 22 50 12.7 -1.0**
KIEV Kiev 69.74 360 *e*P **P 22 50 12.7 -1.0**
PRU Pruhonice 69.83 10⇑*i*P **P 22 50 14.2 -0.1**
PRU Pruhonice 69.83 10⇑*i*P **P 22 50 14.2 -0.1**
KRLC Kraliky 69.92 8⇑*i*P **P 22 50 14.9 0.0**
KRLC Kraliky 69.92 8⇑*i*P **P 22 50 14.9 0.0**
OJC Ojcow 69.97 6 *e*P **P 22 50 15.0 -0.1**
OJC pmax pmax
comp=Z,12nm,1.5s

OJC Ojcow 69.97 6 *e*P **P 22 50 15.0 -0.1**
comp=Z,12nm,1.5s
MEZF Maizieres J'vi 70.20 17 *e*P **P 22 50 16.2 -0.4**
PAGF Fort de Pagny 70.24 16 *e*P **P 22 50 16.7 -0.2**
comp=Z,2.0nm,0.6s
OKC Ostrava-Krasne 70.25 7 *e*P **P 22 50 16.0 -0.9**
OKC Ostrava-Krasne 70.25 7⇑*e*P **P 22 50 16.0 -0.9**
SFTF Sexfontaines 70.49 17 *e*P **P 22 50 17.8 -0.6**
comp=Z,22nm,0.9s
KHC Kasperske Hory 70.59 11⇑*i*P **P 22 50 18.9 -0.2**
KHC *e* 22 50 43.3
KHC Kasperske Hory 70.59 11⇑*i*P **P 22 50 18.9 -0.2**
KHC *e*PCP **PcP 22 50 43.3 +3.4**
KHC Kasperske Hory 70.59 11 *e*P **P 22 50 18.6 -0.5**
comp=Z,4.9nm,0.8s
CDF Champ du Feu 70.59 15 *e*P **P 22 50 18.7 -0.4**
comp=Z,8.8nm,0.9s
KWP Kalwaria Pacla 70.69 4⇑*i*P **P 22 50 19.6 0.0**
KWP Kalwaria Pacla 70.69 4 *e*P **P 22 50 19.2 -0.4**
ECH Echery 70.77 15 *e*P **P 22 50 19.7 -0.4**
ECH pmax pmax
comp=Z,6.0nm,1.1s
ECH Echery 70.77 15 *e*P **P 22 50 19.7 -0.4**
comp=Z,5.8nm,1.1s
BFO Black Forest 70.81 14 *e*P **P 22 50 19.9 -0.5**
comp=Z,6.0nm,1.2s
BFO Black Forest 70.81 14 *e*P **P 22 50 19.9 -0.5**
BFO pmax pmax
comp=Z,6.0nm,1.2s
CD2 Chengdu 70.82 299 *e*P **P 22 50 20.3 -0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,30nm,6.2s
STHS Stebnicka Huta 70.84 5 *e*P **P 22 50 21.2 +0.7**
STHS pmax pmax
comp=Z,10.0nm,0.7s
STHS Stebnicka Huta 70.84 5 *e*P **P 22 50 21.2 +0.7**
STHS Stebnicka Huta 70.84 5 *e*PKP 22 43 46.4
HAU Haudompre 70.87 16 *e*P **P 22 50 20.1 -0.6**
comp=Z,14nm,1.0s
HAU *e*R
comp=Z,51nm,22.0s
GEC2 GERESS Array S 70.89 11 *e*P **P 22 50 20.6 -0.4**
comp=Z,3.0nm,0.7s
GEC2 GERESS Array S 70.89 11 *e*P **P 22 50 21.0 +0.1**
GEC2 GERESS Array S 70.89 11 *e*P **P 22 50 21.0 +0.1**
GERES GERESS Array B 70.89 11 P **P 22 50 20.5 -0.4**
GERES GERESS Array B 70.89 11 P **P 22 50 20.5 -0.4**
comp=Z,2.5nm,0.6s,baz=350,slow=4.5,SNR=34
HINF Hinteralfeld 71.12 16 *e*P **P 22 50 21.6 -0.7**
comp=Z,6.7nm,0.8s
AAK Ala-Archa 71.16 326 *e*P **P 22 50 22.4 -0.4**
AAK pmax pmax
comp=Z,5.0nm,1.2s
MFF Saint Martin d 71.21 21 *e*P **P 22 50 22.3 -0.5**
comp=Z,11nm,1.0s
LOR Lormes 71.23 18 *e*P **P 22 50 22.2 -0.7**
comp=Z,17nm,1.1s
LOR *e*R
comp=Z,94nm,22.2s
FUR Furstenfeldbru 71.31 12 *e*P **P 22 50 23.2 -0.2**
comp=Z,10.0nm,0.6s
FUR Furstenfeldbru 71.31 12 *e*P **P 22 50 23.2 -0.2**
FUR pmax pmax
comp=Z,10.0nm,0.6s
EKS2 Erkin-Say 71.34 327 *e*P **P 22 50 22.3 -1.5**
EKS2 pmax pmax
comp=Z,3.0nm,0.8s
EKS2 Erkin-Say 71.34 327 *e*P **P 22 50 22.2 -1.5**
comp=Z,2.9nm,0.8s
KOLS Kolonicke sedl 71.37 5 *e*P **P 22 50 23.7 0.0**
KOLS pmax pmax
comp=Z,9.0nm,1.4s
KOLS Kolonicke sedl 71.37 5 *e*P **P 22 50 23.7 0.0**
KOLS Kolonicke sedl 71.37 5 *e*PKP 22 43 48.9
SSF Saint Saulge 71.37 18 *e*P **P 22 50 23.2 -0.6**
comp=Z,13nm,1.1s
AVF Avril sur Loir 71.61 18 *e*P **P 22 50 24.2 -1.0**
VYHS Vyhne 71.63 7 *e*P **P 22 50 25.3 0.0**
VYHS pmax pmax
comp=Z,4.0nm,1.0s
VYHS Vyhne 71.63 7 *e*P **P 22 50 25.3 0.0**
UZH Uzhgorod 71.67 5 *e*P **P 22 50 25.6 +0.1**
UZH *e* 22 50 28.6
KECS Kecovo 71.73 6 *e*P **P 22 50 26.0 +0.1**
KECS pmax pmax
comp=Z,5.0nm,0.9s
KECS Kecovo 71.73 6 *e*P **P 22 50 26.0 +0.1**
BGF Bois d'Agland 71.76 19 *e*P **P 22 50 25.3 -0.8**
KKAR Karatay Array 71.80 329 *e*P **P 22 50 25.1 -1.3**
KKAR Karatay Array 71.80 329 *e*P **P 22 50 25.1 -1.3**
SMF Signal de Mont 71.83 18 *e*P **P 22 50 25.6 -1.0**
RJOB Jochberg 71.90 11 *e*P **P 22 50 26.6 -0.4**
comp=Z,7.0nm,0.7s
TCF Toulx Ste Croi 71.92 19 *e*P **P 22 50 26.2 -0.9**
CONA Conrad Observa 71.98 9 *i* P **P 22 50 27.5 0.0**
SNR=11
CSNA Conrad Observa 71.98 9 *i* P **P 22 50 27.6 0.0**
SNR=11
TRPA Tarpa 72.18 4⇓*i*P **P 22 50 28.9 +0.3**
TRPA Tarpa 72.18 4⇓*e*P **P 22 50 28.8 +0.2**
CABF La Chapelle 72.20 16 *e*P **P 22 50 28.6 -0.2**
comp=Z,13nm,0.8s
WTTA Wattenberg 72.25 12⇓*i*P **P 22 50 29.2 -0.1**
comp=Z,11nm,0.8s
PSZ Piszkesteto 72.27 6 ⇓P **P 22 50 29.8 +0.6**
PSZ Piszkesteto 72.27 6 *e*P **P 22 50 29.6 +0.4**
comp=Z,12nm,0.9s
PSZ Piszkesteto 72.27 6⇓*i*P **P 22 50 29.8 +0.6**
PSZ Piszkesteto 72.27 6⇓*e*P **P 22 50 29.8 +0.6**
KBA Koelnbreinsper 72.60 11⇑*i*P **P 22 50 31.7 +0.4**
comp=Z,14nm,0.6s
ARSA Arzberg 72.63 10⇑*i*P **P 22 50 31.3 0.0**
comp=Z,5.3nm,1.0s,SNR=5.1
FUORN Ofenpass-Fuorn 72.73 13 *e*P **P 22 50 32.9 +0.7**
comp=Z,5.4nm,0.6s
BURAR Bucovina Array 72.78 3⇑P **P 22 50 32.1 -0.2**
BURAR Bucovina Array 72.78 3⇑*i*P **P 22 50 32.1 -0.2**
LFF La Frestale 72.98 21 *e*P **P 22 50 33.0 -0.4**
comp=Z,12nm,0.9s
SOKA Soboth 73.15 10 *i* P **P 22 50 34.8 +0.3**
SNR=12
CAF Calviac 73.22 20 *e*P **P 22 50 33.9 -1.0**
OBKA Obir 73.28 10⇑*i*P **P 22 50 35.2 0.0**
comp=Z,20nm,0.5s
GYA Guiyang 73.31 294 *e*P **P 22 50 37.0 +1.2**
GYA pmax pmax
comp=Z,10.0nm,1.0s
LPL La Plagne 73.36 16 *e*P **P 22 50 36.3 +0.4**
comp=Z,14nm,1.2s
LPG La Plagne 73.38 16 *e*P **P 22 50 36.5 +0.4**
comp=Z,13nm,1.1s
PKS9 Tamasi 73.49 8⇓*e*P **P 22 50 37.2 +0.8**
DRGR 73.52 4⇑P **P 22 50 36.5 -0.2**
DRGR 73.52 4⇑*i*P **P 22 50 36.5 -0.2**
KSH Kashi 73.61 324 *e*P P 22 50 42.5 +5.1
KSH PP PP 22 53 28.8 +7.5
KSH S S 23 00 10.8 +7.2
KSH sS sS 23 00 26.5 -1.5
KSH SS SS 23 04 56.0 +10
KSH pmax pmax
comp=Z,68nm,4.4s
KSH LR LR
comp=N,87nm,4.9s
KSH LR LR
comp=E,99nm,7.3s
KSH LR LR
comp=Z,140nm,6.4s
VIVF Saint-Julien-l 73.71 18 *e*P **P 22 50 37.2 -0.5**
comp=Z,29nm,1.4s
ORIF Oris-en-Rattie 73.83 17 *e*P **P 22 50 38.1 -0.4**
comp=Z,14nm,1.1s
ORIF *e*R
comp=Z,77nm,20.8s
MBDF Montbardon 74.14 16 *e*P **P 22 50 40.8 +0.4**
comp=Z,11nm,0.9s
VRI Vrincioaia 74.56 2 ⇓P **P 22 50 42.7 +0.1**
VRI Vrincioaia 74.56 2⇓*i*P **P 22 50 42.7 +0.1**
PLOR Plostina 74.57 2⇑P **P 22 50 43.2 +0.5**
PLOR Plostina 74.57 2⇑*i*P **P 22 50 43.2 +0.5**
BZS Buzias 74.65 5⇑*i*P **P 22 50 42.8 -0.3**
ETSF Etsaut 74.71 22 *e*P **P 22 50 43.6 -0.1**
comp=Z,5.8nm,0.8s
MLR Muntele Rosu 74.92 2⇓*i*P **P 22 50 46.0 +1.1**

VOIR		**74.95**	**3**	⇓P		**P**	**22 50 45.2**	**+0.2**
VOIR		**74.95**	**3**	⇓*i*P		**P**	**22 50 45.2**	**+0.2**
ARR	**Arges**	**75.01**	**3**	⇓*i*P		**P**	**22 50 45.5**	**+0.2**
CFR	**Carcaliu**	**75.26**	**1**	⇓P		**P**	**22 50 46.9**	**+0.3**
CFR	**Carcaliu**	**75.26**	**1**	⇓*i*P		**P**	**22 50 46.9**	**+0.3**
LMR	**La Mourre**	**75.47**	**17**	*e*P		**P**	**22 50 47.5**	**-0.4**
	comp=Z,30nm,1.2s							
KIV	**Kislovodsk**	**75.86**	**350**	*e*P		**P**	**22 50 49.7**	**-0.6**
KIV				*e*			22 51 04.8	
KIV				pmax		pmax		
	comp=Z,4.0nm,1.1s							
KBZ	**Khabaz**	**76.07**	**350**	P		**P**	**22 50 51.5**	**+0.2**
KBZ				*PP		**pP**	**22 51 06.6**	**+0.7**
KBZ	**Khabaz**	**76.07**	**350**	P		**P**	**22 50 51.5**	**+0.2**
KBZ				pP		**pP**	**22 51 06.6**	**+0.7**
KBZ	**Khabaz**	**76.07**	**350**	P		**P**	**22 50 51.5**	**+0.2**
	comp=Z,3.7nm,1.0s,baz=253,slow=6.6,SNR=5.9							
KBZ				pP		**pP**	**22 51 06.6**	**+0.7**
	comp=Z,11nm,0.8s,baz=332,slow=2.6,SNR=14							
PGF	**Pioggiola**	**76.58**	**15**	*e*P		**P**	**22 50 53.8**	**-0.6**
	comp=Z,12nm,0.8s							
ESDC	**Sonseca Array**	**77.13**	**25**	P		**P**	**22 50 57.3**	**-0.1**
ESDC				pP		**pP**	**22 51 12.8**	**+0.8**
ESDC	**Sonseca Array**	**77.13**	**25**	P		**P**	**22 50 57.3**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=343,slow=5.5,SNR=11							
ESDC				pP		**pP**	**22 51 12.8**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=342,slow=5.6,SNR=4.8							
VTS	**Vitosha**	**77.74**	**4**	⇑P		**P**	**22 51 00.0**	**-0.9**
VTS	**Vitosha**	**77.74**	**4**	⇑*i*P		**P**	**22 51 00.0**	**-0.9**
QIZ	**Qiongzhong**	**78.17**	**287**	P		**P**	**22 51 05.3**	**+1.8**
QIZ				S		**S**	**23 00 55.5**	**+1.5**
QIZ				pmax		pmax		
	comp=Z,19nm,2.2s							
HNR	**Honiara**	**79.30**	**229**	P		**P**	**22 51 10.4**	**+0.9**
HNR	**Honiara**	**79.30**	**229**	P		**P**	**22 51 10.4**	**+0.9**
	comp=Z,46nm,0.3s,baz=240,slow=14,SNR=2.1							
GRG	**Griva**	**79.33**	**5**	*e*P		**P**	**22 51 09.2**	**-0.4**
FNA	**Florina**	**79.46**	**6**	*e*P		**P**	**22 51 08.2**	**-2.1**
SOH	**Sokhos**	**79.51**	**4**	*e*P		**P**	**22 51 10.6**	**0.0**
BRTR	**Keskin Array B**	**80.63**	**356**	P		**P**	**22 51 16.4**	**-0.4**
BRTR				pP		**pP**	**22 51 32.0**	**+0.6**
BRTR	**Keskin Array B**	**80.63**	**356**	P		**P**	**22 51 16.4**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=15,slow=3.2,SNR=13							
BRTR				pP		**pP**	**22 51 32.0**	**+0.6**
	comp=Z,4.2nm,0.8s,baz=17,slow=2.5,SNR=13							
RAR	**Rarotonga**	**81.15**	**188**	P		**P**	**22 51 20.2**	**+0.9**
RAR	**Rarotonga**	**81.15**	**188**	P		**P**	**22 51 20.2**	**+0.9**
	comp=Z,13nm,0.5s,baz=50,slow=7.9,SNR=3.6							
LAKA	**Lakka**	**82.02**	**5**	*e*P		**P**	**22 51 23.8**	**-0.2**
KLV	**Kalavryta, Ach**	**82.23**	**5**	*e*P		**P**	**22 51 24.7**	**-0.4**
GUR	**Goura**	**82.34**	**5**	*e*P		**P**	**22 51 25.0**	**-0.8**
KEST	**Kesra**	**83.33**	**16**	*e*P		**P**	**22 51 30.6**	**-0.4**
KEST				pP		**pP**	**22 51 46.5**	**+0.8**
KEST	**Kesra**	**83.33**	**16**	P		**P**	**22 51 30.6**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=131,slow=3.8,SNR=5.2							
KEST				pP		**pP**	**22 51 46.5**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=322,slow=9.4,SNR=5.9							
CMAR	**Chiang Mai Arr**	**83.76**	**296**	P		**P**	**22 51 31.6**	**-1.6**
CMAR	**Chiang Mai Arr**	**83.76**	**296**	P		**P**	**22 51 31.6**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=357,slow=6.5,SNR=4.8							
VNDA	**Vanda**	**140.22**	**194**	PKP		**PKPdf**	**22 58 31.6**	**+1.0**
VNDA	**Vanda**	**140.22**	**194**	PKP		**PKPdf**	**22 58 31.6**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=321,slow=6.5,SNR=3.3							
PMSA	**Palmer Station**	**140.30**	**138**	PKP		**PKPdf**	**22 58 31.0**	**0.0**
PMSA	**Palmer Station**	**140.30**	**138**	PKP		**PKPdf**	**22 58 31.0**	**0.0**
	comp=Z,6.3nm,0.9s,baz=90,slow=1.0,SNR=1.9							
BOSA	**Boshof**	**148.60**	**6**	PKPbc		**PKPbc**	**22 58 50.0**	**-0.5**
BOSA	**Boshof**	**148.60**	**6**	PKPbc		**PKPbc**	**22 58 50.0**	**-0.5**
	comp=Z,2.3nm,0.5s,baz=53,slow=6.3,SNR=9.9							
QSPA	**South Pole Qui**	**149.72**	**180**	*e*PKPbc		**PKPbc**	**22 58 50.8**	**-1.3**

***IDC* 30 22:48:47.4±11.0, 12°.58S×167°.31E, h172km±95km, mb3.7/12, mb1 3.8/12, mb1mx3.7/19, mbtmp3.7/12, Error ellipse: s-maj=49.3km s-min=24.7km az=110.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**30.45**	**227**	P	P	22 54 45.7	+1.7
	1.6nm,0.7s,baz=53,slow=5.1,SNR=3.1						
WRA	**Warramunga Arr**	**32.45**	**253**	P	P	22 55 00.9	-0.8
	1.7nm,0.5s,baz=84,slow=8.9,SNR=7.2						
ASAR	**Alice Springs**	**33.53**	**246**	P	P	22 55 10.3	-0.7
	1.7nm,0.7s,baz=73,slow=9.2,SNR=20						
MJAR	**Matsushiro Arr**	**56.03**	**332**	P	P	22 58 07.9	-0.4
	1.5nm,0.6s,baz=164,slow=9.3,SNR=6.6						
KSRS	**Korea Array**	**62.00**	**325**	P	P	22 58 49.6	+0.2
	0.7nm,0.6s,baz=136,slow=7.8,SNR=5.5						
USRK	**Ussuriysk Arra**	**65.00**	**333**	P	P	22 59 10.2	+1.3
	1.7nm,0.9s,baz=108,slow=6.2,SNR=5.9						
PETK	**Petropavlovsk-**	**65.94**	**354**	P	P	22 59 14.2	-0.6
	0.8nm,0.4s,baz=185,slow=12,SNR=2.4						
CMAR	**Chiang Mai Arr**	**74.13**	**293**	P	P	23 00 06.2	+0.8
	2.1nm,0.8s,baz=128,slow=4.8,SNR=8.2						
SONM	**Songino Array**	**80.80**	**323**	P	P	23 00 40.8	-1.2
	0.4nm,0.3s,baz=148,slow=6.1,SNR=5.7						
ILAR	**Eielson Array**	**84.48**	**18**	P	P	23 01 00.6	+0.1
	1.8nm,0.7s,baz=239,slow=5.7,SNR=17						
MKAR	**Makanchi Array**	**95.68**	**317**	P	P	23 01 53.4	-0.2
	2.7nm,0.8s,baz=93,slow=6.7,SNR=16						
ZALV	**Zalesovo Beam**	**95.69**	**324**	P	P	23 01 52.8	-0.6
	1.2nm,0.8s,baz=120,slow=5.8,SNR=5.4						
ARCES	**ARCESS Array B**	**118.19**	**346**	PKP	PKPdf	23 07 12.3	-1.1
	0.7nm,0.6s,baz=57,slow=3.3,SNR=4.5						
ESDC	**Sonseca Array**	**151.93**	**346**	PKPbc	PKPbc	23 08 22.1	-0.3
	0.5nm,0.6s,baz=15,slow=2.2,SNR=6.4						
ESDC				PKPab	PKPab	23 08 32.3	+0.2
	0.2nm,0.4s,baz=11,slow=4.8,SNR=4.8						

ISCJB ***30*** *22:51:32.8±0.4, 22°.28S±0°.04×68°.62W±0°.06, h122km±4km, mb4.0/7, Error ellipse: s-maj=8.8km s-min=5.9km az=168.6*

NEIC ***30*** *22:51:34.0, 22°.28S×68°.67W, h110km, MG4.6(GUC), After GUC.*

GUC ***30*** *22:51:34.0±0.7, 22°.28S×68°.67W, h110km±4km, ML4.6*

IDC ***30*** *22:51:35.1±2.9, 22°.19S×68°.41W, h122km±24km, mb3.8/8, mb1 3.8/11, mb1mx3.7/20, mbtmp3.7/11, Error ellipse: s-maj=26.6km s-min=17.9km az=37.0*

ISC 30 22:51:33.9±0.6, 22°.29S±0°.04×68°.61W±0°.05, h118km±5km, n53, σ1°.19/67, mb4.1/7, 16C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.42**	**221**	*i* Pn	**Pn**	**22 51 51.3**	**-0.2**
LVC				*e*Sn	**Sn**	**22 52 03.7**	**-1.0**
LVC	**Limon Verde**	**0.42**	**221**	⇑*i*P	**Pn**	**22 51 51.2**	**-0.2**
LVC				*i* S	**Sn**	**22 52 03.9**	**-0.7**
SPCH	**San Pedro de A**	**0.72**	**148**	⇑*i*P	**Pn**	**22 51 53.8**	**+0.3**
SPCH				*i* S	**Sn**	**22 52 08.8**	**+0.5**
SPCH	**San Pedro de A**	**0.72**	**148**	⇑*i*P	**Pn**	**22 51 53.8**	**+0.3**
SPCH				*i* S	**Sn**	**22 52 08.8**	**+0.5**
SPCH				AML	AML	22 52 09.7	
	comp=N,43μm,0.4s						
PB09	**Plate Boundary**	**0.76**	**310**	⇑*i*P	**Pn**	**22 51 53.9**	**+0.2**
PB09				*i* S	**Sn**	**22 52 08.6**	**-0.1**
PB09	**Plate Boundary**	**0.76**	**310**	⇑*i*P	**Pn**	**22 51 53.9**	**+0.2**
PB09				*i* S	**Sn**	**22 52 08.6**	**-0.1**
PB09				AML	AML	22 52 10.1	
	comp=N,46μm,0.5s						
PB04	**Plate Boundary**	**0.81**	**272**	⇑*i*P	Pn	22 52 00.2	+6.4
PB04				*i* S	Sn	22 52 20.2	+11
PB04	**Plate Boundary**	**0.81**	**272**	⇑*i*P	Pn	22 52 00.2	+6.4
PB04				*i* S	Sn	22 52 20.2	+11
PB04				AML	AML	22 52 23.5	
	comp=E,6μm,0.4s						
PB07	**Plate Boundary**	**1.31**	**295**	⇑*i*P	**Pn**	**22 51 59.2**	**0.0**
PB07				*i* S	**Sn**	**22 52 17.7**	**-0.6**
PB07	**Plate Boundary**	**1.31**	**295**	⇑*i*P	**Pn**	**22 51 59.2**	**0.0**
PB07				*i* S	**Sn**	**22 52 17.7**	**-0.6**
PB07				AML	AML	22 52 19.1	
	comp=N,17μm,0.2s						
PB01	**Plate Boundary**	**1.48**	**327**	⇑*i*P	**Pn**	**22 52 00.8**	**-0.3**
PB01				*i* S	**Sn**	**22 52 21.0**	**-0.7**
PB01	**Plate Boundary**	**1.48**	**327**	⇑*i*P	**Pn**	**22 52 00.8**	**-0.3**
PB01				*i* S	**Sn**	**22 52 21.0**	**-0.7**
PB01				AML	AML	22 52 23.2	
	comp=E,5μm,0.2s						
ANCH	**Antofagasta**	**2.16**	**230**	⇓*i*P	**Pn**	**22 52 09.1**	**-0.1**
ANCH				*i* S	**Sn**	**22 52 35.8**	**-0.5**
ANCH	**Antofagasta**	**2.16**	**230**	⇓*i*P	**Pn**	**22 52 09.1**	**-0.1**
ANCH				*i* S	**Sn**	**22 52 35.8**	**-0.5**
PB10	**Plate Boundary**	**2.16**	**235**	⇑*i*P	**Pn**	**22 52 08.5**	**-0.7**
PB10				*i* S	**Sn**	**22 52 35.2**	**-1.2**
PB10				AML	AML	22 52 47.0	
	comp=E,4μm,0.2s						
HMBC	**Humberstone**	**2.33**	**329**	⇑*i*P	**Pn**	**22 52 10.4**	**-1.1**
HMBC				*i* S	**Sn**	**22 52 38.8**	**-1.6**
HMBC	**Humberstone**	**2.33**	**329**	⇑*i*P	**Pn**	**22 52 10.4**	**-1.1**
HMBC				*i* S	**Sn**	**22 52 38.8**	**-1.6**
HMBC				AML	AML	22 52 41.4	
	comp=N,3μm,0.4s						
MNMC	**Minimini**	**3.28**	**344**	⇑*i*P	**Pn**	**22 52 23.1**	**-1.0**
MNMC				*e*S	**Sn**	**22 53 01.8**	**-0.9**
MNMC	**Minimini**	**3.28**	**344**	⇑*i*P	**Pn**	**22 52 23.1**	**-1.0**
MNMC				*e*S	**Sn**	**22 53 01.8**	**-0.9**
MNMC				AML	AML	22 53 04.6	
	comp=N,1μm,0.3s						
LPAZ	**La Paz**	**5.99**	**4**	P	**Pn**	**22 53 02.0**	**+1.2**
LPAZ	**La Paz**	**5.99**	**4**	P	**Pn**	**22 53 02.0**	**+1.2**
	comp=N,2.1nm,0.3s,baz=202,slow=5.4,SNR=37						
LCO	**Las Campanas**	**6.95**	**195**	*e*Pn	Pn	22 53 08.6	-4.8
CFAA	**Coronel Fontan**	**9.28**	**178**	P	**Pn**	**22 53 41.5**	**-3.2**
CFAA				S	Sn	22 55 19.9	-7.4
CFAA	**Coronel Fontan**	**9.28**	**178**	P	**Pn**	**22 53 41.5**	**-3.2**
	comp=N,0.2nm,0.3s,baz=15,slow=12,SNR=16						
CFAA				S	Sn	22 55 19.9	-7.4
	comp=N,0.1nm,0.3s,baz=254,slow=20,SNR=2.6						
SIV	**San Ignacio**	**9.49**	**50**	P	Pn	22 53 43.3	-4.3
SIV				S	Sn	22 55 20.9	-12
SIV	**San Ignacio**	**9.49**	**50**	P	Pn	22 53 43.3	-4.3
	comp=N,2.8nm,0.3s,baz=264,slow=11,SNR=29						
SIV				S	Sn	22 55 20.9	-12
	comp=N,1.5nm,0.3s,baz=146,slow=22,SNR=7.9						
CPUP	**Villa Florida**	**11.05**	**114**	P	**Pn**	**22 54 06.2**	**-2.2**
CPUP	**Villa Florida**	**11.05**	**114**	P	**Pn**	**22 54 06.2**	**-2.2**
	comp=N,2.0nm,0.3s,baz=301,slow=15,SNR=3.3						
PLCA	**Paso Flores**	**18.46**	**185**	P	**Pn**	**22 55 43.8**	**+1.8**
PLCA	**Paso Flores**	**18.46**	**185**	P	**Pn**	**22 55 43.8**	**+1.8**
	comp=N,0.2nm,0.3s,baz=338,slow=5.4,SNR=2.5						
BDFB	**Brasilia**	**20.56**	**75**	P	**P**	**22 56 02.0**	**-1.5**
BDFB	**Brasilia**	**20.56**	**75**	P	**P**	**22 56 02.0**	**-1.5**
	comp=N,8.5nm,0.6s,baz=252,slow=12,SNR=13						
TXAR	**Lajitas Array**	**61.43**	**325**	P	**P**	**23 01 37.4**	**-0.7**
TXAR	**Lajitas Array**	**61.43**	**325**	P	**P**	**23 01 37.3**	**-0.7**
	comp=N,0.6nm,0.7s,baz=132,slow=5.2,SNR=2.8						
DBIC	**Dimbokro**	**68.70**	**73**	P	**P**	**23 02 24.9**	**-0.3**
DBIC	**Dimbokro**	**68.70**	**73**	P	**P**	**23 02 24.9**	**-0.3**
	comp=N,5.8nm,1.0s,baz=178,slow=9.7,SNR=7.2						
NVAR	**Mina Array Bea**	**76.28**	**322**	P	**P**	**23 03 11.7**	**+1.7**
NVAR	**Mina Array Bea**	**76.28**	**322**	P	**P**	**23 03 11.7**	**+1.7**
	comp=N,0.5nm,0.6s,baz=170,slow=8.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**77.36**	**70**	P	**P**	**23 03 15.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**77.36**	**70**	P	**P**	**23 03 15.8**	**-0.5**
	comp=N,4.3nm,0.4s,baz=257,slow=5.5,SNR=66						
YBH	**Yreka Blue Hor**	**81.00**	**322**	P	**P**	**23 03 36.6**	**+1.0**
	comp=N,0.6nm,0.4s,baz=139,slow=6.4,SNR=3.4						
BOSA	**Boshof**	**82.83**	**118**	P	**P**	**23 03 45.2**	**-0.5**
BOSA	**Boshof**	**82.83**	**118**	P	**P**	**23 03 45.2**	**-0.5**
	comp=N,2.4nm,0.8s,baz=152,slow=9.5,SNR=3.6						
YKA	**Yellowknife Ar**	**92.02**	**340**	P	**P**	**23 04 29.4**	**+0.5**
YKA				pP	**pP**	**23 05 01.6**	**+2.2**
YKA	**Yellowknife Ar**	**92.02**	**340**	P	**P**	**23 04 29.4**	**+0.5**
	comp=N,0.7nm,0.5s,baz=134,slow=4.5,SNR=8.1						
YKA				pP	**pP**	**23 05 01.6**	**+2.2**
	comp=N,0.6nm,0.7s,baz=134,slow=5.0,SNR=4.1						
ASAR	**Alice Springs**	**129.34**	**207**	PKP	**PKPdf**	**23 10 29.9**	**+0.6**
ASAR	**Alice Springs**	**129.34**	**207**	PKP	**PKPdf**	**23 10 29.9**	**+0.6**
	comp=N,0.8nm,0.9s,baz=136,slow=2.4,SNR=5.5						
WRA	**Warramunga Arr**	**132.41**	**210**	PKP	**PKPdf**	**23 10 36.3**	**+1.2**
WRA	**Warramunga Arr**	**132.41**	**210**	PKP	**PKPdf**	**23 10 36.3**	**+1.2**
	comp=N,0.5nm,0.3s,baz=153,slow=1.5,SNR=3.6						
ZALV	**Zalesovo Beam**	**142.55**	**26**	PKP	**PKPdf**	**23 10 54.1**	**+1.5**
ZALV	**Zalesovo Beam**	**142.55**	**26**	PKP	**PKPdf**	**23 10 54.1**	**+1.5**
	comp=N,0.5nm,0.7s,baz=308,slow=3.6,SNR=4.5						
MKAR	**Makanchi Array**	**146.10**	**37**	PKPbc	**PKPab**	**23 11 01.2**	**+0.2**
MKAR	**Makanchi Array**	**146.10**	**37**	PKPbc	**PKPab**	**23 11 01.2**	**+0.2**
	comp=N,1.2nm,0.8s,baz=310,slow=3.4,SNR=7.5						

IDC ***30*** *23:27:14.2±1.4, 20°.76S×67°.15W, h190km±14km, mb3.2/5, mb1 3.5/11, mb1mx3.4/23, mbtmp3.4/11, Error ellipse: s-maj=16.4km s-min=13.7km az=62.0*

NEIC ***30*** *23:27:14.7, 20°.83S×67°.72W, h224km, MG4.5(GUC), After GUC.*

GUC ***30*** *23:27:14.7±0.8, 20°.83S×67°.72W, h224km±11km, ML4.5*

ISC 30 23:27:14.9±0.9, 20°.79S±0°.05×67°.5W±0°.1, h216km±11km, n32, σ0°.77/39, mb3.2/4, 17C, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	**Plate Boundary**	**1.86**	**262**	⇑*i*P	**Pn**	**23 27 53.5**	**+0.1**
PB01				*i* S	**S**	**23 28 22.9**	**-0.3**
PB01	**Plate Boundary**	**1.86**	**262**	⇑*i*P	**Pn**	**23 27 53.5**	**+0.1**
PB01				*i* S	**S**	**23 28 22.9**	**-0.3**
PB01				AML	AML	23 28 24.5	
	comp=N,2μm,0.2s						
PB09	**Plate Boundary**	**1.90**	**238**	⇑*i*P	**Pn**	**23 27 54.7**	**+0.8**
PB09				*i* S	**S**	**23 28 24.3**	**+0.3**
PB09	**Plate Boundary**	**1.90**	**238**	⇑*i*P	**Pn**	**23 27 54.7**	**+0.8**
PB09				*i* S	**S**	**23 28 24.3**	**+0.3**
PB09				AML	AML	23 28 27.0	
	comp=E,2μm,0.4s						
LVC	**Limon Verde**	**2.23**	**215**	⇑*i*P	**Pn**	**23 27 57.6**	**+0.3**
LVC				*i* S	**S**	**23 28 30.6**	**+0.4**
LVC	**Limon Verde**	**2.23**	**215**	⇑*i*P	**Pn**	**23 27 57.6**	**+0.3**
LVC				*i* S	**S**	**23 28 30.6**	**+0.4**
HMBC	**Humberstone**	**2.28**	**282**	⇑*i*P	**Pn**	**23 27 57.5**	**-0.1**
HMBC				*i* S	**S**	**23 28 30.1**	**-0.6**
HMBC	**Humberstone**	**2.28**	**282**	⇑*i*P	**Pn**	**23 27 57.5**	**-0.1**
HMBC				*i* S	**S**	**23 28 30.1**	**-0.6**
HMBC				AML	AML	23 28 31.8	
	comp=E,2μm,0.4s						
PB04	**Plate Boundary**	**2.35**	**231**	*e*P	Pn	23 28 04.7	+6.5
PB04	**Plate Boundary**	**2.35**	**231**	*e*P	Pn	23 28 04.7	+6.5
PB04				AML	AML	23 28 46.8	
	comp=E,602nm,0.5s						
PB07	**Plate Boundary**	**2.40**	**247**	⇑*i*P	**Pn**	**23 27 59.4**	**+0.4**
PB07				*i* S	**S**	**23 28 32.4**	**-0.7**
PB07	**Plate Boundary**	**2.40**	**247**	⇑*i*P	**Pn**	**23 27 59.4**	**+0.4**
PB07				*i* S	**S**	**23 28 32.4**	**-0.7**
PB07				AML	AML	23 28 32.8	
	comp=N,3μm,0.3s						
MNMC	**Minimini**	**2.56**	**310**	⇑*i*P	**Pn**	**23 28 01.4**	**+0.6**
MNMC				*i* S	**S**	**23 28 37.4**	**+1.1**
MNMC	**Minimini**	**2.56**	**310**	⇑*i*P	**Pn**	**23 28 01.4**	**+0.6**
MNMC				*i* S	**S**	**23 28 37.4**	**+1.1**
PSGC	**Pisagua**	**2.72**	**295**	⇑*i*P	**Pn**	**23 28 02.2**	**-0.2**
PSGC	**Pisagua**	**2.72**	**295**	⇑*i*P	**Pn**	**23 28 02.2**	**-0.2**
PSGC				AML	AML	23 28 39.4	
	comp=N,636nm,0.2s						
PB10	**Plate Boundary**	**3.91**	**226**	⇑*i*P	**Pn**	**23 28 16.3**	**+0.1**
ANCH	**Antofagasta**	**3.94**	**222**	⇑*i*P	**Pn**	**23 28 17.1**	**+0.6**
ANCH	**Antofagasta**	**3.94**	**222**	⇑*i*P	**Pn**	**23 28 17.1**	**+0.6**
LPAZ	**La Paz**	**4.51**	**352**	P	**Pn**	**23 28 24.8**	**+0.5**
	comp=N,7.7nm,0.3s,baz=164,slow=6.8,SNR=162						
LPAZ				S	**S**	**23 29 16.9**	**-1.8**
	comp=N,0.5nm,0.3s,baz=10,slow=19,SNR=2.6						
SIV	**San Ignacio**	**7.75**	**53**	P	Pn	23 29 00.9	-4.2
	comp=N,20nm,0.3s,baz=245,slow=13,SNR=210						
SIV				S	S	23 30 24.1	-9.1
	comp=N,0.2nm,0.3s,baz=302,slow=19,SNR=4.5						
CFAA	**Coronel Fontan**	**10.79**	**183**	P	**Pn**	**23 29 42.8**	**-1.3**
	comp=N,0.0nm,0.3s,baz=4.8,slow=9.3,SNR=10						
CFAA				S	S	23 31 37.6	-7.3
	comp=N,0.1nm,0.3s,baz=261,slow=19,SNR=5.3						
CPUP	**Villa Florida**	**10.85**	**123**	P	Pn	23 29 39.9	-4.9
	comp=N,0.2nm,0.3s,baz=290,slow=12,SNR=2.6						
NNA	**Nana**	**12.51**	**313**	P	**P**	**23 30 08.9**	**-0.5**
	comp=N,1.1nm,0.3s,baz=140,slow=16,SNR=2.7						
ATAH	**Atahualpa**	**17.18**	**321**	P	**Pn**	**23 31 03.5**	**+0.4**
	comp=N,0.4nm,0.3s,baz=96,slow=9.2,SNR=2.0						
BDFB	**Brasilia**	**19.21**	**78**	P	**P**	**23 31 22.1**	**-0.9**
	comp=N,0.9nm,0.3s,baz=255,slow=10,SNR=8.8						
PLCA	**Paso Flores**	**20.05**	**187**	P	**Pn**	**23 31 35.0**	**-1.5**
	comp=N,2.0nm,0.7s,baz=23,slow=11,SNR=4.7						
TXAR	**Lajitas Array**	**60.81**	**324**	P	P	23 37 07.5	+3.0
	comp=N,0.3nm,0.6s,baz=153,slow=6.1,SNR=3.0						
NVAR	**Mina Array Bea**	**75.75**	**321**	P	P	23 38 40.3	+3.1
	comp=N,0.3nm,0.6s,baz=160,slow=3.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**75.89**	**70**	P	**P**	**23 38 37.8**	**-0.4**
	comp=N,1.4nm,0.5s,baz=255,slow=5.5,SNR=26						
ESDC	**Sonseca Array**	**84.42**	**44**	P	**P**	**23 39 24.9**	**+1.6**
	comp=N,0.3nm,0.5s,baz=268,slow=3.6,SNR=3.3						
MKAR	**Makanchi Array**	**144.29**	**36**	PKP	**PKPdf**	**23 46 26.3**	**+1.1**
	comp=N,0.7nm,1.0s,baz=343,slow=4.5,SNR=3.5						

IDC ***31*** *00:05:23.6±0.4, 9°.94S×118°.85E, h0km, mb4.9/27, mb1 5.0/29, mb1mx5.0/31, mbtmp4.9/29, ML5.0/2, MS4.5/22, Ms1 4.5/22, ms1mx4.3/30, Error ellipse: s-maj=16.8km s-min=10.4km az=71.0*

MOS ***31*** *00:05:26.8±1.2, 9°.84S×119°.06E, h33km, mb5.4/49, MS4.4/14, Error ellipse: s-maj=11.6km s-min=6.0km az=114.8*

NEIC ***31*** *00:05:27.1±2.5, 9°.96S×118°.75E, h18km±15km, mb5.4/17, Error ellipse: s-maj=7.6km s-min=5.3km az=57.0*

AUST ***31*** *00:05:28.5±0.9, 10°.19S×118°.78E, h28km, Error ellipse: s-maj=0.7km s-min=0.5km az=44.0*

BJI ***31*** *00:05:29.0, 10°.00S×118°.70E, h61km, mB5.3/31, mb5.2/55, Ms4.8/51, Ms7 4.5/50*

ISCJB ***31*** *00:05:29.8±0.4, 10°.06S±0°.03×118°.87E±0°.03, h64km±3km, mb5.1/91, Error ellipse: s-maj=4.7km s-min=3.9km az=31.7*

TEH ***31*** *00:05:30.0, 10°.10S×118°.78E, h52km, ML5.4*

BKK ***31*** *00:05:31.7±0.4, 10°.S±3°.×11°.9E±°, h54km±5km, M5.0/30, mB5.4/16, mb5.2/30, MLv5.4/2, Mw(mB)4.9/16*

DJA ***31*** *00:05:31.2±0.3, 10°.S±3°.×11°.9E±°, h68km±11km, M5.5/13, mb5.5/12, mB5.7/10, MLv5.7/13, Mw(mB)5.2/10*

GCMT ***31*** *00:05:31.9±0.2, 10°.29S×118°.93E, h35km±1km, MW5.1, Moment Tensor Solution. s54,c78; s74,c118; Moment tensor: Scale 10^16Nm; Mrr3.70±.16; Mθθ-4.77±.11; Mφφ1.07±.16; Mrθ4.21±.17; Mrφ-0.12±.11; Mθφ0.75±.19; Best double couple: M0=6.00000×10^16 NP1:φs280.00000°, δ23.00000°, λ.107.00000°. NP2:φs81.00000°, δ68.00000°, λ83.00000°. Principal axes: T 5.5300, Plg66.0000°, Azm339.0000°; N 1.0000, Plg7.0000°, Azm84.0000°; P -6.5300, Plg23.0000°, Azm177.0000°; Data Used: II IU IC G CN.*

ISC 31 00:05:31.1±0.3, 10°.05S±0°.03×118°.82E±0°.03, h56km±2km, h56km:pP-P, n487, σ1°.76/551, mb5.2/102, MS4.5/41, 13C-4D, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**1.50**	**75**	P	**Pn**	**00 05 56.2**	**+0.5**
WSI				S	**Sn**	**00 06 17.2**	**+2.9**
WSI	**Waingapu**	**1.50**	**75**	P	**Pn**	**00 05 55.2**	**-0.5**
	baz=1.6,SNR=37						
WSI				S	**Sn**	**00 06 18.1**	**+3.8**
	baz=1.6,SNR=7.9						
BASI	**Baing, Sumba**	**1.74**	**96**	P	**Pn**	**00 06 00.5**	**+1.6**
MMRI	**Maumere**	**3.65**	**68**	P	**Pn**	**00 06 25.0**	**-0.1**
IGBI	**Denpasar**	**3.83**	**288**	P	**Pn**	**00 06 25.8**	**-1.7**
IGBI				S	**Sn**	**00 07 11.6**	**+0.3**
SRBI	**Singaraja**	**4.07**	**298**	P	**Pn**	**00 06 30.4**	**-0.4**
SRBI				S	**

KDM Kudat 16.97 353 P **P** **00 09 28.0 +2.1**
WRA Warramunga Arr 17.91 125 P **P** **00 09 32.1 -4.3**
WRA S Sn 00 12 42.5 -13
WRA Warramunga Arr 17.91 125 P **P** **00 09 32.1 -4.3**
2.1nm,0.3s,baz=302,slow=13,SNR=27
WRA S Sn 00 12 42.5 -13
2.2nm,0.3s,baz=303,slow=23,SNR=7.3
WRA LR LR 00 16 47.7
comp=Z,3µm,21.5s,baz=305,slow=38
WRAB Tennant Creek 17.91 125 P **P** **00 09 32.0 -4.4**
228nm,0.9s,SNR=29
WRAB Tennant Creek 17.91 125 *e*P **P** **00 09 32.4 -4.0**
WRAB pmax pmax
comp=Z,43nm,0.9s
WRAB Tennant Creek 17.91 125 *e*Pn **P** **00 09 32.4 -4.0**
comp=Z,43nm,0.9s
DAV Davao City (W) 18.29 22 LR LR 00 18 22.3
comp=Z,764nm,18.1s,baz=179,slow=43
BTDF Bukit Timah Da 18.79 306 P **Pn** **00 09 47.5 +0.5**
baz=19,SNR=5.3
BTDF P **Pn** **00 09 47.5 +0.5**
baz=19,SNR=5.3
MYKOM **Kota Tinggi 18.99 307** P **P** **00 09 48.2 0.0**
MORW Morawa 19.10 187 P **P** **00 09 47.9 -1.4**
baz=19,SNR=68
KGM Kluang 19.55 307 P **P** **00 09 54.3 0.0**
ASAR Alice Springs 19.76 135 P **P** **00 09 56.1 -0.5**
ASAR S S 00 13 27.2 -9.3
ASAR Alice Springs 19.76 135 P **P** **00 09 56.1 -0.5**
comp=Z,3.8nm,0.3s,baz=316,slow=11,SNR=332
ASAR S S 00 13 27.2 -9.3
comp=Z,0.9nm,0.3s,baz=313,slow=24,SNR=5.4
ASAR LR LR 00 17 45.6
comp=Z,2µm,21.3s,baz=306,slow=37
BKNI Bangkinang 20.48 299 P **P** **00 10 05.3 +0.9**
baz=20,SNR=4.7
BLDU Ballidu 20.55 185 P **P** **00 10 04.8 -0.4**
baz=20,SNR=44
KLBR Kellerberrin 21.46 182 P **P** **00 10 14.6 -0.3**
baz=21,SNR=31
KTGM Kuala Trenggan 21.86 314 P **P** **00 10 20.7 +1.5**
FORT Forrest 22.34 159 *e*P **P** **00 10 23.8 -0.6**
comp=Z,162nm,0.8s
FORT Forrest 22.34 159 P **P** **00 10 23.7 -0.6**
baz=22,SNR=31
NWAO Narrogin (SRO) 22.81 183 *e*P **P** **00 10 28.1 -1.2**
comp=Z,60nm,0.8s
NWAO *e*S **S** **00 14 30.1 -4.3**
NWAO Narrogin (SRO) 22.81 183 P **P** **00 10 28.6 -0.7**
comp=Z,74nm,0.9s,baz=0.4,slow=11,SNR=29
NWAO S **S** **00 14 29.8 -4.7**
comp=Z,34nm,0.6s,baz=328,slow=15,SNR=4.0
NWAO LR LR 00 19 19.7
comp=Z,2µm,20.4s,baz=342,slow=36
IPM Ipoh 22.86 308 *e*P **P** **00 10 29.6 -0.4**
IPM Ipoh 22.86 308 P **P** **00 10 29.6 -0.4**
PSI Prapat 23.57 302 P **P** **00 10 35.3 -1.7**
PSI S **S** **00 14 44.5 -2.9**
PSI Prapat 23.57 302 P **P** **00 10 35.3 -1.7**
comp=Z,72nm,0.8s,baz=157,slow=8.8,SNR=33
PSI S **S** **00 14 44.5 -2.9**
comp=Z,6.2nm,0.9s,baz=342,slow=20,SNR=4.3
PSI LR LR 00 22 13.0
comp=Z,2µm,20.0s,baz=129,slow=43
PSI Prapat 23.57 302 P **P** **00 10 35.6 -1.4**
baz=24,SNR=31
PSI S **S** **00 14 47.6 +0.1**
baz=24,SNR=7.6
KULM Kulim 23.66 309 *e*P **P** **00 10 36.2 -1.5**
KULM Kulim 23.66 309 P **P** **00 10 36.8 -0.9**
TGY Tagaytay City 24.09 5 P **P** **00 10 41.7 +0.1**
TGY Tagaytay City 24.09 5 P **P** **00 10 41.7 +0.1**
comp=Z,632nm,0.7s,baz=231,slow=2.8,SNR=31
COEN Coen 24.13 102 *e*P **P** **00 10 45.0 +3.0**
comp=Z,312nm,0.9s
COEN *e*S S 00 15 04.8 +8.5
COEN Coen 24.13 102 P **P** **00 10 44.8 +2.8**
baz=24,SNR=6.1
SKLT Songkhla 24.93 313 P **P** **00 10 49.0 -0.2**
comp=Z,60nm,0.9s
MTSU Mount Surprise 25.98 111 P **P** **00 10 59.7 +0.9**
baz=26,SNR=9.9
BBOO Buckleboo 27.67 147 *e*P **P** **00 11 13.8 -0.1**
comp=Z,221nm,1.0s
BBOO Buckleboo 27.67 147 P **P** **00 11 13.7 -0.1**
baz=28,SNR=10
CTA Charters Tower 28.26 114 P **P** **00 11 19.4 +0.1**
CTA Charters Tower 28.26 114 P **P** **00 11 19.4 +0.1**
comp=Z,6.3nm,1.0s,baz=292,slow=5.4,SNR=2.4
QIZ Qiongzhong 30.22 343 P **P** **00 11 35.8 -0.8**
QIZ pP **pP** **00 11 49.5 -1.2**
QIZ sP **sP** **00 11 56.5 -0.8**
QIZ S **S** **00 16 35.8 +3.5**
QIZ sS **sS** **00 16 58.0 +1.8**
QIZ pmax pmax
comp=Z,19nm,2.0s
QIZ LR LR
comp=N,530nm,25.2s
QIZ LR LR
comp=E,250nm,23.9s
QIZ LR LR
comp=Z,940nm,25.3s
QIZ Qiongzhong 30.22 343 *e*P **P** **00 11 35.3 -1.3**
STKA Stephens Creek 30.27 139 *e*P **P** **00 11 37.5 +0.5**
comp=Z,5.0nm,0.9s
STKA Stephens Creek 30.27 139 P **P** **00 11 37.2 +0.3**
comp=Z,8.4nm,0.8s,baz=300,slow=7.8,SNR=14
STKA LR LR 00 24 00.3
comp=Z,1µm,21.2s,baz=306,slow=37
STKA Stephens Creek 30.27 139 P **P** **00 11 37.4 +0.5**
baz=30,SNR=8.1
PANO Nakornpanom 30.46 332 P **P** **00 11 40.5 +1.8**
comp=Z,173nm,0.8s
RMQ Roma 32.67 124 P **P** **00 12 00.3 +2.2**
baz=33,SNR=5.3
CMSA Cobar Meteorol 32.82 135 P **P** **00 12 00.2 +0.9**
baz=33,SNR=7.7
TPUB Ta-pu 33.19 3 *e*P **P** **00 12 04.4 +1.8**
YULB Yu-li 33.33 4 *e*P **P** **00 12 02.3 -1.5**
SSLB Suanglung 33.70 4 *e*P **P** **00 12 08.4 +1.3**
LAMP Lampang 34.13 326 P **P** **00 12 11.6 +0.8**
comp=Z,12nm,0.7s,comp=Z,127nm
CMAR Chiang Mai Arr 34.46 325 P **P** **00 12 13.5 -0.2**
CMAR PcP **PcP** **00 14 49.7 +1.5**
CMAR Chiang Mai Arr 34.46 325 P **P** **00 12 13.5 -0.2**
comp=Z,8.0nm,0.5s,baz=152,slow=6.7,SNR=25
CMAR PcP **PcP** **00 14 49.7 +1.5**
comp=Z,3.4nm,0.7s,baz=181,slow=2.4,SNR=5.8
CMAR LR LR 00 27 24.3
comp=Z,1µm,19.8s,baz=153,slow=38
YHNB Yeheng 34.60 4 *e*P **P** **00 12 15.1 +0.2**
CMMT Chiang Mai 34.74 326 P **P** **00 12 16.1 -0.1**
comp=Z,17nm,1.0s
YNG Young 36.26 136 P **P** **00 12 30.6 +1.5**
baz=36,SNR=7.8
TOO Toolangi 36.43 143 P **P** **00 12 32.6 +2.1**
baz=36,SNR=6.0
ARMA Armidale 36.64 128 *e*P **P** **00 12 34.2 +1.7**
comp=Z,15nm,0.8s
ARMA Armidale 36.64 128 P **P** **00 12 35.0 +2.5**
baz=37,SNR=13
GYA Guiyang 38.17 342 ⇑*i*P **P** **00 12 45.3 -0.1**
GYA pP **pP** **00 13 00.5 +0.8**
GYA sP **sP** **00 13 07.5 +1.2**
GYA PP **PnPn** **00 14 17.3 +1.6**
GYA PcP **PcP** **00 15 00.8 +1.5**
GYA S **S** **00 18 34.5 -0.5**
GYA ScP **ScP** **00 18 43.8 +1.3**
GYA sS **sS** **00 19 00.0 +0.8**
GYA SS **SnSn** **00 21 15.0 -8.4**
GYA pmax pmax
comp=Z,30nm,0.9s
GYA pmax pmax
comp=Z,140nm,3.0s
GYA LR LR
comp=N,850nm,21.6s
GYA LR LR
comp=E,790nm,20.7s
GYA LR LR
comp=Z,1µm,21.6s
KMI Kunming 38.32 336 P **P** **00 12 47.8 +1.0**
KMI pP **pP** **00 13 01.5 +0.4**
KMI sP **sP** **00 13 08.3 +0.6**
KMI S **S** **00 18 39.8 +2.3**
KMI sS **sS** **00 19 01.0 -0.7**
KMI pmax pmax
comp=Z,32nm,0.8s
KMI pmax pmax
comp=Z,110nm,3.1s
KMI LR LR
comp=N,560nm,14.8s
KMI LR LR
comp=E,540nm,17.3s
KMI LR LR
comp=Z,760nm,16.8s
WHN Wuhan 40.59 354 ⇓*i*P **P** **00 13 03.3 -2.0**
WHN LR LR
comp=Z,1µm,18.2s
ENH Enshi 41.08 348 *e*P **P** **00 13 08.9 -0.6**
comp=Z,68nm,0.7s
PALK Pallekele 41.68 293 *e*P **P** **00 13 14.8 +0.1**
NJ2 Nanjing 41.86 0 *e*P **P** **00 13 16.0 +0.2**
NJ2 pP **pP** **00 13 30.5 +0.2**
NJ2 sP **sP** **00 13 36.8 0.0**
NJ2 PP **PP** **00 14 55.5 +1.8**
NJ2 pmax pmax
comp=Z,60nm,1.0s
NJ2 pmax pmax
comp=Z,1µm,6.2s
NJ2 LR LR
comp=N,370nm,23.4s
NJ2 LR LR
comp=E,260nm,16.2s
NJ2 LR LR
comp=Z,440nm,16.8s
CD2 Chengdu 43.22 341 *e*P **P** **00 13 26.3 -0.6**
CD2 pP **pP** **00 13 41.3 -0.2**
CD2 sP **sP** **00 13 47.5 -0.4**
CD2 PP **PP** **00 15 10.5 +2.2**
CD2 PcP **PcP** **00 15 14.5 -1.0**
CD2 S **S** **00 19 51.0 +1.0**
CD2 sS **sS** **00 20 14.3 -0.2**
CD2 SS **SS** **00 23 00.0 -5.0**
CD2 ScS **ScS** **00 23 19.5 -2.8**
CD2 pmax pmax
comp=Z,60nm,0.7s
CD2 pmax pmax
comp=Z,180nm,7.1s
CD2 LR LR
comp=E,390nm,17.8s
CD2 LR LR
comp=Z,720nm,15.5s
JNU Nakatsue 44.44 14 *e*P **P** **00 13 34.1 -2.6**
XAN Xi'an 44.84 348 P **P** **00 13 38.5 -1.4**
XAN pmax pmax
comp=Z,22nm,1.1s
XAN pmax pmax
comp=Z,53nm,14.0s
XAN LR LR
comp=N,560nm,18.4s
XAN LR LR
comp=Z,330nm,22.4s
DZM Mont Dzumac 47.12 111 *e*S **S** **00 20 43.6 -3.2**
comp=Z,189nm,31.3s
DZM *e*LR LR 00 27 17.3
comp=Z,595nm,20.6s
LSA Lhasa 47.67 327 P **P** **00 14 02.3 -0.4**
LSA Lhasa 47.67 327 *e*P **P** **00 14 02.8 +0.2**
LSA pmax pmax
comp=Z,49nm,1.1s
LSA Lhasa 47.67 327 *e*P **P** **00 14 02.8 +0.2**
comp=Z,49nm,1.1s
ODAN Odare 47.72 321 *e*P **P** **00 14 01.9 -0.9**
comp=Z,67nm,0.9s
TAPN Taplejung 47.88 322 *e*P **P** **00 14 03.6 -0.5**
comp=Z,105nm,0.9s
KSAR Wonju Array Be 48.00 10 P **P** **00 14 03.8 -0.7**
KSAR PcP **PcP** **00 15 33.0 +1.2**
LZH Lanzhou 48.01 344 ⇑P **P** **00 14 05.0 +0.2**
LZH pP **pP** **00 14 14.8 -4.8**
LZH PP **PP** **00 15 56.3 -1.2**
LZH S **S** **00 20 57.3 -1.8**
LZH sS sS 00 21 17.0 -7.0
LZH pmax pmax
comp=Z,55nm,1.3s
LZH pmax pmax
comp=Z,190nm,4.0s
LZH LR LR
comp=N,440nm,15.4s
LZH LR LR
comp=E,620nm,17.5s
LZH LR LR
comp=Z,810nm,18.6s
KSRS Korea Array 48.02 10 P **P** **00 14 03.8 -0.8**
comp=Z,15nm,1.0s,baz=182,slow=8.3,SNR=37
KSRS PcP **PcP** **00 15 33.0 +1.1**
comp=Z,6.6nm,0.9s,baz=187,slow=3.2,SNR=4.7
KSRS LR LR 00 34 20.3
comp=Z,307nm,20.6s,baz=198,slow=36
HYB Hyderabad 48.25 304 *i*P **P** **00 14 05.0 -1.8**
RAMN Ramite 48.28 320 *e*P **P** **00 14 06.6 -0.5**
comp=Z,42nm,0.6s
DL2 Dalian 48.77 3 P **P** **00 14 09.3 -1.1**
DL2 *e*S **S** **00 21 08.0 -1.3**
DL2 *e*sS sS 00 21 28.5 -5.7
DL2 pmax pmax
comp=Z,46nm,0.9s
DL2 pmax pmax
comp=Z,120nm,3.8s
DL2 LR LR
comp=N,160nm,13.6s
DL2 LR LR
comp=E,140nm,16.1s
DL2 LR LR
comp=Z,220nm,16.0s
JIRN Jiri 49.03 321 *e*P **P** **00 14 12.4 -0.7**
comp=Z,63nm,0.7s
GUN Gumba 49.41 321 *e*P **P** **00 14 14.9 -1.0**
comp=Z,80nm,0.7s
PKI Pulchoki 49.46 320 *e*P **P** **00 14 15.0 -1.3**
comp=Z,28nm,0.6s
PKIN Phulchoki 49.48 320 *e*P **P** **00 14 15.1 -1.3**
DMN Daman 49.68 320 *e*P **P** **00 14 17.1 -0.8**
comp=Z,76nm,0.9s
KKN Kakani 49.70 320 *e*P **P** **00 14 17.1 -0.9**
comp=Z,43nm,0.9s
MAJO Matsushiro 49.81 20 *e*P **P** **00 14 16.3 -2.1**
MAJO Matsushiro 49.81 20 *e*P **P** **00 14 16.3 -2.1**
MAT Matsushiro 49.81 20 P **P** **00 14 16.5 -1.9**
MAT S S 00 21 42.4 +18
MJAR Matsushiro Arr 49.81 20 P **P** **00 14 16.9 -1.5**
MJAR Matsushiro Arr 49.81 20 P **P** **00 14 16.9 -1.5**
comp=Z,22nm,0.9s,baz=194,slow=7.7,SNR=37
MJAR LR LR 00 34 02.9
comp=Z,178nm,21.7s,baz=215,slow=35
BJT Baijiatuau 49.88 357 *e*P **P** **00 14 18.3 -0.5**
comp=Z,69nm,0.8s
BJI Beijing 49.90 357 P **P** **00 14 18.3 -0.6**
BJI S **S** **00 21 29.0 +4.0**
BJI pmax pmax
comp=Z,100nm,1.2s
BJI pmax pmax
comp=Z,150nm,3.5s
BJI LR LR
comp=N,390nm,20.0s
BJI LR LR
comp=E,260nm,19.6s
BJI LR LR
comp=Z,370nm,20.8s
KOLN Koldanda 50.76 319 *e*P **P** **00 14 24.7 -1.3**
comp=Z,30nm,0.6s
DANN Dangsing 51.05 319 *e*P **P** **00 14 27.0 -1.3**
comp=Z,100nm,0.7s
HHC Hu-ho-hao-te 51.09 353 *e*P **P** **00 14 27.8 -0.3**
HHC pP **pP** **00 14 43.0 0.0**
HHC sP **sP** **00 14 50.0 +0.6**
HHC PcP **PcP** **00 15 42.3 -0.9**
HHC PP **PP** **00 16 26.3 +1.0**
HHC S **S** **00 21 41.5 -0.3**
HHC sS **sS** **00 22 06.5 -0.4**
HHC ScS **ScS** **00 24 09.0 -4.8**
HHC pmax pmax
comp=Z,71nm,0.8s
HHC pmax pmax
comp=Z,440nm,4.8s
HHC LR LR
comp=N,620nm,17.8s
HHC LR LR
comp=E,560nm,16.7s
HHC LR LR
comp=Z,690nm,17.8s
PYUN Piuthan 51.38 319 *e*P **P** **00 14 29.3 -1.4**
comp=Z,54nm,0.7s
SNY Shenyang 51.81 5 ⇑P **P** **00 14 32.0 -1.3**
SNY S **S** **00 21 56.5 +5.1**
SNY pmax pmax
comp=Z,23nm,1.8s
SNY pmax pmax
comp=Z,140nm,3.5s
SNY LR LR
comp=N,160nm,24.3s
SNY LR LR
comp=E,220nm,18.5s
SNY LR LR
comp=Z,240nm,19.2s
GTA Gaotai 52.29 341 P **P** **00 14 37.5 +0.4**
GTA PcP **PcP** **00 15 49.5 +1.7**
GTA S **S** **00 22 01.0 +2.6**
GTA pmax pmax
comp=Z,23nm,0.9s
GTA pmax pmax
comp=Z,260nm,5.7s
GTA LR LR
comp=N,340nm,20.9s
GTA LR LR
comp=E,410nm,15.2s
GTA LR LR
comp=Z,460nm,21.4s
CN2 Changchun 53.93 6 *e*P **P** **00 14 46.3 -2.6**
CN2 *e*sP **sP** **00 15 09.3 -1.0**
CN2 *e*S **S** **00 22 17.3 -3.0**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,200nm,18.0s
CN2 LR LR
comp=E,200nm,18.0s
CN2 LR LR
comp=Z,200nm,15.0s
VLA Vladivostok 54.24 12 ⇑*i*P **P** **00 14 49.1 -2.1**
VLA *e* 00 15 54.2
VLA *e*S **S** **00 22 23.7 -0.8**
VLA pmax pmax
comp=Z,22nm,0.8s
MDJ Mudanjiang 55.28 9 P **P** **00 14 58.0 -0.6**
MDJ pP **pP** **00 15 11.5 -2.2**
MDJ sP **sP** **00 15 17.5 -2.6**
MDJ PP **PP** **00 17 03.5 +0.6**
MDJ PcS **PcS** **00 19 56.0 -2.8**
MDJ S **S** **00 22 43.0 +4.6**
MDJ sS **sS** **00 23 06.8 +3.1**
MDJ ScS **ScS** **00 24 39.0 -3.9**
MDJ pmax pmax
comp=Z,36nm,1.1s
MDJ pmax pmax
comp=Z,78nm,4.8s
MDJ LR LR
comp=N,180nm,18.9s
MDJ LR LR
comp=E,140nm,21.1s
MDJ LR LR
comp=Z,250nm,19.2s
MDJ Mudanjiang 55.28 9 *e*P **P** **00 14 58.1 -0.6**
comp=Z,42nm,1.0s
USRK Ussuriysk Arra 55.30 11 P **P** **00 14 58.0 -0.8**
comp=Z,8.8nm,0.6s,baz=193,slow=6.9,SNR=35
USRK LR LR 00 38 18.3
comp=Z,205nm,21.3s,baz=4.8,slow=36
ERM Erimo 56.42 22 *e*P **P** **00 15 05.9 -1.0**
ERM pmax pmax
comp=Z,29nm,1.7s
ASAJ Asahikawa 58.07 20 *e*P **P** **00 15 18.2 -0.3**
ULN Ulaanbaatar 58.60 351 P **P** **00 15 22.3 0.0**
SNR=21
ULN Ulaanbaatar 58.60 351 *e*P **P** **00 15 22.1 -0.2**
comp=Z,33nm,1.2s
SONM Songino Array 58.68 350 P **P** **00 15 22.5 -0.4**
SONM Songino Array 58.68 350 P **P** **00 15 22.5 -0.4**
comp=Z,24nm,0.8s,baz=167,slow=8.0,SNR=115
SONM LR LR 00 45 11.2
comp=Z,267nm,18.4s,baz=185,slow=41
YUK Yuzh-Kuril'sk 59.16 22 *c i*P **P** **00 15 24.9 -1.2**
YUK *i* 00 17 33.3
YUK *e*PPP PPP 00 18 59.5
YUK S **S** **00 23 31.6 +2.1**
HABR Khabarovsk 60.01 12 *e*P **P** **00 15 30.3 -1.5**
HABR 00 16 14.3
HABR *e*S **S** **00 23 39.1 -1.1**
HABR *e* 00 25 14.4
HABR *e*SS **SS** **00 27 35.9 -2.1**
HABR pmax pmax
comp=Z,56nm,1.6s
HABR MLR MLR
comp=Z,156nm,19.0s
KLR Kul'dur 60.11 10 *e*P P 00 15 27.9 -4.7
WMQ Urumqi 60.62 335 P **P** **00 15 37.0 +0.8**
WMQ pP **pP** **00 15 53.0 +1.5**
WMQ sP **sP** **00 16 00.0 +2.2**
WMQ PcP **PcP** **00 16 20.5 +0.4**
WMQ PP **PP** **00 17 53.0 +2.5**
WMQ ScP **ScP** **00 20 15.0 -1.8**
WMQ S **S** **00 23 46.8 -1.7**
WMQ sS **sS** **00 24 14.3 +0.2**
WMQ ScS SKKSac 00 25 18.5 -3.7
WMQ SS **SS** **00 27 47.0 -1.0**
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,87nm,4.3s
WMQ LR LR
comp=N,340nm,17.2s
WMQ LR LR
comp=E,140nm,13.9s
WMQ LR LR
comp=Z,340nm,28.7s
YSS Yuzh-Sakhalins 60.64 19 *e*P **P** **00 15 36.0 -0.2**
YSS MLR MLR
comp=Z,300nm,18.0s
ZAK Zakamensk 61.69 349 *e*P **P** **00 15 42.2 -1.2**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
IRK Irkutsk 63.30 350 *e*P **P** **00 15 51.6 -2.3**
IRK pmax pmax
comp=Z,31nm,1.5s
KSH Kashi 63.34 324 ⇑P **P** **00 15 53.0 -1.7**
KSH sP **sP** **00 16 15.5 -0.8**
KSH PcS 00 20 31.3
KSH S S 00 24 17.0 -6.1
KSH sS sS 00 24 43.5 -5.4
KSH pmax pmax
comp=Z,13nm,1.2s
KSH pmax pmax
comp=Z,130nm,4.8s
KSH LR LR
comp=N,99nm,5.8s
KSH LR LR
comp=E,130nm,7.3s
KSH LR LR
comp=Z,530nm,20.8s
MOY Mondy 63.37 348 *e*P **P** **00 15 53.3 -1.3**
MOY pmax pmax
comp=Z,37nm,1.8s
KBL Kabul 64.72 316 *e*P **P** **00 16 02.5 -1.4**
KBL Kabul 64.72 316 *e*P **P** **00 16 02.5 -1.4**
KBL Kabul 64.72 316 P **P** **00 16 03.3 -0.6**
baz=65,SNR=5.3
MK31 Makanchi Array 65.31 333 P **P** **00 16 06.3 -1.0**
MK31 pmax pmax
comp=Z,22nm,0.7s
MKAR Makanchi Array 65.31 333 *c e*P **P** **00 16 06.5 -0.7**
MKAR pmax pmax
comp=Z,39nm,0.9s
MKAR Makanchi Array 65.31 333 P **P** **00 16 06.6 -0.7**
MKAR Makanchi Array 65.31 333 P **P** **00 16 06.6 -0.7**
comp=Z,38nm,0.9s,baz=144,slow=6.5,SNR=138
MKAR LR LR 00 48 07.2
comp=Z,245nm,19.9s,baz=150,slow=39
KZA Kyzart 65.45 326 P **P** **00 16 09.2 +0.4**
SNR=19
TKM2 Tokmak 2 65.83 327 *e*P **P** **00 16 09.9 -1.0**
TKM2 pmax pmax
comp=Z,23nm,1.2s
TKM2 Tokmak 2 65.83 327 P **P** **00 16 10.2 -0.7**
SNR=17
TKM2 Tokmak 2 65.83 327 *e*P **P** **00 16 09.9 -1.0**

comp=Z,23nm,1.2s
AAK Ala-Archa 66.24 326 P **P** **00 16 13.3 -0.2**
comp=Z,156nm,1.2s,SNR=5.8
AAK Ala-Archa 66.24 326 P **P** **00 16 13.3 -0.2**
AAK pmax pmax
comp=Z,20nm,0.9s
AAK Ala-Archa 66.24 326 P **P** **00 16 13.7 +0.1**
SNR=14
AAK Ala-Archa 66.24 326 P **P** **00 16 13.9 +0.3**
SNR=9.8
AAK Ala-Archa 66.24 326 *e*P **P** **00 16 13.4 -0.1**
AAK Ala-Archa 66.24 326 P **P** **00 16 13.3 -0.2**
comp=Z,20nm,0.9s,baz=149,slow=5.9,SNR=33
FRU Bishkek 66.31 326 *e*P **P** **00 16 13.5 -0.3**
FRU pmax pmax
comp=Z,60nm,2.0s
AML Almayashu 66.36 325 P **P** **00 16 14.2 -0.4**
SNR=55
USP Ospenovka 66.66 326 P **P** **00 16 15.2 -0.8**
SNR=26
EKS2 Erkin-Say 66.66 325 *e*P **P** **00 16 15.9 -0.3**
EKS2 pmax pmax
comp=Z,35nm,1.0s
EKS2 Erkin-Say 66.66 325 P **P** **00 16 16.5 +0.4**
SNR=30
EKS2 Erkin-Say 66.66 325 *e*P **P** **00 16 15.9 -0.3**
comp=Z,35nm,1.0s
CLNS Chul'man 66.83 4 *e*P **P** **00 16 16.7 -0.1**
CLNS pmax pmax
comp=Z,13nm,0.8s
CLNS pmax pmax
comp=N,8.0nm,0.9s
SMDO Samad 67.95 300 P **P** **00 16 25.4 +0.7**
SNR=6.0
MAW Mawson 68.19 200 LR LR 00 41 51.9
comp=N,365nm,19.2s,baz=63,slow=32
HOQ Hoqain 68.78 300 P **P** **00 16 30.2 +0.4**
SNR=7.6
KK31 Karatay Array 68.80 324 *i* P **P** **00 16 28.1 -1.4**
KK31 pmax pmax
comp=Z,12nm,0.9s
KKAR Karatay Array 68.80 324 *e*P **P** **00 16 28.6 -0.9**
KKAR Karatay Array 68.80 324 *e*P **P** **00 16 28.6 -0.9**
KRAR Krasnoyarsk 69.28 345 *e*P **P** **00 16 33.0 +0.9**
KRAR pmax pmax
comp=Z,28nm,1.0s
OPO Ambohidratompo 69.56 254 P **P** **00 16 35.5 +0.6**
OPO Ambohidratompo 69.56 254 P **P** **00 16 35.5 +0.6**
comp=Z,2.5nm,0.8s,baz=90,slow=8.1,SNR=3.5
KURBB Kurchatov Arra 69.83 334 P **P** **00 16 35.0 -0.6**
comp=Z,22nm,0.9s,baz=151,slow=5.5,SNR=167
KURK Kurchatov 69.86 334 P **P** **00 16 35.0 -0.8**
KURK pmax pmax
comp=Z,22nm,0.9s
KURK Kurchatov 69.86 334 P **P** **00 16 35.0 -0.8**
ZALV Zalesovo Beam 69.96 339 *i* P **P** **00 16 34.9 -1.4**
ZALV pmax pmax
comp=Z,57nm,0.9s
ZALV Zalesovo Beam 69.96 339 P **P** **00 16 35.0 -1.4**
ZALV Zalesovo Beam 69.96 339 P **P** **00 16 35.0 -1.4**
comp=Z,57nm,0.8s,baz=141,slow=4.3,SNR=208
ZALV LR LR 00 51 08.5
comp=Z,288nm,18.6s,baz=70,slow=39
ASHO Ashiyiah 70.25 301 P **P** **00 16 39.0 +0.1**
SNR=5.2
IDAH Dahanechah 70.44 310 *e*P **P** **00 16 40.3 +0.1**
IBND Bandar-abas 70.88 304 *e*P **P** **00 16 42.0 -0.5**
VNDA Vanda 70.98 171 P **P** **00 16 42.8 +0.4**
VNDA Vanda 70.98 171 P **P** **00 16 42.8 +0.4**
comp=Z,2.6nm,0.8s,baz=317,slow=5.4,SNR=14
VNDA LR LR 00 46 07.0
comp=Z,441nm,19.8s,baz=356,slow=34
PETK Petropavlovsk- 71.10 24 P **P** **00 16 41.9 -1.5**
PETK pmax pmax
comp=Z,25nm,0.9s
PETK MLR MLR
comp=Z,66nm,21.1s
PETK Petropavlovsk- 71.10 24 P **P** **00 16 41.9 -1.5**
PETK Petropavlovsk- 71.10 24 P **P** **00 16 41.9 -1.5**
comp=Z,24nm,0.9s,baz=195,slow=5.2,SNR=37
PETK LR LR 00 48 10.6
comp=Z,66nm,21.1s,baz=223,slow=36
NVS Novosibirsk 71.23 339‖ *i*P P 00 16 40.8 -3.2
NVS *e*S **S** **00 25 53.2 -3.7**
NVS pmax pmax
comp=Z,37nm,1.0s
NVS pmax pmax
comp=N,14nm,0.9s
NVS pmax pmax
comp=E,19nm,1.3s
NVS smax smax
comp=N,6.0nm,1.2s
NVS smax smax
comp=E,16nm,1.6s
ITEG Tejag 71.36 310 *e*P **P** **00 16 45.1 -0.5**
IMYA Miami 71.91 313 *e*P **P** **00 16 47.9 -0.9**
SBA Scott Base 71.99 170 *e*P **P** **00 16 51.3 +2.9**
SBA Scott Base 71.99 170 *e*P **P** **00 16 51.2 +2.9**
ISRO Mashad 72.34 313 *e*P **P** **00 16 50.9 -0.5**
IMOG Moghan 72.35 313 *e*P **P** **00 16 51.9 +0.3**
YAK Yakutsk 72.36 5 *e*P **P** **00 16 49.6 -1.1**
YAK *e**PP pP 00 16 58.8 -7.5
YAK *e* 00 17 04.5
YAK *e* 00 19 34.1
YAK *e*S **S** **00 26 10.1 +0.5**
YAK *e**SS **sS** **00 26 35.0 -0.9**
YAK *e* 00 26 50.6
YAK *e*SS **SS** **00 30 42.8 -6.3**
YAK pmax pmax
comp=Z,34nm,0.9s
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,9.0nm,0.7s
YAK pmax pmax
comp=N,6.0nm,0.6s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK smax smax
comp=N,32nm,2.8s
YAK smax smax
comp=E,37nm,2.4s
YAK MLR MLR
comp=Z,188nm,23.0s
YAK MLR MLR
comp=E,90nm,19.0s
YAK MLR MLR
comp=N,108nm,17.0s
IPAY Payeh 72.75 313 *e*P **P** **00 16 53.7 -0.2**
IKRD Kardeh 73.24 313 *e*P P 00 16 52.7 -4.2
IBAF Bafgh 73.27 307 *e*P **P** **00 16 57.2 +0.2**
IMEH Mehriz 73.94 307 *e*P **P** **00 17 00.1 -1.0**
ISRV Sarvestan 74.40 304 *e*P **P** **00 17 03.7 -0.2**
ICHK Chekchek 74.44 307 *e*P **P** **00 17 03.4 -0.5**
VOSK Vostochnaya 74.67 332 P **P** **00 17 02.5 -2.0**
VOSK pmax pmax
comp=Z,26nm,1.2s
ISAD Sadrabad 74.88 307 *e*P **P** **00 17 05.5 -1.0**
BVAR Borovoye Array 75.14 332 P **P** **00 17 06.6 -0.6**
BVAR pmax pmax
comp=Z,12nm,0.8s
BVAR Borovoye Array 75.14 332 P **P** **00 17 06.6 -0.6**
BVAR Borovoye Array 75.14 332 P **P** **00 17 06.6 -0.6**
comp=Z,12nm,0.8s,baz=137,slow=6.1
BRVK Borovoye 75.21 332 P **P** **00 17 07.2 -0.4**
comp=Z,117nm,1.0s,SNR=13
BRVK Borovoye 75.21 332 *c i*P **P** **00 17 06.7 -0.9**
BRVK pmax pmax
comp=Z,27nm,1.0s
BRVK Borovoye 75.21 332 P **P** **00 17 07.4 -0.2**
SNR=16
BRVK Borovoye 75.21 332 *e*P **P** **00 17 07.0 -0.6**
IZEF Zefreh 76.31 307 *e*P **P** **00 17 13.7 -1.0**
IGAR Gharneh 76.35 307 *e*P **P** **00 17 14.4 -0.5**
IKIA Kiasar 76.53 311 *e*P **P** **00 17 16.0 +0.1**
IGLO Ghaloghah 76.54 311 *e*P **P** **00 17 15.8 -0.1**
ISHM Shahmirzad 76.67 311 *e*P **P** **00 17 16.7 0.0**
ILAS Lasjerd 76.75 310 *e*P **P** **00 17 18.0 +0.9**
SYO Syowa Base 76.82 201‖ *e*P **P** **00 17 17.0 +0.5**
IKLH Kolahrood 77.05 308 *e*P **P** **00 17 20.2 +1.4**
IPIR Pirpir 77.36 307 *e*P **P** **00 17 21.3 +0.6**
IPRN Peran 77.55 311 *e*P **P** **00 17 21.5 +0.1**
FX1 Attu Island--F 77.88 30 *e*P **P** **00 17 23.3 +0.6**

IR3 Iran Long-Peri 78.25 309 *e*P **P** **00 17 25.6 +0.3**
AB31 Akbulak array 78.32 325 *i* P **P** **00 17 24.4 -0.8**
AB31 pmax pmax
comp=Z,18nm,0.7s
ABKAR Akbulak array 78.32 325 *e*P **P** **00 17 24.7 -0.5**
KBD Kabd 78.79 302 *e*P **P** **00 17 28.4 +0.1**
KBD AMb AMB 00 17 30.4
comp=Z,43nm,0.9s
RDF Al-Radifah 78.83 302 *e*P **P** **00 17 28.4 -0.1**
RDF AMb AMB 00 17 30.8
comp=Z,104nm,1.0s
RAYN Ar Rayn 79.01 296 P **P** **00 17 29.0 -0.7**
comp=Z,115nm,0.8s,SNR=13
RAYN Ar Rayn 79.01 296 *e*P **P** **00 17 30.3 +0.6**
IRAZ Razeghan 79.06 309 *e*P **P** **00 17 30.3 +0.4**
NAY Al-Naaiem 79.18 302 *e*P **P** **00 17 30.3 -0.1**
NAY AMb AMB 00 17 32.3
comp=Z,41nm,1.1s
MIB Mutribah 79.28 303 *e*P **P** **00 17 30.5 -0.4**
MIB AMb AMB 00 17 32.3
comp=Z,63nm,1.1s
QSPA South Pole Qui 79.95 180 *e*P **P** **00 17 35.3 +1.2**
QSPA South Pole Qui 79.95 180 P **P** **00 17 35.0 +1.0**
comp=Z,4.3nm,0.9s,baz=314,slow=1.6,SNR=12
AKTO Aktyubinsk 79.99 325 P **P** **00 17 33.5 -0.8**
AKTO pmax pmax
comp=Z,34nm,0.9s
AKTO Aktyubinsk 79.99 325 P **P** **00 17 34.2 -0.1**
AKTO Aktyubinsk 79.99 325 P **P** **00 17 34.2 -0.1**
comp=Z,21nm,0.9s,baz=115,slow=5.4,SNR=77
IKOM Komasi 80.52 307 *e*P **P** **00 17 38.2 +0.4**
IVIS Veis 81.15 307 *e*P **P** **00 17 40.5 -0.6**
IGHG Ghaleghazi 81.31 307 *e*P **P** **00 17 41.3 -0.8**
KMBO Kilima Mbogo 81.50 270 *e*P **P** **00 17 45.7 +2.1**
comp=Z,12nm,1.0s
KMBO Kilima Mbogo 81.50 270 P **P** **00 17 44.8 +1.2**
comp=Z,8.5nm,0.9s,baz=52,slow=5.0,SNR=18
KMBO LR LR 00 48 43.2
comp=Z,322nm,20.7s,baz=98,slow=32
KMBO Kilima Mbogo 81.50 270 P **P** **00 17 46.0 +2.5**
baz=82,SNR=4.2
IDHR Dehrash 81.57 307 *e*P **P** **00 17 42.1 -1.3**
ISRB Sarab 81.60 311 *e*P **P** **00 17 43.9 +0.4**
TIXI Tiksi 81.80 3*d i*P **P** **00 17 42.7 -0.8**
TIXI pmax pmax
comp=Z,33nm,1.0s
TIXI MLR MLR
comp=Z,403nm,29.0s
SVE Sverdlovsk 81.92 332‖ *e*P **P** **00 17 43.5 -0.9**
SVE pmax pmax
comp=Z,24nm,1.0s
IHRS Heris 82.23 311 *e*P **P** **00 17 46.9 +0.1**
ARU Arti 82.69 331*c i*P **P** **00 17 47.1 -1.4**
ARU S **S** **00 28 02.4 +0.7**
ARU pmax pmax
comp=Z,16nm,1.2s
ARU MLR MLR
comp=Z,306nm,24.0s
ARU Arti 82.69 331 P **P** **00 17 47.2 -1.3**
comp=Z,59nm,0.8s,SNR=5.4
ISHB Shabestar 83.28 311 *e*P **P** **00 17 53.2 +0.9**
DGRG David-gareji 84.46 314 P **P** **00 18 00.4 +2.4**
GNI Garni 84.51 312 P **P** **00 18 00.6 +2.1**
SNR=7.8
GNI Garni 84.51 312 *e*P **P** **00 17 59.2 +0.8**
comp=Z,39nm,1.3s
GNI Garni 84.51 312 P **P** **00 17 58.4 0.0**
comp=Z,7.4nm,0.8s,baz=45,slow=5.7,SNR=8.4
TBLG Delisi 85.00 314 *e*P **P** **00 18 03.0 +2.3**
TBLG Delisi 85.00 314 P **P** **00 18 03.0 +2.3**
DUS Dusheti 85.14 314 P **P** 00 18 05.9 +4.5
ZEI Tsey 85.91 315 *e*P **P** **00 18 06.2 +0.8**
ZEI pmax pmax
comp=Z,48nm,1.3s
ONI Oni 86.17 314 P **P** **00 18 08.7 +2.2**
KBZ Khabaz 86.89 315 P **P** **00 18 10.4 +0.5**
KBZ pmax pmax
comp=Z,12nm,0.9s
KBZ Khabaz 86.89 315 P **P** **00 18 10.4 +0.5**
KBZ Khabaz 86.89 315 P **P** **00 18 10.4 +0.5**
comp=Z,12nm,0.9s,baz=131,slow=3.4,SNR=26
BEYR Belyy Ugol+ 87.03 315 *e*P **P** **00 18 11.9 +1.2**
KIV Kislovodsk 87.11 315*ce*P **P** **00 18 11.2 +0.1**
KIV *e*S **S** **00 28 41.1 -5.1**
KIV pmax pmax
comp=Z,11nm,1.2s
KIV pmax pmax
comp=Z,8.0nm,1.2s
TBI Tubuai 87.64 113 *e*LR LR 00 45 55.4
comp=Z,241nm,29.5s
LSZ Lusaka 88.00 255 *e*P **P** **00 18 17.8 +1.7**
comp=Z,15nm,0.9s
BOSA Boshof 88.35 241 P **P** **00 18 18.7 +1.2**
BOSA Boshof 88.35 241 P **P** **00 18 18.7 +1.2**
comp=Z,3.1nm,0.9s,baz=119,slow=4.6,SNR=6.2
BOSA LR LR 00 51 21.8
comp=Z,178nm,18.5s,baz=105,slow=31
PPT2 Papeete2 88.52 107 *e*S **S** **00 29 00.6 -0.1**
comp=Z,65nm,25.0s
PPT2 Papeete2 88.52 107 *e*LR LR 00 46 23.0
comp=Z,401nm,27.0s
SOC Sochi 89.08 314 *e*P **P** **00 18 19.6 -0.7**
SOC *e**PP **pP** **00 18 33.1 -3.3**
SOC *e* 00 28 44.3
SOC *e*S S 00 28 58.2 -6.5
SOC *e*SS SS 00 35 07.5 +8.1
SOC *e*SSS SSS 00 38 41.2
SOC pmax pmax
comp=Z,22nm,0.9s
SOC MLR MLR
comp=Z,169nm,21.0s
EIL Elat 89.65 300 P **P** **00 18 23.6 +0.3**
EIL Elat 89.65 300 P **P** **00 18 23.6 +0.3**
comp=Z,1.9nm,0.6s,baz=112,slow=11,SNR=2.8
VRHR Novokhopersk 89.83 322 *e*P **P** **00 18 23.2 -0.4**
VRHR pmax pmax
comp=Z,20nm,1.4s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.7s
SNAA Sanae 89.95 196 *e*P **P** **00 18 26.6 +2.6**
SNAA Sanae 89.95 196 *e*P **P** **00 18 26.0 +1.9**
comp=E,13nm,1.1s
MMAI Mount Meron Ar 89.95 303 P **P** **00 18 25.3 +0.5**
MMAI Mount Meron Ar 89.95 303 P **P** **00 18 25.3 +0.5**
comp=E,1.5nm,0.5s,baz=84,slow=6.5,SNR=6.4
VORD Divnogorie 91.21 322 *e*P **P** **00 18 29.3 -0.8**
VORD pmax pmax
comp=Z,10.0nm,1.4s
VORD pmax pmax
comp=N,3.0nm,0.6s
VORD pmax pmax
comp=E,9.0nm,0.6s
VSR Storozhevoye 91.35 322 *e*P **P** **00 18 31.0 +0.3**
VSR pmax pmax
comp=N,7.0nm,1.1s
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR pmax pmax
comp=E,6.0nm,1.0s
BRTR Keskin Array B 92.67 310 P **P** **00 18 37.5 +0.1**
BRTR Keskin Array B 92.67 310 P **P** **00 18 37.5 +0.1**
comp=E,2.0nm,0.8s,baz=121,slow=5.0,SNR=15
BRTR LR LR 01 04 25.5
comp=E,132nm,21.8s,baz=305,slow=38
OBN Obninsk 93.76 325 *e*P **P** **00 18 41.2 -0.6**
OBN *e* 00 22 28.0
OBN *e*S **SKSac** **00 29 09.2 -2.3**
OBN pmax pmax
comp=Z,16nm,1.6s
OBN MLR MLR
comp=Z,300nm,19.0s
BURAR Bucovina Array 99.76 317‖ *i*P **Pdif** **00 19 10.1 +0.8**
FINES FINESS Array B 100.06 331 P **Pdif** **00 19 09.8 -0.3**
FINES FINESS Array B 100.06 331 P **Pdif** **00 19 09.8 -0.3**
comp=Z,4.9nm,0.9s,baz=150,slow=4.2,SNR=11
FINES LR LR 01 10 47.0
comp=Z,186nm,18.9s,baz=96,slow=39
ARCES ARCESS Array B 100.51 339 P **Pdif** **00 19 11.8 -0.1**
ARCES ARCESS Array B 100.51 339 P **Pdif** **00 19 11.8 -0.1**
comp=Z,0.6nm,0.6s,baz=72,slow=5.6,SNR=5.5
RKT Rikitea 100.68 116 *e*LR LR 00 52 03.4
comp=Z,289nm,30.0s
ILAR Eielson Array 100.85 26 P **Pdif** **00 19 12.7 -0.9**

ILAR PP **PP** **00 23 19.4 -2.6**
ILAR PKKPbc **PKKPbc** **00 35 30.9 +1.9**
ILAR Eielson Array 100.85 26 P **Pdif** **00 19 12.7 -0.9**
comp=Z,0.4nm,0.7s,baz=270,slow=3.2,SNR=5.0
ILAR PP **PP** **00 23 19.4 -2.6**
comp=Z,0.8nm,1.1s,baz=285,slow=9.9,SNR=4.4
ILAR PKKPbc **PKKPbc** **00 35 30.9 +1.9**
comp=Z,0.4nm,0.8s,baz=77,slow=1.9,SNR=3.2
HYT Haines Junctio 105.38 30 *e*PKPdf **PKiKP** **00 23 45.2 -2.3**
HAU Haudompre 112.41 318 *e*PKIKP **PKiKP** **00 24 02.9 +1.9**
BAIF Baives 113.39 320 *e*PKIKP **PKiKP** **00 24 02.8 +0.1**
comp=Z,51nm,1.7s
SMF Signal de Mont 114.34 317 *e*PKIKP PKPdf 00 24 05.3 +0.6
SSF Saint Saulge 114.48 317 *e*PKIKP PKPdf 00 24 05.9 +1.0
comp=Z,8.9nm,0.9s
AVF Avril sur Loir 114.64 317 *e*PKIKP PKPdf 00 24 06.0 +0.8
comp=Z,28nm,1.5s
BGF Bois d'Agland 115.03 317 *e*PKIKP **PKPdf** **00 24 06.9 +0.9**
comp=Z,18nm,1.0s
YKA Yellowknife Ar 115.22 24 PKP **PKPdf** **00 24 06.5 +0.7**
YKA Yellowknife Ar 115.22 24 PKP **PKPdf** **00 24 06.5 +0.7**
comp=Z,0.7nm,0.6s,baz=310,slow=2.0,SNR=8.3
ETSF Etsaut 118.21 313 *e*PKIKP **PKPdf** **00 24 13.9 +1.6**
comp=Z,17nm,1.2s
TORD Torodi Ar. Bea 118.47 280 PKP **PKPdf** **00 24 14.6 +1.1**
TORD Torodi Ar. Bea 118.47 280 PKP **PKPdf** **00 24 14.6 +1.1**
comp=Z,3.1nm,0.7s,baz=58,slow=2.1,SNR=17
SJPF Ste Jean 118.63 314 *e*PKIKP **PKPdf** **00 24 14.5 +1.4**
comp=Z,39nm,1.4s
BMO Blue Mountains 120.82 43 *e*PKIKP **PKPdf** **00 24 17.1 -0.2**
BMO Blue Mountains 120.82 43 *e*PKPdf **PKPdf** **00 24 17.1 -0.2**
A13A Flathead Natio 121.27 38 P **PKPdf** **00 24 19.9 +1.8**
baz=121
BSMT Bassoo Peak 121.45 39 *e*PKPdf **PKPdf** **00 24 19.8 +1.2**
ESDC Sonseca Array 121.46 310 PKP **PKPdf** **00 24 19.5 +0.8**
ESDC Sonseca Array 121.46 310 PKP **PKPdf** **00 24 19.5 +0.8**
comp=Z,0.1nm,0.3s,baz=17,slow=2.9,SNR=8.3
NVAR Mina Array Bea 121.81 51 PKP **PKPdf** **00 24 21.2 +1.6**
NVAR Mina Array Bea 121.81 51 PKP **PKPdf** **00 24 21.2 +1.6**
comp=Z,0.6nm,0.6s,baz=207,slow=0.5,SNR=6.4
SWMT Swartz Lake 122.07 40 *e*PKPdf **PKPdf** **00 24 20.7 +1.0**
B14A Marquette Ranc 122.19 38 P **PKPdf** **00 24 21.3 +1.4**
baz=122
MFID Camas Ranch 122.27 45 *e*PKPdf **PKPdf** **00 24 22.6 +2.4**
SLMT Seeley Lake 122.49 40 *e*PKPdf **PKPdf** **00 24 22.2 +1.7**
B15A Bradely Ranch, 122.64 38 P **PKPdf** **00 24 22.4 +1.7**
baz=123
CHMT Chamberlain Mo 122.77 40 *e*PKPdf **PKPdf** **00 24 22.9 +1.8**
C15A Salmond Ranch, 122.83 39 P **PKPdf** **00 24 22.7 +1.5**
baz=123
HLID Hailey 123.20 44 *e*PKPdf **PKPdf** **00 24 24.8 +2.7**
HLID Hailey 123.20 44 P **PKPdf** **00 24 24.3 +2.3**
baz=123
C16A Fuhringer Ranc 123.35 39 P **PKPdf** **00 24 23.5 +1.4**
baz=123
A17A Triple J Farms 123.50 37 P **PKPdf** **00 24 24.1 +1.7**
baz=123
GSC Goldstone 123.68 54 *e*PKIKP **PKPdf** **00 24 23.3 +0.2**
GSC Goldstone 123.68 54 *e*PKPdf **PKPdf** **00 24 23.3 +0.2**
B17A L&G Farms, Che 123.72 38 P **PKPdf** **00 24 24.0 +1.3**
baz=124
DLMT Dillon 123.78 42 *e*PKPdf **PKPdf** **00 24 25.3 +2.2**
MCMT McKenzie Canyo 123.81 42 *e*PKPdf **PKPdf** **00 24 25.5 +2.2**
C17A Wharram Farm, 124.03 38 P **PKPdf** **00 24 24.8 +1.4**
baz=124
HEC Hector,Ludlow 124.16 55 P **PKPdf** **00 24 25.2 +1.1**
baz=124
DBIC Dimbokro 124.23 271 PKP **PKPdf** **00 24 25.5 +0.9**
DBIC Dimbokro 124.23 271 PKP **PKPdf** **00 24 25.5 +0.9**
comp=Z,4.8nm,1.0s,baz=225,slow=1.4,SNR=3.3
D17A Six Diamond Ra 124.28 39 P **PKPdf** **00 24 25.5 +1.5**
baz=124
BOZ Bozeman (W) 124.30 41 *e*PKIKP **PKPdf** **00 24 26.2 +2.1**
BOZ Bozeman (W) 124.30 41 *e*PKPdf **PKPdf** **00 24 26.2 +2.1**
PFO Pinyon Flat Ob 124.31 56 *e*PKPdf **PKPdf** **00 24 25.7 +1.3**
LIC Lamto 124.34 271 *e*PKIKP **PKPdf** **00 24 26.2 +1.4**
comp=Z,12nm,0.9s
EGMT Eagleton 124.47 38 *e*PKPdf **PKPdf** **00 24 26.0 +1.7**
EGMT Eagleton 124.47 38 P **PKPdf** **00 24 25.8 +1.6**
baz=124
A19A Klindworth Far 124.65 36 P **PKPdf** **00 24 26.3 +1.8**
baz=125
B19A Brinkman Farms 124.75 37 P **PKPdf** **00 24 27.0 +2.3**
baz=125
F17A Fitzpatrick Pl 124.81 40 P **PKPdf** **00 24 26.9 +1.9**
baz=125
FFC Flin Flon 125.01 28*c i*PKIKP **PKPdf** **00 24 27.4 +2.5**
BGU Big Grassy Mou 125.04 47 *e*PKPdf **PKPdf** **00 24 26.6 +1.0**
A20A Cobblestone Ra 125.15 36 P **PKPdf** **00 24 27.5 +2.0**
baz=125
B20A Solberg Farm, 125.31 37 P **PKPdf** **00 24 27.6 +1.9**
baz=125
F18A Big Timber 125.41 40 P **PKPdf** **00 24 28.4 +2.3**
baz=125
DUG Dugway 125.43 47 *e*PKIKP **PKPdf** **00 24 28.8 +2.4**
DUG Dugway 125.43 47 *e*PKPdf **PKPdf** **00 24 28.8 +2.4**
DUG Dugway 125.43 47 P **PKPdf** **00 24 28.7 +2.4**
baz=125
IMW Indian Meadow 125.43 43 *e*PKPdf **PKPdf** **00 24 27.3 +0.8**
TPAW Teton Pass 125.58 43 *e*PKPdf **PKPdf** **00 24 29.2 +2.5**
C20A Veseth Ranch, 125.66 37 P **PKPdf** **00 24 28.7 +2.2**
baz=126
I17A Pilgrim Ck. 125.66 42 P **PKPdf** **00 24 28.7 +1.9**
baz=126
A21A Bergtoll Ranch 125.67 36 P **PKPdf** **00 24 28.5 +2.0**
baz=126
REDW Red Top Meadow 125.69 43 *e*PKPdf **PKPdf** **00 24 28.9 +2.0**
E19A Rath Farm, Rou 125.75 39 P **PKPdf** **00 24 28.5 +1.7**
baz=126
LOHW Long Hollow 125.76 43 *e*PKPdf **PKPdf** **00 24 29.4 +2.4**
HWUT Hardware Ranch 125.85 45 *e*PKPdf **PKPdf** **00 24 29.5 +2.3**
C21A Desert Coulee 126.14 37 P **PKPdf** **00 24 29.5 +2.1**
baz=126
MSU Marysvale 126.42 49 *e*PKIKP **PKPdf** **00 24 30.0 +1.5**
MSU Marysvale 126.42 49 *e*PKPdf **PKPdf** **00 24 30.0 +1.5**
D21A La Casta Ranch 126.57 38 P **PKPdf** **00 24 30.4 +2.1**
baz=126
G20A Bridger 126.66 40 P **PKPdf** **00 24 30.6 +2.0**
baz=127
BW06 Boulder Array 126.80 43 *e*PKPdf **PKPdf** **00 24 30.9 +1.8**
PDAR Pinedale Array 126.80 43 PKP **PKPdf** **00 24 30.1 +1.0**
PDAR Pinedale Array 126.80 43 PKP **PKPdf** **00 24 30.1 +1.0**
comp=Z,1.0nm,1.0s,baz=207,slow=1.7,SNR=6.8
C22A Vida 126.89 36 P **PKPdf** **00 24 30.5 +1.7**
baz=127
D22A Cohagen 127.02 37 P **PKPdf** **00 24 31.2 +2.1**
baz=127
L19A Farson 127.19 44 P **PKPdf** **00 24 31.8 +2.0**
baz=127
K19A Absolon Red Bu 127.26 43 P **PKPdf** **00 24 31.9 +2.1**
baz=127
C23A Lambert 127.27 36 P **PKPdf** **00 24 31.8 +2.2**
baz=127
SRU San Rafael 127.45 48 *e*PKIKP **PKPdf** **00 24 32.3 +2.0**
SRU San Rafael 127.45 48 *e*PKPdf **PKPdf** **00 24 32.3 +2.0**
E22A Miles City 127.50 38 P **PKPdf** **00 24 32.6 +2.6**
baz=127
J20A Shoshoni 127.55 42 P **PKPdf** **00 24 32.6 +2.3**
baz=128
D23A Lindsay 127.58 37 P **PKPdf** **00 24 32.6 +2.4**
baz=128
I21A Big Trails, Te 127.87 41 P **PKPdf** **00 24 33.0 +2.1**
baz=128
L20A Wamsutter 127.93 44 P **PKPdf** **00 24 32.8 +1.6**
baz=128
K21A Alcova 128.41 43 P **PKPdf** **00 24 34.2 +2.1**
baz=128
A26A Wade Farm, Ken 128.45 33 P **PKPdf** **00 24 33.9 +2.1**
baz=128
J22A Midwest 128.58 41 P **PKPdf** **00 24 34.4 +2.1**
baz=128
F24A Ekalaka 128.70 38 P **PKPdf** **00 24 34.3 +1.9**
baz=129
PV04 Paradox Valley 128.89 48 *e*PKPdf **PKPdf** **00 24 31.5 -1.6**
N21A Black Mountain 128.99 45 P **PKPdf** **00 24 35.9 +2.6**
baz=129
PV01 Paradox Valley 129.23 49 *e*PKPdf **PKPdf** **00 24 36.7 +2.9**
E26A Carlson Angus 129.55 36 P **PKPdf** **00 24 36.9 +3.0**
baz=130
I24A Kuemmerle Ranc 129.56 40 P **PKPdf** **00 24 36.0 +1.8**
baz=130
MVCO Mesa Verde 129.60 50 *e*PKPdf **PKPdf** **00 24 36.1 +1.5**
RSSD Black Hills 129.81 40 *e*PKIKP **PKPdf** **00 24 36.8 +2.1**
RSSD Black Hills 129.81 40 *e*PKPdf **PKPdf** **00 24 36.8 +2.1**
SMCO Snowmass 130.00 47 *e*PKPdf **PKPdf** **00 24 38.2 +2.7**
ISCO Idaho Springs 130.72 45 *e*PKIKP PKPdf 00 24 42.9 +6.2

ISCO	Idaho Springs	130.72	45	ePKPdf	PKPdf		00 24 42.9	+6.2
ANMO	Albuquerque	131.93	52	ePKPdf	**PKPdf**		**00 24 41.6**	**+2.6**
BNM	Barren Site	132.06	53	ePKPdf	**PKPdf**		**00 24 44.1**	**+4.8**
MNTX	Cornudas Mount	133.82	55	ePKPdf	**PKPdf**		**00 24 45.2**	**+2.8**
MNTX				eSKPbc	**SKPab**		**00 28 11.7**	**+2.4**
ECSD	EROS Data Cent	134.51	36	ePKPdf	**PKPdf**		**00 24 44.6**	**+1.2**
TXAR	Lajitas Array	135.94	58	PKPpre	PKPpre		00 24 42.3	
TXAR	Lajitas Array	135.94	58	PKhKP	PKPpre		00 24 42.3	
	comp=Z,0.4nm,0.6s,baz=229,slow=3.5,SNR=4.0							
COWI	Conover	136.87	29	ePKPdf	**PKPdf**		**00 24 50.1**	**+2.4**
WMOK	Wichita Mounta	137.81	48	ePKIKP	**PKPdf**		**00 24 44.8**	**-5.0**
WMOK	Wichita Mounta	137.81	48	ePKPdf	**PKPdf**		**00 24 44.8**	**-5.0**
CFAA	Coronel Fontan	138.03	171	PKP	**PKPdf**		**00 24 52.0**	**+1.6**
CFAA	Coronel Fontan	138.03	171	PKP	**PKPdf**		**00 24 52.0**	**+1.6**
	comp=Z,0.1nm,0.4s,baz=182,slow=4.6,SNR=3.6							
JCT	Junction City	138.74	55	ePKIKP	**PKPdf**		**00 24 53.6**	**+1.9**
JCT	Junction City	138.74	55	ePKPdf	**PKPdf**		**00 24 53.5**	**+1.9**
GNAR	Gosnell	143.25	41	ePKPdf	**PKPdf**		**00 25 00.9**	**+1.4**
USIN	University of	143.41	36	ePKPdf	PKPbc		00 24 57.2	+0.3
CPUP	Villa Florida	143.64	186	PKP	**PKPdf**		**00 25 01.6**	**+1.1**
CPUP	Villa Florida	143.64	186	PKP	**PKPdf**		**00 25 01.6**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=243,slow=4.5,SNR=2.0							
NCB	Newcomb	144.36	16	ePKPdf	**PKPdf**		**00 25 00.8**	**-0.4**
WVT	Waverly	144.53	39	ePKIKP	**PKPdf**		**00 25 01.5**	**-0.2**
WVT	Waverly	144.53	39	ePKPdf	**PKPdf**		**00 25 01.5**	**-0.2**
WVL	Waterville	144.84	11	ePKPdf	**PKPdf**		**00 25 02.1**	**+0.1**
EMMW	East Machias	145.04	8	ePKPdf	**PKPdf**		**00 25 02.2**	**-0.2**
ACCN	Adirondack Com	145.06	16	ePKPdf	**PKPab**		**00 25 01.9**	**0.0**
VBMS	Vicksburg	145.06	46	ePKPdf	**PKPdf**		**00 25 04.6**	**+1.9**
HNH	Hanover	145.11	14	ePKPdf	**PKPdf**		**00 25 03.5**	**+1.0**
BINY	Binghamton	145.44	20	ePKPdf	**PKPab**		**00 25 04.0**	**+0.6**
FFD	Franklin Falls	145.48	14	ePKPdf	**PKPab**		**00 25 05.1**	**+1.7**
HRV	Adam Dziewonsk	146.41	14	ePKP2	**PKPab**		**00 25 07.3**	**+0.3**
HRV	Adam Dziewonsk	146.41	14	ePKPdf	**PKPab**		**00 25 07.2**	**+0.3**
WES	Weston	146.59	14	ePKP2	**PKPbc**		**00 25 07.1**	**+0.5**
WES	Weston	146.59	14	ePKPdf	**PKPbc**		**00 25 07.1**	**+0.5**
LVC	Limon Verde	146.66	167	ePKPbc	**PKPab**		**00 25 11.5**	**+2.6**
TZTN	Tazewell	146.74	34	ePKPbc	**PKPab**		**00 25 08.5**	**0.0**
CPCT	Cooper Cave	146.97	36	ePKPbc	**PKPab**		**00 25 09.0**	**-0.4**
LRAL	Lakeview Retre	147.01	42	ePKPdf	**PKPbc**		**00 25 07.9**	**-0.2**
BRNJ	Basking Ridge	147.27	19	ePKPbc	**PKPab**		**00 25 10.6**	**+0.2**
SDMD	Soldier's Deli	147.59	23	ePKPbc	**PKPbc**		**00 25 09.7**	**+0.1**
BLA	Blacksburg	147.86	30	ePKP2	**PKPbc**		**00 25 10.8**	**+0.4**
BLA	Blacksburg	147.86	30	ePKPbc	**PKPbc**		**00 25 10.8**	**+0.4**
BRAL	Brewton	148.18	45	ePKPbc	**PKPbc**		**00 25 13.4**	**-1.0**
CBN	Corbin	148.42	25	ePKPbc	**PKPbc**		**00 25 12.8**	**+1.0**
JSRW	J. Sargeant Re	148.64	26	ePKPbc	**PKPbc**		**00 25 13.2**	**+0.9**
KMSC	Kings Mountain	148.99	33	P	**PKPbc**		**00 25 14.9**	**+1.6**
	baz=149							
TIGA	Tifton	150.25	41	P	**PKPbc**		**00 25 18.7**	**+2.2**
	baz=150							
CNNC	Cliffs of the	150.66	29	ePKPbc	**PKPbc**		**00 25 18.8**	**+1.5**
BDFB	Brasilia	151.34	207	PKPbc	**PKPbc**		**00 25 20.5**	**+0.9**
BDFB				PKPab	**PKPab**		**00 25 29.1**	**+1.4**
BDFB	Brasilia	151.34	207	PKPbc	**PKPbc**		**00 25 20.5**	**+0.9**
	comp=Z,2.0nm,0.5s,baz=45,slow=4.3,SNR=4.0							
BDFB				PKPab	**PKPab**		**00 25 29.1**	**+1.4**
	comp=Z,6.6nm,0.9s,baz=119,slow=2.5,SNR=7.0							
LPAZ	La Paz	152.94	165	PKPbc	**PKPbc**		**00 25 25.6**	**+1.7**
LPAZ	La Paz	152.94	165	PKPbc	**PKPbc**		**00 25 25.6**	**+1.7**
	comp=Z,1.4nm,0.6s,baz=335,slow=2.6,SNR=4.8							
SIV	San Ignacio	154.12	180	PKPbc	**PKPbc**		**00 25 27.2**	**+1.4**
SIV	San Ignacio	154.12	180	PKPbc	**PKPbc**		**00 25 27.2**	**+1.4**
	comp=Z,1.1nm,0.8s,baz=156,slow=1.8,SNR=5.2							

JMA 31 00:37:34.0±0.3, 43°90N×147°70E, h0km, M4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.52	250	P	Pn	00 38 02.6	+0.2
NEM2				eS	Sn	00 38 23.0	+0.2
JRA	Rausu	1.86	272	P	Pn	00 38 07.6	+0.5
JRA				eS	Sb	00 38 32.9	+0.2
JNK	Nakash	2.18	263	P	Pn	00 38 12.2	+0.6
JNK				eS	Sn	00 38 39.7	+0.4
JAK	Akkeshi	2.37	249	P	Pn	00 38 14.7	+0.7
JAK				eS	Sn	00 38 43.4	-0.4
JTKR	Abashiri--Toko	2.74	273	P	Pn	00 38 21.0	+1.8
JAR	Ashorobuto	2.92	259	P	Pn	00 38 23.1	+1.4
JAR				eS	Sb	00 39 00.3	-2.8
JCH	Churui	3.42	249	P	Pn	00 38 29.5	+1.0
JCH				eS	Sn	00 39 11.3	+1.5
JNBK	Urakawa-nobuka	3.97	248	P	Pn	00 38 36.9	+0.8
JKB	Kayabe	5.29	250	P	Pn	00 38 55.9	+1.6
JKB				eS	Sn	00 39 56.1	+0.1

*NEIC **31** 00:56:57.0±1.0, 5.°24N×125.°90E, h35km, mb4.3/5, Error ellipse: s-maj=59.2km s-min=13.9km az=83.0*
NEIC Felt [I PIVS] at General Santos.
*ISCJB **31** 00:56:59.4±0.4, 5.°83N±0.°04×126.°13E±0.°05, h120km±4km, mb4.0/17, Error ellipse: s-maj=8.9km s-min=6.0km az=0.7*
*MAN **31** 00:57:00, 5.°83N×126.°10E, h109km, mb4.8, ML3.8, MS3.8*
MAN INTENSITY I - GENERAL SANTOS CITY.
*IDC **31** 00:57:00.4±1.0, 5.°69N×125.°61E, h114km±8km, mb3.7/14, mb1 3.8/14, mb1mx3.7/24, mbtmp3.7/14, Error ellipse: s-maj=33.6km s-min=10.6km az=78.0*
*AUST **31** 00:57:00.9±0.0, 6.°24N×125.°91E, h178km, Error ellipse: s-maj=2.8km s-min=1.9km az=307.0*
*DJA **31** 00:57:06.7±5.3, 5.°N±7.°×12.°6E±1.°0, h39km±75km, M5.0/6, mB5.5/2, mb5.1/6, MLv5.0/5, Mw(mB)4.9/2*

ISC 31 00:57:00.3±0.7, 5.°82N±0.°05×126.°08E±0.°06, h112km±6km, n54, σ1°55/60, mb4.0/17, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.13	9	eP	Pn	00 57 23.5	+0.4
MATI				eS	Sn	00 57 38.8	-1.4
GSPH	General Santos	1.15	283	iP	Pn	00 57 24.4	-2.0
GSPH				eS	Sn	00 57 37.3	-3.6
DAV	Davao City (W)	1.33	338	ePn	Pn	00 57 26.3	+1.0
DAV				eSn	Sn	00 57 43.8	-0.5
DAV	Davao City (W)	1.33	338	P	Pn	00 57 32.9	+7.6
DAV	Davao City (W)	1.33	338	P	Pn	00 57 25.9	+0.6
	155nm,0.3s,baz=96,slow=2.9,SNR=20						
DAV				S	Sn	00 57 45.3	+1.0
	343nm,0.3s,baz=139,slow=20,SNR=12						
DMPH	Davao City--Mi	1.37	336	eP	Pn	00 57 26.8	+1.0
DMPH				eS	Sn	00 57 46.3	+1.2
KCP	Kidapawan	1.53	320	iP	Pn	00 57 28.2	+0.5
KCP				iS	Sn	00 57 50.0	+1.5
BUKP	Musuan	2.28	334	eP	Pn	00 57 38.7	+1.7
CGP	Cagayan de Oro	2.95	332	eP	Sn	00 58 00.0	+9.2
BUTP	Butuan	3.16	352	eP	Pn	00 57 53.0	+4.5
PAGZ	Pagadian	3.35	307	eP	Pn	00 57 51.7	+0.7
IPIL	Ipil	3.99	299	eP	Pn	00 58 01.0	+1.4
MNI	Manado	4.52	196	P	Pn	00 58 10.6	+3.8
TNTI	Ternate	5.18	166	P	Pn	00 58 16.3	+0.6
KMSI	Cibinong	5.62	202	P	Pn	00 58 23.6	+2.0
	242nm,0.6s						
GTOI	Gorontalo	5.99	211	P	Pn	00 58 25.5	-1.2
	528nm,0.6s,7μm2.0nm						
MRSI	Marisa	6.73	218	P	Pn	00 58 37.3	+0.7
	149nm,0.7s,2μm						
LUWI	Luwuk	7.58	206	P	Pn	00 58 51.1	+3.0
	113nm,0.8s,0.8nm						
LUWI	Luwuk	7.58	206	P	Pn	00 58 51.5	+3.4
	baz=7.9,SNR=4.3						
LUWI				S	Sn	01 00 20.4	+7.9
	baz=7.9,SNR=4.4						
PALU	Palau	8.48	79	S	Sn	01 00 32.6	-1.8
	baz=8.6,SNR=4.6						
TTSI	Tana Toraja	10.80	216	P	Pn	00 59 32.5	+0.7
	23nm,1.1s						
SBUM	Sibu	14.22	257	P	P	01 00 22.7	+2.0
WSI	Waingapu	16.43	201	S	S	01 03 56.5	+5.3
	baz=17,SNR=3.1						
MTN	Manton Dam	19.21	165	P	P	01 01 16.1	+0.3
	baz=20,SNR=5.9						
KDU	Kakadu	19.46	161	P	Pn	01 01 22.5	+1.8
	baz=20,SNR=9.1						
KNRA	Kununurra	21.52	173	P	P	01 01 40.4	-0.2
	baz=22,SNR=6.7						
FITZ	Fitzroy Crossi	23.78	181	eP	P	01 02 02.3	-0.5
	5.2nm,0.6s						
FITZ	Fitzroy Crossi	23.78	181	P	P	01 02 02.2	-0.6
	5.7nm,0.5s,baz=1.8,slow=7.3,SNR=23						
FITZ	Fitzroy Crossi	23.78	181	P	P	01 02 02.5	-0.3
	baz=24,SNR=16						
COEN	Coen	25.96	139	P	P	01 02 23.0	+0.3
	baz=26,SNR=11						
WRAB	Tennant Creek	26.86	163	eP	P	01 02 29.4	-1.3
	3.4nm,0.4s						
WRA	Warramunga Arr	26.86	163	P	P	01 02 29.8	-0.9
	1.2nm,0.3s,baz=342,slow=10,SNR=6.1						
MBWA	Marble Bar	27.53	193	eP	P	01 02 33.6	-3.0
	6.8nm,0.6s						
ASAR	Alice Springs	30.29	166	P	P	01 03 00.8	-0.4
	1.4nm,0.4s,baz=345,slow=7.3,SNR=28						
KSRS	Korea Array	31.53	3	P	P	01 03 13.7	+1.8
	0.8nm,0.6s,baz=184,slow=9.6,SNR=4.7						
MEEK	Meekatharra	33.07	192	P	P	01 03 24.5	-1.1
	baz=34,SNR=18						
MORW	Morawa	36.01	195	P	P	01 03 49.9	-0.9
	baz=37,SNR=7.0						
BLDU	Balliduu	37.32	193	P	P	01 04 01.1	-0.8
	baz=38,SNR=11						
KLBR	Kellerberrin	38.04	192	P	P	01 04 07.3	-0.6
	baz=39,SNR=7.0						
USRK	Ussuriysk Arra	38.58	7	P	P	01 04 13.9	+1.6
	1.4nm,0.7s,baz=171,slow=3.8,SNR=5.9						
NWAO	Narrogin (SRO)	39.44	192	eP	P	01 04 19.3	-0.4
	4.9nm,0.4s						
BBOO	Buckleboo	39.57	167	P	P	01 04 21.0	+0.3
	baz=40,SNR=12						
STKA	Stephens Creek	40.30	159	eP	P	01 04 27.1	+0.3
	0.8nm,0.8s						
STKA	Stephens Creek	40.30	159	P	P	01 04 27.0	+0.2
	3.6nm,0.7s,baz=344,slow=7.7,SNR=7.6						
STKA	Stephens Creek	40.30	159	P	P	01 04 27.5	+0.7
	baz=41,SNR=5.1						
SONM	Songino Array	45.12	341	P	P	01 05 05.6	0.0
	0.2nm,0.4s,baz=166,slow=8.5,SNR=2.8						
SONM				PcP	PcP	01 06 43.9	-0.5
	0.5nm,0.4s,baz=164,slow=3.9,SNR=4.9						
PETK	Petropavlovsk-	53.76	23	P	P	01 06 13.1	+2.0
	0.6nm,0.4s,baz=208,slow=2.8,SNR=3.4						
MKAR	Makanchi Array	55.48	325	P	P	01 06 22.6	-1.0
	1.6nm,0.3s,baz=116,slow=7.3,SNR=58						
MKAR				pP	pP	01 06 49.4	-1.1
	0.5nm,0.5s,baz=115,slow=7.6,SNR=3.2						
MKAR				PcP	PcP	01 07 21.4	-1.1
	1.7nm,0.6s,baz=116,slow=3.8,SNR=7.9						
MKAR				ScP	ScP	01 11 09.0	-2.2
	0.3nm,0.6s,baz=98,slow=4.1,SNR=3.1						
ZALV	Zalesovo Beam	58.44	333	P	P	01 06 43.0	-1.3
	0.7nm,0.4s,baz=124,slow=7.7,SNR=5.7						
ZALV				PcP	PcP	01 07 32.9	-0.9
	0.3nm,0.5s,baz=112,slow=1.6,SNR=3.6						
ILAR	Eielson Array	83.51	26	P	P	01 09 16.4	+0.8
	0.5nm,0.6s,baz=239,slow=6.8,SNR=5.9						
BRTR	Keskin Array B	88.19	310	P	P	01 09 37.1	-2.3
	0.5nm,0.6s,baz=148,slow=4.8,SNR=5.2						
ARCES	ARCESS Array B	88.27	340	P	P	01 09 37.8	-1.1
	1.7nm,0.8s,baz=81,slow=5.6,SNR=8.6						
FINES	FINESS Array B	89.69	332	P	P	01 09 44.2	-1.5
	1.3nm,0.5s,baz=52,slow=5.3,SNR=17						
TORD	Torodi Ar. Bea	121.64	289	PKP	**PKPdf**	01 15 41.0	-1.0
	0.9nm,0.4s,baz=61,slow=1.7,SNR=28						

RSPR 31 01:10:58.9, 17.°51N×68.°80W, h69km±10km, MD3.5/8, 5C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMO	Isla Mona	1.04	55	eP	Pn	01 11 16.8	-1.0
DR12	Loma Pena Alta	1.39	337	iP	Pn	01 11 21.6	-0.9
DR12				eS	Sn	01 11 39.6	-0.5
IDE	Isla Desecheo	1.54	55	eP	Pn	01 11 23.9	-0.4
CRPR	Cabo Rojo, PR	1.69	73	eP	Pn	01 11 26.1	-0.2
LSP	Las Mesas	1.77	68	eP	Pn	01 11 27.1	-0.3
AGPR	Aguadilla, PR	1.87	59	eP	Pn	01 11 28.1	-0.7
OBIP	Obispado Ponce	2.16	75	eP	Pn	01 11 32.0	-0.7
CELP	Cerrillos	2.19	75	eP	Pn	01 11 32.5	-0.6
MTP	Monte Pirata	3.15	79	eP	Pn	01 11 45.9	-0.3
MTP	Monte Pirata	3.15	79	eS	Sn	01 12 22.1	-0.5

*ISCJB **31** 01:12:34.6±0.6, 51.°5N±0.°1×179.°98W±0.°04, h80km±4km, mb3.6/7, Error ellipse: s-maj=17.7km s-min=3.8km az=1.8*
*IDC **31** 01:12:35.5±3.9, 51.°70N×179.°78W, h62km±36km, mb3.3/7, mb1 3.7/10, mb1mx3.4/30, mbtmp3.5/10, ML3.5/3, Error ellipse: s-maj=52.8km s-min=18.3km az=179.0*
*NEIC **31** 01:12:36.6, 51.°53N×179.°94W, h64km, ML4.0(AEIC), After AEIC.*

ISC 31 01:12:35.6±0.9, 51.°5N±0.°1×179.°93W±0.°03, h72km±8km, n46, σ0°91/53, mb3.7/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERAA	Semis' Rag'd T	0.46	329	P	**Pn**	01 12 48.0	**-0.4**
AMKA	Amchitka	0.50	254	P	**Pn**	01 12 48.0	**-0.6**
AMKA				S	**Sn**	01 12 57.6	**-0.5**
CESW	Semis' Southwe	0.50	321	P	**Pn**	01 12 47.9	**-0.7**
CEAP	Semis' Anvil P	0.58	328	P	**Pn**	01 12 49.0	**-0.4**
CETU	Semis' Tuman	0.58	322	P	**Pn**	01 12 49.0	**-0.4**
GAKI	Gareloi-Kavalg	0.70	86	P	**Pn**	01 12 50.6	**-0.1**
GALAA	Gareloi Lava P	0.77	71	P	**Pn**	01 12 51.5	**0.0**
GANE	Gareloi Northe	0.78	67	P	**Pn**	01 12 51.4	**-0.2**
GAEA	Gareloi East	0.79	70	P	**Pn**	01 12 51.6	**-0.1**
LSSE	Little Sitkin	1.02	295	P	**Pn**	01 12 54.6	**0.0**
LSSA	Little Sitkin	1.06	295	P	**Pn**	01 12 54.9	**-0.1**
LSNW	Little Sitkin	1.07	296	P	**Pn**	01 12 54.6	**-0.5**
TANO	Tanaga North	1.20	70	P	**Pn**	01 12 56.9	**+0.1**
TASE	Tanaga Southea	1.22	74	P	**Pn**	01 12 57.2	**+0.1**
TAFP	Tanaga Falls P	1.27	72	P	**Pn**	01 12 57.6	**-0.1**
TAFP				S	**Sn**	01 13 13.9	**-0.3**
TAPA	Tanaga Point A	1.35	76	P	**Pn**	01 12 58.8	**0.0**
KICM	Kanaga Island	1.75	76	P	**Pn**	01 13 04.2	**+0.2**
KICM				S	**Sn**	01 13 27.5	**+2.0**
KIKV	Kanaga Island	1.76	77	P	**Pn**	01 13 04.1	**0.0**
KINC	Kanaga Island	1.79	75	P	**Pn**	01 13 04.5	**0.0**
KIRH	Kanaga Island	1.81	77	P	**Pn**	01 13 04.8	**+0.1**
ADK	Adak	2.06	78	P	**Pn**	01 13 07.9	**-0.1**
ADK				S	**Sn**	01 13 34.1	**+1.4**
ADAG	Mount Adagdak	2.12	76	P	**Pn**	01 13 09.2	**+0.3**
ETKA	Kagalaska Isla	2.22	80	P	**Pn**	01 13 10.6	**+0.3**
GSCK	Great Sitkin C	2.40	77	P	**Pn**	01 13 12.7	**0.0**
GSTD	Great Sitkin T	2.42	76	P	**Pn**	01 13 12.7	**-0.3**
GSTD				S	**Sn**	01 13 43.0	**+1.4**
GSMY	Great Sitkin M	2.47	76	P	**Pn**	01 13 13.4	**-0.2**
GSTR	Great Sitkin T	2.47	75	P	**Pn**	01 13 13.9	**+0.2**
ATKA	Atka Island	3.62	77	P	**Pn**	01 13 29.3	**+0.1**
SMY	Shemya	3.87	291	ePn	**Pn**	01 13 33.7	**+1.1**
SMY				eSn	**Sn**	01 14 16.1	**-0.8**
FX1	Attu Island--F	4.46	291	P	**Pn**	01 13 40.7	**0.0**
FX1	Attu Island--F	4.46	291	P	**Pn**	01 13 40.8	**0.0**
	5.0nm,0.3s,baz=109,slow=18,SNR=31						
FX1				S	**Sn**	01 14 32.1	**+0.8**
	12nm,0.3s,baz=249,slow=24,SNR=6.1						
NIKH	Nikolski High	6.96	74	P	**Pn**	01 14 16.1	**+1.3**
OKTU	Okmok Mt. Tuli	7.51	71	P	**Pn**	01 14 24.1	**+1.7**
SPIA	Saint Paul Isl	8.01	41	P	**Pn**	01 14 30.5	**+1.4**
UNV	Unalaska Valle	8.49	69	P	**Pn**	01 14 37.2	**+1.6**
ZRO	Akutan Zero	8.84	68	P	**Pn**	01 14 42.9	**+2.4**
AKGG	Akutan Green G	8.85	67	P	**Pn**	01 14 42.6	**+2.0**
PETK	Petropavlovsk-	13.77	285	P	**Pn**	01 15 47.8	**+0.5**
	0.1nm,0.3s,baz=88,slow=14,SNR=2.6						
KDAK	Kodiak Island	16.95	58	P	**Pn**	01 16 25.8	**-1.9**
	1.6nm,0.3s,baz=270,slow=9.1,SNR=8.6						
ILAR	Eielson Array	21.59	39	P	P	01 17 18.5	-0.5
	0.3nm,0.4s,baz=245,slow=8.3,SNR=6.3						
YKA	Yellowknife Ar	35.65	46	P	P	01 19 25.2	-0.9
	0.2nm,0.3s,baz=66,slow=5.0,SNR=7.2						
NVAR	Mina Array Bea	44.24	82	P	P	01 20 38.0	+0.2
	0.9nm,0.6s,baz=294,slow=7.9,SNR=5.7						
SONM	Songino Array	45.95	296	P	P	01 20 52.5	+1.4
	0.5nm,0.7s,baz=52,slow=7.7,SNR=3.4						
PDAR	Pinedale Array	46.94	72	P	P	01 20 58.8	-0.3
	1.0nm,0.6s,baz=316,slow=3.9,SNR=13						
TXAR	Lajitas Array	59.33	80	P	P	01 22 29.9	-0.1
	0.4nm,0.6s,baz=301,slow=5.1,SNR=6.0						
SCHQ	Schefferville	60.33	38	P	P	01 22 35.3	-1.2
	2.7nm,0.9s,baz=16,slow=15,SNR=4.4						

IDC 31 01:23:18.4±1.5, 10.°27S×118.°46E, h0km, mb4.0/3, mb1 3.9/8, mb1mx3.7/21, mbtmp3.8/8, ML3.6/5, MS3.0/2, Ms1 3.0/2, ms1mx2.6/30, Error ellipse: s-maj=51.0km s-min=19.7km az=50.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.12	90	Pn	Pn	01 24 36.6	+0.1
	5.8nm,0.3s,baz=240,slow=8.1,SNR=3.5						
BATI				Sn	Sn	01 25 30.9	-5.6
	6.6nm,0.3s,baz=285,slow=20,SNR=4.8						
BATI				LR	LR	01 26 36.2	
	comp=Z,268nm,19.1s,baz=150,slow=39						
KAPI	Kappang	5.38	14	Pn	Pn	01 24 40.9	+0.9
	4.4nm,0.3s,baz=189,slow=9.3,SNR=15						
KAPI				Sn	Sn	01 25 38.9	-3.7
	1.8nm,0.3s,baz=197,slow=19,SNR=6.9						
KAPI				LR	LR	01 27 27.2	
	comp=Z,63nm,18.1s,baz=76,slow=46						
FITZ	Fitzroy Crossi	10.44	139	Pn	Pn	01 25 49.8	+0.3
	0.3nm,0.3s,baz=325,slow=13,SNR=6.0						
FITZ				Sn	Sn	01 27 36.3	-11
	0.2nm,0.3s,baz=336,slow=20,SNR=3.3						
WRA	Warramunga Arr	18.08	124	P	Pn	01 27 31.1	-0.3
	0.1nm,0.3s,baz=303,slow=12,SNR=2.8						
WRA				S	Sn	01 30 43.5	-10
	0.1nm,0.3s,baz=303,slow=23,SNR=2.8						
ASAR	Alice Springs	19.86	134	P	P	01 27 51.4	0.0
	0.1nm,0.3s,baz=317,slow=12,SNR=8.7						
SONM	Songino Array	58.83	351	P	P	01 33 18.9	+0.1
	0.6nm,0.5s,baz=158,slow=8.2,SNR=4.1						
MKAR	Makanchi Array	65.34	334	P	P	01 34 03.1	+0.5
	0.7nm,0.6s,baz=137,slow=6.7,SNR=7.8						
ZALV	Zalesovo Beam	70.03	340	P	P	01 34 31.1	-0.8
	1.4nm,0.5s,baz=144,slow=4.3,SNR=8.3						

IDC 31 01:37:33.9±2.2, 10.°34S×118.°48E, h0km, mb3.5/1, mb1 3.6/5, mb1mx3.4/20, mbtmp3.4/5, ML3.3/3, MS2.6/1, Ms1 2.6/1, ms1mx2.1/18, Error ellipse: s-maj=74.1km s-min=24.3km az=58.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	5.44	13	Pn	Pn	01 38 56.6	+0.4
	1.8nm,0.3s,baz=159,slow=8.6,SNR=11						
KAPI				Sn	Sn	01 39 54.6	-5.0
	3.0nm,0.3s,baz=205,slow=24,SNR=5.9						
KAPI				LR	LR	01 41 30.3	
	comp=Z,72nm,22.0s,baz=196,slow=44						
FITZ	Fitzroy Crossi	10.38	139	Pn	Pn	01 40 04.3	+0.3
	0.2nm,0.3s,baz=329,slow=13,SNR=4.1						
FITZ				Sn	Sn	01 41 52.1	-9.1
	0.3nm,0.3s,baz=229,slow=20,SNR=4.5						
WRA	Warramunga Arr	18.03	124	P	Pn	01 41 44.9	-1.1
	baz=300,slow=13,SNR=2.7						
ASAR	Alice Springs	19.80	134	P	Pn	01 42 06.9	-0.7
	0.1nm,0.3s,baz=306,slow=10.0,SNR=4.3						
MKAR	Makanchi Array	65.41	334	P	P	01 48 18.2	-0.2
	0.3nm,0.6s,baz=142,slow=7.3,SNR=4.1						

*DDA **31** 01:48:22.0, 37.°85N×27.°48E, h7km, MD2.8*
*ISK **31** 01:48:21.9, 37.°88N×27.°44E, h9km, MD2.9*
*ISCJB **31** 01:48:22.2±0.5, 37.°87N±0.°03×27.°47E±0.°05, h10km, Error ellipse: s-maj=5.4km s-min=4.4km az=0.5*
*CSEM **31** 01:48:22.3±0.1, 37.°88N×27.°46E, h8km, MD2.9, Error ellipse: s-maj=3.8km s-min=2.9km az=84.0*

ISC 31 01:48:22.3±0.9, 37.°87N±0.°03×27.°47E±0.°03, h10km, n24, σ0°24/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	G?zelcaml?	0.25	229	iP	**Pg**	01 48 27.3	**-0.2**
GCAM				iS	**Sg**	01 48 31.0	**+0.1**
GCAM	G?zelcaml?	0.25	229	iP	**Pg**	01 48 27.3	**-0.2**
GCAM				iS	**Sg**	01 48 31.0	**+0.1**
AYDN	Tasoluk	0.38	123	iP	**Pg**	01 48 29.8	**-0.1**
AYDN				iS	**Sg**	01 48 34.6	**-0.4**
AYDN	Tasoluk	0.38	123	iP	**Pg**	01

LRS	Lares	14.19	37	ePn		Pn	02 05 35.9	-3.0	
ATAH	Atahualpa	14.29	191	Pn		Pn	02 05 41.7	+0.9	
ATAH	Atahualpa	14.29	191	Pn		Pn	02 05 41.7	+0.9	
	0.2nm,0.3s,baz=198,slow=20,SNR=2.0								
MTP	Monte Pirata	14.85	41	ePn		Pn	02 05 44.2	-3.7	
SAML	Samuel	20.21	141	eP		P	02 06 50.7	-2.3	
	42nm,1.2s								
LPAZ	La Paz	24.35	162	P		P	02 07 37.2	+0.5	
LPAZ	La Paz	24.35	162	P		P	02 07 37.2	+0.5	
	5.3nm,0.8s,baz=1.3,slow=13,SNR=14								
SIV	San Ignacio	27.09	148	P		P	02 07 59.8	-1.1	
SIV	San Ignacio	27.09	148	P		P	02 07 59.8	-1.1	
	4.3nm,0.7s,baz=341,slow=11,SNR=5.7								
SIV				LR		LR	02 19 34.9		
	comp=Z,199nm,18.8s,slow=38								
TKL	Tuckaleechee C	29.44	347	LR		LR	02 22 29.2		
	comp=Z,71nm,18.4s,baz=138,slow=41								
LVC	Limon Verde	30.20	167	eP		P	02 08 31.1	+2.3	
	6.1nm,1.0s								
WVT	Waverly	31.02	341	eP		P	02 08 37.5	+1.9	
	5.2nm,1.1s								
TXAR	Lajitas Array	34.41	314	P		P	02 09 05.3	-0.3	
TXAR				PcP		PcP	02 11 43.3	+2.1	
TXAR	Lajitas Array	34.41	314	P		P	02 09 05.3	-0.3	
	0.4nm,1.0s,baz=150,slow=6.3,SNR=2.4								
TXAR				PcP		PcP	02 11 43.3	+2.1	
	0.4nm,0.8s,baz=119,slow=3.2,SNR=2.5								
WMOK	Wichita Mounta	34.80	326	eP		P	02 09 07.5	-1.3	
	1.9nm,0.8s								
BDFB	Brasilia	35.53	129	P		P	02 09 13.7	-1.7	
BDFB	Brasilia	35.53	129	P		P	02 09 13.7	-1.7	
	2.7nm,0.5s,baz=291,slow=9.6,SNR=5.8								
BDFB				LR		LR	02 24 36.1		
	comp=Z,187nm,21.0s,baz=128,slow=38								
LCO	Las Campanas	36.14	172	eP		P	02 09 21.3	+0.7	
	4.2nm,0.7s								
MNTX	Cornudas Mount	36.97	316	eP		P	02 09 28.4	+0.9	
	2.0nm,1.1s								
CPUP	Villa Florida	37.66	152	eP		P	02 09 34.4	+1.1	
	20nm,1.3s								
CPUP	Villa Florida	37.66	152	LR		LR	02 26 16.1		
	comp=Z,109nm,19.7s,baz=152,slow=38								
ANMO	Albuquerque	39.62	319	eP		P	02 09 51.1	+1.2	
	1.0nm,0.7s								
SDCO	Great Sand Dun	40.79	323	eP		P	02 09 59.9	+0.3	
	2.0nm,0.8s								
PDAR	Pinedale Array	46.41	326	P		P	02 10 42.7	-2.2	
PDAR				PcP		PcP	02 12 20.4	+0.6	
PDAR	Pinedale Array	46.41	326	P		P	02 10 42.7	-2.2	
	0.5nm,0.9s,baz=123,slow=11,SNR=4.5								
PDAR				PcP		PcP	02 12 20.4	+0.6	
	0.7nm,1.0s,baz=132,slow=6.2,SNR=2.6								
DUG	Dugway	46.78	321	eP		P	02 10 47.4	-0.3	
	1.7nm,0.7s								
LOHW	Long Hollow	47.54	326	eP		P	02 10 54.3	+0.6	
TPAW	Teton Pass	47.66	325	eP		P	02 10 55.5	+0.9	
	1.2nm,0.8s								
MOOW	Moose Ponds	47.70	326	eP		P	02 10 55.4	+0.4	
	0.7nm,0.6s								
PLCA	Paso Flores	47.75	175	LR		LR	02 31 23.5		
	comp=Z,68nm,21.6s,baz=360,slow=36								
BOZ	Bozeman (W)	49.41	327	eP		P	02 11 08.1	+0.1	
	0.8nm,0.7s								
NVAR	Mina Array Bea	49.50	316	P		P	02 11 09.1	+0.2	
NVAR				PcP		PcP	02 12 33.1	+2.2	
NVAR	Mina Array Bea	49.50	316	P		P	02 11 09.1	+0.2	
	0.5nm,0.6s,baz=125,slow=6.9,SNR=3.8								
NVAR				PcP		PcP	02 12 33.1	+2.2	
	1.0nm,0.8s,baz=119,slow=5.4,SNR=2.8								
MCMT	McKenzie Canyo	49.56	326	eP		P	02 11 10.5	+1.2	
HLID	Hailey	49.70	323	eP		P	02 11 10.4	+0.1	
	0.7nm,0.7s								
WVOR	Wild Horse Val	51.68	320	eP		P	02 11 23.4	-1.8	
	2.9nm,1.0s								
FFC	Flin Flon	52.02	341	eP		P	02 11 27.6	+0.3	
	2.8nm,0.8s								
YKA	Yellowknife Ar	62.20	341	P		P	02 12 38.0	-1.3	
YKA	Yellowknife Ar	62.20	341	P		P	02 12 38.0	-1.3	
	0.6nm,0.5s,baz=134,slow=6.8,SNR=8.3								
YKW3	Yellowknife Ar	62.25	341	eP		P	02 12 40.0	+0.4	
ESDC	Sonseca Array	71.56	51	P		P	02 13 38.3	-1.1	
ESDC	Sonseca Array	71.56	51	P		P	02 13 38.3	-1.1	
	0.1nm,0.3s,baz=270,slow=6.4,SNR=2.9								
INK	Inuvik	71.97	341	eP		P	02 13 42.7	+1.5	
	1.9nm,0.6s								
ILAR	Eielson Array	75.69	335	P		P	02 14 02.4	-0.7	
ILAR	Eielson Array	75.69	335	P		P	02 14 02.4	-0.7	
	0.6nm,0.9s,baz=76,slow=3.8,SNR=1.8								
TOAO	Torodi Ar. Sit	76.27	78	eP		P	02 14 07.5	+0.1	
TORD	Torodi Ar. Bea	76.27	78	P		P	02 14 05.8	-1.5	
TORD	Torodi Ar. Bea	76.27	78	P		P	02 14 05.8	-1.5	
	1.0nm,0.8s,baz=283,slow=6.4,SNR=9.7								
TAM	Tamanrasset	79.31	68	eP		P	02 14 24.6	+0.2	
	3.1nm,1.2s								
ARCES	ARCESS Array B	87.40	20	P		P	02 15 03.9	-1.1	
ARCES	ARCESS Array B	87.40	20	P		P	02 15 03.9	-1.1	
	1.5nm,0.9s,baz=282,slow=6.3,SNR=3.1								
ASAR	Alice Springs	147.06	237	PKPbc		PKPbc	02 22 00.7	-1.1	
ASAR	Alice Springs	147.06	237	PKPbc		PKPbc	02 22 00.7	-1.1	
	1.6nm,0.8s,baz=115,slow=3.7,SNR=14								
WRAB	Tennant Creek	148.03	241	ePKPbc		PKPbc	02 22 05.0	+0.3	
WRA	Warramunga Arr	148.10	243	PKPbc		PKPbc	02 22 04.1	-0.6	
WRA	Warramunga Arr	148.10	243	PKPbc		PKPbc	02 22 04.1	-0.6	
	2.8nm,0.7s,baz=111,slow=2.1,SNR=9.9								

*IDC **31** 02:09:22.4±1.4, 10.17S×118.63E, h0km, mb4.0/3, mb1 3.8/7, mb1mx3.7/20, mbtmp3.8/7, ML3.6/4, MS3.1/3, Ms1 3.1/3, ms1mx2.7/32, Error ellipse: s-maj=53.2km s-min=20.0km az=60.0*

*ISCJB **31** 02:09:27.7±0.6, 10.22S±0.04×118.94E±0.05, h33km, mb4.0/3, Error ellipse: s-maj=7.2km s-min=5.5km az=169.8*

*DJA **31** 02:09:30.0±0.9, 10°S±6°×11°9E±°, h14km±8km, M4.5/5, mb4.5/1, mB4.7/1, MLv4.4/5, Mw(mB)3.9/1*

*AUST **31** 02:09:55.2, 12.47S×116.90E, h0km*

ISC 31 02:09:29.0±0.8, 10°21S±0.06×118.90E±0.06, h33km, n26, σ1°97**7/26, mb4.1/3, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WBSI	Waikabubak, Su	0.74	40	P		Pn	02 09 41.6	-1.6
WSI	Waingapu	1.48	69	P		Pb	02 09 55.6	-0.2
WSI	Waingapu	1.48	69	P		Pb	02 09 58.5	+2.7
	2µm,0.6s,55µm							
BASI	Baing, Sumba	1.65	90	P		Pb	02 09 58.7	-0.1
BMNI	Bima	1.67	353	P		Pb	02 09 59.5	+0.3
	362nm,0.7s							
MMRI	Maumere	3.64	65	P		Pb	02 10 33.0	+0.3
	129nm,0.8s,2µm							
DNP	Denpasar	3.95	292	S		Sn	02 11 13.8	+1.3
SRBI	Singaraja	4.21	300	S		Sn	02 11 21.4	+2.4
BSSI	Bau Bau, Buton	4.34	21	P		Pn	02 10 35.1	+2.4
BSSI				S		Sn	02 11 24.4	+2.3
BSSI	Bau Bau, Buton	4.34	21	P		Pn	02 10 35.0	+2.4
	236nm,0.9s,2µm							
BATI	Baumata	4.69	90	LR		LR	02 12 51.2	
	comp=Z,207nm,18.9s,baz=273,slow=42							
BKSI	Bulukumba	5.00	14	P		Pn	02 10 43.9	+2.1
BKSI	Bulukumba	5.00	14	P		Pn	02 10 43.9	+2.1
	126nm,0.8s,1µm							
KAPI	Kappang	5.23	9	P		Pn	02 10 45.4	+0.5
KAPI				S		Sn	02 11 45.1	+1.0
KAPI	Kappang	5.23	9	P		Pn	02 10 46.4	+1.5
	45nm,0.8s,674nm							
KAPI	Kappang	5.23	9	Pn		Pn	02 10 43.5	-1.4
	3.3nm,0.3s,baz=192,slow=12,SNR=14							
KAPI				Sn		Sn	02 11 43.7	-0.4
	9.3nm,0.3s,baz=289,slow=22,SNR=8.4							
KAPI				LR		LR	02 12 55.9	
	comp=Z,168nm,18.4s,baz=134,slow=41							
FITZ	Fitzroy Crossi	10.21	141	Pn		Pn	02 11 53.6	+0.4
	0.3nm,0.3s,baz=334,slow=13,SNR=7.8							
FITZ				Sn		Sn	02 13 41.8	-4.8
	0.2nm,0.3s,baz=291,slow=17,SNR=3.2							
FITZ				LR		LR	02 16 23.9	
	comp=Z,97nm,19.9s,baz=87,slow=40							
KDU	Kakadu	13.53	102	P		P	02 13 31.8	+44
	baz=15,SNR=5.9							
MEEK	Meekatharra	16.34	181	P		Pn	02 13 16.4	+0.3
	baz=14,SNR=6.2							
MEEK				S		Sn	02 16 01.5	-15
	baz=14,SNR=7.6							
WRA	Warramunga Arr	17.75	125	P		Pn	02 13 33.6	-0.2
	0.3nm,0.3s,baz=297,slow=14,SNR=3.0							
MORW	Morawa	18.95	188	P		Pn	02 13 50.5	+2.2
	baz=17,SNR=10							
MORW				S		Sn	02 17 02.4	-17
	baz=17,SNR=4.7							
ASAR	Alice Springs	19.59	135	P		P	02 13 55.3	+0.7
	0.1nm,0.3s,baz=318,slow=11,SNR=10							
BLDU	Ballidu	20.41	185	P		Pn	02 14 11.1	+5.6
	baz=18,SNR=4.5							
SONM	Songino Array	58.85	350	P		P	02 19 22.1	-2.4
	0.8nm,0.5s,baz=162,slow=7.8,SNR=5.7							
MKAR	Makanchi Array	65.49	333	P		P	02 20 06.4	-2.5
	0.9nm,0.6s,baz=144,slow=7.5,SNR=11							
ZALV	Zalesovo Beam	70.13	339	P		P	02 20 35.5	-2.5
	1.5nm,0.5s,baz=136,slow=4.8,SNR=8.6							

*ATH **31** 02:12:30.7, 38.04N×20.56E, h15km±1km, MD3.7/21*

*ISCJB **31** 02:12:32.2±0.6, 38.11N±0.03×20.61E±0.04, h10km±3km, Error ellipse: s-maj=5.8km s-min=3.2km az=144.3*

*CSEM **31** 02:12:32.7±0.2, 38.12N×20.70E, h5km, ML2.6/4, Error ellipse: s-maj=5.4km s-min=3.4km az=57.0*

*THE **31** 02:12:33.2, 38.13N×20.67E, h8km, ML2.6/4, Error ellipse: s-maj=1.0km s-min=0.6km az=222.0*

ISC 31 02:12:32.2±0.8, 38.11N±0.02×20.60E±0.03, h15km±4km, n105, σ1°07/136, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VLS	Valsamata	0.06	355	P		Pg	02 12 34.7	-0.4
VLS				S		Sg	02 12 37.4	+0.4
VLS	Valsamata	0.06	355	ePB		Pg	02 12 35.0	-0.1
VLS				eSB		Sg	02 12 37.7	+0.7
VLS	Valsamata	0.06	355	P		Pg	02 12 34.7	-0.4
VLS	Valsamata	0.06	355	ePb		Pg	02 12 35.0	-0.1
VLS				S		Sg	02 12 37.4	+0.4
KFL	Anninata	0.15	92	P		Pg	02 12 35.6	-0.5
KFL				S		Sg	02 12 37.5	-1.2
KFL	Anninata	0.15	92	P		Pg	02 12 35.6	-0.5
KFL				S		Sg	02 12 37.5	-1.2
AXS	Araxos	0.62	82	P		Pg	02 12 43.3	-1.0
AXS				S		Sg	02 12 52.2	-0.4
AXS	Araxos	0.62	82	P		Pg	02 12 43.3	-1.0
LKD2	Lefkada island	0.68	4	P		Pg	02 12 44.9	-0.5
LKD2				S		Sb	02 12 55.6	+0.7
LKD2	Lefkada island	0.68	4	ePB		Pg	02 12 44.5	-0.9
LKD2				eSN		Sb	02 12 56.1	+1.2
LKD2	Lefkada island	0.68	4	ePb		Pg	02 12 44.5	-0.9
LKD2	Lefkada island	0.68	4	P		Pg	02 12 44.9	-0.5
LKD2				S		Sb	02 12 55.6	+0.7
LKD2				eSn		Sb	02 12 56.1	+1.2
RLS	Riolos of Patr	0.69	94	P		Pg	02 12 44.6	-1.0
RLS				S		Sg	02 12 54.8	+0.1
RLS	Riolos of Patr	0.69	94	ePN		Pg	02 12 44.4	-1.2
RLS				eSN		Sb	02 12 55.3	+0.1
RLS	Riolos of Patr	0.69	94	ePn		Pg	02 12 44.4	-1.2
RLS				eSn		Sb	02 12 55.3	+0.1
SFD	Strofades	0.92	159	P		Pg	02 12 50.4	+0.4
SFD				S		Sn	02 13 04.1	+0.5
SFD	Strofades	0.92	159	P		Pg	02 12 50.4	+0.4
SFD				S		Sn	02 13 04.1	+0.5
AMT	Artemida-Makis	1.05	123	P		Pb	02 12 51.7	-0.4
AMT				S		Sn	02 13 07.6	+0.7
AMT	Artemida-Makis	1.05	123	ePN		Pb	02 12 51.6	-0.5
AMT	Artemida-Makis	1.05	123	P		Pb	02 12 51.7	-0.4
EFP	Efpalio	1.08	73	P		Pb	02 12 51.4	-1.1
EFP				S		Sg	02 13 06.9	-0.1
EFP	Efpalio	1.08	73	ePB		Pb	02 12 51.3	-1.2
EFP	Efpalio	1.08	73	ePb		Pb	02 12 51.3	-1.2
LAKA	Lakka	1.10	83	P		Pb	02 12 51.7	-1.2
LAKA				S		Sg	02 13 07.5	-0.2
LAKA	Lakka	1.10	83	ePB		Pb	02 12 51.6	-1.3
LAKA	Lakka	1.10	83	P		Pb	02 12 51.7	-1.2
TRIZ	Trizonia	1.19	77	P		Pn	02 12 53.1	-1.2
TRIZ	Trizonia	1.19	77	ePB		Pn	02 12 52.9	-1.4
TRIZ	Trizonia	1.19	77	P		Pn	02 12 53.1	-1.2
KLV	Kalavryta, Ach	1.23	93	P		Pn	02 12 53.7	-1.2
KLV				S		Sg	02 13 12.6	+0.7
KLV	Kalavryta, Ach	1.23	93	ePN		Pn	02 12 53.7	-1.2
KLV	Kalavryta, Ach	1.23	93	P		Pn	02 12 53.7	-1.2
EVR	Evrytania	1.24	49	P		Pn	02 12 54.5	-0.6
EVR	Evrytania	1.24	49	ePN		Pg	02 12 56.1	0.0
EVR	Evrytania	1.24	49	P		Pn	02 12 54.5	-0.6
EVR	Evrytania	1.24	49	ePn		Pg	02 12 56.1	0.0
KALE	Kalithea	1.25	77	P		Pn	02 12 54.0	-1.1
KALE	Kalithea	1.25	77	ePB		Pn	02 12 54.0	-1.1
KALE	Kalithea	1.25	77	P		Pn	02 12 54.0	-1.1
GUR	Goura	1.39	97	P		Pn	02 12 56.5	-0.6
GUR				S		Sg	02 13 16.6	-0.4
GUR	Goura	1.39	97	ePB		Pn	02 12 56.3	-0.8
GUR	Goura	1.39	97	P		Pn	02 12 56.5	-0.6
GUR				S		Sg	02 13 16.6	-0.4
ITM	Ithomi	1.41	131	P		Pn	02 12 57.3	0.0
ITM	Ithomi	1.41	131	ePN		Pn	02 12 56.9	-0.4
ITM	Ithomi	1.41	131	ePn		Pn	02 12 56.9	-0.4
ITM	Ithomi	1.41	131	P		Pn	02 12 57.3	0.0
IGT	Igoumenitsa	1.43	352	P		Pb	02 12 58.4	-0.2
IGT				S		Sg	02 13 17.8	-0.5
IGT	Igoumenitsa	1.43	352	P		Pb	02 12 58.4	-0.2
IGT				S		Sg	02 13 17.8	-0.5
MAKR	Makrakomi, Fth	1.50	53	P		Pg	02 13 00.5	-0.5
MAKR	Makrakomi, Fth	1.50	53	P		Pg	02 13 00.5	-0.5
PYL	PYLOS	1.52	143	P		Pn	02 12 59.0	+0.2
PYL	PYLOS	1.52	143	ePN		Pn	02 12 58.4	-0.4
PYL	PYLOS	1.52	143	ePn		Pn	02 12 58.4	-0.4
PYL	PYLOS	1.52	143	P		Pn	02 12 59.0	+0.2
DSF	Desfina	1.55	78	P		Pn	02 12 58.9	-0.4
DSF	Desfina	1.55	78	P		Pn	02 12 58.9	-0.4
JAN	Janina	1.55	7	P		Pb	02 13 00.6	-0.1
JAN	Janina	1.55	7	ePN		Pb	02 13 00.4	-0.3
JAN	Janina	1.55	7	P		Pb	02 13 00.6	-0.1
VLX	Vlachokerasia	1.60	117	P		Pb	02 13 01.0	-0.4
VLX	Vlachokerasia	1.60	117	P		Pb	02 13 01.0	-0.4
AGG	Agios Georgios	1.63	56	P		Pb	02 13 02.3	+0.3
AGG	Agios Georgios	1.63	56	ePN		Pb	02 13 02.1	+0.1
AGG	Agios Georgios	1.63	56	ePn		Pb	02 13 02.1	+0.1
KEK	Kerkira	1.71	339	P		Pb	02 13 03.1	-0.3
KEK	Kerkira	1.71	339	ePB		Pn	02 13 01.9	+0.4
KEK	Kerkira	1.71	339	ePb		Pn	02 13 01.9	+0.4
KEK	Kerkira	1.71	339	P		Pb	02 13 03.1	-0.3
AXAR	Agios Charalam	1.75	67	P		Pn	02 13 03.0	+1.1
AXAR	Agios Charalam	1.75	67	P		Pn	02 13 03.0	+1.1
THL	Klokotos Trika	1.82	37	P		Pb	02 13 05.2	0.0
THL				S		Sb	02 13 27.9	0.0
THL	Klokotos Trika	1.82	37	ePN		Pb	02 13 05.5	+0.3
THL	Klokotos Trika	1.82	37	P		Pb	02 13 05.2	0.0
THL	Klokotos Trika	1.82	37	ePn		Pb	02 13 05.5	+0.3
THL				S		Sb	02 13 27.9	0.0
SRN	Sarande	1.82	345	P		Pn	02 13 04.3	+1.3
SRN	Sarande	1.82	345	P		Pn	02 13 04.3	+1.3
LTK	Loutraki	1.87	92	P		Pn	02 13 04.5	+0.8
LTK	Loutraki	1.87	92	ePN		Pn	02 13 04.3	+0.6
LTK	Loutraki	1.87	92	P		Pn	02 13 04.5	+0.8
DYR	Agios Nikonas	1.93	134	P		Pn	02 13 05.8	+1.3
DYR	Agios Nikonas	1.93	134	ePN		Pn	02 13 05.8	+1.3
DYR	Agios Nikonas	1.93	134	P		Pn	02 13 05.8	+1.3
DIDY	Didyma	2.17	106	P		Pb	02 13 10.8	-0.4
DIDY	Didyma	2.17	106	P		Pb	02 13 10.8	-0.4
DID	Didima	2.18	105	P		Pb	02 13 09.9	-1.4
DID	Didima	2.18	105	ePN		Pn	02 13 09.7	+1.8
DID	Didima	2.18	105	ePn		Pn	02 13 09.7	+1.8
NEST	Nestorio	2.32	9	P		Pn	02 13 12.0	+2.0
NEST	Nestorio	2.32	9	P		Pn	02 13 12.0	+2.0
NEO	Neokhori	2.38	59	P		Pn	02 13 11.8	+1.2
NEO				S		Sn	02 13 40.9	+1.4
NEO	Neokhori	2.38	59	P		Pn	02 13 11.8	+1.2
NEO				S		Sn	02 13 40.9	+1.4
XOR	Xorichti	2.38	58	P		Pn	02 13 11.6	+0.9
XOR	Xorichti	2.38	58	P		Pn	02 13 11.6	+0.9
KYTH	Kithira	2.67	132	P		Pn	02 13 17.0	+2.3
KYTH	Kithira	2.67	132	ePB		Pn	02 13 17.2	+2.5
KYTH	Kithira	2.67	132	P		Pn	02 13 17.0	+2.3
FNA	Florina	2.73	13	P		Pn	02 13 17.2	+1.6
FNA				S		Sn	02 13 50.6	+2.2
FNA	Florina	2.73	13	P		Pn	02 13 17.2	+1.6
FNA				S		Sn	02 13 50.6	+2.2
AOS	Alonnisos	2.78	67	P		Pn	02 13 17.1	+1.0
AOS	Alonnisos	2.78	67	P		Pn	02 13 17.1	+1.0
STON	Ston	5.24	336	ePn		Pn	02 13 48.8	-1.2
STON				Sn		Sn	02 14 46.6	-3.4
STON	Ston	5.24	336	ePn		Pn	02 13 48.7	-1.2
NVLJ	Novalja	7.75	328	*i* Pn		Pn	02 14 24.0	-0.3
NVLJ				Sn		Sn	02 15 47.2	-4.6
NVLJ	Novalja	7.75	328	*i* Pn		Pn	02 14 24.0	-0.4
MOZS	Mozjanca	9.36	333	*i* Pn		Pn	02 14 46.0	-0.5

*CSEM **31** 02:14:01.3±0.3, 43.89N×13.13E, h40km, MD2.0/7, Error ellipse: s-maj=10.8km s-min=6.1km az=133.0*

ROM 31 02:14:03.7±0.2, 43.73N×13.01E, h35km±2km, Md2.0/7, Ml1.9/2, Error ellipse: s-maj=2.7km s-min=1.7km az=57.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FSSB	Fossombrone	0.17	258	Pg		Pn	02 14 10.6	+0.3
FSSB				Sg		Sn	02 14 15.6	+0.8
	142nm,0.3s							
FSSB	Fossombrone	0.17	258	Pg		Pn	02 14 10.6	+0.3
FSSB				Sg		Sn	02 14 15.6	+0.8
	142nm,0.3s							
ARVD	Arcevia	0.23	191	Pg		Pn	02 14 11.0	+0.1
ARVD				Sg		Sn	02 14 16.1	+0.3
ARVD	Arcevia	0.23	191	Pg		Pn	02 14 11.0	+0.1
ARVD				Sg		Sn	02 14 16.1	+0.3
CING	Cingoli	0.38	158	Pg		Pn	02 14 13.1	+0.4
CING				Sg		Sn	02 14 19.8	+0.9
CING	Cingoli	0.38	158	Pg		Pn	02 14 13.1	+0.4
CING				Sg		Sn	02 14 19.8	+0.9
PIEI	Pieia	0.39	241	Pg		Pn	02 14 12.8	-0.1
PIEI				Sg		Sn	02 14 19.7	+0.5
PIEI	Pieia	0.39	241	Pg		Pn	02 14 12.8	-0.1
PIEI				Sg		Sn	02 14 19.7	+0.5
SNTG	Esanatoglia	0.47	186	Pg		Pn	02 14 14.3	+0.2
SNTG				Sg		Sn	02 14 21.7	+0.5
SNTG	Esanatoglia	0.47	186	Pg		Pn	02 14 14.3	+0.2
SNTG				Sg		Sn	02 14 21.7	+0.5
MURB	Monte Urbino	0.58	217	Pg		Pn	02 14 15.9	+0.3
MURB				Sg		Sn	02 14 25.1	+1.1
	38nm,0.2s							
MURB	Monte Urbino	0.58	217	Pg		Pn	02 14 15.9	+0.3
MURB				Sg		Sn	02 14 25.1	+1.1
	38nm,0.2s							
CESI	CESI - Serrava	0.73	186	Pg		Pn	02 14 18.1	+0.5
CESI				Sg		Sn	02 14 29.1	+1.6
CESI	CESI - Serrava	0.73	186	Pg		Pn	02 14 18.1	+0.5
CESI				Sg		Sn	02 14 29.1	+1.6

WEL 31 02:15:38.3±0.2, 45.54S×166.61E, h21km, ML3.8/16, 1C-1D, Error ellipse: s-maj=1.9km s-min=0.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DCZ	Deep Cove	0.39	82	P*		Pb	02 15 45.9	-0.4
DCZ				S*		Sb	02 15 50.9	-0.8
DCZ				AML		AML	02 15 51.9	
DCZ				AML		AML	02 15 51.9	
DCZ				AML		AML	02 15 52.2	
MLZ	Mavora Lakes	1.11	81	⇓PN		Pn	02 15 57.8	-1.0
MLZ				SN		Sb	02 16 11.8	-1.2
MLZ				AML		AML	02 16 12.7	
MSZ	Milford Sound	1.27	48	PN		Pn	02 16 00.4	-0.4
MSZ				SN		Sn	02 16 16.1	-1.0
MSZ				AML		AML	02 16 21.0	
MSZ				AML		AML	02 16 21.0	
MSZ				AML		AML	02 16 22.1	
APZ	The Paps	1.61	144	PN		Pn	02 16 06.4	+0.8
WKZ	Wanaka	1.84	68	PN		Pb	02 16 10.0	-1.3
WKZ				AML		AML	02 16 38.7	
WKZ				AML		AML	02 16 40.1	
WKZ				AML		AML	02 16 40.2	
EAZ	Earnscleugh	1.93	82	PN		Pb	02 16 11.4	-1.3
EAZ				AML		AML	02 16 38.3	
EAZ				AML		AML	02 16 42.0	
SYZ	Scrubby Hill	2.03	121	⇑PN		Pb	02 16 13.5	-0.9
JCZ	Jackson Bay	2.11	47	AML		AML	02 16 50.2	
JCZ				AML		AML	02 16 58.6	
TUZ	Tuapeka	2.16	102	PN		Pb	02 16 15.1	-1.4
TUZ				AML		AML	02 16 46.6	
TUZ				AML		AML	02 16 47.6	
LBZ	Lake Benmore	2.78	67	PN		P

ERM	**Erimo**	**1.12**	**127**	*e*Pn	**Pn**	**02 30 28.1 +0.5**
ERM				*e*Sn	**Sn**	**02 30 44.4 -0.6**
JSK	**Shakotan**	**1.27**	**302**	⇓P	**Pn**	**02 30 30.2 +1.1**
JSK				*e*S	**Sn**	**02 30 49.6 +1.8**
JKK2	**Kamakawa 2**	**1.32**	**26**	⇓P	**Pn**	**02 30 30.5 +0.8**
JKK2				*e*S	**Sn**	**02 30 49.6 +0.7**
JAR	**Ashorobuto**	**1.47**	**65**	⇓P	**Pn**	**02 30 31.2 -0.2**
JAR				*e*S	**Sn**	**02 30 51.1 -0.7**
JOT	**Ohata**	**1.47**	**207**	⇑P	**Pn**	**02 30 31.2 -0.2**
JOT				*e*S	**Sn**	**02 30 50.8 -1.0**
ASAJ	**Asahikawa**	**1.50**	**18**	*e*Pn	**Pn**	**02 30 32.3 +0.5**
ASAJ				*e*Sn	**Sn**	**02 30 48.2 -4.4**
ASAJ	**Asahikawa**	**1.50**	**18**	P	**Pn**	**02 30 32.2 +0.4**
	27nm,0.3s,baz=224,slow=12,SNR=56					
ASAJ				S	**Sn**	**02 30 53.1 +0.5**
	53nm,0.3s,baz=108,slow=20,SNR=43					
JYG	**Yagishiri**	**1.78**	**348**	⇑P	**Pn**	**02 30 36.3 +1.2**
JYG				*e*S	**Sn**	**02 31 00.0 +1.6**
JTKR	**Abashiri--Toko**	**1.92**	**47**	⇓P	**Pn**	**02 30 37.7 +0.9**
JTKR				*e*S	**Sn**	**02 31 02.4 +0.9**
JOSM	**Okushiri--Mats**	**1.93**	**253**	⇓P	**Pn**	**02 30 37.5 +0.5**
YUK	**Yuzh-Kuril'sk**	**3.15**	**63***d*	*i*PN	**Pn**	**02 30 53.4 +0.7**
YUK				*i*S	**Sn**	**02 31 30.6 +0.7**
YUK				pmax	pmax	
	comp=N,134nm,0.4s					
YUK				pmax	pmax	
	comp=Z,365nm,0.4s					
YUK				pmax	pmax	
	comp=E,92nm,0.5s					
YUK				smax	smax	
	comp=E,538nm,0.7s					
YUK				smax	smax	
	comp=N,709nm,0.6s					
YSS	**Yuzh-Sakhalins**	**4.30**	**7**	⇑*i*PN	**Pn**	**02 31 10.2 +2.2**
YSS				*e*S	**Sn**	**02 31 58.0 +0.7**
YSS				pmax	pmax	
	comp=Z,320nm,0.8s					
YSS				smax	smax	
	comp=N,150nm,1.1s					
KUR	**Kuril'sk**	**4.97**	**57**	*e*PN	**Pn**	**02 31 18.2 +1.2**
KUR				*e*S	**Sn**	**02 32 17.8 +4.5**
KUR				pmax	pmax	
	comp=E,32nm,0.6s					
KUR				pmax	pmax	
	comp=Z,77nm,1.2s					
KUR				pmax	pmax	
	comp=N,46nm,0.2s					
KUR				smax	smax	
	comp=N,46nm,0.2s					
KUR				smax	smax	
	comp=E,22nm,0.2s					
MAJO	**Matsushiro**	**6.78**	**206**	*e*PN	**Pn**	**02 31 41.8 +0.2**
MAJO				*e*		02 32 57.1
MAJO	**Matsushiro**	**6.78**	**206**	*e*Pn	**Pn**	**02 31 41.8 +0.2**
MAJO				*e*Sn	**Sn**	**02 32 57.1 -0.3**
MAT	**Matsushiro**	**6.78**	**206**	P	**Pn**	**02 31 41.4 -0.2**
MAT				S	**Sn**	**02 32 57.3 -0.1**
MJAR	**Matsushiro Arr**	**6.78**	**206**	P	**Pn**	**02 31 41.7 +0.1**
	comp=E,1.7nm,0.3s,baz=27,slow=12,SNR=12					
USRK	**Ussuriysk Arra**	**7.40**	**285**	P	**Pn**	**02 31 50.6 +0.8**
	comp=E,0.7nm,0.3s,baz=93,slow=14,SNR=12					
HABR	**Khabarovsk**	**7.54**	**322**	*e*PN	**Pn**	**02 31 50.6 -1.1**
HABR				*e*S	**Sn**	**02 33 13.6 -1.8**
HABR				pmax	pmax	
	comp=E,74nm,1.8s					
HABR				pmax	pmax	
	comp=E,78nm,1.8s					
HABR				pmax	pmax	
	comp=N,43nm,1.8s					
MDJ	**Mudanjiang**	**9.16**	**286**	P	**Pn**	**02 32 12.8 -0.9**
MDJ				PcP	**PcP**	**02 38 22.8 -1.3**
MDJ				PcS	**PcS**	**02 41 58.5 +1.3**
MDJ				ScS	ScS	02 45 21.0 +1.7
MDJ				pmax	pmax	
	comp=Z,4.0nm,0.7s					
MDJ				pmax	pmax	
	comp=Z,41nm,5.3s					
MDJ				LR	LR	
	comp=N,42nm,6.7s					
MDJ				LR	LR	
	comp=E,36nm,4.8s					
MDJ				LR	LR	
	comp=Z,60nm,6.2s					
KLR	**Kul'dur**	**9.65**	**316**	*e*PN	**Pn**	**02 32 17.7 -2.5**
KLR				pmax	pmax	
	comp=E,28nm,1.4s					
KLR				pmax	pmax	
	comp=Z,33nm,1.4s					
KSRS	**Korea Array**	**11.95**	**249**	P	**Pn**	**02 32 51.8 +0.8**
	comp=Z,0.1nm,0.3s,baz=61,slow=12,SNR=16					
SKR	**Severo-Kuril's**	**12.57**	**46**	*e*PN	Pn	02 32 52.7 -6.4
PEA0B	**Petropavlovsk-**	**14.80**	**40**	*e*Pn	**Pn**	**02 33 26.1 -1.8**
PETK	**Petropavlovsk-**	**14.80**	**40**	P	**Pn**	**02 33 26.5 -1.3**
PETK				pmax	pmax	
	comp=Z,1.0nm,0.3s					
PETK	**Petropavlovsk-**	**14.80**	**40**	P	**Pn**	**02 33 26.5 -1.3**
	comp=Z,1.0nm,0.3s,baz=193,slow=12,SNR=10					
CLNS	**Chul'man**	**17.86**	**328**	*e*P	**P**	**02 34 03.9 -0.6**
CLNS				pmax	pmax	
	comp=E,14nm,0.8s					
CLNS				pmax	pmax	
	comp=Z,44nm,0.8s					
CLNS				pmax	pmax	
	comp=N,14nm,0.7s					
YAK	**Yakutsk**	**20.70**	**344**	*e*P	**P**	**02 34 31.8 -3.3**
YAK				*e*S	**S**	**02 38 13.3 -6.2**
YAK				*e**SS	sS	02 38 48.1 -7.6
YAK				pmax	pmax	
	comp=Z,29nm,0.9s					
YAK				pmax	pmax	
	comp=N,8.0nm,1.0s					
YAK				pmax	pmax	
	comp=E,4.0nm,1.0s					
YAK				pmax	pmax	
	comp=Z,12nm,0.6s					
YAK				pmax	pmax	
	comp=N,3.0nm,0.6s					
YAK				pmax	pmax	
	comp=E,2.0nm,0.5s					
YAK				smax	smax	
	comp=N,38nm,1.5s					
YAK				smax	smax	
	comp=E,10.0nm,0.8s					
NJ2	**Nanjing**	**21.14**	**247**	*e*P	**P**	**02 34 39.3 -0.8**
NJ2				pmax	pmax	
	comp=Z,20nm,0.6s					
HHC	**Hu-ho-hao-te**	**22.68**	**276**	*e*P	**P**	**02 34 55.0 -1.2**
HHC				pP	**pP**	**02 35 18.0 -0.6**
HHC				PP	**PnPn**	**02 35 28.8 +1.9**
HHC				sP	**sP**	**02 35 31.5 -1.7**
HHC				S	**S**	**02 38 50.3 -5.4**
HHC				pmax	pmax	
	comp=Z,28nm,0.7s					
HHC				pmax	pmax	
	comp=Z,140nm,5.5s					
ULN	**Ulaanbaatar**	**24.95**	**294**	*e*P	**P**	**02 35 16.9 -0.2**
	comp=Z,4.1nm,0.8s					
SONM	**Songino Array**	**25.40**	**294**	P	**P**	**02 35 21.1 +0.1**
	comp=Z,8.8nm,1.1s,baz=90,slow=8.7,SNR=43					
ZAK	**Zakamensk**	**27.44**	**300**	*e*P	**P**	**02 35 38.9 -0.4**
ZAK				pmax	pmax	
	comp=Z,4.0nm,1.2s					
LZH	**Lanzhou**	**29.99**	**270**	*e*P	**P**	**02 36 02.5 +0.4**
LZH				pP	**pP**	**02 36 27.0 -0.8**
LZH				sP	**sP**	**02 36 40.0 -1.3**
LZH				pmax	pmax	
	comp=Z,17nm,1.0s					
GTA	**Gaotai**	**31.71**	**279**	P	**P**	**02 36 18.3 +1.1**
GTA				pP	**pP**	**02 36 43.5 +0.6**
GTA				sP	**sP**	**02 36 57.0 +0.6**
GTA				pmax	pmax	
	comp=Z,7.0nm,0.9s					
CD2	**Chengdu**	**32.50**	**261**	*e*P	**P**	**02 36 24.5 +0.4**
CD2				pP	**pP**	**02 36 49.5 -0.4**
CD2				sP	**sP**	**02 37 03.0 -0.4**
CD2				PP	**PnPn**	**02 37 36.8 +0.9**
CD2				S	**S**	**02 41 29.5 -1.0**
CD2				sS	**sS**	**02 42 13.3 -2.2**
CD2				pmax	pmax	
	comp=Z,10.0nm,0.8s					
CD2				pmax	pmax	
	comp=Z,30nm,4.2s					
GYA	**Guiyang**	**32.98**	**252**	*e*P	**P**	**02 36 29.8 +1.4**
GYA				pP	**pP**	**02 36 55.5 +1.3**
GYA				sP	**sP**	**02 37 08.8 +1.2**
GYA				PP	**PnPn**	**02 37 43.3 +1.4**
GYA				PcP	**PcP**	**02 39 11.5 +1.8**
GYA				S	**S**	**02 41 38.0 -0.1**
GYA				sS	**sS**	**02 42 23.3 +0.2**
GYA				ScP	**ScP**	**02 42 44.8 +1.9**
GYA				PcS	**PcS**	**02 42 56.3 +0.8**
GYA				ScS	**ScS**	**02 46 43.0 -0.6**
GYA				pmax	pmax	
	comp=Z,10.0nm,0.8s					
KRAR	**Krasnoyarsk**	**33.88**	**310**	*i*P	**P**	**02 36 37.6 +1.9**
KRAR				pmax	pmax	
	comp=Z,14nm,0.9s					
QIZ	**Qiongzhong**	**35.92**	**239**	P	**P**	**02 36 53.3 -0.4**
QIZ				S	**S**	**02 42 25.0 +1.7**
QIZ				pmax	pmax	
	comp=Z,14nm,2.0s					
KMI	**Kunming**	**36.57**	**254**	P	P	02 37 05.0 +5.6
KMI				pmax	pmax	
	comp=Z,15nm,0.7s					
ZALV	**Zalesovo Beam**	**38.61**	**307**	P	**P**	**02 37 15.9 0.0**
ZALV						02 39 25.5
ZALV						02 43 01.9
ZALV				pmax	pmax	
	comp=Z,8.0nm,0.7s					
ZALV				pmax	pmax	
	comp=Z,2.0nm,0.9s					
ZALV				pmax	pmax	
	comp=N,1.0nm,0.7s					
ZALV	**Zalesovo Beam**	**38.61**	**307**	P	**P**	**02 37 15.9 0.0**
	comp=N,8.0nm,0.7s,baz=84,slow=8.1,SNR=41					
ZALV				PcP	**PcP**	**02 39 25.4 -0.3**
	comp=N,2.0nm,0.8s,baz=79,slow=3.2,SNR=4.5					
ZALV				ScP	**ScP**	**02 43 01.9 -0.9**
	comp=N,0.8nm,0.7s,baz=77,slow=6.2,SNR=3.8					
WMQ	**Urumqi**	**38.93**	**291**	P	**P**	**02 37 19.5 +0.6**
NVS	**Novosibirsk**	**39.42**	**309**	⇑*i*P	**P**	**02 37 22.0 -0.6**
NVS				*i*		02 37 58.8
NVS				pmax	pmax	
	comp=Z,7.0nm,1.0s					
NVS				pmax	pmax	
	comp=N,2.0nm,0.6s					
NVS				pmax	pmax	
	comp=E,3.0nm,0.6s					
MK31	**Makanchi Array**	**41.69**	**297**	*e*P	**P**	**02 37 41.5 0.0**
MK31	**Makanchi Array**	**41.69**	**297**	*e*P	**P**	**02 37 41.5 0.0**
MKAR	**Makanchi Array**	**41.69**	**297**	P	**P**	**02 37 41.6 +0.1**
MKAR						02 39 35.7
MKAR				pmax	pmax	
	comp=Z,5.0nm,0.5s					
MKAR	**Makanchi Array**	**41.69**	**297**	*e*P	**P**	**02 37 41.7 +0.2**
MKAR	**Makanchi Array**	**41.69**	**297**	P	**P**	**02 37 41.6 +0.1**
	comp=Z,4.5nm,0.5s,baz=83,slow=9.6,SNR=55					
MKAR				PcP	**PcP**	**02 39 35.7 -0.3**
	comp=Z,0.4nm,0.4s,baz=71,slow=5.2,SNR=4.9					
MKAR				ScP	**ScP**	**02 43 14.7 -0.4**
	comp=Z,0.3nm,0.6s,baz=52,slow=2.3,SNR=4.1					
COLA	**College**	**44.15**	**35**	*e*P	**P**	**02 38 01.6 +0.6**
COLA				pmax	pmax	
	comp=Z,12nm,0.7s					
COLA	**College**	**44.15**	**35**	*e*P	**P**	**02 38 01.6 +0.6**
	comp=Z,12nm,0.7s					
ILAR	**Eielson Array**	**44.57**	**35**	P	**P**	**02 38 03.7 -0.6**
	comp=Z,1.0nm,0.6s,baz=263,slow=6.0,SNR=18					
VOSK	**Vostochnaya**	**46.96**	**308**	P	**P**	**02 38 22.8 -0.6**
VOSK				pmax	pmax	
	comp=Z,12nm,0.7s					
BVA0	**Borovoye Array**	**47.21**	**309**	P	**P**	**02 38 25.6 +0.3**
BVA0				pmax	pmax	
	comp=Z,15nm,0.5s					
BRVK	**Borovoye**	**47.27**	**309**	*c i*P	**P**	**02 38 25.7 0.0**
BRVK				pmax	pmax	
	comp=Z,7.0nm,0.8s					
BRVK	**Borovoye**	**47.27**	**309**	*e*P	**P**	**02 38 26.4 +0.8**
	comp=Z,11nm,0.8s					
TKM2	**Tokmak 2**	**47.50**	**294**	P	**P**	**02 38 28.4 +0.5**
TKM2				pmax	pmax	
	comp=Z,12nm,0.8s					
AAK	**Ala-Archa**	**48.35**	**294**	*e*P	**P**	**02 38 34.4 0.0**
AAK				pmax	pmax	
	comp=Z,3.0nm,0.6s					
AAK	**Ala-Archa**	**48.35**	**294**	*e*P	**P**	**02 38 34.4 0.0**
	comp=Z,3.1nm,0.6s					
KSH	**Kashi**	**48.67**	**290**	*e*P	**P**	**02 38 39.5 +2.6**
KSH				PcP	**PcP**	**02 40 04.0 +3.6**
KSH				PP	**PP**	**02 40 33.3 +2.6**
KSH				PcS	**PcS**	**02 43 58.8 +2.0**
KSH				S	**S**	**02 45 31.5 +1.2**
KSH				pmax	pmax	
	comp=Z,100nm,11.4s					
KSH				LR	LR	
	comp=N,140nm,9.7s					
KSH				LR	LR	
	comp=E,130nm,7.2s					
KSH				LR	LR	
	comp=Z,120nm,8.7s					
INK	**Inuvik**	**49.21**	**29**	P	**P**	**02 38 40.0 -0.4**
	comp=Z,1.1nm,0.3s,baz=302,slow=7.7,SNR=9.0					
HYT	**Haines Junctio**	**49.59**	**39**	*e*P	**P**	**02 38 46.3 +2.8**
KK31	**Karatay Array**	**50.81**	**296**	*i*P	**P**	**02 38 52.1 -0.8**
KK31				pmax	pmax	
	comp=Z,4.0nm,0.7s					
KKAR	**Karatay Array**	**50.81**	**296**	*e*P	**P**	**02 38 52.8 -0.1**
KKAR				pmax	pmax	
	comp=Z,7.0nm,0.8s					
KKAR	**Karatay Array**	**50.81**	**296**	*e*P	**P**	**02 38 52.8 -0.1**
	comp=Z,6.7nm,0.8s					
SVE	**Sverdlovsk**	**51.28**	**316**	*e*P	**P**	**02 38 57.0 +0.9**
SVE				pmax	pmax	
	comp=Z,38nm,1.0s					
PMG	**Port Moresby**	**52.06**	**173**	*e*P	**P**	**02 39 04.1 +1.8**
	comp=Z,46nm,1.2s					
SOKR	**Solikamsk**	**52.18**	**320**	*d i*P	**P**	**02 39 03.1 +0.4**
SOKR				pmax	pmax	
	comp=Z,40nm,1.1s					
ARU	**Arti**	**52.49**	**316**	*d i*P	**P**	**02 39 05.5 +0.4**
ARU						02 41 01.0
ARU				S	**S**	**02 46 25.2 +2.9**
ARU				pmax	pmax	
	comp=Z,23nm,1.2s					
AB31	**Akbulak array**	**54.72**	**307**	*i*P	**P**	**02 39 21.5 0.0**
AB31				pmax	pmax	
	comp=Z,5.0nm,0.4s					
ABKAR	**Akbulak array**	**54.72**	**307**	*e*P	**P**	**02 39 21.9 +0.4**
	comp=Z,7.2nm,0.5s					
SPITS	**Spitsbergen Ar**	**55.07**	**348**	P	**P**	**02 39 23.2 -0.4**
	comp=Z,2.5nm,0.6s,baz=93,slow=7.1,SNR=6.4					
AKTO	**Aktyubinsk**	**55.30**	**309**	P	**P**	**02 39 25.7 0.0**
AKTO				pmax	pmax	
	comp=Z,5.0nm,0.8s					
AKTO	**Aktyubinsk**	**55.30**	**309**	P	**P**	**02 39 25.6 0.0**
	comp=Z,4.5nm,0.8s,baz=76,slow=9.6,SNR=11					
KBL	**Kabul**	**55.93**	**288**	*e*P	**P**	**02 39 29.9 -0.8**
KBL				pmax	pmax	
	comp=Z,4.0nm,0.7s					
KBL	**Kabul**	**55.93**	**288**	*e*P	**P**	**02 39 29.9 -0.8**
	comp=Z,4.2nm,0.7s					
TMCR	**Tamitsa**	**58.02**	**330**	*e*P	**P**	**02 39 44.8 +0.2**
TMCR				*e*		02 40 33.1
TMCR				*e*		02 41 53.3
TMCR				pmax	pmax	
	comp=Z,18nm,1.2s					
YKA	**Yellowknife Ar**	**58.75**	**32**	P	**P**	**02 39 49.9 +0.2**
	comp=Z,0.2nm,0.4s,baz=318,slow=6.8,SNR=3.4					
ARCES	**ARCESS Array B**	**58.87**	**338**	P	**P**	**02 39 50.1 -0.3**
	comp=Z,1.9nm,0.5s,baz=46,slow=8.1,SNR=24					
DAG	**Danmarks Havn**	**60.18**	**355**	*i*P	**P**	**02 39 58.8 -0.5**
DAG				pmax	pmax	
	comp=Z,2.0nm,0.9s					
DAG	**Danmarks Havn**	**60.18**	**355**	*i*P	**P**	**02 39 58.8 -0.5**
	comp=Z,2.5nm,0.9s					
WRA	**Warramunga Arr**	**62.71**	**188**	P	**P**	**02 40 16.5 -0.5**
	comp=Z,0.4nm,0.3s,baz=7.1,slow=6.9,SNR=3.5					
OBN	**Obninsk**	**63.86**	**322**	*e*P	**P**	**02 40 24.0 -0.2**
OBN				pmax	pmax	
	comp=Z,6.0nm,1.1s					
FINES	**FINESS Array B**	**64.03**	**331**	P	**P**	**02 40 24.9 -0.4**
	comp=Z,1.3nm,0.5s,baz=52,slow=7.1,SNR=94					
SUMG	**Summit**	**65.04**	**0**	*i*P	**P**	**02 40 32.5 +0.4**
SUMG				pmax	pmax	
	comp=Z,5.0nm,0.7s					
SUMG	**Summit**	**65.04**	**0**	*e*P	**P**	**02 40 31.9 -0.2**
	comp=Z,20nm,1.5s					
SUMG	**Summit**	**65.04**	**0**	*i*P	**P**	**02 40 32.5 +0.4**
	comp=Z,4.9nm,0.7s					
ASAR	**Alice Springs**	**66.44**	**188**	P	**P**	**02 40 40.6 -0.6**
	comp=Z,0.5nm,0.8s,baz=14,slow=4.8,SNR=4.2					
KIV	**Kislovodsk**	**67.57**	**310**	*d i*P	**P**	**02 40 49.7 +1.3**
KIV				*i*		02 43 18.5
KIV				pmax	pmax	
	comp=Z,24nm,1.1s					
KBZ	**Khabaz**	**67.59**	**309**	P	**P**	**02 40 48.5 +0.2**
KBZ				pmax	pmax	
	comp=Z,5.0nm,0.7s					
KBZ	**Khabaz**	**67.59**	**309**	P	**P**	**02 40 48.5 +0.2**
	comp=Z,5.2nm,0.7s,baz=31,slow=9.0,SNR=12					
IDID	**Didziasalis**	**67.99**	**326**	*e*P	**P**	**02 40 50.9 +0.2**
IDID				AMB	AMB	02 40 52.1
	comp=Z,3.4nm,0.7s					
ISAL	**Salakas**	**68.06**	**327**	*e*P	**P**	**02 40 51.2 +0.1**
ISAL				AMB	AMB	02 40 53.2
	comp=Z,8.3nm,0.9s					
IIGN	**Ignalina**	**68.18**	**326**	*e*P	**P**	**02 40 52.0 +0.1**
IIGN				AMB	AMB	02 40 53.3
	comp=Z,5.8nm,1.0s					
NB2	**NORSAR Subarra**	**69.15**	**337**	P	**P**	**02 40 57.1 -0.7**
	comp=Z,5.5nm,0.6s,baz=36,slow=6.5					
NOA	**NORSAR Array B**	**69.15**	**337**	P	**P**	**02 40 57.4 -0.4**
	comp=Z,5.1nm,0.6s,baz=37,slow=6.3,SNR=20					
NAO01	**NORSAR Array S**	**69.40**	**337**	*e*P	**P**	**02 40 58.8 -0.6**
	comp=Z,3.1nm,0.5s					
KIEV	**Kiev**	**70.12**	**321**	*e*P	**P**	**02 41 03.5 -0.4**
KIEV				pmax	pmax	
	comp=Z,12nm,0.9s					
KIEV	**Kiev**	**70.12**	**321**	*e*P	**P**	**02 41 03.5 -0.4**
	comp=Z,12nm,0.9s					
NVAR	**Mina Array Bea**	**71.33**	**55**	P	**P**	**02 41 11.1 -0.7**
	comp=Z,0.3nm,0.6s,baz=296,slow=4.9,SNR=2.1					
PDAR	**Pinedale Array**	**73.45**	**47**	P	**P**	**02 41 24.3 0.0**
	comp=Z,0.3nm,0.6s,baz=318,slow=5.2,SNR=3.0					
MIB	**Mutribah**	**73.59**	**295**	*e*P	**P**	**02 41 24.2 -0.8**
MIB				AMb	AMB	02 41 25.3
	comp=Z,22nm,1.0s					
KWP	**Kalwaria Pacla**	**73.80**	**324**	*e*P	**P**	**02 41 26.7 +0.8**
KWP				pmax	pmax	
	comp=Z,7.0nm,0.5s					
KWP	**Kalwaria Pacla**	**73.80**	**324**	*e*P	**P**	**02 41 26.6 +0.8**
	comp=Z,6.8nm,0.5s					
KWP	**Kalwaria Pacla**	**73.80**	**324**	⇓*i*P	**P**	**02 41 27.0 +1.1**
NAY	**Al-Naaiem**	**74.01**	**295**	*e*P	**P**	**02 41 26.7 -0.8**
NAY				AMb	AMB	02 41 29.7
	comp=Z,10nm,1.2s					
RDF	**Al-Radifah**	**74.01**	**295**	*e*P	**P**	**02 41 27.2 -0.3**
RDF				AMb	AMB	02 41 30.9
	comp=Z,18nm,1.1s					
BURAR	**Bucovina Array**	**74.15**	**321**	⇑*i*P	**P**	**02 41 25.4 -2.7**
KOLS	**Kolonicke sedl**	**74.51**	**324**	*e*P	**P**	**02 41 30.2 +0.2**
KOLS				pmax	pmax	
	comp=Z,2.0nm,0.9s					
KOLS	**Kolonicke sedl**	**74.51**	**324**	*e*P	**P**	**02 41 30.2 +0.2**
STHS	**Stebnicka Huta**	**74.59**	**324**	*e*P	**P**	**02 41 31.3 +0.8**
STHS				pmax	pmax	
	comp=Z,2.0nm,0.7s					
STHS	**Stebnicka Huta**	**74.59**	**324**	*e*P	**P**	**02 41 31.3 +0.8**
OJC	**Ojcow**	**74.59**	**326**	*e*P	**P**	**02 41 31.0 +0.5**
OJC	**Ojcow**	**74.59**	**326**	*e*P	**P**	**02 41 31.0 +0.5**
TRPA	**Tarpa**	**74.99**	**323**	⇑*i*P	**P**	**02 41 33.4 +0.6**
MLR	**Muntele Rosu**	**75.36**	**319**	⇓*i*P	**P**	**02 41 36.3 +1.2**
BR131	**Keskin Array S**	**75.44**	**311**	*e*P	**P**	**02 41 35.7 0.0**
BRTR	**Keskin Array B**	**75.44**	**311**	P	**P**	**02 41 35.6 -0.1**
	comp=Z,1.0nm,0.7s,baz=76,slow=6.1,SNR=6.1					
OKC	**Ostrava-Krasne**	**75.57**	**326**	*i*P	**P**	**02 41 36.8 +0.7**
OKC	**Ostrava-Krasne**	**75.57**	**326**	*i*P	**P**	**02 41 36.8 +0.7**
KECS	**Kecovo**	**75.62**	**324**	*e*P	**P**	**02 41 36.7 +0.3**
KECS				pmax	pmax	
	comp=Z,1.0nm,0.8s					
KECS	**Kecovo**	**75.62**	**324**	*e*P	**P**	**02 41 36.7 +0.3**
MORC	**Moravsky Berou**	**75.86**	**327**	*e*P	**P**	**02 41 37.7 -0.1**
MORC				pmax	pmax	
	comp=Z,4.0nm,1.0s					
MORC	**Moravsky Berou**	**75.86**	**327**	*e*P	**P**	**02 41 37.7 -0.1**
	comp=Z,4.2nm,1.0s					
DPC	**Dobruska-Polom**	**75.90**	**328**	*i*P	**P**	**02 41 38.1 +0.1**
DPC	**Dobruska-Polom**	**75.90**	**328**	*i*P	**P**	**02 41 38.1 +0.1**
KRLC	**Kraliky**	**75.94**	**327**	*i*P	**P**	**02 41 39.0 +0.8**
KRLC	**Kraliky**	**75.94**	**327**	*i*P	**P**	**02 41 39.0 +0.8**
PSZ	**Piszkesteto**	**76.31**	**324**	*e*P	**P**	**02 41 41.0 +0.6**
PSZ				pmax	pmax	
	comp=Z,4.0nm,0.9s					
PSZ	**Piszkesteto**	**76.31**	**324**	*e*P	**P**	**02 41 41.0 +0.6**
	comp=Z,3.9nm,0.9s					
VYHS	**Vyhne**	**76.32**	**325**	*e*P	**P**	**02 41 40.2 -0.2**
VYHS				pmax	pmax	
	comp=Z,1.0nm,0.8s					
VYHS	**Vyhne**	**76.32**	**325**	*e*P	**P**	**02 41 40.2 -0.2**
CLL	**Collm**	**76.41**	**330**	⇓*i*P	**P**	**02 41 40.8 0.0**
CLL				pmax	pmax	
	comp=Z,5.0nm,1.2s					
CLL	**Collm**	**76.41**	**330**	⇓*i*P	**P**	**02 41 40.8 0.0**
	comp=Z,7.0nm,1.2s					
CLL				*e*PP	**PP**	**02 44 31.0 -2.2**
KHC	**Kasperske Hory**	**77.95**	**328**	*i*P	**P**	**02 41 49.7 +0.2**
KHC	**Kasperske Hory**	**77.95**	**328**	*i*P	**P**	**02 41 49.7 +0.2**
GERES	**GERESS Array B**	**78.13**	**328**	P	**P**	**02 41 50.4 -0.3**
	comp=Z,0.5nm,0.6s,baz=26,slow=6.5,SNR=5.8					
CDF	**Champ du Feu**	**80.89**	**331**	*e*P	**P**	**02 42 05.2 -0.3**
PAGF	**Fort de Pagny**	**81.30**	**332**	*e*P	**P**	**02 42 07.6 0.0**
	comp=Z,2.6nm,0.8s					
LOR	**Lormes**	**83.05**	**333**	*e*P	**P**	**02 42 16.3 -0.5**
	comp=Z,6.4nm,0.9s					
SSF	**Saint Saulge**	**83.35**	**333**	*e*P	**P**	**02 42 17.9 -0.4**
LPL	**La Plagne**	**83.54**	**330**	*e*P	**P**	**02 42 19.6 0.0**
	comp=Z,2.8nm,0.6s					
LPG	**La Plagne**	**83.55**	**330**	*e*P	**P**	**02 42 19.7 0.0**
GRR	**Gorron**	**83.56**	**336**	*e*P	**P**	**02 42 19.0 -0.3**
	comp=Z,6.9nm,0.8s					
SMF	**Signal de Mont**	**83.60**	**332**	*e*P	**P**	**02 42 19.3 -0.3**
AVF	**Avril sur Loir**	**83.64**	**333**	*e*P	**P**	**02 42 19.6 -0.1**
	comp=Z,10nm,0.8s					
LMR	**La Mourre**	**85.49**	**329**	*e*P	**P**	**02 42 28.5 -0.6**
	comp=Z,8.1nm,0.7s					
CAF	**Calviac**	**85.70**	**333**	*e*P	**P**	**02 42 30.2 0.0**
	comp=Z,5.6nm,0.8s					
LFF	**La Frestale**	**86.13**	**334**	*e*P	**P**	**02 42 32.8 +0.5**
	comp=Z,15nm,1.0s					
TXAR	**Lajitas Array**	**86.36**	**53**	P	**P**	**02 42 33.0 -0.8**
	comp=Z,0.2nm,0.5s,baz=269,slow=3.6,SNR=3.6					
EPF	**Esparros**	**87.96**	**333**	*e*P	**P**	**02 42 41.2 0.0**
ESDC	**Sonseca Array**	**92.39**	**334**	P	**P**	**02 43 01.4 -0.5**
	comp=Z,0.1nm,0.4s,baz=21,slow=3.0,SNR=3.6					
TORD	**Torodi Ar. Bea**	**113.55**	**317**	PP	PP	02 49 14.8 -7.0
	comp=Z,0.6nm,0.8s,baz=6.8,slow=7.6,SNR=3.7					

**WEL 31 02:45:16.8±0.1, 39.86S×175.19E, h66km±2km, ML3.7/17, 10C-14D, Error ellipse: s-maj=0.9km s-min=0.5km az=90

MRZ				AML	AML	02 45 54.4		
PRWZ	**Pori Road**	**0.92**	**140**	PN	Pn	02 45 34.2	+0.1	
OGWZ	**Otaki Gorge**	**0.95**	**181**	PN	Pn	02 45 34.8	+0.2	
KATZ	**Kakaramea**	**0.97**	**24**	PN	Pn	02 45 34.6	-0.3	
WPHZ	**Waipukurau**	**0.98**	**102**	PN	Pn	02 45 35.0	0.0	
DFE	**Dawson Falls**	**1.00**	**302**	PN	Pn	02 45 35.3	+0.1	
DREZ	**Durham Road**	**1.02**	**311**	⇓PN	Pn	02 45 35.4	0.0	
KIW	**Kapiti Island**	**1.02**	**192**	⇑PN	Pn	02 45 35.5	0.0	
KIW				AML	AML	02 45 50.3		
KIW				AML	AML	02 45 51.9		
MHEZ	**Mangahewa**	**1.03**	**319**	PN	Pn	02 45 35.7	+0.1	
NEZ	**North Egmont**	**1.03**	**304**	PN	Pn	02 45 35.9	+0.2	
TIWZ	**Tintock**	**1.06**	**150**	PN	Pn	02 45 36.2	+0.2	
HOWZ	**Holdsworth Sta**	**1.06**	**167**	PN	Pn	02 45 35.7	-0.4	
KHEZ	**Kahui Hut**	**1.07**	**302**	PN	Pn	02 45 36.3	+0.1	
RATZ	**Rangitukua**	**1.09**	**25**	PN	Pn	02 45 36.6	+0.3	
NMEZ	**Namu Road**	**1.11**	**293**	PN	Pn	02 45 36.7	+0.2	
PKE	**Pukeiti**	**1.15**	**305**	PN	Pn	02 45 37.0	0.0	
BFZ	**Birch Farm**	**1.15**	**136**	PN	Pn	02 45 36.7	-0.4	
BFZ				AML	AML	02 45 59.6		
BFZ				AML	AML	02 46 01.0		
BKZ	**Black Stump Fm**	**1.22**	**56**	PN	Pn	02 45 37.9	-0.2	
BKZ				AML	AML	02 45 58.7		
BKZ				AML	AML	02 46 02.7		
WATZ	**Wairara**	**1.23**	**20**	PN	Pn	02 45 38.6	+0.5	
MCHZ	**McNeill Hill**	**1.23**	**71**	PN	Pn	02 45 38.7	+0.5	
CAW	**Cannon Point**	**1.25**	**184**	PN	Pn	02 45 38.3	-0.1	
CAW				AML	AML	02 45 59.0		
CAW				AML	AML	02 45 59.2		
PXZ	**Pawanui**	**1.29**	**98**	PN	Pn	02 45 39.0	0.0	
PXZ				AML	AML	02 46 08.9		
PXZ				AML	AML	02 46 09.0		
PXZ				AML	AML	02 46 09.2		
PXZ				AML	AML	02 46 18.7		
KAHZ	**Kahuranaki**	**1.30**	**88**	PN	Pn	02 45 39.4	+0.3	
MTW	**Mount Morrison**	**1.32**	**170**	PN	Pn	02 45 38.7	-0.6	
DUWZ	**D'Urville Isla**	**1.35**	**226**	⇑PN	Pn	02 45 39.7	-0.1	
TMWZ	**Te Maipa**	**1.35**	**157**	PN	Pn	02 45 39.5	-0.3	
HIZ	**Hauiti**	**1.37**	**349**	⇑PN	Pn	02 45 39.4	-0.6	
WEL	**Wellington**	**1.46**	**193**	PN	Pn	02 45 40.6	-0.5	
CKHZ	**Cape Kidnapper**	**1.47**	**83**	PN	Pn	02 45 42.2	+1.0	
SNZO	**South Karori**	**1.49**	**194**	PN	Pn	02 45 41.0	-0.6	
SNZO				AML	AML	02 46 05.1		
SNZO				AML	AML	02 46 06.3		
TCW	**Tory Channel**	**1.52**	**207**	PN	Pn	02 45 41.6	-0.3	
TCW				AML	AML	02 46 04.1		
TCW				AML	AML	02 46 04.8		
MSWZ	**Moikau Station**	**1.55**	**178**	PN	Pn	02 45 41.6	-0.8	
MSWZ				AML	AML	02 46 00.0		
MSWZ				AML	AML	02 46 00.1		
TLZ	**Tolley Road**	**1.55**	**10**	PN	Pn	02 45 41.6	-0.9	
BHW	**Baring Head**	**1.56**	**189**	PN	Pn	02 45 41.8	-0.7	
BHW				AML	AML	02 46 09.7		
BHW				AML	AML	02 46 11.2		
TRWZ	**Traveller**	**1.58**	**166**	PN	Pn	02 45 42.2	-0.6	
TRWZ				AML	AML	02 46 01.1		
TRWZ				AML	AML	02 46 01.9		
PLWZ	**Palliser**	**1.71**	**178**	PN	Pn	02 45 43.5	-1.0	
TUWZ	**Tuamarina**	**1.83**	**211**	PN	Pn	02 45 45.5	-0.6	
TUWZ				AML	AML	02 46 11.9		
TUWZ				AML	AML	02 46 12.4		
NNZ	**Nelson**	**1.94**	**225**	PN	Pn	02 45 46.8	-0.7	
KNZ	**Kokohu**	**2.10**	**67**	PN	Pn	02 45 48.9	-0.8	
BSWZ	**Blackbirch Sta**	**2.10**	**208**	PN	Pn	02 45 49.6	-0.2	
BSWZ				AML	AML	02 46 17.1		
BSWZ				AML	AML	02 46 22.0		
TOZ	**Tahuroa Road**	**2.14**	**7**	⇓PN	Pn	02 45 49.6	-0.7	
URZ	**Urewera**	**2.19**	**44**	PN	Pn	02 45 50.1	-0.9	
URZ				AML	AML	02 46 22.7		
URZ				AML	AML	02 46 22.8		
MHGZ	**Mahia Peninsul**	**2.22**	**72**	PN	Pn	02 45 50.6	-0.7	
MWZ	**Matawai**	**2.37**	**51**	⇓PN	Pn	02 45 53.3	-0.2	
MWZ				AML	AML	02 46 31.7		
MWZ				AML	AML	02 46 31.7		
MWZ				AML	AML	02 46 31.9		
MWZ				AML	AML	02 46 31.9		
THZ	**Tophouse**	**2.57**	**222**	⇑PN	Pn	02 45 55.4	-0.8	
MKAZ	**Moumakai**	**2.75**	**360**	⇓PN	Pn	02 45 57.8	-0.7	
KHZ	**Kahutara**	**2.84**	**205**	PN	Pn	02 45 58.3	-1.5	
KHZ				AML	AML	02 53 56.6		
DSZ	**Denniston Nort**	**3.19**	**233**	PN	Pn	02 46 02.9	-1.7	
MQZ	**McQueen's Vall**	**4.29**	**205**	PN	Pn	02 46 16.4	-3.1	

*IDC **31** 03:05:07.7±1.7, 33°.88N×25°.40E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/25, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=57.8km s-min=29.1km az=139.0*
*CSEM **31** 03:05:16.8, 34°.57N×25°.31E, h55km, MD3.7, After ATH **31** 03:05:16.8, 34°.57N×25°.31E, h55km±8km, MD3.7/7*
ISC 31 03:05:15.1±2.3, 34°.4N±0°.2×25°.38E±0°.06, h30km, n18, σ0s47/16, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.78**	**6**	*e*P	**Pb**	**03 05 30.6**	**+0.4**
LAST	**Lasithi**	**0.78**	**6**	*e*P	**Pb**	**03 05 30.6**	**+0.4**
SIVA	**Sivas**	**0.79**	**324**	*e*P	**Pb**	**03 05 30.2**	**0.0**
SIVA	**Sivas**	**0.79**	**324**	*e*P	**Pb**	**03 05 30.2**	**0.0**
NPS	**Neapolis**	**0.90**	**12**	*e*P	**Pn**	**03 05 31.5**	**-0.2**
NPS	**Neapolis**	**0.90**	**12**	*e*P	**Pn**	**03 05 31.5**	**-0.2**
IDI	**Anoyia**	**0.99**	**336**	*e*P	**Pn**	**03 05 32.7**	**-0.3**
IDI	**Anoyia**	**0.99**	**336**	*e*P	**Pn**	**03 05 32.7**	**-0.3**
ZKR	**Zakros**	**1.00**	**43**	*e*P	**Pb**	**03 05 34.5**	**+0.6**
ZKR	**Zakros**	**1.00**	**43**	*e*P	**Pb**	**03 05 34.5**	**+0.6**
VAM	**Vamos**	**1.41**	**317**	*e*P	**Pn**	**03 05 39.2**	**+0.5**
VAM	**Vamos**	**1.41**	**317**	*e*P	**Pn**	**03 05 39.2**	**+0.5**
KARN	**Karanos**	**1.57**	**311**	*e*P	**Pn**	**03 05 41.3**	**+0.3**
KARN	**Karanos**	**1.57**	**311**	*e*P	**Pn**	**03 05 41.3**	**+0.3**
MMAI	**Mount Meron Ar**	**8.47**	**96**	Pn	Pn	03 07 03.0	-13
	0.5nm,0.3s,baz=284,slow=12,SNR=3.4						
GERES	**GERESS Array B**	**16.85**	**333**	P	**P**	**03 09 10.9**	**+0.3**
	0.1nm,0.3s,baz=155,slow=12,SNR=15						
TORD	**Torodi Ar. Bea**	**30.14**	**231**	P	P	03 11 16.8	-5.6
	0.3nm,0.4s,baz=31,slow=8.4,SNR=10						
MKAR	**Makanchi Array**	**44.06**	**56**	P	**P**	**03 13 19.3**	**-0.9**
	0.4nm,0.5s,baz=278,slow=7.1,SNR=6.0						

IDC 31 03:09:19.4±1.5, 14°.21S×73°.92W, h96km±14km, mb3.7/4, mb1 3.9/8, mb1mx3.6/23, mbtmp3.8/8, MS4.2/3, Ms1 4.2/3, ms1mx3.1/30, Error ellipse: s-maj=42.0km s-min=10.7km az=34.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.61**	**307**	P	Pn	03 10 12.1	-1.3
	113nm,0.3s,baz=125,slow=12,SNR=91						
NNA				S	Sn	03 10 55.8	+0.7
	96nm,0.3s,baz=192,slow=20,SNR=6.7						
LPAZ	**La Paz**	**5.95**	**111**	P	Pn	03 10 46.5	+0.6
	9.7nm,0.3s,baz=301,slow=12,SNR=172						
LPAZ				S	Sn	03 11 54.6	+1.4
	baz=180,slow=20,SNR=2.9						
ATAH	**Atahualpa**	**8.30**	**328**	P	Pn	03 11 16.4	-1.1
	0.7nm,0.3s,baz=136,slow=9.4,SNR=5.0						
SIV	**San Ignacio**	**12.53**	**100**	P	Pn	03 12 11.8	-2.5
	1.2nm,0.3s,baz=288,slow=13,SNR=26						
SIV				LR	LR	03 17 30.1	
	comp=Z,49nm,20.6s,slow=39						
CFAA	**Coronel Fontan**	**18.08**	**164**	P	P	03 13 23.7	+0.2
	0.0nm,0.3s,baz=353,slow=8.1,SNR=4.1						
CPUP	**Villa Florida**	**19.66**	**130**	P	P	03 13 40.0	-0.7
	0.3nm,0.3s,baz=300,slow=13,SNR=4.5						
TXAR	**Lajitas Array**	**51.96**	**327**	P	P	03 18 19.4	+0.5
	0.1nm,0.4s,baz=144,slow=7.8,SNR=5.6						
NVAR	**Mina Array Bea**	**66.84**	**323**	LR	LR	03 48 31.6	
	comp=Z,171nm,19.6s,baz=88,slow=35						
DBIC	**Dimbokro**	**71.57**	**78**	P	P	03 20 29.4	-1.4
	3.7nm,0.8s,baz=223,slow=7.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**79.65**	**74**	P	P	03 21 16.5	-0.5
	1.7nm,0.6s,baz=259,slow=5.4,SNR=33						
ESDC	**Sonseca Array**	**84.18**	**47**	P	P	03 21 41.2	+0.9
	1.1nm,0.6s,baz=252,slow=5.6,SNR=7.9						
DAVOX	**Davos/Dischmat**	**96.04**	**43**	LR	LR	04 05 26.4	
	comp=Z,101nm,21.1s,baz=21,slow=35						
GERES	**GERESS Array B**	**99.01**	**42**	LR	LR	04 08 12.6	
	comp=Z,98nm,18.2s,baz=28,slow=36						
SONM	**Songino Array**	**146.48**	**360**	PKPbc	PKPbc	03 28 50.2	+0.5
	1.1nm,0.6s,baz=337,slow=3.4,SNR=4.2						

AUST 31 03:18:20.7±8.0, 7°.27S×112°.82E, h497km±1km, Error ellipse: s-maj=4.7km s-min=1.2km az=3.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**7.77**	**108**	P	P	03 20 14.8	+0.1
	baz=7.8,SNR=3.1						
WSI				S	S	03 22 05.1	+17
	baz=7.8,SNR=22						
PMBI	**Palembang**	**9.10**	**298**	S	S	03 22 29.8	+16
	baz=9.1,SNR=5.2						
LUWI	**Luwuk**	**11.69**	**58**	P	P	03 20 58.5	+2.4
	baz=12,SNR=3.2						
LUWI				S	S	03 22 31.7	-32
	baz=12,SNR=5.8						
PPI	**Padang Panjang**	**14.12**	**298**	P	P	03 21 20.9	-0.9
	baz=14,SNR=3.5						
ARMA	**Armidale**	**43.02**	**127**	S	S	03 31 28.7	+3.6
	baz=43,SNR=4.1						
MGCD	**Mangrove Creek**	**43.84**	**131**	S	S	03 31 48.1	+12
	baz=44,SNR=5.2						

*DJA **31** 03:19:02.9±0.4, 6°.S±5°.×10°.5E±°, h10km, M4.1/13, MLv4.1/13*
*ISCJB **31** 03:19:04.4±0.8, 6°.1S±0°.1×105°.40E±0°.07, h26km, Error ellipse: s-maj=19.1km s-min=5.3km az=28.4*
ISC 31 03:19:04.3±1.2, 6°.1S±0°.1×105°.41E±0°.07, h26km, n15, σ1s78/16, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBJI	**Serang**	**0.72**	**90**	P	**Pb**	**03 19 16.0**	**-2.2**
BLSI	**Bandar Lampung**	**0.76**	**348**	P	**Pb**	**03 19 17.1**	**-1.9**
KASI	**Kota Agung**	**1.08**	**303**	P	**Pn**	**03 19 22.5**	**-1.3**
KASI				S	**Sb**	**03 19 41.0**	**+2.9**
TNG	**Tangerang**	**1.23**	**93**	P	**Pb**	**03 19 27.0**	**+0.1**
TNG				S	**Sb**	**03 19 43.8**	**+1.1**
TNG	**Tangerang**	**1.23**	**93**	P	**Pb**	**03 19 25.8**	**-1.1**
DBJI	**Dramaga**	**1.40**	**108**	P	**Pb**	**03 19 28.3**	**-1.5**
SKJI	**Sukabumi**	**1.44**	**128**	P	**Pn**	**03 19 27.6**	**-1.1**
CBJI	**Citeko**	**1.46**	**102**	P	**Pb**	**03 19 31.7**	**+0.8**
KLSI		**1.57**	**334**	P	**Pb**	**03 19 31.3**	**-1.4**
LWLI	**Liwa**	**1.73**	**309**	P	**Pb**	**03 19 34.2**	**-1.3**
LEM	**Lembang**	**2.30**	**108**	P	**Pb**	**03 19 42.8**	**-2.5**
LEM	**Lembang**	**2.30**	**108**	P	Pb	03 19 48.6	+3.3
	baz=5.2,SNR=11						
CISI	**Cisompet, Garu**	**2.78**	**121**	P	**Pn**	**03 19 48.1**	**+0.8**
CISI	**Cisompet, Garu**	**2.78**	**121**	P	**Pn**	**03 19 48.6**	**+1.3**
	baz=5.0,SNR=4.4						
KSI	**Kapahiang**	**3.73**	**311**	P	**Pn**	**03 20 01.9**	**+1.7**

*BJI **31** 03:19:04.5, 55°.77N×166°.12E, h3km, mB4.8/28, mb4.8/43, Ms4.7/37, Ms7 4.3/35*
*IDC **31** 03:19:05.4±0.4, 55°.53N×166°.31E, h0km, mb4.4/31, mb1 4.6/34, mb1mx4.6/37, mbtmp4.4/34, ML4.1/3, MS4.0/26, Ms1 4.0/26, ms1mx3.9/43, Error ellipse: s-maj=12.0km s-min=8.0km az=8.0*
*ISCJB **31** 03:19:06.3±0.6, 55°.50N±0°.03×166°.23E±0°.02, h15km±4km, mb4.7/161, MS4.2/42, Error ellipse: s-maj=4.5km s-min=1.9km az=170.7*
*KRSC **31** 03:19:06.9±0.6, 55°.51N×166°.28E, h20km±20km, ML4.9*
*NEIC **31** 03:19:07.3±0.1, 55°.53N×166°.26E, h10km, mb4.8/103, Error ellipse: s-maj=4.6km s-min=2.3km az=173.0*
*MOS **31** 03:19:07.1±1.0, 55°.55N×166°.16E, h20km, mb4.8/65, Error ellipse: s-maj=7.7km s-min=5.9km az=66.6*
*GCMT **31** 03:19:10.4±0.4, 55°.64N×166°.40E, h14km±2km, MW4.8, Moment Tensor Solution. s17,c18; s65,c89; Moment tensor: Scale 10^16 Nm; Mrr 0.27±.08; Mθθ -1.38±.09; Mφφ 1.12±.08; Mrθ 0.44±.18; Mθφ -1.25±.09; Mφr -0.16±.16; Best double couple: M0 1.80000×10^16 NP1: φs 203.00000°, δ 75.00000°, λ 3.00000°. NP2: φs 112.00000°, δ 87.00000°, λ 165.00000°. Principal axes: T 1.7100, Plg13.0000°, Azm66.0000°; N 0.2500, Plg74.0000°, Azm283.0000°; P -1.9500, Plg9.0000°, Azm158.0000°; Data Used: IU II IC G CN.*
ISC 31 03:19:08.3±0.3, 55°.53N±0°.04×166°.21E±0°.03, h17km±1km, n715, σ1s106/785, mb4.7/161, MS4.2/44, 191C-176D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.35**	**202**	PN	**Pg**	**03 19 14.2**	**-1.4**
BKI				S	**Sg**	**03 19 19.5**	**-1.1**
BKI	**Bering**	**0.35**	**202**	*i* P	**Pg**	**03 19 14.2**	**-1.4**
BKI				*i* S	**Sg**	**03 19 19.5**	**-1.1**
KBG	**Krutoberegovo**	**2.10**	**292**	PN	Pn	03 19 39.8	-2.9
KBG				S	**Sn**	**03 20 03.8**	**-4.7**
KBG	**Krutoberegovo**	**2.10**	**292**	*i* P	Pn	03 19 39.8	-2.9
KBG				*i* S	**Sn**	**03 20 03.8**	**-4.7**
MKZ	**Mys Kozlova**	**2.75**	**251**	PN	**Pn**	**03 19 50.8**	**-0.9**
MKZ				S	**Sn**	**03 20 22.4**	**-2.1**
MKZ	**Mys Kozlova**	**2.75**	**251**	*e*P	**Pn**	**03 19 50.8**	**-0.9**
MKZ				*i* S	**Sn**	**03 20 22.4**	**-2.1**
SMKR	**Semkarok**	**2.86**	**294**	*e*P	**Pn**	**03 19 51.7**	**-1.5**
SMKR				*i* S	**Sn**	**03 20 23.9**	**-3.4**
SRKR	**Sorokina**	**3.04**	**294**	*i* P	**Pn**	**03 19 55.0**	**-0.7**
SRKR				*i* S	**Sn**	**03 20 30.6**	**-1.1**
ZLN	**Zelenaya**	**3.09**	**281**	P	**Pn**	**03 19 56.5**	**+0.1**
ZLN				*i* S	**Sn**	**03 20 32.3**	**-0.7**
CIRR	**Tsirk**	**3.13**	**283**	*e*P	**Pn**	**03 19 58.3**	**+1.2**
CIRR				*i* S	**Sn**	**03 20 35.6**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**3.14**	**280**	*e*P	**Pn**	**03 19 58.4**	**+1.2**
BZGR				*i* S	**Sn**	**03 20 35.3**	**+1.0**
LGNR	**Loginova**	**3.16**	**282**	P	**Pn**	**03 19 58.1**	**+0.5**
LGNR				*i* S	**Sn**	**03 20 35.4**	**+0.3**
KLY	**Klyuchi**	**3.22**	**286**	PN	**Pn**	**03 19 56.5**	**-1.6**
KLY				S	**Sn**	**03 20 32.7**	**-3.4**
KLY	**Klyuchi**	**3.22**	**286**	*e*P	**Pn**	**03 19 56.5**	**-1.6**
KLY				*i* S	**Sn**	**03 20 32.7**	**-3.4**
KRSR	**Krestovskiy**	**3.25**	**285**	*e*P	**Pn**	**03 19 57.9**	**-0.8**
KRSR				*i* S	**Sn**	**03 20 34.8**	**-2.2**
BZWR	**Bezymyannyi-We**	**3.26**	**280**	*e*P	**Pn**	**03 19 59.8**	**+1.0**
BZWR				*i* S	**Sn**	**03 20 37.3**	**+0.1**
BZMR	**Bezymyannaya**	**3.26**	**280**	*e*P	**Pn**	**03 19 59.5**	**+0.7**
BZMR				*i* S	**Sn**	**03 20 37.3**	**+0.1**
KIRR	**Kirishev**	**3.34**	**280**	*e*P	**Pn**	**03 20 00.3**	**+0.4**
KIRR				*i* S	**Sn**	**03 20 39.4**	**+0.1**
KMNR	**Kamenistaya**	**3.39**	**276**	*e*P	**Pn**	**03 20 02.1**	**+1.5**
KMNR				*i* S	**Sn**	**03 20 42.5**	**+2.1**
KPT	**Kopyto**	**3.41**	**280**	*e*P	**Pn**	**03 20 00.7**	**-0.1**
KPT				*e*S	**Sn**	**03 20 40.0**	**-0.9**
TUMR	**Tumrok**	**3.46**	**268**	P	**Pn**	**03 20 02.3**	**+0.7**
KOZR	**Kozyr**	**3.60**	**281**	PN	**Pn**	**03 20 03.9**	**+0.5**
KOZR				S	**Sn**	**03 20 44.9**	**-0.6**
KOZ	**Kozyrevsk**	**3.62**	**281**	*e*P	**Pn**	**03 20 03.9**	**+0.4**
KOZ				*i* S	**Sn**	**03 20 44.9**	**-0.9**
SRDR	**Sredinnyy**	**3.74**	**285**	*i* P	**Pn**	**03 20 05.8**	**+0.5**
SRDR				*i* S	**Sn**	**03 20 49.2**	**+0.3**
KII	**Karymskiy**	**4.19**	**252**	*e*P	**Pn**	**03 20 12.4**	**+0.9**
KII				*i* S	**Sn**	**03 21 00.1**	**+0.1**
ESO	**Esso**	**4.26**	**278**	PN	**Pn**	**03 20 12.2**	**-0.3**
ESO	**Esso**	**4.26**	**278**	*e*P	**Pn**	**03 20 12.2**	**-0.3**
ESO				*e*S	**Sn**	**03 20 59.1**	**-2.7**
SDLR	**Sedlovina**	**4.83**	**245**	*e*P	**Pn**	**03 20 20.7**	**+0.3**
SDLR				*i* S	**Sn**	**03 21 13.9**	**-2.1**
FX1	**Attu Island--F**	**4.87**	**120**	P	Pn	03 20 16.8	-3.9
FX1				S	Sn	03 21 08.1	-8.5
FX1	**Attu Island--F**	**4.87**	**120**	Pn	Pn	03 20 16.9	-3.9
	19nm,0.3s,baz=324,slow=7.0,SNR=86						
FX1				Sn	Sn	03 21 09.9	-6.7
	50nm,0.3s,baz=59,slow=19,SNR=16						
FX1				LR	LR	03 21 44.6	
	comp=Z,660nm,20.3s,baz=277,slow=33						
SMAR	**Somma**	**4.89**	**245**	*e*P	**Pn**	**03 20 21.5**	**+0.3**
SMAR				*i* S	**Sn**	**03 21 15.0**	**-2.4**
KRER	**Koryakskii**	**4.89**	**246**	*e*P	**Pn**	**03 20 21.8**	**+0.5**
KRER				*i* S	**Sn**	**03 21 15.8**	**-1.7**
UGLR	**Uglovaya**	**4.90**	**245**	*e*P	**Pn**	**03 20 21.7**	**+0.4**
AVH	**Avacha**	**4.92**	**246**	*e*P	**Pn**	**03 20 22.3**	**+0.8**
AVH				*i* S	**Sn**	**03 21 17.6**	**-0.4**
PALN	**Palana**	**4.92**	**319**	P	**Pn**	**03 20 20.9**	**-0.5**
TILK	**Tilichiki**	**4.93**	**360**	*e*P	**Pn**	**03 20 20.5**	**-1.1**
TILK				*i* S	**Sn**	**03 21 14.2**	**-4.0**
KOK	**Koryaka**	**4.96**	**246**	*e*P	**Pn**	**03 20 22.6**	**+0.5**
KOK				*i* S	**Sn**	**03 21 17.8**	**-1.2**
PET	**Petropavlovsk**	**5.09**	**244**	*b i* PN	**Pn**	**03 20 24.1**	**+0.4**
PET				pmax	pmax		
	comp=Z,500nm,1.8s						
PET				pmax	pmax		
	comp=Z,200nm,3.8s						
PET				pmax	pmax		
	comp=Z,289nm,0.9s						
PET				MLR	MLR		
	comp=Z,1μm,13.0s						
PET				MLR	MLR		
	comp=Z,1μm,16.0s						
PET	**Petropavlovsk**	**5.09**	**244**	P	**Pn**	**03 20 24.5**	**+0.8**
PET				*i* S	**Sn**	**03 21 19.7**	**-2.3**
GNL	**Ganaly**	**5.14**	**252**	*e*P	**Pn**	**03 20 25.9**	**+1.3**
GNL				*i* S	**Sn**	**03 21 23.2**	**-0.4**
SMY	**Shemya**	**5.42**	**118**	PN	Pn	03 20 24.4	-3.9
SMY	**Shemya**	**5.42**	**118**	P	Pn	03 20 24.4	-3.9
SMY				S	Sn	03 21 22.8	-7.4
RUS	**Russkaya**	**5.50**	**239**	PN	**Pn**	**03 20 29.0**	**-0.3**
RUS	**Russkaya**	**5.50**	**239**	*e*P	**Pn**	**03 20 29.0**	**-0.3**
RUS				*i* S	**Sn**	**03 21 28.2**	**-3.9**
PEA0B	**Petropavlovsk-**	**5.54**	**248**	*e*Pn	**Pn**	**03 20 30.6**	**+0.6**
PETK	**Petropavlovsk-**	**5.54**	**248**	PN	**Pn**	**03 20 30.6**	**+0.6**
PETK						03 21 35.5	
PETK				pmax	pmax		
	comp=Z,13nm,0.3s						
PETK				smax	smax		
	comp=N,8.0nm,0.3s						
PETK	**Petropavlovsk-**	**5.54**	**248**	Pn	**Pn**	**03 20 30.6**	**+0.6**
PETK				Sn	**Sn**	**03 21 35.5**	**+2.4**
PETK	**Petropavlovsk-**	**5.54**	**248**	Pn	**Pn**	**03 20 30.6**	**+0.6**
	comp=N,13nm,0.3s,baz=70,slow=14,SNR=88						
PETK				Sn	**Sn**	**03 21 35.5**	**+2.4**
	comp=N,7.9nm,0.3s,baz=77,slow=19,SNR=5.9						
MTVR	**Mutnovka**	**5.63**	**240**	*e*P	**Pn**	**03 20 31.1**	**-0.2**
MTVR				*i* S	**Sn**	**03 21 31.5**	**-4.1**
GRL	**Gorelyy**	**5.64**	**241**	P	**Pn**	**03 20 32.6**	**+1.1**
GRL				*i* S	**Sn**	**03 21 35.4**	**-0.5**
ASAK	**Asacha**	**5.83**	**241**	*e*P	**Pn**	**03 20 34.7**	**+0.7**
ASAK				*i* S	**Sn**	**03 21 38.1**	**-2.3**
APC	**Apacha**	**5.91**	**248**	*e*P	**Pn**	**03 20 36.4**	**+1.3**
APC				*i* S	**Sn**	**03 21 41.7**	**-0.6**
MIPR	**Malaya Ipel'ka**	**6.46**	**244**	*e*P	**Pn**	**03 20 43.7**	**+1.0**
PAU	**Pauzhetka**	**6.92**	**238**	PN	**Pn**	**03 20 50.8**	**+1.9**
PAU	**Pauzhetka**	**6.92**	**238**	*e*P	**Pn**	**03 20 50.8**	**+1.9**
SKR	**Severo-Kuril's**	**7.77**	**236**	*e*PN	Pn	03 20 54.5	-6.0
SKR				pmax	pmax		
	comp=Z,70nm,0.7s						
SKR				pmax	pmax		
	comp=N,40nm,0.5s						
SKR				pmax	pmax		
	comp=E,40nm,0.5s						
SKR				MLR	MLR		
	comp=N,800nm,14.0s						
SKR				MLR	MLR		
	comp=E,800nm,14.0s						
SKR				MLR	MLR		
	comp=Z,600nm,14.0s						
SKR	**Severo-Kuril's**	**7.77**	**236**	P	**Pn**	**03 21 00.4**	**-0.1**
LSNW	**Little Sitkin**	**8.12**	**111**	P	**Pn**	**03 21 04.7**	**-0.6**
LSSA	**Little Sitkin**	**8.13**	**111**	P	**Pn**	**03 21 03.6**	**-1.9**
CETU	**Semis' Tuman**	**8.64**	**109**	P	**Pn**	**03 21 12.3**	**-0.3**
CEAP	**Semis' Anvil P**	**8.67**	**108**	P	**Pn**	**03 21 11.8**	**-1.1**
CESW	**Semis' Southwe**	**8.71**	**109**	P	**Pn**	**03 21 12.0**	**-1.5**
AMKA	**Amchitka**	**8.85**	**113**	P	**Pn**	**03 21 12.8**	**-2.5**
AMKA				S	Sn	03 22 46.7	-7.8
ADK	**Adak**	**10.77**	**103**	*e*PN	**Pn**	**03 21 39.3**	**-2.4**
ADK				pmax	pmax		
	comp=Z,811nm,1.5s						
ADK	**Adak**	**10.77**	**103**	*e*Pn	**Pn**	**03 21 39.3**	**-2.4**
	comp=Z,811nm,1.5s						
KUR	**Kuril'sk**	**15.54**	**236**	P	**Pn**	**03 22 45.5**	**-0.9**
KUR				pmax	pmax		
	comp=Z,14nm,0.6s						
KUR				pmax	pmax		
	comp=E,30nm,1.2s						
KUR				pmax	pmax		
	comp=N,15nm,0.2s						
KUR				MLR	MLR		
	comp=N,59nm,4.0s						
KUR				MLR	MLR		
	comp=E,723nm,15.0s						
KUR				MLR	MLR		
	comp=Z,407nm,15.0s						
UNV	**Unalaska Valle**	**15.83**	**85**	*e*Pn	**P**	**03 22 52.7**	**-1.2**
	comp=Z,108nm,0.9s						
AKUT	**Akutan**	**16.16**	**83**	*e*Pn	**Pn**	**03 22 53.8**	**-0.6**
	comp=Z,204nm,1.2s						
YSS	**Yuzh-Sakhalins**	**16.94**	**249**	*e*P	**P**	**03 23 07.8**	**+1.6**
Y

KDAK Kodiak Island 22.52 67 P **P** **03 24 04.6 -2.2**
comp=Z,19nm,0.9s,baz=284,slow=8.3,SNR=6.5
TIXI Tiksi 22.56 330*d i* P **P** **03 24 07.2 -0.1**
TIXI pmax pmax
comp=Z,17nm,0.8s
TIXI MLR MLR
comp=Z,466nm,18.0s
CLNS Chul'man 22.79 290 *e*P **P** **03 24 08.4 -1.4**
CLNS pmax pmax
comp=Z,15nm,1.3s
CLNS pmax pmax
comp=N,9.0nm,1.2s
TRF Thorofare Moun 23.04 52 *e*P **P** **03 24 12.3 -0.3**
comp=N,51nm,1.0s
COLD Coldfoot 23.36 43 *e*P **P** **03 24 15.1 -0.5**
comp=N,31nm,1.1s
MCK McKinley 23.65 51 *e*P **P** **03 24 17.4 -1.0**
MCK pmax pmax
comp=Z,35nm,1.1s
MCK McKinley 23.65 51 *e*P **P** **03 24 17.4 -1.0**
comp=Z,35nm,1.1s
PMR Palmer 23.67 57 *e*P **P** **03 24 18.0 -0.6**
PMR pmax pmax
comp=Z,13nm,1.0s
PMR Palmer 23.67 57 *e*P **P** **03 24 18.0 -0.6**
comp=Z,13nm,1.0s
SML Sawmill 24.03 56 *e*P **P** **03 24 21.3 -0.8**
SML pmax pmax
comp=Z,9.0nm,1.1s
SML Sawmill 24.03 56 *e*P **P** **03 24 21.3 -0.8**
comp=Z,8.8nm,1.1s
COLA College 24.12 49 *e*P **P** **03 24 22.0 -0.8**
COLA pmax pmax
comp=Z,149nm,1.1s
COLA College 24.12 49 *e*P **P** **03 24 22.0 -0.8**
comp=Z,150nm,1.1s
ILAR Eielson Array 24.53 49 P **P** **03 24 25.6 -1.0**
ILAR Eielson Array 24.53 49 P **P** **03 24 25.6 -1.0**
comp=Z,47nm,1.0s,baz=260,slow=8.7,SNR=177
ILAR LR LR 03 35 20.5
comp=Z,383nm,18.0s,baz=70,slow=40
USRK Ussuriysk Arra 24.54 257 P **P** **03 24 26.3 -0.5**
comp=Z,12nm,1.0s,baz=50,slow=9.6,SNR=19
USRK LR LR 03 34 10.0
comp=Z,312nm,20.5s,baz=204,slow=37
PAX Paxson 25.25 53 *e*P **P** **03 24 33.3 +0.1**
PAX pmax pmax
comp=Z,25nm,1.0s
PAX Paxson 25.25 53 *e*P **P** **03 24 33.3 +0.1**
comp=Z,25nm,1.0s
VLA Vladivostok 25.30 255*de*P **P** **03 24 33.4 -0.3**
VLA *e*S **S** **03 28 58.7 0.0**
VLA pmax pmax
comp=Z,11nm,1.0s
VLA MLR MLR
comp=E,29μm,23.0s
DIV Divide 25.34 57 *e*P **P** **03 24 33.0 -1.0**
comp=E,30nm,1.1s
MDJ Mudanjiang 25.61 260 P **P** **03 24 36.5 -0.1**
MDJ sP **sP** **03 24 41.0 -2.7**
MDJ PcP **PcP** **03 28 06.5 -0.4**
MDJ S **S** **03 29 04.5 +0.8**
MDJ sS **sS** **03 29 10.0 -2.1**
MDJ pmax pmax
comp=Z,41nm,0.9s
MDJ LR LR
comp=N,250nm,19.7s
MDJ LR LR
comp=E,310nm,21.9s
MDJ LR LR
comp=Z,480nm,15.1s
MDJ Mudanjiang 25.61 260 *e*P **P** **03 24 36.4 -0.1**
comp=Z,39nm,0.9s
BMRM Bremner River 25.92 58 *e*P **P** **03 24 38.8 -0.5**
comp=Z,44nm,1.0s
MAJO Matsushiro 26.88 237 *e*P **P** **03 24 49.6 +1.5**
MAJO pmax pmax
comp=Z,29nm,0.9s
MAJO Matsushiro 26.88 237 *e*P **P** **03 24 49.6 +1.5**
comp=Z,29nm,0.9s
MAT Matsushiro 26.88 237 P **P** **03 24 49.7 +1.6**
MAT S **S** **03 29 23.2 -0.6**
MJAR Matsushiro Arr 26.88 237 P **P** **03 24 49.6 +1.5**
MJAR Matsushiro Arr 26.88 237 P **P** **03 24 49.6 +1.5**
comp=Z,11nm,0.9s,baz=24,slow=8.3,SNR=24
MJAR LR LR 03 36 15.6
comp=Z,140nm,19.3s,baz=25,slow=38
EGAK Eagle 26.98 49 *e*P **P** **03 24 47.7 -1.0**
comp=Z,39nm,1.0s
DAWY Dawson 27.83 50 *e*P **P** **03 24 56.2 -0.2**
CN2 Changchun 28.45 263 *e*P **P** **03 25 02.3 +0.2**
CN2 *e*pP **pP** **03 25 08.8 +1.6**
CN2 *e*S **S** **03 29 46.8 -1.7**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,500nm,15.0s
CN2 LR LR
comp=E,400nm,15.0s
CN2 LR LR
comp=Z,300nm,20.0s
HYT Haines Junctio 29.34 56 *e*P **P** **03 25 10.0 0.0**
INK Inuvik 29.72 41 *e*P **P** **03 25 13.0 -0.1**
comp=Z,20nm,1.4s
INK Inuvik 29.72 41 P **P** **03 25 12.9 -0.1**
comp=Z,5.4nm,0.8s,baz=280,slow=7.6,SNR=8.3
KSRS Korea Array 31.43 251 P **P** **03 25 29.6 +1.2**
comp=Z,7.6nm,0.9s,baz=41,slow=8.8,SNR=28
KSRS LR LR 03 36 54.5
comp=Z,221nm,20.9s,baz=37,slow=34
KSAR Wonju Array Be 31.45 251 P **P** **03 25 29.6 +1.0**
JNU Nakatsue 33.21 242 LR LR 03 38 53.6
comp=Z,127nm,18.5s,baz=174,slow=36
DLBC Dease Lake 33.71 58 *e*P **P** **03 25 49.5 +1.1**
DL2 Dalian 33.85 259 P **P** **03 25 50.5 +0.9**
DL2 S **S** **03 31 16.5 +3.7**
DL2 pmax pmax
comp=Z,41nm,0.9s
DL2 pmax pmax
comp=Z,50nm,3.8s
DL2 LR LR
comp=N,230nm,12.7s
DL2 LR LR
comp=E,230nm,14.1s
DL2 LR LR
comp=Z,280nm,17.5s
BJI Beijing 36.14 266 P **P** **03 26 08.5 -0.9**
BJI S **S** **03 31 47.8 -0.4**
BJI pmax pmax
comp=Z,8.0nm,0.6s
BJI pmax pmax
comp=Z,89nm,5.6s
BJI LR LR
comp=N,680nm,20.2s
BJI LR LR
comp=E,490nm,19.0s
BJI LR LR
comp=Z,310nm,19.3s
ULN Ulaanbaatar 36.44 283 *e*P **P** **03 26 13.2 +1.1**
comp=Z,21nm,1.3s
SONM Songino Array 36.82 284 P **P** **03 26 16.6 +1.3**
SONM Songino Array 36.82 284 P **P** **03 26 16.5 +1.3**
comp=Z,14nm,0.8s,baz=61,slow=6.7,SNR=76
SONM LR LR 03 41 04.9
comp=Z,106nm,20.1s,baz=235,slow=36
ZAK Zakamensk 37.10 289 *e*P **P** **03 26 18.0 +0.4**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
MOY Mondy 37.62 292 *e*P **P** **03 26 23.0 +1.0**
MOY pmax pmax
comp=Z,20nm,2.2s
HHC Hu-ho-hao-te 38.23 271 *e*P **P** **03 26 27.8 +0.6**
HHC sP **sP** **03 26 34.0 -0.5**
HHC PP **PnPn** **03 27 58.5 +2.4**
HHC S **S** **03 32 21.3 +1.2**
HHC sS **sS** **03 32 28.5 -0.1**
HHC SS **SnSn** **03 34 58.3 -5.9**
HHC ScS **ScS** **03 36 37.0 -0.8**
HHC pmax pmax
comp=Z,36nm,0.8s
HHC pmax pmax
comp=Z,160nm,3.1s
HHC LR LR
comp=N,1μm,14.3s
HHC LR LR
comp=E,990nm,15.5s
HHC LR LR
comp=Z,820nm,16.7s
YKA Yellowknife Ar 38.91 47 P **P** **03 26 32.4 -0.2**
YKA Yellowknife Ar 38.91 47 P **P** **03 26 32.4 -0.2**
comp=Z,6.3nm,0.9s,baz=300,slow=7.9,SNR=26
NJ2 Nanjing 40.40 255 *e*P **P** **03 26 43.5 -1.8**
NJ2 pmax pmax
comp=Z,50nm,0.6s
NLWA Neilton Lookou 42.59 71 *e*P **P** **03 27 04.2 +1.0**
comp=Z,16nm,1.2s
WHN Wuhan 44.03 257⇑*i*P **P** **03 27 16.0 +1.1**
WHN pP **pP** **03 27 23.5 +3.4**
WHN *e*S **S** **03 33 46.0 -0.2**
WHN pmax pmax
comp=Z,44nm,0.8s
WHN LR LR
comp=N,380nm,10.8s
WHN LR LR
comp=E,820nm,11.1s
WHN LR LR
comp=Z,410nm,21.6s
EDM Edmonton 44.43 58 *e*P **P** **03 27 18.2 +0.2**
EDM Edmonton 44.43 58 *e*P **P** **03 27 18.2 +0.2**
ZALV Zalesovo Beam 44.45 303 PP PP 03 29 02.0 +0.5
ZALV Zalesovo Beam 44.45 303 PP PP 03 29 02.0 +0.5
comp=Z,3.0nm,0.9s,baz=47,slow=8.5,SNR=5.9
NVS Novosibirsk 44.66 305 *i* P **P** **03 27 17.9 -1.8**
SPITS Spitsbergen Ar 45.28 352 P **P** **03 27 24.1 -0.3**
SPITS Spitsbergen Ar 45.28 352 P **P** **03 27 24.1 -0.3**
comp=Z,13nm,0.8s,baz=22,slow=1.6,SNR=12
NEW Newport 45.60 66 *e*P **P** **03 27 27.3 0.0**
comp=Z,8.6nm,1.0s
NEW Newport 45.60 66 P **P** **03 27 26.8 -0.6**
comp=Z,5.8nm,0.9s,baz=304,slow=5.9,SNR=11
NEW Newport 45.60 66⇑P **P** **03 27 26.7 -0.6**
baz=45,SNR=8.5
GTA Gaotai 45.85 278 *e*P **P** **03 27 30.3 +0.8**
GTA pP **pP** **03 27 34.8 +0.1**
GTA sP **sP** **03 27 37.0 +0.2**
GTA S **S** **03 34 15.5 +2.8**
GTA sS **sS** **03 34 23.3 +2.0**
GTA SS **SS** **03 37 34.0 -2.8**
GTA pmax pmax
comp=Z,15nm,0.7s
GTA pmax pmax
comp=Z,84nm,5.1s
GTA LR LR
comp=N,530nm,19.0s
GTA LR LR
comp=E,480nm,19.0s
GTA LR LR
comp=Z,300nm,13.8s
LZH Lanzhou 45.89 272⇑P **P** **03 27 32.0 +2.1**
LZH pP **pP** **03 27 36.3 +1.2**
LZH sP **sP** **03 27 41.3 +4.1**
LZH PP **PP** **03 29 20.0 +2.8**
LZH S **S** **03 34 13.5 +0.1**
LZH sS **sS** **03 34 21.3 -0.8**
LZH SS **SS** **03 37 32.0 -5.7**
LZH pmax pmax
comp=Z,39nm,1.0s
LZH pmax pmax
comp=Z,110nm,4.0s
LZH LR LR
comp=N,670nm,15.3s
LZH LR LR
comp=E,540nm,14.2s
LZH LR LR
comp=Z,870nm,16.4s
A12A Yaak River Ran 45.94 64⇓P **P** **03 27 30.1 +0.1**
baz=46
B12A Libby 46.26 64⇓P **P** **03 27 33.2 +0.6**
baz=46
A13A Flathead Natio 46.57 63⇓P **P** **03 27 34.9 -0.1**
baz=46,SNR=13
WALA Waterton Lakes 46.74 63 *e*P **P** **03 27 35.9 -0.4**
comp=Z,0.9nm,1.0s
C12B Naegeli Ranch, 46.81 65⇓P **P** **03 27 36.7 -0.1**
baz=47
YBH Yreka Blue Hor 46.88 76 *e*P **P** **03 27 38.1 +0.6**
comp=Z,7.0nm,1.1s
YBH Yreka Blue Hor 46.88 76 P **P** **03 27 37.1 -0.4**
comp=Z,4.4nm,1.0s,baz=299,slow=2.4,SNR=10
YBH LR LR 03 45 17.5
comp=Z,166nm,18.3s,baz=300,slow=34
B13A Whitefish 46.90 64⇑P **P** **03 27 37.1 -0.4**
baz=47,SNR=11
ENH Enshi 46.96 262 *e*P **P** **03 27 38.9 +0.7**
comp=Z,21nm,0.8s
A14A Double T Ranch 47.04 63⇓P **P** **03 27 38.4 -0.4**
baz=47,SNR=11
BSMT Bassoo Peak 47.07 65 *e*P **P** **03 27 39.1 +0.1**
comp=Z,19nm,1.0s
BLMT Blacktail Moun 47.19 64 *e*P **P** **03 27 40.6 +0.7**
comp=Z,12nm,1.0s
C13A Hot Springs 47.29 65⇓P **P** **03 27 40.7 +0.1**
baz=47,SNR=17
A15A Johnson Ranch, 47.39 62⇓P **P** **03 27 40.6 -0.8**
baz=47,SNR=5.8
JTMT Jette 47.40 64 *e*P **P** **03 27 41.5 0.0**
comp=Z,15nm,1.0s
YBMT Yellow Bay 47.46 64 *e*P **P** **03 27 42.4 +0.4**
comp=Z,5.9nm,0.9s
B14A Marquette Ranc 47.51 63⇓P **P** **03 27 42.3 -0.1**
baz=47
C14A Swan Lake 47.66 64⇓P **P** **03 27 43.6 +0.1**
baz=47
SWMT Swartz Lake 47.70 64 *e*P **P** **03 27 43.2 -0.7**
comp=Z,14nm,1.2s
BMO Blue Mountains 47.72 69 *e*P **P** **03 27 43.8 -0.3**
comp=Z,30nm,1.8s
WDC Whiskeytown Da 47.76 77 *e*P **P** **03 27 44.1 -0.2**
WDC pmax pmax
comp=Z,7.0nm,1.2s
WDC Whiskeytown Da 47.76 77 *e*P **P** **03 27 44.1 -0.2**
comp=Z,6.9nm,1.2s
B15A Bradely Ranch, 47.91 63⇓P **P** **03 27 44.6 -0.8**
baz=48,SNR=10
DAG Danmarks Havn 47.93 2 *i* P **P** **03 27 45.6 +0.5**
DAG pmax pmax
comp=Z,4.0nm,0.8s
DAG Danmarks Havn 47.93 2 *i* P **P** **03 27 45.6 +0.5**
comp=Z,5.2nm,0.8s
A16A West Butte Ran 47.98 62⇑P **P** **03 27 45.4 -0.6**
baz=48
SLMT Seeley Lake 48.13 64 *e*P **P** **03 27 47.1 -0.2**
comp=Z,14nm,1.1s
MSO Missoula 48.18 65⇑P **P** **03 27 47.1 -0.4**
baz=48,SNR=6.8
C15A Salmond Ranch, 48.23 63⇑P **P** **03 27 48.0 0.0**
baz=48,SNR=14
B16A M & M Farms, S 48.27 62⇓P **P** **03 27 47.3 -0.9**
baz=48
A17A Triple J Farms 48.43 61⇓P **P** **03 27 48.5 -0.9**
baz=48,SNR=8.4
CHMT Chamberlain Mo 48.47 65 *e*P **P** **03 27 49.2 -0.8**
comp=Z,4.3nm,1.1s
WVOR Wild Horse Val 48.63 72 *e*P **P** **03 27 51.0 -0.1**
WVOR pmax pmax
comp=Z,6.0nm,1.0s
WVOR Wild Horse Val 48.63 72 *e*P **P** **03 27 51.0 -0.1**
comp=Z,5.6nm,1.0s
C16A Fuhringer Ranc 48.66 63⇓P **P** **03 27 50.6 -0.6**
baz=48,SNR=8.3
FFC Flin Flon 48.73 50*ce*P **P** **03 27 51.9 +0.4**
FFC Flin Flon 48.73 50 *e*P **P** **03 27 51.1 -0.4**
comp=Z,7.3nm,1.1s
B17A L&G Farms, Che 48.81 62⇓P **P** **03 27 51.6 -0.7**
baz=49
A18A Metzger Ranch, 48.87 61⇑P **P** **03 27 52.2 -0.5**
baz=49
B18A Beardsley Farm 49.25 61⇓P **P** **03 27 55.3 -0.4**
baz=49,SNR=12
C17A Wharram Farm, 49.26 62⇓P **P** **03 27 55.0 -0.8**
baz=49,SNR=15
FCC Fort Churchill 49.30 43 *e*P **P** **03 27 55.5 -0.3**
FCC pmax pmax
comp=Z,1.0nm,1.2s
FCC Fort Churchill 49.30 43 *e*P **P** **03 27 55.5 -0.3**
comp=Z,1.0nm,1.2s
HRY Holter Researc 49.34 64 *e*P **P** **03 27 56.1 -0.3**
comp=Z,3.3nm,0.7s
A19A Klindworth Far 49.40 60⇓P **P** **03 27 56.5 -0.4**
baz=49
KURK Kurchatov 49.44 303 P **P** **03 27 56.7 -0.3**
KURK pmax pmax
comp=Z,9.0nm,1.0s
KURK Kurchatov 49.44 303 P **P** **03 27 56.7 -0.3**
BEKR Beckworth 49.46 76 *e*P **P** **03 27 57.4 -0.1**
comp=Z,4.5nm,1.3s
MFID Camas Ranch 49.48 70 *e*P **P** **03 27 57.4 -0.2**
comp=Z,15nm,1.6s
MFID Camas Ranch 49.48 70⇑P **P** **03 27 57.4 -0.2**
baz=49,SNR=6.4
WMQ Urumqi 49.49 291 P **P** **03 27 59.5 +1.9**
WMQ pP **pP** **03 28 04.0 +1.1**
WMQ sP **sP** **03 28 06.5 +1.6**
WMQ PcP **PcP** **03 29 21.8 +2.4**
WMQ PP **PP** **03 29 54.5 +3.0**
WMQ ScP **ScP** **03 33 15.3 +1.6**
WMQ S **S** **03 35 05.5 +1.3**
WMQ sS **sS** **03 35 13.0 +0.1**
WMQ ScS **ScS** **03 37 48.0 -0.4**
WMQ SS **SS** **03 38 33.5 -2.1**
WMQ pmax pmax
comp=Z,11nm,1.5s
WMQ pmax pmax
comp=Z,77nm,5.0s
WMQ LR LR
comp=N,1μm,20.6s
WMQ LR LR
comp=E,760nm,20.6s
WMQ LR LR
comp=Z,210nm,23.5s
EGMT Eagleton 49.51 61 *e*P **P** **03 27 56.0 -1.7**
comp=Z,8.2nm,1.1s
EGMT Eagleton 49.51 61⇓P **P** **03 27 57.3 -0.4**
baz=49
KURBB Kurchatov Arra 49.55 303 P **P** **03 27 56.7 -1.1**
comp=Z,8.9nm,1.0s,baz=54,slow=7.7,SNR=37
LRM Limekiln Ridge 49.62 65 *e*P **P** **03 27 58.4 -0.4**
comp=Z,19nm,0.7s
B19A Brinkman Farms 49.62 60⇑P **P** **03 27 58.5 0.0**
baz=49
D17A Six Diamond Ra 49.62 63⇑P **P** **03 27 58.4 -0.3**
baz=49,SNR=14
CD2 Chengdu 49.72 267 *e*P **P** **03 28 00.5 +1.0**
CD2 pP **pP** **03 28 05.0 +0.2**
CD2 sP **sP** **03 28 07.5 +0.7**
CD2 PP **PP** **03 29 55.5 +1.7**
CD2 S **S** **03 35 07.8 +0.2**
CD2 sS **sS** **03 35 14.5 -1.8**
CD2 SS **SS** **03 38 36.0 -3.7**
CD2 pmax pmax
comp=Z,40nm,0.9s
CD2 pmax pmax
comp=Z,120nm,6.2s
CD2 LR LR
comp=E,500nm,13.2s
CD2 LR LR
comp=Z,350nm,15.2s
A20A Cobblestone Ra 49.84 59⇑P **P** **03 28 00.3 +0.1**
baz=50,SNR=10
DLMT Dillon 49.85 66 *e*P **P** **03 27 59.9 -0.5**
comp=Z,16nm,1.5s
E17A Martinsdale 50.00 64⇓P **P** **03 28 02.0 +0.4**
baz=50,SNR=19
D18A Linhart Farms, 50.04 62⇑P **P** **03 28 01.8 0.0**
baz=50,SNR=6.7
C19A Slack Wire Ran 50.05 61⇓P **P** **03 28 01.7 -0.2**
baz=50,SNR=9.2
MCMT McKenzie Canyo 50.09 66 *e*P **P** **03 28 01.7 -0.7**
comp=Z,1.2nm,0.8s
B20A Solberg Farm, 50.09 60⇓P **P** **03 28 01.7 -0.4**
baz=50
HLID Hailey 50.13 69 *e*P **P** **03 28 02.4 -0.2**
comp=Z,2.7nm,1.0s
HLID Hailey 50.13 69⇓P **P** **03 28 02.5 -0.2**
baz=50,SNR=6.7
BOZ Bozeman (W) 50.16 65 *e*P **P** **03 28 02.8 0.0**
BOZ pmax pmax
comp=Z,3.0nm,1.0s
BOZ Bozeman (W) 50.16 65 *e*P **P** **03 28 02.8 0.0**
comp=Z,3.5nm,1.0s
A21A Bergtoll Ranch 50.25 59⇑P **P** **03 28 03.5 +0.2**
baz=50
MK31 Makanchi Array 50.27 297 *e*P **P** **03 28 03.8 +0.3**
MK31 Makanchi Array 50.27 297 *e*P **P** **03 28 03.8 +0.3**
MKAR Makanchi Array 50.27 297 P **P** **03 28 02.4 -1.1**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 50.27 297 P **P** **03 28 02.4 -1.1**
MKAR Makanchi Array 50.27 297 P **P** **03 28 02.4 -1.1**
comp=Z,1.1nm,0.6s,baz=54,slow=6.9,SNR=11
I14A Mackay 50.38 68⇓P **P** **03 28 04.5 0.0**
baz=50,SNR=10
E18A Harlowton 50.41 63⇑P **P** **03 28 05.1 +0.5**
baz=50,SNR=10
F17A Fitzpatrick Pl 50.48 64⇓P **P** **03 28 05.2 0.0**
baz=50
D19A Cripps Ranch, 50.52 62⇑P **P** **03 28 05.1 -0.3**
baz=50,SNR=8.1
C20A Veseth Ranch, 50.59 61⇑P **P** **03 28 05.7 -0.2**
baz=50,SNR=12
B21A Ellsworth Farm 50.59 59⇑P **P** **03 28 05.6 -0.3**
baz=50
A22A Carney Farms, 50.74 58⇑P **P** **03 28 06.9 -0.1**
baz=50
QLMT Earthquake Lak 50.82 65 *e*P **P** **03 28 07.7 -0.2**
comp=Z,1.1nm,0.8s
G17A Pierce Place, 50.84 65⇓P **P** **03 28 08.4 +0.5**
baz=51
WAKR Walker 50.93 77 *e*P **P** **03 28 09.0 +0.3**
comp=Z,13nm,1.3s
D20A Manuel Ranch, 50.95 61⇑P **P** **03 28 08.7 +0.1**
baz=51
C21A Desert Coulee 50.96 60⇑P **P** **03 28 08.7 +0.1**
baz=51
F18A Big Timber 50.96 63⇓P **P** **03 28 08.8 0.0**
baz=51,SNR=16
H16A Russell Place, 51.00 65⇑P **P** **03 28 09.1 -0.1**
baz=51,SNR=6.8
SUMG Summit 51.04 9 *i* P **P** **03 28 10.2 +0.8**
SUMG pmax pmax
comp=Z,12nm,1.0s
SUMG Summit 51.04 9 *e*P **P** **03 28 10.4 +1.1**
comp=Z,18nm,1.0s
SUMG Summit 51.04 9 *i* P **P** **03 28 10.2 +0.8**
comp=Z,12nm,1.0s
E19A Rath Farm, Rou 51.05 62⇓P **P** **03 28 09.3 -0.1**
baz=51,SNR=7.6
GCMT Greycliff 51.06 63 *e*P **P** **03 28 09.9 +0.4**
comp=Z,10nm,1.4s
B22A Reddig Ranch S 51.17 59⇓P **P** **03 28 10.1 -0.2**
baz=51
A23A Redstone 51.26 58⇑P **P** **03 28 10.9 0.0**
baz=51
E20A Meyer Farm, Mu 51.35 62⇑P **P** **03 28 11.6 0.0**
baz=51,SNR=6.6
F19A Roth Farm, Mol 51.39 63⇑P **P** **03 28 12.1 +0.2**
baz=51,SNR=9.9
YFT Old Faithful 51.39 65 *e*P **P** **03 28 13.6 +1.4**
comp=Z,13nm,1.1s
G18A Lazy EL Ranch, 51.44 64⇑P **P** **03 28 12.3 -0.1**
baz=51
I16A Newdale 51.45 66⇓P **P** **03 28 12.9 +0.4**
baz=51,SNR=7.2
GYA Guiyang 51.47 261 *e*P **P** **03 28 13.5 +0.7**
GYA PP **PP** **03 30 11.8 +1.9**
GYA S **S** **03 35 36.5 +4.4**
GYA SS **SS** **03 39 05.5 -2.3**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,70nm,4.9s
GYA LR LR
comp=N,320nm,20.1s
GYA LR LR
comp=E,350nm,22.3s
GYA LR LR
comp=Z,480nm,22.1s
D21A La Casta Ranch 51.53 61⇑P **P** **03 28 13.2 +0.2**
baz=51
B23A Brockton 51.55 58⇓P **P** **03 28 13.4 +0.3**
baz=51
H17A Grant Village 51.56 65⇑P **P** **03 28 13.6 +0.1**
baz=51
NVAR Mina Array Bea 51.60 76 P **P** **03 28 14.3 +0.4**
NVAR Mina Array Bea 51.60 76 P **P** **03 28 14.3 +0.4**
comp=Z,4.4nm,1.0s,baz=292,slow=8.0,SNR=26
C22A Vida 51.61 59⇓P **P** **03 28 13.4 -0.2**
baz=51

BVAR **Borovoye Array** 51.63 310 P P 03 28 12.6 -0.9
BVAR pmax pmax
comp=Z,5.0nm,0.8s
BVAR MLR MLR
comp=Z,304nm,18.9s
BVAR Borovoye Array 51.63 310 P P 03 28 12.6 -0.9
BVAR Borovoye Array 51.63 310 P P 03 28 12.6 -0.9
comp=Z,4.7nm,0.8s,baz=45,slow=6.7,SNR=24
BVAR LR LR 03 52 02.7
comp=Z,304nm,18.9s,baz=48,slow=38
BRVK Borovoye 51.65 310 *eP* P 03 28 13.0 -0.7
BRVK pmax pmax
comp=Z,8.0nm,0.8s
BRVK Borovoye 51.65 310 *eP* P 03 28 13.0 -0.7
comp=Z,8.0nm,0.8s
A24A Westby 51.71 57 ⇑P P 03 28 14.4 +0.2
baz=52
RLMT Red Lodge 51.73 64 *eP* P 03 28 15.1 +0.4
comp=Z,17nm,1.0s
F20A Billings 51.83 63 ⇓P P 03 28 15.5 +0.3
baz=52
H18A Shoshone NF, C 51.84 65 ⇓P P 03 28 16.0 +0.5
baz=52
E21A Keefer Ranch, 51.85 61 ⇑P P 03 28 15.7 +0.3
baz=52
D22A Cohagen 51.88 60 ⇑P P 03 28 15.2 -0.3
baz=52,SNR=7.8
MLAC Mammoth Lakes 51.88 77 ⇓P P 03 28 15.7 -0.2
baz=52
I17A Pilgrim Ck. 51.89 66 ⇑P P 03 28 15.3 -0.6
baz=52
C23A Lambert 51.91 59 ⇓P P 03 28 15.6 -0.2
baz=52
MOOW Moose Ponds 51.92 66 *eP* P 03 28 16.4 +0.2
comp=Z,8.6nm,1.4s
DGMT Dagmar 51.93 58 ⇑P P 03 28 15.6 -0.3
baz=52
TPAW Teton Pass 52.00 66 *eP* P 03 28 17.1 +0.4
comp=Z,4.3nm,0.9s
ARCES ARCESS Array B 52.02 344 P P 03 28 14.6 -1.7
ARCES ARCESS Array B 52.02 344 P P 03 28 14.6 -1.7
comp=Z,2.2nm,0.9s,baz=12,slow=6.6,SNR=4.4
ARCES LR LR 03 51 52.1
comp=Z,122nm,18.7s,baz=8.6,slow=38
LOHW Long Hollow 52.09 66 *eP* P 03 28 17.8 +0.4
comp=Z,8.9nm,1.2s
REDW Red Top Meadow 52.14 66 *eP* P 03 28 18.5 +0.8
comp=Z,6.8nm,1.4s
H19A Powell 52.19 64 ⇑P P 03 28 18.4 +0.4
baz=52,SNR=6.1
G20A Bridger 52.20 63 ⇑P P 03 28 17.6 -0.5
baz=52,SNR=18
D23A Lindsay 52.34 59 ⇓P P 03 28 19.0 +0.1
baz=52
I18A Diamond G Ranc 52.44 65 ⇑P P 03 28 20.4 +0.4
baz=52
C24A Savage 52.47 59 ⇓P P 03 28 19.5 -0.4
baz=52
E22A Miles City 52.48 61 ⇑P P 03 28 20.0 0.0
baz=52,SNR=6.7
I19A Meeteetse 52.63 65 ⇑P P 03 28 21.5 +0.2
baz=52
A26A Wade Farm, Ken 52.66 56 ⇑P P 03 28 21.1 -0.1
baz=52
G21A Lodge Grass 52.70 62 ⇓P P 03 28 21.8 0.0
baz=52
E23A Ismay 52.76 60 ⇑P P 03 28 22.3 +0.2
baz=52
F22A Rosebud 52.79 61 ⇓P P 03 28 22.6 +0.2
baz=52
H20A Greybull 52.82 64 ⇑P P 03 28 22.3 -0.3
baz=53
SMMC Simmler 52.91 80 ⇓P P 03 28 23.9 +0.6
baz=53
C25A Freed Ranch, W 52.91 58 ⇑P P 03 28 23.6 +0.5
baz=53
HWUT Hardware Ranch 53.00 68 *eP* P 03 28 24.2 +0.2
comp=Z,4.2nm,1.0s
I20A Worland 53.13 64 ⇑P P 03 28 25.4 +0.4
baz=53
J19A Crowheart 53.14 65 ⇓P P 03 28 25.7 +0.6
baz=53
GRAC Grapevine Rang 53.15 77 ⇑P P 03 28 25.6 +0.6
baz=53
CWC Cottonwood Cre 53.16 78 ⇓P P 03 28 25.8 +0.5
baz=53,SNR=5.2
R11A Troy Canyon, C 53.16 74 ⇓P P 03 28 25.4 +0.1
baz=53,SNR=9.6
G22A Birney 53.17 62 ⇑P P 03 28 25.4 +0.2
baz=53
E24A Baker 53.21 59 ⇓P P 03 28 25.5 +0.1
baz=53
H21A Big Horn, Sher 53.21 63 ⇓P P 03 28 25.7 +0.1
baz=53
BW06 Boulder Array 53.23 66 *eP* P 03 28 25.4 -0.4
comp=Z,48nm,1.9s
PDAR Pinedale Array 53.23 66 P P 03 28 25.6 -0.2
PDAR Pinedale Array 53.23 66 P P 03 28 25.6 -0.2
comp=Z,5.7nm,1.0s,baz=316,slow=4.1,SNR=38
PDAR LR LR 03 51 06.0
comp=Z,81nm,19.4s,baz=222,slow=36
F23A Volborg 53.26 61 ⇓P P 03 28 26.0 +0.2
baz=53,SNR=7.5
PKM Peak Mountain 53.31 80 ⇑P P 03 28 26.7 +0.2
baz=53
DUG Dugway 53.34 71 *eP* P 03 28 27.1 +0.5
DUG pmax pmax
comp=Z,3.0nm,0.9s
DUG Dugway 53.34 71 *eP* P 03 28 27.1 +0.5
comp=Z,3.2nm,0.9s
DUG Dugway 53.34 71 ⇑P P 03 28 26.9 +0.3
baz=53,SNR=5.4
ISA Isabella 53.50 78 ⇓P P 03 28 27.5 -0.2
baz=53
K19A Absolon Red Bu 53.56 66 ⇑P P 03 28 27.9 -0.3
baz=53,SNR=5.2
M17A Scullys Gap (B 53.57 68 ⇑P P 03 28 28.0 -0.3
baz=53
J20A Shoshoni 53.58 65 ⇑P P 03 28 28.5 +0.3
baz=53,SNR=12
L18A Fontenelle, Gr 53.58 67 ⇑P P 03 28 28.5 +0.1
baz=53,SNR=5.3
H22A Clearmont 53.58 62 ⇓P P 03 28 28.3 0.0
baz=53
G23A Biddle 53.63 61 ⇑P P 03 28 28.6 +0.1
baz=53
F24A Ekalaka 53.65 60 ⇓P P 03 28 28.7 0.0
baz=53
I21A Big Trails, Te 53.66 64 ⇑P P 03 28 28.6 -0.3
baz=53,SNR=5.9
C27A Sayler Ranch, 53.75 57 ⇑P P 03 28 29.4 +0.1
baz=54
MPMC Manual Prospec 53.76 77 ⇓P P 03 28 29.8 0.0
baz=54,SNR=7.2
L19A Farson 53.81 67 ⇓P P 03 28 30.1 +0.1
baz=54
FURC Furnace Creek, 53.81 77 ⇓P P 03 28 30.2 +0.4
baz=54,SNR=14
J21A Lysite 53.91 64 ⇓P P 03 28 30.8 +0.1
baz=54
K20A Yellowstone Ra 53.94 65 ⇑P P 03 28 30.3 -0.6
baz=54
ARU Arti 53.97 319 *d iP* P 03 28 29.9 -0.8
ARU 03 30 27.1
ARU S S 03 36 06.1 +0.8
ARU pmax pmax
comp=Z,10.0nm,1.7s
I22A 9 Mile Ranch, 54.01 63 ⇓P P 03 28 31.4 0.0
baz=54,SNR=6.6
DAU Daniels Canyon 54.01 69 *eP* P 03 28 31.7 0.0
DAU pmax pmax
comp=Z,4.0nm,1.1s
DAU Daniels Canyon 54.01 69 *eP* P 03 28 31.7 0.0
comp=Z,4.5nm,1.1s
G24A Alzada 54.03 61 ⇑P P 03 28 31.6 +0.2
baz=54
LRMC Laurel Mountai 54.07 78 ⇑P P 03 28 32.5 +0.5
baz=54
TMCR Tamitsa 54.16 335 *eP* P 03 28 32.0 0.0
TMCR *e* 03 29 35.0
TMCR *e* 03 30 31.9
TMCR pmax pmax
comp=Z,74nm,0.4s
E26A Carlson Angus 54.17 58 ⇑P P 03 28 32.3 -0.2
baz=54,SNR=5.8
BLG Laguna Peak 54.31 80 ⇑P P 03 28 34.1 +0.5
baz=54
EDW2 Edwards Air Fo 54.34 79 ⇑P P 03 28 34.3 +0.4
baz=54
H24A Dirks Ranch, A 54.37 61 ⇓P P 03 28 33.9 -0.1
baz=54
L20A Wamsutter 54.40 66 ⇑P P 03 28 34.5 +0.1
baz=54
F26A Lodgepole 54.51 59 ⇑P P 03 28 34.9 0.0
baz=54
K21A Alcova 54.52 65 ⇓P P 03 28 34.9 -0.3
baz=54,SNR=5.3
ULM Lac du Bonnet 54.52 51 P P 03 28 34.8 -0.1
ULM Lac du Bonnet 54.52 51 P P 03 28 34.8 -0.1
comp=Z,6.8nm,0.9s,baz=318,slow=5.9,SNR=8.7
ULM LR LR 03 53 27.1
comp=Z,236nm,18.1s,baz=302,slow=38
SHOC Shoshone 54.55 77 ⇓P P 03 28 36.0 +0.7
baz=54
MDND Maddock 54.55 56 ⇓P P 03 28 35.6 +0.5
baz=54,SNR=6.7
G25A Newell 54.62 60 ⇑P P 03 28 36.2 +0.5
baz=54
GSC Goldstone 54.69 78 *eP* P 03 28 37.0 +0.5
GSC pmax pmax
comp=Z,14nm,1.1s
GSC Goldstone 54.69 78 *eP* P 03 28 37.0 +0.5
comp=Z,14nm,1.1s
GSC Goldstone 54.69 78 ⇓P P 03 28 36.8 +0.4
baz=54,SNR=8.1
KMI Kunming 54.72 263 P P 03 28 38.5 +1.6
KMI pP **pP** 03 28 41.5 -0.7
KMI sP **sP** 03 28 43.3 -1.0
KMI PP **PP** 03 30 42.0 +2.6
KMI S **S** 03 36 15.0 -1.6
KMI sS **sS** 03 36 21.3 -4.1
KMI SS **SS** 03 39 58.8 -0.5
KMI pmax pmax
comp=Z,13nm,0.8s
KMI pmax pmax
comp=Z,69nm,3.3s
KMI LR LR
comp=N,280nm,12.5s
KMI LR LR
comp=E,190nm,14.1s
KMI LR LR
comp=Z,300nm,13.7s
TMUT Trail Mountain 54.84 70 *eP* P 03 28 38.2 +0.5
comp=Z,17nm,1.2s
M20A Sweetwater, Wa 54.85 66 ⇓P P 03 28 37.9 +0.2
baz=55
MVU Marysvale 54.88 72 *eP* P 03 28 37.9 0.0
comp=Z,23nm,1.8s
K22A Casper 54.88 64 ⇑P P 03 28 37.7 -0.1
baz=55,SNR=7.1
MSU Marysvale 54.89 72 *eP* P 03 28 38.4 +0.4
MSU pmax pmax
comp=Z,28nm,1.7s
MSU Marysvale 54.89 72 *eP* P 03 28 38.4 +0.4
comp=Z,28nm,1.7s
H25A Fruitdale 54.94 61 ⇑P P 03 28 38.3 +0.2
baz=55
L21A Rawlins 54.94 65 ⇑P P 03 28 38.4 +0.1
baz=55
CCUT Cedar City 54.95 73 *eP* P 03 28 38.4 -0.1
comp=Z,38nm,2.0s
G26A Maurine 54.95 60 ⇑P P 03 28 38.2 +0.1
baz=55,SNR=6.4
BFSC Mount Baldy Ra 55.00 79 ⇓P P 03 28 39.3 +0.6
baz=55
RSSD Black Hills 55.08 61 *eP* P 03 28 39.5 +0.2
RSSD pmax pmax
comp=Z,8.0nm,1.0s
RSSD Black Hills 55.08 61 *eP* P 03 28 39.5 +0.2
comp=Z,8.0nm,1.0s
TUQ Turquoise Moun 55.08 77 ⇑P P 03 28 39.2 -0.2
baz=55
Q16A Castle Valley 55.14 71 ⇑P P 03 28 39.5 -0.2
baz=55
CIS Catalina Islan 55.20 80 ⇑P P 03 28 40.9 +0.9
baz=55
M21A Separation Pea 55.20 66 ⇑P P 03 28 40.0 -0.2
baz=55,SNR=6.0
G27A Dupree 55.21 59 ⇓P P 03 28 39.7 -0.3
baz=55,SNR=5.1
O19A Miners Draw (B 55.23 68 ⇓P P 03 28 40.5 +0.2
baz=55
K23A Bowen Ranch, D 55.26 64 ⇓P P 03 28 40.4 -0.1
baz=55
N20A Spence Gulch, 55.29 67 ⇓P P 03 28 41.6 +0.7
baz=55,SNR=14
HEC Hector,Ludlow 55.30 78 ⇓P P 03 28 41.2 +0.4
baz=55,SNR=6.9
I25A Rochford 55.30 61 ⇓P P 03 28 40.6 -0.3
baz=55,SNR=5.1
J24A Dixon Ranch, L 55.34 63 ⇑P P 03 28 41.2 +0.2
baz=55
SRU San Rafael 55.34 70 *eP* P 03 28 42.0 +0.8
SRU pmax pmax
comp=Z,18nm,1.0s
SRU San Rafael 55.34 70 *eP* P 03 28 42.0 +0.8
comp=Z,18nm,1.0s
H26A Fairpoint 55.35 60 ⇑P P 03 28 40.9 -0.2
baz=55
L22A Ellis Ranch, M 55.37 65 ⇑P P 03 28 42.0 +0.6
baz=55,SNR=7.2
QIZ Qiongzhong 55.63 253 P P 03 28 42.3 -0.9
QIZ S S 03 36 29.3 +0.9
QIZ pmax pmax
comp=Z,18nm,2.7s
H27A Howes 55.68 60 ⇑P P 03 28 43.6 +0.2
baz=55
L23A Garrett 55.69 64 ⇓P P 03 28 43.4 -0.3
baz=55,SNR=12
GMRC Granite Mounta 55.71 77 ⇑P P 03 28 44.5 +0.7
baz=56,SNR=7.0
J25A Sunshine Ranch 55.73 62 ⇑P P 03 28 43.7 -0.1
baz=56
N21A Black Mountain 55.73 67 ⇑P P 03 28 44.5 +0.4
baz=56
P19A Cripple Cowboy 55.78 68 ⇑P P 03 28 44.6 +0.2
baz=56,SNR=9.3
LDFC Landfair 55.80 77 *eP* P 03 28 44.6 +0.1
comp=Z,13nm,0.8s
O20A White River Ci 55.81 68 ⇓P P 03 28 44.9 +0.4
baz=56,SNR=7.4
G28A Parade 55.93 59 ⇑P P 03 28 45.2 +0.1
baz=56
AGMN Agassiz Nation 55.95 53 *eP* P 03 28 44.9 -0.3
comp=Z,22nm,1.3s
BELC Belle Mtn. Jos 56.10 78 ⇑P P 03 28 47.0 +0.4
baz=56
I27A Quinn 56.10 60 ⇓P P 03 28 46.7 +0.2
baz=56,SNR=7.5
L24A Wheatland 56.13 64 ⇑P P 03 28 47.1 +0.3
baz=56
PFO Pinon Flat Ob 56.14 79 ⇑P P 03 28 47.3 +0.4
baz=56
O21A Pagoda 56.15 67 ⇑P P 03 28 47.3 +0.2
baz=56,SNR=7.5
H28A Mission Ridge 56.17 59 ⇑P P 03 28 46.9 0.0
baz=56,SNR=5.2
N22A Wattenberg Ran 56.25 66 ⇓P P 03 28 48.6 +0.8
baz=56,SNR=10
U15A North Rim 56.35 73 ⇑P P 03 28 49.2 +0.6
baz=56,SNR=8.0
TKM2 Tokmak 2 56.38 298 *eP* P 03 28 49.7 +1.1
TKM2 pmax pmax
comp=Z,2.0nm,0.8s
TKM2 Tokmak 2 56.38 298 *eP* P 03 28 49.6 +1.1
comp=Z,2.3nm,0.8s
N23A Red Feather La 56.45 65 ⇓P P 03 28 49.7 +0.5
baz=56,SNR=13
IRM Iron Mountain 56.45 77 ⇑P P 03 28 49.6 +0.5
baz=56,SNR=7.4
W13A Hualapai Mount 56.46 76 ⇑P P 03 28 49.8 +0.5
baz=56
I28A Midland 56.59 60 ⇓P P 03 28 49.9 0.0
baz=56
M24A Cheyenne 56.61 64 ⇑P P 03 28 51.0 +0.7
baz=56,SNR=5.5
Q20A Ridgley Place, 56.64 69 ⇓P P 03 28 50.4 -0.1
baz=56,SNR=6.7
BC3 Big Chuckawall 56.66 78 ⇑P P 03 28 50.6 0.0
baz=56
P21A Newcastle 56.67 67 ⇓P P 03 28 51.4 +0.6
baz=56,SNR=9.3
O22A Kremmling 56.67 66 ⇓P P 03 28 51.2 +0.4
baz=56
MONP Monument Peak 56.69 79 ⇑P P 03 28 51.0 0.0
baz=56
PV04 Paradox Valley 56.73 69 *eP* P 03 28 51.2 +0.1
PDMCI Parker Dam,Lak 56.91 76 ⇓P P 03 28 52.7 +0.5
baz=57
O23A Lake Granby, G 56.97 66 ⇑P P 03 28 54.3 +1.4
baz=57,SNR=13
J28A Allard Ranch, 56.98 60 ⇑P P 03 28 53.0 +0.4
baz=57,SNR=7.9
P22A Eagle 56.98 67 ⇑P P 03 28 53.8 +0.8
baz=57,SNR=8.1
K27A Flueckinger Fa 57.01 61 ⇑P P 03 28 53.4 +0.5
baz=57
M25A Palm-Egli Farm 57.02 64 ⇓P P 03 28 53.9 +0.8
baz=57
N24A Carr 57.05 65 ⇓P P 03 28 54.1 +0.8
baz=57
PV01 Paradox Valley 57.10 69 *eP* P 03 28 53.9 +0.1
comp=Z,3µm,1.8s
Y12C Blythe 57.10 77 ⇓P P 03 28 54.5 +0.9
baz=57
Q21A Lamborn Mesa, 57.11 68 ⇓P P 03 28 54.4 +0.5
baz=57,SNR=6.8
AAK Ala-Archa 57.14 299 *eP* P 03 28 55.1 +1.1
AAK pmax pmax
comp=Z,10.0nm,1.0s
AAK Ala-Archa 57.14 299 *eP* P 03 28 55.1 +1.1
comp=Z,10nm,1.0s
R20A Redvale 57.16 69 ⇑P P 03 28 54.9 +0.6
baz=57
SMCO Snowmass 57.17 67 *eP* P 03 28 54.8 +0.2
comp=Z,12nm,1.1s
ISCO Idaho Springs 57.43 66 *eP* P 03 28 57.1 +0.9
ISCO pmax pmax
comp=Z,35nm,1.4s
ISCO Idaho Springs 57.43 66 *eP* P 03 28 57.1 +0.9
comp=Z,35nm,1.4s
ISCO Idaho Springs 57.43 66 ⇑P P 03 28 57.3 +1.1
baz=57,SNR=19
S20A Disappointment 57.44 69 ⇑P P 03 28 56.7 +0.5
baz=57,SNR=9.8
Q22A Crested Butte, 57.44 68 ⇑P P 03 28 56.9 +0.6
baz=57,SNR=12
GLA Glamis 57.46 78 ⇑P P 03 28 56.9 +0.8
baz=57
M26A McRoberts Ranc 57.47 63 ⇓P P 03 28 56.8 +0.6
baz=57
R21A Cimarron 57.47 68 ⇓P P 03 28 57.5 +1.1
baz=57,SNR=19
O24A Longmont 57.47 65 ⇑P P 03 28 57.4 +1.0
baz=57
EKS2 Erkin-Say 57.48 299 *eP* P 03 28 56.0 -0.3
EKS2 pmax pmax
comp=Z,7.0nm,1.0s
EKS2 Erkin-Say 57.48 299 *eP* P 03 28 56.0 -0.3
comp=Z,7.3nm,1.0s
WUAZ Wupatki 57.52 73 *eP* P 03 28 57.5 +0.8
comp=Z,17nm,1.4s
WUAZ Wupatki 57.52 73 ⇓P P 03 28 57.3 +0.5
baz=57
P23A Jefferson 57.62 67 ⇑P P 03 28 59.0 +1.3
baz=57,SNR=8.5
LSA Lhasa 57.79 276 P P 03 28 59.5 +0.5
LSA Lhasa 57.79 276 *eP* P 03 29 00.4 +1.3
LSA pmax pmax
comp=Z,6.0nm,0.5s
LSA Lhasa 57.79 276 *eP* P 03 29 00.4 +1.3
comp=Z,5.9nm,0.5s
Y14A Wickenburg 57.80 76 ⇑P P 03 28 59.1 +0.5
baz=58
MVCO Mesa Verde 57.82 70 *eP* P 03 28 59.3 +0.4
comp=Z,11nm,1.4s
MVCO Mesa Verde 57.82 70 ⇓P P 03 28 59.3 +0.4
baz=58,SNR=5.2
S21A Coal Bank Pass 57.86 69 ⇑P P 03 29 00.2 +0.9
baz=58,SNR=16
N26A Koester Ranch, 57.90 64 ⇓P P 03 28 59.7 +0.5
baz=58
O25A Wiggins 57.97 65 ⇓P P 03 29 00.2 +0.4
baz=58
R22A Saguache, Gunn 57.99 68 ⇓P P 03 29 01.3 +1.1
baz=58,SNR=12
EYMN Ely 58.16 51 *eP* P 03 29 00.6 -0.2
comp=Z,36nm,1.4s
N27A Anderson Farm, 58.26 63 ⇓P P 03 29 02.8 +1.0
baz=58,SNR=5.8
O26A Horse Wrangler 58.28 64 ⇑P P 03 29 02.2 +0.2
baz=58
Q24A Divide 58.29 66 ⇓P P 03 29 02.6 +0.4
baz=58
X16A Lo Mia Camp, P 58.30 74 ⇓P P 03 29 03.2 +0.9
baz=58,SNR=5.7
S22A 4UR Ranch, Cre 58.31 68 ⇓P P 03 29 03.3 +0.9
baz=58,SNR=18
P25A Willow Gulch B 58.39 65 ⇓P P 03 29 03.8 +1.0
baz=58,SNR=9.3
T21A Navajo Lake 58.50 70 ⇓P P 03 29 04.4 +0.8
baz=58
R23A Moffat 58.51 67 ⇑P P 03 29 04.2 +0.4
baz=58
KSH Kashi 58.70 295 P P 03 29 07.8 +2.9
KSH PP PP 03 31 21.0 +6.7
KSH PcS **PcS** 03 33 57.5 +1.0
KSH S **S** 03 37 12.5 +3.8
KSH sS **sS** 03 37 20.5 +2.9
KSH pmax pmax
comp=Z,3.0nm,0.7s
KSH pmax pmax
comp=Z,100nm,6.1s
KSH LR LR
comp=N,270nm,13.6s
KSH LR LR
comp=E,290nm,9.8s
KSH LR LR
comp=Z,150nm,6.7s
M29A Burnside Ranch 58.72 61 ⇓P P 03 29 05.3 +0.4
baz=58
AKTO Aktyubinsk 58.74 315 P P 03 29 03.5 -1.4
AKTO pmax pmax
comp=Z,3.0nm,0.9s
AKTO MLR MLR
comp=Z,158nm,21.6s
AKTO Aktyubinsk 58.74 315 P P 03 29 03.5 -1.4
AKTO Aktyubinsk 58.74 315 P P 03 29 03.5 -1.4
comp=Z,2.6nm,0.9s,baz=27,slow=6.8,SNR=6.3
AKTO LR LR 03 53 54.8
comp=Z,158nm,21.6s,baz=234,slow=36
O27A Beecher Island 58.75 64 ⇑P P 03 29 05.7 +0.5
baz=58
KKAR Karatay Array 58.75 302 *eP* P 03 29 03.7 -1.4
KKAR pmax pmax
comp=Z,11nm,1.1s
KKAR Karatay Array 58.75 302 *eP* P 03 29 03.7 -1.4
comp=Z,11nm,1.1s
P26A Davis Ranch, A 58.77 65 ⇑P P 03 29 06.3 +0.8
baz=58,SNR=5.8
S23A Nye Farm, Mont 58.78 68 ⇓P P 03 29 06.2 +0.6
baz=58
Q25A Bedland, Calha 58.79 66 ⇑P P 03 29 06.4 +0.8
baz=59,SNR=6.7
T22A Edith 58.82 69 ⇓P P 03 29 06.9 +1.0
baz=59,SNR=8.8
U21A Nageezi 58.85 70 ⇑P P 03 29 07.0 +0.9
baz=59,SNR=8.1
R24A Sanders Place, 58.85 67 ⇓P P 03 29 06.9 +0.8
baz=59,SNR=7.0
ABKAR Akbulak array 58.86 313 *eP* P 03 29 04.9 -0.8
comp=Z,0.8nm,0.5s
V20A Brimhall 58.89 71 ⇓P P 03 29 07.1 +0.7
baz=59
ECSD EROS Data Cent 58.99 57 *eP* P 03 29 06.0 -0.7
comp=Z,6.3nm,0.9s
SDCO Great Sand Dun 59.01 68 *eP* P 03 29 07.6 +0.3
comp=Z,19nm,1.7s
X18A Snowflake 59.04 73 ⇑P P 03 29 08.3 +0.9
baz=59,SNR=6.3
O28A Krutsinger Ran 59.16 63 ⇑P P 03 29 08.4 +0.4
baz=59,SNR=5.9
Q26A Hugo 59.16 65 ⇓P P 03 29 08.7 +0.6
baz=59
P27A Ficken Ranch, 59.17 64 ⇓P P 03 29 08.4 +0.2
baz=59,SNR=5.8
N29A Votaw Ranch, W 59.22 62 ⇑P P 03 29 08.7 +0.3
baz=59
FINES FINESS Array B 59.22 339 P P 03 29 07.3 -0.6
FINES FINESS Array B 59.22 339 P P 03 29 07.3 -0.6
comp=Z,3.9nm,0.8s,baz=14,slow=6.3,SNR=10
FINES LR LR 03 56 13.2
comp=Z,148nm,21.1s,baz=39,slow=38
S24A Houchin Ranch, 59.24 67 ⇑P P 03 29 09.8 +0.9

baz=59,SNR=7.2
U22A Llaves 59.32 70 ⇓P P 03 29 09.9 +0.5
baz=59,SNR=5.1
V21A Milan 59.33 71 ⇓P P 03 29 10.0 +0.6
baz=59
R25A Fountain Ranch 59.35 66 ⇑P P 03 29 09.9 +0.5
baz=59
W20A Ramah 59.37 72 ⇓P P 03 29 10.2 +0.5
baz=59,SNR=8.3
214A Organ Pipe Nat 59.40 77 ⇑P P 03 29 10.5 +0.8
baz=59
KSCO Kaye Shedlock' 59.56 65 ⇓P P 03 29 11.4 +0.6
baz=59
P28A Saint Francis 59.58 64 ⇑P P 03 29 11.5 +0.5
baz=59,SNR=5.3
S25A Robets Cordova 59.63 67 ⇓P P 03 29 11.8 +0.3
baz=59
V22A San Miguel Ran 59.64 70 ⇓P P 03 29 12.0 +0.4
baz=59
SPMN St. Paul 59.64 54 ⇓P P 03 29 11.2 0.0
baz=59
O29A 4D Ranch, Culb 59.65 63 ⇑P P 03 29 11.8 +0.4
baz=59
R26A Arlington 59.67 66 ⇓P P 03 29 12.0 +0.4
baz=59,SNR=19
U23A El Rito 59.71 69 ⇑P P 03 29 12.7 +0.7
baz=60,SNR=6.0
X20A Quemado 59.81 72 ⇑P P 03 29 13.3 +0.5
baz=60
Q28A Sharon Springs 59.93 64 ⇑P P 03 29 13.7 +0.4
baz=60
P29A Atwood 59.98 63 ⇑P P 03 29 14.1 +0.4
baz=60
O30A MW Ranch, Wils 59.98 62 ⇓P P 03 29 14.1 +0.4
baz=60
BGNE Belgrade 60.00 60 ⇓P P 03 29 14.1 +0.3
baz=60
R27A Eads 60.01 65 ⇓P P 03 29 14.0 0.0
baz=60,SNR=6.3
T25A Trinidad 60.04 67 ⇑P P 03 29 15.1 +0.8
baz=60,SNR=7.1
V23A Ortiz Mt. (NFS 60.15 70 ⇑P P 03 29 16.4 +1.3
baz=60,SNR=12
S26A Kim 60.16 66 ⇑P P 03 29 15.1 0.0
baz=60,SNR=8.0
TUC Tucson 60.25 75 *e*P P 03 29 16.2 +0.5
TUC pmax pmax
comp=Z,7.0nm,1.3s
TUC Tucson 60.25 75 *e*P P 03 29 16.1 +0.5
comp=Z,7.2nm,1.3s
X21A Alamocita Cree 60.27 72 ⇑P P 03 29 17.0 +1.1
baz=60,SNR=20
Y20A Horse Springs, 60.36 73 ⇑P P 03 29 17.8 +1.2
baz=60,SNR=8.5
P30A Selden 60.37 63 ⇓P P 03 29 16.4 +0.1
baz=60,SNR=5.1
T26A Comanche Natio 60.44 67 ⇑P P 03 29 16.7 -0.3
baz=60,SNR=5.8
R28A Tribune 60.48 65 ⇓P P 03 29 17.2 0.0
baz=60
Q29A Oakley 60.49 64 ⇓P P 03 29 16.9 -0.3
baz=60,SNR=5.0
U25A Circle Dot Ran 60.60 68 ⇑P P 03 29 18.6 +0.5
baz=60,SNR=12
ANMO Albuquerque 60.61 70 *e*P P 03 29 18.7 +0.5
comp=Z,5.9nm,1.0s
W23A Werner Place, 60.61 70 ⇑P P 03 29 18.7 +0.5
baz=60
COWI Conover 60.61 51 *e*P P 03 29 17.1 -0.7
comp=Z,7.9nm,1.1s
X22A Bernardo 60.64 71 ⇓P P 03 29 19.2 +0.8
baz=60
V24A Rampart Ranch, 60.65 69 ⇑P P 03 29 19.1 +0.5
baz=60
LAZ Ladron 60.65 71 *e*P P 03 29 19.1 +0.6
comp=Z,8.9nm,1.4s
Y21A Point of Rocks 60.66 72 ⇓P P 03 29 19.8 +1.2
baz=60,SNR=6.7
R29A Marienthal 60.76 64 ⇓P P 03 29 19.0 -0.1
baz=60,SNR=7.5
Q30A Quinter 60.81 63 ⇑P P 03 29 19.2 -0.2
baz=61,SNR=5.5
P31A Stockton 60.82 62 ⇑P P 03 29 19.0 -0.4
baz=61,SNR=5.8
Z20A Nine Sixteen R 60.84 73 ⇓P P 03 29 20.1 +0.3
baz=61
V25A Rancho No Teng 60.91 68 ⇑P P 03 29 20.6 +0.3
baz=61,SNR=8.7
U26A Atchley Ranch, 60.95 67 ⇓P P 03 29 20.7 +0.2
baz=61
W24A Lazy 6 Ranch, 60.97 69 ⇑P P 03 29 21.3 +0.6
baz=61,SNR=8.1
T27A Campo 60.98 66 ⇓P P 03 29 20.8 +0.1
baz=61
LPM Los Pinos Moun 60.99 71 *e*P P 03 29 21.8 +1.0
comp=Z,12nm,1.4s
S28A Manter 61.00 65 ⇓P P 03 29 20.8 +0.1
baz=61,SNR=7.9
X23A Hourglass Bar 61.03 70 ⇓P P 03 29 21.6 +0.5
baz=61
BNM Barren Site 61.12 71 *e*P P 03 29 22.4 +0.6
comp=Z,23nm,1.6s
Z21A St. Cloud Mine 61.20 72 ⇓P P 03 29 23.1 +0.9
baz=61,SNR=6.6
Q31A Ellis 61.21 62 ⇓P P 03 29 22.1 +0.1
baz=61
T28A Walsh 61.25 66 ⇓P P 03 29 22.5 +0.1
baz=61,SNR=6.9
120A U Bar Ranch, L 61.25 74 ⇑P P 03 29 23.3 +0.7
baz=61,SNR=6.8
R30A Dighton 61.31 64 ⇓P P 03 29 22.4 -0.3
baz=61,SNR=7.1
V26A Tequesquite Ra 61.38 68 ⇑P P 03 29 23.4 +0.1
baz=61
S29A Ulysses 61.38 65 ⇓P P 03 29 23.4 +0.1
baz=61
U27A Thompson Grove 61.41 67 ⇑P P 03 29 23.6 0.0
baz=61
W25A X Bar L Ranch, 61.47 69 ⇑P P 03 29 24.3 +0.3
baz=61,SNR=9.4
Y23A Lovelace Mesa, 61.59 71 ⇓P P 03 29 25.7 +0.8
baz=61,SNR=13
Z22A Elephant Butte 61.62 72 ⇓P P 03 29 26.0 +1.0
baz=61,SNR=5.5
T29A Hugoton 61.65 65 ⇑P P 03 29 25.1 +0.1
baz=61
R31A Burdett 61.69 63 ⇓P P 03 29 25.0 -0.3
baz=61
S30A Montezuma 61.70 64 ⇓P P 03 29 25.1 -0.3
baz=62,SNR=5.3
121A Cookes Peak, D 61.73 73 ⇓P P 03 29 26.5 +0.7
baz=62
U28A Mallet 61.76 66 ⇑P P 03 29 25.9 +0.1
baz=62
SCHQ Schefferville 61.76 32 P P 03 29 25.6 +0.1
SCHQ Schefferville 61.76 32 P P 03 29 25.6 +0.1
comp=Z,3.4nm,0.8s,baz=321,slow=6.5,SNR=3.6
319A Douglas 61.79 75 ⇓P P 03 29 26.5 +0.3
baz=62
220A Playas Peak, P 61.80 74 ⇑P P 03 29 26.8 +0.5
baz=62,SNR=5.3
X25A Clemmons Ranch 61.88 69 ⇓P P 03 29 27.4 +0.6
baz=62
V27A Dan Oppiter Fa 61.91 67 ⇓P P 03 29 27.0 +0.1
baz=62
Y24A Capitan 61.93 70 ⇓P P 03 29 27.7 +0.5
baz=62,SNR=19
SCIA State Center 62.00 56 *e*P P 03 29 27.2 0.0
comp=Z,33nm,1.1s
NB2 NORSAR Subarra 62.11 347 P P 03 29 28.4 +0.7
comp=Z,0.7nm,0.6s,baz=16,slow=6.9
NOA NORSAR Array B 62.11 347 P P 03 29 27.8 +0.1
NOA NORSAR Array B 62.11 347 P P 03 29 27.8 +0.1
comp=Z,2.3nm,0.9s,baz=17,slow=6.6,SNR=4.9
NOA LR LR 03 56 36.7
comp=Z,86nm,18.5s,baz=355,slow=36
CMAR Chiang Mai Arr 62.13 262 P P 03 29 29.2 +0.8
CMAR Chiang Mai Arr 62.13 262 P P 03 29 29.2 +0.8
comp=Z,1.3nm,0.3s,baz=25,slow=6.9,SNR=6.8
CMAR LR LR 03 59 04.6
comp=Z,204nm,19.9s,baz=335,slow=39
320A Kipp Ranch, An 62.23 75 ⇑P P 03 29 29.6 +0.4
baz=62
V28A Channing 62.24 67 ⇑P P 03 29 29.2 +0.1
baz=62
X26A CR and CF Fran 62.32 69 ⇑P P 03 29 29.8 +0.1
baz=62,SNR=8.9
W27A Bowe Ranch, En 62.32 68 ⇑P P 03 29 29.9 +0.2
baz=62
Y25A Mesa, Roswell 62.33 70 ⇓P P 03 29 30.0 +0.2
baz=62,SNR=23
Z24A Sheeppen Canyo 62.42 71 ⇑P P 03 29 31.0 +0.5
baz=62,SNR=5.7
T31A Randall Ranch, 62.52 64 ⇓P P 03 29 30.4 -0.5
baz=62
KSU1 Kansas State U 62.52 60 *e*P P 03 29 29.9 -0.9
comp=Z,9.5nm,0.8s
X27A F and S Farms, 62.62 68 ⇓P P 03 29 31.8 +0.1
baz=62
W28A Vega 62.62 67 ⇑P P 03 29 31.9 +0.2
baz=62
HFS Hagfors 62.63 345 P P 03 29 31.3 +0.1
HFS Hagfors 62.63 345 P P 03 29 31.3 +0.1
comp=Z,3.6nm,0.9s,baz=31,slow=6.7,SNR=4.0
Y26A Elida 62.79 69 ⇓P P 03 29 32.8 0.0
baz=63
Z25A Roswell 62.81 70 ⇓P P 03 29 33.3 +0.4
baz=63,SNR=6.0
124A Stringfield Ra 62.86 71 ⇑P P 03 29 33.7 +0.3
baz=63
Y27A Causey 63.17 69 ⇑P P 03 29 35.4 0.0
baz=63,SNR=14
X28A Dimmitt 63.20 68 ⇓P P 03 29 35.1 -0.4
baz=63
Z26A Caprock 63.21 70 ⇑P P 03 29 36.1 +0.5
baz=63
KKM Kota Kinabalu 63.28 239 *e*P P 03 29 36.7 +0.5
comp=Z,69nm,1.3s
224A Cornudas Mount 63.30 72 ⇑P P 03 29 36.9 +0.6
baz=63,SNR=8.1
MSTX Muleshoe 63.31 68 ⇓P P 03 29 36.2 -0.1
baz=63,SNR=5.6
125A Gardner Draw, 63.32 71 ⇑P P 03 29 36.6 +0.3
baz=63
V31A Spring Creek L 63.45 65 ⇓P P 03 29 37.4 +0.3
baz=63
X29A Tulia 63.51 67 ⇓P P 03 29 37.8 +0.3
baz=63
Z27A Tatum 63.58 69 ⇓P P 03 29 38.0 -0.1
baz=63,SNR=7.9
225A Deer Hill, Car 63.65 71 ⇑P P 03 29 38.6 0.0
baz=63
MNTX Cornudas Mount 63.67 72 *e*P P 03 29 38.9 +0.3
comp=Z,12nm,1.1s
324A Moseley Ranch, 63.81 72 ⇓P P 03 29 39.7 0.0
baz=64
W31A Holland Ranch, 63.86 66 ⇑P P 03 29 40.1 +0.3
baz=64
X30A Coker Ranch, T 63.95 67 ⇑P P 03 29 40.2 -0.2
baz=64
226B Tecolote Peak, 64.03 71 ⇑P P 03 29 41.2 +0.2
baz=64,SNR=13
Z28A Tucker Farm, M 64.04 69 ⇓P P 03 29 40.8 -0.3
baz=64
325A Bean Ranch, Si 64.14 72 ⇓P P 03 29 41.7 -0.1
baz=64
X31A McDonald Ranch 64.27 66 ⇑P P 03 29 42.6 +0.1
baz=64
Y30A Stafford Cattl 64.37 67 ⇑P P 03 29 43.3 +0.1
baz=64
Z29A Hungry Hill Ra 64.43 68 ⇑P P 03 29 43.6 +0.1
baz=64
128A Castleberry Fa 64.51 69 ⇑P P 03 29 44.0 -0.2
baz=64,SNR=7.5
425A Indio Mountain 64.59 72 ⇓P P 03 29 43.8 -0.9
baz=64
Y31A Rekieta Farm, 64.64 67 ⇑P P 03 29 44.8 -0.1
baz=64
Z30A Sanderson Ranc 64.71 68 ⇓P P 03 29 45.0 -0.4
baz=64,SNR=7.5
326A Caldwell Ranch 64.72 71 ⇓P P 03 29 45.6 +0.1
baz=64,SNR=7.6
WMOK Wichita Mounta 64.81 65 *e*P P 03 29 45.5 -0.5
WMOK pmax pmax
comp=Z,13nm,1.1s
WMOK Wichita Mounta 64.81 65 *e*P P 03 29 45.5 -0.5
comp=Z,13nm,1.1s
129A Stewart Farms, 64.83 69 ⇑P P 03 29 45.9 -0.3
baz=65
228A LT Bock 9, Go 64.84 70 ⇑P P 03 29 46.7 +0.3
baz=65
HDIL Hopedale 64.89 55 *e*P P 03 29 45.7 -0.7
comp=Z,10nm,0.7s
Y32A R-V Farms, Ver 65.03 66 ⇓P P 03 29 47.2 -0.2
baz=65,SNR=5.2
426A McDonald Obser 65.19 72 ⇑P P 03 29 48.6 -0.1
baz=65,SNR=5.8
Z31A Sharp Cattle R 65.20 67 ⇑P P 03 29 48.2 -0.4
baz=65,SNR=9.1
328A Wristen Ranch, 65.30 70 ⇑P P 03 29 49.3 0.0
baz=65,SNR=6.9
130A Snyder 65.33 68 ⇑P P 03 29 49.3 -0.1
baz=65
229A Bryant Ranch, 65.37 69 ⇓P P 03 29 49.5 -0.2
baz=65
427A Hayter Ranch, 65.39 71 ⇓P P 03 29 50.0 +0.1
baz=65,SNR=5.3
TUL1 Tulsa 65.41 62 ⇓P P 03 29 49.5 -0.4
baz=65
Z32A Haskell 65.56 67 ⇓P P 03 29 50.4 -0.5
baz=65,SNR=5.7
131A Roby 65.58 68 ⇑P P 03 29 50.9 -0.1
baz=65
526A Mary Lane Ranc 65.64 72 ⇑P P 03 29 51.6 +0.1
baz=65,SNR=8.6
329A Wagon Wheel Ra 65.66 70 ⇑P P 03 29 51.5 -0.1
baz=65,SNR=9.8
230A Sterling City 65.81 69 ⇑P P 03 29 52.5 0.0
baz=66
527A Woodward Ranch 65.83 72 ⇑P P 03 29 52.8 0.0
baz=66,SNR=6.0
428A Kincaid Ranch, 65.87 71 ⇓P P 03 29 53.3 +0.3
baz=66,SNR=17
ABTX Abilene, Hawle 66.00 67 ⇓P P 03 29 53.5 -0.2
baz=66,SNR=6.0
626A Big Bend Ranch 66.01 72 ⇑P P 03 29 54.1 +0.2
baz=66,SNR=9.2
SFIN Scholer Farm 66.04 53 ⇓P P 03 29 53.6 -0.2
baz=66
KBL Kabul 66.06 296 *e*P P 03 29 53.9 -0.4
KBL pmax pmax
comp=Z,10.0nm,1.0s
KBL Kabul 66.06 296 *e*P P 03 29 53.9 -0.4
comp=Z,10nm,1.0s
330A Mertzon 66.15 69 ⇓P P 03 29 54.1 -0.6
baz=66
231A Bronte 66.19 68 ⇑P P 03 29 54.6 -0.3
baz=66
528A Cox Ranch, San 66.26 71 ⇑P P 03 29 55.7 +0.1
baz=66,SNR=12
429A Davenport Ranc 66.38 70 ⇑P P 03 29 55.9 -0.3
baz=66,SNR=7.2
TXAR Lajitas Array 66.43 72 P P 03 29 56.7 +0.1
TXAR Lajitas Array 66.43 72 P P 03 29 56.7 +0.1
comp=Z,9.1nm,0.9s,baz=300,slow=4.8,SNR=66
627A Hingua Ranc 66.49 72 ⇓P P 03 29 57.0 0.0
baz=66,SNR=16
232A Coleman 66.58 68 ⇓P P 03 29 57.3 -0.2
baz=66,SNR=5.2
529A Stev Forest Ra 66.59 71 ⇓P P 03 29 57.9 +0.3
baz=66,SNR=9.4
430A Baggett Ranch, 66.60 70 ⇓P P 03 29 57.6 -0.1
baz=66
331A San Angelo 66.62 69 ⇑P P 03 29 57.4 -0.3
baz=66,SNR=7.5
628A Black Gap, Mar 66.73 72 ⇑P P 03 29 58.8 +0.3
baz=66
332A Millersview 66.92 68 ⇑P P 03 29 59.2 -0.4
baz=67,SNR=5.6
431A Sonora 67.02 69 ⇓P P 03 30 00.1 -0.2
baz=67,SNR=6.4
530A J-C Ranch, Com 67.05 70 ⇑P P 03 30 00.6 +0.1
baz=67,SNR=12
432A Menard 67.30 68 ⇑P P 03 30 01.7 -0.3
baz=67
531A Rocksprings 67.46 69 ⇑P P 03 30 02.8 -0.3
baz=67,SNR=5.4
JCT Junction City 67.60 69 *e*P P 03 30 04.0 0.0
JCT pmax pmax
comp=Z,16nm,1.2s
JCT Junction City 67.60 69 *e*P P 03 30 04.0 0.0
comp=Z,16nm,1.2s
JCT Junction City 67.60 69 ⇓P P 03 30 03.8 -0.2
baz=67
WHTX Lake Whitney 67.64 66 ⇓P P 03 30 04.0 -0.2
baz=67
532A Rocksprings 67.83 69 ⇓P P 03 30 05.1 -0.3
baz=68
631A Perdido Creek 68.03 70 ⇓P P 03 30 05.9 -0.7
baz=68,SNR=6.8
KIEV Kiev 68.26 332 *e*P P 03 30 06.9 -0.8
KIEV Kiev 68.26 332 *e*P P 03 30 06.9 -0.8
632A Uvalde 68.38 69 ⇑P P 03 30 08.5 -0.4
baz=68
WVT Waverly 69.13 56 *e*P P 03 30 13.0 -0.4
WVT pmax pmax
comp=Z,18nm,1.5s
WVT Waverly 69.13 56 *e*P P 03 30 13.0 -0.4
comp=Z,18nm,1.5s
KBZ Khabaz 70.11 320 P P 03 30 19.8 +0.5
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KBZ MLR MLR
comp=Z,167nm,19.6s
KBZ Khabaz 70.11 320 P P 03 30 19.8 +0.5
KBZ Khabaz 70.11 320 P P 03 30 19.8 +0.5
comp=Z,4.2nm,0.9s,baz=136,slow=3.5,SNR=6.8
KBZ LR LR 04 04 42.8
comp=Z,167nm,19.6s,baz=253,slow=39
KWP Kalwaria Pacla 70.86 336 *e*P P 03 30 24.1 +0.3
KWP pmax pmax
comp=Z,19nm,1.1s
KWP Kalwaria Pacla 70.86 336 *e*P P 03 30 24.1 +0.3
comp=Z,19nm,1.1s
KWP Kalwaria Pacla 70.86 336 ⇑*i*P P 03 30 23.2 -0.7
KWP Kalwaria Pacla 70.86 336 *e*P P 03 30 24.8 +0.9
STHS Stebnicka Huta 71.40 337 *e*P P 03 30 28.1 +1.0
STHS pmax pmax
comp=Z,2.0nm,1.0s
STHS Stebnicka Huta 71.40 337 *e*P P 03 30 28.1 +1.0
KAPI Kappang 71.41 230 *e*P P 03 30 27.4 -0.1
comp=Z,28nm,1.4s
BRG Berggiesshubel 71.48 342 *e*(P) P 03 30 35.6 +8.0
comp=Z,24nm,1.9s
BRG Berggiesshubel 71.48 342 *e*P P 03 30 35.6 +8.0
BRG pmax pmax
comp=Z,24nm,1.9s
DPC Dobruska-Polom 71.55 340 *e*P P 03 30 29.9 +1.9
DPC *e* 03 30 39.3
DPC Dobruska-Polom 71.55 340 *e*P P 03 30 29.9 +1.9
DPC *ex* x 03 30 39.3
DPC AMS AMS 04 06 00.0
KOLS Kolonicke sedl 71.62 336 *e*P P 03 30 29.9 +1.5
KOLS pmax pmax
comp=Z,1.0nm,0.8s
KOLS Kolonicke sedl 71.62 336 *e*P P 03 30 29.9 +1.5
OKC Ostrava-Krasne 71.67 339 AMS AMS 04 04 20.0
comp=Z,200nm,16.2s
PVCC Panska Ves 71.70 341 AMS AMS 04 06 20.0
comp=Z,200nm,19.4s
MORC Moravsky Berou 71.85 339 *e*P P 03 30 29.9 0.0
MORC pmax pmax
comp=Z,6.0nm,1.2s
MORC Moravsky Berou 71.85 339 *e*P P 03 30 29.9 0.0
comp=Z,6.4nm,1.2s
BUR08 Bucovina Ar. S 72.11 333 ⇑*i*P P 03 30 31.9 +0.3
BURAR Bucovina Array 72.13 333 ⇑*i*P P 03 30 32.3 +0.7
PRU Pruhonice 72.23 341 AMS AMS 04 01 40.0
comp=Z,100nm,19.7s
KECS Kecovo 72.45 337 *e*P P 03 30 37.9 +4.5
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo 72.45 337 *e*P P 03 30 37.9 +4.5
VRAC Vranov 72.49 340 LR LR 04 04 27.4
comp=Z,116nm,18.7s,baz=28,slow=38
GNI Garni 72.49 317 *e*P P 03 30 34.4 +0.4
GNI Garni 72.49 317 LR LR 04 07 13.2
comp=Z,190nm,19.4s,baz=281,slow=40
TESR Tescani 72.78 332 ⇑*i*P P 03 30 35.3 -0.1
VYHS Vyhne 72.80 338 *e*P P 03 30 37.4 +1.9
VYHS pmax pmax
comp=Z,2.0nm,1.2s
VYHS Vyhne 72.80 338 *e*P P 03 30 37.4 +1.9
KMSC Kings Mountain 72.94 52 ⇓P P 03 30 36.0 -0.5
baz=73
KHC Kasperske Hory 73.22 342 *e*P P 03 30 37.6 -0.5
KHC pmax pmax
comp=Z,6.0nm,1.2s
KHC Kasperske Hory 73.22 342 *e*P P 03 30 40.7 +2.7
KHC *e*PCP PcP 03 30 50.7 -3.8
KHC Kasperske Hory 73.22 342 *e*P P 03 30 37.6 -0.5
comp=Z,5.5nm,1.2s
GERES GERESS Array B 73.48 341 P P 03 30 39.4 -0.2
GERES GERESS Array B 73.48 341 P P 03 30 39.4 -0.2
comp=Z,0.3nm,0.3s,baz=28,slow=4.4,SNR=3.0
MLR Muntele Rosu 73.91 332 ⇑*i*P P 03 30 44.1 +1.9
MLR Muntele Rosu 73.91 332 LR LR 04 07 19.7
comp=Z,56nm,18.8s,baz=211,slow=39
VOIR 74.20 333 ⇑*i*P P 03 30 44.3 +0.4
SFTF Sexfontaines 75.44 347 *e*P P 03 30 43.3 -7.6
LOR Lormes 76.50 348 *e*P P 03 30 49.3 -7.7
BRTR Keskin Array B 76.88 324 P P 03 30 58.9 -0.5
BRTR Keskin Array B 76.88 324 P P 03 30 58.9 -0.5
comp=Z,0.6nm,0.6s,baz=73,slow=3.1,SNR=4.1
BRTR LR LR 04 08 27.0
comp=Z,58nm,19.4s,baz=188,slow=38
LPL La Plagne 77.84 345 *e*P P 03 30 58.0 -6.8
LPG La Plagne 77.86 345 *e*P P 03 30 58.4 -6.6
comp=Z,13nm,1.1s
BNI Bardonecchia 78.31 345 *e*P P 03 31 08.1 +0.8
BNI pmax pmax
comp=Z,6.0nm,1.1s
BNI Bardonecchia 78.31 345 *e*P P 03 31 08.1 +0.8
comp=Z,6.4nm,1.1s
WRAB Tennant Creek 79.89 210 *e*P P 03 31 16.1 +0.2
WRAB pmax pmax
comp=Z,19nm,1.4s
WRAB Tennant Creek 79.89 210 *e*P P 03 31 16.1 +0.2
comp=Z,19nm,1.4s
WRA Warramunga Arr 79.90 210 P P 03 31 14.7 -1.2
WRA Warramunga Arr 79.90 210 P P 03 31 14.7 -1.2
comp=Z,4.0nm,0.8s,baz=24,slow=5.7,SNR=2.8
PPT Papeete 81.84 138 LR LR 04 01 31.6
comp=Z,120nm,19.6s,baz=328,slow=31
PPT2 Papeete2 81.86 138 *e*LR LR 03 57 02.3
comp=Z,317nm,23.8s,baz=333
TIP Timpagrande 82.13 336 *e*P P 03 31 28.4 +0.5
comp=Z,6.6nm,1.2s
MMAI Mount Meron Ar 82.30 320 LR LR 04 10 47.1
comp=Z,67nm,19.3s,baz=70,slow=38
AS31 Alice Springs 83.55 210 *e*P P 03 31 34.1 -1.1
ASAR Alice Springs 83.55 210 P P 03 31 35.1 -0.1
ASAR Alice Springs 83.55 210 P P 03 31 35.1 -0.1
comp=Z,4.2nm,0.9s,baz=19,slow=5.7,SNR=6.5
ASAR LR LR 04 03 39.5
comp=Z,130nm,21.4s,baz=341,slow=32
ESDC Sonseca Array 84.80 352 P P 03 31 41.9 +0.3
ESDC Sonseca Array 84.80 352 P P 03 31 41.9 +0.3
comp=Z,0.2nm,0.3s,baz=358,slow=5.9,SNR=5.0
TBI Tubuai 87.16 140 *e*LR LR 03 59 28.8
comp=Z,213nm,25.5s
MDT Midelt 91.66 352 LR LR 04 15 49.7
comp=Z,46nm,18.2s,baz=302,slow=37
FORT Forrest 91.95 212 *e*P P 03 32 15.6 +0.1
comp=Z,22nm,1.0s
TSUM Tsumeb 136.69 314 *e*PKPdf PKPdf 03 38 28.0 -1.7
PLCA Paso Flores 140.50 92 *e*PKPdf PKPdf 03 38 35.8 -0.2
QSPA South Pole Qui 145.28 180 *e*PKPbc PKPbc 03 38 41.8 -1.6

GUC 31 03:20:57.6±0.5,23°91S×67°50W,h200km,ML4.0,1C-1D,
Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**2.46**	**311**	⇓*e*P			Pn	03 21 48.1	+7.1
PB04				*e*S			Sn	03 22 26.1	+11
PB04				AML		AML	AML	03 22 30.0	
comp=E,192nm,0.5s									
PB09	**Plate Boundary**	**2.65**	**322**	*e*P			Pn	03 21 45.0	+1.6
PB09				*e*S			Sn	03 22 21.1	+2.0
PB09				AML		AML	AML	03 22 22.8	
comp=N,443nm,0.6s									
PB10	**Plate Boundary**	**2.83**	**277**	*e*P			Pn	03 21 46.6	+1.3
PB10				*e*S			Sn	03 22 24.5	+2.0
PB10				AML		AML	AML	03 22 28.1	
comp=N,221nm,0.5s									
PB01	**Plate Boundary**	**3.39**	**327**	⇑*e*P			Pn	03 21 52.8	+0.7
PB01				*e*S			Sn	03 22 35.6	+0.9
PB01				AML		AML	AML	03 22 36.4	
comp=E,144nm,0.3s									

*IDC **31** 03:21:30.0±0.8,9°.92S×118°.95E, h0km, mb4.1/11, mb1 4.2/14,mb1mx4.0/23,mbtmp4.1/14, ML3.9/3,MS3.1/3, Ms1 3.1/3,ms1mx2.9/31, Error ellipse: s-maj=38.2km s-min=15.6km az=64.0*

*ISCJB **31** 03:21:37.5±0.6, 10°.14S±0°.04×118°.87E±0°.04, h81km±6km, mb4.1/16, Error ellipse: s-maj=6.9km s-min=5.1km az=39.9*

*DJA **31** 03:21:37.4±0.7, 10°.5S±5°×11°.9E±°, h18km±7km, M4.8/10, mb5.0/2,mB5.1/1,MLv4.7/10,Mw(mB)4.5/1*

*NEIC **31** 03:21:37.6±1.4, 10°.14S×118°.91E, h60km±14km, mb4.4/7, Error ellipse: s-maj=21.1km s-min=8.3km az=72.0*

*AUST **31** 03:21:38.9, 10°.49S×118°.95E, h60km*

ISC 31 03:21:37.9±0.9, 10°.21S±0°.04×118°.86E±0°.05, h69km±9km, n66, σ1°91/72, mb4.2/16, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.77**	**43**	P		Pn	03 21 49.2	-4.3
WSI	**Waingapu**	**1.51**	**69**	P		**Pn**	**03 22 03.0**	**0.0**
WSI				S		**Sn**	**03 22 24.4**	**+2.4**
WSI	**Waingapu** baz=1.6,SNR=17	**1.51**	**69**	P		**Pn**	**03 22 02.8**	**-0.2**
WSI	baz=1.6,SNR=6.8			S		**Sn**	**03 22 26.6**	**+4.6**
BASI	**Baing, Sumba**	**1.69**	**91**	P		**Pn**	**03 22 06.9**	**+1.5**
MMRI	**Maumere**	**3.68**	**65**	P		Pn	03 22 39.0	+6.6
MMRI				S		**Sn**	**03 23 14.7**	**+0.1**
MMRI	**Maumere**	**3.68**	**65**	P		**Pn**	**03 22 34.1**	**+1.7**
IGBI	**Denpasar**	**3.91**	**290**	P		**Pn**	**03 22 36.1**	**+0.5**
IGBI				S		**Sn**	**03 23 18.1**	**-2.2**
SRBI	**Singaraja**	**4.17**	**300**	P		**Pn**	**03 22 39.5**	**+0.4**
BSSI	**Bau Bau, Buton**	**4.35**	**22**	P		**Pn**	**03 22 40.7**	**-0.8**
BSSI				S		**Sn**	**03 23 31.3**	**+0.3**
BATI	**Baumata**	**4.73**	**90**	P		**Pn**	**03 22 48.2**	**+1.4**
BKSI	**Bulukumba**	**5.01**	**15**	P		**Pn**	**03 22 50.1**	**-0.5**
KAPI	**Kappang** 73nm,0.6s	**5.23**	**10**	*e*Pn		**Pn**	**03 22 52.8**	**-0.8**
KAPI				*e*Sn		**Sn**	**03 23 50.3**	**-2.4**
KAPI	**Kappang** 110nm,0.7s,2μm0.7nm	**5.23**	**10**	P		**Pn**	**03 22 53.3**	**-0.3**
KAPI	**Kappang** 12nm,0.3s,baz=198,slow=7.9,SNR=31	**5.23**	**10**	Pn		**Pn**	**03 22 52.1**	**-1.6**
KAPI	26nm,0.3s,baz=233,slow=23,SNR=11			Sn		**Sn**	**03 23 51.7**	**-0.9**
KAPI	comp=Z,286nm,20.6s,baz=162,slow=44			LR		LR	03 25 04.7	
KAPI	**Kappang** 110nm,0.7s,2μm0.7nm	**5.23**	**10**	P		**Pn**	**03 22 53.5**	**-0.1**
SOEI	**Soe**	**5.35**	**86**	P		**Pn**	**03 22 57.5**	**+2.2**
SOEI				S		**Sn**	**03 23 58.3**	**+2.7**
SOEI	**Soe** baz=5.3,SNR=11	**5.35**	**86**	P		**Pn**	**03 22 57.5**	**+2.2**
GMJI	**Gumukmas**	**5.68**	**289**	P		Pn	03 23 08.9	+9.2
BLJI	**Banyuglugur**	**5.75**	**295**	P		Pn	03 23 11.5	+11
TTSI	**Tana Toraja**	**7.18**	**8**	P		**Pn**	**03 23 23.4**	**+3.2**
UGM	**Wanagama** baz=8.7,SNR=3.7	**8.54**	**285**	S		**Sn**	**03 25 17.8**	**+3.9**
FITZ	**Fitzroy Crossi**	**10.24**	**141**	Pn		**Pn**	**03 24 00.6**	**-1.4**
FITZ				Sn		**Sn**	**03 25 49.5**	**-5.7**
FITZ	**Fitzroy Crossi** 1.1nm,0.3s,baz=322,slow=12,SNR=23	**10.24**	**141**	Pn		**Pn**	**03 24 00.6**	**-1.4**
FITZ	1.2nm,0.3s,baz=193,slow=20,SNR=7.3			Sn		**Sn**	**03 25 49.5**	**-5.7**
FITZ	comp=Z,114nm,18.8s,baz=98,slow=39			LR		LR	03 28 18.2	
FITZ	**Fitzroy Crossi** baz=10.0,SNR=14	**10.24**	**141**	P		**Pn**	**03 24 00.9**	**-1.2**
MBWA	**Marble Bar**	**10.92**	**176**	*e*Pn		**Pn**	**03 24 10.3**	**-1.1**
MBWA				*e*Sn		Sn	03 26 01.4	-11
KNRA	**Kununurra** baz=11,SNR=5.1	**11.08**	**120**	P		**Pn**	**03 24 13.5**	**0.0**
MTN	**Manton Dam** baz=12,SNR=6.5	**12.31**	**103**	P		**Pn**	**03 24 30.2**	**-0.2**
MTN	baz=12,SNR=6.1			S		Sn	03 26 39.3	-6.6
MEEK	**Meekatharra** baz=16,SNR=30	**16.35**	**181**	P		**Pn**	**03 25 23.0**	**-0.1**
MEEK	baz=16,SNR=8.3			S		Sn	03 28 06.6	-17
MEEK	**Meekatharra** baz=1.4,SNR=9.3	**16.35**	**181**	P		**P**	**03 25 24.1**	**-0.8**
KKM	**Kota Kinabalu** 15nm,0.5s	**16.36**	**351**	*e*P		**P**	**03 25 25.4**	**+0.3**
WRA	**Warramunga Arr**	**17.79**	**125**	P		**P**	**03 25 40.3**	**-0.7**
WRA				S		Sn	03 28 48.5	-11
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=301,slow=13,SNR=6.7	**17.79**	**125**	P		**P**	**03 25 40.3**	**-0.7**
WRA	0.1nm,0.3s,baz=303,slow=22,SNR=3.2			S		Sn	03 28 48.5	-11
WRAB	**Tennant Creek** 6.9nm,0.9s	**17.80**	**125**	*e*P		**Pn**	**03 25 41.5**	**+0.4**
MORW	**Morawa** baz=19,SNR=37	**18.95**	**188**	P		**Pn**	**03 25 57.1**	**+2.2**
MORW	baz=19,SNR=3.2			S		S	03 29 09.5	-16
MORW	**Morawa** baz=4.0,SNR=7.6	**18.95**	**188**	P		**Pn**	**03 25 57.9**	**+3.0**
ASAR	**Alice Springs**	**19.63**	**135**	P		**Pn**	**03 26 02.8**	**-0.2**
ASAR				S		**S**	**03 29 35.2**	**-3.9**
ASAR	**Alice Springs** 0.6nm,0.3s,baz=313,slow=10,SNR=37	**19.63**	**135**	P		**Pn**	**03 26 02.8**	**-0.2**
ASAR	0.1nm,0.3s,baz=304,slow=21,SNR=4.7			S		**S**	**03 29 35.2**	**-3.9**
BLDU	**Ballidu** baz=20,SNR=8.2	**20.41**	**185**	P		Pn	03 26 12.6	+0.6
BLDU	**Ballidu** baz=5.3,SNR=11	**20.41**	**185**	P		Pn	03 26 15.2	+3.2
FORT	**Forrest** 11nm,0.7s	**22.19**	**159**	*e*P		**P**	**03 26 31.8**	**+3.3**
NWAO	**Narrogin (SRO)**	**22.66**	**184**	P		**P**	**03 26 35.8**	**+2.2**
NWAO				S		**S**	**03 30 37.3**	**+0.6**
NWAO	**Narrogin (SRO)** 12nm,1.1s,baz=34,slow=7.3,SNR=2.8	**22.66**	**184**	P		**P**	**03 26 35.8**	**+2.2**
NWAO	7.0nm,0.8s,baz=198,slow=6.4,SNR=3.8			S		**S**	**03 30 37.3**	**+0.6**
NWAO	comp=Z,26nm,18.7s,baz=212,slow=34			LR		LR	03 34 27.5	
STKA	**Stephens Creek**	**30.13**	**139**	P		**P**	**03 27 42.9**	**+1.6**
STKA	**Stephens Creek** 1.0nm,0.6s,baz=320,slow=14,SNR=2.9	**30.13**	**139**	P		**P**	**03 27 42.9**	**+1.6**
MGCD	**Mangrove Creek** baz=30,SNR=5.9	**37.45**	**133**	P		**PcP**	**03 31 03.8**	**+1.6**
ENH	**Enshi** 10nm,0.7s	**41.24**	**348**	*e*P		**P**	**03 29 15.8**	**-0.6**
KSAR	**Wonju Array Be**	**48.15**	**10**	P		P	03 30 07.7	-3.4
KSRS	**Korea Array** 0.5nm,0.5s,baz=194,slow=8.8,SNR=4.7	**48.16**	**10**	P		P	03 30 07.7	-3.5
MAJO	**Matsushiro** 4.8nm,0.7s	**49.94**	**20**	*e*P		**P**	**03 30 24.2**	**-0.7**
MJAR	**Matsushiro Arr**	**49.94**	**20**	P		**P**	**03 30 23.3**	**-1.6**
MJAR	**Matsushiro Arr** 0.7nm,0.7s,baz=203,slow=7.6,SNR=4.9	**49.94**	**20**	P		**P**	**03 30 23.3**	**-1.6**
USRK	**Ussuriysk Arra** 1.5nm,0.6s,baz=195,slow=7.6,SNR=6.3	**55.45**	**11**	P		**P**	**03 31 04.7**	**-0.7**
SONM	**Songino Array**	**58.84**	**350**	P		**P**	**03 31 29.8**	**+0.4**
SONM	**Songino Array** 1.9nm,0.5s,baz=164,slow=9.0,SNR=9.2	**58.84**	**350**	P		**P**	**03 31 29.8**	**+0.4**
MKAR	**Makanchi Array**	**65.46**	**333**	P		**P**	**03 32 13.7**	**+0.1**
MKAR	**Makanchi Array** 1.7nm,0.7s,baz=141,slow=7.7,SNR=14	**65.46**	**333**	P		**P**	**03 32 13.7**	**+0.1**
EKS2	**Erkin-Say** 2.1nm,0.8s	**66.81**	**325**	*e*P		**P**	**03 32 22.6**	**+0.1**
KURBB	**Kurchatov Arra** 1.3nm,0.7s,baz=147,slow=5.7,SNR=7.5	**69.98**	**334**	P		**P**	**03 32 42.0**	**+0.1**
KURK	**Kurchatov**	**70.01**	**334**	P		**P**	**03 32 42.0**	**-0.1**
ZALV	**Zalesovo Beam**	**70.11**	**339**	P		**P**	**03 32 42.2**	**-0.4**
ZALV	**Zalesovo Beam** 4.4nm,0.6s,baz=144,slow=5.5,SNR=13	**70.11**	**339**	P		**P**	**03 32 42.2**	**-0.4**
BVAR	**Borovoye Array**	**75.29**	**332**	P		**P**	**03 33 14.2**	**+0.8**
BVAR	**Borovoye Array** 0.6nm,0.5s,baz=139,slow=7.5,SNR=3.1	**75.29**	**332**	P		**P**	**03 33 14.2**	**+0.8**
ABKAR	**Akbulak array** 3.9nm,0.9s	**78.46**	**325**	*e*P		**P**	**03 33 31.8**	**+0.5**
AKTO	**Aktyubinsk**	**80.13**	**325**	P		**P**	**03 33 40.3**	**-0.2**
AKTO	**Aktyubinsk** 1.5nm,0.7s,baz=138,slow=4.8,SNR=5.1	**80.13**	**325**	P		**P**	**03 33 40.3**	**-0.2**

*ISCJB **31** 03:32:18.1±1.1, 36°.92N±0°.03×21°.60E±0°.06, h4km±5km, Error ellipse: s-maj=8.5km s-min=4.8km az=155.0*

*ATH **31** 03:32:18.7, 36°.95N×21°.61E, h16km±2km, MD3.5/16*

*CSEM **31** 03:32:19.0±0.4, 36°.95N×21°.63E, h8km, ML1.9/2, Error ellipse: s-maj=7.9km s-min=3.8km az=71.0*

*THE **31** 03:32:20.6, 36°.98N×21°.71E, h7km±1km, ML1.9/2, Error ellipse: s-maj=1.6km s-min=0.7km az=95.0*

ISC 31 03:32:19.0±1.3, 36°.96N±0°.03×21°.57E±0°.06, h11km±7km, n45, σ0°82/67, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PYL	**PYLOS**	**0.15**	**116**	P		**Pg**	**03 32 22.4**	**-0.1**
PYL				S		**Sg**	**03 32 25.1**	**+0.2**
PYL	**PYLOS**	**0.15**	**116**	*e*PB		**Pg**	**03 32 22.4**	**-0.1**
PYL				*e*SB		**Sg**	**03 32 25.1**	**+0.2**
PYL	**PYLOS**	**0.15**	**116**	P		**Pg**	**03 32 22.4**	**-0.1**
PYL				S		**Sg**	**03 32 25.1**	**+0.2**
ITM	**Ithomi**	**0.36**	**52**	P		**Pg**	**03 32 25.5**	**-0.6**
ITM				S		**Sg**	**03 32 30.3**	**-0.6**
ITM	**Ithomi**	**0.36**	**52**	*e*PB		**Pg**	**03 32 25.5**	**-0.6**
ITM				*e*SB		**Sg**	**03 32 31.0**	**+0.1**
ITM	**Ithomi**	**0.36**	**52**	P		**Pg**	**03 32 25.5**	**-0.6**
ITM				S		**Sg**	**03 32 30.3**	**-0.6**
ITM				*e*Sb		**Sg**	**03 32 31.0**	**+0.1**
AMT	**Artemida-Makis**	**0.58**	**11**	P		**Pg**	**03 32 30.2**	**-0.1**
AMT				S		**Sb**	**03 32 39.5**	**0.0**
AMT	**Artemida-Makis**	**0.58**	**11**	*e*PN		**Pg**	**03 32 30.2**	**-0.1**
AMT				*e*SN		**Sb**	**03 32 39.2**	**-0.3**
AMT	**Artemida-Makis**	**0.58**	**11**	P		**Pg**	**03 32 30.2**	**-0.1**
AMT				*e*Sn		**Sb**	**03 32 39.2**	**-0.3**
DYR	**Agios Nikonas**	**0.64**	**108**	P		**Pg**	**03 32 30.7**	**-0.7**
DYR				S		**Sg**	**03 32 39.1**	**-0.8**
DYR	**Agios Nikonas**	**0.64**	**108**	*e*PN		**Pg**	**03 32 30.8**	**-0.7**
DYR	**Agios Nikonas**	**0.64**	**108**	P		**Pg**	**03 32 30.7**	**-0.7**
DYR				S		**Sg**	**03 32 39.1**	**-0.8**
VLX	**Vlachokerasia**	**0.76**	**57**	P		**Pg**	**03 32 33.1**	**-0.7**
VLX				S		**Sg**	**03 32 42.6**	**-1.2**
VLX	**Vlachokerasia**	**0.76**	**57**	*e*PN		**Pg**	**03 32 33.0**	**-0.7**
VLX				*e*SN		**Sg**	**03 32 42.6**	**-1.2**
VLX	**Vlachokerasia**	**0.76**	**57**	P		**Pg**	**03 32 33.1**	**-0.7**
VLX				S		**Sg**	**03 32 42.6**	**-1.2**
VLI	**Veliai**	**1.12**	**102**	*e*PN		**Pg**	**03 32 39.7**	**-0.9**
VLI	**Veliai**	**1.12**	**102**	*e*Pn		**Pg**	**03 32 39.7**	**-0.9**
GUR	**Goura**	**1.15**	**32**	P		**Pg**	**03 32 40.1**	**-1.0**
GUR				S		**Sg**	**03 32 55.8**	**-0.3**
GUR	**Goura**	**1.15**	**32**	*e*PB		**Pg**	**03 32 39.4**	**-1.7**
GUR	**Goura**	**1.15**	**32**	*e*Pb		**Pg**	**03 32 39.4**	**-1.7**
GUR	**Goura**	**1.15**	**32**	P		**Pg**	**03 32 40.1**	**-1.0**
GUR				S		**Sg**	**03 32 55.8**	**-0.3**
KLV	**Kalavryta, Ach**	**1.17**	**23**	P		**Pg**	**03 32 41.5**	**-0.1**
KLV				S		**Sn**	**03 32 58.4**	**+0.9**
KLV	**Kalavryta, Ach**	**1.17**	**23**	*e*PB		**Pg**	**03 32 40.1**	**-1.5**
KLV	**Kalavryta, Ach**	**1.17**	**23**	*e*Pb		**Pg**	**03 32 40.1**	**-1.5**
KLV	**Kalavryta, Ach**	**1.17**	**23**	P		**Pg**	**03 32 41.5**	**-0.1**
KLV				S		**Sn**	**03 32 58.4**	**+0.9**
LAKA	**Lakka**	**1.32**	**14**	P		**Pn**	**03 32 44.2**	**+0.8**
LAKA				S		**Sn**	**03 33 02.1**	**+1.2**
LAKA	**Lakka**	**1.32**	**14**	*e*PN		**Pg**	**03 32 43.8**	**-0.5**
LAKA				*e*SN		**Sn**	**03 33 02.8**	**+1.9**
LAKA	**Lakka**	**1.32**	**14**	*e*Pn		**Pg**	**03 32 43.8**	**-0.5**
LAKA	**Lakka**	**1.32**	**14**	P		**Pn**	**03 32 44.2**	**+0.8**
LAKA				S		**Sn**	**03 33 02.1**	**+1.2**
KYTH	**Kithira**	**1.36**	**120**	P		**Pn**	**03 32 44.2**	**+0.3**
KYTH	**Kithira**	**1.36**	**120**	*e*PN		**Pn**	**03 32 43.9**	**0.0**
KYTH	**Kithira**	**1.36**	**120**	*e*Pn		**Pn**	**03 32 43.9**	**0.0**
KYTH	**Kithira**	**1.36**	**120**	P		**Pn**	**03 32 44.2**	**+0.3**
DID	**Didima**	**1.44**	**67**	*e*PN		**Pn**	**03 32 45.7**	**+0.7**
DID	**Didima**	**1.44**	**67**	*e*Pn		**Pn**	**03 32 45.7**	**+0.7**
VLS	**Valsamata**	**1.44**	**328**	*e*PB		**Pn**	**03 32 44.1**	**-1.0**
VLS	**Valsamata**	**1.44**	**328**	*e*Pb		**Pn**	**03 32 44.1**	**-1.0**
TRIZ	**Trizonia**	**1.46**	**16**	P		**Pn**	**03 32 45.7**	**+0.5**
TRIZ	**Trizonia**	**1.46**	**16**	*e*PN		**Pn**	**03 32 45.6**	**+0.4**
TRIZ	**Trizonia**	**1.46**	**16**	P		**Pn**	**03 32 45.7**	**+0.5**
EFP	**Efpalio**	**1.49**	**10**	*e*PN		**Pn**	**03 32 46.6**	**+0.9**
EFP	**Efpalio**	**1.49**	**10**	*e*Pn		**Pn**	**03 32 46.6**	**+0.9**
KALE	**Kalithea**	**1.50**	**17**	*e*PN		**Pn**	**03 32 46.9**	**+1.0**
KALE	**Kalithea**	**1.50**	**17**	*e*Pn		**Pn**	**03 32 46.9**	**+1.0**
LTK	**Loutraki**	**1.53**	**46**	*e*PN		**Pg**	**03 32 48.4**	**0.0**

*IDC **31** 03:34:59.1±1.8, 15°.99S×166°.75E, h0km, mb3.8/3, mb1 4.2/4, mb1mx3.8/20, mbtmp4.0/4, ML4.4/1, MS2.9/2, Ms1 2.9/2, ms1mx2.8/27, Error ellipse: s-maj=49.4km s-min=32.8km az=129.0*

ISC 31 03:35:03.3±1.6, 16°.3S±0°.1×167°.0E±0°.3, h27km, n7, σ2°03/8, mb4.0/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.74**	**185**	*e*P		**Pn**	**03 36 28.7**	**+1.7**
DZM				*e*S		**Sn**	**03 37 30.7**	**-1.3**
DZM	**Mont Dzumac** 9.2nm,0.3s,baz=8.6,slow=15,SNR=83	**5.74**	**185**	Pn		**Pn**	**03 36 29.2**	**+2.2**
DZM	2.3nm,0.3s,baz=330,slow=20,SNR=2.9			Sn		**Sn**	**03 37 30.5**	**-1.6**
DZM	comp=Z,215nm,19.2s,baz=37,slow=34			LR		LR	03 38 24.7	
NOUC	**Port Laguerre**	**5.79**	**187**	*e*P		**Pn**	**03 36 29.4**	**+1.9**
NOUC				*e*S		**Sn**	**03 37 31.0**	**-2.0**
HNR	**Honiara** comp=Z,40nm,20.9s,baz=353,slow=32	**9.71**	**314**	LR		LR	03 39 57.1	
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=84,slow=9.1,SNR=9.0	**31.23**	**258**	P		P	03 41 17.8	-3.1
ASAR	**Alice Springs** 2.4nm,0.9s,baz=79,slow=9.1,SNR=17	**31.90**	**251**	P		**P**	**03 41 26.7**	**-0.1**
ILAR	**Eielson Array** 0.5nm,0.6s,baz=232,slow=5.3,SNR=6.8	**88.11**	**18**	P		**P**	**03 47 50.2**	**-0.9**

*ISCJB **31** 03:43:28.8±0.3, 37°.08N±0°.02×71°.58E±0°.03, h106km±3km, mb4.3/64, Error ellipse: s-maj=3.7km s-min=3.1km az=161.2*

*BJI **31** 03:43:29.1, 37°.21N×71°.45E, h109km, mB4.7/14, mb4.7/30*

*MOS **31** 03:43:29.9±0.9, 37°.12N×71°.49E, h115km, mb4.4/29, Error ellipse: s-maj=9.5km s-min=4.6km az=78.3*

*TEH **31** 03:43:30.0, 37°.12N×71°.47E, h108km, ML4.5*

*IDC **31** 03:43:30.1±3.0, 37°.07N×71°.60E, h105km±26km, mb3.9/18, mb1 4.1/24, mb1mx4.0/31, mbtmp4.0/24, MS3.5/3, Ms1 3.5/3, ms1mx2.9/41, Error ellipse: s-maj=18.1km s-min=11.5km az=16.0*

*NEIC **31** 03:43:30.4±0.8, 37°.12N×71°.51E, h107km±7km, mb4.5/24, Error ellipse: s-maj=6.8km s-min=6.4km az=198.0*

*NNC **31** 03:43:39.0±1.9, 37°.82N×71°.32E, h197km, mb3.9, mpv5.2, Error ellipse: s-maj=15.9km s-min=12.8km az=9.0*

ISC 31 03:43:31.1±0.4, 37°.06N±0°.04×71°.56E±0°.03, h113km±3km, h113km:pP-P, n235, σ1°62/265, mb4.3/64, 12C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KBL	**Kabul**	**3.24**	**220**	*e*PN		**Pn**	**03 44 21.2**	**+0.7**
KBL				*e*			03 45 00.0	
KBL	**Kabul**	**3.24**	**220**	*e*Pn		**Pn**	**03 44 21.2**	**+0.7**
KBL				*e*Sn		**Sn**	**03 44 60.0**	**+1.4**
CEP	**Cherat**	**3.24**	**175**	⇑P		**Pn**	**03 44 21.7**	**+1.2**
CEP				S		**Sn**	**03 45 01.0**	**+2.5**
CHCP	**Chirah Chowk**	**3.67**	**157**	⇑P		**Pn**	**03 44 28.4**	**+2.3**
THW	**Thamme Wali**	**4.25**	**178**	P		**Pn**	**03 44 34.6**	**+0.7**
KSH	**Kashi**	**4.25**	**53**	P		Pn	03 44 30.0	-4.0
KSH				sP		sPn	03 44 56.3	-4.0
KSH				S		Sn	03 45 14.3	-8.5
KSH	comp=N,3μm,0.4s			*s*max		*s*max		
KSH	comp=E,2μm,0.3s			*s*max		*s*max		
SARP	**Sargodha**	**5.20**	**169**	P		**Pn**	**03 44 46.3**	**-0.4**
AML	**Almayashu**	**5.33**	**17**	*i* PN		**Pn**	**03 44 48.2**	**-0.5**
AML	**Almayashu** SNR=1036	**5.33**	**17**	P		**Pn**	**03 44 48.2**	**-0.5**
UCH	**Uchtor**	**5.65**	**23**	*i* PN		**Pn**	**03 44 52.7**	**-0.3**
UCH	**Uchtor** SNR=20	**5.65**	**23**	P		**Pn**	**03 44 52.7**	**-0.3**
THN	**Thein Dam**	**5.74**	**142**	*e*P		**Pn**	**03 44 52.7**	**-1.2**
THN				*e*S		**Sn**	**03 45 55.0**	**-3.6**
KZA	**Kyzart**	**5.77**	**28**	*i* PN		**Pn**	**03 44 54.2**	**-0.4**
KZA	**Kyzart** SNR=101	**5.77**	**28**	P		**Pn**	**03 44 54.2**	**-0.4**
DLH	**Dalhousie**	**5.78**	**140**	*e*P		**Pn**	**03 44 56.0**	**+1.3**
DLH				*e*S		**Sn**	**03 45 57.0**	**-2.9**
EKS2	**Erkin-Say**	**5.85**	**16**	*e*PN		**Pn**	**03 44 54.9**	**-0.6**
EKS2	comp=Z,125nm,0.5s			*p*max		*p*max		
EKS2	**Erkin-Say**	**5.85**	**16**	P		**Pn**	**03 44 55.3**	**-0.2**
	SNR=237							
EKS2	**Erkin-Say** comp=Z,124nm,0.5s	**5.85**	**16**	*e*Pn		**Pn**	**03 44 54.9**	**-0.6**
EKS2				*e*Sn		**Sn**	**03 45 57.9**	**-3.5**
AAK	**Ala-Archa**	**6.01**	**21**	*d* PN		**Pn**	**03 44 57.5**	**-0.2**
AAK	comp=Z,658nm,0.8s			*p*max		*p*max		
AAK	**Ala-Archa** SNR=115	**6.01**	**21**	P		**Pn**	**03 44 57.7**	**0.0**
AAK	**Ala-Archa** comp=Z,246nm,0.6s	**6.01**	**21**	*e*Pn		**Pn**	**03 44 57.7**	**0.0**
AAK				*e*Sn		**Sn**	**03 46 03.9**	**-1.3**
AAK	**Ala-Archa** comp=Z,54nm,0.3s,baz=182,slow=6.5,SNR=262	**6.01**	**21**	P		**Pn**	**03 44 57.3**	**-0.4**
AAK	comp=Z,40nm,0.3s,baz=325,slow=23,SNR=21			S		**Sn**	**03 46 02.6**	**-2.7**
KK31	**Karatay Array** comp=Z,138nm,0.5s,baz=182,slow=16,SNR=1667	**6.09**	**353**	P		**Pn**	**03 44 57.2**	**-1.5**
KK31	comp=Z,70nm,0.5s,baz=173,slow=21,SNR=5.0			⇑S		Sn	03 46 00.2	-6.8
KK31	**Karatay Array**	**6.09**	**353**	*i* PN		**Pn**	**03 44 57.1**	**-1.5**
KK31	comp=Z,58nm,0.2s			*p*max		*p*max		
KKAR	**Karatay Array**	**6.09**	**353**	*e*PN		**Pn**	**03 44 57.1**	**-1.6**
KKAR	comp=Z,235nm,0.5s			*p*max		*p*max		
KKAR	**Karatay Array** comp=Z,235nm,0.5s	**6.09**	**353**	*e*Pn		**Pn**	**03 44 57.1**	**-1.6**
KKAR				*e*Sn		Sn	03 46 00.7	-6.3
KBK	**Karagaybulak**	**6.17**	**24**	*i* PN		**Pn**	**03 45 00.1**	**+0.2**
KBK	**Karagaybulak** SNR=44	**6.17**	**24**	P		**Pn**	**03 45 00.1**	**+0.2**
DHRM	**DHARAMSHALA**	**6.18**	**139**	*e*P		**Pn**	**03 45 01.4**	**+1.2**
DHRM				*e*S		**Sn**	**03 46 06.2**	**-3.4**
ULHL	**Ulahol**	**6.32**	**33**	*i* PN		**Pn**	**03 45 01.5**	**-0.4**
ULHL	**Ulahol** SNR=46	**6.32**	**33**	P		**Pn**	**03 45 01.5**	**-0.4**
CHMS	**Chumysh**	**6.42**	**21**	*i* PN		**Pn**	**03 45 02.8**	**-0.3**
CHMS	**Chumysh** SNR=65	**6.42**	**21**	P		**Pn**	**03 45 02.8**	**-0.3**
USP	**Uspenovka**	**6.60**	**19**	*i* PN		**Pn**	**03 45 04.8**	**-0.8**
USP	**Uspenovka** SNR=194	**6.60**	**19**	P		**Pn**	**03 45 04.8**	**-0.8**
TKM2	**Tokmak 2** comp=Z,111nm,0.6s	**6.63**	**27**	⇓P		**Pn**	**03 45 06.0**	**-0.1**
TKM2	comp=Z,84nm,0.7s			⇓S		**Sn**	**03 46 17.6**	**-2.7**
TKM2	**Tokmak 2**	**6.63**	**27**	*e*PN		**Pn**	**03 45 05.6**	**-0.5**
TKM2	comp=Z,109nm,0.5s			*p*max		*p*max		
TKM2	**Tokmak 2** SNR=231	**6.63**	**27**	P		**Pn**	**03 45 06.0**	**-0.1**
TKM2	**Tokmak 2** comp=Z,109nm,0.5s	**6.63**	**27**	*e*Pn		**Pn**	**03 45 05.6**	**-0.5**
TKM2				*e*Sn		**Sn**	**03 46 16.7**	**-3.5**
BHK	**Bhakra**	**6.92**	**143**	*ex*		**Pn**	**03 45 12.0**	**+2.1**
BHK				*e*4		**Sn**	**03 46 23.2**	**-3.9**
SDNR	**Sundarnagar**	**7.12**	**139**	*e*P		**Pn**	**03 45 13.0**	**+0.3**
SDNR				*e*4		Sn	03 46 21.0	-11
AAA	**Alma-Ata**	**7.45**	**32**	*i* PN		**Pn**	**03 45 18.1**	**+1.0**
AAA				*i* S		**Sn**	**03 46 40.4**	**+0.4**
AAA	comp=Z,300nm,0.7s			*p*max		*p*max		
AAA	comp=E,300nm,1.1s			*s*max		*s*max		
AAA	comp=Z,400nm,2.0s			MLR		MLR		
SMLA	**Simla**	**7.52**	**140**	*i* P		**Pn**	**03 45 17.8**	**-0.2**
SMLA				*i* S		**Sn**	**03 46 36.4**	**-5.4**
SMLA	comp=N,950nm,1.0s			AML		AML	03 46 39.6	
SMLA	comp=E,1μm,0.2s			AML		AML	03 46 42.7	
DDI	**Dehra Dun**	**8.62**	**139**	*e*P		**Pn**	**03 45 32.0**	**-1.1**
DDI				*ex*		Sn	03 47 02.6	-6.0
DDI	**Dehra Dun**	**8.62**	**139**	*ex*		x	03 45 26.0	
IMYA	**Miami**	**9.23**	**269**	*e*P		Pn	03 45 35.9	-5.4
NDI	**New Delhi**	**9.61**	**149**	*ex*		Pn	03 45 42.0	-4.3
NDI				*ex*		Sn	03 47 22.0	-10
NDI	comp=N,190nm,0.6s			AML		AML	03 47 53.2	
NDI	comp=E,185nm,0.5s			AML		AML	03 47 55.4	
KHET	**Khetri**	**9.64**	**157**	*e*P		**Pn**	**03 45 45.4**	**-1.5**
KHET				*e*S		Sn	03 47 24.6	-8.8
KHET	comp=E,508nm,0.2s			AML		AML	03 47 28.8	
KHET	comp=N,336nm,0.2s			AML		AML	03 47 29.9	
ISRO	**Mashad**	**9.74**	**269**	*e*P		Pn	03 45 41.6	-6.5
AYAN	**Aya Nagar**	**9.75**	**150**	*e*P		**Pn**	**03 45 47.1**	**-1.1**
AYAN				*e*4			03 47 30.4	
IMOG	**Moghan**	**9.87**	**268**	*e*P		Pn	03 45 45.2	-4.9
IPAY	**Payeh**	**10.10**	**270**	*e*P		Pn	03 45 47.7	-5.4
AGRA	**Agra**	**11.19**	**149**	*e*P		**

JBP	**Jabalpur**	**15.63**	**150**	*e*P		**Pn**	**03 47 05.3**	**+0.2**
JBP				*ex*		x	03 49 44.9	
VOSK	**Vostochnaya**	**15.67**	**359**	⇑P		**Pn**	**03 47 00.9**	**-4.5**
	comp=Z,19nm,1.1s							
VOSK				S		Sn	03 49 45.3	-14
VOSK	**Vostochnaya**	**15.67**	**359**	P		**Pn**	**03 47 02.0**	**-3.4**
VOSK				pmax	pmax			
	comp=Z,38nm,1.3s							
IBND	**Bandar-abas**	**15.89**	**237**	*e*P		**Pn**	**03 47 07.4**	**-0.9**
BVA0	**Borovoye Array**	**15.99**	**357**	⇑P		**Pn**	**03 47 05.7**	**-3.7**
	comp=Z,7.6nm,0.5s							
BVA0				⇑S		Sn	03 49 52.2	-14
	comp=Z,17nm,1.2s							
BVAR	**Borovoye Array**	**15.99**	**357**	P		**Pn**	**03 47 07.3**	**-2.0**
BVAR				pmax	pmax			
	comp=Z,3.0nm,0.3s							
BVAR	**Borovoye Array**	**15.99**	**357**	P		**Pn**	**03 47 07.3**	**-2.0**
BVAR	**Borovoye Array**	**15.99**	**357**	P		**Pn**	**03 47 07.3**	**-2.0**
	comp=Z,3.2nm,0.3s,baz=161,slow=14,SNR=35							
BRVK	**Borovoye**	**16.03**	**357**	⇓P		**Pn**	**03 47 05.7**	**-4.1**
	comp=Z,23nm,1.0s							
BRVK				⇓S		Sn	03 49 53.0	-14
	comp=Z,30nm,1.0s							
BRVK	**Borovoye**	**16.03**	**357**	*e*P		**Pn**	**03 47 07.1**	**-2.7**
BRVK	**Borovoye**	**16.03**	**357**	*e*Pn		**Pn**	**03 47 07.1**	**-2.7**
RAMN	**Ramite**	**16.24**	**124**	*e*P		**Pn**	**03 47 10.4**	**-2.5**
	comp=Z,75nm,0.3s							
IZEF	**Zefreh**	**16.29**	**261**	*e*P		**Pn**	**03 47 12.7**	**-0.8**
AKTO	**Aktyubinsk**	**16.53**	**328**	⇓P		**Pn**	**03 47 11.8**	**-4.2**
	comp=Z,18nm,0.8s							
AKTO				⇓S		Sn	03 50 05.0	-15
	comp=Z,28nm,0.9s							
AKTO	**Aktyubinsk**	**16.53**	**328**	P		**Pn**	**03 47 14.0**	**-2.1**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**16.53**	**328**	P		**Pn**	**03 47 13.9**	**-2.1**
AKTO	**Aktyubinsk**	**16.53**	**328**	P		**Pn**	**03 47 13.9**	**-2.1**
	comp=Z,1.3nm,0.3s,baz=135,slow=14,SNR=28							
TAPN	**Taplejung**	**16.73**	**121**	*e*P		**Pn**	**03 47 16.4**	**-2.5**
	comp=Z,116nm,0.7s							
ODAN	**Odare**	**16.83**	**123**	*e*P		**Pn**	**03 47 17.4**	**-2.7**
	comp=Z,140nm,0.9s							
AKL	**Akola**	**16.98**	**162**	*e*P		**P**	**03 47 22.6**	**+0.9**
AKL				*ex*		x	03 50 14.2	
NGP	**Nagpur**	**17.14**	**156**	*ex*		**P**	**03 47 20.9**	**-2.6**
LSA	**Lhasa**	**17.91**	**108**	P		**Pn**	**03 47 33.5**	**0.0**
LSA	**Lhasa**	**17.91**	**108**	*e*P		**Pn**	**03 47 33.9**	**+0.4**
LSA				pmax	pmax			
	comp=Z,34nm,0.6s							
LSA	**Lhasa**	**17.91**	**108**	*e*P		**Pn**	**03 47 33.9**	**+0.4**
	comp=Z,34nm,0.6s							
BOK	**Bokaro**	**18.06**	**133**	*e*P		**Pn**	**03 47 34.4**	**-0.4**
BOK				*ex*		x	03 50 35.8	
ISRB	**Sarab**	**18.98**	**280**	*e*P		**Pn**	**03 47 45.2**	**-0.6**
ZALV	**Zalesovo Beam**	**19.23**	**24**	*i* P		**P**	**03 47 45.7**	**-0.4**
ZALV				pmax	pmax			
	comp=Z,26nm,0.5s							
ZALV	**Zalesovo Beam**	**19.23**	**24**	P		**P**	**03 47 45.6**	**-0.5**
ZALV	**Zalesovo Beam**	**19.23**	**24**	P		**P**	**03 47 45.6**	**-0.5**
	comp=Z,5.2nm,0.3s,baz=213,slow=10,SNR=44							
NVS	**Novosibirsk**	**19.50**	**21**	*e*P		**P**	**03 47 46.4**	**-2.7**
NVS				pmax	pmax			
	comp=Z,9.0nm,0.6s							
NVS				pmax	pmax			
	comp=N,7.0nm,0.5s							
NVS				pmax	pmax			
	comp=E,4.0nm,0.5s							
HYB	**Hyderabad**	**20.51**	**161**	*i* P		Pn	03 48 03.0	-0.6
HYB				*e*S		**S**	**03 51 45.0**	**+1.2**
SHL	**Shillong**	**20.76**	**118**	*e*P		**P**	**03 48 04.0**	**+0.9**
SHL				*ex*		x	03 51 38.0	
GNI	**Garni**	**21.16**	**287**	*e*P		**P**	**03 48 05.5**	**-1.8**
	comp=E,7.9nm,0.7s							
ARU	**Arti**	**21.26**	**340**	*d i*P		**P**	**03 48 11.4**	**+3.4**
ARU							03 48 35.6	
ARU				S		**S**	**03 52 04.0**	**+6.4**
ARU				SS		**SnSn**	**03 52 36.8**	**+6.1**
ARU				pmax	pmax			
	comp=Z,16nm,1.2s							
MIB	**Mutribah**	**21.43**	**257**	*e*P		**P**	**03 48 10.2**	**+0.1**
MIB				AMb		AMB	03 48 15.7	
	comp=Z,42nm,0.8s							
RDF	**Al-Radifah**	**21.67**	**255**	*e*P		**P**	**03 48 12.1**	**-0.5**
RDF				AMb		AMB	03 48 16.9	
	comp=Z,36nm,1.2s							
NAY	**Al-Naaiem**	**21.76**	**256**	*e*P		**P**	**03 48 13.4**	**-0.2**
NAY				AMb		AMB	03 48 17.3	
	comp=Z,18nm,1.1s							
GTA	**Gaotai**	**22.29**	**75**	⇑P		**P**	**03 48 21.5**	**+2.3**
GTA				sP		sP	03 49 00.5	+5.8
GTA				pmax	pmax			
	comp=Z,61nm,0.9s							
KIV	**Kislovodsk**	**22.93**	**297**	*e*P		**P**	**03 48 24.1**	**-1.4**
KIV				pmax	pmax			
	comp=Z,3.0nm,0.5s							
MOY	**Mondy**	**25.40**	**46**	*e*P		**P**	**03 48 49.5**	**+1.6**
MOY				pmax	pmax			
	comp=Z,15nm,2.2s							
LZH	**Lanzhou**	**25.89**	**82**	*e*P		**P**	**03 48 51.0**	**-1.5**
LZH				pP		**pP**	**03 49 16.8**	**-0.2**
LZH				sP		**sP**	**03 49 29.8**	**-0.4**
LZH				PP		**PnPn**	**03 49 39.0**	**+2.1**
LZH				*e*S		**S**	**03 53 09.3**	**-5.0**
LZH				SS		**SnSn**	**03 54 28.3**	**+4.8**
LZH				pmax	pmax			
	comp=Z,32nm,1.0s							
LZH				pmax	pmax			
	comp=Z,85nm,4.1s							
LZH				LR		LR		
	comp=N,260nm,11.2s							
LZH				LR		LR		
	comp=E,270nm,12.6s							
LZH				LR		LR		
	comp=Z,310nm,13.5s							
ZAK	**Zakamensk**	**26.29**	**49**	*e*P		**P**	**03 48 57.0**	**+1.1**
ZAK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
CD2	**Chengdu**	**27.31**	**93**	*e*P		**P**	**03 49 06.5**	**+1.3**
CD2				pP		**pP**	**03 49 30.3**	**+0.4**
CD2				sP		**sP**	**03 49 43.3**	**+0.3**
CD2				PP		**PnPn**	**03 49 58.3**	**+2.4**
CD2				S		**S**	**03 53 36.5**	**-0.1**
CD2				sS		**sS**	**03 54 17.8**	**-2.0**
CD2				SS		**SnSn**	**03 55 01.8**	**+3.7**
CD2				pmax	pmax			
	comp=Z,10.0nm,1.2s							
CD2				pmax	pmax			
	comp=Z,30nm,6.8s							
SONM	**Songino Array**	**27.65**	**56**	P		**P**	**03 49 09.4**	**+1.2**
SONM	**Songino Array**	**27.65**	**56**	P		**P**	**03 49 09.4**	**+1.2**
	comp=Z,3.0nm,0.6s,baz=256,slow=10.0,SNR=22							
SONM				LR		LR	04 01 55.3	
	comp=Z,65nm,18.4s,baz=170,slow=40							
ULN	**Ulaanbaatar**	**28.09**	**56**	*e*P		**P**	**03 49 13.3**	**+1.1**
	comp=Z,5.1nm,0.8s							
KMI	**Kunming**	**29.10**	**105**	P		**P**	**03 49 23.8**	**+2.4**
KMI				pmax	pmax			
	comp=Z,9.0nm,0.6s							
BR131	**Keskin Array S**	**29.70**	**287**	*e*P		**P**	**03 49 26.9**	**+0.5**
	comp=Z,0.9nm,0.6s							
BRTR	**Keskin Array B**	**29.70**	**287**	P		**P**	**03 49 27.9**	**+1.4**
BRTR	**Keskin Array B**	**29.70**	**287**	P		**P**	**03 49 27.9**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=94,slow=7.9,SNR=5.1							
OBN	**Obninsk**	**29.81**	**318**	*e*P		**P**	**03 49 27.7**	**+0.7**
OBN				pmax	pmax			
	comp=Z,6.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**30.34**	**120**	P		**P**	**03 49 33.6**	**+1.5**
CMAR	**Chiang Mai Arr**	**30.34**	**120**	P		**P**	**03 49 33.6**	**+1.5**
	comp=Z,1.6nm,0.3s,baz=310,slow=9.0,SNR=9.6							
HHC	**Hu-ho-hao-te**	**31.15**	**71**	*e*P		**P**	**03 49 40.3**	**+1.1**
HHC				pP		**pP**	**03 50 05.0**	**+0.9**
HHC				sP		**sP**	**03 50 18.0**	**+0.8**
HHC				PP		**PnPn**	**03 50 47.8**	**+2.2**
HHC				S		**S**	**03 54 37.3**	**+0.5**
HHC				sS		**sS**	**03 55 21.3**	**+1.1**
HHC				SS		**SnSn**	**03 56 31.5**	**+0.3**
HHC				ScS		**ScS**	**04 00 00.8**	**-0.7**
HHC				pmax	pmax			
	comp=Z,35nm,1.0s							
HHC				pmax	pmax			
	comp=Z,180nm,4.6s							
HHC				LR		LR		
	comp=N,130nm,19.0s							
HHC				LR		LR		
	comp=E,290nm,19.0s							
HHC				LR		LR		
	comp=Z,190nm,19.0s							
GYA	**Guiyang**	**31.51**	**99**	*e*P		**P**	**03 49 44.0**	**+1.5**
GYA				pP		**pP**	**03 50 07.5**	**+0.1**
GYA				sP		**sP**	**03 50 21.3**	**+0.9**
GYA				PP		**PnPn**	**03 50 51.8**	**+1.6**
GYA				PcP		**PcP**	**03 52 33.8**	**+1.0**
GYA				S		**S**	**03 54 43.0**	**+0.4**
GYA				sS		**sS**	**03 55 26.3**	**+0.3**
GYA				ScP		**ScP**	**03 56 06.8**	**+1.3**
GYA				PcS		**PcS**	**03 56 17.3**	**-0.2**
GYA				ScS		**ScS**	**04 00 02.0**	**-1.7**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
KIEV	**Kiev**	**32.96**	**308**	*e*P		**P**	**03 49 53.7**	**-1.0**
KIEV				pmax	pmax			
	comp=Z,2.0nm,0.6s							
KIEV	**Kiev**	**32.96**	**308**	*e*P		**P**	**03 49 53.7**	**-1.0**
	comp=Z,2.3nm,0.6s							
BUR08	**Bucovina Ar. S**	**35.37**	**302**	*e*P		**P**	**03 50 14.9**	**-0.9**
WHN	**Wuhan**	**35.92**	**88**	P		P	03 50 25.0	+4.5
FINES	**FINESS Array B**	**37.28**	**326**	P		**P**	**03 50 31.9**	**+0.4**
FINES	**FINESS Array B**	**37.28**	**326**	P		**P**	**03 50 31.9**	**+0.4**
	comp=Z,7.7nm,0.5s,baz=112,slow=9.0,SNR=20							
KOLS	**Kolonicke sedl**	**37.33**	**304**	*e*pP		pP	03 50 58.2	+0.6
QIZ	**Qiongzhong**	**37.95**	**108**	P		**P**	**03 50 38.5**	**+0.7**
QIZ				S		**S**	**03 56 24.0**	**+2.5**
QIZ				pmax	pmax			
	comp=Z,10.0nm,2.3s							
NJ2	**Nanjing**	**38.96**	**83**	*e*P		**P**	**03 50 45.3**	**-0.8**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
VYHS	**Vyhne**	**39.62**	**304**	*e*pP		pP	03 51 16.4	-0.6
MORC	**Moravsky Berou**	**40.40**	**306**	*e*P		**P**	**03 50 57.2**	**-0.7**
MORC				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MORC	**Moravsky Berou**	**40.40**	**306**	*e*P		**P**	**03 50 57.1**	**-0.7**
	comp=Z,1.7nm,0.7s							
ARCES	**ARCESS Array B**	**40.80**	**337**	P		**P**	**03 51 01.4**	**+0.5**
ARCES	**ARCESS Array B**	**40.80**	**337**	P		**P**	**03 51 01.4**	**+0.5**
	comp=Z,3.2nm,0.5s,baz=112,slow=8.0,SNR=44							
ARCES				LR		LR	04 08 46.7	
	comp=Z,62nm,18.3s,baz=113,slow=37							
CN2	**Changchun**	**40.96**	**63**	*e*P		**P**	**03 51 02.0**	**-0.5**
KULM	**Kulim**	**41.32**	**133**	*e*P		**P**	**03 51 05.1**	**-0.6**
IPM	**Ipoh**	**42.19**	**133**	*e*P		**P**	**03 51 13.4**	**+0.5**
	comp=Z,9.8nm,0.4s							
GERES	**GERESS Array B**	**42.98**	**305**	P		**P**	**03 51 19.4**	**+0.4**
GERES				PcP		**PcP**	**03 53 07.2**	**-0.2**
GERES	**GERESS Array B**	**42.98**	**305**	P		**P**	**03 51 19.4**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=72,slow=6.3,SNR=2.9							
GERES				PcP		**PcP**	**03 53 07.2**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=0.0,slow=2.7,SNR=4.7							
CLL	**Collm**	**43.19**	**309**	*e*pP		pP	03 51 46.0	-0.5
YAK	**Yakutsk**	**43.26**	**36**	*e*P		**P**	**03 51 19.6**	**-1.2**
YAK				pmax	pmax			
	comp=Z,27nm,1.1s							
YAK				pmax	pmax			
	comp=E,4.0nm,1.2s							
YAK				pmax	pmax			
	comp=N,4.0nm,1.3s							
NB2	**NORSAR Subarra**	**44.21**	**323**	P		**P**	**03 51 28.3**	**-0.3**
	comp=Z,2.5nm,0.5s,baz=95,slow=8.6							
NOA	**NORSAR Array B**	**44.21**	**323**	P		**P**	**03 51 28.2**	**-0.3**
NOA	**NORSAR Array B**	**44.21**	**323**	P		**P**	**03 51 28.2**	**-0.3**
	comp=Z,4.7nm,0.7s,baz=95,slow=7.9,SNR=15							
KLR	**Kul'dur**	**44.46**	**54**	*e*P		P	03 51 27.0	-3.7
TIXI	**Tiksi**	**45.09**	**22**	*e i*P		**P**	**03 51 35.5**	**+0.1**
TIXI				pmax	pmax			
	comp=Z,9.0nm,0.6s							
USRK	**Ussuriysk Arra**	**45.52**	**61**	P		**P**	**03 51 39.0**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=286,slow=10,SNR=4.1							
CDF	**Champ du Feu**	**47.25**	**305**	*e*P		**P**	**03 51 52.9**	**+0.1**
PGF	**Pioggiola**	**47.41**	**297**	*e*P		**P**	**03 51 54.3**	**+0.2**
JNU	**Nakatsue**	**48.02**	**76**	LR		LR	04 12 39.3	
	comp=Z,65nm,20.4s,baz=212,slow=36							
SBF	**Sospel**	**48.17**	**299**	*e*P		**P**	**03 52 00.0**	**+0.1**
	comp=Z,19nm,0.9s							
LPG	**La Plagne**	**48.24**	**301**	*e*P		**P**	**03 52 00.9**	**+0.3**
PAGF	**Fort de Pagny**	**48.24**	**306**	*e*P		**P**	**03 52 01.1**	**+0.9**
LPL	**La Plagne**	**48.25**	**301**	*e*P		**P**	**03 52 00.8**	**+0.2**
BNI	**Bardonecchia**	**48.40**	**301**	*e*P		**P**	**03 52 01.1**	**-0.6**
BNI				pmax	pmax			
	comp=Z,4.0nm,1.0s							
BNI	**Bardonecchia**	**48.40**	**301**	*e*P		**P**	**03 52 01.1**	**-0.6**
	comp=Z,4.1nm,1.0s							
MBDF	**Montbardon**	**48.41**	**300**	*e*P		**P**	**03 52 02.6**	**+0.8**
	comp=Z,3.7nm,0.7s							
MBDF				epP		**pP**	**03 52 29.0**	**+0.7**
FRF	**La Foret Royal**	**48.80**	**299**	*e*P		**P**	**03 52 04.9**	**+0.2**
	comp=Z,25nm,1.1s							
LMR	**La Mourre**	**48.96**	**299**	*e*P		**P**	**03 52 06.0**	**+0.2**
KEST	**Kesra**	**49.28**	**288**	*e*P		**P**	**03 52 08.0**	**-0.5**
KEST	**Kesra**	**49.28**	**288**	P		**P**	**03 52 09.5**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=0.0,slow=4.0,SNR=4.2							
LOR	**Lormes**	**49.75**	**304**	*e*P		**P**	**03 52 11.7**	**-0.1**
VIVF	**Saint-Julien-l**	**49.82**	**301**	*e*P		**P**	**03 52 13.1**	**+0.7**
SMF	**Signal de Mont**	**49.92**	**304**	*e*P		**P**	**03 52 13.2**	**+0.1**
	comp=Z,10nm,0.9s							
AVF	**Avril sur Loir**	**50.20**	**304**	*e*P		**P**	**03 52 15.4**	**+0.2**
	comp=Z,8.2nm,1.0s							
AVF				epP		**pP**	**03 52 41.7**	**-0.1**
LASF	**Ste Croix**	**50.60**	**300**	*e*P		**P**	**03 52 19.1**	**+0.8**
TCF	**Toulx Ste Croi**	**51.10**	**304**	*e*P		**P**	**03 52 22.6**	**+0.6**
	comp=Z,3.8nm,0.8s							
TCF				epP		**pP**	**03 52 49.0**	**+0.3**
CAF	**Calviac**	**51.58**	**302**	*e*P		**P**	**03 52 26.4**	**+0.8**
MTLF	**Montolieu**	**51.95**	**300**	*e*P		**P**	**03 52 28.9**	**+0.5**
LDF	**La Druitiere**	**52.00**	**307**	*e*P		**P**	**03 52 28.8**	**+0.2**
MJAR	**Matsushiro Arr**	**52.34**	**69**	P		**P**	**03 52 30.7**	**-0.6**
MJAR	**Matsushiro Arr**	**52.34**	**69**	P		**P**	**03 52 30.7**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=293,slow=9.5,SNR=6.6							
LFF	**La Frestale**	**52.48**	**302**	*e*P		**P**	**03 52 33.1**	**+0.9**
LFF				epP		**pP**	**03 52 59.3**	**+0.3**
MFF	**Saint Martin d**	**52.57**	**304**	*e*P		**P**	**03 52 33.9**	**+1.0**
MFF				epP		**pP**	**03 53 00.2**	**+0.5**
ETSF	**Etsaut**	**54.02**	**300**	*e*P		**P**	**03 52 44.3**	**+0.7**
	comp=Z,8.6nm,0.9s							
DAG	**Danmarks Havn**	**54.32**	**344**	⇑*i*P		**P**	**03 52 45.7**	**+0.5**
DAG				pmax	pmax			
	comp=Z,2.0nm,0.9s							
DAG	**Danmarks Havn**	**54.32**	**344**	⇑*i*P		**P**	**03 52 45.7**	**+0.5**
	comp=Z,2.4nm,0.9s							
ESDC	**Sonseca Array**	**57.59**	**298**	P		**P**	**03 53 09.3**	**+0.1**
ESDC	**Sonseca Array**	**57.59**	**298**	P		**P**	**03 53 09.3**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=54,slow=7.2,SNR=8.0							
SUMG	**Summit**	**60.68**	**341**	*e*P		**P**	**03 53 31.5**	**+1.2**
SUMG				pmax	pmax			
	comp=Z,10.0nm,1.0s							
SUMG	**Summit**	**60.68**	**341**	*e*P		**P**	**03 53 31.5**	**+1.2**
	comp=Z,9.6nm,1.0s							
SUMG	**Summit**	**60.68**	**341**	*i* P		**P**	**03 53 31.8**	**+1.5**
	comp=Z,7.0nm,0.9s							
LSZ	**Lusaka**	**66.16**	**226**	*e*P		**P**	**03 54 06.9**	**+0.2**
	comp=Z,3.1nm,0.7s							
TORD	**Torodi Ar. Bea**	**66.18**	**269**	P		**P**	**03 54 06.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**66.18**	**269**	P		**P**	**03 54 06.2**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=50,slow=5.9,SNR=32							
FX1	**Attu Island--F**	**67.68**	**40**	*e*P		**P**	**03 54 15.8**	**-0.1**
COLD	**Coldfoot**	**71.31**	**16**	*e*P		**P**	**03 54 38.5**	**+0.5**
	comp=Z,13nm,1.2s							
INK	**Inuvik**	**73.28**	**9**	*e*P		**P**	**03 54 49.8**	**+0.2**
	comp=Z,13nm,1.0s							
COLA	**College**	**73.82**	**16**	*e*P		**P**	**03 54 52.8**	**0.0**
COLA				pmax	pmax			
	comp=Z,27nm,0.9s							
COLA	**College**	**73.82**	**16**	*e*P		**P**	**03 54 52.8**	**0.0**
	comp=Z,27nm,0.9s							
ILAR	**Eielson Array**	**74.12**	**16**	P		**P**	**03 54 53.8**	**-0.8**
ILAR	**Eielson Array**	**74.12**	**16**	P		**P**	**03 54 53.8**	**-0.8**
	comp=Z,2.6nm,0.9s,baz=316,slow=4.8,SNR=30							
MCK	**McKinley**	**74.54**	**17**	*e*P		**P**	**03 54 56.7**	**-0.3**
MCK				pmax	pmax			
	comp=Z,3.0nm,0.5s							
MCK	**McKinley**	**74.54**	**17**	*e*P		**P**	**03 54 56.7**	**-0.3**
	comp=Z,2.6nm,0.5s							
LBTB	**Lobtse**	**75.39**	**222**	*e*P		**P**	**03 55 02.5**	**0.0**
	comp=Z,7.2nm,1.0s							
TSUM	**Tsumeb**	**75.61**	**232**	*e*P		**P**	**03 55 03.6**	**-0.2**
	comp=Z,3.0nm,0.8s							
SML	**Sawmill**	**76.32**	**18**	*e*P		**P**	**03 55 07.1**	**-0.1**
SML				pmax	pmax			
	comp=Z,3.0nm,0.8s							
SML	**Sawmill**	**76.32**	**18**	*e*P		**P**	**03 55 07.1**	**-0.1**
	comp=Z,3.2nm,0.8s							
BOSA	**Boshof**	**78.46**	**220**	*e*P		**P**	**03 55 18.8**	**-0.8**
	comp=Z,5.4nm,1.0s							
BOSA	**Boshof**	**78.46**	**220**	P		**P**	**03 55 19.1**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=36,slow=6.2,SNR=4.1							
HYT	**Haines Junctio**	**79.61**	**14**	*e*P		**P**	**03 55 26.7**	**+1.1**
YKW3	**Yellowknife Ar**	**80.60**	**3**	*e*P		**P**	**03 55 30.8**	**+0.1**
YKA	**Yellowknife Ar**	**80.67**	**3**	P		**P**	**03 55 31.1**	**+0.1**
YKA	**Yellowknife Ar**	**80.67**	**3**	P		**P**	**03 55 31.1**	**+0.1**
	comp=Z,6.3nm,0.7s,baz=351,slow=5.5,SNR=44							
SCHQ	**Schefferville**	**81.76**	**337**	P		**P**	**03 55 37.1**	**+0.1**
SCHQ	**Schefferville**	**81.76**	**337**	P		**P**	**03 55 37.1**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=28,slow=5.1,SNR=5.3							
WRA	**Warramunga Arr**	**81.91**	**122**	P		**P**	**03 55 36.9**	**-1.3**
WRA	**Warramunga Arr**	**81.91**	**122**	P		**P**	**03 55 36.9**	**-1.3**
	comp=Z,2.0nm,0.7s,baz=324,slow=4.9,SNR=11							
WRAB	**Tennant Creek**	**81.91**	**122**	*e*P		**P**	**03 55 37.0**	**-1.2**
WRAB				pmax	pmax			
	comp=Z,6.0nm,0.8s							
WRAB	**Tennant Creek**	**81.91**	**122**	*e*P		**P**	**03 55 37.0**	**-1.2**
	comp=Z,5.6nm,0.8s							
FCC	**Fort Churchill**	**83.79**	**353**	*e*P		**P**	**03 55 47.3**	**0.0**
FCC	**Fort Churchill**	**83.79**	**353**	*e*P		**P**	**03 55 47.3**	**0.0**
	comp=Z,0.3nm,0.8s							
AS31	**Alice Springs**	**84.21**	**125**	*e*P		**P**	**03 55 48.9**	**-1.1**
ASAR	**Alice Springs**	**84.21**	**125**	P		**P**	**03 55 49.2**	**-0.8**
ASAR	**Alice Springs**	**84.21**	**125**	P		**P**	**03 55 49.2**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=316,slow=4.6,SNR=18							
PMG	**Port Moresby**	**84.33**	**106**	*e*P		**P**	**03 55 52.0**	**+1.3**
	comp=Z,31nm,1.2s							
FORT	**Forrest**	**85.73**	**134**	*e*P		**P**	**03 55 56.3**	**-1.1**
	comp=Z,15nm,0.7s							
FFC	**Flin Flon**	**88.42**	**356**	*ce*P		**P**	**03 56 11.2**	**+1.1**
FFC	**Flin Flon**	**88.42**	**356**	*e*P		**P**	**03 56 10.1**	**-0.1**
	comp=Z,7.4nm,0.9s							
EDM	**Edmonton**	**89.99**	**3**	*e*P		**P**	**03 56 17.7**	**+0.1**
EDM	**Edmonton**	**89.99**	**3**	*e*P		**P**	**03 56 17.7**	**+0.1**

IDC ***31*** *03:51:53.4±4.3,21.95S×69.93W,h0km,mb3.7/1, mb1 3.6/2,mb1mx3.4/17,mbtmp3.5/2,ML3.3/1,MS2.7/1, Ms1 2.7/1,ms1mx2.4/21,Error ellipse: s-maj=137.9km s-min=60.6km az=88.0*

ISCJB ***31*** *03:51:56.3±1.4,21.25S±0.09×70.61W±0.09,h37km, mb3.6/1,Error ellipse: s-maj=14.1km s-min=10.0km az=144.8*

GUC ***31*** *03:51:58.4±0.8,21.25S×70.50W,h21km±37km,ML4.1*

ISC 31 03:51:58.0±1.6,21.35S±0.08×70.52W±0.10,h37km,n10, σ1s79/12,1C-3D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB07	**Plate Boundary**	**0.70**	**123**	⇓*i*P		**Pn**	**03 52 12.1**		**+0.6**
PB07				*i* S		**Sn**	**03 52 22.0**		**+0.9**
PB07				AML		AML	03 52 23.5		
	comp=N,10μm,0.5s								
PB01	**Plate Boundary**	**1.01**	**73**	⇓*i*P		**Pn**	**03 52 15.4**		**-0.2**
PB01				*i* S		**Sn**	**03 52 27.9**		**-0.7**
PB01				AML		AML	03 52 28.6		
	comp=N,13μm,0.4s								
PB09	**Plate Boundary**	**1.27**	**111**	⇓*i*P		**Pn**	**03 52 21.1**		**+1.8**
PB09				*e*S		**Sn**	**03 52 37.8**		**+2.7**
PB09				AML		AML	03 52 39.8		
	comp=E,10μm,0.1s								
PB04	**Plate Boundary**	**1.32**	**134**	⇑*i*P		**Pn**	**03 52 17.7**		**-2.1**
PB04				*e*S		**Sn**	**03 52 33.0**		**-3.2**
PB04				AML		AML	03 52 37.0		
	comp=E,6μm,0.3s								
PB10	**Plate Boundary**	**2.15**	**181**	*e*P		**Pn**	**03 52 31.9**		**+0.6**
ANCH	**Antofagasta**	**2.32**	**178**	*e*P		**Pn**	**03 52 34.7**		**+1.0**
LPAZ	**La Paz**	**5.52**	**25**	Pn		Pn	03 53 22.5		+4.4
	comp=E,0.4nm,0.3s,baz=197,slow=3.8,SNR=17								
PLCA	**Paso Flores**	**19.32**	**180**	LR		LR	04 02 56.6		
	comp=E,27nm,21.1s,baz=341,slow=35								
TORD	**Torodi Ar. Bea**	**78.72**	**71**	P	

CFAA	**Coronel Fontan**	**49.68**	**217**	P	P	04 27 13.9	+0.4
	0.1nm,0.7s,baz=80,slow=7.1,SNR=5.9						
CFAA				LR	LR	04 50 11.0	
	comp=Z,8.4nm,19.1s,baz=46,slow=38						
SCHQ	**Schefferville**	**53.32**	**338**	P	P	04 27 41.0	+0.6
	1.4nm,0.6s,baz=142,slow=11,SNR=4.2						
NOA	**NORSAR Array B**	**63.79**	**23**	LR	LR	04 52 12.0	
	comp=Z,19nm,18.2s,baz=105,slow=32						
TXAR	**Lajitas Array**	**67.04**	**299**	P	P	04 29 14.6	-0.6
	0.1nm,0.4s,baz=76,slow=7.5,SNR=3.7						
BRTR	**Keskin Array B**	**69.50**	**50**	P	P	04 29 30.7	+0.2
	0.4nm,0.5s,baz=267,slow=6.8,SNR=3.4						
FINES	**FINESS Array B**	**70.27**	**27**	P	P	04 29 34.9	+0.4
	1.0nm,0.7s,baz=280,slow=3.8,SNR=2.7						
FINES				LR	LR	04 56 09.2	
	comp=Z,42nm,18.3s,baz=18,slow=32						
PDAR	**Pinedale Array**	**72.99**	**312**	P	P	04 29 51.4	-0.3
	0.4nm,0.7s,baz=99,slow=4.7,SNR=5.2						

*ISCJB **31** 04:33:47.2±0.6, 45.°16N±0.°03×23.°20E±0.°03, h5km±4km, Error ellipse: s-maj=4.9km s-min=3.3km az=143.2*
*CSEM **31** 04:33:48.2±0.2, 45.°21N×23.°21E, h10km, ML2.0, Error ellipse: s-maj=4.6km s-min=3.3km az=145.0*
*BEO **31** 04:33:48.2±0.6, 45.°22N×23.°23E, h15km±4km, ML2.0/9*
*BUC **31** 04:33:49.2±1.8, 45.°27N×23.°26E, h15km±11km, MD2.9/4, Error ellipse: s-maj=17.3km s-min=7.5km az=357.0*

ISC 31 04:33:48.2±1.0, 45°21'N±0'.03×23°21'E±0'.02, h15km±9km, n39, σ0s63/56, 8C-8D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GZR	**Gura Zlata**	**0.36**	**301**			*e*Sg	**Sb**	**04 34 01.6**	**-0.3**
GZR	**Gura Zlata**	**0.36**	**301**			*e*Sg	**Sb**	**04 34 01.6**	**-0.3**
LOT	**Lotru**	**0.46**	**58**	⇑	*i*P		**Pb**	**04 33 57.8**	**-0.3**
LOT					*i* S		**Sg**	**04 34 03.7**	**-0.1**
LOT	**Lotru**	**0.46**	**58**	⇑	*i*P		**Pb**	**04 33 57.8**	**-0.3**
LOT	**Lotru**	**0.46**	**58**	⇑	*i*P		**Pb**	**04 33 57.8**	**-0.3**
LOT					S		**Sg**	**04 34 03.7**	**-0.1**
DEV	**Deva**	**0.71**	**342**	⇓	*i*P		**Pn**	**04 34 03.2**	**-0.5**
DEV					*i* S		**Sb**	**04 34 11.7**	**-0.2**
DEV	**Deva**	**0.71**	**342**	⇓	*i*P		**Pn**	**04 34 03.2**	**-0.5**
DEV	**Deva**	**0.71**	**342**	⇓	*i*P		**Pn**	**04 34 03.2**	**-0.5**
DEV					S		**Sb**	**04 34 11.7**	**-0.2**
DJES	**Djerdap**	**0.73**	**223**		*e*Pg		**Pg**	**04 34 01.8**	**-0.7**
DJES					*e*Sg		**Sb**	**04 34 13.8**	**+1.4**
BZS	**Buzias**	**1.20**	**291**	⇑	*i*P		**Pg**	**04 34 11.9**	**+0.6**
BZS					*i* S		**Sg**	**04 34 26.9**	**0.0**
BZS	**Buzias**	**1.20**	**291**	⇑	*i*P		**Pg**	**04 34 11.9**	**+0.6**
BZS	**Buzias**	**1.20**	**291**		*e*Pg		**Pg**	**04 34 11.7**	**+0.4**
BZS					*e*Sg		**Sn**	**04 34 26.5**	**+0.2**
BZS	**Buzias**	**1.20**	**291**		*e*Pg		**Pg**	**04 34 11.7**	**+0.4**
BZS					*e*Sg		**Sn**	**04 34 26.5**	**+0.2**
MDB	**Medias**	**1.24**	**41**		*i* S		**Sg**	**04 34 28.8**	**+0.4**
MDB	**Medias**	**1.24**	**41**		*i* S		**Sg**	**04 34 28.8**	**+0.4**
MDB	**Medias**	**1.24**	**41**		S		**Sg**	**04 34 28.8**	**+0.4**
VOIR		**1.32**	**79**	⇓	*i*P		**Pb**	**04 34 12.9**	**+0.2**
VOIR					*i* S		**Sn**	**04 34 29.3**	**-0.1**
VOIR		**1.32**	**79**	⇓	*i*P		**Pb**	**04 34 12.9**	**+0.2**
VOIR		**1.32**	**79**	⇓	*i*P		**Pb**	**04 34 12.9**	**+0.2**
VOIR					S		**Sn**	**04 34 29.3**	**-0.1**
DRGR		**1.62**	**348**	⇓	*i*P		**Pb**	**04 34 17.8**	**-0.1**
DRGR					*i* S		**Sb**	**04 34 38.5**	**+0.3**
DRGR		**1.62**	**348**	⇓	*i*P		**Pb**	**04 34 17.8**	**-0.1**
DRGR		**1.62**	**348**		*e*Pg		**Pb**	**04 34 18.0**	**+0.1**
DRGR					*e*Sg		**Sb**	**04 34 38.5**	**+0.3**
DRGR		**1.62**	**348**		*e*Pg		**Pb**	**04 34 18.0**	**+0.1**
DRGR					*e*Sg		**Sb**	**04 34 38.5**	**+0.3**
SVIS	**Svilajnac**	**1.71**	**237**		*e*Sg		**Sg**	**04 34 43.4**	**+0.2**
DOPR	**Dopca**	**1.71**	**63**	⇑	*i*P		**Pn**	**04 34 17.6**	**+0.2**
DOPR					*i* S		**Sn**	**04 34 38.5**	**-0.5**
DOPR	**Dopca**	**1.71**	**63**	⇑	*i*P		**Pn**	**04 34 17.6**	**+0.2**
DOPR	**Dopca**	**1.71**	**63**	⇑	*i*P		**Pn**	**04 34 17.6**	**+0.2**
DOPR					S		**Sn**	**04 34 38.5**	**-0.5**
MLR	**Muntele Rosu**	**1.95**	**81**		*i* S		**Sb**	**04 34 47.3**	**-0.3**
MLR	**Muntele Rosu**	**1.95**	**81**		S		**Sb**	**04 34 47.3**	**-0.3**
MLR	**Muntele Rosu**	**1.95**	**81**		S		**Sb**	**04 34 47.3**	**-0.3**
ZAPS	**Zavoj**	**1.98**	**192**		*e*Sn		**Sn**	**04 34 47.1**	**+1.5**
GRUS	**Gruza**	**2.22**	**234**		*e*Sn		**Sn**	**04 34 50.6**	**-0.9**
GRUS	**Gruza**	**2.22**	**234**		*e*Sn		**Sn**	**04 34 50.6**	**-0.9**
DIVS	**Divibare**	**2.55**	**245**		*e*Sg		**Sg**	**04 35 10.2**	**0.0**
DIVS	**Divibare**	**2.55**	**245**		*e*Sg		**Sg**	**04 35 10.2**	**0.0**
BARS	**Barje**	**2.59**	**203**		*e*Pn		**Pn**	**04 34 30.8**	**+1.2**
BARS					*e*Sg		**Sg**	**04 35 09.7**	**-1.8**
BARS	**Barje**	**2.59**	**203**		*e*Pn		**Pn**	**04 34 30.8**	**+1.2**
BARS					*e*Sg		**Sg**	**04 35 09.7**	**-1.8**
BBLS	**Lazići**	**3.04**	**245**		*e*Sg		**Sg**	**04 35 25.1**	**-0.6**
BBLS	**Lazići**	**3.04**	**245**		*e*Sg		**Sg**	**04 35 25.1**	**-0.6**

*IDC **31** 04:35:34.6±1.1, 24.°46N×121.°93E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.6/26, mbtmp3.8/7, ML3.4/1, Error ellipse: s-maj=68.2km s-min=19.2km az=67.0*
*ISCJB **31** 04:35:46.9±0.3, 24.°69N±0.°03×122.°68E±0.°02, h120km±3km, mb3.6/6, Error ellipse: s-maj=4.5km s-min=2.6km az=166.3*
*TAP **31** 04:35:48.1, 24.°69N×122.°64E, h115km, ML4.4, C*
*JMA **31** 04:35:48.2±0.2, 24.°76N×122.°68E, h109km±2km, M3.9*

ISC 31 04:35:47.3±0.8, 24°67'N±0'.04×122°67'E±0'.02, h119km±5km, n69, σ0s96/116, mb3.6/6, 12C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.37**	**124**			P	**Pn**	**04 36 04.5**	**+0.1**
YOJ						*e*S	**Sn**	**04 36 17.1**	**-0.2**
TWB1	**Santiao Chiao**	**0.71**	**299**	⇑	*i*P		**Pn**	**04 36 07.0**	**+0.4**
	baz=299								
TWB1						*e*S	**Sn**	**04 36 20.7**	**-0.4**
	baz=299								
TWC	**Suao**	**0.75**	**266**	⇑	*i*P		**Pn**	**04 36 07.0**	**0.0**
	baz=260								
TWC						S	**Sn**	**04 36 20.6**	**-1.2**
	baz=260								
ILA	**Ilan**	**0.85**	**277**		P		**Pn**	**04 36 08.3**	**+0.5**
	baz=274								
ILA						*e*S	**Sn**	**04 36 22.9**	**-0.3**
	baz=274								
ENA	**Nanau**	**0.88**	**254**		P		**Pn**	**04 36 08.5**	**+0.4**
	baz=252								
ENA						*e*S	**Sn**	**04 36 23.7**	**-0.1**
	baz=252								
NWF	**Wu-fen Shan**	**0.90**	**296**	⇑	P		**Pn**	**04 36 09.0**	**+0.6**
	baz=292								
NWF						S	**Sn**	**04 36 24.1**	**-0.2**
	baz=292								
TWE	**Neicheng**	**0.92**	**273**	⇑	*i*P		**Pn**	**04 36 08.9**	**+0.6**
	baz=271								
TWE						S	**Sn**	**04 36 23.7**	**-0.7**
	baz=271								
ENTT	**Nioudou**	**1.01**	**269**	⇑	*i*P		**Pn**	**04 36 10.1**	**+0.8**
	baz=271								
ENTT						*e*S	**Sn**	**04 36 26.2**	**-0.2**
	baz=271								
IRIF	**Iriomote-Funau**	**1.02**	**109**		P		**Pn**	**04 36 09.8**	**+0.4**
IRIF						*e*S	**Sn**	**04 36 26.2**	**+0.1**
TWA	**Mucha**	**1.04**	**288**		*e*P		**Pn**	**04 36 09.9**	**+0.3**
	baz=279								
TWA						*e*S	**Sn**	**04 36 25.7**	**-0.8**
	baz=279								
PCYT	**Pengchaiyu**	**1.10**	**330**	⇑	*i*P		**Pn**	**04 36 11.3**	**+1.1**
	baz=325								
PCYT						*e*S	**Sn**	**04 36 27.9**	**+0.2**
	baz=325								
TAP1	**Taipei**	**1.11**	**290**		*e*P		**Pn**	**04 36 10.5**	**+0.3**
	baz=281								
TAP1						*e*S	**Sn**	**04 36 26.8**	**-0.9**
	baz=281								
TWD	**Chiawan**	**1.14**	**239**		P		**Pn**	**04 36 10.7**	**+0.1**
	baz=234								
TWD						S	**Sn**	**04 36 27.7**	**-0.7**
	baz=234								
TWY	**Chenhua**	**1.15**	**302**		*i* P		**Pn**	**04 36 11.3**	**+0.7**
	baz=295								
TWY						S	**Sn**	**04 36 28.1**	**-0.4**
	baz=295								
HWA	**Hwalien**	**1.19**	**235**		*e*P		**Pn**	**04 36 11.4**	**+0.2**
	baz=228								
HWA						*e*S	**Sn**	**04 36 28.7**	**-0.7**
	baz=228								
NSK	**Sanguang**	**1.20**	**271**	⇑	P		**Pn**	**04 36 12.1**	**+0.8**
	baz=265								
NSK						S	**Sn**	**04 36 29.2**	**-0.3**
	baz=265								
HATJ	**Hateruma jima**	**1.20**	**120**		P		**Pn**	**04 36 12.2**	**+0.9**
HATJ						*e*S	**Sn**	**04 36 30.1**	**+0.7**
NNS	**Nan Shan**	**1.21**	**259**		P		**Pn**	**04 36 12.2**	**+0.7**
	baz=253								
NNS						*e*S	**Sn**	**04 36 29.7**	**-0.1**
	baz=253								
TWS1	**Kuangyinshan**	**1.22**	**291**		*e*P		**Pn**	**04 36 11.7**	**+0.3**
	baz=284								
TWS1						*e*S	**Sn**	**04 36 29.3**	**-0.6**
	baz=284								
JKRS	**Kuro-shima**	**1.29**	**109**		P		**Pn**	**04 36 13.2**	**+0.9**
JKRS						*e*S	**Sn**	**04 36 31.8**	**+0.6**
JIJ	**Ishigaki jima**	**1.37**	**102**		P		**Pn**	**04 36 13.6**	**+0.4**
JIJ						*e*S	**Sn**	**04 36 32.2**	**-0.6**
NCU	**National Centr**	**1.38**	**283**		*e*P		**Pn**	**04 36 14.1**	**+0.8**
	baz=289								
NCU						*e*S	**Sn**	**04 36 33.6**	**+0.5**
	baz=289								
WHF	**Hehuan Shan**	**1.39**	**248**	⇑	*i*P		**Pn**	**04 36 14.4**	**+0.6**
	baz=247								
WHF						S	**Sn**	**04 36 33.3**	**-0.6**
	baz=247								
TEGC	**Jichi Village**	**1.41**	**228**		*e*P		**Pn**	**04 36 14.3**	**+0.7**
	baz=231								
ESL	**Shilin**	**1.42**	**233**		P		**Pn**	**04 36 13.7**	**0.0**
	baz=228								
ESL						*e*S	**Sn**	**04 36 32.5**	**-1.2**
	baz=228								
TWT	**Tachien**	**1.43**	**253**	⇑	P		**Pn**	**04 36 15.3**	**+1.3**
	baz=247								
TWT						S	**Sn**	**04 36 34.5**	**+0.3**
	baz=247								
NSTT	**Nanjuang**	**1.52**	**269**	⇑	*i*P		**Pn**	**04 36 15.5**	**+0.7**
	baz=268								
NSTT						S	**Sn**	**04 36 35.7**	**-0.2**
	baz=268								
HSN	**Hsinchu**	**1.56**	**275**		*e*P		**Pn**	**04 36 15.7**	**+0.4**
	baz=276								
HSN						*e*S	**Sn**	**04 36 36.0**	**-0.6**
	baz=276								
EHY	**Hungye**	**1.69**	**227**		*e*P		**Pn**	**04 36 16.8**	**-0.1**
	baz=226								
EHY						*e*S	**Sn**	**04 36 37.8**	**-1.8**
	baz=226								
NSY	**Sanyi**	**1.76**	**262**	⇑	P		**Pn**	**04 36 19.0**	**+1.3**
	baz=262								
NSY						*e*S	**Sn**	**04 36 41.5**	**+0.5**
	baz=262								
TWQ1	**Liyutan**	**1.76**	**260**	⇑	*i*P		**Pn**	**04 36 18.8**	**+1.1**
	baz=259								
TWQ1						*e*S	**Sn**	**04 36 41.4**	**+0.4**
	baz=259								
SMLT	**Sun Moon Lake**	**1.80**	**245**		P		**Pn**	**04 36 20.2**	**+1.9**
	baz=239								
SMLT						*e*S	**Sn**	**04 36 42.1**	**+0.1**
	baz=239								
TWF1	**Yuli**	**1.82**	**224**		*e*P		**Pn**	**04 36 18.7**	**+0.2**
	baz=229								
TWF1						*e*S	**Sn**	**04 36 40.9**	**-1.3**
	baz=229								
TYC	**Yuchr**	**1.82**	**246**		P		**Pn**	**04 36 20.1**	**+1.6**
	baz=241								
TYC						*e*S	**Sn**	**04 36 43.0**	**+0.7**
	baz=241								
JTJ	**Tarama**	**1.85**	**90**		P		**Pn**	**04 36 19.7**	**+0.9**
JTJ						*e*S	**Sn**	**04 36 42.5**	**-0.3**
TCU	**Taichung**	**1.89**	**254**		*e*P		**Pn**	**04 36 20.2**	**+0.8**
	baz=254								
TCU						*e*S	**Sn**	**04 36 44.2**	**+0.4**
	baz=254								
YUS	**Yu-Shan**	**1.96**	**234**		*e*P		**Pn**	**04 36 21.9**	**+1.2**
	baz=229								
YUS						*e*S	**Sn**	**04 36 45.6**	**-0.6**
	baz=229								
CHKT	**Chengkung**	**1.97**	**218**		*e*P		**Pn**	**04 36 20.3**	**0.0**
	baz=211								
CHKT						*e*S	**Sn**	**04 36 43.9**	**-1.6**
	baz=211								
WNT	**Mingjian**	**1.98**	**247**		*e*P		**Pn**	**04 36 21.8**	**+1.3**
	baz=246								
WNT						*e*S	**Sn**	**04 36 47.7**	**+1.9**
	baz=246								
ALS	**Alishan**	**2.06**	**236**		P		**Pn**	**04 36 23.4**	**+1.7**
	baz=231								
ALS						*e*S	**Sn**	**04 36 47.8**	**-0.3**
	baz=231								
CHN5	**Tsauling**	**2.11**	**240**		*e*P		**Pn**	**04 36 23.6**	**+1.4**
	baz=239								
ELDTW	**Lidau**	**2.11**	**226**		*e*P		**Pn**	**04 36 22.6**	**+0.4**
	baz=225								
ELDTW						*e*S	**Sn**	**04 36 48.4**	**-0.6**
	baz=225								
CHN2	**Minshiung**	**2.31**	**241**		*e*P		**Pn**	**04 36 27.1**	**+2.6**
	baz=251								
STYT	**Tauyuan**	**2.31**	**230**		*e*P		**Pn**	**04 36 25.6**	**+0.9**
	baz=229								
STYT						*e*S	**Sn**	**04 36 53.9**	**+0.6**
	baz=229								
CHN4	**Tsaushan**	**2.31**	**236**		*e*P		**Pn**	**04 36 26.2**	**+1.6**
	baz=235								
CHN4						*e*S	**Sn**	**04 36 55.2**	**+2.0**
	baz=235								
TWG	**Pinlang**	**2.35**	**219**		*e*P		**Pn**	**04 36 25.0**	**-0.2**
	baz=218								
TWG						*e*S	**Sn**	**04 36 53.2**	**-1.0**
	baz=218								
WTP	**Ta-pu**	**2.36**	**233**		*e*P		**Pn**	**04 36 26.6**	**+1.3**
	baz=233								
WTP						*e*S	**Sn**	**04 36 55.2**	**+0.8**
	baz=233								
CHY	**Chiayi**	**2.36**	**241**		*e*P		**Pn**	**04 36 25.8**	**+0.5**
	baz=250								
TTN	**Taitung**	**2.36**	**217**		*e*P		**Pn**	**04 36 26.0**	**+0.7**
	baz=211								
JMJ	**Miyako jima 2**	**2.39**	**86**		*e*S		**Sn**	**04 36 55.3**	**+0.3**
TWK	**Hsinying**	**2.44**	**236**		*e*P		**Pn**	**04 36 27.9**	**+1.6**
	baz=235								
CHN1	**Nanshi**	**2.46**	**233**		*e*P		**Pn**	**04 36 28.3**	**+1.8**
	baz=233								
CHN1						*e*S	**Sn**	**04 36 57.7**	**+1.1**
	baz=233								
WSF	**Szhu**	**2.46**	**246**		*e*P		**Pn**	**04 36 27.3**	**+0.7**
	baz=245								
WSF						*e*S	**Sn**	**04 36 57.2**	**+0.5**
	baz=245								
JOGS	**Gusukube**	**2.49**	**87**		P		**Pn**	**04 36 28.5**	**+1.7**
JOGS						*e*S	**Sn**	**04 36 58.5**	**+1.2**
ECL	**Taimali**	**2.60**	**218**		*e*P		**Pn**	**04 36 27.7**	**-0.6**
	baz=217								
JKE	**Kume jima 2**	**4.07**	**65**		P		**Pn**	**04 36 48.1**	**+0.4**
JKE						*e*S	**Sn**	**04 37 35.5**	**+1.0**
JAGN	**Aguni-jima**	**4.55**	**64**		*e*S		**Sn**	**04 37 45.6**	**-0.4**
JOW	**Kunigami**	**5.49**	**66**		P		**Pn**	**04 37 06.9**	**+0.1**
JTK	**Tokunoshima**	**6.43**	**60**		P		**Pn**	**04 37 17.8**	**-1.8**
JTK							eS	Sn	04 38 24.5	-7.1
JAMN	**Amaminishikomi**	**6.83**	**57**		P		**Pn**	**04 37 22.5**	**-2.4**
JAM	**Amami Oshima**	**7.24**	**58**		P		**Pn**	**04 37 28.5**	**-1.9**
JMZ	**Minamidaito 2**	**7.82**	**80**		*e*S		Sn	04 38 56.7	-8.6
KSRS	**Korea Array**	**13.51**	**18**		Pn		**Pn**	**04 38 55.0**	**+1.0**
	0.2nm,0.3s,baz=202,slow=14,SNR=4.6								
SONM	**Songino Array**	**26.48**	**335**		P		**P**	**04 41 12.9**	**-0.5**
	1.2nm,0.7s,baz=150,slow=9.6,SNR=6.9								
MKAR	**Makanchi Array**	**38.95**	**315**		P		**P**	**04 43 00.7**	**-0.8**
	0.5nm,0.6s,baz=96,slow=7.0,SNR=8.2								
KURBB	**Kurchatov Arra**	**42.62**	**319**		P		**P**	**04 43 30.3**	**-1.4**
	0.5nm,0.5s,baz=111,slow=9.6,SNR=2.7								
WRA	**Warramunga Arr**	**45.77**	**165**		P		**P**	**04 43 57.5**	**+0.5**
	1.8nm,0.7s,baz=348,slow=8.4,SNR=7.9								
ASAR	**Alice Springs**	**49.27**	**166**		P		**P**	**04 44 25.5**	**+1.5**
	0.8nm,0.8s,baz=348,slow=7.6,SNR=5.9								
FINES	**FINESS Array B**	**71.71**	**330**		P		**P**	**04 46 55.6**	**-0.5**
	0.9nm,0.8s,baz=95,slow=4.6,SNR=5.6								

KRSC 31 04:44:31.5±0.8, 55.°89N×161.°43E, h106km±45km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.37**	**290**			*e*P	Pn	04 44 48.2	+0.9
ZLN						*i* S	Sn	04 45 00.3	+1.2
BZGR	**Bezymyannyi-Gr**	**0.42**	**277**			*i* P	Pn	04 44 48.3	+0.8
BZGR						*i* S	Sn	04 45 00.9	+1.4
CIRR	**Tsirk**	**0.45**	**301**			*e*P	Pn	04 44 48.8	+1.1
CIRR						*i* S	Sn	04 45 01.1	+1.2
LGNR	**Loginova**	**0.46**	**295**			*e*P	Pn	04 44 48.6	+0.6
LGNR						*i* S	Sn	04 45 00.7	+0.3
BZMR	**Bezymyannaya**	**0.53**	**275**			*e*P	Pn	04 44 48.7	+0.4
BZMR						*i* S	Sn	04 45 01.7	+0.8
BZWR	**Bezymyannyi-We**	**0.53**	**278**			*e*P	Pn	04 44 49.0	+0.7
BZWR						*i* S	Sn	04 45 02.2	+1.2
KRSR	**Krestovskiy**	**0.58**	**304**			*e*P	Pn	04 44 48.6	-0.1
KRSR						*i* S	Sn	04 45 01.5	0.0
KLY	**Klyuchi**	**0.61**	**315**			*i* P	Pn	04 44 48.3	-0.4
KLY						*i* S	Sn	04 45 00.8	-0.8
KIRR	**Kirishev**	**0.62**	**276**			*i* P	Pn	04 44 49.2	+0.2
KIRR						*i* S	Sn	04 45 02.2	+0.1
KPT	**Kopyto**	**0.68**	**277**			*e*P	Pn	04 44 49.9	+0.5
KPT						*i* S	Sn	04 45 03.2	+0.3
KMNR	**Kamenistaya**	**0.69**	**259**			*e*P	Pn	04 44 49.9	+0.4
KMNR						*i* S	Sn	04 45 03.0	0.0
BDR	**Baidarnaya**	**0.69**	**350**			*i* P	Pn	04 44 50.0	+0.5
BDR						*i* S	Sn	04 45 03.5	+0.5
SMKR	**Semkarok**	**0.69**	**2**			*i* P	Pn	04 44 50.1	+0.6
SMKR						*i* S	Sn	04 45 03.8	+0.7
SRKR	**Sorokina**	**0.78**	**349**			*i* P	Pn	04 44 50.7	+0.4
SRKR						*i* S	Sn	04 45 04.0	-0.4
KBG	**Krutoberegovo**	**0.80**	**62**			*i* P	Pn	04 44 51.0	+0.7
KBG						*i* S	Sn	04 45 05.3	+0.8
KOZ	**Kozyrevsk**	**0.89**	**282**			*i* P	Pn	04 44 51.5	+0.2
KOZ						*i* S	Sn	04 45 05.8	-0.4
SRDR	**Sredinnyy**	**1.05**	**295**			*i* P	Pn	04 44 52.9	-0.1
SRDR						*i* S	Sn	04 45 08.1	-1.1
MKZ	**Mys Kozlova**	**1.35**	**173**			*e*P	Pn	04 44 57.3	+1.1
MKZ						*i* S	Sn	04 45 16.2	+1.3
ESO	**Esso**	**1.54**	**272**			*e*P	Pn	04 44 58.9	+0.4
KII	**Karymskiy**	**2.18**	**212**			P	Pn	04 45 07.8	+1.1
BKI	**Bering**	**2.67**	**103**			*i* P	Pn	04 45 14.1	+1.2
BKI						*i* S	Sn	04 45 45.8	+1.0
NLC	**Nalytchevo**	**2.98**	**205**			P	Pn	04 45 18.3	+1.2
NLC						*i* S	Sn	04 45 52.9	+0.7
GNL	**Ganaly**	**2.99**	**224**			*e*P	Pn	04 45 18.4	+1.1
SDLR	**Sedlovina**	**3.01**	**211**			P	Pn	04 45 20.1	+2.5
KRER	**Koryakskii**	**3.02**	**212**			P	Pn	04 45 21.5	+3.6
SMAR	**Somma**	**3.04**	**211**			P	Pn	04 45 20.1	+1.9
AVH	**Avacha**	**3.06**	**212**			P	Pn	04 45 21.8	+3.5
KOK	**Koryaka**	**3.07**	**213**			P	Pn	04 45 21.6	+3.2
UGLR	**Uglovaya**	**3.09**	**211**			P	Pn	04 45 21.3	+2.7
RUS	**Russkaya**	**3.87**	**208**			P	Pn	04 45 30.0	+1.1
RUS						*i* S	Sn	04 46 12.8	-0.5
MTVR	**Mutnovka**	**3.91**	**211**			P	Pn	04 45 31.4	+1.7
MTVR						*i* S	Sn	04 46 15.8	+1.0
ASAK	**Asacha**	**4.08**	**212**			P	Pn	04 45 34.3	+2.4

KRSC 31 05:21:21.9±0.6, 55.°43N×166.°09E, h22km±22km, ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.24**	**197**			*i* P	Pb	05 21 28.9	+1.1
BKI						*i* S	Sb	05 21 34.1	+2.2
MKZ	**Mys Kozlova**	**2.66**	**253**			*e*P	Pn	05 22 05.3	+1.9
MKZ						*i* S	Sn	05 22 36.0	+1.1
SMKR	**Semkarok**	**2.84**	**296**			P	Pn	05 22 07.7	+1.1
SMKR						*i* S	Sn	05 22 41.0	+1.4
BDR	**Baidarnaya**	**2.97**	**295**			*e*P	Pn	05 22 09.7	+1.9
BDR						*i* S	Sn	05 22 44.9	+2.1
SRKR	**Sorokina**	**3.02**	**296**			*e*P	Pn	05 22 09.7	+1.2
SRKR						*i* S	Sn	05 22 45.2	+1.2
KMNR	**Kamenistaya**	**3.34**	**278**			P	Pn	05 22 15.4	+2.5
KPT	**Kopyto**	**3.36**	**282**			P	Pn	05 22 15.2	+2.0
SRDR	**Sredinnyy**	**3.70**	**287**			P	Pn	05 22 20.5	+2.7
SRDR						*i* S	Sn	05 23 03.5	+2.8
NLC	**Nalytchevo**	**4.55**	**243**			P	Pn	05 22 32.4	+3.0
NLC						*i* S	Sn	05 23 23.2	+1.7
SDLR	**Sedlovina**	**4.73**	**246**			*e*P	Pn	05 22 35.4	+3.3
SMAR	**Somma**	**4.79**	**246**			P	Pn	05 22 36.3	+3.4
KRER	**Koryakskii**	**4.79**	**247**			*e*P	Pn	05 22 36.7	+3.7
UGLR	**Uglovaya**	**4.80**	**245**			*e*P	Pn	05 22 36.5	+3.5
AVH	**Avacha**	**4.82**	**246**			P	Pn	05 22 36.7	+3.6
KOK	**

	comp=Z,219nm,19.7s,baz=31,slow=35							
WRA	**Warramunga Arr**	**31.66**	**260**	LR	LR	05 51 28.0		
	comp=Z,112nm,20.6s,baz=100,slow=35							
ASAR	**Alice Springs**	**32.19**	**253**	P	**P**	**05 39 34.9**	**0.0**	
ASAR	**Alice Springs**	**32.19**	**253**	P	**P**	**05 39 34.9**	**0.0**	
	3.3nm,0.8s,baz=75,slow=9.3,SNR=18							
ASAR				LR	LR	05 52 08.8		
	comp=Z,302nm,19.5s,baz=161,slow=36							
FITZ	**Fitzroy Crossi**	**39.99**	**262**	*e*P	**P**	**05 40 42.2**	**+0.5**	
	8.4nm,0.8s							
FITZ	**Fitzroy Crossi**	**39.99**	**262**	P	**P**	**05 40 42.0**	**+0.4**	
	4.7nm,0.9s,baz=97,slow=8.1,SNR=3.9							
PPT2	**Papeete2**	**40.70**	**97**	*e*LR	LR	05 52 30.1		
	146nm,23.0s							
PPT	**Papeete**	**40.70**	**97**	LR	LR	05 53 43.1		
	comp=Z,152nm,19.5s,baz=159,slow=30							
SBA	**Scott Base**	**60.46**	**180**	*e*P	**P**	**05 43 16.7**	**+0.8**	
	6.3nm,1.0s							
JNU	**Nakatsue**	**61.34**	**325**	LR	LR	06 06 04.3		
	comp=Z,44nm,20.8s,baz=61,slow=32							
QSPA	**South Pole Qui**	**72.62**	**180**	*e*P	**P**	**05 44 33.2**	**-0.7**	
	12nm,1.0s							
ULN	**Ulaanbaatar**	**84.53**	**324**	*e*P	**P**	**05 45 39.0**	**-0.8**	
	12nm,1.0s							
SONM	**Songino Array**	**84.89**	**324**	P	**P**	**05 45 40.8**	**-0.8**	
SONM	**Songino Array**	**84.89**	**324**	P	**P**	**05 45 40.8**	**-0.8**	
	6.3nm,1.1s,baz=139,slow=5.3,SNR=22							
BBB	**Bella Bella**	**88.78**	**34**	LR	LR	06 18 16.9		
	comp=Z,47nm,19.4s,baz=222,slow=31							
ILAR	**Eielson Array**	**88.95**	**18**	P	**P**	**05 45 59.8**	**-1.0**	
ILAR	**Eielson Array**	**88.95**	**18**	P	**P**	**05 45 59.8**	**-1.0**	
	0.3nm,0.9s,baz=220,slow=5.5,SNR=3.3							
ILAR				LR	LR	06 22 28.2		
	comp=Z,66nm,19.8s,baz=130,slow=33							
SNAA	**Sanae**	**90.90**	**183**	*e*P	**P**	**05 46 08.5**	**-1.5**	
	8.0nm,1.2s							
DLBC	**Dease Lake**	**91.12**	**28**	LR	LR	06 20 20.1		
	comp=Z,54nm,19.5s,baz=326,slow=31							
INK	**Inuvik**	**95.30**	**19**	LR	LR	06 21 52.4		
	comp=Z,46nm,21.4s,baz=2.9,slow=31							
PDAR	**Pinedale Array**	**96.47**	**47**	LR	LR	06 23 00.4		
	comp=Z,39nm,18.8s,baz=267,slow=31							
TXAR	**Lajitas Array**	**97.20**	**62**	LR	LR	06 25 48.5		
	comp=Z,40nm,18.4s,baz=190,slow=33							
MKAR	**Makanchi Array**	**99.41**	**316**	P	**Pdif**	**05 46 50.2**	**+1.0**	
MKAR	**Makanchi Array**	**99.41**	**316**	P	**Pdif**	**05 46 50.2**	**+1.0**	
	0.5nm,1.0s,baz=104,slow=6.1,SNR=3.3							
ZALV	**Zalesovo Beam**	**99.78**	**323**	LR	LR	06 32 38.8		
	comp=Z,31nm,18.4s,baz=70,slow=36							
ARCES	**ARCESS Array B**	**122.94**	**345**	PKP	**PKPdf**	**05 52 04.1**	**+1.9**	
ARCES	**ARCESS Array B**	**122.94**	**345**	PKP	**PKPdf**	**05 52 04.1**	**+1.9**	
	0.9nm,0.7s,baz=82,slow=3.1,SNR=4.0							
BFO	**Black Forest**	**144.87**	**336**	*e*PKPdf	**PKPab**	**05 52 41.6**	**-1.1**	
ECH	**Echery**	**145.41**	**337**	*e*PKPdf	**PKPbc**	**05 52 43.3**	**-1.2**	
TUE	**Stuetta**	**145.92**	**333**	*e*PKPdf	**PKPdf**	**05 52 45.8**	**0.0**	

KRSC 31 05:37:54.7±0.9, 49°33N×157°04E, h10km±10km, ML4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.48**	**337**	*e*P	Pn	05 38 20.4	-1.0
SKR				*e*S	Sn	05 38 38.8	-1.9
PAU	**Pauzhetka**	**2.15**	**356**	*e*P	Pn	05 38 31.4	+0.9
PAU				*e*S	Sn	05 38 58.6	+1.4
MIPR	**Malaya Ipel'ka**	**2.96**	**357**	P	Pn	05 39 43.2	+1.5
MIPR				S	Sn	05 39 18.4	+1.2
ASAK	**Asacha**	**3.10**	**10**	P	Pn	05 38 45.7	+1.9
ASAK				S	Sn	05 39 22.1	+1.0
MTVR	**Mutnovka**	**3.24**	**12**	*e*P	Pn	05 38 48.0	+2.2
MTVR				*e*S	Sn	05 39 26.1	+1.6
RUS	**Russkaya**	**3.24**	**16**	*e*P	Pn	05 38 47.4	+1.8
RUS				*e*S	Sn	05 39 25.4	+1.2
GRL	**Gorelyy**	**3.29**	**11**	P	Pn	05 38 48.8	+2.3
UGLR	**Uglovaya**	**4.04**	**15**	P	Pn	05 38 59.8	+3.1
AVH	**Avacha**	**4.08**	**14**	P	Pn	05 39 00.9	+3.7
AVH				S	Sn	05 39 48.1	+3.0
SMAR	**Somma**	**4.09**	**15**	P	Pn	05 39 00.1	+2.6
KOK	**Koryaka**	**4.09**	**14**	*e*P	Pn	05 39 01.0	+3.6
NLC	**Nalytchevo**	**4.11**	**20**	S	Sn	05 39 46.1	+0.5
SDLR	**Sedlovina**	**4.12**	**16**	P	Pn	05 39 00.1	+2.3
KRER	**Koryakskii**	**4.12**	**14**	P	Pn	05 39 01.2	+3.2
GNL	**Ganaly**	**4.41**	**7**	P	Pn	05 39 04.8	+3.0
MKZ	**Mys Kozlova**	**5.98**	**27**	P	Pn	05 39 25.1	+1.9
MKZ				S	Sn	05 40 31.6	-0.1

*IDC **31** 05:48:11.7±1.7, 24°07S×66°90W, h158km±17km, mb3.1/3, mb1 3.1/6, mb1mx3.0/20, mbtmp3.0/6, Error ellipse: s-maj=27.5km s-min=13.1km az=97.0*
*NEIC **31** 05:48:15.2, 23°88S×67°43W, h215km, MG4.4(GUC), After GUC.*
*GUC **31** 05:48:15.2±0.7, 23°88S×67°43W, h215km±13km, ML4.4*

ISC 31 05:48:15.5±1.3, 23°88S±0°09×67°3W±0°2, h213km±17km, n20,σ0°69/29, mb3.2/3,12C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.97**	**310**	⇑*i*P	**Pn**	**05 48 55.1**	**+0.1**
LVC				*i*S	**S**	**05 49 25.7**	**+0.3**
LVC	**Limon Verde**	**1.97**	**310**	⇑*i*P	**Pn**	**05 48 55.1**	**+0.1**
LVC				*i*S	**S**	**05 49 25.7**	**+0.3**
PB04	**Plate Boundary**	**2.60**	**308**	⇑*i*P	Pn	05 49 06.9	+5.5
PB04				*i*S	S	05 49 46.5	+10
PB04				AML	AML	05 49 49.0	
	comp=N,386nm,0.3s						
PB09	**Plate Boundary**	**2.76**	**318**	⇑*i*P	**Pn**	**05 49 04.2**	**+0.9**
PB09				*i*S	**S**	**05 49 41.2**	**+0.9**
PB09	**Plate Boundary**	**2.76**	**318**	⇑*i*P	**Pn**	**05 49 04.2**	**+0.9**
PB09				*i*S	**S**	**05 49 41.2**	**+0.9**
PB09				AML	AML	05 49 42.5	
	comp=N,506nm,0.5s						
ANCH	**Antofagasta**	**2.88**	**273**	⇑*i*P	**Pn**	**05 49 04.6**	**+0.1**
ANCH				*i*S	**S**	**05 49 41.5**	**-0.8**
ANCH	**Antofagasta**	**2.88**	**273**	⇑*i*P	**Pn**	**05 49 04.6**	**+0.1**
ANCH				*i*S	**S**	**05 49 41.5**	**-0.8**
ANCH				AML	AML	05 49 44.0	
	comp=E,1μm,0.2s						
PB10	**Plate Boundary**	**3.03**	**276**	⇑*i*P	**Pn**	**05 49 06.2**	**0.0**
PB10				*i*S	**S**	**05 49 45.0**	**-0.5**
PB10				AML	AML	05 49 48.9	
	comp=E,1μm,0.3s						
PB07	**Plate Boundary**	**3.23**	**311**	⇑*i*P	**Pn**	**05 49 08.9**	**+0.1**
PB07				S	**S**	**05 49 49.4**	**-0.6**
PB07	**Plate Boundary**	**3.23**	**311**	⇑*i*P	**Pn**	**05 49 08.9**	**+0.1**
PB07				*i*S	**S**	**05 49 49.4**	**-0.6**
PB07				AML	AML	05 49 50.6	
	comp=E,309nm,0.3s						
PB01	**Plate Boundary**	**3.49**	**324**	⇑*i*P	**Pn**	**05 49 11.7**	**0.0**
PB01				*i*S	**S**	**05 49 55.0**	**-0.6**
PB01	**Plate Boundary**	**3.49**	**324**	⇑*i*P	**Pn**	**05 49 11.7**	**0.0**
PB01				*i*S	**S**	**05 49 55.0**	**-0.6**
LPAZ	**La Paz**	**7.60**	**354**	P	**Pn**	**05 50 04.5**	**+0.2**
	comp=E,0.2nm,0.3s,baz=157,slow=7.9,SNR=4.1						
LPAZ				S	**S**	**05 51 30.7**	**-0.1**
	comp=E,0.1nm,0.3s,baz=250,slow=17,SNR=2.4						
CFAA	**Coronel Fontan**	**7.74**	**186**	P	Pn	05 50 01.1	-4.3
	baz=16,slow=12						
CFAA				S	S	05 51 21.9	-11
	comp=E,0.2nm,0.3s,baz=126,slow=20,SNR=8.0						
CPUP	**Villa Florida**	**9.33**	**107**	P	Pn	05 50 18.0	-7.9
	comp=E,0.2nm,0.3s,baz=266,slow=14,SNR=1.9						
BDFB	**Brasilia**	**19.87**	**69**	P	**P**	**05 52 29.3**	**-1.7**
	comp=E,0.3nm,0.3s,baz=242,slow=12,SNR=3.5						
SNAA	**Sanae**	**59.54**	**161**	P	**P**	**05 57 56.1**	**-0.1**
	comp=E,0.3nm,0.9s,baz=311,slow=14,SNR=2.0						
QSPA	**South Pole Qui**	**66.32**	**180**	P	**P**	**05 58 42.6**	**+1.5**
	comp=E,0.6nm,0.4s,baz=126,slow=6.0,SNR=1.9						
TORD	**Torodi Ar. Bea**	**76.76**	**69**	P	**P**	**05 59 43.6**	**-0.3**
	comp=E,0.4nm,0.7s,baz=246,slow=6.1,SNR=1.5						
MKAR	**Makanchi Array**	**146.59**	**39**	PKPbc	**PKPab**	**06 07 33.4**	**-0.1**
	comp=E,0.8nm,0.7s,baz=310,slow=3.7,SNR=7.0						

BJI 31 05:50:33.2, 31°25N×103°45E, h7km, ML3.5/15, Ms3.4/1, Ms7 3.1/1, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.43**	**142**	Pg	Pg	05 50 39.3	-2.3
CD2				Sg	Sg	05 50 46.3	-1.0
CD2				smax	smax		
	comp=E,4μm,0.5s						
LZH	**Lanzhou**	**4.83**	**4**	*e*Pg	Pg	05 52 05.3	-0.8
LZH				Sg	Sg	05 53 06.8	-2.1
LZH				smax	smax		
	comp=N,68nm,0.8s						
LZH				smax	smax		
	comp=E,53nm,0.9s						
LZH				LR	LR		
	comp=N,340nm,6.1s						
LZH				LR	LR		
	comp=E,390nm,6.0s						
LZH				LR	LR		
	comp=Z,450nm,6.5s						
XAN	**Xi'an**	**5.39**	**57**	Pn	Pn	05 51 51.5	-2.6
XAN				Pg	Pb	05 52 06.8	-1.0
XAN				Sg	Sb	05 53 16.0	+3.3
XAN				smax	smax		
	comp=N,62nm,0.9s						
XAN				smax	smax		
	comp=E,29nm,0.8s						
GYA	**Guiyang**	**5.54**	**149**	Pg	Pb	05 52 12.8	+2.3
GYA				Sn	Sn	05 52 57.0	-3.5
GYA				Sg	Sg	05 53 25.5	-6.1
GYA				smax	smax		
	comp=N,50nm,0.7s						
GYA				smax	smax		
	comp=E,80nm,0.9s						
GTA	**Gaotai**	**8.67**	**341**	*e*P	Pg	05 53 14.8	-4.5
GTA				pP	Pn	05 53 18.8	+40
GTA				sP	Sn	05 53 21.8	-56
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
NJ2	**Nanjing**	**13.15**	**82**	*e*P	Pn	05 53 38.5	-1.9

WEL 31 05:52:30.4±0.2, 45°52S×166°69E, h24km, ML3.8/17, 2D, Error ellipse: s-maj=1.9km s-min=0.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.33**	**83**	P*	Pb	05 52 37.3	-0.4
DCZ				S*	Sb	05 52 41.6	-1.1
DCZ				AML	AML	05 52 42.4	
DCZ				AML	AML	05 52 42.5	
DCZ				AML	AML	05 52 42.5	
WHZ	**Wether Hill Ro**	**0.96**	**113**	PN	Pb	05 52 48.2	-0.1
WHZ				SN	Sb	05 53 00.4	-0.2
WHZ				AML	AML	05 53 09.0	
MLZ	**Mavora Lakes**	**1.06**	**81**	⇓PN	Pn	05 52 48.9	-0.8
MLZ				SN	Sb	05 53 02.1	-1.4
MLZ				AML	AML	05 53 03.7	
MSZ	**Milford Sound**	**1.22**	**46**	PN	Pn	05 52 50.9	-0.9
MSZ				AML	AML	05 53 16.5	
MSZ				AML	AML	05 53 16.6	
MSZ				AML	AML	05 53 16.6	
MSZ				AML	AML	05 53 22.5	
APZ	**The Paps**	**1.59**	**146**	PN	Pb	05 52 60.0	+0.8
WKZ	**Wanaka**	**1.79**	**68**	AML	AML	05 53 28.5	
WKZ				AML	AML	05 53 28.5	
WKZ				AML	AML	05 53 32.4	
WKZ				AML	AML	05 53 32.4	
EAZ	**Earnscleugh**	**1.87**	**82**	⇓PN	Pb	05 53 02.5	-1.3
EAZ				AML	AML	05 53 31.7	
EAZ				AML	AML	05 53 32.5	
SYZ	**Scrubby Hill**	**1.99**	**122**	PN	Pb	05 53 05.1	-0.7
JCZ	**Jackson Bay**	**2.06**	**46**	PN	Pb	05 53 06.5	-0.7
JCZ				AML	AML	05 53 43.2	
JCZ				AML	AML	05 53 49.0	
TUZ	**Tuapeka**	**2.10**	**103**	PN	Pb	05 53 06.2	-1.6
TUZ				AML	AML	05 53 37.2	
TUZ				AML	AML	05 53 38.6	
LBZ	**Lake Benmore**	**2.73**	**67**	PN	Pn	05 53 13.5	+0.8
LBZ				AML	AML	05 54 01.1	
LBZ				AML	AML	05 55 44.4	
HHSZ	**Highcliff Hill**	**2.76**	**99**	PN	Pn	05 53 15.9	+2.8
ODZ	**Otahua Downs**	**2.83**	**82**	PN	Pn	05 53 14.6	+0.5
ODZ				AML	AML	05 54 07.9	
ODZ				AML	AML	05 55 46.0	
FOZ	**Fox Glacier**	**2.90**	**49**	AML	AML	05 54 12.4	

KRSC 31 06:14:02.2±0.5, 51°74N×158°20E, h132km±52km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAK	**Asacha**	**0.67**	**344**	*i*P	Pn	06 14 23.6	+1.0
ASAK				*i*S	Sn	06 14 39.6	+1.4
RUS	**Russkaya**	**0.72**	**15**	P	Pn	06 14 24.3	+1.4
RUS				*i*S	Sn	06 14 40.3	+1.7
MTVR	**Mutnovka**	**0.74**	**359**	*e*P	Pn	06 14 24.4	+1.1
MTVR				*i*S	Sn	06 14 40.7	+1.4
GRL	**Gorelyy**	**0.82**	**355**	*i*P	Pn	06 14 25.2	+1.4
GRL				*i*S	Sn	06 14 42.2	+1.9
PAU	**Pauzhetka**	**0.91**	**253**	*e*P	Pn	06 14 24.6	+0.2
MIPR	**Malaya Ipel'ka**	**1.04**	**302**	*i*P	Pn	06 14 24.8	-0.8
MIPR				*i*S	Sn	06 14 40.9	-2.6
PET	**Petropavlovsk**	**1.32**	**12**	*i*P	Pn	06 14 29.7	+1.4
PET				*i*S	Sn	06 14 49.6	+1.3
APC	**Apacha**	**1.35**	**332**	*i*P	Pn	06 14 28.1	-0.6
APC				*i*S	Sn	06 14 47.4	-1.5
UGLR	**Uglovaya**	**1.52**	**14**	*i*P	Pn	06 14 32.5	+1.8
UGLR				*i*S	Sn	06 14 54.6	+2.0
AVH	**Avacha**	**1.56**	**12**	*i*P	Pn	06 14 33.0	+1.8
AVH				*i*S	Sn	06 14 56.0	+2.6
SMAR	**Somma**	**1.57**	**13**	*i*P	Pn	06 14 33.0	+1.6
SMAR				*i*S	Sn	06 14 54.9	+1.1
KOK	**Koryaka**	**1.58**	**10**	*i*P	Pn	06 14 33.0	+1.6
KOK				*i*S	Sn	06 14 55.6	+1.9
NLC	**Nalytchevo**	**1.60**	**26**	*e*P	Pn	06 14 32.1	+0.7
NLC				*e*S	Sn	06 14 53.4	-0.4
SDLR	**Sedlovina**	**1.60**	**15**	*i*P	Pn	06 14 33.0	+1.4
SDLR				*i*S	Sn	06 14 54.9	+0.8
KRER	**Koryakskii**	**1.60**	**12**	*i*P	Pn	06 14 33.4	+1.6
KRER				*i*S	Sn	06 14 56.0	+1.6
SKR	**Severo-Kuril's**	**1.68**	**232**	*i*P	Pn	06 14 32.1	-0.4
SKR				*i*S	Sn	06 14 54.4	-1.2
GNL	**Ganaly**	**1.96**	**356**	*i*P	Pn	06 14 35.7	-0.2
GNL				*i*S	Sn	06 14 59.6	-2.2
KII	**Karymskiy**	**2.42**	**18**	P	Pn	06 14 43.2	+1.7
KII				*i*S	Sn	06 15 13.4	+1.6
MKZ	**Mys Kozlova**	**3.53**	**36**	*i*P	Pn	06 14 56.6	+0.9
MKZ				*i*S	Sn	06 15 36.2	-0.9
SRDR	**Sredinnyy**	**4.67**	**10**	P	Pn	06 15 11.4	+0.5
BKI	**Bering**	**5.79**	**50**	*i*P	Pn	06 15 27.6	+1.8
BKI				*i*S	Sn	06 16 28.6	-2.4

*ATH **31** 07:13:25.2, 41°03N×20°48E, h11km±1km, MD3.6/24*
*SKO **31** 07:13:27.1, 40°80N×20°41E, h16km, M3.2, ML3.5*
*CSEM **31** 07:13:27.7±0.1, 40°94N×20°59E, h2km, ML3.3/11, Error ellipse: s-maj=3.0km s-min=1.8km az=61.0*
*BEO **31** 07:13:27.4±0.6, 40°86N×20°58E, h6km±2km, ML3.2/1*
*THE **31** 07:13:27.7, 40°93N×20°59E, h0km±1km, ML3.3/11, Error ellipse: s-maj=1.5km s-min=0.6km az=280.0*
*PDG **31** 07:13:28.2±0.4, 40°90N×20°62E, h20km±1km, ML3.3/9, Error ellipse: s-maj=0.9km s-min=1.0km az=0.0*

ISC 31 07:13:27.9±1.1, 40°92N±0°01×20°56E±0°02, h4km±9km, n224,σ1°02/310, 10C-7D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBN	**Korca**	**0.34**	**150**	P	**Pg**	**07 13 34.1**	**-0.4**
KBN				S	**Sg**	**07 13 39.1**	**+0.1**
NEST	**Nestorio**	**0.63**	**144**	P	**Pg**	**07 13 38.9**	**-1.0**
NEST				S	**Sg**	**07 13 48.4**	**+0.3**
FNA	**Florina**	**0.63**	**102**	P	**Pg**	**07 13 39.4**	**-0.6**
FNA				S	**Sg**	**07 13 49.0**	**+0.8**
FNA	**Florina**	**0.63**	**102**	*e*PB	**Pg**	**07 13 39.6**	**-0.4**
FNA				*e*SB	**Sg**	**07 13 49.2**	**+1.0**
FNA	**Florina**	**0.63**	**102**	*e*Pb	**Pg**	**07 13 39.6**	**-0.4**
FNA				*e*Sb	**Sg**	**07 13 49.2**	**+1.0**
TIR	**Tirane**	**0.68**	**309**	P	**Pg**	**07 13 40.2**	**-0.7**
TIR	**Tirane**	**0.68**	**309**	*e*Pg	**Pg**	**07 13 40.1**	**-0.8**
TIR	**Tirane**	**0.68**	**309**	*e*Pg	**Pg**	**07 13 40.1**	**-0.8**
PHP	**Peshkopia**	**0.77**	**353**	P	**Pg**	**07 13 41.4**	**-1.2**
PHP				S	**Sg**	**07 13 53.8**	**+1.2**
KZN	**Kozani**	**1.11**	**123**	P	**Pg**	**07 13 47.6**	**-1.5**
KZN				S	**Sg**	**07 14 03.6**	**+0.2**
KZN	**Kozani**	**1.11**	**123**	*e*PG	**Pg**	**07 13 48.1**	**-1.0**
KZN				*e*SB	**Sn**	**07 14 05.8**	**-0.3**
KZN	**Kozani**	**1.11**	**123**	P	**Pg**	**07 13 47.6**	**-1.5**
KZN	**Kozani**	**1.11**	**123**	*e*Pg	**Pg**	**07 13 48.1**	**-1.0**
KZN				S	**Sg**	**07 14 03.6**	**+0.2**
KZN				*e*Sb	**Sn**	**07 14 05.8**	**-0.3**
SRN	**Sarande**	**1.13**	**203**	P	**Pg**	**07 13 48.2**	**-1.3**
SRN				S	**Sb**	**07 14 05.4**	**+0.4**
SKO	**Skopje**	**1.24**	**32**	P	**Pg**	**07 13 51.2**	**-0.4**
SKO				S	**Sn**	**07 14 09.8**	**+0.5**
SKO	**Skopje**	**1.24**	**32**	*e*Pg	**Pn**	**07 13 52.9**	**+0.9**
SKO				*e*Sg	**Sn**	**07 14 11.7**	**+2.4**
SKO				*e*Lg	Lg	07 14 11.8	
	comp=E,1000nm,0.7s						
SKO				*e*Lg	Lg	07 14 12.2	
	comp=N,1μm,0.4s						
SKO	**Skopje**	**1.24**	**32**	*e*Pg	**Pg**	**07 13 51.1**	**-0.5**
SKO				*e*Sg	**Sb**	**07 14 08.5**	**+0.3**
SKO	**Skopje**	**1.24**	**32**	*e*Pg	**Pg**	**07 13 51.1**	**-0.5**
SKO				*e*Sg	**Sb**	**07 14 08.5**	**+0.3**
SKO				*e*Lg	Lg	07 14 12.1	
	comp=N,1μm,0.4s						
JAN	**Janina**	**1.28**	**170**	P	**Pg**	**07 13 51.5**	**-1.0**
JAN				S	**Sn**	**07 14 10.7**	**+0.3**
JAN	**Janina**	**1.28**	**170**	*e*PG	**Pg**	**07 13 51.0**	**-1.5**
JAN	**Janina**	**1.28**	**170**	*e*Pg	**Pg**	**07 13 51.0**	**-1.5**
JAN	**Janina**	**1.28**	**170**	P	**Pg**	**07 13 51.5**	**-1.0**
JAN				S	**Sn**	**07 14 10.7**	**+0.3**
KEK	**Kerkira**	**1.34**	**206**	P	**Pn**	**07 13 52.4**	**-1.1**
KEK				S	**Sn**	**07 14 12.1**	**+0.3**
KEK	**Kerkira**	**1.34**	**206**	*e*PG	**Pn**	**07 13 51.6**	**-1.9**
KEK	**Kerkira**	**1.34**	**206**	*e*Pg	**Pn**	**07 13 51.6**	**-1.9**
KEK	**Kerkira**	**1.34**	**206**	P	**Pn**	**07 13 52.4**	**-1.1**
KEK				S	**Sn**	**07 14 12.1**	**+0.3**
GRG	**Griva**	**1.39**	**88**	P	**Pn**	**07 13 52.5**	**-1.7**
GRG				S	**Sg**	**07 14 12.9**	**+0.3**
GRG	**Griva**	**1.39**	**88**	*e*PB	**Pn**	**07 13 52.8**	**-1.4**
GRG				*e*SB	**Sb**	**07 14 12.8**	**+0.1**
GRG	**Griva**	**1.39**	**88**	P	**Pn**	**07 13 52.5**	**-1.7**
GRG	**Griva**	**1.39**	**88**	*e*Pb	**Pn**	**07 13 52.8**	**-1.4**
GRG				*e*Sb	**Sb**	**07 14 12.8**	**+0.1**
IGT	**Igoumenitsa**	**1.40**	**187**	P	**Pn**	**07 13 53.4**	**-0.9**
IGT				S	**Sn**	**07 14 14.6**	**+1.4**
IGT	**Igoumenitsa**	**1.40**	**187**	P	**Pn**	**07 13 53.4**	**-0.9**
IGT				S	**Sn**	**07 14 14.6**	**+1.4**
ULC	**Ulcinj**	**1.44**	**317**	⇓*i*Pg	**Pn**	**07 13 54.3**	**-0.5**
ULC				*e*Sg	**Sg**	**07 14 16.0**	**+1.9**
ULC	**Ulcinj**	**1.44**	**317**	⇓*i*Pg	**Pn**	**07 13 54.3**	**-0.5**
ULC				*e*Sg	**Sg**	**07 14 16.0**	**+1.9**
VAY	**Valandovo**	**1.57**	**75**	P	**Pn**	**07 13 55.1**	**-1.5**
VAY				S	**Sn**	**07 14 16.9**	**-0.4**
VAY	**Valandovo**	**1.57**	**75**	*e*Pn	**Pn**	**07 13 55.5**	**-1.1**
VAY				*e*Sn	**Sg**	**07 14 18.7**	**+0.5**
VAY				*e*Sg	**Sb**	**07 14 22.7**	**+5.0**
VAY				*e*Lg	Lg	07 14 22.8	
	comp=N,333nm,0.7s						
VAY				*e*Lg	Lg	07 14 23.1	
	comp=E,206nm,0.5s						
VAY	**Valandovo**	**1.57**	**75**	*e*Pg	**Pn**	**07 13 54.9**	**-1.7**
VAY				*e*Sg	**Sn**	**07 14 16.9**	**-0.4**
VAY	**Valandovo**	**1.57**	**75**	*e*Pg	**Pn**	**07 13 54.9**	**-1.7**
VAY	**Valandovo**	**1.57**	**75**	*e*Pn	**Pn**	**07 13 55.4**	**-1.1**
VAY				S	**Sn**	**07 14 16.9**	**-0.4**
VAY				*e*Sn	**Sg**	**07 14 18.7**	**+0.5**
VAY				*e*Lg	Lg	07 14 23.1	
	comp=E,206nm,0.5s						
LIT	**Litokhoron**	**1.68**	**119**	P	**Pn**	**07 13 57.7**	**-0.5**
LIT	**Litokhoron**	**1.68**	**119**	*e*PN	**Pn**	**07 13 57.5**	**-0.7**
LIT	**Litokhoron**	**1.68**	**119**	P	**Pn**	**07 13 57.7**	**-0.5**
PVY	**Plav**	**1.73**	**345**	⇑*i*Pn	**Pn**	**07 13 59.0**	**+0.1**
PVY				*e*Sn	**Sb**	**07 14 22.9**	**+0.4**
PVY	**Plav**	**1.73**	**345**	⇑*i*Pn	**Pn**	**07 13 59.0**	**+0.1**
PVY				*e*Sn	**Sb**	**07 14 22.9**	**+0.4**
THL	**Klokotos Trika**	**1.75**	**140**	P	**Pn**	**07 13 58.7**	**-0.4**
THL	**Klokotos Trika**	**1.75**	**140**	*e*PN	**Pn**	**07 13 59.4**	**+0.3**
THL	**Klokotos Trika**	**1.75**	**140**	P	**Pn**	**07 13 58.7**	**-0.4**
THL	**Klokotos Trika**	**1.75**	**140**	*e*Pn	**Pn**	**07 13 59.4**	**+0.3**
KNT	**Kendrikon**	**1.78**	**82**	P	**Pn**	**07 13 58.8**	**-0.7**
KNT				S	**Sn**	**07 14 22.9**	**+0.2**
KNT	**Kendrikon**	**1.78**	**82**	P	**Pn**	**07 13 58.8**	**-0.7**
PDG	**Podgorica**	**1.80**	**327**	P	**Pn**	**07 13 59.8**	**+0.1**
PDG	**Podgorica**	**1.80**	**327**	*e*Pg	**Pn**	**07 13 59.8**	**+0.1**
PDG				*e*Sg	**Sg**	**07 14 26.8**	**+1.2**
PDG	**Podgorica**	**1.80**	**327**	P	**Pn**	**07 13 59.8**	**+0.1**
PDG				*e*Sn	**Sb**	**07 14 24.4**	**+0.1**
PDG				*e*Sg	**Sg**	**07 14 26.8**	**+1.2**
TTG	**Podgorica**	**1.80**	**327**	⇑*i*Pn	**Pn**	**07 13 59.8**	**

VTS				*e*Sn	**Sn**	07 14 42.7	**0.0**		
VTS	**Vitosha**	**2.59**	**49**	*e*Pn	**Pn**	07 14 10.7	**0.0**		
VTS				*e*Sn	**Sn**	07 14 42.7	**0.0**		
UPM	**Unac-Piva**	**2.59**	**332**	*e*Pn	**Pn**	07 14 11.9	**+1.1**		
UPM				*e*Sn	**Sn**	07 14 43.4	**+0.5**		
UPM	**Unac-Piva**	**2.59**	**332**	*e*Pn	**Pn**	07 14 11.9	**+1.1**		
NEO	**Neokhori**	**2.60**	**127**	P	**Pn**	07 14 09.8	**-1.0**		
NEO	**Neokhori**	**2.60**	**127**	*e*PB	**Pn**	07 14 10.8	**0.0**		
NEO	**Neokhori**	**2.60**	**127**	P	**Pn**	07 14 09.8	**-1.0**		
NEO	**Neokhori**	**2.60**	**127**	*e*Pb	**Pn**	07 14 10.8	**0.0**		
OUR	**Ouranopolis**	**2.67**	**102**	P	**Pn**	07 14 11.1	**-0.6**		
OUR	**Ouranopolis**	**2.67**	**102**	P	**Pn**	07 14 11.1	**-0.6**		
AXAR	**Agios Charalam**	**2.69**	**142**	P	**Pn**	07 14 11.9	**-0.1**		
AXAR	**Agios Charalam**	**2.69**	**142**	P	**Pn**	07 14 11.9	**-0.1**		
EFP	**Efpalio**	**2.70**	**157**	P	**Pn**	07 14 14.0	**+1.9**		
EFP	**Efpalio**	**2.70**	**157**	*e*PB	**Pn**	07 14 13.8	**+1.7**		
EFP	**Efpalio**	**2.70**	**157**	P	**Pn**	07 14 14.0	**+1.9**		
VLS	**Valsamata**	**2.74**	**180**	P	**Pn**	07 14 12.1	**-0.6**		
VLS	**Valsamata**	**2.74**	**180**	*e*PB	**Pn**	07 14 13.2	**+0.5**		
VLS	**Valsamata**	**2.74**	**180**	P	**Pn**	07 14 12.1	**-0.6**		
VLS	**Valsamata**	**2.74**	**180**	*e*Pb	**Pn**	07 14 13.2	**+0.5**		
AXS	**Araxos**	**2.79**	**167**	P	**Pn**	07 14 14.4	**+1.0**		
AXS				S	**Sn**	07 14 48.4	**+0.8**		
AXS	**Araxos**	**2.79**	**167**	P	**Pn**	07 14 14.4	**+1.0**		
AXS				S	**Sn**	07 14 48.4	**+0.8**		
KALE	**Kalithea**	**2.81**	**154**	P	**Pn**	07 14 14.3	**+0.7**		
KALE	**Kalithea**	**2.81**	**154**	*e*PN	**Pn**	07 14 14.1	**+0.5**		
KALE	**Kalithea**	**2.81**	**154**	*e*Pn	**Pn**	07 14 14.1	**+0.5**		
TRIZ	**Trizonia**	**2.81**	**155**	P	**Pn**	07 14 14.3	**+0.7**		
TRIZ	**Trizonia**	**2.81**	**155**	*e*PN	**Pn**	07 14 14.4	**+0.8**		
TRIZ	**Trizonia**	**2.81**	**155**	P	**Pn**	07 14 14.3	**+0.7**		
ZAPS	**Zavoj**	**2.81**	**33**	*e*Pn	**Pn**	07 14 13.6	**-0.1**		
ZAPS	**Zavoj**	**2.81**	**33**	*e*Pn	**Pn**	07 14 13.6	**-1.1**		
KFL	**Anninata**	**2.81**	**176**	P	**Pn**	07 14 13.7	**0.0**		
KFL	**Anninata**	**2.81**	**176**	P	**Pn**	07 14 13.7	**0.0**		
SKIA	**Skiathos**	**2.83**	**127**	P	**Pn**	07 14 13.1	**-0.9**		
SKIA	**Skiathos**	**2.83**	**127**	P	**Pn**	07 14 13.1	**-0.9**		
SMIA	**Simia**	**2.88**	**134**	P	**Pn**	07 14 14.1	**-0.6**		
SMIA	**Simia**	**2.88**	**134**	P	**Pn**	07 14 14.1	**-0.6**		
STON	**Ston**	**2.89**	**313**	*i* Pn	**Pn**	07 14 13.4	**-1.3**		
STON				Sn	**Sn**	07 14 50.6	**+0.6**		
STON	**Ston**	**2.89**	**313**	*e*Pn	**Pn**	07 14 14.2	**-0.5**		
STON				*e*Sn	**Sn**	07 14 49.8	**-0.2**		
STON	**Ston**	**2.89**	**313**	*e*Pn	**Pn**	07 14 14.2	**-0.5**		
STON				*e*Sn	**Sn**	07 14 49.8	**-0.2**		
LAKA	**Lakka**	**2.89**	**157**	P	**Pn**	07 14 16.6	**+1.8**		
LAKA	**Lakka**	**2.89**	**157**	*e*PN	**Pn**	07 14 15.7	**+0.9**		
LAKA	**Lakka**	**2.89**	**157**	*e*Pn	**Pn**	07 14 15.7	**+0.9**		
LAKA	**Lakka**	**2.89**	**157**	P	**Pn**	07 14 16.6	**+1.8**		
DSF	**Desfina**	**2.93**	**148**	P	**Pn**	07 14 15.6	**+0.2**		
DSF	**Desfina**	**2.93**	**148**	P	**Pn**	07 14 15.6	**+0.2**		
LKR	**Lokris**	**2.94**	**140**	*e*PN	**Pn**	07 14 16.0	**+0.5**		
LKR	**Lokris**	**2.94**	**140**	*e*Pn	**Pn**	07 14 16.0	**+0.5**		
RLS	**Riolos of Patr**	**2.94**	**166**	P	**Pn**	07 14 16.6	**+1.1**		
RLS	**Riolos of Patr**	**2.94**	**166**	*e*PB	**Pn**	07 14 17.1	**+1.6**		
RLS	**Riolos of Patr**	**2.94**	**166**	P	**Pn**	07 14 16.6	**+1.1**		
RLS	**Riolos of Patr**	**2.94**	**166**	*e*Pb	**Pn**	07 14 17.1	**+1.6**		
GRUS	**Gruza**	**2.97**	**2**	*e*Pn	**Pn**	07 14 15.5	**-0.3**		
GRUS	**Gruza**	**2.97**	**2**	*e*Pn	**Pn**	07 14 15.5	**-0.3**		
KAVA	**Kavala**	**2.99**	**87**	P	**Pn**	07 14 15.8	**-0.3**		
KAVA	**Kavala**	**2.99**	**87**	P	**Pn**	07 14 15.8	**-0.3**		
BBLS	**Lazi?i**	**3.06**	**344**	*e*Pn	**Pn**	07 14 19.3	**+2.1**		
BBLS	**Lazi?i**	**3.06**	**344**	*e*Pn	**Pn**	07 14 19.3	**+2.1**		
BOLS	**Boljevac**	**3.08**	**19**	*e*Pn	**Pn**	07 14 19.0	**+1.6**		
BOLS	**Boljevac**	**3.08**	**19**	*e*Pn	**Pn**	07 14 19.0	**+1.6**		
AOS	**Alonnisos**	**3.09**	**123**	P	**Pn**	07 14 16.4	**-1.1**		
AOS	**Alonnisos**	**3.09**	**123**	*e*PN	**Pn**	07 14 18.1	**+0.6**		
AOS	**Alonnisos**	**3.09**	**123**	P	**Pn**	07 14 16.4	**-1.1**		
AOS	**Alonnisos**	**3.09**	**123**	*e*Pn	**Pn**	07 14 18.1	**+0.6**		
KLV	**Kalavryta, Ach**	**3.13**	**156**	P	**Pn**	07 14 19.0	**+1.0**		
KLV	**Kalavryta, Ach**	**3.13**	**156**	*e*PN	**Pn**	07 14 19.1	**+1.0**		
KLV	**Kalavryta, Ach**	**3.13**	**156**	P	**Pn**	07 14 19.0	**+1.0**		
DIVS	**Divibare**	**3.20**	**353**	P	**Pn**	07 14 18.9	**-0.2**		
DIVS	**Divibare**	**3.20**	**353**	*e*Pn	**Pn**	07 14 18.6	**-0.5**		
DIVS	**Divibare**	**3.20**	**353**	*e*Pn	**Pn**	07 14 18.6	**-0.5**		
DIVS	**Divibare**	**3.20**	**353**	P	**Pn**	07 14 18.9	**-0.2**		
MRKA	**Markates**	**3.21**	**133**	P	**Pn**	07 14 18.8	**-0.4**		
MRKA	**Markates**	**3.21**	**133**	P	**Pn**	07 14 18.8	**-0.4**		
GUR	**Goura**	**3.29**	**155**	P	**Pn**	07 14 21.8	**+1.5**		
GUR	**Goura**	**3.29**	**155**	*e*PN	**Pn**	07 14 21.5	**+1.2**		
GUR	**Goura**	**3.29**	**155**	*e*Pn	**Pn**	07 14 21.5	**+1.2**		
GUR	**Goura**	**3.29**	**155**	P	**Pn**	07 14 21.8	**+1.5**		
PLD	**Plovdiv**	**3.33**	**68**	P	**Pn**	07 14 21.6	**+0.9**		
PLD				S	**Sn**	07 15 01.6	**+0.9**		
PLD	**Plovdiv**	**3.33**	**68**	*e*Pn	**Pn**	07 14 21.3	**+0.6**		
PLD	**Plovdiv**	**3.33**	**68**	*e*Pn	**Pn**	07 14 21.3	**+0.6**		
PLD	**Plovdiv**	**3.33**	**68**	P	**Pn**	07 14 21.6	**+0.9**		
LTK	**Loutraki**	**3.44**	**147**	P	**Pn**	07 14 22.1	**-0.2**		
LTK	**Loutraki**	**3.44**	**147**	*e*PN	**Pn**	07 14 23.0	**+0.7**		
LTK	**Loutraki**	**3.44**	**147**	P	**Pn**	07 14 22.1	**-0.2**		
LTK	**Loutraki**	**3.44**	**147**	*e*Pn	**Pn**	07 14 23.0	**+0.7**		
AMT	**Artemida-Makis**	**3.50**	**165**	P	**Pn**	07 14 23.7	**+0.5**		
AMT	**Artemida-Makis**	**3.50**	**165**	*e*PN	**Pn**	07 14 25.0	**+1.8**		
AMT	**Artemida-Makis**	**3.50**	**165**	P	**Pn**	07 14 23.7	**+0.5**		
AMT	**Artemida-Makis**	**3.50**	**165**	*e*Pn	**Pn**	07 14 25.0	**+1.8**		
TEKS	**Tekeris**	**3.70**	**348**	*e*Pn	**Pn**	07 14 27.1	**+1.1**		
TEKS	**Tekeris**	**3.70**	**348**	*e*Pn	**Pn**	07 14 27.1	**+1.1**		
ITM	**Ithomi**	**3.88**	**164**	*e*PN	**Pn**	07 14 29.0	**+0.6**		
ITM	**Ithomi**	**3.88**	**164**	*e*Pn	**Pn**	07 14 29.0	**+0.6**		
DID	**Didima**	**3.99**	**148**	P	**Pn**	07 14 29.7	**-0.2**		
DID	**Didima**	**3.99**	**148**	*e*PN	**Pn**	07 14 31.2	**+1.3**		
DID	**Didima**	**3.99**	**148**	P	**Pn**	07 14 29.7	**-0.2**		
DID	**Didima**	**3.99**	**148**	*e*Pn	**Pn**	07 14 31.2	**+1.3**		
PYL	**PYLOS**	**4.12**	**167**	P	**Pn**	07 14 32.0	**+0.3**		
PYL	**PYLOS**	**4.12**	**167**	*e*PN	**Pn**	07 14 32.6	**+0.9**		
PYL	**PYLOS**	**4.12**	**167**	P	**Pn**	07 14 32.0	**+0.3**		
PYL	**PYLOS**	**4.12**	**167**	*e*Pn	**Pn**	07 14 32.6	**+0.9**		
FGSL	**Fruska Gora**	**4.27**	**353**	*e*Pn	**Pn**	07 14 32.5	**-1.2**		
FRGS	**Fruska Gora**	**4.27**	**353**	*e*Pn	**Pn**	07 14 32.5	**-1.2**		
GZR	**Gura Zlata**	**4.75**	**19**	*e*Pn	**Pn**	07 14 39.9	**-0.5**		
GZR	**Gura Zlata**	**4.75**	**19**	*e*Pn	**Pn**	07 14 39.9	**-0.5**		
BZS	**Buzias**	**4.75**	**9**	*e*Pn	**Pn**	07 14 39.0	**-1.4**		
BZS				*e*Sn	**Sn**	07 15 33.1	**-2.8**		
BZS	**Buzias**	**4.75**	**9**	*e*Pn	**Pn**	07 14 39.0	**-1.4**		
BZS				*e*Sn	**Sn**	07 15 33.1	**-2.8**		
UDBI	**Udbina**	**5.05**	**317**	*e*Pn	**Pn**	07 14 43.6	**-0.8**		
UDBI				Sn	**Sn**	07 15 43.4	**+0.1**		
UDBI	**Udbina**	**5.05**	**317**	*e*Pn	**Pn**	07 14 43.6	**-0.8**		
UDBI				Sn	**Sn**	07 15 43.3	**+0.1**		
NVLJ	**Novalja**	**5.55**	**313**	*e*Pn	**Pn**	07 14 50.5	**-0.7**		
NVLJ				Sn	**Sn**	07 15 52.7	**-2.8**		
NVLJ	**Novalja**	**5.55**	**313**	*e*Pn	**Pn**	07 14 50.5	**-0.7**		
BOJS	**Bojanci**	**6.00**	**321**	*i* Pn	**Pn**	07 14 57.0	**-0.5**		
BOJS				*i* Sn	**Sn**	07 16 04.8	**-1.9**		
BOJS	**Bojanci**	**6.00**	**321**	Pn	**Pn**	07 14 57.0	**-0.5**		
BOJS				*i* Sn	**Sn**	07 16 04.8	**-1.9**		
VISS	**Visnje**	**6.42**	**321**	*i* Pn	**Pn**	07 15 03.8	**+0.6**		
VISS				*i* Sn	**Sn**	07 16 16.1	**-0.8**		
VISS	**Visnje**	**6.42**	**321**	*i* Pn	**Pn**	07 15 03.8	**+0.6**		
VISS				*i* Sn	**Sn**	07 16 16.1	**-0.8**		
SKDS	**Skadanscina**	**6.65**	**316**	*i* Pn	**Pn**	07 15 05.7	**-0.7**		
SKDS				*i* Sn	**Sn**	07 16 18.6	**-4.1**		
SKDS	**Skadanscina**	**6.65**	**316**	*i* Pn	**Pn**	07 15 05.7	**-0.7**		
JAVS	**Javornik**	**6.86**	**319**	*i* Pn	**Pn**	07 15 08.2	**-1.2**		
JAVS				*i* Sn	**Sn**	07 16 26.2	**-1.8**		
JAVS	**Javornik**	**6.86**	**319**	*i* Pn	**Pn**	07 15 08.2	**-1.2**		
JAVS				*i* Sn	**Sn**	07 16 26.2	**-1.8**		
VOY	**Vojsko**	**7.04**	**319**	*e*Pn	**Pn**	07 15 11.2	**-0.7**		
VOY				*e*Sn	**Sn**	07 16 31.4	**-1.0**		
VOY	**Vojsko**	**7.04**	**319**	*e*Pn	**Pn**	07 15 11.2	**-0.7**		
VOY				*e*Sn	**Sn**	07 16 31.4	**-1.0**		
OBKA	**Obir**	**7.08**	**324**	⇓*i* Pn	**Pn**	07 15 10.8	**-1.6**		
OBKA	**Obir**	**7.08**	**324**	Pn	**Pn**	07 15 10.8	**-1.6**		
KECS	**Kecovo**	**7.56**	**360**	*e*PN	**Pn**	07 15 21.2	**+2.3**		
VYHS	**Vyhne**	**7.67**	**351**	*e*SN	Sn	07 16 41.8	-5.9		

*CSEM **31** 07:32:38.5, 39°.11N×29°.02E, h3km, MD2.6, After DDA*

DDA 31 07:32:38.5, 39°.11N×29°.02E, h3km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**254**	*i* P	Pg	07 32 43.5	+0.1
DEMI				*i* S	Sg	07 32 47.1	+0.3
DEMI	**Demirci**	**0.25**	**254**	*i* P	Pg	07 32 43.5	+0.1
DEMI				*i* S	Sg	07 32 47.1	+0.4
GDZ	**Gediz**	**0.36**	**93**	*i* P	Pg	07 32 45.4	-0.3
GDZ				*i* S	Sg	07 32 50.3	-0.2
GDZ	**Gediz**	**0.36**	**93**	*i* P	Pg	07 32 45.4	-0.3
GDZ				*i* S	Sg	07 32 50.3	-0.2
MANT	**Manisa**	**0.72**	**210**	*i* P	Pg	07 32 52.2	-0.4
MANT				*i* S	Sg	07 33 00.8	-1.4
MANT	**Manisa**	**0.72**	**210**	*i* P	Pg	07 32 52.2	-0.4
MANT				*i* S	Sg	07 33 00.8	-1.3
KHAL	**Karahalli**	**0.83**	**153**	*i* P	Pg	07 32 54.7	+0.2
KHAL				*i* S	Sg	07 33 04.6	-0.7
KHAL	**Karahalli**	**0.83**	**153**	*i* P	Pg	07 32 54.7	+0.1
KHAL				*i* S	Sg	07 33 04.6	-0.8
ULDT	**Uludag**	**1.03**	**5**	*e*P	Pb	07 32 59.3	-0.1
ULDT				*e*S	Sg	07 33 10.4	-1.9
ULDT	**Uludag**	**1.03**	**5**	*e*P	Pb	07 32 59.3	-0.1
ULDT				*e*S	Sg	07 33 10.4	-1.9

*ISCJB **31** 07:33:28.8±0.4, 39°.11N±0°.02×29°.02E±0°.02, h3km±4km, Error ellipse: s-maj=3.9km s-min=3.0km az=0.2*
*DDA **31** 07:33:28.8, 39°.10N×29°.02E, h10km, MD3.0*
*ISK **31** 07:33:28.8, 39°.11N×29°.05E, h5km, MD2.9*
*CSEM **31** 07:33:29.0±0.1, 39°.12N×29°.03E, h2km, MD3.0, Error ellipse: s-maj=1.8km s-min=1.7km az=25.0*

ISC 31 07:33:29.2±0.9, 39°.12N±0°.02×29°.02E±0°.02, h10km±8km, n62, σ0°54/88, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**253**	*i* P	**Pg**	**07 33 34.4**	**+0.1**
DEMI				*i* S	**Sg**	**07 33 37.7**	**+0.1**
DEMI	**Demirci**	**0.25**	**253**	*i* P	**Pg**	**07 33 34.4**	**+0.1**
DEMI				*i* S	**Sg**	**07 33 37.7**	**+0.1**
GDZ	**Gediz**	**0.36**	**94**	*i* P	**Pg**	**07 33 36.2**	**-0.2**
GDZ				*i* S	**Sg**	**07 33 41.0**	**-0.2**
GDZ	**Gediz**	**0.36**	**94**	*i* P	**Pg**	**07 33 36.2**	**-0.2**
GDZ				*i* S	**Sg**	**07 33 41.0**	**-0.2**
TVSB	**Tavsanli**	**0.48**	**46**	*e*PG	**Pg**	**07 33 38.9**	**+0.3**
TVSB				*e*SG	**Sg**	**07 33 44.8**	**-0.1**
TVSB	**Tavsanli**	**0.48**	**46**	*e*Pg	**Pg**	**07 33 38.9**	**+0.3**
TVSB				*e*Sg	**Sg**	**07 33 44.8**	**-0.1**
DURS	**Dursunbey**	**0.64**	**319**	*i* P	**Pg**	**07 33 41.4**	**-0.2**
DURS				*i* S	**Sg**	**07 33 50.0**	**-0.1**
DURS	**Dursunbey**	**0.64**	**319**	*i* P	**Pg**	**07 33 41.4**	**-0.2**
DURS				*i* S	**Sg**	**07 33 50.0**	**-0.1**
KULA	**Kula-Manisa**	**0.66**	**205**	*e*PG	**Pg**	**07 33 41.7**	**-0.3**
KULA	**Kula-Manisa**	**0.66**	**205**	*e*Pg	**Pg**	**07 33 41.7**	**-0.3**
MANT	**Manisa**	**0.72**	**210**	*i* P	**Pg**	**07 33 42.9**	**-0.2**
MANT				*i* S	**Sg**	**07 33 51.6**	**-1.0**
MANT	**Manisa**	**0.72**	**210**	*i* P	**Pg**	**07 33 42.9**	**-0.2**
MANT				*i* S	**Sg**	**07 33 51.6**	**-1.0**
KHAL	**Karahalli**	**0.83**	**153**	*i* P	**Pg**	**07 33 45.1**	**-0.1**
KHAL				*i* S	**Sg**	**07 33 55.6**	**-0.5**
KHAL	**Karahalli**	**0.83**	**153**	*i* P	**Pg**	**07 33 45.1**	**-0.1**
KHAL				*i* S	**Sg**	**07 33 55.6**	**-0.5**
ALT	**Altintas**	**0.85**	**94**	*e*PG	**Pb**	**07 33 46.0**	**-0.1**
ALT				*e*SG	**Sg**	**07 33 56.9**	**+0.2**
ALT	**Altintas**	**0.85**	**94**	*e*Pg	**Pb**	**07 33 46.0**	**-0.1**
ALT				*e*Sg	**Sg**	**07 33 56.9**	**+0.2**
KHL	**Karahalli**	**0.89**	**153**	*e*PG	**Pg**	**07 33 46.1**	**-0.1**
KHL				*e*SG	**Sb**	**07 33 58.4**	**-0.2**
KHL	**Karahalli**	**0.89**	**153**	*e*Pg	**Pg**	**07 33 46.1**	**-0.1**
KHL				*e*Sg	**Sb**	**07 33 58.4**	**-0.2**
ORLT	**Orhaneli**	**0.93**	**354**	*e*PG	**Pg**	**07 33 46.8**	**-0.3**
ORLT	**Orhaneli**	**0.93**	**354**	*e*Pg	**Pg**	**07 33 46.8**	**-0.3**
AKHS	**Akhisar**	**0.97**	**256**	*i* P	**Pb**	**07 33 48.0**	**0.0**
AKHS				*i* S	**Sg**	**07 34 00.1**	**-0.3**
AKHS	**Akhisar**	**0.97**	**256**	*i* P	**Pb**	**07 33 48.0**	**0.0**
AKHS				*i* S	**Sg**	**07 34 00.1**	**-0.3**
BALB	**Balikesir**	**1.03**	**301**	*e*PG	**Pb**	**07 33 49.4**	**+0.4**
BALB	**Balikesir**	**1.03**	**301**	*e*Pg	**Pb**	**07 33 49.4**	**+0.4**
ULDT	**Uludag**	**1.03**	**5**	*i* P	**Pg**	**07 33 48.2**	**-0.8**
ULDT				*i* S	**Sg**	**07 34 01.3**	**-1.1**
ULDT	**Uludag**	**1.03**	**5**	*i* P	**Pg**	**07 33 48.2**	**-0.8**
ULDT				*i* S	**Sg**	**07 34 01.3**	**-1.1**
BALY	**Balya**	**1.25**	**300**	*i* P	**Pn**	**07 33 53.2**	**+0.5**
BALY				*i* S	**Sg**	**07 34 08.3**	**-1.1**
BALY	**Balya**	**1.25**	**300**	*i* P	**Pn**	**07 33 53.2**	**+0.5**
BALY				*i* S	**Sg**	**07 34 08.3**	**-1.1**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*e*PN	**Pg**	**07 33 53.0**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*e*Pn	**Pg**	**07 33 53.0**	**-0.3**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*PN	**Pn**	**07 33 53.5**	**+0.7**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*Pn	**Pn**	**07 33 53.5**	**+0.7**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*PN	**Pg**	**07 33 52.5**	**-0.8**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*Pn	**Pg**	**07 33 52.5**	**-0.8**
SHUT	**Suhut-Afyon**	**1.32**	**115**	*e*PN	**Pn**	**07 33 54.0**	**+0.2**
SHUT	**Suhut-Afyon**	**1.32**	**115**	*e*Pn	**Pn**	**07 33 54.0**	**+0.2**
BORA	**Eskisehir**	**1.35**	**55**	*i* P	**Pn**	**07 33 54.3**	**+0.2**
BORA				*i* S	**Sn**	**07 34 12.7**	**+0.6**
BORA	**Eskisehir**	**1.35**	**55**	*i* P	**Pn**	**07 33 54.3**	**+0.2**
BORA				*i* S	**Sn**	**07 34 12.7**	**+0.6**
GONE	**Gonen-Balikesi**	**1.39**	**312**	*e*PN	**Pg**	**07 33 55.9**	**+0.1**
GONE	**Gonen-Balikesi**	**1.39**	**312**	*e*Pn	**Pg**	**07 33 55.9**	**+0.1**
ADVT	**Abdulvahap**	**1.43**	**23**	*e*PN	**Pb**	**07 33 56.2**	**-0.4**
ADVT	**Abdulvahap**	**1.43**	**23**	*e*Pn	**Pg**	**07 33 56.2**	**-0.4**
ARMT	**Armutlu**	**1.45**	**355**	*e*PN	**Pb**	**07 33 56.2**	**-0.1**
ARMT	**Armutlu**	**1.45**	**355**	*e*Pn	**Pb**	**07 33 56.2**	**-0.1**
YLV	**Yalova**	**1.47**	**11**	*e*PN	**Pb**	**07 33 56.9**	**+0.2**
YLV	**Yalova**	**1.47**	**11**	*e*Pn	**Pb**	**07 33 56.9**	**+0.2**
SEYT	**Eskypehyr**	**1.48**	**74**	*i* P	**Pb**	**07 33 57.0**	**+0.2**
SEYT				*i* S	**Sn**	**07 34 14.4**	**-0.9**
SEYT	**Eskypehyr**	**1.48**	**74**	*i* P	**Pb**	**07 33 57.0**	**+0.2**
SEYT				*i* S	**Sn**	**07 34 14.4**	**-0.9**
BNT	**Bandirma**	**1.50**	**326**	*e*PN	**Pb**	**07 33 57.4**	**+0.3**
BNT	**Bandirma**	**1.50**	**326**	*e*Pn	**Pb**	**07 33 57.4**	**+0.3**
GULT	**Gulveren**	**1.75**	**41**	*e*PN	**Pn**	**07 34 00.2**	**+0.6**
GULT	**Gulveren**	**1.75**	**41**	*e*Pn	**Pn**	**07 34 00.2**	**+0.6**
HRT	**Hereke**	**1.77**	**16**	*e*PN	**Pn**	**07 34 00.6**	**+0.7**
HRT	**Hereke**	**1.77**	**16**	*e*Pn	**Pn**	**07 34 00.6**	**+0.7**
KRBG	**Karabiga-Canak**	**1.84**	**314**	*e*PN	**Pb**	**07 34 02.6**	**-0.3**
KRBG	**Karabiga-Canak**	**1.84**	**314**	*e*Pn	**Pb**	**07 34 02.6**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.97**	**80**	*e*PN	**Pn**	**07 34 03.7**	**+1.0**
SVRH	**Sivrihisar-ESK**	**1.97**	**80**	*e*Pn	**Pn**	**07 34 03.7**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.11**	**319**	*e*PN	**Pn**	**07 34 05.9**	**+1.3**
RKY	**Sarkoy-Tekirda**	**2.11**	**319**	*e*Pn	**Pn**	**07 34 05.9**	**+1.3**
KIZT	**Kizilcal**	**2.24**	**95**	*e*PN	**Pn**	**07 34 07.2**	**+0.8**
KIZT	**Kizilcal**	**2.24**	**95**	*e*Pn	**Pn**	**07 34 07.2**	**+0.8**

*IDC **31** 07:49:58.4±1.6, 53°.60N×87°.81E, h0km, mb1 3.7/4, mb1mx3.4/31, mbtmp3.7/4, ML3.7/4, Error ellipse: s-maj=15.4km s-min=8.9km az=91.0*
*NNC **31** 07:50:03.3±3.5, 53°.62N×86°.81E, h0km, mb3.9, mpv3.9, Error ellipse: s-maj=31.6km s-min=14.4km az=58.0*

ISC 31 07:50:05.7±3.9, 53°.7N±0°.1×87°.2E±0°.2, h35km, n11, σ1s79/15, 6C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**282**	*i*		08 01 10.0	
	baz=99,slow=319,SNR=6.8						
ZALV	**Zalesovo Beam**	**1.43**	**282**	Pn	**Pn**	**07 50 30.6**	**+1.5**
	20nm,0.3s,baz=105,slow=15,SNR=158						
ZALV				Lg	Lg	07 50 54.6	
	20nm,0.3s,baz=99,slow=25,SNR=12						
KURBB	**Kurchatov Arra**	**6.13**	**244**	Pn	**Pn**	**07 51 33.5**	**-0.2**
	13nm,0.4s						
KURBB	**Kurchatov Arra**	**6.13**	**244**	Pn	**Pn**	**07 51 35.5**	**+1.8**
	1.2nm,0.3s,baz=63,slow=14,SNR=23						
KURBB				Lg	Lg	07 53 20.1	
	0.2nm,0.3s,baz=66,slow=32,SNR=6.5						
MK31	**Makanchi Array**	**7.56**	**206**	⇑Pn	**Pn**	**07 51 52.8**	**-0.5**
	0.9nm,0.3s,baz=30,slow=14,SNR=72						
MK31				⇓Sn	**Sn**	**07 53 18.4**	**+0.7**
	1.7nm,0.6s,baz=35,slow=28,SNR=6.1						
MK31				⇑Lg	Lg	07 53 59.0	
	5.3nm,0.6s,baz=38,slow=29,SNR=7.0						
MKAR	**Makanchi Array**	**7.56**	**206**	Pn	**Pn**	**07 51 52.8**	**-0.5**
	1.6nm,0.3s,baz=30,slow=14,SNR=70						
MKAR				Sn	**Sn**	**07 53 16.4**	**-1.3**
	0.6nm,0.3s,baz=29,slow=26,SNR=9.5						
MKAR				Lg	Lg	07 53 58.4	
	0.6nm,0.3s,baz=39,slow=33,SNR=9.0						
VOSK	**Vostochnaya**	**9.77**	**271**	⇓Pn	**Pn**	**07 52 22.1**	**-1.4**
	0.5nm,0.3s						
VOSK				⇓Sn	**Sn**	**07 54 11.3**	**-0.6**
	2.5nm,0.5s						
BVA0	**Borovoye Array**	**10.06**	**273**	⇑Pn	**Pn**	**07 52 25.3**	**-2.2**
	1.1nm,0.6s						
BVA0				⇑Sn	**Sn**	**07 54 18.3**	**-0.7**
	2.0nm,0.8s						
BVAR	**Borovoye Array**	**10.06**	**273**	Pn	**Pn**	**07 52 28.0**	**+0.5**
	0.6nm,0.3s,baz=75,slow=14,SNR=7.0						
BVAR				Sn	**Sn**	**07 54 23.1**	**+4.1**
	0.9nm,0.3s,baz=74,slow=24,SNR=7.0						
BRVK	**Borovoye**	**10.12**	**273**	⇑Pn	**Pn**	**07 52 26.2**	**-2.1**
	1.1nm,0.6s						
BRVK				⇑Sn	**Sn**	**07 54 19.4**	**-1.1**
	1.9nm,0.5s						
SONM	**Songino Array**	**13.48**	**108**	Pn	Pn	07 53 06.0	-8.3
	0.1nm,0.3s,baz=287,slow=10,SNR=3.6						

IDC 31 07:51:08.3±2.8, 9°.28S×119°.64E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.3/20, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=239.9km s-min=29.0km az=51.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.73**	**128**	P	P	07 55 17.4	-0.3
	baz=305,slow=12,SNR=2.8				

RPZ **Rata Peaks** 25.91 205 *e*P P 08 12 47.6 +3.4
121nm,1.2s
HNR **Honiara** 27.49 291 LR LR 08 22 14.2
comp=Z,2µm,19.7s,baz=327,slow=33
ARMA **Armidale** 32.23 246 *e*P P 08 13 41.3 +0.5
57nm,1.5s
ARMA **Armidale** 32.23 246 P P 08 13 43.3 +2.6
baz=32,SNR=6.9
EIDS **Eidsvold** 32.29 255 *e*P P 08 13 40.4 -0.8
68nm,1.7s
EIDS **Eidsvold** 32.29 255 P P 08 13 42.0 +0.8
baz=32,SNR=5.2
RMQ **Roma** 34.40 253 P P 08 14 00.2 +0.6
baz=35,SNR=22
CNB **Canberra Magne** 35.09 238 P P 08 14 07.2 +1.6
baz=35,SNR=6.5
RKT **Rikitea** 36.25 101 *e*LQ LQ 08 22 21.1
524nm,25.0s
RKT *e*LR LR 08 23 49.6
4µm,26.5s,baz=268
CTAO **Charters Tower** 37.10 264 *e*P P 08 14 20.9 -2.0
CTAO pmax pmax
comp=Z,31nm,1.1s
CTAO **Charters Tower** 37.10 264 *e*P P 08 14 20.9 -2.0
comp=Z,31nm,1.1s
CMSA **Cobar Meteorol** 37.43 245 P P 08 14 25.3 -0.2
baz=38,SNR=18
TOO **Toolangi** 38.66 236 P P 08 14 38.4 +2.4
baz=39,SNR=6.7
PMG **Port Moresby** 39.02 281 LR LR 08 28 22.5
comp=Z,1µm,18.5s,baz=256,slow=33
MTSU **Mount Surprise** 39.24 267 P P 08 14 41.0 0.0
baz=39,SNR=6.1
STKA **Stephens Creek** 40.94 245 *e*P P 08 14 53.9 -1.0
comp=Z,12nm,1.3s
STKA **Stephens Creek** 40.94 245 P P 08 14 53.7 -1.2
comp=Z,6.5nm,0.5s,baz=82,slow=6.2,SNR=25
STKA LR LR 08 30 12.2
comp=Z,1µm,18.7s,baz=77,slow=34
STKA **Stephens Creek** 40.94 245 P P 08 14 54.7 -0.2
baz=41,SNR=22
COEN **Coen** 41.27 272 *e*P P 08 14 57.6 -0.2
comp=Z,197nm,0.8s
COEN **Coen** 41.27 272 P P 08 14 58.9 +1.1
baz=41,SNR=14
BBOO **Buckleboo** 45.67 244 *e*P P 08 15 31.8 -1.3
comp=Z,1µm,1.4s
BBOO **Buckleboo** 45.67 244 P P 08 15 32.4 -0.7
baz=46,SNR=12
JAY **Jayapura** 47.67 286 P P 08 15 48.9 -0.1
baz=48,SNR=15
JAY S S 08 22 43.7 -1.0
baz=48,SNR=3.3
ASAR **Alice Springs** 48.00 257 P P 08 15 50.0 -1.5
ASAR ScP ScP 08 21 15.6 +1.9
ASAR S S 08 22 44.8 -4.5
ASAR **Alice Springs** 48.00 257 P P 08 15 50.0 -1.5
comp=Z,9.3nm,0.8s,baz=88,slow=8.4,SNR=57
ASAR ScP ScP 08 21 15.6 +1.9
comp=Z,0.6nm,0.9s,baz=120,slow=5.4,SNR=2.7
ASAR S S 08 22 44.8 -4.5
comp=Z,1.3nm,0.9s,baz=95,slow=16,SNR=7.5
ASAR LR LR 08 36 06.2
comp=Z,2µm,18.6s,baz=98,slow=36
WRAB **Tennant Creek** 48.17 262 P P 08 15 50.5 -2.4
comp=Z,146nm,1.0s,SNR=9.1
WRAB **Tennant Creek** 48.17 262 *e*P P 08 15 50.5 -2.4
WRAB pmax pmax
comp=Z,26nm,1.0s
WRAB **Tennant Creek** 48.17 262 *e*P P 08 15 50.5 -2.4
comp=Z,26nm,1.0s
WRA **Warramunga Arr** 48.18 262 P P 08 15 50.9 -2.1
WRA S S 08 22 45.8 -6.1
WRA **Warramunga Arr** 48.18 262 P P 08 15 50.9 -2.1
comp=Z,8.7nm,1.0s,baz=95,slow=7.0,SNR=21
WRA S S 08 22 45.8 -6.1
comp=Z,0.8nm,0.8s,baz=107,slow=17,SNR=4.6
WRA LR LR 08 35 47.4
comp=Z,2µm,18.3s,baz=90,slow=36
KDU **Kakadu** 51.63 270 P P 08 16 18.5 -0.7
baz=52,SNR=6.9
FORT **Forrest** 52.51 247 *e*P P 08 16 24.4 -1.2
comp=Z,257nm,1.7s
FORT **Forrest** 52.51 247 P P 08 16 25.4 -0.2
baz=53,SNR=18
MTN **Manton Dam** 52.84 269 P P 08 16 28.4 +0.3
baz=53,SNR=10
KNRA **Kununurra** 54.29 265 P P 08 16 40.8 +2.0
baz=54,SNR=5.9
FITZ **Fitzroy Crossi** 56.61 262 *e*P P 08 16 55.0 -0.5
comp=Z,36nm,1.4s
FITZ **Fitzroy Crossi** 56.61 262 P P 08 16 55.3 -0.2
baz=57,SNR=5.6
SBA **Scott Base** 57.75 185 *e*P P 08 17 06.2 +3.6
SBA pmax pmax
comp=Z,217nm,1.8s
SBA **Scott Base** 57.75 185 *e*P P 08 17 06.2 +3.6
comp=Z,217nm,1.8s
VNDA **Vanda** 57.87 186 *e*P P 08 17 06.8 +3.3
comp=Z,80nm,1.9s
VNDA **Vanda** 57.87 186 P P 08 17 03.5 0.0
comp=Z,7.5nm,1.0s,baz=8.7,slow=7.3,SNR=28
VNDA LR LR 08 40 07.9
comp=Z,767nm,18.2s,baz=16,slow=34
SOEI **Soe** 60.18 271 P P 08 17 22.2 +1.5
baz=60,SNR=4.4
KLBR **Kellerberrin** 61.21 245 P P 08 17 27.9 +0.5
baz=61,SNR=23
MEEK **Meekatharra** 61.25 250 P P 08 17 27.2 -0.5
baz=61,SNR=9.4
MBWA **Marble Bar** 61.34 257 *e*P P 08 17 26.7 -1.7
comp=Z,55nm,1.3s
NWAO **Narrogin (SRO)** 61.47 243 *e*P P 08 17 30.6 +1.5
comp=Z,68nm,1.6s
BLDU **Ballidu** 62.24 246 P P 08 17 34.3 0.0
baz=62,SNR=15
MORW **Morawa** 63.07 247 P P 08 17 40.0 +0.2
baz=63,SNR=6.0
QSPA **South Pole Qui** 69.17 180 P P 08 18 20.2 +1.7
QSPA **South Pole Qui** 69.17 180 P P 08 18 20.2 +1.7
comp=Z,36nm,1.0s,baz=48,slow=2.3,SNR=55
MYLDM **Lahad Datu** 70.99 283 P P 08 18 27.9 -2.5
comp=Z,51nm,1.6s
BBKI **Banjar Baru** 71.10 274 P P 08 18 31.4 +0.3
comp=Z,77nm,1.5s,comp=Z,8µm
MIR **Mirnyy** 72.18 205 *e*P P 08 18 42.0 +5.4
MIR *i* 08 18 51.0
MIR pmax pmax
comp=Z,81nm,1.5s
AMKA **Amchitka** 72.20 356 *e*P P 08 18 36.7 -0.1
comp=Z,20nm,1.2s
MJAR **Matsushiro Arr** 72.76 321 P P 08 18 40.0 -0.5
MJAR **Matsushiro Arr** 72.76 321 P P 08 18 40.0 -0.5
comp=Z,5.0nm,0.6s,baz=155,slow=5.9,SNR=16
MJAR LR LR 08 48 38.5
comp=Z,432nm,19.2s,baz=160,slow=34
MAJO **Matsushiro** 72.76 321 *e*P P 08 18 39.8 -0.7
MAJO pmax pmax
comp=Z,27nm,1.0s
MAJO **Matsushiro** 72.76 321 *e*P P 08 18 39.8 -0.7
comp=Z,26nm,1.0s
MAT **Matsushiro** 72.76 321 P P 08 18 40.1 -0.4
MAT S S 08 28 05.4 -0.4
ATKA **Atka Island** 72.79 360 *e*P P 08 18 40.3 0.0
comp=Z,50nm,0.9s
ERM **Erimo** 74.03 328 ⇓*i*P P 08 18 48.1 +0.2
ERM pmax pmax
comp=Z,52nm,3.5s
FX1 **Attu Island--F** 74.30 352 *e*P P 08 18 49.1 -0.1
FX1 **Attu Island--F** 74.30 352 P P 08 18 48.8 -0.4
comp=Z,14nm,0.8s,baz=140,slow=5.4,SNR=6.5
YUK **Yuzh-Kuril'sk** 74.31 331 *c i*P P 08 18 50.1 +0.7
YUK *i* 08 21 34.3
YUK *i* PPP PPP 08 23 17.8
YUK *i* S S **08 28 24.8 +1.9**
KUR **Kuril'sk** 74.38 333 *e*P P 08 18 42.9 -6.9
KUR *i* S **SKiKP 08 28 18.6 +2.3**
KUR pmax pmax
comp=E,47nm,1.3s
KUR pmax pmax
comp=Z,96nm,1.3s
KUR pmax pmax
comp=N,37nm,1.3s
KUR pmax pmax
comp=Z,4µm,3.7s
KUR MLR MLR
comp=N,886nm,18.0s
KUR MLR MLR
comp=E,637nm,18.0s
KUR MLR MLR
comp=Z,1µm,18.0s
UNV **Unalaska Valle** 74.72 5 *e*P P 08 18 51.1 -0.4
comp=Z,22nm,1.1s
AKUT **Akutan** 75.06 5 *e*P P 08 18 53.5 -0.1
comp=Z,34nm,1.0s
JNU **Nakatsue** 75.13 315 *e*P P 08 18 54.9 +0.3
comp=Z,21nm,1.4s
JNU **Nakatsue** 75.13 315 P P 08 18 54.1 -0.4
comp=Z,8.5nm,0.8s,baz=239,slow=13,SNR=4.4
JNU LR LR 08 48 47.2
comp=Z,456nm,20.6s,baz=298,slow=33
SCI **San Clemente I** 75.36 46 ⇑P P 08 18 55.7 -0.2
baz=76
SBUM **Sibu** 75.69 278 P P 08 18 57.9 -0.3
comp=Z,19nm,1.8s,comp=Z,546nm
PKM **Peak Mountain** 75.70 44 ⇓P P 08 18 58.1 +0.1
baz=76
CIS **Catalina Islan** 75.72 45 ⇑P P 08 18 57.5 -0.4
baz=76
SMMC **Simmler** 75.84 43 ⇑P P 08 18 58.8 +0.2
baz=76
SAO **San Andreas Ge** 75.85 41 *e*P P 08 18 59.0 +0.4
SAO pmax pmax
comp=Z,43nm,1.5s
SAO **San Andreas Ge** 75.85 41 *e*P P 08 18 59.0 +0.4
comp=Z,43nm,1.5s
ASAJ **Asahikawa** 75.88 329 *e*P P 08 18 59.4 +0.9
comp=Z,50nm,2.2s
ASAJ **Asahikawa** 75.88 329 P P 08 18 59.0 +0.5
comp=Z,8.5nm,0.9s,baz=221,slow=9.2,SNR=7.7
ASAJ LR LR 08 51 25.3
comp=Z,1µm,18.3s,baz=152,slow=35
SKR **Severo-Kuril's** 75.97 341 *e*P P 08 18 54.0 -4.8
SKR *e* 08 19 04.0
SKR *e*PPP PPP 08 23 36.0
SKR *e*S S **08 28 42.0 +1.0**
SKR *e*PS PnS **08 29 22.0 +3.2**
SKR *e*SS SS **08 33 36.0 +1.6**
SKR pmax pmax
comp=Z,900nm,8.0s
SKR pmax pmax
comp=N,1µm,12.0s
SKR pmax pmax
comp=E,1µm,12.0s
SKR MLR MLR
comp=N,1µm,18.0s
SKR MLR MLR
comp=E,1µm,18.0s
SKR MLR MLR
comp=Z,1µm,18.0s
FMP **Fort Macarthur** 75.97 45 ⇑P P 08 18 59.5 +0.2
baz=76
109C **Camp Elliot, M** 76.28 47 ⇑P P 08 19 00.8 -0.3
baz=76
MWC **Mount Wilson** 76.44 45 *e*P P 08 19 01.8 -0.4
MWC pmax pmax
comp=Z,23nm,1.2s
MWC **Mount Wilson** 76.44 45 *e*P P 08 19 01.8 -0.4
comp=Z,23nm,1.2s
BAR **Barrett** 76.45 47 *e*P P 08 19 02.8 +0.7
comp=Z,34nm,1.6s
ARVC **Arvin** 76.48 44 ⇓P P 08 19 02.0 -0.1
baz=77
MURC **Murrieta** 76.64 46 ⇑P P 08 19 02.9 -0.2
baz=77
LEM **Lembang** 76.70 268 P P 08 19 04.8 +0.7
comp=Z,103nm,1.2s
BFSC **Mount Baldy Ra** 76.71 45 ⇑P P 08 19 03.2 -0.5
baz=77
MONP **Monument Peak** 76.75 47 ⇑P P 08 19 03.5 -0.5
baz=77
VES **Vestal, Richgr** 76.75 43 ⇓P P 08 19 03.2 -0.5
baz=77
YULB **Yu-li** 76.81 302 *e*P P 08 19 04.8 +0.5
comp=Z,10nm,0.8s
DVTC **Desert V Tower** 76.83 47 ⇓P P 08 19 04.1 -0.2
baz=77
EDW2 **Edwards Air Fo** 76.88 44 ⇑P P 08 19 04.4 -0.1
baz=77,SNR=9.1
ISA **Isabella** 77.04 44 *e*P P 08 19 05.9 +0.5
ISA pmax pmax
comp=Z,59nm,1.6s
ISA **Isabella** 77.04 44 *e*P P 08 19 05.8 +0.5
comp=Z,59nm,1.6s
ISA **Isabella** 77.04 44 ⇓P P 08 19 05.4 0.0
baz=77,SNR=9.7
KSM **Kuching** 77.11 277 *e*P P 08 19 06.6 +0.4
comp=Z,360nm,2.5s
KSM **Kuching** 77.11 277 P P 08 19 07.0 +0.8
comp=Z,38nm,0.9s,comp=Z,906nm
KSM **Kuching** 77.11 277 P P 08 19 07.2 +1.0
baz=77,SNR=5.4
PFO **Pinyon Flat Ob** 77.14 46 *e*P P 08 19 05.2 -1.0
comp=Z,29nm,1.4s
PFO **Pinyon Flat Ob** 77.14 46 ⇓P P 08 19 05.9 -0.2
baz=77
SWSC **Sam W. Stewart** 77.21 47 ⇑P P 08 19 05.8 -0.4
baz=77
BBRC **Big Bear Solar** 77.22 46 ⇑P P 08 19 06.3 -0.3
baz=77
SSLB **Suanglung** 77.28 302 *e*P P 08 19 05.7 -1.2
comp=Z,8.4nm,0.6s
TPUB **Ta-pu** 77.30 301 *e*P P 08 19 05.8 -1.3
comp=Z,53nm,1.2s
CMB **Columbia Colle** 77.31 41 *e*P P 08 19 06.9 0.0
CMB pmax pmax
comp=Z,82nm,2.2s
CMB **Columbia Colle** 77.31 41 *e*P P 08 19 06.9 0.0
comp=Z,82nm,2.2s
PET **Petropavlovsk** 77.33 344 *e*P P 08 19 05.8 -0.6
PET *e* 08 22 04.9
PET *e*PPP PPP 08 23 45.1
PET *i* S S **08 28 55.6 -0.2**
PET *e*SS SS **08 34 00.4 +5.5**
PET pmax pmax
comp=Z,400nm,12.6s
PET pmax pmax
comp=Z,13nm,0.9s
PET pmax pmax
comp=Z,500nm,8.7s
PET MLR MLR
comp=Z,900nm,19.0s
PET MLR MLR
comp=Z,900nm,17.0s
LRMC **Laurel Mountai** 77.43 44 ⇓P P 08 19 07.6 -0.1
baz=78
OHCM **Honcut** 77.49 39 *e*P P 08 19 08.0 +0.3
RRX **Edison Barstow** 77.53 45 ⇓P P 08 19 07.8 -0.3
baz=78
PETK **Petropavlovsk-** 77.66 343 P P 08 19 08.1 -0.3
PETK **Petropavlovsk-** 77.66 343 P P 08 19 08.1 -0.3
PETK **Petropavlovsk-** 77.66 343 P P 08 19 08.1 -0.3
comp=Z,19nm,0.9s,baz=131,slow=8.3,SNR=24
PETK LR LR 08 45 19.1
comp=Z,499nm,21.7s,baz=173,slow=30
BELC **Belle Mtn. Jos** 77.68 46 ⇑P P 08 19 09.1 0.0
baz=78,SNR=8.6
WDC **Whiskeytown Da** 77.69 38 *e*P P 08 19 08.3 -0.5
WDC pmax pmax
comp=Z,44nm,1.6s
WDC **Whiskeytown Da** 77.69 38 *e*P P 08 19 08.3 -0.5
comp=Z,44nm,1.6s
CWC **Cottonwood Cre** 77.76 43 ⇓P P 08 19 09.2 -0.3
baz=78,SNR=6.8
TNG **Tangerang** 77.83 268 P P 08 19 10.8 +0.6
comp=Z,925nm,0.5s
TNG **Tangerang** 77.83 268 P P 08 19 10.8 +0.6
comp=Z,580nm,0.4s
BC3 **Big Chuckawall** 77.85 47 ⇑P P 08 19 10.1 0.0
baz=78
GSC **Goldstone** 77.91 45 *e*P P 08 19 10.4 +0.1
GSC pmax pmax
comp=Z,28nm,1.4s
GSC **Goldstone** 77.91 45 *e*P P 08 19 10.4 +0.1
comp=Z,28nm,1.4s
GSC **Goldstone** 77.91 45 ⇑P P 08 19 10.0 -0.3
baz=78,SNR=12
MPMC **Manual Prospec** 77.91 44 ⇓P P 08 19 10.4 0.0
baz=78,SNR=22
GLA **Glamis** 77.94 48 *e*P P 08 19 11.2 +0.7
GLA pmax pmax
comp=Z,61nm,1.6s
GLA **Glamis** 77.94 48 *e*P P 08 19 11.2 +0.7
comp=Z,61nm,1.6s
GLA **Glamis** 77.94 48 ⇑P P 08 19 10.7 +0.2
baz=78
HEC **Hector,Ludlow** 77.94 45 ⇓P P 08 19 10.2 -0.3
baz=78
YSS **Yuzh-Sakhalins** 77.95 331 *e*P P 08 19 10.9 +0.8
YSS *e* 08 19 20.6
YSS *e*S S **08 29 04.0 +1.2**
YSS *e* 08 29 17.0
YSS *e*PS PnS **08 29 36.0 -8.3**
YSS *e*PPS PPS 08 29 54.0
YSS pmax pmax
comp=Z,30nm,0.9s
YSS pmax pmax
comp=Z,600nm,3.0s
MLAC **Mammoth Lakes** 78.02 42 ⇑P P 08 19 11.3 +0.2
baz=78
MTUM **Tungsten Hills** 78.02 42 *e*P P 08 19 11.1 +0.1
TIN **Tinemaha** 78.05 43 ⇑P P 08 19 11.2 +0.1
baz=78
WAKR **Walker** 78.19 41 *e*P P 08 19 11.9 0.0
IRM **Iron Mountain** 78.35 46 ⇓P P 08 19 12.8 +0.1
baz=78,SNR=9.4
YBH **Yreka Blue Hor** 78.36 37 *e*P P 08 19 12.5 -0.1
comp=Z,24nm,1.4s
GMRC **Granite Mounta** 78.36 46 ⇑P P 08 19 12.4 -0.5
baz=78,SNR=9.7
BEKR **Beckworth** 78.50 39 *e*P P 08 19 12.8 -0.7
comp=Z,15nm,1.5s
113A **Mohawk Valley,** 78.51 48 ⇓P P 08 19 13.5 -0.1
baz=79
Y12C **Blythe** 78.54 47 ⇑P P 08 19 13.9 +0.2
baz=79
GRAC **Grapevine Rang** 78.56 43 ⇑P P 08 19 14.2 +0.4
baz=79
FURC **Furnace Creek,** 78.57 44 ⇑P P 08 19 13.7 -0.1
baz=79
TUQ **Turquoise Moun** 78.57 45 ⇓P P 08 19 13.8 -0.2
baz=79
SHOC **Shoshone** 78.61 44 ⇑P P 08 19 13.4 -0.7
baz=79,SNR=5.9
214A **Organ Pipe Nat** 78.74 49 ⇑P P 08 19 14.6 -0.3
baz=79
HUMO **Hull Mountain** 78.81 36 *e*P P 08 19 15.1 +0.1
comp=Z,146nm,2.8s
NVAR **Mina Array Bea** 78.84 41 P P 08 19 15.3 -0.2
NVAR **Mina Array Bea** 78.84 41 P P 08 19 15.3 -0.2
comp=Z,12nm,0.9s,baz=225,slow=7.5,SNR=54
NVAR LR LR 08 47 51.7
comp=Z,1µm,18.8s,baz=269,slow=31
LDFC **Landfair** 78.90 46 *e*P P 08 19 16.7 +0.8
comp=Z,41nm,1.2s
PAHR **Pah Rah Range** 78.97 40 *e*P P 08 19 16.6 +0.4
comp=Z,121nm,2.2s
NEE2 **Needles Airpor** 79.06 46 ⇓P P 08 19 16.5 -0.1
baz=79
PDMCI **Parker Dam,Lak** 79.11 47 ⇑P P 08 19 16.9 +0.1
baz=79
BLSI **Bandar Lampung** 79.41 268 P P 08 19 18.6 -0.4
comp=Z,152nm,0.4s
Z14A **Wintersburg** 79.42 48 ⇓P P 08 19 18.5 0.0
baz=80
PMSA **Palmer Station** 79.44 156 *e*P P 08 19 19.0 +0.8
comp=Z,37nm,1.1s
KSRS **Korea Array** 79.66 317 P P 08 19 20.2 +0.5
comp=Z,3.8nm,1.0s,baz=139,slow=6.0,SNR=13
KSRS LR LR 08 48 53.4
comp=Z,441nm,20.5s,baz=126,slow=31
KSAR **Wonju Array Be** 79.67 317 P P 08 19 20.2 +0.4
PPBI **Pangkal Pinang** 79.69 272 P P 08 19 21.5 +1.0
comp=Z,29nm,1.6s,comp=Z,12µm
Y14A **Wickenburg** 79.69 48 ⇑P P 08 19 20.0 -0.1
baz=80,SNR=8.2
W13A **Hualapai Mount** 79.74 46 ⇓P P 08 19 20.4 -0.1
baz=80,SNR=5.2
KASI **Kota Agung** 80.06 268 P P 08 19 21.2 -1.3
comp=Z,79nm,1.0s
KLSI 80.13 269 P P 08 19 22.5 -0.4
comp=Z,24nm,1.6s
TUC **Tucson** 80.37 50 *e*P P 08 19 24.0 +0.1
TUC pmax pmax
comp=Z,436nm,2.5s
TUC **Tucson** 80.37 50 *e*P P 08 19 24.0 +0.1
comp=Z,436nm,2.5s
R11A **Troy Canyon, C** 80.50 43 ⇓P P 08 19 24.1 -0.4
baz=81
PMBI **Palembang** 80.70 270 P P 08 19 27.8 +1.9
comp=Z,281nm,0.4s
319A **Douglas** 80.98 52 ⇓P P 08 19 27.2 0.0
baz=81
X16A **Lo Mia Camp, P** 81.04 48 ⇓P P 08 19 27.7 +0.2
baz=81,SNR=8.7
WVOR **Wild Horse Val** 81.13 38 *e*P P 08 19 26.5 -1.2
WVOR pmax pmax
comp=Z,12nm,1.0s
WVOR **Wild Horse Val** 81.13 38 *e*P P 08 19 26.5 -1.2
comp=Z,12nm,1.0s
BMW **Boistfort Moun** 81.28 33 P P 08 19 28.5 +0.2
BMW **Boistfort Moun** 81.28 33 P P 08 19 28.5 +0.2
USRK **Ussuriysk Arra** 81.40 324 P P 08 19 28.8 -0.2
comp=Z,3.7nm,0.8s,baz=126,slow=2.6,SNR=9.9
USRK LR LR 08 53 06.4
comp=Z,1µm,19.6s,baz=121,slow=34
CCUT **Cedar City** 81.47 45 *e*P P 08 19 29.8 0.0
comp=Z,147nm,2.6s
320A **Kipp Ranch, An** 81.51 52 ⇑P P 08 19 30.2 +0.2
baz=82
LHSI **Lahat** 81.55 269 P P 08 19 29.8 -0.7
comp=Z,13nm,1.1s
ARUT **Antelope Range** 81.56 44 *e*P P 08 19 30.2 0.0
ARUT pmax pmax
comp=Z,12nm,1.0s
ARUT **Antelope Range** 81.56 44 *e*P P 08 19 30.2 0.0
comp=Z,12nm,1.0s
U15A **North Rim** 81.56 46 ⇓P P 08 19 30.4 0.0
baz=82,SNR=17
WUAZ **Wupatki** 81.68 47 *e*P P 08 19 30.9 0.0
comp=Z,12nm,1.1s
WUAZ **Wupatki** 81.68 47 ⇑P P 08 19 31.0 +0.2
baz=82
USHA **Ushuaia** 81.76 146 P P 08 19 30.6 -0.2
USHA **Ushuaia** 81.76 146 P P 08 19 30.6 -0.2
comp=Z,10nm,1.0s,baz=270,slow=2.8,SNR=3.7
220A **Playas Peak, P** 81.80 51 ⇓P P 08 19 31.6 +0.1
baz=82,SNR=10
120A **U Bar Ranch, L** 82.05 51 ⇑P P 08 19 33.3 +0.4
baz=82
X18A **Snowflake** 82.14 49 ⇑P P 08 19 33.4 +0.1
baz=82
LON **Longmire** 82.18 33 *e*P P 08 19 32.3 -0.8
LON pmax pmax
comp=Z,11nm,1.2s
LON **Longmire** 82.18 33 *e*P P 08 19 32.2 -0.8
comp=Z,11nm,1.2s
WPW **White Pass** 82.28 33 P P 08 19 33.4 -0.3
Z20A **Nine Sixteen R** 82.37 50 ⇑P P 08 19 34.9 +0.3
baz=82,SNR=7.0
221A **Mesquite Ranch** 82.40 52 ⇑P P 08 19 34.8 +0.1
baz=82
MAW **Mawson** 82.41 199 P P 08 19 34.9 +0.9
MAW **Mawson** 82.41 199 P P 08 19 34.9 +0.9
comp=Z,11nm,0.9s,baz=122,slow=7.7,SNR=15
MAW LR LR 08 56 18.1
comp=Z,2µm,18.1s,baz=114,slow=36
MAW **Mawson** 82.41 199 P P 08 19 36.0 +2.0
baz=83,SNR=14
KSI **Kapahiang** 82.48 269 P P 08 19 35.4 -0.1
comp=Z,161nm,0.9s
TRW **Toppenish Ridg** 82.54 34 P P 08 19 35.2 +0.2
W18A **Petrified Fore** 82.60 48 ⇓P P 08 19 35.8 +0.1
baz=83
HABR **Khabarovsk** 82.65 329 *ce*P P 08 19 35.5 +0.1
HABR *e**PP **pP** 08 19 45.3 +4.9
HABR *e**SP sP 08 19 49.6 +7.5
HABR 08 22 43.8
HABR *e*PPP PPP 08 24 36.0
HABR S S **08 29 50.9 -1.3**
HABR *e*SS SS **08 35 13.7 -1.1**
HABR *e*SSS SSS 08 38 42.4
HABR pmax pmax
comp=Z,55nm,2.0s
HABR pmax pmax
comp=N,9.0nm,1.3s
HABR pmax pmax
comp=E,18nm,1.4s
HABR MLR MLR
comp=Z,345nm,17.0s
121A **Cookes Peak, D** 82.66 51 ⇑P P 08 19 36.2 +0.2

baz=83
NAC Naches 82.68 34 P **P 08 19 36.0 +0.3**
MVU Marysvale 82.76 44 *e*P **P 08 19 37.0 +0.4**
comp=Z,104nm,2.3s
MSU Marysvale 82.78 44 *e*P **P 08 19 37.2 +0.6**
MSU Marysvale 82.78 44 *e*P **P 08 19 37.2 +0.6**
Y20A Horse Springs, 82.93 50 ⇑P **P 08 19 38.0 +0.5**
baz=83,SNR=10.0
222A Williams Famil 82.95 52 ⇑P **P 08 19 37.6 +0.1**
baz=83
NJ2 Nanjing 82.99 308 *e*P **P 08 19 39.5 +2.0**
NJ2 pP **pP 08 19 47.5 +5.0**
NJ2 sP sP 08 19 51.5 +7.2
NJ2 PP **PP 08 22 49.0 +0.4**
NJ2 S **S 08 29 56.0 -0.4**
NJ2 pmax pmax
comp=Z,20nm,0.8s
NJ2 pmax pmax
comp=Z,460nm,5.7s
NJ2 LR LR
comp=N,440nm,20.4s
NJ2 LR LR
comp=E,630nm,18.2s
NJ2 LR LR
comp=Z,640nm,20.1s
MDJ Mudanjiang 82.99 323 P **P 08 19 38.0 +0.7**
MDJ pP **PcP 08 19 41.0 -0.9**
MDJ sP **sP 08 19 42.3 -1.8**
MDJ S **SKSac 08 30 00.0 +1.5**
MDJ SS **SS 08 35 20.3 +0.2**
MDJ pmax pmax
comp=Z,9.0nm,0.9s
MDJ pmax pmax
comp=Z,540nm,6.9s
MDJ LR LR
comp=N,320nm,19.3s
MDJ LR LR
comp=E,350nm,19.3s
MDJ LR LR
comp=Z,780nm,19.8s
Z21A St. Cloud Mine 83.13 51 ⇑P **P 08 19 39.1 +0.5**
baz=83,SNR=9.5
MYKOM Kota Tinggi 83.23 274 P **P 08 19 41.2 +2.0**
comp=Z,399nm,1.6s,comp=Z,999nm
122A Conniff Cattle 83.31 51 ⇑P **P 08 19 39.6 +0.2**
baz=83
DUG Dugway 83.32 43 *e*P **P 08 19 39.4 +0.1**
DUG pmax pmax
comp=Z,15nm,1.4s
DUG Dugway 83.32 43 *e*P **P 08 19 39.4 +0.1**
comp=Z,15nm,1.4s
DUG Dugway 83.32 43 ⇓P **P 08 19 39.0 -0.2**
baz=84
MFID Camas Ranch 83.36 39 *e*P **P 08 19 39.5 +0.1**
comp=Z,34nm,1.4s
MFID Camas Ranch 83.36 39 ⇑P **P 08 19 38.8 -0.6**
baz=84
BMO Blue Mountains 83.39 37 *e*P **P 08 19 38.6 -0.8**
BMO pmax pmax
comp=Z,23nm,1.4s
BMO Blue Mountains 83.39 37 *e*P **P 08 19 38.6 -0.8**
comp=Z,23nm,1.4s
223A Chaparral, Ant 83.39 52 ⇑P **P 08 19 39.5 -0.3**
baz=84
W20A Ramah 83.47 49 ⇓P **P 08 19 40.7 +0.4**
baz=84,SNR=15
Y21A Point of Rocks 83.48 50 ⇓P **P 08 19 41.0 +0.6**
baz=84,SNR=9.5
ETW Entiat 83.51 33 P **P 08 19 40.0 0.0**
Z22A Elephant Butte 83.62 51 ⇑P **P 08 19 41.4 +0.4**
baz=84,SNR=9.0
X21A Alamocita Cree 83.62 50 ⇓P **P 08 19 41.3 +0.2**
baz=84,SNR=6.9
NLU North Lily Min 83.65 43 *e*P **P 08 19 39.1 -2.0**
Q16A Castle Valley 83.66 44 ⇑P **P 08 19 41.3 +0.1**
baz=84
324A Moseley Ranch, 83.82 53 ⇑P **P 08 19 41.5 -0.6**
baz=84,SNR=6.7
123A Bell Site, Whi 83.82 52 ⇑P **P 08 19 41.9 -0.2**
baz=84
V20A Brimhall 83.84 48 ⇑P **P 08 19 41.9 -0.2**
baz=84
TMUT Trail Mountain 83.85 44 *e*P **P 08 19 42.9 +0.7**
comp=Z,31nm,1.0s
425A Indio Mountain 83.88 54 ⇓P **P 08 19 42.3 -0.1**
baz=84,SNR=11
626A Big Bend Ranch 83.95 55 ⇑P **P 08 19 41.9 -0.8**
baz=84
Y22A Socorro 83.96 50 ⇓P **P 08 19 42.7 -0.1**
baz=84,SNR=8.7
MPU Maple Canyon 83.97 43 *e*P **P 08 19 42.1 -0.5**
comp=Z,8.7nm,1.0s
MNTX Cornudas Mount 84.02 53 *e*P **P 08 19 42.3 -0.6**
comp=Z,12nm,1.3s
Y22D IRIS PASSCAL I 84.06 50 ⇑P **P 08 19 42.9 -0.3**
baz=84
W21A San Fidel 84.06 49 ⇓P **P 08 19 42.9 -0.4**
baz=84
LAZ Ladron 84.06 50 *e*P **P 08 19 43.3 0.0**
comp=Z,6.9nm,1.4s
LENM Lemitar 84.06 50 *e*P **P 08 19 43.4 +0.1**
U20A Newcomb 84.10 48 ⇑P **P 08 19 43.1 -0.3**
baz=84
224A Cornudas Mount 84.10 53 ⇑P **P 08 19 43.5 0.0**
baz=84,SNR=5.8
Z23A Rita Site, Whi 84.15 51 ⇓P **P 08 19 43.4 -0.3**
baz=84
325A Bean Ranch, Si 84.17 53 ⇓P **P 08 19 43.6 -0.3**
baz=84,SNR=6.9
SRU San Rafael 84.19 44 *e*P **P 08 19 43.7 -0.2**
SRU pmax pmax
comp=Z,25nm,1.1s
SRU San Rafael 84.19 44 *e*P **P 08 19 43.7 -0.2**
comp=Z,25nm,1.1s
X22A Bernardo 84.21 50 ⇓P **P 08 19 43.9 -0.1**
baz=84
TXAR Lajitas Array 84.21 56 P **P 08 19 42.6 -1.5**
TXAR Lajitas Array 84.21 56 P **P 08 19 42.6 -1.5**
comp=Z,2.2nm,0.9s,baz=224,slow=5.2,SNR=18
TXAR LR LR 08 51 12.5
comp=Z,936nm,18.8s,baz=135,slow=31
OD2 Odessa Site #2 84.21 34 P **P 08 19 44.2 +0.7**
526A Mary Lane Ranc 84.22 55 ⇑P **P 08 19 43.7 -0.4**
baz=84
HVU Hansel Valley 84.24 41 *e*P **P 08 19 44.0 +0.1**
HVU pmax pmax
comp=Z,83nm,2.1s
HVU Hansel Valley 84.24 41 *e*P **P 08 19 44.0 +0.1**
comp=Z,83nm,2.1s
HLID Hailey 84.27 39 *e*P **P 08 19 43.8 -0.4**
comp=Z,12nm,0.9s
HLID Hailey 84.27 39 ⇓P **P 08 19 44.2 0.0**
baz=84
BNM Barren Site 84.31 50 *e*P **P 08 19 44.5 -0.1**
comp=Z,16nm,1.4s
LPM Los Pinos Moun 84.38 50 *e*P **P 08 19 45.7 +0.8**
QIZ Qiongzhong 84.38 293 P **P 08 19 44.0 -1.0**
QIZ sP **sP 08 19 48.8 -3.0**
QIZ S **S 08 30 10.3 -0.7**
QIZ sS **SKKSac 08 30 16.3 +2.1**
QIZ pmax pmax
comp=Z,9.0nm,1.2s
QIZ pmax pmax
comp=Z,400nm,9.6s
QIZ LR LR
comp=N,240nm,19.6s
QIZ LR LR
comp=E,190nm,18.9s
QIZ LR LR
comp=Z,530nm,19.3s
JLU Jordanelle 84.41 43 *e*P **P 08 19 44.7 -0.3**
comp=Z,14nm,1.2s
V21A Milan 84.42 48 ⇑P **P 08 19 45.1 0.0**
baz=84
DAU Daniels Canyon 84.43 43 *e*P **P 08 19 45.7 +0.6**
DAU Daniels Canyon 84.43 43 *e*P **P 08 19 45.7 +0.6**
124A Stringfield Ra 84.45 52 ⇑P **P 08 19 45.3 -0.1**
baz=85,SNR=7.4
627A Terlingua Ranc 84.48 56 ⇓P **P 08 19 45.0 -0.4**
baz=85
MVCO Mesa Verde 84.54 47 *e*P **P 08 19 44.1 -1.6**
comp=Z,45nm,1.9s
MVCO Mesa Verde 84.54 47 ⇑P **P 08 19 45.4 -0.3**
baz=85
426A McDonald Obser 84.55 54 ⇓P **P 08 19 45.5 -0.4**
baz=85
DL2 Dalian 84.57 315 ⇑*i*P **P 08 19 46.5 +1.0**
DL2 SKS **S 08 30 08.5 -3.5**
DL2 S **SKKSac 08 30 15.0 +0.3**
DL2 pmax pmax
comp=Z,25nm,0.9s
DL2 pmax pmax
comp=Z,350nm,4.8s
DL2 LR LR
comp=N,260nm,16.2s
DL2 LR LR
comp=E,280nm,17.8s
DL2 LR LR
comp=Z,280nm,19.6s
W22A Albuquerque 84.59 49 ⇓P **P 08 19 45.9 -0.1**
baz=85
PMR Palmer 84.61 12 *e*P **P 08 19 45.4 +0.3**
PMR pmax pmax
comp=Z,35nm,1.5s
PMR Palmer 84.61 12 *e*P **P 08 19 45.4 +0.3**
comp=Z,35nm,1.5s
Y23A Lovelace Mesa, 84.61 51 ⇑P **P 08 19 45.8 -0.3**
baz=85,SNR=6.8
527A Woodward Ranch 84.63 55 ⇑P **P 08 19 45.4 -0.8**
baz=85
225A Deer Hill, Car 84.64 53 ⇑P **P 08 19 45.8 -0.4**
baz=85
U21A Nageezi 84.72 48 ⇑P **P 08 19 46.6 0.0**
baz=85,SNR=23
KLR Kul'dur 84.78 328 *e*P **P 08 19 43.7 -2.6**
KLR *e*S **S 08 30 08.0 -5.7**
KLR pmax pmax
comp=Z,800nm,9.5s
KLR smax smax
comp=N,1μm,11.0s
KLR smax smax
comp=E,600nm,11.0s
PV10 Paradox Valley 84.78 46 *e*P **P 08 19 47.2 +0.3**
comp=E,173nm,1.1s
Z24A Sheeppen Canyo 84.82 52 ⇓P **P 08 19 46.9 -0.3**
baz=85,SNR=6.7
ANMO Albuquerque 84.82 50 *e*P **P 08 19 47.2 +0.1**
comp=E,20nm,1.3s
X23A Hourglass Bar 84.83 50 ⇓P **P 08 19 47.2 0.0**
baz=85,SNR=6.8
628A Black Gap, Mar 84.88 56 ⇑P **P 08 19 46.7 -0.7**
baz=85
PV04 Paradox Valley 84.88 46 *e*P **P 08 19 47.6 +0.3**
HWUT Hardware Ranch 84.89 42 *e*P **P 08 19 46.7 -0.6**
comp=E,12nm,1.3s
CN2 Changchun 84.89 321 *e*P **P 08 19 48.0 +1.0**
CN2 *es*P **sP 08 19 55.0 +1.2**
CN2 *e*S **S 08 30 15.3 +0.3**
CN2 pmax pmax
comp=Z,20nm,1.3s
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,200nm,17.0s
CN2 LR LR
comp=E,400nm,17.0s
CN2 LR LR
comp=Z,300nm,18.0s
326A Caldwell Ranch 84.89 54 ⇑P **P 08 19 46.9 -0.6**
baz=85
SNY Shenyang 84.91 318 ⇑P **P 08 19 47.8 +0.7**
SNY S **S 08 30 10.5 -4.7**
SNY pmax pmax
comp=Z,19nm,2.5s
SNY pmax pmax
comp=Z,490nm,9.2s
SNY LR LR
comp=N,470nm,17.2s
SNY LR LR
comp=E,340nm,17.9s
SNY LR LR
comp=Z,470nm,17.6s
S20A Disappointment 84.96 46 ⇓P **P 08 19 47.7 -0.1**
baz=85,SNR=9.4
PV01 Paradox Valley 84.97 46 *e*P **P 08 19 47.6 -0.3**
comp=Z,846nm,1.1s
BMRM Bremner River 84.98 14 *e*P **P 08 19 46.5 -0.6**
V22A San Miguel Ran 84.98 49 ⇓P **P 08 19 47.6 -0.4**
baz=85
125A Gardner Draw, 85.02 52 ⇑P **P 08 19 48.1 0.0**
baz=85
GDL2 Guadalupe Moun 85.02 53 *e*P **P 08 19 48.6 +0.5**
I14A Mackay 85.05 39 ⇓P **P 08 19 48.0 -0.1**
baz=85
Y24A Capilan 85.06 51 ⇓P **P 08 19 48.3 0.0**
baz=85,SNR=28
T21A Navajo Lake 85.09 47 ⇑P **P 08 19 47.9 -0.6**
baz=85
226B Tecolote Peak, 85.11 53 ⇑P **P 08 19 48.3 -0.2**
baz=85,SNR=9.8
427A Hayter Ranch, 85.11 55 ⇓P **P 08 19 48.1 -0.5**
baz=85,SNR=15
R20A Redvale 85.13 46 ⇑P **P 08 19 48.3 -0.3**
baz=85
PNL Peninsula 85.14 17 *e*P **P 08 19 47.8 -0.1**
comp=Z,21nm,1.0s
W23A Werner Place, 85.15 50 ⇑P **P 08 19 48.8 0.0**
baz=85,SNR=9.2
U22A Llaves 85.25 48 ⇑P **P 08 19 49.2 -0.1**
baz=85
S21A Coal Bank Pass 85.26 47 ⇓P **P 08 19 49.2 -0.2**
baz=85,SNR=14
528A Cox Ranch, San 85.27 55 ⇓P **P 08 19 49.0 -0.4**
baz=85,SNR=6.4
Z25A Roswell 85.27 52 ⇑P **P 08 19 49.4 +0.1**
baz=85,SNR=9.2
327A Balmorhea Ranc 85.29 54 ⇑P **P 08 19 49.0 -0.4**
baz=85
X24A Lazy VL Ranch, 85.37 50 ⇓P **P 08 19 49.4 -0.5**
baz=86
M17A Scullys Gap (B 85.38 42 ⇓P **P 08 19 49.7 -0.1**
baz=86
V23A Ortiz Mt. (NFS 85.41 49 ⇓P **P 08 19 50.8 +0.7**
baz=86,SNR=8.9
P19A Cripple Cowboy 85.48 45 ⇓P **P 08 19 50.1 -0.3**
baz=86
126A Clayton Basin, 85.49 53 ⇓P **P 08 19 50.0 -0.4**
baz=86
T22A Edith 85.54 48 ⇓P **P 08 19 50.5 -0.3**
baz=86
Q20A Ridgley Place, 85.58 45 ⇓P **P 08 19 50.3 -0.5**
baz=86,SNR=5.8
NEW Newport 85.59 34 *e*P **P 08 19 50.1 -0.3**
comp=Z,107nm,2.8s
Y25A Mesa, Roswell 85.60 51 ⇓P **P 08 19 50.6 -0.3**
baz=86,SNR=15
428A Kincaid Ranch, 85.61 55 ⇓P **P 08 19 50.7 -0.4**
baz=86
WHN Wuhan 85.66 305 ⇑*i*P **P 08 19 52.0 +0.9**
WHN pP **pP 08 20 02.5 +6.3**
WHN S **S 08 30 26.3 +3.1**
WHN pmax pmax
comp=Z,1μm,8.6s
WHN LR LR
comp=N,400nm,12.7s
WHN LR LR
comp=E,2μm,19.3s
WHN LR LR
comp=Z,1μm,17.1s
529A Stev Forest Ra 85.69 56 ⇓P **P 08 19 50.3 -1.1**
baz=86
U23A El Rito 85.69 49 ⇑P **P 08 19 51.4 -0.1**
baz=86,SNR=12
W24A Lazy 6 Ranch, 85.70 50 ⇓P **P 08 19 50.9 -0.6**
baz=86,SNR=16
O19A Miners Draw (B 85.74 44 ⇑P **P 08 19 50.9 -0.7**
baz=86,SNR=9.3
R21A Cimarron 85.78 46 ⇓P **P 08 19 51.8 -0.1**
baz=86,SNR=9.8
Z26A Caprock 85.81 52 ⇑P **P 08 19 51.4 -0.6**
baz=86,SNR=17
X25A Clemmons Ranch 85.91 51 ⇑P **P 08 19 52.0 -0.5**
baz=86,SNR=6.3
MCMT McKenzie Canyo 85.92 39 *e*P **P 08 19 52.5 0.0**
comp=Z,6.1nm,1.2s
S22A 4UR Ranch, Cre 85.96 47 ⇓P **P 08 19 52.5 -0.3**
baz=86,SNR=14
Q21A Lamborn Mesa, 86.00 46 ⇓P **P 08 19 52.5 -0.4**
baz=86
RRI2 Red Ridge 86.00 41 *e*P **P 08 19 52.5 -0.4**
comp=Z,20nm,1.3s
L18A Fontenelle, Gr 86.02 42 ⇓P **P 08 19 52.5 -0.5**
baz=86
V24A Rampart Ranch, 86.05 50 ⇑P **P 08 19 53.2 -0.1**
baz=86,SNR=8.6
TRF Thorofare Moun 86.12 10 *e*P **P 08 19 52.4 -0.5**
comp=Z,43nm,1.1s
SKAG Skagway 86.13 19 *e*P **P 08 19 54.7 +1.9**
comp=Z,80nm,1.8s
C12B Naegeli Ranch, 86.13 35 ⇓P **P 08 19 52.8 -0.4**
baz=86
T23A Casias Ranch, 86.15 48 ⇓P **P 08 19 54.0 +0.2**
baz=86
429A Davenport Ranc 86.17 55 ⇓P **P 08 19 52.8 -1.0**
baz=86,SNR=18
I16A Newdale 86.19 40 ⇓P **P 08 19 53.5 -0.3**
baz=86
O20A White River Ci 86.23 45 ⇑P **P 08 19 53.8 -0.3**
baz=86
Y26A Elida 86.23 52 ⇑P **P 08 19 53.5 -0.6**
baz=86
R22A Saguache, Gunn 86.25 47 ⇓P **P 08 19 54.2 -0.1**
baz=86
REDW Red Top Meadow 86.30 41 *e*P **P 08 19 54.4 0.0**
comp=Z,27nm,1.5s
TPAW Teton Pass 86.31 41 *e*P **P 08 19 54.4 0.0**
comp=Z,136nm,3.0s
PLCA Paso Flores 86.31 132 LR LR 08 52 42.7
comp=Z,950nm,18.5s,baz=190,slow=32
M19A Rock Springs 86.36 43 ⇓P **P 08 19 54.1 -0.5**
baz=86
DLMT Dillon 86.37 38 *e*P **P 08 19 54.6 +0.1**
comp=Z,10nm,1.1s
530A J-C Ranch, Com 86.38 56 ⇑P **P 08 19 54.0 -0.8**
baz=86,SNR=6.6
W25A X Bar L Ranch, 86.38 50 ⇓P **P 08 19 54.1 -0.7**
baz=86,SNR=10
Z27A Tatum 86.40 52 ⇑P **P 08 19 54.0 -1.0**
baz=86,SNR=7.9
SNOW Snow King Moun 86.41 41 *e*P **P 08 19 54.4 -0.5**
comp=Z,159nm,2.8s
MSO Missoula 86.45 37 *e*P **P 08 19 57.3 +2.5**
comp=Z,62nm,2.5s
MSO Missoula 86.45 37 ⇑P **P 08 19 54.4 -0.5**
baz=87
Q22A Crested Butte, 86.47 46 ⇓P **P 08 19 55.0 -0.3**
baz=87
329A Wagon Wheel Ra 86.49 55 ⇓P **P 08 19 54.4 -1.0**
baz=87
S23A Nye Farm, Mont 86.51 47 ⇓P **P 08 19 55.2 -0.3**
baz=87
B12A Libby 86.53 35 ⇑P **P 08 19 54.9 -0.2**
baz=87
IMW Indian Meadow 86.54 40 *e*P **P 08 19 55.6 0.0**
comp=Z,4.2nm,0.9s
X26A CR and CF Fran 86.54 51 ⇑P **P 08 19 54.8 -0.8**
baz=87,SNR=7.1
L19A Farson 86.54 42 ⇑P **P 08 19 54.9 -0.6**
baz=87,SNR=8.9
V25A Rancho No Teng 86.57 50 ⇓P **P 08 19 55.3 -0.5**
baz=87,SNR=12
MOOW Moose Ponds 86.57 40 *e*P **P 08 19 56.2 +0.6**
comp=Z,71nm,2.8s
N20A Spence Gulch, 86.58 44 ⇓P **P 08 19 55.0 -0.8**
baz=87,SNR=8.3
SMCO Snowmass 86.58 46 *e*P **P 08 19 56.6 +0.6**
comp=Z,93nm,2.8s
LOHW Long Hollow 86.58 41 *e*P **P 08 19 55.6 -0.1**
comp=Z,68nm,2.5s
C13A Hot Springs 86.60 36 ⇓P **P 08 19 55.2 -0.3**
baz=87
MCK McKinley 86.61 11 *e*P **P 08 19 55.0 -0.1**
MCK pmax pmax
comp=Z,38nm,1.0s
MCK McKinley 86.61 11 *e*P **P 08 19 55.0 -0.1**
comp=Z,38nm,1.0s
HYT Haines Junctio 86.63 17 *e*P **P 08 19 56.5 +1.1**
631A Perdido Creek 86.65 57 ⇑P **P 08 19 55.2 -0.9**
baz=87,SNR=19
Y27A Causey 86.70 52 ⇑P **P 08 19 55.7 -0.7**
baz=87,SNR=11
LRM Limekiln Ridge 86.72 38 *e*P **P 08 19 56.2 -0.1**
430A Baggett Ranch, 86.74 55 ⇑P **P 08 19 55.6 -1.0**
baz=87
QLMT Earthquake Lak 86.76 39 *e*P **P 08 19 57.9 +1.4**
I17A Pilgrim Ck. 86.77 40 ⇑P **P 08 19 56.2 -0.5**
baz=87
BW06 Boulder Array 86.77 42 *e*P **P 08 19 55.6 -1.1**
comp=Z,4.9nm,0.9s
PDAR Pinedale Array 86.77 42 P **P 08 19 55.0 -1.6**
PDAR Pinedale Array 86.77 42 P **P 08 19 55.0 -1.6**
comp=Z,4.6nm,0.9s,baz=193,slow=4.0,SNR=30
PDAR LR LR 08 54 09.5
comp=Z,632nm,18.3s,baz=249,slow=32
A12A Yaak River Ran 86.77 34 ⇓P **P 08 19 55.9 -0.4**
baz=87
O21A Pagoda 86.78 45 ⇑P **P 08 19 55.9 -0.8**
baz=87
H16A Russell Place, 86.80 39 ⇓P **P 08 19 56.3 -0.4**
baz=87,SNR=8.5
W26A Owens Ranch, T 86.82 51 ⇓P **P 08 19 56.3 -0.7**
baz=87
IPM Ipoh 86.83 276 *e*P **P 08 19 58.0 +0.7**
IPM Ipoh 86.83 276 P **P 08 19 58.9 +1.6**
comp=Z,44nm,1.1s
732A Laxson Ranch, 86.83 58 ⇑P **P 08 19 55.8 -1.2**
baz=87
229A Bryant Ranch, 86.83 54 ⇑P **P 08 19 56.0 -1.1**
baz=87
R23A Moffat 86.87 47 ⇑P **P 08 19 56.5 -0.8**
baz=87
SDCO Great Sand Dun 86.87 48 *e*P **P 08 19 56.4 -0.9**
comp=Z,1.3nm,0.9s
CHMT Chamberlain Mo 86.89 37 *e*P **P 08 19 56.6 -0.5**
P22A Eagle 86.94 46 ⇑P **P 08 19 56.7 -0.8**
baz=87
SLMT Seeley Lake 86.94 36 *e*P **P 08 20 00.3 +3.0**
M20A Sweetwater, Wa 86.97 43 ⇑P **P 08 19 56.9 -0.8**
baz=87
U25A Circle Dot Ran 86.99 49 ⇑P **P 08 19 57.1 -0.8**
baz=87
Z28A Tucker Farm, M 87.00 53 ⇑P **P 08 19 57.0 -0.8**
baz=87,SNR=7.3
531A Rocksprings 87.00 56 ⇑P **P 08 19 57.3 -0.6**
baz=87,SNR=14
S24A Houchin Ranch, 87.02 48 ⇓P **P 08 19 57.0 -1.1**
baz=87
N21A Black Mountain 87.02 44 ⇑P **P 08 19 57.5 -0.5**
baz=87,SNR=8.1
DLBC Dease Lake 87.03 21 *e*P **P 08 19 57.3 0.0**
MSTX Muleshoe 87.03 52 ⇓P **P 08 19 57.4 -0.6**
baz=87,SNR=7.4
H17A Grant Village 87.03 40 ⇑P **P 08 19 57.4 -0.5**
baz=87
330A Mertzon 87.07 55 ⇓P **P 08 19 56.8 -1.3**
baz=87
B13A Whitefish 87.07 35 ⇓P **P 08 19 56.9 -0.9**
baz=87
BOZ Bozeman (W) 87.10 39 *e*P **P 08 19 57.6 -0.5**
BOZ pmax pmax
comp=Z,5.0nm,1.0s
BOZ Bozeman (W) 87.10 39 *e*P **P 08 19 57.6 -0.5**
comp=Z,4.9nm,1.0s
X27A F and S Farms, 87.10 51 ⇑P **P 08 19 57.8 -0.6**
baz=87,SNR=6.1
C14A Swan Lake 87.11 36 ⇓P **P 08 19 57.9 -0.1**
baz=87
SYO Syowa Base 87.11 192⇑*e*P **P 08 19 56.4 -1.2**
SYO Syowa Base 87.11 192‖*e*PcP **PcP 08 20 00.4 +0.6**
I18A Diamond G Ranc 87.11 41 ⇓P **P 08 19 57.8 -0.5**
baz=87
L20A Wamsutter 87.14 43 ⇑P **P 08 19 58.2 -0.3**
baz=87,SNR=7.9
V26A Tequesquite Ra 87.14 50 ⇑P **P 08 19 57.8 -0.7**
baz=87
431A Sonora 87.18 56 ⇓P **P 08 19 57.5 -1.2**
baz=87
Q23A Hartsel 87.21 47 ⇓P **P 08 19 57.7 -1.3**
baz=87
K19A Absolon Red Bu 87.25 42 ⇑P **P 08 19 57.6 -1.3**
baz=87
632A Uvalde 87.31 57 ⇑P **P 08 19 58.7 -0.6**
baz=87,SNR=12
W27A Bowe Ranch, En 87.32 51 ⇓P **P 08 19 58.8 -0.6**
baz=87
230A Sterling City 87.33 55 ⇓P **P 08 19 58.7 -0.7**
baz=87
T25A Trinidad 87.34 49 ⇓P **P 08 19 59.0 -0.5**
baz=88
J19A Crowheart 87.35 42 ⇑P **P 08 19 58.3 -1.1**
baz=88,SNR=8.2
O22A Kremmling 87.36 45 ⇓P **P 08 19 58.8 -0.9**
baz=88

R24A	Sanders Place,	87.38	47	⇑P		P		08 19 58.8	-0.9	
	baz=88									
Y28A	McKinney Farm,	87.39	52	⇓P		P		08 19 58.7	-1.0	
	baz=88									
A13A	Flathead Natio	87.43	35	⇓P		P		08 19 59.1	-0.4	
	baz=88									
G17A	Pierce Place,	87.44	39	⇓P		P		08 19 59.1	-0.6	
	baz=88									
P23A	Jefferson	87.44	46	⇓P		P		08 19 59.4	-0.8	
	baz=88									
U26A	Atchley Ranch,	87.45	50	⇑P		P		08 19 59.5	-0.7	
	baz=88									
KULM	Kulim	87.46	277	eP		P		08 20 01.2	+0.8	
	comp=Z,37nm,1.2s									
KULM	Kulim	87.46	277	P		P		08 20 02.5	+2.1	
	comp=Z,32nm,1.3s									
K20A	Yellowstone Ra	87.48	42	⇑P		P		08 19 59.1	-1.0	
	baz=88									
SNAA	Sanae	87.48	177	eP		P		08 20 00.1	+0.6	
SNAA	Sanae	87.48	177	eP		P		08 20 00.1	+0.6	
	comp=Z,34nm,1.2s									
SNAA	Sanae	87.48	177	P		P		08 19 59.0	-0.5	
	comp=Z,2.2nm,0.9s,baz=195,slow=5.4,SNR=22									
532A	Rocksprings	87.49	57	⇑P		P		08 19 59.3	-0.9	
	baz=88,SNR=16									
Z29A	Hungry Hill Ra	87.50	53	⇑P		P		08 19 59.1	-1.1	
	baz=88,SNR=9.0									
M21A	Separation Pea	87.56	44	⇓P		P		08 19 59.6	-1.0	
	baz=88,SNR=9.4									
S25A	Robets Cordova	87.57	48	⇑P		P		08 19 59.5	-1.1	
	baz=88									
HRY	Holter Researc	87.58	38	eP		P		08 20 00.3	0.0	
331A	San Angelo	87.60	55	⇑P		P		08 19 59.6	-1.1	
	baz=88									
RWWY	Rawlins	87.70	44	eP		P		08 20 00.7	-0.5	
	comp=Z,9.1nm,0.9s									
X28A	Dimmitt	87.70	52	⇓P		P		08 20 00.1	-1.1	
	baz=88									
B14A	Marquette Ranc	87.71	36	⇑P		P		08 19 59.9	-1.0	
	baz=88									
JCT	Junction City	87.72	56	eP		P		08 20 00.3	-1.0	
JCT				pmax		pmax				
	comp=Z,13nm,1.4s									
JCT	Junction City	87.72	56	eP		P		08 20 00.3	-1.0	
	comp=Z,13nm,1.4s									
JCT	Junction City	87.72	56	⇑P		P		08 19 59.9	-1.4	
	baz=88									
L21A	Rawlins	87.74	43	⇑P		P		08 20 00.3	-1.0	
	baz=88									
C15A	Salmond Ranch,	87.74	36	⇑P		P		08 20 00.2	-0.9	
	baz=88									
N22A	Wattenberg Ran	87.74	45	⇑P		P		08 19 60.0	-1.5	
	baz=88									
130A	Snyder	87.76	54	⇑P		P		08 20 00.6	-0.8	
	baz=88									
WALA	Waterton Lakes	87.77	35	eP		P		08 20 00.7	-0.5	
	comp=Z,0.7nm,1.4s									
Y29A	Porterfield Fa	87.79	53	⇑P		P		08 20 00.9	-0.7	
	baz=88									
I19A	Meeteetse	87.80	41	⇓P		P		08 20 01.0	-0.6	
	baz=88									
O23A	Lake Granby, G	87.80	45	⇑P		P		08 20 00.6	-1.2	
	baz=88									
F17A	Fitzpatrick Pl	87.81	39	⇓P		P		08 20 01.0	-0.5	
	baz=88									
COLA	College	87.85	11	eP		P		08 20 01.8	+0.8	
COLA				pmax		pmax				
	comp=Z,131nm,1.0s									
COLA	College	87.85	11	eP		P		08 20 01.8	+0.8	
	comp=Z,130nm,1.0s									
432A	Menard	87.90	56	⇑P		P		08 20 00.8	-1.4	
	baz=88,SNR=10									
T26A	Comanche Natio	87.93	49	⇓P		P		08 20 01.2	-1.1	
	baz=88									
ILAR	Eielson Array	87.93	11	P		P		08 20 00.1	-1.4	
ILAR				PP		PP		08 23 27.6	-0.5	
ILAR	Eielson Array	87.93	11	P		P		08 20 00.1	-1.4	
	comp=Z,4.2nm,0.9s,baz=215,slow=5.0,SNR=24									
ILAR				PP		PP		08 23 27.6	-0.5	
	comp=Z,3.3nm,1.2s,baz=225,slow=8.2,SNR=4.4									
Z30A	Sanderson Ranc	87.94	53	⇓P		P		08 20 01.2	-1.1	
	baz=88									
M22A	Cedar Creek Ra	87.95	44	⇑P		P		08 20 01.3	-1.1	
	baz=88									
231A	Bronte	87.96	55	⇓P		P		08 20 01.0	-1.5	
	baz=88,SNR=8.3									
A14A	Double T Ranch	87.98	35	⇓P		P		08 20 01.7	-0.5	
	baz=88,SNR=11									
J20A	Shoshoni	88.00	42	⇑P		P		08 20 01.8	-0.7	
	baz=88,SNR=9.0									
X29A	Tulia	88.03	52	⇑P		P		08 20 01.8	-1.0	
	baz=88									
B15A	Bradely Ranch,	88.07	36	⇑P		P		08 20 02.1	-0.5	
	baz=88									
U27A	Thompson Grove	88.12	50	⇓P		P		08 20 02.7	-0.5	
	baz=88									
N23A	Red Feather La	88.12	45	⇓P		P		08 20 02.4	-0.9	
	baz=88									
G18A	Lazy EL Ranch,	88.13	40	⇑P		P		08 20 02.4	-0.7	
	baz=88									
H19A	Powell	88.14	40	⇑P		P		08 20 02.3	-0.8	
	baz=88									
K21A	Alcova	88.15	43	⇑P		P		08 20 02.5	-0.8	
	baz=88,SNR=6.1									
332A	Millersview	88.16	55	⇑P		P		08 20 02.4	-1.0	
	baz=88,SNR=8.4									
S26A	Kim	88.22	49	⇓P		P		08 20 03.0	-0.7	
	baz=88									
131A	Roby	88.23	54	⇑P		P		08 20 03.0	-0.7	
	baz=88									
C16A	Fuhringer Ranc	88.23	37	⇑P		P		08 20 02.5	-0.9	
	baz=88									
I20A	Worland	88.28	41	⇑P		P		08 20 03.0	-0.8	
	baz=88,SNR=5.8									
A15A	Johnson Ranch,	88.36	35	⇓P		P		08 20 02.7	-1.2	
	baz=88,SNR=10									
F18A	Big Timber	88.36	39	⇓P		P		08 20 03.0	-1.1	
	baz=88									
L22A	Ellis Ranch, M	88.37	44	⇑P		P		08 20 03.9	-0.4	
	baz=88,SNR=7.3									
J21A	Lysite	88.39	42	⇑P		P		08 20 03.5	-0.9	
	baz=88,SNR=10.0									
232A	Coleman	88.45	55	⇓P		P		08 20 03.6	-1.1	
	baz=89,SNR=8.5									
D17A	Six Diamond Ra	88.47	38	⇓P		P		08 20 04.1	-0.5	
	baz=89,SNR=6.9									
R26A	Arlington	88.56	48	⇑P		P		08 20 04.3	-0.9	
	baz=89									
B16A	M & M Farms, S	88.60	36	⇑P		P		08 20 04.7	-0.4	
	baz=89									
E18A	Harlowton	88.60	38	⇓P		P		08 20 04.4	-0.8	
	baz=89									
CHBT	CHBT	88.62	284	P		P		08 20 18.5	+13	
CHBT	CHBT	88.62	284	P		P		08 20 18.5	+13	
K22A	Casper	88.62	43	⇓P		P		08 20 04.4	-1.1	
	baz=89									
C17A	Wharram Farm,	88.69	37	⇑P		P		08 20 04.8	-0.8	
	baz=89,SNR=8.9									
Z31A	Sharp Cattle R	88.69	54	⇓P		P		08 20 05.0	-0.8	
	baz=89									
I21A	Big Trails, Te	88.73	42	⇑P		P		08 20 04.9	-1.1	
	baz=89,SNR=7.0									
ABTX	Abilene, Hawle	88.77	54	⇓P		P		08 20 05.4	-0.8	
	baz=89									
BJI	Beijing	88.78	314	P		P		08 20 06.0	0.0	
BJI				SS		SS		08 36 46.3	+0.9	
BJI				pmax		pmax				
	comp=Z,15nm,1.5s									
BJI				pmax		pmax				
	comp=Z,520nm,4.2s									
BJI				LR		LR				
	comp=N,310nm,23.5s									
BJI				LR		LR				
	comp=E,330nm,25.0s									
BJI				LR		LR				
	comp=Z,260nm,28.0s									
F19A	Roth Farm, Mol	88.79	39	⇓P		P		08 20 05.5	-0.6	
	baz=89									
DAWY	Dawson	88.88	14	eP		P		08 20 05.9	-0.1	
L23A	Garrett	88.89	44	⇑P		P		08 20 05.7	-1.1	
	baz=89,SNR=6.7									
R27A	Eads	89.00	48	⇓P		P		08 20 06.4	-0.9	
	baz=89									
B17A	L&G Farms, Che	89.04	37	⇑P		P		08 20 06.4	-0.7	
	baz=89									
EGAK	Eagle	89.09	13	eP		P		08 20 07.1	+0.2	
	comp=Z,51nm,1.6s									
Z32A	Haskell	89.19	54	⇑P		P		08 20 07.2	-0.9	
	baz=89,SNR=7.6									
E19A	Rath Farm, Rou	89.20	39	⇓P		P		08 20 06.8	-1.2	
	baz=89									
I22A	9 Mile Ranch,	89.27	42	⇑P		P		08 20 07.4	-1.1	
	baz=89									
A17A	Triple J Farms	89.45	36	⇓P		P		08 20 08.6	-0.5	
	baz=90,SNR=5.8									
KSCO	Kaye Shedlock'	89.46	48	⇓P		P		08 20 09.0	-0.4	
	baz=90									
D19A	Cripps Ranch,	89.52	38	⇓P		P		08 20 09.2	-0.3	
	baz=90									
Y32A	R-V Farms, Ver	89.52	53	⇑P		P		08 20 09.2	-0.5	
	baz=90									
E20A	Meyer Farm, Mu	89.61	39	⇓P		P		08 20 09.7	-0.2	
	baz=90									
W31A	Holland Ranch,	89.66	52	⇑P		P		08 20 09.6	-0.8	
	baz=90									
B18A	Beardsley Farm	89.66	37	⇑P		P		08 20 09.6	-0.5	
	baz=90									
R28A	Tribune	89.72	49	⇓P		P		08 20 10.2	-0.4	
	baz=90									
C19A	Slack Wire Ran	89.72	38	⇑P		P		08 20 10.2	-0.1	
	baz=90									
A18A	Metzger Ranch,	89.91	36	⇑P		P		08 20 10.6	-0.6	
	baz=90									
D20A	Manuel Ranch,	89.91	39	⇓P		P		08 20 11.1	-0.2	
	baz=90									
V31A	Spring Creek L	89.99	51	⇑P		P		08 20 12.0	+0.1	
	baz=90									
GYA	Guiyang	90.05	298	eP		P		08 20 13.3	+0.8	
GYA				PP		PP		08 23 45.8	-0.3	
GYA				SKS		SKSac		08 30 43.0	-0.4	
GYA				S		S		08 31 02.8	-2.8	
GYA				pmax		pmax				
	comp=Z,10.0nm,1.0s									
GYA				pmax		pmax				
	comp=Z,140nm,6.7s									
GYA				LR		LR				
	comp=N,160nm,19.4s									
GYA				LR		LR				
	comp=E,420nm,17.5s									
GYA				LR		LR				
	comp=Z,480nm,19.7s									
C20A	Veseth Ranch,	90.31	38	⇑P		P		08 20 13.1	0.0	
	baz=90,SNR=5.2									
P28A	Saint Francis	90.32	47	⇑P		P		08 20 13.4	0.0	
	baz=90									
EDM	Edmonton	90.48	32	eP		P		08 20 13.1	-0.7	
EDM	Edmonton	90.48	32	eP		P		08 20 13.1	-0.7	
A19A	Klindworth Far	90.53	37	⇑P		P		08 20 13.9	-0.3	
	baz=91									
D21A	La Casta Ranch	90.57	39	⇓P		P		08 20 14.2	-0.2	
	baz=91									
G23A	Biddle	90.60	41	⇓P		P		08 20 14.3	-0.2	
	baz=91									
B20A	Solberg Farm,	90.68	37	⇓P		P		08 20 14.7	-0.1	
	baz=91									
T31A	Randall Ranch,	90.68	50	⇓P		P		08 20 14.7	-0.4	
	baz=91									
R30A	Dighton	90.77	49	⇓P		P		08 20 15.0	-0.5	
	baz=91									
F23A	Volborg	90.85	41	⇑P		P		08 20 15.2	-0.5	
	baz=91									
C21A	Desert Coulee	90.90	38	⇓P		P		08 20 15.1	-0.8	
	baz=91									
H24A	Dirks Ranch, A	90.90	42	⇑P		P		08 20 15.1	-0.9	
	baz=91,SNR=7.0									
RSSD	Black Hills	90.93	43	eP		P		08 20 14.4	-1.9	
RSSD				pmax		pmax				
	comp=Z,10.0nm,1.1s									
RSSD	Black Hills	90.93	43	eP		P		08 20 14.4	-1.9	
	comp=Z,9.7nm,1.1s									
A20A	Cobblestone Ra	90.96	37	⇓P		P		08 20 15.6	-0.5	
	baz=91									
I25A	Rochford	91.07	43	⇑P		P		08 20 16.0	-0.9	
	baz=91									
D22A	Cohagen	91.09	39	⇓P		P		08 20 16.5	-0.3	
	baz=91,SNR=6.2									
Q30A	Quinter	91.12	48	⇑P		P		08 20 16.7	-0.4	
	baz=91									
PBKT	Sadao Pong	91.24	287	P		P		08 20 20.7	+2.7	
	comp=Z,28nm,1.4s									
PBKT	Sadao Pong	91.24	287	P		P		08 20 20.7	+2.7	
	comp=Z,28nm,1.4s									
B21A	Ellsworth Farm	91.25	38	⇑P		P		08 20 17.6	+0.1	
	baz=91,SNR=14									
G24A	Alzada	91.27	41	⇓P		P		08 20 17.4	-0.3	
	baz=91									
E23A	Ismay	91.29	40	⇓P		P		08 20 17.4	-0.3	
	baz=91									
R31A	Burdett	91.31	49	⇑P		P		08 20 17.1	-0.9	
	baz=91									
XAN	Xi'an	91.31	306	P		P		08 20 14.8	-3.3	
XAN				pP		pP		08 20 24.3	+1.2	
XAN				sP		sP		08 20 30.3	+5.4	
XAN				pmax		pmax				
	comp=Z,3.0nm,1.6s									
XAN				pmax		pmax				
	comp=Z,95nm,9.5s									
XAN				LR		LR				
	comp=N,560nm,12.5s									
XAN				LR		LR				
	comp=E,340nm,12.1s									
XAN				LR		LR				
	comp=Z,97nm,15.9s									
P30A	Selden	91.35	48	⇑P		P		08 20 18.0	-0.1	
	baz=92									
K27A	Flueckinger Fa	91.42	44	⇑P		P		08 20 19.1	+0.7	
	baz=92									
H25A	Fruitdale	91.44	42	⇓P		P		08 20 18.4	0.0	
	baz=92									
F24A	Ekalaka	91.50	41	⇑P		P		08 20 18.6	-0.1	
	baz=92									
C22A	Vida	91.56	39	⇑P		P		08 20 19.3	+0.3	
	baz=92									
A21A	Bergtoll Ranch	91.59	37	⇓P		P		08 20 18.6	-0.4	
	baz=92,SNR=9.5									
B22A	Reddig Ranch S	91.77	38	⇑P		P		08 20 19.7	-0.2	
	baz=92,SNR=7.6									
G25A	Newell	91.82	42	⇑P		P		08 20 20.2	0.0	
	baz=92									
CFAA	Coronel Fontan	91.88	125	P		P		08 20 19.9	-1.0	
CFAA	Coronel Fontan	91.88	125	P		P		08 20 19.9	-1.0	
	baz=266,slow=5.6									
C23A	Lambert	92.00	39	⇓P		P		08 20 21.3	+0.3	
	baz=92,SNR=7.1									
TGUH	Tegucigalpa,Un	92.01	76	eP		P		08 20 20.9	-0.7	
	comp=Z,16nm,1.0s									
A22A	Carney Farms,	92.16	38	⇑P		P		08 20 21.8	+0.1	
	baz=92									
I27A	Quinn	92.17	43	⇓P		P		08 20 21.7	-0.2	
	baz=92									
D24A	Glendive	92.18	40	⇓P		P		08 20 22.2	+0.4	
	baz=92									
HHC	Hu-ho-hao-te	92.28	313	eP		P		08 20 23.5	+1.0	
HHC				sP		sP		08 20 30.0	+0.7	
HHC				PP		PP		08 24 08.0	+4.6	
HHC				SKS		SKSac		08 30 54.8	-0.7	
HHC				S		S		08 31 24.5	-0.8	
HHC				sS		sS		08 31 31.5	-2.1	
HHC				SS		SS		08 37 38.8	+2.5	
HHC				pmax		pmax				
	comp=Z,57nm,0.8s									
HHC				pmax		pmax				
	comp=Z,510nm,7.4s									
HHC				LR		LR				
	comp=N,790nm,17.8s									
HHC				LR		LR				
	comp=E,960nm,15.5s									
HHC				LR		LR				
	comp=Z,990nm,17.8s									
L29A	Maesberg Ranch	92.30	46	⇑P		P		08 20 22.8	+0.3	
	baz=92									
C24A	Savage	92.32	39	⇓P		P		08 20 22.5	+0.1	
	baz=92,SNR=5.7									
G26A	Maurine	92.38	42	⇑P		P		08 20 22.6	-0.1	
	baz=92									
H27A	Howes	92.41	43	⇓P		P		08 20 23.0	+0.1	
	baz=92									
B23A	Brockton	92.44	38	⇓P		P		08 20 23.0	+0.1	
	baz=93,SNR=10									
E25A	Miller Ranch,	92.45	41	⇑P		P		08 20 22.9	-0.1	
	baz=93									
M30A	Dale-Ortello V	92.47	46	⇑P		P		08 20 23.2	-0.1	
	baz=93									
F26A	Lodgepole	92.59	42	⇓P		P		08 20 23.8	0.0	
	baz=93									
I28A	Midland	92.70	44	⇑P		P		08 20 24.4	+0.1	
	baz=93									
K29A	Lazy Trails An	92.71	45	⇑P		P		08 20 24.2	-0.2	
	baz=93									
JTS	JuntasAbangare	92.80	80	P		P		08 20 24.4	-0.9	
JTS	JuntasAbangare	92.80	80	P		P		08 20 24.4	-0.9	
	comp=Z,7.7nm,1.0s,baz=214,slow=5.5,SNR=4.2									
KMI	Kunming	92.82	296	P		P		08 20 27.3	+1.8	
KMI				pP		pP		08 20 29.5	-1.0	
KMI				sP		sP		08 20 30.5	-1.8	
KMI				PP		PP		08 24 06.8	-1.3	
KMI				SKS		SKSac		08 30 59.5	+0.1	
KMI				S		S		08 31 29.8	-1.2	
KMI				sS		ScS		08 31 35.5	+2.6	
KMI				SS		SS		08 37 45.3	+0.5	
KMI				pmax		pmax				
	comp=Z,17nm,1.1s									
KMI				pmax		pmax				
	comp=Z,270nm,5.4s									
KMI				LR		LR				
	comp=N,440nm,17.8s									
KMI				LR		LR				
	comp=E,630nm,16.8s									
KMI				LR		LR				
	comp=Z,940nm,16.8s									
G27A	Dupree	92.84	42	⇑P		P		08 20 23.9	-1.0	
	baz=93,SNR=6.2									
DGMT	Dagmar	92.90	39	eP		P		08 20 25.6	+0.5	
	comp=Z,33nm,1.0s									
DGMT	Dagmar	92.90	39	⇑P		P		08 20 24.9	-0.2	
	baz=93,SNR=6.5									
E26A	Carlson Angus	93.01	41	⇓P		P		08 20 25.4	-0.2	
	baz=93									
TUL1	Tulsa	93.03	53	⇑P		P		08 20 25.7	-0.3	
	baz=93									
C25A	Freed Ranch, W	93.10	40	⇓P		P		08 20 26.2	+0.2	
	baz=93									
A24A	Westby	93.23	38	⇑P		P		08 20 26.5	0.0	
	baz=93									
BGNE	Belgrade	93.59	47	⇑P		P		08 20 28.7	+0.3	
	baz=94									
CMAR	Chiang Mai Arr	93.72	288	P		P		08 20 30.6	+1.1	
CMAR	Chiang Mai Arr	93.72	288	P		P		08 20 30.6	+1.1	
	comp=Z,2.2nm,0.3s,baz=108,slow=2.3,SNR=24									
CMAR				LR		LR		09 01 07.7		
	comp=Z,374nm,18.1s,baz=282,slow=34									
INK	Inuvik	93.73	14	eP		P		08 20 28.7	+0.4	
	comp=Z,23nm,1.6s									
INK	Inuvik	93.73	14	P		P		08 20 27.3	-1.0	
	comp=Z,3.4nm,0.9s,baz=203,slow=2.6,SNR=4.9									
CMMT	Chiang Mai	93.84	289	P		P		08 20 32.2	+2.1	
	comp=Z,27nm,0.8s									
CMMT	Chiang Mai	93.84	289	P		P		08 20 32.2	+2.1	
	comp=Z,27nm,0.8s									
CHTO	Chiang Mai	93.84	289	eP		P		08 20 32.0	+2.0	
CHTO				pmax		pmax				
	comp=Z,18nm,1.1s									
CHTO	Chiang Mai	93.84	289	eP		P		08 20 32.0	+2.0	
	comp=Z,18nm,1.1s									
CHTO	Chiang Mai	93.84	289	P		P		08 20 32.4	+2.3	
	comp=Z,18nm,1.2s									
CHTO	Chiang Mai	93.84	289	P		P		08 20 32.4	+2.3	
	comp=Z,18nm,1.2s									
CD2	Chengdu	94.11	301	eP		P		08 20 31.3	+0.2	
CD2				pP		pP		08 20 36.0	-0.1	
CD2				sP		sP		08 20 38.0	+0.1	
CD2				PP		PP		08 24 20.5	+2.6	
CD2				SKS		SKSac		08 31 04.5	-1.4	
CD2				S		S		08 31 39.0	-2.8	
CD2				sS		ScS		08 31 46.5	+3.4	
CD2				SS		SS		08 38 03.3	+0.5	
CD2				pmax		pmax				
	comp=Z,10.0nm,1.6s									
CD2				pmax		pmax				
	comp=Z,80nm,6.8s									
CD2				LR		LR				
	comp=E,520nm,16.7s									
CD2				LR		LR				
	comp=Z,430nm,13.2s									
A26A	Wade Farm, Ken	94.37	39	⇓P		P		08 20 32.0	+0.2	
	baz=94									
MDND	Maddock	95.37	41	⇓P		P		08 20 35.9	-0.5	
	baz=96									
YKA	Yellowknife Ar	95.37	24	P		P		08 20 35.1	-0.9	
YKA	Yellowknife Ar	95.37	24	P		P		08 20 35.1	-0.9	
	comp=Z,1.8nm,0.7s,baz=239,slow=4.5,SNR=8.6									
ECSD	EROS Data Cent	95.58	45	eP		P		08 20 36.7	-0.7	
	comp=Z,16nm,1.3s									
LZH	Lanzhou	95.95	306	eP		P		08 20 40.5	+1.0	
LZH				pP		pP		08 20 44.3	-0.3	
LZH				sP		sP		08 20 48.0	+1.6	
LZH				PP		PP		08 24 29.0	-3.2	
LZH				SKS		SKSac		08 31 18.5	+2.8	
LZH				S		S		08 31 54.0	-3.8	
LZH				sS		sS		08 32 02.5	-3.6	
LZH				pmax		pmax				
	comp=Z,17nm,1.1s									
LZH				pmax		pmax				
	comp=Z,86nm,4.1s									
LZH				LR		LR				
	comp=N,460nm,16.7s									
LZH				LR		LR				
	comp=E,390nm,14.2s									
LZH				LR		LR				
	comp=Z,650nm,18.0s									
AGMN	Agassiz Nation	97.84	41	eP		P		08 20 46.1	-1.5	
	comp=Z,4.6nm,1.1s									
SONM	Songino Array	98.48	318	P		P		08 20 49.8	-0.9	
SONM				PP		PP		08 24 48.3	-3.1	
SONM	Songino Array	98.48	318	P		P		08 20 49.8	-0.9	
	comp=Z,0.2nm,0.4s,baz=88,slow=40,SNR=4.9									
SONM				PP		PP		08 24 48.3	-3.1	
	comp=Z,0.8nm,0.9s,baz=134,slow=6.4,SNR=4.2									
SONM				LR		LR		09 04 16.6		
	comp=Z,391nm,18.8s,baz=130,slow=35									
ULM	Lac du Bonnet	98.58	39	LR		LR		09 00 24.2		
	comp=Z,1µm,19.5s,baz=60,slow=32									
GTA	Gaotai	100.08	308	eP		Pdif		08 20 58.3	+0.3	
GTA				pP		pP		08 21 02.5	-0.6	
GTA				sP		sP		08 21 05.0	+0.1	
GTA				PP		PP		08 25 02.3	-1.5	
GTA				SKS		SKSac		08 31 34.5	-2.0	
GTA				S		SKKSac		08 32 28.3	+18	
GTA				SS		SS		08 39 26.5	-0.4	
GTA				pmax		pmax				
	comp=

BVAR	**Borovoye Array**	**121.74**	**320**	PKP		**PKPdf**	**08 26 06.3**	**+0.4**
	comp=Z,4.7nm,0.7s,baz=90,slow=1.5,SNR=16							
BRVK	**Borovoye**	**121.80**	**320**	⇑*i*PKIKP		**PKPdf**	**08 26 06.8**	**+0.8**
BRVK				pmax	pmax			
	comp=Z,14nm,1.2s							
BRVK	**Borovoye**	**121.80**	**320**	*e*PKPdf		**PKPdf**	**08 26 06.4**	**+0.4**
KKAR	**Karatay Array**	**122.36**	**308**	*e*PKIKP		**PKPdf**	**08 26 08.2**	**+0.7**
KKAR	**Karatay Array**	**122.36**	**308**	*e*PKPdf		**PKPdf**	**08 26 08.2**	**+0.7**
SPITS	**Spitsbergen Ar**	**122.45**	**357**	PKP		**PKPdf**	**08 26 06.6**	**-0.1**
SPITS	**Spitsbergen Ar**	**122.45**	**357**	PKP		**PKPdf**	**08 26 06.6**	**-0.1**
	comp=Z,7.5nm,0.8s,baz=133,slow=18,SNR=8.7							
KBL	**Kabul**	**123.31**	**298**	*e*PKPdf		**PKPdf**	**08 26 11.6**	**+1.8**
ARU	**Arti**	**127.59**	**326**	*i* PKIKP		**PKPdf**	**08 26 18.5**	**+1.5**
ARU							08 28 18.4	
ARU							08 33 21.3	
ARU				SP	SP		08 38 25.6	+4.5
ARU				MLR	MLR			
	comp=Z,935nm,19.0s							
ABKAR	**Akbulak array**	**128.89**	**317**	*e*PKPdf		**PKPdf**	**08 26 20.9**	**+1.3**
AKTO	**Aktyubinsk**	**129.79**	**319**	PKIKP		**PKPdf**	**08 26 20.8**	**-0.6**
AKTO	**Aktyubinsk**	**129.79**	**319**	PKP		**PKPdf**	**08 26 20.8**	**-0.6**
AKTO	**Aktyubinsk**	**129.79**	**319**	PKP		**PKPdf**	**08 26 20.8**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=55,slow=8.3,SNR=4.8							
ARCES	**ARCESS Array B**	**129.93**	**351**	PKP		**PKPdf**	**08 26 20.5**	**-0.6**
ARCES	**ARCESS Array B**	**129.93**	**351**	PKP		**PKPdf**	**08 26 20.5**	**-0.6**
	comp=Z,4.2nm,0.7s,baz=346,slow=2.5,SNR=10							
FINES	**FINESS Array B**	**137.12**	**346**	PKP		**PKPdf**	**08 26 34.5**	**-0.3**
FINES	**FINESS Array B**	**137.12**	**346**	PKP		**PKPdf**	**08 26 34.5**	**-0.3**
	comp=Z,5.1nm,0.9s,baz=60,slow=7.5,SNR=7.0							
DGRG	**David-gareji**	**140.95**	**311**	P		**PKPdf**	**08 26 41.3**	**-1.3**
TBLG	**Delisi**	**141.30**	**311**	*e*PKIKP		**PKPdf**	**08 26 40.8**	**-2.3**
TBLG	**Delisi**	**141.30**	**311**	P		**PKPdf**	**08 26 40.8**	**-2.3**
KIV	**Kislovodsk**	**141.84**	**316**	*i* PKIKP		**PKPdf**	**08 26 47.0**	**+2.9**
KIV				*e*SS	SS		08 48 23.6	+3.0
KIV				pmax	pmax			
	comp=Z,9.0nm,1.0s							
ONI	**Oni**	**141.88**	**313**	P		**PKPdf**	**08 26 47.0**	**+2.8**
KMBO	**Kilima Mbogo**	**142.34**	**238**	PKP		**PKPdf**	**08 26 46.9**	**+0.8**
KMBO				*e*PKPdf		**PKiKP**	**08 26 47.5**	**-1.6**
KMBO	**Kilima Mbogo**	**142.34**	**238**	PKP		**PKPdf**	**08 26 46.9**	**+0.8**
	comp=Z,3.6nm,0.9s,baz=350,slow=9.7,SNR=3.7							
IBDR	**Badra**	**142.55**	**297**	*e*PKP		PKPdf	08 26 38.0	-7.6
NACGM	**Naroch**	**142.57**	**340**	*e*		**PKPdf**	**08 26 50.0**	**+5.1**
BHD	**Baghdad**	**143.81**	**298**	*e*PKP		PKPab	08 26 45.0	+0.3
BHD				*e*PP		PP	08 29 54.0	-7.1
BHD				*e*SKP			08 30 30.0	
SOC	**Sochi**	**143.93**	**317**	*e*PKIKP		PKPbc	08 26 46.0	+0.6
SOC				*i*			08 26 50.6	
SOC				*e*SS	SS		08 48 49.7	+5.2
SOC				*e*SSS	SSS		08 54 12.4	
SOC				pmax	pmax			
	comp=Z,7.0nm,0.6s							
SOC				pmax	pmax			
	comp=Z,16nm,0.6s							
SUW	**Suwalki**	**144.42**	**342**	*e*PKP		**PKPdf**	**08 26 48.2**	**0.0**
ANN	**Anapa**	**144.74**	**320**	*i* PKIKP		**PKPab**	**08 26 47.0**	**-0.8**
ANN				*e*SS	SS		08 48 48.0	-5.5
ANN				pmax	pmax			
	comp=Z,297nm,6.3s							
ANN				pmax	pmax			
	comp=Z,81nm,1.4s							
KIEV	**Kiev**	**145.07**	**334**	*e*PKIKP		**PKPbc**	**08 26 48.3**	**-0.5**
KIEV	**Kiev**	**145.07**	**334**	*e*PKPdf		**PKPbc**	**08 26 48.3**	**-0.5**
MZRK	**Al-Mazaregh**	**146.22**	**304**	*e*P		**PKPab**	**08 26 53.6**	**-0.1**
MZRK	**Al-Mazaregh**	**146.22**	**304**	*e*P		**PKPab**	**08 26 53.6**	**-0.1**
	SNR=46							
GKP	**Gorka Klasztor**	**146.53**	**348**	*e*PKP		**PKPdf**	**08 26 51.2**	**-0.6**
SIM	**Simferopol'**	**146.60**	**322**	*d i*PKP2		**PKPab**	**08 26 55.2**	**+0.4**
SIM				pmax	pmax			
	comp=Z,34nm,0.8s							
BEL	**Belsk**	**147.02**	**343**	*e*PKP		**PKPab**	**08 26 56.7**	**+0.5**
MALT	**Malatya**	**147.06**	**309**	⇓*i*P		PKPab	08 27 16.7	+20
KSRV	**Kasrt alli**	**147.48**	**304**	*e*P		**PKPdf**	**08 26 52.9**	**-1.1**
KSRV	**Kasrt alli**	**147.48**	**304**	*e*P		**PKPdf**	**08 26 52.9**	**-1.1**
	SNR=94							
LVV	**L'vov**	**147.76**	**338**	*e*PKP2		**PKPab**	**08 26 58.2**	**-1.0**
KIS	**Kishinev**	**148.01**	**330**	⇓*i*PKP		**PKPbc**	**08 26 58.0**	**+0.4**
	comp=Z,700nm,8.0s							
KIS	**Kishinev**	**148.01**	**330**	*e*PP		PP	08 30 23.0	-1.9
KIS				*e*SS	SS		08 49 44.0	+14
KIS				*e*L	L		09 28 20.0	
KIS				LRM	MLR		09 34 06.0	
	comp=Z,300nm,20.0s							
KIS	**Kishinev**	**148.01**	**330**	*e*PKP2		**PKPbc**	**08 26 58.0**	**+0.4**
KIS				*e*			08 30 23.0	
KIS				pmax	pmax			
	comp=Z,700nm,6.0s							
KIS				pmax	pmax			
	comp=Z,700nm,8.0s							
KIS				MLR	MLR			
	comp=N,400nm,20.0s							
KIS				MLR	MLR			
	comp=E,300nm,20.0s							
KIS				MLR	MLR			
	comp=Z,300nm,20.0s							
KIS				MLR	MLR			
	comp=Z,500nm,20.0s							
GZT	**Gaziantep**	**148.06**	**308**	*i* P		**PKPab**	**08 27 00.2**	**-0.8**
SLMH	**Al Salmeh**	**148.19**	**306**	*e*P		**PKPdf**	**08 26 55.3**	**+0.1**
SLMH	**Al Salmeh**	**148.19**	**306**	*e*P		**PKPdf**	**08 26 55.3**	**+0.1**
	SNR=46							
NRDL	**Niedersach Rie**	**148.29**	**355**	*e*PKPbc		**PKPbc**	**08 26 59.5**	**+1.4**
KWP	**Kalwaria Pacla**	**148.37**	**339**	*e*PKP		**PKPab**	**08 27 00.2**	**-1.5**
AYKD	**Aykdinkavak**	**148.59**	**308**	*i* P		**PKPbc**	**08 27 00.4**	**+0.9**
IBBN	**Ibbenburen**	**148.62**	**358**	*e*PKPbc		**PKPbc**	**08 27 00.6**	**+1.6**
IBBN				*ep*PKPbc		pPKPbc	08 27 13.7	+10
OJC	**Ojcow**	**148.75**	**343**	*e*PKP2		**PKPbc**	**08 26 59.6**	**+0.2**
OJC	**Ojcow**	**148.75**	**343**	*e*PKP		**PKPbc**	**08 26 59.6**	**+0.2**
DRWC	**Darouich**	**149.00**	**307**	*e*P		**PKPab**	**08 27 03.7**	**-1.1**
DRWC	**Darouich**	**149.00**	**307**	*e*P		**PKPab**	**08 27 03.7**	**-1.1**
	SNR=46							
KSP	**Ksiaz**	**149.02**	**347**	*e*PKP2		**PKPbc**	**08 26 59.3**	**-0.8**
KSP	**Ksiaz**	**149.02**	**347**	*e*PKP		**PKPab**	**08 27 02.2**	**-2.0**
STHS	**Stebnicka Huta**	**149.03**	**340**	*e*PKIKP		**PKPdf**	**08 26 57.1**	**+1.0**
STHS				*e*			08 27 05.9	
STHS	**Stebnicka Huta**	**149.03**	**340**	*e*PKP		**PKPdf**	**08 26 57.1**	**+1.0**
STHS				*e*			08 27 05.9	
ILGA	**Ilgaz**	**149.04**	**317**	*i* P		**PKPab**	**08 27 03.3**	**-1.7**
BURAR	**Bucovina Array**	**149.12**	**334**	⇑PKP2		**PKPbc**	**08 27 02.2**	**+1.6**
BURAR	**Bucovina Array**	**149.12**	**334**	⇑*i*P		**PKPbc**	**08 27 02.2**	**+1.6**
KOLS	**Kolonicke sedl**	**149.12**	**339**	*e*PKP2		**PKPbc**	**08 27 00.1**	**-0.3**
KOLS	**Kolonicke sedl**	**149.12**	**339**	*e*PKP		**PKPbc**	**08 27 00.1**	**-0.3**
KOLS				*e*			08 27 05.7	
CLL	**Collm**	**149.15**	**351**	*e*PKPbc		**PKPbc**	**08 27 02.1**	**+1.6**
CLL				*ep*PKPbc		pPKPbc	08 27 14.8	+9.3
CLL	**Collm**	**149.15**	**351**	*e*PKP2		**PKPbc**	**08 27 02.0**	**+1.6**
CLL				pmax	pmax			
	comp=Z,11nm,0.9s							
CLL				MLR	MLR			
	comp=Z,400nm,20.2s							
CLL	**Collm**	**149.15**	**351**	*e*PKiKP		**PKPbc**	**08 27 02.0**	**+1.6**
	comp=Z,24nm,0.9s							
CLL				*e*PKPab		**PKPab**	**08 27 04.0**	**-0.7**
	comp=Z,31nm,1.1s							
CLL				*es*PKiKP		sPKiKP	08 27 06.0	-2.6
	comp=Z,90nm,1.4s							
CLL				*e*			08 27 14.0	
CLL				*e*PP		**PP**	**08 30 30.0**	**-1.0**
CLL				*e*			08 31 50.0	
CLL				*e*PPP		PPP	08 33 54.0	
CLL				*e*PSKS			08 40 46.0	
CLL				*e*			08 41 06.0	
CLL				*e*SS		**SS**	**08 49 42.0**	**+0.1**
CLL				*e*SSS		SSS	08 55 18.0	
CLL				Lm		MLR	09 37 00.0	
	comp=Z,400nm,20.2s							
NIE	**Niedzica**	**149.32**	**341**	*e*PKIKP		**PKPdf**	**08 26 58.2**	**+1.6**
TESR	**Tescani**	**149.36**	**331**	⇓*i*P		**PKPab**	**08 27 04.0**	**-1.8**
BTCH	**Batrach**	**149.37**	**306**	*e*P		**PKPbc**	**08 27 03.7**	**+2.1**
BTCH	**Batrach**	**149.37**	**306**	*e*P		**PKPbc**	**08 27 03.7**	**+2.1**
	SNR=46							
UZH	**Uzhgorod**	**149.37**	**338**	*i* PKP2		**PKPbc**	**08 27 02.8**	**+1.8**
KFRA	**Kufra**	**149.39**	**304**	*e*P		**PKPbc**	**08 27 00.5**	**-1.2**
KFRA	**Kufra**	**149.39**	**304**	*e*P		**PKPbc**	**08 27 00.4**	**-1.2**
	SNR=46							
NEUB	**Neuenburg**	**149.40**	**353**	*ep*PKPbc		pPKPbc	08 27 15.9	+10
BRG	**Berggiesshubel**	**149.43**	**350**	*e*PKP		**PKPbc**	**08 27 01.1**	**0.0**
	comp=Z,13nm,1.4s							
BRG				*i*			08 27 07.0	
	comp=Z,59nm,1.4s							
BRG				SS		SS	08 49 36.0	-9.1
BRG								
	comp=N,380nm,23.4s							
BRG								
	comp=E,335nm,21.1s							
BRG								
	comp=Z,610nm,18.2s							
BRG	**Berggiesshubel**	**149.43**	**350**	*e*PKP2		**PKPbc**	**08 27 01.1**	**0.0**
BRG				SS		SS	08 49 36.0	-9.1
BRG				pmax	pmax			
	comp=Z,13nm,1.4s							
BRG				pmax	pmax			
	comp=Z,59nm,1.4s							
BRG				MLR	MLR			
	comp=N,380nm,23.4s							
BRG				MLR	MLR			
	comp=E,335nm,21.1s							
BRG				MLR	MLR			
	comp=Z,610nm,18.2s							
FBE	**Freiberg**	**149.47**	**351**	*ep*PKPbc		pPKPbc	08 27 16.4	+10
DPC	**Dobruska-Polom**	**149.48**	**347**	*e*PKP2		**PKPbc**	**08 27 02.9**	**+1.6**
DPC	**Dobruska-Polom**	**149.48**	**347**	*e*PKP		**PKPbc**	**08 27 02.9**	**+1.6**
BUG	**Bochum--Univer**	**149.50**	**358**	*e*PKPbc		**PKPbc**	**08 27 02.9**	**+1.7**
BUG				*ep*PKPbc		pPKPbc	08 27 15.9	+10
ELDT	**Eldivan**	**149.53**	**316**	*i* P		**PKPbc**	**08 27 03.7**	**+1.8**
OKC	**Ostrava-Krasne**	**149.53**	**344**	*e*PKP2		**PKPab**	**08 27 04.5**	**-1.8**
OKC				*e*			08 49 47.6	
OKC				MLR	MLR			
	comp=Z,500nm,22.4s							
OKC	**Ostrava-Krasne**	**149.53**	**344**	*e*PKPAB		**PKPab**	**08 27 04.5**	**-1.8**
OKC				*ep*PKP		PKiKP	08 27 12.7	+10
OKC				*e*SS		SS	08 49 47.6	+1.2
OKC				AMS		AMS	09 36 40.0	
	comp=Z,500nm,22.4s							
KRLC	**Kraliky**	**149.64**	**346**	*e*PKP2		**PKPbc**	**08 27 03.7**	**+2.0**
KRLC	**Kraliky**	**149.64**	**346**	⇑*e*PKP		**PKPbc**	**08 27 03.7**	**+2.0**
CFR	**Carcaliu**	**149.65**	**328**	⇑PKP2		**PKPbc**	**08 27 03.8**	**+2.0**
CFR	**Carcaliu**	**149.65**	**328**	⇑*i*P		**PKPbc**	**08 27 03.8**	**+2.0**
PVCC	**Panska Ves**	**149.65**	**349**	*e*PKP2		**PKPbc**	**08 27 02.7**	**+1.0**
PVCC				MLR	MLR			
	comp=Z,600nm,21.0s							
PVCC	**Panska Ves**	**149.65**	**349**	⇑*e*PKP		**PKPbc**	**08 27 02.7**	**+1.0**
PVCC				*ex*	x		08 27 16.3	
PVCC				AMS	AMS		09 41 00.0	
	comp=Z,600nm,21.0s							
ZALF	**Zalf**	**149.65**	**300**	*e*P		**PKPbc**	**08 27 03.0**	**+0.7**
ZALF	**Zalf**	**149.65**	**300**	*e*P		**PKPbc**	**08 27 03.0**	**+0.7**
	SNR=46							
TRPA	**Tarpa**	**149.71**	**338**	⇑*i*P		**PKPbc**	**08 27 03.9**	**+2.0**
MORC	**Moravsky Berou**	**149.74**	**345**	*e*PKHKP		PKPpre	08 26 58.3	
MORC	**Moravsky Berou**	**149.74**	**345**	*e*PKPdf		**PKPdf**	**08 26 58.3**	**+1.0**
BRTR	**Keskin Array B**	**149.78**	**315**	PKP		**PKPdf**	**08 26 58.1**	**+0.3**
BRTR				PKPbc		**PKiKP**	**08 27 03.7**	**+0.2**
BRTR	**Keskin Array B**	**149.78**	**315**	PKP		**PKPdf**	**08 26 58.1**	**+0.3**
	comp=Z,5.1nm,1.1s,baz=288,slow=1.4,SNR=4.8							
BRTR				PKPbc		**PKiKP**	**08 27 03.7**	**+0.2**
	comp=Z,13nm,0.9s,baz=129,slow=3.0,SNR=23							
ARNB	**Al Arnab**	**149.80**	**306**	*e*P		**PKPbc**	**08 27 03.7**	**+1.1**
ARNB	**Al Arnab**	**149.80**	**306**	*e*P		**PKPbc**	**08 27 03.7**	**+1.1**
	SNR=46							
VRI	**Vrincioaia**	**149.82**	**330**	⇓PKP2		**PKPbc**	**08 27 04.5**	**+2.2**
VRI	**Vrincioaia**	**149.82**	**330**	⇓*i*P		**PKPbc**	**08 27 04.5**	**+2.2**
BIDA	**Albida**	**149.83**	**304**	*e*P		**PKPdf**	**08 26 59.0**	**+1.0**
BIDA	**Albida**	**149.83**	**304**	*e*P		**PKPdf**	**08 26 59.0**	**+1.0**
	SNR=46							
PLOR	**Plostina**	**149.86**	**330**	⇓PKP2		**PKPbc**	**08 27 04.7**	**+2.3**
PLOR	**Plostina**	**149.86**	**330**	⇓*i*P		**PKPbc**	**08 27 04.7**	**+2.3**
UBBA	**Unterbreizbach**	**149.97**	**355**	*e*PKPbc		**PKPbc**	**08 27 04.0**	**+1.7**
UBBA				*ep*PKPbc		PKPab	08 27 16.8	+8.9
MOX	**Moxa**	**149.98**	**353**	*e*PKPbc		**PKPbc**	**08 27 04.2**	**+1.7**
MOX				*ep*PKPbc		PKPab	08 27 17.2	+9.1
MOX	**Moxa**	**149.98**	**353**	*e*PKP2		**PKPbc**	**08 27 04.2**	**+1.7**
PLN	**Plauen**	**150.07**	**352**	*e*PKPbc		**PKPbc**	**08 27 04.6**	**+1.9**
PLN				*ep*PKPbc		PKPab	08 27 17.5	+9.0
WERD	**Werda**	**150.08**	**352**	*e*PKPbc		**PKPbc**	**08 27 04.4**	**+1.6**
WERD				*ep*PKPbc		PKPab	08 27 17.6	+9.0
KECS	**Kecovo**	**150.09**	**340**	*e*PKP2		**PKPbc**	**08 27 05.2**	**+2.4**
KECS	**Kecovo**	**150.09**	**340**	*e*PKP		**PKPbc**	**08 27 05.2**	**+2.4**
TANN	**Tannenbergstha**	**150.09**	**352**	*e*PKPbc		**PKPbc**	**08 27 04.6**	**+1.7**
TANN				*ep*PKPbc		PKPab	08 27 17.7	+9.0
PRA	**Prague**	**150.12**	**349**	⇑PKP		**PKPbc**	**08 27 05.0**	**+2.2**
GUNZ	**Gunzen**	**150.16**	**352**	*e*PKPbc		**PKPbc**	**08 27 04.7**	**+1.7**
GUNZ				*ep*PKPbc		PKPab	08 27 17.8	+8.9
PRU	**Pruhonice**	**150.18**	**349**	*e*PKP2		**PKPbc**	**08 27 04.6**	**+1.6**
PRU				*e*			08 49 54.9	
PRU				MLR	MLR			
	comp=Z,600nm,19.1s							
PRU	**Pruhonice**	**150.18**	**349**	⇑*e*PKP		**PKPbc**	**08 27 04.6**	**+1.6**
PRU				*ep*PKP		**PKPab**	**08 27 13.6**	**+4.7**
PRU				*ex*	x		08 40 50.8	
PRU				*e*SS	SS		08 49 54.9	+1.5
PRU				AMS	AMS		09 42 20.0	
	comp=Z,600nm,19.1s							
SALA	**Sala**	**150.20**	**300**	*e*P		**PKPdf**	**08 26 53.6**	**-5.2**
SALA	**Sala**	**150.20**	**300**	*e*P		**PKPdf**	**08 26 53.6**	**-5.2**
	SNR=46							
WERN	**Wernitzgruen**	**150.23**	**352**	*e*PKPbc		**PKPbc**	**08 27 05.2**	**+2.0**
WERN				*ep*PKPbc		PKPab	08 27 18.1	+8.9
DOPR	**Dopca**	**150.34**	**332**	⇑*i*P		**PKPbc**	**08 27 06.0**	**+2.5**
MEM	**Membach**	**150.35**	**360**	PKPbc		**PKPbc**	**08 27 04.2**	**+0.9**
MLR	**Muntele Rosu**	**150.46**	**331**	⇑*i*P		**PKPbc**	**08 27 05.9**	**+1.9**
MANZ	**Manzenberg**	**150.56**	**352**	*e*PKPbc		**PKPbc**	**08 27 05.8**	**+1.8**
MANZ				*ep*PKPbc		PKPab	08 27 18.6	+8.0
VYHS	**Vyhne**	**150.58**	**342**	*e*PKIKP		**PKPbc**	**08 27 06.0**	**+2.0**
VYHS	**Vyhne**	**150.58**	**342**	*e*PKP		**PKPbc**	**08 27 06.0**	**+2.0**
BRBR	**Barbar**	**150.63**	**301**	*e*P		**PKPbc**	**08 27 06.2**	**+1.3**
BRBR	**Barbar**	**150.63**	**301**	*e*P		**PKPbc**	**08 27 06.2**	**+1.3**
	SNR=46							
TREC	**Trest**	**150.66**	**347**	*e*PKIKP		**PKPbc**	**08 27 05.4**	**+1.2**
TREC				*e*			08 27 14.0	
TREC				MLR	MLR			
	comp=Z,700nm,18.0s							
TREC	**Trest**	**150.66**	**347**	⇑*e*PKP		**PKPbc**	**08 27 05.4**	**+1.2**
TREC				*ep*PKPAB		**PKPab**	**08 27 14.0**	**+3.0**
TREC				AMS	AMS		09 44 30.0	
	comp=Z,700nm,18.0s							
TNS	**Taunus Mts**	**150.67**	**357**	*e*PKPbc		**PKPbc**	**08 27 05.9**	**+1.7**
TNS				*ep*PKPbc		PKPab	08 27 19.0	+8.0
TNS	**Taunus Mts**	**150.67**	**357**	*e*PKIKP		**PKPbc**	**08 27 05.9**	**+1.7**
TNS				*e*			08 27 19.0	
ROTZ	**Rotzenmuhle**	**150.76**	**352**	*e*PKPbc		**PKPbc**	**08 27 06.3**	**+1.9**
ROTZ				*ep*PKPbc		PKPab	08 27 19.2	+7.8
DRGR		**150.78**	**336**	⇑PKIKP		**PKPbc**	**08 27 06.6**	**+2.0**
DRGR		**150.78**	**336**	⇑*i*P		**PKPbc**	**08 27 06.6**	**+2.0**
PSZ	**Piszkesteto**	**150.78**	**341**	*e*PKIKP		**PKPbc**	**08 27 04.9**	**+0.3**
PSZ	**Piszkesteto**	**150.78**	**341**	*e*PKPbc		**PKPbc**	**08 27 04.9**	**+0.3**
DOU	**Dourbes**	**150.84**	**2**	PKPbc		**PKPbc**	**08 27 05.9**	**+1.4**
VOIR		**150.90**	**332**	⇓PKIKP		**PKPbc**	**08 27 07.5**	**+2.5**
VOIR		**150.90**	**332**	⇓*i*P		**PKPbc**	**08 27 07.4**	**+2.5**
GRF	**Grafenberg Arr**	**150.96**	**353**	*e*PKPbc		**PKPbc**	**08 27 06.4**	**+1.5**
GRF	**Grafenberg Arr**	**150.96**	**353**	*e*PKIKP		**PKPbc**	**08 27 06.4**	**+1.5**
GRFO	**Grafenberg**	**150.96**	**353**	*e*PKIKP		**PKPbc**	**08 27 07.1**	**+2.2**
GRFO	**Grafenberg**	**150.96**	**353**	*e*PKPbc		**PKPbc**	**08 27 07.1**	**+2.2**
ARR	**Arges**	**151.14**	**332**	⇑*i*P		**PKPbc**	**08 27 08.3**	**+2.8**
KHC	**Kasperske Hory**	**151.17**	**350**	*e*PKIKP		**PKPbc**	**08 27 06.8**	**+1.3**
KHC				*e*			08 27 17.5	
KHC				*e*			08 50 00.7	
KHC				MLR	MLR			
	comp=Z,600nm,21.5s							
KHC	**Kasperske Hory**	**151.17**	**350**	⇑*e*PKP		**PKPbc**	**08 27 06.8**	**+1.3**
KHC				*ep*PKP		**PKPab**	**08 27 17.5**	**+4.4**
KHC				*e*SS		SS	08 50 00.7	-3.9
KHC				AMS		AMS	09 37 30.0	
	comp=Z,600nm,21.5s							
KHC	**Kasperske Hory**	**151.17**	**350**	*e*PKPbc		**PKPbc**	**08 27 06.7**	**+1.3**
MMAI	**Mount Meron Ar**	**151.19**	**301**	PKPbc		**PKPbc**	**08 27 06.0**	**0.0**
MMAI	**Mount Meron Ar**	**151.19**	**301**	PKPbc		**PKPbc**	**08 27 06.0**	**0.0**
	comp=Z,20nm,0.7s,baz=77,slow=7.8,SNR=18							
WLF	**Walferdange**	**151.29**	**360**	PKPbc		**PKPbc**	**08 27 05.7**	**+1.8**
WLF	**Walferdange**	**151.29**	**360**	*e*PKPbc		**PKPbc**	**08 27 07.9**	**+2.3**
WLF				*ep*PKPbc		PKPab	08 27 20.6	+7.0
WLF	**Walferdange**	**151.29**	**360**	*e*PKIKP		**PKPbc**	**08 27 07.9**	**+2.3**
WLF	**Walferdange**	**151.29**	**360**	*e*PKPbc		**PKPbc**	**08 27 07.9**	**+2.3**
ZST	**Bratislava**	**151.31**	**344**	*e*PKIKP		**PKPab**	**08 27 13.4**	**-0.3**
ZST	**Bratislava**	**151.31**	**344**	*e*PKP		**PKPab**	**08 27 13.4**	**-0.3**
GEC2	**GERESS Array S**	**151.43**	**349**	*e*PKPbc		**PKPbc**	**08 27 07.8**	**+1.7**
GEC2				*ep*PKPbc		PKPab	08 27 20.6	+6.3
GEC2	**GERESS Array S**	**151.43**	**349**	*e*PKIKP		**PKPbc**	**08 27 07.8**	**+1.7**
GEC2				*e*			08 27 20.6	
GERES	**GERESS Array B**	**151.43**	**349**	PKPbc		**PKPbc**	**08 27 06.2**	**0.0**
GERES	**GERESS Array B**	**151.43**	**349**	PKPbc		**PKPbc**	**08 27 06.2**	**0.0**
	comp=Z,8.1nm,0.9s,baz=5.7,slow=2.7,SNR=14							
CONA	**Conrad Observa**	**151.86**	**346**	⇑*i*PKPdf		**PKPdf**	**08 26 58.3**	**-2.4**
	comp=Z,5.6nm,1.3s							
CONA				⇓*i*PKiKP		**PKiKP**	**08 27 07.7**	**+0.2**
	comp=Z,47nm,1.5s							
LANF	**Langenberg**	**151.94**	**357**	PKP		**PKPbc**	**08 27 07.9**	**+0.7**
CSS	**Prodhromos**	**152.13**	**306**	*e*PKPbc		**PKPbc**	**08 27 09.8**	**+1.8**
BZS	**Buzias**	**152.18**	**336**	⇑PKIKP		**PKPbc**	**08 27 09.5**	**+1.7**
BZS	**Buzias**	**152.18**	**336**	⇑*i*P		**PKPbc**	**08 27 09.5**	**+1.7**
BFO	**Black Forest**	**152.56**	**357**	*e*PKPbc		**PKPbc**	**08 27 10.0**	**+1.5**
BFO	**Black Forest**	**152.56**	**357**	*e*PKIKP		**PKPbc**	**08 27 10.1**	**+1.5**
BFO	**Black Forest**	**152.56**	**357**	*e*PKPbc		**PKPbc**	**08 27 10.1**	**+1.5**
PKSM	**Moragy**	**152.69**	**341**	⇑PKIKP		**PKPbc**	**08 27 10.6**	**+1.7**
PKSM	**Moragy**	**152.69**	**341**	⇑*i*P		**PKPbc**	**08 27 10.6**	**+1.7**
THEF	**They Montfort**	**152.73**	**360**	PKP		**PKPbc**	**08 27 09.6**	**+0.6**
KHAL	**Karahalli**	**153.24**	**316**	*i* P		**PKPbc**	**08 27 11.8**	**+1.3**
LOMF	**Lomont**	**153.60**	**359**	PKP		**PKPbc**	**08 27 07.4**	**-3.6**
FETA	**Feichten**	**153.65**	**353**	⇑*i*PKPdf		**PKPdf**	**08 27 01.1**	**-2.4**
	comp=Z,18nm,1.0s							
FETA				⇑*i*PKiKP		**PKiKP**	**08 27 11.8**	**+0.5**
	comp=Z,21nm,1.2s							
ABTA	**Abfaltersbach**	**153.66**	**350**	⇓*i*sPKPdf		sPKPdf	08 27 07.5	-2.8
	comp=Z,27nm,1.1s							
TORD	**Torodi Ar. Bea**	**171.30**	**152**	PKPab		**PKPab**	**08 28 41.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**171.30**	**152**	PKPab		**PKPab**	**08 28 41.5**	**+0.2**
	comp=Z,4.0nm,1.0s,baz=198,slow=3.6,SNR=8.3							

MEX 31 08:08:29.3±1.4, 18°.49N×102°.94W, h10km, MD3.5, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.43**	**243**	*e*P	Pg	08 08 37.4	-0.4
MMIG				*i* S	Sg	08 08 44.2	+0.5
EZ5V		**1.17**	**328**	*i* P	Pb	08 08 48.7	-3.2
EZ5V				*i* S	Sb	08 09 03.7	-3.7
R15V		**1.20**	**305**	*i* P

SUR Sn Sn 08 20 08.5 +10
comp=Z,6.4nm,0.3s,baz=185,slow=3.9,SNR=3.0
SUR Lg Lg 08 21 08.5
comp=Z,41nm,0.3s,baz=212,slow=13,SNR=12
KLOF Kloof 12.82 117 *e*P **Pn 08 17 41.6 -0.8**
KLOF AML AML 08 21 38.9
comp=Z,197nm,0.7s
KLOF Kloof 12.82 117 *e*P **Pn 08 17 41.6 -0.8**
PRYS Parys 12.84 120 *e*P **Pn 08 17 42.1 -0.6**
PRYS AML AML 08 21 37.9
comp=Z,240nm,0.6s
PRYS Parys 12.84 120 *e*P **Pn 08 17 42.1 -0.6**
SLR Silverton 13.17 114 *e*P **Pn 08 17 45.6 -1.7**
SLR AML AML 08 21 39.9
comp=Z,274nm,0.7s
SLR Silverton 13.17 114 *e*P **Pn 08 17 45.6 -1.7**
SLR Silverton 13.17 114 *e*P **Pn 08 17 45.6 -1.7**
ERPM east rand prop 13.34 116 *e*P **Pn 08 17 48.0 -1.6**
ERPM AML AML 08 21 42.3
comp=Z,202nm,0.8s
ERPM east rand prop 13.34 116 *e*P **Pn 08 17 48.0 -1.6**
HVD Gariep Dam 13.54 137 *e*P **Pn 08 17 49.9 -2.3**
HVD Gariep Dam 13.54 137 *e*P **Pn 08 17 49.9 -2.3**
LSZ Lusaka 13.82 68 *e*Pn Pn 08 17 53.4 -2.7
LSZ Sn Sn 08 20 36.8 +7.1
LSZ Lg Lg 08 21 59.0
LSZ Lusaka 13.82 68 Pn Pn 08 17 53.4 -2.7
comp=Z,1.1nm,0.3s,baz=238,slow=11,SNR=31
LSZ Sn Sn 08 20 36.8 +7.1
comp=Z,2.0nm,0.3s,baz=281,slow=11,SNR=3.7
LSZ Lg Lg 08 21 59.0
comp=Z,4.8nm,0.3s,baz=337,slow=18,SNR=8.1
ELIM Elim 14.25 164 *e*P P 08 18 04.9 -4.3
ELIM AML AML 08 22 14.3
comp=Z,432nm,0.8s
ELIM Elim 14.25 164 *e*P P 08 18 04.8 -4.3
GRM Grahamstown 16.06 143 *e*P **P 08 18 28.0 -1.2**
GRM AML AML 08 23 31.4
comp=Z,215nm,0.7s
GRM Grahamstown 16.06 143 *e*P **P 08 18 28.0 -1.2**
GRM Grahamstown 16.06 143 *e*P **P 08 18 28.0 -1.2**
KSD Kokstad 16.18 129 *e*P **Pn 08 18 26.0 -1.5**
POGA Pongola 16.52 116 *e*P **Pn 08 18 32.2 +0.4**
POGA AML AML 08 23 54.8
comp=Z,137nm,0.8s
POGA Pongola 16.52 116 *e*P **Pn 08 18 30.5 -1.3**
MBAR Mbarara 25.45 39 *e*P **P 08 20 08.9 +0.6**
MBAR Mbarara 25.45 39 P **P 08 20 09.1 +0.8**
MBAR Mbarara 25.45 39 P **P 08 20 09.1 +0.8**
comp=Z,3.4nm,0.5s,baz=180,slow=4.0,SNR=3.5
MBAR LR LR 08 30 34.7
comp=Z,494nm,18.3s,baz=358,slow=37
KMBO Kilima Mbogo 29.39 51 LR LR 08 33 17.3
comp=Z,351nm,20.4s,baz=267,slow=38
ABPO Ambohimpanom 30.41 92 *e*P **P 08 20 53.5 +0.8**
ABPO pmax pmax
comp=Z,14nm,1.0s
ABPO Ambohimpanom 30.41 92 *e*P **P 08 20 53.5 +0.8**
comp=Z,14nm,1.0s
KIC Kosan Boka 33.30 322 *e*P **P 08 21 16.5 -1.4**
comp=Z,62nm,0.6s
LIC Lamto 33.35 322 *e*P **P 08 21 17.1 -1.3**
comp=Z,37nm,0.6s,baz=151
LIC *e*R
comp=Z,493nm,21.5s
LIC Lamto 33.35 322 *e*P **P 08 21 16.8 -1.6**
comp=Z,63nm,0.6s
DBIC Dimbokro 33.62 323 *e*P **P 08 21 19.3 -1.3**
comp=Z,19nm,0.8s
DBIC Dimbokro 33.62 323 P **P 08 21 18.2 -2.5**
comp=Z,26nm,0.9s,baz=121,slow=10.0,SNR=13
DBIC LR LR 08 33 34.4
comp=Z,372nm,18.7s,baz=107,slow=34
TIC Toumodi 33.69 322 *e*P **P 08 21 20.0 -1.3**
comp=Z,188nm,1.0s
TORD Torodi Ar. Bea 36.28 338 P **P 08 21 42.5 -1.1**
TORD Torodi Ar. Bea 36.28 338 P **P 08 21 42.5 -1.1**
comp=Z,19nm,0.6s,baz=157,slow=9.0,SNR=115
TORD LR LR 08 34 58.9
comp=Z,283nm,21.1s,baz=165,slow=34
TAM Tamanrasset 44.42 348 *e*P **P 08 22 51.0 -0.2**
TAM pmax pmax
comp=Z,9.0nm,1.1s
TAM Tamanrasset 44.42 348 *e*P **P 08 22 51.0 -0.2**
comp=Z,9.4nm,1.1s
SYO Syowa Base 50.39 169⇑ *e*P **P 08 23 35.2 -1.7**
SYO Syowa Base 50.39 169⇓ *e*pP **P 08 23 38.6 +1.7**
SNAA Sanae 51.77 187 *e*P **P 08 23 47.7 +0.4**
SNAA Sanae 51.77 187 *e*Namibia pP 08 23 50.9 -0.3
SNAA Sanae 51.77 187 *e*P **P 08 23 47.5 +0.1**
comp=Z,51nm,0.9s
SNAA Sanae 51.77 187 P **P 08 23 46.3 -1.1**
comp=Z,11nm,0.8s,baz=20,slow=5.2,SNR=62
RAYN Ar Rayn 53.31 36 P **P 08 24 01.5 +2.2**
comp=Z,42nm,1.6s,SNR=5.0
RAYN Ar Rayn 53.31 36 *e*P **P 08 24 01.2 +1.9**
comp=Z,10nm,1.1s
EIL Elat 53.90 22 P **P 08 24 04.3 +0.8**
EIL Elat 53.90 22 P **P 08 24 04.3 +0.8**
comp=Z,6.7nm,0.9s,baz=28,slow=5.4,SNR=4.4
MAW Mawson 55.38 160 P **P 08 24 13.8 +0.1**
MAW Mawson 55.38 160 P **P 08 24 13.8 +0.1**
comp=Z,12nm,0.8s,baz=295,slow=8.1,SNR=22
KEST Kesra 56.61 355 *e*P **P 08 24 23.9 +0.9**
KEST Kesra 56.61 355 P **P 08 24 23.9 +0.9**
comp=Z,6.5nm,0.8s,baz=153,slow=3.0,SNR=19
KEST LR LR 08 50 28.2
comp=Z,117nm,18.5s,baz=240,slow=38
CTEI Djebel Teioual 57.27 352 P **P 08 24 27.7 0.0**
CTEI Djebel Teioual 57.27 352 P **P 08 24 27.7 0.0**
ABSA Djebel Ababsia 57.34 353 P **P 08 24 28.7 +0.5**
ABSA Djebel Ababsia 57.34 353 P **P 08 24 28.7 +0.5**
CKHR Kef el Ahmar 57.34 351 P **P 08 24 29.3 +1.0**
CKHR Kef el Ahmar 57.34 351 P **P 08 24 29.3 +1.0**
CASM Ain Smara 57.45 352 P **P 08 24 28.4 -0.5**
CASM Ain Smara 57.45 352 P **P 08 24 28.4 -0.5**
SET Setif 57.54 351 P **P 08 24 30.0 +0.4**
SET Setif 57.54 351 P **P 08 24 30.0 +0.4**
CMAH Djebel Manchou 57.69 353 P **P 08 24 30.3 -0.3**
CMAH Djebel Manchou 57.69 353 P **P 08 24 30.3 -0.3**
CEL Celeste 58.90 1 *e*P **P 08 24 39.1 +0.1**
comp=Z,18nm,0.7s
BDFB Brasilia 59.66 264 P **P 08 24 43.3 -1.6**
BDFB Brasilia 59.66 264 P **P 08 24 43.3 -1.6**
comp=Z,6.8nm,0.9s,baz=98,slow=3.9,SNR=6.2
TIP Timpagrande 59.83 2 *e*P **P 08 24 45.6 +0.2**
comp=Z,22nm,0.9s
VSL Villasalto 60.35 355 *e*P **P 08 24 49.4 +0.5**
comp=Z,20nm,0.8s
PVAQ Vaqueiros 61.83 340 *e*LR LR 09 26 01.9
comp=Z,548nm,16.0s
MORF Marmelete 62.05 339 *e*P **P 08 25 01.0 +0.4**
comp=Z,42nm,1.9s
PCVE Castro Verde 62.14 340 *e*P **P 08 25 01.8 +0.7**
comp=Z,26nm,1.5s
PTEO Sao Teotonio 62.29 339 *e*P **P 08 25 00.7 -1.4**
comp=Z,35nm,1.6s
PBEJ Beja 62.44 340 *e*P **P 08 25 04.5 +1.4**
comp=Z,33nm,1.8s
PNCL Nicolau / Gran 62.74 339 *e*P **P 08 25 05.9 +0.8**
comp=Z,35nm,1.7s
PAB San Pablo 62.81 343 *e*P **P 08 25 05.9 +0.3**
PAB pmax pmax
comp=Z,17nm,0.7s
PAB San Pablo 62.81 343 *e*P **P 08 25 05.9 +0.3**
comp=Z,17nm,0.7s
ESDC Sonseca Array 62.83 344 P **P 08 25 06.4 +0.7**
ESDC PP **PP 08 27 21.0 -3.3**
ESDC Sonseca Array 62.83 344 P **P 08 25 06.4 +0.7**
comp=Z,12nm,0.8s,baz=164,slow=6.6,SNR=27
ESDC PP **PP 08 27 21.0 -3.3**
comp=Z,0.3nm,0.3s,baz=164,slow=7.1,SNR=4.0
BRTR Keskin Array B 62.84 16 P **P 08 25 05.2 -0.7**
BRTR Keskin Array B 62.84 16 P **P 08 25 05.2 -0.7**
comp=Z,2.8nm,0.8s,baz=195,slow=9.0,SNR=11
MALT Malatya 62.95 21⇑ *i*P P 08 25 25.9 +19
EVO Evora 62.95 340⇑ *i*P **P 08 25 07.4 +0.9**
comp=Z,36nm,0.9s
EVO *e*R
comp=Z,139nm,18.8s
EVO Evora 62.95 340 *e*P **P 08 25 07.5 +0.9**
comp=Z,31nm,1.1s
PESTR Estremoz 63.12 340 *e*P **P 08 25 08.5 +0.8**
comp=Z,49nm,1.4s
PGF Pioggiola 63.41 355 *e*P **P 08 25 09.1 -0.5**
comp=Z,50nm,1.0s
PMTG Montargil 63.51 340 *e*P **P 08 25 11.1 +0.9**
comp=Z,42nm,1.6s
PMRV Marv??o 63.58 341 *e*P **P 08 25 10.9 +0.2**
comp=Z,30nm,1.6s
PMRV Marv??o 63.58 341 *e*LR LR 09 25 55.7
comp=Z,618nm,18.0s
VTS Vitosha 63.68 7⇓ *i*P **P 08 25 12.0 +0.6**
VTS Vitosha 63.68 7⇓ *i*P **P 08 25 12.0 +0.6**
PCBR Castelo Branco 63.98 341 *e*P **P 08 25 14.3 +1.0**
comp=Z,25nm,1.4s
LMR La Mourre 64.42 353 *e*P **P 08 25 15.8 -0.3**
comp=Z,31nm,1.0s
MTE Manteigas 64.51 341 *e*P **P 08 25 17.5 +0.7**
comp=Z,40nm,1.3s
MTE Manteigas 64.51 341 *e*LR LR 09 27 28.2
comp=Z,644nm,20.0s
MTE Manteigas 64.51 341 *e*P **P 08 25 17.6 +0.7**
comp=Z,17nm,0.8s
FRF La Foret Royal 64.63 353 *e*P **P 08 25 17.3 -0.2**
comp=Z,30nm,0.9s
SBF Sospel 64.85 354 *e*P **P 08 25 18.6 -0.4**
comp=Z,48nm,0.8s
PVIS Viseu 64.91 341 *e*P **P 08 25 20.1 +0.7**
comp=Z,23nm,1.8s
MTLF Montolieu 65.02 350 *e*P **P 08 25 19.5 -0.5**
comp=Z,6.6nm,0.7s
EPF Esparros 65.06 348 *e*P **P 08 25 20.4 +0.1**
comp=Z,19nm,0.9s
MVO Moncorvo 65.06 342 *e*P **P 08 25 21.1 +0.7**
comp=Z,25nm,1.9s
MVO Moncorvo 65.06 342 *e*LR LR 09 27 15.2
comp=Z,652nm,18.0s
ETSF Etsaut 65.11 348 *e*P **P 08 25 20.7 0.0**
comp=Z,36nm,1.0s
SMRF Simiane la Rot 65.17 353 *e*P **P 08 25 21.8 +0.8**
comp=Z,32nm,0.9s
SJPF Ste Jean 65.45 347 *e*P **P 08 25 23.1 +0.3**
comp=Z,37nm,0.7s
LASF Ste Croix 65.49 351 *e*P **P 08 25 23.2 +0.1**
comp=Z,50nm,1.0s
PBRG Braganca 65.57 342 *e*P **P 08 25 24.1 +0.4**
comp=Z,16nm,1.4s
MBDF Montbardon 65.77 354 *e*P **P 08 25 25.8 +0.7**
comp=Z,49nm,0.8s
PCAB Cabril 65.86 341 *e*P **P 08 25 26.0 +0.5**
comp=Z,30nm,1.5s
ORIF Oris-en-Rattie 66.06 353 *e*P **P 08 25 27.1 +0.3**
comp=Z,18nm,0.9s
ORIF *e*R
comp=Z,192nm,21.2s
BNI Bardonecchia 66.11 354 *e*P **P 08 25 28.4 +1.2**
BNI pmax pmax
comp=Z,6.0nm,0.9s
BNI Bardonecchia 66.11 354 *e*P **P 08 25 28.4 +1.2**
comp=Z,6.5nm,0.9s
BOJS Bojanci 66.13 0 *i* P **P 08 25 29.1 +2.0**
VIVF Saint-Julien-l 66.14 352 *e*P **P 08 25 27.2 -0.1**
comp=Z,26nm,0.9s
PGAV Gavieira, Arco 66.17 341 *e*LR LR 09 25 52.9
comp=Z,655nm,18.0s
SKDS Skadanscina 66.18 359 *e*P P 08 25 31.6 +4.1
BZS Buzias 66.52 5⇓ *i*P **P 08 25 30.0 +0.4**
BZS Buzias 66.52 5⇓ *i*P **P 08 25 30.0 +0.4**
JAVS Javornik 66.52 359 *i* P **P 08 25 29.8 0.0**
JAVS *e* 08 25 32.8
LPG La Plagne 66.54 354 *e*P **P 08 25 30.6 +0.5**
comp=Z,38nm,0.8s
LPL La Plagne 66.56 354 *e*P **P 08 25 30.6 +0.4**
comp=Z,53nm,0.9s
ARR Arges 66.58 7⇑ *i*P **P 08 25 30.5 +0.4**
CAF Calviac 66.59 350 *e*P **P 08 25 30.0 -0.2**
comp=Z,43nm,0.9s
VOY Vojsko 66.66 359 *e*P **P 08 25 30.7 0.0**
VOY *e* 08 25 33.0
VOY *e* 08 25 35.2
VOIR 66.70 8⇓ *i*P **P 08 25 31.1 +0.2**
VOIR 66.70 8⇓ *i*P **P 08 25 31.1 +0.2**
LFF La Frestale 66.83 349 *e*P **P 08 25 31.3 -0.3**
MLR Muntele Rosu 66.88 8 P **P 08 25 32.0 -0.1**
MLR Muntele Rosu 66.88 8⇓ *i*P **P 08 25 32.2 +0.1**
MLR Muntele Rosu 66.88 8 P **P 08 25 32.0 -0.1**
comp=Z,4.1nm,0.7s,baz=171,slow=7.0,SNR=20
PKSM Moragy 66.92 3⇓ *i*P **P 08 25 32.3 +0.1**
PKSM Moragy 66.92 3⇓ *i*P **P 08 25 32.3 +0.1**
RJF Les Rejaudoux 67.05 350 *e*P **P 08 25 32.7 -0.3**
comp=Z,39nm,1.0s
RJF *e*R
comp=Z,189nm,22.8s
TUE Stuetta 67.29 356 *e*P **P 08 25 33.8 -1.0**
SOKA Soboth 67.30 0⇑ *i*P **P 08 25 35.0 +0.3**
comp=Z,16nm,1.1s
TRQA Tornquist 67.32 236 *e*P **P 08 25 34.5 -0.7**
comp=Z,9.3nm,0.8s
PLOR Plostina 67.33 9⇓ *i*P P 08 25 39.0 +4.2
PLOR Plostina 67.33 9⇓ *i*P P 08 25 39.0 +4.2
SENIN Lac Senin/Sane 67.34 354 *e*P **P 08 25 34.6 -0.5**
comp=Z,23nm,0.9s
VRI Vrincioaia 67.35 9⇑ *i*P **P 08 25 35.0 0.0**
VRI Vrincioaia 67.35 9⇑ *i*P **P 08 25 35.0 0.0**
FUORN Ofenpass-Fuorn 67.38 357 *e*P **P 08 25 35.4 0.0**
comp=Z,50nm,1.4s
DAVOX Davos/Dischmat 67.56 356 P **P 08 25 36.0 -0.5**
DAVOX Davos/Dischmat 67.56 356 P **P 08 25 36.0 -0.5**
comp=Z,61nm,0.9s,baz=197,slow=7.4,SNR=17
CABF La Chapelle 67.71 353 *e*P **P 08 25 36.7 -0.6**
comp=Z,43nm,0.9s
KBA Koelnbreinsper 67.72 359⇑ *i*P **P 08 25 37.4 0.0**
comp=Z,26nm,0.7s
KBA *i* P **pP 08 25 37.6 -3.8**
SNR=16
FETA Feichten 67.75 357⇓ *i*P **P 08 25 36.9 -0.8**
comp=Z,16nm,0.9s
DRGR 67.78 6⇑ *i*P **P 08 25 38.2 +0.5**
DRGR 67.78 6⇑ *i*P **P 08 25 38.2 +0.5**
TCF Toulx Ste Croi 67.90 351 *e*P **P 08 25 38.2 -0.2**
comp=Z,21nm,0.9s
WTTA Wattenberg 67.95 358⇑ *i*P **P 08 25 38.3 -0.6**
comp=Z,25nm,0.6s
WTTA *i* P **pP 08 25 38.7 -4.1**
SNR=5.1
SMF Signal de Mont 68.01 352 *e*P **P 08 25 38.7 -0.4**
comp=Z,23nm,0.8s
MOTA Moosalm 68.06 357⇓ *i*P **P 08 25 38.9 -0.7**
comp=Z,12nm,0.7s,SNR=5.7
BGF Bois d'Agland 68.06 351 *e*P **P 08 25 39.1 -0.3**
SOC Sochi 68.13 19 *e*P **P 08 25 42.5 +2.6**
SOC pmax pmax
comp=Z,30nm,1.0s
AVF Avril sur Loir 68.22 351 *e*P **P 08 25 39.9 -0.5**
comp=Z,28nm,0.8s
SSF Saint Saulge 68.47 352 *e*P **P 08 25 41.2 -0.7**
comp=Z,16nm,0.7s
MOA Mollin 68.48 360⇓ *i*P **P 08 25 41.6 -0.4**
comp=Z,20nm,0.6s
MOA *i* P **pP 08 25 41.8 -4.1**
SNR=14
CONA Conrad Observa 68.56 1⇑ *i*P **P 08 25 42.8 +0.2**
comp=Z,15nm,1.3s
MFF Saint Martin d 68.59 349 *e*P **P 08 25 42.6 -0.1**
comp=Z,30nm,0.8s
LOR Lormes 68.62 352 *e*P **P 08 25 42.3 -0.6**
comp=Z,15nm,0.7s
LOR *e*R
comp=Z,156nm,19.0s
PSZ Piszkesteto 68.69 4 *e*P **P 08 25 43.2 -0.2**
PSZ pmax pmax
comp=Z,17nm,0.8s
PSZ Piszkesteto 68.69 4 *e*P **P 08 25 43.2 -0.2**
comp=Z,17nm,0.8s
PSZ Piszkesteto 68.69 4⇑ *i*P **P 08 25 43.5 +0.1**
ZEI Tsey 68.82 22 *e*P **P 08 25 44.9 +0.4**
ZEI pmax pmax
comp=Z,15nm,1.0s
HINF Hinteralfeld 68.82 354 *e*P **P 08 25 43.3 -0.9**
BURAR Bucovina Array 68.87 7⇓ *i*P P 08 25 48.4 +3.8
BURAR Bucovina Array 68.87 7⇓ *i*P P 08 25 48.3 +3.7
HAU Haudompre 69.06 354 *e*P **P 08 25 45.0 -0.6**
comp=Z,50nm,1.0s
HAU *e*R
comp=Z,146nm,17.8s
ECH Echery 69.19 354 *e*P **P 08 25 46.0 -0.5**
ECH pmax pmax
comp=Z,9.0nm,0.9s
ECH Echery 69.19 354 *e*P **P 08 25 46.0 -0.5**
comp=Z,9.0nm,0.9s
BFO Black Forest 69.21 355 *e*P **P 08 25 49.5 +2.9**
comp=Z,5.0nm,0.9s
BFO Black Forest 69.21 355 *e*P **P 08 25 46.0 -0.6**
BFO pmax pmax
comp=Z,5.0nm,0.8s
BFO Black Forest 69.21 355 *e*P **P 08 25 46.0 -0.6**
comp=Z,5.1nm,0.8s
VYHS Vyhne 69.21 3 *e*P **P 08 25 46.2 -0.3**
VYHS pmax pmax
comp=Z,8.0nm,0.9s
VYHS Vyhne 69.21 3 *e*P **P 08 25 46.1 -0.4**
VYHS *e*pP **pP 08 25 49.0 -1.5**
QSPA South Pole Qui 69.23 180 P **P 08 25 46.5 -0.3**
QSPA South Pole Qui 69.23 180 P **P 08 25 46.5 -0.3**
comp=Z,27nm,0.8s,baz=249,slow=2.5,SNR=96
KECS Kecovo 69.29 4 *e*P **P 08 25 47.0 0.0**
KECS pmax pmax
comp=Z,5.0nm,0.9s
KECS Kecovo 69.29 4 *e*P **P 08 25 47.0 0.0**
KECS *e*pP **pP 08 25 50.5 -0.4**
KBZ Khabaz 69.29 21 P **P 08 25 48.3 +1.2**
KBZ Khabaz 69.29 21 P **P 08 25 48.2 +1.2**
KBZ Khabaz 69.29 21 P **P 08 25 48.2 +1.2**
comp=Z,25nm,0.9s,baz=207,slow=5.2,SNR=33
USHA Ushuaia 69.36 218 P **P 08 25 46.6 -0.9**
USHA Ushuaia 69.36 218 P **P 08 25 46.6 -0.9**
comp=Z,13nm,0.9s,baz=359,slow=4.7,SNR=3.7
CDF Champ du Feu 69.38 355 *e*P **P 08 25 46.7 -1.0**
comp=Z,20nm,1.0s
SFTF Sexfontaines 69.40 353 *e*P **P 08 25 47.4 -0.3**
comp=Z,66nm,0.9s
KIV Kislovodsk 69.42 21*c i*P **P 08 25 48.4 +0.3**
KIV pmax pmax
comp=Z,21nm,0.8s
KIV MLR MLR
comp=Z,200nm,16.0s
GEC2 GERESS Array S 69.48 359 *e*P P 08 25 51.8 +3.5
comp=Z,9.0nm,1.2s
GEC2 GERESS Array S 69.48 359 *e*P P 08 25 51.8 +3.5
GEC2 pmax pmax
comp=Z,9.0nm,1.2s
GERES GERESS Array B 69.48 359 P **P 08 25 48.0 -0.3**
GERES GERESS Array B 69.48 359 P **P 08 25 48.0 -0.3**
comp=Z,4.4nm,0.7s,baz=190,slow=4.9,SNR=8.3
UZH Uzhgorod 69.57 5 *e*P **P 08 25 48.8 +0.1**
UZH *e* 08 26 05.2
STU Stuttgart 69.59 356 *e*P P 08 25 52.4 +3.6
comp=Z,13nm,0.7s
PAGF Fort de Pagny 69.67 354 *e*P **P 08 25 49.2 -0.2**
comp=Z,11nm,0.8s
MEZF Maizieres J'vi 69.69 353 *e*P **P 08 25 49.4 -0.1**
comp=Z,63nm,1.1s
KHC Kasperske Hory 69.77 359 *e*P **P 08 25 49.6 -0.4**
KHC *e* 08 25 52.5
KHC MLR MLR
comp=Z,200nm,24.6s
KHC Kasperske Hory 69.77 359 *e*P **P 08 25 49.6 -0.4**
KHC *e*pP **pP 08 25 52.5 -1.4**
KHC AMS AMS 08 59 00.0
comp=Z,200nm,24.6s
KHC Kasperske Hory 69.77 359 *e*P **P 08 25 49.7 -0.4**
comp=Z,6.3nm,1.0s
WET Wettzell 69.79 359 *e*P P 08 25 53.4 +3.2
comp=Z,10.0nm,1.3s
WET Wettzell 69.79 359 *e*P P 08 25 53.4 +3.2
WET pmax pmax
comp=Z,10.0nm,1.3s
KOLS Kolonicke sedl 69.87 5 *e*P **P 08 25 51.5 +0.9**
KOLS pmax pmax
comp=Z,5.0nm,1.0s
KOLS Kolonicke sedl 69.87 5 *e*P **P 08 25 51.5 +0.9**
TREC Trest 69.92 0 AMS AMS 09 01 10.0
comp=Z,200nm,18.7s
STHS Stebnicka Huta 70.27 4 *e*P **P 08 25 53.0 -0.1**
STHS pmax pmax
comp=Z,4.0nm,0.7s
STHS Stebnicka Huta 70.27 4 *e*P **P 08 25 53.0 -0.1**
STHS *e*pP **pP 08 25 57.1 +0.1**
GRFO Grafenberg 70.39 357 *e*P **P 08 25 53.4 -0.4**
GRFO pmax pmax
comp=Z,38nm,1.1s
GRFO Grafenberg 70.39 357 *e*P **P 08 25 53.4 -0.4**
comp=Z,38nm,1.1s
GRF Grafenberg Arr 70.39 357 *e*P P 08 25 57.3 +3.5
comp=Z,20nm,1.0s
GRF Grafenberg Arr 70.39 357 *e*P P 08 25 57.3 +3.5
GRF pmax pmax
comp=Z,20nm,1.0s
ROTZ Rotzenmuhle 70.44 358 *e*P P 08 25 57.4 +3.4
comp=Z,10.0nm,1.0s
QUIF Quistinic 70.44 347 *e*P **P 08 25 53.8 -0.3**
comp=Z,53nm,1.0s
MORC Moravsky Berou 70.44 2 *e*P **P 08 25 54.1 0.0**
MORC Moravsky Berou 70.44 2 *e*P **P 08 25 54.1 0.0**
GRR Gorron 70.45 349 *e*P **P 08 25 54.5 +0.4**
comp=Z,25nm,0.8s
LDF La Druitiere 70.52 349 *e*P **P 08 25 53.6 -0.9**
comp=Z,26nm,1.0s
KWP Kalwaria Pacla 70.60 5 *e*P **P 08 25 54.5 -0.6**
KWP Kalwaria Pacla 70.60 5 *e*P **P 08 25 54.5 -0.6**
KWP Kalwaria Pacla 70.60 5 *e*P **P 08 25 54.3 -0.8**
PRU Pruhonice 70.62 360 *e*P **P 08 25 54.5 -0.6**
PRU Pruhonice 70.62 360 *e*P **P 08 25 54.5 -0.6**
SGMF Saint Gilles 70.64 348 *e*P **P 08 25 55.5 +0.2**
comp=Z,22nm,0.8s
MANZ Manzenberg 70.66 358 *e*P P 08 25 58.6 +3.2
comp=Z,7.0nm,0.9s
WLF Walferdange 70.72 354 *e*P **P 08 25 54.7 -1.1**
WLF pmax pmax
comp=Z,24nm,1.0s
WLF Walferdange 70.72 354 *e*P **P 08 25 54.7 -1.1**
comp=Z,24nm,1.0s
FLN La Foliniere 70.74 349 *e*P **P 08 25 55.1 -0.8**
FLN *e*R
comp=Z,212nm,19.0s
ROSF Rostrenen 70.86 347 *e*P **P 08 25 56.1 -0.6**
comp=Z,16nm,0.7s
LVV L'vov 70.91 6 *e*P **P 08 25 55.8 -1.1**
WERN Wernitzgruen 70.95 358 *e*P P 08 26 00.5 +3.3
comp=Z,3.0nm,0.7s
OJC Ojcow 70.98 3 *e*P **P 08 25 56.7 -0.7**
OJC *e**PP **pP 08 26 00.2 -1.1**
OJC Ojcow 70.98 3 *e*P **P 08 25 57.2 -0.2**
comp=Z,15nm,0.7s
OJC Ojcow 70.98 3 *e*P **P 08 25 56.7 -0.7**
OJC *e*pP **pP 08 26 00.2 -1.1**
DPC Dobruska-Polom 70.99 1 *e*P **P 08 25 57.1 -0.4**
DPC *e* 08 26 01.0
DPC Dobruska-Polom 70.99 1 *e*P **P 08 25 57.1 -0.4**
DPC *e*pP **pP 08 26 01.0 -0.4**
DPC Dobruska-Polom 70.99 1 *e*P **P 08 25 57.3 -0.2**
comp=Z,62nm,1.0s
GUNZ Gunzen 71.03 358 *e*P P 08 26 01.1 +3.4
comp=Z,8.0nm,0.9s
TANN Tannenbergstha 71.08 358 *e*P P 08 26 01.3 +3.3
comp=Z,4.0nm,0.7s
TNS Taunus Mts 71.08 356 *e*P P 08 26 01.3 +3.3
comp=Z,10.0nm,0.9s
TNS Taunus Mts 71.08 356 *e*P P 08 26 01.3 +3.3
TNS pmax pmax
comp=Z,10.0nm,0.9s
WERD Werda 71.11 358 *e*P P 08 26 01.4 +3.2
comp=Z,5.0nm,0.8s
GIVF Givet 71.29 353 *e*P **P 08 25 58.6 -0.6**
comp=Z,59nm,1.1s
BAIF Baives 71.32 353 *e*P **P 08 25 58.8 -0.6**
MOX Moxa 71.33 358 *e*P P 08 26 02.8 +3.3
comp=Z,4.0nm,0.9s
MOX Moxa 71.33 358 *e*P P 08 26 02.8 +3.3
MOX pmax pmax
comp=Z,4.0nm,0.9s
BRG Berggiesshubel 71.51 359 *e*P **P 08 26 00.6 +0.1**
comp=Z,3.2nm,0.9s
BRG Berggiesshubel 71.51 359 *e*P **P 08 26 00.6 +0.1**
BRG pmax pmax
comp=Z,3.0nm,0.9s
FBE Freiberg 71.56 359 *e*P **P 08 26 03.7 +2.9**
comp=Z,5.0nm,1.0s
SIV San Ignacio 71.64 259 P **P 08 26 00.3 -1.9**
SIV San Ignacio 71.64 259 P **P 08 26 00.3 -1.9**
comp=Z,1.6nm,1.0s,baz=126,slow=6.0,SNR=4.3
NEUB Neuenburg 71.89 358 *e*P **P 08 26 05.7 +2.9**
comp=Z,17nm,0.9s
CLL Collm 71.96 359 *e*P P 08 26 07.0 +3.8
CLL *e* 08 26 12.0

CLL					pmax	pmax			
	comp=Z,7.0nm,1.2s								
CLL	**Collm**	**71.96**	**359**		*e*pP	P	08 26 07.0	+3.8	
	comp=Z,11nm,1.2s								
KIEV	**Kiev**	**72.43**	**9**		*e*P	**P**	**08 26 05.6**	**-0.5**	
KIEV					pmax	pmax			
	comp=Z,158nm,1.9s								
KIEV	**Kiev**	**72.43**	**9**		*e*P	**P**	**08 26 05.6**	**-0.5**	
	comp=Z,158nm,1.9s								
NRDL	**Niedersach Rie**	**73.25**	**357**		*e*P	P	08 26 15.1	+4.3	
	comp=Z,15nm,1.0s								
VSR	**Storozhevoye**	**74.95**	**16**		*e*PKHKP	**P**	**08 26 20.1**	**-0.7**	
VSR					pmax	pmax			
	comp=N,20nm,1.1s								
VSR					pmax	pmax			
	comp=Z,20nm,1.1s								
VSR					pmax	pmax			
	comp=E,8.0nm,0.6s								
VSR					MLR	MLR			
	comp=Z,840nm,16.0s								
VSR					MLR	MLR			
	comp=N,500nm,20.0s								
VSR					MLR	MLR			
	comp=E,310nm,16.0s								
VSR	**Storozhevoye**	**74.95**	**16**		*e*P	**P**	**08 26 20.1**	**-0.7**	
VSR					pmax	pmax			
	comp=N,20nm,1.1s								
VSR					pmax	pmax			
	comp=Z,20nm,1.1s								
VSR					pmax	pmax			
	comp=E,8.0nm,0.6s								
SUW	**Suwalki**	**74.99**	**5**		*e*P	**P**	**08 26 21.4**	**+0.4**	
VRHR	**Novokhopersk**	**75.48**	**17**		*e*PKHKP	**P**	**08 26 24.4**	**+0.5**	
VRHR					pmax	pmax			
	comp=Z,30nm,0.9s								
VRHR					pmax	pmax			
	comp=N,10.0nm,0.5s								
VRHR					pmax	pmax			
	comp=E,10.0nm,0.5s								
VRHR					MLR	MLR			
	comp=Z,570nm,16.0s								
VRHR					MLR	MLR			
	comp=N,110nm,19.0s								
VRHR					MLR	MLR			
	comp=E,430nm,19.0s								
VRHR	**Novokhopersk**	**75.48**	**17**		*e*P	**P**	**08 26 24.4**	**+0.5**	
VRHR					pmax	pmax			
	comp=Z,30nm,0.9s								
VRHR					pmax	pmax			
	comp=N,10.0nm,0.5s								
VRHR					pmax	pmax			
	comp=E,10.0nm,0.5s								
SAML	**Samuel**	**75.79**	**266**		*e*P	**P**	**08 26 26.1**	**-0.5**	
	comp=E,6.4nm,1.0s								
EKA	**Eskdalemuir Ar**	**77.52**	**350**		P	**P**	**08 26 34.7**	**-0.7**	
EKA	**Eskdalemuir Ar**	**77.52**	**350**		P	**P**	**08 26 34.7**	**-0.7**	
	comp=E,7.6nm,0.8s,baz=162,slow=6.0,SNR=8.5								
OBN	**Obninsk**	**77.98**		13*c*	*i*PKIKP	**P**	**08 26 37.1**	**-0.8**	
OBN				*e*			08 29 31.7		
OBN					pmax	pmax			
	comp=Z,15nm,1.1s								
OBN					MLR	MLR			
	comp=Z,400nm,19.0s								
OBN	**Obninsk**	**77.98**		13*c*	*i*P	**P**	**08 26 37.1**	**-0.8**	
OBN				*e*			08 29 31.7		
OBN					pmax	pmax			
	comp=Z,15nm,1.1s								
LPAZ	**La Paz**	**78.00**	**257**		*e*P	**P**	**08 26 38.3**	**-1.5**	
	comp=Z,5.6nm,1.3s								
LPAZ	**La Paz**	**78.00**	**257**		P	**P**	**08 26 38.0**	**-1.9**	
	comp=Z,2.2nm,0.8s,baz=110,slow=5.3,SNR=9.8								
VNDA	**Vanda**	**79.84**	**173**		*e*P	**P**	**08 26 47.9**	**-0.1**	
	comp=Z,11nm,0.9s								
VNDA	**Vanda**	**79.84**	**173**		P	**P**	**08 26 47.9**	**-0.1**	
	comp=Z,5.0nm,0.8s,baz=258,slow=5.7,SNR=35								
VNDA					LR	LR	08 58 49.8		
	comp=Z,275nm,20.4s,baz=298,slow=33								
SBA	**Scott Base**	**80.05**	**174**		*e*P	**P**	**08 26 49.9**	**+0.7**	
SBA					pmax	pmax			
	comp=Z,36nm,1.1s								
SBA	**Scott Base**	**80.05**	**174**		*e*P	**P**	**08 26 49.9**	**+0.7**	
	comp=Z,36nm,1.1s								
AKTO	**Aktyubinsk**	**80.61**	**26**		P	**P**	**08 26 54.6**	**+2.2**	
AKTO	**Aktyubinsk**	**80.61**	**26**		P	**P**	**08 26 54.6**	**+2.2**	
AKTO	**Aktyubinsk**	**80.61**	**26**		P	**P**	**08 26 54.6**	**+2.2**	
	comp=Z,3.2nm,0.7s,baz=240,slow=5.0,SNR=4.8								
KKAR	**Karatay Array**	**81.67**	**38**		*e*P	**P**	**08 26 58.4**	**+0.1**	
KKAR	**Karatay Array**	**81.67**	**38**		*e*P	**P**	**08 26 58.5**	**+0.2**	
	comp=Z,6.2nm,0.9s								
NB2	**NORSAR Subarra**	**81.75**	**358**		P	**P**	**08 26 59.0**	**+0.7**	
	comp=Z,4.3nm,0.8s,baz=176,slow=5.3								
NOA	**NORSAR Array B**	**81.75**	**358**		P	**P**	**08 26 58.8**	**+0.5**	
NOA	**NORSAR Array B**	**81.75**	**358**		P	**P**	**08 26 58.8**	**+0.5**	
	comp=Z,3.9nm,0.8s,baz=179,slow=5.5,SNR=5.6								
NOA					LR	LR	09 04 43.2		
	comp=Z,58nm,19.2s,baz=15,slow=37								
KOLN	**Koldanda**	**82.17**	**56**		*e*P	**P**	**08 27 01.4**	**-0.1**	
	comp=Z,10nm,0.6s								
DANN	**Dangsing**	**82.57**	**56**		*e*P	**P**	**08 27 03.7**	**0.0**	
	comp=Z,66nm,0.8s								
FINES	**FINESS Array B**	**82.59**	**5**		P	**P**	**08 27 02.6**	**0.0**	
FINES	**FINESS Array B**	**82.59**	**5**		P	**P**	**08 27 02.6**	**0.0**	
	comp=Z,3.4nm,0.7s,baz=132,slow=2.8,SNR=5.2								
KSH	**Kashi**	**82.84**	**43**		P	**P**	**08 27 03.5**	**-1.2**	
KSH					sP	**sP**	**08 27 11.0**	**+0.9**	
KSH					PP	**PP**	**08 30 15.5**	**+0.2**	
KSH					S	**S**	**08 37 19.5**	**-3.6**	
KSH					sS	**SKSac**	**08 37 27.8**	**+1.6**	
KSH					pmax	pmax			
	comp=Z,90nm,3.6s								
KSH					LR	LR			
	comp=N,76nm,4.9s								
KSH					LR	LR			
	comp=E,110nm,8.7s								
KSH					LR	LR			
	comp=Z,190nm,15.8s								
DMN	**Daman**	**83.27**	**57**		*e*P	**P**	**08 27 07.5**	**+0.2**	
KKN	**Kakani**	**83.49**	**57**		*e*P	**P**	**08 27 08.5**	**+0.1**	
	comp=Z,29nm,0.7s								
PKI	**Pulchoki**	**83.49**	**57**		*e*P	**P**	**08 27 08.3**	**-0.2**	
AAK	**Ala-Archa**	**83.72**	**40**	‖	*e*P	**P**	**08 27 10.9**	**+1.7**	
AAK					pmax	pmax			
	comp=Z,16nm,0.8s								
AAK	**Ala-Archa**	**83.72**	**40**		*e*P	**P**	**08 27 10.6**	**+1.4**	
	comp=Z,6.8nm,0.8s								
AAK	**Ala-Archa**	**83.72**	**40**		P	**P**	**08 27 10.6**	**+1.4**	
	comp=Z,2.4nm,0.3s,baz=86,slow=2.5,SNR=2.9								
GUN	**Gumba**	**84.02**	**57**		*e*P	**P**	**08 27 11.4**	**+0.1**	
JIRN	**Jiri**	**84.15**	**58**		*e*P	**P**	**08 27 12.1**	**+0.1**	
	comp=Z,16nm,0.6s								
RAMN	**Ramite**	**84.15**	**58**		*e*P	**P**	**08 27 11.9**	**+0.1**	
	comp=Z,17nm,0.8s								
ODAN	**Odare**	**84.74**	**59**		*e*P	**P**	**08 27 15.3**	**+0.5**	
	comp=Z,17nm,0.6s								
ARU	**Arti**	**85.40**		23*d*	*i*P	**P**	**08 27 17.8**	**+0.7**	
ARU							08 30 29.9		
ARU					S	**S**	**08 37 42.4**	**-5.3**	
ARU					pmax	pmax			
	comp=Z,20nm,0.7s								
BRVK	**Borovoye**	**87.86**	**30**	‖	*e*P	**P**	**08 27 29.9**	**+0.7**	
BRVK					pmax	pmax			
	comp=Z,4.0nm,0.8s								
BVAR	**Borovoye Array**	**87.89**	**30**		P	**P**	**08 27 29.4**	**0.0**	
BVAR	**Borovoye Array**	**87.89**	**30**		P	**P**	**08 27 29.4**	**0.0**	
BVAR	**Borovoye Array**	**87.89**	**30**		P	**P**	**08 27 29.4**	**0.0**	
	comp=Z,3.9nm,0.7s,baz=231,slow=1.8,SNR=5.8								
KURBB	**Kurchatov Arra**	**90.54**	**35**		P	**P**	**08 27 43.2**	**+1.4**	
	comp=Z,1.9nm,0.8s,baz=244,slow=4.9,SNR=4.1								
ARCES	**ARCESS Array B**	**90.55**	**4**		P	**P**	**08 27 41.3**	**-0.2**	
ARCES	**ARCESS Array B**	**90.55**	**4**		P	**P**	**08 27 41.3**	**-0.2**	
	comp=Z,7.8nm,0.9s,baz=202,slow=5.0,SNR=8.4								
KURK	**Kurchatov**	**90.64**	**35**		P	**P**	**08 27 43.2**	**+0.9**	
KURK	**Kurchatov**	**90.64**	**35**		P	**P**	**08 27 43.2**	**+0.9**	
MKAR	**Makanchi Array**	**90.64**	**39**		P	**P**	**08 27 42.5**	**0.0**	
MKAR	**Makanchi Array**	**90.64**	**39**		P	**P**	**08 27 42.5**	**0.0**	
MKAR	**Makanchi Array**	**90.64**	**39**		P	**P**	**08 27 42.5**	**0.0**	
	comp=Z,1.6nm,0.9s,baz=132,slow=2.1,SNR=2.0								
CMAR	**Chiang Mai Arr**	**91.12**	**71**		P	**P**	**08 27 45.0**	**-0.3**	
CMAR	**Chiang Mai Arr**	**91.12**	**71**		P	**P**	**08 27 45.0**	**-0.3**	
	comp=Z,1.0nm,0.3s,baz=251,slow=5.5,SNR=4.9								
WMQ	**Urumqi**	**92.58**	**44**		P	**P**	**08 27 52.0**	**+0.4**	
WMQ					pP	**pP**	**08 27 57.0**	**+1.4**	
WMQ					sP	**sP**	**08 27 59.0**	**+1.9**	
WMQ					PP	**PP**	**08 31 36.3**	**+2.9**	
WMQ					SKS	**SKSac**	**08 38 23.5**	**-1.6**	
WMQ					S	**S**	**08 38 53.3**	**-2.6**	
WMQ					sS	**sS**	**08 39 01.5**	**-1.1**	
WMQ					SS	**SS**	**08 45 09.3**	**+0.9**	
WMQ					pmax	pmax			
	comp=Z,5.0nm,0.5s								
WMQ					pmax	pmax			
	comp=Z,95nm,4.5s								
WMQ					LR	LR			
	comp=N,240nm,16.5s								
WMQ					LR	LR			
	comp=E,170nm,16.1s								
ZALV	**Zalesovo Beam**	**95.56**	**34**		P	**P**	**08 28 06.3**	**+1.4**	
ZALV	**Zalesovo Beam**	**95.56**	**34**		P	**P**	**08 28 06.3**	**+1.4**	
ZALV	**Zalesovo Beam**	**95.56**	**34**		P	**P**	**08 28 06.3**	**+1.4**	
	comp=E,1.3nm,0.7s,baz=247,slow=5.0,SNR=3.6								
KMI	**Kunming**	**96.78**	**66**		P	**P**	**08 28 13.3**	**+1.8**	
KMI					sP	**sP**	**08 28 17.3**	**+0.4**	
KMI					S	**S**	**08 39 32.3**	**-1.4**	
KMI					LR	LR			
	comp=N,190nm,13.2s								
KMI					LR	LR			
	comp=E,260nm,16.9s								
KMI					LR	LR			
	comp=Z,230nm,17.6s								
SBUM	**Sibu**	**97.70**	**90**		P	Pdif	08 28 24.5	+8.8	
GTA	**Gaotai**	**99.23**	**51**		*e*P	**Pdif**	**08 28 23.8**	**+1.7**	
GTA					pP	**pP**	**08 28 27.5**	**+1.4**	
GTA					sP	**sP**	**08 28 30.0**	**+2.5**	
GTA					pmax	pmax			
	comp=Z,3.0nm,0.6s								
CD2	**Chengdu**	**99.53**	**61**		P	**Pdif**	**08 28 23.5**	**0.0**	
CD2					pP	**pP**	**08 28 28.5**	**+1.0**	
CD2					sP	**sP**	**08 28 30.5**	**+1.5**	
CD2					PP	**PP**	**08 32 30.0**	**+2.5**	
CD2					SKS	**SKSac**	**08 39 01.0**	**-1.2**	
CD2					S	**ScS**	**08 39 53.3**	**-3.2**	
CD2					sS	**sS**	**08 40 00.8**	**-2.4**	
CD2					pmax	pmax			
	comp=Z,50nm,1.4s								
CD2					pmax	pmax			
	comp=Z,100nm,5.8s								
CD2					LR	LR			
	comp=E,470nm,16.0s								
CD2					LR	LR			
	comp=Z,500nm,18.4s								
KBS	**Kingsbay**	**99.68**	**359**	⇓	*e*P	**Pdif**	**08 28 22.0**	**-1.0**	
KBS					pmax	pmax			
	comp=Z,16nm,1.2s								
GYA	**Guiyang**	**100.55**	**66**		*e*P	**Pdif**	**08 28 29.0**	**+0.8**	
GYA					PP	**PP**	**08 32 38.8**	**+3.3**	
GYA					SKS		08 39 07.5		
GYA					S	SKKSac	08 40 01.5	+19	
GYA					SS	**SS**	**08 47 01.8**	**-0.3**	
GYA					pmax	pmax			
	comp=Z,20nm,1.0s								
GYA					pmax	pmax			
	comp=Z,120nm,5.2s								
GYA					LR	LR			
	comp=N,460nm,20.4s								
GYA					LR	LR			
	comp=E,370nm,21.5s								
GYA					LR	LR			
	comp=Z,480nm,20.7s								
QIZ	**Qiongzhong**	**101.02**	**74**		P	**Pdif**	**08 28 29.5**	**-0.8**	
QIZ					S	**Sdif**	**08 40 08.5**	**-0.8**	
QIZ					pmax	pmax			
	comp=Z,18nm,1.7s								
QIZ					LR	LR			
	comp=N,240nm,19.2s								
QIZ					LR	LR			
	comp=E,190nm,19.2s								
QIZ					LR	LR			
	comp=Z,530nm,20.0s								
LZH	**Lanzhou**	**101.20**	**56**		*e*P	**Pdif**	**08 28 31.5**	**+0.5**	
LZH					pP	pP	08 28 36.0	+0.8	
LZH					sP		08 28 38.3		
LZH					PP	PP	08 32 46.0	+5.7	
LZH					SKS	**SKSac**	**08 39 10.0**	**-0.4**	
LZH					*e*S	SKKSac	08 40 08.5	+22	
LZH					sS	**sS**	**08 40 16.5**	**-0.8**	
LZH					SS	**SS**	**08 47 10.3**	**-0.6**	
LZH					pmax	pmax			
	comp=Z,16nm,1.1s								
LZH					pmax	pmax			
	comp=Z,97nm,4.1s								
LZH					LR	LR			
	comp=N,550nm,17.4s								
LZH					LR	LR			
	comp=E,540nm,16.8s								
LZH					LR	LR			
	comp=Z,710nm,18.4s								
SONM	**Songino Array**	**106.20**	**45**		PP	PP	08 33 20.0	+2.8	
SONM	**Songino Array**	**106.20**	**45**		PP	PP	08 33 20.0	+2.8	
	comp=Z,0.4nm,0.6s,baz=260,slow=8.4,SNR=3.7								
HHC	**Hu-ho-hao-te**	**108.28**	**53**		Pdif	**Pdif**	**08 28 59.5**	**-2.8**	
HHC					PP	**PP**	**08 33 33.5**	**+0.8**	
HHC					SS	SS	08 48 43.3	-4.3	
HHC					AMB	AMB			
	comp=Z,260nm,7.7s								
HHC					LR	LR			
	comp=N,290nm,15.5s								
HHC					LR	LR			
	comp=E,430nm,16.7s								
HHC					LR	LR			
	comp=Z,470nm,17.8s								
CN2	**Changchun**	**118.85**	**51**		*e*Pdif	**Pdif**	**08 29 52.3**	**+3.3**	
CN2					PP	PP	08 34 55.0	+7.5	
CN2					AMB	AMB			
	comp=Z,200nm,3.0s								
CN2					LR	LR			
	comp=N,200nm,14.0s								
CN2					LR	LR			
	comp=E,200nm,14.0s								
CN2					LR	LR			
	comp=Z,200nm,16.0s								
ULM	**Lac du Bonnet**	**119.04**	**317**		PKP	**PKPdf**	**08 33 30.0**	**+1.4**	
ULM	**Lac du Bonnet**	**119.04**	**317**		PKP	**PKPdf**	**08 33 30.0**	**+1.4**	
	comp=Z,2.5nm,0.6s,baz=57,slow=1.6,SNR=4.5								
MDJ	**Mudanjiang**	**121.84**	**50**		PKP	**PKPdf**	**08 33 34.5**	**+0.3**	
TXAR	**Lajitas Array**	**124.31**	**292**		PKP	**PKPdf**	**08 33 39.0**	**-0.5**	
TXAR	**Lajitas Array**	**124.31**	**292**		PKP	**PKPdf**	**08 33 39.0**	**-0.5**	
	comp=Z,0.5nm,0.8s,baz=79,slow=2.6,SNR=4.3								
DGMT	**Dagmar**	**124.60**	**315**		P	**PKPdf**	**08 33 40.2**	**+0.7**	
	baz=125								
R26A	**Arlington**	**124.66**	**303**		P	**PKPdf**	**08 33 39.8**	**-0.2**	
	baz=125								
U25A	**Circle Dot Ran**	**125.40**	**300**		P	**PKPdf**	**08 33 41.5**	**-0.1**	
	baz=126								
S25A	**Robets Cordova**	**125.43**	**302**		P	**PKPdf**	**08 33 41.7**	**+0.1**	
	baz=126								
R24A	**Sanders Place,**	**125.96**	**303**		P	**PKPdf**	**08 33 42.5**	**-0.2**	
	baz=126								
E22A	**Miles City**	**126.03**	**313**		P	**PKPdf**	**08 33 42.8**	**+0.5**	
	baz=126								
D22A	**Cohagen**	**126.10**	**314**		P	**PKPdf**	**08 33 42.9**	**+0.5**	
	baz=126								
K23A	**Bowen Ranch, D**	**126.17**	**308**		P	**PKPdf**	**08 33 42.8**	**0.0**	
	baz=126								
YKA	**Yellowknife Ar**	**126.22**	**334**		PKP	**PKPdf**	**08 33 41.7**	**-0.4**	
YKA	**Yellowknife Ar**	**126.22**	**334**		PKP	**PKPdf**	**08 33 41.7**	**-0.4**	
	comp=Z,2.5nm,0.9s,baz=56,slow=1.9,SNR=6.3								
A21A	**Bergtoll Ranch**	**126.31**	**316**		P	**PKPdf**	**08 33 42.9**	**+0.2**	
	baz=126								
B21A	**Ellsworth Farm**	**126.46**	**315**		P	**PKPdf**	**08 33 43.6**	**+0.5**	
	baz=127								
D21A	**La Casta Ranch**	**126.66**	**314**		P	**PKPdf**	**08 33 44.2**	**+0.7**	
	baz=127								
K21A	**Alcova**	**127.37**	**308**		P	**PKPdf**	**08 33 44.1**	**-1.1**	
	baz=128								
T22A	**Edith**	**127.40**	**301**		P	**PKPdf**	**08 33 45.4**	**-0.1**	
	baz=128								
D20A	**Manuel Ranch,**	**127.43**	**314**		P	**PKPdf**	**08 33 45.2**	**+0.3**	
	baz=128								
E20A	**Meyer Farm, Mu**	**127.52**	**313**		P	**PKPdf**	**08 33 45.8**	**+0.6**	
	baz=128								
L21A	**Rawlins**	**127.52**	**307**		P	**PKPdf**	**08 33 45.2**	**-0.3**	
	baz=128								
N21A	**Black Mountain**	**127.73**	**306**		P	**PKPdf**	**08 33 45.9**	**-0.1**	
	baz=128								
P21A	**Newcastle**	**127.75**	**304**		P	**PKPdf**	**08 33 46.1**	**0.0**	
	baz=128								
G20A	**Bridger**	**127.76**	**312**		P	**PKPdf**	**08 33 45.7**	**0.0**	
	baz=128								
J20A	**Shoshoni**	**127.91**	**309**		P	**PKPdf**	**08 33 46.2**	**+0.1**	
	baz=128								
D19A	**Cripps Ranch,**	**127.92**	**314**		P	**PKPdf**	**08 33 46.5**	**+0.6**	
	baz=128								
C19A	**Slack Wire Ran**	**127.93**	**315**		P	**PKPdf**	**08 33 46.6**	**+0.7**	
	baz=128								
E19A	**Rath Farm, Rou**	**127.97**	**313**		P	**PKPdf**	**08 33 46.9**	**+0.9**	
	baz=128								
I19A	**Meeteetse**	**128.48**	**310**		P	**PKPdf**	**08 33 47.8**	**+0.5**	
	baz=129								
D18A	**Linhart Farms,**	**128.53**	**314**		P	**PKPdf**	**08 33 48.4**	**+1.3**	
	baz=129								
R20A	**Redvale**	**128.54**	**303**		P	**PKPdf**	**08 33 48.0**	**+0.4**	
	baz=129								
J19A	**Crowheart**	**128.62**	**309**		P	**PKPdf**	**08 33 48.1**	**+0.6**	
	baz=129								
E18A	**Harlowton**	**128.72**	**313**		P	**PKPdf**	**08 33 48.4**	**+0.9**	
	baz=129								
A17A	**Triple J Farms**	**128.76**	**317**		P	**PKPdf**	**08 33 48.6**	**+1.1**	
	baz=129								
P19A	**Cripple Cowboy**	**128.92**	**305**		P	**PKPdf**	**08 33 48.5**	**+0.2**	
	baz=129								
B17A	**L&G Farms, Che**	**128.97**	**316**		P	**PKPdf**	**08 33 48.7**	**+0.8**	
	baz=129								
BW06	**Boulder Array**	**129.05**	**309**		*e*PKPdf	**PKPdf**	**08 33 47.8**	**-0.7**	
PDAR	**Pinedale Array**	**129.05**	**309**		PKP	**PKPdf**	**08 33 47.9**	**-0.6**	
PDAR	**Pinedale Array**	**129.05**	**309**		PKP	**PKPdf**	**08 33 47.9**	**-0.6**	
	comp=Z,3.3nm,0.9s,baz=117,slow=4.2,SNR=11								
C17A	**Wharram Farm,**	**129.08**	**315**		P	**PKPdf**	**08 33 48.7**	**+0.5**	
	baz=129								
D17A	**Six Diamond Ra**	**129.13**	**314**		P	**PKPdf**	**08 33 49.2**	**+0.9**	
	baz=129								
EDM	**Edmonton**	**129.20**	**322**		*e*PKIKP	**PKPdf**	**08 33 48.0**	**-0.1**	
EDM	**Edmonton**	**129.20**	**322**		*e*PKPdf	**PKPdf**	**08 33 48.0**	**-0.1**	
A16A	**West Butte Ran**	**129.33**	**317**		P	**PKPdf**	**08 33 49.1**	**+0.5**	
	baz=129								
LOHW	**Long Hollow**	**129.69**	**310**		*e*PKPdf	**PKPdf**	**08 33 49.8**	**+0.2**	
IMW	**Indian Meadow**	**129.89**	**310**		*e*PKPdf	**PKPdf**	**08 33 50.6**	**+0.5**	
TPAW	**Teton Pass**	**129.96**	**310**		*e*PKPdf	**PKPdf**	**08 33 50.6**	**+0.4**	
A15A	**Johnson Ranch,**	**130.05**	**317**		P	**PKPdf**	**08 33 50.6**	**+0.6**	
	baz=130								
I16A	**Newdale**	**130.28**	**310**		P	**PKPdf**	**08 33 51.5**	**+0.9**	
	baz=130								
A14A	**Double T Ranch**	**130.49**	**317**		P	**PKPdf**	**08 33 51.4**	**+0.6**	
	baz=131								
LRM	**Limekiln Ridge**	**130.59**	**313**		*e*PKPdf	**PKPdf**	**08 33 51.7**	**+0.4**	
HWUT	**Hardware Ranch**	**130.68**	**307**		*e*PKPdf	**PKPdf**	**08 33 51.9**	**+0.4**	
WALA	**Waterton Lakes**	**130.78**	**317**		*e*PKPdf	**PKPdf**	**08 33 52.7**	**+1.3**	
A13A	**Flathead Natio**	**131.13**	**317**		P	**PKPdf**	**08 33 52.4**	**+0.4**	
	baz=131								
SWMT	**Swartz Lake**	**131.24**	**315**		*e*PKPdf	**PKPdf**	**08 33 53.3**	**+1.0**	
MVU	**Marysvale**	**131.53**	**303**		*e*PKPdf	**PKPdf**	**08 33 54.4**	**+1.2**	
I14A	**Mackay**	**131.67**	**311**		P	**PKPdf**	**08 33 54.3**	**+1.0**	
	baz=132								
U15A	**North Rim**	**131.75**	**301**		P	**PKPdf**	**08 33 54.1**	**+0.2**	
	baz=132								
EGAK	**Eagle**	**133.41**	**346**		*e*PKPdf	**PKPdf**	**08 33 56.7**	**+1.0**	
MFID	**Camas Ranch**	**133.46**	**310**		*e*PKPdf	**PKPdf**	**08 33 56.7**	**0.0**	
DAWY	**Dawson**	**133.59**	**345**		*e*PKPdf	**PKPdf**	**08 33 56.7**	**+0.6**	
ILAR	**Eielson Array**	**134.56**	**349**		PKP	**PKPdf**	**08 33 57.6**	**-0.3**	
ILAR	**Eielson Array**	**134.56**	**349**		PKP	**PKPdf**	**08 33 57.6**	**-0.3**	
	comp=Z,1.6nm,0.8s,baz=337,slow=2.6,SNR=11								
NVAR	**Mina Array Bea**	**136.27**	**304**		PKPpre	PKPpre	08 33 55.4		
NVAR	**Mina Array Bea**	**136.27**	**304**		PKhKP	PKPpre	08 33 55.4		
	comp=Z,0.4nm,0.7s,baz=113,slow=1.6,SNR=3.7								
AMKA	**Amchitka**	**147.26**	**18**		*e*PKPdf	**PKPdf**	**08 34 21.9**	**+0.9**	

*CSEM **31** 08:39:35.4±0.4, 36.16°N×22.41°E, h20km, MD3.0, Error ellipse: s-maj=10.5km s-min=4.9km az=38.0*
*ATH **31** 08:39:35.0, 36.19°N×22.47°E, h39km, MD3.0/7*
THE 31 08:39:36.0, 36.17°N×22.44°E, h12km±1km, ML1.8/1, Error ellipse: s-maj=1.6km s-min=0.7km az=48.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.50**	**77**	P		Pg	08 39 45.8	0.0
KYTH				S		Sb	08 39 53.5	-0.6
KYTH	**Kithira**	**0.50**	**77**	*e*PB		Pg	08 39 45.8	0.0
KYTH	**Kithira**	**0.50**	**77**	P		Pg	08 39 45.8	0.0
KYTH				S		Sb	08 39 53.5	-0.6
DYR	**Agios Nikonas**	**0.60**	**352**	P		Pg	08 39 47.0	-0.8
DYR				S		Sb	08 39 56.6	-0.4
DYR	**Agios Nikonas**	**0.60**	**352**	*e*PN		Pg	08 39 46.9	-0.9
DYR				*e*SN		Sb	08 39 56.8	-0.2
DYR	**Agios Nikonas**	**0.60**	**352**	P		Pg	08 39 47.0	-0.8
DYR				S		Sb	08 39 56.6	-0.4
VLI	**Veliai**	**0.68**	**36**	P		Pg	08 39 48.9	-0.4
VLI				S		Sg	08 39 58.4	+0.1
VLI	**Veliai**	**0.68**	**36**	*e*PN		Pg	08 39 48.7	-0.6
VLI				*e*SN		Sg	08 39 58.3	0.0
VLI	**Veliai**	**0.68**	**36**	P		Pg	08 39 48.9	-0.4
VLI				S		Sg	08 39 58.4	+0.1
ANKY	**Antikythira Is**	**0.76**	**113**	P		Pg	08 39 50.1	-0.7
ANKY	**Antikythira Is**	**0.76**	**113**	*e*PN		Pg	08 39 50.1	-0.7
ANKY	**Antikythira Is**	**0.76**	**113**	P		Pg	08 39 50.1	-0.7
PYL	**PYLOS**	**0.92**	**323**	P		Pg	08 39

0.1nm,0.4s,baz=17,slow=7.1,SNR=3.6
MKAR Makanchi Array 59.86 315 P P 09 10 46.4 -0.7
0.2nm,0.6s,baz=97,slow=9.3,SNR=3.0
ILAR Eielson Array 65.73 26 P P 09 11 26.8 +1.1
0.1nm,0.5s,baz=259,slow=5.9,SNR=3.7
NVAR Mina Array Bea 84.67 52 P P 09 13 14.6 -1.2
0.4nm,0.7s,baz=262,slow=6.3,SNR=3.2

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*KNET **31** 09:21:47.8±0.3, 42°.67N×74°.73E, h12km±4km, ml2.7, Error ellipse: s-maj=1.7km s-min=1.3km az=89.0*
*ISCJB **31** 09:21:48.4±0.5, 42°.68N±0°.03×74°.74E±0°.04, h12km±4km, Error ellipse: s-maj=4.9km s-min=4.4km az=149.2*
*NNC **31** 09:21:48.8±0.7, 42°.41N×75°.06E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=8.1km s-min=2.0km az=147.0*
ISC 31 09:21:48.2±0.9, 42°.62N±0°.04×74°.77E±0°.03, h13km±6km, n13, σ1§25/24, 10C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**0.14**	**72**	⇓P			**Pg**	**09 21 52.5**	**+0.7**
	317nm,0.2s,SNR=376								
KBK				⇓S			**Sg**	**09 21 55.3**	**+1.0**
	3μm,0.2s								
AAK	**Ala-Archa**	**0.21**	**275**	⇑P			**Pg**	**09 21 52.4**	**-0.4**
	342nm,0.2s,SNR=207								
AAK				⇑S			**Sg**	**09 21 54.9**	**-1.1**
	2μm,0.4s								
CHMS	**Chumysh**	**0.38**	**358**	⇓P			**Pg**	**09 21 55.2**	**-0.7**
	454nm,0.1s,SNR=1025								
CHMS				⇓S			**Sg**	**09 21 59.9**	**-1.1**
	1μm,0.2s								
UCH	**Uchtor**	**0.43**	**206**	⇓P			**Pb**	**09 21 57.9**	**-0.1**
	85nm,0.2s,SNR=94								
UCH				⇑S			**Sb**	**09 22 04.5**	**0.0**
	84nm,0.2s								
KZA	**Kyzart**	**0.64**	**147**	⇓P			**Pn**	**09 22 02.4**	**-1.0**
	44nm,0.3s,SNR=41								
KZA				⇓S			**Sn**	**09 22 12.1**	**-1.6**
	344nm,0.3s								
TKM2	**Tokmak 2**	**0.68**	**63**	⇑P			**Pb**	**09 22 01.4**	**-0.6**
	19nm,0.4s								
TKM2				⇓S			**Sb**	**09 22 10.5**	**-1.0**
	201nm,0.3s								
TKM2	**Tokmak 2**	**0.68**	**63**	⇓P			**Pb**	**09 22 01.5**	**-0.6**
	41nm,0.2s,SNR=31								
TKM2				⇑S			**Sb**	**09 22 10.7**	**-0.8**
	554nm,0.2s								
USP	**Ospenovka**	**0.68**	**343**	⇓P			**Pg**	**09 22 00.4**	**-1.0**
	111nm,0.1s,SNR=89								
USP				⇑S			**Sg**	**09 22 08.8**	**-1.6**
	330nm,0.4s								
EKS2	**Erkin-Say**	**0.74**	**274**	⇓P			**Pg**	**09 22 02.5**	**+0.1**
	84nm,0.3s,SNR=120								
EKS2				⇑S			**Sg**	**09 22 12.5**	**+0.3**
	290nm,0.3s								
AML	**Almayashu**	**0.94**	**239**	P			**Pg**	**09 22 06.3**	**0.0**
	44nm,0.2s,SNR=36								
ULHL	**Ulahol**	**1.15**	**108**	⇑P			**Pn**	**09 22 10.7**	**+0.5**
	21nm,0.2s,SNR=94								
KK31	**Karatay Array**	**3.17**	**280**	Pn			**Pb**	**09 22 44.0**	**-0.4**
	2.6nm,0.6s,baz=94,slow=14,SNR=60								
KK31				⇑Sn			**Sb**	**09 23 25.4**	**+2.4**
	21nm,0.7s,baz=98,slow=27,SNR=13								
MK31	**Makanchi Array**	**6.79**	**49**	Pn			**Pn**	**09 23 29.6**	**+2.1**
	1.3nm,0.4s,baz=226,slow=13,SNR=15								
MK31				⇑Sn			**Sn**	**09 24 47.3**	**+2.6**
	3.1nm,0.7s,baz=232,slow=24,SNR=4.7								
MK31				⇓Lg			Lg	09 25 22.6	
	5.3nm,0.7s,baz=228,slow=25,SNR=4.1								

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*ISCJB **31** 09:35:03.7±1.4, 5°.4S±0°.1×145°.1E±0°.1, h68km, mb3.7/5, Error ellipse: s-maj=22.6km s-min=8.7km az=138.6*
*IDC **31** 09:35:03.6±4.9, 5°.39S×144°.99E, h51km±42km, mb3.7/5, mb1 4.0/7, mb1mx3.5/19, mbtmp3.8/7, ML3.5/2, Error ellipse: s-maj=43.9km s-min=24.5km az=40.0*
*AUST **31** 09:35:05.3±4.3, 5°.41S×145°.09E, h72km, Error ellipse: s-maj=3.7km s-min=1.1km az=232.0*
ISC 31 09:35:05.4±1.3, 5°.4S±0°.1×145°.0E±0°.1, h68km, n13, σ1§17/14, mb3.7/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.49**	**152**	P			**Pn**	**09 36 10.7**	**-0.3**
	17nm,0.3s,baz=251,slow=17,SNR=31								
PMG				S			**Sn**	**09 37 01.3**	**-0.6**
	19nm,0.3s,baz=125,slow=22,SNR=16								
JAY	**Jayapura**	**5.20**	**304**	P			**Pn**	**09 36 21.6**	**+0.9**
	baz=5.2,SNR=4.1								
COEN	**Coen**	**8.68**	**192**	P			**Pn**	**09 37 09.8**	**+1.4**
	baz=8.7,SNR=32								
MTSU	**Mount Surprise**	**12.66**	**183**	P			**Pn**	**09 38 04.3**	**+1.6**
	baz=13,SNR=12								
KDU	**Kakadu**	**14.36**	**239**	P			**Pn**	**09 38 23.9**	**-1.4**
	baz=14,SNR=3.8								
WRA	**Warramunga Arr**	**17.80**	**215**	P			**P**	**09 39 07.5**	**-1.1**
	0.2nm,0.3s,baz=42,slow=12,SNR=11								
KNRA	**Kununurra**	**18.96**	**236**	P			**Pn**	**09 39 23.0**	**+0.3**
	baz=19,SNR=3.6								
ASAR	**Alice Springs**	**21.08**	**209**	P			**P**	**09 39 43.6**	**-0.7**
	2.2nm,0.5s,baz=37,slow=12,SNR=22								
FITZ	**Fitzroy Crossi**	**22.76**	**235**	P			**P**	**09 40 01.3**	**-1.1**
	3.7nm,0.9s,baz=38,slow=14,SNR=3.6								
STKA	**Stephens Creek**	**26.52**	**187**	P			**P**	**09 40 38.7**	**+1.9**
	1.2nm,0.8s,baz=10,slow=11,SNR=3.5								
CMAR	**Chiang Mai Arr**	**51.26**	**299**	P			**P**	**09 44 02.1**	**-0.7**
	1.7nm,0.5s,baz=124,slow=9.5,SNR=6.2								
VNDA	**Vanda**	**72.61**	**176**	P			**P**	**09 46 24.7**	**-0.4**
	0.4nm,0.6s,baz=325,slow=7.5,SNR=4.7								
TORD	**Torodi Ar. Bea**	**143.06**	**285**	PKP			**PKPdf**	**09 54 33.0**	**+0.3**
	0.3nm,0.8s,baz=85,slow=2.5,SNR=3.3								

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*ISCJB **31** 09:39:33.4±0.6, 51°.47N±0°.03×16°.13E±0°.03, h0km, Error ellipse: s-maj=4.5km s-min=2.7km az=16.2*
*IPEC **31** 09:39:34.3±0.3, 51°.57N×16°.19E, h0km, ML2.4/3, Error ellipse: s-maj=2.0km s-min=1.5km az=34.0*
*CSEM **31** 09:39:35.6±0.4, 51°.47N×16°.07E, h2km, ML3.5/11, Error ellipse: s-maj=5.8km s-min=3.4km az=177.0*
*WAR **31** 09:39:35.8, 51°.53N×16°.17E*
*PRU **31** 09:39:36.1, 51°.49N×16°.09E, h0km*
*VIE **31** 09:39:37.9±0.3, 51°.24N×16°.13E, h0km, mb2.3/5, ML2.9/5, Error ellipse: s-maj=2.3km s-min=2.0km az=155.0 63 km WNW of Wroclaw Suspected Mining induced.*
ISC 31 09:39:34.3±0.9, 51°.54N±0°.03×16°.09E±0°.02, h0km, n42, σ1§06/76, 6C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**170**	*e*Pg			**Pg**	**09 39 48.7**	**+0.7**
KSP				*e*Sg			**Sg**	**09 39 57.9**	**+0.7**
KSP	**Ksiaz**	**0.71**	**170**	⇑*i*Pg			**Pg**	**09 39 48.7**	**+0.7**
KSP				*e*Sg			**Sg**	**09 39 57.9**	**+0.7**
DPC	**Dobruska-Polom**	**1.20**	**173**	*e*PG			**Pg**	**09 39 57.5**	**+0.1**
DPC				*e*SG			**Sb**	**09 40 13.2**	**-0.9**
DPC	**Dobruska-Polom**	**1.20**	**173**	Pg			**Pg**	**09 39 57.5**	**+0.1**
DPC				Sg			**Sb**	**09 40 13.2**	**-0.9**
PVCC	**Panska Ves**	**1.40**	**224**	*e*PG			**Pb**	**09 40 01.7**	**+0.4**
PVCC				*e*SG			**Sn**	**09 40 20.8**	**+0.6**
	comp=Z,208nm,0.2s								
PVCC	**Panska Ves**	**1.40**	**224**	Pg			**Pb**	**09 40 01.7**	**+0.4**
PVCC				Sg			**Sn**	**09 40 20.8**	**+0.6**
	208nm,0.2s								
BRG	**Berggiesshubel**	**1.51**	**244**	PN			**Pn**	**09 40 02.2**	**-0.4**
BRG				PG			**Pb**	**09 40 03.6**	**+0.4**
BRG				SG			**Sn**	**09 40 23.7**	**+0.8**
	95nm,0.3s								
PRU	**Pruhonice**	**1.84**	**213**	*e*PG			**Pb**	**09 40 08.8**	**-0.1**
PRU				*e*SG			**Sg**	**09 40 33.6**	**+0.1**
	comp=Z,38nm,0.3s								
PRU	**Pruhonice**	**1.84**	**213**	Pg			**Pb**	**09 40 08.8**	**-0.1**
PRU				Sg			**Sg**	**09 40 33.6**	**+0.1**
	38nm,0.3s								
CLL	**Collm**	**1.95**	**264**	*e*Pn			**Pn**	**09 40 08.0**	**-0.6**
CLL				*i* Pg			**Pb**	**09 40 12.2**	**+1.5**
CLL				*e*				09 40 15.0	
CLL				*i* Sg			**Sb**	**09 40 36.7**	**+1.2**
	comp=Z,46nm,0.6s								
MORC	**Moravsky Berou**	**2.00**	**152**	*e*Pn			**Pn**	**09 40 09.0**	**-0.3**
MORC				*e*Sg			**Sb**	**09 40 36.7**	**-0.2**
	comp=Z,22nm,0.2s,baz=335								
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*PG			**Pg**	**09 40 15.6**	**+0.1**
OKC				*e*SG			**Sg**	**09 40 42.9**	**-0.5**
OKC	**Ostrava-Krasne**	**2.15**	**142**	Pg			**Pg**	**09 40 15.6**	**+0.1**
OKC				Sg			**Sg**	**09 40 42.9**	**-0.5**
VRAC	**Vranov**	**2.26**	**172**	*e*Pn			**Pn**	**09 40 13.5**	**+0.5**
	baz=354								
VRAC				*e*Sg			**Sg**	**09 40 46.1**	**-0.8**
	comp=Z,19nm,0.2s,baz=354								
TREC	**Trest**	**2.28**	**190**	*e*PG			**Pg**	**09 40 17.4**	**-0.7**
TREC				*e*SG			**Sg**	**09 40 47.1**	**-0.6**
	comp=Z,23nm,0.2s								
TREC	**Trest**	**2.28**	**190**	Pg			**Pg**	**09 40 17.4**	**-0.7**
TREC				Sg			**Sg**	**09 40 47.1**	**-0.6**
	comp=Z,23nm,0.2s								
KRUC	**Moravsky**	**2.49**	**175**	*e*Pn			**Pn**	**09 40 16.6**	**+0.5**
	baz=357								
KRUC				*e*Sg			**Sg**	**09 40 53.2**	**-1.1**
	comp=Z,22nm,0.6s,baz=357								
NKC	**Novy Kostel**	**2.65**	**242**	*e*PG			**Pg**	**09 40 25.2**	**0.0**
NKC				*e*SG			**Sg**	**09 41 01.3**	**+1.8**
	comp=Z,35nm,0.4s								
NKC	**Novy Kostel**	**2.65**	**242**	Pg			**Pg**	**09 40 25.2**	**0.0**
NKC				Sg			**Sg**	**09 41 01.3**	**+1.8**
	comp=Z,35nm,0.4s								
OJC	**Ojcow**	**2.70**	**118**	*e*Pg			**Pg**	**09 40 26.1**	**+0.1**
OJC				*e*Sg			**Sg**	**09 41 00.9**	**0.0**
OJC	**Ojcow**	**2.70**	**118**	*e*Pg			**Pg**	**09 40 26.1**	**+0.1**
OJC				*e*Sg			**Sg**	**09 41 00.9**	**0.0**
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PG			**Pb**	**09 40 28.3**	**+1.3**
KHC				*e*SG			**Sg**	**09 41 07.1**	**-0.4**
	comp=Z,15nm,0.4s								
KHC	**Kasperske Hory**	**2.90**	**215**	Pg			**Pb**	**09 40 28.3**	**+1.3**
KHC				Sg			**Sg**	**09 41 07.1**	**-0.4**
	comp=Z,15nm,0.4s								
ZST	**Bratislava**	**3.41**	**169**	*e*SG			**Sg**	**09 41 23.0**	**-1.0**
ZST	**Bratislava**	**3.41**	**169**	*e*Sg			**Sg**	**09 41 23.0**	**-1.0**
VYHS	**Vyhne**	**3.53**	**149**	*e*PN			**Pn**	**09 40 31.2**	**+0.8**
VYHS				*e*				09 40 42.6	
VYHS	**Vyhne**	**3.53**	**149**	*e*SG			**Sg**	**09 41 26.4**	**-1.2**
VYHS	**Vyhne**	**3.53**	**149**	*e*Pn			**Pn**	**09 40 31.2**	**+0.8**
VYHS				*e*Sg			**Sg**	**09 41 26.4**	**-1.2**
CONA	**Conrad Observa**	**3.62**	**182**	⇑*i*Pn			**Pn**	**09 40 30.8**	**-0.9**
CONA				⇑*i*Sg			**Sg**	**09 41 27.7**	**-3.0**
	comp=Z,14nm,0.3s								
CONA	**Conrad Observa**	**3.62**	**182**	Pn			**Pn**	**09 40 30.8**	**-0.9**
CONA				Sg			**Sg**	**09 41 27.7**	**-3.0**
	comp=Z,14nm,0.3s								
BSD	**Bornholm Skovb**	**3.65**	**349**	*i* P			**Pn**	**09 40 31.1**	**-0.8**
BSD				*e*S			**Sn**	**09 41 12.3**	**-3.3**
BSD	**Bornholm Skovb**	**3.65**	**349**	*i* P			**Pn**	**09 40 31.1**	**-0.8**
MOA	**Molln**	**3.88**	**198**	⇓*i*Pn			**Pn**	**09 40 35.6**	**+0.3**
MOA				⇑*i*Sg			**Sg**	**09 41 37.2**	**-1.8**
	comp=Z,18nm,0.6s								
MOA	**Molln**	**3.88**	**198**	Pn			**Pn**	**09 40 35.6**	**+0.3**
MOA				Sg			**Sg**	**09 41 37.2**	**-1.8**
	comp=Z,18nm,0.6s								
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*PN			**Pn**	**09 40 38.0**	**+2.2**
STHS				*e*				09 40 51.4	
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*SG			**Sg**	**09 41 41.0**	**+0.8**
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*Pn			**Pn**	**09 40 38.0**	**+2.2**
STHS				*e*Sg			**Sg**	**09 41 41.0**	**+0.8**
KECS	**Kecovo**	**4.17**	**136**	*e*			**Pg**	**09 40 53.4**	**-0.9**
KECS	**Kecovo**	**4.17**	**136**	*e*SG			**Sg**	**09 41 48.1**	**-0.2**
KECS	**Kecovo**	**4.17**	**136**	*e*Sg			**Sg**	**09 41 48.1**	**-0.2**
KBA	**Koelnbreinsper**	**4.82**	**203**	⇑*i*Pn			**Pn**	**09 40 48.4**	**+0.1**
KBA				⇑*i*Sg			**Sg**	**09 42 08.5**	**-0.5**
	comp=Z,9.3nm,0.5s								
KBA	**Koelnbreinsper**	**4.82**	**203**	Pn			**Pn**	**09 40 48.4**	**+0.1**
KBA				Sg			**Sg**	**09 42 08.5**	**-0.5**
	comp=Z,9.3nm,0.5s								

IDC 31 09:43:13.4±2.1, 18°.90S×68°.81W, h134km±18km, mb3.6/6, mb1 3.7/10, mb1mx3.5/22, mbtmp3.6/10, Error ellipse: s-maj=22.2km s-min=18.7km az=29.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.68**	**14**	P			Pn	09 43 57.4	+0.5
	3.2nm,0.3s,baz=196,slow=7.2,SNR=120								
SIV	**San Ignacio**	**7.93**	**70**	P			Pn	09 45 05.4	-0.6
	5.4nm,0.3s,baz=271,slow=9.3,SNR=127								
SIV				S			Sn	09 46 34.2	-0.1
	0.2nm,0.3s,baz=343,slow=19,SNR=3.9								
CPUP	**Villa Florida**	**12.92**	**127**	P			Pn	09 46 10.5	-1.6
	0.4nm,0.3s,baz=272,slow=12,SNR=4.6								
ATAH	**Atahualpa**	**14.96**	**320**	P			Pn	09 46 37.5	-1.1
	0.4nm,0.3s,baz=119,slow=19,SNR=2.2								
BDFB	**Brasilia**	**20.12**	**84**	P			P	09 47 38.4	+1.3
	2.3nm,0.5s,baz=260,slow=12,SNR=4.8								
PLCA	**Paso Flores**	**21.81**	**184**	P			P	09 47 55.3	+0.3
	3.5nm,0.9s,baz=4.6,slow=13,SNR=6.5								
DBIC	**Dimbokro**	**67.93**	**74**	P			P	09 53 58.0	-0.2
	3.3nm,0.7s,baz=225,slow=9.4,SNR=3.5								
NVAR	**Mina Array Bea**	**73.52**	**321**	P			P	09 54 31.9	0.0
	0.4nm,0.7s,baz=127,slow=5.9,SNR=4.2								
TORD	**Torodi Ar. Bea**	**76.41**	**71**	P			P	09 54 48.8	+0.1
	1.1nm,0.5s,baz=256,slow=5.3,SNR=20								
YKA	**Yellowknife Ar**	**88.78**	**341**	P			P	09 55 51.1	-0.4
	1.4nm,0.7s,baz=132,slow=4.7,SNR=7.6								
YKA				pP			pP	09 56 23.1	-2.7
	0.8nm,0.5s,baz=132,slow=4.8,SNR=6.4								
SONM	**Songino Array**	**150.88**	**7**	PKPbc			PKPbc	10 02 50.3	0.0
	0.5nm,0.6s,baz=28,slow=1.0,SNR=3.7								

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*NEIC **31** 09:55:39.9±0.2, 11°.84S×166°.70E, mb4.9/24, Error ellipse: s-maj=6.8km s-min=4.9km az=122.0*
*IDC **31** 09:55:39.8±0.7, 11°.91S×166°.70E, h162km±6km, mb4.3/23, mb1 4.5/24, mb1mx4.5/25, mbtmp4.3/24, Error ellipse: s-maj=11.9km s-min=9.5km az=110.0*
*ISCJB **31** 09:55:44.4±1.0, 11°.98S±0°.04×166°.65E±0°.04, h216km±9km, mb4.5/62, Error ellipse: s-maj=7.6km s-min=6.5km az=137.0*
*AUST **31** 09:55:46.2±0.7, 11°.90S×166°.68E, h222km, Error ellipse: s-maj=1.4km s-min=0.9km az=36.0*
*BJI **31** 09:55:46.4, 11°.52S×166°.64E, h220km, mB4.7/21, mb4.8/30*
ISC 31 09:55:40.8±0.5, 11°.91S±0°.05×166°.68E±0°.05, h171km±4km, n192, σ1§39/235, mb4.6/62, 4C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.06**	**290**	*e*Pn			Pn	09 57 26.3	+4.5
HNR				*e*Sn			Sn	09 58 48.9	+7.5
HNR	**Honiara**	**7.06**	**290**	P			Pn	09 57 25.4	+3.6
	8.3nm,0.3s,baz=341,slow=5.5,SNR=5.0								
DZM	**Mont Dzumac**	**10.11**	**181**	P			**Pn**	**09 58 03.4**	**+1.5**
DZM	**Mont Dzumac**	**10.11**	**181**	P			**Pn**	**09 58 03.4**	**+1.5**
	1.2nm,0.3s,baz=270,slow=23,SNR=13								
MSVF	**Nonsavu**	**12.42**	**119**	*e*Pn			P	09 58 40.5	+3.4
MSVF				*e*S			**S**	**10 00 56.9**	**-1.9**
FUNA	**Funafuti**	**12.77**	**76**	*e*Pn			**P**	**09 58 40.2**	**-0.6**
TARA	**Tarawa**	**14.57**	**26**	*e*Pn			**P**	**09 59 03.0**	**+2.1**
PMG	**Port Moresby**	**19.35**	**276**	*e*P			**P**	**09 59 54.5**	**+1.2**
	41nm,0.8s								
PMG	**Port Moresby**	**19.35**	**276**	P			**Pn**	**09 59 54.8**	**-1.6**
	3.0nm,0.3s,baz=41,slow=6.1,SNR=8.3								
EIDS	**Eidsvold**	**19.91**	**226**	*e*P			**Pn**	**10 00 01.4**	**-1.6**
	83nm,0.8s								
EIDS	**Eidsvold**	**19.91**	**226**	P			**Pn**	**10 00 01.4**	**-1.6**
	baz=20,SNR=44								
CTA	**Charters Tower**	**21.24**	**245**	P			**P**	**10 00 14.6**	**+1.0**
CTA				pP			**pP**	**10 00 42.5**	**-0.8**
CTA	**Charters Tower**	**21.24**	**245**	P			**P**	**10 00 14.6**	**+1.0**
	44nm,0.6s,baz=72,slow=12,SNR=61								
CTA				pP			**pP**	**10 00 42.5**	**-0.8**
	28nm,0.9s,baz=73,slow=16,SNR=4.0								
CTAO	**Charters Tower**	**21.24**	**245**	*e*P			**P**	**10 00 14.6**	**+1.0**
	49nm,0.7s								
RMQ	**Roma**	**22.24**	**227**	P			**P**	**10 00 25.1**	**+1.3**
	baz=22,SNR=25								
RAO	**Raoul Island**	**22.44**	**143**	P			**P**	**10 00 28.0**	**+2.4**
MTSU	**Mount Surprise**	**22.46**	**251**	P			**P**	**10 00 27.2**	**+1.3**
	baz=22,SNR=8.0								
COEN	**Coen**	**23.00**	**262**	*e*P			**P**	**10 00 31.7**	**+0.8**
	186nm,0.9s								
COEN	**Coen**	**23.00**	**262**	P			**P**	**10 00 31.7**	**+0.8**
	baz=23,SNR=17								
ARMA	**Armidale**	**23.11**	**215**	*e*P			**P**	**10 00 33.0**	**+1.2**
	37nm,1.3s								
ARMA	**Armidale**	**23.11**	**215**	P			**P**	**10 00 33.3**	**+1.5**
	baz=23,SNR=25								
JAY	**Jayapura**	**27.38**	**288**	P			**P**	**10 01 13.6**	**+3.1**
	baz=27,SNR=5.7								

CMSA	**Cobar Meteorol**	**27.50**	**221**	P			**P**	**10 01 11.7**	**+0.3**
	baz=28,SNR=8.1								
URZ	**Urewera**	**27.84**	**162**	P			**P**	**10 01 15.0**	**+0.8**
URZ	**Urewera**	**27.84**	**162**	P			**P**	**10 01 15.0**	**+0.8**
	10nm,0.4s,baz=291,slow=4.6,SNR=20								
SNZO	**South Karori**	**30.12**	**168**	*e*P			**P**	**10 01 34.0**	**-0.3**
	87nm,1.1s								
STKA	**Stephens Creek**	**30.47**	**225**	*e*P			**P**	**10 01 37.9**	**+0.3**
	1.9nm,0.8s								
STKA				PcP			**PcP**	**10 04 32.3**	**-0.5**
STKA	**Stephens Creek**	**30.47**	**225**	P			**P**	**10 01 38.8**	**+1.2**
	8.7nm,0.8s,baz=23,slow=8.9,SNR=16								
STKA				PcP			**PcP**	**10 04 32.3**	**-0.5**
	2.7nm,0.9s,baz=346,slow=21,SNR=3.2								
STKA	**Stephens Creek**	**30.47**	**225**	P			**P**	**10 01 38.7**	**+1.2**
	baz=30,SNR=8.5								
KHZ	**Kahutara**	**30.97**	**170**	*e*P			**P**	**10 01 42.4**	**+0.6**
	20nm,0.6s								
RPZ	**Rata Peaks**	**31.91**	**174**	*e*P			**P**	**10 01 50.8**	**+0.7**
RPZ	**Rata Peaks**	**31.91**	**174**	P			**P**	**10 01 49.9**	**-0.2**
	47nm,0.6s,baz=295,slow=2.0,SNR=11								
WRAB	**Tennant Creek**	**32.05**	**251**	*e*P			**P**	**10 01 51.0**	**-0.6**
	10nm,0.8s								
WRAB				*e*PcP			**PcP**	**10 04 37.9**	**+0.6**
WRA	**Warramunga Arr**	**32.06**	**251**	P			**P**	**10 01 51.3**	**-0.5**
WRA				pP			**pP**	**10 02 24.3**	**-3.3**
WRA				PcP			**PcP**	**10 04 37.4**	**+0.1**
WRA				ScP			**ScP**	**10 08 05.7**	**+0.8**
WRA	**Warramunga Arr**	**32.06**	**251**	P			**P**	**10 01 51.3**	**-0.5**
	9.6nm,0.7s,baz=84,slow=9.0,SNR=42								
WRA				pP			**pP**	**10 02 24.3**	**-3.3**
	4.5nm,0.9s,baz=82,slow=9.0,SNR=3.9								
WRA				PcP			**PcP**	**10 04 37.4**	**+0.1**
	4.8nm,0.7s,baz=82,slow=3.1,SNR=16								
WRA				ScP			**ScP**	**10 08 05.7**	**+0.8**
	3.2nm,0.8s,baz=79,slow=3.6,SNR=12								
ASAR	**Alice Springs**	**33.24**	**245**	P			**P**	**10 02 01.2**	**-0.8**
ASAR				pP			**pP**	**10 02 34.8**	**-3.2**
ASAR				PcP			**PcP**	**10 04 40.1**	**-0.4**
ASAR				ScP			**ScP**	**10 08 09.3**	**+0.4**
ASAR	**Alice Springs**	**33.24**	**245**	P			**P**	**10 02 01.2**	**-0.8**
	16nm,0.7s,baz=72,slow=9.6,SNR=199								
ASAR				pP			**pP**	**10 02 34.8**	**-3.2**
	6.2nm,0.8s,baz=75,slow=9.7,SNR=5.4								
ASAR				PcP			**PcP**	**10 04 40.1**	**-0.4**
	5.0nm,0.8s,baz=75,slow=2.9,SNR=15								
ASAR				ScP			**ScP**	**10 08 09.3**	**+0.4**
	8.7nm,1.0s,baz=73,slow=3.5,SNR=25								
KDU	**Kakadu**	**33.42**	**265**	P			**P**	**10 02 03.7**	**+0.2**
	baz=33,SNR=16								
MTN	**Manton Dam**	**34.72**	**265**	P			**P**	**10 02 15.4**	**+0.6**
	baz=35,SNR=5.8								
BBOO	**Buckleboo**	**34.93**	**229**	*e*P			**P**	**10 02 16.8**	**+0.5**
	266nm,0.8s								
BBOO	**Buckleboo**	**34.93**	**229**	P			**P**	**10 02 16.9**	**+0.5**
	baz=35,SNR=20								
KNRA	**Kununurra**	**36.98**	**260**	P			**P**	**10 02 34.3**	**+0.3**
	baz=37,SNR=11								
FITZ	**Fitzroy Crossi**	**40.05**	**256**	P			**P**	**10 02 59.0**	**-0.7**
FITZ				PcP			**PcP**	**10 05 02.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**40.05**	**256**	P			**P**	**10 02 59.0**	**-0.7**
	9.4nm,0.6s,baz=86,slow=8.4,SNR=35								
FITZ				PcP			**PcP**	**10 05 02.0**	**+0.8**
	7.2nm,0.7s,baz=93,slow=5.0,SNR=4.5								
FORT	**Forrest**	**40.31**	**236**	*e*P			**P**	**10 03 01.7**	**+0.1**
	24nm,0.6s								
FORT	**Forrest**	**40.31**	**236**	P			**P**	**10 03 02.0**	**+0.4**
	baz=40,SNR=20								
MBWA	**Marble Bar**	**45.80**	**252**	*e*P			**P**	**10 03 46.3**	**+0.5**
	7.6nm,0.4s								
MEEK	**Meekatharra**	**47.40**	**245**	P			**P**	**10 03 58.7**	**+0.4**

	comp=Z,100nm,5.8s								
LZH	**Lanzhou**	**76.02**	**312**	⇑P		**P**		**10 07 11.5**	**+1.9**
LZH				pP		pP		10 08 04.8	+14
LZH				sP		sP		10 08 28.0	+19
LZH				PP		PP		10 10 09.0	+6.2
LZH				S		S		10 16 32.0	-7.0
LZH				SS		**SS**		**10 21 36.5**	**+0.5**
LZH				pmax		pmax			
	comp=Z,30nm,1.0s								
LZH				pmax		pmax			
	comp=Z,130nm,5.4s								
ULN	**Ulaanbaatar**	**79.54**	**324**	*e*P		**P**		**10 07 29.6**	**+0.8**
	comp=Z,12nm,0.7s								
SONM	**Songino Array**	**79.91**	**324**	P		**P**		**10 07 31.2**	**+0.5**
SONM	**Songino Array**	**79.91**	**324**	P		**P**		**10 07 31.2**	**+0.5**
	comp=Z,3.2nm,0.3s,baz=140,slow=5.8,SNR=45								
GTA	**Gaotai**	**80.32**	**314**	P		**P**		**10 07 34.3**	**+1.2**
GTA				pP		pP		10 08 21.8	+6.7
GTA				sP		sP		10 08 44.5	+11
GTA				PP		**PP**		**10 10 43.3**	**+4.8**
GTA				S		**S**		**10 17 20.0**	**-4.7**
GTA				pmax		pmax			
	comp=Z,11nm,1.0s								
GTA				pmax		pmax			
	comp=Z,60nm,4.3s								
GTA				LR		LR			
	comp=N,210nm,17.6s								
GTA				LR		LR			
	comp=E,220nm,16.6s								
GTA				LR		LR			
	comp=Z,230nm,25.7s								
KCPM	**Cahto Peak**	**82.46**	**47**	*e*P		**P**		**10 07 45.2**	**+0.8**
MCK	**McKinley**	**82.67**	**18**	*e*P		**P**		**10 07 44.0**	**-0.8**
	comp=Z,7.5nm,0.7s								
PNL	**Peninsula**	**83.35**	**24**	*e*P		**P**		**10 07 48.0**	**-0.4**
	comp=Z,22nm,1.3s								
COLA	**College**	**83.82**	**18**	*e*P		**P**		**10 07 49.7**	**-0.9**
	comp=Z,76nm,1.1s								
HUMO	**Hull Mountain**	**84.00**	**44**	*e*P		**P**		**10 07 52.9**	**+0.8**
	comp=Z,3.4nm,0.8s								
ILAR	**Eielson Array**	**84.04**	**18**	P		**P**		**10 07 50.9**	**-0.8**
ILAR	**Eielson Array**	**84.04**	**18**	P		**P**		**10 07 50.9**	**-0.8**
	comp=Z,16nm,0.7s,baz=240,slow=5.1,SNR=213								
CMB	**Columbia Colle**	**84.20**	**49**	*e*P		**P**		**10 07 53.0**	**-0.2**
	comp=Z,2.0nm,0.7s								
MAW	**Mawson**	**84.27**	**202**	P		**P**		**10 07 52.9**	**-0.1**
MAW	**Mawson**	**84.27**	**202**	P		**P**		**10 07 52.9**	**-0.1**
	comp=Z,6.3nm,0.9s,baz=117,slow=6.9,SNR=11								
MAW	**Mawson**	**84.27**	**202**	P		**P**		**10 07 53.0**	**+0.1**
	baz=84,SNR=6.8								
WRAK	**Wrangell Islan**	**84.64**	**29**	*e*P		**P**		**10 07 54.9**	**+0.1**
	comp=Z,8.1nm,0.3s								
HYT	**Haines Junctio**	**84.80**	**24**	*e*P		**P**		**10 07 55.6**	**-0.2**
COLD	**Coldfoot**	**84.88**	**15**	*e*P		**P**		**10 07 56.9**	**+1.0**
	comp=Z,6.1nm,1.0s								
WAKR	**Walker**	**85.06**	**49**	*e*P		**P**		**10 07 58.3**	**+0.6**
	comp=Z,3.3nm,1.0s								
WAKR				*e*pP		pP		10 08 44.5	+4.4
EGAK	**Eagle**	**85.87**	**20**	*e*P		**P**		**10 08 00.6**	**-0.2**
	comp=Z,18nm,0.7s								
NVAR	**Mina Array Bea**	**85.88**	**50**	P		**P**		**10 08 02.0**	**+0.2**
NVAR				pP		**pP**		10 08 43.5	-0.8
NVAR	**Mina Array Bea**	**85.88**	**50**	P		**P**		**10 08 02.0**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=232,slow=8.2,SNR=31								
NVAR				pP		**pP**		**10 08 43.5**	**-0.8**
	comp=Z,2.9nm,0.8s,baz=231,slow=8.6,SNR=5.3								
NV11	**Mina Array Sit**	**85.99**	**50**	*e*P		**P**		**10 08 02.2**	**-0.1**
DAWY	**Dawson**	**86.03**	**21**	*e*P		**P**		**10 08 01.3**	**-0.4**
WVOR	**Wild Horse Val**	**86.93**	**46**	*e*P		**P**		**10 08 06.8**	**+0.1**
	comp=Z,11nm,1.6s								
MFID	**Camas Ranch**	**89.20**	**45**	*e*P		**P**		**10 08 17.1**	**-0.2**
	comp=Z,1.7nm,0.7s								
HLID	**Hailey**	**90.22**	**46**	*e*P		**P**		**10 08 22.8**	**+0.6**
	comp=Z,1.3nm,0.6s								
HLID				*e*pP		**pP**		**10 09 07.4**	**+2.3**
WMQ	**Urumqi**	**90.35**	**315**	P		**P**		**10 08 23.5**	**+0.8**
MVU	**Marysvale**	**90.48**	**51**	*e*P		**P**		**10 08 24.8**	**+1.1**
	comp=Z,3.7nm,1.2s								
MVU				*e*pP		**pP**		**10 09 10.6**	**+4.1**
DLMT	**Dillon**	**91.96**	**44**	*e*P		**P**		**10 08 30.7**	**+0.5**
	comp=Z,4.2nm,1.1s								
PDAR	**Pinedale Array**	**93.46**	**47**	P		**P**		**10 08 37.8**	**+0.5**
PDAR	**Pinedale Array**	**93.46**	**47**	P		**P**		**10 08 37.8**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=284,slow=6.0,SNR=4.4								
MKAR	**Makanchi Array**	**94.78**	**317**	P		**P**		**10 08 43.0**	**0.0**
MKAR				PKKPbc		**PKKPdf**		**10 25 37.4**	**-3.2**
MKAR	**Makanchi Array**	**94.78**	**317**	P		**P**		**10 08 43.0**	**0.0**
	comp=Z,15nm,0.7s,baz=85,slow=6.3,SNR=32								
MKAR				PKKPbc		**PKKPdf**		**10 25 37.4**	**-3.2**
	comp=Z,0.7nm,0.6s,baz=281,slow=2.8,SNR=7.4								
ZALV	**Zalesovo Beam**	**94.79**	**324**	P		**P**		**10 08 41.2**	**-1.6**
ZALV	**Zalesovo Beam**	**94.79**	**324**	P		**P**		**10 08 41.2**	**-1.6**
	comp=Z,1.8nm,0.6s,baz=105,slow=4.3,SNR=10								
YKA	**Yellowknife Ar**	**95.32**	**27**	P		**P**		**10 08 43.4**	**-1.7**
YKA	**Yellowknife Ar**	**95.32**	**27**	P		**P**		**10 08 43.3**	**-1.7**
	comp=Z,1.2nm,0.5s,baz=259,slow=4.9,SNR=13								
TXAR	**Lajitas Array**	**95.44**	**61**	P		**P**		**10 08 45.4**	**-1.1**
TXAR				pP		**pP**		**10 09 28.2**	**-1.2**
TXAR	**Lajitas Array**	**95.44**	**61**	P		**P**		**10 08 45.4**	**-1.1**
	comp=Z,0.6nm,1.0s,baz=242,slow=5.3,SNR=6.4								
TXAR				pP		**pP**		**10 09 28.2**	**-1.2**
	comp=Z,0.1nm,0.7s,baz=272,slow=2.5,SNR=1.6								
SNAA	**Sanae**	**96.31**	**183**	*e*P		**P**		**10 08 48.3**	**-1.3**
SNAA	**Sanae**	**96.31**	**183**	*e*P		**P**		**10 08 49.5**	**-0.1**
	comp=Z,1.4nm,0.6s								
KSH	**Kashi**	**98.01**	**309**	*e*P		Pdif		10 08 58.3	+0.3
KSH				pP		pP		10 09 53.5	+13
KSH				PP		**PP**		**10 13 03.5**	**+4.2**
KSH				SKS		**SKSac**		**10 19 13.3**	**-6.3**
KSH				S		S		10 20 02.5	-7.6
KSH				sS		sS		10 21 39.3	+14
KSH				pmax		pmax			
	comp=Z,43nm,4.8s								
KSH				LR		LR			
	comp=N,110nm,9.3s								
KSH				LR		LR			
	comp=E,110nm,8.4s								
KSH				LR		LR			
	comp=Z,100nm,8.8s								
BVAR	**Borovoye Array**	**103.19**	**322**	Pdif		**Pdif**		**10 09 19.5**	**-1.0**
BVAR	**Borovoye Array**	**103.19**	**322**	Pdiff		**Pdif**		**10 09 19.5**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=169,slow=8.8,SNR=3.5								
ARCES	**ARCESS Array B**	**117.40**	**346**	PKP		**PKPdf**		**10 14 04.9**	**-0.5**
ARCES	**ARCESS Array B**	**117.40**	**346**	PKP		**PKPdf**		**10 14 04.9**	**-0.5**
	comp=Z,5.0nm,0.4s,baz=80,slow=2.0,SNR=67								
LPAZ	**La Paz**	**118.98**	**116**	PKP		**PKPdf**		**10 14 10.1**	**-0.7**
LPAZ	**La Paz**	**118.98**	**116**	PKP		**PKPdf**		**10 14 10.1**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=229,slow=2.6,SNR=5.8								
KBZ	**Khabaz**	**122.40**	**314**	PKP		**PKPdf**		**10 14 15.7**	**-0.1**
KBZ	**Khabaz**	**122.40**	**314**	PKP		**PKPdf**		**10 14 15.7**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=96,slow=3.5,SNR=4.5								
CPUP	**Villa Florida**	**122.77**	**132**	PKP		**PKPdf**		**10 14 16.1**	**-1.0**
CPUP	**Villa Florida**	**122.77**	**132**	PKP		**PKPdf**		**10 14 16.1**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=307,slow=4.7,SNR=3.2								
FINES	**FINESS Array B**	**122.91**	**339**	PKP		**PKPdf**		**10 14 15.8**	**-0.5**
FINES	**FINESS Array B**	**122.91**	**339**	PKP		**PKPdf**		**10 14 15.8**	**-0.5**
	comp=Z,3.3nm,0.4s,baz=68,slow=1.6,SNR=41								
SDV	**Santo Domingo**	**123.62**	**87**	*e*PKPdf		**PKPdf**		**10 14 18.2**	**-1.0**
BOSA	**Boshof**	**125.10**	**222**	PKP		**PKPdf**		**10 14 21.3**	**-0.4**
BOSA	**Boshof**	**125.10**	**222**	PKP		**PKPdf**		**10 14 21.3**	**-0.4**
	comp=Z,2.7nm,0.9s,baz=54,slow=16,SNR=5.9								
NB2	**NORSAR Subarra**	**127.77**	**345**	PKPdf		**PKPdf**		**10 14 25.4**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=31,slow=1.9								
NOA	**NORSAR Array B**	**127.77**	**345**	PKP		**PKPdf**		**10 14 25.1**	**-0.5**
NOA	**NORSAR Array B**	**127.77**	**345**	PKP		**PKPdf**		**10 14 25.1**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=36,slow=2.0,SNR=7.6								
KMBO	**Kilima Mbogo**	**128.13**	**259**	PKP		**PKPdf**		**10 14 28.2**	**+0.2**
KMBO	**Kilima Mbogo**	**128.13**	**259**	PKP		**PKPdf**		**10 14 28.2**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=55,slow=14,SNR=5.4								
BRTR	**Keskin Array B**	**130.22**	**312**	PKP		**PKPdf**		**10 14 30.8**	**-0.4**
BRTR				SKPbc		**SKPbc**		**10 17 39.6**	**+1.3**
BRTR	**Keskin Array B**	**130.22**	**312**	PKP		**PKPdf**		**10 14 30.8**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=143,slow=5.5,SNR=8.5								
BRTR				SKPbc		**SKPbc**		**10 17 39.6**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=345,slow=1.6,SNR=3.4								
MMAI	**Mount Meron Ar**	**130.82**	**303**	SKPbc		**SKPab**		**10 17 42.8**	**+1.8**
MMAI	**Mount Meron Ar**	**130.82**	**303**	SKPbc		**SKPab**		**10 17 42.8**	**+1.8**
	comp=Z,12nm,1.0s,baz=93,slow=6.9,SNR=8.1								
BRG	**Berggiesshubel**	**135.23**	**336**	*e*PKP		**PKPdf**		**10 14 40.0**	**0.0**
	comp=Z,4.5nm,0.8s								
BRG				*e*				10 39 30.0	
	comp=Z,6.8nm,1.2s								
CONA	**Conrad Observa**	**136.59**	**332**	⇑*i*PKPdf		**PKPdf**		**10 14 42.7**	**-0.1**
	comp=Z,3.3nm,0.6s								
KHC	**Kasperske Hory**	**136.72**	**334**	*e*PKPdf		**PKPdf**		**10 14 44.7**	**+1.8**
GERES	**GERESS Array B**	**136.88**	**334**	PKPpre		PKPpre		10 14 33.3	
GERES				PKP		**PKPdf**		**10 14 42.8**	**-0.5**
GERES	**GERESS Array B**	**136.88**	**334**	PKhKP		PKPpre		10 14 33.3	
	comp=Z,0.4nm,0.4s,baz=64,slow=3.1,SNR=4.6								
GERES				PKP		**PKPdf**		**10 14 42.8**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=54,slow=2.3,SNR=10								
ABTA	**Abfaltersbach**	**139.00**	**333**	⇑*i*PKPdf		**PKPdf**		**10 14 44.6**	**-2.6**
	comp=Z,5.0nm,0.6s								
FETA	**Feichten**	**139.56**	**335**	⇑*i*PKiKP		**PKPdf**		**10 14 49.0**	**+0.6**
	comp=Z,6.4nm,0.8s								
FETA	**Feichten**	**139.56**	**335**	P		PKPdf		10 14 39.0	-9.4
	comp=Z,2.5nm,0.9s								
BNI	**Bardonecchia**	**142.81**	**336**	*e*PKPdf		**PKPdf**		**10 14 50.9**	**-3.2**
SSB	**Saint Sauveur**	**143.41**	**339**	*e*PKPdf		PKPbc		10 14 52.4	-0.4
VSL	**Villasalto**	**145.96**	**328**	*e*PKPbc		**PKPbc**		**10 15 00.8**	**+0.2**
KEST	**Kesra**	**148.66**	**323**	*e*PKPbc		**PKPbc**		**10 15 08.7**	**+0.4**
KEST	**Kesra**	**148.66**	**323**	PKPbc		**PKPbc**		**10 15 08.7**	**+0.4**
	comp=Z,8.0nm,0.7s,baz=270,slow=1.7,SNR=26								
CMAH	**Djebel Manchou**	**149.11**	**326**	P		**PKPbc**		**10 15 09.2**	**-0.2**
CMAH	**Djebel Manchou**	**149.11**	**326**	P		**PKPbc**		**10 15 09.2**	**-0.2**
ABSA	**Djebel Ababsia**	**149.34**	**326**	P		**PKPbc**		**10 15 10.4**	**+0.4**
ABSA	**Djebel Ababsia**	**149.34**	**326**	P		**PKPbc**		**10 15 10.4**	**+0.4**
CKFL	**Kef-Lekhel**	**149.66**	**327**	P		**PKPbc**		**10 15 11.0**	**+0.2**
CKFL	**Kef-Lekhel**	**149.66**	**327**	P		**PKPbc**		**10 15 11.0**	**+0.2**
PGAV	**Gavieira, Arco**	**149.74**	**353**	*e*PKP		**PKPbc**		**10 15 10.6**	**-0.2**
CASM	**Ain Smara**	**149.88**	**327**	P		**PKPbc**		**10 15 11.4**	**+0.1**
CASM	**Ain Smara**	**149.88**	**327**	P		**PKPbc**		**10 15 11.4**	**+0.1**
DFRA	**Djebel Bou Aff**	**149.99**	**328**	P		**PKPbc**		**10 15 12.4**	**+0.8**
DFRA	**Djebel Bou Aff**	**149.99**	**328**	P		**PKPbc**		**10 15 12.4**	**+0.8**
CTEI	**Djebel Teioual**	**150.08**	**327**	P		**PKPbc**		**10 15 12.2**	**+0.4**
CTEI	**Djebel Teioual**	**150.08**	**327**	P		**PKPbc**		**10 15 12.2**	**+0.4**
POLO	**Lamas de Olo**	**150.25**	**352**	*e*PKP		**PKPbc**		**10 15 12.2**	**+0.2**
PVRL	**Vila Real**	**150.34**	**351**	*e*PKP		**PKPbc**		**10 15 12.5**	**+0.3**
MVO	**Moncorvo**	**150.34**	**350**	*e*PKP		**PKPbc**		**10 15 12.5**	**+0.3**
CKHR	**Kef el Ahmar**	**150.59**	**328**	P		**PKPbc**		**10 15 13.3**	**+0.3**
CKHR	**Kef el Ahmar**	**150.59**	**328**	P		**PKPbc**		**10 15 13.3**	**+0.3**
ESDC	**Sonseca Array**	**151.13**	**345**	PKPbc		PKPbc		**10 15 14.2**	**+0.1**
ESDC				PKPab		**PKPab**		**10 15 23.1**	**+0.8**
ESDC	**Sonseca Array**	**151.13**	**345**	PKPbc		**PKPbc**		**10 15 14.2**	**+0.1**
	comp=Z,4.9nm,0.7s,baz=22,slow=2.2,SNR=29								
ESDC				PKPab		**PKPab**		**10 15 23.1**	**+0.8**
	comp=Z,2.9nm,0.4s,baz=15,slow=4.1,SNR=11								
MTE	**Manteigas**	**151.17**	**351**	*e*PKP		**PKPbc**		**10 15 14.3**	**+0.1**
PCBR	**Castelo Branco**	**151.71**	**350**	*e*PKP		**PKPbc**		**10 15 15.3**	**0.0**
PTOM	**Tomar**	**152.06**	**352**	*e*PKP		**PKPbc**		**10 15 16.2**	**+0.1**
PMRV	**Marv??o**	**152.09**	**350**	*e*PKP		**PKPbc**		**10 15 16.1**	**-0.2**
PMTG	**Montargil**	**152.58**	**351**	*e*PKP		**PKPbc**		**10 15 17.1**	**-0.2**
PBAR	**Barrancos**	**153.25**	**349**	*e*PKP		**PKPbc**		**10 15 17.8**	**-1.0**
MDT	**Midelt**	**157.71**	**340**	PKP		**PKPdf**		**10 15 17.9**	**+0.4**
MDT	**Midelt**	**157.71**	**340**	PKP		**PKPdf**		**10 15 17.9**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=249,slow=10,SNR=3.6								
TORD	**Torodi Ar. Bea**	**165.29**	**276**	PKP		**PKPdf**		**10 15 25.6**	**-0.1**
TORD				PKPab		**PKPab**		**10 16 23.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**165.29**	**276**	PKP		**PKPdf**		**10 15 25.6**	**-0.1**
	comp=Z,5.7nm,1.0s,baz=2.5,slow=1.4,SNR=21								
TORD				PKPab		**PKPab**		**10 16 23.7**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=74,slow=3.4,SNR=4.0								
DBIC	**Dimbokro**	**170.16**	**239**	PKPab		**PKPab**		**10 16 45.7**	**-0.1**
DBIC	**Dimbokro**	**170.16**	**239**	PKPab		**PKPab**		**10 16 45.7**	**-0.1**
	comp=Z,8.9nm,1.1s,baz=285,slow=6.0,SNR=4.2								

*ISCJB **31** 10:09:44.4±0.4,56.˚49S×0.˚07×143.˚2W×0.˚1, h11km, mb4.8/23, MS5.1/162, Error ellipse: s-maj=10.6km s-min=9.3km az=163.7*

*IDC **31** 10:09:44.9±0.5,56.˚51S×143.˚31W, h0km, mb4.3/10, mb1 4.5/10, mb1mx4.5/15, mbtmp4.3/10, MS5.0/24, Ms1 5.0/24, ms1mx5.0/24, Error ellipse: s-maj=23.3km s-min=16.2km az=177.0*

*NEIC **31** 10:09:46.3±0.3,56.˚50S×143.˚18W, h10km, mb5.1/14, MS5.2/130, MW5.7, Error ellipse: s-maj=13.3km s-min=9.0km az=170.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^17^Nm; Mrr=0.78; Mθθ=4.06; Mφφ=3.28; Mrθ=0.53; Mrφ=1.40; Mθφ=-0.19; Best double couple: M=4.00000×10^17^ NP1:φ=304.00000°, δ=90.00000°, λ=-8.00000°. NP2:φ=34.00000°, δ=82.00000°, λ=-180.00000°. Principal axes: T 4.3700, Plg5.0000°, Azm349.0000°; N -0.8000, Plg81.0000°, Azm122.0000°; P -3.5700, Plg5.0000°, Azm259.0000°;*

*GCMT **31** 10:09:51.6±0.1,56.˚55S×142.˚90W, h22km, MW5.7, Moment Tensor Solution. s96,c173; s68,c83; Moment tensor: Scale 10^17^Nm; Mrr=0.37±.05; Mθθ=4.42±.06; Mφφ=4.05±.05; Mrθ=0.35±.09; Mrφ=2.66±.05; Mθφ=0.65±.09; Best double couple: M=5.10000×10^17^ NP1:φ=119.00000°, δ=82.00000°, λ=-1.00000°. NP2:φ=209.00000°, δ=89.00000°, λ=-172.00000°. Principal axes: T 5.2300, Plg5.0000°, Azm344.0000°; N -0.3600, Plg81.0000°, Azm216.0000°; P -4.8800, Plg7.0000°, Azm74.0000°; Data Used: IU II IC G CN. Surface waves: sta=113, comp=221, per= 50.*

ISC 31 10:09:46.7±0.3,56.˚44S±0.˚08×143.˚07W±0.˚07, h11km, n254,σ1°80/124, mb4.9/23, MS5.2/162, 1D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**27.37**	**201**	*e*P	**P**		**10 15 32.2**	**+0.9**
	49nm,1.5s							
SBA				LR	LR			
	comp=Z,4μm,22.0s							
VNDA	**Vanda**	**28.26**	**202**	P	**P**		**10 15 37.9**	**-1.5**
VNDA	**Vanda**	**28.26**	**202**	P	**P**		**10 15 37.9**	**-1.5**
	comp=Z,0.4nm,0.9s,baz=72,slow=9.4,SNR=2.0							
VNDA				LR	LR		10 24 02.6	
	comp=Z,3μm,21.5s,baz=76,slow=30							
SNZO	**South Karori**	**31.05**	**281**	PFAKE			10 16 20.0	+16
SNZO				LR	LR			
	comp=Z,6μm,20.0s							
RPZ	**Rata Peaks**	**31.45**	**274**	LR	LR		10 25 44.4	
	comp=Z,6μm,19.9s,baz=126,slow=31							
URZ	**Urewera**	**31.94**	**288**	LR	LR		10 25 59.9	
	comp=Z,4μm,20.8s,baz=143,slow=31							
TBI	**Tubuai**	**33.38**	**349**	*e*S	**S**		**10 21 42.7**	**-3.0**
	comp=Z,1μm,28.2s							
TBI				*e*LQ	LQ		10 23 42.8	
	comp=Z,725nm,35.6s							
TBI				*e*LR	LR		10 24 59.2	
	comp=Z,13μm,29.0s,baz=176							
QSPA	**South Pole Qui**	**33.72**	**180**	P	**P**		**10 16 27.2**	**-0.6**
QSPA				LR	LR			
	comp=Z,4μm,22.0s							
QSPA	**South Pole Qui**	**33.72**	**180**	P	**P**		**10 16 27.2**	**-0.6**
	comp=Z,13nm,1.1s,baz=69,slow=4.6,SNR=22							
RKT	**Rikitea**	**33.81**	**13**	*e*S	**S**		**10 21 50.3**	**-1.9**
	comp=Z,876nm,27.8s							
RKT				*e*LQ	LQ		10 23 54.1	
	comp=Z,5μm,31.5s							
RKT				*e*LR	LR		10 25 18.5	
	comp=Z,9μm,29.0s,baz=185							
DRV	**Dumont d'Urvil**	**35.63**	**222**	P	P		10 16 53.0	+9.0
DRV				S	S		10 21 51.0	-29
DRV				L	L		10 24 00.0	
DRV				R			10 26 00.0	
RAO	**Raoul Island**	**36.62**	**303**	LR	LR		10 27 03.3	
	comp=Z,2μm,21.7s,baz=180,slow=28							
PMSA	**Palmer Station**	**37.19**	**136**	PFAKE			10 17 10.0	+13
PMSA				LR	LR			
	comp=Z,1μm,22.0s							
RAR	**Rarotonga**	**37.30**	**334**	LR	LR		10 27 49.8	
	comp=Z,3μm,18.8s,baz=138,slow=29							
PPT2	**Papeete2**	**39.09**	**350**	*e*S	**S**		**10 23 08.7**	**-4.5**
	comp=Z,2μm,26.0s							
PPT2				*e*LQ	LQ		10 26 09.5	
	comp=Z,1μm,25.2s							
PPT2				*e*LR	LR		10 27 35.5	
	comp=Z,14μm,28.0s,baz=178							
PPT	**Papeete**	**39.11**	**350**	LR	LR		10 28 41.5	
	comp=Z,3μm,20.9s,baz=170,slow=29							
USHA	**Ushuaia**	**40.23**	**120**	LR	LR		10 29 29.3	
	comp=Z,806nm,18.7s,baz=42,slow=29							
TAU	**Tasmania Unive**	**45.06**	**257**	PFAKE			10 18 10.0	+7.7
TAU				LR	LR			
	comp=Z,5μm,21.0s							
CASY	**Casey**	**45.81**	**213**	PFAKE			10 18 20.0	+12
CASY				LR	LR			
	comp=Z,4μm,20.0s							
EFI	**East Falkland**	**47.09**	**122**	PFAKE			10 18 30.0	+12
EFI				LR	LR			
	comp=Z,865nm,21.0s							
AFI	**Afiamalu**	**47.80**	**321**	LR	LR		10 33 01.0	
	comp=Z,2μm,19.2s,baz=165,slow=29							
PLCA	**Paso Flores**	**48.14**	**103**	P	**P**		**10 18 26.4**	**-0.1**
PLCA				*e*P	**pP**		**10 18 29.2**	**-0.8**
PLCA	**Paso Flores**	**48.14**	**103**	P	**P**		**10 18 26.4**	**-0.1**
	comp=Z,12nm,1.2s,baz=213,slow=8.5,SNR=7.9							
PLCA				LR	LR		10 33 58.0	
	comp=Z,614nm,18.9s,baz=224,slow=30							
MSVF	**Nonsavu**	**48.41**	**307**	PFAKE			10 18 40.0	+11
MSVF				LR	LR			
	comp=Z,2μm,20.0s							
SNAA	**Sanae**	**49.17**	**164**	*e*P	P		10 18 29.7	-4.4
SNAA	**Sanae**	**49.17**	**164**	*e*P	**P**		**10 18 31.8**	**-2.3**
	comp=Z,51nm,1.4s							
VNA1	**Neumayer--Stat**	**49.19**	**162**	*e*P	**P**		**10 18 32.9**	**-1.2**
CAN	**Canberra**	**49.51**	**265**	PFAKE			10 18 50.0	+13
CAN				LR	LR			
	comp=Z,2μm,19.0s							
DZM	**Mont Dzumac**	**50.32**	**292**	*e*S	**S**		**10 25 55.2**	**-0.9**
	comp=Z,2μm,29.0s							
DZM				*e*LQ	LQ		10 30 52.6	
	comp=Z,6μm,26.0s							
DZM				*e*LR	LR		10 33 02.4	
	comp=Z,3μm,24.1s							
ARMA	**Armidale**	**51.73**	**271**	*e*P	**P**		**10 18 52.8**	**-1.2**
	comp=Z,25nm,1.3s							
TRQA	**Tornquist**	**54.66**	**107**	*e*P	**P**		**10 19 14.0**	**-1.4**
	comp=Z,72nm,1.1s							
TRQA				LR	LR			
	comp=Z,701nm,21.0s							
MAW	**Mawson**	**54.78**	**192**	P	**P**		**10 19 14.9**	**-0.9**
MAW	**Mawson**	**54.78**	**192**	P	**P**		**10 19 14.9**	**-0.9**
	comp=Z,4.9nm,0.9s,baz=157,slow=13,SNR=7.2							
MAW				LR	LR		10 41 00.4	
	comp=Z,2μm,18.1s,baz=65,slow=34							
SYO	**Syowa Base**	**54.84**	**181**	⇓*e*P	**P**		**10 19 14.0**	**-2.2**
EIDS	**Eidsvold**	**55.95**	**275**	*e*P	**P**		**10 19 21.9**	**-2.9**
	comp=Z,23nm,1.2s							
STKA	**Stephens Creek**	**56.18**	**262**	*e*P	**P**		**10 19 26.0**	**-0.3**
	comp=Z,8.9nm,1.4s							
STKA	**Stephens Creek**	**56.18**	**262**	P	**P**		**10 19 25.6**	**-0.7**
	comp=Z,9.6nm,1.0s,baz=137,slow=7.0,SNR=3.2							
STKA				LR	LR		10 39 14.7	
	comp=Z,2μm,19.1s,baz=132,slow=32							
LCO	**Las Campanas**	**56.73**	**93**	PFAKE			10 19 40.0	+9.3
LCO				LR	LR			
	comp=Z,409nm,20.0s							
XMAS	**Kiritimati**	**59.45**	**343**	PFAKE			10 20 00.0	+11
XMAS				LR	LR			
	comp=Z,3μm,21.0s							
LVC	**Limon Verde**	**62.74**	**90**	*e*P	**P**		**10 20 12.2**	**+0.1**
	comp=Z,12nm,0.7s							
LVC				LR	LR			
	comp=Z,807nm,20.0s							
CTAO	**Charters Tower**	**62.83**	**274**	*e*P	**P**		**10 20 12.0**	**-0.4**
	comp=Z,25nm,1.1s							
CTAO				LR	LR			
	comp=Z,1μm,19.0s							
HNR

baz=95
RCBR Riachuelo 94.55 108 PFAKE 10 23 20.0 +13
RCBR LR LR
comp=Z,453nm,19.0s
BOSA Boshof 94.71 170 LR LR 11 04 23.4
comp=Z,722nm,18.7s,baz=188,slow=35
GTBY Guantanamo Bay 94.91 61 PFAKE 10 23 20.0 +11
GTBY LR LR
comp=Z,1μm,20.0s
GRGR Grenville 95.31 76 PFAKE 10 23 20.0 +9.3
GRGR LR LR
comp=Z,911nm,21.0s
WUAZ Wupatki 95.47 26 PFAKE 10 23 20.0 +8.8
WUAZ LR LR
comp=Z,1μm,19.0s
SDDR Presa de Saban 96.00 65 PFAKE 10 23 30.0 +16
SDDR LR LR
comp=Z,352nm,19.0s
ANMO Albuquerque 96.20 30 LR LR 10 57 24.2
comp=Z,832nm,21.1s,baz=220,slow=30
TPH Tonopah 96.67 20 PFAKE 10 23 30.0 +13
TPH LR LR
comp=Z,2μm,20.0s
NVAR Mina Array Bea 96.81 19 LR LR 10 56 58.7
comp=Z,1μm,21.3s,baz=164,slow=29
BBGH Gun Hill 97.28 77 PFAKE 10 23 30.0 +10
BBGH LR LR
comp=Z,3μm,22.0s
AMTX Amarillo 97.52 33 PFAKE 10 23 30.0 +10
AMTX LR LR
comp=Z,1μm,20.0s
FDF Fort de France 97.74 75 PFAKE 10 23 30.0 +8.2
FDF LR LR
comp=Z,711nm,20.0s
MVCO Mesa Verde 97.79 27 PFAKE 10 23 30.0 +8.2
MVCO LR LR
comp=Z,646nm,22.0s
SJG San Juan 97.90 69 PFAKE 10 23 30.0 +7.7
SJG LR LR
comp=Z,354nm,21.0s
MVU Marysvale 98.13 24 PFAKE 10 23 30.0 +6.7
MVU LR LR
comp=Z,794nm,20.0s
GRTK Grand Turk 98.21 63 PFAKE 10 23 30.0 +6.3
GRTK LR LR
comp=Z,365nm,21.0s
WMOK Wichita Mounta 98.29 36 PFAKE 10 23 30.0 +6.2
WMOK LR LR
comp=Z,602nm,20.0s
VBMS Vicksburg 98.91 43 PFAKE 10 23 40.0 +13
VBMS LR LR
comp=Z,205nm,22.0s
BMN Battle Mountai 98.95 20 PFAKE 10 23 40.0 +13
BMN LR LR
comp=Z,1μm,21.0s
SDCO Great Sand Dun 99.09 29 PFAKE 10 23 40.0 +12
SDCO LR LR
comp=Z,1μm,19.0s
BRAL Brewton 99.19 46 PFAKE 10 23 40.0 +12
BRAL LR LR
comp=Z,238nm,20.0s
YBH Yreka Blue Hor 99.31 15 LR LR 10 57 57.2
comp=Z,2μm,21.2s,baz=153,slow=29
SHEL Horse Pasture 99.53 139 PFAKE 10 23 40.0 +10
SHEL LR LR
comp=Z,472nm,21.0s
DUG Dugway 99.62 23 PFAKE 10 23 40.0 +10
DUG LR LR
comp=Z,952nm,19.0s
ANWB Willy Bob 99.82 73 PFAKE 10 23 40.0 +9.1
ANWB LR LR
comp=Z,437nm,22.0s
KSM Kuching 100.37 257 PFAKE 10 23 40.0 +6.4
KSM LR LR
comp=Z,586nm,19.0s
WVOR Wild Horse Val 100.64 18 PFAKE 10 23 50.0 +16
WVOR LR LR
comp=Z,846nm,19.0s
KKM Kota Kinabalu 100.94 264 PFAKE 10 23 50.0 +14
KKM LR LR
comp=Z,629nm,22.0s
ISCO Idaho Springs 100.98 29 PFAKE 10 23 50.0 +14
ISCO LR LR
comp=Z,966nm,19.0s
LRAL Lakeview Retre 101.00 45 PFAKE 10 23 50.0 +14
LRAL LR LR
comp=Z,216nm,20.0s
HWUT Hardware Ranch 101.24 24 PFAKE 10 23 50.0 +13
HWUT LR LR
comp=Z,753nm,21.0s
OXF Oxford 101.37 43 PFAKE 10 23 50.0 +13
OXF LR LR
comp=Z,302nm,19.0s
AHID Auburn Hatcher 102.45 24 PFAKE 10 23 50.0 +7.7
AHID LR LR
comp=Z,764nm,21.0s
HLID Hailey 102.52 21 PFAKE 10 23 50.0 +7.5
HLID LR LR
comp=Z,2μm,20.0s
BW06 Boulder Array 102.80 25 PFAKE 10 24 00.0 +16
BW06 LR LR
comp=Z,1μm,21.0s
TSUM Tsumeb 102.91 161 PFAKE 10 24 00.0 +15
TSUM LR LR
comp=Z,935nm,21.0s
KSU1 Kansas State U 102.98 35 PFAKE 10 24 00.0 +16
KSU1 LR LR
comp=Z,488nm,19.0s
OGNE Ogallala 103.03 31 PFAKE 10 24 00.0 +15
OGNE LR LR
comp=Z,863nm,22.0s
BMO Blue Mountains 103.22 19 PFAKE 10 24 00.0 +14
BMO LR LR
comp=Z,893nm,20.0s
LKWY Lake 104.32 23 PFAKE 10 24 00.0 +9.4
LKWY LR LR
comp=Z,942nm,19.0s
ABPO Ambohimpanom 104.34 190 PFAKE 10 24 00.0 +8.6
ABPO LR LR
comp=Z,1μm,20.0s
NLWA Neilton Lookou 104.70 13 PFAKE 10 24 00.0 +8.1
NLWA LR LR
comp=Z,1μm,19.0s
BOZ Bozeman (W) 105.08 22 PFAKE 10 28 20.0
BOZ LR LR
comp=Z,472nm,20.0s
RLMT Red Lodge 105.10 24 PFAKE 10 28 20.0
RLMT LR LR
comp=Z,581nm,21.0s
NEW Newport 106.56 18 PFAKE 10 28 20.0
NEW LR LR
comp=Z,770nm,21.0s
SCIA State Center 106.62 37 PFAKE 10 28 20.0
SCIA LR LR
comp=Z,627nm,21.0s
CNNC Cliffs of the 106.67 51 PFAKE 10 28 20.0
CNNC LR LR
comp=Z,573nm,22.0s
ECSD EROS Data Cent 107.19 33 PFAKE 10 28 20.0
ECSD LR LR
comp=Z,1μm,20.0s
BLA Blacksburg 107.28 48 PFAKE 10 28 20.0
BLA LR LR
comp=Z,271nm,21.0s
EGMT Eagleton 107.74 23 PFAKE 10 28 20.0
EGMT LR LR
comp=Z,365nm,19.0s
LSZ Lusaka 108.19 171 PFAKE 10 28 30.0
LSZ LR LR
comp=Z,997nm,19.0s
CBN Corbin 109.39 50 PFAKE 10 28 30.0
CBN LR LR
comp=Z,449nm,20.0s
DGMT Dagmar 109.44 26 PFAKE 10 28 30.0
DGMT LR LR
comp=Z,916nm,20.0s
BBSR BB Station 110.39 62 PFAKE 10 28 30.0
BBSR LR LR
comp=Z,228nm,19.0s
ADK Adak 111.46 338 PFAKE 10 28 30.0
ADK LR LR
comp=Z,1μm,21.0s
AGMN Agassiz Nation 111.53 32 PFAKE 10 28 30.0
AGMN LR LR
comp=Z,860nm,20.0s

GLMI Grayling 112.17 41 PFAKE 10 28 30.0
GLMI LR LR
comp=Z,392nm,22.0s
EYMN Ely 112.55 35 PFAKE 10 28 30.0
EYMN LR LR
comp=Z,1μm,20.0s
WRAK Wrangell Islan 112.84 6 PFAKE 10 28 30.0
WRAK LR LR
comp=Z,946nm,20.0s
YHNB Yeheng 113.21 280 PFAKE 10 28 40.0
YHNB LR LR
comp=Z,603nm,21.0s
TATO Taipei 113.39 280 PFAKE 10 28 40.0
TATO LR LR
comp=Z,733nm,21.0s
MAJO Matsushiro 113.92 300 PFAKE 10 28 40.0
MAJO LR LR
comp=Z,324nm,22.0s
KDAK Kodiak Island 114.13 354 PFAKE 10 28 40.0 +15
KDAK LR LR
comp=Z,2μm,22.0s
QIZ Qiongzhong 115.08 267 PKP **PKPdf 10 28 29.0 +1.3**
QIZ PP **PP 10 29 29.5 +2.0**
QIZ LR LR
comp=Z,350nm,20.1s
QIZ Qiongzhong 115.08 267 PFAKE 10 28 40.0 +12
QIZ LR LR
comp=Z,362nm,19.0s
NCB Newcomb 115.51 48 PFAKE 10 28 40.0 +12
NCB LR LR
comp=Z,317nm,19.0s
FFC Flin Flon 115.75 25 PFAKE 10 28 40.0 +12
FFC LR LR
comp=Z,725nm,19.0s
LONY Lake Ozonia 115.89 48 PFAKE 10 28 40.0 +12
LONY LR LR
comp=Z,346nm,19.0s
ERM Erimo 116.03 307 PFAKE 10 28 40.0 +11
ERM LR LR
comp=Z,769nm,22.0s
LBNH Lisbon 116.69 50 PFAKE 10 28 40.0 +10
LBNH LR LR
comp=Z,333nm,20.0s
MSEY Mahe Island 117.23 201 PFAKE 10 28 40.0 +7.9
MSEY LR LR
comp=Z,1μm,22.0s
MSKU Masuku 119.08 153 PFAKE 10 28 50.0 +14
MSKU LR LR
comp=Z,2.0nm,21.0s
PETK Petropavlovsk- 119.48 323 PKP **PKPdf 10 28 35.5 +0.5**
PETK Petropavlovsk- 119.48 323 PKP **PKPdf 10 28 35.5 +0.5**
comp=Z,1.9nm,0.7s,baz=150,slow=6.3,SNR=4.1
NJ2 Nanjing 120.36 283 *e*PKP **PKPdf 10 28 39.5 +2.1**
INCN Inchon 120.41 293 PFAKE 10 28 50.0 +13
INCN LR LR
comp=Z,220nm,20.0s
CMAR Chiang Mai Arr 120.60 257 PKP **PKPdf 10 28 38.6 +0.3**
CMAR Chiang Mai Arr 120.60 257 PKP **PKPdf 10 28 38.6 +0.3**
comp=Z,0.7nm,0.3s,baz=204,slow=1.5,SNR=6.0
YKA Yellowknife Ar 120.65 15 PKKPbc PKKPbc 10 38 45.8 +3.8
YKA Yellowknife Ar 120.65 15 PKKPbc PKKPbc 10 38 45.7 +3.8
comp=Z,1.0nm,0.8s,baz=7.5,slow=5.9,SNR=3.5
CHTO Chiang Mai 120.89 257 PFAKE 10 28 50.0 +11
CHTO LR LR
comp=Z,469nm,22.0s
EGAK Eagle 120.90 1 PFAKE 10 28 50.0 +13
EGAK LR LR
comp=Z,904nm,19.0s
ILAR Eielson Array 120.92 358 PKP **PKPdf 10 28 37.2 -0.3**
ILAR Eielson Array 120.92 358 PKP **PKPdf 10 28 37.2 -0.3**
comp=Z,3.6nm,0.9s,baz=227,slow=1.5,SNR=18
COLA College 121.04 358 *e*PKPdf **PKPdf 10 28 36.3 -1.4**
COLA LR LR
comp=Z,969nm,20.0s
KMBO Kilima Mbogo 122.62 180 PFAKE 10 28 50.0 +7.2
KMBO LR LR
comp=Z,1μm,22.0s
GYA Guiyang 122.75 269 Pdif **Pdif 10 25 13.0 +0.1**
GYA PKP **PKPdf 10 28 41.3 -1.1**
GYA PP **PP 10 30 25.8 +5.2**
GYA PKS **PKSdf 10 32 18.5 -0.7**
GYA SKKS 10 37 16.3
GYA SS **SS 10 47 05.0 +1.8**
GYA AMB AMB
comp=Z,240nm,7.9s
GYA LR LR
comp=N,2μm,24.4s
GYA LR LR
comp=E,1μm,25.5s
GYA LR LR
comp=Z,3μm,24.7s
KMI Kunming 123.88 265 PKP **PKPdf 10 28 45.0 +0.3**
KMI sPKP 10 28 49.5
KMI PP PP 10 30 35.0 +6.6
KMI SKKS 10 37 24.0
KMI SS **SS 10 47 20.3 +2.6**
KMI AMB AMB
comp=Z,84nm,7.5s
KMI LR LR
comp=N,220nm,22.8s
KMI LR LR
comp=E,290nm,17.1s
KMI LR LR
comp=Z,430nm,27.6s
MDJ Mudanjiang 124.31 300 PFAKE 10 29 00.0 +15
MDJ LR LR
comp=Z,486nm,22.0s
CN2 Changchun 125.73 297 *e*PKP **PKPdf 10 28 52.3 +4.9**
CN2 PP PP 10 30 50.0 +10
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,20.0s
CN2 LR LR
comp=E,200nm,20.0s
CN2 LR LR
comp=Z,200nm,19.0s
BJT Baijiatuau 127.75 287 PFAKE 10 29 00.0 +8.6
BJT LR LR
comp=Z,358nm,22.0s
TORD Torodi Ar. Bea 129.04 134 PKP **PKPdf 10 28 54.3 -0.3**
TORD Torodi Ar. Bea 129.04 134 PKP **PKPdf 10 28 54.3 -0.3**
comp=Z,1.1nm,0.8s,baz=181,slow=0.3,SNR=6.4
HHC Hu-ho-hao-te 130.80 285 *e*PKP **PKPdf 10 28 54.0 -3.3**
HHC PP **PP 10 31 14.5 +0.6**
HHC PKS **PKSdf 10 32 29.0 -4.8**
HHC SS SS 10 48 38.5 -5.2
HHC AMB AMB
comp=Z,91nm,5.0s
HHC LR LR
comp=N,390nm,21.4s
HHC LR LR
comp=E,470nm,17.8s
HHC LR LR
comp=Z,600nm,20.2s
HIA Hailar 132.37 298 PFAKE 10 29 10.0 +10
HIA LR LR
comp=Z,334nm,21.0s
LSA Lhasa 133.83 258 PFAKE 10 29 20.0 +16
LSA LR LR
comp=Z,324nm,22.0s
CMLA Cha da Macela 135.29 87 PFAKE 10 29 20.0 +14
CMLA LR LR
comp=Z,449nm,20.0s
ULN Ulaanbaatar 137.90 289 PFAKE 10 29 20.0 +10
ULN LR LR
comp=Z,260nm,22.0s
SONM Songino Array 138.22 289 PKP **PKPdf 10 29 10.2 -0.8**
SONM PP PP 10 32 10.4 +9.4
SONM Songino Array 138.22 289 PKP **PKPdf 10 29 10.2 -0.8**
comp=Z,0.7nm,0.8s,baz=194,slow=3.0,SNR=2.7
SONM PP PP 10 32 10.4 +9.4
comp=Z,0.8nm,0.8s,baz=155,slow=7.6,SNR=3.8
TAM Tamanrasset 139.27 133 PFAKE 10 29 30.0 +16
TAM LR LR
comp=Z,276nm,19.0s
SFJD Kangerlussuaq 140.71 38 PFAKE 10 29 30.0 +15
SFJD LR LR
comp=Z,496nm,19.0s
EVO Evora 145.51 102 *e*PKIKP **PKPdf 10 29 23.1 -1.0**
comp=Z,48nm,1.3s
WMQ Urumqi 145.90 270 PKPbc **PKPdf 10 29 25.0 +0.3**
WMQ PP **PP 10 32 51.0 +3.5**
WMQ PKS **PKSdf 10 32 59.0 -1.0**
WMQ SKS **SKSdf 10 36 28.8 -4.5**

WMQ SKKS **SKKSac 10 39 36.0 -2.6**
WMQ SS **SS 10 51 39.8 -2.2**
WMQ LR LR
comp=N,370nm,29.2s
WMQ LR LR
comp=E,350nm,29.2s
WMQ LR LR
comp=Z,420nm,31.0s
SUMG Summit 146.63 32 *e*PKPbc **PKPab 10 29 28.7 +0.4**
SUMG Summit 146.63 32 *i* P **PKPbc 10 29 27.3 +0.1**
MTE Manteigas 147.09 100 *e*PKPbc **PKPbc 10 29 29.3 +0.3**
MTE LR LR
comp=Z,524nm,21.0s
PAB San Pablo 148.22 104 *e*PKPbc **PKPbc 10 29 31.9 -0.2**
PAB LR LR
comp=Z,441nm,20.0s
ESDC Sonseca Array 148.52 105 PKPbc **PKPbc 10 29 32.9 +0.1**
ESDC Sonseca Array 148.52 105 PKPbc **PKPbc 10 29 32.9 +0.1**
comp=Z,3.4nm,0.7s,baz=256,slow=2.8,SNR=14
KBL Kabul 149.06 239 *e*PKPbc **PKPbc 10 29 34.1 -0.5**
KSH Kashi 149.40 253 PKPbc **PKPdf 10 29 31.8 +1.1**
KSH PKS **PKSdf 10 33 06.0 +0.3**
KSH PP **PP 10 33 12.8 +4.8**
KSH SKS **SKSdf 10 36 39.0 +0.5**
KSH SKKS **SKKSac 10 40 00.5 +2.0**
KSH AMB AMB
comp=Z,110nm,6.8s
KSH LR LR
comp=N,110nm,8.4s
KSH LR LR
comp=E,130nm,8.0s
KSH LR LR
comp=Z,340nm,22.1s
MKAR Makanchi Array 150.73 270 PKPbc **PKPbc 10 29 36.0 -2.1**
MKAR PP **PP 10 33 19.9 +4.3**
MKAR Makanchi Array 150.73 270 PKPbc **PKPbc 10 29 36.0 -2.1**
comp=Z,0.3nm,0.3s,baz=311,slow=0.1,SNR=42
MKAR PP **PP 10 33 19.9 +4.3**
comp=Z,2.0nm,1.0s,baz=133,slow=6.1,SNR=4.7
BORG Borgarnes 151.22 49 PFAKE 10 29 40.0 +1.5
BORG LR LR
comp=Z,722nm,19.0s
TKM2 Tokmak 2 151.98 258 PFAKE 10 29 50.0 -0.7
TKM2 LR LR
comp=Z,242nm,20.0s
KEST Kesra 152.13 126 PKPbc **PKPbc 10 29 41.4 -0.2**
KEST Kesra 152.13 126 PKPbc **PKPbc 10 29 41.4 -0.2**
comp=Z,4.4nm,1.3s,baz=321,slow=6.5,SNR=2.6
AAK Ala-Archa 152.38 256 *e*PKPbc **PKPbc 10 29 43.8 +1.7**
AAK *e*PKPab **PKPab 10 29 55.5 +3.1**
AAK LR LR
comp=Z,311nm,20.0s
AAK Ala-Archa 152.38 256 PKPbc **PKPbc 10 29 43.1 +1.0**
comp=Z,2.9nm,0.5s,baz=194,slow=4.2,SNR=7.5
SJPF Ste Jean 152.39 103 *e*PKIKP **PKPdf 10 29 36.5 +1.4**
comp=Z,52nm,1.5s
ETSF Etsaut 152.60 104 *e*PKIKP **PKPdf 10 29 37.0 +1.5**
comp=Z,15nm,1.1s
EKS2 Erkin-Say 152.79 255 PFAKE 10 29 50.0 -4.0
EKS2 LR LR
comp=Z,382nm,22.0s
ZALV Zalesovo Beam 152.99 285 PKPbc **PKPbc 10 29 43.7 +0.8**
ZALV PKPab **PKPab 10 29 53.4 -0.9**
ZALV Zalesovo Beam 152.99 285 PKPbc **PKPbc 10 29 43.7 +0.8**
comp=Z,0.9nm,0.4s,baz=318,slow=2.0,SNR=6.2
ZALV PKPab **PKPab 10 29 53.4 -0.9**
comp=Z,5.8nm,0.8s,baz=132,slow=4.2,SNR=8.8
MTLF Montolieu 154.40 106 *e*PKIKP **PKPdf 10 29 39.6 +1.7**
WDD Wield Dalam 154.44 134 PFAKE 10 29 50.0 +3.4
WDD LR LR
comp=Z,507nm,19.0s
LFF La Frestale 154.66 102 *e*PKIKP **PKPdf 10 29 40.0 +1.8**
KURK Kurchatov 154.90 275 PKP **PKPdf 10 29 39.1 +0.8**
KURK PKPbc **PKPbc 10 29 47.1 0.0**
KURBB Kurchatov Arra 154.91 274 PKP **PKPdf 10 29 39.1 +0.8**
comp=Z,0.2nm,0.3s,baz=176,slow=0.6,SNR=4.4
KURBB PKPbc **PKPbc 10 29 47.1 0.0**
comp=Z,3.1nm,1.0s,baz=114,slow=1.4,SNR=10.0
VSL Villasalto 155.20 121 PFAKE 10 29 50.0 +11
VSL LR LR
comp=Z,291nm,20.0s
KBS Kingsbay 155.95 12 PFAKE 10 29 50.0 +11
KBS LR LR
comp=Z,655nm,20.0s
SSB Saint Sauveur 156.93 105 PFAKE 10 29 50.0 +8.7
SSB LR LR
comp=Z,500nm,22.0s
CEL Celeste 157.06 134 PFAKE 10 29 50.0 +8.3
CEL LR LR
comp=Z,509nm,22.0s
ESK Eskdalemuir 157.68 76 PFAKE 10 29 50.0 +8.2
ESK LR LR
comp=Z,462nm,19.0s
BNI Bardonecchia 157.92 108 PFAKE 10 29 50.0 +7.3
BNI LR LR
comp=Z,611nm,21.0s
TIP Timpagrande 158.19 134 PFAKE 10 29 50.0 +6.9
TIP LR LR
comp=Z,517nm,21.0s
CSS Prodhromos 158.38 172 PFAKE 10 29 50.0 +6.6
CSS LR LR
comp=Z,492nm,22.0s
SANT Santorini 158.48 154 PFAKE 10 29 50.0 +6.5
SANT LR LR
comp=Z,471nm,21.0s
VLC Villacollemand 159.22 115 PFAKE 10 29 50.0 +5.9
VLC LR LR
comp=Z,419nm,21.0s
AQU L'Aquila 159.33 123 PFAKE 10 30 00.0 +16
AQU LR LR
comp=Z,843nm,22.0s
ECH Echery 160.16 102 PFAKE 10 30 00.0 +15
ECH LR LR
comp=Z,481nm,21.0s
TUE Stuetta 160.26 109 PFAKE 10 30 00.0 +15
TUE LR LR
comp=Z,450nm,19.0s
WLF Walferdange 160.42 97 PFAKE 10 30 00.0 +15
WLF LR LR
comp=Z,416nm,20.0s
BVAR Borovoye Array 160.50 274 PKPab **PKPab 10 30 25.6 -1.1**
BVAR Borovoye Array 160.50 274 PKPab **PKPab 10 30 25.6 -1.1**
comp=Z,3.6nm,0.9s,baz=116,slow=3.4,SNR=11
BRVK Borovoye 160.57 274 PFAKE 10 30 00.0 +15
BRVK LR LR
comp=Z,476nm,21.0s
BFO Black Forest 160.86 103 PFAKE 10 30 00.0 +14
BFO LR LR
comp=Z,388nm,21.0s
ISP Isparta 160.89 164 PFAKE 10 30 00.0 +14
ISP LR LR
comp=Z,338nm,22.0s
TIR Tirane 161.27 137 PFAKE 10 30 00.0 +14
TIR LR LR
comp=Z,802nm,21.0s
MALT Malatya 161.84 184 PFAKE 10 30 00.0 +13
MALT LR LR
comp=Z,758nm,22.0s
GNI Garni 162.91 201 PFAKE 10 30 00.0 +12
GNI LR LR
comp=Z,664nm,21.0s
BRTR Keskin Array B 163.14 171 PKP **PKPdf 10 29 48.0 -0.6**
BRTR PKPab **PKPab 10 30 37.9 -0.8**
BRTR Keskin Array B 163.14 171 PKP **PKPdf 10 29 48.0 -0.6**
comp=Z,1.1nm,0.9s,baz=168,slow=1.3,SNR=3.0
BRTR PKPab **PKPab 10 30 37.9 -0.8**
comp=Z,2.2nm,0.9s,baz=170,slow=7.3,SNR=6.2
ANTO Ankara 163.20 169 PFAKE 10 30 00.0 +11
ANTO LR LR
comp=Z,324nm,22.0s
GERES GERESS Array B 164.04 109 PKP **PKPdf 10 29 49.1 0.0**
GERES GERESS Array B 164.04 109 PKP **PKPdf 10 29 49.1 0.0**
comp=Z,0.2nm,0.4s,baz=320,slow=4.2,SNR=3.3
KHC Kasperske Hory 164.15 108 *e*SS SS 10 54 59.6 +0.2
KHC AMS AMS 11 46 40.0
comp=Z,600nm,18.8s
NKC Novy Kostel 164.16 103 AMS AMS 11 50 40.0
comp=Z,300nm,21.0s
CLL Collm 165.02 100 *e*PKPdf **PKPdf 10 29 50.0 +0.3**
CLL *e*SS SS 10 55 05.0 -3.3
CLL *e*SSS SSS 11 01 32.0
CLL LmV 11 49 00.0
comp=Z,500nm,20.3s
PRU Pruhonice 165.16 106 *e*SS SS 10 55 07.8 -1.9
PRU AMS AMS 11 51 40.0

comp=Z,500nm,19.6s
KONO Kongsberg 165.22 66 PFAKE 10 30 00.0 +10
KONO LR LR
comp=Z,688nm,21.0s
TREC Trest 165.25 110 AMS AMS 11 49 40.0
comp=Z,500nm,19.2s
BRG Berggiesshubel 165.31 103 *e*PKP **PKPdf 10 29 49.5 -0.4**
comp=Z,2.5nm,0.8s
KEV Kevo 165.93 14 PFAKE 10 30 00.0 +10
KEV LR LR
comp=Z,621nm,21.0s
AKTO Aktyubinsk 166.10 253 PKPab **PKPab 10 30 49.6 -1.7**
AKTO Aktyubinsk 166.10 253 PKPab **PKPab 10 30 49.6 -1.7**
comp=Z,2.4nm,0.8s,baz=231,slow=2.8,SNR=7.1
DPC Dobruska-Polom 166.31 108 *e*SS SS 10 55 21.7 +0.2
DPC AMS AMS 11 49 50.0
PSZ Piszkesteto 166.54 122 PFAKE 10 30 00.0 +8.8
PSZ LR LR
comp=Z,542nm,19.0s
OKC Ostrava-Krasne 166.96 113 *e*SS SS 10 55 34.3 +6.4
OKC AMS AMS 11 48 10.0
comp=Z,400nm,21.2s
KWP Kalwaria Pacla 169.07 123 PFAKE 10 30 00.0 +7.2
KWP LR LR
comp=Z,844nm,21.0s
KIEV Kiev 172.64 138 PFAKE 10 30 00.0 +5.4
KIEV LR LR
comp=Z,426nm,20.0s

NNC 31 10:54:42.8±13.0, 54°.11N×86°.80E, h0km, mb3.6, mpv3.1, 2C-3D, Error ellipse: s-maj=124.9km s-min=60.2km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**6.15**	**239**	Pn	Pn	10 56 15.8	+1.1
	2.0nm,0.6s						
MK31	**Makanchi Array**	**7.87**	**203**	⇑Pn	Pn	10 56 39.3	+0.9
	0.2nm,0.4s,baz=29,slow=13,SNR=12						
MK31				⇓Sn	Sn	10 58 09.2	+1.0
	0.6nm,0.5s						
MK31				⇑Lg	Lg	10 58 52.4	
	1.3nm,0.8s,baz=28,slow=24						
VOSK	**Vostochnaya**	**9.55**	**268**	⇓Pn	Pn	10 57 01.7	+0.3
	1.1nm,0.4s						
VOSK				⇓Sn	Sn	10 58 46.8	-2.5
	1.5nm,0.8s						

*ISCJB **31** 10:56:07.0±0.5, 17°.11N±0°.06×94°.17W±0°.03, h154km±5km, mb3.6/4, Error ellipse: s-maj=9.9km s-min=5.1km az=11.2*
*MEX **31** 10:56:09.5±1.5, 16°.97N×94°.17W, h161km±20km, MD4.2*
*NEIC **31** 10:56:09.1, 16°.97N×94°.17W, h164km, MD4.2(MEX), After MEX.*
*IDC **31** 10:56:18.6±9.8, 18°.33N×93°.64W, h188km±43km, mb3.3/4, mb1 3.5/6, mb1mx3.2/25, mbtmp3.2/6, Error ellipse: s-maj=173.5km s-min=24.8km az=18.0*

ISC 31 10:56:07.6±0.8, 17°.12N±0°.05×94°.17W±0°.03, h149km±7km, n28, σ1s27/43, mb3.7/4, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUIG	**Tuzandepetl**	**0.94**	**345**	*e*P	**Pn**	**10 56 30.6**	**-1.0**
TUIG				*i* S	**Sn**	**10 56 50.1**	**-0.1**
TUIG	**Tuzandepetl**	**0.94**	**345**	*e*P	**Pn**	**10 56 30.6**	**-1.0**
TUIG				*i* S	**Sn**	**10 56 50.1**	**-0.1**
TGIG		**1.06**	**109**	*i* P	**Pn**	**10 56 34.2**	**+1.4**
TGIG				*i* S	**Sn**	**10 56 52.6**	**+0.6**
TGIG		**1.06**	**109**	*i* P	**Pn**	**10 56 34.2**	**+1.4**
TGIG				*i* S	**Sn**	**10 56 52.6**	**+0.6**
PCIG		**1.68**	**147**	*e*P	Pn	10 57 29.1	+50
PCIG				*e*S	Sn	10 57 52.6	+50
PCIG		**1.68**	**147**	*e*P	Pn	10 57 29.1	+50
PCIG				*e*S	Sn	10 57 52.6	+50
CCIG	**Comitan**	**2.12**	**113**	*i* P	**Pn**	**10 56 45.3**	**+1.1**
CCIG				*i* S	**Sn**	**10 57 13.1**	**+0.7**
CCIG	**Comitan**	**2.12**	**113**	*i* P	**Pn**	**10 56 45.3**	**+1.1**
CCIG				*i* S	**Sn**	**10 57 13.1**	**+0.7**
HUIG	**Huatulco**	**2.30**	**234**	*i* P	**Pn**	**10 56 45.2**	**-1.0**
HUIG				*i* S	**Sn**	**10 57 16.1**	**+0.2**
HUIG	**Huatulco**	**2.30**	**234**	*i* P	**Pn**	**10 56 45.2**	**-1.0**
HUIG				*i* S	**Sn**	**10 57 16.1**	**+0.2**
OXX	**Oaxaca**	**2.44**	**269**	*i* P	**Pn**	**10 56 50.1**	**+2.0**
OXX				*i* S	**Sn**	**10 57 17.9**	**-1.5**
OXX	**Oaxaca**	**2.44**	**269**	*i* P	**Pn**	**10 56 50.1**	**+2.0**
OXX				*i* S	**Sn**	**10 57 17.9**	**-1.5**
VHO	**Vista Hermosa**	**2.45**	**269**	*e*P	**Pn**	**10 56 50.0**	**+1.7**
VHO				*e*S	**Sn**	**10 57 21.6**	**+2.0**
VHO	**Vista Hermosa**	**2.45**	**269**	*e*P	**Pn**	**10 56 50.0**	**+1.7**
VHO				*e*S	**Sn**	**10 57 21.6**	**+2.0**
THIG		**2.87**	**140**	*i* P	**Pn**	**10 56 53.7**	**+0.5**
THIG				*i* S	**Sn**	**10 57 27.3**	**-1.2**
THIG		**2.87**	**140**	*i* P	**Pn**	**10 56 53.7**	**+0.5**
THIG				*i* S	**Sn**	**10 57 27.3**	**-1.2**
TPIG	**Tehuac#an**	**3.30**	**293**	*e*P	**Pn**	**10 56 59.7**	**+0.7**
TPIG				*i* S	**Sn**	**10 57 40.5**	**+1.8**
TPIG	**Tehuac#an**	**3.30**	**293**	*e*P	**Pn**	**10 56 59.7**	**+0.7**
TPIG				*i* S	**Sn**	**10 57 40.5**	**+1.8**
PNIG	**Pinotepa**	**3.86**	**260**	*i* P	**Pn**	**10 57 05.4**	**-0.7**
PNIG				*i* S	**Sn**	**10 57 50.7**	**-0.7**
PNIG	**Pinotepa**	**3.86**	**260**	*i* P	**Pn**	**10 57 05.3**	**-0.7**
PNIG				*i* S	**Sn**	**10 57 50.7**	**-0.7**
TEIG	**Tepich**	**6.38**	**60**	*i* P	**Pn**	**10 57 37.6**	**-1.8**
TEIG	**Tepich**	**6.38**	**60**	*i* P	**Pn**	**10 57 37.6**	**-1.8**
TEIG	**Tepich**	**6.38**	**60**	P	**Pn**	**10 57 38.1**	**-1.3**
	9.4nm,0.3s,baz=297,slow=1.1,SNR=71						
TXAR	**Lajitas Array**	**14.95**	**326**	P	**P**	**10 59 31.9**	**-1.6**
	0.0nm,0.3s,baz=148,slow=13,SNR=7.2						
NVAR	**Mina Array Bea**	**29.95**	**320**	P	P	11 02 04.8	+2.8
	1.0nm,0.8s,baz=135,slow=9.0,SNR=11						
INK	**Inuvik**	**56.87**	**344**	P	**P**	**11 05 36.2**	**-0.2**
	0.9nm,0.5s,baz=122,slow=4.3,SNR=5.8						
ILAR	**Eielson Array**	**59.16**	**337**	P	**P**	**11 05 52.7**	**+0.2**
	0.3nm,0.6s,baz=141,slow=5.6,SNR=8.4						
MDT	**Midelt**	**80.55**	**59**	P	**P**	**11 08 04.9**	**+1.0**
	0.8nm,0.5s,baz=297,slow=4.5,SNR=4.0						

CSEM 31 11:01:09.6, 41°.46N×1°.41E, h0km, ML1.7, Mining explosion. After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EPOB	**Poblet**	**0.27**	**246**	Pg	Pg	11 01 14.5	-0.4
	5.2nm,0.4s,SNR=17						
EPOB				Lg	Lg	11 01 17.8	
	62nm,0.6s,SNR=5.0						
EMIR	**Miracle**	**0.46**	**11**	Pg	Pg	11 01 17.7	-0.9
	46nm,0.4s,SNR=13						
EMIR				Lg	Lg	11 01 23.6	
	13nm,0.3s,SNR=7.1						
CFON	**Fontmartina**	**0.83**	**68**	Pg	Pg	11 01 25.2	-0.4
	2.5nm,0.3s,SNR=9.9						
CFON				Lg	Lg	11 01 39.6	
	7.6nm,0.2s,SNR=9.5						
CSOR	**Sort**	**0.94**	**347**	Pg	Pg	11 01 26.9	-0.8
	2.1nm,0.3s,SNR=16						
CSOR				Lg	Lg	11 01 40.8	
	11nm,0.6s,SNR=5.0						
ERTA	**Horta de San J**	**0.95**	**238**	Lg	Lg	11 01 42.7	
	11nm,0.4s,SNR=6.9						
ESAC	**San Caprasio**	**1.43**	**281**	Pg	Pn	11 01 36.0	-0.9
	19nm,0.3s,SNR=8.9						
ESAC				Lg	Lg	11 01 56.6	
	38nm,0.4s,SNR=8.9						
EJON	**La Jonquera**	**1.48**	**48**	Pg	Pn	11 01 36.9	-0.7
	SNR=7.9						
EJON				Lg	Lg	11 01 56.4	
	SNR=7.9						
EBIE	**Bielsa**	**1.54**	**323**	Pg	Pn	11 01 38.2	-0.5
	1.7nm,0.4s,SNR=7.2						

*ISCJB **31** 11:01:18.1±0.3, 40°.99S±0°.06×91°.32W±0°.06, h10km, mb4.9/91, MS4.6/16, Error ellipse: s-maj=8.8km s-min=6.3km az=30.2*
*IDC **31** 11:01:18.1±0.5, 40°.91S×91°.40W, h0km, mb4.7/22, mb1 4.8/23, mb1mx4.8/27, mbtmp4.7/23, ML4.2/1, MS4.6/14, Ms1 4.6/14, ms1mx4.5/18, Error ellipse: s-maj=16.6km s-min=13.7km az=85.0*
*NEIC **31** 11:01:19.8±0.2, 40°.94S×91°.31W, h10km, mb5.0/72, Error ellipse: s-maj=7.7km s-min=6.2km az=42.0*

*GCMT **31** 11:01:19.8±0.2, 41°.17S×91°.46W, h19km±1km, MW5.3, Moment Tensor Solution. s59,c83; s95,c164; Moment tensor: Scale 10^17 Nm; Mrr=0.11±.03; Mtt=0.32±.03; Mpp=-0.21±.03; Mrt=0.09±.05; Mrp=-1.31±.03; Mtp=-0.01±.05; Best double couple: M0=1.30000×10^17 NP1:φs174.00000°, δ86.00000°, λ0.00000°. NP2:φs84.00000°, δ90.00000°, λ176.00000°. Principal axes: T 1.4000, Plg3.0000°, Azm39.0000°; N -0.1200, Plg86.0000°, Azm260.0000°; P -1.2800, Plg2.0000°, Azm129.0000°; Data Used: IU II G IC CN.*
*MOS **31** 11:01:21.8±1.5, 40°.96S×91°.25W, h33km, mb5.1/22 Error ellipse: s-maj=15.5km s-min=8.7km az=92.0*

ISC 31 11:01:19.2±0.3, 40°.90S±0°.07×91°.47W±0°.06, h10km, n529, σ1s96/542, mb5.0/91, MS4.7/16, 164C-141D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COYC	**Coyhaique**	**14.88**	**115**	⇓*i*P	**Pn**	**11 04 49.7**	**+0.1**
COYC	**Coyhaique**	**14.88**	**115**	⇓*i*P	**Pn**	**11 04 49.7**	**+0.1**
CCHI	**Chillan**	**15.72**	**80**	⇑*i*P	**Pn**	**11 05 01.5**	**+0.8**
CCHI	**Chillan**	**15.72**	**80**	⇑*i*P	**Pn**	**11 05 01.5**	**+0.8**
PLCA	**Paso Flores**	**15.84**	**96**	*e*Pn	**Pn**	**11 05 02.8**	**+0.4**
PLCA	**Paso Flores**	**15.84**	**96**	Pn	**Pn**	**11 05 02.5**	**+0.1**
	0.2nm,0.3s,baz=268,slow=11,SNR=18						
CLCH	**Cerro Calan**	**18.27**	**72**	*e*P	**P**	**11 05 32.8**	**-0.2**
LMEL	**Las Melosas**	**18.29**	**74**	⇑*e*P	**P**	**11 05 32.8**	**-0.6**
LMEL	**Las Melosas**	**18.29**	**74**	⇑*e*P	**P**	**11 05 32.8**	**-0.6**
TLL	**Tololo Astrono**	**19.89**	**64**	*e*P	**Pn**	**11 05 54.3**	**+1.6**
TLL	**Tololo Astrono**	**19.89**	**64**	*e*P	**Pn**	**11 05 54.3**	**+1.6**
TLL	**Tololo Astrono**	**19.89**	**64**	*e*P	**Pn**	**11 05 54.3**	**+1.6**
USHA	**Ushuaia**	**20.68**	**140**	P	Pn	11 05 59.5	-1.9
USHA	**Ushuaia**	**20.68**	**140**	P	Pn	11 05 59.5	-1.9
	20nm,1.0s,baz=261,slow=13,SNR=6.9						
USHA				LR	LR	11 12 15.7	
	comp=Z,4μm,18.8s,baz=110,slow=32						
LCO	**Las Campanas**	**20.69**	**62**	*e*P	**P**	**11 06 00.3**	**+0.5**
	159nm,1.0s						
CFAA	**Coronel Fontan**	**20.86**	**71**	P	**P**	**11 06 01.2**	**-0.1**
CFAA	**Coronel Fontan**	**20.86**	**71**	P	**P**	**11 06 01.2**	**-0.1**
	12nm,1.0s,baz=233,slow=9.9,SNR=157						
CFAA				LR	LR	11 12 20.5	
	comp=Z,253nm,21.5s,baz=239,slow=32						
TRQA	**Tornquist**	**22.89**	**93**	*e*P	P	11 06 16.9	-6.2
	609nm,1.5s						
TRQA				*e*S	**S**	**11 10 37.1**	**+4.3**
LVC	**Limon Verde**	**26.34**	**53**	*e*P	**P**	**11 06 56.1**	**+0.5**
	129nm,1.3s						
LVC				*e*PcP	PcP	11 10 07.5	-14
PMSA	**Palmer Station**	**28.64**	**156**	P	**P**	**11 07 17.1**	**+1.5**
PMSA	**Palmer Station**	**28.64**	**156**	P	**P**	**11 07 17.1**	**+1.5**
	14nm,0.8s,baz=117,slow=3.7,SNR=4.2						
PMSA				LR	LR	11 15 12.3	
	comp=Z,2μm,21.0s,baz=312,slow=29						
NNA	**Nana**	**31.54**	**28**	P	**P**	**11 07 42.9**	**+1.1**
	392nm,0.8s,SNR=6.3						
NNA	**Nana**	**31.54**	**28**	*e*P	**P**	**11 07 42.1**	**+0.3**
	60nm,0.9s						
CPUP	**Villa Florida**	**31.70**	**73**	P	**P**	**11 07 42.0**	**-1.0**
CPUP	**Villa Florida**	**31.70**	**73**	P	**P**	**11 07 42.0**	**-1.0**
	8.1nm,0.9s,baz=239,slow=8.6,SNR=12						
CPUP				LR	LR	11 18 53.7	
	comp=Z,1μm,18.2s,baz=227,slow=33						
LPAZ	**La Paz**	**31.76**	**46**	P	**P**	**11 07 44.9**	**+0.5**
LPAZ	**La Paz**	**31.76**	**46**	P	**P**	**11 07 44.9**	**+0.5**
	18nm,0.9s,baz=207,slow=5.8,SNR=49						
LPAZ				LR	LR	11 17 51.1	
	comp=Z,1μm,19.6s,baz=252,slow=31						
ATAH	**Atahualpa**	**35.59**	**23**	P	**P**	**11 08 18.7**	**+1.3**
ATAH	**Atahualpa**	**35.59**	**23**	P	**P**	**11 08 18.7**	**+1.3**
	23nm,0.8s,baz=188,slow=5.4,SNR=20						
SIV	**San Ignacio**	**36.16**	**56**	P	**P**	**11 08 21.3**	**-0.6**
SIV	**San Ignacio**	**36.16**	**56**	P	**P**	**11 08 21.3**	**-0.6**
	41nm,1.0s,baz=238,slow=8.0,SNR=93						
RKT	**Rikitea**	**40.46**	**282**	*e*LQ	LQ	11 18 24.0	
	3μm,30.0s						
RKT				*e*LR	LR	11 20 09.5	
	880nm,29.0s,baz=132						
SAML	**Samuel**	**40.51**	**46**	*e*P	**P**	**11 08 57.5**	**-1.0**
	12nm,0.8s						
OTAV	**Otavalo**	**42.62**	**19**	*e*P	**P**	**11 09 17.3**	**+1.0**
	33nm,1.0s						
BDFB	**Brasilia**	**45.18**	**69**	P	**P**	**11 09 35.7**	**-0.8**
BDFB	**Brasilia**	**45.18**	**69**	P	**P**	**11 09 35.7**	**-0.8**
	10nm,1.0s,baz=225,slow=6.7,SNR=8.7						
BDFB				LR	LR	11 27 58.8	
	comp=Z,2μm,18.8s,baz=36,slow=36						
ROSC	**El Rosal**	**48.17**	**23**	*e*P	**P**	**11 10 01.9**	**+1.7**
ROSC	**El Rosal**	**48.17**	**23**	P	**P**	**11 10 01.1**	**+0.9**
	17nm,0.8s,baz=100,slow=20,SNR=18						
ROSC				LR	LR	11 28 20.2	
	comp=Z,476nm,18.2s,baz=276,slow=34						
VNA1	**Neumayer--Stat**	**49.85**	**154**	*e*P	**P**	**11 10 10.1**	**-1.9**
TBI	**Tubuai**	**51.22**	**271**	*e*LQ	LQ	11 22 50.0	
	802nm,30.5s						
TBI				*e*LR	LR	11 24 59.3	
	1μm,26.2s,baz=121						
JTS	**JuntasAbangare**	**51.29**	**8**	P	**P**	**11 10 22.6**	**-0.9**
JTS	**JuntasAbangare**	**51.29**	**8**	P	**P**	**11 10 22.6**	**-0.9**
	12nm,1.0s,baz=247,slow=5.7,SNR=5.1						
SNAA	**Sanae**	**51.36**	**156**	*e*P	**P**	**11 10 21.3**	**-2.2**
SNAA	**Sanae**	**51.36**	**156**	*e*P	**P**	**11 10 20.6**	**-3.0**
	13nm,1.0s						
SBA	**Scott Base**	**52.80**	**195**	*e*P	**P**	**11 10 32.7**	**-1.3**
SBA				pmax	pmax		
	comp=Z,36nm,1.4s						
SBA	**Scott Base**	**52.80**	**195**	*e*P	**P**	**11 10 32.7**	**-1.3**
	comp=Z,36nm,1.4s						
SDV	**Santo Domingo**	**53.13**	**26**	*e*P	**P**	**11 10 36.0**	**-1.5**
	comp=Z,47nm,1.1s						
VNDA	**Vanda**	**53.90**	**195**	*e*P	**P**	**11 10 40.8**	**-1.3**
	comp=Z,15nm,1.4s						
VNDA	**Vanda**	**53.90**	**195**	P	**P**	**11 10 40.9**	**-1.3**
	comp=Z,2.3nm,0.7s,baz=123,slow=6.4,SNR=9.0						
VNDA				LR	LR	11 28 08.9	
	comp=Z,603nm,21.1s,baz=111,slow=30						
PPT2	**Papeete2**	**54.70**	**277**	*e*S	**S**	**11 18 26.6**	**-2.6**
	comp=Z,286nm,25.0s						
PPT2				*e*LQ	LQ	11 24 21.1	
	comp=Z,546nm,24.8s						
PPT2				*e*LR	LR	11 26 41.0	
	comp=Z,522nm,26.0s,baz=126						
PPT	**Papeete**	**54.71**	**277**	LR	LR	11 27 55.7	
	comp=Z,280nm,18.5s,baz=319,slow=29						
RAR	**Rarotonga**	**60.26**	**267**	LR	LR	11 29 45.2	
	comp=Z,336nm,18.7s,baz=119,slow=28						
TEIG	**Tepich**	**60.88**	**3**	*e*P	**P**	**11 11 33.8**	**+1.8**
	comp=Z,9.6nm,0.6s						
OBIP	**Obispado Ponce**	**63.02**	**27**	*e*P	**P**	**11 11 44.5**	**-1.9**
	comp=Z,143nm,1.6s						
CELP	**Cerrillos**	**63.06**	**27**	*e*P	**P**	**11 11 45.1**	**-1.6**
SJG	**San Juan**	**63.24**	**27**	*e*P	**P**	**11 11 46.3**	**-1.6**
	comp=Z,128nm,1.6s						
CBYP	**Canovanas**	**63.49**	**27**	*e*P	**P**	**11 11 48.2**	**-1.4**
	comp=Z,39nm,1.3s						
SYO	**Syowa Base**	**64.60**	**162**	⇓*es*P	sP	11 11 55.4	-5.3
LPIG	**La Paz**	**67.00**	**341**	P	**P**	**11 12 13.2**	**+1.1**
LPIG	**La Paz**	**67.00**	**341**	P	**P**	**11 12 13.2**	**+1.1**
	comp=Z,1.6nm,0.3s,baz=200,slow=1.3,SNR=3.7						
732A	**Laxson Ranch,**	**69.72**	**352**	⇓P	**P**	**11 12 29.2**	**+0.1**
	baz=70						
MAW	**Mawson**	**70.09**	**170**	P	**P**	**11 12 30.8**	**-0.2**
MAW	**Mawson**	**70.09**	**170**	P	**P**	**11 12 30.8**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=190,slow=9.2,SNR=10						
MAW				LR	LR	11 43 18.6	
	comp=Z,335nm,18.2s,baz=200,slow=36						
631A	**Perdido Creek**	**70.46**	**352**	⇑P	**P**	**11 12 33.4**	**-0.3**
	baz=71,SNR=6.1						
632A	**Uvalde**	**70.47**	**352**	⇑P	**P**	**11 12 33.5**	**-0.2**
	baz=71						
TXAR	**Lajitas Array**	**70.79**	**349**	P	**P**	**11 12 36.2**	**+0.4**
TXAR	**Lajitas Array**	**70.79**	**349**	P	**P**	**11 12 36.2**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=172,slow=6.7,SNR=38						
628A	**Black Gap, Mar**	**70.83**	**349**	⇓P	**P**	**11 12 36.2**	**+0.2**
	baz=71						
627A	**Terlingua Ranc**	**70.86**	**349**	⇓P	**P**	**11 12 36.9**	**+0.6**
	baz=71,SNR=7.4						
626A	**Big Bend Ranch**	**71.07**	**348**	⇓P	**P**	**11 12 37.7**	**+0.2**
	baz=72,SNR=8.7						
532A	**Rocksprings**	**71.10**	**352**	⇑P	**P**	**11 12 37.5**	**-0.2**
	baz=72,SNR=14						
531A	**Rocksprings**	**71.20**	**352**	⇓P	**P**	**11 12 38.1**	**-0.1**
	baz=72,SNR=25						
530A	**J-C Ranch, Com**	**71.28**	**351**	⇑P	**P**	**11 12 38.8**	**+0.1**
	baz=72,SNR=19						
529A	**Stev Forest Ra**	**71.36**	**350**	⇑P	**P**	**11 12 39.0**	**-0.2**
	baz=72						
JCT	**Junction City**	**71.44**	**352**	*e*P	**P**	**11 12 39.2**	**-0.5**
JCT				pmax	pmax		
	comp=Z,23nm,1.3s						
JCT	**Junction City**	**71.44**	**352**	*e*P	**P**	**11 12 39.2**	**-0.5**
	comp=Z,23nm,1.3s						
JCT	**Junction City**	**71.44**	**352**	⇓P	**P**	**11 12 39.5**	**-0.1**
	baz=72						
528A	**Cox Ranch, San**	**71.48**	**350**	⇑P	**P**	**11 12 39.4**	**-0.5**
	baz=72						
526A	**Mary Lane Ranc**	**71.56**	**348**	⇓P	**P**	**11 12 40.5**	**0.0**
	baz=72,SNR=8.4						
527A	**Woodward Ranch**	**71.58**	**349**	⇓P	**P**	**11 12 40.7**	**+0.1**
	baz=72,SNR=22						
431A	**Sonora**	**71.72**	**352**	⇑P	**P**	**11 12 41.4**	**0.0**
	baz=72,SNR=18						
429A	**Davenport Ranc**	**71.82**	**351**	⇑P	**P**	**11 12 42.0**	**0.0**
	baz=72,SNR=15						
432A	**Menard**	**71.83**	**352**	⇓P	**P**	**11 12 41.8**	**-0.2**
	baz=72						
430A	**Baggett Ranch,**	**71.90**	**351**	⇑P	**P**	**11 12 42.3**	**-0.1**
	baz=72						
428A	**Kincaid Ranch,**	**72.02**	**350**	⇑P	**P**	**11 12 42.8**	**-0.4**
	baz=72						
426A	**McDonald Obser**	**72.15**	**349**	⇓P	**P**	**11 12 43.8**	**-0.4**
	baz=73,SNR=8.2						
427A	**Hayter Ranch,**	**72.24**	**349**	⇓P	**P**	**11 12 44.3**	**-0.2**
	baz=73,SNR=20						
331A	**San Angelo**	**72.32**	**352**	⇑P	**P**	**11 12 44.4**	**-0.5**
	baz=73,SNR=15						
332A	**Millersview**	**72.33**	**353**	⇑P	**P**	**11 12 44.7**	**-0.3**
	baz=73,SNR=10.0						
425A	**Indio Mountain**	**72.41**	**348**	⇑P	**P**	**11 12 45.2**	**-0.4**
	baz=73,SNR=12						
330A	**Mertzon**	**72.50**	**351**	⇓P	**P**	**11 12 45.4**	**-0.6**
	baz=73						
329A	**Wagon Wheel Ra**	**72.68**	**351**	⇓P	**P**	**11 12 46.6**	**-0.5**
	baz=73						
328A	**Wristen Ranch,**	**72.68**	**350**	⇓P	**P**	**11 12 46.7**	**-0.3**
	baz=73						
WHTX	**Lake Whitney**	**72.74**	**355**	⇓P	**P**	**11 12 46.7**	**-0.7**
	baz=73						
326A	**Caldwell Ranch**	**72.78**	**349**	⇓P	**P**	**11 12 47.4**	**-0.4**
	baz=73						
232A	**Coleman**	**72.82**	**353**	⇑P	**P**	**11 12 47.3**	**-0.5**
	baz=73,SNR=8.5						
231A	**Bronte**	**72.93**	**352**	⇓P	**P**	**11 12 48.3**	**-0.3**
	baz=73						
230A	**Sterling City**	**72.97**	**351**	⇓P	**P**	**11 12 48.7**	**-0.1**
	baz=73						
325A	**Bean Ranch, Si**	**72.98**	**348**	⇑P	**P**	**11 12 49.0**	**-0.1**
	baz=73						
229A	**Bryant Ranch,**	**73.13**	**351**	⇑P	**P**	**11 12 49.6**	**-0.1**
	baz=74						
324A	**Moseley Ranch,**	**73.14**	**348**	⇑P	**P**	**11 12 49.3**	**-0.6**
	baz=74,SNR=6.9						
227A	**Bennet, Jal**	**73.37**	**350**	⇑P	**P**	**11 12 51.0**	**-0.1**
	baz=74						
MNTX	**Cornudas Mount**	**73.37**	**348**	*e*P	**P**	**11 12 51.8**	**+0.7**
	comp=Z,2.5nm,0.9s						
228A	**UT Block 9, Go**	**73.38**	**350**	⇑P	**P**	**11 12 51.2**	**0.0**
	baz=74						
ABTX	**Abilene, Hawle**	**73.55**	**353**	⇑P	**P**	**11 12 51.4**	**-0.8**
	baz=74						
226B	**Tecolote Peak,**	**73.56**	**349**	⇓P	**P**	**11 12 51.6**	**-0.7**
	baz=74						
320A	**Kipp Ranch, An**	**73.59**	**345**	⇑P	**P**	**11 12 53.1**	**+0.5**
	baz=74,SNR=9.5						
130A	**Snyder**	**73.65**	**352**	⇓P	**P**	**11 12 52.8**	**0.0**
	baz=74,SNR=5.3						
131A	**Roby**	**73.67**	**352**	⇑P	**P**	**11 12 52.7**	**-0.2**
	baz=74,SNR=16						
LRAL	**Lakeview Retre**	**73.68**	**4**	*e*P	**P**	**11 12 52.0**	**-0.9**
	comp=Z,5.6nm,0.8s						
225A	**Deer Hill, Car**	**73.69**	**348**	⇑P	**P**	**11 12 52.2**	**-1.0**
	baz=74						
224A	**Cornudas Mount**	**73.76**	**348**	⇑P	**P**	**11 12 53.3**	**-0.3**
	baz=74,SNR=12						
319A	**Douglas**	**73.78**	**344**	⇓P	**P**	**11 12 53.6**	**0.0**
	baz=74,SNR=7.9						
129A	**Stewart Farms,**	**73.79**	**351**	⇓P	**P**	**11 12 52.6**	**-1.0**
	baz=74						
128A	**Castleberry Fa**	**73.86**	**350**	⇑P	**P**	**11 12 53.0**	**-1.0**
	baz=74,SNR=6.1						
220A	**Playas Peak, P**	**74.14**	**345**	⇑P	**P**	**11 12 56.8**	**+1.0**
	baz=75,SNR=14						
125A	**Gardner Draw,**	**74.20**	**348**	⇑P	**P**	**11 12 55.8**	**-0.3**
	baz=75						
Z32A	**Haskell**	**74.21**	**353**	⇑P	**P**	**11 12 55.6**	**-0.4**
	baz=75						
Z31A	**Sharp Cattle R**	**74.28**	**352**	⇓P	**P**	**11 12 56.0**	**-0.4**
	baz=75,SNR=6.8						
Z30A	**Sanderson Ranc**	**74.35**	**352**	⇑P	**P**	**11 12 56.9**	**0.0**
	baz=75						
124A	**Stringfield Ra**	**74.36**	**348**	⇑P	**P**	**11 12 57.2**	**0.0**
	baz=75,SNR=7.4						
Z29A	**Hungry Hill Ra**	**74.39**	**351**	⇓P	**P**	**11 12 56.9**	**-0.3**
	baz=75						
Z28A	**Tucker Farm, M**	**74.50**	**351**	⇓P	**P**	**11 12 57.8**	**-0.1**
	baz=75						
121A	**Cookes Peak, D**	**74.60**	**346**	⇓P	**P**	**11 12 58.6**	**+0.1**
	baz=75						
Z27A	**Tatum**	**74.64**	**350**	⇓P	**P**	**11 12 58.7**	**+0.1**
	baz=75						
Z26A	**Ca

baz=76
W31A **Holland Ranch,** 76.11 353 ⇑P P 11 13 07.4 +0.4
baz=76
113A **Mohawk Valley,** 76.14 341 ⇑P P 11 13 08.1 +1.0
baz=77
W29A **Amraillo** 76.23 351 ⇑P P 11 13 08.1 +0.4
baz=77
KMSC **Kings Mountain** 76.24 9 ⇑P P 11 13 07.3 -0.4
baz=77
CPCT **Cooper Cave** 76.24 6 eP P 11 13 07.5 -0.2
W27A **Bowe Ranch, En** 76.34 350 ⇑P P 11 13 07.9 -0.5
baz=77
W26A **Owens Ranch, T** 76.46 350 ⇑P P 11 13 09.3 +0.3
baz=77
X21A **Alamocita Cree** 76.47 346 ⇓P P 11 13 10.1 +0.8
baz=77,SNR=8.0
Z14A **Wintersburg** 76.50 342 ⇑P P 11 13 09.7 +0.5
baz=77
TKL **Tuckaleechee C** 76.51 6 P P 11 13 09.0 -0.2
TKL **Tuckaleechee C** 76.51 6 P P 11 13 09.0 -0.2
comp=Z,2.2nm,0.8s,baz=59,slow=5.9,SNR=3.1
TUL1 **Tulsa** 76.54 356 ⇓P P 11 13 09.0 -0.3
baz=77
GLA **Glamis** 76.68 340 eP P 11 13 11.7 +1.5
GLA pmax pmax
comp=Z,10.0nm,0.8s
GLA **Glamis** 76.68 340 eP P 11 13 11.7 +1.5
comp=Z,10nm,0.8s
GLA **Glamis** 76.68 340 ⇓P P 11 13 11.5 +1.3
baz=77
W25A **X Bar L Ranch,** 76.68 349 ⇑P P 11 13 10.1 -0.2
baz=77
V31A **Spring Creek L** 76.69 353 ⇑P P 11 13 10.1 -0.1
baz=77
ANMO **Albuquerque** 76.72 347 eP P 11 13 11.1 +0.5
comp=Z,4.6nm,0.8s
ANMO **Albuquerque** 76.72 347 P P 11 13 11.2 +0.5
comp=Z,3.0nm,0.6s,baz=173,slow=8.2,SNR=17
WVT **Waverly** 76.73 3 eP P 11 13 09.0 -1.3
WVT pmax pmax
comp=Z,10.0nm,1.2s
WVT **Waverly** 76.73 3 eP P 11 13 09.0 -1.3
comp=Z,10nm,1.2s
W24A **Lazy 6 Ranch,** 76.81 348 ⇑P P 11 13 12.2 +1.1
baz=77,SNR=12
BAR **Barrett** 76.82 338 eP P 11 13 12.4 +1.4
comp=Z,9.5nm,1.1s
W23A **Werner Place,** 76.88 348 ⇑P P 11 13 12.3 +0.7
baz=77,SNR=11
X18A **Snowflake** 76.96 344 ⇓P P 11 13 13.3 +1.3
baz=77,SNR=9.3
Y14A **Wickenburg** 77.07 342 ⇑P P 11 13 13.3 +0.9
baz=78,SNR=9.1
V26A **Tequesquite Ra** 77.16 350 ⇓P P 11 13 13.3 +0.4
baz=78
X16A **Lo Mia Camp, P** 77.17 343 ⇓P P 11 13 14.2 +1.1
baz=78,SNR=22
W20A **Ramah** 77.26 346 ⇓P P 11 13 14.3 +0.6
baz=78,SNR=6.6
Y12C **Blythe** 77.26 340 ⇓P P 11 13 14.8 +1.4
baz=78,SNR=7.7
V25A **Rancho No Teng** 77.31 349 ⇑P P 11 13 14.6 +0.7
baz=78,SNR=9.1
TZTN **Tazewell** 77.41 7 eP P 11 13 13.6 -0.6
comp=Z,13nm,0.9s
BC3 **Big Chuckawall** 77.41 340 ⇑P P 11 13 15.6 +1.2
baz=78
PFO **Pinyon Flat Ob** 77.64 339 eP P 11 13 17.8 +2.0
PFO **Pinyon Flat Ob** 77.64 339 P P 11 13 16.3 +0.6
comp=Z,5.0nm,1.1s,baz=160,slow=3.2,SNR=5.7
PFO **Pinyon Flat Ob** 77.64 339 ⇑P P 11 13 16.7 +1.0
baz=78
U27A **Thompson Grove** 77.65 351 ⇑P P 11 13 16.3 +0.6
baz=78,SNR=5.6
PDMCI **Parker Dam,Lak** 77.69 341 ⇑P P 11 13 16.4 +0.6
baz=78
U26A **Atchley Ranch,** 77.74 350 ⇓P P 11 13 16.7 +0.4
baz=78,SNR=7.8
V22A **San Miguel Ran** 77.74 347 ⇑P P 11 13 16.8 +0.4
baz=78,SNR=10
V21A **Milan** 77.76 347 ⇑P P 11 13 16.8 +0.3
baz=78
IRM **Iron Mountain** 77.81 340 ⇓P P 11 13 16.7 +0.2
baz=78
MURC **Murrieta** 77.84 338 ⇑P P 11 13 16.9 +0.2
baz=78
U25A **Circle Dot Ran** 77.84 349 ⇑P P 11 13 17.1 +0.3
baz=78,SNR=9.5
BELC **Belle Mtn. Jos** 77.88 339 ⇓P P 11 13 18.3 +1.2
baz=78
V20A **Brimhall** 77.91 346 ⇑P P 11 13 17.6 +0.4
baz=78
U24A **Moreno Valley** 77.97 349 ⇑P P 11 13 18.4 +0.7
baz=78
T31A **Randall Ranch,** 77.98 353 ⇑P P 11 13 18.2 +0.7
baz=78
U23A **El Rito** 78.03 348 ⇓P P 11 13 18.5 +0.5
baz=78,SNR=24
U22A **Llaves** 78.19 347 ⇑P P 11 13 19.4 +0.5
baz=79
WUAZ **Wupatki** 78.21 344 eP P 11 13 21.2 +2.3
comp=Z,11nm,1.1s
WUAZ **Wupatki** 78.21 344 ⇓P P 11 13 19.9 +0.9
baz=79,SNR=7.3
T28A **Walsh** 78.25 351 ⇑P P 11 13 19.5 +0.5
baz=79,SNR=8.2
T27A **Campo** 78.27 351 ⇓P P 11 13 19.3 +0.2
baz=79
U21A **Nageezi** 78.37 347 ⇑P P 11 13 20.3 +0.4
baz=79,SNR=9.1
W13A **Hualapai Mount** 78.39 341 ⇓P P 11 13 20.9 +0.9
baz=79,SNR=9.6
U20A **Newcomb** 78.48 346 ⇑P P 11 13 20.6 +0.3
baz=79
T26A **Comanche Natio** 78.49 350 ⇓P P 11 13 20.8 +0.4
baz=79
GMRC **Granite Mounta** 78.53 340 ⇓P P 11 13 21.3 +0.7
baz=79,SNR=8.5
T25A **Trinidad** 78.56 349 ⇑P P 11 13 21.2 +0.4
baz=79,SNR=8.7
BFSC **Mount Baldy Ra** 78.56 338 ⇓P P 11 13 21.8 +0.9
baz=79,SNR=6.1
S30A **Montezuma** 78.59 353 ⇓P P 11 13 20.6 -0.3
baz=79
S29A **Ulysses** 78.64 352 ⇓P P 11 13 21.5 +0.3
baz=79
MWC **Mount Wilson** 78.66 338 eP P 11 13 23.9 +2.4
MWC pmax pmax
comp=Z,9.0nm,1.0s
MWC **Mount Wilson** 78.66 338 eP P 11 13 23.9 +2.4
comp=Z,9.0nm,1.0s
LDFC **Landfair** 78.67 340 eP P 11 13 23.1 +1.7
comp=Z,58nm,1.0s
S28A **Manter** 78.69 352 ⇑P P 11 13 21.9 +0.5
baz=79
T23A **Casias Ranch,** 78.70 348 ⇓P P 11 13 22.4 +0.7
baz=79
T22A **Edith** 78.82 347 ⇑P P 11 13 22.9 +0.6
baz=79,SNR=11
WCI **Wyandotte Cave** 78.89 4 eP P 11 13 23.1 +0.7
WCI pmax pmax
comp=Z,9.0nm,0.6s
WCI **Wyandotte Cave** 78.89 4 eP P 11 13 23.1 +0.7
comp=Z,8.8nm,0.6s
T21A **Navajo Lake** 78.90 347 ⇑P P 11 13 23.2 +0.4
baz=79
S26A **Kim** 78.91 350 ⇑P P 11 13 23.1 +0.4
baz=79,SNR=14
S25A **Robets Cordova** 79.08 350 ⇑P P 11 13 24.4 +0.8
baz=80,SNR=13
R31A **Burdett** 79.15 354 ⇓P P 11 13 24.1 +0.2
baz=80
S24A **Houchin Ranch,** 79.17 349 ⇓P P 11 13 25.3 +1.0
baz=80,SNR=13
JSRW **J. Sargeant Re** 79.20 11 eP P 11 13 23.2 -0.8
R30A **Dighton** 79.22 353 ⇑P P 11 13 25.1 +0.8
baz=80
TUQ **Turquoise Moun** 79.22 340 ⇑P P 11 13 25.6 +1.1
baz=80
EDW2 **Edwards Air Fo** 79.26 338 ⇓P P 11 13 25.4 +0.9
baz=80
MVCO **Mesa Verde** 79.28 346 eP P 11 13 26.1 +1.3
comp=Z,20nm,1.3s
MVCO **Mesa Verde** 79.28 346 ⇑P P 11 13 25.9 +1.0
baz=80,SNR=10
U15A **North Rim** 79.29 343 ⇑P P 11 13 25.6 +0.6
baz=80,SNR=18
SDCO **Great Sand Dun** 79.31 349 eP P 11 13 25.8 +0.7
comp=Z,6.2nm,1.1s
GSC **Goldstone** 79.33 339 eP P 11 13 26.3 +1.3
GSC pmax pmax
comp=Z,7.0nm,0.8s
GSC **Goldstone** 79.33 339 eP P 11 13 26.3 +1.3
comp=Z,6.9nm,0.8s
GSC **Goldstone** 79.33 339 ⇓P P 11 13 26.0 +1.1
baz=80
R28A **Tribune** 79.43 352 ⇑P P 11 13 25.7 +0.3
baz=80
R27A **Eads** 79.48 351 ⇑P P 11 13 26.1 +0.3
baz=80
S22A **4UR Ranch, Cre** 79.52 348 ⇑P P 11 13 26.8 +0.5
baz=80,SNR=16
R26A **Arlington** 79.58 350 ⇑P P 11 13 27.2 +0.9
baz=80,SNR=9.5
S21A **Coal Bank Pass** 79.60 347 ⇓P P 11 13 27.9 +1.3
baz=80,SNR=15
R24A **Sanders Place,** 79.73 349 ⇑P P 11 13 28.1 +0.8
baz=80,SNR=9.4
LRMC **Laurel Mountai** 79.73 339 ⇑P P 11 13 28.1 +0.9
baz=80
KSU1 **Kansas State U** 79.76 356 eP P 11 13 27.9 +0.8
comp=Z,16nm,0.8s
R23A **Moffat** 79.80 349 ⇓P P 11 13 28.6 +0.9
baz=80,SNR=9.4
PKM **Peak Mountain** 79.81 337 ⇓P P 11 13 28.6 +0.9
baz=80
Q31A **Ellis** 79.85 354 ⇑P P 11 13 28.8 +1.2
baz=80
S20A **Disappointment** 79.86 346 ⇑P P 11 13 29.2 +1.2
baz=80,SNR=17
Q29A **Oakley** 79.88 352 ⇑P P 11 13 29.2 +1.3
baz=80
Q30A **Quinter** 79.90 353 ⇓P P 11 13 28.4 +0.4
baz=80
R22A **Saguache, Gunn** 79.98 348 ⇓P P 11 13 29.7 +1.0
baz=80,SNR=13
ISA **Isabella** 80.13 338 eP P 11 13 30.8 +1.5
ISA pmax pmax
comp=Z,9.0nm,0.9s
ISA **Isabella** 80.13 338 eP P 11 13 30.8 +1.5
comp=Z,8.8nm,0.9s
ISA **Isabella** 80.13 338 ⇓P P 11 13 30.4 +1.1
baz=81,SNR=7.3
Q28A **Sharon Springs** 80.14 352 ⇓P P 11 13 30.0 +0.6
baz=81
KSCO **Kaye Shedlock'** 80.18 351 ⇓P P 11 13 30.4 +0.9
baz=81
PV01 **Paradox Valley** 80.20 346 eP P 11 13 31.6 +1.8
comp=Z,2µm,1.2s
Q26A **Hugo** 80.20 350 ⇓P P 11 13 30.6 +0.9
baz=81
R20A **Redvale** 80.22 347 ⇓P P 11 13 30.6 +0.8
baz=81,SNR=19
MPMC **Manual Prospec** 80.23 339 ⇑P P 11 13 30.9 +0.9
baz=81
R21A **Cimarron** 80.25 347 ⇑P P 11 13 31.5 +1.4
baz=81,SNR=29
Q25A **Bedland, Calha** 80.29 350 ⇑P P 11 13 30.7 +0.4
baz=81
P31A **Stockton** 80.36 354 ⇑P P 11 13 30.9 +0.5
baz=81
FURC **Furnace Creek,** 80.44 339 ⇓P P 11 13 32.9 +2.1
baz=81
Q24A **Divide** 80.46 349 ⇓P P 11 13 32.8 +1.6
baz=81
P30A **Selden** 80.46 353 ⇓P P 11 13 31.0 0.0
baz=81
PV04 **Paradox Valley** 80.51 346 eP P 11 13 33.1 +1.7
CCUT **Cedar City** 80.61 343 eP P 11 13 33.4 +1.4
comp=Z,14nm,1.0s
Q22A **Crested Butte,** 80.62 348 ⇑P P 11 13 33.0 +0.8
baz=81,SNR=7.0
P28A **Saint Francis** 80.64 352 ⇓P P 11 13 33.3 +1.4
baz=81
Q21A **Lamborn Mesa,** 80.71 347 ⇓P P 11 13 33.7 +1.2
baz=81,SNR=7.3
CWC **Cottonwood Cre** 80.75 339 ⇑P P 11 13 33.6 +0.9
baz=81
P26A **Davis Ranch, A** 80.81 351 ⇑P P 11 13 33.7 +0.7
baz=81
P25A **Willow Gulch B** 80.86 350 ⇓P P 11 13 34.4 +1.1
baz=81
SMCO **Snowmass** 80.94 348 eP P 11 13 36.0 +2.0
comp=Z,9.3nm,0.8s
Q20A **Ridgley Place,** 80.94 347 ⇓P P 11 13 35.1 +1.4
baz=81,SNR=12
P23A **Jefferson** 80.96 349 ⇓P P 11 13 35.0 +1.0
baz=81,SNR=6.3
SFIN **Scholer Farm** 81.00 3 ⇑P P 11 13 34.3 +0.6
baz=81
GRAC **Grapevine Rang** 81.08 339 ⇓P P 11 13 35.7 +1.4
baz=82
O28A **Krutsinger Ran** 81.19 352 ⇓P P 11 13 36.0 +1.1
baz=82
MVU **Marysvale** 81.27 344 eP P 11 13 37.0 +1.4
comp=Z,12nm,1.4s
MSU **Marysvale** 81.27 344 eP P 11 13 36.6 +1.1
MSU **Marysvale** 81.27 344 eP P 11 13 36.6 +1.1
P22A **Eagle** 81.32 348 ⇑P P 11 13 37.2 +1.4
baz=82
O27A **Beecher Island** 81.33 351 ⇑P P 11 13 37.0 +1.4
baz=82
ISCO **Idaho Springs** 81.35 349 eP P 11 13 38.4 +2.4
ISCO pmax pmax
comp=Z,5.0nm,1.0s
ISCO **Idaho Springs** 81.35 349 eP P 11 13 38.4 +2.4
comp=Z,4.8nm,1.0s
ISCO **Idaho Springs** 81.35 349 ⇑P P 11 13 37.0 +1.0
baz=82
P21A **Newcastle** 81.36 348 ⇑P P 11 13 37.5 +1.6
baz=82
TIN **Tinemaha** 81.36 339 ⇑P P 11 13 37.6 +1.7
baz=82
Q16A **Castle Valley** 81.45 345 ⇑P P 11 13 37.7 +1.3
baz=82
O25A **Wiggins** 81.45 350 ⇓P P 11 13 37.8 +1.5
baz=82
O26A **Horse Wrangler** 81.48 351 ⇓P P 11 13 37.7 +1.2
baz=82
SRU **San Rafael** 81.51 345 eP P 11 13 37.9 +1.2
SRU pmax pmax
comp=Z,9.0nm,0.8s
SRU **San Rafael** 81.51 345 eP P 11 13 37.9 +1.2
comp=Z,8.8nm,0.8s
P19A **Cripple Cowboy** 81.73 346 ⇑P P 11 13 38.5 +0.6
baz=82,SNR=11
MTUM **Tungsten Hills** 81.73 338 eP P 11 13 38.9 +0.9
O23A **Lake Granby, G** 81.79 349 ⇓P P 11 13 38.9 +0.6
baz=82,SNR=9.3
TMUT **Trail Mountain** 81.82 345 eP P 11 13 40.1 +1.6
comp=Z,24nm,0.9s
O22A **Kremmling** 81.84 348 ⇓P P 11 13 38.9 +0.3
baz=82
R11A **Troy Canyon, C** 81.89 341 ⇓P P 11 13 39.9 +1.1
baz=82
N27A **Anderson Farm,** 81.94 352 ⇑P P 11 13 39.3 +0.5
baz=82
MLAC **Mammoth Lakes** 82.07 338 ⇓P P 11 13 40.4 +0.7
baz=82
O20A **White River Ci** 82.09 347 ⇓P P 11 13 40.7 +0.9
baz=82,SNR=10.0
N24A **Carr** 82.25 350 ⇓P P 11 13 41.1 +0.5
baz=83
O19A **Miners Draw (B** 82.40 346 ⇓P P 11 13 42.2 +0.9
baz=83
N22A **Wattenberg Ran** 82.45 349 ⇓P P 11 13 42.4 +0.7
baz=83
N23A **Red Feather La** 82.47 349 ⇑P P 11 13 42.5 +0.7
baz=83,SNR=6.0
N21A **Black Mountain** 82.58 348 ⇓P P 11 13 43.2 +0.9
baz=83
MPU **Maple Canyon** 82.60 345 eP P 11 13 44.2 +1.8
comp=Z,22nm,1.0s
NLU **North Lily Min** 82.63 344 eP P 11 13 43.7 +1.0
comp=Z,28nm,1.0s
NV11 **Mina Array Sit** 82.63 339 eP P 11 13 44.0 +1.4
NVAR **Mina Array Bea** 82.67 339 P P 11 13 44.1 +1.2
NVAR **Mina Array Bea** 82.67 339 P P 11 13 44.1 +1.2
comp=Z,9.2nm,1.1s,baz=168,slow=6.0,SNR=29
N20A **Spence Gulch,** 82.77 347 ⇑P P 11 13 44.1 +0.8
baz=83,SNR=15
PHWY **Pilot Hill** 82.80 349 eP P 11 13 45.2 +1.6
comp=Z,5.6nm,0.7s
ALLY **Alegheny Colle** 82.81 9 eP P 11 13 42.4 -0.8
comp=Z,20nm,0.8s
M24A **Cheyenne** 82.88 350 ⇑P P 11 13 45.0 +1.1
baz=83
CMB **Columbia Colle** 82.89 337 eP P 11 13 46.3 +2.5
CMB pmax pmax
comp=Z,10.0nm,1.1s
CMB **Columbia Colle** 82.89 337 eP P 11 13 46.3 +2.5
comp=Z,9.7nm,1.1s
DAU **Daniels Canyon** 82.91 345 eP P 11 13 45.5 +1.3
DAU **Daniels Canyon** 82.91 345 eP P 11 13 45.5 +1.3
DUG **Dugway** 83.02 344 eP P 11 13 45.9 +1.3
DUG pmax pmax
comp=Z,23nm,0.9s
DUG **Dugway** 83.02 344 eP P 11 13 45.9 +1.3
comp=Z,23nm,0.9s
DUG **Dugway** 83.02 344 ⇑P P 11 13 45.5 +0.9
baz=84
WAKR **Walker** 83.05 338 eP P 11 13 47.0 +2.2
M22A **Cedar Creek Ra** 83.06 349 ⇓P P 11 13 45.5 +0.6
baz=84
JLU **Jordanelle** 83.13 345 eP P 11 13 46.9 +1.6
comp=Z,6.3nm,0.9s
M21A **Separation Pea** 83.38 348 ⇓P P 11 13 47.1 +0.6
baz=84,SNR=8.9
M20A **Sweetwater, Wa** 83.40 347 ⇑P P 11 13 46.8 +0.2
baz=84
RWWY **Rawlins** 83.44 348 eP P 11 13 48.2 +1.4
comp=Z,17nm,1.1s
L24A **Wheatland** 83.45 350 ⇑P P 11 13 47.7 +0.9
baz=84
M19A **Rock Springs** 83.58 347 ⇑P P 11 13 48.2 +0.7
baz=84
L23A **Garrett** 83.63 349 ⇓P P 11 13 47.9 +0.2
baz=84
L22A **Ellis Ranch, M** 83.65 349 ⇓P P 11 13 48.0 +0.1
baz=84
L21A **Rawlins** 83.73 348 ⇓P P 11 13 48.4 +0.1
baz=84,SNR=8.5
BGU **Big Grassy Mou** 83.77 344 eP P 11 13 49.4 +1.0
comp=Z,6.4nm,1.0s
K27A **Flueckinger Fa** 83.79 352 ⇓P P 11 13 48.8 +0.4
baz=84
M17A **Scullys Gap (B** 83.82 346 ⇑P P 11 13 49.0 +0.3
baz=84,SNR=7.7
L20A **Wamsutter** 83.93 347 ⇑P P 11 13 49.6 +0.4
baz=84,SNR=8.4
K24A **Anderson Ranch** 84.11 350 ⇑P P 11 13 50.1 0.0
baz=84
HWUT **Hardware Ranch** 84.12 345 eP P 11 13 50.3 0.0
comp=Z,11nm,0.7s
L18A **Fontenelle, Gr** 84.14 346 ⇓P P 11 13 50.4 0.0
baz=85
PAHR **Pah Rah Range** 84.16 339 eP P 11 13 50.9 +0.5
comp=Z,13nm,0.8s
L19A **Farson** 84.19 347 ⇑P P 11 13 51.2 +0.6
baz=85,SNR=8.1
K23A **Bowen Ranch, D** 84.25 350 ⇑P P 11 13 51.3 +0.5
baz=85
K22A **Casper** 84.27 349 ⇑P P 11 13 51.4 +0.5
baz=85
K21A **Alcova** 84.36 348 ⇓P P 11 13 51.9 +0.5
baz=85
ECSD **EROS Data Cent** 84.38 356 eP P 11 13 51.0 -0.3
comp=Z,14nm,0.8s
J28A **Allard Ranch,** 84.40 353 ⇑P P 11 13 52.3 +0.9
baz=85
DZM **Mont Dzumac** 84.47 246 eLR LR 11 40 18.6
comp=Z,998nm,27.1s
HVU **Hansel Valley** 84.53 344 eP P 11 13 53.1 +0.8
HVU pmax pmax
comp=Z,11nm,0.9s
HVU **Hansel Valley** 84.53 344 eP P 11 13 53.1 +0.8
comp=Z,11nm,0.9s
K20A **Yellowstone Ra** 84.56 348 ⇑P P 11 13 52.7 +0.2
baz=85,SNR=8.3
BEKR **Beckworth** 84.58 338 eP P 11 13 52.5 -0.1
comp=Z,6.1nm,1.0s
HOPS **Hopland** 84.58 336 eP P 11 13 55.7 +3.3
comp=Z,17nm,1.3s
J25A **Sunshine Ranch** 84.64 351 ⇑P P 11 13 53.3 +0.6
baz=85
J24A **Dixon Ranch, L** 84.69 350 ⇑P P 11 13 53.0 0.0
baz=85
K19A **Absolon Red Bu** 84.81 347 ⇑P P 11 13 53.9 +0.2
baz=85,SNR=13
BW06 **Boulder Array** 84.87 347 eP P 11 13 54.8 +0.7
comp=Z,16nm,0.8s
PDAR **Pinedale Array** 84.87 347 P P 11 13 54.3 +0.2
PDAR **Pinedale Array** 84.87 347 P P 11 13 54.3 +0.2
comp=Z,13nm,1.0s,baz=163,slow=5.7,SNR=45
I28A **Midland** 84.97 353 ⇑P P 11 13 54.5 +0.3
baz=85
J21A **Lysite** 85.09 348 ⇑P P 11 13 55.3 +0.2
baz=86,SNR=5.3
I27A **Quinn** 85.12 352 ⇑P P 11 13 55.2 +0.1
baz=86
AHID **Auburn Hatcher** 85.15 346 eP P 11 13 55.4 0.0
comp=Z,6.5nm,0.7s
I26A **New Underwood** 85.17 352 ⇑P P 11 13 55.2 -0.1
baz=86
J20A **Shoshoni** 85.20 348 ⇑P P 11 13 56.3 +0.8
baz=86,SNR=10.0
I25A **Rochford** 85.25 351 ⇓P P 11 13 56.4 +0.5
baz=86
J19A **Crowheart** 85.27 347 ⇑P P 11 13 56.3 +0.3
baz=86,SNR=17
RSSD **Black Hills** 85.39 351 eP P 11 13 57.2 +0.6
RSSD pmax pmax
comp=Z,13nm,0.9s
RSSD **Black Hills** 85.39 351 eP P 11 13 57.2 +0.6
comp=Z,13nm,0.9s
KIPM **Iron Peak** 85.46 336 eP P 11 14 00.5 +3.5
comp=Z,22nm,1.0s
I21A **Big Trails, Te** 85.52 349 ⇓P P 11 13 57.7 +0.5
baz=86,SNR=5.6
H27A **Howes** 85.68 352 ⇑P P 11 13 58.3 +0.5
baz=86
REDW **Red Top Meadow** 85.68 346 eP P 11 13 58.7 +0.6
comp=Z,26nm,1.1s
SPMN **St. Paul** 85.75 359 ⇑P P 11 13 58.3 +0.2
baz=86
RRI2 **Red Ridge** 85.75 346 eP P 11 13 59.8 +1.2
comp=Z,12nm,1.1s
SNOW **Snow King Moun** 85.76 346 eP P 11 13 59.8 +1.3
comp=Z,11nm,0.8s
I20A **Worland** 85.79 348 ⇓P P 11 13 59.5 +1.0
baz=86,SNR=19
TPAW **Teton Pass** 85.82 346 eP P 11 13 59.5 +0.7
comp=Z,40nm,1.1s
I18A **Diamond G Ranc** 85.82 347 ⇑P P 11 13 59.6 +0.7
baz=86,SNR=6.6
H25A **Fruitdale** 85.83 351 ⇓P P 11 13 59.5 +0.9
baz=86
WDC **Whiskeytown Da** 85.88 337 eP P 11 13 58.8 0.0
WDC pmax pmax
comp=Z,8.0nm,0.9s
WDC **Whiskeytown Da** 85.88 337 eP P 11 13 58.8 0.0
comp=Z,8.4nm,0.9s
LOHW **Long Hollow** 85.88 346 eP P 11 13 59.6 +0.6
comp=Z,13nm,1.1s
NCB **Newcomb** 85.90 12 eP P 11 13 58.5 -0.4
SADO **Sadowa** 86.00 9 P P 11 13 59.4 0.0
SADO **Sadowa** 86.00 9 P P 11 13 59.4 0.0
comp=Z,5.4nm,0.8s,baz=222,slow=3.9,SNR=3.3
G28A **Parade** 86.01 353 ⇑P P 11 14 00.0 +0.6
baz=86
I19A **Meeteetse** 86.01 347 ⇑P P 11 13 59.8 +0.2
baz=86
MOOW **Moose Ponds** 86.03 346 eP P 11 14 00.7 +0.9
comp=Z,5.2nm,1.0s
H24A **Dirks Ranch, A** 86.07 351 ⇓P P 11 14 00.3 +0.5
baz=86
H22A **Clearmont** 86.15 349 ⇓P P 11 14 01.0 +0.7
baz=87
I17A **Pilgrim Ck.** 86.17 346 ⇓P P 11 14 01.1 +0.6
baz=87
IMW **Indian Meadow** 86.21 346 eP P 11 14 01.5 +0.7
comp=Z,12nm,0.8s
H20A **Greybull** 86.29 348 ⇓P P 11 14 01.3 +0.4
baz=87,SNR=7.4
I16A **Newdale** 86.30 346 ⇑P P 11 14 02.1 +1.1
baz=87
G25A **Newell** 86.38 352 ⇑P P 11 14 02.4 +1.1
baz=87
G26A **Maurine** 86.39 352 ⇑P P 11 14 02.2 +0.8
baz=87
G27A **Dupree** 86.40 353 ⇓P P 11 14 02.2 +0.8
baz=87
WVOR **Wild Horse Val** 86.51 340 eP P 11 14 03.1 +1.0
WVOR pmax pmax

comp=Z,14nm,1.0s
WVOR Wild Horse Val 86.51 340 *e*P P 11 14 03.1 +1.0
comp=Z,14nm,1.0s
HLID Hailey 86.58 344 *e*P P 11 14 03.7 +1.2
comp=Z,14nm,1.1s
HLID Hailey 86.58 344 ⇓P P 11 14 03.0 +0.5
baz=87,SNR=8.1
G23A Biddle 86.62 350 ⇓P P 11 14 03.1 +0.6
baz=87
H19A Powell 86.63 348 ⇑P P 11 14 03.1 +0.5
baz=87,SNR=7.1
H17A Grant Village 86.63 346 ⇑P P 11 14 03.6 +0.8
baz=87
I14A Mackay 86.73 344 ⇓P P 11 14 04.3 +1.1
baz=87
H18A Shoshone NF, C 86.75 347 ⇓P P 11 14 04.0 +0.7
baz=87
G22A Birney 86.76 350 ⇓P P 11 14 04.3 +1.1
baz=87
MFID Camas Ranch 86.76 342 ⇓P P 11 14 04.2 +0.9
baz=87
YBH Yreka Blue Hor 86.98 337 P P 11 14 04.9 +0.5
YBH Yreka Blue Hor 86.98 337 P P 11 14 04.9 +0.5
comp=Z,0.3nm,0.5s,baz=69,slow=14,SNR=2.2
G20A Bridger 87.04 348 ⇓P P 11 14 04.9 +0.3
baz=88,SNR=6.1
H16A Russell Place, 87.05 346 ⇓P P 11 14 05.5 +0.7
baz=88
RLMT Red Lodge 87.11 347 *e*P P 11 14 06.3 +1.3
F23A Volborg 87.13 350 ⇑P P 11 14 05.7 +0.7
baz=88
F24A Ekalaka 87.14 351 ⇑P P 11 14 05.8 +0.8
baz=88
QLMT Earthquake Lak 87.21 346 *e*P P 11 14 07.7 +2.2
F22A Rosebud 87.30 350 ⇑P P 11 14 06.5 +0.7
baz=88
G17A Pierce Place, 87.56 347 ⇑P P 11 14 07.6 +0.5
baz=88
F20A Billings 87.60 348 ⇓P P 11 14 07.4 +0.2
baz=88
F19A Roth Farm, Mol 87.77 348 ⇓P P 11 14 08.5 +0.4
baz=88,SNR=10
E24A Baker 87.83 351 ⇑P P 11 14 08.9 +0.6
baz=88
F18A Big Timber 87.95 347 ⇑P P 11 14 09.3 +0.4
baz=88
BOZ Bozeman (W) 88.03 346 *e*P P 11 14 10.6 +1.2
BOZ Bozeman (W) 88.03 346 *e*P P 11 14 10.6 +1.2
F17A Fitzpatrick Pl 88.11 347 ⇑P P 11 14 10.2 +0.5
baz=88
E20A Meyer Farm, Mu 88.28 349 ⇓P P 11 14 11.2 +0.8
baz=89,SNR=6.6
E19A Rath Farm, Rou 88.34 348 ⇓P P 11 14 11.0 +0.3
baz=89,SNR=5.9
D24A Glendive 88.38 351 ⇑P P 11 14 11.5 +0.6
baz=89
BMO Blue Mountains 88.46 342 *e*P P 11 14 12.4 +1.1
EYMN Ely 88.46 360 *e*P P 11 14 12.0 +0.8
comp=Z,5.6nm,0.8s
E18A Harlowton 88.62 347 ⇓P P 11 14 12.8 +0.6
baz=89
D22A Cohagen 88.64 350 ⇓P P 11 14 12.3 +0.2
baz=89,SNR=6.9
MDND Maddock 88.66 355 ⇓P P 11 14 12.7 +0.6
baz=89
D20A Manuel Ranch, 88.85 349 ⇓P P 11 14 13.6 +0.4
baz=89,SNR=7.4
D19A Cripps Ranch, 89.04 348 ⇑P P 11 14 14.6 +0.5
baz=90
C23A Lambert 89.15 351 ⇓P P 11 14 15.0 +0.5
baz=90
D18A Linhart Farms, 89.22 348 ⇓P P 11 14 15.3 +0.4
baz=90,SNR=5.7
D17A Six Diamond Ra 89.32 347 ⇑P P 11 14 15.9 +0.5
baz=90
BOSA Boshof 89.37 128 P P 11 14 17.4 +1.0
BOSA Boshof 89.37 128 P P 11 14 17.4 +1.0
comp=Z,2.8nm,0.8s,baz=164,slow=6.1,SNR=4.4
C20A Veseth Ranch, 89.44 349 ⇑P P 11 14 16.3 +0.4
baz=90
CHMT Chamberlain Mo 89.56 345 *e*P P 11 14 18.0 +1.4
DGMT Dagmar 89.70 352 *e*P P 11 14 18.5 +1.5
comp=Z,16nm,0.9s
DGMT Dagmar 89.70 352 ⇓P P 11 14 17.3 +0.3
baz=90
B22A Reddig Ranch S 89.75 350 ⇑P P 11 14 17.4 +0.2
baz=90,SNR=5.6
B23A Brockton 89.78 351 ⇓P P 11 14 18.1 +0.7
baz=90
C17A Wharram Farm, 89.80 347 ⇓P P 11 14 18.2 +0.7
baz=90
B21A Ellsworth Farm 90.00 350 ⇓P P 11 14 18.8 +0.3
baz=90
EGMT Eagleton 90.01 348 ⇑P P 11 14 19.0 +0.4
baz=90
A24A Westby 90.12 352 ⇑P P 11 14 19.3 +0.3
baz=91
B20A Solberg Farm, 90.15 349 ⇑P P 11 14 19.7 +0.6
baz=91
A22A Carney Farms, 90.41 351 ⇑P P 11 14 21.0 +0.6
baz=91
C13A Hot Springs 90.55 345 ⇓P P 11 14 22.3 +1.2
baz=91
B15A Bradely Ranch, 90.77 346 ⇓P P 11 14 22.8 +0.7
baz=91
ULM Lac du Bonnet 90.85 357 *e*P P 11 14 23.2 +0.9
ULM Lac du Bonnet 90.85 357 P P 11 14 22.7 +0.5
comp=Z,4.8nm,0.7s,baz=208,slow=2.2,SNR=3.0
A17A Triple J Farms 91.06 347 ⇑P P 11 14 24.2 +0.8
baz=92
B13A Whitefish 91.19 345 ⇓P P 11 14 25.1 +1.1
baz=92
A14A Double T Ranch 91.56 346 ⇑P P 11 14 25.9 +0.1
baz=92
NEW Newport 91.64 343 ⇓P P 11 14 26.7 +0.6
baz=92
DBIC Dimbokro 91.76 83 LR LR 11 54 42.8
comp=Z,244nm,19.6s,baz=110,slow=35
STKA Stephens Creek 92.57 223 LR LR 11 47 23.0
comp=Z,349nm,19.0s,baz=302,slow=30
SCHQ Schefferville 97.66 14 LR LR 11 57 12.9
comp=Z,362nm,18.6s,baz=351,slow=34
TORD Torodi Ar. Bea 100.85 82 PP PP 11 19 22.6 +5.9
TORD Torodi Ar. Bea 100.85 82 PP PP 11 19 22.5 +5.9
comp=Z,2.7nm,1.0s,baz=230,slow=6.4,SNR=5.9
ASAR Alice Springs 103.17 222 Pdif **Pdif** 11 15 21.7 +2.6
ASAR Alice Springs 103.17 222 Pdiff **Pdif** 11 15 21.7 +2.6
comp=Z,0.5nm,0.9s,baz=134,slow=4.0,SNR=2.7
FINES FINESS Array B 137.77 39 PKP **PKPdf** 11 20 42.4 -0.3
FINES FINESS Array B 137.77 39 PKP **PKPdf** 11 20 42.4 -0.3
comp=Z,1.7nm,0.8s,baz=264,slow=8.0,SNR=3.3
BRTR Keskin Array B 138.71 73 PKP **PKPdf** 11 20 44.9 -0.5
BRTR Keskin Array B 138.71 73 PKP **PKPdf** 11 20 44.9 -0.5
comp=Z,0.5nm,0.5s,baz=205,slow=5.5,SNR=4.0
ERM Erimo 139.63 290 ⇑ *i*PKIKP **PKPdf** 11 20 45.3 -1.4
YSS Yuzh-Sakhalins 141.14 298 *e*PKIKP **PKPdf** 11 20 48.8 -0.5
MJAR Matsushiro Arr 141.41 280 PKP **PKPdf** 11 20 50.6 +0.4
MJAR Matsushiro Arr 141.41 280 PKP **PKPdf** 11 20 50.6 +0.4
comp=Z,0.8nm,0.7s,baz=147,slow=3.8,SNR=2.9
MAJO Matsushiro 141.41 280 *e*PKIKP **PKPdf** 11 20 49.8 -0.4
OBN Obninsk 143.34 49 ⇑ *e*PKIKP **PKPdf** 11 20 53.5 +0.6
OBN pmax pmax
comp=Z,17nm,1.1s
MOS Moscow 143.92 48 *e*PKHKP PKPpre 11 20 44.7
VSR Storozhevoye 144.84 56 *e*PKHKP PKPpre 11 20 51.8
VSR pmax pmax
comp=Z,20nm,1.0s
VSR pmax pmax
comp=N,10.0nm,0.5s
VSR pmax pmax
comp=E,10.0nm,0.7s
VORD Divnogorie 144.91 56 *e*PKHKP PKPpre 11 20 51.5
VORD pmax pmax
comp=Z,20nm,0.9s
VORD pmax pmax
comp=N,80nm,0.6s
VORD pmax pmax
comp=E,100nm,0.8s
JNU Nakatsue 145.57 271 *e*PKPdf **PKPbc** 11 20 58.2 +0.3
KIV Kislovodsk 146.35 69 *e*PKIKP **PKPdf** 11 20 57.4 -1.3
KIV pmax pmax
comp=Z,15nm,1.8s
KIV MLR MLR
comp=Z,100nm,20.0s
VRHR Novokhopersk 146.38 56 *e*PKIKP **PKPdf** 11 20 56.3 -2.1
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.6s
KBZ Khabaz 146.46 70 PKP2 **PKPbc** 11 20 59.8 -0.3
KBZ Khabaz 146.46 70 PKPbc **PKPbc** 11 20 59.8 -0.3
KBZ Khabaz 146.46 70 PKPbc **PKPbc** 11 20 59.8 -0.3
comp=E,6.7nm,1.0s,baz=245,slow=1.3,SNR=8.3
YAK Yakutsk 147.59 325 *e*PKIKP **PKPdf** 11 21 00.2 +0.2
YAK *e* 11 21 06.8
YAK pmax pmax
comp=Z,22nm,1.0s
YAK pmax pmax
comp=N,2.0nm,1.4s
SSLB Suanglung 147.97 248 *e*PKPdf **PKPdf** 11 21 01.5 -0.4
SSLB *e*PKPbc **PKPbc** 11 21 05.9 +0.9
SSLB *e*PKPab **PKPab** 11 21 08.9 +1.3
USRK Ussuriysk Arra 148.09 291 PKP **PKPdf** 11 21 01.7 +0.2
comp=N,1.3nm,0.6s,baz=105,slow=11,SNR=8.3
USRK PKPbc **PKiKP** 11 21 06.7 +0.2
comp=N,7.9nm,0.7s,baz=222,slow=2.6,SNR=9.6
YHNB Yeheng 148.22 250 *e*PKPdf **PKPdf** 11 21 03.5 +1.1
YHNB *e*PKPbc **PKiKP** 11 21 06.8 -0.7
YHNB *e*PKPab **PKPab** 11 21 10.4 +1.7
KLR Kul'dur 148.72 300 *e*PKIKP **PKPdf** 11 21 01.9 -0.4
KSRS Korea Array 149.45 277 PKP **PKPdf** 11 21 05.5 +1.6
comp=N,3.4nm,0.9s,baz=117,slow=2.1,SNR=14
KSRS PKPbc **PKPbc** 11 21 07.9 -0.4
comp=N,2.6nm,0.8s,baz=97,slow=3.0,SNR=15
KSAR Wonju Array Be 149.47 277 PKP **PKPdf** 11 21 05.5 +1.6
KSAR PKPbc **PKPbc** 11 21 07.9 -0.5
MDJ Mudanjiang 149.85 291 PKPbc **PKPdf** 11 21 05.0 +0.7
CN2 Changchun 152.71 288 *e*PKPbc **PKPdf** 11 21 11.5 +2.8
CN2 PP PP 11 25 08.5 +8.4
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,16.0s
CN2 LR LR
comp=E,200nm,16.0s
CN2 LR LR
comp=Z,200nm,19.0s
NJ2 Nanjing 154.17 260 *e*PKPbc **PKPdf** 11 21 09.0 -2.2
CMAR Chiang Mai Arr 155.91 205 PKP **PKPdf** 11 21 13.1 -0.9
CMAR Chiang Mai Arr 155.91 205 PKP **PKPdf** 11 21 13.1 -0.9
comp=Z,0.6nm,0.3s,baz=242,slow=4.0,SNR=4.2
AKTO Aktyubinsk 156.79 55 PKIKP **PKPdf** 11 21 12.2 -1.9
AKTO Aktyubinsk 156.79 55 PKP **PKPdf** 11 21 12.2 -1.9
AKTO PKPab **PKPab** 11 21 43.4 -0.4
AKTO Aktyubinsk 156.79 55 PKP **PKPdf** 11 21 12.2 -1.9
comp=Z,0.6nm,0.4s,baz=194,slow=15,SNR=3.7
AKTO PKPab **PKPab** 11 21 43.4 -0.4
comp=Z,2.1nm,0.8s,baz=312,slow=5.7,SNR=4.6
ABKAR Akbulak array 158.25 58 *e*PKPdf **PKPdf** 11 21 14.6 -1.4
ABKAR *e*PKPab **PKPab** 11 21 47.6 -2.5
GYA Guiyang 159.20 232 *e*PKP **PKPdf** 11 21 17.0 -1.0
GYA PKPab **PKPab** 11 21 57.3 +2.3
GYA PKS **PKSdf** 11 24 49.8 -1.9
GYA PP **PP** 11 25 39.3 +3.4
GYA AMB AMB
comp=Z,120nm,8.0s
KMI Kunming 160.31 221 PKP **PKPdf** 11 21 18.5 -0.9
KMI pPKP **pPKPdf** 11 21 22.0 -0.9
KMI PP **PP** 11 25 45.0 +3.3
KMI SKKS 11 32 31.0
KMI SS **SS** 11 45 53.8 +1.4
KMI AMB AMB
comp=Z,200nm,10.8s
KMI LR LR
comp=N,120nm,10.4s
KMI LR LR
comp=E,170nm,12.5s
KMI LR LR
comp=Z,170nm,12.5s
HHC Hu-ho-hao-te 162.58 277 *e*PKP **PKPdf** 11 21 16.5 -4.7
HHC pPKP **pPKPdf** 11 21 23.3 -1.3
HHC sPKP 11 21 25.5
HHC PKS PKSdf 11 24 49.0 -5.3
HHC PP **PP** 11 25 54.5 -0.1
HHC SS SS 11 46 15.5 -2.1
HHC AMB AMB
comp=Z,280nm,9.3s
HHC LR LR
comp=N,300nm,19.0s
HHC LR LR
comp=E,250nm,20.2s
HHC LR LR
comp=Z,270nm,20.2s
CD2 Chengdu 164.16 236 *e*PKP **PKPdf** 11 21 21.3 -1.6
CD2 PKPab **PKPab** 11 22 18.0 +1.5
CD2 PP **PP** 11 26 05.3 +2.9
CD2 SKKS 11 32 50.0
CD2 SS **SS** 11 46 34.3 +1.4
CD2 AMB AMB
comp=Z,160nm,10.2s
CD2 LR LR
comp=E,160nm,22.2s
CD2 LR LR
comp=Z,140nm,22.6s
SONM Songino Array 165.48 304 PKP **PKPdf** 11 21 25.1 +1.5
SONM PKPab **PKPab** 11 22 21.2 -0.8
SONM Songino Array 165.48 304 PKP **PKPdf** 11 21 25.1 +1.5
comp=Z,0.1nm,0.3s,baz=209,slow=2.6,SNR=2.3
SONM PKPab **PKPab** 11 22 21.2 -0.8
comp=Z,0.2nm,0.5s,baz=20,slow=4.7,SNR=3.6
ZALV Zalesovo Beam 166.71 10 PKIKP **PKPdf** 11 21 26.1 +1.9
ZALV 11 22 26.9
ZALV Zalesovo Beam 166.71 10 PKP **PKPdf** 11 21 26.1 +1.9
ZALV PKPab **PKPab** 11 22 26.9 0.0
ZALV Zalesovo Beam 166.71 10 PKP **PKPdf** 11 21 26.1 +1.9
comp=Z,1.4nm,0.9s,baz=343,slow=4.6,SNR=4.0
ZALV PKPab **PKPab** 11 22 26.9 0.0
comp=Z,0.5nm,0.4s,baz=339,slow=7.9,SNR=3.6
LZH Lanzhou 167.08 253 *e*PKP **PKPdf** 11 21 21.8 -3.5
LZH pPKP **pPKPdf** 11 21 31.3 +2.5
LZH PKPab **PKPab** 11 22 28.3 -1.2
LZH PP **PP** 11 26 21.0 +2.9
LZH AMB AMB
comp=Z,110nm,4.2s
LZH LR LR
comp=N,460nm,18.8s
LZH LR LR
comp=E,250nm,17.6s
LZH LR LR
comp=Z,570nm,20.1s
KSH Kashi 170.29 94 *e*PKP **PKPdf** 11 21 26.8 -0.4
KSH PP PP 11 26 26.3 -8.2
KSH SKS **SKSdf** 11 28 30.0 -0.8
KSH SKKS SKKSac 11 33 12.0 -9.0
KSH AMB AMB
comp=Z,110nm,5.8s
KSH LR LR
comp=N,94nm,5.1s
KSH LR LR
comp=E,88nm,5.1s
KSH LR LR
comp=Z,170nm,14.8s
GTA Gaotai 171.23 264 PKP **PKPdf** 11 21 28.0 +0.3
MKAR Makanchi Array 172.58 35 PKIKP **PKPdf** 11 21 28.4 +0.4
MKAR Makanchi Array 172.58 35 PKP **PKPdf** 11 21 28.4 +0.4
MKAR PKPab **PKPab** 11 22 54.2 +0.9
MKAR Makanchi Array 172.58 35 PKP **PKPdf** 11 21 28.4 +0.4
comp=Z,0.3nm,0.6s,baz=173,slow=3.2,SNR=3.9
MKAR PKPab **PKPab** 11 22 54.2 +0.9
comp=Z,0.5nm,0.9s,baz=15,slow=6.0,SNR=3.0
WMQ Urumqi 177.01 12 PKP **PKPdf** 11 21 28.5 -1.0
WMQ LR LR
comp=N,370nm,22.3s
WMQ LR LR
comp=E,200nm,31.0s
WMQ LR LR
comp=Z,300nm,27.5s

*ISCJB **31** 11:03:13.1±0.2,51°.41N±0°.01×6°.44E±0°.02, h0km, Error ellipse: s-maj=2.2km s-min=1.9km az=149.3*
*PRU **31** 11:03:13.5,51°.54N×6°.46E, h0km*
*LDG **31** 11:03:14.9±0.1,51°.49N×6°.65E, h1km, Md3.7/3, Ml3.8/36, Error ellipse: s-maj=1.6km s-min=1.2km az=146.0, Suspected Mining induced.*
*BUG **31** 11:03:14.7,51°.43N×6°.59E, h1km, ML3.0*
*CSEM **31** 11:03:14.4±0.1,51°.47N×6°.52E, h1km, ML3.8/29*
*BNS **31** 11:03:15.3±0.8,51°.50N×6°.56E, h1km, ML3.2*

*BGR **31** 11:03:16.0±0.3,51°.47N×6°.59E, h1km, ML3.3/9, Error ellipse: s-maj=4.4km s-min=2.2km az=108.0*
*UCC **31** 11:03:16.3±0.6,51°.46N×6°.61E, h8km±2km, ML3.2*
ISC 31 11:03:13.9±0.7, **51°.43N**±0°.02×**6°.50E**±0°.01, **h0**km, **n224, s19 26**/372, **7C-4D, Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAUG	**Laupendahl**	**0.29**	**106**	*i* Pg	**Pg**	**11 03 20.5**	**+1.1**
LAUG				*e*Sg	**Sg**	**11 03 24.9**	**+1.7**
	1μm,0.5s						
LAUG	**Laupendahl**	**0.29**	**106**	Pg	**Pg**	**11 03 20.5**	**+1.1**
LAUG				Sg	**Sg**	**11 03 24.9**	**+1.7**
	1μm,0.5s						
HKB	**Herkenbosch**	**0.32**	**221**	P	**Pb**	**11 03 23.3**	**+0.8**
HKB				S	**Sb**	**11 03 29.5**	**+1.2**
RODG	**Roetgen-Dahlhe**	**0.35**	**215**	*e*Pg	**Pb**	**11 03 23.8**	**+0.7**
RODG				*e*Sg	**Sb**	**11 03 30.0**	**+0.9**
RODG	**Roetgen-Dahlhe**	**0.35**	**215**	Pg	**Pb**	**11 03 23.8**	**+0.7**
RODG				Sg	**Sb**	**11 03 30.0**	**+0.9**
RWB	**Wassenberg**	**0.40**	**213**	*e*Sg	**Sb**	**11 03 31.4**	**+1.0**
	2μm,0.2s						
RWB	**Wassenberg**	**0.40**	**213**	Sg	**Sb**	**11 03 31.4**	**+1.0**
	2μm,0.2s						
JCK	**Jackerath**	**0.40**	**186**	*e*Pg	**Pb**	**11 03 24.3**	**+0.4**
JCK				*e*Sg	**Sb**	**11 03 30.9**	**+0.4**
	1μm,0.2s						
JCK	**Jackerath**	**0.40**	**186**	Pg	**Pb**	**11 03 24.3**	**+0.4**
JCK				Sg	**Sb**	**11 03 30.9**	**+0.4**
	1μm,0.2s						
OPLO	**Oploo**	**0.46**	**290**	*e*Pg	**Pb**	**11 03 25.0**	**+0.2**
	baz=102						
OPLO				*e*Sg	**Sb**	**11 03 32.7**	**+0.5**
OPLO	**Oploo**	**0.46**	**290**	*e*Pg	**Pb**	**11 03 25.0**	**+0.2**
OPLO				*e*Sg	**Sb**	**11 03 32.7**	**+0.5**
PLH	**Pulheim**	**0.47**	**155**	*e*Pg	**Pb**	**11 03 25.0**	**-0.1**
PLH				*e*Sg	**Sb**	**11 03 32.2**	**-0.4**
	1μm,0.3s						
PLH	**Pulheim**	**0.47**	**155**	Pg	**Pb**	**11 03 25.0**	**-0.1**
PLH				Sg	**Sb**	**11 03 32.2**	**-0.4**
	1μm,0.3s						
BUG	**Bochum--Univer**	**0.48**	**89**	*e*Pg	**Pg**	**11 03 23.6**	**+0.5**
BUG				Sg	**Sg**	**11 03 30.2**	**+0.8**
WTSB	**Winterswijk**	**0.56**	**19**	*e*Pg	**Pg**	**11 03 25.1**	**+0.3**
WTSB				*e*Sg	**Sg**	**11 03 32.4**	**+0.3**
WTSB	**Winterswijk**	**0.56**	**19**	*e*Pg	**Pg**	**11 03 24.8**	**+0.1**
	baz=190						
WTSB				*e*Sg	**Sg**	**11 03 32.4**	**+0.3**
WTSB	**Winterswijk**	**0.56**	**19**	Pg	**Pg**	**11 03 25.1**	**+0.3**
WTSB				Sg	**Sg**	**11 03 32.4**	**+0.3**
ENTS	**Ennepetalsperr**	**0.60**	**108**	*e*Pg	**Pg**	**11 03 26.3**	**+0.9**
BOPT	**Opiter**	**0.63**	**240**	P	**Pn**	**11 03 30.4**	**+0.3**
BNS	**Bensberg**	**0.63**	**138**	⇓ *i*Pg	**Pb**	**11 03 28.2**	**+0.3**
BNS				*e*Sg	**Sb**	**11 03 37.4**	**+0.1**
	692nm,2.3s						
BNS	**Bensberg**	**0.63**	**138**	Pg	**Pb**	**11 03 28.2**	**+0.3**
BNS				Sg	**Sb**	**11 03 37.4**	**+0.1**
	692nm,2.3s						
HOBG	**Hohbusch**	**0.69**	**130**	*e*Pg	**Pb**	**11 03 28.9**	**+0.1**
HOBG				*e*Sg	**Sb**	**11 03 39.3**	**+0.4**
	938nm,0.5s						
HOBG	**Hohbusch**	**0.69**	**130**	Pg	**Pb**	**11 03 28.9**	**+0.1**
HOBG				Sg	**Sb**	**11 03 39.3**	**+0.4**
	938nm,0.5s						
GSH	**Grosshau**	**0.70**	**186**	*e*Pg	**Pb**	**11 03 29.9**	**+0.8**
GSH				*e*Sg	**Sb**	**11 03 40.6**	**+1.3**
	531nm,0.1s						
GSH	**Grosshau**	**0.70**	**186**	Pg	**Pb**	**11 03 29.9**	**+0.8**
GSH				Sg	**Sb**	**11 03 40.6**	**+1.3**
	531nm,0.1s						
HGN	**Heimansgroeve**	**0.76**	**208**	*e*Pg	**Pb**	**11 03 31.1**	**+1.1**
HGN				*e*Sg	**Sb**	**11 03 42.2**	**+1.3**
HGN	**Heimansgroeve**	**0.76**	**208**	*e*Pg	**Pb**	**11 03 31.1**	**+1.1**
	445nm,0.2s,baz=33						
HGN				*e*Sg	**Sb**	**11 03 42.3**	**+1.4**
HGN	**Heimansgroeve**	**0.76**	**208**	Pg	**Pb**	**11 03 31.1**	**+1.1**
HGN				Sg	**Sb**	**11 03 42.2**	**+1.3**
DREG	**Dreilaegerbach**	**0.79**	**193**	*e*Pg	**Pb**	**11 03 31.4**	**+0.9**
DREG				*e*Sg	**Sn**	**11 03 44.0**	**-0.8**
	1μm,0.3s						
DREG	**Dreilaegerbach**	**0.79**	**193**	Pg	**Pb**	**11 03 31.4**	**+0.9**
DREG				Sg	**Sn**	**11 03 44.0**	**-0.8**
	1μm,0.3s						
KLL	**Kalltalsperre**	**0.80**	**189**	*e*Pg	**Pb**	**11 03 31.5**	**+0.8**
KLL				*e*Sg	**Sn**	**11 03 44.2**	**-0.8**
	927nm,0.7s						
KLL	**Kalltalsperre**	**0.80**	**189**	Pg	**Pb**	**11 03 31.5**	**+0.8**
KLL				Sg	**Sn**	**11 03 44.2**	**-0.8**
	927nm,0.7s						
WBS	**Wahnbachtalspe**	**0.80**	**142**	*e*Pg	**Pb**	**11 03 30.8**	**+0.1**
WBS				*e*Sg	**Sb**	**11 03 42.0**	**0.0**
	375nm,0.2s						
WBS	**Wahnbachtalspe**	**0.80**	**142**	Pg	**Pb**	**11 03 30.8**	**+0.1**
WBS				Sg	**Sb**	**11 03 42.0**	**0.0**
	375nm,0.2s						
STB	**Steinbach**	**0.87**	**166**	*e*Pg	**Pb**	**11 03 32.8**	**+0.9**
STB				*e*Sg	**Sb**	**11 03 45.6**	**+1.6**
	831nm,0.3s						
STB	**Steinbach**	**0.87**	**166**	Pg	**Pb**	**11 03 32.8**	**+0.9**
STB				Sg	**Sb**	**11 03 45.6**	**+1.6**
	831nm,0.3s						
MEM	**Membach**	**0.88**	**201**	⇓P	**Pn**	**11 03 33.1**	**-0.5**
MEM	**Membach**	**0.88**	**201**	S	**Sn**	**11 03 46.2**	**-0.8**
	comp=N,575nm,0.2s						
MEM	**Membach**	**0.88**	**201**	P	**Pn**	**11 03 33.0**	**-0.5**
TDN	**Todenfeld**	**0.90**	**162**	*e*Sg	**Sb**	**11 03 46.2**	**+1.1**
TDN	**Todenfeld**	**0.90**	**162**	Sg	**Sb**	**11 03 46.2**	**+1.1**
BMOL	**Mol**	**0.92**	**257**	P	**Pn**	**11 03 34.4**	**+0.4**
BMOL				S	**Sn**	**11 03 47.9**	**0.0**
	comp=N,369nm,0.2s						
SORT	**Sorpetalsperre**	**0.93**	**95**	*e*Pg	**Pg**	**11 03 31.7**	**+0.1**
SORT				*e*Sg	**Sg**	**11 03 43.7**	**+0.1**
OLFT	**Oleftalsperre**	**0.94**	**183**	*e*Pg	**Pn**	**11 03 34.2**	**-0.2**
OLFT				*e*Sg	**Sn**	**11 03 47.9**	**-0.7**
BLCH	**La Chartreuse**	**0.98**	**216**	P	**Pn**	**11 03 35.3**	**+0.4**
BSTI	**Sart Tilman**	**1.04**	**215**	P	**Pn**	**11 03 36.5**	**+0.8**
HILG	**Hillesheim**	**1.15**	**174**	*e*Pg	**Pn**	**11 03 38.1**	**+0.8**
HILG				*e*Sg	**Sn**	**11 03 54.3**	**+0.6**
	comp=N,649nm,0.3s						
HILG	**Hillesheim**	**1.15**	**174**	Pg	**Pn**	**11 03 38.1**	**+0.8**
HILG				Sg	**Sn**	**11 03 54.3**	**+0.6**
	comp=N,649nm,0.3s						
BHE	**Schloss Buerre**	**1.16**	**158**	*e*Pg	**Pn**	**11 03 37.9**	**+0.4**
BHE				*e*Sg	**Sn**	**11 03 54.1**	**+0.1**
	comp=N,194nm,0.4s						
BHE	**Schloss Buerre**	**1.16**	**158**	Pg	**Pn**	**11 03 37.9**	**+0.4**
BHE				Sg	**Sn**	**11 03 54.1**	**+0.1**
	comp=N,194nm,0.4s						
IBBN	**Ibbenburen**	**1.17**	**41**	*e*Pg	**Pg**	**11 03 36.4**	**0.0**
IBBN				*e*Sg	**Sg**	**11 03 51.0**	**-0.6**
IBBN	**Ibbenburen**	**1.17**	**41**	Pg	**Pg**	**11 03 36.4**	**0.0**
LOH	**Wallersheim-Lo**	**1.25**	**179**	*e*Pg	**Pn**	**11 03 39.6**	**+0.9**
LOH				*e*Sg	**Sn**	**11 03 57.7**	**+1.4**
	comp=N,234nm,0.2s						
LOH	**Wallersheim-Lo**	**1.25**	**179**	Pg	**Pn**	**11 03 39.6**	**+0.9**
LOH				Sg	**Sn**	**11 03 57.7**	**+1.4**
	comp=N,234nm,0.2s						
KOE	**Koeppel**	**1.27**	**142**	*e*Pg	**Pb**	**11 03 39.2**	**+0.4**
KOE				*e*Sg	**Sn**	**11 03 56.7**	**-0.1**
KOE	**Koeppel**	**1.27**	**142**	Pg	**Pb**	**11 03 39.2**	**+0.4**
KOE				Sg	**Sn**	**11 03 56.7**	**-0.1**
BGG	**Burgeitz**	**1.34**	**156**	*e*Pg	**Pb**	**11 03 40.9**	**+1.0**
BGG				*e*Sg	**Sn**	**11 03 58.5**	**+0.2**
	comp=N,234nm,0.5s						
BGG	**Burgeitz**	**1.34**	**156**	Pg	**Pb**	**11 03 40.9**	**+1.0**
BGG				Sg	**Sn**	**11 03 58.5**	**+0.2**
	comp=N,234nm,0.5s						
LKLB	**Kalborn**	**1.36**	**191**	P	**Pb**	**11 03 41.3**	**+1.1**
BGES	**Gesves**	**1.38**	**221**	P	**Pb**	**11 03 41.4**	**+0.8**
WIT	**Witteveen**	**1.39**	**4**	*e*Sg	**Sb**	**11 03 59.2**	**+0.2**
WIT	**Witteveen**	**1.39**	**4**	*e*Sg	**Sb**	**11 03 59.2**	**+0.2**
WIT	**Witteveen**	**1.39**	**4**	Sg	**Sb**	**11 03 59.2**	**+0.2**
UCC	**Uccle**	**1.49**	**246**	P	**Pg**	**11 03 44.4**	**+1.9**
UCC				S	**Sn**	**11 04 03.4**	**+1.3**
UCC	**Uccle**	**1.49**	**246**	P	**Pg**	**11 03 44.4**	**+1.9**
UCC				S	**Sn**	**11 04 03.4**	**+1.3**
RCHB	**Rochefort**	**1.51**	**213**	P	**Pg**	**11 03 43.5**	**+0.6**
BRQR	**Ronqui¨ɪre**	**1.66**	**241**	P	**Pb**	**11 03 45.2**	**-0.1**
BRQR				S	**Sn**	**11 04 06.3**	**+0.1**
	comp=N,81nm,0.2s						
ABH	**Alteburg**	**1.69**	**156**	Pn	**Pb**	**11 03 46.1**	**+0.2**
ABH	**Alteburg**	**1.69**	**156**	Pg	**Pg**	**11 03 47.6**	**+1.3**
ABH				Sg	**Sb**	**11 04 08.1**	**+0.4**
GIVF	**Givet**	**1.71**	**219**	*e*Pn	**Pn**	**11 03 45.5**	**+0.6**

	SNR=1.0					
GIVF	**Givet**	**1.71 219**	*e*Pg	**Pg**	**11 03 48.3**	**+1.7**
GIVF			*e*Sn	**Sn**	**11 04 07.5**	**+0.1**
GIVF			*e*Sg	**Sg**	**11 04 11.8**	**+3.1**
	comp=N,440nm,0.3s					
GIVF	**Givet**	**1.71 219**	*e*Pn	**Pn**	**11 03 45.5**	**+0.6**
	SNR=1.0					
GIVF	**Givet**	**1.71 219**	*e*Pg	**Pg**	**11 03 48.3**	**+1.7**
GIVF			*e*Sg	**Sg**	**11 04 11.8**	**+3.1**
	comp=N,220nm,0.3s					
BSKQ	**Steenkerk**	**1.72 244**	P	**Pn**	**11 03 45.9**	**+0.8**
TNS	**Taunus Mts**	**1.73 134**	*e*Pn	**Pn**	**11 03 45.5**	**+0.2**
TNS	**Taunus Mts**	**1.73 134**	Pn	**Pn**	**11 03 45.5**	**+0.2**
RUP	**Ruppelstein**	**1.77 168**	Pn	**Pn**	**11 03 46.6**	**+0.8**
RUP	**Ruppelstein**	**1.77 168**	Pg	**Pg**	**11 03 48.7**	**+0.9**
RUP			Sg	**Sg**	**11 04 11.4**	**+0.7**
WLF	**Walferdange**	**1.79 187**	P	**Pb**	**11 03 48.0**	**+0.5**
WLF			S	**Sn**	**11 04 10.1**	**+0.7**
	comp=N,2µm,0.0s					
WLF	**Walferdange**	**1.79 187**	*e*Pn	**Pg**	**11 03 48.2**	**+0.1**
WLF	**Walferdange**	**1.79 187**	P	**Pb**	**11 03 48.0**	**+0.5**
WLF			S	**Sn**	**11 04 10.0**	**+0.7**
DOU	**Dourbes**	**1.81 223**	∥P	**Pb**	**11 03 47.6**	**-0.2**
DOU			S	**Sb**	**11 04 10.6**	**-0.4**
	comp=Z,128nm,0.6s					
DOU	**Dourbes**	**1.81 223**	P	**Pb**	**11 03 47.6**	**-0.2**
DOU			S	**Sb**	**11 04 10.6**	**-0.4**
	comp=Z,128nm,0.6s					
BBOU	**Bougnies**	**1.93 238**	P	**Pb**	**11 03 49.3**	**-0.6**
BBOU			S	**Sn**	**11 04 10.6**	**-2.2**
	comp=Z,105nm,0.3s					
BAIF	**Baives**	**2.00 228**	*e*Pn	**Pn**	**11 03 49.6**	**+0.6**
	SNR=1.0					
BAIF	**Baives**	**2.00 228**	*e*Pg	**Pg**	**11 03 53.8**	**+1.5**
BAIF			*e*Sn	**Sn**	**11 04 14.7**	**-0.1**
	SNR=1.0					
BAIF			*e*Sg	**Sg**	**11 04 21.2**	**+2.9**
	comp=Z,179nm,0.4s					
BAIF	**Baives**	**2.00 228**	*e*Pn	**Pn**	**11 03 49.6**	**+0.6**
	SNR=1.0					
BAIF	**Baives**	**2.00 228**	*e*Pg	**Pg**	**11 03 53.8**	**+1.5**
BAIF			*e*Sg	**Sg**	**11 04 21.2**	**+2.9**
	comp=Z,90nm,0.4s					
KTD	**Kalmit**	**2.34 154**	Pn	**Pn**	**11 03 55.3**	**+1.5**
KTD	**Kalmit**	**2.34 154**	Pg	**Pg**	**11 04 00.9**	**+2.0**
KTD			Sg	**Sg**	**11 04 29.3**	**+0.1**
TOD	**Tromm**	**2.35 140**	Pn	**Pn**	**11 03 54.6**	**+0.8**
LANF	**Langenberg**	**2.59 161**	Pn	**Pn**	**11 03 58.6**	**+1.4**
LANF	**Langenberg**	**2.59 161**	Pg	**Pg**	**11 04 04.8**	**+1.2**
PAGF	**Fort de Pagny**	**2.92 190**	*e*Pn	**Pn**	**11 04 01.8**	**+0.1**
	baz=16					
PAGF	**Fort de Pagny**	**2.92 190**	*e*Pg	**Pg**	**11 04 10.4**	**+0.4**
	baz=10.0					
PAGF			*e*Sn	**Sn**	**11 04 35.8**	**-1.7**
PAGF			*e*Sg	**Sg**	**11 04 48.8**	**+1.0**
	comp=Z,55nm,0.6s					
PAGF	**Fort de Pagny**	**2.92 190**	*e*Pn	**Pn**	**11 04 01.8**	**+0.1**
	baz=16					
PAGF	**Fort de Pagny**	**2.92 190**	*e*Pg	**Pg**	**11 04 10.4**	**+0.4**
	baz=10.0					
PAGF			*e*Sn	**Sn**	**11 04 35.8**	**-1.7**
PAGF			*e*Sg	**Sg**	**11 04 48.8**	**+1.0**
	comp=Z,27nm,0.6s					
CDF	**Champ du Feu**	**3.06 170**	*e*Pn	**Pn**	**11 04 04.1**	**+0.4**
	SNR=1.0					
CDF	**Champ du Feu**	**3.06 170**	*e*Pg	**Pg**	**11 04 12.9**	**+0.2**
CDF			*e*Sn	**Sn**	**11 04 38.5**	**-2.6**
	SNR=1.0					
CDF			*e*Sg	**Sg**	**11 04 52.4**	**0.0**
	comp=Z,63nm,0.6s,SNR=1.0					
CDF	**Champ du Feu**	**3.06 170**	*e*Pn	**Pn**	**11 04 04.1**	**+0.4**
	SNR=1.0					
CDF	**Champ du Feu**	**3.06 170**	*e*Pg	**Pg**	**11 04 12.9**	**+0.2**
CDF			*e*Sn	**Sn**	**11 04 38.5**	**-2.6**
	SNR=1.0					
CDF			*e*Sg	**Sg**	**11 04 52.4**	**0.0**
	comp=Z,31nm,0.6s,SNR=1.0					
MEZF	**Maizieres J'vi**	**3.08 198**	*e*Pn	**Pn**	**11 04 04.4**	**+0.6**
	baz=24,SNR=1.0					
MEZF	**Maizieres J'vi**	**3.08 198**	*e*Pg	**Pg**	**11 04 13.6**	**+0.7**
	baz=14					
MEZF			*e*Sn	**Sn**	**11 04 39.7**	**-1.6**
	SNR=1.0					
MEZF			*e*Sg	**Sg**	**11 04 53.9**	**+1.1**
	comp=Z,152nm,0.4s,SNR=1.0					
MEZF	**Maizieres J'vi**	**3.08 198**	*e*Pn	**Pn**	**11 04 04.4**	**+0.6**
	baz=24,SNR=1.0					
MEZF	**Maizieres J'vi**	**3.08 198**	*e*Pg	**Pg**	**11 04 13.6**	**+0.7**
	baz=14					
MEZF			*e*Sg	**Sg**	**11 04 53.9**	**+1.1**
	comp=Z,76nm,0.4s,SNR=1.0					
THEF	**They Montfort**	**3.23 186**	Pn	**Pn**	**11 04 06.7**	**+0.9**
THEF	**They Montfort**	**3.23 186**	Pg	**Pg**	**11 04 16.9**	**+1.1**
THEF			Sg	**Sg**	**11 04 57.8**	**+0.2**
ECH	**Echery**	**3.25 172**	Pn	**Pn**	**11 04 06.8**	**+0.6**
MOX	**Moxa**	**3.32 102**	*e*Pn	**Pn**	**11 04 07.4**	**+0.3**
MOX	**Moxa**	**3.32 102**	Pn	**Pn**	**11 04 07.4**	**+0.3**
BFO	**Black Forest**	**3.32 158**	*e*Pn	**Pn**	**11 04 08.0**	**+0.8**
BFO	**Black Forest**	**3.32 158**	Pn	**Pn**	**11 04 08.0**	**+0.8**
SFTF	**Sexfontaines**	**3.37 197**	*e*Pn	**Pn**	**11 04 08.1**	**+0.3**
SFTF	**Sexfontaines**	**3.37 197**	*e*Pg	**Pg**	**11 04 18.6**	**+0.2**
	baz=16					
SFTF			*e*Sn	**Sn**	**11 04 46.8**	**-1.6**
SFTF			*e*Sg	**Sg**	**11 05 02.9**	**+0.8**
	comp=Z,74nm,0.4s					
SFTF	**Sexfontaines**	**3.37 197**	*e*Pn	**Pn**	**11 04 08.1**	**+0.3**
SFTF	**Sexfontaines**	**3.37 197**	*e*Pg	**Pg**	**11 04 18.6**	**+0.2**
	baz=16					
SFTF			*e*Sn	**Sn**	**11 04 46.8**	**-1.6**
SFTF			*e*Sg	**Sg**	**11 05 02.9**	**+0.8**
	comp=Z,37nm,0.4s					
ELSH	**Elham, Standar**	**3.38 267**	*e*P	**Pn**	**11 04 09.6**	**+1.7**
ELSH			*e*S	**Sn**	**11 04 49.5**	**+0.8**
HAU	**Haudompre**	**3.43 182**	*e*Pn	**Pn**	**11 04 08.6**	**-0.1**
	SNR=1.0					
HAU	**Haudompre**	**3.43 182**	*e*Pg	**Pg**	**11 04 19.5**	**-0.2**
HAU			*e*Sn	**Sn**	**11 04 47.7**	**-2.4**
HAU			*e*Sg	**Sg**	**11 05 04.4**	**+0.2**
	comp=Z,89nm,0.4s					
HAU	**Haudompre**	**3.43 182**	*e*Pn	**Pn**	**11 04 08.6**	**-0.1**
	SNR=1.0					
HAU	**Haudompre**	**3.43 182**	*e*Pg	**Pg**	**11 04 19.5**	**-0.2**
HAU			*e*Sn	**Sn**	**11 04 47.7**	**-2.4**
HAU			*e*Sg	**Sg**	**11 05 04.4**	**+0.2**
	comp=Z,44nm,0.4s					
MOF	**Molkenrain**	**3.61 173**	Pn	**Pn**	**11 04 11.7**	**+0.5**
MOF	**Molkenrain**	**3.61 173**	Pg	**Pg**	**11 04 24.5**	**+1.4**
HINF	**Hinteralfeld**	**3.63 176**	*e*Pn	**Pn**	**11 04 11.4**	**0.0**
	SNR=1.0					
HINF	**Hinteralfeld**	**3.63 176**	*e*Pg	**Pg**	**11 04 23.1**	**-0.3**
HINF			*e*Sn	**Sn**	**11 04 52.2**	**-2.7**
HINF			*e*Sg	**Sg**	**11 05 10.2**	**-0.2**
	comp=Z,45nm,0.5s					
HINF	**Hinteralfeld**	**3.63 176**	*e*Pn	**Pn**	**11 04 11.4**	**0.0**
	SNR=1.0					
HINF	**Hinteralfeld**	**3.63 176**	*e*Pg	**Pg**	**11 04 23.1**	**-0.3**
HINF			*e*Sn	**Sn**	**11 04 52.2**	**-2.7**
HINF			*e*Sg	**Sg**	**11 05 10.2**	**-0.2**
	comp=Z,23nm,0.5s					
SPAK	**Spaichingen-Ko**	**3.65 155**	Pn	**Pn**	**11 04 12.8**	**+1.1**
FELD	**Feldberg im Sc**	**3.69 164**	Pn	**Pn**	**11 04 13.1**	**+0.7**
PLN	**Plauen**	**3.70 103**	*e*Pn	**Pn**	**11 04 12.5**	**+0.2**
PLN	**Plauen**	**3.70 103**	Pn	**Pn**	**11 04 12.5**	**+0.2**
WERD	**Werda**	**3.80 103**	*e*Pn	**Pn**	**11 04 13.9**	**+0.1**
WERD	**Werda**	**3.80 103**	Pn	**Pn**	**11 04 13.9**	**+0.1**
WERN	**Wernitzgruen**	**3.89 105**	*e*Pn	**Pn**	**11 04 15.3**	**+0.3**
WERN			*e*Pg	**Pg**	**11 04 27.8**	**-0.7**
WERN	**Wernitzgruen**	**3.89 105**	Pn	**Pn**	**11 04 15.3**	**+0.3**
NKC	**Novy Kostel**	**3.96 105**	*e*PN	**Pn**	**11 04 14.5**	**-1.4**
NKC			*e*PG	**Pg**	**11 04 27.8**	**-1.9**
NKC			*e*SG	**Sg**	**11 05 21.9**	**+0.9**
	comp=Z,23nm,0.8s					
NKC	**Novy Kostel**	**3.96 105**	Pn	**Pn**	**11 04 14.5**	**-1.4**
CLL	**Collm**	**4.08 89**	*e*Pg	**Pg**	**11 04 30.0**	**-2.0**
CLL			*e*Sg	**Sb**	**11 05 19.0**	**+2.7**
CLL	**Collm**	**4.08 89**	*e*Pg	**Pg**	**11 04 30.0**	**-2.0**
CLL			*e*Sg	**Sb**	**11 05 19.0**	**+2.7**
	comp=Z,32nm,0.9s					
LOMF	**Lomont**	**4.09 177**	Pn	**Pn**	**11 04 18.7**	**+0.9**
LOR	**Lormes**	**4.51 204**	*e*Pn	**Pn**	**11 04 23.8**	**+0.3**
	baz=29,SNR=1.0					
LOR			*e*Sn	**Sn**	**11 05 14.3**	**-2.4**
LOR			*e*Sg	**Sg**	**11 05 39.0**	**+0.2**
	comp=Z,49nm,0.3s,SNR=1.0					
LOR	**Lormes**	**4.51 204**	*e*Pn	**Pn**	**11 04 23.8**	**+0.3**
	baz=29,SNR=1.0					
LOR			*e*Sg	**Sg**	**11 05 39.0**	**+0.2**
	comp=Z,24nm,0.3s,SNR=1.0					
DAVA	**Damuels**	**4.70 151**	⇑*i*Pn	**Pn**	**11 04 28.1**	**+1.9**
DAVA			⇑*i*Sn	**Sn**	**11 05 22.0**	**+0.5**
DAVA	**Damuels**	**4.70 151**	Pn	**Pn**	**11 04 28.1**	**+1.9**
DAVA			Sn	**Sn**	**11 05 22.0**	**+0.5**
BRG	**Berggiesshubel**	**4.72 94**	PN	**Pn**	**11 04 26.8**	**+0.5**
BRG			PG	**Pg**	**11 04 45.2**	**+0.9**
BRG			SG	**Sg**	**11 05 46.1**	**+0.7**
	comp=Z,18nm,1.0s					
SSF	**Saint Saulge**	**4.79 205**	*e*Pn	**Pn**	**11 04 27.6**	**+0.2**
	SNR=1.0					
SSF			*e*Sn	**Sn**	**11 05 21.9**	**-1.7**
	SNR=1.0					
SSF			*e*Sg	**Sg**	**11 05 48.0**	**+0.1**
	comp=Z,96nm,0.6s,SNR=1.0					
SSF	**Saint Saulge**	**4.79 205**	*e*Pn	**Pn**	**11 04 27.6**	**+0.2**
	SNR=1.0					
SSF			*e*Sg	**Sg**	**11 05 48.0**	**+0.1**
	comp=Z,48nm,0.6s,SNR=1.0					
CABF	**La Chapelle**	**4.83 183**	*e*Pn	**Pn**	**11 04 28.2**	**+0.2**
	SNR=1.0					
CABF	**La Chapelle**	**4.83 183**	*e*Pg	**Pg**	**11 04 45.7**	**-0.8**
CABF			*e*Sg	**Sg**	**11 05 48.3**	**-0.9**
	comp=Z,79nm,0.8s					
CABF	**La Chapelle**	**4.83 183**	*e*Pn	**Pn**	**11 04 28.2**	**+0.2**
	SNR=1.0					
CABF	**La Chapelle**	**4.83 183**	*e*Pg	**Pg**	**11 04 45.7**	**-0.8**
CABF			*e*Sg	**Sg**	**11 05 48.3**	**-0.9**
	comp=Z,39nm,0.8s					
HYF	**Humbligny**	**4.87 213**	*e*Pn	**Pn**	**11 04 29.6**	**+1.1**
HYF			*e*Sn	**Sn**	**11 05 23.3**	**-2.2**
HYF			*e*Sg	**Sg**	**11 05 50.5**	**+0.1**
HYF	**Humbligny**	**4.87 213**	*e*Pn	**Pn**	**11 04 29.6**	**+1.1**
HYF			*e*Sg	**Sg**	**11 05 50.5**	**+0.1**
MOTA	**Moosalm**	**5.08 142**	⇑*i*Pn	**Pn**	**11 04 32.5**	**+1.1**
MOTA	**Moosalm**	**5.08 142**	Pn	**Pn**	**11 04 32.5**	**+1.1**
AVF	**Avril sur Loir**	**5.08 205**	*e*Pn	**Pn**	**11 04 31.5**	**+0.1**
	SNR=1.0					
AVF			*e*Sn	**Sn**	**11 05 28.0**	**-2.7**
	SNR=1.0					
AVF			*e*Sg	**Sg**	**11 05 57.0**	**-0.2**
	comp=Z,45nm,0.7s					
AVF	**Avril sur Loir**	**5.08 205**	*e*Pn	**Pn**	**11 04 31.5**	**+0.1**
	SNR=1.0					
AVF			*e*Sg	**Sg**	**11 05 57.0**	**-0.2**
	comp=Z,22nm,0.7s					
KHC	**Kasperske Hory**	**5.09 114**	*e*PN	**Pn**	**11 04 30.6**	**-0.8**
KHC			*e*PG	**Pb**	**11 04 45.8**	**+2.0**
KHC			*e*SG	**Sg**	**11 05 57.9**	**+0.6**
	comp=Z,17nm,1.0s					
KHC			AMS	AMS	11 10 10.0	
	comp=Z,200nm,13.1s					
KHC	**Kasperske Hory**	**5.09 114**	Pn	**Pn**	**11 04 30.6**	**-0.8**
KHC			Sg	**Sg**	**11 05 57.9**	**+0.6**
	comp=Z,17nm,1.0s					
SMF	**Signal de Mont**	**5.10 201**	*e*Pn	**Pn**	**11 04 31.7**	**+0.1**
	SNR=1.0					
SMF			*e*Sg	**Sg**	**11 05 57.4**	**-0.3**
	comp=Z,53nm,0.4s					
SMF	**Signal de Mont**	**5.10 201**	*e*Pn	**Pn**	**11 04 31.7**	**+0.1**
	SNR=1.0					
SMF			*e*Sg	**Sg**	**11 05 57.4**	**-0.3**
	comp=Z,26nm,0.4s					
LDF	**La Druitiere**	**5.13 239**	*e*Pn	**Pn**	**11 04 32.7**	**+0.7**
	SNR=1.0					
LDF			*e*Sn	**Sn**	**11 05 29.1**	**-2.7**
LDF			*e*Sg	**Sg**	**11 05 59.0**	**+0.4**
	comp=Z,24nm,0.5s					
LDF	**La Druitiere**	**5.13 239**	*e*Pn	**Pn**	**11 04 32.7**	**+0.7**
	SNR=1.0					
LDF			*e*Sn	**Sn**	**11 05 29.1**	**-2.7**
LDF			*e*Sg	**Sg**	**11 05 59.0**	**+0.4**
	comp=Z,12nm,0.5s					
FETA	**Feichten**	**5.21 146**	⇑*i*Pn	**Pn**	**11 04 34.9**	**+1.7**
FETA	**Feichten**	**5.21 146**	Pn	**Pn**	**11 04 34.9**	**+1.7**
FLN	**La Foliniere**	**5.23 242**	*e*Pn	**Pn**	**11 04 34.1**	**+0.8**
	baz=56,SNR=1.0					
FLN			*e*Sn	**Sn**	**11 05 31.5**	**-2.8**
FLN			*e*Sg	**Sg**	**11 06 02.1**	**+0.3**
	comp=Z,49nm,0.5s					
FLN	**La Foliniere**	**5.23 242**	*e*Pn	**Pn**	**11 04 34.1**	**+0.8**
	baz=56,SNR=1.0					
FLN			*e*Sn	**Sn**	**11 05 31.5**	**-2.8**
FLN			*e*Sg	**Sg**	**11 06 02.1**	**+0.3**
	comp=Z,25nm,0.5s					
WATA	**Walderalm**	**5.27 139**	⇑*i*Pn	**Pn**	**11 04 34.8**	**+0.7**
WATA	**Walderalm**	**5.27 139**	Pn	**Pn**	**11 04 34.8**	**+0.7**
PRU	**Pruhonice**	**5.31 103**	*e*SG	**Sg**	**11 06 05.2**	**+0.8**
	comp=Z,18nm,0.7s					
PRU			AMS	AMS	11 10 50.0	
	comp=Z,200nm,17.2s					
PRU	**Pruhonice**	**5.31 103**	Sg	**Sg**	**11 06 05.2**	**+0.8**
	comp=Z,18nm,0.7s					
WTTA	**Wattenberg**	**5.35 139**	⇑*i*Pn	**Pn**	**11 04 36.2**	**+1.0**
WTTA	**Wattenberg**	**5.35 139**	Pn	**Pn**	**11 04 36.2**	**+1.0**
BGF	**Bois d'Agland**	**5.44 208**	*e*Pn	**Pn**	**11 04 36.3**	**+0.1**
	SNR=1.0					
BGF			*e*Sn	**Sn**	**11 05 36.2**	**-3.3**
	SNR=1.0					
BGF			*e*Sg	**Sg**	**11 06 08.0**	**-0.6**
	comp=Z,107nm,0.4s,SNR=1.0					
BGF	**Bois d'Agland**	**5.44 208**	*e*Pn	**Pn**	**11 04 36.3**	**+0.1**
	SNR=1.0					
GRR	**Gorron**	**5.65 240**	*e*Pn	**Pn**	**11 04 39.8**	**+0.7**
	SNR=1.0					
GRR			*e*Sn	**Sn**	**11 05 40.5**	**-4.1**
GRR	**Gorron**	**5.65 240**	*e*Pn	**Pn**	**11 04 39.8**	**+0.7**
	SNR=1.0					
AGO	**Saint Agoulin**	**5.83 204**	Pn	**Pn**	**11 04 42.7**	**+1.1**
TCF	**Toulx Ste Croi**	**5.88 210**	*e*Pn	**Pn**	**11 04 42.1**	**-0.1**
TCF			*e*Sn	**Sn**	**11 05 46.5**	**-3.8**
TCF			*e*Sg	**Sg**	**11 06 21.6**	**-1.0**
	comp=Z,23nm,0.5s					
TCF	**Toulx Ste Croi**	**5.88 210**	*e*Pn	**Pn**	**11 04 42.1**	**-0.1**
LPL	**La Plagne**	**5.92 178**	*e*Pn	**Pn**	**11 04 42.5**	**-0.6**
LPL			*e*Sg	**Sg**	**11 06 22.0**	**-2.1**
	comp=Z,2.2nm,0.4s					
LPL	**La Plagne**	**5.92 178**	*e*Pn	**Pn**	**11 04 42.5**	**-0.6**
MCH1	**Michaelchurch**	**5.93 279**	*e*P	**Pn**	**11 04 42.2**	**-0.8**
LPG	**La Plagne**	**5.94 178**	*e*Pn	**Pn**	**11 04 42.9**	**-0.5**
LPG			*e*Sg	**Sg**	**11 06 22.8**	**-1.9**
	comp=Z,2.9nm,0.5s					
LPG	**La Plagne**	**5.94 178**	*e*Pn	**Pn**	**11 04 42.9**	**-0.5**
PYM	**Petit Puy Mans**	**6.14 204**	Pn	**Pn**	**11 04 47.3**	**+1.4**
FOEL	**Foel Wylfa**	**6.15 288**	*e*P	**Pn**	**11 04 47.6**	**+1.7**
MOA	**Molln**	**6.19 122**	⇑*i*Pn	**Pn**	**11 04 47.0**	**+0.5**
MOA	**Molln**	**6.19 122**	Pn	**Pn**	**11 04 47.0**	**+0.5**
KBA	**Koelnbreinsper**	**6.25 132**	∥*i*Pn	**Pn**	**11 04 48.4**	**+0.9**
KBA	**Koelnbreinsper**	**6.25 132**	Pn	**Pn**	**11 04 48.4**	**+0.9**
DPC	**Dobruska-Polom**	**6.31 96**	*e*SG	**Sg**	**11 06 38.5**	**+2.1**
DPC	**Dobruska-Polom**	**6.31 96**	Sg	**Sg**	**11 06 38.5**	**+2.1**
MFF	**Saint Martin d**	**6.52 225**	*e*Pn	**Pn**	**11 04 51.3**	**+0.3**
	SNR=1.0					
MFF			*e*Sn	**Sn**	**11 06 02.7**	**-3.3**
	SNR=1.0					
MFF			*e*Sg	**Sg**	**11 06 42.1**	**-1.0**
	comp=Z,14nm,0.5s					
MFF	**Saint Martin d**	**6.52 225**	*e*Pn	**Pn**	**11 04 51.3**	**+0.3**
	SNR=1.0					
ORIF	**Oris-en-Rattie**	**6.53 184**	*e*Pn	**Pn**	**11 04 51.0**	**-0.3**
	SNR=1.0					
ORIF			*e*Sg	**Sg**	**11 06 40.6**	**-3.1**
	comp=Z,12nm,0.6s					
ORIF	**Oris-en-Rattie**	**6.53 184**	*e*Pn	**Pn**	**11 04 51.0**	**-0.3**
	SNR=1.0					
SGMF	**Saint Gilles**	**6.67 245**	*e*Pn	**Pn**	**11 04 52.7**	**-0.3**
SGMF			*e*Sn	**Sn**	**11 06 06.1**	**-3.6**
SGMF			*e*Sg	**Sg**	**11 06 46.8**	**-1.1**
	comp=Z,44nm,0.8s					
SGMF	**Saint Gilles**	**6.67 245**	*e*Pn	**Pn**	**11 04 52.7**	**-0.3**
VIVF	**Saint-Julien-l**	**6.69 191**	*e*Pn	**Pn**	**11 04 53.2**	**-0.3**
	SNR=1.0					
VIVF			*e*Sg	**Sg**	**11 06 46.6**	**-2.2**
	comp=Z,16nm,0.6s					
VIVF	**Saint-Julien-l**	**6.69 191**	*e*Pn	**Pn**	**11 04 53.2**	**-0.3**
	SNR=1.0					
MBDF	**Montbardon**	**6.71 178**	*e*Pn	**Pn**	**11 04 53.3**	**-0.6**
MBDF	**Montbardon**	**6.71 178**	*e*Pn	**Pn**	**11 04 53.3**	**-0.6**
RJF	**Les Rejaudoux**	**6.97 210**	*e*Pn	**Pn**	**11 04 57.1**	**-0.2**
	SNR=1.0					
RJF			*e*Sn	**Sn**	**11 06 13.3**	**-3.9**
RJF			*e*Sg	**Sg**	**11 06 56.0**	**-1.7**
	comp=Z,25nm,0.6s					
RJF	**Les Rejaudoux**	**6.97 210**	*e*Pn	**Pn**	**11 04 57.1**	**-0.2**
	SNR=1.0					
ROSF	**Rostrenen**	**7.04 248**	*e*Pn	**Pn**	**11 04 57.8**	**-0.3**
ROSF			*e*Sn	**Sn**	**11 06 13.8**	**-4.9**
	SNR=1.0					
ROSF			*e*Sg	**Sg**	**11 06 58.5**	**-1.2**
	comp=Z,8.3nm,0.6s					
ROSF	**Rostrenen**	**7.04 248**	*e*Pn	**Pn**	**11 04 57.8**	**-0.3**
CAF	**Calviac**	**7.15 206**	*e*Pn	**Pn**	**11 04 59.6**	**-0.2**
	SNR=1.0					
CAF			*e*Sn	**Sn**	**11 06 16.3**	**-5.5**
	SNR=1.0					
CAF			*e*Sg	**Sg**	**11 07 01.6**	**-2.0**
	comp=Z,24nm,0.7s					
CAF	**Calviac**	**7.15 206**	*e*Pn	**Pn**	**11 04 59.6**	**-0.2**
	SNR=1.0					
QUIF	**Quistinic**	**7.19 244**	*e*Pn	**Pn**	**11 04 59.8**	**-0.4**
	SNR=1.0					
QUIF			*e*Sn	**Sn**	**11 06 19.3**	**-3.3**
	SNR=1.0					
QUIF			*e*Sg	**Sg**	**11 07 03.3**	**-1.4**
	comp=Z,20nm,0.6s					
QUIF	**Quistinic**	**7.19 244**	*e*Pn	**Pn**	**11 04 59.8**	**-0.4**
	SNR=1.0					
LFF	**La Frestale**	**7.55 213**	*e*Pn	**Pn**	**11 05 04.9**	**-0.3**
	SNR=1.0					
LFF			*e*Sn	**Sn**	**11 06 27.0**	**-4.4**
	SNR=1.0					
LFF			*e*Sg	**Sg**	**11 07 14.0**	**-2.3**
	comp=Z,49nm,0.7s					
LFF	**La Frestale**	**7.55 213**	*e*Pn	**Pn**	**11 05 04.9**	**-0.3**
	SNR=1.0					
LASF	**Ste Croix**	**7.57 195**	*e*Pn	**Pn**	**11 05 05.0**	**-0.5**
	SNR=1.0					
LASF			*e*Sg	**Sg**	**11 07 14.3**	**-2.7**
	comp=Z,20nm,0.7s					
LASF	**Ste Croix**	**7.57 195**	*e*Pn	**Pn**	**11 05 05.0**	**-0.5**
	SNR=1.0					
OKC	**Ostrava-Krasne**	**7.58 98**	AMS	AMS	11 11 40.0	
	comp=Z,300nm,11.2s					
MTLF	**Montolieu**	**8.60 201**	*e*Pn	**Pn**	**11 05 19.0**	**-0.6**
MTLF			*e*Sg	**Sg**	**11 07 46.5**	**-3.4**
	comp=Z,14nm,0.8s					
MTLF	**Montolieu**	**8.60 201**	*e*Pn	**Pn**	**11 05 19.0**	**-0.6**
EPF	**Esparros**	**9.39 209**	*e*Pn	**Pn**	**11 05 30.0**	**-0.5**
EPF			*e*Sg	Sn	**11 08 11.5**	**+55**
	comp=Z,8.7nm,0.6s					
EPF	**Esparros**	**9.39 209**	*e*Pn	**Pn**	**11 05 30.0**	**-0.5**
ETSF	**Etsaut**	**9.79 212**	*e*Pn	**Pn**	**11 05 35.6**	**-0.4**
ETSF			*e*Sg	Sn	**11 08 24.1**	**+57**
	comp=Z,19nm,1.1s					
ETSF	**Etsaut**	**9.79 212**	*e*Pn	**Pn**	**11 05 35.6**	**-0.4**
SJPF	**Ste Jean**	**9.84 215**	*e*Pn	**Pn**	**11 05 36.1**	**-0.4**
SJPF			*e*Sg	Sn	**11 08 25.5**	**+58**
	comp=Z,17nm,0.8s					
SJPF	**Ste Jean**	**9.84 215**	*e*Pn	**Pn**	**11 05 36.1**	**-0.4**

*ROM **31** 11:05:39.9±0.1, 42°.25N×13°.50E, h10km, Ml3.8/29, Error ellipse: s-maj=0.9km s-min=0.7km az=46.0*
*CSEM **31** 11:05:40.8±0.1, 42°.26N×13°.37E, h2km, ML4.1/5, Error ellipse: s-maj=3.6km s-min=3.1km az=4.0*
*ISCJB **31** 11:05:40.1±0.3, 42°.27N±0°.02×13°.44E±0°.02, h1km±2km, mb3.7/6, Error ellipse: s-maj=2.8km s-min=2.2km az=32.5*
*LDG **31** 11:05:40.3±0.1, 42°.21N×13°.46E, h2km, Ml3.7/5, Error ellipse: s-maj=2.9km s-min=1.9km az=29.0*
*IDC **31** 11:05:42.4±1.0, 42°.37N×13°.51E, h0km, mb3.6/7, mb1 3.8/13, mb1mx3.7/32, mbtmp3.7/13, ML3.6/5, MS2.9/3, Ms1 2.9/3, ms1mx2.7/37, Error ellipse: s-maj=17.0km s-min=13.7km az=94.0*
*PRU **31** 11:05:42.5, 42°.25N×13°.61E, h0km*
ISC 31 11:05:41.2±0.5, 42°.26N±0°.02×13°.42E±0°.02, h7km±3km, n181, σ1s72/215, mb3.8/6, 11C-11D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.09**	**352**	Pg	**Pg**	**11 05 43.5**	**+0.1**
AQU				Sg	**Sg**	**11 05 45.7**	**+0.7**
	98µm,0.8s						
AQU	**L'Aquila**	**0.09**	**352**	Pg	**Pg**	**11 05 43.5**	**+0.1**
AQU				Sg	**Sg**	**11 05 45.7**	**+0.7**
	98µm,0.8s						
FAGN	**Fagnano**	**0.12**	**88**	Pg	**Pg**	**11 05 42.6**	**-1.3**
FAGN				Sg	**Sg**	**11 05 44.0**	**-1.7**
FAGN	**Fagnano**	**0.12**	**

CESX	Cesi	0.71	299	Pg	Pb	11 05 54.3	-1.6
	2µm,0.6s							
GIUL	Giuliano Di Ro	0.71	190	Pg	Pg	11 05 53.8	-1.1
	3µm,1.1s							
GIUL	Giuliano Di Ro	0.71	190	Pg	Pg	11 05 53.8	-1.1
	3µm,1.1s							
RDP	Rocca di Papa	0.73	226	Pg	Pb	11 05 54.4	-1.8
	6µm,0.5s							
RDP	Rocca di Papa	0.73	226	Pg	Pb	11 05 54.4	-1.8
	6µm,0.5s							
RNI2	Rionero Sannit	0.78	135	Pg	Pg	11 05 54.3	-1.9
	5µm,0.9s							
CERA	Filignano	0.80	146	Pg	Pg	11 05 54.3	-2.3
	3µm,0.7s							
FDMO	Fiordimonte	0.81	343	Pg	Pg	11 05 55.7	-1.1
	1µm,0.6s							
FDMO	Fiordimonte	0.81	343	Pg	Pg	11 05 55.7	-1.1
	1µm,0.6s							
CESI	CESI - Serrava	0.83	333	Pg	Pg	11 05 56.6	-0.6
	767nm,0.7s							
CESI	CESI - Serrava	0.83	333	Pg	Pg	11 05 56.6	-0.6
	767nm,0.7s							
MIDA	Miranda	0.88	135	Pg	Pg	11 05 55.6	-2.5
	3µm,0.8s							
GUMA	Gualdo di Mace	0.89	25	Pg	Pg	11 05 55.9	-2.3
	9µm,0.7s							
GUMA	Gualdo di Mace	0.89	25	Pg	Pg	11 05 55.9	-2.3
	9µm,0.7s							
ASSB	Assisi San Ben	0.96	324	Pg	Pg	11 05 58.8	-0.9
	3µm,1.0s							
ASSB	Assisi San Ben	0.96	324	Pg	Pg	11 05 58.8	-0.9
	3µm,1.0s							
MS1	Monte Sant'Ang	1.96	106	*e*Pn	Pn	11 06 16.2	+1.3
MS1				*e*Sn	Sb	11 06 44.1	+2.1
NVLJ	Novalja	2.53	24	*i* Pn	Pn	11 06 22.4	-0.3
NVLJ				*i* Sn	Sn	11 06 53.1	-0.6
NVLJ	Novalja	2.53	24	*i* Pn	Pn	11 06 22.3	-0.3
NVLJ				*i* Sn	Sn	11 06 53.1	-0.6
UDBI	Udbina	2.84	36	*i* Pn	Pn	11 06 27.6	+0.6
UDBI				*i* Sn	Sn	11 07 03.1	+1.7
UDBI	Udbina	2.84	36	*i* Pn	Pn	11 06 27.5	+0.6
UDBI				*i* Sn	Sn	11 07 03.1	+1.7
OSPF	L'Ospedale	3.21	261	P	Pn	11 06 33.0	+0.9
STON	Ston	3.22	78	*e*Pn	Pn	11 06 31.6	-0.5
STON				*e*Sn	Sn	11 07 09.7	-1.1
STON	Ston	3.22	78	*e*Pn	Pn	11 06 31.6	-0.5
STON				*e*Sn	Sn	11 07 09.6	-1.1
PGF	Pioggiola	3.29	276	*e*Pn	Pn	11 06 34.1	+0.9
PGF	Pioggiola	3.29	276	*e*Pn	Pn	11 06 34.1	+0.9
SKDS	Skadanscina	3.31	7	*i* Pn	Pn	11 06 33.0	-0.4
SKDS				*i* Sn	Sn	11 07 13.2	+0.1
SKDS	Skadanscina	3.31	7	Pn	Pn	11 06 33.0	-0.4
SKDS				*i* Sn	Sn	11 07 13.2	+0.1
PE1	Pezze di Greco	3.34	115	*e*Pn	Pn	11 06 34.0	+0.2
BOJS	Bojanci	3.50	22	*i* Pn	Pn	11 06 36.9	+0.9
BOJS				*i* Sn	Sn	11 07 21.9	+4.2
BOJS	Bojanci	3.50	22	*i* Pn	Pn	11 06 36.9	+0.9
BOJS				*i* Sn	Sn	11 07 21.9	+4.2
JAVS	Javornik	3.66	7	*i* Pn	Pn	11 06 38.6	+0.3
JAVS				*i* Sn	Sn	11 07 22.3	+0.5
JAVS	Javornik	3.66	7	*i* Pn	Pn	11 06 38.6	+0.3
JAVS				*i* Sn	Sn	11 07 22.3	+0.5
VISS	Visnje	3.69	16	*i* Pn	Pn	11 06 39.4	+0.8
VISS				*i* Sn	Sn	11 07 23.0	+0.8
VISS	Visnje	3.69	16	*i* Pn	Pn	11 06 39.3	+0.8
VISS				*i* Sn	Sn	11 07 23.0	+0.8
HCY	Herceg Novi	3.77	85	⇓*i* Pn	Pn	11 06 41.1	+1.4
HCY				*i* Sn	Sn	11 07 26.9	+2.7
VOY	Vojsko	3.78	5	*e*Pn	Pn	11 06 39.8	-0.2
VOY				*e*		11 06 44.2		
VOY				*e*		11 07 00.7		
VOY				*e*Sn	Sn	11 07 24.1	-0.7
VOY	Vojsko	3.78	5	*e*Pn	Pn	11 06 39.8	-0.2
VOY				*e*Sn	Sn	11 07 24.1	-0.7
BRY	Bratogost	3.83	79	⇓*i* Pn	Pn	11 06 41.8	+1.1
BRY				*i* Sn	Sn	11 07 28.5	+2.4
LJU	Ljubljana	3.86	12	*i* Pn	Pn	11 06 41.2	+0.2
LJU				*i* Sn	Sn	11 07 28.3	+1.6
LJU	Ljubljana	3.86	12	*i* Pn	Pn	11 06 41.2	+0.2
LJU				*i* Sn	Sn	11 07 28.3	+1.6
BUM	Brajici-Budva	4.06	88	⇑*i* Pn	Pn	11 06 45.1	+1.3
BUM				*i* Sn	Sn	11 07 31.6	0.0
UPM	Unac-Piva	4.15	75	⇑*i* Pn	Pn	11 06 46.6	+1.5
UPM				*i* Sn	Sn	11 07 35.5	+1.6
NKY	Niksic	4.16	81	⇑*i* Pn	Pn	11 06 46.2	+1.1
NKY				*i* Sn	Sn	11 07 36.4	+2.4
PDG	Podgorica	4.33	86	⇓*i* Pn	Pn	11 06 49.0	+1.6
PDG				*i* Sn	Sn	11 07 40.4	+2.3
ULC	Ulcinj	4.34	92	⇓*i* Pn	Pn	11 06 49.0	+1.4
ULC				*i* Sn	Sn	11 07 40.8	+2.3
ABTA	Abfaltersbach	4.53	352	⇑*i* Pn	Pn	11 06 48.2	-2.0
ABTA	Abfaltersbach	4.53	352	Pn	Pn	11 06 48.2	-2.0
PERS	Pernice	4.54	15	*i* Pn	Pn	11 06 53.2	+2.9
PERS				*i* Sn	Sn	11 07 45.4	+2.0
PERS	Pernice	4.54	15	*i* Pn	Pn	11 06 53.2	+2.9
PERS				*i* Sn	Sn	11 07 45.4	+2.0
SAOF	Saorge	4.62	294	P	Pn	11 06 52.8	+1.3
SBF	Sospel	4.67	292	*e*Pn	Pn	11 06 51.7	-0.4
SBF	Sospel	4.67	292	*e*Pn	Pn	11 06 51.7	-0.4
BBLS	Lazići	4.67	68	*e*Pn	Pn	11 06 52.8	+0.6
AUTN	L'Aution	4.71	294	P	Pn	11 06 54.9	+2.0
LUCF	Luceram	4.74	292	P	Pn	11 06 54.9	+1.8
BEY	Berane	4.82	81	⇑*i* Pn	Pn	11 06 55.9	+1.7
BEY				*i* Sn	Sn	11 07 52.5	+2.2
TOUF	Mont Tournerai	4.84	293	P	Pn	11 06 55.9	+1.2
TEKS	Tekeris	5.00	61	*e*Pn	Pn	11 06 59.1	+2.4
CALN	Calern	5.01	289	P	Pn	11 06 59.7	+2.7
FRF	La Foret Royal	5.14	287	*e*Pn	Pn	11 06 57.0	-1.6
FRF				*e*Sn	Sn	11 07 53.7	-4.4
	7.5nm,0.6s							
FRF	La Foret Royal	5.14	287	*e*Pn	Pn	11 06 57.0	-1.6
FRF				*e*Sn	Sn	11 07 53.7	-4.4
	3.8nm,0.6s							
DIVS	Divibare	5.14	67	*e*Pn	Pn	11 06 59.6	+0.9
DAVOX	Davos/Dischmat	5.18	332	Pn	Pn	11 07 01.8	+2.5
	2.8nm,0.3s,baz=161,slow=19,SNR=12							
DAVOX				Sn	Sn	11 08 02.6	+3.3
	1.0nm,0.3s,baz=336,slow=23,SNR=3.4							
LMR	La Mourre	5.20	284	*e*Pn	Pn	11 06 57.6	-1.7
LMR				*e*Sn	Sn	11 07 54.8	-4.7
	44nm,1.1s							
LMR	La Mourre	5.20	284	*e*Pn	Pn	11 06 57.6	-1.7
LMR				*e*Sn	Sn	11 07 54.8	-4.7
	22nm,1.1s							
PHP	Peshkopia	5.27	94	*e*PN	Pn	11 07 03.5	+3.2
PHP	Peshkopia	5.27	94	*e*Pn	Pn	11 07 03.5	+3.2
MBDF	Montbardon	5.43	299	*e*P	Pn	11 07 04.9	+2.3
MBDF	Montbardon	5.43	299	*e*P	Pn	11 07 04.9	+2.3
KEK	Kerkira	5.46	116	*e*P	Pn	11 07 04.0	+1.1
SELS	Selova	5.75	78	*e*Pn	Pn	11 07 06.6	-0.4
LPG	La Plagne	5.80	306	*e*P	Pn	11 07 11.0	+3.1
LPL	La Plagne	5.81	306	*e*P	Pn	11 07 10.8	+2.6
SMRF	Simiane la Rot	5.99	289	*e*Pn	Pn	11 07 08.3	-2.0
SMRF	Simiane la Rot	5.99	289	*e*Pn	Pn	11 07 08.3	-2.0
ORIF	Oris-en-Rattie	6.08	298	*e*P	Pn	11 07 14.3	+2.7
ZST	Bratislava	6.48	22	*e*PN	Pn	11 07 17.0	+0.2
ZST	Bratislava	6.48	22	*e*Pn	Pn	11 07 17.1	+0.2
GERES	GERESS Array B	6.59	2	Pn	Pn	11 07 18.9	+0.4
	0.2nm,0.3s,baz=181,slow=13,SNR=5.9							
GERES				Sn	Sn	11 08 32.6	-1.3
	0.7nm,0.3s,baz=172,slow=23,SNR=4.1							
GERES				LR	LR	11 09 43.9		
	comp=Z,56nm,19.4s,baz=135,slow=37							
FELD	Feldberg im Sc	6.80	328	P	Pn	11 07 23.7	+2.3
CABF	La Chapelle	6.81	306	*e*Pn	Pn	11 07 20.0	-1.6
CABF	La Chapelle	6.81	312	*e*Pn	Pn	11 07 20.0	-1.6
VIVF	Saint-Julien-l	6.86	295	*e*Pn	Pn	11 07 20.1	-2.1
VIVF	Saint-Julien-l	6.86	295	*e*Pn	Pn	11 07 20.1	-2.1
KHC	Kasperske Hory	6.87	1	*e*PN	Pn	11 07 24.8	+2.5
KHC				*e*SN	Sn	11 08 39.3	-1.5
KHC	Kasperske Hory	6.87	1	Pn	Pn	11 07 24.8	+2.5
KHC				Sn	Sn	11 08 39.3	-1.5
MOF	Molkenrain	7.14	324	P	Pn	11 07 28.0	+1.9
LASF	Ste Croix	7.22	288	*e*Pn	Pn	11 07 25.0	-2.2
LASF	Ste Croix	7.22	288	*e*Pn	Pn	11 07 25.0	-2.2
HINF	Hinteralfeld	7.24	322	*e*Pn	Pn	11 07 25.7	-1.7
HINF				*e*Sn	Sn	11 08 44.4	-5.5
	33nm,0.9s							
HINF	Hinteralfeld	7.24	322	*e*Pn	Pn	11 07 25.7	-1.7
KEST	Kesra	7.25	207	Pn	Pn	11 07 33.0	+5.4
	0.7nm,0.3s,baz=330,slow=3.4,SNR=13							
KEST				LR	LR	11 10 35.3		
	comp=Z,145nm,19.3s,baz=28,slow=40							
VTS	Vitosha	7.25	84	⇑*i* P	Pn	11 07 29.0	+1.3
VTS	Vitosha	7.25	84	⇑*i* P	Pn	11 07 29.0	+1.3
VYHS	Vyhne	7.30	30	*e*PN	Pn	11 07 27.6	-0.7
VYHS	Vyhne	7.30	30	*e*Pn	Pn	11 07 27.6	-0.7
VRAC	Vranov	7.39	16	LR	LR	11 10 31.8		
	comp=Z,133nm,21.0s,baz=149,slow=40							
ECH	Echery	7.41	326	P	Pn	11 07 31.7	+1.9
AGG	Agios Georgios	7.51	113	*e*P	Pn	11 07 35.5	+4.4
CDF	Champ du Feu	7.52	327	*e*Pn	Pn	11 07 29.4	-1.9
CDF				*e*Sn	Sn	11 08 51.1	-5.7
	64nm,1.3s							
CDF	Champ du Feu	7.52	327	*e*Pn	Pn	11 07 29.4	-1.9
EFP	Efpalio	7.53	118	*e*P	Pn	11 07 34.5	+3.2
HAU	Haudompre	7.61	321	*e*Pn	Pn	11 07 31.0	-1.5
HAU				*e*Sn	Sn	11 08 53.1	-5.9
	45nm,0.9s							
HAU	Haudompre	7.61	321	*e*Pn	Pn	11 07 31.0	-1.5
TRIZ	Trizonia	7.67	118	*e*P	Pn	11 07 36.5	+3.2
LAKA	Lakka	7.68	119	*e*P	Pn	11 07 36.0	+2.5
KLV	Kalavryta, Ach	7.90	119	*e*P	Pn	11 07 38.5	+2.0
THEF	They Montfort	7.94	321	P	Pn	11 07 39.2	+2.2
DRGR		8.03	53	⇓*i* P	Pn	11 07 41.6	+3.3
DRGR		8.03	53	⇓*i* P	Pn	11 07 41.6	+3.3
GUR	Goura	8.09	119	*e*P	Pn	11 07 42.0	+2.9
MTLF	Montolieu	8.31	281	*e*Pn	Pn	11 07 39.7	-2.4
PYL	PYLOS	8.37	127	*e*P	Pn	11 07 43.5	+0.7
LOR	Lormes	8.44	310	*e*Pn	Pn	11 07 41.9	-2.0
LOR	Lormes	8.44	310	*e*Pn	Pn	11 07 41.9	-2.0
SSF	Saint Saulge	8.54	308	*e*Pn	Pn	11 07 43.1	-2.1
SSF	Saint Saulge	8.54	308	*e*Pn	Pn	11 07 43.1	-2.1
BRG	Berggiesshubel	8.62	2	SG	Sg	11 10 01.1	-17
	6.5nm,0.9s							
ARR	Arges	8.68	65	⇓*i* P	Pn	11 07 49.8	+2.6
ARR	Arges	8.68	65	⇓*i* P	Pn	11 07 49.8	+2.6
VOIR		8.98	65	⇓*i* P	Pn	11 07 54.0	+2.6
VOIR		8.98	65	⇓*i* P	Pn	11 07 54.0	+2.6
STHS	Stebnicka Huta	9.00	35	*e*PN	Pn	11 07 53.0	+1.5
STHS	Stebnicka Huta	9.00	35	*e*Pn	Pn	11 07 53.0	+1.5
MLR	Muntele Rosu	9.60	66	⇑*i* P	Pn	11 08 02.0	+2.1
MLR	Muntele Rosu	9.60	66	Pn	Pn	11 08 01.6	+1.7
	baz=272,slow=4.5,SNR=10							
MLR	Muntele Rosu	9.60	66	⇑*i* P	Pn	11 08 02.0	+2.1
BURAR	Bucovina Array	9.93	53	⇓*i* P	Pn	11 08 08.8	+4.5
PLOR	Plostina	10.18	65	⇑*i* P	Pn	11 08 10.1	+2.4
PLOR	Plostina	10.18	65	⇑*i* P	Pn	11 08 10.1	+2.4
ESDC	Sonseca Array	13.39	265	Pn	P	11 08 56.3	-5.0
	0.4nm,0.3s,baz=72,slow=14,SNR=4.1							
NOA	NORSAR Array B	18.85	357	P	Pn	11 10 01.8	-0.3
	0.1nm,0.3s,baz=172,slow=9.8,SNR=2.8							
FINES	FINESS Array B	20.67	17	P	Pn	11 10 23.4	-0.2
	5.7nm,1.0s,baz=167,slow=9.4,SNR=8.3							
KBZ	Khabaz	21.56	76	P	P	11 10 33.4	+2.2
	4.5nm,1.0s,baz=272,slow=4.0,SNR=6.6							
TORD	Torodi Ar. Bea	30.74	203	P	P	11 11 58.5	+1.4
	1.0nm,0.8s,baz=13,slow=8.5,SNR=6.3							
ZALV	Zalesovo Beam	47.12	50	P	P	11 14 14.9	+1.3
	0.3nm,0.4s,baz=294,slow=7.7,SNR=2.8							
MKAR	Makanchi Array	47.88	60	P	P	11 14 21.1	+1.3
	0.3nm,0.6s,baz=297,slow=5.3,SNR=4.7							
SONM	Songino Array	62.02	50	P	P	11 16 03.5	+1.3
	0.8nm,1.0s,baz=286,slow=7.7,SNR=4.4							
ILAR	Eielson Array	72.19	351	P	P	11 17 09.3	+3.0
	0.6nm,0.9s,baz=356,slow=4.4,SNR=6.0							

IDC 31 11:32:59.1±4.0, 25.40N×95.95E, h83km±42km, mb3.2/5, mb1 3.6/6, mb1mx3.1/28, mbtmp3.1/6, Error ellipse: s-maj=66.8km s-min=17.3km az=65.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	7.45	157	P	Pn	11 34 45.2	+0.1
	0.3nm,0.3s,baz=327,slow=13,SNR=4.9						
SONM	Songino Array	23.87	18	P	P	11 38 04.5	-0.4
	0.5nm,0.9s,baz=208,slow=8.1,SNR=2.7						
MKAR	Makanchi Array	23.96	336	P	P	11 38 04.5	-1.1
	1.1nm,0.7s,baz=147,slow=12,SNR=7.8						
KURBB	Kurchatov Arra	28.53	336	P	P	11 38 47.9	+1.3
	0.3nm,0.4s,baz=157,slow=10,SNR=2.9						
WRA	Warramunga Arr	58.52	137	P	P	11 42 46.8	-0.2
	0.9nm,0.9s,baz=325,slow=7.1,SNR=3.6						
ASAR	Alice Springs	61.08	140	P	P	11 43 04.7	+0.1
	0.3nm,0.8s,baz=322,slow=7.0,SNR=4.8						

HEL 31 11:40:55.6±0.5, 69.39N×30.69E, h0km, ML1.1, Explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEV	Kevo	1.35	288	*e*P	Pg	11 41 19.5	-1.8
KEV				*e*S	Sg	11 41 36.9	-1.9
KEV				*e*RG	Rg	11 41 42.0	
VRF	Varrio	1.69	194	*e*S	Sn	11 41 47.3	-1.4
VRF				MSG		11 41 47.3	
	comp=Z,1.0nm,0.2s						
ARA0	ARCESS Array S	1.84	277	*e*PG	Pn	11 41 28.8	+0.4
ARA0				*e*SN	Sn	11 41 52.7	+0.4
ARA0				MSG		11 41 52.7	
	comp=Z,1.2nm,0.3s						
HEF	Hetta	2.73	252	*e*SB	Sb	11 42 17.2	-2.0
HEF				MSG		11 42 17.2	
	comp=Z,0.4nm,0.2s						

HEL 31 11:41:47.7±0.2, 68.11N×33.03E, h0km, ML1.5, Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRF	Varrio	1.34	256	*e*PB	Pg	11 42 11.8	-1.6
VRF				*e*SB	Sg	11 42 29.5	-1.3
VRF				MSG		11 42 29.5	
	comp=Z,4.2nm,0.4s						
KU6	Riekki	2.43	212	*e*P	Pn	11 42 28.5	0.0
KU6				*e*SG	Sb	11 43 02.3	-0.3
KU6				MSG		11 43 02.3	
	comp=Z,1.3nm,0.4s						
SGF	Sodankyl	2.56	258	MSG	S	11 43 01.9	-0.3
	comp=Z,1.1nm,0.4s						
SGF				*e*S	S	11 43 01.9	-0.3
MSF	Maaselka	2.71	217	*e*SG	Sb	11 43 10.6	0.0
KEV	Kevo	2.73	310	MSG	S	11 43 07.5	+1.1
	comp=Z,2.9nm,0.4s						
KEV				*e*S	S	11 43 07.5	+1.1
RNF	Rovaniemi	3.10	244	*e*P	Pn	11 42 37.0	-0.8
LANU	Lannavaara	4.14	274	*e*SG	Sb	11 43 54.6	+2.7

*IDC **31** 12:13:23.0±4.2, 30.39N×141.25E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/23, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=173.3km s-min=22.3km az=73.0*
*JMA **31** 12:13:24.5±0.4, 30.97N×142.62E, h86km, M3.5*

ISC 31 12:13:22.4±1.5, 30.88N±0.10×142.8E±0.2, h30km, n13, σ1°46/20, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	4.07	338	*e*S	Sn	12 15 10.1	+1.6
BSO3	Boso 3	4.37	334	*e*S	Sn	12 15 16.7	+0.5
BSO4	Boso 4	4.60	334	*e*S	Sn	12 15 24.4	+2.2
JOD2	Odawara 2	5.38	325	P	Pn	12 14 42.2	+1.6
JOD2				*e*S	Sn	12 15 39.9	-1.7
JHU	Hanno	5.78	330	P	Pn	12 14 47.7	+1.6
JHU				*e*S	Sn	12 15 49.7	-1.6
JHO	Hitachi	6.02	342	P	Pn	12 14 50.3	+0.9
JHO				*e*S	Sn	12 15 59.9	-1.3
JRY	Ryogami san	6.08	328	P	Pn	12 14 50.9	+0.6
JRY				*e*S	Sn	12 15 57.8	-1.1
JAG	Ashikaga	6.20	334	P	Pn	12 14 52.8	+0.9
JAG				*e*S	Sn	12 16 00.7	-1.1
MJAR	Matsushiro Arr	6.83	327	Pn	Pn	12 15 01.4	+0.8
	0.9nm,0.3s,baz=161,slow=11,SNR=11						
MJAR				Sn	Sn	12 16 16.3	-1.1
	0.2nm,0.3s,baz=169,slow=20,SNR=3.5						
JMK	Ichinoseki	8.16	351	P	Pn	12 15 20.2	+1.4
JMK				*e*S	Sn	12 16 47.2	-2.8
SONM	Songino Array	32.49	312	P	P	12 19 49.9	-0.5
	0.2nm,0.3s,baz=120,slow=8.5,SNR=3.8						
WRA	Warramunga Arr	51.18	190	P	P	12 22 22.5	-0.5
	0.6nm,0.5s,baz=6.7,slow=7.7,SNR=5.7						
ASAR	Alice Springs	54.91	190	P	P	12 22 50.4	-0.1
	0.2nm,0.4s,baz=357,slow=4.7,SNR=5.1						

IDC 31 12:13:38.6±74.0, 20.95S×179.69W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.7/3, Error ellipse: s-maj=1331.0km s-min=173.0km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	36.17	244	P	P	12 20 44.0	+0.9
	1.4nm,0.8s,baz=96,slow=9.3,SNR=3.9						
ASAR	Alice Springs	42.88	257	P	P	12 21 38.5	-0.7
	0.6nm,0.6s,baz=102,slow=7.6,SNR=15						
WRA	Warramunga Arr	42.98	263	P	P	12 21 39.6	-0.4
	0.3nm,0.5s,baz=98,slow=8.7,SNR=5.5						

IDC 31 12:47:52.4±52.0, 16.90S×174.90W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.8/19, mbtmp4.3/3, Error ellipse: s-maj=985.0km s-min=158.7km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	42.05	241	P	P	12 55 46.5	+0.5
	2.4nm,0.6s,baz=75,slow=11,SNR=17						
WRA	Warramunga Arr	48.12	258	P	P	12 56 34.2	-0.3
	1.2nm,0.4s,baz=96,slow=7.2,SNR=19						
ASAR	Alice Springs	48.29	253	P	P	12 56 35.3	-0.6
	3.5nm,0.4s,baz=94,slow=7.5,SNR=99						

JMA 31 13:12:40.9±0.1, 29.53N×139.95E, h449km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	Chichi jima	3.12	140	P	P	13 13 49.2	+0.3
JHHJ	Haha-jima-NKT	3.50	145	*e*S	S	13 14 48.0	-1.3
JHJ2	Mitsune	3.57	358	P	P	13 13 53.3	+1.1
JHJ2				*e*S	S	13 14 49.7	-0.6
BSO1	Boso 1	5.18	9	*e*S	S	13 15 16.3	+0.4
BSO3	Boso 3	5.28	5	*e*S	S	13 15 17.1	-1.1
BSO4	Boso 4	5.45	3	*e*S	S	13 15 22.2	+0.5
JIE	Ise	5.58	331	P	P	13 14 11.9	+1.2
JKN2	Miekihoku	5.64	327	P	P	13 14 12.2	+0.8
JNY	Yasuok	6.07	344	P	P	13 14 17.2	+1.3
JRY	Ryogami san	6.53	353	P	P	13 14 21.6	+1.0
JYT	Yasato	6.68	2	P	P	13 14 23.5	+1.4
JAG	Ashikaga	6.89	357	P	P	13 14 25.0	+0.7
JHO	Hitachi	7.08	4	*e*S	S	13 15 50.7	-2.0
JMK	Ichinoseki	9.46	6	P	P	13 14 56.5	+4.6

*NEIC **31** 13:22:38.3, 45.44S×166.78E, h13km, ML4.7(WEL), After WEL.*

WEL 31 13:22:37.5±0.2, 45.43S×166.76E, h24km±1km, ML4.6/25, 3C-1D, Error ellipse: s-maj=2.1km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	Deep Cove	0.28	100	P*	Pb	13 22 44.0	-0.2
DCZ				S*	Sb	13 22 48.1	-0.6
DCZ	Deep Cove	0.28	100	P*	Pb	13 22 43.9	-0.2
DCZ				S*	Sb	13 22 48.1	-0.6
DCZ				AML	AML	13 22 48.4	
DCZ				AML	AML	13 22 48.5	
DCZ				AML	AML	13 22 48.6	
WHZ	Wether Hill Ro	0.96	120	P*	Pb	13 22 55.3	-0.1
WHZ	Wether Hill Ro	0.96	120	PN	Pb	13 22 55.3	-0.1
WHZ				AML	AML	13 23 09.5	
WHZ				AML	AML	13 23 11.2	
MLZ	Mavora Lakes	1.00	86	P*	Pn	13 22 55.1	-1.0
MLZ				S*	Sb	13 23 08.0	-1.0
MLZ	Mavora Lakes	1.00	86	PN	Pn	13 22 55.1	-1.0
MLZ				SN	Sb	13 23 08.0	-1.0
MLZ				AML	AML	13 23 10.2	
MSZ	Milford Sound	1.12	48	P*	Pn	13 22 56.8	-0.9
MSZ	Milford Sound	1.12	48	⇓PN	Pn	13 22 56.8	-0.9
MSZ				AML	AML	13 23 16.7	
MSZ				AML	AML	13 23 16.7	
MSZ				AML	AML	13 23 16.9	
MSZ				AML	AML	13 23 16.9	
APZ	The Paps	1.65	149	Pn	Pb	13 23 06.8	-0.4
APZ	The Paps	1.65	149	⇑PN	Pb	13 23 06.8	-0.4
WKZ	Wanaka	1.71	70	Pn	Pb	13 23 07.2	-1.1
WKZ	Wanaka	1.71	70	PN	Pb	13 23 07.2	-1.1
WKZ				AML	AML	13 23 39.6

*DDA **31** 13:24:53.3, 39°.12N×29°.03E, h18km, ML3.9*
*ISK **31** 13:24:53.0, 39°.11N×29°.06E, h5km, MD3.3*
*CSEM **31** 13:24:54.1±0.1, 39°.10N×29°.07E, h2km, ML3.9, Error ellipse: s-maj=1.8km s-min=1.7km az=47.0*
*THE **31** 13:24:55.7, 38°.97N×29°.13E, h8km±2km, ML3.3/2, Error ellipse: s-maj=2.6km s-min=0.9km az=147.0*

ISC 31 13:24:54.0±1.1, 39°.12N±0°.01×29°.07E±0°.01, h3km±9km, n162, σ1♀01/212, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.28**	**255**	*i* P	**Pg**	**13 24 59.5**	**0.0**
DEMI				*i* S	**Sg**	**13 25 02.8**	**-0.4**
DEMI	**Demirci**	**0.28**	**255**	*i* P	**Pg**	**13 24 59.5**	**0.0**
DEMI				*i* S	**Sg**	**13 25 02.8**	**-0.4**
TVSB	**Tavsanli**	**0.45**	**42**	*e*PG	**Pg**	**13 25 03.1**	**+0.5**
TVSB				*e*SG	**Sg**	**13 25 09.7**	**+1.2**
TVSB	**Tavsanli**	**0.45**	**42**	*e*Pg	**Pg**	**13 25 03.2**	**+0.5**
TVSB				*e*Sg	**Sg**	**13 25 09.7**	**+1.2**
DST	**Dursunbey**	**0.60**	**324**	*e*PG	**Pg**	13 25 05.3	-0.2
DST	**Dursunbey**	**0.60**	**324**	*e*Pg	**Pg**	13 25 05.3	-0.2
DURS	**Dursunbey**	**0.67**	**317**	*i* P	**Pg**	13 25 06.6	-0.2
DURS				*e*S	**Sg**	13 25 15.3	-0.2
DURS	**Dursunbey**	**0.67**	**317**	*i* P	**Pg**	13 25 06.6	-0.2
DURS				*e*S	**Sg**	13 25 15.3	-0.2
KULA	**Kula-Manisa**	**0.68**	**208**	*e*PG	**Pg**	13 25 06.8	-0.2
KULA	**Kula-Manisa**	**0.68**	**208**	P	**Pg**	13 25 06.7	-0.3
KULA				S	**Sg**	13 25 15.3	-0.5
KULA	**Kula-Manisa**	**0.68**	**208**	*e*Pg	**Pg**	13 25 06.8	-0.2
KULA				S	**Sg**	13 25 15.3	-0.5
MANT	**Manisa**	**0.74**	**213**	*i* P	**Pg**	**13 25 07.8**	**-0.4**
MANT				*i* S	**Sg**	**13 25 16.8**	**-1.0**
MANT	**Manisa**	**0.74**	**213**	*i* P	**Pg**	13 25 07.8	-0.4
MANT				*i* S	**Sg**	13 25 16.8	-1.0
ALT	**Altintas**	**0.81**	**94**	*e*PG	**Pg**	13 25 09.9	+0.4
ALT				*e*SG	**Sb**	13 25 22.1	0.0
ALT	**Altintas**	**0.81**	**94**	P	**Pg**	13 25 09.6	+0.1
ALT				S	**Sb**	13 25 22.2	0.0
ALT	**Altintas**	**0.81**	**94**	P	**Pg**	13 25 09.6	+0.1
ALT	**Altintas**	**0.81**	**94**	*e*Pg	**Pg**	13 25 09.9	+0.4
ALT				*e*Sg	**Sb**	13 25 22.1	0.0
KHAL	**Karahalli**	**0.81**	**156**	*i* P	**Pg**	13 25 09.9	+0.4
KHAL				*i* S	**Sg**	13 25 20.4	+0.3
KHAL	**Karahalli**	**0.81**	**156**	*i* P	**Pg**	13 25 09.9	+0.4
KHAL				*i* S	**Sg**	13 25 20.4	+0.3
KHL	**Karahalli**	**0.87**	**156**	*e*PG	**Pg**	13 25 10.9	+0.3
KHL	**Karahalli**	**0.87**	**156**	*e*Pg	**Pg**	13 25 10.9	+0.3
ORLT	**Orhaneli**	**0.94**	**352**	*e*PG	**Pg**	13 25 11.8	-0.2
ORLT	**Orhaneli**	**0.94**	**352**	*e*Pg	**Pg**	13 25 11.8	-0.2
AKHS	**Akhisar**	**1.01**	**257**	*i* P	**Pg**	13 25 12.9	-0.3
AKHS				*i* S	**Sg**	13 25 25.8	-0.5
AKHS	**Akhisar**	**1.01**	**257**	*i* P	**Pg**	13 25 12.9	-0.3
AKHS				*i* S	**Sg**	13 25 25.8	-0.5
ULDT	**Uludag**	**1.03**	**3**	*i* P	**Pg**	13 25 13.3	-0.4
ULDT				*i* S	**Sg**	13 25 26.9	-0.1
ULDT	**Uludag**	**1.03**	**3**	*i* P	**Pg**	13 25 13.3	-0.4
ULDT				*i* S	**Sg**	13 25 26.9	-0.1
BALB	**Balikesir**	**1.06**	**300**	*e*PG	**Pg**	13 25 14.4	+0.1
BALB	**Balikesir**	**1.06**	**300**	*e*Pg	**Pg**	13 25 14.4	+0.1
CAVI	**Cavuskoy**	**1.24**	**29**	*e*PN	**Pg**	13 25 17.7	0.0
CAVI	**Cavuskoy**	**1.24**	**29**	*e*Pn	**Pg**	13 25 17.7	0.0
MDNY	**Mudanya-Bursa**	**1.26**	**354**	*e*PN	**Pg**	13 25 17.8	-0.3
MDNY	**Mudanya-Bursa**	**1.26**	**354**	*e*Pn	**Pg**	13 25 17.8	-0.3
KCTX	**Karacabey (Bur**	**1.27**	**335**	*e*PN	**Pg**	13 25 18.1	-0.3
KCTX	**Karacabey (Bur**	**1.27**	**335**	*e*Pn	**Pg**	13 25 18.1	-0.3
BALY	**Balya**	**1.28**	**299**	*i* P	**Pg**	13 25 18.5	-0.1
BALY				*i* S	**Sg**	13 25 34.1	-1.2
BALY	**Balya**	**1.28**	**299**	*i* P	**Pg**	13 25 18.5	-0.1
BALY				*i* S	**Sg**	13 25 34.1	-1.2
SHUT	**Suhut-Afyon**	**1.28**	**115**	*e*PN	**Pn**	13 25 19.3	+0.3
SHUT	**Suhut-Afyon**	**1.28**	**115**	*e*Pn	**Pn**	13 25 19.3	+0.3
BORA	**Eskisehir**	**1.31**	**54**	*i* P	**Pg**	13 25 19.2	0.0
BORA				*i* S	**Sn**	13 25 37.3	-0.2
BORA	**Eskisehir**	**1.31**	**54**	*i* P	**Pg**	13 25 19.2	0.0
BORA				*i* S	**Sn**	13 25 37.3	-0.2
ADVT	**Abdulvahap**	**1.41**	**21**	*e*PN	**Pb**	13 25 20.9	-0.1
ADVT	**Abdulvahap**	**1.41**	**21**	*e*Pn	**Pb**	13 25 20.9	-0.1
GONE	**Gonen-Balikesi**	**1.42**	**311**	*e*PN	**Pn**	13 25 20.6	-0.1
GONE	**Gonen-Balikesi**	**1.42**	**311**	*e*Pn	**Pn**	13 25 20.6	-0.1
ESKT	**Eskisehir**	**1.44**	**73**	*e*PN	**Pn**	13 25 21.1	+0.1
ESKT	**Eskisehir**	**1.44**	**73**	*e*Pn	**Pn**	13 25 21.2	+0.1
SEYT	**Eskypehyr**	**1.44**	**73**	*i* P	**Pn**	13 25 20.9	-0.1
SEYT				*i* S	**Sb**	13 25 38.3	-1.9
SEYT	**Eskypehyr**	**1.44**	**73**	*i* P	**Pn**	13 25 20.9	-0.1
SEYT				*i* S	**Sb**	13 25 38.3	-1.9
ARMT	**Armutlu**	**1.46**	**354**	*e*PN	**Pn**	13 25 21.5	+0.3
ARMT	**Armutlu**	**1.46**	**354**	*e*Pn	**Pn**	13 25 21.5	+0.3
YLV	**Yalova**	**1.47**	**9**	*e*PN	**Pb**	13 25 21.8	-0.2
YLV	**Yalova**	**1.47**	**9**	*e*Pn	**Pb**	13 25 21.8	-0.2
GPA	**Golpazari**	**1.51**	**39**	*e*PN	**Pb**	13 25 22.5	-0.2
GPA	**Golpazari**	**1.51**	**39**	*e*Pn	**Pb**	13 25 22.5	-0.2
BOLV	**Bolvadin**	**1.52**	**105**	*i* P	**Pn**	13 25 22.4	+0.2
BOLV				*i* S	**Sg**	13 25 43.1	+0.3
BOLV	**Bolvadin**	**1.52**	**105**	*i* P	**Pn**	13 25 22.4	+0.2
BOLV				*i* S	**Sg**	13 25 43.1	+0.3
BNT	**Bandirma**	**1.52**	**325**	*e*PN	**Pb**	13 25 22.7	-0.2
BNT	**Bandirma**	**1.52**	**325**	*e*Pn	**Pb**	13 25 22.7	-0.2
IZM	**Izmir**	**1.58**	**244**	*e*PN	**Pn**	13 25 23.4	+0.4
IZM	**Izmir**	**1.58**	**244**	*e*Pn	**Pn**	13 25 23.4	+0.4
ISP	**Isparta**	**1.72**	**138**	*e*PN	**Pn**	13 25 25.1	+0.1
ISP	**Isparta**	**1.72**	**138**	P	**Pn**	13 25 23.4	-1.5
ISP				S	**Sn**	13 25 32.0	-5.5
ISP	**Isparta**	**1.72**	**138**	P	**Pn**	13 25 23.4	-1.5
ISP	**Isparta**	**1.72**	**138**	*e*Pn	**Pn**	13 25 25.1	+0.1
GULT	**Gulveren**	**1.72**	**40**	*e*PN	**Pn**	13 25 25.2	+0.3
GULT	**Gulveren**	**1.72**	**40**	*e*Pn	**Pn**	13 25 25.2	+0.3
BUY	**Buyukada**	**1.73**	**1**	*e*PN	**Pn**	13 25 25.6	+0.6
BUY	**Buyukada**	**1.73**	**1**	*i* P	**Pn**	13 25 24.3	-0.7
BUY				*i* S	**Sn**	13 25 43.0	-4.6
BUY	**Buyukada**	**1.73**	**1**	*i* P	**Pn**	13 25 24.3	-0.7
BUY	**Buyukada**	**1.73**	**1**	*e*Pn	**Pn**	13 25 25.6	+0.6
SPNC	**Sapanca-Adapaz**	**1.83**	**31**	*e*PN	**Pn**	13 25 26.9	+0.5
SPNC	**Sapanca-Adapaz**	**1.83**	**31**	*e*Pn	**Pn**	13 25 26.9	+0.5
AYVA	**Ayvalik**	**1.86**	**277**	*i* P	**Pb**	13 25 28.1	-0.5
AYVA				*i* S	**Sb**	13 25 52.9	+0.7
AYVA	**Ayvalik**	**1.86**	**277**	*i* P	**Pb**	13 25 28.1	-0.5
AYVA				*i* S	**Sb**	13 25 52.9	+0.7
KRBG	**Karabiga-Canak**	**1.87**	**314**	*e*PN	**Pn**	13 25 27.1	+0.3
KRBG	**Karabiga-Canak**	**1.87**	**314**	*e*Pn	**Pn**	13 25 27.1	+0.3
GOLH	**Golhisar**	**1.92**	**168**	*i* P	**Pn**	13 25 27.2	-0.4
GOLH				*i* S	**Sg**	13 26 00.8	+5.4
GOLH	**Golhisar**	**1.92**	**168**	*i* P	**Pn**	13 25 27.2	-0.4
SVRH	**Sivrihisar-ESK**	**1.93**	**79**	*e*PN	**Pn**	13 25 28.0	+0.2
SVRH	**Sivrihisar-ESK**	**1.93**	**79**	*e*Pn	**Pn**	13 25 28.0	+0.2
ISK	**Istanbul-Kandi**	**1.95**	**360**	*e*PN	**Pn**	13 25 28.5	+0.5
ISK	**Istanbul-Kandi**	**1.95**	**360**	P	**Pb**	13 25 29.3	-0.8
ISK				S	**Sg**	13 25 56.3	-0.2
ISK	**Istanbul-Kandi**	**1.95**	**360**	*e*Pn	**Pn**	13 25 28.5	+0.5
ISK	**Istanbul-Kandi**	**1.95**	**360**	P	**Pb**	13 25 29.3	-0.8
ISK				S	**Sg**	13 25 56.3	-0.2
YER	**Yerkesik**	**2.07**	**198**	*e*PN	**Pn**	13 25 29.9	+0.2
YER	**Yerkesik**	**2.07**	**198**	*e*Pn	**Pn**	13 25 29.9	+0.2
BGKT	**Bogazkoy**	**2.08**	**354**	*e*PN	**Pn**	13 25 30.0	+0.3
BGKT	**Bogazkoy**	**2.08**	**354**	*e*Pn	**Pn**	13 25 30.0	+0.3
SILT	**Sile**	**2.08**	**12**	*e*PN	**Pn**	13 25 30.9	+1.1
SILT	**Sile**	**2.08**	**12**	*e*Pn	**Pn**	13 25 30.9	+1.1
MLSB	**Milas**	**2.08**	**210**	*e*PN	**Pn**	13 25 30.1	+0.2
MLSB	**Milas**	**2.08**	**210**	*e*Pn	**Pn**	13 25 30.1	+0.2
MDUB	**Mudurnu**	**2.12**	**50**	*e*PN	**Pn**	13 25 31.1	+0.7
MDUB	**Mudurnu**	**2.12**	**50**	*e*Pn	**Pn**	13 25 31.2	+0.7
KLYT	**Kilyos**	**2.13**	**359**	*e*PN	**Pn**	13 25 31.4	+0.9
KLYT	**Kilyos**	**2.13**	**359**	*e*Pn	**Pn**	13 25 31.4	+0.9
RKY	**Sarkoy-Tekirda**	**2.14**	**318**	*e*PN	**Pn**	13 25 31.6	+0.9
RKY	**Sarkoy-Tekirda**	**2.14**	**318**	*e*Pn	**Pn**	13 25 31.6	+0.9
SART	**Tekirdag**	**2.14**	**318**	*i* P	**Pn**	13 25 31.3	+0.6
SART				*i* S	**Sb**	13 26 00.2	-0.3
SART	**Tekirdag**	**2.14**	**318**	*i* P	**Pn**	13 25 31.3	+0.6
SART				*i* S	**Sb**	13 26 00.2	-0.3
CTKS	**Kestanelik-??a**	**2.16**	**349**	*e*PN	**Pn**	13 25 31.9	+1.1
CTKS	**Kestanelik-??a**	**2.16**	**349**	*e*Pn	**Pn**	13 25 32.0	+1.1
MFT	**Murefte**	**2.16**	**321**	*e*PN	**Pn**	13 25 31.9	+0.9
MFT	**Murefte**	**2.16**	**321**	*e*Pn	**Pn**	13 25 31.9	+0.9
PRK	**Paraskevi**	**2.18**	**274**	P	**Pn**	13 25 31.9	+0.8
PRK				S	**Sn**	13 25 59.8	+1.2
PRK	**Paraskevi**	**2.18**	**274**	*e*P	**Pn**	13 25 30.5	-0.6
PRK	**Paraskevi**	**2.18**	**274**	P	**Pn**	13 25 31.9	+0.8
PRK				S	**Sn**	13 25 59.8	+1.2
KIZT	**Kizilcal**	**2.20**	**95**	*e*PN	**Pn**	13 25 32.2	+0.6
KIZT	**Kizilcal**	**2.20**	**95**	*e*Pn	**Pn**	13 25 32.2	+0.6
SLVT	**Silivri**	**2.21**	**343**	*e*PN	**Pn**	**13 25 32.5**	**+0.9**
SLVT	**Silivri**	**2.21**	**343**	*e*Pn	**Pn**	**13 25 32.5**	**+0.9**
TKR	**Tekirdag**	**2.21**	**328**	*e*PN	**Pn**	**13 25 31.9**	**+0.3**
TKR	**Tekirdag**	**2.21**	**328**	*e*Pn	**Pn**	**13 25 31.9**	**+0.3**
SUTC	**Sutluce-Ispart**	**2.23**	**137**	*e*PN	**Pn**	**13 25 32.7**	**+0.7**
SUTC	**Sutluce-Ispart**	**2.23**	**137**	*e*Pn	**Pn**	**13 25 32.7**	**+0.7**
EZN	**Ezine**	**2.24**	**289**	*e*PN	**Pn**	**13 25 32.2**	**+0.3**
EZN	**Ezine**	**2.24**	**289**	*e*Pn	**Pn**	**13 25 32.2**	**+0.3**
SMG	**Samos**	**2.25**	**232**	P	**Pn**	**13 25 31.6**	**-0.5**
SMG				S	**Sn**	**13 26 01.6**	**+1.2**
SMG	**Samos**	**2.25**	**232**	*e*P	**Pn**	**13 25 31.5**	**-0.5**
SMG	**Samos**	**2.25**	**232**	P	**Pn**	**13 25 31.6**	**-0.5**
SMG				S	**Sn**	**13 26 01.6**	**+1.2**
DALY	**Dalyan (Mu¨la**	**2.32**	**188**	*e*PN	**Pn**	**13 25 33.0**	**0.0**
DALY	**Dalyan (Mu¨la**	**2.32**	**188**	*e*Pn	**Pn**	**13 25 33.0**	**0.0**
GELI	**Tayfur-Gelibol**	**2.38**	**303**	*e*PN	**Pn**	**13 25 34.6**	**+0.8**
GELI	**Tayfur-Gelibol**	**2.38**	**303**	*e*Pn	**Pn**	**13 25 34.6**	**+0.8**
CTYL	**Yal??k??y-??at**	**2.43**	**346**	*e*PN	**Pn**	**13 25 35.0**	**+0.4**
CTYL	**Yal??k??y-??at**	**2.43**	**346**	*e*Pn	**Pn**	**13 25 35.0**	**+0.4**
ELL	**Elmali**	**2.46**	**164**	*e*PN	**Pn**	**13 25 35.1**	**+0.1**
ELL	**Elmali**	**2.46**	**164**	*e*Pn	**Pn**	**13 25 35.1**	**+0.1**
CHOS	**Chios island**	**2.47**	**254**	P	**Pn**	**13 25 34.7**	**-0.5**
CHOS				S	**Sn**	**13 26 06.1**	**+0.2**
CHOS	**Chios island**	**2.47**	**254**	*e*P	**Pn**	**13 25 34.5**	**-0.7**
CHOS	**Chios island**	**2.47**	**254**	P	**Pn**	**13 25 34.7**	**-0.5**
CHOS				S	**Sn**	**13 26 06.1**	**+0.2**
BODT	**Bodrum**	**2.48**	**215**	*e*PN	**Pn**	**13 25 35.7**	**+0.4**
BODT	**Bodrum**	**2.48**	**215**	*e*Pn	**Pn**	**13 25 35.7**	**+0.4**
FETY	**Fethiye**	**2.48**	**180**	*e*PN	**Pn**	**13 25 35.8**	**+0.6**
FETY	**Fethiye**	**2.48**	**180**	*e*Pn	**Pn**	**13 25 35.8**	**+0.6**
SIGR	**SIGRI**	**2.50**	**273**	P	**Pn**	**13 25 36.2**	**+0.7**
SIGR				S	**Sn**	**13 26 07.6**	**+1.0**
SIGR	**SIGRI**	**2.50**	**273**	P	**Pn**	**13 25 36.2**	**+0.7**
SIGR				S	**Sn**	**13 26 07.6**	**+1.0**
DAT	**Datca**	**2.66**	**207**	*e*PN	**Pn**	**13 25 38.6**	**+0.8**
DAT	**Datca**	**2.66**	**207**	*e*Pn	**Pn**	**13 25 38.6**	**+0.8**
PHSR	**Pinarhisar**	**2.78**	**335**	*e*PN	**Pn**	**13 25 40.7**	**+1.4**
PHSR	**Pinarhisar**	**2.78**	**335**	*e*Pn	**Pn**	**13 25 40.7**	**+1.4**
KONT	**Konya--Tatoy**	**2.83**	**113**	*e*PN	**Pn**	**13 25 40.7**	**+0.6**
KONT	**Konya--Tatoy**	**2.83**	**113**	*e*Pn	**Pn**	**13 25 40.7**	**+0.6**
ALN	**Alexandroupoli**	**2.93**	**308**	P	**Pn**	**13 25 43.6**	**+2.2**
ALN				S	**Sn**	**13 26 18.8**	**+1.7**
ALN	**Alexandroupoli**	**2.93**	**308**	*e*P	**Pn**	**13 25 43.0**	**+1.6**
ALN	**Alexandroupoli**	**2.93**	**308**	P	**Pn**	**13 25 43.6**	**+2.2**
ALN				S	**Sn**	**13 26 18.8**	**+1.7**
SMTH	**Samothraki Isl**	**3.04**	**298**	P	**Pn**	**13 25 44.8**	**+1.8**
SMTH				S	**Sn**	**13 26 21.6**	**+1.6**
SMTH	**Samothraki Isl**	**3.04**	**298**	*e*P	**Pg**	**13 25 51.0**	**-1.3**
SMTH	**Samothraki Isl**	**3.04**	**298**	P	**Pn**	**13 25 44.8**	**+1.8**
SMTH				S	**Sn**	**13 26 21.6**	**+1.6**
LIA	**Limnos Island**	**3.11**	**286**	P	**Pn**	**13 25 44.3**	**+0.4**
LIA	**Limnos Island**	**3.11**	**286**	*e*P	**Pn**	**13 25 44.0**	**+0.1**
LIA	**Limnos Island**	**3.11**	**286**	P	**Pn**	**13 25 44.3**	**+0.4**
EDRB	**Edirne**	**3.25**	**328**	*e*PN	**Pn**	**13 25 46.8**	**+0.9**
EDRB	**Edirne**	**3.25**	**328**	P	**Pn**	**13 25 47.6**	**+1.7**
EDRB				S	**Sn**	**13 26 24.2**	**-1.0**
EDRB	**Edirne**	**3.25**	**328**	*e*Pn	**Pn**	**13 25 46.8**	**+0.9**
EDRB	**Edirne**	**3.25**	**328**	P	**Pn**	**13 25 47.6**	**+1.7**
EDRB				S	**Sn**	**13 26 24.2**	**-1.0**
RDO	**Rodhopi**	**3.38**	**308**	*e*P	**Pn**	**13 25 49.5**	**+1.8**
SAFT	**Safranbolu**	**3.49**	**51**	*e*PN	**Pn**	**13 25 50.3**	**+1.1**
SAFT	**Safranbolu**	**3.49**	**51**	*e*Pn	**Pn**	**13 25 50.3**	**+1.1**
JMB	**Yambol**	**3.84**	**331**	P	**Pn**	**13 25 56.8**	**+2.8**
JMB	**Yambol**	**3.84**	**331**	P	**Pn**	**13 25 56.8**	**+2.8**

*ISCJB **31** 13:55:11.7±0.7, 7°.4S±0°.1×12°.8W±0°.2, h10km, mb4.0/10, MS3.9/5, Error ellipse: s-maj=24.2km s-min=12.7km az=28.4*
*IDC **31** 13:55:11.9±0.8, 7°.33S×12°.78W, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.0/26, mbtmp4.1/11, ML3.5/1, MS3.8/6, Ms1 3.8/6, ms1mx3.5/36, Error ellipse: s-maj=28.5km s-min=18.7km az=113.0*

ISC 31 13:55:13.5±0.8, 7°.3S±0°.1×12°.8W±0°.2, h10km, n16, σ1♀24/14, mb4.1/10, MS4.1/5, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIC	**Lamto**	**15.53**	**30**	*e*P	**P**	**13 58 58.4**	**+1.4**
	74nm,0.8s						
KIC	**Kosan Boka**	**15.79**	**31**	*e*P	**Pn**	**13 58 57.1**	**+1.0**
	43nm,1.0s						
TIC	**Toumodi**	**15.89**	**29**	*e*P	**P**	**13 58 58.5**	**-2.6**
	76nm,0.9s						
DBIC	**Dimbokro**	**15.99**	**30**	Pn	**Pn**	**13 58 57.5**	**-1.2**
	0.2nm,0.3s,baz=190,slow=12,SNR=8.4						
DBIC				LR	LR	14 03 53.4	
	comp=Z,148nm,21.7s,baz=172,slow=33						
TORD	**Torodi Ar. Bea**	**24.91**	**35**	P	**P**	**14 00 36.4**	**-0.5**
	6.1nm,0.8s,baz=218,slow=9.8,SNR=31						
TORD				LR	LR	14 09 03.0	
	comp=Z,153nm,21.6s,baz=225,slow=33						
BOSA	**Boshof**	**41.62**	**125**	P	**P**	**14 03 01.4**	**-0.9**
	13nm,1.0s,baz=302,slow=8.0,SNR=9.4						
BOSA				LR	LR	14 17 31.1	
	comp=Z,253nm,18.5s,baz=308,slow=32						
KEST	**Kesra**	**47.63**	**24**	P	**P**	**14 03 51.1**	**+1.2**
	1.2nm,0.8s,baz=230,slow=5.3,SNR=4.2						
KEST				LR	LR	14 23 42.5	
	comp=Z,60nm,20.4s,baz=191,slow=36						
KMBO	**Kilima Mbogo**	**50.23**	**85**	LR	LR	14 23 58.7	
	comp=Z,205nm,18.3s,baz=265,slow=34						
LPAZ	**La Paz**	**54.78**	**255**	P	**P**	**14 04 44.1**	**-0.6**
	0.4nm,0.4s,baz=288,slow=3.2,SNR=2.7						
DAVOX	**Davos/Dischmat**	**57.52**	**18**	P	**P**	**14 05 02.9**	**-0.3**
	0.9nm,0.3s,baz=135,slow=5.7,SNR=1.9						
GERES	**GERESS Array B**	**60.57**	**20**	P	**P**	**14 05 23.9**	**-0.3**
	0.6nm,0.5s,baz=190,slow=6.6,SNR=6.9						
ROSC	**El Rosal**	**62.62**	**279**	LR	LR	14 31 14.6	
	comp=Z,164nm,18.4s,baz=54,slow=35						
BRTR	**Keskin Array B**	**63.46**	**39**	P	**P**	**14 05 45.2**	**+1.3**
	1.6nm,0.8s,baz=196,slow=8.4,SNR=9.2						
SNAA	**Sanae**	**64.56**	**177**	P	**P**	**14 05 51.4**	**+0.8**
	1.0nm,0.9s,baz=343,slow=6.5,SNR=8.4						
FINES	**FINESS Array B**	**74.93**	**18**	P	**P**	**14 06 54.0**	**-0.4**
	4.4nm,1.1s,baz=214,slow=14,SNR=4.5						
TXAR	**Lajitas Array**	**94.33**	**299**	P	**P**	**14 08 34.1**	**+0.1**
	0.1nm,0.5s,baz=116,slow=8.1,SNR=2.9						

IDC 31 14:05:09.7±4.3, 5°.74N×103°.12W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.8/19, mbtmp3.6/4, MS3.9/7, Ms1 3.9/7, ms1mx3.4/27, Error ellipse: s-maj=182.4km s-min=57.9km az=97.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**18.54**	**75**	LR	LR	14 14 08.7	
	comp=Z,530nm,21.0s,baz=257,slow=29						
LPIG	**La Paz**	**19.52**	**340**	LR	LR	14 15 57.8	
	comp=Z,10nm,18.6s,baz=168,slow=33						
TXAR	**Lajitas Array**	**23.47**	**359**	P	P	14 10 21.6	+0.5
	1.1nm,0.9s,baz=183,slow=8.8,SNR=8.0						
TXAR				LR	LR	14 18 45.2	
	comp=Z,313nm,19.8s,baz=335,slow=35						
ANMO	**Albuquerque**	**29.22**	**354**	LR	LR	14 22 11.3	
	comp=Z,171nm,20.3s,baz=345,slow=35						
PFO	**Pinyon Flat Ob**	**30.37**	**338**	LR	LR	14 20 49.7	
	comp=Z,102nm,18.3s,baz=339,slow=31						
NVAR	**Mina Array Bea**	**35.34**	**339**	P	P	14 12 07.9	+0.8
	0.2nm,0.6s,baz=154,slow=10,SNR=2.7						
PDAR	**Pinedale Array**	**37.31**	**352**	P	P	14 12 23.8	-0.1
	1.9nm,0.9s,baz=146,slow=8.2,SNR=11						
LPAZ	**La Paz**	**40.95**	**123**	LR	LR	14 26 57.2	
	comp=Z,167nm,20.0s,baz=59,slow=32						
SIV	**San Ignacio**	**46.88**	**118**	LR	LR	14 31 47.4	
	comp=Z,97nm,18.9s,slow=34						
INK	**Inuvik**	**65.71**	**348**	LR	LR	14 45 20.1	
	comp=Z,128nm,20.0s,baz=86,slow=37						
ILAR	**Eielson Array**	**66.56**	**341**	P	P	14 15 59.5	-1.9
	0.7nm,0.8s,baz=158,slow=5.8,SNR=4.9						
CMAR	**Chiang Mai Arr**	**147.57**	**318**	PKPbc	PKPbc	14 24 57.0	0.0
	0.8nm,0.7s,baz=29,slow=2.1,SNR=3.0						

*BJI **31** 14:09:49.2, 5°.48S×134°.24E, h35km, mB5.3/44, mb4.9/56, Ms5.2/58, Ms7 4.9/57*
*ISCJB **31** 14:09:50.7±0.8, 4°.86S±0°.02×134°.10E±0°.03, h13km±4km, mb4.9/86, MS5.0/40, Error ellipse: s-maj=4.4km s-min=3.8km az=11.8*
*IDC **31** 14:09:51.6±0.4, 4°.85S×133°.69E, h0km, mb4.6/22, mb1 4.7/25, mb1mx4.6/28, mbtmp4.6/25, ML5.0/3, MS5.0/10, Ms1 5.1/10, ms1mx4.7/32, Error ellipse: s-maj=17.9km s-min=10.5km az=73.0*
*AUST **31** 14:09:52.7, 4°.96S×134°.03E, h0km*
*MOS **31** 14:09:53.9±1.2, 4°.96S×133°.78E, h33km, mb5.0/35, MS4.8/9, Error ellipse: s-maj=14.2km s-min=6.1km az=104.3*
*DJA **31** 14:09:53.4±0.2, 5°S±2°×13°4E±°, h15km, M5.2/31, mB5.7/21, mb5.2/31, MLv5.5/9, Mw(mB)5.2/21*
*TEH **31** 14:09:54.0, 4°.84S×134°.12E, h36km, ML5.2*
*NEIC **31** 14:09:56.1±0.3, 4°.96S×133°.72E, h35km, mb5.2/22, Error ellipse: s-maj=9.6km s-min=6.6km az=79.0*
NEIC Felt [II] at Kaimana.
*GCMT **31** 14:09:57.3±0.1, 4°.64S×134°.05E, h12km, MW5.4, Moment Tensor Solution. s76,c120; s97,c184; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.68±.03; $M_{\theta\theta}$-1.18±.02; $M_{\phi\phi}$1.86±.02; $M_{r\theta}$0.39±.07; $M_{\theta\phi}$0.54±.02; $M_{\phi r}$0.19±.06; Best double couple: $M_0$1.70000×10^{17} NP1:ϕ_s327.00000°, δ68.00000°, λ-165.00000°. NP2:ϕ_s231.00000°, δ76.00000°, λ-23.00000°. Principal axes: T 1.9800, Plg6.0000°, Azm280.0000°; N -0.5400, Plg64.0000°, Azm22.0000°; P -1.4500, Plg26.0000°, Azm188.0000°; Data Used: II IU IC G CN.*
*BKK **31** 14:10:02.3±0.3, 6°S±5°×13°4E±°, h10km, M5.5/16, mB5.7/10, mb5.2/16, MLv6.2/1, Mw(mB)5.2/10*

ISC 31 14:09:56.1±0.3, 4°.97S±0°.03×133°.89E±0°.04, h35km±1km, h35km:pP-P, n289, σ1♀98/335, mb5.0/84, MS4.9/40, 5C-6D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.61**	**321**	P	**Pn**	**14 10 33.6**	**-2.3**
FAKI				S	**Sn**	**14 11 01.9**	**-4.5**
FAKI	**Fak Fak**	**2.61**	**321**	P	**Pn**	**14 10 33.4**	**-2.5**
	baz=2.7,SNR=288						
RKPI	**Ransiki,

MBWA	**Marble Bar**	**21.16**	**219**	*e*P		**P**	**14 14 38.0**	**-0.5**
	comp=Z,136nm,1.1s								
GUMO	**Guam**	**21.42**	**30**	*e*P		P	14 14 35.6	-5.6
	comp=Z,323nm,1.2s								
BTM	**Bintulu**	**22.31**	**291**	P		**P**	**14 14 52.3**	**+1.4**
SBUM	**Sibu**	**22.87**	**288**	P		**P**	**14 14 59.6**	**+2.8**
SBUM	**Sibu**	**22.87**	**288**	P		**P**	**14 14 57.0**	**+0.2**
	comp=Z,47nm,2.1s,comp=Z,1μm								
STKI	**Sintang**	**22.93**	**282**	P		**P**	**14 15 00.6**	**+3.1**
	comp=Z,67nm,2.1s,comp=Z,6μm								
BJII	**Banjamegara**	**24.15**	**263**	P		**P**	**14 15 12.3**	**+3.0**
	comp=Z,62nm,1.7s								
KSM	**Kuching**	**24.41**	**285**	*e*P		**P**	**14 15 10.3**	**-1.3**
	comp=Z,111nm,1.2s								
KSM	**Kuching**	**24.41**	**285**	P		**P**	**14 15 13.4**	**+1.8**
KSM	**Kuching**	**24.41**	**285**	P		**P**	**14 15 13.3**	**+1.7**
	comp=Z,104nm,1.5s,comp=Z,2μm								
KSM	**Kuching**	**24.41**	**285**	P		**P**	**14 15 13.4**	**+1.8**
	baz=25,SNR=7.3								
RMQ	**Roma**	**25.69**	**148**	P		**P**	**14 15 27.1**	**+4.0**
	baz=26,SNR=10								
MEEK	**Meekatharra**	**26.02**	**213**	P		**P**	**14 15 28.5**	**+2.3**
	baz=26,SNR=6.4								
EIDS	**Eidsvold**	**26.14**	**143**	*e*P		**P**	**14 15 27.8**	**+0.5**
	comp=Z,74nm,1.4s								
EIDS	**Eidsvold**	**26.14**	**143**	P		P	14 15 33.3	+6.1
	baz=26,SNR=4.0								
HNR	**Honiara**	**26.23**	**101**	P		**P**	**14 15 30.1**	**+2.0**
	comp=Z,21nm,1.2s								
HNR	**Honiara**	**26.23**	**101**	P		**P**	**14 15 30.1**	**+2.0**
	comp=Z,102nm,0.9s,baz=201,slow=6.7,SNR=10								
FORT	**Forrest**	**26.26**	**191**	*e*P		**P**	**14 15 28.1**	**-0.1**
	comp=Z,112nm,0.7s								
FORT	**Forrest**	**26.26**	**191**	P		**P**	**14 15 30.6**	**+2.5**
	baz=26,SNR=36								
STKA	**Stephens Creek**	**27.73**	**166**	*e*P		**P**	**14 15 40.0**	**-1.4**
	comp=Z,19nm,1.6s								
STKA	**Stephens Creek**	**27.73**	**166**	P		**P**	**14 15 42.8**	**+1.3**
	comp=Z,4.6nm,0.6s,baz=359,slow=8.0,SNR=10								
STKA					LR	LR	14 28 06.6		
	comp=Z,7μm,18.2s,baz=344,slow=39								
STKA	**Stephens Creek**	**27.73**	**166**	P		**P**	**14 15 42.6**	**+1.1**
	baz=28,SNR=6.1								
BBOO	**Buckleboo**	**27.78**	**176**	*e*P		**P**	**14 15 40.2**	**-1.6**
	comp=Z,1μm,1.3s								
BBOO	**Buckleboo**	**27.78**	**176**	P		**P**	**14 15 42.6**	**+0.8**
	baz=28,SNR=10								
MORW	**Morawa**	**29.33**	**213**	P		P	14 15 59.3	+3.6
	baz=30,SNR=4.5								
BLDU	**Ballidu**	**30.21**	**210**	P		**P**	**14 16 05.5**	**+2.0**
	baz=30,SNR=14								
ARMA	**Armidale**	**30.34**	**149**	*e*P		P	14 16 01.7	-3.1
	comp=Z,45nm,1.1s								
ARMA	**Armidale**	**30.34**	**149**	P		P	14 16 09.9	+5.1
	baz=30,SNR=4.8								
KLBR	**Kellerberrin**	**30.51**	**208**	P		**P**	**14 16 08.9**	**+2.8**
	baz=31,SNR=18								
MYKOM	**Kota Tinggi**	**30.75**	**282**	P		**P**	**14 16 08.4**	**-0.1**
SSLB	**Suanglung**	**31.24**	**337**	*e*P		**P**	**14 16 09.9**	**-2.7**
	comp=Z,16nm,0.8s								
KGM	**Kluang**	**31.32**	**282**	P		P	14 16 19.6	+6.2
NWAO	**Narrogin (SRO)**	**31.86**	**207**	P		**P**	**14 16 18.4**	**+0.4**
NWAO	**Narrogin (SRO)**	**31.86**	**207**	P		**P**	**14 16 18.4**	**+0.4**
	comp=Z,10nm,0.8s,baz=25,slow=7.2,SNR=3.6								
KTGM	**Kuala Trenggan**	**32.37**	**288**	P		P	14 16 28.3	+5.5
ARPS	**Mount Arapiles**	**32.48**	**168**	P		P	14 16 27.1	+3.7
	baz=33,SNR=7.7								
FRIM	**Kepong**	**33.24**	**284**	P		P	14 16 33.4	+3.0
RKGY	**Rocky Gully**	**33.40**	**206**	P		P	14 16 39.3	+7.8
	baz=34,SNR=6.2								
QIZ	**Qiongzhong**	**33.61**	**316**	P		**P**	**14 16 31.3**	**-2.1**
QIZ				sP		**sP**	**14 16 45.8**	**-1.9**
QIZ				S		**S**	**14 21 55.5**	**+1.6**
QIZ				sS		sS	14 22 13.8	+3.3
QIZ				pmax		pmax			
	comp=Z,18nm,2.0s								
QIZ				pmax		pmax			
	comp=Z,250nm,3.6s								
QIZ				LR		LR			
	comp=N,1μm,17.1s								
QIZ				LR		LR			
	comp=Z,1μm,19.8s								
PPI	**Padang Panjang**	**33.74**	**277**	P		**P**	**14 16 34.9**	**+0.2**
	comp=Z,70nm,1.9s,comp=Z,1μm								
IPM	**Ipoh**	**34.14**	**285**	*e*P		**P**	**14 16 36.2**	**-2.0**
	comp=Z,48nm,1.2s								
IPM	**Ipoh**	**34.14**	**285**	P		P	14 16 45.7	+7.5
UBPT	**Khong Chiam**	**34.60**	**306**	P		pP	14 16 55.7	+3.5
	comp=Z,26nm,1.1s								
PSI	**Prapat**	**35.77**	**282**	P		pP	14 17 05.1	+2.6
	baz=36,SNR=4.1								
DZM	**Mont Dzumac**	**35.80**	**121**	*e*P		P	14 16 56.3	+3.8
	comp=Z,87nm,1.2s								
DZM				*e*S		**S**	**14 22 32.8**	**+4.8**
	comp=Z,1μm,26.9s								
DZM				*e*LR		LR	14 26 39.6		
	comp=Z,9μm,25.0s								
DZM	**Mont Dzumac**	**35.80**	**121**	P		P	14 16 56.7	+4.2
DZM	**Mont Dzumac**	**35.80**	**121**	P		P	14 16 56.7	+4.2
	comp=Z,5.7nm,0.6s,baz=298,slow=17,SNR=4.8								
SSE	**Sheshan**	**37.86**	**342**	*e*P		**P**	**14 17 08.3**	**-1.4**
SSE				sP		**sP**	**14 17 25.0**	**+1.0**
SSE				S		**S**	**14 22 57.3**	**-1.5**
SSE				sS		**sS**	**14 23 15.5**	**0.0**
SSE				pmax		pmax			
	comp=Z,23nm,0.7s								
SSE				pmax		pmax			
	comp=Z,34nm,3.5s								
SSE				LR		LR			
	comp=N,2μm,18.9s								
SSE				LR		LR			
	comp=E,460nm,18.8s								
SSE				LR		LR			
	comp=Z,2μm,20.2s								
JNU	**Nakatsue**	**37.99**	**356**	P		**P**	**14 17 11.7**	**+0.9**
	comp=Z,2.8nm,1.1s								
JNU	**Nakatsue**	**37.99**	**356**	P		**P**	**14 17 11.7**	**+0.9**
	comp=Z,20nm,1.0s,baz=128,slow=5.7,SNR=5.7								
PHET	**Kaeng Krachan**	**38.39**	**298**	P		pP	14 17 28.1	+3.5
	comp=Z,112nm,1.0s								
PBKT	**Sadao Pong**	**38.95**	**304**	P		pP	14 17 32.4	+3.1
NJ2	**Nanjing**	**39.50**	**340**	*e*P		**P**	**14 17 23.0**	**-0.5**
NJ2				pP		**pP**	**14 17 31.8**	**-1.8**
NJ2				sP		**sP**	**14 17 35.5**	**-2.3**
NJ2				S		**S**	**14 23 24.0**	**+0.5**
NJ2				sS		**sS**	**14 23 39.0**	**-1.3**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
NJ2				pmax		pmax			
	comp=Z,260nm,4.7s								
NJ2				LR		LR			
	comp=N,2μm,12.9s								
NJ2				LR		LR			
	comp=E,2μm,14.4s								
NJ2				LR		LR			
	comp=Z,2μm,15.8s								
WHN	**Wuhan**	**39.95**	**333**	⇑*i*P		**P**	**14 17 29.5**	**+2.2**
WHN				pP		**pP**	**14 17 38.3**	**+0.8**
WHN				LR		LR			
	comp=N,690nm,11.7s								
WHN				LR		LR			
	comp=E,1μm,13.4s								
WHN				LR		LR			
	comp=Z,3μm,20.2s								
GYA	**Guiyang**	**40.88**	**321**	P		**P**	**14 17 35.5**	**+0.3**
GYA				pP		**pP**	**14 17 45.3**	**-0.1**
GYA				PP		**PnPn**	**14 19 14.3**	**0.0**
GYA				PcP		**PcP**	**14 19 34.8**	**-0.8**
GYA				ScP		**ScP**	**14 23 21.0**	**-1.8**
GYA				S		**S**	**14 23 46.8**	**+2.1**
GYA				sS		**sS**	**14 24 02.8**	**+1.4**
GYA				SS		**SS**	**14 26 45.5**	**-1.6**
GYA				pmax		pmax			
	comp=Z,30nm,1.0s								
GYA				pmax		pmax			
	comp=Z,150nm,4.6s								
GYA				LR		LR			
	comp=N,1μm,17.6s								
GYA				LR		LR			
	comp=E,840nm,18.2s								
GYA				LR		LR			
	comp=Z,1μm,20.1s								
MJAR	**Matsushiro Arr**	**41.49**	**5**	P		**P**	**14 17 38.8**	**-1.2**
MJAR	**Matsushiro Arr**	**41.49**	**5**	P		**P**	**14 17 38.8**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=184,slow=8.0,SNR=6.3								
MJAR				LR		LR	14 33 39.0		
	comp=Z,2μm,19.0s,baz=210,slow=34								
MAT	**Matsushiro**	**41.49**	**5**	P		**P**	**14 17 37.2**	**-2.7**
MAT				S		**S**	**14 23 50.4**	**-2.8**
CM31	**Chiang Mai Arr**	**41.57**	**305**	*e*P		P	14 17 37.1	-3.8
	comp=Z,20nm,1.0s								
CMAR	**Chiang Mai Arr**	**41.57**	**305**	P		**P**	**14 17 40.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**41.57**	**305**	P		**P**	**14 17 40.6**	**-0.2**
	comp=Z,7.8nm,1.1s,baz=132,slow=6.9,SNR=24								
CMMT	**Chiang Mai**	**41.75**	**305**	P		**P**	**14 17 42.3**	**-0.1**
CHTO	**Chiang Mai**	**41.75**	**305**	*e*P		P	14 17 39.1	-3.3
CHTO				pmax		pmax			
	comp=Z,29nm,1.2s								
CHTO	**Chiang Mai**	**41.75**	**305**	*e*P		P	14 17 39.1	-3.3
	comp=Z,29nm,1.2s								
KMI	**Kunming**	**42.56**	**316**	P		**P**	**14 17 49.5**	**+0.4**
KMI				pP		**pP**	**14 18 00.0**	**+0.7**
KMI				sP		**sP**	**14 18 04.3**	**+0.9**
KMI				PP		**PP**	**14 19 31.5**	**+3.3**
KMI				S		**S**	**14 24 10.8**	**+1.1**
KMI				sS		**sS**	**14 24 27.3**	**+0.8**
KMI				pmax		pmax			
	comp=Z,16nm,0.9s								
KMI				pmax		pmax			
	comp=Z,130nm,3.7s								
KMI				LR		LR			
	comp=N,1μm,17.0s								
KMI				LR		LR			
	comp=E,900nm,16.4s								
KMI				LR		LR			
	comp=Z,1μm,24.0s								
KSAR	**Wonju Array Be**	**42.56**	**353**	P		**P**	**14 17 48.0**	**-0.6**
KSAR				PcP		**PcP**	**14 19 40.5**	**-0.2**
KSRS	**Korea Array**	**42.57**	**353**	P		**P**	**14 17 48.0**	**-0.6**
	comp=Z,3.8nm,0.8s,baz=174,slow=9.9,SNR=21								
KSRS				PcP		**PcP**	**14 19 40.5**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=186,slow=3.3,SNR=3.1								
KSRS				LR		LR	14 35 43.2		
	comp=Z,2μm,20.0s,baz=176,slow=37								
DL2	**Dalian**	**45.10**	**346**	P		**P**	**14 18 11.0**	**+2.0**
DL2				S		S	14 24 52.8	+6.8
DL2				pmax		pmax			
	comp=Z,26nm,0.9s								
DL2				pmax		pmax			
	comp=Z,120nm,4.5s								
DL2				LR		LR			
	comp=N,1μm,19.1s								
DL2				LR		LR			
	comp=E,2μm,18.2s								
DL2				LR		LR			
	comp=Z,1μm,18.1s								
XAN	**Xi'an**	**45.41**	**331**	P		**P**	**14 18 11.0**	**-0.6**
XAN				pP		**pP**	**14 18 21.0**	**-0.9**
XAN				S		**S**	**14 24 48.5**	**-2.2**
XAN				pmax		pmax			
	comp=Z,3.0nm,1.3s								
XAN				LR		LR			
	comp=N,860nm,20.8s								
XAN				LR		LR			
	comp=E,270nm,18.2s								
XAN				LR		LR			
	comp=Z,430nm,19.5s								
CD2	**Chengdu**	**45.84**	**323**	P		**P**	**14 18 14.3**	**-0.8**
CD2				pP		**pP**	**14 18 25.0**	**-0.4**
CD2				PcP		**PcP**	**14 19 51.0**	**-1.1**
CD2				PP		**PP**	**14 20 02.5**	**-0.5**
CD2				S		**S**	**14 24 56.3**	**-0.7**
CD2				sS		**sS**	**14 25 14.0**	**0.0**
CD2				ScS		**ScS**	**14 28 04.3**	**-4.5**
CD2				pmax		pmax			
	comp=Z,30nm,1.4s								
CD2				pmax		pmax			
	comp=Z,290nm,6.2s								
CD2				LR		LR			
	comp=E,1μm,15.6s								
CD2				LR		LR			
	comp=Z,2μm,16.6s								
SNY	**Shenyang**	**47.51**	**350**	⇑P		**P**	**14 18 29.0**	**+1.1**
SNY				S		S	14 25 12.5	-7.9
SNY				SS		**SS**	**14 28 45.3**	**-3.6**
SNY				pmax		pmax			
	comp=Z,22nm,2.1s								
SNY				pmax		pmax			
	comp=Z,370nm,4.7s								
SNY				LR		LR			
	comp=N,1μm,17.9s								
SNY				LR		LR			
	comp=E,780nm,19.8s								
SNY				LR		LR			
	comp=Z,1μm,17.7s								
ERM	**Erimo**	**47.52**	**9**	⇓*e*P		P	14 18 23.6	-4.3
ERM				pmax		pmax			
	comp=Z,9.0nm,1.0s								
BJT	**Baijiatuan**	**47.64**	**342**	*e*P		**P**	**14 18 29.3**	**+0.3**
	comp=Z,65nm,1.0s								
BJI	**Beijing**	**47.66**	**342**	P		**P**	**14 18 28.5**	**-0.6**
BJI				S		**S**	**14 25 23.3**	**+0.7**
BJI				SS		**SS**	**14 28 54.0**	**+2.6**
BJI				pmax		pmax			
	comp=Z,21nm,1.5s								
BJI				pmax		pmax			
	comp=Z,160nm,4.1s								
BJI				LR		LR			
	comp=N,1μm,20.1s								
BJI				LR		LR			
	comp=E,2μm,18.3s								
BJI				LR		LR			
	comp=Z,1μm,20.8s								
VLA	**Vladivostok**	**47.90**	**358**	*i* P		**P**	**14 18 29.8**	**-1.1**
VLA				pmax		pmax			
	comp=Z,10.0nm,1.1s								
USRK	**Ussuriysk Arra**	**48.97**	**358**	P		**P**	**14 18 38.6**	**-0.5**
	comp=Z,3.2nm,0.7s,baz=174,slow=7.3,SNR=11								
CN2	**Changchun**	**49.14**	**352**	*e*P		**P**	**14 18 41.0**	**+0.6**
CN2				*e*sP		**sP**	**14 18 54.8**	**-0.1**
CN2				*e*S		**S**	**14 25 43.0**	**-0.4**
CN2				pmax		pmax			
	comp=Z,10.0nm,1.0s								
CN2				pmax		pmax			
	comp=Z,200nm,4.0s								
CN2				LR		LR			
	comp=N,800nm,17.0s								
CN2				LR		LR			
	comp=E,1μm,17.0s								
CN2				LR		LR			
	comp=Z,700nm,16.0s								
ASAJ	**Asahikawa**	**49.48**	**8**	P		**P**	**14 18 41.7**	**-1.4**
ASAJ	**Asahikawa**	**49.48**	**8**	P		**P**	**14 18 41.7**	**-1.4**
	comp=Z,11nm,0.8s,baz=210,slow=8.5,SNR=18								
ASAJ				LR		LR	14 40 01.9		
	comp=Z,1μm,20.0s,baz=200,slow=37								
MDJ	**Mudanjiang**	**49.51**	**356**	P		**P**	**14 18 42.5**	**-0.7**
MDJ				pP		**pP**	**14 18 51.5**	**-2.1**
MDJ				sP		**sP**	**14 18 55.5**	**-2.2**
MDJ				PP		**PP**	**14 20 37.3**	**-0.5**
MDJ				PcS		**PcS**	**14 23 57.8**	**-3.6**
MDJ				S		**S**	**14 25 45.0**	**-3.6**
MDJ				ScS		**ScS**	**14 28 29.0**	**-3.4**
MDJ				SS		**SS**	**14 29 19.0**	**-2.1**
MDJ				pmax		pmax			
	comp=Z,21nm,1.1s								
MDJ				pmax		pmax			
	comp=Z,69nm,3.2s								
MDJ				LR		LR			
	comp=N,660nm,19.9s								
MDJ				LR		LR			
	comp=E,520nm,18.7s								
MDJ				LR		LR			
	comp=Z,830nm,20.3s								
MDJ	**Mudanjiang**	**49.51**	**356**	*e*P		**P**	**14 18 43.3**	**0.0**
	comp=Z,37nm,0.9s								
LZH	**Lanzhou**	**49.60**	**328**	*e*P		**P**	**14 18 45.0**	**+0.7**
LZH				pP		**pP**	**14 18 55.0**	**+0.3**
LZH				sP		**sP**	**14 19 00.3**	**+1.5**
LZH				PP		**PP**	**14 20 39.0**	**0.0**
LZH				S		**S**	**14 25 50.0**	**-0.5**
LZH				SS		**SS**	**14 29 19.3**	**-3.9**
LZH				pmax		pmax			
	comp=Z,24nm,1.1s								
LZH				pmax		pmax			
	comp=Z,130nm,4.0s								
LZH				LR		LR			
	comp=N,820nm,14.2s								
LZH				LR		LR			
	comp=E,1μm,17.0s								
LZH				LR		LR			
	comp=Z,2μm,18.3s								
YUK	**Yuzh-Kuril'sk**	**49.96**	**11**	*e*P		**P**	**14 18 49.4**	**+2.8**
YUK				*e*			14 20 02.2		
YUK				*e*			14 20 41.2		
YUK				S		**S**	**14 25 52.5**	**-2.3**
YUK				*e*SS		**SS**	**14 29 29.7**	**+1.5**
YUK				*i* SSS		SSS	14 30 49.3		
HHC	**Hu-ho-hao-te**	**49.98**	**338**	*e*P		**P**	**14 18 47.0**	**0.0**
HHC				pP		**pP**	**14 18 57.5**	**+0.1**
HHC				sP		**sP**	**14 19 01.0**	**-0.5**
HHC				PP		**PP**	**14 20 43.8**	**+1.5**
HHC				S		**S**	**14 25 55.5**	**0.0**
HHC				sS		**sS**	**14 26 12.0**	**-0.6**
HHC				ScS		**ScS**	**14 28 32.5**	**-3.5**
HHC				SS		**SS**	**14 29 26.0**	**-3.0**
HHC				pmax		pmax			
	comp=Z,56nm,1.3s								
HHC				pmax		pmax			
	comp=Z,610nm,5.0s								
HHC				LR		LR			
	comp=N,2μm,17.6s								
HHC				LR		LR			
	comp=E,1μm,19.0s								
HHC				LR		LR			
	comp=Z,2μm,20.2s								
SHL	**Shillong**	**50.82**	**309**	*e*P		**P**	**14 18 54.0**	**+0.2**
YSS	**Yuzh-Sakhalins**	**52.29**	**8**	*e*P		**P**	**14 19 03.3**	**-0.8**
YSS				*e*			14 19 15.0		
YSS				*e*S		**S**	**14 26 22.0**	**-4.9**
YSS				MLR		MLR			
	comp=N,900nm,20.0s								
YSS				MLR		MLR			
	comp=E,600nm,20.0s								
YSS				MLR		MLR			
	comp=Z,1μm,20.0s								
LSA	**Lhasa**	**53.54**	**313**	P		**P**	**14 19 13.0**	**-1.3**
LSA				LR		LR			
	comp=Z,710nm,51.6s								
LSA	**Lhasa**	**53.54**	**313**	*e*P		**P**	**14 19 13.5**	**-0.8**
LSA				pmax		pmax			
	comp=Z,13nm,0.8s								
LSA	**Lhasa**	**53.54**	**313**	*e*P		**P**	**14 19 13.4**	**-0.8**
	comp=Z,13nm,0.8s								
KLR	**Kul'dur**	**54.01**	**358**	*e*P		P	14 19 12.8	-3.9
KLR				*e*S		S	14 26 40.0	-10
KLR				MLR		MLR			
	comp=Z,800nm,17.0s								
GTA	**Gaotai**	**54.20**	**328**	P		**P**	**14 19 19.3**	**+0.8**
GTA				pP		**pP**	**14 19 29.5**	**+0.5**
GTA				sP		**sP**	**14 19 32.5**	**-0.6**
GTA				PP		**PP**	**14 21 23.5**	**+2.9**
GTA				S		**S**	**14 26 56.0**	**+2.4**
GTA				SS		**SS**	**14 30 37.8**	**+1.9**
GTA				pmax		pmax			
	comp=Z,10.0nm,1.1s								
GTA				pmax		pmax			
	comp=Z,100nm,4.3s								
GTA				LR		LR			
	comp=N,690nm,19.5s								
GTA				LR		LR			
	comp=E,860nm,20.0s								
GTA				LR		LR			
	comp=Z,1μm,19.5s								
TAPN	**Taplejung**	**54.95**	**308**	*e*P		**P**	**14 19 23.2**	**-1.2**
	comp=Z,100nm,1.2s								
ODAN	**Odare**	**54.97**	**308**	*e*P		**P**	**14 19 24.4**	**-0.1**
	comp=Z,52nm,1.0s								
RAMN	**Ramite**	**55.63**	**307**	*e*P		**P**	**14 19 29.7**	**+0.4**
	comp=Z,98nm,1.1s								
KKN	**Kakani**	**57.06**	**308**	*e*P		**P**	**14 19 39.6**	**+0.2**
	comp=Z,52nm,1.2s								
DMN	**Daman**	**57.12**	**307**	*e*P		**P**	**14 19 40.1**	**+0.2**
ULN	**Ulaanbaatar**	**57.65**	**339**	*e*P		P	14 19 40.0	-3.2
	comp=Z,35nm,1.1s								
SONM	**Songino Array**	**57.87**	**338**	P		**P**	**14 19 44.4**	**-0.2**
SONM	**Songino Array**	**57.87**	**338**	P		**P**	**14 19 44.4**	**-0.2**
	comp=Z,3.7nm,0.8s,baz=154,slow=7.8,SNR=12								
DANN	**Dangsing**	**58.51**	**308**	*e*P		**P**	**14 19 50.1**	**+0.4**
PYUN	**Piuthan**	**59.01**	**307**	*e*P		**P**	**14 19 53.6**	**+0.5**
	comp=Z,154nm,0.9s								
CIT	**Chita**	**59.36**	**346**	*e*P		**P**	**14 19 55.4**	**+0.6**
ZAK	**Zakamensk**	**61.12**	**338**	*e*P		**P**	**14 20 06.9**	**-0.1**
ZAK				pmax		pmax			
	comp=Z,17nm,1.3s								
PETK	**Petropavlovsk-**	**61.26**	**16**	P		**P**	**14 20 08.5**	**+0.8**
PETK				pmax		pmax			
	comp=Z,3.0nm,0.7s								
PETK	**Petropavlovsk-**	**61.26**	**16**	P		**P**	**14 20 08.5**	**+0.8**
PETK	**Petropavlovsk-**	**61.26**	**16**	P		**P**	**14 20 08.5**	**+0.8**
	comp=Z,3.3nm,0.7s,baz=193,slow=5.8,SNR=8.4								
PETK				LR		LR	14 45 07.4		
	comp=Z,751nm,20.4s,baz=194,slow=35								
PET	**Petropavlovsk**	**61.45**	**17**	*e*P		**P**	**14 20 08.7**	**-0.2**
PET				*e*S		**S**	**14 28 26.5**	**-1.2**
PET				*e*SS		**SS**	**14 32 34.0**	**+4.9**
PET				pmax		pmax			
	comp=Z,9.0nm,0.8s								
PET				MLR		MLR			
	comp=Z,500nm,18.0s								
DRV	**Dumont d'Urvil**	**61.74**	**177**	P		**P**	**14 20 11.0**	**+0.3**
DRV				S		S	14 28 10.0	-21
DRV				SS		SS	14 32 27.0	-6.0
DRV				L		L	14 35 00.0		
DRV				R			14 39 00.0		
CLNS	**Chul'man**	**62.03**	**354**	*e*P		**P**	**14 20 12.9**	**0.0**
CLNS				*e**PP		**pP**	**14 20 23.9**	**+0.4**
CLNS				*e*			14 20 52.8		
CLNS				*e*			14 22 26.4		
CLNS				*e*PPP		PPP	14 23 54.4		
CLNS				*e*S		**S**	**14 28 34.8**	**-0.3**
CLNS				*e*			14 30 04.8		
CLNS				pmax		pmax			
	comp=E,2.0nm,1.1s								
CLNS				pmax		pmax			
	comp=N,2.0nm,0.7s								
CLNS				pmax		pmax			
	comp=Z,5.0nm,1.2s								
CLNS				pmax		pmax			
	comp=Z,2.0nm,0.7s								
CLNS				pmax		pmax			
	comp=N,2.0nm,0.8s								
CLNS				pmax		pmax			
	comp=E,2.0nm,0.8s								
CLNS				smax		smax			
	comp=E,166nm,12.3s								
CLNS				smax		smax			
	comp=N,155nm,13.3s								
CLNS				MLR		MLR			
	comp=Z,968nm,19.0s								
CLNS				MLR		MLR			
	comp=N,753nm,18.0s								
CLNS				MLR		MLR			
	comp=E,978nm,24.0s								
IRK	**Irkutsk**	**62.31**	**340**	*e*P		**P**	**14 20 13.8**	**-1.0**
IRK				pmax		pmax			
	comp=Z,46nm,2.7s								
MOY	**Mondy**	**63.02**	**338**	*e*P		**P**	**14 20 20.6**	**+0.9**
MOY				pmax		pmax			
	comp=Z,43nm,2.6s								
WMQ	**Urumqi**	**63.91**	**324**	P		**P**	**14 20 24.8**	**-0.9**
WMQ				pP		**pP**	**14 20 35.0**	**-1.3**
WMQ				sP		**sP**	**14 20 38.8**	**-1.6**
WMQ				PcP		**PcP**	**14 21 00.5**	**-0.6**
WMQ				PP		**PP**	**14 22 46.5**	**-0.1**
WMQ				ScP			14 24 59.0		
WMQ				S		**S**	**14 28 56.5**	**-2.6**
WMQ				ScS		**SKSac**	**14

YAK				*e*S	**S**	**14 29 34.2**	**-0.4**
YAK				*e**SS	**sS**	**14 29 52.9**	**+0.6**
YAK				*e*		14 30 37.9	
YAK				*e*SS	**SS**	**14 33 49.1**	**-4.5**
YAK				pmax	pmax		
	comp=Z,13nm,0.9s						
YAK				pmax	pmax		
	comp=E,1.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,11nm,1.6s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK				smax	smax		
	comp=N,56nm,2.5s						
YAK				smax	smax		
	comp=E,66nm,3.7s						
YAK				MLR	MLR		
	comp=Z,1μm,23.0s						
YAK				MLR	MLR		
	comp=E,433nm,22.0s						
YAK				MLR	MLR		
	comp=N,529nm,21.0s						
MK31	**Makanchi Array**	**68.73 325**		P	**P**	**14 20 56.5**	**0.0**
MK31				pmax	pmax		
	comp=Z,106nm,1.4s						
MKAR	**Makanchi Array**	**68.73 325**		P	**P**	**14 20 56.3**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MKAR	**Makanchi Array**	**68.73 325**		P	**P**	**14 20 56.2**	**-0.2**
MKAR	**Makanchi Array**	**68.73 325**		P	**P**	**14 20 56.2**	**-0.2**
	comp=Z,5.9nm,0.8s,baz=119,slow=7.5,SNR=55						
SEY	**Seymchan**	**69.16**	9⇓ *e*P		**P**	**14 20 56.5**	**-2.2**
KSH	**Kashi**	**69.22 315**		P	**P**	**14 21 01.0**	**+1.2**
KSH				sP	**sP**	**14 21 16.3**	**+1.8**
KSH				PP	**PP**	**14 23 37.5**	**+4.4**
KSH				S	**S**	**14 30 06.5**	**+2.8**
KSH				sS	**sS**	**14 30 23.8**	**+2.4**
KSH				SS	**SS**	**14 34 36.8**	**+6.0**
KSH				pmax	pmax		
	comp=Z,11nm,1.1s						
KSH				pmax	pmax		
	comp=Z,130nm,3.6s						
KSH				LR	LR		
	comp=N,500nm,15.3s						
KSH				LR	LR		
	comp=E,310nm,15.3s						
KSH				LR	LR		
	comp=Z,720nm,19.0s						
TKM2	**Tokmak 2**	**70.95 319**		*e*P	**P**	**14 21 10.0**	**-0.5**
TKM2				pmax	pmax		
	comp=Z,37nm,1.1s						
TKM2	**Tokmak 2**	**70.95 319**		*e*P	**P**	**14 21 10.0**	**-0.5**
	comp=Z,37nm,1.1s						
ZAA0	**Zalesovo Array**	**71.55 332**		*e*P	**P**	**14 21 11.6**	**-1.9**
ZALV	**Zalesovo Beam**	**71.55 332**		*i* P	**P**	**14 21 12.6**	**-0.9**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**71.55 332**		P	**P**	**14 21 12.7**	**-0.9**
ZALV	**Zalesovo Beam**	**71.55 332**		P	**P**	**14 21 12.7**	**-0.9**
	comp=Z,2.2nm,0.7s,baz=92,slow=4.5,SNR=7.1						
AAK	**Ala-Archa**	**71.56 318**	*ce*P		**P**	**14 21 14.8**	**+0.7**
AAK				pmax	pmax		
	comp=Z,59nm,2.5s						
AAK	**Ala-Archa**	**71.56 318**		*e*P	**P**	**14 21 15.2**	**+1.1**
AAK	**Ala-Archa**	**71.56 318**		P	**P**	**14 21 12.9**	**-1.2**
	comp=Z,1.6nm,0.3s,baz=170,slow=6.2,SNR=10						
EKS2	**Erkin-Say**	**72.05 318**		*e*P	**P**	**14 21 15.6**	**-1.4**
EKS2				pmax	pmax		
	comp=Z,27nm,1.1s						
EKS2	**Erkin-Say**	**72.05 318**		*e*P	**P**	**14 21 15.6**	**-1.4**
	comp=Z,27nm,1.1s						
KBL	**Kabul**	**72.48 308**		*e*P	**P**	**14 21 20.3**	**+0.5**
KBL	**Kabul**	**72.48 308**		*e*P	**P**	**14 21 20.2**	**+0.5**
NVS	**Novosibirsk**	**72.83 332**	⇑ *i*P		**P**	**14 21 19.4**	**-1.7**
NVS				*e*S	**S**	**14 30 46.0**	**+1.3**
NVS				pmax	pmax		
	comp=Z,43nm,1.8s						
NVS				pmax	pmax		
	comp=N,21nm,1.7s						
NVS				pmax	pmax		
	comp=E,22nm,1.6s						
NVS				smax	smax		
	comp=E,48nm,3.8s						
KURK	**Kurchatov**	**72.87 327**		P	**P**	**14 21 19.9**	**-1.6**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KURK	**Kurchatov**	**72.87 327**		P	**P**	**14 21 19.9**	**-1.6**
KURBB	**Kurchatov Arra**	**72.88 327**		P	**P**	**14 21 19.9**	**-1.6**
	comp=Z,4.2nm,0.9s,baz=123,slow=5.3,SNR=8.3						
VNDA	**Vanda**	**74.02 174**		P	**P**	**14 21 28.3**	**+0.5**
VNDA	**Vanda**	**74.02 174**		P	**P**	**14 21 28.3**	**+0.5**
	comp=Z,3.2nm,0.8s,baz=320,slow=5.1,SNR=12						
VNDA				LR	LR	14 52 59.7	
	comp=Z,3μm,21.0s,baz=355,slow=35						
KK31	**Karatay Array**	**74.43 317**		*i* P	**P**	**14 21 31.0**	**+0.1**
KK31				pmax	pmax		
	comp=Z,18nm,0.9s						
KKAR	**Karatay Array**	**74.43 317**		*e*P	**P**	**14 21 31.0**	**+0.1**
KKAR	**Karatay Array**	**74.43 317**		*e*P	**P**	**14 21 31.0**	**+0.1**
SBA	**Scott Base**	**74.85 173**		*e*P	**P**	**14 21 35.7**	**+3.0**
SBA	**Scott Base**	**74.85 173**		*e*P	**P**	**14 21 35.7**	**+3.0**
PPT2	**Papeete2**	**75.69 107**		*e*S	**S**	**14 31 15.4**	**-3.1**
	comp=Z,454nm,24.5s						
PPT2				*e*SS	**SS**	**14 36 10.2**	**-0.4**
	comp=Z,603nm,26.8s						
PPT2				*e*LQ	LQ	14 41 54.7	
	comp=Z,2μm,38.0s						
PPT2				*e*LR	LR	14 45 10.2	
	comp=Z,1μm,21.8s,baz=279						
PPT	**Papeete**	**75.70 107**		LR	LR	14 53 31.7	
	comp=Z,1μm,19.0s,baz=90,slow=34						
TBI	**Tubuai**	**75.80 113**		*e*S	**S**	**14 31 17.0**	**-2.3**
	comp=Z,428nm,26.8s						
TBI	**Tubuai**	**75.80 113**		*e*LQ	LQ	14 41 57.0	
	comp=Z,1μm,30.0s						
TBI				*e*LR	LR	14 45 05.4	
	comp=Z,2μm,25.5s,baz=286						
TIXI	**Tiksi**	**76.54 358**	⇓ *e*P		**P**	**14 21 42.2**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
VOSK	**Vostochnaya**	**78.01 326**		P	**P**	**14 21 48.6**	**-2.4**
VOSK				pmax	pmax		
	comp=Z,22nm,1.1s						
MAW	**Mawson**	**78.25 202**		P	**P**	**14 21 53.9**	**+1.9**
MAW	**Mawson**	**78.25 202**		P	**P**	**14 21 53.9**	**+1.9**
	comp=Z,14nm,1.0s,baz=77,slow=8.0,SNR=14						
MAW				LR	LR	14 54 00.1	
	comp=Z,2μm,20.8s,baz=92,slow=34						
MAW	**Mawson**	**78.25 202**		P	**P**	**14 21 55.2**	**+3.2**
	baz=78,SNR=11						
BVA0	**Borovoye Array**	**78.46 327**		P	**P**	**14 21 53.1**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,75nm,2.1s						
BVAR	**Borovoye Array**	**78.46 327**		P	**P**	**14 21 53.4**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BVAR	**Borovoye Array**	**78.46 327**		P	**P**	**14 21 53.4**	**-0.1**
BVAR	**Borovoye Array**	**78.46 327**		P	**P**	**14 21 53.4**	**-0.1**
	comp=Z,5.1nm,1.0s,baz=117,slow=5.3,SNR=22						
BRVK	**Borovoye**	**78.53 327**		P	**P**	**14 21 53.4**	**-0.5**
	comp=Z,76nm,1.0s,SNR=7.1						
BRVK	**Borovoye**	**78.53 327**	*de*P		**P**	**14 21 53.1**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,24nm,2.5s						
BRVK	**Borovoye**	**78.53 327**		*e*P	**P**	**14 21 53.1**	**-0.7**
IDAH	**Dahanechah**	**79.35 304**		*e*P	**P**	**14 22 00.2**	**+1.1**
IMYA	**Miami**	**79.99 308**		*e*P	**P**	**14 22 02.9**	**+0.5**
IKOO	**Kooshah**	**79.99 304**		*e*P	**P**	**14 22 03.1**	**+0.5**
ISRO	**Mashad**	**80.47 308**		*e*P	**P**	**14 22 03.6**	**-1.4**
IMOG	**Moghan**	**80.53 308**		*e*P	P	14 22 02.0	-3.5
AB31	**Akbulak array**	**83.36 321**		P	**P**	**14 22 22.6**	**+2.9**
AB31				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ABKAR	**Akbulak array**	**83.36 321**		*e*P	**P**	**14 22 19.8**	**+0.1**
ISAD	**Sadrabad**	**84.32 303**		*e*P	**P**	**14 22 24.4**	**-1.0**
AKTO	**Aktyubinsk**	**84.87 321**		P	**P**	**14 22 28.0**	**+0.6**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKTO	**Aktyubinsk**	**84.87 321**		P	**P**	**14 22 28.0**	**+0.6**
AKTO	**Aktyubinsk**	**84.87 321**		P	**P**	**14 22 28.0**	**+0.6**
	comp=Z,3.5nm,0.9s,baz=101,slow=6.1,SNR=12						
SVE	**Sverdlovsk**	**85.07 328**		*e*P	**P**	**14 22 28.3**	**+0.1**
SVE				*e*S	**S**	**14 32 51.7**	**-3.3**
SVE				*e*SS	SS	14 38 21.5	-7.5
SVE				pmax	pmax		
	comp=Z,45nm,2.5s						
ISHM	**Shahmirzad**	**85.28 306**		*e*P	**P**	**14 22 29.0**	**-1.1**
KDAK	**Kodiak Island**	**85.49 31**		P	**P**	**14 22 31.1**	**+0.9**
KDAK	**Kodiak Island**	**85.49 31**		P	**P**	**14 22 31.1**	**+0.9**
	comp=Z,36nm,1.1s,baz=226,slow=2.7,SNR=4.3						
ISFB	**Sefidab**	**85.90 305**		*e*P	**P**	**14 22 32.2**	**-0.8**
ARU	**Arti**	**86.06 327**	*d* *i*P		**P**	**14 22 33.7**	**+0.6**
ARU						14 25 52.7	
ARU				S	S	14 32 57.0	-7.8
ARU				SS	**SS**	**14 38 42.4**	**-1.2**
ARU				pmax	pmax		
	comp=Z,13nm,2.5s						
IDMV	**Damavand**	**86.26 306**		*e*P	**P**	**14 22 35.5**	**+0.5**
SYO	**Syowa Base**	**86.94 201**	⇓ *e*PcP		**P**	**14 22 38.0**	**+0.8**
IR5	**Iran Long-Peri**	**87.38 306**		*e*P	**P**	**14 22 40.6**	**+0.3**
IRAZ	**Razeghan**	**87.93 306**		*e*P	**P**	**14 22 41.8**	**-1.2**
RKT	**Rikitea**	**89.12 113**		*e*LR	LR	14 51 14.3	
	comp=Z,1μm,24.0s						
COLD	**Coldfoot**	**89.13 22**		*e*P	**P**	**14 22 46.8**	**-0.9**
	comp=Z,7.0nm,0.9s						
ILAR	**Eielson Array**	**89.88 25**		P	**P**	**14 22 49.5**	**-1.8**
ILAR	**Eielson Array**	**89.88 25**		P	**P**	**14 22 49.5**	**-1.8**
	comp=Z,1.7nm,1.0s,baz=224,slow=2.5,SNR=7.0						
ILAR				LR	LR	15 03 32.8	
	comp=Z,561nm,19.9s,baz=254,slow=36						
RAYN	**Ar Rayn**	**90.48 293**		*e*P	**P**	**14 22 56.1**	**+1.1**
DAWY	**Dawson**	**92.99 26**		*e*P	**P**	**14 23 05.3**	**-0.5**
HYT	**Haines Junctio**	**93.62 29**		*e*P	**P**	**14 23 09.8**	**+1.0**
SKAG	**Skagway**	**94.64 31**		*e*P	**P**	**14 23 12.3**	**-1.0**
	comp=Z,6.4nm,0.6s						
INK	**Inuvik**	**95.54 22**		P	**P**	**14 23 17.9**	**+0.7**
INK	**Inuvik**	**95.54 22**		P	**P**	**14 23 17.9**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=311,slow=4.0,SNR=3.4						
ANN	**Anapa**	**98.06 314**		*e*P	P	14 23 25.1	-4.1
ANN				pmax	pmax		
	comp=Z,32nm,1.0s						
ANN				MLR	MLR		
	comp=N,198nm,19.0s						
ANN				MLR	MLR		
	comp=E,108nm,19.0s						
ANN				MLR	MLR		
	comp=Z,321nm,19.0s						
EIL	**Elat**	**100.20 299**		LR	LR	15 16 50.3	
	comp=Z,319nm,20.8s,baz=270,slow=40						
ARCES	**ARCESS Array B**	**101.01 340**		P	**Pdif**	**14 23 42.5**	**+0.6**
ARCES	**ARCESS Array B**	**101.01 340**		P	**Pdif**	**14 23 42.5**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=73,slow=4.1,SNR=5.2						
NVAR	**Mina Array Bea**	**107.01 51**		Pdif	**Pdif**	**14 24 14.0**	**+4.5**
NVAR	**Mina Array Bea**	**107.01 51**		Pdiff	**Pdif**	**14 24 14.0**	**+4.5**
	comp=Z,0.2nm,0.7s,baz=265,slow=6.9,SNR=3.2						
NVAR				PP	PP	14 28 42.5	+6.4
	comp=Z,0.3nm,0.6s,baz=275,slow=8.8,SNR=4.3						
KECS	**Kecovo**	**109.12 320**		*i* P	**Pdif**	**14 24 17.1**	**-1.3**
KECS	**Kecovo**	**109.12 320**		PDIF	**Pdif**	**14 24 17.1**	**-1.3**
KECS				pPDIF		14 24 28.8	
OKC	**Ostrava-Krasne**	**110.22 322**		AMS	AMS	15 19 40.0	
	comp=Z,400nm,18.9s						
DPC	**Dobruska-Polom**	**111.19 322**		AMS	AMS	15 23 10.0	
ZST	**Bratislava**	**111.36 320**		*e*P	**Pdif**	**14 24 37.4**	**+9.0**
ZST	**Bratislava**	**111.36 320**		pPDIF	**Pdif**	**14 24 37.3**	**+8.9**
TREC	**Trest**	**112.04 322**		AMS	AMS	15 24 20.0	
	comp=Z,700nm,21.3s						
PVCC	**Panska Ves**	**112.18 323**		AMS	AMS	15 24 20.0	
	comp=Z,400nm,17.2s						
PRU	**Pruhonice**	**112.39 323**		AMS	AMS	15 20 10.0	
	comp=Z,400nm,20.0s						
CLL	**Collm**	**112.83 324**		*e*pPP	PP	14 29 27.0	+10
CLL				*e*PS	**PS**	**14 38 55.0**	**+2.3**
CLL				*e*SS	SS	14 45 00.0	+2.5
CLL				*e*		14 50 42.0	
CLL				LmH		15 12 00.0	
	comp=N,1μm,18.2s						
CLL				LmH		15 12 00.0	
	comp=E,900nm,18.7s						
CLL				LmV		15 22 00.0	
	comp=Z,700nm,20.0s						
KHC	**Kasperske Hory**	**113.27 322**		AMS	AMS	15 24 30.0	
	comp=Z,600nm,19.3s						
TXAR	**Lajitas Array**	**120.57 59**		PKP	**PKPdf**	**14 28 48.0**	**+3.0**
TXAR	**Lajitas Array**	**120.57 59**		PKP	**PKPdf**	**14 28 48.0**	**+3.0**
	comp=Z,0.1nm,0.5s,baz=224,slow=2.5,SNR=2.2						
TORD	**Torodi Ar. Bea**	**132.16 283**		PKP	**PKPdf**	**14 29 06.2**	**-1.2**
TORD	**Torodi Ar. Bea**	**132.16 283**		PKP	**PKPdf**	**14 29 06.2**	**-1.2**
	comp=Z,0.9nm,0.9s,baz=85,slow=2.3,SNR=3.1						
TORD				PP	PP	14 31 39.9	+10
	comp=Z,1.2nm,1.0s,baz=68,slow=5.6,SNR=4.2						
NNA	**Nana**	**145.11 119**		PKPbc	**PKPbc**	**14 29 31.1**	**+0.5**
NNA	**Nana**	**145.11 119**		PKPbc	**PKPbc**	**14 29 31.1**	**+0.5**
	comp=Z,6.0nm,0.3s,baz=250,slow=12,SNR=2.9						
ATAH	**Atahualpa**	**145.61 110**		PKPbc	**PKPab**	**14 29 35.1**	**+2.1**
ATAH	**Atahualpa**	**145.61 110**		PKPbc	**PKPab**	**14 29 35.1**	**+2.1**
	comp=Z,9.2nm,0.8s,baz=326,slow=13,SNR=4.6						
CPUP	**Villa Florida**	**147.04 161**		PKPbc	**PKPab**	**14 29 37.8**	**+0.2**
CPUP	**Villa Florida**	**147.04 161**		PKPbc	**PKPab**	**14 29 37.8**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=298,slow=2.6,SNR=4.2						
LPAZ	**La Paz**	**149.66 135**		PKPbc	**PKPbc**	**14 29 45.5**	**+1.5**
LPAZ	**La Paz**	**149.66 135**		PKPbc	**PKPbc**	**14 29 45.5**	**+1.5**
	comp=Z,2.4nm,0.6s,baz=166,slow=23,SNR=8.7						
ROSC	**El Rosal**	**151.89 89**		PKPbc	**PKPbc**	**14 29 51.7**	**+2.6**
ROSC	**El Rosal**	**151.89 89**		PKPbc	**PKPbc**	**14 29 51.7**	**+2.6**
	comp=Z,4.7nm,0.3s,baz=115,slow=22,SNR=3.7						
SIV	**San Ignacio**	**154.45 145**		PKPab	**PKPab**	**14 30 09.9**	**+1.5**
SIV	**San Ignacio**	**154.45 145**		PKPab	**PKPab**	**14 30 09.9**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=249,slow=5.9,SNR=6.0						
WHZ	**Wether Hill Ro**	**1.02 113**		P*	Pb	14 12 58.4	-0.3
WHZ				S*	Sn	14 13 12.2	-0.4
WHZ				AML	AML	14 13 18.2	
MLZ	**Mavora Lakes**	**1.11 83**	⇓	PN	Pn	14 12 59.0	-1.3
MLZ				SN	Sb	14 13 13.4	-1.1
MLZ				AML	AML	14 13 13.8	
MSZ	**Milford Sound**	**1.25 49**		PN	Pn	14 13 01.7	-0.3
MSZ				SN	Sg	14 13 20.6	+0.4
MSZ				AML	AML	14 13 21.1	
MSZ				AML	AML	14 13 21.8	
MSZ				AML	AML	14 13 22.7	
APZ	**The Paps**	**1.64 145**		PN	Pn	14 13 08.3	+0.8
APZ				SN	Sb	14 13 29.6	-0.1
WKZ	**Wanaka**	**1.83 69**		PN	Pb	14 13 11.6	-1.0
WKZ				AML	AML	14 13 40.9	
WKZ				AML	AML	14 13 43.9	
EAZ	**Earnscleugh**	**1.92 83**		PN	Pn	14 13 12.6	+1.3
EAZ				AML	AML	14 13 42.9	
EAZ				AML	AML	14 13 43.9	
SYZ	**Scrubby Hill**	**2.05 121**		PN	Pb	14 13 14.6	-1.6
JCZ	**Jackson Bay**	**2.09 48**		PN	Pn	14 13 14.8	+1.1
JCZ				AML	AML	14 13 50.0	
JCZ				AML	AML	14 13 50.5	
TUZ	**Tuapeka**	**2.17 103**		PN	Pb	14 13 16.9	-1.3
TUZ				AML	AML	14 13 48.9	
TUZ				AML	AML	14 14 29.9	
LBZ	**Lake Benmore**	**2.77 68**		PN	Pn	14 13 25.0	+2.0
LBZ				AML	AML	14 13 56.2	
LBZ				AML	AML	14 15 19.3	
ODZ	**Otahua Downs**	**2.88 82**	⇑	PN	Pn	14 13 24.8	+0.2
ODZ				AML	AML	14 13 48.1	
ODZ				AML	AML	14 15 55.6	
FOZ	**Fox Glacier**	**2.93 50**		AML	AML	14 14 44.1	

*ISCJB **31** 14:12:10.8±0.7, 21°.45S±0°.05×66°.8W±0°.1, h247km±15km, mb3.5/1, Error ellipse: s-maj=16.6km s-min=8.2km az=9.3*
*IDC **31** 14:12:11.5±1.6, 21°.36S×66°.64W, h238km±20km, mb3.3/1, mb1 3.4/5, mb1mx3.2/20, mbtmp3.3/5, Error ellipse: s-maj=34.4km s-min=17.7km az=78.0*
*GUC **31** 14:12:13.3±0.4, 21°.50S×67°.19W, h257km±6km, ML4.6*

ISC 31 14:12:11.2±0.9, 21°.42S±0°.07×66°.8W±0°.1, h244km±17km, n12, σ1s29/18, 1C-2D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
LVC	**Limon Verde**	**2.32**	**239**	⇑ *i*P		**Pn**	**14 12 57.9**	**+1.4**
LVC				*i* S		**S**	**14 13 32.0**	**-0.2**
PB09	**Plate Boundary**	**2.34**	**260**	⇓ *i*P		**Pn**	**14 12 57.8**	**+1.2**
PB09				*i* S		**S**	**14 13 31.7**	**-0.6**
PB09				AML		AML	14 13 39.7	
	comp=E,2μm,0.3s							
PB01	**Plate Boundary**	**2.57**	**278**	*e*P		**Pn**	**14 12 59.8**	**+0.9**
PB01				*e*S		**S**	**14 13 35.5**	**-0.9**
PB01				AML		AML	14 13 36.5	
	comp=N,1μm,0.2s							
PB04	**Plate Boundary**	**2.67**	**251**	*e*P		Pn	14 13 07.6	+7.9
PB04				*i* S		S	14 13 48.4	+10
MNMC	**Minimini**	**3.50**	**310**	⇓ *i*P		**Pn**	**14 13 10.2**	**+1.0**
MNMC				*i* S		**S**	**14 13 54.7**	**-0.4**
ANCH	**Antofagasta**	**4.05**	**236**	*e*P		**Pn**	**14 13 16.7**	**+1.4**
ANCH				*e*S		**S**	**14 14 04.5**	**-1.7**
PB10	**Plate Boundary**	**4.08**	**239**	*e*P		**Pn**	**14 13 16.3**	**+0.7**
PB10				*e*S		**S**	**14 14 04.4**	**-2.5**
LPAZ	**La Paz**	**5.26**	**346**	P		**Pn**	**14 13 31.9**	**+1.1**
	comp=N,3.0nm,0.3s,baz=135,slow=5.4,SNR=66							
LPAZ				S		**S**	**14 14 32.9**	**-1.1**
	comp=N,1.5nm,0.3s,baz=347,slow=14,SNR=18							
SIV	**San Ignacio**	**7.63**	**46**	P		**Pn**	**14 13 58.6**	**-1.3**
	comp=N,13nm,0.3s,baz=254,slow=9.7,SNR=195							
CPUP	**Villa Florida**	**9.92**	**121**	P		**Pn**	**14 14 28.4**	**-0.4**
	comp=N,0.2nm,0.3s,baz=298,slow=6.9,SNR=6.7							
CFAA	**Coronel Fontan**	**10.23**	**187**	P		**Pn**	**14 14 33.7**	**+1.0**
	comp=N,0.2nm,0.3s,baz=18,slow=11,SNR=15							
TORD	**Torodi Ar. Bea**	**75.45**	**69**	P		**P**	**14 23 29.2**	**+0.4**
	comp=N,0.5nm,0.4s,baz=244,slow=5.7,SNR=7.5							

WEL 31 14:12:39.7±0.1, 45°.50S×166°.61E, h20km, ML3.5/17, 1C-1D, Error ellipse: s-maj=1.3km s-min=0.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DCZ	**Deep Cove**	**0.39**	**87**	P*		Pg	14 12 47.4	-0.4
DCZ				S*		Sg	14 12 53.0	-0.3
DCZ				AML		AML	14 12 53.0	
DCZ				AML		AML	14 12 53.4	
DCZ				AML		AML	14 12 53.4	

IDC 31 14:33:29.9±3.6, 4°.71N×103°.78W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.7/19, mbtmp3.5/4, Error ellipse: s-maj=147.1km s-min=27.4km az=56.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TXAR	**Lajitas Array**	**24.49**	**0**	P		P	14 38 52.0	+0.9
	0.3nm,0.7s,baz=190,slow=10.0,SNR=3.4							
PDAR	**Pinedale Array**	**38.24**	**353**	P		P	14 40 50.9	-1.2
	1.0nm,1.0s,baz=150,slow=7.3,SNR=5.0							
LPAZ	**La Paz**	**40.97**	**121**	P		P	14 41 15.4	-0.2
	1.3nm,1.1s,baz=281,slow=5.1,SNR=2.9							
ILAR	**Eielson Array**	**67.32**	**341**	P		P	14 44 26.8	+0.4
	0.5nm,0.8s,baz=160,slow=5.6,SNR=5.3							

*IDC **31** 14:35:44.2±1.4, 4°.94S×133°.44E, h0km, mb3.8/3, mb1 4.2/8, mb1mx3.9/20, mbtmp4.1/8, ML3.9/5, Error ellipse: s-maj=42.3km s-min=21.5km az=72.0*
*ISCJB **31** 14:35:45.7±0.7, 4°.98S±0°.05×133°.91E±0°.07, h28km, mb3.7/3, Error ellipse: s-maj=10.2km s-min=7.2km az=178.7*
*AUST **31** 14:35:48.3±0.0, 4°.88S×133°.98E, h76km, Error ellipse: s-maj=1.0km s-min=0.9km az=225.0*

ISC 31 14:35:47.5±0.9, 5°.03S±0°.07×133°.96E±0°.09, h28km, n19, σ2s14/16, mb3.8/3, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
FAKI	**Fak Fak**	**2.70**	**321**	P		**Pn**	**14 36 26.1**	**-3.0**
	baz=2.6,SNR=10							
AAI	**Ambon**	**5.90**	**283**	P		**Pn**	**14 37 13.8**	**+0.6**
	baz=5.9,SNR=8.4							
JAY	**Jayapura**	**7.17**	**70**	P		**Pn**	**14 37 31.8**	**+1.1**
	baz=7.1,SNR=3.7							
KDU	**Kakadu**	**7.75**	**191**	P		Pn	14 37 41.7	+3.2
	baz=7.9,SNR=22							
MTN	**Manton Dam**	**8.25**	**200**	P		Pn	14 37 48.4	+3.0
	baz=8.4,SNR=38							
MTN				S		Sn	14 39 26.0	+8.2
	baz=8.4,SNR=5.8							
SOEI	**Soe**	**10.70**	**243**	P		**Pn**	**14 38 21.5**	**+2.4**
	baz=11,SNR=4.8							
BATI	**Baumata**	**11.43**	**243**	P		Pn	14 38 23.9	-5.1
	1.4nm,0.3s,baz=86,slow=6.8,SNR=2.2							
KNRA	**Kununurra**	**11.75**	**205**	P		**Pn**	**14 38 34.6**	**+1.2**
	baz=12,SNR=24							
KNRA				S		**Sn**	**14 40 44.5**	**+0.8**
	baz=12,SNR=4.9							
COEN	**Coen**	**12.69**	**135**	P		**Pn**	**14 38 45.5**	**-0.8**
	baz=13,SNR=4.3							
MANU	**Manus Island**	**13.70**	**78**	S		S	14 41 47.5	-6.1
	baz=14,SNR=3.3							
WRA	**Warramunga Arr**	**14.83**	**179**	Pn		**Pn**	**14 39 16.2**	**+0.8**
	0.3nm,0.3s,baz=354,slow=13,SNR=7.7							
WRA				Sn		**Sn**	**14 41 56.0**	**-3.0**
	0.5nm,0.3s,baz=12,slow=22,SNR=6.3							
FITZ	**Fitzroy Crossi**	**15.33**	**211**	Pn		**Pn**	**14 39 20.5**	**-1.6**
	0.8nm,0.3s,baz=33,slow=8.9,SNR=21							
FITZ				Sn		Sn	14 42 02.9	-8.2
	0.2nm,0.3s,baz=312,slow=6.6,SNR=3.5							
FITZ	**Fitzroy Crossi**	**15.33**	**211**	P		**Pn**	**14 39 22.9**	**+0.9**
	baz=16,SNR=16							
ASAR	**Alice Springs**	**18.53**	**180**	P		**Pn**	**14 40 04.2**	**+1.9**
	0.8nm,0.3s,baz=5.1,slow=9.7,SNR=88							

baz=1.7,SNR=1000
CISI S Sb 14 57 07.6 +0.5
baz=1.7,SNR=6.0
BJII Banjamegara 1.82 32 P Pb 14 56 50.8 -0.1
YOGI Yogyakarta 1.88 56 P Pn 14 56 49.9 +1.4
YOGI S Sn 14 57 12.8 +1.6
UGM Wanagama 2.02 62 *e*Pn Pn 14 56 51.9 +1.4
UGM Wanagama 2.02 62 P Pn 14 56 52.0 +1.6
UGM S Sn 14 57 16.3 +1.5
UGM Wanagama 2.02 62 P Pn 14 56 51.8 +1.4
baz=2.1,SNR=268
UGM S Sn 14 57 16.8 +2.0
baz=2.1,SNR=8.2
LEM Lembang 2.32 332 P Pb 14 56 59.5 -0.1
LEM Lembang 2.32 332 P Pb 14 56 59.0 -0.6
baz=2.5,SNR=830
WOJI Wonogiri, Jawa 2.41 65 P Pn 14 56 56.8 +1.1
WOJI S Sn 14 57 26.8 +2.5
PCJI Pacitan 2.51 74 P Pn 14 56 58.2 +1.0
PCJI S Sb 14 57 30.9 -2.3
SKJI Sukabumi 2.85 311 P Pn 14 57 03.0 +1.1
SKJI S Sn 14 57 38.1 +2.8
DBJI Dramaga 3.04 320 P Pb 14 57 08.5 -3.1
DBJI S Sb 14 57 46.2 -2.1
PWJI Pagerwojo 3.16 74 P Pn 14 57 07.5 +1.4
PWJI S Sn 14 57 44.3 +1.4
SJI Sawahan 3.21 69 P Pn 14 57 09.2 +2.3
SJI S Sn 14 57 48.3 +3.9
XMI Christmas Isla 3.38 242 P Pn 14 57 06.8 -2.3
baz=3.3,SNR=48
XMI S Sn 14 57 40.3 -8.0
baz=3.3,SNR=6.7
TNG Tangerang 3.40 322 P Pb 14 57 14.0 -3.8
TNG Tangerang 3.40 322 P Pb 14 57 14.3 -3.5
XMIS Christmas Isla 3.43 242 *e*Pn Pn 14 57 07.2 -2.6
XMIS Christmas Isla 3.43 242 P Pn 14 57 07.9 -1.9
baz=3.3,SNR=9.7
XMIS S Sn 14 57 41.7 -7.8
baz=3.3,SNR=9.2
KRKI Karangkates 3.75 79 P Pn 14 57 16.8 +2.6
SBJI Serang 3.77 317 P Pn 14 57 18.7 +4.2
GMJI Gumukmas 4.70 83 P Pn 14 57 29.7 +2.4
BLSI Bandar Lampung 4.92 315 P Pn 14 57 35.6 +5.3
920nm,0.8s,10µm2.9nm
BLJI Banyuglugur 4.94 77 P Pn 14 57 33.4 +2.7
KASI Kota Agung 5.37 308 P Pn 14 57 40.8 +4.3
568nm,1.0s,12µm3.3nm
KMMI Kalianget 5.50 71 P Pb 14 57 52.9 -0.6
BYJI Banyuwangi 5.60 84 P Pb 14 57 49.5 -5.8
KLSI 5.76 316 P Pn 14 57 46.2 +4.3
399nm,1.0s,7µm2.7nm
LWLI Liwa 6.02 309 P Pn 14 57 52.3 +6.7
950nm,0.7s,15µm5.8nm
TPI Tanjungpandan 6.18 350 P Pn 14 57 53.3 +5.6
330nm,0.9s,3µm1.1nm
IGBI Denpasar 6.34 90 P Pn 14 57 51.8 +1.9
700nm,0.9s,12µm4.3nm
DNP Denpasar 6.41 89 P Pn 14 57 59.9 +9.1
PBKI Pangkalan Bun 6.80 26 P Pn 14 58 01.4 +5.2
2µm,1.0s,15µm6.0nm
PMBI Palembang 7.11 326 P Pn 14 58 06.5 +6.1
989nm,1.1s,29µm4.5nm
PPBI Pangkal Pinang 7.16 339 P Pn 14 58 06.2 +5.1
268nm,1.0s,14µm1.2nm
MNAI Manna 7.29 308 P Pn 14 58 06.2 +3.3
733nm,1.0s,10µm2.9nm
MNAI Manna 7.29 308 P Pn 14 58 05.6 +2.7
baz=7.4,SNR=22
KSI Kapahiang 8.01 310 P Pn 14 58 16.1 +3.2
821nm,0.8s,8µm
BBKI Banjar Baru 8.12 49 P Pn 14 58 19.9 +5.6
248nm,0.9s,3µm
MASI Maura Aman, Be 8.61 311 P Pn 14 58 23.6 +2.4
640nm,1.0s,5µm
STKI Sintang 9.30 17 P Pn 14 58 35.6 +5.0
291nm,1.1s
MTKI Muara Teweh, K 9.99 38 P Pn 14 58 47.5 +7.4
KSM Kuching 10.41 9 *e*Pn Pn 14 58 44.3 -1.4
KSM Kuching 10.41 9 P Pn 14 58 50.6 +4.9
KSM Kuching 10.41 9 P Pn 14 58 50.6 +4.9
87nm,1.0s,1µm
KSM Kuching 10.41 9 P Pn 14 58 50.5 +4.7
baz=11,SNR=9.6
BTDF Bukit Timah Da 11.31 334 P Pn 14 59 04.9 +6.8
baz=12,SNR=4.6
BTDF P Pn 14 59 04.9 +6.8
baz=12,SNR=4.6
WSI Waingapu 11.44 95 P Pn 14 59 08.2 +8.3
WSI Waingapu 11.44 95 P Pn 14 58 57.5 -2.4
baz=11,SNR=4.1
WSI S Sn 15 01 00.9 -5.9
baz=11,SNR=5.8
KAPI Kappang 11.59 71 *e*Pn Pn 14 59 01.4 -0.6
KAPI Kappang 11.59 71 P Pn 14 59 05.4 +3.4
194nm,1.2s,2µm
KAPI Kappang 11.59 71 Pn Pn 14 59 03.5 +1.5
3.5nm,0.3s,baz=254,slow=11,SNR=20
KAPI LR LR 15 04 48.6
comp=Z,5µm,19.0s,baz=262,slow=45
MYKOM Kota Tinggi 11.67 335 P Pn 14 59 06.6 +3.6
MYKOM Kota Tinggi 11.67 335 P Pn 14 59 06.9 +4.0
75nm,1.1s,1µm
SBUM Sibu 11.78 17 P Pn 14 59 10.3 +5.7
SBUM Sibu 11.78 17 P Pn 14 59 10.0 +5.4
72nm,1.4s,1µm
PPI Padang Panjang 11.79 315 P Pn 14 59 04.3 -0.3
83nm,1.0s,921nm
PPI Padang Panjang 11.79 315 P Pn 14 59 04.3 -0.3
baz=12,SNR=3.5
BKSI Bulukumba 11.84 73 P Pn 14 59 09.5 +4.1
182nm,1.2s,2µm
BKNI Bangkinang 11.93 320 P Pn 14 59 08.0 +1.4
183nm,1.0s,2µm
BSSI Bau Bau, Buton 11.97 78 P Pn 14 59 10.3 +3.2
287nm,1.4s,3µm
SPSI Sidrap Palu 12.01 67 P Pn 14 59 11.7 +4.1
128nm,1.2s,2µm
KGM Kluang 12.10 333 P Pn 14 59 12.3 +3.4
TTSI Tana Toraja 12.46 63 P Pn 14 59 18.0 +4.2
207nm,1.1s,2µm
BTM Bintulu 12.76 20 P P 14 59 25.3 -3.5
MMRI Maumere 13.35 90 P Pn 14 59 24.9 -1.1
254nm,0.8s,2µm
FRIM Kepong 13.97 329 P Pn 14 59 35.8 +1.3
SKSI Soroako, Sulaw 14.04 64 P Pn 14 59 39.2 +3.8
88nm,1.4s,2µm
BATI Baumata 14.79 96 Pn Pn 14 59 42.6 -3.0
BATI Baumata 14.79 96 Pn Pn 14 59 42.6 -3.0
baz=299,slow=10
PSI Prapat 15.18 319 Pn Pn 14 59 45.8 -5.1
PSI Prapat 15.18 319 Pn Pn 14 59 45.8 -5.1
0.9nm,0.3s,baz=166,slow=13,SNR=13
PSI Prapat 15.18 319 P Pn 14 59 46.1 -4.8
baz=15,SNR=14
KTGM Kuala Trenggan 15.18 338 P P 14 59 53.4 -2.2
IPM Ipoh 15.34 330 *e*Pn Pn 14 59 51.2 -1.7
42nm,0.8s
IPM Ipoh 15.34 330 P Pn 14 59 53.6 +0.7
IPM Ipoh 15.34 330 P P 14 59 58.6 +1.2
58nm,0.8s
SOEI Soe 15.36 94 P Pn 14 59 53.5 +0.2
216nm,0.7s,5µm
SOEI Soe 15.36 94 P Pn 14 59 51.4 -1.9
baz=15,SNR=38
TOLI Toli-Toli 15.60 51 P P 15 00 03.1 +2.8
TSI Tuntungan 15.94 320 P Pn 14 59 59.4 -1.3
80nm,0.6s
TSM Tawau 15.95 35 P P 15 00 06.5 +2.3
MRSI Marisa 16.11 55 P P 15 00 05.5 -0.5
698nm,0.9s,5µm
MBWA Marble Bar 16.17 140 *e*Pn Pn 15 00 00.9 -2.7
35nm,1.0s
KULM Kulim 16.22 330 *e*Pn Pn 15 00 02.7 -1.6
43nm,1.0s
KULM Kulim 16.22 330 P P 15 00 06.3 -0.9
KULM Kulim 16.22 330 P P 15 00 08.9 +1.7
61nm,0.7s
KKM Kota Kinabalu 16.60 27 *e*Pn Pn 15 00 07.8 -1.4
110nm,1.0s
KKM Kota Kinabalu 16.60 27 P P 15 00 11.7 +0.3
KKM Kota Kinabalu 16.60 27 P P 15 00 14.7 +3.2
109nm,1.0s,2µm
KKM Kota Kinabalu 16.60 27 P P 15 00 12.0 +0.5
baz=17,SNR=4.0
SDKM Sandakan 16.71 31 P P 15 00 12.7 0.0
MYLDM Lahad Datu 17.03 35 P P 15 00 20.2 +4.1
MYLDM Lahad Datu 17.03 35 P P 15 00 19.8 +3.7
140nm,1.2s,5µm
GTOI Gorontalo 17.08 57 P P 15 00 17.3 +0.6
429nm,1.0s,6µm
KDM Kudat 17.65 27 P P 15 00 26.9 +3.9
SKLT Songkhla 17.88 333 P sP 15 00 39.9 +3.2
SKLT Songkhla 17.88 333 P sP 15 00 39.9 +3.2
LHMI Lhok Sumawe 18.29 320 P Pn 15 00 41.3 +11
baz=18,SNR=3.6
FITZ Fitzroy Crossi 18.81 121 P Pn 15 00 36.4 +0.1
FITZ S Sn 15 03 51.3 -15
FITZ Fitzroy Crossi 18.81 121 P Pn 15 00 36.4 +0.1
0.2nm,0.3s,baz=264,slow=4.9,SNR=3.0
FITZ S Sn 15 03 51.3 -15
1.4nm,0.3s,baz=56,slow=22,SNR=4.0
FITZ LR LR 15 07 51.8
comp=Z,2µm,19.9s,baz=303,slow=37
MNI Manado 19.05 58 P Pn 15 00 40.1 +0.7
198nm,1.0s,3µm
BSI Banda Aceh 19.58 316 P Pn 15 00 47.1 +1.4
172nm,1.0s,2µm
MEEK Meekatharra 19.99 153 P P 15 00 48.7 +0.1
baz=20,SNR=34
MEEK S S 15 04 19.8 -12
baz=20,SNR=6.1
AAI Ambon 20.02 76 P P 15 00 49.5 +0.5
698nm,0.9s,6µm
AAI Ambon 20.02 76 P P 15 00 49.8 +0.8
baz=20,SNR=9.5
LBMI Labuha 20.41 67 P Pn 15 00 54.9 -0.6
1µm,1.0s,9µm
KNRA Kununurra 20.69 111 P P 15 00 56.9 +0.6
baz=21,SNR=31
MSAI Masohi 20.82 76 P Pn 15 01 04.1 +3.9
TNTI Ternate 20.90 64 P Pn 15 01 00.0 -1.2
672nm,1.1s,6µm
MORW Morawa 21.22 162 P P 15 01 02.0 +0.1
baz=21,SNR=9.8
MORW S S 15 04 45.0 -12
baz=21,SNR=4.6
MTN Manton Dam 22.34 102 P P 15 01 14.9 +0.8
baz=22,SNR=11
BLDU Ballidu 22.87 162 P P 15 01 30.6 +11
baz=23,SNR=5.5
DAV Davao City (W) 23.09 47 LR LR 15 10 43.5
comp=Z,3µm,21.6s,baz=239,slow=38
KDU Kakadu 23.62 101 P P 15 01 27.4 +0.2
baz=24,SNR=14
SWI Sorong 23.80 72 P P 15 01 30.4 +1.5
214nm,0.9s,2µm
KLBR Kellerberrin 24.10 161 P P 15 01 31.1 -0.5
baz=24,SNR=8.4
NAYO Nakonayok 24.19 342 P P 15 01 34.7 +2.2
34nm,1.6s,7µm
NWAO Narrogin (SRO) 25.19 163 *e*P P 15 01 39.6 -1.8
58nm,1.5s
NWAO Narrogin (SRO) 25.19 163 P P 15 01 40.8 -0.6
14nm,0.7s,baz=326,slow=9.6,SNR=7.2
NWAO LR LR 15 10 47.7
comp=Z,3µm,21.0s,baz=337,slow=35
TGY Tagaytay City 25.85 28 LR LR 15 14 41.5
comp=Z,10nm,18.4s,baz=44,slow=43
PANO Nakornpanom 26.18 351 P P 15 01 53.2 +2.6
190nm,0.9s
RKPI Ransiki, Papua 26.36 75 P P 15 01 54.1 +1.8
520nm,1.0s,4µm
PBKT Sadao Pong 26.43 343 P P 15 01 52.8 0.0
49nm,0.9s
WRA Warramunga Arr 27.09 117 P P 15 01 57.6 -1.2
WRA Warramunga Arr 27.09 117 P P 15 01 57.6 -1.2
32nm,0.9s,baz=288,slow=11,SNR=78
WRAB Tennant Creek 27.09 117 P P 15 01 59.0 +0.1
276nm,0.8s,SNR=15
WRAB Tennant Creek 27.09 117 *e*P P 15 01 58.4 -0.5
WRAB pmax pmax
comp=Z,86nm,0.9s
WRAB MLR MLR
comp=Z,1µm,19.0s
WRAB Tennant Creek 27.09 117 *e*P P 15 01 58.4 -0.5
comp=Z,86nm,0.9s
WRAB LR LR
comp=Z,1µm,19.0s
LOEI Loei 27.24 344 P P 15 02 00.6 +0.5
comp=Z,39nm,0.8s
QIZ Qiongzhong 27.76 2 P P 15 02 05.5 +0.8
QIZ pP **pP** 15 02 10.5 -2.5
QIZ sP **sP** 15 02 16.8 +0.3
QIZ S **S** 15 06 49.5 +3.7
QIZ sS **sS** 15 06 59.8 +0.3
QIZ pmax pmax
comp=Z,15nm,2.0s
QIZ LR LR
comp=N,2µm,16.0s
QIZ LR LR
comp=E,440nm,19.4s
QIZ LR LR
comp=Z,2µm,21.7s
QIZ Qiongzhong 27.76 2 PFAKE 15 02 20.0 +15
QIZ LR LR
comp=Z,2µm,20.0s
ASAR Alice Springs 28.21 124 P P 15 02 09.4 +0.5
ASAR PcP **PcP** 15 05 23.6 +1.4
ASAR Alice Springs 28.21 124 P P 15 02 09.4 +0.5
comp=Z,12nm,0.7s,baz=299,slow=8.9,SNR=33
ASAR PcP **PcP** 15 05 23.6 +1.4
comp=Z,4.1nm,0.6s,baz=306,slow=1.9,SNR=6.0
ASAR LR LR 15 14 25.0
comp=Z,2µm,18.9s,baz=297,slow=39
FORT Forrest 28.28 143 *e*P P 15 02 08.3 -1.1
comp=Z,38nm,0.8s
LAMP Lampang 28.67 342 P P 15 02 13.4 +0.5
comp=Z,23nm,0.9s,comp=Z,162nm
CMAR Chiang Mai Arr 28.83 340 P P 15 02 14.3 0.0
CMAR PcP **PcP** 15 05 25.9 +2.2
CMAR ScP **ScP** 15 09 05.4 +2.0
CMAR Chiang Mai Arr 28.83 340 P P 15 02 14.3 0.0
comp=Z,23nm,0.9s,baz=177,slow=8.1,SNR=55
CMAR PcP **PcP** 15 05 25.9 +2.2
comp=Z,7.4nm,0.8s,baz=197,slow=3.2,SNR=6.6
CMAR ScP **ScP** 15 09 05.4 +2.0
comp=Z,1.8nm,1.1s,baz=194,slow=3.9,SNR=4.1
CMAR LR LR 15 14 25.6
comp=Z,2µm,20.6s,baz=177,slow=38
CMMT Chiang Mai 29.16 341 P P 15 02 16.9 -0.4
comp=Z,30nm,1.0s
CMMT Chiang Mai 29.16 341 P P 15 02 16.9 -0.4
comp=Z,30nm,1.0s
CHTO Chiang Mai 29.17 341 *e*P P 15 02 16.4 -0.9
CHTO pmax pmax
comp=Z,29nm,1.0s
CHTO MLR MLR
comp=Z,2µm,22.0s
CHTO Chiang Mai 29.17 341 *e*P P 15 02 16.4 -0.9
comp=Z,29nm,1.0s
CHTO LR LR
comp=Z,2µm,22.0s
CHTO Chiang Mai 29.17 341 P P 15 02 17.2 -0.1
comp=Z,33nm,1.1s
CHTO Chiang Mai 29.17 341 P P 15 02 17.2 -0.1
comp=Z,33nm,1.1s
CMAI Chiengmai2 30.18 342 P P 15 02 28.6 +2.1
comp=Z,32nm,0.7s
PALK Pallekele 32.22 299 *e*P P 15 02 42.6 -1.8
comp=Z,50nm,1.0s
JAY Jayapura 32.42 81 P P 15 02 53.4 +7.2
JAY Jayapura 32.42 81 P P 15 02 45.4 -0.8
baz=32,SNR=5.7
JAY S S 15 07 49.5 -10
baz=32,SNR=5.1
TPUB Ta-pu 34.04 20 *e*P P 15 02 59.2 -0.9
comp=Z,76nm,1.4s
COEN Coen 34.11 102 *e*P P 15 03 00.3 -0.7
comp=Z,555nm,1.0s
COEN Coen 34.11 102 P P 15 03 02.0 +1.1
baz=34,SNR=20
KMI Kunming 34.30 350 P P 15 03 04.0 +1.4
KMI pP **pP** 15 03 12.0 +1.0
KMI sP **sP** 15 03 15.0 +0.6
KMI PP **PP** 15 04 21.5 +0.8
KMI S **S** 15 08 31.3 +2.8
KMI sS **sS** 15 08 43.8 +1.6
KMI pmax pmax
comp=Z,10.0nm,1.0s
KMI pmax pmax
comp=Z,160nm,6.4s
KMI LR LR
comp=N,3µm,15.3s
KMI LR LR 15 04 48.6
comp=E,4µm,14.3s
KMI LR LR 15 04 48.6
comp=Z,4µm,16.3s
YULB Yu-li 34.35 21 *e*P P 15 03 01.8 -1.0
comp=Z,16nm,0.7s
SSLB Suanglung 34.60 20 *e*P P 15 03 03.7 -1.2
comp=Z,51nm,0.8s
BBOO Buckleboo 34.71 137 *e*P P 15 03 04.9 -1.0
comp=Z,507nm,1.0s
BBOO Buckleboo 34.71 137 P P 15 03 06.1 +0.2
baz=35,SNR=5.6
QZH Quanzhou 34.97 16 P P 15 03 08.0 -0.1
QZH *e*S **S** 15 08 39.0 +0.7
QZH LR LR
comp=N,4µm,19.7s
QZH LR LR
comp=E,5µm,24.8s
QZH LR LR
comp=Z,4µm,20.2s
GYA Guiyang 35.19 357⇑ *i*P P 15 03 10.8 +0.7
GYA pP **pP** 15 03 19.5 +1.0
GYA PP **PP** 15 04 32.5 +2.1
GYA PcP **PcP** 15 05 41.0 -0.1
GYA S **S** 15 08 42.0 +0.1
GYA ScP **ScP** 15 09 24.3 -0.7
GYA SS **SnSn** 15 10 58.8 -1.6
GYA pmax pmax
comp=Z,60nm,1.0s
GYA pmax pmax
comp=Z,210nm,4.6s
GYA LR LR
comp=N,1µm,22.9s
GYA LR LR
comp=E,780nm,19.1s
GYA LR LR
comp=Z,2µm,20.7s
YHNB Yeheng 35.56 20 *e*P P 15 03 12.4 -0.9
comp=Z,132nm,1.5s
YHNB LR LR
comp=Z,3µm,20.0s
MTSU Mount Surprise 35.74 109 P P 15 03 16.9 +2.0
baz=36,SNR=24
DGAR Diego Garcia 35.93 270 PFAKE 15 03 30.0 +13
DGAR LR LR
comp=Z,2µm,19.0s
TRD Trivandrum 36.06 298 *e*P P 15 03 15.8 -1.9
VIS Vishakhapatnam 36.45 317 *e*P P 15 03 21.4 +0.5
CTA Charters Tower 37.91 111 P P 15 03 34.4 +1.0
CTA Charters Tower 37.91 111 P P 15 03 34.4 +1.0
comp=Z,10nm,0.8s,baz=274,slow=13,SNR=12
CTAO Charters Tower 37.91 111 PFAKE 15 03 40.0 +6.6
CTAO LR LR
comp=Z,2µm,20.0s
PMG Port Moresby 37.93 94 P P 15 03 33.4 -0.2
PMG Port Moresby 37.93 94 P P 15 03 33.4 -0.2
comp=Z,30nm,0.9s,baz=147,slow=4.9,SNR=7.2
PMG LR LR 15 19 44.2
comp=Z,721nm,19.0s,baz=62,slow=37
SHL Shillong 37.97 335 *e*P P 15 03 34.0 +0.1
STKA Stephens Creek 38.11 132 *e*P P 15 03 35.1 +0.1
comp=Z,15nm,0.8s
STKA Stephens Creek 38.11 132 P P 15 03 36.0 +1.0
comp=Z,77nm,0.8s,baz=307,slow=8.2,SNR=44
STKA LR LR 15 21 08.0
comp=Z,2µm,18.1s,baz=295,slow=39
STKA Stephens Creek 38.11 132 P P 15 03 36.0 +1.0
baz=38,SNR=67
ENH Enshi 38.94 1 *e*P P 15 03 39.4 -2.4
comp=Z,27nm,0.8s
ENH LR LR
comp=Z,12nm,21.0s
MANU Manus Island 39.03 82 P sP 15 03 59.5 +4.8
baz=39,SNR=4.5
MANU S ScP 15 09 40.0 +0.5
baz=39,SNR=4.5
WHN Wuhan 39.57 8⇑ *i*P P 15 03 46.5 -0.6
WHN S S 15 09 55.0 +6.9
WHN LR LR
comp=N,2µm,14.3s
WHN LR LR
comp=E,3µm,25.4s
WHN LR LR
comp=Z,4µm,19.3s
HYB Hyderabad 39.65 311 *i* P P 15 03 48.0 0.0
HYB *e*S **S** 15 09 52.0 +2.1
CD2 Chengdu 39.85 353⇑ *i*P P 15 03 51.3 +1.8
CD2 pP **pP** 15 03 58.8 +0.9
CD2 sP **sP** 15 04 02.0 +0.6
CD2 PP **PnPn** 15 05 28.0 +3.1
CD2 PcP **PcP** 15 05 56.3 +1.2
CD2 S **S** 15 09 56.0 +3.5
CD2 sS **sS** 15 10 08.0 +1.6
CD2 ScS **ScS** 15 13 54.3 -1.0
CD2 pmax pmax
comp=Z,80nm,0.8s
CD2 pmax pmax
comp=Z,350nm,5.8s
CD2 LR LR
comp=E,2µm,14.2s
CD2 LR LR
comp=Z,2µm,16.8s
JOW Kunigami 40.25 28 *e*P P 15 03 52.3 -0.5
comp=Z,44nm,1.0s
ARPS Mount Arapiles 40.88 138 P P 15 03 59.8 +1.8
baz=41,SNR=6.0
CMSA Cobar Meteorol 41.06 129 P P 15 04 01.0 +1.5
baz=41,SNR=7.7
ODAN Odare 41.12 330 *e*P P 15 04 00.0 -0.3
comp=Z,72nm,0.6s
TAPN Taplejung 41.38 331 *e*P P 15 04 02.5 0.0
comp=Z,80nm,0.9s
SSE Sheshan 41.51 16 P P 15 04 04.5 +1.4
SSE pP **pP** 15 04 12.0 +0.5
SSE PcP **PcP** 15 06 01.0 +0.6
SSE S **S** 15 10 17.8 +0.8
SSE pmax pmax
comp=Z,61nm,0.7s
SSE pmax pmax
comp=Z,210nm,6.5s
SSE LR LR
comp=N,870nm,21.2s
SSE LR LR
comp=E,430nm,21.2s
SSE LR LR
comp=Z,960nm,21.6s
RAMN Ramite 41.59 330 *e*P P 15 04 04.3 +0.1
comp=Z,20nm,0.3s
NGP Nagpur 41.73 316 *ex* P 15 04 01.2 -3.9
NGP AMB AMB 15 04 02.3
comp=Z,130nm,0.7s
LATR Latur 41.76 311 *e*P P 15 04 06.4 +1.1
LATR AMB AMB 15 04 22.0
comp=Z,62nm,1.6s
NJ2 Nanjing 41.84 13 *e*P P 15 04 06.5 +0.7
NJ2 pP **pP** 15 04 12.8 -1.4
NJ2 sP **sP** 15 04 15.0 -2.7
NJ2 PP **PP** 15 05 43.5 +0.5
NJ2 S **S** 15 10 25.0 +3.1
NJ2 sS **sS** 15 10 36.0 +0.1
NJ2 pmax pmax
comp=Z,30nm,0.7s
NJ2 pmax pmax
comp=Z,370nm,6.5s
NJ2 LR LR
comp=N,1µm,11.6s
NJ2 LR LR
comp=E,720nm,12.9s
NJ2 LR LR
comp=Z,1µm,12.8s
LSA Lhasa 41.93 337 P P 15 04 07.3 +0.2
LSA S **S** 15 10 26.5 +2.2
LSA LR LR
comp=Z,2µm,21.5s
LSA Lhasa 41.93 337 *e*P P 15 04 04.7 -2.4
LSA pmax pmax
comp=Z,53nm,0.9s
LSA MLR MLR
comp=Z,2µm,22.0s
LSA Lhasa 41.93 337 *e*P P 15 04 04.7 -2.4
comp=Z,53nm,0.9s
LSA LR LR
comp=Z,2µm,22.0s
JIRN Jiri 42.38 330 *e*P P 15 04 11.5 +0.8
comp=Z,47nm,0.4s
JBP Jabalpur 42.50 319⇑ *i*P P 15 04 12.2 +0.9

JBP *i* x x 15 04 13.7
comp=Z,132nm,0.9s
JBP *ex* x 15 04 15.7
XAN Xi'an 42.69 0 P **P** **15 04 12.0 -0.7**
XAN pP **pP** **15 04 22.3 +1.1**
XAN sP **sP** **15 04 25.0 +0.4**
XAN pmax pmax
comp=Z,38nm,0.9s
XAN pmax pmax
comp=Z,75nm,13.9s
XAN LR LR
comp=N,1μm,14.4s
XAN LR LR
comp=E,380nm,15.6s
XAN LR LR
comp=Z,630nm,15.6s
PKI Pulchoki 42.70 329 *e*P **P** **15 04 13.7 +0.4**
comp=Z,17nm,0.4s
PKIN Phulchoki 42.71 329 *e*P **P** **15 04 14.2 +0.9**
comp=Z,9.0nm,0.4s
GUN Gumba 42.74 330 *e*P **P** **15 04 14.4 +0.7**
comp=Z,103nm,0.7s
AKL Akola 42.86 314 *e*P **P** **15 04 15.5 +1.2**
AKL AMB AMB 15 04 28.5
comp=Z,47nm,2.4s
DMN Daman 42.89 328 *e*P **P** **15 04 15.3 +0.6**
comp=Z,72nm,0.8s
KAD Karad 42.93 307 *i* P **P** **15 04 16.5 +1.5**
KKN Kakani 42.95 329 *e*P **P** **15 04 15.6 +0.4**
comp=Z,41nm,0.6s
EIDS Eidsvold 43.44 118 *e*P **P** **15 04 17.0 -2.0**
comp=Z,31nm,1.3s
KOLN Koldanda 43.81 327 *e*P **P** **15 04 22.9 +0.8**
comp=Z,108nm,0.6s
POO Poona 43.89 308 *e*P **P** **15 04 21.5 -1.2**
DANN Dangsing 44.19 328 *e*P **P** **15 04 25.8 +0.5**
comp=Z,127nm,0.5s
YNG Young 44.29 131 P **P** **15 04 27.4 +1.6**
baz=44,SNR=9.2
PYUN Piuthan 44.40 327 *e*P **P** **15 04 27.5 +0.6**
comp=Z,89nm,0.6s
LZH Lanzhou 44.97 354 ⇑P **P** **15 04 32.0 +0.8**
LZH pP **pP** **15 04 39.8 +0.1**
LZH sP **sP** **15 04 43.8 +0.7**
LZH S **S** **15 11 08.0 0.0**
LZH sS **sS** **15 11 22.3 +0.3**
LZH SS **ScS** **15 14 21.5 -5.3**
LZH pmax pmax
comp=Z,58nm,1.0s
LZH pmax pmax
comp=Z,310nm,4.0s
LZH LR LR
comp=N,2μm,14.3s
LZH LR LR
comp=E,2μm,13.5s
LZH LR LR
comp=Z,2μm,15.8s
CAN Canberra 45.18 132 *e*P **P** **15 04 33.6 +0.7**
CAN MLR MLR
comp=Z,2μm,21.0s
CAN Canberra 45.18 132 *e*P **P** **15 04 33.6 +0.7**
CAN LR LR
comp=Z,2μm,21.0s
JNU Nakatsue 46.79 26 *e*P **P** **15 04 44.4 -1.1**
comp=Z,16nm,1.0s
JNU Nakatsue 46.79 26 LR LR 15 26 38.0
comp=Z,826nm,19.0s,baz=24,slow=39
TAU Tasmania Unive 47.81 142 PFAKE 15 05 10.0 +17
TAU LR LR
comp=Z,2μm,19.0s
NDI New Delhi 48.17 322 *ex* P 15 04 53.0 -3.3
NDI *e*P pP 15 05 14.3 +9.5
NDI *ex* x 15 11 45.0
AJM Ajmer 48.28 318 *e*P **P** **15 04 56.2 -1.1**
GTA Gaotai 48.76 351 P **P** **15 05 01.5 +0.8**
GTA pP **pP** **15 05 08.8 -0.5**
GTA sP **sP** **15 05 12.0 -0.7**
GTA PcP **PcP** **15 06 27.0 +1.5**
GTA ScP **ScP** **15 10 20.3 +1.7**
GTA S **S** **15 12 03.5 +1.5**
GTA sS **sS** **15 12 15.5 -0.6**
GTA ScS **ScS** **15 14 49.0 -2.5**
GTA pmax pmax
comp=Z,39nm,1.0s
GTA pmax pmax
comp=Z,320nm,4.5s
GTA LR LR
comp=N,2μm,19.9s
GTA LR LR
comp=E,1μm,17.6s
GTA LR LR
comp=Z,2μm,19.5s
DL2 Dalian 49.04 13 P **P** **15 05 01.5 -1.2**
DL2 S **S** **15 12 03.0 -2.6**
DL2 pmax pmax
comp=Z,54nm,0.7s
DL2 pmax pmax
comp=Z,160nm,4.9s
DL2 LR LR
comp=N,500nm,18.2s
DL2 LR LR
comp=E,340nm,16.9s
DL2 LR LR
comp=Z,640nm,17.5s
INCN Inchon 49.08 19 *e*P **P** **15 05 01.4 -1.7**
comp=Z,31nm,0.9s
INCN LR LR
comp=Z,779nm,19.0s
BJT Baijiatuau 49.14 8 *e*P **P** **15 05 02.4 -1.1**
comp=Z,83nm,0.5s
BJT LR LR
comp=Z,1μm,19.0s
BJI Beijing 49.16 8 P **P** **15 05 03.5 -0.1**
BJI S **S** **15 12 11.8 +4.5**
BJI pmax pmax
comp=Z,110nm,0.6s
BJI pmax pmax
comp=Z,180nm,3.7s
BJI LR LR
comp=N,640nm,25.3s
BJI LR LR
comp=E,750nm,20.7s
BJI LR LR
comp=Z,800nm,29.5s
BTO Baotou 49.26 1 *e*P **P** **15 05 05.0 +0.5**
KSAR Wonju Array Be 49.45 20 P **P** **15 05 05.8 -0.2**
KSAR PcP **PcP** **15 06 29.1 +1.3**
KSRS Korea Array 49.48 20 P **P** **15 05 05.8 -0.3**
comp=Z,14nm,0.8s,baz=206,slow=8.7,SNR=65
KSRS PcP **PcP** **15 06 29.1 +1.2**
comp=Z,3.4nm,0.9s,baz=198,slow=3.9,SNR=4.9
KSRS LR LR 15 26 33.4
comp=Z,530nm,20.4s,baz=19,slow=37
HHC Hu-ho-hao-te 49.55 3 *e*P **P** **15 05 07.0 +0.2**
HHC pP **pP** **15 05 14.5 -0.9**
HHC sP **sP** **15 05 18.0 -0.8**
HHC PP **PP** **15 07 02.0 +0.6**
HHC S **S** **15 12 14.8 +1.7**
HHC sS **sS** **15 12 27.3 +0.1**
HHC ScS **ScS** **15 14 53.5 -3.2**
HHC SS **SS** **15 15 43.5 -2.2**
HHC pmax pmax
comp=Z,39nm,1.0s
HHC pmax pmax
comp=Z,600nm,8.4s
HHC LR LR
comp=N,3μm,17.8s
HHC LR LR
comp=E,2μm,16.7s
HHC LR LR
comp=Z,3μm,16.7s
SMLA Simla 49.98 324 *i* P **P** **15 05 10.2 +0.2**
SMLA *i* x x 15 12 13.2
SDNR Sundarnagar 50.36 324 *e*P **P** **15 05 15.0 +2.0**
SDNR *ex* x 21 20 59.0
HNR Honiara 50.53 95 *e*P **P** **15 05 13.5 -1.0**
comp=Z,76nm,0.8s
HNR LR LR
comp=Z,622nm,22.0s
HNR Honiara 50.53 95 P **P** **15 05 14.4 -0.1**
comp=Z,94nm,0.7s,baz=329,slow=1.8,SNR=8.7
SNY Shenyang 52.27 14 ⇑P **P** **15 05 25.8 -1.2**
SNY pmax pmax
comp=Z,29nm,1.3s
SNY pmax pmax
comp=Z,200nm,12.0s
SNY LR LR
comp=N,520nm,19.8s
SNY LR LR
comp=E,630nm,18.8s
SNY LR LR
comp=Z,800nm,19.5s
MAJO Matsushiro 53.00 30 *e*P **P** **15 05 30.7 -1.9**
MAJO pmax pmax
comp=Z,58nm,1.0s
MAJO MLR MLR
comp=Z,992nm,21.0s
MAJO Matsushiro 53.00 30 *e*P **P** **15 05 30.7 -1.9**
comp=Z,58nm,1.0s
MAJO LR LR
comp=Z,992nm,21.0s
MAT Matsushiro 53.00 30 P **P** **15 05 30.5 -2.1**
MAT S **S** **15 13 02.2 +1.6**
MJAR Matsushiro Arr 53.00 30 P **P** **15 05 30.8 -1.9**
MJAR Matsushiro Arr 53.00 30 P **P** **15 05 30.8 -1.9**
comp=Z,48nm,0.9s,baz=209,slow=8.3,SNR=107
MJAR LR LR 15 29 08.7
comp=Z,694nm,21.3s,baz=220,slow=37
MSEY Mahe Island 53.01 271 PFAKE 15 05 50.0 +17
MSEY LR LR
comp=Z,1μm,20.0s
CN2 Changchun 54.59 15 *e*P **P** **15 05 43.0 -1.1**
CN2 *es*P **sP** **15 05 54.0 -2.1**
CN2 *e*S **S** **15 13 20.8 -1.1**
CN2 pmax pmax
comp=Z,40nm,1.2s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,500nm,19.0s
CN2 LR LR
comp=E,700nm,19.0s
CN2 LR LR
comp=Z,800nm,19.0s
WMQ Urumqi 55.83 342 P **P** **15 05 54.0 +0.9**
WMQ pP **pP** **15 06 01.5 -0.3**
WMQ sP **sP** **15 06 04.8 -0.4**
WMQ PcP **PcP** **15 06 52.5 +0.7**
WMQ PP **PP** **15 08 00.0 +2.0**
WMQ ScP **ScP** **15 10 48.5 -0.6**
WMQ S **S** **15 13 37.8 -0.8**
WMQ sS **sS** **15 13 50.5 -2.4**
WMQ ScS **ScS** **15 15 38.0 -2.4**
WMQ SS **SS** **15 17 23.3 -1.5**
WMQ pmax pmax
comp=Z,47nm,1.1s
WMQ pmax pmax
comp=Z,240nm,6.4s
WMQ LR LR
comp=N,1μm,17.0s
WMQ LR LR
comp=E,520nm,15.2s
WMQ LR LR
comp=Z,870nm,21.0s
VLA Vladivostok 55.89 20 ⇓*i*P **P** **15 05 52.0 -1.4**
VLA *e* 15 06 49.3
VLA *e*S **S** **15 13 35.2 -4.1**
VLA pmax pmax
comp=Z,102nm,2.0s
MDJ Mudanjiang 56.49 18 P **P** **15 05 56.8 -0.9**
MDJ pP **pP** **15 06 03.0 -3.4**
MDJ sP **sP** **15 06 05.5 -4.3**
MDJ PcP **PcP** **15 06 54.0 -0.3**
MDJ ScP **ScP** **15 10 49.5 -2.4**
MDJ S **S** **15 13 51.5 +4.3**
MDJ ScS **ScS** **15 15 45.3 +0.3**
MDJ SS **SS** **15 17 33.5 -1.6**
MDJ pmax pmax
comp=Z,23nm,1.0s
MDJ pmax pmax
comp=Z,96nm,4.6s
MDJ LR LR
comp=N,690nm,17.3s
MDJ LR LR
comp=E,510nm,17.9s
MDJ LR LR
comp=Z,610nm,18.5s
MDJ Mudanjiang 56.49 18 *e*P **P** **15 05 55.2 -2.5**
comp=Z,18nm,0.8s
MDJ LR LR
comp=Z,596nm,19.0s
SONM Songino Array 56.51 358 P **P** **15 05 57.7 -0.3**
SONM PcP **PcP** **15 06 54.8 +0.4**
SONM Songino Array 56.51 358 P **P** **15 05 57.7 -0.3**
comp=Z,42nm,0.6s,baz=174,slow=8.4,SNR=122
SONM PcP **PcP** **15 06 54.8 +0.4**
comp=Z,11nm,0.8s,baz=182,slow=5.0,SNR=4.4
SONM LR LR 15 33 02.9
comp=Z,1μm,19.0s,baz=185,slow=39
ULN Ulaanbaatar 56.52 359 *e*P **P** **15 05 58.3 +0.2**
comp=Z,64nm,0.9s
ULN LR LR
comp=Z,1μm,20.0s
DZM Mont Dzumac 56.84 110 *e*S **S** **15 13 48.8 -4.2**
comp=Z,1μm,25.5s
DZM *e*SS **SS** **15 17 39.0 -2.5**
comp=Z,488nm,24.3s
DZM *e*LR LR 15 22 39.2
comp=Z,2μm,24.1s
DZM Mont Dzumac 56.84 110 P **P** **15 06 01.9 +1.1**
DZM Mont Dzumac 56.84 110 P **P** **15 06 01.9 +1.1**
comp=Z,4.9nm,0.7s,baz=89,slow=23,SNR=3.8
USRK Ussuriysk Arra 56.88 20 P **P** **15 05 59.6 -0.9**
comp=Z,19nm,0.7s,baz=216,slow=5.4,SNR=78
KSH Kashi 56.94 330 P **P** **15 06 00.0 -1.2**
KSH sP **sP** **15 06 11.3 -2.0**
KSH PP **PP** **15 08 08.8 +0.8**
KSH ScP **ScP** **15 10 52.8 -1.4**
KSH S **S** **15 13 50.3 -3.3**
KSH sS **sS** **15 14 03.5 -4.5**
KSH pmax pmax
comp=Z,56nm,0.9s
KSH pmax pmax
comp=Z,140nm,4.8s
KSH LR LR
comp=N,260nm,13.0s
KSH LR LR
comp=E,710nm,17.7s
KSH LR LR
comp=Z,530nm,17.6s
KBL Kabul 57.24 321 *e*P **P** **15 06 02.2 -1.3**
KBL pmax pmax
comp=Z,190nm,1.7s
KBL Kabul 57.24 321 *e*P **P** **15 06 02.2 -1.3**
comp=Z,190nm,1.7s
KBL Kabul 57.24 321 P **P** **15 06 03.5 0.0**
baz=58,SNR=8.0
CASY Casey 57.33 179 PFAKE 15 06 20.0 +17
CASY LR LR
comp=Z,2μm,20.0s
HIA Hailar 58.70 8 *e*P **P** **15 06 10.9 -2.4**
comp=Z,35nm,1.1s
HIA LR LR
comp=Z,857nm,19.0s
ULHL Ulahol 58.93 332 P **P** **15 06 15.5 +0.3**
SNR=16
ZAK Zakamensk 59.21 356 *e*P **P** **15 06 17.1 +0.3**
ZAK *e* 15 07 01.9
ZAK pmax pmax
comp=Z,27nm,1.2s
KZA Kyzart 59.26 331 P **P** **15 06 18.2 +0.4**
SNR=41
ERM Erimo 59.66 29 P **P** **15 06 19.3 -0.7**
comp=Z,314nm,0.8s,SNR=10
ERM Erimo 59.66 29 ⇑*e*P **P** **15 06 18.8 -1.2**
ERM pmax pmax
comp=Z,61nm,1.0s
ERM Erimo 59.66 29 *e*P **P** **15 06 18.6 -1.4**
comp=Z,43nm,0.8s
ERM LR LR
comp=Z,900nm,22.0s
TKM2 Tokmak 2 59.75 332 *e*P **P** **15 06 20.6 -0.3**
TKM2 pmax pmax
comp=Z,118nm,0.6s
TKM2 Tokmak 2 59.75 332 P **P** **15 06 21.4 +0.5**
SNR=22
TKM2 Tokmak 2 59.75 332 *e*P **P** **15 06 20.6 -0.3**
comp=Z,118nm,0.6s
KBK Karagaybulak 59.85 332 P **P** **15 06 22.5 +1.0**
SNR=44
AAK Ala-Archa 60.04 331 P **P** **15 06 23.0 +0.1**
comp=Z,173nm,1.0s,SNR=7.4
AAK Ala-Archa 60.04 331 *ce*P **P** **15 06 22.9 +0.1**
AAK pmax pmax
comp=Z,97nm,1.1s
AAK Ala-Archa 60.04 331 P **P** **15 06 23.8 +1.0**
SNR=13
AAK Ala-Archa 60.04 331 *e*P **P** **15 06 20.8 -2.0**
comp=Z,32nm,1.0s
AAK Ala-Archa 60.04 331 P **P** **15 06 23.6 +0.7**
comp=Z,24nm,1.0s,baz=142,slow=6.3,SNR=40
AAK LR LR 15 35 19.7
comp=Z,717nm,21.7s,baz=149,slow=39
AML Almayashu 60.05 330 P **P** **15 06 23.6 +0.4**
SNR=35
FRU Bishkek 60.14 332 ⇑*i*P **P** **15 06 24.0 +0.7**
FRU pmax pmax
comp=Z,114nm,1.8s
CHMS Chumysh 60.20 332 P **P** **15 06 23.8 0.0**
SNR=13
MK31 Makanchi Array 60.23 339 P **P** **15 06 24.1 +0.2**
MK31 pmax pmax
comp=Z,38nm,0.6s
MKAR Makanchi Array 60.23 339 *ce*P **P** **15 06 23.8 -0.1**
MKAR pmax pmax
comp=Z,33nm,0.4s
MKAR Makanchi Array 60.23 339 *e*P **P** **15 06 23.9 0.0**
MKAR Makanchi Array 60.23 339 P **P** **15 06 23.9 0.0**
comp=Z,33nm,0.4s,baz=151,slow=8.0,SNR=445
MKAR LR LR 15 35 21.5
comp=Z,955nm,21.0s,baz=150,slow=39
ABPO Ambohimpanom 60.28 253 *e*P **P** **15 06 23.8 -1.2**
ABPO MLR MLR
comp=Z,659nm,19.0s
ABPO Ambohimpanom 60.28 253 *e*P **P** **15 06 23.8 -1.2**
ABPO LR LR
comp=Z,659nm,19.0s
OPO Ambohidratompo 60.32 254 P **P** **15 06 27.5 +2.3**
OPO Ambohidratompo 60.32 254 P **P** **15 06 27.5 +2.3**
comp=Z,4.8nm,0.7s,baz=95,slow=5.9,SNR=6.5
EKS2 Erkin-Say 60.41 331 *e*P **P** **15 06 23.8 -1.5**
EKS2 pmax pmax
comp=Z,68nm,0.8s
EKS2 Erkin-Say 60.41 331 P **P** **15 06 26.1 +0.8**
SNR=46
EKS2 Erkin-Say 60.41 331 *e*P **P** **15 06 23.8 -1.5**
comp=Z,66nm,0.8s
USP Ospenovka 60.53 332 P **P** **15 06 26.2 +0.2**
SNR=37
MOY Mondy 60.67 354 *e*P **P** **15 06 27.9 +1.0**
MOY pmax pmax
comp=Z,82nm,2.3s
CIT Chita 60.80 3 *e*P **P** **15 06 27.0 -0.7**
CIT *e* 15 06 40.3
CIT pmax pmax
comp=Z,114nm,1.9s
IRK Irkutsk 61.00 357 *e*P **P** **15 06 29.0 0.0**
IRK pmax pmax
comp=Z,80nm,1.4s
ASAJ Asahikawa 61.02 27 *e*P **P** **15 06 27.0 -2.2**
ASAJ Asahikawa 61.02 27 P **P** **15 06 28.0 -1.2**
comp=Z,40nm,0.8s,baz=243,slow=13
ASAJ LR LR 15 32 35.2
comp=Z,713nm,21.6s,baz=211,slow=36
HVS Khovu-Aksy 61.17 349 *ce*P **P** **15 06 30.0 -0.3**
HVS pmax pmax
comp=Z,138nm,0.7s
KLR Kul'dur 61.29 17 ⇓*i*P P 15 06 25.8 -5.2
KLR pmax pmax
comp=E,48nm,1.4s
KLR pmax pmax
comp=Z,130nm,1.4s
DRV Dumont d'Urvil 61.50 166 P P 15 06 21.0 -11
DRV S S 15 14 39.0 -13
DRV SS **SS** **15 18 48.0 -4.8**
DRV L L 15 21 00.0
DRV R 15 24 00.0
HABR Khabarovsk 61.65 20 *ce*P **P** **15 06 31.5 -1.9**
HABR *e**PP **pP** **15 06 40.7 -1.5**
HABR *e**SP **sP** **15 06 44.8 -0.7**
HABR *e* 15 07 12.4
HABR *e* 15 08 45.9
HABR S **S** **15 14 50.5 -3.4**
HABR *e* 15 15 02.3
HABR *e**SS **sS** **15 15 07.0 -1.4**
HABR *e* 15 16 19.3
HABR *e*SS **SS** **15 18 52.1 -3.8**
HABR pmax pmax
comp=Z,121nm,1.1s
HABR pmax pmax
comp=Z,135nm,1.2s
HABR MLR MLR
comp=Z,322nm,17.0s
HABR MLR MLR
comp=N,321nm,22.0s
HABR MLR MLR
comp=E,367nm,19.0s
IDAH Dahanechah 62.27 314 *e*P **P** **15 06 38.4 +0.1**
KK31 Karatay Array 62.34 329 *i* P **P** **15 06 37.3 -1.0**
KK31 pmax pmax
comp=Z,8.0nm,0.6s
KKAR Karatay Array 62.34 329 *e*P **P** **15 06 36.8 -1.5**
KKAR Karatay Array 62.34 329 *e*P **P** **15 06 36.8 -1.5**
YUK Yuzh-Kuril'sk 62.49 29 *de*P **P** **15 06 41.6 +2.5**
YUK *e* 15 08 58.4
YUK *e*S S 15 14 56.1 -8.6
YUK *e*SS **SS** **15 19 08.0 -1.2**
YUK MLR MLR
comp=Z,339nm,21.0s
YUK MLR MLR
comp=N,237nm,20.0s
YUK MLR MLR
comp=E,468nm,22.0s
IKOO Kooshah 62.72 313 *e*P **P** **15 06 40.9 -0.4**
YSS Yuzh-Sakhalins 63.30 25 *α i*P **P** **15 06 44.0 -0.5**
YSS *e**SP **sP** **15 06 55.9 -0.7**
YSS *e*S **S** **15 15 09.0 -5.8**
YSS pmax pmax
comp=Z,170nm,1.0s
YSS MLR MLR
comp=N,200nm,17.0s
YSS MLR MLR
comp=E,300nm,17.0s
YSS MLR MLR
comp=Z,500nm,17.0s
RPZ Rata Peaks 63.99 134 P **P** **15 06 50.4 +1.2**
RPZ Rata Peaks 63.99 134 P **P** **15 06 50.4 +1.2**
comp=Z,19nm,0.9s,baz=67,slow=3.5,SNR=3.7
IMYA Miami 64.10 318 *e*P **P** **15 06 49.0 -1.2**
IMOG Moghan 64.48 317 *e*P **P** **15 06 52.8 -0.1**
ISRO Mashad 64.50 317 *e*P **P** **15 06 51.5 -1.3**
KURBB Kurchatov Arra 64.80 339 P **P** **15 06 54.8 +0.5**
comp=Z,83nm,0.8s,baz=155,slow=5.4,SNR=199
KURBB S **S** **15 15 31.9 -1.4**
comp=Z,1.5nm,1.1s,baz=157,slow=12,SNR=5.1
IBAF Bafgh 64.81 311 *e*P **P** **15 06 54.7 -0.3**
KURK Kurchatov 64.85 339 P **P** **15 06 54.8 +0.2**
KURK S **S** **15 15 31.9 -1.9**
KURK Kurchatov 64.85 339 P **P** **15 06 54.8 +0.2**
KURK S **S** **15 15 31.9 -1.9**
IPAY Payeh 64.90 317 *e*P **P** **15 06 55.5 0.0**
IKRD Kardeh 65.40 317 *e*P P 15 06 54.6 -4.2
IMEH Mehriz 65.43 310 *e*P **P** **15 06 58.2 -0.9**
ISRV Sarvestan 65.66 308 *e*P **P** **15 07 01.6 +0.9**
ZAA0 Zalesovo Array 65.78 345 *e*P **P** **15 06 59.9 -0.7**
ZALV Zalesovo Beam 65.78 345 *i* P **P** **15 07 00.6 +0.1**
ZALV pmax pmax
comp=Z,48nm,0.4s
ZALV Zalesovo Beam 65.78 345 P **P** **15 07 00.6 +0.1**
ZALV S **S** **15 15 44.0 -1.2**
ZALV ⇑*e* 15 35 43.9
ZALV Zalesovo Beam 65.78 345 P **P** **15 07 00.6 +0.1**
comp=Z,48nm,0.4s,baz=130,slow=4.3,SNR=334
ZALV S **S** **15 15 44.0 -1.2**
comp=Z,1.1nm,0.5s,baz=137,slow=13,SNR=5.0
ZALV PKP2bc 15 35 43.9
comp=Z,0.4nm,0.3s,baz=318,slow=1.9,SNR=4.5
ZALV LR LR 15 38 28.0
comp=Z,859nm,18.2s,baz=69,slow=39
ICHK Chekchek 65.99 311 *e*P **P** **15 07 02.6 -0.1**
MAW Mawson 66.08 198 P **P** **15 07 03.7 +1.4**
MAW Mawson 66.08 198 P **P** **15 07 03.7 +1.4**
comp=Z,3.0nm,0.6s,baz=58,slow=6.9,SNR=13
MAW LR LR 15 30 52.5
comp=Z,673nm,19.5s,baz=38,slow=31
MAW Mawson 66.08 198 P **P** **15 07 04.2 +1.8**
baz=66,SNR=7.9

SNZO South Karori 66.17 131 PFAKE 15 07 20.0 +17
SNZO LR LR
comp=Z,2µm,22.0s
ISAD Sadrabad 66.38 310 eP P 15 07 05.1 -0.1
CLNS Chul'man 66.83 10c iP P 15 07 07.0 -0.3
CLNS e*PP pP 15 07 21.9 +5.8
CLNS e 15 07 33.5
CLNS e 15 09 35.2
CLNS ePPP PPP 15 11 11.1
CLNS eS S 15 15 57.2 -0.7
CLNS pmax pmax
comp=Z,70nm,0.9s
CLNS pmax pmax
comp=E,30nm,1.1s
CLNS pmax pmax
comp=N,45nm,1.0s
CLNS pmax pmax
comp=N,6.0nm,1.0s
CLNS pmax pmax
comp=E,4.0nm,0.8s
CLNS pmax pmax
comp=Z,4.0nm,0.8s
CLNS smax smax
comp=E,242nm,15.0s
CLNS smax smax
comp=N,101nm,13.3s
CLNS MLR MLR
comp=N,540nm,24.0s
CLNS MLR MLR
comp=Z,661nm,21.0s
CLNS MLR MLR
comp=E,952nm,24.0s
NVS Novosibirsk 67.00 344⇑ iP P 15 07 06.4 -1.9
NVS eS S 15 15 55.6 -4.2
NVS e 15 16 56.8
NVS pmax pmax
comp=Z,73nm,1.2s
NVS pmax pmax
comp=N,54nm,1.6s
NVS pmax pmax
comp=E,32nm,1.3s
NVS smax smax
comp=E,14nm,1.4s
NVS smax smax
comp=N,11nm,1.8s
URZ Urewera 67.59 128 LR LR 15 37 30.2
comp=N,2µm,19.3s,baz=226,slow=37
MSVF Nonsavu 67.72 106 PFAKE 15 07 30.0 +16
MSVF LR LR
comp=Z,829nm,22.0s
IGAR Gharneh 67.84 310 eP P 15 07 14.4 0.0
IZEF Zefreh 67.84 311 eP P 15 07 13.4 -1.1
IANJ Anjilo 67.91 314 eP P 15 07 14.5 -0.3
IGLO Ghaloghah 68.47 315 eP P 15 07 18.0 -0.3
ISHM Shahmirzad 68.51 314 eP P 15 07 18.5 -0.2
ILAS Lasjerd 68.55 313 eP P 15 07 19.2 +0.4
ATD Arta Tunnel 68.58 286 P P 15 07 21.2 +2.1
ATD Arta Tunnel 68.58 286 P P 15 07 21.2 +2.1
comp=Z,13nm,0.7s,baz=225,slow=22,SNR=5.8
ATD LR LR 15 31 33.4
comp=Z,205nm,20.8s,baz=174,slow=31
ISFB Sefidab 68.58 312 eP P 15 07 19.2 +0.3
IKLH Kolahrood 68.60 311 eP P 15 07 16.2 -3.0
IFIR Firoozkooh 68.82 314 eP P 15 07 21.0 +0.4
IPIR Pirpir 68.83 310 eP P 15 07 21.4 +0.7
IALA Alasht 68.99 314 eP P 15 07 21.2 -0.4
IVRN Varamin 69.25 313 eP P 15 07 22.8 -0.2
VOSK Vostochnaya 69.30 337 P P 15 07 22.4 -0.5
VOSK pmax pmax
comp=Z,204nm,1.6s
IDMV Damavand 69.31 313 eP P 15 07 22.7 -0.9
FUNA Funafuti 69.55 96 PFAKE 15 07 40.0 +15
FUNA LR LR
comp=Z,10µm,20.0s
RAYN Ar Rayn 69.66 299 P P 15 07 26.5 +0.8
comp=Z,83nm,0.8s,SNR=7.1
RAYN Ar Rayn 69.66 299 eP P 15 07 23.9 -1.9
comp=Z,14nm,1.0s
BVAR Borovoye Array 69.76 336 P P 15 07 25.9 +0.2
BVAR S S 15 16 30.6 -2.3
BVAR Borovoye Array 69.76 336 P P 15 07 25.9 +0.2
BVAR S S 15 16 30.6 -2.3
BVAR Borovoye Array 69.76 336 P P 15 07 25.9 +0.2
comp=Z,82nm,0.7s,baz=140,slow=7.7,SNR=394
BVAR S S 15 16 30.6 -2.3
comp=Z,2.6nm,0.8s,baz=128,slow=17,SNR=8.0
BVAR LR LR 15 42 05.7
comp=Z,1µm,19.4s,baz=138,slow=40
BRVK Borovoye 69.83 336 P P 15 07 26.6 +0.5
comp=Z,718nm,1.1s,SNR=38
BRVK Borovoye 69.83 336c iP P 15 07 26.4 +0.3
BRVK pmax pmax
comp=Z,150nm,1.0s
BRVK Borovoye 69.83 336 eP P 15 07 25.5 -0.6
comp=Z,110nm,0.9s
BRVK LR LR
comp=Z,1µm,20.0s
KBD Kabd 69.88 305 eP P 15 07 27.2 +0.3
KBD AMb AMB 15 07 28.6
comp=Z,57nm,1.4s
RDF Al-Radifah 69.90 305 eP P 15 07 27.3 +0.3
RDF AMb AMB 15 07 28.8
comp=Z,115nm,1.1s
IR3 Iran Long-Peri 69.99 313 eP P 15 07 27.6 0.0
UMR Umm Al-Rimmam 70.00 306 eP P 15 07 28.2 +0.5
UMR AMb AMB 15 07 33.0
comp=Z,97nm,0.7s
IR5 Iran Long-Peri 70.19 312 eP P 15 07 28.9 0.0
NAY Al-Naaiem 70.27 305 eP P 15 07 29.3 0.0
NAY AMb AMB 15 07 30.7
comp=Z,50nm,0.9s
IRAZ Razeghan 70.75 312 eP P 15 07 32.3 -0.1
IGZV Ghazvin 70.98 313 eP P 15 07 33.4 -0.4
RAO Raoul Island 71.22 118 LR LR 15 39 33.2
comp=Z,501nm,20.2s,baz=306,slow=36
KMBO Kilima Mbogo 71.53 272 eP P 15 07 33.8 -3.8
KMBO Kilima Mbogo 71.53 272 P P 15 07 39.3 +1.7
comp=Z,3.0nm,0.7s,baz=54,slow=13,SNR=8.3
KMBO LR LR 15 34 10.0
comp=Z,899nm,20.8s,baz=97,slow=32
AB31 Akbulak array 71.90 329 P P 15 07 38.8 0.0
AB31 pmax pmax
comp=Z,52nm,0.5s
ABKAR Akbulak array 71.90 329 eP P 15 07 36.3 -2.5
SKR Severo-Kuril's 72.11 29 eP P 15 07 37.1 -2.8
SKR e 15 07 47.7
SKR pmax pmax
comp=E,60nm,0.9s
SKR pmax pmax
comp=Z,80nm,0.9s
YAK Yakutsk 72.56 10c iP P 15 07 41.6 -0.8
YAK e*PP pP 15 07 52.5 +1.2
YAK e 15 07 55.5
YAK eS S 15 17 01.3 -3.6
YAK e 15 17 45.0
YAK eSS SS 15 21 39.5 -5.0
YAK pmax pmax
comp=Z,197nm,1.0s
YAK pmax pmax
comp=E,39nm,1.4s
YAK pmax pmax
comp=N,84nm,1.4s
YAK pmax pmax
comp=Z,122nm,3.7s
YAK pmax pmax
comp=N,43nm,2.6s
YAK pmax pmax
comp=E,41nm,2.2s
YAK smax smax
comp=N,54nm,2.3s
YAK smax smax
comp=E,46nm,1.6s
ISRB Sarab 73.45 314 eP P 15 07 48.1 -0.4
AKTO Aktyubinsk 73.61 329 P P 15 07 48.0 -0.9
AKTO pmax pmax
comp=Z,53nm,1.5s
AKTO Aktyubinsk 73.61 329 P P 15 07 49.2 +0.3
AKTO Aktyubinsk 73.61 329 P P 15 07 49.2 +0.3
comp=Z,18nm,0.8s,baz=131,slow=6.3,SNR=40
VNDA Vanda 73.81 170 P P 15 07 50.6 +0.9
comp=Z,98nm,2.4s
VNDA Vanda 73.81 170 P P 15 07 50.6 +0.9
comp=Z,5.1nm,0.6s,baz=304,slow=5.7,SNR=42
VNDA LR LR 15 39 07.8
comp=Z,437nm,18.6s,baz=317,slow=35

SYO Syowa Base 74.34 200⇑ eP P 15 07 52.6 -0.3
PEA0B Petropavlovsk- 74.41 28 eP P 15 07 51.6 -2.0
PETK Petropavlovsk- 74.41 28 P P 15 07 53.5 0.0
PETK Petropavlovsk- 74.41 28 P P 15 07 53.5 0.0
PETK Petropavlovsk- 74.41 28 P P 15 07 53.5 0.0
comp=Z,33nm,0.8s,baz=187,slow=4.6,SNR=101
PETK LR LR 15 43 49.3
comp=Z,202nm,19.2s,baz=231,slow=38
IAZR Azarshahr 74.60 313 eP P 15 07 55.5 +0.2
PET Petropavlovsk 74.81 29⇑ iP P 15 07 55.7 -0.1
PET e 15 10 49.8
PET eS SKiKP 15 17 24.2 +5.2
PET eSS SS 15 22 22.4 +3.2
PET MLR MLR
comp=Z,200nm,18.0s
SBA Scott Base 74.88 169 eP P 15 07 54.4 -1.5
SBA pmax pmax
comp=Z,12nm,1.0s
SBA MLR MLR
comp=Z,573nm,20.0s
SBA Scott Base 74.88 169 eP P 15 07 54.4 -1.5
comp=Z,12nm,1.0s
SBA LR LR
comp=Z,573nm,20.0s
ISHB Shabestar 75.11 313 eP P 15 07 57.6 -0.6
SVE Sverdlovsk 76.43 335d iP P 15 08 05.7 +0.7
SVE eS S 15 17 45.9 -2.5
SVE pmax pmax
comp=Z,105nm,0.9s
SVE MLR MLR
comp=Z,1µm,25.0s
GNI Garni 76.49 315 PFAKE 15 08 20.0 +14
GNI LR LR
comp=Z,250nm,22.0s
DGRG David-gareji 76.59 316 P P 15 08 07.4 +1.1
ARU Arti 77.05 334c iP P 15 08 08.9 +0.4
ARU 15 11 01.2
ARU PPP PPP 15 12 50.5
ARU S S 15 17 55.3 0.0
ARU SS SS 15 22 49.1 -4.0
ARU pmax pmax
comp=Z,122nm,1.7s
ARU MLR MLR
comp=Z,1µm,22.0s
ARU Arti 77.05 334 P P 15 08 09.0 +0.4
comp=Z,381nm,1.1s,SNR=25
TBLG Delisi 77.14 316 eP P 15 08 09.7 +0.3
TBLG Delisi 77.14 316 P P 15 08 09.7 +0.3
AFI Afiamalu 77.78 102 LR LR 15 40 23.6
comp=Z,242nm,20.5s,baz=98,slow=34
MZRK Al-Mazaregh 77.86 310 eP P 15 08 09.1 -4.4
MBAR Mbarara 78.04 271 P P 15 08 16.6 +1.3
MBAR LR LR
comp=Z,726nm,19.0s
MBAR Mbarara 78.04 271 P P 15 08 16.6 +1.3
comp=Z,3.1nm,0.3s,baz=182,slow=5.8,SNR=8.6
ZEI Tsey 78.14 317 eP P 15 08 16.0 +0.8
ZEI pmax pmax
comp=Z,27nm,0.9s
ONI Oni 78.36 317 P P 15 08 16.0 -0.3
SFNV Sufian 78.47 310 eP P 15 08 17.1 +0.1
LSZ Lusaka 78.65 256 eP P 15 08 17.5 -1.0
comp=Z,13nm,0.8s
LSZ LR LR
comp=Z,1µm,21.0s
SEY Seymchan 79.01 19⇑ eP P 15 08 19.8 +0.5
KSRV Kasrt alli 79.13 309 eP P 15 08 14.4 -6.2
KBZ Khabaz 79.19 318 P P 15 08 21.7 +1.1
KBZ Khabaz 79.19 318 P P 15 08 21.7 +1.1
KBZ Khabaz 79.19 318 P P 15 08 21.7 +1.1
comp=Z,32nm,0.9s,baz=113,slow=4.0,SNR=57
KBZ LR LR 15 50 20.2
comp=Z,283nm,20.8s,baz=334,slow=41
KIV Kislovodsk 79.42 318c iP P 15 08 22.5 +0.4
KIV i 15 08 39.4
KIV pmax pmax
comp=Z,30nm,1.0s
KIV Kislovodsk 79.42 318 P P 15 08 22.9 +0.8
comp=Z,193nm,0.8s,SNR=5.8
ZALF Zalf 79.51 306 eP P 15 08 24.4 +1.7
SOKR Solikamsk 79.76 336c iP P 15 08 23.7 +0.3
SOKR pmax pmax
comp=Z,40nm,1.1s
SOKR MLR MLR
comp=Z,760nm,20.0s
BOSA Boshof 80.11 242 P P 15 08 28.3 +2.1
BOSA Boshof 80.11 242 P P 15 08 28.3 +2.1
comp=Z,3.3nm,0.6s,baz=12,slow=2.1,SNR=7.8
BOSA LR LR 15 37 43.7
comp=Z,1µm,19.9s,baz=106,slow=31
LBTB Lobatse 80.11 246 eP P 15 08 23.1 -3.3
comp=Z,14nm,0.9s
MIDW Midway 80.23 59 PFAKE 15 08 40.0 +13
MIDW LR LR
comp=Z,569nm,22.0s
MALT Malatya 80.37 311 PFAKE 15 08 40.0 +13
MALT LR LR
comp=Z,446nm,22.0s
MALT Malatya 80.37 311⇑ iP P 15 08 46.5 +19
MARH Ras Al Marh 80.52 307 eP P 15 08 33.0 +4.5
EIL Elat 80.52 302 P P 15 08 28.9 +0.7
EIL Elat 80.52 302 P P 15 08 28.9 +0.7
comp=Z,23nm,0.8s,baz=70,slow=1.8,SNR=21
EIL Elat 80.52 302 P P 15 08 29.8 +1.6
baz=81,SNR=5.4
KFRA Kufra 80.62 308 eP P 15 08 23.0 -5.8
BRBR Barbar 80.76 306 eP P 15 08 25.7 -4.0
MMAI Mount Meron Ar 81.08 305 P P 15 08 31.8 +0.5
MMAI Mount Meron Ar 81.08 305 P P 15 08 31.8 +0.5
comp=Z,23nm,0.8s,baz=100,slow=8.0,SNR=28
QSPA South Pole Qui 81.12 180 P P 15 08 31.6 +0.7
QSPA South Pole Qui 81.12 180 P P 15 08 31.6 +0.7
comp=Z,7.3nm,0.9s,baz=301,slow=2.2,SNR=23
DRWC Darouich 81.16 309 eP P 15 08 37.7 +6.1
SLNF Slenfeh 81.19 308 eP P 15 08 18.2 -14
SOC Sochi 81.27 317c iP P 15 08 31.9 0.0
SOC eS S 15 18 40.4 -0.3
SOC pmax pmax
comp=Z,40nm,1.0s
ARNB Al Arnab 81.46 308 eP P 15 08 31.2 -2.0
TIXI Tiksi 81.47 6c iP P 15 08 31.6 -0.7
TIXI pmax pmax
comp=Z,64nm,1.0s
FX1 Attu Island--F 82.16 33 P P 15 08 35.3 -1.0
FX1 Attu Island--F 82.16 33 P P 15 08 35.3 -1.0
comp=Z,11nm,0.8s,baz=57,slow=17,SNR=3.8
VRHR Novokhopersk 82.92 324 eP P 15 08 40.7 +0.4
VRHR e*SP sP 15 08 57.2 +4.5
VRHR pmax pmax
comp=Z,90nm,0.9s
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,40nm,1.0s
ANN Anapa 83.23 317 eP P 15 08 41.0 -1.1
ANN pmax pmax
comp=Z,46nm,1.8s
CSS Prodhromos 83.28 307 P P 15 08 43.4 +0.7
CSS Prodhromos 83.28 307 eP P 15 08 40.2 -2.4
CSS LR LR
comp=Z,727nm,20.0s
SUR Sutherland 83.56 238 PFAKE 15 09 00.0 +16
SUR LR LR
comp=Z,2µm,20.0s
VORD Divnogorie 84.23 323 eP P 15 08 47.3 +0.2
VORD e*SP sP 15 09 03.8 +4.4
VORD pmax pmax
comp=Z,20nm,0.9s
VORD pmax pmax
comp=N,70nm,0.7s
VORD pmax pmax
comp=E,40nm,0.9s
BR131 Keskin Array S 84.35 312 eP P 15 08 46.8 -1.4
BRTR Keskin Array B 84.35 312 P P 15 08 48.9 +0.7
BRTR Keskin Array B 84.35 312 P P 15 08 48.9 +0.7
comp=E,18nm,0.9s,baz=126,slow=6.3,SNR=74
BRTR LR LR 15 48 54.8
comp=E,371nm,21.2s,baz=104,slow=38
VSR Storozhevoye 84.39 324 eP P 15 08 48.2 +0.3
VSR e*SP sP 15 09 04.4 +4.1
VSR pmax pmax
comp=Z,70nm,1.0s
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,60nm,1.1s
ANTO Ankara 85.02 311 eP P 15 08 50.0 -1.5
ANTO pmax pmax
comp=Z,67nm,1.1s
ANTO Ankara 85.02 311 eP P 15 08 50.0 -1.5
comp=Z,66nm,1.1s
SIM Simferopol' 85.52 317ce P P 15 08 54.3 +0.6
SIM pmax pmax
comp=Z,18nm,0.9s
ISP Isparta 86.20 309 PFAKE 15 09 10.0 +13
ISP LR LR
comp=Z,424nm,21.0s
ISP Isparta 86.20 309⇓ iP P 15 08 58.3 +0.8
ALT Altintas 86.82 310 P P 15 09 01.9 +1.5
MOS Moscow 86.88 328 eP P 15 08 59.9 -0.3
MOS e 15 09 09.0
MOS i S S 15 19 31.7 -4.7
MOS pmax pmax
comp=Z,61nm,1.1s
OBN Obninsk 87.23 327c iP P 15 09 02.2 +0.3
OBN i 15 09 18.4
OBN e 15 12 25.9
OBN pmax pmax
comp=Z,122nm,1.6s
ADK Adak 87.57 37 eP P 15 09 03.5 -0.1
ADK pmax pmax
comp=Z,140nm,0.9s
ADK MLR MLR
comp=Z,321nm,21.0s
ADK Adak 87.57 37 eP P 15 09 03.5 -0.1
comp=Z,140nm,0.9s
ADK LR LR
comp=Z,321nm,21.0s
KULA Kula-Manisa 87.79 309 P P 15 09 06.9 +1.8
TSUM Tsumeb 88.20 251 PFAKE 15 09 20.0 +12
TSUM LR LR
comp=Z,713nm,20.0s
SNAA Sanae 88.25 197 eP P 15 09 08.0 +1.3
SNAA Sanae 88.25 197 eP P 15 09 07.9 +1.2
KARP Karpathos 88.32 306 P P 15 09 09.7 +2.0
ATKA Atka Island 89.13 37 eP P 15 09 10.8 -0.2
comp=Z,42nm,0.9s
TLCR 89.20 316⇑ iP P 15 09 13.2 +1.7
TLCR 89.20 316⇑ iP P 15 09 13.1 +1.6
TIRR Tirgusor 89.32 315⇓ P P 15 09 13.1 +1.1
TIRR Tirgusor 89.32 315 eP P 15 09 12.4 +0.4
comp=Z,52nm,1.0s
TIRR Tirgusor 89.32 315⇓ iP P 15 09 13.1 +1.1
KIS Kishinev 89.62 318 eP P 15 09 14.0 +0.6
KIS Kishinev 89.62 318 eP P 15 09 14.0 +0.6
KIS e 15 09 29.0
KIS e 15 12 44.0
CFR Carcaliu 89.67 316⇑ iP P 15 09 14.7 +1.0
CFR Carcaliu 89.67 316⇑ iP P 15 09 14.7 +1.0
TMCR Tamitsa 89.70 336 eP P 15 09 13.4 0.0
TMCR e 15 12 48.7
TMCR pmax pmax
comp=Z,77nm,0.8s
SANT Santorini 89.84 307 PFAKE 15 09 30.0 +15
SANT LR LR
comp=Z,281nm,20.0s
LEOM Leova 89.89 317⇓ iP P 15 09 31.0 +16
APE Apeiranthos 89.92 307⇑ P P 15 09 15.2 +0.1
APE Apeiranthos 89.92 307⇑ iP P 15 09 15.2 +0.1
EDRB Edirne 89.95 312 P P 15 09 15.9 +0.8
KIEV Kiev 90.24 321 eP P 15 09 15.5 -0.7
KIEV pmax pmax
comp=Z,12nm,0.9s
KIEV MLR MLR
comp=Z,298nm,21.0s
KIEV Kiev 90.24 321 eP P 15 09 15.5 -0.7
comp=Z,12nm,0.9s
KIEV LR LR
comp=Z,298nm,21.0s
VNA1 Neumayer--Stat 90.28 197 eP P 15 09 18.3 +2.2
GRER 90.52 316⇑ iP P 15 09 14.0 -3.7
PLOR Plostina 90.83 316⇑ P P 15 09 20.2 +1.0
PLOR Plostina 90.83 316⇑ iP P 15 09 20.2 +1.0
KARN Karanos 90.89 306 P P 15 09 21.8 +2.1
TESR Tescani 90.97 317⇑ iP P 15 09 20.4 +0.6
MLR Muntele Rosu 91.25 316 P P 15 09 22.2 +1.0
MLR PP PP 15 13 00.9 +2.2
MLR Muntele Rosu 91.25 316⇑ iP P 15 09 22.2 +1.0
MLR Muntele Rosu 91.25 316 P P 15 09 22.2 +1.0
comp=Z,1.2nm,0.7s,baz=131,slow=1.0,SNR=10
MLR PP PP 15 13 00.9 +2.2
comp=Z,2.8nm,0.9s,baz=302,slow=4.6,SNR=7.3
HUMR Humele 91.73 315⇓ iP P 15 09 20.5 -2.8
VOIR 91.86 316⇑ P P 15 09 24.8 +0.8
VOIR 91.86 316⇑ iP P 15 09 24.8 +0.8
MICGM Minsk 91.89 325⇓ eP P 15 09 23.0 -0.8
MNK Minsk 91.92 325⇓ eP P 15 09 23.0 -0.9
MNK pmax pmax
comp=Z,1µm,2.0s
ARR Arges 92.13 315⇑ iP P 15 09 26.0 +0.7
BURAR Bucovina Array 92.15 318 ⇓P P 15 09 26.8 +1.5
BURAR Bucovina Array 92.15 318 ⇓iP P 15 09 26.8 +1.5
BUR08 Bucovina Ar. S 92.16 318 eP P 15 09 24.1 -1.3
LVZ Lovozero 92.26 339⇓ eP P 15 09 24.4 -0.9
LVZ pmax pmax
comp=Z,32nm,1.3s
NACGM Naroch 92.60 325 eLR LR 15 08 20.0
APA Apatity 92.61 338⇑ eP P 15 09 22.0 -4.9
VTS Vitosha 92.67 313 P P 15 09 27.5 -0.5
VTS Vitosha 92.67 313 ⇓P P 15 09 27.4 -0.5
VTS Vitosha 92.67 313 ⇓iP P 15 09 27.4 -0.5
EVR Evrytania 93.13 309 P P 15 09 31.2 +1.1
LVV L'vov 93.31 320 eP sP 15 09 46.2 +3.3
VSU Vasula 93.34 329⇑ eP P 15 09 30.5 +0.1
VSU pmax pmax
comp=Z,74nm,1.0s
DRGR 93.69 317 ⇓P P 15 09 32.3 -0.1
DRGR 93.69 317 ⇓iP P 15 09 32.3 -0.1
UNV Unalaska Valle 94.02 36 eP P 15 09 32.5 -1.2
comp=Z,37nm,1.0s
KWP Kalwaria Pacla 94.13 319 PFAKE 15 09 50.0 +16
KWP LR LR
comp=Z,444nm,21.0s
FINES FINESS Array B 94.23 331 P P 15 09 35.2 +0.8
FINES FINESS Array B 94.23 331 P P 15 09 35.2 +0.8
comp=Z,6.1nm,0.8s,baz=93,slow=6.5,SNR=14
FINES LR LR 15 56 54.5
comp=Z,371nm,20.8s,baz=96,slow=39
UZH Uzhgorod 94.25 318 eP P 15 09 40.6 +5.8
UZH e 15 09 54.6
BZS Buzias 94.27 315 ⇓P P 15 09 32.8 -2.2
BZS Buzias 94.27 315 ⇓iP P 15 09 32.8 -2.2
KOLS Kolonicke sedl 94.31 319 eP P 15 09 36.3 +1.1
KOLS pmax pmax
comp=Z,9.0nm,1.1s
KOLS Kolonicke sedl 94.31 319 eP P 15 09 36.2 +1.1
KOLS e 15 09 52.7
AKUT Akutan 94.50 36 eP P 15 09 36.0 +0.2
comp=Z,93nm,0.9s
MSKU Masuku 94.80 268 PFAKE 15 09 50.0 +12
MSKU LR LR
comp=Z,2.0nm,19.0s
TIR Tirane 94.95 311 PFAKE 15 09 50.0 +12
TIR LR LR
comp=Z,426nm,22.0s
STHS Stebnicka Huta 95.04 319 eP P 15 09 39.9 +1.4
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 95.04 319 eP P 15 09 39.8 +1.3
STHS e 15 09 56.6
KEV Kevo 95.41 340 PFAKE 15 09 50.0 +10
KEV LR LR
comp=Z,750nm,21.0s
KECS Kecovo 95.42 318 eP P 15 09 41.0 +0.8
KECS Kecovo 95.42 318 eP P 15 09 41.0 +0.8
PSZ Piszkesteto 95.74 317 PFAKE 15 09 50.0 +8.2
PSZ LR LR
comp=Z,263nm,21.0s
ARCES ARCESS Array B 95.89 339 P P 15 09 41.9 0.0
ARCES ARCESS Array B 95.89 339 P P 15 09 41.9 0.0
comp=Z,3.3nm,0.6s,baz=104,slow=4.6,SNR=15
ARCES LR LR 16 00 11.9
comp=Z,571nm,19.6s,baz=108,slow=40
VYHS Vyhne 96.51 318 eP P 15 09 45.3 +0.1
VYHS pmax pmax
comp=Z,24nm,2.9s
VYHS Vyhne 96.51 318 eP P 15 09 45.3 +0.1
VYHS e 15 10 02.3

TIP Timpagrande 97.06 308 PFAKE 15 10 00.0 +12
TIP LR LR
comp=Z,212nm,21.0s
TBI Tubuai 97.20 115 *e*LR LR 15 41 27.7
comp=Z,740nm,24.2s
MORC Moravsky Berou 97.48 319 *e*pP pP 15 10 07.1 +8.3
CEL Celeste 97.65 308 PFAKE 15 10 00.0 +9.3
CEL LR LR
comp=Z,230nm,21.0s
CUC Castrocucco 97.86 309 PFAKE 15 10 00.0 +8.4
CUC LR LR
comp=Z,234nm,22.0s
PPT2 Papeete2 98.33 109 *e*S S 15 21 09.0 -12
comp=Z,442nm,26.2s
PPT2 *e*SS **SS 15 28 03.2 -2.0**
comp=Z,258nm,25.0s
PPT2 Papeete2 98.33 109 *e*LR LR 15 41 50.0
comp=Z,484nm,22.2s
PPT Papeete 98.34 109 LR LR 15 50 32.4
comp=Z,360nm,18.5s,baz=269,slow=33
WDD Wield Dalam 98.53 305 PFAKE 15 10 10.0 +15
WDD LR LR
comp=Z,239nm,20.0s
SPITS Spitsbergen Ar 99.12 348 P **Pdif 15 09 56.2 -0.1**
SPITS Spitsbergen Ar 99.12 348 P **Pdif 15 09 56.2 -0.1**
comp=Z,15nm,0.7s,baz=128,slow=13,SNR=21
AQU L'Aquila 99.85 311 PFAKE 15 10 10.0 +10
AQU LR LR
comp=Z,393nm,22.0s
GERES GERESS Array B 99.93 318 P **Pdif 15 10 01.1 +0.4**
GERES PP **PP 15 14 05.8 -0.1**
GERES GERESS Array B 99.93 318 P **Pdif 15 10 01.1 +0.4**
comp=Z,0.2nm,0.4s,baz=262,slow=4.0,SNR=4.2
GERES PP **PP 15 14 05.8 -0.1**
comp=Z,0.4nm,0.4s,baz=90,slow=5.3,SNR=3.7
KBS Kingsbay 99.97 349 *ce*P **Pdif 15 10 00.0 0.0**
KBS pmax pmax
comp=Z,10.0nm,0.9s
KBS Kingsbay 99.97 349 *e*Pdif **Pdif 15 10 00.1 0.0**
KBS LR LR
comp=Z,592nm,21.0s
HFS Hagfors 100.15 330 P **Pdif 15 10 02.1 +0.9**
HFS PP **PP 15 14 07.8 +0.8**
HFS Hagfors 100.15 330 P **Pdif 15 10 02.1 +0.9**
comp=Z,5.1nm,0.9s,baz=294,slow=1.5,SNR=3.8
HFS PP **PP 15 14 07.8 +0.8**
comp=Z,6.8nm,0.8s,baz=120,slow=9.0,SNR=4.5
CLL Collm 100.45 321 *e*Pdif Pdif 15 10 13.0 +10
CLL *e*PP **PP 15 14 09.0 -0.6**
CLL LmV 16 05 00.0
comp=Z,300nm,19.6s
NB2 NORSAR Subarra101.36 331 P **Pdif 15 10 06.8 +0.1**
comp=Z,11nm,1.1s,baz=84,slow=5.1
NOA NORSAR Array B101.36 331 P **Pdif 15 10 07.3 +0.7**
NOA PP **PP 15 14 16.9 +0.8**
NOA NORSAR Array B101.36 331 P **Pdif 15 10 07.3 +0.7**
comp=Z,1.7nm,0.7s,baz=88,slow=4.3,SNR=3.7
NOA PP **PP 15 14 16.9 +0.8**
comp=Z,2.3nm,0.9s,baz=95,slow=7.3,SNR=3.3
KDAK Kodiak Island 102.09 33 PFAKE 15 10 20.0 +10
KDAK LR LR
comp=Z,527nm,20.0s
VLC Villacollemand 102.11 313 PFAKE 15 10 20.0 +10
VLC LR LR
comp=Z,351nm,22.0s
KONO Kongsberg 102.23 329 PFAKE 15 10 20.0 +10
KONO LR LR
comp=Z,582nm,20.0s
VSL Villasalto 102.79 308 PFAKE 15 10 20.0 +6.5
VSL LR LR
comp=Z,255nm,19.0s
TUE Stuetta 102.84 316 PFAKE 15 10 20.0 +6.2
TUE LR LR
comp=Z,325nm,21.0s
BFO Black Forest 103.49 318 PFAKE 15 10 30.0 +14
BFO LR LR
comp=Z,328nm,19.0s
COLA College 103.69 25 PFAKE 15 10 30.0 +13
COLA LR LR
comp=Z,228nm,19.0s
ILAR Eielson Array 104.11 25 PP PP 15 14 33.3 -3.3
ILAR Eielson Array 104.11 25 PP PP 15 14 33.3 -3.3
comp=Z,0.8nm,0.9s,baz=286,slow=9.1,SNR=4.7
ECH Echery 104.28 317 PFAKE 15 10 30.0 +10
ECH LR LR
comp=Z,348nm,20.0s
MBDF Montbardon 104.69 314 *e*PKIKP **PKiKP 15 14 36.3 -1.3**
BNI Bardonecchia 104.74 314 PFAKE 15 10 30.0 +7.8
BNI LR LR
comp=Z,475nm,20.0s
WLF Walferdange 104.86 319 PFAKE 15 10 30.0 +7.6
WLF LR LR
comp=Z,421nm,21.0s
CABF La Chapelle 105.08 316 *e*PKIKP **PKiKP 15 14 37.4 -0.8**
comp=Z,72nm,0.9s
ORIF Oris-en-Rattie 105.31 314 *e*PKIKP **PKiKP 15 14 36.8 -1.9**
comp=Z,3.1nm,0.4s
TAM Tamanrasset 105.51 291 PFAKE 15 14 50.0
TAM LR LR
comp=Z,290nm,19.0s
SSB Saint Sauveur 106.24 315 PFAKE 15 14 50.0
SSB LR LR
comp=Z,259nm,21.0s
PMSA Palmer Station 106.35 183 PFAKE 15 14 50.0
PMSA LR LR
comp=Z,821nm,20.0s
EGAK Eagle 106.51 25 PFAKE 15 14 50.0
EGAK LR LR
comp=Z,248nm,20.0s
TORD Torodi Ar. Bea 108.46 281 PKiKP **PKiKP 15 14 44.5 -0.8**
TORD Torodi Ar. Bea 108.46 281 PKiKP **PKiKP 15 14 44.5 -0.8**
comp=Z,0.4nm,0.5s,baz=100,slow=1.1,SNR=6.5
ESK Eskdalemuir 109.69 326 PFAKE 15 15 00.0
ESK LR LR
comp=Z,695nm,20.0s
SHEL Horse Pasture 110.61 249 PFAKE 15 15 00.0
SHEL LR LR
comp=Z,377nm,21.0s
ESDC Sonseca Array 113.07 309 PP PP 15 15 52.0 +9.3
ESDC Sonseca Array 113.07 309 PP PP 15 15 52.0 +9.3
comp=Z,0.2nm,0.3s,baz=69,slow=8.1,SNR=4.8
WRAK Wrangell Islan 113.15 32 PFAKE 15 15 00.0
WRAK LR LR
comp=Z,268nm,20.0s
PAB San Pablo 113.38 309 PFAKE 15 15 10.0
PAB LR LR
comp=Z,398nm,19.0s
BORG Borgarnes 114.29 339 PFAKE 15 15 10.0 +15
BORG LR LR
comp=Z,413nm,19.0s
LIC Lamto 114.35 273 *e*PKIKP PKPdf 15 14 59.4 +3.0
MTE Manteigas 115.67 311 PFAKE 15 15 10.0 +12
MTE LR LR
comp=Z,364nm,19.0s
YKA Yellowknife Ar 118.01 21 PKP **PKPdf 15 15 02.0 0.0**
YKA Yellowknife Ar 118.01 21 PKP **PKPdf 15 15 02.0 0.0**
comp=Z,2.9nm,0.7s,baz=326,slow=2.0,SNR=10.0
EFI East Falkland 118.62 189 PFAKE 15 15 20.0 +16
EFI LR LR
comp=Z,524nm,19.0s
SFJD Kangerlussuaq 120.30 351 PFAKE 15 15 20.0 +14
SFJD LR LR
comp=Z,475nm,22.0s
ASCN Ascension 120.89 255 PFAKE 15 15 20.0 +11
ASCN LR LR
comp=Z,227nm,19.0s
NLWA Neilton Lookou 121.36 39 PFAKE 15 15 20.0 +11
NLWA LR LR
comp=Z,301nm,22.0s
HUMO Hull Mountain 123.76 44 *e*PKPdf **PKPdf 15 15 14.6 +0.8**
YBH Yreka Blue Hor 124.25 45 PKP **PKPdf 15 15 15.7 +0.9**
YBH Yreka Blue Hor 124.25 45 PKP **PKPdf 15 15 15.7 +0.9**
comp=Z,1.1nm,0.7s,baz=122,slow=21,SNR=4.4
EDM Edmonton 124.30 29 *e*PKIKP **PKPdf 15 15 14.9 +0.4**
EDM Edmonton 124.30 29 *e*PKPdf **PKPdf 15 15 14.9 +0.4**
NEW Newport 125.03 36 PFAKE 15 15 30.0 +14
NEW LR LR
comp=Z,260nm,21.0s
A13A Flathead Natio 126.21 34 ⇑PKiKP **PKiKP 15 15 19.0 +0.2**
baz=126
B13A Whitefish 126.49 35 ⇓PKiKP **PKiKP 15 15 19.3 0.0**
baz=126
BMO Blue Mountains 126.57 40 PFAKE 15 15 30.0 +11
BMO LR LR
comp=Z,214nm,20.0s
WVOR Wild Horse Val 126.77 43 PFAKE 15 15 30.0 +10
WVOR LR LR
comp=Z,284nm,22.0s
C13A Hot Springs 126.80 35 ⇑PKiKP **PKPdf 15 15 19.5 0.0**
baz=127
A15A Johnson Ranch, 127.11 33 ⇑PKiKP **PKiKP 15 15 20.4 -0.2**
baz=127
B14A Marquette Ranc 127.16 34 ⇓PKiKP **PKPdf 15 15 20.4 +0.2**
baz=127
B15A Bradely Ranch, 127.58 34 ⇑PKiKP **PKiKP 15 15 21.3 -0.2**
baz=127
MSO Missoula 127.62 36 ⇑PKiKP **PKiKP 15 15 21.5 -0.1**
baz=128
C15A Salmond Ranch, 127.86 34 ⇑PKiKP **PKiKP 15 15 22.4 +0.2**
baz=128
B16A M & M Farms, S 127.99 33 ⇑PKiKP **PKiKP 15 15 22.5 +0.1**
baz=128
FFC Flin Flon 128.16 22 PFAKE 15 15 30.0 +8.3
FFC LR LR
comp=Z,316nm,20.0s
MFID Camas Ranch 128.18 41 *e*PKPdf **PKPdf 15 15 22.8 +0.5**
MFID Camas Ranch 128.18 41 ⇓PKiKP **PKiKP 15 15 23.6 +0.7**
baz=128
A17A Triple J Farms 128.21 32 ⇓PKiKP **PKiKP 15 15 23.3 +0.5**
baz=128
C16A Fuhringer Ranc 128.32 34 ⇓PKiKP **PKiKP 15 15 23.3 +0.3**
baz=128
B17A LG Farms, Che 128.55 33 ⇑PKiKP **PKiKP 15 15 24.1 +0.7**
baz=128
BMN Battle Mountai 128.57 45 PFAKE 15 15 30.0 +6.8
BMN LR LR
comp=Z,225nm,19.0s
NVAR Mina Array Bea 128.60 47 PKP **PKPdf 15 15 24.0 +0.6**
NVAR PP PP 15 17 37.0 +8.0
NVAR Mina Array Bea 128.60 47 PKP **PKPdf 15 15 24.0 +0.6**
comp=Z,1.7nm,0.7s,baz=257,slow=2.4,SNR=16
NVAR PP PP 15 17 37.0 +8.0
comp=Z,1.0nm,0.8s,baz=266,slow=5.9,SNR=3.7
A18A Metzger Ranch, 128.67 32 ⇓PKiKP **PKiKP 15 15 23.8 +0.1**
baz=128
C17A Wharram Farm, 128.96 34 ⇑PKiKP **PKiKP 15 15 24.4 +0.1**
baz=129
HLID Hailey 129.01 40 PFAKE 15 15 40.0 +16
HLID LR LR
comp=Z,212nm,20.0s
HLID Hailey 129.01 40 ⇓PKiKP **PKiKP 15 15 25.5 +0.9**
baz=129
B18A Beardsley Farm 129.03 32 ⇓PKiKP **PKiKP 15 15 24.4 0.0**
baz=129
A19A Klindworth Far 129.24 31 ⇑PKiKP **PKiKP 15 15 25.4 +0.6**
baz=129
EGMT Eagleton 129.27 33 PFAKE 15 15 40.0 +16
EGMT LR LR
comp=Z,288nm,20.0s
EGMT Eagleton 129.27 33 ⇓PKiKP **PKiKP 15 15 25.5 +0.6**
baz=129
D17A Six Diamond Ra 129.28 34 ⇓PKiKP **PKiKP 15 15 25.4 +0.4**
baz=129
B19A Brinkman Farms 129.43 32 ⇓PKiKP **PKiKP 15 15 25.8 +0.6**
baz=129
ISA Isabella 129.47 51 ⇓PKiKP **PKiKP 15 15 26.5 +0.8**
baz=129
CWC Cottonwood Cre 129.50 50 ⇓PKiKP **PKiKP 15 15 26.0 +0.2**
baz=129
TPH Tonopah 129.52 47 PFAKE 15 15 40.0 +15
TPH LR LR
comp=Z,323nm,22.0s
BOZ Bozeman (W) 129.61 36 PFAKE 15 15 40.0 +15
BOZ LR LR
comp=Z,208nm,20.0s
A20A Cobblestone Ra 129.68 31 ⇑PKiKP **PKiKP 15 15 25.4 -0.3**
baz=130
D18A Linhart Farms, 129.74 34 ⇓PKiKP **PKiKP 15 15 26.1 +0.2**
baz=130
C19A Slack Wire Ran 129.82 33 ⇓PKiKP **PKiKP 15 15 26.8 +0.8**
baz=130
GRAC Grapevine Rang 129.83 49 ⇓PKiKP **PKiKP 15 15 27.5 +1.2**
baz=130
F17A Fitzpatrick Pl 130.02 35 ⇓PKiKP **PKiKP 15 15 27.4 +0.8**
baz=130
E18A Harlowton 130.06 34 ⇑PKiKP **PKiKP 15 15 26.9 +0.3**
baz=130
MPMC Manual Prospec 130.08 50 ⇓PKiKP **PKiKP 15 15 28.1 +1.0**
baz=130
EDW2 Edwards Air Fo 130.11 52 ⇑PKiKP **PKiKP 15 15 28.4 +1.4**
baz=130
A21A Bergtoll Ranch 130.11 30 ⇑PKiKP **PKiKP 15 15 27.2 +0.7**
baz=130
LRMC Laurel Mountai 130.14 51 ⇓PKiKP **PKiKP 15 15 27.7 +0.6**
baz=130
D19A Cripps Ranch, 130.26 33 ⇓PKiKP **PKiKP 15 15 28.0 +1.1**
baz=130
CIS Catalina Islan 130.27 53 ⇑PKiKP **PKiKP 15 15 27.8 +0.6**
baz=130
H16A Russell Place, 130.35 37 ⇓PKiKP **PKiKP 15 15 27.9 +0.6**
baz=130
F18A Big Timber 130.56 35 ⇑PKiKP **PKiKP 15 15 28.4 +0.8**
baz=130
R11A Troy Canyon, C 130.59 46 ⇓PKiKP **PKiKP 15 15 28.8 +0.8**
baz=130
D20A Manuel Ranch, 130.71 33 ⇓PKiKP **PKiKP 15 15 28.7 +0.9**
baz=131
GSC Goldstone 130.87 51 ⇑PKiKP **PKiKP 15 15 29.4 +0.8**
baz=131
LKWY Lake 130.94 37 PFAKE 15 15 40.0 +12
LKWY LR LR
comp=Z,371nm,19.0s
F19A Roth Farm, Mol 131.02 34 ⇑PKiKP **PKiKP 15 15 29.3 +0.8**
baz=131
E20A Meyer Farm, Mu 131.07 33 ⇑PKiKP **PKiKP 15 15 29.6 +1.1**
baz=131
RLMT Red Lodge 131.27 35 PFAKE 15 15 40.0 +12
RLMT LR LR
comp=Z,255nm,20.0s
REDW Red Top Meadow 131.33 38 *e*PKPdf **PKPdf 15 15 28.1 -0.3**
AHID Auburn Hatcher 131.50 39 PFAKE 15 15 40.0 +11
AHID LR LR
comp=Z,209nm,22.0s
DUG Dugway 131.69 43 PFAKE 15 15 40.0 +11
DUG LR LR
comp=Z,197nm,20.0s
PFO Pinyon Flat Ob 131.74 53 PFAKE 15 15 40.0 +11
PFO LR LR
comp=Z,278nm,20.0s
DGMT Dagmar 131.80 29 PFAKE 15 15 40.0 +11
DGMT LR LR
comp=Z,341nm,19.0s
HWUT Hardware Ranch 131.81 41 *e*PKPdf **PKPdf 15 15 30.1 +0.7**
HWUT LR LR
comp=Z,216nm,20.0s
GMRC Granite Mounta 131.94 51 ⇓PKiKP **PKiKP 15 15 32.3 +1.6**
baz=132
BELC Belle Mtn. Jos 131.96 52 ⇑PKiKP **PKiKP 15 15 32.6 +1.8**
baz=132
BW06 Boulder Array 132.45 38 PFAKE 15 15 40.0 +9.4
BW06 LR LR
comp=Z,258nm,20.0s
PDAR Pinedale Array 132.45 38 PKPpre PKPpre 15 15 27.6
PDAR PKP **PKiKP 15 15 31.4 -0.3**
PDAR Pinedale Array 132.45 38 PKhKP PKPpre 15 15 27.6
comp=Z,0.3nm,0.5s,baz=30,slow=9.3,SNR=3.1
PDAR PKP **PKiKP 15 15 31.4 -0.3**
comp=Z,1.0nm,0.8s,baz=90,slow=3.0,SNR=7.4
M17A Scullys Gap (B 132.46 40 ⇑PKiKP **PKiKP 15 15 32.0 +0.3**
baz=132
J19A Crowheart 132.47 37 ⇑PKiKP **PKiKP 15 15 32.3 +0.6**
baz=132
TRQA Tornquist 132.50 190 PFAKE 15 15 40.0 +9.4
TRQA LR LR
comp=Z,629nm,21.0s
E23A Ismay 132.58 32 ⇓PKiKP **PKiKP 15 15 31.7 +0.1**
baz=132
L18A Fontenelle, Gr 132.62 39 ⇑PKiKP **PKiKP 15 15 31.8 -0.2**
baz=132
I20A Worland 132.62 36 ⇓PKiKP **PKiKP 15 15 31.6 -0.3**
baz=132
K19A Absolon Red Bu 132.85 38 ⇓PKiKP **PKPdf 15 15 30.9 -0.4**
baz=133
MVU Marysvale 132.90 45 PFAKE 15 15 40.0 +8.4
MVU LR LR
comp=Z,325nm,22.0s
J20A Shoshoni 133.00 37 ⇓PKiKP **PKiKP 15 15 32.4 -0.3**
baz=133
E24A Baker 133.05 31 ⇓PKiKP **PKiKP 15 15 32.8 +0.3**
baz=133
K21A Alcova 133.92 37 ⇓PKiKP **PKiKP 15 15 34.1 -0.5**
baz=134
ULM Lac du Bonnet 133.98 22 PKP **PKPdf 15 15 34.2 +1.3**
ULM Lac du Bonnet 133.98 22 PKP **PKPdf 15 15 34.2 +1.3**
comp=Z,1.7nm,0.5s,baz=315,slow=4.3,SNR=2.8
E26A Carlson Angus 134.03 30 ⇓PKiKP **PKiKP 15 15 34.5 0.0**
baz=134
SCHQ Schefferville 134.04 356 PKP **PKPdf 15 15 32.2 -0.7**
SCHQ Schefferville 134.04 356 PKP **PKPdf 15 15 32.2 -0.7**
comp=Z,4.3nm,0.9s,baz=239,slow=9.5,SNR=3.8
K22A Casper 134.34 37 ⇓PKiKP **PKPdf 15 15 34.1 +0.1**
baz=134
F26A Lodgepole 134.37 31 ⇑PKiKP **PKPdf 15 15 34.1 +0.3**
baz=134
M21A Separation Pea 134.45 38 ⇓PKiKP **PKPdf 15 15 35.0 +0.6**
baz=134
I24A Kuemmerle Ranc 134.67 34 ⇑PKiKP **PKPdf 15 15 35.2 +0.6**
baz=134
O20A White River Ci 134.73 40 ⇓PKiKP **PKiKP 15 15 35.9 -0.5**
baz=135
G26A Maurine 134.79 31 ⇓PKiKP **PKiKP 15 15 35.8 -0.3**
baz=135
N21A Black Mountain 134.84 39 ⇓PKiKP **PKiKP 15 15 35.9 -0.7**
baz=135
WUAZ Wupatki 134.85 48 PFAKE 15 15 50.0 +15
WUAZ LR LR
comp=Z,278nm,20.0s
I25A Rochford 135.05 33 ⇓PKiKP **PKiKP 15 15 36.2 -0.7**
baz=135
G27A Dupree 135.07 31 ⇑PKiKP **PKPdf 15 15 35.3 +0.1**
baz=135
214A Organ Pipe Nat 135.19 53 ⇓PKiKP **PKPdf 15 15 36.5 +0.7**
baz=135
Q20A Ridgley Place, 135.33 42 ⇓PKiKP **PKiKP 15 15 37.1 -0.5**
baz=135
AGMN Agassiz Nation 135.58 23 PFAKE 15 15 50.0 +14
AGMN LR LR
comp=Z,434nm,22.0s
S20A Disappointment 135.88 43 ⇑PKiKP **PKPdf 15 15 37.3 0.0**
baz=136
MVCO Mesa Verde 136.10 44 PFAKE 15 15 50.0 +12
MVCO LR LR
comp=Z,273nm,22.0s
O23A Lake Granby, G 136.15 39 ⇓PKiKP **PKPdf 15 15 37.9 +0.2**
baz=136
ISCO Idaho Springs 136.58 39 PFAKE 15 15 50.0 +11
ISCO LR LR
comp=Z,253nm,20.0s
ISCO Idaho Springs 136.58 39 ⇑PKiKP **PKPdf 15 15 38.9 +0.4**
baz=136
TUC Tucson 136.65 52 PFAKE 15 15 50.0 +11
TUC LR LR
comp=Z,291nm,22.0s
P23A Jefferson 136.69 40 ⇑PKiKP **PKiKP 15 15 39.7 -0.8**
baz=136
EYMN Ely 137.47 20 PFAKE 15 15 50.0 +10
EYMN LR LR
comp=Z,406nm,22.0s
SDCO Great Sand Dun 137.83 42 PFAKE 15 15 50.0 +9.1
SDCO LR LR
comp=Z,318nm,21.0s
OGNE Ogallala 138.02 35 PFAKE 15 15 50.0 +9.1
OGNE LR LR
comp=Z,287nm,21.0s
ANMO Albuquerque 138.67 46 PFAKE 15 15 50.0 +7.6
ANMO LR LR
comp=Z,280nm,22.0s
121A Cookes Peak, D 138.85 50 ⇓PKiKP **PKPdf 15 15 43.8 +1.1**
baz=139
ECSD EROS Data Cent 138.85 28 PFAKE 15 15 50.0 +7.8
ECSD LR LR
comp=Z,336nm,19.0s
Z22A Elephant Butte 139.13 48 ⇓PKiKP **PKiKP 15 15 44.6 -0.9**
baz=139
W24A Lazy 6 Ranch, 139.27 45 ⇓PKiKP **PKPdf 15 15 44.6 +1.1**
baz=139
COWI Conover 139.87 19 PFAKE 15 16 00.0 +16
COWI LR LR
comp=Z,507nm,22.0s
MNTX Cornudas Mount 141.04 49 PFAKE 15 16 00.0 +13
MNTX LR LR
comp=Z,166nm,20.0s
SCIA State Center 141.84 27 PFAKE 15 16 00.0 +12
SCIA LR LR
comp=Z,314nm,20.0s
AMTX Amarillo 141.99 43 PFAKE 15 16 00.0 +12
AMTX LR LR
comp=Z,259nm,20.0s
KSU1 Kansas State U 142.31 33 PFAKE 15 16 00.0 +11
KSU1 LR LR
comp=Z,446nm,21.0s
LCO Las Campanas 142.32 181 PFAKE 15 16 00.0 +11
LCO LR LR
comp=Z,597nm,21.0s
GLMI Grayling 142.37 16 PFAKE 15 16 00.0 +11
GLMI LR LR
comp=Z,444nm,20.0s
CPUP Villa Florida 142.47 201 PKPpre PKPpre 15 15 46.5
CPUP Villa Florida 142.47 201 PKhKP PKPpre 15 15 46.5
comp=Z,1.8nm,0.6s,baz=196,slow=2.9,SNR=5.7
Z30A Sanderson Ranc 143.29 44 ⇓PKiKP **PKPdf 15 15 49.1 -1.4**
baz=143
TXAR Lajitas Array 143.45 52 PKP PKPbc 15 15 48.7 +0.5
TXAR Lajitas Array 143.45 52 PKP PKPbc 15 15 48.7 +0.5
comp=Z,2.8nm,0.7s,baz=262,slow=2.1,SNR=39
428A Kincaid Ranch, 143.53 49 ⇓PKiKP **PKPdf 15 15 49.8 -1.3**
baz=143
627A Terlingua Ranc 143.61 51 ⇓PKiKP PKPbc 15 15 50.0 +1.3
baz=144
329A Wagon Wheel Ra 143.66 47 ⇓PKiKP **PKPdf 15 15 50.2 -1.1**
baz=144
Z31A Sharp Cattle R 143.94 43 ⇓PKiKP **PKPdf 15 15 50.9 -0.8**
baz=144
628A Black Gap, Mar 143.98 51 ⇓PKiKP **PKPdf 15 15 51.6 -0.3**
baz=144
WMOK Wichita Mounta 143.98 40 *e*PKIKP PKPbc 15 15 50.4 +0.9
WMOK MLR MLR
comp=Z,245nm,19.0s
WMOK Wichita Mounta 143.98 40 *e*PKPdf PKPbc 15 15 50.4 +0.9
WMOK LR LR
comp=Z,245nm,19.0s
Y32A R-V Farms, Ver 144.00 42 ⇑PKiKP **PKPdf 15 15 50.8 -0.9**
baz=144
230A Sterling City 144.07 46 ⇑PKiKP **PKPdf 15 15 51.8 -0.2**
baz=144
FRNY Flat Rock 144.13 3 *e*PKPdf PKPbc 15 15 49.4 -0.2
429A Davenport Ranc 144.17 49 ⇑PKiKP **PKPdf 15 15 51.6 -0.6**
baz=144
529A Stev Forest Ra 144.18 50 ⇓PKiKP **PKPdf 15 15 51.6 -0.6**
baz=144
LONY Lake Ozonia 144.28 4 *e*PKPdf PKPbc 15 15 50.4 +0.3
LONY LR LR
comp=Z,385nm,20.0s
330A Mertzon 144.29 47 ⇑PKiKP **PKPdf 15 15 51.6 -0.7**
baz=144
Z32A Haskell 144.40 43 ⇓PKiKP **PKPdf 15 15 52.2 -0.2**
baz=144
WVL Waterville 144.43 358 *e*PKPdf PKPbc 15 15 51.1 +0.6
430A Baggett Ranch, 144.57 48 ⇓PKiKP **PKPdf 15 15 53.1 +0.2**
baz=144
231A Bronte 144.61 45 ⇑PKiKP **PKPdf 15 15 53.1 +0.2**
baz=144
HDIL Hopedale 144.62 24 *e*PKPdf PKPbc 15 15 51.4 +0.1
HDIL LR LR
comp=Z,436nm,20.0s
ABTX Abilene, Hawle 144.69 44 ⇑PKiKP **PKPdf 15 15 53.5 +0.6**
baz=145
LBNH Lisbon 144.77 1 *e*PKIKP **PKPdf 15 15 52.5 -0.2**
LBNH MLR MLR
comp=Z,434nm,20.0s
LBNH Lisbon 144.77 1 *e*PKPdf **PKPdf 15 15 52.5 -0.2**
LBNH LR LR
comp=Z,434nm,20.0s
530A J-C Ranch, Com 144.83 49 ⇓PKiKP **PKPdf 15 15 54.1 +0.8**
baz=145
331A San Angelo 144.88 46 ⇓PKiKP **PKPdf 15 15 53.7 +0.3**
baz=145
NCB Newcomb 144.95 4 *e*PKPdf **PKPdf 15 15 52.8 -0.3**
NCB LR LR
comp=Z,466nm,22.0s
TUL1 Tulsa 145.03 36 ⇑PKiKP **PKPdf 15 15 53.9 +0.5**
baz=145
431A Sonora 145.09 48 ⇑PKiKP **PKPdf 15 15 54.6 +0.9**
baz=145
232A Coleman 145.11 45 ⇑PKiKP **PKPdf 15 15 54.7 +0.9**
baz=145
HNH Hanover 145.30 1 *e*PKPdf **PKPdf 15 15 54.0 +0.3**
332A Millersview 145.33 46 ⇑PKiKP **PKPdf 15 15 55.5 +1.4**
baz=145

531A	**Rocksprings** baz=145	**145.40**	**48**	⇑PKiKP	**PKPab**	**15 15 55.8**	**+1.4**
ACCN	**Adirondack Com**	**145.57**	**3**	*e*PKPdfr		15 15 54.8	
432A	**Menard** baz=145	**145.57**	**47**	⇓PKiKP	**PKPab**	**15 15 55.7**	**+0.7**
SFIN	**Scholer Farm** baz=145	**145.61**	**22**	⇑PKiKP	**PKPab**	**15 15 55.5**	**+0.8**
631A	**Perdido Creek** baz=146	**145.77**	**49**	⇑PKiKP	**PKPab**	**15 15 56.2**	**+0.5**
JCT	**Junction City**	**145.78**	**47**	*e*PKiKP	**PKPab**	**15 15 56.6**	**+0.8**
JCT	comp=Z,308nm,21.0s			MLR	MLR		
JCT	**Junction City**	**145.78**	**47**	*e*PKPdf	**PKPab**	**15 15 56.6**	**+0.8**
JCT	comp=Z,308nm,21.0s			LR	LR		
JCT	**Junction City** baz=146	**145.78**	**47**	⇑PKiKP	**PKPab**	**15 15 56.2**	**+0.4**
532A	**Rocksprings** baz=146	**145.90**	**48**	⇑PKiKP	**PKPab**	**15 15 56.5**	**+0.3**
632A	**Uvalde** baz=146	**146.31**	**49**	⇑PKiKP	**PKPbc**	**15 15 57.4**	**+0.3**
ALLY	**Alegheny Colle**	**146.44**	**12**	*e*PKPbc	**PKPbc**	**15 15 57.1**	**+0.1**
BDFB	**Brasilia**	**146.47**	**224**	PKPbc	**PKPbc**	**15 15 58.2**	**+0.3**
BDFB	**Brasilia** comp=Z,6.5nm,0.7s,baz=149,slow=3.5,SNR=9.0	**146.47**	**224**	PKPbc	**PKPbc**	**15 15 58.2**	**+0.3**
HRV	**Adam Dziewonsk**	**146.51**	**0**	*e*PKP2	**PKPdf**	**15 15 55.5**	**-0.2**
HRV	**Adam Dziewonsk**	**146.51**	**0**	*e*PKPdf	**PKPdf**	**15 15 55.5**	**-0.2**
WHTX	**Lake Whitney** baz=146	**146.55**	**43**	⇓PKiKP	**PKPbc**	**15 15 58.0**	**+0.4**
BINY	**Binghamton**	**146.56**	**6**	*e*PKPbc	**PKPbc**	**15 15 57.6**	**+0.2**
732A	**Laxson Ranch,** baz=146	**146.57**	**50**	⇓PKiKP	**PKPab**	**15 15 58.3**	**-0.5**
BLO	**Bloomington**	**146.88**	**22**	*e*PKP2	**PKPab**	**15 15 59.4**	**-0.3**
BLO	**Bloomington**	**146.88**	**22**	*e*PKPab	**PKPab**	**15 15 59.4**	**-0.3**
SIUC	**Southern Illin**	**147.03**	**27**	*e*PKPdf	**PKPdf**	**15 15 56.5**	**-0.2**
PARMO	**Parma**	**147.65**	**28**	*e*PKPbc	**PKPbc**	**15 16 00.9**	**+0.4**
UALR	**University of**	**147.79**	**34**	*e*PKPbc	**PKPbc**	**15 16 01.5**	**+0.5**
WCI	**Wyandotte Cave**	**147.80**	**23**	*e*PKP2	**PKPbc**	**15 16 01.1**	**+0.2**
WCI	**Wyandotte Cave**	**147.80**	**23**	*e*PKPbc	**PKPbc**	**15 16 01.1**	**+0.2**
GNAR	**Gosnell**	**148.08**	**30**	*e*PKPdf	**PKPdf**	**15 15 57.8**	**-0.7**
LVC	**Limon Verde**	**148.61**	**184**	*e*PKPdf	**PKPdf**	**15 16 00.5**	**+0.3**
LVC	comp=Z,504nm,19.0s			LR	LR		
KVTX	**Kingsville**	**148.75**	**50**	PFAKE		15 16 10.0	+2.6
KVTX	comp=Z,10864µm,22.0s			LR	LR		
WVT	**Waverly**	**148.97**	**27**	*e*PKIKP	**PKPdf**	**15 16 00.5**	**+0.5**
WVT				*e*		15 16 04.3	
WVT	**Waverly**	**148.97**	**27**	*e*PKPdf	**PKPdf**	**15 16 00.5**	**+0.5**
WVT				*e*PKPbc	**PKPbc**	**15 16 04.3**	**+0.3**
SDMD	**Soldier's Deli**	**149.20**	**8**	*e*PKPbc	**PKPbc**	**15 16 04.5**	**0.0**
OXF	**Oxford**	**149.54**	**30**	*e*PKP2	**PKPbc**	**15 16 05.7**	**+0.2**
OXF	comp=Z,343nm,20.0s			MLR	MLR		
OXF	**Oxford**	**149.54**	**30**	*e*PKPbc	**PKPbc**	**15 16 05.7**	**+0.2**
OXF	comp=Z,343nm,20.0s			LR	LR		
TZTN	**Tazewell**	**150.29**	**20**	*e*PKPbc	**PKPbc**	**15 16 07.3**	**0.0**
CBN	**Corbin**	**150.29**	**10**	PFAKE		15 16 10.0	+2.8
CBN	comp=Z,739nm,20.0s			LR	LR		
BLA	**Blacksburg**	**150.60**	**15**	*e*PKIKP	**PKPbc**	**15 16 08.1**	**0.0**
BLA	comp=Z,395nm,22.0s			MLR	MLR		
BLA	**Blacksburg**	**150.60**	**15**	*e*PKPbc	**PKPbc**	**15 16 08.1**	**0.0**
BLA	comp=Z,395nm,22.0s			LR	LR		
VBMS	**Vicksburg**	**150.71**	**35**	PFAKE		15 16 10.0	+1.6
VBMS	comp=Z,391nm,21.0s			LR	LR		
CPCT	**Cooper Cave**	**150.91**	**23**	*e*PKPbc	**PKPbc**	**15 16 08.7**	**-0.1**
TKL	**Tuckaleechee C**	**151.00**	**21**	*e*PKPbc	**PKPbc**	**15 16 09.0**	**0.0**
TKL	**Tuckaleechee C** comp=Z,33nm,0.8s,baz=146,slow=1.7,SNR=41	**151.00**	**21**	PKPbc	**PKPbc**	**15 16 09.8**	**+0.8**
LRAL	**Lakeview Retre**	**151.91**	**29**	*e*PKPbc	**PKPbc**	**15 16 11.3**	**+0.2**
LRAL	comp=Z,396nm,22.0s			LR	LR		
LPAZ	**La Paz**	**154.80**	**187**	PKPbc	**PKPbc**	**15 16 20.4**	**+1.7**
LPAZ	**La Paz** comp=Z,1.0nm,0.9s,baz=36,slow=2.9,SNR=3.6	**154.80**	**187**	PKPbc	**PKPbc**	**15 16 20.4**	**+1.7**
NNA	**Nana**	**158.54**	**165**	PFAKE		15 16 30.0	+16
NNA	comp=Z,293nm,22.0s			LR	LR		
TEIG	**Tepich**	**160.07**	**54**	PFAKE		15 16 30.0	+14
TEIG	comp=Z,378nm,21.0s			LR	LR		
SAML	**Samuel**	**160.54**	**205**	PFAKE		15 16 30.0	+13
SAML	comp=Z,776nm,22.0s			LR	LR		
ANWB	**Willy Bob**	**167.30**	**314**	PFAKE		15 16 30.0	+7.5
ANWB	comp=Z,452nm,22.0s			LR	LR		
GRTK	**Grand Turk**	**167.44**	**359**	PFAKE		15 16 30.0	+7.5
GRTK	comp=Z,479nm,19.0s			LR	LR		
GTBY	**Guantanamo Bay**	**168.41**	**18**	PFAKE		15 16 30.0	+6.7
GTBY	comp=Z,484nm,19.0s			LR	LR		
FDF	**Fort de France**	**168.52**	**301**	PFAKE		15 16 30.0	+6.5
FDF	comp=Z,401nm,21.0s			LR	LR		
OTAV	**Otavalo**	**168.82**	**140**	PFAKE		15 16 40.0	+16
OTAV	comp=Z,353nm,22.0s			LR	LR		
SJG	**San Juan**	**169.57**	**332**	PFAKE		15 16 30.0	+6.0
SJG	comp=Z,483nm,21.0s			LR	LR		
SDDR	**Presa de Saban**	**169.96**	**0**	PFAKE		15 16 30.0	+5.7
SDDR	comp=Z,415nm,20.0s			LR	LR		
GRGR	**Grenville**	**170.01**	**290**	PFAKE		15 16 40.0	+16
GRGR	comp=Z,694nm,22.0s			LR	LR		
BCIP	**Isla Barro Col**	**171.53**	**87**	PFAKE		15 16 40.0	+15
BCIP	comp=Z,425nm,21.0s			LR	LR		

*ISCJB **31** 15:12:31.9±1.0,51°.1N±0°.1×177°.75E±0°.06,h52km±7km, mb3.8/16,Error ellipse: s-maj=17.5km s-min=6.1km az=7.2*
*NEIC **31** 15:12:32.1,50°.97N×177°.67E,h25km,ML3.4(AEIC),After AEIC.*
*IDC **31** 15:12:34.4±1.0,51°.24N×177°.76E,h49km±6km,mb3.5/16, mb1 3.7/18,mb1mx3.6/35,mbtmp3.6/18,MS2.8/1, Ms1 2.8/1,ms1mx2.7/43,Error ellipse: s-maj=29.1km s-min=12.7km az=179.0*

ISC 31 15:12:33.7±0.8,51°.1N±0°.1×177°.71E±0°.04,h48km±6km, n46,σ1§12/59,mb3.9/16,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.98**	**30**	P	**Pn**	**15 12 50.4**	**-0.7**
LSSE	**Little Sitkin**	**0.98**	**33**	P	**Pn**	**15 12 50.6**	**-0.5**
LSNW	**Little Sitkin**	**1.00**	**30**	P	**Pn**	**15 12 50.5**	**-0.8**
LSPA	**Little Sitkin**	**1.00**	**32**	P	**Pn**	**15 12 50.9**	**-0.6**
AMKA	**Amchitka**	**1.03**	**74**	P	**Pn**	**15 12 49.3**	**-2.5**
AMKA				S	**Sn**	**15 13 02.5**	**-2.6**
CESW	**Semis' Southwe**	**1.40**	**55**	P	**Pn**	**15 12 56.1**	**-0.7**
CETU	**Semis' Tuman**	**1.40**	**52**	P	**Pn**	**15 12 56.9**	**0.0**
CERB	**Semis' Cerberu**	**1.45**	**55**	P	**Pn**	**15 12 57.2**	**-0.3**
CERB				S	**Sn**	**15 13 17.8**	**+2.4**
CEAP	**Semis' Anvil P**	**1.47**	**52**	P	**Pn**	**15 12 57.6**	**-0.1**
CERAA	**Semis' Rag'd T**	**1.47**	**56**	P	**Pn**	**15 12 57.0**	**-0.7**
GALAA	**Gareloi Lava P**	**2.29**	**72**	P	**Pn**	**15 13 08.9**	**-0.1**
GALAA				S	**Sn**	**15 13 37.7**	**+1.7**
GANE	**Gareloi Northe**	**2.31**	**71**	P	**Pn**	**15 13 08.4**	**-0.8**
TASE	**Tanaga Southea**	**2.75**	**73**	P	**Pn**	**15 13 14.7**	**-0.7**
TAFP	**Tanaga Falls P**	**2.80**	**72**	P	**Pn**	**15 13 15.4**	**-0.6**
TAPA	**Tanaga Point A**	**2.89**	**74**	P	**Pn**	**15 13 16.6**	**-0.6**
KICM	**Kanaga Island**	**3.28**	**74**	P	**Pn**	**15 13 22.3**	**-0.2**
KIKV	**Kanaga Island**	**3.29**	**74**	P	**Pn**	**15 13 22.1**	**-0.5**
FX1	**Attu Island--F**	**3.33**	**304**	P	**Pn**	**15 13 23.1**	**-0.1**
FX1				S	**Sn**	**15 13 59.8**	**-1.5**
FX1	**Attu Island--F** 3.0nm,0.3s,baz=183,slow=2.5,SNR=40	**3.33**	**304**	P	**Pn**	**15 13 20.5**	**-2.7**
FX1	15nm,0.3s,baz=82,slow=23,SNR=12			S	**Sn**	**15 13 59.0**	**-2.4**
FX1	comp=Z,138nm,18.6s,baz=236,slow=35			LR	LR	15 14 30.3	
KINC	**Kanaga Island**	**3.33**	**74**	P	**Pn**	**15 13 22.8**	**-0.4**
ADK	**Adak**	**3.59**	**75**	P	**Pn**	**15 13 25.6**	**-1.1**
ADK				S	**Sn**	**15 14 06.7**	**-1.1**
GSCK	**Great Sitkin C**	**3.93**	**74**	P	**Pn**	**15 13 30.5**	**-0.9**
GSMY	**Great Sitkin M**	**4.00**	**74**	P	**Pn**	**15 13 31.4**	**-1.0**
GSTR	**Great Sitkin T**	**4.00**	**73**	P	**Pn**	**15 13 32.7**	**+0.1**
ATKA	**Atka Island**	**5.16**	**75**	P	**Pn**	**15 13 47.9**	**-0.4**
ATKA				S	**Sn**	**15 14 44.7**	**-1.6**
NIKH	**Nikolski High**	**8.49**	**72**	P	**Pn**	**15 14 32.7**	**-1.3**
OKTU	**Okmok Mt. Tuli**	**9.03**	**70**	P	**Pn**	**15 14 40.9**	**-0.5**
SPIA	**Saint Paul Isl**	**9.31**	**45**	P	**Pn**	**15 14 44.6**	**-0.6**
PETK	**Petropavlovsk-** 0.6nm,0.3s,baz=98,slow=17,SNR=18	**12.46**	**287**	P	**Pn**	**15 15 28.2**	**0.0**
KDAK	**Kodiak Island** 0.8nm,0.3s,baz=257,slow=5.9,SNR=4.8	**18.41**	**57**	P	**P**	**15 16 42.4**	**-2.2**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=283,slow=8.2,SNR=3.1	**22.84**	**40**	P	**P**	**15 17 30.3**	**-2.1**
ASAJ	**Asahikawa** 4.0nm,0.8s,baz=32,slow=2.6,SNR=7.4	**24.51**	**267**	P	**P**	**15 17 48.7**	**+0.4**
ASAJ	3.7nm,0.9s,baz=307,slow=5.2,SNR=4.5			pP	**pP**	**15 18 02.4**	**+1.6**
KSRS	**Korea Array** 0.8nm,0.9s,baz=50,slow=11,SNR=4.1	**37.44**	**268**	P	**P**	**15 19 43.0**	**+0.9**
NVAR	**Mina Array Bea** 0.8nm,1.0s,baz=301,slow=7.0,SNR=3.3	**45.76**	**80**	P	**P**	**15 20 50.9**	**+0.5**
NVAR	0.7nm,0.8s,baz=301,slow=6.4,SNR=4.1			pP	**pP**	**15 21 04.2**	**+0.7**
PDAR	**Pinedale Array** 1.4nm,0.7s,baz=289,slow=2.8,SNR=6.2	**48.47**	**70**	P	**P**	**15 21 11.4**	**-0.1**
SPITS	**Spitsbergen Ar** 2.1nm,0.8s,baz=55,slow=13,SNR=2.8	**50.47**	**355**	P	**P**	**15 21 26.5**	**+0.5**
ZALV	**Zalesovo Beam** 0.3nm,0.4s,baz=27,slow=6.8,SNR=2.3	**52.60**	**312**	P	**P**	**15 21 41.2**	**-1.0**
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=45,slow=6.6,SNR=3.2	**57.70**	**312**	P	**P**	**15 22 19.2**	**+0.3**
KURBB	0.8nm,0.6s,baz=45,slow=6.5,SNR=4.3			pP	**pP**	**15 22 33.0**	**+0.6**
ARCES	**ARCESS Array B** 2.3nm,0.9s,baz=17,slow=9.4,SNR=3.9	**57.96**	**349**	P	**P**	**15 22 20.4**	**-0.1**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=64,slow=9.8,SNR=3.6	**58.46**	**307**	P	**P**	**15 22 24.2**	**-0.2**
MKAR	0.3nm,0.6s,baz=49,slow=8.6,SNR=2.7			pP	**pP**	**15 22 37.9**	**0.0**
BVAR	**Borovoye Array** 0.4nm,0.4s,baz=60,slow=6.8,SNR=2.6	**59.65**	**318**	P	**P**	**15 22 33.1**	**+0.5**
BVAR	1.3nm,0.7s,baz=50,slow=7.2,SNR=4.5			pP	**pP**	**15 22 45.4**	**-0.6**
TXAR	**Lajitas Array** 0.6nm,0.7s,baz=317,slow=4.9,SNR=4.4	**60.86**	**79**	P	**P**	**15 22 41.5**	**+0.3**
FINES	**FINESS Array B** 0.5nm,0.5s,baz=12,slow=7.1,SNR=5.0	**65.53**	**345**	P	**P**	**15 23 11.8**	**+0.3**
AKTO	**Aktyubinsk** 0.6nm,0.2s,baz=69,slow=3.4,SNR=3.5	**66.60**	**323**	P	**P**	**15 23 19.6**	**+1.0**
AKTO	1.1nm,0.5s,baz=72,slow=8.0,SNR=3.3			pP	**pP**	**15 23 33.1**	**+0.8**
NOA	**NORSAR Array B** 1.4nm,0.7s,baz=9.7,slow=6.2,SNR=4.1	**67.68**	**353**	P	**P**	**15 23 25.7**	**+0.4**
HFS	**Hagfors** 3.5nm,1.0s,baz=104,slow=1.8,SNR=4.4	**68.36**	**351**	P	**P**	**15 23 28.9**	**-0.6**

*IDC **31** 15:21:22.2±2.7,8°.40S×121°.74E,h180km±28km,mb2.9/2, mb1 3.4/6,mb1mx3.1/23,mbtmp3.3/6,MS2.9/1,Ms1 2.9/1, ms1mx2.8/12,Error ellipse: s-maj=94.2km s-min=24.5km az=61.0*
*AUST **31** 15:21:34.1,8°.50S×123°.00E,h200km*

ISC 31 15:21:21.7±1.1,8°.55S±0°.09×121°.75E±0°.09,h200km,n15, σ1§78/14,Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu** baz=2.9,SNR=5.3	**1.81**	**232**	P	**Sn**	**15 22 23.4**	**-3.4**
BATI	**Baumata** baz=305,slow=12	**2.50**	**131**	P	**Pn**	**15 22 07.2**	**+1.5**
BATI	38nm,0.3s,baz=139,slow=21,SNR=6.0			S	**Sn**	**15 22 40.7**	**+0.6**
BATI	comp=Z,218nm,18.4s,baz=196,slow=38			LR	LR	15 23 02.6	
SOEI	**Soe** baz=1.8,SNR=133	**2.76**	**116**	P	**Pn**	**15 22 09.5**	**+0.7**
KNRA	**Kununurra** baz=9.1,SNR=23	**9.86**	**137**	P	**Pn**	**15 23 39.4**	**+0.2**
KNRA	baz=9.1,SNR=3.7			S	Sn	15 25 25.4	-4.0
MTN	**Manton Dam** baz=9.1,SNR=71	**10.16**	**116**	P	**Pn**	**15 23 42.4**	**-0.7**
MTN	baz=9.1,SNR=8.1			S	Sn	15 25 26.5	-10
FITZ	**Fitzroy Crossi** 1.0nm,0.3s,baz=350,slow=13,SNR=30	**10.22**	**159**	P	**Pn**	**15 23 45.8**	**+1.9**
FITZ	0.4nm,0.3s,baz=86,slow=14,SNR=2.9			S	**Sn**	**15 25 36.2**	**-1.9**
KDU	**Kakadu** baz=10,SNR=12	**11.31**	**112**	P	**Pn**	**15 23 56.9**	**-1.0**
KDU	baz=10,SNR=5.4			S	Sn	15 25 53.0	-11
FAKI	**Fak Fak** baz=11,SNR=4.1	**11.85**	**62**	P	**Pn**	**15 24 03.1**	**-1.7**
LEM	**Lembang** baz=15,SNR=5.0	**14.11**	**276**	S	Sn	15 27 44.1	+33
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=310,slow=12,SNR=10	**16.63**	**134**	P	**Pn**	**15 25 05.2**	**+1.4**
WRA	0.4nm,0.3s,baz=316,slow=24,SNR=5.0			S	S	15 28 01.0	-5.5
MEEK	**Meekatharra** baz=19,SNR=7.9	**18.23**	**189**	S	S	15 28 48.5	+10
ASAR	**Alice Springs** 1.0nm,0.3s,baz=326,slow=13,SNR=47	**19.01**	**144**	P	**Pn**	**15 25 32.5**	**+0.8**
JAY	**Jayapura** baz=19,SNR=4.1	**19.79**	**73**	S	S	15 28 48.7	-21
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=141,slow=7.7,SNR=7.5	**65.33**	**331**	P	**P**	**15 31 44.3**	**+1.8**
KURBB	**Kurchatov Arra** 0.2nm,0.5s,baz=136,slow=5.2,SNR=4.2	**69.80**	**332**	P	**P**	**15 32 11.8**	**+1.5**

MEX 31 15:25:52.1±0.3,16°.91N×95°.09W,h146km±8km,MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.49**	**221**	*i* P	Pn	15 26 19.9	-1.4
HUIG				*i* S	Sn	15 26 41.7	-1.9
VHO	**Vista Hermosa**	**1.58**	**276**	*i* P	Pn	15 26 21.3	-1.2
VHO				*i* S	Sn	15 26 43.6	-2.1
TGIG		**1.89**	**94**	*i* P	Pn	15 26 24.0	-1.8
TGIG				*i* S	Sn	15 26 49.7	-2.0
PNIG	**Pinotepa**	**2.95**	**260**	*i* P	Pn	15 26 37.6	-1.1
PNIG				*i* S	Sn	15 27 12.4	-2.3

*ISCJB **31** 15:49:52.6±0.6,8°.41S±0°.06×122°.34E±0°.07,h200km, mb3.6/5,Error ellipse: s-maj=11.1km s-min=6.6km az=137.2*
*IDC **31** 15:49:53.0±1.1,8°.30S×122°.30E,h178km±11km,mb3.4/5, mb1 3.4/10,mb1mx3.2/23,mbtmp3.3/10,Error ellipse: s-maj=32.0km s-min=12.7km az=65.0*
*AUST **31** 15:49:53.7,8°.50S×122°.50E,h200km*

ISC 31 15:49:54.2±1.0,8°.47S±0°.08×122°.49E±0°.08,h200km,n16, σ2§35/20,mb3.6/5,Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata** baz=1.2,slow=3.3	**2.08**	**146**	P	**Pn**	**15 50 34.3**	**+0.7**
BATI	baz=342,slow=19			S	**Sn**	**15 51 05.3**	**+1.0**
SOEI	**Soe** baz=2.2,SNR=16	**2.17**	**126**	P	**Pn**	**15 50 35.5**	**+0.8**
WSI	**Waingapu** baz=2.5,SNR=6.5	**2.47**	**241**	S	**Sn**	**15 51 08.2**	**-3.6**
KAPI	**Kappang** 0.8nm,0.3s,baz=128,slow=17,SNR=3.1	**4.38**	**321**	P	Pn	15 50 56.2	-4.6
KNRA	**Kununurra** baz=9.4,SNR=12	**9.43**	**140**	P	**Pn**	**15 52 06.5**	**+0.4**
KNRA	baz=9.4,SNR=4.0			S	**Sn**	**15 53 49.4**	**-2.2**
MTN	**Manton Dam** baz=9.5,SNR=17	**9.54**	**118**	P	**Pn**	**15 52 07.8**	**+0.2**
MTN	baz=9.5,SNR=8.2			S	**Sn**	**15 53 49.5**	**-4.9**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=182,slow=18,SNR=13	**10.05**	**163**	P	**Pn**	**15 52 15.8**	**+1.6**
FITZ	0.8nm,0.3s,baz=204,slow=13,SNR=8.9			S	**Sn**	**15 54 03.7**	**-2.7**
FITZ	**Fitzroy Crossi** baz=10,SNR=5.4	**10.05**	**163**	P	**Pn**	**15 52 15.9**	**+1.8**
KDU	**Kakadu**	**10.67**	**114**	P	**Pn**	**15 52 22.7**	**+0.5**
	baz=11,SNR=9.7						
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=310,slow=12,SNR=9.5	**16.17**	**136**	P	**Pn**	**15 53 31.7**	**+1.0**
WRA	0.4nm,0.3s,baz=299,slow=25,SNR=5.9			S	**S**	**15 56 27.5**	**-2.1**
ASAR	**Alice Springs** 0.5nm,0.3s,baz=327,slow=13,SNR=32	**18.65**	**145**	P	**Pn**	**15 54 00.8**	**+0.9**
ASAR	0.1nm,0.3s,baz=317,slow=22,SNR=2.7			S	**S**	**15 57 24.1**	**+4.9**
NWAO	**Narrogin (SRO)** 3.3nm,0.6s,baz=342,slow=4.9,SNR=4.7	**24.82**	**191**	P	**P**	**15 55 00.2**	**+2.1**
STKA	**Stephens Creek** 1.0nm,0.8s,baz=315,slow=11,SNR=6.9	**29.29**	**145**	P	P	15 55 41.2	+3.3
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=144,slow=6.6,SNR=5.4	**65.62**	**331**	P	**P**	**16 00 16.3**	**-0.5**
PETK	**Petropavlovsk-** 1.2nm,0.9s,baz=212,slow=5.1,SNR=2.8	**68.25**	**22**	P	**P**	**16 00 34.2**	**+0.9**
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=141,slow=5.5,SNR=3.4	**69.83**	**337**	P	**P**	**16 00 42.3**	**-0.6**

IDC 31 16:04:59.4±3.0,2°.19S×139°.15E,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.4/18,mbtmp3.4/4,ML3.5/1,Error ellipse: s-maj=80.3km s-min=29.2km az=91.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata** baz=326,slow=11	**17.32**	**242**	P	Pn	16 09 02.6	-0.3
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=11,slow=12,SNR=4.5	**18.26**	**195**	P	Pn	16 09 13.7	-0.8
WRA	0.1nm,0.3s,baz=3.8,slow=23,SNR=3.9			S	Sn	16 12 23.6	-16
FITZ	**Fitzroy Crossi** 1.9nm,0.8s,baz=29,slow=13,SNR=7.8	**20.63**	**219**	P	P	16 09 41.1	+0.5
ASAR	**Alice Springs** 0.6nm,0.6s,baz=21,slow=11,SNR=12	**21.95**	**193**	P	P	16 09 55.0	+0.1
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=129,slow=5.9,SNR=4.1	**69.65**	**322**	P	P	16 16 10.8	0.0

IDC 31 16:06:48.6±0.8,11°.71N×142°.38E,h46km±8km,mb3.7/14, mb1 3.9/14,mb1mx3.8/25,mbtmp3.7/14,MS3.3/2, Ms1 3.3/2,ms1mx2.7/39,Error ellipse: s-maj=23.2km s-min=13.9km az=84.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)** comp=Z,104nm,20.2s,baz=347,slow=34	**17.20**	**256**	LR	LR	16 16 25.4	
JNU	**Nakatsue** 4.7nm,0.7s,baz=225,slow=16,SNR=5.2	**23.78**	**335**	P	P	16 11 57.4	+0.2
MJAR	**Matsushiro Arr** 0.7nm,0.5s,baz=147,slow=9.5,SNR=2.9	**25.01**	**352**	P	P	16 12 07.9	-0.4
KSRS	**Korea Array** comp=Z,44nm,18.6s,baz=225,slow=32	**28.73**	**336**	LR	LR	16 22 15.8	
WRA	**Warramunga Arr** 0.6nm,0.6s,baz=13,slow=9.5,SNR=3.7	**32.43**	**194**	P	P	16 13 13.4	-1.1
WRA	0.9nm,0.6s,baz=12,slow=9.5,SNR=4.3			pP	pP	16 13 26.7	0.0
USRK	**Ussuriysk Arra** 0.8nm,0.6s,baz=176,slow=5.8,SNR=3.6	**33.59**	**346**	P	P	16 13 24.6	+0.2
ASAR	**Alice Springs** 0.3nm,0.6s,baz=22,slow=11,SNR=7.9	**36.12**	**193**	P	P	16 13 45.6	-0.8
ASAR	1.1nm,0.6s,baz=14,slow=12,SNR=7.3			pP	pP	16 13 59.0	+0.2
DZM	**Mont Dzumac** 5.2nm,0.9s,baz=306,slow=19,SNR=3.4	**41.04**	**145**	P	P	16 14 28.5	+0.6
CMAR	**Chiang Mai Arr** 0.8nm,0.4s,baz=91,slow=6.7,SNR=5.4	**42.39**	**285**	P	P	16 14 39.4	+0.4
MKAR	**Makanchi Array** 0.9nm,0.6s,baz=95,slow=8.9,SNR=10	**61.18**	**317**	P	P	16 16 59.4	+0.7
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=117,slow=7.7,SNR=2.8	**61.76**	**326**	P	P	16 17 02.3	-0.1
ILAR	**Eielson Array** 2.3nm,0.6s,baz=251,slow=5.8,SNR=28	**71.30**	**25**	P	P	16 18 01.9	-1.3
YKA	**Yellowknife Ar** 1.7nm,0.8s,baz=296,slow=5.9,SNR=4.4	**85.64**	**27**	P	P	16 19 22.5	+0.3
ARCES	**ARCESS Array B** 0.4nm,0.5s,baz=67,slow=9.3,SNR=8.7	**88.11**	**342**	P	P	16 19 33.7	-0.4
NVAR	**Mina Array Bea** 1.0nm,0.7s,baz=267,slow=4.5,SNR=8.2	**89.99**	**51**	P	P	16 19 44.9	+1.1
NVAR	0.6nm,0.6s,baz=267,slow=5.3,SNR=3.3			pP	pP	16 19 57.2	-0.3
FINES	**FINESS Array B** 4.9nm,1.2s,baz=64,slow=4.4,SNR=4.8	**91.82**	**334**	P	P	16 19 50.2	-1.3
LPAZ	**La Paz** 0.8nm,0.6s,baz=301,slow=5.9,SNR=3.5	**150.07**	**102**	PKPbc	PKPbc	16 26 36.5	+0.5

*ISCJB **31** 16:07:59.9±0.4,19°.48S±0°.03×68°.82W±0°.06,h129km±4km, mb4.0/16,Error ellipse: s-maj=9.5km s-min=5.3km az=1.6*
*NEIC **31** 16:08:01.4,19°.57S×69°.02W,h130km,mb4.2/7,After GUC.*
*GUC **31** 16:08:01.4±0.7,19°.57S×69°.02W,h130km±7km,ML4.8*
*IDC **31** 16:08:02.8±0.5,19°.44S×68°.71W,h133km±4km,mb3.8/12, mb1 4.1/14,mb1mx4.0/21,mbtmp3.9/14,MS4.1/3, Ms1 4.1/3,ms1mx3.3/30,Error ellipse: s-maj=15.6km s-min=11.7km az=82.0*

ISC 31 16:08:02.1±0.4,19°.52S±0°.03×69°.01W±0°.07,h133km±3km, h133km:pP-P,n82,σ1§30/105,mb4.1/16,16C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNMC	**Minimini**	**0.68**	**304**	⇑*i*P	**Pn**	**16 08 22.6**	**-0.4**
MNMC				*i* S	**Sn**	**16 08 38.2**	**-0.6**
MNMC	**Minimini**	**0.68**	**304**	⇑*i*P	**Pn**	**16 08 22.6**	**-0.4**
MNMC				*i* S	**Sn**	**16 08 38.2**	**-0.6**
MNMC				AML	AML	16 08 39.5	
PSGC	comp=E,69µm,0.3s **Pisagua**	**1.06**	**265**	⇑*i*P	**Pn**	**16 08 25.2**	**-0.8**
PSGC				*i* S	**Sn**	**16 08 43.2**	**-0.9**
PSGC	**Pisagua**	**1.06**	**265**	⇑*i*P	**Pn**	**16 08 25.2**	**-0.8**
PSGC				*i* S	**Sn**	**16 08 43.2**	**-0.9**
PSGC				AML	AML	16 08 44.0	
HMBC	comp=E,11µm,0.4s **Humberstone**	**1.12**	**227**	⇑*i*P	**Pn**	**16 08 25.7**	**-1.0**
HMBC				*i* S	**Sn**	**16 08 44.2**

SIV					S	Sn	16 11 22.7	-10	
	baz=287,slow=20,SNR=1.5								
SAML	**Samuel**	**11.92**	**29**	*e*Pn	Pn		16 10 43.4	-4.5	
	comp=N,9.4nm,0.7s								
SAML				*e*Sn	Sn		16 12 51.3	-8.2	
CFAA	**Coronel Fontan**	**12.06**	**177**	P	Pn		16 10 45.4	-4.3	
CFAA				S	Sn		16 12 51.1	-12	
CFAA	**Coronel Fontan**	**12.06**	**177**	P	Pn		16 10 45.4	-4.3	
	comp=N,0.1nm,0.3s,baz=355,slow=13,SNR=9.0								
CFAA				S	Sn		16 12 51.1	-12	
	comp=N,0.1nm,0.3s,baz=230,slow=18,SNR=4.4								
CPUP	**Villa Florida**	**12.71**	**124**	P	Pn		16 10 54.0	-4.1	
CPUP	**Villa Florida**	**12.71**	**124**	P	Pn		16 10 54.0	-4.1	
	comp=N,0.8nm,0.3s,baz=282,slow=12,SNR=6.6								
TRQA	**Tornquist**	**19.46**	**163**	*e*P	**P**		**16 12 18.1**	**-0.3**	
	comp=N,19nm,0.6s								
BDFB	**Brasilia**	**20.38**	**82**	P	**P**		**16 12 27.2**	**-1.3**	
BDFB	**Brasilia**	**20.38**	**82**	P	**P**		**16 12 27.2**	**-1.3**	
	comp=N,24nm,0.5s,baz=250,slow=10,SNR=29								
PLCA	**Paso Flores**	**21.19**	**183**	*e*P	**P**		**16 12 38.3**	**+1.3**	
PLCA				sP	**sP**		**16 13 19.6**	**+1.6**	
PLCA				PcP	**PcP**		**16 16 38.4**	**+1.2**	
PLCA	**Paso Flores**	**21.19**	**183**	P	**P**		**16 12 37.8**	**+0.8**	
	comp=N,32nm,0.8s,baz=0.6,slow=11,SNR=68								
PLCA				sP	**sP**		**16 13 19.6**	**+1.6**	
	comp=N,5.6nm,0.8s,baz=354,slow=12,SNR=2.2								
PLCA				PcP	**PcP**		**16 16 38.4**	**+1.2**	
	comp=N,1.7nm,0.8s,baz=315,slow=2.9,SNR=3.2								
SDV	**Santo Domingo**	**28.27**	**357**	*e*P	**P**		**16 13 41.6**	**-1.6**	
	comp=N,3.2nm,0.6s								
USHA	**Ushuaia**	**35.26**	**179**	P	**P**		**16 14 44.9**	**+1.2**	
USHA	**Ushuaia**	**35.26**	**179**	P	**P**		**16 14 44.9**	**+1.2**	
	comp=N,5.2nm,0.9s,baz=22,slow=11,SNR=4.1								
CBYP	**Canovanas**	**37.68**	**5**	*e*P	**P**		**16 15 02.8**	**-1.9**	
TXAR	**Lajitas Array**	**58.96**	**325**	P	**P**		**16 17 48.4**	**+0.6**	
TXAR				pP	**pP**		**16 18 20.2**	**+0.7**	
TXAR	**Lajitas Array**	**58.96**	**325**	P	**P**		**16 17 48.4**	**+0.6**	
	comp=N,0.3nm,0.6s,baz=134,slow=8.9,SNR=4.9								
TXAR				pP	**pP**		**16 18 20.2**	**+0.7**	
	comp=N,0.4nm,0.8s,baz=137,slow=15,SNR=3.9								
SNAA	**Sanae**	**64.18**	**161**	*e*P	**P**		**16 18 21.5**	**-0.7**	
	comp=N,2.6nm,0.6s								
SNAA				pP	**PcP**		**16 18 55.6**	**-0.4**	
SNAA	**Sanae**	**64.18**	**161**	P	**P**		**16 18 22.8**	**+0.6**	
	comp=N,1.5nm,0.7s,baz=291,slow=5.7,SNR=34								
SNAA				pP	**PcP**		**16 18 55.6**	**-0.4**	
	comp=N,0.8nm,0.8s,baz=291,slow=6.2,SNR=3.8								
SDCO	**Great Sand Dun**	**66.50**	**329**	*e*P	**P**		**16 18 37.5**	**-0.4**	
	comp=N,1.2nm,0.4s								
DBIC	**Dimbokro**	**68.27**	**74**	P	**P**		**16 18 47.0**	**-2.1**	
	comp=N,28nm,0.4s								
DBIC	**Dimbokro**	**68.27**	**74**	P	**P**		**16 18 47.0**	**-2.1**	
	comp=N,23nm,0.4s,baz=84,slow=22,SNR=50								
SRU	**San Rafael**	**70.07**	**327**	*e*P	**P**		**16 19 00.4**	**+0.4**	
	comp=N,1.4nm,0.6s								
MVU	**Marysvale**	**70.52**	**325**	*e*P	**P**		**16 19 03.0**	**+0.3**	
	comp=N,3.8nm,1.1s								
PDAR	**Pinedale Array**	**72.36**	**330**	P	**P**		**16 19 14.7**	**+1.0**	
PDAR	**Pinedale Array**	**72.36**	**330**	P	**P**		**16 19 14.7**	**+1.0**	
	comp=N,0.5nm,0.5s,baz=155,slow=4.9,SNR=5.0								
ULM	**Lac du Bonnet**	**73.41**	**342**	P	**P**		**16 19 18.2**	**-1.1**	
ULM	**Lac du Bonnet**	**73.41**	**342**	P	**P**		**16 19 18.2**	**-1.1**	
	comp=N,1.6nm,0.5s,baz=299,slow=4.2,SNR=3.5								
NVAR	**Mina Array Bea**	**73.89**	**322**	P	**P**		**16 19 24.4**	**+1.7**	
NVAR	**Mina Array Bea**	**73.89**	**322**	P	**P**		**16 19 24.4**	**+1.7**	
	comp=N,1.1nm,0.9s,baz=163,slow=6.8,SNR=7.0								
TOA0	**Torodi Ar. Sit**	**76.78**	**71**	*e*P	**P**		**16 19 37.7**	**-1.8**	
TORD	**Torodi Ar. Bea**	**76.78**	**71**	P	**P**		**16 19 38.4**	**-1.2**	
TORD				pP	**pP**		**16 20 11.4**	**-1.3**	
TORD	**Torodi Ar. Bea**	**76.78**	**71**	P	**P**		**16 19 38.4**	**-1.2**	
	comp=N,2.6nm,0.4s,baz=258,slow=5.4,SNR=49								
TORD				pP	**pP**		**16 20 11.4**	**-1.3**	
	comp=N,1.7nm,0.7s,baz=252,slow=4.9,SNR=2.6								
VNDA	**Vanda**	**78.78**	**190**	P	**P**		**16 19 52.0**	**+2.5**	
VNDA	**Vanda**	**78.78**	**190**	P	**P**		**16 19 52.0**	**+2.5**	
	comp=N,0.8nm,0.6s,baz=115,slow=5.6,SNR=4.2								
FRB	**Frobisher Bay**	**82.99**	**0**	LR	LR		16 58 43.9		
	comp=N,122nm,18.9s,baz=129,slow=37								
ESDC	**Sonseca Array**	**84.49**	**45**	P	**P**		**16 20 20.4**	**+0.2**	
ESDC	**Sonseca Array**	**84.49**	**45**	P	**P**		**16 20 20.4**	**+0.2**	
	comp=N,0.1nm,0.3s,baz=248,slow=5.3,SNR=2.8								
YKA	**Yellowknife Ar**	**89.30**	**341**	P	**P**		**16 20 43.5**	**+0.8**	
YKA				sP	**sP**		**16 21 31.9**	**+1.1**	
YKA	**Yellowknife Ar**	**89.30**	**341**	P	**P**		**16 20 43.5**	**+0.8**	
	comp=N,2.3nm,0.6s,baz=133,slow=4.7,SNR=10								
YKA				sP	**sP**		**16 21 31.9**	**+1.1**	
	comp=N,2.2nm,0.8s,baz=136,slow=4.1,SNR=4.3								
BORG	**Borgarnes**	**91.58**	**18**	LR	LR		16 59 45.4		
	comp=N,50nm,18.4s,baz=97,slow=34								
DLBC	**Dease Lake**	**92.41**	**333**	LR	LR		17 07 25.7		
	comp=N,130nm,18.9s,baz=298,slow=38								
STKA	**Stephens Creek**	**121.08**	**210**	PKP	**PKPdf**		**16 26 39.1**	**-0.4**	
STKA	**Stephens Creek**	**121.08**	**210**	PKP	**PKPdf**		**16 26 39.1**	**-0.4**	
	comp=N,1.6nm,0.8s,baz=125,slow=3.9,SNR=4.0								
ASAR	**Alice Springs**	**131.61**	**209**	PKP	**PKPdf**		**16 27 00.4**	**+0.5**	
ASAR	**Alice Springs**	**131.61**	**209**	PKP	**PKPdf**		**16 27 00.4**	**+0.5**	
	comp=N,1.0nm,0.5s,baz=131,slow=1.5,SNR=31								
WRA	**Warramunga Arr**	**134.60**	**212**	PKP	**PKPdf**		**16 27 06.3**	**+0.8**	
WRA	**Warramunga Arr**	**134.60**	**212**	PKP	**PKPdf**		**16 27 06.3**	**+0.8**	
	comp=N,2.0nm,0.6s,baz=147,slow=1.7,SNR=13								
ZALV	**Zalesovo Beam**	**140.20**	**24**	PKP	**PKPdf**		**16 27 15.2**	**+0.4**	
ZALV	**Zalesovo Beam**	**140.20**	**24**	PKP	**PKPdf**		**16 27 15.2**	**+0.4**	
	comp=N,1.1nm,0.5s,baz=283,slow=2.6,SNR=6.7								
ASAJ	**Asahikawa**	**144.00**	**320**	PKP	**PKPdf**		**16 27 21.1**	**-0.7**	
ASAJ	**Asahikawa**	**144.00**	**320**	PKP	**PKPdf**		**16 27 21.1**	**-0.7**	
	comp=N,1.0nm,0.5s,baz=23,slow=7.7,SNR=3.8								
MKAR	**Makanchi Array**	**144.07**	**34**	PKP	**PKPdf**		**16 27 21.1**	**-0.8**	
MKAR	**Makanchi Array**	**144.07**	**34**	PKP	**PKPdf**		**16 27 21.1**	**-0.8**	
	comp=N,0.2nm,0.3s,baz=320,slow=3.6,SNR=5.0								
USRK	**Ussuriysk Arra**	**149.78**	**329**	PKPbc	**PKPbc**		**16 27 37.7**	**+1.3**	
	comp=N,3.2nm,0.6s,baz=342,slow=1.4,SNR=12								
USRK				pPKPbc	**pPKPbc**		**16 28 12.7**	**+0.8**	
	comp=N,2.0nm,0.8s,baz=25,slow=1.0,SNR=3.4								
MJAR	**Matsushiro Arr**	**150.74**	**311**	PKPbc	**PKPbc**		**16 27 40.0**	**+1.0**	
MJAR	**Matsushiro Arr**	**150.74**	**311**	PKPbc	**PKPbc**		**16 27 40.0**	**+1.0**	
	comp=N,1.8nm,0.6s,baz=76,slow=1.4,SNR=8.4								
SONM	**Songino Array**	**151.51**	**7**	PKPbc	**PKPbc**		**16 27 41.4**	**+0.9**	
SONM				pPKPbc	**pPKPbc**		**16 28 15.8**	**-0.3**	
SONM	**Songino Array**	**151.51**	**7**	PKPbc	**PKPbc**		**16 27 41.4**	**+0.9**	
	comp=N,2.0nm,0.3s,baz=348,slow=1.1,SNR=8.7								
SONM				pPKPbc	**pPKPbc**		**16 28 15.8**	**-0.3**	
	comp=N,1.3nm,0.7s,baz=313,slow=1.9,SNR=3.0								
KSRS	**Korea Array**	**156.81**	**324**	PKPab	**PKPab**		**16 28 13.2**	**+1.2**	
	comp=N,1.0nm,0.9s,baz=69,slow=2.5,SNR=4.8								
KSAR	**Wonju Array Be**	**156.84**	**324**	PKPab	**PKPab**		**16 28 13.2**	**+1.0**	

DDA 31 16:11:47.4, 36.75N×29.24E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.55**	**28**	*i* P	Pg	16 11 57.9	-0.3
GOLH				*i* S	Sg	16 12 05.7	+0.3
AKAS	**Kas**	**0.60**	**150**	*i* P	Pg	16 11 59.5	+0.5
AKAS				*i* S	Sb	16 12 09.8	+0.7
KORT	**Korkueli**	**0.93**	**74**	*i* P	Pg	16 11 57.4	-8.0
KORT				*i* S	Sg	16 12 12.4	-5.1

*CSEM **31** 16:12:54.7, 40.59N×30.30E, h8km, MD2.6, After ISK*

ISK 31 16:12:54.7, 40.59N×30.30E, h8km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPNC	**Sapanca-Adapaz**	**0.10**	**5**	*e*PG	Pg	16 12 57.5	+0.4
SPNC	**Sapanca-Adapaz**	**0.10**	**5**	*e*Pg	Pg	16 12 57.5	+0.4
GULT	**Gulveren**	**0.23**	**133**	*e*PG	Pg	16 12 59.6	+0.2
GULT				*e*SG	Sg	16 13 04.1	+1.5
GULT	**Gulveren**	**0.23**	**133**	*e*Pg	Pg	16 12 59.6	+0.2
GULT				*e*Sg	Sg	16 13 04.1	+1.5
GPA	**Golpazari**	**0.30**	**178**	*e*PG	Pg	16 13 00.8	+0.1
GPA	**Golpazari**	**0.30**	**178**	*e*Pg	Pg	16 13 00.8	+0.1
ADVT	**Abdulvahap**	**0.45**	**250**	*e*PG	Pg	16 13 03.6	+0.1
ADVT				*e*SG	Sb	16 13 10.8	-1.1
ADVT	**Abdulvahap**	**0.45**	**250**	*e*Pg	Pg	16 13 03.7	+0.2
ADVT				*e*Sg	Sb	16 13 10.8	-1.1
CAVI	**Cavuskoy**	**0.52**	**222**	*e*PG	Pb	16 13 06.0	-0.1
CAVI	**Cavuskoy**	**0.52**	**222**	*e*Pg	Pb	16 13 06.0	-0.1
HRT	**Hereke**	**0.53**	**296**	*e*PG	Pg	16 13 05.3	+0.2
HRT				*e*SG	Sb	16 13 13.8	-0.5
HRT	**Hereke**	**0.53**	**296**	*e*Pg	Pg	16 13 05.3	+0.2
HRT				*e*Sg	Sb	16 13 13.8	-0.5
MDUB	**Mudurnu**	**0.70**	**99**	*e*PG	Pg	16 13 08.2	-0.1
MDUB	**Mudurnu**	**0.70**	**99**	*e*Pg	Pg	16 13 08.2	-0.1
ISK	**Istanbul-Kandi**	**1.05**	**297**	*e*PG	Pb	16 13 15.3	+0.1
ISK	**Istanbul-Kandi**	**1.05**	**297**	*e*Pg	Pb	16 13 15.3	+0.1
ARMT	**Armutlu**	**1.09**	**269**	*e*PN	Pb	16 13 15.9	-0.1
ARMT	**Armutlu**	**1.09**	**269**	*e*Pn	Pb	16 13 15.9	0.0
TVSB	**Tavsanli**	**1.31**	**210**	*e*PN	Pb	16 13 19.7	0.0
TVSB	**Tavsanli**	**1.31**	**210**	*e*Pn	Pb	16 13 19.7	0.0
CTKS	**Kestanelik-??a**	**1.50**	**296**	*e*PN	Pb	16 13 22.6	-0.2
CTKS	**Kestanelik-??a**	**1.50**	**296**	*e*Pn	Pb	16 13 22.6	-0.2

KRSC 31 16:12:56.2±0.8, 50.56N×157.18E, h46km±45km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.69**	**281**	*i* P	Pn	16 13 09.9	+0.3
SKR				*i* S	Sn	16 13 19.6	+0.3
PAU	**Pauzhetka**	**0.94**	**346**	*i* P	Pn	16 13 14.5	+1.5
PAU				*i* S	Sn	16 13 27.5	+2.2
MIPR	**Malaya Ipel'ka**	**1.74**	**351**	P	Pn	16 13 25.6	+1.7
ASAK	**Asacha**	**1.88**	**14**	P	Pn	16 13 27.9	+1.9
ASAK				*i* S	Sn	16 13 50.9	+2.3
MTVR	**Mutnovka**	**2.02**	**18**	P	Pn	16 13 30.0	+2.0
MTVR				*i* S	Sn	16 13 54.8	+2.5
RUS	**Russkaya**	**2.05**	**23**	*e*P	Pn	16 13 30.3	+2.1
RUS				*i* S	Sn	16 13 54.7	+2.2
PET	**Petropavlovsk**	**2.63**	**20**	P	Pn	16 13 38.6	+2.5
PET				*i* S	Sn	16 14 10.2	+3.4
SDLR	**Sedlovina**	**2.92**	**21**	P	Pn	16 13 41.9	+1.6
GNL	**Ganaly**	**3.17**	**8**	P	Pn	16 13 46.8	+3.0

WEL 31 16:15:11.3±0.2, 45.45S×166.71E, h25km±1km, ML4.4/22, 2C-4D, Error ellipse: s-maj=2.4km s-min=1.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.31**	**96**	P*	Pb	16 15 18.0	-0.5
DCZ				S*	Sb	16 15 22.2	-1.2
DCZ				AML	AML	16 15 22.7	
DCZ				AML	AML	16 15 23.1	
DCZ				AML	AML	16 15 23.1	
PYZ	**Puysegur Point**	**0.72**	**182**	P*	Pb	16 15 24.6	-0.7
WHZ	**Wether Hill Ro**	**0.98**	**118**	⇑PN	Pn	16 15 29.4	-0.1
WHZ				SN	Sb	16 15 41.7	-0.4
WHZ				AML	AML	16 15 43.2	
MLZ	**Mavora Lakes**	**1.04**	**85**	PN	Pn	16 15 29.3	-1.0
MLZ				AML	AML	16 15 43.0	
MLZ				AML	AML	16 15 44.0	
MSZ	**Milford Sound**	**1.16**	**49**	⇓PN	Pn	16 15 31.0	-1.0
MSZ				AML	AML	16 15 51.1	
MSZ				AML	AML	16 15 51.1	
MSZ				AML	AML	16 15 55.6	
MSZ				AML	AML	16 15 55.7	
APZ	**The Paps**	**1.65**	**148**	PN	Pb	16 15 40.6	-0.5
WKZ	**Wanaka**	**1.75**	**70**	PN	Pn	16 15 41.4	+1.3
WKZ				AML	AML	16 16 09.7	
WKZ				AML	AML	16 16 09.7	
WKZ				AML	AML	16 16 13.8	
WKZ				AML	AML	16 16 13.8	
EAZ	**Earnscleugh**	**1.84**	**84**	⇓PN	Pb	16 15 43.0	-1.4
EAZ				AML	AML	16 16 11.1	
EAZ				AML	AML	16 16 11.1	
EAZ				AML	AML	16 16 12.1	
EAZ				AML	AML	16 16 12.1	
JCZ	**Jackson Bay**	**2.00**	**48**	PN	Pb	16 15 46.0	-1.2
JCZ				AML	AML	16 16 20.3	
JCZ				AML	AML	16 16 20.5	
SYZ	**Scrubby Hill**	**2.02**	**124**	PN	Pn	16 15 45.4	+1.7
TUZ	**Tuapeka**	**2.11**	**105**	⇓PN	Pn	16 15 47.0	+1.9
TUZ				AML	AML	16 16 16.2	
TUZ				AML	AML	16 16 17.0	
LBZ	**Lake Benmore**	**2.69**	**68**	⇓PN	Pn	16 15 53.5	+0.5
LBZ				AML	AML	16 16 30.0	
LBZ				AML	AML	16 16 30.0	
LBZ				AML	AML	16 16 47.6	
LBZ				AML	AML	16 16 47.6	
HHSZ	**Highcliff Hill**	**2.76**	**101**	PN	Pn	16 15 56.1	+2.1
ODZ	**Otahua Downs**	**2.81**	**83**	⇑PN	Pn	16 15 55.2	+0.5
ODZ				AML	AML	16 16 32.6	
ODZ				AML	AML	16 16 32.6	
ODZ				AML	AML	16 16 33.4	
ODZ				AML	AML	16 16 33.4	
FOZ	**Fox Glacier**	**2.84**	**50**	PN	Pb	16 15 58.3	-3.1
FOZ				AML	AML	16 16 46.7	
FOZ				AML	AML	16 16 46.7	
FOZ				AML	AML	16 16 48.1	
FOZ				AML	AML	16 16 48.1	
RPZ	**Rata Peaks**	**3.55**	**62**	AML	AML	16 16 50.4	
RPZ				AML	AML	16 16 53.8	
WVZ	**Waitaha Valley**	**3.74**	**52**	AML	AML	16 17 12.7	
WVZ				AML	AML	16 17 13.4	
MQZ	**McQueen's Vall**	**4.59**	**70**	AML	AML	16 18 37.0	
LTZ	**Lake Taylor**	**4.81**	**58**	AML	AML	16 17 22.5	
LTZ				AML	AML	16 17 28.2	
DSZ	**Denniston Nort**	**5.23**	**47**	PN	Pn	16 16 29.3	+1.3
THZ	**Tophouse**	**5.81**	**53**	AML	AML	16 17 53.0	
THZ				AML	AML	16 17 54.7	

IDC 31 16:26:27.1±5.1, 5.47S×148.31E, h81km±46km, mb3.6/4, mb1 3.8/6, mb1mx3.4/19, mbtmp3.7/6, ML3.6/2, Error ellipse: s-maj=57.2km s-min=28.7km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.07**	**196**	P	Pn	16 27 26.9	-0.2
	6.1nm,0.3s,baz=358,slow=4.8,SNR=18						
PMG				S	Sn	16 28 08.9	-4.6
	16nm,0.3s,baz=48,slow=4.5,SNR=8.9						
WRA	**Warramunga Arr**	**19.79**	**222**	P	P	16 30 51.2	+0.2
	0.4nm,0.3s,baz=47,slow=11,SNR=21						
ASAR	**Alice Springs**	**22.80**	**216**	P	P	16 31 22.3	-1.0
	2.9nm,0.5s,baz=50,slow=9.2,SNR=86						
ASAR				pP	pP	16 31 40.5	+0.6
	0.8nm,0.5s,baz=38,slow=16,SNR=4.0						
FITZ	**Fitzroy Crossi**	**25.45**	**239**	P	P	16 31 48.6	+0.9
	4.0nm,0.9s,baz=52,slow=11,SNR=6.1						
STKA	**Stephens Creek**	**27.01**	**193**	P	P	16 32 02.0	+0.5
	1.0nm,0.5s,baz=15,slow=12,SNR=6.1						
ILAR	**Eielson Array**	**84.49**	**23**	P	P	16 38 50.9	+0.2
	0.4nm,0.6s,baz=243,slow=4.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**146.22**	**285**	PKPbc	PKPdf	16 45 57.8	-0.4
	0.2nm,0.5s,baz=78,slow=3.0,SNR=3.0						

IDC 31 16:35:27.4±5.6, 5.78S×147.44E, h164km±61km, mb3.1/3, mb1 3.3/5, mb1mx3.0/19, mbtmp3.0/5, Error ellipse: s-maj=86.1km s-min=25.7km az=137.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.62**	**184**	P	Pn	16 36 23.9	+0.8
	2.5nm,0.3s,baz=348,slow=8.4,SNR=16						
PMG				S	Sn	16 37 06.7	+0.1
	12nm,0.3s,baz=349,slow=8.7,SNR=22						
WRA	**Warramunga Arr**	**18.98**	**221**	P	P	16 39 36.2	-0.3
	0.3nm,0.3s,baz=44,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**22.05**	**215**	P	P	16 40 09.3	+0.3
	0.6nm,0.5s,baz=48,slow=8.2,SNR=16						
FITZ	**Fitzroy Crossi**	**24.55**	**238**	P	P	16 40 32.0	-0.1
	1.9nm,0.7s,baz=53,slow=10,SNR=5.7						
ILAR	**Eielson Array**	**85.11**	**23**	P	P	16 47 44.5	0.0
	0.3nm,0.6s,baz=251,slow=5.6,SNR=3.1						

IDC 31 17:14:26.5±0.9, 32.37N×85.11E, h0km, mb3.5/6, mb1 3.7/8, mb1mx3.5/27, mbtmp3.5/8, ML3.6/2, Error ellipse: s-maj=31.4km s-min=20.6km az=66.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.57**	**352**	Pn	P	17 18 01.0	+0.3
	0.0nm,0.3s,baz=166,slow=12,SNR=2.8						
CMAR	**Chiang Mai Arr**	**18.63**	**135**	P	Pn	17 18 47.0	+1.0
	0.1nm,0.3s,baz=322,slow=12,SNR=8.7						
KURBB	**Kurchatov Arra**	**18.88**	**347**	P	P	17 18 46.9	-1.4
	0.0nm,0.3s,baz=163,slow=10,SNR=3.5						
ZALV	**Zalesovo Beam**	**21.57**	**360**	P	P	17 19 18.5	+1.0
	0.7nm,0.5s,baz=182,slow=8.8,SNR=4.6						
SONM	**Songino Array**	**22.34**	**40**	P	P	17 19 27.9	+1.9
	0.8nm,0.8s,baz=232,slow=9.0,SNR=5.9						
WRA	**Warramunga Arr**	**70.17**	**131**	P	P	17 25 40.7	-0.5
	0.7nm,0.7s,baz=327,slow=6.2,SNR=3.7						
ASAR	**Alice Springs**	**72.63**	**134**	P	P	17 25 55.8	-0.3
	0.4nm,0.7s,baz=319,slow=6.3,SNR=5.9						
ILAR	**Eielson Array**	**75.04**	**20**	P	P	17 26 08.0	-1.6
	0.3nm,0.6s,baz=330,slow=5.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**77.59**	**278**	P	P	17 26 25.0	+0.1
	0.3nm,0.5s,baz=37,slow=5.0,SNR=2.8						
LPAZ	**La Paz**	**150.95**	**297**	PKPbc	PKPbc	17 34 24.2	+1.6
	0.7nm,0.8s,baz=52,slow=6.5,SNR=3.7						

*NIED **31** 17:20:00, 21.90N×120.90E, h29km, Mw4.3 Best double couple: M0 3.35000×10^15 NP1:φs=202.00000°, δ63.00000°, λ-111.00000°. NP2:φs=62.00000°, δ33.00000°, λ-55.00000°.*

*IDC **31** 17:20:48.4±0.7, 22.02N×120.50E, h0km, mb3.9/17, mb1 4.0/17, mb1mx4.0/27, mbtmp3.9/17, MS3.4/5, Ms1 3.5/5, ms1mx3.0/34, Error ellipse: s-maj=19.5km s-min=14.9km az=74.0*

*TAP **31** 17:20:51.7, 22.05N×120.38E, h44km, ML4.1, D*

*JMA **31** 17:20:51.7±0.4, 21.89N×120.90E, h0km, M4.1*

*ISCJB **31** 17:20:52.5±0.4, 22.05N±0.02×120.39E±0.03, h43km±3km, mb3.8/16, MS3.5/3, Error ellipse: s-maj=4.4km s-min=3.3km az=156.5*

ISC 31 17:20:52.8±1.1, 22.04N±0.04×120.37E±0.04, h29km±8km, n82, σ0.88/137, mb3.9/16, MS3.4/3, 1C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEN	**Hengchun**	**0.35**	**96**	⇓*i* P	**Pb**	**17 21 01.2**	**+0.4**
	baz=98						
HEN				*i* S	**Sn**	**17 21 08.1**	**+0.1**
	baz=98						
SCZT	**Fangliau**	**0.40**	**35**	⇓*i* P	**Pb**	**17 21 01.7**	**0.0**
	baz=35						
SCZT				S	**Sn**	**17 21 09.0**	**-0.4**
	baz=35						
TWK1	**Hengchun**	**0.42**	**104**	⇓*i* P	**Pb**	**17 21 02.1**	**+0.2**
	baz=106						
TWK1				*i* S	**Sn**	**17 21 09.7**	**0.0**
	baz=106						
TSEB	**Hengchuen, Pin**	**0.51**	**106**	⇓*i* P	**Pb**	**17 21 02.9**	**-0.6**
	baz=109						
TSEB				*i* S	**Sb**	**17 21 11.2**	**+0.5**
	baz=109						
TAW	**Tawu**	**0.58**	**57**	⇓*i* P	**Pb**	**17 21 04.2**	**-0.4**
	baz=47						
TAW				*e*S	**Sb**	**17 21 13.1**	**+0.6**
	baz=47						
SGLT	**Jiouru**	**0.69**	**10**	*e*P	**Pb**	**17 21 06.5**	**+0.2**
	baz=9.0						
SGLT				*e*S	**Sn**	**17 21 17.2**	**+0.8**
	baz=9.0						
ECL	**Taimali**	**0.77**	**44**	⇓*i* P	**Pn**	**17 21 06.8**	**-1.0**
	baz=37						
ECL				*e*S	**Sb**	**17 21 17.0**	**-0.9**
	baz=37						
TWM1	**Shoushan**	**0.78**	**4**	⇑*e*P	**Pb**	**17 21 08.3**	**+0.4**
	baz=3.0						
TWM1				*e*S	**Sb**	**17 21 17.8**	**-0.4**
	baz=3.0						
TAI1	**Yung-k'ang**	**1.00**	**353**	*e*P	**Pn**	**17 21 10.7**	**-0.2**
	baz=352						
TAI1				*e*S	**Sn**	**17 21 23.6**	**-0.4**
	baz=352						
TTN	**Taitung**	**1.01**	**45**	*e*P	**Pn**	**17 21 10.5**	**-0.6**
	baz=45						
TTN				S	**Sn**	**17 21 24.2**	**-0.1**
	baz=45						
TWG	**Pinlang**	**1.01**	**40**	⇓*i* P	**Pn**	**17 21 10.5**	**-0.6**
	baz=50						
TWG				S	**Sn**	**17 21 23.8**	**-0.7**
	baz=50						
CHN3	**Shinhua**	**1.03**	**360**	*e*P	**Pn**	**17 21 10.4**	**-1.0**
	baz=359						
CHN3				*e*S	**Sn**	**17 21 24.8**	**0.0**
	baz=359						
SGST	**Jiashian**	**1.05**	**11**	P	**Pn**	**17

baz=9.0
SMLT Sun Moon Lake 1.90 15 ⇓iP Pn 17 21 22.7 -0.7
baz=5.0
SMLT S Sn 17 21 45.7 -0.7
baz=5.0
TYC Yuchr 1.91 14 eP Pn 17 21 23.0 -0.4
baz=4.0
TYC eS Sn 17 21 45.8 -0.7
baz=4.0
ESL Shilin 2.02 29 P Pn 17 21 24.7 -0.3
baz=29
ESL eS Sn 17 21 48.6 -0.6
baz=29
TCU Taichung 2.11 8 eP Pn 17 21 26.2 -0.1
baz=8.0
TCU eS Sn 17 21 51.1 -0.5
baz=8.0
WHF Hehuan Shan 2.25 21 eP Pn 17 21 28.4 -0.1
baz=10.0
WHF eS Sn 17 21 55.2 -0.4
baz=10.0
TWD Chiawan 2.32 29 eP Pn 17 21 28.8 -0.3
baz=29
TWD eS Sn 17 21 56.5 -0.2
baz=29
TWT Tachien 2.32 19 eP Pn 17 21 29.1 -0.2
baz=10.0
TWT S Sn 17 21 55.9 -1.2
baz=10.0
TWQ1 Liyutan 2.33 9 eP Pn 17 21 29.1 -0.1
baz=9.0
TWQ1 eS Sn 17 21 56.1 -0.7
baz=9.0
NSY Sanyi 2.39 9 eP Pn 17 21 29.8 -0.3
baz=9.0
NSY eS Sn 17 21 57.9 -0.6
baz=9.0
NNS Nan Shan 2.56 21 P Pn 17 21 33.1 +0.6
baz=11
NNS eS Sn 17 22 02.8 0.0
baz=11
NSTT Nanjuang 2.64 13 eP Pn 17 21 33.0 -0.5
baz=13
NSTT eS Sn 17 22 04.0 -0.6
baz=13
ENA Nanau 2.69 28 P Pn 17 21 33.7 -0.5
baz=38
ENA eS Sn 17 22 05.3 -0.5
baz=38
NSK Sanguang 2.77 19 eP Pn 17 21 35.7 +0.2
baz=19
NSK eS Sn 17 22 08.2 +0.2
baz=19
ENTT Nioudou 2.81 23 eP Pn 17 21 36.2 +0.4
baz=12
ENTT eS Sn 17 22 08.8 -0.1
baz=12
TWC Suao 2.90 28 eP Pn 17 21 37.7 +0.7
baz=28
TWE Neicheng 2.92 24 eP Pn 17 21 38.5 +1.2
baz=37
TWE eS Sn 17 22 12.4 +0.9
baz=37
KNM Kinmen 2.96 323 eP Pn 17 21 37.5 -0.3
baz=321
KNM eS Sn 17 22 12.7 +0.3
baz=321
TWA Mucha 3.13 21 eP Pn 17 21 39.7 -0.6
baz=9.0
TWS1 Kuangyinshan 3.19 17 eP Pn 17 21 38.7 -2.4
baz=17
NWF Wu-fen Shan 3.28 23 eP Pn 17 21 43.4 +1.0
baz=10.0
TWB1 Santiao Chiao 3.31 26 eP Pn 17 21 43.2 +0.6
baz=35
TWB1 eS Sn 17 22 20.7 -0.3
baz=35
YOJ Yonaguni jima 3.42 45 P Pn 17 21 45.0 +0.7
YOJ S Sn 17 22 24.2 +0.3
HATJ Hateruma jima 3.75 57 S Sn 17 22 30.2 -1.7
IRIF Iriomote-Funau 3.84 53 P Pn 17 21 49.8 -0.3
IRIF S Sn 17 22 33.1 -1.2
JKRS Kuro-shima 4.00 56 P Pn 17 21 51.9 -0.3
JKRS eS Sn 17 22 36.9 -1.3
JIJ Ishigaki jima 4.17 56 P Pn 17 21 53.8 -0.8
JIJ S Sn 17 22 39.6 -2.8
JTJ Tarama 4.75 56 P Pn 17 22 02.7 +0.2
JTJ S Sn 17 22 54.5 -2.1
JOGS Gusukube 5.36 59 P Pn 17 22 11.0 +0.1
JNU Nakatsue 14.43 38 LR LR 17 29 41.7
comp=Z,114nm,19.9s,baz=63,slow=37
KSRS Korea Array 16.69 21 Pn P 17 24 46.9 +0.1
0.1nm,0.3s,baz=192,slow=12,SNR=5.1
KSRS LR LR 17 31 47.9
comp=Z,112nm,20.3s,baz=19,slow=40
CMAR Chiang Mai Arr 20.41 264 P P 17 25 28.7 +0.9
3.3nm,0.9s,baz=73,slow=9.4,SNR=11
CMAR LR LR 17 34 27.2
comp=Z,159nm,18.3s,baz=156,slow=40
MJAR Matsushiro Arr 21.18 43 P P 17 25 35.4 -0.6
2.1nm,0.7s,baz=238,slow=8.6,SNR=9.2
USRK Ussuriysk Arra 24.10 21 P P 17 26 06.7 +0.8
1.5nm,0.7s,baz=208,slow=12,SNR=5.5
SONM Songino Array 28.08 340 P P 17 26 42.3 +0.3
0.7nm,0.6s,baz=156,slow=9.4,SNR=7.6
ASAJ Asahikawa 28.67 35 P P 17 26 46.7 -0.5
2.0nm,0.7s,baz=187,slow=3.1,SNR=4.4
ASAJ LR LR 17 38 43.9
comp=Z,104nm,21.3s,baz=184,slow=38
MKAR Makanchi Array 39.38 318 P P 17 28 20.6 +0.7
2.2nm,0.7s,baz=112,slow=10.0,SNR=21
ZALV Zalesovo Beam 41.65 329 P P 17 28 38.9 +0.4
3.8nm,1.0s,baz=111,slow=8.1,SNR=13
ZALV PcP PcP 17 30 34.6 -0.4
0.3nm,0.5s,baz=143,slow=5.0,SNR=2.7
PETK Petropavlovsk- 42.06 33 P P 17 28 40.2 -1.7
0.5nm,0.7s,baz=262,slow=9.6,SNR=2.8
KURBB Kurchatov Arra 43.29 322 P P 17 28 52.3 +0.5
1.5nm,0.9s,baz=134,slow=6.7,SNR=11
WRA Warramunga Arr 43.91 161 P P 17 28 55.6 -1.6
2.1nm,0.6s,baz=343,slow=8.9,SNR=12
ASAR Alice Springs 47.30 163 P P 17 29 23.4 -0.7
0.8nm,0.6s,baz=346,slow=7.3,SNR=42
BVAR Borovoye Array 48.87 322 P P 17 29 36.5 +0.7
0.4nm,0.5s,baz=122,slow=16,SNR=3.7
STKA Stephens Creek 57.34 159 P P 17 30 38.8 +0.4
1.7nm,0.9s,baz=343,slow=14,SNR=3.4
KBZ Khabaz 66.24 309 LR LR 18 07 10.9
comp=Z,30nm,19.3s,baz=126,slow=42
ILAR Eielson Array 71.45 27 P P 17 32 10.8 +0.4
0.3nm,0.6s,baz=303,slow=8.3,SNR=4.5
BRTR Keskin Array B 73.84 307 P P 17 32 25.8 +0.5
0.5nm,0.4s,baz=98,slow=6.7,SNR=6.0
GERES GERESS Array B 84.01 320 P P 17 33 21.2 +0.5
0.8nm,0.8s,baz=56,slow=3.4,SNR=7.8
KMBO Kilima Mbogo 84.04 266 P P 17 33 23.7 +2.0
0.5nm,0.3s,baz=49,slow=12,SNR=4.2

IDC 31 17:29:24.3±1.6,1.68N×126.09E,h0km,mb3.7/4, mb1 3.9/5,mb1mx3.5/21,mbtmp3.7/5,Error ellipse: s-maj=106.9km s-min=22.3km az=67.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.66**	**181**	P	P	17 33 55.5	+0.6
	0.2nm,0.3s,baz=0.0,slow=12,SNR=6.2						
WRA	**Warramunga Arr**	**22.96**	**160**	P	P	17 34 29.8	-0.7
	1.7nm,0.5s,baz=338,slow=10,SNR=15						
ASAR	**Alice Springs**	**26.31**	**164**	P	P	17 35 02.0	0.0
	0.9nm,0.5s,baz=341,slow=7.6,SNR=41						
STKA	**Stephens Creek**	**36.47**	**158**	P	P	17 36 31.1	-0.1
	1.5nm,0.8s,baz=328,slow=10,SNR=5.1						
MKAR	**Makanchi Array**	**58.88**	**326**	P	P	17 39 25.2	+0.1
	0.2nm,0.4s,baz=122,slow=8.0,SNR=3.7						

*ISCJB **31** 17:46:49.0±0.2,60.99N×0.02×125.54W±0.05,h10km, mb4.1/44,MS3.5/3,Error ellipse: s-maj=3.6km s-min=2.9km az=136.8*
*NEIC **31** 17:46:50.0,61.05N×125.50W,h1km,mb4.1/45, MW4.3(PGC),After PGC.*
*PGC **31** 17:46:50.0±0.0,61.05N×125.50W,h1km,ML4.7/6,Mw4.3, 208km Ene of Watson Lk., Yt Northwest Territories, Canada*

*IDC **31** 17:46:50.2±0.4,61.04N×125.60W,h0km,mb4.0/22, mb1 4.2/29,mb1mx4.2/35,mbtmp4.0/29,ML4.1/7,MS3.2/10, Ms1 3.2/10,ms1mx3.0/41,Error ellipse: s-maj=9.5km s-min=7.7km az=125.0*

ISC 31 17:46:51.4±0.3,61.06N±0.04×125.28W±0.03,h10km, n363,σ1§85/340,mb4.1/44,MS3.5/3,105C-108D, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNBB	**Fort Nelson**	**2.46**	**151**	⇑Pn	Pn	17 47 31.3	-0.2
FNBB				⇑Sn	Sn	17 48 00.3	-1.3
DLBC	**Dease Lake**	**3.56**	**224**	⇑Pn	Pn	17 47 44.0	-2.7
DLBC				⇓Sg	Sb	17 48 35.8	-2.0
DLBC	**Dease Lake**	**3.56**	**224**	P	Pn	17 47 44.1	-2.7
DLBC				S	Sn	17 48 29.6	+0.7
DLBC	**Dease Lake**	**3.56**	**224**	Pn	Pn	17 47 44.1	-2.7
	24nm,0.3s,baz=37,slow=12,SNR=154						
DLBC				Pg	Pb	17 47 53.0	-1.5
	40nm,0.3s,baz=44,slow=12,SNR=32						
DLBC				Lg	Lg	17 48 36.3	
	75nm,0.3s,baz=250,slow=23,SNR=18						
DLBC				LR	LR	17 49 19.4	
	comp=Z,646nm,18.1s,baz=301,slow=43						
ROMN	**Roman Lake**	**4.67**	**43**	⇓Pn	Pn	17 48 01.6	-0.3
ROMN				⇑Sn	Sn	17 48 55.9	-0.2
WHY	**Whitehorse**	**4.71**	**269**	⇓Pn	Pn	17 47 59.6	-3.0
WHY				⇑Sg	Sb	17 49 09.6	-1.3
WHY	**Whitehorse**	**4.71**	**269**	P	Pn	17 47 59.6	-3.0
WHY				S	Sn	17 48 56.1	-1.2
GALN	**Gameti Lake**	**4.79**	**47**	⇑Pn	Pn	17 48 03.4	-0.1
SKAG	**Skagway**	**5.26**	**257**	P	Pn	17 48 06.9	-3.0
YKA	**Yellowknife Ar**	**5.26**	**70**	Pn	Pn	17 48 10.3	+0.4
YKA				Sn	Sn	17 49 11.3	+0.7
YKA				Lg	Lg	17 49 35.9	
YKA	**Yellowknife Ar**	**5.26**	**70**	Pn	Pn	17 48 10.3	+0.4
	21nm,0.3s,baz=257,slow=12,SNR=135						
YKA				Sn	Sn	17 49 11.3	+0.7
	19nm,0.3s,baz=258,slow=22,SNR=5.3						
YKA				Lg	Lg	17 49 35.9	
	32nm,0.3s,baz=251,slow=29,SNR=9.1						
YKW3	**Yellowknife Ar**	**5.27**	**69**	⇓Pn	Pn	17 48 11.3	+1.2
YKW3				⇑Sn	Sn	17 49 11.3	+0.4
YKW3				⇑Sg	Sg	17 49 36.8	-3.7
YKW3	**Yellowknife Ar**	**5.27**	**69**	P	Pn	17 48 08.9	-1.2
YKW3				S	Sn	17 49 10.6	-0.2
CTLN	**Castor Lake**	**5.43**	**48**	⇑Pn	Pn	17 48 12.0	-0.3
CTLN				⇑Sn	Sn	17 49 13.4	-1.4
WRAK	**Wrangell Islan**	**5.93**	**221**	eP	Pn	17 48 14.5	-4.6
	30nm,0.4s						
HYT	**Haines Junctio**	**5.97**	**273**	⇓Pn	Pn	17 48 17.3	-2.4
HYT				⇓Sg	Sb	17 49 50.2	+3.4
HYT	**Haines Junctio**	**5.97**	**273**	P	Pn	17 48 17.3	-2.4
SIT	**Sitka**	**6.55**	**237**	P	Pn	17 48 25.8	-1.9
FSB	**Fort Saint Jam**	**6.62**	**175**	⇓Pn	Pn	17 48 27.2	-1.5
FSB				⇑Sg	Sb	17 50 12.5	+6.8
PNL	**Peninsula**	**7.14**	**265**	P	Pn	17 48 32.8	-3.0
DAWY	**Dawson**	**7.18**	**301**	⇑Pn	Pn	17 48 34.4	-2.0
DAWY				⇓Sg	Sb	17 50 27.8	+6.2
DAWY	**Dawson**	**7.18**	**301**	P	Pn	17 48 33.5	-2.8
RUBB	**Prince Rupert**	**7.26**	**204**	⇑Pn	Pn	17 48 36.0	-1.4
TABL	**Table Mountain**	**7.80**	**272**	P	Pn	17 48 42.1	-2.9
JERN	**Jeri Cho Mine,**	**7.91**	**45**	⇓Pn	Pn	17 48 43.8	-2.5
JERN				⇑Sn	Sn	17 50 11.4	-4.3
BARN	**Barnard Glacie**	**7.95**	**277**	P	Pn	17 48 44.4	-2.6
BCAS	**Beaver Creek A**	**8.01**	**292**	P	Pn	17 48 44.9	-2.7
GRNC	**Granite Creek**	**8.04**	**275**	P	Pn	17 48 45.4	-2.9
INK	**Inuvik**	**8.08**	**338**	⇑Pn	Pn	17 48 46.5	-2.0
INK				⇓Sn	Sn	17 50 13.7	-6.0
INK	**Inuvik**	**8.08**	**338**	P	Pn	17 48 45.0	-3.5
INK	**Inuvik**	**8.08**	**338**	Pn	Pn	17 48 46.6	-1.9
	4.3nm,0.3s,baz=156,slow=11,SNR=52						
INK				Sn	Sn	17 50 15.9	-3.8
	5.1nm,0.3s,baz=185,slow=29,SNR=6.6						
INK				Lg	Lg	17 51 05.8	
	baz=247,slow=18,SNR=2.3						
INK				LR	LR	17 52 20.7	
	comp=Z,79nm,21.0s,baz=209,slow=41						
BNAB	**Bonilla**	**8.12**	**203**	⇓Pn	Pn	17 48 47.5	-1.6
EGAK	**Eagle**	**8.14**	**304**	eP	Pn	17 48 40.6	-8.8
	28nm,0.9s						
UBRB	**Upper Baezaeko**	**8.22**	**175**	⇑Pn	Pn	17 48 48.9	-1.7
NDB	**Naden**	**8.23**	**213**	⇑Pn	Pn	17 48 48.3	-2.5
CLSB	**Cack Lake**	**8.46**	**169**	⇓Pn	Pn	17 48 54.0	+0.1
ALRB	**Anaheim Lake**	**8.57**	**179**	⇓Pn	Pn	17 48 54.1	-1.4
DIB	**Dawson Inlet,**	**8.79**	**210**	⇑Pn	Pn	17 48 57.0	-1.3
BBB	**Bella Bella**	**9.04**	**191**	Pn	Pn	17 49 00.4	-1.3
BBB				Lg	Lg	17 51 26.6	
BBB	**Bella Bella**	**9.04**	**191**	Pn	Pn	17 49 00.4	-1.3
	0.3nm,0.3s,baz=27,slow=14,SNR=2.5						
BBB				Lg	Lg	17 51 26.6	
	0.6nm,0.3s,baz=306,slow=19,SNR=3.0						
BBB				LR	LR	17 53 02.1	
	comp=Z,30nm,21.5s,baz=92,slow=41						
BMRM	**Bremner River**	**9.38**	**278**	eP	Pn	17 49 05.5	-1.0
	40nm,0.9s						
BLBC	**Blue River**	**9.63**	**157**	⇑Pn	Pn	17 49 09.3	-0.8
MNB	**Mounoet Dainar**	**9.66**	**154**	⇑Pn	Pn	17 49 09.7	-0.8
EDM	**Edmonton**	**10.17**	**135**	⇑Pn	Pn	17 49 15.8	-1.5
EDM				⇓Sn	Sn	17 51 02.9	-8.4
EDM	**Edmonton**	**10.17**	**135**	eP	Pn	17 49 15.7	-1.5
DOWB	**Downie Slide**	**10.27**	**156**	⇓Pn	Pn	17 49 18.6	0.0
ILAR	**Eielson Array**	**10.51**	**300**	Pn	Pn	17 49 19.9	-2.0
ILAR				Lg	Lg	17 52 13.3	
ILAR	**Eielson Array**	**10.51**	**300**	Pn	Pn	17 49 19.9	-2.0
	0.7nm,0.3s,baz=112,slow=13,SNR=29						
ILAR				Lg	Lg	17 52 13.3	
	0.5nm,0.3s,baz=99,slow=30,SNR=7.8						
ILAR				LR	LR	17 53 44.3	
	comp=Z,58nm,20.5s,baz=113,slow=40						
LLLB	**Lillooet**	**10.65**	**168**	⇑Pn	Pn	17 49 22.4	-1.5
SLEB	**Sale Mountain**	**10.68**	**155**	⇑Pn	Pn	17 49 23.5	-1.0
SML	**Sawmill**	**11.05**	**284**	eP	Pn	17 49 28.0	-1.3
	7.0nm,1.0s						
TRF	**Thorofare Moun**	**11.87**	**292**	eP	Pn	17 49 40.0	-0.6
	71nm,1.3s						
A12A	**Yaak River Ran**	**13.33**	**151**	⇑P	Pn	17 49 59.0	-1.5
	baz=13						
A13A	**Flathead Natio**	**13.63**	**148**	⇑P	Pn	17 50 01.4	-3.2
	baz=14						
NEW	**Newport**	**13.65**	**156**	Pn	Pn	17 50 06.0	+1.2
NEW				Lg	Lg	17 53 53.3	
NEW	**Newport**	**13.65**	**156**	Pn	Pn	17 50 06.0	+1.2
	0.4nm,0.3s,baz=259,slow=19,SNR=3.1						
NEW				Lg	Lg	17 53 53.3	
	0.4nm,0.3s,baz=73,slow=23,SNR=2.7						
NEW				LR	LR	17 55 29.0	
	comp=Z,74nm,18.2s,baz=340,slow=38						
WALA	**Waterton Lakes**	**13.65**	**147**	⇓Sn	Sn	17 52 26.2	-10
WALA	**Waterton Lakes**	**13.65**	**147**	eP	Pn	17 50 00.4	-4.5
	0.3nm,0.6s						
NLWA	**Neilton Lookou**	**13.72**	**176**	P	Pn	17 50 03.9	-1.9
	12nm,1.0s						
A14A	**Double T Ranch**	**13.86**	**146**	⇓P	Pn	17 50 04.2	-3.6
	baz=14,SNR=23						
FFC	**Flin Flon**	**13.87**	**107**	eP	Pn	17 50 03.2	-4.5
	15nm,0.7s						
A15A	**Johnson Ranch,**	**14.05**	**144**	⇓P	Pn	17 50 05.8	-4.5
	baz=14,SNR=15						
B13A	**Whitefish**	**14.13**	**149**	⇓P	Pn	17 50 07.5	-4.0
	baz=14,SNR=10.0						
KDAK	**Kodiak Island**	**14.23**	**269**	Pn	Pn	17 50 12.4	-0.3
KDAK	**Kodiak Island**	**14.23**	**269**	Pn	Pn	17 50 12.4	-0.3
	0.3nm,0.3s,baz=73,slow=9.9,SNR=4.4						
A16A	**West Butte Ran**	**14.41**	**141**	⇓P	Pn	17 50 11.0	-4.4
	baz=14,SNR=17						
B14A	**Marquette Ranc**	**14.46**	**146**	⇑P	Pn	17 50 12.0	-4.0
	baz=14,SNR=8.0						
LON	**Longmire**	**14.48**	**170**	eP	Pn	17 50 16.6	+0.4
	4.6nm,0.9s						
BSMT	**Bassoo Peak**	**14.54**	**151**	eP	Pn	17 50 14.8	-2.5
	3.7nm,0.6s						
A17A	**Triple J Farms**	**14.69**	**139**	⇑P	Pn	17 50 14.6	-4.6
	baz=15,SNR=29						
B15A	**Bradely Ranch,**	**14.70**	**145**	⇑P	Pn	17 50 14.2	-5.0
	baz=15,SNR=8.5						
C13A	**Hot Springs**	**14.76**	**150**	⇑P	Pn	17 50 16.2	-3.9
	baz=15						
JTMT	**Jette**	**14.76**	**150**	eP	Pn	17 50 16.5	-3.6
B16A	**M & M Farms, S**	**14.85**	**142**	⇑P	Pn	17 50 16.6	-4.7
	baz=15						
C14A	**Swan Lake**	**14.88**	**148**	⇓P	Pn	17 50 19.4	-2.2
A18A	**Metzger Ranch,**	**14.99**	**137**	⇑P	Pn	17 50 18.8	-4.3
	baz=15,SNR=7.4						
SWMT	**Swartz Lake**	**15.05**	**149**	eP	Pn	17 50 22.8	-1.3
	4.4nm,0.5s						
C15A	**Salmond Ranch,**	**15.17**	**146**	⇓P	Pn	17 50 21.3	-4.3
	baz=15						
B17A	**L&G Farms, Che**	**15.24**	**141**	⇓P	Pn	17 50 22.2	-4.2
	baz=15,SNR=5.9						
A19A	**Klindworth Far**	**15.36**	**135**	⇑P	Pn	17 50 23.7	-4.3
	baz=15,SNR=13						
C16A	**Fuhringer Ranc**	**15.39**	**144**	⇑P	Pn	17 50 23.9	-4.6
	baz=15						
SLMT	**Seeley Lake**	**15.43**	**148**	eP	Pn	17 50 26.9	-2.1
	12nm,0.8s						
B18A	**Beardsley Farm**	**15.47**	**138**	⇑P	Pn	17 50 25.6	-3.9
	baz=16,SNR=16						
A20A	**Cobblestone Ra**	**15.68**	**133**	⇑P	Pn	17 50 27.9	-4.3
	baz=16						
B19A	**Brinkman Farms**	**15.69**	**136**	⇑P	Pn	17 50 28.4	-4.0
	baz=16,SNR=7.2						
MSO	**Missoula**	**15.71**	**150**	⇑P	Pn	17 50 29.0	-3.6
	baz=16						
FCC	**Fort Churchill**	**15.73**	**85**	eP	Pn	17 50 24.4	-8.3
	0.5nm,0.6s						
CHMT	**Chamberlain Mo**	**15.80**	**148**	eP	Pn	17 50 29.8	-4.1
	9.6nm,0.9s						
EGMT	**Eagleton**	**15.80**	**139**	eP	Pn	17 50 25.6	-8.2
	55nm,0.7s						
EGMT	**Eagleton**	**15.80**	**139**	⇑P	Pn	17 50 29.8	-4.0
	baz=16,SNR=27						
C17A	**Wharram Farm,**	**15.84**	**142**	⇑P	Pn	17 50 30.8	-3.4
	baz=16						
A21A	**Bergtoll Ranch**	**15.95**	**131**	⇑P	Pn	17 50 32.0	-3.7
	baz=16,SNR=6.0						
B20A	**Solberg Farm,**	**16.02**	**134**	⇑P	Pn	17 50 31.9	-4.7
	baz=16						
C19A	**Slack Wire Ran**	**16.29**	**138**	⇑P	Pn	17 50 36.0	-4.0
	baz=16,SNR=22						
D17A	**Six Diamond Ra**	**16.29**	**142**	⇑P	Pn	17 50 35.7	-4.4
	baz=16,SNR=5.9						
A22A	**Carney Farms,**	**16.32**	**129**	⇓P	Pn	17 50 36.9	-3.6
	baz=16,SNR=7.2						
HRY	**Holter Researc**	**16.36**	**145**	eP	Pn	17 50 37.9	-3.2
	8.5nm,0.5s						
D18A	**Linhart Farms,**	**16.52**	**140**	⇑P	Pn	17 50 40.0	-3.1
	baz=16,SNR=5.3						
C20A	**Veseth Ranch,**	**16.65**	**136**	⇓P	Pn	17 50 40.3	-4.4
	baz=17						
D19A	**Cripps Ranch,**	**16.84**	**138**	⇓P	Pn	17 50 43.2	-3.9
	baz=17,SNR=12						
E17A	**Martinsdale**	**16.86**	**144**	⇑P	Pn	17 50 43.0	-4.5
	baz=17						
B22A	**Reddig Ranch S**	**16.87**	**131**	⇑P	Pn	17 50 44.0	-3.4
	baz=17						
BMO	**Blue Mountains**	**16.91**	**160**	eP	Pn	17 50 46.9	-1.1
	2.4nm,0.7s						
LRM	**Limekiln Ridge**	**17.02**	**148**	eP	Pn	17 50 47.4	-2.0
	49nm,0.7s						
E18A	**Harlowton**	**17.05**	**141**	⇑P	Pn	17 50 46.6	-3.2
	baz=17,SNR=14						
B23A	**Brockton**	**17.11**	**128**	⇓P	Pn	17 50 47.2	-3.2
	baz=17,SNR=5.7						
A24A	**Westby**	**17.12**	**126**	⇓P	Pn	17 50 48.7	-1.9
	baz=17						
D20A	**Manuel Ranch,**	**17.15**	**137**	⇓P	Pn	17 50 48.4	-2.5
	baz=17						
C22A	**Vida**	**17.37**	**131**	⇓P	Pn	17 50 51.2	-2.5
	baz=17						
BOZ	**Bozeman (W)**	**17.40**	**146**	eP	Pn	17 50 49.9	-4.2
	2.0nm,0.7s						
DLMT	**Dillon**	**17.41**	**149**	eP	Pn	17 50 53.2	-1.1
	7.4nm,0.9s						
DGMT	**Dagmar**	**17.41**	**127**	eP	Pn	17 50 52.2	-1.9
	105nm,0.8s						
DGMT	**Dagmar**	**17.41**	**127**	⇓P	Pn	17 50 52.5	-1.7
	baz=17,SNR=7.9						
F17A	**Fitzpatrick Pl**	**17.43**	**144**	⇓P	Pn	17 50 51.5	-3.0
	baz=17						
A25A	**Svangstu Ranch**	**17.46**	**124**	⇓P	Pn	17 50 52.6	-2.2
	baz=18						
E19A	**Rath Farm, Rou**	**17.49**	**139**	⇑P	Pn	17 50 52.7	-2.5
	baz=18,SNR=14						
C23A	**Lambert**	**17.58**	**130**	⇑P	Pn	17 50 53.6	-2.7
	baz=18						
E20A	**Meyer Farm, Mu**	**17.67**	**138**	⇓P	Pn	17 50 55.7	-1.6
	baz=18						
F18A	**Big Timber**	**17.70**	**142**	⇑P	Pn	17 50 54.7	-3.2
	baz=18						
D22A	**Cohagen**	**17.77**	**133**	⇓P	Pn	17 50 56.0	-2.7
	baz=18						
GCMT	**Greycliff**	**17.82**	**142**	eP	Pn	17 50 56.5	-2.9
	32nm,0.9s						
MCMT	**McKenzie Canyo**	**17.85**	**150**	eP	Pn	17 50 58.8	-1.0
	2.2nm,0.7s						
A26A	**Wade Farm, Ken**	**17.93**	**122**	⇓P	Pn	17 50 58.4	-2.3
	baz=18,SNR=5.9						
F19A	**Roth Farm, Mol**	**17.99**	**140**	⇓P	Pn	17 51 00.3	-1.0
	baz=18						
C24A	**Savage**	**18.09**	**129**	⇑P	Pn	17 50 59.9	-2.7
	baz=18						
D23A	**Lindsay**	**18.10**	**131**	⇓P	Pn	17 51 00.5	-2.3
	baz=18						
F20A	**Billings**	**18.28**	**139**	⇓P	Pn	17 51 02.1	-2.9
	baz=18						
G18A	**Lazy EL Ranch,**	**18.28**	**142**	⇑P	Pn	17 51 01.9	-3.1
	baz=18						
C25A	**Freed Ranch, W**	**18.39**	**127**	⇑P	P	17 51 04.4	-1.9
	baz=18						
E22A	**Miles City**	**18.46**	**134**	⇑P	P	17 51 06.6	-0.5
	baz=18						
D24A	**Glendive**	**18.48**	**130**	⇑P	P	17 51 06.1	-1.2
	baz=18						
HUMO	**Hull Mountain**	**18.54**	**175**	eP	Pn	17 51 08.2	+0.2
	14nm,1.0s						
RLMT	**Red Lodge**	**18.55**	**142**	eP	P	17 51 06.9	-1.3
	9.7nm,0.8s						
I14A	**Mackay**	**18.55**	**152**	⇑P	P	17 51 07.7	-0.5
	baz=19						
MFID	**Camas Ranch**	**18.56**	**158**	eP	P	17 51 05.8	-2.4
	5.6nm,0.9s						
MFID	**Camas Ranch**	**18.56**	**158**	⇑P	P	17 51 07.3	-0.9
	baz=19						
HLID	**Hailey**	**18.70**	**155**	eP	Pn	17 51 09.7	-0.4
	4.6nm,0.7s						
HLID	**Hailey**	**18.70**	**155**	⇑P	P	17 51 08.8	-1.0
	baz=19,SNR=6.9						
C26A	**Wahner Farm, P**	**18.76**	**124**	⇑P	P	17 51 10.2	-0.1
	baz=19						
G20A	**Bridger**	**18.78**	**140**	⇑P	P	17 51 08.6	-2.0
	baz=19						
H18A	**Shoshone NF, C**	**18.84**	**144**	⇑P	P	17 51 09.3	-2.1
	baz=19						
I16A	**Newdale**	**19.08**	**148**	⇑P	P	17 51 13.6	-0.4
	baz=19						
WVOR	**Wild Horse Val**	**19.08**	**165**	eP	Pn	17 51 15.6	+0.8
	8.2nm,1.0s						
C27A	**Sayler Ranch,**	**19.09**	**124**	⇑P	P	17 51 12.6	-1.3
	baz=19						
G21A	**Lodge Grass**	**19.10**	**138**	⇓P	P	17 51 13.5	-0.6
	baz=19						
IMW	**Indian Meadow**	**19.20**	**147**	eP	Pn	17 51 16.1	-0.2
	6.6nm,1.0s						
F23A	**Volborg**	**19.27**	**134**	⇓P	P	17 51 14.0	-2.0
	baz=19						
E25A	**Miller Ranch,**	**19.34**	**129**	⇓P	P	17 51 15.4	-1.3
	baz=19						
MOOW	**Moose Ponds**	**19.39**	**147**	eP	Pn	17 51 19.0	+0.4
	9.0nm,1.3s						
**

1.0nm,0.3s,baz=316,slow=11,SNR=13
ULM S S 17 54 43.4 -17
1.5nm,0.3s,baz=252,slow=8.8,SNR=7.4
ULM Lg Lg 17 56 57.2
0.8nm,0.3s,baz=48,slow=17,SNR=3.6
ULM LR LR 17 59 20.5
comp=Z,115nm,19.1s,baz=334,slow=38
H21A Big Horn, Sher 19.68 138 ⇓P P 17 51 19.9 -0.6
baz=20
I18A Diamond G Ranc 19.69 145 ⇓P P 17 51 20.9 +0.2
baz=20,SNR=5.0
REDW Red Top Meadow 19.72 147 *eP* Pn 17 51 22.9 +0.3
14nm,1.2s
E26A Carlson Angus 19.72 127 ⇓P P 17 51 21.1 +0.3
baz=20
G23A Biddle 19.73 135 ⇑P P 17 51 20.8 -0.2
baz=20
MDND Maddock 19.77 120 ⇑P Pn 17 51 22.5 -0.3
baz=20
I20A Worland 19.95 141 ⇑P P 17 51 23.3 -0.2
baz=20
G24A Alzada 19.96 133 ⇓P P 17 51 23.7 +0.2
baz=20
F26A Lodgepole 20.16 129 ⇑P Pn 17 51 26.7 -0.9
baz=20
AHID Auburn Hatcher 20.22 149 *eP* P 17 51 26.2 -0.2
7.1nm,0.8s
KHMM Horse Mountain 20.24 177 *eP* Pn 17 51 27.3 -1.2
24nm,1.3s
H23A Clabaugh Cattl 20.29 136 ⇓P Pn 17 51 28.0 -1.1
baz=20
J19A Crowheart 20.31 144 ⇓P Pn 17 51 28.5 -0.9
baz=20,SNR=12
I21A Big Trails, Te 20.34 140 ⇑P Pn 17 51 28.5 -1.2
baz=20,SNR=8.5
H24A Dirks Ranch, A 20.42 134 ⇓P Pn 17 51 29.5 -1.1
baz=20
J20A Shoshoni 20.51 142 ⇑P Pn 17 51 30.4 -1.3
baz=20,SNR=7.1
WDC Whiskeytown Da 20.58 174 *eP* P 17 51 30.0 -0.1
5.3nm,0.7s
BW06 Boulder Array 20.62 146 *eP* P 17 51 31.3 +0.4
13nm,1.3s
PDAR Pinedale Array 20.62 146 P P 17 51 31.4 +0.5
PDAR Pinedale Array 20.62 146 P P 17 51 31.4 +0.5
2.2nm,0.7s,baz=351,slow=6.6,SNR=15
J21A Lysite 20.71 141 ⇓P P 17 51 32.1 +0.3
baz=21,SNR=5.5
K19A Absolon Red Bu 20.77 144 ⇓P Pn 17 51 33.4 -1.5
baz=21
G27A Dupree 20.84 128 ⇑P P 17 51 33.8 +0.8
baz=21
H25A Fruitdale 20.87 132 ⇓P P 17 51 34.1 +0.8
baz=21
J22A Midwest 20.95 139 ⇓P P 17 51 34.7 +0.4
baz=21
AGMN Agassiz Nation 21.04 114 *eP* P 17 51 35.0 -0.1
6.4nm,0.4s
K20A Yellowstone Ra 21.07 143 ⇓P P 17 51 36.1 +0.4
baz=21,SNR=14
RSSD Black Hills 21.14 134 *eP* P 17 51 36.7 +0.2
5.9nm,0.6s
HWUT Hardware Ranch 21.20 151 *eP* P 17 51 37.8 +0.7
4.2nm,0.6s
L18A Fontenelle, Gr 21.28 147 ⇓P P 17 51 39.2 +1.2
baz=21
L19A Farson 21.30 146 ⇑P P 17 51 38.8 +0.6
baz=21
KIPM Iron Peak 21.31 176 *eP* P 17 51 38.7 +0.5
9.2nm,0.8s
I25A Rochford 21.34 133 ⇑P P 17 51 39.1 +0.6
baz=21
K21A Alcova 21.42 141 ⇑P P 17 51 40.1 +0.7
baz=21,SNR=11
BEKR Beckworth 21.44 170 *eP* P 17 51 40.1 +0.5
4.2nm,1.0s
G28A Parade 21.49 127 ⇓P P 17 51 41.0 +1.0
baz=22
BGU Big Grassy Mou 21.51 154 *eP* P 17 51 41.0 +0.6
8.1nm,1.1s
M17A Scullys Gap (B 21.54 149 ⇑P P 17 51 41.7 +0.9
baz=22
K22A Casper 21.62 140 ⇓P P 17 51 42.3 +0.8
baz=22,SNR=10
L20A Wamsutter 21.67 144 ⇑P P 17 51 43.1 +1.0
baz=22
H28A Mission Ridge 21.78 128 ⇓P P 17 51 45.0 +1.9
baz=22
I27A Quinn 21.91 130 ⇓P P 17 51 45.5 +1.0
baz=22
L21A Rawlins 21.99 142 ⇓P P 17 51 45.9 +0.3
baz=22
M20A Sweetwater, Wa 22.19 144 ⇓P P 17 51 45.9 -1.8
baz=22
L22A Ellis Ranch, M 22.21 140 ⇓P P 17 51 49.0 +1.0
baz=22
DUG Dugway 22.26 154 *eP* P 17 51 48.3 -0.1
10nm,1.0s
DUG Dugway 22.26 154 ⇑P P 17 51 50.0 +1.6
baz=22
M21A Separation Pea 22.32 143 ⇓P P 17 51 49.4 +0.2
baz=22
L23A Garrett 22.37 139 ⇓P P 17 51 50.3 +0.6
baz=22
DAU Daniels Canyon 22.40 151 *eP* P 17 51 49.7 -0.4
14nm,1.0s
K25A Mack Ranch, Ha 22.53 135 ⇓P P 17 51 52.4 +1.2
baz=22
M22A Cedar Creek Ra 22.74 141 ⇓P P 17 51 54.4 +0.7
baz=23
J28A Allard Ranch, 22.76 130 ⇓P P 17 51 54.8 +1.1
baz=23
N20A Spence Gulch, 22.78 145 ⇓P P 17 51 54.7 +0.7
baz=23
BRSD Miller 22.78 125 ⇓P P 17 51 55.2 +1.3
baz=23
O19A Miners Draw (B 23.04 147 ⇑P P 17 51 58.0 +1.3
baz=23
N21A Black Mountain 23.06 144 ⇓P P 17 51 57.8 +0.9
baz=23
NVAR Mina Array Bea 23.07 166 P P 17 51 58.2 +1.2
NVAR Mina Array Bea 23.07 166 P P 17 51 58.2 +1.2
3.5nm,0.7s,baz=342,slow=7.1,SNR=19
EYMN Ely 23.28 109 *eP* P 17 51 58.4 -0.5
25nm,1.1s
K28A Ten Mile Ranch 23.33 131 ⇓P P 17 52 00.1 +0.6
baz=23
N22A Wattenberg Ran 23.33 142 ⇓P P 17 52 00.8 +1.0
baz=23
N23A Red Feather La 23.40 141 ⇑P P 17 52 01.3 +0.8
baz=23
O20A White River Ci 23.43 146 ⇑P P 17 52 01.8 +1.1
baz=23
R11A Troy Canyon, C 23.53 161 ⇑P P 17 52 03.4 +1.7
baz=24
P19A Cripple Cowboy 23.70 147 ⇑P P 17 52 04.2 +0.8
baz=24
SRU San Rafael 23.81 151 *eP* P 17 52 05.6 +1.2
21nm,1.1s
Q16A Castle Valley 23.84 152 ⇑P P 17 52 05.8 +1.1
baz=24
O22A Kremmling 23.89 143 ⇑P P 17 52 05.2 -0.1
baz=24
MSU Marysvale 24.01 154 *eP* P 17 52 08.7 +2.4
5.5nm,0.8s
O23A Lake Granby, G 24.04 141 ⇑P P 17 52 07.3 +0.7
baz=24
ECSD EROS Data Cent 24.32 122 *eP* P 17 52 09.6 +0.7
4.4nm,0.6s
P22A Eagle 24.35 143 ⇓P P 17 52 09.1 -0.4
baz=24
ISCO Idaho Springs 24.50 141 ⇑P P 17 52 11.6 +0.6
baz=24
Q20A Ridgley Place, 24.52 147 ⇑P P 17 52 12.2 +1.2
baz=24
SMCO Snowmass 24.68 144 *eP* P 17 52 13.4 +0.7
3.0nm,0.8s
CCUT Cedar City 24.70 157 *eP* P 17 52 14.5 +1.9
4.2nm,1.0s
SPMN St. Paul 24.75 115 ⇑P P 17 52 13.4 +0.6
baz=25
P23A Jefferson 24.83 142 ⇑P P 17 52 13.4 -0.5
baz=25
Q21A Lamborn Mesa, 24.83 146 ⇓P P 17 52 13.8 0.0
baz=25
O26A Horse Wrangler 24.83 137 ⇓P P 17 52 14.2 +0.4
baz=25
O27A Beecher Island 25.16 136 ⇑P P 17 52 18.9 +2.2
baz=25
R20A Redvale 25.22 147 ⇑P P 17 52 19.2 +1.8
baz=25
R21A Cimarron 25.27 146 ⇑P P 17 52 19.6 +1.8
baz=25
MPMC Manual Prospec 25.51 165 ⇑P P 17 52 20.8 +0.9
baz=26
S20A Disappointment 25.57 148 ⇓P P 17 52 22.0 +1.6
baz=26
R22A Saguache, Gunn 25.62 145 ⇑P P 17 52 22.2 +1.1
baz=26
FRB Frobisher Bay 25.68 59 P P 17 52 22.3 +1.3
FRB Frobisher Bay 25.68 59 P P 17 52 22.3 +1.3
12nm,0.8s,baz=288,slow=12,SNR=4.3
FRB LR LR 18 02 47.1
comp=Z,149nm,18.5s,baz=208,slow=37
S21A Coal Bank Pass 25.87 147 ⇓P P 17 52 24.3 +0.9
baz=26
P28A Saint Francis 25.96 135 ⇑P P 17 52 25.1 +1.2
baz=26
U15A North Rim 26.00 156 ⇑P P 17 52 25.7 +1.2
baz=26
S22A 4UR Ranch, Cre 26.05 145 ⇓P P 17 52 27.0 +2.0
baz=26
LRMC Laurel Mountai 26.06 166 ⇑P P 17 52 26.1 +1.3
baz=26
MVCO Mesa Verde 26.11 148 ⇓P P 17 52 28.2 +2.7
baz=26
R26A Arlington 26.55 139 ⇑P P 17 52 31.2 +2.0
baz=27
T21A Navajo Lake 26.57 147 ⇑P P 17 52 29.2 -0.3
baz=27
T22A Edith 26.72 146 ⇓P P 17 52 33.3 +2.3
baz=27
R27A Eads 26.77 138 ⇑P P 17 52 33.3 +2.0
baz=27
S25A Robets Cordova 26.83 141 ⇓P P 17 52 34.0 +2.1
baz=27
W13A Hualapai Mount 26.99 159 ⇑P P 17 52 35.3 +2.0
baz=27
Q30A Quinter 27.03 133 ⇑P P 17 52 36.1 +2.6
baz=27
R28A Tribune 27.05 136 ⇓P P 17 52 36.0 +2.3
baz=27
WUAZ Wupatki 27.07 154 ⇓P P 17 52 37.2 +3.2
baz=27
S26A Kim 27.16 140 ⇑P P 17 52 38.0 +3.1
baz=27
U22A Llaves 27.33 146 ⇑P P 17 52 38.5 +2.0
baz=27
U28A Mallet 28.70 139 ⇑P P 17 52 49.4 +0.9
baz=29
V26A Tequesquite Ra 28.75 142 ⇓P P 17 52 51.2 +2.2
baz=29
ANMO Albuquerque 28.79 147 P P 17 52 52.0 +2.6
ANMO Albuquerque 28.79 147 P P 17 52 52.0 +2.6
1.2nm,0.7s,baz=352,slow=9.8,SNR=3.6
X21A Alamocita Cree 28.92 149 ⇑P P 17 52 52.0 +1.4
baz=29
W25A X Bar L Ranch, 29.09 143 ⇓P P 17 52 54.8 +2.8
baz=29
Y20A Horse Springs, 29.28 150 ⇑P P 17 52 56.2 +2.4
baz=29
113A Mohawk Valley, 29.29 160 ⇓P P 17 52 54.5 +0.9
baz=29
Y21A Point of Rocks 29.36 149 ⇓P P 17 52 56.9 +2.4
baz=29
V30A Spur Ranch, Mi 29.76 137 ⇓P P 17 53 01.4 +3.5
baz=30
Y23A Lovelace Mesa, 29.85 147 ⇑P P 17 53 02.4 +3.6
baz=30
Z20A Nine Sixteen R 29.99 151 ⇑P P 17 53 02.9 +2.8
baz=30
Y24A Capitan 30.02 146 ⇓P P 17 53 02.5 +2.1
baz=30
Z22A Elephant Butte 30.25 149 ⇑P P 17 53 04.5 +2.2
baz=30
120A U Bar Ranch, L 30.53 152 ⇓P P 17 53 07.3 +2.5
baz=30
W31A Holland Ranch, 30.54 136 ⇓P P 17 53 06.7 +2.0
baz=31
Z24A Sheeppen Canyo 30.61 146 ⇓P P 17 53 07.3 +1.8
baz=31
SCHQ Schefferville 30.69 75 P P 17 53 07.4 +1.6
SCHQ Schefferville 30.69 75 P P 17 53 07.4 +1.6
4.0nm,0.9s,baz=298,slow=12,SNR=3.8
SCHQ LR LR 18 05 35.0
comp=Z,109nm,18.3s,baz=143,slow=36
121A Cookes Peak, D 30.74 150 ⇑P P 17 53 08.8 +2.1
baz=31
MSTX Muleshoe 30.75 142 ⇓P P 17 53 08.3 +1.6
baz=31
Z25A Roswell 30.83 145 ⇓P P 17 53 11.2 +3.8
baz=31
124A Stringfield Ra 31.18 146 ⇑P P 17 53 13.6 +3.0
baz=31
Z27A Tatum 31.23 143 ⇓P P 17 53 14.1 +3.2
baz=31
125A Gardner Draw, 31.43 145 ⇑P P 17 53 14.3 +1.5
baz=32
224A Cornudas Mount 31.75 147 ⇑P P 17 53 18.1 +2.6
baz=32
225A Deer Hill, Car 31.91 146 ⇓P P 17 53 19.4 +2.5
baz=32
226B Tecolote Peak, 32.12 145 ⇑P P 17 53 21.4 +2.7
baz=32
MNTX Cornudas Mount 32.14 147 *eP* P 17 53 20.6 +1.8
1.4nm,0.9s
324A Moseley Ranch, 32.36 147 ⇑P P 17 53 24.0 +3.2
baz=32
Z32A Haskell 32.41 137 ⇑P P 17 53 23.5 +2.3
baz=32
325A Bean Ranch, Si 32.56 147 ⇑P P 17 53 25.2 +2.5
baz=33
131A Roby 32.69 139 ⇓P P 17 53 25.3 +1.6
baz=33
425A Indio Mountain 33.11 147 ⇑P P 17 53 30.3 +2.8
baz=33
328A Wristen Ranch, 33.16 143 ⇑P P 17 53 29.5 +1.7
baz=33
230A Sterling City 33.19 141 ⇑P P 17 53 30.7 +2.6
baz=33
231A Bronte 33.40 139 ⇓P P 17 53 31.5 +1.7
baz=33
330A Mertzon 33.62 141 ⇓P P 17 53 33.5 +1.7
baz=34
232A Coleman 33.66 138 ⇓P P 17 53 33.8 +1.7
baz=34
428A Kincaid Ranch, 33.81 144 ⇓P P 17 53 35.9 +2.4
baz=34
332A Millersview 34.09 139 ⇓P P 17 53 36.2 +0.3
baz=34
527A Woodward Ranch 34.09 145 ⇑P P 17 53 36.5 +0.5
baz=34
429A Davenport Ranc 34.13 142 ⇑P P 17 53 36.9 +0.6
baz=34
430A Baggett Ranch, 34.18 141 ⇓P P 17 53 37.3 +0.6
baz=34
626A Big Bend Ranch 34.51 146 ⇑P P 17 53 41.6 +2.0
baz=34
530A J-C Ranch, Com 34.75 142 ⇓P P 17 53 43.2 +1.6
baz=35
627A Terlingua Ranc 34.81 145 ⇓P P 17 53 44.1 +2.0
baz=35
TXAR Lajitas Array 34.84 146 P P 17 53 43.4 +0.9
TXAR Lajitas Array 34.84 146 P P 17 53 43.4 +0.9
0.4nm,0.7s,baz=343,slow=3.9,SNR=7.2
628A Black Gap, Mar 34.92 145 ⇑P P 17 53 45.5 +2.5
baz=35
531A Rocksprings 34.97 141 ⇑P P 17 53 45.7 +2.2
baz=35
532A Rocksprings 35.20 140 ⇓P P 17 53 47.8 +2.2
baz=35
631A Perdido Creek 35.66 141 ⇑P P 17 53 52.1 +2.6
baz=36
632A Uvalde 35.82 140 ⇑P P 17 53 53.9 +3.1
baz=36
PETK Petropavlovsk- 40.28 295 P P 17 54 27.9 -0.2
PETK Petropavlovsk- 40.28 295 P P 17 54 27.9 -0.2
2.0nm,0.6s,baz=80,slow=9.1,SNR=10
NOA NORSAR Array B 53.73 25 P P 17 56 14.0 +1.0
NOA NORSAR Array B 53.73 25 P P 17 56 14.0 +1.0
1.6nm,0.7s,baz=334,slow=7.7,SNR=2.9
FINES FINESS Array B 55.86 16 P P 17 56 29.0 +0.6
FINES FINESS Array B 55.86 16 P P 17 56 29.0 +0.6
1.2nm,0.6s,baz=336,slow=4.2,SNR=4.9
FINES LR LR 18 19 58.7
comp=Z,40nm,18.4s,baz=179,slow=36
USRK Ussuriysk Arra 58.00 304 P P 17 56 43.2 -0.6
0.7nm,0.6s,baz=19,slow=6.5,SNR=4.5
ROSF Rostrenen 61.39 40 *eP* P 17 57 08.4 +1.3
SGMF Saint Gilles 61.69 40 *eP* P 17 57 10.1 +1.0
MJAR Matsushiro Art 61.74 295 P P 17 57 09.2 -0.4
MJAR Matsushiro Arr 61.74 295 P P 17 57 09.2 -0.4
0.8nm,0.7s,baz=24,slow=5.1,SNR=3.3
LDF La Druitiere 62.13 38 *eP* P 17 57 13.0 +1.0
6.9nm,0.6s
ZALV Zalesovo Beam 62.87 341 P P 17 57 16.9 0.0
ZALV Zalesovo Beam 62.87 341 P P 17 57 16.9 0.0
0.9nm,0.5s,baz=13,slow=7.7,SNR=6.5
SONM Songino Array 63.74 324 P P 17 57 23.0 +0.1
SONM Songino Array 63.74 324 P P 17 57 23.0 +0.1
0.4nm,0.6s,baz=351,slow=1.2,SNR=5.0
CDF Champ du Feu 64.38 33 *eP* P 17 57 28.7 +1.6
3.5nm,0.6s
LOR Lormes 64.48 36 *eP* P 17 57 29.1 +1.4
SSF Saint Saulge 64.57 36 *eP* P 17 57 29.7 +1.5
12nm,1.0s
AVF Avril sur Loir 64.77 36 *eP* P 17 57 30.7 +1.2
14nm,1.1s
TCF Toulx Ste Croi 64.89 37 *eP* P 17 57 31.7 +1.3
7.2nm,0.7s
KSRS Korea Array 65.34 303 P P 17 57 33.6 +0.2
0.6nm,0.7s,baz=17,slow=8.6,SNR=4.8
KSAR Wonju Array Be 65.37 303 P P 17 57 33.6 0.0
BRVK Borovoye 65.55 350 *eP* P 17 57 35.4 +0.9
2.7nm,0.9s
GERES GERESS Array B 65.57 28 P P 17 57 36.5 +1.7
GERES GERESS Array B 65.57 28 P P 17 57 36.5 +1.7
0.7nm,0.5s,baz=345,slow=4.6,SNR=7.8
ESDC Sonseca Array 68.87 45 P P 17 57 57.4 +1.5
ESDC Sonseca Array 68.87 45 P P 17 57 57.4 +1.5
0.3nm,0.3s,baz=330,slow=6.7,SNR=10
ABKAR Akbulak array 69.96 356 *eP* P 17 58 03.0 +0.7
5.0nm,0.9s
MKAR Makanchi Array 70.21 340 P P 17 58 02.8 -1.2
MKAR Makanchi Array 70.21 340 P P 17 58 02.8 -1.2
0.8nm,0.5s,baz=18,slow=5.3,SNR=15
KBZ Khabaz 75.12 9 P P 17 58 35.5 +2.3
KBZ Khabaz 75.12 9 P P 17 58 35.5 +2.3
2.1nm,0.6s,baz=244,slow=8.9,SNR=7.2
EKS2 Erkin-Say 75.47 346 *eP* P 17 58 36.2 +0.8
4.1nm,0.6s
BRTR Keskin Array B 78.10 16 P P 17 58 51.5 +1.3
BRTR Keskin Array B 78.10 16 P P 17 58 51.5 +1.3
1.3nm,0.9s,baz=344,slow=4.1,SNR=6.5
LPAZ La Paz 89.44 126 P P 17 59 49.2 +0.3
LPAZ La Paz 89.44 126 P P 17 59 49.2 +0.3
0.4nm,0.4s,baz=18,slow=3.2,SNR=2.9
CMAR Chiang Mai Arr 93.20 318 P P 18 00 06.0 +0.2
CMAR Chiang Mai Arr 93.20 318 P P 18 00 06.0 +0.2
1.0nm,0.8s,baz=344,slow=3.9,SNR=5.2
TORD Torodi Ar. Bea 95.02 51 P P 18 00 14.6 +0.4
TORD Torodi Ar. Bea 95.02 51 P P 18 00 14.6 +0.4
0.5nm,0.8s,baz=327,slow=5.2,SNR=3.3
VNDA Vanda 145.25 201 PKPbc PKPdf 18 06 27.3 +0.1
VNDA Vanda 145.25 201 PKPbc PKPdf 18 06 27.3 +0.1
0.7nm,0.8s,baz=77,slow=1.0,SNR=4.4

ISC 31 17:50:47.9±1.2, 45°39.9N±0.06×17°38.7E±0.8, h15km, n7,
σ0°69/10, 1C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PKSM	**Moragy**	**0.98**	**33**	⇓*e*Pn		**Pb**		**17 51 06.2**	**-0.4**
PKSM				e	Sn			17 51 20.6	-0.2
PKS9	**Tamasi**	**1.23**	**13**	⇑*e*Pn		**Pb**		**17 51 10.7**	**-0.1**
PKS9				e	Sn			**17 51 28.7**	**+1.1**
UDBI	**Udbina**	**1.72**	**241**	*i* Pn		**Pb**		**17 51 18.9**	**-0.3**
UDBI					Sn			**17 51 43.6**	**+0.3**
LEGS	**Legarje**	**1.87**	**288**	*i* Pn		**Pn**		**17 51 18.8**	**-0.5**
NVLJ	**Novalja**	**2.28**	**250**	*e*Pn		**Pn**		**17 51 25.9**	**+1.0**
PERS	**Pernice**	**2.28**	**304**	*i* Pn		**Pn**		**17 51 24.5**	**-0.6**
STON	**Ston**	**2.52**	**183**	*e*Pn		**Pb**		**17 51 32.3**	**-0.5**

*NIED **31** 18:20:00.43°.60N×147°.20E, h80km, Mw3.8 Best double couple: M0=6.15000×10^14 NP1:φ=264.00000°, δ=49.00000°, λ=-93.00000°. NP2:φ=89.00000°, δ=42.00000°, λ=-86.00000°.*
*ISCJB **31** 18:20:47.1±0.7, 43°.75N±0°.05×147°.24E±0°.07, h92km±5km, mb3.6/12, Error ellipse: s-maj=10.0km s-min=5.8km az=137.1*
*MOS **31** 18:20:47.7±1.1, 43°.80N×147°.23E, h100km, mb3.8/6, Error ellipse: s-maj=15.1km s-min=12.7km az=111.7*
*IDC **31** 18:20:48.2±3.1, 43°.86N×147°.30E, h88km±27km, mb3.5/12, mb1 3.7/15, mb1mx3.6/26, mbtmp3.5/15, MS2.4/1, Ms1 2.4/1, ms1mx2.1/42, Error ellipse: s-maj=19.6km s-min=18.2km az=109.0*
*JMA **31** 18:20:49.2±0.2, 43°.65N×147°.16E, h79km±3km, M3.9*
ISC 31 18:20:47.8±0.9, 43°.73N±0°.06×147°.29E±0°.06, h85km±8km,
n40, σ1°05/55, mb3.6/12, 3C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.08**	**287**	*d* iPN		**Pn**		**18 21 07.8**	**-0.2**
YUK				*i* S		**Sn**		**18 21 21.6**	**-1.6**
YUK					pmax	pmax			
	comp=N,166nm,0.2s								
YUK					pmax	pmax			
	comp=E,198nm,0.2s								
YUK					pmax	pmax			
	comp=Z,2μm,0.2s								
YUK					smax	smax			
	comp=N,7μm,0.4s								
YUK					smax	smax			
	comp=E,8μm,0.5s								
NEM2	**Nemuro 2**	**1.18**	**253**	P		**Pn**		**18 21 09.1**	**-0.2**
NEM2				e	S	**Sn**		**18 21 23.8**	**-1.6**
KUR	**Kuril'sk**	**1.56**	**15**	*c* iPN		**Pn**		**18 21 14.2**	**+0.1**
KUR				*i* S		**Sn**		**18 21 33.0**	**-1.0**
KUR					pmax	pmax			
	comp=N,7.0nm,0.1s								
KUR					pmax	pmax			
	comp=E,10.0nm,0.1s								
KUR					pmax	pmax			
	comp=Z,77nm,0.1s								
KUR					smax	smax			
	comp=E,348nm,0.3s								
KUR					smax	smax			
	comp=N,743nm,0.3s								
JRA	**Rausu**	**1.58**	**278**	P		**Pn**		**18 21 14.9**	**+0.6**
JRA				e	S	**Sn**		**18 21 34.2**	**-0.3**
JNK	**Nakash**	**1.87**	**267**	P		**Pn**		**18 21 18.1**	**0.0**
JNK				e	S	**Sn**		**18 21 40.1**	**-1.1**
JAK	**Akkeshi**	**2.03**	**250**	P		**Pn**		**18 21 20.2**	**+0.1**
JAK				e	S	**Sn**		**18 21 43.3**	**-1.5**
JTKR	**Abashiri--Toko**	**2.46**	**277**	P		**Pn**		**18 21 26.4**	**+0.5**
JAR	**Ashorobuto**	**2.60**	**262**	P		**Pn**		**18 21 28.5**	**+0.8**
JAR				e	S	**Sn**		**18 21 57.7**	**-0.8**
JOB	**Onbets**	**2.65**	**253**	P		**Pn**		**18 21 29.1**	**+0.6**
JOB				e	S	**Sn**		**18 21 59.0**	**-0.8**
JMP	**Maruseppu**	**2.86**	**277**	P		**Pn**		**18 21 32.1**	**+0.8**
JMP				e	S	**Sn**		**18 22 04.8**	**0.0**
JCH	**Churui**	**3.08**	**250**	P		**Pn**		**18 21 34.6**	**+0.3**
JCH				e	S	**Sn**		**18 22 08.1**	**-2.0**
JKK2	**Kamakawa 2**	**3.29**	**274**	P		**Pn**		**18 21 38.3**	**+1.2**
ASAJ	**Asahikawa**	**3.42**	**278**	P		**Pn**		**18 21 40.0**	**+1.2**
ASAJ	**Asahikawa**	**3.42**	**278**	P		**Pn**		**18 21 40.1**	**+1.4**
	comp=N,9.3nm,0.3s,baz=83,slow=15,SNR=141								
ASAJ					S	**Sn**		**18 22 19.4**	**+1.2**
	comp=N,2.8nm,0.3s,baz=94,slow=32,SNR=5.0								
JFR	**Furan**	**3.47**	**262**	P		**Pn**		**18 21 40.5**	**+1.0**
JFR				e	S	**Sn**		**18 22 19.1**	**-0.4**
ERM	**Erimo**	**3.49**	**242**	⇑*i* PN		**Pn**		**18 21 41.8**	**+2.1**
JEM	**Erimo**	**3.49**	**242**	P		**Pn**		**18 21 40.7**	**+1.0**
JSE	**Soyaes**	**3.60**	**292**	P		**Pn**		**18 21 41.7**	**+0.5**
JNBK	**Urakawa-nobuka**	**3.63**	**248**	P		**Pn**		**18 21 41.5**	**-0.2**
JNBK				e	S	**Sn**		**18 22 21.0**	**-2.4**
JHR	**Hokuryu**	**4.04**	**272**	P		**Pn**		**18 21 49.3**	**+2.1**
YSS	**Yuzh-Sakhalins**	**4.54**	**317**	⇑*i* PN		**Pn**		**18 21 54.4**	**+0.3**
YSS				e	S	**Sn**		**18 22 44.7**	**-0.9**
YSS					pmax	pmax			
	comp=Z,40nm,0.7s								
YSS					smax	smax			
	comp=E,70nm,0.9s								
USRK	**Ussuriysk Arra**	**11.04**	**278**	P		**Pn**		**18 23 22.1**	**-0.5**
	comp=E,0.1nm,0.3s,baz=95,slow=13,SNR=4.8								
PETK	**Petropavlovsk-**	**11.65**	**33**	LR		LR		18 27 36.0	
	comp=E,21nm,19.6s,baz=229,slow=35								
KSRS	**Korea Array**	**15.98**	**254**	P		**Pn**		**18 24 26.8**	**-0.5**

comp=E,0.0nm,0.3s,baz=54,slow=14,SNR=4.8
YAK **Yakutsk** 21.06 337 *i* P P 18 25 26.5 +1.9
SONM **Songino Array** 28.58 293 P P 18 26 35.7 0.0
comp=E,1.1nm,0.5s,baz=83,slow=8.5,SNR=10
ZALV **Zalesovo Beam** 41.10 307 P P 18 28 22.0 -0.9
ZALV 18 30 20.7
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV **Zalesovo Beam** 41.10 307 P P 18 28 22.0 -0.9
comp=Z,0.7nm,0.4s,baz=80,slow=10,SNR=4.0
ZALV PcP PcP 18 30 20.7 -0.1
comp=Z,0.4nm,0.4s,baz=112,slow=2.3,SNR=2.9
ILAR **Eielson Array** 41.45 36 P P 18 28 25.2 -0.4
comp=Z,0.5nm,0.7s,baz=271,slow=6.9,SNR=6.2
MKAR **Makanchi Array** 44.69 298 *e*P P 18 28 52.2 +0.2
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR **Makanchi Array** 44.69 298 P P 18 28 51.8 -0.2
comp=Z,2.7nm,0.7s,baz=77,slow=8.0,SNR=40
WRA **Warramunga Arr** 64.46 194 P P 18 31 15.8 +0.6
comp=Z,1.2nm,0.9s,baz=13,slow=6.8,SNR=3.3
FINES **FINESS Array B** 64.94 333 P P 18 31 16.6 -1.2
comp=Z,0.9nm,0.6s,baz=59,slow=7.4,SNR=6.9
NVAR **Mina Array Bea** 67.50 58 P P 18 31 34.5 -0.4
comp=Z,0.3nm,0.6s,baz=260,slow=5.4,SNR=3.5
ASAR **Alice Springs** 68.18 193 P P 18 31 40.3 +1.5
comp=Z,0.3nm,0.7s,baz=15,slow=7.3,SNR=8.9
ASAR pP pP 18 32 02.4 +1.6
comp=Z,0.4nm,0.8s,baz=3.6,slow=4.5,SNR=2.9
NOA **NORSAR Array B** 69.66 339 P P 18 31 46.9 -0.8
comp=Z,0.3nm,0.4s,baz=25,slow=5.2,SNR=3.4
PDAR **Pinedale Array** 69.85 50 P P 18 31 48.5 -0.9
comp=Z,0.5nm,0.7s,baz=298,slow=3.2,SNR=3.6
KBZ **Khabaz** 69.89 312 P P 18 31 49.8 +0.5
KBZ pmax pmax
comp=Z,2.0nm,0.7s
KBZ **Khabaz** 69.89 312 P P 18 31 49.8 +0.5
comp=Z,1.6nm,0.7s,baz=30,slow=4.2,SNR=5.4
TXAR **Lajitas Array** 82.58 56 P P 18 33 01.6 0.0
comp=Z,0.4nm,0.6s,baz=325,slow=6.1,SNR=4.5

IDC 31 18:47:58.4±2.7, 4°89S×133°92E, h0km, mb3.5/1, mb1 3.8/4, mb1mx3.4/18, mbtmp3.6/4, ML3.4/2, MS3.4/2, Ms1 3.4/2, ms1mx2.8/23, Error ellipse: s-maj=101.7km s-min=29.7km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	13.88	110	LR	LR	18 57 37.5	
	comp=Z,52nm,19.1s,baz=23,slow=42						
WRA	**Warramunga Arr**	14.97	178	Pn	Pn	18 51 29.8	-1.7
	0.1nm,0.3s,baz=357,slow=11,SNR=3.5						
WRA				Sn	Sn	18 54 10.1	-8.2
	0.1nm,0.3s,baz=1.5,slow=23,SNR=2.8						
FITZ	**Fitzroy Crossi**	15.43	211	Pn	Pn	18 51 37.6	+0.1
	0.3nm,0.3s,baz=38,slow=11,SNR=25						
FITZ				Sn	Sn	18 54 18.1	-11
	0.8nm,0.3s,baz=192,slow=17,SNR=6.2						
ASAR	**Alice Springs**	18.67	180	P	Pn	18 52 18.7	+0.2
	0.4nm,0.3s,baz=6.8,slow=10,SNR=23						
MKAR	**Makanchi Array**	68.68	325	P	P	18 59 03.8	0.0
	0.3nm,0.6s,baz=123,slow=6.7,SNR=5.7						
PPT	**Papeete**	75.69	107	LR	LR	19 27 50.9	
	comp=Z,70nm,18.3s,baz=129,slow=32						

IDC 31 18:48:50.8±1.4, 2°29S×139°87E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/20, mbtmp3.9/9, ML4.0/1, Error ellipse: s-maj=52.1km s-min=17.9km az=79.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	18.36	197	P	Pn	18 53 06.8	-0.3
	0.8nm,0.3s,baz=21,slow=12,SNR=12						
CTA	**Charters Tower**	18.75	161	P	Pn	18 53 12.8	+0.9
	0.3nm,0.3s,baz=0.0,slow=10,SNR=4.2						
FITZ	**Fitzroy Crossi**	21.02	221	P	P	18 53 37.6	+1.3
	3.3nm,0.7s,baz=56,slow=11,SNR=5.3						
ASAR	**Alice Springs**	22.02	195	P	P	18 53 46.6	-0.4
	1.8nm,0.5s,baz=27,slow=11,SNR=11						
STKA	**Stephens Creek**	29.47	177	P	P	18 54 55.8	-0.8
	1.8nm,0.8s,baz=322,slow=12,SNR=2.7						
CMAR	**Chiang Mai Arr**	45.24	299	P	P	18 57 09.3	-1.1
	0.6nm,0.8s,baz=112,slow=7.2,SNR=3.3						
MKAR	**Makanchi Array**	70.17	322	P	P	19 00 06.4	+0.9
	0.7nm,0.7s,baz=114,slow=7.5,SNR=5.9						
ZALV	**Zalesovo Beam**	72.17	329	P	P	19 00 16.9	-0.4
	0.6nm,0.6s,baz=93,slow=6.3,SNR=4.2						
BVAR	**Borovoye Array**	79.64	325	P	P	19 01 00.8	+0.7
	0.8nm,0.6s,baz=114,slow=7.3,SNR=5.1						
DBIC	**Dimbokro**	144.58	278	PKP	PKPab	19 08 28.6	-0.5
	1.9nm,0.6s,baz=125,slow=8.1,SNR=3.6						

IDC 31 18:52:35.7±2.4, 0°81N×27°68W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/24, mbtmp3.8/4, MS3.5/5, Ms1 3.5/5, ms1mx3.1/26, Error ellipse: s-maj=69.2km s-min=50.7km az=133.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	23.50	75	P	P	18 57 47.8	+0.2
	4.8nm,0.9s,baz=241,slow=13,SNR=3.2						
DBIC				LR	LR	19 04 56.9	
	comp=Z,122nm,18.1s,baz=226,slow=32						
BDFB	**Brasilia**	25.90	230	LR	LR	19 06 27.7	
	comp=Z,77nm,21.1s,baz=5.2,slow=32						
TORD	**Torodi Ar. Bea**	31.58	66	P	P	18 59 00.1	-0.3
	2.1nm,1.1s,baz=258,slow=8.8,SNR=5.6						
TORD				LR	LR	19 10 01.5	
	comp=Z,48nm,19.4s,baz=165,slow=33						
LPAZ	**La Paz**	43.38	245	LR	LR	19 18 27.7	
	comp=Z,61nm,19.2s,baz=284,slow=36						
ROSC	**El Rosal**	46.75	276	LR	LR	19 19 02.3	
	comp=Z,75nm,20.4s,baz=36,slow=34						
GERES	**GERESS Array B**	59.60	30	P	P	19 02 41.4	-0.1
	0.9nm,0.8s,baz=238,slow=5.6,SNR=7.9						
BRTR	**Keskin Array B**	67.73	47	P	P	19 03 35.8	+0.2
	0.6nm,0.7s,baz=234,slow=5.1,SNR=4.2						
ASAR	**Alice Springs**	151.09	143	PKPbc	PKPbc	19 12 31.6	-0.3
	0.3nm,0.8s,baz=202,slow=1.7,SNR=4.5						

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*ISCJB **31** 19:00:50.8±0.2, 43°73N±0°01×105°32W±0°02, h0km, mb4.0/2, Error ellipse: s-maj=2.1km s-min=1.9km az=171.2*

*IDC **31** 19:00:51.8±1.0, 43°97N×105°76W, h0km, mb3.9/2, mb1 3.8/6, mb1mx3.6/29, mbtmp3.6/6, ML3.4/4, Error ellipse: s-maj=26.5km s-min=8.5km az=146.0*

*NEIC **31** 19:00:51.6±0.3, 43°76N×105°24W, h0km, ML3.4, Error ellipse: s-maj=3.9km s-min=3.5km az=141.0, Suspected Mining explosion.*

NEIC 65 km [40 miles] SSE of Gillette.

ISC 31 19:00:51.1±0.6, 43°72N±0°02×105°31W±0°02, h0km, n196, σ0s83/236, 76C-82D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I23A	**Meade Ranch, G**	0.26	335	⇓P	Pg	19 00 57.3	+1.2
	baz=0.3,SNR=185						
I23A	**Meade Ranch, G**	0.26	335	⇓P	Pg	19 00 57.3	+1.2
	baz=0.3,SNR=185						
J23A	**Dilts Ranch, B**	0.36	209	P	Pg	19 00 58.8	+0.8
	baz=0.4,SNR=289						
J23A	**Dilts Ranch, B**	0.36	209	P	Pg	19 00 58.8	+0.8
	baz=0.4,SNR=289						
I24A	**Kuemmerle Ranc**	0.51	74	⇑P	Pg	19 01 01.7	+0.8
	baz=0.5,SNR=28						
I24A	**Kuemmerle Ranc**	0.51	74	⇑P	Pg	19 01 01.7	+0.8
	baz=0.5,SNR=28						
J24A	**Dixon Ranch, L**	0.61	130	P	Pg	19 01 03.3	+0.5
	baz=0.6,SNR=48						
J24A				⇑S	Sg	19 01 12.2	+1.4
	baz=0.6						
J24A	**Dixon Ranch, L**	0.61	130	P	Pg	19 01 03.3	+0.5
	baz=0.6,SNR=48						
J24A				⇑S	Sg	19 01 12.2	+1.4
	baz=0.6						
H23A	**Clabaugh Cattl**	0.84	355	P	Pg	19 01 07.4	+0.2
	baz=0.8,SNR=36						
H23A				⇑S	Sg	19 01 18.5	+0.4
	baz=0.8						
H23A	**Clabaugh Cattl**	0.84	355	P	Pg	19 01 07.4	+0.2
	baz=0.8,SNR=36						
H23A				⇑S	Sg	19 01 18.5	+0.4
	baz=0.8						
I22A	**9 Mile Ranch,**	0.87	282	P	Pg	19 01 08.0	+0.2
	baz=0.9,SNR=97						
I22A				⇓S	Sg	19 01 19.2	+0.2
	baz=0.9						
I22A	**9 Mile Ranch,**	0.87	282	P	Pg	19 01 08.0	+0.2
	baz=0.9,SNR=97						
I22A				⇓S	Sg	19 01 19.2	+0.2
	baz=0.9						
J22A	**Midwest**	0.91	250	P	Pg	19 01 08.2	-0.2
	baz=1.0,SNR=47						
J22A				⇑S	Sg	19 01 20.6	+0.4
	baz=1.0						
J22A	**Midwest**	0.91	250	P	Pg	19 01 08.2	-0.2
	baz=1.0,SNR=47						
J22A				⇑S	Sg	19 01 20.6	+0.4
	baz=1.0						
K23A	**Bowen Ranch, D**	0.99	194	⇓P	Pg	19 01 10.0	-0.1
	baz=1.0,SNR=10						
K23A				⇑S	Sg	19 01 23.8	+0.8
	baz=1.0						
K23A	**Bowen Ranch, D**	0.99	194	⇓P	Pg	19 01 10.0	-0.1
	baz=1.0,SNR=10						
K23A				⇑S	Sg	19 01 23.8	+0.8
	baz=1.0						
RSSD	**Black Hills**	1.00	66	*e*P	Pg	19 01 10.2	-0.1
K24A	**Anderson Ranch**	1.06	160	P	Pg	19 01 11.3	-0.1
	baz=1.1,SNR=118						
K24A	**Anderson Ranch**	1.06	160	P	Pg	19 01 11.3	-0.1
	baz=1.1,SNR=118						
J25A	**Sunshine Ranch**	1.14	106	P	Pg	19 01 13.0	0.0
	baz=1.1,SNR=133						
J25A	**Sunshine Ranch**	1.14	106	P	Pg	19 01 13.0	0.0
	baz=1.1,SNR=133						
H22A	**Clearmont**	1.15	320	⇓P	Pg	19 01 13.2	+0.1
	baz=1.2,SNR=34						
H22A	**Clearmont**	1.15	320	⇓P	Pg	19 01 13.2	+0.1
	baz=1.2,SNR=34						
H24A	**Dirks Ranch, A**	1.16	28	P	Pg	19 01 12.8	-0.5
	baz=1.1,SNR=166						
H24A				⇑S	Sb	19 01 29.8	+0.1
	baz=1.1						
H24A	**Dirks Ranch, A**	1.16	28	P	Pg	19 01 12.8	-0.5
	baz=1.1,SNR=166						
H24A				⇑S	Sb	19 01 29.8	+0.1
	baz=1.1						
I25A	**Rochford**	1.18	75	⇑P	Pg	19 01 13.3	-0.3
	baz=1.1,SNR=102						
I25A	**Rochford**	1.18	75	⇑P	Pg	19 01 13.3	-0.3
	baz=1.1,SNR=102						
K22A	**Casper**	1.39	220	P	Pn	19 01 16.9	-1.0
	baz=1.4,SNR=76						
K22A				⇓S	Sg	19 01 36.6	+0.9
	baz=1.4						
K22A	**Casper**	1.39	220	P	Pn	19 01 16.9	-1.0
	baz=1.4,SNR=76						
K22A				⇓S	Sg	19 01 36.6	+0.9
	baz=1.4						
I21A	**Big Trails, Te**	1.44	274	⇑P	Pn	19 01 17.1	-1.5
	baz=1.5,SNR=102						
I21A	**Big Trails, Te**	1.44	274	⇑P	Pn	19 01 17.1	-1.5
	baz=1.5,SNR=102						
G23A	**Biddle**	1.48	358	⇑P	Pn	19 01 18.4	-0.6
	baz=1.4,SNR=135						
G23A				⇓S	Sn	19 01 40.3	+1.2
	baz=1.4						
G23A	**Biddle**	1.48	358	⇑P	Pn	19 01 18.4	-0.6
	baz=1.4,SNR=135						
G23A				⇓S	Sn	19 01 40.3	+1.2
	baz=1.4						
H25A	**Fruitdale**	1.52	53	⇓P	Pn	19 01 19.6	0.0
	baz=1.5,SNR=11						
H25A				⇑S	Sn	19 01 41.6	+1.4
	baz=1.5						
H25A	**Fruitdale**	1.52	53	⇓P	Pn	19 01 19.6	0.0
	baz=1.5,SNR=11						
H25A				⇑S	Sn	19 01 41.6	+1.4
	baz=1.5						
K25A	**Mack Ranch, Ha**	1.53	136	⇓P	Pn	19 01 20.3	+0.5
	baz=1.5,SNR=92						
K25A				⇓S	Sg	19 01 41.0	+0.8
	baz=1.5						
K25A	**Mack Ranch, Ha**	1.53	136	⇓P	Pn	19 01 20.3	+0.5
	baz=1.5,SNR=92						
K25A				⇓S	Sg	19 01 41.0	+0.8
	baz=1.5						
H21A	**Big Horn, Sher**	1.54	307	P	Pn	19 01 20.1	+0.1
	baz=1.6,SNR=100						
H21A	**Big Horn, Sher**	1.54	307	P	Pn	19 01 20.1	+0.1
	baz=1.6,SNR=100						
J21A	**Lysite**	1.60	257	⇓P	Pn	19 01 20.0	-0.8
	baz=1.7,SNR=32						
J21A				⇑S	Sn	19 01 42.4	+0.2
	baz=1.7						
J21A	**Lysite**	1.60	257	⇓P	Pn	19 01 20.0	-0.8
	baz=1.7,SNR=32						
J21A				⇑S	Sn	19 01 42.4	+0.2
	baz=1.7						
L23A	**Garrett**	1.63	190	⇓P	Pn	19 01 21.0	-0.3
	baz=1.7,SNR=277						
L23A				⇓Sb	Sg	19 01 44.7	+1.2
	baz=1.7						
L23A	**Garrett**	1.63	190	⇓P	Pn	19 01 21.0	-0.3
	baz=1.7,SNR=277						
L23A				⇓Sb	Sg	19 01 44.7	+1.2
	baz=1.7						
G22A	**Birney**	1.65	335	⇑P	Pn	19 01 21.9	+0.4
	baz=1.6,SNR=129						
G22A				⇑S	Sg	19 01 44.6	+0.4
	baz=1.6						
G22A	**Birney**	1.65	335	⇑P	Pn	19 01 21.9	+0.4
	baz=1.6,SNR=129						
G22A				⇑S	Sg	19 01 44.6	+0.4
	baz=1.6						
L24A	**Wheatland**	1.70	171	⇓P	Pn	19 01 21.9	-0.2
	baz=1.7						
L24A				⇑Sb	Sg	19 01 46.9	+1.2
	baz=1.7						
L24A	**Wheatland**	1.70	171	⇓P	Pn	19 01 21.9	-0.2
	baz=1.7						
L24A				⇑Sb	Sg	19 01 46.9	+1.2
	baz=1.7						
G24A	**Alzada**	1.73	21	⇑P	Pn	19 01 22.9	+0.4
	baz=1.7,SNR=29						
G24A	**Alzada**	1.73	21	⇑P	Pn	19 01 22.9	+0.4
	baz=1.7,SNR=29						
K21A	**Alcova**	1.79	233	P	Pn	19 01 23.9	+0.4
	baz=1.8,SNR=257						
K21A				⇓S	Sn	19 01 47.5	+0.5
	baz=1.8						
K21A	**Alcova**	1.79	233	P	Pn	19 01 23.9	+0.4
	baz=1.8,SNR=257						
K21A				⇓S	Sn	19 01 47.5	+0.5
	baz=1.8						
I26A	**New Underwood**	1.80	79	⇑Pb	Pb	19 01 24.6	-0.3
	baz=1.7,SNR=6.1						
I26A	**New Underwood**	1.80	79	⇑Pb	Pb	19 01 24.6	-0.3
	baz=1.7,SNR=6.1						
L25A	**Engebretsen Ra**	1.85	147	⇓Pb	Pb	19 01 25.6	-0.2
	baz=1.9,SNR=278						
L25A				⇑Sb	Sg	19 01 51.1	+0.6
	baz=1.9						
L25A	**Engebretsen Ra**	1.85	147	⇓Pb	Pb	19 01 25.6	-0.2
	baz=1.9,SNR=278						
L25A				⇑Sb	Sg	19 01 51.1	+0.6
	baz=1.9						
K26A	**Motz Farm, Whi**	1.86	123	⇑Pb	Pb	19 01 25.6	-0.4
	baz=1.8						
K26A	**Motz Farm, Whi**	1.86	123	⇑Pb	Pb	19 01 25.6	-0.4
	baz=1.8						
L22A	**Ellis Ranch, M**	1.88	206	⇓P	Pn	19 01 25.1	+0.4
	baz=1.9,SNR=108						
L22A				⇑Sb	Sg	19 01 51.7	+0.2
	baz=1.9						
L22A	**Ellis Ranch, M**	1.88	206	⇓P	Pn	19 01 25.1	+0.4
	baz=1.9,SNR=108						
L22A				⇑Sb	Sg	19 01 51.7	+0.2
	baz=1.9						
G25A	**Newell**	2.00	42	⇑Pb	Pb	19 01 27.7	-0.7
	baz=1.9,SNR=20						
G25A	**Newell**	2.00	42	⇑Pb	Pb	19 01 27.7	-0.7
	baz=1.9,SNR=20						
F23A	**Volborg**	2.00	358	⇓P	Pn	19 01 26.6	+0.4
	baz=2.0,SNR=42						
F23A	**Volborg**	2.00	358	⇓P	Pn	19 01 26.6	+0.4
	baz=2.0,SNR=42						
G21A	**Lodge Grass**	2.03	319	⇓P	Pn	19 01 26.8	+0.2
	baz=2.0,SNR=67						
G21A				⇓Sb	Sg	19 01 56.4	+0.2
	baz=2.0						
G21A	**Lodge Grass**	2.03	319	⇓P	Pn	19 01 26.8	+0.2
	baz=2.0,SNR=67						
G21A				⇓Sb	Sg	19 01 56.4	+0.2
	baz=2.0						
H26A	**Fairpoint**	2.03	63	⇑Pb	Pb	19 01 28.7	-0.2
	baz=2.0						
H26A	**Fairpoint**	2.03	63	⇑Pb	Pb	19 01 28.7	-0.2
	baz=2.0						
J20A	**Shoshoni**	2.05	261	⇑Pb	Pb	19 01 29.0	-0.3
	baz=2.1						
J20A				⇓Sb	Sg	19 01 57.1	+0.1
	baz=2.1						
J20A	**Shoshoni**	2.05	261	⇑Pb	Pb	19 01 29.0	-0.3
	baz=2.1						
J20A				⇓Sb	Sg	19 01 57.1	+0.1
	baz=2.1						
I20A	**Worland**	2.05	277	⇓P	Pn	19 01 27.7	+0.7
	baz=2.1,SNR=61						
I20A	**Worland**	2.05	277	⇓P	Pn	19 01 27.7	+0.7
	baz=2.1,SNR=61						
H20A	**Greybull**	2.08	292	⇓P	Pn	19 01 27.7	+0.3
	baz=2.1,SNR=44						
H20A	**Greybull**	2.08	292	⇓P	Pn	19 01 27.7	+0.3
	baz=2.1,SNR=44						
F22A	**Rosebud**	2.17	342	⇓P	Pn	19 01 28.7	+0.2
	baz=2.1,SNR=66						
F22A	**Rosebud**	2.17	342	⇓P	Pn	19 01 28.7	+0.2
	baz=2.1,SNR=66						
F24A	**Ekalaka**	2.21	16	⇑P	Pn	19 01 30.0	+0.9
	baz=2.2,SNR=27						
F24A	**Ekalaka**	2.21	16	⇑P	Pn	19 01 30.0	+0.9
	baz=2.2,SNR=27						
L21A	**Rawlins**	2.32	221	⇑P	Pn	19 01 31.4	+0.7
	baz=2.4,SNR=53						
L21A	**Rawlins**	2.32	221	⇑P	Pn	19 01 31.4	+0.7
	baz=2.4,SNR=53						
PHWY	**Pilot Hill**	2.42	183	*e*P	Pn	19 01 32.7	+0.5
F21A	**Absaloka Mine,**	2.47	329	⇑P	Pn	19 01 32.6	0.0
	baz=2.5						
F21A	**Absaloka Mine,**	2.47	329	⇑P	Pn	19 01 32.6	0.0
	baz=2.5						
RWWY	**Rawlins**	2.47	215	*e*P	Pn	19 01 34.2	+1.4
G26A	**Maurine**	2.50	50	⇑P	Pn	19 01 34.4	+1.4
	baz=2.4,SNR=11						
G26A	**Maurine**	2.50	50	⇑P	Pn	19 01 34.4	+1.4
	baz=2.4,SNR=11						
G20A	**Bridger**	2.56	307	P	Pn	19 01 33.9	-0.1
	baz=2.6,SNR=130						
G20A	**Bridger**	2.56	307	P	Pn	19 01 33.9	-0.1
	baz=2.6,SNR=130						
M21A	**Separation Pea**	2.60	216	⇓P	Pn	19 01 36.4	+1.7
	baz=2.7						
M21A	**Separation Pea**	2.60	216	⇓P	Pn	19 01 36.4	+1.7
	baz=2.7						
I19A	**Meeteetse**	2.68	278	⇑P	Pn	19 01 36.8	+1.1
	baz=2.7,SNR=29						
I19A	**Meeteetse**	2.68	278	⇑P	Pn	19 01 36.8	+1.1
	baz=2.7,SNR=29						
E22A	**Miles City**	2.75	351	⇓P	Pn	19 01 36.2	-0.3
	baz=2.7,SNR=8.8						
E22A	**Miles City**	2.75	351	⇓P	Pn	19 01 36.2	-0.3
	baz=2.7,SNR=8.8						
E23A	**Ismay**	2.77	0	⇑P	Pn	19 01 37.1	+0.3
	baz=2.7,SNR=15						
E23A	**Ismay**	2.77	0	⇑P	Pn	19 01 37.1	+0.3
	baz=2.7,SNR=15						
H19A	**Powell**	2.81	291	⇑P	Pn	19 01 38.1	+0.7
	baz=2.8,SNR=18						
H19A	**Powell**	2.81	291	⇑P	Pn	19 01 38.1	+0.7
	baz=2.8,SNR=18						
N23A	**Red Feather La**	2.87	190	⇓P	Pn	19 01 39.4	+1.2
	baz=2.9,SNR=44						
N23A	**Red Feather La**	2.87	190	⇓P	Pn	19 01 39.4	+1.2
	baz=2.9,SNR=44						
F20A	**Billings**	2.90	317	⇑P	Pn	19 01 38.5	-0.1
	baz=2.9,SNR=8.5						
F20A	**Billings**	2.90	317	⇑P	Pn	19 01 38.5	-0.1
	baz=2.9,SNR=8.5						
E24A	**Baker**	2.92	14	⇓P	Pn	19 01 39.9	+0.9
	baz=2.9,SNR=17						
E24A	**Baker**	2.92	14	⇓P	Pn	19 01 39.9	+0.9
	baz=2.9,SNR=17						
RLMT	**Red Lodge**	3.16	298	*e*P	Pn	19 01 42.8	+0.5
BW06	**Boulder Array**	3.25	254	*e*Pn	Pn	19 01 44.4	+0.9
PDAR	**Pinedale Array**	3.25	254	Pn	Pn	19 01 44.4	+0.9
PDAR				Pg	Pg	19 01 52.5	-0.8
PDAR				Lg	Lg	19 02 25.1	
PDAR	**Pinedale Array**	3.25	254	Pn	Pn	19 01 44.4	+0.9
	4.1nm,0.3s,baz=73,slow=16,SNR=69						
PDAR				Pg	Pg	19 01 52.5	-0.8
	12nm,0.3s,baz=65,slow=17,SNR=40						
PDAR				Lg	Lg	19 02 25.1	
	12nm,0.3s,baz=70,slow=29,SNR=8.0						
H18A	**Shoshone NF, C**	3.27	288	⇑P	Pn	19 01 43.9	0.0
	baz=3.3,SNR=21						
H18A	**Shoshone NF, C**	3.27	288	⇑P	Pn	19 01 43.9	0.0
	baz=3.3,SNR=21						
F19A	**Roth Farm, Mol**	3.35	311	⇑P	Pn	19 01 45.3	+0.5
	baz=3.4,SNR=95						
F19A	**Roth Farm, Mol**	3.35	311	⇑P	Pn	19 01 45.3	+0.5
	baz=3.4,SNR=95						
G18A	**Lazy EL Ranch,**	3.44	299	⇓P	Pn	19 01 46.5	+0.5
	baz=3.5,SNR=46						
G18A	**Lazy EL Ranch,**	3.44	299	⇓P	Pn	19 01 46.5	+0.5
	baz=3.5,SNR=46						
D24A	**Glendive**	3.46	11	⇓P	Pn	19 01 47.4	+1.2
	baz=3.4,SNR=5.7						
D24A	**Glendive**	3.46	11	⇓P	Pn	19 01 47.4	+1.2
	baz=3.4,SNR=5.7						
N27A	**Anderson Farm,**	3.57	144	⇓P	Pn	19 01 48.5	+0.8
	baz=3.6,SNR=18						
N27A	**Anderson Farm,**	3.57	144	⇓P	Pn	19 01 48.5	+0.8
	baz=3.6,SNR=18						
OGNE	**Ogallala**	3.69	138	*e*Pn	Pn	19 01 50.2	+0.8
OGNE	**Ogallala**	3.69	138	⇓P	Pn	19 01 50.2	+0.8
	baz=3.7,SNR=12						
OGNE	**Ogallala**	3.69	138	⇓P	Pn	19 01 50.2	+0.8
	baz=3.7,SNR=12						
GCMT	**Greycliff**	3.73	305	*e*Pn	Pn	19 01 50.6	+0.5
F18A	**Big Timber**	3.82	306	⇑P	Pn	19 01 51.9	+0.7
	baz=3.8,SNR=44						
F18A	**Big Timber**	3.82	306	⇑P	Pn	19 01 51.9	+0.7
	baz=3.8,SNR=44						
LOHW	**Long Hollow**	3.84	270	*e*Pn	Pn	19 01 53.2	+1.5
ISCO	**Idaho Springs**	3.93	183	*e*Pn	Pn	19 01 53.5	+0.6
SNOW	**Snow King Moun**	3.96	268	*e*Pg	Pb	19 02 01.6	-0.3
REDW	**Red Top Meadow**

	baz=4.8,SNR=19						
DGMT	**Dagmar**	**4.81**	**9**	*e*Pn	**Pn**	**19 02 06.0**	**+1.2**
P28A	**Saint Francis**	**4.93**	**146**	⇑P	**Pn**	**19 02 06.7**	**+0.2**
	baz=4.9,SNR=9.9						
P28A	**Saint Francis**	**4.93**	**146**	⇑P	**Pn**	**19 02 06.7**	**+0.2**
	baz=4.9,SNR=9.9						
HWUT	**Hardware Ranch**	**5.08**	**248**	*e*Pn	**Pn**	**19 02 09.2**	**+0.6**
	17nm,0.5s						
D17A	**Six Diamond Ra**	**5.11**	**314**	⇓P	**Pn**	**19 02 09.1**	**+0.1**
	baz=5.1,SNR=42						
D17A	**Six Diamond Ra**	**5.11**	**314**	⇓P	**Pn**	**19 02 09.1**	**+0.1**
	baz=5.1,SNR=42						
DLMT	**Dillon**	**5.46**	**290**	*e*Pn	**Pn**	**19 02 15.2**	**+1.4**
	8.4nm,0.6s						
HRY	**Holter Researc**	**5.49**	**305**	*e*Pn	**Pn**	**19 02 14.6**	**+0.4**
	19nm,0.5s						
LRM	**Limekiln Ridge**	**5.50**	**295**	*e*Pn	**Pn**	**19 02 15.8**	**+1.3**
	30nm,0.5s						
MCMT	**McKenzie Canyo**	**5.53**	**284**	*e*Pn	Pn	19 02 19.8	+5.0
	1.9nm,0.4s						
JLU	**Jordanelle**	**5.53**	**238**	*e*Pn	**Pn**	**19 02 16.8**	**+2.0**
	7.3nm,0.5s						
R26A	**Arlington**	**5.60**	**165**	⇓P	**Pn**	**19 02 16.0**	**+0.3**
	baz=5.6,SNR=28						
R26A	**Arlington**	**5.60**	**165**	⇓P	**Pn**	**19 02 16.0**	**+0.3**
	baz=5.6,SNR=28						
SPUT	**South Promonto**	**5.80**	**248**	*e*Pn	**Pn**	**19 02 19.9**	**+1.4**
	4.1nm,0.5s						
HVU	**Hansel Valley**	**5.83**	**253**	*e*Pn	**Pn**	**19 02 19.6**	**+0.7**
	8.8nm,0.7s						
SDCO	**Great Sand Dun**	**5.97**	**181**	*e*Pn	**Pn**	**19 02 22.2**	**+1.3**
	3.7nm,0.5s						
PV04	**Paradox Valley**	**5.98**	**208**	*e*Pn	**Pn**	**19 02 21.7**	**+0.8**
R28A	**Tribune**	**5.99**	**153**	⇓P	**Pn**	**19 02 20.7**	**-0.3**
	baz=6.0,SNR=8.6						
R28A	**Tribune**	**5.99**	**153**	⇓P	**Pn**	**19 02 20.7**	**-0.3**
	baz=6.0,SNR=8.6						
SRU	**San Rafael**	**6.05**	**222**	*e*Pn	**Pn**	**19 02 21.8**	**-0.2**
	18nm,0.5s						
C16A	**Fuhringer Ranc**	**6.08**	**314**	⇓P	**Pn**	**19 02 21.8**	**-0.4**
	baz=6.1,SNR=7.6						
C16A	**Fuhringer Ranc**	**6.08**	**314**	⇓P	**Pn**	**19 02 21.8**	**-0.4**
	baz=6.1,SNR=7.6						
S25A	**Robets Cordova**	**6.09**	**173**	⇑P	**Pn**	**19 02 22.7**	**+0.1**
	baz=6.1,SNR=5.7						
S25A	**Robets Cordova**	**6.09**	**173**	⇑P	**Pn**	**19 02 22.7**	**+0.1**
	baz=6.1,SNR=5.7						
PV01	**Paradox Valley**	**6.10**	**205**	*e*Pn	**Pn**	**19 02 24.3**	**+1.5**
	650nm,0.7s						
TMUT	**Trail Mountain**	**6.26**	**227**	*e*Pn	**Pn**	**19 02 25.1**	**+0.2**
	13nm,0.5s						
ECSD	**EROS Data Cent**	**6.30**	**87**	*e*Pn	**Pn**	**19 02 24.6**	**-0.6**
	8.4nm,0.5s						
CHMT	**Chamberlain Mo**	**6.45**	**302**	*e*Pn	**Pn**	**19 02 27.7**	**+0.3**
	4.3nm,0.5s						
B16A	**M & M Farms, S**	**6.46**	**319**	⇑P	**Pn**	**19 02 27.1**	**-0.4**
	baz=6.5,SNR=7.7						
B16A	**M & M Farms, S**	**6.46**	**319**	⇑P	**Pn**	**19 02 27.1**	**-0.4**
	baz=6.5,SNR=7.7						
HLID	**Hailey**	**6.61**	**272**	*e*Pn	**Pn**	**19 02 31.9**	**+2.2**
	2.8nm,0.7s						
DUG	**Dugway**	**6.61**	**240**	*e*Pn	**Pn**	**19 02 29.7**	**+0.1**
	4.7nm,0.4s						
SWMT	**Swartz Lake**	**7.17**	**305**	*e*Pn	**Pn**	**19 02 37.6**	**+0.3**
	3.8nm,0.6s						
MSU	**Marysvale**	**7.34**	**227**	*e*Pn	**Pn**	**19 02 40.6**	**+0.8**
	11nm,0.9s						
MVU	**Marysvale**	**7.37**	**227**	*e*Pn	**Pn**	**19 02 41.0**	**+0.8**
	5.1nm,0.5s						
WALA	**Waterton Lakes**	**7.99**	**315**	*e*Pn	**Pn**	**19 02 47.5**	**-0.9**
	0.1nm,0.6s						
CCUT	**Cedar City**	**8.69**	**228**	*e*Pn	**Pn**	**19 02 59.9**	**+1.7**
	1.5nm,0.4s						
ULM	**Lac du Bonnet**	**9.17**	**41**	Pn	**Pn**	**19 03 03.8**	**-0.7**
ULM				Pg		19 03 33.7	
ULM				Lg	Lg	19 05 35.5	
ULM	**Lac du Bonnet**	**9.17**	**41**	Pn	**Pn**	**19 03 03.8**	**-0.7**
	0.6nm,0.3s,baz=228,slow=13,SNR=4.9						
ULM				Pg		19 03 33.7	
	0.6nm,0.3s,baz=222,slow=15,SNR=2.4						
ULM				Lg	Lg	19 05 35.5	
	0.4nm,0.3s,baz=162,slow=20,SNR=2.9						
WUAZ	**Wupatki**	**9.43**	**212**	*e*Pn	**Pn**	**19 03 10.6**	**+2.2**
	8.8nm,0.6s						
NVAR	**Mina Array Bea**	**11.14**	**246**	Pn	**Pn**	**19 03 33.7**	**+1.9**
NVAR	**Mina Array Bea**	**11.14**	**246**	Pn	**Pn**	**19 03 33.7**	**+1.9**
	0.2nm,0.3s,baz=55,slow=16,SNR=3.0						
TXAR	**Lajitas Array**	**14.42**	**174**	Pn	**P**	**19 04 21.9**	**-1.8**
TXAR	**Lajitas Array**	**14.42**	**174**	Pn	**P**	**19 04 21.9**	**-1.8**
	0.1nm,0.3s,baz=356,slow=11,SNR=3.7						
ARCES	**ARCESS Array B**	**61.44**	**18**	P	**P**	**19 11 08.1**	**-0.6**
ARCES	**ARCESS Array B**	**61.44**	**18**	P	**P**	**19 11 08.1**	**-0.6**
	1.5nm,0.8s,baz=334,slow=6.0,SNR=7.7						
MKAR	**Makanchi Array**	**89.62**	**355**	P	**P**	**19 13 49.8**	**-0.8**
MKAR	**Makanchi Array**	**89.62**	**355**	P	**P**	**19 13 49.8**	**-0.8**
	0.3nm,0.6s,baz=9.1,slow=3.4,SNR=4.2						

DDA 31 19:09:03.7, 35.84N×42.22E, h13km, MD3.0, Iraq

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIRN	**S¯¬rnak**	**1.66**	**5**	*i* P	Pb	19 09 33.8	-0.5
SIRN				*i* S	Sb	19 09 54.7	-0.5
MARD	**Mardin**	**1.88**	**322**	*i* P	Pb	19 09 37.1	-0.9
MARD				*i* S	Sb	19 10 01.0	-0.5
HAKT	**HAKKARI**	**2.09**	**34**	*i* P	Pb	19 09 40.4	-1.4
HAKT				*i* S	Sb	19 10 06.5	-1.5

IDC 31 19:17:16.9±2.9, 6.86S×154.02E, h120km±30km, mb3.3/4, mb1 3.4/6, mb1mx3.2/20, mbtmp3.4/6, MS3.3/3, Ms1 3.3/3, ms1mx3.1/13, Error ellipse: s-maj=38.0km s-min=22.0km az=145.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.40**	**114**	P	Pn	19 18 48.6	-0.2
	2.2nm,0.3s,baz=270,slow=4.0,SNR=2.1						
HNR				S	Sn	19 19 55.6	-4.8
	3.8nm,0.3s,baz=277,slow=17,SNR=2.3						
HNR				LR	LR	19 20 56.7	
	comp=Z,153nm,20.3s,baz=149,slow=34						
PMG	**Port Moresby**	**7.25**	**249**	P	Pn	19 18 60.0	-0.2
	0.8nm,0.3s,baz=63,slow=6.8,SNR=3.4						
WRA	**Warramunga Arr**	**23.10**	**234**	P	P	19 22 12.5	0.0
	3.0nm,0.8s,baz=58,slow=9.6,SNR=7.2						
ASAR	**Alice Springs**	**25.54**	**227**	P	P	19 22 35.0	+0.4
	0.9nm,0.8s,baz=59,slow=9.1,SNR=7.5						
ASAR				LR	LR	19 30 51.3	
	comp=Z,63nm,21.2s,baz=167,slow=32						
STKA	**Stephens Creek**	**27.46**	**203**	LR	LR	19 33 15.9	
	comp=Z,112nm,18.0s,baz=27,slow=35						
PETK	**Petropavlovsk-**	**59.82**	**3**	P	P	19 27 09.7	+0.2
	1.4nm,0.7s,baz=173,slow=13,SNR=3.9						
MKAR	**Makanchi Array**	**82.67**	**319**	P	P	19 29 27.3	+0.2
	0.3nm,0.7s,baz=101,slow=6.0,SNR=3.0						
TORD	**Torodi Ar. Bea**	**152.06**	**285**	PKPbc	PKPbc	19 36 58.1	-1.1
	0.5nm,0.8s,baz=79,slow=2.8,SNR=3.7						

IDC 31 19:25:39.3±2.0, 3.63N×126.00E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, Error ellipse: s-maj=204.6km s-min=22.9km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.81**	**161**	P	P	19 31 02.4	-0.9
	0.8nm,0.6s,baz=339,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**28.20**	**165**	P	P	19 31 35.4	+1.4
	0.2nm,0.5s,baz=344,slow=9.8,SNR=4.2						
STKA	**Stephens Creek**	**38.30**	**158**	P	P	19 33 01.1	-0.6
	1.5nm,0.9s,baz=329,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**57.23**	**326**	P	P	19 35 28.4	-0.1
	0.3nm,0.4s,baz=121,slow=8.1,SNR=12						

IDC 31 19:54:44.5±5.7, 8.34S×157.76E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.5/19, mbtmp3.8/4, ML4.1/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/34, Error ellipse: s-maj=128.5km s-min=30.0km az=4.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.42**	**117**	Pn	Pn	19 55 25.4	+0.1
	43nm,0.3s,baz=220,slow=5.5,SNR=15						
HNR				Sn	Sn	19 55 51.5	-4.2
	44nm,0.3s,baz=106,slow=20,SNR=5.6						
PMG	**Port Moresby**	**10.53**	**263**	LR	LR	20 01 08.2	
	comp=Z,91nm,18.9s,baz=212,slow=36						
WRA	**Warramunga Arr**	**25.43**	**241**	P	P	20 00 14.5	+0.3
	1.0nm,0.6s,baz=68,slow=9.8,SNR=4.7						
ASAR	**Alice Springs**	**27.46**	**234**	P	P	20 00 32.0	-0.6
	0.5nm,0.8s,baz=69,slow=10,SNR=4.0						
STKA	**Stephens Creek**	**27.83**	**210**	P	P	20 00 36.0	+0.2
	2.1nm,0.9s,baz=45,slow=13,SNR=5.1						
PETK	**Petropavlovsk-**	**61.21**	**360**	LR	LR	20 32 39.8	
	comp=Z,26nm,18.6s,baz=12,slow=37						

IDC 31 20:24:23.1±1.5, 9.26S×125.86E, h0km, mb3.6/1, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=42.0km s-min=32.2km az=57.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.36**	**246**	Pn	Pn	20 25 03.0	-0.2
	3.8nm,0.3s,baz=18,slow=20,SNR=9.4						
BATI				Sn	Sn	20 25 31.0	-1.9
	5.7nm,0.3s,baz=197,slow=22,SNR=6.1						
WRA	**Warramunga Arr**	**13.41**	**143**	Pn	Pn	20 27 34.1	-0.7
	0.2nm,0.3s,baz=319,slow=12,SNR=5.4						
WRA				Sn	Sn	20 29 54.1	-11
	0.4nm,0.3s,baz=321,slow=26,SNR=5.5						
ASAR	**Alice Springs**	**16.25**	**153**	Pn	Pn	20 28 12.1	-0.9
	0.1nm,0.3s,baz=321,slow=11,SNR=17						
ASAR				Sn	Sn	20 31 02.9	-11
	0.1nm,0.3s,baz=326,slow=25,SNR=4.1						
MKAR	**Makanchi Array**	**67.97**	**329**	P	P	20 35 23.3	-0.6
	0.3nm,0.5s,baz=137,slow=7.5,SNR=6.8						
TORD	**Torodi Ar. Bea**	**125.19**	**280**	PKP	PKPdf	20 43 27.6	+0.9
	0.4nm,1.0s,baz=42,slow=2.6,SNR=3.2						

*BYKL **31** 20:26:20.7±0.3, 56.24N×113.30E*
MOS 31 20:26:21.3±1.0, 56.22N×113.34E, h18km, mb4.2/1, 1C, Error ellipse: s-maj=53.5km s-min=30.9km az=145.6, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMO	**Kumora**	**1.25**	**255**	*e*Pg	Pn	20 26 42.5	-1.4
KMO				*e*Pb	Pb	20 26 44.6	+0.3
KMO				*e*		20 26 52.1	
KMO				*e*Sg	Sn	20 27 00.2	0.0
KMO				*e*Sb	Sg	20 27 03.7	+1.9
KMO				max			
	109nm,0.4s						
KMO				max			
	468nm,0.7s						
KMO	**Kumora**	**1.25**	**255**	*e*PG	Pn	20 26 42.8	-1.1
KMO				*e*		20 27 00.8	
KMO				pmax	pmax		
	comp=Z,47nm,0.3s						
KMO				smax	smax		
	comp=N,459nm,0.7s						
NLYR	**Nelyaty**	**1.34**	**77**	*e*Pg	Pn	20 26 45.1	-0.1
NLYR				*e*		20 26 48.3	
NLYR				*e*Sg	Sb	20 27 03.8	+1.0
NLYR				*e*		20 27 07.4	
NLYR				max			
	comp=N,163nm,0.7s						
NLYR				max			
	comp=N,793nm,0.9s						
BOD	**Bodaibo**	**1.64**	**12**	*e*Pg	Pn	20 26 49.7	+0.5
BOD				*e*Sg	Sb	20 27 10.7	-0.6
BOD				Pmax			
	comp=N,48nm,0.3s						
BOD				Smax			
	comp=N,289nm,0.5s						
YLYR	**Ulyunkhan**	**1.83**	**223**	*i*Pg	Pb	20 26 53.3	-1.0
YLYR				*e*Sg	Sb	20 27 18.0	+1.1
YLYR				*e*		20 27 20.4	
YLYR				Pmax			
	comp=N,24nm,0.3s						
YLYR				max			
	comp=N,337nm,0.4s						
YLYR	**Ulyunkhan**	**1.83**	**223**	*e*PN	Pb	20 26 53.3	-1.0
YLYR				*e*		20 26 54.0	
YLYR				*e*		20 27 17.9	
YLYR				pmax	pmax		
	comp=Z,27nm,0.3s						
YLYR				smax	smax		
	comp=N,341nm,0.4s						
NIZ	**Nizh Angarsk**	**2.18**	**260**	*e*Pn	Pn	20 26 57.7	+1.0
NIZ				*e*Pg	Pb	20 27 00.0	-0.3
NIZ				*e*Sg	Sb	20 27 27.6	+0.6
NIZ				Pmax			
	comp=N,31nm,0.6s						
NIZ				Smax			
	comp=N,144nm,0.5s						
NIZ	**Nizh Angarsk**	**2.18**	**260**	*e*PN	Pn	20 26 58.3	+1.6
NIZ				*e*		20 27 00.5	
NIZ				*e*		20 27 28.6	
NIZ				pmax	pmax		
	comp=Z,31nm,0.7s						
NIZ				smax	smax		
	comp=N,144nm,0.5s						
CRS	**Chara**	**2.81**	**74**	*e*Pn	Pn	20 27 07.1	+1.7
CRS				*e*Pg	Pb	20 27 12.0	+1.0
CRS				*e*Sg	Sg	20 27 48.8	-2.9
CRS	**Chara**	**2.81**	**74**	*e*PN	Pn	20 27 07.1	+1.7
CRS				*e*		20 27 12.0	
CRS				*e*		20 27 46.7	
CRS				pmax	pmax		
	comp=Z,48nm,0.8s						
CRS				smax	smax		
	comp=E,301nm,1.8s						
SYVR	**Suvo**	**3.21**	**218**	*e*Pn	Pn	20 27 11.8	+0.9
SYVR				*e*Pg	Pb	20 27 18.0	+0.2
SYVR				*e*Sg	Sb	20 27 59.7	+3.1
SYVR				*e*SgSg	Sg	20 28 08.4	+3.8
SYVR				Pmax			
	comp=E,10.0nm,0.7s						
SYVR				max			
	comp=E,78nm,1.5s						
KHNR	**Khani**	**3.74**	**76**	*e*Sg	Sg	20 28 16.6	-4.8
MXMB	**Maximikha**	**3.99**	**224**	*e*Sg	Sb	20 28 23.2	+4.3
MXMB				*e*		20 28 32.1	
MXMB				max			
	comp=E,112nm,0.9s						
TUP	**Tupik**	**4.18**	**113**	*e*Pn	Pn	20 27 25.3	+1.1
TUP				*e*Pg	Pb	20 27 37.3	+2.9
TUP				*e*Sn	Sn	20 28 14.0	+1.3
TUP				*e*Sg	Sg	20 28 31.6	-4.1
TUP				Pmax			
	comp=E,6.0nm,0.4s						
TUP				Smax			
	comp=E,104nm,0.9s						
TUP	**Tupik**	**4.18**	**113**	*e*PN	Pn	20 27 25.5	+1.3
TUP				*e*		20 27 36.7	
TUP				*e*S	Sn	20 28 14.5	+1.8
TUP				*e*		20 28 31.3	
TUP				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TUP				smax	smax		
	comp=N,104nm,0.9s						
OGRR	**Ongureny**	**4.20**	**234**	*e*Pn	Pn	20 27 25.9	+1.4
OGRR				*e*Pg	Pb	20 27 34.9	+0.2
OGRR				*e*Sg	Sb	20 28 28.9	+3.8
OGRR				Pmax			
	comp=N,19nm,1.6s						
OGRR				Smax			
	comp=N,45nm,2.1s						
TRG	**Tyrgan**	**5.35**	**232**	*e*Sg	Sg	20 29 06.2	-6.9
TRG				Smax			
	comp=N,198nm,0.3s						
UUDB	**Ulan-Yde**	**5.50**	**220**	*e*Sg	Sg	20 29 12.2	-5.6
UUDB				Smax			
	comp=N,49nm,2.2s						
HRMR	**Khuramsha**	**5.95**	**222**	*e*Pn	Pn	20 27 48.8	+0.3
HRMR				*e*Pg	Pb	20 28 07.2	+2.7
HRMR				*e*Sg	Sg	20 29 25.5	-6.8
HRMR				Pmax			
	comp=N,6.0nm,0.6s						
HRMR				Smax			
	comp=N,59nm,0.9s						
CLNS	**Chul'man**	**6.42**	**80**	*e*Sg	Sg	20 29 39.1	-8.2
KPC	**Khapcheranga**	**6.56**	**185**	*e*Pn	Pn	20 27 57.7	+0.8
KPC				*e*Pg	Pb	20 28 18.2	+3.3
KPC				*e*Sg	Sg	20 29 43.0	-8.8
KPC				Pmax			
	comp=N,2.0nm,0.4s						
KPC				Smax			
	comp=N,35nm,2.1s						
LSTR	**Listvyanka**	**6.64**	**232**	*e*Sg	Sg	20 29 47.4	-7.0
LSTR				Smax			
	comp=N,66nm,1.9s						
TLY	**Talaya**	**7.31**	**236**	*e*Sg	Sg	20 30 06.9	-8.8
TLY				Smax			
	comp=N,16nm,1.8s						
ARS	**Arshan**	**7.73**	**241**	*e*Sg	Sb	20 30 20.0	+13
ARS				Smax			
	comp=N,39nm,0.9s						
ZAK	**Zakamensk**	**8.39**	**230**	*e*Sg	Sb	20 30 40.9	+15
ZAK				Smax			
	comp=N,7.0nm,2.1s						
MOY	**Mondy**	**8.59**	**243**	*e*Sg	Sn	20 30 48.0	+47
MOY				Smax			
	comp=N,17nm,1.4s						
ORL	**Orlik**	**8.71**	**251**	*e*Sg	Sn	20 30 49.7	+45
ORL				Smax			
	comp=N,19nm,1.3s						

*AUST **31** 20:45:50.5, 7.00S×120.99E, h0km*
*ISCJB **31** 20:46:34.6±0.7, 8.58S±0.09×124.18E±0.1, h10km, mb4.0/5, Error ellipse: s-maj=21.5km s-min=10.2km az=157.6*
*IDC **31** 20:46:34.6±1.0, 8.82S×124.43E, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, ML3.8/2, Error ellipse: s-maj=108.8km s-min=19.5km az=58.0*
ISC 31 20:46:36.6±0.9, 8.65S±0.3×124.7E±0.5, h10km, n12, σ1§53/9, mb4.1/5, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.20**	**201**	P	Pn	20 46 58.3	-1.2
	baz=4.3,SNR=821						
MTN	**Manton Dam**	**7.59**	**124**	P	Pn	20 48 36.4	+9.1
	baz=12,SNR=9.5						
KNRA	**Kununurra**	**8.06**	**151**	P	**Pn**	**20 48 35.4**	**+1.7**
	baz=12,SNR=31						
KDU	**Kakadu**	**8.64**	**118**	P	Pn	20 48 50.8	+9.0
	baz=13,SNR=17						
WRA	**Warramunga Arr**	**14.62**	**141**	Pn	**Pn**	**20 50 03.2**	**-0.4**
	0.5nm,0.3s,baz=312,slow=12,SNR=8.9						
WRA				Sn	Sn	20 52 32.4	-13
	2.0nm,0.3s,baz=317,slow=24,SNR=11						
ASAR	**Alice Springs**	**17.36**	**151**	P	**Pn**	**20 50 37.4**	**-1.8**
	0.3nm,0.3s,baz=321,slow=12,SNR=19						
ASAR				S	Sn	20 53 38.4	-14
	0.7nm,0.3s,baz=321,slow=22,SNR=12						
STKA	**Stephens Creek**	**27.96**	**148**	P	**P**	**20 52 27.8**	**+0.3**
	2.3nm,0.9s,baz=326,slow=12,SNR=8.5						
CMAR	**Chiang Mai Arr**	**37.01**	**317**	P	**P**	**20 53 47.5**	**+0.8**
	4.8nm,1.3s,baz=148,slow=6.3,SNR=4.8						
SONM	**Songino Array**	**58.51**	**346**	P	**P**	**20 56 34.0**	**+0.9**
	0.3nm,0.4s,baz=162,slow=10,SNR=3.5						
MKAR	**Makanchi Array**	**66.83**	**330**	P	**P**	**20 57 28.4**	**-0.3**
	1.3nm,0.5s,baz=135,slow=7.6,SNR=26						
ZALV	**Zalesovo Beam**	**70.83**	**336**	P	**P**	**20 57 52.7**	**-0.6**
	1.0nm,0.4s,baz=137,slow=5.1,SNR=6.8						
TORD	**Torodi Ar. Bea**	**123.94**	**280**	PKP	**PKPdf**	**21 05 33.7**	**-2.4**
	0.4nm,0.7s,baz=80,slow=1.5,SNR=2.7						

IDC 31 20:52:43.7±2.9, 20.95N×146.50E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.6/24, mbtmp3.6/7, MS2.9/1, Ms1 2.9/1, ms1mx2.5/31, Error ellipse: s-maj=111.9km s-min=20.7km az=79.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**23.03**	**320**	P	P	20 57 51.2	+0.8
	2.1nm,0.8s,baz=146,slow=8.9,SNR=16						
KSRS				LR	LR	21 06 11.2	
	comp=Z,30nm,19.7s,baz=220,slow=35						
USRK	**Ussuriysk Arra**	**26.13**	**336**	P	P	20 58 23.6	+4.2
	1.6nm,0.9s,baz=128,slow=44,SNR=5.3						
SONM	**Songino Array**	**41.90**	**319**	P	P	21 00 35.5	-0.5
	0.4nm,0.5s,baz=134,slow=8.4,SNR=2.5						
WRA	**Warramunga Arr**	**42.35**	**197**	P	P	21 00 39.4	-0.3
	0.4nm,0.5s,baz=5.8,slow=6.7,SNR=3.1						
ASAR	**Alice Springs**	**46.01**	**196**	P	P	21 01 09.2	+0.1
	0.2nm,0.6s,baz=15,slow=7.7,SNR=3.1						
ZALV	**Zalesovo Beam**	**56.72**	**322**	P	P	21 02 28.5	-0.5
	0.4nm,0.3s,baz=87,slow=5.6,SNR=4.2						
MKAR	**Makanchi Array**	**57.48**	**313**	P	P	21 02 34.5	-0.2
	0.5nm,0.8s,baz=87,slow=10.0,SNR=4.1						
FINES	**FINESS Array B**	**85.17**	**335**	P	P	21 05 21.8	+0.2
	1.0nm,0.5s,baz=64,slow=5.3,SNR=9.5						

*SSNC **31** 21:00:52.1±3.1, 18.34N×70.76W, h0km±999km, MD4.7, ML4.6*
*ISCJB **31** 21:00:54.2±1.0, 18.72N±0.05×70.89W±0.03, h15km±7km, mb4.5/64, MS3.7/18, Error ellipse: s-maj=8.8km s-min=3.1km az=17.7*
*NEIC **31** 21:00:55.6±0.3, 18.74N×70.89W, h10km, mb4.5/26, MD4.2(SDD), Error ellipse: s-maj=9.0km s-min=5.1km az=28.0*
NEIC Felt at Azua and Santo Domingo.
*BJI **31** 21:00:55.5, 18.60N×70.90W, h10km*
*IDC **31** 21:00:55.0±0.6, 18.90N×70.72W, h0km, mb4.1/17, mb1 4.3/20, mb1mx4.3/27, mbtmp4.2/20, ML3.7/3, MS3.7/19, Ms1 3.7/19, ms1mx3.6/34, Error ellipse: s-maj=16.3km s-min=15.4km az=56.0*
ISC 31 21:00:54.4±1.9, 18.71N±0.06×70.90W±0.04, h4km±12km, n138, σ1§30/134, mb4.6/64, MS3.8/18, 1C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**0.45**	**306**	⇑*i*Pg	**Pg**	**21 01 03.6**	**+0.4**
SDDR				*e*Sg	**Sb**	**21 01 14.3**	**+2.1**
GRTK	**Grand Turk**	**2.79**	**356**	*e*Pn	**Pn**	**21 01 38.9**	**-1.0**
GRTK				*e*Sn	**Sn**	**21 02 13.4**	**-0.6**
MASC	**Masc**	**3.46**	**295**	*e*P	**Pn**	**21 01 49.3**	**+0.2**
MASC				*e*S	**Sn**	**21 02 29.4**	**-1.2**
MPR	**Mayaguez**	**3.60**	**97**	*e*Pn	**Pn**	**21 01 51.5**	**+0.4**
LSP	**Las Mesas**	**3.66**	**98**	*e*Pn	**Pn**	**21 01 52.0**	**+0.2**
LSP				*e*Sn	**Sn**	**21 02 35.1**	**-0.5**
CRPR	**Cabo Rojo, PR**	**3.67**	**100**	*e*Pn	**Pn**	**21 01 51.7**	**-0.3**
CRPR				*e*Sn	Sn	21 02 29.1	-6.6
LRS	**Lares**	**3.87**	**96**	*e*Pn	**Pn**	**21 01 54.8**	**-0.1**
LRS				*e*Sn	**Sn**	**21 02 44.7**	**+3.9**
AOPR	**Arecibo Observ**	**3.95**	**95**	*e*Pn	**Pn**	**21 01 56.1**	**+0.2**
OBIP	**Obispado Ponce

JTS	**JuntasAbangare**	15.97	240	Pn	P	21 04 45.6	+1.9
	comp=E,1.2nm,0.3s,baz=24,slow=12,SNR=11						
TEIG	**Tepich**	16.46	278	Pn	P	21 04 48.8	-0.4
TEIG	**Tepich**	16.46	278	Pn	P	21 04 48.8	-0.4
	comp=E,1.2nm,0.3s,baz=67,slow=12,SNR=3.8						
TEIG				LR	LR	21 10 25.3	
	comp=E,307nm,20.4s,baz=84,slow=34						
OTAV	**Otavalo**	19.80	203	*e*Pn	P	21 05 26.3	-0.2
	comp=E,34nm,1.1s						
JSRW	**J. Sargeant Re**	19.87	344	*e*P	P	21 05 23.9	-2.7
BLA	**Blacksburg**	20.23	338	*e*P	Pn	21 05 31.4	-1.2
	comp=E,114nm,1.4s						
LRAL	**Lakeview Retre**	20.29	318	*e*P	Pn	21 05 32.3	-0.9
	comp=E,19nm,1.0s						
TKL	**Tuckaleechee C**	20.36	329	P	Pn	21 05 33.5	-0.5
TKL	**Tuckaleechee C**	20.36	329	P	Pn	21 05 33.5	-0.5
	comp=E,6.8nm,0.6s,baz=162,slow=10,SNR=5.4						
TKL				LR	LR	21 12 46.7	
	comp=E,173nm,20.0s,baz=308,slow=35						
TZTN	**Tazewell**	20.96	330	*e*P	P	21 05 38.8	+0.2
	comp=E,64nm,1.1s						
SDMD	**Soldier's Deli**	21.26	347	*e*P	P	21 05 40.1	-1.5
	comp=E,20nm,0.9s						
PLAL	**Pickwick Lake**	22.25	320	*e*P	P	21 05 52.2	-0.2
	comp=E,116nm,2.1s						
USIN	**University of**	24.13	326	*e*P	P	21 06 10.9	-0.5
HBAR	**Harrisburg**	24.22	318	*e*P	P	21 06 10.9	-1.4
SIUC	**Southern Illin**	24.79	324	*e*P	P	21 06 17.5	0.0
	comp=E,16nm,0.7s						
NCB	**Newcomb**	25.34	354	*e*P	P	21 06 25.1	+2.7
	comp=E,26nm,1.4s						
ATAH	**Atahualpa**	26.73	197	P	P	21 06 37.1	+1.5
ATAH	**Atahualpa**	26.73	197	P	P	21 06 37.1	+1.5
	comp=E,6.7nm,0.8s,baz=6.3,slow=9.2,SNR=4.4						
SADO	**Sadowa**	26.88	347	LR	LR	21 16 45.8	
	comp=E,94nm,19.7s,baz=124,slow=36						
SAML	**Samuel**	28.52	164	*e*P	P	21 06 47.6	-3.7
	comp=E,7.5nm,0.9s						
TXAR	**Lajitas Array**	31.64	296	P	P	21 07 22.1	+3.1
TXAR				PcP	PcP	21 10 11.6	+0.3
TXAR	**Lajitas Array**	31.64	296	P	P	21 07 22.1	+3.1
	comp=E,0.7nm,0.7s,baz=118,slow=9.6,SNR=7.3						
TXAR				PcP	PcP	21 10 11.6	+0.3
	comp=E,0.4nm,0.7s,baz=122,slow=3.4,SNR=3.9						
TXAR				LR	LR	21 24 57.1	
	comp=E,68nm,18.6s,baz=185,slow=46						
ECSD	**EROS Data Cent**	33.00	325	*e*P	P	21 07 28.0	-2.6
	comp=E,5.5nm,1.0s						
MNTX	**Cornudas Mount**	33.62	299	*e*P	P	21 07 35.6	-0.6
	comp=E,6.1nm,1.1s						
EYMN	**Ely**	33.64	335	*e*P	P	21 07 38.8	+2.6
	comp=E,9.8nm,1.3s						
LPAZ	**La Paz**	34.89	175	P	P	21 07 51.0	+3.1
LPAZ	**La Paz**	34.89	175	P	P	21 07 51.0	+3.1
	comp=E,1.0nm,0.6s,baz=326,slow=6.5,SNR=5.0						
LPAZ				LR	LR	21 23 13.0	
	comp=E,146nm,19.1s,baz=7.9,slow=38						
LPM	**Los Pinos Moun**	35.33	303	*e*P	P	21 07 54.3	+3.1
SDCO	**Great Sand Dun**	35.62	309	*e*P	P	21 07 53.8	0.0
	comp=E,5.1nm,1.2s						
SCHQ	**Schefferville**	36.19	4	P	P	21 07 57.0	-1.0
SCHQ	**Schefferville**	36.19	4	P	P	21 07 57.0	-1.0
	comp=E,3.8nm,0.8s,baz=150,slow=12,SNR=4.5						
SCHQ				LR	LR	21 21 31.3	
	comp=E,118nm,19.6s,baz=306,slow=34						
ISCO	**Idaho Springs**	36.53	313	*e*P	P	21 08 00.5	-1.1
	comp=E,3.6nm,0.8s						
ULM	**Lac du Bonnet**	37.24	333	P	P	21 08 04.6	-2.5
ULM	**Lac du Bonnet**	37.24	333	P	P	21 08 04.6	-2.5
	comp=E,7.3nm,0.8s,baz=152,slow=9.4,SNR=4.9						
ULM				LR	LR	21 24 07.8	
	comp=E,55nm,19.1s,baz=48,slow=38						
PDAR	**Pinedale Array**	40.47	315	P	P	21 08 35.6	+1.1
PDAR	**Pinedale Array**	40.47	315	P	P	21 08 35.6	+1.1
	comp=E,0.7nm,0.8s,baz=113,slow=6.9,SNR=4.5						
PDAR				LR	LR	21 26 46.3	
	comp=E,186nm,18.9s,baz=118,slow=38						
BDFB	**Brasilia**	40.91	145	P	P	21 08 41.3	+3.1
BDFB	**Brasilia**	40.91	145	P	P	21 08 41.3	+3.1
	comp=E,4.4nm,0.7s,baz=310,slow=7.9,SNR=5.0						
BDFB				LR	LR	21 25 34.5	
	comp=E,94nm,19.6s,baz=359,slow=36						
JLU	**Jordanelle**	40.97	311	*e*P	P	21 08 39.0	+0.3
	comp=E,6.0nm,0.8s						
MOOW	**Moose Ponds**	41.66	316	*e*P	P	21 08 42.7	-1.6
	comp=E,27nm,2.3s						
DUG	**Dugway**	41.82	310	*e*P	P	21 08 45.0	-0.5
	comp=E,6.2nm,0.9s						
BGU	**Big Grassy Mou**	42.21	311	*e*P	P	21 08 48.6	-0.2
	comp=E,10nm,1.0s						
CHMT	**Chamberlain Mo**	44.57	319	*e*P	P	21 09 09.1	+1.3
NVAR	**Mina Array Bea**	45.47	306	P	P	21 09 16.0	+0.8
NVAR	**Mina Array Bea**	45.47	306	P	P	21 09 16.0	+0.8
	comp=E,2.6nm,0.9s,baz=101,slow=8.4,SNR=8.7						
NVAR				LR	LR	21 29 55.5	
	comp=E,140nm,20.7s,baz=266,slow=38						
BSMT	**Bassoo Peak**	45.91	319	*e*P	P	21 09 19.8	+1.3
	comp=E,3.0nm,1.0s						
WVOR	**Wild Horse Val**	46.66	311	*e*P	P	21 09 26.8	+2.5
	comp=E,5.5nm,1.0s						
NEW	**Newport**	47.51	319	*e*P	P	21 09 30.4	-0.4
	comp=E,7.7nm,1.0s						
YKA	**Yellowknife Ar**	53.09	336	P	P	21 10 12.1	-0.6
YKA	**Yellowknife Ar**	53.09	336	P	P	21 10 12.1	-0.6
	comp=E,2.9nm,0.9s,baz=119,slow=7.2,SNR=4.1						
SUMG	**Summit**	56.97	11	*e*P	P	21 10 39.8	-1.4
	comp=E,10nm,0.9s						
SUMG	**Summit**	56.97	11	*i* P	P	21 10 42.3	+1.1
	comp=E,8.8nm,0.9s						
EVO	**Evora**	57.55	56	*e*P	P	21 10 43.2	-2.1
	comp=E,13nm,1.2s						
EVO				*e*R			
	comp=E,96nm,20.8s						
PLCA	**Paso Flores**	59.14	180	LR	LR	21 34 18.7	
	comp=E,58nm,21.0s,baz=357,slow=34						
ESDC	**Sonseca Array**	60.70	55	P	P	21 11 06.9	-0.4
ESDC	**Sonseca Array**	60.70	55	P	P	21 11 06.9	-0.4
	comp=E,2.8nm,0.9s,baz=276,slow=7.1,SNR=12						
ESLA	**Sonseca Array**	60.70	55	*e*P	P	21 11 07.5	+0.3
	comp=E,1.3nm,0.9s						
QUIF	**Quistinic**	61.48	45	*e*P	P	21 11 11.8	-0.4
	comp=E,120nm,1.6s						
SJPF	**Ste Jean**	62.73	51	*e*P	P	21 11 20.5	-0.3
	comp=E,37nm,1.3s						
GRR	**Gorron**	63.04	45	*e*P	P	21 11 22.7	0.0
	comp=E,54nm,1.5s						
FLN	**La Foliniere**	63.30	44	*e*P	P	21 11 25.5	+1.0
	comp=E,105nm,1.7s						
FLN				*e*R			
	comp=E,70nm,21.0s						
MFF	**Saint Martin d**	63.49	47	*e*P	P	21 11 26.4	+0.6
	comp=E,42nm,1.4s						
LDF	**La Druitiere**	63.53	44	*e*P	P	21 11 26.4	+0.4
	comp=E,65nm,1.7s						
DAG	**Danmarks Havn**	63.64	12	*i* P	P	21 11 26.2	0.0
	comp=E,3.8nm,0.9s						
EPF	**Esparros**	63.87	51	*e*P	P	21 11 29.5	+1.0
	comp=E,44nm,1.6s						
LFF	**La Frestale**	64.12	49	*e*P	P	21 11 30.2	+0.3
RJF	**Les Rejaudoux**	64.66	48	*e*P	P	21 11 33.5	0.0
RJF				*e*R			
	comp=E,52nm,20.5s						
CAF	**Calviac**	65.06	49	*e*P	P	21 11 37.1	+0.9
	comp=E,20nm,1.3s						
TCF	**Toulx Ste Croi**	65.12	47	*e*P	P	21 11 36.6	+0.1
	comp=E,32nm,1.5s						
LIC	**Lamto**	65.20	92	*e*P	P	21 11 39.3	+1.8
	comp=E,14nm,0.8s						
LIC				*e*R			
	comp=E,98nm,20.2s						
DBIC	**Dimbokro**	65.22	91	LR	LR	21 36 35.1	
	comp=E,74nm,19.2s,baz=249,slow=33						
MTLF	**Montolieu**	65.23	50	*e*P	P	21 11 36.9	-0.4
	comp=E,24nm,1.5s						
BGF	**Bois d'Agland**	65.55	47	*e*P	P	21 11 39.7	+0.4
AVF	**Avril sur Loir**	65.89	46	*e*P	P	21 11 40.8	-0.7
	comp=E,23nm,1.4s						
LOR	**Lormes**	66.22	46	*e*P	P	21 11 43.8	+0.2
	comp=E,11nm,1.0s						
LOR				*e*R			
	comp=E,79nm,18.8s						
SMF	**Signal de Mont**	66.23	47	*e*P	P	21 11 44.1	+0.4
	comp=E,12nm,1.2s						
BAIF	**Baives**	66.37	43	*e*P	P	21 11 44.4	-0.1
	comp=E,25nm,1.4s						
LASF	**Ste Croix**	66.38	49	*e*P	P	21 11 45.1	+0.4
	comp=E,35nm,1.4s						
GIVF	**Givet**	66.77	43	*e*P	P	21 11 47.6	+0.6
VIVF	**Saint-Julien-l**	66.91	48	*e*P	P	21 11 48.8	+0.7
	comp=E,17nm,1.2s						
MEZF	**Maizieres J'vi**	66.97	45	*e*P	P	21 11 48.7	+0.4
	comp=E,35nm,1.2s						
ILAR	**Eielson Array**	67.26	333	P	P	21 11 50.1	+0.2
ILAR	**Eielson Array**	67.26	333	P	P	21 11 50.1	+0.2
	comp=E,2.1nm,1.0s,baz=92,slow=7.0,SNR=7.9						
ILAR				LR	LR	21 41 00.6	
	comp=E,61nm,19.8s,baz=134,slow=36						
ORIF	**Oris-en-Rattie**	67.76	48	*e*P	P	21 11 53.3	-0.3
	comp=E,14nm,1.2s						
ORIF				*e*R			
	comp=E,40nm,21.5s						
CABF	**La Chapelle**	67.78	47	*e*P	P	21 11 53.8	+0.2
HAU	**Haudompre**	67.86	45	*e*P	P	21 11 54.2	+0.1
	comp=E,18nm,1.3s						
HAU				*e*R			
	comp=E,60nm,22.5s						
HINF	**Hinteralfeld**	68.22	45	*e*P	P	21 11 56.8	+0.5
LPL	**La Plagne**	68.31	48	*e*P	P	21 11 58.2	+1.0
	comp=E,10nm,1.1s						
LPG	**La Plagne**	68.33	48	*e*P	P	21 11 57.7	+0.3
	comp=E,11nm,1.2s						
MBDF	**Montbardon**	68.41	48	*e*P	P	21 11 57.8	+0.1
CDF	**Champ du Feu**	68.46	45	*e*P	P	21 11 57.5	-0.3
COLD	**Coldfoot**	68.76	336	*e*P	P	21 11 57.3	-2.0
	comp=E,4.3nm,1.0s						
TORD	**Torodi Ar. Bea**	69.62	83	P	P	21 12 04.2	-1.4
TORD	**Torodi Ar. Bea**	69.62	83	P	P	21 12 04.2	-1.4
	comp=E,2.6nm,0.9s,baz=288,slow=5.2,SNR=9.6						
TORD				LR	LR	21 37 33.7	
	comp=E,81nm,20.6s,baz=300,slow=32						
NOA	**NORSAR Array B**	70.01	31	P	P	21 12 07.1	-0.1
NOA	**NORSAR Array B**	70.01	31	P	P	21 12 07.1	-0.1
	comp=E,1.9nm,0.9s,baz=274,slow=6.3,SNR=3.0						
NOA				LR	LR	21 40 00.3	
	comp=E,28nm,19.4s,baz=260,slow=34						
FUORN	**Ofenpass-Fuorn**	70.65	46	*e*P	P	21 12 13.3	+1.7
KEST	**Kesra**	71.58	58	P	P	21 12 17.3	0.0
KEST	**Kesra**	71.58	58	P	P	21 12 17.3	0.0
	comp=E,0.7nm,0.7s,baz=284,slow=4.2,SNR=2.9						
BRG	**Berggiesshubel**	72.50	41	*e*(P)	P	21 12 23.8	+1.4
	comp=E,3.9nm,1.0s						
KHC	**Kasperske Hory**	72.52	43	*e*P	P	21 12 22.3	-0.3
	comp=E,6.7nm,1.3s						
GERES	**GERESS Array B**	72.64	44	P	P	21 12 23.8	+0.3
GERES	**GERESS Array B**	72.64	44	P	P	21 12 23.8	+0.3
	comp=E,2.2nm,1.0s,baz=247,slow=4.0,SNR=12						
GERES				LR	LR	21 39 15.7	
	comp=E,49nm,18.5s,baz=106,slow=32						
ARCES	**ARCESS Array B**	74.85	21	P	P	21 12 37.7	+1.9
ARCES	**ARCESS Array B**	74.85	21	P	P	21 12 37.7	+1.9
	comp=E,2.8nm,0.9s,baz=294,slow=6.6,SNR=3.2						
CUC	**Castrocucco**	75.77	52	*e*P	P	21 12 43.1	+1.3
	comp=E,7.5nm,1.2s						
FINES	**FINESS Array B**	77.03	29	LR	LR	21 41 26.8	
	comp=E,40nm,19.2s,baz=32,slow=32						
PPT	**Papeete**	85.31	250	LR	LR	21 48 26.6	
	comp=E,106nm,18.3s,baz=180,slow=33						
BRTR	**Keskin Array B**	88.88	48	P	P	21 13 49.8	-0.7
BRTR	**Keskin Array B**	88.88	48	P	P	21 13 49.8	-0.7
	comp=E,1.5nm,0.9s,baz=289,slow=4.4,SNR=6.9						
KBZ	**Khabaz**	93.30	42	LR	LR	21 52 57.7	
	comp=E,37nm,18.9s,baz=130,slow=34						
WMQ	**Urumqi**	114.75	17	PKP	PKPdf	21 19 36.3	-0.3
CD2	**Chengdu**	130.40	6	*e*PKP	**PKPdf**	21 20 05.8	-1.1
ASAR	**Alice Springs**	156.37	254	PKPab	**PKPab**	21 21 21.4	+1.8
ASAR	**Alice Springs**	156.37	254	PKPab	**PKPab**	21 21 21.4	+1.8
	comp=E,0.5nm,0.9s,baz=103,slow=4.3,SNR=4.3						

IDC 31 21:10:01.4±1.8, 2°.83S×101°.58E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/22, mbtmp3.7/6, Error ellipse: s-maj=73.3km s-min=21.4km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	36.22	121	P	P	21 17 06.3	-0.2
	0.7nm,0.8s,baz=305,slow=9.1,SNR=5.0						
ASAR	**Alice Springs**	37.50	126	P	P	21 17 17.1	-0.3
	0.3nm,0.3s,baz=299,slow=7.8,SNR=16						
MKAR	**Makanchi Array**	52.25	343	P	P	21 19 14.0	-0.5
	0.9nm,0.7s,baz=144,slow=7.9,SNR=8.0						
USRK	**Ussuriysk Arra**	54.16	27	P	P	21 19 29.1	+0.6
	0.6nm,0.5s,baz=217,slow=7.2,SNR=5.3						
ZALV	**Zalesovo Beam**	58.28	348	P	P	21 19 57.0	-0.7
	0.7nm,0.4s,baz=184,slow=5.9,SNR=7.5						
GERES	**GERESS Array B**	90.70	319	P	P	21 23 07.3	+0.9
	0.1nm,0.3s,baz=72,slow=6.3,SNR=3.8						

*ISCJB **31** 21:10:18.7±0.7, 26°.08N±0°.09×141°.8E±0°.2, h200km, mb3.5/9, Error ellipse: s-maj=24.9km s-min=12.3km az=3.9*
*JMA **31** 21:10:21.2±0.1, 25°.97N×141°.11E, h141km, M4.0*
*IDC **31** 21:10:24.2±10.0, 25°.88N×140°.87E, h215km±96km, mb3.4/9, mb1 3.6/9, mb1mx3.4/21, mbtmp3.4/9, Error ellipse: s-maj=32.0km s-min=16.7km az=73.0*

ISC 31 21:10:19.9±0.9, 26°.1N±0°.1×141°.9E±0°.2, h200km, n14, σ0s96/14, mb3.6/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	0.55	28	P	**Pn**	21 10 46.9	-0.3
JHHJ				S	**Sn**	21 11 06.5	-2.0
CBIJ	**Chichi jima**	0.99	16	P	**Pn**	21 10 50.1	+0.6
CBIJ				S	**Sn**	21 11 12.2	-0.5
JOD2	**Odawara 2**	9.40	346	P	**Pn**	21 12 31.6	+0.3
JHO	**Hitachi**	10.50	354	P	**Pn**	21 12 45.9	+0.5
SONM	**Songino Array**	35.22	317	P	**P**	21 16 53.9	-1.3
	0.5nm,0.5s,baz=126,slow=9.1,SNR=4.7						
WRA	**Warramunga Arr**	46.39	190	P	**P**	21 18 26.1	-0.3
	1.0nm,0.4s,baz=10,slow=8.5,SNR=7.5						
ZALV	**Zalesovo Beam**	50.03	320	PcP	**PcP**	21 20 10.9	+0.2
	0.6nm,0.4s,baz=134,slow=4.3,SNR=4.0						
MKAR	**Makanchi Array**	50.88	310	P	**P**	21 19 00.1	-0.3
	0.4nm,0.5s,baz=94,slow=8.4,SNR=8.4						
MKAR				PcP	**PcP**	21 20 14.7	+0.7
	0.5nm,0.7s,baz=72,slow=7.8,SNR=4.5						
STKA	**Stephens Creek**	57.70	180	P	**P**	21 19 49.9	+0.3
	1.5nm,0.9s,baz=14,slow=8.3,SNR=3.7						
ILAR	**Eielson Array**	58.67	28	P	P	21 20 02.5	+6.5
	0.3nm,0.6s,baz=274,slow=5.3,SNR=2.9						
ARCES	**ARCESS Array B**	74.35	341	P	P	21 21 37.7	+2.6
	1.3nm,0.8s,baz=71,slow=9.1,SNR=8.1						
FINES	**FINESS Array B**	78.68	334	P	**P**	21 22 00.7	+1.1
	3.4nm,0.4s,baz=74,slow=4.9,SNR=64						
NVAR	**Mina Array Bea**	81.32	52	P	P	21 22 22.6	+8.1
	0.3nm,0.6s,baz=304,slow=4.0,SNR=1.7						
NOA	**NORSAR Array B**	84.39	338	P	**P**	21 22 30.8	+1.3
	1.1nm,0.7s,baz=39,slow=5.0,SNR=4.2						

*IDC **31** 21:17:07.8±17.0, 29°.46N×74°.43E, h0km, mb3.9/3, mb1 3.7/4, mb1mx3.3/27, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=342.0km s-min=52.1km az=155.0*
*NNC **31** 21:18:20.8±3.0, 36°.82N×71°.27E, h179km±29km, mb2.9, mpv3.8, Error ellipse: s-maj=26.2km s-min=19.2km az=34.0*

ISC 31 21:18:17.3±1.3, 36°.65N±0°.09×71°.1E±0°.1, h100km, n18, σ1s89/13, 2C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	2.89	167	P	Pn	21 18 54.5	-7.3
CEP				S	Sn	21 19 24.0	-12
CHCP	**Chirah Chowk**	3.46	149	P	Pn	21 19 02.4	-6.9
THW	**Thamme Wali**	3.88	172	P	Pn	21 19 07.2	-7.7
THW				S	Sn	21 19 47.0	-13
KSH	**Kashi**	4.78	52	Pn	Pn	21 19 20.3	-6.8
KSH				Sn	Sn	21 20 03.5	-18
KSH				smax	smax		
	comp=N,89nm,0.7s						
KSH				smax	smax		
	comp=E,52nm,0.3s						
THN	**Thein Dam**	5.66	137	*e*4	**Pn**	21 19 38.5	-0.5
THN				*e*S	Sn	21 20 26.0	-17
DLH	**Dalhousie**	5.72	134	*ex*	x	21 20 28.0	
DLH				*e*S	Sn	21 20 30.0	-15
KK31	**Karatay Array**	6.46	356	P	**Pn**	21 19 51.6	+1.7
	comp=E,3.8nm,0.3s,baz=179,slow=10,SNR=258						
KK31				⇓S	**Sn**	21 21 04.2	+2.0
	comp=E,1.3nm,0.3s,baz=181,slow=25,SNR=4.1						
TKM2	**Tokmak 2**	7.15	27	⇓P	**Pn**	21 19 59.7	+0.4
	comp=E,2.5nm,0.5s						
TKM2				⇓S	**Sn**	21 21 19.3	+0.2
	comp=E,4.0nm,1.1s						
SMLA	**Simla**	7.45	136	*i* P	Pn	21 19 54.5	-8.9
SMLA				*i* S	Sn	21 21 09.3	-17
KHET	**Khetri**	9.42	154	*e*S	Sn	21 21 55.7	-19
KHET				AML	AML	21 22 03.7	
	comp=E,257nm,0.2s						
KHET				AML	AML	21 22 04.0	
	comp=N,155nm,0.1s						
AYAN	**Aya Nagar**	9.58	146	*e*P	Pn	21 20 24.8	-7.5
SONA	**Sohna**	9.77	147	*e*S	Sn	21 22 02.0	-21
SONA				AML	AML	21 22 08.7	
	comp=E,15nm,0.3s						
SONA				AML	AML	21 22 11.6	
	comp=N,9.4nm,0.1s						
MKAR	**Makanchi Array**	13.11	36	P	**P**	21 21 25.0	-1.0
	comp=N,0.1nm,0.3s,baz=199,slow=11,SNR=3.7						
AB31	**Akbulak array**	15.01	331	P	**Pn**	21 21 43.2	-0.7
	comp=N,0.5nm,0.4s,baz=142,slow=12,SNR=42						
AB31				⇑S	**Sn**	21 24 26.3	-3.1
	comp=N,0.4nm,0.4s,baz=155,slow=23,SNR=3.6						
AKTO	**Aktyubinsk**	16.70	330	⇑P	**Pn**	21 22 03.6	-1.5
	comp=N,2.6nm,1.0s						
AKTO				⇓S	**Sn**	21 25 07.5	-2.9
	comp=N,1.1nm,0.8s						
ZALV	**Zalesovo Beam**	19.74	24	P	**P**	21 22 38.3	-0.6
	comp=N,2.5nm,0.3s,baz=207,slow=10.0,SNR=24						
FINES	**FINESS Array B**	37.42	326	P	**P**	21 25 22.6	+2.3
	comp=N,0.5nm,0.6s,baz=121,slow=13,SNR=3.4						
NOA	**NORSAR Array B**	44.33	323	P	**P**	21 26 18.2	+1.1
	comp=N,0.3nm,0.4s,baz=96,slow=7.7,SNR=2.6						

*ISCJB **31** 21:28:15.9±0.3, 10°.33N±0°.06×84°.32W±0°.05, h103km±3km, mb3.6/9, Error ellipse: s-maj=12.9km s-min=3.4km az=35.0*
*IDC **31** 21:28:15.3±1.4, 10°.54N×84°.30W, h85km±17km, mb3.4/9, mb1 3.7/9, mb1mx3.6/21, mbtmp3.4/9, MS3.2/3, Ms1 3.2/3, ms1mx2.7/22, Error ellipse: s-maj=37.5km s-min=19.0km az=65.0*
*CASC **31** 21:28:16.8±3.1, 10°.31N×84°.31W, h90km±13km, MD3.9*

ISC 31 21:28:16.6±0.7, 10°.32N±0°.07×84°.34W±0°.05, h100km±6km, n47, σ1s19/62, mb3.6/9, 8C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGA2	**Cerro Gallo 2**	0.33	202	⇑*i* P	**Pn**	21 28 31.1	-0.5
CEDE	**Laguna Cede˜–o**	0.39	295	*i* P	**Pn**	21 28 31.9	+0.1
CEDE				*i* S	**Sn**	21 28 42.9	-0.3
SJS	**Escuela Geolog**	0.47	143	⇑*i* P	**Pn**	21 28 32.0	-0.4
SJS				*e*S	**Sn**	21 28 42.9	-1.3
CHPA	**Chiripa**	0.57	282	*i* P	**Pn**	21 28 33.3	+0.3
CHPA				*i* S	**Sn**	21 28 45.4	0.0
JTS	**JuntasAbangare**	0.60	267	P	**Pn**	21 28 32.8	-0.4
	961nm,0.3s,baz=71,slow=18,SNR=2473						
JTS				S	**Sn**	21 28 44.4	-1.3
	3µm,0.3s,baz=330,slow=20,SNR=105						
AMAS	**Alto Masis**	0.70	294	*i* P	**Pn**	21 28 33.8	-0.4
URSC	**Urasca**	0.74	131	⇑*i* P	**Pn**	21 28 34.5	0.0
URSC				*e*S	**Sn**	21 28 52.7	+4.7
PTEN	**Parque Tenorio**	0.74	302	*i* P	**Pn**	21 28 35.5	+0.9
PTEN				*i* S	**Sn**	21 28 48.6	+0.6
CUI	**Cuipilapa**	0.88	292	*i* P	**Pn**	21 28 36.0	+0.2
CUI				*i* S	**Sn**	21 28 50.0	-0.2
JCR	**Jicaral**	0.89	238	⇑*i* P	**Pn**	21 28 35.3	-0.7
JCR				*e*S	**Sn**	21 28 53.5	+2.9
HORNC	**Hornillas**	0.91	295	*i* P	**Pn**	21 28 36.2	0.0
HORNC				*i* S	**Sn**	21 28 50.9	0.0
QCR	**Quepos**	0.91	169	⇑*i* P	**Pn**	21 28 35.9	-0.2
COLC	**Colonia**	0.91	292	*i* P	**Pn**	21 28 36.4	+0.2
COLC				*i* S	**Sn**	21 28 50.6	-0.2
MESS	**Mesas**	0.94	296	*i* P	**Pn**	21 28 36.9	+0.4
BUS	**Buena Vista**	0.95	143	⇑*e*P	**Pn**	21 28 36.6	-0.4
BUS				*e*S	**Sn**	21 28 51.5	-0.9
LIM1	**Limonal**	0.97	293	*i* P	**Pn**	21 28 36.8	+0.1
GPS2	**Hotel Rinc˜‡n**	1.08	293	*i* P	**Pn**	21 28 38.4	+0.4
GPS2				*i* S	**Sn**	21 28 54.1	0.0
GPS1	**Guardaparques**	1.09	294	*i* P	**Pn**	21 28 38.4	+0.3
GB1A	**Borinquen Arri**	1.15	295	*i* P	**Pn**	21 28 39.0	+0.3
LAPC	**Finca la Perla**	1.16	292	*i* P	**Pn**	21 28 38.9	0.0
GBS3	**Finca Las lm˜¡**	1.19	293	*i* P	**Pn**	21 28 39.4	+0.2
GBS3				*i* S	**Sn**	21 28 55.6	-0.5
GBS2	**Las Lilas**	1.21	295

IDC 31 21:44:02.4±7.4, 5.95S×145.83E, h74km±61km, mb3.4/2, mb1 3.6/4, mb1mx3.2/18, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=71.6km s-min=49.5km az=50.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PMG	**Port Moresby**	**3.68**	**159**	P	Pn		21 44 56.3	-0.6
	4.9nm,0.3s,baz=206,slow=9.8,SNR=29							
PMG				S	Sn		21 45 39.9	+0.8
	2.0nm,0.3s,baz=335,slow=19,SNR=4.2							
WRA	**Warramunga Arr**	**17.83**	**218**	P	P		21 48 04.5	-1.0
	0.4nm,0.3s,baz=44,slow=12,SNR=11							
ASAR	**Alice Springs**	**21.02**	**212**	P	P		21 48 39.9	-0.3
	0.7nm,0.4s,baz=38,slow=12,SNR=11							
STKA	**Stephens Creek**	**26.09**	**188**	P	P		21 49 29.9	+0.6
	2.2nm,0.9s,baz=10,slow=10,SNR=3.2							

IDC 31 21:46:06.4±53.0, 16.55S×176.27W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/19, mbtmp4.0/3, Error ellipse: s-maj=1001.0km s-min=167.6km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
STKA	**Stephens Creek**	**41.07**	**240**	P	P		21 53 52.2	+0.2
	2.1nm,0.9s,baz=90,slow=9.1,SNR=6.4							
WRA	**Warramunga Arr**	**46.90**	**258**	P	P		21 54 38.8	-0.2
	0.5nm,0.4s,baz=95,slow=7.1,SNR=6.1							
ASAR	**Alice Springs**	**47.13**	**253**	P	P		21 54 40.5	-0.3
	2.1nm,0.6s,baz=88,slow=8.7,SNR=28							

IDC 31 21:52:35.5±7.0, 9.07S×156.19E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/18, mbtmp3.9/3, MS3.3/3, Ms1 3.3/3, ms1mx2.8/29, Error ellipse: s-maj=116.8km s-min=83.5km az=17.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
HNR	**Honiara**	**3.73**	**96**	LR	LR		21 54 53.0	
	comp=Z,210nm,20.6s,baz=98,slow=37							
PMG	**Port Moresby**	**8.92**	**267**	LR	LR		21 57 58.5	
	comp=Z,200nm,21.2s,baz=89,slow=36							
WRA	**Warramunga Arr**	**23.72**	**240**	P	P		21 57 49.9	+0.4
	1.5nm,0.8s,baz=67,slow=9.9,SNR=5.8							
ASAR	**Alice Springs**	**25.78**	**233**	P	P		21 58 08.0	-0.4
	2.5nm,1.0s,baz=64,slow=9.1,SNR=9.9							
STKA	**Stephens Creek**	**26.43**	**209**	P	P		21 58 14.3	+0.1
	1.5nm,0.6s,baz=56,slow=11,SNR=5.6							
PPT	**Papeete**	**53.30**	**105**	LR	LR		22 20 03.1	
	comp=Z,54nm,21.2s,baz=40,slow=31							

IDC 31 21:53:10.5±2.0, 1.53N×126.53E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/20, mbtmp3.7/3, Error ellipse: s-maj=168.7km s-min=24.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**22.67**	**161**	P	P		21 58 13.5	-0.1
	1.9nm,0.5s,baz=339,slow=11,SNR=13							
ASAR	**Alice Springs**	**25.98**	**152**	P	P		21 58 45.9	+0.1
	0.5nm,0.4s,baz=344,slow=8.0,SNR=12							
MKAR	**Makanchi Array**	**59.25**	**326**	P			22 03 13.8	-0.1
	0.2nm,0.4s,baz=129,slow=8.2,SNR=2.5							

*ISCJB **31** 21:54:35.4±0.2, 31.73N×0.02×104.14E×0.03, h10km, mb4.5/97, MS3.8/18, Error ellipse: s-maj=3.4km s-min=3.1km az=162.7*

*IDC **31** 21:54:35.5±0.5, 31.76N×104.18E, h0km, mb4.4/25, mb1 4.5/27, mb1mx4.5/31, mbtmp4.4/27, ML3.9/2, MS3.8/9, Ms1 3.7/9, ms1mx3.4/38, Error ellipse: s-maj=15.4km s-min=12.4km az=36.0*

*MOS **31** 21:54:38.7±0.8, 31.74N×104.20E, h33km, mb4.7/48, Error ellipse: s-maj=8.1km s-min=5.1km az=114.6*

*BJI **31** 21:54:39.1, 31.78N×104.08E, h26km, mB4.5/18, mb4.5/26, ML4.2/18, Ms4.2/37, Ms7 3.9/36*

*NEIC **31** 21:54:41.5±0.5, 31.77N×104.18E, h41km±5km, mb4.6/21, Error ellipse: s-maj=4.3km s-min=3.5km az=187.0*

NEIC Felt at Chengdu.

ISC 31 21:54:37.7±0.3, 31.76N±0.03×104.11E±0.03, h10km, n256, σ1§36/272, mb4.7/97, MS3.8/18, 28C-11D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CD2	**Chengdu**	**0.90**	**200**	Pg	**Pg**		**21 54 56.0**	**+1.0**
CD2				Sg	**Sn**		**21 55 13.3**	**+3.8**
CD2				smax	smax			
	comp=E,29μm,0.9s							
LZH	**Lanzhou**	**4.32**	**357**	*e*Pn	**Pn**		**21 55 46.3**	**+2.7**
LZH				Pg	**Pg**		**21 55 59.5**	**-1.0**
LZH				Sn	**Sn**		**21 56 35.8**	**+1.6**
LZH				Sg	**Sg**		**21 56 55.5**	**-1.0**
LZH				smax	smax			
	comp=N,710nm,1.0s							
LZH				smax	smax			
	comp=E,810nm,0.8s							
LZH				LR	LR			
	comp=N,3μm,6.8s							
LZH				LR	LR			
	comp=E,3μm,7.6s							
LZH				LR	LR			
	comp=Z,4μm,9.0s							
XAN	**Xi'an**	**4.64**	**59**	Pn	**Pn**		**21 55 47.5**	**-0.4**
XAN				Sn	**Sn**		**21 56 41.0**	**-0.9**
XAN				Sg	**Sb**		**21 56 59.8**	**+4.6**
XAN				smax	smax			
	comp=N,840nm,0.9s							
XAN				smax	smax			
	comp=E,320nm,1.0s							
ENH	**Enshi**	**4.85**	**106**	*e*Pn	**Pn**		**21 55 51.8**	**+1.1**
ENH				*e*Sn	**Sn**		**21 56 45.3**	**-1.7**
GYA	**Guiyang**	**5.73**	**156**	Pn	**Pn**		**21 56 03.8**	**+0.8**
GYA				Sn	**Sn**		**21 57 07.3**	**-1.7**
GYA				Sg	Sb		21 57 35.0	+8.3
GYA				smax	smax			
	comp=N,650nm,0.8s							
GYA				smax	smax			
	comp=E,640nm,0.7s							
GYA				LR	LR			
	comp=E,970nm,5.4s							
GYA				LR	LR			
	comp=Z,380nm,4.4s							
KMI	**Kunming**	**6.72**	**191**	Pn	**Pn**		**21 56 18.3**	**+1.6**
KMI				Sn	**Sn**		**21 57 31.5**	**-1.9**
KMI				Sg	Sb		21 58 02.5	+7.3
KMI				smax	smax			
	comp=N,94nm,1.1s							
KMI				smax	smax			
	comp=E,61nm,1.5s							
KMI				LR	LR			
	comp=N,900nm,7.7s							
KMI				LR	LR			
	comp=E,1μm,6.3s							
GTA	**Gaotai**	**8.40**	**337**	*e*P	Pn		21 56 44.5	+4.9
GTA				pP	Pb		21 56 47.8	-16
GTA				sP			21 56 50.5	
GTA				S	**Sn**		**21 58 20.0**	**+5.5**
GTA				sS	Sb		21 58 25.5	-18
GTA				pmax	pmax			
	comp=Z,7.0nm,0.7s							
GTA				pmax	pmax			
	comp=Z,86nm,5.2s							
GTA				LR	LR			
	comp=N,1μm,10.9s							
GTA				LR	LR			
	comp=E,900nm,10.0s							
GTA				LR	LR			
	comp=Z,1μm,11.4s							
WHN	**Wuhan**	**8.86**	**95**	P	Pn		21 56 52.3	+6.5
WHN				S	**Sn**		**21 58 22.0**	**-3.6**
WHN				LR	LR			
	comp=N,2μm,7.6s							
WHN				LR	LR			
	comp=E,2μm,10.2s							
WHN				LR	LR			
	comp=Z,2μm,12.6s							
HHC	**Hu-ho-hao-te**	**10.88**	**31**	*e*P	**Pn**		**21 57 16.3**	**+2.8**
HHC				pP			21 57 22.5	
HHC				sP			21 57 27.8	
HHC				S	**Sn**		**21 59 15.5**	**+0.1**
HHC				sS			21 59 27.5	
HHC				SS	**SnSn**		**21 59 30.8**	**+3.4**
HHC				pmax	pmax			
	comp=Z,27nm,0.8s							
HHC				pmax	pmax			
	comp=Z,110nm,3.6s							
HHC				LR	LR			
	comp=N,870nm,6.6s							
HHC				LR	LR			
	comp=E,870nm,6.8s							
HHC				LR	LR			
	comp=Z,1μm,8.9s							
LSA	**Lhasa**	**11.34**	**263**	P	Pn		21 57 24.0	+3.8
LSA				S	**Sn**		**21 59 23.0**	**-4.3**
LSA				LR	LR			
	comp=E,420nm,10.9s							
LSA				LR	LR			
	comp=Z,610nm,10.9s							
LSA	**Lhasa**	**11.34**	**263**	*e*P	**Pn**		**21 57 22.7**	**+2.5**
LSA				pmax	pmax			
	comp=Z,9.0nm,0.6s							
LSA	**Lhasa**	**11.34**	**263**	*e*Pn	**Pn**		**21 57 22.7**	**+2.5**
	comp=Z,8.9nm,0.6s							
GZH	**Guangzhou**	**11.90**	**134**	P	Pn		21 57 23.8	-3.7
GZH				S	Sn		21 59 29.0	-11
GZH				LR	LR			
	comp=N,750nm,8.7s							
GZH				LR	LR			
	comp=E,820nm,10.9s							
NJ2	**Nanjing**	**12.53**	**85**	*e*P	**Pn**		**21 57 37.5**	**+1.4**
NJ2				pP			21 57 44.8	
NJ2				PP	**PnPn**		**21 57 48.0**	**+4.2**
NJ2				sP			21 57 49.8	
NJ2				S	Sn		21 59 50.0	-5.7
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
NJ2				LR	LR			
	comp=N,420nm,11.5s							
NJ2				LR	LR			
	comp=E,1μm,16.3s							
NJ2				LR	LR			
	comp=Z,1μm,17.2s							
BJI	**Beijing**	**12.79**	**46**	P	**Pn**		**21 57 40.3**	**+0.7**
BJI				S	**Sn**		**22 00 01.0**	**-1.0**
BJI				pmax	pmax			
	comp=Z,6.0nm,0.6s							
BJI				pmax	pmax			
	comp=Z,48nm,5.2s							
BJI				LR	LR			
	comp=N,540nm,13.8s							
BJI				LR	LR			
	comp=E,430nm,15.4s							
BJI				LR	LR			
	comp=Z,110nm,20.3s							
QIZ	**Qiongzhong**	**13.69**	**156**	P	**Pn**		**21 57 55.0**	**+3.1**
QIZ				S	**Sn**		**22 00 27.5**	**+3.4**
QIZ				pmax	pmax			
	comp=Z,20nm,1.8s							
QIZ				LR	LR			
	comp=N,370nm,16.1s							
QIZ				LR	LR			
	comp=Z,580nm,14.9s							
CHTO	**Chiang Mai**	**13.71**	**201**	*e*P	**Pn**		**21 57 53.4**	**+1.2**
CHTO	**Chiang Mai**	**13.71**	**201**	*e*Pn	**Pn**		**21 57 53.4**	**+1.2**
CMAR	**Chiang Mai Arr**	**14.04**	**201**	Pn	**Pn**		**21 57 58.0**	**+1.3**
CMAR	**Chiang Mai Arr**	**14.04**	**201**	Pn	**Pn**		**21 57 58.1**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=11,slow=10,SNR=9.8							
TAPN	**Taplejung**	**14.93**	**257**	*e*P	**Pn**		**21 58 08.6**	**-0.6**
	comp=Z,41nm,0.9s							
ODAN	**Odare**	**15.38**	**256**	*e*P	**Pn**		**21 58 13.8**	**-1.2**
	comp=Z,42nm,0.8s							
DL2	**Dalian**	**15.96**	**59**	P	P		21 58 32.0	+6.1
DL2				*e*S	**S**		**22 01 34.5**	**+1.1**
DL2				pmax	pmax			
	comp=Z,15nm,0.9s							
DL2				LR	LR			
	comp=N,130nm,14.7s							
DL2				LR	LR			
	comp=E,160nm,16.0s							
DL2				LR	LR			
	comp=Z,190nm,11.0s							
RAMN	**Ramite**	**16.00**	**257**	*e*P	**Pn**		**21 58 21.4**	**-1.7**
	comp=Z,18nm,0.6s							
JIRN	**Jiri**	**16.10**	**260**	*e*P	**Pn**		**21 58 23.9**	**-0.6**
	comp=Z,28nm,0.7s							
SONM	**Songino Array**	**16.15**	**6**	Pn	**Pn**		**21 58 24.6**	**-0.2**
SONM	**Songino Array**	**16.15**	**6**	Pn	**Pn**		**21 58 24.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=182,slow=12,SNR=12							
SONM				LR	LR		22 05 27.9	
	comp=Z,308nm,20.2s,baz=334,slow=40							
ULN	**Ulaanbaatar**	**16.24**	**7**	*e*Pn	**Pn**		**21 58 25.4**	**-0.6**
	comp=Z,8.8nm,0.8s							
GUN	**Gumba**	**16.28**	**261**	*e*P	**Pn**		**21 58 25.9**	**-0.9**
	comp=Z,52nm,0.8s							
YHNB	**Yeheng**	**16.77**	**111**	*e*Pn	**Pn**		**21 58 32.8**	**+0.1**
PKI	**Pulchoki**	**16.78**	**260**	*e*P	**Pn**		**21 58 31.7**	**-1.5**
	comp=Z,50nm,0.8s							
PKIN	**Phulchoki**	**16.79**	**260**	*e*P	**Pn**		**21 58 31.8**	**-1.4**
	comp=Z,30nm,0.6s							
KKN	**Kakani**	**16.82**	**261**	*e*P	**Pn**		**21 58 32.7**	**-0.9**
	comp=Z,26nm,0.5s							
SSLB	**Suanglung**	**16.88**	**114**	*e*P	**Pn**		**21 58 36.1**	**+2.0**
	comp=Z,31nm,1.0s							
DMN	**Daman**	**17.02**	**261**	*e*P	**Pn**		**21 58 34.6**	**-1.6**
	comp=Z,45nm,0.7s							
WMQ	**Urumqi**	**17.66**	**318**	P	**P**		**21 58 45.3**	**+0.5**
WMQ				pP	pP		21 58 53.0	+5.4
WMQ				sP	sP		21 58 57.8	+8.9
WMQ				PP	**PnPn**		**21 59 00.0**	**+5.7**
WMQ				S	**Sn**		**22 01 58.0**	**-2.6**
WMQ				pmax	pmax			
	comp=Z,16nm,1.3s							
WMQ				LR	LR			
	comp=N,130nm,23.2s							
WMQ				LR	LR			
	comp=E,150nm,13.0s							
WMQ				LR	LR			
	comp=Z,170nm,21.6s							
DANN	**Dangsing**	**17.94**	**264**	*e*P	**Pn**		**21 58 46.3**	**-1.3**
KOLN	**Koldanda**	**18.24**	**263**	*e*P	**Pn**		**21 58 49.3**	**-2.0**
	comp=Z,32nm,0.7s							
ZAK	**Zakamensk**	**18.62**	**358**	*e*P	**P**		**21 58 56.2**	**+0.9**
ZAK				pmax	pmax			
	comp=Z,6.0nm,0.9s							
PYUN	**Piuthan**	**18.66**	**264**	*e*P	**P**		**21 58 53.8**	**-2.3**
	comp=Z,38nm,0.7s							
MOY	**Mondy**	**20.02**	**354**	*e*P	Pn		21 59 12.7	+0.2
MOY				pmax	pmax			
	comp=Z,28nm,2.2s							
KSAR	**Wonju Array Be**	**20.35**	**67**	P	**P**		**21 59 14.7**	**+0.5**
KSRS	**Korea Array**	**20.38**	**67**	P	**P**		**21 59 14.7**	**+0.1**
	comp=Z,10nm,0.6s,baz=256,slow=11,SNR=65							
IRK	**Irkutsk**	**20.47**	**0**	*e*P	**P**		**21 59 16.1**	**+0.7**
IRK				pmax	pmax			
	comp=Z,52nm,1.2s							
CN2	**Changchun**	**20.64**	**48**	*e*P	**P**		**21 59 19.0**	**+1.6**
CN2				*es*P	sP		21 59 32.0	+10
CN2				*e*S	**S**		**22 03 02.5**	**-5.5**
CN2				pmax	pmax			
	comp=Z,10.0nm,1.1s							
CN2				pmax	pmax			
	comp=Z,500nm,10.0s							
CN2				LR	LR			
	comp=N,200nm,15.0s							
CN2				LR	LR			
	comp=E,200nm,15.0s							
CN2				LR	LR			
	comp=Z,200nm,15.0s							
HVS	**Khovu-Aksy**	**20.83**	**341**	*c i*P	**P**		**21 59 20.6**	**+1.1**
HVS				pmax	pmax			
	comp=Z,171nm,1.0s							
MK31	**Makanchi Array**	**22.49**	**318**	*ce*P	**P**		**21 59 37.9**	**+0.6**
MK31				pmax	pmax			
	comp=Z,10.0nm,0.7s							
MKAR	**Makanchi Array**	**22.49**	**318**	P	**P**		**21 59 37.8**	**+0.5**
MKAR							22 03 30.4	
MKAR				pmax	pmax			
	comp=Z,7.0nm,0.6s							
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MKAR				MLR	MLR			
	comp=Z,313nm,18.1s							
MKAR	**Makanchi Array**	**22.49**	**318**	*e*P	**P**		**21 59 38.1**	**+0.8**
MKAR				PcP	**PcP**		**22 03 30.4**	**-0.8**
MKAR	**Makanchi Array**	**22.49**	**318**	P	**P**		**21 59 37.8**	**+0.5**
	comp=Z,7.4nm,0.6s,baz=118,slow=12,SNR=87							
MKAR				PcP	**PcP**		**22 03 30.4**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=132,slow=2.1,SNR=11							
MKAR				LR	LR		22 09 15.2	
	comp=Z,313nm,18.1s,baz=284,slow=39							
JNU	**Nakatsue**	**22.61**	**79**	LR	LR		22 09 28.8	
	comp=Z,242nm,19.5s,baz=40,slow=40							
MDJ	**Mudanjiang**	**23.68**	**50**	P	**P**		**21 59 49.3**	**-0.1**
MDJ				pP	pP		21 59 58.0	+5.6
MDJ				sP	sP		22 00 01.8	+8.2
MDJ				S	**S**		**22 04 03.5**	**-0.7**
MDJ				sS	sS		22 04 17.5	+8.3
MDJ				pmax	pmax			
	comp=Z,19nm,0.9s							
MDJ				LR	LR			
	comp=Z,75nm,17.2s							
MDJ	**Mudanjiang**	**23.68**	**50**	*e*P	**P**		**21 59 49.6**	**+0.2**
	comp=Z,16nm,0.9s							
KSH	**Kashi**	**24.08**	**297**	P	**P**		**21 59 57.0**	**+3.6**
KSH				pP	pP		22 00 06.5	+10
KSH				sP	sP		22 00 10.3	+13
KSH				PP	PnPn		22 00 33.3	+11
KSH				S	**S**		**22 04 12.5**	**+1.6**
KSH				sS	sS		22 04 27.8	+12
KSH				SS	SnSn		22 05 07.8	+16
KSH				pmax	pmax			
	comp=Z,6.0nm,0.6s							
KSH				pmax	pmax			
	comp=Z,67nm,2.8s							
KSH				LR	LR			
	comp=N,130nm,5.5s							
KSH				LR	LR			
	comp=E,200nm,9.9s							
KSH				LR	LR			
	comp=Z,210nm,12.1s							
VLA	**Vladivostok**	**24.69**	**55**	*e*P	**P**		**21 59 58.8**	**0.0**
VLA				pmax	pmax			
	comp=Z,21nm,0.7s							
USRK	**Ussuriysk Arra**	**25.12**	**52**	P	**P**		**22 00 02.2**	**-0.4**
	comp=Z,12nm,0.8s,baz=253,slow=11,SNR=34							
AAK	**Ala-Archa**	**25.84**	**303**	*e*P	**P**		**22 00 10.7**	**+1.2**
AAK				pmax	pmax			
	comp=Z,25nm,1.7s							
AAK	**Ala-Archa**	**25.84**	**303**	*e*P	**P**		**22 00 10.5**	**+1.0**
	comp=Z,10nm,1.3s							
AAK	**Ala-Archa**	**25.84**	**303**	LR	LR		22 12 11.2	
	comp=Z,218nm,19.2s,baz=131,slow=41							
ZALV	**Zalesovo Beam**	**26.14**	**334**	P	**P**		**22 00 11.7**	**-0.1**
ZALV							22 03 37.4	
ZALV				pmax	pmax			
	comp=Z,8.0nm,0.7s							
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ZALV				MLR	MLR			
	comp=Z,91nm,19.8s							
ZALV	**Zalesovo Beam**	**26.14**	**334**	P	**P**		**22 00 11.7**	**-0.1**
ZALV				PcP	**PcP**		**22 03 37.4**	**-1.5**
ZALV	**Zalesovo Beam**	**26.14**	**334**	P	**P**		**22 00 11.7**	**-0.1**
	comp=Z,8.0nm,0.7s,baz=131,slow=9.7,SNR=54							
ZALV				PcP	**PcP**		**22 03 37.4**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=146,slow=2.4,SNR=3.5							
ZALV				LR	LR		22 11 14.6	
	comp=Z,91nm,19.8s,baz=69,slow=38							
KURBB	**Kurchatov Arra**	**26.72**	**322**	P	**P**		**22 00 17.6**	**+0.5**
	comp=Z,3.1nm,0.6s,baz=132,slow=8.9,SNR=37							
KURBB				PcP	**PcP**		**22 03 38.9**	**-1.3**
	comp=Z,3.9nm,0.6s,baz=116,slow=2.0,SNR=18							
KURK	**Kurchatov**	**26.73**	**323**	P	**P**		**22 00 17.6**	**+0.4**
KURK							22 03 38.9	
KURK				pmax	pmax			
	comp=Z,3.0nm,0.6s							
KURK				pmax	pmax			
	comp=Z,4.0nm,0.6s							
KURK	**Kurchatov**	**26.73**	**323**	P	**P**		**22 00 17.6**	**+0.4**
KURK				PcP	**PcP**		**22 03 38.9**	**-1.4**
KLR	**Kul'dur**	**27.10**	**42**	*e*P	**P**		**22 00 20.2**	**-0.3**
NVS	**Novosibirsk**	**27.42**	**333**	*e*P	**P**		**22 00 22.3**	**-1.0**
NVS				pmax	pmax			
	comp=Z,5.0nm,0.9s							
NVS				pmax	pmax			
	comp=N,3.0nm,0.9s							
NVS				pmax	pmax			
	comp=E,3.0nm,0.7s							
MJAR	**Matsushiro Arr**	**28.53**	**71**	P	**P**		**22 00 32.5**	**-1.0**
MJAR	**Matsushiro Arr**	**28.53**	**71**	P	**P**		**22 00 32.5**	**-1.0**
	comp=E,0.8nm,0.5s,baz=277,slow=9.9,SNR=5.1							
HABR	**Khabarovsk**	**28.70**	**45**	*e*P	**P**		**22 00 33.3**	**-1.5**
HABR				*e**PP	**pP**		**22 00 42.7**	**+4.9**
HABR				*e**SP	sP		22 00 47.0	+7.9
HABR				*e*			22 01 23.9	
HABR				*e*S	**S**		**22 05 20.4**	**-3.3**
HABR				*e**SS	sS		22 05 36.8	+8.1
HABR				*e*SS	**SnSn**		**22 06 43.4**	**-0.6**
HABR				*i*			22 11 18.2	
HABR				pmax	pmax			
	comp=E,23nm,2.3s							
HABR				pmax	pmax			
	comp=Z,22nm,2.6s							
HABR				pmax	pmax			
	comp=N,29nm,2.6s							
HABR				MLR	MLR			
	comp=Z,99nm,17.0s							
KK31	**Karatay Array**	**28.80**	**303**	*ce*P	**P**		**22 00 36.5**	**+0.6**
KK31				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KKAR	**Karatay Array**	**28.80**	**303**	*e*P	**P**		**22 00 36.4**	**+0.5**
KKAR	**Karatay Array**	**28.80**	**303**	*e*P	**P**		**22 00 36.4**	**+0.5**
KBL	**Kabul**	**29.41**	**285**	*e*P	**P**		**22 00 42.6**	**+1.0**
KBL				pmax	pmax			
	comp=Z,15nm,1.3s							
KBL	**Kabul**	**29.41**	**285**	*e*P	**P**		**22 00 42.6**	**+1.0**
	comp=Z,14nm,1.3s							
BRVK	**Borovoye**	**32.36**	**321**	*e*P	**P**		**22 01 07.8**	**+0.7**
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.7s							
ABKAR	**Akbulak array**	**37.25**	**311**	*e*P	**P**		**22 01 50.1**	**+0.7**
AKTO	**Aktyubinsk**	**38.70**	**313**	*i* P	**P**		**22 02 01.4**	**-0.2**
AKTO				pmax	pmax			
	comp=Z,3.0nm,0.6s							
SVE	**Sverdlovsk**	**38.98**	**323**	*i*P	**P**		**22 02 05.0**	**+1.1**
SVE				pmax	pmax			
	comp=Z,16nm,0.8s							
ARU	**Arti**	**39.92**	**322**	*c i*P	**P**		**22 02 12.4**	**+0.7**
ARU							22 03 41.1	
ARU				PPP	PPP		22 04 07.8	
ARU				S	**S**		**22 08 17.3**	**+0.7**
ARU				pmax	pmax			
	comp=Z,23nm,1.0s							
SOKR	**Solikamsk**	**41.86**	**326**	*c i*P	**P**		**22 02 28.6**	**+1.0**
SOKR				pmax	pmax			
	comp=Z,10.0nm,0.6s							
TIXI	**Tiksi**	**42.11**	**11**	*e*P	**P**		**22 02 29.7**	**+0.2**
TIXI				pmax	pmax			
	comp=Z,6.0nm,1.0s							
PETK	**Petropavlovsk-**	**43.72**	**45**	P	**P**		**22 02 42.4**	**-0.5**
PETK				pmax	pmax			
	comp=Z,7.0nm,0.8s							
PETK				MLR	MLR			
	comp=Z,65nm,18.1s							
PETK	**Petropavlovsk-**	**43.72**	**45**	P	**P**		**22 02 42.4**	**-0.5**
PETK	**Petropavlovsk-**	**43.72**	**45**	P	**P**		**22 02 42.4**	**-0.5**
	comp=Z,7.1nm,0.8s,baz=207,slow=6.2,SNR=9.9							
PETK				LR	LR		22 23 09.1	
	comp=Z,65nm,18.1s,baz=104,slow=39							
MIB	**Mutribah**	**48.34**	**283**	*e*P	**P**		**22 03 18.6**	**-1.0**
MIB				AMb	AMB		22 03 20.6	
	comp=Z,22nm,1.0s							
RDF	**Al-Radifah**	**48.43**	**282**	*e*P	**P**		**22 03 20.1**	**-0.2**
RDF				AMb	AMB		22 03 21.5	
	comp=Z,34nm,1.0s							
NAY	**Al-Naaiem**	**48.59**	**283**	*e*P	**P**		**22 03 21.0**	**-0.5**
NAY				AMb	AMB		22 03 22.0	
	comp=Z,18nm,0.9s							
KBZ	**Khabaz**	**48.84**	**302**	P	**P**		**22 03 23.5**	**+0.3**
KBZ				pmax	pmax			
	comp=Z,2.0nm,0.5s							
KBZ	**Khabaz**	**48.84**	**302**	P	**P**		**22 03 23.5**	**+0.3**
KBZ	**Khabaz**	**48.84**	**302**	P	**P**		**22 03 23.5**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=72,slow=4.8,SNR=6.0						

comp=Z,100nm,17.0s
VRHR Novokhopersk 49.11 312 *e*P P **22 03 24.2 -1.0**
VRHR pmax pmax
comp=Z,6.0nm,0.5s
VRHR pmax pmax
comp=N,10.0nm,1.2s
VRHR pmax pmax
comp=E,7.0nm,0.8s
VORD Divnogorie 50.58 312 *e*P P **22 03 34.5 -1.9**
VORD pmax pmax
comp=Z,3.0nm,1.4s
VORD pmax pmax
comp=N,10.0nm,0.4s
VORD pmax pmax
comp=E,10.0nm,0.4s
VSR Storozhevoye 50.65 313 *e*P P **22 03 36.3 -0.6**
VSR pmax pmax
comp=Z,5.0nm,0.8s
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,4.0nm,0.6s
OBN Obninsk 52.00 318 *ce*P P **22 03 46.5 -0.4**
OBN *e* 22 05 45.2
OBN pmax pmax
comp=Z,28nm,2.5s
OBN MLR MLR
comp=Z,100nm,23.0s
ANN Anapa 52.56 305 *e*P P **22 03 50.6 -0.7**
ANN *e*S S **22 11 15.3 -2.9**
ANN pmax pmax
comp=Z,23nm,1.1s
FX1 Attu Island--F 53.04 45 *e*P P **22 03 53.5 -1.2**
MALT Malatya 53.18 296 ⇓*i*P P 22 04 15.4 +19
SIM Simferopol' 54.85 305 *e*P P **22 04 07.2 -0.9**
SIM pmax pmax
comp=Z,7.0nm,0.8s
BR131 Keskin Array S 56.42 299 *e*P P **22 04 19.4 -0.3**
comp=Z,1.8nm,0.6s
BRTR Keskin Array B 56.43 299 P P **22 04 19.6 -0.1**
BRTR Keskin Array B 56.43 299 P P **22 04 19.6 -0.1**
comp=Z,3.1nm,0.8s,baz=92,slow=6.9,SNR=23
ARCES ARCESS Array B 56.67 336 P P **22 04 20.2 -0.5**
ARCES PcP **PcP** **22 05 16.4 -0.4**
ARCES ARCESS Array B 56.67 336 P P **22 04 20.2 -0.5**
comp=Z,3.4nm,0.5s,baz=100,slow=7.6,SNR=40
ARCES PcP **PcP** **22 05 16.4 -0.4**
comp=Z,2.1nm,0.6s,baz=98,slow=3.7,SNR=5.0
KIEV Kiev 56.95 313 *e*P P **22 04 21.6 -1.5**
KIEV pmax pmax
comp=Z,4.0nm,0.9s
KIEV Kiev 56.95 313 *e*P P **22 04 21.6 -1.5**
comp=Z,4.0nm,0.9s
FINES FINESS Array B 57.03 326 P P **22 04 23.1 -0.3**
FINES FINESS Array B 57.03 326 P P **22 04 23.1 -0.3**
comp=Z,5.3nm,0.4s,baz=90,slow=7.2,SNR=89
SPITS Spitsbergen Ar 58.70 346 LR LR 22 35 51.3
comp=Z,48nm,18.4s,baz=90,slow=42
WRAB Tennant Creek 59.01 146 *e*P P **22 04 36.3 -1.5**
WRAB pmax pmax
comp=Z,9.0nm,0.6s
WRAB Tennant Creek 59.01 146 *e*P P **22 04 36.3 -1.5**
comp=Z,9.2nm,0.6s
WRA Warramunga Arr 59.01 146 P P **22 04 37.1 -0.7**
WRA Warramunga Arr 59.01 146 P P **22 04 37.1 -0.7**
comp=Z,4.2nm,0.6s,baz=339,slow=7.5,SNR=34
PETR Petresti 59.39 308 ⇑*i*P P 22 04 51.2 +11
VRI Vrincioaia 59.69 308 ⇑P P **22 04 42.4 +0.1**
VRI Vrincioaia 59.69 308 ⇑*i*P P **22 04 42.4 +0.1**
PLOR Plostina 59.74 308 ⇑P P **22 04 44.1 +1.3**
PLOR Plostina 59.74 308 ⇑*i*P P **22 04 44.0 +1.3**
BURAR Bucovina Array 60.22 310 ⇑P P 22 04 43.1 -2.9
BURAR Bucovina Array 60.22 310 ⇑*i*P P 22 04 43.1 -2.9
MLR Muntele Rosu 60.32 308 ⇑*i*P P **22 04 48.3 +1.5**
VOIR 60.94 308 ⇓P P **22 04 51.1 +0.1**
VOIR 60.94 308 ⇓*i*P P **22 04 51.1 +0.1**
ARR Arges 61.24 308 ⇓*i*P P **22 04 53.3 +0.3**
KWP Kalwaria Pacla 61.27 313 ⇓P P 22 04 49.6 -3.5
KWP Kalwaria Pacla 61.27 313 ⇓*i*P P 22 04 49.5 -3.5
KOLS Kolonicke sedl 61.74 312 *e*P P **22 04 56.3 +0.1**
KOLS pmax pmax
comp=Z,3.0nm,1.3s
KOLS Kolonicke sedl 61.74 312 *e*P P **22 04 56.3 +0.1**
LOT Lotru 61.80 308 ⇓*i*P P **22 04 57.2 +0.4**
UZH Uzhgorod 61.81 312 *e*P P 22 05 00.3 +3.6
UZH *i* 22 05 37.7
ASAR Alice Springs 62.05 149 P P **22 04 57.7 -0.8**
ASAR Alice Springs 62.05 149 P P **22 04 57.7 -0.8**
comp=Z,1.6nm,0.5s,baz=355,slow=6.7,SNR=24
DRGR 62.09 310 ⇓P P 22 04 56.4 -2.3
DRGR 62.09 310 ⇓*i*P P 22 04 56.4 -2.3
STHS Stebnicka Huta 62.24 313 *e*P P **22 04 59.7 +0.1**
STHS pmax pmax
comp=Z,3.0nm,1.1s
STHS Stebnicka Huta 62.24 313 *e*P P **22 04 59.7 +0.1**
OJC Ojcow 62.89 314 *e*P P **22 05 04.1 +0.2**
OJC Ojcow 62.89 314 *e*P P **22 05 04.1 +0.2**
comp=Z,9.7nm,1.0s
KECS Kecovo 63.00 312 *e*P P **22 05 05.1 +0.4**
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 63.00 312 *e*P P **22 05 05.1 +0.4**
VTS Vitosha 63.09 305 ⇑P P **22 05 06.6 +1.1**
VTS Vitosha 63.09 305 ⇑*i*P P **22 05 06.6 +1.1**
OKC Ostrava-Krasne 64.03 314 *e*P P **22 05 11.6 +0.2**
OKC MLR MLR
comp=Z,200nm,19.5s
OKC Ostrava-Krasne 64.03 314 *e*P P **22 05 11.6 +0.2**
OKC AMS AMS 22 34 00.0
comp=Z,200nm,19.5s
VYHS Vyhne 64.04 312 *e*P P **22 05 11.8 +0.3**
VYHS *e* 22 05 46.0
VYHS pmax pmax
comp=Z,6.0nm,1.4s
VYHS Vyhne 64.04 312 *e*P P **22 05 11.8 +0.3**
VYHS *e* 22 05 31.1
VYHS *e* 22 05 46.0
VYHS *e* 22 08 47.0
VYHS *e* 22 08 57.6
NB2 NORSAR Subarra 64.11 327 P P **22 05 10.6 -1.3**
comp=Z,1.9nm,0.5s,baz=72,slow=6.9
NOA NORSAR Array B 64.11 327 P P **22 05 10.6 -1.3**
NOA NORSAR Array B 64.11 327 P P **22 05 10.6 -1.3**
comp=Z,3.5nm,0.8s,baz=73,slow=6.7,SNR=10
MORC Moravsky Berou 64.41 314 *e*P P **22 05 13.9 -0.1**
MORC pmax pmax
comp=Z,9.0nm,1.2s
MORC Moravsky Berou 64.41 314 *e*P P **22 05 13.9 -0.1**
comp=Z,9.0nm,1.2s
KRLC Kraliky 64.78 315 *e*P P **22 05 16.6 +0.2**
KRLC Kraliky 64.78 315 *e*P P **22 05 16.6 +0.2**
KSP Ksiaz 64.81 316 *e*P P **22 05 16.9 +0.4**
DPC Dobruska-Polom 64.96 315 *e*P P **22 05 17.7 +0.1**
DPC Dobruska-Polom 64.96 315 *e*P P **22 05 18.1 +0.5**
DPC *ep*P **pP** **22 05 25.4 +4.6**
DPC AMS AMS 22 34 50.0
DPC Dobruska-Polom 64.96 315 *e*P P **22 05 17.7 +0.1**
ZST Bratislava 65.23 313 *e*P P **22 05 18.0 -1.3**
ZST *e* 22 05 31.9
ZST Bratislava 65.23 313 *e*P P **22 05 18.0 -1.3**
ZST *ep*P pP 22 05 31.9 +9.4
TREC Trest 65.84 314 AMS AMS 22 35 10.0
comp=Z,200nm,24.7s
PVCC Panska Ves 65.95 316 *e*P P **22 05 24.3 +0.4**
PVCC Panska Ves 65.95 316 *e*P P **22 05 24.3 +0.4**
CONA Conrad Observa 66.10 313 ⇑*i*P P **22 05 25.5 +0.4**
comp=Z,6.6nm,1.1s,SNR=5.1
PRU Pruhonice 66.16 315 *e*P P **22 05 26.5 +1.2**
PRU MLR MLR
comp=Z,200nm,18.5s
PRU Pruhonice 66.16 315 *e*P P **22 05 26.5 +1.2**
PRU AMS AMS 22 35 20.0
comp=Z,200nm,18.5s
BRG Berggiesshubel 66.19 316 *e*P P **22 05 25.6 +0.1**
comp=Z,6.1nm,1.0s
BRG Berggiesshubel 66.19 316 *e*P P **22 05 25.6 +0.1**
BRG pmax pmax
comp=Z,4.0nm,1.0s
ARSA Arzberg 66.56 312 ⇑*i*P P **22 05 27.8 -0.1**
comp=Z,6.3nm,1.3s
CLL Collm 66.58 317 *i*P P **22 05 27.9 -0.1**
CLL pmax pmax
comp=Z,10.0nm,1.2s
CLL Collm 66.58 317 *i*P P **22 05 27.9 -0.1**
comp=Z,7.0nm,1.2s
COLD Coldfoot 66.87 24 *e*P P **22 05 29.1 -0.4**
comp=Z,8.1nm,1.0s
GOLS Golise 66.96 311 *i*P P **22 05 30.8 +0.3**
KHC Kasperske Hory 67.06 315 *e*P P **22 05 31.0 -0.1**
KHC MLR MLR
comp=Z,200nm,16.1s
KHC Kasperske Hory 67.06 315 *e*P P **22 05 31.0 -0.1**
KHC AMS AMS 22 36 00.0
comp=Z,200nm,16.1s
SOKA Soboth 67.09 312 ⇑*i*P P **22 05 31.3 -0.1**
comp=Z,9.0nm,1.2s,SNR=8.0
GERES GERESS Array B 67.09 314 P P **22 05 31.3 -0.1**
GERES GERESS Array B 67.09 314 P P **22 05 31.3 -0.1**
comp=Z,1.8nm,0.6s,baz=72,slow=6.5,SNR=22
GERES LR LR 22 36 23.7
comp=Z,119nm,18.8s,baz=90,slow=37
MOA Molln 67.13 313 ⇑*i*P P **22 05 31.8 +0.3**
comp=Z,8.7nm,1.4s
NKC Novy Kostel 67.32 316 *e*P P **22 05 33.0 +0.3**
NKC Novy Kostel 67.32 316 *e*P P **22 05 33.0 +0.3**
KBA Koelnbreinsper 68.00 313 ⇑*i*P P **22 05 37.1 -0.1**
comp=Z,3.6nm,0.5s
CADS Cadrg 68.09 312 *e*P P **22 05 37.4 -0.3**
COLA College 68.84 26 *e*P P **22 05 41.3 -0.6**
COLA pmax pmax
comp=Z,44nm,0.8s
COLA College 68.84 26 *e*P P **22 05 41.3 -0.6**
comp=Z,44nm,0.8s
TIP Tinpagrande 68.89 304 *e*P P **22 05 42.1 -0.7**
comp=Z,6.9nm,1.1s
WTTA Wattenberg 68.99 313 ⇑*i*P P **22 05 43.3 -0.2**
comp=Z,5.9nm,0.7s
CUC Castrocucco 69.22 305 *e*P P **22 05 44.3 -0.5**
comp=Z,4.6nm,0.7s
ILAR Eielson Array 69.25 26 P P **22 05 42.9 -1.6**
ILAR Eielson Array 69.25 26 P P **22 05 42.9 -1.6**
comp=Z,2.8nm,1.1s,baz=312,slow=5.2,SNR=14
MOTA Moosalm 69.29 313 ⇓*i*P P **22 05 44.3 -1.0**
comp=Z,6.7nm,1.0s
FETA Feichten 69.66 313 ⇑*i*P P **22 05 47.2 -0.4**
comp=Z,8.4nm,0.9s,SNR=7.7
CEL Celeste 69.89 303 *e*P P **22 05 48.2 -0.8**
comp=Z,16nm,0.9s
FUORN Ofenpass-Fuorn 70.12 313 *e*P P **22 05 49.6 -0.9**
comp=Z,14nm,1.3s
OHAK Old Harbor 70.22 34 *e*P P **22 05 49.5 -1.1**
KDAK Kodiak Island 70.29 34 P P **22 05 50.0 -1.0**
KDAK Kodiak Island 70.29 34 P P **22 05 50.0 -1.0**
comp=Z,7.6nm,0.5s,baz=315,slow=1.6,SNR=6.9
TUE Stuetta 70.75 313 *e*P P **22 05 54.0 -0.4**
comp=Z,8.7nm,1.1s
KMBO Kilima Mbogo 71.07 256 *e*P P **22 05 56.5 -0.3**
comp=Z,6.9nm,0.9s
KMBO Kilima Mbogo 71.07 256 P P **22 05 57.2 +0.5**
comp=Z,4.8nm,0.7s,baz=37,slow=11,SNR=17
CDF Champ du Feu 71.15 316 *e*P P **22 05 55.9 -0.7**
comp=Z,7.0nm,0.7s
INK Inuk 71.54 19 *e*P P **22 05 57.6 -0.8**
comp=Z,12nm,0.9s
INK Inuvik 71.54 19 P P **22 05 57.6 -0.8**
comp=Z,8.9nm,0.8s,baz=336,slow=5.7,SNR=16
HINF Hinteralfeld 71.67 315 *e*P P **22 05 58.7 -1.0**
comp=Z,7.7nm,0.9s
GIVF Givet 71.81 318 *e*P P **22 05 59.7 -0.7**
HAU Haudompre 71.89 316 *e*P P **22 06 00.0 -1.0**
HAU *e*R
comp=Z,117nm,20.8s
SENIN Lac Senin/Sane 72.07 314 *e*P P **22 06 01.9 -0.5**
comp=Z,25nm,1.8s
BAIF Baives 72.18 318 *e*P P **22 06 02.2 -0.4**
comp=Z,11nm,1.1s
MEZF Maizieres J'vi 72.43 316 *e*P P **22 06 03.5 -0.6**
STKA Stephens Creek 72.55 147 P P **22 06 04.0 -0.9**
STKA Stephens Creek 72.55 147 P P **22 06 04.0 -0.9**
comp=Z,2.0nm,0.5s,baz=332,slow=7.9,SNR=7.7
SFTF Sexfontaines 72.57 316 *e*P P **22 06 04.2 -0.8**
CABF La Chapelle 72.69 314 *e*P P **22 06 05.1 -0.8**
PGF Pioggiola 72.73 310 *e*P P **22 06 06.0 -0.2**
comp=Z,22nm,0.7s
LPG La Plagne 72.81 313 *e*P P **22 06 06.7 -0.1**
comp=Z,24nm,0.7s
LPL La Plagne 72.81 313 *e*P P **22 06 06.6 -0.2**
comp=Z,24nm,0.7s
BNI Bardonecchia 73.06 313 *e*P P **22 06 08.3 +0.2**
BNI Bardonecchia 73.06 313 *e*P P **22 06 08.3 +0.2**
SBF Sospel 73.14 311 *e*P P **22 06 07.8 -0.7**
comp=Z,44nm,1.0s
MBDF Montbardon 73.16 312 *e*P P **22 06 09.2 +0.5**
comp=Z,8.5nm,0.7s
ORIF Oris-in-Rattie 73.62 313 *e*P P **22 06 10.9 -0.5**
comp=Z,12nm,0.9s
ORIF *e*R
comp=Z,176nm,19.0s
LOR Lormes 73.72 316 *e*P P **22 06 10.5 -1.4**
LOR *e*R
comp=Z,100nm,20.0s
FRF La Foret Royal 73.79 311 *e*P P **22 06 11.0 -1.3**
LMR La Mourre 73.98 311 *e*P P **22 06 12.8 -0.6**
comp=Z,4.8nm,0.5s
SSF Saint Saulge 74.03 316 *e*P P **22 06 12.7 -1.0**
SMF Signal de Mont 74.04 315 *e*P P **22 06 12.7 -1.0**
comp=Z,24nm,1.0s
AVF Avril sur Loir 74.26 315 *e*P P **22 06 14.2 -0.8**
comp=Z,18nm,1.0s
SMRF Simiane la Rot 74.27 312 *e*P P **22 06 13.7 -1.4**
VIVF Saint-Julien-l 74.41 313 *e*P P **22 06 15.1 -0.8**
comp=Z,25nm,1.2s
HYT Haines Junctio 75.04 26 *e*P P **22 06 19.0 -0.4**
TCF Toulx Ste Croi 75.19 315 *e*P P **22 06 19.7 -0.7**
comp=Z,9.9nm,0.9s
LASF Ste Croix 75.30 313 *e*P P **22 06 20.7 -0.4**
comp=Z,16nm,1.0s
FLN La Foliniere 75.48 319 *e*P P **22 06 21.1 -0.9**
FLN *e*R
comp=Z,84nm,22.2s
KEST Kesra 75.70 303 P P **22 06 22.7 -0.9**
KEST Kesra 75.70 303 P P **22 06 22.7 -0.9**
comp=Z,1.5nm,0.9s,baz=45,slow=7.1,SNR=4.3
GRR Gorron 75.89 318 *e*P P **22 06 23.5 -0.8**
CAF Calviac 75.97 314 *e*P P **22 06 24.7 -0.3**
comp=Z,13nm,1.0s
RJF Les Rejaudoux 76.11 315 *e*P P **22 06 25.5 -0.2**
comp=Z,5.9nm,0.7s
RJF *e*R
comp=Z,62nm,20.0s
MFF Saint Martin d 76.42 317 *e*P P **22 06 27.4 0.0**
comp=Z,6.3nm,0.6s
MTLF Montolieu 76.69 313 *e*P P **22 06 28.6 -0.4**
comp=Z,22nm,1.4s
ETSF Etsaut 78.66 314 *e*P P **22 06 39.8 -0.3**
comp=Z,14nm,1.0s
YKA Yellowknife Ar 81.06 17 P P **22 06 51.9 -0.7**
YKA Yellowknife Ar 81.06 17 P P **22 06 51.9 -0.7**
comp=Z,4.0nm,0.7s,baz=330,slow=5.3,SNR=10
ESDC Sonseca Array 82.58 312 P P **22 07 00.8 -0.4**
ESDC Sonseca Array 82.58 312 P P **22 07 00.8 -0.4**
comp=Z,0.2nm,0.3s,baz=50,slow=4.7,SNR=6.5
TAM Tamanrasset 85.16 294 *e*P P **22 07 14.3 -0.5**
TAM pmax pmax
comp=Z,2.0nm,1.0s
TAM Tamanrasset 85.16 294 *e*P P **22 07 14.3 -0.5**
comp=Z,2.2nm,1.0s
EDM Edmonton 89.32 21 *e*P P **22 07 34.0 -0.2**
EDM Edmonton 89.32 21 *e*P P **22 07 34.0 -0.2**
FFC Flin Flon 90.98 15 *i*P P 22 07 38.8 -3.0
BSMT Bassoo Peak 93.40 25 *e*P P **22 07 53.2 -0.2**
SCHQ Schefferville 93.41 355 P P **22 07 52.0 -1.1**
SCHQ Schefferville 93.41 355 P P **22 07 52.0 -1.1**
comp=Z,4.9nm,0.8s,baz=40,slow=2.3,SNR=4.7
TORD Torodi Ar. Bea 93.44 288 P P **22 07 53.2 -0.8**
TORD Torodi Ar. Bea 93.44 288 P P **22 07 53.2 -0.8**
comp=Z,2.2nm,1.0s,baz=49,slow=6.0,SNR=7.6
ULM Lac du Bonnet 96.45 13 LR LR 22 53 48.6
comp=Z,38nm,20.6s,baz=22,slow=37

IDC 31 22:07:08.9±1.7, 18°21S×69°30W, h138km±14km, mb3.9/6, mb1 3.9/9, mb1mx3.6/22, mbtmpb3.8/9, Error ellipse: s-maj=21.9km s-min=16.2km az=99.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.21**	**30**	P	Pn	22 07 46.6	-0.2
	32nm,0.3s,baz=233,slow=7.1,SNR=844						
LPAZ				S	Sn	22 08 16.2	+0.5
	7.5nm,0.3s,baz=229,slow=20,SNR=4.1						
SIV	**San Ignacio**	**8.17**	**76**	P	Pn	22 09 03.8	-0.9
	4.6nm,0.3s,baz=268,slow=14,SNR=35						
SIV				S	Sn	22 10 34.8	-0.8
	0.6nm,0.3s,baz=351,slow=19,SNR=3.3						
NNA	**Nana**	**9.56**	**309**	P	Pn	22 09 16.6	-6.8
	4.3nm,0.3s,baz=153,slow=11,SNR=5.3						
CFAA	**Coronel Fontan**	**13.37**	**176**	P	Pn	22 10 06.9	-6.4
	0.2nm,0.3s,baz=356,slow=14,SNR=16						
CPUP	**Villa Florida**	**13.71**	**128**	P	Pn	22 10 17.1	-0.5
	0.6nm,0.3s,baz=305,slow=16,SNR=4.9						
BDFB	**Brasilia**	**20.52**	**86**	P	P	22 11 36.9	+0.2
	3.9nm,0.5s,baz=264,slow=13,SNR=9.6						
PLCA	**Paso Flores**	**22.47**	**182**	P	P	22 11 56.4	-0.5
	4.8nm,0.9s,baz=348,slow=12,SNR=8.1						
USHA	**Ushuaia**	**36.56**	**179**	P	P	22 14 01.6	+0.4
	4.6nm,1.0s,baz=5.2,slow=11,SNR=4.0						
DBIC	**Dimbokro**	**68.19**	**75**	P	P	22 17 55.1	+0.2
	5.8nm,0.8s,baz=233,slow=7.3,SNR=8.0						
TORD	**Torodi Ar. Bea**	**76.62**	**71**	P	P	22 18 45.1	+0.1
	2.2nm,0.5s,baz=255,slow=5.7,SNR=60						
TORD				pP	pP	22 19 17.2	-2.0
	1.9nm,0.8s,baz=255,slow=5.4,SNR=3.2						
YKA	**Yellowknife Ar**	**87.98**	**341**	P	P	22 19 41.4	-1.5
	4.6nm,1.0s,baz=5.2,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**132.61**	**209**	PKP	PKPdf	22 26 07.8	-0.3
	0.3nm,0.7s,baz=111,slow=2.1,SNR=3.4						
WRA	**Warramunga Arr**	**135.55**	**213**	PKP	PKPdf	22 26 13.0	-0.7
	0.4nm,0.4s,baz=149,slow=1.7,SNR=5.9						
MKAR	**Makanchi Array**	**143.14**	**33**	PKP	PKPdf	22 26 26.7	0.0
	0.2nm,0.7s,baz=335,slow=3.4,SNR=3.3						
USRK	**Ussuriysk Arra**	**148.52**	**330**	PKPbc	PKPbc	22 26 39.1	-0.5
	1.8nm,0.7s,baz=31,slow=9.7,SNR=4.2						
SONM	**Songino Array**	**150.24**	**6**	PKPbc	PKPbc	22 26 44.6	+0.7
	0.8nm,0.5s,baz=349,slow=2.4,SNR=4.5						

IDC ***31*** *22:17:25.4±3.5, 12°.44N×86°.97W, h86km±51km, mb3.7/8, mb1 3.9/9, mb1mx3.6/24, mbtmpb3.7/9, ML3.8/1, Error ellipse: s-maj=41.4km s-min=30.8km az=27.0*
ISCJB ***31*** *22:17:27.8±0.3, 12°.46N±0°.09×87°.08W±0°.09, h117km±7km, mb4.0/8, Error ellipse: s-maj=20.7km s-min=3.7km az=41.9*
CASC ***31*** *22:17:30.0±2.2, 12°.08N×87°.40W, h36km±999km, MD4.0*

ISC 31 22:17:28.2±0.8, 12°.5N±0°.1×87°.09W±0°.10, h110km±9km, n33, σ1°59/43, mb3.9/8, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**1.10**	**319**	*e*P	**Pn**	**22 17 50.9**	**+0.3**
CNCH				*e*S	**Sn**	**22 18 08.1**	**+0.6**
BLLM	**Bellamira**	**1.49**	**311**	*e*P	**Pn**	**22 17 55.5**	**+0.5**
VSM	**San Miguel**	**1.51**	**310**	*e*P	**Pn**	**22 17 55.8**	**+0.4**
SNVI	**San Vicente**	**2.06**	**304**	*e*P	**Pn**	**22 18 02.4**	**+0.3**
SNVI				*e*S	**Sn**	**22 18 28.4**	**+0.3**
LFRS	**El Faro**	**2.25**	**301**	*e*P	**Pn**	**22 18 04.8**	**+0.4**
LFRS				*e*S	**Sn**	**22 18 31.6**	**-0.7**
LBRS	**Las Brisas**	**2.30**	**304**	*e*P	**Pn**	**22 18 05.8**	**+0.7**
BOQS	**Boqueron**	**2.49**	**301**	*e*P	**Pn**	**22 18 08.3**	**+0.6**
BOQS				*e*S	**Sn**	**22 18 37.2**	**-0.8**
VCR	**Vista de Mar**	**2.71**	**148**	⇓*i*P	**Pn**	**22 18 11.1**	**+0.6**
VCR				*e*S	**Sn**	**22 18 40.5**	**-2.6**
SBLS	**San Blas**	**2.83**	**300**	*e*P	**Pn**	**22 18 13.2**	**+1.0**
SNJE	**San Jose**	**2.83**	**300**	*e*P	**Pn**	**22 18 13.0**	**+0.9**
RTR	**El Retiro**	**2.88**	**300**	*e*P	**Pn**	**22 18 13.7**	**+1.0**
JTS	**JuntasAbangare**	**3.00**	**135**	P	Pn	22 18 08.8	-5.4
	12nm,0.3s,baz=312,slow=20,SNR=9.3						
JTS				S	**Sn**	**22 18 44.5**	**-5.2**
	13nm,0.3s,baz=331,slow=18,SNR=5.1						
RBDL	**Robledal**	**3.02**	**303**	*e*P	**Pn**	**22 18 15.5**	**+0.8**
JCR	**Jicaral**	**3.23**	**143**	*e*P	**Pn**	**22 18 14.4**	**+1.1**
JCR				*e*S	**Sn**	**22 18 53.7**	**-1.5**
CGA2	**Cerro Gallo 2**	**3.53**	**133**	*e*P	**Pn**	**22 18 23.2**	**+1.8**
CGA2				*e*S	**Sn**	**22 19 02.9**	**+0.4**
IXG	**Ixpaco**	**3.70**	**298**	*e*P	**Pn**	**22 18 24.9**	**+1.2**
IXG				*e*S	**Sn**	**22 19 04.9**	**-1.7**
NBG	**Las Nubes**	**3.82**	**304**	*e*P	**Pn**	**22 18 27.8**	**+2.5**
QCR	**Quepos**	**4.16**	**136**	*e*P	**Pn**	**22 18 31.2**	**+1.6**
QCR				*e*S	**Sn**	**22 19 20.8**	**+3.4**
FUG	**Fuego 3**	**4.16**	**299**	*e*P	**Pn**	**22 18 31.7**	**+1.9**
FUG				*e*S	**Sn**	**22 19 18.8**	**+1.1**
URSC	**Urasca**	**4.16**	**128**	*e*P	Pn	22 18 24.9	-5.0
BUS	**Buena Vista**	**4.35**	**131**	*e*P	**Pn**	**22 18 35.5**	**+2.8**
JAT	**Jato**	**4.80**	**293**	*e*P	**Pn**	**22 18 39.8**	**+1.4**
ACR	**Cerro Adams**	**5.39**	**134**	*e*P	**Pn**	**22 18 48.2**	**+1.8**
ACR				*e*S	**Sn**	**22 19 46.3**	**-1.0**
TXAR	**Lajitas Array**	**22.80**	**320**	P	**P**	**22 22 22.2**	**+0.4**
	1.9nm,0.4s,baz=140,slow=9.8,SNR=63						
TKL	**Tuckaleechee C**	**23.30**	**7**	P	**P**	**22 22 26.7**	**+0.3**
	3.3nm,0.7s,baz=176,slow=13,SNR=4.0						
SADO	**Sadowa**	**32.92**	**10**	P	**P**	**22 23 52.5**	**+0.6**
	1.2nm,0.4s,baz=168,slow=17,SNR=3.4						
PDAR	**Pinedale Array**	**35.94**	**331**	P	**P**	**22 24 18.2**	**-0.1**
	0.6nm,0.5s,baz=131,slow=9.7,SNR=4.4						
NVAR	**Mina Array Bea**	**37.94**	**319**	P	**P**	**22 24 36.5**	**+1.3**
	0.6nm,0.6s,baz=150,slow=6.2,SNR=4.7						
ULM	**Lac du Bonnet**	**38.38**	**351**	P	**P**	**22 24 36.9**	**-1.5**
	3.8nm,0.7s,baz=154,slow=7.0,SNR=3.4						
SCHQ	**Schefferville**	**45.18**	**16**	P	**P**	**22 25 32.9**	**-0.9**
	3.6nm,0.6s,baz=234,slow=7.5,SNR=12						
YKA	**Yellowknife Ar**	**53.71**	**345**	P	**P**	**22 26 37.4**	**-1.1**
	0.9nm,0.7s,baz=146,slow=7.2,SNR=3.5						
ASAR	**Alice Springs**	**139.60**	**248**	PKP	**PKPdf**	**22 36 44.2**	**+0.5**
	0.4nm,0.5s,baz=105,slow=2.5,SNR=6.1						
WRA	**Warramunga Arr**	**139.61**	**254**	PKP	**PKPdf**	**22 36 43.9**	**+0.1**
	0.6nm,0.6s,baz=90,slow=2.5,SNR=8.1						

CSEM ***31*** *22:21:36.2±0.0, 43°.04N×0°.14W, h15km, ML0.8/4, Error ellipse: s-maj=1.3km s-min=0.5km az=4.0*
MDD ***31*** *22:21:37.0±0.4, 43°.04N×0°.14W, h11km±2km, mbLg0.2/5, Error ellipse: s-maj=5.0km s-min=2.3km az=8.0, PRIXMO*
LDG ***31*** *22:21:37.1±0.1, 43°.03N×0°.15W, h2km, Md1.5/3, Ml1.3/1, Error ellipse: s-maj=2.0km s-min=0.7km az=3.0*

ISC 31 22:21:36.3±1.1, 43°.04N±0°.06×0°.14W±0°.02, h15km±9km, n13, σ0°19/22, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.16**	**88**	Pg	**Pg**	**22 21 40.4**	**0.0**
LABF				Lg	Lg	22 21 42.9	
LABF				Sg	**Sg**	**22 21 43.1**	**0.0**
REYF	**Montagne du Re**	**0.18**	**279**	Pg	**Pg**	**22 21 40.7**	**-0.1**
REYF				Sg	**Sg**	**22 21 43.7**	**-0.1**
VIEF	**Viey**	**0.20**	**142**	Pg	**Pg**	**22 21 41.1**	**+0.1**
VIEF				Sg	**Sg**	**22 21 43.9**	**-0.2**
ETSF	**Etsaut**	**0.34**	**245**	*e*Pg	**Pg**	**22 21 43.3**	**0.0**
ETSF				*e*Sg	**Sg**	**22 21 48.0**	**0.0**
	1.1nm,0.2s						
ETSF	**Etsaut**	**0.34**	**245**	Pg	**Pg**	**22 21 43.3**	**0.0**
ETSF				*e*Sg	**Sg**	**22 21 48.0**	**0.0**
	0.6nm,0.2s						
EPF	**Esparros**	**0.35**	**91**	*e*Pg	**Pg**	**22 21 43.8**	**+0.2**
EPF				*e*Sg	**Sg**	**22 21 48.6**	**+0.1**
	2.4nm,0.2s						
EPF	**Esparros**	**0.35**	**91**	Pg	**Pg**	**22 21 43.8**	**+0.2**
EPF				*e*Sg	**Sg**	**22 21 48.6**	**+0.1**
	1.2nm,0.2s						
EBIE	**Bielsa**	**0.41**	**149**	Pg	**Pg**	**22 21 44.7**	**0.0**
	0.2nm,0.1s,SNR=7.9						
EBIE				Lg	Lg	22 21 50.4	
	0.9nm,0.1s,SNR=18						
EBIE	**Bielsa**	**0.41**	**149**	Pg	**Pg**	**22 21 44.7**	**0.0**
	0.2nm,0.1s,SNR=7.9						
EBIE				Lg	Lg	22 21 50.4	

	0.9nm,0.1s,SNR=18								
SJPF	**Ste Jean**	**0.80**	**276**	*e*Pg		**Pb**	**22 21 51.9**	**+0.1**
SJPF				*e*Sg		**Sg**	**22 22 02.3**	**0.0**
	0.7nm,0.2s							
SJPF	**Ste Jean**	**0.80**	**276**	Pg		**Pb**	**22 21 51.9**	**+0.1**
SJPF				*e*Sg		**Sg**	**22 22 02.3**	**0.0**
	0.3nm,0.2s							
SJPF				Lg		Lg	22 22 02.3	
	0.4nm,0.2s							
MTLF	**Montolieu**	**1.75**	**79**	*e*Sg		**Sg**	**22 22 32.2**	**-0.5**
	0.3nm,0.2s							
MTLF	**Montolieu**	**1.75**	**79**	*e*Sg		**Sg**	**22 22 32.2**	**-0.5**
	0.2nm,0.2s							

*CSEM **31** 22:22:09.5, 42.85N×1.46W, h0km, ML1.3, After MDD*
MDD 31 22:22:09.5±0.1, 42.85N×1.46W, h0km, mbLg1.3/3, 1C-1D, Error ellipse: s-maj=3.3km s-min=1.1km az=104.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZUN	**Zunzarren**	**0.01**	**8**	⇓Pg	Pg	22 22 09.7	-0.2
	1.7nm,0.0s,SNR=18						
IZUN				Lg	Lg	22 22 10.4	
	16nm,0.0s,SNR=7.9						
IZUN	**Zunzarren**	**0.01**	**8**	Pg	Pg	22 22 09.7	-0.2
	1.7nm,0.0s,SNR=18						
IZUN				Lg	Lg	22 22 10.4	
	16nm,0.0s,SNR=7.9						
IUNC	**Unciti**	**0.09**	**198**	⇑Pg	Pg	22 22 11.1	-0.2
	2.9nm,0.1s,SNR=18						
IUNC				Lg	Lg	22 22 13.0	
	6.6nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.09**	**198**	Pg	Pg	22 22 11.1	-0.3
	2.9nm,0.1s,SNR=18						
IUNC				Lg	Lg	22 22 13.0	
	6.6nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.12**	**231**	Pg	Pg	22 22 11.5	-0.2
	0.9nm,0.0s,SNR=7.9						
EARA				Lg	Lg	22 22 13.9	
	16nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.12**	**231**	Pg	Pg	22 22 11.5	-0.2
	0.9nm,0.0s,SNR=7.9						
EARA				Lg	Lg	22 22 13.9	
	16nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.12**	**327**	Pg	Pg	22 22 12.1	+0.1
	0.3nm,0.0s,SNR=4.0						
IUSE				Lg	Lg	22 22 14.0	
	0.3nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.12**	**327**	Pg	Pg	22 22 12.1	+0.2
	0.3nm,0.0s,SNR=4.0						
IUSE				Lg	Lg	22 22 14.0	
	0.3nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.16**	**115**	Lg	Lg	22 22 15.1	
	0.8nm,0.1s,SNR=4.0						
IEPA	**Eparoz**	**0.16**	**115**	Lg	Lg	22 22 15.1	
	0.8nm,0.1s,SNR=4.0						
IELO	**Elcoad**	**0.16**	**91**	Lg	Lg	22 22 15.5	
	1.0nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.16**	**91**	Lg	Lg	22 22 15.5	
	1.0nm,0.1s,SNR=7.9						

IDC 31 22:24:36.3±71.0, 14.15S×164.82E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/18, mbtmp4.1/3, Error ellipse: s-maj=1194.0km s-min=107.6km az=62.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.62**	**226**	P	P	22 30 25.8	+0.1
	2.0nm,0.5s,baz=49,slow=9.3,SNR=8.5						
WRA	**Warramunga Arr**	**29.68**	**255**	P	P	22 30 43.9	-0.3
	0.7nm,0.5s,baz=86,slow=8.9,SNR=4.1						
ASAR	**Alice Springs**			P	P	22 30 53.1	0.0
	1.5nm,0.5s,baz=76,slow=9.1,SNR=36						

*ISCJB **31** 22:27:56.5±0.7, 21.89N±0.03×121.79E±0.02, h8km±5km, mb3.8/9, MS3.0/2, Error ellipse: s-maj=5.5km s-min=3.8km az=176.8*
*IDC **31** 22:27:57.5±1.0, 21.87N×121.67E, h0km, mb3.9/9, mb1 3.9/10, mb1mx3.7/25, mbtmp3.8/10, ML3.5/1, MS3.1/2, Ms1 3.1/2, ms1mx2.5/32, Error ellipse: s-maj=70.8km s-min=17.7km az=65.0*
*TAP **31** 22:27:59.3, 21.98N×121.58E, h15km, ML3.9, C*
*NIED **31** 22:28:00, 22.00N×121.80E, h41km, Mw3.9 Best double couple: M0 8.40000×10^14 NP1: φs 308.00000°, δ 73.00000°, λ -88.00000°. NP2: φs 120.00000°, δ 18.00000°, λ -98.00000°.*
*JMA **31** 22:28:00.4±0.4, 22.01N×121.78E, h98km, M3.5*
ISC 31 22:27:58.1±1.4, 21.97N±0.04×121.68E±0.04, h10km±8km, n65, σ1°15/89, mb3.9/9, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.13**	**300**	⇑*i*P	Pg	**22 28 02.4**	**+1.1**
	baz=342						
TSEB	**Hengchuen, Pin**	**0.72**	**264**	P	Pn	**22 28 13.1**	**-1.3**
	baz=264						
TSEB				*i* S	Sn	**22 28 23.6**	**-2.0**
	baz=264						
TWK1	**Hengchun**	**0.81**	**268**	P	Pb	**22 28 13.6**	**-0.7**
	baz=284						
TWK1				*e*S	Sb	**22 28 23.9**	**-1.4**
	baz=284						
TAW	**Tawu**	**0.82**	**298**	*e*P	Pg	**22 28 12.8**	**-1.1**
	baz=302						
HEN	**Hengchun**	**0.87**	**272**	*e*P	Pb	**22 28 14.9**	**-0.5**
	baz=286						
HEN				*e*S	Sb	**22 28 25.5**	**-1.5**
	baz=286						
ECL	**Taimali**	**0.91**	**313**	*e*P	Pb	**22 28 14.7**	**-1.4**
	baz=318						
TTN	**Taitung**	**0.92**	**328**	*e*P	Pb	**22 28 15.5**	**-0.6**
	baz=344						
TTN				*e*S	Sn	**22 28 30.4**	**0.0**
	baz=344						
TWG	**Pinlang**	**1.01**	**327**	P	Pb	**22 28 16.6**	**-1.2**
	baz=316						
SCZT	**Fangliau**	**1.05**	**292**	*e*P	Pg	**22 28 17.8**	**-0.7**
	baz=306						
CHKT	**Chengkung**	**1.16**	**346**	P	Pb	**22 28 18.4**	**-1.8**
	baz=359						
CHKT				S	Sb	**22 28 33.5**	**-1.8**
	baz=359						
SGLT	**Jiouru**	**1.33**	**305**	*e*P	Pg	**22 28 23.1**	**-0.6**
	baz=315						
ELDTW	**Lidau**	**1.35**	**333**	*e*P	Pn	**22 28 22.0**	**-1.2**
	baz=337						
TWF1	**Yuli**	**1.42**	**346**	*e*P	Pn	**22 28 22.7**	**-1.3**
	baz=359						
TWM1	**Shoushan**	**1.44**	**306**	*e*P	Pg	**22 28 26.1**	**+0.4**
	baz=320						
STYT	**Tauyuan**	**1.46**	**325**	*e*P	Pn	**22 28 24.2**	**-0.4**
	baz=329						
STYT				*e*S	Sb	**22 28 43.2**	**-0.8**
	baz=329						
SGST	**Jiashian**	**1.50**	**318**	*e*P	Pb	**22 28 25.8**	**-0.3**
	baz=322						
SGST				*e*S	Sg	**22 28 46.5**	**+0.2**
	baz=322						
EHY	**Hungye**	**1.56**	**348**	*e*P	Pn	**22 28 24.8**	**-1.2**
	baz=359						
WTP	**Ta-pu**	**1.60**	**322**	P	Pb	**22 28 27.2**	**-0.7**
	baz=326						
WTP				*e*S	Sg	**22 28 49.7**	**0.0**
	baz=326						
CHN1	**Nanshi**	**1.61**	**319**	P	Pb	**22 28 28.1**	**+0.1**
	baz=322						
CHN1				*e*S	Sg	**22 28 51.0**	**+1.2**
	baz=322						
CHN3	**Shinhua**	**1.63**	**312**	*e*P	Pg	**22 28 28.7**	**-0.9**
	baz=316						
YUS	**Yu-Shan**	**1.65**	**336**	⇑P	Pn	**22 28 27.5**	**-0.2**
	baz=331						
TWK	**Hsinying**	**1.69**	**320**	*e*P	Pb	**22 28 28.8**	**-0.6**
	baz=323						
TWK				*e*S	Sg	**22 28 52.1**	**-0.5**
	baz=323						
CHN4	**Tsaushan**	**1.70**	**324**	*e*P	Pb	**22 28 29.4**	**-0.1**
	baz=338						
CHN4				*e*S	Sg	**22 28 52.9**	**+0.1**
	baz=338						
ALS	**Alishan**	**1.73**	**332**	*e*P	Pn	**22 28 28.7**	**+0.2**
	baz=336						
ALS				*e*S	Sg	**22 28 52.8**	**-1.0**
	baz=336						
ESL	**Shilin**	**1.85**	**353**	*e*P	Pn	**22 28 28.6**	**-1.3**
	baz=2.0						
CHN5	**Tsauling**	**1.86**	**331**	*e*P	Pb	**22 28 31.2**	**-1.1**
	baz=334						
CHN5				*e*S	Sg	**22 28 57.8**	**-0.2**
	baz=334						
CHN2	**Minshiung**	**1.91**	**325**	*e*P	Pb	**22 28 32.5**	**-0.6**
	baz=338						
CHN2				*e*S	Sb	**22 28 57.1**	**+0.2**
	baz=338						
CHY	**Chiayi**	**1.91**	**323**	*e*P	Pb	**22 28 32.1**	**-1.0**
	baz=326						
CHY				*e*S	Sg	**22 28 57.4**	**-2.1**
	baz=326						
SMLT	**Sun Moon Lake**	**2.03**	**340**	*e*P	Pb	**22 28 34.0**	**-1.2**
	baz=353						
TYC	**Yuchr**	**2.06**	**339**	*e*P	Pb	**22 28 34.8**	**-1.0**
	baz=342						
TYC				*e*S	Sb	**22 29 01.9**	**+0.5**
	baz=342						
TWD	**Chiawan**	**2.10**	**358**	*e*P	Pn	**22 28 32.5**	**-0.9**
	baz=10.0						
WNT	**Mingjian**	**2.10**	**334**	*e*P	Pb	**22 28 35.8**	**-0.6**
	baz=320						
WNT				*e*S	Sb	**22 29 02.4**	**-0.2**
	baz=320						
WHF	**Hehuan Shan**	**2.19**	**350**	*e*P	Pn	**22 28 34.7**	**-0.4**
	baz=353						
WDGT	**Dungji**	**2.26**	**305**	*e*P	Pn	**22 28 34.9**	**-0.7**
	baz=307						
TCU	**Taichung**	**2.35**	**337**	*e*P	Pb	**22 28 39.2**	**-1.5**
	baz=323						
ENA	**Nanau**	**2.44**	**1**	*e*P	Pn	**22 28 38.0**	**-0.1**
	baz=12						
NNS	**Nan Shan**	**2.47**	**354**	*e*P	Pn	**22 28 39.9**	**+1.3**
	baz=5.0						
TWQ1	**Liyutan**	**2.50**	**341**	P	Pb	**22 28 41.8**	**-1.4**
	baz=326						
TWQ1				*e*S	Sb	**22 29 12.9**	**-1.2**
	baz=326						
NSY	**Sanyi**	**2.57**	**341**	*e*P	Pb	**22 28 42.3**	**-2.1**
	baz=327						
NSY				*e*S	Sb	**22 29 15.0**	**-1.2**
	baz=327						
TWC	**Suao**	**2.63**	**3**	*e*P	Pn	**22 28 41.1**	**+0.5**
	baz=15						
ENTT	**Nioudou**	**2.66**	**358**	*e*P	Pn	**22 28 42.0**	**+0.9**
	baz=359						
NSK	**Sanguang**	**2.71**	**354**	*e*P	Pn	**22 28 42.6**	**+0.8**
	baz=4.0						
NSK				*e*S	Sn	**22 29 16.8**	**+2.1**
	baz=4.0						
NSTT	**Nanjuang**	**2.72**	**347**	*e*P	Pn	**22 28 44.2**	**+2.3**
	baz=357						
NSTT				*e*S	Sb	**22 29 19.2**	**-1.0**
	baz=357						
TWE	**Neicheng**	**2.73**	**360**	*e*P	Pn	**22 28 43.1**	**+1.0**
	baz=10.0						
YOJ	**Yonaguni jima**	**2.77**	**26**	*e*P	Pn	**22 28 42.6**	**+0.1**
	baz=26						
YOJ	**Yonaguni jima**	**2.77**	**26**	P	Pn	**22 28 42.6**	**+0.1**
YOJ				*e*S	Sn	**22 29 15.5**	**-0.5**
HATJ	**Hateruma jima**	**2.85**	**43**	P	Pn	**22 28 43.7**	**-0.1**
HATJ				S	Sn	**22 29 16.3**	**-1.9**
TWA	**Mucha**	**2.99**	**358**	*e*P	Pn	**22 28 47.9**	**+2.1**
	baz=360						
IRIF	**Iriomote-Funau**	**3.02**	**38**	P	Pn	**22 28 46.1**	**+0.1**
IRIF				*e*S	Sn	**22 29 21.1**	**-1.1**
NWF	**Wu-fen Shan**	**3.08**	**2**	*e*P	Pn	**22 28 48.7**	**+1.7**
	baz=353						
JKRS	**Kuro-shima**	**3.11**	**43**	P	Pn	**22 28 47.5**	**+0.2**
JKRS				S	Sn	**22 29 22.7**	**-1.9**
JIJ	**Ishigaki jima**	**3.29**	**43**	P	Sn	**22 28 49.1**	**-0.7**
JIJ				S	Sn	**22 29 26.0**	**-2.9**
JTJ	**Tarama**	**3.85**	**46**	P	Pn	**22 28 57.5**	**+0.1**
JTJ				S	Sn	**22 29 41.2**	**-1.5**
KSRS	**Korea Array**	**16.35**	**18**	Pn	Pn	**22 31 49.0**	**+1.3**
	0.2nm,0.3s,baz=199,slow=12,SNR=5.5						
ASAJ	**Asahikawa**	**28.05**	**33**	LR	LR	22 44 25.1	
	comp=Z,38nm,19.4s,baz=140,slow=35						
MKAR	**Makanchi Array**	**40.25**	**318**	P	P	**22 35 36.3**	**+1.1**
	0.7nm,0.6s,baz=107,slow=10.0,SNR=8.7						
PETK	**Petropavlovsk-**	**41.46**	**32**	LR	LR	22 53 25.1	
	comp=Z,29nm,18.3s,baz=44,slow=37						
ZALV	**Zalesovo Beam**	**42.35**	**328**	P	P	22 35 55.3	+3.0
	1.5nm,0.6s,baz=116,slow=8.8,SNR=8.4						
WRA	**Warramunga Arr**	**43.46**	**163**	P	P	**22 36 00.6**	**-1.1**
	0.7nm,0.5s,baz=344,slow=8.8,SNR=3.0						
KURBB	**Kurchatov Arra**	**44.09**	**321**	P	P	**22 36 07.4**	**+1.0**
	0.7nm,0.5s,baz=114,slow=8.5,SNR=4.6						
ASAR	**Alice Springs**	**46.90**	**165**	P	P	**22 36 30.3**	**+1.3**
	0.2nm,0.4s,baz=341,slow=7.0,SNR=4.4						
AKTO	**Aktyubinsk**	**56.67**	**317**	P	P	**22 37 42.7**	**+1.0**
	0.8nm,0.6s,baz=282,slow=23,SNR=3.6						
STKA	**Stephens Creek**	**56.84**	**160**	P	P	**22 37 43.0**	**0.0**
	2.3nm,1.1s,baz=321,slow=6.5,SNR=3.1						
FINES	**FINESS Array B**	**73.58**	**330**	P	P	**22 39 32.5**	**+1.2**
	1.1nm,0.7s,baz=47,slow=6.1,SNR=3.8						
NOA	**NORSAR Array B**	**80.38**	**332**	P	P	**22 40 11.1**	**+1.4**
	1.1nm,0.9s,baz=57,slow=7.1,SNR=2.8						

ISC 31 22:42:04.1±2.6, 45.5N±0.1×12.63E±0.06, h14km±15km, n8, σ0°30/14, 1C-3D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGRP	**Cima Grappa**	**0.70**	**305**	⇑*e*Pg	Pn	**22 42 20.0**	**+0.2**
CGRP				*e*Sg	Sn	**22 42 30.1**	**-0.4**
CIMO	**Cimolais**	**0.84**	**351**	*e*Pg	Pn	**22 42 21.6**	**+0.1**
CIMO				*e*Sg	Sb	**22 42 31.7**	**+0.1**
SABO	**M.te Sabotino**	**0.84**	**54**	⇓*e*Pg	Pn	**22 42 21.3**	**-0.3**
SABO				*e*Sg	Sb	**22 42 32.4**	**+0.7**
VINO	**Villanova**	**0.90**	**30**	⇓*e*Pg	Pb	**22 42 21.5**	**+0.1**
VINO				*e*Sg	Sg	**22 42 33.1**	**-0.2**
SKDS	**Skadanscina**	**0.98**	**86**	*i* Pg	Pb	**22 42 22.8**	**0.0**
SKDS				*i* Sg	Sb	**22 42 35.8**	**+0.2**
JAVS	**Javornik**	**1.09**	**67**	*i* Pg	Pb	**22 42 24.6**	**-0.1**
JAVS				*i* Sg	Sb	**22 42 38.7**	**-0.1**
ZOU	**Zoufplan**	**1.10**	**13**	⇓*e*Pg	Pg	**22 42 25.3**	**0.0**
CRNS	**Crni Vrh**	**1.29**	**62**	*e*Pg	Pn	**22 42 27.9**	**+0.1**

IDC 31 22:47:15.3±1.3, 7.17N×75.64W, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, Error ellipse: s-maj=54.3km s-min=16.1km az=59.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.64**	**150**	Pg	Pb	22 48 04.3	+0.2
	26nm,0.3s,baz=304,slow=6.3,SNR=52						
ROSC				Lg	Lg	22 48 40.8	
	30nm,0.3s,baz=88,slow=23,SNR=13						
LPAZ	**La Paz**	**24.46**	**162**	P	P	22 52 36.0	-1.0
	0.6nm,0.5s,baz=4.2,slow=11,SNR=3.2						
SIV	**San Ignacio**	**27.16**	**148**	P	P	22 53 00.8	+0.1
	1.2nm,0.7s,baz=349,slow=12,SNR=4.0						
TXAR	**Lajitas Array**	**34.38**	**313**	P	P	22 54 04.8	+0.3
	0.1nm,0.6s,baz=122,slow=12,SNR=2.9						
TORD	**Torodi Ar. Bea**	**76.12**	**78**	P	P	22 59 05.7	0.0
	0.3nm,0.6s,baz=286,slow=5.2,SNR=4.7						

*AUST **31** 22:53:45.2, 5.27S×147.58E, h60km*
*ISCJB **31** 22:53:51.1±0.7, 5.83S±0.06×147.4E±0.1, h77km, mb3.6/6, Error ellipse: s-maj=15.4km s-min=8.2km az=173.6*
*IDC **31** 22:53:53.0±2.2, 5.92S×147.42E, h87km±25km, mb3.5/6, mb1 3.9/9, mb1mx3.6/18, mbtmp3.7/9, MS3.7/1, Ms1 3.7/1, ms1mx2.7/21, Error ellipse: s-maj=45.3km s-min=12.7km az=107.0*
ISC 31 22:53:52.4±0.9, 5.85S±0.08×147.4E±0.1, h77km, n21, σ0°86/22, mb3.8/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.54**	**184**	P	Pn	**22 54 44.9**	**-0.2**
	22nm,0.3s,baz=18,slow=5.2,SNR=42						
PMG				S	Sn	**22 55 24.8**	**-1.1**
	29nm,0.3s,baz=232,slow=22,SNR=6.4						
COEN	**Coen**	**9.06**	**207**	P	Pn	**22 56 00.5**	**+0.1**
	baz=9.7,SNR=20						
MTSU	**Mount Surprise**	**12.57**	**193**	P	Pn	**22 56 49.0**	**+0.6**
	baz=13,SNR=8.0						
CTA	**Charters Tower**	**14.20**	**184**	P	Pn	**22 57 10.7**	**+0.8**
	0.4nm,0.3s,baz=26,slow=13,SNR=4.2						
KDU	**Kakadu**	**16.20**	**244**	P	Pn	**22 57 35.9**	**+0.4**
	baz=17,SNR=3.5						
KDU				S	S	**23 00 42.1**	**-1.1**
	baz=17,SNR=5.0						
WRA	**Warramunga Arr**	**18.89**	**221**	P	P	**22 58 07.2**	**+0.3**
	1.4nm,0.3s,baz=42,slow=12,SNR=40						
EIDS	**Eidsvold**	**19.73**	**170**	P	Pn	**22 58 17.4**	**-0.7**
	baz=20,SNR=3.5						
RMQ	**Roma**	**20.56**	**176**	P	Pn	22 58 27.0	-1.0
	baz=21,SNR=4.3						
ASAR	**Alice Springs**	**21.95**	**215**	P	P	**22 58 40.2**	**+0.2**
	6.0nm,0.5s,baz=48,slow=9.3,SNR=111						
ASAR				S	S	**23 02 36.8**	**-1.4**
	1.9nm,0.8s,baz=34,slow=20,SNR=6.6						
ARMA	**Armidale**	**24.77**	**171**	P	P	**22 59 08.9**	**+1.7**
	baz=25,SNR=4.2						
STKA	**Stephens Creek**	**26.45**	**191**	P	P	**22 59 22.2**	**-0.1**
	2.1nm,0.7s,baz=9.2,slow=10,SNR=5.6						
WSI	**Waingapu**	**27.09**	**260**	S	S	**23 04 01.5**	**+0.4**
	baz=27,SNR=5.7						
LHI	**Lord Howe Isla**	**27.79**	**158**	S	S	**23 04 12.2**	**+0.6**
	baz=28,SNR=3.3						
MEEK	**Meekatharra**	**34.34**	**230**	P	P	**23 00 33.3**	**+1.3**
	baz=35,SNR=8.4						
KLBR	**Kellerberrin**	**37.74**	**224**	P	P	**23 01 01.9**	**+0.9**
	baz=38,SNR=8.7						
NWAO	**Narrogin (SRO)**	**38.89**	**222**	LR	LR	23 15 37.8	
	comp=Z,119nm,21.9s,baz=21,slow=34						
KSRS	**Korea Array**	**46.75**	**339**	P	P	**23 02 14.4**	**+0.4**
	0.6nm,0.5s,baz=144,slow=10,SNR=3.9						
MKAR	**Makanchi Array**	**77.62**	**320**	P	P	**23 05 39.8**	**-0.7**
	0.1nm,0.5s,baz=115,slow=5.9,SNR=3.5						
ZALV	**Zalesovo Beam**	**79.09**	**328**	P	P	**23 05 47.8**	**-0.6**
	0.5nm,0.5s,baz=101,slow=4.7,SNR=3.5						
ILAR	**Eielson Array**	**85.20**	**23**	P	P	**23 06 19.4**	**-0.6**
	0.9nm,0.8s,baz=257,slow=5.6,SNR=10						
TORD	**Torodi Ar. Bea**	**145.42**	**285**	PKPbc	**PKPdf**	**23 13 21.9**	**-0.7**
	0.4nm,0.4s,baz=66,slow=3.5,SNR=17						

*CSEM **31** 23:08:06.3, 42.90N×1.29W, h0km, ML0.5, After MDD*
MDD 31 23:08:06.3±0.8, 42.90N×1.29W, h0km, mbLg0.5/4, 1D, Error ellipse: s-maj=7.4km s-min=3.2km az=3.0, PRXIMO SIN SOLUCIN, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IELO	**Elcoad**	**0.06**	**146**	⇓Pg	Pg	23 08 07.5	-0.1
	0.6nm,0.1s,SNR=18						
IELO				Lg	Lg	23 08 08.8	
	4.6nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.06**	**146**	Pg	Pg	23 08 07.5	-0.1
	0.6nm,0.1s,SNR=18						
IELO				Lg	Lg	23 08 08.8	
	4.6nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.12**	**173**	Pg	Pg	23 08 08.1	-0.6
	0.6nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	23 08 09.8	
	5.8nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.12**	**173**	Pg	Pg	23 08 08.1	-0.6
	0.6nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	23 08 09.8	
	5.8nm,0.1s,SNR=7.9						
IZUN	**Zunzarren**	**0.13**	**254**	Lg	Lg	23 08 10.3	
	1.8nm,0.1s,SNR=4.0						
IZUN	**Zunzarren**	**0.13**	**254**	Lg	Lg	23 08 10.3	
	1.8nm,0.1s,SNR=4.0						
IUNC	**Unciti**	**0.21**	**228**	Pg	Pg	23 08 10.3	-0.2
	0.5nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	23 08 13.5	
	2.9nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**0.21**	**228**	Pg	Pg	23 08 10.3	-0.2
	0.5nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	23 08 13.5	
	2.9nm,0.2s,SNR=7.9						

*IDC **31** 23:20:17.8±1.4, 5.06S×153.02E, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.3/20, mbtmp4.2/13, ML3.2/1, MS3.6/7, Ms1 3.6/7, ms1mx3.3/25, Error ellipse: s-maj=41.5km s-min=16.4km az=110.0*
*ISCJB **31** 23:20:22.7±1.0, 5.1S±0.1×152.8E±0.2, h43km, mb4.2/16, MS3.6/7, Error ellipse: s-maj=28.6km s-min=10.4km az=22.2*
*NEIC **31** 23:20:23.2±0.8, 5.08S×152.86E, h35km, mb4.6/4, Error ellipse: s-maj=25.3km s-min=9.6km az=114.0*
ISC 31 23:20:25.1±1.1, 5.1S±0.1×152.6E±0.2, h43km, n35, σ1°29/35, mb4.2/16, MS3.6/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.92**	**231**	*e*Pn	Pn	**23 22 04.9**	**+0.8**
	22nm,0.6s						
PMG				*e*Sn	Sn	**23 23 18.5**	**-3.1**
PMG	**Port Moresby**	**6.92**	**231**	Pn	Pn	**23 22 05.7**	**+1.6**
	2.5nm,0.3s,baz=39,slow=9.1,SNR=8.3						
PMG				Sn	Sn	**23 23 19.2**	**-2.4**
	2.2nm,0.3s,baz=150,slow=20,SNR=3.7						
WRAB	**Tennant Creek**	**23.12**	**229**	*e*P	P	**23 25 25.9**	**-1.8**
	11nm,0.6s						
WRA	**Warramunga Arr**	**23.13**	**229**	P	P	**23 25 28.6**	**+0.8**
WRA	**Warramunga Arr**	**23.13**	**229**	P	P	**23 25 28.6**	**+0.8**
	2.0nm,0.4s,baz=50,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**25.83**	**223**	P	P	**23 25 54.5**	**+1.8**
ASAR	**Alice Springs**	**25.83**	**223**	P	P	**23 25 54.5**	**+1.8**
	2.1nm,0.8s,baz=60,slow=8.8,SNR=18						
ASAR				LR	LR	23 36 45.3	
	comp=Z,135nm,20.9s,baz=192,slow=38						
STKA	**Stephens Creek**	**28.59**	**200**	P	P	**23 26 17.4**	**+0.1**
STKA	**Stephens Creek**	**28.59**	**200**	P	P	**23 26 17.4**	**+0.1**
	0.8nm,0.6s,baz=353,slow=8.1,SNR=3.6						
STKA				LR	LR	23 37 44.5	
	comp=Z,183nm,20.4s,baz=23,slow=36						
FITZ	**Fitzroy Crossi**	**29.38**	**242**	P	P	**23 26 25.4**	**+0.9**
FITZ	**Fitzroy Crossi**	**29.38**	**242**	P	P	**23 26 25.4**	**+0.9**
	3.0nm,0.7s						
JNU	**Nakatsue**	**43.24**	**333**	P	P	**23 28 21.9**	**-0.6**
JNU	**Nakatsue**	**43.24**	**333**	P	P	**23 28 21.9**	**-0.6**
	12nm,0.9s,baz=117,slow=4.5,SNR=6.4						
KSRS	**Korea Array**	**48.17**	**333**	P	P	**23 29 01.0**	**-0.3**
	1.4nm,0.7s,baz=150,slow=8.0,SNR=8.3						
KSRS				LR	LR	23 48 50.9	
	comp=Z,23nm,18.0s,baz=211,slow=35						
KSAR	**Wonju Array Be**	**48.18**	**333**	P	P	**23 29 01.0**	**-0.3**
USRK	**Ussuriysk Arra**	**52.46**	**341**	P	P	**23 29 33.7**	**+0.2**
	1.4nm,0.7s,baz=158,slow=6.2,SNR=5.8						
CMAR	**Chiang Mai Arr**	**57.84**	**295**	P	P	**23 30 14.2**	**+1.2**
CMAR

After RSPR.

RSPR 31 23:34:12.2, 19'20N×66'55W, h62km±6km, MD3.6/3, 6C-13D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**0.87**	**193⇓**	*eP*	Pn	23 34 27.8	-0.9
AOPR	**Arecibo Observ**	**0.87**	**193**	*eS*	Sn	23 34 40.3	-0.6
AOPR	**Arecibo Observ**	**0.87**	**193⇓**	*eP*	Pn	23 34 27.8	-0.9
AOPR				*eS*	Sn	23 34 40.3	-0.6
CELP	**Cerrillos**	**1.12**	**181⇑**	*eP*	Pn	23 34 31.2	-0.7
CELP				*eS*	Sn	23 34 45.5	-1.1
CELP	**Cerrillos**	**1.12**	**181⇑**	*eP*	Pn	23 34 31.2	-0.7
CELP				*eS*	Sn	23 34 45.5	-1.1
CBYP	**Canovanas**	**1.14**	**144⇓**	*eP*	Pn	23 34 31.1	-1.1
CBYP	**Canovanas**	**1.14**	**144**	*eS*	Sn	23 34 46.0	-1.1
CBYP	**Canovanas**	**1.14**	**144⇓**	*eP*	Pn	23 34 31.1	-1.1
CBYP				*eS*	Sn	23 34 46.0	-1.1
LSP	**Las Mesas**	**1.14**	**206⇑**	*eP*	Pn	23 34 31.6	-0.5
LSP	**Las Mesas**	**1.14**	**206⇑**	*eP*	Pn	23 34 31.6	-0.5
SJG	**San Juan**	**1.15**	**160⇓**	*eP*	Pn	23 34 31.8	-0.4
SJG	**San Juan**	**1.15**	**160⇓**	*eP*	Pn	23 34 31.8	-0.4
OBIP	**Obispado Ponce**	**1.16**	**182⇑**	*eP*	Pn	23 34 31.7	-0.6
OBIP	**Obispado Ponce**	**1.16**	**182**	*eS*	Sn	23 34 46.7	-0.6
OBIP	**Obispado Ponce**	**1.16**	**182⇑**	*eP*	Pn	23 34 31.7	-0.6
OBIP				*eS*	Sn	23 34 46.7	-0.6
HUMP	**Col San Antoni**	**1.25**	**148⇓**	*eP*	Pn	23 34 32.7	-0.8
HUMP	**Col San Antoni**	**1.25**	**148⇓**	*eP*	Pn	23 34 32.7	-0.8
HUMP				*eS*	Sn	23 34 49.1	-0.4
HUMP	**Col San Antoni**	**1.25**	**148⇓**	*eP*	Pn	23 34 32.7	-0.8
HUMP				*eS*	Sn	23 34 49.0	-0.5
HUMP				*eS*	Sn	23 34 49.1	-0.4
CRPR	**Cabo Rojo, PR**	**1.30**	**204⇓**	*eP*	Pn	23 34 33.3	-1.0
CRPR	**Cabo Rojo, PR**	**1.30**	**204**	*eS*	Sn	23 34 50.0	-0.8
CRPR	**Cabo Rojo, PR**	**1.30**	**204⇓**	*eP*	Pn	23 34 33.3	-1.0
CRPR				*eS*	Sn	23 34 50.0	-0.8
MTP	**Monte Pirata**	**1.45**	**139⇓**	*eP*	Pn	23 34 35.3	-1.0
MTP	**Monte Pirata**	**1.45**	**139**	*eS*	Sn	23 34 53.7	-0.7
MTP	**Monte Pirata**	**1.45**	**139⇓**	*eP*	Pn	23 34 35.3	-1.0
MTP				*eS*	Sn	23 34 53.7	-0.7

*ISCJB **31** 23:39:29.5±0.2, 44°.71N±0°.01×9°.33E±0°.01, h9km±1km, Error ellipse: s-maj=2.1km s-min=1.5km az=163.7*
*ROM **31** 23:39:29.5±0.1, 44°.69N×9°.32E, h1km, MI3.0/30, Error ellipse: s-maj=1.4km s-min=1.4km az=2.0*
*BGR **31** 23:39:29.8±0.9, 44°.54N×9°.08E, h10km, ML3.4/6, Error ellipse: s-maj=15.6km s-min=8.9km az=53.0*
*GEN **31** 23:39:30.0, 44°.73N×9°.36E, h3km, ML3.1*
*VIE **31** 23:39:30.5±0.4, 44°.62N×9°.39E, h10km, mb2.9/9, ML3.1/10, Error ellipse: s-maj=4.0km s-min=1.8km az=60.0 44 km ENE of Genova*
*PRU **31** 23:39:30.3, 44°.75N×9°.47E, h0km*
*CSEM **31** 23:39:30.0±0.1, 44°.72N×9°.34E, h2km, ML3.5/21, Error ellipse: s-maj=2.3km s-min=1.7km az=170.0*
*LDG **31** 23:39:32.4±0.1, 44°.68N×9°.33E, h2km, MI3.4/18, Error ellipse: s-maj=2.5km s-min=1.9km az=16.0*

ISC 31 23:39:30.1±0.8, 44°.70N±0°.02×9°.34E±0°.01, h8km±6km, n265, σ1°.17/357, 18C-8D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOB	**Bobbio (Coli)**	**0.10**	**49**	Pg	**Pg**	**23 39 32.3**	**-0.3**
BOB				Sg	**Sg**	**23 39 34.1**	**-0.2**
	36μm,0.6s						
BOB	**Bobbio (Coli)**	**0.10**	**49**	Pg	**Pg**	**23 39 32.3**	**-0.3**
BOB				Sg	**Sg**	**23 39 34.1**	**-0.2**
	36μm,0.6s						
SC2M	**Scurtabo**	**0.33**	**155**	Pg	**Pg**	**23 39 36.9**	**+0.3**
SC2M				Sg	**Sg**	**23 39 42.2**	**+1.3**
	3μm,0.4s						
SC2M	**Scurtabo**	**0.33**	**155**	P	**Pg**	**23 39 36.8**	**+0.2**
SC2M				S	**Sg**	**23 39 41.5**	**+0.6**
SC2M				Sg	**Sg**	**23 39 42.2**	**+1.3**
	3μm,0.4s						
GENL	**Genova Univers**	**0.40**	**222**	P	**Pg**	**23 39 38.2**	**+0.4**
GENL				S	**Sg**	**23 39 43.8**	**+0.8**
MSSA	**Maissana**	**0.40**	**162**	Pg	**Pg**	**23 39 38.2**	**+0.2**
MSSA				Sg	**Sg**	**23 39 44.3**	**+1.0**
	866nm,0.6s						
MSSA	**Maissana**	**0.40**	**162**	Pg	**Pg**	**23 39 38.2**	**+0.2**
MSSA				Sg	**Sg**	**23 39 44.3**	**+1.0**
	866nm,0.6s						
CODM	**Codolo**	**0.48**	**130**	P	**Pg**	**23 39 39.3**	**-0.1**
CODM				S	**Sg**	**23 39 45.7**	**+0.1**
PCP	**Piancastagn**	**0.59**	**255**	Pg	**Pg**	**23 39 41.9**	**+0.4**
PCP				Sg	**Sb**	**23 39 51.3**	**+0.1**
	421nm,0.4s						
PCP	**Piancastagn**	**0.59**	**255**	P	**Pg**	**23 39 41.5**	**0.0**
PCP	**Piancastagn**	**0.59**	**255**	Pg	**Pg**	**23 39 41.9**	**+0.4**
PCP				S	**Sg**	**23 39 49.3**	**+0.1**
PCP				Sg	**Sb**	**23 39 51.3**	**+0.1**
	421nm,0.4s						
BACM	**Baccana**	**0.67**	**129**	P	**Pg**	**23 39 42.8**	**-0.3**
BACM				S	**Sg**	**23 39 51.5**	**-0.3**
PRMA	**PARMA**	**0.70**	**84**	Pg	**Pb**	**23 39 45.2**	**+0.7**
	2μm,0.7s						
PRMA	**PARMA**	**0.70**	**84**	Pg	**Pb**	**23 39 45.2**	**+0.7**
	2μm,0.7s						
ROTM	**Rocchetta Tana**	**0.72**	**282**	P	**Pb**	**23 39 45.3**	**+0.4**
ROTM				S	**Sb**	**23 39 55.9**	**+1.0**
FIVI	**Fivizzano**	**0.73**	**129**	Pg	**Pg**	**23 39 44.1**	**0.0**
FIVI	**Fivizzano**	**0.73**	**129**	Pg	**Pg**	**23 39 44.1**	**0.0**
VALM	**Valbona**	**0.74**	**118**	P	**Pg**	**23 39 43.8**	**-0.5**
VALM				S	**Sg**	**23 39 53.4**	**-0.5**
QLNO	**Quiliano**	**0.81**	**242**	Pg	**Pg**	**23 39 45.9**	**+0.3**
	269nm,0.7s						
QLNO	**Quiliano**	**0.81**	**242**	Pg	**Pg**	**23 39 45.9**	**+0.3**
	269nm,0.7s						
VINC	**Vinca**	**0.81**	**134**	P	**Pg**	**23 39 45.3**	**-0.3**
VINC				S	**Sg**	**23 39 55.7**	**-0.4**
ERBM	**Eremo**	**0.82**	**110**	Pg	**Pg**	**23 39 46.1**	**+0.3**
	1μm,1.8s						
ERBM	**Eremo**	**0.82**	**110**	Pg	**Pg**	**23 39 46.1**	**+0.3**
	1μm,1.8s						
SARO	**Sassorosso**	**0.92**	**124**	P	**Pg**	**23 39 47.3**	**-0.5**
SARO				S	**Sg**	**23 39 58.9**	**-0.8**
VLC	**Villacollemand**	**0.92**	**125**	Pg	**Pb**	**23 39 48.3**	**-0.1**
	296nm,1.1s						
VLC	**Villacollemand**	**0.92**	**125**	Pg	**Pb**	**23 39 48.3**	**-0.1**
	296nm,1.1s						
VLC				*e*Sg	**Sn**	**23 40 03.3**	**+0.4**
GSCL	**Gusciola**	**0.96**	**111**	Pg	**Pb**	**23 39 49.3**	**+0.3**
	2.0nm,0.8s						
GSCL	**Gusciola**	**0.96**	**111**	Pg	**Pb**	**23 39 49.3**	**+0.3**
	2.0nm,0.8s						
NOVE	**Novellara**	**0.98**	**84**	Pg	**Pn**	**23 39 51.7**	**+1.5**
	780nm,0.8s						
NOVE	**Novellara**	**0.98**	**84**	Pg	**Pn**	**23 39 51.7**	**+1.5**
	780nm,0.8s						
MONC	**Moncucco Torin**	**1.07**	**291**	Pg	**Pn**	**23 39 52.6**	**+1.2**
	506nm,0.4s						
MONC	**Moncucco Torin**	**1.07**	**291**	Pg	**Pn**	**23 39 52.6**	**+1.2**
	506nm,0.4s						
RORO	**Rocca Rossa**	**1.09**	**238**	Pg	**Pg**	**23 39 50.6**	**-0.4**
	205nm,0.7s						
RORO	**Rocca Rossa**	**1.09**	**238**	P	**Pg**	**23 39 50.2**	**-0.8**
RORO	**Rocca Rossa**	**1.09**	**238**	Pg	**Pg**	**23 39 50.6**	**-0.4**
	205nm,0.7s						
BDI	**Bagni Di Lucca**	**1.10**	**125**	Pg	**Pg**	**23 39 50.8**	**-0.5**
	236nm,0.4s						
BDI	**Bagni Di Lucca**	**1.10**	**125**	Pg	**Pg**	**23 39 50.8**	**-0.5**
	236nm,0.4s						
MDI	**Monti di Nese**	**1.11**	**14**	Pg	**Pg**	**23 39 50.9**	**-0.5**
MDI				Sg	**Sn**	**23 40 08.2**	**+0.7**
MDI	**Monti di Nese**	**1.11**	**14**	Pg	**Pg**	**23 39 50.9**	**-0.5**
MAIM	**Mastiano**	**1.14**	**133**	Pg	**Pg**	**23 39 51.1**	**-0.9**
	215nm,0.7s						
MAIM	**Mastiano**	**1.14**	**133**	P	**Pg**	**23 39 51.2**	**-0.8**
SBPO	**S.Benedetto Po**	**1.18**	**72**	Pg	**Pn**	**23 39 54.3**	**+1.5**
SBPO	**S.Benedetto Po**	**1.18**	**72**	Pg	**Pn**	**23 39 54.3**	**+1.5**
ZCCA	**Zocca**	**1.22**	**106**	Pg	**Pn**	**23 39 55.3**	**+1.8**
	253nm,0.6s						
ZCCA	**Zocca**	**1.22**	**106**	Pg	**Pn**	**23 39 55.3**	**+1.8**
	253nm,0.6s						
PZZT	**Monte Pizzetto**	**1.23**	**117**	Pg	**Pb**	**23 39 53.4**	**-0.2**
	280nm,0.5s						
PZZT	**Monte Pizzetto**	**1.23**	**117**	Pg	**Pb**	**23 39 53.4**	**-0.2**
	280nm,0.5s						
MUGIO	**Muggio**	**1.24**	**350**	Pg	**Pn**	**23 39 53.5**	**-0.3**
MUGIO	**Muggio**	**1.24**	**350**	Pg	**Pn**	**23 39 53.5**	**-0.3**
SALO	**Salr**	**1.24**	**42**	Pg	**Pg**	**23 39 54.6**	**+0.7**
	410nm,0.6s						
SALO	**Salr**	**1.24**	**42**	Pg	**Pg**	**23 39 54.6**	**+0.7**
	410nm,0.6s						
RAVA	**Ravarino**	**1.27**	**87**	Pg	**Pg**	**23 39 56.7**	**+2.3**
	812nm,0.4s						
RAVA	**Ravarino**	**1.27**	**87**	Pg	**Pg**	**23 39 56.7**	**+2.3**
	812nm,0.4s						
PII	**Pisa**	**1.30**	**139**	Pg	**Pn**	**23 39 54.3**	**-0.2**
	119nm,0.5s						
PII	**Pisa**	**1.30**	**139**	Pg	**Pn**	**23 39 54.3**	**-0.2**
	119nm,0.5s						
FNVD	**Fontana Vidola**	**1.38**	**112**	Pg	**Pg**	**23 39 56.9**	**+0.3**
	342nm,0.8s						
FNVD	**Fontana Vidola**	**1.38**	**112**	Pg	**Pg**	**23 39 56.9**	**+0.3**
	342nm,0.8s						
TRAV	**Traversella**	**1.39**	**306**	Pg	**Pn**	**23 39 55.1**	**-0.8**
TRAV				Sg	**Sn**	**23 40 14.9**	**+0.4**
	265nm,0.3s						
TRAV	**Traversella**	**1.39**	**306**	P	**Pn**	**23 39 55.0**	**-0.8**
TRAV				Sg	**Sn**	**23 40 14.9**	**+0.4**
	265nm,0.3s						
MAGA	**Magasa**	**1.41**	**40**	Pg	**Pn**	**23 39 56.1**	**-0.1**
MAGA				Sg	**Sg**	**23 40 16.1**	**+0.7**
	1μm,0.5s						
MAGA	**Magasa**	**1.41**	**40**	Pg	**Pn**	**23 39 56.1**	**-0.1**
MAGA				Sg	**Sg**	**23 40 16.1**	**+0.7**
	1μm,0.5s						
BALD	**Monte Baldo**	**1.43**	**46**	*e*Pg	**Pn**	**23 39 56.7**	**+0.1**
BALD				*e*Sg	**Sg**	**23 40 18.1**	**+1.8**
BALD	**Monte Baldo**	**1.43**	**46**	*e*Pg	**Pn**	**23 39 56.7**	**+0.1**
BALD				*e*Sg	**Sg**	**23 40 18.1**	**+1.8**
SAOF	**Saorge**	**1.47**	**241**	Pn	**Pn**	**23 39 56.6**	**-0.3**
SAOF				Sg	**Sn**	**23 40 16.5**	**+0.2**
CRMI	**Carmignano**	**1.48**	**127**	Pg	**Pb**	**23 39 57.7**	**-0.2**
	92nm,0.7s						
CRMI	**Carmignano**	**1.48**	**127**	Pg	**Pb**	**23 39 57.7**	**-0.2**
	92nm,0.7s						
DOI	**San Damiano**	**1.51**	**263**	Pg	**Pb**	**23 39 58.6**	**+0.2**
	410nm,0.6s						
DOI	**San Damiano**	**1.51**	**263**	Pg	**Pb**	**23 39 58.6**	**+0.2**
	410nm,0.6s						
STV	**Sant Anna di V**	**1.51**	**253**	Pg	**Pn**	**23 39 57.7**	**+0.2**
	196nm,0.8s						
STV	**Sant Anna di V**	**1.51**	**253**	Pg	**Pn**	**23 39 57.7**	**+0.2**
	196nm,0.8s						
RSP	**Reno Superiore**	**1.54**	**288**	Pg	**Pn**	**23 39 57.9**	**-0.1**
	140nm,0.7s						
RSP	**Reno Superiore**	**1.54**	**288**	Pg	**Pn**	**23 39 57.9**	**-0.1**
	140nm,0.7s						
AUTN	**L'Aution**	**1.54**	**243**	Pn	**Pn**	**23 39 58.7**	**+0.6**
AUTN				Sg	**Sg**	**23 40 19.9**	**+0.2**
ROVR	**Rover˜¤ Verone**	**1.55**	**52**	Pg	**Pn**	**23 39 57.9**	**-0.2**
	435nm,0.5s						
ROVR	**Rover˜¤ Verone**	**1.55**	**52**	Pg	**Pn**	**23 39 57.9**	**-0.2**
	435nm,0.5s						
MTRZ	**Monterenzio**	**1.55**	**101**	Pg	**Pg**	**23 40 01.8**	**+1.9**
MTRZ	**Monterenzio**	**1.55**	**101**	Pg	**Pg**	**23 40 01.8**	**+1.9**
RNI	**Roncone**	**1.58**	**35**	*e*Pg	**Pn**	**23 39 58.6**	**+0.1**
RNI	**Roncone**	**1.58**	**35**	*e*Pg	**Pn**	**23 39 58.6**	**+0.1**
RNI				*e*Sg	**Sb**	**23 40 20.8**	**+1.0**
MABI	**Malga Bissina**	**1.59**	**31**	Pg	**Pn**	**23 39 58.9**	**+0.2**
	120nm,0.5s						
MABI	**Malga Bissina**	**1.59**	**31**	Pg	**Pn**	**23 39 58.9**	**+0.2**
	120nm,0.5s						
PZZ	**Stroppo**	**1.60**	**264**	Pg	**Pn**	**23 39 59.3**	**+0.5**
	259nm,0.4s						
SBF	**Sospel**	**1.60**	**239**	*e*Pn	**Pn**	**23 39 58.5**	**-0.3**
SBF				*e*Sn	**Sn**	**23 40 19.9**	**+0.2**
	175nm,0.3s						
SBF	**Sospel**	**1.60**	**239**	*e*Pn	**Pn**	**23 39 58.5**	**-0.3**
SBF				*e*Sn	**Sn**	**23 40 19.9**	**+0.2**
	87nm,0.3s						
LUCF	**Luceram**	**1.64**	**241**	Pn	**Pn**	**23 39 59.5**	**+0.1**
TOUF	**Mont Tournerai**	**1.65**	**246**	Pn	**Pn**	**23 40 00.2**	**+0.6**
REVF	**Revere**	**1.71**	**237**	Pn	**Pn**	**23 40 01.1**	**+0.8**
REVF				Sg	**Sg**	**23 40 26.2**	**+1.1**
LSD	**Lago del Serru**	**1.74**	**297**	Pg	**Pn**	**23 40 00.6**	**-0.2**
MVIF	**Mont Vial**	**1.77**	**244**	Pn	**Pn**	**23 40 01.8**	**+0.7**
TUE	**Stuetta**	**1.77**	**0**	Pg	**Pn**	**23 40 02.2**	**+0.9**
	160nm,0.3s						
TUE	**Stuetta**	**1.77**	**0**	Pg	**Pn**	**23 40 02.2**	**+0.9**
	160nm,0.3s						
TEOL	**Teolo**	**1.78**	**67⇑**	*e*Pn	**Pn**	**23 40 01.2**	**+0.1**
TEOL				*e*Sn	**Sg**	**23 40 27.8**	**+0.5**
TEOL	**Teolo**	**1.78**	**67⇑**	*e*Pn	**Pn**	**23 40 01.2**	**+0.1**
TEOL				*e*Sn	**Sg**	**23 40 27.8**	**+0.5**
BERNI	**Berninapass**	**1.78**	**15**	Pg	**Pn**	**23 40 02.0**	**+0.6**
BERNI	**Berninapass**	**1.78**	**15**	Pg	**Pn**	**23 40 02.0**	**+0.6**
SURF	**Saint Ours**	**1.82**	**264**	Pn	**Pn**	**23 40 03.0**	**+1.1**
SURF	**Saint Ours**	**1.82**	**264**	Pg	**Pg**	**23 40 05.6**	**+0.6**
SURF				Sg	**Sg**	**23 40 28.8**	**+0.2**
MBDF	**Montbardon**	**1.83**	**272**	*e*Pn	**Pn**	**23 40 03.0**	**+1.0**
MBDF				*e*Sn	**Sn**	**23 40 26.2**	**+0.7**
	125nm,0.5s						
MBDF	**Montbardon**	**1.83**	**272**	*e*Pn	**Pn**	**23 40 03.0**	**+1.0**
MBDF				*e*Sn	**Sn**	**23 40 26.2**	**+0.7**
	62nm,0.5s						
BRMO	**Bormio**	**1.92**	**22**	Pg	**Pn**	**23 40 03.9**	**+0.7**
	35nm,0.4s						
ADRI	**Adria, Italy**	**1.93**	**79⇓**	*e*Pn	**Pg**	**23 40 06.7**	**-0.4**
ADRI				*e*Sn	**Sg**	**23 40 35.5**	**+3.3**
ADRI	**Adria, Italy**	**1.93**	**79**	*e*Pn	**Pg**	**23 40 06.7**	**-0.4**
PANI	**Panarotta**	**1.93**	**45⇑**	*e*Pn	**Pn**	**23 40 03.6**	**+0.1**
PANI	**Panarotta**	**1.93**	**45⇑**	*e*Pn	**Pn**	**23 40 03.6**	**+0.1**
LPG	**La Plagne**	**2.00**	**294**	*e*Pn	**Pn**	**23 40 05.0**	**+0.6**
LPG				*e*Sn	**Sn**	**23 40 29.5**	**-0.3**
	55nm,0.5s						
LPG	**La Plagne**	**2.00**	**294**	*e*Pn	**Pn**	**23 40 05.0**	**+0.6**
LPG				*e*Sn	**Sn**	**23 40 29.5**	**-0.3**
	28nm,0.5s						
CALN	**Calern**	**2.00**	**243**	Pn	**Pn**	**23 40 05.4**	**+1.1**
CALN				Sg	**Sg**	**23 40 34.4**	**0.0**
LPL	**La Plagne**	**2.02**	**295**	*e*Pn	**Pn**	**23 40 05.6**	**+0.9**
LPL				*e*Sn	**Sn**	**23 40 30.4**	**+0.2**
	63nm,0.5s						
LPL	**La Plagne**	**2.02**	**295**	*e*Pn	**Pn**	**23 40 05.6**	**+0.9**
LPL				*e*Sn	**Sn**	**23 40 30.4**	**+0.2**
	32nm,0.5s						
CGRP	**Cima Grappa**	**2.10**	**55⇑**	*e*Pn	**Pn**	**23 40 05.6**	**-0.1**
CGRP	**Cima Grappa**	**2.10**	**55⇑**	*e*Pn	**Pn**	**23 40 05.6**	**-0.1**
PGF	**Pioggiola**	**2.17**	**187**	*e*Pn	**Pn**	**23 40 06.2**	**-0.4**
PGF				*e*Sn	**Sn**	**23 40 31.4**	**-2.2**
	24nm,0.4s						
PGF	**Pioggiola**	**2.17**	**187**	*e*Pn	**Pn**	**23 40 06.2**	**-0.4**
PGF				*e*Sn	**Sn**	**23 40 31.4**	**-2.2**
	12nm,0.4s						
FRF	**La Foret Royal**	**2.25**	**241**	*e*Pn	**Pn**	**23 40 07.4**	**-0.2**
FRF				*e*Sn	**Sn**	**23 40 35.1**	**-0.4**
	98nm,0.4s						
FRF	**La Foret Royal**	**2.25**	**241**	*e*Pn	**Pn**	**23 40 07.4**	**-0.2**
FRF				*e*Sn	**Sn**	**23 40 35.1**	**-0.4**
	49nm,0.4s						
KOSI	**Kohlern**	**2.27**	**38⇑**	*e*Pn	**Pn**	**23 40 08.6**	**+0.6**
VARN	**Col Varnada, M**	**2.34**	**55⇓**	*e*Pn	**Pn**	**23 40 09.1**	**+0.2**
VARN	**Col Varnada, M**	**2.34**	**55⇓**	*e*Pn	**Pn**	**23 40 09.1**	**+0.2**
GDM	**Grand'Maison**	**2.34**	**284**	Pn	**Pb**	**23 40 13.7**	**+1.0**
GDM	**Grand'Maison**	**2.34**	**284**	Pg	**Pg**	**23 40 16.6**	**+1.6**
ABSI	**Aberstueckl**	**2.46**	**34**	*e*Pn	**Pn**	**23 40 11.7**	**+1.1**
LMR	**La Mourre**	**2.46**	**237**	*e*Pn	**Pn**	**23 40 09.8**	**-0.7**
LMR				*e*Sn	**Sn**	**23 40 39.3**	**-1.3**
	32nm,0.3s						
LMR	**La Mourre**	**2.46**	**237**	*e*Pn	**Pn**	**23 40 09.8**	**-0.7**
LMR				*e*Sn	**Sn**	**23 40 39.3**	**-1.3**
	16nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.47**	**276**	*e*P	**Pb**	**23 40 14.2**	**-0.6**
ORIF				*e*Sn	**Sn**	**23 40 41.6**	**+0.4**
	60nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.47**	**276**	*e*P	**Pb**	**23 40 14.2**	**-0.6**
ORIF				*e*Sn	**Sn**	**23 40 41.6**	**+0.4**
	30nm,0.4s						
FETA	**Feichten**	**2.52**	**22⇓**	*e*Pn	**Pn**	**23 40 13.4**	**+2.0**
	SNR=8.5						
FETA	**Feichten**	**2.52**	**22**	Pn	**Pn**	**23 40 13.4**	**+2.0**
	SNR=8.5						
GRN	**Grenoble**	**2.61**	**283**	Pn	**Pb**	**23 40 16.6**	**-0.5**
GRN	**Grenoble**	**2.61**	**283**	Pg	**Pb**	**23 40 18.7**	**+1.6**
DAVA	**Damuels**	**2.61**	**8**	*e*Pn	**Pn**	**23 40 14.8**	**+2.0**
DAVA	**Damuels**	**2.61**	**8⇓**	*e*Pn	**Pn**	**23 40 14.5**	**+1.7**
	SNR=11						
DAVA				⇓*i*Sn	**Sb**	**23 40 48.0**	**-1.6**
DAVA	**Damuels**	**2.61**	**8**	Pn	**Pn**	**23 40 14.5**	**+1.7**
	SNR=11						
DAVA				Sn	**Sb**	**23 40 48.0**	**-1.6**
CIMO	**Cimolais**	**2.71**	**52**	*e*Pn	**Pn**	**23 40 14.7**	**+0.7**
CIMO	**Cimolais**	**2.71**	**52**	*e*Pn	**Pn**	**23 40 14.7**	**+0.7**
SMRF	**Simiane la Rot**	**2.80**	**256**	*e*Pn	**Pn**	**23 40 16.8**	**+1.6**
SMRF				*e*Sn	**Sn**	**23 40 48.4**	**-0.7**
	49nm,0.5s						
SMRF	**Simiane la Rot**	**2.80**	**256**	*e*Pn	**Pn**	**23 40 16.8**	**+1.6**
SMRF				*e*Sn	**Sn**	**23 40 48.4**	**-0.7**
	25nm,0.5s						
MOTA	**Moosalm**	**2.92**	**24⇑**	*e*Pn	**Pn**	**23 40 19.1**	**+2.2**
	SNR=43						
MOTA	**Moosalm**	**2.92**	**24**	Pn	**Pn**	**23 40 19.1**	**+2.2**
	SNR=43						
RISI	**Rein**	**2.95**	**39⇑**	*e*Pn	**Pn**	**23 40 18.5**	**+1.1**
CABF	**La Chapelle**	**2.98**	**311**	*e*Pn	**Pn**	**23 40 19.6**	**+1.9**
CABF				*e*Sn	**Sn**	**23 40 53.4**	**-0.2**
	56nm,0.8s						
CABF	**La Chapelle**	**2.98**	**311**	*e*Pn	**Pn**	**23 40 19.6**	**+1.9**
CABF				*e*Sn	**Sn**	**23 40 53.4**	**-0.2**
	28nm,0.8s						
ABTA	**Abfaltersbach**	**3.02**	**46**	*i* Pn	**Pn**	**23 40 19.7**	**+1.4**
	SNR=20						
ABTA	**Abfaltersbach**	**3.02**	**46**	Pn	**Pn**	**23 40 19.7**	**+1.4**
	SNR=20						
WTTA	**Wattenberg**	**3.02**	**31**	*e*Pn	**Pn**	**23 40 20.5**	**+2.1**
WTTA	**Wattenberg**	**3.02**	**31⇓**	*i*Pn	**Pn**	**23 40 19.3**	**+0.9**
	SNR=8.5						
WTTA	**Wattenberg**	**3.02**	**31**	Pn	**Pn**	**23 40 19.3**	**+0.9**
	SNR=8.5						
BBS	**Basel-Blauen**	**3.04**	**336**	Pn	**Pn**	**23 40 19.8**	**+1.2**
ZOU	**Zoufplan**	**3.15**	**53**	*e*Pn	**Pn**	**23 40 21.7**	**+1.5**
LOMF	**Lomont**	**3.18**	**327**	Pn	**Pn**	**23 40 22.3**	**+1.9**
VINO	**Villanova**	**3.18**	**59⇑**	*e*Pn	**Pn**	**23 40 20.1**	**-0.3**
VINO	**Villanova**	**3.18**	**59⇑**	*e*Pn	**Pn**	**23 40 20.1**	**-0.3**
SABO	**M.te Sabotino**	**3.27**	**65⇑**	*e*Pn	**Pn**	**23 40 21.7**	**+0.1**
SABO	**M.te Sabotino**	**3.27**	**65⇑**	*e*Pn	**Pn**	**23 40 21.7**	**+0.1**
FELD	**Feldberg im Sc**	**3.31**	**344**	Pn	**Pn**	**23 40 22.1**	**-0.2**
ROBS	**Robic**	**3.31**	**61**	*i* Pn	**Pn**	**23 40 22.0**	**-0.2**
ROBS				*i* Sn	**Sn**	**23 41 02.4**	**+0.6**
ROBS	**Robic**	**3.31**	**61**	Pn	**Pn**	**23 40 22.0**	**-0.2**
ROBS				*i* Sn	**Sn**	**23 41 02.4**	**+0.6**
VIVF	**Saint-Julien-l**	**3.33**	**274**	*e*Pn	**Pn**	**23 40 24.5**	**+2.0**
VIVF				*e*Sn	**Sn**	**23 41 00.7**	**-1.5**
	16nm,0.3s						
VIVF	**Saint-Julien-l**	**3.33**	**274**	*e*Pn	**Pn**	**23 40 24.5**	**+2.0**
VIVF				*e*Sn	**Sn**	**23 41 00.7**	**-1.5**
	8.2nm,0.3s						
SKDS	**Skadanscina**	**3.42**	**74**	*i* Pn	**Pn**	**23 40 22.9**	**-0.7**
SKDS				*i* Sn	**Sn**	**23 41 03.8**	**-0.5**
SKDS	**Skadanscina**	**3.42**	**74**	*i* Pn	**Pn**	**23 40 22.9**	**-0.7**
SKDS				*i* Sn	**Sn**	**23 41 03.8**	**-0.5**
ACOM	**Acomizza, Ital**	**3.46**	**56⇓**	*e*Pn	**Pn**	**23 40 25.6**	**+1.1**
ACOM	**Acomizza, Ital**	**3.46**	**56⇓**	*e*Pn	**Pn**	**23 40 25.6**	**+1.1**
VOY	**Vojsko**	**3.47**	**66**	*e*Pn	**Pn**	**23 40 24.2**	**-0.3**
VOY				*e*Sn	**Sn**	**23 41 04.8**	**-1.1**
VOY	**Vojsko**	**3.47**	**66**	*e*Pn	**Pn**	**23 40 24.2**	**-0.3**
VOY				*e*Sn	**Sn**	**23 41 04.8**	**-1.1**
MOF	**Molkenrain**	**3.50**	**335**	Pn	**Pn**	**23 40 26.4**	**+1.5**
JAVS	**Javornik**	**3.54**	**69**	*i* Pn	**Pn**	**23 40 25.1**	**-0.3**
JAVS				*i* Sn	**Sn**	**23 41 08.2**	**+0.7**
**

MTLF	**Montolieu**	**5.31**	**258**	*e*Pn	**Pn**	**23 40 50.0**	**+0.3**
MTLF	**Montolieu**	**5.31**	**258**	*e*Pn	**Pn**	**23 40 50.0**	**+0.3**
HYF	**Humbligny**	**5.33**	**301**	*e*Pn	**Pn**	**23 40 51.6**	**+1.7**
HYF	**Humbligny**	**5.33**	**301**	*e*Pn	**Pn**	**23 40 51.6**	**+1.7**
TNS	**Taunus Mts**	**5.56**	**354**	*e*Pn	**Pn**	**23 40 53.4**	**+0.3**
TNS	**Taunus Mts**	**5.56**	**354**	Pn	**Pn**	**23 40 53.4**	**+0.3**
RJF	**Les Rejaudoux**	**5.58**	**279**	*e*Pn	**Pn**	**23 40 54.7**	**+1.3**
RJF	**Les Rejaudoux**	**5.58**	**279**	*e*Pn	**Pn**	**23 40 54.7**	**+1.3**
MANZ	**Manzenberg**	**5.61**	**19**	*e*Pn	**Pn**	**23 40 52.1**	**-1.7**
MANZ	**Manzenberg**	**5.61**	**19**	Pn	**Pn**	**23 40 52.1**	**-1.7**
NKC	**Novy Kostel**	**5.92**	**20**	*e*PN	**Pn**	**23 40 58.7**	**+0.6**
NKC				*e*SN	**Sn**	**23 42 03.3**	**-2.8**
NKC	**Novy Kostel**	**5.92**	**20**	Pn	**Pn**	**23 40 58.7**	**+0.6**
PLN	**Plauen**	**6.09**	**17**	*e*Pn	**Pn**	**23 41 00.5**	**+0.1**
PLN	**Plauen**	**6.09**	**17**	Pn	**Pn**	**23 41 00.5**	**+0.1**
TANN	**Tannenbergstha**	**6.09**	**19**	*e*Sn	**Sn**	**23 42 07.6**	**-2.8**
MOX	**Moxa**	**6.14**	**14**	*e*Sn	**Sn**	**23 42 08.1**	**-3.4**
TREC	**Trest**	**6.23**	**40**	*e*PN	**Pn**	**23 41 01.7**	**-0.6**
TREC	**Trest**	**6.23**	**40**	Pn	**Pn**	**23 41 01.7**	**-0.6**
EMIR	**Miracle**	**6.34**	**247**	P	**Pn**	**23 41 06.2**	**+2.3**
	3.5nm,0.4s,SNR=6.5						
PRU	**Pruhonice**	**6.36**	**32**	*e*PN	**Pn**	**23 41 02.8**	**-1.3**
PRU				*e*SN	**Sn**	**23 42 13.8**	**-3.0**
PRU	**Pruhonice**	**6.36**	**32**	Pn	**Pn**	**23 41 02.8**	**-1.3**
CSOR	**Sort**	**6.40**	**252**	P	**Pn**	**23 41 07.0**	**+2.2**
	4.7nm,0.5s,SNR=10.0						
CSOR				S	**Sn**	**23 42 18.3**	**+0.2**
	5.9nm,0.6s,SNR=4.0						
EPF	**Esparros**	**6.72**	**259**	*e*Pn	**Pn**	**23 41 09.5**	**+0.5**
EPF	**Esparros**	**6.72**	**259**	*e*Pn	**Pn**	**23 41 09.5**	**+0.5**
ETOS	**Mallorca**	**6.91**	**227**	P	**Pn**	**23 41 11.9**	**+0.3**
	3.1nm,0.4s,SNR=7.7						
BRG	**Berggiesshubel**	**6.91**	**25**	SG	Sg	23 43 22.2	+10
	2.1nm,0.9s						
EPOB	**Poblet**	**6.92**	**244**	P	**Pn**	**23 41 13.8**	**+2.0**
	2.4nm,0.4s,SNR=7.9						
CLL	**Collm**	**7.05**	**19**	*e*(Sg)	Sg	23 43 26.0	+10
DPC	**Dobruska-Polom**	**7.37**	**37**	*e*PN	**Pn**	**23 41 16.4**	**-1.5**
DPC	**Dobruska-Polom**	**7.37**	**37**	Pn	**Pn**	**23 41 16.4**	**-1.5**
ETSF	**Etsaut**	**7.39**	**259**	*e*P	Pn	23 41 23.1	+4.9
VYHS	**Vyhne**	**7.56**	**57**	*e*PN	**Pn**	**23 41 19.2**	**-1.4**
VYHS				*e*SN	**Sn**	**23 42 41.4**	**-5.0**
VYHS	**Vyhne**	**7.56**	**57**	*e*Pn	**Pn**	**23 41 19.2**	**-1.4**
SJPF	**Ste Jean**	**7.79**	**262**	*e*Pn	**Pn**	**23 41 24.6**	**+0.8**
SJPF	**Ste Jean**	**7.79**	**262**	*e*Pn	**Pn**	**23 41 24.6**	**+0.8**
KECS	**Kecovo**	**8.56**	**60**	*e*PN	**Pn**	**23 41 33.7**	**-0.5**
KECS	**Kecovo**	**8.56**	**60**	*e*Pn	**Pn**	**23 41 33.7**	**-0.5**
ETOR	**Torete**	**9.23**	**249**	P	**Pn**	**23 41 46.2**	**+2.6**
	4.9nm,0.3s,SNR=5.9						
EARI	**Arriondas**	**10.58**	**268**	P	**Pn**	**23 42 04.4**	**+2.4**
	0.5nm,0.2s,SNR=5.2						

MEX 31 23:48:54.5±0.6, 16°.09N×98°.06W, h20km±18km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.31**	**348**	*i* P		Pb	23 49 01.0	-0.4
PNIG				*i* S		Sb	23 49 04.0	-2.1
VHO	**Vista Hermosa**	**1.60**	**52**	*i* P		Pn	23 49 18.8	-3.1
VHO				*i* S		Sn	23 49 38.4	-3.9
HUIG	**Huatulco**	**1.90**	**99**	*i* P		Pn	23 49 23.0	-2.8
HUIG				*i* S		Sn	23 49 44.8	-4.4
CAIG	**El Cayaco**	**2.32**	**295**	*i* P		Pn	23 49 28.8	-2.8
CAIG				*i* S		Sn	23 49 55.6	-3.9
PLIG	**Platanillo**	**2.67**	**329**	*i* P		Pn	23 49 35.1	-1.4
PLIG				*i* S		Sn	23 50 04.1	-4.4
YAIG	**Yautepec**	**2.92**	**341**	*i* P		Pn	23 49 38.2	-1.8
YAIG				*i* S		Sn	23 50 11.0	-3.7
ARIG	**Puente Sto Nin**	**3.09**	**315**	*i* P		Pn	23 49 40.0	-2.1
ARIG				*i* S		Sn	23 50 15.0	-3.5

IDC 31 23:50:49.7±4.8, 23°.49S×69°.34W, h0km, mb3.8/1, mb1 3.8/2, mb1mx3.4/17, mbtmp3.6/2, ML4.4/1, Error ellipse: s-maj=219.2km s-min=55.3km az=23.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**11.26**	**107**	Pn		Pn	23 53 31.7	-0.2
	0.6nm,0.3s,baz=233,slow=16,SNR=4.0							
TORD	**Torodi Ar. Bea**	**78.40**	**70**	P		P	00 02 52.9	+0.2
	0.5nm,0.5s,baz=261,slow=5.8,SNR=11							
KURBB	**Kurchatov Arra**	**143.21**	**34**	PKP		PKPdf	00 10 24.4	-1.2
	0.5nm,0.5s,baz=306,slow=3.2,SNR=9.5							
ZALV	**Zalesovo Beam**	**143.91**	**26**	PKP		PKPdf	00 10 27.4	+0.7
	1.9nm,0.4s,baz=312,slow=3.0,SNR=12							
MKAR	**Makanchi Array**	**147.46**	**37**	PKPbc		PKPdf	00 10 34.3	+1.2
	0.5nm,0.6s,baz=309,slow=1.7,SNR=6.6							